

Dynamic Frequency Selection (DFS)

Test Report

Product Name : ROG Rapture GT-AX6000 Dual-band Gaming Router/
ROG Rapture GT-AC5400 Dual-band Gaming Router
Trade Name : ASUS
Model No. : GT-AX6000, GT-AC5400
FCC ID. : MSQ-RTAX2E00

Applicant : ASUSTeK COMPUTER INC.
Address : 4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

Date of Receipt : Nov. 13, 2018
Issued Date : Jan. 03, 2019
Report No. : 18B0158R-RFUSP16V00
Report Version : V1.0



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DFS Test Report

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ROG Rapture GT-AC5400 Dual-band Gaming Router

Applicant : ASUSTeK COMPUTER INC.

Address : 4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

Manufacturer : ASUSTeK COMPUTER INC.

Model No. : GT-AX6000, GT-AC5400

Trade Name : ASUS

FCC ID. : MSQ-RTAX2E00

EUT Voltage : AC 100-240V, 50-60Hz

Testing Voltage : AC 120V/60Hz

Applicable Standard : FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2017
ANSI C63.10: 2013
KDB 789033 D02 v02r01
KDB 905462

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Test Result : Complied

Documented By :



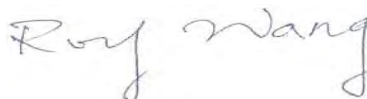
(Demi Chang / Senior Engineering Adm. Specialist)

Tested By :



(Mark Chang / Engineer)

Approved By :



(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
18B0158R-RFUSP16V00	V1.0	Initial issue of report	Jan. 03, 2019

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1. General Information

1.1. EUT Description

Product Name	ROG Rapture GT-AX6000 Dual-band Gaming Router/ ROG Rapture GT-AC5400 Dual-band Gaming Router	
Trade Name	ASUS	
Model No.	GT-AX6000, GT-AC5400	
DFS Frequency Range / Number of DFS Channels	IEEE 802.11a/n/ac/ax (20MHz)	5260-5320MHz / 4 Channels 5500-5700MHz / 11 Channels
	IEEE 802.11n/ac/ax (40MHz)	5270-5310MHz / 2 Channels 5510-5670MHz / 5 Channels
	IEEE 802.11ac/ax (80MHz)	5290MHz / 1 Channels 5530-5690MHz / 3 Channels
	802.11ac (80+80MHz)	Ch42 and Ch58
	802.11ac 160MHz	5570MHz / 1 Channel
Data Rate	802.11a	6, 9, 18, 24, 36, 48, 54Mbps
	802.11n	Support a subset of the combination of GI, MCS 0~MCS 31 and bandwidth defined in 802.11n
	802.11ac	Support a subset of the combination of GI, MCS 0~MCS 11 and bandwidth defined in 802.11ac
	802.11ax	Support a subset of the combination of GI, MCS 0~MCS 11 and bandwidth defined in 802.11ax
Type of Modulation	IEEE 802.11a/n/ac/ax	Orthogonal Frequency Division Multiplexing
Channel Bandwidth	20/40/80/160 MHz	
DFS Function	☒ Master ☒ Slave	
TPC Function	☐ <500mW not required ☒ $\geq$ 500mW employ a TPC*	
Communication Mode	☒ IP Based Systems ☐ Frame Based System ☐ Other System	
Antenna Gain	Refer to the table "Antenna List"	

*Note: The TPC test by U-NII report.

Accessories Information	
Power Adapter	ASUS, ADP-65DW Y I/P : 100-240V~50-60Hz 1.5A O/P : 19V $\approx$ 3.42A Cable Out: Non-Shielded, 2m
Power Adapter	ASUS, ADP-65DW B I/P : 100-240V~50-60Hz 1.5A O/P : 19V $\approx$ 3.42a Cable Out: Non-Shielded, 2m
Power Adapter	PI, AD2087320 I/P : 100-240V~ 50/60Hz 1.5A O/P : 19V $\approx$ 3.42A Cable Out: Non-Shielded, 2.2m

Antenna 1	9 Pcs			
	Antenna List	Brand Name	Part Number	Gain
	Ant 0	Whayu	C660-510433-A	1.9 dBi (2.4G) 1.9 dBi (5G)
	Ant 1	Whayu	C660-510434-A	1.2 dBi (2.4G) 2.7 dBi (5G)
	Ant 2	Whayu	C660-510435-A C660-510442-A (*)	2.2 dBi (2.4G) 2.5 dBi (5G) 2.0 dBi (2.4G)(*) 2.3 dBi (5G)(*)
	Ant 3	Whayu	C660-510436-A C660-510443-A (*)	2.3 dBi (5G) 2.2 dBi (5G)(*)
	Ant 4	Whayu	C660-510437-A	2.5 dBi (5G)
	Ant 5	Whayu	C660-510438-A	1.6 dBi (5G)
	Ant 6	Whayu	C660-510439-A C660-510444-A (*)	1.8 dBi (5G) 1.6 dBi (5G)(*)
	Ant 7	Whayu	C660-510440-A C660-510445-A (*)	1.9 dBi (2.4G) 1.7 dBi (2.4G)(*)
	Ant 8	Whayu	C660-510441-A C660-510455-A (*)	3.3 dBi (5G) 2.9 dBi (5G)(*)
	Note: The mark of (*) means second source for this CIIPC product, the second source antenna gain is lower than original source.			
Antenna 2	9 Pcs			
	Antenna List	Brand Name	Part Number	Gain
	Ant 0	Walsin	RFDPA163312IMLB701	1.75 dBi (2.4G) 1.70 dBi (5G)
	Ant 1	Walsin	RFDPA163306IMLB701	1.01 dBi (2.4G) 2.70 dBi (5G)
	Ant 2	Walsin	RFDPA163304IMLB701 RFDPA163311IMLB701(*)	2.12 dBi (2.4G) 2.03 dBi (5G)
	Ant 3	Walsin	RFDPA163305IM5B701 RFDPA163309IM5B701(*)	2.25 dBi (5G)
	Ant 4	Walsin	RFDPA163308IM5B701	2.34 dBi (5G)
	Ant 5	Walsin	RFDPA163314IM5B701	1.55 dBi (5G)
	Ant 6	Walsin	RFDPA163319IM5B701 RFDPA163326IM5B701(*)	1.80 dBi (5G)
	Ant 7	Walsin	RFDPA163311IMAB701 RFDPA163320IMAB701(*)	1.89 dBi (2.4G)
	Ant 8	Walsin	RFMTA181703IM5B701	3.22 dBi (5G)
	Note: The mark of (*) means second source for this CIIPC product, the second source antenna gain is same with original source.			

IEEE 802.11a/n/ac/ax (20MHz)

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

IEEE 802.11n /ac/ax(40MHz)

Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz	102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz		

IEEE 802.11ac/ax (80MHz)

Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
58	5290 MHz	106	5530 MHz	122	5610 MHz	138	5690 MHz

IEEE 802.11ac/ax (160MHz)

Working Frequency of Each Channel:			
Channel	Frequency	Channel	Frequency
114	5570 MHz		

Test Mode	Mode 1: Transmit (802.11n 20BW) Mode 2: Transmit (802.11ax 160BW)
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1.2. Standard Requirement

FCC Part 15.407:

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 30dBm. A TPC mechanism is not required for systems with an E.I.R.P. of less than 500mW.

U-NII devices operating in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

1.3. UNII Device Description

(1) The EUT operates in the following DFS band:

1. 5250-5350 MHz
2. 5470-5725 MHz

(2) The U-NII device maximum power is 27.154dBm(EIRP).

Below are the available 50 ohm antenna assemblies and their corresponding gains. 0dBi gain was used to set the -63 dBm threshold level (-64dBm +1 dB) during calibration of the test setup.

Antenna 1

Manufacturer	Model No.	Antenna Type	Effective Gain Per Chain [dBi]
Whayu	C660-510433-A	Dipole antenna	1.9 dBi (2.4G) 1.9 dBi (5G)
Whayu	C660-510434-A	Dipole antenna	1.2 dBi (2.4G) 2.7 dBi (5G)
Whayu	C660-510435-A C660-510442-A (*)	Dipole antenna	2.2 dBi (2.4G) 2.5 dBi (5G) 2.0 dBi (2.4G)(*) 2.3 dBi (5G)(*)
Whayu	C660-510436-A C660-510443-A (*)	Dipole antenna	2.3 dBi (5G) 2.2 dBi (5G)(*)
Whayu	C660-510437-A	Dipole antenna	2.5 dBi (5G)
Whayu	C660-510438-A	Dipole antenna	1.6 dBi (5G)
Whayu	C660-510439-A C660-510444-A (*)	Dipole antenna	1.8 dBi (5G) 1.6 dBi (5G)(*)
Whayu	C660-510440-A C660-510445-A (*)	Dipole antenna	1.9 dBi (2.4G) 1.7 dBi (2.4G)(*)
Whayu	C660-510441-A C660-510455-A (*)	Dipole antenna	3.3 dBi (5G) 2.9 dBi (5G)(*)

Antenna 2

Manufacturer	Model No.	Antenna Type	Effective Gain Per Chain [dBi]
Walsin	RFDPA163312IMLB701	Dipole antenna	1.75 dBi (2.4G) 1.70 dBi (5G)
Walsin	RFDPA163306IMLB701	Dipole antenna	1.01 dBi (2.4G) 2.70 dBi (5G)
Walsin	RFDPA163304IMLB701 RFDPA163311IMAB701(*)	Dipole antenna	2.12 dBi (2.4G) 2.03 dBi (5G)
Walsin	RFDPA163305IM5B701 RFDPA163309IM5B701(*)	Dipole antenna	2.25 dBi (5G)
Walsin	RFDPA163308IM5B701	Dipole antenna	2.34 dBi (5G)
Walsin	RFDPA163314IM5B701	Dipole antenna	1.55 dBi (5G)
Walsin	RFDPA163319IM5B701 RFDPA163326IM5B701(*)	Dipole antenna	1.80 dBi (5G)
Walsin	RFDPA163311IMAB701 RFDPA163320IMAB701(*)	Dipole antenna	1.89 dBi (2.4G)
Walsin	RFMTA181703IM5B701	Dipole antenna	3.22 dBi (5G)

- (3) WLAN traffic is generated by the test software “Iperf.exe” from the Master device to the Slave device in the transfer data rate >17%.
- (4) For the 5250-5350 MHz and 5470-5725 MHz bands, the Master device provides, on aggregate, uniform loading of the spectrum across all devices by selecting an operating channel among the available channels using a random algorithm.

1.4. Test Equipment

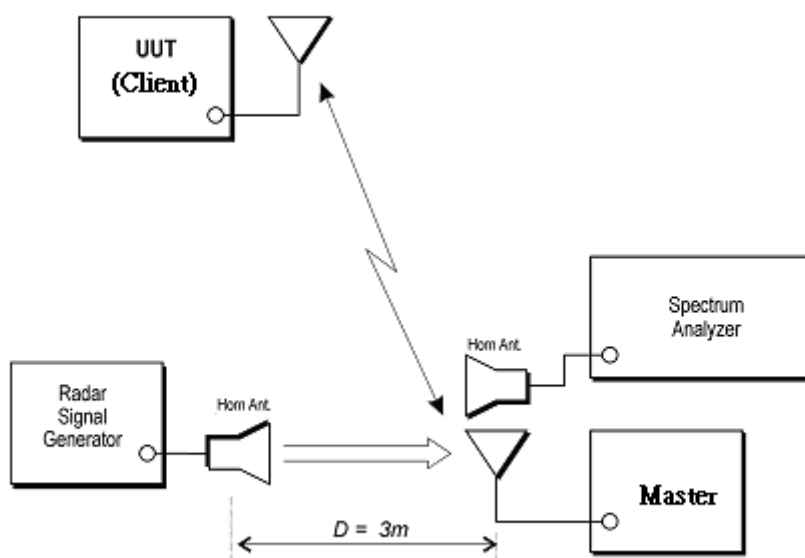
DFS / SR11-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
ESG Vector Signal Generator	Agilent	E4438C	MY45095759	2018/05/24	2019/05/23
MXG Vector Signal Generator	Keysight	N5182B	MY53052548	2018/03/31	2019/03/30
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2018/06/01	2019/05/31
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2018/10/17	2019/10/16
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25

Instrument	Manufacturer	Type No.	Serial No
Laptop PC	DELL	Vostro A860	CD8BMH1
Laptop PC	ASUS	K45VD	0343G3110M
ATT (Qty: 3)	Mini-Circuits	BW-S3W2 DC-18GHz	0025
RF Cable (Qty: 6)	Schaffner		25494/6
Client	ASUS	GT-AX6000	NA

Software	Manufacturer	Function
Agilent Signal Studio for DFS_V1.0.0	Agilent	Radar Signal Generation Software
9.0.0.4.328_27690	ASUS	FW

1.5. Test Setup



1.6. DFS Detection Thresholds

(1) Interference Threshold value, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64dBm

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.

(2) 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 + approx. 60 milliseconds over remaining 10 seconds period (See Notes 1 and 2)
U-NII Detection Bandwidth	Minimum 100% of the 99% 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.

1.7. Radar Test Waveforms

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

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

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

(2) Long Pulse Radar Test Signal

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

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the long pulse radar test signal. If more than 30 waveforms are used for the long pulse radar test signal, then each additional waveform must also be unique and not repeated from the previous waveforms.

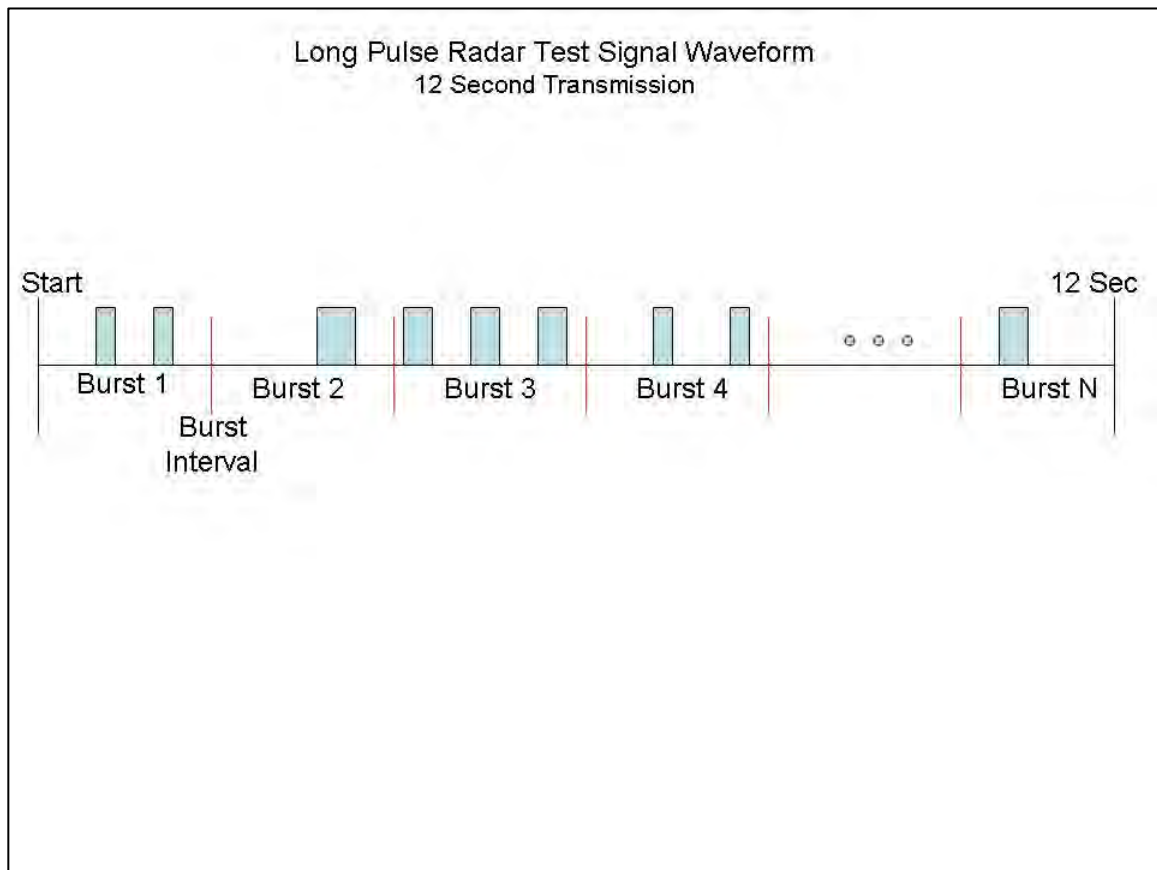
Each waveform is defined as follows:

- 1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
- 2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst_Count.
- 3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- 4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
- 5) Each pulse has a linear frequency modulated chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a transmission period will have the same chirp width. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz.
- 6) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.
- 7) The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst_Count. Each interval is of length $(12,000,000 / \text{Burst_Count})$ microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and $[(12,000,000 / \text{Burst_Count}) - (\text{Total Burst Length}) + (\text{One Random PRI Interval})]$ microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen independently.

A representative example of a Long Pulse radar test waveform:

- 1) The total test signal length is 12 seconds.
- 2) 8 Bursts are randomly generated for the Burst_Count.
- 3) Burst 1 has 2 randomly generated pulses.
- 4) The pulse width (for both pulses) is randomly selected to be 75 microseconds.
- 5) The PRI is randomly selected to be at 1213 microseconds.
- 6) Bursts 2 through 8 are generated using steps 3 – 5.
- 7) Each Burst is contained in even intervals of 1,500,000 microseconds. The starting location for Pulse 1, Burst 1 is randomly generated (1 to 1,500,000 minus the total Burst 1 length + 1 random PRI interval) at the 325,001 microsecond step. Bursts 2 through 8 randomly fall in successive 1,500,000 microsecond intervals (i.e. Burst 2 falls in the 1,500,001 – 3,000,000 microsecond range).

Graphical Representation of a Long Pulse radar Test Waveform



(3) Frequency Hopping Radar Test Signal

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

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

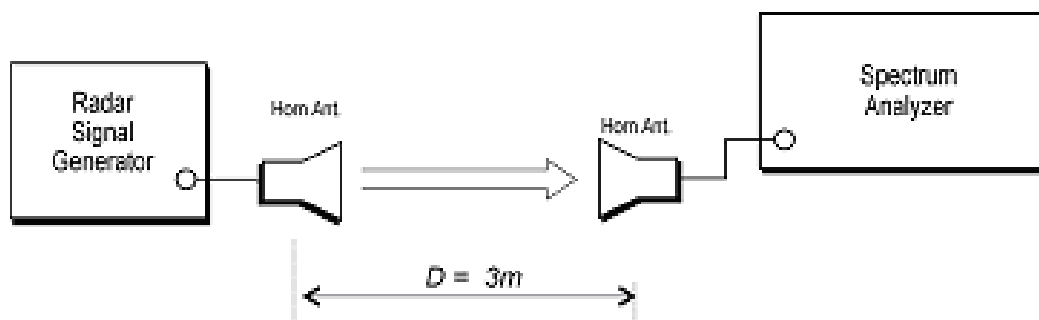
The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues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

1.8. Radar Waveform Calibration

The following equipment setup was used to calibrate the conducted radar waveform. A spectrum analyzer was used to establish the test signal level for each radar type. During this process there were replace 50ohm terminal from master and client device and no transmissions by either the master or client device. The spectrum analyzer was switched to the zero span (time domain) at the frequency of the radar waveform generator. Peak detection was utilized. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 1MHz and 1MHz.

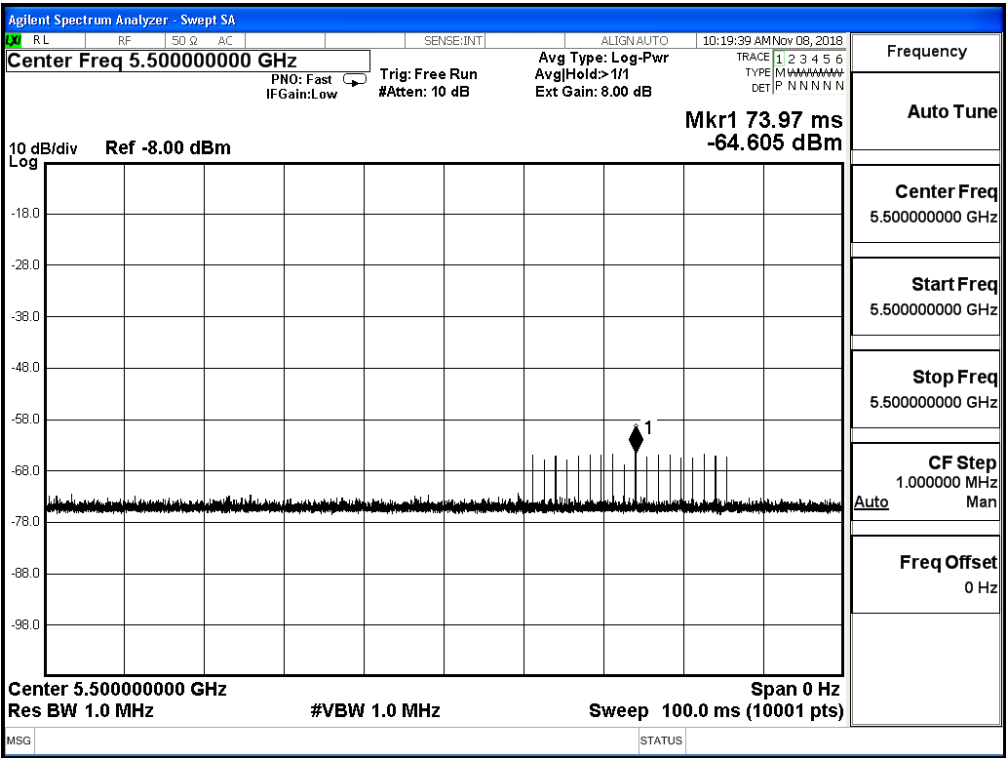
The signal generator amplitude was set so that the power level measured at the spectrum analyzer was -63dBm due to the interference threshold level is not required.

Radiated Calibration Setup

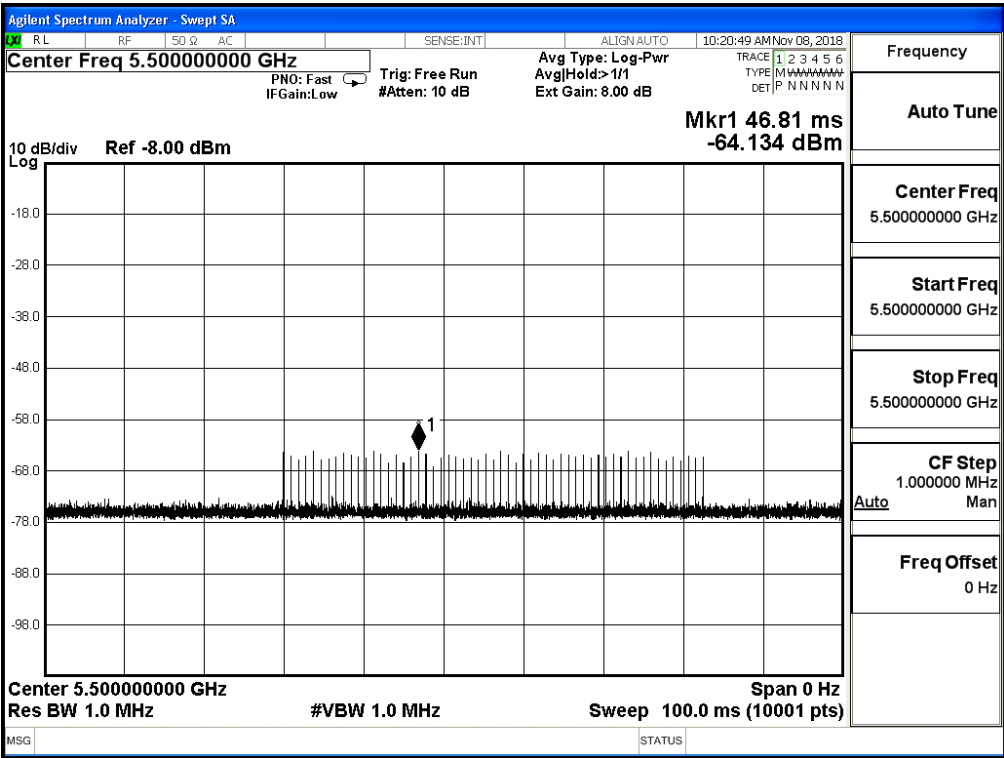


1.9. Radar Waveform Calibration Result

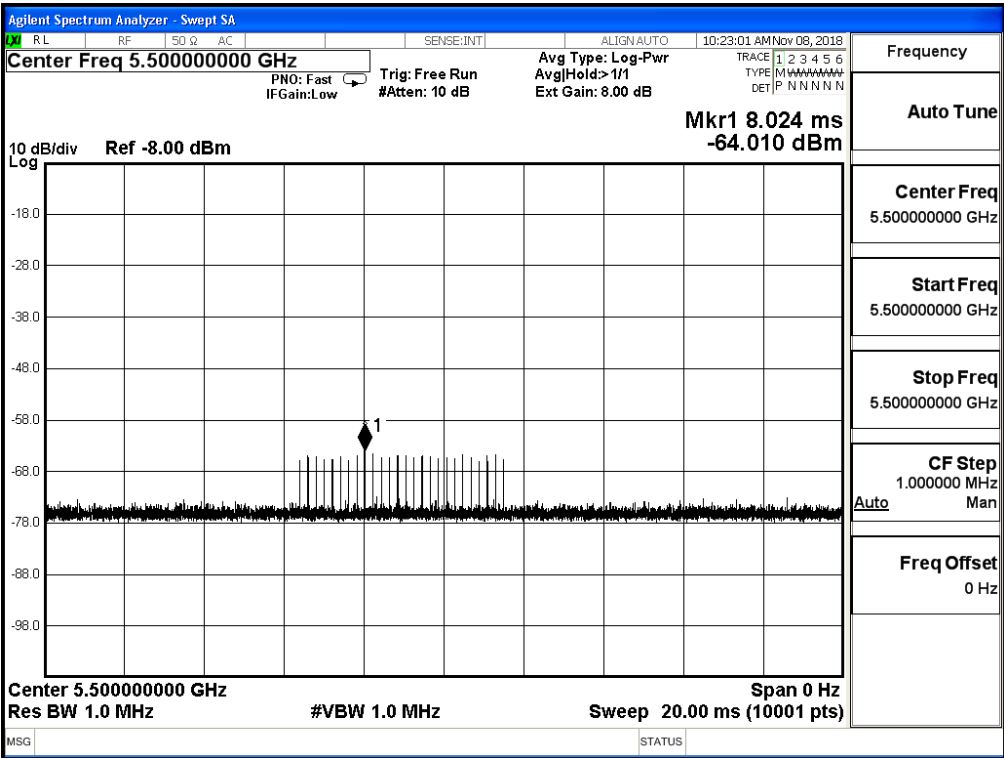
Radar Type 0
Calibration Plot (5500MHz)



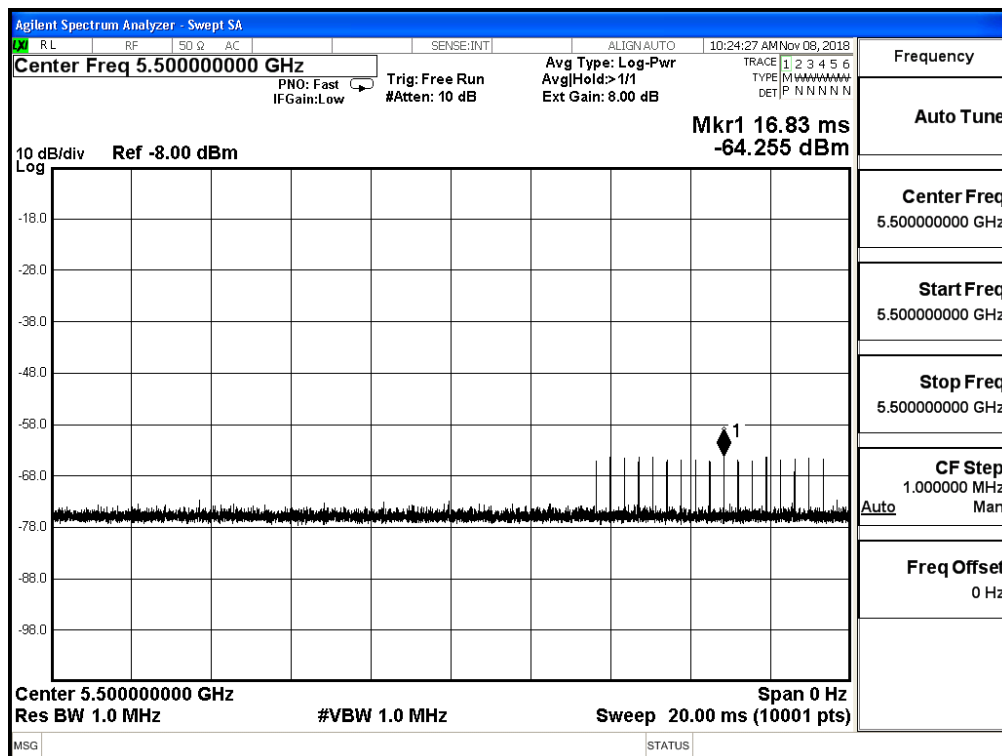
Radar Type 1
Calibration Plot (5500MHz)



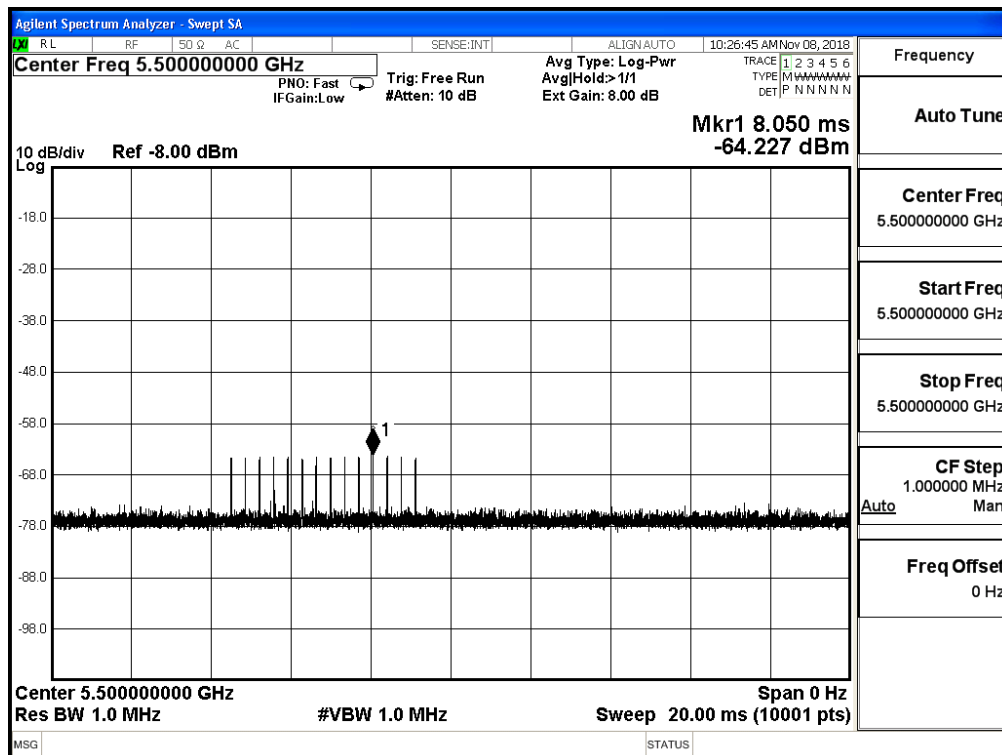
Radar Type 2
Calibration Plot (5500MHz)



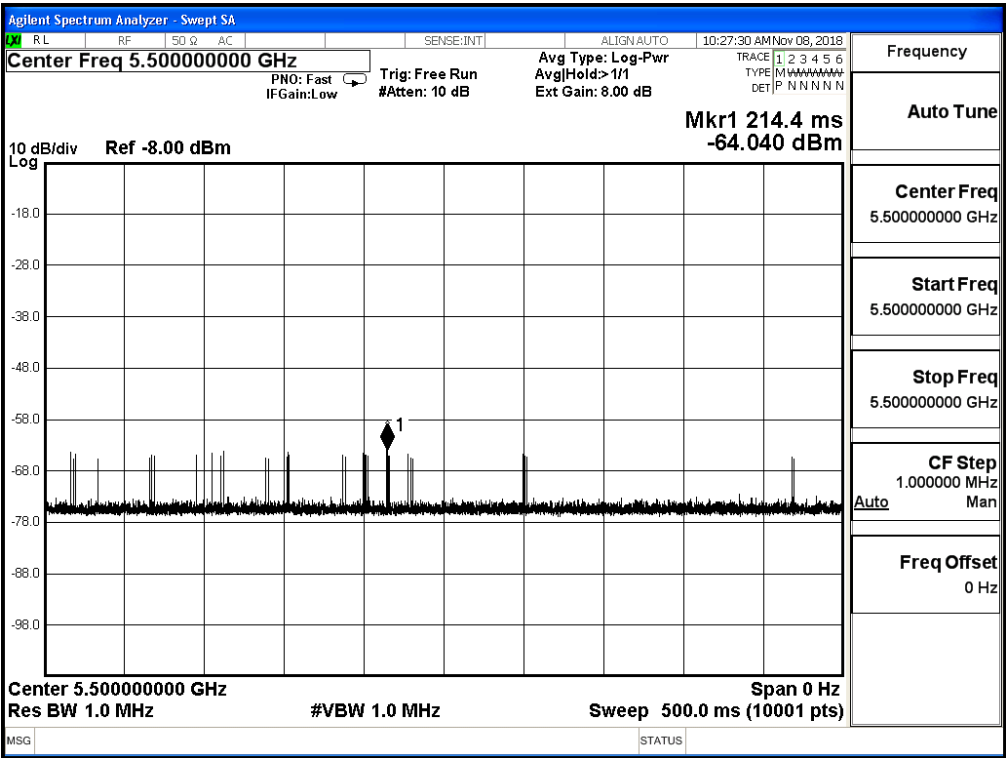
Radar Type 3
Calibration Plot (5500MHz)



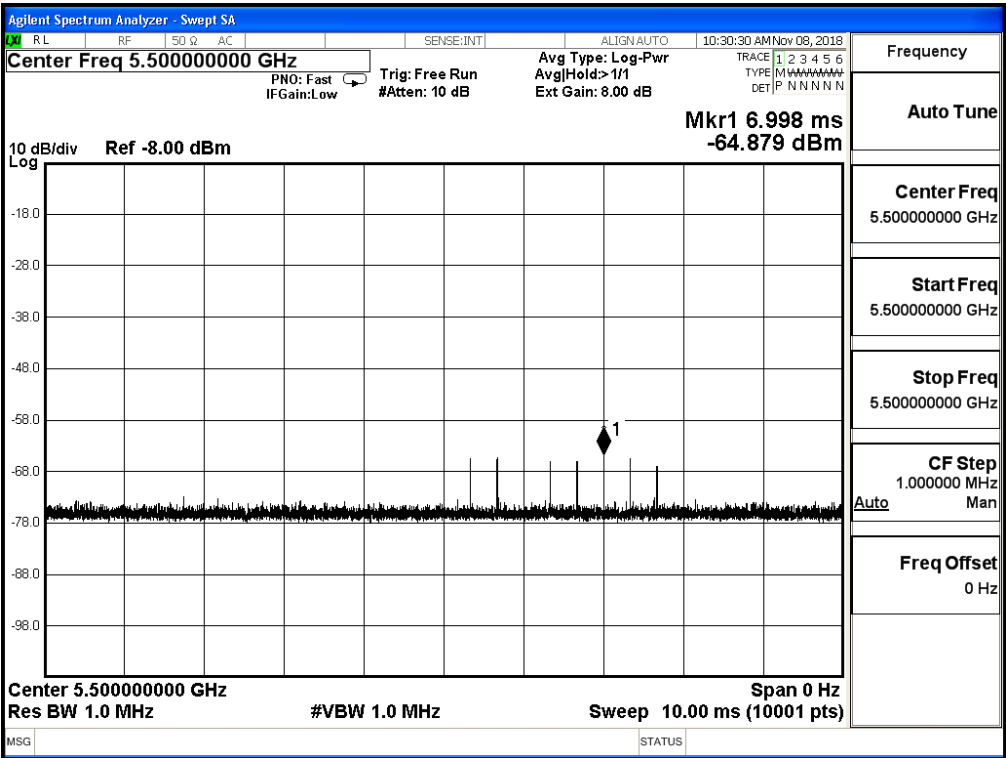
Radar Type 4
Calibration Plot (5500MHz)



Radar Type 5
Calibration Plot (5500MHz)

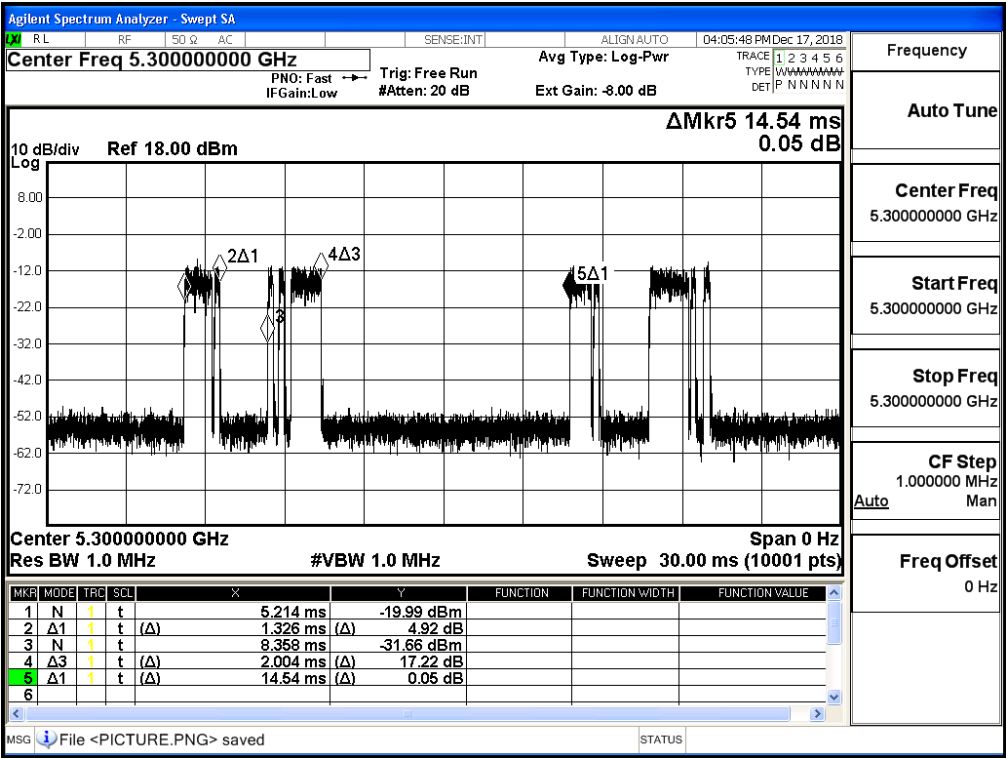


Radar Type 6
Calibration Plot (5500MHz)



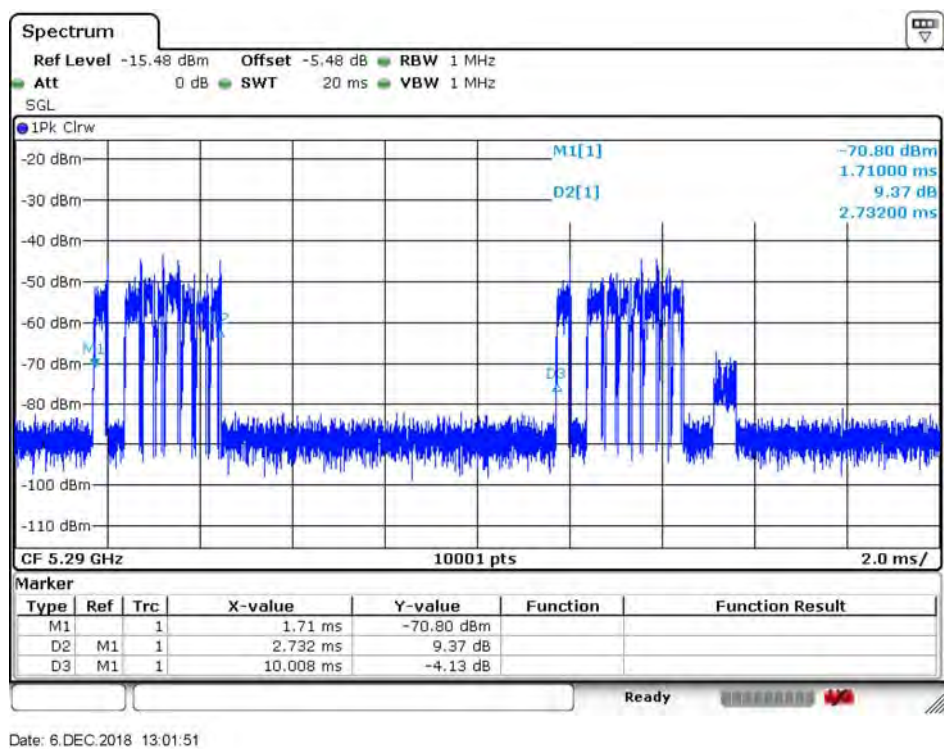
1.10. Master Data Traffic Plot Result

Plot of WLAN Traffic at 5300MHz-20BW



Channel loading	Requirement loading
22.86%	>17%

Plot of WLAN Traffic at 5290MHz-160BW



Channel loading	Requirement loading
27.30%	>17%

2. UNII Detection Bandwidth

2.1. Test Procedure

The EUT was tested according to U-NII test procedure of KDB905462 D02 for compliance to FCC 47CFR

15.407 requirements.

The generating equipment is configured as shown in the radiated Test Setup above. A single *Burst* of the short pulse radar type 0 is produced at 5300MHz and 5510 at a -63dBm level. The EUT is set up as a standalone device (no associated Client and no traffic).

A single radar Burst is generated for a minimum of 10 trials, and the response of the EUT is noted.

The EUT must detect the Radar Waveform 90% or more of the time. The radar frequency is increased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The highest frequency at which detection is greater than or equal to 90% is denoted as F_H .

The radar frequency is decreased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The lowest frequency at which detection is greater than or equal to 90% is denoted as F_L .

The U-NII Detection Bandwidth is calculated as follows:

$$\text{U-NII Detection Bandwidth} = F_H - F_L$$

The U-NII Detection Bandwidth must be at least 100% of the EUT transmitter 99% power, otherwise, the EUT does not comply with DFS requirements.

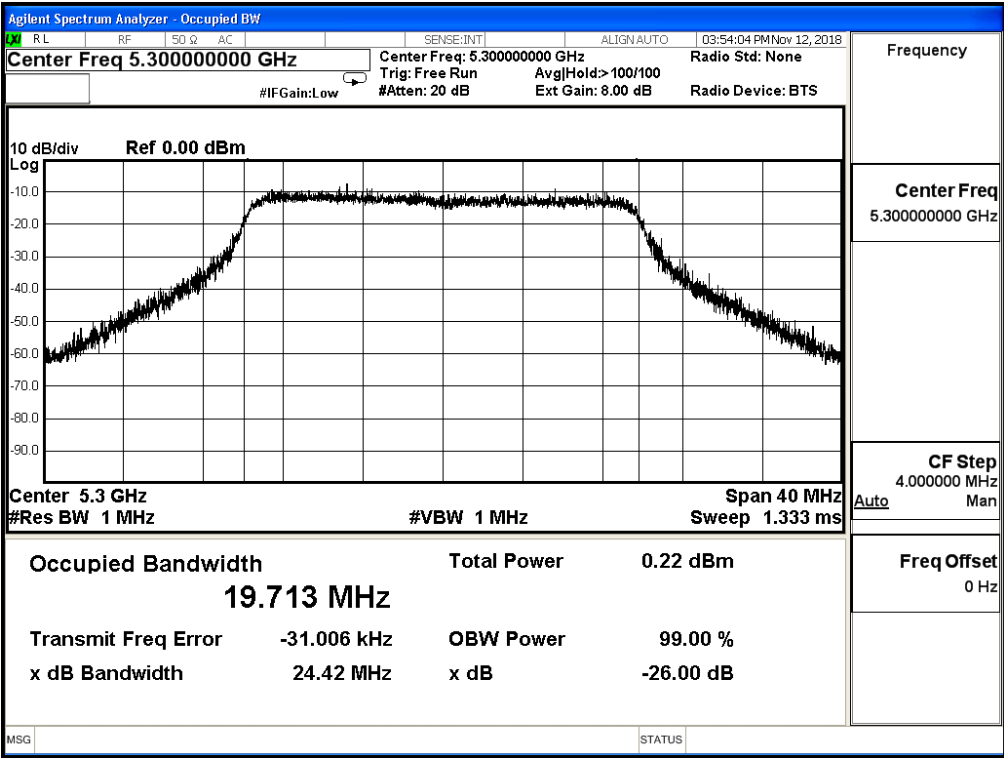
2.2. Test Requirement

All UNII 20/40/80MHz and 160MHz channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5300MHz 、5500MHz 、5250MHz and 5570MHz. The 99% channel bandwidth for 20MHz signals is 19.713 MHz, and the 99% channel bandwidth for 160MHz signals is 155.51MHz.

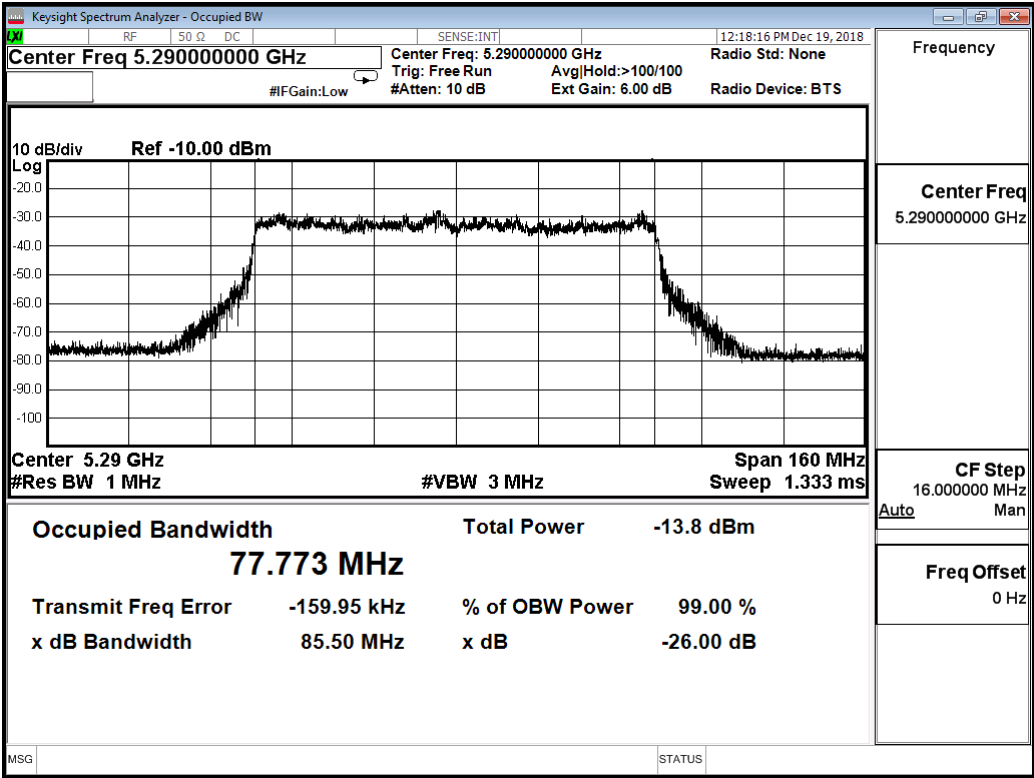
2.3. Uncertainty

$\pm 1\text{ms}$.

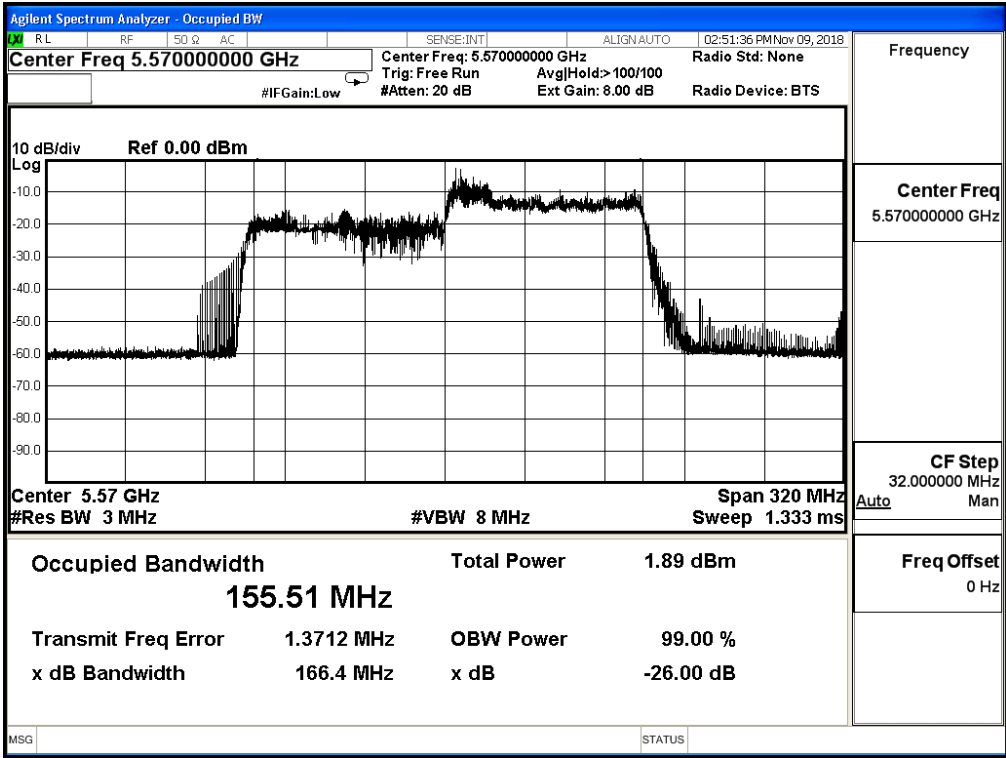
802.11n-20 BW



802.11ac-80 BW



802.11ac-160 BW



2.4. Test Result of UNII Detection Bandwidth

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : UNII Detection Bandwidth
 Radar Type : Type 0
 Test Date : 2018/12/6
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Test Channel: 5300MHz (n-20BW)											
Radar Frequency (MHz)	DFS Detection Trials (1= Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5290 (FL)	1	1	1	1	1	1	1	1	1	0	90
5291	1	1	1	1	1	1	1	1	1	1	100
5292	1	1	1	1	1	1	0	1	1	1	90
5293	1	1	1	1	1	1	1	1	1	1	100
5294	1	1	1	1	1	1	1	1	1	1	100
5295	1	1	1	1	1	1	1	1	0	1	90
5296	1	1	1	1	1	1	1	1	1	1	100
5297	1	1	1	1	1	1	1	1	1	1	100
5298	1	1	1	1	1	1	1	1	1	1	100
5299	1	1	1	1	1	1	1	1	1	1	100
5300	1	1	1	1	1	1	1	1	1	1	100
5301	1	1	1	1	1	1	1	1	1	1	100
5302	1	1	1	1	1	1	1	1	1	1	100
5303	1	1	1	1	1	1	1	1	1	1	100
5304	1	1	1	1	1	1	0	1	1	1	100
5305	1	1	1	1	1	1	1	1	1	1	100
5306	1	1	1	1	1	1	1	1	1	1	100
5307	1	1	1	1	1	1	1	1	1	1	100
5308	1	1	1	1	1	1	1	1	1	1	100
5309	1	1	1	1	1	1	1	1	1	1	100
5310 (FH)	1	1	1	1	1	1	1	1	1	1	100
Detection Bandwidth = FH - FL = 5310MHz - 5290MHz = 20MHz											
EUT 99% Bandwidth = 19.713MHz											
UNII Detection Bandwidth Min. Limit = 19.713MHz * 100% = 19.713MHz											

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : UNII Detection Bandwidth
 Radar Type : Type 0
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Test Channel: 5250MHz (ax-80BW)											
Radar Frequency (MHz)	DFS Detection Trials (1= Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5250 (FL)	1	1	1	1	1	1	1	1	1	1	100
5251	1	1	1	1	1	1	1	1	1	1	100
5252	1	1	1	1	1	1	1	1	1	1	100
5253	1	1	1	1	1	1	1	1	1	1	100
5254	1	1	1	1	1	1	1	1	1	1	100
5255	1	1	1	1	1	1	1	1	1	1	100
5256	1	1	1	1	1	1	1	1	1	1	100
5257	1	1	1	1	1	1	1	1	1	1	100
5258	1	1	1	1	1	1	1	1	1	1	100
5259	1	1	1	1	1	1	1	1	1	1	100
5260	1	1	1	1	1	1	1	1	1	1	100
5261	1	1	1	1	1	1	1	1	1	1	100
5262	1	1	1	1	1	1	1	1	1	1	100
5263	1	1	1	1	1	1	1	1	1	1	100
5264	1	1	1	1	1	1	1	1	1	1	100
5265	1	1	1	1	1	1	1	1	1	1	100
5266	1	1	1	1	1	1	1	1	1	1	100
5267	1	1	1	1	1	1	1	1	1	1	100
5268	1	1	1	1	1	1	1	1	1	1	100
5269	1	1	1	1	1	1	1	1	1	1	100
5270	1	1	1	1	1	1	1	1	1	1	100
5271	1	1	1	1	1	1	1	1	1	1	100
5272	1	1	1	1	1	1	1	1	1	1	100
5273	1	1	1	1	1	1	1	1	1	1	100
5274	1	1	1	1	1	1	1	1	1	1	100
5275	1	1	1	1	1	1	1	1	1	1	100
5276	1	1	1	1	1	1	1	1	1	1	100

5277	1	1	1	1	1	1	1	1	1	1	100
5278	1	1	1	1	1	1	1	1	1	1	100
5279	1	1	1	1	1	1	1	1	1	1	100
5280	1	1	1	1	1	1	1	1	1	1	100
5281	1	1	1	1	1	1	1	1	1	1	100
5282	1	1	1	1	1	1	1	1	1	1	100
5283	1	1	1	1	1	1	1	1	1	1	100
5284	1	1	1	1	1	1	1	1	1	1	100
5285	1	1	1	1	1	1	1	1	1	1	100
5286	1	1	1	1	1	1	1	1	1	1	100
5287	1	1	1	1	1	1	1	1	1	1	100
5288	1	1	1	1	1	1	1	1	1	1	100
5289	1	1	1	1	1	1	1	1	1	1	100
5290	1	1	1	1	1	1	1	1	1	1	100
5291	1	1	1	1	1	1	1	1	1	1	100
5292	1	1	1	1	1	1	1	1	1	1	100
5293	1	1	1	1	1	1	1	1	1	1	100
5294	1	1	1	1	1	1	1	1	1	1	100
5295	1	1	1	1	1	1	1	1	1	1	100
5296	1	1	1	1	1	1	1	1	1	1	100
5297	1	1	1	1	1	1	1	1	1	1	100
5298	1	1	1	1	1	1	1	1	1	1	100
5299	1	1	1	1	1	1	1	1	1	1	100
5300	1	1	1	1	1	1	1	1	1	1	100
5301	1	1	1	1	1	1	1	1	1	1	100
5302	1	1	1	1	1	1	1	1	1	1	100
5303	1	1	1	1	1	1	1	1	1	1	100
5304	1	1	1	1	1	1	1	1	0	1	90
5305	1	1	1	1	1	1	1	1	1	1	100
5306	1	1	1	1	1	1	1	1	1	1	100
5307	1	1	1	1	1	1	1	1	1	1	100
5308	1	1	1	1	1	1	1	1	1	1	100
5309	1	1	1	1	1	1	1	1	1	1	100
5310	1	1	1	1	1	1	1	1	1	1	100
5311	1	1	1	1	1	1	1	1	1	1	100
5312	1	1	1	1	1	1	1	1	1	1	100
5313	1	1	1	1	1	1	1	1	1	1	100

5314	1	1	1	1	1	1	1	1	1	1	100
5315	1	1	1	1	1	1	1	1	1	1	100
5316	1	1	1	1	1	1	1	1	1	1	100
5317	1	1	1	1	1	1	1	1	1	1	100
5318	1	1	1	1	1	1	1	1	1	1	100
5319	1	1	1	0	1	1	1	1	1	1	90
5320	1	1	1	0	1	1	1	1	1	1	90
5321	1	1	1	1	1	1	1	1	1	1	100
5322	1	1	1	1	1	1	1	1	1	1	100
5323	1	1	1	1	1	1	1	1	1	1	100
5324	1	1	1	1	1	1	1	1	1	1	100
5325	1	1	1	1	1	1	1	1	1	1	100
5326	1	1	1	1	1	1	1	1	1	1	100
5327	1	1	1	1	1	1	1	1	1	1	100
5328	1	1	1	1	1	1	1	1	1	1	100
5329	1	1	1	1	1	1	1	1	1	1	100
5330 (FH)	1	1	1	1	1	1	1	1	1	1	100
EUT 99% Bandwidth = 77.773MHz											
UNII Detection Bandwidth Min. Limit = 77.773MHz X 100% =75.952MHz											

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : UNII Detection Bandwidth
 Radar Type : Type 0
 Test Date : 2018/12/6
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Test Channel: 5500MHz (n 20BW)											
Radar Frequency (MHz)	DFS Detection Trials (1= Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490 (FL)	1	1	1	1	1	1	1	1	1	1	100
5491	1	1	1	1	1	1	1	1	1	1	100
5492	1	1	1	1	1	1	1	1	1	1	100
5493	1	1	1	1	1	1	1	1	1	1	100
5494	1	1	1	1	1	1	1	1	1	1	100
5495	1	1	1	1	1	1	1	1	1	1	100
5496	1	1	1	1	1	1	1	1	1	1	100
5497	1	1	1	1	1	1	1	1	1	1	100
5498	1	1	1	1	1	1	1	1	1	1	100
5499	1	1	1	1	1	1	1	1	1	1	100
5500	1	1	1	1	1	1	1	1	1	1	100
5501	1	1	1	1	1	1	1	1	1	1	100
5502	1	1	1	1	1	1	1	1	1	1	100
5503	1	1	1	1	1	1	1	1	1	1	100
5504	1	1	1	1	1	1	1	1	1	1	100
5505	1	1	1	0	1	1	1	1	1	1	90
5506	1	1	1	1	1	1	1	1	1	1	100
5507	1	1	1	1	1	1	1	1	1	1	100
5508	1	1	1	1	1	1	1	1	1	1	100
5509	1	1	1	1	1	1	1	1	1	1	100
5510 (FH)	1	1	1	1	1	1	1	1	1	1	100
Detection Bandwidth = FH - FL = 5310MHz - 5290MHz = 20MHz											
EUT 99% Bandwidth = 19.713MHz											
UNII Detection Bandwidth Min. Limit = 19.713MHz * 100% = 19.713MHz											

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : UNII Detection Bandwidth
 Radar Type : Type 0
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Test Channel: 5570MHz (160MHz BW)											
Radar Frequency (MHz)	DFS Detection Trials (1= Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490 (FL)	1	1	1	1	1	1	1	1	1	1	100
5491	1	1	1	1	1	1	1	1	1	1	100
5492	1	1	1	1	1	1	1	1	1	1	100
5493	1	1	1	1	1	1	1	1	1	1	100
5494	1	1	1	1	1	1	1	1	1	1	100
5495	1	1	1	1	1	1	1	1	1	1	100
5496	1	1	1	1	1	1	1	1	1	1	100
5497	1	1	1	1	1	1	1	1	1	1	100
5498	1	1	1	1	1	1	1	1	1	1	100
5499	1	1	1	1	1	1	1	1	1	1	100
5500	1	1	1	1	1	1	1	1	1	1	100
5501	1	1	1	1	1	1	1	1	1	1	100
5502	1	1	1	1	1	1	1	1	1	1	100
5503	1	1	1	1	1	1	1	1	1	1	100
5504	1	1	1	1	1	1	1	1	1	1	100
5505	1	1	1	1	1	1	1	1	1	1	100
5506	1	1	1	1	1	1	1	1	1	1	100
5507	1	1	1	1	1	1	1	1	1	1	100
5508	1	1	1	1	1	1	1	1	1	1	100
5509	1	1	1	1	1	1	1	1	1	1	100
5510	1	1	1	1	1	1	1	1	1	1	100
5511	1	1	1	1	1	1	1	1	1	1	100
5512	1	1	1	1	1	1	1	1	1	1	100
5513	1	1	1	1	1	1	1	1	1	1	100
5514	1	1	1	1	1	1	1	1	1	1	100
5515	1	1	1	1	1	1	1	1	1	1	100
5516	1	1	1	1	1	1	1	1	1	1	100
5517	1	1	1	1	1	1	1	1	1	1	100
5518	1	1	1	1	1	1	1	1	1	1	100

5519	1	1	1	1	1	1	1	1	1	1	100
5520	1	1	1	1	1	1	1	1	1	1	100
5521	1	1	1	1	1	1	1	1	1	1	100
5522	1	1	1	1	1	1	1	1	1	1	100
5523	1	1	1	1	1	1	1	1	1	1	100
5524	1	1	1	1	1	1	1	1	1	1	100
5525	1	1	1	1	1	1	1	1	1	1	100
5526	1	1	1	1	1	1	1	1	1	1	100
5527	1	1	1	1	1	1	1	1	1	1	100
5528	1	1	1	1	1	1	1	1	1	1	100
5529	1	1	1	1	1	1	1	1	1	1	100
5530	1	1	1	1	1	1	1	1	1	1	100
5531	1	1	1	1	1	1	1	1	1	1	100
5532	1	1	1	1	1	1	1	1	1	1	100
5533	1	1	1	1	1	1	1	1	1	1	100
5534	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5536	1	1	1	1	1	1	1	1	1	1	100
5537	1	1	1	1	1	1	1	1	1	1	100
5538	1	1	1	1	1	1	1	1	1	1	100
5539	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5541	1	1	1	1	1	1	1	1	1	1	100
5542	1	1	1	1	1	1	1	1	1	1	100
5543	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100

5557	1	1	1	1	1	1	1	1	1	1	100
5558	1	1	1	1	1	1	1	1	1	1	100
5559	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5561	1	1	1	1	1	1	1	1	1	1	100
5562	1	1	1	1	1	1	1	1	1	1	100
5563	1	1	1	1	1	1	1	1	1	1	100
5564	1	1	1	1	1	1	1	1	1	1	100
5565	1	1	1	1	1	1	1	1	1	1	100
5566	1	1	1	1	1	1	1	1	1	1	100
5567	1	1	1	1	1	1	1	1	1	1	100
5568	1	1	1	1	1	1	1	1	1	1	100
5569	1	1	1	1	1	1	1	1	1	1	100
5570	1	1	1	1	1	1	1	1	1	1	100
5571	1	1	1	1	1	1	1	1	1	1	100
5572	1	1	1	1	1	1	1	1	1	1	100
5573	1	1	1	1	1	1	1	1	1	1	100
5574	1	1	1	1	1	1	1	1	1	1	100
5575	1	1	1	1	1	1	1	1	1	1	100
5576	1	1	1	1	1	1	1	1	1	1	100
5577	1	1	1	1	1	1	1	1	1	1	100
5578	1	1	1	1	1	1	1	1	1	1	100
5579	1	1	1	1	1	1	1	1	1	1	100
5580	1	1	1	1	1	1	1	1	1	1	100
5581	1	1	1	1	1	1	1	1	1	1	100
5582	1	1	1	1	1	1	1	1	1	1	100
5583	1	1	1	1	1	1	1	1	1	1	100
5584	1	1	1	1	1	1	1	1	1	1	100
5585	1	1	1	1	1	1	1	1	1	1	100
5586	1	1	1	1	1	1	1	1	1	1	100
5587	1	1	1	1	1	1	1	1	1	1	100
5588	1	1	1	1	1	1	1	1	1	1	100
5589	1	1	1	1	1	1	1	1	1	1	100
5590	1	1	1	1	1	1	1	1	1	1	100
5591	1	1	1	1	1	1	1	1	1	1	100
5592	1	1	1	1	1	1	1	1	1	1	100
5593	1	1	1	1	1	1	1	1	1	1	100
5594	1	1	1	1	1	1	1	1	1	1	100

5595	1	1	1	1	1	1	1	1	1	1	100
5596	1	1	1	1	1	1	1	1	1	1	100
5597	1	1	1	1	1	1	1	1	1	1	100
5598	1	1	1	1	1	1	1	1	1	1	100
5599	1	1	1	1	1	1	1	1	1	1	100
5600	1	1	1	1	1	1	1	1	1	1	100
5601	1	1	1	1	1	1	1	1	1	1	100
5602	1	1	1	1	1	1	1	1	1	1	100
5603	1	1	1	1	1	1	1	1	1	1	100
5604	1	1	1	1	1	1	1	1	1	1	100
5605	1	1	1	1	1	1	1	1	1	1	100
5606	1	1	1	1	1	1	1	1	1	1	100
5607	1	1	1	1	1	1	1	1	1	1	100
5608	1	1	1	1	1	1	1	1	1	1	100
5609	1	1	1	1	1	1	1	1	1	1	100
5610	1	1	1	1	1	1	1	1	1	1	100
5611	1	1	1	1	1	1	1	1	1	1	100
5612	1	1	1	1	1	1	1	1	1	1	100
5613	1	1	1	1	1	1	1	1	1	1	100
5614	1	1	1	1	1	1	1	1	1	1	100
5615	1	1	1	1	1	1	1	1	1	1	100
5616	1	1	1	1	1	1	1	1	1	1	100
5617	1	1	1	1	1	1	1	1	1	1	100
5618	1	1	1	1	1	1	1	1	1	1	100
5619	1	1	1	1	1	1	1	1	1	1	100
5620	1	1	1	1	1	1	1	1	1	1	100
5621	1	1	1	1	1	1	1	1	1	1	100
5622	1	1	1	1	1	1	1	1	1	1	100
5623	1	1	1	1	1	1	1	1	1	1	100
5624	1	1	1	1	1	1	1	1	1	1	100
5625	1	1	1	1	1	1	1	1	1	1	100
5626	1	1	1	1	1	1	1	1	1	1	100
5627	1	1	1	1	1	1	1	1	1	1	100
5628	1	1	1	1	1	1	1	1	1	1	100
5629	1	1	1	1	1	1	1	1	1	1	100
5630	1	1	1	1	1	1	1	1	1	1	100
5631	1	1	1	1	1	1	1	1	1	1	100
5632	1	1	1	1	1	1	1	1	1	1	100

5633	1	1	1	1	1	1	1	1	1	1	100
5634	1	1	1	1	1	1	1	1	1	1	100
5635	1	1	1	1	1	1	1	1	1	1	100
5636	1	1	1	1	1	1	1	1	1	1	100
5637	1	1	1	1	1	1	1	1	1	1	100
5638	1	1	1	1	1	1	1	1	1	1	100
5639	1	1	1	1	1	1	1	1	1	1	100
5640	1	1	1	1	1	1	1	1	1	1	100
5641	1	1	1	1	1	1	1	1	1	1	100
5642	1	1	1	1	1	1	1	1	1	1	100
5643	1	1	1	1	1	1	1	1	1	1	100
5644	1	1	1	1	1	1	1	1	1	1	100
5645	1	1	1	1	1	1	1	1	1	1	100
5646	1	1	1	1	1	1	1	1	1	1	100
5647	1	1	1	1	1	1	1	1	1	1	100
5648	1	1	1	1	1	1	1	1	1	1	100
5649	1	1	1	1	1	1	1	1	1	1	100
5650 (FH)	1	1	1	1	1	1	1	1	1	1	100

Detection Bandwidth = FH - FL = 5650MHz - 5490MHz = 160MHz

EUT 99% Bandwidth = 155.51MHz

UNII Detection Bandwidth Min. Limit = 155.51MHz * 100% = 155.51MHz

3. Initial Channel Availability Check Time

3.1. Test Procedure

The EUT was tested according to U-NII test procedure of KDB905462 D02 for compliance to FCC 47CFR 15.407 requirements.

The U-NII device is powered on and instructed to operate at 5300/5510 MHz and 5530MHz. At the same time the UUT is powered on, the spectrum analyzer is set to zero span mode with a 3 MHz resolution bandwidth at 5300/5510 MHz and 5530MHz with a 2.5minute sweep time. The analyzer's sweep will be started the same time power is applied to the U-NII device.

The EUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

The initial power up time of the EUT is indicated by marker1 in the plot, Initial beacons/data transmissions are indicated by marker 1R.

3.2. Test Requirement

The EUT shall perform a channel availability check to ensure that there is no radar operation on the channel, after power-up sequence, receiver at least 1 minute on the intended operation frequency.

3.3. Uncertainty

± 1ms.

3.4. Test Result of Initial Channel Availability Check Time

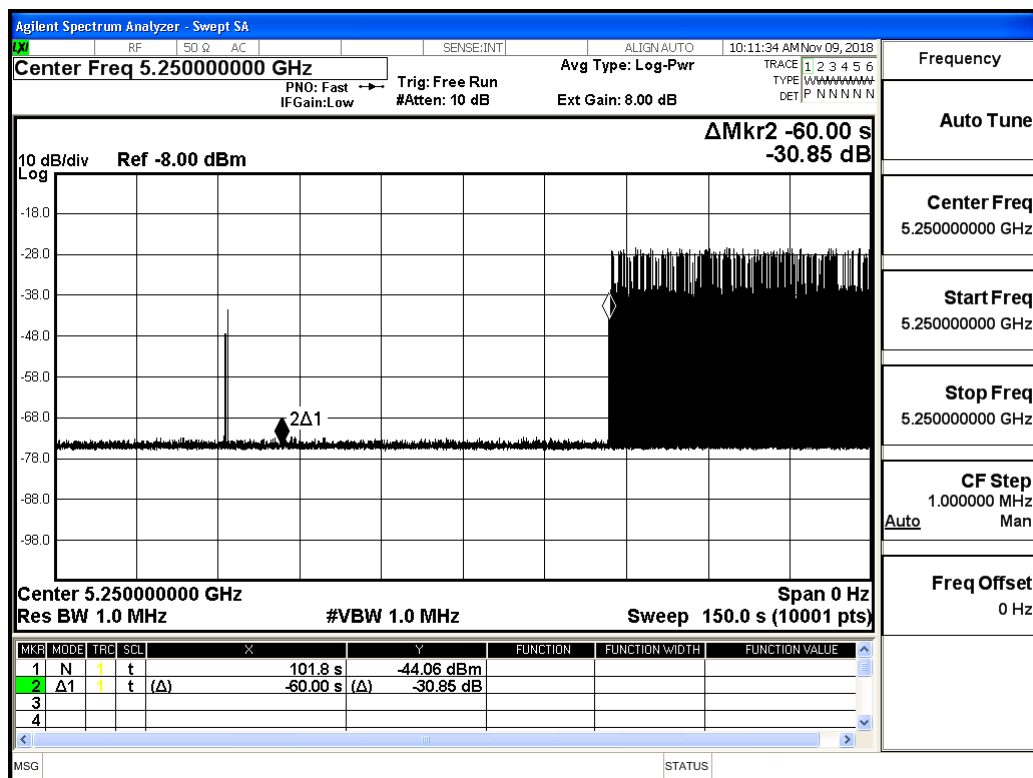
Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
ROG Rapture GT-AC5400 Dual-band Gaming Router

Test Item : Initial Channel Availability Check Time

Radar Type : Type 1

Test Mode : Mode 2: Transmit (802.11ax 160BW)

The EUT does not transmit any beacon or data transmission until at least 1 minute after the completion of the power-on cycle (101.8 sec). The initial power up time of the EUT is indicated by Marker 2 (101.8 sec) – CAC (60 sec). Initial beacons/data transmission is indicated by Marker 1 (21.71 sec)



4. Radar Burst at the Beginning of the Channel Availability Check Time

4.1. Test Procedure

The EUT was tested according to U-NII test procedure of KDB905462 D02 for compliance to FCC 47CFR 15.407 requirements.

The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB (-63dBm) occurs at the beginning of the Channel Availability Check Time.

The EUT is powered on at T0. T1 denotes the instant when the EUT has completed its power-up

sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds.

A single Burst of short pulse of radar type 1 at -63dBm will commence within a 6 second window starting at T1.

Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5300MHz/5510MHz and 5630MHz will continue for 2.5 minutes after the radar Burst, Verify that during the 2.5 minute measurement window no EUT transmissions occurred at 5300MHz/5510MHz and 5630MHz.

4.2. Test Requirement

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

4.3. Uncertainty

± 1ms.

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

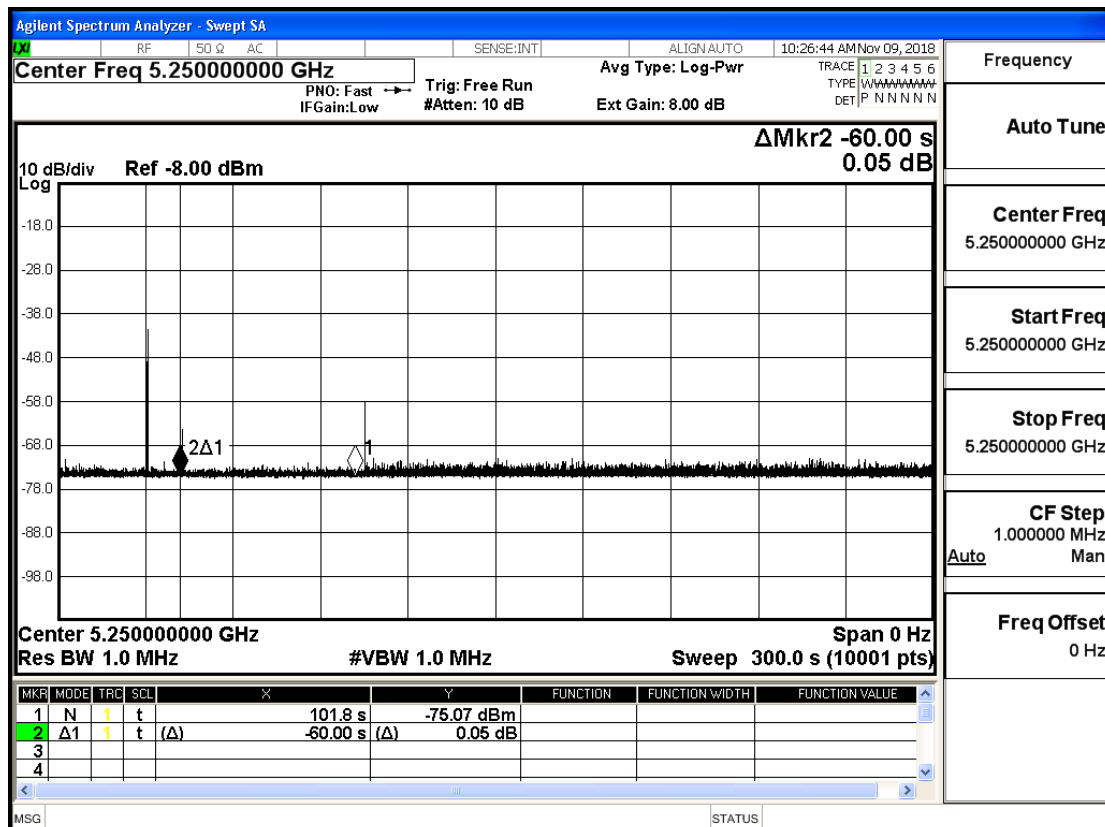
Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
ROG Rapture GT-AC5400 Dual-band Gaming Router

Test Item : Radar Burst at the Beginning of the Channel Availability Check Time

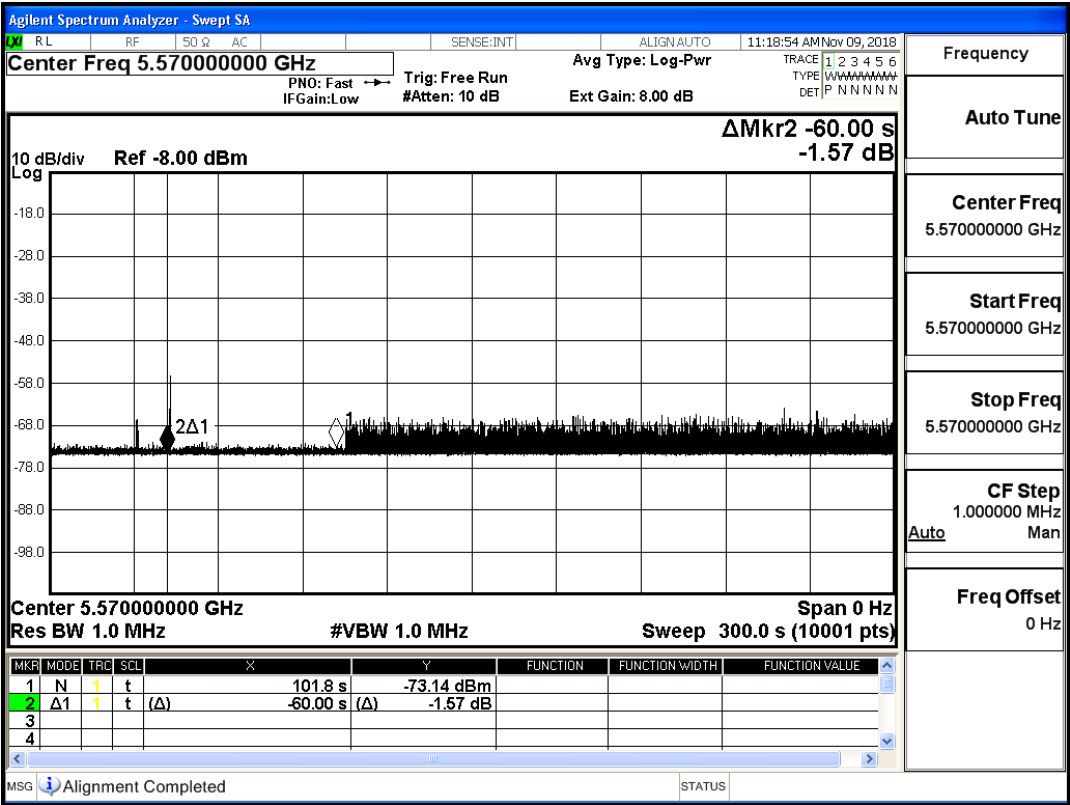
Radar Type : Type 0

Test Mode : Mode 2: Transmit (802.11ax 160BW)

5250MHz



5570MHz



5. Radar Burst at the End of the Channel Availability Check Time

5.1. Test Procedure

The EUT was tested according to U-NII test procedure of KDB905462 D02 for compliance to FCC 47CFR 15.407 requirements.

The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB (-63dBm) occurs at the end of the Channel Availability Check Time.

The UUT is powered on at T_0 . T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than $T_1 + 60$ seconds. A single Burst of short pulse of radar type 1 at -63 dBm will commence within a 6 second window starting at $T_1 + 54$ seconds.

Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5300MHz/5510MHz and 5630MHz will continue for 2.5 minutes after the radar Burst

has been generated.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at 5300MHz /5510MHz and 5630MHz.

5.2. Test Requirement

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

5.3. Uncertainty

± 1 ms.

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

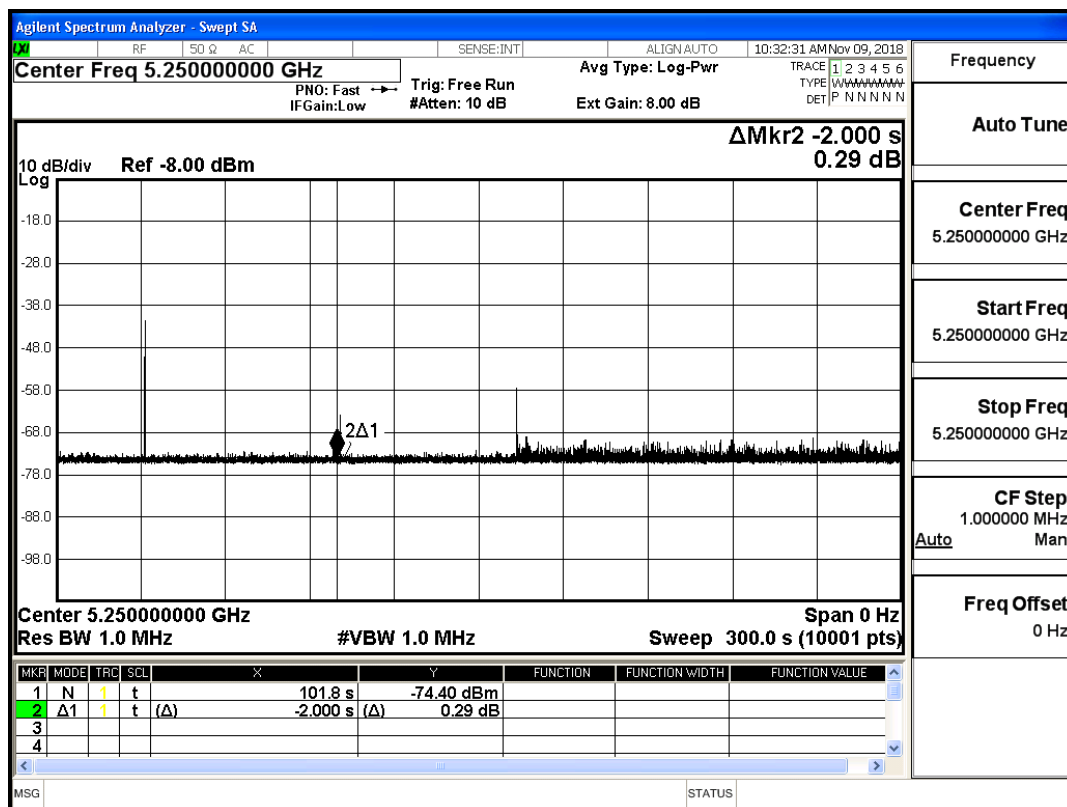
Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router

Test Item : Radar Burst at the End of the Channel Availability Check Time

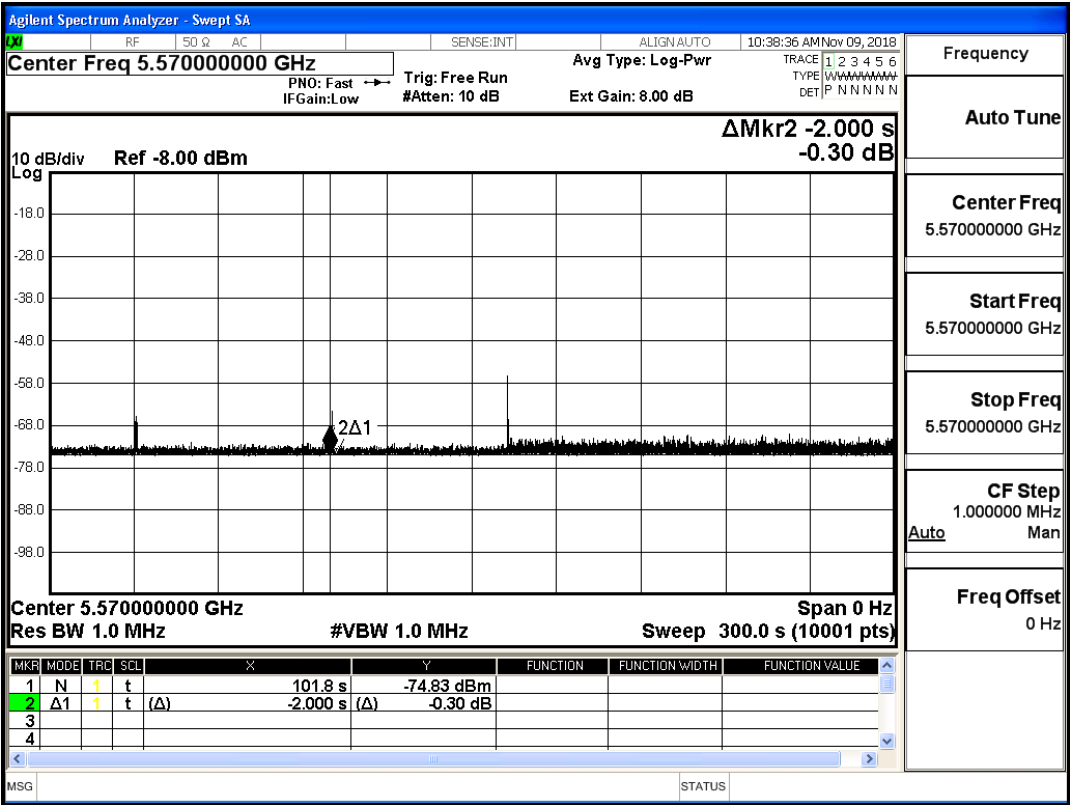
Radar Type : Type 0

Test Mode : Mode 2: Transmit (802.11ax 160BW)

5250MHz



5570MHz



6. In-Service Monitoring for Channel Move Time and Channel Closing Transmission Time and Non-Occupancy Period

6.1. Test Procedure

The EUT was tested according to U-NII test procedure of KDB905462 D02 for compliance to FCC 47CFR 15.407 requirements.

These tests define how the following DFS parameters are verified during In-Service Monitoring;

Channel Closing Transmission Time, Channel Move Time, and Non-Occupancy Period. The steps below define the procedure to determine the above mentioned parameters when a radar Burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the Operating Channel of the U-NII device.

A U-NII device operating as a Client Device will associate with the UUT (Master) at 5300MHz/ 5510MHz and 5630MHz.

Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

At time T0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at -63dBm.

Observe the transmissions of the UUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing

Transmission Time results to the limits defined in the DFS Response requirement values table.

Measure the UUT for more than 30 minutes following the channel close/move time to verify that the UUT does not resume any transmissions on this Channel.

6.2. Test Requirement

Parameter	Value
Channel Move Time	10 Seconds
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 seconds period
Non-Occupancy Period	Minimum 30 minutes

6.3. Uncertainty

± 1ms.

6.4. Test Result of Channel Move Time and Channel Closing Transmission Time and Non-Occupancy Period

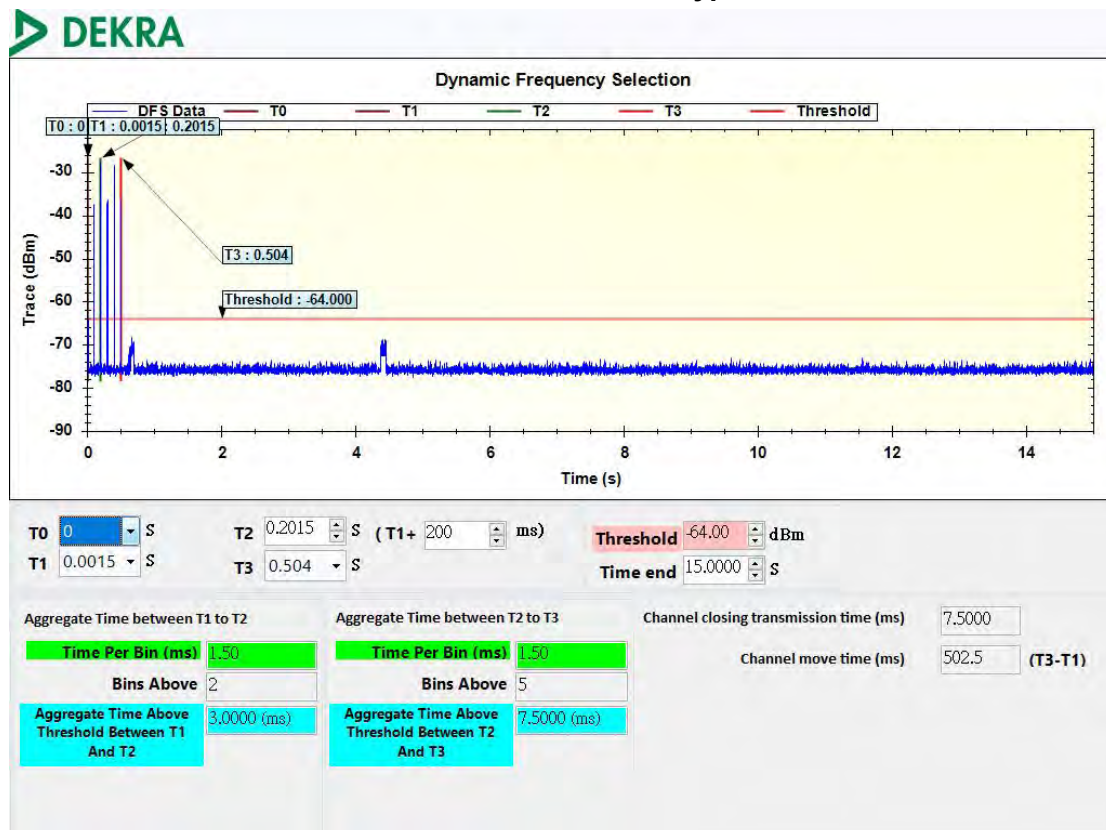
Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
ROG Rapture GT-AC5400 Dual-band Gaming Router

Test Item : Channel Move Time

Radar Type : Type 0

Test Mode : Mode 2: Transmit (802.11ax 160BW)

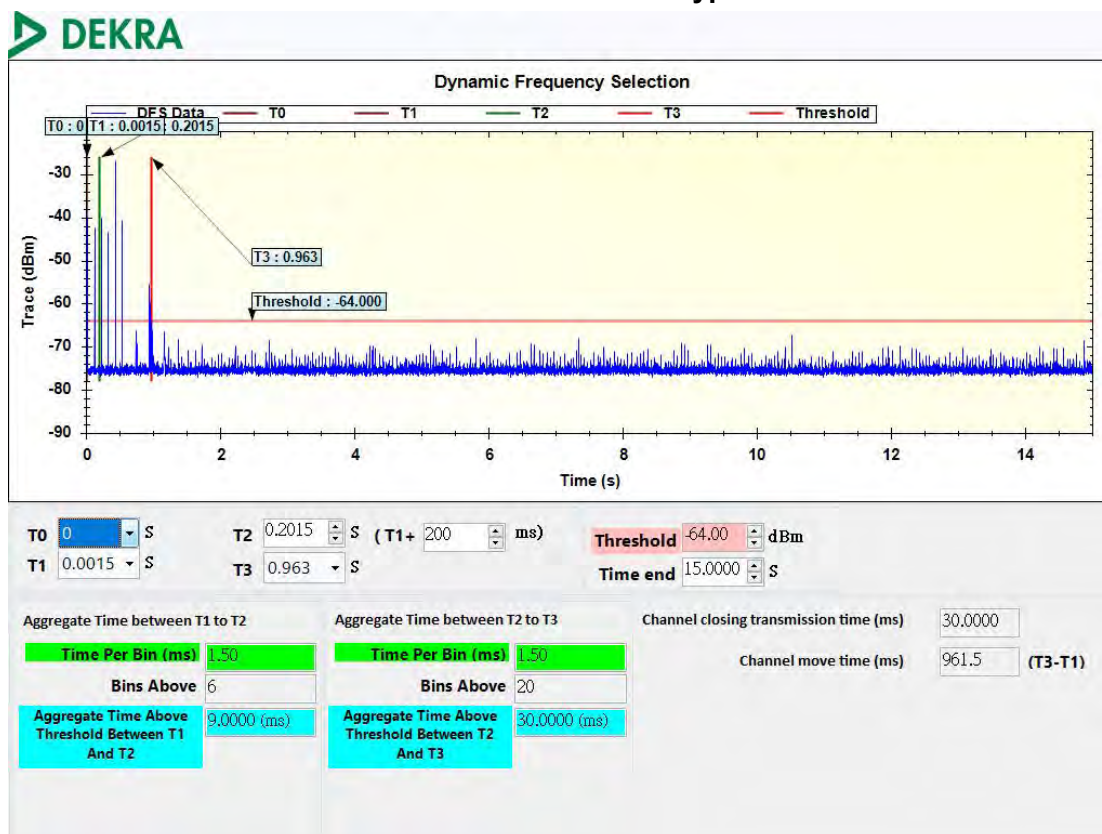
Channel Move Time for Radar Test Type 0 at 5250MHz



Test Item	Test Result (Sec)	Limit (Sec)
Channel Move Time	0.502	10
Channel Closing Transmission	0.075	200 milliseconds + approx. 60 milliseconds over remaining 10 seconds period

The results showed that after radar signal injected the channel move time was less than 10 seconds and channel transmission closing time less than 200 milliseconds and an aggregate of no more than 60 milliseconds.

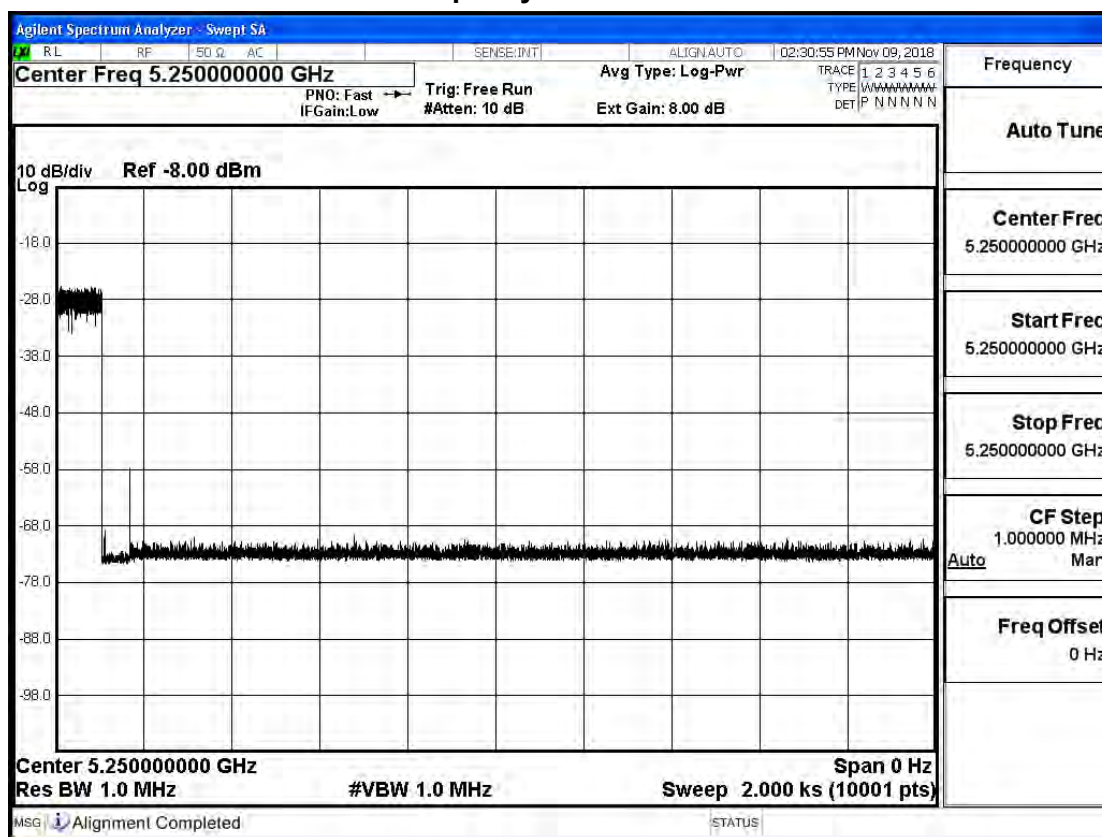
Channel Move Time for Radar Test Type 0 at 5250MHz



Test Item	Test Result (Sec)	Limit (Sec)
Channel Move Time	0.961	10
Channel Closing Transmission	0.030	200 milliseconds + approx. 60 milliseconds over remaining 10 seconds period

The results showed that after radar signal injected the channel move time was less than 10 seconds and channel transmission closing time less than 200 milliseconds and an aggregate of no more than 60 milliseconds.

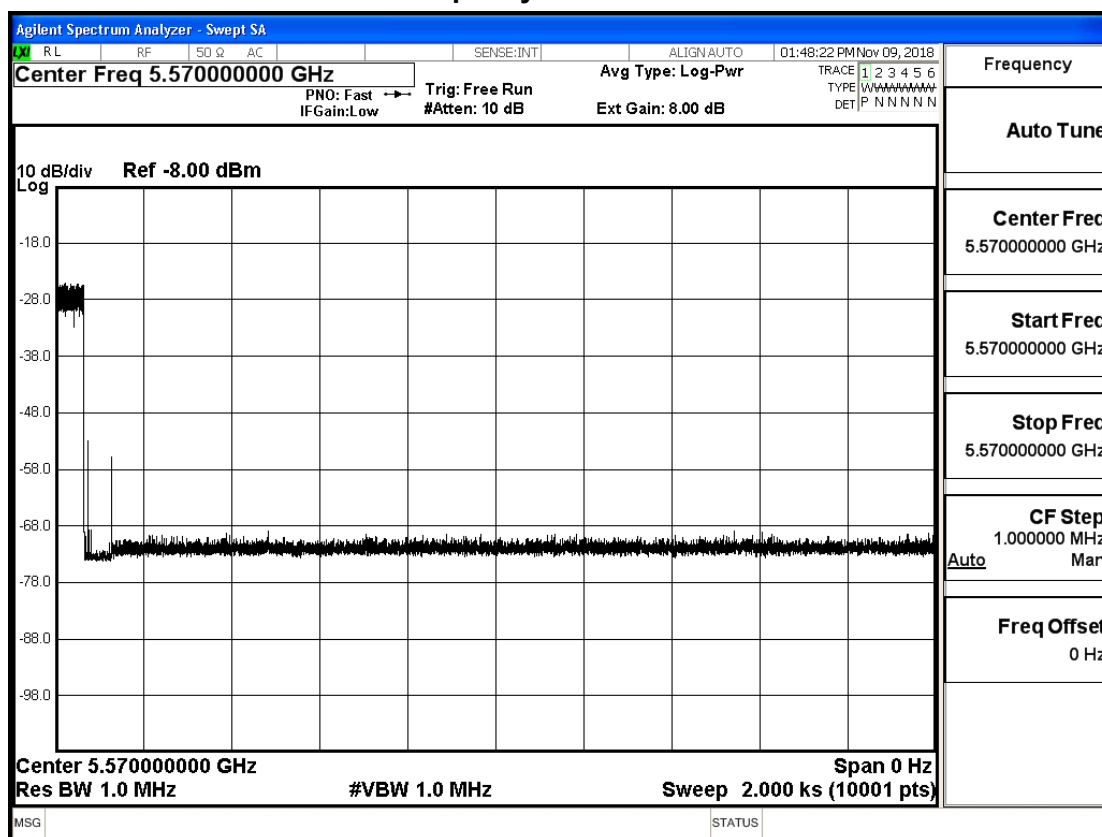
Non-Occupancy Period at 5250 MHz



Test Item	Test Result (Minutes)	Limit (Minutes)
Non-Occupancy Period	>30	>30

*No EUT transmissions were observed on the test channel during 30 minutes observation time.

Non-Occupancy Period at 5570 MHz



Test Item	Test Result (Minutes)	Limit (Minutes)
Non-Occupancy Period	>30	>30

*No EUT transmissions were observed on the test channel during 30 minutes observation time.

7. Statistical Performance Check

7.1. Test Procedure

The EUT was tested according to U-NII test procedure of KDB905462 D02 for compliance to FCC 47CFR 15.407 requirements.

The steps below define the procedure to determine the minimum percentage of detection when a radar burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the

Operating Channel of the U-NII device.

A U-NII device operating as a Client Device will associate with the UUT (Master) at 5300MHz, 5510MHz and 5630MHz..

Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

The Radar Waveform generator sends the individual waveform for each of the radar types 1-6 at

-63dbm. Statistical data will be gathered to determine the ability of the device to detect the radar test waveforms. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs.

7.2. Test Requirement

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

Minimum percentage of successful detections

Radar Type	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	60%	30
2	60%	30
3	60%	30
4	60%	30
Aggregate (Radar Types 1-4)	80%	120
5	80%	30
6	70%	30

The percentage of successful detection is calculated by:

$$\frac{\text{TotalWaveformDetections}}{\text{TotalWaveformTrials}} \times 100 = \text{Probability of Detection Radar Waveform}$$

In addition an aggregate minimum percentage of successful detection across all Short Pulse Radar Types 1-4 is required and is calculated as follows:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$$

7.3. Uncertainty

± 1ms.

7.4. Test Result of Statistical Performance Check

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 1
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5300	1	538	99	1
2	5300	1	938	57	1
3	5300	1	758	70	1
4	5300	1	3066	18	1
5	5300	1	818	65	1
6	5300	1	598	89	1
7	5300	1	778	68	1
8	5300	1	518	102	0
9	5300	1	898	59	1
10	5300	1	838	63	0
11	5300	1	738	72	1
12	5300	1	638	83	0
13	5300	1	878	61	1
14	5300	1	718	74	1
15	5300	1	698	76	1
16	5300	1	568	93	1
17	5300	1	2696	20	1
18	5300	1	1381	39	1
19	5300	1	1409	38	1
20	5300	1	2051	26	1
21	5300	1	1249	43	1
22	5300	1	1806	30	0
23	5300	1	1007	53	1
24	5300	1	2814	19	1
25	5300	1	2356	23	1
26	5300	1	730	73	1
27	5300	1	2387	23	1
28	5300	1	1647	33	1
29	5300	1	2991	18	1
30	5300	1	2984	18	1
Detection Percentage(%)					90.00%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 1
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5500	1	538	99	1
2	5500	1	938	57	0
3	5500	1	758	70	1
4	5500	1	3066	18	1
5	5500	1	818	65	1
6	5500	1	598	89	1
7	5500	1	778	68	1
8	5500	1	518	102	1
9	5500	1	898	59	0
10	5500	1	838	63	1
11	5500	1	738	72	1
12	5500	1	638	83	1
13	5500	1	878	61	1
14	5500	1	718	74	1
15	5500	1	698	76	1
16	5500	1	568	93	1
17	5500	1	2696	20	1
18	5500	1	1381	39	1
19	5500	1	1409	38	1
20	5500	1	2051	26	1
21	5500	1	1249	43	1
22	5500	1	1806	30	1
23	5500	1	1007	53	0
24	5500	1	2814	19	1
25	5500	1	2356	23	1
26	5500	1	730	73	1
27	5500	1	2387	23	1
28	5500	1	1647	33	1
29	5500	1	2991	18	1
30	5500	1	2984	18	1
Detection Percentage(%)					90.00%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 1
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5250	1	538	99	1
2	5250	1	938	57	1
3	5250	1	758	70	1
4	5250	1	3066	18	1
5	5250	1	818	65	0
6	5250	1	598	89	1
7	5250	1	778	68	1
8	5250	1	518	102	1
9	5250	1	898	59	1
10	5250	1	838	63	1
11	5250	1	738	72	1
12	5250	1	638	83	1
13	5250	1	878	61	1
14	5250	1	718	74	1
15	5250	1	698	76	1
16	5250	1	568	93	1
17	5250	1	2696	20	1
18	5250	1	1381	39	1
19	5250	1	1409	38	1
20	5250	1	2051	26	1
21	5250	1	1249	43	1
22	5250	1	1806	30	1
23	5250	1	1007	53	1
24	5250	1	2814	19	1
25	5250	1	2356	23	1
26	5250	1	730	73	1
27	5250	1	2387	23	1
28	5250	1	1647	33	1
29	5250	1	2991	18	1
30	5250	1	2984	18	1
Detection Percentage(%)					96.6%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 1
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	1	538	99	1
2	5570	1	938	57	1
3	5570	1	758	70	1
4	5570	1	3066	18	1
5	5570	1	818	65	1
6	5570	1	598	89	1
7	5570	1	778	68	1
8	5570	1	518	102	1
9	5570	1	898	59	1
10	5570	1	838	63	1
11	5570	1	738	72	0
12	5570	1	638	83	1
13	5570	1	878	61	1
14	5570	1	718	74	1
15	5570	1	698	76	1
16	5570	1	568	93	1
17	5570	1	2696	20	1
18	5570	1	1381	39	1
19	5570	1	1409	38	1
20	5570	1	2051	26	1
21	5570	1	1249	43	1
22	5570	1	1806	30	1
23	5570	1	1007	53	0
24	5570	1	2814	19	1
25	5570	1	2356	23	1
26	5570	1	730	73	1
27	5570	1	2387	23	1
28	5570	1	1647	33	1
29	5570	1	2991	18	1
30	5570	1	2984	18	1
Detection Percentage(%)					93.3%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 2
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5300	3.8	150	23	1
2	5300	1.2	181	24	1
3	5300	4.5	185	28	1
4	5300	3.3	198	27	1
5	5300	4.7	212	24	1
6	5300	2.3	206	27	1
7	5300	2.5	151	26	1
8	5300	4.7	171	25	1
9	5300	3.5	217	23	0
10	5300	2.0	156	28	1
11	5300	1.9	195	24	0
12	5300	3.1	163	25	1
13	5300	3.1	164	27	1
14	5300	4.7	206	23	1
15	5300	1.1	174	24	1
16	5300	4.4	173	26	1
17	5300	2.0	216	24	0
18	5300	4.2	162	23	1
19	5300	1.1	194	27	1
20	5300	1.5	228	26	1
21	5300	2.7	168	28	1
22	5300	4.3	204	26	1
23	5300	2.2	211	26	1
24	5300	4.3	157	25	1
25	5300	1.4	219	27	1
26	5300	3.5	227	24	1
27	5300	3.2	203	27	1
28	5300	1.0	152	28	0
29	5300	1.7	166	27	1
30	5300	3.1	211	23	1
Detection Percentage(%)					90.00%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 2
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5500	3.8	150	23	1
2	5500	1.2	181	24	1
3	5500	4.5	185	28	1
4	5500	3.3	198	27	1
5	5500	4.7	212	24	1
6	5500	2.3	206	27	1
7	5500	2.5	151	26	1
8	5500	4.7	171	25	1
9	5500	3.5	217	23	1
10	5500	2.0	156	28	0
11	5500	1.9	195	24	0
12	5500	3.1	163	25	1
13	5500	3.1	164	27	1
14	5500	4.7	206	23	1
15	5500	1.1	174	24	0
16	5500	4.4	173	26	1
17	5500	2.0	216	24	1
18	5500	4.2	162	23	1
19	5500	1.1	194	27	1
20	5500	1.5	228	26	1
21	5500	2.7	168	28	1
22	5500	4.3	204	26	1
23	5500	2.2	211	26	1
24	5500	4.3	157	25	1
25	5500	1.4	219	27	1
26	5500	3.5	227	24	1
27	5500	3.2	203	27	1
28	5500	1.0	152	28	0
29	5500	1.7	166	27	1
30	5500	3.1	211	23	1
Detection Percentage(%)					86.67%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 2
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5250	4.0	195	23	1
2	5250	4.3	173	23	1
3	5250	2.8	180	25	1
4	5250	3.6	219	23	1
5	5250	1.9	155	26	0
6	5250	2.2	223	28	1
7	5250	2.9	168	27	1
8	5250	1.5	202	28	1
9	5250	1.2	225	26	1
10	5250	2.4	223	24	1
11	5250	5.0	224	27	1
12	5250	4.4	194	28	1
13	5250	2.6	186	23	1
14	5250	2.4	155	29	1
15	5250	4.2	151	26	1
16	5250	1.5	213	26	1
17	5250	2.1	180	24	1
18	5250	1.9	163	24	1
19	5250	2.9	197	27	1
20	5250	4.1	213	25	1
21	5250	1.6	167	24	1
22	5250	2.6	230	25	1
23	5250	3.8	225	26	1
24	5250	4.4	173	26	1
25	5250	3.4	152	29	1
26	5250	2.5	204	24	1
27	5250	1.0	204	29	1
28	5250	2.7	158	24	1
29	5250	1.6	182	26	1
30	5250	3.9	217	29	1
Detection Percentage(%)					96.67%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 2
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	4.0	195	23	1
2	5570	4.3	173	23	1
3	5570	2.8	180	25	1
4	5570	3.6	219	23	1
5	5570	1.9	155	26	1
6	5570	2.2	223	28	1
7	5570	2.9	168	27	1
8	5570	1.5	202	28	1
9	5570	1.2	225	26	1
10	5570	2.4	223	24	1
11	5570	5.0	224	27	1
12	5570	4.4	194	28	1
13	5570	2.6	186	23	1
14	5570	2.4	155	29	1
15	5570	4.2	151	26	1
16	5570	1.5	213	26	1
17	5570	2.1	180	24	1
18	5570	1.9	163	24	1
19	5570	2.9	197	27	1
20	5570	4.1	213	25	1
21	5570	1.6	167	24	0
22	5570	2.6	230	25	0
23	5570	3.8	225	26	1
24	5570	4.4	173	26	1
25	5570	3.4	152	29	1
26	5570	2.5	204	24	1
27	5570	1.0	204	29	1
28	5570	2.7	158	24	1
29	5570	1.6	182	26	0
30	5570	3.9	217	29	1
Detection Percentage(%)					90.00%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 3
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5300	6.3	438	16	1
2	5300	8.3	273	16	1
3	5300	9.0	461	17	1
4	5300	9.3	300	17	1
5	5300	8.3	456	16	1
6	5300	7.4	345	16	1
7	5300	8.3	254	18	1
8	5300	9.8	363	18	1
9	5300	7.9	427	17	1
10	5300	8.0	406	16	1
11	5300	7.2	314	17	1
12	5300	9.5	417	18	1
13	5300	9.1	472	17	1
14	5300	6.9	469	17	1
15	5300	9.9	389	17	1
16	5300	6.6	377	18	1
17	5300	9.5	331	18	1
18	5300	6.9	415	18	1
19	5300	6.6	397	17	1
20	5300	6.1	369	18	1
21	5300	7.5	250	18	1
22	5300	7.4	354	18	1
23	5300	9.3	443	16	1
24	5300	7.9	444	18	1
25	5300	8.2	269	17	1
26	5300	8.2	326	17	1
27	5300	7.2	446	17	1
28	5300	9.3	489	17	1
29	5300	6.9	408	18	1
30	5300	6.2	357	18	1
Detection Percentage(%)					100%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 3
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5500	6.3	438	16	1
2	5500	8.3	273	16	1
3	5500	9.0	461	17	1
4	5500	9.3	300	17	1
5	5500	8.3	456	16	1
6	5500	7.4	345	16	0
7	5500	8.3	254	18	1
8	5500	9.8	363	18	1
9	5500	7.9	427	17	1
10	5500	8.0	406	16	1
11	5500	7.2	314	17	1
12	5500	9.5	417	18	1
13	5500	9.1	472	17	1
14	5500	6.9	469	17	1
15	5500	9.9	389	17	0
16	5500	6.6	377	18	1
17	5500	9.5	331	18	1
18	5500	6.9	415	18	1
19	5500	6.6	397	17	1
20	5500	6.1	369	18	1
21	5500	7.5	250	18	1
22	5500	7.4	354	18	1
23	5500	9.3	443	16	1
24	5500	7.9	444	18	1
25	5500	8.2	269	17	1
26	5500	8.2	326	17	1
27	5500	7.2	446	17	1
28	5500	9.3	489	17	1
29	5500	6.9	408	18	1
30	5500	6.2	357	18	1
Detection Percentage(%)					93.3%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 3
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5250	8.4	284	17	0
2	5250	6.3	357	16	1
3	5250	8.2	477	16	1
4	5250	8.0	381	16	1
5	5250	6.2	259	17	1
6	5250	10.0	311	18	1
7	5250	8.6	466	16	1
8	5250	9.9	386	17	1
9	5250	7.5	377	17	1
10	5250	6.7	328	17	0
11	5250	8.4	256	17	1
12	5250	9.2	416	16	1
13	5250	6.2	492	17	1
14	5250	7.1	432	18	1
15	5250	6.7	486	17	1
16	5250	7.4	437	17	1
17	5250	9.2	296	16	0
18	5250	6.0	457	16	1
19	5250	6.1	456	16	1
20	5250	7.3	383	17	1
21	5250	9.2	334	16	1
22	5250	9.6	252	16	1
23	5250	8.8	389	17	1
24	5250	6.7	410	16	1
25	5250	9.3	348	17	1
26	5250	7.1	417	17	0
27	5250	7.5	265	16	1
28	5250	8.3	403	17	1
29	5250	6.7	252	16	0
30	5250	9.5	288	18	1
Detection Percentage(%)					86.67%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 3
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	8.4	284	17	1
2	5570	6.3	357	16	1
3	5570	8.2	477	16	1
4	5570	8.0	381	16	1
5	5570	6.2	259	17	1
6	5570	10.0	311	18	1
7	5570	8.6	466	16	1
8	5570	9.9	386	17	1
9	5570	7.5	377	17	1
10	5570	6.7	328	17	1
11	5570	8.4	256	17	0
12	5570	9.2	416	16	1
13	5570	6.2	492	17	1
14	5570	7.1	432	18	1
15	5570	6.7	486	17	1
16	5570	7.4	437	17	1
17	5570	9.2	296	16	1
18	5570	6.0	457	16	1
19	5570	6.1	456	16	1
20	5570	7.3	383	17	1
21	5570	9.2	334	16	1
22	5570	9.6	252	16	1
23	5570	8.8	389	17	1
24	5570	6.7	410	16	1
25	5570	9.3	348	17	1
26	5570	7.1	417	17	1
27	5570	7.5	265	16	1
28	5570	8.3	403	17	1
29	5570	6.7	252	16	1
30	5570	9.5	288	18	1
Detection Percentage(%)					96.67%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 4
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5300	15.1	395	12	1
2	5300	14.8	418	14	1
3	5300	15.5	497	12	1
4	5300	19.3	486	16	0
5	5300	14.9	431	12	1
6	5300	19.0	337	12	1
7	5300	13.7	275	16	1
8	5300	19.9	337	14	1
9	5300	18.5	296	14	1
10	5300	12.4	289	14	1
11	5300	13.8	404	13	1
12	5300	13.3	296	16	1
13	5300	17.4	391	12	1
14	5300	18.9	427	14	1
15	5300	12.7	459	12	1
16	5300	12.9	257	16	1
17	5300	13.8	376	15	1
18	5300	11.0	338	13	1
19	5300	17.5	427	15	1
20	5300	12.9	399	13	1
21	5300	18.7	367	16	1
22	5300	19.4	345	14	1
23	5300	11.3	492	12	1
24	5300	17.7	279	12	1
25	5300	12.8	297	16	1
26	5300	12.0	332	16	1
27	5300	18.0	423	12	1
28	5300	16.6	452	13	1
29	5300	17.3	296	13	0
30	5300	17.6	401	14	1
Detection Percentage(%)					93.3%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 4
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5500	15.1	395	12	1
2	5500	14.8	418	14	1
3	5500	15.5	497	12	1
4	5500	19.3	486	16	0
5	5500	14.9	431	12	1
6	5500	19.0	337	12	1
7	5500	13.7	275	16	1
8	5500	19.9	337	14	1
9	5500	18.5	296	14	1
10	5500	12.4	289	14	1
11	5500	13.8	404	13	1
12	5500	13.3	296	16	1
13	5500	17.4	391	12	1
14	5500	18.9	427	14	1
15	5500	12.7	459	12	1
16	5500	12.9	257	16	1
17	5500	13.8	376	15	1
18	5500	11.0	338	13	0
19	5500	17.5	427	15	1
20	5500	12.9	399	13	1
21	5500	18.7	367	16	1
22	5500	19.4	345	14	1
23	5500	11.3	492	12	1
24	5500	17.7	279	12	1
25	5500	12.8	297	16	1
26	5500	12.0	332	16	0
27	5500	18.0	423	12	1
28	5500	16.6	452	13	1
29	5500	17.3	296	13	1
30	5500	17.6	401	14	1
Detection Percentage(%)					86.67%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 4
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5250	17.1	464	13	1
2	5250	12.7	339	16	1
3	5250	14.1	494	13	0
4	5250	12.7	322	15	1
5	5250	16.0	482	15	1
6	5250	14.0	260	13	1
7	5250	11.4	380	14	1
8	5250	14.5	332	14	1
9	5250	11.7	477	15	1
10	5250	17.2	488	14	1
11	5250	12.5	468	12	0
12	5250	11.7	308	14	1
13	5250	15.4	450	14	1
14	5250	14.1	346	15	0
15	5250	12.3	422	12	1
16	5250	18.2	280	14	1
17	5250	17.4	387	16	1
18	5250	17.1	483	12	1
19	5250	19.8	327	15	1
20	5250	19.5	320	12	1
21	5250	11.9	290	13	1
22	5250	16.9	407	16	1
23	5250	19.4	396	13	1
24	5250	13.2	425	14	1
25	5250	19.4	494	15	1
26	5250	19.5	357	13	1
27	5250	17.1	456	15	1
28	5250	11.6	300	15	1
29	5250	18.1	433	13	1
30	5250	11.7	253	13	1
Detection Percentage (%)					93.33%

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 4
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	17.1	464	13	1
2	5570	12.7	339	16	1
3	5570	14.1	494	13	1
4	5570	12.7	322	15	1
5	5570	16.0	482	15	1
6	5570	14.0	260	13	1
7	5570	11.4	380	14	1
8	5570	14.5	332	14	1
9	5570	11.7	477	15	1
10	5570	17.2	488	14	1
11	5570	12.5	468	12	1
12	5570	11.7	308	14	1
13	5570	15.4	450	14	0
14	5570	14.1	346	15	0
15	5570	12.3	422	12	1
16	5570	18.2	280	14	0
17	5570	17.4	387	16	1
18	5570	17.1	483	12	1
19	5570	19.8	327	15	1
20	5570	19.5	320	12	1
21	5570	11.9	290	13	0
22	5570	16.9	407	16	1
23	5570	19.4	396	13	1
24	5570	13.2	425	14	0
25	5570	19.4	494	15	1
26	5570	19.5	357	13	0
27	5570	17.1	456	15	1
28	5570	11.6	300	15	1
29	5570	18.1	433	13	1
30	5570	11.7	253	13	1
Detection Percentage (%)					80.00%

802.11 n20 5300MHz

Total Type 1~4 Radar Statistical Performance			
Radar Type	Detection Percentage (%)	Limit (%)	Result
1	90.00	>60%	Pass
2	90.00	>60%	Pass
3	100.00	>60%	Pass
4	93.33	>60%	Pass
Total Type 1~4	93.33	>80%	Pass

802.11 n20 5500MHz

Total Type 1~4 Radar Statistical Performance			
Radar Type	Detection Percentage (%)	Limit (%)	Result
1	90.00	>60%	Pass
2	86.67	>60%	Pass
3	93.33	>60%	Pass
4	86.67	>60%	Pass
Total Type 1~4	89.17	>80%	Pass

802.11ax160 5250MHz

Total Type 1~4 Radar Statistical Performance			
Radar Type	Detection Percentage (%)	Limit (%)	Result
1	96.67	>60%	Pass
2	83.33	>60%	Pass
3	86.67	>60%	Pass
4	93.33	>60%	Pass
Total Type 1~4	90.00	>80%	Pass

802.11ax160 5570MHz

Total Type 1~4 Radar Statistical Performance			
Radar Type	Detection Percentage (%)	Limit (%)	Result
1	90.00	>60%	Pass
2	90.00	>60%	Pass
3	96.67	>60%	Pass
4	80.00	>60%	Pass
Total Type 1~4	89.17	>80%	Pass

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 5
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

5300MHz

Trial #	Number of Bursts	Burst Period (s)	Waveform Length (s)	Center Frequency (GHz)	1= Detection 0= No Detection
1	8	1.5000	12	5.3000	1
2	17	0.7059	12	5.3000	1
3	15	0.8000	12	5.3000	1
4	17	0.7059	12	5.3000	1
5	11	1.0909	12	5.3000	1
6	15	0.8000	12	5.3000	1
7	9	1.3333	12	5.3000	1
8	19	0.6316	12	5.3000	1
9	13	0.9231	12	5.3000	1
10	17	0.7059	12	5.3000	1
11	20	0.6000	12	5.2980	1
12	9	1.3333	12	5.2924	1
13	19	0.6316	12	5.2972	0
14	18	0.6667	12	5.2968	1
15	10	1.2000	12	5.2928	1
16	19	0.6316	12	5.2972	0
17	15	0.8000	12	5.2956	1
18	17	0.7059	12	5.2964	1
19	13	0.9231	12	5.2948	0
20	20	0.6000	12	5.2976	1
21	15	0.8000	12	5.3048	1
22	8	1.5000	12	5.3076	1
23	18	0.6667	12	5.3032	1
24	9	1.3333	12	5.3072	1
25	11	1.0909	12	5.3064	1
26	13	0.9231	12	5.3056	1
27	18	0.6667	12	5.3028	1
28	11	1.0909	12	5.3064	1
29	9	1.3333	12	5.3076	1
30	20	0.6000	12	5.3020	1
Detection Percentage (%)					90.00
Limit					≥ 80

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 5
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

5500MHz

Trial #	Number of Bursts	Burst Period (s)	Waveform Length (s)	Center Frequency (GHz)	1= Detection 0= No Detection
1	15	0.8000	12	5.5000	1
2	16	0.7500	12	5.5000	1
3	16	0.7500	12	5.5000	1
4	12	1.0000	12	5.5000	1
5	16	0.7500	12	5.5000	1
6	10	1.2000	12	5.5000	1
7	13	0.9231	12	5.5000	1
8	12	1.0000	12	5.5000	1
9	18	0.6667	12	5.5000	1
10	18	0.6667	12	5.5000	1
11	10	1.2000	12	5.4932	0
12	13	0.9231	12	5.4948	1
13	20	0.6000	12	5.4976	0
14	12	1.0000	12	5.4940	1
15	11	1.0909	12	5.4936	1
16	17	0.7059	12	5.4964	0
17	18	0.6667	12	5.4972	1
18	15	0.8000	12	5.4956	1
19	14	0.8571	12	5.4952	0
20	9	1.3333	12	5.4924	1
21	20	0.6000	12	5.5020	1
22	18	0.6667	12	5.5032	1
23	12	1.0000	12	5.5064	1
24	10	1.2000	12	5.5072	1
25	15	0.8000	12	5.5044	1
26	12	1.0000	12	5.5060	0
27	13	0.9231	12	5.5056	1
28	9	1.3333	12	5.5072	1
29	19	0.6316	12	5.5024	1
30	13	0.9231	12	5.5056	1
Detection Percentage (%)					86.67
Limit					≥ 80

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 5
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

5290MHz

Trial #	Number of Bursts	Burst Period (s)	Waveform Length (s)	Center Frequency (GHz)	1= Detection 0= No Detection
1	11	1.0909	12	5.2900	0
2	9	1.3333	12	5.2900	0
3	18	0.6667	12	5.2900	1
4	13	0.9231	12	5.2900	1
5	9	1.3333	12	5.2900	1
6	14	0.8571	12	5.2900	1
7	10	1.2000	12	5.2900	1
8	14	0.8571	12	5.2900	1
9	12	1.0000	12	5.2900	1
10	13	0.9231	12	5.2900	1
11	19	0.6316	12	5.2572	1
12	15	0.8000	12	5.2556	1
13	14	0.8571	12	5.2552	1
14	12	1.0000	12	5.2540	1
15	14	0.8571	12	5.2548	1
16	16	0.7500	12	5.2560	1
17	9	1.3333	12	5.2524	1
18	13	0.9231	12	5.2544	1
19	13	0.9231	12	5.2544	0
20	13	0.9231	12	5.2544	1
21	19	0.6316	12	5.3228	1
22	17	0.7059	12	5.3236	1
23	9	1.3333	12	5.3272	1
24	18	0.6667	12	5.3232	1
25	16	0.7500	12	5.3240	1
26	13	0.9231	12	5.3252	1
27	14	0.8571	12	5.3252	1
28	17	0.7059	12	5.3236	1
29	19	0.6316	12	5.3228	1
30	15	0.8000	12	5.3244	1
Detection Percentage (%)					96.67
Limit					≥ 80

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 5
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

5570MHz

Trial #	Number of Bursts	Burst Period (s)	Waveform Length (s)	Center Frequency (GHz)	Center Frequency (GHz)
1	11	1.0909	12	5.5700	1
2	8	1.5000	12	5.5700	1
3	17	0.7059	12	5.5700	1
4	15	0.8000	12	5.5700	1
5	14	0.8571	12	5.5700	1
6	18	0.6667	12	5.5700	1
7	15	0.8000	12	5.5700	1
8	11	1.0909	12	5.5700	1
9	12	1.0000	12	5.5700	1
10	16	0.7500	12	5.5700	1
11	20	0.6000	12	5.4980	1
12	15	0.8000	12	5.4956	1
13	16	0.7500	12	5.4960	0
14	9	1.3333	12	5.4928	0
15	11	1.0909	12	5.4936	1
16	11	1.0909	12	5.4936	1
17	15	0.8000	12	5.4956	0
18	13	0.9231	12	5.4944	1
19	19	0.6316	12	5.4976	1
20	19	0.6316	12	5.4972	1
21	20	0.6000	12	5.6420	1
22	9	1.3333	12	5.6476	1
23	10	1.2000	12	5.6472	1
24	10	1.2000	12	5.6468	1
25	17	0.7059	12	5.6436	1
26	17	0.7059	12	5.6436	1
27	18	0.6667	12	5.6428	0
28	20	0.6000	12	5.6420	1
29	12	1.0000	12	5.6460	0
30	9	1.3333	12	5.6476	1
Detection Percentage (%)					83.33
Limit					≥ 80

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 6
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

5300MHz

Trial #	Pulse Width (us)	PRI (us)	Pulses per Hop	Hopping Rate (KHz)	Hopping Sequence Length (ms)	Visible Frequency Number	1= Detection 0= No Detection
1	1	333.3	9	0.3333	300	5	1
2	1	333.3	9	0.3333	300	2	1
3	1	333.3	9	0.3333	300	3	1
4	1	333.3	9	0.3333	300	3	1
5	1	333.3	9	0.3333	300	5	1
6	1	333.3	9	0.3333	300	3	1
7	1	333.3	9	0.3333	300	4	1
8	1	333.3	9	0.3333	300	3	1
9	1	333.3	9	0.3333	300	3	1
10	1	333.3	9	0.3333	300	3	1
11	1	333.3	9	0.3333	300	5	1
12	1	333.3	9	0.3333	300	2	1
13	1	333.3	9	0.3333	300	1	1
14	1	333.3	9	0.3333	300	3	1
15	1	333.3	9	0.3333	300	4	1
16	1	333.3	9	0.3333	300	3	1
17	1	333.3	9	0.3333	300	1	1
18	1	333.3	9	0.3333	300	3	1
19	1	333.3	9	0.3333	300	7	1
20	1	333.3	9	0.3333	300	7	1
21	1	333.3	9	0.3333	300	3	1
22	1	333.3	9	0.3333	300	2	1
23	1	333.3	9	0.3333	300	4	1
24	1	333.3	9	0.3333	300	4	1
25	1	333.3	9	0.3333	300	3	1
26	1	333.3	9	0.3333	300	3	1
27	1	333.3	9	0.3333	300	3	1
28	1	333.3	9	0.3333	300	4	1
29	1	333.3	9	0.3333	300	6	1
30	1	333.3	9	0.3333	300	5	1
Detection Percentage (%)							100
Limit							>70

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 6
 Test Date : 2018/12/20
 Test Mode : Mode 1: Transmit (802.11n 20BW)

5500MHz

Trial #	Pulse Width (us)	PRI (us)	Pulses per Hop	Hopping Rate (KHz)	Hopping Sequence Length (ms)	Visible Frequency Number	1= Detection 0= No Detection
1	1	333.3	9	0.3333	300	7	1
2	1	333.3	9	0.3333	300	4	0
3	1	333.3	9	0.3333	300	3	1
4	1	333.3	9	0.3333	300	3	1
5	1	333.3	9	0.3333	300	2	1
6	1	333.3	9	0.3333	300	5	1
7	1	333.3	9	0.3333	300	6	1
8	1	333.3	9	0.3333	300	5	1
9	1	333.3	9	0.3333	300	4	1
10	1	333.3	9	0.3333	300	3	1
11	1	333.3	9	0.3333	300	4	1
12	1	333.3	9	0.3333	300	3	1
13	1	333.3	9	0.3333	300	2	1
14	1	333.3	9	0.3333	300	5	1
15	1	333.3	9	0.3333	300	3	1
16	1	333.3	9	0.3333	300	6	1
17	1	333.3	9	0.3333	300	4	1
18	1	333.3	9	0.3333	300	2	1
19	1	333.3	9	0.3333	300	5	1
20	1	333.3	9	0.3333	300	10	1
21	1	333.3	9	0.3333	300	1	1
22	1	333.3	9	0.3333	300	3	1
23	1	333.3	9	0.3333	300	3	1
24	1	333.3	9	0.3333	300	6	1
25	1	333.3	9	0.3333	300	2	1
26	1	333.3	9	0.3333	300	4	1
27	1	333.3	9	0.3333	300	4	1
28	1	333.3	9	0.3333	300	5	1
29	1	333.3	9	0.3333	300	6	1
30	1	333.3	9	0.3333	300	4	1
Detection Percentage (%)							96.67
Limit							>70

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 6
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

5290MHz

Trial #	Pulse Width (us)	PRI (us)	Pulses per Hop	Hopping Rate (KHz)	Hopping Sequence Length (ms)	Visible Frequency Number	1= Detection 0= No Detection
1	1	333.3	9	0.3333	300	21	1
2	1	333.3	9	0.3333	300	17	1
3	1	333.3	9	0.3333	300	17	1
4	1	333.3	9	0.3333	300	14	1
5	1	333.3	9	0.3333	300	22	1
6	1	333.3	9	0.3333	300	20	1
7	1	333.3	9	0.3333	300	18	1
8	1	333.3	9	0.3333	300	18	1
9	1	333.3	9	0.3333	300	20	1
10	1	333.3	9	0.3333	300	18	1
11	1	333.3	9	0.3333	300	12	1
12	1	333.3	9	0.3333	300	15	1
13	1	333.3	9	0.3333	300	14	1
14	1	333.3	9	0.3333	300	19	1
15	1	333.3	9	0.3333	300	15	1
16	1	333.3	9	0.3333	300	16	1
17	1	333.3	9	0.3333	300	17	1
18	1	333.3	9	0.3333	300	21	1
19	1	333.3	9	0.3333	300	18	1
20	1	333.3	9	0.3333	300	18	1
21	1	333.3	9	0.3333	300	19	1
22	1	333.3	9	0.3333	300	17	1
23	1	333.3	9	0.3333	300	17	1
24	1	333.3	9	0.3333	300	14	1
25	1	333.3	9	0.3333	300	13	1
26	1	333.3	9	0.3333	300	22	1
27	1	333.3	9	0.3333	300	17	1
28	1	333.3	9	0.3333	300	20	1
29	1	333.3	9	0.3333	300	15	1
30	1	333.3	9	0.3333	300	15	1
Detection Percentage (%)							100
Limit							>70

Product : ROG Rapture GT-AX6000 Dual-band Gaming Router/
 ROG Rapture GT-AC5400 Dual-band Gaming Router
 Test Item : Statistical Performance Check
 Radar Type : Type 6
 Test Date : 2018/12/20
 Test Mode : Mode 2: Transmit (802.11ax 160BW)

5570MHz

Trial #	Pulse Width (us)	PRI (us)	Pulses per Hop	Hopping Rate (KHz)	Hopping Sequence Length (ms)	Visible Frequency Number	1= Detection 0= No Detection
1	1	333.3	9	0.3333	300	19	1
2	1	333.3	9	0.3333	300	12	1
3	1	333.3	9	0.3333	300	17	0
4	1	333.3	9	0.3333	300	14	1
5	1	333.3	9	0.3333	300	17	1
6	1	333.3	9	0.3333	300	18	1
7	1	333.3	9	0.3333	300	18	1
8	1	333.3	9	0.3333	300	22	1
9	1	333.3	9	0.3333	300	19	0
10	1	333.3	9	0.3333	300	16	0
11	1	333.3	9	0.3333	300	15	1
12	1	333.3	9	0.3333	300	13	1
13	1	333.3	9	0.3333	300	14	1
14	1	333.3	9	0.3333	300	18	1
15	1	333.3	9	0.3333	300	16	1
16	1	333.3	9	0.3333	300	20	1
17	1	333.3	9	0.3333	300	15	1
18	1	333.3	9	0.3333	300	18	1
19	1	333.3	9	0.3333	300	21	1
20	1	333.3	9	0.3333	300	22	1
21	1	333.3	9	0.3333	300	14	1
22	1	333.3	9	0.3333	300	17	1
23	1	333.3	9	0.3333	300	10	1
24	1	333.3	9	0.3333	300	15	1
25	1	333.3	9	0.3333	300	15	0
26	1	333.3	9	0.3333	300	16	1
27	1	333.3	9	0.3333	300	16	1
28	1	333.3	9	0.3333	300	16	1
29	1	333.3	9	0.3333	300	19	1
30	1	333.3	9	0.3333	300	17	1
Detection Percentage (%)							86.67
Limit							>70