Certificate # 2951.01

DFS TEST REPORT

Applicant	ATEN Technology, Inc., dba IOGEAR
Address	15365 Barranca Pkwy Irvine, CA 92618，USA

Manufacturer or Supplier	ATEN Technology, Inc., dba IOGEAR
Address	15365 Barranca Pkwy Irvine, CA 92618，USA
Product Name	WIFI Module
Brand Name	N/A
Model	G8811A
Additional Model & Model Difference	N/A
Date of tests	May 07, 2018 ~ Mar. 25, 2019

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart E, Section 15.407**
KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Andy Zhu Project Engineer/ EMC Department	Approved by Glyn He Supervisor / EMC Department
	 Date: Jun. 11, 2019

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF180507N048-2	Original release	Jun. 11, 2019

1 EUT INFORMATION

1.1 OPERATING FREQUENCY BANDS AND MODE OF EUT

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

1.2 EUT SOFTWARE AND FIRMWARE VERSION

No.	Product	Model No.	Software/Firmware Version
1	WIFI Module	G8811A	TX-V1.0/Rev0.3

1.3 DESCRIPTION OF AVAILABLE ANTENNAS TO THE EUT

Vendor	Antenna Type	Antenna Part number	connector cable	Antenna Connector	Operation Frequency Range (MHz)	Gain (dBi)
Tengxiang	Dipole	AN5800-74BBC01 RS-B	IPEX-RP-SMA(5cm)	RP-SMA-JACK	5250 - 5350	5
					5470 - 5720	

1.4 EUT MAXIMUM AND MINIMUM CONDUCTED POWER

802.11a

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	13.19	20.845	12.92	19.588
5470~5725	10.69	11.722	6.63	4.603

802.11n20

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	16,05	40.272	15.60	36.308
5470~5725	16.21	41.783	14.67	29.309

802.11n40

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	15.34	34.198	12.92	19.588
5470~5725	17.12	51.523	13.13	20.559

1.5 EUT MAXIMUM AND MINIMUM EIRP POWER

802.11a

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	18.19	65.918	17.92	61.943
5470~5725	15.69	37.068	11.63	14.556

802.11n20

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	21.05	127.351	20.60	114.816
5470~5725	21.21	132.129	19.67	92.683

802.11n40

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	20.34	108.144	17.92	61.943
5470~5725	22.12	162.930	18.13	65.013

1.6 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 EIRP 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

1.7 STATEMENT OF MANUFACTURER

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

2 U-NII DFS RULE REQUIREMENTS

2.1 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, the applicability of DFS requirements for each of the operational modes.

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.			

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.		

2.2 TEST LIMITS AND RADAR SIGNAL PARAMETERS

Detection Threshold Values

DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 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.	

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.

Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066µ sec, with a minimum increment of 1µsec, excluding PRI values selected in Test A	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\mu\text{sec}}}\right)\right\}$	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.

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:

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

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:

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

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

3 TEST & SUPPORT EQUIPMENT LIST

3.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP40	100060	May. 11, 2018	May. 10, 2019
Vector Signal Generator Agilent	N5182B	MY53051263	Sep. 13, 2018	Sep. 12, 2019
Horn_Antenna EMCO	1018G	0001	Nov 30, 2018	Nov. 29, 2019
Antenna Log-Periodic	ATS700M11G	0336821	Nov 30, 2018	Nov. 29, 2019
SCHWARZBECK BBHA 9120D(1201)	9120D-1247	C2300023DG	May. 11, 2018	May. 10, 2019

3.2 DESCRIPTION OF SUPPORT UNITS

No.	Product	Brand	Model No.	FCC ID	Spec
1	Wireless Receiver	N/A	EXTENDER RX	N/A	N/A

NOTE: This device was functioned as a

☐Master ☒Slave device is only received(specified by manufacturer)

Software/Firmware Information

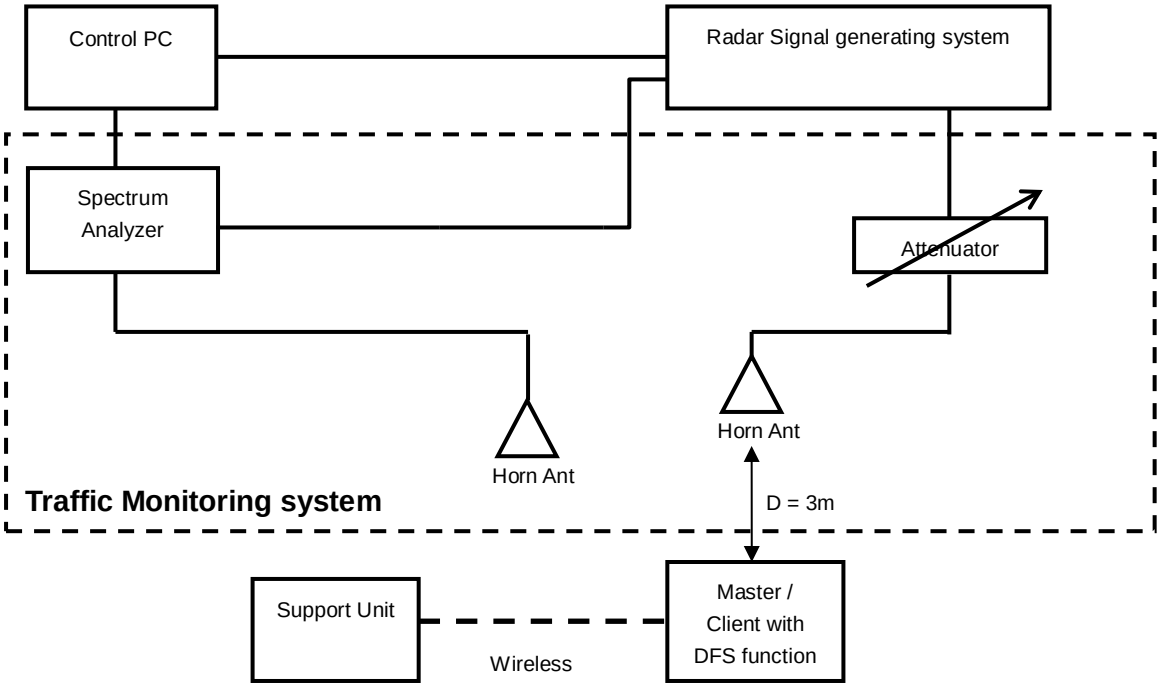
No.	Product	Model No.	Software/Firmware Version
1	Wireless Receiver	EXTENDER RX	RX-V1.0/Rev0.3

4 TEST PROCEDURE

4.1 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:

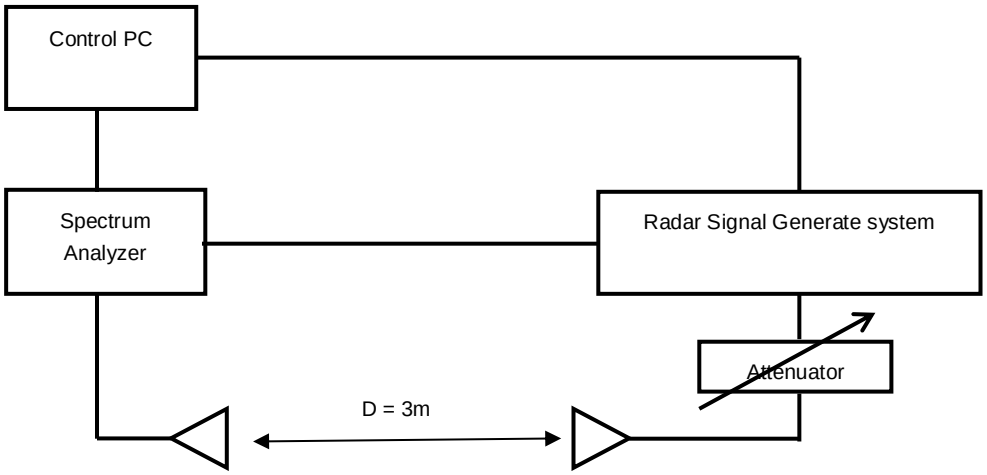
a)	The data file must be of a type that is typical for the device (i.e., MPEG-2, MPEG-4, WAV, MP3, MP4, AVI, etc.) and must generally be transmitting in a streaming mode.	
b)	Software to ping the client is permitted to simulate data transfer but must have random ping intervals.	
c)	Timing plots are required 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.	

4.2 CALIBRATION OF DFS DETECTION THRESHOLD LEVEL

The measured channel is 5500MHz and 5510MHz,. The radar signal was the same as transmitted channels, and injected into the antenna of 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 calibrated conducted detection threshold level is set to -64dBm. The tested level is lower than required level hence it provides margin to the limit.



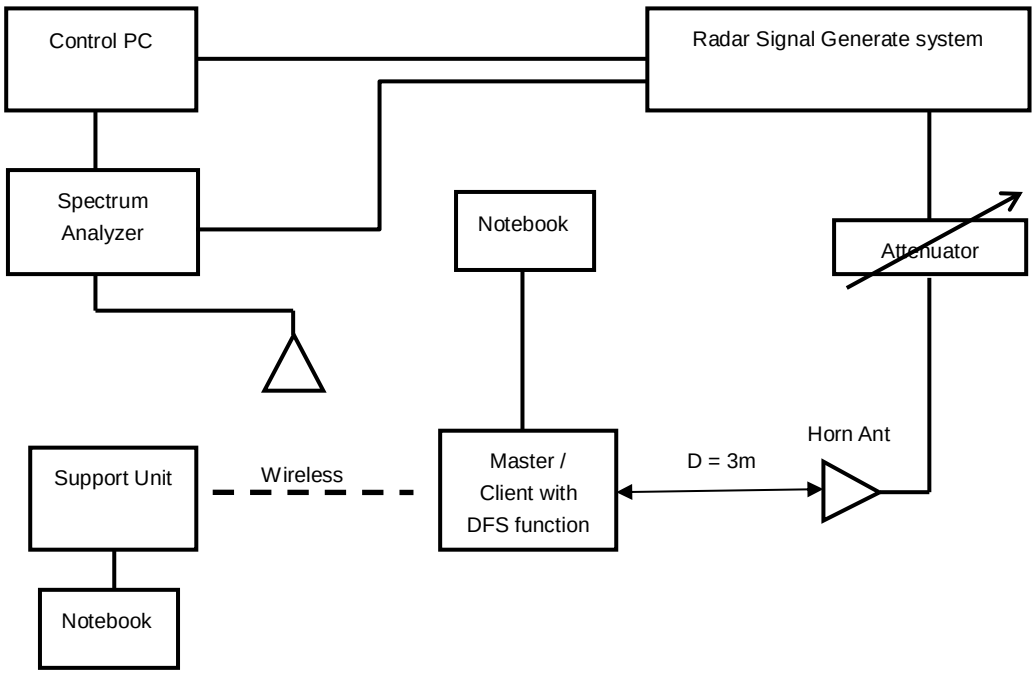
4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 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.

5 TEST RESULTS

5.1 SUMMARY OF TEST RESULTS

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

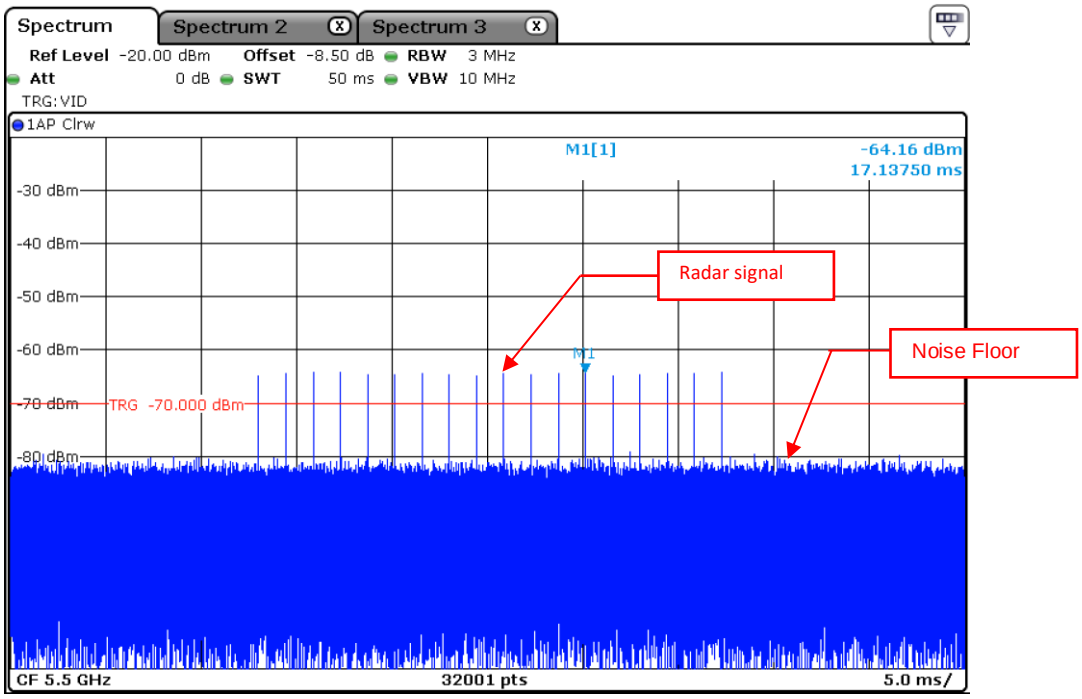
5.2 TEST RESULTS

TEST MODE: DEVICE OPERATING IN MASTER MODE

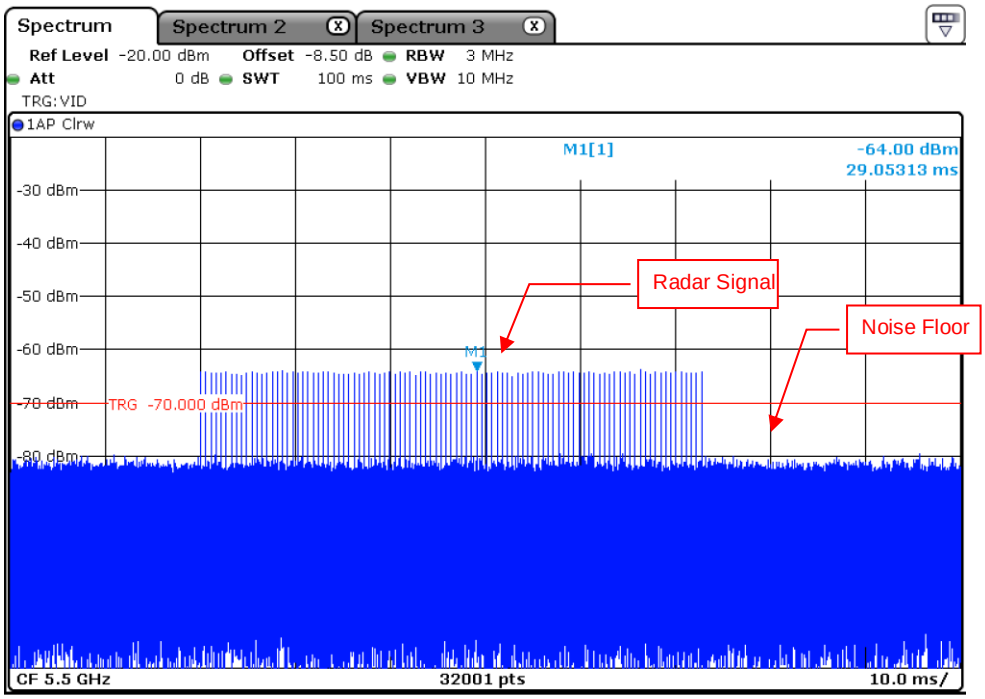
The radar test waveforms are injected into the Master.
The modulation and bandwidth are similar foe 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40, therefore investigated worst case for final test were chosen 802.11ac (VHT20/VHT40) and record in the report

5.2.1 DFS DETECTION THRESHOLD

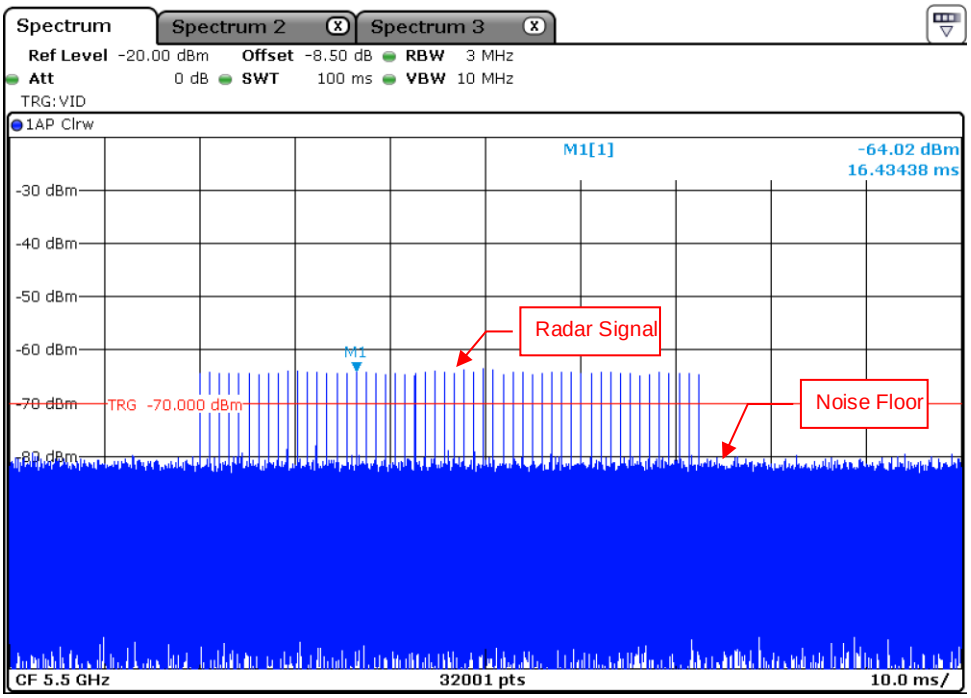
For detection threshold level of -64dBm, the tested level is lower than required level for 1dB, hence it provides margin to the limit.



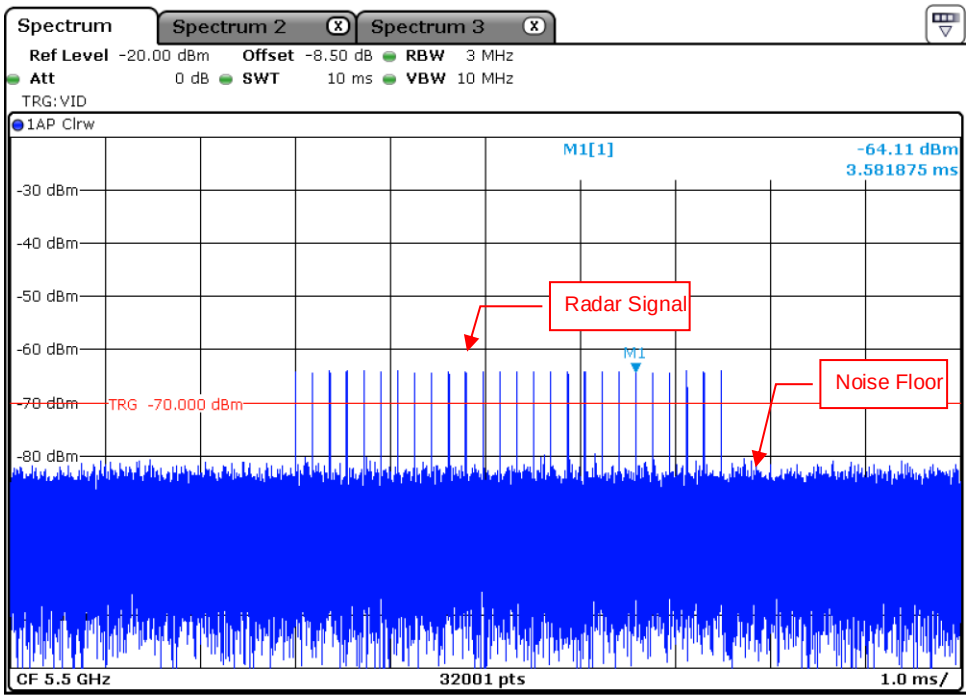
Radar Signal 0



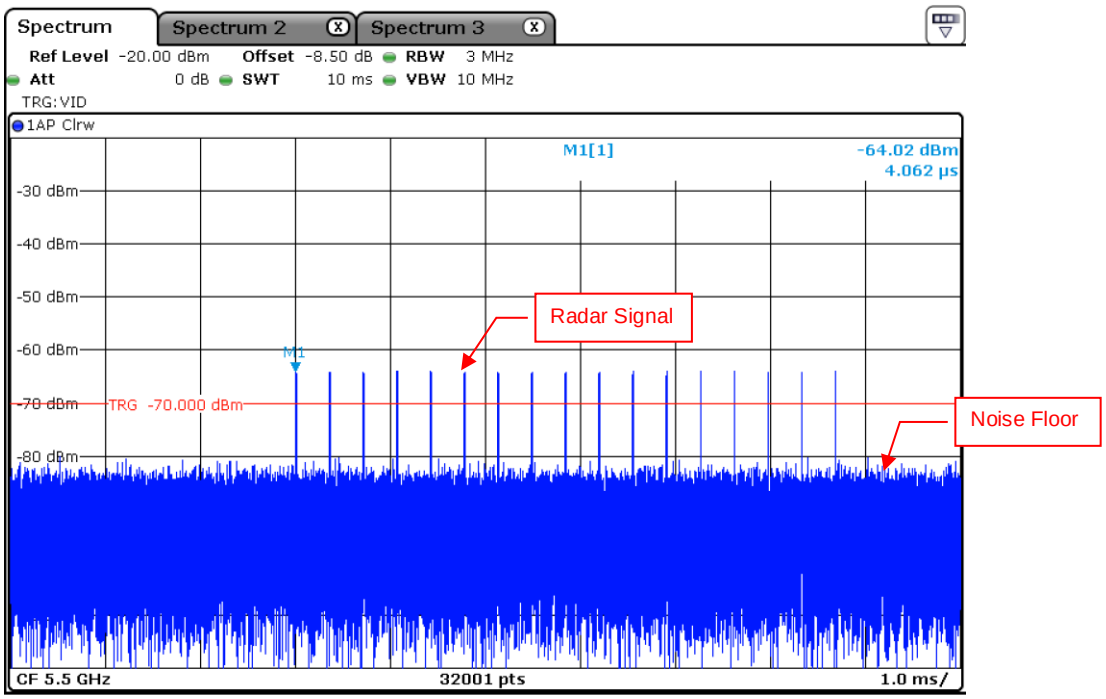
Radar Signal 1 (Test A)



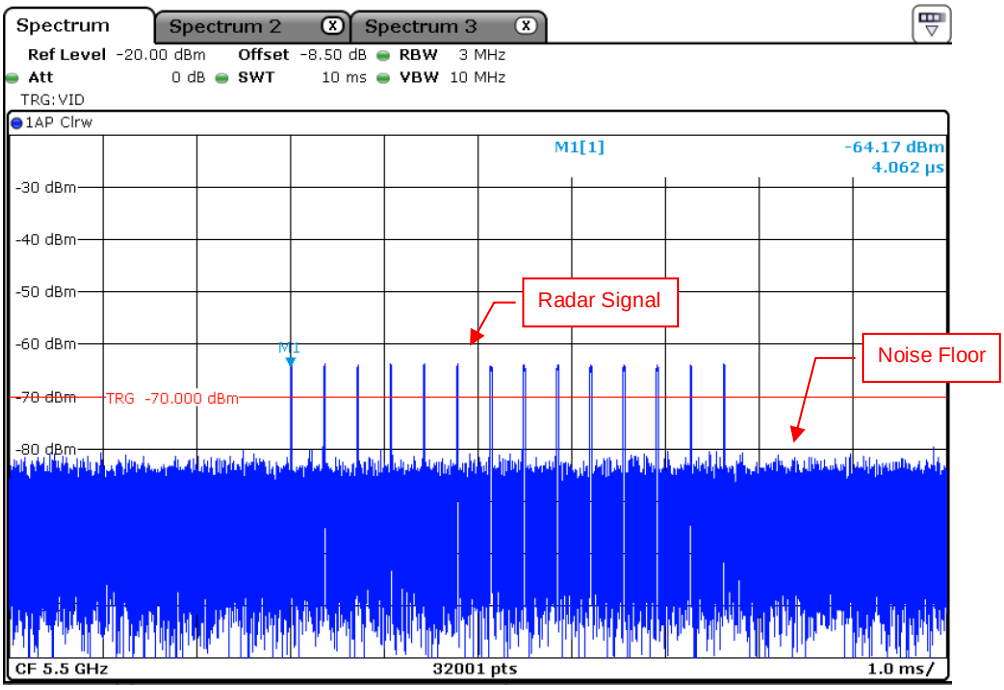
Radar Signal 1 (Test B)



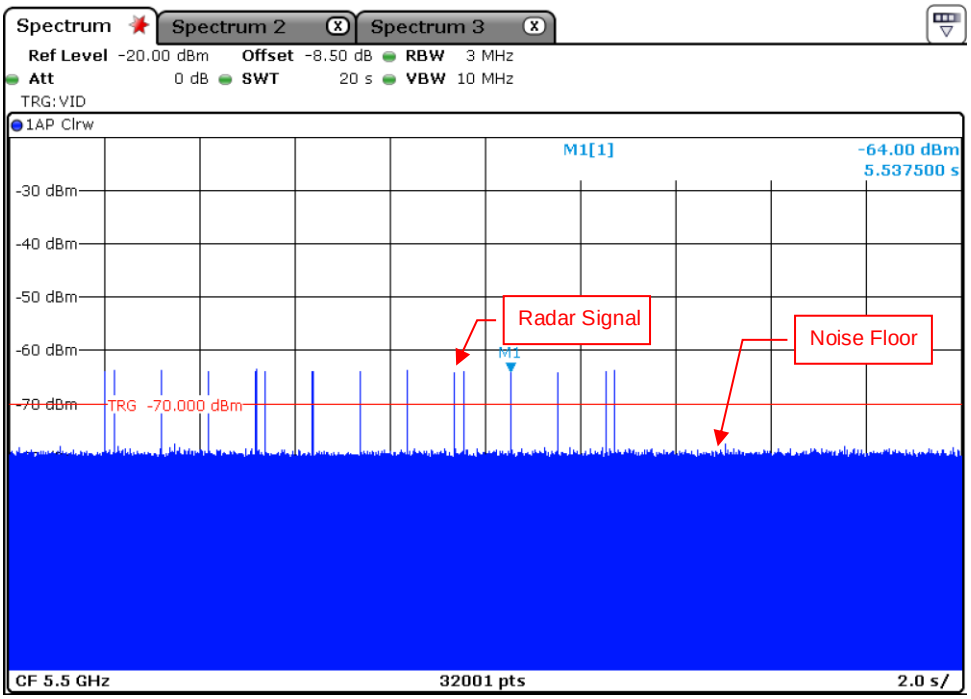
Radar Signal 2



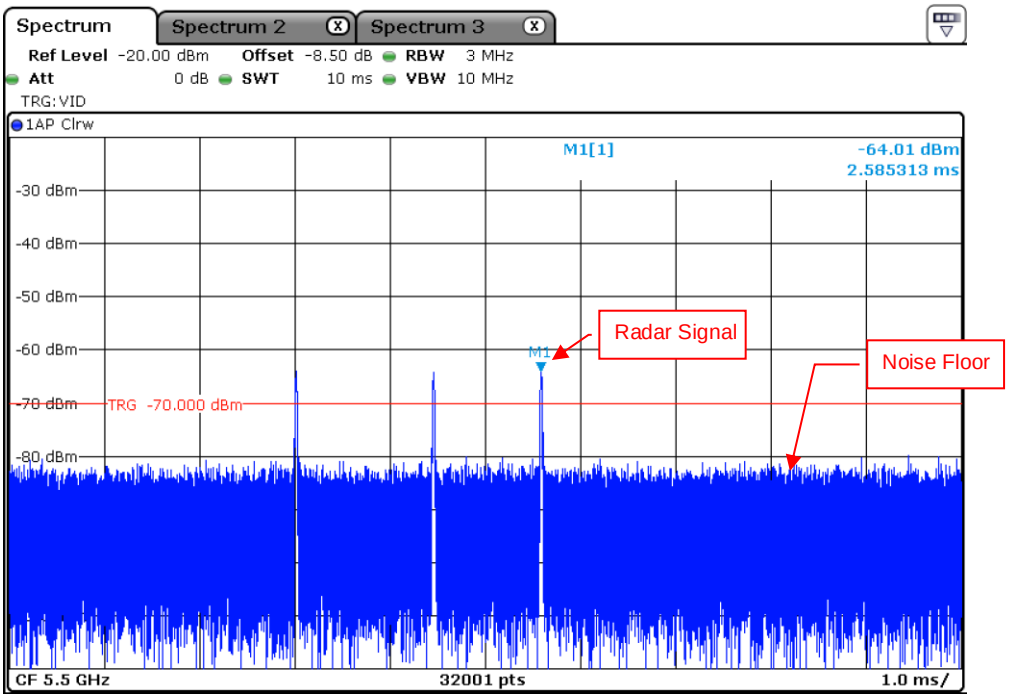
Radar Signal 3



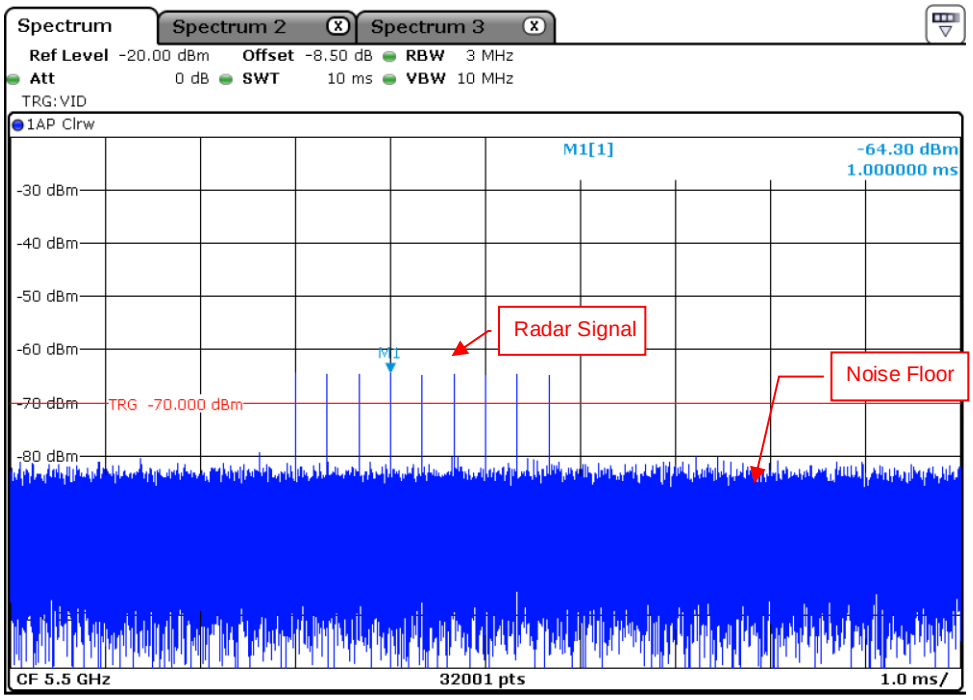
Single Burst of Radar Signal 4



Radar Signal 5



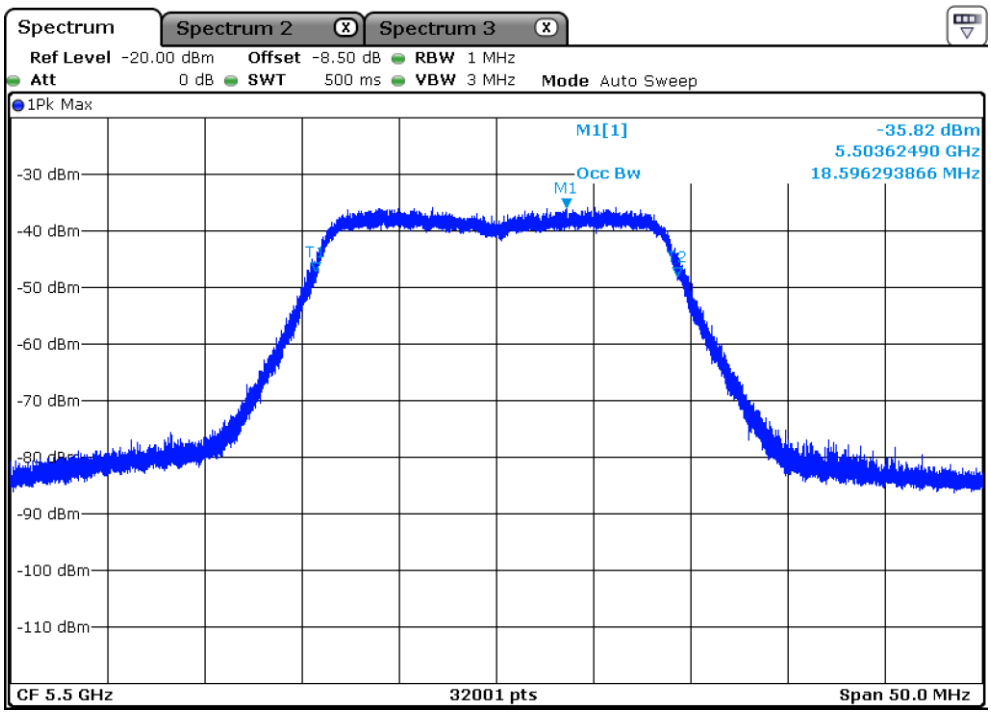
Single Burst of Radar Signal 5



Radar Signal 6

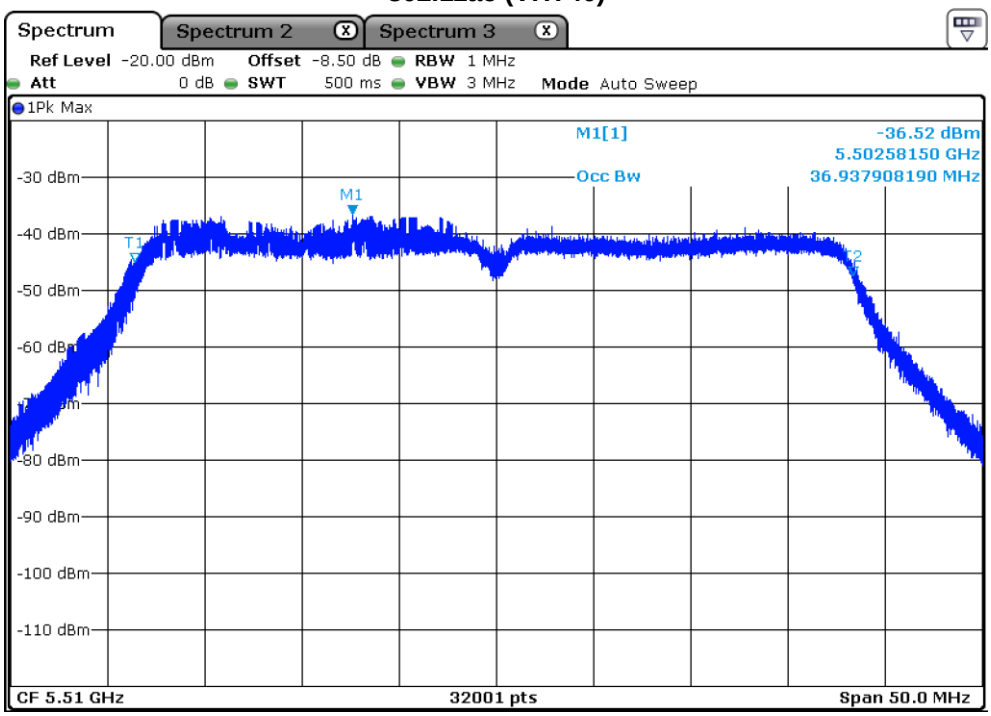
5.2.2 U-NII DETECTION BANDWIDTH

802.11ac (VHT20)



U-NII 99% Channel bandwidth

802.11ac (VHT40)



U-NII 99% Channel bandwidth

Detection Bandwidth Test - **802.11ac (VHT20)**

Radar Type 0
EUT Frequency: 5500MHz
EUT 99% Power bandwidth: 18.60MHz
Detection bandwidth limit (100% of EUT 99% Power bandwidth): 18.60MHz
Detection bandwidth (5510(FH) – 5490(FL)) : 20MHz
Test Result : PASS

Radar Frequency (MHz)	Trial Number / Detection										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490(FL)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5491	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	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	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	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5509	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5510(FH)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100

Detection Bandwidth Test - **802.11ac (VHT40)**

Radar Type 0
EUT Frequency: 5510MHz
EUT 99% Power bandwidth: 36.94MHz
Detection bandwidth limit (100% of EUT 99% Power bandwidth): 36.94MHz
Detection bandwidth (5530(FH) – 5490(FL)) : 40MHz
Test Result : PASS

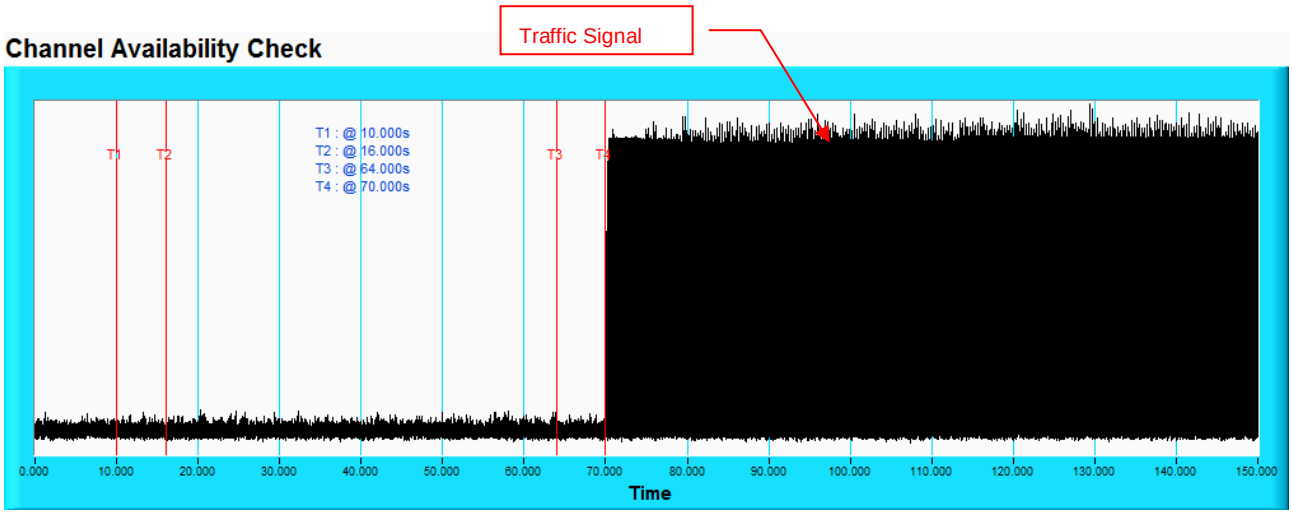
Radar Frequency (MHz)	Trial Number / Detection										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490(FL)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5491	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5492	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5493	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5494	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5495	Yes	Yes	Yes	Yes	Yes	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	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	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	100
5511	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5512	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5513	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
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	Yes	Yes	Yes	100
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	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5530(FH)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100

5.2.3 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.

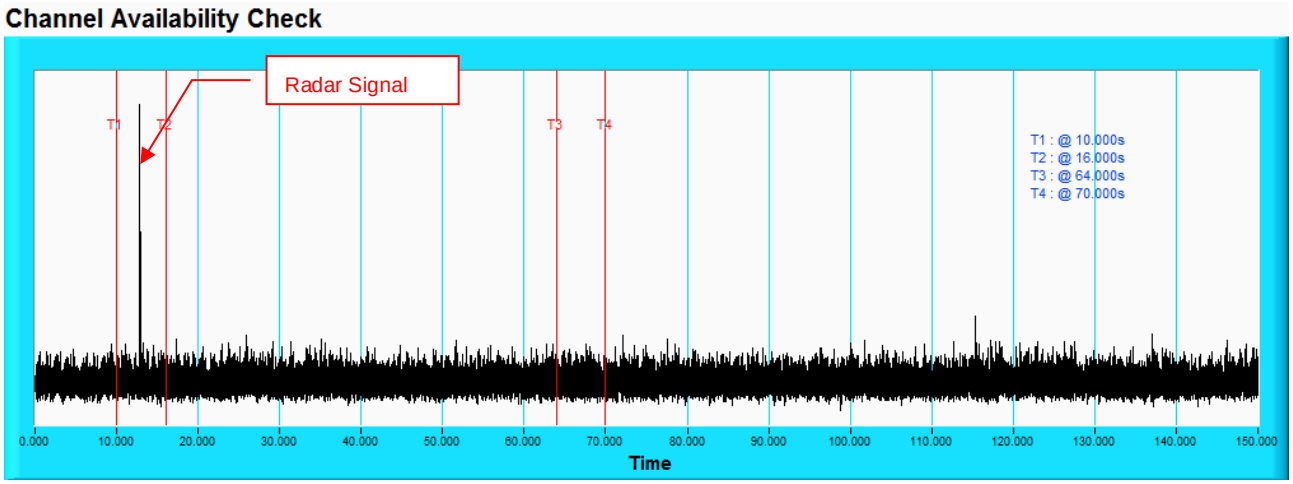
Timing of Radar Signal	Observation	
	EUT	Spectrum Analyzer
Within 1 to 6 second	Detected	No transmissions
Within 54 to 60 second	Detected	No transmissions

Initial Channel Availability Check Time



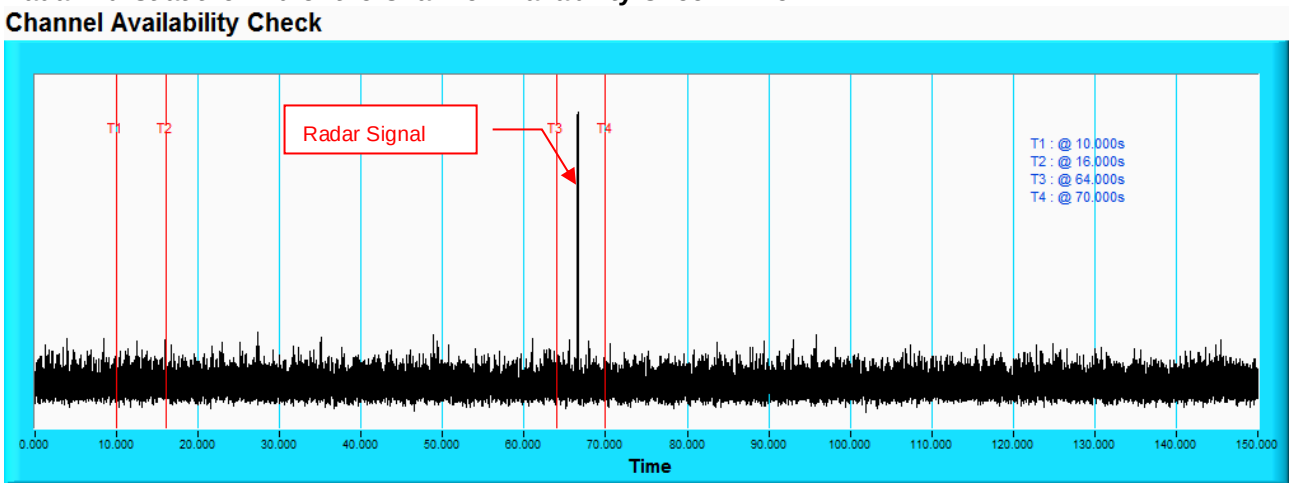
NOTE: T1 denotes the end of power-up time period is 10.000th second. T4 denotes the end of Channel Availability Check time is 70.000th second. Channel Availability Check time is equal to (T4 – T1) 60 seconds.

Radar Burst at the Beginning of the Channel Availability Check Time



NOTE: T1 denotes the end of power up time period is 10.000th second. T2 denotes 16.000th second and the radar burst was commenced within a 6 second window starting from the end of power-up sequence. T4 denotes the 70.000th second.

Radar Burst at the End of the Channel Availability Check Time

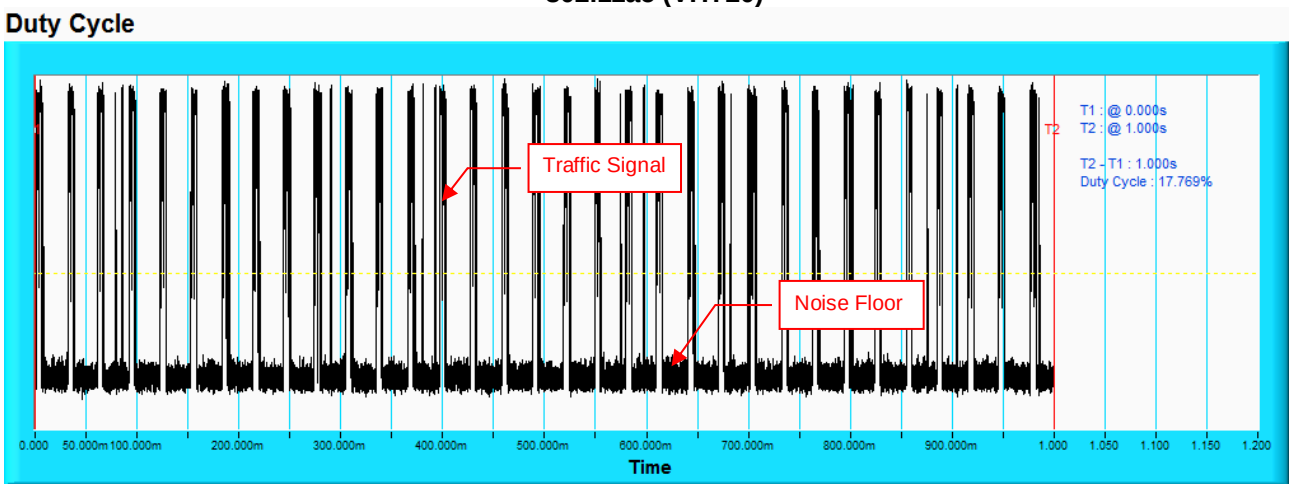


NOTE: T1 denotes the end of power up time period is 10.000th second.T3 denotes 60th second and the radar burst was commenced within 54th second to 60th second window starting from the end of power-up sequence. T4 denotes the 70.000th second.

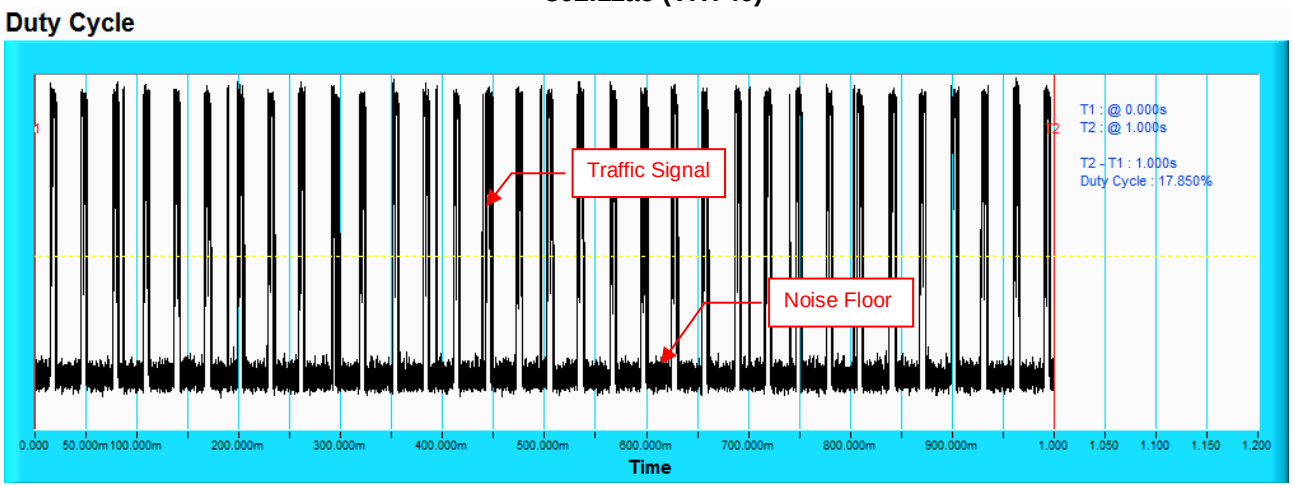
5.2.4 CHANNEL CLOSING TRANSMISSION AND CHANNEL MOVE TIME

Wireless Traffic Loading

802.11ac (VHT20)

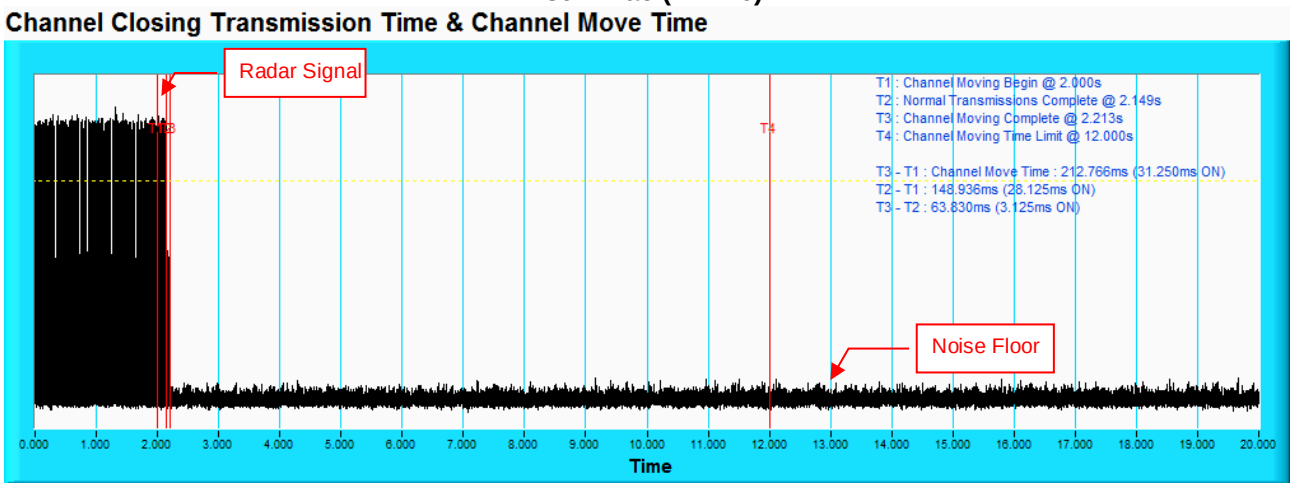


802.11ac (VHT40)

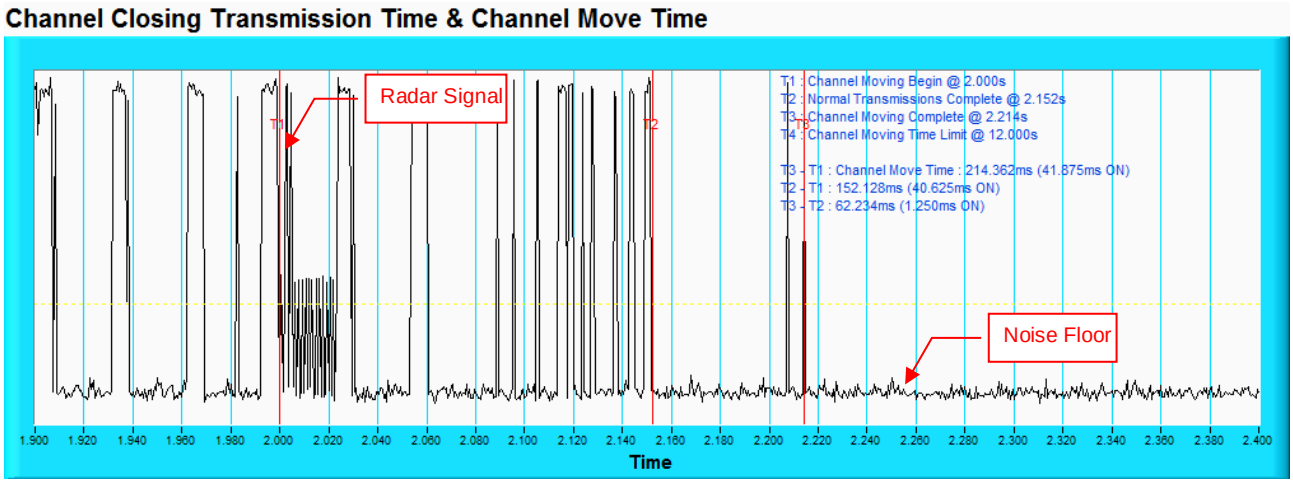


Radar signal 0

802.11ac (VHT40)



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.

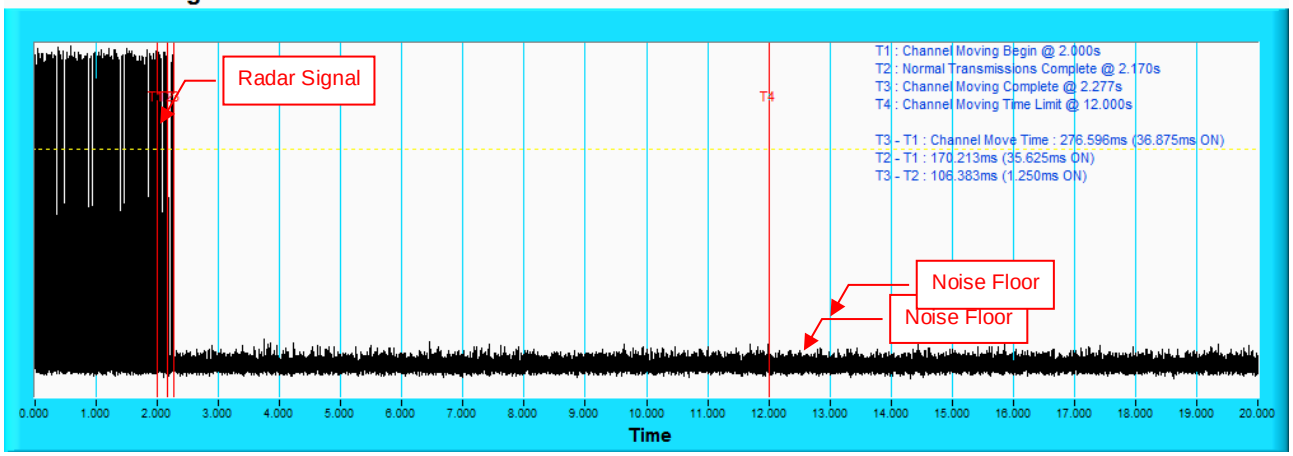


NOTE: Zoom in of the first 400ms after radar signal applied.

Radar signal 1

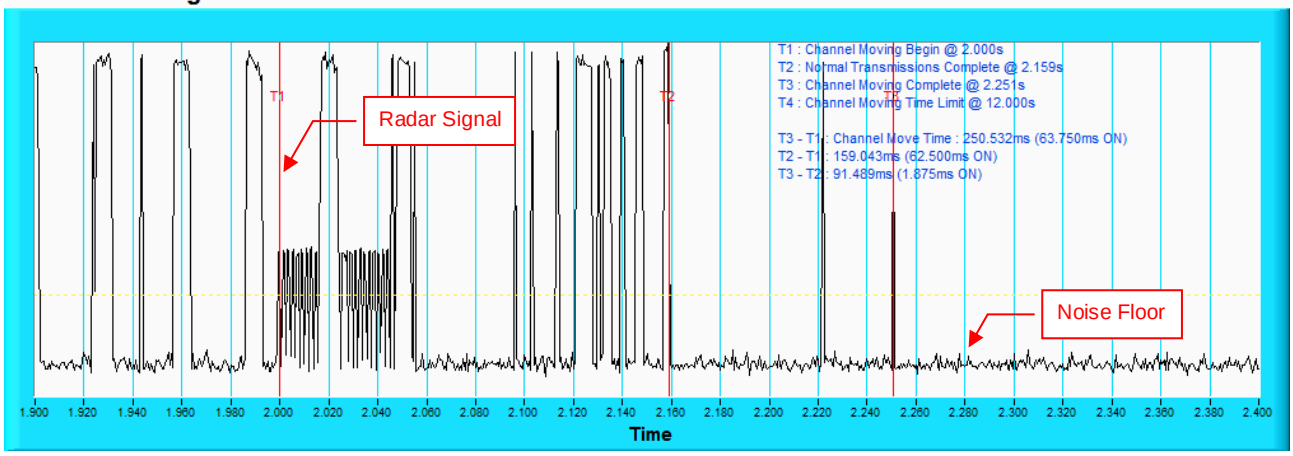
802.11ac (VHT40)

Channel Closing Transmission Time & Channel Move Time



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.

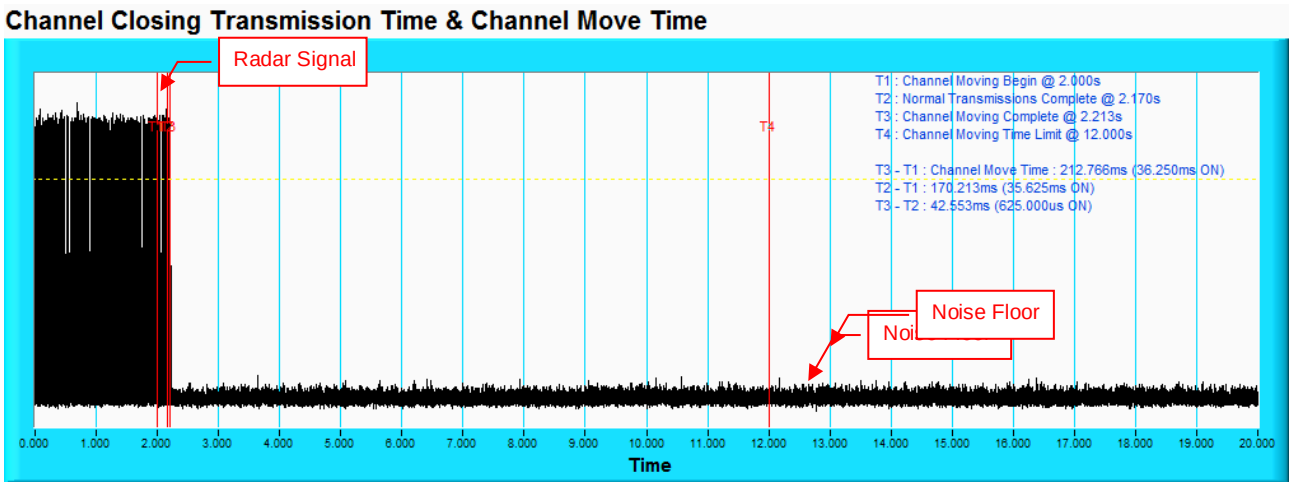
Channel Closing Transmission Time & Channel Move Time



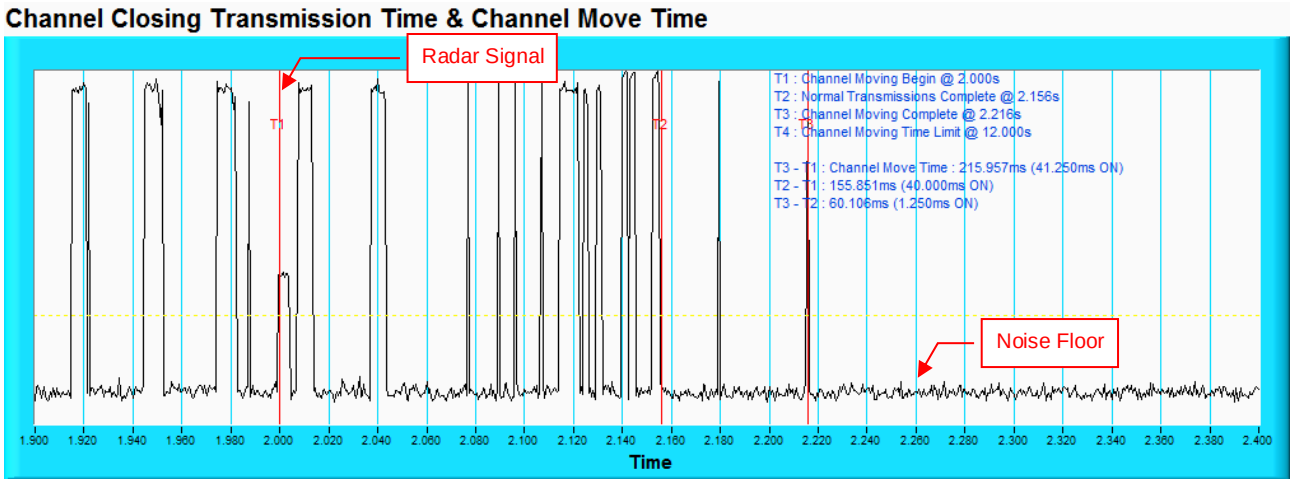
NOTE: Zoom in of the first 400ms after radar signal applied.

Radar signal 2

802.11ac (VHT40)



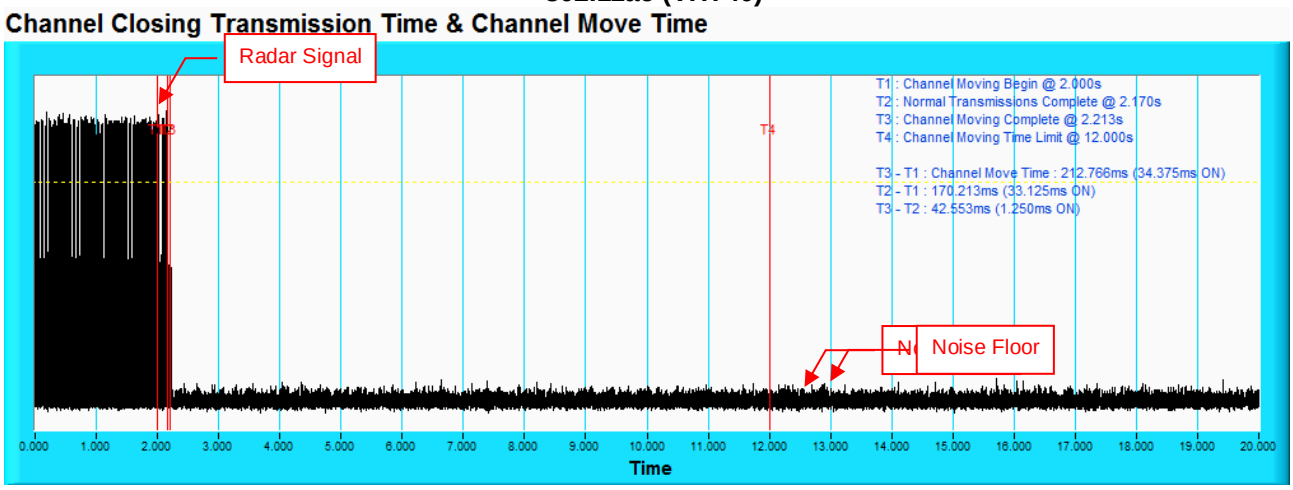
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



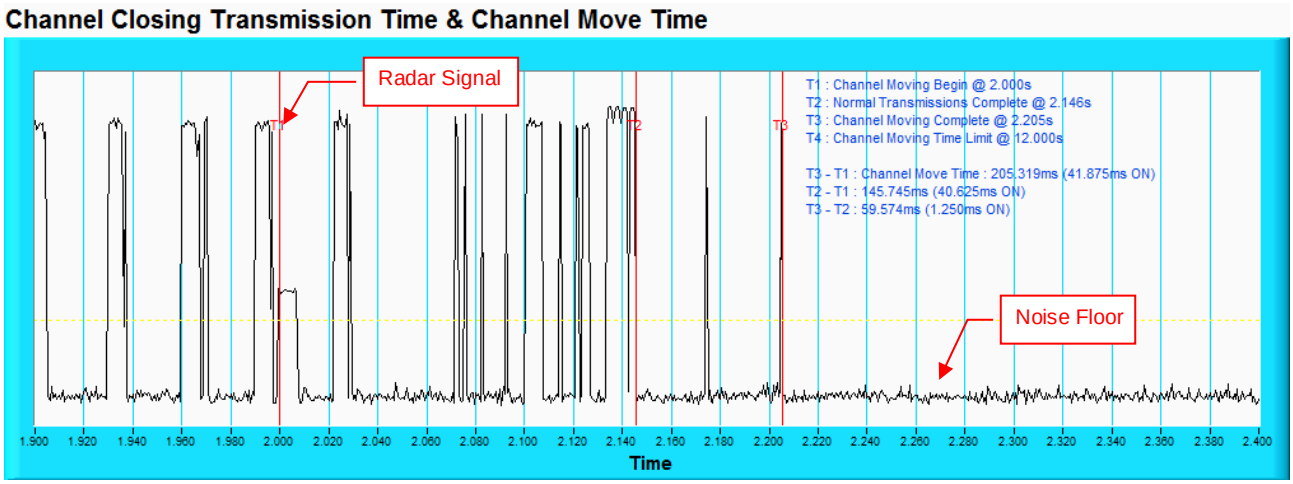
NOTE: Zoom in of the first 400ms after radar signal applied.

Radar signal 3

802.11ac (VHT40)



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.

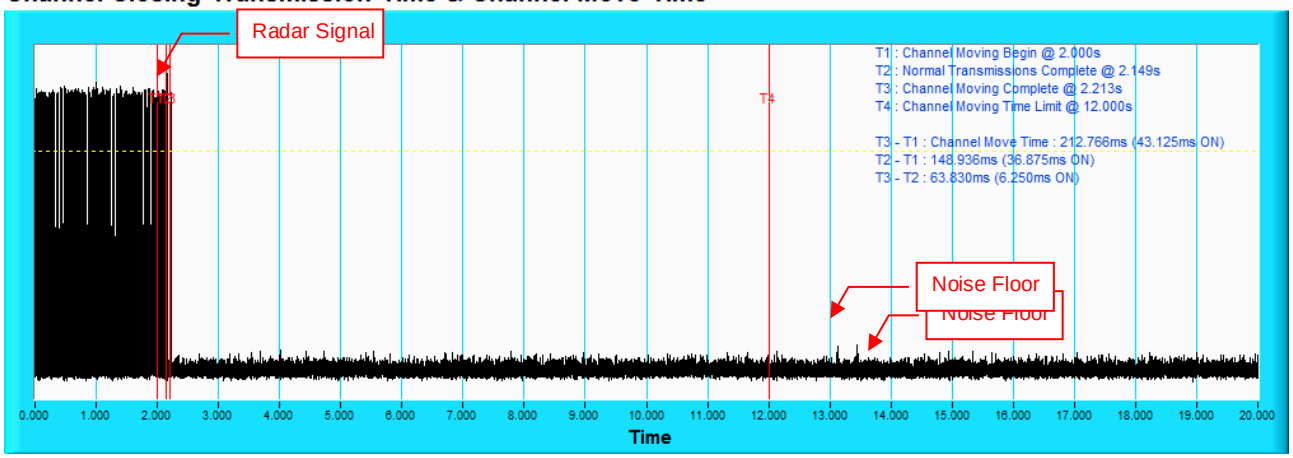


NOTE: Zoom in of the first 400ms after radar signal applied.

Radar signal 4

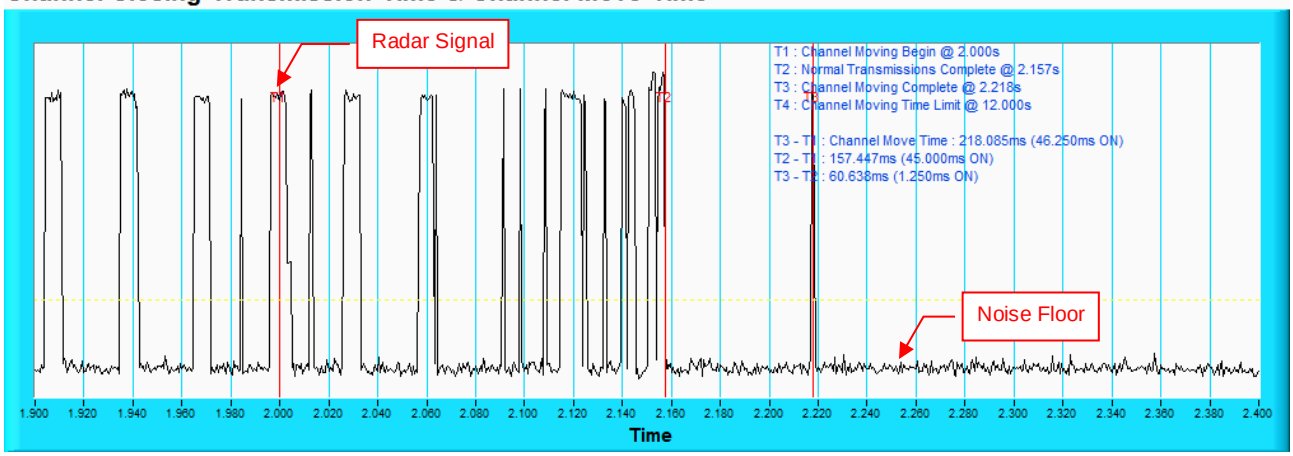
802.11ac (VHT40)

Channel Closing Transmission Time & Channel Move Time



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



NOTE: Zoom in of the first 400ms after radar signal applied.

5.2.5 STATISTICAL PERFORMANCE CHECK

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 in Table 5a Test B: 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 $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	18	30	96.67
2	1-5	150-230	23-29	30	93.33
3	6-10	200-500	16-18	30	86.67
4	11-20	200-500	12-16	30	90
Aggregate (Radar Types 1-4)				120	91.67

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	96.67

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	100

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 in Table 5a Test B: 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	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\mu\text{sec}}}\right)\right\}$	18	30	96.67
2	1-5	150-230	23-29	30	96.67
3	6-10	200-500	16-18	30	93.33
4	11-20	200-500	12-16	30	83.33
Aggregate (Radar Types 1-4)				120	92.5

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	96.67

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	100

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802.11ac (VHT20)

Type 1 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5500	1.0	938.0	57	Yes
2	5507	1.0	698.0	76	Yes
3	5503	1.0	618.0	86	Yes
4	5497	1.0	538.0	99	Yes
5	5495	1.0	878.0	61	Yes
6	5504	1.0	3066.0	18	Yes
7	5494	1.0	638.0	83	Yes
8	5508	1.0	918.0	58	Yes
9	5500	1.0	838.0	63	Yes
10	5496	1.0	858.0	62	Yes
11	5504	1.0	798.0	67	Yes
12	5503	1.0	718.0	74	Yes
13	5493	1.0	578.0	92	Yes
14	5500	1.0	598.0	89	Yes
15	5494	1.0	558.0	95	Yes
16	5497	1.0	2536.0	21	Yes
17	5506	1.0	966.0	55	Yes
18	5492	1.0	827.0	64	Yes
19	5495	1.0	2501.0	22	Yes
20	5504	1.0	2595.0	21	Yes
21	5505	1.0	1114.0	48	Yes
22	5494	1.0	1302.0	41	Yes
23	5492	1.0	3045.0	18	Yes
24	5504	1.0	1624.0	33	Yes
25	5504	1.0	2878.0	19	Yes
26	5502	1.0	1027.0	52	No
27	5493	1.0	2485.0	22	Yes
28	5503	1.0	1600.0	33	Yes
29	5509	1.0	1172.0	46	Yes
30	5503	1.0	1177.0	45	Yes
					Detection Rate: 96.67 %

802.11ac (VHT20)

Type 2 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5500	3.2	179.0	26	Yes
2	5493	1.1	207.0	23	Yes
3	5495	2.1	230.0	24	Yes
4	5500	4.8	200.0	29	Yes
5	5496	3.9	214.0	28	Yes
6	5504	2.9	222.0	26	Yes
7	5496	3.2	204.0	26	Yes
8	5505	2.5	192.0	25	Yes
9	5499	3.1	164.0	26	Yes
10	5506	1.2	156.0	23	Yes
11	5500	3.9	210.0	27	Yes
12	5508	4.6	201.0	29	Yes
13	5505	3.2	162.0	26	Yes
14	5491	2.2	197.0	25	Yes
15	5502	4.5	163.0	29	No
16	5495	3.0	203.0	26	Yes
17	5494	5.0	168.0	29	Yes
18	5493	2.4	217.0	25	Yes
19	5502	2.9	191.0	26	Yes
20	5506	2.3	166.0	25	Yes
21	5509	3.7	150.0	27	Yes
22	5491	2.2	176.0	25	Yes
23	5503	4.9	195.0	29	No
24	5500	2.9	202.0	26	Yes
25	5503	2.5	178.0	25	Yes
26	5505	1.1	206.0	23	Yes
27	5500	3.8	155.0	27	Yes
28	5494	4.7	157.0	29	Yes
29	5492	2.4	224.0	25	Yes
30	5500	4.2	159.0	28	Yes
Detection Rate: 93.33 %					

802.11ac (VHT20)

Type 3 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5500	8.2	355.0	17	Yes
2	5504	6.1	487.0	16	Yes
3	5503	7.1	344.0	16	Yes
4	5494	9.8	288.0	18	Yes
5	5501	8.9	230.0	18	No
6	5501	7.9	432.0	17	No
7	5501	8.2	207.0	17	Yes
8	5492	7.5	443.0	17	Yes
9	5495	8.1	439.0	17	Yes
10	5498	6.2	223.0	16	Yes
11	5493	8.9	208.0	18	Yes
12	5500	9.6	463.0	18	Yes
13	5497	8.2	441.0	17	No
14	5503	7.2	323.0	16	Yes
15	5492	9.5	297.0	18	Yes
16	5497	8.0	412.0	17	No
17	5494	10.0	324.0	18	Yes
18	5508	7.4	271.0	17	Yes
19	5493	7.9	349.0	17	Yes
20	5500	7.3	409.0	16	Yes
21	5501	8.7	373.0	18	Yes
22	5509	7.2	254.0	16	Yes
23	5504	9.9	274.0	18	Yes
24	5508	7.9	278.0	17	Yes
25	5503	7.5	317.0	17	Yes
26	5506	6.1	260.0	16	Yes
27	5494	8.8	211.0	18	Yes
28	5501	9.7	272.0	18	Yes
29	5507	7.4	264.0	17	Yes
30	5492	9.2	284.0	18	Yes
Detection Rate: 86.67%					

802.11ac (VHT20)

Type 4 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5500	16.0	355.0	14	Yes
2	5502	11.3	487.0	12	Yes
3	5501	13.5	344.0	13	Yes
4	5505	19.4	288.0	16	Yes
5	5493	17.5	230.0	15	Yes
6	5503	15.3	432.0	14	No
7	5503	15.9	207.0	14	No
8	5496	14.3	443.0	13	Yes
9	5495	15.8	439.0	14	Yes
10	5506	11.5	223.0	12	Yes
11	5509	17.4	208.0	15	Yes
12	5495	19.0	463.0	16	Yes
13	5504	16.0	441.0	14	Yes
14	5502	13.8	323.0	13	Yes
15	5508	18.9	297.0	16	Yes
16	5505	15.5	412.0	14	Yes
17	5509	19.9	324.0	16	Yes
18	5501	14.1	271.0	13	No
19	5495	15.2	349.0	14	Yes
20	5502	13.8	409.0	13	Yes
21	5497	17.1	373.0	15	Yes
22	5496	13.8	254.0	13	Yes
23	5493	19.8	274.0	16	Yes
24	5494	15.3	278.0	14	Yes
25	5504	14.5	317.0	13	Yes
26	5509	11.3	260.0	12	Yes
27	5504	17.3	211.0	15	Yes
28	5491	19.2	272.0	16	Yes
29	5505	14.2	264.0	13	Yes
30	5502	18.2	284.0	15	Yes
					Detection Rate: 90 %

802.11ac (VHT20)

Type 5 Radar Statistical Performances				
Trial #	Minimum Chirp Width(MHz)	Chirp Center Frequency(MHz)	Test Signal Name	Detection
1	5	5500	LP_Signal_01	YES
2	9	5500	LP_Signal_02	YES
3	5	5500	LP_Signal_03	YES
4	7	5500	LP_Signal_04	YES
5	5	5500	LP_Signal_05	YES
6	6	5500	LP_Signal_06	YES
7	6	5500	LP_Signal_07	YES
8	5	5500	LP_Signal_08	YES
9	5	5500	LP_Signal_09	YES
10	5	5500	LP_Signal_10	YES
11	5	5492	LP_Signal_11	YES
12	6	5492	LP_Signal_12	YES
13	5	5492	LP_Signal_13	YES
14	6	5492	LP_Signal_14	YES
15	5	5492	LP_Signal_15	YES
16	5	5492	LP_Signal_16	YES
17	6	5492	LP_Signal_17	YES
18	5	5492	LP_Signal_18	YES
19	5	5492	LP_Signal_19	YES
20	6	5492	LP_Signal_20	YES
21	5	5508	LP_Signal_21	YES
22	6	5508	LP_Signal_22	NO
23	5	5508	LP_Signal_23	YES
24	5	5508	LP_Signal_24	YES
25	6	5508	LP_Signal_25	YES
26	8	5507	LP_Signal_26	YES
27	6	5508	LP_Signal_27	YES
28	5	5508	LP_Signal_28	YES
29	5	5508	LP_Signal_29	YES
30	8	5507	LP_Signal_30	YES
				Detection Rate: 96.67 %

The Long Pulse Radar pattern shown in Appendix A.1

802.11ac (VHT20)

Type 6 Radar Statistical Performances				
Trial #	Pulses per Hop	Pulse Width(us)	PRI(us)	Detection
1	9	1	333.3	Yes
2	9	1	333.3	Yes
3	9	1	333.3	Yes
4	9	1	333.3	Yes
5	9	1	333.3	Yes
6	9	1	333.3	Yes
7	9	1	333.3	Yes
8	9	1	333.3	Yes
9	9	1	333.3	Yes
10	9	1	333.3	Yes
11	9	1	333.3	Yes
12	9	1	333.3	Yes
13	9	1	333.3	Yes
14	9	1	333.3	Yes
15	9	1	333.3	Yes
16	9	1	333.3	Yes
17	9	1	333.3	Yes
18	9	1	333.3	Yes
19	9	1	333.3	Yes
20	9	1	333.3	Yes
21	9	1	333.3	Yes
22	9	1	333.3	Yes
23	9	1	333.3	Yes
24	9	1	333.3	Yes
25	9	1	333.3	Yes
26	9	1	333.3	Yes
27	9	1	333.3	Yes
28	9	1	333.3	Yes
29	9	1	333.3	Yes
30	9	1	333.3	Yes
Detection Rate: 100 %				

802.11ac (VHT20)

Type 6 Radar Statistical Performances		
Trial #	Hopping Frequency Sequence Name	Detection
1	HOP_FREQ_SEQ_01	Yes
2	HOP_FREQ_SEQ_02	Yes
3	HOP_FREQ_SEQ_03	Yes
4	HOP_FREQ_SEQ_04	Yes
5	HOP_FREQ_SEQ_05	Yes
6	HOP_FREQ_SEQ_06	Yes
7	HOP_FREQ_SEQ_07	Yes
8	HOP_FREQ_SEQ_08	Yes
9	HOP_FREQ_SEQ_09	Yes
10	HOP_FREQ_SEQ_10	Yes
11	HOP_FREQ_SEQ_11	Yes
12	HOP_FREQ_SEQ_12	Yes
13	HOP_FREQ_SEQ_13	Yes
14	HOP_FREQ_SEQ_14	Yes
15	HOP_FREQ_SEQ_15	Yes
16	HOP_FREQ_SEQ_16	Yes
17	HOP_FREQ_SEQ_17	Yes
18	HOP_FREQ_SEQ_18	Yes
19	HOP_FREQ_SEQ_19	Yes
20	HOP_FREQ_SEQ_20	Yes
21	HOP_FREQ_SEQ_21	Yes
22	HOP_FREQ_SEQ_22	Yes
23	HOP_FREQ_SEQ_23	Yes
24	HOP_FREQ_SEQ_24	Yes
25	HOP_FREQ_SEQ_25	Yes
26	HOP_FREQ_SEQ_26	Yes
27	HOP_FREQ_SEQ_27	Yes
28	HOP_FREQ_SEQ_28	Yes
29	HOP_FREQ_SEQ_29	Yes
30	HOP_FREQ_SEQ_30	Yes
		Detection Rate: 100 %

The Frequency Hopping Radar pattern shown in Appendix A.2

802.11ac (VHT40)

Type 1 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5510	1.0	938.0	57	Yes
2	5520	1.0	698.0	76	Yes
3	5500	1.0	618.0	86	Yes
4	5500	1.0	538.0	99	Yes
5	5525	1.0	878.0	61	Yes
6	5506	1.0	3066.0	18	Yes
7	5501	1.0	638.0	83	Yes
8	5528	1.0	918.0	58	Yes
9	5513	1.0	838.0	63	Yes
10	5519	1.0	858.0	62	Yes
11	5495	1.0	798.0	67	Yes
12	5525	1.0	718.0	74	Yes
13	5525	1.0	578.0	92	Yes
14	5503	1.0	598.0	89	Yes
15	5502	1.0	558.0	95	Yes
16	5498	1.0	2536.0	21	Yes
17	5516	1.0	966.0	55	Yes
18	5493	1.0	827.0	64	Yes
19	5517	1.0	2501.0	22	Yes
20	5498	1.0	2595.0	21	Yes
21	5495	1.0	1114.0	48	Yes
22	5495	1.0	1302.0	41	Yes
23	5523	1.0	3045.0	18	Yes
24	5499	1.0	1624.0	33	Yes
25	5525	1.0	2878.0	19	No
26	5518	1.0	1027.0	52	Yes
27	5507	1.0	2485.0	22	Yes
28	5510	1.0	1600.0	33	Yes
29	5527	1.0	1172.0	46	Yes
30	5502	1.0	1177.0	45	Yes
					Detection Rate: 96.67 %

802.11ac (VHT40)

Type 2 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5510	3.2	179.0	26	No
2	5520	1.1	207.0	23	Yes
3	5500	2.1	230.0	24	Yes
4	5512	4.8	200.0	29	Yes
5	5528	3.9	214.0	28	Yes
6	5526	2.9	222.0	26	Yes
7	5492	3.2	204.0	26	Yes
8	5498	2.5	192.0	25	Yes
9	5505	3.1	164.0	26	Yes
10	5499	1.2	156.0	23	Yes
11	5515	3.9	210.0	27	Yes
12	5523	4.6	201.0	29	Yes
13	5505	3.2	162.0	26	Yes
14	5496	2.2	197.0	25	Yes
15	5493	4.5	163.0	29	Yes
16	5511	3.0	203.0	26	Yes
17	5525	5.0	168.0	29	Yes
18	5514	2.4	217.0	25	Yes
19	5526	2.9	191.0	26	Yes
20	5501	2.3	166.0	25	Yes
21	5512	3.7	150.0	27	Yes
22	5513	2.2	176.0	25	Yes
23	5498	4.9	195.0	29	Yes
24	5513	2.9	202.0	26	Yes
25	5513	2.5	178.0	25	Yes
26	5521	1.1	206.0	23	Yes
27	5505	3.8	155.0	27	Yes
28	5525	4.7	157.0	29	Yes
29	5501	2.4	224.0	25	Yes
30	5498	4.2	159.0	28	Yes
Detection Rate: 96.67 %					

802.11ac (VHT40)

Type 3 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5510	8.2	355.0	17	Yes
2	5490	6.1	487.0	16	Yes
3	5491	7.1	344.0	16	Yes
4	5527	9.8	288.0	18	Yes
5	5523	8.9	230.0	18	Yes
6	5508	7.9	432.0	17	Yes
7	5505	8.2	207.0	17	Yes
8	5508	7.5	443.0	17	Yes
9	5507	8.1	439.0	17	Yes
10	5506	6.2	223.0	16	Yes
11	5512	8.9	208.0	18	Yes
12	5513	9.6	463.0	18	Yes
13	5523	8.2	441.0	17	Yes
14	5513	7.2	323.0	16	Yes
15	5512	9.5	297.0	18	Yes
16	5508	8.0	412.0	17	Yes
17	5503	10.0	324.0	18	Yes
18	5526	7.4	271.0	17	Yes
19	5510	7.9	349.0	17	Yes
20	5522	7.3	409.0	16	No
21	5525	8.7	373.0	18	Yes
22	5498	7.2	254.0	16	Yes
23	5515	9.9	274.0	18	Yes
24	5508	7.9	278.0	17	Yes
25	5517	7.5	317.0	17	Yes
26	5494	6.1	260.0	16	Yes
27	5508	8.8	211.0	18	Yes
28	5498	9.7	272.0	18	Yes
29	5495	7.4	264.0	17	Yes
30	5529	9.2	284.0	18	No
Detection Rate: 93.33 %					

802.11ac (VHT40)

Type 4 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulse Width(us)	PRI(us)	Number of Pulses	Detection
1	5510	16.0	355.0	14	Yes
2	5520	11.3	487.0	12	No
3	5500	13.5	344.0	13	Yes
4	5520	19.4	288.0	16	Yes
5	5505	17.5	230.0	15	Yes
6	5503	15.3	432.0	14	Yes
7	5522	15.9	207.0	14	Yes
8	5525	14.3	443.0	13	Yes
9	5508	15.8	439.0	14	Yes
10	5501	11.5	223.0	12	Yes
11	5508	17.4	208.0	15	Yes
12	5492	19.0	463.0	16	No
13	5498	16.0	441.0	14	Yes
14	5518	13.8	323.0	13	Yes
15	5527	18.9	297.0	16	No
16	5514	15.5	412.0	14	Yes
17	5527	19.9	324.0	16	Yes
18	5519	14.1	271.0	13	Yes
19	5517	15.2	349.0	14	Yes
20	5524	13.8	409.0	13	No
21	5512	17.1	373.0	15	Yes
22	5503	13.8	254.0	13	Yes
23	5504	19.8	274.0	16	Yes
24	5507	15.3	278.0	14	Yes
25	5498	14.5	317.0	13	Yes
26	5498	11.3	260.0	12	No
27	5525	17.3	211.0	15	Yes
28	5495	19.2	272.0	16	Yes
29	5513	14.2	264.0	13	Yes
30	5494	18.2	284.0	15	Yes
					Detection Rate: 83.33%

802.11ac (VHT40)

Type 5 Radar Statistical Performances				
Trial #	Minimum Chirp Width(MHz)	Chirp Center Frequency(MHz)	Test Signal Name	Detection
1	5	5510	LP_Signal_01	YES
2	9	5510	LP_Signal_02	YES
3	5	5510	LP_Signal_03	YES
4	7	5510	LP_Signal_04	YES
5	5	5510	LP_Signal_05	YES
6	6	5510	LP_Signal_06	YES
7	6	5510	LP_Signal_07	YES
8	5	5510	LP_Signal_08	YES
9	5	5510	LP_Signal_09	YES
10	5	5510	LP_Signal_10	YES
11	5	5493	LP_Signal_11	YES
12	6	5493	LP_Signal_12	YES
13	5	5493	LP_Signal_13	YES
14	6	5493	LP_Signal_14	YES
15	5	5493	LP_Signal_15	YES
16	5	5493	LP_Signal_16	YES
17	6	5493	LP_Signal_17	YES
18	5	5493	LP_Signal_18	YES
19	5	5493	LP_Signal_19	YES
20	6	5493	LP_Signal_20	YES
21	5	5527	LP_Signal_21	YES
22	6	5527	LP_Signal_22	YES
23	5	5527	LP_Signal_23	YES
24	5	5527	LP_Signal_24	YES
25	6	5527	LP_Signal_25	YES
26	8	5526	LP_Signal_26	YES
27	6	5527	LP_Signal_27	YES
28	5	5527	LP_Signal_28	YES
29	5	5527	LP_Signal_29	NO
30	8	5526	LP_Signal_30	YES
				Detection Rate: 96.67 %

The Long Pulse Radar pattern shown in Appendix A.1

802.11ac (VHT40)

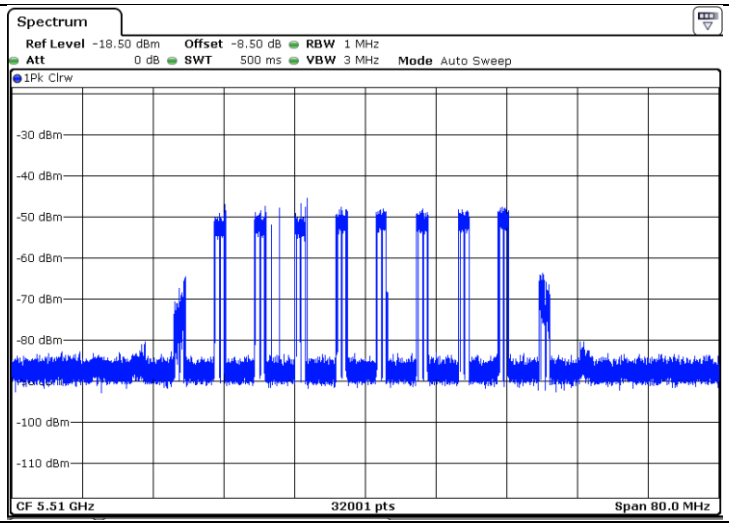
Type 6 Radar Statistical Performances				
Trial #	Pulses per Hop	Pulse Width(us)	PRI(us)	Detection
1	9	1	333.3	Yes
2	9	1	333.3	Yes
3	9	1	333.3	Yes
4	9	1	333.3	Yes
5	9	1	333.3	Yes
6	9	1	333.3	Yes
7	9	1	333.3	Yes
8	9	1	333.3	Yes
9	9	1	333.3	Yes
10	9	1	333.3	Yes
11	9	1	333.3	Yes
12	9	1	333.3	Yes
13	9	1	333.3	Yes
14	9	1	333.3	Yes
15	9	1	333.3	Yes
16	9	1	333.3	Yes
17	9	1	333.3	Yes
18	9	1	333.3	Yes
19	9	1	333.3	Yes
20	9	1	333.3	Yes
21	9	1	333.3	Yes
22	9	1	333.3	Yes
23	9	1	333.3	Yes
24	9	1	333.3	Yes
25	9	1	333.3	Yes
26	9	1	333.3	Yes
27	9	1	333.3	Yes
28	9	1	333.3	Yes
29	9	1	333.3	Yes
30	9	1	333.3	Yes
Detection Rate: 100 %				

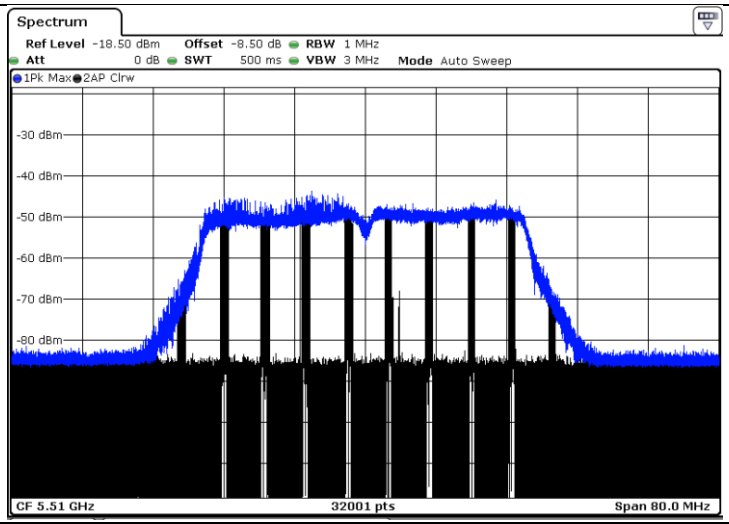
802.11ac (VHT40)

Type 6 Radar Statistical Performances		
Trial #	Hopping Frequency Sequence Name	Detection
1	HOP_FREQ_SEQ_01	Yes
2	HOP_FREQ_SEQ_02	Yes
3	HOP_FREQ_SEQ_03	Yes
4	HOP_FREQ_SEQ_04	Yes
5	HOP_FREQ_SEQ_05	Yes
6	HOP_FREQ_SEQ_06	Yes
7	HOP_FREQ_SEQ_07	Yes
8	HOP_FREQ_SEQ_08	Yes
9	HOP_FREQ_SEQ_09	Yes
10	HOP_FREQ_SEQ_10	Yes
11	HOP_FREQ_SEQ_11	Yes
12	HOP_FREQ_SEQ_12	Yes
13	HOP_FREQ_SEQ_13	Yes
14	HOP_FREQ_SEQ_14	Yes
15	HOP_FREQ_SEQ_15	Yes
16	HOP_FREQ_SEQ_16	Yes
17	HOP_FREQ_SEQ_17	Yes
18	HOP_FREQ_SEQ_18	Yes
19	HOP_FREQ_SEQ_19	Yes
20	HOP_FREQ_SEQ_20	Yes
21	HOP_FREQ_SEQ_21	Yes
22	HOP_FREQ_SEQ_22	Yes
23	HOP_FREQ_SEQ_23	Yes
24	HOP_FREQ_SEQ_24	Yes
25	HOP_FREQ_SEQ_25	Yes
26	HOP_FREQ_SEQ_26	Yes
27	HOP_FREQ_SEQ_27	Yes
28	HOP_FREQ_SEQ_28	Yes
29	HOP_FREQ_SEQ_29	Yes
30	HOP_FREQ_SEQ_30	Yes
		Detection Rate: 100 %

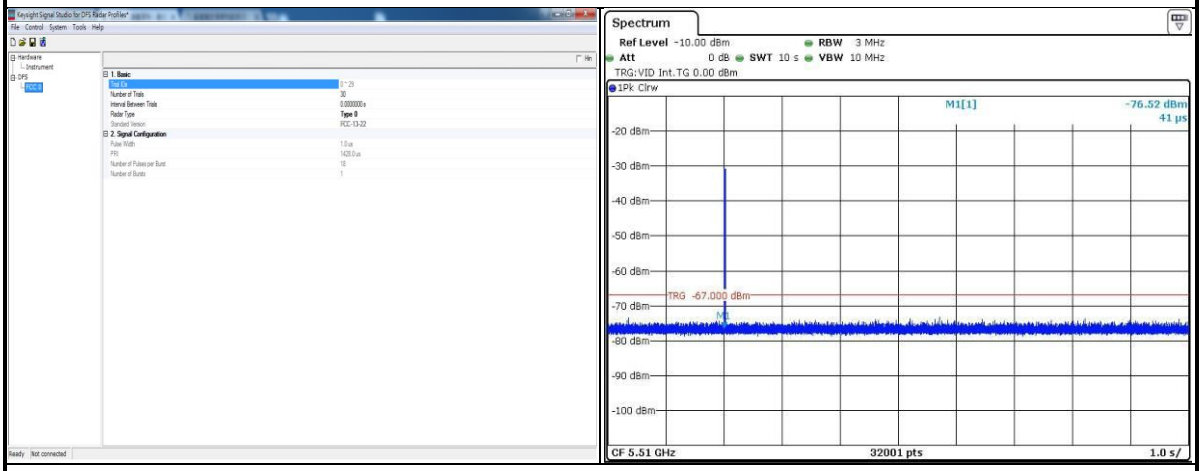
The Frequency Hopping Radar pattern shown in Appendix A.2

5.2.6 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.



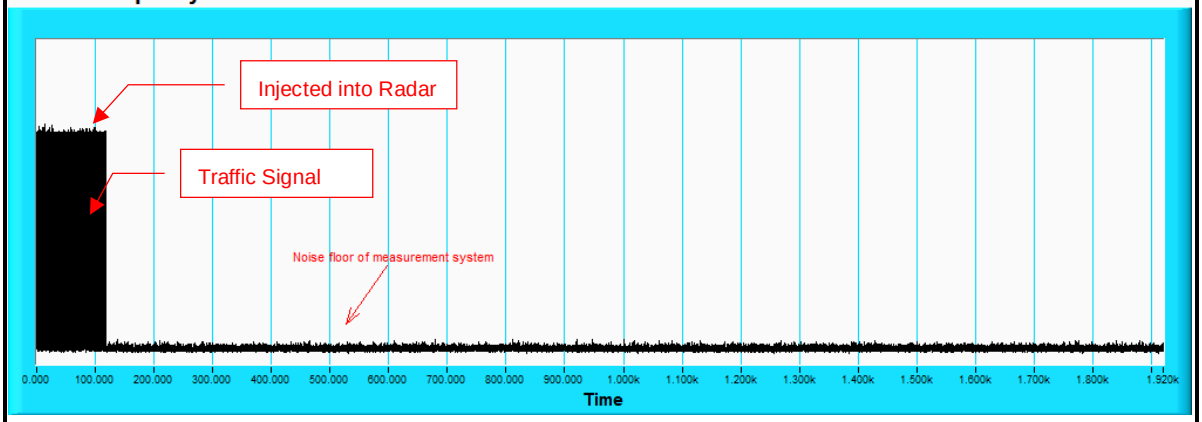
Radar 0 is used to test during DFS testing.

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;

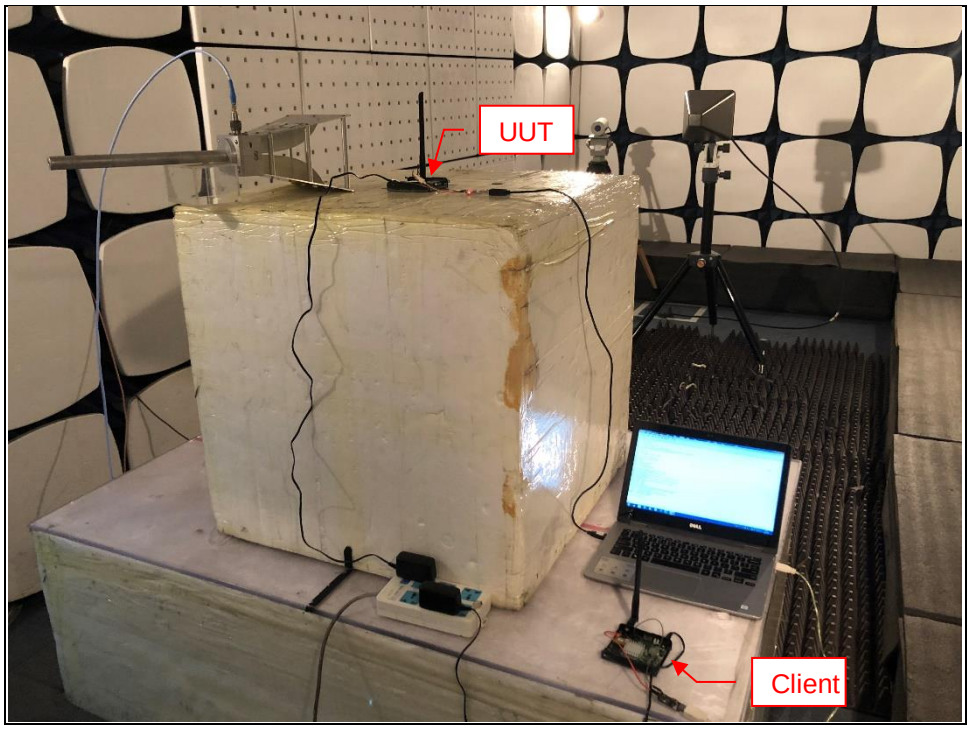
5)An analyzer plot that contains a single 30-minute sweep on the original test frequency.

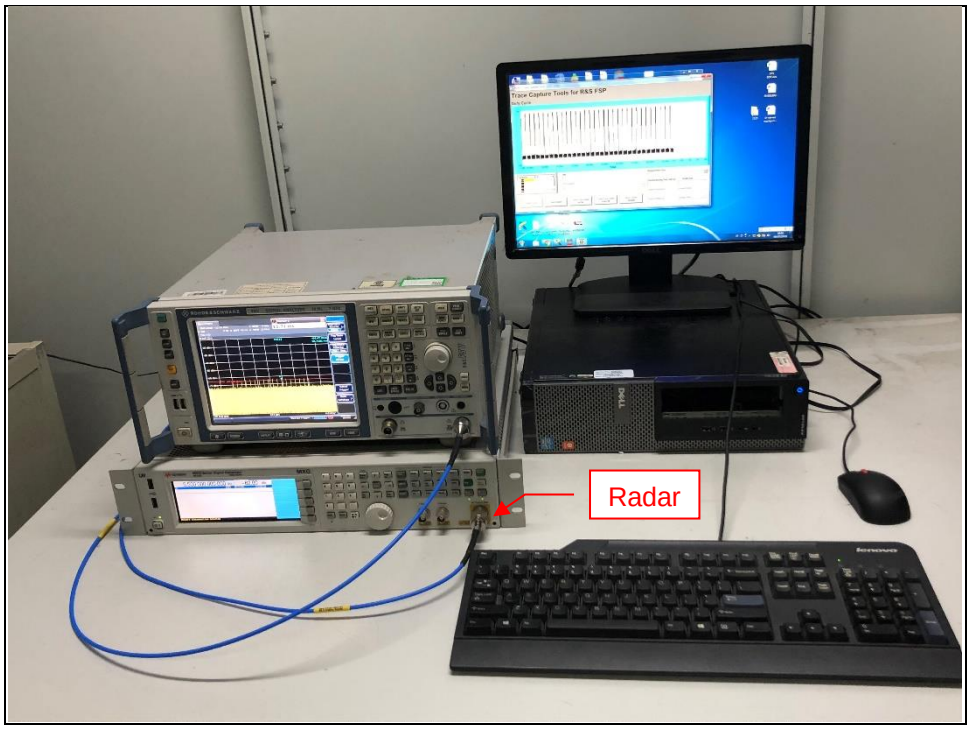
Non - Occupancy Period



7 PHOTOGRAPHS OF THE TEST CONFIGURATION

Set UUT as Master mode (Radar injected into Master)





8 APPENDIX-A

RADAR TEST SIGNAL

A.1 The Long Pulse Radar Pattern

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_01 Number of Bursts in Trial: 15						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	77.8	13	2	1665.0	1477.0	-
2	51.9	5	1	1074.0	-	-
3	63.8	9	1	1584.0	-	-
4	96.6	19	3	1682.0	1786.0	1843.0
5	85.9	16	3	1795.0	1215.0	1729.0
6	73.7	12	2	1198.0	1549.0	-
7	77.2	13	2	1837.0	1819.0	-
8	68.4	10	2	1587.0	1114.0	-
9	76.7	13	2	2000.0	1155.0	-
10	53.2	6	1	1147.0	-	-
11	85.7	16	3	1433.0	1695.0	1394.0
12	94.3	19	3	1670.0	1426.0	1935.0
13	77.6	13	2	1294.0	1671.0	-
14	65.7	10	1	1512.0	-	-
15	93.5	18	3	1444.0	1130.0	1468.0

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_02 Number of Bursts in Trial: 8						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	75.0	12	2	1880.0	1527.0	-
2	99.4	20	3	1401.0	1262.0	1257.0
3	67.4	10	2	1531.0	1403.0	-
4	73.6	12	2	1449.0	1041.0	-
5	65.9	10	1	1432.0	-	-
6	83.8	15	3	1356.0	1292.0	1419.0
7	65.5	9	1	1543.0	-	-
8	98.6	20	3	1548.0	1796.0	1728.0

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_03 Number of Bursts in Trial: 11						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	73.8	12	2	1806.0	1538.0	-
2	69.5	11	2	1117.0	1649.0	-
3	51.9	5	1	1651.0	-	-
4	84.6	16	3	1976.0	1032.0	1271.0
5	95.4	19	3	1060.0	1903.0	1388.0
6	68.0	10	2	1368.0	1351.0	-
7	89.6	17	3	1338.0	1514.0	1573.0
8	81.9	15	2	1022.0	1689.0	-
9	88.3	17	3	1810.0	1330.0	1838.0
10	53.7	6	1	1597.0	-	-
11	91.3	18	3	1961.0	1106.0	1001.0

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_04 Number of Bursts in Trial: 20						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	68.1	10	2	1339.0	1355.0	-
2	58.7	7	1	1251.0	-	-
3	75.3	13	2	1136.0	1640.0	-
4	56.4	7	1	1753.0	-	-
5	99.7	20	3	1196.0	1708.0	1159.0
6	57.7	7	1	1013.0	-	-
7	59.5	8	1	1072.0	-	-
8	80.0	14	2	1482.0	1369.0	-
9	82.0	15	2	1993.0	1197.0	-
10	82.8	15	2	1883.0	1005.0	-
11	88.0	17	3	1061.0	1928.0	1101.0
12	93.2	18	3	1207.0	1907.0	1223.0
13	70.4	11	2	1526.0	1360.0	-
14	95.3	19	3	1171.0	1955.0	1775.0
15	81.9	15	2	1690.0	1545.0	-
16	98.5	20	3	1975.0	1169.0	1062.0
17	65.0	9	1	1767.0	-	-
18	85.4	16	3	1011.0	1637.0	1425.0
19	91.6	18	3	1878.0	1445.0	1325.0
20	67.3	10	2	1091.0	1218.0	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_05 Number of Bursts in Trial: 17						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	67.9	10	2	1320.0	1133.0	-
2	62.3	8	1	1957.0	-	-
3	53.3	6	1	1592.0	-	-
4	90.0	17	3	1900.0	1153.0	1346.0
5	77.1	13	2	1166.0	1646.0	-
6	83.9	15	3	1278.0	1232.0	1459.0
7	89.1	17	3	1240.0	1384.0	1939.0
8	81.8	15	2	1833.0	1676.0	-
9	50.3	5	1	1075.0	-	-
10	87.1	16	3	1116.0	1996.0	1756.0
11	71.3	11	2	1225.0	1815.0	-
12	97.5	20	3	1884.0	1465.0	1132.0
13	90.6	17	3	1561.0	1040.0	1354.0
14	86.3	16	3	1596.0	1183.0	1792.0
15	97.6	20	3	1365.0	1073.0	1361.0
16	84.7	16	3	1021.0	1718.0	1854.0
17	99.7	20	3	1150.0	1244.0	1988.0

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_06 Number of Bursts in Trial: 14						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	92.9	18	3	1085.0	1564.0	1407.0
2	67.7	10	2	1744.0	1747.0	-
3	65.8	10	1	1092.0	-	-
4	56.3	7	1	1851.0	-	-
5	53.7	6	1	1727.0	-	-
6	83.5	15	3	1679.0	1930.0	1025.0
7	65.8	10	1	1519.0	-	-
8	85.9	16	3	1134.0	1034.0	1808.0
9	76.3	13	2	1606.0	1926.0	-
10	81.5	15	2	1891.0	1714.0	-
11	89.4	17	3	1310.0	1594.0	1827.0
12	63.4	9	1	1568.0	-	-
13	69.6	11	2	1307.0	1925.0	-
14	74.5	12	2	1264.0	1846.0	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_07 Number of Bursts in Trial: 15						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	96.6	19	3	1182.0	1609.0	1581.0
2	96.7	19	3	1829.0	1799.0	1154.0
3	86.5	16	3	1923.0	1396.0	1865.0
4	73.3	12	2	1908.0	1318.0	-
5	55.8	6	1	1688.0	-	-
6	55.4	6	1	1145.0	-	-
7	85.3	16	3	1336.0	1504.0	1820.0
8	79.4	14	2	1344.0	1893.0	-
9	65.7	10	1	1476.0	-	-
10	68.6	10	2	1008.0	1028.0	-
11	77.7	13	2	1972.0	1835.0	-
12	79.6	14	2	1882.0	1331.0	-
13	94.9	19	3	1830.0	1070.0	1349.0
14	61.4	8	1	1451.0	-	-
15	90.6	17	3	1233.0	1562.0	1887.0

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_08 Number of Bursts in Trial: 12						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	52.6	5	1	1210.0	-	-
2	84.1	15	3	1314.0	1725.0	1529.0
3	97.7	20	3	1139.0	1868.0	1805.0
4	97.3	20	3	1341.0	1446.0	1755.0
5	98.8	20	3	1544.0	1386.0	1302.0
6	72.2	12	2	1771.0	1184.0	-
7	67.6	10	2	1175.0	1027.0	-
8	75.7	13	2	1026.0	1871.0	-
9	60.9	8	1	1798.0	-	-
10	64.2	9	1	1138.0	-	-
11	78.8	14	2	1784.0	1604.0	-
12	87.5	16	3	1511.0	1712.0	1683.0

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_09 Number of Bursts in Trial: 14						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	54.1	6	1	1415.0	-	-
2	50.7	5	1	1221.0	-	-
3	52.3	5	1	1974.0	-	-
4	99.8	20	3	1558.0	1696.0	1949.0
5	68.4	10	2	1014.0	1099.0	-
6	80.8	14	2	1736.0	1505.0	-
7	62.5	9	1	1778.0	-	-
8	74.8	12	2	1149.0	1204.0	-
9	50.8	5	1	1049.0	-	-
10	54.0	6	1	1417.0	-	-
11	63.0	9	1	1730.0	-	-
12	91.8	18	3	1143.0	1270.0	1347.0
13	79.3	14	2	1274.0	1992.0	-
14	64.3	9	1	1937.0	-	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_10 Number of Bursts in Trial: 8						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	63.4	9	1	1043.0	-	-
2	52.0	5	1	1863.0	-	-
3	97.2	20	3	1973.0	1605.0	1583.0
4	78.7	14	2	1466.0	1743.0	-
5	74.2	12	2	1280.0	1219.0	-
6	88.7	17	3	1293.0	1934.0	1273.0
7	54.3	6	1	1991.0	-	-
8	95.4	19	3	1580.0	1555.0	1791.0

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_11 Number of Bursts in Trial: 17						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	73.7	12	2	1208.0	1497.0	-
2	97.4	20	3	1942.0	1754.0	1613.0
3	91.7	18	3	1999.0	1702.0	1462.0
4	66.2	10	1	1393.0	-	-
5	70.8	11	2	1968.0	1821.0	-
6	52.3	5	1	1740.0	-	-
7	78.9	14	2	1308.0	1984.0	-
8	70.9	11	2	1050.0	1358.0	-
9	75.6	13	2	1437.0	1430.0	-
10	59.1	7	1	1697.0	-	-
11	77.0	13	2	1397.0	1304.0	-
12	67.9	10	2	1803.0	1083.0	-
13	81.2	14	2	1720.0	1932.0	-
14	78.7	14	2	1247.0	1121.0	-
15	63.3	9	1	1634.0	-	-
16	68.9	11	2	1849.0	1423.0	-
17	59.3	7	1	1093.0	-	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_12 Number of Bursts in Trial: 19						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	98.9	20	3	1381.0	1680.0	1488.0
2	82.3	15	2	1716.0	1855.0	-
3	86.7	16	3	1211.0	1400.0	1919.0
4	89.7	17	3	1861.0	1068.0	1282.0
5	98.6	20	3	1507.0	1194.0	1461.0
6	71.1	11	2	1921.0	1789.0	-
7	55.9	6	1	1947.0	-	-
8	67.9	10	2	1350.0	1372.0	-
9	84.4	16	3	1203.0	1107.0	1443.0
10	58.8	7	1	1715.0	-	-
11	65.6	9	1	1017.0	-	-
12	78.5	14	2	1911.0	1704.0	-
13	82.3	15	2	1845.0	1686.0	-
14	90.1	17	3	1938.0	1071.0	1266.0
15	90.2	17	3	1989.0	1089.0	1950.0
16	83.1	15	2	1943.0	1406.0	-
17	58.8	7	1	1742.0	-	-
18	77.0	13	2	1187.0	1657.0	-
19	55.0	6	1	1012.0	-	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_13 Number of Bursts in Trial: 15						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	58.1	7	1	1929.0	-	-
2	52.1	5	1	1910.0	-	-
3	59.9	8	1	1971.0	-	-
4	60.2	8	1	1812.0	-	-
5	95.9	19	3	1399.0	1906.0	1608.0
6	79.9	14	2	1626.0	1859.0	-
7	78.5	14	2	1238.0	1917.0	-
8	53.8	6	1	1763.0	-	-
9	64.7	9	1	1800.0	-	-
10	61.4	8	1	1390.0	-	-
11	83.2	15	2	1692.0	1858.0	-
12	84.7	16	3	1533.0	1677.0	1638.0
13	88.7	17	3	1703.0	1528.0	1058.0
14	78.3	14	2	1258.0	1951.0	-
15	69.3	11	2	1731.0	1717.0	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_14 Number of Bursts in Trial: 12						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	75.3	13	2	1994.0	1612.0	-
2	56.3	7	1	1456.0	-	-
3	67.7	10	2	1617.0	1185.0	-
4	55.6	6	1	1337.0	-	-
5	75.2	13	2	1421.0	1267.0	-
6	76.3	13	2	1359.0	1305.0	-
7	85.7	16	3	1547.0	1362.0	1924.0
8	98.4	20	3	1873.0	1550.0	1249.0
9	86.4	16	3	1779.0	1439.0	1046.0
10	93.6	18	3	1059.0	1031.0	1452.0

11	63.3	9	1	1328.0	-	-
12	92.4	18	3	1412.0	1673.0	1322.0

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_15
Number of Bursts in Trial: 19

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	93.3	18	3	1983.0	1912.0	1535.0
2	69.1	11	2	1102.0	1794.0	-
3	86.9	16	3	1044.0	1152.0	1148.0
4	84.9	16	3	1894.0	1948.0	1118.0
5	72.3	12	2	1094.0	1916.0	-
6	51.7	5	1	1447.0	-	-
7	58.3	7	1	1429.0	-	-
8	60.8	8	1	1979.0	-	-
9	57.1	7	1	1641.0	-	-
10	88.9	17	3	1886.0	1964.0	1489.0
11	72.0	12	2	1909.0	1297.0	-
12	90.9	18	3	1261.0	1566.0	1370.0
13	59.8	8	1	1552.0	-	-
14	70.0	11	2	1759.0	1291.0	-
15	67.2	10	2	1625.0	1881.0	-
16	91.2	18	3	1382.0	1832.0	1661.0
17	56.5	7	1	1483.0	-	-
18	51.2	5	1	1237.0	-	-
19	74.1	12	2	1471.0	1245.0	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_16 Number of Bursts in Trial: 14						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	76.9	13	2	1110.0	1140.0	-
2	50.2	5	1	1316.0	-	-
3	62.9	9	1	1520.0	-	-
4	64.7	9	1	1902.0	-	-
5	83.8	15	3	1410.0	1097.0	1621.0
6	65.4	9	1	1944.0	-	-
7	53.2	6	1	1024.0	-	-
8	51.7	5	1	1603.0	-	-
9	78.7	14	2	1804.0	1168.0	-
10	72.4	12	2	1030.0	1343.0	-
11	53.8	6	1	1327.0	-	-
12	73.6	12	2	1524.0	1553.0	-
13	66.7	10	2	1722.0	1122.0	-
14	82.5	15	2	1404.0	1019.0	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_17 Number of Bursts in Trial: 20						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	87.6	17	3	1565.0	1055.0	1840.0
2	85.2	16	3	1735.0	1541.0	1408.0
3	84.8	16	3	1534.0	1889.0	1463.0
4	77.9	13	2	1749.0	1460.0	-
5	76.5	13	2	1518.0	1485.0	-
6	60.9	8	1	1540.0	-	-
7	83.0	15	2	1080.0	1010.0	-
8	80.4	14	2	1824.0	1752.0	-
9	67.5	10	2	1764.0	1181.0	-
10	62.1	8	1	1495.0	-	-
11	86.4	16	3	1773.0	1966.0	1263.0

12	84.3	15	3	1593.0	1188.0	1788.0
13	76.9	13	2	1226.0	1537.0	-
14	95.8	19	3	1192.0	1298.0	1844.0
15	55.2	6	1	1644.0	-	-
16	59.0	7	1	1402.0	-	-
17	94.5	19	3	1296.0	1700.0	1283.0
18	91.9	18	3	1970.0	1978.0	1165.0
19	85.2	16	3	1732.0	1551.0	1189.0
20	69.5	11	2	1038.0	1224.0	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_18

Number of Bursts in Trial: 12

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	86.4	16	3	1259.0	1918.0	1455.0
2	92.2	18	3	1598.0	1719.0	1895.0
3	80.4	14	2	1816.0	1899.0	-
4	54.3	6	1	1335.0	-	-
5	53.1	5	1	1303.0	-	-
6	69.4	11	2	1503.0	1546.0	-
7	69.1	11	2	1279.0	1639.0	-
8	100.0	20	3	1375.0	1438.0	1595.0
9	79.6	14	2	1239.0	1705.0	-
10	88.4	17	3	1374.0	1579.0	1623.0
11	53.3	6	1	1016.0	-	-
12	65.3	9	1	1709.0	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_19

Number of Bursts in Trial: 14

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	55.3	6	1	1920.0	-	-
2	58.3	7	1	1797.0	-	-
3	72.3	12	2	1610.0	1039.0	-
4	84.8	16	3	1131.0	1761.0	1721.0
5	82.5	15	2	1875.0	1431.0	-
6	63.3	9	1	1095.0	-	-
7	80.0	14	2	1119.0	1913.0	-

8	90.3	17	3	1660.0	1853.0	1123.0
9	91.1	18	3	1539.0	1783.0	1172.0
10	96.6	19	3	1525.0	1036.0	1385.0
11	82.7	15	2	1710.0	1990.0	-
12	50.7	5	1	1234.0	-	-
13	78.4	14	2	1047.0	1109.0	-
14	99.5	20	3	1299.0	1965.0	1869.0

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_20
Number of Bursts in Trial: 12

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	88.6	17	3	1501.0	1067.0	1927.0
2	57.4	7	1	1723.0	-	-
3	96.6	19	3	1086.0	1658.0	1324.0
4	69.7	11	2	1751.0	1945.0	-
5	77.9	13	2	1642.0	1317.0	-
6	62.0	8	1	1866.0	-	-
7	88.4	17	3	1997.0	1077.0	1366.0
8	97.3	20	3	1790.0	1896.0	1367.0
9	96.2	19	3	1391.0	1787.0	1672.0
10	95.4	19	3	1020.0	1892.0	1414.0
11	54.8	6	1	1084.0	-	-
12	80.4	14	2	1850.0	1436.0	-

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_21
Number of Bursts in Trial: 16

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	74.7	12	2	1619.0	1611.0	-
2	57.1	7	1	1560.0	-	-
3	91.9	18	3	1392.0	1475.0	1276.0
4	83.1	15	2	1809.0	1772.0	-
5	50.7	5	1	1003.0	-	-
6	79.2	14	2	1574.0	1600.0	-
7	58.7	7	1	1186.0	-	-
8	71.0	11	2	1521.0	1567.0	-

9	79.0	14	2	1777.0	1960.0	-
10	68.5	10	2	1284.0	1428.0	-
11	73.5	12	2	1904.0	1352.0	-
12	70.5	11	2	1864.0	1115.0	-
13	76.6	13	2	1045.0	1300.0	-
14	81.2	14	2	1160.0	1675.0	-
15	61.8	8	1	1277.0	-	-
16	94.9	19	3	1450.0	1206.0	1860.0

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_22
Number of Bursts in Trial: 12

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	78.5	14	2	1653.0	1698.0	-
2	89.8	17	3	1174.0	1962.0	1167.0
3	59.4	8	1	1982.0	-	-
4	79.6	14	2	1633.0	1890.0	-
5	76.0	13	2	1112.0	1811.0	-
6	53.6	6	1	1144.0	-	-
7	80.9	14	2	1220.0	1053.0	-
8	61.6	8	1	1724.0	-	-
9	53.4	6	1	1901.0	-	-
10	59.9	8	1	1379.0	-	-
11	60.4	8	1	1453.0	-	-
12	91.4	18	3	1768.0	1726.0	1227.0

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_23
Number of Bursts in Trial: 20

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	77.0	13	2	1191.0	1363.0	-
2	58.1	7	1	1248.0	-	-
3	62.1	8	1	1836.0	-	-
4	76.9	13	2	1334.0	1236.0	-
5	80.0	14	2	1914.0	1852.0	-
6	52.0	5	1	1701.0	-	-
7	88.6	17	3	1693.0	1995.0	1905.0

8	72.9	12	2	1922.0	1387.0	-
9	98.5	20	3	1839.0	1746.0	1389.0
10	57.9	7	1	1193.0	-	-
11	95.9	19	3	1659.0	1870.0	1066.0
12	53.5	6	1	1162.0	-	-
13	92.0	18	3	1745.0	1654.0	1458.0
14	57.3	7	1	1834.0	-	-
15	70.5	11	2	1684.0	1586.0	-
16	70.0	11	2	1042.0	1664.0	-
17	84.0	15	3	1765.0	1630.0	1176.0
18	76.1	13	2	1557.0	1057.0	-
19	93.2	18	3	1985.0	1018.0	1340.0
20	96.8	19	3	1760.0	1614.0	1817.0

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_24

Number of Bursts in Trial: 14

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	50.1	5	1	1841.0	-	-
2	93.5	18	3	1590.0	1081.0	1413.0
3	68.8	11	2	1707.0	1577.0	-
4	56.3	7	1	1056.0	-	-
5	86.0	16	3	1953.0	1108.0	1987.0
6	75.2	13	2	1572.0	1536.0	-
7	54.4	6	1	1517.0	-	-
8	71.1	11	2	1329.0	1243.0	-
9	76.2	13	2	1940.0	1770.0	-
10	80.2	14	2	1098.0	1209.0	-
11	79.7	14	2	1588.0	1214.0	-
12	90.9	18	3	1615.0	1862.0	1601.0
13	68.7	10	2	1377.0	1441.0	-
14	67.4	10	2	1872.0	1313.0	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_25

Number of Bursts in Trial: 13

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)

1	94.0	19	3	1643.0	1748.0	1941.0
2	70.8	11	2	1177.0	1201.0	-
3	56.3	7	1	1006.0	-	-
4	96.7	19	3	1230.0	1163.0	1332.0
5	90.6	17	3	1217.0	1582.0	1498.0
6	74.5	12	2	1569.0	1281.0	-
7	92.6	18	3	1065.0	1669.0	1222.0
8	89.0	17	3	1493.0	1135.0	1380.0
9	96.5	19	3	1607.0	1822.0	1602.0
10	70.5	11	2	1141.0	1178.0	-
11	94.0	19	3	1009.0	1629.0	1956.0
12	55.8	6	1	1290.0	-	-
13	87.7	17	3	1435.0	1963.0	1164.0

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_26
Number of Bursts in Trial: 8

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	68.6	10	2	1306.0	1161.0	-
2	83.1	15	2	1420.0	1315.0	-
3	60.9	8	1	1687.0	-	-
4	77.7	13	2	1776.0	1158.0	-
5	77.4	13	2	1793.0	1510.0	-
6	66.8	10	2	1576.0	1323.0	-
7	63.7	9	1	1333.0	-	-
8	91.2	18	3	1409.0	1681.0	1275.0

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_27
Number of Bursts in Trial: 17

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	83.6	15	3	1632.0	1195.0	1000.0
2	89.4	17	3	1173.0	1627.0	1656.0
3	55.8	6	1	1532.0	-	-
4	90.9	18	3	1981.0	1554.0	1998.0
5	54.7	6	1	1825.0	-	-
6	97.7	20	3	1734.0	1202.0	1250.0

7	67.5	10	2	1571.0	1434.0	-
8	96.7	19	3	1589.0	1469.0	1268.0
9	68.3	10	2	1750.0	1954.0	-
10	78.3	14	2	1591.0	1082.0	-
11	55.0	6	1	1427.0	-	-
12	84.9	16	3	1129.0	1936.0	1199.0
13	74.6	12	2	1959.0	1856.0	-
14	63.3	9	1	1885.0	-	-
15	99.8	20	3	1035.0	1515.0	1120.0
16	63.6	9	1	1647.0	-	-
17	87.3	16	3	1931.0	1051.0	1831.0

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_28

Number of Bursts in Trial: 19

Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	85.6	16	3	1946.0	1078.0	1015.0
2	68.6	10	2	1029.0	1780.0	-
3	54.2	6	1	1111.0	-	-
4	61.2	8	1	1104.0	-	-
5	97.1	20	3	1157.0	1969.0	1100.0
6	98.3	20	3	1142.0	1699.0	1622.0
7	62.4	8	1	1655.0	-	-
8	80.2	14	2	1126.0	1769.0	-
9	87.5	17	3	1216.0	1448.0	1179.0
10	85.8	16	3	1847.0	1348.0	1472.0
11	88.1	17	3	1023.0	1124.0	1631.0
12	65.3	9	1	1848.0	-	-
13	52.5	5	1	1470.0	-	-
14	52.3	5	1	1312.0	-	-
15	74.1	12	2	1915.0	1200.0	-
16	54.9	6	1	1479.0	-	-
17	76.2	13	2	1376.0	1502.0	-
18	60.4	8	1	1758.0	-	-
19	81.5	15	2	1491.0	1103.0	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_29 Number of Bursts in Trial: 12						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	50.5	5	1	1857.0	-	-
2	55.7	6	1	1246.0	-	-
3	85.8	16	3	1774.0	1002.0	1967.0
4	76.9	13	2	1125.0	1474.0	-
5	75.1	13	2	1254.0	1052.0	-
6	92.3	18	3	1180.0	1486.0	1492.0
7	78.1	14	2	1301.0	1757.0	-
8	92.2	18	3	1898.0	1252.0	1713.0
9	89.0	17	3	1260.0	1706.0	1411.0
10	70.9	11	2	1578.0	1620.0	-
11	63.1	9	1	1782.0	-	-
12	55.3	6	1	1522.0	-	-

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_30 Number of Bursts in Trial: 18						
Burst	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	83.4	15	3	1454.0	1205.0	1801.0
2	97.3	20	3	1319.0	1826.0	1635.0
3	90.4	17	3	1079.0	1986.0	1674.0
4	91.8	18	3	1563.0	1151.0	1802.0
5	98.2	20	3	1876.0	1977.0	1766.0
6	59.5	8	1	1952.0	-	-
7	80.0	14	2	1253.0	1137.0	-
8	86.5	16	3	1054.0	1128.0	1828.0
9	91.1	18	3	1105.0	1599.0	1442.0
10	93.5	18	3	1867.0	1373.0	1087.0
11	60.7	8	1	1033.0	-	-
12	67.2	10	2	1288.0	1405.0	-

13	61.8	8	1	1585.0	-	-
14	79.4	14	2	1933.0	1667.0	-
15	81.4	15	2	1096.0	1464.0	-
16	65.7	10	1	1496.0	-	-
17	76.0	13	2	1733.0	1255.0	-
18	81.0	14	2	1326.0	1668.0	-

A.2 The Frequency Hopping Radar pattern

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_01					
Frequency (MHz)	0	1	2	3	4
0	5364	5717	5334	5705	5549
5	5312	5260	5635	5503	5570
10	5347	5508	5292	5447	5588
15	5621	5638	5296	5482	5455
20	5636	5593	5434	5306	5411
25	5556	5378	5478	5432	5341
30	5438	5294	5496	5285	5327
35	5293	5502	5277	5403	5330
40	5612	5720	5544	5615	5561
45	5676	5704	5366	5290	5387
50	5278	5723	5383	5368	5263
55	5630	5375	5718	5281	5604
60	5453	5509	5479	5400	5262
65	5354	5467	5545	5466	5611
70	5715	5402	5568	5641	5396
75	5567	5557	5674	5359	5392
80	5313	5537	5258	5475	5272
85	5388	5474	5555	5410	5355
90	5517	5382	5386	5664	5697
95	5721	5268	5489	5706	5525

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_02					
Frequency (MHz)	0	1	2	3	4
0	5619	5578	5270	5294	5354
5	5660	5710	5666	5399	5656
10	5297	5333	5642	5609	5709
15	5668	5527	5647	5547	5284
20	5375	5395	5384	5444	5705
25	5584	5536	5480	5658	5453
30	5403	5576	5588	5641	5465
35	5674	5580	5623	5559	5627
40	5553	5704	5673	5633	5724
45	5373	5348	5331	5513	5637
50	5544	5314	5585	5697	5257
55	5672	5471	5423	5424	5638

60	5644	5345	5569	5655	5413
65	5271	5415	5550	5371	5335
70	5382	5416	5533	5706	5558
75	5535	5692	5256	5436	5716
80	5385	5669	5458	5349	5456
85	5336	5634	5703	5352	5280
90	5506	5313	5690	5326	5631
95	5628	5546	5289	5490	5590

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_03					
Frequency (MHz)	0	1	2	3	4
0	5302	5342	5681	5455	5611
5	5493	5682	5310	5257	5606
10	5587	5561	5374	5362	5630
15	5322	5320	5502	5475	5364
20	5555	5353	5316	5387	5357
25	5332	5654	5312	5262	5409
30	5522	5547	5410	5618	5253
35	5311	5683	5556	5470	5258
40	5537	5398	5710	5491	5469
45	5670	5465	5704	5456	5406
50	5384	5400	5513	5720	5365
55	5296	5276	5641	5445	5626
60	5564	5620	5395	5334	5290
65	5401	5578	5359	5569	5586
70	5282	5649	5407	5368	5647
75	5643	5509	5592	5675	5678
80	5581	5275	5381	5512	5600
85	5304	5382	5389	5458	5666
90	5419	5642	5350	5526	5519
95	5709	5692	5418	5653	5354

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_04					
Frequency (MHz)	0	1	2	3	4
0	5557	5581	5617	5616	5356
5	5535	5704	5385	5420	5338
10	5518	5350	5415	5651	5313
15	5447	5605	5520	5653	5563
20	5519	5257	5476	5330	5598
25	5506	5515	5366	5443	5661
30	5533	5367	5358	5502	5606
35	5347	5647	5266	5411	5451
40	5334	5332	5709	5667	5394
45	5684	5539	5464	5437	5665
50	5389	5421	5416	5574	5488
55	5536	5580	5279	5439	5324
60	5499	5710	5708	5404	5305
65	5295	5525	5589	5359	5452

70	5576	5272	5492	5388	5551
75	5547	5323	5724	5256	5721
80	5293	5379	5584	5361	5508
85	5479	5693	5341	5655	5715
90	5629	5494	5401	5637	5423
95	5280	5316	5662	5281	5649

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_05					
Frequency (MHz)	0	1	2	3	4
0	5337	5345	5553	5302	5673
5	5577	5629	5460	5583	5642
10	5352	5614	5456	5655	5672
15	5401	5574	5611	5565	5370
20	5571	5588	5295	5468	5303
25	5486	5358	5718	5470	5380
30	5703	5422	5324	5573	5654
35	5426	5263	5634	5661	5462
40	5648	5498	5270	5474	5664
45	5701	5622	5425	5490	5552
50	5265	5597	5467	5300	5432
55	5724	5437	5469	5258	5715
60	5453	5277	5637	5705	5348
65	5593	5262	5561	5251	5255
70	5275	5341	5364	5510	5516
75	5346	5712	5504	5549	5356
80	5527	5376	5264	5447	5442
85	5454	5658	5428	5544	5374
90	5343	5663	5478	5689	5384
95	5372	5707	5274	5292	5466

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_06					
Frequency (MHz)	0	1	2	3	4
0	5592	5584	5489	5463	5418
5	5619	5651	5535	5271	5374
10	5283	5500	5594	5375	5693
15	5604	5714	5610	5562	5482
20	5279	5711	5557	5276	5277
25	5307	5446	5574	5414	5270
30	5408	5281	5691	5428	5624
35	5625	5354	5430	5339	5376
40	5487	5581	5683	5617	5630
45	5644	5705	5483	5342	5519
50	5298	5518	5563	5598	5437
55	5391	5659	5455	5686	5582
60	5697	5469	5628	5294	5319
65	5597	5631	5521	5436	5423
70	5278	5665	5340	5485	5466
75	5438	5315	5275	5614	5330

80	5520	5590	5596	5264	5289
85	5405	5646	5526	5346	5676
90	5267	5539	5349	5600	5258
95	5671	5533	5345	5587	5523

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_07					
Frequency (MHz)	0	1	2	3	4
0	5372	5348	5425	5624	5260
5	5283	5576	5610	5434	5581
10	5689	5289	5635	5570	5714
15	5577	5256	5342	5558	5279
20	5490	5652	5549	5724	5640
25	5634	5552	5300	5448	5409
30	5297	5713	5431	5580	5444
35	5667	5445	5701	5492	5290
40	5326	5286	5621	5382	5280
45	5559	5313	5541	5499	5704
50	5395	5474	5569	5274	5421
55	5698	5625	5345	5374	5657
60	5711	5519	5642	5301	5454
65	5715	5520	5536	5366	5413
70	5414	5378	5417	5316	5428
75	5357	5586	5484	5296	5430
80	5627	5684	5653	5273	5606
85	5465	5363	5491	5352	5355
90	5518	5631	5688	5588	5329
95	5485	5502	5590	5390	5531

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_08					
Frequency (MHz)	0	1	2	3	4
0	5530	5587	5361	5310	5480
5	5325	5598	5685	5500	5410
10	5523	5553	5676	5290	5260
15	5568	5383	5445	5603	5471
20	5498	5514	5690	5638	5697
25	5431	5583	5280	5404	5482
30	5451	5661	5670	5646	5354
35	5642	5331	5633	5594	5267
40	5301	5640	5369	5559	5622
45	5277	5391	5507	5396	5502
50	5552	5494	5271	5650	5620
55	5363	5719	5545	5338	5299
60	5564	5628	5268	5684	5608
65	5283	5343	5584	5572	5673
70	5683	5517	5492	5381	5266
75	5292	5387	5326	5706	5627
80	5682	5262	5367	5276	5716
85	5270	5511	5428	5458	5359

90	5351	5600	5285	5394	5571
95	5400	5265	5327	5643	5313

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_09					
Frequency (MHz)	0	1	2	3	4
0	5310	5351	5297	5374	5322
5	5367	5523	5285	5663	5617
10	5454	5342	5717	5485	5281
15	5656	5510	5548	5648	5409
20	5680	5631	5630	5670	5319
25	5435	5483	5508	5516	5493
30	5647	5627	5386	5506	5462
35	5470	5724	5390	5420	5690
40	5576	5452	5497	5387	5274
45	5320	5487	5479	5560	5605
50	5381	5622	5671	5445	5489
55	5526	5253	5279	5502	5397
60	5629	5440	5678	5704	5544
65	5533	5608	5408	5478	5655
70	5481	5590	5268	5346	5673
75	5254	5295	5258	5459	5372
80	5623	5401	5267	5706	5545
85	5488	5650	5324	5305	5373
90	5559	5464	5660	5344	5698
95	5394	5378	5363	5321	5311

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_10					
Frequency (MHz)	0	1	2	3	4
0	5565	5590	5708	5535	5542
5	5409	5545	5360	5351	5349
10	5288	5606	5283	5583	5302
15	5269	5637	5554	5693	5380
20	5417	5274	5572	5719	5643
25	5682	5287	5686	5612	5550
30	5632	5536	5584	5504	5280
35	5660	5512	5340	5661	5573
40	5604	5415	5435	5530	5271
45	5627	5467	5562	5618	5658
50	5646	5401	5527	5722	5541
55	5268	5336	5714	5372	5473
60	5526	5539	5574	5369	5650
65	5367	5482	5547	5715	5370
70	5598	5252	5464	5484	5439
75	5622	5305	5642	5374	5341
80	5711	5385	5404	5264	5523
85	5448	5326	5451	5270	5667
90	5356	5621	5303	5724	5470
95	5639	5386	5361	5278	5378

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_11					
Frequency (MHz)	0	1	2	3	4
0	5345	5354	5644	5696	5384
5	5548	5470	5435	5514	5653
10	5694	5492	5324	5303	5323
15	5357	5667	5657	5641	5572
20	5425	5440	5610	5711	5616
25	5473	5414	5338	5584	5674
30	5541	5719	5432	5480	5651
35	5431	5457	5348	5615	5254
40	5715	5373	5295	5365	5556
45	5447	5645	5579	5533	5277
50	5703	5298	5252	5566	5280
55	5330	5636	5562	5403	5444
60	5655	5704	5519	5676	5427
65	5596	5568	5583	5450	5640
70	5304	5421	5547	5288	5598
75	5264	5494	5484	5695	5488
80	5495	5660	5293	5527	5639
85	5718	5351	5643	5511	5462
90	5632	5310	5394	5501	5476
95	5576	5327	5378	5333	5362

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_12					
Frequency (MHz)	0	1	2	3	4
0	5503	5593	5580	5382	5604
5	5590	5492	5510	5385	5625
10	5281	5365	5498	5344	5348
15	5319	5285	5686	5386	5336
20	5509	5551	5325	5589	5361
25	5563	5520	5442	5618	5716
30	5411	5459	5681	5300	5315
35	5522	5350	5501	5529	5568
40	5323	5689	5535	5362	5485
45	5427	5253	5637	5667	5628
50	5404	5349	5341	5389	5602
55	5518	5277	5697	5415	5309
60	5394	5464	5508	5639	5391
65	5380	5282	5532	5582	5493
70	5533	5587	5515	5574	5698
75	5483	5614	5530	5676	5265
80	5605	5441	5360	5636	5438
85	5351	5474	5654	5500	5642
90	5321	5579	5482	5610	5684
95	5388	5443	5547	5581	5527

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_13					
Frequency (MHz)	0	1	2	3	4
0	5283	5357	5516	5543	5446
5	5632	5417	5585	5268	5592
10	5459	5545	5406	5693	5365
15	5436	5388	5256	5578	5344
20	5675	5492	5317	5562	5627
25	5512	5723	5546	5652	5380
30	5300	5455	5674	5358	5498
35	5454	5710	5621	5654	5443
40	5504	5678	5359	5407	5336
45	5695	5720	5685	5580	5400
50	5430	5687	5706	5544	5467
55	5419	5289	5438	5559	5506
60	5340	5554	5329	5558	5327
65	5385	5662	5519	5590	5364
70	5550	5657	5355	5259	5673
75	5420	5618	5697	5524	5275
80	5633	5254	5424	5534	5274
85	5465	5315	5415	5269	5488
90	5547	5566	5616	5509	5427
95	5445	5560	5636	5347	5432

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_14					
Frequency (MHz)	0	1	2	3	4
0	5538	5596	5452	5704	5666
5	5674	5439	5660	5431	5324
10	5390	5334	5544	5413	5386
15	5524	5573	5491	5301	5295
20	5352	5269	5530	5406	5535
25	5515	5364	5451	5650	5686
30	5422	5664	5412	5317	5607
35	5318	5496	5326	5417	5429
40	5454	5343	5489	5565	5443
45	5356	5721	5387	5419	5656
50	5298	5475	5283	5281	5519
55	5393	5498	5657	5713	5260
60	5470	5724	5647	5477	5531
65	5278	5594	5597	5663	5259
70	5505	5690	5688	5526	5282
75	5719	5638	5672	5253	5478
80	5338	5630	5450	5632	5266
85	5497	5466	5333	5366	5339
90	5434	5591	5581	5351	5250
95	5411	5442	5264	5545	5527

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_15

Frequency (MHz)	0	1	2	3	4
0	5318	5360	5388	5390	5508
5	5338	5364	5260	5594	5628
10	5321	5598	5585	5511	5407
15	5612	5700	5497	5724	5487
20	5263	5435	5471	5398	5306
25	5691	5654	5279	5720	5464
30	5650	5369	5532	5284	5516
35	5635	5417	5310	5582	5368
40	5657	5669	5503	5683	5353
45	5553	5270	5502	5714	5351
50	5362	5634	5457	5608	5711
55	5337	5607	5452	5372	5706
60	5599	5414	5396	5576	5303
65	5574	5616	5702	5533	5534
70	5489	5466	5428	5588	5693
75	5537	5478	5293	5402	5387
80	5716	5449	5266	5259	5377
85	5401	5627	5645	5632	5583
90	5557	5561	5298	5320	5339
95	5597	5518	5708	5262	5543

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_16					
Frequency (MHz)	0	1	2	3	4
0	5573	5599	5324	5551	5253
5	5380	5386	5335	5660	5360
10	5630	5484	5626	5706	5428
15	5603	5255	5600	5294	5679
20	5271	5504	5412	5487	5481
25	5669	5640	5382	5480	5279
30	5506	5539	5326	5272	5533
35	5336	5299	5508	5581	5260
40	5282	5496	5277	5441	5448
45	5447	5482	5250	5585	5297
50	5404	5627	5510	5633	5553
55	5319	5534	5659	5320	5406
60	5562	5351	5677	5579	5438
65	5408	5604	5520	5342	5651
70	5569	5366	5284	5647	5500
75	5574	5318	5289	5381	5437
80	5522	5530	5697	5701	5376
85	5515	5444	5561	5624	5365
90	5535	5278	5641	5371	5587
95	5357	5552	5493	5560	5608

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_17					
Frequency (MHz)	0	1	2	3	4

0	5256	5460	5260	5615	5570
5	5422	5311	5410	5348	5567
10	5561	5273	5667	5426	5449
15	5691	5382	5703	5339	5396
20	5279	5670	5353	5479	5454
25	5557	5492	5488	5584	5313
30	5645	5525	5283	5487	5685
35	5534	5341	5599	5377	5413
40	5671	5335	5360	5379	5591
45	5444	5411	5705	5668	5258
50	5457	5514	5289	5334	5604
55	5408	5357	5603	5263	5655
60	5548	5551	5269	5383	5715
65	5527	5466	5640	5600	5508
70	5576	5651	5450	5669	5560
75	5321	5613	5609	5642	5678
80	5478	5486	5296	5608	5624
85	5524	5438	5364	5580	5470
90	5606	5325	5555	5489	5375
95	5480	5674	5663	5282	5573

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_18					
Frequency (MHz)	0	1	2	3	4
0	5511	5699	5671	5301	5315
5	5464	5333	5485	5396	5492
10	5537	5708	5621	5470	5304
15	5509	5331	5287	5588	5665
20	5264	5391	5568	5427	5348
25	5441	5691	5688	5347	5687
30	5414	5715	5605	5459	5354
35	5480	5312	5648	5663	5682
40	5271	5540	5317	5356	5718
45	5685	5276	5316	5413	5640
50	5510	5655	5497	5558	5450
55	5599	5692	5370	5367	5522
60	5434	5328	5547	5353	5412
65	5366	5549	5544	5408	5446
70	5253	5266	5546	5421	5462
75	5355	5481	5719	5659	5633
80	5499	5552	5297	5521	5280
85	5438	5681	5543	5565	5474
90	5279	5608	5375	5619	5712
95	5523	5257	5541	5507	5261

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_19					
Frequency (MHz)	0	1	2	3	4
0	5291	5463	5607	5462	5632
5	5603	5258	5560	5674	5326

10	5274	5341	5491	5392	5636
15	5434	5332	5305	5673	5430
20	5400	5711	5293	5419	5317
25	5381	5254	5303	5672	5345
30	5611	5649	5619	5403	5541
35	5596	5585	5623	5633	5438
40	5647	5665	5359	5374	5466
45	5666	5516	5589	5706	5586
50	5394	5312	5646	5661	5493
55	5543	5599	5273	5476	5276
60	5455	5664	5498	5580	5618
65	5338	5531	5435	5629	5424
70	5311	5309	5314	5450	5310
75	5290	5640	5410	5609	5333
80	5461	5275	5518	5572	5620
85	5506	5282	5342	5330	5573
90	5718	5557	5517	5601	5708
95	5298	5525	5405	5304	5682

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_20					
Frequency (MHz)	0	1	2	3	4
0	5546	5702	5543	5623	5377
5	5645	5280	5635	5265	5335
10	5257	5590	5315	5439	5512
15	5383	5288	5440	5594	5681
20	5596	5273	5649	5373	5502
25	5620	5622	5518	5415	5393
30	5289	5629	5560	5385	5372
35	5283	5494	5337	5510	5424
40	5706	5571	5361	5435	5479
45	5442	5519	5456	5392	5290
50	5282	5297	5679	5716	5500
55	5600	5275	5464	5672	5308
60	5577	5401	5390	5447	5450
65	5608	5334	5507	5615	5524
70	5285	5322	5430	5433	5621
75	5662	5719	5589	5528	5515
80	5292	5462	5566	5307	5284
85	5296	5474	5724	5399	5710
90	5250	5353	5509	5303	5597
95	5407	5428	5562	5678	5300

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_21					
Frequency (MHz)	0	1	2	3	4
0	5704	5466	5479	5309	5597
5	5687	5680	5710	5428	5639
10	5566	5379	5356	5634	5533
15	5471	5318	5543	5422	5311

20	5592	5665	5641	5443	5390
25	5569	5350	5622	5449	5435
30	5653	5586	5300	5537	5667
35	5325	5585	5608	5269	5521
40	5263	5314	5509	5504	5529
45	5408	5528	5525	5393	5572
50	5343	5646	5333	5386	5502
55	5660	5688	5554	5465	5677
60	5338	5326	5454	5260	5615
65	5403	5347	5591	5396	5555
70	5515	5579	5601	5527	5387
75	5261	5707	5291	5550	5602
80	5439	5257	5370	5692	5498
85	5512	5487	5719	5401	5650
90	5335	5402	5255	5659	5722
95	5364	5493	5676	5510	5700

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_22					
Frequency (MHz)	0	1	2	3	4
0	5484	5705	5415	5470	5439
5	5351	5702	5310	5591	5371
10	5497	5265	5494	5354	5554
15	5559	5445	5646	5370	5503
20	5600	5356	5252	5255	5416
25	5656	5421	5456	5251	5483
30	5477	5542	5543	5418	5311
35	5390	5464	5676	5501	5422
40	5435	5674	5447	5269	5526
45	5337	5508	5608	5451	5625
50	5522	5642	5384	5475	5703
55	5507	5401	5655	5496	5309
60	5455	5619	5680	5326	5414
65	5345	5492	5295	5318	5273
70	5587	5530	5711	5615	5666
75	5638	5670	5622	5583	5691
80	5367	5626	5381	5561	5412
85	5682	5718	5589	5286	5289
90	5553	5314	5329	5261	5465
95	5541	5463	5574	5671	5458

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_23					
Frequency (MHz)	0	1	2	3	4
0	5264	5469	5351	5631	5659
5	5393	5627	5385	5279	5578
10	5428	5529	5535	5549	5575
15	5647	5572	5274	5415	5695
20	5608	5425	5668	5722	5389
25	5544	5370	5355	5517	5616

30	5528	5500	5633	5463	5685
35	5603	5292	5297	5349	5513
40	5577	5509	5523	5644	5488
45	5691	5412	5678	5495	5398
50	5343	5435	5564	5526	5451
55	5589	5462	5315	5280	5584
60	5309	5625	5336	5615	5294
65	5530	5702	5565	5596	5345
70	5670	5630	5560	5591	5607
75	5693	5468	5477	5407	5545
80	5721	5409	5402	5525	5552
85	5381	5483	5340	5326	5609
90	5494	5364	5499	5423	5465
95	5518	5558	5569	5716	5718

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_24					
Frequency (MHz)	0	1	2	3	4
0	5519	5708	5287	5695	5501
5	5435	5649	5460	5442	5407
10	5262	5318	5576	5269	5596
15	5638	5699	5377	5412	5591
20	5706	5336	5362	5432	5697
25	5387	5556	5454	5658	5417
30	5457	5373	5712	5408	5645
35	5480	5568	5350	5360	5352
40	5660	5323	5652	5520	5573
45	5468	5299	5470	5634	5285
50	5274	5486	5275	5349	5298
55	5680	5416	5463	5512	5251
60	5713	5474	5667	5683	5453
65	5282	5438	5718	5566	5534
70	5399	5514	5656	5633	5409
75	5567	5584	5338	5545	5623
80	5490	5663	5612	5309	5406
85	5694	5525	5499	5448	5294
90	5574	5332	5659	5370	5436
95	5477	5415	5542	5467	5319

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_25					
Frequency (MHz)	0	1	2	3	4
0	5299	5472	5698	5381	5721
5	5477	5574	5535	5508	5614
10	5668	5582	5617	5367	5251
15	5351	5383	5505	5604	5527
20	5660	5647	5328	5335	5549
25	5590	5488	5700	5403	5414
30	5588	5389	5703	5309	5571
35	5364	5503	5274	5666	5365

40	5261	5417	5517	5405	5448
45	5382	5528	5687	5695	5537
50	5717	5393	5370	5653	5331
55	5600	5270	5639	5612	5515
60	5376	5667	5269	5252	5677
65	5586	5642	5258	5636	5543
70	5458	5479	5623	5400	5444
75	5301	5372	5428	5341	5575
80	5290	5316	5345	5347	5627
85	5349	5470	5565	5432	5628
90	5676	5447	5672	5552	5468
95	5469	5359	5321	5325	5678

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_26					
Frequency (MHz)	0	1	2	3	4
0	5457	5711	5634	5542	5563
5	5616	5596	5610	5671	5346
10	5599	5371	5658	5562	5638
15	5339	5381	5486	5453	5321
20	5535	5351	5588	5417	5308
25	5586	5498	5318	5289	5522
30	5364	5292	5706	5426	5448
35	5662	5257	5656	5663	5505
40	5674	5657	5514	5334	5428
45	5465	5489	5265	5437	5404
50	5396	5373	5564	5581	5324
55	5368	5625	5571	5399	5329
60	5557	5347	5677	5271	5462
65	5541	5576	5383	5280	5250
70	5261	5485	5519	5502	5578
75	5525	5604	5652	5613	5700
80	5435	5400	5609	5331	5635
85	5385	5281	5299	5595	5350
90	5382	5407	5695	5546	5683
95	5607	5263	5655	5550	5459

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_27					
Frequency (MHz)	0	1	2	3	4
0	5712	5475	5570	5703	5308
5	5658	5521	5685	5359	5650
10	5433	5257	5699	5282	5659
15	5427	5508	5589	5498	5610
20	5446	5420	5626	5409	5281
25	5377	5350	5424	5393	5556
30	5406	5656	5328	5315	5721
35	5587	5278	5528	5431	5674
40	5441	5531	5515	5422	5608
45	5263	5408	5548	5547	5318

50	5324	5280	5572	5639	5542
55	5671	5294	5558	5347	5494
60	5502	5654	5600	5692	5663
65	5662	5577	5311	5414	5661
70	5352	5711	5361	5334	5398
75	5461	5289	5698	5668	5585
80	5429	5723	5481	5629	5595
85	5300	5329	5331	5597	5598
90	5624	5368	5645	5679	5485
95	5707	5563	5591	5636	5537

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_28					
Frequency (MHz)	0	1	2	3	4
0	5492	5714	5506	5389	5625
5	5700	5543	5285	5522	5382
10	5364	5521	5265	5477	5680
15	5418	5635	5692	5327	5454
20	5586	5567	5498	5254	5299
25	5627	5594	5590	5448	5642
30	5661	5564	5541	5629	5369
35	5324	5584	5588	5280	5614
40	5453	5565	5605	5570	5291
45	5631	5371	5589	5534	5273
50	5690	5494	5355	5482	5707
55	5641	5513	5657	5659	5544
60	5486	5426	5638	5611	5516
65	5618	5684	5464	5697	5658
70	5374	5420	5258	5721	5566
75	5681	5358	5262	5696	5297
80	5621	5709	5439	5672	5304
85	5616	5368	5491	5475	5341
90	5580	5318	5281	5380	5519
95	5537	5362	5645	5524	5325

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_29					
Frequency (MHz)	0	1	2	3	4
0	5272	5478	5539	5550	5370
5	5267	5565	5360	5588	5589
10	5295	5310	5306	5672	5701
15	5506	5287	5320	5491	5519
20	5462	5655	5508	5490	5702
25	5531	5626	5355	5698	5624
30	5717	5401	5716	5264	5293
35	5557	5692	5262	5502	5594
40	5319	5391	5330	5602	5499
45	5271	5336	5663	5424	5476
50	5410	5449	5266	5342	5317
55	5299	5670	5564	5463	5460

60	5387	5311	5349	5489	5415
65	5252	5681	5687	5560	5552
70	5353	5576	5593	5683	5464
75	5507	5350	5379	5605	5366
80	5382	5547	5361	5371	5518
85	5385	5721	5294	5341	5612
90	5378	5621	5389	5457	5292
95	5534	5497	5412	5374	5597

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_30					
Frequency (MHz)	0	1	2	3	4
0	5430	5717	5475	5711	5687
5	5406	5490	5435	5276	5321
10	5604	5574	5444	5295	5722
15	5594	5414	5326	5536	5373
20	5346	5546	5579	5675	5419
25	5478	5558	5327	5658	5629
30	5420	5674	5519	5559	5432
35	5648	5488	5512	5513	5433
40	5402	5329	5570	5599	5331
45	5251	5624	5477	5266	5286
50	5625	5317	5431	5518	5621
55	5653	5279	5358	5343	5514
60	5434	5650	5627	5413	5509
65	5491	5660	5371	5545	5665
70	5291	5467	5259	5338	5486
75	5428	5528	5613	5481	5299
80	5549	5309	5612	5695	5681
85	5581	5422	5540	5386	5699
90	5503	5446	5256	5462	5640
95	5427	5377	5487	5398	5307

9 APPENDIX B - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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