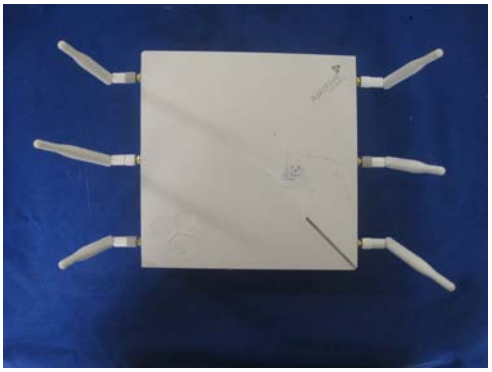
AEROHIVE NETWORK, INC

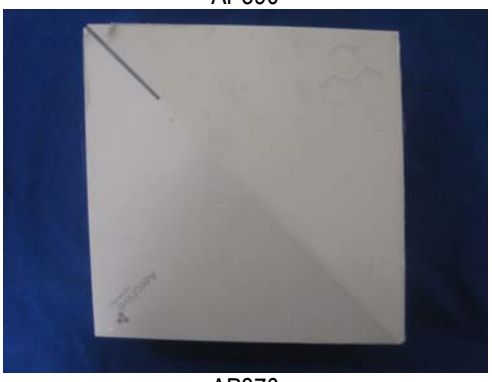
ACCESS POINT

Model: AP370/ AP390

January 2, 2014
Report No.: SL13082601-AER-003-DFS
(This report supersedes: None)



AP390



AP370

RF Test Report

To: FCC15.407h DFS Test Report

SIEMIC, INC.
Accessing global markets

Modifications made to the product : None

This Test Report is Issued Under the Authority of:	
Choon Sian Ooi Compliance Engineer	David Zhang Compliance Engineer

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All Test Data Presented in this report is only applicable to presented Test sample.

Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

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Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless ,Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF , Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom , Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC , RF , Telecom
Canada	IC FCB , NIST	EMC , RF , Telecom
Singapore	iDA, NIST	EMC , RF , Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC (RCB 208)	RF , Telecom
HongKong	OFTA (US002)	RF , Telecom

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CONTENTS

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1 Executive Summary & EUT information

The purpose of this test programme was to demonstrate compliance of the Aerohive Network, Inc, Access Point, and Model: AP370/ AP390 against the current Stipulated Standards. The Access Point have demonstrated compliance with the FCC15.407h, FCC 06-96 & IC RSS210 Issue 8: 2010.

Applicant & EUT Information

Applicant Information

Applicant / Client	Aerohive Network, Inc 330 Gibraltar Drive,Sunnyvale, CA 94089
Manufacturer1	Accton Technology Corporation 1, Creation Road 3, Hsinchu Science Park, Hsinchu 30077, Taiwan, R.O.C

EUT Information

EUT Description	:	Access Point
Model Name	:	AP370/ AP390
Serial No	:	N/A
Input Power	:	12V 2.0A, 24W Max
Frequency	:	5260~5320MHz (20MHz bandwidth), 5270~5310MHz (40MHz bandwidth) 5290MHz (80MHz) 5500~5700MHz (20MHz bandwidth), 5510~5670MHz (40MHz bandwidth) 5530MHz (80MHz)
EIRP	:	5260~5320MHz (20MHz bandwidth): 0.696W/28.43 dBm (EIRP) 5270~5310MHz (40MHz bandwidth): 0.657W/28.18 dBm (EIRP) 5290MHz (80MHz): 0.137W/21.36 dBm (EIRP) 5500~5700MHz (20MHz bandwidth): 0.648W/28.12 dBm (EIRP) 5510~5670MHz (40MHz bandwidth): 0.648W/28.12 dBm (EIRP) 5530MHz (80MHz): 0.19W/22.78 dBm (EIRP)
Modulation	:	WLAN a/n/ac : OFDM
Classification Per Stipulated Test Standard	:	UNII

2 TECHNICAL DETAILS

Laboratory performing the tests	SIEMIC Laboratories 775 Montague Expressway Milpitas, California 95025, USA
Date of EUT received	November 20th, 2013
Dates of test (from – to)	December 16th – 26th, 2013
Equipment Category	UNII
Standard applied	FCC15.407 & RSS 210
FCC ID:	WBV-AP3X0
IC ID:	7774A-AP3X0

EUT Test Mode Evaluation

EUT Major Function List

Functions	Description
Fn#1	Wireless communication

EUT Test Mode List

RF Test Modes	Description	Test Configuration
RF_Test Mode	TTE test software	Continues Tx

Mode	802.11 a/n20/ac20	802.11 n40/ac40	802.11 ac80	802.11 a/n20/ac20	802.11 n40/ac40	802.11 ac80
Operational Channel Frequency	5260	5270	5290	5500	5510	5530
	5280	5310	-	5520	5550	-
	5300	-	-	5540	5670	-
	5320	-	-	5560	-	-
	-	-	-	5580	-	-
	-	-	-	5680	-	-
	-	-	-	5700	-	-

Supporting Equipment & Cabling

Supporting equipment used with the EUT

Equipment Description	Model	Serial No.	Manufacturer
Adapter	PA1024-2HU	N/A	Powertron Electronics Corp
802.11ac adapter (DFS Client)	AC1200	N/A	LINKSYS

Details of cables between EUT and Supporting Equipment

Connection Start		Connection Stop		Length / shielding Info	
From	I/O Port	To	I/O Port	Length(m)	Shielding
EUT	Serial/Console	Computer	Serial	0.5	shielded
EUT	Ethernet	Computer	Ethernet	3	shielded

Test Software Information

Test Item	Software	Description
DFS Testing	TTE test software	Set the EUT to different modulation and channel

3 REPORT REVISION HISTORY

Report No.	Report Version	Description	Issue Date
SL13082601-AER-003-DFS	Original	None	01/02/2014

4 TEST SUMMARY

The product was tested in accordance with the following specifications. All testing has been performed according to below product classification:

UNII

Test Results Summary

Test Section	Test Items	Description	Condition	Result
7.8.1	Detection Bandwidth	UNII Detection Bandwidth	Conducted	Complies
7.8.2.1		Initial Channel Availability Check Time	Conducted	Complies
7.8.2.2	Performance requirements checks	Radar Burst at the Beginning of the Channel Availability Check Time	Conducted	Complies
7.8.2.3		Radar Burst at the End of the Channel Availability Check Time	Conducted	Complies
7.8.3	In-Service Monitoring	In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Conducted	Complies
7.8.4	Radar Detection	Statistical Performance Check	Conducted	Complies
	Uniform spreading	The spreading of U-NII device Operating Channels over the 5250-5350 MHz and/or 5470-5725 MHz bands to avoid dense clusters of devices operating on the same Channel.	Declared by Manufacturer	Complies

Note: EUT supports different data rates and multiple channels, only the worse case test result with maximum data rates at Low, Mid, High channels are presented in this report.

5 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 Dynamic Frequency Selection (DFS)

5.1.1 RSS210 Test Procedure and Setup

Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 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.	

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 80% of the 99% power bandwidth See Note 3.
Note 1: The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows: • For the Short pulse radar Test Signals this instant is the end of the *Burst*. • For the Frequency Hopping radar Test Signal, this instant is the end of the last radar *Burst* generated. • For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission. 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 facilitating *Channel* changes (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 1 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.	

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

Rada r Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

2. 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 Trials
5	50-100	5-20	1000-2000	1-3	8-20	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 FM chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a Burst will have the same chirp width. Pulses in different Bursts may have different chirp widths. 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.

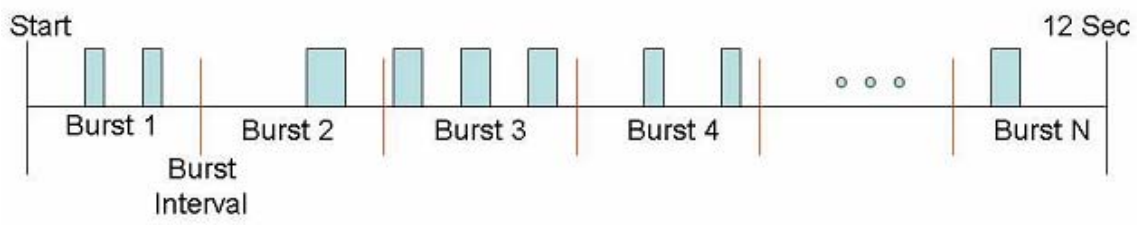
6) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and 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 / 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 / Burst_Count) – (Total Burst Length) + (One Random PRI Interval)] microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The s9tart 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).

Long Pulse Radar Test Signal Waveform
12 Second Transmission



3. Frequency Hopping Radar Type

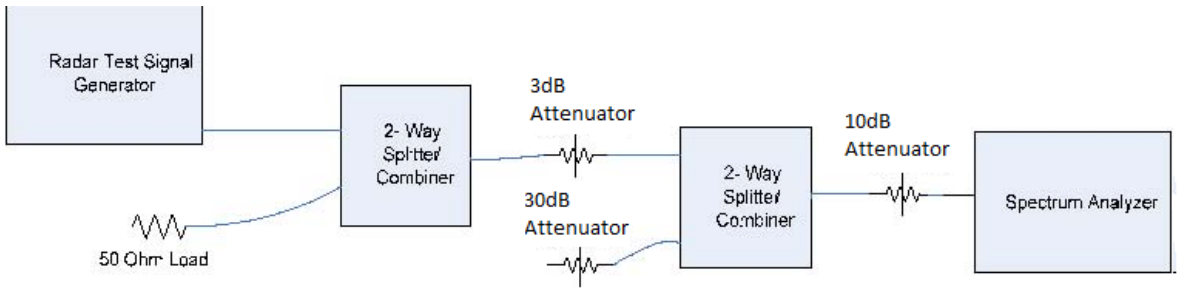
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	.333	300	70%	30

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 1 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

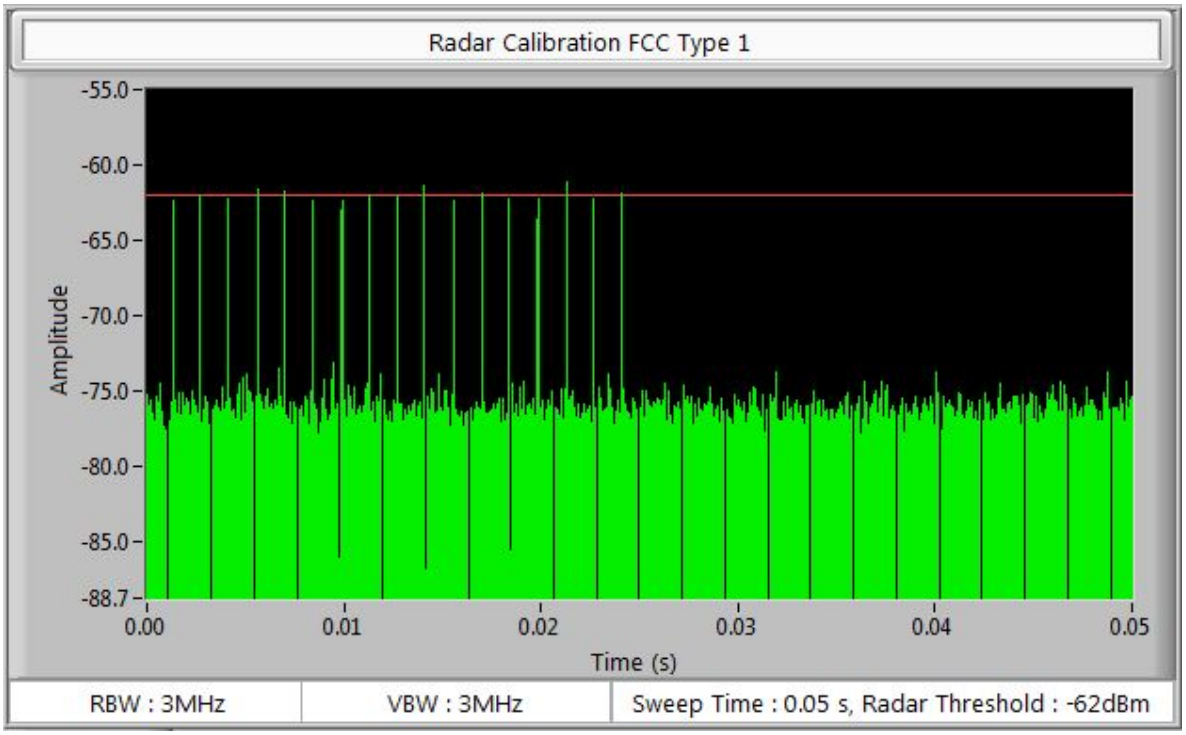
5.1.2 Radar Waveform Calibration

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 no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero span (Time Domain) mode 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 3 MHz.

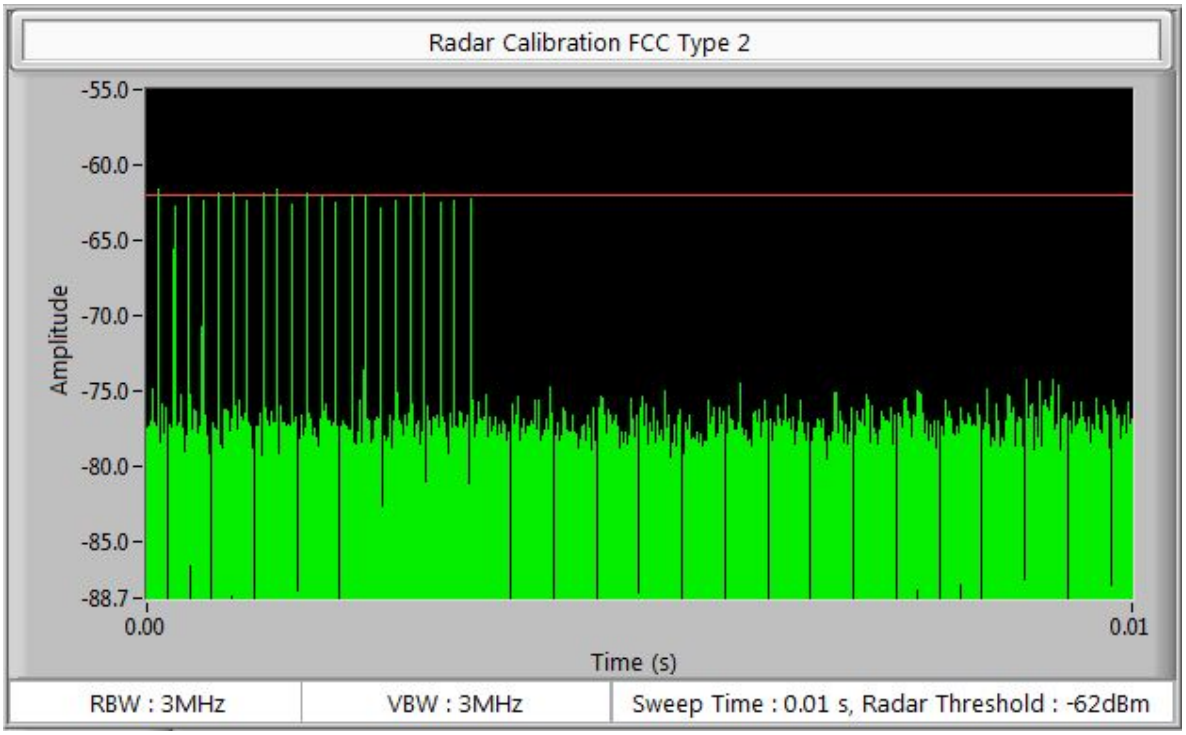


Conducted Calibration Setup

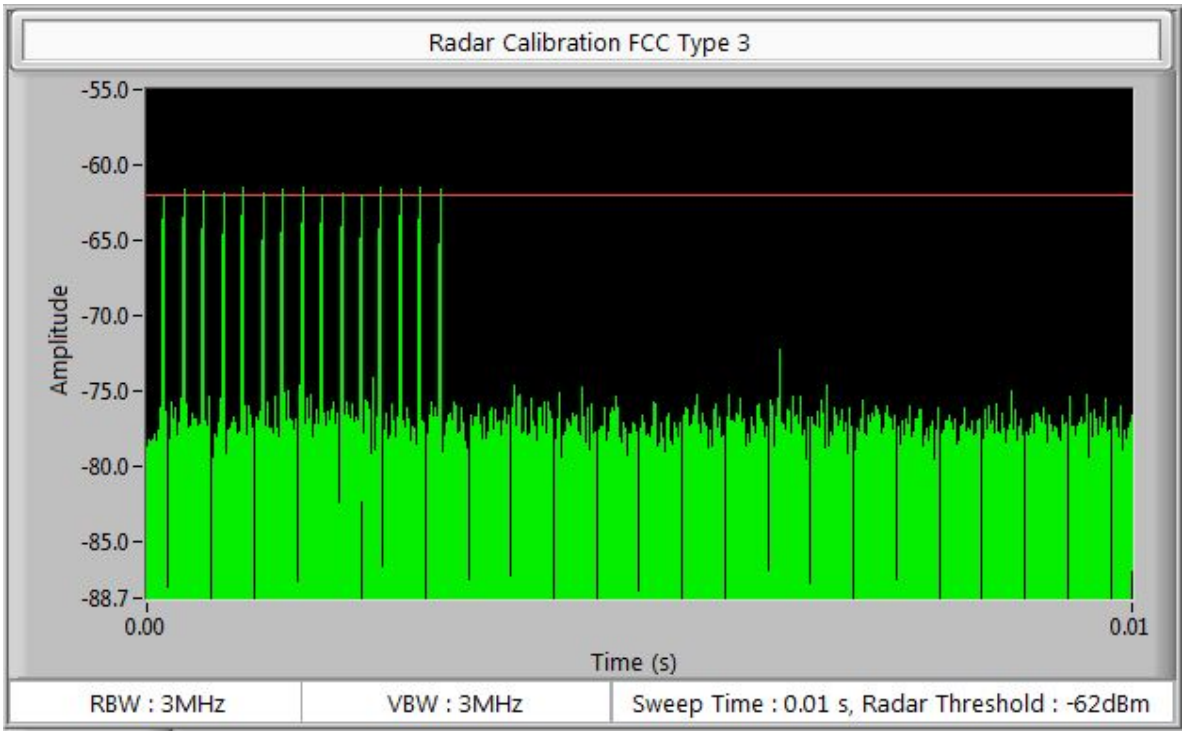
Radar Type 1



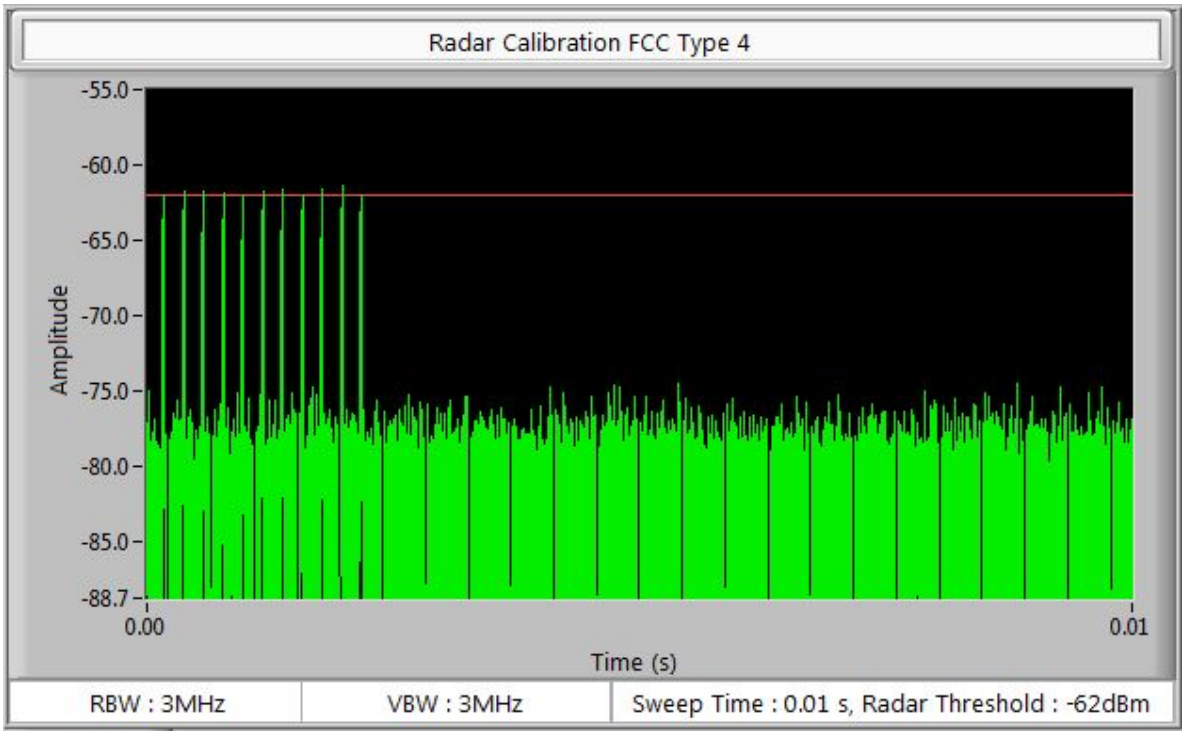
Radar Type 2



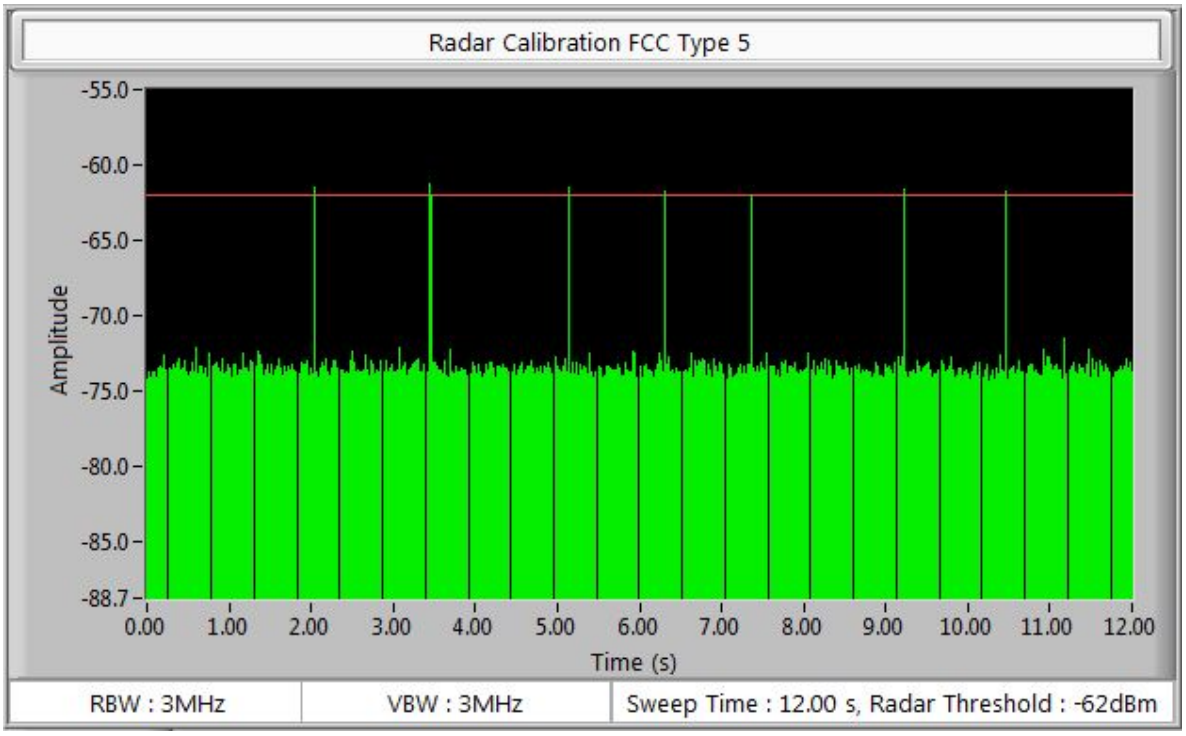
Radar Type 3



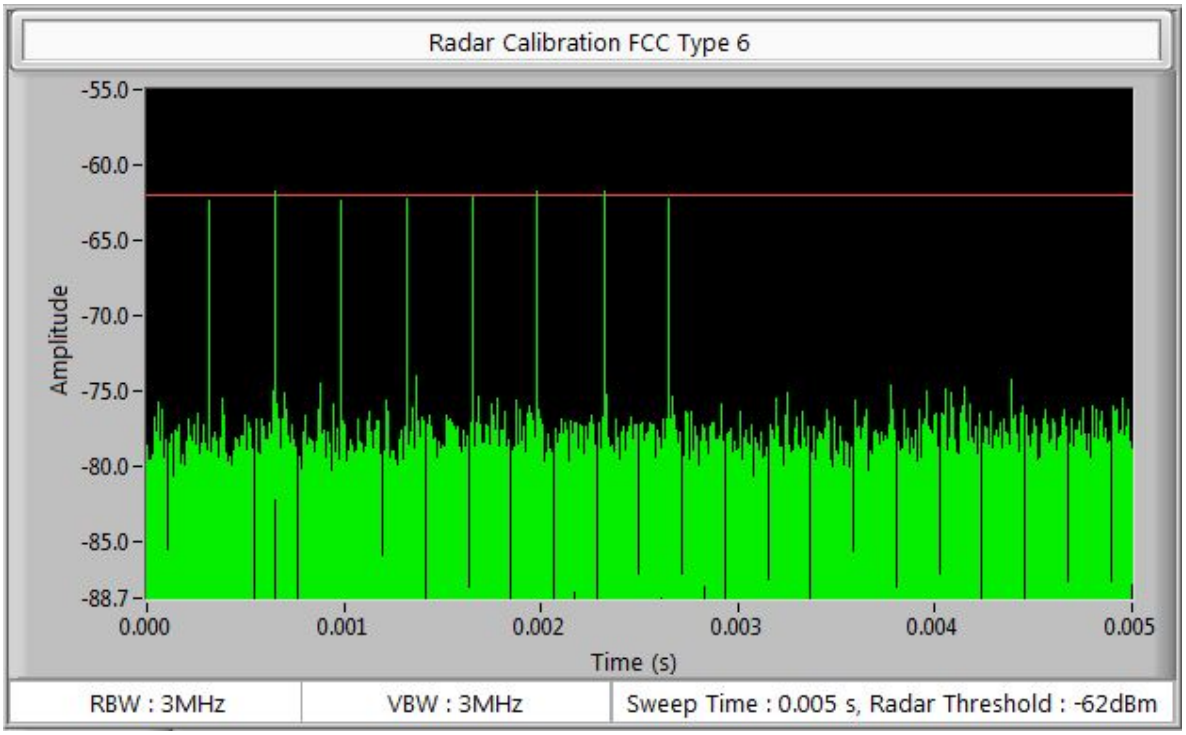
Radar type 4



Radar Type 5

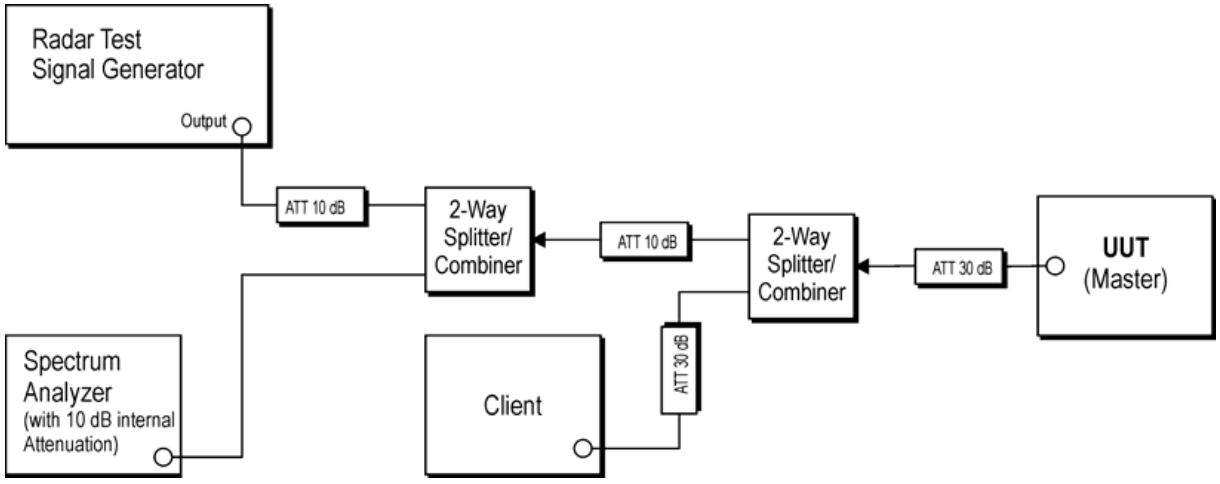


Radar Type 6

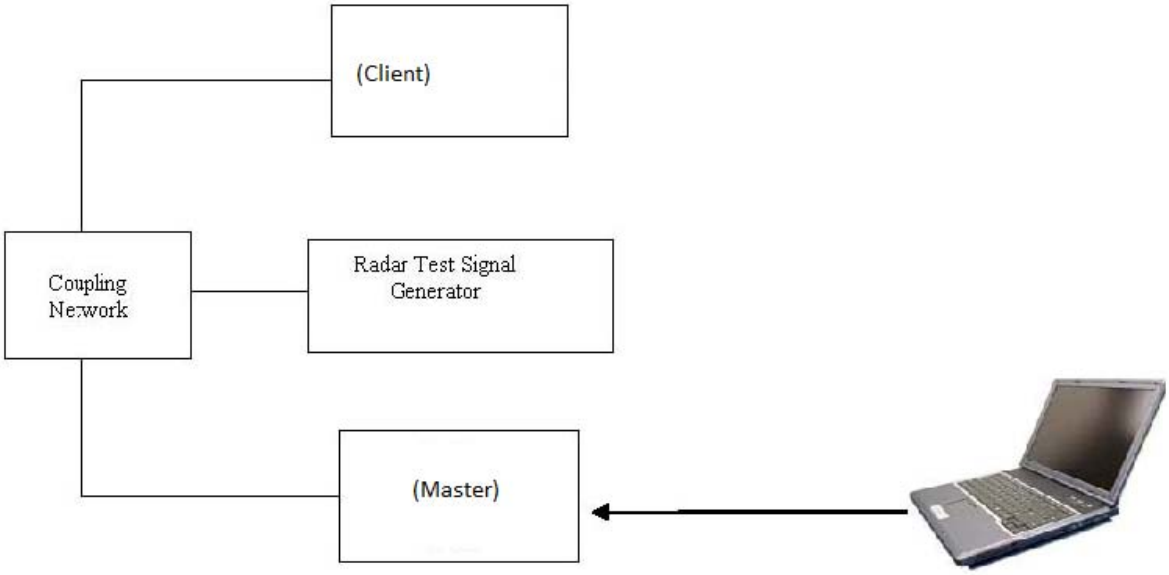


5.1.3 Test Setup

Test Setup Block Diagram



EUT Setup Configuration



The radio was set at the center channel frequency of tested Channel.

X -Configuration selected for DFS measurement

mode	A20	AC40	AC80
802.11	X	X	X

For the frequency bands 5470MHz to 5725MHz and 5250MHz to 5350MHz 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.

Manufacturer declared a lowest antenna gain of 3.3dBi. ;

Radar receive signal level=-64dBm + minimum antenna gain +1dB

=-64 +3.3 +1, minimum radar receive signal level = -59.7 dBm

5.1.4 DFS Test Results for channel bandwidth :802.11a (20MHz)

UNII Detection Bandwidth 802.11a

UNII Detection Bandwidth: All UNII channels for this device have identical Channel bandwidths and testing was performed on Mid Channel

The generating equipment is configured as shown in the Conducted Test Setup above. A single *Burst* of the short pulse radar type 1 is produced at Mid Channel at a -62 dBm level. The UUT 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 UUT is noted. The UUT 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 Fh

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 Fl.

The U-NII Detection Bandwidth is calculated as follows:

U-NII Detection Bandwidth = $F_H - F_L$

The U-NII Detection Bandwidth must be at least 80% of the UUT transmitter 99% power, otherwise, the UUT does not comply with DFS requirements.

Test Result

EUT Frequency = 5300MHz

Frequency (MHz)	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Detection Rate %
5290	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5291	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5292	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5293	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5294	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5295	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5296	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5297	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5298	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5299	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5301	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5302	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5303	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5304	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5305	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5306	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5307	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5308	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5309	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5310	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
Detection Bandwidth: 20 MHz											
Specification: at least 80% of 99% of EUT bandwidth= 15.744 MHz											

EUT Frequency = 5580MHz

Frequency (MHz)	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Detection Rate %
5570	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5571	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5572	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5573	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5574	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5575	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5576	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5577	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5578	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5579	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5580	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5581	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5582	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5583	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5584	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5585	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5586	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5587	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5588	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5589	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5590	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
Detection Bandwidth: 20 MHz											
Specification: at least 80% of 99% of EUT bandwidth= 15.744 MHz											

Initial Channel Availability Check Time-802.11a

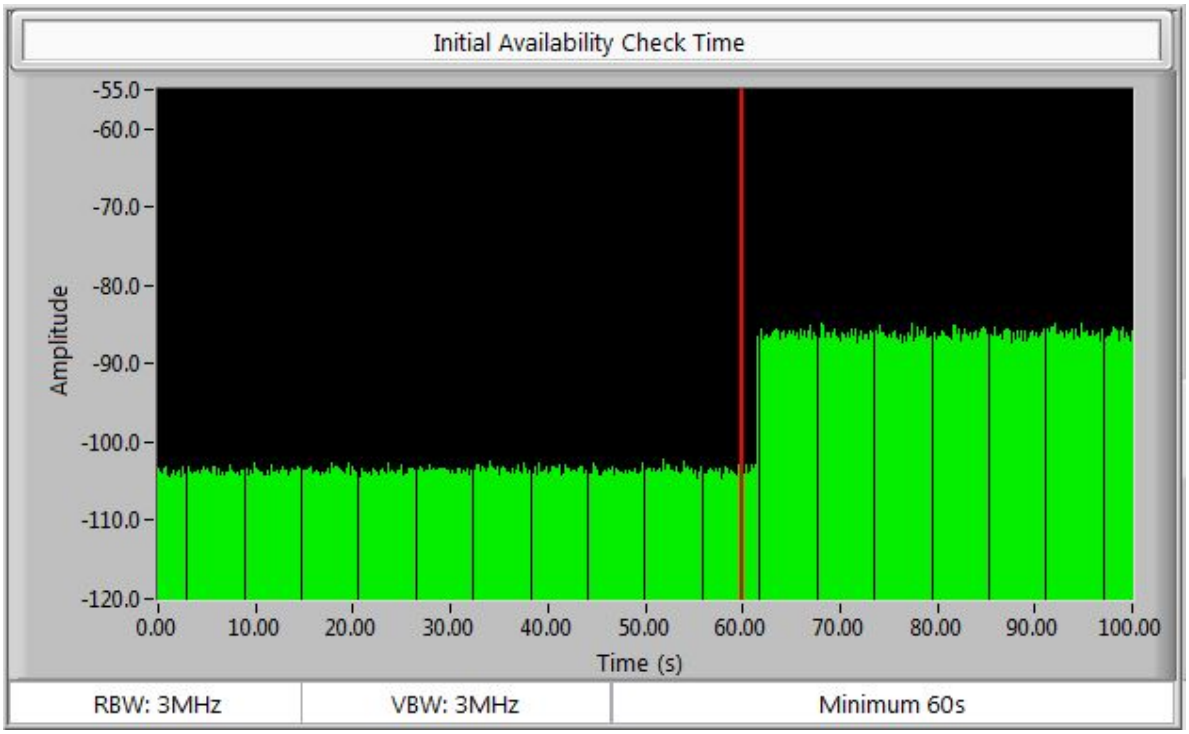
The Initial Channel Availability Check Time tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms and only needs to be performed one time.

The U-NII device is powered on and be instructed to operate at Low channel, Mid Channel or High channel. 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 low, mid can high channel with a 2.5 minute sweep time. The analyzer's sweep will be started the same time power is applied to the UNII device.

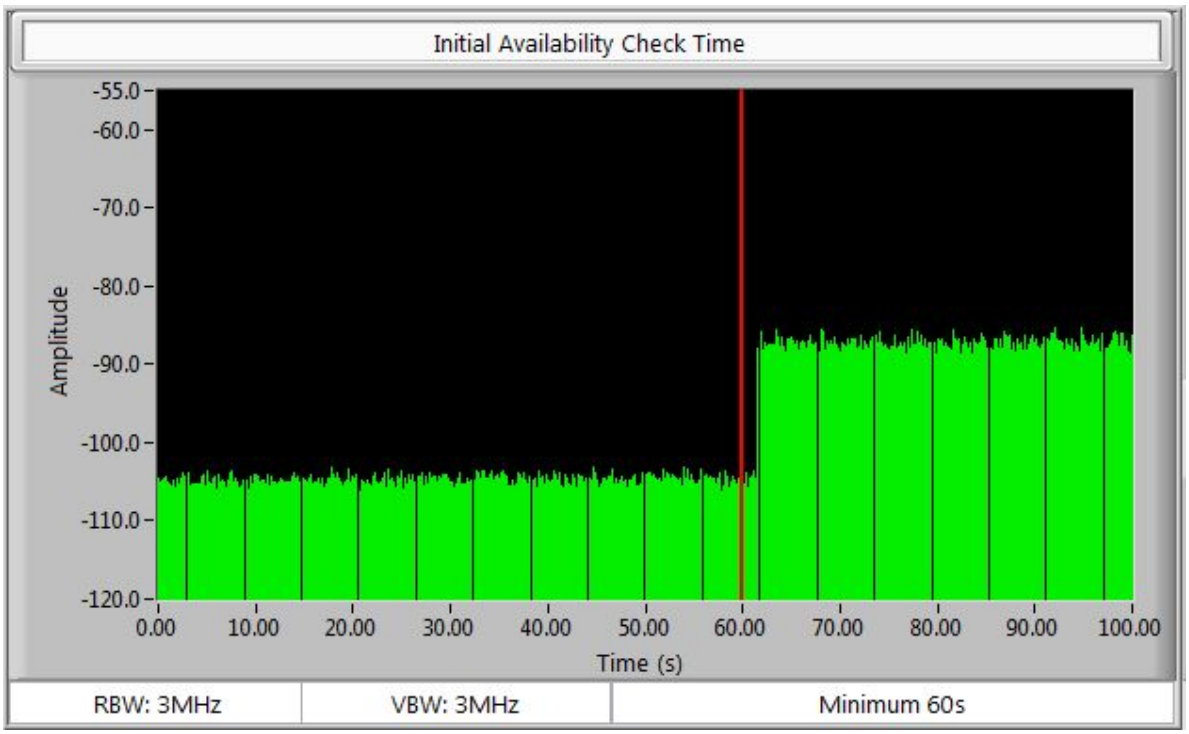
The UUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

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

Test Result-5300MHz



Test Result-5580MHz



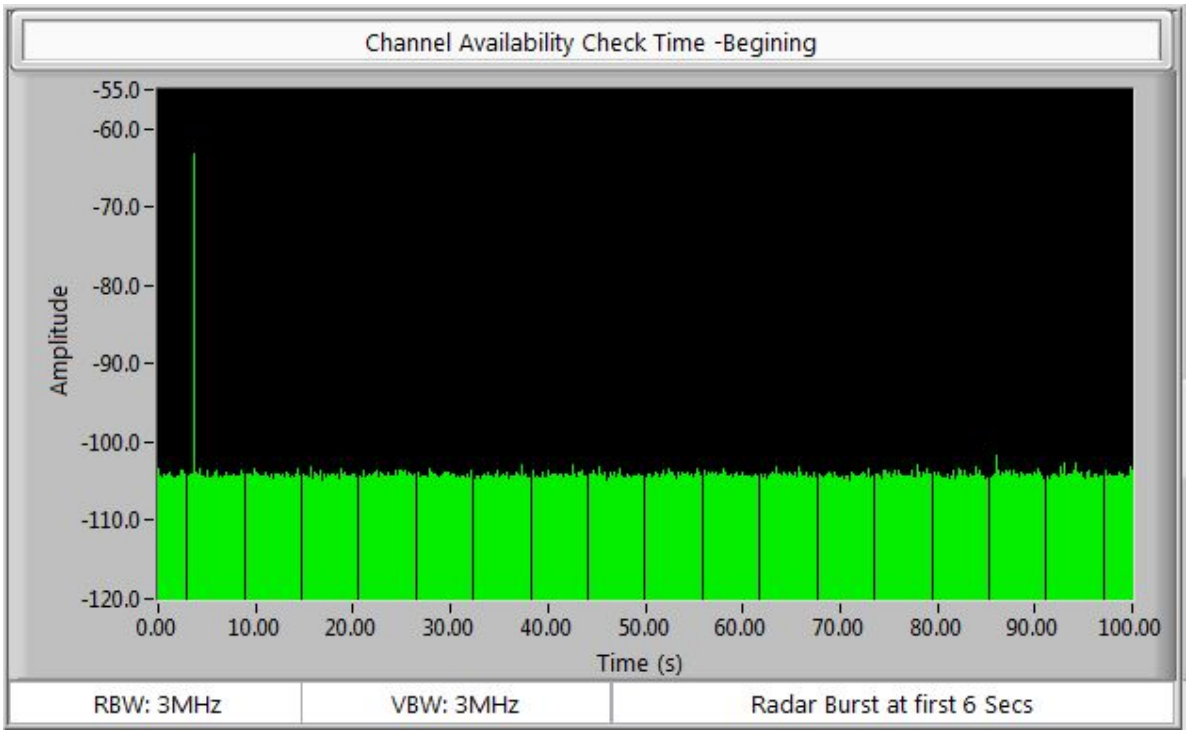
Radar Burst at the Beginning of the Channel Availability Check Time-802.11a

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

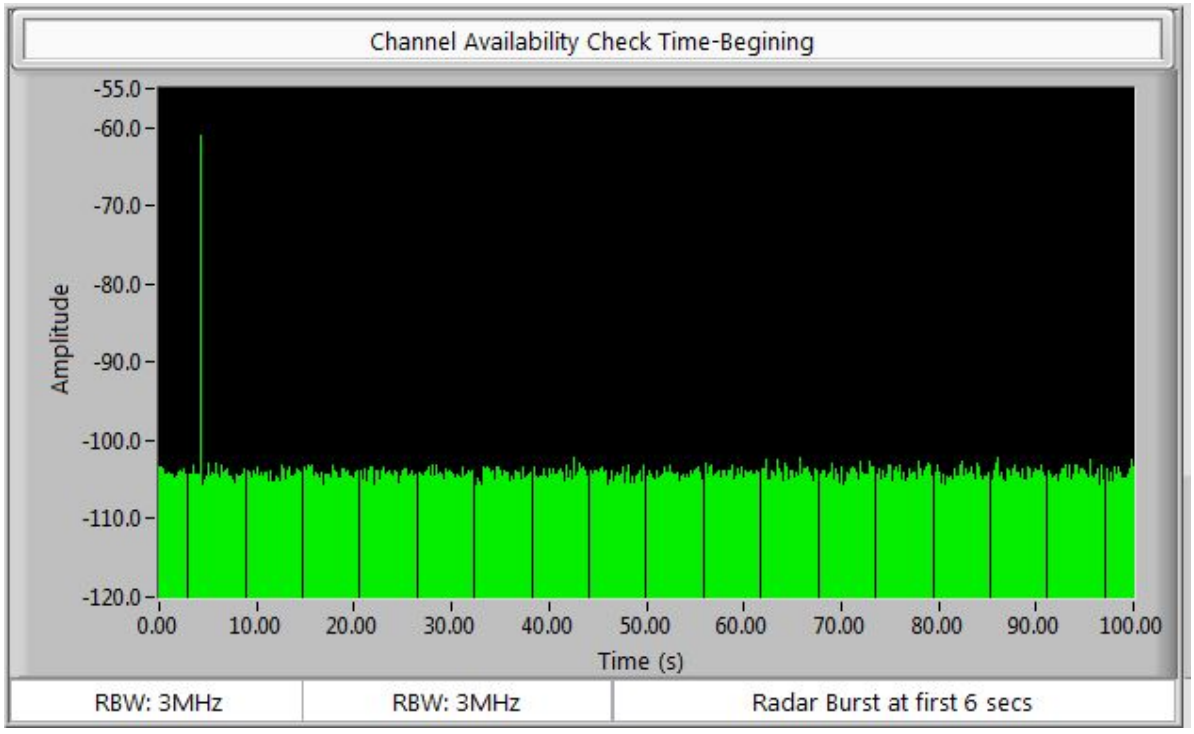
The UUT is powered on at T0. T1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of short pulse of radar type 1 at -62 dBm will commence within a 6 second window.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at mid channel. Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported.
Observation of emissions at center frequency of low channel, mid channel and high channel will continue for 2.5 minutes after the radar Burst has been generated.

Test Result-5300MHz



Test Result-5580MHz



Radar Burst at the End of the Channel Availability Check Time-802.11a

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

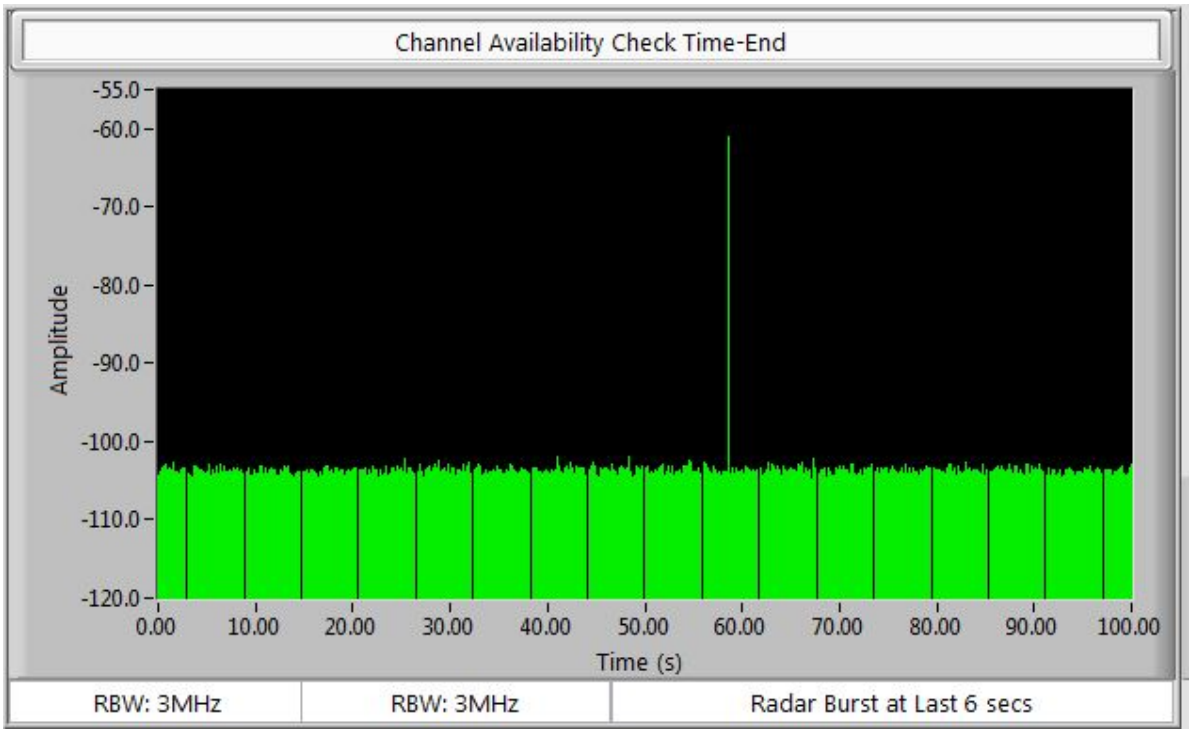
The UUT is powered on at T0. T1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds.

A single Burst of short pulse of radar type 1 at -62 dBm will commence within a last 6 second window.

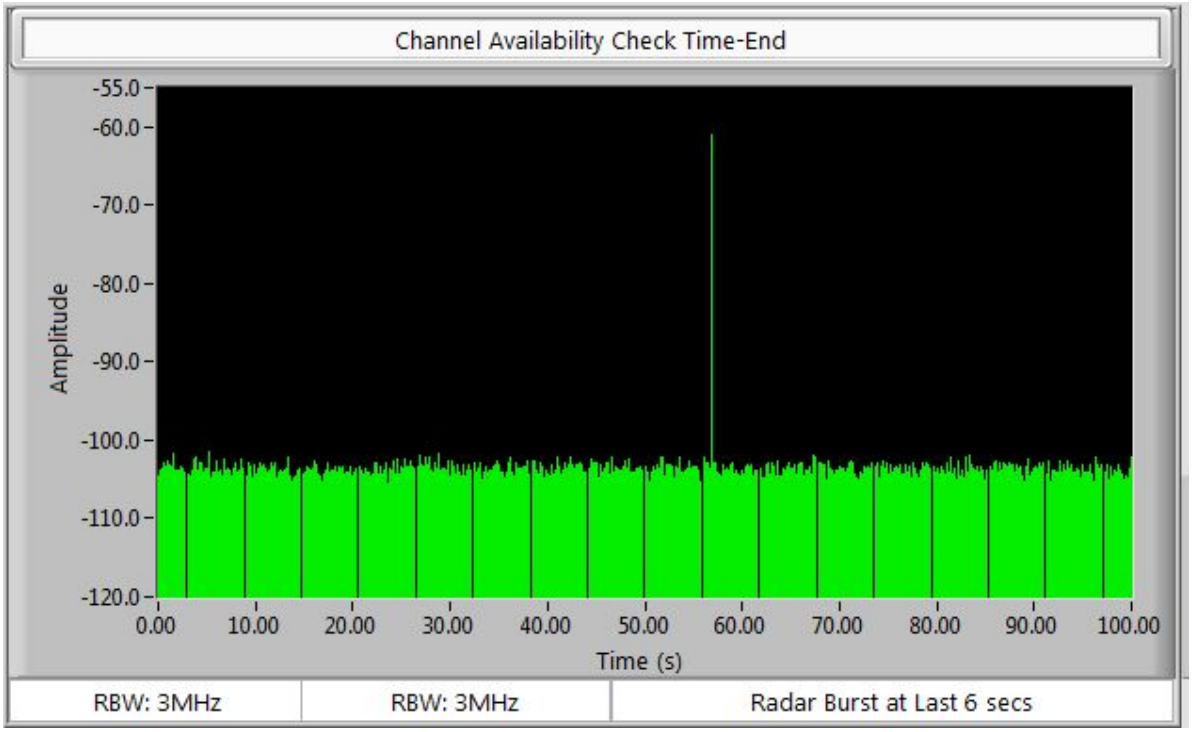
Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported.
Observation of emissions at center frequency of mid channel will continue for 2.5 minutes after the radar Burst has been generated.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at mid channel.

Test Result-5300MHz



Test Result-5580MHz



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

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

At time T0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at -62dBm.

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.

Channel Closing Transmission Time- Measurement

A type 1 waveform was introduced to the EUT and the Spectrum Analyzer sweep time was set to 1s for monitoring and capturing the plot. A LabView program was created to collect trace data and capturing the plot. The program will calculate the channel closing time base on the spectrum analyzer result. The result will be calculated base on FCC procedure.

C= N*Dwell

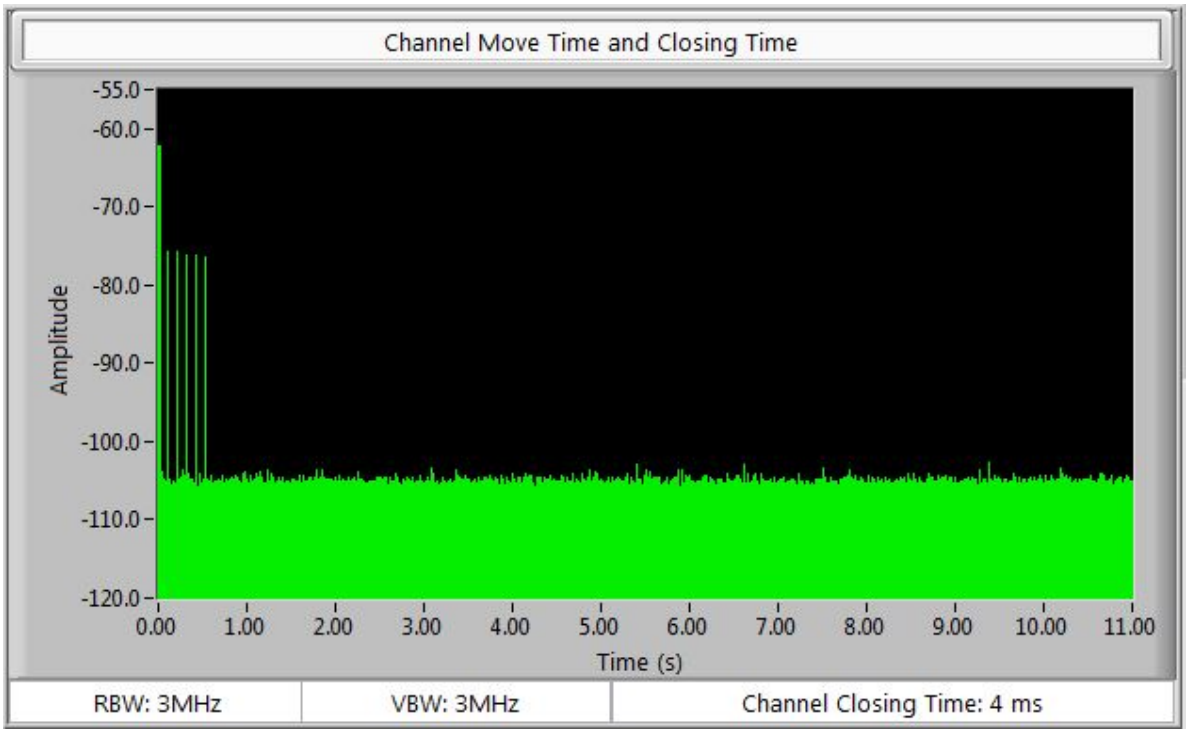
C is the closing time, N is the number of spectrum analyzer sampling bins showing a U-NII transmission and dwell is the dwell time per bin.

Dwell= S/B

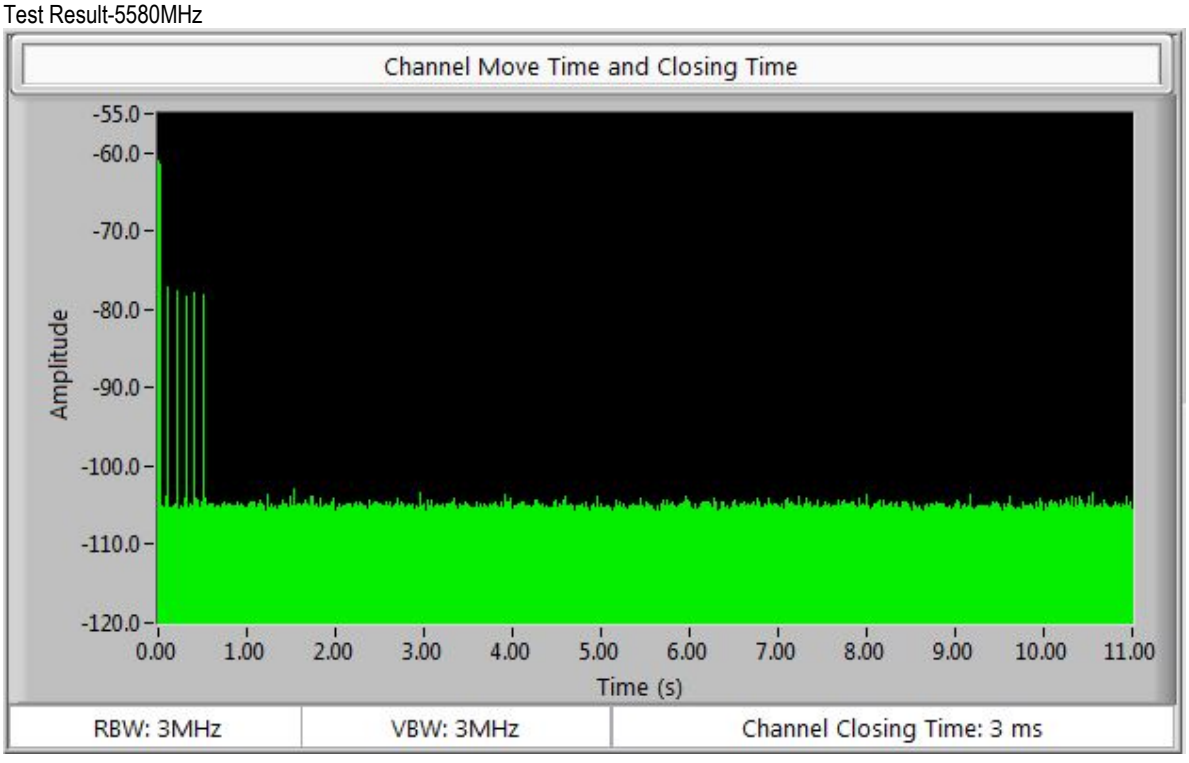
Where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number 0f spectrum analyzer sampling bins.

Channel Closing Transmission Time and Move Time for Radar Type 1

Test Result-5300MHz

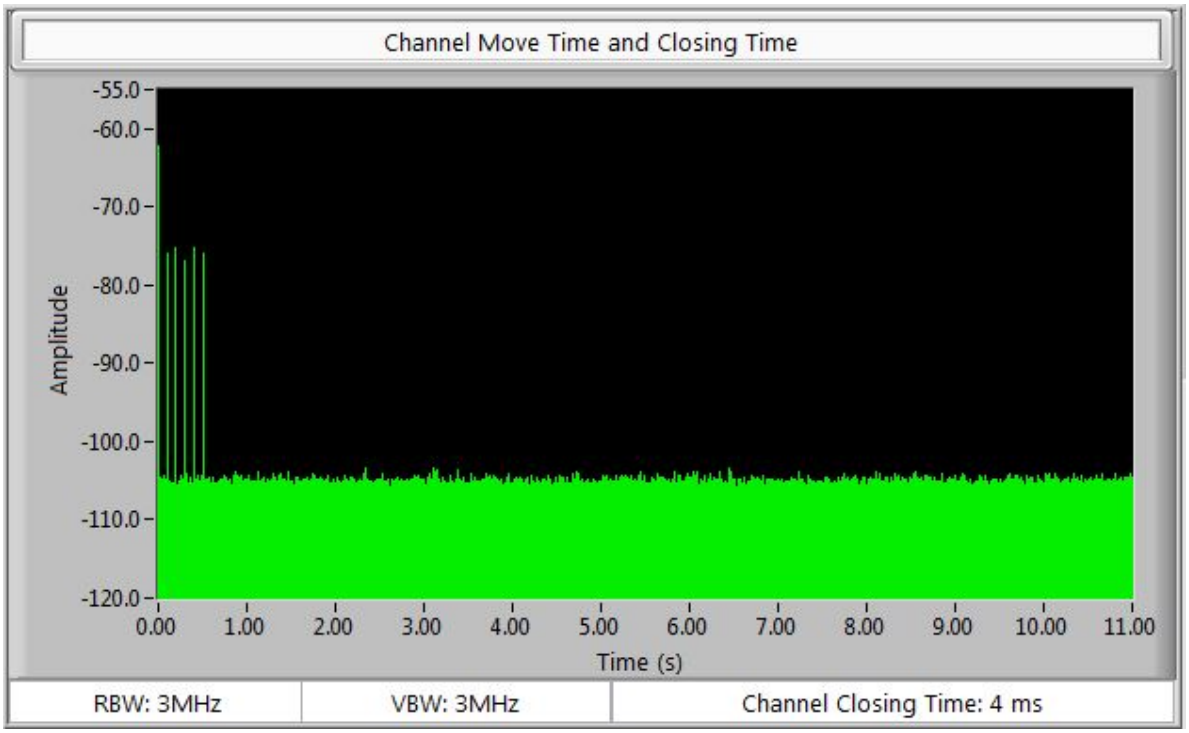


Test Result-5580MHz

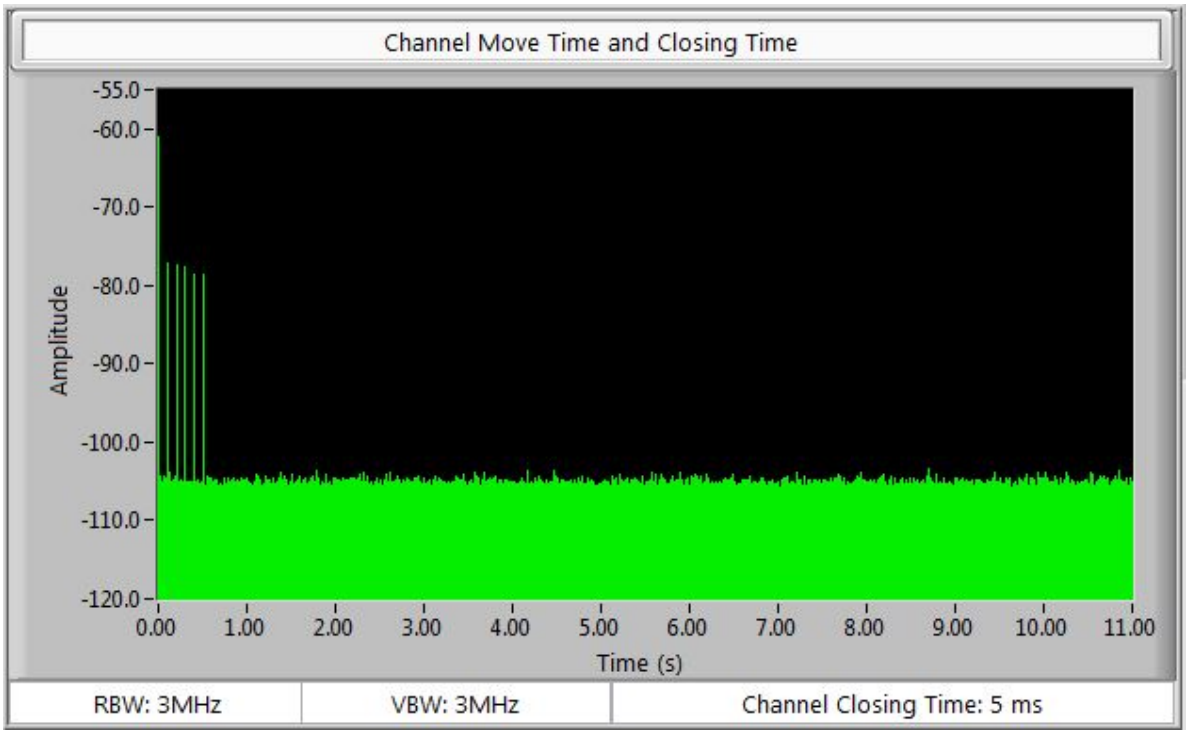


Channel Closing Transmission Time and Move Time for Radar Type 2

Test Result-5300MHz

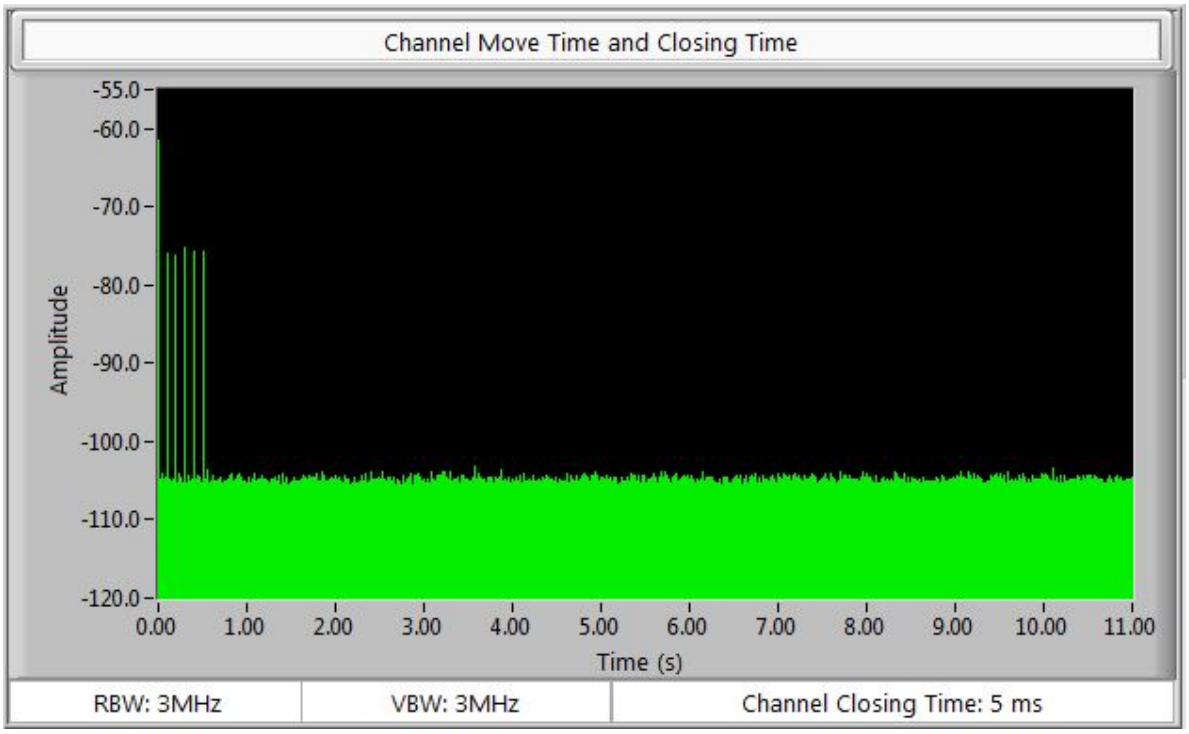


Test Result-5580MHz

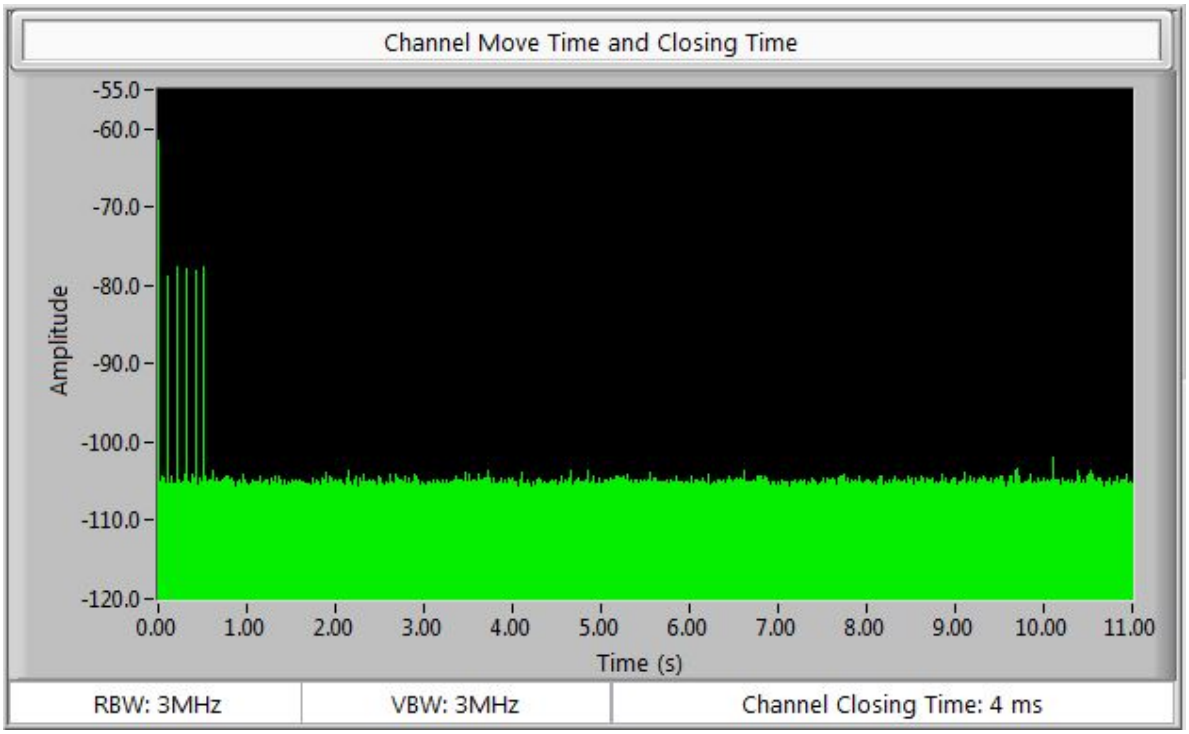


Channel Closing Transmission Time and Move Time for Radar Type 3

Test Result-5300MHz

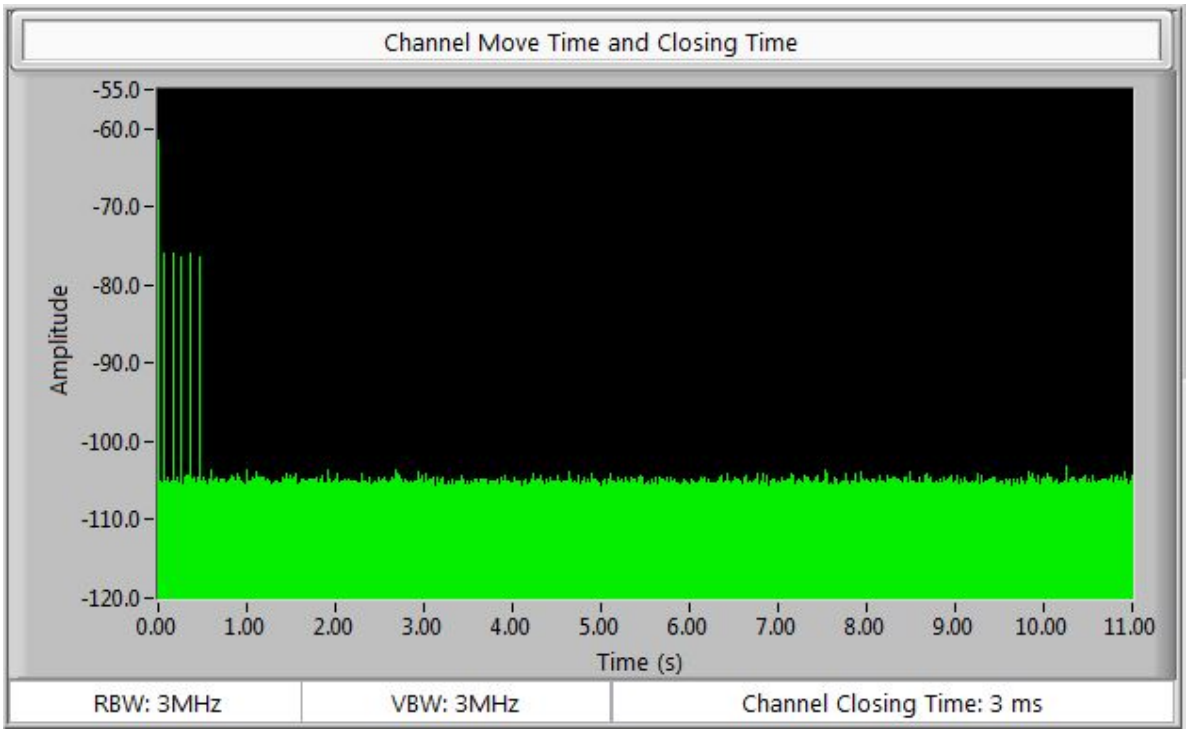


Test Result-5580MHz

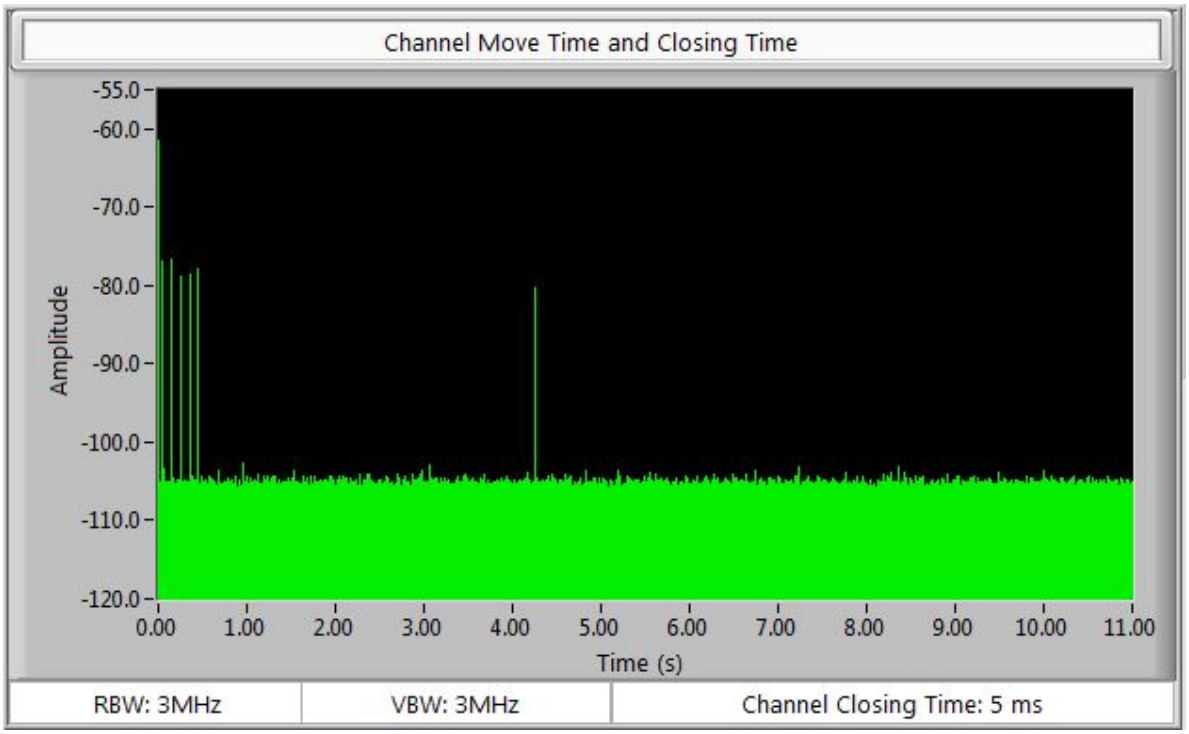


Channel Closing Transmission Time and Move Time for Radar Type 4

Test Result-5300MHz

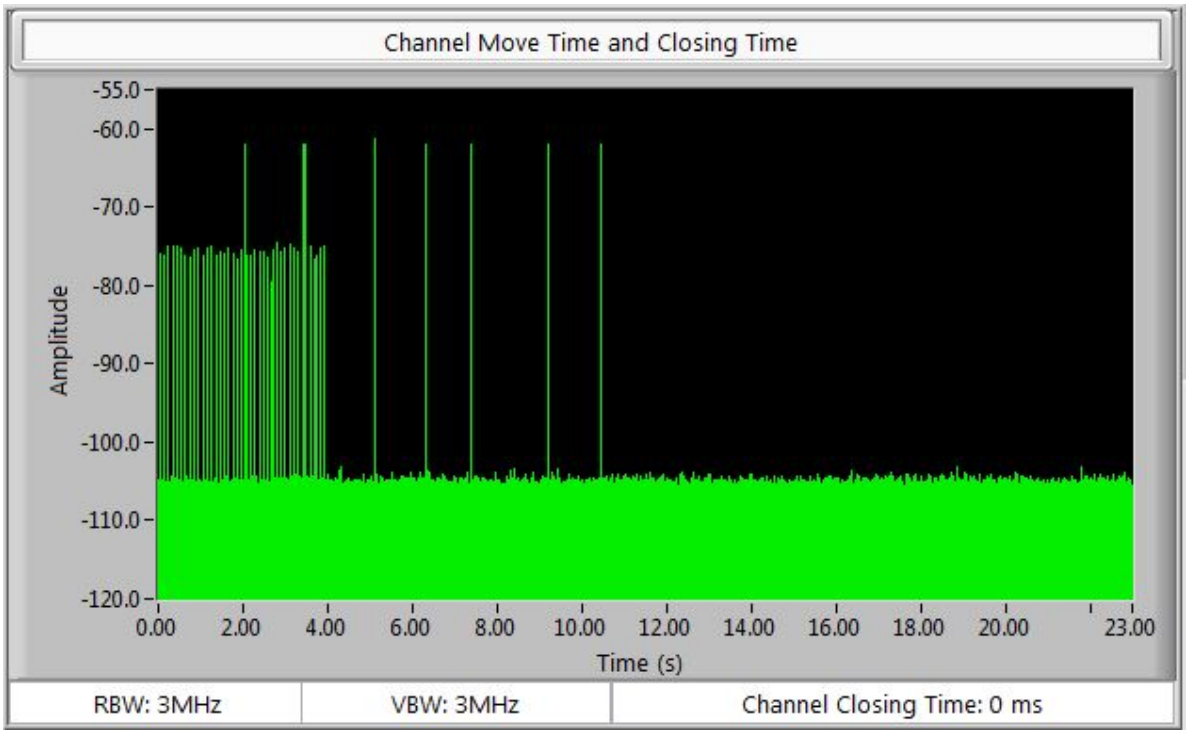


Test Result-5580MHz

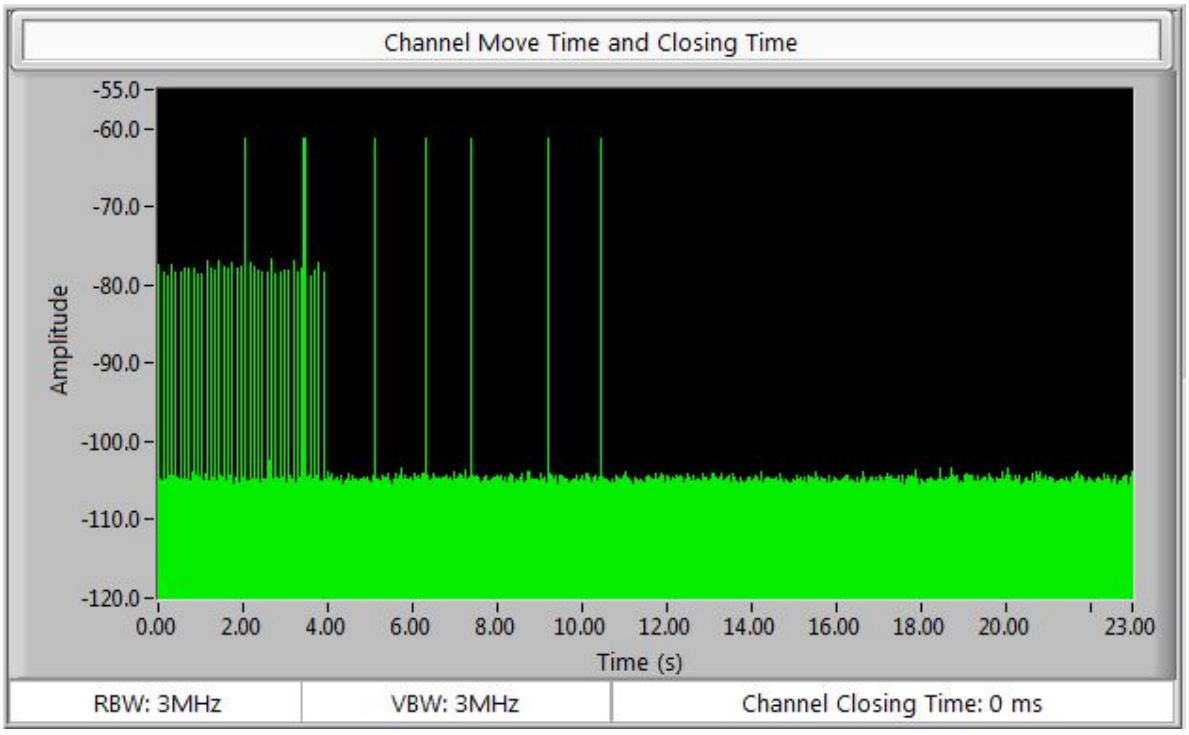


Channel Closing Transmission Time and Move Time for Radar Type 5

Test Result-5300MHz

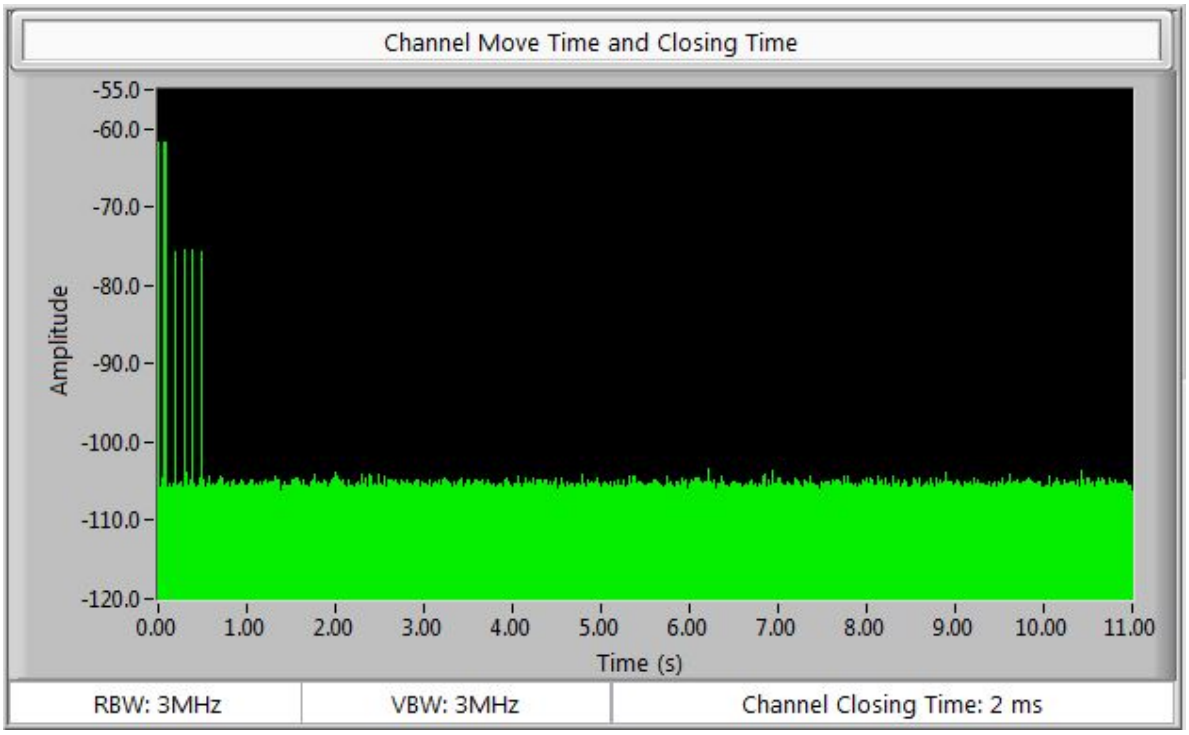


Test Result-5580MHz

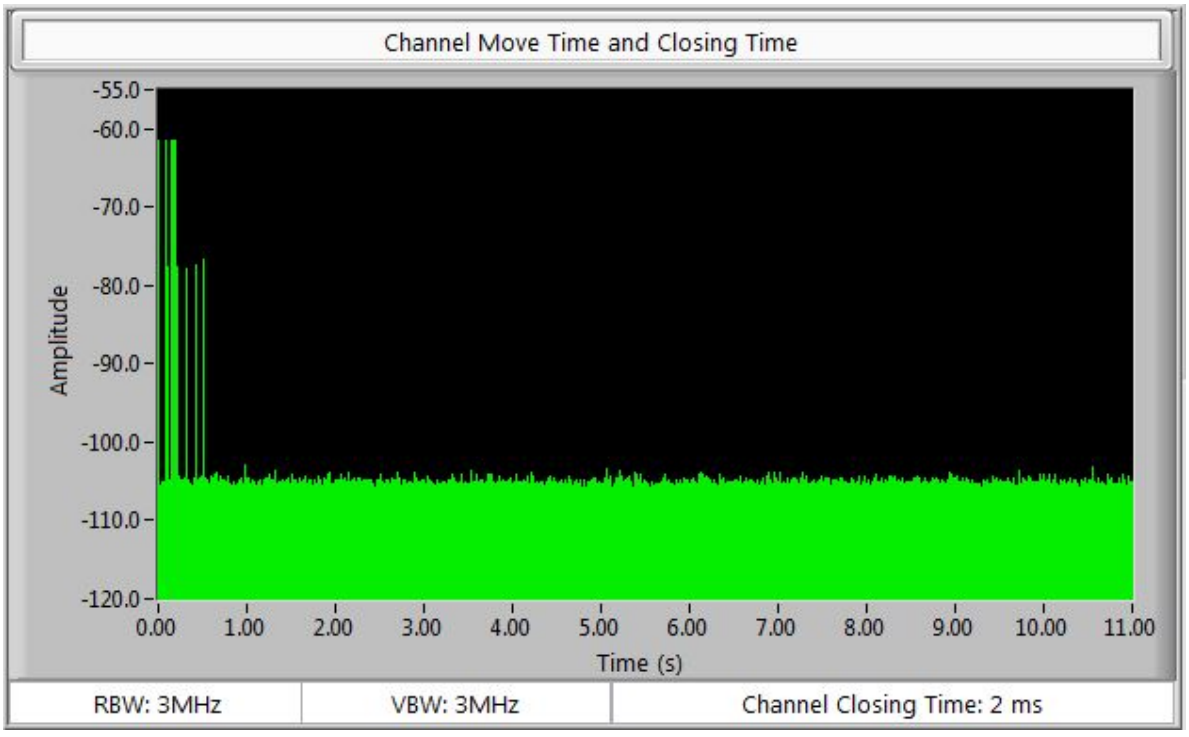


Channel Closing Transmission Time and Move Time for Radar Type 6

Test Result-5300MHz



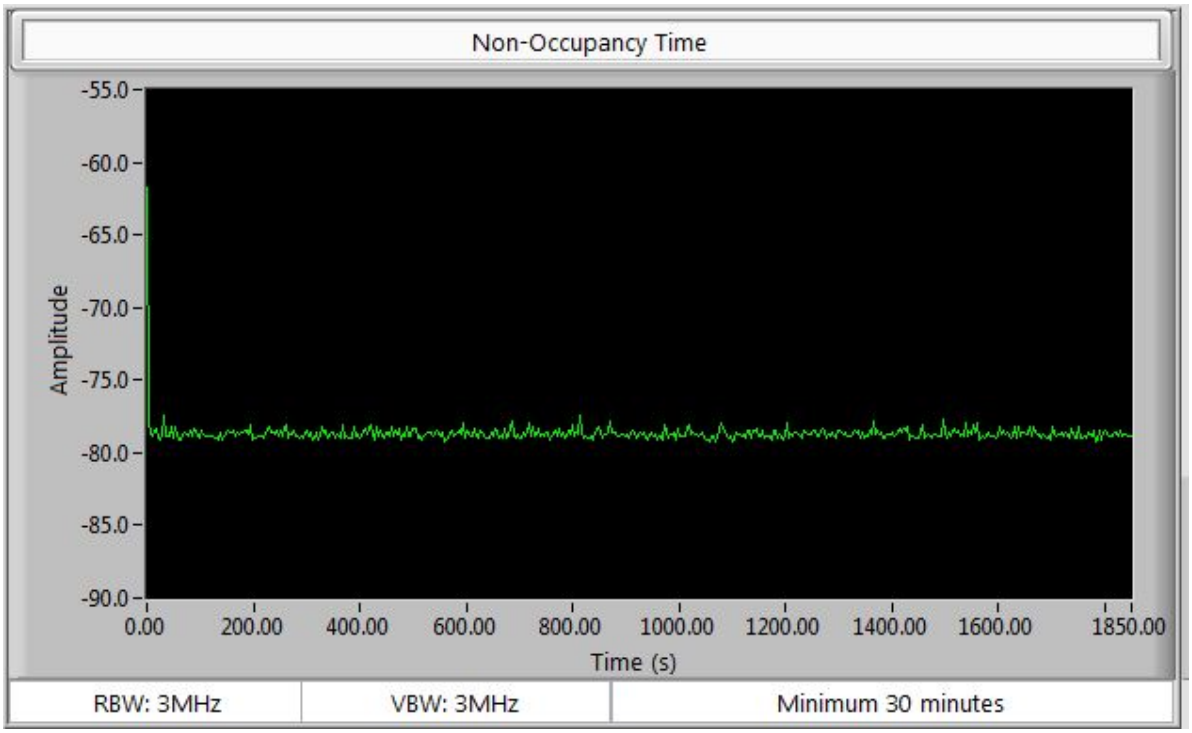
Test Result-5580MHz



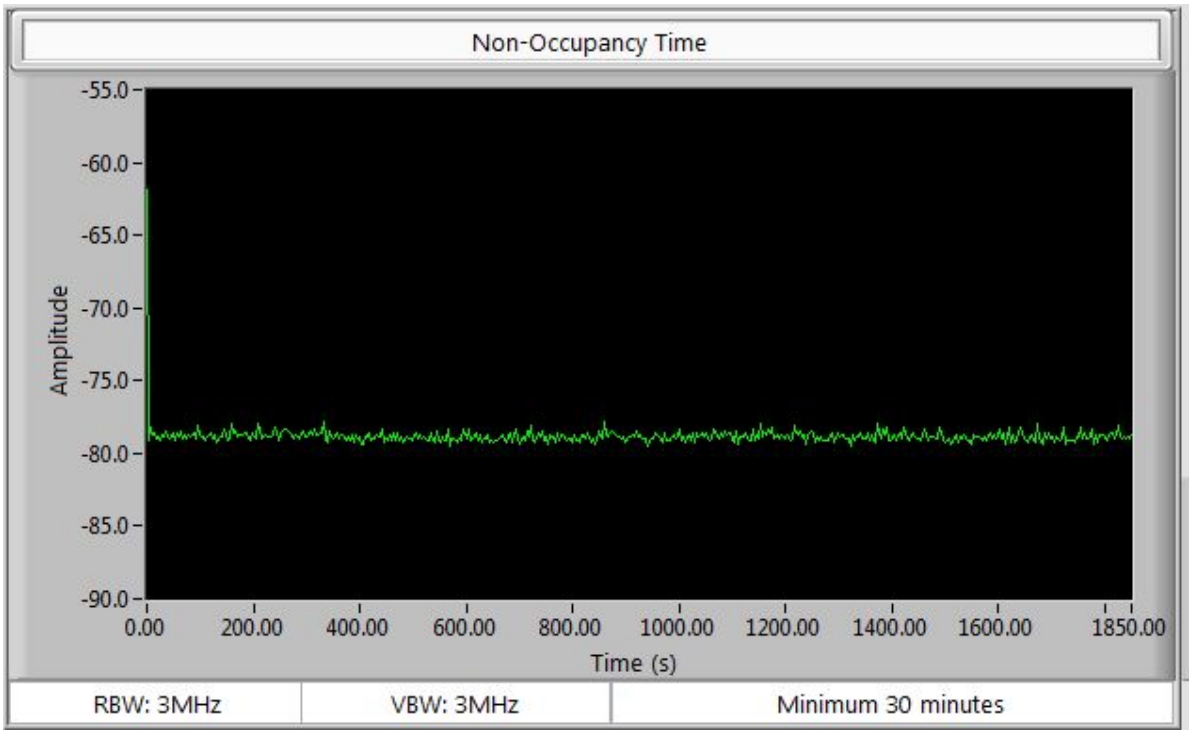
The EUT is monitor for more than 30 minutes following the close/move time to and verifying no transmissions resume on that channel.

30 Minutes Non –Occupancy Time

Test Result-5300MHz



Test Result-5580MHz



Statistical Performance Check-802.11a

Statistical Performance Check. 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 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 Low, Mid and High Channel. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

The Radar Waveform generator sends the individual waveform for each of the radar types 1-6 at -62dbm. 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

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

The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in the Radar Test Waveforms section.

Radar Type 1

Test Result-5300MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5298	FCC Radar Type 1	Waveform 1	Completed	Yes
2	5297	FCC Radar Type 1	Waveform 2	Completed	Yes
3	5296	FCC Radar Type 1	Waveform 3	Completed	Yes
4	5295	FCC Radar Type 1	Waveform 4	Completed	Yes
5	5294	FCC Radar Type 1	Waveform 5	Completed	Yes
6	5293	FCC Radar Type 1	Waveform 6	Completed	Yes
7	5292	FCC Radar Type 1	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 1	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 1	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 1	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 1	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 1	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 1	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 1	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 1	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 1	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 1	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 1	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 1	Waveform 19	Completed	Yes
20	5292	FCC Radar Type 1	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 1	Waveform 21	Completed	Yes
22	5290	FCC Radar Type 1	Waveform 22	Completed	Yes
23	5291	FCC Radar Type 1	Waveform 23	Completed	Yes
24	5290	FCC Radar Type 1	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 1	Waveform 25	Completed	Yes
26	5309	FCC Radar Type 1	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 1	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 1	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 1	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 1	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.000					

Test Result-5580MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5578	FCC Radar Type 1	Waveform 1	Completed	Yes
2	5577	FCC Radar Type 1	Waveform 2	Completed	Yes
3	5576	FCC Radar Type 1	Waveform 3	Completed	Yes
4	5575	FCC Radar Type 1	Waveform 4	Completed	Yes
5	5574	FCC Radar Type 1	Waveform 5	Completed	Yes
6	5573	FCC Radar Type 1	Waveform 6	Completed	Yes
7	5572	FCC Radar Type 1	Waveform 7	Completed	Yes
8	5584	FCC Radar Type 1	Waveform 8	Completed	Yes
9	5583	FCC Radar Type 1	Waveform 9	Completed	Yes
10	5582	FCC Radar Type 1	Waveform 10	Completed	Yes
11	5581	FCC Radar Type 1	Waveform 11	Completed	Yes
12	5580	FCC Radar Type 1	Waveform 12	Completed	Yes
13	5579	FCC Radar Type 1	Waveform 13	Completed	Yes
14	5578	FCC Radar Type 1	Waveform 14	Completed	Yes
15	5577	FCC Radar Type 1	Waveform 15	Completed	Yes
16	5576	FCC Radar Type 1	Waveform 16	Completed	Yes
17	5575	FCC Radar Type 1	Waveform 17	Completed	Yes
18	5574	FCC Radar Type 1	Waveform 18	Completed	Yes
19	5573	FCC Radar Type 1	Waveform 19	Completed	Yes
20	5572	FCC Radar Type 1	Waveform 20	Completed	Yes
21	5571	FCC Radar Type 1	Waveform 21	Completed	Yes
22	5570	FCC Radar Type 1	Waveform 22	Completed	Yes
23	5571	FCC Radar Type 1	Waveform 23	Completed	Yes
24	5570	FCC Radar Type 1	Waveform 24	Completed	Yes
25	5590	FCC Radar Type 1	Waveform 25	Completed	Yes
26	5589	FCC Radar Type 1	Waveform 26	Completed	Yes
27	5588	FCC Radar Type 1	Waveform 27	Completed	Yes
28	5587	FCC Radar Type 1	Waveform 28	Completed	Yes
29	5586	FCC Radar Type 1	Waveform 29	Completed	Yes
30	5585	FCC Radar Type 1	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.000					

Radar Type 2

Test Result-5300MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5298	FCC Radar Type 2	Waveform 1	Completed	Yes
2	5297	FCC Radar Type 2	Waveform 2	Completed	Yes
3	5296	FCC Radar Type 2	Waveform 3	Completed	Yes
4	5295	FCC Radar Type 2	Waveform 4	Completed	Yes
5	5294	FCC Radar Type 2	Waveform 5	Completed	Yes
6	5293	FCC Radar Type 2	Waveform 6	Completed	Yes
7	5292	FCC Radar Type 2	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 2	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 2	Waveform 9	Completed	No
10	5302	FCC Radar Type 2	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 2	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 2	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 2	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 2	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 2	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 2	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 2	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 2	Waveform 19	Completed	No
19	5293	FCC Radar Type 2	Waveform 20	Completed	Yes
20	5292	FCC Radar Type 2	Waveform 21	Completed	Yes
21	5291	FCC Radar Type 2	Waveform 22	Completed	Yes
22	5290	FCC Radar Type 2	Waveform 23	Completed	Yes
23	5291	FCC Radar Type 2	Waveform 24	Completed	Yes
24	5290	FCC Radar Type 2	Waveform 25	Completed	Yes
25	5310	FCC Radar Type 2	Waveform 26	Completed	Yes
26	5309	FCC Radar Type 2	Waveform 27	Completed	Yes
27	5308	FCC Radar Type 2	Waveform 28	Completed	Yes
28	5307	FCC Radar Type 2	Waveform 29	Completed	Yes
29	5306	FCC Radar Type 2	Waveform 30	Completed	Yes
30	5305	FCC Radar Type 2	Waveform 18	Completed	Yes
Detection Probability Rate %: 93.333					

Test Result-5580MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5578	FCC Radar Type 2	Waveform 1	Completed	Yes
2	5577	FCC Radar Type 2	Waveform 2	Completed	Yes
3	5576	FCC Radar Type 2	Waveform 3	Completed	Yes
4	5575	FCC Radar Type 2	Waveform 4	Completed	Yes
5	5574	FCC Radar Type 2	Waveform 5	Completed	Yes
6	5573	FCC Radar Type 2	Waveform 6	Completed	Yes
7	5572	FCC Radar Type 2	Waveform 7	Completed	Yes
8	5584	FCC Radar Type 2	Waveform 8	Completed	Yes
9	5583	FCC Radar Type 2	Waveform 9	Completed	No
10	5582	FCC Radar Type 2	Waveform 10	Completed	Yes
11	5581	FCC Radar Type 2	Waveform 11	Completed	Yes
12	5580	FCC Radar Type 2	Waveform 12	Completed	Yes
13	5579	FCC Radar Type 2	Waveform 13	Completed	Yes
14	5578	FCC Radar Type 2	Waveform 14	Completed	Yes
15	5577	FCC Radar Type 2	Waveform 15	Completed	Yes
16	5576	FCC Radar Type 2	Waveform 16	Completed	Yes
17	5575	FCC Radar Type 2	Waveform 17	Completed	Yes
18	5574	FCC Radar Type 2	Waveform 19	Completed	No
19	5573	FCC Radar Type 2	Waveform 20	Completed	Yes
20	5572	FCC Radar Type 2	Waveform 21	Completed	Yes
21	5571	FCC Radar Type 2	Waveform 22	Completed	Yes
22	5570	FCC Radar Type 2	Waveform 23	Completed	Yes
23	5571	FCC Radar Type 2	Waveform 24	Completed	Yes
24	5570	FCC Radar Type 2	Waveform 25	Completed	Yes
25	5590	FCC Radar Type 2	Waveform 26	Completed	Yes
26	5589	FCC Radar Type 2	Waveform 27	Completed	Yes
27	5588	FCC Radar Type 2	Waveform 28	Completed	Yes
28	5587	FCC Radar Type 2	Waveform 29	Completed	Yes
29	5586	FCC Radar Type 2	Waveform 30	Completed	Yes
30	5585	FCC Radar Type 2	Waveform 18	Completed	Yes
Detection Probability Rate %: 93.333					

Radar Type 3

Test Result-5300MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5298	FCC Radar Type 3	Waveform 1	Completed	Yes
2	5297	FCC Radar Type 3	Waveform 2	Completed	Yes
3	5296	FCC Radar Type 3	Waveform 3	Completed	Yes
4	5295	FCC Radar Type 3	Waveform 4	Completed	Yes
5	5294	FCC Radar Type 3	Waveform 5	Completed	Yes
6	5293	FCC Radar Type 3	Waveform 6	Completed	Yes
7	5292	FCC Radar Type 3	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 3	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 3	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 3	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 3	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 3	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 3	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 3	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 3	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 3	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 3	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 3	Waveform 19	Completed	Yes
19	5293	FCC Radar Type 3	Waveform 20	Completed	Yes
20	5292	FCC Radar Type 3	Waveform 21	Completed	Yes
21	5291	FCC Radar Type 3	Waveform 22	Completed	Yes
22	5290	FCC Radar Type 3	Waveform 23	Completed	Yes
23	5291	FCC Radar Type 3	Waveform 24	Completed	Yes
24	5290	FCC Radar Type 3	Waveform 25	Completed	Yes
25	5310	FCC Radar Type 3	Waveform 26	Completed	Yes
26	5309	FCC Radar Type 3	Waveform 27	Completed	Yes
27	5308	FCC Radar Type 2	Waveform 28	Completed	Yes
28	5307	FCC Radar Type 3	Waveform 29	Completed	Yes
29	5306	FCC Radar Type 3	Waveform 30	Completed	Yes
30	5305	FCC Radar Type 3	Waveform 18	Completed	Yes
Detection Probability Rate %: 100.00					

Test Result-5580MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5578	FCC Radar Type 3	Waveform 1	Completed	Yes
2	5577	FCC Radar Type 3	Waveform 2	Completed	Yes
3	5576	FCC Radar Type 3	Waveform 3	Completed	Yes
4	5575	FCC Radar Type 3	Waveform 4	Completed	Yes
5	5574	FCC Radar Type 3	Waveform 5	Completed	Yes
6	5573	FCC Radar Type 3	Waveform 6	Completed	Yes
7	5572	FCC Radar Type 3	Waveform 7	Completed	Yes
8	5584	FCC Radar Type 3	Waveform 8	Completed	Yes
9	5583	FCC Radar Type 3	Waveform 9	Completed	Yes
10	5582	FCC Radar Type 3	Waveform 10	Completed	Yes
11	5581	FCC Radar Type 3	Waveform 11	Completed	Yes
12	5580	FCC Radar Type 3	Waveform 12	Completed	Yes
13	5579	FCC Radar Type 3	Waveform 13	Completed	Yes
14	5578	FCC Radar Type 3	Waveform 14	Completed	Yes
15	5577	FCC Radar Type 3	Waveform 15	Completed	Yes
16	5576	FCC Radar Type 3	Waveform 16	Completed	Yes
17	5575	FCC Radar Type 3	Waveform 17	Completed	Yes
18	5574	FCC Radar Type 3	Waveform 19	Completed	Yes
19	5573	FCC Radar Type 3	Waveform 20	Completed	Yes
20	5572	FCC Radar Type 3	Waveform 21	Completed	Yes
21	5571	FCC Radar Type 3	Waveform 22	Completed	Yes
22	5570	FCC Radar Type 3	Waveform 23	Completed	Yes
23	5571	FCC Radar Type 3	Waveform 24	Completed	Yes
24	5570	FCC Radar Type 3	Waveform 25	Completed	Yes
25	5590	FCC Radar Type 3	Waveform 26	Completed	Yes
26	5589	FCC Radar Type 3	Waveform 27	Completed	Yes
27	5588	FCC Radar Type 2	Waveform 28	Completed	Yes
28	5587	FCC Radar Type 3	Waveform 29	Completed	Yes
29	5586	FCC Radar Type 3	Waveform 30	Completed	Yes
30	5585	FCC Radar Type 3	Waveform 18	Completed	Yes
Detection Probability Rate %: 100.00					

Radar Type 4

Test Result-5300MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5298	FCC Radar Type 4	Waveform 1	Completed	Yes
2	5297	FCC Radar Type 4	Waveform 2	Completed	Yes
3	5296	FCC Radar Type 4	Waveform 3	Completed	Yes
4	5295	FCC Radar Type 4	Waveform 4	Completed	Yes
5	5294	FCC Radar Type 4	Waveform 5	Completed	Yes
6	5293	FCC Radar Type 4	Waveform 6	Completed	Yes
7	5292	FCC Radar Type 4	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 4	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 4	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 4	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 4	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 4	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 4	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 4	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 4	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 4	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 4	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 4	Waveform 19	Completed	Yes
19	5293	FCC Radar Type 4	Waveform 20	Completed	Yes
20	5292	FCC Radar Type 4	Waveform 21	Completed	Yes
21	5291	FCC Radar Type 4	Waveform 22	Completed	Yes
22	5290	FCC Radar Type 4	Waveform 23	Completed	Yes
23	5291	FCC Radar Type 4	Waveform 24	Completed	Yes
24	5290	FCC Radar Type 4	Waveform 25	Completed	Yes
25	5310	FCC Radar Type 4	Waveform 26	Completed	Yes
26	5309	FCC Radar Type 4	Waveform 27	Completed	Yes
27	5308	FCC Radar Type 4	Waveform 28	Completed	Yes
28	5307	FCC Radar Type 4	Waveform 29	Completed	Yes
29	5306	FCC Radar Type 4	Waveform 30	Completed	Yes
30	5305	FCC Radar Type 4	Waveform 18	Completed	Yes
Detection Probability Rate %: 100.00					

Test Result-5580MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5578	FCC Radar Type 4	Waveform 1	Completed	Yes
2	5577	FCC Radar Type 4	Waveform 2	Completed	Yes
3	5576	FCC Radar Type 4	Waveform 3	Completed	Yes
4	5575	FCC Radar Type 4	Waveform 4	Completed	Yes
5	5574	FCC Radar Type 4	Waveform 5	Completed	Yes
6	5573	FCC Radar Type 4	Waveform 6	Completed	Yes
7	5572	FCC Radar Type 4	Waveform 7	Completed	Yes
8	5584	FCC Radar Type 4	Waveform 8	Completed	Yes
9	5583	FCC Radar Type 4	Waveform 9	Completed	Yes
10	5582	FCC Radar Type 4	Waveform 10	Completed	Yes
11	5581	FCC Radar Type 4	Waveform 11	Completed	Yes
12	5580	FCC Radar Type 4	Waveform 12	Completed	Yes
13	5579	FCC Radar Type 4	Waveform 13	Completed	Yes
14	5578	FCC Radar Type 4	Waveform 14	Completed	Yes
15	5577	FCC Radar Type 4	Waveform 15	Completed	Yes
16	5576	FCC Radar Type 4	Waveform 16	Completed	Yes
17	5575	FCC Radar Type 4	Waveform 17	Completed	Yes
18	5574	FCC Radar Type 4	Waveform 19	Completed	Yes
19	5573	FCC Radar Type 4	Waveform 20	Completed	Yes
20	5572	FCC Radar Type 4	Waveform 21	Completed	Yes
21	5571	FCC Radar Type 4	Waveform 22	Completed	Yes
22	5570	FCC Radar Type 4	Waveform 23	Completed	Yes
23	5571	FCC Radar Type 4	Waveform 24	Completed	Yes
24	5570	FCC Radar Type 4	Waveform 25	Completed	Yes
25	5590	FCC Radar Type 4	Waveform 26	Completed	Yes
26	5589	FCC Radar Type 4	Waveform 27	Completed	Yes
27	5588	FCC Radar Type 4	Waveform 28	Completed	Yes
28	5587	FCC Radar Type 4	Waveform 29	Completed	Yes
29	5586	FCC Radar Type 4	Waveform 30	Completed	Yes
30	5585	FCC Radar Type 4	Waveform 18	Completed	Yes
Detection Probability Rate %: 100.00					

Radar Type 5

Test Result-5300MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5298	FCC Radar Type 5	Waveform 1	Completed	Yes
2	5297	FCC Radar Type 5	Waveform 2	Completed	Yes
3	5296	FCC Radar Type 5	Waveform 3	Completed	Yes
4	5295	FCC Radar Type 5	Waveform 4	Completed	Yes
5	5294	FCC Radar Type 5	Waveform 5	Completed	Yes
6	5293	FCC Radar Type 5	Waveform 6	Completed	Yes
7	5292	FCC Radar Type 5	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 5	Waveform 8	Completed	No
9	5303	FCC Radar Type 5	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 5	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 5	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 5	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 5	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 5	Waveform 14	Completed	No
15	5297	FCC Radar Type 5	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 5	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 5	Waveform 17	Completed	No
18	5294	FCC Radar Type 5	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 5	Waveform 19	Completed	No
20	5292	FCC Radar Type 5	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 5	Waveform 21	Completed	No
22	5290	FCC Radar Type 5	Waveform 22	Completed	Yes
23	5291	FCC Radar Type 5	Waveform 23	Completed	Yes
24	5290	FCC Radar Type 5	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 5	Waveform 25	Completed	No
26	5309	FCC Radar Type 5	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 5	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 5	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 5	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 5	Waveform 30	Completed	Yes
					Detection Probability Rate %: 80.00

Test Result-5580MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5578	FCC Radar Type 5	Waveform 1	Completed	Yes
2	5577	FCC Radar Type 5	Waveform 2	Completed	Yes
3	5576	FCC Radar Type 5	Waveform 3	Completed	Yes
4	5575	FCC Radar Type 5	Waveform 4	Completed	Yes
5	5574	FCC Radar Type 5	Waveform 5	Completed	Yes
6	5573	FCC Radar Type 5	Waveform 6	Completed	Yes
7	5572	FCC Radar Type 5	Waveform 7	Completed	Yes
8	5584	FCC Radar Type 5	Waveform 8	Completed	No
9	5583	FCC Radar Type 5	Waveform 9	Completed	Yes
10	5582	FCC Radar Type 5	Waveform 10	Completed	Yes
11	5581	FCC Radar Type 5	Waveform 11	Completed	Yes
12	5580	FCC Radar Type 5	Waveform 12	Completed	Yes
13	5579	FCC Radar Type 5	Waveform 13	Completed	Yes
14	5578	FCC Radar Type 5	Waveform 14	Completed	No
15	5577	FCC Radar Type 5	Waveform 15	Completed	Yes
16	5576	FCC Radar Type 5	Waveform 16	Completed	Yes
17	5575	FCC Radar Type 5	Waveform 17	Completed	No
18	5574	FCC Radar Type 5	Waveform 18	Completed	Yes
19	5573	FCC Radar Type 5	Waveform 19	Completed	No
20	5572	FCC Radar Type 5	Waveform 20	Completed	Yes
21	5571	FCC Radar Type 5	Waveform 21	Completed	No
22	5570	FCC Radar Type 5	Waveform 22	Completed	Yes
23	5571	FCC Radar Type 5	Waveform 23	Completed	Yes
24	5570	FCC Radar Type 5	Waveform 24	Completed	Yes
25	5590	FCC Radar Type 5	Waveform 25	Completed	No
26	5589	FCC Radar Type 5	Waveform 26	Completed	Yes
27	5588	FCC Radar Type 5	Waveform 27	Completed	Yes
28	5587	FCC Radar Type 5	Waveform 28	Completed	Yes
29	5586	FCC Radar Type 5	Waveform 29	Completed	Yes
30	5585	FCC Radar Type 5	Waveform 30	Completed	Yes
					Detection Probability Rate %: 80.00

*Please see the Annex B for Radar Type 5 waveform characteristic

Radar Type 6

Test Result-5300MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5298	FCC Radar Type 6	Waveform 1	Completed	Yes
2	5297	FCC Radar Type 6	Waveform 2	Completed	Yes
3	5296	FCC Radar Type 6	Waveform 3	Completed	Yes
4	5295	FCC Radar Type 6	Waveform 4	Completed	Yes
5	5294	FCC Radar Type 6	Waveform 5	Completed	Yes
6	5293	FCC Radar Type 6	Waveform 6	Completed	Yes
7	5292	FCC Radar Type 6	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 6	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 6	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 6	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 6	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 6	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 6	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 6	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 6	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 6	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 6	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 6	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 6	Waveform 19	Completed	Yes
20	5292	FCC Radar Type 6	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 6	Waveform 21	Completed	Yes
22	5290	FCC Radar Type 6	Waveform 22	Completed	Yes
23	5291	FCC Radar Type 6	Waveform 23	Completed	Yes
24	5290	FCC Radar Type 6	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 6	Waveform 25	Completed	Yes
26	5309	FCC Radar Type 6	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 6	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 6	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 6	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 6	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.00					

Test Result-5580MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5578	FCC Radar Type 6	Waveform 1	Completed	Yes
2	5577	FCC Radar Type 6	Waveform 2	Completed	Yes
3	5576	FCC Radar Type 6	Waveform 3	Completed	Yes
4	5575	FCC Radar Type 6	Waveform 4	Completed	Yes
5	5574	FCC Radar Type 6	Waveform 5	Completed	Yes
6	5573	FCC Radar Type 6	Waveform 6	Completed	Yes
7	5572	FCC Radar Type 6	Waveform 7	Completed	Yes
8	5584	FCC Radar Type 6	Waveform 8	Completed	Yes
9	5583	FCC Radar Type 6	Waveform 9	Completed	Yes
10	5582	FCC Radar Type 6	Waveform 10	Completed	Yes
11	5581	FCC Radar Type 6	Waveform 11	Completed	Yes
12	5580	FCC Radar Type 6	Waveform 12	Completed	Yes
13	5579	FCC Radar Type 6	Waveform 13	Completed	Yes
14	5578	FCC Radar Type 6	Waveform 14	Completed	Yes
15	5577	FCC Radar Type 6	Waveform 15	Completed	Yes
16	5576	FCC Radar Type 6	Waveform 16	Completed	Yes
17	5575	FCC Radar Type 6	Waveform 17	Completed	Yes
18	5574	FCC Radar Type 6	Waveform 18	Completed	Yes
19	5573	FCC Radar Type 6	Waveform 19	Completed	Yes
20	5572	FCC Radar Type 6	Waveform 20	Completed	Yes
21	5571	FCC Radar Type 6	Waveform 21	Completed	Yes
22	5570	FCC Radar Type 6	Waveform 22	Completed	Yes
23	5571	FCC Radar Type 6	Waveform 23	Completed	Yes
24	5570	FCC Radar Type 6	Waveform 24	Completed	Yes
25	5590	FCC Radar Type 6	Waveform 25	Completed	Yes
26	5589	FCC Radar Type 6	Waveform 26	Completed	Yes
27	5588	FCC Radar Type 6	Waveform 27	Completed	Yes
28	5587	FCC Radar Type 6	Waveform 28	Completed	Yes
29	5586	FCC Radar Type 6	Waveform 29	Completed	Yes
30	5585	FCC Radar Type 6	Waveform 30	Completed	Yes
					Detection Probability Rate %: 100.00

5.1.5 DFS Test Results for channel bandwidth :802.11ac (40MHz)

UNII Detection Bandwidth 802.11ac

UNII Detection Bandwidth: All UNII channels for this device have identical Channel bandwidths and testing was performed on Mid Channel

The generating equipment is configured as shown in the Conducted Test Setup above. A single *Burst* of the short pulse radar type 1 is produced at Mid Channel at a -62 dBm level. The UUT 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 UUT is noted. The UUT 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 Fh

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 Fl.

The U-NII Detection Bandwidth is calculated as follows:

U-NII Detection Bandwidth = $F_H - F_L$

The U-NII Detection Bandwidth must be at least 80% of the UUT transmitter 99% power, otherwise, the UUT does not comply with DFS requirements.

Test Result

EUT Frequency = 5310MHz

Frequency (MHz)	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Detection Rate %
5290	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90.00%
5291	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5292	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5293	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5294	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5295	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5296	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5297	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5298	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5299	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5301	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5302	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5303	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5304	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5305	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5306	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5307	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5308	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5309	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5310	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5311	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5313	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5314	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5315	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5316	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5317	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5319	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5320	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5321	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5322	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5323	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5324	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5325	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5326	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5327	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%

5328	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5329	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5330	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	50.00%
Detection Bandwidth: 39 MHz											
Specification: at least 80% of 99% of EUT bandwidth= 30.208 MHz											

EUT Frequency = 5550MHz

Frequency (MHz)	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Detection Rate %
5530	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	90.00%
5531	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5532	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5533	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5534	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5535	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5536	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5537	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5538	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5539	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5540	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5541	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5542	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5543	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5544	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5545	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5546	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5547	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5548	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5549	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5550	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5551	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5552	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5553	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5554	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5555	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5556	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5557	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5558	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5559	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5560	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5561	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5562	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5563	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5564	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5565	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5566	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5567	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%

5568	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5569	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5570	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	90.00%
Detection Bandwidth: 40 MHz											
Specification: at least 80% of 99% of EUT bandwidth= 30.208 MHz											

Initial Channel Availability Check Time-802.11ac40

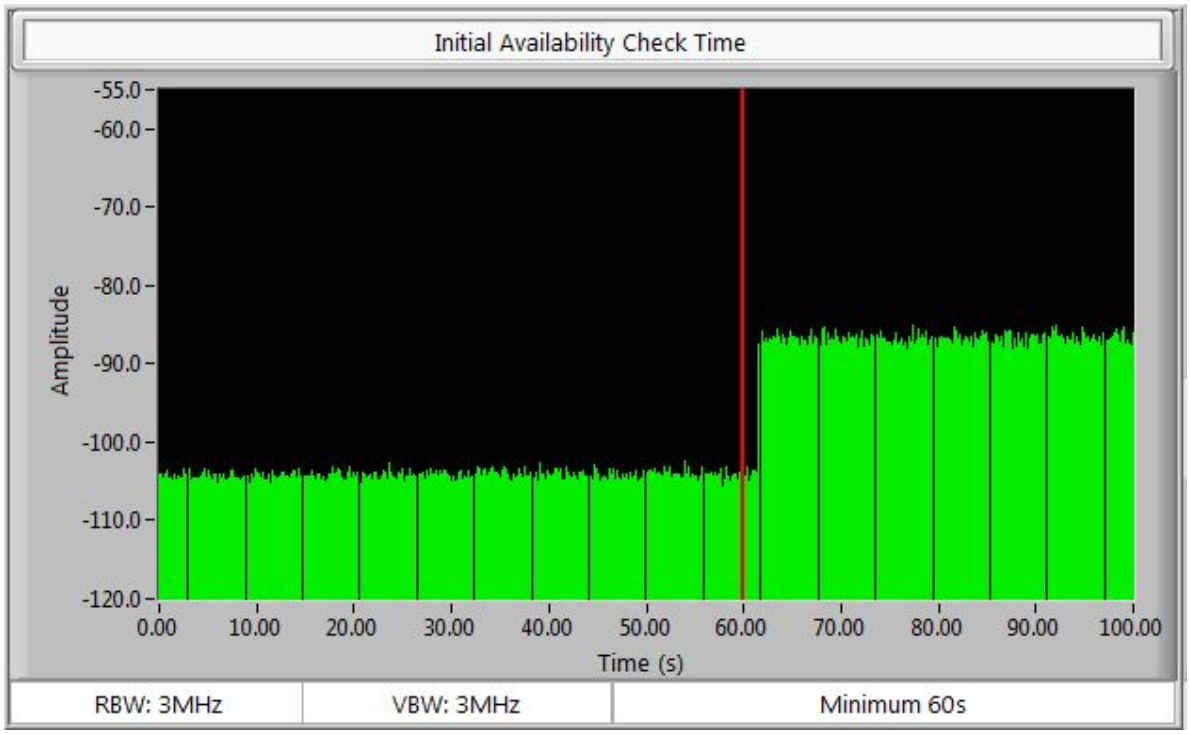
The Initial Channel Availability Check Time tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms and only needs to be performed one time.

The U-NII device is powered on and be instructed to operate at Low channel, Mid Channel or High channel. 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 low, mid can high channel with a 2.5 minute sweep time. The analyzer's sweep will be started the same time power is applied to the UNII device.

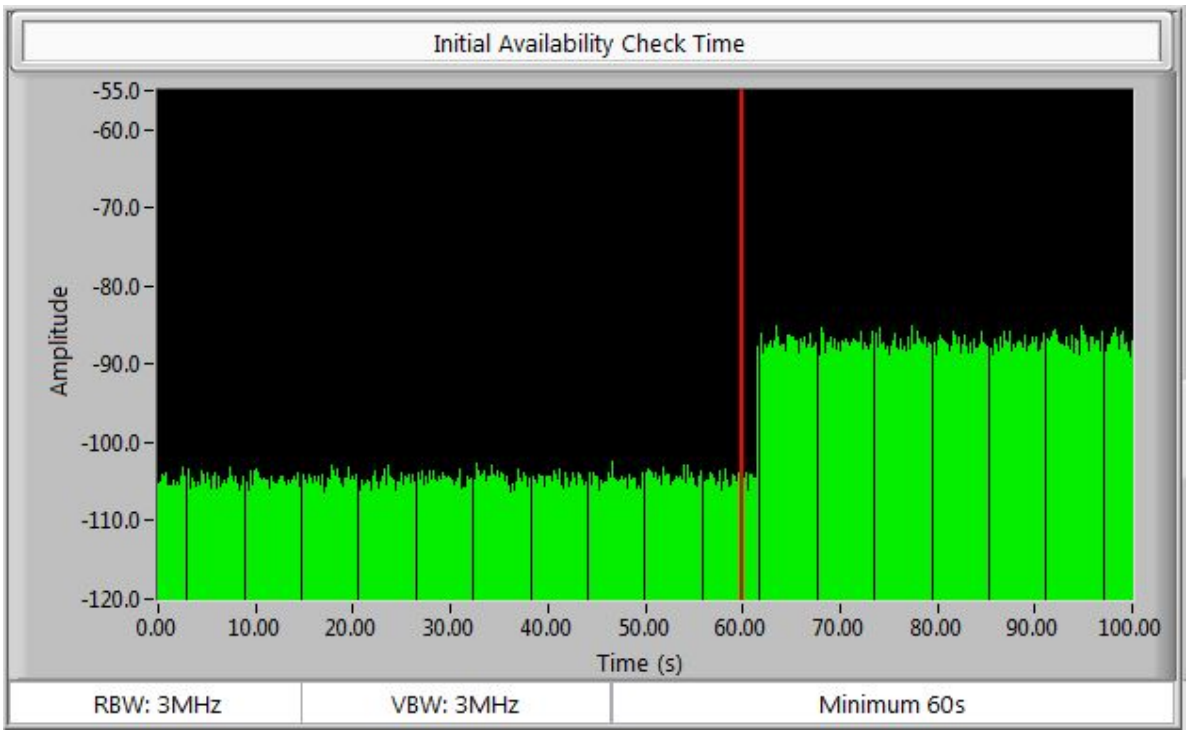
The UUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

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

Test Result-5310MHz



Test Result-5550MHz



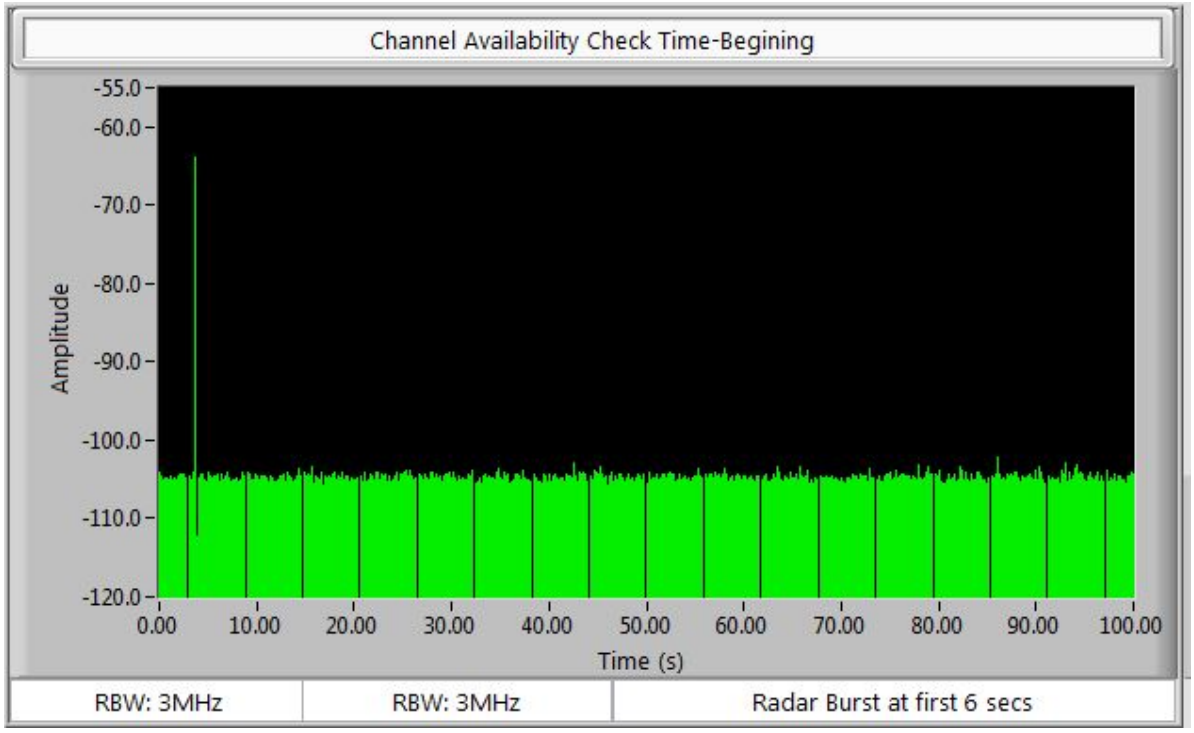
Radar Burst at the Beginning of the Channel Availability Check Time-802.11ac40

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

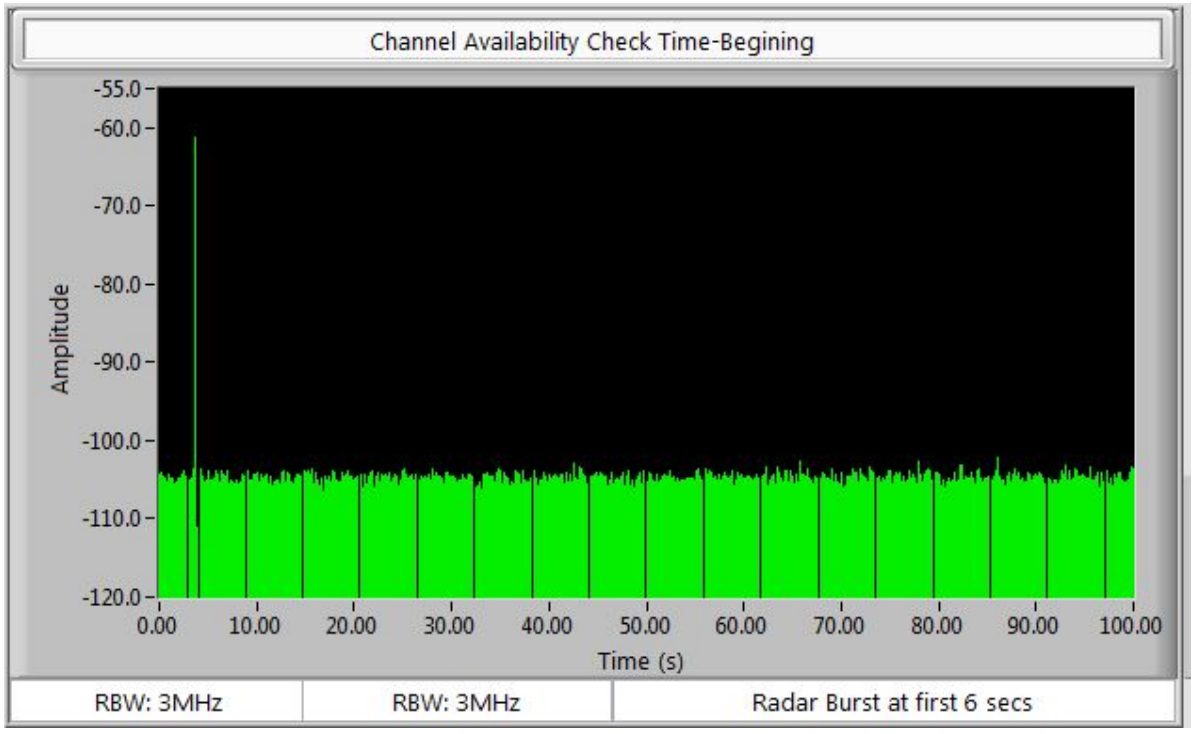
The UUT is powered on at T0. T1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of short pulse of radar type 1 at -62 dBm will commence within a 6 second window.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at mid channel. Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported.
Observation of emissions at center frequency of low channel, mid channel and high channel will continue for 2.5 minutes after the radar Burst has been generated.

Test Result-5310MHz



Test Result-5550MHz



Radar Burst at the End of the Channel Availability Check Time-802.11ac40

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

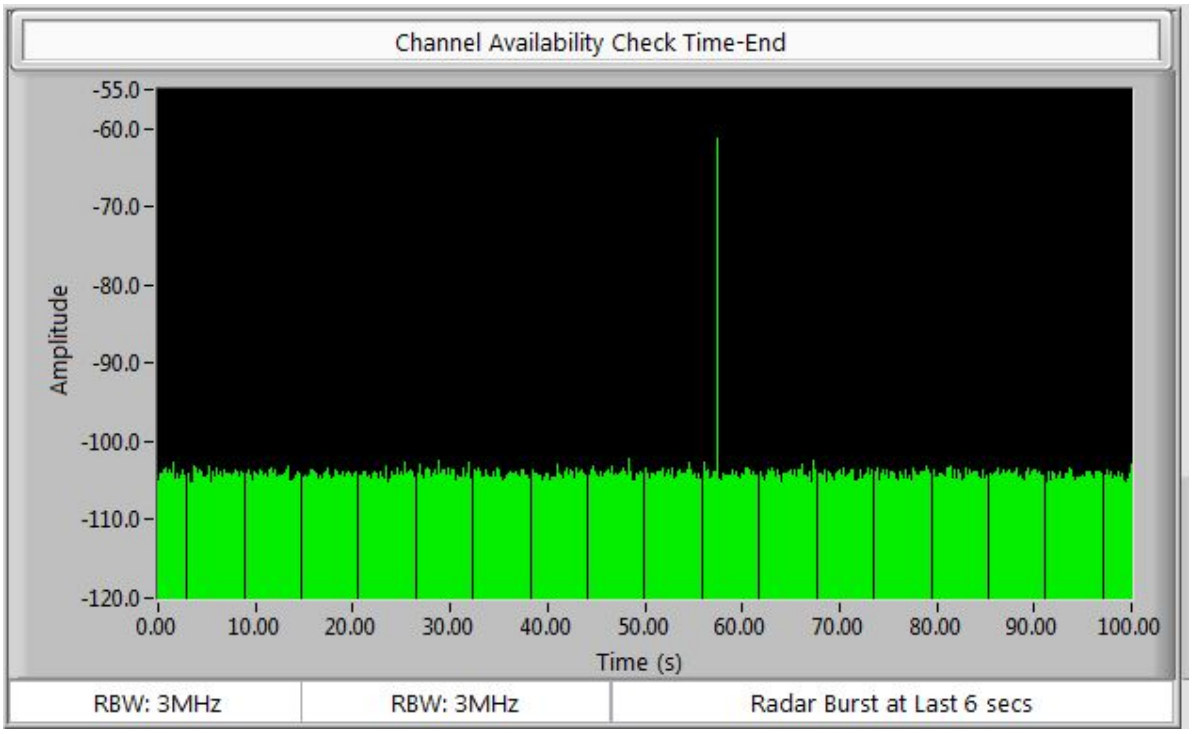
The UUT is powered on at T0. T1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds.

A single Burst of short pulse of radar type 1 at -62 dBm will commence within a last 6 second window.

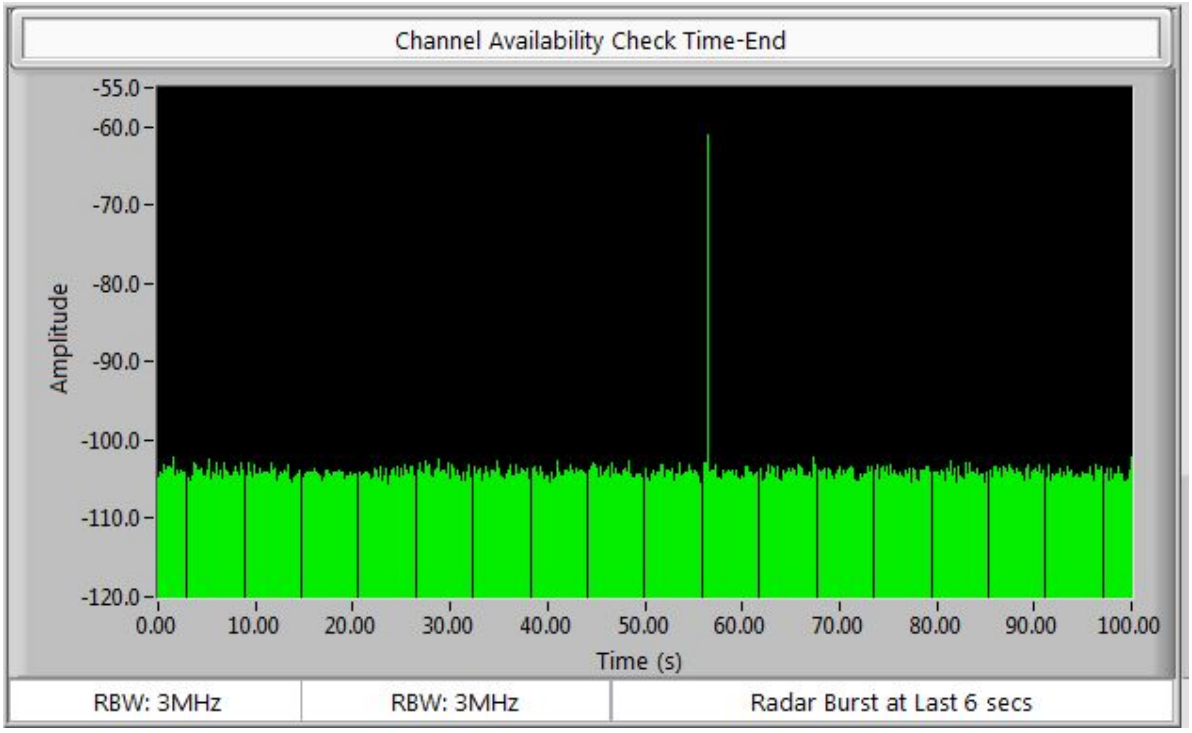
Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported.
Observation of emissions at center frequency of mid channel will continue for 2.5 minutes after the radar Burst has been generated.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at mid channel.

Test Result-5310MHz



Test Result-5550MHz



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

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

At time T0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at -62dBm.

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.

Channel Closing Transmission Time- Measurement

A type 1 waveform was introduced to the EUT and the Spectrum Analyzer sweep time was set to 1s for monitoring and capturing the plot. A LabView program was created to collect trace data and capturing the plot. The program will calculate the channel closing time base on the spectrum analyzer result. The result will be calculated base on FCC procedure.

C= N*Dwell

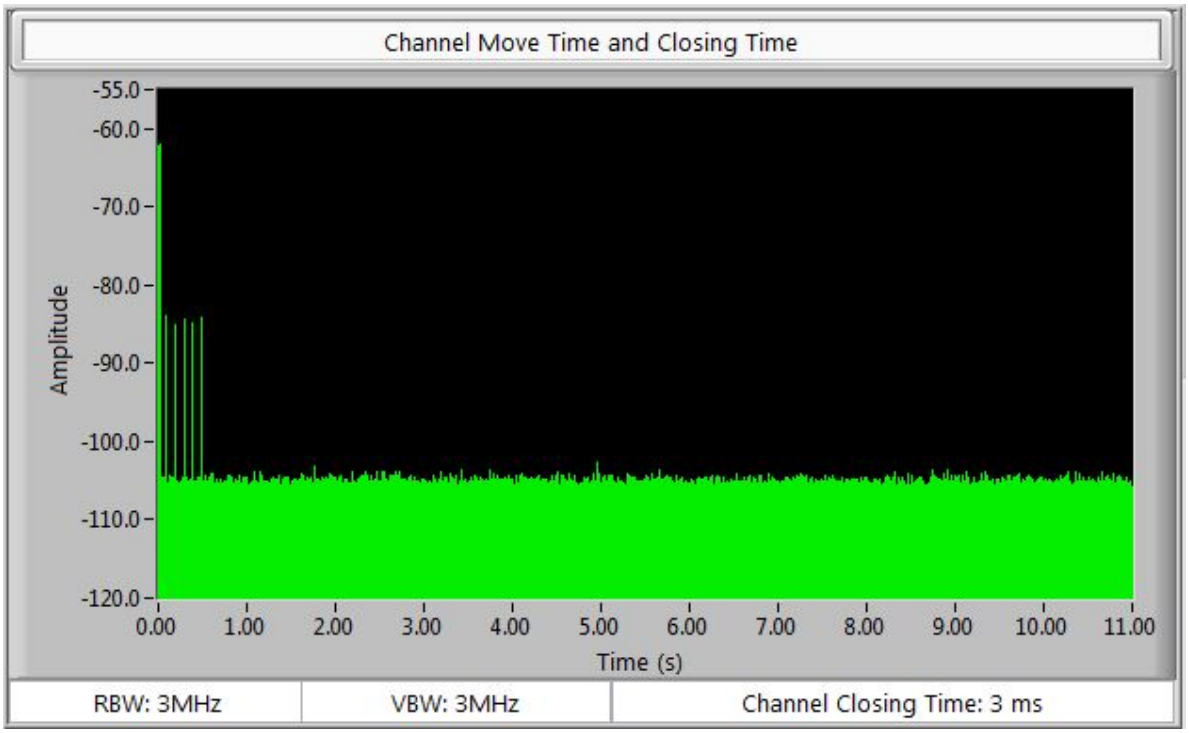
C is the closing time, N is the number of spectrum analyzer sampling bins showing a U-NII transmission and dwell is the dwell time per bin.

Dwell= S/B

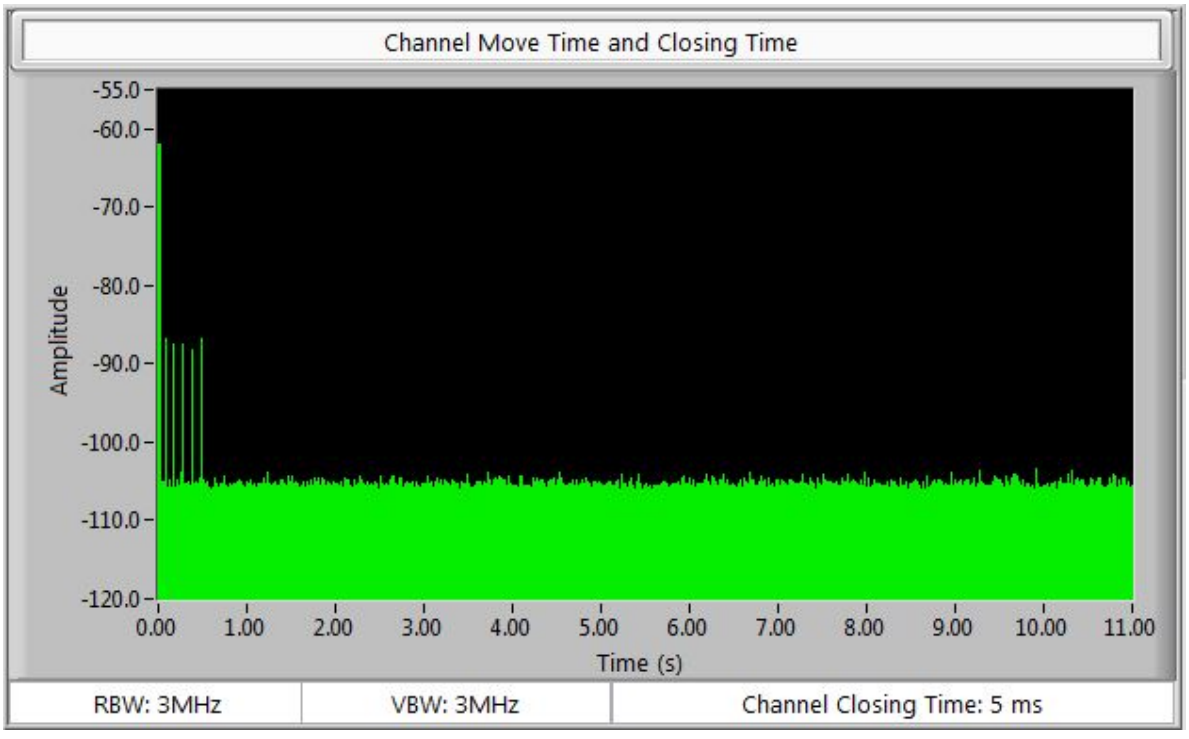
Where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number 0f spectrum analyzer sampling bins.

Channel Closing Transmission Time and Move Time for Radar Type 1

Test Result-5310MHz

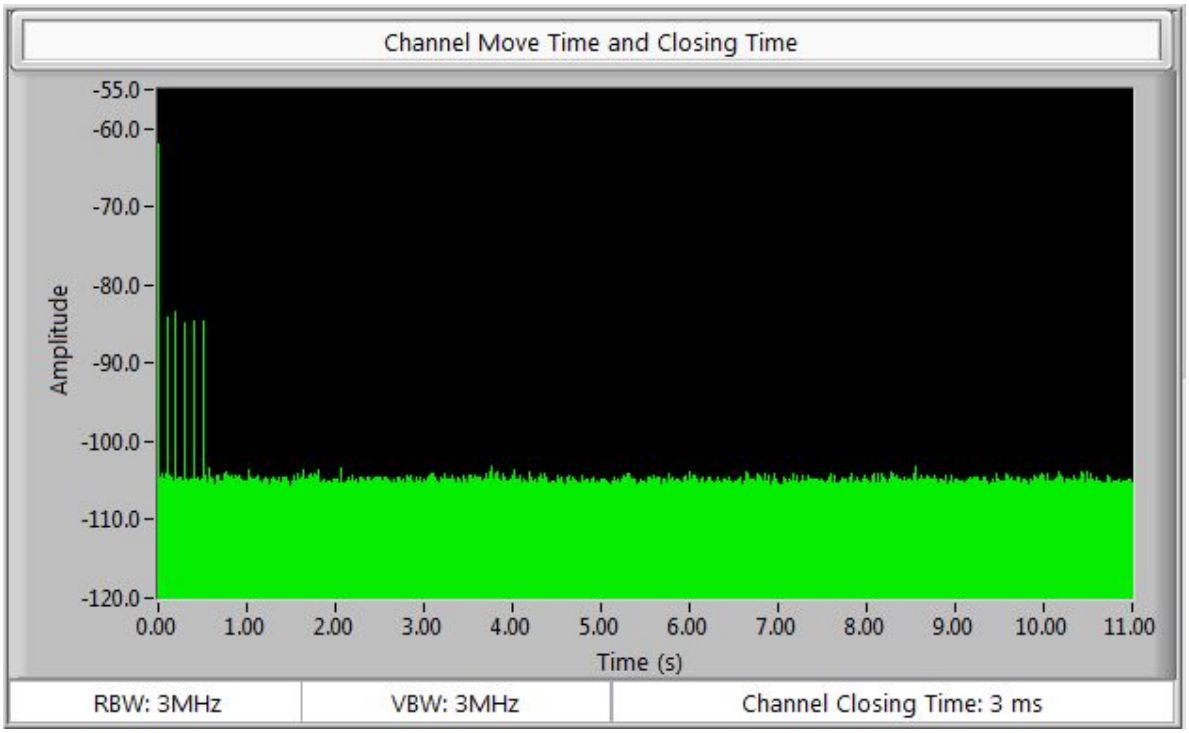


Test Result-5550MHz

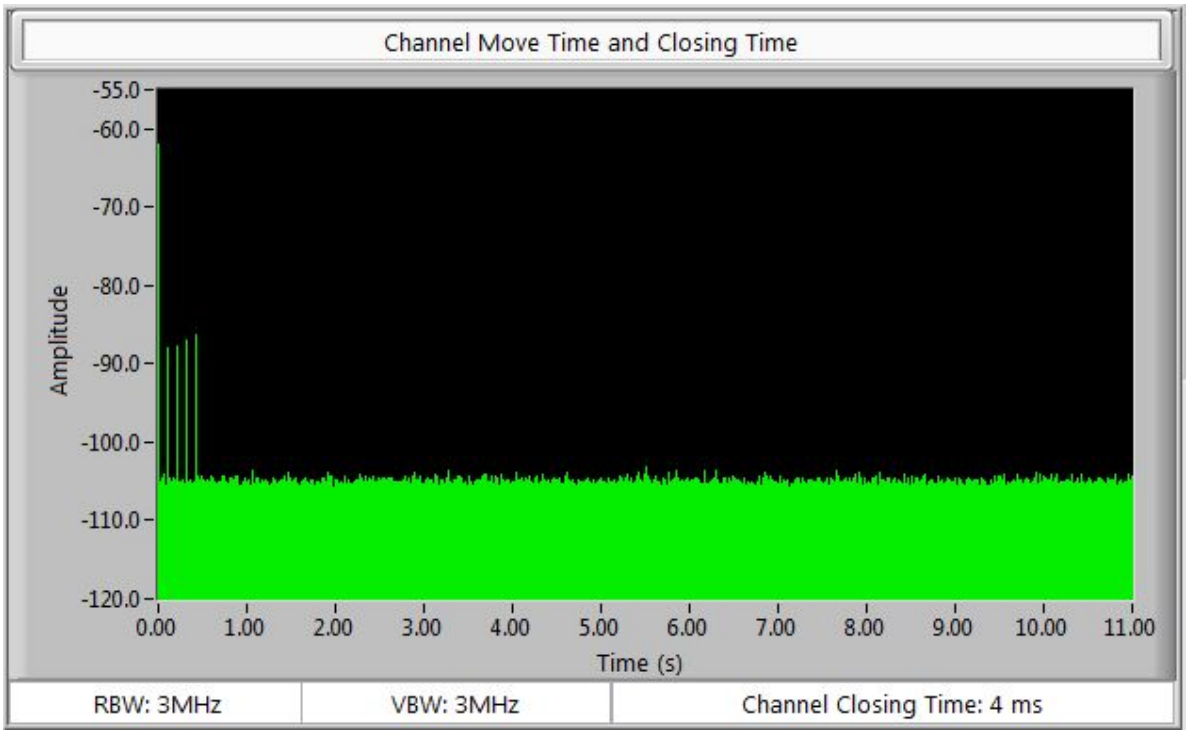


Channel Closing Transmission Time and Move Time for Radar Type 2

Test Result-5310MHz

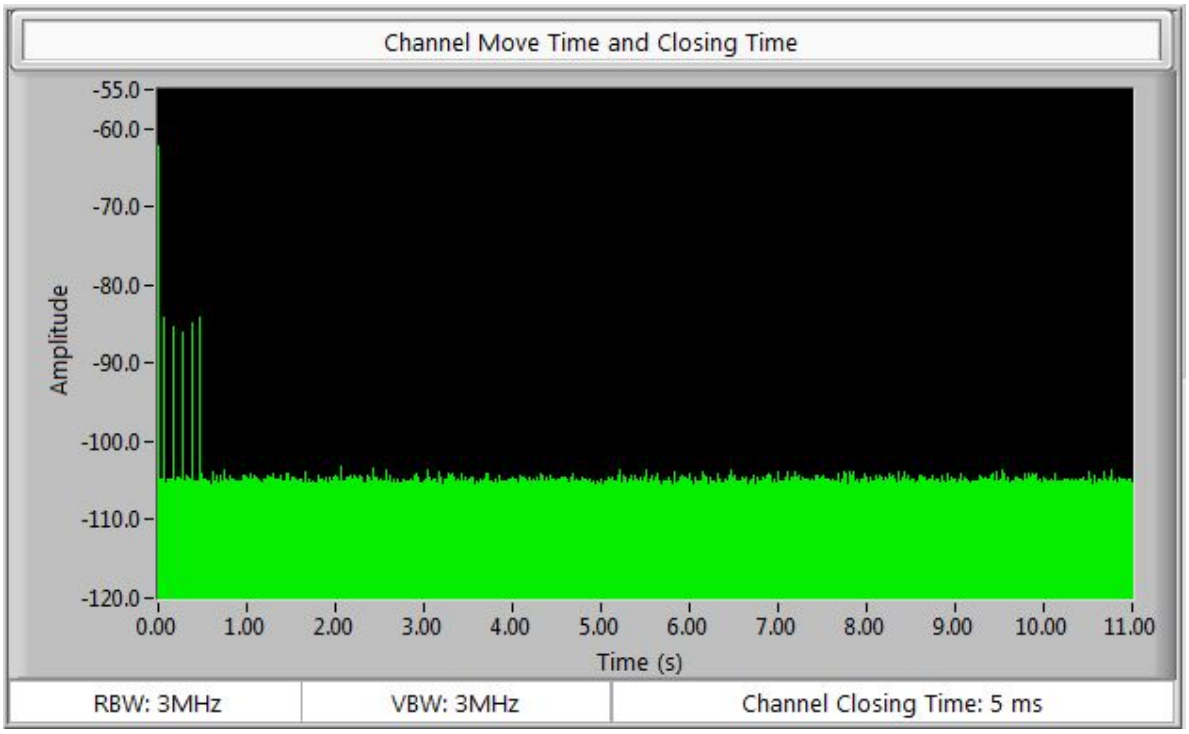


Test Result-5550MHz

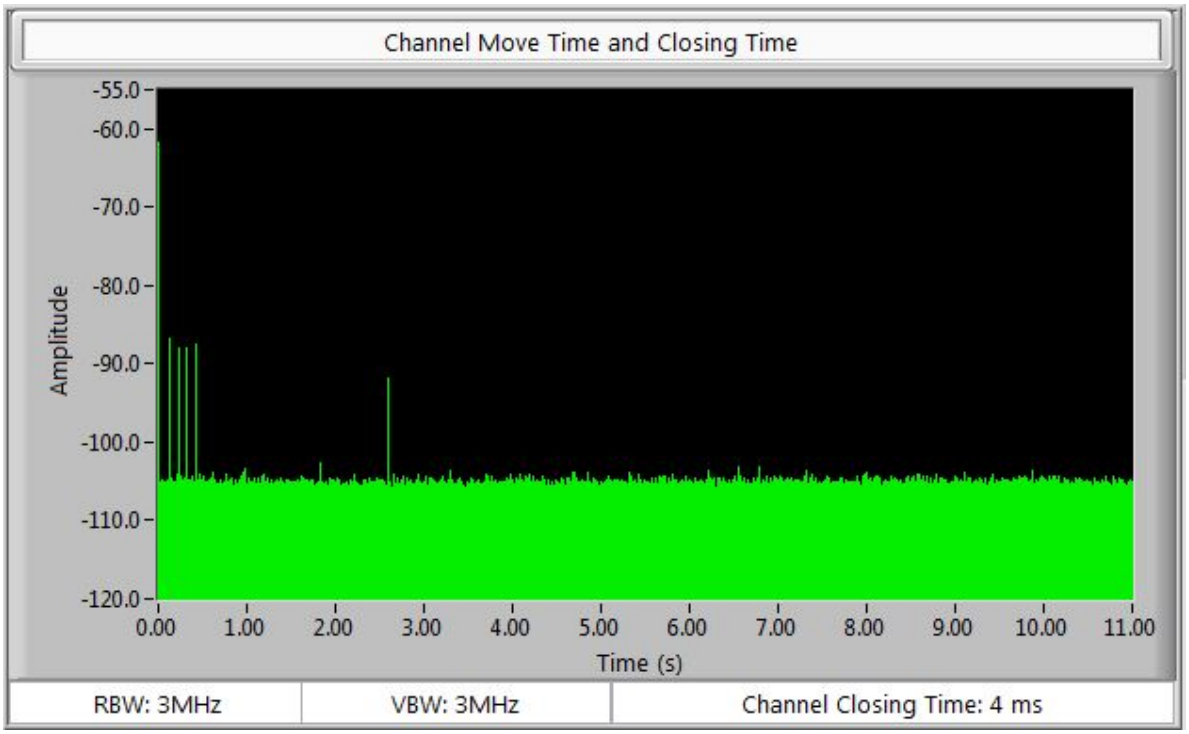


Channel Closing Transmission Time and Move Time for Radar Type 3

Test Result-5310MHz

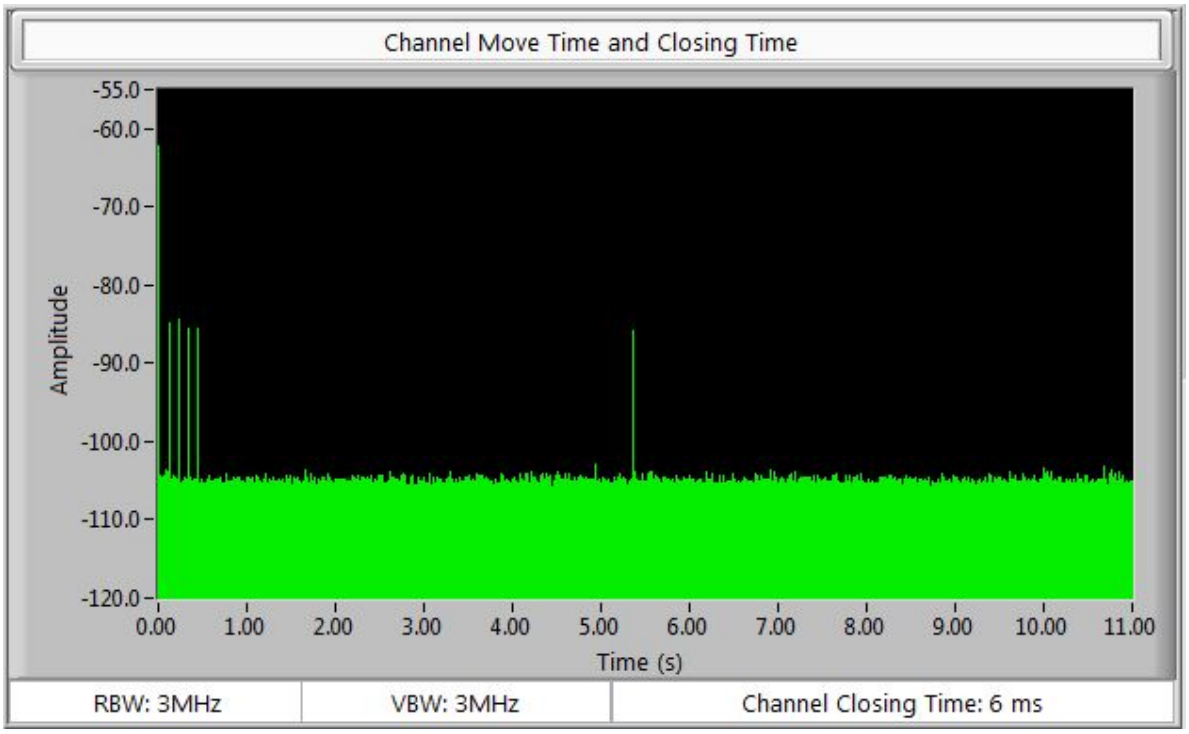


Test Result-5550MHz

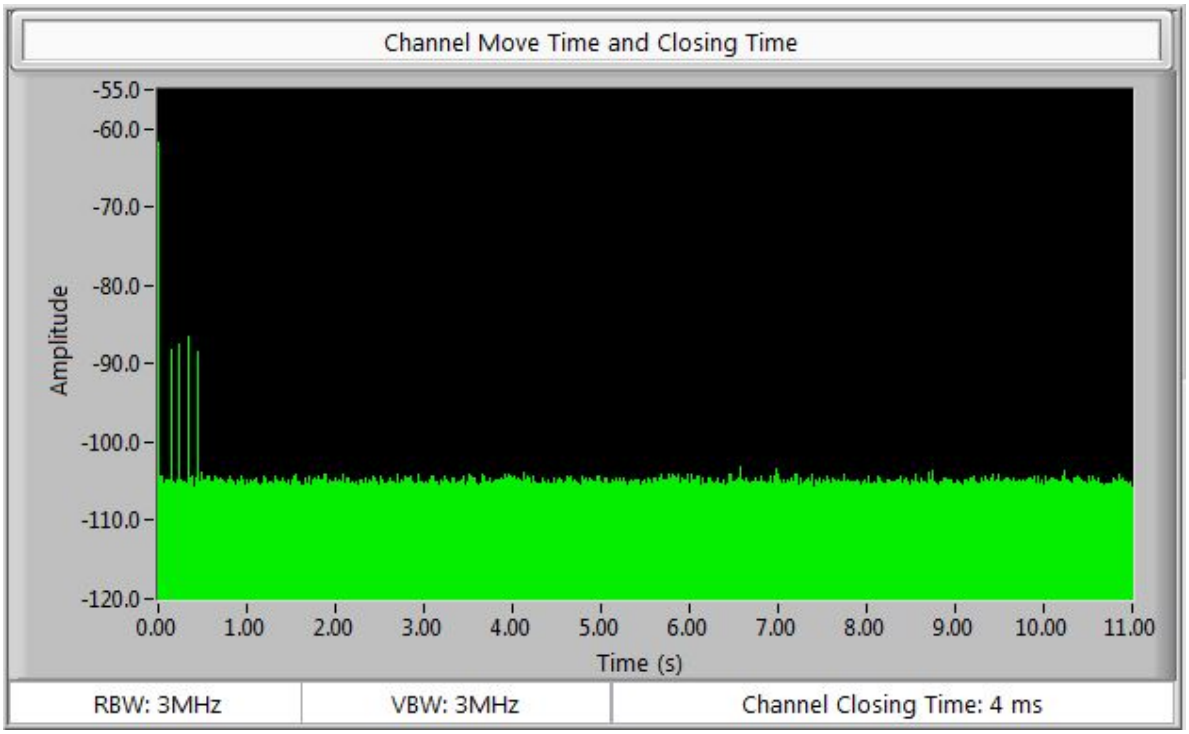


Channel Closing Transmission Time and Move Time for Radar Type 4

Test Result-5310MHz

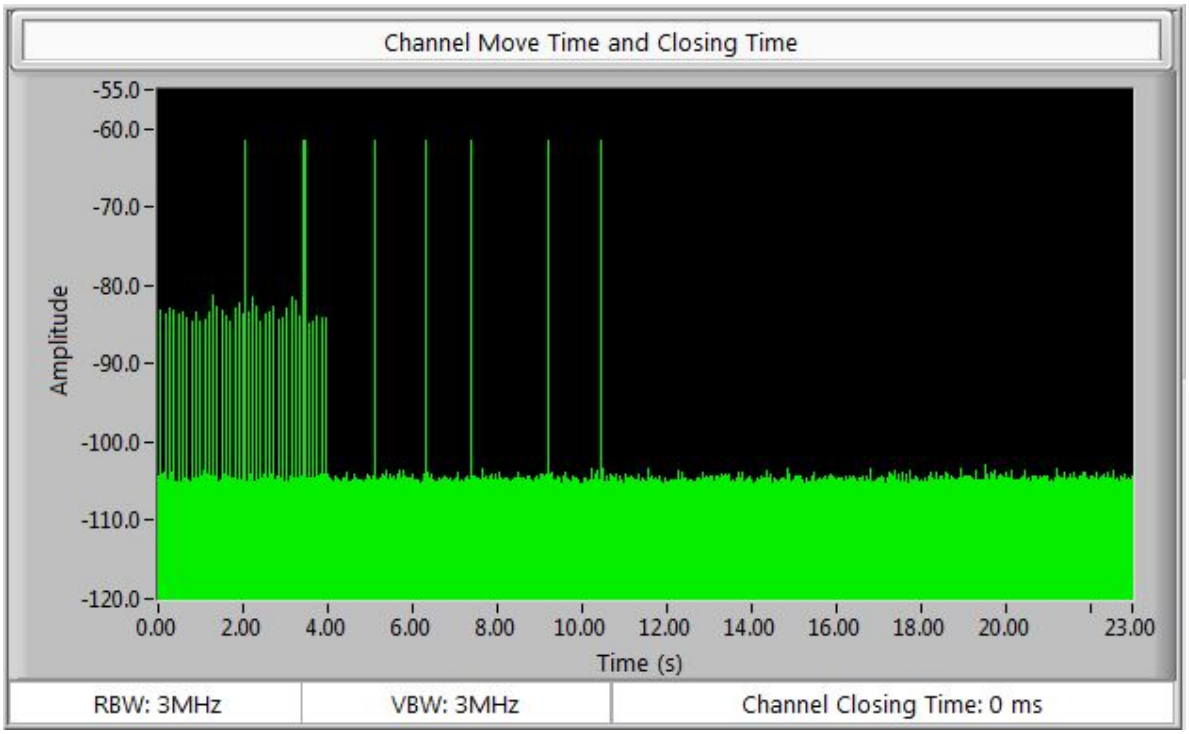


Test Result-5550MHz

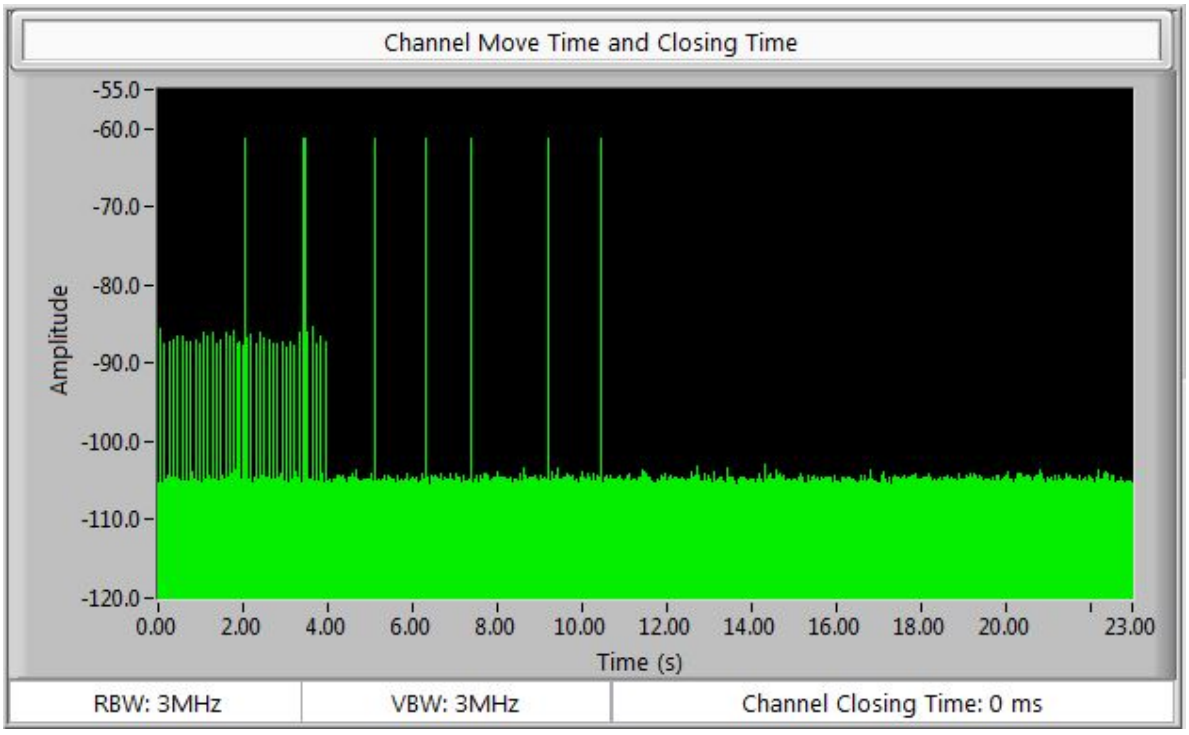


Channel Closing Transmission Time and Move Time for Radar Type 5

Test Result-5310MHz

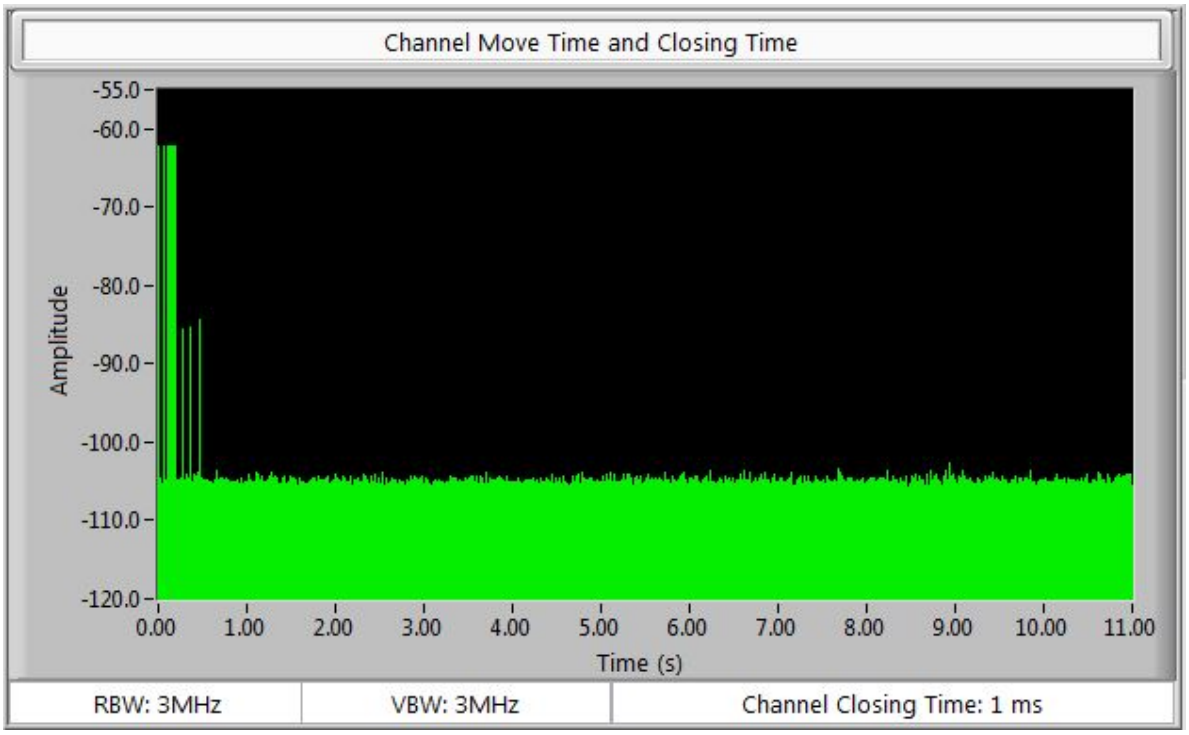


Test Result-5550MHz

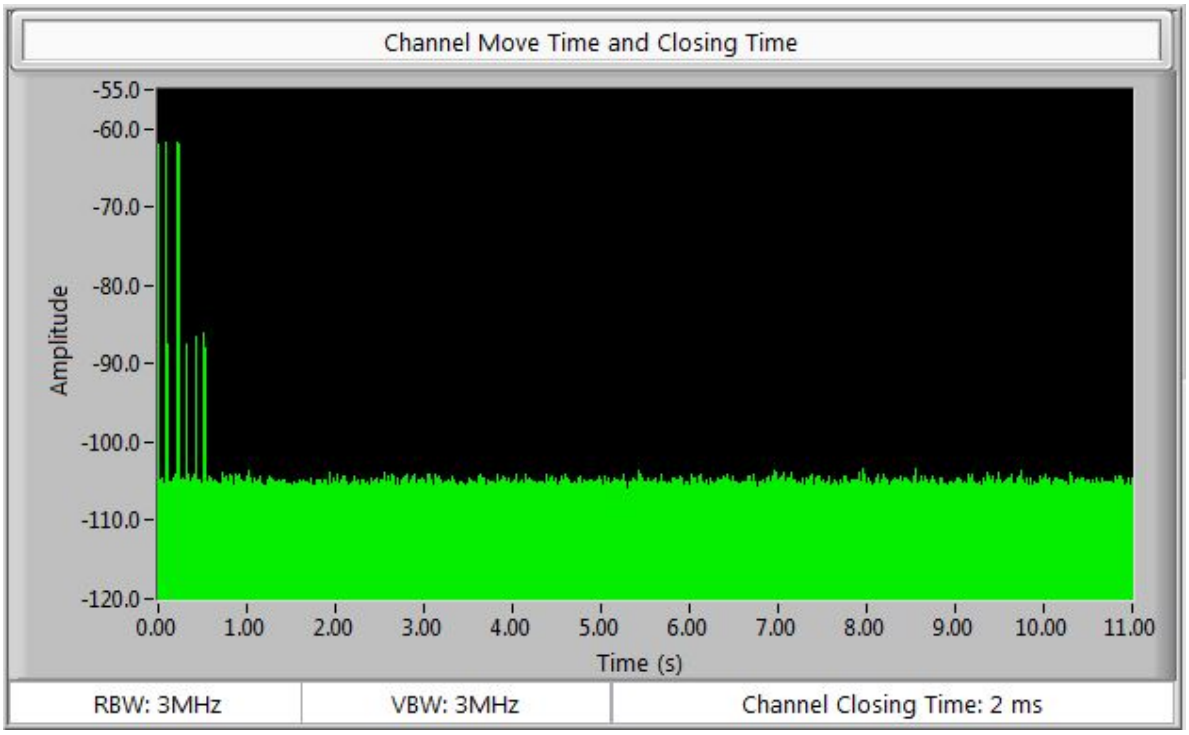


Channel Closing Transmission Time and Move Time for Radar Type 6

Test Result-5310MHz



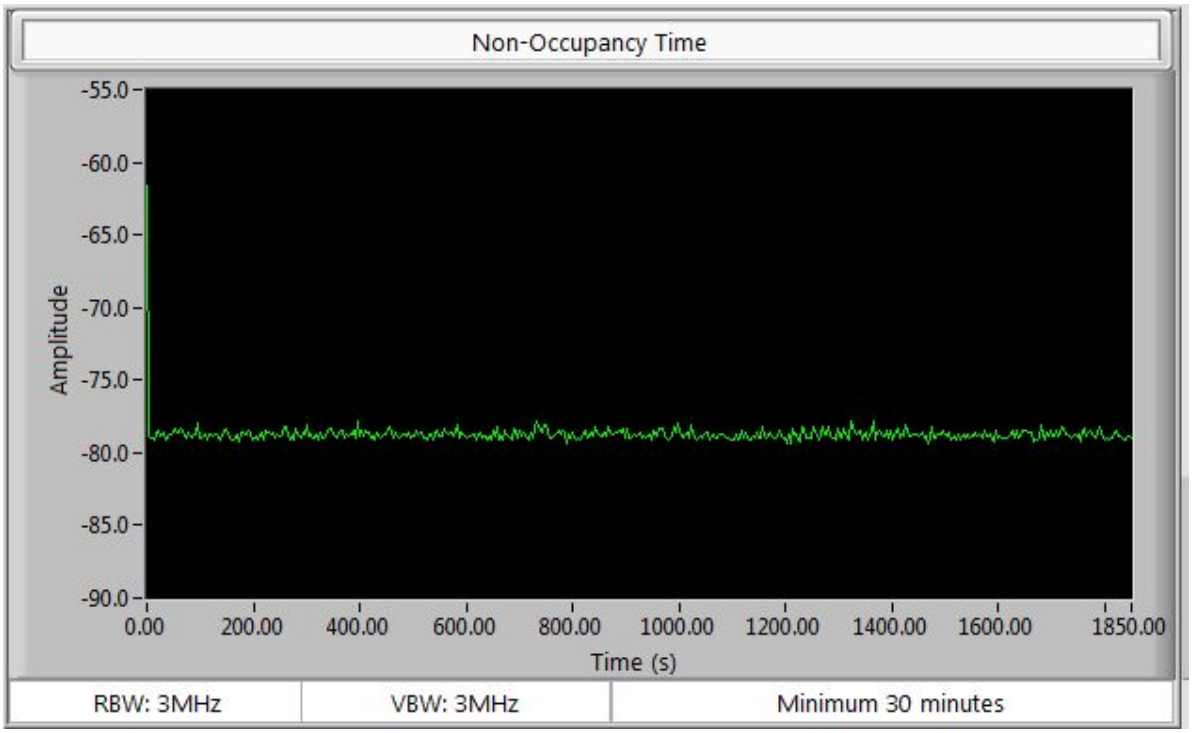
Test Result-5550MHz



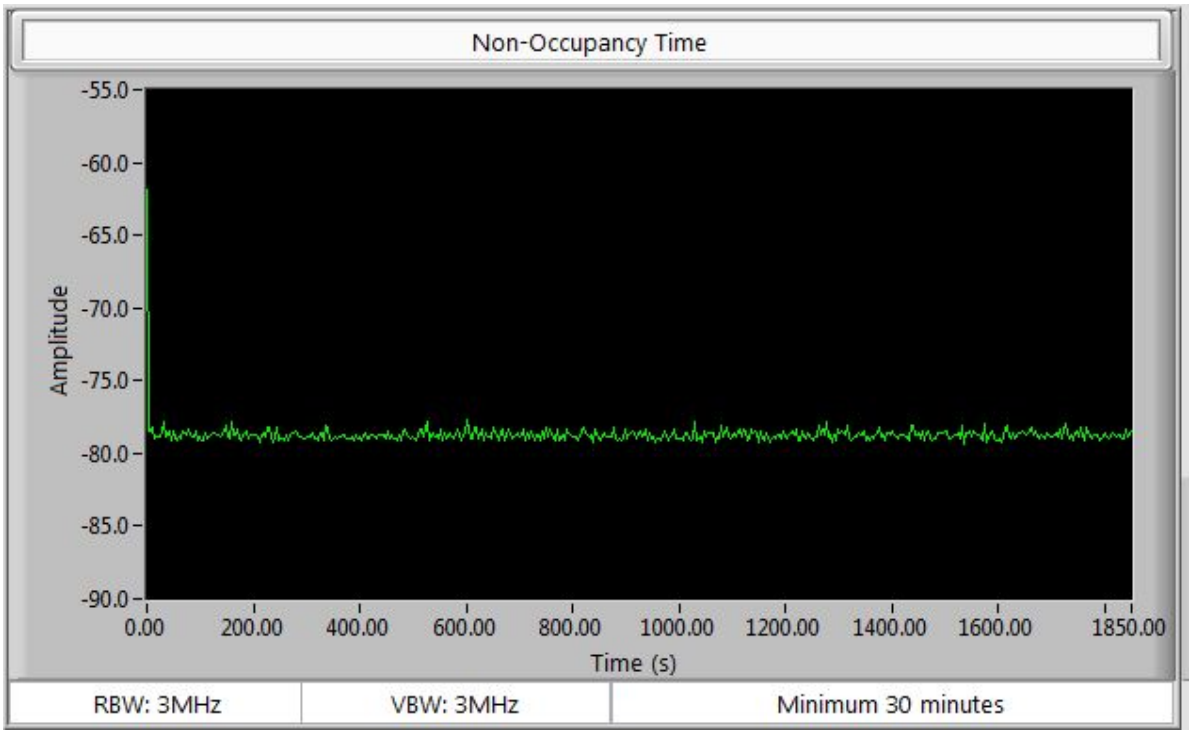
The EUT is monitor for more than 30 minutes following the close/move time to and verifying no transmissions resume on that channel.

30 Minutes Non –Occupancy Time

Test Result-5310MHz



Test Result-5550MHz



Statistical Performance Check-802.11ac40

Statistical Performance Check. 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 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 Low, Mid and High Channel. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

The Radar Waveform generator sends the individual waveform for each of the radar types 1-6 at -62dbm. 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

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

The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in the Radar Test Waveforms section.

Radar Type 1

Test Result-5310MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5319	FCC Radar Type 1	Waveform 1	Completed	Yes
2	5318	FCC Radar Type 1	Waveform 2	Completed	Yes
3	5317	FCC Radar Type 1	Waveform 3	Completed	Yes
4	5316	FCC Radar Type 1	Waveform 4	Completed	Yes
5	5315	FCC Radar Type 1	Waveform 5	Completed	Yes
6	5314	FCC Radar Type 1	Waveform 6	Completed	Yes
7	5313	FCC Radar Type 1	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 1	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 1	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 1	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 1	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 1	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 1	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 1	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 1	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 1	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 1	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 1	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 1	Waveform 19	Completed	Yes
20	5292	FCC Radar Type 1	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 1	Waveform 21	Completed	Yes
22	5290	FCC Radar Type 1	Waveform 22	Completed	Yes
23	5312	FCC Radar Type 1	Waveform 23	Completed	Yes
24	5311	FCC Radar Type 1	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 1	Waveform 25	Completed	Yes
26	5309	FCC Radar Type 1	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 1	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 1	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 1	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 1	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.000					

Test Result-5550MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5569	FCC Radar Type 1	Waveform 1	Completed	Yes
2	5568	FCC Radar Type 1	Waveform 2	Completed	Yes
3	5567	FCC Radar Type 1	Waveform 3	Completed	Yes
4	5566	FCC Radar Type 1	Waveform 4	Completed	Yes
5	5565	FCC Radar Type 1	Waveform 5	Completed	Yes
6	5564	FCC Radar Type 1	Waveform 6	Completed	Yes
7	5563	FCC Radar Type 1	Waveform 7	Completed	Yes
8	5562	FCC Radar Type 1	Waveform 8	Completed	Yes
9	5561	FCC Radar Type 1	Waveform 9	Completed	Yes
10	5560	FCC Radar Type 1	Waveform 10	Completed	Yes
11	5549	FCC Radar Type 1	Waveform 11	Completed	Yes
12	5548	FCC Radar Type 1	Waveform 12	Completed	Yes
13	5547	FCC Radar Type 1	Waveform 13	Completed	Yes
14	5546	FCC Radar Type 1	Waveform 14	Completed	Yes
15	5545	FCC Radar Type 1	Waveform 15	Completed	Yes
16	5544	FCC Radar Type 1	Waveform 16	Completed	Yes
17	5543	FCC Radar Type 1	Waveform 17	Completed	Yes
18	5542	FCC Radar Type 1	Waveform 18	Completed	Yes
19	5541	FCC Radar Type 1	Waveform 19	Completed	Yes
20	5540	FCC Radar Type 1	Waveform 20	Completed	Yes
21	5539	FCC Radar Type 1	Waveform 21	Completed	Yes
22	5538	FCC Radar Type 1	Waveform 22	Completed	Yes
23	5537	FCC Radar Type 1	Waveform 23	Completed	Yes
24	5536	FCC Radar Type 1	Waveform 24	Completed	Yes
25	5535	FCC Radar Type 1	Waveform 25	Completed	Yes
26	5534	FCC Radar Type 1	Waveform 26	Completed	Yes
27	5533	FCC Radar Type 1	Waveform 27	Completed	Yes
28	5532	FCC Radar Type 1	Waveform 28	Completed	Yes
29	5531	FCC Radar Type 1	Waveform 29	Completed	Yes
30	5530	FCC Radar Type 1	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.000					

Radar Type 2

Test Result-5310MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5319	FCC Radar Type 2	Waveform 1	Completed	Yes
2	5318	FCC Radar Type 2	Waveform 2	Completed	Yes
3	5317	FCC Radar Type 2	Waveform 3	Completed	Yes
4	5316	FCC Radar Type 2	Waveform 4	Completed	Yes
5	5315	FCC Radar Type 2	Waveform 5	Completed	Yes
6	5314	FCC Radar Type 2	Waveform 6	Completed	Yes
7	5313	FCC Radar Type 2	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 2	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 2	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 2	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 2	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 2	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 2	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 2	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 2	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 2	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 2	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 2	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 2	Waveform 19	Completed	Yes
20	5292	FCC Radar Type 2	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 2	Waveform 21	Completed	Yes
22	5290	FCC Radar Type 2	Waveform 22	Completed	No
23	5312	FCC Radar Type 2	Waveform 23	Completed	Yes
24	5311	FCC Radar Type 2	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 2	Waveform 25	Completed	Yes
26	5309	FCC Radar Type 2	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 2	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 2	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 2	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 2	Waveform 30	Completed	Yes
Detection Probability Rate %: 96.667					

Test Result-5550MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5569	FCC Radar Type 2	Waveform 1	Completed	Yes
2	5568	FCC Radar Type 2	Waveform 2	Completed	Yes
3	5567	FCC Radar Type 2	Waveform 3	Completed	Yes
4	5566	FCC Radar Type 2	Waveform 4	Completed	Yes
5	5565	FCC Radar Type 2	Waveform 5	Completed	Yes
6	5564	FCC Radar Type 2	Waveform 6	Completed	Yes
7	5563	FCC Radar Type 2	Waveform 7	Completed	Yes
8	5562	FCC Radar Type 2	Waveform 8	Completed	Yes
9	5561	FCC Radar Type 2	Waveform 9	Completed	Yes
10	5560	FCC Radar Type 2	Waveform 10	Completed	Yes
11	5549	FCC Radar Type 2	Waveform 11	Completed	Yes
12	5548	FCC Radar Type 2	Waveform 12	Completed	Yes
13	5547	FCC Radar Type 2	Waveform 13	Completed	Yes
14	5546	FCC Radar Type 2	Waveform 14	Completed	No
15	5545	FCC Radar Type 2	Waveform 15	Completed	Yes
16	5544	FCC Radar Type 2	Waveform 16	Completed	Yes
17	5543	FCC Radar Type 2	Waveform 17	Completed	Yes
18	5542	FCC Radar Type 2	Waveform 18	Completed	Yes
19	5541	FCC Radar Type 2	Waveform 19	Completed	Yes
20	5540	FCC Radar Type 2	Waveform 20	Completed	Yes
21	5539	FCC Radar Type 2	Waveform 21	Completed	Yes
22	5538	FCC Radar Type 2	Waveform 22	Completed	Yes
23	5537	FCC Radar Type 2	Waveform 23	Completed	Yes
24	5536	FCC Radar Type 2	Waveform 24	Completed	Yes
25	5535	FCC Radar Type 2	Waveform 25	Completed	Yes
26	5534	FCC Radar Type 2	Waveform 26	Completed	Yes
27	5533	FCC Radar Type 2	Waveform 27	Completed	Yes
28	5532	FCC Radar Type 2	Waveform 28	Completed	Yes
29	5531	FCC Radar Type 2	Waveform 29	Completed	Yes
30	5530	FCC Radar Type 2	Waveform 30	Completed	No
Detection Probability Rate %: 93.333					

Radar Type 3

Test Result-5310MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5319	FCC Radar Type 3	Waveform 1	Completed	Yes
2	5318	FCC Radar Type 3	Waveform 2	Completed	Yes
3	5317	FCC Radar Type 3	Waveform 3	Completed	Yes
4	5316	FCC Radar Type 3	Waveform 4	Completed	Yes
5	5315	FCC Radar Type 3	Waveform 5	Completed	No
6	5314	FCC Radar Type 3	Waveform 6	Completed	Yes
7	5313	FCC Radar Type 3	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 3	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 3	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 3	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 3	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 3	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 3	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 3	Waveform 14	Completed	No
15	5297	FCC Radar Type 3	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 3	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 3	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 3	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 3	Waveform 19	Completed	Yes
20	5292	FCC Radar Type 3	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 3	Waveform 21	Completed	Yes
22	5290	FCC Radar Type 3	Waveform 22	Completed	No
23	5312	FCC Radar Type 3	Waveform 23	Completed	Yes
24	5311	FCC Radar Type 3	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 3	Waveform 25	Completed	Yes
26	5309	FCC Radar Type 3	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 3	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 3	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 3	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 3	Waveform 30	Completed	Yes
Detection Probability Rate %: 90.00					

Test Result-5550MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5569	FCC Radar Type 3	Waveform 1	Completed	Yes
2	5568	FCC Radar Type 3	Waveform 2	Completed	Yes
3	5567	FCC Radar Type 3	Waveform 3	Completed	Yes
4	5566	FCC Radar Type 3	Waveform 4	Completed	Yes
5	5565	FCC Radar Type 3	Waveform 5	Completed	Yes
6	5564	FCC Radar Type 3	Waveform 6	Completed	Yes
7	5563	FCC Radar Type 3	Waveform 7	Completed	Yes
8	5562	FCC Radar Type 3	Waveform 8	Completed	Yes
9	5561	FCC Radar Type 3	Waveform 9	Completed	Yes
10	5560	FCC Radar Type 3	Waveform 10	Completed	Yes
11	5549	FCC Radar Type 3	Waveform 11	Completed	Yes
12	5548	FCC Radar Type 3	Waveform 12	Completed	Yes
13	5547	FCC Radar Type 3	Waveform 13	Completed	Yes
14	5546	FCC Radar Type 3	Waveform 14	Completed	Yes
15	5545	FCC Radar Type 3	Waveform 15	Completed	Yes
16	5544	FCC Radar Type 3	Waveform 16	Completed	Yes
17	5543	FCC Radar Type 3	Waveform 17	Completed	Yes
18	5542	FCC Radar Type 3	Waveform 18	Completed	Yes
19	5541	FCC Radar Type 3	Waveform 19	Completed	Yes
20	5540	FCC Radar Type 3	Waveform 20	Completed	Yes
21	5539	FCC Radar Type 3	Waveform 21	Completed	Yes
22	5538	FCC Radar Type 3	Waveform 22	Completed	Yes
23	5537	FCC Radar Type 3	Waveform 23	Completed	Yes
24	5536	FCC Radar Type 3	Waveform 24	Completed	Yes
25	5535	FCC Radar Type 3	Waveform 25	Completed	Yes
26	5534	FCC Radar Type 3	Waveform 26	Completed	Yes
27	5533	FCC Radar Type 3	Waveform 27	Completed	Yes
28	5532	FCC Radar Type 3	Waveform 28	Completed	Yes
29	5531	FCC Radar Type 3	Waveform 29	Completed	Yes
30	5530	FCC Radar Type 3	Waveform 30	Completed	No
Detection Probability Rate %: 96.667					

Radar Type 4

Test Result-5310MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5319	FCC Radar Type 4	Waveform 1	Completed	Yes
2	5318	FCC Radar Type 4	Waveform 2	Completed	Yes
3	5317	FCC Radar Type 4	Waveform 3	Completed	Yes
4	5316	FCC Radar Type 4	Waveform 4	Completed	Yes
5	5315	FCC Radar Type 4	Waveform 5	Completed	Yes
6	5314	FCC Radar Type 4	Waveform 6	Completed	Yes
7	5313	FCC Radar Type 4	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 4	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 4	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 4	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 4	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 4	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 4	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 4	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 4	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 4	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 4	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 4	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 4	Waveform 19	Completed	Yes
20	5292	FCC Radar Type 4	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 4	Waveform 21	Completed	Yes
22	5290	FCC Radar Type 4	Waveform 22	Completed	No
23	5312	FCC Radar Type 4	Waveform 23	Completed	Yes
24	5311	FCC Radar Type 4	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 4	Waveform 25	Completed	Yes
26	5309	FCC Radar Type 4	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 4	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 4	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 4	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 4	Waveform 30	Completed	Yes
					Detection Probability Rate %: 96.667

Test Result-5550MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5569	FCC Radar Type 4	Waveform 1	Completed	Yes
2	5568	FCC Radar Type 4	Waveform 2	Completed	Yes
3	5567	FCC Radar Type 4	Waveform 3	Completed	Yes
4	5566	FCC Radar Type 4	Waveform 4	Completed	Yes
5	5565	FCC Radar Type 4	Waveform 5	Completed	Yes
6	5564	FCC Radar Type 4	Waveform 6	Completed	Yes
7	5563	FCC Radar Type 4	Waveform 7	Completed	Yes
8	5562	FCC Radar Type 4	Waveform 8	Completed	Yes
9	5561	FCC Radar Type 4	Waveform 9	Completed	Yes
10	5560	FCC Radar Type 4	Waveform 10	Completed	Yes
11	5549	FCC Radar Type 4	Waveform 11	Completed	No
12	5548	FCC Radar Type 4	Waveform 12	Completed	Yes
13	5547	FCC Radar Type 4	Waveform 13	Completed	Yes
14	5546	FCC Radar Type 4	Waveform 14	Completed	No
15	5545	FCC Radar Type 4	Waveform 15	Completed	Yes
16	5544	FCC Radar Type 4	Waveform 16	Completed	Yes
17	5543	FCC Radar Type 4	Waveform 17	Completed	Yes
18	5542	FCC Radar Type 4	Waveform 18	Completed	Yes
19	5541	FCC Radar Type 4	Waveform 19	Completed	Yes
20	5540	FCC Radar Type 4	Waveform 20	Completed	Yes
21	5539	FCC Radar Type 4	Waveform 21	Completed	Yes
22	5538	FCC Radar Type 4	Waveform 22	Completed	Yes
23	5537	FCC Radar Type 4	Waveform 23	Completed	Yes
24	5536	FCC Radar Type 4	Waveform 24	Completed	Yes
25	5535	FCC Radar Type 4	Waveform 25	Completed	Yes
26	5534	FCC Radar Type 4	Waveform 26	Completed	Yes
27	5533	FCC Radar Type 4	Waveform 27	Completed	Yes
28	5532	FCC Radar Type 4	Waveform 28	Completed	Yes
29	5531	FCC Radar Type 4	Waveform 29	Completed	Yes
30	5530	FCC Radar Type 4	Waveform 30	Completed	No
					Detection Probability Rate %: 90.00

Radar Type 5

Test Result-5310MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5319	FCC Radar Type 5	Waveform 1	Completed	Yes
2	5318	FCC Radar Type 5	Waveform 2	Completed	Yes
3	5317	FCC Radar Type 5	Waveform 3	Completed	Yes
4	5316	FCC Radar Type 5	Waveform 4	Completed	Yes
5	5315	FCC Radar Type 5	Waveform 5	Completed	Yes
6	5314	FCC Radar Type 5	Waveform 6	Completed	Yes
7	5313	FCC Radar Type 5	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 5	Waveform 8	Completed	No
9	5303	FCC Radar Type 5	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 5	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 5	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 5	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 5	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 5	Waveform 14	Completed	No
15	5297	FCC Radar Type 5	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 5	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 5	Waveform 17	Completed	No
18	5311	FCC Radar Type 5	Waveform 18	Completed	Yes
19	5315	FCC Radar Type 5	Waveform 19	Completed	No
20	5326	FCC Radar Type 5	Waveform 20	Completed	Yes
21	5295	FCC Radar Type 5	Waveform 21	Completed	No
22	5296	FCC Radar Type 5	Waveform 22	Completed	Yes
23	5312	FCC Radar Type 5	Waveform 23	Completed	Yes
24	5311	FCC Radar Type 5	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 5	Waveform 25	Completed	No
26	5309	FCC Radar Type 5	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 5	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 5	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 5	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 5	Waveform 30	Completed	Yes
					Detection Probability Rate %: 80.00

Test Result-5580MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5559	FCC Radar Type 5	Waveform 1	Completed	Yes
2	5558	FCC Radar Type 5	Waveform 2	Completed	Yes
3	5557	FCC Radar Type 5	Waveform 3	Completed	Yes
4	5556	FCC Radar Type 5	Waveform 4	Completed	Yes
5	5555	FCC Radar Type 5	Waveform 5	Completed	Yes
6	5554	FCC Radar Type 5	Waveform 6	Completed	Yes
7	5553	FCC Radar Type 5	Waveform 7	Completed	Yes
8	5544	FCC Radar Type 5	Waveform 8	Completed	Yes
9	5543	FCC Radar Type 5	Waveform 9	Completed	Yes
10	5542	FCC Radar Type 5	Waveform 10	Completed	Yes
11	5541	FCC Radar Type 5	Waveform 11	Completed	Yes
12	5540	FCC Radar Type 5	Waveform 12	Completed	No
13	5539	FCC Radar Type 5	Waveform 13	Completed	Yes
14	5538	FCC Radar Type 5	Waveform 14	Completed	Yes
15	5537	FCC Radar Type 5	Waveform 15	Completed	Yes
16	5536	FCC Radar Type 5	Waveform 16	Completed	Yes
17	5535	FCC Radar Type 5	Waveform 17	Completed	No
18	5568	FCC Radar Type 5	Waveform 18	Completed	Yes
19	5567	FCC Radar Type 5	Waveform 19	Completed	Yes
20	5566	FCC Radar Type 5	Waveform 20	Completed	Yes
21	5569	FCC Radar Type 5	Waveform 21	Completed	Yes
22	5565	FCC Radar Type 5	Waveform 22	Completed	Yes
23	5552	FCC Radar Type 5	Waveform 23	Completed	No
24	5551	FCC Radar Type 5	Waveform 24	Completed	Yes
25	5550	FCC Radar Type 5	Waveform 25	Completed	Yes
26	5549	FCC Radar Type 5	Waveform 26	Completed	Yes
27	5548	FCC Radar Type 5	Waveform 27	Completed	Yes
28	5547	FCC Radar Type 5	Waveform 28	Completed	Yes
29	5546	FCC Radar Type 5	Waveform 29	Completed	Yes
30	5545	FCC Radar Type 5	Waveform 30	Completed	Yes
					Detection Probability Rate %: 90.00

*Please see the Annex B for Radar Type 5 waveform characteristic

Radar Type 6

Test Result-5310MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5319	FCC Radar Type 6	Waveform 1	Completed	Yes
2	5318	FCC Radar Type 6	Waveform 2	Completed	Yes
3	5317	FCC Radar Type 6	Waveform 3	Completed	Yes
4	5316	FCC Radar Type 6	Waveform 4	Completed	Yes
5	5315	FCC Radar Type 6	Waveform 5	Completed	Yes
6	5314	FCC Radar Type 6	Waveform 6	Completed	Yes
7	5313	FCC Radar Type 6	Waveform 7	Completed	Yes
8	5304	FCC Radar Type 6	Waveform 8	Completed	Yes
9	5303	FCC Radar Type 6	Waveform 9	Completed	Yes
10	5302	FCC Radar Type 6	Waveform 10	Completed	Yes
11	5301	FCC Radar Type 6	Waveform 11	Completed	Yes
12	5300	FCC Radar Type 6	Waveform 12	Completed	Yes
13	5299	FCC Radar Type 6	Waveform 13	Completed	Yes
14	5298	FCC Radar Type 6	Waveform 14	Completed	Yes
15	5297	FCC Radar Type 6	Waveform 15	Completed	Yes
16	5296	FCC Radar Type 6	Waveform 16	Completed	Yes
17	5295	FCC Radar Type 6	Waveform 17	Completed	Yes
18	5294	FCC Radar Type 6	Waveform 18	Completed	Yes
19	5293	FCC Radar Type 6	Waveform 19	Completed	Yes
20	5292	FCC Radar Type 6	Waveform 20	Completed	Yes
21	5291	FCC Radar Type 6	Waveform 21	Completed	Yes
22	5290	FCC Radar Type 6	Waveform 22	Completed	Yes
23	5312	FCC Radar Type 6	Waveform 23	Completed	Yes
24	5311	FCC Radar Type 6	Waveform 24	Completed	Yes
25	5310	FCC Radar Type 6	Waveform 25	Completed	Yes
26	5309	FCC Radar Type 6	Waveform 26	Completed	Yes
27	5308	FCC Radar Type 6	Waveform 27	Completed	Yes
28	5307	FCC Radar Type 6	Waveform 28	Completed	Yes
29	5306	FCC Radar Type 6	Waveform 29	Completed	Yes
30	5305	FCC Radar Type 6	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.00					

Test Result-5550MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5559	FCC Radar Type 6	Waveform 1	Completed	Yes
2	5558	FCC Radar Type 6	Waveform 2	Completed	Yes
3	5557	FCC Radar Type 6	Waveform 3	Completed	Yes
4	5556	FCC Radar Type 6	Waveform 4	Completed	Yes
5	5555	FCC Radar Type 6	Waveform 5	Completed	Yes
6	5554	FCC Radar Type 6	Waveform 6	Completed	Yes
7	5553	FCC Radar Type 6	Waveform 7	Completed	Yes
8	5544	FCC Radar Type 6	Waveform 8	Completed	Yes
9	5543	FCC Radar Type 6	Waveform 9	Completed	Yes
10	5542	FCC Radar Type 6	Waveform 10	Completed	Yes
11	5541	FCC Radar Type 6	Waveform 11	Completed	Yes
12	5540	FCC Radar Type 6	Waveform 12	Completed	Yes
13	5539	FCC Radar Type 6	Waveform 13	Completed	Yes
14	5538	FCC Radar Type 6	Waveform 14	Completed	Yes
15	5537	FCC Radar Type 6	Waveform 15	Completed	Yes
16	5536	FCC Radar Type 6	Waveform 16	Completed	Yes
17	5535	FCC Radar Type 6	Waveform 17	Completed	Yes
18	5534	FCC Radar Type 6	Waveform 18	Completed	Yes
19	5533	FCC Radar Type 6	Waveform 19	Completed	Yes
20	5532	FCC Radar Type 6	Waveform 20	Completed	Yes
21	5531	FCC Radar Type 6	Waveform 21	Completed	Yes
22	5530	FCC Radar Type 6	Waveform 22	Completed	Yes
23	5552	FCC Radar Type 6	Waveform 23	Completed	Yes
24	5551	FCC Radar Type 6	Waveform 24	Completed	Yes
25	5550	FCC Radar Type 6	Waveform 25	Completed	Yes
26	5549	FCC Radar Type 6	Waveform 26	Completed	Yes
27	5548	FCC Radar Type 6	Waveform 27	Completed	Yes
28	5547	FCC Radar Type 6	Waveform 28	Completed	Yes
29	5546	FCC Radar Type 6	Waveform 29	Completed	Yes
30	5545	FCC Radar Type 6	Waveform 30	Completed	Yes
					Detection Probability Rate %: 100.00

5.1.6 DFS Test Results for channel bandwidth :802.11ac (80MHz)

UNII Detection Bandwidth 802.11ac

UNII Detection Bandwidth: All UNII channels for this device have identical Channel bandwidths and testing was performed on Mid Channel

The generating equipment is configured as shown in the Conducted Test Setup above. A single *Burst* of the short pulse radar type 1 is produced at Mid Channel at a -62 dBm level. The UUT 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 UUT is noted. The UUT 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 Fh

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 Fl.

The U-NII Detection Bandwidth is calculated as follows:

U-NII Detection Bandwidth = $F_H - F_L$

The U-NII Detection Bandwidth must be at least 80% of the UUT transmitter 99% power, otherwise, the UUT does not comply with DFS requirements.

Test Result

Test Result-5290MHz

Frequency (MHz)	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Detection Rate %
5250	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90.00%
5251	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5252	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5253	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5254	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5255	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5256	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5257	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5258	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5259	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5260	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5261	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5262	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5263	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5264	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5265	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5266	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5267	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5268	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5269	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5270	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5271	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5272	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5273	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5274	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5275	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5276	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5277	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5278	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5279	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5280	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5281	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5282	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5283	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5284	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5285	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5286	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5287	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5288	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5289	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5290	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5291	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%

5292	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5293	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5294	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5295	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5296	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5297	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5298	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5299	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5301	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5302	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5303	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5304	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5305	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5306	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5307	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5308	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5309	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5310	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5311	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5313	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5314	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5315	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5316	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5317	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5319	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5320	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5321	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5322	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5323	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5324	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5325	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5326	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5327	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5328	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5329	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5330	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
Detection Bandwidth: 80 MHz											
Specification: at least 80% of 99% of EUT bandwidth= 61.632 MHz											

Test Result-5530MHz

Frequency (MHz)	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Detection Rate %
5490	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5491	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5492	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5493	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5494	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5495	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5496	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5497	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5498	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5499	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5500	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5501	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5502	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5503	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5504	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5506	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5507	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5508	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5509	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5510	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5511	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5512	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5513	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5514	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5515	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5516	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5517	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5518	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5519	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5520	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5521	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5522	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5523	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5524	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5525	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5526	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5527	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5528	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5529	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5530	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5531	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%

5532	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5533	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5534	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5535	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5536	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5537	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5538	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5539	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5540	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5541	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5542	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5543	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5544	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5545	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5546	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5547	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5548	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5549	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5550	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5551	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5552	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5553	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5554	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5555	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5556	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5557	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5558	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5559	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5560	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5561	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5562	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5563	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5564	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5565	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5566	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5567	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5568	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5569	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
5570	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100.00%
Detection Bandwidth: 80 MHz											
Specification: at least 80% of 99% of EUT bandwidth= 61.632 MHz											

Initial Channel Availability Check Time-802.11ac80

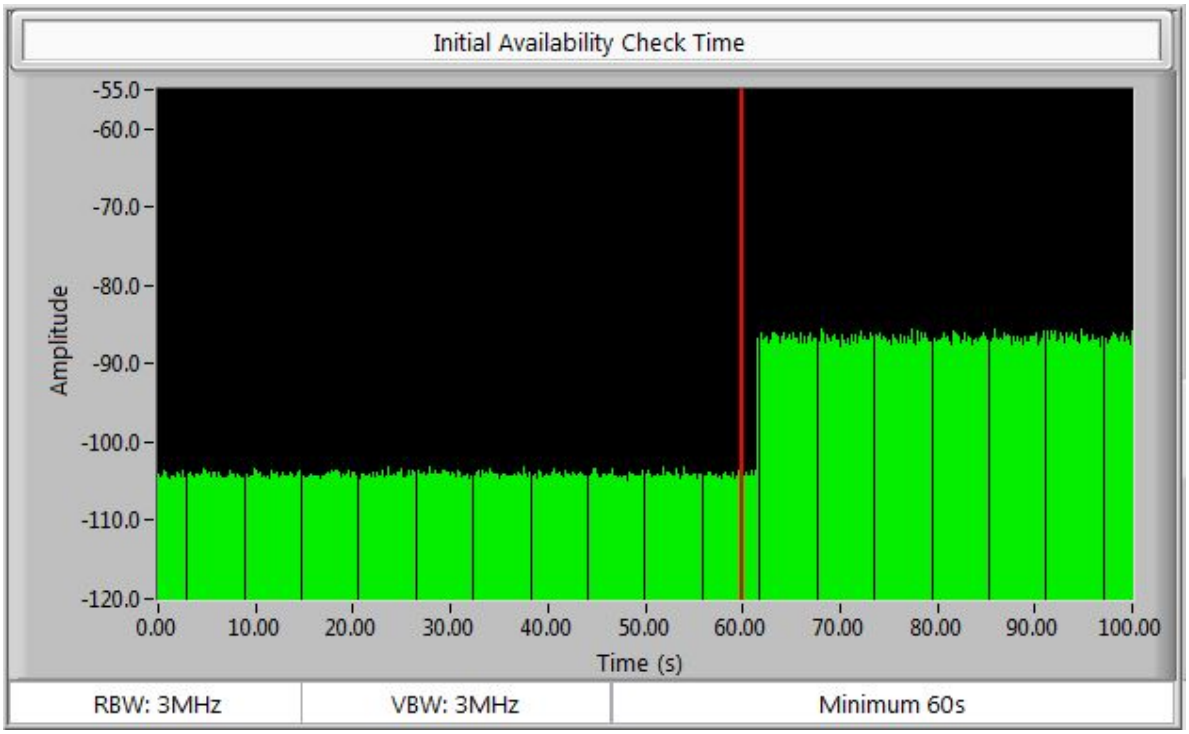
The Initial Channel Availability Check Time tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms and only needs to be performed one time.

The U-NII device is powered on and be instructed to operate at Low channel, Mid Channel or High channel. 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 low, mid can high channel with a 2.5 minute sweep time. The analyzer's sweep will be started the same time power is applied to the UNII device.

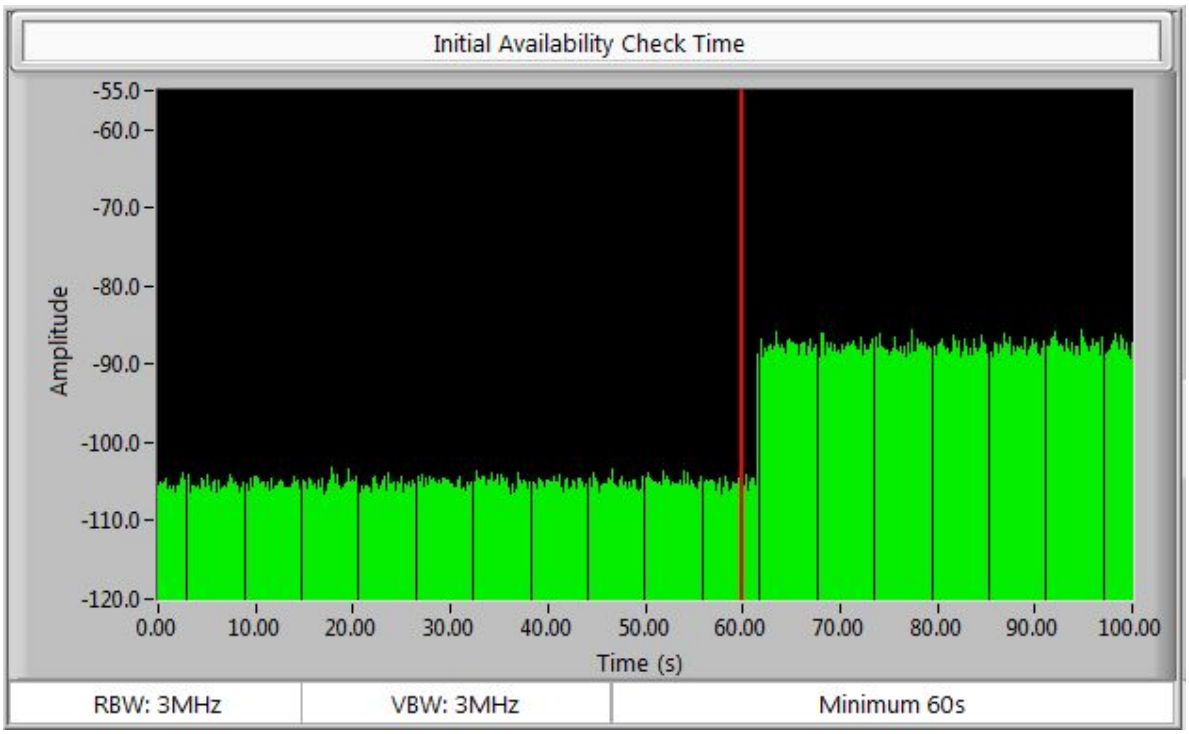
The UUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

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

Test Result-5290MHz



Test Result-5530MHz



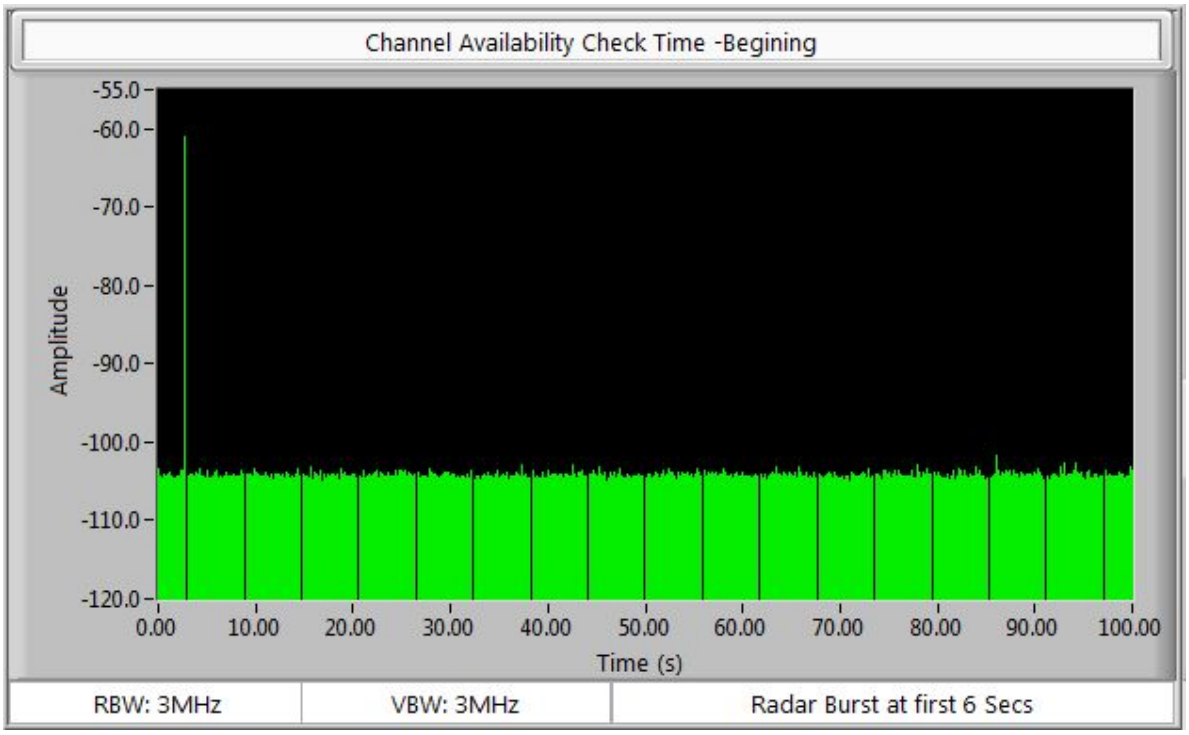
Radar Burst at the Beginning of the Channel Availability Check Time-802.11ac80

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

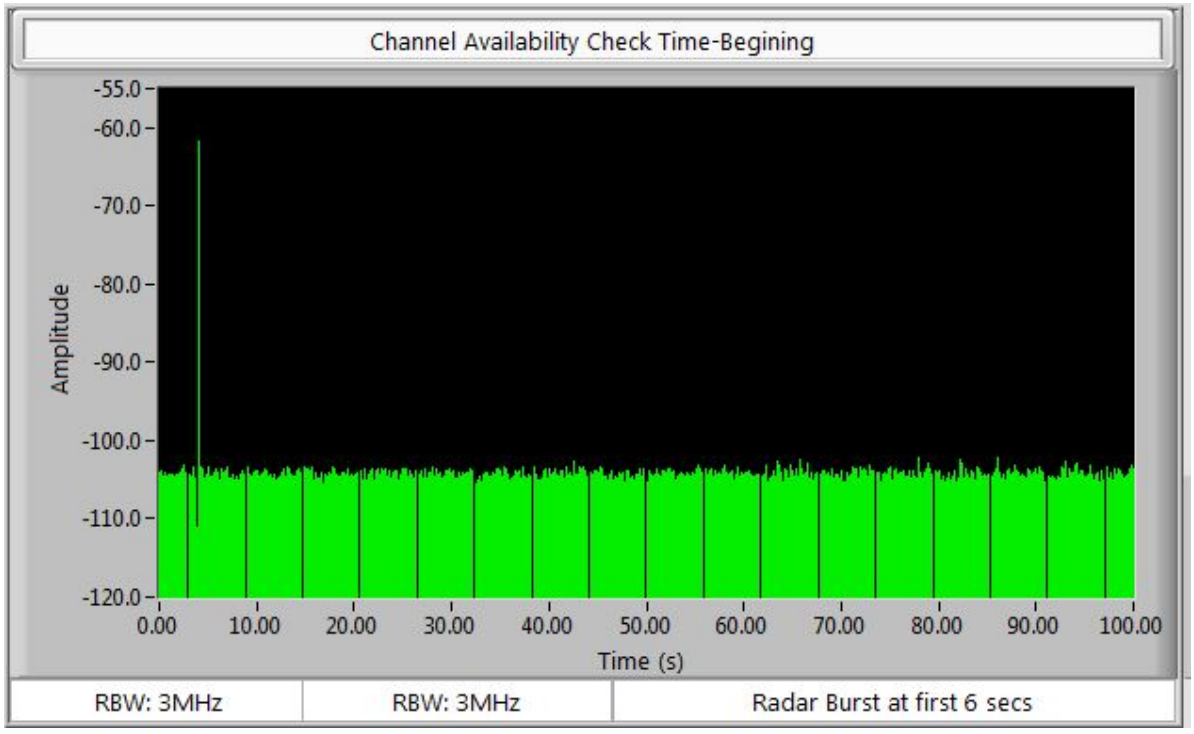
The UUT is powered on at T0. T1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of short pulse of radar type 1 at -62 dBm will commence within a 6 second window.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at mid channel. Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported.
Observation of emissions at center frequency of low channel, mid channel and high channel will continue for 2.5 minutes after the radar Burst has been generated.

Test Result-5290MHz



Test Result-5530MHz



Radar Burst at the End of the Channel Availability Check Time-802.11ac80

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

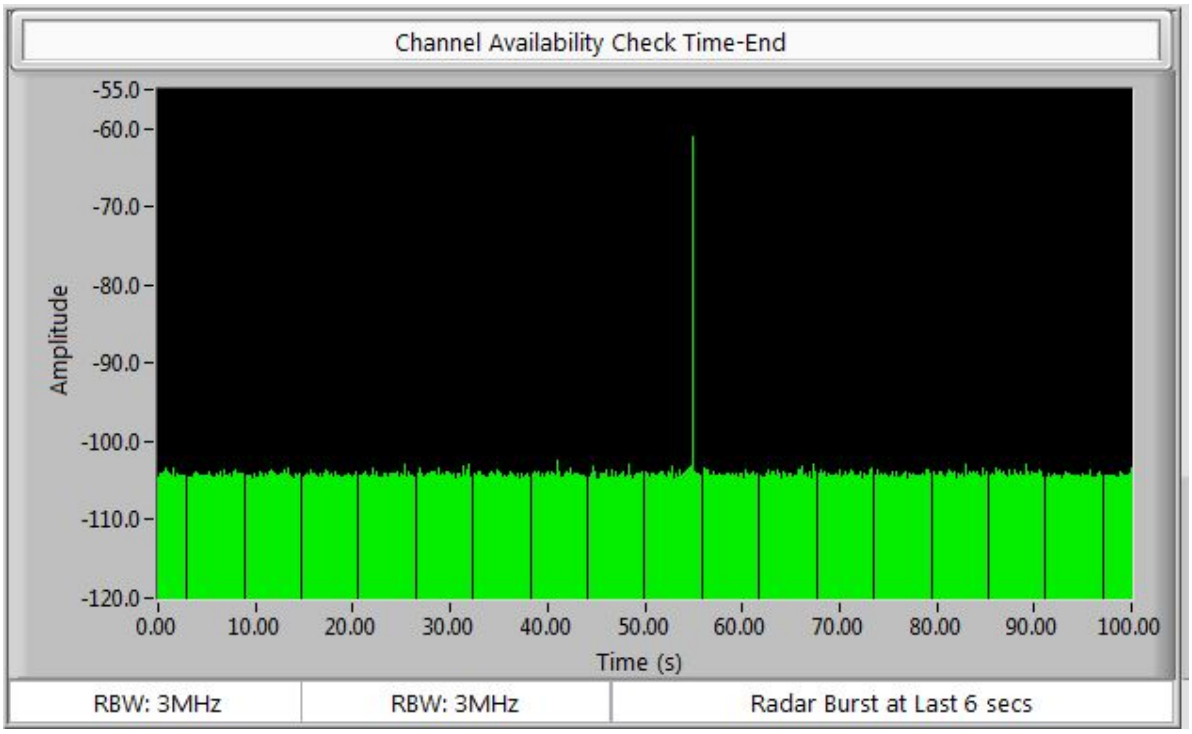
The UUT is powered on at T0. T1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds.

A single Burst of short pulse of radar type 1 at -62 dBm will commence within a last 6 second window.

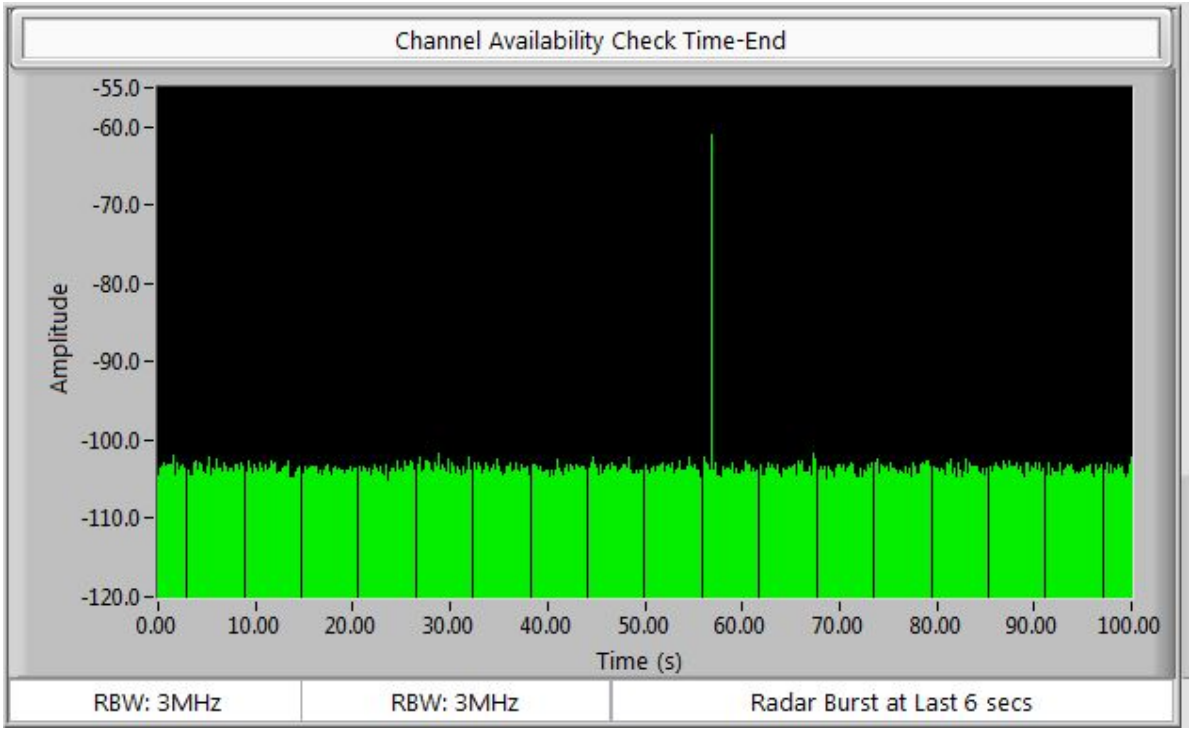
Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported.
Observation of emissions at center frequency of mid channel will continue for 2.5 minutes after the radar Burst has been generated.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at mid channel.

Test Result-5310MHz



Test Result-5530MHz



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

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

At time T0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at -62dBm.

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.

Channel Closing Transmission Time- Measurement

A type 1 waveform was introduced to the EUT and the Spectrum Analyzer sweep time was set to 1s for monitoring and capturing the plot. A LabView program was created to collect trace data and capturing the plot. The program will calculate the channel closing time base on the spectrum analyzer result. The result will be calculated base on FCC procedure.

C= N*Dwell

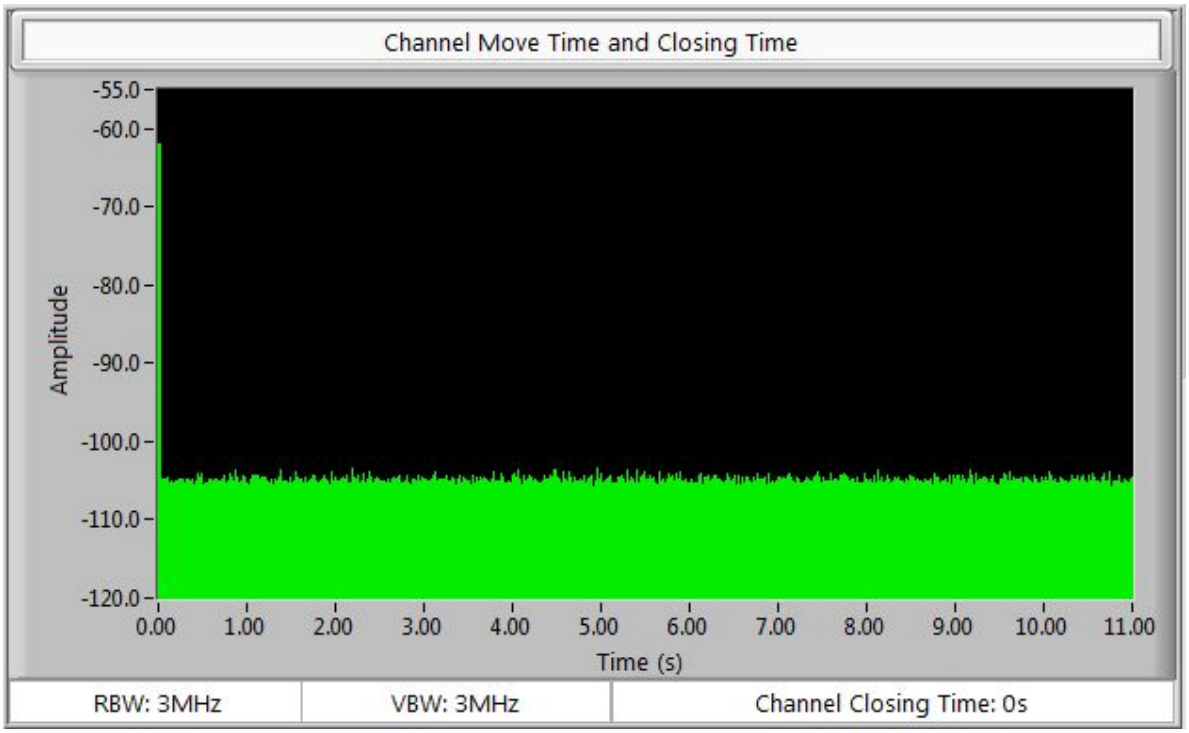
C is the closing time, N is the number of spectrum analyzer sampling bins showing a U-NII transmission and dwell is the dwell time per bin.

Dwell= S/B

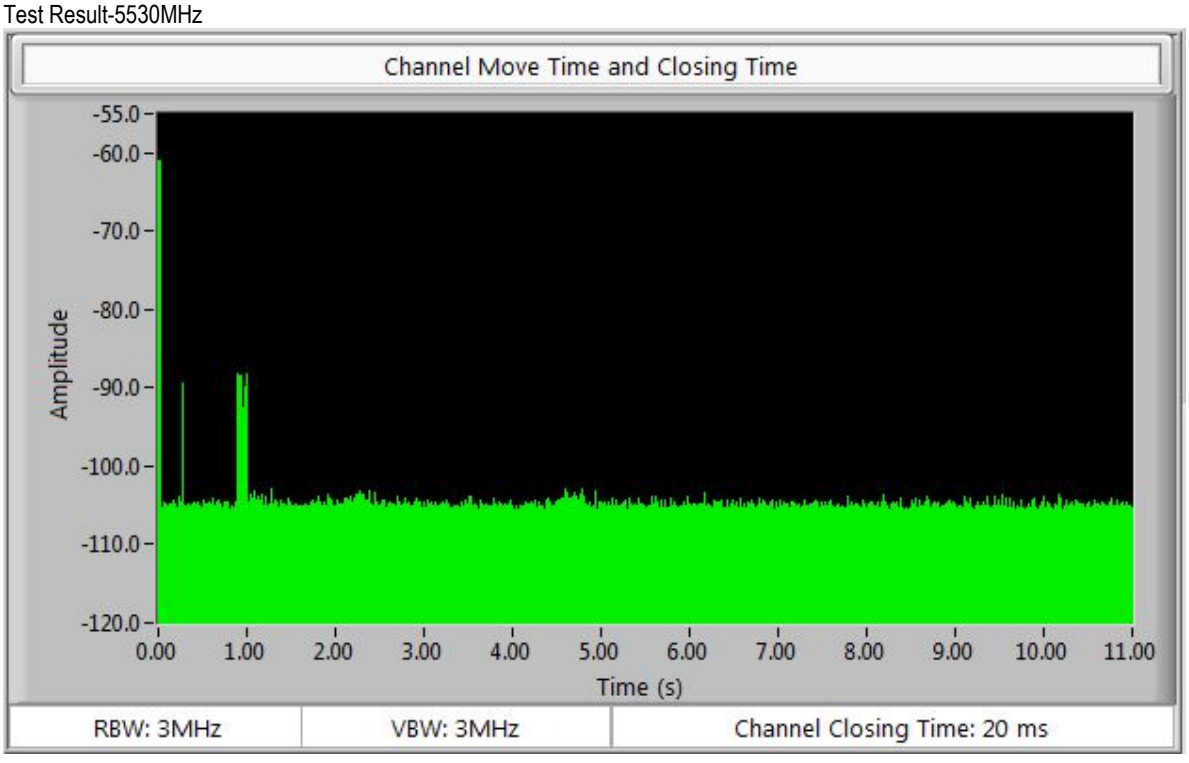
Where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number 0f spectrum analyzer sampling bins.

Channel Closing Transmission Time and Move Time for Radar Type 1

Test Result-5290MHz

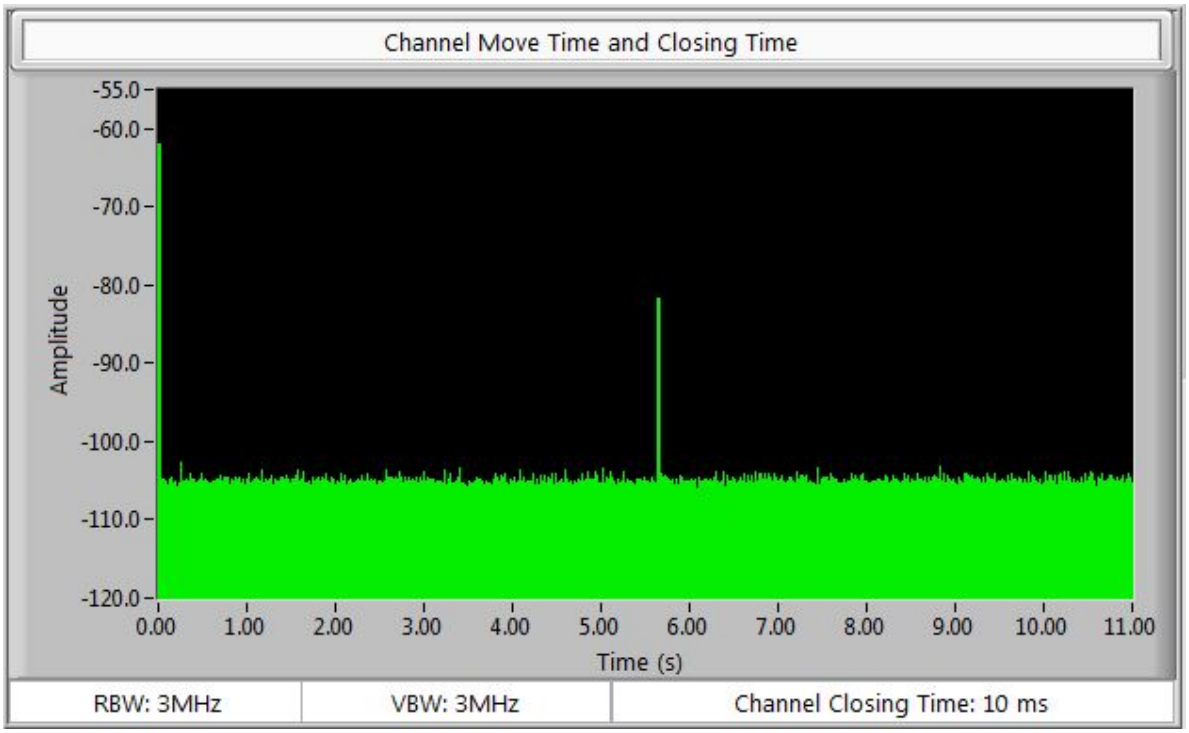


Test Result-5530MHz

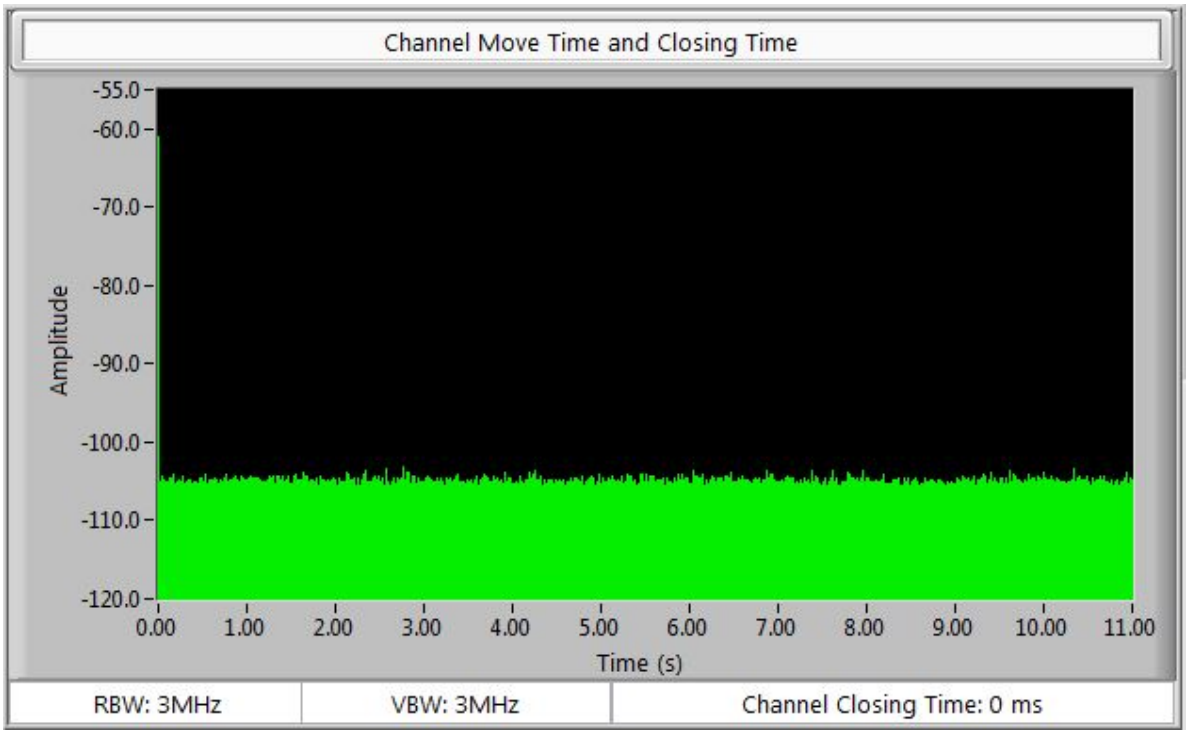


Channel Closing Transmission Time and Move Time for Radar Type 2

Test Result-5290MHz

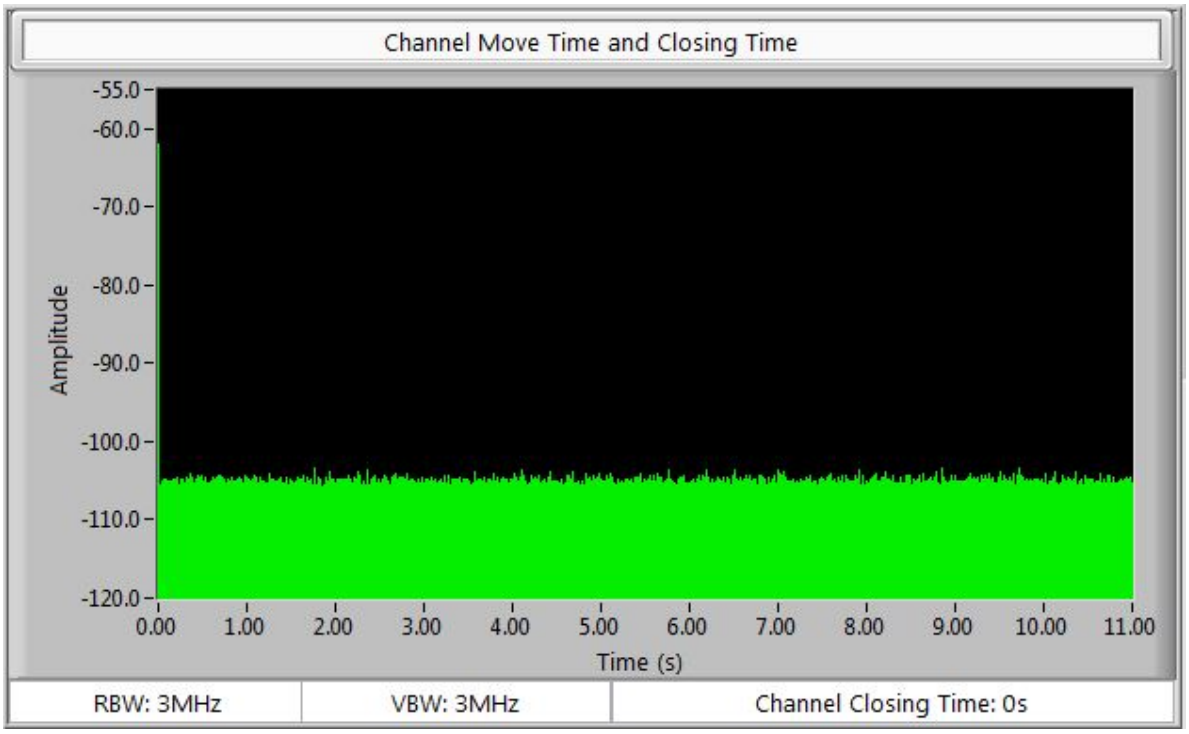


Test Result-5530MHz

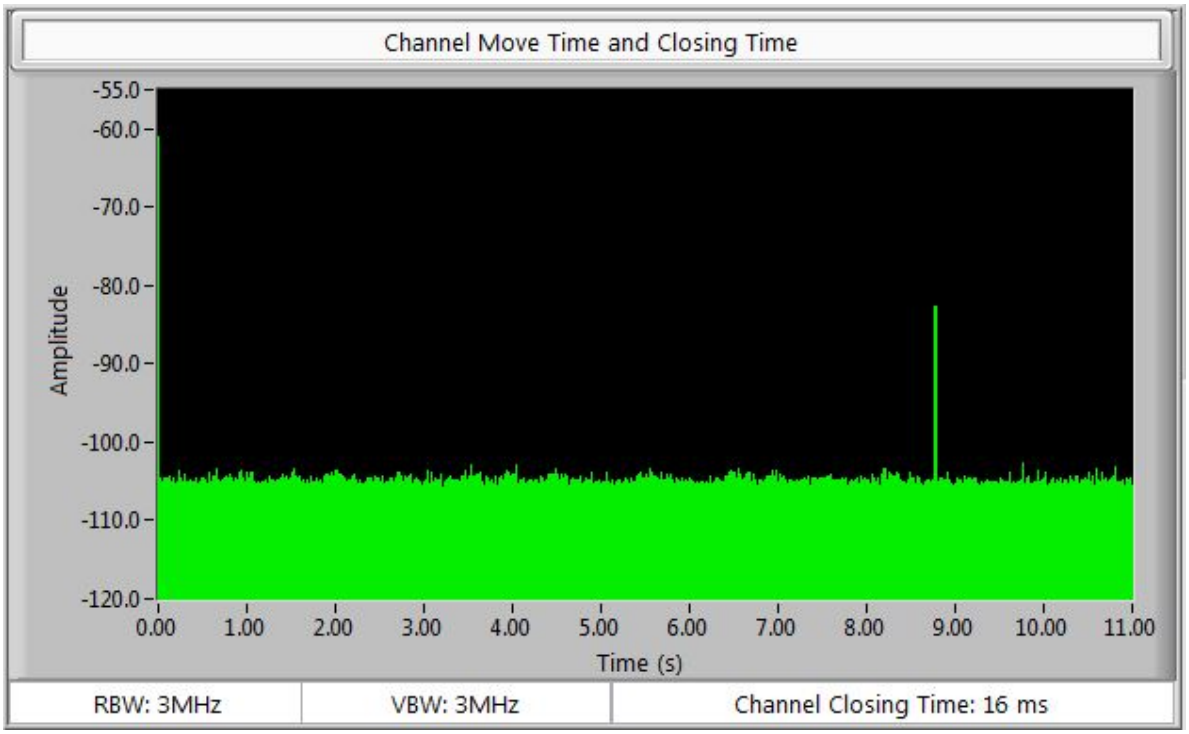


Channel Closing Transmission Time and Move Time for Radar Type 3

Test Result-5290MHz

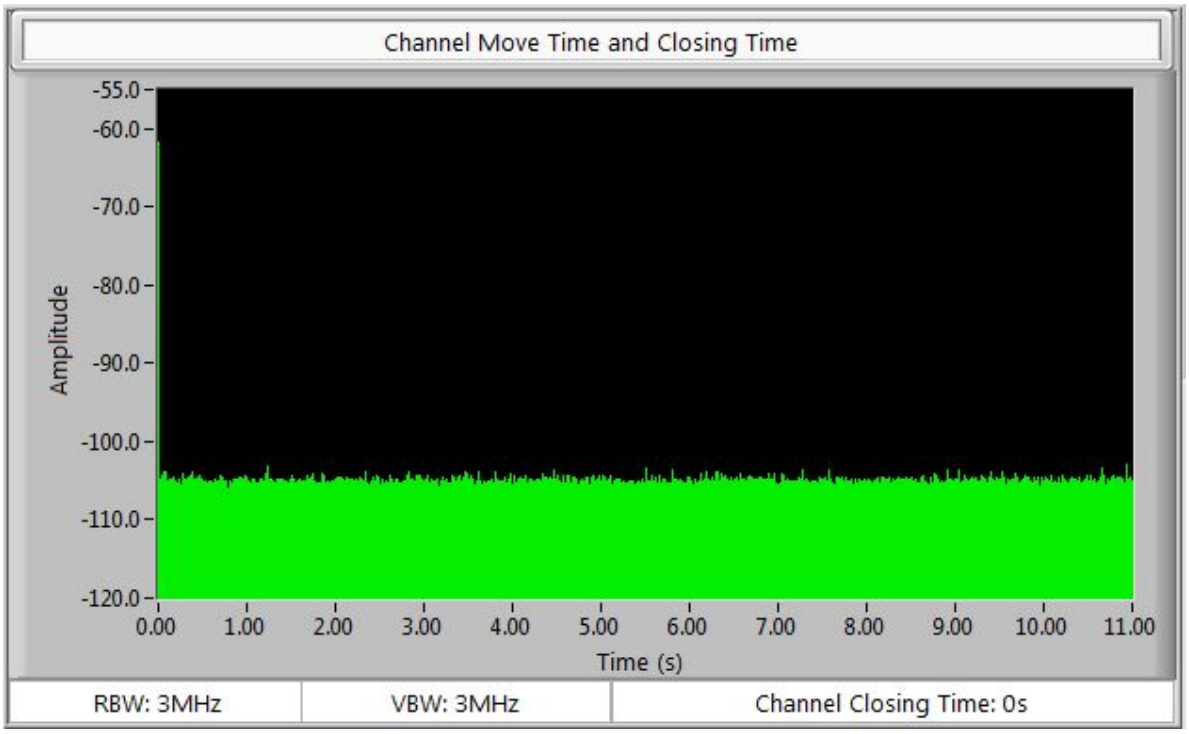


Test Result-5530MHz

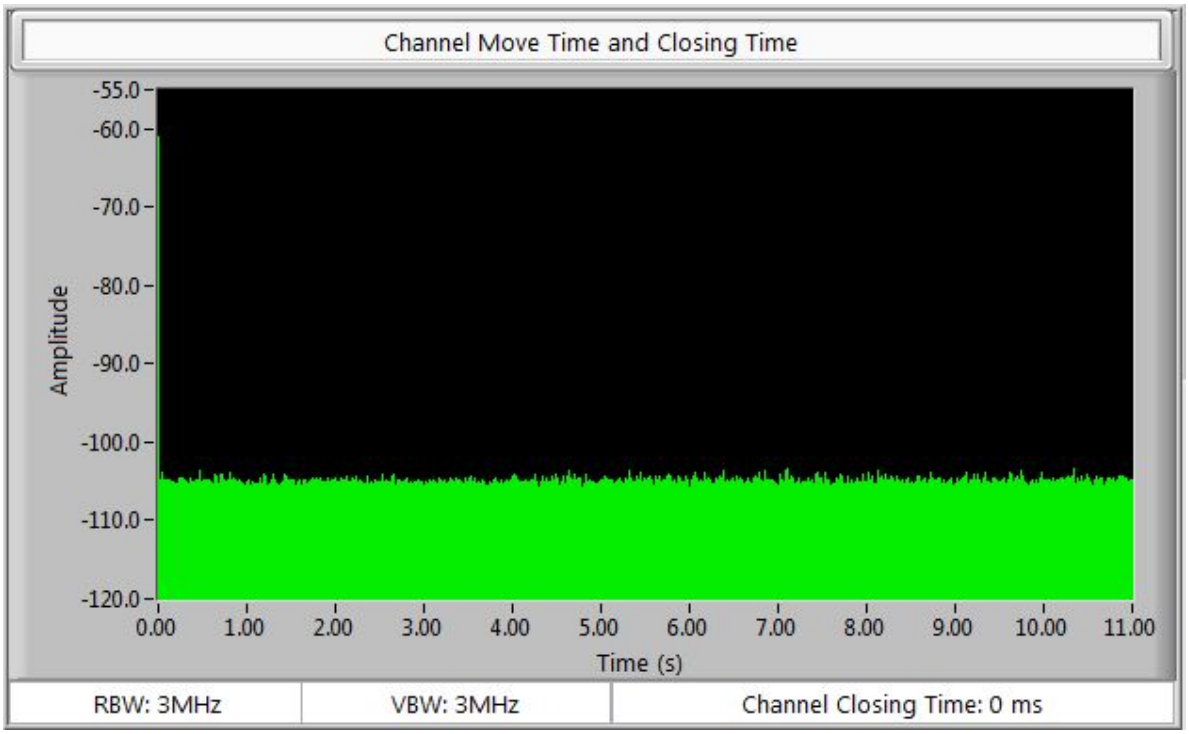


Channel Closing Transmission Time and Move Time for Radar Type 4

Test Result-5290MHz

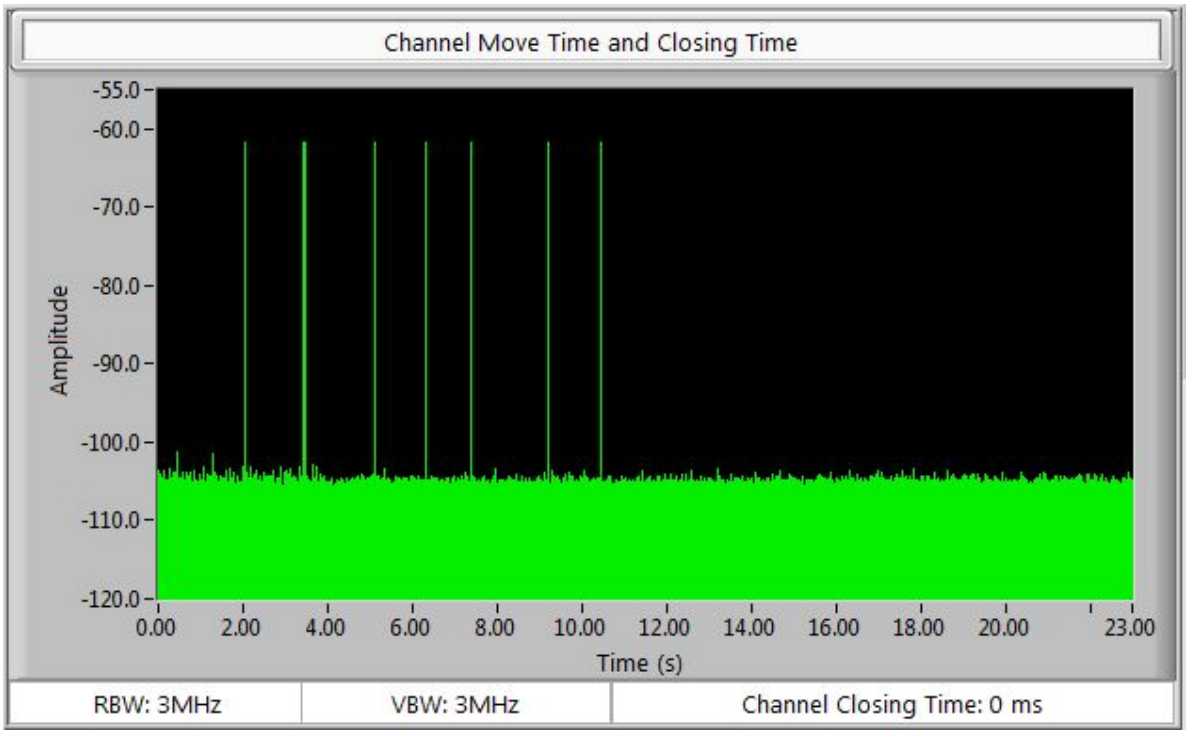


Test Result-5530MHz

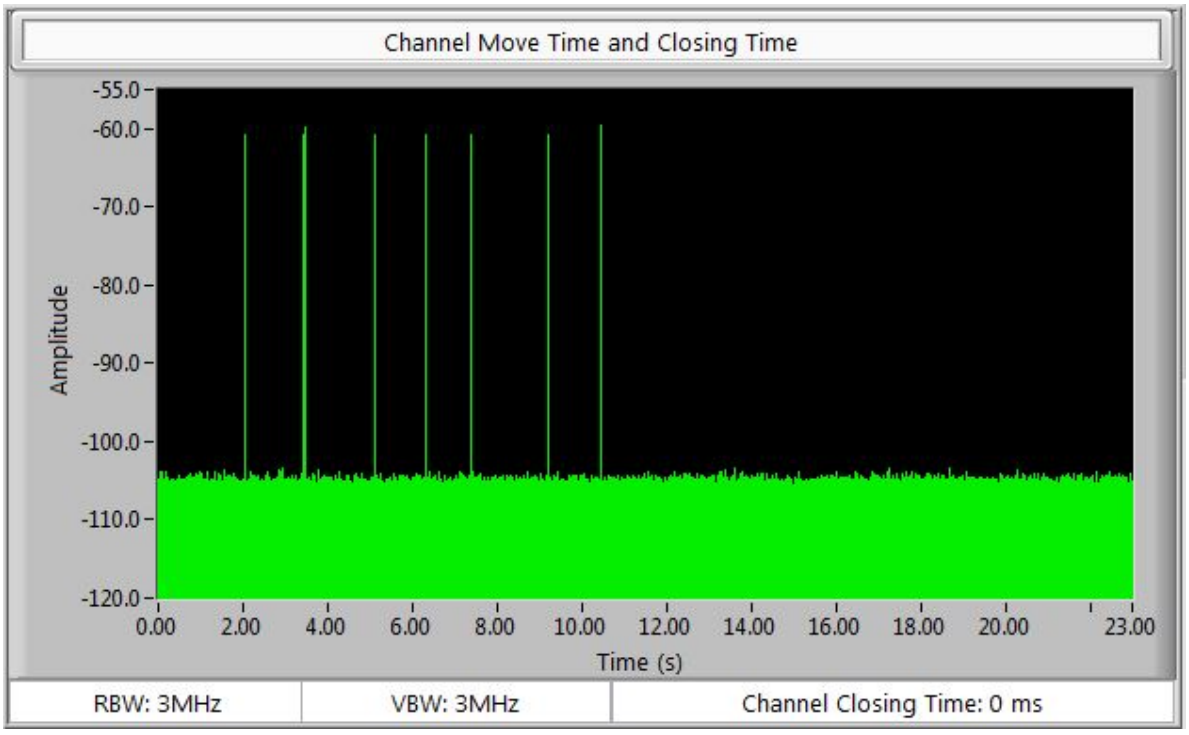


Channel Closing Transmission Time and Move Time for Radar Type 5

Test Result-5290MHz

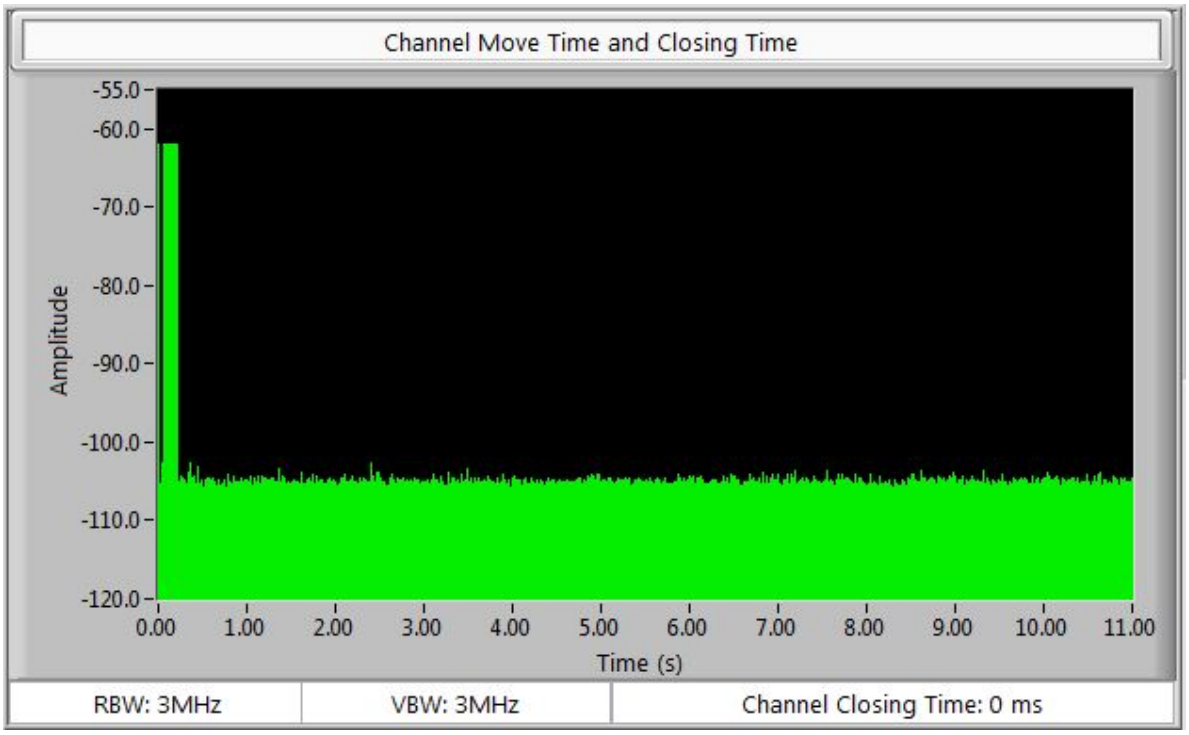


Test Result-5530MHz

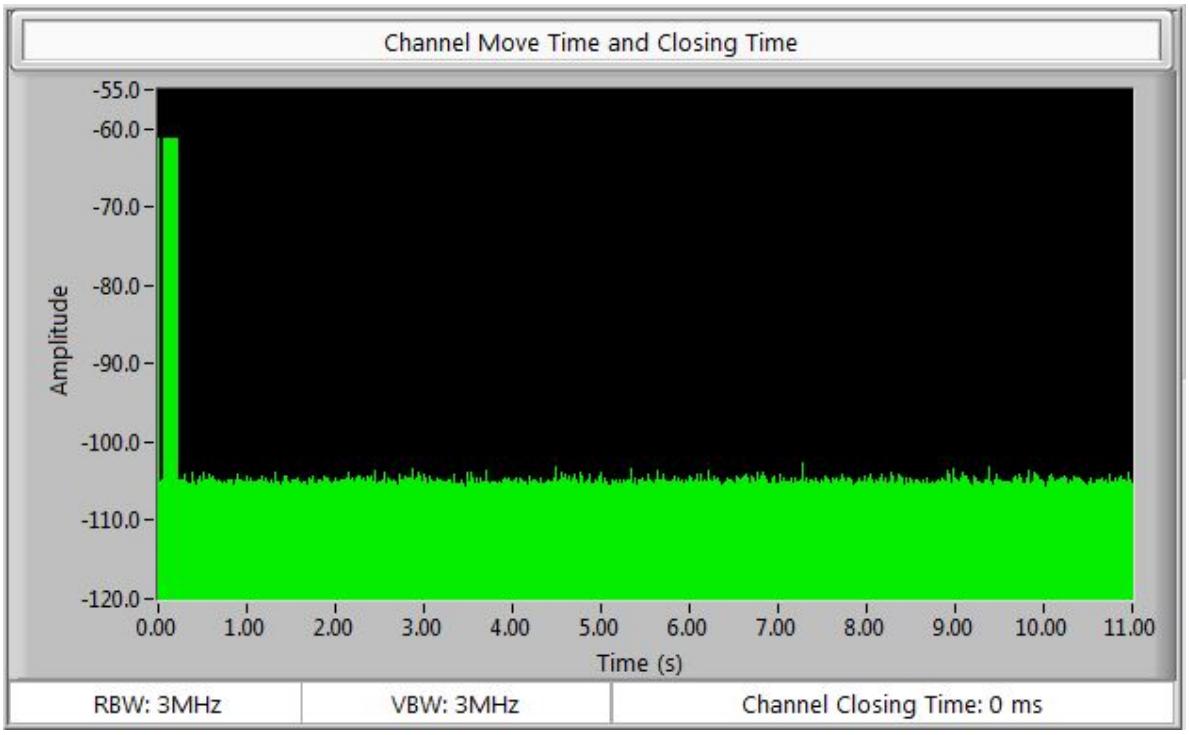


Channel Closing Transmission Time and Move Time for Radar Type 6

Test Result-5290MHz



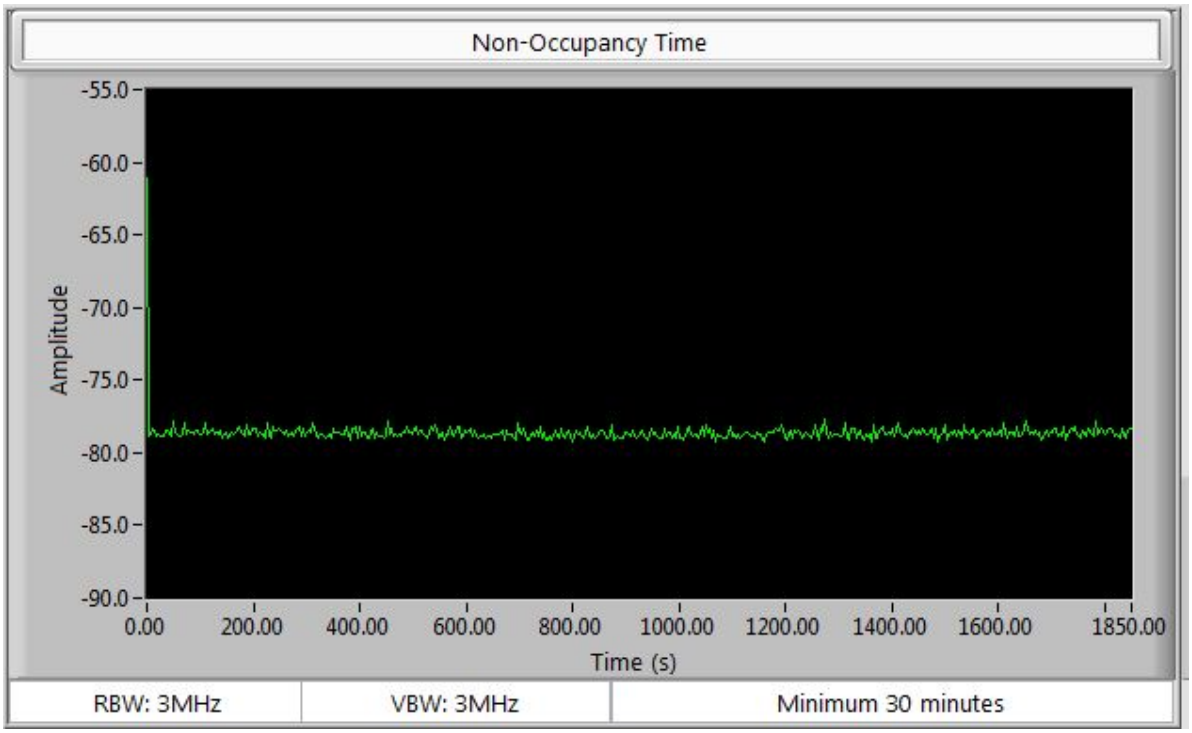
Test Result-5530MHz



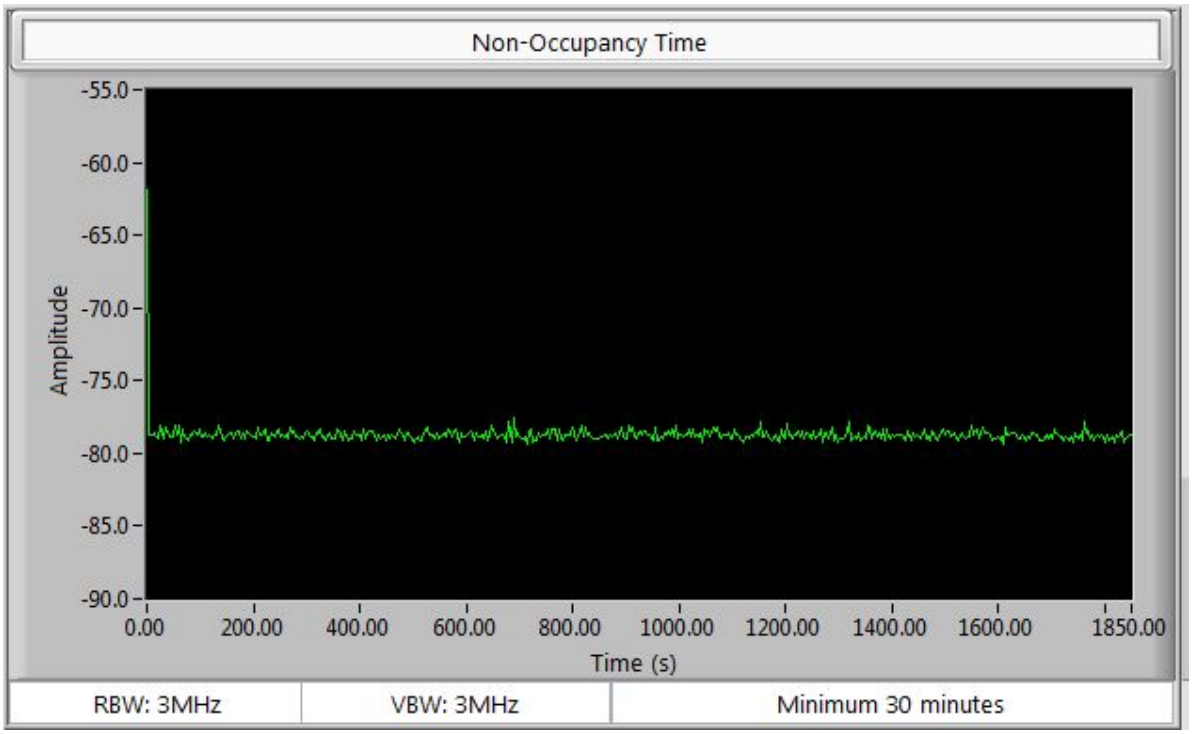
The EUT is monitor for more than 30 minutes following the close/move time to and verifying no transmissions resume on that channel.

30 Minutes Non –Occupancy Time

Test Result-5290MHz



Test Result-5530MHz



Statistical Performance Check-802.11ac80

Statistical Performance Check. 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 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 Low, Mid and High Channel. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

The Radar Waveform generator sends the individual waveform for each of the radar types 1-6 at -62dbm. 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

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

The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in the Radar Test Waveforms section.

Radar Type 1

Test Result-5290MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5279	FCC Radar Type 1	Waveform 1	Completed	Yes
2	5278	FCC Radar Type 1	Waveform 2	Completed	Yes
3	5277	FCC Radar Type 1	Waveform 3	Completed	Yes
4	5276	FCC Radar Type 1	Waveform 4	Completed	Yes
5	5275	FCC Radar Type 1	Waveform 5	Completed	Yes
6	5274	FCC Radar Type 1	Waveform 6	Completed	Yes
7	5273	FCC Radar Type 1	Waveform 7	Completed	Yes
8	5264	FCC Radar Type 1	Waveform 8	Completed	Yes
9	5263	FCC Radar Type 1	Waveform 9	Completed	Yes
10	5262	FCC Radar Type 1	Waveform 10	Completed	Yes
11	5261	FCC Radar Type 1	Waveform 11	Completed	Yes
12	5260	FCC Radar Type 1	Waveform 12	Completed	Yes
13	5259	FCC Radar Type 1	Waveform 13	Completed	Yes
14	5258	FCC Radar Type 1	Waveform 14	Completed	Yes
15	5257	FCC Radar Type 1	Waveform 15	Completed	Yes
16	5256	FCC Radar Type 1	Waveform 16	Completed	Yes
17	5255	FCC Radar Type 1	Waveform 17	Completed	Yes
18	5254	FCC Radar Type 1	Waveform 18	Completed	Yes
19	5253	FCC Radar Type 1	Waveform 19	Completed	Yes
20	5252	FCC Radar Type 1	Waveform 20	Completed	Yes
21	5251	FCC Radar Type 1	Waveform 21	Completed	Yes
22	5250	FCC Radar Type 1	Waveform 22	Completed	Yes
23	5272	FCC Radar Type 1	Waveform 23	Completed	Yes
24	5271	FCC Radar Type 1	Waveform 24	Completed	Yes
25	5270	FCC Radar Type 1	Waveform 25	Completed	Yes
26	5269	FCC Radar Type 1	Waveform 26	Completed	Yes
27	5268	FCC Radar Type 1	Waveform 27	Completed	Yes
28	5267	FCC Radar Type 1	Waveform 28	Completed	Yes
29	5266	FCC Radar Type 1	Waveform 29	Completed	Yes
30	5265	FCC Radar Type 1	Waveform 30	Completed	Yes
					Detection Probability Rate %: 100.000

Test Result-5530MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5519	FCC Radar Type 1	Waveform 1	Completed	Yes
2	5518	FCC Radar Type 1	Waveform 2	Completed	Yes
3	5517	FCC Radar Type 1	Waveform 3	Completed	Yes
4	5516	FCC Radar Type 1	Waveform 4	Completed	Yes
5	5515	FCC Radar Type 1	Waveform 5	Completed	Yes
6	5514	FCC Radar Type 1	Waveform 6	Completed	Yes
7	5513	FCC Radar Type 1	Waveform 7	Completed	Yes
8	5504	FCC Radar Type 1	Waveform 8	Completed	Yes
9	5503	FCC Radar Type 1	Waveform 9	Completed	Yes
10	5502	FCC Radar Type 1	Waveform 10	Completed	Yes
11	5501	FCC Radar Type 1	Waveform 11	Completed	Yes
12	5500	FCC Radar Type 1	Waveform 12	Completed	Yes
13	5499	FCC Radar Type 1	Waveform 13	Completed	Yes
14	5498	FCC Radar Type 1	Waveform 14	Completed	Yes
15	5497	FCC Radar Type 1	Waveform 15	Completed	Yes
16	5496	FCC Radar Type 1	Waveform 16	Completed	Yes
17	5495	FCC Radar Type 1	Waveform 17	Completed	Yes
18	5494	FCC Radar Type 1	Waveform 18	Completed	Yes
19	5493	FCC Radar Type 1	Waveform 19	Completed	Yes
20	5492	FCC Radar Type 1	Waveform 20	Completed	Yes
21	5491	FCC Radar Type 1	Waveform 21	Completed	Yes
22	5490	FCC Radar Type 1	Waveform 22	Completed	Yes
23	5512	FCC Radar Type 1	Waveform 23	Completed	Yes
24	5511	FCC Radar Type 1	Waveform 24	Completed	Yes
25	5510	FCC Radar Type 1	Waveform 25	Completed	Yes
26	5509	FCC Radar Type 1	Waveform 26	Completed	Yes
27	5508	FCC Radar Type 1	Waveform 27	Completed	Yes
28	5507	FCC Radar Type 1	Waveform 28	Completed	Yes
29	5506	FCC Radar Type 1	Waveform 29	Completed	Yes
30	5505	FCC Radar Type 1	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.000					

Radar Type 2

Test Result-5290MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5279	FCC Radar Type 2	Waveform 1	Completed	No
2	5278	FCC Radar Type 2	Waveform 2	Completed	Yes
3	5277	FCC Radar Type 2	Waveform 3	Completed	Yes
4	5276	FCC Radar Type 2	Waveform 4	Completed	Yes
5	5275	FCC Radar Type 2	Waveform 5	Completed	Yes
6	5274	FCC Radar Type 2	Waveform 6	Completed	Yes
7	5273	FCC Radar Type 2	Waveform 7	Completed	Yes
8	5264	FCC Radar Type 2	Waveform 8	Completed	Yes
9	5263	FCC Radar Type 2	Waveform 9	Completed	Yes
10	5262	FCC Radar Type 2	Waveform 10	Completed	Yes
11	5261	FCC Radar Type 2	Waveform 11	Completed	Yes
12	5260	FCC Radar Type 2	Waveform 12	Completed	Yes
13	5259	FCC Radar Type 2	Waveform 13	Completed	Yes
14	5258	FCC Radar Type 2	Waveform 14	Completed	Yes
15	5257	FCC Radar Type 2	Waveform 15	Completed	Yes
16	5256	FCC Radar Type 2	Waveform 16	Completed	Yes
17	5255	FCC Radar Type 2	Waveform 17	Completed	Yes
18	5254	FCC Radar Type 2	Waveform 18	Completed	Yes
19	5253	FCC Radar Type 2	Waveform 19	Completed	Yes
20	5252	FCC Radar Type 2	Waveform 20	Completed	No
21	5251	FCC Radar Type 2	Waveform 21	Completed	No
22	5250	FCC Radar Type 2	Waveform 22	Completed	Yes
23	5272	FCC Radar Type 2	Waveform 23	Completed	Yes
24	5271	FCC Radar Type 2	Waveform 24	Completed	Yes
25	5270	FCC Radar Type 2	Waveform 25	Completed	Yes
26	5269	FCC Radar Type 2	Waveform 26	Completed	Yes
27	5268	FCC Radar Type 2	Waveform 27	Completed	Yes
28	5267	FCC Radar Type 2	Waveform 28	Completed	Yes
29	5266	FCC Radar Type 2	Waveform 29	Completed	Yes
30	5265	FCC Radar Type 2	Waveform 30	Completed	Yes
Detection Probability Rate %: 90.00					

Test Result-5530MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5519	FCC Radar Type 2	Waveform 1	Completed	Yes
2	5518	FCC Radar Type 2	Waveform 2	Completed	Yes
3	5517	FCC Radar Type 2	Waveform 3	Completed	Yes
4	5516	FCC Radar Type 2	Waveform 4	Completed	Yes
5	5515	FCC Radar Type 2	Waveform 5	Completed	Yes
6	5514	FCC Radar Type 2	Waveform 6	Completed	Yes
7	5513	FCC Radar Type 2	Waveform 7	Completed	Yes
8	5504	FCC Radar Type 2	Waveform 8	Completed	Yes
9	5503	FCC Radar Type 2	Waveform 9	Completed	Yes
10	5502	FCC Radar Type 2	Waveform 10	Completed	Yes
11	5501	FCC Radar Type 2	Waveform 11	Completed	Yes
12	5500	FCC Radar Type 2	Waveform 12	Completed	Yes
13	5499	FCC Radar Type 2	Waveform 13	Completed	Yes
14	5498	FCC Radar Type 2	Waveform 14	Completed	Yes
15	5497	FCC Radar Type 2	Waveform 15	Completed	Yes
16	5496	FCC Radar Type 2	Waveform 16	Completed	Yes
17	5495	FCC Radar Type 2	Waveform 17	Completed	Yes
18	5494	FCC Radar Type 2	Waveform 18	Completed	Yes
19	5493	FCC Radar Type 2	Waveform 19	Completed	Yes
20	5492	FCC Radar Type 2	Waveform 20	Completed	Yes
21	5491	FCC Radar Type 2	Waveform 21	Completed	Yes
22	5490	FCC Radar Type 2	Waveform 22	Completed	Yes
23	5512	FCC Radar Type 2	Waveform 23	Completed	Yes
24	5511	FCC Radar Type 2	Waveform 24	Completed	Yes
25	5510	FCC Radar Type 2	Waveform 25	Completed	Yes
26	5509	FCC Radar Type 2	Waveform 26	Completed	Yes
27	5508	FCC Radar Type 2	Waveform 27	Completed	Yes
28	5507	FCC Radar Type 2	Waveform 28	Completed	Yes
29	5506	FCC Radar Type 2	Waveform 29	Completed	Yes
30	5505	FCC Radar Type 2	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.00					

Radar Type 3

Test Result-5290MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5279	FCC Radar Type 3	Waveform 1	Completed	Yes
2	5278	FCC Radar Type 3	Waveform 2	Completed	Yes
3	5277	FCC Radar Type 3	Waveform 3	Completed	Yes
4	5276	FCC Radar Type 3	Waveform 4	Completed	Yes
5	5275	FCC Radar Type 3	Waveform 5	Completed	Yes
6	5274	FCC Radar Type 3	Waveform 6	Completed	Yes
7	5273	FCC Radar Type 3	Waveform 7	Completed	Yes
8	5264	FCC Radar Type 3	Waveform 8	Completed	Yes
9	5263	FCC Radar Type 3	Waveform 9	Completed	Yes
10	5262	FCC Radar Type 3	Waveform 10	Completed	Yes
11	5261	FCC Radar Type 3	Waveform 11	Completed	Yes
12	5260	FCC Radar Type 3	Waveform 12	Completed	Yes
13	5259	FCC Radar Type 3	Waveform 13	Completed	Yes
14	5258	FCC Radar Type 3	Waveform 14	Completed	Yes
15	5257	FCC Radar Type 3	Waveform 15	Completed	Yes
16	5256	FCC Radar Type 3	Waveform 16	Completed	Yes
17	5255	FCC Radar Type 3	Waveform 17	Completed	Yes
18	5254	FCC Radar Type 3	Waveform 18	Completed	Yes
19	5253	FCC Radar Type 3	Waveform 19	Completed	Yes
20	5252	FCC Radar Type 3	Waveform 20	Completed	No
21	5251	FCC Radar Type 3	Waveform 21	Completed	No
22	5250	FCC Radar Type 3	Waveform 22	Completed	No
23	5272	FCC Radar Type 3	Waveform 23	Completed	Yes
24	5271	FCC Radar Type 3	Waveform 24	Completed	Yes
25	5270	FCC Radar Type 3	Waveform 25	Completed	Yes
26	5269	FCC Radar Type 3	Waveform 26	Completed	Yes
27	5268	FCC Radar Type 3	Waveform 27	Completed	Yes
28	5267	FCC Radar Type 3	Waveform 28	Completed	Yes
29	5266	FCC Radar Type 3	Waveform 29	Completed	Yes
30	5265	FCC Radar Type 3	Waveform 30	Completed	Yes
Detection Probability Rate %: 90.00					

Test Result-5530MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5519	FCC Radar Type 3	Waveform 1	Completed	Yes
2	5518	FCC Radar Type 3	Waveform 2	Completed	No
3	5517	FCC Radar Type 3	Waveform 3	Completed	Yes
4	5516	FCC Radar Type 3	Waveform 4	Completed	Yes
5	5515	FCC Radar Type 3	Waveform 5	Completed	Yes
6	5514	FCC Radar Type 3	Waveform 6	Completed	Yes
7	5513	FCC Radar Type 3	Waveform 7	Completed	Yes
8	5504	FCC Radar Type 3	Waveform 8	Completed	No
9	5503	FCC Radar Type 3	Waveform 9	Completed	Yes
10	5502	FCC Radar Type 3	Waveform 10	Completed	Yes
11	5501	FCC Radar Type 3	Waveform 11	Completed	Yes
12	5500	FCC Radar Type 3	Waveform 12	Completed	Yes
13	5499	FCC Radar Type 3	Waveform 13	Completed	No
14	5498	FCC Radar Type 3	Waveform 14	Completed	Yes
15	5497	FCC Radar Type 3	Waveform 15	Completed	Yes
16	5496	FCC Radar Type 3	Waveform 16	Completed	Yes
17	5495	FCC Radar Type 3	Waveform 17	Completed	Yes
18	5494	FCC Radar Type 3	Waveform 18	Completed	Yes
19	5493	FCC Radar Type 3	Waveform 19	Completed	Yes
20	5492	FCC Radar Type 3	Waveform 20	Completed	Yes
21	5491	FCC Radar Type 3	Waveform 21	Completed	Yes
22	5490	FCC Radar Type 3	Waveform 22	Completed	Yes
23	5512	FCC Radar Type 3	Waveform 23	Completed	Yes
24	5511	FCC Radar Type 3	Waveform 24	Completed	Yes
25	5510	FCC Radar Type 3	Waveform 25	Completed	Yes
26	5509	FCC Radar Type 3	Waveform 26	Completed	Yes
27	5508	FCC Radar Type 3	Waveform 27	Completed	Yes
28	5507	FCC Radar Type 3	Waveform 28	Completed	Yes
29	5506	FCC Radar Type 3	Waveform 29	Completed	Yes
30	5505	FCC Radar Type 3	Waveform 30	Completed	Yes
Detection Probability Rate %: 90.00					

Radar Type 4

Test Result-5290MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5279	FCC Radar Type 4	Waveform 1	Completed	Yes
2	5278	FCC Radar Type 4	Waveform 2	Completed	Yes
3	5277	FCC Radar Type 4	Waveform 3	Completed	Yes
4	5276	FCC Radar Type 4	Waveform 4	Completed	Yes
5	5275	FCC Radar Type 4	Waveform 5	Completed	Yes
6	5274	FCC Radar Type 4	Waveform 6	Completed	Yes
7	5273	FCC Radar Type 4	Waveform 7	Completed	Yes
8	5264	FCC Radar Type 4	Waveform 8	Completed	Yes
9	5263	FCC Radar Type 4	Waveform 9	Completed	Yes
10	5262	FCC Radar Type 4	Waveform 10	Completed	Yes
11	5261	FCC Radar Type 4	Waveform 11	Completed	No
12	5260	FCC Radar Type 4	Waveform 12	Completed	Yes
13	5259	FCC Radar Type 4	Waveform 13	Completed	No
14	5258	FCC Radar Type 4	Waveform 14	Completed	Yes
15	5257	FCC Radar Type 4	Waveform 15	Completed	Yes
16	5256	FCC Radar Type 4	Waveform 16	Completed	Yes
17	5255	FCC Radar Type 4	Waveform 17	Completed	Yes
18	5254	FCC Radar Type 4	Waveform 18	Completed	Yes
19	5253	FCC Radar Type 4	Waveform 19	Completed	Yes
20	5252	FCC Radar Type 4	Waveform 20	Completed	Yes
21	5251	FCC Radar Type 4	Waveform 21	Completed	Yes
22	5250	FCC Radar Type 4	Waveform 22	Completed	No
23	5272	FCC Radar Type 4	Waveform 23	Completed	Yes
24	5271	FCC Radar Type 4	Waveform 24	Completed	Yes
25	5270	FCC Radar Type 4	Waveform 25	Completed	Yes
26	5269	FCC Radar Type 4	Waveform 26	Completed	Yes
27	5268	FCC Radar Type 4	Waveform 27	Completed	Yes
28	5267	FCC Radar Type 4	Waveform 28	Completed	Yes
29	5266	FCC Radar Type 4	Waveform 29	Completed	Yes
30	5265	FCC Radar Type 4	Waveform 30	Completed	Yes
					Detection Probability Rate %: 90.00

Test Result-5530MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5519	FCC Radar Type 4	Waveform 1	Completed	No
2	5518	FCC Radar Type 4	Waveform 2	Completed	Yes
3	5517	FCC Radar Type 4	Waveform 3	Completed	Yes
4	5516	FCC Radar Type 4	Waveform 4	Completed	Yes
5	5515	FCC Radar Type 4	Waveform 5	Completed	Yes
6	5514	FCC Radar Type 4	Waveform 6	Completed	Yes
7	5513	FCC Radar Type 4	Waveform 7	Completed	Yes
8	5504	FCC Radar Type 4	Waveform 8	Completed	Yes
9	5503	FCC Radar Type 4	Waveform 9	Completed	Yes
10	5502	FCC Radar Type 4	Waveform 10	Completed	No
11	5501	FCC Radar Type 4	Waveform 11	Completed	Yes
12	5500	FCC Radar Type 4	Waveform 12	Completed	Yes
13	5499	FCC Radar Type 4	Waveform 13	Completed	Yes
14	5498	FCC Radar Type 4	Waveform 14	Completed	Yes
15	5497	FCC Radar Type 4	Waveform 15	Completed	Yes
16	5496	FCC Radar Type 4	Waveform 16	Completed	No
17	5495	FCC Radar Type 4	Waveform 17	Completed	Yes
18	5494	FCC Radar Type 4	Waveform 18	Completed	Yes
19	5493	FCC Radar Type 4	Waveform 19	Completed	Yes
20	5492	FCC Radar Type 4	Waveform 20	Completed	Yes
21	5491	FCC Radar Type 4	Waveform 21	Completed	Yes
22	5490	FCC Radar Type 4	Waveform 22	Completed	Yes
23	5512	FCC Radar Type 4	Waveform 23	Completed	Yes
24	5511	FCC Radar Type 4	Waveform 24	Completed	Yes
25	5510	FCC Radar Type 4	Waveform 25	Completed	Yes
26	5509	FCC Radar Type 4	Waveform 26	Completed	Yes
27	5508	FCC Radar Type 4	Waveform 27	Completed	Yes
28	5507	FCC Radar Type 4	Waveform 28	Completed	Yes
29	5506	FCC Radar Type 4	Waveform 29	Completed	Yes
30	5505	FCC Radar Type 4	Waveform 30	Completed	Yes
					Detection Probability Rate %: 90.00

Radar Type 5

Test Result-5290MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5299	FCC Radar Type 5	Waveform 1	Completed	Yes
2	5298	FCC Radar Type 5	Waveform 2	Completed	No
3	5297	FCC Radar Type 5	Waveform 3	Completed	Yes
4	5296	FCC Radar Type 5	Waveform 4	Completed	Yes
5	5295	FCC Radar Type 5	Waveform 5	Completed	Yes
6	5294	FCC Radar Type 5	Waveform 6	Completed	No
7	5293	FCC Radar Type 5	Waveform 7	Completed	Yes
8	5292	FCC Radar Type 5	Waveform 8	Completed	Yes
9	5291	FCC Radar Type 5	Waveform 9	Completed	Yes
10	5290	FCC Radar Type 5	Waveform 10	Completed	Yes
11	5289	FCC Radar Type 5	Waveform 11	Completed	Yes
12	5288	FCC Radar Type 5	Waveform 12	Completed	No
13	5287	FCC Radar Type 5	Waveform 13	Completed	Yes
14	5274	FCC Radar Type 5	Waveform 14	Completed	Yes
15	5273	FCC Radar Type 5	Waveform 15	Completed	No
16	5272	FCC Radar Type 5	Waveform 16	Completed	Yes
17	5271	FCC Radar Type 5	Waveform 17	Completed	No
18	5270	FCC Radar Type 5	Waveform 18	Completed	Yes
19	5269	FCC Radar Type 5	Waveform 19	Completed	Yes
20	5268	FCC Radar Type 5	Waveform 20	Completed	Yes
21	5267	FCC Radar Type 5	Waveform 21	Completed	Yes
22	5266	FCC Radar Type 5	Waveform 22	Completed	Yes
23	5265	FCC Radar Type 5	Waveform 23	Completed	No
24	5264	FCC Radar Type 5	Waveform 24	Completed	Yes
25	5263	FCC Radar Type 5	Waveform 25	Completed	Yes
26	5262	FCC Radar Type 5	Waveform 26	Completed	Yes
27	5261	FCC Radar Type 5	Waveform 27	Completed	Yes
28	5260	FCC Radar Type 5	Waveform 28	Completed	Yes
29	5259	FCC Radar Type 5	Waveform 29	Completed	Yes
30	5258	FCC Radar Type 5	Waveform 30	Completed	Yes
					Detection Probability Rate %: 80.00

Test Result-5530MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5539	FCC Radar Type 5	Waveform 1	Completed	Yes
2	5538	FCC Radar Type 5	Waveform 2	Completed	No
3	5537	FCC Radar Type 5	Waveform 3	Completed	Yes
4	5536	FCC Radar Type 5	Waveform 4	Completed	Yes
5	5535	FCC Radar Type 5	Waveform 5	Completed	No
6	5534	FCC Radar Type 5	Waveform 6	Completed	Yes
7	5533	FCC Radar Type 5	Waveform 7	Completed	Yes
8	5532	FCC Radar Type 5	Waveform 8	Completed	Yes
9	5531	FCC Radar Type 5	Waveform 9	Completed	Yes
10	5530	FCC Radar Type 5	Waveform 10	Completed	Yes
11	5529	FCC Radar Type 5	Waveform 11	Completed	Yes
12	5528	FCC Radar Type 5	Waveform 12	Completed	No
13	5527	FCC Radar Type 5	Waveform 13	Completed	Yes
14	5514	FCC Radar Type 5	Waveform 14	Completed	Yes
15	5513	FCC Radar Type 5	Waveform 15	Completed	Yes
16	5512	FCC Radar Type 5	Waveform 16	Completed	Yes
17	5511	FCC Radar Type 5	Waveform 17	Completed	No
18	5510	FCC Radar Type 5	Waveform 18	Completed	Yes
19	5509	FCC Radar Type 5	Waveform 19	Completed	Yes
20	5508	FCC Radar Type 5	Waveform 20	Completed	Yes
21	5507	FCC Radar Type 5	Waveform 21	Completed	Yes
22	5506	FCC Radar Type 5	Waveform 22	Completed	Yes
23	5505	FCC Radar Type 5	Waveform 23	Completed	No
24	5504	FCC Radar Type 5	Waveform 24	Completed	Yes
25	5503	FCC Radar Type 5	Waveform 25	Completed	Yes
26	5502	FCC Radar Type 5	Waveform 26	Completed	Yes
27	5501	FCC Radar Type 5	Waveform 27	Completed	No
28	5500	FCC Radar Type 5	Waveform 28	Completed	Yes
29	5499	FCC Radar Type 5	Waveform 29	Completed	Yes
30	5498	FCC Radar Type 5	Waveform 30	Completed	Yes
					Detection Probability Rate %: 80.00

*Please see the Annex B for Radar Type 5 waveform characteristic

Radar Type 6

Test Result-5290MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5279	FCC Radar Type 6	Waveform 1	Completed	Yes
2	5278	FCC Radar Type 6	Waveform 2	Completed	Yes
3	5277	FCC Radar Type 6	Waveform 3	Completed	Yes
4	5276	FCC Radar Type 6	Waveform 4	Completed	Yes
5	5275	FCC Radar Type 6	Waveform 5	Completed	Yes
6	5274	FCC Radar Type 6	Waveform 6	Completed	Yes
7	5273	FCC Radar Type 6	Waveform 7	Completed	Yes
8	5264	FCC Radar Type 6	Waveform 8	Completed	Yes
9	5263	FCC Radar Type 6	Waveform 9	Completed	Yes
10	5262	FCC Radar Type 6	Waveform 10	Completed	Yes
11	5261	FCC Radar Type 6	Waveform 11	Completed	Yes
12	5260	FCC Radar Type 6	Waveform 12	Completed	Yes
13	5259	FCC Radar Type 6	Waveform 13	Completed	Yes
14	5258	FCC Radar Type 6	Waveform 14	Completed	Yes
15	5257	FCC Radar Type 6	Waveform 15	Completed	Yes
16	5256	FCC Radar Type 6	Waveform 16	Completed	Yes
17	5255	FCC Radar Type 6	Waveform 17	Completed	Yes
18	5254	FCC Radar Type 6	Waveform 18	Completed	Yes
19	5253	FCC Radar Type 6	Waveform 19	Completed	Yes
20	5252	FCC Radar Type 6	Waveform 20	Completed	Yes
21	5251	FCC Radar Type 6	Waveform 21	Completed	Yes
22	5250	FCC Radar Type 6	Waveform 22	Completed	Yes
23	5272	FCC Radar Type 6	Waveform 23	Completed	Yes
24	5271	FCC Radar Type 6	Waveform 24	Completed	Yes
25	5270	FCC Radar Type 6	Waveform 25	Completed	Yes
26	5269	FCC Radar Type 6	Waveform 26	Completed	Yes
27	5268	FCC Radar Type 6	Waveform 27	Completed	Yes
28	5267	FCC Radar Type 6	Waveform 28	Completed	Yes
29	5266	FCC Radar Type 6	Waveform 29	Completed	Yes
30	5265	FCC Radar Type 6	Waveform 30	Completed	Yes
Detection Probability Rate %: 100.00					

Test Result-5530MHz

Trials	Frequency (MHz)	Radar Type	Waveform Type	Status	Result
1	5519	FCC Radar Type 6	Waveform 1	Completed	Yes
2	5518	FCC Radar Type 6	Waveform 2	Completed	Yes
3	5517	FCC Radar Type 6	Waveform 3	Completed	Yes
4	5516	FCC Radar Type 6	Waveform 4	Completed	Yes
5	5515	FCC Radar Type 6	Waveform 5	Completed	Yes
6	5514	FCC Radar Type 6	Waveform 6	Completed	Yes
7	5513	FCC Radar Type 6	Waveform 7	Completed	Yes
8	5504	FCC Radar Type 6	Waveform 8	Completed	Yes
9	5503	FCC Radar Type 6	Waveform 9	Completed	Yes
10	5502	FCC Radar Type 6	Waveform 10	Completed	Yes
11	5501	FCC Radar Type 6	Waveform 11	Completed	Yes
12	5500	FCC Radar Type 6	Waveform 12	Completed	Yes
13	5499	FCC Radar Type 6	Waveform 13	Completed	Yes
14	5498	FCC Radar Type 6	Waveform 14	Completed	Yes
15	5497	FCC Radar Type 6	Waveform 15	Completed	Yes
16	5496	FCC Radar Type 6	Waveform 16	Completed	Yes
17	5495	FCC Radar Type 6	Waveform 17	Completed	Yes
18	5494	FCC Radar Type 6	Waveform 18	Completed	Yes
19	5493	FCC Radar Type 6	Waveform 19	Completed	Yes
20	5492	FCC Radar Type 6	Waveform 20	Completed	Yes
21	5491	FCC Radar Type 6	Waveform 21	Completed	Yes
22	5490	FCC Radar Type 6	Waveform 22	Completed	Yes
23	5512	FCC Radar Type 6	Waveform 23	Completed	Yes
24	5511	FCC Radar Type 6	Waveform 24	Completed	Yes
25	5510	FCC Radar Type 6	Waveform 25	Completed	Yes
26	5509	FCC Radar Type 6	Waveform 26	Completed	Yes
27	5508	FCC Radar Type 6	Waveform 27	Completed	Yes
28	5507	FCC Radar Type 6	Waveform 28	Completed	Yes
29	5506	FCC Radar Type 6	Waveform 29	Completed	Yes
30	5505	FCC Radar Type 6	Waveform 30	Completed	Yes
					Detection Probability Rate %: 100.00

Annex A. TEST INSTRUMENT & METHOD

Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

Instrument	Model	Serial #	Calibration Due
Signal Analyzer (Agilent)	N8010A	MY50210206	5/30/2014
Dual Channels Arbitrary Waveform Generator (Tabor Electronics Ltd)	WWW-1072	207593	6/04/2014
Synthesized Signal Generator (Agilent/HP)	HP8665B	3744A01304	6/05/2014
Synthesized Sweep Generator (Anritsu/Wultron)	68169B	973407	5/26/2014
Splitter/Combiner (Mini-Circuit)	ZFSC-2-9G+	S F030000719	N/A
Splitter/Combiner (Mini-Circuit)	ZFSC-2-9G+	S F030000718	N/A
Attenuator (30dB)	-	-	N/A
Attenuator (20dB)	-	-	N/A
Attenuator (10dB)	-	-	N/A
Attenuator (6dB)	-	-	N/A
Attenuator (3dB)	-	-	N/A

Annex B Radar Type 5 waveform characteristic

Waveform 1

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.5	2	60	1728	0.51	20
2	1.5 - 3.0	3	76	1076, 1580	2.55	10
3	3.0 - 4.5	3	72	1872, 1208	3.96	20
4	4.5 - 6.0	2	76	1860	5.655	10
5	6.0 - 7.5	3	100	1400, 1860	6.825	20
6	7.5 - 9.0	1	52	/	7.89	10
7	9.0 - 10.5	3	92	1460, 1720	9.735	20
8	10.5 - 12.0	3	64	1704, 1240	10.98	10

Waveform 2

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.5	1	96	/	0.315	20
2	1.5 - 3.0	2	56	1784	1.68	10
3	3.0 - 4.5	3	100	1204, 1064	3.675	20
4	4.5 - 6.0	1	72	/	4.905	10
5	6.0 - 7.5	1	92	/	6.75	20
6	7.5 - 9.0	3	68	1060, 1808	7.71	10
7	9.0 - 10.5	3	72	1824, 1700	9.45	20
8	10.5 - 12.0	1	64	/	11.355	10

Waveform 3

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.5	1	76	/	0.705	20
2	1.5 - 3.0	2	88	1964	2.505	10
3	3.0 - 4.5	1	100	/	3.375	20
4	4.5 - 6.0	1	60	/	5.19	10
5	6.0 - 7.5	1	64	/	6.585	20
6	7.5 - 9.0	1	56	/	7.905	10
7	9.0 - 10.5	1	100	/	9.75	20
8	10.5 - 12.0	3	96	1256, 1104	11.04	10

Waveform 4

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.5	1	52	/	0.645	20
2	1.5 - 3.0	3	56	1836, 1788	1.845	10
3	3.0 - 4.5	2	52	1416	3.66	20
4	4.5 - 6.0	2	56	1812	5.52	10
5	6.0 - 7.5	1	80	/	6.6	20
6	7.5 - 9.0	3	92	1928, 1036	8.58	10
7	9.0 - 10.5	2	84	2000	9.24	20
8	10.5 - 12.0	2	88	1036	11.115	10

Waveform 5

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.5	2	56	1952	0.435	20
2	1.5 - 3.0	1	60	/	2.04	10
3	3.0 - 4.5	2	92	1064	3.99	20
4	4.5 - 6.0	2	64	1540	4.875	10
5	6.0 - 7.5	1	72	/	6.525	20
6	7.5 - 9.0	2	76	1692	7.785	10
7	9.0 - 10.5	3	80	1900, 1072	9.465	20
8	10.5 - 12.0	2	76	1136	10.74	10

Waveform 6

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.2	3	56	1484, 1292	0.252	20
2	1.2 - 2.4	3	68	1028, 1424	1.764	10
3	2.4 - 3.6	1	56	/	3.252	20
4	3.6 - 4.8	2	64	1956	3.9	10
5	4.8 - 6.0	2	100	1004	5.088	20
6	6.0 - 7.2	3	88	1368, 1652	6.672	10
7	7.2 - 8.4	3	52	1208, 1656	7.836	20
8	8.4 - 9.6	1	96	/	8.832	10
9	9.6 - 10.8	2	84	1288	9.972	20
10	10.8 - 12.0	1	100	/	11.16	10

Waveform 7

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.2	3	80	1656, 1788	0.852	20
2	1.2 - 2.4	1	96	/	1.404	10
3	2.4 - 3.6	1	84	/	3.108	20
4	3.6 - 4.8	3	56	1728, 1768	4.536	10
5	4.8 - 6.0	3	76	1596, 1656	5.496	20
6	6.0 - 7.2	3	64	1232, 1696	6.36	10
7	7.2 - 8.4	2	92	1924	7.848	20
8	8.4 - 9.6	1	96	/	8.544	10
9	9.6 - 10.8	1	60	/	9.78	20
10	10.8 - 12.0	1	76	/	10.992	10

Waveform 8

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.2	3	96	1940, 1260	0.636	20
2	1.2 - 2.4	1	72	/	1.368	10
3	2.4 - 3.6	3	60	1820, 1556	3.276	20
4	3.6 - 4.8	2	92	1416	3.72	10
5	4.8 - 6.0	3	96	1480, 1604	5.496	20
6	6.0 - 7.2	1	56	/	6.528	10
7	7.2 - 8.4	1	68	/	7.764	20
8	8.4 - 9.6	1	64	/	8.772	10
9	9.6 - 10.8	2	88	1232	10.08	20
10	10.8 - 12.0	2	76	1396	11.124	10

Waveform 9

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing (us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.2	1	76	/	0.588	20
2	1.2 - 2.4	1	56	/	1.86	10
3	2.4 - 3.6	3	92	1860, 1084	3.3	20
4	3.6 - 4.8	1	96	/	4.236	10
5	4.8 - 6.0	3	92	1432, 1860	5.28	20
6	6.0 - 7.2	1	100	/	6.264	10
7	7.2 - 8.4	3	64	1544, 1368	8.064	20
8	8.4 - 9.6	2	72	1248	8.724	10
9	9.6 - 10.8	1	76	/	9.828	20
10	10.8 - 12.0	3	84	1136, 1992	11.568	10

Waveform 10

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.0 - 1.2	1	68	/	0.576	20
2	1.2 - 2.4	1	84	/	1.44	10
3	2.4 - 3.6	3	64	1620, 1340	2.928	20
4	3.6 - 4.8	2	72	1552	4.2	10
5	4.8 - 6.0	3	64	1608, 1880	5.388	20
6	6.0 - 7.2	2	60	1672	6.192	10
7	7.2 - 8.4	3	52	1080, 1344	8.04	20
8	8.4 - 9.6	3	76	1828, 1868	8.568	10
9	9.6 - 10.8	2	56	1032	10.08	20
10	10.8 - 12.0	3	64	1728, 1256	11.088	10

Waveform 11

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	1	3	72	1440, 1968	0.14	20
2	2	1	64	/	1.42	10
3	3	2	60	1924	2.79	20
4	4	3	88	1188, 1956	3.17	10
5	5	3	52	1380, 1472	4.75	20
6	6	1	64	/	5.57	10
7	7	2	68	1856	6.76	20
8	8	1	100	/	7.59	10
9	9	1	72	/	8.7	20
10	10	3	60	1328, 1160	9.24	10
11	11	3	80	1740, 1248	10.72	20
12	12	2	88	1448	11.28	10

Waveform 12

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	1	1	100	/	0.61	20
2	2	3	92	1680, 1104	1.2	10
3	3	1	88	/	2.46	20
4	4	3	80	1628, 1052	3.22	10
5	5	2	68	1356	4.5	20
6	6	2	80	1532	5.15	10
7	7	1	52	/	6.33	20
8	8	2	60	1828	7.57	10
9	9	2	72	1492	8.74	20
10	10	2	80	1096	9.21	10
11	11	1	88	/	10.62	20
12	12	3	100	1744, 1860	11.65	10

Waveform13

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	1	3	84	1576, 1216	0.72	20
2	2	1	92	/	1.27	10
3	3	3	52	1356, 1236	2.68	20
4	4	3	80	1096, 1252	3.79	10
5	5	2	52	1224	4.7	20
6	6	3	76	1532, 1684	5.47	10
7	7	1	60	/	6.16	20
8	8	1	56	/	7.1	10
9	9	2	100	1572	8.44	20
10	10	1	72	/	9.41	10
11	11	2	80	1004	10.61	20
12	12	1	84	/	11.21	10

Waveform 14

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	1	1	80	/	0.48	20
2	2	1	92	/	1.66	10
3	3	1	88	/	2.51	20
4	4	2	96	1372	3.29	10
5	5	1	84	/	4.27	20
6	6	2	64	1396	5.28	10
7	7	2	80	1572	6.79	20
8	8	2	68	1932	7.21	10
9	9	1	60	/	8.11	20
10	10	1	68	/	9.15	10
11	11	1	84	/	10.2	20
12	12	3	100	1328, 1812	11.33	10

Waveform 15

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	1	1	80	/	0.71	20
2	2	3	96	1508, 1240	1.38	10
3	3	2	60	1072	2.7	20
4	4	2	64	1812	3.5	10
5	5	2	60	1672	4.57	20
6	6	2	92	1412	5.23	10
7	7	1	56	/	6.29	20
8	8	3	96	1812, 1336	7.3	10
9	9	2	88	1584	8.15	20
10	10	2	72	1700	9.49	10
11	11	1	76	/	10.37	20
12	12	2	68	1060	11.52	10

Waveform 16

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.80	3	92	1244, 1572	0.496	20
2	0.80 - 1.60	1	80	/	1.232	10
3	1.60 - 2.40	3	84	1432, 1632	1.688	20
4	2.40 - 3.20	3	60	1448, 1972	2.816	10
5	3.20 - 4.00	3	92	1080, 1184	3.32	20
6	4.00 - 4.80	3	96	1160, 1228	4.28	10
7	4.80 - 5.60	3	60	1036, 1736	4.936	20
8	5.60 - 6.40	2	56	1172	6.008	10
9	6.40 - 7.20	1	52	/	6.6	20
10	7.20 - 8.00	2	76	1980	7.512	10
11	8.00 - 8.80	3	80	1280, 1588	8.224	20
12	8.80 - 9.60	2	68	1664	9.008	10
13	9.60 - 10.40	2	92	1676	10.168	20
14	10.40 - 11.20	2	84	1332	10.728	10
15	11.20 - 12.00	2	60	1684	11.496	20

Waveform 17

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.80	1	72	/	0.632	20
2	0.80 - 1.60	3	92	1884, 1104	1.424	10
3	1.60 - 2.40	1	84	/	2.08	20
4	2.40 - 3.20	2	60	1912	2.912	10
5	3.20 - 4.00	3	72	1584, 1492	3.608	20
6	4.00 - 4.80	3	60	1588, 1752	4.272	10
7	4.80 - 5.60	2	64	1780	5.168	20
8	5.60 - 6.40	3	76	1588, 1744	5.808	10
9	6.40 - 7.20	1	56	/	6.888	20
10	7.20 - 8.00	2	76	1940	7.512	10
11	8.00 - 8.80	2	92	1444	8.592	20
12	8.80 - 9.60	3	60	1988, 1864	9.4	10
13	9.60 - 10.40	1	100	/	9.864	20
14	10.40 - 11.20	3	84	1284, 1748	10.728	10
15	11.20 - 12.00	2	100	1900	11.752	20

Waveform 18

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.80	1	56	/	0.504	20
2	0.80 - 1.60	3	76	1116, 1584	1.208	10
3	1.60 - 2.40	1	80	/	1.72	20
4	2.40 - 3.20	1	100	/	2.664	10
5	3.20 - 4.00	3	84	1264, 1140	3.568	20
6	4.00 - 4.80	1	72	/	4.544	10
7	4.80 - 5.60	3	56	1872, 1108	4.944	20
8	5.60 - 6.40	3	60	1320, 1920	6.208	10
9	6.40 - 7.20	2	76	1756	6.744	20
10	7.20 - 8.00	3	60	1596, 1400	7.776	10
11	8.00 - 8.80	1	56	/	8.36	20
12	8.80 - 9.60	3	88	1356, 1840	9.336	10
13	9.60 - 10.40	2	64	1712	9.896	20
14	10.40 - 11.20	1	100	/	10.984	10
15	11.20 - 12.00	3	76	1028, 1688	11.76	20

Waveform 19

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.80	1	84	/	0.408	20
2	0.80 - 1.60	3	64	1780, 1296	1.304	10
3	1.60 - 2.40	3	68	1400, 1292	1.824	20
4	2.40 - 3.20	1	92	/	2.944	10
5	3.20 - 4.00	1	64	/	3.352	20
6	4.00 - 4.80	2	56	1264	4.232	10
7	4.80 - 5.60	1	72	/	4.92	20
8	5.60 - 6.40	2	76	1460	5.992	10
9	6.40 - 7.20	1	84	/	6.528	20
10	7.20 - 8.00	2	68	1188	7.44	10
11	8.00 - 8.80	3	72	1576, 1536	8.456	20
12	8.80 - 9.60	2	64	1056	8.968	10
13	9.60 - 10.40	1	100	/	9.808	20
14	10.40 - 11.20	2	52	1092	10.616	10
15	11.20 - 12.00	3	68	1936, 1464	11.528	20

Waveform 20

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us))	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.80	1	88	/	0.2	20
2	0.80 - 1.60	1	68	/	1.376	10
3	1.60 - 2.40	2	88	1496	1.92	20
4	2.40 - 3.20	1	64	/	2.608	10
5	3.20 - 4.00	3	84	1768, 1184	3.584	20
6	4.00 - 4.80	3	52	1620, 1552	4.568	10
7	4.80 - 5.60	3	80	1908, 1884	5.432	20
8	5.60 - 6.40	3	92	1728, 1684	6.032	10
9	6.40 - 7.20	3	60	1536, 1496	6.928	20
10	7.20 - 8.00	3	76	1776, 1580	7.304	10
11	8.00 - 8.80	1	80	/	8.36	20
12	8.80 - 9.60	3	56	1020, 1292	9.072	10
13	9.60 - 10.40	2	60	1380	9.712	20
14	10.40 - 11.20	3	96	1324, 1664	10.992	10
15	11.20 - 12.00	2	72	1896	11.416	20

Waveform 21

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.75	3	52	1384, 1180	0.3225	20
2	0.75 - 1.50	2	60	1096	1.2525	10
3	1.50 - 2.25	3	72	1520, 1716	1.755	20
4	2.25 - 3.00	1	60	/	2.4675	10
5	3.00 - 3.75	2	56	1292	3.5475	20
6	3.75 - 4.50	2	64	1704	4.23	10
7	4.50 - 5.25	2	84	1708	4.9575	20
8	5.25 - 6.00	3	56	1008, 1624	5.565	10
9	6.00 - 6.75	3	80	1468, 1056	6.5325	20
10	6.75 - 7.50	2	88	1160	7.1325	10
11	7.50 - 8.25	3	56	1216, 1852	7.6575	20
12	8.25 - 9.00	1	52	/	8.37	10
13	9.00 - 9.75	1	80	/	9.45	20
14	9.75 - 10.50	3	60	1020, 1996	9.99	10
15	10.50 - 11.25	3	88	1960, 1620	10.6125	20
16	11.25 - 12.00	3	92	1760, 1496	11.46	10

Waveform 22

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.75	3	56	1704, 1692	0.3825	20
2	0.75 - 1.50	1	100	/	1.335	10
3	1.50 - 2.25	2	92	1068	2.025	20
4	2.25 - 3.00	2	84	1844	2.715	10
5	3.00 - 3.75	2	68	1896	3.0975	20
6	3.75 - 4.50	2	100	1656	3.8775	10
7	4.50 - 5.25	2	60	1960	5.0175	20
8	5.25 - 6.00	1	88	/	5.73	10
9	6.00 - 6.75	1	84	/	6.3975	20
10	6.75 - 7.50	3	56	1784, 1692	7.0125	10
11	7.50 - 8.25	3	52	1784, 1648	7.83	20
12	8.25 - 9.00	1	60	/	8.655	10
13	9.00 - 9.75	3	80	1460, 1564	9.195	20
14	9.75 - 10.50	2	68	1604	10.0875	10
15	10.50 - 11.25	1	76	/	10.77	20
16	11.25 - 12.00	2	96	1276	11.415	10

Waveform 23

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.75	3	52	1240, 1024	0.2025	20
2	0.75 - 1.50	2	100	1632	0.825	10
3	1.50 - 2.25	3	76	1112, 1156	1.6725	20
4	2.25 - 3.00	2	56	1808	2.43	10
5	3.00 - 3.75	1	64	/	3.585	20
6	3.75 - 4.50	3	68	1960, 1672	4.3425	10
7	4.50 - 5.25	2	52	1700	4.7625	20
8	5.25 - 6.00	1	100	/	5.385	10
9	6.00 - 6.75	3	60	1084, 1112	6.42	20
10	6.75 - 7.50	3	64	1972, 1164	7.0875	10
11	7.50 - 8.25	3	92	1752, 1168	7.845	20
12	8.25 - 9.00	3	80	1448, 1432	8.775	10
13	9.00 - 9.75	2	88	1744	9.39	20
14	9.75 - 10.50	2	92	1548	10.125	10
15	10.50 - 11.25	2	80	1812	11.0625	20
16	11.25 - 12.00	2	52	1508	11.3475	10

Waveform 24

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.75	2	56	1404	0.2775	20
2	0.75 - 1.50	3	64	1964, 1024	1.1625	10
3	1.50 - 2.25	3	84	1708, 1640	2.0475	20
4	2.25 - 3.00	2	88	1128	2.79	10
5	3.00 - 3.75	1	100	/	3.0825	20
6	3.75 - 4.50	1	60	/	3.885	10
7	4.50 - 5.25	2	96	1436	5.07	20
8	5.25 - 6.00	1	68	/	5.64	10
9	6.00 - 6.75	3	72	1496, 1800	6.3375	20
10	6.75 - 7.50	1	100	/	6.975	10
11	7.50 - 8.25	2	68	1752	8.0025	20
12	8.25 - 9.00	1	84	/	8.6025	10
13	9.00 - 9.75	1	72	/	9.3225	20
14	9.75 - 10.50	2	88	1552	10.215	10
15	10.50 - 11.25	3	52	1884, 1864	10.9425	20
16	11.25 - 12.00	3	60	1776, 1700	11.34	10

Waveform 25

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.75	1	88	/	0.105	20
2	0.75 - 1.50	1	96	/	1.0125	10
3	1.50 - 2.25	1	60	/	2.055	20
4	2.25 - 3.00	1	80	/	2.5875	10
5	3.00 - 3.75	3	76	1344, 1716	3.2475	20
6	3.75 - 4.50	2	64	1560	4.3275	10
7	4.50 - 5.25	2	84	1964	4.935	20
8	5.25 - 6.00	3	60	1760, 1532	5.7225	10
9	6.00 - 6.75	2	80	1432	6.375	20
10	6.75 - 7.50	1	96	/	7.1925	10
11	7.50 - 8.25	3	60	1904, 1676	7.6125	20
12	8.25 - 9.00	1	80	/	8.535	10
13	9.00 - 9.75	2	68	1724	9.465	20
14	9.75 - 10.50	3	76	1936, 1648	10.2	10
15	10.50 - 11.25	2	88	1728	10.92	20
16	11.25 - 12.00	3	84	1908, 1144	11.64	10

Waveform 26

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.60	1	96	/	0.36	20
2	0.60 - 1.20	3	80	1072, 1772	0.84	10
3	1.20 - 1.80	1	88	/	1.392	20
4	1.80 - 2.40	1	100	/	2.202	10
5	2.40 - 3.00	2	56	1692	2.718	20
6	3.00 - 3.60	3	84	1572, 1816	3.084	10
7	3.60 - 4.20	1	60	/	3.678	20
8	4.20 - 4.80	1	92	/	4.674	10
9	4.80 - 5.40	3	52	1628, 1704	5.13	20
10	5.40 - 6.00	3	84	1200, 1716	5.466	10
11	6.00 - 6.60	2	80	1580	6.432	20
12	6.60 - 7.20	3	68	1552, 1236	6.66	10
13	7.20 - 7.80	1	60	/	7.482	20
14	7.80 - 8.40	3	88	1192, 1516	8.094	10
15	8.40 - 9.00	3	56	1372, 1284	8.598	20
16	9.00 - 9.60	3	88	1824, 1280	9.354	10
17	9.60 - 10.20	1	60	/	10.014	20
18	10.20 - 10.80	3	84	1644, 1420	10.272	10
19	10.80 - 11.40	3	72	1348, 1724	11.226	20
20	11.40 - 12.00	1	88	/	11.742	10

Waveform 27

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.60	2	56	1976	0.192	20
2	0.60 - 1.20	2	100	1968	0.78	10
3	1.20 - 1.80	3	60	1892, 1628	1.476	20
4	1.80 - 2.40	3	64	1752, 1328	2.268	10
5	2.40 - 3.00	2	92	1664	2.484	20
6	3.00 - 3.60	2	84	1236	3.234	10
7	3.60 - 4.20	1	64	/	3.858	20
8	4.20 - 4.80	2	80	1280	4.572	10
9	4.80 - 5.40	3	76	1588, 1452	4.92	20
10	5.40 - 6.00	1	64	/	5.688	10
11	6.00 - 6.60	3	80	1464, 1924	6.204	20
12	6.60 - 7.20	1	76	/	6.996	10
13	7.20 - 7.80	1	72	/	7.65	20
14	7.80 - 8.40	1	60	/	8.01	10
15	8.40 - 9.00	2	76	1320	8.694	20
16	9.00 - 9.60	2	100	1684	9.408	10
17	9.60 - 10.20	2	56	1656	9.822	20
18	10.20 - 10.80	3	80	1064, 1868	10.374	10
19	10.80 - 11.40	1	60	/	10.866	20
20	11.40 - 12.00	3	88	1124, 1952	11.718	10

Waveform 28

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.60	2	68	1484	0.306	20
2	0.60 - 1.20	1	88	/	0.834	10
3	1.20 - 1.80	2	92	1832	1.398	20
4	1.80 - 2.40	2	72	1160	2.076	10
5	2.40 - 3.00	1	68	/	2.472	20
6	3.00 - 3.60	3	72	1320, 1844	3.18	10
7	3.60 - 4.20	1	92	/	3.768	20
8	4.20 - 4.80	2	72	1384	4.668	10
9	4.80 - 5.40	1	100	/	5.274	20
10	5.40 - 6.00	1	92	/	5.802	10
11	6.00 - 6.60	1	96	/	6.252	20
12	6.60 - 7.20	3	92	1364, 1348	6.732	10
13	7.20 - 7.80	3	72	1596, 1464	7.464	20
14	7.80 - 8.40	1	60	/	7.878	10
15	8.40 - 9.00	3	64	1444, 1224	8.508	20
16	9.00 - 9.60	1	100	/	9.438	10
17	9.60 - 10.20	3	72	1712, 1152	9.93	20
18	10.20 - 10.80	1	88	/	10.584	10
19	10.80 - 11.40	2	68	1368	11.022	20
20	11.40 - 12.00	1	88	/	11.544	10

Waveform29

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.60	1	72	/	0.348	20
2	0.60 - 1.20	1	92	/	1.068	10
3	1.20 - 1.80	2	60	1624	1.41	20
4	1.80 - 2.40	2	100	1336	2.082	10
5	2.40 - 3.00	3	72	1924, 1172	2.67	20
6	3.00 - 3.60	3	88	1488, 1396	3.438	10
7	3.60 - 4.20	1	76	/	4.008	20
8	4.20 - 4.80	1	72	/	4.674	10
9	4.80 - 5.40	2	92	1864	5.1	20
10	5.40 - 6.00	2	64	1748	5.604	10
11	6.00 - 6.60	2	84	1356	6.198	20
12	6.60 - 7.20	1	68	/	6.996	10
13	7.20 - 7.80	3	96	1236, 1988	7.542	20
14	7.80 - 8.40	3	56	1328, 1864	8.034	10
15	8.40 - 9.00	3	76	1160, 1264	8.538	20
16	9.00 - 9.60	2	96	1224	9.18	10
17	9.60 - 10.20	3	84	1136, 1364	10.002	20
18	10.20 - 10.80	1	56	/	10.302	10
19	10.80 - 11.40	2	64	1388	11.124	20
20	11.40 - 12.00	1	88	/	11.628	10

Waveform 30

Burst #	Burst Interval(s)	Number of Pulses	Pulse Width (us)	Pulse Spacing(us)	Pulse Start (s)	Chirp Width (MHZ)
1	0.00 - 0.60	2	52	1352	0.12	20
2	0.60 - 1.20	1	100	/	0.876	10
3	1.20 - 1.80	1	96	/	1.314	20
4	1.80 - 2.40	3	60	1220, 1504	1.974	10
5	2.40 - 3.00	1	92	/	2.46	20
6	3.00 - 3.60	2	100	1100	3.45	10
7	3.60 - 4.20	1	88	/	3.99	20
8	4.20 - 4.80	1	68	/	4.428	10
9	4.80 - 5.40	2	72	1396	5.154	20
10	5.40 - 6.00	3	92	1240, 1216	5.67	10
11	6.00 - 6.60	1	72	/	6.21	20
12	6.60 - 7.20	1	92	/	6.858	10
13	7.20 - 7.80	2	96	1896	7.602	20
14	7.80 - 8.40	2	68	1552	7.926	10
15	8.40 - 9.00	1	64	/	8.838	20
16	9.00 - 9.60	1	60	/	9.396	10
17	9.60 - 10.20	3	72	1996, 1516	9.978	20
18	10.20 - 10.80	2	68	1992	10.518	10
19	10.80 - 11.40	3	60	1448, 1792	11.148	20
20	11.40 - 12.00	2	68	1156	11.736	10

Annex C User Manual, Block Diagram, Circuit Diagram

Please see attachment

Annex D SIEMIC ACCREDITATION

Accreditations	Document	Scope / Remark
ISO 17025 (A2LA)		Please see the documents for the detailed scope
ISO Guide 65 (A2LA)		Please see the documents for the detailed scope
TCB Designation		A1, A2, A3, A4, B1, B2, B3, B4, C
FCC DoC Accreditation		FCC Declaration of Conformity Accreditation
FCC Site Registration		3 meter site
FCC Site Registration		10 meter site
IC Site Registration		3 meter site
IC Site Registration		10 meter site
EU NB		Radio & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025
		Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025
Singapore iDA CB(Certification Body)		Phase I, Phase II
Vietnam MIC CAB Accreditation		Please see the document for the detailed scope
HongKong OFCA		(Phase II) OFCA Foreign Certification Body for Radio and Telecom
		(Phase I) Conformity Assessment Body for Radio and Telecom
Industry Canada CAB		Radio: Scope A – All Radio Standard Specification in Category I
		Telecom: CS-03 Part I, II, V, VI, VII, VIII

Japan Recognized Certification Body Designation		Radio : A1. Terminal equipment for purpose of calling Telecom : B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law
Korea CAB Accreditation		EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMIEMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS
		Radio: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68
		Telecom: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		R-3083: Radiation 3 meter site C-3421: Main Ports Conducted Interference Measurement T-1597: Telecommunication Ports Conducted Interference Measuremet
Australia CAB Regocnition		EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4
		Radiocommunications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771
		Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06 AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/ACIF S60950.1
Australia NATA Recognition		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016,AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2