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Report No.: 1409RSU02703  
Report Version: V01  
Issue Date: 09-25-2014

## DFS MEASUREMENT REPORT

### FCC PART 15.407

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**FCC ID:** O9C-BJNGAFB0005

**APPLICANT:** Hewlett Packard Company

**Application Type:** Certification

**Product:** Unified Wired-WLAN Walljack

**Model No.:** BJNGA-FB0005, JH048A

**Brand Name:** HP

**FCC Classification:** Unlicensed National Information Infrastructure (UNII)

**FCC Rule Part(s):** Part 15.407

KDB 905462 D02v01, KDB 905462 D04v01

**Type of Device:**

☒ Master Device

☐ Client Device (No radar detection)

☐ Client Device with radar detection

**Test Date:** Sep. 15 ~ 24, 2014

Reviewed By : Robin Wu  
( Robin Wu )

Approved By : Marlin Chen  
( Marlin Chen )



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 905462 D02v01. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

### Revision History

| Report No.   | Version | Description    | Issue Date |
|--------------|---------|----------------|------------|
| 1409RSU02703 | Rev. 01 | Initial report | 09-25-2014 |
|              |         |                |            |

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## §2.1033 General Information

|                                  |                                                                                                                                 |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant:</b>                | Hewlett Packard Company                                                                                                         |
| <b>Applicant Address:</b>        | 153 Taylor Street Littleton Massachusetts, United States 01460-1407                                                             |
| <b>Manufacturer:</b>             | Hewlett Packard Company                                                                                                         |
| <b>Manufacturer Address:</b>     | 153 Taylor Street Littleton Massachusetts, United States 01460-1407                                                             |
| <b>Test Site:</b>                | MRT Technology (Suzhou) Co., Ltd                                                                                                |
| <b>Test Site Address:</b>        | D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China                      |
| <b>MRT FCC Registration No.:</b> | 809388                                                                                                                          |
| <b>Model No.:</b>                | BJNGA-FB0005, JH048A                                                                                                            |
| <b>FCC ID:</b>                   | O9C-BJNGAFB0005                                                                                                                 |
| <b>Test Device Serial No.:</b>   | N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering |
| <b>FCC Classification:</b>       | Unlicensed National Information Infrastructure (UNII)                                                                           |
| <b>Date(s) of Test:</b>          | Sep. 15 ~ 24, 2014                                                                                                              |
| <b>Test Report S/N:</b>          | 1409RSU02703                                                                                                                    |

### Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.
- MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (11384A-1).
- MRT facility is an IC registered (11384A-1) test laboratory with the site description on file at Industry Canada.



## 1. INTRODUCTION

### 1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

### 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.

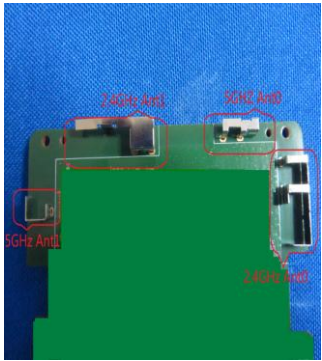


## 2. PRODUCT INFORMATION

### 2.1. Equipment Description

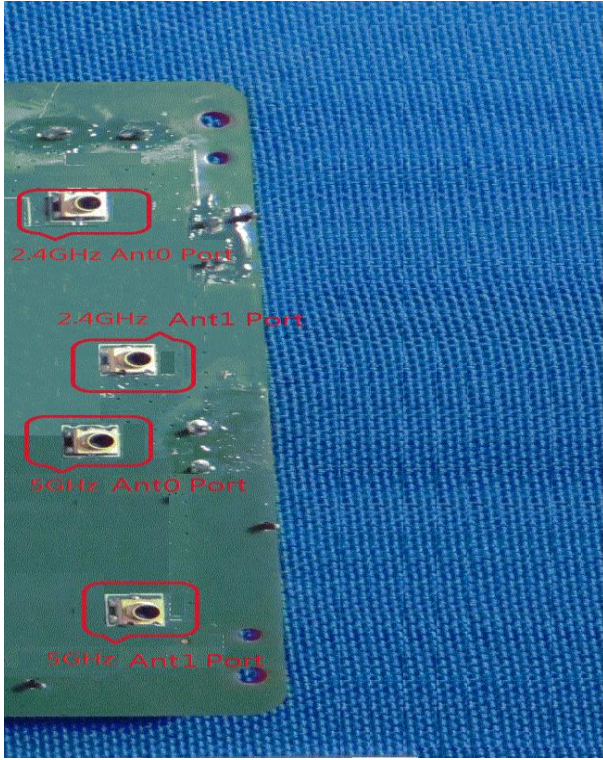
|                      |                                                                                                                                                                                                                                                                             |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name         | Unified Wired-WLAN Walljack                                                                                                                                                                                                                                                 |
| Model No.            | BJNGA-FB0005, JH048A                                                                                                                                                                                                                                                        |
| Radio Type           | Intentional Transceiver                                                                                                                                                                                                                                                     |
| Power Type           | 48Vdc, 0.63A (or POE input)                                                                                                                                                                                                                                                 |
| Operation Mode       | Master Device                                                                                                                                                                                                                                                               |
| Frequency Range      | For 802.11a/n-HT20:<br>5260~5320MHz, 5500~5700MHz<br>For 802.11ac-VHT20:<br>5260~5320MHz, 5500~5720MHz<br>For 802.11n-HT40:<br>5270~5310MHz, 5510~5670MHz<br>For 802.11ac-VHT40:<br>5270~5310MHz, 5510~5710MHz<br>For 802.11ac-VHT80:<br>5290MHz, 5530MHz, 5610MHz, 5690MHz |
| Maximum Output Power | 802.11a: 20.86dBm<br>802.11n-HT20: 20.77dBm<br>802.11n-HT40: 20.65dBm<br>802.11ac-VHT20: 20.81dBm<br>802.11ac-VHT40: 20.58dBm<br>802.11ac-VHT80: 20.20dBm                                                                                                                   |
| Type of Modulation   | 802.11a/n/ac: OFDM;                                                                                                                                                                                                                                                         |
| Power-on cycle       | Requires 127.8 seconds to complete its power-on cycle.                                                                                                                                                                                                                      |
| Uniform Spreading    | For the 5250-5350MHz, 5470-5725 MHz bands, the Master device provides, on aggregate, uniform loading of the spectrum across all devices by selecting an operating channel among the available channels using a random algorithm.                                            |

## 2.2. Description of Available Antennas

| Antenna Type                                                                      | Frequency Band (GHz) | Manufacturer             | Model         | Tx Paths | Max Peak Gain (dBi)      | Directional Gain (dBi) |         |
|-----------------------------------------------------------------------------------|----------------------|--------------------------|---------------|----------|--------------------------|------------------------|---------|
|                                                                                   |                      |                          |               |          |                          | For Power              | For PSD |
|  | 2.4                  | Lite-On Technology Corp. | WP388-FN EVT2 | 2        | Ant 0: 2.7<br>Ant 1: 3.3 | 6.02                   | 6.02    |
|                                                                                   | 5.2                  |                          |               | 2        | Ant 0: 4.6<br>Ant 1: 4.2 | 7.41                   | 7.41    |
|                                                                                   | 5.5                  |                          |               |          | Ant 0: 4.9<br>Ant 1: 4.4 | 7.66                   | 7.66    |
|                                                                                   | 5.8                  |                          |               |          | Ant 0: 5.0<br>Ant 1: 5.4 | 8.21                   | 8.21    |

Note: The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

## 2.1. Description of Antenna RF Port

| Antenna RF Port                                                                                                                                    |                |       |              |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------|--------------|-------|
| --                                                                                                                                                 | 2.4GHz RF Port |       | 5GHz RF Port |       |
| Software Control Port                                                                                                                              | Ant 0          | Ant 1 | Ant 0        | Ant 1 |
| <p style="text-align: center;"><b>Antenna RF Port Plot</b></p>  |                |       |              |       |

## 2.2. DFS Band Carrier Frequencies Operation

802.11a/n Center Working Frequency of Each Channel

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 52      | 5260 MHz  | 56      | 5280 MHz  | 60      | 5300 MHz  |
| 64      | 5320 MHz  | 100     | 5500 MHz  | 104     | 5520 MHz  |
| 108     | 5540 MHz  | 112     | 5560 MHz  | 116     | 5580 MHz  |
| 120     | 5600 MHz  | 124     | 5620 MHz  | 128     | 5640 MHz  |
| 132     | 5660 MHz  | 136     | 5680 MHz  | 140     | 5700 MHz  |

802.11ac-VHT20 Center Working Frequency of Each Channel

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 52      | 5260 MHz  | 56      | 5280 MHz  | 60      | 5300 MHz  |
| 64      | 5320 MHz  | 100     | 5500 MHz  | 104     | 5520 MHz  |
| 108     | 5540 MHz  | 112     | 5560 MHz  | 116     | 5580 MHz  |
| 120     | 5600 MHz  | 124     | 5620 MHz  | 128     | 5640 MHz  |
| 132     | 5660 MHz  | 136     | 5680 MHz  | 140     | 5700 MHz  |
| 144     | 5720 MHz  | N/A     | N/A       | N/A     | N/A       |

802.11n-HT40 Center Working Frequency of Each Channel

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 54      | 5270 MHz  | 62      | 5310 MHz  | 102     | 5510 MHz  |
| 110     | 5550 MHz  | 118     | 5590 MHz  | 126     | 5630 MHz  |
| 134     | 5670 MHz  | N/A     | N/A       | N/A     | N/A       |

802.11ac-VHT40 Center Working Frequency of Each Channel

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 54      | 5270 MHz  | 62      | 5310 MHz  | 102     | 5510 MHz  |
| 110     | 5550 MHz  | 118     | 5590 MHz  | 126     | 5630 MHz  |
| 134     | 5670 MHz  | 142     | 5710MHz   | N/A     | N/A       |

| 802.11ac-VHT80 Center Working Frequency of Each Channel |           |         |           |         |           |
|---------------------------------------------------------|-----------|---------|-----------|---------|-----------|
| Channel                                                 | Frequency | Channel | Frequency | Channel | Frequency |
| 58                                                      | 5290 MHz  | 106     | 5530 MHz  | 122     | 5610 MHz  |
| 138                                                     | 5690 MHz  | N/A     | N/A       | N/A     | N/A       |

### 2.3. Test Mode

|           |                          |
|-----------|--------------------------|
| Test Mode | Mode 1: Normal Operation |
|-----------|--------------------------|

### 3. DFS DETECTION THRESHOLDS AND RADAR TEST WAVEFORMS

#### 3.1. Applicability

The following table from FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01 lists the applicable requirements for the DFS testing.

| Requirement                     | Operational Mode |                                |                             |
|---------------------------------|------------------|--------------------------------|-----------------------------|
|                                 | Master           | Client Without Radar Detection | Client With Radar Detection |
| Non-Occupancy Period            | Yes              | Not required                   | Yes                         |
| DFS Detection Threshold         | Yes              | Not required                   | Yes                         |
| Channel Availability Check Time | Yes              | Not required                   | Not required                |
| U-NII Detection Bandwidth       | Yes              | Not required                   | Yes                         |

**Table 3-1: Applicability of DFS Requirements Prior to Use of a Channel**

| Requirement                       | Operational Mode                             |                                |
|-----------------------------------|----------------------------------------------|--------------------------------|
|                                   | Master Device or Client With Radar Detection | Client Without Radar Detection |
| DFS Detection Threshold           | Yes                                          | Not required                   |
| Channel Closing Transmission Time | Yes                                          | Yes                            |
| Channel Move Time                 | Yes                                          | Yes                            |
| U-NII Detection Bandwidth         | Yes                                          | Not required                   |

| Additional requirements for devices with multiple bandwidth modes | Master Device or Client with Radar Detection | Client Without Radar Detection                       |
|-------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------|
| U-NII Detection Bandwidth and Statistical Performance Check       | All BW modes must be tested                  | Not required                                         |
| Channel Move Time and Channel Closing Transmission Time           | Test using widest BW mode available          | Test using the widest BW mode available for the link |
| All other tests                                                   | Any single BW mode                           | Not required                                         |

Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in all 20 MHz channel blocks and a null frequencies between the bonded 20 MHz channel blocks.

**Table 3-2: Applicability of DFS Requirements during normal operation**

### 3.2. DFS Devices Requirements

**Per FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01 the following are the requirements for Master Devices:**

- (a) The Master Device will use DFS in order to detect Radar Waveforms with received signal strength above the DFS Detection Threshold in the 5250 ~ 5350 MHz and 5470 ~ 5725 MHz bands. DFS is not required in the 5150 ~ 5250 MHz or 5725 ~ 5825 MHz bands.
- (b) Before initiating a network on a Channel, the Master Device will perform a Channel Availability Check for a specified time duration (Channel Availability Check Time) to ensure that there is no radar system operating on the Channel, using DFS described under subsection a) above.
- (c) The Master Device initiates a U-NII network by transmitting control signals that will enable other U-NII devices to Associate with the Master Device.
- (d) During normal operation, the Master Device will monitor the Channel (In-Service Monitoring) to ensure that there is no radar system operating on the Channel, using DFS described under a).
- (e) If the Master Device has detected a Radar Waveform during In-Service Monitoring as described under d), the Operating Channel of the U-NII network is no longer an Available Channel. The Master Device will instruct all associated Client Device(s) to stop transmitting on this Channel within the Channel Move Time. The transmissions during the Channel Move Time will be limited to the Channel Closing Transmission Time.
- (f) Once the Master Device has detected a Radar Waveform it will not utilize the Channel for the duration of the Non-Occupancy Period.
- (g) If the Master Device delegates the In-Service Monitoring to a Client Device, then the combination will be tested to the requirements described under d) through f) above.

**Channel Move Time and Channel Closing Transmission Time requirements are listed in the following table.**

| Parameter                                                                                                                                                                      | Value                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Non-occupancy period                                                                                                                                                           | Minimum 30 minutes                                                                                        |
| Channel Availability Check Time                                                                                                                                                | 60 seconds                                                                                                |
| Channel Move Time                                                                                                                                                              | 10 seconds<br>See Note 1.                                                                                 |
| Channel Closing Transmission Time                                                                                                                                              | 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period.<br>See Notes 1 and 2. |
| U-NII Detection Bandwidth                                                                                                                                                      | Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.                                   |
| Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. |                                                                                                           |

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

**Table 3-3: DFS Response Requirements**

### 3.3. DFS Detection Threshold Values

The DFS detection thresholds are defined for Master devices and Client Devices with In-service monitoring. These detection thresholds are listed in the following table.

| Maximum Transmit Power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Value<br>(See Notes 1, 2, and 3) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| EIRP $\geq$ 200 milliwatt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -64 dBm                          |
| EIRP < 200 milliwatt and<br>power spectral density < 10 dBm/MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -62 dBm                          |
| EIRP < 200 milliwatt that do not meet the power spectral density<br>requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -64 dBm                          |
| <p><b>Note 1:</b> This is the level at the input of the receiver assuming a 0 dBi receive antenna.</p> <p><b>Note 2:</b> Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.</p> <p><b>Note3:</b> EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.</p> |                                  |

**Table 3-4: Detection Thresholds for Master Devices and Client Devices with Radar Detection**

### 3.4. Parameters of DFS Test Signals

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

#### Short Pulse Radar Test Waveforms

| Radar Type                                                                                                                                  | Pulse Width (μsec) | PRI (μsec)                                                                                                                                                    | Number of Pulses                                                                                                              | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------|
| 0                                                                                                                                           | 1                  | 1428                                                                                                                                                          | 18                                                                                                                            | See Note 1                                 | See Note 1               |
| 1                                                                                                                                           | 1                  | Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 3-6                                                                    | Roundup $\left\{ \left( \frac{1}{360} \right) \cdot \left( \frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$ | 60%                                        | 30                       |
|                                                                                                                                             |                    | Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A |                                                                                                                               |                                            |                          |
| 2                                                                                                                                           | 1-5                | 150-230                                                                                                                                                       | 23-29                                                                                                                         | 60%                                        | 30                       |
| 3                                                                                                                                           | 6-10               | 200-500                                                                                                                                                       | 16-18                                                                                                                         | 60%                                        | 30                       |
| 4                                                                                                                                           | 11-20              | 200-500                                                                                                                                                       | 12-16                                                                                                                         | 60%                                        | 30                       |
| Aggregate (Radar Types 1-4)                                                                                                                 |                    |                                                                                                                                                               |                                                                                                                               | 80%                                        | 120                      |
| <b>Note 1:</b> Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests. |                    |                                                                                                                                                               |                                                                                                                               |                                            |                          |

**Table 3-5: Parameters for Short Pulse Radar Waveforms**

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.

| Pulse Repetition Frequency Number | Pulse Repetition Frequency (Pulses Per Second) | Pulse Repetition Interval (Microseconds) |
|-----------------------------------|------------------------------------------------|------------------------------------------|
| 1                                 | 1930.5                                         | 518                                      |
| 2                                 | 1858.7                                         | 538                                      |
| 3                                 | 1792.1                                         | 558                                      |
| 4                                 | 1730.1                                         | 578                                      |
| 5                                 | 1672.2                                         | 598                                      |
| 6                                 | 1618.1                                         | 618                                      |
| 7                                 | 1567.4                                         | 638                                      |
| 8                                 | 1519.8                                         | 658                                      |
| 9                                 | 1474.9                                         | 678                                      |
| 10                                | 1432.7                                         | 698                                      |
| 11                                | 1392.8                                         | 718                                      |
| 12                                | 1355                                           | 738                                      |
| 13                                | 1319.3                                         | 758                                      |
| 14                                | 1285.3                                         | 778                                      |
| 15                                | 1253.1                                         | 798                                      |
| 16                                | 1222.5                                         | 818                                      |
| 17                                | 1193.3                                         | 838                                      |
| 18                                | 1165.6                                         | 858                                      |
| 19                                | 1139                                           | 878                                      |
| 20                                | 1113.6                                         | 898                                      |
| 21                                | 1089.3                                         | 918                                      |
| 22                                | 1066.1                                         | 938                                      |
| 23                                | 326.2                                          | 3066                                     |

**Table 3-6: Pulse Repetition Intervals Values for Test A**

### Long Pulse Radar Test Waveform

| Radar Type | Pulse Width (μsec) | Chirp Width (MHz) | PRI (μsec)  | Number of Pulses per Burst | Number of Bursts | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|------------|--------------------|-------------------|-------------|----------------------------|------------------|--------------------------------------------|--------------------------|
| 5          | 50 - 100           | 5 - 20            | 1000 - 2000 | 1 - 3                      | 8 - 20           | 80%                                        | 30                       |

**Table 3-7: Parameters for Long Pulse Radar Waveforms**

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

### Frequency Hopping Radar Test Waveform

| Radar Type | Pulse Width (μsec) | PRI (μsec) | Pulses Per Hop | Hopping Rate (kHz) | Hopping Sequence Length (msec) | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|------------|--------------------|------------|----------------|--------------------|--------------------------------|--------------------------------------------|--------------------------|
| 6          | 1                  | 333        | 9              | 0.333              | 300                            | 70%                                        | 30                       |

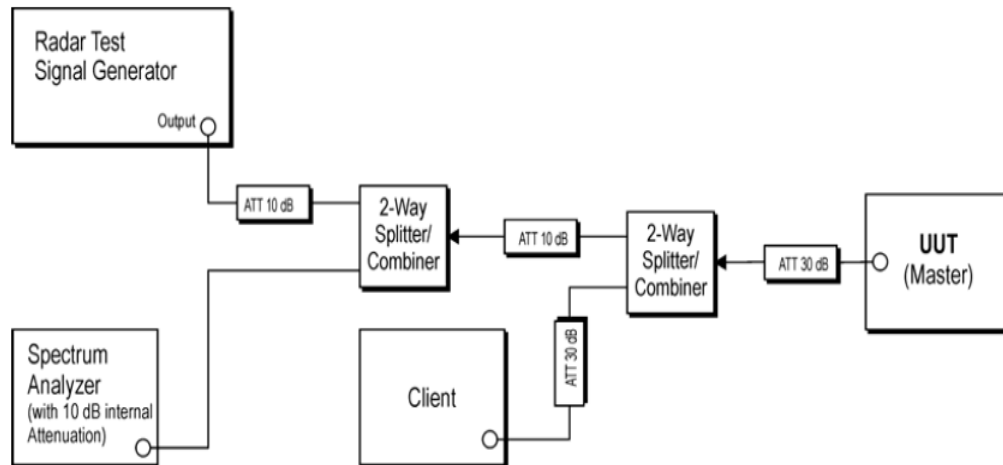
**Table 3-8: Parameters for Frequency Hopping Radar Waveforms**

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

### 3.5. Conducted Test Setup

The FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01 describes a radiated test setup and a conducted test setup. The conducted test setup was used for this testing. Figure 3-1 shows the typical test setup.



**Figure 3-1: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Masters**

#### 4. TEST EQUIPMENT CALIBRATION DATE

Dynamic Frequency Selection (DFS)

| Instrument                  | Manufacturer | Type No. | Serial No. | Cali. Due Date |
|-----------------------------|--------------|----------|------------|----------------|
| Spectrum Analyzer           | Agilent      | N9010A   | MY5144016A | 2015/01/04     |
| ESG Vector Signal Generator | Agilent      | E4438C   | MY49872484 | 2014/12/14     |
| Wireless Module             | Intel        | AC 7260  | N/A        | N/A            |

| Software       | Manufacturer | Function                         |
|----------------|--------------|----------------------------------|
| Pulse Building | Agilent      | Radar Signal Generation Software |
| DFS Tool       | Agilent      | DFS Test Software                |

## 5. TEST RESULT

### 5.1. Summary

**Company Name:** Hewlett Packard Company

**FCC ID:** O9C-BJNGAFB0005

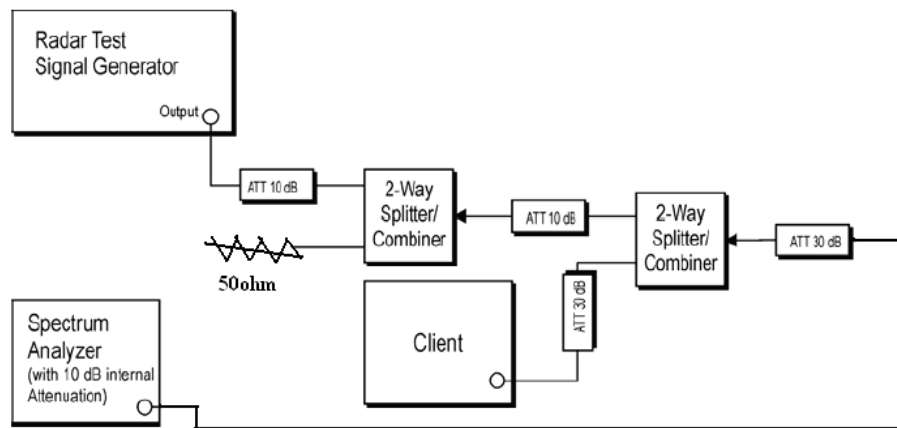
**FCC Classification:** Unlicensed National Information Infrastructure (UNII)

| Parameter                                                                      | Limit           | Test Result | Reference   |
|--------------------------------------------------------------------------------|-----------------|-------------|-------------|
| UNII Detection Bandwidth Measurement                                           | Refer Table 3-3 | Pass        | Section 5.4 |
| Initial Channel Availability Check Time                                        | Refer Table 3-3 | Pass        | Section 5.5 |
| Radar Burst at the Beginning of the Channel Availability Check Time            | Refer Table 3-3 | Pass        | Section 5.6 |
| Radar Burst at the End of the Channel Availability Check Time                  | Refer Table 3-3 | Pass        | Section 5.7 |
| In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time | Refer Table 3-3 | Pass        | Section 5.8 |
| Non-Occupancy Period                                                           | Refer Table 3-3 | Pass        |             |
| Statistical Performance Check                                                  | Refer Table 3-3 | Pass        | Section 5.9 |

## 5.2. Radar Waveform Calibration

### 5.2.1. Calibration Setup

The conducted test setup was used for this calibration testing. Figure 3-2 shows the typical test setup.



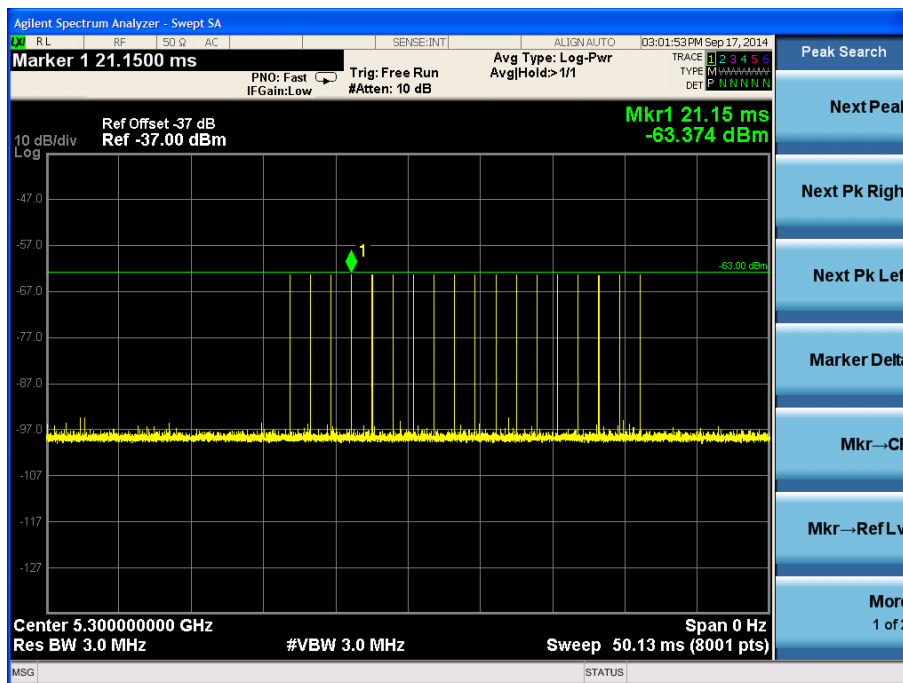
**Figure 3-2: Conducted Test Setup**

### 5.2.2. Calibration Procedure

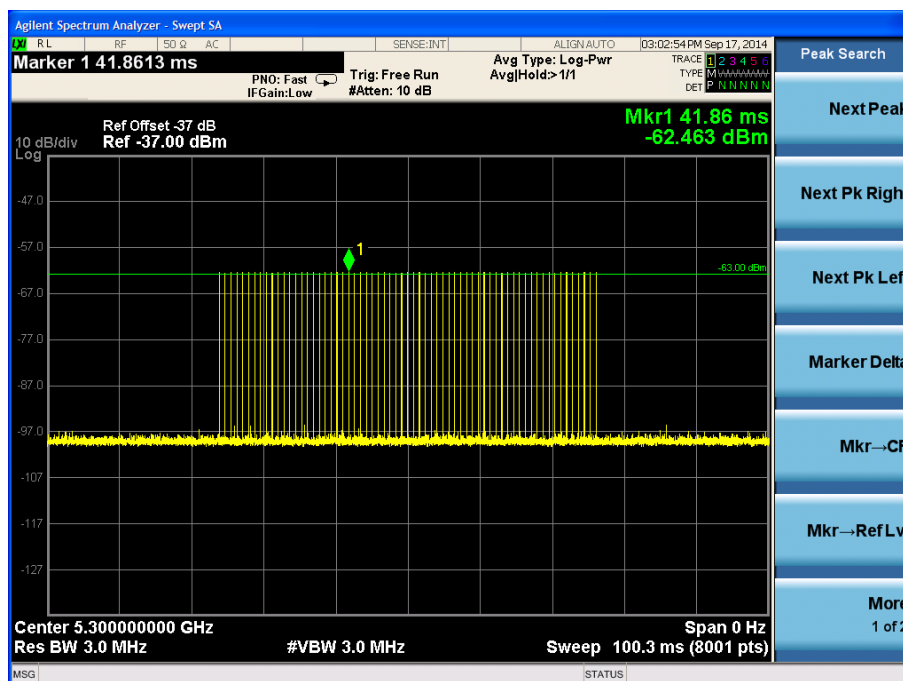
The Interference Radar Detection Threshold Level is  $(-64\text{dBm}) + (0) [\text{dBi}] + 1 \text{ dB} = -63 \text{ dBm}$  that had been taken into account the output power range and antenna gain. The above equipment setup was used to calibrate the conducted Radar Waveform. A vector signal generator was utilized to establish the test signal level for each radar type. During this process there were replace 50ohm terminal form Master and Client device and no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero span (Time Domain) at the frequency of the Radar Waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to at least 3MHz. The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was  $(-64\text{dBm}) + (0) [\text{dBi}] + 1 \text{ dB} = -63\text{dBm}$ . Capture the spectrum analyzer plots on short pulse radar types, long pulse radar type and hopping radar waveform.

### 5.2.3. Cablibration Result

Radar #0 DFS detection threshold level and the burst of pulses on the Channel frequency

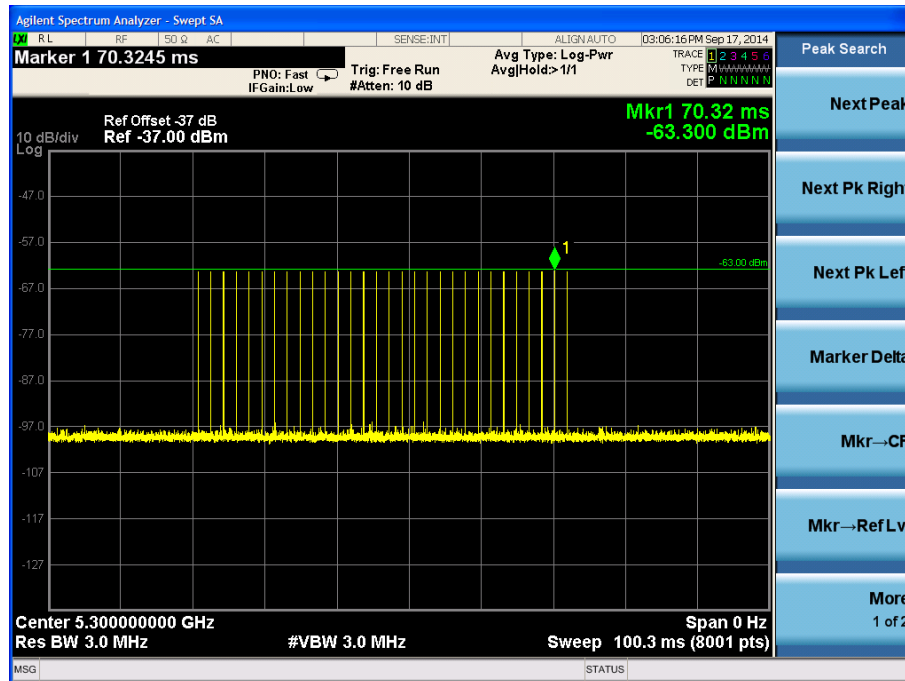


Radar #1(Test A) DFS detection threshold level and the burst of pulses on the Channel frequency



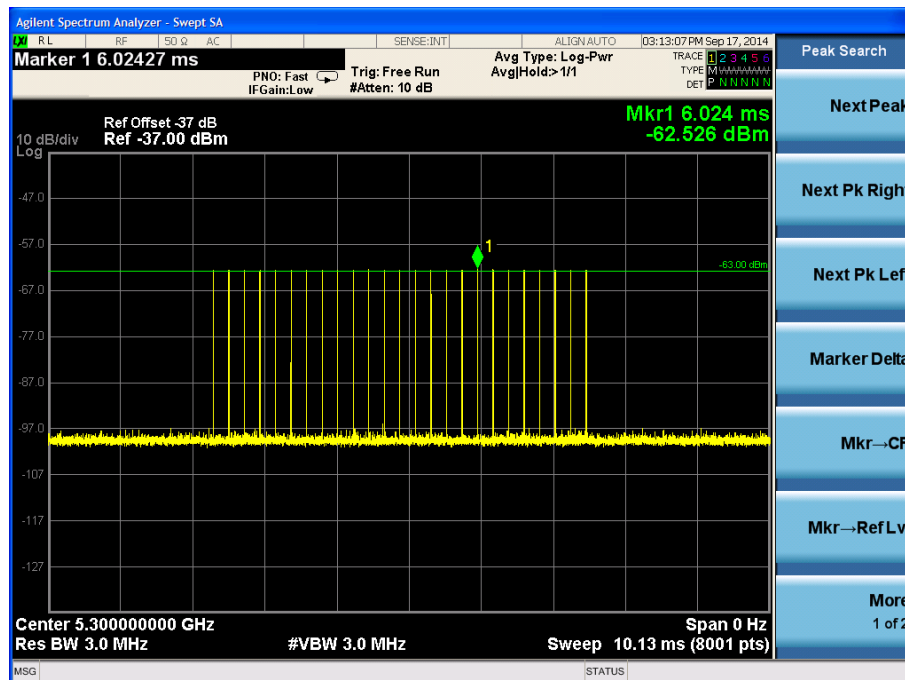
PRI = 738us and the number of pulses = 72

Radar #1(Test B) DFS detection threshold level and the burst of pulses on the Channel frequency

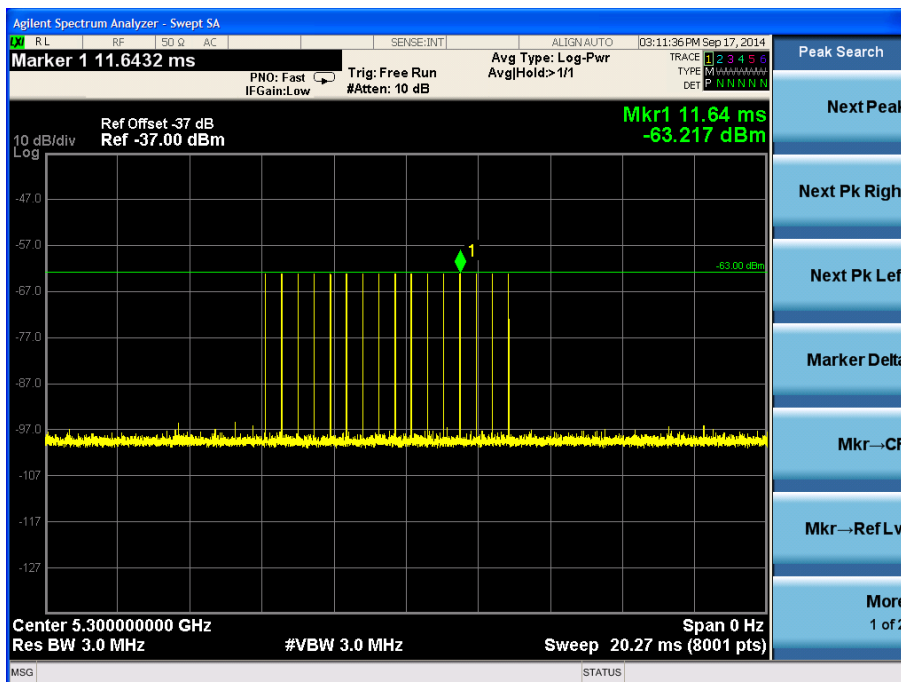


PRI = 1.787ms and the number of pulses = 30

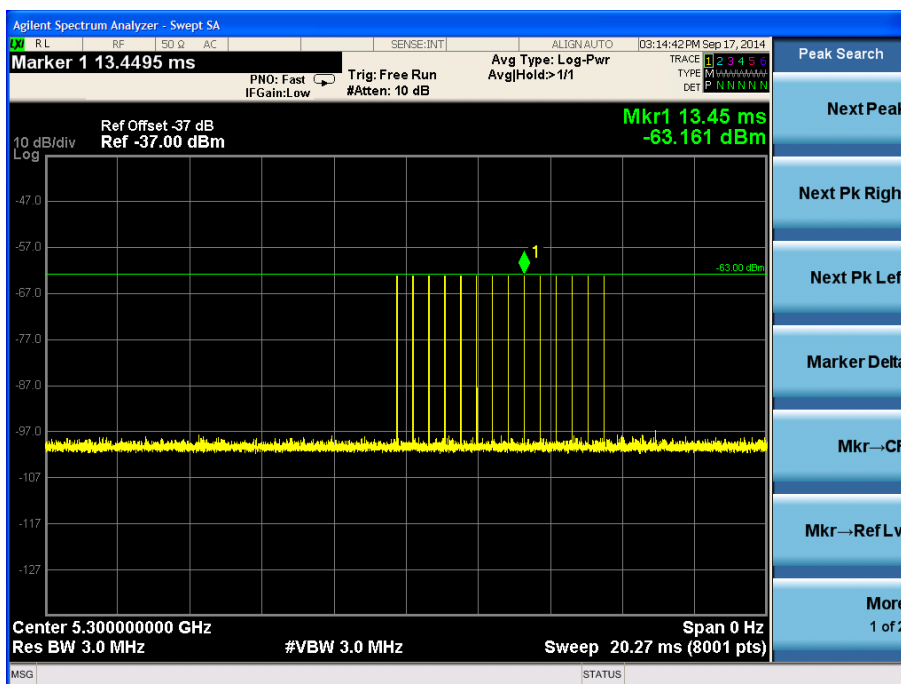
Radar #2 DFS detection threshold level and the burst of pulses on the Channel frequency



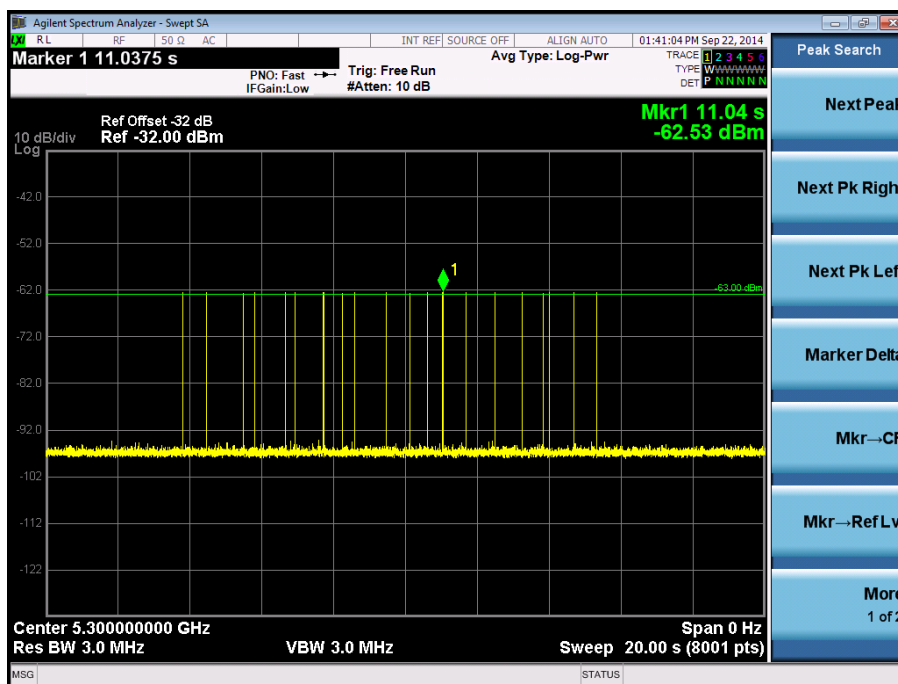
Radar #3 DFS detection threshold level and the burst of pulses on the Channel frequency



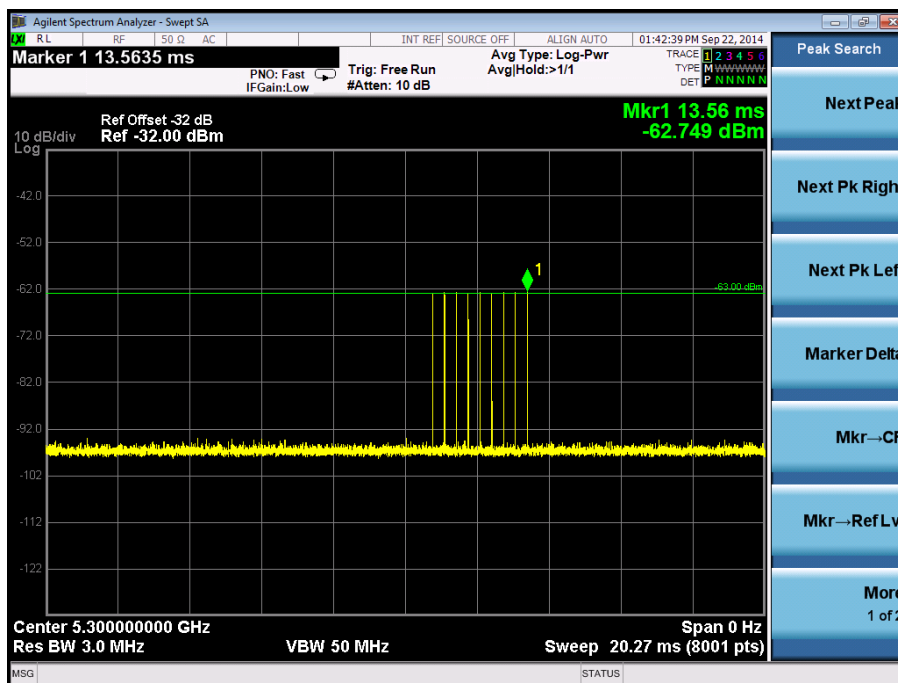
Radar #4 DFS detection threshold level and the burst of pulses on the Channel frequency



Radar #5 DFS detection threshold level and 12sec long burst on the Channel frequency



Radar #6 DFS detection threshold level and a single hop (13 pulses) on the Channel frequency within UNII detection bandwidth



#### 5.2.4. Test Setup Photo

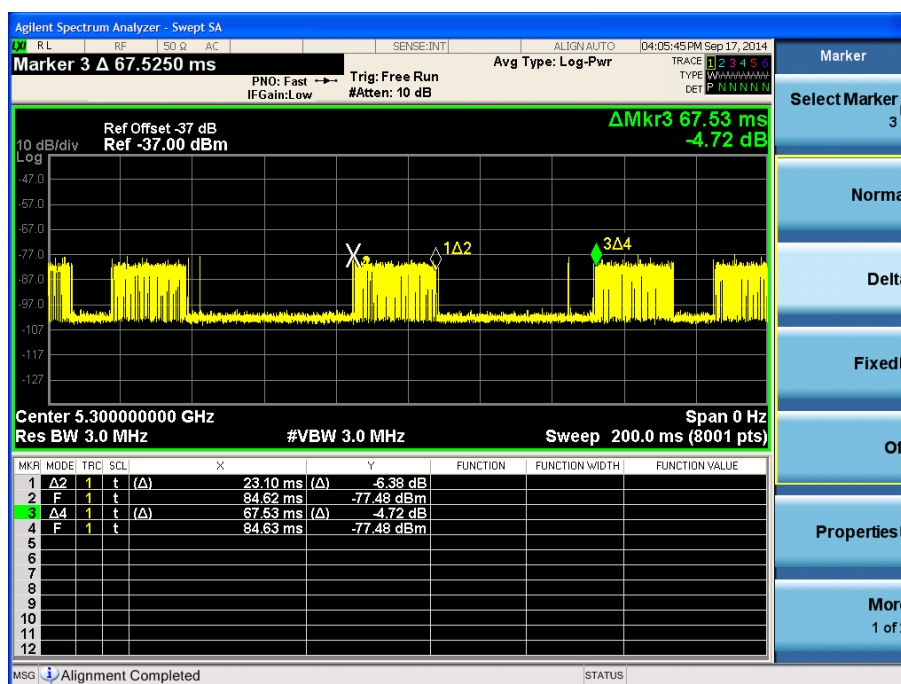
Description: Test Setup Photo



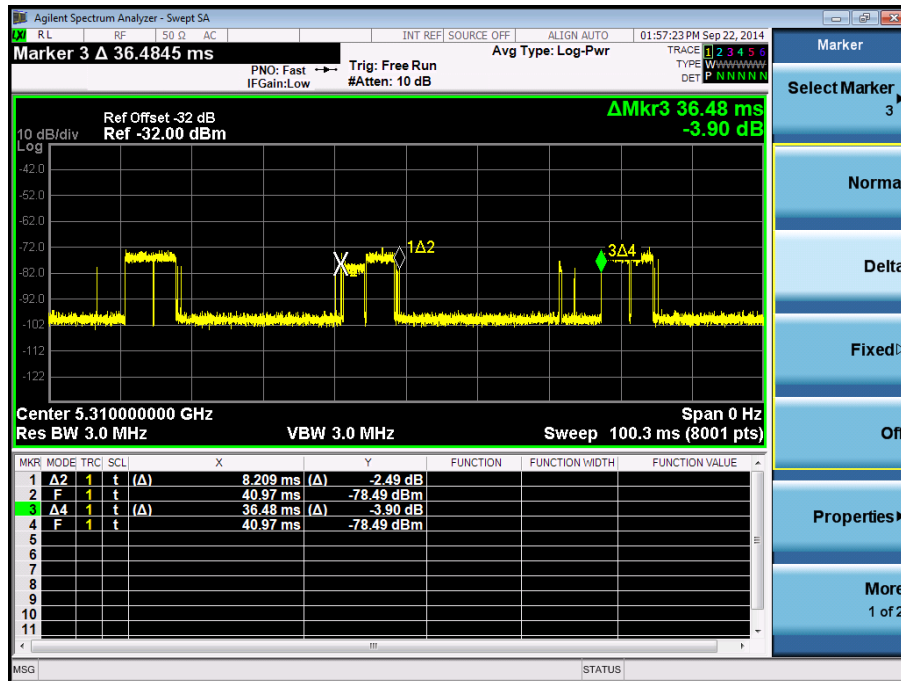
### 5.3. Channel Loading Test Result

System testing was performed with the designated MPEG test file that streams full motion video from the Unified Wired-WLAN Walljack to the Client in full motion video mode using the media player with the V2.61 Codec package. This file is used by IP and Frame based systems for loading the test channel during the In-service compliance testing of the U-NII device

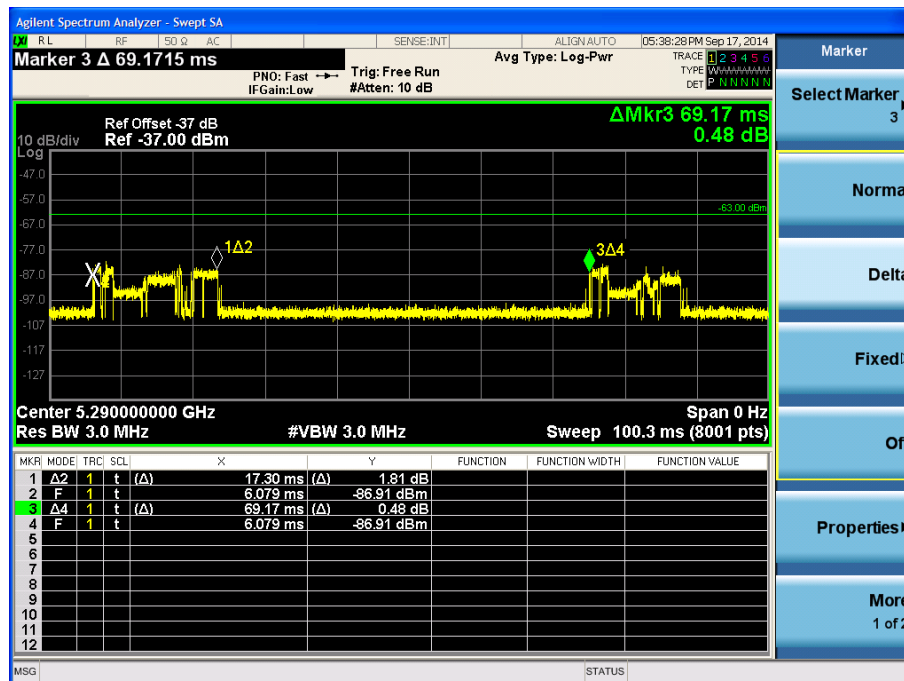
Channel Loading Plot - 802.11a-5300MHz



### Channel Loading Plot - 802.11n-HT40 5310MHz



### Channel Loading Plot - 802.11ac-VHT80 5290MHz



| Test Mode      | Packet ratio | Requirement ratio | Test Result |
|----------------|--------------|-------------------|-------------|
| 802.11a        | 34.21%       | >17%              | Pass        |
| 802.11n-HT40   | 22.50%       | >17%              | Pass        |
| 802.11ac-VHT80 | 25.01%       | >17%              | Pass        |

## 5.4. UNII Detection Bandwidth Measurement

### 5.4.1. Test Limit

Minimum 100% of the UNII 99% transmission power bandwidth. During the U-NII Detection Bandwidth detection test, each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

### 5.4.2. Test Procedure

1. Adjust the equipment to produce a single Burst of any one of the Short Pulse Radar Types 0-4 in Table 3-5 at the center frequency of the EUT Operating Channel at the specified DFS Detection Threshold level.
2. The generating equipment is configured as shown in the Conducted Test Setup above section 3.5.
3. The EUT is set up as a stand-alone device (no associated Client or Master, as appropriate) and no traffic. Frame based systems will be set to a talk/listen ratio reflecting the worst case (maximum) that is user configurable during this test.
4. Generate a single radar Burst, and note the response of the EUT. Repeat for a minimum of 10 trials. The EUT must detect the Radar Waveform using the specified U-NII Detection Bandwidth criterion shown in Table 3-5. In cases where the channel bandwidth may exceed past the DFS band edge on specific channels (i.e., 802.11ac or wideband frame based systems) select a channel that has the entire emission bandwidth within the DFS band. If this is not possible, test the detection BW to the DFS band edge.
5. Starting at the center frequency of the UUT operating Channel, increase the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion specified in Table 3-3. Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall. Record the highest frequency (denote as FH) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies above FH is not required to demonstrate compliance.
6. Starting at the center frequency of the EUT operating Channel, decrease the radar frequency in 1 MHz steps, repeating the above item 4 test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion. Record the lowest frequency (denote as FL) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies below FL is not required to demonstrate compliance.
7. The U-NII Detection Bandwidth is calculated as follows:  $\text{U-NII Detection Bandwidth} = \text{FH} - \text{FL}$
8. The U-NII Detection Bandwidth must be at least 100% of the EUT transmitter 99% power, otherwise, the EUT does not comply with DFS requirements.

### 5.4.3. Test Result

| EUT Frequency=5300MHz for 802.11a |                                                     |   |   |   |   |   |   |   |   |    |                    |
|-----------------------------------|-----------------------------------------------------|---|---|---|---|---|---|---|---|----|--------------------|
| Radar Frequency<br>(MHz)          | DFS Detection Trials (1=Detection, 0= No Detection) |   |   |   |   |   |   |   |   |    | Detection Rate (%) |
|                                   | 1                                                   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |                    |
| 5285                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5286                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5287                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5288                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5289                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5290 FL                           | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5291                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5292                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5293                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5294                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5295                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5296                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5297                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5298                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5299                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5300                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5301                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5302                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5303                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5304                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5305                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5306                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5307                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5308                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5309                              | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5310 FH                           | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5311                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5312                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5313                              | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |

|                                                                       |   |   |   |   |   |   |   |   |   |   |    |
|-----------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|----|
| 5314                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| 5315                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Detection Bandwidth = FH - FL = 5310MHz - 5290MHz = 20MHz             |   |   |   |   |   |   |   |   |   |   |    |
| EUT 99% Bandwidth = 16.92MHz (see note)                               |   |   |   |   |   |   |   |   |   |   |    |
| UNII Detection Bandwidth Min. Limit (MHz): 16.92MHz x 100% = 16.92MHz |   |   |   |   |   |   |   |   |   |   |    |

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5300MHz. The 99% channel bandwidth is 16.92MHz. (See the 99% BW section of the RF report for further measurement details).

| EUT Frequency=5310MHz for 802.11n-HT40 |                                                     |   |   |   |   |   |   |   |   |    |                    |
|----------------------------------------|-----------------------------------------------------|---|---|---|---|---|---|---|---|----|--------------------|
| Radar Frequency<br>(MHz)               | DFS Detection Trials (1=Detection, 0= No Detection) |   |   |   |   |   |   |   |   |    | Detection Rate (%) |
|                                        | 1                                                   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |                    |
| 5290                                   | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5291                                   | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5292 FL                                | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5293                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5294                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5295                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5296                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5297                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5298                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5299                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5300                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5301                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5302                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5303                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5304                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5305                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5306                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5307                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5308                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5309                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5310                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5311                                   | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |

|                                                                       |   |   |   |   |   |   |   |   |   |   |      |
|-----------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|------|
| 5312                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5313                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5314                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5315                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5316                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5317                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5318                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5319                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5320                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5321                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5322                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5323                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5324                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5325                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5326                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5327                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5328                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5329 FH                                                               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5330                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0%   |
| Detection Bandwidth = FH - FL = 5329MHz - 5292MHz = 37MHz             |   |   |   |   |   |   |   |   |   |   |      |
| EUT 99% Bandwidth = 36.38MHz (see note)                               |   |   |   |   |   |   |   |   |   |   |      |
| UNII Detection Bandwidth Min. Limit (MHz): 36.38MHz x 100% = 36.38MHz |   |   |   |   |   |   |   |   |   |   |      |

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5310MHz. The 99% channel bandwidth is 36.38MHz. (See the 99% BW section of the RF report for further measurement details).

| EUT Frequency=5290MHz for 802.11ac-VHT80 |                                                     |   |   |   |   |   |   |   |   |    |                    |
|------------------------------------------|-----------------------------------------------------|---|---|---|---|---|---|---|---|----|--------------------|
| Radar Frequency<br>(MHz)                 | DFS Detection Trials (1=Detection, 0= No Detection) |   |   |   |   |   |   |   |   |    | Detection Rate (%) |
|                                          | 1                                                   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |                    |
| 5245                                     | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5246                                     | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5247                                     | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5248                                     | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5249                                     | 0                                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0%                 |
| 5250 FL                                  | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5251                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5252                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5253                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5254                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5255                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5256                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5257                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5258                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5259                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5260                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5261                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5262                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5263                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5264                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5265                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5266                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5267                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5268                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5269                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5270                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5271                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5272                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5273                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5274                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |
| 5275                                     | 1                                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 100%               |

|      |   |   |   |   |   |   |   |   |   |   |      |
|------|---|---|---|---|---|---|---|---|---|---|------|
| 5276 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5277 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5278 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5279 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5280 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5281 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5282 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5283 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5284 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5285 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5286 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5287 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5288 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5289 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5290 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5291 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5292 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5293 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5294 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5295 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5296 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5297 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5298 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5299 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5300 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5301 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5302 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5303 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5304 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5305 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5306 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5307 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5308 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5309 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |

|                                                                       |   |   |   |   |   |   |   |   |   |   |      |
|-----------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|------|
| 5310                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5311                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5312                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5313                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5314                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5315                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5316                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5317                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5318                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5319                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5320                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5321                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5322                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5323                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5324                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5325                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5326                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5327                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5328                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5329                                                                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5330 FH                                                               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5331                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0%   |
| 5332                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0%   |
| 5333                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0%   |
| 5334                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0%   |
| 5335                                                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0%   |
| Detection Bandwidth = FH - FL = 5330MHz - 5250MHz = 80MHz             |   |   |   |   |   |   |   |   |   |   |      |
| EUT 99% Bandwidth = 75.90MHz (see note)                               |   |   |   |   |   |   |   |   |   |   |      |
| UNII Detection Bandwidth Min. Limit (MHz): 75.90MHz x 100% = 75.90MHz |   |   |   |   |   |   |   |   |   |   |      |

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5290MHz. The 99% channel bandwidth is 75.90MHz. (See the 99% BW section of the RF report for further measurement details).

## **5.5. Initial Channel Availability Check Time Measurement**

### **5.5.1. Test Limit**

The EUT shall perform a Channel Availability Check to ensure that there is no radar operating on the channel. After power-up sequence, receive at least 1 minute on the intended operating frequency.

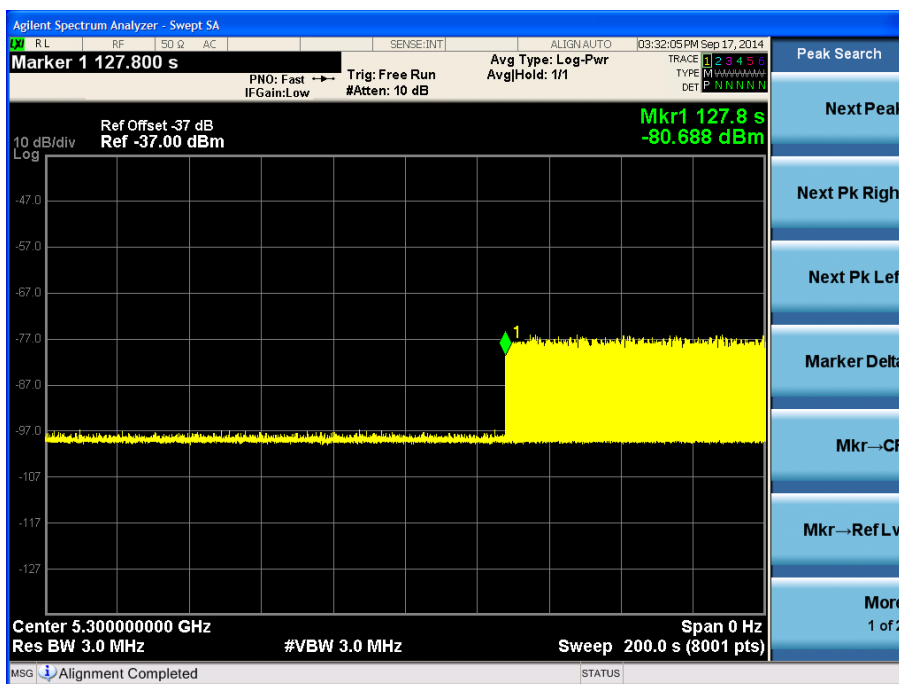
### **5.5.2. Test Procedure**

1. The U-NII devices will be powered on and be instructed to operate on the appropriate U-NII Channel that must incorporate DFS functions. At the same time the EUT is powered on, the spectrum analyzer will be set to zero span mode with a 3 MHz RBW and 3 MHz VBW on the Channel occupied by the radar (Chr) with a 2.5 minute sweep time. The spectrum analyzer's sweep will be started at the same time power is applied to the U-NII device.
2. The EUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.
3. Confirm that the EUT initiates transmission on the channel. Measurement system showing its nominal noise floor is marker1.

### 5.5.3. Test Result

The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (67.8 sec). Initial beacons/data transmissions are indicated by marker 1 (127.8 sec).

Initial Channel Availability Check Time for 802.11a



## **5.6. Radar Burst at the Beginning of the Channel Availability Check Time Measurement**

### **5.6.1. Test Limit**

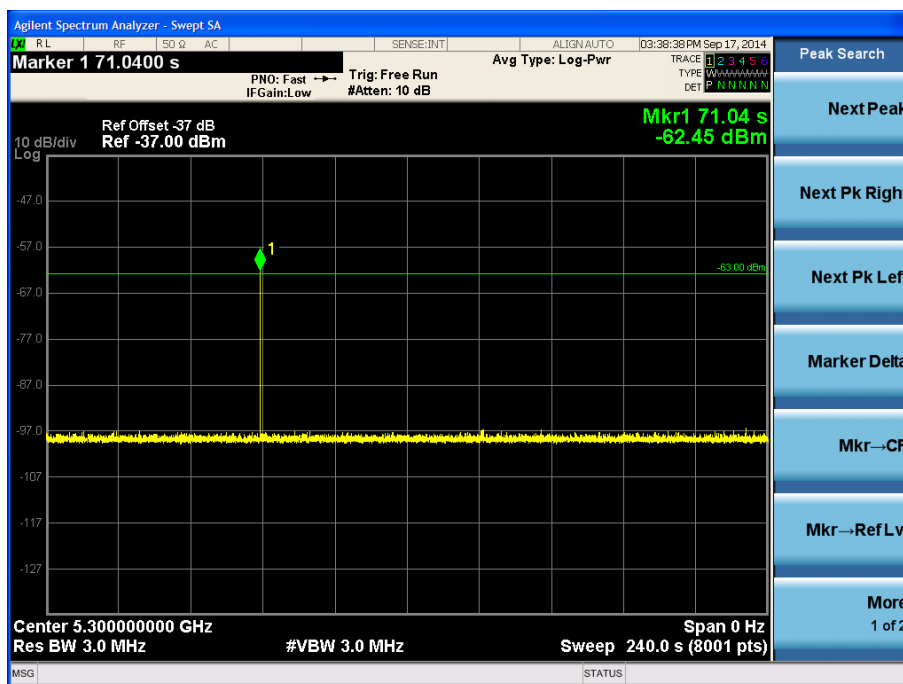
In beginning of the Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

### **5.6.2. Test Procedure**

1. The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB occurs at the beginning of the Channel Availability Check Time.
2. The EUT is in completion power-up cycle (from T0 to T1). T1 denotes the instant when the EUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of one of Short Pulse Radar Types 0-4 at DFS Detection Threshold + 1 dB will commence within a 6 second window starting at T1.
3. Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5300MHz (for 802.11a) will continue for 71.04 seconds after the radar Burst has been generated. Verify that during the 2.5 minutes measurement window no EUT transmissions occurred at 5300MHz (for 802.11a).

### 5.6.3. Test Result

Radar Burst at the Beginning of the Channel Availability Check Time for 802.11a



## **5.7. Radar Burst at the End of the Channel Availability Check Time Measurement**

### **5.7.1. Test Limit**

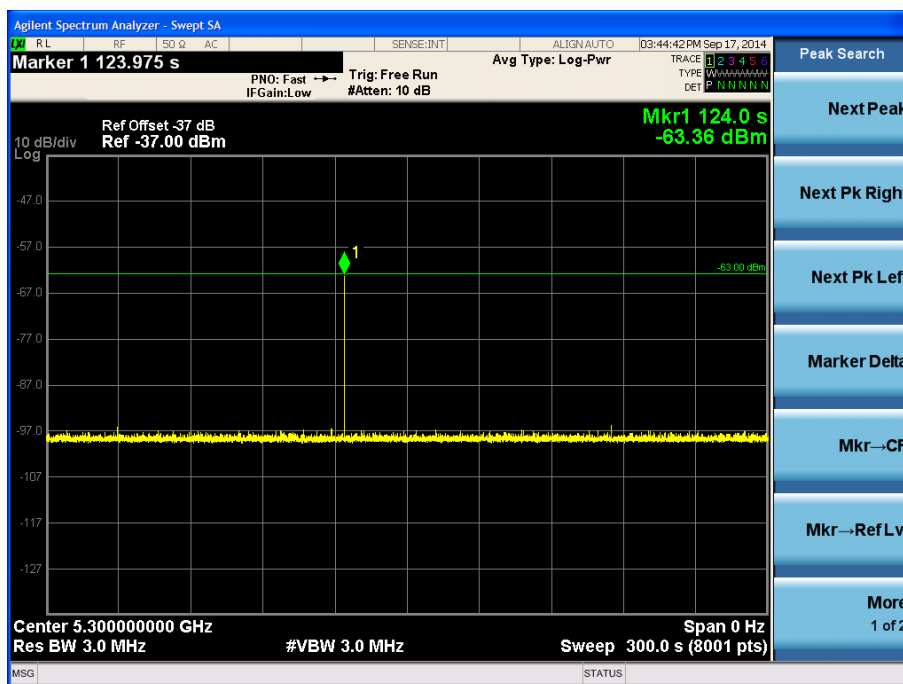
In the end of Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

### **5.7.2. Test Procedure**

1. The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB occurs at the beginning of the Channel Availability Check Time.
2. The EUT is powered on at T0. T1 denotes the instant when the EUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of one of Short Pulse Radar Types 0-4 at DFS Detection Threshold + 1 dB will commence within a 6 second window starting at T1+ 54 seconds.
3. Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5300MHz (for 802.11a) will continue for 124.0 seconds after the radar Burst has been generated. Verify that during the 2.5 minutes measurement window no EUT transmissions occurred at 5300MHz (for 802.11a).

### 5.7.3. Test Result

Radar Burst at the End of the Channel Availability Check Time for 802.11a



## **5.8. In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement**

### **5.8.1. Test Limit**

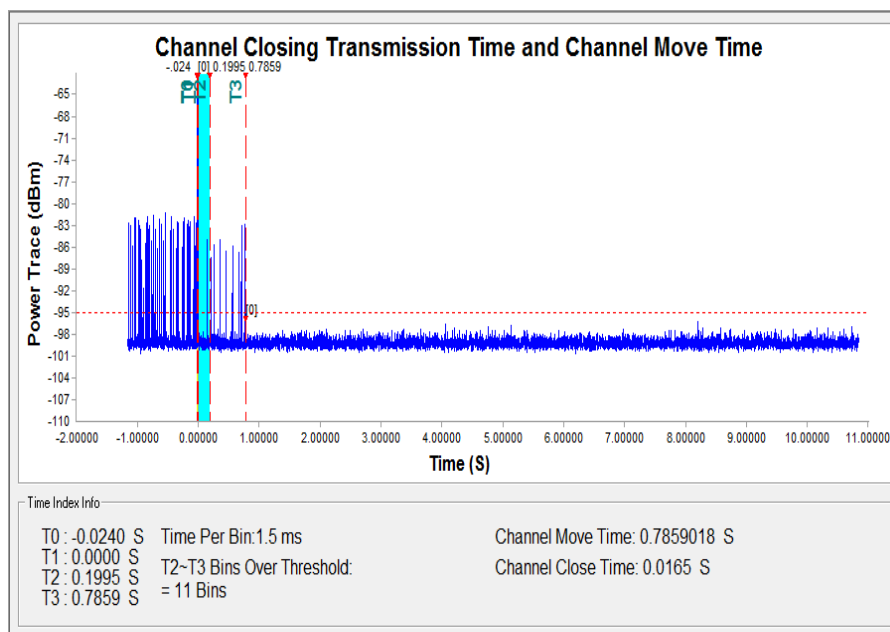
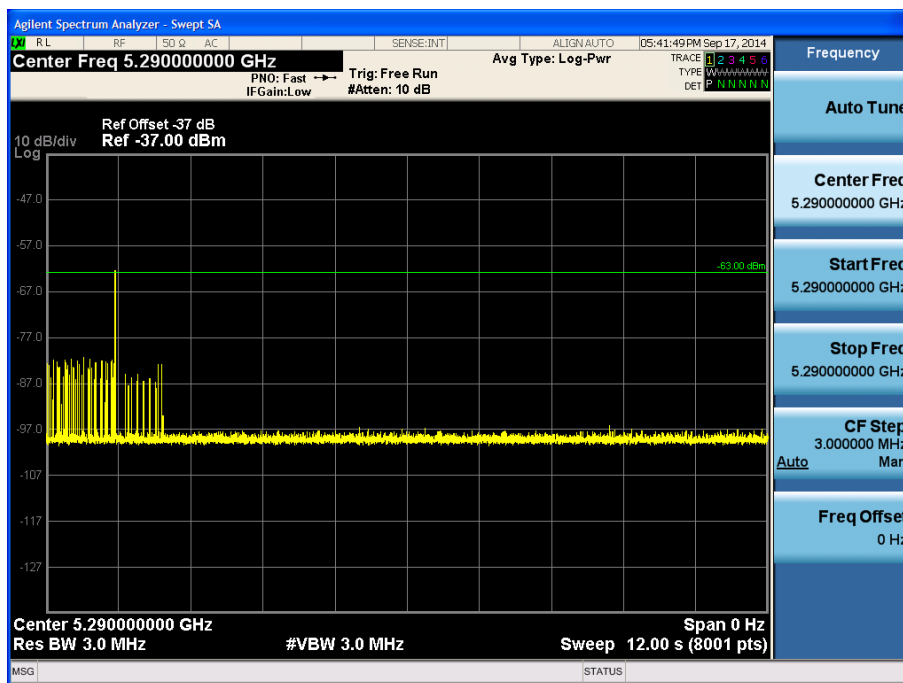
The EUT has In-Service Monitoring function to continuously monitor the radar signals. If the radar is detected, must leave the channel (Shutdown). The Channel Move Time to cease all transmissions on the current channel upon detection of a Radar Waveform above the DFS Detection Threshold within 10 sec. The total duration of Channel Closing Transmission Time is 260ms, consisting of data signals and the aggregate of control signals, by a U-NII device during the Channel Move Time. The Non-Occupancy Period time is 30 minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel.

### **5.8.2. Test Procedure Used**

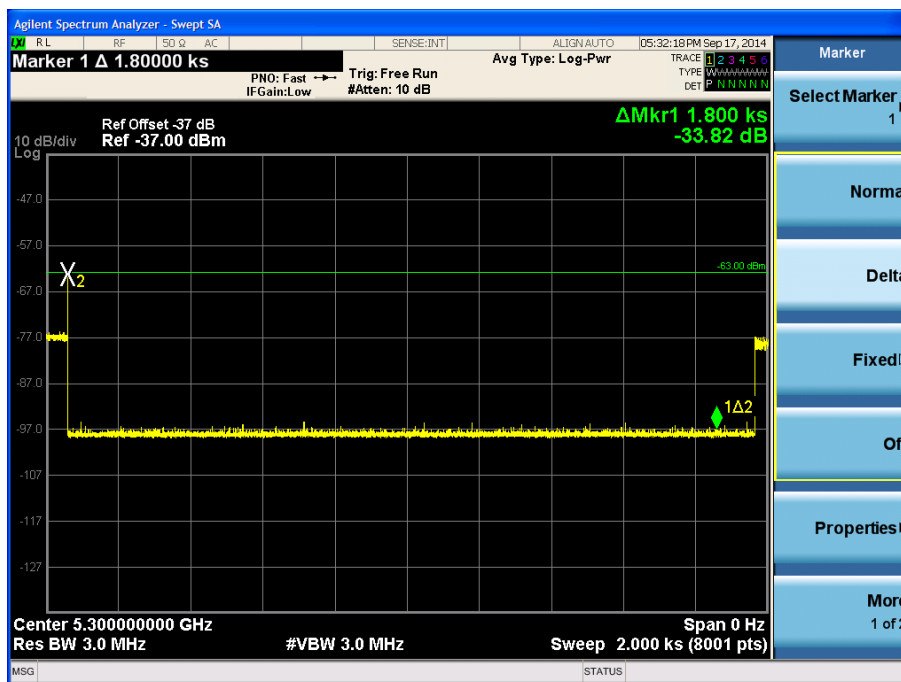
1. The test should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0.
2. When the radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device. A U-NII device operating as a Master Device will associate with the Client Device at Channel. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test. At time T0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at Detection Threshold + 1dB.
2. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the EUT during the observation time (Channel Move Time).
3. Measurement of the aggregate duration of the Channel Closing Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by:  $Dwell (1.5ms) = S (12 \text{ sec}) / B (8000)$ ; where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by:  $80MHz: C (16.5 \text{ ms}) = N (11) \times Dwell (1.5 \text{ ms})$ ; where C is the Closing Time, N is the number of spectrum analyzer sampling bins showing a U-NII transmission and Dwell is the dwell time per bin.
4. Measure the EUT for more than 30 minutes following the channel close/move time to verify that the EUT does not resume any transmissions on this Channel.

### 5.8.3. Test Result

Channel Move Time and Channel Closing Transmission Time for 802.11ac-VHT80



## Non-Occupancy Period for 802.11a



| Parameter                                        | Test Result | Limit    |
|--------------------------------------------------|-------------|----------|
|                                                  | Type 0      |          |
| Channel Move Time (s)                            | 0.786s      | <10s     |
| Channel Closing Transmission Time (ms)<br>(Note) | 16.50ms     | < 60ms   |
| Non-Occupancy Period (min)                       | ≥ 30min     | ≥ 30 min |

Note: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.

## 5.9. Statistical Performance Check Measurement

### 5.9.1. Test Limit

The minimum percentage of successful detection requirements found in below table when a radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device (In- Service Monitoring).

| Radar Type                  | Minimum Number of Trails          | Detection Probability |
|-----------------------------|-----------------------------------|-----------------------|
| 0                           | 30                                | Pd > 60%              |
| 1                           | 30(15 of test A and 15 of test B) | Pd > 60%              |
| 2                           | 30                                | Pd > 60%              |
| 3                           | 30                                | Pd > 60%              |
| 4                           | 30                                | Pd > 60%              |
| Aggregate (Radar Types 1-4) | 120                               | Pd > 80%              |
| 5                           | 30                                | Pd > 80%              |
| 6                           | 30                                | Pd > 70%              |

The percentage of successful detection is calculated by:

$(\text{Total Waveform Detections} / \text{Total Waveform Trails}) * 100 = \text{Probability of Detection Radar Waveform}$   
In addition an aggregate minimum percentage of successful detection across all Short Pulse Radar Types 1-4 is required and is calculated as follows:  $(Pd1 + Pd2 + Pd3 + Pd4) / 4$ .

### 5.9.2. Test Procedure

1. Stream the MPEG test file from the Master Device to the Client Device on the test Channel for the entire period of the test.
2. At time T0 the Radar Waveform generator sends the individual waveform for each of the Radar Types 1-6, at levels equal to the DFS Detection Threshold + 1dB, on the Operating Channel.
3. Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Short Pulse Radar Types 0 to ensure detection occurs.
4. Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 22 seconds for Long Pulse Radar Type 5 to ensure detection occurs.
5. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs.
6. The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in below table.

### 5.9.3. Test Result

Statistical Performance Check for 802.11a

Radar Type 1 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5290                | 1                   | 558      | 95             | 0                             |
| 2                        | 5291                | 1                   | 858      | 62             | 1                             |
| 3                        | 5291                | 1                   | 698      | 76             | 1                             |
| 4                        | 5292                | 1                   | 618      | 86             | 1                             |
| 5                        | 5292                | 1                   | 818      | 65             | 1                             |
| 6                        | 5293                | 1                   | 658      | 81             | 1                             |
| 7                        | 5293                | 1                   | 518      | 102            | 1                             |
| 8                        | 5294                | 1                   | 538      | 99             | 1                             |
| 9                        | 5294                | 1                   | 718      | 74             | 1                             |
| 10                       | 5295                | 1                   | 938      | 57             | 1                             |
| 11                       | 5295                | 1                   | 798      | 67             | 1                             |
| 12                       | 5296                | 1                   | 898      | 59             | 1                             |
| 13                       | 5297                | 1                   | 738      | 72             | 1                             |
| 14                       | 5298                | 1                   | 758      | 70             | 1                             |
| 15                       | 5299                | 1                   | 638      | 83             | 1                             |
| 16                       | 5300                | 1                   | 1937     | 28             | 1                             |
| 17                       | 5301                | 1                   | 2722     | 20             | 1                             |
| 18                       | 5302                | 1                   | 2170     | 25             | 1                             |
| 19                       | 5303                | 1                   | 762      | 70             | 1                             |
| 20                       | 5304                | 1                   | 2402     | 22             | 1                             |
| 21                       | 5305                | 1                   | 2767     | 20             | 1                             |
| 22                       | 5306                | 1                   | 592      | 90             | 1                             |
| 23                       | 5307                | 1                   | 2090     | 26             | 1                             |
| 24                       | 5307                | 1                   | 1943     | 28             | 1                             |
| 25                       | 5308                | 1                   | 630      | 84             | 1                             |
| 26                       | 5308                | 1                   | 2857     | 19             | 1                             |
| 27                       | 5309                | 1                   | 1948     | 28             | 1                             |
| 28                       | 5309                | 1                   | 1212     | 44             | 1                             |
| 29                       | 5310                | 1                   | 1326     | 40             | 1                             |
| 30                       | 5310                | 1                   | 2531     | 21             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 96.7%                         |

### Radar Type 2 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5290                | 1.1                 | 153      | 25             | 0                             |
| 2                        | 5291                | 1.3                 | 215      | 24             | 1                             |
| 3                        | 5291                | 1.1                 | 219      | 23             | 1                             |
| 4                        | 5292                | 1.7                 | 176      | 28             | 1                             |
| 5                        | 5292                | 4.9                 | 160      | 23             | 1                             |
| 6                        | 5293                | 2.2                 | 159      | 25             | 1                             |
| 7                        | 5293                | 1.6                 | 154      | 26             | 1                             |
| 8                        | 5294                | 1.9                 | 201      | 24             | 1                             |
| 9                        | 5294                | 3.7                 | 210      | 28             | 1                             |
| 10                       | 5295                | 2.7                 | 203      | 28             | 1                             |
| 11                       | 5295                | 3.5                 | 191      | 24             | 1                             |
| 12                       | 5296                | 1.0                 | 168      | 25             | 1                             |
| 13                       | 5297                | 4.4                 | 153      | 23             | 1                             |
| 14                       | 5298                | 4.3                 | 218      | 28             | 1                             |
| 15                       | 5299                | 4.2                 | 214      | 28             | 1                             |
| 16                       | 5300                | 1.5                 | 176      | 25             | 1                             |
| 17                       | 5301                | 2.5                 | 215      | 26             | 1                             |
| 18                       | 5302                | 4.6                 | 182      | 26             | 1                             |
| 19                       | 5303                | 5.0                 | 206      | 26             | 1                             |
| 20                       | 5304                | 2.8                 | 178      | 24             | 1                             |
| 21                       | 5305                | 1.0                 | 178      | 24             | 1                             |
| 22                       | 5306                | 2.9                 | 158      | 28             | 1                             |
| 23                       | 5307                | 3.1                 | 229      | 27             | 1                             |
| 24                       | 5307                | 1.5                 | 205      | 28             | 1                             |
| 25                       | 5308                | 3.9                 | 203      | 28             | 1                             |
| 26                       | 5308                | 4.4                 | 224      | 25             | 1                             |
| 27                       | 5309                | 1.5                 | 187      | 29             | 1                             |
| 28                       | 5309                | 3.0                 | 183      | 29             | 1                             |
| 29                       | 5310                | 3.2                 | 156      | 27             | 1                             |
| 30                       | 5310                | 2.4                 | 196      | 27             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 96.7%                         |

### Radar Type 3 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5290                | 9.7                 | 282      | 18             | 0                             |
| 2                        | 5291                | 6.1                 | 350      | 18             | 0                             |
| 3                        | 5291                | 7.8                 | 440      | 16             | 1                             |
| 4                        | 5292                | 8.9                 | 498      | 16             | 1                             |
| 5                        | 5292                | 9.8                 | 416      | 16             | 1                             |
| 6                        | 5293                | 7.8                 | 422      | 16             | 1                             |
| 7                        | 5293                | 9.0                 | 320      | 18             | 1                             |
| 8                        | 5294                | 7.9                 | 336      | 16             | 1                             |
| 9                        | 5294                | 8.5                 | 454      | 17             | 1                             |
| 10                       | 5295                | 8.5                 | 425      | 16             | 1                             |
| 11                       | 5295                | 7.8                 | 332      | 18             | 1                             |
| 12                       | 5296                | 9.8                 | 255      | 16             | 1                             |
| 13                       | 5297                | 8.4                 | 407      | 17             | 1                             |
| 14                       | 5298                | 9.7                 | 293      | 16             | 1                             |
| 15                       | 5299                | 9.0                 | 406      | 18             | 1                             |
| 16                       | 5300                | 7.1                 | 255      | 18             | 1                             |
| 17                       | 5301                | 8.4                 | 459      | 17             | 1                             |
| 18                       | 5302                | 6.0                 | 499      | 16             | 1                             |
| 19                       | 5303                | 7.5                 | 375      | 16             | 1                             |
| 20                       | 5304                | 8.1                 | 292      | 18             | 1                             |
| 21                       | 5305                | 9.6                 | 398      | 16             | 1                             |
| 22                       | 5306                | 6.3                 | 368      | 17             | 1                             |
| 23                       | 5307                | 8.3                 | 431      | 16             | 1                             |
| 24                       | 5307                | 7.4                 | 484      | 17             | 1                             |
| 25                       | 5308                | 7.6                 | 303      | 17             | 1                             |
| 26                       | 5308                | 6.7                 | 429      | 18             | 1                             |
| 27                       | 5309                | 9.5                 | 471      | 16             | 1                             |
| 28                       | 5309                | 9.2                 | 468      | 17             | 1                             |
| 29                       | 5310                | 7.6                 | 261      | 16             | 0                             |
| 30                       | 5310                | 9.8                 | 439      | 17             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 90%                           |

### Radar Type 4 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5290                | 13.7                | 469      | 13             | 0                             |
| 2                        | 5291                | 15.4                | 420      | 13             | 1                             |
| 3                        | 5291                | 13.4                | 388      | 16             | 1                             |
| 4                        | 5292                | 18.6                | 267      | 12             | 1                             |
| 5                        | 5292                | 18.5                | 347      | 15             | 1                             |
| 6                        | 5293                | 19.9                | 367      | 15             | 1                             |
| 7                        | 5293                | 12.9                | 334      | 13             | 1                             |
| 8                        | 5294                | 14.8                | 349      | 16             | 1                             |
| 9                        | 5294                | 16.3                | 293      | 16             | 1                             |
| 10                       | 5295                | 13.7                | 389      | 14             | 1                             |
| 11                       | 5295                | 15.6                | 271      | 16             | 1                             |
| 12                       | 5296                | 14.1                | 443      | 12             | 1                             |
| 13                       | 5297                | 16.8                | 418      | 13             | 1                             |
| 14                       | 5298                | 12.7                | 426      | 15             | 1                             |
| 15                       | 5299                | 16.8                | 424      | 12             | 1                             |
| 16                       | 5300                | 13.9                | 273      | 12             | 1                             |
| 17                       | 5301                | 13.0                | 463      | 13             | 1                             |
| 18                       | 5302                | 15.3                | 400      | 14             | 1                             |
| 19                       | 5303                | 14.9                | 393      | 13             | 1                             |
| 20                       | 5304                | 12.6                | 358      | 12             | 1                             |
| 21                       | 5305                | 15.5                | 278      | 16             | 1                             |
| 22                       | 5306                | 15.5                | 434      | 13             | 1                             |
| 23                       | 5307                | 18.2                | 309      | 14             | 1                             |
| 24                       | 5307                | 15.3                | 379      | 14             | 1                             |
| 25                       | 5308                | 15.1                | 314      | 13             | 1                             |
| 26                       | 5308                | 17.2                | 349      | 15             | 1                             |
| 27                       | 5309                | 17.1                | 374      | 15             | 1                             |
| 28                       | 5309                | 13.6                | 329      | 12             | 1                             |
| 29                       | 5310                | 12.4                | 490      | 14             | 1                             |
| 30                       | 5310                | 12.5                | 434      | 15             | 0                             |
| Detection Percentage (%) |                     |                     |          |                | 93.3%                         |

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows:  $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (96.7\% + 96.7\% + 90\% + 93.3\%) / 4 = 94.18\% (>80\%)$



## Radar Type 5 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection | Trail # | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|-------------------------------|---------|---------------------|-------------------------------|
| 1                        | 5290                | 0                             | 16      | 5300                | 1                             |
| 2                        | 5291                | 0                             | 17      | 5302                | 1                             |
| 3                        | 5292                | 0                             | 18      | 5303                | 1                             |
| 4                        | 5293                | 1                             | 19      | 5303                | 1                             |
| 5                        | 5294                | 1                             | 20      | 5304                | 1                             |
| 6                        | 5295                | 1                             | 21      | 5304                | 1                             |
| 7                        | 5296                | 1                             | 22      | 5305                | 1                             |
| 8                        | 5297                | 1                             | 23      | 5305                | 1                             |
| 9                        | 5298                | 1                             | 24      | 5306                | 1                             |
| 10                       | 5299                | 1                             | 25      | 5306                | 1                             |
| 11                       | 5300                | 1                             | 26      | 5307                | 1                             |
| 12                       | 5300                | 1                             | 27      | 5307                | 1                             |
| 13                       | 5301                | 1                             | 28      | 5308                | 1                             |
| 14                       | 5301                | 1                             | 29      | 5309                | 1                             |
| 15                       | 5302                | 1                             | 30      | 5310                | 1                             |
| Detection Percentage (%) |                     |                               |         |                     | 90%                           |

## Type 5 Radar Waveform\_1

Waveform Num = 1  
Num of Bursts = 10  
Burst Interval (us)= 1200000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 1038695       | 2        | 20          | 60      | 1407             | 1851             | 0                | 1038695        | 0                         | 1199999                 |
| 2       | 242598        | 1        | 16          | 85      | 1737             | 0                | 0                | 1284551        | 1200000                   | 2399999                 |
| 3       | 1935796       | 3        | 14          | 95      | 1708             | 1082             | 1325             | 3222084        | 2400000                   | 3599999                 |
| 4       | 1125519       | 3        | 16          | 60      | 1955             | 1663             | 1182             | 4351718        | 3600000                   | 4799999                 |
| 5       | 933693        | 2        | 18          | 80      | 1476             | 1813             | 0                | 5290211        | 4800000                   | 5999999                 |
| 6       | 1596630       | 2        | 14          | 75      | 1635             | 1331             | 0                | 6890130        | 6000000                   | 7199999                 |
| 7       | 823225        | 1        | 8           | 80      | 1802             | 0                | 0                | 7716321        | 7200000                   | 8399999                 |
| 8       | 1727285       | 2        | 5           | 50      | 1339             | 1888             | 0                | 9445408        | 8400000                   | 9599999                 |
| 9       | 220654        | 3        | 16          | 85      | 1765             | 1871             | 1530             | 9669289        | 9600000                   | 10799999                |
| 10      | 1578635       | 2        | 10          | 55      | 1447             | 1924             | 0                | 11253090       | 10800000                  | 11999999                |

Total number of pulses in waveform = 21

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## Type 5 Radar Waveform\_2

Waveform Num = 2  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 522083        | 1        | 9           | 80      | 1903             | 0                | 0                | 522083         | 0                         | 631578                  |
| 2       | 618604        | 2        | 13          | 85      | 1893             | 1975             | 0                | 1142590        | 631579                    | 1263157                 |
| 3       | 477684        | 1        | 15          | 55      | 1406             | 0                | 0                | 1624142        | 1263158                   | 1894736                 |
| 4       | 657615        | 2        | 8           | 75      | 1226             | 1809             | 0                | 2283163        | 1894737                   | 2526315                 |
| 5       | 355581        | 2        | 9           | 50      | 1543             | 1802             | 0                | 2641779        | 2526316                   | 3157894                 |
| 6       | 1029393       | 3        | 10          | 90      | 1271             | 1129             | 1034             | 3674517        | 3157895                   | 3789473                 |
| 7       | 627711        | 1        | 14          | 90      | 1676             | 0                | 0                | 4305662        | 3789474                   | 4421052                 |
| 8       | 208245        | 1        | 20          | 65      | 1397             | 0                | 0                | 4515583        | 4421053                   | 5052631                 |
| 9       | 580470        | 2        | 11          | 95      | 1760             | 1213             | 0                | 5097450        | 5052632                   | 5684210                 |
| 10      | 709589        | 1        | 20          | 65      | 1539             | 0                | 0                | 56810012       | 5684211                   | 6315789                 |
| 11      | 846773        | 1        | 18          | 75      | 1385             | 0                | 0                | 6658324        | 6315790                   | 6947368                 |
| 12      | 605203        | 1        | 11          | 65      | 1124             | 0                | 0                | 7264912        | 6947369                   | 7578947                 |
| 13      | 720679        | 1        | 13          | 50      | 1232             | 0                | 0                | 7986715        | 7578948                   | 8210526                 |
| 14      | 768226        | 2        | 9           | 50      | 1773             | 1917             | 0                | 8756173        | 8210527                   | 8842105                 |
| 15      | 578182        | 2        | 18          | 55      | 1226             | 1894             | 0                | 9338045        | 8842106                   | 9473684                 |
| 16      | 470413        | 2        | 6           | 70      | 1848             | 1650             | 0                | 9811578        | 9473685                   | 10105263                |
| 17      | 758274        | 3        | 17          | 50      | 1067             | 1504             | 1308             | 10573350       | 10105264                  | 10736842                |
| 18      | 626094        | 1        | 14          | 80      | 1312             | 0                | 0                | 11203323       | 10736843                  | 11368421                |
| 19      | 236183        | 1        | 8           | 95      | 1613             | 0                | 0                | 11440818       | 11368422                  | 12000000                |

Total number of pulses in waveform = 30  
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## Type 5 Radar Waveform\_3

Waveform Num = 3  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 243387        | 2        | 10          | 90      | 1853             | 1429             | 0                | 243387         | 0                         | 631578                  |
| 2       | 762671        | 3        | 20          | 100     | 1394             | 1164             | 1478             | 1009340        | 631579                    | 1263157                 |
| 3       | 795948        | 1        | 18          | 65      | 1991             | 0                | 0                | 1809324        | 1263158                   | 1894736                 |
| 4       | 604281        | 3        | 13          | 50      | 1810             | 1145             | 1592             | 2415596        | 1894737                   | 2526315                 |
| 5       | 227175        | 2        | 11          | 65      | 1351             | 1536             | 0                | 2647318        | 2526316                   | 3157894                 |
| 6       | 1055442       | 1        | 17          | 50      | 1173             | 0                | 0                | 3705647        | 3157895                   | 3789473                 |
| 7       | 639243        | 3        | 17          | 65      | 1875             | 1802             | 1202             | 4346063        | 3789474                   | 4421052                 |
| 8       | 433822        | 3        | 18          | 75      | 1224             | 1565             | 1786             | 4784764        | 4421053                   | 5052631                 |
| 9       | 710197        | 1        | 15          | 50      | 1537             | 0                | 0                | 5499536        | 5052632                   | 5684210                 |
| 10      | 429473        | 3        | 9           | 50      | 1208             | 1135             | 1253             | 5930546        | 5684211                   | 6315789                 |
| 11      | 940174        | 3        | 7           | 100     | 1303             | 1300             | 1976             | 6874316        | 6315790                   | 6947368                 |
| 12      | 282239        | 2        | 5           | 50      | 1986             | 1185             | 0                | 7161134        | 6947369                   | 7578947                 |
| 13      | 568477        | 1        | 6           | 95      | 1566             | 0                | 0                | 7732782        | 7578948                   | 8210526                 |
| 14      | 729357        | 2        | 11          | 95      | 1096             | 1394             | 0                | 8463705        | 8210527                   | 8842105                 |
| 15      | 674338        | 1        | 12          | 90      | 1822             | 0                | 0                | 9140533        | 8842106                   | 9473684                 |
| 16      | 461033        | 3        | 6           | 85      | 1635             | 1360             | 1322             | 9603388        | 9473685                   | 10105263                |
| 17      | 1005087       | 3        | 14          | 95      | 1186             | 1096             | 1503             | 10612792       | 10105264                  | 10736842                |
| 18      | 679395        | 2        | 5           | 60      | 1209             | 1966             | 0                | 11295972       | 10736843                  | 11368421                |
| 19      | 210617        | 1        | 18          | 70      | 1908             | 0                | 0                | 11509764       | 11368422                  | 12000000                |

Total number of pulses in waveform = 40  
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## Type 5 Radar Waveform\_4

Waveform Num = 4  
Num of Bursts = 11  
Burst Interval (us) = 1090909

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 764508        | 2        | 6           | 85      | 1779             | 1903             | 0                | 764508         | 0                         | 1090908                 |
| 2       | 1077990       | 1        | 14          | 90      | 1702             | 0                | 0                | 1846180        | 1090909                   | 2181817                 |
| 3       | 1385162       | 1        | 5           | 55      | 1696             | 0                | 0                | 3233044        | 2181818                   | 3272726                 |
| 4       | 645069        | 2        | 11          | 65      | 1721             | 1847             | 0                | 3879809        | 3272727                   | 4363635                 |
| 5       | 1378974       | 2        | 15          | 100     | 1035             | 1394             | 0                | 5262351        | 4363636                   | 5454544                 |
| 6       | 189862        | 3        | 13          | 65      | 1975             | 1049             | 1812             | 5454642        | 5454545                   | 6545453                 |
| 7       | 1768372       | 3        | 16          | 70      | 1676             | 1923             | 1575             | 7227850        | 6545454                   | 7636362                 |
| 8       | 1047480       | 3        | 14          | 50      | 1249             | 1481             | 1629             | 8280504        | 7636363                   | 8727271                 |
| 9       | 1379680       | 3        | 20          | 55      | 1320             | 1953             | 1970             | 9664543        | 8727272                   | 9818180                 |
| 10      | 785661        | 1        | 19          | 100     | 1875             | 0                | 0                | 10455447       | 9818181                   | 10909089                |
| 11      | 963282        | 1        | 10          | 75      | 1425             | 0                | 0                | 11420604       | 10909090                  | 11999998                |

Total number of pulses in waveform = 22  
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## Type 5 Radar Waveform\_5

Waveform Num = 5  
Num of Bursts = 9  
Burst Interval (us)= 1333333

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 1112210       | 3        | 6           | 100     | 1839             | 1128             | 1002             | 1112210        | 0                         | 1333332                 |
| 2       | 320465        | 3        | 7           | 65      | 1550             | 1809             | 1577             | 1436644        | 1333333                   | 2666665                 |
| 3       | 1541831       | 3        | 15          | 50      | 1677             | 1888             | 1276             | 2983411        | 2666666                   | 3999998                 |
| 4       | 1473022       | 2        | 12          | 85      | 1103             | 1830             | 0                | 4461274        | 3999999                   | 5333331                 |
| 5       | 1981272       | 2        | 11          | 80      | 1230             | 1621             | 0                | 6445479        | 5333332                   | 6666664                 |
| 6       | 533573        | 2        | 11          | 95      | 1634             | 1510             | 0                | 6981903        | 6666665                   | 7999997                 |
| 7       | 1881041       | 3        | 11          | 85      | 1298             | 1075             | 1248             | 8866088        | 7999998                   | 9333330                 |
| 8       | 1578689       | 2        | 11          | 100     | 1612             | 1224             | 0                | 10448398       | 9333331                   | 10666663                |
| 9       | 403451        | 3        | 17          | 95      | 1627             | 1201             | 1717             | 10854685       | 10666664                  | 11999996                |

Total number of pulses in waveform = 23

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## Type 5 Radar Waveform\_6

Waveform Num = 6  
Num of Bursts = 18  
Burst Interval (us)= 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 161563        | 3        | 7           | 55      | 1245             | 1691             | 1715             | 161563         | 0                         | 666666                  |
| 2       | 980282        | 3        | 20          | 80      | 1157             | 1905             | 1284             | 1146496        | 666667                    | 1333333                 |
| 3       | 219767        | 2        | 13          | 95      | 1492             | 1493             | 0                | 1370609        | 1333334                   | 2000000                 |
| 4       | 810455        | 3        | 12          | 70      | 1255             | 1718             | 1711             | 2184049        | 2000001                   | 2666667                 |
| 5       | 957805        | 3        | 10          | 75      | 1133             | 1184             | 1072             | 3146538        | 2666668                   | 3333334                 |
| 6       | 311268        | 2        | 18          | 95      | 1327             | 1426             | 0                | 3461195        | 3333335                   | 4000001                 |
| 7       | 1067538       | 3        | 8           | 80      | 1369             | 1705             | 1018             | 4531486        | 4000002                   | 4666668                 |
| 8       | 153806        | 1        | 18          | 85      | 1765             | 0                | 0                | 4689384        | 4666669                   | 5333335                 |
| 9       | 1022895       | 2        | 12          | 100     | 1763             | 1981             | 0                | 5714044        | 5333336                   | 6000002                 |
| 10      | 906756        | 3        | 10          | 70      | 1131             | 1097             | 1426             | 6624544        | 6000003                   | 6666669                 |
| 11      | 240514        | 1        | 5           | 55      | 1241             | 0                | 0                | 6868712        | 6666670                   | 7333336                 |
| 12      | 933706        | 3        | 10          | 90      | 1425             | 1677             | 1055             | 7803659        | 7333337                   | 8000003                 |
| 13      | 228252        | 3        | 5           | 95      | 1173             | 1084             | 1438             | 8036068        | 8000004                   | 8666670                 |
| 14      | 1110110       | 2        | 11          | 50      | 1691             | 1229             | 0                | 9149873        | 8666671                   | 9333337                 |
| 15      | 701423        | 2        | 20          | 65      | 1307             | 1773             | 0                | 9854216        | 9333338                   | 10000004                |
| 16      | 251984        | 3        | 12          | 60      | 1856             | 1615             | 1676             | 10109280       | 10000005                  | 10666671                |
| 17      | 1185832       | 2        | 15          | 85      | 1856             | 1745             | 0                | 11300259       | 10666672                  | 11333338                |
| 18      | 252669        | 1        | 19          | 90      | 1953             | 0                | 0                | 11556529       | 11333339                  | 12000005                |

Total number of pulses in waveform = 42

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## Type 5 Radar Waveform\_7

Waveform Num = 7  
Num of Bursts = 13  
Burst Interval (us)= 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 183330        | 1        | 8           | 80      | 1540             | 0                | 0                | 183330         | 0                         | 923076                  |
| 2       | 1259487       | 1        | 8           | 65      | 1025             | 0                | 0                | 1444357        | 923077                    | 1846153                 |
| 3       | 1023584       | 3        | 15          | 100     | 1553             | 1065             | 1508             | 2468966        | 1846154                   | 2769230                 |
| 4       | 1188479       | 2        | 15          | 95      | 1261             | 1646             | 0                | 3661571        | 2769231                   | 3692307                 |
| 5       | 872227        | 3        | 14          | 60      | 1912             | 1383             | 1564             | 4536705        | 3692308                   | 4615384                 |
| 6       | 273861        | 1        | 5           | 65      | 1018             | 0                | 0                | 4815425        | 4615385                   | 5538461                 |
| 7       | 1630113       | 2        | 15          | 75      | 1691             | 1101             | 0                | 6446556        | 5538462                   | 6461538                 |
| 8       | 930402        | 3        | 13          | 65      | 1242             | 1489             | 1580             | 7379750        | 6461539                   | 7384615                 |
| 9       | 540532        | 1        | 11          | 85      | 1429             | 0                | 0                | 7924593        | 7384616                   | 8307692                 |
| 10      | 495946        | 3        | 15          | 75      | 1771             | 1279             | 1832             | 8421968        | 8307693                   | 9230769                 |
| 11      | 1600448       | 3        | 15          | 70      | 1695             | 1312             | 1878             | 10027298       | 9230770                   | 10153846                |
| 12      | 465267        | 1        | 14          | 70      | 1424             | 0                | 0                | 10497450       | 10153847                  | 11076923                |
| 13      | 1308701       | 3        | 14          | 55      | 1776             | 1472             | 1942             | 11807575       | 11076924                  | 12000000                |

Total number of pulses in waveform = 27

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## Type 5 Radar Waveform\_8

Waveform Num = 8  
Num of Bursts = 15  
Burst Interval (us)= 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri(us) | Pulse 2 Pri(us) | Pulse 3 Pri(us) | Start Loc (us) | Start Burst Interval(us) | End Burst Interval(us) |
|---------|---------------|----------|-------------|---------|-----------------|-----------------|-----------------|----------------|--------------------------|------------------------|
| 1       | 128069        | 3        | 15          | 55      | 1155            | 1448            | 1166            | 128069         | 0                        | 799999                 |
| 2       | 1030495       | 3        | 19          | 100     | 1556            | 1953            | 1455            | 1162333        | 800000                   | 1599999                |
| 3       | 856760        | 3        | 14          | 50      | 1529            | 1378            | 1105            | 2024157        | 1600000                  | 2399999                |
| 4       | 1030445       | 1        | 16          | 100     | 1566            | 0               | 0               | 3058614        | 2400000                  | 3199999                |
| 5       | 608118        | 2        | 18          | 80      | 1974            | 1755            | 0               | 3668298        | 3200000                  | 3999999                |
| 6       | 1054727       | 3        | 16          | 85      | 1819            | 1891            | 1544            | 4726754        | 4000000                  | 4799999                |
| 7       | 425051        | 3        | 14          | 100     | 1361            | 1837            | 1796            | 5157059        | 4800000                  | 5599999                |
| 8       | 457821        | 3        | 18          | 90      | 1683            | 1642            | 1127            | 5619874        | 5600000                  | 6399999                |
| 9       | 1536566       | 3        | 8           | 75      | 1779            | 1923            | 1895            | 7160892        | 6400000                  | 7199999                |
| 10      | 742812        | 1        | 12          | 60      | 1842            | 0               | 0               | 7909301        | 7200000                  | 7999999                |
| 11      | 169307        | 1        | 10          | 55      | 1690            | 0               | 0               | 8080450        | 8000000                  | 8799999                |
| 12      | 1029487       | 2        | 8           | 60      | 1520            | 1594            | 0               | 9111627        | 8800000                  | 9599999                |
| 13      | 1193516       | 2        | 20          | 75      | 1375            | 1957            | 0               | 10308257       | 9600000                  | 10399999               |
| 14      | 483947        | 1        | 6           | 95      | 1949            | 0               | 0               | 10795536       | 10400000                 | 11199999               |
| 15      | 402611        | 3        | 7           | 90      | 1308            | 1593            | 1736            | 11200096       | 11200000                 | 11999999               |

Total number of pulses in waveform = 34  
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## Type 5 Radar Waveform\_9

Waveform Num = 9  
Num of Bursts = 9  
Burst Interval (us)= 1333333

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri(us) | Pulse 2 Pri(us) | Pulse 3 Pri(us) | Start Loc (us) | Start Burst Interval(us) | End Burst Interval(us) |
|---------|---------------|----------|-------------|---------|-----------------|-----------------|-----------------|----------------|--------------------------|------------------------|
| 1       | 114633        | 1        | 18          | 90      | 1063            | 0               | 0               | 114633         | 0                        | 1333332                |
| 2       | 2118265       | 2        | 14          | 65      | 1050            | 1396            | 0               | 2233961        | 1333333                  | 2666665                |
| 3       | 998326        | 3        | 14          | 100     | 1398            | 1663            | 1320            | 3234733        | 2666666                  | 3999998                |
| 4       | 1245040       | 2        | 17          | 75      | 1421            | 1840            | 0               | 4484154        | 3999999                  | 5333331                |
| 5       | 1094361       | 2        | 16          | 75      | 1936            | 1243            | 0               | 5581776        | 5333332                  | 6666664                |
| 6       | 1340950       | 2        | 10          | 95      | 1206            | 1148            | 0               | 6925905        | 6666665                  | 7999997                |
| 7       | 1906125       | 2        | 5           | 70      | 1547            | 1544            | 0               | 8834384        | 7999998                  | 9333330                |
| 8       | 1297372       | 3        | 16          | 80      | 1680            | 1005            | 1538            | 10134847       | 9333331                  | 10666663               |
| 9       | 1765588       | 3        | 12          | 80      | 1681            | 1315            | 1237            | 11904658       | 10666664                 | 11999996               |

Total number of pulses in waveform = 20  
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## Type 5 Radar Waveform\_10

Waveform Num = 10  
Num of Bursts = 18  
Burst Interval (us)= 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri(us) | Pulse 2 Pri(us) | Pulse 3 Pri(us) | Start Loc (us) | Start Burst Interval(us) | End Burst Interval(us) |
|---------|---------------|----------|-------------|---------|-----------------|-----------------|-----------------|----------------|--------------------------|------------------------|
| 1       | 192012        | 1        | 15          | 85      | 1806            | 0               | 0               | 192012         | 0                        | 666666                 |
| 2       | 1035644       | 3        | 12          | 50      | 1760            | 1272            | 1471            | 1229462        | 666667                   | 1333333                |
| 3       | 105372        | 1        | 8           | 85      | 1128            | 0               | 0               | 1339337        | 1333334                  | 2000000                |
| 4       | 987783        | 1        | 14          | 70      | 1268            | 0               | 0               | 2328248        | 2000001                  | 2666667                |
| 5       | 388908        | 1        | 13          | 60      | 1606            | 0               | 0               | 3243288        | 2666668                  | 3333334                |
| 6       | 540447        | 2        | 19          | 75      | 1870            | 1422            | 0               | 3633802        | 3333335                  | 4000001                |
| 7       | 647175        | 3        | 12          | 50      | 1589            | 1509            | 1338            | 4177541        | 4000002                  | 4666668                |
| 8       | 918107        | 2        | 14          | 65      | 1749            | 1212            | 0               | 4829152        | 4666669                  | 5333335                |
| 9       | 907490        | 3        | 9           | 85      | 1530            | 1804            | 1033            | 5750220        | 5333336                  | 6000002                |
| 10      | 79869         | 3        | 20          | 50      | 1630            | 1205            | 1047            | 6662077        | 6000003                  | 6666669                |
| 11      | 1085073       | 1        | 11          | 75      | 1646            | 0               | 0               | 6745828        | 6666670                  | 7333336                |
| 12      | 802464        | 3        | 13          | 85      | 1019            | 1111            | 1855            | 7832547        | 7333337                  | 8000003                |
| 13      | 439691        | 1        | 14          | 75      | 1810            | 0               | 0               | 8638986        | 8000004                  | 8666670                |
| 14      | 445843        | 1        | 10          | 80      | 1224            | 0               | 0               | 9080487        | 8666671                  | 9333337                |
| 15      | 580770        | 3        | 18          | 85      | 1174            | 1921            | 1790            | 9527554        | 9333338                  | 10000004               |
| 16      | 956827        | 1        | 12          | 50      | 1162            | 0               | 0               | 10113209       | 10000005                 | 10666671               |
| 17      | 842594        | 3        | 14          | 95      | 1021            | 1672            | 1401            | 11071198       | 10666672                 | 11333338               |
| 18      |               | 2        | 10          | 80      | 1625            | 1573            | 0               | 11917886       | 11333339                 | 12000005               |

Total number of pulses in waveform = 35  
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## Type 5 Radar Waveform\_11

Waveform Num = 11  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 329450        | 2        | 13          | 55      | 1996             | 1076             | 0                | 329450         | 0                         | 631578                  |
| 2       | 607164        | 1        | 6           | 55      | 1565             | 0                | 0                | 939686         | 631579                    | 1263157                 |
| 3       | 339951        | 3        | 9           | 70      | 1531             | 1452             | 1265             | 1281202        | 1263158                   | 1894736                 |
| 4       | 999457        | 1        | 7           | 60      | 1271             | 0                | 0                | 2284907        | 1894737                   | 2526315                 |
| 5       | 819570        | 2        | 8           | 60      | 1162             | 1854             | 0                | 3105748        | 2526316                   | 3157894                 |
| 6       | 67388         | 1        | 20          | 60      | 1538             | 0                | 0                | 3176152        | 3157895                   | 3789473                 |
| 7       | 371186        | 3        | 18          | 100     | 1120             | 1447             | 1801             | 4057540        | 3789474                   | 4421052                 |
| 8       | 371186        | 2        | 5           | 95      | 1867             | 1135             | 0                | 4433094        | 4421053                   | 5052631                 |
| 9       | 801507        | 3        | 8           | 100     | 1517             | 1832             | 1361             | 5237603        | 5052632                   | 5684210                 |
| 10      | 1055758       | 1        | 8           | 90      | 1191             | 0                | 0                | 6298071        | 5684211                   | 6315789                 |
| 11      | 307774        | 1        | 8           | 100     | 1180             | 0                | 0                | 6607036        | 6315790                   | 6947368                 |
| 12      | 506964        | 2        | 11          | 65      | 1977             | 1481             | 0                | 7115180        | 6947369                   | 7578947                 |
| 13      | 555264        | 1        | 20          | 80      | 1825             | 0                | 0                | 7673902        | 7578948                   | 8210526                 |
| 14      | 773209        | 2        | 8           | 90      | 1146             | 1343             | 0                | 8448936        | 8210527                   | 8842105                 |
| 15      | 869063        | 1        | 12          | 75      | 1782             | 0                | 0                | 9320488        | 8842106                   | 9473684                 |
| 16      | 410381        | 2        | 13          | 60      | 1856             | 1952             | 0                | 9732651        | 9473685                   | 10105263                |
| 17      | 936071        | 2        | 19          | 95      | 1502             | 1879             | 0                | 10672530       | 10105264                  | 10736842                |
| 18      | 467460        | 2        | 18          | 100     | 1745             | 1202             | 0                | 11143371       | 10736843                  | 11368421                |
| 19      | 245397        | 2        | 6           | 50      | 1094             | 1760             | 0                | 11391715       | 11368422                  | 12000000                |

Total number of pulses in waveform = 34

## Type 5 Radar Waveform\_12

Waveform Num = 12  
Num of Bursts = 20  
Burst Interval (us) = 600000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 20907         | 3        | 9           | 65      | 1060             | 1847             | 1381             | 20907          | 0                         | 599999                  |
| 2       | 785327        | 2        | 10          | 100     | 1586             | 1198             | 0                | 810522         | 600000                    | 1199999                 |
| 3       | 775584        | 2        | 15          | 65      | 1493             | 1267             | 0                | 1588890        | 1200000                   | 1799999                 |
| 4       | 622563        | 2        | 5           | 75      | 1133             | 1446             | 0                | 2214213        | 1800000                   | 2399999                 |
| 5       | 377708        | 1        | 12          | 100     | 1099             | 0                | 0                | 2594500        | 2400000                   | 2999999                 |
| 6       | 655043        | 2        | 6           | 50      | 1421             | 1445             | 0                | 3250642        | 3000000                   | 3599999                 |
| 7       | 473623        | 3        | 12          | 50      | 1857             | 1271             | 1924             | 3727131        | 3600000                   | 4199999                 |
| 8       | 693704        | 3        | 7           | 65      | 1666             | 1373             | 1837             | 4425887        | 4200000                   | 4799999                 |
| 9       | 845489        | 3        | 7           | 75      | 1818             | 1661             | 1804             | 5276252        | 4800000                   | 5399999                 |
| 10      | 427389        | 1        | 15          | 65      | 1656             | 0                | 0                | 5708924        | 5400000                   | 5999999                 |
| 11      | 588258        | 2        | 10          | 55      | 1006             | 1388             | 0                | 6298838        | 6000000                   | 6599999                 |
| 12      | 822349        | 3        | 13          | 65      | 1620             | 1287             | 1955             | 7123581        | 6600000                   | 7199999                 |
| 13      | 443113        | 2        | 18          | 95      | 1783             | 1401             | 0                | 7571556        | 7200000                   | 7799999                 |
| 14      | 441606        | 2        | 14          | 75      | 1763             | 1786             | 0                | 8016346        | 7800000                   | 8399999                 |
| 15      | 753320        | 3        | 20          | 70      | 1096             | 1438             | 1323             | 8773215        | 8400000                   | 8999999                 |
| 16      | 509378        | 3        | 10          | 55      | 1967             | 1454             | 1458             | 9286450        | 9000000                   | 9599999                 |
| 17      | 619290        | 3        | 14          | 70      | 1394             | 1963             | 1866             | 9910619        | 9600000                   | 10199999                |
| 18      | 338505        | 3        | 11          | 90      | 1020             | 1883             | 1276             | 10254347       | 10200000                  | 10799999                |
| 19      | 815842        | 3        | 11          | 95      | 1021             | 1350             | 1273             | 11074368       | 10800000                  | 11399999                |
| 20      | 422549        | 3        | 11          | 80      | 1060             | 1393             | 1726             | 11500561       | 11400000                  | 11999999                |

Total number of pulses in waveform = 49

## Type 5 Radar Waveform\_13

Waveform Num = 13  
Num of Bursts = 18  
Burst Interval (us) = 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 495699        | 1        | 16          | 50      | 1303             | 0                | 0                | 495699         | 0                         | 666666                  |
| 2       | 394486        | 3        | 9           | 60      | 1495             | 1668             | 1359             | 891488         | 666667                    | 1333333                 |
| 3       | 995056        | 1        | 13          | 60      | 1489             | 0                | 0                | 1891066        | 1333334                   | 2000000                 |
| 4       | 763180        | 2        | 6           | 75      | 1213             | 1277             | 0                | 2655735        | 2000001                   | 2666667                 |
| 5       | 314546        | 3        | 9           | 55      | 1566             | 1183             | 1253             | 2972771        | 2666668                   | 3333334                 |
| 6       | 627893        | 1        | 12          | 80      | 1937             | 0                | 0                | 3604666        | 3333335                   | 4000001                 |
| 7       | 626828        | 1        | 12          | 100     | 1172             | 0                | 0                | 4233431        | 4000002                   | 4666668                 |
| 8       | 923198        | 2        | 5           | 95      | 1999             | 1483             | 0                | 5157801        | 4666669                   | 5333335                 |
| 9       | 492171        | 1        | 12          | 75      | 1698             | 0                | 0                | 5653454        | 5333336                   | 6000002                 |
| 10      | 899710        | 3        | 14          | 55      | 1592             | 1477             | 1002             | 6044862        | 6000003                   | 6666669                 |
| 11      | 777435        | 2        | 14          | 75      | 1597             | 1357             | 0                | 6826368        | 6666670                   | 7333336                 |
| 12      | 943377        | 1        | 13          | 100     | 1567             | 0                | 0                | 7772699        | 7333337                   | 8000003                 |
| 13      | 316004        | 1        | 8           | 60      | 1736             | 0                | 0                | 8090270        | 8000004                   | 8666670                 |
| 14      | 1214911       | 2        | 20          | 50      | 1488             | 1900             | 0                | 9306917        | 8666671                   | 9333337                 |
| 15      | 285958        | 3        | 10          | 95      | 1487             | 1233             | 1345             | 9595263        | 9333338                   | 10000004                |
| 16      | 479689        | 3        | 5           | 70      | 1440             | 1533             | 1285             | 10080017       | 10000005                  | 10666671                |
| 17      | 591528        | 3        | 20          | 90      | 1570             | 1308             | 1025             | 10675803       | 10666672                  | 11333338                |
| 18      | 1146458       | 3        | 13          | 85      | 1382             | 1166             | 1378             | 11826164       | 11333339                  | 12000005                |

Total number of pulses in waveform = 36



## Type 5 Radar Waveform\_14

Waveform Num = 14  
Num of Bursts = 15  
Burst Interval (us) = 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 413884        | 1        | 13          | 80      | 1154             | 0                | 0                | 413884         | 0                         | 799999                  |
| 2       | 644871        | 1        | 12          | 85      | 1927             | 0                | 0                | 1059909        | 800000                    | 1599999                 |
| 3       | 620366        | 2        | 10          | 95      | 1274             | 1802             | 0                | 1682202        | 1600000                   | 2399999                 |
| 4       | 1132093       | 3        | 15          | 75      | 1320             | 1300             | 1078             | 2817371        | 2400000                   | 3199999                 |
| 5       | 1118808       | 1        | 11          | 60      | 1881             | 0                | 0                | 3939877        | 3200000                   | 3999999                 |
| 6       | 772013        | 1        | 12          | 95      | 1408             | 0                | 0                | 4713771        | 4000000                   | 4799999                 |
| 7       | 470003        | 2        | 14          | 95      | 1391             | 1281             | 0                | 5185182        | 4800000                   | 5599999                 |
| 8       | 1120414       | 2        | 9           | 65      | 1388             | 1531             | 0                | 6308268        | 5600000                   | 6399999                 |
| 9       | 653756        | 1        | 10          | 55      | 1093             | 0                | 0                | 6964943        | 6400000                   | 7199999                 |
| 10      | 801360        | 2        | 6           | 55      | 1730             | 1766             | 0                | 7767396        | 7200000                   | 7999999                 |
| 11      | 465509        | 1        | 16          | 70      | 1457             | 0                | 0                | 8236401        | 8000000                   | 8799999                 |
| 12      | 1128586       | 2        | 9           | 60      | 1899             | 1440             | 0                | 9366444        | 8800000                   | 9599999                 |
| 13      | 243087        | 2        | 9           | 75      | 1033             | 1834             | 0                | 9612870        | 9600000                   | 10399999                |
| 14      | 851236        | 2        | 10          | 65      | 1554             | 1353             | 0                | 10466973       | 10400000                  | 11199999                |
| 15      | 785503        | 3        | 19          | 100     | 1738             | 1478             | 1564             | 11255383       | 11200000                  | 11999999                |

Total number of pulses in waveform = 26

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## Type 5 Radar Waveform\_15

Waveform Num = 15  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 94641         | 3        | 8           | 65      | 1986             | 1262             | 1123             | 94641          | 0                         | 631578                  |
| 2       | 700685        | 1        | 20          | 65      | 1485             | 0                | 0                | 799697         | 631579                    | 1263157                 |
| 3       | 542699        | 2        | 16          | 80      | 1752             | 1904             | 0                | 1343881        | 1263158                   | 1894736                 |
| 4       | 735078        | 1        | 8           | 50      | 1390             | 0                | 0                | 2082615        | 1894737                   | 2526315                 |
| 5       | 1040855       | 3        | 10          | 90      | 1009             | 1747             | 1065             | 3124860        | 2526316                   | 3157894                 |
| 6       | 481987        | 2        | 11          | 65      | 1613             | 1461             | 0                | 3610668        | 3157895                   | 3789473                 |
| 7       | 519070        | 3        | 14          | 100     | 1239             | 1632             | 1879             | 4132802        | 3789474                   | 4421052                 |
| 8       | 804938        | 1        | 8           | 75      | 1731             | 0                | 0                | 4942488        | 4421053                   | 5052631                 |
| 9       | 272406        | 2        | 18          | 90      | 1280             | 1130             | 0                | 5216625        | 5052632                   | 5684210                 |
| 10      | 534485        | 2        | 16          | 60      | 1603             | 1652             | 0                | 5753520        | 5684211                   | 6315789                 |
| 11      | 852362        | 1        | 12          | 50      | 1133             | 0                | 0                | 6609137        | 6315790                   | 6947368                 |
| 12      | 414398        | 1        | 18          | 95      | 1300             | 0                | 0                | 7024668        | 6947369                   | 7578947                 |
| 13      | 1116578       | 3        | 8           | 95      | 1975             | 1122             | 1939             | 8142546        | 7578948                   | 8210526                 |
| 14      | 496706        | 1        | 10          | 90      | 1484             | 0                | 0                | 8644288        | 8210527                   | 8842105                 |
| 15      | 598369        | 2        | 15          | 80      | 1191             | 1806             | 0                | 9244141        | 8842106                   | 9473684                 |
| 16      | 273966        | 1        | 9           | 50      | 1678             | 0                | 0                | 9521104        | 9473685                   | 10105263                |
| 17      | 1185330       | 2        | 14          | 65      | 1410             | 1893             | 0                | 10708012       | 10105264                  | 10736842                |
| 18      | 242464        | 1        | 14          | 85      | 1729             | 0                | 0                | 10953779       | 10736843                  | 11368421                |
| 19      | 595834        | 3        | 7           | 80      | 1127             | 1336             | 1906             | 11551342       | 11368422                  | 12000000                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_16

Waveform Num = 16  
Num of Bursts = 9  
Burst Interval (us) = 1333333

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 1071680       | 3        | 6           | 70      | 1427             | 1102             | 1984             | 1071680        | 0                         | 1333332                 |
| 2       | 374210        | 2        | 8           | 100     | 1236             | 1465             | 0                | 1450403        | 1333333                   | 2666665                 |
| 3       | 2210290       | 1        | 20          | 95      | 1838             | 0                | 0                | 3663394        | 2666666                   | 3999998                 |
| 4       | 1498610       | 2        | 20          | 75      | 1852             | 1421             | 0                | 5163842        | 3999999                   | 5333331                 |
| 5       | 1202960       | 3        | 13          | 60      | 1095             | 1375             | 1829             | 6370075        | 5333332                   | 6666664                 |
| 6       | 1501696       | 2        | 15          | 70      | 1102             | 1612             | 0                | 7876070        | 6666665                   | 7999997                 |
| 7       | 741920        | 2        | 14          | 65      | 1604             | 1997             | 0                | 8620704        | 7999998                   | 9333330                 |
| 8       | 905436        | 2        | 13          | 100     | 1847             | 1915             | 0                | 9529741        | 9333331                   | 10666663                |
| 9       | 2088822       | 1        | 14          | 80      | 1514             | 0                | 0                | 11622325       | 10666664                  | 11999996                |

Total number of pulses in waveform = 18

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## Type 5 Radar Waveform\_17

Waveform Num = 17  
Num of Bursts = 18  
Burst Interval (us) = 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 99678         | 2        | 12          | 55      | 1857             | 1743             | 0                | 99678          | 0                         | 666666                  |
| 2       | 617253        | 2        | 5           | 100     | 1177             | 1419             | 0                | 720531         | 666667                    | 1333333                 |
| 3       | 1071765       | 1        | 11          | 55      | 1099             | 0                | 0                | 1794892        | 1333334                   | 2000000                 |
| 4       | 851904        | 1        | 12          | 100     | 1337             | 0                | 0                | 2647895        | 2000001                   | 2666667                 |
| 5       | 341203        | 1        | 11          | 80      | 1366             | 0                | 0                | 2990435        | 2666668                   | 3333334                 |
| 6       | 733154        | 3        | 7           | 60      | 1932             | 1741             | 1801             | 3724955        | 3333335                   | 4000001                 |
| 7       | 801641        | 3        | 11          | 75      | 1683             | 1499             | 1806             | 4532070        | 4000002                   | 4666668                 |
| 8       | 579728        | 2        | 5           | 75      | 1179             | 1536             | 0                | 5116786        | 4666669                   | 5333335                 |
| 9       | 361198        | 2        | 8           | 95      | 1869             | 1974             | 0                | 5480699        | 5333336                   | 6000002                 |
| 10      | 1061165       | 1        | 16          | 90      | 1111             | 0                | 0                | 6545707        | 6000003                   | 6666669                 |
| 11      | 578003        | 1        | 18          | 70      | 1853             | 0                | 0                | 7124821        | 6666670                   | 7333336                 |
| 12      | 739404        | 2        | 14          | 80      | 1436             | 1526             | 0                | 7866078        | 7333337                   | 8000003                 |
| 13      | 535066        | 3        | 7           | 50      | 1374             | 1843             | 1833             | 8404106        | 8000004                   | 8666670                 |
| 14      | 260146        | 1        | 5           | 75      | 1330             | 0                | 0                | 8669302        | 8666671                   | 9333337                 |
| 15      | 1182951       | 1        | 9           | 60      | 1751             | 0                | 0                | 9853583        | 9333338                   | 10000004                |
| 16      | 533485        | 2        | 14          | 85      | 1318             | 1291             | 0                | 10388819       | 10000005                  | 10666671                |
| 17      | 644632        | 1        | 5           | 100     | 1241             | 0                | 0                | 11036060       | 10666672                  | 11333338                |
| 18      | 831728        | 2        | 10          | 75      | 1836             | 1946             | 0                | 11869029       | 11333339                  | 12000005                |

Total number of pulses in waveform = 31  
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## Type 5 Radar Waveform\_18

Waveform Num = 18  
Num of Bursts = 13  
Burst Interval (us) = 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 203347        | 2        | 11          | 50      | 1470             | 1395             | 0                | 203347         | 0                         | 923076                  |
| 2       | 1473099       | 2        | 16          | 90      | 1918             | 1936             | 0                | 1679311        | 923077                    | 1846153                 |
| 3       | 729154        | 2        | 17          | 85      | 1982             | 1186             | 0                | 2412319        | 1846154                   | 2769230                 |
| 4       | 1073182       | 3        | 10          | 65      | 1619             | 1644             | 1009             | 3488669        | 2769231                   | 3692307                 |
| 5       | 866833        | 1        | 20          | 55      | 1053             | 0                | 0                | 4359774        | 3692308                   | 4615384                 |
| 6       | 297043        | 1        | 10          | 65      | 1168             | 0                | 0                | 4657870        | 4615385                   | 5538461                 |
| 7       | 1496087       | 2        | 14          | 90      | 1806             | 1954             | 0                | 6155125        | 5538462                   | 6461538                 |
| 8       | 712009        | 2        | 20          | 95      | 1154             | 1528             | 0                | 6870893        | 6461539                   | 7384615                 |
| 9       | 1195232       | 2        | 5           | 90      | 1240             | 1412             | 0                | 8068807        | 7384616                   | 8307692                 |
| 10      | 819067        | 2        | 19          | 55      | 1683             | 1829             | 0                | 8890526        | 8307693                   | 9230769                 |
| 11      | 791275        | 2        | 14          | 95      | 1401             | 1672             | 0                | 9685313        | 9230770                   | 10153846                |
| 12      | 474803        | 2        | 12          | 70      | 1722             | 1667             | 0                | 10163189       | 10153847                  | 11076923                |
| 13      | 1275319       | 2        | 9           | 50      | 1184             | 1471             | 0                | 11441897       | 11076924                  | 12000000                |

Total number of pulses in waveform = 25  
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## Type 5 Radar Waveform\_19

Waveform Num = 19  
Num of Bursts = 8  
Burst Interval (us) = 1500000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 312432        | 2        | 6           | 90      | 1043             | 1932             | 0                | 312432         | 0                         | 1499999                 |
| 2       | 1519112       | 3        | 12          | 100     | 1274             | 1039             | 1362             | 1834519        | 1500000                   | 2999999                 |
| 3       | 1428032       | 1        | 10          | 80      | 1553             | 0                | 0                | 3266226        | 3000000                   | 4499999                 |
| 4       | 2486109       | 1        | 12          | 90      | 1392             | 0                | 0                | 5753888        | 4500000                   | 5999999                 |
| 5       | 1164993       | 1        | 10          | 95      | 1319             | 0                | 0                | 6920273        | 6000000                   | 7499999                 |
| 6       | 2040839       | 1        | 20          | 55      | 1441             | 0                | 0                | 8962431        | 7500000                   | 8999999                 |
| 7       | 1334286       | 1        | 15          | 85      | 1591             | 0                | 0                | 10298158       | 9000000                   | 10499999                |
| 8       | 654233        | 3        | 17          | 95      | 1208             | 1990             | 1258             | 10953982       | 10500000                  | 11999999                |

Total number of pulses in waveform = 13  
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## Type 5 Radar Waveform\_20

Waveform Num = 20  
Num of Bursts = 15  
Burst Interval (us) = 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 400137        | 1        | 14          | 55      | 1733             | 0                | 0                | 400137         | 0                         | 799999                  |
| 2       | 726472        | 3        | 20          | 85      | 1319             | 1361             | 1463             | 1128342        | 800000                    | 1599999                 |
| 3       | 769315        | 3        | 11          | 60      | 1186             | 1378             | 1370             | 1901800        | 1600000                   | 2399999                 |
| 4       | 881155        | 2        | 15          | 70      | 1634             | 1698             | 0                | 2786889        | 2400000                   | 3199999                 |
| 5       | 773512        | 2        | 11          | 75      | 1082             | 1927             | 0                | 3563733        | 3200000                   | 3999999                 |
| 6       | 578243        | 2        | 6           | 65      | 1365             | 1778             | 0                | 4144985        | 4000000                   | 4799999                 |
| 7       | 734202        | 2        | 17          | 70      | 1338             | 1393             | 0                | 4882330        | 4800000                   | 5599999                 |
| 8       | 1506922       | 1        | 5           | 75      | 1687             | 0                | 0                | 6391983        | 5600000                   | 6399999                 |
| 9       | 55204         | 3        | 19          | 90      | 1021             | 1075             | 1920             | 6448874        | 6400000                   | 7199999                 |
| 10      | 1506174       | 2        | 13          | 90      | 1424             | 1310             | 0                | 7959064        | 7200000                   | 7999999                 |
| 11      | 451619        | 2        | 18          | 85      | 1162             | 1838             | 0                | 8413417        | 8000000                   | 8799999                 |
| 12      | 586302        | 1        | 16          | 90      | 1548             | 0                | 0                | 9002719        | 8800000                   | 9599999                 |
| 13      | 1366368       | 3        | 20          | 70      | 1446             | 1390             | 1713             | 10370635       | 9600000                   | 10399999                |
| 14      | 525810        | 2        | 10          | 50      | 1789             | 1067             | 0                | 10900994       | 10400000                  | 11199999                |
| 15      | 804699        | 1        | 12          | 90      | 1707             | 0                | 0                | 11708549       | 11200000                  | 11999999                |

Total number of pulses in waveform = 30

## Type 5 Radar Waveform\_21

Waveform Num = 21  
Num of Bursts = 13  
Burst Interval (us) = 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 294608        | 2        | 9           | 85      | 1288             | 1827             | 0                | 294608         | 0                         | 923076                  |
| 2       | 824062        | 3        | 11          | 95      | 1985             | 1497             | 1417             | 1121785        | 923077                    | 1846153                 |
| 3       | 897858        | 1        | 19          | 50      | 1825             | 0                | 0                | 2024542        | 1846154                   | 2769230                 |
| 4       | 1306798       | 2        | 6           | 85      | 1803             | 1361             | 0                | 3333165        | 2769231                   | 3692307                 |
| 5       | 1222616       | 1        | 13          | 55      | 1292             | 0                | 0                | 4558945        | 3692308                   | 4615384                 |
| 6       | 729905        | 1        | 16          | 65      | 1406             | 0                | 0                | 5290142        | 4615385                   | 5538461                 |
| 7       | 808313        | 1        | 5           | 65      | 1860             | 0                | 0                | 6099861        | 5538462                   | 6461538                 |
| 8       | 436795        | 2        | 17          | 100     | 1980             | 1048             | 0                | 6538516        | 6461539                   | 7384615                 |
| 9       | 1693845       | 2        | 11          | 55      | 1236             | 1336             | 0                | 8235389        | 7384616                   | 8307692                 |
| 10      | 609696        | 1        | 9           | 75      | 1637             | 0                | 0                | 8847657        | 8307693                   | 9230769                 |
| 11      | 898430        | 3        | 15          | 60      | 1924             | 1932             | 1478             | 9747724        | 9230770                   | 10153846                |
| 12      | 424704        | 3        | 11          | 85      | 1070             | 1908             | 1614             | 10177762       | 10153847                  | 11076923                |
| 13      | 1268041       | 2        | 20          | 75      | 1670             | 1304             | 0                | 11450395       | 11076924                  | 12000000                |

Total number of pulses in waveform = 24

## Type 5 Radar Waveform\_22

Waveform Num = 22  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 546339        | 2        | 16          | 70      | 1537             | 1561             | 0                | 546339         | 0                         | 631578                  |
| 2       | 560129        | 2        | 20          | 95      | 1788             | 1682             | 0                | 1109566        | 631579                    | 1263157                 |
| 3       | 210679        | 2        | 7           | 75      | 1833             | 1871             | 0                | 1323715        | 1263158                   | 1894736                 |
| 4       | 685802        | 1        | 5           | 80      | 1232             | 0                | 0                | 2013221        | 1894737                   | 2526315                 |
| 5       | 710250        | 2        | 10          | 95      | 1349             | 1778             | 0                | 2724703        | 2526316                   | 3157894                 |
| 6       | 862322        | 3        | 11          | 95      | 1836             | 1166             | 1057             | 3590152        | 3157895                   | 3789473                 |
| 7       | 317277        | 3        | 20          | 50      | 1547             | 1056             | 1050             | 3911477        | 3789474                   | 4421052                 |
| 8       | 640638        | 1        | 11          | 55      | 1836             | 0                | 0                | 4555768        | 4421053                   | 5052631                 |
| 9       | 1110263       | 2        | 12          | 80      | 1572             | 1491             | 0                | 5667867        | 5052632                   | 5684210                 |
| 10      | 95388         | 2        | 6           | 60      | 1440             | 1642             | 0                | 5766318        | 5684211                   | 6315789                 |
| 11      | 1047820       | 2        | 20          | 65      | 1468             | 1483             | 0                | 6817220        | 6315790                   | 6947368                 |
| 12      | 272956        | 2        | 5           | 50      | 1369             | 1022             | 0                | 7093117        | 6947369                   | 7578947                 |
| 13      | 1022364       | 1        | 13          | 70      | 1161             | 0                | 0                | 8117872        | 7578948                   | 8210526                 |
| 14      | 524517        | 3        | 15          | 70      | 1208             | 1261             | 1067             | 8643550        | 8210527                   | 8842105                 |
| 15      | 381292        | 3        | 13          | 80      | 1409             | 1114             | 1947             | 9028378        | 8842106                   | 9473684                 |
| 16      | 844001        | 2        | 14          | 55      | 1763             | 1979             | 0                | 9876849        | 9473685                   | 10105263                |
| 17      | 275362        | 1        | 17          | 70      | 1443             | 0                | 0                | 10155953       | 10105264                  | 10736842                |
| 18      | 961655        | 1        | 9           | 85      | 1695             | 0                | 0                | 11119051       | 10736843                  | 11368421                |
| 19      | 609984        | 1        | 11          | 90      | 1889             | 0                | 0                | 11730730       | 11368422                  | 12000000                |

Total number of pulses in waveform = 36



## Type 5 Radar Waveform\_23

Waveform Num = 23  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 156654        | 3        | 15          | 85      | 1362             | 1650             | 1600             | 156654         | 0                         | 631578                  |
| 2       | 794909        | 3        | 7           | 60      | 1191             | 1753             | 1327             | 955175         | 631579                    | 1263157                 |
| 3       | 458705        | 1        | 18          | 75      | 1136             | 0                | 0                | 1418151        | 1263158                   | 1894736                 |
| 4       | 798849        | 3        | 9           | 80      | 1221             | 1869             | 1111             | 2218136        | 1894737                   | 2526315                 |
| 5       | 823739        | 3        | 11          | 75      | 1750             | 1548             | 1343             | 3046076        | 2526316                   | 3157894                 |
| 6       | 609517        | 2        | 9           | 90      | 1667             | 1816             | 0                | 3660234        | 3157895                   | 3789473                 |
| 7       | 384185        | 3        | 15          | 70      | 1779             | 1056             | 1222             | 4047902        | 3789474                   | 4421052                 |
| 8       | 610100        | 3        | 10          | 65      | 1656             | 1729             | 1354             | 4662059        | 4421053                   | 5052631                 |
| 9       | 393012        | 1        | 15          | 80      | 1713             | 0                | 0                | 5059810        | 5052632                   | 5684210                 |
| 10      | 1214672       | 2        | 9           | 95      | 1740             | 1964             | 0                | 6276195        | 5684211                   | 6315789                 |
| 11      | 251745        | 2        | 6           | 80      | 1381             | 1330             | 0                | 6531644        | 6315790                   | 6947368                 |
| 12      | 947699        | 2        | 17          | 75      | 1841             | 1618             | 0                | 7482054        | 6947369                   | 7578947                 |
| 13      | 272664        | 3        | 8           | 90      | 1567             | 1194             | 1234             | 7758177        | 7578948                   | 8210526                 |
| 14      | 788845        | 3        | 15          | 85      | 1018             | 1795             | 1385             | 8551017        | 8210527                   | 8842105                 |
| 15      | 303339        | 1        | 19          | 50      | 1597             | 0                | 0                | 8858554        | 8842106                   | 9473684                 |
| 16      | 670081        | 3        | 12          | 100     | 1367             | 1850             | 1670             | 9530232        | 9473685                   | 10105263                |
| 17      | 880827        | 1        | 10          | 55      | 1042             | 0                | 0                | 10415946       | 10105264                  | 10736842                |
| 18      | 493523        | 3        | 11          | 95      | 1670             | 1686             | 1676             | 10910511       | 10736843                  | 11368421                |
| 19      | 866693        | 3        | 20          | 50      | 1736             | 1627             | 1503             | 11782236       | 11368422                  | 12000000                |

Total number of pulses in waveform = 45  
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## Type 5 Radar Waveform\_24

Waveform Num = 24  
Num of Bursts = 9  
Burst Interval (us) = 1333333

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 388105        | 3        | 7           | 55      | 1182             | 1106             | 1094             | 388105         | 0                         | 1333332                 |
| 2       | 1225426       | 3        | 11          | 60      | 1394             | 1453             | 1432             | 1616913        | 1333333                   | 2666665                 |
| 3       | 1608848       | 1        | 7           | 75      | 1406             | 0                | 0                | 3230040        | 2666666                   | 3999998                 |
| 4       | 1360521       | 1        | 20          | 90      | 1954             | 0                | 0                | 4591967        | 3999999                   | 5333331                 |
| 5       | 1491043       | 1        | 12          | 70      | 1932             | 0                | 0                | 6084964        | 5333332                   | 6666664                 |
| 6       | 1604841       | 1        | 13          | 80      | 1110             | 0                | 0                | 7691737        | 6666665                   | 7999997                 |
| 7       | 780571        | 3        | 14          | 100     | 1085             | 1531             | 1552             | 8473418        | 7999998                   | 9333330                 |
| 8       | 1698288       | 2        | 16          | 90      | 1647             | 1978             | 0                | 10175874       | 9333331                   | 10666663                |
| 9       | 587739        | 2        | 18          | 80      | 1708             | 1792             | 0                | 10767238       | 10666664                  | 11999996                |

Total number of pulses in waveform = 17  
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## Type 5 Radar Waveform\_25

Waveform Num = 25  
Num of Bursts = 12  
Burst Interval (us) = 1000000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 503834        | 2        | 10          | 55      | 1702             | 1489             | 0                | 503834         | 0                         | 999999                  |
| 2       | 522870        | 1        | 17          | 65      | 1225             | 0                | 0                | 1029895        | 1000000                   | 1999999                 |
| 3       | 1806167       | 3        | 17          | 65      | 1343             | 1544             | 1461             | 2837287        | 2000000                   | 2999999                 |
| 4       | 272584        | 1        | 14          | 70      | 1138             | 0                | 0                | 3114219        | 3000000                   | 3999999                 |
| 5       | 1772987       | 3        | 14          | 100     | 1016             | 1525             | 1273             | 4888344        | 4000000                   | 4999999                 |
| 6       | 786965        | 2        | 6           | 100     | 1193             | 1868             | 0                | 5679123        | 5000000                   | 5999999                 |
| 7       | 1315383       | 1        | 14          | 75      | 1264             | 0                | 0                | 6997567        | 6000000                   | 6999999                 |
| 8       | 19762         | 2        | 7           | 70      | 1378             | 1962             | 0                | 7018593        | 7000000                   | 7999999                 |
| 9       | 1104616       | 2        | 20          | 60      | 1607             | 1246             | 0                | 8126549        | 8000000                   | 8999999                 |
| 10      | 890024        | 3        | 19          | 75      | 1221             | 1208             | 1706             | 9019426        | 9000000                   | 9999999                 |
| 11      | 1839649       | 1        | 13          | 65      | 1047             | 0                | 0                | 10863210       | 10000000                  | 10999999                |
| 12      | 799291        | 3        | 10          | 85      | 1918             | 1756             | 1903             | 11663548       | 11000000                  | 11999999                |

Total number of pulses in waveform = 24  
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## Type 5 Radar Waveform\_26

Waveform Num = 26  
Num of Bursts = 15  
Burst Interval (us) = 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 633475        | 2        | 5           | 95      | 1963             | 1789             | 0                | 633475         | 0                         | 799999                  |
| 2       | 732462        | 2        | 15          | 55      | 1701             | 1840             | 0                | 1369689        | 800000                    | 1599999                 |
| 3       | 298536        | 3        | 18          | 85      | 1480             | 1730             | 1245             | 1671766        | 1600000                   | 2399999                 |
| 4       | 1397712       | 3        | 13          | 75      | 1157             | 1998             | 1102             | 3073933        | 2400000                   | 3199999                 |
| 5       | 356574        | 2        | 16          | 95      | 1909             | 1308             | 0                | 3434764        | 3200000                   | 3999999                 |
| 6       | 587396        | 2        | 12          | 100     | 1292             | 1756             | 0                | 4025377        | 4000000                   | 4799999                 |
| 7       | 1106411       | 2        | 7           | 95      | 1503             | 1687             | 0                | 5134836        | 4800000                   | 5599999                 |
| 8       | 1098701       | 1        | 14          | 95      | 1682             | 0                | 0                | 6236727        | 5600000                   | 6399999                 |
| 9       | 402030        | 1        | 18          | 70      | 1386             | 0                | 0                | 6640439        | 6400000                   | 7199999                 |
| 10      | 947822        | 1        | 13          | 80      | 1518             | 0                | 0                | 7589647        | 7200000                   | 7999999                 |
| 11      | 1125715       | 2        | 12          | 75      | 1512             | 1583             | 0                | 8716880        | 8000000                   | 8799999                 |
| 12      | 586611        | 1        | 9           | 70      | 1683             | 0                | 0                | 9306586        | 8800000                   | 9599999                 |
| 13      | 905593        | 2        | 13          | 70      | 1988             | 1735             | 0                | 10213862       | 9600000                   | 10399999                |
| 14      | 220304        | 2        | 15          | 70      | 1189             | 1198             | 0                | 10437889       | 10400000                  | 11199999                |
| 15      | 1375722       | 1        | 17          | 55      | 1568             | 0                | 0                | 11815998       | 11200000                  | 11999999                |

Total number of pulses in waveform = 27

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## Type 5 Radar Waveform\_27

Waveform Num = 27  
Num of Bursts = 13  
Burst Interval (us) = 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 524504        | 1        | 11          | 55      | 1873             | 0                | 0                | 524504         | 0                         | 923076                  |
| 2       | 1042497       | 2        | 8           | 65      | 1380             | 1835             | 0                | 1568874        | 923077                    | 1846153                 |
| 3       | 374687        | 3        | 19          | 60      | 1799             | 1761             | 1748             | 1946776        | 1846154                   | 2769230                 |
| 4       | 1717110       | 1        | 14          | 100     | 1786             | 0                | 0                | 3669194        | 2769231                   | 3692307                 |
| 5       | 312922        | 2        | 19          | 100     | 1928             | 1098             | 0                | 3983902        | 3692308                   | 4615384                 |
| 6       | 1504344       | 2        | 6           | 75      | 1360             | 1573             | 0                | 5491272        | 4615385                   | 5538461                 |
| 7       | 716969        | 1        | 20          | 50      | 1855             | 0                | 0                | 6211174        | 5538462                   | 6461538                 |
| 8       | 820193        | 3        | 17          | 50      | 1255             | 1356             | 1759             | 7033222        | 6461539                   | 7384615                 |
| 9       | 848540        | 1        | 11          | 95      | 1931             | 0                | 0                | 7886132        | 7384616                   | 8307692                 |
| 10      | 1196220       | 1        | 7           | 55      | 1549             | 0                | 0                | 9084283        | 8307693                   | 9230769                 |
| 11      | 852711        | 3        | 18          | 90      | 1503             | 1855             | 1725             | 9938543        | 9230770                   | 10153846                |
| 12      | 384691        | 2        | 11          | 55      | 1758             | 1947             | 0                | 10328317       | 10153847                  | 11076923                |
| 13      | 1215582       | 1        | 9           | 65      | 1442             | 0                | 0                | 11547604       | 11076924                  | 12000000                |

Total number of pulses in waveform = 23

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## Type 5 Radar Waveform\_28

Waveform Num = 28  
Num of Bursts = 16  
Burst Interval (us) = 750000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 477079        | 1        | 16          | 80      | 1752             | 0                | 0                | 477079         | 0                         | 749999                  |
| 2       | 622882        | 3        | 17          | 85      | 1722             | 1573             | 1949             | 1101713        | 750000                    | 1499999                 |
| 3       | 1088754       | 2        | 18          | 60      | 1636             | 1757             | 0                | 2195711        | 1500000                   | 2249999                 |
| 4       | 686555        | 3        | 13          | 70      | 1077             | 1455             | 1634             | 2885659        | 2250000                   | 2999999                 |
| 5       | 184106        | 3        | 20          | 85      | 1444             | 1531             | 1949             | 3073931        | 3000000                   | 3749999                 |
| 6       | 751430        | 1        | 13          | 100     | 1132             | 0                | 0                | 3830285        | 3750000                   | 4499999                 |
| 7       | 852271        | 2        | 5           | 70      | 1831             | 1693             | 0                | 4683688        | 4500000                   | 5249999                 |
| 8       | 1209972       | 2        | 7           | 75      | 1570             | 1542             | 0                | 5897184        | 5250000                   | 5999999                 |
| 9       | 685168        | 1        | 19          | 65      | 1274             | 0                | 0                | 6585464        | 6000000                   | 6749999                 |
| 10      | 768851        | 2        | 8           | 60      | 1192             | 1296             | 0                | 7355589        | 6750000                   | 7499999                 |
| 11      | 441301        | 2        | 17          | 55      | 1720             | 1720             | 0                | 7799378        | 7500000                   | 8249999                 |
| 12      | 671982        | 2        | 8           | 85      | 1202             | 1991             | 0                | 8474800        | 8250000                   | 8999999                 |
| 13      | 752021        | 1        | 17          | 95      | 1949             | 0                | 0                | 9230014        | 9000000                   | 9749999                 |
| 14      | 970345        | 2        | 20          | 80      | 1672             | 1454             | 0                | 10202308       | 9750000                   | 10499999                |
| 15      | 557789        | 1        | 12          | 85      | 1045             | 0                | 0                | 10763223       | 10500000                  | 11249999                |
| 16      | 1105975       | 1        | 6           | 50      | 1960             | 0                | 0                | 11870243       | 11250000                  | 11999999                |

Total number of pulses in waveform = 29

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## Type 5 Radar Waveform\_29

Waveform Num = 29  
Num of Bursts = 18  
Burst Interval (us)= 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 538939        | 3        | 16          | 95      | 1369             | 1158             | 1544             | 538939         | 0                         | 666666                  |
| 2       | 622922        | 2        | 10          | 55      | 1045             | 1286             | 0                | 1165932        | 666667                    | 1333333                 |
| 3       | 333237        | 1        | 18          | 90      | 1903             | 0                | 0                | 1501500        | 1333334                   | 2000000                 |
| 4       | 696458        | 2        | 8           | 75      | 1965             | 1576             | 0                | 2199861        | 2000001                   | 2666667                 |
| 5       | 1028504       | 2        | 13          | 90      | 1220             | 1747             | 0                | 3231906        | 2666668                   | 3333334                 |
| 6       | 283030        | 1        | 9           | 50      | 1910             | 0                | 0                | 3517903        | 3333335                   | 4000001                 |
| 7       | 958599        | 2        | 18          | 85      | 1690             | 1950             | 0                | 4478412        | 4000002                   | 4666668                 |
| 8       | 546330        | 1        | 6           | 60      | 1239             | 0                | 0                | 5028382        | 4666669                   | 5333335                 |
| 9       | 785287        | 2        | 13          | 85      | 1695             | 1870             | 0                | 5814908        | 5333336                   | 6000002                 |
| 10      | 212433        | 1        | 6           | 60      | 1456             | 0                | 0                | 6030906        | 6000003                   | 6666669                 |
| 11      | 663784        | 3        | 8           | 50      | 1248             | 1249             | 1275             | 6696146        | 6666670                   | 7333336                 |
| 12      | 1074886       | 2        | 18          | 80      | 1677             | 1677             | 0                | 7774804        | 7333337                   | 8000003                 |
| 13      | 583174        | 2        | 19          | 65      | 1901             | 1508             | 0                | 8361332        | 8000004                   | 8666670                 |
| 14      | 946958        | 1        | 7           | 85      | 1537             | 0                | 0                | 9311699        | 8666671                   | 9333337                 |
| 15      | 473381        | 3        | 5           | 85      | 1668             | 1267             | 1893             | 9786617        | 9333338                   | 10000004                |
| 16      | 685648        | 2        | 20          | 75      | 1861             | 1141             | 0                | 10477093       | 10000005                  | 10666671                |
| 17      | 625446        | 2        | 20          | 75      | 1608             | 1844             | 0                | 11105541       | 10666672                  | 11333338                |
| 18      | 299866        | 3        | 20          | 70      | 1352             | 1769             | 1287             | 11408859       | 11333339                  | 12000005                |

Total number of pulses in waveform = 35  
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## Type 5 Radar Waveform\_30

Waveform Num = 30  
Num of Bursts = 12  
Burst Interval (us)= 1000000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 424108        | 1        | 17          | 55      | 1850             | 0                | 0                | 424108         | 0                         | 999999                  |
| 2       | 1381673       | 2        | 8           | 85      | 1728             | 1691             | 0                | 1807631        | 1000000                   | 1999999                 |
| 3       | 1124271       | 2        | 7           | 95      | 1238             | 1633             | 0                | 2935321        | 2000000                   | 2999999                 |
| 4       | 945879        | 3        | 14          | 75      | 1098             | 1850             | 1276             | 3884071        | 3000000                   | 3999999                 |
| 5       | 277616        | 2        | 12          | 90      | 1892             | 1479             | 0                | 4165911        | 4000000                   | 4999999                 |
| 6       | 1074538       | 2        | 13          | 90      | 1996             | 1957             | 0                | 5243820        | 5000000                   | 5999999                 |
| 7       | 1305275       | 1        | 5           | 75      | 1688             | 0                | 0                | 6553048        | 6000000                   | 6999999                 |
| 8       | 1114356       | 1        | 16          | 70      | 1591             | 0                | 0                | 7669092        | 7000000                   | 7999999                 |
| 9       | 508637        | 2        | 7           | 50      | 1220             | 1964             | 0                | 8179320        | 8000000                   | 8999999                 |
| 10      | 1134447       | 2        | 16          | 85      | 1827             | 1344             | 0                | 9316951        | 9000000                   | 9999999                 |
| 11      | 726318        | 2        | 14          | 85      | 1738             | 1001             | 0                | 10046440       | 10000000                  | 10999999                |
| 12      | 1782029       | 2        | 10          | 75      | 1487             | 1392             | 0                | 11831208       | 11000000                  | 11999999                |

Total number of pulses in waveform = 22  
\*\*\*\*\*

# Radar Type 6 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection | Trail # | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|-------------------------------|---------|---------------------|-------------------------------|
| 1                        | 5290                | 0                             | 16      | 5300                | 1                             |
| 2                        | 5291                | 1                             | 17      | 5302                | 1                             |
| 3                        | 5292                | 1                             | 18      | 5303                | 1                             |
| 4                        | 5293                | 1                             | 19      | 5303                | 1                             |
| 5                        | 5294                | 1                             | 20      | 5304                | 1                             |
| 6                        | 5295                | 1                             | 21      | 5304                | 1                             |
| 7                        | 5296                | 1                             | 22      | 5305                | 1                             |
| 8                        | 5297                | 1                             | 23      | 5305                | 1                             |
| 9                        | 5298                | 1                             | 24      | 5306                | 1                             |
| 10                       | 5299                | 1                             | 25      | 5306                | 1                             |
| 11                       | 5300                | 1                             | 26      | 5307                | 1                             |
| 12                       | 5300                | 1                             | 27      | 5307                | 1                             |
| 13                       | 5301                | 1                             | 28      | 5308                | 1                             |
| 14                       | 5301                | 1                             | 29      | 5309                | 1                             |
| 15                       | 5302                | 1                             | 30      | 5310                | 1                             |
| Detection Percentage (%) |                     |                               |         |                     | 96.7%                         |

| Radar waveform #1 |                 |                  | Radar waveform #2 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 3                 | 5319            | 9                | 1                 | 5308            | 3                |
| 4                 | 5299            | 12               | 2                 | 5310            | 6                |
| 21                | 5305            | 63               | 22                | 5293            | 66               |
| 24                | 5320            | 72               | 29                | 5271            | 87               |
| 29                | 5296            | 87               | 54                | 5261            | 162              |
| 31                | 5303            | 93               | 56                | 5265            | 168              |
| 38                | 5315            | 114              | 63                | 5267            | 189              |
| 48                | 5309            | 144              | 73                | 5272            | 219              |
| 59                | 5294            | 177              | 76                | 5280            | 228              |
| 75                | 5317            | 225              | 79                | 5315            | 237              |
| 85                | 5316            | 255              | 94                | 5298            | 282              |
| 91                | 5262            | 273              | 96                | 5263            | 288              |
| 96                | 5288            | 288              | 97                | 5274            | 291              |

| Radar waveform #3 |                 |                  | Radar waveform #4 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 9                 | 5318            | 27               | 6                 | 5305            | 18               |
| 10                | 5262            | 30               | 9                 | 5278            | 27               |
| 11                | 5295            | 33               | 10                | 5317            | 30               |
| 13                | 5307            | 39               | 16                | 5306            | 48               |
| 20                | 5271            | 60               | 21                | 5269            | 63               |
| 28                | 5302            | 84               | 22                | 5277            | 66               |
| 34                | 5275            | 102              | 24                | 5298            | 72               |
| 40                | 5321            | 120              | 28                | 5311            | 84               |
| 53                | 5267            | 159              | 30                | 5272            | 90               |
| 56                | 5316            | 168              | 38                | 5293            | 114              |
| 62                | 5274            | 186              | 45                | 5271            | 135              |
| 80                | 5313            | 240              | 62                | 5296            | 186              |
| 86                | 5287            | 258              | 72                | 5275            | 216              |
| 89                | 5289            | 267              | --                | --              | --               |
| 93                | 5269            | 279              | --                | --              | --               |

| Radar waveform #5 |                 |                  | Radar waveform #6 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 6                 | 5296            | 18               | 9                 | 5290            | 27               |
| 9                 | 5268            | 27               | 34                | 5268            | 102              |
| 28                | 5275            | 84               | 45                | 5265            | 135              |
| 29                | 5279            | 87               | 53                | 5305            | 159              |
| 39                | 5283            | 117              | 59                | 5275            | 177              |
| 45                | 5304            | 135              | 60                | 5301            | 180              |
| 51                | 5277            | 153              | 64                | 5318            | 192              |
| 57                | 5313            | 171              | 67                | 5303            | 201              |
| 58                | 5312            | 174              | 71                | 5286            | 213              |
| 59                | 5311            | 177              | 73                | 8595            | 219              |
| 75                | 5295            | 225              | 88                | 5319            | 264              |
| 76                | 5319            | 228              | 92                | 5298            | 276              |
| 77                | 5294            | 231              | 94                | 5278            | 282              |
| 82                | 5280            | 246              | 96                | 5324            | 288              |

| Radar waveform #7 |                 |                  | Radar waveform #8 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 3                 | 5326            | 9                | 5                 | 5284            | 15               |
| 15                | 5310            | 45               | 17                | 5317            | 51               |
| 31                | 5318            | 93               | 19                | 5312            | 57               |
| 35                | 5285            | 105              | 22                | 5266            | 66               |
| 44                | 5301            | 132              | 57                | 5294            | 171              |
| 48                | 5288            | 144              | 67                | 5323            | 201              |
| 50                | 5281            | 150              | 68                | 5269            | 204              |
| 64                | 5279            | 192              | 82                | 5270            | 246              |
| 71                | 5269            | 213              | 83                | 5311            | 249              |
| 81                | 5320            | 243              | 84                | 5288            | 252              |
| --                | --              | --               | 96                | 5273            | 288              |
| --                | --              | --               | 97                | 5304            | 291              |
| --                | --              | --               | 99                | 5281            | 297              |

| Radar waveform #9 |                 |                  | Radar waveform #10 |                 |                  |
|-------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 1                 | 5288            | 3                | 1                  | 5279            | 3                |
| 15                | 5318            | 45               | 26                 | 5312            | 78               |
| 22                | 5317            | 66               | 31                 | 5298            | 93               |
| 41                | 5284            | 123              | 48                 | 5316            | 144              |
| 47                | 5278            | 141              | 60                 | 5286            | 180              |
| 60                | 5295            | 180              | 70                 | 5281            | 210              |
| 75                | 5325            | 225              | 74                 | 5278            | 222              |
| 93                | 5269            | 279              | 86                 | 5313            | 258              |
| 99                | 5273            | 297              | 88                 | 5310            | 264              |
| --                | --              | --               | 91                 | 5303            | 273              |
| --                | --              | --               | 97                 | 5327            | 291              |
| --                | --              | --               | --                 | --              | --               |

| Radar waveform #11 |                 |                  | Radar waveform #12 |                |                  |
|--------------------|-----------------|------------------|--------------------|----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Frequency (MHz)    | Hopping Number | Pulse Start (ms) |
| 12                 | 5315            | 36               | 5                  | 5297           | 15               |
| 16                 | 5273            | 48               | 17                 | 5313           | 51               |
| 23                 | 5323            | 69               | 23                 | 5306           | 69               |
| 31                 | 5276            | 93               | 30                 | 5299           | 90               |
| 51                 | 5296            | 153              | 31                 | 45296          | 93               |
| 60                 | 5269            | 180              | 33                 | 5294           | 99               |
| 61                 | 5305            | 183              | 43                 | 5298           | 129              |
| 67                 | 5286            | 201              | 48                 | 5318           | 144              |
| 68                 | 5284            | 204              | 53                 | 5324           | 159              |
| 83                 | 5285            | 249              | 66                 | 5319           | 198              |
| 88                 | 5321            | 264              | 83                 | 5323           | 249              |

| Radar waveform #13 |                 |                  | Radar waveform #14 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 2                  | 5316            | 6                | 0                  | 5322            | 0                |
| 12                 | 5309            | 36               | 8                  | 5320            | 24               |
| 29                 | 5276            | 87               | 16                 | 5273            | 48               |
| 42                 | 5324            | 126              | 18                 | 5272            | 54               |
| 51                 | 5287            | 153              | 25                 | 5310            | 75               |
| 53                 | 5284            | 159              | 38                 | 5296            | 114              |
| 58                 | 5297            | 174              | 45                 | 5270            | 135              |
| 60                 | 5307            | 180              | 47                 | 5299            | 141              |
| 67                 | 5321            | 201              | 56                 | 5326            | 168              |
| 79                 | 5275            | 237              | 66                 | 5287            | 198              |
| 83                 | 5300            | 249              | 81                 | 5302            | 243              |
| 84                 | 5296            | 252              | 89                 | 5329            | 267              |
| --                 | --              | --               | 97                 | 5304            | 291              |

| Radar waveform #15 |                 |                  | Radar waveform #16 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 3                  | 5319            | 9                | 18                 | 5285            | 54               |
| 5                  | 5300            | 15               | 27                 | 5362            | 81               |
| 6                  | 5293            | 18               | 37                 | 5273            | 111              |
| 17                 | 5286            | 51               | 48                 | 5279            | 144              |
| 58                 | 5325            | 174              | 50                 | 5270            | 150              |
| 66                 | 5308            | 198              | 53                 | 5308            | 159              |
| 68                 | 5328            | 204              | 63                 | 5330            | 189              |
| 70                 | 5271            | 210              | 70                 | 5309            | 210              |
| 77                 | 5290            | 231              | 75                 | 5302            | 225              |
| 80                 | 5272            | 240              | 77                 | 5288            | 231              |
| 91                 | 5310            | 273              | 78                 | 5312            | 234              |
| 96                 | 5314            | 288              | 99                 | 5296            | 297              |

| Radar waveform #17 |                 |                  | Radar waveform #18 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 0                  | 5273            | 0                | 2                  | 5297            | 6                |
| 9                  | 7278            | 27               | 5                  | 5330            | 15               |
| 26                 | 5301            | 78               | 27                 | 5289            | 81               |
| 35                 | 5290            | 105              | 30                 | 5315            | 90               |
| 37                 | 5312            | 111              | 32                 | 5324            | 96               |
| 44                 | 5327            | 132              | 46                 | 5292            | 138              |
| 48                 | 5325            | 144              | 54                 | 5319            | 162              |
| 60                 | 5303            | 180              | 55                 | 5286            | 165              |
| 74                 | 5304            | 222              | 62                 | 5321            | 186              |
| 77                 | 5282            | 231              | 78                 | 5323            | 234              |
| 82                 | 5331            | 246              | 81                 | 5274            | 243              |
| 98                 | 8287            | 294              | 83                 | 5331            | 249              |

| Radar waveform #19 |                 |                  | Radar waveform #20 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 16                 | 5304            | 48               | 2                  | 5272            | 6                |
| 23                 | 5278            | 69               | 13                 | 5273            | 39               |
| 27                 | 5310            | 81               | 24                 | 5331            | 72               |
| 38                 | 5295            | 114              | 32                 | 5319            | 96               |
| 47                 | 5319            | 141              | 36                 | 5274            | 108              |
| 48                 | 5307            | 144              | 37                 | 5289            | 111              |
| 49                 | 5289            | 147              | 49                 | 5324            | 147              |
| 57                 | 5286            | 171              | 52                 | 5318            | 156              |
| 69                 | 5325            | 207              | 62                 | 5330            | 186              |
| 80                 | 5320            | 240              | 76                 | 5313            | 228              |
| 99                 | 5311            | 297              | 77                 | 5279            | 231              |
| --                 | --              | --               | 78                 | 5314            | 234              |
| --                 | --              | --               | 98                 | 5281            | 294              |

| Radar waveform #21 |                 |                  | Radar waveform #22 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 2                  | 5313            | 6                | 39                 | 5291            | 117              |
| 6                  | 5285            | 18               | 51                 | 5332            | 153              |
| 8                  | 5322            | 24               | 60                 | 5304            | 180              |
| 28                 | 5326            | 84               | 75                 | 5278            | 225              |
| 35                 | 5284            | 105              |                    |                 |                  |
| 40                 | 5309            | 120              |                    |                 |                  |
| 44                 | 5293            | 132              |                    |                 |                  |
| 45                 | 5299            | 135              |                    |                 |                  |
| 52                 | 5307            | 156              | --                 | --              | --               |
| 55                 | 5289            | 165              |                    |                 |                  |
| 60                 | 5280            | 180              |                    |                 |                  |
| 68                 | 5332            | 204              |                    |                 |                  |
| 84                 | 5278            | 252              |                    |                 |                  |
| 89                 | 5298            | 267              |                    |                 |                  |

| Radar waveform #23 |                 |                  | Radar waveform #24 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 4                  | 5281            | 12               | 1                  | 5301            | 3                |
| 7                  | 5322            | 21               | 15                 | 5330            | 45               |
| 13                 | 5319            | 39               | 19                 | 5293            | 57               |
| 16                 | 5334            | 48               | 22                 | 5282            | 66               |
| 34                 | 5286            | 102              | 34                 | 5313            | 102              |
| 39                 | 5313            | 117              | 37                 | 5295            | 111              |
| 41                 | 5327            | 123              | 58                 | 5327            | 174              |
| 54                 | 5316            | 162              | 66                 | 5329            | 198              |
| 80                 | 5324            | 240              | 74                 | 5293            | 222              |
| 93                 | 5330            | 279              | --                 | --              | --               |
| 95                 | 5275            | 285              | --                 | --              | --               |

| Radar waveform #25 |                 |                  | Radar waveform #26 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 4                  | 5302            | 12               | 15                 | 5303            | 45               |
| 9                  | 5331            | 27               | 30                 | 5329            | 90               |
| 10                 | 5316            | 30               | 35                 | 5276            | 105              |
| 15                 | 5276            | 45               | 41                 | 5284            | 123              |
| 20                 | 5297            | 60               | 46                 | 5308            | 138              |
| 41                 | 5330            | 123              | 56                 | 5317            | 168              |
| 44                 | 5319            | 132              | 59                 | 5304            | 177              |
| 47                 | 5281            | 141              | 76                 | 5305            | 228              |
| 61                 | 5300            | 183              | 78                 | 5277            | 234              |
| 68                 | 5286            | 204              | 79                 | 5306            | 237              |
| 78                 | 5284            | 234              | 92                 | 5325            | 276              |
| 82                 | 5332            | 246              | 97                 | 5311            | 291              |
| 90                 | 5324            | 270              | --                 | --              | --               |
| 94                 | 5290            | 282              | --                 | --              | --               |
| 96                 | 5296            | 288              | --                 | --              | --               |
| 98                 | 5304            | 294              | --                 | --              | --               |

| Radar waveform #27 |                 |                  | Radar waveform #28 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 18                 | 5296            | 54               | 0                  | 5325            | 0                |
| 22                 | 5316            | 66               | 2                  | 5334            | 6                |
| 38                 | 5299            | 114              | 6                  | 5305            | 18               |
| 42                 | 5279            | 126              | 7                  | 5319            | 21               |
| 49                 | 5322            | 147              | 9                  | 5329            | 27               |
| 68                 | 5314            | 204              | 10                 | 5296            | 30               |
| 85                 | 5285            | 255              | 18                 | 5281            | 54               |
| 86                 | 5308            | 258              | 21                 | 5297            | 63               |
| 87                 | 5286            | 261              | 31                 | 5317            | 93               |
| 89                 | 5287            | 267              | 34                 | 5304            | 102              |
| 98                 | 5330            | 294              | 46                 | 5287            | 138              |
| --                 | --              | --               | 52                 | 5302            | 156              |
| --                 | --              | --               | 63                 | 5292            | 189              |
| --                 | --              | --               | 68                 | 5333            | 204              |
| --                 | --              | --               | 72                 | 5320            | 216              |
| --                 | --              | --               | 75                 | 5278            | 225              |
| --                 | --              | --               | 77                 | 5310            | 231              |
| --                 | --              | --               | 83                 | 5301            | 249              |

| Radar waveform #29 |                 |                  | Radar waveform #30 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 1                  | 5286            | 3                | 4                  | 5286            | 12               |
| 4                  | 5337            | 12               | 7                  | 5327            | 21               |
| 5                  | 5309            | 15               | 17                 | 5306            | 51               |
| 12                 | 5321            | 36               | 18                 | 5283            | 54               |
| 15                 | 5283            | 45               | 21                 | 5280            | 63               |
| 21                 | 5280            | 63               | 35                 | 5307            | 105              |
| 31                 | 5317            | 93               | 37                 | 5329            | 111              |
| 32                 | 5320            | 96               | 43                 | 5339            | 129              |
| 36                 | 5310            | 108              | 45                 | 5321            | 135              |
| 37                 | 5339            | 111              | 71                 | 5229            | 213              |
| 54                 | 5325            | 162              | 74                 | 5300            | 222              |
| 58                 | 5304            | 174              | 83                 | 5326            | 249              |

|    |      |     |    |      |     |
|----|------|-----|----|------|-----|
| 94 | 5330 | 282 | 86 | 5297 | 258 |
| -- | --   | --  | 97 | 5288 | 291 |

## Radar Statistical Performance for 802.11n-HT40

## Radar Type 1 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5291                | 0                   | 538      | 99             | 1                             |
| 2                        | 5293                | 1                   | 618      | 86             | 1                             |
| 3                        | 5295                | 1                   | 798      | 67             | 1                             |
| 4                        | 5297                | 1                   | 658      | 81             | 1                             |
| 5                        | 5299                | 1                   | 878      | 61             | 1                             |
| 6                        | 5301                | 1                   | 758      | 70             | 1                             |
| 7                        | 5291                | 1                   | 518      | 102            | 1                             |
| 8                        | 5303                | 1                   | 898      | 59             | 1                             |
| 9                        | 5305                | 1                   | 738      | 72             | 1                             |
| 10                       | 5306                | 1                   | 718      | 74             | 1                             |
| 11                       | 5307                | 1                   | 938      | 57             | 1                             |
| 12                       | 5308                | 1                   | 678      | 78             | 1                             |
| 13                       | 5309                | 1                   | 3066     | 18             | 1                             |
| 14                       | 5310                | 1                   | 638      | 83             | 1                             |
| 15                       | 5311                | 1                   | 858      | 62             | 1                             |
| 16                       | 5312                | 1                   | 1909     | 28             | 1                             |
| 17                       | 5313                | 1                   | 932      | 57             | 1                             |
| 18                       | 5314                | 1                   | 2777     | 20             | 1                             |
| 19                       | 5315                | 1                   | 2722     | 20             | 1                             |
| 20                       | 5317                | 1                   | 2371     | 23             | 1                             |
| 21                       | 5319                | 1                   | 1074     | 50             | 1                             |
| 22                       | 5320                | 1                   | 2752     | 20             | 1                             |
| 23                       | 5321                | 1                   | 2169     | 25             | 1                             |
| 24                       | 5322                | 1                   | 1394     | 38             | 1                             |
| 25                       | 5323                | 1                   | 2110     | 26             | 1                             |
| 26                       | 5324                | 1                   | 2787     | 19             | 1                             |
| 27                       | 5325                | 1                   | 3055     | 18             | 1                             |
| 28                       | 5327                | 1                   | 1121     | 48             | 1                             |
| 29                       | 5329                | 1                   | 2805     | 19             | 1                             |
| 30                       | 5330                | 1                   | 760      | 70             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 96.7%                         |

### Radar Type 2 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5291                | 4.5                 | 152      | 29             | 0                             |
| 2                        | 5293                | 2.1                 | 166      | 25             | 1                             |
| 3                        | 5295                | 4.7                 | 196      | 23             | 1                             |
| 4                        | 5297                | 1.1                 | 169      | 28             | 1                             |
| 5                        | 5299                | 3.8                 | 223      | 23             | 1                             |
| 6                        | 5301                | 1.6                 | 214      | 28             | 1                             |
| 7                        | 5291                | 1.3                 | 163      | 29             | 1                             |
| 8                        | 5303                | 4.5                 | 192      | 26             | 1                             |
| 9                        | 5305                | 2.8                 | 170      | 28             | 1                             |
| 10                       | 5306                | 1.5                 | 185      | 29             | 1                             |
| 11                       | 5307                | 3.9                 | 154      | 27             | 1                             |
| 12                       | 5308                | 1.4                 | 219      | 26             | 1                             |
| 13                       | 5309                | 2.6                 | 224      | 29             | 1                             |
| 14                       | 5310                | 2.2                 | 198      | 27             | 1                             |
| 15                       | 5311                | 4.0                 | 227      | 25             | 1                             |
| 16                       | 5312                | 3.6                 | 181      | 23             | 1                             |
| 17                       | 5313                | 4.9                 | 204      | 24             | 1                             |
| 18                       | 5314                | 1.1                 | 202      | 25             | 1                             |
| 19                       | 5315                | 2.5                 | 186      | 27             | 1                             |
| 20                       | 5317                | 3.3                 | 157      | 24             | 1                             |
| 21                       | 5319                | 3.9                 | 170      | 27             | 1                             |
| 22                       | 5320                | 5.0                 | 202      | 24             | 1                             |
| 23                       | 5321                | 2.4                 | 221      | 28             | 1                             |
| 24                       | 5322                | 1.7                 | 209      | 29             | 1                             |
| 25                       | 5323                | 3.5                 | 156      | 28             | 1                             |
| 26                       | 5324                | 1.8                 | 163      | 23             | 1                             |
| 27                       | 5325                | 3.1                 | 183      | 24             | 1                             |
| 28                       | 5327                | 1.1                 | 182      | 23             | 1                             |
| 29                       | 5329                | 1.6                 | 161      | 25             | 0                             |
| 30                       | 5330                | 3.2                 | 195      | 25             | 0                             |
| Detection Percentage (%) |                     |                     |          |                | 90%                           |

### Radar Type 3 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5291                | 9.6                 | 282      | 18             | 0                             |
| 2                        | 5293                | 7.0                 | 445      | 16             | 1                             |
| 3                        | 5295                | 8.4                 | 257      | 16             | 1                             |
| 4                        | 5297                | 9.3                 | 395      | 17             | 1                             |
| 5                        | 5299                | 8.6                 | 359      | 16             | 1                             |
| 6                        | 5301                | 6.9                 | 482      | 17             | 1                             |
| 7                        | 5301                | 8.1                 | 390      | 18             | 1                             |
| 8                        | 5303                | 7.8                 | 362      | 16             | 1                             |
| 9                        | 5305                | 6.4                 | 470      | 18             | 1                             |
| 10                       | 5306                | 9.5                 | 475      | 18             | 1                             |
| 11                       | 5307                | 6.9                 | 270      | 17             | 1                             |
| 12                       | 5308                | 9.4                 | 339      | 18             | 1                             |
| 13                       | 5309                | 8.6                 | 432      | 17             | 1                             |
| 14                       | 5310                | 6.4                 | 386      | 17             | 1                             |
| 15                       | 5311                | 7.7                 | 399      | 16             | 1                             |
| 16                       | 5312                | 8.6                 | 473      | 18             | 1                             |
| 17                       | 5313                | 9.9                 | 253      | 17             | 1                             |
| 18                       | 5314                | 7.0                 | 464      | 18             | 1                             |
| 19                       | 5315                | 8.8                 | 375      | 18             | 1                             |
| 20                       | 5317                | 8.5                 | 263      | 17             | 1                             |
| 21                       | 5319                | 8.1                 | 374      | 17             | 1                             |
| 22                       | 5320                | 7.1                 | 350      | 18             | 1                             |
| 23                       | 5321                | 9.0                 | 352      | 18             | 1                             |
| 24                       | 5322                | 8.4                 | 325      | 16             | 1                             |
| 25                       | 5323                | 7.3                 | 442      | 16             | 1                             |
| 26                       | 5324                | 9.3                 | 371      | 16             | 1                             |
| 27                       | 5325                | 8.6                 | 474      | 17             | 1                             |
| 28                       | 5327                | 7.1                 | 451      | 16             | 1                             |
| 29                       | 5329                | 7.2                 | 368      | 18             | 1                             |
| 30                       | 5330                | 6.0                 | 264      | 18             | 0                             |
| Detection Percentage (%) |                     |                     |          |                | 93.3%                         |

### Radar Type 4 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5292                | 17.3                | 392      | 14             | 0                             |
| 2                        | 5293                | 18.1                | 470      | 15             | 1                             |
| 3                        | 5295                | 19.0                | 373      | 13             | 1                             |
| 4                        | 5297                | 18.1                | 479      | 13             | 1                             |
| 5                        | 5299                | 17.9                | 413      | 12             | 1                             |
| 6                        | 5301                | 15.1                | 403      | 14             | 1                             |
| 7                        | 5301                | 12.8                | 408      | 13             | 1                             |
| 8                        | 5303                | 13.2                | 379      | 13             | 1                             |
| 9                        | 5305                | 15.0                | 311      | 13             | 1                             |
| 10                       | 5306                | 19.7                | 328      | 14             | 1                             |
| 11                       | 5307                | 17.9                | 378      | 15             | 1                             |
| 12                       | 5308                | 18.9                | 263      | 12             | 1                             |
| 13                       | 5309                | 12.7                | 436      | 13             | 1                             |
| 14                       | 5310                | 11.7                | 371      | 12             | 1                             |
| 15                       | 5311                | 14.4                | 359      | 12             | 1                             |
| 16                       | 5312                | 17.5                | 272      | 12             | 1                             |
| 17                       | 5313                | 16.2                | 276      | 15             | 1                             |
| 18                       | 5314                | 15.8                | 487      | 15             | 1                             |
| 19                       | 5315                | 16.2                | 295      | 15             | 1                             |
| 20                       | 5317                | 14.8                | 461      | 12             | 1                             |
| 21                       | 5319                | 12.5                | 374      | 15             | 1                             |
| 22                       | 5320                | 18.9                | 455      | 12             | 1                             |
| 23                       | 5321                | 14.8                | 458      | 16             | 1                             |
| 24                       | 5322                | 12.3                | 321      | 15             | 1                             |
| 25                       | 5323                | 20.0                | 436      | 15             | 1                             |
| 26                       | 5324                | 13.5                | 284      | 13             | 1                             |
| 27                       | 5325                | 20.0                | 486      | 15             | 1                             |
| 28                       | 5327                | 11.8                | 323      | 15             | 1                             |
| 29                       | 5329                | 17.8                | 393      | 15             | 0                             |
| 30                       | 5330                | 15.3                | 461      | 14             | 0                             |
| Detection Percentage (%) |                     |                     |          |                | 90%                           |

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows:  $\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4} = (96.7\% + 90\% + 93.3\% + 90\%) / 4 = 92.5\% (>80\%)$



## Radar Type 5 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection | Trail # | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|-------------------------------|---------|---------------------|-------------------------------|
| 1                        | 5291                | 0                             | 16      | 5312                | 1                             |
| 2                        | 5293                | 0                             | 17      | 5313                | 1                             |
| 3                        | 5295                | 1                             | 18      | 5314                | 1                             |
| 4                        | 5297                | 1                             | 19      | 5315                | 1                             |
| 5                        | 5299                | 1                             | 20      | 5317                | 1                             |
| 6                        | 5301                | 1                             | 21      | 5319                | 1                             |
| 7                        | 5301                | 1                             | 22      | 5320                | 1                             |
| 8                        | 5303                | 1                             | 23      | 5321                | 1                             |
| 9                        | 5305                | 1                             | 24      | 5322                | 1                             |
| 10                       | 5306                | 1                             | 25      | 5323                | 1                             |
| 11                       | 5307                | 1                             | 26      | 5324                | 1                             |
| 12                       | 5308                | 1                             | 27      | 5325                | 1                             |
| 13                       | 5309                | 1                             | 28      | 5327                | 1                             |
| 14                       | 5310                | 1                             | 29      | 5329                | 0                             |
| 15                       | 5311                | 1                             | 30      | 5330                | 0                             |
| Detection Percentage (%) |                     |                               |         |                     | 87.7%                         |

## Type 5 Radar Waveform\_1

Waveform Num = 1  
Num of Bursts = 8  
Burst Interval (us) = 1500000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 16078         | 1        | 16          | 95      | 1974             | 0                | 0                | 16078          | 0                         | 1499999                 |
| 2       | 1835250       | 2        | 6           | 50      | 1707             | 1172             | 0                | 1853302        | 1500000                   | 2999999                 |
| 3       | 2127517       | 1        | 5           | 80      | 1076             | 0                | 0                | 3983698        | 3000000                   | 4499999                 |
| 4       | 1046985       | 2        | 17          | 55      | 1005             | 1297             | 0                | 5031759        | 4500000                   | 5999999                 |
| 5       | 2345442       | 2        | 7           | 60      | 1230             | 1847             | 0                | 7379503        | 6000000                   | 7499999                 |
| 6       | 216804        | 2        | 16          | 100     | 1963             | 1703             | 0                | 7599384        | 7500000                   | 8999999                 |
| 7       | 1547612       | 2        | 13          | 70      | 1858             | 1333             | 0                | 9150662        | 9000000                   | 10499999                |
| 8       | 1543164       | 3        | 7           | 90      | 1452             | 1369             | 1404             | 10697017       | 10500000                  | 11999999                |

Total number of pulses in waveform = 15

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## Type 5 Radar Waveform\_2

Waveform Num = 2  
Num of Bursts = 12  
Burst Interval (us) = 1000000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 890361        | 1        | 18          | 85      | 1140             | 0                | 0                | 890361         | 0                         | 999999                  |
| 2       | 822733        | 2        | 5           | 80      | 1464             | 1519             | 0                | 1714234        | 1000000                   | 1999999                 |
| 3       | 321134        | 3        | 18          | 90      | 1026             | 1966             | 1347             | 2038351        | 2000000                   | 2999999                 |
| 4       | 1156386       | 1        | 8           | 50      | 1091             | 0                | 0                | 3199076        | 3000000                   | 3999999                 |
| 5       | 1628435       | 3        | 5           | 50      | 1427             | 1925             | 1735             | 4828602        | 4000000                   | 4999999                 |
| 6       | 636451        | 2        | 18          | 80      | 1931             | 1934             | 0                | 5470140        | 5000000                   | 5999999                 |
| 7       | 781551        | 2        | 11          | 80      | 1189             | 1226             | 0                | 6255556        | 6000000                   | 6999999                 |
| 8       | 1272774       | 2        | 6           | 95      | 1735             | 1007             | 0                | 7530745        | 7000000                   | 7999999                 |
| 9       | 509484        | 1        | 9           | 80      | 1247             | 0                | 0                | 8042971        | 8000000                   | 8999999                 |
| 10      | 1349633       | 2        | 18          | 60      | 1572             | 1578             | 0                | 9393851        | 9000000                   | 9999999                 |
| 11      | 1287522       | 2        | 10          | 60      | 1859             | 1828             | 0                | 10684523       | 10000000                  | 10999999                |
| 12      | 1258424       | 1        | 18          | 55      | 1139             | 0                | 0                | 11946634       | 11000000                  | 11999999                |

Total number of pulses in waveform = 22

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## Type 5 Radar Waveform\_3

Waveform Num = 3  
Num of Bursts = 13  
Burst Interval (us) = 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 292381        | 1        | 7           | 60      | 1545             | 0                | 0                | 292381         | 0                         | 923076                  |
| 2       | 1373941       | 3        | 11          | 100     | 1905             | 1082             | 1055             | 1667867        | 923077                    | 1846153                 |
| 3       | 303862        | 3        | 20          | 75      | 1324             | 2000             | 1343             | 1975771        | 1846154                   | 2769230                 |
| 4       | 1524307       | 2        | 19          | 60      | 1222             | 1377             | 0                | 3504745        | 2769231                   | 3692307                 |
| 5       | 752577        | 2        | 6           | 55      | 1547             | 1567             | 0                | 4259921        | 3692308                   | 4615384                 |
| 6       | 638592        | 1        | 5           | 50      | 1650             | 0                | 0                | 4901627        | 4615385                   | 5538461                 |
| 7       | 1041106       | 1        | 5           | 55      | 1444             | 0                | 0                | 5944383        | 5538462                   | 6461538                 |
| 8       | 621055        | 1        | 5           | 85      | 1925             | 0                | 0                | 6566882        | 6461539                   | 7384615                 |
| 9       | 871474        | 3        | 13          | 55      | 1916             | 1558             | 1789             | 7440281        | 7384616                   | 8307692                 |
| 10      | 1420264       | 1        | 15          | 65      | 1208             | 0                | 0                | 8865808        | 8307693                   | 9230769                 |
| 11      | 991653        | 1        | 9           | 90      | 1538             | 0                | 0                | 9858669        | 9230770                   | 10153846                |
| 12      | 1006484       | 1        | 8           | 50      | 1902             | 0                | 0                | 10866691       | 10153847                  | 11076923                |
| 13      | 881981        | 1        | 8           | 85      | 1470             | 0                | 0                | 11750574       | 11076924                  | 12000000                |

Total number of pulses in waveform = 21

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## Type 5 Radar Waveform\_4

Waveform Num = 4  
Num of Bursts = 13  
Burst Interval (us) = 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 685737        | 2        | 14          | 70      | 1230             | 1218             | 0                | 685737         | 0                         | 923076                  |
| 2       | 630224        | 1        | 17          | 70      | 1915             | 0                | 0                | 1318409        | 923077                    | 1846153                 |
| 3       | 813603        | 3        | 10          | 55      | 1159             | 1925             | 1707             | 2133927        | 1846154                   | 2769230                 |
| 4       | 903632        | 1        | 16          | 95      | 1460             | 0                | 0                | 3042350        | 2769231                   | 3692307                 |
| 5       | 1246567       | 2        | 12          | 70      | 1087             | 1501             | 0                | 4290377        | 3692308                   | 4615384                 |
| 6       | 1217951       | 1        | 18          | 75      | 1670             | 0                | 0                | 5510916        | 4615385                   | 5538461                 |
| 7       | 683459        | 2        | 13          | 85      | 1305             | 1633             | 0                | 6196045        | 5538462                   | 6461538                 |
| 8       | 366105        | 1        | 15          | 95      | 1259             | 0                | 0                | 6565088        | 6461539                   | 7384615                 |
| 9       | 1007047       | 2        | 10          | 55      | 1661             | 1361             | 0                | 7573394        | 7384616                   | 8307692                 |
| 10      | 1316135       | 2        | 20          | 80      | 1143             | 1878             | 0                | 8892551        | 8307693                   | 9230769                 |
| 11      | 1187457       | 3        | 6           | 50      | 1605             | 1738             | 1198             | 10083029       | 9230770                   | 10153846                |
| 12      | 954185        | 2        | 13          | 60      | 1893             | 1188             | 0                | 11041755       | 10153847                  | 11076923                |
| 13      | 293640        | 1        | 6           | 50      | 1521             | 0                | 0                | 11338476       | 11076924                  | 12000000                |

Total number of pulses in waveform = 23

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## Type 5 Radar Waveform\_5

| Waveform Num = 5<br>Num of Bursts = 19<br>Burst Interval (us) = 631579 |               |          |             |         |                  |                  |                  |                |                           |                         |
|------------------------------------------------------------------------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| Burst #                                                                | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
| 1                                                                      | 257605        | 3        | 16          | 75      | 1183             | 1359             | 1770             | 257605         | 0                         | 631578                  |
| 2                                                                      | 720373        | 3        | 18          | 70      | 1125             | 1648             | 1613             | 982290         | 631579                    | 1263157                 |
| 3                                                                      | 779685        | 3        | 10          | 85      | 1676             | 1513             | 1785             | 1766361        | 1263158                   | 1894736                 |
| 4                                                                      | 327144        | 3        | 19          | 75      | 1160             | 1543             | 1805             | 2349005        | 1894737                   | 2526315                 |
| 5                                                                      | 733608        | 1        | 9           | 80      | 1608             | 0                | 0                | 2680657        | 2526316                   | 3157894                 |
| 6                                                                      | 476023        | 2        | 13          | 70      | 1952             | 1046             | 0                | 3415873        | 3157895                   | 3789473                 |
| 7                                                                      | 1087117       | 1        | 17          | 60      | 1049             | 0                | 0                | 3894894        | 3789474                   | 4421052                 |
| 8                                                                      | 452678        | 1        | 12          | 65      | 1741             | 0                | 0                | 4983060        | 4421053                   | 5052631                 |
| 9                                                                      | 605306        | 1        | 8           | 50      | 1888             | 0                | 0                | 5437479        | 5052632                   | 5684210                 |
| 10                                                                     | 537013        | 2        | 6           | 70      | 1545             | 1661             | 0                | 6044673        | 5684211                   | 6315789                 |
| 11                                                                     | 602222        | 1        | 12          | 100     | 1183             | 0                | 0                | 6584892        | 6315790                   | 6947368                 |
| 12                                                                     | 885772        | 1        | 12          | 100     | 1942             | 0                | 0                | 7188297        | 6947369                   | 7578947                 |
| 13                                                                     | 496561        | 2        | 18          | 95      | 1836             | 1689             | 0                | 8076011        | 7578948                   | 8210526                 |
| 14                                                                     | 478964        | 3        | 18          | 80      | 1593             | 1869             | 1768             | 8576087        | 8210527                   | 8842105                 |
| 15                                                                     | 836331        | 2        | 16          | 80      | 1294             | 1898             | 0                | 9060281        | 8842106                   | 9473684                 |
| 16                                                                     | 710114        | 2        | 11          | 100     | 1212             | 1527             | 0                | 9899804        | 9473685                   | 10105263                |
| 17                                                                     | 308313        | 3        | 12          | 75      | 1880             | 1539             | 1986             | 10612657       | 10105264                  | 10736842                |
| 18                                                                     | 478085        | 2        | 16          | 60      | 1828             | 1449             | 0                | 10926375       | 10736843                  | 11368421                |
| 19                                                                     |               | 3        | 15          | 90      | 1210             | 1800             | 1625             | 11407737       | 11368422                  | 12000000                |
| Total number of pulses in waveform = 39                                |               |          |             |         |                  |                  |                  |                |                           |                         |

## Type 5 Radar Waveform\_6

| Waveform Num = 6<br>Num of Bursts = 19<br>Burst Interval (us) = 631579 |               |          |             |         |                  |                  |                  |                |                           |                         |
|------------------------------------------------------------------------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| Burst #                                                                | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
| 1                                                                      | 465680        | 3        | 20          | 65      | 1503             | 1815             | 1404             | 465680         | 0                         | 631578                  |
| 2                                                                      | 209274        | 2        | 18          | 90      | 1600             | 1061             | 0                | 679676         | 631579                    | 1263157                 |
| 3                                                                      | 967364        | 2        | 19          | 95      | 1824             | 1037             | 0                | 1649591        | 1263158                   | 1894736                 |
| 4                                                                      | 616775        | 1        | 18          | 65      | 1177             | 0                | 0                | 2269227        | 1894737                   | 2526315                 |
| 5                                                                      | 761493        | 2        | 19          | 55      | 1934             | 1362             | 0                | 3031897        | 2526316                   | 3157894                 |
| 6                                                                      | 173586        | 1        | 15          | 55      | 1802             | 0                | 0                | 3208769        | 3157895                   | 3789473                 |
| 7                                                                      | 725234        | 2        | 15          | 60      | 1783             | 1392             | 0                | 3935805        | 3789474                   | 4421052                 |
| 8                                                                      | 645021        | 1        | 17          | 80      | 1132             | 0                | 0                | 4584001        | 4421053                   | 5052631                 |
| 9                                                                      | 574584        | 1        | 5           | 796     | 0                | 0                | 0                | 5159717        | 5052632                   | 5684210                 |
| 10                                                                     | 577664        | 1        | 17          | 50      | 1110             | 0                | 0                | 5739177        | 5684211                   | 6315789                 |
| 11                                                                     | 1165674       | 1        | 14          | 60      | 1166             | 0                | 0                | 6905961        | 6315790                   | 6947368                 |
| 12                                                                     | 527612        | 1        | 10          | 100     | 1221             | 0                | 0                | 7434739        | 6947369                   | 7578947                 |
| 13                                                                     | 317091        | 2        | 13          | 90      | 1823             | 1960             | 0                | 7753051        | 7578948                   | 8210526                 |
| 14                                                                     | 790203        | 1        | 14          | 60      | 1067             | 0                | 0                | 8547037        | 8210527                   | 8842105                 |
| 15                                                                     | 759378        | 1        | 8           | 80      | 1378             | 0                | 0                | 9307502        | 8842106                   | 9473684                 |
| 16                                                                     | 673829        | 2        | 5           | 75      | 1815             | 1383             | 0                | 9982709        | 9473685                   | 10105263                |
| 17                                                                     | 714830        | 1        | 18          | 95      | 1008             | 0                | 0                | 10700737       | 10105264                  | 10736842                |
| 18                                                                     | 543303        | 2        | 5           | 75      | 1642             | 1946             | 0                | 11245048       | 10736843                  | 11368421                |
| 19                                                                     | 206583        | 3        | 6           | 80      | 1680             | 1783             | 1814             | 11455219       | 11368422                  | 12000000                |
| Total number of pulses in waveform = 30                                |               |          |             |         |                  |                  |                  |                |                           |                         |

## Type 5 Radar Waveform\_7

| Waveform Num = 7<br>Num of Bursts = 19<br>Burst Interval (us) = 631579 |               |          |             |         |                  |                  |                  |                |                           |                         |
|------------------------------------------------------------------------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| Burst #                                                                | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
| 1                                                                      | 565378        | 1        | 9           | 75      | 1453             | 0                | 0                | 565378         | 0                         | 631578                  |
| 2                                                                      | 387664        | 3        | 17          | 75      | 1166             | 1364             | 1666             | 954495         | 631579                    | 1263157                 |
| 3                                                                      | 682301        | 1        | 20          | 90      | 1080             | 0                | 0                | 1640892        | 1263158                   | 1894736                 |
| 4                                                                      | 328638        | 3        | 19          | 85      | 1966             | 1632             | 1522             | 1970610        | 1894737                   | 2526315                 |
| 5                                                                      | 819347        | 3        | 8           | 70      | 1401             | 1117             | 1503             | 2795077        | 2526316                   | 3157894                 |
| 6                                                                      | 883653        | 2        | 16          | 85      | 1320             | 1860             | 0                | 3682751        | 3157895                   | 3789473                 |
| 7                                                                      | 314759        | 2        | 6           | 65      | 1401             | 1218             | 0                | 4000690        | 3789474                   | 4421052                 |
| 8                                                                      | 1039175       | 1        | 6           | 75      | 1022             | 0                | 0                | 5042484        | 4421053                   | 5052631                 |
| 9                                                                      | 73320         | 2        | 7           | 70      | 1229             | 1025             | 0                | 5116826        | 5052632                   | 5684210                 |
| 10                                                                     | 581809        | 1        | 5           | 65      | 1032             | 0                | 0                | 5700889        | 5684211                   | 6315789                 |
| 11                                                                     | 950389        | 3        | 16          | 100     | 1312             | 1608             | 1176             | 6652310        | 6315790                   | 6947368                 |
| 12                                                                     | 820202        | 3        | 7           | 65      | 1929             | 1676             | 1534             | 7476608        | 6947369                   | 7578947                 |
| 13                                                                     | 133264        | 3        | 12          | 50      | 1884             | 1368             | 1346             | 7615011        | 7578948                   | 8210526                 |
| 14                                                                     | 1030499       | 1        | 13          | 55      | 1349             | 0                | 0                | 8650108        | 8210527                   | 8842105                 |
| 15                                                                     | 393732        | 3        | 17          | 60      | 1506             | 1456             | 1961             | 9045189        | 8842106                   | 9473684                 |
| 16                                                                     | 589740        | 3        | 7           | 70      | 1432             | 1207             | 1937             | 9639852        | 9473685                   | 10105263                |
| 17                                                                     | 976593        | 3        | 12          | 75      | 1974             | 1869             | 1154             | 10621021       | 10105264                  | 10736842                |
| 18                                                                     | 260511        | 3        | 8           | 90      | 1194             | 1102             | 1078             | 10886529       | 10736843                  | 11368421                |
| 19                                                                     | 743315        | 3        | 20          | 65      | 1197             | 1819             | 1859             | 11633218       | 11368422                  | 12000000                |
| Total number of pulses in waveform = 44                                |               |          |             |         |                  |                  |                  |                |                           |                         |



## Type 5 Radar Waveform\_8

Waveform Num = 8  
Num of Bursts = 8  
Burst Interval (us)= 1500000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 128758        | 3        | 13          | 70      | 1181             | 1107             | 1232             | 128758         | 0                         | 1499999                 |
| 2       | 2328195       | 1        | 7           | 90      | 1093             | 0                | 0                | 2460473        | 1500000                   | 2999999                 |
| 3       | 859559        | 2        | 12          | 80      | 1550             | 1849             | 0                | 3321125        | 3000000                   | 4499999                 |
| 4       | 1318366       | 1        | 18          | 60      | 1162             | 0                | 0                | 4642890        | 4500000                   | 5999999                 |
| 5       | 1799917       | 2        | 15          | 80      | 1616             | 1246             | 0                | 6443969        | 6000000                   | 7499999                 |
| 6       | 2530067       | 1        | 8           | 80      | 1595             | 0                | 0                | 8976898        | 7500000                   | 8999999                 |
| 7       | 1136508       | 3        | 20          | 90      | 1467             | 1044             | 1153             | 10115001       | 9000000                   | 10499999                |
| 8       | 614771        | 3        | 13          | 70      | 1775             | 1438             | 1338             | 10733436       | 10500000                  | 11999999                |

Total number of pulses in waveform = 16

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## Type 5 Radar Waveform\_9

Waveform Num = 9  
Num of Bursts = 16  
Burst Interval (us)= 750000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 718319        | 1        | 8           | 80      | 1597             | 0                | 0                | 718319         | 0                         | 749999                  |
| 2       | 271230        | 1        | 7           | 70      | 1942             | 0                | 0                | 991146         | 750000                    | 1499999                 |
| 3       | 1077880       | 2        | 14          | 60      | 1150             | 1909             | 0                | 2070968        | 1500000                   | 2249999                 |
| 4       | 185172        | 2        | 10          | 95      | 1567             | 1388             | 0                | 2259199        | 2250000                   | 2999999                 |
| 5       | 888122        | 1        | 14          | 90      | 1950             | 0                | 0                | 3150276        | 3000000                   | 3749999                 |
| 6       | 873768        | 2        | 17          | 50      | 1684             | 1121             | 0                | 4025994        | 3750000                   | 4499999                 |
| 7       | 985928        | 3        | 17          | 65      | 1843             | 1701             | 1846             | 5014727        | 4500000                   | 5249999                 |
| 8       | 410896        | 1        | 12          | 50      | 1688             | 0                | 0                | 5431013        | 5250000                   | 5999999                 |
| 9       | 648268        | 1        | 7           | 100     | 1035             | 0                | 0                | 6080969        | 6000000                   | 6749999                 |
| 10      | 1168706       | 2        | 10          | 80      | 1470             | 1195             | 0                | 7250710        | 6750000                   | 7499999                 |
| 11      | 338410        | 3        | 17          | 65      | 1140             | 1003             | 1663             | 7591785        | 7500000                   | 8249999                 |
| 12      | 1152203       | 3        | 20          | 80      | 1204             | 1564             | 1284             | 8747794        | 8250000                   | 8999999                 |
| 13      | 669099        | 1        | 15          | 65      | 1064             | 0                | 0                | 9420945        | 9000000                   | 9749999                 |
| 14      | 1032436       | 2        | 17          | 55      | 1700             | 1502             | 0                | 10454445       | 9750000                   | 10499999                |
| 15      | 709280        | 1        | 17          | 100     | 1622             | 0                | 0                | 11166927       | 10500000                  | 11249999                |
| 16      | 411657        | 3        | 20          | 95      | 1715             | 1473             | 1051             | 11580206       | 11250000                  | 11999999                |

Total number of pulses in waveform = 29

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## Type 5 Radar Waveform\_10

Waveform Num = 10  
Num of Bursts = 14  
Burst Interval (us)= 857143

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 327769        | 3        | 7           | 60      | 1312             | 1368             | 1802             | 327769         | 0                         | 857142                  |
| 2       | 1263599       | 3        | 15          | 100     | 1358             | 1055             | 1325             | 1595850        | 857143                    | 1714285                 |
| 3       | 523412        | 3        | 18          | 50      | 1407             | 1010             | 1468             | 2123000        | 1714286                   | 2571428                 |
| 4       | 1003706       | 3        | 17          | 50      | 1264             | 1342             | 1326             | 3130591        | 2571429                   | 3428571                 |
| 5       | 1076733       | 1        | 10          | 90      | 1010             | 0                | 0                | 4211256        | 3428572                   | 4285714                 |
| 6       | 705127        | 3        | 6           | 90      | 1870             | 1383             | 1375             | 4917393        | 4285715                   | 5142857                 |
| 7       | 620400        | 3        | 13          | 55      | 1669             | 1268             | 1687             | 5542421        | 5142858                   | 6000000                 |
| 8       | 1157409       | 3        | 8           | 85      | 1178             | 1097             | 1185             | 6704454        | 6000001                   | 6857143                 |
| 9       | 886608        | 3        | 16          | 75      | 1949             | 1775             | 1507             | 7594522        | 6857144                   | 7714286                 |
| 10      | 371642        | 2        | 18          | 95      | 1366             | 1444             | 0                | 7971395        | 7714287                   | 8571429                 |
| 11      | 1217909       | 2        | 10          | 70      | 1393             | 1727             | 0                | 9192114        | 8571430                   | 9428572                 |
| 12      | 1023431       | 1        | 8           | 95      | 1823             | 0                | 0                | 10218665       | 9428573                   | 10285715                |
| 13      | 649677        | 1        | 9           | 95      | 1569             | 0                | 0                | 10870165       | 10285716                  | 11142858                |
| 14      | 335536        | 3        | 11          | 80      | 1196             | 1934             | 1265             | 11207270       | 11142859                  | 12000001                |

Total number of pulses in waveform = 34

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## Type 5 Radar Waveform\_11

Waveform Num = 11  
Num of Bursts = 11  
Burst Interval (us)= 1090909

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 195285        | 3        | 12          | 60      | 1005             | 1860             | 1046             | 195285         | 0                         | 1090908                 |
| 2       | 1797710       | 3        | 19          | 60      | 1120             | 1851             | 1877             | 1996906        | 1090909                   | 2181817                 |
| 3       | 1142044       | 3        | 14          | 75      | 1324             | 1134             | 1413             | 3143798        | 2181818                   | 3272726                 |
| 4       | 1055950       | 1        | 18          | 60      | 1996             | 0                | 0                | 4203619        | 3272727                   | 4363635                 |
| 5       | 908993        | 2        | 17          | 50      | 1236             | 1845             | 0                | 5114608        | 4363636                   | 5454544                 |
| 6       | 883727        | 2        | 10          | 90      | 1650             | 1984             | 0                | 6001416        | 5454545                   | 6545453                 |
| 7       | 1173987       | 1        | 20          | 65      | 1171             | 0                | 0                | 7179037        | 6545454                   | 7636362                 |
| 8       | 941177        | 2        | 9           | 90      | 1417             | 1019             | 0                | 8121385        | 7636363                   | 8727271                 |
| 9       | 1264936       | 1        | 20          | 90      | 1911             | 0                | 0                | 9388757        | 8727272                   | 9818180                 |
| 10      | 898961        | 2        | 17          | 95      | 1980             | 1396             | 0                | 10289629       | 9818181                   | 10909089                |
| 11      | 707263        | 3        | 12          | 100     | 1360             | 1841             | 1715             | 11000268       | 10909090                  | 11999998                |

Total number of pulses in waveform = 23

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## Type 5 Radar Waveform\_12

Waveform Num = 12  
Num of Bursts = 17  
Burst Interval (us)= 705882

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 294300        | 1        | 16          | 75      | 1461             | 0                | 0                | 294300         | 0                         | 705881                  |
| 2       | 552190        | 2        | 18          | 95      | 1741             | 1929             | 0                | 847951         | 705882                    | 1411763                 |
| 3       | 1153719       | 1        | 19          | 95      | 1590             | 0                | 0                | 2005340        | 1411764                   | 2117645                 |
| 4       | 614765        | 3        | 16          | 55      | 1929             | 1701             | 1695             | 2621695        | 2117646                   | 2823527                 |
| 5       | 832204        | 3        | 12          | 70      | 1785             | 1154             | 1077             | 3459224        | 2823528                   | 3529409                 |
| 6       | 298597        | 2        | 10          | 60      | 1805             | 1427             | 0                | 3761837        | 3529410                   | 4235291                 |
| 7       | 959989        | 3        | 18          | 75      | 1719             | 1759             | 1485             | 4725058        | 4235292                   | 4941173                 |
| 8       | 564000        | 1        | 10          | 100     | 1590             | 0                | 0                | 5294021        | 4941174                   | 5647055                 |
| 9       | 381012        | 1        | 12          | 50      | 1500             | 0                | 0                | 5676623        | 5647056                   | 6352937                 |
| 10      | 879264        | 2        | 17          | 50      | 1452             | 1680             | 0                | 6557387        | 6352938                   | 7058819                 |
| 11      | 774337        | 3        | 18          | 85      | 1826             | 1841             | 1841             | 7334856        | 7058820                   | 7764701                 |
| 12      | 672480        | 1        | 13          | 65      | 1436             | 0                | 0                | 8012844        | 7764702                   | 8470583                 |
| 13      | 1152373       | 2        | 14          | 90      | 1159             | 1441             | 0                | 9166653        | 8470584                   | 9176465                 |
| 14      | 511446        | 3        | 15          | 55      | 1391             | 1486             | 1507             | 9680699        | 9176466                   | 9882347                 |
| 15      | 303438        | 3        | 15          | 60      | 1596             | 1539             | 1907             | 9988521        | 9882348                   | 10588229                |
| 16      | 1013839       | 2        | 10          | 80      | 1821             | 1389             | 0                | 11007402       | 10588230                  | 11294111                |
| 17      | 932519        | 3        | 5           | 85      | 1301             | 1313             | 1606             | 11943131       | 11294112                  | 11999993                |

Total number of pulses in waveform = 36

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## Type 5 Radar Waveform\_13

Waveform Num = 13  
Num of Bursts = 15  
Burst Interval (us)= 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 9364          | 1        | 11          | 70      | 1958             | 0                | 0                | 9364           | 0                         | 799999                  |
| 2       | 1567819       | 1        | 16          | 90      | 1442             | 0                | 0                | 1579141        | 800000                    | 1599999                 |
| 3       | 126202        | 1        | 20          | 80      | 1641             | 0                | 0                | 1706785        | 1600000                   | 2399999                 |
| 4       | 869549        | 1        | 17          | 65      | 1303             | 0                | 0                | 2577975        | 2400000                   | 3199999                 |
| 5       | 1209858       | 3        | 13          | 75      | 1737             | 1352             | 1203             | 3789136        | 3200000                   | 3999999                 |
| 6       | 877404        | 1        | 18          | 75      | 1732             | 0                | 0                | 4670832        | 4000000                   | 4799999                 |
| 7       | 257540        | 3        | 15          | 100     | 1802             | 1746             | 1001             | 4930104        | 4800000                   | 5599999                 |
| 8       | 1312115       | 1        | 14          | 80      | 1629             | 0                | 0                | 6246768        | 5600000                   | 6399999                 |
| 9       | 728905        | 3        | 13          | 90      | 1663             | 1553             | 1154             | 6977202        | 6400000                   | 7199999                 |
| 10      | 636556        | 1        | 9           | 50      | 1842             | 0                | 0                | 7618128        | 7200000                   | 7999999                 |
| 11      | 785681        | 1        | 12          | 80      | 1805             | 0                | 0                | 8405651        | 8000000                   | 8799999                 |
| 12      | 923381        | 3        | 11          | 65      | 1154             | 1965             | 1454             | 9330837        | 8800000                   | 9599999                 |
| 13      | 522750        | 3        | 15          | 90      | 1521             | 1917             | 1760             | 9858160        | 9600000                   | 10399999                |
| 14      | 871943        | 3        | 15          | 60      | 1019             | 1517             | 1228             | 10735301       | 10400000                  | 11199999                |
| 15      | 844226        | 1        | 20          | 75      | 1965             | 0                | 0                | 11583291       | 11200000                  | 11999999                |

Total number of pulses in waveform = 27

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## Type 5 Radar Waveform\_14

Waveform Num = 14  
Num of Bursts = 10  
Burst Interval (us) = 1200000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 222814        | 3        | 7           | 60      | 1885             | 1191             | 1078             | 222814         | 0                         | 1199999                 |
| 2       | 1141228       | 3        | 18          | 70      | 1580             | 1876             | 1278             | 1368196        | 1200000                   | 2399999                 |
| 3       | 2028615       | 2        | 18          | 50      | 1066             | 1689             | 0                | 3401545        | 2400000                   | 3599999                 |
| 4       | 899093        | 1        | 12          | 65      | 1883             | 0                | 0                | 4303393        | 3600000                   | 4799999                 |
| 5       | 885122        | 3        | 12          | 70      | 1055             | 1751             | 1872             | 5190398        | 4800000                   | 5999999                 |
| 6       | 1508786       | 1        | 18          | 70      | 1655             | 0                | 0                | 6703862        | 6000000                   | 7199999                 |
| 7       | 1256945       | 3        | 12          | 60      | 1331             | 1609             | 1991             | 7962462        | 7200000                   | 8399999                 |
| 8       | 1488597       | 1        | 19          | 70      | 1721             | 0                | 0                | 9455990        | 8400000                   | 9599999                 |
| 9       | 796173        | 1        | 8           | 95      | 1343             | 0                | 0                | 10253884       | 9600000                   | 10799999                |
| 10      | 638686        | 1        | 17          | 80      | 1654             | 0                | 0                | 10893893       | 10800000                  | 11999999                |

Total number of pulses in waveform = 19

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## Type 5 Radar Waveform\_15

Waveform Num = 15  
Num of Bursts = 14  
Burst Interval (us) = 857143

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 461513        | 2        | 5           | 80      | 1786             | 1054             | 0                | 461513         | 0                         | 857142                  |
| 2       | 1178158       | 2        | 10          | 85      | 1044             | 1917             | 0                | 1642511        | 857143                    | 1714285                 |
| 3       | 488275        | 3        | 16          | 75      | 1238             | 1662             | 1571             | 2133747        | 1714286                   | 2571428                 |
| 4       | 906697        | 1        | 8           | 75      | 1884             | 0                | 0                | 3044915        | 2571429                   | 3428571                 |
| 5       | 870465        | 3        | 10          | 80      | 1419             | 1889             | 1343             | 3917264        | 3428572                   | 4285714                 |
| 6       | 734095        | 2        | 10          | 85      | 1669             | 1426             | 0                | 4656010        | 4285715                   | 5142857                 |
| 7       | 558211        | 2        | 7           | 95      | 1186             | 1936             | 0                | 5217316        | 5142858                   | 6000000                 |
| 8       | 916970        | 3        | 12          | 85      | 1323             | 1316             | 1948             | 6137408        | 6000001                   | 6857143                 |
| 9       | 1476733       | 2        | 14          | 50      | 1215             | 1123             | 0                | 7618728        | 6857144                   | 7714286                 |
| 10      | 712916        | 3        | 11          | 95      | 1093             | 1099             | 1001             | 8333982        | 7714287                   | 8571429                 |
| 11      | 761975        | 3        | 5           | 60      | 1148             | 1137             | 1848             | 9099150        | 8571430                   | 9428572                 |
| 12      | 760501        | 3        | 9           | 80      | 1475             | 1564             | 1152             | 9863784        | 9428573                   | 10285715                |
| 13      | 712128        | 1        | 20          | 50      | 1453             | 0                | 0                | 10580103       | 10285716                  | 11142858                |
| 14      | 933279        | 3        | 17          | 85      | 1941             | 1510             | 1038             | 11514835       | 11142859                  | 12000001                |

Total number of pulses in waveform = 33

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## Type 5 Radar Waveform\_16

Waveform Num = 16  
Num of Bursts = 20  
Burst Interval (us) = 600000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 426872        | 3        | 5           | 85      | 1309             | 1914             | 1803             | 426872         | 0                         | 599999                  |
| 2       | 414655        | 1        | 11          | 60      | 1759             | 0                | 0                | 846553         | 600000                    | 1199999                 |
| 3       | 933032        | 3        | 18          | 80      | 1974             | 1400             | 1654             | 1781344        | 1200000                   | 1799999                 |
| 4       | 180174        | 3        | 15          | 95      | 1776             | 1495             | 1931             | 1966546        | 1800000                   | 2399999                 |
| 5       | 1008455       | 3        | 16          | 55      | 1963             | 1103             | 1913             | 2980203        | 2400000                   | 2999999                 |
| 6       | 604146        | 3        | 8           | 75      | 1076             | 1434             | 1467             | 3589328        | 3000000                   | 3599999                 |
| 7       | 255927        | 3        | 20          | 85      | 1598             | 1714             | 1902             | 3849232        | 3600000                   | 4199999                 |
| 8       | 564259        | 2        | 8           | 70      | 1110             | 1211             | 0                | 4418705        | 4200000                   | 4799999                 |
| 9       | 497829        | 3        | 15          | 50      | 1653             | 1891             | 1787             | 4918855        | 4800000                   | 5399999                 |
| 10      | 933815        | 3        | 16          | 75      | 1964             | 1041             | 1894             | 5858001        | 5400000                   | 5999999                 |
| 11      | 181790        | 3        | 20          | 50      | 1451             | 1359             | 1668             | 6044690        | 6000000                   | 6599999                 |
| 12      | 787376        | 2        | 5           | 55      | 1575             | 1603             | 0                | 6836544        | 6600000                   | 7199999                 |
| 13      | 729530        | 2        | 17          | 75      | 1285             | 1647             | 0                | 7569252        | 7200000                   | 7799999                 |
| 14      | 428199        | 1        | 17          | 50      | 1683             | 0                | 0                | 8000383        | 7800000                   | 8399999                 |
| 15      | 976056        | 3        | 11          | 50      | 1198             | 1397             | 1212             | 8978122        | 8400000                   | 8999999                 |
| 16      | 230986        | 3        | 5           | 65      | 1743             | 1576             | 1557             | 9212915        | 9000000                   | 9599999                 |
| 17      | 931424        | 1        | 18          | 75      | 1747             | 0                | 0                | 10149215       | 9600000                   | 10199999                |
| 18      | 333824        | 1        | 17          | 80      | 1492             | 0                | 0                | 10484786       | 10200000                  | 10799999                |
| 19      | 425455        | 3        | 7           | 95      | 1380             | 1023             | 1320             | 10911673       | 10800000                  | 11399999                |
| 20      | 867864        | 3        | 9           | 75      | 1131             | 1086             | 1494             | 11783260       | 11400000                  | 11999999                |

Total number of pulses in waveform = 49

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## Type 5 Radar Waveform\_17

Waveform Num = 17  
Num of Bursts = 15  
Burst Interval (us)= 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 564876        | 1        | 17          | 85      | 1011             | 0                | 0                | 564876         | 0                         | 799999                  |
| 2       | 850874        | 2        | 12          | 75      | 1879             | 1074             | 0                | 1416761        | 800000                    | 1599999                 |
| 3       | 373456        | 1        | 17          | 60      | 1900             | 0                | 0                | 1793170        | 1600000                   | 2399999                 |
| 4       | 1251889       | 3        | 13          | 90      | 1330             | 1417             | 1219             | 3046959        | 2400000                   | 3199999                 |
| 5       | 258415        | 2        | 18          | 75      | 1297             | 1240             | 0                | 3309340        | 3200000                   | 3999999                 |
| 6       | 1197836       | 1        | 19          | 80      | 1897             | 0                | 0                | 4509713        | 4000000                   | 4799999                 |
| 7       | 855239        | 3        | 19          | 80      | 1726             | 1088             | 1249             | 5366849        | 4800000                   | 5599999                 |
| 8       | 344028        | 2        | 7           | 90      | 1120             | 1359             | 0                | 5714940        | 5600000                   | 6399999                 |
| 9       | 902558        | 3        | 19          | 85      | 1615             | 1181             | 1130             | 6619977        | 6400000                   | 7199999                 |
| 10      | 1117521       | 1        | 13          | 65      | 1066             | 0                | 0                | 7741424        | 7200000                   | 7999999                 |
| 11      | 681727        | 3        | 16          | 85      | 1563             | 1916             | 1945             | 8424217        | 8000000                   | 8799999                 |
| 12      | 1106095       | 3        | 16          | 55      | 1529             | 1713             | 1278             | 9535736        | 8800000                   | 9599999                 |
| 13      | 656710        | 3        | 12          | 95      | 1170             | 1593             | 1289             | 10196966       | 9600000                   | 10399999                |
| 14      | 514039        | 2        | 9           | 70      | 1429             | 1907             | 0                | 10715057       | 10400000                  | 11199999                |
| 15      | 562072        | 2        | 15          | 95      | 1631             | 1298             | 0                | 11280465       | 11200000                  | 11999999                |

Total number of pulses in waveform = 32

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## Type 5 Radar Waveform\_18

Waveform Num = 18  
Num of Bursts = 8  
Burst Interval (us)= 1500000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 1232314       | 2        | 10          | 75      | 1120             | 1954             | 0                | 1232314        | 0                         | 1499999                 |
| 2       | 1656592       | 2        | 5           | 70      | 1862             | 1386             | 0                | 2891980        | 1500000                   | 2999999                 |
| 3       | 728692        | 3        | 11          | 100     | 1530             | 1307             | 1773             | 3623920        | 3000000                   | 4499999                 |
| 4       | 894487        | 1        | 11          | 85      | 1075             | 0                | 0                | 4523017        | 4500000                   | 5999999                 |
| 5       | 1926886       | 3        | 8           | 90      | 1540             | 1828             | 1302             | 6450978        | 6000000                   | 7499999                 |
| 6       | 2468900       | 3        | 7           | 50      | 1270             | 1385             | 1703             | 8924548        | 7500000                   | 8999999                 |
| 7       | 1545162       | 1        | 5           | 70      | 1463             | 0                | 0                | 10474068       | 9000000                   | 10499999                |
| 8       | 545279        | 3        | 12          | 95      | 1095             | 1850             | 1230             | 11020810       | 10500000                  | 11999999                |

Total number of pulses in waveform = 18

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## Type 5 Radar Waveform\_19

Waveform Num = 19  
Num of Bursts = 20  
Burst Interval (us)= 600000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 152232        | 3        | 7           | 65      | 1856             | 1864             | 1808             | 152232         | 0                         | 599999                  |
| 2       | 1028218       | 2        | 15          | 70      | 1553             | 1216             | 0                | 1185978        | 600000                    | 1199999                 |
| 3       | 46061         | 2        | 11          | 55      | 1858             | 1809             | 0                | 1234808        | 1200000                   | 1799999                 |
| 4       | 1138275       | 2        | 14          | 60      | 1361             | 1297             | 0                | 2376750        | 1800000                   | 2399999                 |
| 5       | 379363        | 2        | 14          | 85      | 1736             | 1694             | 0                | 2758771        | 2400000                   | 2999999                 |
| 6       | 678093        | 3        | 9           | 50      | 1998             | 1026             | 1619             | 3440294        | 3000000                   | 3599999                 |
| 7       | 198793        | 3        | 12          | 75      | 1806             | 1545             | 1045             | 3643730        | 3600000                   | 4199999                 |
| 8       | 898612        | 2        | 15          | 85      | 1276             | 1594             | 0                | 4546738        | 4200000                   | 4799999                 |
| 9       | 776729        | 1        | 6           | 50      | 1801             | 0                | 0                | 5326337        | 4800000                   | 5399999                 |
| 10      | 419658        | 2        | 19          | 100     | 1579             | 1234             | 0                | 5747796        | 5400000                   | 5999999                 |
| 11      | 435111        | 3        | 19          | 55      | 1668             | 1515             | 1968             | 6185720        | 6000000                   | 6599999                 |
| 12      | 733055        | 1        | 11          | 90      | 1359             | 0                | 0                | 6923926        | 6600000                   | 7199999                 |
| 13      | 512829        | 2        | 17          | 85      | 1956             | 1303             | 0                | 7438114        | 7200000                   | 7799999                 |
| 14      | 365921        | 2        | 14          | 90      | 1331             | 1950             | 0                | 7807294        | 7800000                   | 8399999                 |
| 15      | 1030276       | 1        | 15          | 90      | 1639             | 0                | 0                | 8840851        | 8400000                   | 8999999                 |
| 16      | 661834        | 2        | 8           | 60      | 1892             | 1272             | 0                | 9504324        | 9000000                   | 9599999                 |
| 17      | 171023        | 3        | 13          | 85      | 1850             | 1194             | 1073             | 9678511        | 9600000                   | 10199999                |
| 18      | 805993        | 2        | 11          | 75      | 1446             | 1782             | 0                | 10488621       | 10200000                  | 10799999                |
| 19      | 748589        | 2        | 18          | 80      | 1540             | 1245             | 0                | 11240438       | 10800000                  | 11399999                |
| 20      | 161406        | 1        | 10          | 95      | 1165             | 0                | 0                | 11404629       | 11400000                  | 11999999                |

Total number of pulses in waveform = 41

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## Type 5 Radar Waveform\_20

|                                         |               |          |             |         |                  |                  |                  |                |                           |                         |  |
|-----------------------------------------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|--|
| Waveform Num = 20                       |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Num of Bursts = 20                      |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Burst Interval (us) = 600000            |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Burst #                                 | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |  |
| 1                                       | 445723        | 3        | 5           | 70      | 1353             | 1707             | 1399             | 445723         | 0                         | 599999                  |  |
| 2                                       | 393990        | 2        | 16          | 70      | 1786             | 1567             | 0                | 844172         | 600000                    | 1199999                 |  |
| 3                                       | 537271        | 3        | 17          | 75      | 1177             | 1929             | 1088             | 1384796        | 1200000                   | 1799999                 |  |
| 4                                       | 688317        | 3        | 15          | 100     | 1590             | 1269             | 1145             | 2077307        | 1800000                   | 2399999                 |  |
| 5                                       | 647777        | 2        | 6           | 60      | 1558             | 1592             | 0                | 2729088        | 2400000                   | 2999999                 |  |
| 6                                       | 763167        | 3        | 16          | 75      | 1828             | 1248             | 1563             | 3495405        | 3000000                   | 3599999                 |  |
| 7                                       | 552396        | 2        | 7           | 90      | 1728             | 1335             | 0                | 4052440        | 3600000                   | 4199999                 |  |
| 8                                       | 737006        | 2        | 12          | 70      | 1057             | 1281             | 0                | 4792509        | 4200000                   | 4799999                 |  |
| 9                                       | 537960        | 3        | 12          | 80      | 1933             | 1118             | 1966             | 5332807        | 4800000                   | 5399999                 |  |
| 10                                      | 250439        | 2        | 5           | 65      | 1601             | 1567             | 0                | 5585263        | 5400000                   | 5999999                 |  |
| 11                                      | 547276        | 2        | 5           | 50      | 1100             | 1896             | 0                | 6138707        | 6000000                   | 6599999                 |  |
| 12                                      | 495637        | 3        | 14          | 75      | 1122             | 1200             | 1575             | 6637340        | 6600000                   | 7199999                 |  |
| 13                                      | 665964        | 2        | 15          | 55      | 1965             | 1388             | 0                | 7307201        | 7200000                   | 7799999                 |  |
| 14                                      | 543911        | 3        | 10          | 55      | 1348             | 1998             | 1949             | 7854465        | 7800000                   | 8399999                 |  |
| 15                                      | 1076079       | 2        | 11          | 75      | 1679             | 1687             | 0                | 8935839        | 8400000                   | 8999999                 |  |
| 16                                      | 582560        | 1        | 7           | 60      | 1679             | 0                | 0                | 9521765        | 9000000                   | 9599999                 |  |
| 17                                      | 476267        | 1        | 14          | 75      | 1603             | 0                | 0                | 9998701        | 9600000                   | 10199999                |  |
| 18                                      | 731204        | 1        | 9           | 60      | 1202             | 0                | 0                | 10731508       | 10200000                  | 10799999                |  |
| 19                                      | 222959        | 3        | 15          | 65      | 1156             | 1601             | 1806             | 10955669       | 10800000                  | 11399999                |  |
| 20                                      | 602800        | 2        | 13          | 55      | 1960             | 1828             | 0                | 11563032       | 11400000                  | 11999999                |  |
| Total number of pulses in waveform = 45 |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| *****                                   |               |          |             |         |                  |                  |                  |                |                           |                         |  |

## Type 5 Radar Waveform\_21

|                                         |               |          |             |         |                  |                  |                  |                |                           |                         |  |
|-----------------------------------------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|--|
| Waveform Num = 21                       |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Num of Bursts = 20                      |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Burst Interval (us) = 600000            |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Burst #                                 | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |  |
| 1                                       | 320573        | 2        | 6           | 95      | 1783             | 1102             | 0                | 320573         | 0                         | 599999                  |  |
| 2                                       | 805897        | 1        | 13          | 55      | 1965             | 0                | 0                | 1129355        | 600000                    | 1199999                 |  |
| 3                                       | 590878        | 1        | 10          | 100     | 1202             | 0                | 0                | 1722198        | 1200000                   | 1799999                 |  |
| 4                                       | 572766        | 3        | 11          | 60      | 1545             | 1636             | 1470             | 2296166        | 1800000                   | 2399999                 |  |
| 5                                       | 612494        | 2        | 12          | 60      | 1724             | 1396             | 0                | 2913311        | 2400000                   | 2999999                 |  |
| 6                                       | 247560        | 3        | 10          | 75      | 1623             | 1327             | 1558             | 3163991        | 3000000                   | 3599999                 |  |
| 7                                       | 823719        | 2        | 8           | 85      | 1300             | 1181             | 0                | 3992218        | 3600000                   | 4199999                 |  |
| 8                                       | 330288        | 1        | 17          | 75      | 1715             | 0                | 0                | 4324987        | 4200000                   | 4799999                 |  |
| 9                                       | 1021305       | 2        | 10          | 55      | 1052             | 1978             | 0                | 5348007        | 4800000                   | 5399999                 |  |
| 10                                      | 564602        | 3        | 17          | 100     | 1248             | 1006             | 1358             | 5915639        | 5400000                   | 5999999                 |  |
| 11                                      | 260710        | 2        | 18          | 90      | 1071             | 1333             | 0                | 6179961        | 6000000                   | 6599999                 |  |
| 12                                      | 557693        | 1        | 19          | 95      | 1687             | 0                | 0                | 6740058        | 6600000                   | 7199999                 |  |
| 13                                      | 767574        | 1        | 20          | 70      | 1316             | 0                | 0                | 7509319        | 7200000                   | 7799999                 |  |
| 14                                      | 413826        | 3        | 8           | 70      | 1064             | 1973             | 1528             | 7924461        | 7800000                   | 8399999                 |  |
| 15                                      | 1035839       | 2        | 20          | 55      | 1391             | 1840             | 0                | 8964865        | 8400000                   | 8999999                 |  |
| 16                                      | 38060         | 1        | 19          | 95      | 1477             | 0                | 0                | 9006156        | 9000000                   | 9599999                 |  |
| 17                                      | 1013381       | 2        | 5           | 100     | 1794             | 1786             | 0                | 10021014       | 9600000                   | 10199999                |  |
| 18                                      | 355458        | 3        | 7           | 100     | 1875             | 1929             | 1995             | 10380052       | 10200000                  | 10799999                |  |
| 19                                      | 840530        | 1        | 8           | 85      | 1948             | 0                | 0                | 11226381       | 10800000                  | 11399999                |  |
| 20                                      | 624014        | 1        | 10          | 70      | 1335             | 0                | 0                | 11852343       | 11400000                  | 11999999                |  |
| Total number of pulses in waveform = 37 |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| *****                                   |               |          |             |         |                  |                  |                  |                |                           |                         |  |

## Type 5 Radar Waveform\_22

|                                         |               |          |             |         |                  |                  |                  |                |                           |                         |  |
|-----------------------------------------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|--|
| Waveform Num = 22                       |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Num of Bursts = 16                      |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Burst Interval (us) = 750000            |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| Burst #                                 | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |  |
| 1                                       | 555276        | 3        | 19          | 55      | 1600             | 1815             | 1780             | 555276         | 0                         | 749999                  |  |
| 2                                       | 228765        | 1        | 20          | 80      | 1376             | 0                | 0                | 789236         | 750000                    | 1499999                 |  |
| 3                                       | 894061        | 2        | 12          | 70      | 1305             | 1805             | 0                | 1684673        | 1500000                   | 2249999                 |  |
| 4                                       | 603997        | 3        | 13          | 75      | 1628             | 1868             | 1836             | 2291780        | 2250000                   | 2999999                 |  |
| 5                                       | 1167741       | 2        | 16          | 65      | 1386             | 1193             | 0                | 3464853        | 3000000                   | 3749999                 |  |
| 6                                       | 378799        | 3        | 12          | 85      | 1543             | 1168             | 1738             | 3846231        | 3750000                   | 4499999                 |  |
| 7                                       | 1018974       | 2        | 12          | 100     | 1486             | 1846             | 0                | 4869654        | 4500000                   | 5249999                 |  |
| 8                                       | 543827        | 2        | 18          | 65      | 1700             | 1216             | 0                | 5416813        | 5250000                   | 5999999                 |  |
| 9                                       | 602892        | 1        | 7           | 95      | 1663             | 0                | 0                | 6022621        | 6000000                   | 6749999                 |  |
| 10                                      | 909949        | 2        | 10          | 70      | 1604             | 1741             | 0                | 6934233        | 6750000                   | 7499999                 |  |
| 11                                      | 1200235       | 2        | 13          | 60      | 1031             | 1227             | 0                | 8137813        | 7500000                   | 8249999                 |  |
| 12                                      | 624577        | 1        | 9           | 95      | 1047             | 0                | 0                | 8764648        | 8250000                   | 8999999                 |  |
| 13                                      | 286673        | 1        | 7           | 60      | 1550             | 0                | 0                | 9052368        | 9000000                   | 9749999                 |  |
| 14                                      | 881386        | 1        | 12          | 85      | 1029             | 0                | 0                | 9935304        | 9750000                   | 10499999                |  |
| 15                                      | 696915        | 3        | 15          | 85      | 1594             | 1756             | 1817             | 10633248       | 10500000                  | 11249999                |  |
| 16                                      | 1033265       | 3        | 5           | 85      | 1848             | 1671             | 1598             | 11671680       | 11250000                  | 11999999                |  |
| Total number of pulses in waveform = 32 |               |          |             |         |                  |                  |                  |                |                           |                         |  |
| *****                                   |               |          |             |         |                  |                  |                  |                |                           |                         |  |



## Type 5 Radar Waveform\_23

Waveform Num = 23  
Num of Bursts = 9  
Burst Interval (us)= 1333333

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 1070519       | 1        | 13          | 100     | 1723             | 0                | 0                | 1070519        | 0                         | 1333332                 |
| 2       | 659700        | 2        | 19          | 90      | 1915             | 1735             | 0                | 1731942        | 1333333                   | 2666665                 |
| 3       | 1500246       | 3        | 14          | 65      | 1021             | 1395             | 1253             | 3235838        | 2666666                   | 3999998                 |
| 4       | 1612704       | 2        | 7           | 80      | 1671             | 1533             | 0                | 4852211        | 3999999                   | 5333331                 |
| 5       | 1519804       | 3        | 8           | 85      | 1324             | 1690             | 1200             | 6375219        | 5333332                   | 6666664                 |
| 6       | 1290946       | 3        | 13          | 75      | 1579             | 1338             | 1827             | 7670379        | 6666665                   | 7999997                 |
| 7       | 746006        | 3        | 16          | 65      | 1274             | 1285             | 1948             | 8421129        | 7999998                   | 9333330                 |
| 8       | 2090114       | 3        | 11          | 85      | 1375             | 1172             | 1031             | 10515750       | 9333331                   | 10666663                |
| 9       | 637294        | 2        | 5           | 65      | 1342             | 1092             | 0                | 11156622       | 10666664                  | 11999996                |

Total number of pulses in waveform = 22

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## Type 5 Radar Waveform\_24

Waveform Num = 24  
Num of Bursts = 17  
Burst Interval (us)= 705882

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 74676         | 1        | 6           | 75      | 1692             | 0                | 0                | 74676          | 0                         | 705881                  |
| 2       | 984262        | 3        | 18          | 100     | 1558             | 1081             | 1242             | 1060630        | 705882                    | 1411763                 |
| 3       | 378445        | 2        | 17          | 65      | 1816             | 1031             | 0                | 1442956        | 1411764                   | 2117645                 |
| 4       | 1276417       | 3        | 13          | 90      | 1337             | 1506             | 1369             | 2722220        | 2117646                   | 2823527                 |
| 5       | 422308        | 2        | 13          | 60      | 1679             | 1405             | 0                | 3148740        | 2823528                   | 3529409                 |
| 6       | 650364        | 2        | 18          | 85      | 1107             | 1004             | 0                | 3802188        | 3529410                   | 4235291                 |
| 7       | 1026374       | 2        | 10          | 75      | 1872             | 1511             | 0                | 4830673        | 4235292                   | 4941173                 |
| 8       | 327430        | 1        | 7           | 55      | 1558             | 0                | 0                | 5161486        | 4941174                   | 5647055                 |
| 9       | 546546        | 1        | 11          | 95      | 1381             | 0                | 0                | 5709590        | 5647056                   | 6352937                 |
| 10      | 1231146       | 3        | 13          | 70      | 1295             | 1768             | 1490             | 6942117        | 6352938                   | 7058819                 |
| 11      | 480360        | 2        | 7           | 50      | 1926             | 1952             | 0                | 7427030        | 7058820                   | 7764701                 |
| 12      | 650397        | 2        | 8           | 65      | 1381             | 1760             | 0                | 8081305        | 7764702                   | 8470583                 |
| 13      | 1059541       | 1        | 12          | 55      | 1847             | 0                | 0                | 9143987        | 8470584                   | 9176465                 |
| 14      | 204019        | 3        | 15          | 65      | 1118             | 1897             | 1813             | 9349853        | 9176466                   | 9882347                 |
| 15      | 537187        | 2        | 6           | 90      | 1254             | 1461             | 0                | 9891868        | 9882348                   | 10588229                |
| 16      | 1217580       | 2        | 12          | 75      | 1162             | 1289             | 0                | 11112163       | 10588230                  | 11294111                |
| 17      | 826226        | 1        | 13          | 85      | 1558             | 0                | 0                | 11940840       | 11294112                  | 11999993                |

Total number of pulses in waveform = 33

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## Type 5 Radar Waveform\_25

Waveform Num = 25  
Num of Bursts = 13  
Burst Interval (us)= 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 746930        | 3        | 12          | 80      | 1146             | 1302             | 1557             | 746930         | 0                         | 923076                  |
| 2       | 346330        | 2        | 7           | 65      | 1041             | 1449             | 0                | 1097265        | 923077                    | 1846153                 |
| 3       | 1063214       | 1        | 14          | 60      | 1019             | 0                | 0                | 2162969        | 1846154                   | 2769230                 |
| 4       | 1075740       | 2        | 14          | 85      | 1557             | 1799             | 0                | 3239728        | 2769231                   | 3692307                 |
| 5       | 620870        | 3        | 18          | 60      | 1562             | 1170             | 1110             | 3863954        | 3692308                   | 4615384                 |
| 6       | 921289        | 3        | 14          | 80      | 1938             | 1312             | 1449             | 4789085        | 4615385                   | 5538461                 |
| 7       | 1459465       | 3        | 11          | 60      | 1922             | 1673             | 1237             | 6253249        | 5538462                   | 6461538                 |
| 8       | 613022        | 2        | 6           | 100     | 1190             | 1745             | 0                | 6871103        | 6461539                   | 7384615                 |
| 9       | 1139999       | 3        | 14          | 95      | 1285             | 1829             | 1466             | 8014037        | 7384616                   | 8307692                 |
| 10      | 1101558       | 3        | 12          | 50      | 1876             | 1111             | 1269             | 9120175        | 8307693                   | 9230769                 |
| 11      | 743990        | 3        | 11          | 65      | 1206             | 1242             | 1574             | 9868421        | 9230770                   | 10153846                |
| 12      | 706623        | 3        | 15          | 60      | 1539             | 1078             | 1868             | 10579066       | 10153847                  | 11076923                |
| 13      | 667102        | 1        | 20          | 80      | 1444             | 0                | 0                | 11250653       | 11076924                  | 12000000                |

Total number of pulses in waveform = 32

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## Type 5 Radar Waveform\_26

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Waveform Num = 26
Num of Bursts = 20
Burst Interval (us)= 600000
Burst # Off Time (us) # Pulses Chirp (MHz) PW (us) Pulse 1 Pri (us) Pulse 2 Pri (us) Pulse 3 Pri (us) Start Loc (us) Start Burst Interval (us) End Burst Interval (us)
1 431524 3 7 95 1348 1895 1632 431524 0 599999
2 618699 1 10 60 1097 0 0 1055098 600000 1199999
3 415022 1 17 70 1201 0 0 1471217 1200000 1799999
4 910154 2 7 50 1618 1339 0 2382572 1800000 2399999
5 118703 2 10 65 1953 1783 0 2504232 2400000 2999999
6 893693 2 9 60 1753 1312 0 3401661 3000000 3599999
7 224606 1 20 50 1808 0 0 3629332 3600000 4199999
8 903448 2 7 55 1098 1531 0 4534588 4200000 4799999
9 474097 3 7 70 1056 1422 1965 5011314 4800000 5399999
10 916772 1 12 80 1581 0 0 5932529 5400000 5999999
11 213238 1 5 55 1546 0 0 6147348 6000000 6599999
12 787876 2 9 95 1580 1861 0 6936770 6600000 7199999
13 792383 1 12 65 1712 0 0 7732594 7200000 7799999
14 291260 1 1449 5 70 1449 0 0 8025566 7800000 8399999
15 700354 2 14 60 1587 1518 0 8727369 8400000 8999999
16 549602 1 14 60 1805 0 0 9487455 9000000 9599999
17 549602 3 5 100 1477 1696 1281 10038862 9600000 10199999
18 186296 3 7 95 1529 1171 1778 10229612 10200000 10799999
19 1062895 3 13 70 1044 1524 1086 11296985 10800000 11399999
20 439522 3 10 100 1167 1075 1980 11740161 11400000 11999999
Total number of pulses in waveform = 38
*****
```

## Type 5 Radar Waveform\_27

```
Waveform Num = 27
Num of Bursts = 12
Burst Interval (us)= 1000000
Burst # Off Time (us) # Pulses Chirp (MHz) PW (us) Pulse 1 Pri (us) Pulse 2 Pri (us) Pulse 3 Pri (us) Start Loc (us) Start Burst Interval (us) End Burst Interval (us)
1 178075 1 15 50 1515 0 0 178075 0 999999
2 1004369 3 14 90 1468 1626 1917 1183959 1000000 1999999
3 1371656 2 11 90 1961 1331 0 2560626 2000000 2999999
4 1121494 1 14 90 1700 0 0 3685412 3000000 3999999
5 857770 2 15 95 1700 1193 0 4544882 4000000 4999999
6 657043 3 15 55 1119 1045 1033 5204818 5000000 5999999
7 1190944 3 17 60 1705 1542 1100 6398959 6000000 6999999
8 1565590 1 10 90 1228 0 0 7968896 7000000 7999999
9 859316 2 7 100 1700 1886 0 8829440 8000000 8999999
10 738694 2 14 60 1945 1039 0 9571720 9000000 9999999
11 783307 1 13 50 1648 0 0 10358011 10000000 10999999
12 1586614 1 19 80 1802 0 0 11946273 11000000 11999999
Total number of pulses in waveform = 22
*****
```

## Type 5 Radar Waveform\_28

```
Waveform Num = 28
Num of Bursts = 16
Burst Interval (us)= 750000
Burst # Off Time (us) # Pulses Chirp (MHz) PW (us) Pulse 1 Pri (us) Pulse 2 Pri (us) Pulse 3 Pri (us) Start Loc (us) Start Burst Interval (us) End Burst Interval (us)
1 297056 3 16 90 1361 1890 1423 297056 0 749999
2 979066 3 11 70 1863 1242 1602 1280796 750000 1499999
3 319174 3 16 50 1949 1256 1813 1604677 1500000 2249999
4 1236387 3 14 50 1245 1568 1578 2846082 2250000 2999999
5 892603 3 11 85 1948 1248 1744 3743076 3000000 3749999
6 28298 1 7 65 1718 0 0 3776314 3750000 4499999
7 1211179 3 13 90 1789 1360 1425 4989211 4500000 5249999
8 984168 3 20 60 1692 1538 1865 5977923 5250000 5999999
9 536651 1 13 80 1658 0 0 6519669 6000000 6749999
10 357872 1 17 50 1774 0 0 6879199 6750000 7499999
11 971127 1 17 60 1100 0 0 7852100 7500000 8249999
12 655541 1 5 70 1912 0 0 8508741 8250000 8999999
13 1030067 3 17 100 1947 1383 1816 9540720 9000000 9749999
14 869917 1 18 70 1410 0 0 10415783 9750000 10499999
15 712452 3 15 75 1364 1208 1850 11129645 10500000 11249999
16 282742 3 6 50 1310 1844 1845 11416809 11250000 11999999
Total number of pulses in waveform = 36
*****
```



## Type 5 Radar Waveform\_29

Waveform Num = 29  
Num of Bursts = 15  
Burst Interval (us) = 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 710808        | 3        | 17          | 85      | 1825             | 1590             | 1407             | 710808         | 0                         | 799999                  |
| 2       | 293023        | 3        | 16          | 100     | 1489             | 1953             | 1643             | 1008623        | 800000                    | 1599999                 |
| 3       | 1043552       | 2        | 18          | 60      | 1852             | 1888             | 0                | 2057250        | 1600000                   | 2399999                 |
| 4       | 396378        | 3        | 6           | 70      | 1532             | 1717             | 1350             | 2457378        | 2400000                   | 3199999                 |
| 5       | 1393872       | 2        | 8           | 50      | 1723             | 1780             | 0                | 3855849        | 3200000                   | 3999999                 |
| 6       | 340297        | 3        | 17          | 100     | 1627             | 1217             | 1435             | 4199649        | 4000000                   | 4799999                 |
| 7       | 1346514       | 1        | 15          | 95      | 1067             | 0                | 0                | 5550442        | 4800000                   | 5599999                 |
| 8       | 400534        | 2        | 16          | 90      | 1423             | 1147             | 0                | 5952043        | 5600000                   | 6399999                 |
| 9       | 961679        | 2        | 16          | 80      | 1645             | 1009             | 0                | 6916292        | 6400000                   | 7199999                 |
| 10      | 572622        | 2        | 20          | 55      | 1650             | 1944             | 0                | 7491568        | 7200000                   | 7999999                 |
| 11      | 565743        | 2        | 20          | 80      | 1160             | 1623             | 0                | 8060905        | 8000000                   | 8799999                 |
| 12      | 1219240       | 1        | 19          | 55      | 1455             | 0                | 0                | 9282928        | 8800000                   | 9599999                 |
| 13      | 803682        | 3        | 8           | 75      | 1176             | 1593             | 1176             | 10088065       | 9600000                   | 10399999                |
| 14      | 434612        | 3        | 13          | 60      | 1947             | 1240             | 1416             | 10526622       | 10400000                  | 11199999                |
| 15      | 1225234       | 3        | 7           | 70      | 1229             | 1763             | 1052             | 11756459       | 11200000                  | 11999999                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_30

Waveform Num = 30  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 758249        | 3        | 19          | 50      | 1383             | 1830             | 1770             | 185715         | 0                         | 631578                  |
| 2       | 185715        | 1        | 8           | 65      | 1930             | 0                | 0                | 948947         | 631579                    | 1263157                 |
| 3       | 769917        | 2        | 20          | 95      | 1405             | 1428             | 0                | 1720794        | 1263158                   | 1894736                 |
| 4       | 246765        | 3        | 14          | 80      | 1227             | 1380             | 1493             | 1970392        | 1894737                   | 2526315                 |
| 5       | 656963        | 1        | 18          | 65      | 1921             | 0                | 0                | 2631455        | 2526316                   | 3157894                 |
| 6       | 1121804       | 2        | 9           | 55      | 1005             | 1261             | 0                | 3755180        | 3157895                   | 3789473                 |
| 7       | 71188         | 1        | 11          | 55      | 1312             | 0                | 0                | 3828634        | 3789474                   | 4421052                 |
| 8       | 640835        | 1        | 13          | 80      | 1598             | 0                | 0                | 4470781        | 4421053                   | 5052631                 |
| 9       | 996419        | 1        | 11          | 55      | 1206             | 0                | 0                | 5468798        | 5052632                   | 5684210                 |
| 10      | 440641        | 3        | 18          | 75      | 1822             | 1132             | 1315             | 5910645        | 5684211                   | 6315789                 |
| 11      | 468620        | 2        | 5           | 90      | 1588             | 1486             | 0                | 6383534        | 6315790                   | 6947368                 |
| 12      | 1011000       | 3        | 5           | 100     | 1481             | 1945             | 1193             | 7397608        | 6947369                   | 7578947                 |
| 13      | 713487        | 3        | 11          | 100     | 1105             | 1963             | 1029             | 8115714        | 7578948                   | 8210526                 |
| 14      | 657112        | 2        | 16          | 65      | 1516             | 1170             | 0                | 8776923        | 8210527                   | 8842105                 |
| 15      | 194515        | 1        | 7           | 75      | 1288             | 0                | 0                | 8974124        | 8842106                   | 9473684                 |
| 16      | 994084        | 2        | 7           | 85      | 1261             | 1290             | 0                | 9969496        | 9473685                   | 10105263                |
| 17      | 432948        | 3        | 5           | 95      | 1695             | 1010             | 1937             | 10404995       | 10105264                  | 10736842                |
| 18      | 516913        | 1        | 5           | 85      | 1168             | 0                | 0                | 10926550       | 10736843                  | 11368421                |
| 19      | 715724        | 3        | 14          | 80      | 1423             | 1804             | 1378             | 11643442       | 11368422                  | 12000000                |

Total number of pulses in waveform = 38

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# Radar Type 6 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection | Trail # | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|-------------------------------|---------|---------------------|-------------------------------|
| 1                        | 5292                | 0                             | 16      | 5311                | 1                             |
| 2                        | 5293                | 1                             | 17      | 5312                | 1                             |
| 3                        | 5294                | 1                             | 18      | 5313                | 1                             |
| 4                        | 5296                | 1                             | 19      | 5314                | 1                             |
| 5                        | 5297                | 1                             | 20      | 5315                | 1                             |
| 6                        | 5298                | 1                             | 21      | 5317                | 1                             |
| 7                        | 5299                | 1                             | 22      | 5319                | 1                             |
| 8                        | 5300                | 1                             | 23      | 5321                | 1                             |
| 9                        | 5303                | 1                             | 24      | 5323                | 1                             |
| 10                       | 5305                | 1                             | 25      | 5325                | 1                             |
| 11                       | 5306                | 1                             | 26      | 5327                | 1                             |
| 12                       | 5307                | 1                             | 27      | 5328                | 1                             |
| 13                       | 5308                | 1                             | 28      | 5328                | 1                             |
| 14                       | 5309                | 1                             | 29      | 5329                | 1                             |
| 15                       | 5310                | 1                             | 30      | 5330                | 1                             |
| Detection Percentage (%) |                     |                               |         |                     | 100%                          |

| Radar waveform #1 |                 |                  | Radar waveform #2 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 2                 | 5305            | 6                | 8                 | 5307            | 24               |
| 3                 | 5263            | 9                | 11                | 5279            | 33               |
| 5                 | 5277            | 15               | 16                | 5322            | 48               |
| 9                 | 5290            | 27               | 21                | 5323            | 63               |
| 13                | 5288            | 39               | 23                | 5298            | 69               |
| 21                | 5302            | 63               | 38                | 5302            | 114              |
| 33                | 5278            | 99               | 57                | 5290            | 171              |
| 40                | 5292            | 120              | 65                | 5314            | 195              |
| 58                | 5269            | 174              | 68                | 5291            | 204              |
| 81                | 5276            | 243              | 69                | 5295            | 207              |
| --                | --              | --               | 82                | 5263            | 246              |
| --                | --              | --               | 93                | 5280            | 279              |

| Radar waveform #3 |                 |                  | Radar waveform #4 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 6                 | 5267            | 18               | 16                | 5318            | 48               |
| 11                | 5293            | 33               | 22                | 5313            | 66               |
| 27                | 5314            | 81               | 24                | 5286            | 72               |
| 37                | 5301            | 111              | 38                | 5323            | 114              |
| 39                | 5302            | 117              | 47                | 5316            | 141              |
| 64                | 5284            | 192              | 50                | 5306            | 150              |
| 67                | 5268            | 201              | 54                | 5288            | 162              |
| 83                | 5320            | 249              | 56                | 5326            | 168              |
| 96                | 5299            | 288              | 73                | 5285            | 219              |
| --                | --              | --               | 74                | 5310            | 222              |
| --                | --              | --               | 78                | 5324            | 234              |

| Radar waveform #5 |                 |                  | Radar waveform #6 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 0                 | 5276            | 0                | 0                 | 5302            | 0                |
| 12                | 5322            | 36               | 8                 | 5280            | 24               |
| 13                | 5289            | 39               | 12                | 5291            | 36               |
| 14                | 5292            | 42               | 21                | 5309            | 63               |
| 17                | 5290            | 51               | 25                | 5294            | 75               |
| 18                | 5293            | 54               | 39                | 5274            | 117              |
| 24                | 5319            | 72               | 44                | 5328            | 132              |
| 27                | 5277            | 81               | 48                | 5279            | 144              |
| 36                | 5318            | 108              | 49                | 5318            | 147              |
| 41                | 5273            | 123              | 50                | 5331            | 150              |
| 75                | 5325            | 225              | 55                | 5322            | 165              |
| --                | --              | --               | 91                | 5293            | 273              |
| --                | --              | --               | 93                | 5320            | 279              |
| --                | --              | --               | 99                | 5316            | 297              |

| Radar waveform #7 |                 |                  | Radar waveform #8 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 11                | 5282            | 33               | 6                 | 5321            | 18               |
| 23                | 5294            | 69               | 35                | 5298            | 105              |
| 32                | 5273            | 96               | 40                | 5290            | 120              |
| 39                | 5323            | 117              | 41                | 5315            | 123              |
| 47                | 5298            | 141              | 42                | 5307            | 126              |
| 53                | 5278            | 159              | 51                | 5303            | 153              |
| 62                | 5289            | 186              | 65                | 5276            | 195              |
| 68                | 5281            | 204              | 68                | 5282            | 204              |
| 69                | 5316            | 207              | 70                | 5295            | 210              |
| 70                | 5292            | 210              | 75                | 5333            | 225              |
| 76                | 5321            | 228              | 79                | 5302            | 237              |
| 79                | 5300            | 237              | 83                | 5323            | 249              |
| 80                | 5295            | 240              | --                | --              | --               |
| 83                | 5312            | 249              | --                | --              | --               |
| 87                | 5331            | 261              | --                | --              | --               |
| 88                | 5275            | 264              | --                | --              | --               |
| 89                | 5283            | 267              | --                | --              | --               |
| 93                | 5318            | 279              | --                | --              | --               |
| 97                | 5277            | 291              | --                | --              | --               |

| Radar waveform #9 |                 |                  | Radar waveform #10 |                 |                  |
|-------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 9                 | 5328            | 36               | 3                  | 5331            | 9                |
| 15                | 5309            | 60               | 9                  | 5324            | 27               |
| 29                | 5308            | 116              | 18                 | 5302            | 54               |
| 38                | 5295            | 152              | 31                 | 5335            | 93               |
| 41                | 5323            | 164              | 48                 | 5283            | 144              |
| 42                | 5316            | 168              | 49                 | 5312            | 147              |
| 44                | 5288            | 176              | 50                 | 5226            | 150              |
| 72                | 5310            | 288              | 52                 | 5310            | 156              |
| 88                | 5287            | 352              | 72                 | 5278            | 216              |
| 95                | 5335            | 380              | 92                 | 5298            | 276              |
| 96                | 5314            | 384              | 93                 | 5308            | 279              |

| Radar waveform #11 |                 |                  | Radar waveform #12 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 3                  | 5317            | 9                | 3                  | 5289            | 9                |
| 13                 | 5290            | 39               | 9                  | 5297            | 27               |
| 17                 | 5313            | 51               | 16                 | 5300            | 48               |
| 18                 | 5330            | 54               | 17                 | 5335            | 51               |
| 43                 | 5311            | 129              | 24                 | 5312            | 72               |
| 47                 | 5280            | 141              | 37                 | 5320            | 111              |
| 48                 | 5303            | 144              | 51                 | 5287            | 153              |
| 52                 | 5298            | 156              | 53                 | 5290            | 159              |
| 55                 | 5321            | 165              | 55                 | 5319            | 165              |
| 56                 | 5318            | 168              | 65                 | 5321            | 195              |
| 60                 | 5289            | 180              | 68                 | 5286            | 204              |
| 61                 | 5277            | 183              | 70                 | 5332            | 210              |
| 67                 | 5294            | 201              | 77                 | 5325            | 231              |
| 68                 | 5281            | 204              | 88                 | 5296            | 264              |
| 70                 | 5324            | 210              | --                 | --              | --               |
| 80                 | 5312            | 240              | --                 | --              | --               |
| 89                 | 5325            | 267              | --                 | --              | --               |

| Radar waveform #13 |                 |                  | Radar waveform #14 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 0                  | 5319            | 0                | 22                 | 5297            | 66               |
| 6                  | 5297            | 18               | 34                 | 5313            | 102              |
| 10                 | 5321            | 30               | 50                 | 5332            | 150              |
| 12                 | 5289            | 36               | 59                 | 5305            | 177              |
| 17                 | 5315            | 51               | 63                 | 5323            | 189              |
| 20                 | 5305            | 60               | 69                 | 5285            | 207              |
| 30                 | 5291            | 90               | 76                 | 5299            | 228              |
| 37                 | 5318            | 111              | 78                 | 5340            | 234              |
| 63                 | 5304            | 189              | 83                 | 5321            | 249              |
| 67                 | 5316            | 201              | 90                 | 5281            | 270              |
| 73                 | 5299            | 219              | 94                 | 5309            | 282              |
| 82                 | 5332            | 246              | 96                 | 5334            | 288              |
| 93                 | 5335            | 279              | 99                 | 5301            | 297              |
| 95                 | 5289            | 285              | --                 | --              | --               |

| Radar waveform #15 |                 |                  | Radar waveform #16 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 8                  | 5287            | 24               | 1                  | 5331            | 3                |
| 11                 | 5282            | 33               | 7                  | 5319            | 21               |
| 18                 | 5295            | 54               | 8                  | 5301            | 24               |
| 19                 | 5338            | 57               | 17                 | 5292            | 51               |
| 25                 | 5296            | 75               | 18                 | 5311            | 54               |
| 29                 | 5290            | 87               | 22                 | 5304            | 66               |
| 30                 | 5332            | 90               | 39                 | 5330            | 117              |
| 37                 | 5302            | 111              | 64                 | 5320            | 192              |
| 40                 | 5301            | 120              | 74                 | 5286            | 222              |
| 49                 | 5316            | 147              | 83                 | 5323            | 249              |
| 50                 | 5305            | 150              | 87                 | 5299            | 261              |
| 57                 | 5303            | 171              | 91                 | 5288            | 273              |
| 77                 | 5341            | 231              | 97                 | 5341            | 291              |
| --                 | --              | --               | 99                 | 5287            | 297              |

| Radar waveform #17 |                 |                  | Radar waveform #18 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 3                  | 5283            | 9                | 11                 | 5310            | 33               |
| 4                  | 5305            | 12               | 12                 | 5294            | 36               |
| 11                 | 5334            | 33               | 32                 | 5323            | 96               |
| 14                 | 5309            | 42               | 37                 | 5327            | 111              |
| 24                 | 5322            | 72               | 41                 | 5321            | 123              |
| 25                 | 5323            | 75               | 45                 | 5306            | 135              |
| 28                 | 5315            | 84               | 72                 | 5319            | 216              |
| 32                 | 5299            | 96               | 75                 | 5305            | 225              |
| 35                 | 5335            | 105              | 76                 | 5322            | 228              |
| 44                 | 5291            | 132              | 80                 | 5339            | 240              |
| 48                 | 5310            | 144              | 84                 | 5330            | 252              |
| 64                 | 5316            | 192              | 94                 | 5291            | 282              |
| 70                 | 5284            | 210              | 98                 | 5344            | 294              |
| 82                 | 5306            | 246              | --                 | --              | --               |
| 84                 | 5317            | 252              | --                 | --              | --               |
| 88                 | 5303            | 264              | --                 | --              | --               |
| 91                 | 5307            | 273              | --                 | --              | --               |
| 95                 | 5336            | 285              | --                 | --              | --               |
| 99                 | 5287            | 297              | --                 | --              | --               |

| Radar waveform #19 |                 |                  | Radar waveform #20 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 9                  | 5312            | 27               | 3                  | 5296            | 9                |
| 17                 | 5333            | 51               | 56                 | 5324            | 168              |
| 32                 | 5324            | 96               | 72                 | 5300            | 216              |
| 39                 | 5310            | 117              | 79                 | 5327            | 237              |
| 50                 | 5307            | 150              | 84                 | 5343            | 252              |
| 62                 | 5305            | 186              | 89                 | 5303            | 267              |
| 73                 | 5328            | 219              | 91                 | 5297            | 273              |
| 91                 | 5336            | 273              | --                 | --              | --               |

| Radar waveform #21 |                 |                  | Radar waveform #22 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 3                  | 5333            | 9                | 14                 | 5329            | 42               |
| 15                 | 5342            | 45               | 15                 | 5300            | 45               |
| 22                 | 5337            | 66               | 23                 | 5296            | 69               |
| 32                 | 5327            | 96               | 28                 | 5333            | 84               |
| 34                 | 5321            | 102              | 35                 | 5313            | 105              |
| 42                 | 5325            | 126              | 42                 | 5349            | 126              |
| 55                 | 5291            | 165              | 49                 | 5343            | 147              |
| 66                 | 5305            | 198              | 54                 | 5324            | 162              |
| 71                 | 5343            | 213              | 59                 | 5339            | 177              |
| 80                 | 5307            | 240              | 88                 | 5293            | 264              |
| 94                 | 5302            | 282              | --                 | --              | --               |
| 95                 | 5298            | 285              | --                 | --              | --               |
| 97                 | 5309            | 291              | --                 | --              | --               |
| 99                 | 5349            | 297              | --                 | --              | --               |

| Radar waveform #23 |                 |                  | Radar waveform #24 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 5                  | 5319            | 15               | 4                  | 5323            | 12               |
| 9                  | 5309            | 27               | 17                 | 5345            | 51               |
| 1                  | 5348            | 3                | 23                 | 5326            | 69               |
| 36                 | 5310            | 108              | 26                 | 5303            | 78               |
| 43                 | 5350            | 129              | 27                 | 5327            | 81               |
| 45                 | 5336            | 135              | 53                 | 5346            | 159              |
| 53                 | 5315            | 159              | 62                 | 5348            | 186              |
| 61                 | 5313            | 183              | 67                 | 5298            | 201              |
| 66                 | 5304            | 198              | 82                 | 5307            | 246              |
| 67                 | 5308            | 201              | 83                 | 5312            | 249              |
| 71                 | 5329            | 213              | 89                 | 5300            | 267              |
| 77                 | 5302            | 231              | 92                 | 5343            | 276              |
| 80                 | 5324            | 240              | --                 | --              | --               |
| 83                 | 5323            | 249              | --                 | --              | --               |
| 86                 | 5341            | 258              | --                 | --              | --               |
| 88                 | 5347            | 264              | --                 | --              | --               |
| 93                 | 5337            | 279              | --                 | --              | --               |

| Radar waveform #25 |                 |                  | Radar waveform #26 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 3                  | 5296            | 9                | 4                  | 5338            | 12               |
| 37                 | 5333            | 111              | 17                 | 5307            | 51               |
| 39                 | 5325            | 117              | 21                 | 5353            | 63               |
| 43                 | 5338            | 129              | 30                 | 5301            | 90               |
| 52                 | 5348            | 156              | 31                 | 5348            | 93               |
| 53                 | 5317            | 159              | 37                 | 5326            | 111              |
| 60                 | 5339            | 180              | 47                 | 5294            | 141              |
| 64                 | 5332            | 192              | 64                 | 5309            | 192              |
| 83                 | 5342            | 249              | 69                 | 5316            | 207              |
| 97                 | 5321            | 291              | 74                 | 5349            | 222              |
| --                 | --              | --               | 84                 | 5328            | 252              |
| --                 | --              | --               | 97                 | 5304            | 291              |

| Radar waveform #27 |                 |                  | Radar waveform #28 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 7                  | 5300            | 21               | 3                  | 5330            | 9                |
| 28                 | 5335            | 84               | 29                 | 5321            | 87               |
| 38                 | 5302            | 114              | 31                 | 5326            | 93               |
| 52                 | 5298            | 156              | 32                 | 5346            | 96               |
| 82                 | 5346            | 246              | 37                 | 5333            | 111              |
| 94                 | 5297            | 282              | 41                 | 5347            | 123              |
| --                 | --              | --               | 48                 | 5320            | 144              |
| --                 | --              | --               | 64                 | 5331            | 192              |
| --                 | --              | --               | 75                 | 5339            | 225              |
| --                 | --              | --               | 76                 | 5324            | 228              |
| --                 | --              | --               | 87                 | 5335            | 261              |

| Radar waveform #29 |                 |                  | Radar waveform #30 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 7                  | 5357            | 21               | 9                  | 5313            | 27               |
| 18                 | 5302            | 54               | 16                 | 5349            | 48               |
| 22                 | 5358            | 66               | 19                 | 8323            | 57               |
| 32                 | 5323            | 96               | 20                 | 5316            | 60               |
| 42                 | 5309            | 126              | 25                 | 5332            | 75               |
| 62                 | 5352            | 186              | 34                 | 5338            | 102              |
| 66                 | 5318            | 198              | 38                 | 5317            | 114              |
| 74                 | 5299            | 222              | 41                 | 5360            | 123              |
| 75                 | 5322            | 225              | 57                 | 5351            | 171              |
| 85                 | 5338            | 255              | 58                 | 5320            | 174              |
| 89                 | 5310            | 267              | 60                 | 5347            | 180              |
| 91                 | 5330            | 273              | 81                 | 5337            | 243              |
| --                 | --              | --               | 92                 | 5319            | 276              |
| --                 | --              | --               | 94                 | 5318            | 282              |

## Radar Statistical Performance for 802.11ac-VHT80

## Radar Type 1 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5251                | 1                   | 758      | 70             | 1                             |
| 2                        | 5254                | 1                   | 638      | 83             | 1                             |
| 3                        | 5257                | 1                   | 878      | 61             | 1                             |
| 4                        | 5260                | 1                   | 3066     | 18             | 1                             |
| 5                        | 5263                | 1                   | 858      | 62             | 1                             |
| 6                        | 5266                | 1                   | 598      | 89             | 1                             |
| 7                        | 5269                | 1                   | 918      | 58             | 1                             |
| 8                        | 5272                | 1                   | 518      | 102            | 1                             |
| 9                        | 5275                | 1                   | 558      | 95             | 1                             |
| 10                       | 5278                | 1                   | 618      | 86             | 1                             |
| 11                       | 5281                | 1                   | 538      | 99             | 1                             |
| 12                       | 5284                | 1                   | 778      | 68             | 1                             |
| 13                       | 5287                | 1                   | 658      | 81             | 1                             |
| 14                       | 5290                | 1                   | 818      | 65             | 1                             |
| 15                       | 5293                | 1                   | 718      | 74             | 1                             |
| 16                       | 5296                | 1                   | 2215     | 24             | 1                             |
| 17                       | 5299                | 1                   | 641      | 83             | 1                             |
| 18                       | 5302                | 1                   | 1913     | 28             | 1                             |
| 19                       | 5305                | 1                   | 3006     | 18             | 1                             |
| 20                       | 5308                | 1                   | 2260     | 24             | 1                             |
| 21                       | 5311                | 1                   | 2053     | 26             | 1                             |
| 22                       | 5314                | 1                   | 715      | 74             | 1                             |
| 23                       | 5317                | 1                   | 2352     | 23             | 1                             |
| 24                       | 5320                | 1                   | 1030     | 52             | 1                             |
| 25                       | 5323                | 1                   | 2407     | 22             | 1                             |
| 26                       | 5326                | 1                   | 2405     | 22             | 1                             |
| 27                       | 5327                | 1                   | 2801     | 19             | 1                             |
| 28                       | 5328                | 1                   | 921      | 58             | 1                             |
| 29                       | 5329                | 1                   | 1366     | 39             | 1                             |
| 30                       | 5330                | 1                   | 2699     | 20             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 100%                          |

### Radar Type 2 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5251                | 4.9                 | 197      | 29             | 1                             |
| 2                        | 5254                | 1.2                 | 174      | 28             | 1                             |
| 3                        | 5257                | 2.5                 | 207      | 28             | 1                             |
| 4                        | 5260                | 2.7                 | 217      | 24             | 1                             |
| 5                        | 5263                | 2.5                 | 190      | 26             | 1                             |
| 6                        | 5266                | 1.9                 | 221      | 26             | 1                             |
| 7                        | 5267                | 3.0                 | 192      | 27             | 1                             |
| 8                        | 5270                | 1.3                 | 194      | 28             | 1                             |
| 9                        | 5273                | 3.8                 | 205      | 24             | 1                             |
| 10                       | 5276                | 2.2                 | 202      | 26             | 1                             |
| 11                       | 5279                | 2.0                 | 197      | 28             | 1                             |
| 12                       | 5282                | 2.9                 | 186      | 23             | 1                             |
| 13                       | 5285                | 2.9                 | 215      | 28             | 1                             |
| 14                       | 5288                | 1.8                 | 165      | 27             | 1                             |
| 15                       | 5291                | 2.9                 | 216      | 25             | 1                             |
| 16                       | 5294                | 2.9                 | 183      | 28             | 1                             |
| 17                       | 5297                | 3.8                 | 216      | 26             | 1                             |
| 18                       | 5300                | 3.6                 | 161      | 24             | 1                             |
| 19                       | 5303                | 2.4                 | 197      | 28             | 1                             |
| 20                       | 5306                | 1.5                 | 229      | 25             | 1                             |
| 21                       | 5309                | 3.8                 | 155      | 23             | 1                             |
| 22                       | 5312                | 1.6                 | 222      | 25             | 1                             |
| 23                       | 5315                | 2.9                 | 195      | 26             | 1                             |
| 24                       | 5318                | 3.5                 | 183      | 23             | 1                             |
| 25                       | 5321                | 4.5                 | 179      | 26             | 1                             |
| 26                       | 5324                | 2.4                 | 203      | 28             | 1                             |
| 27                       | 5327                | 4.0                 | 180      | 29             | 1                             |
| 28                       | 5328                | 1.9                 | 224      | 24             | 1                             |
| 29                       | 5329                | 1.5                 | 192      | 29             | 1                             |
| 30                       | 5330                | 4.6                 | 198      | 24             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 100%                          |

### Radar Type 3 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5251                | 8.0                 | 377      | 18             | 0                             |
| 2                        | 5254                | 6.6                 | 345      | 16             | 1                             |
| 3                        | 5257                | 9.7                 | 393      | 18             | 1                             |
| 4                        | 5260                | 8.1                 | 490      | 17             | 1                             |
| 5                        | 5263                | 6.9                 | 388      | 18             | 1                             |
| 6                        | 5266                | 6.3                 | 447      | 18             | 1                             |
| 7                        | 5267                | 9.0                 | 322      | 17             | 1                             |
| 8                        | 5270                | 9.3                 | 363      | 18             | 1                             |
| 9                        | 5273                | 8.1                 | 307      | 18             | 1                             |
| 10                       | 5276                | 6.4                 | 429      | 16             | 1                             |
| 11                       | 5279                | 8.0                 | 339      | 18             | 1                             |
| 12                       | 5282                | 9.0                 | 346      | 16             | 1                             |
| 13                       | 5285                | 6.3                 | 444      | 18             | 1                             |
| 14                       | 5288                | 9.6                 | 273      | 16             | 1                             |
| 15                       | 5291                | 6.5                 | 449      | 17             | 1                             |
| 16                       | 5294                | 7.9                 | 421      | 18             | 1                             |
| 17                       | 5297                | 9.0                 | 306      | 17             | 1                             |
| 18                       | 5300                | 7.4                 | 301      | 18             | 1                             |
| 19                       | 5303                | 7.2                 | 442      | 18             | 1                             |
| 20                       | 5306                | 9.1                 | 394      | 18             | 1                             |
| 21                       | 5309                | 8.2                 | 315      | 16             | 1                             |
| 22                       | 5312                | 7.0                 | 480      | 16             | 1                             |
| 23                       | 5315                | 6.5                 | 493      | 18             | 1                             |
| 24                       | 5318                | 8.1                 | 283      | 17             | 1                             |
| 25                       | 5321                | 9.7                 | 459      | 16             | 1                             |
| 26                       | 5324                | 7.8                 | 458      | 18             | 1                             |
| 27                       | 5327                | 6.2                 | 284      | 16             | 1                             |
| 28                       | 5328                | 9.0                 | 437      | 17             | 1                             |
| 29                       | 5329                | 7.8                 | 292      | 17             | 1                             |
| 30                       | 5330                | 8.9                 | 441      | 17             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 96.7%                         |

### Radar Type 4 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | Pulse Width<br>(us) | PRI (us) | Pulses / Burst | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|---------------------|----------|----------------|-------------------------------|
| 1                        | 5251                | 17.8                | 436      | 12             | 0                             |
| 2                        | 5254                | 18.5                | 454      | 13             | 1                             |
| 3                        | 5257                | 11.0                | 284      | 12             | 1                             |
| 4                        | 5260                | 12.0                | 407      | 14             | 1                             |
| 5                        | 5263                | 19.7                | 449      | 14             | 1                             |
| 6                        | 5266                | 15.6                | 451      | 13             | 1                             |
| 7                        | 5267                | 11.9                | 272      | 13             | 1                             |
| 8                        | 5270                | 18.0                | 462      | 16             | 1                             |
| 9                        | 5273                | 18.9                | 313      | 12             | 1                             |
| 10                       | 5276                | 19.8                | 287      | 15             | 1                             |
| 11                       | 5279                | 17.9                | 489      | 13             | 1                             |
| 12                       | 5282                | 18.7                | 494      | 16             | 1                             |
| 13                       | 5285                | 13.3                | 473      | 14             | 1                             |
| 14                       | 5288                | 12.9                | 350      | 15             | 1                             |
| 15                       | 5291                | 14.6                | 351      | 14             | 1                             |
| 16                       | 5294                | 18.3                | 379      | 16             | 1                             |
| 17                       | 5297                | 19.9                | 302      | 15             | 1                             |
| 18                       | 5300                | 15.2                | 471      | 12             | 1                             |
| 19                       | 5303                | 15.4                | 450      | 14             | 1                             |
| 20                       | 5306                | 14.3                | 452      | 16             | 1                             |
| 21                       | 5309                | 18.4                | 490      | 14             | 1                             |
| 22                       | 5312                | 16.1                | 382      | 12             | 1                             |
| 23                       | 5315                | 11.6                | 309      | 13             | 1                             |
| 24                       | 5318                | 12.4                | 322      | 14             | 1                             |
| 25                       | 5321                | 15.0                | 471      | 12             | 1                             |
| 26                       | 5324                | 18.4                | 450      | 12             | 1                             |
| 27                       | 5327                | 11.4                | 378      | 13             | 1                             |
| 28                       | 5328                | 16.9                | 362      | 12             | 1                             |
| 29                       | 5329                | 13.8                | 279      | 12             | 1                             |
| 30                       | 5330                | 15.1                | 336      | 14             | 1                             |
| Detection Percentage (%) |                     |                     |          |                | 96.7%                         |

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows:  $\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4} = (96.7\% + 96.7\% + 100\% + 100\%) / 4 = 98.35\% (>80\%)$



## Radar Type 5 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection | Trail # | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|-------------------------------|---------|---------------------|-------------------------------|
| 1                        | 5251                | 0                             | 16      | 5295                | 1                             |
| 2                        | 5253                | 0                             | 17      | 5298                | 1                             |
| 3                        | 5256                | 1                             | 18      | 5301                | 1                             |
| 4                        | 5259                | 1                             | 19      | 5304                | 1                             |
| 5                        | 5262                | 1                             | 20      | 5307                | 1                             |
| 6                        | 5265                | 1                             | 21      | 5310                | 1                             |
| 7                        | 5268                | 1                             | 22      | 5313                | 1                             |
| 8                        | 5271                | 1                             | 23      | 5316                | 1                             |
| 9                        | 5274                | 1                             | 24      | 5319                | 1                             |
| 10                       | 5277                | 1                             | 25      | 5322                | 1                             |
| 11                       | 5280                | 1                             | 26      | 5325                | 1                             |
| 12                       | 8283                | 1                             | 27      | 5327                | 1                             |
| 13                       | 5286                | 1                             | 28      | 5328                | 1                             |
| 14                       | 5289                | 1                             | 29      | 5329                | 1                             |
| 15                       | 5292                | 1                             | 30      | 5330                | 1                             |
| Detection Percentage (%) |                     |                               |         |                     | 93.3%                         |

## Type 5 Radar Waveform\_1

Waveform Num = 1  
Num of Bursts = 9  
Burst Interval (us) = 1333333

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 22782         | 2        | 15          | 75      | 1926             | 1965             | 0                | 22782          | 0                         | 1333332                 |
| 2       | 2491345       | 3        | 11          | 90      | 1133             | 1900             | 1909             | 2518018        | 1333333                   | 2666665                 |
| 3       | 373556        | 1        | 11          | 65      | 1205             | 0                | 0                | 2896516        | 2666666                   | 3999998                 |
| 4       | 2360996       | 2        | 18          | 50      | 1591             | 1999             | 0                | 5258717        | 3999999                   | 5333331                 |
| 5       | 321508        | 2        | 15          | 100     | 1675             | 1895             | 0                | 5583815        | 5333332                   | 6666664                 |
| 6       | 2400471       | 3        | 17          | 60      | 1821             | 1472             | 1783             | 7987856        | 6666665                   | 7999997                 |
| 7       | 669062        | 1        | 19          | 85      | 1785             | 0                | 0                | 8661994        | 7999998                   | 9333330                 |
| 8       | 1134540       | 3        | 11          | 50      | 1610             | 1899             | 1876             | 9798319        | 9333331                   | 10666663                |
| 9       | 989562        | 3        | 17          | 60      | 1664             | 1423             | 1058             | 10793266       | 10666664                  | 11999996                |

Total number of pulses in waveform = 20

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## Type 5 Radar Waveform\_2

Waveform Num = 2  
Num of Bursts = 12  
Burst Interval (us)= 1000000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 403988        | 1        | 20          | 95      | 1056             | 0                | 0                | 403988         | 0                         | 999999                  |
| 2       | 1046499       | 1        | 15          | 80      | 1251             | 0                | 0                | 1451543        | 1000000                   | 1999999                 |
| 3       | 1148897       | 2        | 17          | 65      | 1948             | 1959             | 0                | 2601691        | 2000000                   | 2999999                 |
| 4       | 477635        | 1        | 7           | 65      | 1559             | 0                | 0                | 3083233        | 3000000                   | 3999999                 |
| 5       | 1219592       | 3        | 6           | 65      | 1046             | 1214             | 1732             | 4304384        | 4000000                   | 4999999                 |
| 6       | 776066        | 2        | 7           | 55      | 1082             | 1863             | 0                | 5084442        | 5000000                   | 5999999                 |
| 7       | 1798448       | 3        | 10          | 75      | 1270             | 1175             | 1891             | 6885835        | 6000000                   | 6999999                 |
| 8       | 517282        | 1        | 13          | 50      | 1024             | 0                | 0                | 7407453        | 7000000                   | 7999999                 |
| 9       | 1152857       | 1        | 6           | 85      | 1169             | 0                | 0                | 8561334        | 8000000                   | 8999999                 |
| 10      | 1117062       | 1        | 6           | 70      | 1460             | 0                | 0                | 9679565        | 9000000                   | 9999999                 |
| 11      | 715630        | 2        | 17          | 60      | 1860             | 1604             | 0                | 10396655       | 10000000                  | 10999999                |
| 12      | 1337798       | 3        | 6           | 50      | 1095             | 1993             | 1316             | 11737917       | 11000000                  | 11999999                |

Total number of pulses in waveform = 21

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## Type 5 Radar Waveform\_3

Waveform Num = 3  
Num of Bursts = 16  
Burst Interval (us)= 750000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 536295        | 2        | 17          | 75      | 1270             | 1080             | 0                | 536295         | 0                         | 749999                  |
| 2       | 744520        | 1        | 5           | 50      | 1192             | 0                | 0                | 1283165        | 750000                    | 1499999                 |
| 3       | 751892        | 1        | 13          | 100     | 1197             | 0                | 0                | 2036249        | 1500000                   | 2249999                 |
| 4       | 781273        | 1        | 8           | 70      | 1978             | 0                | 0                | 2818719        | 2250000                   | 2999999                 |
| 5       | 755424        | 1        | 14          | 90      | 1916             | 0                | 0                | 3576121        | 3000000                   | 3749999                 |
| 6       | 800264        | 2        | 9           | 100     | 1718             | 1825             | 0                | 4378301        | 3750000                   | 4499999                 |
| 7       | 434228        | 3        | 13          | 65      | 1997             | 1568             | 1255             | 4816072        | 4500000                   | 5249999                 |
| 8       | 715404        | 3        | 11          | 70      | 1712             | 1425             | 1987             | 5536296        | 5250000                   | 5999999                 |
| 9       | 1114751       | 2        | 12          | 95      | 1045             | 1036             | 0                | 6656171        | 6000000                   | 6749999                 |
| 10      | 767430        | 3        | 14          | 85      | 1198             | 1598             | 1505             | 7425682        | 6750000                   | 7499999                 |
| 11      | 348656        | 1        | 15          | 50      | 1633             | 0                | 0                | 7778639        | 7500000                   | 8249999                 |
| 12      | 625415        | 1        | 12          | 80      | 1422             | 0                | 0                | 8405687        | 8250000                   | 8999999                 |
| 13      | 1141794       | 2        | 15          | 70      | 1986             | 1952             | 0                | 9548903        | 9000000                   | 9749999                 |
| 14      | 574323        | 1        | 7           | 100     | 1572             | 0                | 0                | 10127164       | 9750000                   | 10499999                |
| 15      | 734269        | 1        | 16          | 70      | 1680             | 0                | 0                | 10863005       | 10500000                  | 11249999                |
| 16      | 491279        | 2        | 6           | 90      | 1201             | 1727             | 0                | 11355964       | 11250000                  | 11999999                |

Total number of pulses in waveform = 27

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## Type 5 Radar Waveform\_4

Waveform Num = 4  
Num of Bursts = 10  
Burst Interval (us)= 1200000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 1105332       | 1        | 18          | 80      | 1995             | 0                | 0                | 1105332        | 0                         | 1199999                 |
| 2       | 1141521       | 1        | 8           | 50      | 1108             | 0                | 0                | 2248848        | 1200000                   | 2399999                 |
| 3       | 233928        | 2        | 15          | 55      | 1331             | 1482             | 0                | 2483884        | 2400000                   | 3599999                 |
| 4       | 1175909       | 2        | 16          | 80      | 1211             | 1977             | 0                | 3662606        | 3600000                   | 4799999                 |
| 5       | 1506651       | 2        | 14          | 80      | 1251             | 1687             | 0                | 5172445        | 4800000                   | 5999999                 |
| 6       | 1372738       | 3        | 13          | 70      | 1698             | 1924             | 1748             | 6548121        | 6000000                   | 7199999                 |
| 7       | 1216262       | 3        | 5           | 70      | 1963             | 1934             | 1364             | 7769753        | 7200000                   | 8399999                 |
| 8       | 1314775       | 2        | 16          | 50      | 1698             | 1682             | 0                | 9089789        | 8400000                   | 9599999                 |
| 9       | 1680846       | 2        | 7           | 75      | 1768             | 1155             | 0                | 10774015       | 9600000                   | 10799999                |
| 10      | 823208        | 1        | 9           | 50      | 1430             | 0                | 0                | 11600146       | 10800000                  | 11999999                |

Total number of pulses in waveform = 19

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## Type 5 Radar Waveform\_5

Waveform Num = 5  
Num of Bursts = 10  
Burst Interval (us)= 1200000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 429287        | 1        | 13          | 50      | 1762             | 0                | 0                | 429287         | 0                         | 1199999                 |
| 2       | 1338387       | 2        | 15          | 55      | 1385             | 1927             | 0                | 1769436        | 1200000                   | 2399999                 |
| 3       | 1440594       | 1        | 18          | 85      | 1006             | 0                | 0                | 3213342        | 2400000                   | 3599999                 |
| 4       | 423120        | 3        | 16          | 50      | 1439             | 1203             | 1399             | 3637468        | 3600000                   | 4799999                 |
| 5       | 1222610       | 2        | 15          | 65      | 1879             | 1278             | 0                | 4864119        | 4800000                   | 5999999                 |
| 6       | 1647024       | 1        | 17          | 85      | 1649             | 0                | 0                | 6514300        | 6000000                   | 7199999                 |
| 7       | 1661519       | 2        | 13          | 80      | 1130             | 1033             | 0                | 8177468        | 7200000                   | 8399999                 |
| 8       | 292723        | 1        | 10          | 80      | 1307             | 0                | 0                | 8472354        | 8400000                   | 9599999                 |
| 9       | 1749759       | 3        | 14          | 90      | 1890             | 1687             | 1873             | 10223420       | 9600000                   | 10799999                |
| 10      | 790276        | 1        | 5           | 95      | 1676             | 0                | 0                | 11019146       | 10800000                  | 11999999                |

Total number of pulses in waveform = 17

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## Type 5 Radar Waveform\_6

Waveform Num = 6  
Num of Bursts = 13  
Burst Interval (us)= 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 771111        | 1        | 20          | 60      | 1182             | 0                | 0                | 771111         | 0                         | 923076                  |
| 2       | 217041        | 1        | 7           | 50      | 1243             | 0                | 0                | 989334         | 923077                    | 1846153                 |
| 3       | 1197705       | 2        | 18          | 75      | 1432             | 1259             | 0                | 2188282        | 1846154                   | 2769230                 |
| 4       | 1312750       | 3        | 12          | 75      | 1229             | 1174             | 1586             | 3503723        | 2769231                   | 3692307                 |
| 5       | 1049436       | 1        | 9           | 95      | 1358             | 0                | 0                | 4557148        | 3692308                   | 4615384                 |
| 6       | 321641        | 2        | 10          | 90      | 1245             | 1158             | 0                | 4880147        | 4615385                   | 5538461                 |
| 7       | 767917        | 2        | 14          | 95      | 1089             | 1398             | 0                | 5650467        | 5538462                   | 6461538                 |
| 8       | 1463197       | 3        | 16          | 85      | 1238             | 1949             | 1355             | 7116151        | 6461539                   | 7384615                 |
| 9       | 333722        | 2        | 20          | 65      | 1703             | 1893             | 0                | 7454415        | 7384616                   | 8307692                 |
| 10      | 1023080       | 1        | 20          | 80      | 1558             | 0                | 0                | 8481091        | 8307693                   | 9230769                 |
| 11      | 1439711       | 3        | 5           | 70      | 1786             | 1250             | 1250             | 9922360        | 9230770                   | 10153846                |
| 12      | 1033950       | 3        | 18          | 50      | 1116             | 1835             | 1822             | 10960596       | 10153847                  | 11076923                |
| 13      | 258027        | 2        | 20          | 55      | 1770             | 1184             | 0                | 11223396       | 11076924                  | 12000000                |

Total number of pulses in waveform = 26

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## Type 5 Radar Waveform\_7

Waveform Num = 7  
Num of Bursts = 13  
Burst Interval (us)= 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 691372        | 1        | 6           | 60      | 1149             | 0                | 0                | 691372         | 0                         | 923076                  |
| 2       | 584113        | 3        | 12          | 95      | 1947             | 1586             | 1912             | 1276634        | 923077                    | 1846153                 |
| 3       | 701310        | 1        | 12          | 90      | 1297             | 0                | 0                | 1983389        | 1846154                   | 2769230                 |
| 4       | 1360532       | 3        | 12          | 60      | 1057             | 1028             | 2000             | 3345218        | 2769231                   | 3692307                 |
| 5       | 766779        | 2        | 20          | 50      | 1226             | 1960             | 0                | 4116082        | 3692308                   | 4615384                 |
| 6       | 1310102       | 3        | 12          | 90      | 1410             | 1869             | 1727             | 5429370        | 4615385                   | 5538461                 |
| 7       | 781097        | 3        | 10          | 90      | 1621             | 1360             | 1191             | 6215473        | 5538462                   | 6461538                 |
| 8       | 997789        | 2        | 6           | 100     | 1149             | 1557             | 0                | 7217434        | 6461539                   | 7384615                 |
| 9       | 675838        | 2        | 8           | 55      | 1875             | 1409             | 0                | 7895978        | 7384616                   | 8307692                 |
| 10      | 1282604       | 1        | 7           | 55      | 1749             | 0                | 0                | 9181866        | 8307693                   | 9230769                 |
| 11      | 755403        | 3        | 16          | 85      | 1266             | 1720             | 1730             | 9939018        | 9230770                   | 10153846                |
| 12      | 947409        | 3        | 14          | 65      | 1508             | 1054             | 1108             | 10891143       | 10153847                  | 11076923                |
| 13      | 1085454       | 2        | 9           | 70      | 1930             | 1745             | 0                | 11980267       | 11076924                  | 12000000                |

Total number of pulses in waveform = 29

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## Type 5 Radar Waveform\_8

```
Waveform Num = 8
Num of Bursts = 20
Burst Interval (us)= 800000
Burst # Off Time (us) # Pulses Chirp (MHz) PW (us) Pulse 1 Pri (us) Pulse 2 Pri (us) Pulse 3 Pri (us) Start Loc (us) Start Burst Interval (us) End Burst Interval (us)
1 230936 1 11 90 1234 0 0 230936 0 599999
2 911395 2 6 60 1612 1525 0 1143565 600000 1199999
3 291431 1 14 55 1468 0 0 1438133 1200000 1799999
4 383278 3 20 80 1244 1548 1391 1822879 1800000 2399999
5 657015 1 6 70 1638 0 0 2484077 2400000 2999999
6 917524 2 12 70 1402 1948 0 3192893 3000000 3599999
7 579834 2 9 90 1989 1542 0 4113767 3600000 4199999
8 208697 3 20 80 1746 1074 1218 4697132 4200000 4799999
9 855240 2 16 70 1797 1890 0 4909867 4800000 5399999
10 587681 3 6 85 1040 1428 1631 5768794 5400000 5999999
11 681287 3 20 85 1596 1784 1569 6360574 6000000 6599999
12 327736 1 8 75 1304 0 0 7046810 6600000 7199999
13 749577 3 6 85 1748 1829 1677 7375849 7200000 7799999
14 544947 2 20 55 1655 1708 0 8130680 7800000 8399999
15 536418 1 8 55 1425 0 0 8678990 8400000 8999999
16 542990 3 10 70 1443 1259 1958 9216833 9000000 9599999
17 659582 3 18 70 1071 1123 1936 9764483 9600000 10199999
18 728118 3 12 50 1977 1152 1677 10428195 10200000 10799999
19 608679 1 10 85 1297 0 0 11161119 10800000 11399999
20 608679 3 18 100 1879 1014 1135 11771035 11400000 11999999
Total number of pulses in waveform = 43
*****
```

## Type 5 Radar Waveform\_9

```
Waveform Num = 9
Num of Bursts = 14
Burst Interval (us)= 857143
Burst # Off Time (us) # Pulses Chirp (MHz) PW (us) Pulse 1 Pri (us) Pulse 2 Pri (us) Pulse 3 Pri (us) Start Loc (us) Start Burst Interval (us) End Burst Interval (us)
1 447902 1 19 65 1387 0 0 447902 0 857142
2 420618 1 9 95 1879 0 0 869907 857143 1714285
3 1195869 1 20 65 1527 0 0 2067655 1714286 2571428
4 799636 1 9 70 1685 0 0 2868818 2571429 3428571
5 1289109 1 10 60 1082 0 0 4159612 3428572 4285714
6 390781 1 13 75 1655 0 0 4551475 4285715 5142857
7 1100418 3 14 65 1243 1816 1417 5653548 5142858 6000000
8 1155800 1 20 65 1786 0 0 6813824 6000001 6857143
9 670407 2 8 90 1643 1122 0 7486017 6857144 7714286
10 716438 3 16 75 1145 1090 1781 8205220 7714287 8571429
11 961519 1 18 65 1689 0 0 9170755 8571430 9428572
12 672857 2 14 55 1166 1233 0 9845301 9428573 10285715
13 788782 3 10 60 1041 1444 1715 10636482 10285716 11142858
14 1255409 3 16 95 1291 1530 1767 11896091 11142859 12000001
Total number of pulses in waveform = 24
*****
```

## Type 5 Radar Waveform\_10

```
Waveform Num = 10
Num of Bursts = 14
Burst Interval (us)= 857143
Burst # Off Time (us) # Pulses Chirp (MHz) PW (us) Pulse 1 Pri (us) Pulse 2 Pri (us) Pulse 3 Pri (us) Start Loc (us) Start Burst Interval (us) End Burst Interval (us)
1 423362 1 12 70 1707 0 0 423362 0 857142
2 807582 3 18 95 1119 1225 1580 1232651 857143 1714285
3 986142 1 20 100 1708 0 0 2222717 1714286 2571428
4 364316 3 19 60 1451 1648 1806 2588741 2571429 3428571
5 1471176 2 6 90 1290 1536 0 4064822 3428572 4285714
6 255027 3 16 75 1361 1465 1399 4322675 4285715 5142857
7 995083 1 6 60 1675 0 0 5321983 5142858 6000000
8 1215119 3 5 50 1449 1487 1227 6538777 6000001 6857143
9 1042915 3 20 100 1479 1809 1594 7585855 6857144 7714286
10 204303 2 7 60 1817 1021 0 7795040 7714287 8571429
11 1315916 2 10 90 1044 1401 0 9113794 8571430 9428572
12 925541 1 6 70 1559 0 0 10041780 9428573 10285715
13 552501 3 15 60 1157 1935 1236 10595840 10285716 11142858
14 1362699 1 7 55 1606 0 0 11962867 11142859 12000001
Total number of pulses in waveform = 29
*****
```



## Type 5 Radar Waveform\_11

Waveform Num = 11  
Num of Bursts = 8  
Burst Interval (us)= 1500000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri(us) | Pulse 2 Pri(us) | Pulse 3 Pri(us) | Start Loc (us) | Start Burst Interval(us) | End Burst Interval(us) |
|---------|---------------|----------|-------------|---------|-----------------|-----------------|-----------------|----------------|--------------------------|------------------------|
| 1       | 705048        | 3        | 14          | 55      | 1699            | 1783            | 1832            | 705048         | 0                        | 1499999                |
| 2       | 912214        | 1        | 14          | 60      | 1699            | 0               | 0               | 1622576        | 1500000                  | 2999999                |
| 3       | 2245039       | 1        | 20          | 65      | 1474            | 0               | 0               | 3869314        | 3000000                  | 4499999                |
| 4       | 1220033       | 3        | 7           | 50      | 1793            | 1377            | 1109            | 5090821        | 4500000                  | 5999999                |
| 5       | 2312920       | 1        | 18          | 60      | 1819            | 0               | 0               | 7408020        | 6000000                  | 7499999                |
| 6       | 608609        | 1        | 16          | 50      | 1862            | 0               | 0               | 8018448        | 7500000                  | 8999999                |
| 7       | 2100202       | 2        | 13          | 70      | 1697            | 1738            | 0               | 10120512       | 9000000                  | 10499999               |
| 8       | 1395121       | 2        | 10          | 65      | 1990            | 1289            | 0               | 11519068       | 10500000                 | 11999999               |

Total number of pulses in waveform = 14

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## Type 5 Radar Waveform\_12

Waveform Num = 12  
Num of Bursts = 14  
Burst Interval (us)= 857143

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri(us) | Pulse 2 Pri(us) | Pulse 3 Pri(us) | Start Loc (us) | Start Burst Interval(us) | End Burst Interval(us) |
|---------|---------------|----------|-------------|---------|-----------------|-----------------|-----------------|----------------|--------------------------|------------------------|
| 1       | 574000        | 2        | 10          | 55      | 1394            | 1361            | 0               | 574000         | 0                        | 857142                 |
| 2       | 329303        | 2        | 8           | 60      | 1117            | 1107            | 0               | 906058         | 857143                   | 1714285                |
| 3       | 1121634       | 2        | 6           | 70      | 1861            | 1169            | 0               | 2029916        | 1714286                  | 2571428                |
| 4       | 998407        | 3        | 20          | 95      | 1236            | 1421            | 1853            | 3031353        | 2571429                  | 3428571                |
| 5       | 1241282       | 3        | 19          | 100     | 1016            | 1223            | 1834            | 4277145        | 3428572                  | 4285714                |
| 6       | 770407        | 2        | 10          | 65      | 1397            | 1985            | 0               | 5051625        | 4285715                  | 5142857                |
| 7       | 846973        | 2        | 20          | 70      | 1372            | 1086            | 0               | 5901980        | 5142858                  | 6000000                |
| 8       | 552550        | 2        | 11          | 90      | 1865            | 1636            | 0               | 6456988        | 6000001                  | 6857143                |
| 9       | 939915        | 2        | 15          | 85      | 1549            | 1322            | 0               | 7400404        | 6857144                  | 7714286                |
| 10      | 495013        | 3        | 13          | 65      | 1982            | 1748            | 1563            | 7898288        | 7714287                  | 8571429                |
| 11      | 912756        | 2        | 7           | 80      | 1039            | 1925            | 0               | 8816337        | 8571430                  | 9428572                |
| 12      | 1056272       | 2        | 8           | 55      | 1578            | 1891            | 0               | 9875573        | 9428573                  | 10285715               |
| 13      | 976866        | 2        | 11          | 50      | 1299            | 1764            | 0               | 10855908       | 10285716                 | 11142858               |
| 14      | 842078        | 1        | 5           | 90      | 1311            | 0               | 0               | 11701049       | 11142859                 | 12000001               |

Total number of pulses in waveform = 30

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## Type 5 Radar Waveform\_13

Waveform Num = 13  
Num of Bursts = 17  
Burst Interval (us)= 705882

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri(us) | Pulse 2 Pri(us) | Pulse 3 Pri(us) | Start Loc (us) | Start Burst Interval(us) | End Burst Interval(us) |
|---------|---------------|----------|-------------|---------|-----------------|-----------------|-----------------|----------------|--------------------------|------------------------|
| 1       | 38843         | 2        | 5           | 75      | 1764            | 1460            | 0               | 38843          | 0                        | 705881                 |
| 2       | 959719        | 2        | 11          | 50      | 1173            | 1598            | 0               | 1001786        | 705882                   | 1411763                |
| 3       | 788568        | 2        | 10          | 65      | 1145            | 1099            | 0               | 1793125        | 1411764                  | 2117645                |
| 4       | 536866        | 2        | 9           | 85      | 1009            | 1655            | 0               | 2332235        | 2117646                  | 2823527                |
| 5       | 710099        | 1        | 13          | 75      | 1914            | 0               | 0               | 3044998        | 2823528                  | 3529409                |
| 6       | 1067628       | 1        | 5           | 95      | 1187            | 0               | 0               | 4114540        | 3529410                  | 4235291                |
| 7       | 684851        | 3        | 17          | 60      | 1134            | 1201            | 1899            | 4800578        | 4235292                  | 4941173                |
| 8       | 706536        | 1        | 16          | 100     | 1981            | 0               | 0               | 5511348        | 4941174                  | 5647055                |
| 9       | 407336        | 3        | 11          | 50      | 1981            | 1670            | 1223            | 5920665        | 5647056                  | 6352937                |
| 10      | 530478        | 2        | 10          | 65      | 1059            | 1408            | 0               | 6456017        | 6352938                  | 7058819                |
| 11      | 1024286       | 1        | 18          | 50      | 1642            | 0               | 0               | 7482770        | 7058820                  | 7764701                |
| 12      | 876278        | 1        | 10          | 80      | 1647            | 0               | 0               | 8360690        | 7764702                  | 8470583                |
| 13      | 729439        | 3        | 13          | 55      | 1717            | 1644            | 1814            | 9091776        | 8470584                  | 9176465                |
| 14      | 437153        | 2        | 13          | 75      | 1568            | 1304            | 0               | 9534104        | 9176466                  | 9882347                |
| 15      | 838082        | 3        | 12          | 70      | 1894            | 1569            | 1863            | 10375058       | 9882348                  | 10588229               |
| 16      | 623257        | 3        | 6           | 80      | 1297            | 1408            | 1268            | 11003641       | 10588230                 | 11294111               |
| 17      | 502503        | 2        | 10          | 100     | 1299            | 1282            | 0               | 11510107       | 11294112                 | 11999993               |

Total number of pulses in waveform = 34

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## Type 5 Radar Waveform\_14

Waveform Num = 14  
Num of Bursts = 8  
Burst Interval (us)= 1500000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 1391096       | 2        | 6           | 90      | 1158             | 1317             | 0                | 1391096        | 0                         | 1499999                 |
| 2       | 649580        | 3        | 11          | 70      | 1311             | 1937             | 1212             | 2043151        | 1500000                   | 2999999                 |
| 3       | 1568095       | 2        | 12          | 60      | 1022             | 1054             | 0                | 3615706        | 3000000                   | 4499999                 |
| 4       | 1055522       | 1        | 18          | 85      | 1498             | 0                | 0                | 4673304        | 4500000                   | 5999999                 |
| 5       | 2369889       | 2        | 15          | 95      | 1555             | 1677             | 0                | 7044691        | 6000000                   | 7499999                 |
| 6       | 1042816       | 2        | 6           | 95      | 1718             | 1879             | 0                | 8090739        | 7500000                   | 8999999                 |
| 7       | 913922        | 1        | 20          | 90      | 1956             | 0                | 0                | 9008258        | 9000000                   | 10499999                |
| 8       | 2395393       | 3        | 7           | 90      | 1023             | 1950             | 1789             | 11405607       | 10500000                  | 11999999                |

Total number of pulses in waveform = 16

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## Type 5 Radar Waveform\_15

Waveform Num = 15  
Num of Bursts = 16  
Burst Interval (us)= 750000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 225338        | 3        | 11          | 60      | 1474             | 1499             | 1932             | 225338         | 0                         | 749999                  |
| 2       | 562878        | 2        | 6           | 75      | 1254             | 1401             | 0                | 793121         | 750000                    | 1499999                 |
| 3       | 1256157       | 3        | 20          | 100     | 1615             | 1621             | 1873             | 2051933        | 1500000                   | 2249999                 |
| 4       | 699118        | 3        | 17          | 50      | 1289             | 1080             | 1538             | 2756160        | 2250000                   | 2999999                 |
| 5       | 521913        | 1        | 16          | 50      | 1251             | 0                | 0                | 3281960        | 3000000                   | 3749999                 |
| 6       | 915082        | 2        | 15          | 90      | 1769             | 1446             | 0                | 4198293        | 3750000                   | 4499999                 |
| 7       | 647706        | 3        | 18          | 85      | 1794             | 1379             | 1645             | 4849214        | 4500000                   | 5249999                 |
| 8       | 795312        | 1        | 8           | 65      | 1095             | 0                | 0                | 5649344        | 5250000                   | 5999999                 |
| 9       | 1081463       | 1        | 9           | 85      | 1181             | 0                | 0                | 6731902        | 6000000                   | 6749999                 |
| 10      | 199364        | 1        | 17          | 95      | 1564             | 0                | 0                | 6932447        | 6750000                   | 7499999                 |
| 11      | 851689        | 1        | 8           | 85      | 1488             | 0                | 0                | 7785700        | 7500000                   | 8249999                 |
| 12      | 923012        | 2        | 5           | 70      | 1713             | 1557             | 0                | 8710180        | 8250000                   | 8999999                 |
| 13      | 721923        | 1        | 10          | 75      | 1690             | 0                | 0                | 9435373        | 9000000                   | 9749999                 |
| 14      | 699861        | 1        | 7           | 75      | 1775             | 0                | 0                | 10136924       | 9750000                   | 10499999                |
| 15      | 906296        | 3        | 9           | 60      | 1719             | 1013             | 1828             | 11044995       | 10500000                  | 11249999                |
| 16      | 325918        | 3        | 18          | 75      | 1538             | 1347             | 1765             | 11375473       | 11250000                  | 11999999                |

Total number of pulses in waveform = 31

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## Type 5 Radar Waveform\_16

Waveform Num = 16  
Num of Bursts = 15  
Burst Interval (us)= 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 543502        | 1        | 12          | 65      | 1228             | 0                | 0                | 543502         | 0                         | 799999                  |
| 2       | 751685        | 1        | 19          | 90      | 1436             | 0                | 0                | 1296415        | 800000                    | 1599999                 |
| 3       | 793640        | 3        | 14          | 65      | 1254             | 1326             | 1075             | 2091491        | 1600000                   | 2399999                 |
| 4       | 556511        | 2        | 8           | 65      | 1457             | 1325             | 0                | 2651657        | 2400000                   | 3199999                 |
| 5       | 1094034       | 3        | 15          | 65      | 1291             | 1066             | 1735             | 3748473        | 3200000                   | 3999999                 |
| 6       | 324583        | 1        | 10          | 95      | 1909             | 0                | 0                | 4077148        | 4000000                   | 4799999                 |
| 7       | 1061415       | 3        | 13          | 95      | 1782             | 1548             | 1180             | 5140472        | 4800000                   | 5599999                 |
| 8       | 709571        | 2        | 14          | 60      | 1859             | 1545             | 0                | 5854553        | 5600000                   | 6399999                 |
| 9       | 592365        | 1        | 20          | 85      | 1881             | 0                | 0                | 6450322        | 6400000                   | 7199999                 |
| 10      | 808145        | 3        | 12          | 50      | 1221             | 1920             | 1119             | 7260348        | 7200000                   | 7999999                 |
| 11      | 785177        | 1        | 15          | 95      | 1232             | 0                | 0                | 8049785        | 8000000                   | 8799999                 |
| 12      | 1346417       | 2        | 16          | 50      | 1619             | 1009             | 0                | 9397434        | 8800000                   | 9599999                 |
| 13      | 702780        | 1        | 10          | 60      | 1298             | 0                | 0                | 10102842       | 9600000                   | 10399999                |
| 14      | 422098        | 1        | 9           | 75      | 1511             | 0                | 0                | 10526238       | 10400000                  | 11199999                |
| 15      | 902653        | 2        | 10          | 50      | 1912             | 1982             | 0                | 11430402       | 11200000                  | 11999999                |

Total number of pulses in waveform = 27

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## Type 5 Radar Waveform\_17

Waveform Num = 17  
Num of Bursts = 15  
Burst Interval (us) = 800000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 751369        | 2        | 10          | 70      | 1802             | 1422             | 0                | 751369         | 0                         | 799999                  |
| 2       | 732842        | 2        | 9           | 65      | 1990             | 1967             | 0                | 1487435        | 800000                    | 1599999                 |
| 3       | 574167        | 2        | 7           | 100     | 1509             | 1890             | 0                | 2065559        | 1600000                   | 2399999                 |
| 4       | 361758        | 1        | 14          | 70      | 1795             | 0                | 0                | 2430706        | 2400000                   | 3199999                 |
| 5       | 825480        | 3        | 5           | 65      | 1078             | 1525             | 1400             | 3257981        | 3200000                   | 3999999                 |
| 6       | 936827        | 2        | 6           | 95      | 1598             | 1574             | 0                | 4198811        | 4000000                   | 4799999                 |
| 7       | 1114611       | 1        | 18          | 90      | 1690             | 0                | 0                | 5316594        | 4800000                   | 5599999                 |
| 8       | 381192        | 3        | 8           | 90      | 1064             | 1115             | 1109             | 5699476        | 5600000                   | 6399999                 |
| 9       | 880411        | 3        | 16          | 90      | 1952             | 1967             | 1325             | 6583175        | 6400000                   | 7199999                 |
| 10      | 830454        | 1        | 18          | 85      | 1389             | 0                | 0                | 7418873        | 7200000                   | 7999999                 |
| 11      | 974046        | 1        | 6           | 95      | 1662             | 0                | 0                | 8394308        | 8000000                   | 8799999                 |
| 12      | 478052        | 2        | 5           | 50      | 1927             | 1574             | 0                | 8874022        | 8800000                   | 9599999                 |
| 13      | 1131987       | 2        | 14          | 100     | 1002             | 1120             | 0                | 10009510       | 9600000                   | 10399999                |
| 14      | 1091064       | 1        | 14          | 50      | 1058             | 0                | 0                | 11102696       | 10400000                  | 11199999                |
| 15      | 150484        | 3        | 8           | 50      | 1276             | 1409             | 1376             | 11254238       | 11200000                  | 11999999                |

Total number of pulses in waveform = 29

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## Type 5 Radar Waveform\_18

Waveform Num = 18  
Num of Bursts = 13  
Burst Interval (us) = 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 277754        | 1        | 11          | 65      | 1987             | 0                | 0                | 277754         | 0                         | 923076                  |
| 2       | 648786        | 1        | 19          | 100     | 1629             | 0                | 0                | 928527         | 923077                    | 1846153                 |
| 3       | 998305        | 3        | 15          | 70      | 1094             | 1394             | 1853             | 1928461        | 1846154                   | 2769230                 |
| 4       | 1412605       | 2        | 8           | 90      | 1494             | 1009             | 0                | 3345407        | 2769231                   | 3692307                 |
| 5       | 807049        | 3        | 9           | 50      | 1543             | 1843             | 1559             | 4154959        | 3692308                   | 4615384                 |
| 6       | 974431        | 2        | 6           | 50      | 1667             | 1625             | 0                | 5134335        | 4615385                   | 5538461                 |
| 7       | 539114        | 3        | 19          | 90      | 1952             | 1910             | 1174             | 5676741        | 5538462                   | 6461538                 |
| 8       | 1302791       | 2        | 6           | 95      | 1638             | 1241             | 0                | 6984568        | 6461539                   | 7384615                 |
| 9       | 1253088       | 1        | 6           | 90      | 1472             | 0                | 0                | 8240535        | 7384616                   | 8307692                 |
| 10      | 204897        | 1        | 10          | 65      | 1075             | 0                | 0                | 8446904        | 8307693                   | 9230769                 |
| 11      | 1399366       | 1        | 17          | 95      | 1797             | 0                | 0                | 9847345        | 9230770                   | 10153846                |
| 12      | 569647        | 2        | 8           | 65      | 1166             | 1860             | 0                | 10418789       | 10153847                  | 11076923                |
| 13      | 1243893       | 3        | 20          | 70      | 1819             | 1439             | 1819             | 11665708       | 11076924                  | 12000000                |

Total number of pulses in waveform = 25

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## Type 5 Radar Waveform\_19

Waveform Num = 19  
Num of Bursts = 18  
Burst Interval (us) = 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 467107        | 3        | 15          | 50      | 1458             | 1960             | 1445             | 467107         | 0                         | 666666                  |
| 2       | 349773        | 3        | 13          | 100     | 1550             | 1111             | 1763             | 821743         | 666667                    | 1333333                 |
| 3       | 614584        | 1        | 20          | 95      | 1271             | 0                | 0                | 1440751        | 1333334                   | 2000000                 |
| 4       | 849502        | 1        | 16          | 75      | 1677             | 0                | 0                | 2291524        | 2000001                   | 2666667                 |
| 5       | 542331        | 2        | 7           | 75      | 1542             | 1615             | 0                | 2835532        | 2666668                   | 3333334                 |
| 6       | 503862        | 2        | 12          | 90      | 1281             | 1358             | 0                | 3342551        | 3333335                   | 4000001                 |
| 7       | 1047587       | 2        | 17          | 65      | 1179             | 1061             | 0                | 4392777        | 4000002                   | 4666668                 |
| 8       | 288369        | 1        | 19          | 70      | 1924             | 0                | 0                | 4683386        | 4666669                   | 5333335                 |
| 9       | 1251732       | 3        | 13          | 50      | 1473             | 1049             | 1327             | 5937042        | 5333336                   | 6000002                 |
| 10      | 243702        | 2        | 7           | 95      | 1206             | 1510             | 0                | 6184593        | 6000003                   | 6666669                 |
| 11      | 936693        | 1        | 13          | 50      | 1291             | 0                | 0                | 7124002        | 6666670                   | 7333336                 |
| 12      | 814162        | 1        | 14          | 50      | 1987             | 0                | 0                | 7939455        | 7333337                   | 8000003                 |
| 13      | 658933        | 2        | 18          | 65      | 1282             | 1792             | 0                | 8600375        | 8000004                   | 8666670                 |
| 14      | 168748        | 3        | 16          | 90      | 1511             | 1933             | 1867             | 8772197        | 8666671                   | 9333337                 |
| 15      | 768529        | 3        | 18          | 100     | 1916             | 1929             | 1314             | 9546037        | 9333338                   | 10000004                |
| 16      | 1104999       | 2        | 10          | 100     | 1237             | 1720             | 0                | 10656195       | 10000005                  | 10666671                |
| 17      | 243973        | 1        | 18          | 85      | 1859             | 0                | 0                | 10903125       | 10666672                  | 11333338                |
| 18      | 663730        | 2        | 6           | 70      | 1937             | 1079             | 0                | 11568714       | 11333339                  | 12000005                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_20

Waveform Num = 20  
Num of Bursts = 17  
Burst Interval (us) = 705882

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 647544        | 1        | 17          | 90      | 1798             | 0                | 0                | 647544         | 0                         | 705881                  |
| 2       | 310755        | 2        | 9           | 90      | 1768             | 1637             | 0                | 960097         | 705882                    | 1411763                 |
| 3       | 524070        | 1        | 15          | 65      | 1312             | 0                | 0                | 1487562        | 1411764                   | 2117645                 |
| 4       | 991108        | 3        | 10          | 65      | 1689             | 1592             | 1319             | 2479982        | 2117646                   | 2823527                 |
| 5       | 841903        | 3        | 19          | 75      | 1135             | 1801             | 1107             | 3326485        | 2823528                   | 3529409                 |
| 6       | 586408        | 3        | 17          | 85      | 1517             | 1172             | 1754             | 3916936        | 3529410                   | 4235291                 |
| 7       | 843892        | 3        | 20          | 50      | 1646             | 2000             | 1198             | 4765271        | 4235292                   | 4941173                 |
| 8       | 780577        | 3        | 19          | 70      | 1299             | 1820             | 1209             | 5550692        | 4941174                   | 5647055                 |
| 9       | 480697        | 2        | 17          | 70      | 1305             | 1930             | 0                | 6035717        | 5647056                   | 6352937                 |
| 10      | 547245        | 2        | 8           | 95      | 1822             | 1755             | 0                | 6586197        | 6352938                   | 7058819                 |
| 11      | 763100        | 2        | 20          | 75      | 1212             | 1049             | 0                | 7352874        | 7058820                   | 7764701                 |
| 12      | 461572        | 1        | 10          | 90      | 1379             | 0                | 0                | 7816707        | 7764702                   | 8470583                 |
| 13      | 1160114       | 1        | 11          | 75      | 1190             | 0                | 0                | 8978200        | 8470584                   | 9176465                 |
| 14      | 707933        | 1        | 20          | 80      | 1255             | 0                | 0                | 9687323        | 9176466                   | 9882347                 |
| 15      | 290396        | 3        | 14          | 55      | 1244             | 1143             | 1263             | 9978974        | 9882348                   | 10588229                |
| 16      | 699152        | 3        | 11          | 75      | 1822             | 1824             | 1045             | 10681776       | 10588230                  | 11294111                |
| 17      | 707354        | 1        | 12          | 55      | 1844             | 0                | 0                | 11393821       | 11294112                  | 11999993                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_21

Waveform Num = 21  
Num of Bursts = 16  
Burst Interval (us) = 750000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 28753         | 2        | 8           | 65      | 1195             | 1452             | 0                | 28753          | 0                         | 749999                  |
| 2       | 1212289       | 1        | 11          | 65      | 1192             | 0                | 0                | 1243689        | 750000                    | 1499999                 |
| 3       | 768057        | 1        | 9           | 90      | 1869             | 0                | 0                | 2012938        | 1500000                   | 2249999                 |
| 4       | 865478        | 2        | 8           | 100     | 1362             | 1900             | 0                | 2880285        | 2250000                   | 2999999                 |
| 5       | 390226        | 1        | 10          | 75      | 1855             | 0                | 0                | 3273773        | 3000000                   | 3749999                 |
| 6       | 580971        | 3        | 6           | 85      | 1438             | 1728             | 1260             | 3856599        | 3750000                   | 4499999                 |
| 7       | 963229        | 3        | 6           | 55      | 1571             | 1716             | 1198             | 4824254        | 4500000                   | 5249999                 |
| 8       | 663545        | 2        | 14          | 50      | 1695             | 1395             | 0                | 5492284        | 5250000                   | 5999999                 |
| 9       | 507215        | 2        | 18          | 70      | 1964             | 1858             | 0                | 6002589        | 6000000                   | 6749999                 |
| 10      | 1400416       | 3        | 17          | 100     | 1354             | 1335             | 1497             | 7406827        | 6750000                   | 7499999                 |
| 11      | 686896        | 2        | 16          | 75      | 1478             | 1192             | 0                | 8097909        | 7500000                   | 8249999                 |
| 12      | 690327        | 2        | 8           | 75      | 1239             | 1125             | 0                | 8790906        | 8250000                   | 8999999                 |
| 13      | 654411        | 2        | 15          | 75      | 1255             | 1351             | 0                | 9447681        | 9000000                   | 9749999                 |
| 14      | 388603        | 1        | 14          | 60      | 1284             | 0                | 0                | 9838890        | 9750000                   | 10499999                |
| 15      | 704632        | 1        | 6           | 50      | 1544             | 0                | 0                | 10544806       | 10500000                  | 11249999                |
| 16      | 1348936       | 3        | 10          | 60      | 1193             | 1018             | 1152             | 11895286       | 11250000                  | 11999999                |

Total number of pulses in waveform = 31

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## Type 5 Radar Waveform\_22

Waveform Num = 22  
Num of Bursts = 16  
Burst Interval (us) = 750000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 527591        | 1        | 12          | 95      | 1000             | 0                | 0                | 527591         | 0                         | 749999                  |
| 2       | 842409        | 1        | 12          | 65      | 1844             | 0                | 0                | 1371000        | 750000                    | 1499999                 |
| 3       | 204960        | 1        | 15          | 55      | 1131             | 0                | 0                | 1577804        | 1500000                   | 2249999                 |
| 4       | 1175354       | 1        | 15          | 65      | 1307             | 0                | 0                | 2754289        | 2250000                   | 2999999                 |
| 5       | 311658        | 1        | 10          | 55      | 1683             | 0                | 0                | 3067254        | 3000000                   | 3749999                 |
| 6       | 807088        | 1        | 12          | 70      | 1498             | 0                | 0                | 3876025        | 3750000                   | 4499999                 |
| 7       | 754480        | 2        | 19          | 50      | 1579             | 1708             | 0                | 4632003        | 4500000                   | 5249999                 |
| 8       | 1144372       | 2        | 14          | 75      | 1875             | 1306             | 0                | 5779968        | 5250000                   | 5999999                 |
| 9       | 406645        | 3        | 11          | 85      | 1050             | 1323             | 1734             | 6189498        | 6000000                   | 6749999                 |
| 10      | 1254145       | 1        | 7           | 70      | 1154             | 0                | 0                | 7447750        | 6750000                   | 7499999                 |
| 11      | 551865        | 2        | 12          | 55      | 1866             | 1403             | 0                | 8000769        | 7500000                   | 8249999                 |
| 12      | 902563        | 3        | 20          | 60      | 1360             | 1620             | 1288             | 8906601        | 8250000                   | 8999999                 |
| 13      | 399301        | 2        | 18          | 90      | 1156             | 1040             | 0                | 9310170        | 9000000                   | 9749999                 |
| 14      | 906901        | 3        | 13          | 75      | 1592             | 1302             | 1797             | 10219267       | 9750000                   | 10499999                |
| 15      | 685994        | 2        | 18          | 75      | 1866             | 1360             | 0                | 10909952       | 10500000                  | 11249999                |
| 16      | 1017280       | 3        | 9           | 65      | 1429             | 1285             | 1306             | 11930458       | 11250000                  | 11999999                |

Total number of pulses in waveform = 29

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## Type 5 Radar Waveform\_23

Waveform Num = 23  
Num of Bursts = 11  
Burst Interval (us)= 1090909

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 127203        | 2        | 20          | 75      | 1085             | 1186             | 0                | 127203         | 0                         | 1090908                 |
| 2       | 1415428       | 2        | 16          | 65      | 1140             | 1616             | 0                | 1544902        | 1090909                   | 2181817                 |
| 3       | 975972        | 3        | 7           | 85      | 1290             | 1240             | 1703             | 2523630        | 2181818                   | 3272726                 |
| 4       | 1723154       | 2        | 12          | 50      | 1060             | 1020             | 0                | 4251017        | 3272727                   | 4363635                 |
| 5       | 1097683       | 3        | 5           | 50      | 1251             | 1718             | 1877             | 5350780        | 4363636                   | 5454544                 |
| 6       | 222004        | 3        | 8           | 90      | 1975             | 1169             | 1218             | 5577630        | 5454545                   | 6545453                 |
| 7       | 1022738       | 2        | 14          | 55      | 1712             | 1726             | 0                | 6604730        | 6545454                   | 7636362                 |
| 8       | 1477505       | 2        | 6           | 65      | 1429             | 1402             | 0                | 8085673        | 7636363                   | 8727271                 |
| 9       | 1244464       | 3        | 19          | 70      | 1945             | 1434             | 1465             | 9332968        | 8727272                   | 9818180                 |
| 10      | 1509269       | 2        | 11          | 75      | 1972             | 1156             | 0                | 10847081       | 9818181                   | 10909089                |
| 11      | 87024         | 3        | 10          | 90      | 1100             | 1692             | 1949             | 10937233       | 10909090                  | 11999998                |

Total number of pulses in waveform = 27

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## Type 5 Radar Waveform\_24

Waveform Num = 24  
Num of Bursts = 18  
Burst Interval (us)= 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 362663        | 1        | 15          | 65      | 1441             | 0                | 0                | 362663         | 0                         | 666666                  |
| 2       | 921557        | 1        | 19          | 85      | 1838             | 0                | 0                | 1285661        | 666667                    | 1333333                 |
| 3       | 559004        | 2        | 6           | 90      | 1892             | 1889             | 0                | 1846503        | 1333334                   | 2000000                 |
| 4       | 389717        | 3        | 16          | 70      | 1259             | 1665             | 1182             | 2240001        | 2000001                   | 2666667                 |
| 5       | 1042275       | 3        | 19          | 100     | 1914             | 1091             | 1540             | 3286382        | 2666668                   | 3333334                 |
| 6       | 323561        | 2        | 19          | 95      | 1887             | 1329             | 0                | 3614488        | 3333335                   | 4000001                 |
| 7       | 826519        | 1        | 18          | 80      | 1282             | 0                | 0                | 4444223        | 4000002                   | 4666668                 |
| 8       | 864001        | 1        | 12          | 70      | 1111             | 0                | 0                | 5309506        | 4666669                   | 5333335                 |
| 9       | 100331        | 1        | 14          | 95      | 1094             | 0                | 0                | 5410948        | 5333336                   | 6000002                 |
| 10      | 1182508       | 3        | 17          | 65      | 1592             | 1503             | 1722             | 6594550        | 6000003                   | 6666669                 |
| 11      | 177083        | 3        | 20          | 70      | 1157             | 1404             | 1294             | 6776450        | 6666670                   | 7333336                 |
| 12      | 774500        | 2        | 5           | 80      | 1683             | 1827             | 0                | 7554805        | 7333337                   | 8000003                 |
| 13      | 478015        | 1        | 20          | 65      | 1933             | 0                | 0                | 8036330        | 8000004                   | 8666670                 |
| 14      | 1238084       | 2        | 19          | 100     | 1925             | 1336             | 0                | 9276347        | 8666671                   | 9333337                 |
| 15      | 241746        | 2        | 8           | 90      | 1011             | 1207             | 0                | 9521354        | 9333338                   | 10000004                |
| 16      | 1124699       | 2        | 8           | 100     | 1241             | 1143             | 0                | 10648271       | 10000005                  | 10666671                |
| 17      | 147816        | 3        | 13          | 55      | 1762             | 1723             | 1185             | 10798471       | 10666672                  | 11333338                |
| 18      | 749716        | 2        | 17          | 50      | 1735             | 1292             | 0                | 11552857       | 11333339                  | 12000005                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_25

Waveform Num = 25  
Num of Bursts = 13  
Burst Interval (us)= 923077

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 235912        | 1        | 17          | 95      | 1194             | 0                | 0                | 235912         | 0                         | 923076                  |
| 2       | 1269235       | 1        | 18          | 90      | 1230             | 0                | 0                | 1506341        | 923077                    | 1846153                 |
| 3       | 684543        | 3        | 9           | 70      | 1440             | 1956             | 1431             | 2192114        | 1846154                   | 2769230                 |
| 4       | 1395588       | 1        | 7           | 80      | 1019             | 0                | 0                | 3592529        | 2769231                   | 3692307                 |
| 5       | 123564        | 3        | 6           | 55      | 1752             | 1718             | 1806             | 3717112        | 3692308                   | 4615384                 |
| 6       | 1494976       | 2        | 7           | 100     | 1705             | 1699             | 0                | 5217364        | 4615385                   | 5538461                 |
| 7       | 323827        | 1        | 19          | 70      | 1439             | 0                | 0                | 5544595        | 5538462                   | 6461538                 |
| 8       | 1334231       | 1        | 8           | 80      | 1282             | 0                | 0                | 6880265        | 6461539                   | 7384615                 |
| 9       | 968004        | 3        | 11          | 50      | 1799             | 1302             | 1192             | 7849551        | 7384616                   | 8307692                 |
| 10      | 776610        | 1        | 15          | 100     | 1633             | 0                | 0                | 8630454        | 8307693                   | 9230769                 |
| 11      | 637214        | 3        | 17          | 75      | 1345             | 1813             | 1962             | 9269301        | 9230770                   | 10153846                |
| 12      | 1459833       | 2        | 19          | 90      | 1524             | 1694             | 0                | 10734254       | 10153847                  | 11076923                |
| 13      | 665189        | 2        | 12          | 80      | 1017             | 1061             | 0                | 11402661       | 11076924                  | 12000000                |

Total number of pulses in waveform = 24

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## Type 5 Radar Waveform\_26

Waveform Num = 26  
Num of Bursts = 18  
Burst Interval (us) = 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 70156         | 2        | 17          | 60      | 1957             | 1079             | 0                | 70156          | 0                         | 666666                  |
| 2       | 696764        | 1        | 15          | 60      | 1041             | 0                | 0                | 769956         | 666667                    | 1333333                 |
| 3       | 794948        | 3        | 17          | 55      | 1073             | 1758             | 1796             | 1565945        | 1333334                   | 2000000                 |
| 4       | 781015        | 3        | 9           | 50      | 1820             | 1283             | 1738             | 2351587        | 2000001                   | 2666667                 |
| 5       | 890875        | 2        | 7           | 80      | 1697             | 1957             | 0                | 3247303        | 2666668                   | 3333334                 |
| 6       | 326938        | 2        | 10          | 80      | 1312             | 1512             | 0                | 3577895        | 3333335                   | 4000001                 |
| 7       | 847803        | 2        | 18          | 75      | 1134             | 1295             | 0                | 4428522        | 4000002                   | 4666668                 |
| 8       | 245866        | 2        | 16          | 75      | 1393             | 1576             | 0                | 4676817        | 4666669                   | 5333335                 |
| 9       | 790908        | 3        | 20          | 90      | 1113             | 1798             | 1573             | 5470694        | 5333336                   | 6000002                 |
| 10      | 1188181       | 1        | 19          | 55      | 1148             | 0                | 0                | 6663359        | 6000003                   | 6666669                 |
| 11      | 262376        | 2        | 15          | 60      | 1896             | 1112             | 0                | 6926883        | 6666670                   | 7333336                 |
| 12      | 722588        | 1        | 12          | 70      | 1653             | 0                | 0                | 7652479        | 7333337                   | 8000003                 |
| 13      | 942790        | 3        | 14          | 60      | 1331             | 1862             | 1537             | 8596922        | 8000004                   | 8666670                 |
| 14      | 327581        | 1        | 12          | 80      | 1432             | 0                | 0                | 8929233        | 8666671                   | 9333337                 |
| 15      | 1029932       | 3        | 15          | 75      | 1116             | 1619             | 1686             | 9960597        | 9333338                   | 10000004                |
| 16      | 94257         | 1        | 20          | 55      | 1683             | 0                | 0                | 10059275       | 10000005                  | 10666671                |
| 17      | 846668        | 1        | 7           | 55      | 1067             | 0                | 0                | 10907626       | 10666672                  | 11333338                |
| 18      | 763336        | 2        | 15          | 60      | 1508             | 1759             | 0                | 11672029       | 11333339                  | 12000005                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_27

Waveform Num = 27  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 268046        | 3        | 17          | 60      | 1300             | 1361             | 1075             | 268046         | 0                         | 631578                  |
| 2       | 596526        | 1        | 12          | 75      | 1111             | 0                | 0                | 868308         | 631579                    | 1263157                 |
| 3       | 517323        | 1        | 14          | 100     | 1161             | 0                | 0                | 1386742        | 1263158                   | 1894736                 |
| 4       | 597185        | 1        | 7           | 95      | 1116             | 0                | 0                | 1985078        | 1894737                   | 2526315                 |
| 5       | 560678        | 1        | 19          | 85      | 1917             | 0                | 0                | 2546872        | 2526316                   | 3157894                 |
| 6       | 1047715       | 2        | 20          | 65      | 1202             | 1205             | 0                | 3596504        | 3157895                   | 3789473                 |
| 7       | 441323        | 2        | 15          | 75      | 1177             | 1356             | 0                | 4040234        | 3789474                   | 4421052                 |
| 8       | 1000006       | 3        | 18          | 65      | 1703             | 1691             | 1039             | 5042773        | 4421053                   | 5052631                 |
| 9       | 109953        | 1        | 7           | 90      | 1419             | 0                | 0                | 5167159        | 5052632                   | 5684210                 |
| 10      | 1042449       | 2        | 8           | 85      | 1031             | 1192             | 0                | 6201027        | 5684211                   | 6315789                 |
| 11      | 459202        | 2        | 17          | 70      | 1278             | 1262             | 0                | 6662452        | 6315790                   | 6947368                 |
| 12      | 388492        | 2        | 10          | 95      | 1495             | 1730             | 0                | 7053484        | 6947369                   | 7578947                 |
| 13      | 594995        | 2        | 12          | 80      | 1523             | 1593             | 0                | 7651704        | 7578948                   | 8210526                 |
| 14      | 932822        | 3        | 16          | 100     | 1322             | 1557             | 1513             | 8587642        | 8210527                   | 8842105                 |
| 15      | 543086        | 2        | 20          | 60      | 1845             | 1250             | 0                | 9135120        | 8842106                   | 9473684                 |
| 16      | 776831        | 1        | 17          | 95      | 1453             | 0                | 0                | 9915046        | 9473685                   | 10105263                |
| 17      | 563194        | 1        | 10          | 75      | 1601             | 0                | 0                | 10479693       | 10105264                  | 10736842                |
| 18      | 475670        | 3        | 13          | 90      | 1866             | 1251             | 1274             | 10956964       | 10736843                  | 11368421                |
| 19      | 780371        | 2        | 13          | 60      | 1734             | 1238             | 0                | 11741726       | 11368422                  | 12000000                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_28

Waveform Num = 28  
Num of Bursts = 19  
Burst Interval (us) = 631579

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 521504        | 1        | 9           | 80      | 1264             | 0                | 0                | 521504         | 0                         | 631578                  |
| 2       | 512803        | 2        | 6           | 85      | 1341             | 1778             | 0                | 1035571        | 631579                    | 1263157                 |
| 3       | 258162        | 3        | 19          | 55      | 1276             | 2000             | 1273             | 1296852        | 1263158                   | 1894736                 |
| 4       | 734828        | 1        | 9           | 80      | 1114             | 0                | 0                | 2036229        | 1894737                   | 2526315                 |
| 5       | 1117901       | 1        | 6           | 100     | 1865             | 0                | 0                | 3155244        | 2526316                   | 3157894                 |
| 6       | 64293         | 3        | 6           | 80      | 1667             | 1124             | 1943             | 3221402        | 3157895                   | 3789473                 |
| 7       | 727984        | 1        | 16          | 75      | 1700             | 0                | 0                | 3954120        | 3789474                   | 4421052                 |
| 8       | 478441        | 2        | 13          | 85      | 1690             | 1869             | 0                | 4434261        | 4421053                   | 5052631                 |
| 9       | 1081193       | 3        | 17          | 100     | 1836             | 1909             | 1347             | 5519013        | 5052632                   | 5684210                 |
| 10      | 542982        | 2        | 10          | 70      | 1730             | 1034             | 0                | 6067087        | 5684211                   | 6315789                 |
| 11      | 805496        | 3        | 19          | 65      | 1413             | 1423             | 1499             | 6875347        | 6315790                   | 6947368                 |
| 12      | 198196        | 1        | 6           | 60      | 1767             | 0                | 0                | 7077878        | 6947369                   | 7578947                 |
| 13      | 893673        | 2        | 18          | 60      | 1170             | 1558             | 0                | 7973318        | 7578948                   | 8210526                 |
| 14      | 394699        | 2        | 5           | 50      | 1499             | 1523             | 0                | 8370745        | 8210527                   | 8842105                 |
| 15      | 639021        | 1        | 8           | 100     | 1653             | 0                | 0                | 9012788        | 8842106                   | 9473684                 |
| 16      | 1054885       | 3        | 8           | 65      | 1116             | 1098             | 1799             | 10069326       | 9473685                   | 10105263                |
| 17      | 239778        | 1        | 6           | 70      | 1583             | 0                | 0                | 10313117       | 10105264                  | 10736842                |
| 18      | 512712        | 3        | 10          | 60      | 1220             | 1667             | 1206             | 10827412       | 10736843                  | 11368421                |
| 19      | 1037620       | 1        | 14          | 95      | 1922             | 0                | 0                | 11869125       | 11368422                  | 12000000                |

Total number of pulses in waveform = 35

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## Type 5 Radar Waveform\_29

Waveform Num = 29  
Num of Bursts = 18  
Burst Interval (us) = 666667

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 57369         | 3        | 7           | 75      | 1724             | 1038             | 1378             | 626775         | 0                         | 666666                  |
| 2       | 1110411       | 1        | 15          | 100     | 1337             | 0                | 0                | 688284         | 666667                    | 1333333                 |
| 3       | 665182        | 1        | 6           | 85      | 1751             | 0                | 0                | 1800032        | 1333334                   | 2000000                 |
| 4       | 327894        | 3        | 13          | 75      | 1877             | 1241             | 1229             | 2466965        | 2000001                   | 2666667                 |
| 5       | 721697        | 3        | 15          | 95      | 1606             | 1229             | 1801             | 2799206        | 2666668                   | 3333334                 |
| 6       | 934384        | 2        | 17          | 50      | 1094             | 1133             | 0                | 3525539        | 3333335                   | 4000001                 |
| 7       | 646358        | 1        | 18          | 85      | 1972             | 0                | 0                | 4462150        | 4000002                   | 4666668                 |
| 8       | 848303        | 3        | 18          | 70      | 1872             | 1201             | 1703             | 5110480        | 4666669                   | 5333335                 |
| 9       | 672297        | 2        | 6           | 90      | 1750             | 1812             | 0                | 5963559        | 5333336                   | 6000002                 |
| 10      | 474150        | 1        | 7           | 60      | 1094             | 0                | 0                | 6639418        | 6000003                   | 6666669                 |
| 11      | 623505        | 3        | 20          | 80      | 1166             | 1283             | 1682             | 7114662        | 6666670                   | 7333336                 |
| 12      | 605433        | 3        | 20          | 100     | 1145             | 1983             | 1988             | 7742298        | 7333337                   | 8000003                 |
| 13      | 945535        | 1        | 14          | 95      | 1135             | 0                | 0                | 8352847        | 8000004                   | 8666670                 |
| 14      | 271585        | 2        | 17          | 100     | 1349             | 1975             | 0                | 9299517        | 8666671                   | 9333337                 |
| 15      | 799644        | 2        | 7           | 80      | 1249             | 1535             | 0                | 9574426        | 9333338                   | 10000004                |
| 16      | 459194        | 2        | 6           | 75      | 1367             | 1137             | 0                | 10376854       | 10000005                  | 10666671                |
| 17      | 727779        | 1        | 17          | 55      | 1894             | 0                | 0                | 10838552       | 10666672                  | 11333338                |
| 18      | 727779        | 3        | 6           | 100     | 1864             | 1827             | 1775             | 11568225       | 11333339                  | 12000005                |

Total number of pulses in waveform = 37

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## Type 5 Radar Waveform\_30

Waveform Num = 30  
Num of Bursts = 16  
Burst Interval (us) = 750000

| Burst # | Off Time (us) | # Pulses | Chirp (MHz) | PW (us) | Pulse 1 Pri (us) | Pulse 2 Pri (us) | Pulse 3 Pri (us) | Start Loc (us) | Start Burst Interval (us) | End Burst Interval (us) |
|---------|---------------|----------|-------------|---------|------------------|------------------|------------------|----------------|---------------------------|-------------------------|
| 1       | 730129        | 3        | 9           | 85      | 1193             | 1023             | 1125             | 730129         | 0                         | 749999                  |
| 2       | 275532        | 1        | 20          | 60      | 1219             | 0                | 0                | 1009002        | 750000                    | 1499999                 |
| 3       | 1185745       | 3        | 17          | 90      | 1717             | 1558             | 1956             | 2195966        | 1500000                   | 2249999                 |
| 4       | 221131        | 3        | 19          | 85      | 1039             | 1008             | 1158             | 2422328        | 2250000                   | 2999999                 |
| 5       | 1059344       | 2        | 20          | 70      | 1122             | 1981             | 0                | 3484877        | 3000000                   | 3749999                 |
| 6       | 1002372       | 2        | 17          | 85      | 1390             | 1585             | 0                | 4490352        | 3750000                   | 4499999                 |
| 7       | 256860        | 3        | 17          | 55      | 1100             | 1124             | 1728             | 4750187        | 4500000                   | 5249999                 |
| 8       | 586408        | 3        | 16          | 80      | 1568             | 1693             | 1420             | 5340547        | 5250000                   | 5999999                 |
| 9       | 1004497       | 3        | 6           | 65      | 1831             | 1999             | 1790             | 6349725        | 6000000                   | 6749999                 |
| 10      | 1019760       | 2        | 18          | 65      | 1952             | 1110             | 0                | 7375105        | 6750000                   | 7499999                 |
| 11      | 636120        | 3        | 16          | 95      | 1498             | 1048             | 1168             | 8014287        | 7500000                   | 8249999                 |
| 12      | 746567        | 3        | 13          | 85      | 1322             | 1514             | 1521             | 8764568        | 8250000                   | 8999999                 |
| 13      | 505911        | 3        | 5           | 65      | 1530             | 1951             | 1848             | 9274836        | 9000000                   | 9749999                 |
| 14      | 749240        | 1        | 8           | 70      | 1825             | 0                | 0                | 10029405       | 9750000                   | 10499999                |
| 15      | 472118        | 3        | 7           | 55      | 1310             | 1664             | 1296             | 10503348       | 10500000                  | 11249999                |
| 16      | 785079        | 1        | 18          | 65      | 1703             | 0                | 0                | 11292697       | 11250000                  | 11999999                |

Total number of pulses in waveform = 39

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# Radar Type 6 - Radar Statistical Performance

| Trail #                  | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection | Trail # | Test Freq.<br>(MHz) | 1=Detection<br>0=No Detection |
|--------------------------|---------------------|-------------------------------|---------|---------------------|-------------------------------|
| 1                        | 5251                | 1                             | 16      | 5289                | 1                             |
| 2                        | 5253                | 1                             | 17      | 5295                | 1                             |
| 3                        | 5256                | 1                             | 18      | 5298                | 1                             |
| 4                        | 5259                | 1                             | 19      | 5301                | 1                             |
| 5                        | 5262                | 1                             | 20      | 5304                | 1                             |
| 6                        | 5265                | 1                             | 21      | 5307                | 1                             |
| 7                        | 5268                | 1                             | 22      | 5310                | 1                             |
| 8                        | 5271                | 1                             | 23      | 5313                | 1                             |
| 9                        | 5274                | 1                             | 24      | 5316                | 1                             |
| 10                       | 5277                | 1                             | 25      | 5319                | 1                             |
| 11                       | 5280                | 1                             | 26      | 5322                | 1                             |
| 12                       | 8283                | 1                             | 27      | 5325                | 1                             |
| 13                       | 5286                | 1                             | 28      | 5326                | 1                             |
| 14                       | 5286                | 1                             | 29      | 5327                | 1                             |
| 15                       | 5292                | 1                             | 30      | 5330                | 1                             |
| Detection Percentage (%) |                     |                               |         |                     | 100%                          |

| Radar waveform #1 |                 |                  | Radar waveform #2 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 1                 | 5253            | 3                | 20                | 5257            | 60               |
| 2                 | 5262            | 6                | 51                | 5252            | 153              |
| 13                | 5255            | 39               | 69                | 5276            | 207              |
| 27                | 5278            | 81               | 90                | 5281            | 270              |
| 69                | 5260            | 207              | --                | --              | --               |
| 87                | 5270            | 261              | --                | --              | --               |
| 95                | 5263            | 285              | --                | --              | --               |

| Radar waveform #3 |                 |                  | Radar waveform #4 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 2                 | 5275            | 6                | 0                 | 5287            | 0                |
| 12                | 5254            | 36               | 3                 | 5281            | 9                |
| 32                | 5278            | 96               | 6                 | 5279            | 18               |
| 44                | 5261            | 132              | 10                | 5250            | 30               |
| 55                | 5252            | 165              | 30                | 5275            | 90               |
| 68                | 5259            | 204              | 40                | 5271            | 120              |
| 99                | 5266            | 297              | 42                | 5284            | 126              |
| --                | --              | --               | 79                | 5266            | 237              |
| --                | --              | --               | 88                | 5256            | 264              |
| --                | --              | --               | 90                | 5287            | 270              |

| Radar waveform #5 |                 |                  | Radar waveform #6 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 5                 | 5278            | 15               | 7                 | 5269            | 21               |
| 18                | 5276            | 54               | 8                 | 5273            | 24               |
| 20                | 5266            | 60               | 17                | 5290            | 51               |
| 45                | 5287            | 135              | 36                | 5276            | 108              |
| 49                | 5256            | 147              | 55                | 5277            | 165              |
| 54                | 5281            | 162              | 59                | 5284            | 177              |
| 56                | 5288            | 168              | 73                | 5263            | 219              |
| 73                | 5251            | 219              | 75                | 5265            | 225              |
| 76                | 5273            | 228              | 83                | 5256            | 249              |
| 77                | 5265            | 231              | 89                | 5269            | 267              |
| 78                | 5263            | 234              | --                | --              | --               |
| 79                | 5271            | 237              | --                | --              | --               |
| 83                | 5284            | 249              | --                | --              | --               |
| 85                | 5293            | 255              | --                | --              | --               |
| 90                | 5286            | 270              | --                | --              | --               |
| 97                | 5270            | 291              | --                | --              | --               |

| Radar waveform #7 |                 |                  | Radar waveform #8 |                 |                  |
|-------------------|-----------------|------------------|-------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number    | Frequency (MHz) | Pulse Start (ms) |
| 6                 | 5259            | 18               | 25                | 5250            | 75               |
| 22                | 5273            | 66               | 29                | 5256            | 87               |
| 25                | 5265            | 75               | 31                | 5258            | 93               |
| 56                | 5283            | 168              | 42                | 5277            | 126              |
| 57                | 5274            | 171              | 59                | 5254            | 177              |
| 64                | 5294            | 192              | 72                | 5270            | 216              |
| 71                | 5288            | 213              | 87                | 5276            | 261              |
| 78                | 5295            | 234              | --                | --              | --               |
| 81                | 5272            | 243              | --                | --              | --               |
| 89                | 5269            | 267              | --                | --              | --               |

| Radar waveform #9 |                 |                  | Radar waveform #10 |                 |                  |
|-------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number    | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 6                 | 5277            | 18               | 18                 | 5264            | 54               |
| 11                | 5269            | 33               | 22                 | 5251            | 66               |
| 25                | 5295            | 75               | 51                 | 5280            | 153              |
| 41                | 5283            | 123              | 56                 | 5266            | 168              |
| 59                | 5267            | 177              | 72                 | 5298            | 216              |
| 66                | 5273            | 198              | 75                 | 5273            | 225              |
| 69                | 5250            | 207              | 79                 | 5256            | 237              |
| 70                | 5293            | 210              | 84                 | 5255            | 252              |
| 71                | 5252            | 213              | 94                 | 5300            | 282              |
| 93                | 5291            | 279              | 99                 | 5265            | 297              |
| 97                | 5290            | 291              | --                 | --              | --               |

| Radar waveform #11 |                 |                  | Radar waveform #12 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 10                 | 5258            | 30               | 13                 | 5290            | 39               |
| 22                 | 5267            | 66               | 15                 | 5308            | 45               |
| 42                 | 5282            | 126              | 37                 | 5265            | 111              |
| 45                 | 5274            | 135              | 54                 | 5272            | 162              |
| 70                 | 5261            | 210              | 69                 | 5262            | 207              |
| 71                 | 5263            | 213              | 71                 | 5311            | 213              |
| 96                 | 5259            | 288              | 82                 | 5304            | 246              |

| Radar waveform #13 |                 |                  | Radar waveform #14 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 20                 | 5280            | 60               | 27                 | 5317            | 81               |
| 23                 | 5276            | 69               | 36                 | 5296            | 108              |
| 24                 | 5313            | 72               | 40                 | 5263            | 120              |
| 26                 | 5298            | 78               | 48                 | 5281            | 144              |
| 36                 | 5270            | 108              | 56                 | 5305            | 168              |
| 39                 | 5305            | 117              | 60                 | 5265            | 180              |
| 46                 | 5255            | 138              | 67                 | 5301            | 201              |
| 60                 | 5259            | 180              | 74                 | 5318            | 222              |
| 85                 | 5260            | 255              | 75                 | 5298            | 225              |
| 92                 | 5286            | 276              | 96                 | 5268            | 288              |

| Radar waveform #15 |                 |                  | Radar waveform #16 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 7                  | 5266            | 21               | 14                 | 5305            | 42               |
| 17                 | 5270            | 51               | 16                 | 5320            | 48               |
| 20                 | 5261            | 60               | 25                 | 5319            | 75               |
| 21                 | 5283            | 63               | 65                 | 5285            | 195              |
| 38                 | 5267            | 114              | 61                 | 5297            | 183              |
| 52                 | 5321            | 156              | 67                 | 5271            | 201              |
| 60                 | 5264            | 180              | 75                 | 5300            | 225              |
| 64                 | 5280            | 192              | 88                 | 5312            | 264              |
| 74                 | 5271            | 222              | --                 | --              | --               |
| 95                 | 5321            | 285              | --                 | --              | --               |

| Radar waveform #17 |                 |                  | Radar waveform #18 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 2                  | 5311            | 6                | 7                  | 5302            | 21               |
| 12                 | 5300            | 36               | 11                 | 5287            | 33               |
| 36                 | 5284            | 108              | 12                 | 5308            | 36               |
| 37                 | 5281            | 111              | 16                 | 5312            | 48               |
| 50                 | 5303            | 150              | 17                 | 5272            | 51               |
| 55                 | 5327            | 165              | 20                 | 5275            | 60               |
| 59                 | 5307            | 177              | 40                 | 5328            | 120              |
| 65                 | 5291            | 195              | 68                 | 5318            | 204              |
| 66                 | 5315            | 198              | 70                 | 5315            | 210              |
| 80                 | 5278            | 240              | 74                 | 5278            | 222              |
| 86                 | 5313            | 258              | 67                 | 5306            | 201              |
| 88                 | 5293            | 264              | 73                 | 5298            | 219              |
| 94                 | 5321            | 282              | 97                 | 5309            | 291              |
| 99                 | 5288            | 297              | 98                 | 5299            | 294              |

| Radar waveform #19 |                 |                  | Radar waveform #20 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 15                 | 5293            | 45               | 0                  | 5318            | 0                |
| 26                 | 5316            | 78               | 11                 | 5320            | 33               |
| 56                 | 5314            | 168              | 18                 | 5296            | 54               |
| 78                 | 5315            | 234              | 27                 | 5279            | 81               |
| 85                 | 5283            | 255              | 43                 | 5334            | 129              |
| 97                 | 5311            | 291              | 51                 | 5316            | 153              |
| 98                 | 5323            | 294              | 56                 | 5327            | 168              |
| --                 | --              | --               | 65                 | 5291            | 195              |
| --                 | --              | --               | 73                 | 5331            | 219              |
| --                 | --              | --               | 75                 | 5287            | 225              |
| --                 | --              | --               | 82                 | 5307            | 246              |

| Radar waveform #21 |                 |                  | Radar waveform #22 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 1                  | 5319            | 3                | 1                  | 5320            | 3                |
| 9                  | 5303            | 27               | 10                 | 5329            | 30               |
| 11                 | 5308            | 33               | 18                 | 5336            | 54               |
| 14                 | 5306            | 42               | 28                 | 5317            | 84               |
| 19                 | 5290            | 57               | 30                 | 5305            | 90               |
| 21                 | 5339            | 63               | 34                 | 5328            | 102              |
| 30                 | 5321            | 90               | 36                 | 5341            | 108              |
| 34                 | 5318            | 102              | 43                 | 5300            | 129              |
| 41                 | 5299            | 123              | 44                 | 5303            | 132              |
| 52                 | 5281            | 156              | 53                 | 5294            | 159              |
| 57                 | 5297            | 171              | 64                 | 5310            | 192              |
| 64                 | 5285            | 192              | 70                 | 5326            | 210              |
| 80                 | 5315            | 240              | 75                 | 5304            | 225              |
| 81                 | 5296            | 243              | 76                 | 5308            | 228              |
| --                 | --              | --               | 86                 | 5335            | 258              |

| Radar waveform #23 |                 |                  | Radar waveform #24 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 3                  | 5316            | 9                | 11                 | 5314            | 33               |
| 10                 | 5287            | 30               | 16                 | 5313            | 48               |
| 12                 | 5343            | 36               | 21                 | 5331            | 63               |
| 27                 | 5337            | 81               | 31                 | 5336            | 93               |
| 32                 | 5344            | 96               | 40                 | 5297            | 120              |
| 53                 | 5317            | 159              | 49                 | 5340            | 147              |
| 68                 | 5319            | 204              | 59                 | 5303            | 177              |
| 70                 | 5325            | 210              | 63                 | 5319            | 189              |
| 72                 | 5323            | 216              | 78                 | 5333            | 234              |
| 83                 | 5318            | 249              | 89                 | 5329            | 267              |
| 91                 | 5338            | 273              | 97                 | 5299            | 291              |
| 95                 | 5336            | 285              | --                 | --              | --               |
| 97                 | 5335            | 291              | --                 | --              | --               |

| Radar waveform #25 |                 |                  | Radar waveform #26 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 0                  | 5312            | 0                | 13                 | 5347            | 39               |
| 9                  | 5301            | 27               | 14                 | 5334            | 42               |
| 15                 | 5342            | 45               | 20                 | 5329            | 60               |
| 20                 | 5292            | 60               | 33                 | 5295            | 99               |
| 68                 | 5324            | 204              | 40                 | 5309            | 120              |
| 72                 | 5297            | 216              | 49                 | 5353            | 147              |
| 96                 | 5335            | 288              | 55                 | 5318            | 165              |
| 99                 | 5299            | 297              | 58                 | 5299            | 174              |
| --                 | --              | --               | 68                 | 5336            | 204              |
| --                 | --              | --               | 71                 | 5307            | 213              |
| --                 | --              | --               | 78                 | 5314            | 234              |
| --                 | --              | --               | 79                 | 5333            | 237              |
| --                 | --              | --               | 82                 | 5337            | 246              |
| --                 | --              | --               | 94                 | 5348            | 282              |
| --                 | --              | --               | --                 | --              | --               |

| Radar waveform #27 |                 |                  | Radar waveform #28 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 2                  | 5346            | 6                | 5                  | 5340            | 15               |
| 3                  | 5298            | 9                | 7                  | 5349            | 21               |
| 7                  | 5326            | 21               | 9                  | 5310            | 27               |
| 9                  | 5325            | 27               | 27                 | 5318            | 81               |
| 19                 | 5322            | 57               | 38                 | 5306            | 114              |
| 24                 | 5309            | 72               | 40                 | 5301            | 120              |
| 36                 | 5306            | 108              | 52                 | 5319            | 156              |
| 37                 | 5344            | 111              | 55                 | 5311            | 165              |
| 41                 | 5308            | 123              | 64                 | 5333            | 192              |
| 48                 | 5318            | 144              | 74                 | 5353            | 222              |
| 70                 | 5349            | 210              | 77                 | 5342            | 231              |
| 80                 | 5323            | 240              | 78                 | 5321            | 234              |
| 84                 | 5352            | 252              | 84                 | 5341            | 252              |

| Radar waveform #29 |                 |                  | Radar waveform #30 |                 |                  |
|--------------------|-----------------|------------------|--------------------|-----------------|------------------|
| Hopping Number     | Frequency (MHz) | Pulse Start (ms) | Hopping Number     | Frequency (MHz) | Pulse Start (ms) |
| 2                  | 5329            | 6                | 10                 | 5300            | 30               |
| 8                  | 5322            | 24               | 13                 | 5310            | 39               |
| 11                 | 5314            | 33               | 14                 | 5321            | 42               |
| 15                 | 5335            | 45               | 32                 | 5322            | 96               |
| 16                 | 5316            | 48               | 35                 | 5346            | 105              |
| 21                 | 5309            | 63               | 52                 | 5327            | 156              |
| 31                 | 5321            | 93               | 60                 | 5348            | 180              |
| 36                 | 5349            | 108              | 64                 | 5349            | 192              |
| 40                 | 5343            | 120              | 65                 | 5323            | 195              |
| 47                 | 5324            | 141              | 75                 | 5338            | 225              |
| 53                 | 5318            | 159              | 97                 | 5303            | 291              |
| 54                 | 5347            | 162              | 99                 | 5318            | 297              |
| 60                 | 5338            | 180              | --                 | --              | --               |
| 66                 | 5336            | 198              | --                 | --              | --               |
| 74                 | 5330            | 222              | --                 | --              | --               |
| 84                 | 5345            | 252              | --                 | --              | --               |
| 90                 | 5328            | 270              | --                 | --              | --               |
| 93                 | 5313            | 279              | --                 | --              | --               |
| 98                 | 5342            | 294              | --                 | --              | --               |
| 99                 | 5258            | 297              | --                 | --              | --               |

## 6. CONCLUSION

The data collected relate only the item(s) tested and show that the **Unified Wired-WLAN Walljack** **FCC ID: O9C-BJNGAFB0005** is in compliance with Part 15E of the FCC Rules.

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The End