

Report No.: FZ642901-03

Project No: CB10505053

# FCC DFS TEST REPORT

Equipment

: PTP 450 BH

**Brand Name** 

: Cambium Networks

Model No.

: PTP 450 BH

FCC ID

: Z8H89FT0001

Standard

: 47 CFR FCC Part 15,407

Frequency Range: 5250 MHz - 5350 MHz

5470 MHz - 5725 MHz

Applicant

: Cambium Networks Inc.

3800 Golf Road, Suite 360 Rolling Meadows, IL 60008,

USA

**Operate Mode** 

: Master

The product sample received on Apr. 21, 2016 and completely tested on Apr. 27, 2016. 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 v01r02 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.

Sam Chen

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# **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: -63 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: -63 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			

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# **Revision History**

Report No.	Version	Description	Issued Date
FZ642901-03	Rev. 01	Initial issue of report	May 17, 2016
FZ642901-03	Rev. 02	Changing FCC ID to " Z8H89FT0001" from " Z8H89FT0002".	May 18, 2016

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# 1 General Description

# 1.1 Information

# 1.1.1 RF General Information

Specification Items	Description		
Product Type	2TX, 2RX		
Radio Type	Intentional Transceiver		
Power Type	From PoE		
Modulation	OFDM		
Channel Bandwidth	10/20 MHz operating channel bandwidth		
Operating Mode	Client with radar detection		
	☐ Client without radar detection		
Communication Mode	☐ IP Based (Load Based) ☐ Frame Based		
Weather Band (5600~5650MHz)	☐ With 5600~5650MHz ☑ Without 5600~5650MHz		
Power-on cycle	20MHz: Requires 45.217 seconds to complete its power-on cycle.		
Software / Firmware Version	2.6.1-RC10-31fff43f8781		

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# 1.2 Accessories

N/A

# 1.3 Support Equipment

Support Equipment							
No.	No. Equipment Brand Name Model Name FCC ID						
1	NB	MOTOROLA	ML900	DoC			
2	NB	MOTOROLA	ML910	DoC			
3	Device	Cambium Networks	PTP 450 BH	N/A			

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# 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 v01r02

# 1.5 Testing Location Information

	Testing Location						
	HWA YA	ADD	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.				
	TEL : 886-3-327-3456						
$\boxtimes$	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						
Te	Test Condition Test Site No. Test Engineer Test Environment Test Date						
DFS Site         DF01-CB         Eric Fu / Wii Lin         30.2°C / 60%         21-Apr-16 ~ 27-Apr-16 ~				21-Apr-16 ~ 27-Apr-16			

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# 2 Test Configuration of EUT

# 2.1 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration			
Modulation Mode	Test Channel Freq. (MHz)		
OFDM (10MHz)	5550 MHz		
OFDM (20MHz)	3000 WH12		

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# 2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
Tests Item Dynamic Frequency Selection (DFS)			
Test Condition	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.		
Modulation Mode OFDM (10MHz), OFDM (20MHz)			

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# 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).			

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- 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.

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

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

# 3.1.3 Applicability of DFS Requirements during Normal Operation

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

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# 3.1.4 User Access Restrictions

User Access Restrictions							
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.							
IP Based (Load Based) - stream the test file from the Master to the Client.							
☐ The data file (MPEG-4) has been transmitting in a streaming mode.							
Software to ping the client is permitted to simulate data transfer with random ping intervals.							
Minimum channel loading of approximately 17%.							
☐ Unicast protocol has been used.							
Frame Based - stream the test file from the Master to the Client.							
fixed talk/listen ratio, set the ratio to 45%/55%							

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### 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	[( 1 ) (19×10 <sup>6</sup> )]	60%	15
1B	1	15 unique PRI within 518-3066, Excluding 1A PRI	$Roundup \left\{ \left( \frac{1}{360} \right) \times \left( \frac{19 \times 10^6}{PRI} \right) \right\}$	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
Aggrega	ate (Radar Type	80%	120		

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**Note 1**: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.

A minimum of 30 unique waveforms are required for each of the short pulse radar types 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 <i>Burst</i>	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 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.
- 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

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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 / 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 start time for each Burst is chosen independently.

# 3.2.3 Frequency Hopping Radar Test Waveform

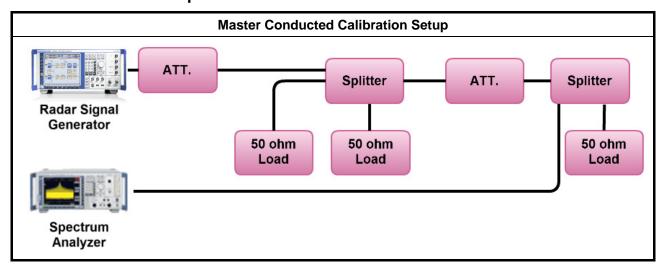
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (ms)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	0.333	300	70%	30

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:	-63	dBm	at the antenna connector						
			in front of the antenna						
	The Interference <b>Radar Detection Threshold Level</b> is is -64 dBm + 0 [dBi] + 1 dB = -63 dBm. That had been taken into account the output power range and antenna gain.								

### 3.2.5 Calibration Setup



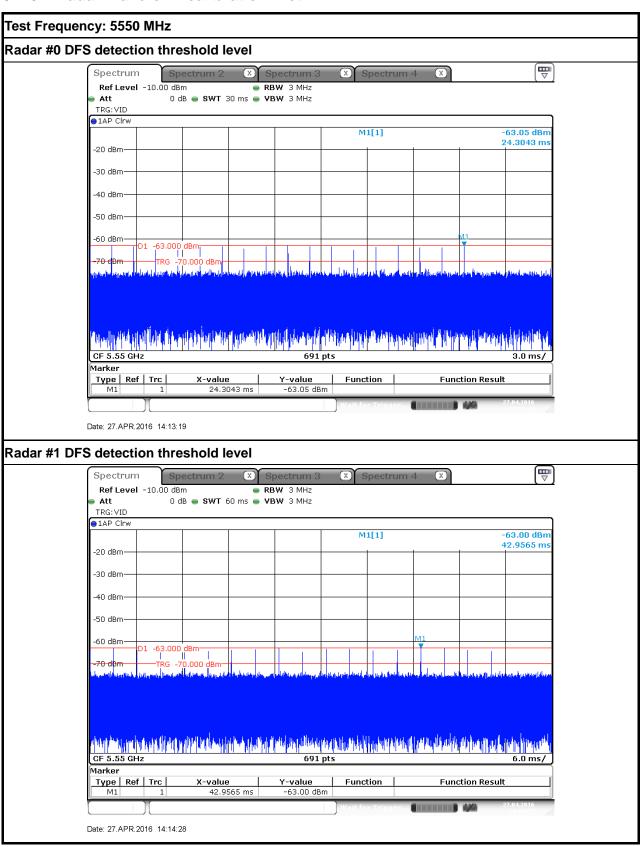
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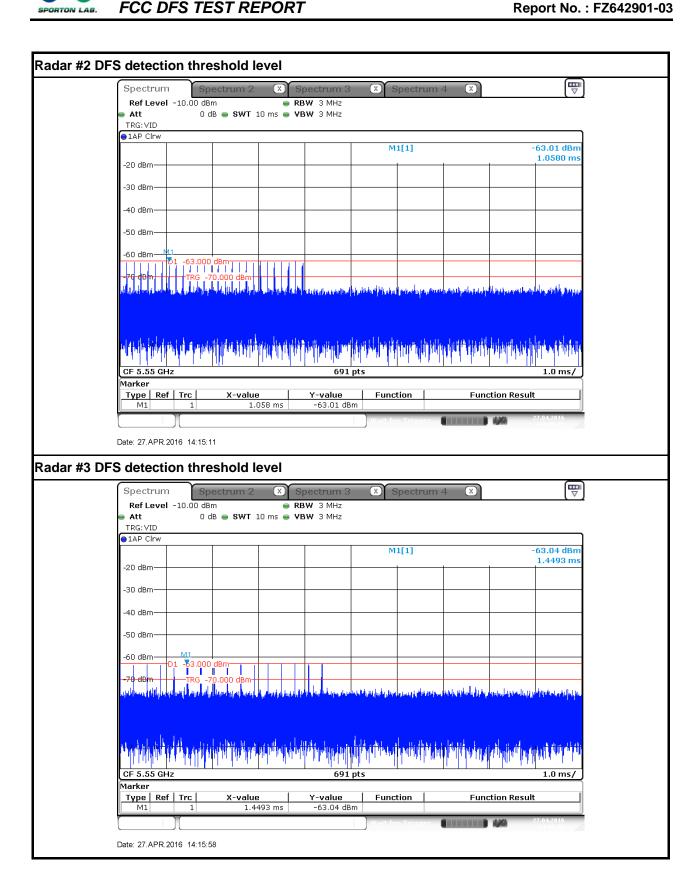
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#### 3.2.6 Radar Waveform calibration Plot



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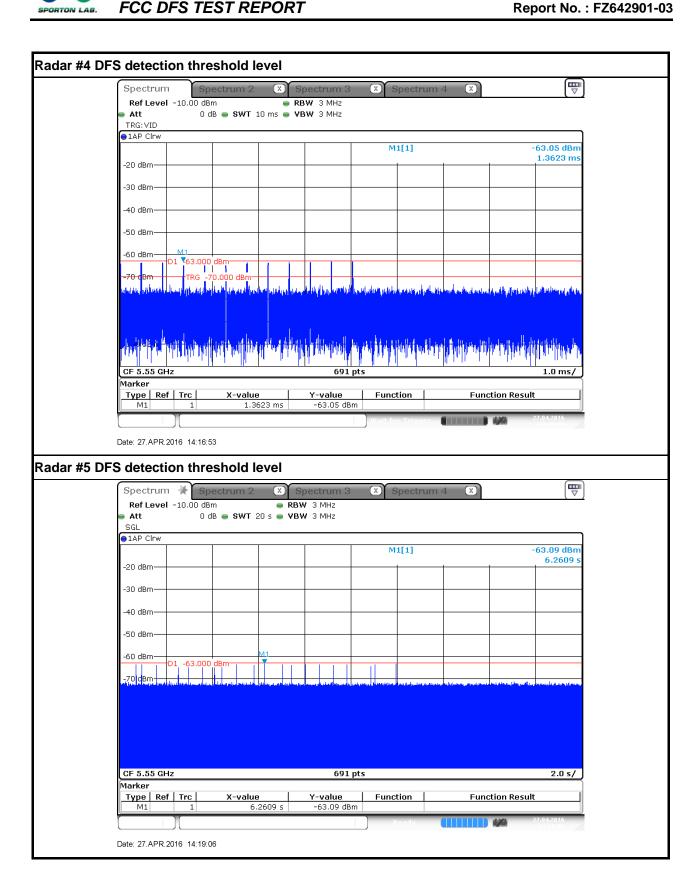
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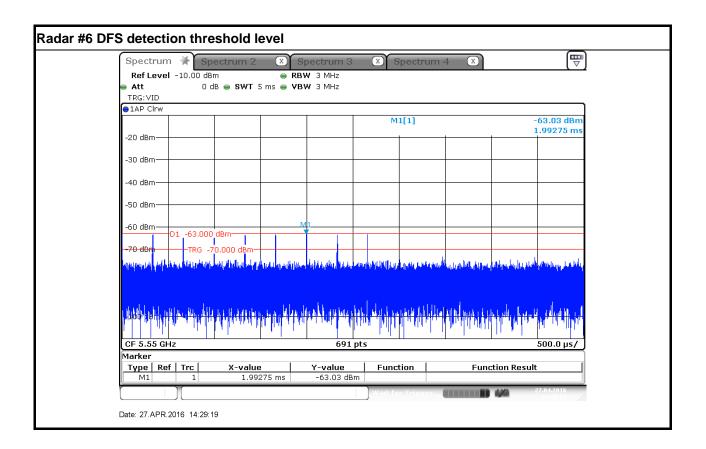
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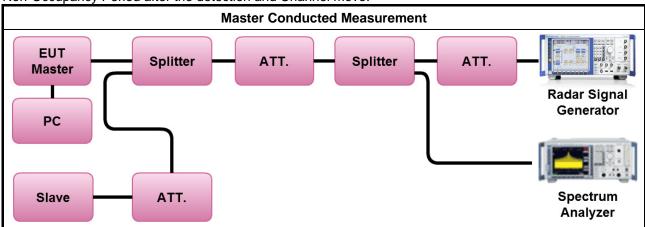


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# 3.2.7 Test Setup

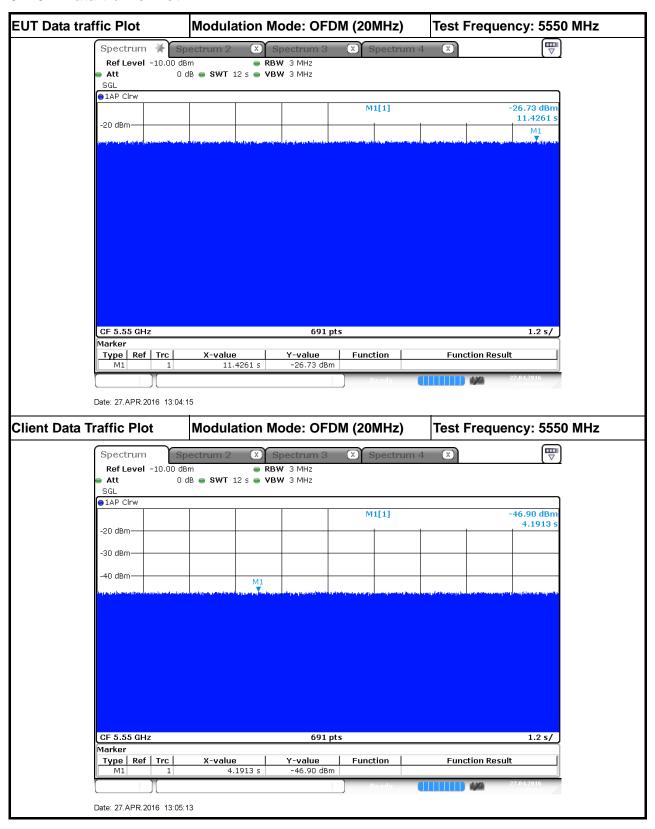
A spectrum analyzer is used as a monitor to verify that the EUT has vacated the Channel within the (Channel Closing Transmission Time and Channel Move Time, and does not transmit on a Channel during the Non-Occupancy Period after the detection and Channel move.



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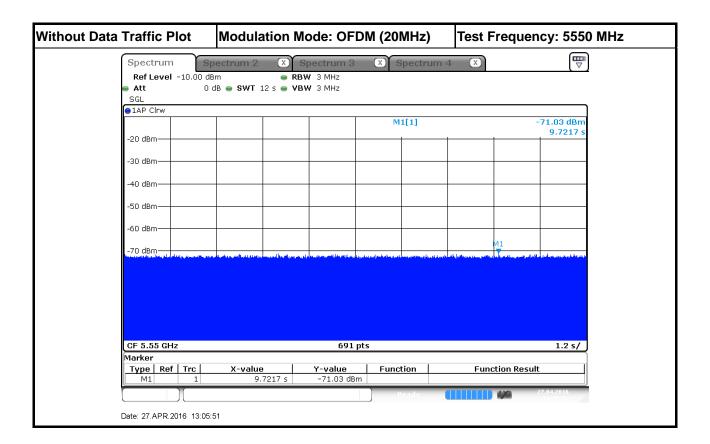
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#### 3.2.8 Data traffic Plot



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### 3.3 UNII Detection Bandwidth

# 3.3.1 UNII Detection Bandwidth Limit

Channel Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	UNII Detection Bandwidth Min. Limit (MHz)	ISM Type 5 Limit (MHz)
10	9.088	9	7
20	18.147	18	15

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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.

The center frequency for each of the 30 trials of the Bin 5 radar shall be randomly selected within 80% of the Occupied Bandwidth.

## 3.3.2 Measuring Instruments

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

#### 3.3.3 Test Procedures

#### **Test Method**

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<sub>H</sub>. 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<sub>L</sub>. UNII Detection Bandwidth = F<sub>H</sub> - F<sub>L</sub>.

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3.3.4 Test Result of UNII Detection Bandwidth

EUT Frequency=5550 MHz											
Channel Bandwidth (MHz)	10		-								
		DF	S De	tecti	on Tr	ials (	1=De	tecti	on, 0	= No	Detection)
Radar Frequency (MHz)	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5544.5	0	0	0	0	0	0	0	0	0	0	0
5545.5(FL)-Type 0	1	1	1	1	1	1	1	1	1	1	100
5546.5(FL)-Type 5	1	1	1	1	1	1	1	1	1	1	100
5547.5	1	1	1	1	1	1	1	1	1	1	100
5548.5	1	1	1	1	1	1	1	1	1	1	100
5549.5	1	1	1	1	1	1	1	1	1	1	100
5550.5	1	1	1	1	1	1	1	1	1	1	100
5551.5	1	1	1	1	1	1	1	1	1	1	100
5552.5	1	1	1	1	1	1	1	1	1	1	100
5553.5(FH)-Type 5	1	1	1	1	1	1	1	1	1	1	100
5554.5(FH)-Type 0	1	1	1	1	1	0	1	1	1	1	90
5555.5	0	0	0	0	0	0	0	0	0	0	0
Radar Type 0-Detection Bandwidth (N	ИHz)	= (FH	I-FL)	= (55	54.5	MHz-	5545.	.5MH	z)=		9
UNII Detection Bandwidth Min. Limit (MHz) =								9			
Radar Type 5-Detection Bandwidth (MHz) = (FH-FL) = (5553.5MHz-5546.5MHz)=								7			
ISM Type 5 Limit (MHz) =							7				
Test Result											Complied

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	FU	T Fre	aller	ncy=5	5550	MHz					
Channel Bandwidth (MHz)	20	1 1 1 0	quei	icy=c	7550	1711 12					
DFS Detection Trials (1=Detection, 0= No D							Detection)				
Radar Frequency (MHz)	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5540	0	0	0	0	0	0	0	0	0	0	0
5541(FL)-Type 0	1	1	1	0	1	1	1	1	1	1	90
5542	1	1	1	1	1	1	1	1	1	1	100
5543(FL)-Type 5	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100
5557	1	1	1	1	1	1	1	1	1	1	100
5558(FH)-Type 5	1	1	1	1	1	1	1	1	1	1	100
5559(FH)-Type 0	1	1	1	1	1	1	0	1	1	1	90
5560 0 0 0 0 0 0 0 0 0										0	0
Radar Type 0-Detection Bandwidth (MHz) = (FH-FL) = (5559MHz-5541MHz)=										18	
UNII Detection Bandwidth Min. Limit (MHz) =									18		
Radar Type 5-Detection Bandwidth (MHz) = (FH-FL) = (5558MHz-5558MHz)=								15			
ISM Type 5 Limit (MHz) =						15					
Test Result								Complied			

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# 3.4 Channel Availability Check (CAC)

## 3.4.1 Channel Availability Check Limit

#### **Channel Availability Check Limit**

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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**

- 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.
- 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.
- 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.

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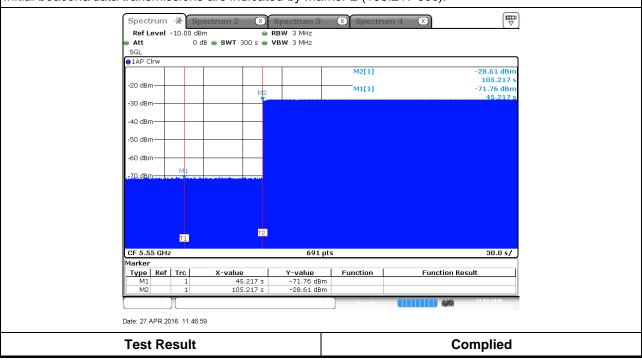
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# 3.4.4 Test Result of Initial Channel Availability Check Time

Modulation Mode	Freq.	Radar Test Signal
OFDM (20MHz)	5550 MHz	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 (45.217 sec). The initial power up time of the EUT is indicated by marker 1 (45.217 sec). Initial beacons/data transmissions are indicated by marker 2 (105.217 sec).



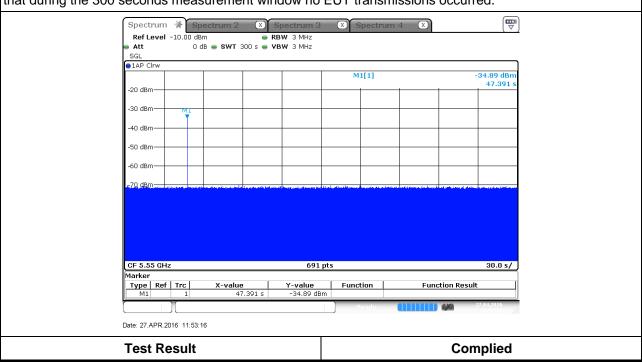
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# 3.4.5 Test Result of Radar Burst at the Beginning of the Channel Availability Check Time

Mod	Iulation Mode	Freq. (MHz)	Radar Type Signal
OF	DM (20MHz)	5550 MHz	0

Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions will continue for 252.609 seconds after the radar Burst has been generated. Verify that during the 300 seconds measurement window no EUT transmissions occurred.



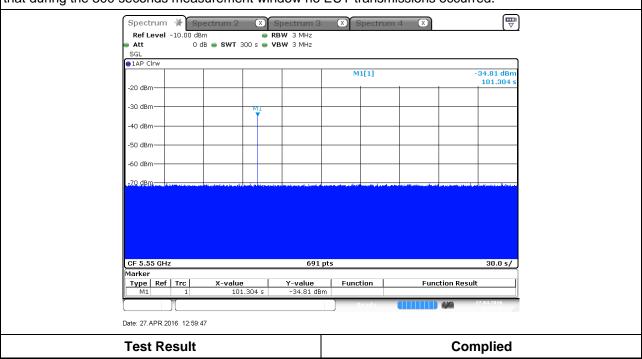
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# 3.4.6 Test Result of Radar Burst at the End of the Channel Availability Check Time

Modulation Mode	Freq. (MHz)	Radar Type Signal
OFDM (20MHz)	5550 MHz	0

Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions will continue for 198.696 seconds after the radar Burst has been generated. Verify that during the 300 seconds measurement window no EUT transmissions occurred.



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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			

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### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

#### **Test Method**

- ✓ 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.
- ✓ 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.
- ☑ 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.

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# 3.5.4 Test Result of In-service Monitoring

**Modulation Mode: OFDM (20MHz)** 

Parameter	Test Result	Limit	
Farameter	Туре 0		
Test Channel (MHz)	5550 MHz	-	
Channel Move Time (sec.)	0	< 10s	
Channel Closing Transmission Time (ms) (Note)	0.000	< 60ms	
Non-Occupancy Period (min.)	≧30	≧ 30 min	

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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.

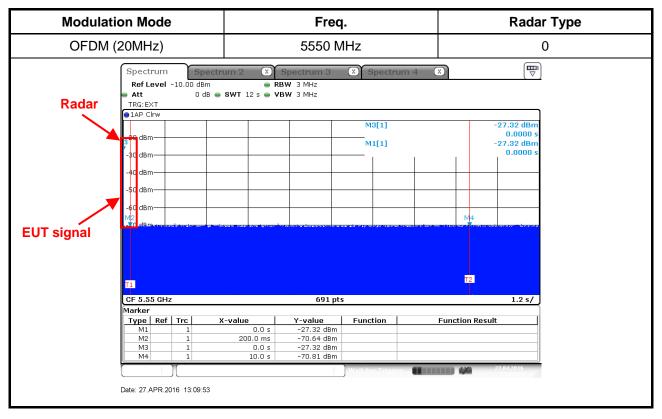
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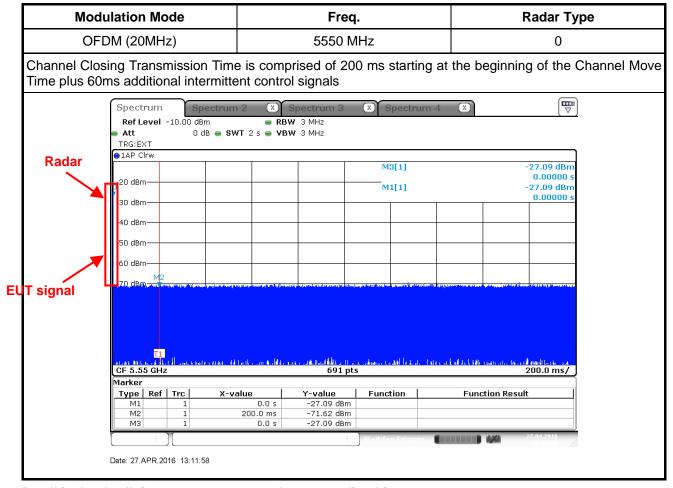
3.5.5 Test Plot of In-Service Monitoring for Channel Move Time



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# **Test Plot of In-Service Monitoring for Channel Closing Transmission Time**



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

Dwell (2.898 ms)= S (2000 ms) / B (690)

C (0.000 ms) = N (0) X Dwell (2.898 ms)

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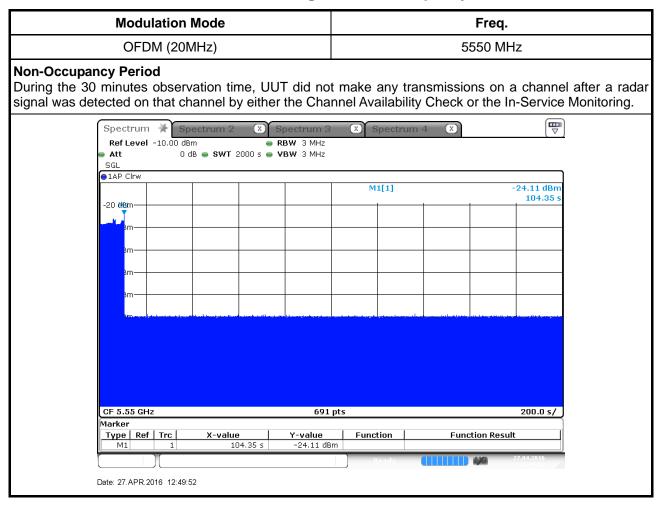
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# 3.5.7 Test Plot of In-Service Monitoring for Non-Occupancy Period



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#### 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	

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The percentage of successful detection is calculated by:

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

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

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**

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.

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# 3.6.4 Test Result of Statistical Performance Check

Modulation Mode: OFDM (10MHz)

Type 1 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulse Per Second)	PRI (us)	1=Detection 0=No Detection
1	5544.5	1	1930.5	518	0
2	5545.5	23	326.2	3066	1
3	5546.5	19	1139.0	878	1
4	5547.5	12	1355.0	738	1
5	5548.5	4	1730.1	578	1
6	5549.5	8	1519.8	658	1
7	5550.5	15	1253.1	798	1
8	5551.5	6	1618.1	618	1
9	5552.5	14	1285.3	778	1
10	5553.5	3	1792.1	558	1
11	5554.5	13	1319.3	758	1
12	5555.5	9	1474.9	678	0
13	5544.5	7	1567.4	638	0
14	5545.5	17	1193.3	838	1
15	5546.5	10	1432.7	698	1
16	5547.5	-	1692.0	591	1
17	5548.5	-	328.1	3048	1
18	5549.5	-	373.4	2678	1
19	5550.5	-	574.4	1741	1
20	5551.5	-	1216.5	822	1
21	5552.5	-	801.3	1248	1
22	5553.5	-	488.5	2047	1
23	5554.5	-	956.0	1046	1
24	5555.5	-	517.6	1932	0
25	5550.5	-	1422.5	703	1
26	5551.5	-	542.0	1845	1
27	5552.5	-	741.3	1349	1
28	5553.5	-	881.8	1134	1
29	5554.5	-	427.4	2340	0
30	5555.5	-	628.9	1590	0
Detection Percentage (%)					80.000
Limit					60%
Test Result					Complied

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Type 2 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5544.5	2.6	221	23	1
2	5545.5	4.6	198	27	1
3	5546.5	1.1	184	29	1
4	5547.5	4.8	203	24	1
5	5548.5	2.4	162	25	1
6	5549.5	3.4	204	28	1
7	5550.5	2.3	170	27	1
8	5551.5	3.5	184	23	1
9	5552.5	4.9	150	27	1
10	5553.5	4.6	211	29	1
11	5554.5	2.9	158	23	1
12	5555.5	2.6	226	27	1
13	5544.5	1.6	204	26	1
14	5545.5	3.9	181	25	1
15	5546.5	4.6	202	24	1
16	5547.5	4.1	194	27	0
17	5548.5	2.3	193	28	1
18	5549.5	3.9	173	29	1
19	5550.5	4.3	188	23	1
20	5551.5	1.5	215	26	1
21	5552.5	4.9	227	27	1
22	5553.5	1.1	199	23	1
23	5554.5	4.5	155	29	0
24	5555.5	4.0	190	27	1
25	5550.5	2.4	151	23	1
26	5551.5	2.5	180	28	1
27	5552.5	2.5	228	23	1
28	5553.5	2.5	203	25	1
29	5554.5	1.5	188	25	1
30	5555.5	1.9	217	24	1
Detection Percentage (%)					93.333
Limit					60%
Test Result					Complied

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Type 3 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection ; 0=No Detection
1	5544.5	8.0	205	16	0
2	5545.5	6.7	382	18	1
3	5546.5	8.6	418	16	1
4	5547.5	9.4	351	17	0
5	5548.5	7.4	383	18	1
6	5549.5	9.8	232	16	1
7	5550.5	9.1	377	17	1
8	5551.5	9.6	457	16	1
9	5552.5	8.0	471	18	0
10	5553.5	9.0	304	18	1
11	5554.5	8.0	316	17	0
12	5555.5	9.8	325	16	0
13	5544.5	8.0	409	17	1
14	5545.5	9.9	200	17	1
15	5546.5	8.8	458	16	0
16	5547.5	8.0	232	18	1
17	5548.5	8.3	250	16	1
18	5549.5	8.7	270	16	1
19	5550.5	7.7	350	17	1
20	5551.5	7.1	230	16	1
21	5552.5	7.3	416	18	1
22	5553.5	7.6	498	18	1
23	5554.5	7.3	286	17	1
24	5555.5	7.3	287	16	1
25	5550.5	7.5	462	17	1
26	5551.5	6.2	300	17	1
27	5552.5	6.4	323	18	1
28	5553.5	7.1	420	16	0
29	5554.5	7.2	395	18	1
30	5555.5	8.4	377	16	0
Detection Percentage (%)					73.333
Limit					60%
Test Result					Complied

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Type 4 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5544.5	18.0	242	15	0
2	5545.5	19.9	279	12	1
3	5546.5	12.9	487	14	1
4	5547.5	15.0	452	13	1
5	5548.5	16.3	230	12	1
6	5549.5	19.8	238	13	1
7	5550.5	18.2	420	16	1
8	5551.5	16.3	452	15	1
9	5552.5	14.2	495	12	1
10	5553.5	17.8	228	16	1
11	5554.5	19.1	211	16	1
12	5555.5	18.4	283	15	0
13	5544.5	11.8	411	12	0
14	5545.5	14.2	284	13	1
15	5546.5	13.9	202	12	1
16	5547.5	17.8	340	14	1
17	5548.5	15.6	290	16	1
18	5549.5	14.6	250	16	1
19	5550.5	14.4	484	15	1
20	5551.5	18.9	387	13	1
21	5552.5	11.1	348	15	1
22	5553.5	13.8	291	16	1
23	5554.5	14.3	295	12	1
24	5555.5	12.5	300	12	0
25	5550.5	12.5	322	14	1
26	5551.5	12.5	383	13	1
27	5552.5	15.7	322	16	1
28	5553.5	19.8	469	13	1
29	5554.5	18.6	406	15	0
30	5555.5	15.9	238	14	0
Detection Percentage (%)					80.000
Limit					60%
Test Result					Complied

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Total Type 1~4 Radar Statistical Performance

Radar Type #	Detection Percentage (%)
1	80.000
2	93.333
3	73.333
4	80.000
Aggregate (Radar Types 1-4)	81.667
Limit	80%
Test Result	Complied

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Type 5 Radar Statistical Performance

Trial #	Test Freq. (MHz)	1=Detection 0=No Detection	Trial #	Test Freq. (MHz)	1=Detection 0=No Detection	Trial #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5547	1	11	5553	1	21	5552	1
2	5551	0	12	5547	1	22	5554	1
3	5553	1	13	5552	1	23	5554	1
4	5550	1	14	5548	0	24	5549	1
5	5548	1	15	5550	1	25	5551	1
6	5549	1	16	5553	1	26	5547	1
7	5551	1	17	5552	1	27	5549	1
8	5553	1	18	5549	1	28	5552	1
9	5553	1	19	5547	1	29	5554	1
10	5548	1	20	5550	1	30	5551	1
Detection Percentage (%)							93.333	
Limit							80%	
Test R	esult		•			•		Complied

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Trial Number			1				
Number of Bur	Number of Bursts in Trial			8			
Chirp Center Frequency				55	47		
Burst No. of Pulses Pulse Width (us)			Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)		Starting Location Within Interval (ms)	
1	1	62.3	8	-	-	346	
2	2	51.2	15	1745	-	1205	
3	3	93.6	5	1002	1634	674	
4	3	68.2	12	1668	1573	384	
5	3	83.1	8	1188	1888	876	
6	1	56.7	18	-	-	376	
7	2	60.6	18	1874	-	1409	
8	8 3 75.5 13 1263 1683						
<b>Detection Check</b>	k (1=Detection; 0	=No Detection)				1	

Trial Number	,		2				
Number of B	Number of Bursts in Trial			9			
Chirp Center	Chirp Center Frequency			55	51		
Burst No. of Pulses Pulse Width (us)			Chirp Width (MHz)		Pulse 2-to-3 Spacing (us)	Starting Location Within Interval (ms)	
1	1	99.6	13	-	-	217	
2	2	54.8	15	1727	-	982	
3	3	91.1	15	1120	1826	941	
4	2	76.2	7	1638	-	477	
5	1	88.9	13	-	-	259	
6	1	83	9	-	-	892	
7	1	83.9	12	-	-	320	
8	2	55.9	15	445			
9	1	96.1	13	779			
Detection Che	eck (1=Detection; 0	=No Detection)				0	

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Trial Number			3				
Number of Bu	rsts in Trial			10			
Chirp Center Frequency				55	53		
Burst	(us) (MHz) Spacing (us) Spacing (us)				Starting Location Within Interval (ms)		
1	2	82	6	1246	-	1017	
2	1	93.2	13	-	-	760	
3	2	61.3	13	1175	-	327	
4	1	52.8	8	-	-	824	
5	3	70.6	19	1005	1076	115	
6	1	80.3	17	-	-	325	
7	1	83.2	15	-	-	679	
8	2	94	9	1805	-	888	
9	2	67	8	1486	-	849	
10	1	56.4	20	-	-	813	
Detection Chec	k (1=Detection; 0	=No Detection)				1	

Trial Number			4			
Number of Bu	rsts in Trial		11			
Chirp Center I	Chirp Center Frequency			55	50	
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)		
1	3	90.5	8	1149	1612	35
2	3	54.5	8	1094	1525	1014
3	1	57.1	18	-	-	827
4	2	98.6	20	1292	-	83
5	2	62.9	12	1433	-	676
6	1	71.1	15	-	-	708
7	1	96.7	5	-	-	711
8	1	64.3	5	-	-	484
9	3	61.2	8	1075	1524	444
10	2	79.2	13	1877	-	797
11	2	79.3	20	1313	-	288
<b>Detection Chec</b>	ck (1=Detection; C	=No Detection)				1

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Trial Number			5			
Number of Bur	sts in Trial		12			
Chirp Center Frequency				55	48	
Burst No. of Pulses Pulse Width (us) Chirp Width Pulse 1-to-2 Spacing (us) Spacing (us)				Starting Location Within Interval (ms)		
1	1	89.5	13	_	_	20
2	3	71.8	11	1446	1549	117
3	3	53.7	15	1100	1517	485
4	2	99.3	11	1571	-	334
5	3	56.8	6	1594	1280	468
6	1	97.4	11	-	-	213
7	2	67.6	13	1831	-	14
8	3	77.1	8	1683	1337	267
9	1	98.5	17	-	-	544
10	3	58.3	13	1924	1829	159
11	1	98.4	14	-	-	380
12	1	79.3	11	-	-	257
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1

Trial Number			6				
Number of Bur	rsts in Trial		13				
Chirp Center Frequency				55	49		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)				
1	2	53.8	14	1631	-	768	
2	1	90	17	-	-	530	
3	3	87.2	18	1115	1297	157	
4	2	82	11	1728	-	892	
5	3	69.8	7	1641	1779	196	
6	2	63.1	20	1836	-	331	
7	1	59.8	6	-	-	495	
8	3	78.5	19	1018	1921	546	
9	1	85.7	6	-	-	219	
10	3	67.7	9	1834	1450	534	
11	2	84.5	15	1376	-	282	
12	2	99.3	13	1570	-	486	
13	2	80.2	8	1088	-	67	
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1	

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Trial Number			7				
Number of Bu	rsts in Trial		14				
Chirp Center I	Frequency			55	51		
Burst	(us) (MHz) Spacing (us) Spacing (us)					Starting Location Within Interval (ms)	
1	3	80.8	10	1061	1124	389	
2	2	81	9	1479	-	234	
3	2	87.6	17	1247	-	577	
4	2	94.7	18	1041	-	572	
5	2	78	18	1267	-	313	
6	1	95.5	14	-	-	52	
7	2	97.6	15	1215	-	57	
8	3	88	9	1349	1598	171	
9	2	69.7	17	1711	ı	769	
10	2	96.5	17	1431	ı	168	
11	2	96.9	6	1871	-	124	
12	3	66.4	10	1824	1468	766	
13	1	78.8	10	-	-	537	
14	3	87.6	6	1080	1159	714	
<b>Detection Ched</b>	ck (1=Detection; C	=No Detection)		•	•	1	

Trial Number			8					
Number of Bu	ırsts in Trial		15					
Chirp Center	Frequency			55	53			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)					
1	2	71.8	14	1432	-	573		
2	2	65.9	19	1762	-	314		
3	2	74.7	6	1754	-	377		
4	3	81.7	5	1133	1032	216		
5	3	57.8	14	1176	1712	129		
6	1	80.6	6	-	-	341		
7	3	99.3	17	1268	1876	165		
8	1	79.8	12	-	-	618		
9	3	83	11	1034	1738	589		
10	3	71.5	11	1473	1255	6		
11	1	77.4	11	-	-	127		
12	2	84.8	12	1390	-	515		
13	2	64.6	12	1653	-	148		
14	2	92.9	12	1881	-	519		
15	1	71.3	6	-	-	301		
Detection Che	ck (1=Detection; 0	=No Detection)				1		

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Trial Number			9				
Number of Bur	sts in Trial		16				
Chirp Center F	requency			55	53		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	2	55.4	9	1318	-	383	
2	2	80.8	18	1710	-	534	
3	1	88.8	9	-	-	495	
4	2	78	12	1818	-	92	
5	1	78.5	12	-	-	108	
6	2	55	13	1219	-	123	
7	2	75.9	20	1004	-	123	
8	2	70.9	7	1820	-	546	
9	2	71.7	18	1559	-	476	
10	2	73.9	19	1232	-	235	
11	1	59.2	20	-	-	424	
12	1	55.7	9	-	ı	391	
13	3	60.9	12	1144	1370	198	
14	2	60.8	14	1022	-	16	
15	3	60.6	19	1526	1326	695	
16	2	89	5	1029		131	
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1	

Trial Number			10					
Number of Bu	rsts in Trial		17					
Chirp Center F	requency			55	48			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Chirp Width (MHz)  Pulse 1-to-2 Pulse 2-to-3 Spacing (us)				
1	2	72.1	14	1119	-	488		
2	3	81.4	13	1142	1044	451		
3	3	92.9	18	1006	1147	565		
4	3	81.3	18	1793	1369	285		
5	3	76.4	20	1005	1793	79		
6	1	61.6	18	-	-	503		
7	1	66.6	19	-	-	181		
8	1	53.7	12	-	-	416		
9	2	58	8	1477	-	107		
10	2	64	18	1791	-	141		
11	2	80.3	12	1304	-	516		
12	3	77.3	5	1039	1668	372		
13	2	97.6	11	1593	-	163		
14	1	73	6	-	-	147		
15	3	65.1	8	1097	1927	102		
16	2	59.5	13	1569	-	182		
17	1	88.2	19	-	-	653		
<b>Detection Chec</b>	ck (1=Detection; 0	=No Detection)				1		

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Trial Number			11				
Number of Bu	ursts in Trial		18				
Chirp Center	Chirp Center Frequency			55	53		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	2	56.1	12	1219	-	273	
2	1	83.3	7	-	-	298	
3	3	79.6	17	1218	1897	159	
4	2	95.8	7	1672	-	480	
5	2	79.6	8	1029	-	387	
6	2	88.9	11	1779	-	5	
7	2	81.4	8	1645	-	201	
8	2	92	6	1454	-	80	
9	3	96	13	1518	1121	192	
10	2	65.6	11	1798	-	349	
11	2	98.7	5	1360	-	416	
12	2	52.9	15	1140	-	652	
13	2	76.5	8	1032	-	92	
14	3	73.8	18	1719	1383	502	
15	3	83.7	10	1270	1216	343	
16	2	89.6	10	1141	-	108	
17	2	67.2	20	1455	-	272	
18	3	55.7	14	1444	1475	566	
<b>Detection Che</b>	ck (1=Detection; C	=No Detection)				1	

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Trial Number				1	2		
Number of Bu	ırsts in Trial		19				
Chirp Center	Chirp Center Frequency			55	47		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	2	70.6	15	1040	-	575	
2	2	72.9	13	1460	-	178	
3	3	88.9	5	1250	1629	191	
4	3	60.3	20	1757	1822	468	
5	3	92.1	19	1845	1198	476	
6	1	73	5	-	-	532	
7	1	50.4	15	-	-	69	
8	1	66.4	10	-	-	333	
9	1	79.1	18	-	-	437	
10	1	71.6	20	-	-	424	
11	2	95.6	13	1229	-	498	
12	1	74.4	9	-	-	363	
13	3	55.6	17	1263	1724	123	
14	2	78.3	13	1507	-	37	
15	3	54.1	13	1325	1249	192	
16	2	67.1	18	1584	-	311	
17	2	65.8	9	1195	-	243	
18	2	50.1	12	1755	-	48	
19	2	87.7	18	1359	-	180	
<b>Detection Che</b>	ck (1=Detection; C	=No Detection)				1	

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Trial Number			13				
Number of Bu	rsts in Trial			20			
Chirp Center F	Chirp Center Frequency			55	52		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)		Starting Location Within Interval (ms)	
1	3	79.5	7	1808	1550	274	
2	2	76.7	20	1632	-	573	
3	3	85.9	12	1305	1496	18	
4	3	86.6	14	1001	1172	133	
5	2	74.9	14	1348	-	48	
6	3	82.2	20	1692	1310	156	
7	2	53.9	13	1342	-	45	
8	3	62.7	15	1839	1651	76	
9	2	86.2	6	1165	-	91	
10	1	63.1	11	-	-	391	
11	2	82.4	6	1416	-	107	
12	1	95.8	18	-	-	248	
13	2	75.7	9	1024	-	482	
14	3	70.1	18	1563	1020	354	
15	3	85.8	13	1420	1084	446	
16	1	63.2	7	-	-	265	
17	1	75.1	11	-	-	147	
18	2	69.5	5	1802	-	256	
19	1	51.8	19	-	-	422	
20	2	62.3	5	1449	-	304	
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1	

Trial Number			14					
Number of Bursts in Trial				3	3			
Chirp Center Frequency				55	48			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width Pulse 1-to-2 Pulse 2-to-3 Location (MHz) Spacing (us) Spacing (us) With					
						Interval (ms)		
1	3	74.9	5	1314	1466	1289		
2	2	83.9	19	1442	-	1436		
3	2	55.8	6	1147	-	240		
4	2	59.4	6	1490	-	1455		
5	2	78.2	15	1665	-	1312		
6	2	57.3	15	1357	-	264		
7	2	76.2	11 1651 - 255					
8	3	59	7 1460 1109 1410					
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1		

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Trial Number	Trial Number			15			
Number of Bur	Number of Bursts in Trial			9			
Chirp Center Frequency			55	50			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)		Starting Location Within Interval (ms)	
1	3	77.7	19	1046	1568	17	
2	2	98.2	20	1628	-	877	
3	2	95.3	8	1540	-	1066	
4	2	78.8	15	1341	-	822	
5	2	52.8	20	1011	-	1020	
6	2	65.2	9	1480	-	602	
7	2	99.5	10	1867	-	884	
8	2	79.5	13	1148	-	342	
9	3	50.6	13 1030 1525 1321				
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1	

Trial Number			16			
Number of Bui	rsts in Trial		10			
Chirp Center Frequency				55	53	
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	97.5	11	1357	-	764
2	2	91.8	13	1896	-	298
3	1	78.5	5	-	-	1117
4	1	60.1	11	-	-	1069
5	2	96.2	10	1041	-	1157
6	2	56.6	18	1626	-	701
7	1	77.1	20	-	-	323
8	2	96.3	8	1682	-	307
9	2	52.2	13	1017	-	217
10	1	92.8	15	-	-	316
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1

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Trial Number			17				
Number of Bur	sts in Trial		11				
Chirp Center Frequency				55	52		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz) Pulse 1-to-2 Spacing (us) Starting Location Spacing (us) Within Interval (n				
1	2	57.3	8	1220	-	792	
2	3	73.1	5	1717	1679	845	
3	2	54.1	14	1008	-	112	
4	2	98.8	19	1137	-	715	
5	3	85.5	8	1068	1003	301	
6	2	78.5	7	1387	-	827	
7	2	77.9	12	1869	-	506	
8	1	81.9	10	-	-	549	
9	1	50.4	9	-	-	464	
10	1	75.2	8	-	-	790	
11	2	92.7	7	1770	-	967	
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1	

Trial Number	Trial Number			18			
Number of Bu	rsts in Trial		12				
Chirp Center F	Chirp Center Frequency			55	49		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within			
				10.10		Interval (ms)	
1	2	79.1	6	1042	-	793	
2	3	55.7	9	1327	1744	159	
3	1	95	20	-	-	734	
4	1	88.4	5	-	-	523	
5	1	92.3	15	-	-	546	
6	1	93.6	6	-	-	208	
7	2	95.1	12	1044	-	894	
8	1	59.5	17	-	-	666	
9	2	98.7	17	1422	-	640	
10	2	65.1	5	1104	-	320	
11	1	60.2	5	-	-	60	
12	1	88.7	8	-	-	823	
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1	

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Trial Number	Trial Number			19				
Number of Bur	sts in Trial		13					
Chirp Center Frequency				55	47			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz) Pulse 1-to-2 Spacing (us) Star Local Spacing (us) Spacing (us) Wilnterv					
1	1	53.9	10	-	-	226		
2	2	82.6	13	1008	-	854		
3	1	87.7	8	-	-	303		
4	3	69	12	1696	1606	528		
5	1	68.6	12	-	-	220		
6	3	76.5	13	1333	1468	389		
7	2	95.8	17	1380	-	57		
8	2	55.6	19	1147	-	334		
9	2	78.6	14	1268	-	128		
10	2	65.4	17	1231	-	913		
11	2	76.6	18	1883	-	518		
12	1	93.2	6	-	-	596		
13	2	50.2	13	1836	-	61		
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1		

Trial Number	Trial Number			20				
Number of Bu	rsts in Trial		14					
Chirp Center F	Chirp Center Frequency			55	50			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)				
1	1	60.9	13	-	-	142		
2	2	81.7	15	1831	-	522		
3	2	78.5	5	1396	-	790		
4	2	98.2	6	1652	-	3		
5	1	64.1	12	-	-	414		
6	3	53	18	1862	1902	157		
7	2	62.3	15	1490	-	248		
8	2	87	11	1411	-	576		
9	2	78.4	8	1090	-	737		
10	2	87.2	7	1021	-	343		
11	3	71	13	1662	1841	105		
12	2	77.2	5	1557	-	601		
13	1	94.4	15	-	-	108		
14	1	90.6	13	-	-	506		
<b>Detection Chec</b>	ck (1=Detection; 0	=No Detection)				1		

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Trial Number	Trial Number			21				
Number of Bu	rsts in Trial		15					
Chirp Center F	requency			55	52			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)		Starting Location Within Interval (ms)		
1	3	76.5	8	1870	1326	385		
2	2	95.3	13	1162	ı	73		
3	3	58.9	9	1586	1909	742		
4	2	73.1	13	1460	-	330		
5	2	73.1	12	1488	-	25		
6	2	75.1	5	1331	-	418		
7	3	98.5	11	1005	1532	214		
8	3	72.5	13	1110	1903	387		
9	3	67.4	12	1567	1513	80		
10	2	76.1	12	1005	-	277		
11	2	94.3	17	1413	-	314		
12	2	72.8	12	1778	-	66		
13	2	90.9	14	1793	-	147		
14	3	94.8	11	1012	1742	441		
15	3	95	12	1011	1641	609		
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1		

Trial Number	Trial Number			22				
Number of Bur	rsts in Trial		16					
Chirp Center Frequency				55	54			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)				
1	1	96.7	9	-	-	308		
2	2	78.3	13	1045	-	27		
3	1	56.5	12	-	-	74		
4	3	88.5	14	1119	1020	629		
5	2	62.4	9	1436	-	548		
6	2	78.2	5	1147	-	341		
7	3	76.8	14	1069	1575	360		
8	2	91.6	18	1026	-	602		
9	2	93.7	5	1130	-	623		
10	2	97.4	8	1100	-	256		
11	3	90.1	6	1629	1375	108		
12	2	79.9	18	1809	-	183		
13	2	83	10	1370	•	477		
14	2	89.1	13	1239	-	484		
15	2	58.3	8	1321	-	276		
16	1	85.2	13	-	-	22		
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1		

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Trial Number			23					
Number of Bu	rsts in Trial			1	7			
Chirp Center F	requency			55	54			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Chirp Width (MHz) Pulse 1-to-2 Pulse 2-to-3 Spacing (us)				
1	3	60	10	1097	1748	56		
2	3	66.3	13	1391	1430	421		
3	2	88.5	15	1040	-	583		
4	2	72.1	8	1526	-	161		
5	1	72.3	8	-	-	450		
6	2	67.3	7	1022	-	48		
7	2	56.1	12	1325	-	661		
8	1	83.5	11	-	-	695		
9	3	99.4	13	1490	1033	405		
10	1	54.2	12	-	-	126		
11	3	92.7	17	1251	1631	365		
12	3	95.1	17	1741	1162	57		
13	2	84	9	1597	-	167		
14	1	68.5	18	-	-	512		
15	1	76.5	20	-	-	185		
16	3	86.6	11	1774	1875	457		
17	2	62.2	9	1563	-	492		
<b>Detection Chec</b>	ck (1=Detection; 0	=No Detection)				1		

Trial Number			24				
Number of Bur	sts in Trial			1	8		
Chirp Center F	requency			55	49		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	1	86.6	19	-	-	621	
2	2	95.3	17	1028	-	128	
3	1	76.2	12	-	-	251	
4	3	71.4	19	1287	1404	269	
5	3	51.7	12	1564	1339	633	
6	2	77	5	1899	-	615	
7	1	87.5	12	-	-	375	
8	3	59	17	1327	1615	610	
9	2	78.3	15	1551	-	548	
10	2	89.7	5	1718	-	456	
11	2	92.1	7	1403	-	12	
12	2	97.3	14	1338	-	596	
13	3	80.3	20	1354	1563	484	
14	1	98.2	8	-	-	428	
15	3	94.4	13	1795	1829	512	
16	2	90.4	13	1105	-	342	
17	2	73.6	19	1787	-	292	
18	1	82.9	7	-	-	618	
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1	

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Trial Number			25					
Number of Bur	sts in Trial		19					
Chirp Center F	Chirp Center Frequency			55	51			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)					
1	1	90	18	-	-	Interval (ms) 173		
2	1	65.3	19	-	-	245		
3	2	82.6	10	1756	-	127		
4	2	93.9	18	1557	-	287		
5	2	50.5	13	1479	-	282		
6	1	68	7	-	-	176		
7	3	88.4	11	1244	1076	568		
8	3	66.8	11	1288	1909	448		
9	2	88	12	1450	-	527		
10	3	51.1	6	1797	1935	195		
11	2	93.8	13	1073	-	184		
12	1	83.5	10	-	-	506		
13	2	96.9	12	1047	-	267		
14	3	87.2	18	1521	1450	243		
15	2	60.1	8	1545	-	291		
16	3	98	10	1842	1402	554		
17	3	57	19	1665	1732	143		
18	1	74.3	14	-	-	31		
19	2	57.8	10	1576	-	609		
<b>Detection Check</b>	k (1=Detection; 0	=No Detection)				1		

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Trial Number				2	6	
Number of Bu	rsts in Trial			2	0	
Chirp Center I	requency			55	47	
Burst	Pulso Width Chirp Width Pulso 1-to-2 Pulso 2-to-3				Starting Location Within Interval (ms)	
1	2	92.8	9	1222	-	531
2	2	52.4	8	1547	-	168
3	3	56.8	7	1158	1184	193
4	1	91.2	7	-	-	565
5	3	61.2	10	1558	1664	387
6	3	62	7	1518	1656	391
7	2	69	5	1531	-	327
8	2	67.3	18	1064	-	25
9	1	94.1	5	-	-	78
10	2	76	17	1190	-	222
11	2	81.9	12	1815	-	96
12	2	57.9	8	1594	-	277
13	3	68.3	19	1427	1540	41
14	2	53.3	7	1713	-	48
15	2	85.3	15	1136	-	48
16	1	65.3	20	-	-	57
17	3	79.8	20	1010	1259	48
18	2	56.9	20	1357	-	483
19	2	93	9	1686	-	73
20	2	82.8	10	1021	-	352
<b>Detection Ched</b>	ck (1=Detection; C	=No Detection)				1

Trial Number			27				
Number of Bur	sts in Trial		8				
Chirp Center F	requency			55	49		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within			
						Interval (ms)	
1	3	50.9	11	1106	1077	1293	
2	2	77.8	18	1836	-	1235	
3	3	60.7	5	1069	1635	1092	
4	2	77.2	13	1916	-	1343	
5	2	91.6	13	1465	-	1466	
6	2	56.8	17	376			
7	1	59.5	20 131				
8	1	66.5	12	1024			
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1	

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Trial Number			28					
Number of Bur	Number of Bursts in Trial			(	9			
Chirp Center F	Chirp Center Frequency			55	52			
Burst	(us) (MHz) Spacing (us) Spacing (us)				Starting Location Within Interval (ms)			
1	2	72	9	1092	-	965		
2	2	89.2	6	1550	-	1226		
3	1	81.2	12	-	-	277		
4	2	80.6	15	1616	-	458		
5	2	62.8	10	1812	-	748		
6	1	71	8	-	-	434		
7	2	69.3	6	1027	-	1111		
8	2	77.2	13 1076 - 6					
9	2	65.4	5	278				
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1		

Trial Number			29				
Number of Bu	rsts in Trial		10				
Chirp Center I	Chirp Center Frequency			55	54		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	1	51.5	19	-	-	151	
2	1	82.3	13	-	-	1071	
3	3	78.3	8	1115	1740	646	
4	2	99	14	1101	-	709	
5	3	98.8	7	1819	945	556	
6	2	80.9	19	1033	-	567	
7	2	64	12	1041	-	581	
8	1	79	20	-	-	798	
9	1	68	8	-	-	112	
10	2	50.4	13	1587	-	26	
<b>Detection Ched</b>	ck (1=Detection; C	=No Detection)				1	

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Trial Number	,		30				
Number of B	ursts in Trial		11				
Chirp Center Frequency				55	51		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	3	57.8	5	1324	1716	82	
2	2	70.1	20	1733	-	587	
3	2	95.2	13	1188	-	789	
4	3	84.6	20	1042	1259	1021	
5	3	96.5	7	1329	1596	16	
6	2	84.3	15	1606	-	708	
7	3	53.5	19	1783	1458	738	
8	3	74.9	5	1599	1891	466	
9	3	53.8	7	1494	1467	252	
10	2	60.5	14	1319	-	464	
11	1	73.3	10	-	-	845	
Detection Che	eck (1=Detection; 0	=No Detection)				1	

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Type 6 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulses / Hop	Pulse Width (us)	PRI (us)	1=Detection 0=No Detection
1	5550.5	9	1	333	1
2	5550.5	9	1	333	1
3	5550.5	9	1	333	1
4	5550.5	9	1	333	0
5	5550.5	9	1	333	0
6	5550.5	9	1	333	1
7	5550.5	9	1	333	1
8	5550.5	9	1	333	1
9	5550.5	9	1	333	0
10	5550.5	9	1	333	1
11	5550.5	9	1	333	1
12	5550.5	9	1	333	1
13	5550.5	9	1	333	1
14	5550.5	9	1	333	1
15	5550.5	9	1	333	0
16	5550.5	9	1	333	1
17	5550.5	9	1	333	1
18	5550.5	9	1	333	1
19	5550.5	9	1	333	1
20	5550.5	9	1	333	1
21	5550.5	9	1	333	1
22	5550.5	9	1	333	0
23	5550.5	9	1	333	1
24	5550.5	9	1	333	1
25	5550.5	9	1	333	1
26	5550.5	9	1	333	1
27	5550.5	9	1	333	1
28	5550.5	9	1	333	1
29	5550.5	9	1	333	1
30	5550.5	9	1	333	0
•	80.000				
Limit	70%				
Test Res	Complied				

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Modulation Mode: OFDM (20MHz)

Type 1 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulse Per Second)	PRI (us)	1=Detection 0=No Detection
1	5541	1	1930.5	518	1
2	5542	23	326.2	3066	1
3	5543	19	1139.0	878	1
4	5544	12	1355.0	738	1
5	5545	4	1730.1	578	1
6	5546	8	1519.8	658	1
7	5547	15	1253.1	798	1
8	5548	6	1618.1	618	1
9	5549	14	1285.3	778	0
10	5550	3	1792.1	558	1
11	5551	13	1319.3	758	1
12	5552	9	1474.9	678	1
13	5553	7	1567.4	638	1
14	5554	17	1193.3	838	1
15	5555	10	1432.7	698	0
16	5556	-	1692.0	591	1
17	5557	-	328.1	3048	1
18	5558	-	373.4	2678	0
19	5559	-	574.4	1741	1
20	5544	-	1216.5	822	1
21	5545	-	801.3	1248	1
22	5546	-	488.5	2047	0
23	5547	-	956.0	1046	1
24	5548	-	517.6	1932	1
25	5549	-	1422.5	703	1
26	5550	-	542.0	1845	1
27	5551	-	741.3	1349	1
28	5552	-	881.8	1134	1
29	5553	-	427.4	2340	1
30	5554	-	628.9	1590	1
		Detection Percentage	(%)		86.667
Limit					60%
<b>Test Res</b>	ult	<u> </u>	<u> </u>	_	Complied

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Type 2 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5541	2.6	221	23	1
2	5542	4.6	198	27	1
3	5543	1.1	184	29	1
4	5544	4.8	203	24	1
5	5545	2.4	162	25	1
6	5546	3.4	204	28	1
7	5547	2.3	170	27	1
8	5548	3.5	184	23	1
9	5549	4.9	150	27	0
10	5550	4.6	211	29	1
11	5551	2.9	158	23	0
12	5552	2.6	226	27	1
13	5553	1.6	204	26	1
14	5554	3.9	181	25	1
15	5555	4.6	202	24	1
16	5556	4.1	194	27	1
17	5557	2.3	193	28	1
18	5558	3.9	173	29	0
19	5559	4.3	188	23	1
20	5544	1.5	215	26	1
21	5545	4.9	227	27	1
22	5546	1.1	199	23	1
23	5547	4.5	155	29	0
24	5548	4.0	190	27	1
25	5549	2.4	151	23	1
26	5550	2.5	180	28	1
27	5551	2.5	228	23	1
28	5552	2.5	203	25	1
29	5553	1.5	188	25	1
30	5554	1.9	217	24	1
	D	etection Percentage (	%)		86.667
Limit	60%				
Test Res	Complied				

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Type 3 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5541	8.0	205	16	1
2	5542	6.7	382	18	1
3	5543	8.6	418	16	1
4	5544	9.4	351	17	1
5	5545	7.4	383	18	0
6	5546	9.8	232	16	1
7	5547	9.1	377	17	1
8	5548	9.6	457	16	1
9	5549	8.0	471	18	1
10	5550	9.0	304	18	1
11	5551	8.0	316	17	1
12	5552	9.8	325	16	1
13	5553	8.0	409	17	1
14	5554	9.9	200	17	0
15	5555	8.8	458	16	1
16	5556	8.0	232	18	1
17	5557	8.3	250	16	1
18	5558	8.7	270	16	1
19	5559	7.7	350	17	1
20	5544	7.1	230	16	1
21	5545	7.3	416	18	1
22	5546	7.6	498	18	1
23	5547	7.3	286	17	1
24	5548	7.3	287	16	0
25	5549	7.5	462	17	1
26	5550	6.2	300	17	1
27	5551	6.4	323	18	1
28	5552	7.1	420	16	1
29	5553	7.2	395	18	1
30	5554	8.4	377	16	1
•	D	etection Percentage (	%)		90.000
Limit	60%				
Test Resu	ult				Complied

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Type 4 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5541	18.0	242	15	1
2	5542	19.9	279	12	1
3	5543	12.9	487	14	0
4	5544	15.0	452	13	1
5	5545	16.3	230	12	1
6	5546	19.8	238	13	1
7	5547	18.2	420	16	1
8	5548	16.3	452	15	1
9	5549	14.2	495	12	1
10	5550	17.8	228	16	1
11	5551	19.1	211	16	1
12	5552	18.4	283	15	1
13	5553	11.8	411	12	0
14	5554	14.2	284	13	1
15	5555	13.9	202	12	1
16	5556	17.8	340	14	0
17	5557	15.6	290	16	1
18	5558	14.6	250	16	1
19	5559	14.4	484	15	0
20	5544	18.9	387	13	1
21	5545	11.1	348	15	1
22	5546	13.8	291	16	1
23	5547	14.3	295	12	1
24	5548	12.5	300	12	0
25	5549	12.5	322	14	1
26	5550	12.5	383	13	1
27	5551	15.7	322	16	1
28	5552	19.8	469	13	1
29	5553	18.6	406	15	1
30	5554	15.9	238	14	1
'	D	etection Percentage (9	%)		83.333
imit			•		60%
est Resu	ult				Complied

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Total Type 1~4 Radar Statistical Performance

Radar Type #	Detection Percentage (%)
1	86.667
2	86.667
3	90.000
4	83.333
Aggregate (Radar Types 1-4)	86.667
Limit	80%
Test Result	Complied

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Type 5 Radar Statistical Performance

Trial #	Test Freq. (MHz)	1=Detection 0=No Detection	Trial #	Test Freq. (MHz)	1=Detection 0=No Detection	Trial #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5551	1	11	5549	1	21	5554	1
2	5555	0	12	5557	1	22	5556	1
3	5548	1	13	5543	0	23	5543	0
4	5545	1	14	5552	1	24	5547	1
5	5543	0	15	5554	1	25	5557	1
6	5551	1	16	5557	1	26	5550	1
7	5553	1	17	5547	1	27	5553	1
8	5555	1	18	5544	1	28	5556	1
9	5557	1	19	5550	1	29	5549	1
10	5549	1	20	5552	1	30	5546	1
	Detection Percentage (%)							
Limit	Limit						80%	
Test Result							Complied	

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Trial Number				1	1			
Number of Bursts in Trial				3	3			
Chirp Center Frequency				55	51			
Burst No. of Pulses Pulse Width (us)			Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)		Starting Location Within Interval (ms)		
1	1	62.3	8	-	-	346		
2	2	51.2	15	1745	-	1205		
3	3	93.6	5	957	1634	674		
4	3	68.2	12	1668	1573	384		
5	3	83.1	8	1188	1888	876		
6	1	56.7	18	-	-	376		
7	2	60.6	18	1874	-	1409		
8	3	75.5	13 1263 1683 1378					
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1		

Trial Number	,		2				
Number of B	Number of Bursts in Trial			9			
Chirp Center Frequency				55	55		
Burst No. of Pulses Pulse Width (us)			Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)		Starting Location Within Interval (ms)	
1	1	99.6	13	-	-	217	
2	2	54.8	15	1727	-	982	
3	3	91.1	15	1120	1826	941	
4	2	76.2	7	1638	-	477	
5	1	88.9	13	-	-	259	
6	1	83	9	-	-	892	
7	1	83.9	12	-	-	320	
8	2	55.9	15	1613	-	445	
9	1	96.1	13 - 779				
Detection Che	eck (1=Detection; 0	=No Detection)				0	

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Trial Number				3	3	
Number of Bu	rsts in Trial		10			
Chirp Center Frequency				55	48	
Burst	(us) (MHZ) Spacing (us) Spacing (us)				Starting Location Within Interval (ms)	
1	2	82	6	1246	-	1017
2	1	93.2	13	-	-	760
3	2	61.3	13	1175	-	327
4	1	52.8	8	-	-	824
5	3	70.6	19	929	1076	115
6	1	80.3	17	-	-	325
7	1	83.2	15	-	-	679
8	2	94	9	1805	-	888
9	2	67	8	1486	-	849
10	1	56.4	20	-	-	813
Detection Chec	k (1=Detection; 0	=No Detection)				1

Trial Number				2	1		
Number of Bur	sts in Trial		11				
Chirp Center Frequency				55	45		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Chirp Width (MHz) Pulse 1-to-2 Spacing (us) Pulse 2-to-3 Spacing (us)			
1	3	90.5	8	1149	1612	35	
2	3	54.5	8	1094	1525	1014	
3	1	57.1	18	-	-	827	
4	2	98.6	20	1292	-	83	
5	2	62.9	12	1433	-	676	
6	1	71.1	15	-	-	708	
7	1	96.7	5	-	-	711	
8	1	64.3	5	-	-	484	
9	3	61.2	8	1075	1524	444	
10	2	79.2	13	1877	-	797	
11	2	79.3	20	1313	-	288	
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)	•			1	

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Trial Number				Į.	5				
Number of Bu	rsts in Trial		12						
Chirp Center F	Chirp Center Frequency			55	43				
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	89.5	13	-	-	20			
2	3	71.8	11	1446	1549	117			
3	3	53.7	15	1100	1517	485			
4	2	99.3	11	1571	-	334			
5	3	56.8	6	1594	1280	468			
6	1	97.4	11	-	-	213			
7	2	67.6	13	1831	-	14			
8	3	77.1	8	1683	1337	267			
9	1	98.5	17	-	-	544			
10	3	58.3	13	1924	1829	159			
11	1	98.4	14	-	-	380			
12	1	79.3	11	-	-	257			
<b>Detection Chec</b>	ck (1=Detection; C	=No Detection)				0			

Trial Number				6				
Number of Bur	sts in Trial		13					
Chirp Center Frequency				55	51			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)					
1	2	53.8	14	1631	-	768		
2	1	90	17	-	-	530		
3	3	87.2	18	1115	1297	157		
4	2	82	11	1728	-	892		
5	3	69.8	7	1641	1779	196		
6	2	63.1	20	1836	-	331		
7	1	59.8	6	-	-	495		
8	3	78.5	19	941	1921	546		
9	1	85.7	6	-	-	219		
10	3	67.7	9	1834	1450	534		
11	2	84.5	15	1376	-	282		
12	2	99.3	13	1570	-	486		
13	2	80.2	8	1088	-	67		
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1		

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Trial Number				7	,			
Number of Bur	sts in Trial		14					
Chirp Center Frequency				55	53			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)					
1	3	80.8	10	1061	1124	389		
2	2	81	9	1479	-	234		
3	2	87.6	17	1247	-	577		
4	2	94.7	18	1041	-	572		
5	2	78	18	1267	-	313		
6	1	95.5	14	-	-	52		
7	2	97.6	15	1215	-	57		
8	3	88	9	1349	1598	171		
9	2	69.7	17	1711	-	769		
10	2	96.5	17	1431	-	168		
11	2	96.9	6	1871	-	124		
12	3	66.4	10	1824	1468	766		
13	1	78.8	10	-	-	537		
14	3	87.6	6	1080	1159	714		
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1		

Trial Number				3	3				
Number of Bu	rsts in Trial		15						
Chirp Center Frequency				55	55				
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)						
1	2	71.8	14	1432	-	Interval (ms) 573			
2	2	65.9	19	1762	-	314			
3	2	74.7	6	1754	-	377			
4	3	81.7	5	1133	974	216			
5	3	57.8	14	1176	1712	129			
6	1	80.6	6	-	•	341			
7	3	99.3	17	1268	1876	165			
8	1	79.8	12	-	•	618			
9	3	83	11	990	1738	589			
10	3	71.5	11	1473	1255	6			
11	1	77.4	11	-	•	127			
12	2	84.8	12	1390	•	515			
13	2	64.6	12	1653	-	148			
14	2	92.9	12	1881	-	519			
15	1	71.3	6	-	-	301			
<b>Detection Chec</b>	ck (1=Detection; 0	=No Detection)				1			

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Trial Number				ę				
Number of Bu	rsts in Trial		16					
Chirp Center Frequency				5557				
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)					
1	2	55.4	9	1318	-	383		
2	2	80.8	18	1710	-	534		
3	1	88.8	9	-	1	495		
4	2	78	12	1818	-	92		
5	1	78.5	12	-	-	108		
6	2	55	13	1219	-	123		
7	2	75.9	20	1004	-	123		
8	2	70.9	7	1820	-	546		
9	2	71.7	18	1559	-	476		
10	2	73.9	19	1232	-	235		
11	1	59.2	20	-	-	424		
12	1	55.7	9	-	-	391		
13	3	60.9	12	1144	1370	198		
14	2	60.8	14	990	-	16		
15	3	60.6	19	1526	1326	695		
16	2	89	5	1029	-	131		
<b>Detection Chec</b>	ck (1=Detection; 0	=No Detection)	·		·	1		

Trial Number			10				
Number of Bu	rsts in Trial		17				
Chirp Center F	Chirp Center Frequency			55	49		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	2	72.1	14	1119	-	488	
2	3	81.4	13	1142	961	451	
3	3	92.9	18	991	1147	565	
4	3	81.3	18	1793	1369	285	
5	3	76.4	20	1005	1793	79	
6	1	61.6	18	-	-	503	
7	1	66.6	19	-	-	181	
8	1	53.7	12	-	-	416	
9	2	58	8	1477	-	107	
10	2	64	18	1791	-	141	
11	2	80.3	12	1304	-	516	
12	3	77.3	5	1039	1668	372	
13	2	97.6	11	1593	-	163	
14	1	73	6	-	-	147	
15	3	65.1	8	1097	1927	102	
16	2	59.5	13	1569	-	182	
17	1	88.2	19	-	-	653	
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1	

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Trial Number			11					
Number of Bu	ırsts in Trial		18					
Chirp Center Frequency				55	49			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)					
1	2	56.1	12	1219	-	Interval (ms) 273		
2	1	83.3	7	-	-	298		
3	3	79.6	17	1218	1897	159		
4	2	95.8	7	1672	-	480		
5	2	79.6	8	920	-	387		
6	2	88.9	11	1779	-	5		
7	2	81.4	8	1645	-	201		
8	2	92	6	1454	-	80		
9	3	96	13	1518	1121	192		
10	2	65.6	11	1798	-	349		
11	2	98.7	5	1360	-	416		
12	2	52.9	15	1140	-	652		
13	2	76.5	8	1032	-	92		
14	3	73.8	18	1719	1383	502		
15	3	83.7	10	1270	1216	343		
16	2	89.6	10	1141	-	108		
17	2	67.2	20	1455	-	272		
18	3	55.7	14	1444	1475	566		
<b>Detection Che</b>	ck (1=Detection; 0	=No Detection)				1		

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Trial Number			12				
Number of Bur	rsts in Trial		19				
Chirp Center Frequency				55	57		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	2	70.6	15	1040	-	575	
2	2	72.9	13	1460	-	178	
3	3	88.9	5	1250	1629	191	
4	3	60.3	20	1757	1822	468	
5	3	92.1	19	1845	1198	476	
6	1	73	5	-	-	532	
7	1	50.4	15	-	-	69	
8	1	66.4	10	-	-	333	
9	1	79.1	18	-	-	437	
10	1	71.6	20	-	-	424	
11	2	95.6	13	1229	-	498	
12	1	74.4	9	-	-	363	
13	3	55.6	17	1263	1724	123	
14	2	78.3	13	1507	-	37	
15	3	54.1	13	1325	1249	192	
16	2	67.1	18	1584	-	311	
17	2	65.8	9	1195	-	243	
18	2	50.1	12	1755	-	48	
19	2	87.7	18	1359	-	180	
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1	

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Trial Number			13				
Number of Bu	rsts in Trial		20				
Chirp Center Frequency				55	43		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (us)		Starting Location Within Interval (ms)	
1	3	79.5	7	1808	1550	274	
2	2	76.7	20	1632	-	573	
3	3	85.9	12	1305	1496	18	
4	3	86.6	14	968	1172	133	
5	2	74.9	14	1348	-	48	
6	3	82.2	20	1692	1310	156	
7	2	53.9	13	1342	-	45	
8	3	62.7	15	1839	1651	76	
9	2	86.2	6	1165	-	91	
10	1	63.1	11	-	-	391	
11	2	82.4	6	1416	-	107	
12	1	95.8	18	-	-	248	
13	2	75.7	9	993	-	482	
14	3	70.1	18	1563	1020	354	
15	3	85.8	13	1420	1084	446	
16	1	63.2	7	-	-	265	
17	1	75.1	11	-		147	
18	2	69.5	5	1802	-	256	
19	1	51.8	19	-	-	422	
20	2	62.3	5	1449	-	304	
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				0	

Trial Number			14			
Number of Bursts in Trial			8			
Chirp Center F	requency			55	52	
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within		
						Interval (ms)
1	3	74.9	5	1314	1466	1289
2	2	83.9	19	1442	-	1436
3	2	55.8	6	1147	-	240
4	2	59.4	6	1490	-	1455
5	2	78.2	15	1665	-	1312
6	2	57.3	15	1357	-	264
7	2	76.2	11	1651	-	255
8	3	59	7	1460	1109	1410
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)		•		1

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Trial Number			15				
Number of Bursts in Trial			9				
Chirp Center Frequency				55	54		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	3	77.7	19	1046	1568	17	
2	2	98.2	20	1628	-	877	
3	2	95.3	8	1540	-	1066	
4	2	78.8	15	1341	-	822	
5	2	52.8	20	988	-	1020	
6	2	65.2	9	1480	-	602	
7	2	99.5	10	1867	-	884	
8	2	79.5	13	1148	-	342	
9	3	50.6	13	1030	1525	1321	
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1	

Trial Number			16				
Number of Bu	Number of Bursts in Trial			10			
Chirp Center Frequency				55	57		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)			
1	2	97.5	11	1357	-	764	
2	2	91.8	13	1896	-	298	
3	1	78.5	5	-	-	1117	
4	1	60.1	11	-	-	1069	
5	2	96.2	10	975	-	1157	
6	2	56.6	18	1626	-	701	
7	1	77.1	20	-	-	323	
8	2	96.3	8	1682	-	307	
9	2	52.2	13	1017	-	217	
10	1	92.8	15	-	-	316	
<b>Detection Ched</b>	ck (1=Detection; C	=No Detection)				1	

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Trial Number	Trial Number			17				
Number of Bur	Number of Bursts in Trial			11				
Chirp Center Frequency				55	47			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width Pulse 1-to-2 Pulse 2-to-3 Lo (MHz) Spacing (us) Spacing (us) Inter					
1	2	57.3	8	1220	-	792		
2	3	73.1	5	1717	1679	845		
3	2	54.1	14	967	-	112		
4	2	98.8	19	1137	-	715		
5	3	85.5	8	1068	960	301		
6	2	78.5	7	1387	-	827		
7	2	77.9	12	1869	-	506		
8	1	81.9	10	-	-	549		
9	1	50.4	9	-	-	464		
10	1	75.2	8	-	-	790		
11	2	92.7	7	1770	-	967		
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)				1		

Trial Number	Trial Number			18			
Number of Bu	rsts in Trial		12				
Chirp Center F	Chirp Center Frequency			55	44		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within			
1	2	79.1	6	1042		Interval (ms)	
-					4744	793	
2	3	55.7	9	1327	1744	159	
3	1	95	20	-	-	734	
4	1	88.4	5	-	-	523	
5	1	92.3	15	-	-	546	
6	1	93.6	6	-	-	208	
7	2	95.1	12	1044	-	894	
8	1	59.5	17	-	-	666	
9	2	98.7	17	1422	-	640	
10	2	65.1	5	1104	-	320	
11	1	60.2	5	-	-	60	
12	1	88.7	8	-	-	823	
<b>Detection Chec</b>	ck (1=Detection; 0	=No Detection)				1	

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Trial Number			19			
Number of Bu	ırsts in Trial		13			
Chirp Center Frequency				55	50	
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)		
1	1	53.9	10	-	-	226
2	2	82.6	13	992	-	854
3	1	87.7	8	-	-	303
4	3	69	12	1696	1606	528
5	1	68.6	12	-	-	220
6	3	76.5	13	1333	1468	389
7	2	95.8	17	1380	-	57
8	2	55.6	19	1147	-	334
9	2	78.6	14	1268	-	128
10	2	65.4	17	1231	-	913
11	2	76.6	18	1883	-	518
12	1	93.2	6	-	-	596
13	2	50.2	13	1836	-	61
<b>Detection Che</b>	ck (1=Detection; C	=No Detection)				1

Trial Number	Trial Number			20				
Number of Bu	rsts in Trial		14					
Chirp Center F	requency			55	52			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)				
1	1	60.9	13	-	-	142		
2	2	81.7	15	1831	-	522		
3	2	78.5	5	1396	-	790		
4	2	98.2	6	1652	-	3		
5	1	64.1	12	-	-	414		
6	3	53	18	1862	1902	157		
7	2	62.3	15	1490	-	248		
8	2	87	11	1411	-	576		
9	2	78.4	8	1090	-	737		
10	2	87.2	7	967	-	343		
11	3	71	13	1662	1841	105		
12	2	77.2	5	1557	-	601		
13	1	94.4	15	-	-	108		
14	1	90.6	13	-	-	506		
<b>Detection Chec</b>	ck (1=Detection; 0	=No Detection)				1		

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Trial Number			21			
Number of Bur	sts in Trial		15			
Chirp Center F	Chirp Center Frequency			55	54	
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)		
1	3	76.5	8	1870	1326	385
2	2	95.3	13	1162	-	73
3	3	58.9	9	1586	1909	742
4	2	73.1	13	1460	-	330
5	2	73.1	12	1488	-	25
6	2	75.1	5	1331	-	418
7	3	98.5	11	936	1532	214
8	3	72.5	13	1110	1903	387
9	3	67.4	12	1567	1513	80
10	2	76.1	12	1005	-	277
11	2	94.3	17	1413	-	314
12	2	72.8	12	1778	-	66
13	2	90.9	14	1793	-	147
14	3	94.8	11	1012	1742	441
15	3	95	12	912	1641	609
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1

Trial Number			22					
Number of Bu	rsts in Trial		16					
Chirp Center Frequency				55	56			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Chirp Width (MHz) Pulse 1-to-2 Pulse 2-to-3 Spacing (us) Ir				
1	1	96.7	9	-	-	308		
2	2	78.3	13	1045	-	27		
3	1	56.5	12	-	-	74		
4	3	88.5	14	1119	1020	629		
5	2	62.4	9	1436	-	548		
6	2	78.2	5	1147	-	341		
7	3	76.8	14	1069	1575	360		
8	2	91.6	18	978	-	602		
9	2	93.7	5	1130	-	623		
10	2	97.4	8	1100	-	256		
11	3	90.1	6	1629	1375	108		
12	2	79.9	18	1809	-	183		
13	2	83	10	1370	-	477		
14	2	89.1	13	1239	-	484		
15	2	58.3	8	1321	-	276		
16	1	85.2	13	-	-	22		
<b>Detection Chec</b>	ck (1=Detection; C	=No Detection)				1		

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Trial Number			23					
Number of Bur	sts in Trial			1	7			
Chirp Center Frequency				55	43			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Chirp Width (MHz) Pulse 1-to-2 Pulse 2-to-3 Spacing (us) In				
1	3	60	10	1097	1748	56		
2	3	66.3	13	1391	1430	421		
3	2	88.5	15	1040	-	583		
4	2	72.1	8	1526	-	161		
5	1	72.3	8	-	-	450		
6	2	67.3	7	1022	-	48		
7	2	56.1	12	1325	-	661		
8	1	83.5	11	-	-	695		
9	3	99.4	13	1490	938	405		
10	1	54.2	12	-	-	126		
11	3	92.7	17	1251	1631	365		
12	3	95.1	17	1741	1162	57		
13	2	84	9	1597	-	167		
14	1	68.5	18	-	-	512		
15	1	76.5	20	-	-	185		
16	3	86.6	11	1774	1875	457		
17	2	62.2	9	1563	-	492		
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				0		

Trial Number	Trial Number			24				
Number of Bui	rsts in Trial		18					
Chirp Center F	requency			55	47			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)				
1	1	86.6	19	-	-	621		
2	2	95.3	17	926	-	128		
3	1	76.2	12	-	1	251		
4	3	71.4	19	1287	1404	269		
5	3	51.7	12	1564	1339	633		
6	2	77	5	1899	ı	615		
7	1	87.5	12	-	ı	375		
8	3	59	17	1327	1615	610		
9	2	78.3	15	1551	ı	548		
10	2	89.7	5	1718	ı	456		
11	2	92.1	7	1403	ı	12		
12	2	97.3	14	1338	ı	596		
13	3	80.3	20	1354	1563	484		
14	1	98.2	8	-	ı	428		
15	3	94.4	13	1795	1829	512		
16	2	90.4	13	1105	-	342		
17	2	73.6	19	1787	1	292		
18	1	82.9	7	-	1	618		
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1		

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Trial Number			25				
Number of Bur	sts in Trial		19				
Chirp Center F	requency			55	57		
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	90	18	-	-	173	
2	1	65.3	19	-	-	245	
3	2	82.6	10	1756	-	127	
4	2	93.9	18	1557	-	287	
5	2	50.5	13	1479	-	282	
6	1	68	7	-	-	176	
7	3	88.4	11	1244	1076	568	
8	3	66.8	11	1288	1909	448	
9	2	88	12	1450	-	527	
10	3	51.1	6	1797	1935	195	
11	2	93.8	13	1073	-	184	
12	1	83.5	10	-	-	506	
13	2	96.9	12	1047	-	267	
14	3	87.2	18	1521	1450	243	
15	2	60.1	8	1545	-	291	
16	3	98	10	1842	1402	554	
17	3	57	19	1665	1732	143	
18	1	74.3	14	-	-	31	
19	2	57.8	10	1576	-	609	
<b>Detection Check</b>	k (1=Detection; 0	=No Detection)				1	

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Trial Number			26				
Number of Bu	rsts in Trial		20				
Chirp Center I	Frequency			55	50		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Spacing (us)		Starting Location Within Interval (ms)	
1	2	92.8	9	1222	-	531	
2	2	52.4	8	1547	-	168	
3	3	56.8	7	1158	1184	193	
4	1	91.2	7	-	-	565	
5	3	61.2	10	1558	1664	387	
6	3	62	7	1518	1656	391	
7	2	69	5	1531	-	327	
8	2	67.3	18	1064	-	25	
9	1	94.1	5	-	-	78	
10	2	76	17	1190	-	222	
11	2	81.9	12	1815	-	96	
12	2	57.9	8	1594	-	277	
13	3	68.3	19	1427	1540	41	
14	2	53.3	7	1713	-	48	
15	2	85.3	15	1136	-	48	
16	1	65.3	20	-	-	57	
17	3	79.8	20	923	1259	48	
18	2	56.9	20	1357	-	483	
19	2	93	9	1686	-	73	
20	2	82.8	10	944	-	352	
<b>Detection Ched</b>	ck (1=Detection; 0	=No Detection)				1	

Trial Number	Trial Number			27			
Number of Bursts in Trial				3	3		
Chirp Center Frequency				55	53		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width Pulse 1-to-2 Pulse 2-to-3 Loc (MHz) Spacing (us) Spacing (us) Wi				
						Interval (ms)	
1	3	50.9	11	1106	1077	1293	
2	2	77.8	18	1836	-	1235	
3	3	60.7	5	1069	1635	1092	
4	2	77.2	13	1916	-	1343	
5	2	91.6	13	1465	-	1466	
6	2	56.8	17	1783	-	376	
7	1	59.5	20	-	-	131	
8	1	66.5	12	1024			
<b>Detection Chec</b>	k (1=Detection; C	=No Detection)		•	•	1	

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Trial Number			28				
Number of Bur	Number of Bursts in Trial			9			
Chirp Center Frequency			55	56			
Burst	No. of Pulses	Pulse Width (us)	Chirp Width Pulse 1-to-2 Pulse 2-to-3 Location (MHz) Spacing (us) Spacing (us) Within Interval (in the control of the control				
1	2	72	9	1092	-	965	
2	2	89.2	6	1550	-	1226	
3	1	81.2	12	-	-	277	
4	2	80.6	15	1616	-	458	
5	2	62.8	10	1812	-	748	
6	1	71	8	-	-	434	
7	2	69.3	6	1027	-	1111	
8	2	77.2	13	1076	-	638	
9	2	65.4	5	1582	-	278	
<b>Detection Chec</b>	k (1=Detection; 0	=No Detection)				1	

Trial Number	Trial Number			29			
Number of Bu	rsts in Trial		10				
Chirp Center Frequency				55	49		
Burst	No. of Pulses	Pulse Width (us)	Chirp Width Pulse 1-to-2 Pulse 2-to-3 Locati Spacing (us) Spacing (us) Interval				
1	1	51.5	19	-	-	151	
2	1	82.3	13	-	-	1071	
3	3	78.3	8	1115	1740	646	
4	2	99	14	1101	-	709	
5	3	98.8	7	1819	945	556	
6	2	80.9	19	922	-	567	
7	2	64	12	953	-	581	
8	1	79	20	-	-	798	
9	1	68	8	-	-	112	
10	2	50.4	13	1587	-	26	
<b>Detection Chec</b>	ck (1=Detection; C	=No Detection)				1	

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Trial Number	,		30 11			
Number of B	ursts in Trial					
Chirp Center Frequency				55	46	
Burst	No. of Pulses	Pulse Width (us)	Chirp Width (MHz)	Starting Location Within Interval (ms)		
1	3	57.8	5	1324	1716	82
2	2	70.1	20	1733	-	587
3	2	95.2	13	1188	-	789
4	3	84.6	20	1042	1259	1021
5	3	96.5	7	1329	1596	16
6	2	84.3	15	1606	-	708
7	3	53.5	19	1783	1458	738
8	3	74.9	5	1599	1891	466
9	3	53.8	7	1494	1467	252
10	2	60.5	14	1319	-	464
11	1	73.3	10	-	-	845
Detection Che	eck (1=Detection; 0	=No Detection)				1

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Type 6 Radar Statistical Performance

Trial #	Test Freq. (MHz)	Pulses / Hop	Pulse Width (us)	PRI (us)	1=Detection 0=No Detection
1	5550	9	1	333	1
2	5550	9	1	333	1
3	5550	9	1	333	1
4	5550	9	1	333	1
5	5550	9	1	333	1
6	5550	9	1	333	1
7	5550	9	1	333	1
8	5550	9	1	333	1
9	5550	9	1	333	1
10	5550	9	1	333	1
11	5550	9	1	333	1
12	5550	9	1	333	1
13	5550	9	1	333	1
14	5550	9	1	333	1
15	5550	9	1	333	1
16	5550	9	1	333	1
17	5550	9	1	333	1
18	5550	9	1	333	1
19	5550	9	1	333	1
20	5550	9	1	333	1
21	5550	9	1	333	1
22	5550	9	1	333	0
23	5550	9	1	333	1
24	5550	9	1	333	1
25	5550	9	1	333	1
26	5550	9	1	333	1
27	5550	9	1	333	1
28	5550	9	1	333	1
29	5550	9	1	333	1
30	5550	9	1	333	1
•	96.667				
Limit	70%				
Test Resi	Complied				

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# 4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV40	101026	9kHz~40GHz	Sep. 15, 2015	DF01-CB
Vector Signal generator	R&S	SMU200A	102782	25MHz-6GHz	Nov. 06, 2015	DF01-CB
RF Power Divider	ANAREN	2 Way	DFS-01-DV-02	1GHz ~ 6GHz	Nov. 07, 2015	DF01-CB
RF Power Divider	MTJ	2 Way	DFS-01-DV-03	1GHz ~ 6GHz	Nov. 07, 2015	DF01-CB
RF Power Divider	ANAREN	4 Way	DFS-01-DV-01	1GHz ~ 6GHz	Nov. 07, 2015	DF01-CB
RF Cable-high	Woken	RG402	High Cable-53	1 GHz –18 GHz	Nov. 02, 2015	DF01-CB
RF Cable-high	Woken	RG402	High Cable-54	1 GHz –18 GHz	Nov. 02, 2015	DF01-CB
RF Cable-high	Woken	RG402	High Cable-56	1 GHz –18 GHz	Nov. 02, 2015	DF01-CB
RF Cable-high	Woken	RG402	High Cable-60	1 GHz –18 GHz	Nov. 02, 2015	DF01-CB

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

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# **5** Measurement Uncertainty

Test Items	Uncertainty	Remark
Conducted Emission	1.7 dB	Confidence levels of 95%

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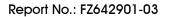
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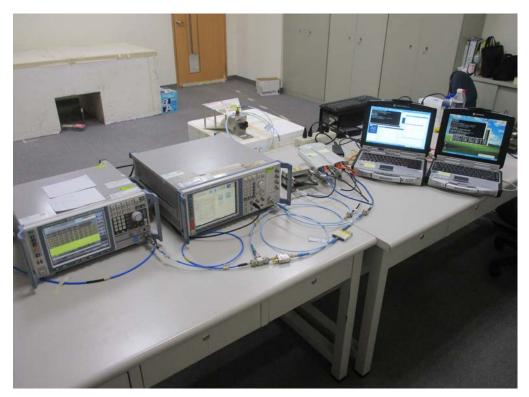
# Appendix A. Test Photos

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# 1. Photographs of Dynamic Frequency Selection Test Configuration



**FRONT VIEW** 



**REAR VIEW** 

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