

DFS Test Report

Report No.: RF180830E03I-2

FCC ID: 2APLE18300403

Test Model: VMB5000

Received Date: June 08, 2020

Test Date: July 20 to 24, 2020

Issued Date: Sep. 07, 2020

Applicant: Arlo Technologies, Inc.

Address: 2200 Faraday Ave. Suite 150, Carlsbad, CA 92008, United States

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

**FCC Registration /
Designation Number:** 723255 / TW2022



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.

Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 EUT Information	5
2.1 Operating Frequency Bands and Mode of EUT	5
2.2 EUT Software and Firmware Version	5
2.3 Description of Available Antennas to the EUT	5
2.4 EUT Maximum and Minimum Conducted Power	6
2.5 EUT Maximum and Minimum EIRP Power	6
2.6 Transmit Power Control (TPC)	7
2.7 Statement of Manufacturer	7
3. U-NII DFS Rule Requirements	8
3.1 Working Modes and Required Test Items	8
3.2 Test Limits and Radar Signal Parameters	9
4. Test & Support Equipment List	12
4.1 Test Instruments	12
4.2 Description of Support Units	12
5. Test Procedure	13
5.1 DFS Measurement System	13
5.2 Calibration of DFS Detection Threshold Level	14
5.3 Deviation from Test Standard	14
5.4 Radiated Test Setup Configuration	15
6. Test Results	16
6.1 Summary of Test Results	16
6.2 Test Results	17
6.2.1 Test Mode: Device Operating in Master Mode	17
6.2.2 U-NII Detection Bandwidth	22
6.2.3 Channel Availability Check Time	25
6.2.4 Channel Closing Transmission and Channel Move Time	27
6.2.5 Non- Occupancy Period	47
7. Information of the Testing Laboratories	49
8. APPENDIX-A	50

Release Control Record

Issue No.	Description	Date Issued
RF180830E03I-2	Original release.	Sep. 07, 2020

1 Certificate of Conformity

Product: Arlo Gen5 Entry Hub

Brand: Arlo

Test Model: VMB5000

Sample Status: ENGINEERING SAMPLE

Applicant: Arlo Technologies, Inc.

Test Date: July 20 to 24, 2020

Standards: FCC Part 15, Subpart E (Section 15.407)

KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Phoenix Huang, **Date:** Sep. 07, 2020
Phoenix Huang / Specialist

Approved by : Clark Lin, **Date:** Sep. 07, 2020
Clark Lin / Technical Manager

2 EUT Information

2.1 Operating Frequency Bands and Mode of EUT

Table 1: Operating Frequency Bands and Mode of EUT

Operational Mode	Operating Frequency Range	
	5250~5350MHz	5470~5725MHz
Master	✓	✓

2.2 EUT Software and Firmware Version

Table 2: The EUT Software/Firmware Version

No.	Product	Model No.	Software/Firmware Version
1	Arlo Gen5 Entry Hub	VMB5000	15.05.1 r139264

2.3 Description of Available Antennas to the EUT

Table 3: Antenna List

Sub-GHz							
Ant No.	Brand	Model	Antenna Gain (dBi)	Frequency rang (MHz)	Antenna type	Connector type	
1	NA	902P00214N0	1.5	860~930	PIFA	NA	
WLAN							
Ant No.	Brand	Model	Antenna Net Gain (dBi)	Frequency rang (GHz)	Antenna type	Connector type	Cable Length (mm)
1	NA	9 07X01052X0	2.5	2.4~2.4835	Dipole	i-pex	75
			1.8	5.15~5.25			
			2	5.25~5.35			
			2.2	5.47~5.725			
			1.6	5.725~5.85			
2	NA	9 07X00747X19	2.5	2.4~2.4835	Dipole	i-pex	90
			2.2	5.15~5.25			
			1.2	5.25~5.35			
			3.2	5.47~5.725			
			3.5	5.725~5.85			

Note: The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2.4 EUT Maximum and Minimum Conducted Power

Table 4: The Measured Conducted Output Power

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power (mW)	Output Power (dBm)	Output Power (mW)	Output Power (dBm)
5250~5350	229.908	23.62	57.81	17.62
5470~5725	231.024	23.64	58.076	17.64

2.5 EUT Maximum and Minimum EIRP Power

Table 5: The EIRP Output Power List

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power (mW)	Output Power (dBm)	Output Power (mW)	Output Power (dBm)
5250~5350	364.754	25.62	91.622	19.62
5470~5725	483.059	26.84	121.339	20.84

2.6 Transmit Power Control (TPC)

U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

Applicable	EIRP	FCC 15.407 (h)(1)
	>500mW	The TPC mechanism is required for system with an EIRP of above 500mW
√	<500mW	The TPC mechanism is not required for system with an EIRP of less 500mW

2.7 Statement of Manufacturer

Manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user.

3. U-NII DFS Rule Requirements

3.1 Working Modes and Required Test Items

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 6 and 7 for the applicability of DFS requirements for each of the operational modes.

Table 6: Applicability of DFS Requirements Prior to Use a Channel

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	✓	✓ note	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	✓

Note: Per KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02 section (b)(5/6), If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear. An analyzer plot that contains a single 30-minute sweep on the original channel.

Table 7: Applicability of DFS Requirements during Normal Operation

Requirement	Operational Mode	
	Master or Client with radar detection	Client without radar detection
DFS Detection Threshold	✓	Not required
Channel Closing Transmission Time	✓	✓
Channel Move Time	✓	✓
U-NII Detection Bandwidth	✓	Not required

Additional requirements for devices with multiple bandwidth modes	Master 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 (Section 7.8.4) 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.

3.2 Test Limits and Radar Signal Parameters

Detection Threshold Values

Table 8: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

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 9: DFS Response Requirement Values

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.

Parameters of DFS Test Signals

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.

Table 10: 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 15 unique PRI values randomly selected within the range of 518~3066 μ sec with a minimum of 1 μ sec, excluding PRI values selected in Test A	Roundup $\left\{ \begin{array}{l} \left(\frac{1}{360} \right) \cdot \\ \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu \text{ sec}}} \right) \end{array} \right\}$	60%	30
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 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

Table 11: 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

Three subsets of trials will be performed with a minimum of ten trials per subset. The subset of trials differ in where the Long Pulse Type 5 Signal is tuned in frequency.

- a) the Channel center frequency
- b) tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the low edge of the UUT Occupied Bandwidth
- c) tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the high edge of the UUT Occupied Bandwidth

It include 10 trails for every subset, the formula as below,

For subset case 1: the center frequency of the signal generator will remain fixed at the center of the UUT Channel.

For subset case 2: to retain 90% frequency overlap between the radar signal and the UUT Occupied Bandwidth, the center frequency of the signal generator will vary for each of the ten trials in subset case 2. The center frequency of the signal generator for each trial is calculated by:

$$FL + (0.4 * \text{Chirp Width [in MHz]})$$

For subset case 3: to retain 90% frequency overlap between the radar signal and the UUT Occupied Bandwidth, the center frequency of the signal generator will vary for each of the ten trials in subset case 3. The center frequency of the signal generator for each trial is calculated by:

$$FH - (0.4 * \text{Chirp Width [in MHz]})$$

Table 12: 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

4. Test & Support Equipment List

4.1 Test Instruments

Table 13: Test Instruments List

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	101516	Mar. 04, 2020	Mar. 03, 2021
Vector Signal Generator Agilent	N5182B	MY53051263	Aug. 30, 2019	Aug. 29, 2020
Horn_Antenna EMCO	1018G	0001	Nov. 24, 2019	Nov. 23, 2020
DFS Control Box	BV-DFS-CB	001	Nov. 29, 2019	Nov. 28, 2020

- NOTE:**
1. The test was performed in DFS-1 room.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: July 20 to 24, 2020

4.2 Description of Support Units

Table 14: Support Unit Information

No.	Product	Brand	Model No.	FCC ID	Spec
1	Wireless-AX6000 Dual Band Gigabit Router	ASUS	RT-AX88U	MSQ-RTAXHP00	The maximum EIRP is 29.97 dBm, Antenna Gain is 2.24dBi

NOTE: This device was functioned as a ☐ Master ☒ Slave device during the DFS test.

Table 15: Software/Firmware Information

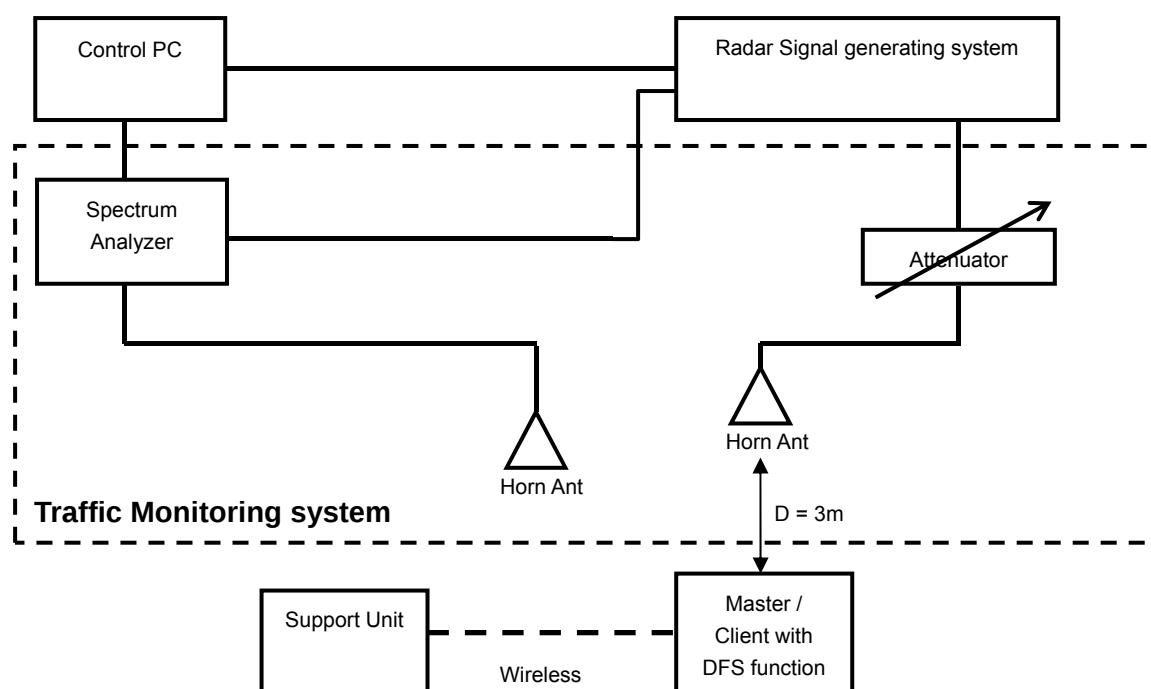
No.	Product	Model No.	Software/Firmware Version
1	Wireless-AX6000 Dual Band Gigabit Router	RT-AX88U	3.0.0.4.384

5. Test Procedure

5.1 DFS Measurement System

A complete DFS Measurement System consists of two subsystems: (1) the Radar Signal Generating system and (2) the Traffic Monitoring system. The control PC is necessary for generating the Radar waveforms in Table 10, 11 and 12. The traffic monitoring subsystem is specified to the type of unit under test (UUT).

Radiated Setup Configuration of DFS Measurement System



Channel Loading

System testing will be performed with channel-loading using means appropriate to the data types that are used by the unlicensed device. The following requirements apply:

a)	The data file must be of a type that is typical for the device (i.e., MPEG-2, MPEG-4, WAV, MP3, MP4, AVI, etc.) and must generally be transmitting in a streaming mode.	
b)	Software to ping the client is permitted to simulate data transfer but must have random ping intervals.	
c)	Timing plots are required with calculations demonstrating a minimum channel loading of approximately 17% or greater.	✓
d)	Unicast or Multicast protocols are preferable but other protocols may be used. The appropriate protocol used must be described in the test procedures.	

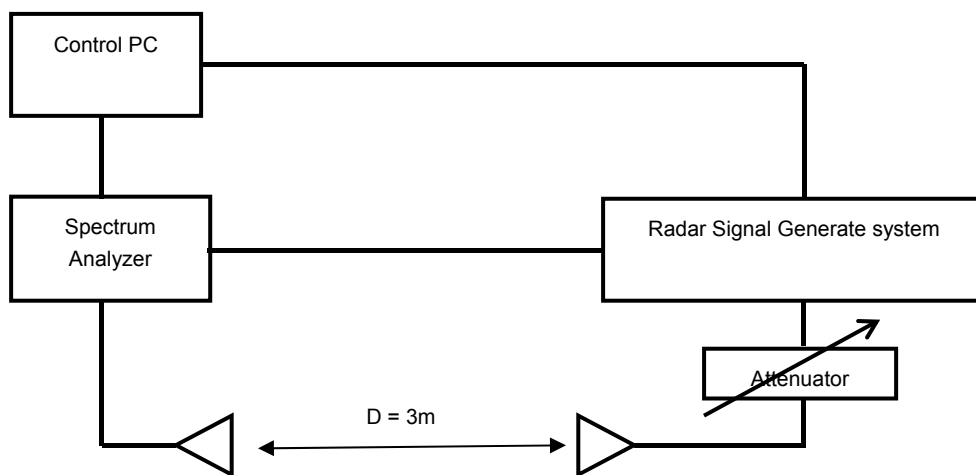
5.2 Calibration of DFS Detection Threshold Level

The measured channel is chosen from the operating channels of the UUT within the 5250-5350MHz or 5470-5725MHz and using the all bandwidth mode available for the link. The radar signal was the same as transmitted channels, and injected into the antenna of AP (master) or Client Device with Radar Detection, measured the channel closing transmission time and channel move time.

Radiated setup configuration of Calibration of DFS Detection Threshold Level

The radar signal generate system is generating waveform pattern of radar types. The amplitude of the radar signal generator system is adjusted to yield a level of – 64 dBm as measured on the spectrum analyzer.

The interference detection threshold level is lower than – 64dBm hence it provides margin to the limit.



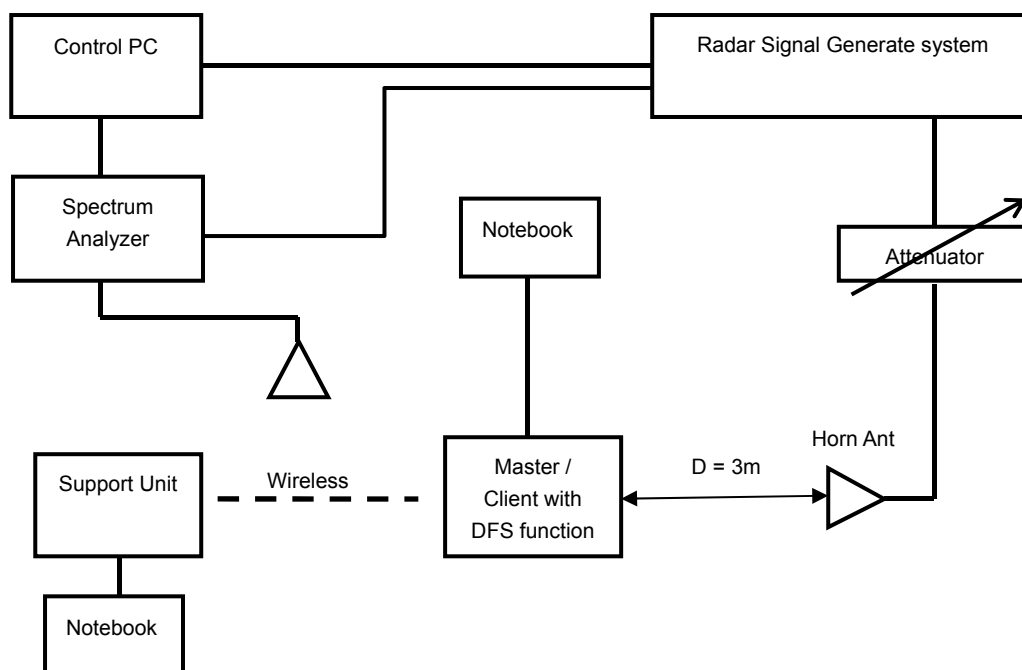
5.3 Deviation from Test Standard

No deviation.

5.4 Radiated Test Setup Configuration

Master mode

The EUT is a U-NII Device operating in Master mode. The radar test signals are injected into the Master Device.



Note: The UUT main beam of the antenna is directly toward the radar emitter during testing.

6. Test Results

6.1 Summary of Test Results

Clause	Test Parameter	Remarks	Pass/Fail
15.407	DFS Detection Threshold	Applicable	Pass
15.407	Channel Availability Check Time	Applicable	Pass
15.407	Channel Move Time	Applicable	Pass
15.407	Channel Closing Transmission Time	Applicable	Pass
15.407	Non- Occupancy Period	Applicable	Pass
15.407	U-NII Detection Bandwidth and Statistical Performance Check	Applicable	Pass

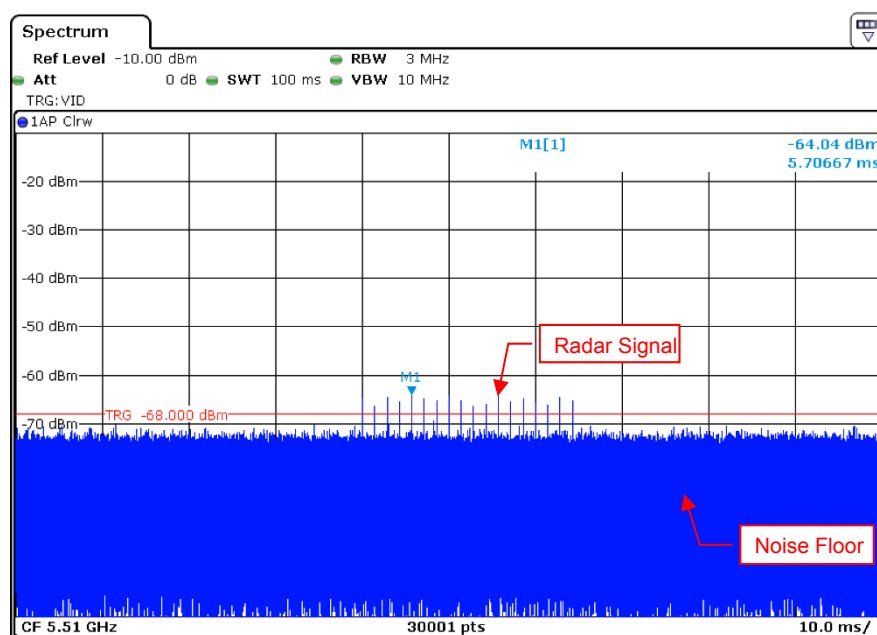
6.2 Test Results

6.2.1 Test Mode: Device Operating in Master Mode

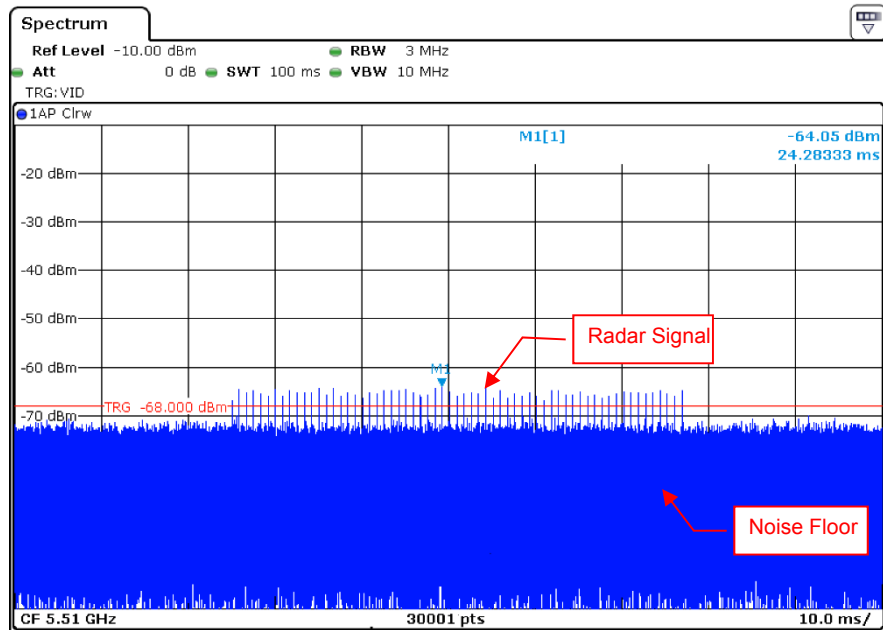
The radar test waveforms are injected into the Master.
This test was investigated for different bandwidth (20MHz - 40MHz).
The following plots was done on 40MHz as a representative

DFS Detection Threshold

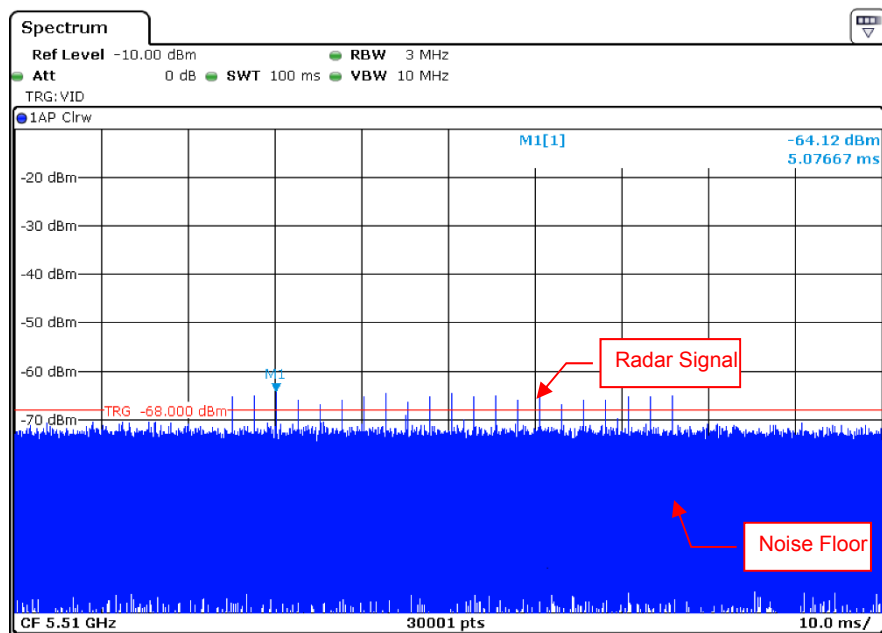
For detection threshold level of -64dBm, the tested level is lower than required level for 1dB, hence it provides margin to the limit.



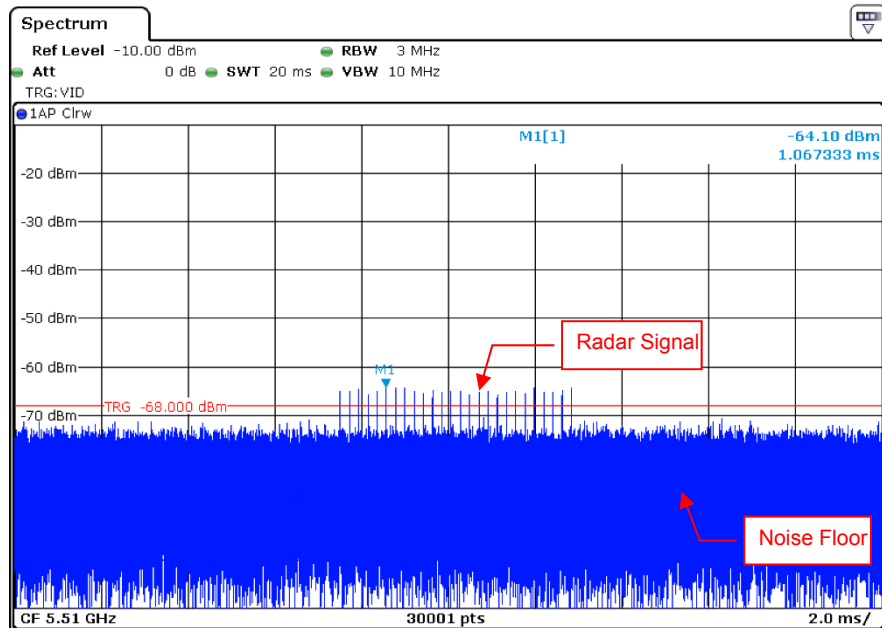
Radar Signal 0



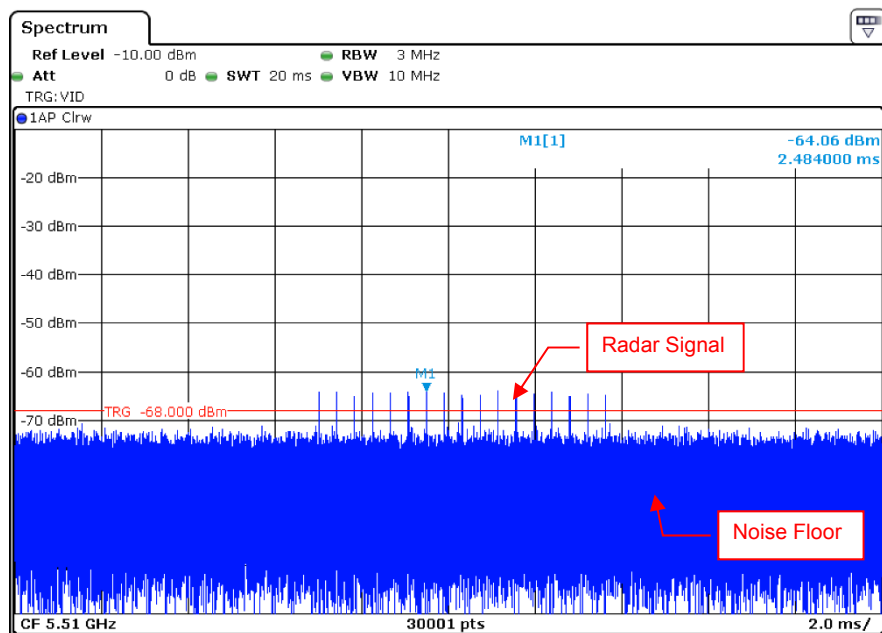
Radar Signal 1 (Test A)



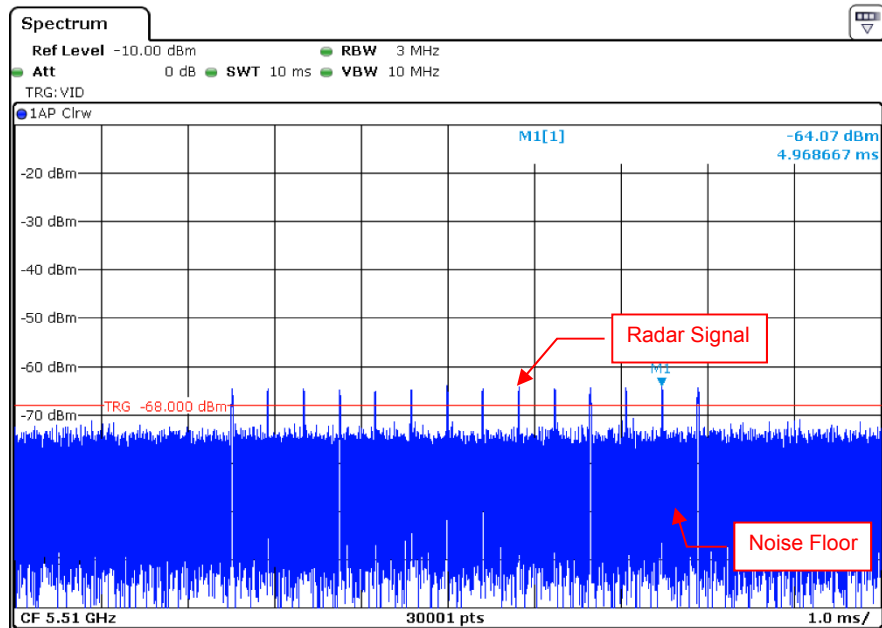
Radar Signal 1 (Test B)



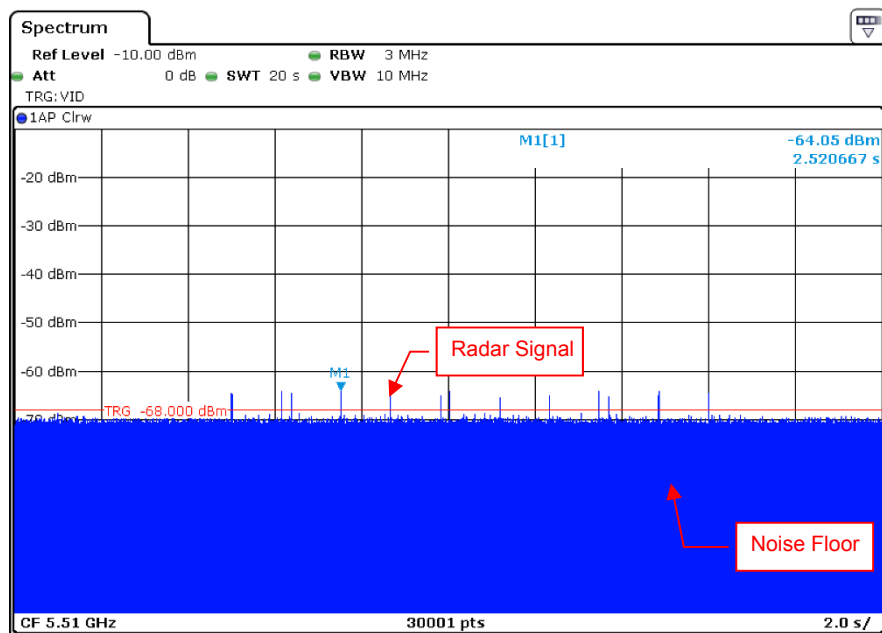
Radar Signal 2



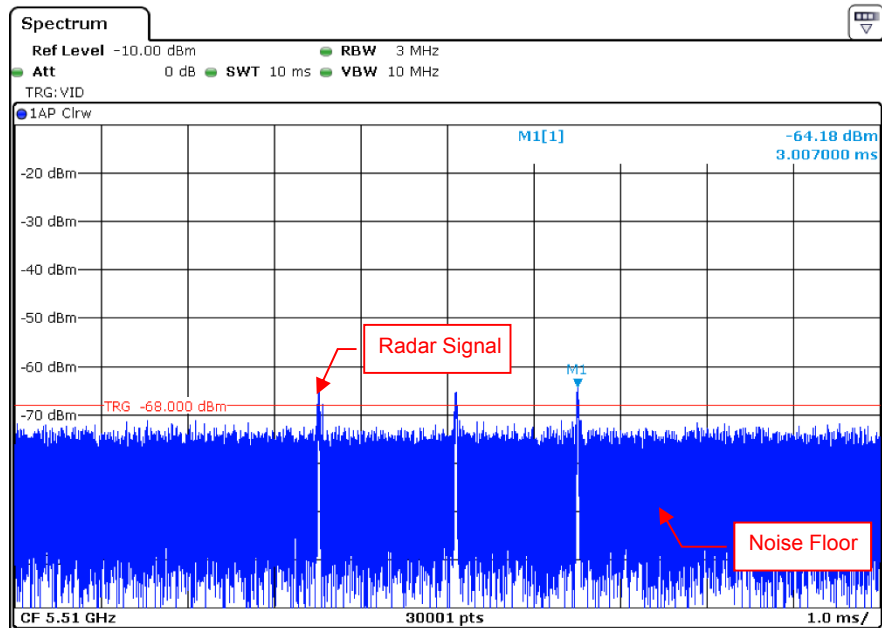
Radar Signal 3



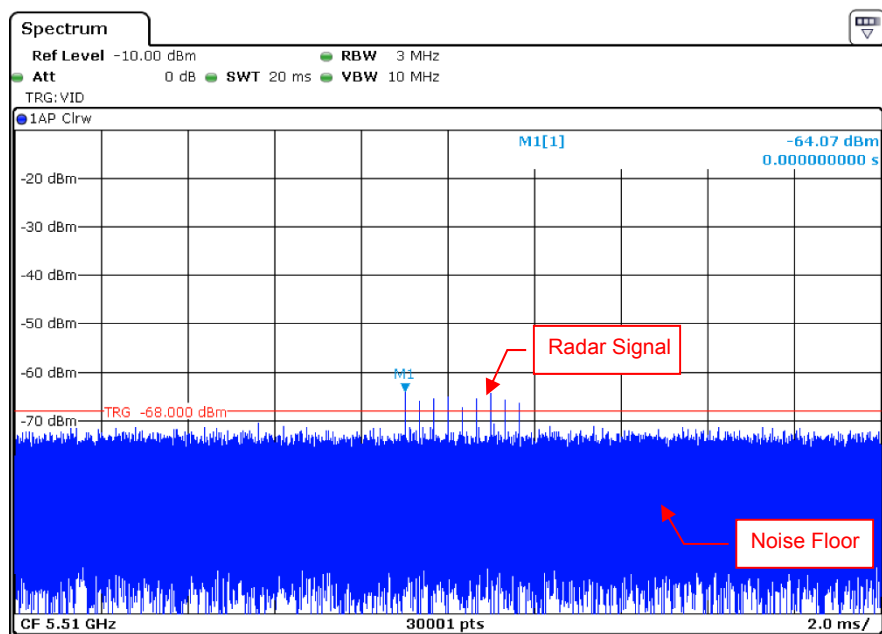
Single Burst of Radar Signal 4



Radar Signal 5

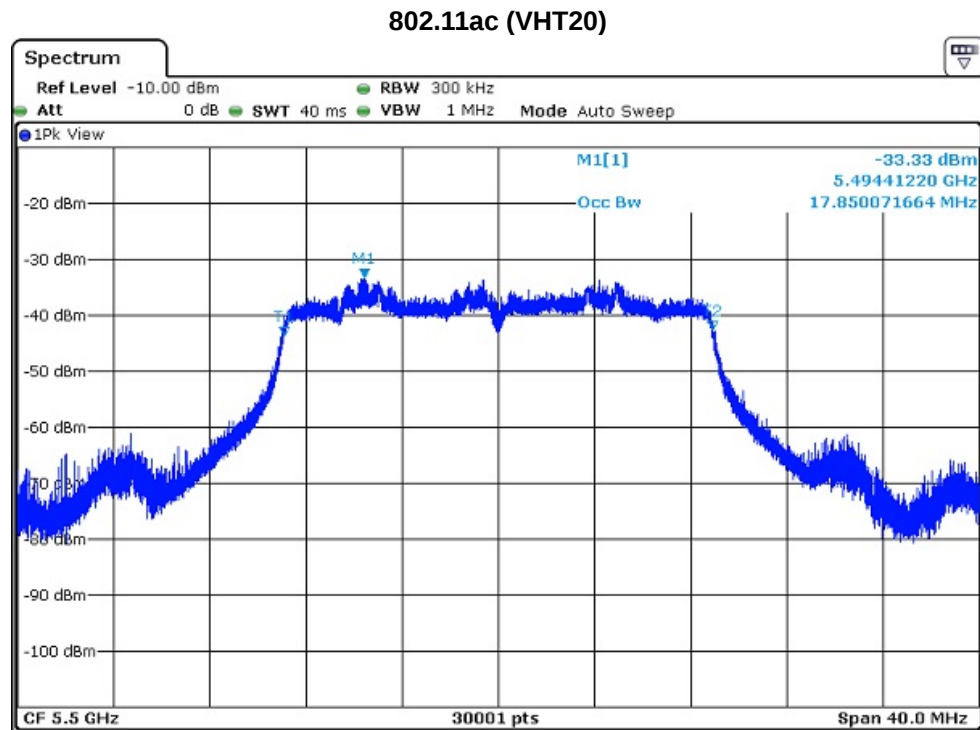


Single Burst of Radar Signal 5

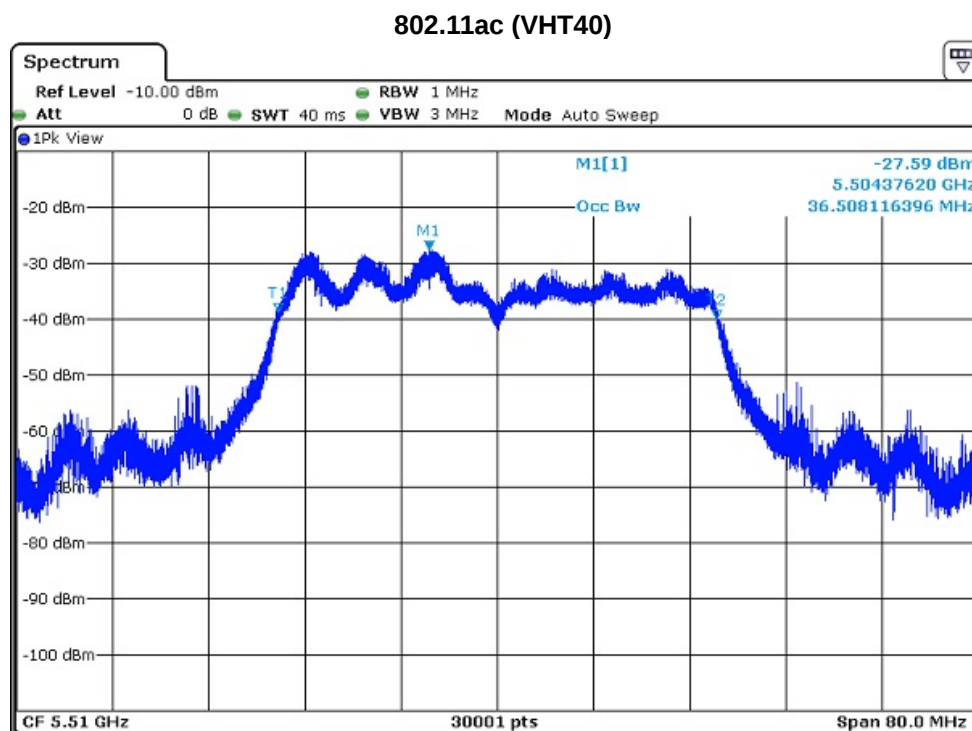


Radar Signal 6

6.2.2 U-NII Detection Bandwidth



U-NII 99% Channel bandwidth



U-NII 99% Channel bandwidth

Detection Bandwidth Test - 802.11ac (VHT20)

Radar Type 0

EUT Frequency: 5500MHz

EUT 99% Power bandwidth: 17.85MHz

Detection bandwidth limit (100% of EUT 99% Power bandwidth): 17.85MHz

Detection bandwidth (5509(FH) – 5491(FL)) : 18MHz

Test Result : PASS

Radar Frequency (MHz)	Trial Number / Detection										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5491(FL)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5492	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5493	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5494	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5495	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	90
5496	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5497	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5498	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5499	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5500	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5501	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5502	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5503	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5504	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5506	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5507	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5508	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5509(FH)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	90

Detection Bandwidth Test - 802.11ac (VHT40)

Radar Type 0

EUT Frequency: 5510MHz

EUT 99% Power bandwidth: 36.508MHz

Detection bandwidth limit (100% of EUT 99% Power bandwidth): 36.508MHz

Detection bandwidth (5529(FH) – 5491(FL)) : 38MHz

Test Result : PASS

Radar Frequency (MHz)	Trial Number / Detection										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5491(FL)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5492	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5493	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5494	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5495	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5496	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5497	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5498	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5499	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5500	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5501	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5502	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5503	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5504	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	90
5505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5506	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5507	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5508	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5509	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5510	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5511	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5512	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5513	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5514	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5515	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5516	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5517	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5518	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5519	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5520	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5521	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5522	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5523	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5524	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5525	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5526	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	90
5527	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5528	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5529(FH)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100

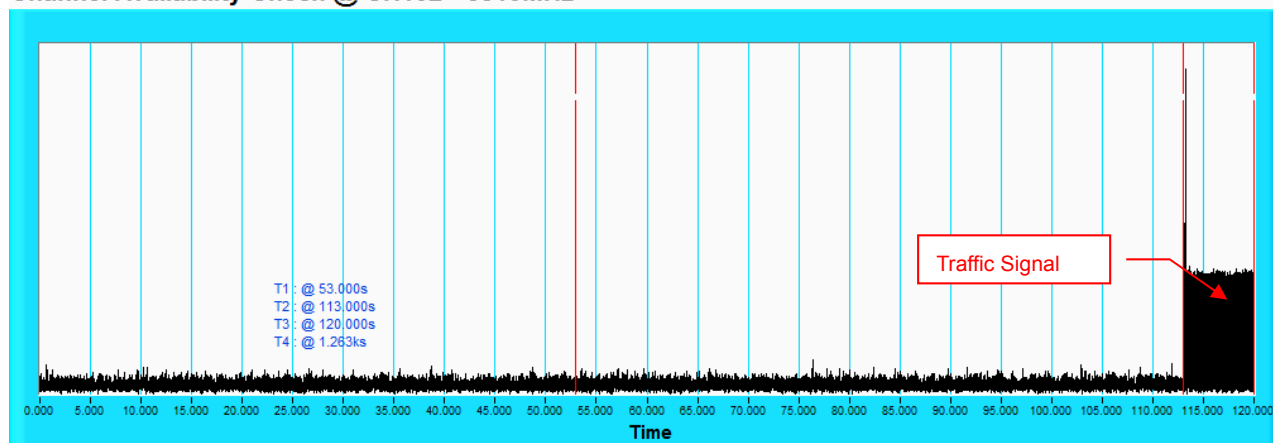
6.2.3 Channel Availability Check Time

If the EUT successfully detected the radar burst, it should be observed as the EUT has no transmissions occurred until the EUT starts transmitting on another channel.

Timing of Radar Signal	Observation	
	EUT	Spectrum Analyzer
Within 1 to 6 second	Detected	No transmissions
Within 54 to 60 second	Detected	No transmissions

Initial Channel Availability Check Time

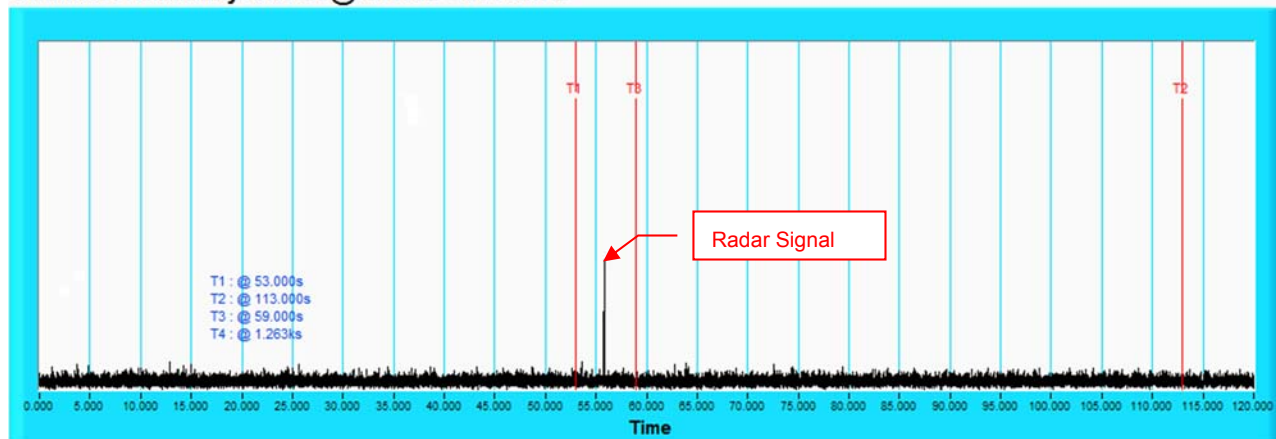
Channel Availability Check @ CH102 - 5510MHz



NOTE: T1 denotes the end of power-up time period is 53th second. T2 denotes the end of Channel Availability Check time is 113th second. Channel Availability Check time is equal to (T2 – T1) 60 seconds.

Radar Burst at the Beginning of the Channel Availability Check Time

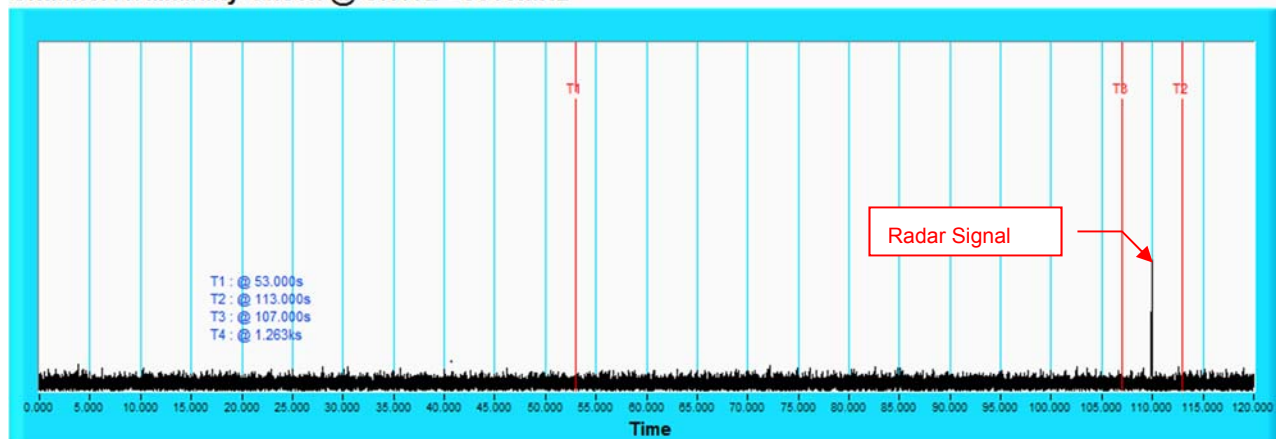
Channel Availability Check @ CH102 - 5510MHz



NOTE: T1 denotes the end of power up time period is 53th second. T3 denotes 59th second and the radar burst was commenced within a 6 second window starting from the end of power-up sequence. T2 denotes the 113th second.

Radar Burst at the End of the Channel Availability Check Time

Channel Availability Check @ CH102 - 5510MHz



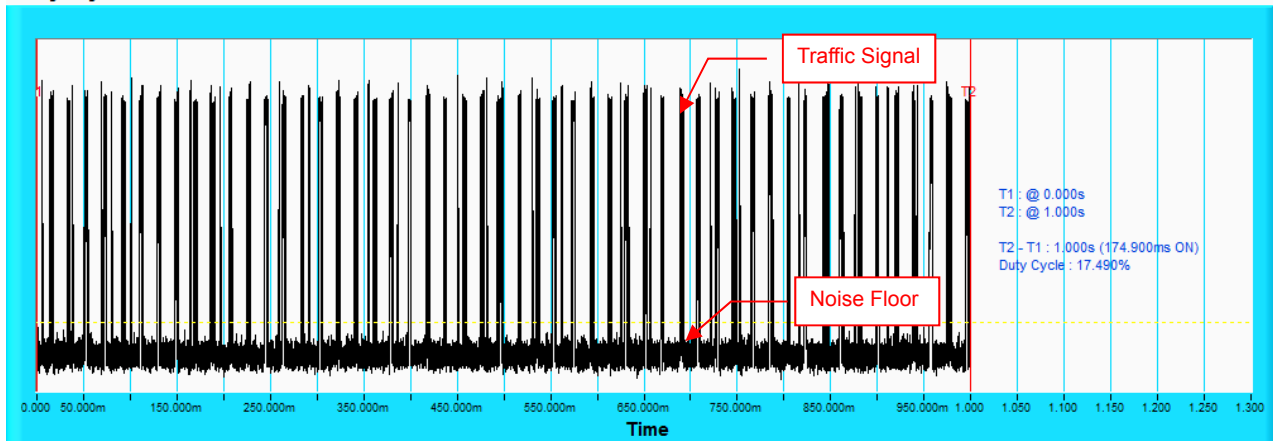
NOTE: T1 denotes the end of power up time period is 53th second. T3 denotes 107th second and the radar burst was commenced within 54th second to 60th second window starting from the end of power-up sequence. T2 denotes the 113th second.

6.2.4 Channel Closing Transmission and Channel Move Time

Wireless Traffic Loading

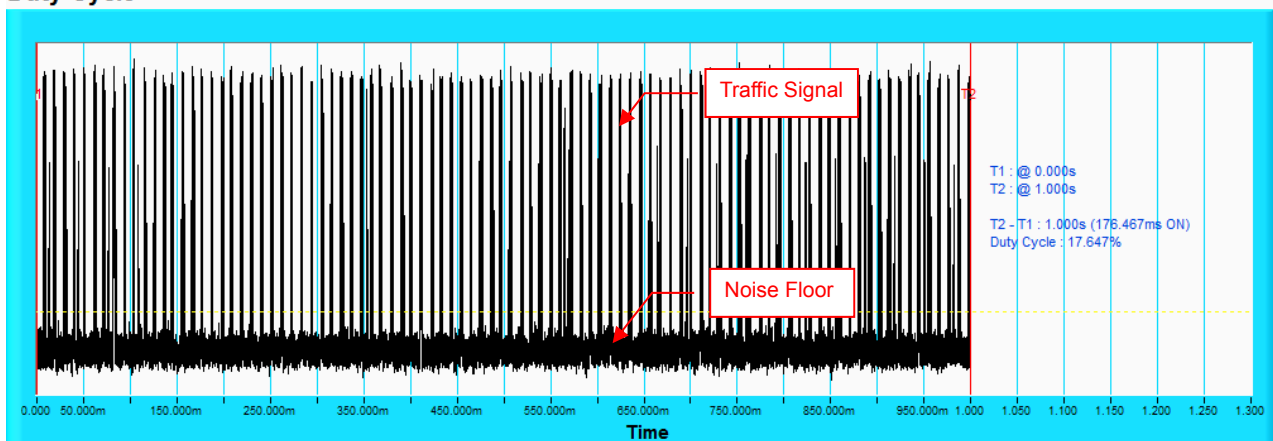
802.11ac (VHT20)

Duty Cycle



802.11ac (VHT40)

Duty Cycle



802.11ac (VHT20)

Table 1: Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Number of Trials(Times)	Percentage of Successful Detection (%)
1	Test A 15 unique PRI values randomly selected from the list of 23 PRI values	Roundup $\left\{ \left\lceil \frac{1}{360} \right\rceil \cdot \left\lceil \frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right\rceil \right\}$	18	30	90
	15 unique PRI values randomly selected within the range of 518~3066μsec with a minimum of 1μsec, excluding PRI values selected in Test A				
2	1-5	150-230	23-29	30	86.6
3	6-10	200-500	16-18	30	76.6
4	11-20	200-500	12-16	30	83.3
Aggregate (Radar Types 1-4)				120	84.1

Table 2: Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Number of Trials(Times)	Percentage of Successful Detection (%)
5	50-100	5-20	1000-2000	1-3	8-20	30	90

Table 3: Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Number of Trials(Times)	Percentage of Successful Detection (%)
6	1	333	9	0.333	300	30	90

802.11ac (VHT40)

Table 1: Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Number of Trials(Times)	Percentage of Successful Detection (%)
1	Test A 15 unique PRI values randomly selected from the list of 23 PRI values	$\text{Roundup} \left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	18	30	86.6
	15 unique PRI values randomly selected within the range of 518~3066 μsec with a minimum of 1 μsec, excluding PRI values selected in Test A				
2	1-5	150-230	23-29	30	90
3	6-10	200-500	16-18	30	83.3
4	11-20	200-500	12-16	30	80
Aggregate (Radar Types 1-4)				120	84.9

Table 2: Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Number of Trials(Times)	Percentage of Successful Detection (%)
5	50-100	5-20	1000-2000	1-3	8-20	30	83.3

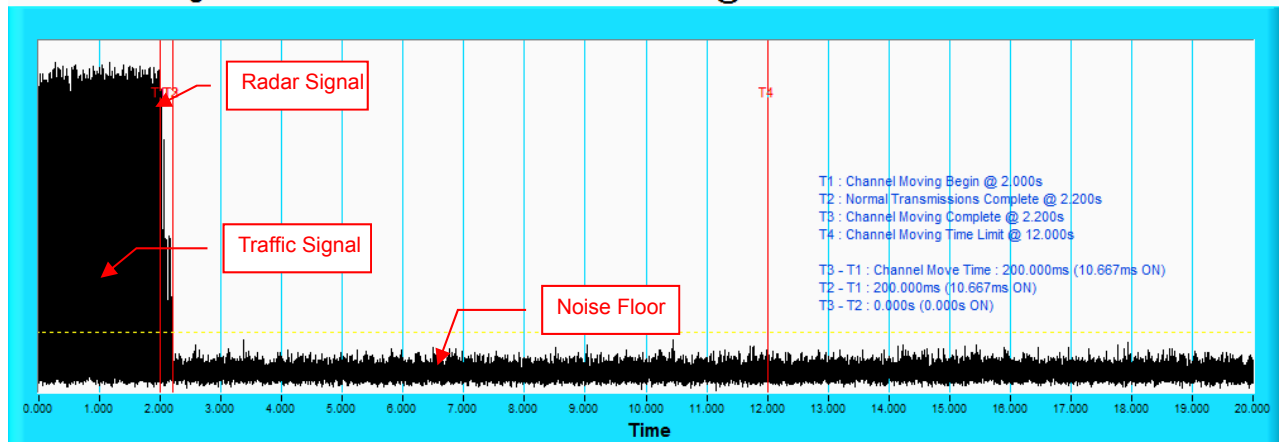
Table 3: Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Number of Trials(Times)	Percentage of Successful Detection (%)
6	1	333	9	0.333	300	30	80

802.11ac (VHT40)

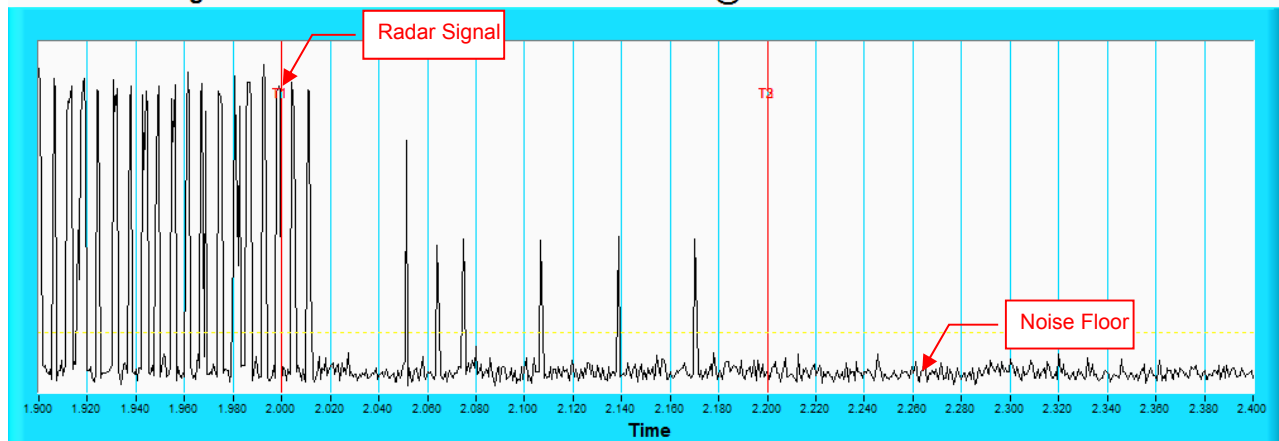
Radar signal 0

Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

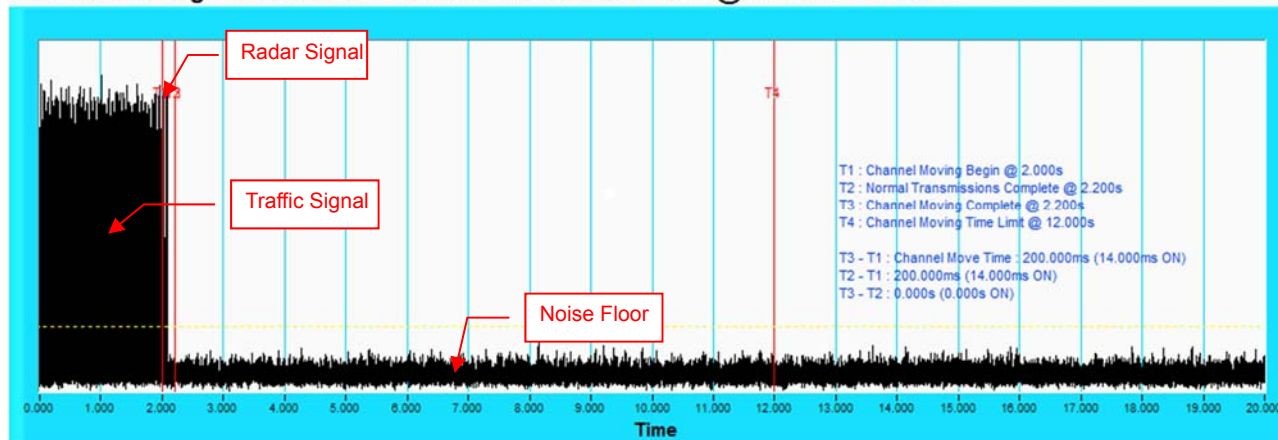
Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: Zoom in of the first 500ms after radar signal applied.

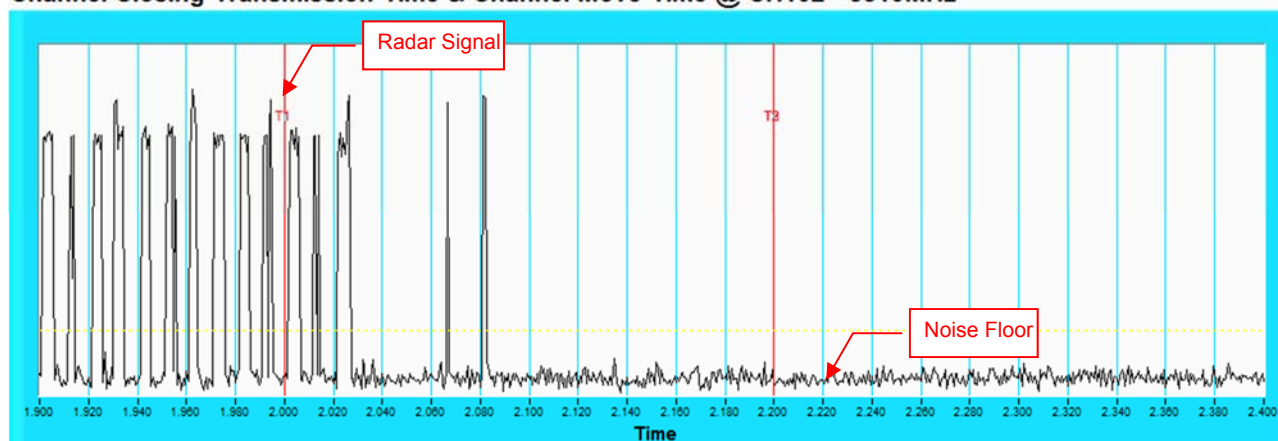
Radar signal 1

Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

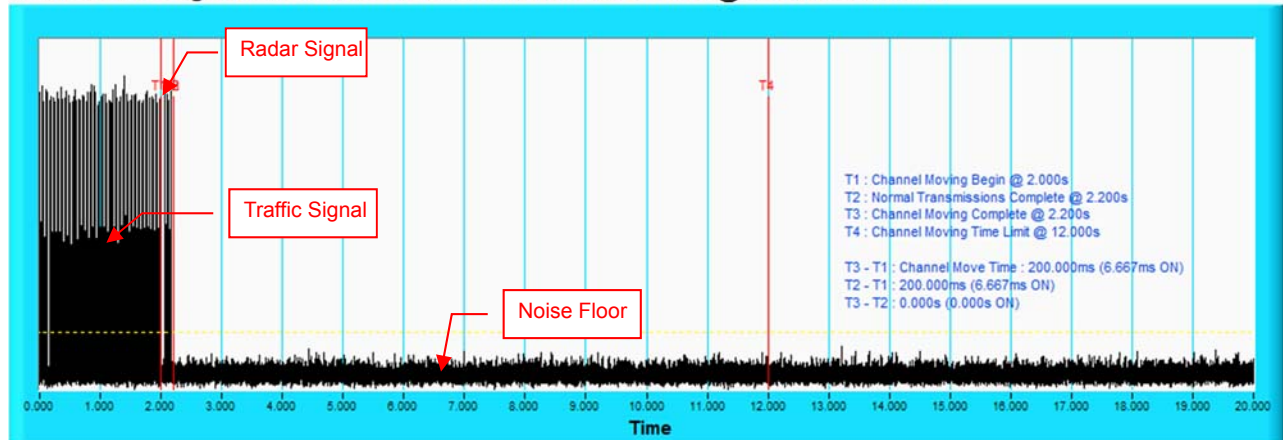
Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: Zoom in of the first 500ms after radar signal applied.

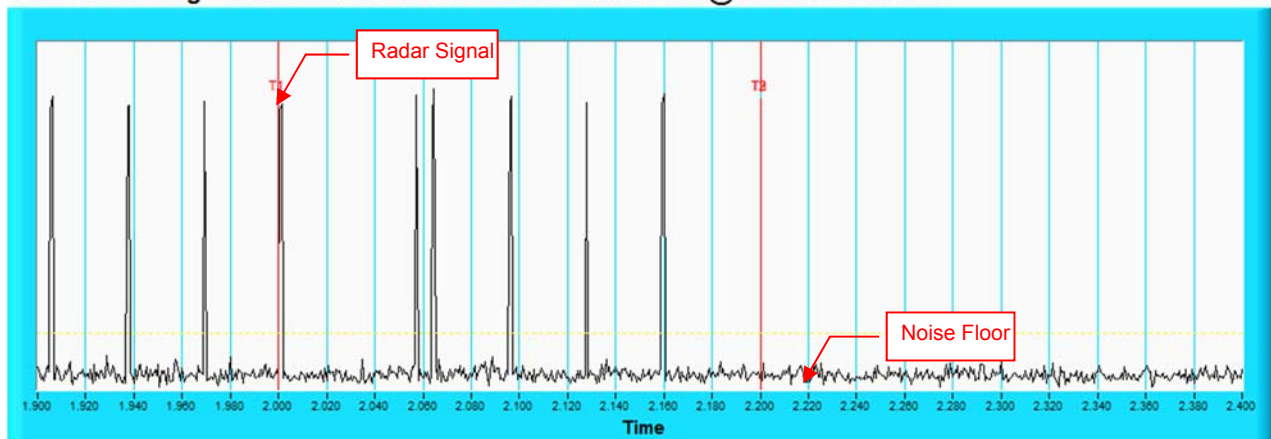
Radar signal 2

Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

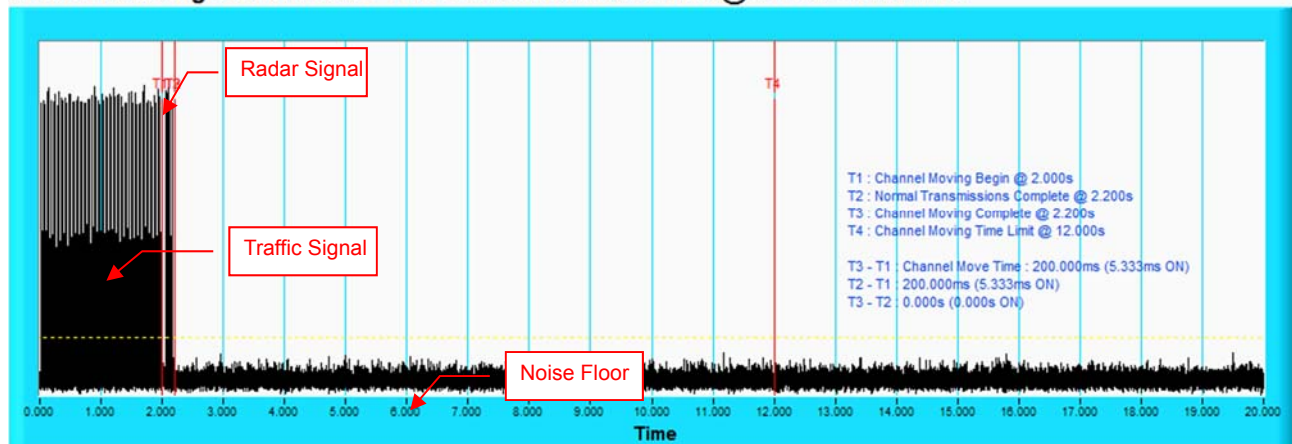
Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: Zoom in of the first 500ms after radar signal applied.

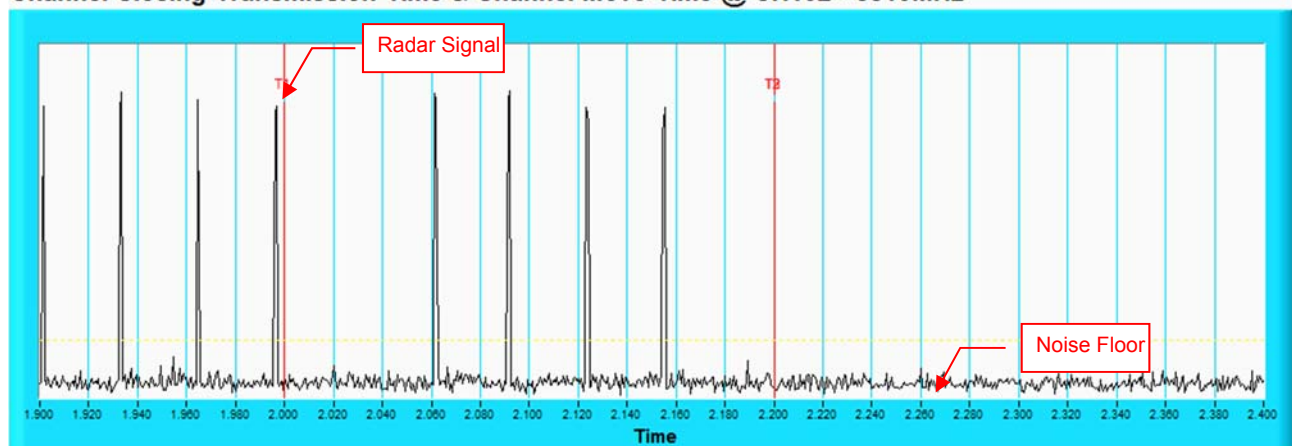
Radar signal 3

Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

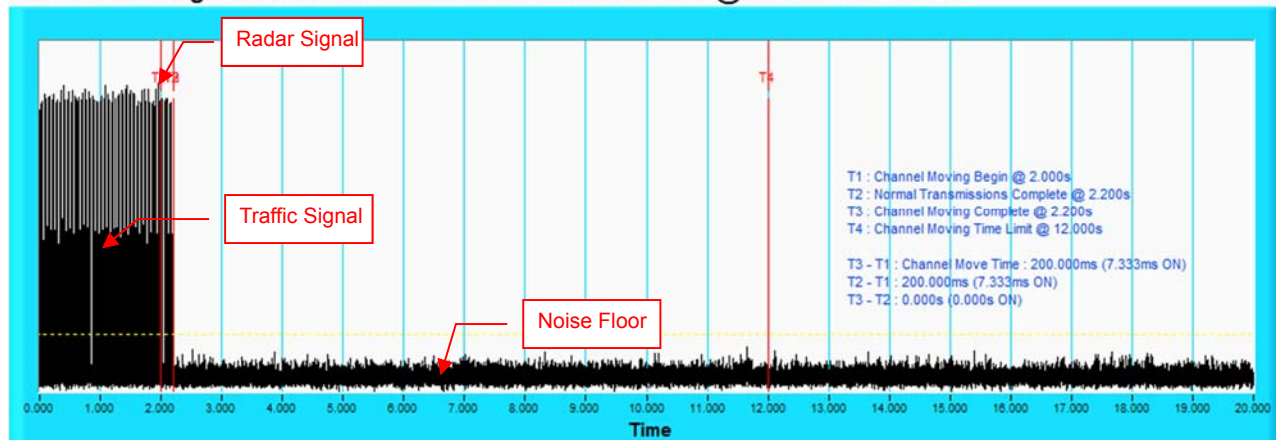
Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: Zoom in of the first 500ms after radar signal applied.

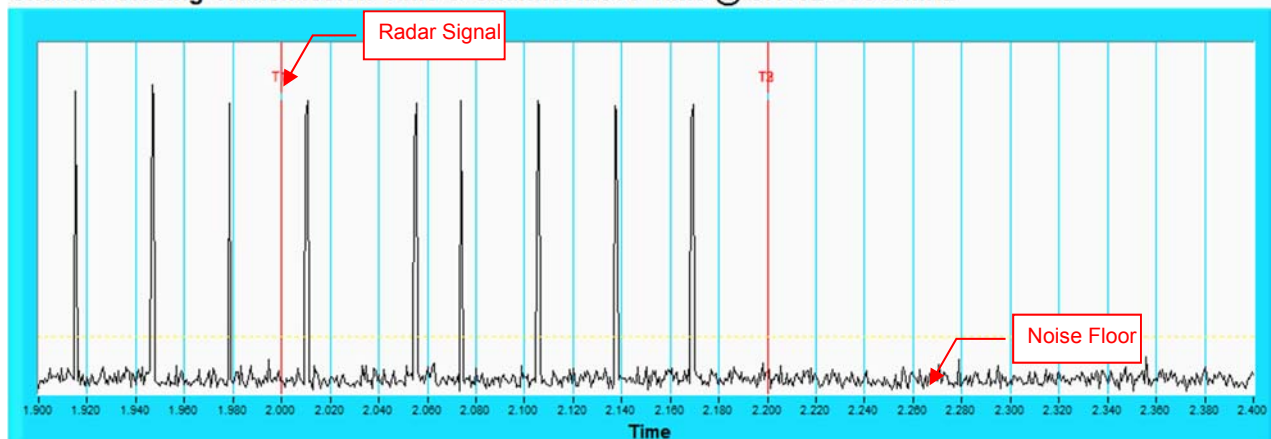
Radar signal 4

Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

Channel Closing Transmission Time & Channel Move Time @ CH102 - 5510MHz



NOTE: Zoom in of the first 500ms after radar signal applied.

802.11ac (VHT20)

Type 1 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulse Repetition Frequency Number (1 to 23)	Pulse Repetition Frequency (pps)	Pulses per Burst	Pulse Repetition Interval (µsec)	Detection
1	5500	1	1930.5	102	518	Yes
2	5501	2	1858.7	99	538	Yes
3	5491	9	1474.9	78	678	Yes
4	5497	11	1392.8	74	718	Yes
5	5501	23	326.2	18	3066	Yes
6	5506	20	1113.6	59	898	Yes
7	5508	5	1672.2	89	598	No
8	5491	12	1355	72	738	Yes
9	5506	7	1567.4	83	638	Yes
10	5491	4	1730.1	92	578	Yes
11	5497	6	1618.1	86	618	Yes
12	5504	10	1432.7	76	698	Yes
13	5501	19	1139	61	878	Yes
14	5500	21	1089.3	58	918	Yes
15	5502	14	1285.3	68	778	Yes
16	5500	-	1721.2	91	581	Yes
17	5497	-	1173.7	62	852	Yes
18	5501	-	900.9	48	1110	Yes
19	5496	-	513.3	28	1948	Yes
20	5497	-	464.3	25	2154	Yes
21	5504	-	456.8	25	2189	Yes
22	5498	-	491.2	26	2036	No
23	5504	-	447.6	24	2234	Yes
24	5495	-	755.9	40	1323	Yes
25	5505	-	398.9	22	2507	Yes
26	5506	-	565.3	30	1769	Yes
27	5508	-	935.5	50	1069	Yes
28	5493	-	389.1	21	2570	Yes
29	5501	-	732.6	39	1365	No
30	5507	-	651.9	35	1534	Yes

Detection Rate : 90%

Note. “ - “ : 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1µsec, excluding PRI values selected in Test A

802.11ac (VHT20)

Type 2 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	24	1.7	227	Yes
2	5503	25	2.4	182	Yes
3	5492	27	3.3	186	Yes
4	5499	23	1.5	211	Yes
5	5498	26	2.9	223	No
6	5503	27	3.4	218	Yes
7	5498	29	4.6	198	Yes
8	5508	23	1.3	210	Yes
9	5493	28	4	201	Yes
10	5501	25	2.4	229	Yes
11	5495	25	2.5	197	Yes
12	5508	25	2.5	217	No
13	5505	26	2.8	224	Yes
14	5509	28	4	196	Yes
15	5500	29	4.6	164	No
16	5505	25	2.4	160	Yes
17	5503	26	2.7	189	Yes
18	5507	29	4.8	158	Yes
19	5499	23	1.1	178	Yes
20	5494	23	1	170	Yes
21	5493	25	2.5	155	Yes
22	5506	24	1.7	179	Yes
23	5494	27	3.8	216	Yes
24	5495	25	2.7	215	Yes
25	5495	24	1.9	187	Yes
26	5500	26	2.9	195	Yes
27	5509	28	4	199	Yes
28	5508	27	3.4	174	Yes
29	5505	27	3.3	207	No
30	5491	24	1.6	163	Yes
Detection Rate : 86.6%					

802.11ac (VHT20)

Type 3 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	16	6.7	497	Yes
2	5495	17	7.4	367	Yes
3	5506	17	8.3	476	No
4	5494	16	6.5	237	Yes
5	5492	17	7.9	331	Yes
6	5500	17	8.4	348	Yes
7	5499	18	9.6	256	No
8	5508	16	6.3	255	No
9	5504	18	9	481	No
10	5506	17	7.4	384	Yes
11	5499	17	7.5	467	Yes
12	5493	17	7.5	318	Yes
13	5502	17	7.8	247	Yes
14	5494	18	9	313	Yes
15	5495	18	9.6	388	Yes
16	5495	17	7.4	307	Yes
17	5499	17	7.7	500	Yes
18	5504	18	9.8	217	Yes
19	5492	16	6.1	463	Yes
20	5498	16	6	230	No
21	5505	17	7.5	428	Yes
22	5494	16	6.7	317	Yes
23	5502	18	8.8	312	Yes
24	5501	17	7.7	465	No
25	5508	16	6.9	419	Yes
26	5496	17	7.9	495	Yes
27	5506	18	9	411	No
28	5507	17	8.4	334	Yes
29	5508	17	8.3	244	Yes
30	5503	16	6.6	203	Yes
Detection Rate : 76.6%					

802.11ac (VHT20)

Type 4 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	12	12.6	497	Yes
2	5498	13	14.1	367	No
3	5496	14	16.2	476	Yes
4	5499	12	12.1	237	Yes
5	5504	14	15.4	331	Yes
6	5502	14	16.3	348	Yes
7	5493	16	19	256	Yes
8	5494	12	11.8	255	Yes
9	5502	15	17.7	481	Yes
10	5503	13	14.2	384	Yes
11	5495	13	14.5	467	Yes
12	5505	13	14.5	318	Yes
13	5501	14	15	247	Yes
14	5500	15	17.6	313	No
15	5504	16	19	388	Yes
16	5499	13	14.3	307	Yes
17	5502	14	14.9	500	Yes
18	5504	16	19.5	217	Yes
19	5492	12	11.2	463	Yes
20	5501	12	11	230	Yes
21	5497	13	14.4	428	Yes
22	5508	12	12.7	317	Yes
23	5508	15	17.3	312	Yes
24	5500	14	14.8	465	Yes
25	5505	13	13	419	No
26	5504	14	15.3	495	No
27	5500	15	17.6	411	Yes
28	5500	14	16.4	334	Yes
29	5498	14	16.2	244	Yes
30	5503	12	12.3	203	No
Detection Rate : 83.3%					

802.11ac (VHT20)

Type 5 Radar Statistical Performances				
Trial #	Minimum Chirp Width(MHz)	Chirp Center Frequency(MHz)	Test Signal Name	Detection
1	17	5500	LP_Signal_01	Yes
2	6	5500	LP_Signal_02	Yes
3	20	5500	LP_Signal_03	Yes
4	9	5500	LP_Signal_04	Yes
5	10	5500	LP_Signal_05	Yes
6	18	5500	LP_Signal_06	Yes
7	18	5500	LP_Signal_07	Yes
8	5	5500	LP_Signal_08	Yes
9	13	5500	LP_Signal_09	Yes
10	16	5500	LP_Signal_10	Yes
11	7	5494	LP_Signal_11	Yes
12	10	5495	LP_Signal_12	Yes
13	6	5493	LP_Signal_13	No
14	10	5495	LP_Signal_14	Yes
15	9	5495	LP_Signal_15	Yes
16	6	5493	LP_Signal_16	Yes
17	18	5498	LP_Signal_17	Yes
18	17	5498	LP_Signal_18	Yes
19	13	5496	LP_Signal_19	Yes
20	5	5493	LP_Signal_20	Yes
21	20	5501	LP_Signal_21	Yes
22	17	5502	LP_Signal_22	Yes
23	15	5503	LP_Signal_23	Yes
24	7	5506	LP_Signal_24	Yes
25	12	5504	LP_Signal_25	Yes
26	19	5501	LP_Signal_26	Yes
27	9	5505	LP_Signal_27	Yes
28	12	5504	LP_Signal_28	No
29	14	5503	LP_Signal_29	Yes
30	15	5503	LP_Signal_30	No
				Detection Rate : 90%

Note: The Long Pulse Radar pattern shown in Appendix A.1

802.11ac (VHT20)

Type 6 Radar Statistical Performances

Trial #	Pulses per Burst	Pulse Width(us)	PRI(us)	Hopping Frequency Sequence Name	Detection
1	9	1	333.3	HOP_FREQ_SEQ_01	Yes
2	9	1	333.3	HOP_FREQ_SEQ_02	Yes
3	9	1	333.3	HOP_FREQ_SEQ_03	Yes
4	9	1	333.3	HOP_FREQ_SEQ_04	Yes
5	9	1	333.3	HOP_FREQ_SEQ_05	Yes
6	9	1	333.3	HOP_FREQ_SEQ_06	Yes
7	9	1	333.3	HOP_FREQ_SEQ_07	Yes
8	9	1	333.3	HOP_FREQ_SEQ_08	Yes
9	9	1	333.3	HOP_FREQ_SEQ_09	Yes
10	9	1	333.3	HOP_FREQ_SEQ_10	Yes
11	9	1	333.3	HOP_FREQ_SEQ_11	Yes
12	9	1	333.3	HOP_FREQ_SEQ_12	Yes
13	9	1	333.3	HOP_FREQ_SEQ_13	Yes
14	9	1	333.3	HOP_FREQ_SEQ_14	No
15	9	1	333.3	HOP_FREQ_SEQ_15	Yes
16	9	1	333.3	HOP_FREQ_SEQ_16	Yes
17	9	1	333.3	HOP_FREQ_SEQ_17	Yes
18	9	1	333.3	HOP_FREQ_SEQ_18	Yes
19	9	1	333.3	HOP_FREQ_SEQ_19	Yes
20	9	1	333.3	HOP_FREQ_SEQ_20	Yes
21	9	1	333.3	HOP_FREQ_SEQ_21	No
22	9	1	333.3	HOP_FREQ_SEQ_22	Yes
23	9	1	333.3	HOP_FREQ_SEQ_23	Yes
24	9	1	333.3	HOP_FREQ_SEQ_24	Yes
25	9	1	333.3	HOP_FREQ_SEQ_25	Yes
26	9	1	333.3	HOP_FREQ_SEQ_26	No
27	9	1	333.3	HOP_FREQ_SEQ_27	Yes
28	9	1	333.3	HOP_FREQ_SEQ_28	Yes
29	9	1	333.3	HOP_FREQ_SEQ_29	Yes
30	9	1	333.3	HOP_FREQ_SEQ_30	Yes
Detection Rate : 90%					

Note: The Frequency Hopping Radar pattern shown in Appendix A.2

802.11ac (VHT40)

Type 1 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulse Repetition Frequency Number (1 to 23)	Pulse Repetition Frequency (pps)	Pulses per Burst	Pulse Repetition Interval (µsec)	Detection
1	5510	1	1930.5	102	518	Yes
2	5520	2	1858.7	99	538	Yes
3	5500	9	1474.9	78	678	Yes
4	5501	11	1392.8	74	718	Yes
5	5506	23	326.2	18	3066	Yes
6	5525	20	1113.6	59	898	Yes
7	5522	5	1672.2	89	598	Yes
8	5510	12	1355	72	738	No
9	5509	7	1567.4	83	638	No
10	5509	4	1730.1	92	578	Yes
11	5516	6	1618.1	86	618	Yes
12	5520	10	1432.7	76	698	Yes
13	5513	19	1139	61	878	Yes
14	5501	21	1089.3	58	918	Yes
15	5516	14	1285.3	68	778	Yes
16	5498	-	1721.2	91	581	Yes
17	5509	-	1173.7	62	852	Yes
18	5495	-	900.9	48	1110	Yes
19	5503	-	513.3	28	1948	Yes
20	5527	-	464.3	25	2154	Yes
21	5526	-	456.8	25	2189	Yes
22	5518	-	491.2	26	2036	Yes
23	5516	-	447.6	24	2234	Yes
24	5492	-	755.9	40	1323	Yes
25	5497	-	398.9	22	2507	Yes
26	5514	-	565.3	30	1769	No
27	5493	-	935.5	50	1069	No
28	5497	-	389.1	21	2570	Yes
29	5496	-	732.6	39	1365	Yes
30	5503	-	651.9	35	1534	Yes

Detection Rate : 86.6%

Note. “ - ” : 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1µsec, excluding PRI values selected in Test A

802.11ac (VHT40)
Type 2 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5510	24	1.7	227	Yes
2	5520	25	2.4	182	Yes
3	5500	27	3.3	186	Yes
4	5522	23	1.5	211	Yes
5	5527	26	2.9	223	No
6	5513	27	3.4	218	Yes
7	5508	29	4.6	198	Yes
8	5500	23	1.3	210	Yes
9	5508	28	4	201	Yes
10	5526	25	2.4	229	Yes
11	5501	25	2.5	197	No
12	5514	25	2.5	217	Yes
13	5515	26	2.8	224	Yes
14	5507	28	4	196	Yes
15	5520	29	4.6	164	Yes
16	5523	25	2.4	160	Yes
17	5499	26	2.7	189	Yes
18	5493	29	4.8	158	Yes
19	5505	23	1.1	178	Yes
20	5508	23	1	170	Yes
21	5510	25	2.5	155	Yes
22	5507	24	1.7	179	Yes
23	5497	27	3.8	216	Yes
24	5502	25	2.7	215	Yes
25	5503	24	1.9	187	Yes
26	5492	26	2.9	195	Yes
27	5493	28	4	199	Yes
28	5518	27	3.4	174	Yes
29	5506	27	3.3	207	Yes
30	5501	24	1.6	163	No
Detection Rate : 90%					

802.11ac (VHT40)
Type 3 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5510	16	6.7	497	Yes
2	5520	17	7.4	367	Yes
3	5500	17	8.3	476	Yes
4	5508	16	6.5	237	Yes
5	5515	17	7.9	331	Yes
6	5512	17	8.4	348	No
7	5519	18	9.6	256	Yes
8	5500	16	6.3	255	Yes
9	5501	18	9	481	Yes
10	5518	17	7.4	384	Yes
11	5503	17	7.5	467	No
12	5495	17	7.5	318	Yes
13	5506	17	7.8	247	Yes
14	5524	18	9	313	Yes
15	5514	18	9.6	388	Yes
16	5494	17	7.4	307	Yes
17	5520	17	7.7	500	Yes
18	5495	18	9.8	217	Yes
19	5495	16	6.1	463	Yes
20	5501	16	6	230	Yes
21	5493	17	7.5	428	No
22	5505	16	6.7	317	Yes
23	5513	18	8.8	312	No
24	5522	17	7.7	465	Yes
25	5503	16	6.9	419	Yes
26	5499	17	7.9	495	Yes
27	5509	18	9	411	Yes
28	5522	17	8.4	334	Yes
29	5512	17	8.3	244	No
30	5515	16	6.6	203	Yes
Detection Rate : 83.3%					

802.11ac (VHT40)
Type 4 Radar Statistical Performances

Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5510	12	12.6	497	Yes
2	5520	13	14.1	367	Yes
3	5500	14	16.2	476	Yes
4	5523	12	12.1	237	Yes
5	5518	14	15.4	331	No
6	5507	14	16.3	348	No
7	5494	16	19	256	Yes
8	5523	12	11.8	255	No
9	5511	15	17.7	481	Yes
10	5505	13	14.2	384	Yes
11	5524	13	14.5	467	Yes
12	5512	13	14.5	318	Yes
13	5519	14	15	247	Yes
14	5496	15	17.6	313	Yes
15	5522	16	19	388	Yes
16	5510	13	14.3	307	No
17	5527	14	14.9	500	Yes
18	5497	16	19.5	217	Yes
19	5510	12	11.2	463	Yes
20	5520	12	11	230	Yes
21	5493	13	14.4	428	Yes
22	5520	12	12.7	317	Yes
23	5509	15	17.3	312	Yes
24	5520	14	14.8	465	Yes
25	5510	13	13	419	No
26	5500	14	15.3	495	Yes
27	5521	15	17.6	411	Yes
28	5523	14	16.4	334	Yes
29	5493	14	16.2	244	No
30	5522	12	12.3	203	Yes
Detection Rate : 80%					

802.11ac (VHT40)

Type 5 Radar Statistical Performances

Trial #	Minimum Chirp Width(MHz)	Chirp Center Frequency(MHz)	Test Signal Name	Detection
1	7	5510	LP_Signal_01	Yes
2	10	5510	LP_Signal_02	Yes
3	14	5510	LP_Signal_03	Yes
4	7	5510	LP_Signal_04	Yes
5	12	5510	LP_Signal_05	Yes
6	14	5510	LP_Signal_06	Yes
7	19	5510	LP_Signal_07	Yes
8	6	5510	LP_Signal_08	No
9	16	5510	LP_Signal_09	Yes
10	10	5510	LP_Signal_10	Yes
11	11	5495	LP_Signal_11	Yes
12	11	5495	LP_Signal_12	No
13	12	5496	LP_Signal_13	No
14	16	5497	LP_Signal_14	Yes
15	19	5499	LP_Signal_15	No
16	10	5495	LP_Signal_16	Yes
17	11	5495	LP_Signal_17	No
18	19	5499	LP_Signal_18	Yes
19	5	5493	LP_Signal_19	Yes
20	5	5493	LP_Signal_20	Yes
21	11	5525	LP_Signal_21	Yes
22	8	5526	LP_Signal_22	Yes
23	16	5523	LP_Signal_23	Yes
24	11	5525	LP_Signal_24	Yes
25	8	5526	LP_Signal_25	Yes
26	12	5524	LP_Signal_26	Yes
27	16	5523	LP_Signal_27	Yes
28	14	5523	LP_Signal_28	Yes
29	11	5525	LP_Signal_29	Yes
30	7	5526	LP_Signal_30	Yes
				Detection Rate : 83.3%

Note: The Long Pulse Radar pattern shown in Appendix A.1

802.11ac (VHT40)

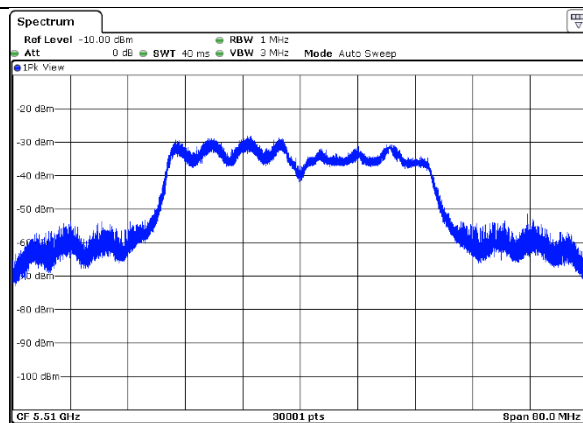
Type 6 Radar Statistical Performances

Trial #	Pulses per Burst	Pulse Width(us)	PRI(us)	Hopping Frequency Sequence Name	Detection
1	9	1	333.3	HOP_FREQ_SEQ_01	No
2	9	1	333.3	HOP_FREQ_SEQ_02	Yes
3	9	1	333.3	HOP_FREQ_SEQ_03	No
4	9	1	333.3	HOP_FREQ_SEQ_04	Yes
5	9	1	333.3	HOP_FREQ_SEQ_05	Yes
6	9	1	333.3	HOP_FREQ_SEQ_06	Yes
7	9	1	333.3	HOP_FREQ_SEQ_07	Yes
8	9	1	333.3	HOP_FREQ_SEQ_08	Yes
9	9	1	333.3	HOP_FREQ_SEQ_09	Yes
10	9	1	333.3	HOP_FREQ_SEQ_10	Yes
11	9	1	333.3	HOP_FREQ_SEQ_11	Yes
12	9	1	333.3	HOP_FREQ_SEQ_12	Yes
13	9	1	333.3	HOP_FREQ_SEQ_13	Yes
14	9	1	333.3	HOP_FREQ_SEQ_14	Yes
15	9	1	333.3	HOP_FREQ_SEQ_15	No
16	9	1	333.3	HOP_FREQ_SEQ_16	Yes
17	9	1	333.3	HOP_FREQ_SEQ_17	Yes
18	9	1	333.3	HOP_FREQ_SEQ_18	No
19	9	1	333.3	HOP_FREQ_SEQ_19	Yes
20	9	1	333.3	HOP_FREQ_SEQ_20	Yes
21	9	1	333.3	HOP_FREQ_SEQ_21	Yes
22	9	1	333.3	HOP_FREQ_SEQ_22	No
23	9	1	333.3	HOP_FREQ_SEQ_23	Yes
24	9	1	333.3	HOP_FREQ_SEQ_24	Yes
25	9	1	333.3	HOP_FREQ_SEQ_25	No
26	9	1	333.3	HOP_FREQ_SEQ_26	Yes
27	9	1	333.3	HOP_FREQ_SEQ_27	Yes
28	9	1	333.3	HOP_FREQ_SEQ_28	Yes
29	9	1	333.3	HOP_FREQ_SEQ_29	Yes
30	9	1	333.3	HOP_FREQ_SEQ_30	Yes
					Detection Rate : 80%

Note: The Frequency Hopping Radar pattern shown in Appendix A.2

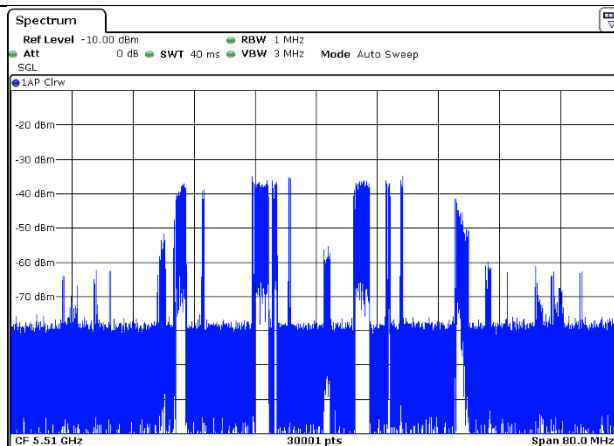
6.2.5 Non-Occupancy Period

1) Test results demonstrating an associated client link is established with the master on a test frequency.



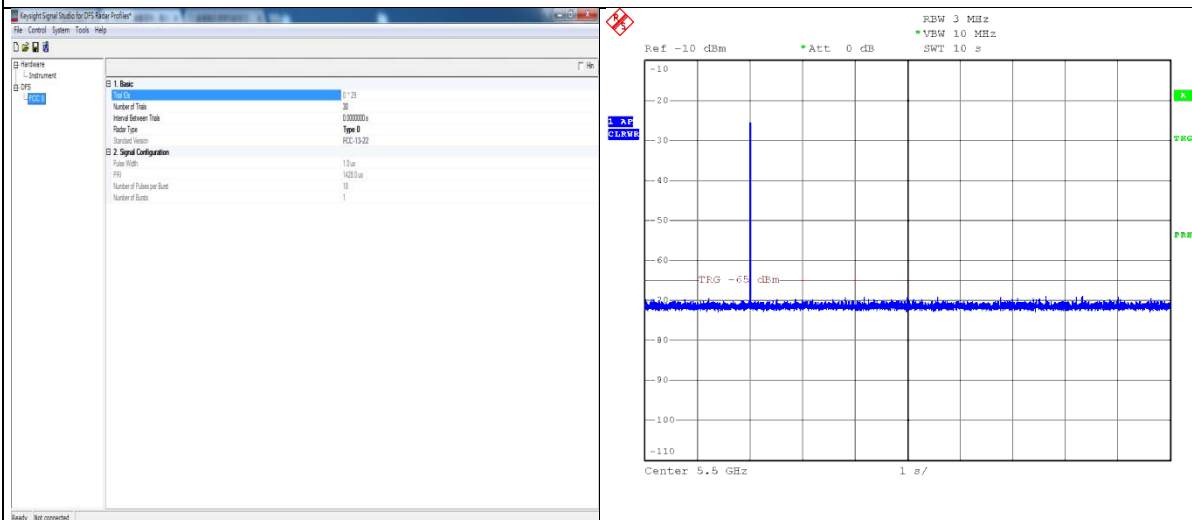
EUT (master) links with Client on 5510MHz

2) The master and DFS-certified client device are associated, and system testing will be performed with channel-loading for a non-occupancy period test.



Client performed with channel-loading via master.

3). The device transmits one type of radar as specified in the DFS Order.



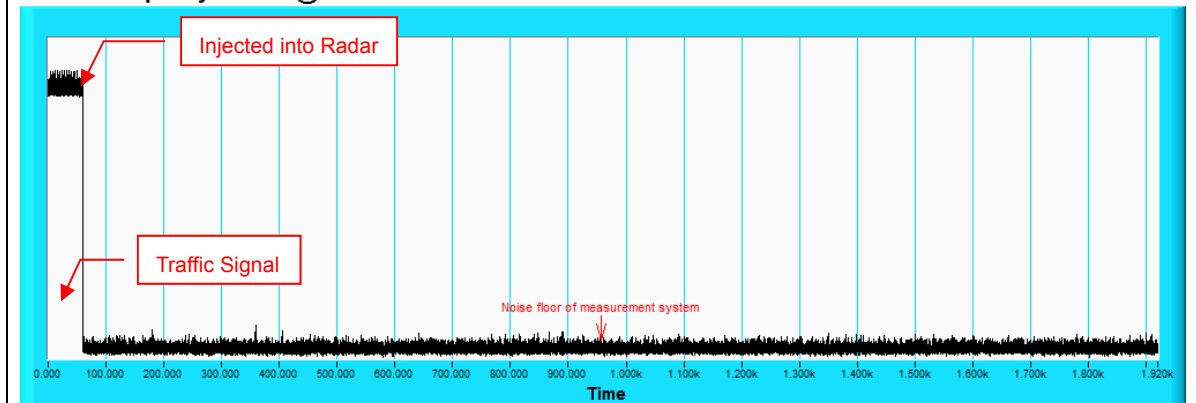
Radar 0 is used to test during DFS testing.

4) The test frequency has been monitored to ensure no transmission of any type has occurred for 30 minutes;

Note: If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear;

5) An analyzer plot that contains a single 30-minute sweep on the original test frequency.

Non - Occupancy Period @ CH102 - 5510MHz



7. Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab:

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

8. APPENDIX-A

RADAR TEST SIGNAL

A.1 The Long Pulse Radar Pattern

BW20

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_01

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	17	88.7	1855	1442	1709
2	1	17	53.1	1611	-	-
3	3	17	100	1657	1306	1836
4	1	17	64.3	1294	-	-
5	2	17	67.9	1851	1744	-
6	3	17	92.9	1059	1667	1286
7	3	17	91.1	1272	1277	1961
8	1	17	52.9	1913	-	-
9	2	17	75.7	1219	1532	-
10	3	17	85.9	1819	1814	1553
11	1	17	56.3	1083	-	-
12	2	17	66.8	1704	1821	-
13	1	17	53.3	1740	-	-
14	2	17	68.3	1346	1996	-
15	1	17	64	1619	-	-
16	1	17	56.1	1349	-	-
17	3	17	93.4	1678	1480	1916
18	3	17	88.8	1399	1062	1613
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_02

Number of Bursts in Trial: 8

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	6	77.3	1146	1462	-
2	1	6	51.5	1043	-	-
3	3	6	99.3	1210	1076	1956
4	3	6	88.8	1697	1371	1918
5	2	6	82.7	1459	1866	-
6	1	6	56.8	1142	-	-
7	2	6	73.1	1566	1826	-
8	3	6	95.3	1896	1363	1201
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_03

Number of Bursts in Trial: 20

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	20	62.9	1555	-	-
2	2	20	72	1612	1650	-
3	2	20	80.3	1160	1089	-
4	2	20	82.6	1568	1490	-
5	2	20	83	1485	1395	-
6	2	20	81.4	1636	1187	-
7	1	20	52.1	1625	-	-
8	3	20	85.9	1126	1468	1601
9	3	20	86.8	1767	1759	1489
10	3	20	87.7	1862	1595	1477
11	1	20	59.3	1129	-	-
12	2	20	70.2	1617	1586	-
13	1	20	57.9	1905	-	-
14	1	20	56.8	1534	-	-
15	2	20	73.8	1735	1854	-
16	3	20	94.3	1053	1778	1035
17	2	20	79.9	1370	1715	-
18	1	20	54	1097	-	-
19	1	20	64.3	1452	-	-
20	2	20	78	1216	1239	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_04

Number of Bursts in Trial: 11

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	9	90.7	1626	1730	1722
2	2	9	76.9	1668	1846	-
3	3	9	94.4	1561	1314	1184
4	2	9	67	1293	1398	-
5	2	9	71.3	1796	1052	-
6	3	9	90.9	1067	1407	1756
7	3	9	88.3	1861	1078	1736
8	2	9	77.3	1033	1829	-
9	1	9	50.5	1186	-	-
10	3	9	99.9	1287	1008	1701
11	2	9	70.5	1432	1872	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_05

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	10	93.1	1070	1163	1282
2	3	10	91.2	1016	1385	1781
3	2	10	72.6	1386	1012	-
4	2	10	80	1140	1180	-
5	2	10	69.1	1886	1570	-
6	2	10	72.6	1303	1402	-
7	3	10	93.2	1865	1337	1311
8	1	10	52.8	1254	-	-
9	2	10	74.9	1711	1630	-
10	1	10	64.6	1869	-	-
11	2	10	67.4	1107	1971	-
12	2	10	81.6	1183	1665	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_06

Number of Bursts in Trial: 19

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	18	76.3	1440	1696	-
2	3	18	96.8	1967	1969	1414
3	2	18	73.1	1944	1367	-
4	2	18	80.8	1383	1304	-
5	2	18	70.4	1382	1664	-
6	2	18	77.8	1273	1936	-
7	1	18	54.9	1648	-	-
8	1	18	58.9	1616	-	-
9	2	18	78.6	1681	1194	-
10	3	18	92.6	1166	1985	1427
11	3	18	95.2	1576	1086	1673
12	1	18	54.6	1643	-	-
13	3	18	86	1178	1224	1203
14	2	18	77.6	1309	1263	-
15	1	18	63.2	1300	-	-
16	1	18	61.2	1202	-	-
17	3	18	92.2	1116	1948	1318
18	3	18	93.2	1175	1213	1472
19	2	18	74.9	1881	1094	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_07

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	18	85.4	1899	1957	1649
2	3	18	87	1983	1777	1984
3	2	18	67.2	1506	1428	-
4	1	18	66.3	1805	-	-
5	2	18	79.1	1453	1238	-
6	3	18	85.4	1117	1610	1547
7	2	18	76.8	1579	1530	-
8	1	18	54.7	1164	-	-
9	2	18	71.6	1327	1335	-
10	3	18	86.7	1410	1241	1330
11	1	18	51.2	1441	-	-
12	3	18	89.5	1721	1724	1540
13	1	18	63.3	1891	-	-
14	2	18	73.2	1392	1718	-
15	3	18	95.4	1197	1639	1242
16	2	18	68	1952	1883	-
17	2	18	70.2	1185	1497	-
18	3	18	98.2	1002	1131	1082
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_08

Number of Bursts in Trial: 8

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	5	60	1963	-	-
2	2	5	67.8	1889	1236	-
3	3	5	99.5	1351	1858	1124
4	3	5	95.6	1661	1605	1875
5	3	5	90.9	1789	1907	1065
6	3	5	92	1962	1356	1518
7	1	5	50.4	1564	-	-
8	3	5	96	1848	1276	1168
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_09

Number of Bursts in Trial: 14

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	13	67.9	1831	1585	-
2	3	13	94.1	1292	1893	1249
3	3	13	91.5	1467	1446	1362
4	1	13	59.4	1840	-	-
5	2	13	81.9	1713	1279	-
6	1	13	60.7	1412	-	-
7	2	13	81.8	1622	1813	-
8	3	13	89.7	1834	1741	1189
9	2	13	82	1521	1435	-
10	3	13	94.7	1090	1845	1809
11	1	13	59.1	1103	-	-
12	2	13	80.5	1590	1138	-
13	3	13	94.1	1174	1232	1285
14	3	13	95.5	1808	1795	1557
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_10

Number of Bursts in Trial: 17

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	16	93.7	1946	1460	1659
2	2	16	73	1215	1243	-
3	2	16	83.3	1982	1507	-
4	2	16	72.3	1128	1329	-
5	2	16	77.3	1278	1843	-
6	1	16	53.1	1331	-	-
7	2	16	81.9	1029	1921	-
8	2	16	81.5	1041	1533	-
9	3	16	90.7	1526	1247	1606
10	1	16	59.6	1761	-	-
11	3	16	93	1797	1679	1864
12	1	16	63	1473	-	-
13	2	16	82.1	1849	1061	-
14	2	16	75.3	1080	1079	-
15	2	16	75.5	1728	1305	-
16	3	16	89.8	1046	1162	1960
17	3	16	96.1	1218	1717	1066
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_11

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	7	75.2	1419	1583	-
2	1	7	65.8	1945	-	-
3	2	7	83.1	1965	1176	-
4	2	7	67.4	1456	1024	-
5	2	7	82.8	1748	1853	-
6	1	7	63.3	1073	-	-
7	1	7	62.2	1347	-	-
8	1	7	54.7	1465	-	-
9	3	7	90.6	1623	1484	1951
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_12

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	10	57.6	1842	-	-
2	2	10	73.6	1698	1479	-
3	3	10	91.2	1319	1958	1364
4	1	10	50.7	1542	-	-
5	1	10	58.8	1641	-	-
6	3	10	89.8	1365	1772	1565
7	1	10	54.1	1731	-	-
8	1	10	64.6	1137	-	-
9	2	10	74.2	1887	1448	-
10	2	10	76.4	1647	1558	-
11	1	10	62.2	1563	-	-
12	2	10	68.6	1495	1597	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_13

Number of Bursts in Trial: 8

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	6	64.6	1233	-	-
2	3	6	97.4	1890	1832	1438
3	1	6	64.1	1104	-	-
4	3	6	86.5	1847	1719	1220
5	1	6	53.3	1345	-	-
6	2	6	81.8	1264	1638	-
7	1	6	66.4	1599	-	-
8	2	6	68.9	1802	1123	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_14

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	10	78.6	1600	1546	-
2	1	10	56.5	1578	-	-
3	1	10	64.2	1762	-	-
4	3	10	92.3	1560	1031	1674
5	3	10	98.6	1653	1803	1047
6	3	10	84	1044	1132	1058
7	1	10	64.7	1425	-	-
8	1	10	61	1334	-	-
9	2	10	78.1	1461	1902	-
10	1	10	60.9	1240	-	-
11	1	10	59.7	1281	-	-
12	2	10	71.1	1770	1503	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_15

Number of Bursts in Trial: 11

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	9	67.5	1338	1852	-
2	3	9	86.8	1344	1776	1504
3	3	9	95.5	1888	1941	1225
4	1	9	58.2	1822	-	-
5	3	9	90.3	1544	1217	1997
6	3	9	89.9	1222	1492	1284
7	1	9	50.7	1788	-	-
8	1	9	53.2	1297	-	-
9	1	9	58.9	1799	-	-
10	2	9	67.5	1800	1259	-
11	1	9	51	1434	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_16

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	6	99.1	1879	1246	1716
2	2	6	77.5	1171	1474	-
3	2	6	77.4	1548	1575	-
4	1	6	60.6	1874	-	-
5	2	6	68.4	1015	1098	-
6	2	6	68.9	1739	1036	-
7	2	6	80.9	1596	1173	-
8	2	6	79.4	1122	1200	-
9	2	6	81.5	1280	1528	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_17

Number of Bursts in Trial: 19

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	18	95.8	1580	1332	1358
2	3	18	85.9	1760	1644	1181
3	1	18	61.9	1734	-	-
4	1	18	51.1	1221	-	-
5	1	18	59.3	1355	-	-
6	3	18	99	1964	1598	1783
7	1	18	52.1	1499	-	-
8	2	18	74.9	1223	1628	-
9	2	18	75.1	1261	1932	-
10	3	18	93.1	1415	1458	1573
11	3	18	86.6	1973	1747	1214
12	1	18	63.3	1885	-	-
13	2	18	66.7	1032	1469	-
14	3	18	91.2	1470	1114	1155
15	1	18	51.1	1811	-	-
16	2	18	77.8	1169	1817	-
17	1	18	51.8	1257	-	-
18	1	18	55.8	1571	-	-
19	3	18	96.2	1055	1188	1652
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_18

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	17	63.5	1109	-	-
2	2	17	81.1	1732	1752	-
3	1	17	63.2	1266	-	-
4	1	17	59.9	1019	-	-
5	1	17	61.1	1529	-	-
6	1	17	55.4	1987	-	-
7	1	17	65.2	1536	-	-
8	1	17	64.7	1974	-	-
9	2	17	71.2	1680	1663	-
10	2	17	73.3	1408	1313	-
11	3	17	96.3	1411	1812	1804
12	3	17	92.1	1360	1443	1437
13	3	17	97.2	1567	1120	1077
14	2	17	81.5	1255	1211	-
15	2	17	78.2	1562	1656	-
16	2	17	75.3	1708	1703	-
17	2	17	81.6	1156	1085	-
18	2	17	74.8	1642	1979	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_19

Number of Bursts in Trial: 15

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	13	94.4	1833	1007	1784
2	3	13	99	1992	1212	1388
3	3	13	91.4	1226	1729	1310
4	3	13	87.8	1884	1063	1167
5	2	13	75.8	1148	1463	-
6	2	13	78.1	1912	1574	-
7	1	13	65.8	1714	-	-
8	2	13	80.9	1710	1970	-
9	3	13	87.8	1105	1403	1159
10	2	13	82.3	1429	1572	-
11	3	13	86.4	1691	1268	1482
12	2	13	76.2	1377	1981	-
13	2	13	82.9	1206	1632	-
14	1	13	66.6	1069	-	-
15	1	13	63.1	1685	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_20

Number of Bursts in Trial: 8

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	5	84.7	1688	1426	1535
2	1	5	65.9	1030	-	-
3	1	5	50.4	1738	-	-
4	2	5	82.5	1511	1991	-
5	2	5	75.9	1193	1725	-
6	1	5	50.8	1933	-	-
7	3	5	95.7	1478	1882	1234
8	3	5	94.1	1050	1689	1333
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_21

Number of Bursts in Trial: 20

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	20	84.3	1475	1581	1068
2	2	20	81	1720	1637	-
3	1	20	51.6	1256	-	-
4	2	20	78.8	1290	1785	-
5	1	20	50.9	1839	-	-
6	3	20	89.4	1750	1229	1798
7	2	20	81.8	1593	1056	-
8	3	20	88.5	1252	1694	1496
9	1	20	65.9	1516	-	-
10	2	20	69.5	1151	1502	-
11	1	20	52.9	1769	-	-
12	1	20	57.5	1100	-	-
13	1	20	56.9	1350	-	-
14	1	20	54.8	1179	-	-
15	2	20	75.7	1028	1149	-
16	1	20	55.2	1917	-	-
17	3	20	85.1	1787	1654	1726
18	3	20	94.1	1088	1510	1315
19	2	20	80.2	1501	1670	-
20	2	20	67.6	1228	1915	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_22

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	17	83	1955	1990	-
2	2	17	78.4	1133	1629	-
3	3	17	95	1270	1368	1587
4	3	17	90.4	1559	1745	1929
5	2	17	79.6	1483	1773	-
6	2	17	79	1481	1514	-
7	1	17	62.4	1923	-	-
8	1	17	65.6	1134	-	-
9	2	17	77.8	1209	1763	-
10	3	17	92.8	1742	1904	1042
11	1	17	55.7	1420	-	-
12	2	17	74	1706	1366	-
13	3	17	98.7	1235	1827	1901
14	1	17	54.8	1602	-	-
15	1	17	57.1	1487	-	-
16	1	17	56.8	1631	-	-
17	2	17	74.2	1049	1336	-
18	3	17	99.3	1231	1378	1512
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_23

Number of Bursts in Trial: 16

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	15	64.9	1914	-	-
2	3	15	91.6	1733	1343	1633
3	1	15	56	1556	-	-
4	3	15	93.9	1525	1244	1161
5	2	15	70.5	1418	1190	-
6	1	15	56.7	1627	-	-
7	2	15	80	1328	1248	-
8	1	15	59.1	2000	-	-
9	1	15	56.1	1676	-	-
10	2	15	79.9	1658	1702	-
11	3	15	90.2	1940	1251	1727
12	3	15	95.2	1816	1975	1954
13	3	15	97.5	1205	1191	1322
14	2	15	81.8	1895	1298	-
15	2	15	70.7	1445	1635	-
16	2	15	78.1	1755	1323	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_24

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	7	61.1	1387	-	-
2	1	7	55.8	1592	-	-
3	3	7	86	1764	1299	1928
4	1	7	61.2	1295	-	-
5	3	7	99.3	1655	1589	1045
6	2	7	71.9	1471	1204	-
7	2	7	77	1863	1906	-
8	1	7	66.1	1758	-	-
9	1	7	60.6	1820	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_25

Number of Bursts in Trial: 14

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	12	73.1	1106	1953	-
2	1	12	63.8	1524	-	-
3	2	12	78.9	1005	1324	-
4	1	12	58.8	1144	-	-
5	1	12	52	1121	-	-
6	3	12	97.7	1450	1624	1977
7	2	12	68.9	1026	1039	-
8	2	12	81.1	1198	1949	-
9	3	12	85.8	1792	1373	1125
10	2	12	79.2	1552	1040	-
11	3	12	88.7	1354	1369	1372
12	1	12	61.6	2000	-	-
13	3	12	89.1	1522	1004	1172
14	1	12	57.8	1325	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_26

Number of Bursts in Trial: 19

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	19	88.3	1577	1707	1006
2	1	19	60.4	1520	-	-
3	2	19	70.5	1699	1352	-
4	2	19	72.8	1690	1422	-
5	2	19	82.6	1143	1341	-
6	2	19	75.5	1152	1660	-
7	2	19	82.6	1011	1993	-
8	3	19	95.4	1591	1230	1447
9	2	19	73.9	1018	1307	-
10	1	19	53.3	1994	-	-
11	2	19	70.6	1621	1880	-
12	3	19	93.8	1196	1416	1009
13	1	19	51.2	1790	-	-
14	2	19	70.8	1972	1531	-
15	1	19	62.9	1541	-	-
16	1	19	50	1774	-	-
17	3	19	93	1340	1227	1101
18	1	19	64.5	1545	-	-
19	3	19	89.9	1857	1810	1908
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_27

Number of Bursts in Trial: 11

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	9	83.2	1081	1275	-
2	3	9	97.4	1868	1118	1154
3	3	9	92.9	1607	1207	1723
4	1	9	51	1897	-	-
5	1	9	50.2	1523	-	-
6	1	9	54.1	1768	-	-
7	2	9	82.2	1271	1828	-
8	2	9	71.2	1920	1640	-
9	1	9	64.1	1910	-	-
10	1	9	61.6	1115	-	-
11	1	9	52.6	1995	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_28

Number of Bursts in Trial: 13

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	12	82	1135	1361	-
2	1	12	66.5	1265	-	-
3	2	12	72	1396	1342	-
4	3	12	98.1	1986	1182	1684
5	3	12	97.7	1136	1894	1876
6	1	12	50.8	1308	-	-
7	2	12	78.7	1348	1927	-
8	3	12	99.1	1150	1669	1830
9	3	12	94.4	1357	1048	1537
10	3	12	90.7	1102	1466	1147
11	2	12	78.1	1543	1645	-
12	2	12	77.7	1302	1359	-
13	3	12	90	1998	1794	1153
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_29

Number of Bursts in Trial: 15

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	14	75.6	1837	1551	-
2	3	14	88.3	1925	1339	1687
3	1	14	58.2	1258	-	-
4	3	14	96.5	1013	1253	1978
5	3	14	98.1	1075	1430	1947
6	2	14	68.1	1208	1051	-
7	3	14	85.7	1245	1455	1870
8	3	14	86.2	1931	1262	1498
9	2	14	74.1	1413	1517	-
10	2	14	71.7	1841	1027	-
11	1	14	55.9	1269	-	-
12	1	14	60.5	1943	-	-
13	3	14	95.5	1815	1749	1775
14	1	14	59.4	1119	-	-
15	2	14	70.2	1037	1999	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_30

Number of Bursts in Trial: 16

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	15	68.7	1515	1939	-
2	1	15	50.3	1753	-	-
3	1	15	54.2	1892	-	-
4	2	15	68.5	1326	1404	-
5	3	15	83.8	1449	1296	1871
6	2	15	71.2	1609	1064	-
7	2	15	71.3	1431	1406	-
8	1	15	54	1165	-	-
9	2	15	71.7	1439	1353	-
10	1	15	53.2	1424	-	-
11	2	15	73.1	1818	1807	-
12	1	15	62.1	1671	-	-
13	2	15	71.4	1824	1686	-
14	3	15	93.9	1867	1603	1108
15	2	15	70.1	1539	1112	-
16	3	15	99.2	1423	1988	1751
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

BW40

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_01

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	7	58.8	1293	-	-
2	2	7	67.2	1731	1960	-
3	2	7	79	1043	1583	-
4	1	7	56.3	1074	-	-
5	2	7	74.3	1714	1429	-
6	2	7	79.4	1609	1083	-
7	3	7	94.4	1958	1101	1226
8	1	7	54.4	1947	-	-
9	3	7	87.1	1277	1626	1167
10	2	7	67.7	1820	1477	-
11	-	-	-	-	-	-
12						
13						
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_02

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	10	69.4	1974	1961	-
2	2	10	69.5	1140	1656	-
3	2	10	72	1863	1564	-
4	3	10	86.6	1887	1299	1953
5	3	10	94	1547	1148	1570
6	2	10	68.2	1409	1353	-
7	2	10	71.7	1909	1632	-
8	3	10	96.8	1337	1052	1212
9	1	10	51.6	1879	-	-
10	1	10	50	1483	-	-
11	2	10	68.8	1094	1738	-
12	1	10	59.6	1408	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_03

Number of Bursts in Trial: 15

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	14	84.8	2000	1985	1126
2	2	14	71.3	1309	1366	-
3	1	14	61.3	1230	-	-
4	2	14	74.2	1450	1356	-
5	3	14	86.7	1907	1599	1390
6	2	14	79.7	1406	1328	-
7	2	14	78.9	1097	1734	-
8	1	14	57.3	1698	-	-
9	1	14	65.3	1028	-	-
10	2	14	68.5	1763	1135	-
11	1	14	64.1	1461	-	-
12	1	14	58.5	1515	-	-
13	1	14	51	1549	-	-
14	2	14	76.7	1750	1319	-
15	1	14	54.8	1315	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_04

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	7	83.6	1942	1574	1208
2	1	7	62.1	1943	-	-
3	2	7	67.8	1247	1407	-
4	1	7	64.7	1118	-	-
5	3	7	94.4	1657	1248	1116
6	3	7	94.8	1834	1012	1243
7	1	7	55.9	1840	-	-
8	3	7	88.9	1467	1757	1756
9	2	7	70.5	1772	1479	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_05

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	12	82.3	1451	1235	-
2	3	12	86	1809	1996	1426
3	2	12	75.9	1658	1495	-
4	3	12	96.5	1415	1660	1445
5	3	12	92.4	1272	1751	1080
6	1	12	60.6	1234	-	-
7	2	12	80.8	1902	1939	-
8	3	12	99.3	1038	1176	1301
9	2	12	82.5	1045	1802	-
10	1	12	57.7	1838	-	-
11	3	12	95.1	1933	1619	1730
12	1	12	50.1	1762	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_06

Number of Bursts in Trial: 15

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	14	92.8	1541	1350	1159
2	1	14	64.7	1633	-	-
3	2	14	75.6	1355	1920	-
4	2	14	79.7	1458	1249	-
5	1	14	52.4	1414	-	-
6	1	14	50.8	1914	-	-
7	1	14	55.3	1711	-	-
8	1	14	63.5	1500	-	-
9	3	14	85.5	1983	1182	1976
10	2	14	67.3	1833	1497	-
11	1	14	63.3	1923	-	-
12	3	14	88.1	1134	1394	1769
13	3	14	84.7	1847	1241	1260
14	3	14	83.8	1411	1748	1039
15	3	14	85.4	1018	1908	1372
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_07

Number of Bursts in Trial: 19

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	19	74.5	1348	1113	-
2	1	19	64.8	1371	-	-
3	2	19	78.8	1980	1569	-
4	2	19	82.5	1556	1791	-
5	3	19	90.8	1015	1950	1685
6	2	19	77.3	1302	1857	-
7	3	19	95.7	1002	1898	1899
8	3	19	97.4	1518	1873	1216
9	3	19	92.9	1866	1510	1514
10	2	19	81.5	1358	1921	-
11	2	19	68.8	1875	1693	-
12	2	19	76.1	1399	1469	-
13	1	19	53.4	1387	-	-
14	2	19	77.7	1865	1204	-
15	1	19	51.8	1765	-	-
16	3	19	94.2	1132	1488	1717
17	3	19	97.2	1851	1811	1746
18	3	19	88.5	1396	1121	1501
19	1	19	62	1507	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_08

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	6	75.1	1470	1308	-
2	1	6	50	1198	-	-
3	2	6	68.8	1536	1349	-
4	1	6	65.1	1286	-	-
5	1	6	53.4	1614	-	-
6	3	6	88	1852	1223	1168
7	1	6	65.1	1245	-	-
8	2	6	83.3	1800	1238	-
9	1	6	55.4	1622	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_09

Number of Bursts in Trial: 17

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	16	65	1755	-	-
2	2	16	72.7	1741	1785	-
3	3	16	87.8	1149	1056	1493
4	1	16	61.8	1284	-	-
5	1	16	58.6	1175	-	-
6	2	16	75.3	1825	1009	-
7	1	16	56.2	1732	-	-
8	3	16	84.4	1292	1989	1605
9	1	16	53.6	1332	-	-
10	2	16	75.3	1482	1023	-
11	1	16	54.2	1455	-	-
12	2	16	72.8	2000	1342	-
13	3	16	97.1	1199	1158	1890
14	2	16	67.3	1035	1818	-
15	2	16	82.7	1611	1558	-
16	3	16	98.2	1252	1651	1922
17	3	16	83.7	1174	1878	1889
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_10

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	10	74.8	1064	1888	-
2	1	10	51.8	1543	-	-
3	3	10	85.8	1526	1813	1330
4	3	10	83.7	1795	1166	1460
5	2	10	73.1	1703	1975	-
6	1	10	66.2	1229	-	-
7	3	10	99.7	1324	1374	1972
8	2	10	72.7	1555	1476	-
9	1	10	58.7	1000	-	-
10	3	10	85.3	1431	1936	1439
11	1	10	55.7	1261	-	-
12	3	10	99.8	1102	1901	1997
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_11

Number of Bursts in Trial: 13

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	11	75.4	1463	1677	-
2	3	11	94.5	1525	1211	1617
3	2	11	75.7	1202	1963	-
4	3	11	94.1	1645	1684	1191
5	3	11	90.2	1595	1200	1720
6	2	11	82.4	1722	1776	-
7	2	11	70.2	1579	1655	-
8	3	11	93.7	1635	1788	1862
9	1	11	56.9	1087	-	-
10	2	11	67.5	1552	1225	-
11	2	11	78.2	1228	1828	-
12	2	11	71.5	1250	1789	-
13	2	11	67.4	1298	1010	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_12

Number of Bursts in Trial: 13

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	11	90.6	1770	1184	1671
2	2	11	71.9	1745	1314	-
3	3	11	84.3	1906	1666	1100
4	3	11	89.3	1438	1221	1886
5	2	11	78.1	1767	1537	-
6	2	11	82.8	1502	1739	-
7	3	11	86.1	1351	1530	1652
8	2	11	66.9	1590	1637	-
9	2	11	69.8	1109	1194	-
10	1	11	63.1	1808	-	-
11	1	11	63.2	1904	-	-
12	3	11	97.5	1357	1186	1354
13	2	11	71.8	1965	1259	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_13

Number of Bursts in Trial: 13

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	12	91.9	1987	1209	1849
2	1	12	56.4	1117	-	-
3	3	12	88.2	1992	1491	1128
4	3	12	89.2	1607	1275	1594
5	3	12	99.9	1565	1596	1404
6	3	12	90	1815	1804	1291
7	1	12	50.5	1412	-	-
8	3	12	84.7	1480	1728	1215
9	2	12	78.3	1152	1581	-
10	2	12	80.8	1793	1417	-
11	2	12	78.6	1462	1814	-
12	2	12	78.7	1504	1081	-
13	1	12	56.8	1786	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_14

Number of Bursts in Trial: 17

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	16	85	1141	1876	1339
2	1	16	62.5	1736	-	-
3	1	16	54.4	1615	-	-
4	2	16	76.7	1304	1568	-
5	1	16	57.2	1701	-	-
6	2	16	73.7	1079	1774	-
7	1	16	64.3	1540	-	-
8	1	16	66.3	1382	-	-
9	2	16	82.6	1214	1924	-
10	3	16	94.4	1435	1941	1692
11	1	16	65.3	1034	-	-
12	3	16	83.4	1691	1959	1145
13	2	16	80.7	1845	1311	-
14	1	16	52.5	1723	-	-
15	2	16	69.7	1760	1271	-
16	2	16	82.8	1037	1859	-
17	1	16	55.5	1662	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_15

Number of Bursts in Trial: 19

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	19	81.4	1994	1327	-
2	1	19	62.4	1276	-	-
3	3	19	96.7	1123	1968	1210
4	2	19	68.4	1824	1668	-
5	3	19	90.5	1092	1588	1754
6	1	19	63.7	1333	-	-
7	1	19	55.5	1112	-	-
8	2	19	67.8	1869	1115	-
9	2	19	67.6	1077	1437	-
10	3	19	88.2	1338	1481	1855
11	2	19	71	1995	1098	-
12	2	19	82.7	1810	1990	-
13	1	19	62.3	1318	-	-
14	3	19	91.2	1940	1368	1624
15	1	19	55.6	1646	-	-
16	1	19	60.5	1054	-	-
17	2	19	71.2	1381	1452	-
18	3	19	97.9	1856	1213	1422
19	2	19	73.6	1104	1345	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_16

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	10	62.4	1787	-	-
2	3	10	93.1	1487	1610	1831
3	1	10	55.8	1823	-	-
4	3	10	89.6	1900	1031	1910
5	2	10	83.1	1613	1359	-
6	1	10	55.4	1796	-	-
7	1	10	59.3	1063	-	-
8	1	10	62.1	1492	-	-
9	2	10	72.8	1316	1443	-
10	1	10	55.7	1195	-	-
11	2	10	69.2	1884	1680	-
12	3	10	87.5	1727	1244	1551
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_17

Number of Bursts in Trial: 13

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	11	80.8	1777	1618	-
2	1	11	51.8	1848	-	-
3	2	11	72.7	1520	1984	-
4	3	11	99.4	1954	1846	1647
5	1	11	66.2	1022	-	-
6	2	11	82.1	1927	1835	-
7	3	11	88.5	1326	1867	1106
8	3	11	94.5	1916	1005	1842
9	3	11	98.8	1060	1885	1288
10	3	11	99	1832	1133	1306
11	1	11	58.9	1201	-	-
12	3	11	89.7	1874	1336	1545
13	3	11	85.5	1227	1024	1496
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_18

Number of Bursts in Trial: 20

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	19	93.4	1222	1490	1119
2	3	19	83.6	1237	1138	1971
3	2	19	70.3	1172	1163	-
4	1	19	53.2	1661	-	-
5	1	19	59.7	1957	-	-
6	2	19	72.9	1153	1385	-
7	1	19	59.4	1744	-	-
8	1	19	54.7	1257	-	-
9	3	19	96.2	1970	1058	1026
10	2	19	70.3	1591	1290	-
11	1	19	62.5	1893	-	-
12	2	19	75.5	1082	1764	-
13	2	19	72.8	1076	1180	-
14	1	19	63.5	1150	-	-
15	1	19	62.9	1513	-	-
16	2	19	81.2	1616	1048	-
17	1	19	51.6	1280	-	-
18	2	19	82.7	1485	1020	-
19	1	19	62.1	1164	-	-
20	3	19	98.5	1346	1681	1644

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_19

Number of Bursts in Trial: 8

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	5	50.7	1233	-	-
2	3	5	90.2	1665	1706	1099
3	2	5	80.8	1817	1107	-
4	3	5	89.6	1710	1444	1544
5	3	5	91.8	1775	1640	1090
6	3	5	89.5	1124	1999	1883
7	2	5	78.5	1532	1321	-
8	2	5	82.8	1659	1300	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_20

Number of Bursts in Trial: 8

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	5	53.4	1794	-	-
2	2	5	74.8	1489	1915	-
3	1	5	63.5	1473	-	-
4	3	5	84.2	1687	1218	1383
5	1	5	66.2	1344	-	-
6	1	5	54.1	1343	-	-
7	3	5	89.8	1509	1264	1178
8	2	5	71.9	1273	1593	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_21

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	11	89.1	1712	1011	1872
2	1	11	58.8	1205	-	-
3	1	11	63.1	1312	-	-
4	2	11	82.9	1918	1410	-
5	1	11	59.7	1442	-	-
6	2	11	82.8	1340	1310	-
7	3	11	84.7	1013	1139	1930
8	2	11	81.6	1548	1347	-
9	1	11	60.2	1584	-	-
10	2	11	73.9	1499	1634	-
11	3	11	93.4	1881	1379	1864
12	2	11	68.5	1160	1991	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_22

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	8	75.5	1830	1546	-
2	1	8	63.2	1506	-	-
3	3	8	97.1	1752	1979	1559
4	1	8	66.2	1192	-	-
5	3	8	96.8	1949	1826	1219
6	3	8	91.3	1317	1008	1812
7	3	8	84.7	1071	1498	1522
8	1	8	53.1	1524	-	-
9	1	8	52.7	1582	-	-
10	2	8	80.7	1562	1612	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_23

Number of Bursts in Trial: 17

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	16	61.5	1391	-	-
2	2	16	70.3	1402	1578	-
3	3	16	94.4	1154	1523	1044
4	2	16	76.7	1203	1740	-
5	1	16	51.3	1792	-	-
6	2	16	71.3	1352	1919	-
7	1	16	56.8	1676	-	-
8	2	16	78.3	1367	1068	-
9	1	16	59.2	1535	-	-
10	2	16	68.7	1768	1190	-
11	2	16	73.8	1713	1036	-
12	3	16	91.1	1369	1716	1095
13	3	16	92.2	1274	1267	1050
14	3	16	92.9	1042	1623	1335
15	2	16	69.6	1627	1571	-
16	2	16	79.2	1575	1753	-
17	3	16	88.7	1550	1147	1363
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_24

Number of Bursts in Trial: 13

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	11	67.9	1946	1179	-
2	1	11	55.4	1853	-	-
3	3	11	99.3	1398	1423	1631
4	2	11	79.4	1177	1690	-
5	2	11	67.8	1003	1892	-
6	3	11	96.1	1648	1694	1055
7	1	11	60	1689	-	-
8	1	11	57.2	1521	-	-
9	3	11	90.2	1905	1678	1183
10	2	11	77.8	1707	1860	-
11	3	11	97.3	1600	1232	1322
12	3	11	87.4	1683	1870	1130
13	2	11	75	1446	1131	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_25

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	8	69.4	1512	1305	-
2	3	8	86.6	1170	1236	1169
3	2	8	69.1	1395	1165	-
4	1	8	58.3	1806	-	-
5	3	8	97.4	1977	1161	1726
6	3	8	92.8	1951	1682	1088
7	3	8	88.5	1718	1780	1389
8	2	8	83	1926	1586	-
9	2	8	81.5	1265	1533	-
10	1	8	63.4	1880	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_26

Number of Bursts in Trial: 14

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	12	74.7	1294	1401	-
2	2	12	81.9	1122	1146	-
3	1	12	64.7	1508	-	-
4	2	12	74.7	1638	1400	-
5	3	12	94.8	1016	1801	1969
6	3	12	84.5	1773	1091	1868
7	2	12	71.1	1955	1877	-
8	1	12	54.2	1188	-	-
9	3	12	96.6	1295	1424	1440
10	2	12	67.5	1453	1025	-
11	1	12	52.5	1925	-	-
12	2	12	66.8	1142	1580	-
13	3	12	97.8	1850	1729	1807
14	1	12	53.5	1105	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_27

Number of Bursts in Trial: 17

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	16	51.2	1278	-	-
2	3	16	93.7	1432	1231	1436
3	2	16	74.3	1111	1621	-
4	3	16	84.4	1066	1030	1871
5	2	16	69.5	1224	1484	-
6	1	16	61.1	1220	-	-
7	3	16	93.5	1428	1093	1061
8	1	16	59.5	1047	-	-
9	3	16	90.9	1254	1242	1903
10	3	16	84.3	1628	1993	1185
11	3	16	99.3	1421	1799	1468
12	3	16	87.2	1531	1127	1572
13	2	16	72	1816	1173	-
14	3	16	83.8	1937	1303	1778
15	3	16	95.5	1197	1256	1944
16	2	16	76.9	1511	1829	-
17	3	16	90.8	1858	1296	1843
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_28

Number of Bursts in Trial: 15

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	14	55.6	1329	-	-
2	3	14	86.5	1986	1360	1759
3	3	14	92	1679	1447	1672
4	2	14	74.6	1125	1705	-
5	3	14	97.6	1403	1654	1563
6	1	14	53.1	1696	-	-
7	2	14	71.3	1454	1266	-
8	1	14	65.2	1313	-	-
9	2	14	72.8	1567	1053	-
10	2	14	69	1931	1253	-
11	2	14	73.6	1474	1601	-
12	1	14	50.7	1239	-	-
13	2	14	69.8	1597	1196	-
14	2	14	72.4	1650	1006	-
15	1	14	52.6	1466	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_29

Number of Bursts in Trial: 15

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	14	88.9	1620	1425	1069
2	1	14	65.6	1459	-	-
3	1	14	57.1	1246	-	-
4	1	14	53.6	1988	-	-
5	2	14	68.5	1630	1392	-
6	1	14	54	1688	-	-
7	1	14	63.5	1472	-	-
8	2	14	70.3	1070	1441	-
9	2	14	69.9	1803	1001	-
10	1	14	65.1	1376	-	-
11	3	14	91	1932	1004	1598
12	2	14	80.4	1790	1641	-
13	2	14	75.4	1604	1323	-
14	1	14	57.6	1418	-	-
15	1	14	62.5	1240	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_30

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chrip (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	7	87.3	1917	1784	1702
2	1	7	58.7	1370	-	-
3	2	7	69.7	1649	1320	-
4	2	7	76.8	1700	1285	-
5	3	7	97	1837	1089	1576
6	2	7	80.3	1078	1341	-
7	1	7	55.7	1695	-	-
8	2	7	78.9	1021	1821	-
9	1	7	53.7	1602	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_01

Frequency (MHz)	0	1	2	3	4
0	5537	5643	5472	5549	5387
5	5473	5347	5671	5509	5392
10	5597	5454	5402	5637	5658
15	5422	5412	5484	5447	5394
20	5582	5654	5298	5701	5295
25	5546	5281	5329	5488	5415
30	5277	5481	5557	5314	5325
35	5681	5383	5623	5593	5460
40	5598	5361	5407	5691	5601
45	5384	5413	5373	5533	5511
50	5493	5705	5692	5496	5690
55	5274	5316	5689	5271	5702
60	5570	5698	5573	5583	5466
65	5430	5351	5646	5469	5403
70	5662	5641	5426	5303	5363
75	5290	5566	5695	5411	5431
80	5455	5532	5550	5418	5696
85	5527	5577	5562	5718	5536
90	5555	5632	5389	5371	5612
95	5710	5552	5280	5677	5425

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_02

Frequency (MHz)	0	1	2	3	4
0	5317	5407	5408	5710	5607
5	5515	5272	5271	5672	5599
10	5528	5718	5443	5357	5679
15	5510	5539	5490	5492	5683
20	5590	5345	5714	5315	5268
25	5310	5398	5484	5433	5522
30	5554	5641	5438	5297	5563
35	5620	5420	5276	5301	5604
40	5299	5681	5550	5688	5364
45	5496	5334	5525	5262	5312
50	5687	5544	5319	5440	5692
55	5644	5464	5610	5660	5400
60	5392	5612	5627	5493	5519
65	5406	5415	5369	5561	5441
70	5426	5541	5389	5665	5402
75	5602	5381	5713	5349	5344
80	5542	5676	5476	5575	5591
85	5355	5252	5453	5659	5719
90	5461	5628	5632	5285	5287
95	5570	5437	5266	5693	5608

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_03

Frequency (MHz)	0	1	2	3	4
0	5572	5646	5344	5396	5449
5	5557	5294	5346	5263	5428
10	5362	5507	5484	5455	5700
15	5598	5666	5593	5537	5400
20	5501	5414	5655	5307	5716
25	5576	5347	5687	5556	5596
30	5627	5395	5512	5715	5343
35	5511	5547	5551	5518	5613
40	5289	5712	5315	5685	5722
45	5579	5392	5578	5624	5663
50	5388	5595	5408	5287	5405
55	5429	5534	5529	5459	5319
60	5465	5607	5364	5393	5333
65	5710	5472	5290	5717	5281
70	5561	5350	5358	5492	5325
75	5689	5257	5642	5654	5352
80	5447	5356	5674	5719	5436
85	5329	5582	5580	5573	5293
90	5697	5278	5423	5481	5677
95	5506	5610	5283	5298	5295

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_04

Frequency (MHz)	0	1	2	3	4
0	5352	5410	5280	5557	5669
5	5696	5694	5421	5426	5635
10	5293	5393	5525	5650	5721
15	5589	5582	5592	5509	5580
20	5693	5396	5689	5464	5674
25	5318	5263	5590	5638	5516
30	5252	5489	5623	5602	5343
35	5704	5432	5452	5372	5555
40	5304	5702	5662	5450	5534
45	5414	5539	5564	5646	5497
50	5706	5593	5552	5272	5626
55	5505	5561	5722	5502	5291
60	5620	5508	5333	5313	5441
65	5603	5307	5458	5566	5257
70	5520	5697	5478	5538	5306
75	5571	5324	5513	5331	5717
80	5349	5642	5356	5682	5531
85	5294	5633	5653	5303	5299
90	5541	5579	5387	5440	5536
95	5661	5404	5386	5496	5390

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_05

Frequency (MHz)	0	1	2	3	4
0	5510	5649	5691	5718	5511
5	5263	5716	5496	5589	5367
10	5699	5657	5663	5370	5267
15	5677	5348	5324	5530	5309
20	5517	5634	5388	5662	5255
25	5526	5521	5624	5680	5502
30	5361	5665	5315	5614	5382
35	5346	5552	5588	5320	5301
40	5598	5682	5270	5411	5587
45	5415	5265	5697	5586	5362
50	5553	5306	5506	5462	5445
55	5476	5690	5412	5544	5543
60	5454	5631	5262	5380	5435
65	5398	5688	5444	5393	5708
70	5479	5666	5681	5287	5251
75	5434	5294	5495	5402	5259
80	5455	5723	5637	5426	5428
85	5575	5461	5554	5591	5399
90	5568	5489	5316	5485	5323
95	5374	5618	5669	5617	5653

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_06

Frequency (MHz)	0	1	2	3	4
0	5290	5413	5627	5404	5256
5	5305	5641	5571	5277	5671
10	5533	5446	5704	5565	5288
15	5475	5427	5575	5501	5428
20	5340	5477	5635	5618	5724
25	5471	5658	5344	5391	5266
30	5585	5415	5656	5329	5406
35	5507	5632	5357	5702	5526
40	5463	5298	5527	5662	5353
45	5469	5640	5566	5669	5441
50	5273	5297	5660	5497	5494
55	5460	5652	5264	5447	5577
60	5489	5430	5369	5400	5686
65	5416	5645	5491	5548	5396
70	5684	5438	5538	5621	5252
75	5268	5503	5647	5659	5465
80	5343	5654	5637	5705	5440
85	5602	5638	5674	5321	5593
90	5408	5512	5721	5508	5646
95	5251	5450	5592	5514	5580

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_07

Frequency (MHz)	0	1	2	3	4
0	5545	5274	5563	5565	5573
5	5347	5663	5646	5343	5403
10	5464	5710	5270	5285	5309
15	5378	5602	5433	5620	5693
20	5436	5506	5613	5469	5608
25	5409	5327	5452	5575	5692
30	5386	5280	5698	5325	5664
35	5379	5468	5497	5303	5310
40	5271	5541	5718	5703	5295
45	5359	5642	5527	5453	5617
50	5324	5344	5682	5414	5367
55	5461	5321	5473	5267	5434
60	5670	5443	5655	5635	5355
65	5477	5560	5294	5717	5513
70	5496	5588	5660	5397	5507
75	5266	5395	5346	5557	5428
80	5251	5528	5374	5637	5614
85	5290	5535	5470	5592	5447
90	5616	5283	5546	5603	5701
95	5429	5695	5712	5578	5369

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_08

Frequency (MHz)	0	1	2	3	4
0	5325	5513	5499	5629	5318
5	5486	5588	5721	5506	5610
10	5395	5311	5383	5330	5369
15	5254	5536	5665	5410	5444
20	5575	5554	5558	5581	5297
25	5276	5655	5301	5251	5428
30	5266	5540	5341	5674	5510
35	5574	5463	5660	5380	5423
40	5305	5468	5292	5288	5622
45	5519	5585	5271	5718	5421
50	5375	5475	5684	5368	5557
55	5280	5602	5432	5379	5666
60	5593	5389	5381	5681	5391
65	5687	5452	5314	5340	5539
70	5356	5386	5538	5327	5532
75	5570	5415	5591	5715	5569
80	5553	5253	5252	5338	5546
85	5598	5339	5448	5420	5483
90	5388	5605	5281	5316	5568
95	5323	5673	5359	5716	5576

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_09

Frequency (MHz)	0	1	2	3	4
0	5580	5277	5435	5315	5635
5	5528	5610	5321	5669	5439
10	5704	5385	5352	5578	5351
15	5457	5284	5639	5613	5699
20	5355	5266	5495	5550	5554
25	5660	5603	5286	5405	5285
30	5567	5630	5612	5658	5590
35	5397	5649	5679	5467	5713
40	5671	5694	5506	5718	5708
45	5386	5595	5505	5602	5546
50	5324	5605	5297	5494	5426
55	5564	5507	5486	5322	5272
60	5574	5263	5634	5597	5421
65	5498	5419	5335	5427	5519
70	5722	5278	5483	5485	5502
75	5664	5515	5348	5584	5308
80	5309	5680	5465	5579	5276
85	5712	5289	5443	5395	5313
90	5347	5303	5371	5537	5523
95	5517	5270	5719	5336	5300

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_10

Frequency (MHz)	0	1	2	3	4
0	5263	5516	5371	5476	5380
5	5570	5535	5396	5357	5646
10	5635	5649	5393	5298	5372
15	5545	5411	5267	5658	5416
20	5363	5335	5533	5639	5527
25	5451	5455	5489	5509	5319
30	5609	5519	5569	5398	5692
35	5313	5295	5391	5585	5630
40	5589	5656	5376	5383	5524
45	5485	5685	5604	5377	5395
50	5551	5670	5477	5275	5330
55	5554	5674	5276	5365	5709
60	5288	5287	5366	5342	5281
65	5405	5579	5254	5517	5556
70	5555	5568	5602	5513	5491
75	5274	5317	5626	5252	5289
80	5464	5315	5721	5268	5339
85	5484	5443	5334	5539	5619
90	5303	5529	5454	5627	5261
95	5284	5364	5647	5432	5453

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_11

Frequency (MHz)	0	1	2	3	4
0	5518	5280	5307	5637	5697
5	5709	5557	5471	5423	5378
10	5469	5438	5434	5493	5393
15	5633	5538	5370	5703	5608
20	5371	5501	5474	5631	5500
25	5339	5404	5692	5613	5353
30	5651	5505	5526	5516	5512
35	5452	5483	5534	5544	5499
40	5672	5594	5616	5380	5453
45	5465	5293	5662	5333	5282
50	5427	5528	5364	5531	5401
55	5387	5705	5555	5590	5583
60	5417	5311	5259	5643	5324
65	5606	5402	5561	5409	5359
70	5724	5554	5605	5362	5467
75	5708	5664	5649	5298	5270
80	5716	5328	5502	5335	5706
85	5301	5346	5336	5256	5611
90	5602	5392	5468	5535	5488
95	5412	5384	5278	5446	5365

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_12

Frequency (MHz)	0	1	2	3	4
0	5298	5519	5718	5323	5442
5	5276	5482	5546	5586	5682
10	5400	5702	5475	5688	5414
15	5624	5665	5376	5651	5325
20	5379	5570	5415	5720	5473
25	5605	5256	5420	5339	5387
30	5315	5394	5483	5353	5668
35	5710	5494	5574	5330	5319
40	5510	5308	5377	5532	5381
45	5285	5445	5623	5386	5547
50	5303	5579	5453	5354	5345
55	5575	5659	5270	5409	5554
60	5617	5566	5469	5429	5477
65	5341	5296	5679	5637	5321
70	5540	5705	5589	5443	5667
75	5633	5294	5441	5251	5493
80	5438	5283	5499	5562	5703
85	5496	5724	5299	5351	5479
90	5556	5640	5375	5541	5425
95	5295	5501	5349	5257	5508

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_13

Frequency (MHz)	0	1	2	3	4
0	5553	5283	5654	5484	5284
5	5318	5504	5621	5274	5414
10	5331	5491	5613	5311	5435
15	5712	5317	5479	5696	5517
20	5290	5261	5453	5543	5493
25	5680	5623	5443	5421	5357
30	5380	5440	5471	5442	5530
35	5633	5665	5698	5472	5424
40	5622	5460	5470	5524	5374
45	5689	5425	5459	5681	5439
50	5337	5557	5723	5630	5542
55	5652	5667	5288	5703	5525
60	5675	5404	5298	5398	5392
65	5691	5426	5377	5603	5571
70	5343	5393	5526	5708	5438
75	5419	5626	5505	5487	5707
80	5270	5548	5539	5663	5625
85	5724	5432	5359	5444	5607
90	5413	5573	5323	5547	5554
95	5602	5312	5556	5333	5266

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_14

Frequency (MHz)	0	1	2	3	4
0	5711	5522	5590	5645	5504
5	5360	5429	5696	5437	5621
10	5640	5377	5654	5506	5456
15	5325	5347	5582	5266	5709
20	5298	5330	5394	5326	5516
25	5284	5532	5254	5547	5455
30	5399	5269	5397	5686	5594
35	5253	5297	5281	5494	5625
40	5338	5461	5543	5408	5289
45	5468	5521	5405	5542	5264
50	5492	5699	5433	5424	5681
55	5631	5475	5611	5476	5470
60	5650	5496	5329	5569	5718
65	5705	5693	5259	5453	5375
70	5413	5366	5562	5609	5333
75	5287	5585	5474	5534	5630
80	5688	5561	5320	5352	5600
85	5411	5627	5274	5322	5638
90	5312	5661	5393	5488	5493
95	5436	5614	5426	5414	5528

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_15

Frequency (MHz)	0	1	2	3	4
0	5491	5286	5526	5709	5346
5	5499	5451	5296	5503	5450
10	5571	5641	5695	5701	5477
15	5413	5474	5685	5311	5426
20	5306	5496	5335	5318	5489
25	5647	5384	5457	5651	5538
30	5633	5354	5368	5548	5339
35	5372	5290	5400	5349	5397
40	5723	5529	5465	5288	5625
45	5700	5545	5309	5600	5257
50	5342	5676	5458	5567	5424
55	5365	5719	5370	5361	5259
60	5663	5537	5519	5680	5654
65	5324	5352	5645	5258	5634
70	5595	5336	5611	5274	5544
75	5557	5669	5299	5671	5576
80	5419	5276	5597	5703	5530
85	5591	5285	5355	5277	5612
90	5434	5653	5656	5430	5696
95	5443	5666	5398	5348	5472

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_16

Frequency (MHz)	0	1	2	3	4
0	5271	5525	5462	5395	5566
5	5541	5376	5371	5666	5657
10	5502	5430	5261	5421	5498
15	5404	5601	5313	5259	5618
20	5692	5662	5276	5407	5535
25	5333	5660	5280	5523	5580
30	5619	5311	5641	5520	5478
35	5560	5658	5553	5263	5711
40	5331	5294	5379	5268	5708
45	5283	5598	5301	5308	5431
50	5499	5402	5378	5555	5538
55	5341	5490	5424	5608	5466
60	5442	5626	5477	5273	5388
65	5380	5528	5702	5328	5581
70	5436	5460	5250	5503	5315
75	5677	5344	5650	5454	5684
80	5357	5583	5594	5423	5530
85	5345	5547	5620	5585	5411
90	5343	5464	5578	5721	5382
95	5324	5327	5575	5410	5289

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_17

Frequency (MHz)	0	1	2	3	4
0	5526	5289	5398	5556	5408
5	5583	5446	5354	5389	5336
10	5694	5302	5616	5519	5492
15	5253	5319	5304	5432	5700
20	5256	5314	5399	5435	5326
25	5660	5388	5481	5460	5622
30	5508	5268	5284	5294	5566
35	5617	5651	5454	5706	5652
40	5550	5414	5600	5437	5459
45	5686	5723	5316	5341	5554
50	5641	5439	5477	5359	5520
55	5322	5724	5468	5332	5648
60	5357	5312	5619	5589	5650
65	5298	5572	5678	5697	5424
70	5687	5323	5505	5400	5567
75	5701	5365	5487	5613	5272
80	5499	5591	5618	5433	5372
85	5308	5642	5585	5358	5609
90	5668	5401	5369	5301	5463
95	5684	5608	5384	5692	5711

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_18

Frequency (MHz)	0	1	2	3	4
0	5306	5528	5334	5717	5628
5	5625	5323	5521	5517	5596
10	5267	5483	5343	5714	5540
15	5580	5380	5422	5349	5624
20	5708	5255	5488	5408	5689
25	5609	5591	5585	5494	5664
30	5397	5700	5499	5446	5386
35	5281	5250	5481	5663	5389
40	5497	5538	5677	5456	5615
45	5703	5399	5302	5607	5315
50	5653	5410	5620	5668	5656
55	5286	5363	5554	5283	5273
60	5279	5595	5605	5666	5501
65	5646	5519	5690	5686	5569
70	5650	5442	5536	5324	5631
75	5533	5709	5429	5394	5436
80	5562	5491	5338	5336	5311
85	5368	5359	5453	5571	5606
90	5673	5296	5435	5720	5478
95	5356	5447	5692	5428	5382

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_19

Frequency (MHz)	0	1	2	3	4
0	5464	5292	5270	5403	5470
5	5289	5345	5596	5583	5425
10	5673	5369	5384	5434	5561
15	5668	5410	5525	5394	5341
20	5619	5491	5671	5480	5381
25	5461	5697	5689	5528	5328
30	5383	5657	5714	5695	5584
35	5323	5358	5521	5634	5577
40	5325	5677	5476	5442	5550
45	5447	5683	5482	5360	5660
50	5318	5666	5354	5320	5346
55	5515	5715	5553	5373	5632
60	5402	5444	5540	5437	5492
65	5702	5595	5399	5254	5485
70	5489	5641	5636	5542	5385
75	5653	5283	5600	5562	5676
80	5690	5260	5650	5503	5625
85	5488	5533	5336	5628	5331
90	5454	5418	5622	5379	5627
95	5363	5302	5372	5602	5587

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_20

Frequency (MHz)	0	1	2	3	4
0	5719	5531	5681	5564	5690
5	5331	5270	5671	5271	5632
10	5507	5633	5425	5629	5582
15	5659	5537	5628	5342	5533
20	5627	5657	5709	5569	5354
25	5368	5313	5318	5562	5370
30	5272	5614	5454	5372	5404
35	5462	5449	5414	5312	5491
40	5639	5285	5682	5547	5376
45	5663	5565	5418	5713	5680
50	5542	5530	5512	5409	5644
55	5459	5557	5669	5268	5667
60	5603	5434	5609	5269	5428
65	5544	5338	5561	5377	5292
70	5335	5622	5545	5532	5717
75	5472	5585	5722	5552	5431
80	5310	5485	5350	5714	5470
85	5391	5646	5286	5576	5528
90	5308	5406	5387	5599	5625
95	5466	5488	5524	5349	5572

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_21

Frequency (MHz)	0	1	2	3	4
0	5499	5295	5617	5250	5532
5	5373	5292	5271	5434	5364
10	5438	5422	5563	5349	5603
15	5272	5664	5256	5387	5635
20	5251	5650	5561	5327	5634
25	5262	5628	5519	5596	5412
30	5636	5571	5572	5621	5602
35	5601	5637	5685	5562	5502
40	5478	5368	5352	5350	5544
45	5305	5643	5648	5379	5291
50	5470	5321	5706	5498	5467
55	5306	5270	5623	5458	5486
60	5574	5299	5527	5673	5716
65	5550	5493	5374	5296	5647
70	5570	5407	5705	5645	5461
75	5508	5676	5441	5390	5652
80	5667	5662	5687	5356	5482
85	5545	5714	5409	5354	5363
90	5530	5400	5693	5314	5343
95	5269	5708	5642	5521	5496

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_22

Frequency (MHz)	0	1	2	3	4
0	5279	5631	5553	5411	5277
5	5415	5314	5346	5597	5668
10	5272	5686	5604	5544	5624
15	5360	5316	5262	5432	5442
20	5546	5417	5591	5650	5300
25	5522	5589	5356	5623	5630
30	5551	5622	5528	5312	5298
35	5422	5643	5253	5481	5715
40	5416	5317	5451	5290	5590
45	5541	5612	5526	5256	5437
50	5344	5357	5672	5407	5614
55	5587	5250	5361	5577	5648
60	5683	5545	5692	5464	5472
65	5505	5542	5496	5452	5410
70	5603	5373	5479	5691	5310
75	5484	5635	5313	5350	5436
80	5633	5444	5675	5468	5520
85	5265	5617	5251	5414	5458
90	5594	5581	5368	5383	5320
95	5377	5626	5720	5281	5576

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_23

Frequency (MHz)	0	1	2	3	4
0	5437	5395	5489	5475	5594
5	5554	5714	5421	5285	5400
10	5678	5645	5642	5448	5443
15	5365	5477	5634	5486	5629
20	5273	5410	5538	5559	5252
25	5664	5593	5511	5485	5527
30	5547	5620	5307	5344	5374
35	5393	5330	5631	5606	5355
40	5541	5506	5339	5495	5300
45	5622	5548	5665	5298	5491
50	5572	5549	5531	5363	5502
55	5419	5346	5417	5337	5465
60	5442	5275	5391	5349	5338
65	5334	5651	5648	5677	5460
70	5282	5470	5579	5614	5696
75	5310	5724	5587	5596	5379
80	5520	5568	5377	5650	5535
85	5324	5663	5423	5411	5354
90	5464	5657	5267	5565	5436
95	5662	5331	5457	5658	5454

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_24

Frequency (MHz)	0	1	2	3	4
0	5692	5634	5425	5636	5339
5	5596	5261	5496	5351	5607
10	5609	5361	5686	5362	5666
15	5439	5473	5468	5562	5652
20	5570	5256	5721	5676	5390
25	5665	5356	5698	5635	5497
30	5442	5267	5699	5440	5446
35	5435	5645	5643	5341	5567
40	5714	5544	5498	5632	5373
45	5486	5422	5456	5353	5509
50	5327	5662	5716	5387	5314
55	5516	5262	5485	5321	5475
60	5319	5459	5644	5291	5388
65	5476	5340	5385	5604	5357
70	5720	5663	5276	5483	5436
75	5553	5629	5590	5722	5595
80	5420	5505	5659	5376	5655
85	5520	5507	5437	5270	5427
90	5586	5572	5386	5713	5429
95	5348	5293	5463	5315	5545

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_25

Frequency (MHz)	0	1	2	3	4
0	5472	5398	5361	5322	5656
5	5638	5661	5571	5514	5436
10	5443	5625	5252	5557	5687
15	5527	5600	5470	5640	5473
20	5721	5511	5723	5694	5564
25	5717	5393	5257	5299	5386
30	5399	5385	5260	5585	5526
35	5441	5321	5255	5406	5482
40	5263	5629	5302	5466	5505
45	5678	5363	5292	5476	5612
50	5450	5439	5646	5518	5604
55	5484	5404	5573	5592	5431
60	5289	5324	5380	5496	5635
65	5414	5271	5376	5332	5412
70	5512	5598	5613	5293	5576
75	5250	5433	5286	5440	5722
80	5373	5423	5349	5400	5462
85	5392	5540	5345	5681	5403
90	5435	5382	5553	5475	5266
95	5529	5550	5700	5552	5583

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_26

Frequency (MHz)	0	1	2	3	4
0	5252	5637	5297	5483	5401
5	5680	5683	5646	5677	5643
10	5374	5414	5293	5277	5708
15	5615	5674	5515	5357	5481
20	5412	5549	5337	5667	5355
25	5666	5596	5661	5291	5341
30	5275	5356	5600	5625	5458
35	5627	5617	5712	5474	5644
40	5720	5502	5420	5503	5626
45	5706	5446	5588	5572	5459
50	5554	5539	5343	5565	5435
55	5307	5638	5296	5361	5332
60	5636	5649	5349	5405	5377
65	5500	5713	5360	5687	5438
70	5486	5257	5379	5559	5471
75	5567	5258	5436	5654	5543
80	5542	5604	5310	5370	5326
85	5288	5460	5260	5591	5593
90	5404	5568	5441	5319	5584
95	5321	5513	5448	5582	5655

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_27

Frequency (MHz)	0	1	2	3	4
0	5410	5401	5708	5644	5718
5	5344	5608	5721	5365	5375
10	5305	5678	5334	5472	5254
15	5703	5379	5680	5463	5549
20	5489	5578	5490	5329	5640
25	5518	5324	5290	5325	5383
30	5261	5313	5340	5399	5278
35	5291	5330	5605	5724	5655
40	5559	5585	5358	5268	5623
45	5538	5426	5671	5533	5512
50	5451	5430	5715	5394	5654
55	5258	5629	5351	5250	5551
60	5631	5681	5339	5294	5712
65	5341	5323	5701	5662	5396
70	5422	5561	5716	5382	5408
75	5267	5439	5378	5482	5635
80	5657	5556	5470	5367	5387
85	5326	5423	5274	5700	5545
90	5366	5699	5544	5353	5317
95	5693	5376	5594	5346	5283

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_28

Frequency (MHz)	0	1	2	3	4
0	5665	5640	5644	5330	5463
5	5386	5630	5321	5431	5679
10	5614	5467	5375	5570	5275
15	5316	5506	5308	5508	5266
20	5400	5647	5418	5613	5509
25	5527	5394	5359	5522	5625
30	5270	5555	5551	5476	5430
35	5421	5401	5402	5569	5495
40	5668	5296	5411	5620	5309
45	5279	5591	5565	5338	5684
50	5416	5445	5365	5459	5573
55	5442	5450	5652	5419	5504
60	5336	5544	5642	5366	5524
65	5611	5335	5254	5453	5519
70	5252	5704	5482	5257	5718
75	5389	5408	5498	5616	5434
80	5666	5579	5360	5533	5364
85	5582	5447	5483	5466	5568
90	5596	5422	5423	5550	5290
95	5577	5705	5480	5578	5719

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_29

Frequency (MHz)	0	1	2	3	4
0	5445	5404	5580	5491	5305
5	5428	5555	5396	5594	5411
10	5545	5353	5513	5290	5296
15	5307	5536	5553	5458	5408
20	5338	5372	5410	5586	5397
25	5319	5633	5595	5393	5564
30	5514	5702	5673	5325	5472
35	5512	5672	5483	5334	5276
40	5709	5651	5714	5299	5289
45	5362	5649	5521	5603	5560
50	5592	5496	5454	5282	5420
55	5630	5456	5647	5623	5548
60	5669	5281	5376	5565	5312
65	5250	5371	5464	5723	5700
70	5421	5485	5581	5694	5348
75	5280	5671	5597	5686	5301
80	5360	5524	5596	5264	5399
85	5607	5386	5446	5658	5436
90	5550	5387	5717	5588	5556
95	5324	5459	5339	5497	5486

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_30

Frequency (MHz)	0	1	2	3	4
0	5700	5643	5516	5555	5525
5	5470	5577	5471	5282	5618
10	5379	5617	5554	5485	5317
15	5395	5663	5514	5598	5650
20	5416	5407	5410	5499	5559
25	5646	5361	5699	5427	5606
30	5500	5659	5413	5477	5494
35	5611	5603	5565	5708	5648
40	5456	5647	5711	5703	5269
45	5542	5610	5574	5490	5436
50	5293	5547	5543	5580	5364
55	5343	5587	5466	5594	5677
60	5359	5701	5305	5391	5258
65	5548	5509	5310	5296	5615
70	5503	5493	5298	5585	5333
75	5670	5307	5724	5641	5339
80	5578	5463	5314	5616	5688
85	5281	5261	5607	5409	5278
90	5401	5601	5538	5440	5562
95	5719	5448	5541	5612	5304

--- END ---