

DFS MEASUREMENT REPORT

FCC ID: VW3FAST3896S

Applicant: SAGEMCOM BROADBAND SAS

Product: Residential Cable Gateway

Model No.: F@ST3896 XXXXXXXXXXXX (XXXXXXXXXXXX, X can be A~Z, space and other presentation, XXXXXXXXXXXX can be replaced by COGECO, GCI and other presentation, it is various by different marketing)

Brand Name: SAGEMCOM

FCC Classification: Unlicensed National Information Infrastructure (NII)

FCC Rule Part(s): Part 15 Subpart E (Section 15.407)

Result: Complies

Test Date: 2022-07-04 ~ 2022-07-06

Reviewed By:

Sunny Sun

Approved By:

Robin Wu



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. 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	Note
2206RSU002-U3	Rev. 01	Initial Report	2022-07-26	Valid

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1. General Information

1.1. Applicant

SAGEMCOM BROADBAND SAS

250 Route de l'Empereur - 92848 RUEIL MALMAISON CEDEX- FRANCE

1.2. Manufacturer

SAGEMCOM BROADBAND SAS

250 Route de l'Empereur - 92848 RUEIL MALMAISON CEDEX- FRANCE

1.3. Testing Facility

☒	Test Site – MRT Suzhou Laboratory Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China Laboratory Accreditations A2LA: 3628.01 CNAS: L10551 FCC: CN1166 ISED: CN0001 VCCI: ☐ R-20025 ☐ G-20034 ☐ C-20020 ☐ T-20020 ☐ R-20141 ☐ G-20134 ☐ C-20103 ☐ T-20104
☐	Test Site – MRT Shenzhen Laboratory Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China Laboratory Accreditations A2LA: 3628.02 CNAS: L10551 FCC: CN1284 ISED: CN0105
☐	Test Site – MRT Taiwan Laboratory Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) Laboratory Accreditations TAF: L3261-190725 FCC: 291082, TW3261 ISED: TW3261

1.4. Product Information

Product Name	Residential Cable Gateway
Model No.	F@ST3896 XXXXXXXXXXXX (XXXXXXXXXXXX, X can be A~Z, space and other presentation, XXXXXXXXXXXX can be replaced by COGECO, GCI and other presentation, it is various by different marketing)
Wi-Fi Specification	802.11a/b/g/n/ac/ax
Antenna Information	Refer to section 1.7
Accessories	
Adapter 1#	Model No.: MSG-V3500AR120-042A0-US Input: 100-120V~50/60Hz, 1.2A Max Output: 12.0V, 3.5A
Adapter 2#	Model No.: NBS42E120350VU Input: 100-120V~50/60Hz, 1.0A Output: 12.0V, 3.5A
Remark:	
1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	
2. Adapter 1# was selected for RF testing; the model number "F@ST3896-15" was selected for testing.	

1.5. Radio Specification under Test

Frequency Range	For 802.11a/n-HT20/ac-VHT20/ax-HE20: 5260 ~ 5320MHz, 5500 ~ 5600MHz, 5650 ~ 5720MHz For 802.11n-HT40/ac-VHT40/ax-HE40: 5270 ~ 5310MHz, 5510 ~ 5550MHz, 5670 ~ 5710MHz For 802.11ac-VHT80/ax-HE80: 5290MHz, 5530MHz, 5690MHz For 802.11ac-VHT160/ax-HE160: 5250MHz
Type of Modulation	802.11a/n/ac: OFDM 802.11ax: OFDMA
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 600Mbps 802.11ac: up to 3466.8Mbps 802.11ax: up to 4804Mbps
Power-on cycle	Requires 20.93 seconds to complete its power-on cycle
Uniform Spreading (For DFS Frequency Band)	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.

1.6. Working Frequencies

802.11a/n-HT20/ac-VHT20/ax-HE20

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
132	5660 MHz	136	5680 MHz	140	5700 MHz
144	5720 MHz	--	--	--	--

802.11n-HT40/ac-VHT40/ax-HE40

Channel	Frequency	Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz	102	5510 MHz
110	5550 MHz	134	5670 MHz	142	5710 MHz

802.11ac-VHT80/ax-HE80

Channel	Frequency	Channel	Frequency	Channel	Frequency
58	5290 MHz	106	5530 MHz	138	5690 MHz

802.11ac-VHT160/ax-HE160

Channel	Frequency	Channel	Frequency	Channel	Frequency
50	5250 MHz	--	--	--	--

1.7. Antenna Details

Antenna Type	Frequency Band (GHz)	Antenna Gain (dBi)				Directional Gain (dBi)	
		Ant 0	Ant 1	Ant 2	Ant 3	For Power	For PSD
Wi-Fi Antenna (4*4 MIMO)							
PIFA	2400 ~ 2483.5	2.25	3.78	3.77	1.82	3.78	3.85
	5150 ~ 5250	4.37	5.33	4.35	4.65	5.33	6.45
	5250 ~ 5350	3.45	4.40	3.30	4.65	4.65	5.50
	5470 ~ 5725	2.43	4.67	3.30	4.01	4.67	5.74
	5725 ~ 5850	4.05	4.99	4.15	3.25	4.99	7.15
Note 1: The antenna gain and directional gain refer to manufacturer’s antenna specification. Note 2: Software automatically backs power down based on a 10log(N) factor for beamforming operation. Note 3: The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated. - For power measurements: Array Gain = 0 dB for $N_{ANT} \leq 4$, the directional gain = max antenna gain + array gain - For power density measurements: the max directional gain (each angle) = $10 \cdot \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ dBi.							

2. Test Configuration

2.1. Test Mode

Mode 1: Operating under AP mode

2.2. Test Channel

Test Mode	Test Channel	Test Frequency
802.11ax-HE20	100	5500 MHz
802.11ax-HE40	102	5510 MHz
802.11ax-HE80	106	5530 MHz
802.11ax-HE160	50	5250 MHz

2.3. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.407Section (h)(2)
- KDB 905462 D02v02
- KDB 905462 D04v01

2.4. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20 ~ 75%RH

3. DFS Detection Thresholds and Radar Test Waveforms

3.1. Applicability

The following table from FCC KDB 905462 D02 NII DFS Compliance Procedures New Rules v02 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 each of the bonded 20 MHz channels and the channel center frequency.

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

3.2. DFS Devices Requirements

Per FCC KDB 905462 D02 NII DFS Compliance Procedures New Rules v02 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 See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. 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 (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: 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. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

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	$\text{Roundup} \left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	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
Note: 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 NII DFS Compliance Procedures New Rules v02 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.

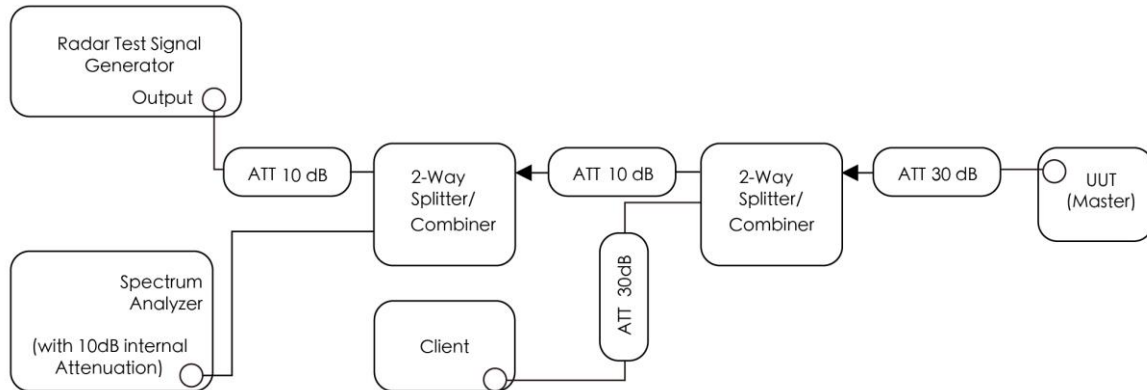


Figure 3-1: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Masters

4. Measuring Instrument

Instrument Name	Manufacturer	Model No.	Asset No.	Cali. Interval	Cal. Due Date	Test Site
Thermohygrometer	testo	608-H1	MRTSUE06222	1 year	2022-10-10	WZ-SR4
Signal Generator	R&S	SMBV100A	MRTSUE06279	1 year	2023-04-06	WZ-SR4
Shielding Room	HUAMING	WZ-SR4	MRTSUE06441	N/A	N/A	WZ-SR4
Signal Analyzer	Keysight	N9010B	MRTSUE06558	1 year	2023-06-01	WZ-SR4
Signal Analyzer	R&S	FSV40	MRTSUE06990	1 year	2022-10-12	WZ-SR4
Signal Generator	Keysight	N5182B	MRTSUE06993	1 year	2022-09-10	WZ-SR4
Signal Analyzer	Keysight	N9010B	MRTSUE07027	1 year	2022-12-05	WZ-SR4
Signal Generator	R&S	SMU200A	MRTSUE06490	1 year	2023-02-14	WZ-SR4
Attenuator	MVE	MVE2213	MRTSUE11093	1 year	2023-06-09	WZ
Attenuator	MVE	MVE2213	MRTSUE11088	1 year	2023-06-09	WZ
Attenuator	MVE	MVE2213	MRTSUE11089	1 year	2023-06-09	WZ
Attenuator	MVE	MVE2213	MRTSUE11073	1 year	2023-06-09	WZ
Power Divider	MVE	MVE8577	MRTSUE06744	1 year	2023-04-20	WZ
Power Divider	MVE	MVE8576	MRTSUE06943	1 year	2023-05-17	WZ

Client Information

Instrument	Manufacturer	Type No.	Certification Number
Wi-Fi Module	Intel	AX200NGW	FCC ID: PD9AX200NG

Software	Version	Manufacturer	Function
DFS Tool	V 6.9.2	Agilent	DFS Test Software
Pulse Sequencer	V 2.0	R&S	DFS Test Software
Signal Studio	V2.2.0.0	Keysight	DFS Test Software

5. Test Result

5.1. Summary

Parameter	Verdict	Reference
NII Detection Bandwidth Measurement	Pass	Section 5.3
Initial Channel Availability Check Time	Pass	Section 5.4
Radar Burst at the Beginning of the Channel Availability Check Time	Pass	Section 5.5
Radar Burst at the End of the Channel Availability Check Time	Pass	Section 5.6
In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time	Pass	Section 5.7
Non-Occupancy Period	Pass	Section 5.7
Statistical Performance Check	Pass	Section 5.8

5.2. Radar Waveform Calibration Measurement

5.2.1. Calibration Setup

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

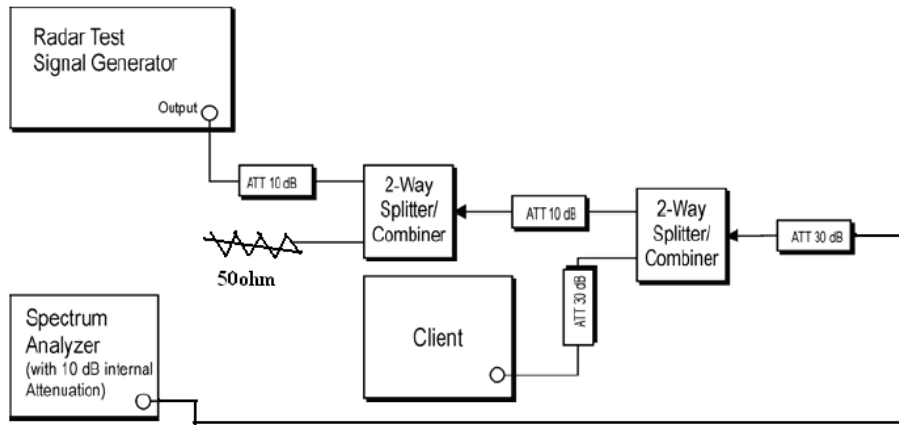


Figure 3-2: Conducted Test Setup

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. Calibration& Channel Loading Result

Refer to Appendix A.1.

5.3. NII Detection Bandwidth Measurement

5.3.1. Test Limit

Minimum 100% of the NII 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.

5.3.2. 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.

5.3.3. Test Result

Refer to Appendix A.2.

5.4. Initial Channel Availability Check Time Measurement

5.4.1. TestLimit

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.

5.4.2. 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 minutes 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.

5.4.3. Test Result

Refer to Appendix A.3.

5.5. Radar Burst at the Beginning of the Channel Availability Check Time Measurement

5.5.1. 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.

5.5.2. 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 will continue for 2.5 minutes after the radar Burst has been generated. Verify that during the 2.5 minutes measurement window no EUT transmissions occurred.

5.5.3. Test Result

Refer to Appendix A.4.

5.6. Radar Burst at the End of the Channel Availability Check Time Measurement

5.6.1. 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.

5.6.2. 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 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 will continue for 2.5 minutes after the radar Burst has been generated. Verify that during the 2.5 minutes measurement window no EUT transmissions occurred.

5.6.3. Test Result

Refer to Appendix A.5.

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

5.7.1. 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 30minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel.

5.7.2. Test Procedure

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.
3. 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).
4. 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: $C = N \times Dwell$; 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.
5. 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.

5.7.3. Test Result

Refer to Appendix A.6.

5.8. Statistical Performance Check Measurement

5.8.1. 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%

Note: 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: $(Pd1 + Pd2 + Pd3 + Pd4) / 4$.

5.8.2. 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

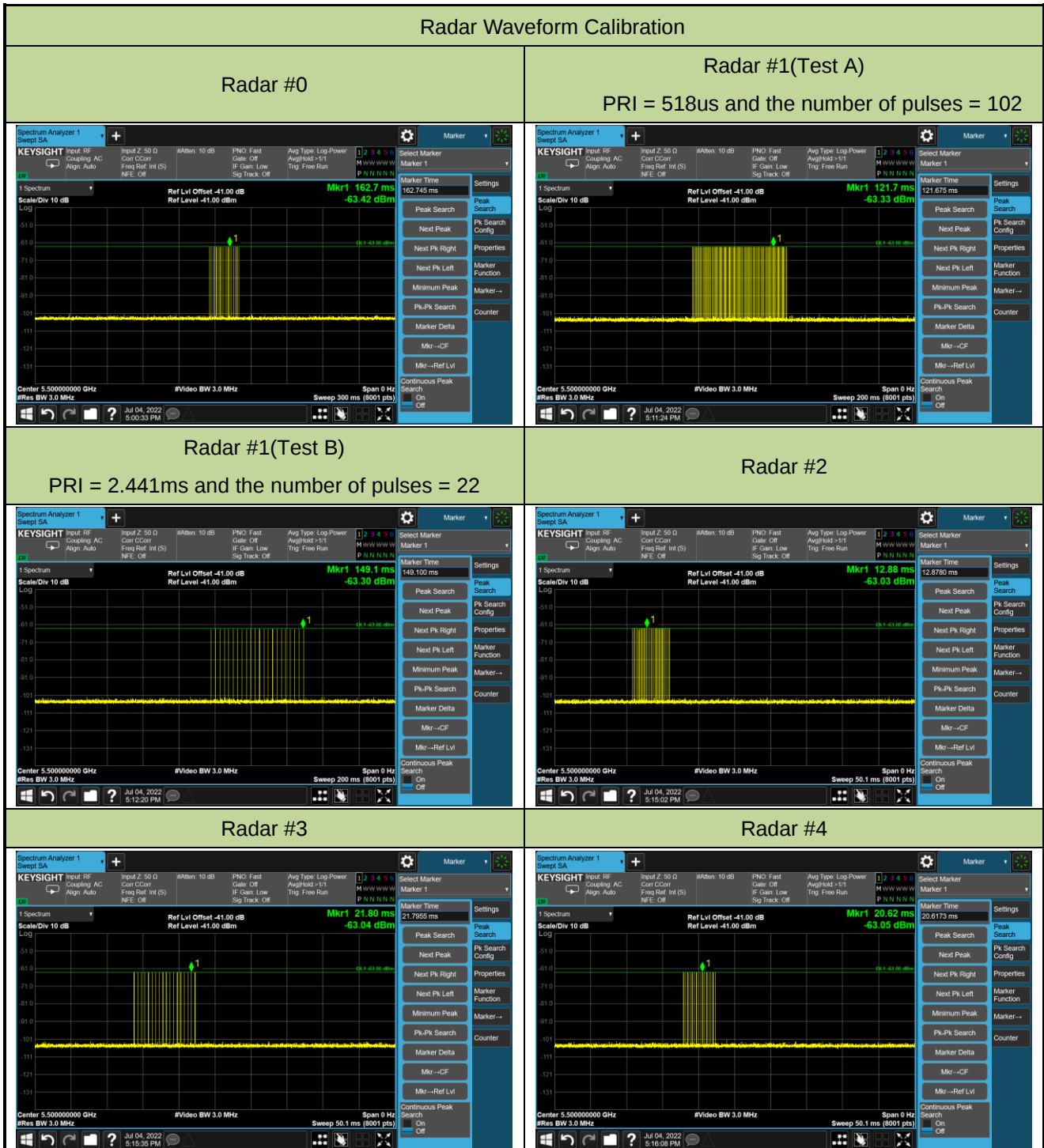
5.8.3. Test Result

Refer to Appendix A.7.

Appendix A – Test Result

A.1 Calibration Test Result

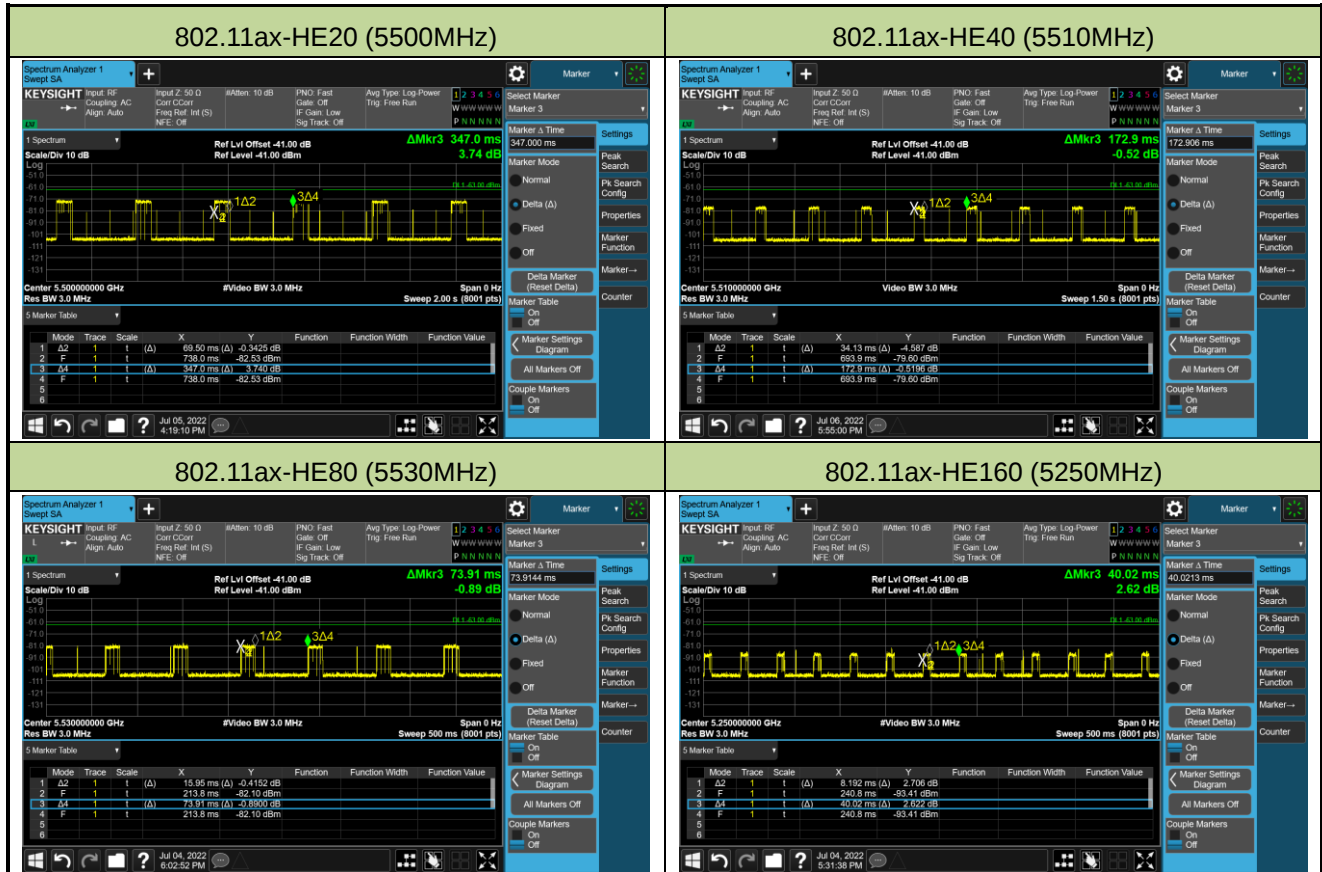
Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-04	Test Item	Radar Waveform Calibration





A.2 Channel Loading Test Result

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-04~2022-07-06	Test Item	Channel Loading



Test Mode	Test Frequency	Packet ratio	Requirement ratio	Test Result
802.11ax-HE20	5500 MHz	20.03%	$\geq 17\%$	Pass
802.11ax-HE40	5510 MHz	19.74%	$\geq 17\%$	Pass
802.11ax-HE80	5530 MHz	21.58%	$\geq 17\%$	Pass
802.11ax-HE160	5250 MHz	20.47%	$\geq 17\%$	Pass

Note: System testing was performed with the designated iperf test file. 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.

Packet ratio = Time On/ (Time On + Off Time).

A.3 NII Detection Bandwidth Test Result

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-05		
Test Item	Detection Bandwidth (802.11ax-HE20 mode - 5500MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490 F _L	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510 F _H	1	1	1	1	1	1	1	1	1	1	100%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5500MHz. The 99% channel bandwidth is 19.229MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = $F_H - F_L = 5510\text{MHz} - 5490\text{MHz} = 20\text{MHz}$

Note 3: NII Detection Bandwidth Min. Limit (MHz): 19.229MHz

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-06		
Test Item	Detection Bandwidth (802.11ax-HE40 mode - 5510MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490 F _L	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5530 F _H	1	1	1	1	1	1	1	1	1	1	100%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5510MHz. The 99% channel bandwidth is 37.826MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = $F_H - F_L = 5530\text{MHz} - 5490\text{MHz} = 40\text{MHz}$.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 37.826MHz

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-06		
Test Item	Detection Bandwidth (802.11ax-HE80 mode - 5530MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490	0	0	0	0	0	0	0	0	0	0	0%
5491 F _L	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5530	1	1	1	1	1	1	1	1	1	1	100%
5535	1	1	1	1	1	1	1	1	1	1	100%
5540	1	1	1	1	1	1	1	1	1	1	100%
5545	1	1	1	1	1	1	1	1	1	1	100%
5550	1	1	1	1	1	1	1	1	1	1	100%
5555	1	1	1	1	1	1	1	1	1	1	100%
5560	1	1	1	1	1	1	1	1	1	1	100%
5565	1	1	1	1	1	1	1	1	1	1	100%
5566	1	1	1	1	1	1	1	1	1	1	100%
5567	1	1	1	1	1	1	1	1	1	1	100%
5568	1	1	1	1	1	1	1	1	1	1	100%
5569 F _H	1	1	1	1	1	1	1	1	1	1	100%
5570	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5530MHz. The 99% channel bandwidth is 77.436MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = $F_H - F_L = 5569\text{MHz} - 5491\text{MHz} = 78\text{MHz}$.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 77.436MHz.

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-06		
Test Item	Detection Bandwidth (802.11ax-HE160 mode - 5250MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5250 F _L	1	1	1	1	1	1	1	1	1	1	100%
5255	1	1	1	1	1	1	1	1	1	1	100%
5260	1	1	1	1	1	1	1	1	1	1	100%
5265	1	1	1	1	1	1	1	1	1	1	100%
5270	1	1	1	1	1	1	1	1	1	1	100%
5275	1	1	1	1	1	1	1	1	1	1	100%
5280	1	1	1	1	1	1	1	1	1	1	100%
5285	1	1	1	1	1	1	1	1	1	1	100%
5290	1	1	1	1	1	1	1	1	1	1	100%
5295	1	1	1	1	1	1	1	1	1	1	100%
5300	1	1	1	1	1	1	1	1	1	1	100%
5305	1	1	1	1	1	1	1	1	1	1	100%
5310	1	1	1	1	1	1	1	1	1	1	100%
5315	1	1	1	1	1	1	1	1	1	1	100%
5320	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 F _H	1	1	1	1	1	1	1	1	1	1	100%
5330	0	0	0	0	0	0	0	0	0	0	0%

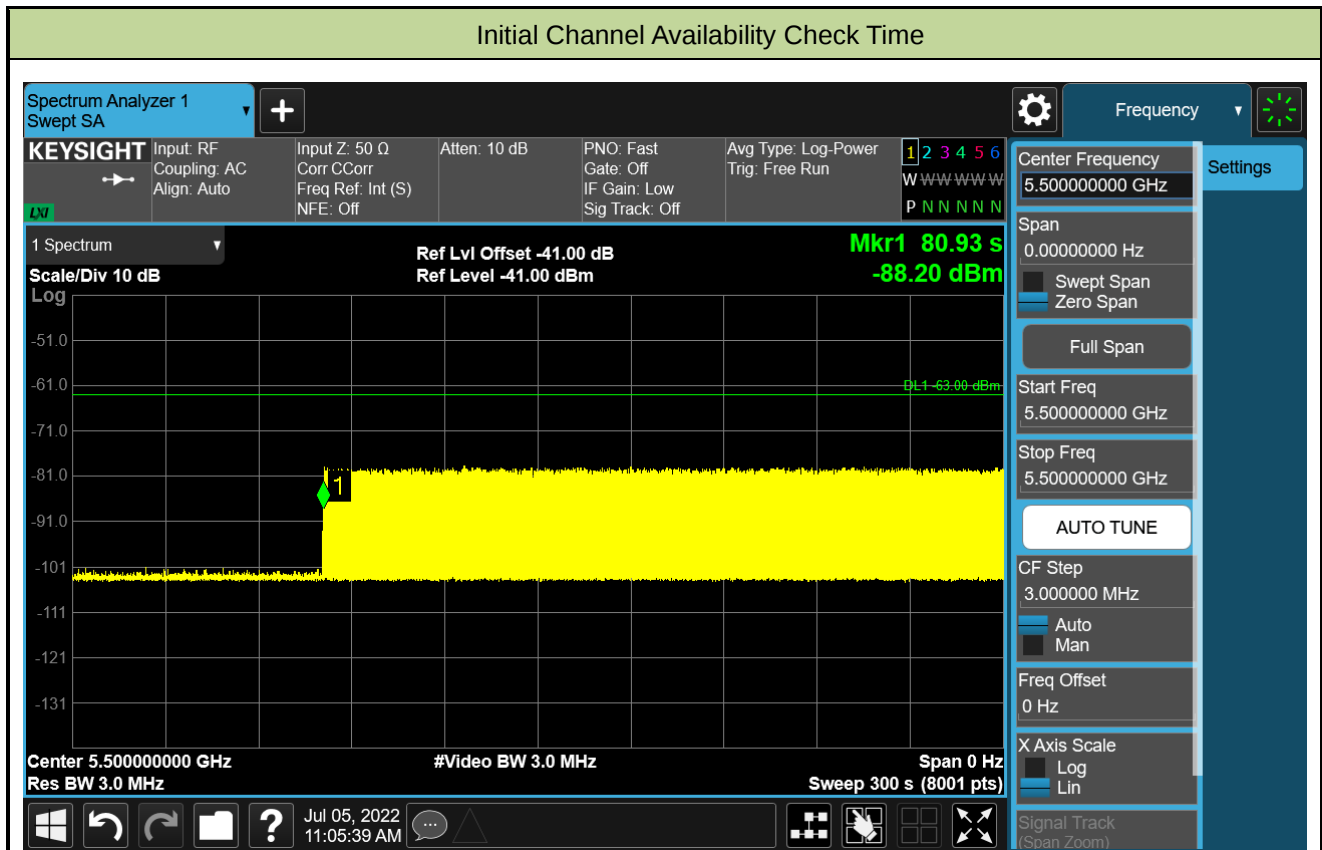
Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5250MHz. The 99% channel bandwidth within U-NII Band-2A is 78.14MHz (99% BW / 2 = 156.28MHz / 2 = 78.14MHz). (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = F_H - F_L = 5329MHz - 5250MHz = 79MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 78.14MHz

A.4 Initial Channel Availability Check Time Test Result

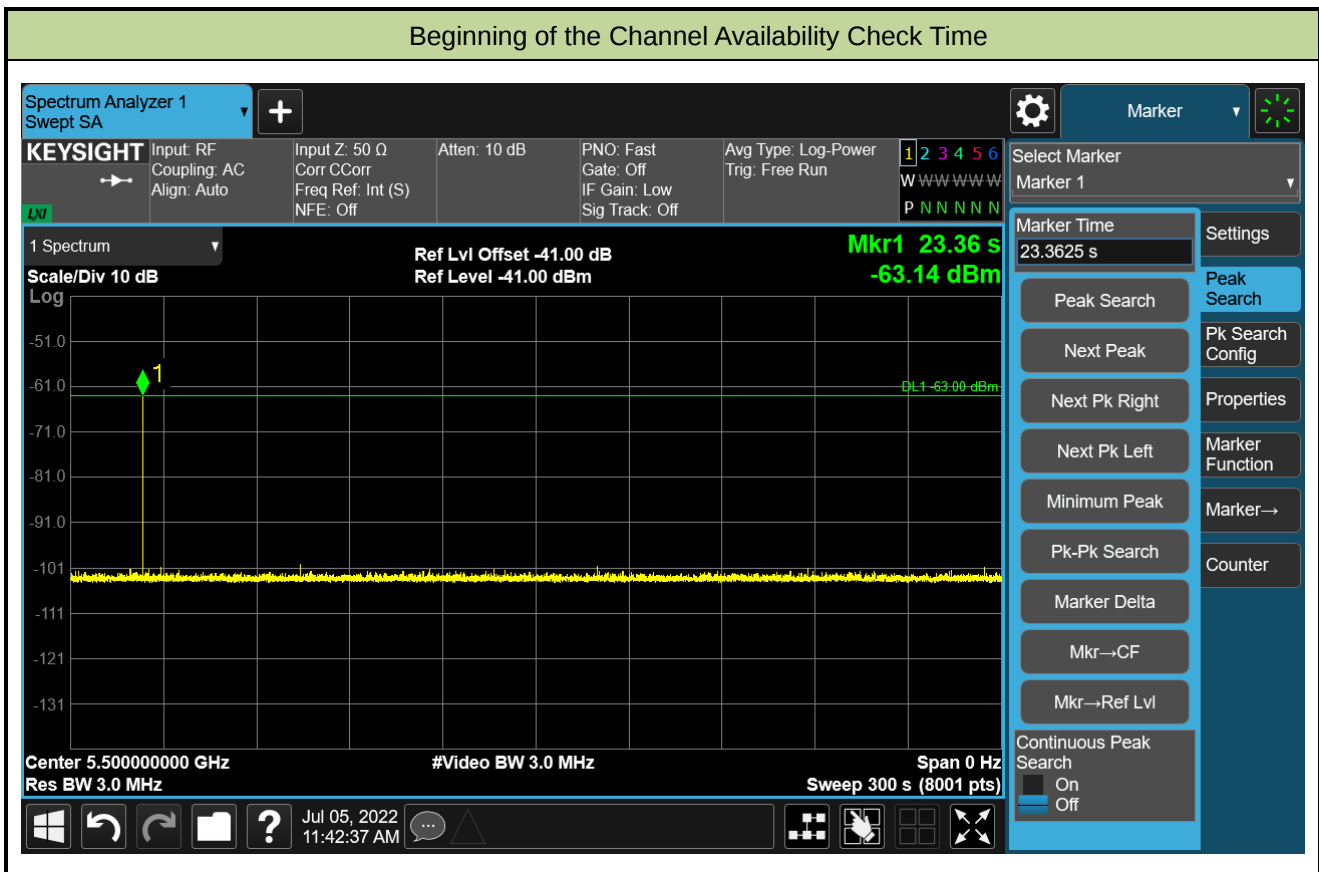
Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-05		
Test Item	Initial Channel Availability Check Time (802.11ax-HE20 mode - 5500MHz)		



Note: The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (20.93sec). Initial beacons/data transmissions are indicated by marker 1 (80.93sec).

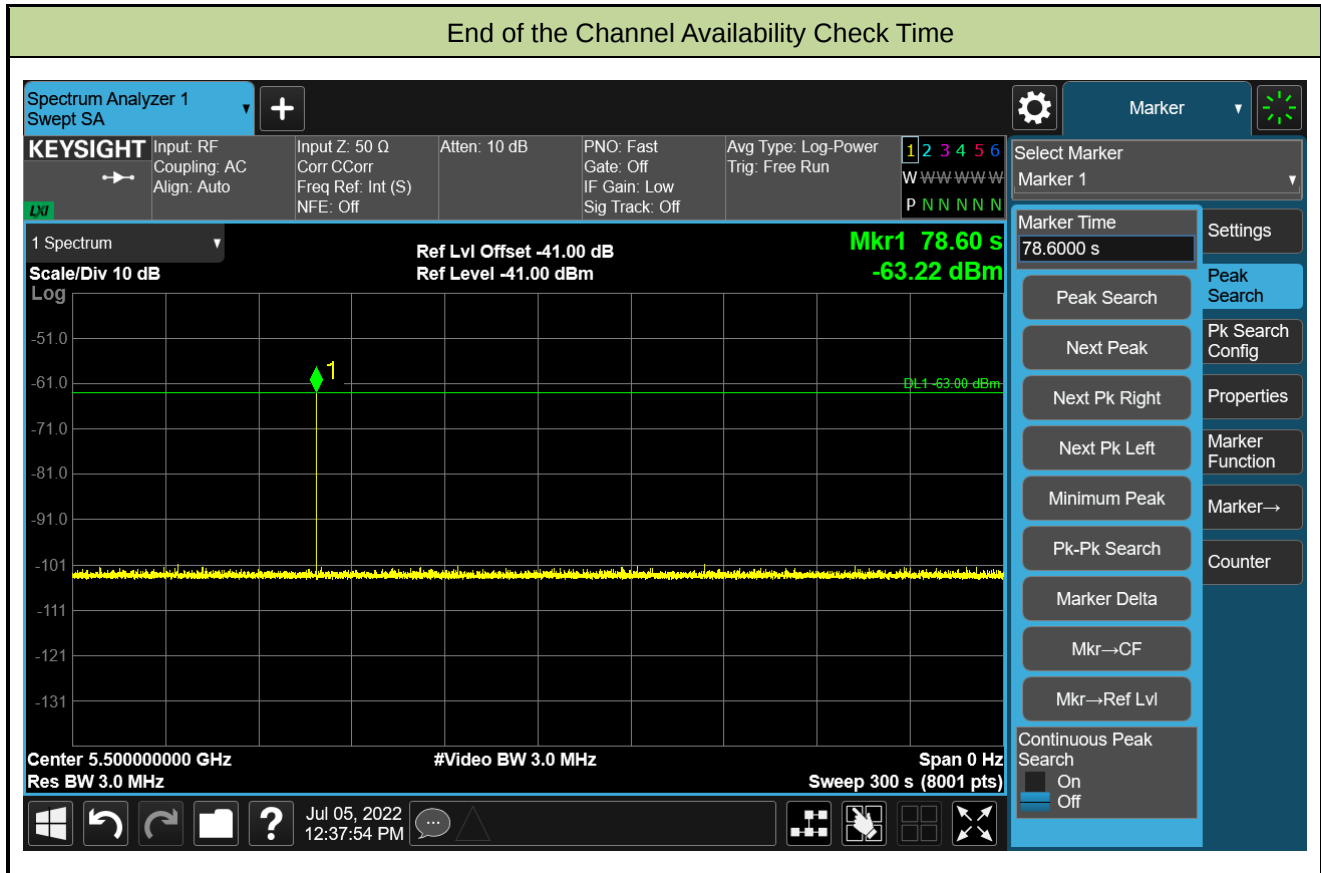
A.5 Radar Burst at the Beginning of the Channel Availability Check Time Test Result

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-05		
Test Item	Beginning of the Channel Availability Check Time (802.11ax-HE20 mode - 5500MHz)		



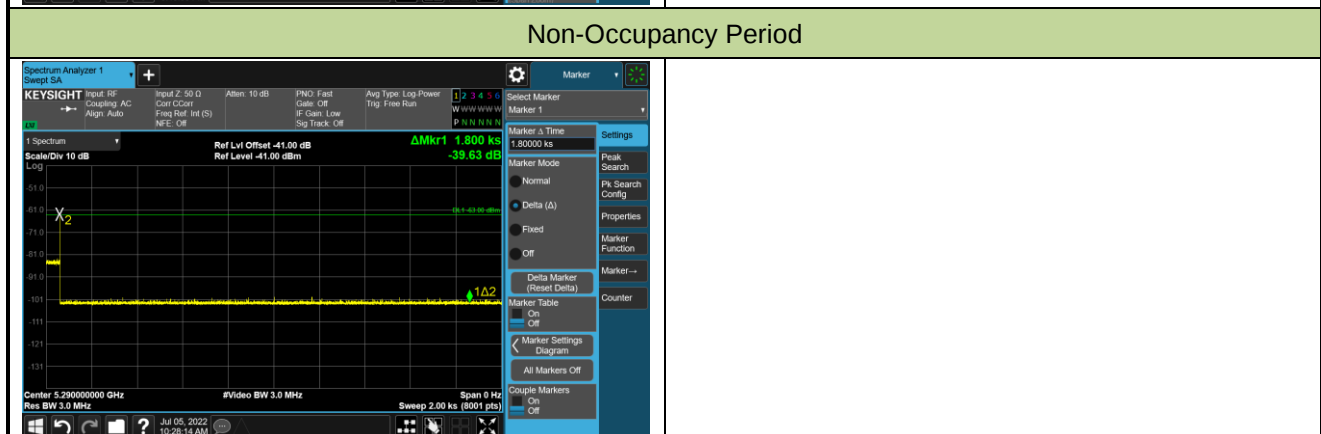
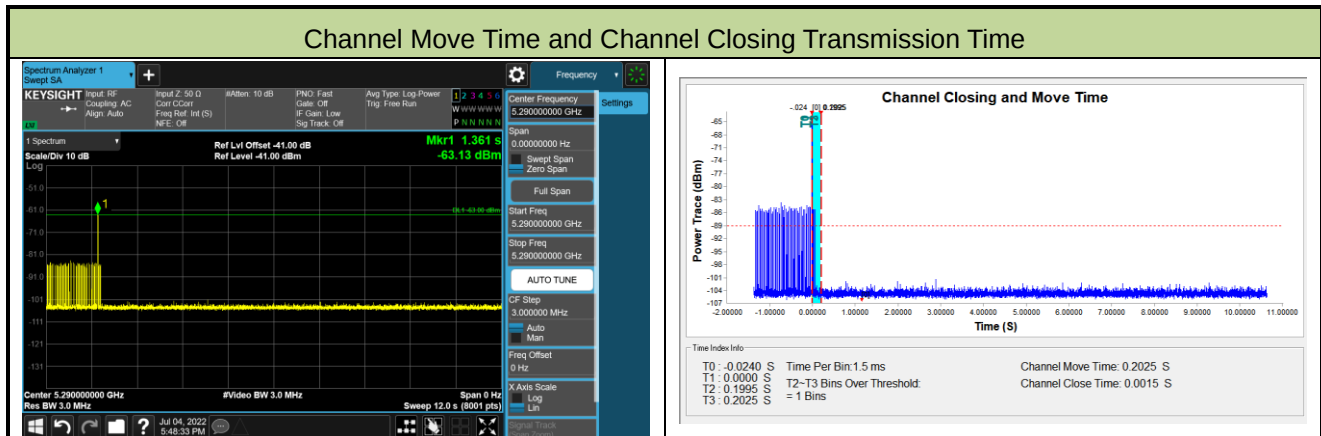
A.6 Radar Burst at the End of the Channel Availability Check Time Test Result

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-05		
Test Item	End of the Channel Availability Check Time (802.11ax-HE20 mode - 5500MHz)		



A.7 In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Test Result

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-04~07/05		
Test Item	Channel Move Time and Channel Closing Transmission Time (802.11ax-HE160 mode - 5250MHz)		



Parameter	Test Result	Limit
Channel Move Time (s)	0.2025s	<10s
Channel Closing Transmission Time (ms) (Note)	1.5ms	< 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.

A.8 Statistical Performance Check

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-05		
Test Item	Radar Statistical Performance Check (802.11ax-HE20 – 5500MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5498	1	778	68	1
2	5497	1	798	67	1
3	5496	1	538	98	1
4	5495	1	878	61	1
5	5501	1	558	95	1
6	5497	1	758	70	1
7	5490	1	618	86	1
8	5491	1	838	63	1
9	5494	1	758	70	1
10	5506	1	598	89	1
11	5508	1	778	68	1
12	5491	1	558	95	1
13	5503	1	518	102	1
14	5494	1	798	67	1
15	5495	1	678	78	1
16	5500	1	558	95	1
17	5492	1	858	62	1
18	5491	1	718	74	1
19	5504	1	858	62	1
20	5510	1	658	81	1
21	5490	1	618	86	1
22	5496	1	758	70	1
23	5506	1	898	59	1
24	5503	1	598	89	1
25	5493	1	678	78	1
26	5494	1	798	67	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5497	1	578	92	1
28	5495	1	918	58	1
29	5498	1	738	72	0
30	5503	1	758	70	1
Detection Percentage (%)					96.7%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5509	3.7	215	29	1
2	5496	4.8	171	28	1
3	5509	4.1	182	24	1
4	5505	1.4	208	24	1
5	5494	5.0	161	26	1
6	5510	2.7	165	24	0
7	5504	4.1	161	29	1
8	5495	1.5	227	24	1
9	5506	4.2	215	25	1
10	5492	4.9	169	25	1
11	5502	2.9	199	27	1
12	5506	2.1	162	25	1
13	5500	3.5	190	24	1
14	5502	4.2	200	28	1
15	5491	4.9	191	26	0
16	5498	3.1	200	26	0
17	5505	2.1	195	29	1
18	5504	2.6	155	26	1
19	5494	3.9	176	25	1
20	5501	4.8	162	28	1
21	5490	4.1	203	25	0
22	5508	3.4	222	25	0
23	5495	3.3	180	26	1
24	5503	3.8	226	28	1
25	5493	3.2	160	27	1
26	5495	4.0	153	27	1
27	5491	2.7	179	27	1
28	5495	3.9	166	25	0
29	5506	4.0	208	27	1
30	5491	4.4	202	26	1
Detection Percentage (%)					80.0%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5493	7.8	472	17	1
2	5509	6.0	382	18	1
3	5490	8.7	225	17	0
4	5493	6.6	233	18	1
5	5496	6.0	245	16	1
6	5510	6.6	434	17	0
7	5494	8.4	219	17	1
8	5495	6.6	266	17	1
9	5504	7.2	374	16	0
10	5506	9.2	444	16	1
11	5505	8.2	368	18	0
12	5493	8.5	490	16	0
13	5492	9.6	282	17	1
14	5503	8.3	233	16	1
15	5498	6.6	464	18	1
16	5494	7.1	398	17	1
17	5502	6.7	382	16	1
18	5506	7.5	479	17	1
19	5498	6.6	473	18	1
20	5505	6.9	481	16	1
21	5508	6.8	293	18	1
22	5505	9.3	264	17	1
23	5506	6.3	262	18	1
24	5505	9.4	459	16	1
25	5490	9.0	366	18	0
26	5500	9.1	373	18	1
27	5491	8.7	487	18	1
28	5499	6.3	328	18	1
29	5491	8.9	288	17	0
30	5496	8.8	385	18	1
Detection Percentage (%)					76.7%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5494	11.0	279	12	1
2	5503	17.9	299	13	1
3	5500	14.3	489	14	0
4	5506	15.7	476	15	1
5	5503	11.2	248	13	0
6	5505	19.4	242	14	1
7	5506	19.8	470	14	1
8	5499	17.2	477	15	1
9	5493	12.6	312	13	1
10	5501	17.0	434	12	1
11	5507	16.7	263	12	0
12	5498	18.2	436	13	0
13	5509	12.4	342	13	1
14	5510	13.6	319	14	0
15	5502	11.6	206	14	1
16	5500	19.9	444	14	1
17	5490	19.8	223	12	0
18	5505	13.7	205	13	0
19	5503	17.1	291	15	1
20	5492	12.3	233	13	1
21	5493	16.6	392	15	1
22	5510	19.8	351	12	0
23	5506	11.8	486	16	1
24	5492	15.9	426	16	1
25	5507	11.7	357	12	1
26	5508	15.7	477	12	1
27	5501	17.4	479	15	1
28	5491	14.8	402	15	0
29	5502	12.1	338	12	1
30	5510	11.0	482	16	0
Detection Percentage (%)					66.7%

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

test waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (96.7\% + 80\% + 76.7\% + 66.7\%) / 4 = 80\% (>80\%)$

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5500	1	16	5495.6	1
2	5500	1	17	5492	1
3	5500	1	18	5494.8	1
4	5500	1	19	5495.2	1
5	5500	1	20	5498	1
6	5500	1	21	5507.2	1
7	5500	1	22	5503.2	1
8	5500	1	23	5502.4	1
9	5500	1	24	5506	1
10	5500	1	25	5506	1
11	5492.8	1	26	5502	1
12	5494.4	1	27	5502	1
13	5497.6	1	28	5508	1
14	5497.2	1	29	5502.4	1
15	5493.2	1	30	5506.4	1
Detection Percentage (%)					100.0%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	63	16	1119		32.118
2	3	58.8	16	1125	1471	18.025
3	1	74.2	16			477.33
4	3	69.4	16	1866	1704	395.7
5	2	80.8	16	1548		110.41
6	2	73.1	16	1249		216.94
7	2	63.9	16	1906		266.4
8	3	76	16	1114	1899	572.61
9	3	70.6	16	1074	1457	607.06
10	2	66.3	16	1742		442.24
11	3	72.6	16	1994	1707	627.16
12	1	80.3	16			736.86
13	3	75.9	16	1478	1780	277.51
14	1	68.4	16			733.8
15	1	74.9	16			301.1
16	2	69.3	16	1684		566.4

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	80.7	10	1934	1527	9.449
2	1	75.2	10			490.113
3	2	76.5	10	1606		31.496
4	2	75.5	10	1909		44.529
5	1	77.8	10			857.802
6	2	80.4	10	1391		316.095
7	2	66.7	10	1321		134.968
8	3	61.1	10	1055	1075	554.202
9	1	64.8	10			79.395
10	1	97.3	10			25.068
11	2	81.1	10	1653		558.711
12	2	97.9	10	1609		302.554
13	1	53	10			39.977

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	84.2	14	1537		522.826
2	1	79.4	14			973.18
3	1	89.1	14			980.83
4	2	50.6	14	1949		1043.83
5	2	58.4	14	1726		617.12
6	3	92.9	14	1902	1606	487.26
7	2	84.9	14	1241		1163.94
8	3	74.1	14	1189	1250	616.75
9	2	97.6	14	1200		203.18
10	2	89	14	1742		248.9

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	99.4	14			302.395
2	2	81.4	14	1128		332.46
3	2	63.6	14	1249		300.22
4	2	57.1	14	1749		679.39
5	1	84.2	14			73.3
6	2	78.2	14	1009		30.96
7	2	70.3	14	1878		367.33
8	2	60.5	14	1692		171.69
9	2	58	14	1816		405.33
10	2	72	14	1712		0.06
11	1	52.7	14			581.29
12	2	67.8	14	1237		465.31
13	2	55.9	14	1328		622.22
14	1	88.1	14			203.6
15	2	57.6	14	1233		170.2
16	2	89.3	14	1072		479.1

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	93	12	1252		291.281
2	3	57.1	12	1004	1547	614.253
3	3	99.4	12	1116	1754	86.386
4	2	51.4	12	1072		526.289
5	2	90.1	12	1324		383.922
6	2	57.5	12	1832		852.795
7	3	87.5	12	1652	1172	694.918
8	1	78.2	12			24.622
9	1	92.9	12			625.035
10	2	90.4	12	1622		335.288
11	3	76.1	12	1036	1345	35.361
12	3	93.9	12	1286	1737	579.654
13	3	99	12	1246	1214	539.777

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	95.8	19	1428	1352	499.159
2	1	53.3	19			439.001
3	2	85.9	19	1590		229.052
4	2	62.2	19	1891		298.963
5	3	62.3	19	1852	1311	283.764
6	2	65.8	19	1057		444.045
7	2	54.1	19	1362		139.066
8	2	64	19	1301		477.457
9	1	66.1	19			497.788
10	2	73.8	19	1121		611.139
11	3	67.2	19	1206	1415	283.931
12	2	56.3	19	1067		68.342
13	1	87	19			396.983
14	2	58.2	19	1552		151.094
15	1	77.1	19			272.775
16	2	67.4	19	1025		161.096
17	2	81.8	19	1005		546.937
18	2	88	19	1109		623.758
19	2	72.5	19	1766		282.979

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	76.6	8	1572	1049	451.999
2	2	65.1	8	1050		734.55
3	2	50.2	8	1380		413.03
4	2	99.5	8	1610		553.75
5	2	56.1	8	1991		349.82
6	1	54.6	8			188
7	1	65.1	8			41.47
8	2	85.5	8	1551		291.17
9	2	51.2	8	1240		30.9
10	3	55.4	8	1138	1893	431.61
11	2	58.4	8	1515		718.39
12	2	51.3	8	1370		33.18
13	2	72.7	8	1774		584.3
14	1	99.2	8			122.7
15	1	87.8	8			748.5

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	63.8	17			568.22
2	2	74.1	17	1536		402.788
3	3	95.5	17	1763	1948	588.195
4	3	93.3	17	1696	1855	266.093
5	1	83.1	17			481.041
6	3	52.2	17	1543	1512	594.098
7	3	68.9	17	1503	1584	408.266
8	2	61.3	17	1898		311.544
9	3	59.5	17	1114	1851	577.221
10	2	76.9	17	1999		502.839
11	2	88.7	17	1290		464.346
12	2	76.7	17	1270		697.914
13	2	98.4	17	1601		289.512
14	3	51.5	17	1680	1755	358.659
15	3	76.6	17	1926	1637	309.247
16	3	88.8	17	1873	1604	565.665
17	1	51.4	17			123.962

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	87.1	10			753.9
2	2	93.2	10	1031		802.587
3	2	76	10	1295		277.794
4	1	88.9	10			577.421
5	2	70.2	10	1359		126.479
6	2	75.3	10	1369		375.646
7	1	83.9	10			557.523
8	1	61.6	10			486.46
9	2	92.8	10	1046		747.557
10	3	84	10	1027	1784	623.154
11	3	50.2	10	1803	1770	830.751
12	1	66.3	10			160.939
13	3	55.9	10	1934	1518	324.586
14	2	81.4	10	1932		797.643

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	87.9	5			725.925
2	2	61	5	1622		689.72
3	3	77.5	5	1629	1238	260.98
4	2	69.9	5	1371		695.39
5	2	86.8	5	1943		411.39
6	2	84.2	5	1578		662.33
7	2	90.2	5	1300		603.29
8	2	96	5	1537		592.34
9	2	95.1	5	1864		743.36
10	1	69.2	5			117.51
11	3	88.6	5	1086	1352	407.8
12	1	64.4	5			563.5

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	99.2	7	1556		439.139
2	2	50.2	7	1274		812.107
3	3	96.3	7	1958	1421	68.284
4	1	71.9	7			53.271
5	3	78.7	7	1295	1810	432.539
6	1	88.9	7			643.886
7	1	99.3	7			724.403
8	2	92.4	7	1582		208.3
9	3	86.3	7	1030	1620	517.407
10	2	60.6	7	1859		732.514
11	3	67.3	7	1376	1411	780.451
12	3	87.9	7	1874	1145	693.929
13	3	97.7	7	1752	1746	529.386
14	2	55.5	7	1168		191.343

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	90	11	1160		1.819
2	3	62.7	11	1739	1026	251.701
3	2	57.2	11	1383		275.912
4	1	88.6	11			345.023
5	3	55.9	11	1632	1476	760.374
6	1	60.4	11			831.175
7	2	60.5	11	1553		323.845
8	2	72.5	11	1442		573.526
9	2	55.7	11	1880		293.347
10	2	97.6	11	1722		782.818
11	2	57.4	11	1905		266.509

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	91.1	19	1673	1310	133.078
2	2	54.5	19	1712		465.9
3	2	82.6	19	1184		573.2
4	2	67.8	19	1696		108.08
5	3	70.7	19	1635	1535	176.32
6	1	62.3	19			726.71
7	3	80	19	1279	1875	470.42
8	1	54.1	19			513
9	1	54.9	19			776.5
10	2	54.7	19	1840		480.22
11	3	98.9	19	1108	1088	28.05
12	1	93.6	19			357.19
13	2	65	19	1332		425.3
14	2	78.6	19	1650		790.6
15	1	78.4	19			512.6

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	77.6	18	1328	1635	786.049
2	2	53.5	18	1284		279.31
3	2	79.9	18	1349		756.84
4	1	55.4	18			187.51
5	1	59.5	18			224.12
6	2	65.3	18	1275		463.23
7	2	96.9	18	1467		259.56
8	3	94.4	18	1111	1245	669.37
9	3	50.8	18	1468	1711	670.01
10	1	96.3	18			359.78
11	2	95.1	18	1493		714.53
12	2	78.6	18	1239		652.78
13	2	70.9	18	1809		620.9
14	3	60.6	18	1877	1717	199.5
15	2	76.9	18	1159		592.1

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	55.1	8	1548	1243	1299.78
2	2	71.5	8	1438		80.097
3	2	89.4	8	1950		865.333
4	2	86.5	8	1664		470.05
5	2	76.4	8	1636		481.257
6	1	52.8	8			290.933
7	3	68.8	8	1418	1546	743.08
8	2	58.9	8	1903		182.827
9	2	58.4	8	1719		375.533

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	57.3	14	1880		26.749
2	1	78.7	14			163.343
3	2	73.7	14	1921		145.777
4	3	82.4	14	1212	1770	573.18
5	2	89.1	14	1257		333.673
6	2	51.2	14	1303		432.537
7	3	76.3	14	1505	1735	393.99
8	2	80.1	14	1273		573.723
9	2	56.3	14	1770		307.367
10	3	65.3	14	1127	1627	10.24
11	2	52.9	14	1559		85.313
12	3	63.1	14	1041	1364	4.477
13	3	62.6	14	1652	1880	427.22
14	3	74.5	14	1874	1522	2.463
15	1	74.8	14			399.057
16	3	69.2	14	1032	1527	591.1
17	2	89.9	14	1502		509.833
18	1	60.8	14			24.867

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	76.1	5	1439		129.879
2	2	70	5	1410		492.951
3	1	51.5	5			326.722
4	2	75.7	5	1921		411.423
5	1	66.7	5			279.514
6	2	94.9	5	1542		181.305
7	2	50.8	5	1647		367.996
8	1	75.9	5			91.407
9	2	84.3	5	1031		393.728
10	1	93.8	5			249.919
11	1	69	5			539.481
12	3	74.6	5	1052	1675	316.162
13	1	79.9	5			312.723
14	1	58.9	5			235.584
15	2	89.3	5	1408		329.255
16	2	87.8	5	1445		520.536
17	2	97.1	5	1377		5.537
18	2	81.2	5	1788		503.358
19	2	75.2	5	1617		110.479

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	91.9	12	1554		262.5
2	3	77.9	12	1615	1302	356.528
3	3	65.2	12	1211	1258	563.865
4	3	74.5	12	1705	1743	595.313
5	1	63.2	12			293.311
6	1	72.7	12			527.848
7	2	63.5	12	1823		626.096
8	2	51.1	12	1460		176.724
9	2	68.7	12	1810		295.301
10	2	91.2	12	1451		396.309
11	3	74.1	12	1886	1889	398.436
12	2	57.7	12	1275		203.344
13	3	54.7	12	1494	1220	557.022
14	3	76.8	12	1021	1200	481.149
15	3	72.3	12	1058	1948	545.047
16	2	73.9	12	1427		38.665
17	1	86.4	12			485.482

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	53.8	13	1782		735.291
2	1	58	13			460.49
3	2	75.4	13	1113		514.65
4	2	70.2	13	1469		884.59
5	3	50.8	13	1156	1270	611.49
6	2	90.8	13	1480		836.67
7	3	51.5	13	1419	1305	118.38
8	2	64.3	13	1742		568.99
9	2	75.3	13	1334		699.43
10	3	59.8	13	1040	1103	710.36
11	2	79.9	13	1033		278.6
12	1	55.1	13			226.8

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	61.8	20			164.855
2	2	69.2	20	1551		1050.47
3	2	57.6	20	1261		800.53
4	2	60	20	1457		857.05
5	1	96.2	20			789.4
6	3	87.5	20	1107	1319	66.89
7	2	84.1	20	1588		758.7
8	2	96.9	20	1712		544.9

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	58.2	7	1009		465.643
2	1	51.1	7			333.603
3	2	79.8	7	1457		249.666
4	2	62.6	7	1284		430.179
5	2	96.8	7	1611		827.022
6	1	55.9	7			250.135
7	2	83.1	7	1988		46.608
8	2	93.5	7	1708		900.512
9	3	62.5	7	1667	1429	871.475
10	2	88	7	1221		205.578
11	3	89.2	7	1850	1008	874.031
12	2	54.8	7	1332		692.254
13	2	80.3	7	1012		731.477

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	70.4	17			230.849
2	3	68.5	17	1126	1899	801.97
3	1	86.9	17			254.64
4	2	94.5	17	1363		910.89
5	1	73.5	17			353.28
6	2	76.6	17	1689		404.97
7	2	86.3	17	1486		246.98
8	1	83.1	17			447.62
9	3	83.4	17	1646	1493	104.22
10	3	73.3	17	1653	1025	154.43
11	2	92.7	17	1553		413
12	1	69.8	17			197.4

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	65.7	19	1443		431.929
2	2	66.9	19	1587		173.477
3	2	89.3	19	1700		618.484
4	1	80	19			369.601
5	1	75.3	19			627.789
6	1	53.7	19			784.526
7	2	51.8	19	1681		715.203
8	2	85.1	19	1305		827.79
9	2	59.1	19	1162		630.237
10	3	99.8	19	1379	1692	586.644
11	2	71.1	19	1828		250.041
12	3	65.8	19	1477	1519	643.829
13	3	88.9	19	1971	1494	568.086
14	2	69.8	19	1670		452.343

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	78.4	10	1858	1855	746.063
2	3	86.2	10	1672	1397	688.313
3	2	82.7	10	1630		356.726
4	2	99.3	10	1061		439.089
5	2	64.2	10	1983		482.452
6	2	74.4	10	1408		349.615
7	2	71.3	10	1883		538.148
8	1	54.2	10			714.272
9	3	53.3	10	1922	1613	910.765
10	2	70	10	1507		378.428
11	3	84.7	10	1880	1198	240.941
12	2	70.2	10	1132		682.154
13	1	81.7	10			169.877

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	95.9	10			593.988
2	2	64.1	10	1493		144.716
3	3	98.5	10	1257	1679	518.22
4	2	54.2	10	1213		508.37
5	1	58	10			0.56
6	2	94.7	10	1089		343.42
7	1	84.7	10			117.37
8	3	76.5	10	1744	1832	376.95
9	2	83.6	10	1831		330.88
10	1	68.9	10			161.24
11	3	59.2	10	1740	1027	549.33
12	2	96.1	10	1340		133.31
13	2	63.1	10	1763		462.41
14	1	83.3	10			10.45
15	1	57.4	10			225.68
16	2	85.8	10	1474		420.57
17	2	61.8	10	1399		141.28
18	2	71.5	10	1054		369.8
19	2	55.4	10	1710		383.3
20	2	66.2	10	1057		491.9

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	69.3	20			599.912
2	3	51.9	20	1514	1348	276.876
3	2	86	20	1273		595.602
4	2	93.6	20	1378		215.963
5	2	79.9	20	1455		531.934
6	1	51	20			296.135
7	2	85.8	20	1382		275.256
8	2	76.3	20	1410		40.907
9	3	88.7	20	1905	1756	464.908
10	1	91.5	20			515.509
11	2	66.8	20	1015		617.021
12	2	75	20	1900		119.462
13	2	69.9	20	1309		85.563
14	2	65.5	20	1386		506.974
15	1	95.2	20			291.155
16	3	75.7	20	1097	1300	206.346
17	2	95.6	20	1592		420.237
18	2	52.3	20	1833		470.958
19	3	69.5	20	1527	1052	253.979

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	67.4	20	1449		724.11
2	1	96.6	20			198.297
3	2	89.1	20	1866		531.314
4	2	76.2	20	1798		794.361
5	3	72.5	20	1257	1660	462.819
6	3	65.2	20	1299	1036	389.396
7	2	56.1	20	1723		756.713
8	1	80.7	20			104.67
9	3	90.6	20	1605	1721	503.447
10	3	87.5	20	1360	1593	687.944
11	1	96.4	20			611.111
12	3	51	20	1818	1950	617.629
13	2	95.9	20	1489		376.886
14	1	80.1	20			262.243

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	73.7	5	1444		512.2
2	2	70.3	5	1823		662.443
3	3	95.4	5	1790	1844	662.106
4	2	56	5	1398		292.719
5	2	53	5	1975		825.682
6	3	91.3	5	1406	1600	911.255
7	2	74.7	5	1633		611.448
8	2	80.8	5	1474		731.232
9	3	69.1	5	1129	1955	801.725
10	2	98.8	5	1244		329.358
11	2	72.6	5	1760		647.961
12	3	90.7	5	1372	1853	189.454
13	1	73.3	5			682.077

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	53.6	19			264.063
2	2	97.3	19	1658		214.017
3	2	52.7	19	1354		281.634
4	2	75.6	19	1836		384.091
5	1	71.1	19			162.279
6	2	80.3	19	1485		30.976
7	3	50.5	19	1193	1501	451.863
8	2	61.4	19	1733		727.57
9	3	62.8	19	1362	1635	380.497
10	3	92.9	19	1003	1295	366.004
11	2	88.5	19	1545		274.601
12	1	93.9	19			23.249
13	1	50.5	19			349.486
14	2	71.1	19	1233		570.243

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	87	9			476.919
2	2	91.2	9	1686		172.165
3	2	94.4	9	1397		313.02
4	3	91.9	9	1937	1545	293.24
5	3	62.9	9	1345	1508	511.77
6	1	57.4	9			321.58
7	2	74.1	9	1260		520.95
8	2	61.8	9	1129		190.79
9	3	82.7	9	1854	1059	450.57
10	1	60.9	9			492.76
11	1	82.4	9			582.92
12	2	70.1	9	1431		154.59
13	2	63.8	9	1981		543.88
14	3	67.1	9	1544	1073	128.94
15	3	53.2	9	1262	1753	353.78
16	2	60.4	9	1855		408.35
17	1	74	9			443.1
18	2	85.3	9	1763		399
19	1	70.2	9			276
20	1	55.6	9			477.6

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	1	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	1
11	1	26	1
12	1	27	1
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)			100.0%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5494	24	5	5494	15
29	5495	87	15	5497	45
44	5498	132	59	5507	177
62	5505	186	75	5498	225
77	5497	231	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5507	48	17	5500	51
28	5497	84	19	5505	57
93	5501	279	71	5493	213
--	--	--	99	5508	297

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5506	24	22	5506	66
10	5509	30	80	5503	240
56	5496	168	--	--	--
66	5503	198	--	--	--
94	5498	282	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
61	5503	183	10	5499	30
71	5498	213	29	5502	87
74	5501	222	84	5491	252
80	5494	240	--	--	--
86	5497	258	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5495	57	14	5507	42
26	5505	78	15	5503	45
28	5510	84	71	5504	213
53	5490	159	91	5505	273
63	5506	189	--	--	--
78	5498	234	--	--	--
86	5499	258	--	--	--
90	5501	270	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
6	5490	18	15	5494	45
35	5505	105	31	5505	93
38	5507	114	42	5492	126
45	5499	135	51	5510	153
68	5510	204	80	5498	240
97	5500	291	84	5503	252
--	--	--	91	5490	273

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
26	5506	78	38	5499	114
56	5504	168	39	5507	117
66	5505	198	59	5491	177
--	--	--	67	5508	201
--	--	--	84	5497	252
--	--	--	93	5501	279

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
53	5505	159	3	5504	9
57	5504	171	36	5501	108
59	5494	177	42	5491	126
74	5491	222	47	5510	141
--	--	--	83	5505	249
--	--	--	87	5494	261

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
28	5490	84	5	5498	15
37	5498	111	11	5506	33
46	5496	138	49	5494	147
77	5507	231	50	5492	150
81	5499	243	53	5496	159

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5491	9	2	5492	6
9	5509	27	18	5494	54
11	5505	33	21	5509	63
12	5496	36	50	5490	150
31	5495	93	55	5504	165
75	5502	225	85	5508	255
--	--	--	87	5497	261

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5491	24	68	5506	204
17	5501	51	78	5503	234
20	5492	60	--	--	--
44	5498	132	--	--	--
73	5490	219	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5496	6	5	5510	15
23	5509	69	41	5505	123
48	5491	144	47	5509	141
58	5502	174	--	--	--
69	5501	207	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
35	5496	105	17	5491	51
49	5506	147	21	5506	63
54	5507	162	25	5499	75
83	5505	249	68	5498	204
84	5495	252	95	5492	285
88	5500	264	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5496	9	16	5501	48
7	5503	21	41	5507	123
36	5500	108	47	5498	141
43	5508	129	60	5499	180
60	5505	180	81	5503	243
80	5510	240	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
38	5504	114	1	5509	3
82	5509	246	41	5498	123
89	5501	267	92	5501	276

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-06		
Test Item	Radar Statistical Performance Check (802.11ax-HE40 – 5510MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5519	1	858	62	1
2	5510	1	578	92	1
3	5508	1	758	70	1
4	5505	1	938	57	1
5	5512	1	818	65	1
6	5496	1	718	74	1
7	5524	1	538	98	1
8	5490	1	538	98	1
9	5516	1	898	59	1
10	5505	1	818	65	1
11	5523	1	558	95	1
12	5497	1	918	58	1
13	5523	1	898	59	1
14	5524	1	658	81	1
15	5519	1	638	83	1
16	5518	1	538	98	1
17	5492	1	698	76	1
18	5521	1	698	76	1
19	5528	1	798	67	1
20	5509	1	658	81	1
21	5504	1	818	65	1
22	5517	1	838	63	1
23	5530	1	838	63	1
24	5507	1	598	89	1
25	5492	1	858	62	1
26	5507	1	638	83	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5506	1	598	89	1
28	5499	1	918	58	1
29	5504	1	878	61	1
30	5493	1	658	81	1
Detection Percentage (%)					100%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5495	4.0	170	27	1
2	5492	2.3	210	28	1
3	5497	2.9	150	25	1
4	5516	4.3	215	26	1
5	5490	1.1	175	27	1
6	5503	1.2	213	27	1
7	5520	3.1	174	24	0
8	5530	1.5	203	29	1
9	5524	2.5	185	29	1
10	5529	1.2	223	24	1
11	5518	2.2	214	27	1
12	5528	3.7	175	24	1
13	5501	3.9	199	25	1
14	5527	2.5	225	26	1
15	5522	1.0	219	29	0
16	5520	1.1	209	28	1
17	5510	1.8	178	26	1
18	5501	2.3	218	24	0
19	5494	4.9	173	24	1
20	5499	3.7	205	25	1
21	5491	2.7	209	29	0
22	5503	4.0	186	29	1
23	5527	4.6	212	26	1
24	5512	4.5	159	28	1
25	5509	3.3	187	25	1
26	5493	3.0	193	26	1
27	5515	3.1	168	24	0
28	5526	3.2	203	27	1
29	5524	4.1	214	27	0
30	5508	3.8	172	26	1
Detection Percentage (%)					80.0%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5499	6.6	235	17	1
2	5492	8.0	447	17	1
3	5503	8.4	241	17	1
4	5505	7.0	446	17	0
5	5509	7.5	457	17	1
6	5525	8.7	435	18	1
7	5522	9.9	367	17	1
8	5508	9.2	383	17	1
9	5490	9.0	422	17	0
10	5511	8.5	474	17	0
11	5513	9.8	409	17	1
12	5506	9.3	463	17	0
13	5523	9.4	311	18	1
14	5493	6.4	293	16	0
15	5507	6.0	335	18	1
16	5529	8.3	326	17	1
17	5530	9.8	245	17	0
18	5510	6.0	328	16	1
19	5501	6.7	473	16	1
20	5491	7.0	338	16	1
21	5524	6.6	328	17	1
22	5504	8.2	453	17	1
23	5500	9.6	402	17	1
24	5520	9.4	412	18	1
25	5530	7.9	414	18	0
26	5503	7.0	373	17	1
27	5506	8.7	340	18	0
28	5527	6.5	483	17	1
29	5510	8.9	432	17	1
30	5493	7.6	312	17	1
Detection Percentage (%)					73.3%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5521	16.4	348	12	1
2	5511	12.7	318	15	1
3	5525	11.7	402	13	1
4	5515	11.0	439	14	0
5	5501	16.2	211	13	1
6	5490	16.9	336	12	0
7	5514	12.6	359	13	1
8	5526	13.7	337	14	1
9	5493	18.9	214	12	1
10	5521	11.0	201	13	0
11	5516	14.0	316	15	1
12	5523	15.3	297	14	1
13	5513	20.0	469	13	1
14	5498	19.6	381	14	0
15	5522	14.4	276	15	1
16	5529	13.0	311	14	1
17	5494	17.0	496	16	1
18	5525	18.6	204	15	1
19	5505	17.7	206	12	1
20	5523	15.8	212	13	1
21	5509	17.0	208	13	1
22	5500	15.6	280	15	0
23	5510	12.5	339	15	1
24	5505	19.8	356	14	1
25	5515	15.8	334	13	1
26	5504	13.9	405	15	1
27	5517	16.4	413	12	1
28	5507	15.4	220	14	1
29	5530	15.9	336	14	0
30	5493	12.1	496	15	1
Detection Percentage (%)					80.0%

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

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (100\% + 80\% + 73.3\% + 80\%) / 4 = 83.3\% (>80\%)$

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5510	1	16	5494.8	1
2	5510	1	17	5492.4	1
3	5510	1	18	5493.2	1
4	5510	1	19	5493.2	1
5	5510	1	20	5497.6	1
6	5510	1	21	5503.2	1
7	5510	1	22	5505.6	1
8	5510	1	23	5502	1
9	5510	1	24	5502.8	1
10	5510	1	25	5502.8	1
11	5497.2	1	26	5504.4	1
12	5492.8	1	27	5504.8	1
13	5496.4	1	28	5502.8	1
14	5494.4	1	29	5502.8	0
15	5496.8	1	30	5503.2	1
Detection Percentage (%)					96.7%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	99.2	20	1857		502.512
2	2	93.6	20	1989		538.091
3	3	60.4	20	1596	1389	156.972
4	3	53.4	20	1340	1188	535.793
5	3	85.8	20	1980	1998	53.914
6	2	90.2	20	1078		151.365
7	2	62.1	20	1067		159.466
8	2	78.9	20	1523		171.407
9	3	77.4	20	1962	1811	163.608
10	1	68.3	20			192.409
11	2	99.9	20	1770		610.141
12	1	64.8	20			560.272
13	1	84.4	20			386.953
14	2	88.6	20	1316		421.624
15	2	62.4	20	1335		240.985
16	3	73.4	20	1480	1427	112.636
17	1	99.8	20			124.337
18	3	82.4	20	1301	1532	90.958
19	2	66.6	20	1518		185.779

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	54.8	8	1154	1829	626.926
2	2	54.1	8	1459		496.963
3	2	99.5	8	1146		352.767
4	2	72.7	8	1451		442.43
5	2	63.8	8	1341		470.163
6	2	59.1	8	1264		622.867
7	2	52.2	8	1811		454.96
8	2	90.5	8	1677		82.033
9	2	56.1	8	1539		553.097
10	2	64.9	8	1103		207.26
11	2	57.1	8	1103		3.043
12	1	99.3	8			447.037
13	3	92.1	8	1845	1828	386.47
14	2	71.8	8	1360		309.393
15	1	97.6	8			246.467
16	2	96.4	8	1021		256.8
17	3	63.8	8	1990	1219	443.833
18	3	71.7	8	1002	1855	44.867

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	77	16	1385		774.966
2	1	85.7	16			113.083
3	3	74	16	1405	1532	339.126
4	3	87.6	16	1306	1869	905.189
5	1	76.1	16			595.462
6	3	81	16	1719	1213	42.575
7	3	67.3	16	1258	1019	403.648
8	2	89.8	16	1515		513.702
9	2	99.1	16	1804		498.515
10	3	64.2	16	1137	1677	902.708
11	3	67.9	16	1121	1264	352.711
12	2	50.1	16	1177		452.754
13	1	56.6	16			235.877

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	59.9	9	1242	1327	1029
2	2	59.6	9	1868		550.75
3	1	95.2	9			583.1
4	2	59.5	9	1364		407.2
5	1	62.9	9			707.52
6	3	65.6	9	1174	1091	1083.14
7	1	51.4	9			563.89
8	2	66.1	9	1888		780.57
9	2	89.2	9	1763		285.03
10	1	87.4	9			1164.3

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	99.1	13	1810	1929	1110.96
2	3	94.9	13	1152	1899	679.527
3	2	88.1	13	1285		478.103
4	2	73.3	13	1270		168.97
5	1	89.4	13			867.257
6	1	90.2	13			870.143
7	2	81.6	13	1165		353.13
8	1	97.1	13			113.467
9	2	75.4	13	1511		1027.833

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	61.8	20	1536	1159	911.279
2	1	84.7	20			145.76
3	1	82.2	20			103.04
4	2	96.7	20	1515		899.79
5	2	85.9	20	1663		34.66
6	2	92.8	20	1081		246.52
7	2	69	20	1541		991.75
8	2	98.7	20	1683		599.77
9	2	79.8	20	1452		601.98
10	2	75.7	20	1658		256.67
11	2	57.8	20	1549		448.8
12	3	65.6	20	1349	1931	272.4

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	67	5	1345		169.659
2	2	61.9	5	1986		387.88
3	2	53.9	5	1087		265.09
4	1	70.1	5			686.12
5	2	78.6	5	1463		401.93
6	3	80	5	1337	1134	93.49
7	2	86.5	5	1355		415.17
8	3	66	5	1717	1458	662.74
9	2	75.4	5	1224		395.11
10	3	87.3	5	1482	1192	304.96
11	2	72.9	5	1976		237.39
12	1	61.4	5			465.7
13	1	82.3	5			28.42
14	1	65.4	5			575.9
15	3	85.6	5	1049	1079	555.2
16	3	62.9	5	1190	1658	173.3

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	81.4	13	1793		229.544
2	2	87.2	13	1011		78.905
3	3	85.3	13	1366	1847	387.802
4	3	77.4	13	1459	1562	617.063
5	3	59.4	13	1931	1177	443.374
6	2	67.6	13	1400		83.075
7	1	57.3	13			77.196
8	1	63.2	13			1.377
9	2	68.2	13	1785		536.338
10	2	97	13	1580		242.559
11	3	78.1	13	1480	1807	88.121
12	1	70.6	13			537.762
13	2	50.1	13	1345		558.923
14	3	69.5	13	1399	1599	33.314
15	1	84.5	13			45.355
16	1	86.1	13			477.396
17	2	99	13	1789		563.137
18	2	61.2	13	1137		395.358
19	2	57	13	1220		310.579

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	52.9	6	1806		256.564
2	3	86.4	6	1096	1529	231.2
3	3	78.4	6	1710	1967	879.88
4	3	82	6	1302	1822	262.9
5	2	78	6	1032		757.33
6	2	83.2	6	1056		748.41
7	3	96.7	6	1234	1048	27.87
8	2	84.4	6	1197		924.52
9	2	95.2	6	1871		737.29
10	2	73.9	6	1042		119.24
11	1	95.3	6			675.2
12	2	97.1	6	1087		416.7

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	58.9	13	1074	1338	219.34
2	3	82.4	13	1114	1933	456.867
3	1	97.4	13			396.284
4	3	61.1	13	1081	1576	12.491
5	1	56.3	13			264.029
6	1	67.4	13			634.526
7	2	95.2	13	1954		771.183
8	1	55.7	13			292.97
9	2	57.5	13	1911		726.037
10	2	50.3	13	1776		18.534
11	2	87.6	13	1605		304.031
12	1	81.5	13			705.229
13	1	69.4	13			592.486
14	3	71.2	13	1006	1523	511.143

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	84	18	1718	1788	284.519
2	3	59.5	18	1417	1462	465.527
3	2	80.1	18	1950		769.194
4	2	53.6	18	1930		240.951
5	2	65.2	18	2000		298.519
6	2	62.6	18	1071		634.276
7	3	83.1	18	1952	1273	99.343
8	2	64.7	18	1991		39.81
9	3	77.4	18	1892	1107	624.727
10	1	90.7	18			255.834
11	1	93.8	18			53.261
12	2	75.9	18	1934		651.529
13	3	73.1	18	1823	1499	628.786
14	3	79.6	18	1470	1782	166.443

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	92.9	7	1675	1514	774.213
2	2	84.1	7	1765		630.13
3	1	87.9	7			111.76
4	2	90.8	7	1831		880.61
5	3	72.6	7	1684	1206	608.68
6	2	98.7	7	1059		759.75
7	3	97	7	1379	1991	419.64
8	1	99.9	7			1096.26
9	1	79.7	7			576.3
10	3	85	7	1216	1002	791.6

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	86	16	1926	1832	477.837
2	1	65.7	16			291.954
3	1	51.1	16			435.11
4	2	60.6	16	1326		480.68
5	3	94.7	16	1707	1888	579.09
6	3	80	16	1975	1015	538.29
7	2	51.7	16	1824		73.68
8	1	85.8	16			175.56
9	1	52.7	16			182.51
10	1	97.5	16			141.69
11	1	59.9	16			71.83
12	2	94.9	16	1216		235.35
13	3	91.4	16	1666	1329	540.86
14	1	54.6	16			348.41
15	2	52	16	1317		403.66
16	2	90.1	16	1034		181.66
17	1	91.5	16			373.55
18	2	90.8	16	1743		131.3
19	3	96.6	16	1364	1168	546.3
20	2	93.2	16	1519		517

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	71.7	11			132.045
2	2	73.6	11	1885		212.31
3	3	91.9	11	1511	1810	539.7
4	3	95.6	11	1530	1211	76.92
5	1	92	11			722.4
6	2	62.5	11	1341		176.78
7	3	54.4	11	1484	1062	258.34
8	2	61.8	11	1394		775.17
9	1	57.3	11			85.03
10	2	63.8	11	1917		362.73
11	2	53.5	11	1468		752.87
12	1	55.7	11			710.66
13	2	90	11	1927		781.5
14	1	87	11			257.6
15	2	95	11	1544		241.6

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	51	17			87.771
2	1	77.3	17			657.613
3	2	66	17	1355		224.807
4	1	50.6	17			301.85
5	2	77.4	17	1310		261.023
6	1	59	17			457.587
7	3	65.2	17	1659	1844	313.27
8	2	56.7	17	1416		119.173
9	1	57.6	17			422.307
10	3	60.6	17	1797	1411	230.31
11	3	50.6	17	1431	1621	615.773
12	1	80.9	17			539.957
13	2	59.6	17	1333		493.42
14	2	53.1	17	1164		184.623
15	3	68.2	17	1223	1229	131.607
16	2	69.4	17	1983		30.1
17	2	86.1	17	1905		337.533
18	3	64.4	17	1686	1884	381.667

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	90.6	12			459.492
2	2	78.5	12	1131		100.974
3	2	70.3	12	1881		306.83
4	3	84.3	12	1185	1170	159.37
5	2	88.2	12	1229		43.92
6	2	66.2	12	1155		572.02
7	2	52	12	1073		346.92
8	2	83.4	12	1334		228.17
9	2	71.3	12	1427		581.82
10	2	85	12	1246		67.02
11	1	85.4	12			530.69
12	3	68.1	12	1047	1383	593.97
13	1	55.6	12			155.26
14	1	96.5	12			662.3
15	2	65.6	12	1875		60.4
16	2	60.5	12	1000		737.7

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	66.8	6	1933	1468	58.744
2	1	58	6			587.003
3	1	88.6	6			540.687
4	2	78.7	6	1388		555.81
5	2	74.7	6	1701		621.933
6	2	56.4	6	1395		446.757
7	2	97.6	6	1951		653.06
8	2	62.9	6	1966		42.823
9	2	88.7	6	1734		387.097
10	3	61.6	6	1501	1112	657.65
11	1	97.1	6			601.133
12	1	57.6	6			592.657
13	1	99.7	6			225.31
14	2	63.3	6	1692		543.773
15	1	78.9	6			510.197
16	2	83.3	6	1766		336.2
17	2	78.8	6	1678		44.233
18	2	56.2	6	1350		52.967

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	52.7	8	1303		63.431
2	2	71.7	8	1080		628.77
3	1	93.4	8			506.42
4	2	94.2	8	1607		186.09
5	2	65.7	8	1181		443.67
6	2	55.9	8	1135		339.45
7	2	81	8	1019		574.5
8	2	59.8	8	1546		614.33
9	2	67.8	8	1996		192.54
10	2	60.9	8	1097		747.3
11	2	81.3	8	1715		486.98
12	1	78.4	8			528.56
13	3	61.5	8	1691	1485	213.13
14	2	82.2	8	1828		347.8
15	2	65.6	8	1732		224.3

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	71.3	8	1537	1602	237.599
2	3	88.8	8	1225	1108	401.88
3	2	78.7	8	1051		536
4	3	58.1	8	1861	1651	38.23
5	2	98	8	1272		860.62
6	2	94.7	8	1330		489.3
7	3	88.1	8	1514	1901	773.74
8	2	61.7	8	1548		1071.61
9	1	88.1	8			813.5
10	2	84	8	1891		296.8

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	79.4	19	1207		746.701
2	2	75.5	19	1338		747.917
3	2	70.4	19	1563		700.754
4	2	63.7	19	1455		741.971
5	2	56.1	19	1129		55.689
6	3	97.9	19	1746	1851	496.636
7	1	72.2	19			3.233
8	2	90.5	19	1505		664.43
9	2	78.8	19	1615		724.927
10	1	76.1	19			529.104
11	2	57.7	19	1851		175.751
12	1	96.7	19			196.909
13	2	74.3	19	1183		599.486
14	1	59.5	19			474.643

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	59.6	17	1815		29.427
2	3	85.3	17	1586	1078	697.61
3	2	93.4	17	1902		386.51
4	3	97.4	17	1118	1954	879.78
5	1	60.5	17			803.24
6	3	59.1	17	1420	1701	998.35
7	3	64.2	17	1805	1042	483.34
8	2	95.5	17	1595		892.25
9	3	56.6	17	1474	1800	287.83
10	2	53.4	17	1399		172.7

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	53.5	11	1592	1820	267.256
2	1	87.5	11			392.357
3	3	94	11	1947	1335	216.71
4	1	86.3	11			62.97
5	1	98.8	11			81.92
6	2	63.3	11	1815		194.19
7	3	61.5	11	1127	1440	302.99
8	2	79.6	11	1595		383.52
9	2	57.6	11	1070		366.45
10	3	64.5	11	1487	1333	136.67
11	2	56.6	11	1203		263.27
12	2	89.5	11	1704		66.1
13	2	59.9	11	1382		301.37
14	2	61.7	11	1090		301.03
15	3	96.7	11	1303	1807	400.16
16	2	92.3	11	1436		459.49
17	3	89.1	11	1047	1009	334.45
18	2	77.8	11	1682		533.1
19	1	60.5	11			408.8
20	3	73.1	11	1457	1382	246.5

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	69.6	20			525.049
2	2	60.2	20	1829		685.39
3	2	64.3	20	1612		28.09
4	2	60.4	20	1840		84.79
5	3	81.8	20	1589	1800	720.53
6	2	94	20	1988		360.28
7	1	54.3	20			307.36
8	3	75	20	1814	1809	83.25
9	1	71.1	20			357.12
10	1	96.4	20			125.73
11	3	56.5	20	1144	1985	71.48
12	3	70.1	20	1358	1952	511.38
13	2	67.8	20	1248		94.87
14	2	97.2	20	1296		376.7
15	1	60.1	20			605
16	3	88.4	20	1847	1413	646.2

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	95.2	18	1611	1005	75.595
2	3	56.5	18	1371	1448	826.977
3	2	71.4	18	1965		63.833
4	3	81.4	18	1314	1008	948.52
5	1	82.7	18			506.827
6	2	69.1	18	1915		1081.683
7	3	98	18	1255	1040	433.53
8	2	89.9	18	1633		754.567
9	2	57	18	1147		987.033

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	88.1	18	1949		374.684
2	3	66.8	18	1256	1147	443.103
3	2	83.1	18	1595		271.117
4	2	99.4	18	1109		400.97
5	3	68.2	18	1060	1945	62.263
6	2	64.8	18	1277		405.567
7	1	73.2	18			144.74
8	3	67.5	18	1405	1163	443.493
9	3	61.3	18	1663	1627	94.987
10	1	69.3	18			90.32
11	1	77.5	18			210.233
12	1	68.4	18			361.127
13	2	62	18	1919		249.09
14	1	96.4	18			115.193
15	3	65.1	18	1095	1452	615.927
16	2	63.8	18	1088		332
17	2	73.1	18	1776		151.233
18	2	58.3	18	1999		384.367

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	96.2	14	1900	1706	696.859
2	3	77.8	14	1321	1552	662.07
3	2	90.8	14	1731		44.45
4	2	96	14	1083		478.85
5	3	83.2	14	1941	1180	356.23
6	2	54.8	14	1536		224.71
7	2	99.2	14	1180		163.87
8	2	93	14	1904		807.37
9	2	91.8	14	1694		661.83
10	2	66.9	14	1530		177.85
11	2	62.6	14	1885		455.1
12	2	97.6	14	1409		740.9

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	61.6	13	1156		135.924
2	1	98.5	13			916.781
3	1	74.9	13			211.372
4	2	85.3	13	1525		402.093
5	2	55.5	13	1530		540.884
6	2	92.4	13	1661		849.095
7	2	93	13	1326		209.055
8	2	92.6	13	1338		600.636
9	3	67.4	13	1469	1015	201.077
10	3	96.2	13	1932	1432	418.518
11	2	51.3	13	1922		96.709

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	59.9	18	1314		473.699
2	3	68.3	18	1150	1561	544.421
3	3	80.6	18	1600	1739	590.502
4	3	94.6	18	1636	1403	238.313
5	1	97.7	18			611.014
6	3	53.5	18	1433	1100	618.715
7	3	87.8	18	1261	1708	482.446
8	2	75.2	18	1762		389.247
9	2	57.2	18	1539		469.068
10	2	65.3	18	1828		148.069
11	1	71.1	18			266.561
12	1	93.2	18			8.452
13	2	68.7	18	1166		82.803
14	2	72.2	18	1325		373.914
15	3	93	18	1586	1606	195.105
16	3	94.3	18	1018	1472	430.736
17	1	86.8	18			532.337
18	2	61.7	18	1086		141.158
19	1	80.3	18			200.579

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	74.9	18			541.304
2	1	52.8	18			614.141
3	1	53.9	18			902.362
4	1	65.9	18			950.003
5	2	84.8	18	1496		1011.744
6	1	69	18			127.585
7	1	87.1	18			984.355
8	2	82.5	18	1902		712.376
9	1	88.3	18			414.327
10	1	93.9	18			154.228
11	1	55.6	18			83.909

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	70.9	17	1701	1754	1048.33
2	3	68.2	17	1077	1893	147.55
3	2	82.7	17	1072		710.93
4	2	95.1	17	1964		230.16
5	2	88.7	17	1258		1007.26
6	1	81.4	17			254.54
7	2	75.7	17	1500		471.68
8	3	97.2	17	1238	1740	347.95
9	2	84.2	17	1526		28.4
10	1	76.5	17			275.2

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	1	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	1
11	1	26	1
12	1	27	1
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)			100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
11	5500	33	8	5529	24
45	5516	135	16	5496	48
52	5527	156	52	5527	156
53	5494	159	55	5505	165
57	5505	171	60	5500	180
77	5514	231	64	5516	192
80	5502	240	73	5515	219
97	5506	291	91	5522	273

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
25	5493	75	1	5529	3
42	5514	126	3	5513	9
63	5526	189	22	5518	66
70	5521	210	56	5510	168
76	5515	228	61	5530	183
93	5508	279	78	5495	234
96	5528	288	83	5508	249
--	--	--	92	5499	276
--	--	--	100	5521	300

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
35	5506	105	7	5516	21
41	5494	123	31	5530	93
53	5500	159	41	5492	123
55	5502	165	49	5506	147
97	5523	291	59	5520	177
100	5491	300	64	5522	192
--	--	--	66	5528	198
--	--	--	82	5500	246
--	--	--	93	5509	279

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5500	21	4	5492	12
9	5516	27	40	5510	120
11	5493	33	63	5502	189
12	5496	36	--	--	--
18	5495	54	--	--	--
20	5511	60	--	--	--
24	5498	72	--	--	--
26	5491	78	--	--	--
30	5502	90	--	--	--
32	5504	96	--	--	--
58	5508	174	--	--	--
78	5519	234	--	--	--
91	5529	273	--	--	--
95	5506	285	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5500	15	22	5507	66
14	5515	42	26	5493	78
23	5525	69	48	5525	144
27	5493	81	72	5500	216
47	5504	141	76	5530	228
59	5527	177	83	5491	249
98	5508	294	86	5503	258

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
13	5523	39	1	5507	3
16	5513	48	10	5522	30
19	5492	57	26	5527	78
43	5496	129	28	5528	84
73	5491	219	37	5521	111
83	5520	249	48	5504	144
90	5529	270	55	5492	165
95	5506	285	56	5501	168
--	--	--	65	5515	195
--	--	--	71	5517	213
--	--	--	78	5505	234
--	--	--	83	5510	249
--	--	--	99	5519	297

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5498	24	3	5510	9
19	5528	57	22	5503	66
24	5521	72	39	5496	117
31	5492	93	43	5490	129
43	5516	129	48	5529	144
50	5507	150	50	5511	150
64	5505	192	94	5499	282
71	5499	213	98	5498	294
89	5511	267	--	--	--
90	5497	270	--	--	--
91	5500	273	--	--	--
96	5520	288	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5497	3	15	5518	45
3	5520	9	31	5509	93
14	5494	42	55	5507	165
17	5504	51	75	5508	225
34	5503	102	79	5530	237
43	5524	129	90	5506	270
44	5529	132	--	--	--
47	5526	141	--	--	--
49	5508	147	--	--	--
69	5498	207	--	--	--
87	5502	261	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5519	6	14	5513	42
7	5503	21	54	5525	162
21	5505	63	82	5506	246
40	5524	120	89	5526	267
53	5500	159	--	--	--
75	5528	225	--	--	--
78	5520	234	--	--	--
92	5506	276	--	--	--
96	5526	288	--	--	--
100	5509	300	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5518	15	3	5526	9
42	5492	126	18	5514	54
85	5513	255	36	5494	108
96	5499	288	42	5513	126
97	5503	291	55	5493	165
100	5491	300	64	5519	192
--	--	--	78	5503	234
--	--	--	89	5501	267

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5499	6	1	5529	3
5	5524	15	7	5490	21
8	5516	24	13	5504	39
9	5500	27	17	5495	51
29	5517	87	56	5492	168
41	5509	123	67	5509	201
48	5492	144	70	5520	210
49	5515	147	83	5514	249
59	5518	177	--	--	--
63	5526	189	--	--	--
84	5503	252	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5518	24	2	5503	6
15	5515	45	6	5501	18
22	5529	66	29	5514	87
23	5530	69	50	5512	150
27	5520	81	71	5500	213
50	5525	150	75	5523	225
69	5508	207	95	5519	285
80	5516	240	--	--	--
99	5506	297	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5515	3	5	5525	15
5	5526	15	10	5498	30
10	5514	30	12	5530	36
12	5517	36	14	5494	42
18	5521	54	33	5507	99
54	5512	162	38	5522	114
61	5505	183	39	5490	117
67	5500	201	46	5518	138
69	5508	207	53	5506	159
85	5502	255	54	5511	162
86	5493	258	56	5495	168
--	--	--	80	5529	240
--	--	--	81	5523	243

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5527	15	1	5498	3
12	5501	36	9	5497	27
25	5494	75	15	5494	45
31	5519	93	22	5526	66
50	5510	150	31	5510	93
62	5529	186	33	5530	99
70	5507	210	48	5499	144
96	5525	288	57	5509	171
--	--	--	60	5492	180
--	--	--	73	5501	219
--	--	--	91	5513	273

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5525	30	1	5497	3
15	5507	45	4	5524	12
23	5498	69	15	5501	45
28	5502	84	16	5525	48
37	5501	111	53	5496	159
73	5491	219	59	5495	177
77	5527	231	65	5500	195
86	5518	258	73	5523	219
87	5500	261	81	5512	243
--	--	--	100	5492	300

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-06		
Test Item	Radar Statistical Performance Check (802.11ax-HE80 – 5530MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5530	1	738	72	1
2	5521	1	618	86	1
3	5491	1	738	72	1
4	5496	1	778	68	1
5	5539	1	798	67	1
6	5503	1	858	62	1
7	5569	1	638	83	1
8	5523	1	918	58	1
9	5540	1	818	65	1
10	5492	1	898	59	1
11	5547	1	638	83	1
12	5499	1	3066	18	1
13	5507	1	578	92	1
14	5539	1	658	81	1
15	5511	1	778	68	1
16	5515	1	878	61	1
17	5521	1	758	70	1
18	5541	1	878	61	1
19	5495	1	838	63	1
20	5568	1	918	58	1
21	5492	1	678	78	1
22	5563	1	838	63	1
23	5548	1	798	67	1
24	5569	1	878	61	1
25	5560	1	558	95	1
26	5494	1	818	65	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5511	1	738	72	1
28	5547	1	878	61	1
29	5560	1	818	65	1
30	5518	1	878	61	1
Detection Percentage (%)					100.0%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5517	3.9	190	29	1
2	5494	2.1	157	26	1
3	5491	1.1	155	29	1
4	5562	2.3	189	28	1
5	5530	3.4	200	25	0
6	5521	1.4	213	27	0
7	5560	2.1	205	27	1
8	5511	1.3	226	24	1
9	5537	1.2	179	29	1
10	5526	1.6	190	24	0
11	5504	1.7	171	27	1
12	5502	3.1	182	26	1
13	5493	2.0	221	29	1
14	5518	2.6	158	27	0
15	5539	3.3	197	26	1
16	5547	2.0	160	23	1
17	5497	4.5	199	25	1
18	5500	1.9	166	27	1
19	5554	4.6	211	27	1
20	5534	1.1	174	29	1
21	5495	4.6	218	29	1
22	5559	1.3	221	24	1
23	5528	4.5	221	29	1
24	5508	3.1	180	28	0
25	5495	1.4	176	25	1
26	5535	4.6	219	27	1
27	5540	4.5	163	24	1
28	5494	1.2	204	27	0
29	5544	1.6	151	25	1
30	5569	2.3	183	24	1
Detection Percentage (%)					80.0%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5503	6.1	247	17	1
2	5515	6.4	277	17	1
3	5564	8.4	237	16	1
4	5528	8.5	303	17	1
5	5500	9.3	404	18	0
6	5540	8.0	379	16	1
7	5496	7.4	371	17	1
8	5502	7.5	231	16	1
9	5507	8.5	495	17	1
10	5528	8.9	320	17	1
11	5524	7.9	319	17	1
12	5516	7.7	500	17	0
13	5506	6.9	365	17	1
14	5523	7.6	429	17	1
15	5530	6.0	351	17	1
16	5510	9.4	414	17	1
17	5538	8.5	378	17	1
18	5501	8.0	204	17	1
19	5564	7.0	258	17	1
20	5505	7.5	472	18	1
21	5524	7.8	390	17	0
22	5512	8.6	323	16	1
23	5521	8.1	489	17	1
24	5564	7.7	485	17	0
25	5514	9.6	468	18	1
26	5540	7.4	382	18	1
27	5548	6.6	482	17	1
28	5491	8.6	296	17	1
29	5537	7.0	374	18	0
30	5569	7.5	308	18	1
Detection Percentage (%)					83.3%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5530	15.5	411	14	1
2	5506	15.0	453	15	1
3	5518	18.8	468	15	0
4	5522	19.3	394	15	1
5	5550	18.3	427	16	1
6	5558	16.8	204	13	1
7	5556	17.9	339	12	1
8	5491	19.7	227	14	1
9	5569	18.3	464	13	0
10	5527	13.0	310	14	1
11	5535	18.9	418	16	1
12	5555	16.4	406	15	1
13	5509	13.8	500	12	1
14	5542	19.2	239	13	1
15	5507	11.6	364	15	1
16	5537	14.1	367	15	1
17	5558	13.8	298	16	1
18	5546	12.3	358	13	1
19	5549	15.5	250	12	1
20	5555	18.0	445	16	1
21	5493	15.8	411	15	1
22	5523	13.8	460	14	1
23	5555	16.7	282	13	1
24	5502	15.7	290	15	1
25	5558	16.8	346	15	1
26	5500	19.0	260	12	0
27	5507	19.9	337	13	0
28	5521	19.8	401	13	1
29	5567	18.1	329	15	1
30	5528	14.4	277	15	1
Detection Percentage (%)					86.7%

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

waveforms is as follows: $\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4} = (100\% + 80\% + 83.3\% + 86.7\%) / 4 = 87.5\% (>80\%)$

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5530	1	16	5493	1
2	5530	1	17	5495	1
3	5530	1	18	5494.6	1
4	5530	0	19	5496.2	1
5	5530	1	20	5496.2	1
6	5530	1	21	5563	1
7	5530	1	22	5563.8	1
8	5530	1	23	5562.2	1
9	5530	1	24	5563.8	1
10	5530	1	25	5565.8	0
11	5496.2	1	26	5566.6	1
12	5498.6	1	27	5564.6	1
13	5497.4	1	28	5562.2	1
14	5498.6	1	29	5563.4	1
15	5493.4	1	30	5566.6	1
Detection Percentage (%)					93.3%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	55.4	6	1346		1165.11
2	2	82	6	1818		129.51
3	2	84.6	6	1241		858.63
4	2	73.3	6	1231		876.31
5	1	63.7	6			938.27
6	3	52.1	6	1156	1810	925.67
7	3	76.4	6	1660	1237	592.8
8	2	60.7	6	1202		1010.92
9	2	82.1	6	1906		1014.8
10	2	79.1	6	1127		784.1

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	89	20	1495		270.987
2	3	71.6	20	1796	1259	448.21
3	2	55.8	20	1093		421.76
4	1	93.1	20			50.07
5	2	77.9	20	1129		73.29
6	2	97.5	20	1286		518.11
7	2	59	20	1613		687.18
8	2	64.1	20	1288		342.56
9	3	70.8	20	1583	1604	14.75
10	1	63.4	20			0.58
11	3	74.6	20	1873	1848	379.84
12	3	96.7	20	1451	1808	102.76
13	2	91.4	20	1624		278.65
14	1	55.4	20			299
15	2	69.6	20	1354		243
16	1	58.2	20			189.1

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	83.3	20	1749		827.768
2	2	62.7	20	1744		278.701
3	2	83.5	20	1019		525.212
4	2	95.5	20	1405		1077.893
5	2	98.7	20	1546		289.724
6	3	56.9	20	1467	1780	298.405
7	2	70.3	20	1390		389.735
8	2	82.3	20	1514		699.496
9	2	56.3	20	1687		688.047
10	2	51.2	20	1555		719.118
11	1	90.2	20			167.609

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	78.3	16			80.15
2	3	59.6	16	1534	1265	175.52
3	1	65.5	16			214.78
4	1	55.9	16			764.31
5	2	65.8	16	1937		1212.17
6	1	73.9	16			401.57
7	2	64.6	16	1591		788.62
8	1	69.9	16			716.5

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	70.9	20	1343	1699	840.853
2	2	85.5	20	1297		612.877
3	3	69.5	20	1184	1253	75.553
4	3	96.7	20	1326	1972	1206.9
5	3	59.9	20	1108	1123	85.567
6	2	67.3	20	1009		208.903
7	2	60.3	20	1019		1280.99
8	1	84.3	20			1085.467
9	3	52.9	20	1323	1516	1044.633

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	70.6	14			824.421
2	1	94.1	14			345.54
3	1	85.6	14			809.35
4	2	99.5	14	1466		372.72
5	1	80.7	14			325.65
6	1	79.1	14			890.99
7	2	94.4	14	1950		773.28
8	1	79.9	14			139.44
9	1	80	14			545.61
10	2	55.5	14	1415		983.9
11	3	89.7	14	1589	1139	676.8
12	1	91.6	14			578.9

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	78.9	13	1679		313.475
2	3	70.1	13	1531	1366	484.573
3	3	77.8	13	1602	1850	497.027
4	2	99.4	13	1659		293.64
5	2	58.8	13	1198		215.683
6	2	63.3	13	1906		48.997
7	3	60.2	13	1602	1414	145.14
8	3	69.4	13	1588	1300	534.433
9	3	74.1	13	1941	1004	462.387
10	1	87.2	13			83.21
11	3	95	13	1901	1340	546.463
12	1	71.7	13			201.227
13	2	79.5	13	1838		547.69
14	2	53.3	13	1195		466.673
15	3	69.6	13	1108	1156	127.637
16	2	88.6	13	1207		143.9
17	3	58.9	13	1760	1206	409.433
18	3	92.5	13	1960	1197	7.867

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	75.8	5	1376		565.715
2	2	50.9	5	1762		574.763
3	2	93.8	5	1126		214.596
4	1	52.8	5			155.269
5	1	69.9	5			39.032
6	1	98.2	5			171.265
7	1	81.4	5			298.338
8	3	64.8	5	1663	1202	717.532
9	2	70.9	5	1206		371.905
10	2	57.1	5	1845		395.088
11	1	54	5			915.631
12	3	50.1	5	1435	1281	2.254
13	2	58.3	5	1053		55.477

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	61.4	20			139.489
2	2	71.7	20	1614		470.081
3	2	68.4	20	1052		963.792
4	1	63.1	20			366.003
5	3	81.3	20	1077	1253	856.284
6	1	78.9	20			497.085
7	1	77.9	20			554.715
8	2	78.3	20	1866		659.966
9	2	95.7	20	1511		1063.017
10	3	54.4	20	1675	1636	347.518
11	2	51.3	20	1063		363.009

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	71.8	7			156.259
2	2	60.8	7	1466		260.093
3	1	68.6	7			277.486
4	3	84.4	7	1440	1371	106.999
5	3	50.7	7	1813	1999	709.452
6	1	90.8	7			167.565
7	3	76.1	7	1065	1706	733.758
8	3	97.2	7	1035	1198	717.942
9	3	94.9	7	1961	1882	417.795
10	3	66.8	7	1870	1889	55.358
11	2	80.8	7	1530		863.931
12	2	82.9	7	1599		872.454
13	2	99.2	7	1019		451.177

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	82.4	13	1933	1895	724.054
2	2	68.4	13	1818		640.251
3	1	75.8	13			716.232
4	2	86	13	1198		345.603
5	3	91	13	1552	1701	525.574
6	2	55.6	13	1936		627.265
7	2	95.6	13	1479		46.275
8	2	79.2	13	1823		1072.766
9	3	75.7	13	1038	1516	628.387
10	2	63.6	13	1777		843.318
11	2	71.5	13	1678		836.509

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	57.5	19	1622	1101	289.635
2	1	62.8	19			701.58
3	2	60.8	19	1106		347.18
4	2	61.7	19	1265		212.75
5	3	76.2	19	1633	1852	253.41
6	3	83.6	19	1085	1250	388.2
7	2	73.3	19	1159		537.19
8	1	80.5	19			768.53
9	1	92.1	19			793.9
10	1	74.2	19			118.15
11	2	82.7	19	1935		647.12
12	2	52.2	19	1353		141.83
13	2	75.9	19	1031		307.5
14	3	53.5	19	1442	1839	608.2
15	3	96.9	19	1578	1608	590.8

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	76.2	16	1099		18.61
2	2	53.4	16	1064		390.003
3	1	75.8	16			66.977
4	3	62.1	16	1906	1135	124.66
5	2	97	16	1273		607.673
6	2	86.5	16	1886		525.047
7	3	51.3	16	1157	1162	653.37
8	3	87.8	16	1260	1000	52.603
9	2	53.4	16	1048		572.207
10	2	71.3	16	1167		419.32
11	2	61.8	16	1343		472.013
12	3	50.5	16	1107	1191	30.307
13	1	89.9	16			260.63
14	3	68.7	16	1082	1318	448.083
15	1	85.1	16			114.027
16	2	83.1	16	1392		60.2
17	2	82.9	16	1901		239.433
18	2	54.5	16	1964		182.867

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	95.6	19	1851		845.53
2	2	67	19	1645		945.31
3	2	72.4	19	1753		1011.84
4	2	75.8	19	1292		155.04
5	3	51.9	19	1226	1341	909.23
6	3	86.1	19	1581	1272	1053.48
7	1	71.9	19			1035.13
8	2	74.5	19	1152		122.83
9	1	78.8	19			330.25
10	2	90.5	19	1060		1100.2

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	60.5	6	1038		660.899
2	2	74.5	6	1506		366.957
3	2	82.8	6	1394		606.694
4	1	63	6			445.081
5	3	84.8	6	1119	1004	268.519
6	2	93.3	6	1450		646.096
7	2	86.8	6	1513		81.293
8	1	54.5	6			613.61
9	1	93.3	6			505.607
10	1	94	6			65.174
11	2	68.1	6	1456		550.131
12	3	92	6	1159	1149	254.719
13	2	58.4	6	1278		359.086
14	2	87.4	6	1121		395.643

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	96.7	5			383.183
2	1	65.4	5			90.386
3	1	53.1	5			408.572
4	2	85.6	5	1889		217.343
5	3	85.6	5	1761	1602	560.594
6	1	77	5			292.605
7	3	90.6	5	1410	1753	228.526
8	1	89.5	5			561.777
9	2	50.3	5	1278		398.498
10	1	61.9	5			585.149
11	3	98.9	5	1913	1478	366.981
12	2	75.2	5	1595		66.242
13	2	93.9	5	1922		448.423
14	1	58.7	5			201.354
15	1	87.2	5			24.295
16	1	95.8	5			325.736
17	1	98.5	5			163.237
18	1	93.7	5			557.558
19	2	72.2	5	1030		237.779

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	70.2	10	1776	1558	245.942
2	2	71.6	10	1410		611.44
3	3	88.1	10	1157	1565	138.12
4	1	52.7	10			252.47
5	2	85.1	10	1894		294.04
6	3	53	10	1809	1011	594.54
7	2	96.7	10	1242		245.24
8	3	96.9	10	1181	1041	217.08
9	2	71.9	10	1941		354.62
10	2	100	10	1621		310.6
11	2	78.7	10	1641		221.99
12	1	55.4	10			105.1
13	3	73	10	1987	1095	632.9
14	1	84.4	10			542.3
15	3	76.2	10	1976	1818	90.5
16	1	83.9	10			207

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	78.9	9	1353		777.238
2	1	84.1	9			494.98
3	3	93.9	9	1369	1214	351.96
4	1	50.6	9			397.97
5	1	65.7	9			214.28
6	3	81.9	9	1023	1792	654.2
7	3	76.8	9	1276	1795	636.11
8	2	71.6	9	1103		4.66
9	2	69.8	9	1364		749.13
10	2	91.1	9	1931		492.97
11	2	70.3	9	1857		655.75
12	2	56.5	9	1645		462.85
13	1	58.5	9			45.27
14	2	67.6	9	1157		699.7
15	2	99.3	9	1634		491.6

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	91.7	13	1161		1185.17
2	2	65.1	13	1993		406.52
3	3	97.7	13	1462	1138	569.82
4	3	63.3	13	1370	1824	595.22
5	3	82.6	13	1511	1418	39.05
6	2	86.1	13	1388		729.5
7	2	73.8	13	1595		567.26
8	2	98.2	13	1359		897.6
9	2	59.4	13	1433		598.3
10	1	62.5	13			10.6

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	60	13	1280	1646	1007.93
2	1	97.9	13			345.9
3	2	67.1	13	1216		375.65
4	2	57.9	13	1156		1184.46
5	1	75.3	13			644.25
6	3	90.4	13	1804	1651	270.24
7	3	61.2	13	1832	1852	602.4
8	2	77.4	13	1791		157.76
9	2	73.6	13	1322		204.38
10	3	61.1	13	1028	1557	105.8

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	77.3	15	1722		665.493
2	1	54.3	15			146.021
3	1	75.3	15			535.342
4	2	54.7	15	1266		398.273
5	3	53	15	1289	1651	85.484
6	1	97.8	15			677.215
7	1	72.2	15			148.255
8	2	65.9	15	1367		347.546
9	2	74.6	15	1058		458.657
10	1	79.9	15			789.318
11	1	56.4	15			134.209

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	63	13	1375	1429	428.91
2	3	89.4	13	1367	1318	399.818
3	1	50.5	13			660.475
4	1	53.5	13			234.093
5	2	64	13	1587		440.441
6	1	69.9	13			68.948
7	1	96.8	13			670.586
8	3	67.3	13	1271	1858	357.714
9	2	89.5	13	1095		597.531
10	3	91.4	13	1450	1153	623.229
11	2	59	13	1340		295.926
12	3	57	13	1613	1963	225.614
13	2	62.6	13	1521		377.812
14	2	69.2	13	1844		251.979
15	3	91.2	13	1892	1358	112.597
16	3	77.4	13	1644	1787	472.265
17	2	73.3	13	1794		595.082

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	57.3	17			449.61
2	3	84.3	17	1210	1291	1073.801
3	2	88.3	17	1970		1083.592
4	2	91.8	17	1931		521.423
5	2	51.2	17	1126		534.974
6	3	53.7	17	1935	1413	88.975
7	2	92.8	17	1984		835.225
8	2	96.8	17	1204		840.706
9	3	68.3	17	1739	1777	551.487
10	2	95.2	17	1172		285.918
11	2	92.6	17	1757		626.709

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	80.1	13	1692	1574	507.241
2	1	50.1	13			359.902
3	2	95.1	13	1549		338.99
4	2	79	13	1738		222.37
5	3	67.4	13	1706	1310	228.49
6	3	64.2	13	1903	1952	62.42
7	2	52.1	13	1657		90.54
8	1	62.4	13			0.08
9	3	53.1	13	1447	1962	226.37
10	3	92.3	13	1054	1150	25.65
11	1	97.3	13			431.25
12	3	60.1	13	1008	1761	27.03
13	1	98	13			252.43
14	1	97.6	13			537.22
15	2	87.5	13	1542		59.42
16	3	52	13	1068	1862	501.2
17	3	53.1	13	1734	1228	393.77
18	2	90.2	13	1625		489.3
19	2	57.9	13	1687		343.3
20	2	80	13	1038		50.2

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	90.8	8	1100		321.045
2	1	63.9	8			236.58
3	2	80.3	8	1529		123.78
4	2	59.6	8	1226		73.05
5	3	96.1	8	1903	1597	238.65
6	3	68.4	8	1640	1663	31.31
7	2	74.8	8	1450		456.43
8	2	62.3	8	1579		25.78
9	2	73.9	8	1173		521.71
10	3	88.5	8	1873	1932	600.31
11	2	85.2	8	1532		397.61
12	2	78	8	1426		416.27
13	1	57.5	8			575.8
14	1	76.8	8			457.6
15	2	73.5	8	1228		164.2

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	80.6	6	1233		232.562
2	2	91.4	6	1392		1169.017
3	2	99.7	6	1266		852.153
4	2	77.5	6	1303		72.89
5	3	80.1	6	1096	1932	18.147
6	2	69.4	6	1512		203.943
7	1	95.9	6			701.25
8	3	94.9	6	1649	1969	219.967
9	3	66.9	6	1722	1764	301.833

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	51.5	11	1712		736.375
2	1	52.5	11			104.452
3	3	90.8	11	1830	1342	657.544
4	2	77.6	11	1520		392.921
5	1	86.5	11			640.749
6	2	92.7	11	1047		114.516
7	1	74.6	11			647.343
8	1	92.5	11			414.79
9	2	87.3	11	1491		829.527
10	3	77.3	11	1858	1695	762.074
11	1	77.8	11			133.151
12	2	91.6	11	1811		88.699
13	2	69.3	11	1750		440.086
14	1	93.3	11			765.843

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	66.7	17	1143		157.782
2	2	80.7	17	1715		601.3
3	2	69.6	17	1180		295.78
4	1	91.8	17			661.41
5	1	71.6	17			175.32
6	2	92.4	17	1216		242.03
7	3	51.9	17	1763	1042	139.34
8	1	80.2	17			493.38
9	2	80.4	17	1151		797.7
10	3	76.1	17	1166	1147	680.8

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	67.5	14	1907		250.223
2	3	62.4	14	1102	1098	178.327
3	2	75.8	14	1779		135.423
4	2	78.1	14	1704		1231.54
5	3	63.6	14	1930	1819	502.197
6	3	69.1	14	1338	1874	184.073
7	3	76.6	14	1245	1641	181.42
8	3	57.9	14	1278	1227	1234.667
9	3	76.8	14	1709	1116	929.633

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	61.2	6	1216	1815	567.239
2	2	54.2	6	1350		233.206
3	3	69.3	6	1063	1043	523.785
4	2	76.5	6	1891		498.503
5	1	78	6			580.551
6	2	60	6	1933		620.468
7	3	94.7	6	1509	1566	203.406
8	3	57.3	6	1758	1856	101.724
9	2	70.9	6	1762		68.211
10	2	65.1	6	1912		284.129
11	2	78.5	6	1870		666.206
12	2	74.2	6	1222		448.244
13	2	63.6	6	1703		131.202
14	2	51.6	6	1057		616.099
15	1	53.9	6			694.147
16	3	90.3	6	1244	1120	487.065
17	2	98.2	6	1163		224.382

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	1	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	1
11	1	26	1
12	1	27	1
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)			100.0%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5519	12	7	5538	21
5	5494	15	8	5507	24
7	5540	21	9	5524	27
28	5562	84	20	5539	60
32	5547	96	27	5511	81
34	5568	102	28	5522	84
35	5510	105	33	5544	99
38	5557	114	43	5515	129
39	5566	117	58	5548	174
49	5508	147	64	5497	192
53	5538	159	73	5559	219
59	5497	177	79	5562	237
61	5548	183	82	5563	246
67	5512	201	88	5495	264
74	5524	222	92	5490	276
86	5490	258	96	5509	288
100	5506	300	98	5496	294
--	--	--	99	5502	297

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5500	3	1	5530	3
2	5544	6	5	5566	15
14	5541	42	8	5553	24
28	5512	84	12	5491	36
39	5561	117	20	5547	60
47	5545	141	22	5526	66
51	5567	153	24	5509	72
58	5502	174	28	5497	84
61	5566	183	36	5517	108
65	5556	195	44	5558	132
66	5535	198	49	5532	147
74	5514	222	58	5537	174
76	5531	228	63	5525	189
85	5538	255	65	5539	195
94	5491	282	69	5527	207
96	5501	288	70	5510	210
99	5517	297	72	5555	216
100	5511	300	73	5515	219
--	--	--	80	5549	240
--	--	--	86	5541	258
--	--	--	87	5567	261
--	--	--	89	5492	267

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5549	30	11	5540	33
11	5544	33	12	5511	36
13	5509	39	15	5564	45
27	5542	81	16	5566	48
28	5569	84	30	5532	90
33	5528	99	33	5510	99
36	5559	108	43	5521	129
37	5554	111	44	5513	132
38	5552	114	53	5514	159
44	5562	132	63	5562	189
60	5505	180	75	5515	225
62	5503	186	76	5505	228
82	5563	246	79	5547	237
85	5501	255	85	5537	255
86	5493	258	89	5545	267
94	5546	282	99	5546	297
96	5541	288	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5556	6	3	5570	9
4	5538	12	20	5497	60
26	5508	78	23	5542	69
35	5500	105	33	5506	99
37	5490	111	34	5560	102
40	5545	120	37	5537	111
45	5539	135	44	5526	132
46	5528	138	53	5522	159
52	5549	156	67	5493	201
75	5507	225	82	5535	246
79	5511	237	85	5529	255
83	5491	249	86	5550	258
91	5560	273	88	5562	264
--	--	--	92	5498	276
--	--	--	96	5548	288
--	--	--	97	5556	291
--	--	--	99	5528	297

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5523	9	3	5512	9
6	5556	18	8	5533	24
8	5546	24	13	5513	39
23	5555	69	17	5552	51
28	5540	84	29	5523	87
29	5534	87	49	5507	147
37	5490	111	52	5543	156
40	5529	120	65	5549	195
60	5565	180	78	5550	234
61	5567	183	85	5496	255
63	5531	189	88	5501	264
65	5524	195	90	5534	270
68	5520	204	91	5526	273
73	5494	219	93	5509	279
91	5570	273	96	5504	288
94	5498	282	--	--	--
95	5533	285	--	--	--
97	5532	291	--	--	--
98	5515	294	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
17	5545	51	1	5533	3
23	5548	69	2	5508	6
33	5530	99	8	5569	24
36	5495	108	10	5495	30
46	5537	138	12	5520	36
48	5527	144	14	5544	42
51	5493	153	15	5560	45
52	5514	156	21	5565	63
54	5533	162	24	5491	72
58	5536	174	27	5543	81
59	5539	177	35	5562	105
72	5521	216	37	5535	111
75	5525	225	39	5558	117
80	5556	240	42	5496	126
83	5549	249	45	5515	135
86	5505	258	52	5551	156
88	5519	264	54	5557	162
95	5515	285	56	5548	168
--	--	--	71	5493	213
--	--	--	72	5513	216
--	--	--	74	5521	222
--	--	--	81	5564	243
--	--	--	84	5570	252
--	--	--	86	5540	258

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5547	9	2	5548	6
10	5503	30	5	5542	15
16	5545	48	7	5519	21
36	5499	108	14	5495	42
42	5493	126	15	5538	45
47	5546	141	23	5550	69
48	5512	144	32	5555	96
51	5534	153	52	5515	156
54	5527	162	65	5540	195
59	5500	177	77	5496	231
68	5522	204	84	5512	252
69	5562	207	87	5527	261
75	5502	225	99	5529	297
77	5518	231	--	--	--
83	5557	249	--	--	--
84	5529	252	--	--	--
85	5569	255	--	--	--
90	5491	270	--	--	--
93	5570	279	--	--	--
100	5542	300	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5556	3	19	5533	57
2	5534	6	25	5569	75
14	5538	42	29	5514	87
21	5494	63	40	5509	120
22	5555	66	42	5516	126
35	5540	105	45	5491	135
39	5565	117	48	5515	144
47	5519	141	51	5552	153
49	5516	147	54	5535	162
50	5545	150	55	5507	165
74	5563	222	64	5511	192
76	5505	228	78	5520	234
85	5547	255	79	5551	237
90	5495	270	80	5542	240
93	5491	279	89	5498	267
94	5524	282	93	5525	279

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5532	6	14	5523	42
4	5566	12	15	5557	45
9	5544	27	17	5567	51
12	5514	36	18	5566	54
13	5556	39	31	5550	93
17	5496	51	38	5510	114
19	5519	57	49	5547	147
22	5557	66	50	5520	150
23	5561	69	57	5492	171
25	5494	75	70	5526	210
34	5503	102	71	5559	213
37	5533	111	80	5521	240
41	5525	123	84	5500	252
43	5534	129	85	5501	255
45	5502	135	87	5512	261
52	5554	156	90	5562	270
74	5551	222	96	5522	288
87	5539	261	--	--	--
96	5542	288	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5548	3	1	5565	3
2	5570	6	2	5568	6
3	5563	9	15	5566	45
12	5497	36	17	5524	51
16	5540	48	30	5544	90
34	5531	102	32	5534	96
38	5494	114	33	5551	99
45	5535	135	40	5491	120
59	5518	177	44	5564	132
61	5525	183	57	5519	171
65	5569	195	62	5502	186
76	5561	228	67	5508	201
86	5568	258	71	5532	213
90	5552	270	87	5569	261
100	5543	300	96	5515	288

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5521	21	2	5498	6
11	5541	33	9	5503	27
13	5549	39	13	5566	39
24	5550	72	16	5531	48
34	5538	102	17	5512	51
43	5562	129	25	5511	75
47	5501	141	32	5500	96
51	5565	153	34	5549	102
52	5556	156	35	5539	105
55	5507	165	37	5548	111
56	5504	168	39	5494	117
57	5492	171	48	5568	144
71	5546	213	50	5561	150
73	5547	219	53	5562	159
83	5570	249	57	5514	171
86	5564	258	58	5560	174
92	5527	276	72	5564	216
--	--	--	80	5504	240
--	--	--	82	5524	246
--	--	--	93	5525	279

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5558	6	4	5545	12
5	5552	15	5	5561	15
13	5538	39	7	5511	21
21	5563	63	12	5541	36
24	5529	72	17	5523	51
25	5507	75	23	5535	69
34	5566	102	47	5530	141
35	5539	105	48	5559	144
39	5497	117	53	5508	159
41	5561	123	55	5534	165
53	5512	159	57	5558	171
55	5515	165	63	5493	189
59	5546	177	68	5491	204
61	5522	183	71	5501	213
66	5518	198	77	5507	231
73	5554	219	78	5497	234
77	5542	231	82	5494	246
79	5506	237	84	5548	252
92	5528	276	92	5544	276
95	5494	285	96	5566	288
96	5495	288	97	5546	291

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5564	21	3	5539	9
10	5543	30	4	5531	12
27	5491	81	5	5541	15
36	5557	108	10	5551	30
40	5508	120	20	5494	60
44	5529	132	28	5567	84
45	5549	135	30	5527	90
49	5567	147	47	5534	141
62	5501	186	50	5524	150
67	5558	201	53	5501	159
70	5505	210	55	5564	165
71	5495	213	60	5536	180
83	5560	249	61	5560	183
87	5514	261	63	5529	189
89	5545	267	68	5517	204
--	--	--	74	5499	222
--	--	--	79	5548	237
--	--	--	80	5515	240
--	--	--	83	5508	249
--	--	--	88	5555	264
--	--	--	92	5522	276

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5544	18	3	5560	9
9	5563	27	6	5557	18
15	5498	45	12	5549	36
18	5490	54	14	5510	42
21	5550	63	30	5508	90
34	5502	102	31	5524	93
43	5549	129	34	5522	102
51	5561	153	40	5564	120
59	5524	177	42	5526	126
65	5564	195	43	5527	129
67	5569	201	46	5521	138
72	5491	216	53	5551	159
74	5533	222	86	5511	258
78	5504	234	89	5497	267
88	5553	264	--	--	--
99	5510	297	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5514	24	4	5569	12
10	5537	30	8	5518	24
11	5544	33	13	5503	39
16	5556	48	27	5559	81
17	5507	51	30	5530	90
23	5520	69	43	5567	129
25	5562	75	44	5525	132
27	5522	81	46	5512	138
28	5516	84	50	5500	150
41	5498	123	57	5535	171
49	5533	147	59	5558	177
52	5496	156	62	5570	186
53	5525	159	74	5523	222
56	5502	168	75	5508	225
61	5543	183	82	5495	246
62	5554	186	85	5539	255
68	5559	204	90	5502	270
72	5570	216	97	5496	291
75	5568	225	--	--	--
91	5541	273	--	--	--

Test Site	WZ-SR4	Test Engineer	Jake Lan
Test Date	2022-07-06		
Test Item	Radar Statistical Performance Check (802.11ax-HE160 – 5250MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5297	1	578	92	1
2	5311	1	598	89	1
3	5327	1	918	58	1
4	5250	1	758	70	1
5	5284	1	3066	18	1
6	5290	1	798	67	1
7	5278	1	858	62	1
8	5296	1	898	59	1
9	5315	1	3066	18	1
10	5260	1	818	65	1
11	5268	1	558	95	1
12	5297	1	858	62	1
13	5287	1	618	86	1
14	5260	1	798	67	1
15	5324	1	678	78	1
16	5264	1	738	72	1
17	5270	1	738	72	1
18	5302	1	3066	18	1
19	5277	1	758	70	1
20	5309	1	578	92	1
21	5314	1	818	65	1
22	5285	1	778	68	1
23	5301	1	578	92	1
24	5269	1	938	57	1
25	5329	1	698	76	1
26	5259	1	778	68	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5292	1	838	63	1
28	5305	1	758	70	1
29	5289	1	738	72	1
30	5287	1	658	81	1
Detection Percentage (%)					100%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5270	3.9	207	26	1
2	5250	2.2	218	23	0
3	5266	2.3	228	27	0
4	5261	4.2	224	23	1
5	5259	4.2	201	29	1
6	5252	1.7	209	26	0
7	5326	1.1	160	25	1
8	5314	1.5	184	28	1
9	5303	1.6	152	25	1
10	5281	3.9	205	25	1
11	5274	2.8	197	27	1
12	5301	3.8	196	25	1
13	5305	4.2	204	23	0
14	5307	2.1	223	25	1
15	5282	1.7	182	27	1
16	5277	2.3	152	28	0
17	5254	1.2	199	27	1
18	5262	1.6	162	26	1
19	5272	4.9	180	23	1
20	5266	3.4	199	24	1
21	5290	3.0	219	23	1
22	5280	1.9	215	27	1
23	5315	2.5	155	23	0
24	5253	1.6	197	23	1
25	5296	4.8	161	24	0
26	5273	3.2	153	27	1
27	5285	1.7	203	26	1
28	5329	2.5	202	26	1
29	5257	2.4	153	25	1
30	5296	1.7	163	28	1
Detection Percentage (%)					76.7%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5319	8.0	423	18	0
2	5266	6.0	367	18	1
3	5274	9.1	241	16	1
4	5299	9.6	277	16	0
5	5274	9.3	313	17	1
6	5257	9.1	299	18	1
7	5273	8.2	403	16	1
8	5257	8.0	273	16	1
9	5316	6.8	391	17	1
10	5266	9.9	264	18	0
11	5286	7.5	357	17	0
12	5255	6.6	321	16	0
13	5283	6.0	451	17	1
14	5250	8.7	488	16	0
15	5317	7.6	467	16	1
16	5287	6.4	301	17	1
17	5325	6.9	406	17	1
18	5295	8.9	307	17	1
19	5287	6.2	405	18	0
20	5318	7.4	497	16	0
21	5276	6.7	487	17	1
22	5329	8.7	209	17	1
23	5266	10.0	432	16	1
24	5316	7.4	378	17	1
25	5306	8.4	291	16	1
26	5271	7.3	378	17	1
27	5297	8.4	489	18	0
28	5298	8.7	266	17	1
29	5253	9.1	242	18	1
30	5290	6.2	490	17	1
Detection Percentage (%)					70.0%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5285	11.0	341	15	1
2	5290	14.1	369	13	1
3	5257	15.6	278	14	0
4	5272	12.9	454	14	1
5	5301	18.1	395	15	1
6	5291	11.5	223	14	0
7	5306	17.4	472	14	1
8	5250	15.3	406	13	0
9	5264	13.4	345	16	1
10	5321	11.8	232	12	1
11	5280	20.0	391	16	1
12	5316	18.4	429	15	1
13	5291	19.3	240	16	0
14	5257	17.5	264	15	1
15	5310	11.4	276	15	1
16	5291	13.7	369	13	0
17	5312	15.8	312	13	1
18	5279	16.2	276	14	0
19	5301	14.2	484	14	1
20	5258	13.3	426	13	0
21	5273	15.3	480	13	1
22	5319	19.5	418	12	0
23	5255	19.1	296	14	1
24	5261	14.1	228	16	1
25	5255	11.0	416	13	1
26	5293	15.9	330	13	1
27	5329	13.6	232	16	1
28	5274	14.2	348	14	1
29	5295	13.9	420	13	1
30	5311	16.4	433	15	1
Detection Percentage (%)					73.3%

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

waveforms is as follows: $\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4} = (100\% + 76.7\% + 70\% + 73.3\%) / 4 = 80\% (>80\%)$

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5290	1	16	5252	1
2	5290	1	17	5256.4	1
3	5290	1	18	5254.4	0
4	5290	1	19	5254.4	1
5	5290	1	20	5255.2	1
6	5290	1	21	5323	1
7	5290	1	22	5325.8	1
8	5290	1	23	5325.4	1
9	5290	1	24	5322.2	1
10	5290	1	25	5324.2	1
11	5257.6	0	26	5322.6	1
12	5257.6	1	27	5324.2	0
13	5258	1	28	5323	1
14	5258	1	29	5322.2	1
15	5257.6	1	30	5326.6	1
Detection Percentage (%)					90%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	81.1	18	1175		709.637
2	2	89.1	18	1221		1080.61
3	2	51.9	18	1287		746.2
4	1	78.1	18			418.71
5	2	56	18	1495		643.81
6	3	67.1	18	1464	1611	1087.5
7	2	79.4	18	1571		863.87
8	1	75	18			390.06
9	1	55.5	18			1079.2
10	2	78.7	18	1940		228.9

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	86.2	14	1773		682.088
2	3	90.5	14	1778	1232	186.345
3	2	90.8	14	1559		469.64
4	2	97.2	14	1545		349.47
5	2	72.6	14	1955		21.68
6	2	99.8	14	1781		664.5
7	2	91.7	14	1227		445
8	2	76.4	14	1705		327.69
9	2	66.5	14	1493		44.91
10	1	63.4	14			260.57
11	3	62.1	14	1763	1178	592.5
12	2	56.6	14	1581		611.08
13	2	52	14	1282		591.7
14	2	83	14	1479		629.4
15	3	88.2	14	1975	1387	603.2

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	99.1	17	1450	1269	579.86
2	1	54.7	17			369.02
3	2	57.3	17	1283		692.83
4	2	94.3	17	1740		374.95
5	2	75.4	17	1287		421.2
6	2	57	17	1736		465.36
7	1	97.5	17			205
8	2	55.6	17	1800		139.28
9	2	64.7	17	1728		52.78
10	3	86.4	17	1970	1583	435.84
11	3	89.2	17	1933	1650	705.25
12	1	53.4	17			732.11
13	2	63.6	17	1694		36.18
14	1	73.8	17			184.89
15	2	73.2	17	1806		724.6
16	2	89.7	17	1604		252.7

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	60.1	16	1008	1178	61.828
2	2	65.7	16	1022		434.723
3	1	95.9	16			31.707
4	3	69.8	16	1148	1975	490.16
5	1	63.1	16			305.703
6	2	70.8	16	1667		553.617
7	2	88.4	16	1619		447.02
8	1	82.3	16			541.383
9	2	69	16	1166		642.287
10	1	84	16			73.96
11	2	54.5	16	1207		134.983
12	2	87.9	16	1822		299.807
13	2	68.6	16	1418		83.09
14	2	97.9	16	1889		527.283
15	2	85.4	16	1197		220.537
16	2	60.7	16	1364		268.6
17	2	72.5	16	1055		73.133
18	2	70.2	16	1185		583.067

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	78.3	10			616.876
2	3	55.8	10	1717	1126	155.977
3	3	58.2	10	1117	1656	814.064
4	2	70.6	10	1255		836.771
5	3	87.3	10	1957	1796	541.799
6	2	54.3	10	1351		523.026
7	2	83.7	10	1839		419.663
8	1	75.4	10			641.09
9	1	58.6	10			94.097
10	3	65.6	10	1734	1815	197.834
11	2	86.6	10	1318		790.901
12	3	55.6	10	1104	1546	13.839
13	2	86.4	10	1778		178.986
14	2	91.9	10	1288		221.543

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	77.5	19	1638		359.896
2	2	73.3	19	1985		444.273
3	1	87.7	19			285.127
4	2	99.8	19	1831		43.45
5	1	83.5	19			313.153
6	2	51.7	19	1766		590.647
7	3	89.4	19	1574	1309	601.18
8	2	58.4	19	1904		509.123
9	1	80.4	19			192.747
10	2	75	19	1284		342.72
11	1	81.8	19			348.873
12	2	97.5	19	1670		203.547
13	3	86.3	19	1198	1462	164.52
14	1	64.6	19			200.043
15	2	66.6	19	1560		142.687
16	1	58.3	19			8.3
17	2	73.2	19	1458		137.033
18	3	71.1	19	1452	1712	253.867

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	60.9	13	1823	1938	337.9
2	2	76.6	13	1436		659.087
3	2	50.6	13	1469		385.853
4	2	73	13	1293		1275.01
5	2	97.6	13	1055		253.397
6	3	99.5	13	1593	1580	77.723
7	2	75.3	13	1188		1105.28
8	3	73.1	13	1409	1380	1125.167
9	3	88.1	13	1384	1230	181.033

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	74.9	6	1888		271.706
2	2	54.8	6	1535		791.123
3	2	71.6	6	1425		210.046
4	3	81.5	6	1347	1953	80.649
5	2	79.4	6	1840		269.652
6	2	63.7	6	1169		767.235
7	1	53.3	6			824.388
8	3	58.4	6	1904	1313	332.292
9	3	59.3	6	1478	1234	795.175
10	3	74.5	6	1511	1384	40.448
11	3	92.5	6	1085	1167	568.611
12	2	67	6	1074		420.354
13	2	92.1	6	1358		835.977

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	79.5	17	1487		644.655
2	1	69.9	17			145.481
3	3	52.4	17	1925	1157	728.52
4	2	81.3	17	1184		367.09
5	1	52.1	17			327.16
6	3	56.4	17	1317	1685	199.41
7	2	73.3	17	1646		229.24
8	2	52.8	17	1573		354.95
9	3	70.1	17	1991	1305	151.75
10	2	76	17	1219		36.13
11	3	89.1	17	1464	1711	638.23
12	1	60.6	17			564.33
13	3	78.3	17	1169	1483	344.3
14	1	66.9	17			588.7
15	2	89.4	17	1141		215.5
16	2	71.7	17	1926		161.1

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	55.6	12			140.05
2	3	66.1	12	1684	1215	271.457
3	2	94.9	12	1203		669.964
4	1	78.5	12			113.521
5	3	72.4	12	1041	1607	34.039
6	2	56.7	12	1006		6.446
7	3	94.7	12	1940	1851	636.493
8	3	53.2	12	1217	1294	413.26
9	3	63.9	12	1963	1435	407.007
10	2	90.9	12	1505		453.804
11	2	82.8	12	1627		92.241
12	3	86.4	12	1778	1290	554.369
13	2	68.2	12	1528		732.486
14	2	66.9	12	1455		264.943

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	69.7	19	1759		30.94
2	3	99.8	19	1191	1162	172.813
3	1	98.6	19			28.81
4	2	57.5	19	1529		516.55
5	2	56.6	19	1802		523.7
6	3	77.8	19	1050	1050	79.79
7	2	90.9	19	1529		629.13
8	2	73.6	19	1773		92.84
9	1	80.9	19			631.27
10	3	83.5	19	1566	1408	341.21
11	2	71.1	19	1473		255.62
12	1	94.6	19			119.02
13	2	86.5	19	1965		254.63
14	1	72	19			334.1
15	2	89.4	19	1981		169.9
16	1	66.4	19			408.2

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	62.4	19	1056	1899	554.862
2	3	62.8	19	1023	1970	0.966
3	3	98.6	19	1668	1459	191.28
4	2	64	19	1708		635.38
5	3	58.1	19	1162	1989	488.39
6	2	68.7	19	1618		635.37
7	3	56.5	19	1440	1629	616.16
8	1	51.2	19			260.61
9	2	95.5	19	1329		314.43
10	3	62.2	19	1132	1047	180.45
11	2	72.1	19	1296		535.49
12	2	90.3	19	1178		495.15
13	1	60.5	19			663.95
14	2	86.8	19	1948		597.6
15	2	98.2	19	1871		102.8
16	2	83.5	19	1535		687.8

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	50.6	20	1629	1186	908.289
2	3	77.5	20	1997	1241	877.667
3	2	98.8	20	1357		367.003
4	3	95.8	20	1423	1194	947.09
5	2	58.1	20	1017		168.627
6	3	69.8	20	1295	1331	306.723
7	2	69	20	1308		1095.88
8	2	92.7	20	1496		378.167
9	3	90.1	20	1416	1675	1299.233

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	86.2	20	1653		96.844
2	2	79.8	20	1794		447.663
3	2	81.6	20	1175		274.757
4	1	89	20			124.03
5	3	54.5	20	1885	1136	29.053
6	2	76	20	1111		624.127
7	2	70.5	20	1682		422.11
8	3	59.7	20	1145	1365	50.803
9	2	78.8	20	1642		20.687
10	2	64.8	20	1063		9.53
11	1	98.1	20			59.313
12	3	50.3	20	1300	1269	172.777
13	2	56	20	1684		159.98
14	2	59.2	20	1285		497.903
15	2	57.8	20	1946		289.267
16	2	93.7	20	1518		486.1
17	3	77.9	20	1282	1486	283.233
18	2	96.2	20	1995		151.067

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	83.2	19	1721	1504	989.736
2	1	69.7	19			392.4
3	2	66.3	19	1188		453.44
4	1	90.3	19			1117.35
5	1	55.3	19			759.24
6	3	83.5	19	1766	1739	277.76
7	3	80.3	19	1738	1439	406.84
8	2	98.3	19	1879		798.83
9	3	73.1	19	1163	1002	648.2
10	2	77.2	19	1749		243.2

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	94.2	5	1512		1305.18
2	3	67.1	5	1958	1706	169.707
3	2	80.5	5	1028		1147.833
4	2	95.4	5	1183		99.12
5	3	86	5	1618	1582	104.977
6	3	62.3	5	1750	1172	777.863
7	3	52.5	5	1364	1023	661.74
8	1	58.4	5			1319.367
9	2	77.1	5	1248		370.433

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	77.1	16	1577	1965	402.248
2	2	79	16	1768		494.07
3	1	58.3	16			1144.81
4	1	56.8	16			596.7
5	1	82.3	16			173.55
6	2	99.6	16	1232		485.77
7	1	84.7	16			1348.4
8	2	88.1	16	1712		17

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	61.6	11			385.516
2	1	96.4	11			478.727
3	3	58.2	11	1784	1932	468.404
4	2	86	11	1318		641.961
5	1	62.8	11			733.339
6	2	54.5	11	1283		12.256
7	2	54.2	11	1562		472.543
8	1	51.1	11			415.29
9	1	62.1	11			166.267
10	1	66.7	11			129.664
11	1	93.5	11			762.311
12	2	89.4	11	1079		708.029
13	2	87.7	11	1910		420.886
14	2	72.7	11	1624		309.643

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	93.8	11	1129	1808	411.102
2	2	51.2	11	1117		126.158
3	2	68.2	11	1343		676.17
4	2	59.9	11	1995		709.7
5	2	73	11	1711		601.78
6	2	75.9	11	1933		524.03
7	2	70.8	11	1945		542.18
8	3	75.2	11	1556	1788	156.39
9	1	84.7	11			602.75
10	2	50.9	11	1924		658.43
11	3	78.9	11	1391	1039	354.06
12	1	63.3	11			413.69
13	3	75.7	11	2000	1145	567.5
14	1	59.8	11			356.2
15	2	76.6	11	1917		190.8

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	72.1	13	1765		938.86
2	2	59	13	1102		761.891
3	3	65.9	13	2000	1480	610.332
4	2	99.1	13	1363		473.013
5	2	86.9	13	1593		56.424
6	2	94.5	13	1525		1001.505
7	1	83.4	13			352.565
8	2	69.4	13	1751		774.566
9	3	99.3	13	1921	1038	953.677
10	2	93.8	13	1276		407.818
11	1	83	13			345.409

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	52.7	15	1908		266.649
2	2	93.8	15	1877		85.933
3	1	89.7	15			87.005
4	2	75.6	15	1508		231.443
5	2	62.2	15	1609		92.251
6	3	50.3	15	1238	1134	597.978
7	2	62.8	15	1044		424.466
8	1	99.4	15			674.564
9	2	53.5	15	1428		489.711
10	3	73.9	15	1413	1463	56.569
11	3	96.4	15	1532	1874	452.006
12	3	62.1	15	1306	1230	546.824
13	2	94.5	15	1000		83.052
14	3	50.8	15	1794	1010	509.239
15	1	58.7	15			635.647
16	1	54.6	15			80.365
17	3	93.8	15	1494	1814	11.682

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	93.3	8			603.545
2	3	93.2	8	1235	1658	872.333
3	2	73	8	1790		239.436
4	1	73.5	8			589.449
5	1	86.9	8			622.122
6	3	62.3	8	1012	1887	60.545
7	2	89.7	8	1787		769.618
8	1	67.5	8			413.512
9	2	94.6	8	1075		416.445
10	2	62.2	8	1325		78.038
11	2	51.2	8	1077		184.211
12	2	76.5	8	1121		885.454
13	2	92.9	8	1924		399.777

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	98.4	9	1493		260.729
2	3	86.2	9	1392	1160	895.901
3	1	84.9	9			817.822
4	2	96.4	9	1124		667.843
5	2	68.3	9	1492		976.404
6	1	98.3	9			675.935
7	3	86.9	9	1334	1580	523.945
8	3	87.8	9	1242	1237	826.716
9	1	99.6	9			597.737
10	2	78.4	9	1162		566.918
11	2	63.4	9	1167		485.309

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	66.8	17	1455		533.419
2	2	87	17	1448		198.785
3	2	80.9	17	1909		410.632
4	2	72.7	17	1505		243.393
5	2	85.1	17	1614		326.764
6	2	50.1	17	1447		495.855
7	1	72.9	17			158.406
8	2	76.3	17	1204		515.097
9	2	61.1	17	1392		474.488
10	3	56.6	17	1936	1750	531.879
11	3	85.6	17	1270	1852	375.821
12	2	94	17	1336		246.722
13	3	68.9	17	1904	1273	624.013
14	2	57.7	17	1422		223.614
15	3	61.2	17	1441	1805	580.275
16	3	95.4	17	1004	1281	429.206
17	3	97.7	17	1192	1746	1.837
18	3	51.8	17	1846	1194	299.758
19	1	57.5	17			313.479

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	96.7	12	1699	1554	504.402
2	3	88.2	12	1497	1888	469.883
3	3	95.5	12	1128	1404	670.016
4	2	55.4	12	1287		916.509
5	2	77.9	12	1556		50.322
6	3	87.3	12	1766	1260	332.965
7	1	82.4	12			749.958
8	2	67.4	12	1088		606.212
9	1	71.2	12			820.425
10	3	82.4	12	1931	1521	424.398
11	3	91.6	12	1510	1950	529.541
12	2	97.8	12	1707		311.854
13	2	74.1	12	1320		664.377

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	74.5	16	1094		527.83
2	3	56.2	16	1661	1388	44.936
3	2	61.7	16	1943		484.772
4	2	74.9	16	1385		525.163
5	3	86.7	16	1061	1083	457.074
6	2	75.7	16	1925		386.215
7	3	93.1	16	1706	1538	609.956
8	2	98.4	16	1464		567.907
9	3	84.2	16	1338	1193	434.508
10	3	58.1	16	1076	1560	70.089
11	2	95.1	16	1266		510.811
12	1	97.2	16			421.582
13	2	60.5	16	1977		83.733
14	3	52.8	16	1645	1270	7.934
15	1	86.8	16			123.635
16	1	82.5	16			329.066
17	1	68.7	16			183.037
18	2	63.9	16	1379		70.058
19	2	50.2	16	1192		152.779

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	75.6	12	1501		1181.43
2	2	80.4	12	1077		1282.89
3	2	81.3	12	1813		44.42
4	1	81.8	12			542.13
5	2	92	12	1464		1052.47
6	1	96.7	12			378.89
7	2	69.6	12	1236		633.04
8	1	96.2	12			247.8

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	74.2	15	1983	1102	639.146
2	1	55.2	15			656.161
3	2	98.9	15	1109		297.542
4	3	89.9	15	1220	1409	774.353
5	1	83.4	15			251.264
6	3	75.7	15	1767	1510	4.955
7	2	58.8	15	1420		79.265
8	2	65.9	15	1462		534.626
9	2	80.3	15	1334		219.007
10	1	98.2	15			13.438
11	1	90.6	15			173.609

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	51	17	1122	1689	518.575
2	1	81.5	17			121.553
3	2	60.4	17	1949		643.277
4	1	90.2	17			613.06
5	3	66	17	1694	1583	14.973
6	3	57.4	17	1821	1917	92.177
7	3	62.8	17	1425	1239	289.2
8	2	88.6	17	1063		468.683
9	2	55.6	17	1912		67.997
10	2	55.4	17	1166		150.84
11	1	68.6	17			352.463
12	2	91.7	17	1048		456.467
13	1	99	17			292.34
14	3	85.1	17	1746	1205	338.313
15	2	91.5	17	1628		464.577
16	2	85.8	17	1407		482.3
17	2	74.5	17	1101		571.333
18	2	81	17	1774		316.767

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	67.5	6	1738		422.061
2	3	74.2	6	1475	1388	327.35
3	2	69.1	6	1783		135.02
4	1	64.9	6			459.39
5	2	72.6	6	1131		265.97
6	2	73.1	6	1579		69.66
7	1	68.8	6			713.63
8	1	95.8	6			490.02
9	2	78.9	6	1470		22.6
10	2	81.8	6	1277		950.72
11	1	91.5	6			132.8
12	2	73.3	6	1149		618.3

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	1	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	0
11	1	26	1
12	1	27	1
13	0	28	1
14	0	29	1
15	1	30	1
Detection Percentage (%)			90.0%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5289	36	1	5312	3
15	5271	45	13	5254	39
17	5325	51	16	5287	48
23	5286	69	18	5277	54
24	5250	72	24	5278	72
28	5280	84	30	5269	90
38	5267	114	31	5323	93
39	5254	117	32	5306	96
40	5303	120	33	5304	99
54	5298	162	34	5299	102
55	5292	165	39	5255	117
56	5263	168	50	5251	150
60	5306	180	59	5259	177
62	5274	186	71	5262	213
65	5295	195	72	5275	216
66	5328	198	78	5273	234
68	5251	204	87	5322	261
82	5321	246	99	5297	297
93	5264	279	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5305	6	4	5272	12
11	5289	33	8	5285	24
26	5314	78	15	5274	45
27	5297	81	21	5258	63
36	5286	108	22	5286	66
42	5296	126	24	5326	72
44	5304	132	30	5253	90
55	5253	165	32	5267	96
57	5287	171	33	5321	99
62	5308	186	35	5284	105
92	5313	276	36	5320	108
95	5300	285	38	5276	114
96	5282	288	58	5262	174
--	--	--	59	5312	177
--	--	--	61	5313	183
--	--	--	63	5252	189
--	--	--	67	5281	201
--	--	--	77	5315	231
--	--	--	80	5318	240
--	--	--	87	5304	261
--	--	--	92	5257	276
--	--	--	98	5296	294
--	--	--	99	5259	297

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5250	12	4	5310	12
11	5258	33	13	5270	39
26	5327	78	14	5289	42
35	5294	105	20	5265	60
42	5323	126	32	5268	96
43	5288	129	33	5324	99
47	5262	141	40	5307	120
53	5317	159	48	5326	144
54	5272	162	52	5318	156
58	5313	174	57	5285	171
75	5328	225	58	5311	174
87	5279	261	61	5283	183
95	5293	285	70	5262	210
97	5307	291	74	5277	222
98	5311	294	91	5313	273
--	--	--	98	5251	294

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
11	5296	33	1	5268	3
12	5318	36	5	5315	15
13	5264	39	8	5314	24
17	5273	51	17	5265	51
22	5302	66	19	5259	57
31	5283	93	24	5291	72
34	5267	102	27	5292	81
35	5275	105	30	5256	90
36	5298	108	34	5272	102
44	5330	132	53	5271	159
49	5313	147	54	5276	162
55	5322	165	67	5277	201
67	5282	201	69	5285	207
70	5281	210	91	5320	273
76	5290	228	93	5299	279
77	5307	231	100	5283	300
96	5321	288	--	--	--
97	5277	291	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
15	5265	45	5	5311	15
23	5308	69	23	5262	69
31	5321	93	24	5303	72
38	5251	114	28	5283	84
43	5259	129	37	5284	111
47	5304	141	54	5259	162
49	5325	147	55	5297	165
50	5269	150	56	5307	168
53	5292	159	64	5254	192
61	5286	183	73	5282	219
66	5301	198	74	5255	222
71	5275	213	85	5294	255
75	5314	225	89	5314	267
87	5281	261	--	--	--
94	5298	282	--	--	--
99	5296	297	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5267	57	1	5325	3
20	5280	60	7	5313	21
29	5254	87	8	5297	24
40	5293	120	14	5323	42
42	5327	126	24	5304	72
44	5252	132	28	5266	84
48	5301	144	44	5296	132
51	5279	153	51	5254	153
57	5317	171	63	5320	189
58	5322	174	79	5262	237
77	5286	231	87	5302	261
91	5288	273	88	5300	264
97	5284	291	93	5311	279
100	5309	300	99	5283	297

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
15	5257	45	3	5273	9
19	5274	57	5	5258	15
23	5302	69	8	5313	24
37	5262	111	10	5261	30
55	5289	165	12	5323	36
56	5306	168	26	5296	78
57	5326	171	31	5294	93
62	5263	186	38	5252	114
65	5293	195	43	5318	129
69	5301	207	44	5324	132
75	5299	225	47	5282	141
80	5283	240	49	5309	147
84	5327	252	59	5288	177
92	5303	276	60	5316	180
96	5307	288	66	5286	198
99	5298	297	70	5302	210
--	--	--	71	5310	213
--	--	--	81	5311	243

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
26	5319	78	20	5305	60
34	5317	102	27	5286	81
35	5294	105	30	5251	90
47	5309	141	31	5280	93
59	5264	177	32	5272	96
78	5307	234	34	5328	102
87	5328	261	35	5264	105
--	--	--	41	5301	123
--	--	--	47	5291	141
--	--	--	54	5285	162
--	--	--	55	5256	165
--	--	--	60	5306	180
--	--	--	62	5329	186
--	--	--	80	5309	240
--	--	--	93	5324	279
--	--	--	94	5302	282
--	--	--	95	5274	285
--	--	--	99	5317	297

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5319	6	14	5330	42
10	5285	30	18	5276	54
15	5318	45	23	5262	69
32	5260	96	31	5265	93
33	5268	99	44	5252	132
37	5328	111	54	5273	162
38	5277	114	56	5302	168
39	5263	117	58	5284	174
44	5251	132	59	5282	177
59	5298	177	61	5325	183
61	5283	183	63	5287	189
83	5291	249	67	5280	201
92	5261	276	74	5269	222
--	--	--	77	5281	231
--	--	--	79	5271	237
--	--	--	90	5257	270
--	--	--	95	5319	285

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5271	6	5	5295	15
4	5292	12	12	5253	36
6	5298	18	13	5285	39
7	5329	21	14	5265	42
8	5310	24	15	5302	45
11	5278	33	16	5316	48
14	5316	42	21	5255	63
19	5284	57	23	5312	69
20	5285	60	37	5287	111
29	5279	87	40	5276	120
30	5274	90	41	5294	123
33	5294	99	46	5277	138
38	5302	114	48	5298	144
41	5277	123	54	5319	162
45	5313	135	63	5280	189
51	5307	153	66	5252	198
63	5299	189	69	5292	207
68	5262	204	77	5275	231
71	5266	213	82	5261	246
74	5273	222	--	--	--
75	5287	225	--	--	--
77	5304	231	--	--	--
82	5290	246	--	--	--
83	5268	249	--	--	--
88	5301	264	--	--	--
96	5327	288	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5257	12	1	5291	3
8	5321	24	4	5256	12
11	5325	33	15	5313	45
22	5306	66	16	5293	48
25	5316	75	45	5323	135
27	5265	81	49	5300	147
29	5274	87	51	5310	153
37	5302	111	61	5299	183
47	5308	141	62	5297	186
49	5253	147	63	5275	189
69	5327	207	88	5250	264
73	5322	219	95	5287	285
76	5329	228	96	5283	288
77	5288	231	98	5279	294
79	5301	237	99	5305	297
81	5323	243	--	--	--
85	5264	255	--	--	--
86	5298	258	--	--	--
92	5294	276	--	--	--
99	5261	297	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5266	9	3	5287	9
5	5255	15	5	5301	15
10	5308	30	6	5314	18
14	5305	42	12	5264	36
16	5304	48	15	5324	45
41	5292	123	20	5281	60
43	5296	129	23	5321	69
48	5287	144	31	5260	93
68	5302	204	47	5251	141
73	5277	219	49	5329	147
90	5303	270	54	5323	162
97	5294	291	56	5304	168
--	--	--	57	5286	171
--	--	--	59	5282	177
--	--	--	66	5293	198
--	--	--	72	5313	216
--	--	--	74	5302	222
--	--	--	75	5276	225
--	--	--	81	5280	243
--	--	--	89	5310	267
--	--	--	90	5262	270
--	--	--	94	5320	282
--	--	--	97	5288	291

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
14	5286	42	5	5267	15
17	5273	51	7	5295	21
19	5312	57	16	5258	48
20	5254	60	19	5310	57
26	5317	78	20	5268	60
28	5310	84	21	5314	63
31	5281	93	25	5277	75
33	5327	99	39	5283	117
40	5267	120	58	5325	174
44	5288	132	66	5260	198
48	5307	144	72	5291	216
54	5296	162	78	5300	234
55	5300	165	86	5298	258
66	5299	198	98	5252	294
69	5265	207	--	--	--
74	5257	222	--	--	--
98	5290	294	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5254	21	2	5303	6
15	5260	45	4	5282	12
26	5306	78	6	5288	18
35	5316	105	16	5326	48
37	5291	111	17	5260	51
41	5323	123	18	5293	54
42	5307	126	22	5290	66
44	5315	132	26	5294	78
60	5274	180	34	5252	102
62	5285	186	36	5278	108
63	5311	189	51	5306	153
64	5329	192	53	5305	159
67	5287	201	59	5330	177
68	5284	204	63	5319	189
69	5282	207	72	5261	216
70	5290	210	74	5328	222
94	5303	282	83	5257	249
96	5312	288	96	5304	288
--	--	--	100	5298	300

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5256	9	17	5258	51
5	5306	15	23	5273	69
20	5262	60	35	5283	105
25	5318	75	39	5252	117
41	5281	123	60	5289	180
42	5292	126	71	5304	213
52	5269	156	76	5287	228
57	5286	171	78	5292	234
58	5319	174	79	5312	237
60	5278	180	86	5291	258
61	5274	183	97	5302	291
77	5304	231	98	5326	294
82	5253	246	--	--	--
87	5283	261	--	--	--
93	5280	279	--	--	--
97	5323	291	--	--	--
98	5273	294	--	--	--

Appendix B – Test Setup Photograph

Refer to “2206RSU002-UT” file.

Appendix C – EUT Photograph

Refer to “2206RSU002-UE” file.

The End
