DFS Test Report

Report No.: RF160906E06H-2

FCC ID: PY316200351

Test Model: R7000P

Series Model: R6900P

Received Date: Dec. 29, 2016

Test Date: Feb. 06 to 14, 2017

Issued Date: Mar. 29, 2017

Applicant: NETGEAR, Inc.

Address: 350 East Plumeria Drive San Jose, CA 95134

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 R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF160906E06H-2	Original release.	Mar. 29, 2017

1 Certificate of Conformity

Product:	AC2300 Smart WiFi Router
Brand:	NETGEAR
Test Model:	R7000P
Series Model:	R6900P
Sample Status:	ENGINEERING SAMPLE
Applicant:	NETGEAR, Inc.
Test Date:	Feb. 06 to 14, 2017
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 : Wendy Wu , **Date:** Mar. 29, 2017

Wendy Wu / Specialist

Approved by : , **Date:** Mar. 29, 2017

May Chen / 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	AC2300 Smart WiFi Router	R7000P	V1.0.0.39_20170111_dfs_debug

2.3 Description of Available Antennas to the EUT

Table 3: Antenna List

Antenna No.	Brand	Model	Ant. Gain(dBi)	Frequency range (GHz to GHz)	Antenna Type	Connecter Type
1	NA	NA	0.5	2.4~2.4835	Dipole	Re-SMA
			1.8	5.15~5.85		
2	NA	NA	0.5	2.4~2.4835	Dipole	Re-SMA
			1.8	5.15~5.85		
3	NA	NA	0.5	2.4~2.4835	Dipole	Re-SMA
			1.8	5.15~5.85		

2.4 EUT Maximum and Minimum Conducted Power

Table 4: The Measured Conducted Output Power

802.11a

CDD Mode

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	23.21	209.596	17.21	52.602
5470~5725	23.22	209.814	17.22	52.723

802.11ac (VHT20)

CDD Mode

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	23.38	217.575	17.38	54.702
5470~5725	23.31	214.045	17.31	53.827

Beamforming Mode MCS0NSS1

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	22.93	196.400	16.93	49.317
5470~5725	22.92	195.748	16.92	49.204

802.11ac (VHT40)

CDD Mode

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	23.88	244.451	17.88	61.376
5470~5725	23.91	246.197	17.91	61.802

Beamforming Mode MCS0NSS1

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	23.27	212.539	17.27	53.333
5470~5725	23.40	218.525	17.40	54.954

802.11ac (VHT80)

CDD Mode

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	18.61	72.675	12.61	18.239
5470~5725	23.86	243.178	17.86	61.094

Beamforming Mode MCS0NSS1

Frequency Band (MHz)	MAX. Power		MIN. Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	18.61	72.675	12.61	18.239
5470~5725	23.23	210.511	17.23	52.845

2.5 EUT Maximum and Minimum EIRP Power

Table 5: The EIRP Output Power List

802.11a

CDD Mode

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	25.01	317.24	19.01	79.616
5470~5725	25.02	317.57	19.02	79.799

802.11ac (VHT20)

CDD Mode

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	25.18	329.31	19.18	82.794
5470~5725	25.11	323.97	19.11	81.470

Beamforming Mode MCS0NSS1

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	29.50	891.541	23.50	223.872
5470~5725	29.49	888.582	23.48	222.844

802.11ac (VHT40)

CDD Mode

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	25.68	369.992	19.68	92.897
5470~5725	25.71	372.634	19.71	93.541

Beamforming Mode MCS0NSS1

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	29.84	964.803	23.84	242.103
5470~5725	29.97	991.976	23.97	249.459

802.11ac (VHT80)

CDD Mode

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	20.41	109.998	14.41	27.606
5470~5725	25.66	368.065	19.66	92.470

Beamforming Mode MCS0NSS1

Frequency Band (MHz)	MAX. EIRP Power		MIN. EIRP Power	
	Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
5250~5350	25.18	329.902	19.18	82.794
5470~5725	29.80	955.597	23.80	239.883

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

The UUT can adjust a transmitter's output power based on the signal level present at the receiver.TPC is auto controlled by software.

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 ≥ 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 in Table 5a	Roundup $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066μ sec, with a minimum increment of 1μ sec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 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$*Chirp\ Width$ [$in\ MHz$])

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$*Chirp\ Width$ [$in\ MHz$])

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	Date of Calibration	Due Date of Calibration
Spectrum Analyzer R&S	FSV40	100964	Jun. 28, 2016	Jun. 27, 2017
Vector Signal Generator Agilent	N5182B	MY53051263	Jul. 25, 2016	Jul. 24, 2017
Horn_Antenna EMCO	1018G	0001	Dec 15, 2016	Dec. 14, 2017
DFS Control Box	BV-DFS-CB	001	Sep. 18, 2016	Sep. 17, 2017

4.2 Description of Support Units

Table 14: Support Unit Information.

No.	Product	Brand	Model No.	FCC ID	Spec
1	Wireless LAN Unit	NEC	NP05LM	RRK-NECNP05LM	

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

Table 15: Software/Firmware Information.

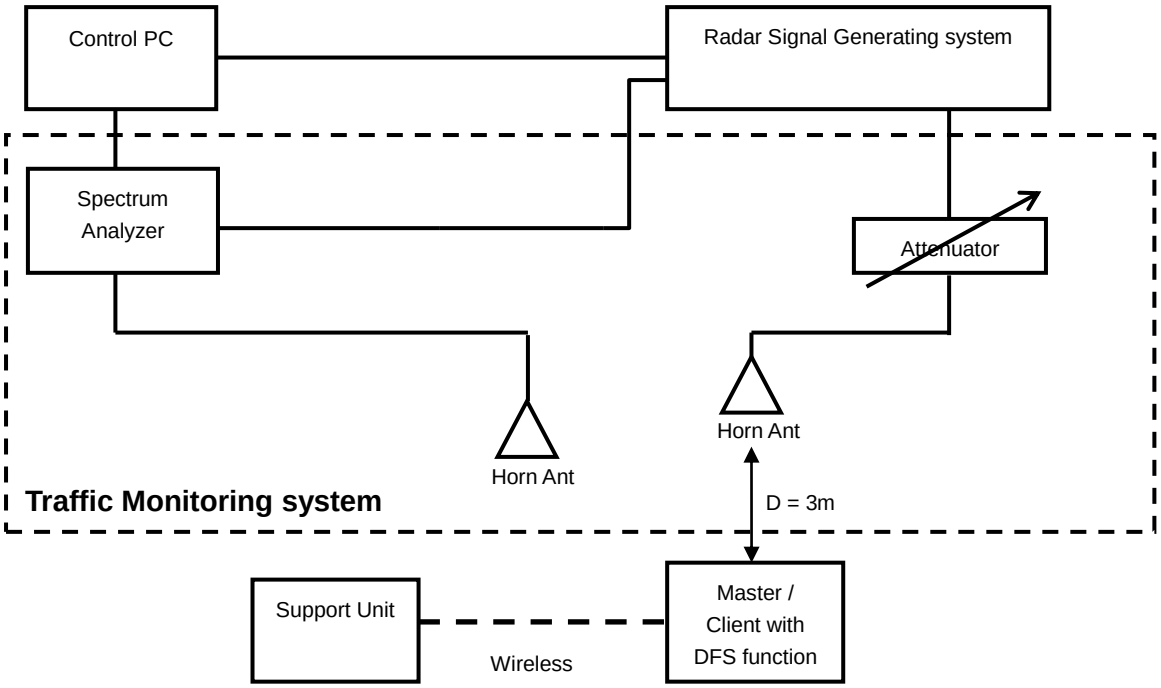
No.	Product	Model No.	Software/Firmware Version
1	Wireless LAN Unit	NP05LM	Driver Version: 06/18/2014, 1026.12.606.2014

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:

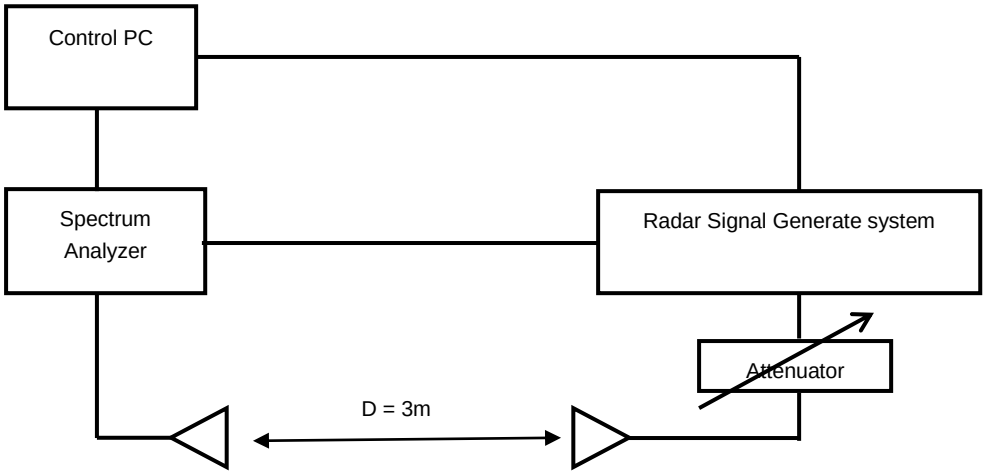
a)	The data file must be of a type that is typical for the device (i.e., MPEG-2, MPEG-4, WAV, MP3, MP4, AVI, etc.) and must generally be transmitting in a streaming mode.	
b)	Software to ping the client is permitted to simulate data transfer but must have random ping intervals.	
c)	Timing plots are required 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 5500MHz and 5510MHz and 5530MHz. 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 calibrated conducted detection threshold level is set to -64dBm. The tested level is lower than required level hence it provides margin to the limit.



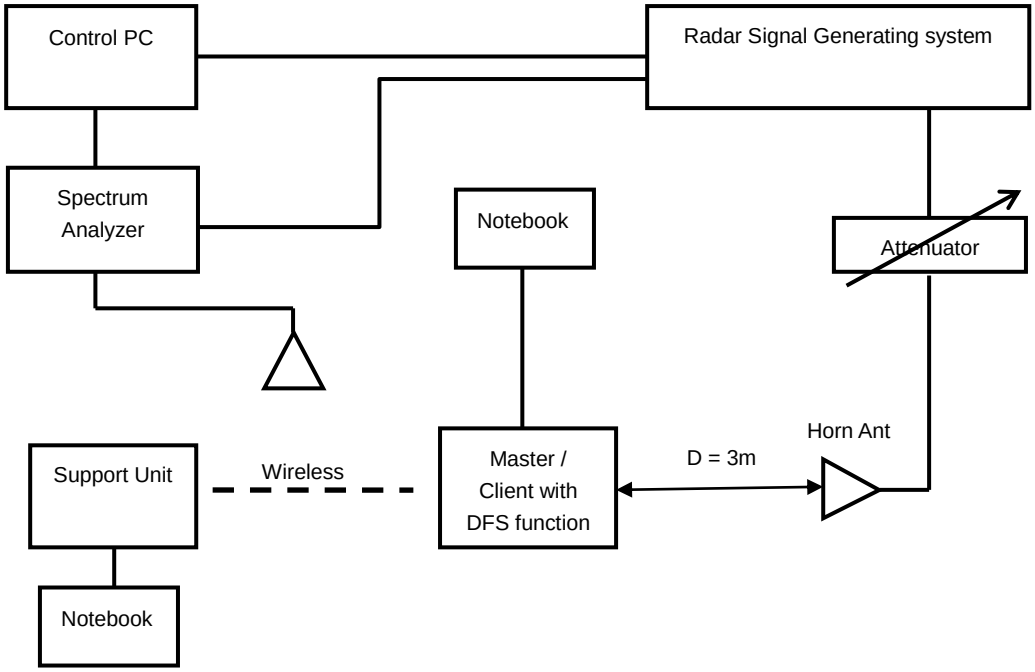
5.3 Deviation from Test Standard

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	Applicable	Pass

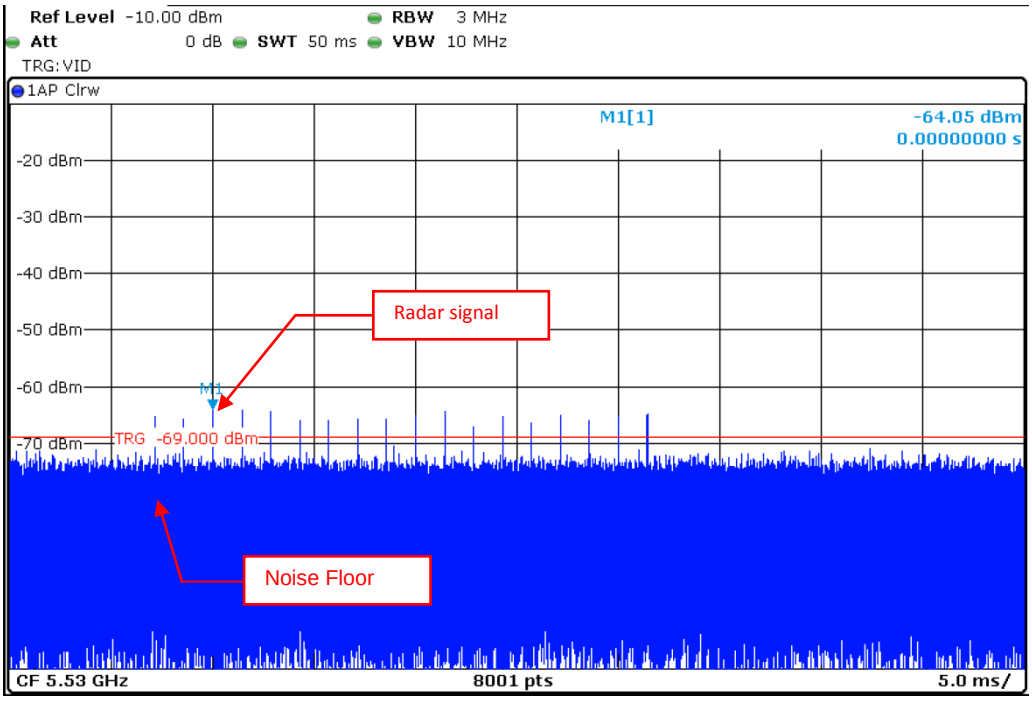
6.2 Test Results

6.2.1 Test Mode: Device Operating In Master Mode.

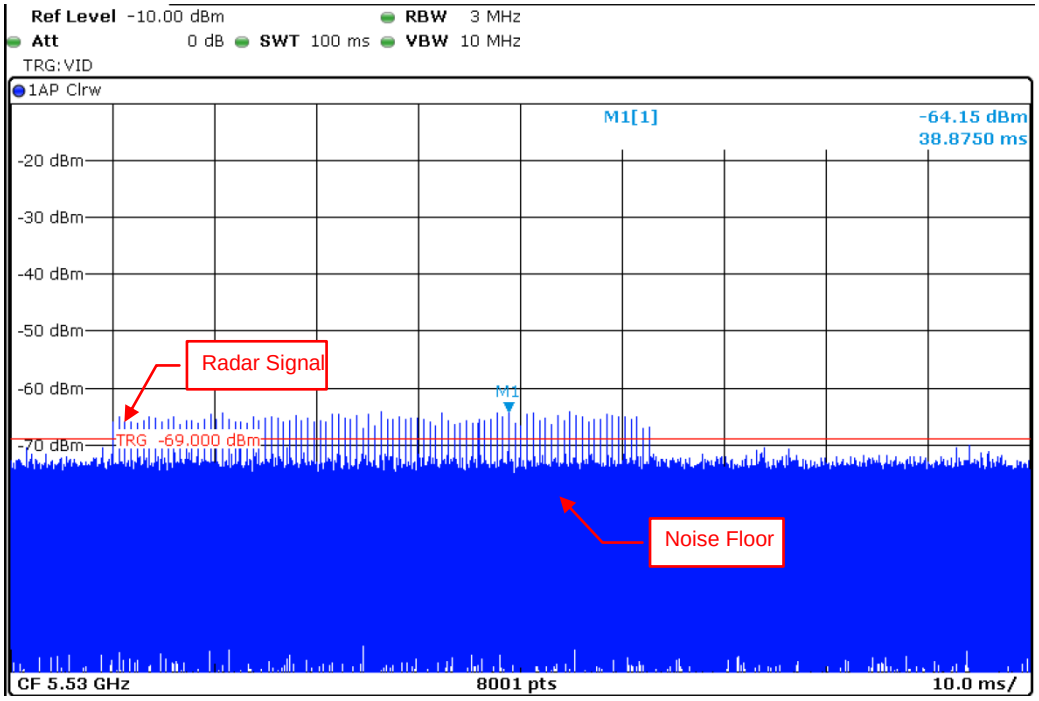
The radar test waveforms are injected into the Master.
This test was investigated for different bandwidth (20MHz、40MHz and 80MHz).
The following plots was done on 80MHz as a representative

DFS Detection Threshold

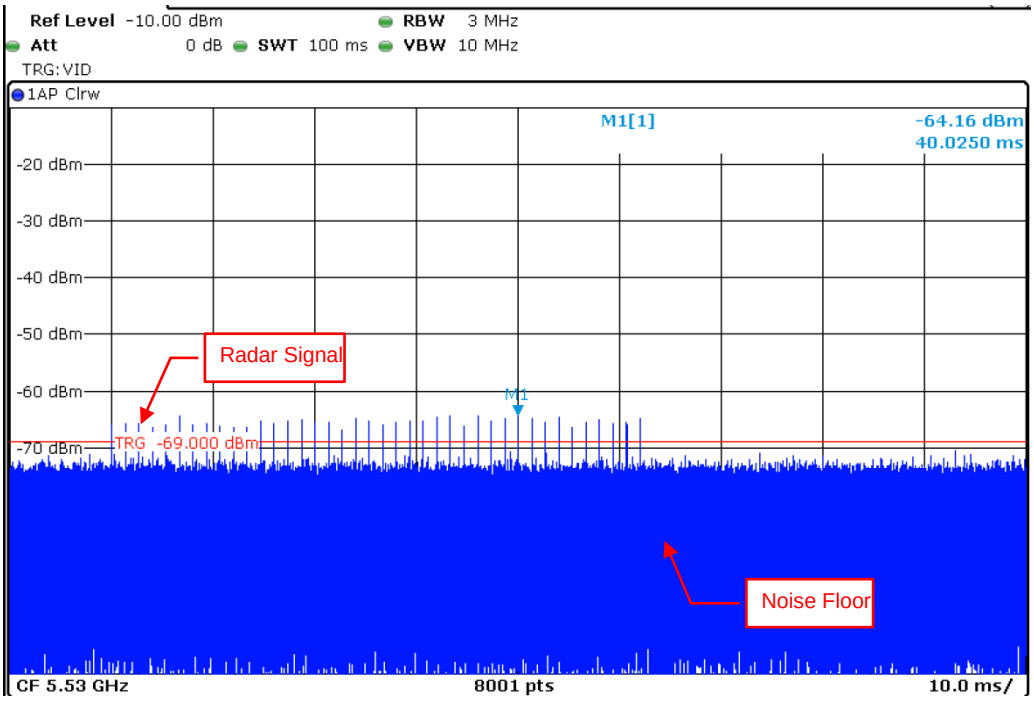
For detection threshold level of -64dBm, the tested level is lower than required level for 1dB, hence it provides margin to the limit.



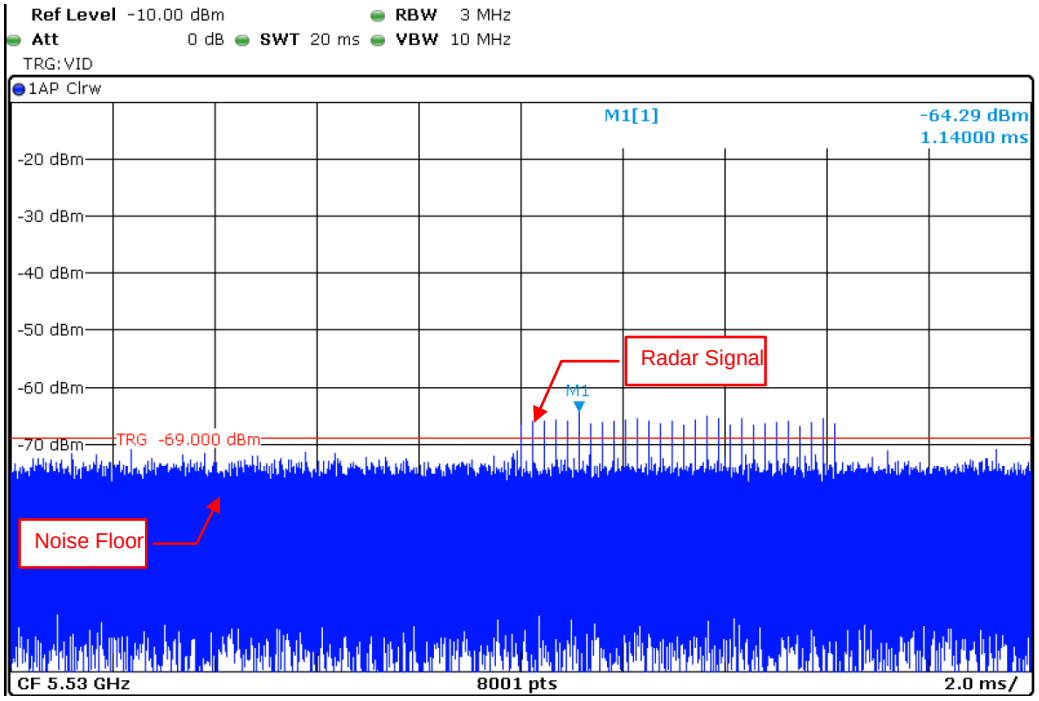
Radar Signal 0



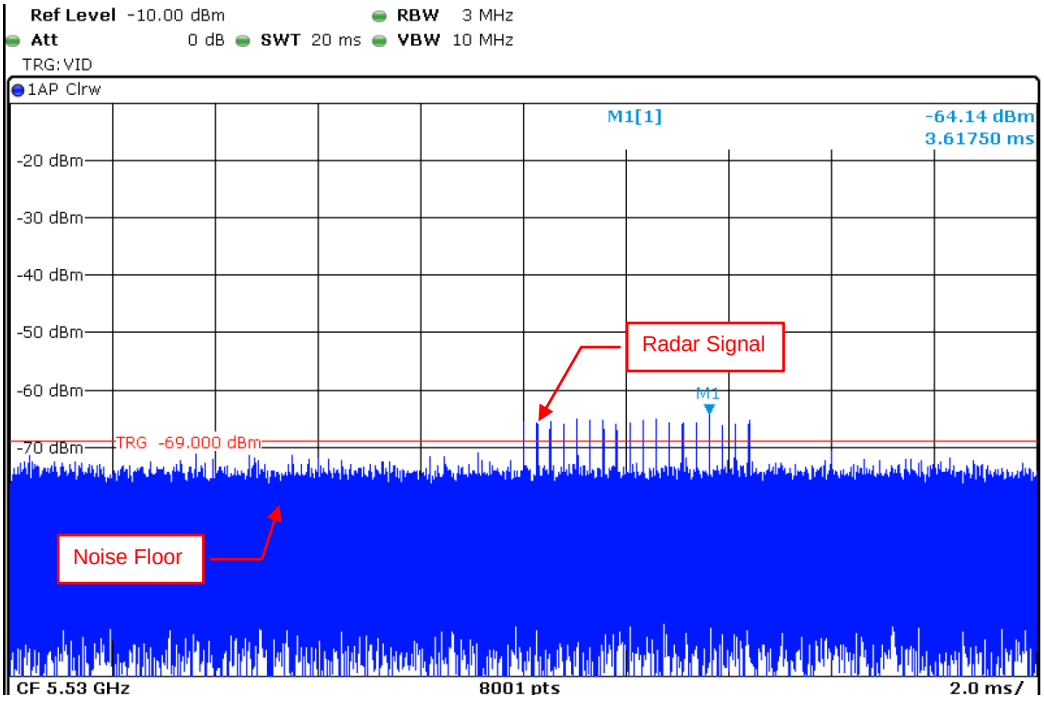
Radar Signal 1 (Test A)



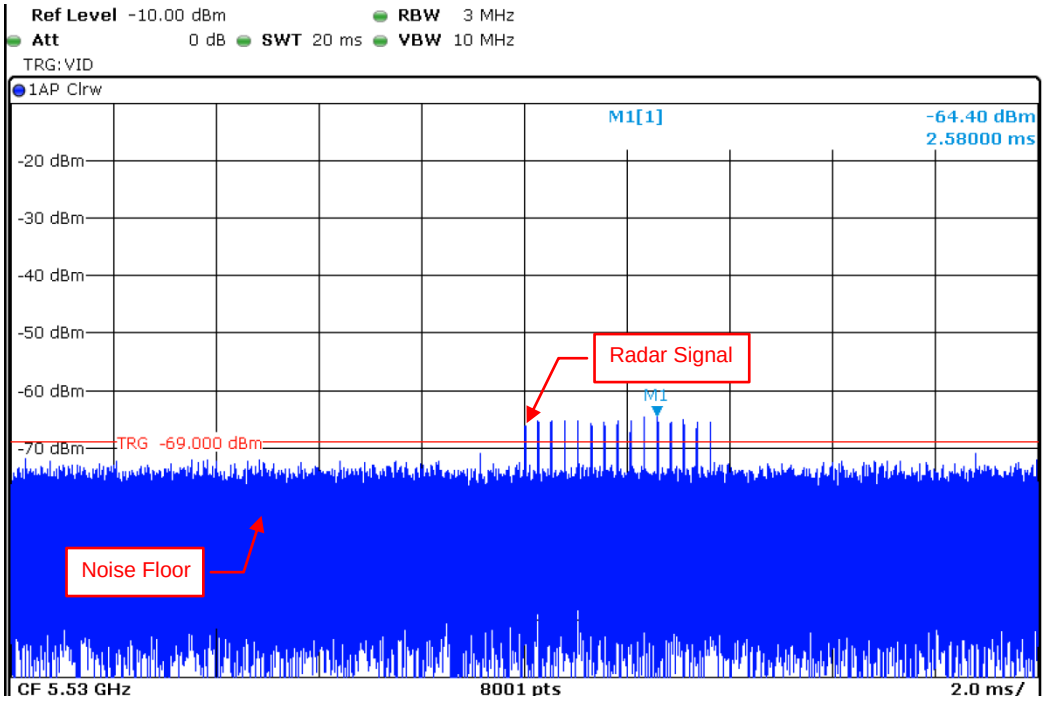
Radar Signal 1 (Test B)



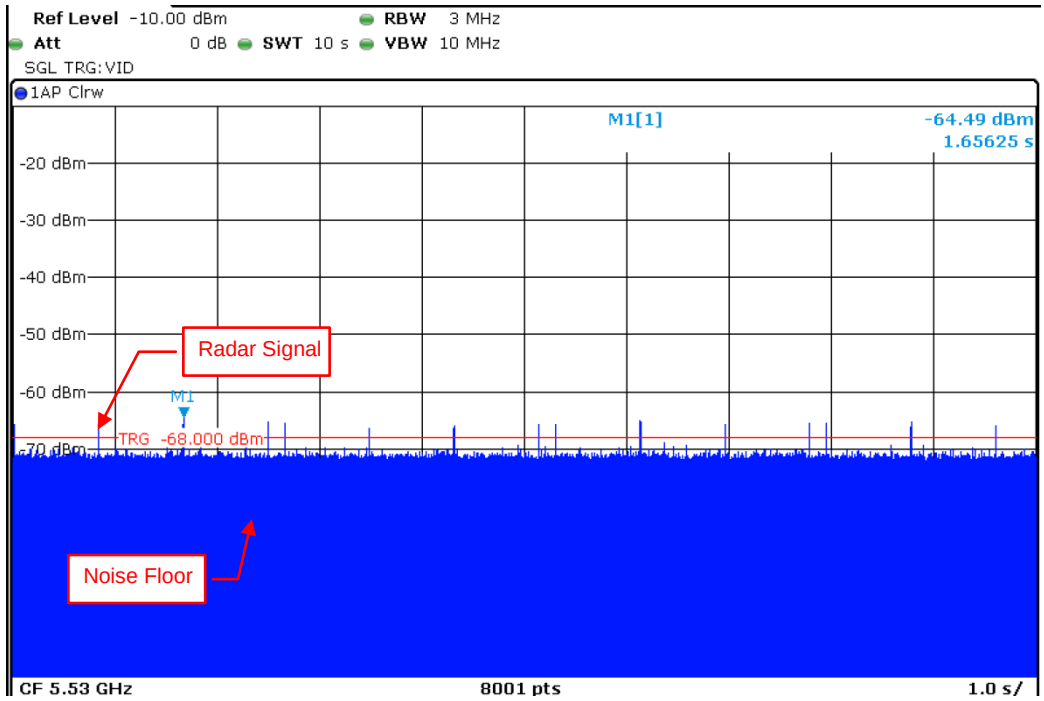
Radar Signal 2



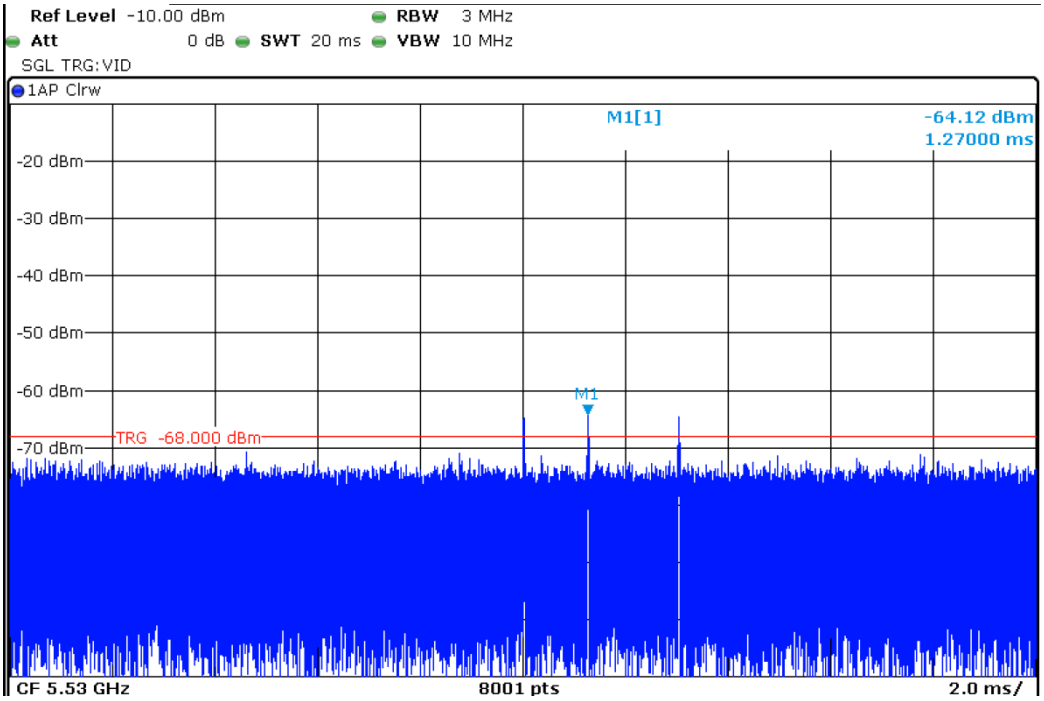
Radar Signal 3



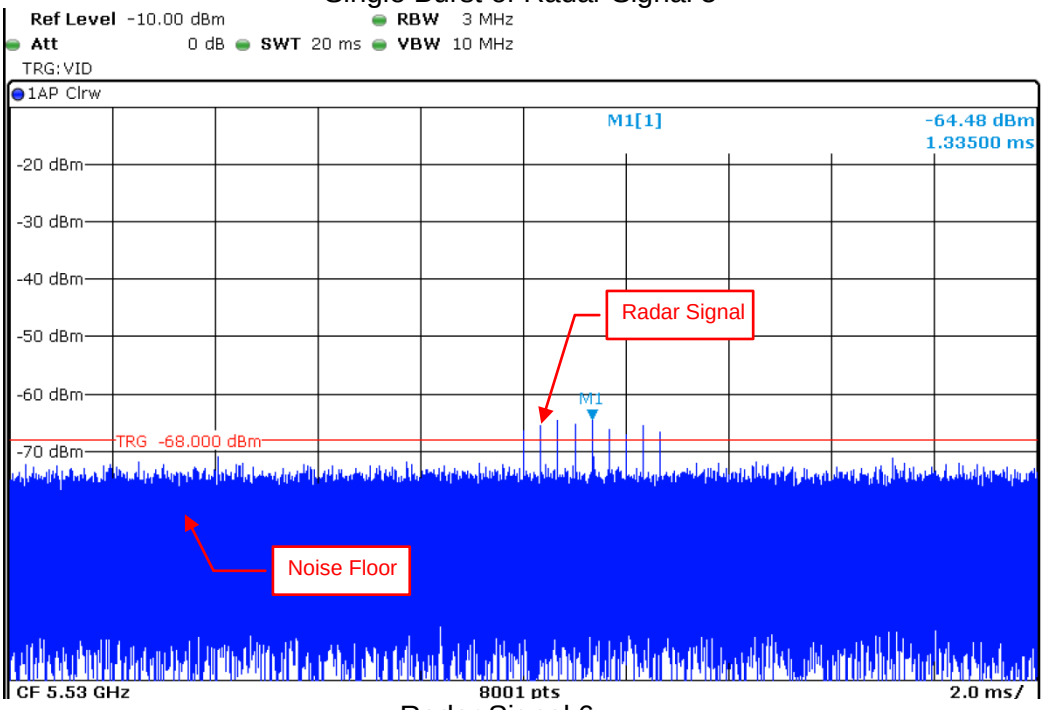
Radar Signal 4



Radar Signal 5



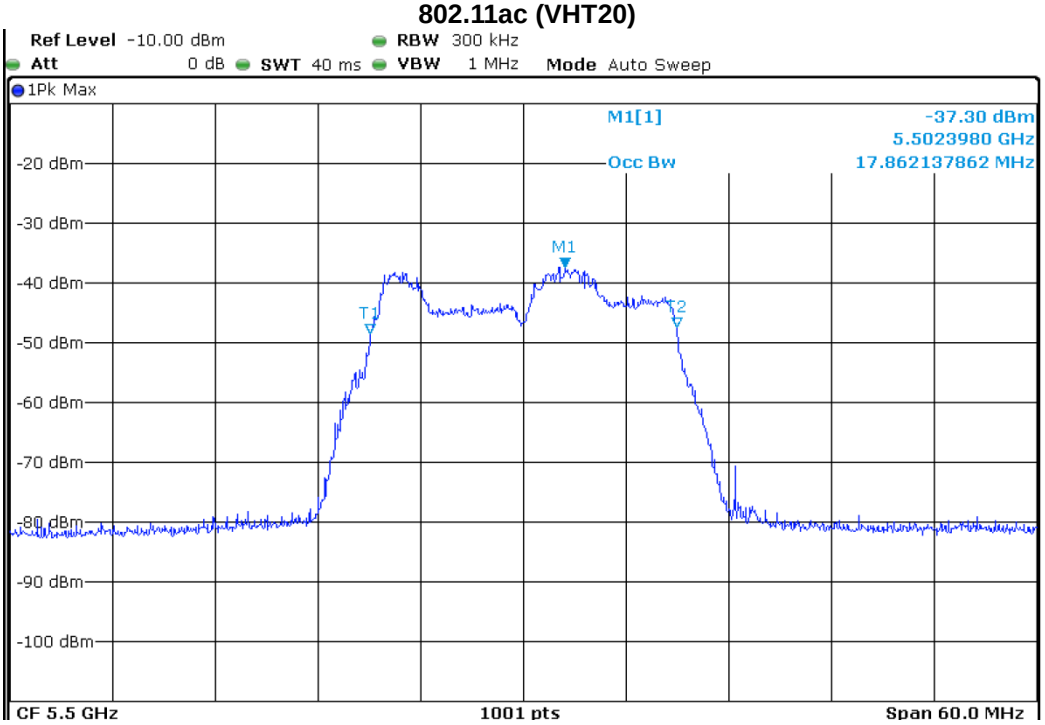
Single Burst of Radar Signal 5



Radar Signal 6

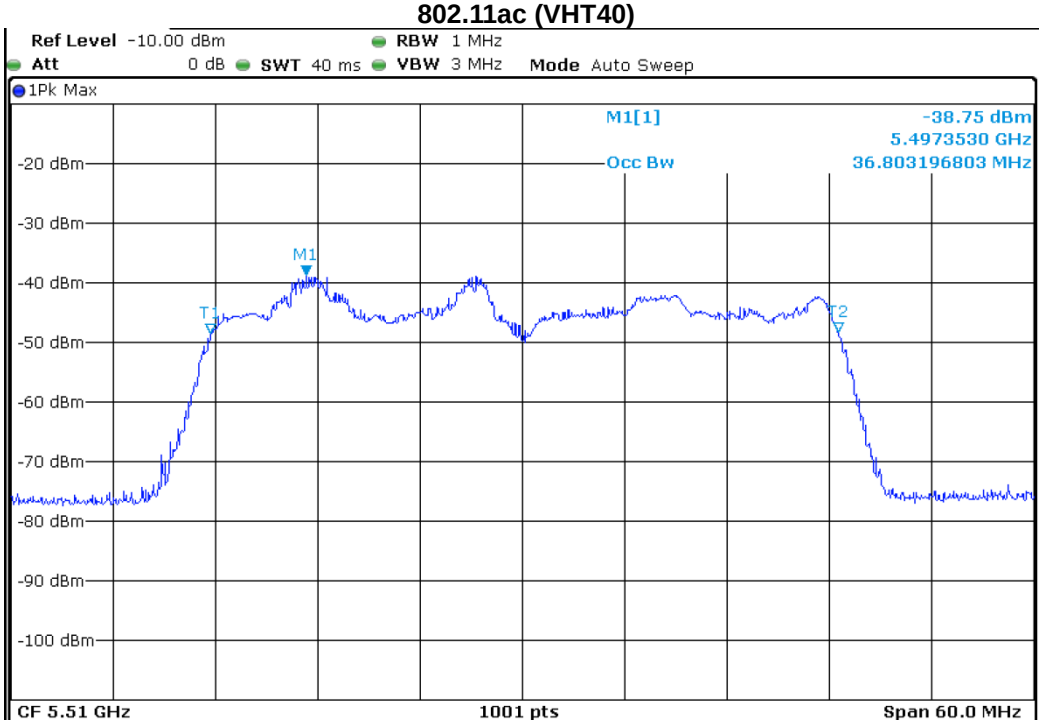
6.2.2 U-NII Detection Bandwidth

802.11ac (VHT20)



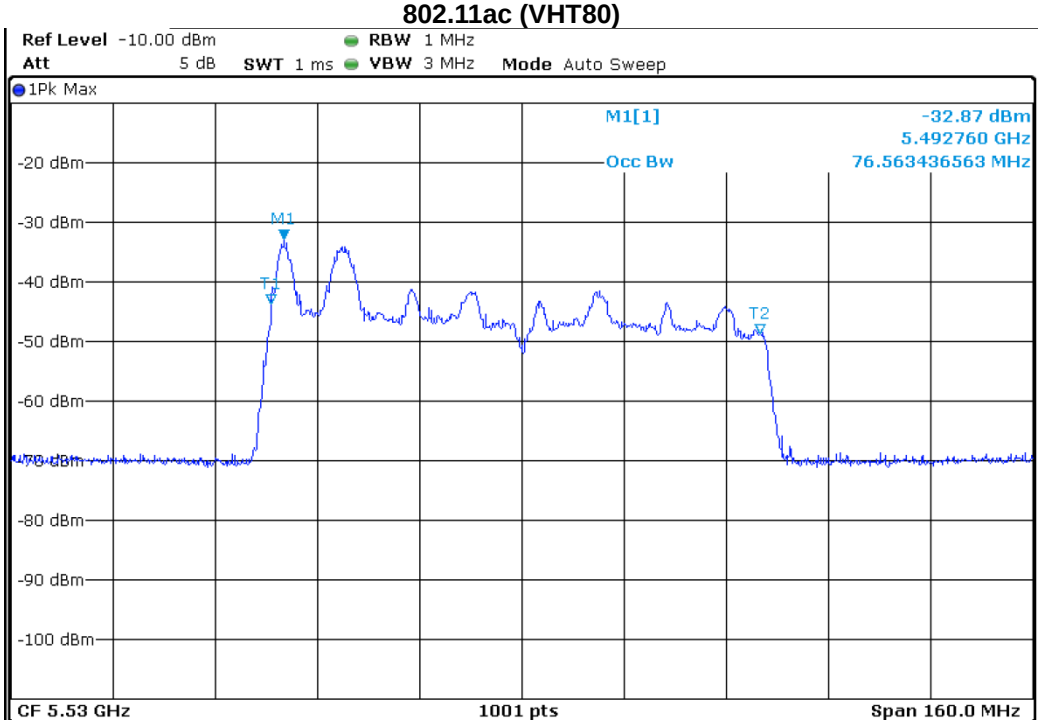
U-NII 99% Channel bandwidth

802.11ac (VHT40)



U-NII 99% Channel bandwidth

802.11ac (VHT80)



U-NII 99% Channel bandwidth

Detection Bandwidth Test - **802.11ac (VHT20)**											
Radar Type 0 EUT Frequency: 5500MHz EUT 99% Power bandwidth: 17.86MHz Detection bandwidth limit (100% of EUT 99% Power bandwidth): 17.86MHz 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	No	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
5500	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	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5508	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5509(FH)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90

Detection Bandwidth Test - **802.11ac (VHT40)**											
Radar Type 0 EUT Frequency: 5510MHz EUT 99% Power bandwidth: 36.8MHz Detection bandwidth limit (100% of EUT 99% Power bandwidth): 36.8MHz 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)	Yes	No	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
5500	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5510	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5515	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5520	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	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5529(FH)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	90

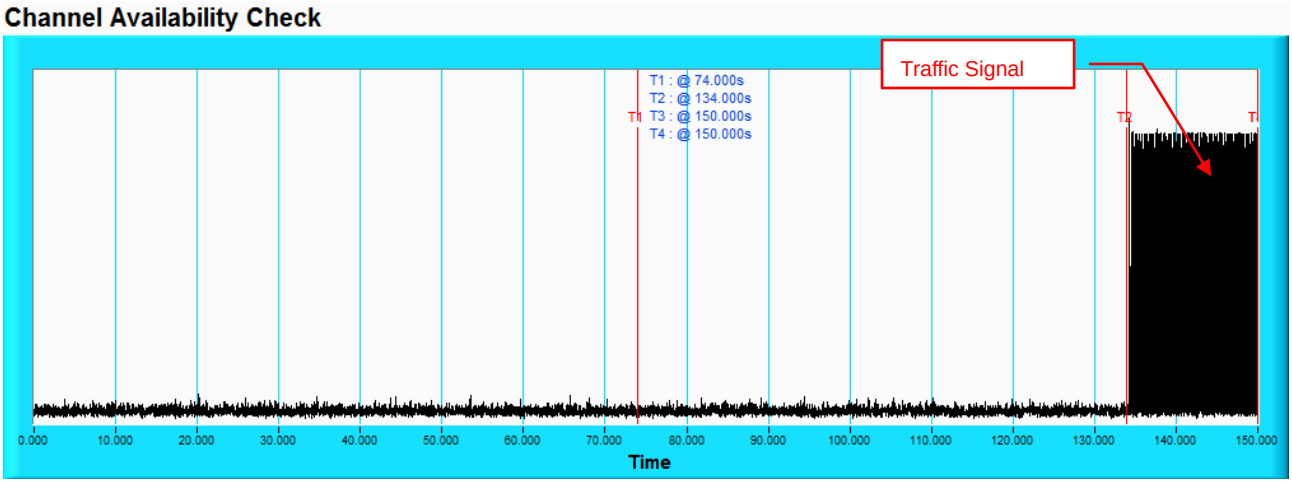
Detection Bandwidth Test - **802.11ac (VHT80)**											
Radar Type 0 EUT Frequency: 5530MHz EUT 99% Power bandwidth: 76.56MHz Detection bandwidth limit (100% of EUT 99% Power bandwidth): 76.56MHz Detection bandwidth (5569(FH) – 5491(FL)) : 78MHz Test Result : PASS											
Radar Frequency (MHz)	Trial Number / Detection										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5491(FL)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
5492	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90
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
5500	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5510	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5515	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5520	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5525	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5530	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5535	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5540	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5545	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5550	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5555	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5560	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5565	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5566	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5567	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5568	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
5569(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.

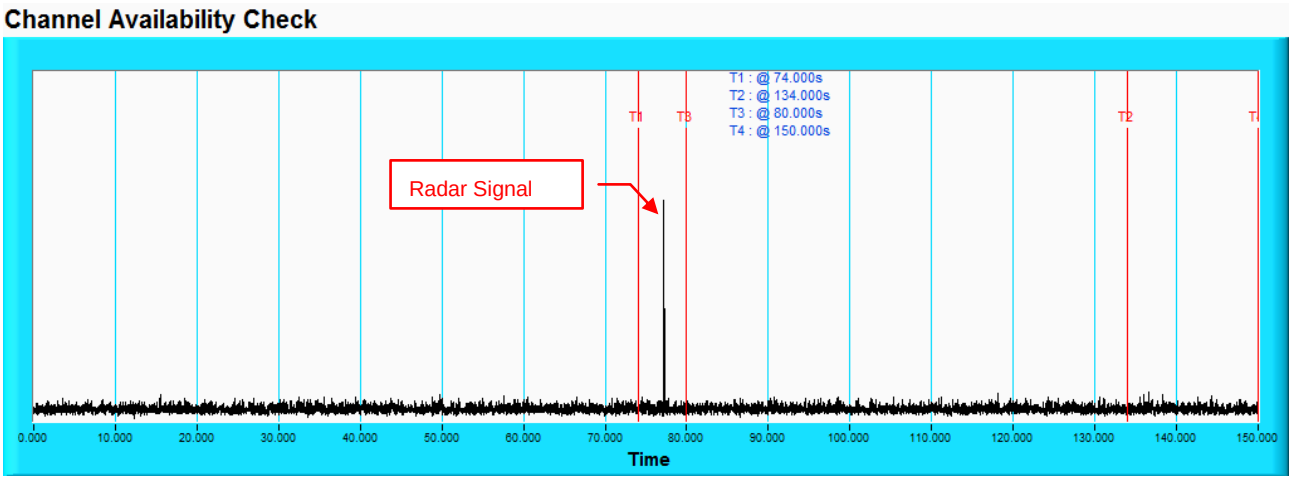
Timing of Radar Signal	Observation	
	EUT	Spectrum Analyzer
Within 1 to 6 second	Detected	No transmissions
Within 54 to 60 second	Detected	No transmissions

Initial Channel Availability Check Time



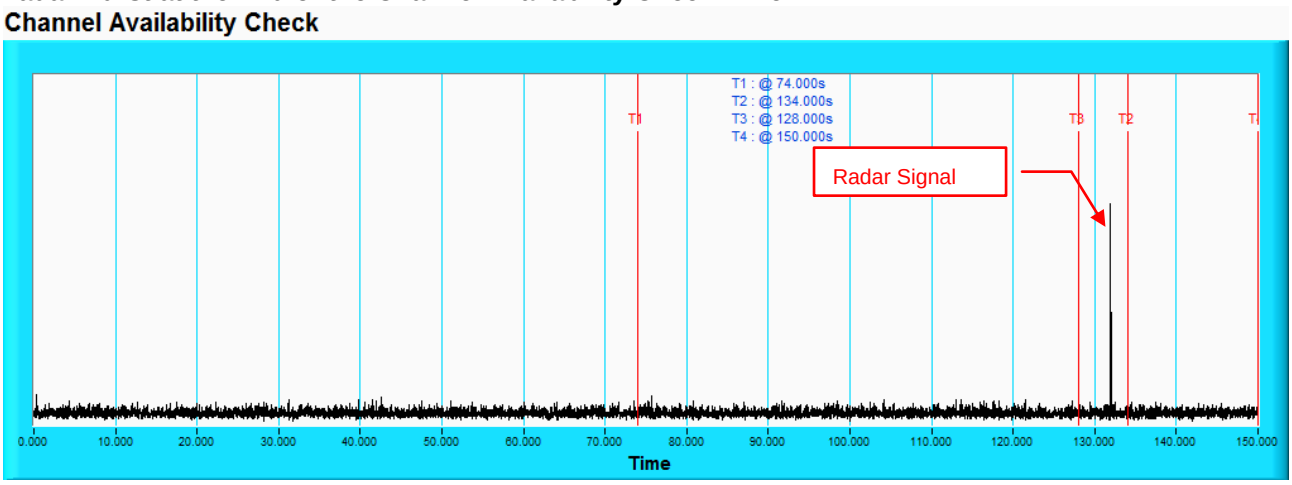
NOTE: T1 denotes the end of power-up time period is 74th second. T2 denotes the end of Channel Availability Check time is 134th second. Channel Availability Check time is equal to (T2 – T1) 60 seconds.

Radar Burst at the Beginning of the Channel Availability Check Time



NOTE: T1 denotes the end of power up time period is 74th second. T3 denotes 80th second and the radar burst was commenced within a 6 second window starting from the end of power-up sequence. T2 denotes the 134th second.

Radar Burst at the End of the Channel Availability Check Time

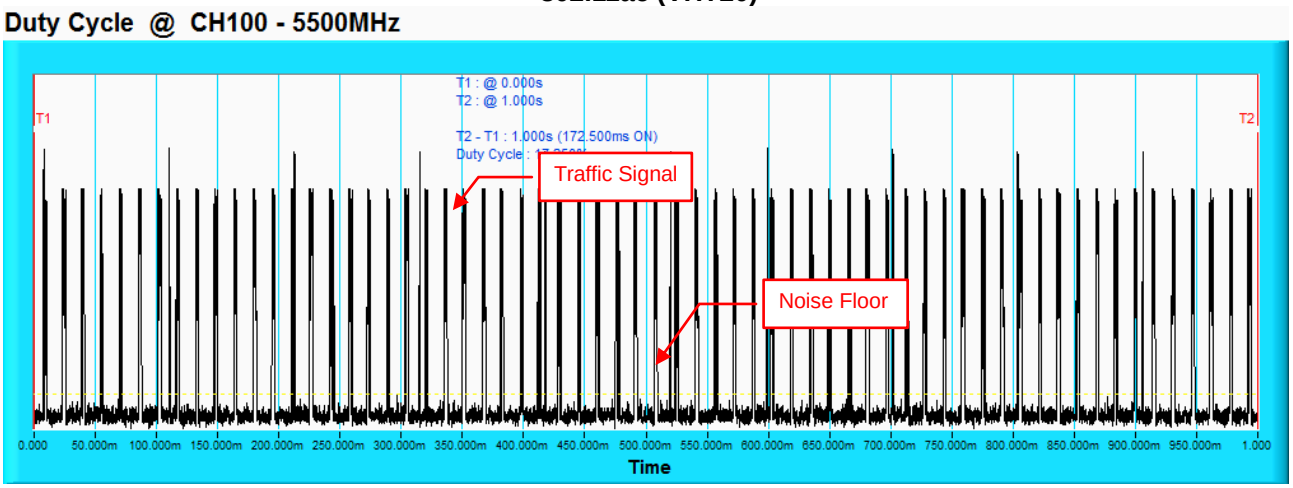


NOTE: T1 denotes the end of power up time period is 74th second.T3 denotes 128th second and the radar burst was commenced within 54th second to 60th second window starting from the end of power-up sequence. T2 denotes the 134th second.

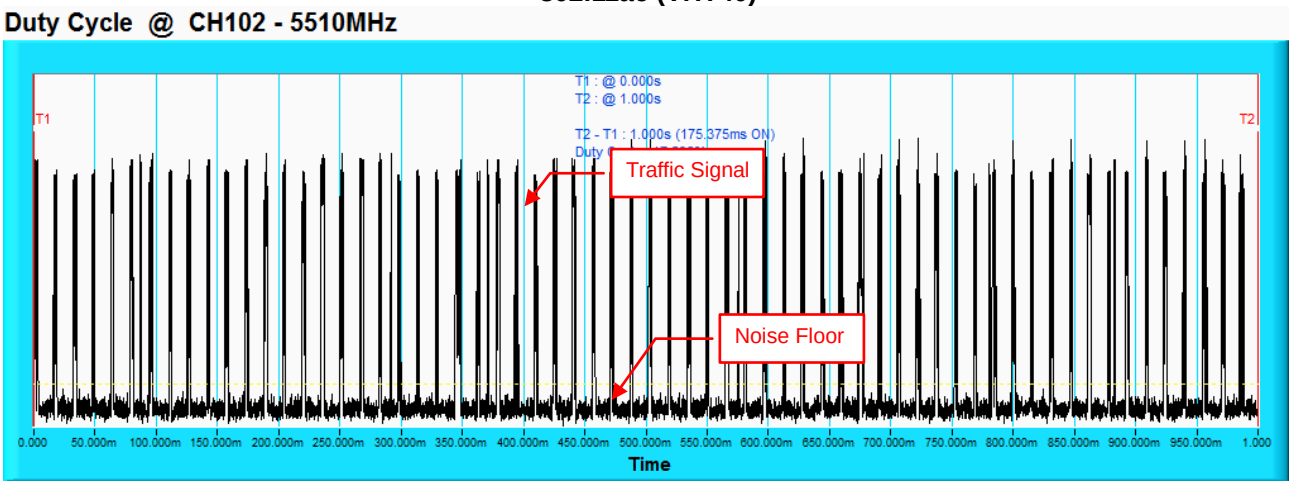
6.2.4 Channel Closing Transmission and Channel Move Time

Wireless Traffic Loading

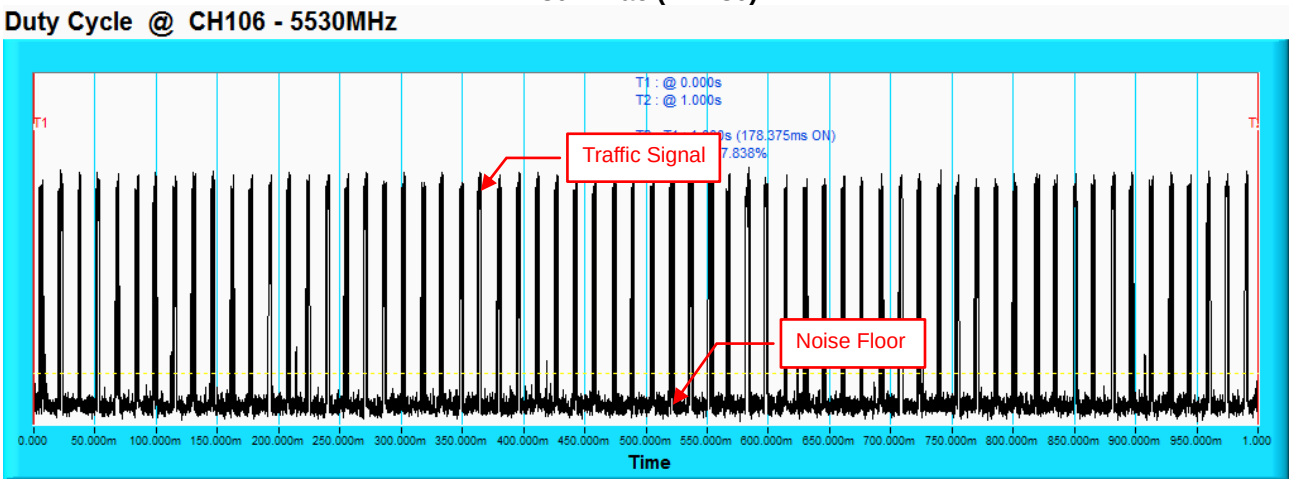
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



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 increment 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	90
2	1-5	150-230	23-29	30	86.7
3	6-10	200-500	16-18	30	83.3
4	11-20	200-500	12-16	30	86.7
Aggregate (Radar Types 1-4)				120	86.7

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	86.7

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 increment of 1 μ sec, excluding PRI values selected in Test A	$\text{Roundup}\left\{\frac{1}{360}, \frac{19 \cdot 10^6}{PRI_{\mu\,sec}}\right\}$	18	30	86.7
2	1-5	150-230	23-29	30	80
3	6-10	200-500	16-18	30	83.3
4	11-20	200-500	12-16	30	86.7
Aggregate (Radar Types 1-4)				120	84.2

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	86.7

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	83.3

.

802.11ac (VHT80)

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 increment 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	86.7
2	1-5	150-230	23-29	30	83.3
3	6-10	200-500	16-18	30	86.7
4	11-20	200-500	12-16	30	83.3
Aggregate (Radar Types 1-4)				120	85

Table 2: Long Pulse Radar Test Waveform

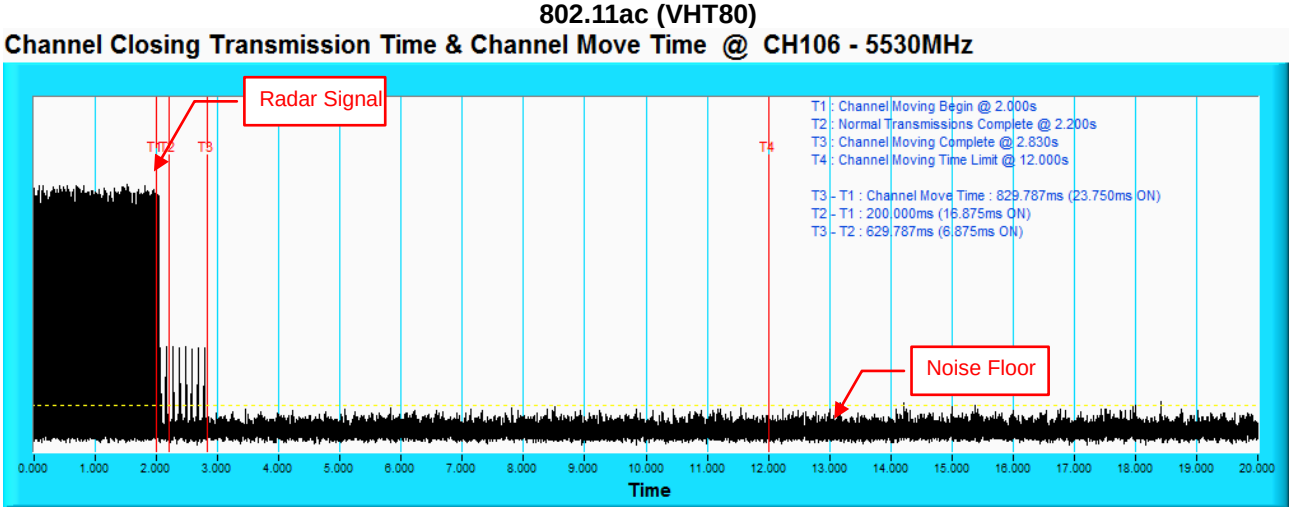
Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Burst	Number of Bursts	Number of Trials(Times)	Percentage of Successful Detection (%)
5	50-100	5-20	1000-2000	1-3	8-20	30	86.7

Table 3: Frequency Hopping Radar Test Waveform

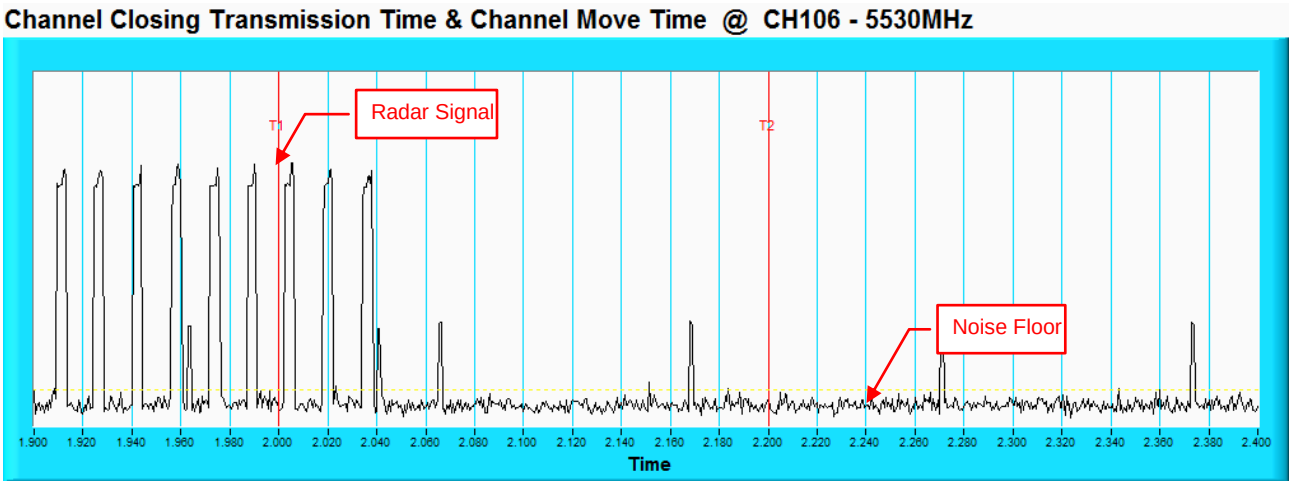
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Number of Trials(Times)	Percentage of Successful Detection (%)
6	1	333	9	0.333	300	30	86.7

Radar signal 0

802.11ac (VHT80)



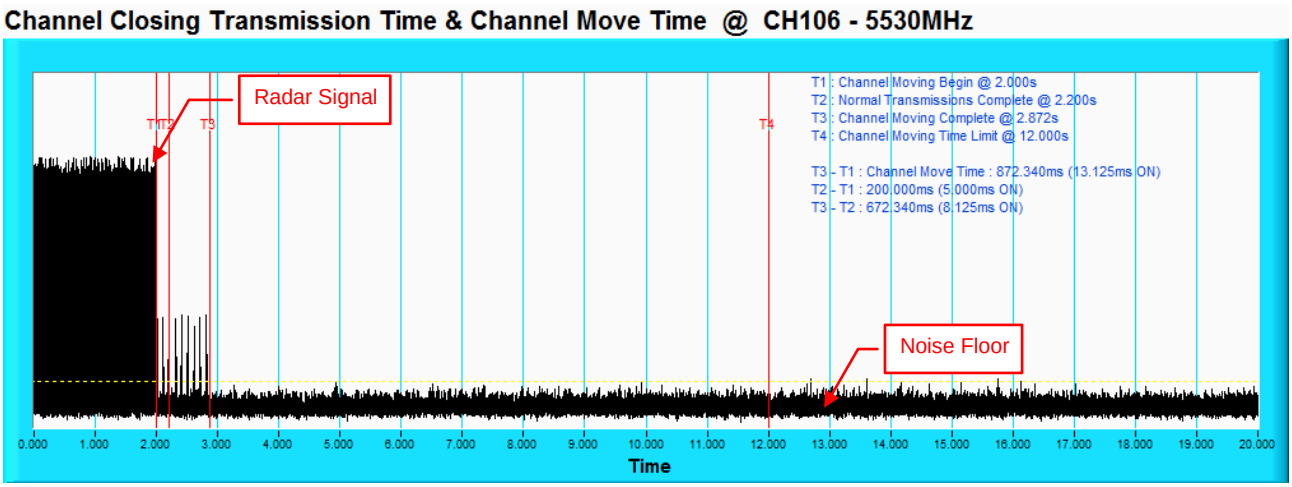
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



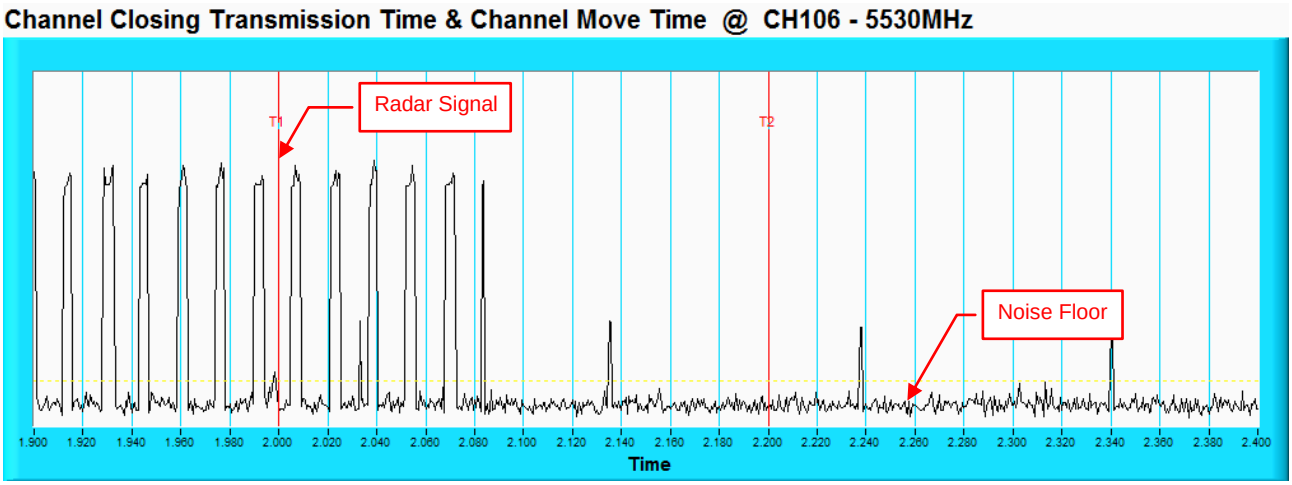
NOTE: Zoom in of the first 500ms after radar signal applied.

Radar signal 1

802.11ac (VHT80)



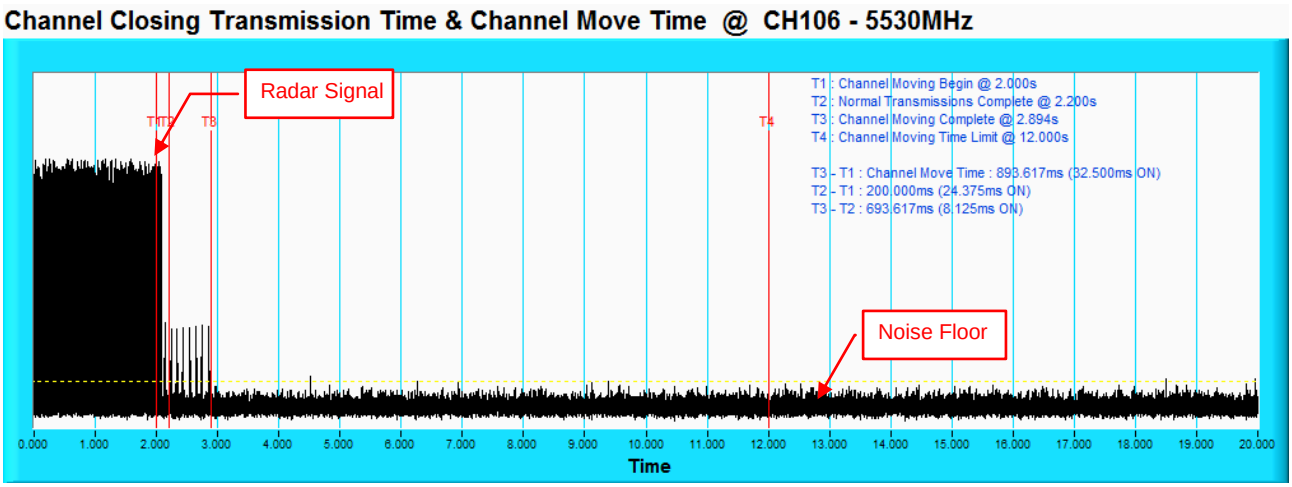
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



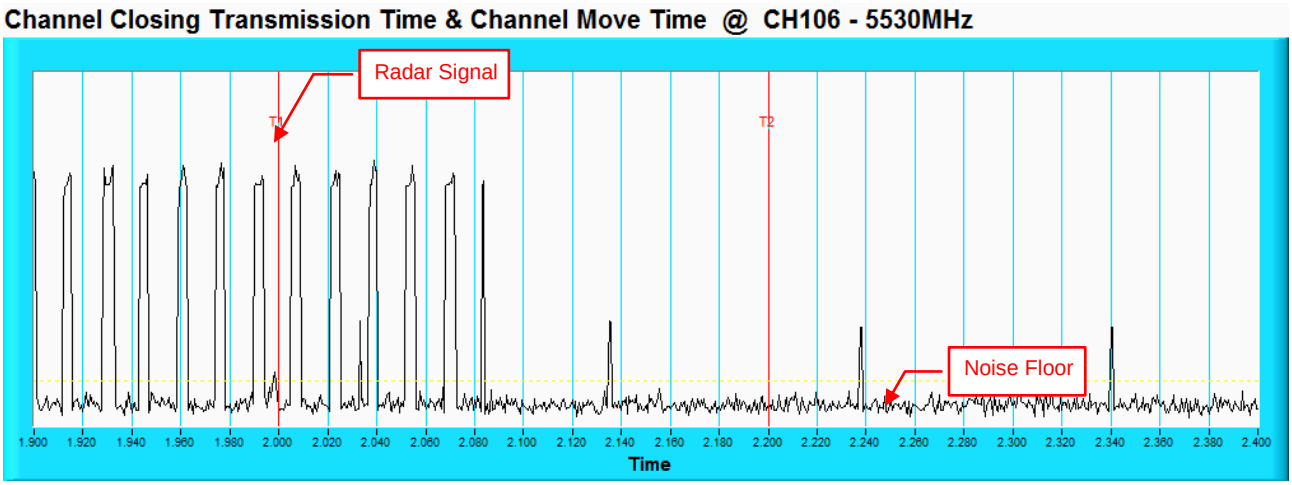
NOTE: Zoom in of the first 500ms after radar signal applied.

Radar signal 2

802.11ac (VHT80)



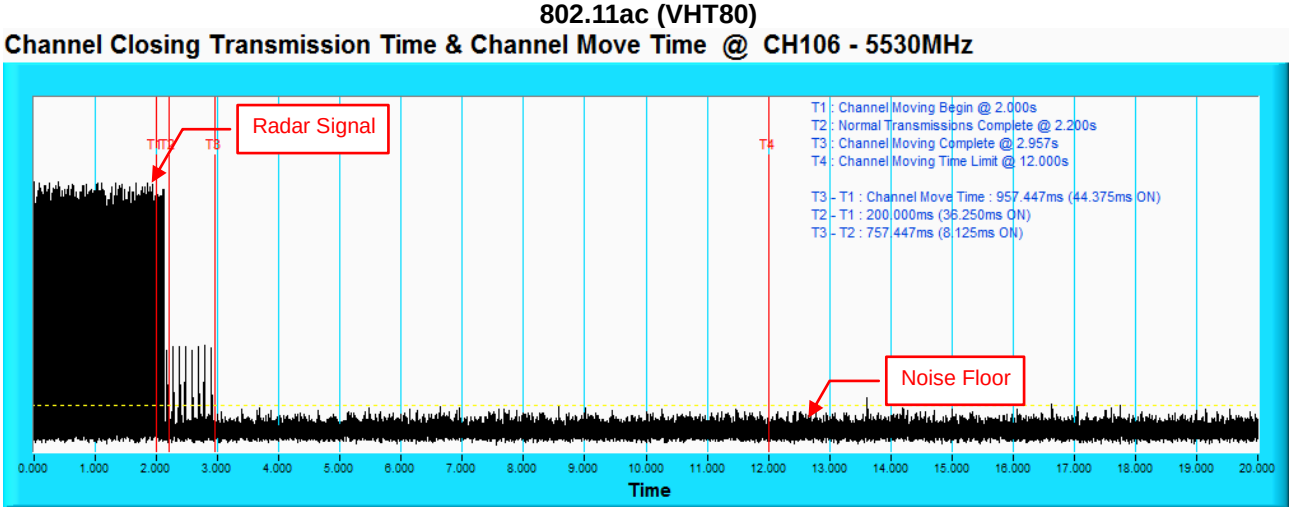
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



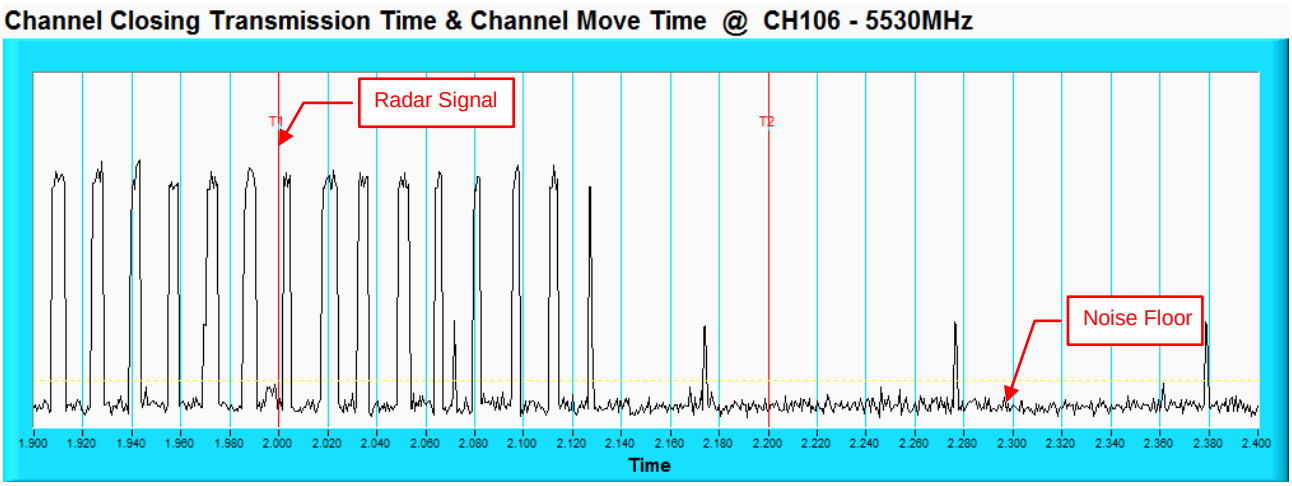
NOTE: Zoom in of the first 500ms after radar signal applied.

Radar signal 3

802.11ac (VHT80)



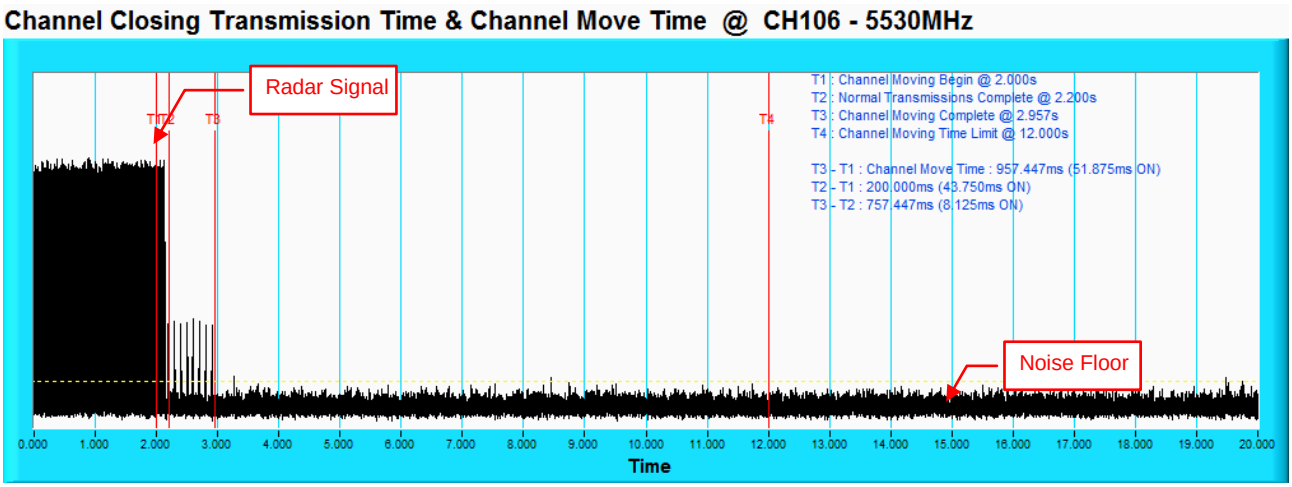
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



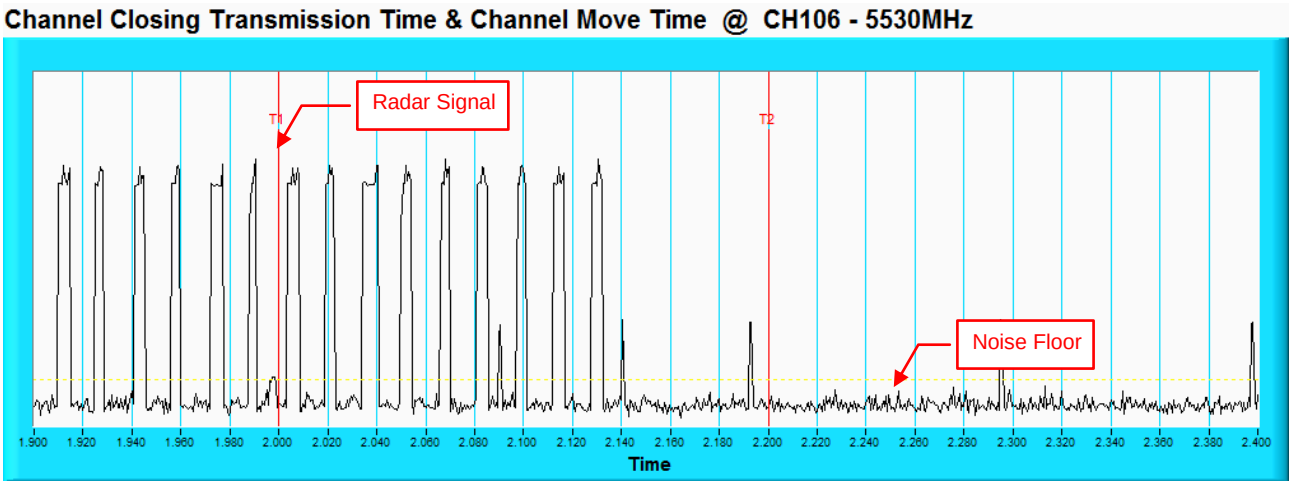
NOTE: Zoom in of the first 500ms after radar signal applied.

Radar signal 4

802.11ac (VHT80)



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 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 (Pulse per seconds)	Pulses per Burst	Pulse Repetition Interval (microseconds)	Detection
1	5500	7	1567.4	83	638	Yes
2	5507	6	1618.1	86	618	Yes
3	5503	21	1089.3	58	918	Yes
4	5497	8	1519.8	81	658	Yes
5	5495	12	1355	72	738	Yes
6	5504	19	1139	61	878	Yes
7	5494	17	1193.3	63	838	Yes
8	5508	22	1066.1	57	938	Yes
9	5500	11	1392.8	74	718	Yes
10	5496	1	1930.5	102	518	Yes
11	5504	3	1792.1	95	558	Yes
12	5503	18	1165.6	62	858	Yes
13	5493	4	1730.1	92	578	Yes
14	5500	16	1222.5	65	818	Yes
15	5494	14	1285.3	68	778	Yes
16	5497		1385	74	722	Yes
17	5506		959.7	51	1042	Yes
18	5492		326.2	18	3066	Yes
19	5495		817	44	1224	Yes
20	5504		930.2	50	1075	Yes
21	5505		1020.4	54	980	Yes
22	5494		772.8	41	1294	No
23	5492		338.1	18	2958	Yes
24	5504		559.6	30	1787	Yes
25	5504		504.5	27	1982	Yes
26	5502		542	29	1845	Yes
27	5493		1727.1	92	579	No
28	5503		347.8	19	2875	No
29	5509		570.8	31	1752	Yes
30	5503		459.1	25	2178	Yes
Detection Rate: 90 %						

802.11ac (VHT20)

Type 2 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	26	3.3	184	Yes
2	5493	24	1.8	167	Yes
3	5495	24	2	227	No
4	5500	28	4.1	182	Yes
5	5496	29	5	202	Yes
6	5504	27	3.7	166	Yes
7	5496	27	3.5	174	No
8	5505	29	4.9	218	Yes
9	5499	28	4.4	156	Yes
10	5506	28	4.3	190	Yes
11	5500	25	2.4	168	Yes
12	5508	24	1.7	207	Yes
13	5505	29	4.8	219	Yes
14	5491	24	2.1	203	Yes
15	5502	26	2.9	204	Yes
16	5495	25	2.6	222	No
17	5494	24	1.6	197	Yes
18	5493	25	2.2	206	No
19	5502	23	1.3	212	Yes
20	5506	23	1.5	213	Yes
21	5509	28	4.3	187	Yes
22	5491	26	3.1	216	Yes
23	5503	26	3.1	223	Yes
24	5500	24	2.1	191	Yes
25	5503	24	1.6	171	Yes
26	5505	24	1.7	170	Yes
27	5500	28	4.4	214	Yes
28	5494	29	5	151	Yes
29	5492	27	3.8	157	Yes
30	5500	24	1.6	165	Yes
					Detection Rate: 86.7 %

802.11ac (VHT20)

Type 3 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	17	8.3	375	No
2	5504	16	6.8	416	Yes
3	5503	16	7	272	Yes
4	5494	18	9.1	481	No
5	5501	18	10	486	Yes
6	5501	18	8.7	373	Yes
7	5501	17	8.5	352	Yes
8	5492	18	9.9	448	No
9	5495	18	9.4	296	Yes
10	5498	18	9.3	200	Yes
11	5493	17	7.4	445	Yes
12	5500	16	6.7	357	Yes
13	5497	18	9.8	478	Yes
14	5503	16	7.1	366	Yes
15	5492	17	7.9	333	Yes
16	5497	17	7.6	353	Yes
17	5494	16	6.6	223	No
18	5508	16	7.2	444	Yes
19	5493	16	6.3	303	Yes
20	5500	16	6.5	334	Yes
21	5501	18	9.3	271	Yes
22	5509	17	8.1	202	Yes
23	5504	17	8.1	464	Yes
24	5508	16	7.1	308	Yes
25	5503	16	6.6	285	No
26	5506	16	6.7	275	Yes
27	5494	18	9.4	252	Yes
28	5501	18	10	243	Yes
29	5507	18	8.8	226	Yes
30	5492	16	6.6	385	Yes
Detection Rate: 83.3 %					

802.11ac (VHT20)

Type 4 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	14	16.1	375	Yes
2	5502	13	12.9	416	Yes
3	5501	13	13.3	272	Yes
4	5505	15	17.9	481	No
5	5493	16	19.9	486	Yes
6	5503	15	17	373	Yes
7	5503	15	16.7	352	No
8	5496	16	19.8	448	Yes
9	5495	16	18.5	296	Yes
10	5506	16	18.3	200	No
11	5509	13	14.1	445	Yes
12	5495	12	12.6	357	Yes
13	5503	16	19.5	478	Yes
14	5502	13	13.4	366	Yes
15	5508	14	15.3	333	Yes
16	5503	13	14.6	353	Yes
17	5503	12	12.5	223	Yes
18	5501	13	13.6	444	No
19	5495	12	11.7	303	Yes
20	5502	12	12.1	334	Yes
21	5497	16	18.3	271	Yes
22	5496	14	15.8	202	Yes
23	5493	14	15.7	464	Yes
24	5494	13	13.4	308	Yes
25	5504	12	12.5	285	Yes
26	5501	12	12.5	275	Yes
27	5504	16	18.5	252	Yes
28	5491	16	19.9	243	Yes
29	5505	15	17.2	226	Yes
30	5502	12	12.4	385	Yes
					Detection Rate: 86.7%

802.11ac (VHT20)

Type 5 Radar Statistical Performances				
Trial #	Chirp Width(MHz)	Chirp Center Frequency(MHz)	Test Signal Name	Detection
1	14	5500	LP_Signal_01	Yes
2	8	5500	LP_Signal_02	Yes
3	9	5500	LP_Signal_03	Yes
4	17	5500	LP_Signal_04	Yes
5	20	5500	LP_Signal_05	Yes
6	15	5500	LP_Signal_06	Yes
7	15	5500	LP_Signal_07	Yes
8	20	5500	LP_Signal_08	Yes
9	18	5500	LP_Signal_09	Yes
10	17	5500	LP_Signal_10	No
11	10	5495	LP_Signal_11	Yes
12	7	5494	LP_Signal_12	Yes
13	20	5499	LP_Signal_13	Yes
14	9	5495	LP_Signal_14	No
15	12	5496	LP_Signal_15	Yes
16	11	5495	LP_Signal_16	Yes
17	7	5494	LP_Signal_17	No
18	9	5495	LP_Signal_18	No
19	6	5493	LP_Signal_19	Yes
20	6	5493	LP_Signal_20	Yes
21	17	5502	LP_Signal_21	Yes
22	13	5504	LP_Signal_22	Yes
23	13	5504	LP_Signal_23	Yes
24	9	5505	LP_Signal_24	Yes
25	7	5506	LP_Signal_25	Yes
26	7	5506	LP_Signal_26	Yes
27	18	5502	LP_Signal_27	No
28	20	5501	LP_Signal_28	Yes
29	16	5503	LP_Signal_29	Yes
30	7	5506	LP_Signal_30	Yes
				Detection Rate: 83.3%

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)	Detection
1	9	1	333.3	Yes
2	9	1	333.3	Yes
3	9	1	333.3	Yes
4	9	1	333.3	No
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	No
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	No
23	9	1	333.3	Yes
24	9	1	333.3	Yes
25	9	1	333.3	Yes
26	9	1	333.3	No
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: 86.7 %

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	No
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	No
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	No
23	HOP_FREQ_SEQ_23	Yes
24	HOP_FREQ_SEQ_24	Yes
25	HOP_FREQ_SEQ_25	Yes
26	HOP_FREQ_SEQ_26	No
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: 86.7 %

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 (Pulse per seconds)	Pulses per Burst	Pulse Repetition Interval (microseconds)	Detection
1	5500	7	1567.4	83	638	Yes
2	5507	6	1618.1	86	618	Yes
3	5503	21	1089.3	58	918	Yes
4	5497	8	1519.8	81	658	No
5	5495	12	1355	72	738	Yes
6	5504	19	1139	61	878	Yes
7	5494	17	1193.3	63	838	Yes
8	5508	22	1066.1	57	938	Yes
9	5500	11	1392.8	74	718	Yes
10	5496	1	1930.5	102	518	No
11	5504	3	1792.1	95	558	Yes
12	5503	18	1165.6	62	858	Yes
13	5493	4	1730.1	92	578	Yes
14	5500	16	1222.5	65	818	Yes
15	5494	14	1285.3	68	778	Yes
16	5497		1385	74	722	Yes
17	5506		959.7	51	1042	Yes
18	5492		326.2	18	3066	Yes
19	5495		817	44	1224	Yes
20	5504		930.2	50	1075	Yes
21	5505		1020.4	54	980	Yes
22	5494		772.8	41	1294	No
23	5492		338.1	18	2958	Yes
24	5504		559.6	30	1787	Yes
25	5504		504.5	27	1982	Yes
26	5502		542	29	1845	Yes
27	5493		1727.1	92	579	Yes
28	5503		347.8	19	2875	No
29	5509		570.8	31	1752	Yes
30	5503		459.1	25	2178	Yes
Detection Rate: 86.7 %						

802.11ac (VHT40)

Type 2 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	26	3.3	184	Yes
2	5493	24	1.8	167	Yes
3	5495	24	2	227	No
4	5500	28	4.1	182	Yes
5	5496	29	5	202	Yes
6	5504	27	3.7	166	Yes
7	5496	27	3.5	174	No
8	5505	29	4.9	218	No
9	5499	28	4.4	156	Yes
10	5506	28	4.3	190	Yes
11	5500	25	2.4	168	Yes
12	5508	24	1.7	207	Yes
13	5505	29	4.8	219	Yes
14	5491	24	2.1	203	Yes
15	5502	26	2.9	204	Yes
16	5495	25	2.6	222	No
17	5494	24	1.6	197	Yes
18	5493	25	2.2	206	Yes
19	5502	23	1.3	212	Yes
20	5506	23	1.5	213	Yes
21	5509	28	4.3	187	Yes
22	5491	26	3.1	216	Yes
23	5503	26	3.1	223	No
24	5500	24	2.1	191	Yes
25	5503	24	1.6	171	Yes
26	5505	24	1.7	170	Yes
27	5500	28	4.4	214	No
28	5494	29	5	151	Yes
29	5492	27	3.8	157	Yes
30	5500	24	1.6	165	Yes
					Detection Rate: 80 %

802.11ac (VHT40)

Type 3 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	17	8.3	375	Yes
2	5504	16	6.8	416	No
3	5503	16	7	272	Yes
4	5494	18	9.1	481	Yes
5	5501	18	10	486	Yes
6	5501	18	8.7	373	Yes
7	5501	17	8.5	352	Yes
8	5492	18	9.9	448	No
9	5495	18	9.4	296	Yes
10	5498	18	9.3	200	Yes
11	5493	17	7.4	445	Yes
12	5500	16	6.7	357	Yes
13	5497	18	9.8	478	Yes
14	5503	16	7.1	366	Yes
15	5492	17	7.9	333	Yes
16	5497	17	7.6	353	Yes
17	5494	16	6.6	223	Yes
18	5508	16	7.2	444	Yes
19	5493	16	6.3	303	Yes
20	5500	16	6.5	334	No
21	5501	18	9.3	271	Yes
22	5509	17	8.1	202	No
23	5504	17	8.1	464	Yes
24	5508	16	7.1	308	Yes
25	5503	16	6.6	285	Yes
26	5506	16	6.7	275	Yes
27	5494	18	9.4	252	Yes
28	5501	18	10	243	Yes
29	5507	18	8.8	226	Yes
30	5492	16	6.6	385	No
					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	5500	14	16.1	375	Yes
2	5502	13	12.9	416	Yes
3	5501	13	13.3	272	Yes
4	5505	15	17.9	481	No
5	5493	16	19.9	486	Yes
6	5503	15	17	373	Yes
7	5503	15	16.7	352	Yes
8	5496	16	19.8	448	Yes
9	5495	16	18.5	296	Yes
10	5506	16	18.3	200	Yes
11	5509	13	14.1	445	Yes
12	5495	12	12.6	357	Yes
13	5503	16	19.5	478	Yes
14	5502	13	13.4	366	Yes
15	5508	14	15.3	333	Yes
16	5503	13	14.6	353	No
17	5503	12	12.5	223	Yes
18	5501	13	13.6	444	Yes
19	5495	12	11.7	303	Yes
20	5502	12	12.1	334	Yes
21	5497	16	18.3	271	Yes
22	5496	14	15.8	202	Yes
23	5493	14	15.7	464	No
24	5494	13	13.4	308	Yes
25	5504	12	12.5	285	Yes
26	5501	12	12.5	275	Yes
27	5504	16	18.5	252	Yes
28	5491	16	19.9	243	Yes
29	5505	15	17.2	226	No
30	5502	12	12.4	385	Yes
					Detection Rate: 86.7%

802.11ac (VHT40)

Type 5 Radar Statistical Performances				
Trial #	Chirp Width(MHz)	Chirp Center Frequency(MHz)	Test Signal Name	Detection
1	14	5510	LP_Signal_01	Yes
2	8	5510	LP_Signal_02	Yes
3	9	5510	LP_Signal_03	Yes
4	17	5510	LP_Signal_04	Yes
5	20	5510	LP_Signal_05	Yes
6	15	5510	LP_Signal_06	No
7	15	5510	LP_Signal_07	Yes
8	20	5510	LP_Signal_08	Yes
9	18	5510	LP_Signal_09	No
10	17	5510	LP_Signal_10	Yes
11	10	5495	LP_Signal_11	Yes
12	7	5494	LP_Signal_12	Yes
13	20	5499	LP_Signal_13	Yes
14	9	5495	LP_Signal_14	Yes
15	12	5496	LP_Signal_15	Yes
16	11	5495	LP_Signal_16	Yes
17	7	5494	LP_Signal_17	Yes
18	9	5495	LP_Signal_18	Yes
19	6	5493	LP_Signal_19	Yes
20	6	5493	LP_Signal_20	Yes
21	17	5522	LP_Signal_21	Yes
22	13	5524	LP_Signal_22	Yes
23	13	5524	LP_Signal_23	Yes
24	9	5525	LP_Signal_24	Yes
25	7	5526	LP_Signal_25	Yes
26	7	5526	LP_Signal_26	Yes
27	18	5522	LP_Signal_27	No
28	20	5521	LP_Signal_28	Yes
29	16	5523	LP_Signal_29	Yes
30	7	5526	LP_Signal_30	No
				Detection Rate: 86.7%

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)	Detection
1	9	1	333.3	Yes
2	9	1	333.3	Yes
3	9	1	333.3	No
4	9	1	333.3	Yes
5	9	1	333.3	Yes
6	9	1	333.3	No
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	No
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	No
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	No
28	9	1	333.3	Yes
29	9	1	333.3	Yes
30	9	1	333.3	Yes
				Detection Rate: 83.3 %

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	No
4	HOP_FREQ_SEQ_04	Yes
5	HOP_FREQ_SEQ_05	Yes
6	HOP_FREQ_SEQ_06	No
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	No
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	No
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	No
28	HOP_FREQ_SEQ_28	Yes
29	HOP_FREQ_SEQ_29	Yes
30	HOP_FREQ_SEQ_30	Yes
		Detection Rate: 83.3 %

The Frequency Hopping Radar pattern shown in Appendix A.2

802.11ac (VHT80)

Type 1 Radar Statistical Performances						
Trial #	Test Frequency (MHz)	Pulse Repetition Frequency Number (1 to 23)	Pulse Repetition Frequency (Pulse per seconds)	Pulses per Burst	Pulse Repetition Interval (microseconds)	Detection
1	5500	7	1567.4	83	638	Yes
2	5507	6	1618.1	86	618	Yes
3	5503	21	1089.3	58	918	No
4	5497	8	1519.8	81	658	Yes
5	5495	12	1355	72	738	Yes
6	5504	19	1139	61	878	No
7	5494	17	1193.3	63	838	Yes
8	5508	22	1066.1	57	938	Yes
9	5500	11	1392.8	74	718	Yes
10	5496	1	1930.5	102	518	Yes
11	5504	3	1792.1	95	558	Yes
12	5503	18	1165.6	62	858	Yes
13	5493	4	1730.1	92	578	Yes
14	5500	16	1222.5	65	818	Yes
15	5494	14	1285.3	68	778	Yes
16	5497		1385	74	722	Yes
17	5506		959.7	51	1042	Yes
18	5492		326.2	18	3066	Yes
19	5495		817	44	1224	Yes
20	5504		930.2	50	1075	No
21	5505		1020.4	54	980	Yes
22	5494		772.8	41	1294	Yes
23	5492		338.1	18	2958	Yes
24	5504		559.6	30	1787	Yes
25	5504		504.5	27	1982	Yes
26	5502		542	29	1845	No
27	5493		1727.1	92	579	Yes
28	5503		347.8	19	2875	Yes
29	5509		570.8	31	1752	Yes
30	5503		459.1	25	2178	Yes
Detection Rate: 86.7 %						

802.11ac (VHT80)

Type 2 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	26	3.3	184	Yes
2	5493	24	1.8	167	Yes
3	5495	24	2	227	Yes
4	5500	28	4.1	182	Yes
5	5496	29	5	202	No
6	5504	27	3.7	166	Yes
7	5496	27	3.5	174	Yes
8	5505	29	4.9	218	Yes
9	5499	28	4.4	156	Yes
10	5506	28	4.3	190	Yes
11	5500	25	2.4	168	Yes
12	5508	24	1.7	207	No
13	5505	29	4.8	219	Yes
14	5491	24	2.1	203	Yes
15	5502	26	2.9	204	Yes
16	5495	25	2.6	222	Yes
17	5494	24	1.6	197	Yes
18	5493	25	2.2	206	Yes
19	5502	23	1.3	212	Yes
20	5506	23	1.5	213	No
21	5509	28	4.3	187	No
22	5491	26	3.1	216	No
23	5503	26	3.1	223	Yes
24	5500	24	2.1	191	Yes
25	5503	24	1.6	171	Yes
26	5505	24	1.7	170	Yes
27	5500	28	4.4	214	Yes
28	5494	29	5	151	Yes
29	5492	27	3.8	157	Yes
30	5500	24	1.6	165	Yes
					Detection Rate: 83.3 %

802.11ac (VHT80)

Type 3 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	17	8.3	375	Yes
2	5504	16	6.8	416	Yes
3	5503	16	7	272	Yes
4	5494	18	9.1	481	Yes
5	5501	18	10	486	Yes
6	5501	18	8.7	373	Yes
7	5501	17	8.5	352	No
8	5492	18	9.9	448	Yes
9	5495	18	9.4	296	Yes
10	5498	18	9.3	200	Yes
11	5493	17	7.4	445	Yes
12	5500	16	6.7	357	Yes
13	5497	18	9.8	478	Yes
14	5503	16	7.1	366	Yes
15	5492	17	7.9	333	Yes
16	5497	17	7.6	353	Yes
17	5494	16	6.6	223	Yes
18	5508	16	7.2	444	No
19	5493	16	6.3	303	Yes
20	5500	16	6.5	334	Yes
21	5501	18	9.3	271	Yes
22	5509	17	8.1	202	Yes
23	5504	17	8.1	464	No
24	5508	16	7.1	308	Yes
25	5503	16	6.6	285	No
26	5506	16	6.7	275	Yes
27	5494	18	9.4	252	Yes
28	5501	18	10	243	Yes
29	5507	18	8.8	226	Yes
30	5492	16	6.6	385	Yes
Detection Rate: 86.7 %					

802.11ac (VHT80)

Type 4 Radar Statistical Performances					
Trial #	Test Frequency (MHz)	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	5500	14	16.1	375	Yes
2	5502	13	12.9	416	Yes
3	5501	13	13.3	272	No
4	5505	15	17.9	481	Yes
5	5493	16	19.9	486	Yes
6	5503	15	17	373	Yes
7	5503	15	16.7	352	Yes
8	5496	16	19.8	448	Yes
9	5495	16	18.5	296	No
10	5506	16	18.3	200	Yes
11	5509	13	14.1	445	Yes
12	5495	12	12.6	357	Yes
13	5503	16	19.5	478	Yes
14	5502	13	13.4	366	Yes
15	5508	14	15.3	333	Yes
16	5503	13	14.6	353	No
17	5503	12	12.5	223	Yes
18	5501	13	13.6	444	Yes
19	5495	12	11.7	303	No
20	5502	12	12.1	334	Yes
21	5497	16	18.3	271	Yes
22	5496	14	15.8	202	Yes
23	5493	14	15.7	464	Yes
24	5494	13	13.4	308	Yes
25	5504	12	12.5	285	Yes
26	5501	12	12.5	275	Yes
27	5504	16	18.5	252	Yes
28	5491	16	19.9	243	Yes
29	5505	15	17.2	226	Yes
30	5502	12	12.4	385	No
					Detection Rate: 83.3%

802.11ac (VHT80)

Type 5 Radar Statistical Performances				
Trial #	Chirp Width(MHz)	Chirp Center Frequency(MHz)	Test Signal Name	Detection
1	14	5530	LP_Signal_01	Yes
2	8	5530	LP_Signal_02	Yes
3	9	5530	LP_Signal_03	No
4	17	5530	LP_Signal_04	Yes
5	20	5530	LP_Signal_05	Yes
6	15	5530	LP_Signal_06	Yes
7	15	5530	LP_Signal_07	Yes
8	20	5530	LP_Signal_08	Yes
9	18	5530	LP_Signal_09	Yes
10	17	5530	LP_Signal_10	No
11	10	5495	LP_Signal_11	Yes
12	7	5494	LP_Signal_12	Yes
13	20	5499	LP_Signal_13	Yes
14	9	5495	LP_Signal_14	Yes
15	12	5496	LP_Signal_15	Yes
16	11	5495	LP_Signal_16	Yes
17	7	5494	LP_Signal_17	Yes
18	9	5495	LP_Signal_18	No
19	6	5493	LP_Signal_19	Yes
20	6	5493	LP_Signal_20	Yes
21	17	5562	LP_Signal_21	Yes
22	13	5564	LP_Signal_22	No
23	13	5564	LP_Signal_23	Yes
24	9	5565	LP_Signal_24	Yes
25	7	5566	LP_Signal_25	Yes
26	7	5566	LP_Signal_26	Yes
27	18	5562	LP_Signal_27	Yes
28	20	5561	LP_Signal_28	Yes
29	16	5563	LP_Signal_29	Yes
30	7	5566	LP_Signal_30	Yes
				Detection Rate: 86.7%

The Long Pulse Radar pattern shown in Appendix A.1

802.11ac (VHT80)

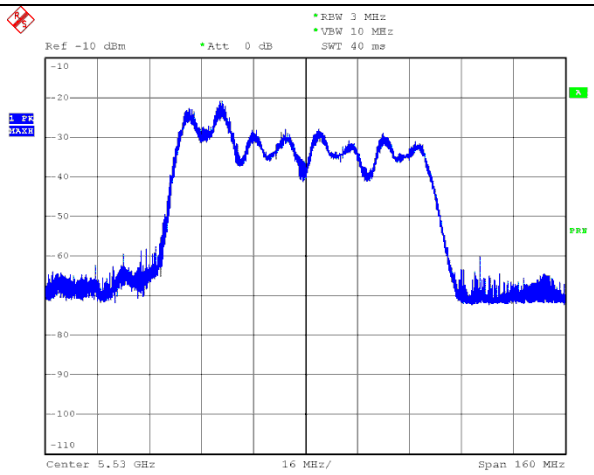
Type 6 Radar Statistical Performances				
Trial #	Pulses per Burst	Pulse Width(us)	PRI(us)	Detection
1	9	1	333.3	No
2	9	1	333.3	Yes
3	9	1	333.3	Yes
4	9	1	333.3	Yes
5	9	1	333.3	No
6	9	1	333.3	Yes
7	9	1	333.3	Yes
8	9	1	333.3	Yes
9	9	1	333.3	Yes
10	9	1	333.3	Yes
11	9	1	333.3	Yes
12	9	1	333.3	Yes
13	9	1	333.3	Yes
14	9	1	333.3	Yes
15	9	1	333.3	Yes
16	9	1	333.3	No
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	No
30	9	1	333.3	Yes
				Detection Rate: 86.7 %

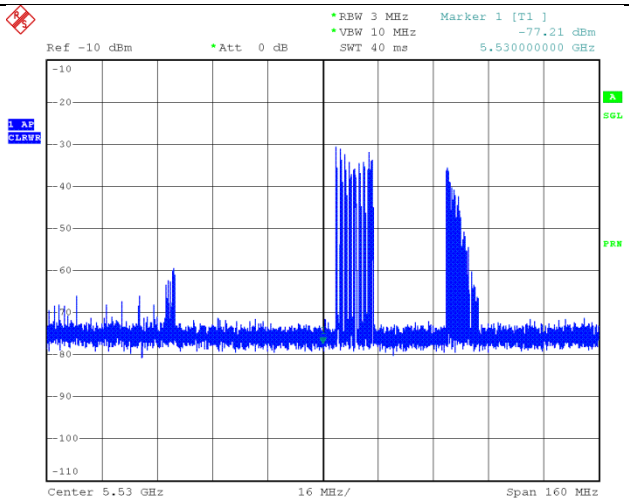
802.11ac (VHT80)

Type 6 Radar Statistical Performances		
Trial #	Hopping Frequency Sequence Name	Detection
1	HOP_FREQ_SEQ_01	No
2	HOP_FREQ_SEQ_02	Yes
3	HOP_FREQ_SEQ_03	Yes
4	HOP_FREQ_SEQ_04	Yes
5	HOP_FREQ_SEQ_05	No
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	No
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	No
30	HOP_FREQ_SEQ_30	Yes
		Detection Rate: 86.7 %

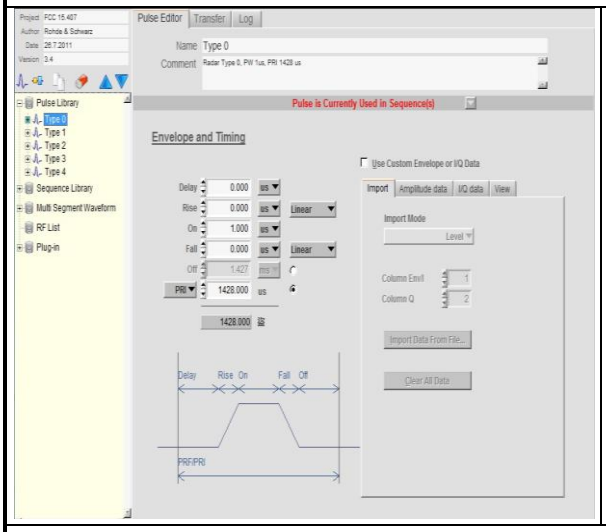
The Frequency Hopping Radar pattern shown in Appendix A.2

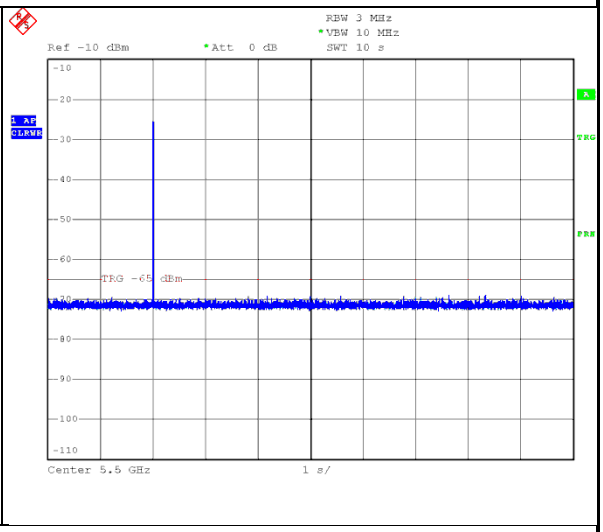
6.2.5 Non- Occupancy Period

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

EUT (master) links with Client on 5530MHz

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.





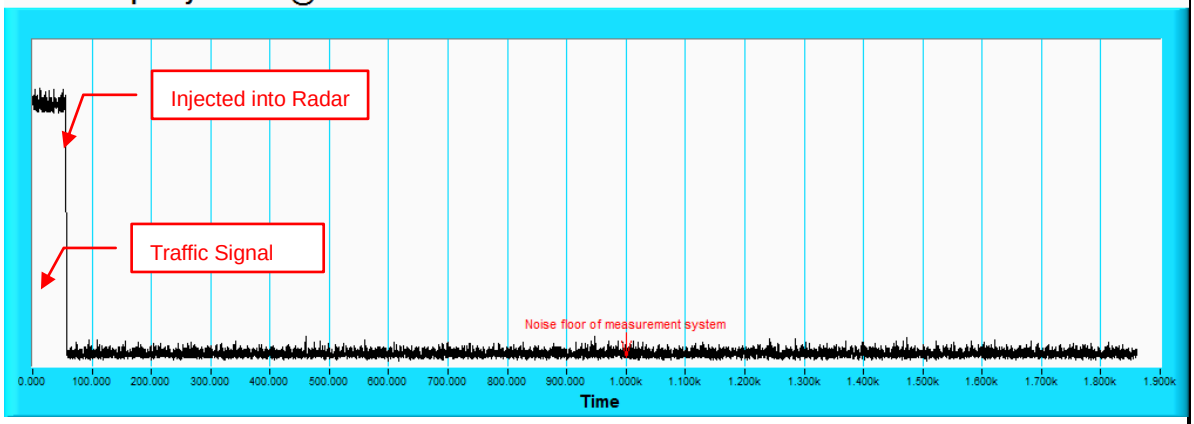
Radar 0 is used to test during DFS testing.

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 @ CH106 - 5530MHz



7. Information on 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:

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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

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_01 Number of Bursts in Trial: 15						
Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	14	78.1	1031	1830	-
2	1	14	60.9	1452	-	-
3	1	14	62.6	1311	-	-
4	3	14	88	1130	1749	1200
5	3	14	99	1142	1828	1470
6	3	14	83.4	1621	1361	1972
7	2	14	81.4	1504	1783	-
8	3	14	98.4	1215	1641	1420
9	3	14	91.7	1191	1354	1869
10	3	14	90.3	1284	1368	1906
11	2	14	67.1	1871	1117	-
12	1	14	58.9	1565	-	-
13	3	14	97.3	1782	1339	1524
14	1	14	63.6	1435	-	-
15	2	14	74.1	1230	1112	-
16						
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_02

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	8	69.9	1431	1196	-
2	1	8	58.4	1988	-	-
3	1	8	64.7	1292	-	-
4	1	8	54.1	1201	-	-
5	1	8	56.1	1466	-	-
6	3	8	90.5	1980	1131	1594
7	2	8	76.4	1347	1849	-
8	2	8	76.4	1294	1280	-
9	1	8	63.6	1288	-	-
10	1	8	58.5	1160	-	-
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: 11

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	9	58.7	1109	-	-
2	3	9	91.6	1914	1232	1863
3	3	9	99.1	1404	1140	1715
4	3	9	84.5	1801	1442	1013
5	1	9	58	1437	-	-
6	3	9	86.3	1673	1805	1304
7	2	9	70.2	1035	1644	-
8	1	9	66.4	1502	-	-
9	2	9	68.2	1541	1561	-
10	3	9	94.1	1797	1176	1693
11	2	9	70.6	1207	1223	-
12						
13						
14						
15						
16						
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_04

Number of Bursts in Trial: 17

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	17	72.8	1528	1190	-
2	2	17	80.2	1774	1865	-
3	3	17	95.6	1591	1082	1405
4	2	17	73.7	1208	1612	-
5	1	17	51	1203	-	-
6	3	17	94.2	1622	1963	1291
7	3	17	85.1	1449	1526	1746
8	3	17	98.6	1761	1453	1796
9	3	17	90.8	1713	1791	1043
10	1	17	50.2	1814	-	-
11	2	17	72	1905	1000	-
12	3	17	84.6	1601	1314	1474
13	2	17	80.6	1025	1650	-
14	1	17	60.2	1181	-	-
15	1	17	57.6	1867	-	-
16	2	17	74	1812	1943	-
17	2	17	76.1	1938	1853	-
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_05

Number of Bursts in Trial: 20

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	20	77.2	1933	1032	-
2	1	20	59.9	1850	-	-
3	1	20	51.7	1694	-	-
4	3	20	84.6	1085	1022	1250
5	3	20	99	1365	1432	1934
6	2	20	79.5	1756	1925	-
7	3	20	90.2	1765	1739	1147
8	3	20	91.9	1213	1560	1335
9	2	20	82.3	1057	1391	-
10	1	20	63.8	1178	-	-
11	3	20	83.6	1225	1679	1639
12	1	20	54	1585	-	-
13	3	20	97	1061	1161	1522
14	3	20	92.5	1015	1194	1604
15	2	20	79	1729	1883	-
16	2	20	69.6	1492	1752	-
17	1	20	53.4	1489	-	-
18	3	20	97.2	1792	1029	1542
19	2	20	78.2	1671	1381	-
20	2	20	69.2	1918	1983	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_06

Number of Bursts in Trial: 16

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	15	80.4	1978	1293	-
2	1	15	55.1	1851	-	-
3	3	15	96.4	1228	1643	1303
4	3	15	91.4	1909	1050	1012
5	2	15	77.8	1826	1981	-
6	2	15	72.9	1192	1624	-
7	1	15	58.2	1024	-	-
8	3	15	86.7	1234	1910	1052
9	1	15	56.9	1798	-	-
10	2	15	68.5	1545	1486	-
11	2	15	74.3	1321	1570	-
12	1	15	50.4	1822	-	-
13	1	15	62.3	1224	-	-
14	3	15	94.2	1247	1364	1551
15	3	15	89.3	1723	1870	1926
16	1	15	58.3	1789	-	-
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_07

Number of Bursts in Trial: 16

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	15	92.3	1323	1346	1301
2	3	15	86.1	1073	1833	1733
3	2	15	73.8	1179	1763	-
4	1	15	50.6	1407	-	-
5	1	15	55.3	1771	-	-
6	2	15	81.9	1290	1070	-
7	2	15	68.8	1619	1626	-
8	2	15	80.3	1750	1393	-
9	1	15	51.4	1519	-	-
10	3	15	94.6	1660	1074	1707
11	3	15	93.9	1258	1590	1539
12	1	15	57.7	1156	-	-
13	3	15	93.1	1563	1374	1984
14	1	15	64.9	1244	-	-
15	2	15	77.2	1413	1754	-
16	1	15	63	1659	-	-
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_08

Number of Bursts in Trial: 20

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	20	79.4	1060	1971	-
2	1	20	54.8	1819	-	-
3	3	20	95.7	1080	1872	1430
4	2	20	72.1	1747	1968	-
5	1	20	63.6	1350	-	-
6	1	20	60.3	1107	-	-
7	1	20	56.7	1947	-	-
8	2	20	76.1	1898	1382	-
9	2	20	71.2	1722	1028	-
10	1	20	53.5	1083	-	-
11	3	20	84.9	1653	1505	1516
12	1	20	63.8	1121	-	-
13	3	20	89.6	1868	1951	1890
14	2	20	83.2	1133	1337	-
15	3	20	91.8	1862	1600	1105
16	1	20	52.7	1627	-	-
17	1	20	53.1	1383	-	-
18	2	20	70.7	1628	1562	-
19	2	20	77.4	1483	1847	-
20	2	20	67.3	1260	1994	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_09

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	18	73.3	1482	1732	-
2	2	18	77.5	1397	1340	-
3	1	18	63.8	1979	-	-
4	3	18	98.6	1507	1006	1557
5	3	18	86.4	1708	1214	1143
6	1	18	66	1734	-	-
7	3	18	89.9	1859	1835	1221
8	2	18	83.3	1023	1306	-
9	2	18	79	1261	1800	-
10	1	18	50.5	1915	-	-
11	3	18	93.7	1475	1945	1655
12	3	18	92	1180	1091	1033
13	3	18	91.3	1276	1608	1959
14	1	18	61.2	1661	-	-
15	2	18	71	1403	1987	-
16	1	18	57.5	1999	-	-
17	3	18	98.6	1917	1856	1399
18	2	18	67.2	1111	1240	-
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_10

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	17	94.8	1896	1299	1982
2	2	17	81.9	1942	1252	-
3	2	17	79.3	1611	1210	-
4	3	17	97.7	1338	1175	1577
5	2	17	79.5	1580	1168	-
6	1	17	51.8	1962	-	-
7	3	17	97	1675	1861	1572
8	1	17	55	1451	-	-
9	3	17	90.8	1026	1880	1946
10	2	17	68.3	1251	1055	-
11	1	17	52.8	1062	-	-
12	3	17	91.1	1705	1575	1737
13	1	17	54.5	1609	-	-
14	2	17	72.3	1586	1602	-
15	3	17	87.6	1941	1726	1438
16	1	17	59.8	1807	-	-
17	3	17	89.7	1923	1119	1101
18	1	17	51.9	1550	-	-
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_11

Number of Bursts in Trial: 12

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	10	91	1706	1687	1150
2	3	10	97.1	1920	1218	1113
3	3	10	85.8	1818	1952	1806
4	3	10	97.6	1353	1940	1357
5	2	10	70.5	1128	1848	-
6	2	10	73.5	1328	1005	-
7	3	10	97.2	1911	1527	1510
8	2	10	70.7	1784	1895	-
9	1	10	59.9	1816	-	-
10	3	10	93	1710	1840	1235
11	2	10	72.5	1236	1824	-
12	2	10	78.3	1699	1657	-
13						
14						
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16						
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18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_12

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	7	62.1	1777	-	-
2	3	7	84.3	1106	1388	1500
3	1	7	54.2	1555	-	-
4	3	7	86	1975	1704	1027
5	2	7	76	1099	1309	-
6	3	7	95.5	1815	1398	1858
7	3	7	88.1	1163	1170	1992
8	2	7	75.7	1597	1465	-
9	3	7	98.1	1270	1246	1894
10	1	7	61.9	1277	-	-
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_13

Number of Bursts in Trial: 20

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	20	51.6	1222	-	-
2	2	20	81.4	1154	1683	-
3	2	20	75.3	1882	1741	-
4	2	20	71.6	1728	1676	-
5	2	20	80.5	1426	1094	-
6	3	20	87.9	1854	1189	1689
7	3	20	96	1400	1285	1010
8	2	20	71.3	1334	1680	-
9	1	20	54.3	1300	-	-
10	2	20	81.5	1239	1330	-
11	2	20	71.5	1296	1684	-
12	2	20	69.1	1279	1903	-
13	1	20	66.5	1110	-	-
14	1	20	51.4	1167	-	-
15	2	20	81.4	1614	1172	-
16	3	20	97.2	1773	1471	1888
17	1	20	61.4	1530	-	-
18	1	20	55.7	1930	-	-
19	1	20	50.4	1727	-	-
20	1	20	58.8	1995	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_14

Number of Bursts in Trial: 11

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	9	92	1974	1461	1422
2	1	9	53.9	1297	-	-
3	2	9	82.5	1764	1446	-
4	1	9	62.4	1802	-	-
5	1	9	56.1	1986	-	-
6	2	9	68.5	1332	1775	-
7	3	9	86.9	1578	1788	1204
8	2	9	68.5	1327	1414	-
9	3	9	96.4	1964	1897	1571
10	3	9	92.2	1493	1307	1913
11	2	9	71.7	1384	1193	-
12						
13						
14						
15						
16						
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_15

Number of Bursts in Trial: 14

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	12	64	1786	-	-
2	1	12	53.8	1944	-	-
3	2	12	79.1	1445	1476	-
4	3	12	95.5	1695	1730	1956
5	1	12	54.4	1418	-	-
6	2	12	72.2	1670	1439	-
7	3	12	99	1876	1885	1116
8	3	12	93.1	1860	1780	1564
9	1	12	59.2	1845	-	-
10	2	12	74.8	1093	1721	-
11	3	12	88.6	1316	1326	1950
12	3	12	88.7	1242	1636	1343
13	3	12	91	1731	1376	1596
14	1	12	56.8	1617	-	-
15						
16						
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_16

Number of Bursts in Trial: 13

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	11	93.1	1075	1259	1521
2	2	11	67.7	1164	1866	-
3	1	11	52.7	1227	-	-
4	1	11	54.6	1667	-	-
5	2	11	78.8	1620	1629	-
6	3	11	84	1429	1034	1349
7	2	11	82.3	1496	1503	-
8	2	11	75.2	1953	1576	-
9	3	11	89.3	1341	1462	1298
10	2	11	70	1682	1245	-
11	3	11	97.7	1425	1567	1039
12	3	11	98.9	1241	1901	1016
13	1	11	62.9	1998	-	-
14						
15						
16						
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_17

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	7	65.4	1249	-	-
2	1	7	61.9	1312	-	-
3	1	7	51	1344	-	-
4	2	7	77.4	1149	1447	-
5	2	7	74.9	1767	1579	-
6	1	7	62.2	1637	-	-
7	1	7	59.7	1002	-	-
8	1	7	57.5	1410	-	-
9	1	7	65.2	1931	-	-
10	3	7	87.5	1417	1104	1174
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_18

Number of Bursts in Trial: 11

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	9	56	1758	-	-
2	2	9	77	1243	1633	-
3	2	9	74.9	1302	1394	-
4	1	9	62.5	1081	-	-
5	1	9	62.7	1556	-	-
6	3	9	91.3	1989	1873	1233
7	3	9	84.1	1264	1011	1606
8	1	9	53.3	1313	-	-
9	1	9	65.3	1834	-	-
10	3	9	91.5	1145	1387	1132
11	1	9	55.6	1811	-	-
12						
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Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_19

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	6	63.1	1411	-	-
2	1	6	50.8	1506	-	-
3	3	6	84.1	1273	1458	1638
4	1	6	63.9	1096	-	-
5	2	6	67.6	1114	1370	-
6	1	6	58.1	1778	-	-
7	3	6	89.5	1525	1186	1129
8	3	6	88.8	1157	1515	1810
9	1	6	64.6	1386	-	-
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Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_20

Number of Bursts in Trial: 9

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	6	59	1827	-	-
2	3	6	97.9	1625	1165	1993
3	1	6	55.5	1808	-	-
4	1	6	59.3	1616	-	-
5	3	6	83.6	1514	1217	1511
6	2	6	81.2	1973	1375	-
7	1	6	58.2	1377	-	-
8	3	6	97.4	1369	1965	1997
9	1	6	63.7	1289	-	-
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Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_21

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	17	76.4	2000	1067	-
2	2	17	81.3	1674	1766	-
3	3	17	99.3	1477	1912	1456
4	2	17	77.8	1231	1635	-
5	2	17	80.3	1939	1254	-
6	3	17	96.8	1648	1283	1134
7	2	17	77.6	1717	1385	-
8	1	17	53.8	1219	-	-
9	2	17	71.5	1960	1499	-
10	2	17	69.5	1053	1632	-
11	3	17	84	1817	1663	1071
12	1	17	55.2	1089	-	-
13	1	17	66.6	1855	-	-
14	2	17	82.3	1738	1195	-
15	1	17	57.3	1389	-	-
16	1	17	57.2	1137	-	-
17	1	17	52.2	1768	-	-
18	1	17	61.1	1479	-	-
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_22

Number of Bursts in Trial: 14

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	13	66.9	1520	1517	0
2	1	13	63.4	1899	-	0
3	1	13	57.2	1275	-	0
4	1	13	54	1097	-	0
5	2	13	70.3	1141	1700	0
6	2	13	68.7	1256	1534	0
7	1	13	50.6	1884	-	0
8	2	13	78.4	1263	1592	0
9	1	13	58.1	1100	-	0
10	2	13	71.4	1554	1685	0
11	1	13	65.6	1162	-	0
12	2	13	78.9	1568	1265	0
13	2	13	81.6	1976	1692	0
14	2	13	83	1363	1875	0
15						
16						
17						
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19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_23

Number of Bursts in Trial: 14

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	13	86.7	1535	1552	1677
2	3	13	89.7	1351	1512	1573
3	3	13	88.9	1325	1790	1460
4	1	13	60.2	1262	-	-
5	1	13	56.3	1322	-	-
6	3	13	85.4	1813	1698	1063
7	2	13	70.5	1336	1487	-
8	3	13	87.4	1977	1588	1468
9	3	13	86.4	1769	1540	1319
10	1	13	63.8	1136	-	-
11	3	13	86.6	1757	1183	1045
12	2	13	69.9	1955	1017	-
13	1	13	54.8	1396	-	-
14	1	13	59.3	1345	-	-
15						
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Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_24

Number of Bursts in Trial: 11

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	9	92.5	1331	1932	1184
2	1	9	65.6	1366	-	-
3	3	9	98.3	1658	1937	1779
4	1	9	52	1087	-	-
5	2	9	81.3	1793	1900	-
6	2	9	70	1428	1115	-
7	3	9	91.4	1003	1084	1056
8	3	9	83.9	1686	1092	1152
9	1	9	56.4	1030	-	-
10	2	9	72.4	1760	1037	-
11	1	9	60.9	1078	-	-
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Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_25

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	7	80.6	1916	1488	-
2	2	7	77.1	1954	1649	-
3	1	7	51.9	1610	-	-
4	3	7	88.6	1419	1272	1014
5	1	7	56.1	1491	-	-
6	3	7	88.3	1751	1049	1755
7	3	7	92.7	1392	1018	1958
8	3	7	88	1501	1907	1990
9	1	7	50.9	1839	-	-
10	2	7	68.5	1490	1480	-
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Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_26

Number of Bursts in Trial: 10

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	7	77	1342	1371	-
2	3	7	93.4	1473	1725	1656
3	3	7	97.1	1401	1607	1928
4	1	7	50.9	1795	-	-
5	2	7	66.8	1286	1640	-
6	3	7	90.7	1904	1702	1416
7	2	7	79.5	1004	1440	-
8	2	7	77.1	1691	1584	-
9	3	7	93.5	1613	1378	1173
10	2	7	67.4	1124	1770	-
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Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_27

Number of Bursts in Trial: 18

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	1	18	50.4	1799	-	-
2	1	18	63.9	1509	-	-
3	3	18	91.3	1508	1735	1065
4	3	18	86	1202	1631	1957
5	3	18	92.6	1324	1566	1569
6	2	18	73.2	1544	1537	-
7	1	18	63.5	1054	-	-
8	3	18	97.7	1605	1595	1559
9	1	18	61.5	1076	-	-
10	3	18	91.7	1123	1040	1001
11	1	18	52.7	1472	-	-
12	2	18	83.2	1787	1495	-
13	1	18	66.5	1518	-	-
14	3	18	99.4	1841	1155	1646
15	2	18	75.8	1745	1257	-
16	1	18	58.3	1295	-	-
17	2	18	68.5	1305	1543	-
18	3	18	98.8	1498	1408	1077
19						
20						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_28

Number of Bursts in Trial: 20

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	20	80.2	1720	1436	-
2	2	20	75.5	1139	1036	-
3	3	20	94	1785	1485	1703
4	2	20	81.9	1138	1144	-
5	1	20	53.8	1949	-	-
6	3	20	90.8	1651	1481	1654
7	1	20	65.4	1966	-	-
8	2	20	72.2	1829	1664	-
9	1	20	51.1	1310	-	-
10	1	20	51.1	1825	-	-
11	1	20	64.4	1148	-	-
12	2	20	79.4	1668	1199	-
13	1	20	61.8	1206	-	-
14	1	20	56.8	1248	-	-
15	1	20	62.9	1409	-	-
16	1	20	54.9	1333	-	-
17	1	20	60.5	1088	-	-
18	1	20	66.6	1669	-	-
19	3	20	85.8	1169	1857	1095
20	1	20	66	1762	-	-

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_29

Number of Bursts in Trial: 16

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	3	16	96	1041	1118	1212
2	2	16	83	1282	1533	-
3	2	16	74.7	1187	1008	-
4	3	16	95	1454	1360	1108
5	2	16	76.5	1433	1278	-
6	1	16	59.2	1929	-	-
7	1	16	65.8	1864	-	-
8	3	16	93.9	1007	1125	1238
9	2	16	76.9	1211	1390	-
10	3	16	97.8	1753	1532	1415
11	2	16	75.2	1459	1598	-
12	1	16	58.5	1046	-	-
13	2	16	72.1	1380	1048	-
14	2	16	80.7	1122	1450	-
15	3	16	97	1666	1226	1166
16	2	16	67.9	1177	1892	-
17						
18						
19						

Long Pulse Radar Test Signal

Test Signal Name: LP_Signal_30

Number of Bursts in Trial: 1

Burst	Pulses per Burst	Chirp (MHz)	Pulse Width(us)	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	2	7	73.5	1970	1645	-
2	2	7	68.5	1358	1615	-
3	1	7	60	1151	-	-
4	1	7	50.4	1103	-	-
5	2	7	70.5	1523	1935	-
6	2	7	70.4	1587	1308	-
7	2	7	72	1355	1066	-
8	1	7	62.4	1469	-	-
9	2	7	83.2	1618	1740	-
10	2	7	82.1	1038	1536	-
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A.2 The Frequency Hopping Radar pattern

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_01					
Frequency (MHz)	0	1	2	3	4
0	5605	5479	5609	5685	5317
5	5281	5594	5513	5555	5342
10	5396	5298	5448	5375	5563
15	5723	5659	5675	5602	5644
20	5701	5663	5300	5390	5550
25	5485	5704	5470	5567	5698
30	5349	5620	5438	5487	5293
35	5583	5291	5353	5295	5419
40	5262	5507	5488	5538	5585
45	5340	5271	5510	5643	5266
50	5251	5252	5657	5667	5526
55	5566	5560	5492	5618	5712
60	5713	5369	5394	5500	5260
65	5634	5326	5302	5423	5256
70	5596	5599	5629	5273	5615
75	5724	5562	5312	5395	5683
80	5649	5682	5445	5715	5506
85	5621	5308	5549	5524	5557
90	5405	5376	5274	5388	5441
95	5385	5672	5431	5670	5477

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_02					
Frequency (MHz)	0	1	2	3	4
0	5385	5718	5545	5371	5537
5	5323	5519	5588	5621	5549
10	5327	5659	5489	5570	5584
15	5336	5311	5303	5647	5458
20	5612	5354	5716	5479	5348
25	5438	5337	5335	5574	5601
30	5265	5713	5577	5653	5715
35	5307	5432	5674	5562	5506
40	5306	5258	5345	5631	5632
45	5514	5320	5568	5696	5628
50	5602	5428	5708	5378	5349
55	5413	5273	5446	5333	5531
60	5264	5367	5534	5339	5332
65	5561	5580	5624	5251	5459
70	5563	5391	5402	5701	5259
75	5618	5573	5538	5271	5364
80	5328	5353	5252	5496	5670
85	5684	5305	5269	5463	5520
90	5597	5719	5325	5539	5639
95	5550	5678	5465	5552	5664

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_03					
Frequency (MHz)	0	1	2	3	4
0	5543	5482	5481	5435	5282
5	5365	5541	5566	5309	5281
10	5636	5448	5530	5290	5605
15	5424	5438	5406	5692	5650
20	5620	5423	5279	5471	5321
25	5704	5664	5538	5678	5635
30	5307	5699	5534	5393	5489
35	5505	5474	5358	5695	5572
40	5428	5286	5396	5629	5346
45	5437	5626	5274	5418	5381
50	5604	5284	5467	5550	5357
55	5461	5400	5426	5253	5710
60	5399	5639	5484	5623	5350
65	5675	5398	5298	5283	5680
70	5720	5718	5422	5514	5705
75	5711	5708	5568	5277	5359
80	5272	5464	5651	5305	5580
85	5684	5312	5459	5715	5402
90	5337	5601	5370	5445	5649
95	5472	5654	5660	5672	5420

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_04					
Frequency (MHz)	0	1	2	3	4
0	5323	5721	5417	5596	5599
5	5504	5466	5641	5472	5585
10	5567	5712	5571	5485	5626
15	5415	5565	5509	5262	5367
20	5628	5589	5695	5560	5294
25	5592	5613	5266	5404	5669
30	5446	5588	5491	5511	5325
35	5381	5629	5434	5609	5411
40	5608	5699	5636	5275	5658
45	5520	5587	5327	5683	5257
50	5305	5335	5556	5373	5679
55	5552	5616	5547	5584	5528
60	5389	5704	5471	5310	5569
65	5648	5624	5605	5553	5483
70	5467	5706	5649	5490	5664
75	5680	5542	5689	5488	5678
80	5533	5523	5677	5281	5651
85	5719	5543	5409	5330	5657
90	5405	5690	5436	5694	5715
95	5425	5526	5644	5575	5377

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_05					
Frequency (MHz)	0	1	2	3	4
0	5578	5582	5353	5282	5344
5	5546	5488	5716	5635	5317
10	5498	5501	5612	5583	5647
15	5503	5692	5515	5685	5559
20	5539	5658	5636	5552	5267
25	5480	5465	5469	5508	5703
30	5574	5448	5251	5415	5523
35	5277	5569	5522	5587	5620
40	5347	5691	5637	5401	5623
45	5638	5603	5645	5380	5570
50	5608	5481	5386	5671	5265
55	5686	5331	5366	5555	5657
60	5554	5271	5400	5611	5374
65	5573	5373	5340	5445	5286
70	5314	5346	5466	5649	5591
75	5588	5670	5590	5495	5674
80	5476	5561	5601	5517	5284
85	5333	5318	5479	5419	5257
90	5510	5542	5572	5678	5672
95	5375	5621	5410	5504	5500

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_06					
Frequency (MHz)	0	1	2	3	4
0	5358	5346	5289	5443	5661
5	5588	5413	5316	5701	5524
10	5332	5290	5653	5303	5668
15	5591	5722	5618	5255	5276
20	5547	5349	5674	5641	5715
25	5271	5414	5672	5612	5262
30	5530	5463	5405	5466	5567
35	5343	5416	5660	5318	5362
40	5534	5299	5575	5544	5620
45	5511	5686	5703	5433	5360
50	5484	5657	5437	5356	5494
55	5470	5453	5640	5521	5563
60	5526	5311	5719	5691	5707
65	5558	5522	5409	5647	5467
70	5708	5300	5347	5345	5582
75	5711	5256	5651	5420	5326
80	5570	5279	5671	5457	5403
85	5566	5696	5385	5335	5581
90	5675	5260	5324	5407	5361
95	5431	5274	5535	5440	5551

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_07					
Frequency (MHz)	0	1	2	3	4
0	5613	5585	5700	5604	5406
5	5630	5435	5391	5389	5353
10	5263	5554	5694	5498	5689
15	5679	5374	5721	5300	5468
20	5555	5418	5615	5633	5688
25	5634	5266	5303	5716	5296
30	5669	5352	5362	5681	5341
35	5541	5458	5276	5589	5515
40	5448	5500	5382	5513	5309
45	5714	5440	5598	5294	5664
50	5722	5358	5488	5445	5695
55	5414	5641	5594	5711	5497
60	5409	5636	5539	5360	5504
65	5398	5471	5510	5270	5305
70	5286	5449	5671	5321	5490
75	5356	5302	5632	5672	5339
80	5351	5443	5621	5668	5457
85	5342	5626	5413	5350	5289
90	5354	5425	5330	5441	5540
95	5291	5590	5575	5338	5530

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_08					
Frequency (MHz)	0	1	2	3	4
0	5296	5349	5636	5290	5723
5	5294	5457	5466	5552	5560
10	5669	5440	5260	5693	5710
15	5670	5501	5345	5660	5584
20	5556	5722	5661	5425	5593
25	5506	5330	5711	5338	5319
30	5324	5493	5361	5597	5367
35	5482	5668	5459	5339	5562
40	5451	5549	5272	5578	5377
45	5442	5512	5614	5534	5539
50	5518	5261	5354	5548	5426
55	5676	5371	5569	5574	5581
60	5283	5450	5599	5420	5384
65	5689	5402	5474	5369	5452
70	5423	5297	5500	5362	5476
75	5445	5613	5449	5607	5306
80	5568	5683	5360	5659	5589
85	5508	5340	5602	5590	5336
90	5378	5503	5649	5308	5645
95	5559	5412	5413	5563	5307

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_09					
Frequency (MHz)	0	1	2	3	4
0	5551	5588	5572	5451	5468
5	5336	5382	5541	5715	5292
10	5503	5704	5398	5413	5256
15	5283	5628	5452	5293	5377
20	5474	5653	5497	5714	5634
25	5313	5542	5709	5546	5364
30	5278	5702	5276	5539	5267
35	5656	5261	5458	5443	5373
40	5645	5314	5708	5676	5558
45	5460	5305	5495	5399	5490
50	5710	5590	5623	5341	5680
55	5502	5616	5342	5601	5264
60	5678	5584	5396	5422	5369
65	5420	5424	5672	5351	5355
70	5455	5272	5273	5459	5331
75	5499	5491	5594	5701	5559
80	5388	5674	5565	5403	5263
85	5501	5649	5700	5658	5294
90	5375	5416	5280	5412	5385
95	5661	5543	5609	5391	5615

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_10					
Frequency (MHz)	0	1	2	3	4
0	5331	5352	5508	5612	5310
5	5378	5404	5616	5403	5596
10	5434	5493	5439	5511	5277
15	5371	5658	5458	5338	5666
20	5482	5344	5535	5328	5704
25	5579	5394	5437	5650	5398
30	5417	5591	5708	5279	5419
35	5379	5303	5646	5549	5287
40	5589	5253	5705	5457	5441
45	5543	5266	5548	5664	5366
50	5411	5641	5334	5639	5527
55	5255	5456	5709	5692	5313
60	5429	5568	5607	5410	5623
65	5318	5359	5256	5564	5629
70	5715	5341	5555	5724	5321
75	5678	5619	5634	5575	5478
80	5572	5644	5363	5432	5562
85	5598	5263	5440	5526	5345
90	5711	5445	5349	5645	5295
95	5280	5624	5507	5273	5718

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_11					
Frequency (MHz)	0	1	2	3	4
0	5586	5591	5444	5676	5530
5	5420	5329	5691	5469	5328
10	5268	5282	5480	5706	5298
15	5459	5310	5561	5383	5393
20	5413	5476	5320	5677	5467
25	5343	5640	5279	5432	5577
30	5665	5494	5668	5674	5442
35	5262	5345	5274	5428	5433
40	5643	5697	5702	5437	5421
45	5626	5324	5601	5551	5620
50	5587	5692	5423	5365	5471
55	5346	5410	5424	5511	5284
60	5384	5594	5513	5439	5333
65	5385	5446	5267	5395	5466
70	5359	5335	5312	5327	5558
75	5445	5700	5280	5647	5264
80	5302	5653	5633	5682	5425
85	5527	5495	5559	5318	5641
90	5575	5512	5491	5299	5434
95	5610	5451	5404	5456	5608

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_12					
Frequency (MHz)	0	1	2	3	4
0	5517	5384	5266	5383	5314
5	5621	5496	5431	5406	5603
10	5652	5307	5375	5258	5541
15	5656	5267	5497	5453	5252
20	5508	5443	5405	5724	5335
25	5546	5713	5562	5660	5477
30	5255	5361	5380	5289	5455
35	5617	5610	5292	5711	5436
40	5527	5505	5511	5261	5684
45	5294	5342	5663	5647	5502
50	5631	5316	5356	5613	5645
55	5325	5412	5633	5297	5540
60	5666	5668	5522	5399	5264
65	5451	5709	5363	5466	5706
70	5716	5279	5394	5387	5291
75	5551	5300	5262	5571	5664
80	5675	5274	5401	5535	5639
85	5448	5481	5286	5718	5683
90	5714	5670	5416	5565	5462
95	5518	5470	5472	5622	5372

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_13					
Frequency (MHz)	0	1	2	3	4
0	5297	5623	5677	5544	5631
5	5285	5421	5506	5569	5335
10	5486	5571	5416	5453	5562
15	5647	5600	5498	5541	5660
20	5577	5534	5435	5378	5515
25	5662	5652	5342	5596	5702
30	5366	5687	5576	5629	5584
35	5594	5708	5406	5445	5722
40	5372	5707	5443	5654	5355
45	5516	5274	5425	5721	5700
50	5292	5410	5492	5559	5542
55	5436	5348	5494	5511	5320
60	5358	5467	5706	5565	5646
65	5325	5400	5411	5303	5635
70	5692	5341	5370	5346	5260
75	5574	5718	5282	5681	5267
80	5434	5398	5352	5387	5444
85	5478	5586	5637	5374	5676
90	5450	5350	5539	5573	5454
95	5673	5271	5575	5442	5333

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_14					
Frequency (MHz)	0	1	2	3	4
0	5552	5387	5613	5705	5376
5	5327	5443	5581	5257	5639
10	5417	5360	5457	5551	5583
15	5260	5424	5703	5543	5258
20	5668	5268	5475	5524	5351
25	5403	5611	5380	5446	5630
30	5366	5255	5547	5316	5306
35	5307	5636	5324	5677	5695
40	5686	5315	5381	5419	5352
45	5445	5254	5508	5682	5278
50	5654	5286	5610	5631	5259
55	5436	5604	5320	5538	5313
60	5482	5449	5523	5412	5488
65	5592	5526	5349	5350	5276
70	5573	5347	5707	5678	5344
75	5355	5346	5305	5704	5694
80	5489	5699	5437	5701	5431
85	5497	5395	5542	5504	5688
90	5539	5680	5653	5628	5438
95	5640	5331	5605	5362	5656

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_15					
Frequency (MHz)	0	1	2	3	4
0	5332	5626	5549	5391	5693
5	5369	5368	5656	5420	5371
10	5348	5624	5498	5271	5604
15	5551	5331	5491	5450	5579
20	5337	5416	5516	5324	5669
25	5463	5583	5550	5664	5408
30	5716	5504	5434	5555	5602
35	5300	5415	5570	5373	5525
40	5398	5319	5659	5349	5277
45	5709	5591	5265	5444	5637
50	5661	5720	5557	5283	5317
55	5274	5253	5607	5356	5481
60	5688	5357	5370	5314	5538
65	5298	5386	5465	5625	5401
70	5679	5322	5264	5576	5339
75	5632	5680	5689	5329	5482
80	5595	5560	5392	5267	5445
85	5546	5467	5290	5419	5642
90	5552	5704	5310	5421	5589
95	5692	5670	5683	5519	5566

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_16					
Frequency (MHz)	0	1	2	3	4
0	5490	5487	5485	5455	5438
5	5508	5390	5256	5486	5578
10	5657	5510	5539	5466	5625
15	5436	5678	5337	5536	5642
20	5587	5503	5454	5605	5297
25	5557	5412	5311	5276	5698
30	5450	5461	5649	5707	5325
35	5439	5603	5366	5526	5561
40	5364	5257	5327	5346	5681
45	5592	5674	5323	5287	5331
50	5513	5545	5712	5334	5283
55	5702	5505	5703	5426	5610
60	5378	5399	5299	5484	5550
65	5722	5422	5318	5260	5428
70	5473	5272	5447	5528	5676
75	5459	5300	5661	5263	5284
80	5623	5292	5462	5348	5430
85	5482	5384	5693	5604	5275
90	5394	5316	5358	5374	5326
95	5687	5464	5489	5409	5658

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_17					
Frequency (MHz)	0	1	2	3	4
0	5270	5251	5421	5616	5280
5	5550	5315	5331	5649	5310
10	5588	5299	5580	5661	5646
15	5427	5330	5440	5581	5359
20	5595	5572	5395	5597	5445
25	5264	5514	5380	5257	5492
30	5494	5418	5389	5481	5620
35	5578	5694	5637	5301	5475
40	5678	5670	5567	5343	5610
45	5282	5284	5340	5596	5292
50	5721	5288	5423	5549	5693
55	5657	5536	5623	5298	5543
60	5344	5606	5538	5527	5276
65	5671	5361	5625	5627	5706
70	5642	5258	5547	5377	5652
75	5560	5417	5482	5346	5718
80	5519	5351	5308	5289	5279
85	5348	5327	5490	5577	5252
90	5647	5570	5559	5322	5392
95	5256	5338	5704	5318	5487

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_18					
Frequency (MHz)	0	1	2	3	4
0	5525	5490	5357	5302	5500
5	5592	5337	5406	5614	5422
10	5563	5718	5381	5667	5515
15	5360	5543	5626	5551	5506
20	5263	5336	5686	5711	5591
25	5620	5484	5291	5631	5480
30	5375	5604	5633	5343	5310
35	5433	5454	5389	5269	5608
40	5332	5437	5442	5552	5365
45	5342	5393	5483	5643	5339
50	5609	5404	5493	5514	5251
55	5708	5289	5438	5364	5473
60	5574	5397	5412	5714	5719
65	5550	5628	5519	5386	5602
70	5489	5623	5495	5562	5300
75	5371	5286	5474	5266	5453
80	5294	5692	5698	5625	5293
85	5724	5328	5426	5516	5447
90	5373	5568	5260	5350	5615
95	5579	5503	5720	5687	5565

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_19					
Frequency (MHz)	0	1	2	3	4
0	5305	5254	5293	5463	5342
5	5634	5359	5481	5500	5346
10	5353	5352	5284	5479	5688
15	5603	5487	5646	5574	5268
20	5514	5332	5374	5678	5691
25	5599	5540	5348	5588	5325
30	5673	5369	5722	5407	5638
35	5401	5326	5607	5400	5453
40	5449	5572	5434	5371	5532
45	5448	5446	5273	5519	5598
50	5390	5698	5702	5340	5497
55	5468	5441	5261	5618	5522
60	5398	5331	5270	5287	5419
65	5300	5569	5433	5667	5692
70	5690	5408	5705	5650	5604
75	5478	5258	5535	5672	5556
80	5679	5283	5669	5629	5583
85	5513	5389	5560	5652	5301
90	5414	5431	5363	5360	5428
95	5552	5633	5329	5718	5399

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_20					
Frequency (MHz)	0	1	2	3	4
0	5560	5493	5704	5624	5562
5	5298	5284	5556	5566	5553
10	5616	5325	5674	5709	5691
15	5614	5274	5619	5460	5522
20	5498	5315	5292	5664	5390
25	5392	5551	5314	5262	5715
30	5258	5289	5462	5559	5458
35	5423	5492	5597	5382	5532
40	5387	5431	5678	5512	5531
45	5361	5499	5635	5395	5299
50	5441	5312	5428	5685	5422
55	5631	5589	5554	5660	5276
60	5577	5588	5598	5615	5372
65	5402	5584	5480	5313	5653
70	5302	5580	5437	5702	5367
75	5585	5427	5337	5368	5594
80	5280	5389	5629	5425	5476
85	5581	5525	5703	5549	5311
90	5579	5397	5568	5377	5483
95	5536	5628	5308	5346	5329

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_21					
Frequency (MHz)	0	1	2	3	4
0	5718	5257	5640	5310	5404
5	5340	5306	5631	5254	5382
10	5593	5405	5366	5394	5255
15	5682	5266	5280	5664	5274
20	5433	5567	5256	5284	5637
25	5278	5341	5279	5418	5296
30	5379	5719	5721	5677	5333
35	5656	5465	5680	5393	5535
40	5703	5606	5615	5325	5480
45	5428	5607	5492	5614	5419
50	5455	5425	5649	5475	5401
55	5251	5398	5376	5346	5277
60	5560	5683	5350	5696	5506
65	5414	5408	5324	5564	5709
70	5552	5299	5626	5556	5396
75	5574	5487	5724	5663	5679
80	5320	5435	5657	5655	5584
85	5532	5364	5536	5298	5322
90	5269	5443	5334	5540	5538
95	5520	5526	5665	5449	5327

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_22					
Frequency (MHz)	0	1	2	3	4
0	5498	5496	5576	5471	5624
5	5382	5706	5417	5589	5524
10	5291	5407	5276	5295	5393
15	5383	5709	5466	5441	5258
20	5672	5373	5610	5544	5668
25	5482	5522	5330	5421	5608
30	5678	5485	5476	5604	5296
35	5286	5688	5714	5542	5698
40	5263	5720	5425	5536	5375
45	5697	5477	5508	5312	5525
50	5651	5543	5587	5549	5550
55	5586	5571	5531	5337	5515
60	5641	5338	5354	5622	5513
65	5347	5444	5271	5574	5721
70	5285	5281	5378	5435	5355
75	5510	5392	5644	5456	5430
80	5374	5599	5652	5401	5681
85	5499	5358	5708	5570	5329
90	5434	5449	5368	5422	5311
95	5411	5593	5601	5424	5552

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_23					
Frequency (MHz)	0	1	2	3	4
0	5278	5260	5512	5632	5369
5	5424	5253	5306	5580	5321
10	5455	5555	5448	5309	5297
15	5383	5423	5486	5657	5658
20	5449	5710	5365	5583	5432
25	5520	5588	5626	5364	5463
30	5594	5635	5535	5259	5674
35	5268	5387	5557	5628	5381
40	5676	5485	5422	5368	5355
45	5305	5438	5561	5577	5401
50	5352	5372	5494	5299	5284
55	5629	5390	5405	5466	5680
60	5683	5645	5638	5300	5348
65	5462	5276	5541	5280	5318
70	5702	5411	5314	5630	5625
75	5708	5443	5288	5308	5649
80	5596	5435	5523	5559	5585
85	5701	5662	5343	5527	5599
90	5682	5323	5525	5648	5322
95	5526	5655	5338	5517	5613

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_24					
Frequency (MHz)	0	1	2	3	4
0	5533	5499	5448	5696	5686
5	5563	5653	5381	5646	5625
10	5289	5344	5489	5407	5318
15	5471	5550	5589	5702	5375
20	5360	5493	5651	5454	5556
25	5320	5469	5316	5352	5398
30	5602	5483	5592	5275	5411
35	5494	5478	5353	5616	5542
40	5695	5486	5614	5628	5516
45	5297	5335	5388	5496	5464
50	5655	5528	5645	5290	5573
55	5341	5487	5713	5587	5376
60	5595	5370	5477	5561	5343
65	5549	5419	5433	5558	5354
70	5384	5551	5387	5273	5581
75	5606	5553	5452	5468	5338
80	5462	5522	5680	5666	5591
85	5347	5339	5564	5432	5703
90	5569	5505	5283	5536	5515
95	5350	5690	5307	5659	5520

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_25					
Frequency (MHz)	0	1	2	3	4
0	5691	5263	5384	5382	5431
5	5605	5675	5456	5334	5357
10	5695	5608	5530	5602	5339
15	5462	5677	5692	5272	5567
20	5368	5659	5592	5446	5529
25	5586	5321	5519	5432	5644
30	5372	5549	5490	5660	5449
35	5569	5624	5294	5553	5534
40	5552	5393	5513	5604	5315
45	5471	5554	5667	5254	5531
50	5704	5696	5379	5396	5285
55	5406	5347	5724	5535	5573
60	5387	5289	5360	5358	5318
65	5703	5361	5559	5340	5400
70	5363	5707	5353	5395	5587
75	5640	5663	5643	5511	5716
80	5304	5582	5397	5364	5545
85	5454	5564	5276	5349	5541
90	5283	5650	5593	5386	5259
95	5610	5562	5685	5528	5445

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_26					
Frequency (MHz)	0	1	2	3	4
0	5471	5502	5320	5543	5273
5	5647	5600	5531	5497	5564
10	5626	5397	5668	5322	5360
15	5550	5329	5698	5695	5284
20	5376	5253	5630	5535	5474
25	5270	5722	5560	5466	5686
30	5358	5506	5705	5337	5512
35	5588	5660	5517	5544	5467
40	5373	5652	5490	5633	5510
45	5533	5295	5554	5515	5720
50	5616	5407	5405	5272	5565
55	5694	5607	5291	5621	5724
60	5700	5318	5281	5518	5713
65	5688	5710	5573	5309	5394
70	5528	5498	5639	5326	5487
75	5339	5666	5568	5417	5676
80	5448	5683	5594	5640	5706
85	5716	5545	5589	5402	5718
90	5612	5365	5619	5570	5310
95	5553	5576	5338	5634	5491

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_27					
Frequency (MHz)	0	1	2	3	4
0	5251	5266	5256	5704	5493
5	5689	5622	5606	5660	5393
10	5460	5283	5709	5517	5381
15	5638	5456	5326	5265	5476
20	5287	5419	5571	5527	5475
25	5597	5450	5664	5500	5350
30	5722	5463	5348	5586	5332
35	5252	5373	5313	5697	5309
40	5357	5331	5301	5507	5462
45	5275	5637	5573	5676	5406
50	5581	5323	5654	5551	5479
55	5575	5439	5422	5667	5410
60	5390	5560	5545	5611	5278
65	5396	5258	5333	5360	5442
70	5325	5409	5490	5315	5625
75	5669	5538	5438	5549	5311
80	5372	5657	5540	5523	5619
85	5605	5684	5367	5672	5288
90	5563	5576	5344	5588	5662
95	5690	5618	5486	5723	5592

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_28					
Frequency (MHz)	0	1	2	3	4
0	5506	5505	5667	5390	5335
5	5353	5547	5681	5348	5600
10	5391	5275	5712	5402	5251
15	5486	5429	5310	5290	5295
20	5488	5512	5616	5448	5628
25	5449	5653	5534	5392	5611
30	5420	5563	5263	5530	5294
35	5464	5584	5375	5623	5440
40	5269	5541	5504	5633	5720
45	5631	5254	5293	5537	5282
50	5374	5268	5718	5398	5529
55	5629	5716	5638	5539	5555
60	5377	5437	5699	5597	5682
65	5369	5570	5660	5494	5395
70	5590	5325	5669	5658	5484
75	5446	5421	5485	5536	5342
80	5522	5568	5401	5710	5626
85	5383	5474	5679	5281	5373
90	5296	5707	5384	5702	5695
95	5475	5323	5723	5670	5338

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_29					
Frequency (MHz)	0	1	2	3	4
0	5286	5269	5603	5551	5555
5	5395	5569	5281	5414	5332
10	5700	5336	5316	5335	5423
15	5717	5613	5532	5355	5482
20	5303	5654	5550	5608	5421
25	5419	5398	5284	5494	5568
30	5434	5597	5377	5512	5350
35	5433	5477	5625	5306	5462
40	5523	5682	5598	5698	5328
45	5592	5307	5558	5413	5458
50	5425	5357	5541	5342	5380
55	5483	5344	5535	5609	5668
60	5720	5450	5684	5263	5645
65	5420	5631	5405	5402	5552
70	5426	5566	5381	5593	5649
75	5543	5510	5627	5511	5266
80	5534	5438	5522	5341	5628
85	5496	5675	5677	5309	5581
90	5639	5685	5315	5255	5308
95	5724	5503	5683	5282	5681

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_30					
Frequency (MHz)	0	1	2	3	4
0	5444	5508	5539	5712	5397
5	5437	5494	5356	5577	5636
10	5631	5600	5357	5530	5330
15	5265	5635	5303	5674	5689
20	5723	5491	5697	5394	5307
25	5250	5487	5598	5602	5476
30	5486	5334	5518	5664	5548
35	5572	5646	5273	5695	5301
40	5606	5620	5546	5595	5593
45	5411	5650	5360	5445	5289
50	5634	5446	5364	5568	5340
55	5354	5483	5322	5410	5395
60	5613	5661	5591	5621	5580
65	5344	5612	5347	5704	5638
70	5367	5596	5498	5502	5479
75	5423	5673	5492	5378	5544
80	5522	5292	5468	5531	5633
85	5425	5658	5688	5543	5557
90	5401	5329	5691	5252	5515
95	5417	5266	5558	5667	5655

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