



# FCC DFS Test Report

**Equipment** : WiFi 5G Module  
**Brand Name** : UBIQUITI  
**Model No.** : 4x4-5GL  
**FCC ID** : SWX-M445GL  
**Standard** : 47 CFR FCC Part 15.407  
**Frequency Range** : 5250 MHz – 5350 MHz  
**Applicant** : Ubiquiti Networks, Inc.  
685 Third Avenue, 27th Floor New York,  
New York 10017 USA  
**Manufacturer** : Ubiquiti Networks, Inc.  
685 Third Avenue, 27th Floor New York,  
New York 10017 USA  
**Operate Mode** : Master

The product sample received on Feb. 21, 2018 and completely tested on Mar. 02, 2018. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

  
Phoenix Chen / Assistant Manager





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### APPENDIX A. TEST PHOTOS

#### PHOTOGRAPHS OF EUT V01



## Summary of Test Result

Conformance Test Specifications				
Report Clause	Ref. Std. Clause	Description	Limit	Result
3.3	FCC KDB 905462 7.8.1	DFS: UNII Detection Bandwidth Measurement	100% of the 99% BW	Complied
3.4	FCC KDB 905462 7.8.2.1	DFS: Initial Channel Availability Check Time	CAC ≥ 60 sec	Complied
3.4	FCC KDB 905462 7.8.2.2	DFS: Radar Burst at the Beginning of the Channel Availability Check Time	Detection Threshold: -55 dBm	Complied
3.4	FCC KDB 905462 7.8.2.3	DFS: Radar Burst at the End of the Channel Availability Check Time	Detection Threshold: -55 dBm	Complied
3.5	FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Channel Move Time (CMT)	CMT ≤ 10sec	Complied
3.5	FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Channel Closing Transmission Time (CCTT)	CCTT ≤ 60 ms starting at CMT 200ms	Complied
3.5	FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Non-Occupancy Period (NOP)	NOP ≥ 30 min	Complied
3.6	FCC KDB 905462 7.8.4	DFS: Statistical Performance Check	Table 5 - 7 (KDB 905462)	Complied
3.1.4	FCC KDB 905462 8.1	User Access Restrictions	DFS controls	Complied

Note: The EUT is a limited module which only limited to the host (brand: UBIQUITI / model: UWB-XG, UWB-XG-BK). The EUT was installed to the host (brand: UBIQUITI / model: UAP-XG) to perform the master DFS testing.



## Revision History

<b>Report No.</b>	<b>Version</b>	<b>Description</b>	<b>Issued Date</b>
FZ661623-27	Rev. 01	Initial issue of report	Mar. 19, 2018



# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

Specification Items	Description
Product Type	WLAN (4TX, 4RX)
Radio Type	Intentional Transceiver
Power Type	From host system
Modulation	IEEE 802.11a: OFDM (BPSK / QPSK / 16QAM / 64QAM) IEEE 802.11n/ac: see the below table
Data Rate (Mbps)	IEEE 802.11a: OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n/ac: see the below table
Channel Bandwidth	20/40/80 MHz operating channel bandwidth
Operating Mode	<input checked="" type="checkbox"/> Master
	<input type="checkbox"/> Client with radar detection
	<input type="checkbox"/> Client without radar detection
Communication Mode	<input checked="" type="checkbox"/> IP Based (Load Based) <input type="checkbox"/> Frame Based
TPC Function	<input checked="" type="checkbox"/> With TPC <input type="checkbox"/> Without TPC
Max. Con. Power (DFS band)	<p><b>For indoor, outdoor use</b></p> <p>IEEE 802.11a: 15.84 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 15.75 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 18.96 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 20.69 dBm</p> <p><b>For indoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 16.88 dBm</p> <p><b>For outdoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 12.58 dBm</p>
Min. Con. Power (DFS band)	<p><b>For indoor, outdoor use</b></p> <p>IEEE 802.11a: 9.84 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 9.75 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 12.96 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 14.69 dBm</p> <p><b>For indoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 10.88 dBm</p> <p><b>For outdoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 6.58 dBm</p>



<b>Max. EIRP Power (DFS band)</b>	<p><b>For indoor, outdoor use</b></p> <p>IEEE 802.11a: 23.84 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 23.75 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 26.96 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 28.69 dBm</p> <p><b>For indoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 24.88 dBm</p> <p><b>For outdoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 20.58 dBm</p>
<b>Min. EIRP Power (DFS band)</b>	<p><b>For indoor, outdoor use</b></p> <p>IEEE 802.11a: 17.84 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.75 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 20.96 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 22.69 dBm</p> <p><b>For indoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.88 dBm</p> <p><b>For outdoor use master</b></p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80+80): 14.58 dBm</p>
<b>Power-on cycle</b>	<p>80+80MHz: Requires 69.13 seconds to complete its power-on cycle.</p>
<b>Software / Firmware Version</b>	<p>ca-vht160-ac-s-dfs-fix.8120</p>
<p>Note: EUT employ a TPC mechanism and TPC have the capability to operate at least 6 dB below highest RF output power.</p>	



**Antenna & Band width**

Antenna	Four (TX)		
	20 MHz	40 MHz	80 MHz
Band width Mode			
IEEE 802.11a	V	X	X
IEEE 802.11n	V	V	X
IEEE 802.11ac	V	V	V

**IEEE 11n/ac Spec.**

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	4	MCS0-31
802.11n (HT40)	4	MCS0-31
802.11ac (VHT20)	4	MCS 0-8/Nss1-4
802.11ac (VHT40)	4	MCS 0-9/Nss1-4
802.11ac (VHT80)	4	MCS 0-9/Nss1-4

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). Then EUT support HT20 and HT40.

Note 2: IEEE Std. 802.11ac modulation consists of VHT20, VHT40, VHT80 and VHT160 (VHT: Very High Throughput). Then EUT support VHT20, VHT40, and VHT80.

Note 3: Modulation modes consist of below configuration:  
 11a: IEEE 802.11a, HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac

**1.1.2 Antenna Information**

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	-	-	Internal Antenna	I-PEX	10
						15
2	2	-	-	Internal Antenna	I-PEX	10
						15
3	3	-	-	Internal Antenna	I-PEX	10
						15
4	4	-	-	Internal Antenna	I-PEX	10
						15

Note: 1: 802.11an/ac used four antennas are for signal transmitting and receiving.(4T4R Spatial Multiplexing MIMO configuration)



### 1.1.3 DFS Band Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 52, 56, 60, 64.

For 40MHz bandwidth systems, use Channel 54, 62.

For 80MHz bandwidth systems, use Channel 58.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5250~5350 MHz Band 2	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310 MHz
	56	5280 MHz	64	5320 MHz
	58	5290 MHz	-	-

### 1.1.4 Table for 80+80 MHz Mode

Type	Channel No.	Frequency
1	42+58	5210+5290 MHz

### 1.1.5 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FZ661623-26

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Host is replaced	The firmware version was the same as original and antenna gain was bigger than original, therefore do not need to be tested by evaluated.





## 1.2 Accessories

N/A

## 1.3 Support Equipment

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E4300	DoC
2	WLAN AP	Netgear	R7500	PY314300288

## 1.4 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

## 1.5 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973		
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085		
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
DFS Site	DF01-CB	Robert Jiang	25°C / 60%	22-Feb-18 ~ 02-Mar-18

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.



## 2 Test Configuration of EUT

### 2.1 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
IEEE Std.	Test Channel Freq. (MHz)
802.11ac (VHT80+80)	5210MHz+5290MHz

### 2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	Dynamic Frequency Selection (DFS)
<b>Test Condition</b>	Conducted measurement at transmit chains The EUT shall be configured to operate at the highest transmitter output power setting. If more than one antenna assembly is intended for this power setting, the gain of the antenna assembly with the lowest gain shall be used.
<b>Modulation Mode</b>	For all test items:802.11ac (VHT80+80) For Type 5 Radar Statistical Performance: 802.11ac (VHT80)



### 3 Dynamic Frequency Selection (DFS) Test Result

#### 3.1 General DFS Information

##### 3.1.1 DFS Parameters

Table D.1: DFS requirement values	
Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds (Note 1).
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second periods. (Notes 1 and 2).
U-NII Detection Bandwidth	Minimum 100% of the 99% power bandwidth (Note 3).

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate 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 0 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.

Table D.2: Interference threshold values	
Maximum Transmit Power	Value (see note)
EIRP ≥ 200 mW	-64 dBm
EIRP < 200 mW and PSD < 10dBm/MHz	-62 dBm
EIRP < 200 mW and PSD ≥ 10dBm/MHz	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911D01.



**3.1.2 Applicability of DFS Requirements Prior to Use of a Channel**

Requirement	DFS Operational mode		
	Master	Client without radar detection	Client with radar detection
<i>Non-Occupancy Period</i>	Yes	Not required	Yes
<i>DFS Detection Threshold</i>	Yes	Not required	Yes
<i>Channel Availability Check Time</i>	Yes	Not required	Not required
<i>U-NII Detection Bandwidth</i>	Yes	Not required	Yes

**3.1.3 Applicability of DFS Requirements during Normal Operation**

Requirement	DFS Operational mode		
	Master	Client without radar detection	Client with radar detection
<i>DFS Detection Threshold</i>	Yes	Not required	Yes
<i>Channel Closing Transmission Time</i>	Yes	Yes	Yes
<i>Channel Move Time</i>	Yes	Yes	Yes
<i>U-NII Detection Bandwidth</i>	Yes	Not required	Yes

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

**Note:** Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.



### 3.1.4 User Access Restrictions

User Access Restrictions	
<input checked="" type="checkbox"/>	DFS controls (hardware or software) related to radar detection are NOT accessible to the user. Manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user.

### 3.1.5 Channel Loading/Data Streaming

<input type="checkbox"/>	The data file (MPEG-4) has been transmitting in a streaming mode.
<input checked="" type="checkbox"/>	Software to ping the client is permitted to simulate data transfer with random ping intervals.
<input checked="" type="checkbox"/>	Minimum channel loading of approximately 17%.
<input type="checkbox"/>	Unicast protocol has been used.



### 3.2 Radar Test Waveform Calibration

#### 3.2.1 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	See Note 1	See Note 1
1A	1	15 unique PRI in KDB 905462 D02 Table 5a	$\text{Roundup}\left\{\left(\frac{1}{360}\right) \times \left(\frac{19 \times 10^6}{PRI}\right)\right\}$	60%	15
1B	1	15 unique PRI within 518-3066, Excluding 1A PRI		60%	15
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
<b>Note 1:</b> Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms are required for each of the short pulse radar types 1 through 4. If more than 30 waveforms are used for short pulse radar types 1 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.

#### 3.2.2 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

Each waveform is defined as follows:

- ♦ The transmission period for the Long Pulse Radar test signal is 12 seconds.
- ♦ 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.
- ♦ 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.
- ♦ 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.
- ♦ Each pulse has a linear FM chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a transmission period will have the same chirp width. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz.
- ♦ 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.

- The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst Count. Each interval is of length  $(12,000,000 / \text{Burst Count})$  microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and  $[(12,000,000 / \text{Burst Count}) - (\text{Total Burst Length}) + (\text{One Random PRI Interval})]$  microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen independently.

### 3.2.3 Frequency Hopping Radar Test Waveform

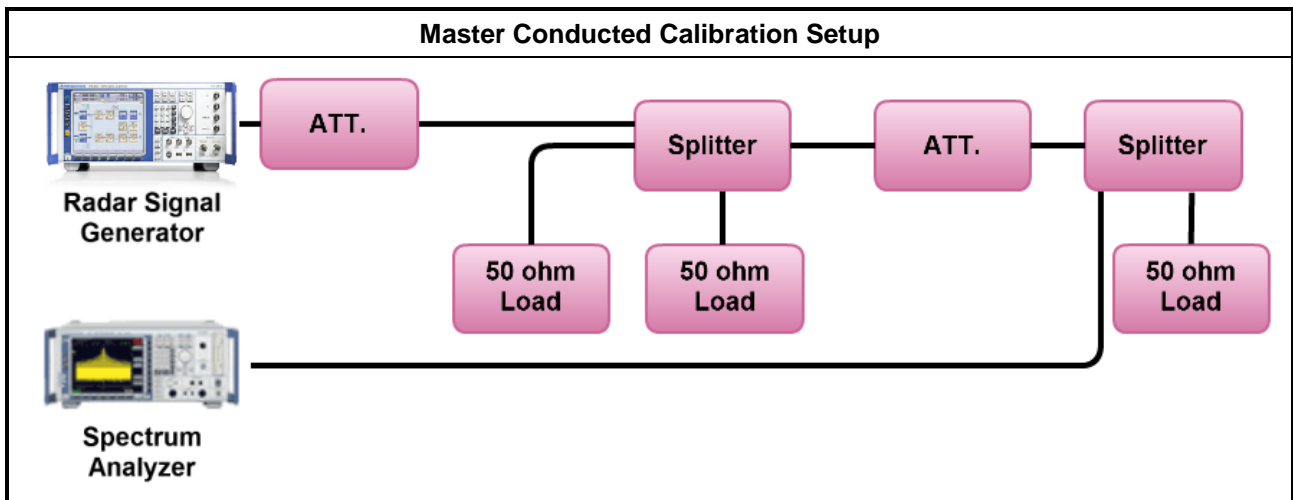
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (ms)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	0.333	300	70%	30

The FCC Type 6 waveform uses a static waveform with 100 bursts in the instruments ARB. In addition, the RF list mode is operated with a list containing 100 frequencies from a randomly generated list and it had be ensured that at least one of the random frequencies falls into the UNII Detection Bandwidth of the DUT. Each burst from the waveform file initiates a trigger pulse at the beginning that switches the RF list from one item to the next one.

### 3.2.4 DFS Threshold Level

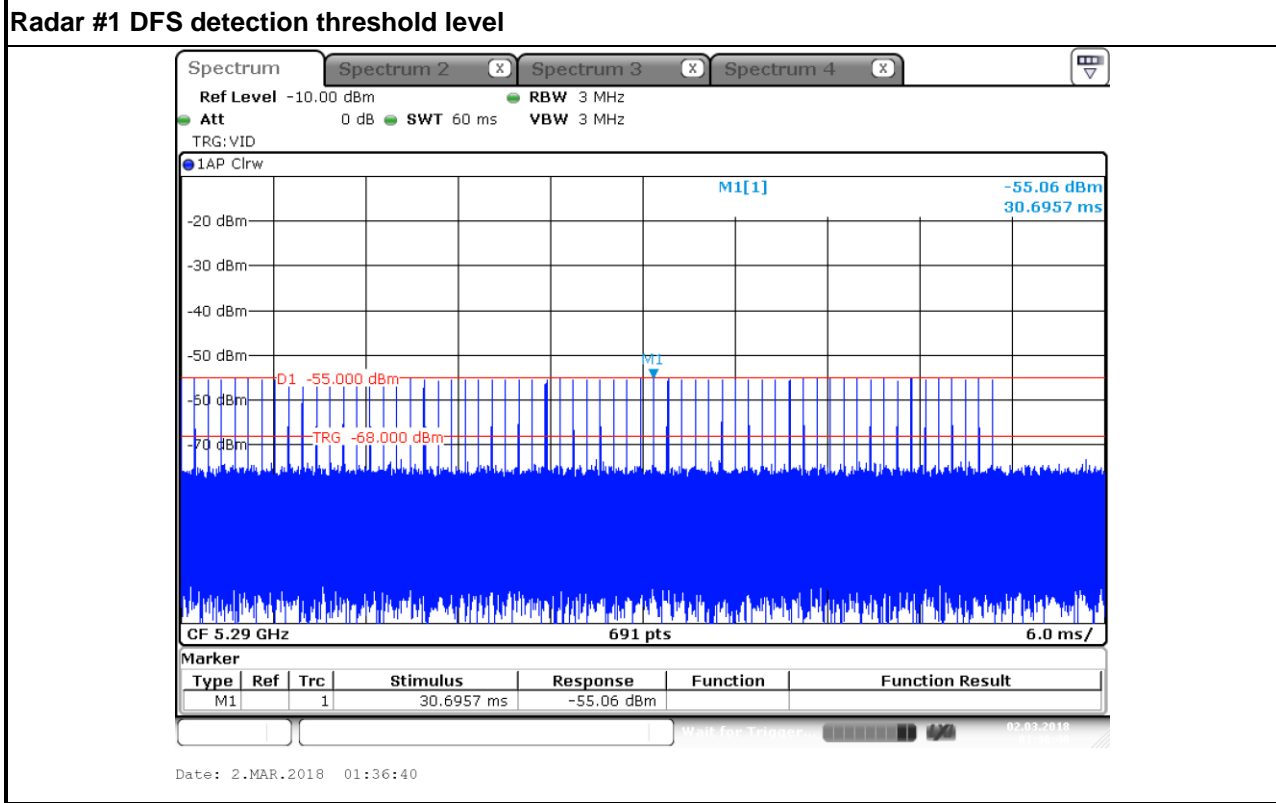
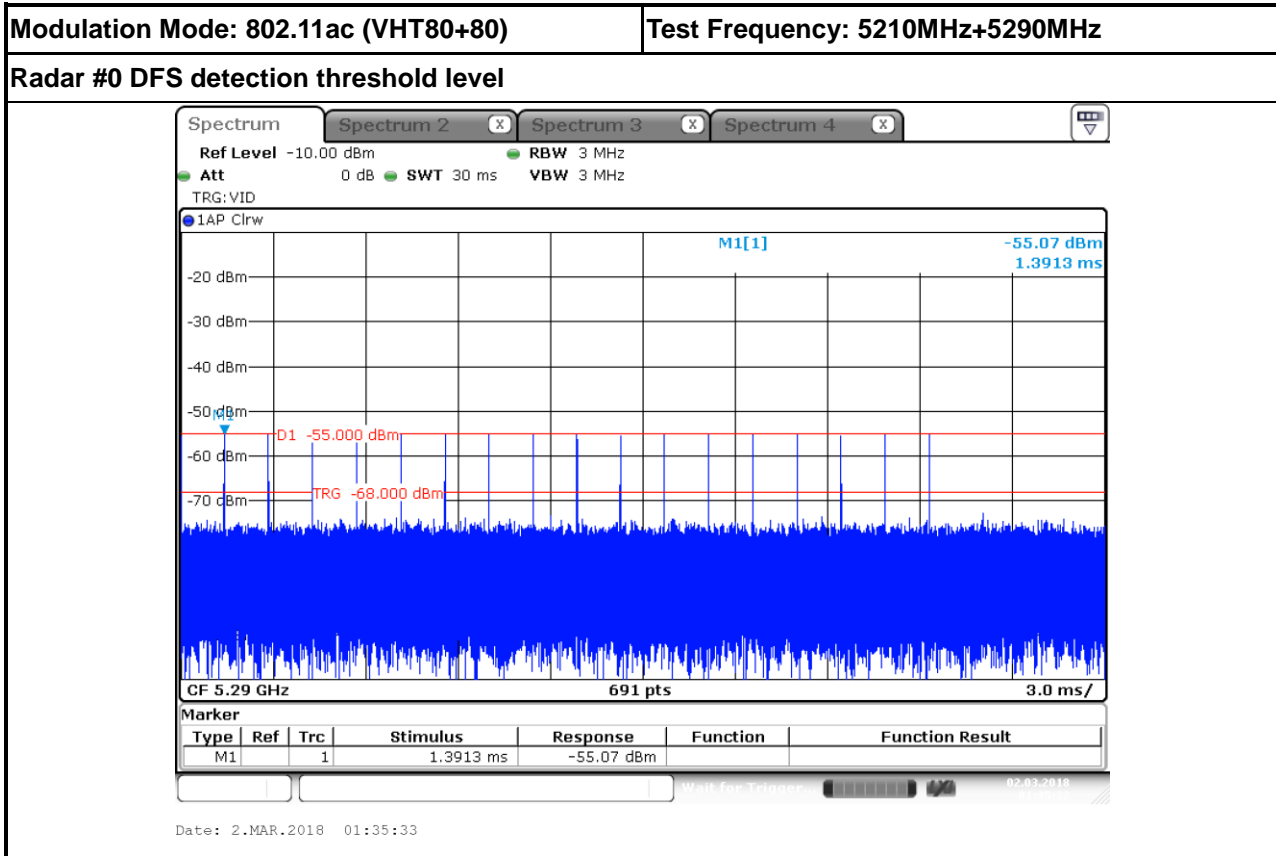
DFS Threshold Level	
DFS Threshold level: -55 dBm	<input checked="" type="checkbox"/> at the antenna connector
	<input type="checkbox"/> in front of the antenna
The Interference <b>Radar Detection Threshold Level</b> is is $-64 \text{ dBm} + 8 [\text{dBi}] + 1 \text{ dB} = -55 \text{ dBm}$ . That had been taken into account the output power range and antenna gain.	

### 3.2.5 Calibration Setup





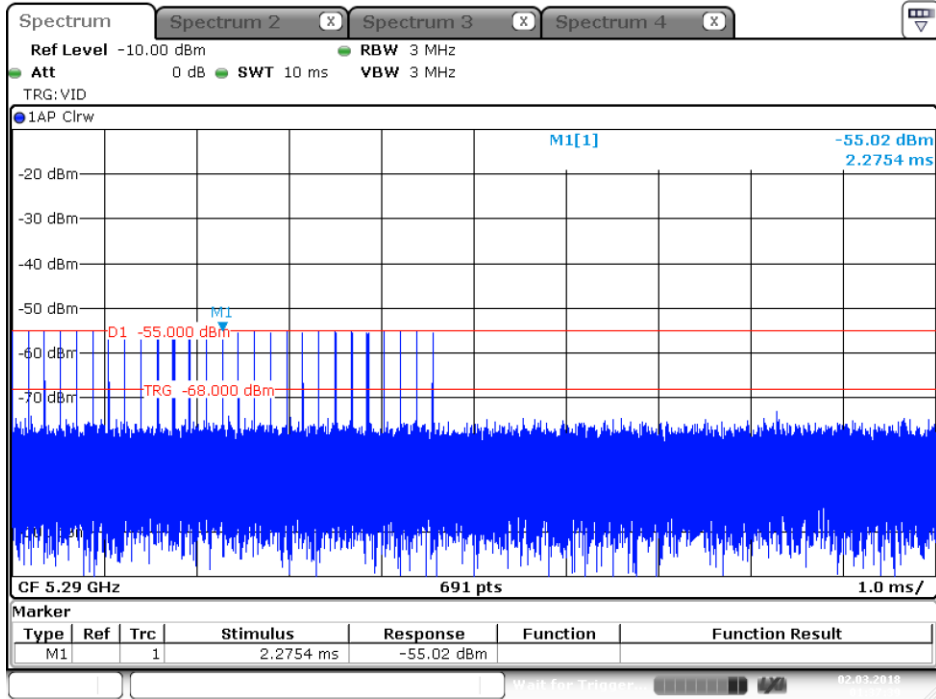
3.2.6 Radar Waveform calibration Plot





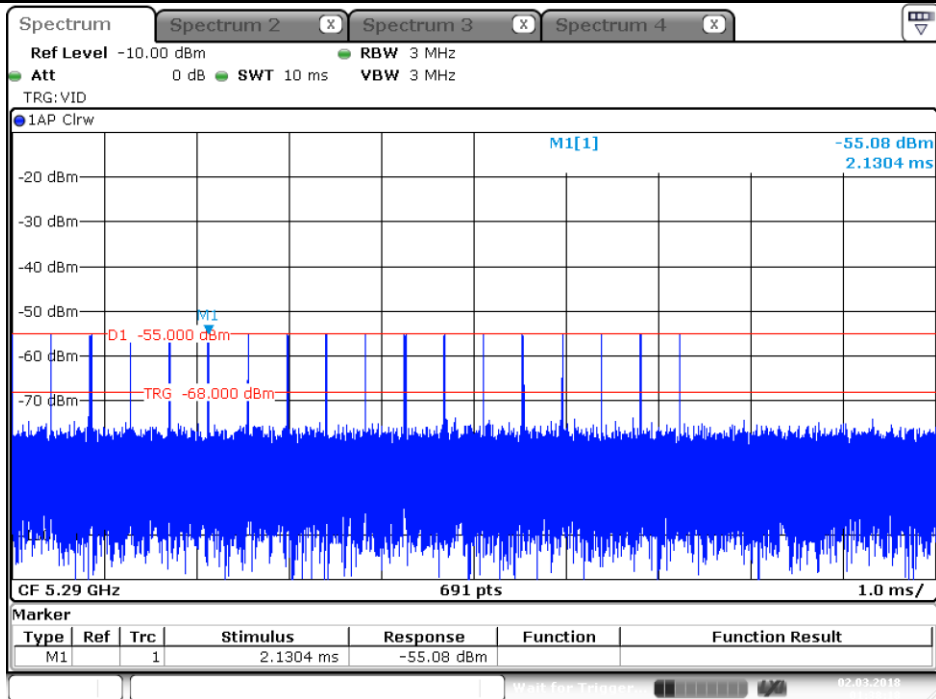


Radar #2 DFS detection threshold level



Date: 2.MAR.2018 01:37:40

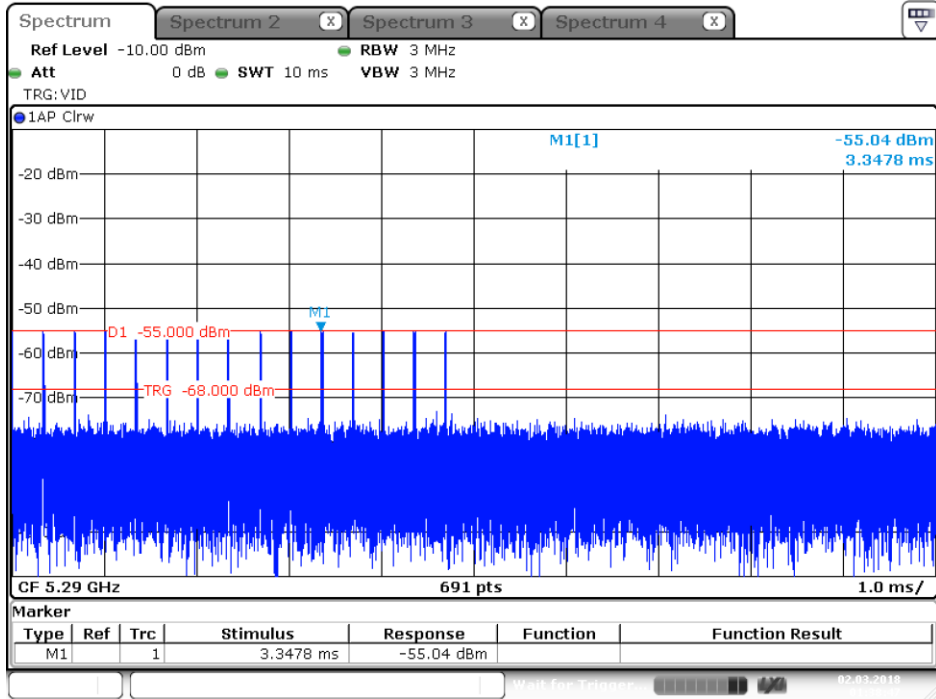
Radar #3 DFS detection threshold level



Date: 2.MAR.2018 01:38:18

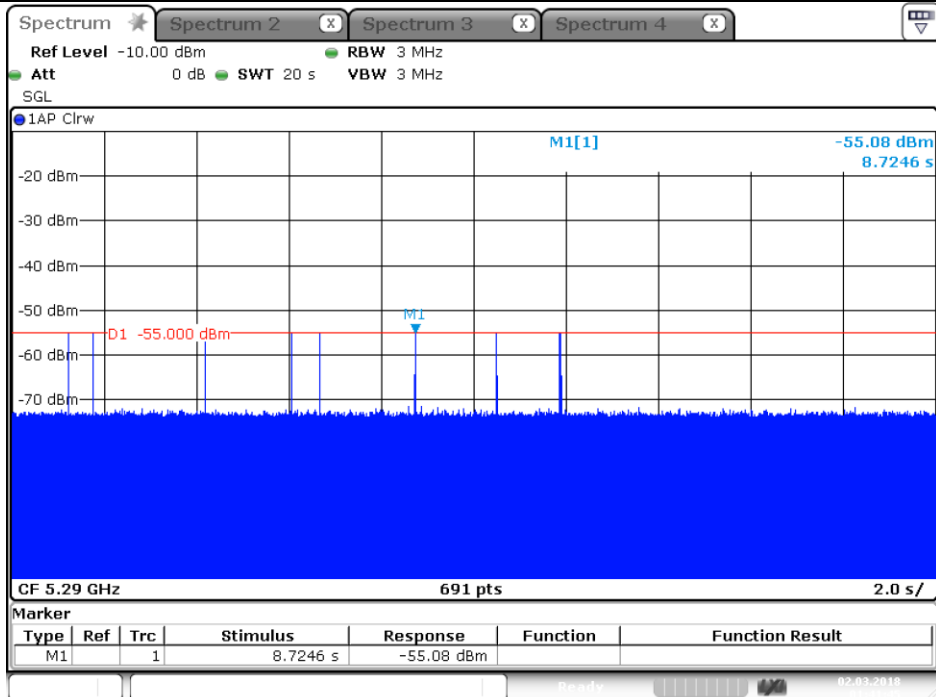


**Radar #4 DFS detection threshold level**



Date: 2.MAR.2018 01:38:47

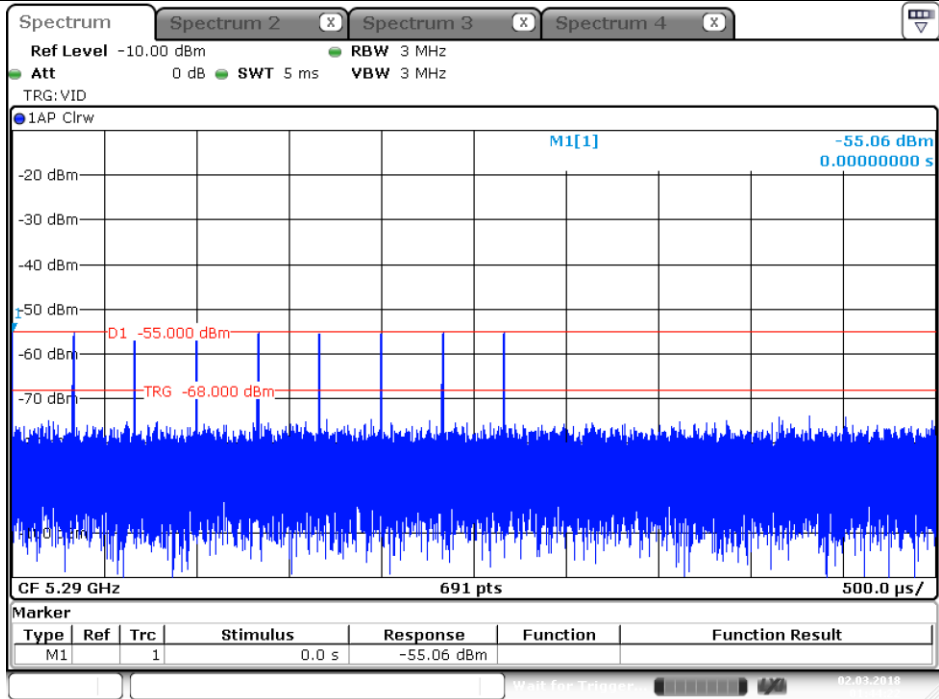
**Radar #5 DFS detection threshold level**



Date: 2.MAR.2018 01:41:45



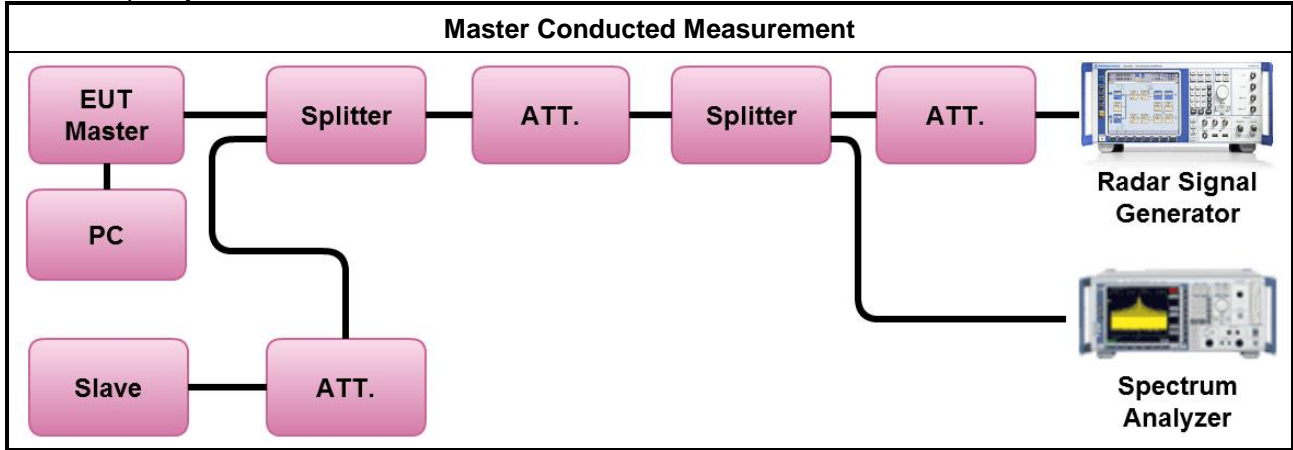
Radar #6 DFS detection threshold level



Date: 2.MAR.2018 01:44:22

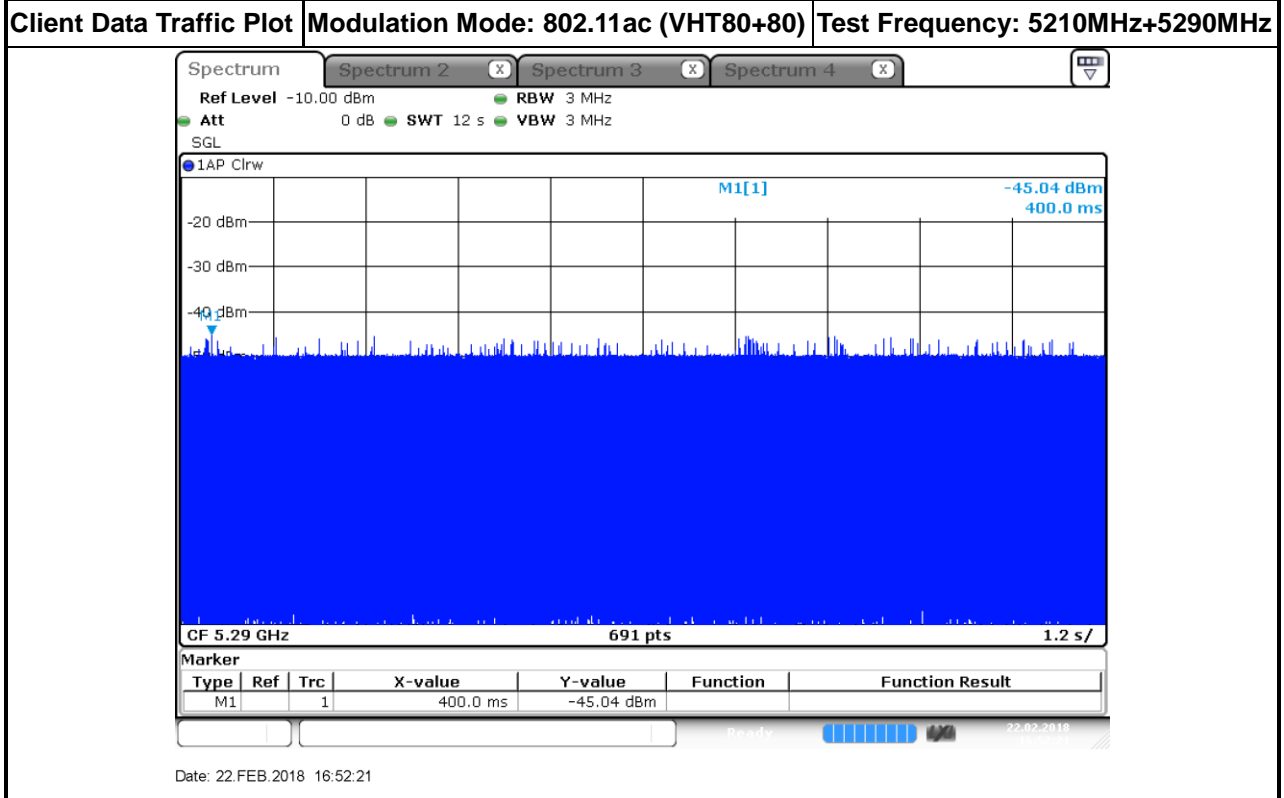
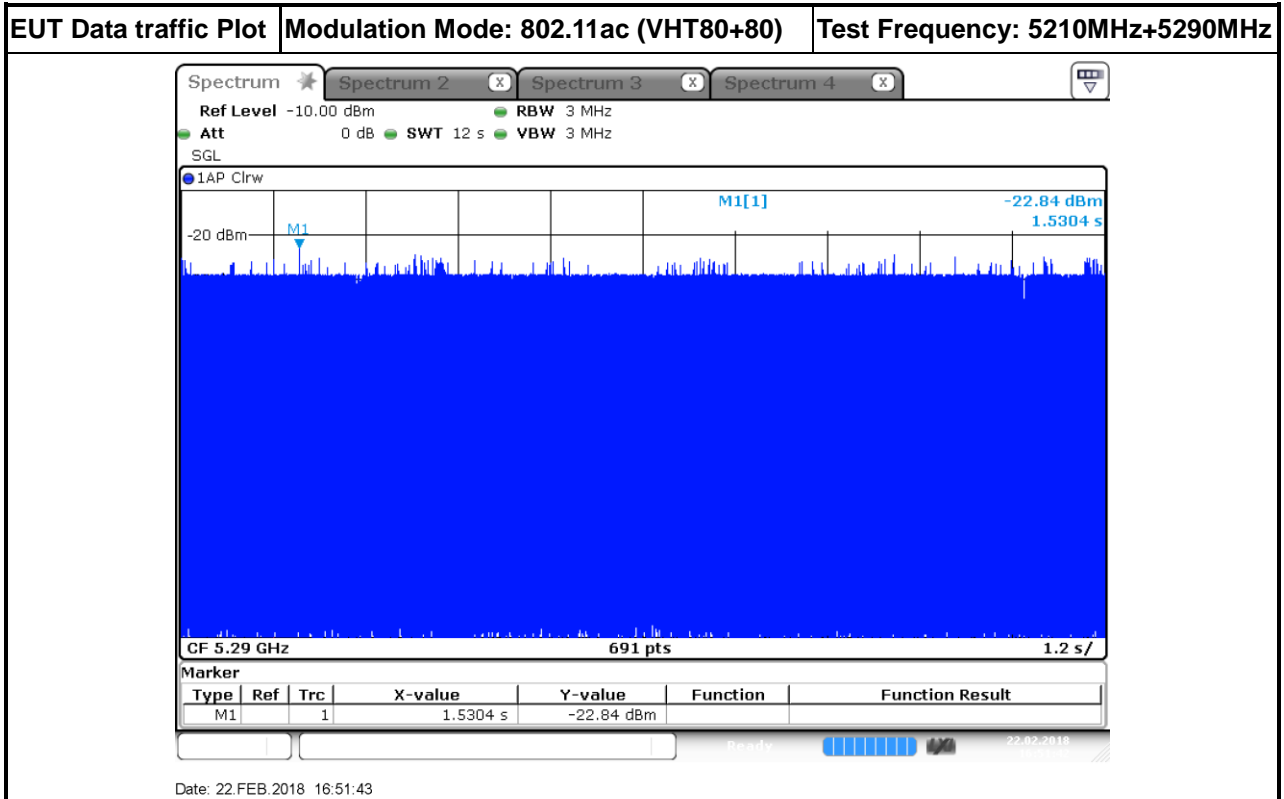
### 3.2.7 Test Setup

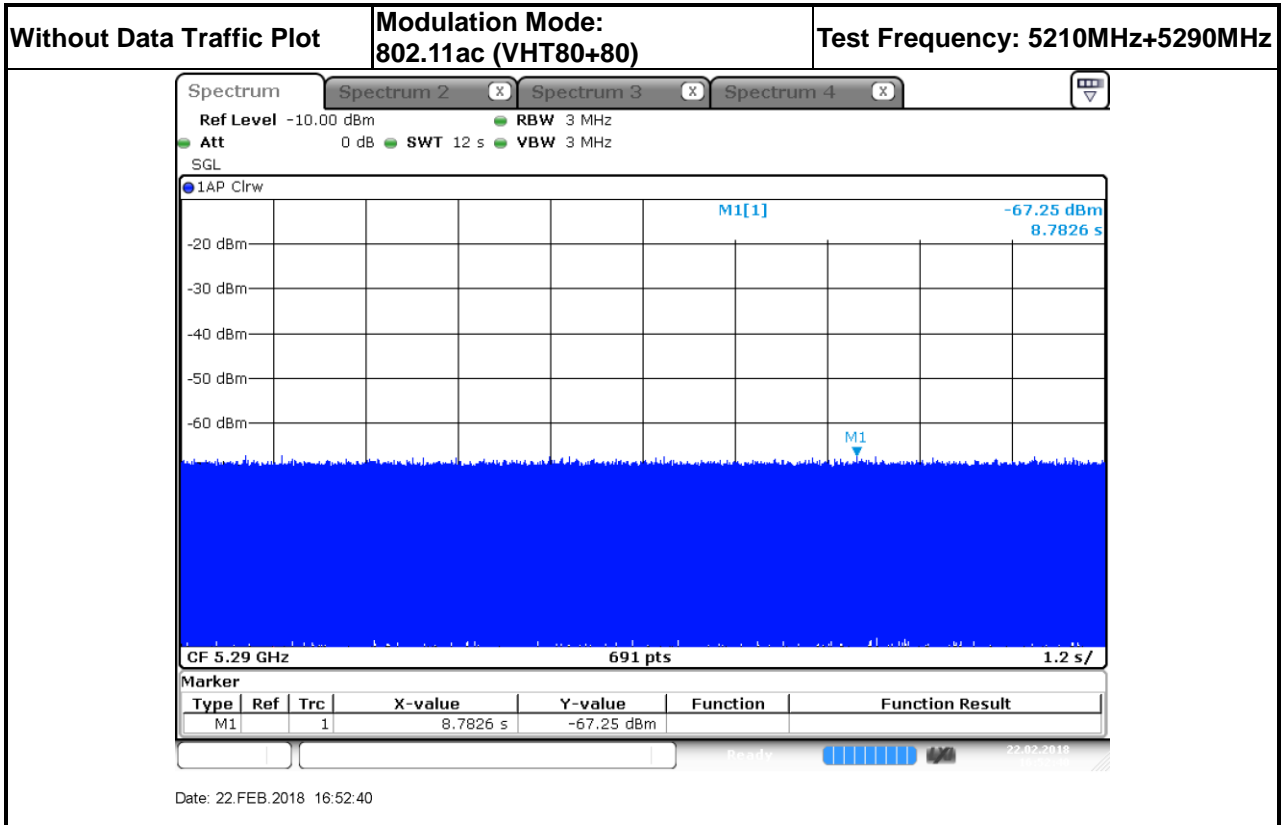
A spectrum analyzer is used as a monitor to verify that the EUT has vacated the Channel within the (Channel Closing Transmission Time and Channel Move Time, and does not transmit on a Channel during the Non-Occupancy Period after the detection and Channel move.





3.2.8 Data traffic Plot







### 3.3 UNII Detection Bandwidth

#### 3.3.1 UNII Detection Bandwidth Limit

Channel Bandwidth (MHz)	Frequency (MHz)	99% Occupied Bandwidth (MHz)	UNII Detection Bandwidth Min. Limit (MHz)
80+80	5210 MHz	77.279	78
	5290 MHz		

UNII Detection Bandwidth is minimum 100% of the 99% power bandwidth. 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.

#### 3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.3.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	During the U-NII Detection Bandwidth detection test, radar type 0 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic. The EUT is set up as a standalone device (no associated Client and no traffic). The radar frequency is increased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The highest frequency at which detection is greater than or equal to 90% is denoted as $F_H$ . The radar frequency is decreased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The lowest frequency at which detection is greater than or equal to 90% is denoted as $F_L$ . UNII Detection Bandwidth = $F_H - F_L$ .



3.3.4 Test Result of UNII Detection Bandwidth

EUT Frequency=5210MHz+5290MHz											
Channel Bandwidth (MHz)	80+80										
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5250(FL)	1	1	1	0	1	1	1	1	1	1	90
5251	1	1	1	1	1	1	1	1	1	1	100
5252	1	1	1	1	1	1	1	1	1	1	100
5253	1	1	1	1	1	1	1	1	1	1	100
5254	1	1	1	1	1	1	1	1	1	1	100
5255	1	1	1	1	1	1	1	1	1	1	100
5256	1	1	1	1	1	1	1	1	1	1	100
5257	1	1	1	1	1	1	1	1	1	1	100
5258	1	1	1	1	1	1	1	1	1	1	100
5259	1	1	1	1	1	1	1	1	1	1	100
5260	1	1	1	1	1	1	1	1	1	1	100
5261	1	1	1	1	1	1	1	1	1	1	100
5262	1	1	1	1	1	1	1	1	1	1	100
5263	1	1	1	1	1	1	1	1	1	1	100
5264	1	1	1	1	1	1	1	1	1	1	100
5265	1	1	1	1	1	1	1	1	1	1	100
5266	1	1	1	1	1	1	1	1	1	1	100
5267	1	1	1	1	1	1	1	1	1	1	100
5268	1	1	1	1	1	1	1	1	1	1	100
5269	1	1	1	1	1	1	1	1	1	1	100
5270	1	1	1	1	1	1	1	1	1	1	100
5271	1	1	1	1	1	1	1	1	1	1	100
5272	1	1	1	1	1	1	1	1	1	1	100
5273	1	1	1	1	1	1	1	1	1	1	100
5274	1	1	1	1	1	1	1	1	1	1	100
5275	1	1	1	1	1	1	1	1	1	1	100
5276	1	1	1	1	1	1	1	1	1	1	100
5277	1	1	1	1	1	1	1	1	1	1	100
5278	1	1	1	1	1	1	1	1	1	1	100
5279	1	1	1	1	1	1	1	1	1	1	100
5280	1	1	1	1	1	1	1	1	1	1	100
5281	1	1	1	1	1	1	1	1	1	1	100
5282	1	1	1	1	1	1	1	1	1	1	100
5283	1	1	1	1	1	1	1	1	1	1	100
5284	1	1	1	1	1	1	1	1	1	1	100
5285	1	1	1	1	1	1	1	1	1	1	100
5286	1	1	1	1	1	1	1	1	1	1	100
5287	1	1	1	1	1	1	1	1	1	1	100
5288	1	1	1	1	1	1	1	1	1	1	100
5289	1	1	1	1	1	1	1	1	1	1	100
5290	1	1	1	1	1	1	1	1	1	1	100
5291	1	1	1	1	1	1	1	1	1	1	100
5292	1	1	1	1	1	1	1	1	1	1	100
5293	1	1	1	1	1	1	1	1	1	1	100
5294	1	1	1	1	1	1	1	1	1	1	100





5295	1	1	1	1	1	1	1	1	1	1	100
5296	1	1	1	1	1	1	1	1	1	1	100
5297	1	1	1	1	1	1	1	1	1	1	100
5298	1	1	1	1	1	1	1	1	1	1	100
5299	1	1	1	1	1	1	1	1	1	1	100
5300	1	1	1	1	1	1	1	1	1	1	100
5301	1	1	1	1	1	1	1	1	1	1	100
5302	1	1	1	1	1	1	1	1	1	1	100
5303	1	1	1	1	1	1	1	1	1	1	100
5304	1	1	1	1	1	1	1	1	1	1	100
5305	1	1	1	1	1	1	1	1	1	1	100
5306	1	1	1	1	1	1	1	1	1	1	100
5307	1	1	1	1	1	1	1	1	1	1	100
5308	1	1	1	1	1	1	1	1	1	1	100
5309	1	1	1	1	1	1	1	1	1	1	100
5310	1	1	1	1	1	1	1	1	1	1	100
5311	1	1	1	1	1	1	1	1	1	1	100
5312	1	1	1	1	1	1	1	1	1	1	100
5313	1	1	1	1	1	1	1	1	1	1	100
5314	1	1	1	1	1	1	1	1	1	1	100
5315	1	1	1	1	1	1	1	1	1	1	100
5316	1	1	1	1	1	1	1	1	1	1	100
5317	1	1	1	1	1	1	1	1	1	1	100
5318	1	1	1	1	1	1	1	1	1	1	100
5319	1	1	1	1	1	1	1	1	1	1	100
5320	1	1	1	1	1	1	1	1	1	1	100
5321	1	1	1	1	1	1	1	1	1	1	100
5322	1	1	1	1	1	1	1	1	1	1	100
5323	1	1	1	1	1	1	1	1	1	1	100
5324	1	1	1	1	1	1	1	1	1	1	100
5325	1	1	1	1	1	1	1	1	1	1	100
5326	1	1	1	1	1	1	1	1	1	1	100
5327	1	1	1	1	1	1	1	1	1	1	100
5328(FH)	1	1	0	1	1	1	1	1	1	1	90
5329	0	0	0	0	0	0	0	0	0	0	0
5330	0	0	0	0	0	0	0	0	0	0	0
Radar Type 0-Detection Bandwidth (MHz) = (FH-FL) = (5328MHz-5250MHz)=											78
UNII Detection Bandwidth Min. Limit (MHz) =											78
<b>Test Result</b>											<b>Complied</b>



### 3.4 Channel Availability Check (CAC)

#### 3.4.1 Channel Availability Check Limit

Channel Availability Check Limit	
<input checked="" type="checkbox"/>	The EUT shall perform a Channel Availability Check to ensure that there is no radar operating on the channel. After power-up sequence, receive at least 1 minute (60 sec) on the intended operating frequency.

#### 3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.4.3 Test Procedures

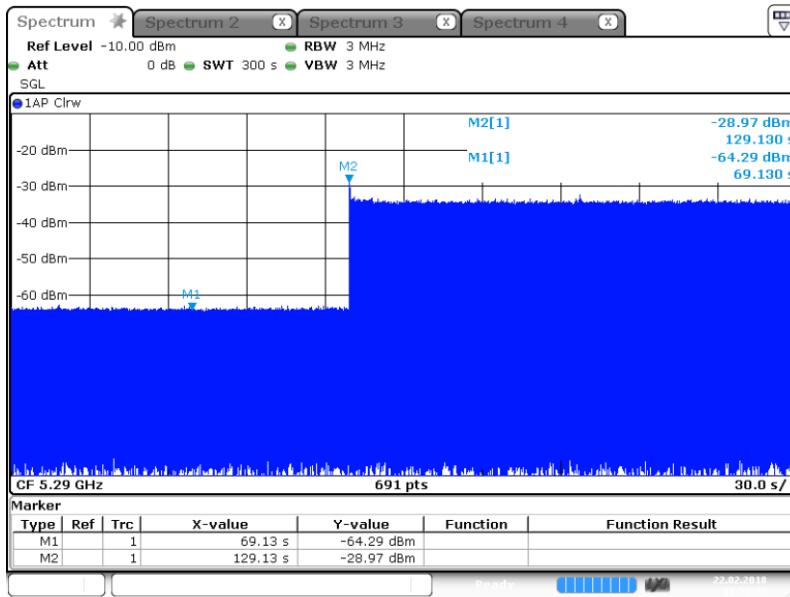
Test Method	
<input checked="" type="checkbox"/>	For Initial Channel Availability Check Time. The EUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the UNII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms.
<input checked="" type="checkbox"/>	For Radar Burst at the Beginning of the Channel Availability Check Time. To verify successful radar detection on the selected Channel during a period equal to the Beginning of the Channel Availability Check Time.
<input checked="" type="checkbox"/>	For Radar Burst at the End of the Channel Availability Check Time. To verify successful radar detection on the selected Channel during a period equal to the End of the Channel Availability Check Time.



3.4.4 Test Result of Initial Channel Availability Check Time

<b>Modulation Mode</b>	<b>Freq.</b>	<b>Radar Test Signal</b>
802.11ac (VHT80+80)	5210MHz+5290MHz	N/A

The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (69.13 sec). The initial CAC time of the EUT is indicated by marker 1 (69.13 sec). Initial beacons/data transmissions are indicated by marker 2 (129.13 sec).



Date: 22.FEB.2018 11:50:14

<b>Test Result</b>	<b>Complied</b>
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### 3.4.5 Test Result of Radar Burst at the Beginning of the Channel Availability Check Time

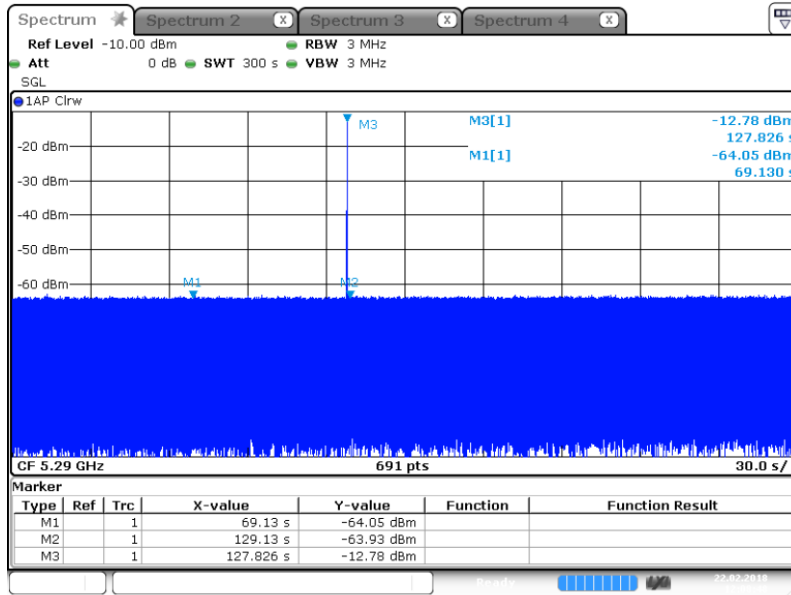
Modulation Mode	Freq. (MHz)	Radar Type Signal																												
802.11ac (VHT80+80)	5210MHz+5290MHz	0																												
<p>Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions will continue for 229.565 seconds after the radar Burst has been generated. Verify that during the 300 seconds measurement window no EUT transmissions occurred.</p>																														
<table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td></td> <td>1</td> <td>69.13 s</td> <td>-63.86 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td></td> <td>1</td> <td>129.13 s</td> <td>-64.08 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td></td> <td>1</td> <td>70.435 s</td> <td>-12.83 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1		1	69.13 s	-63.86 dBm			M2		1	129.13 s	-64.08 dBm			M3		1	70.435 s	-12.83 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																								
M1		1	69.13 s	-63.86 dBm																										
M2		1	129.13 s	-64.08 dBm																										
M3		1	70.435 s	-12.83 dBm																										
<b>Test Result</b>	<b>Complied</b>																													



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

<b>Modulation Mode</b>	<b>Freq. (MHz)</b>	<b>Radar Type Signal</b>
802.11ac (VHT80+80)	5210MHz+5290MHz	0

Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions will continue for 172.174 seconds after the radar Burst has been generated. Verify that during the 300 seconds measurement window no EUT transmissions occurred.



Date: 22.FEB.2018 12:08:48

<b>Test Result</b>	<b>Complied</b>
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### 3.5 In-service Monitoring

#### 3.5.1 In-service Monitoring Limit

In-service Monitoring Limit	
Channel Move Time	10 sec
Channel Closing Transmission Time	200 ms + an aggregate of 60 ms over remaining 10 sec periods.
Non-occupancy period	Minimum 30 minutes

#### 3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.5.3 Test Procedures

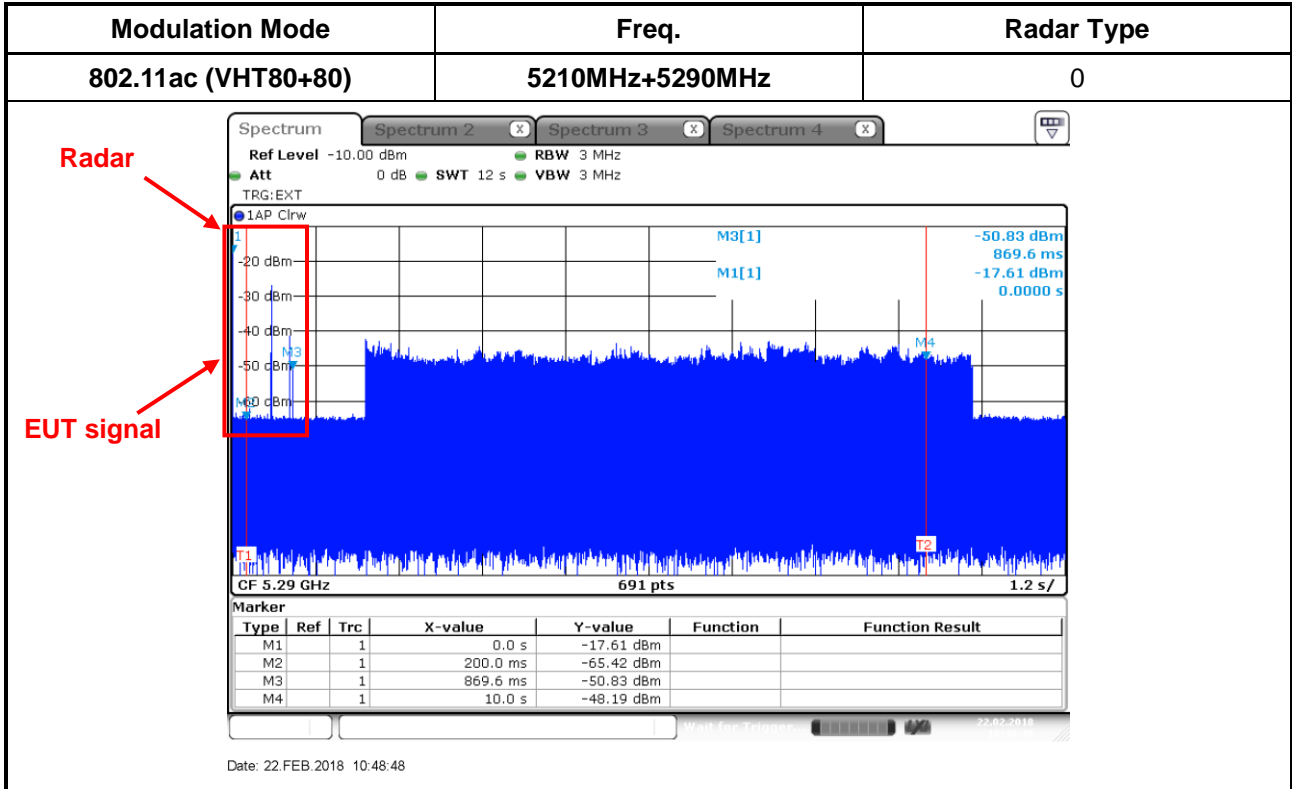
Test Method
<input checked="" type="checkbox"/> Verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing Transmission Time limits.
<input checked="" type="checkbox"/> Verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time. One 12 sec plot needs to be reported for the Short Pulse Radar Types 0. And zoom-in a 60 ms plot verified channel closing time for the aggregate transmission time starting from 200ms after the end of the radar signal to the completion of the channel move.
<input checked="" type="checkbox"/> Verified during In-Service Monitoring; Non-Occupancy Period. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Non-Occupancy Period). Compare the Non-Occupancy Period limits.



### 3.5.4 Test Result of Channel Move Time

Modulation Mode: 802.11ac (VHT80+80)

Parameter	Test Result	Limit
	Type 0	
Test Channel (MHz)	5210MHz+5290MHz	-
Channel Move Time (sec.)	0.869	< 10s





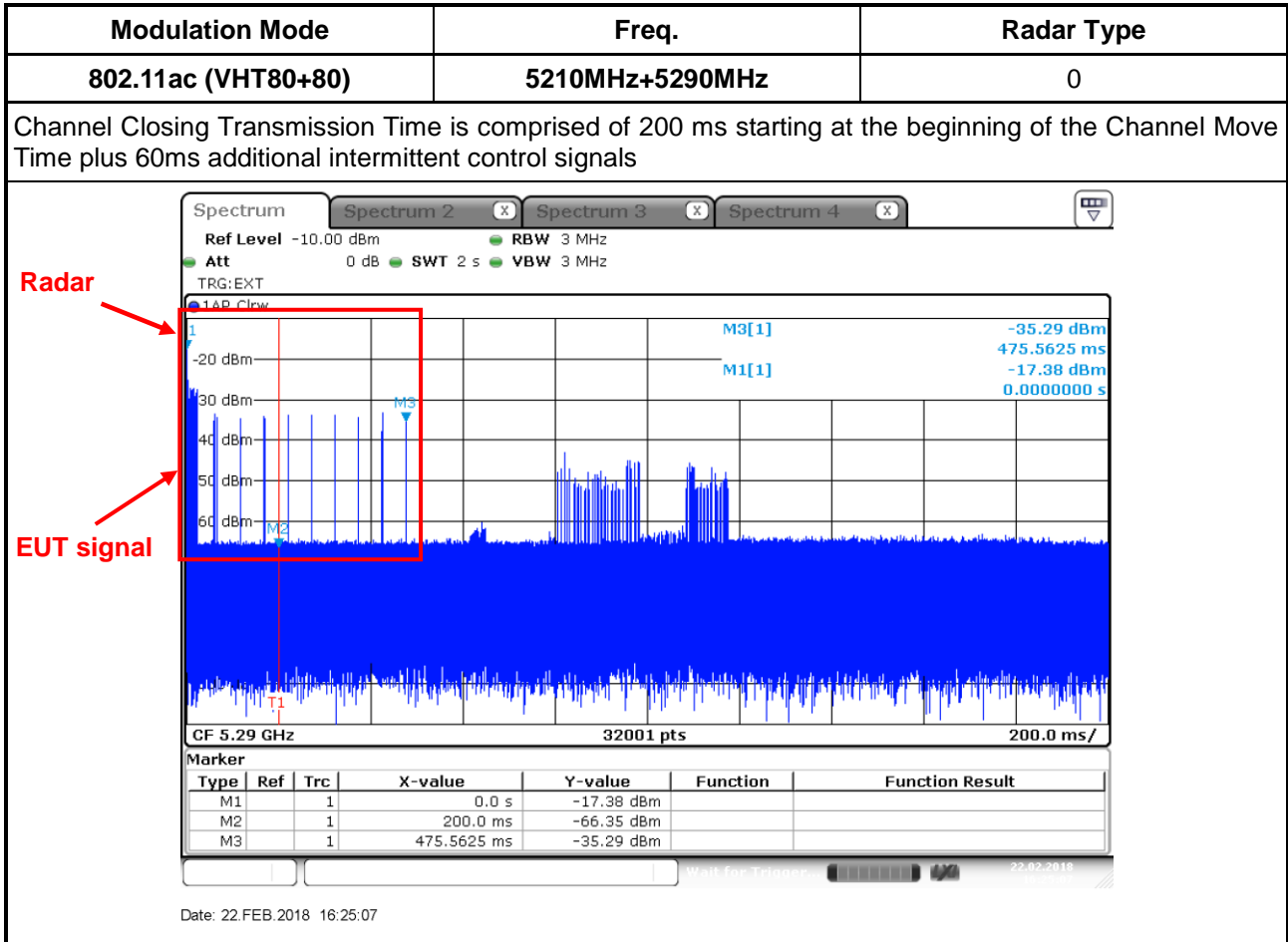


### 3.5.5 Test Result of Channel Closing Transmission Time

Modulation Mode: 802.11ac (VHT80+80)

Parameter	Test Result	Limit
	Type 0	
Test Channel (MHz)	5210MHz+5290MHz	-
Channel Closing Transmission Time (ms) (Note)	20.063	< 60ms

Note: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.



Dwell is the dwell time per spectrum analyzer sampling bin.

S is the sweep time

B is the number of spectrum analyzer sampling bins

C is the intermittent control signals of Channel Closing Transmission Time

N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission

$$\text{Dwell (0.063 ms)} = \text{S (2000 ms)} / \text{B (32000)}$$

$$\text{C (20.063ms)} = \text{N (321)} \times \text{Dwell (0.063 ms)}$$



### 3.5.6 Test Result of Non-Occupancy Period

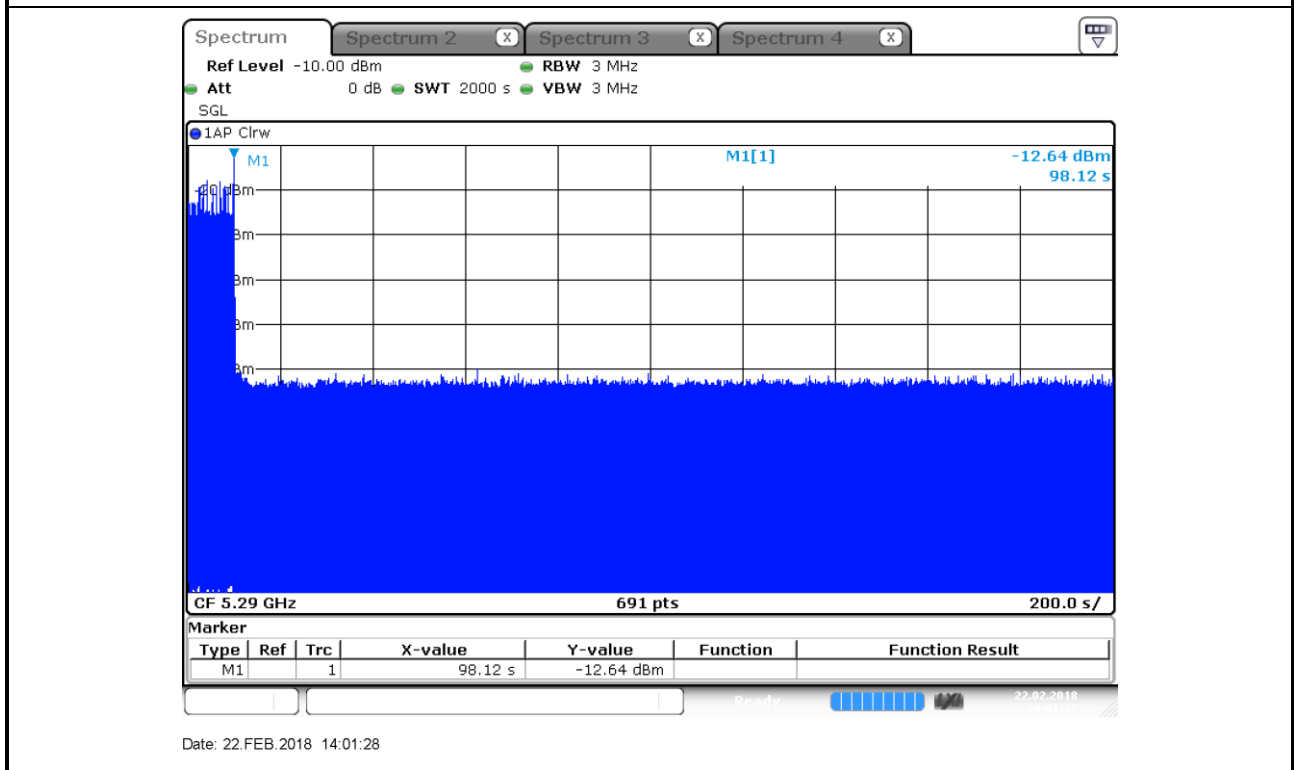
Modulation Mode: 802.11ac (VHT80+80)

Parameter	Test Result	Limit
	Type 0	
Test Channel (MHz)	5210MHz+5290MHz	-
Non-Occupancy Period (min.)	≥ 30	≥ 30 min

Modulation Mode	Freq.
802.11ac (VHT80+80)	5210MHz+5290MHz

#### Non-Occupancy Period

During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the In-Service Monitoring.





### 3.6 Statistical Performance Check

#### 3.6.1 Statistical Performance Check Limit

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

The percentage of successful detection is calculated by:

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

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

$$\frac{Pd1 + Pd2 + Pd3 + Pd4}{4}$$

#### 3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.6.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> For Statistical Performance Check test. Demonstrating a minimum channel loading of approximately 17% or greater of the test. Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Short Pulse Radar Types 1-4 and 6 to ensure detection occurs. Then Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 22 seconds for Long Pulse Radar Type 5 to ensure detection occurs. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs.



**3.6.4 Test Result of Statistical Performance Check**

Modulation Mode: 802.11ac (VHT80)

Type 5 Radar Statistical Performance Test Frequency (MHz): 5290 MHz

Center Freq. (MHz)	Low Edge (MHz)	High Edge (MHz)	VSG Freq. (MHz)	Detection
Trial	Chirp	Offset		
5290	5252	5329		
1	5	0	5290	1
2	20	0	5290	1
3	7	0	5290	1
4	8	0	5290	1
5	9	0	5290	1
6	10	0	5290	1
7	11	0	5290	1
8	12	0	5290	1
9	13	0	5290	1
10	14	0	5290	1
11	15	6	5258	1
12	16	6.4	5258	1
13	17	6.8	5259	1
14	20	8	5260	1
15	19	7.6	5260	1
16	18	7.2	5259	1
17	17	6.8	5259	0
18	16	6.4	5258	1
19	15	6	5258	1
20	14	5.6	5258	1
21	13	5.2	5324	1
22	12	4.8	5324	1
23	11	4.4	5325	1
24	10	4	5325	1
25	9	3.6	5325	1
26	8	3.2	5326	1
27	18	7.2	5322	1
28	19	7.6	5321	0
29	20	8	5321	0
30	5	2	5327	1
Total				27
Detection Percentage (%)				90%
Limit				80%
<b>Test Result</b>				<b>Complied</b>



Modulation Mode: 802.11ac (VHT80+80)

Type 1 Radar Statistical Performance

Test Frequency (MHz): 5290 MHz

Trial #	Test Freq. (MHz)	Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulse Per Second)	PRI (us)	1=Detection 0=No Detection
1	5286	1	1930.5	518	0
2	5307	23	326.2	3066	1
3	5284	19	1139.0	878	1
4	5321	12	1355.0	738	1
5	5258	4	1730.1	578	1
6	5280	8	1519.8	658	1
7	5270	15	1253.1	798	1
8	5265	6	1618.1	618	0
9	5328	14	1285.3	778	1
10	5252	3	1792.1	558	1
11	5264	13	1319.3	758	1
12	5250	9	1474.9	678	1
13	5296	7	1567.4	638	1
14	5270	17	1193.3	838	1
15	5283	10	1432.7	698	0
16	5294	-	1692.0	591	1
17	5266	-	328.1	3048	1
18	5300	-	373.4	2678	0
19	5285	-	574.4	1741	1
20	5267	-	1216.5	822	1
21	5319	-	801.3	1248	0
22	5266	-	488.5	2047	1
23	5302	-	956.0	1046	1
24	5291	-	517.6	1932	1
25	5283	-	1422.5	703	1
26	5328	-	542.0	1845	1
27	5302	-	741.3	1349	1
28	5321	-	881.8	1134	1
29	5315	-	427.4	2340	1
30	5290	-	628.9	1590	1
Detection Percentage (%)					83.333
Limit					60%
<b>Test Result</b>					<b>Complied</b>



Type 2 Radar Statistical Performance

Test Frequency (MHz): 5290 MHz

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5318	2.6	221	23	1
2	5288	4.6	198	27	1
3	5308	1.1	184	29	1
4	5327	4.8	203	24	1
5	5324	2.4	162	25	1
6	5310	3.4	204	28	1
7	5291	2.3	170	27	1
8	5261	3.5	184	23	0
9	5258	4.9	150	27	1
10	5274	4.6	211	29	1
11	5260	2.9	158	23	1
12	5252	2.6	226	27	1
13	5290	1.6	204	26	1
14	5321	3.9	181	25	1
15	5300	4.6	202	24	0
16	5279	4.1	194	27	1
17	5318	2.3	193	28	1
18	5315	3.9	173	29	1
19	5291	4.3	188	23	1
20	5258	1.5	215	26	1
21	5292	4.9	227	27	1
22	5322	1.1	199	23	1
23	5282	4.5	155	29	1
24	5250	4.0	190	27	1
25	5294	2.4	151	23	1
26	5286	2.5	180	28	1
27	5275	2.5	228	23	1
28	5299	2.5	203	25	1
29	5314	1.5	188	25	1
30	5304	1.9	217	24	1
Detection Percentage (%)					93.333
Limit					60%
<b>Test Result</b>					<b>Complied</b>



Type 3 Radar Statistical Performance

Test Frequency (MHz): 5290 MHz

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5287	8.0	205	16	1
2	5255	6.7	382	18	1
3	5314	8.6	418	16	1
4	5299	9.4	351	17	1
5	5287	7.4	383	18	1
6	5291	9.8	232	16	1
7	5303	9.1	377	17	1
8	5251	9.6	457	16	1
9	5327	8.0	471	18	1
10	5274	9.0	304	18	1
11	5312	8.0	316	17	1
12	5260	9.8	325	16	1
13	5303	8.0	409	17	1
14	5256	9.9	200	17	1
15	5296	8.8	458	16	1
16	5264	8.0	232	18	1
17	5321	8.3	250	16	0
18	5281	8.7	270	16	1
19	5321	7.7	350	17	1
20	5328	7.1	230	16	1
21	5321	7.3	416	18	1
22	5267	7.6	498	18	1
23	5311	7.3	286	17	1
24	5253	7.3	287	16	1
25	5257	7.5	462	17	1
26	5296	6.2	300	17	0
27	5251	6.4	323	18	1
28	5294	7.1	420	16	0
29	5284	7.2	395	18	1
30	5274	8.4	377	16	1
Detection Percentage (%)					90.000
Limit					60%
<b>Test Result</b>					<b>Complied</b>





Type 4 Radar Statistical Performance

Test Frequency (MHz): 5290 MHz

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5295	18.0	242	15	1
2	5313	19.9	279	12	1
3	5328	12.9	487	14	1
4	5301	15.0	452	13	1
5	5253	16.3	230	12	1
6	5261	19.8	238	13	1
7	5263	18.2	420	16	1
8	5255	16.3	452	15	1
9	5326	14.2	495	12	1
10	5304	17.8	228	16	0
11	5307	19.1	211	16	1
12	5277	18.4	283	15	1
13	5321	11.8	411	12	1
14	5301	14.2	284	13	0
15	5303	13.9	202	12	1
16	5285	17.8	340	14	1
17	5315	15.6	290	16	1
18	5296	14.6	250	16	1
19	5322	14.4	484	15	0
20	5296	18.9	387	13	1
21	5286	11.1	348	15	1
22	5283	13.8	291	16	1
23	5328	14.3	295	12	1
24	5302	12.5	300	12	0
25	5311	12.5	322	14	1
26	5270	12.5	383	13	1
27	5268	15.7	322	16	1
28	5301	19.8	469	13	0
29	5299	18.6	406	15	1
30	5277	15.9	238	14	1
Detection Percentage (%)					83.333
Limit					60%
<b>Test Result</b>					<b>Complied</b>



**Total Type 1~4 Radar Statistical Performance**

**Test Frequency (MHz): 5290 MHz**

<b>Radar Type #</b>	<b>Detection Percentage (%)</b>
1	83.333
2	93.333
3	90.000
4	83.333
Aggregate (Radar Types 1-4)	87.500
Limit	80%
<b>Test Result</b>	<b>Complied</b>



Type 5 Radar Statistical Performance

Test Frequency (MHz): 5290 MHz

High Edge (MHz)			VSG Freq. (MHz)	Detection
5328				
Trial	Chirp	Offset		
1	5	2	5326	0
2	20	8	5320	1
3	7	2.8	5325	0
4	8	3.2	5325	1
5	9	3.6	5324	1
6	10	4	5324	1
7	11	4.4	5324	1
8	12	4.8	5323	1
9	13	5.2	5323	1
10	14	5.6	5322	1
11	15	6	5322	1
12	16	6.4	5322	1
13	17	6.8	5321	1
14	20	8	5320	1
15	19	7.6	5320	1
16	18	7.2	5321	1
17	17	6.8	5321	1
18	16	6.4	5322	1
19	15	6	5322	1
20	14	5.6	5322	1
21	13	5.2	5323	0
22	12	4.8	5323	1
23	11	4.4	5324	1
24	10	4	5324	1
25	9	3.6	5324	1
26	8	3.2	5325	1
27	18	7.2	5321	0
28	19	7.6	5320	0
29	20	8	5320	0
30	5	2	5326	1
Total				24
Detection Percentage (%)				80%
Limit				80%
<b>Test Result</b>				<b>Complied</b>



<b>Trial Number</b>							1
<b>Number of Bursts in Trial</b>							8
<b>Chirp Center Frequency</b>							5326
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	1	62.1	5	-	-	1091	
2	2	56	5	1729	-	133	
3	2	91.3	5	1230	-	1057	
4	3	50.7	5	1762	1616	1442	
5	2	92.6	5	1723	-	544	
6	2	87.3	5	1302	-	1089	
7	2	59.5	5	1291	-	1374	
8	2	52.2	5	1653	-	1237	
Detection Check (1=Detection; 0=No Detection)							0

<b>Trial Number</b>							2
<b>Number of Bursts in Trial</b>							9
<b>Chirp Center Frequency</b>							5320
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	3	90	20	1007	1326	30	
2	2	73.7	20	1785	-	979	
3	1	78.1	20	-	-	683	
4	2	92.4	20	1281	-	950	
5	1	61.2	20	-	-	612	
6	3	67.2	20	1525	1870	17	
7	1	78.5	20	-	-	429	
8	2	60.3	20	1931	-	936	
9	3	92.9	20	1403	1476	548	
Detection Check (1=Detection; 0=No Detection)							1



<b>Trial Number</b>							3
<b>Number of Bursts in Trial</b>							10
<b>Chirp Center Frequency</b>							5325.2
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	3	63.4	7	1574	1607	801	
2	1	98	7	-	-	966	
3	1	58.7	7	-	-	185	
4	1	88	7	-	-	1012	
5	3	79.5	7	1562	1370	943	
6	3	57.1	7	1900	1188	686	
7	2	64.4	7	1090	-	599	
8	1	78.7	7	-	-	1089	
9	1	69.3	7	-	-	188	
10	3	55.3	7	1375	1691	933	
Detection Check (1=Detection; 0=No Detection)							0

<b>Trial Number</b>							4
<b>Number of Bursts in Trial</b>							11
<b>Chirp Center Frequency</b>							5324.8
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	74.3	8	1642	-	24	
2	1	83.1	8	-	-	985	
3	2	59.5	8	1680	-	988	
4	2	59.8	8	1786	-	800	
5	2	77.6	8	1617	-	339	
6	2	79.9	8	1553	-	1040	
7	1	56	8	-	-	544	
8	3	71.4	8	1406	1927	452	
9	1	97.4	8	-	-	204	
10	2	98.3	8	1037	-	926	
11	1	63.6	8	-	-	1052	
Detection Check (1=Detection; 0=No Detection)							1



<b>Trial Number</b>			5			
<b>Number of Bursts in Trial</b>			12			
<b>Chirp Center Frequency</b>			5324.4			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	1	50	9	-	-	557
2	2	62.5	9	1731	-	567
3	2	55.4	9	1070	-	460
4	1	65.7	9	-	-	4
5	2	58	9	1512	-	64
6	2	60.9	9	1230	-	650
7	3	89.6	9	1598	1738	235
8	3	84.4	9	1271	1617	873
9	3	72.3	9	1498	1321	901
10	1	58.9	9	-	-	663
11	2	74.8	9	1584	-	919
12	1	71.8	9	-	-	375
Detection Check (1=Detection; 0=No Detection)						1

<b>Trial Number</b>			6			
<b>Number of Bursts in Trial</b>			13			
<b>Chirp Center Frequency</b>			5324			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	2	88.1	10	1257	-	846
2	1	58.7	10	-	-	725
3	2	97.1	10	1037	-	30
4	3	83.1	10	1029	1106	490
5	1	62.1	10	-	-	262
6	2	71.4	10	1058	-	283
7	2	86.3	10	1867	-	49
8	3	77.3	10	1418	1876	634
9	1	78.9	10	-	-	304
10	3	79.2	10	1055	1572	564
11	3	52	10	1582	1836	852
12	3	56.5	10	1195	1542	525
13	3	100	10	1638	1729	750
Detection Check (1=Detection; 0=No Detection)						1



<b>Trial Number</b>							7
<b>Number of Bursts in Trial</b>							14
<b>Chirp Center Frequency</b>							5323.6
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	92.7	11	1208	-	231	
2	2	81.3	11	1144	-	804	
3	2	60.4	11	1555	-	34	
4	2	62.1	11	1320	-	427	
5	1	50	11	-	-	577	
6	3	65.9	11	1020	1365	3	
7	2	73.8	11	1308	-	51	
8	2	74.3	11	1143	-	360	
9	1	62.9	11	-	-	394	
10	2	74.8	11	1404	-	317	
11	2	69.7	11	1309	-	532	
12	2	69.8	11	1688	-	339	
13	2	77.4	11	1857	-	381	
14	1	55.1	11	-	-	426	
Detection Check (1=Detection; 0=No Detection)							1

<b>Trial Number</b>							8
<b>Number of Bursts in Trial</b>							15
<b>Chirp Center Frequency</b>							5323.2
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	1	91.7	12	-	-	776	
2	2	90	12	1196	-	187	
3	3	92.3	12	1486	1853	448	
4	2	66.8	12	1545	-	702	
5	1	64	12	-	-	403	
6	3	95.4	12	1123	1473	230	
7	3	66.8	12	1867	1401	604	
8	3	67.7	12	1472	1397	38	
9	1	68.2	12	-	-	735	
10	2	82.2	12	1297	-	610	
11	1	92.1	12	-	-	618	
12	2	57	12	1764	-	705	
13	2	58.5	12	1310	-	22	
14	3	85.5	12	1630	1447	641	
15	2	82.2	12	1371	-	109	
Detection Check (1=Detection; 0=No Detection)							1



<b>Trial Number</b>							9
<b>Number of Bursts in Trial</b>							16
<b>Chirp Center Frequency</b>							5322.8
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	74.4	13	1707	-	442	
2	2	63.6	13	1725	-	280	
3	2	71.3	13	1704	-	459	
4	3	77.6	13	1063	1405	197	
5	3	65.2	13	1731	1294	101	
6	3	55.1	13	1109	1549	17	
7	2	96.8	13	1034	-	131	
8	3	80.8	13	1533	1051	365	
9	1	60.4	13	-	-	222	
10	2	61.8	13	1312	-	371	
11	2	71.3	13	1657	-	33	
12	2	98.1	13	1024	-	291	
13	1	57.9	13	-	-	188	
14	1	91.8	13	-	-	163	
15	2	56.7	13	1259	-	426	
16	2	89.7	13	1690	-	606	
Detection Check (1=Detection; 0=No Detection)							1

<b>Trial Number</b>							10
<b>Number of Bursts in Trial</b>							17
<b>Chirp Center Frequency</b>							5322.4
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	74.4	14	1107	-	462	
2	1	87.6	14	-	-	653	
3	2	61.7	14	1741	-	457	
4	2	57.5	14	1566	-	388	
5	2	66.1	14	1855	-	63	
6	3	70.1	14	1044	1012	136	
7	1	66.4	14	-	-	343	
8	1	59.2	14	-	-	349	
9	2	88.3	14	1240	-	362	
10	1	64.7	14	-	-	221	
11	2	73	14	1703	-	144	
12	2	81.7	14	1450	-	671	
13	3	70.1	14	1741	1278	320	
14	1	63.6	14	-	-	196	
15	1	58.7	14	-	-	413	
16	2	65.9	14	1478	-	170	
17	1	72.7	14	-	-	564	
Detection Check (1=Detection; 0=No Detection)							1





<b>Trial Number</b>			11			
<b>Number of Bursts in Trial</b>			18			
<b>Chirp Center Frequency</b>			5322			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	2	72.1	15	1193	-	130
2	3	76.3	15	1484	1390	114
3	1	86.1	15	-	-	14
4	1	73.2	15	-	-	604
5	1	81.2	15	-	-	548
6	2	99.5	15	1398	-	173
7	1	93.9	15	-	-	262
8	2	75.9	15	1921	-	38
9	3	79.2	15	1100	1429	84
10	3	77	15	1166	1799	610
11	1	91.8	15	-	-	339
12	3	56.8	15	1330	1556	580
13	2	83.1	15	1556	-	295
14	2	63	15	1552	-	156
15	1	65.7	15	-	-	439
16	1	64.5	15	-	-	188
17	1	88.5	15	-	-	419
18	1	60.6	15	-	-	205
Detection Check (1=Detection; 0=No Detection)						1



<b>Trial Number</b>			12			
<b>Number of Bursts in Trial</b>			19			
<b>Chirp Center Frequency</b>			5322			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	2	90.5	16	1299	-	381
2	2	88.4	16	1418	-	327
3	2	53.7	16	1055	-	536
4	1	80.5	16	-	-	285
5	1	50.4	16	-	-	398
6	2	61.2	16	1749	-	439
7	2	78.8	16	1065	-	129
8	3	75	16	1748	1820	325
9	2	96.7	16	1254	-	440
10	3	76.3	16	1848	1106	397
11	1	73.3	16	-	-	232
12	2	92.4	16	1317	-	91
13	2	92.4	16	1854	-	256
14	3	64.4	16	1240	1634	582
15	2	67.3	16	1473	-	117
16	2	84.1	16	1795	-	202
17	1	80.9	16	-	-	135
18	1	74.6	16	-	-	396
19	2	97.6	16	1805	-	615
<b>Detection Check (1=Detection; 0=No Detection)</b>						1



<b>Trial Number</b>							13
<b>Number of Bursts in Trial</b>							20
<b>Chirp Center Frequency</b>							5321
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	66.1	17	1417	-	388	
2	2	86.7	17	1693	-	348	
3	2	70.5	17	1263	-	215	
4	2	78	17	1446	-	28	
5	2	66	17	1185	-	585	
6	2	80.6	17	1855	-	65	
7	1	95.5	17	-	-	92	
8	1	98.8	17	-	-	68	
9	3	64.3	17	1641	1108	517	
10	1	75.1	17	-	-	121	
11	2	72.6	17	1499	-	448	
12	1	60.3	17	-	-	567	
13	2	54.9	17	1056	-	245	
14	2	98.8	17	1023	-	584	
15	2	60.9	17	1243	-	579	
16	2	62.7	17	1226	-	464	
17	1	80.1	17	-	-	89	
18	2	70.9	17	1711	-	153	
19	1	90.7	17	-	-	282	
20	1	98.9	17	-	-	71	
Detection Check (1=Detection; 0=No Detection)							1

<b>Trial Number</b>							14
<b>Number of Bursts in Trial</b>							8
<b>Chirp Center Frequency</b>							5320
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	67.5	20	1542	-	947	
2	3	83.6	20	1272	1696	124	
3	2	93.2	20	1877	-	701	
4	1	55.6	20	-	-	1123	
5	3	84.2	20	1733	1619	756	
6	3	69.1	20	1612	1071	1	
7	2	66.9	20	1905	-	7	
8	3	86.8	20	1697	1621	1082	
Detection Check (1=Detection; 0=No Detection)							1



<b>Trial Number</b>							15
<b>Number of Bursts in Trial</b>							9
<b>Chirp Center Frequency</b>							5320
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	62.2	19	1571	-	949	
2	2	85	19	1669	-	189	
3	2	64.5	19	1505	-	176	
4	2	50.4	19	1325	-	538	
5	2	66.1	19	1483	-	908	
6	2	71.2	19	1110	-	1017	
7	3	53.7	19	1445	1677	492	
8	3	62.5	19	1596	1341	349	
9	3	62	19	1929	1221	1105	
Detection Check (1=Detection; 0=No Detection)							1

<b>Trial Number</b>							16
<b>Number of Bursts in Trial</b>							10
<b>Chirp Center Frequency</b>							5321
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	80.5	18	1910	-	284	
2	2	64.2	18	1661	-	751	
3	2	90.1	18	1041	-	491	
4	2	69.8	18	1495	-	107	
5	1	73.1	18	-	-	490	
6	3	77.2	18	1418	1145	1155	
7	3	52.6	18	1732	1787	772	
8	2	71.4	18	1562	-	121	
9	2	89.8	18	1491	-	89	
10	2	76.4	18	1355	-	615	
Detection Check (1=Detection; 0=No Detection)							1



<b>Trial Number</b>							17
<b>Number of Bursts in Trial</b>							11
<b>Chirp Center Frequency</b>							5321
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	51.2	17	1236	-	740	
2	1	71.7	17	-	-	941	
3	2	74.7	17	1164	-	370	
4	2	50.9	17	1919	-	371	
5	2	65.2	17	1206	-	1033	
6	2	98	17	1182	-	346	
7	2	58.7	17	1612	-	639	
8	1	63.8	17	-	-	1056	
9	3	86.3	17	1545	1065	205	
10	1	94.4	17	-	-	753	
11	3	88.5	17	1699	1319	58	
Detection Check (1=Detection; 0=No Detection)							1

<b>Trial Number</b>							18
<b>Number of Bursts in Trial</b>							12
<b>Chirp Center Frequency</b>							5322
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	88.7	16	1405	-	448	
2	3	90.2	16	1544	1235	621	
3	1	96.5	16	-	-	512	
4	2	80.5	16	1090	-	321	
5	2	63.7	16	1268	-	798	
6	1	53.4	16	-	-	809	
7	2	52.3	16	1043	-	301	
8	3	54.7	16	1701	1104	796	
9	3	75.6	16	1923	1729	669	
10	2	59.2	16	1244	-	369	
11	1	56.3	16	-	-	51	
12	2	87.8	16	1608	-	733	
Detection Check (1=Detection; 0=No Detection)							1



<b>Trial Number</b>							19
<b>Number of Bursts in Trial</b>							13
<b>Chirp Center Frequency</b>							5322
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	68.2	15	1104	-	229	
2	2	58.4	15	1627	-	488	
3	3	74.7	15	1861	1015	137	
4	2	58.2	15	1593	-	520	
5	1	51.6	15	-	-	799	
6	2	94.7	15	1469	-	43	
7	2	70.7	15	1091	-	126	
8	2	82.9	15	1472	-	607	
9	3	62.7	15	1168	1453	527	
10	2	63.1	15	1529	-	143	
11	1	96.1	15	-	-	176	
12	2	57	15	1457	-	882	
13	3	95.6	15	1707	1501	214	
Detection Check (1=Detection; 0=No Detection)							1

<b>Trial Number</b>							20
<b>Number of Bursts in Trial</b>							14
<b>Chirp Center Frequency</b>							5322
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	1	95.7	14	-	-	117	
2	1	93.1	14	-	-	720	
3	1	55.8	14	-	-	297	
4	1	76.7	14	-	-	284	
5	2	68	14	1686	-	472	
6	3	94.1	14	1796	1393	264	
7	2	53.9	14	1293	-	525	
8	1	99.3	14	-	-	155	
9	2	73.3	14	1458	-	65	
10	2	93.3	14	1196	-	451	
11	3	55.8	14	1895	1034	243	
12	1	66.4	14	-	-	228	
13	2	65.6	14	1732	-	746	
14	2	76.5	14	1187	-	522	
Detection Check (1=Detection; 0=No Detection)							1



<b>Trial Number</b>			21			
<b>Number of Bursts in Trial</b>			15			
<b>Chirp Center Frequency</b>			5323			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	1	85.1	13	-	-	565
2	2	72.5	13	1648	-	211
3	1	67.5	13	-	-	348
4	2	56.1	13	1360	-	156
5	1	71.1	13	-	-	718
6	2	93.1	13	1391	-	400
7	1	56.5	13	-	-	482
8	1	63.8	13	-	-	703
9	2	67.4	13	1727	-	780
10	1	52.3	13	-	-	102
11	3	62.4	13	1228	1715	304
12	2	53.3	13	1630	-	57
13	2	83.1	13	1205	-	768
14	2	93.7	13	1085	-	461
15	2	90.7	13	1297	-	746
Detection Check (1=Detection; 0=No Detection)						0

<b>Trial Number</b>			22			
<b>Number of Bursts in Trial</b>			16			
<b>Chirp Center Frequency</b>			5323			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	2	98.8	12	1439	-	95
2	1	54.5	12	-	-	676
3	2	80.5	12	1360	-	8
4	2	55.9	12	1906	-	373
5	2	72.1	12	1623	-	254
6	2	84.4	12	1604	-	480
7	1	78.5	12	-	-	663
8	1	88	12	-	-	314
9	2	74.7	12	1157	-	596
10	2	97.1	12	1673	-	264
11	1	81.6	12	-	-	740
12	1	83.6	12	-	-	163
13	3	87.6	12	1757	1322	628
14	2	58.5	12	1372	-	132
15	3	91.8	12	1767	1183	106
16	2	58.8	12	1432	-	659
Detection Check (1=Detection; 0=No Detection)						1



<b>Trial Number</b>			23			
<b>Number of Bursts in Trial</b>			17			
<b>Chirp Center Frequency</b>			5324			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	1	96	11	-	-	284
2	2	92.5	11	1241	-	488
3	2	89.5	11	1347	-	76
4	2	74.8	11	1607	-	688
5	2	60.6	11	1523	-	28
6	2	71.5	11	1659	-	383
7	2	71.1	11	1454	-	182
8	1	98.7	11	-	-	20
9	2	85.1	11	1770	-	576
10	2	89.2	11	1086	-	410
11	2	60.7	11	1101	-	458
12	2	75.2	11	1719	-	348
13	2	75.7	11	1799	-	481
14	3	56.7	11	1132	1884	587
15	2	65	11	1885	-	480
16	2	64.6	11	1910	-	195
17	3	69.9	11	1410	1190	396
Detection Check (1=Detection; 0=No Detection)						1

<b>Trial Number</b>			24			
<b>Number of Bursts in Trial</b>			18			
<b>Chirp Center Frequency</b>			5324			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	3	83.8	10	1290	1021	536
2	2	66.9	10	1112	-	44
3	3	91	10	1220	1504	611
4	2	86.1	10	1678	-	456
5	3	65.5	10	1928	1222	330
6	1	62.6	10	-	-	297
7	3	68.7	10	1505	1200	351
8	3	59.2	10	1452	1114	230
9	1	73.9	10	-	-	222
10	1	77.2	10	-	-	57
11	2	96.4	10	1357	-	399
12	2	99.9	10	1173	-	299
13	2	99.9	10	1520	-	464
14	1	86.7	10	-	-	294
15	1	92.6	10	-	-	653
16	1	77.1	10	-	-	550
17	2	81.1	10	1664	-	566
18	3	68.4	10	1536	1309	580
Detection Check (1=Detection; 0=No Detection)						1





<b>Trial Number</b>			25			
<b>Number of Bursts in Trial</b>			19			
<b>Chirp Center Frequency</b>			5324			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	3	68.2	9	1723	1868	471
2	3	83.7	9	1711	1405	368
3	2	69.7	9	1781	-	425
4	1	59.7	9	-	-	440
5	2	96.7	9	1484	-	123
6	2	95.8	9	1319	-	261
7	3	71.3	9	1095	1354	332
8	3	53.2	9	1527	1427	427
9	2	69.5	9	1771	-	397
10	3	63.9	9	1075	1447	67
11	2	93.4	9	1783	-	174
12	2	77.3	9	1564	-	17
13	2	73.1	9	1294	-	216
14	1	77.4	9	-	-	292
15	3	57.2	9	1722	1886	619
16	2	68.7	9	1629	-	233
17	1	60.8	9	-	-	226
18	3	69.7	9	1128	1224	599
19	1	62.2	9	-	-	433
<b>Detection Check (1=Detection; 0=No Detection)</b>						1



<b>Trial Number</b>							26
<b>Number of Bursts in Trial</b>							20
<b>Chirp Center Frequency</b>							5325
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	1	80.5	8	-	-	90	
2	3	62.6	8	1406	1343	319	
3	3	85.6	8	1190	1529	384	
4	2	83.9	8	1208	-	567	
5	2	92.4	8	1488	-	234	
6	2	54	8	1529	-	535	
7	3	81.3	8	1501	1812	325	
8	1	98.5	8	-	-	532	
9	1	85.8	8	-	-	272	
10	2	84.7	8	1593	-	182	
11	2	83.3	8	1705	-	134	
12	2	79.8	8	1567	-	286	
13	1	77.9	8	-	-	368	
14	3	98.4	8	1510	1569	290	
15	2	79.9	8	1588	-	231	
16	3	78	8	1140	1353	353	
17	3	55.2	8	1700	1327	53	
18	3	71.9	8	1081	1224	44	
19	1	62	8	-	-	298	
20	3	70.5	8	1888	1442	529	
Detection Check (1=Detection; 0=No Detection)							1

<b>Trial Number</b>							27
<b>Number of Bursts in Trial</b>							8
<b>Chirp Center Frequency</b>							5321
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	2	69.1	18	1076	-	1436	
2	2	62.1	18	1688	-	22	
3	2	94.8	18	1891	-	897	
4	1	75.8	18	-	-	1186	
5	2	65.4	18	1713	-	589	
6	2	97.7	18	1292	-	614	
7	3	98.1	18	1670	1711	506	
8	2	85.4	18	1672	-	776	
Detection Check (1=Detection; 0=No Detection)							0



<b>Trial Number</b>							28
<b>Number of Bursts in Trial</b>							9
<b>Chirp Center Frequency</b>							5320
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	3	82	19	1233	1713	679	
2	3	87.7	19	1554	1123	473	
3	2	98.9	19	1518	-	869	
4	1	55	19	-	-	719	
5	1	93.6	19	-	-	902	
6	2	58.7	19	1641	-	1243	
7	2	88.7	19	1387	-	410	
8	1	60.3	19	-	-	1154	
9	1	97.7	19	-	-	512	
Detection Check (1=Detection; 0=No Detection)							0

<b>Trial Number</b>							29
<b>Number of Bursts in Trial</b>							10
<b>Chirp Center Frequency</b>							5320
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	1	69.6	20	-	-	1131	
2	1	74.5	20	-	-	290	
3	1	60.9	20	-	-	895	
4	1	74.6	20	-	-	202	
5	2	99.3	20	1501	-	139	
6	2	95.3	20	1065	-	854	
7	2	91.9	20	1722	-	219	
8	2	51	20	1285	-	57	
9	2	87.7	20	1747	-	141	
10	1	87.2	20	-	-	596	
Detection Check (1=Detection; 0=No Detection)							0



<b>Trial Number</b>			30			
<b>Number of Bursts in Trial</b>			11			
<b>Chirp Center Frequency</b>			5326			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)	Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)
1	3	59.9	5	1901	1196	935
2	2	77.1	5	1590	-	1038
3	2	62.7	5	1227	-	690
4	1	77.1	5	-	-	547
5	3	99.8	5	1798	1790	551
6	2	61.5	5	1135	-	876
7	2	77.5	5	1583	-	448
8	2	57.3	5	1890	-	736
9	2	53.5	5	1757	-	362
10	1	66.6	5	-	-	836
11	3	80.7	5	1811	1289	410
Detection Check (1=Detection; 0=No Detection)						1



**Type 6 Radar Statistical Performance**

Trial #	Test Freq. (MHz)	Pulses / Hop	Pulse Width (us)	PRI (us)	1=Detection 0=No Detection
1	5290	9	1	333	1
2	5290	9	1	333	1
3	5290	9	1	333	1
4	5290	9	1	333	1
5	5290	9	1	333	1
6	5290	9	1	333	1
7	5290	9	1	333	1
8	5290	9	1	333	1
9	5290	9	1	333	1
10	5290	9	1	333	1
11	5290	9	1	333	1
12	5290	9	1	333	1
13	5290	9	1	333	1
14	5290	9	1	333	1
15	5290	9	1	333	1
16	5290	9	1	333	1
17	5290	9	1	333	1
18	5290	9	1	333	1
19	5290	9	1	333	1
20	5290	9	1	333	1
21	5290	9	1	333	1
22	5290	9	1	333	1
23	5290	9	1	333	1
24	5290	9	1	333	1
25	5290	9	1	333	1
26	5290	9	1	333	1
27	5290	9	1	333	1
28	5290	9	1	333	1
29	5290	9	1	333	1
30	5290	9	1	333	1
Detection Percentage (%)					100.000
Limit					70%
<b>Test Result</b>					<b>Complied</b>



## 4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101026	9kHz~40GHz	Sep. 19, 2017	Sep. 18, 2018	Conducted (DF01-CB)
Vector Signal generator	R&S	SMU200A	102782	100kHz-6GHz	Dec. 18, 2017	Dec. 17, 2018	Conducted (DF01-CB)
RF Power Divider	ANAREN	2 Way	DFS-01-DV-02	1GHz ~ 6GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (DF01-CB)
RF Power Divider	MTJ	2 Way	DFS-01-DV-03	1GHz ~ 6GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (DF01-CB)
RF Power Divider	ANAREN	4 Way	DFS-01-DV-01	1GHz ~ 6GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-53	1 GHz –18 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-54	1 GHz –18 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-56	1 GHz –18 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-60	1 GHz –18 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (DF01-CB)

Note: Calibration Interval of instruments listed above is one year.



## **5 Measurement Uncertainty**

<b>Test Items</b>	<b>Uncertainty</b>	<b>Remark</b>
Conducted Emission	1.7 dB	Confidence levels of 95%