



RADIO TEST REPORT

Test Report No. : 10229481H-C-R1

Applicant : **Panasonic Corporation of North America**
Type of Equipment : **Wireless LAN Module**
Model No. : **WJ-VR3004**
FCC ID : **ACJ9TAWJ-VR3004**
Test regulation : **FCC Part 15 Subpart E: 2013**
(DFS test only)
Test Result : **Complied**

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with above regulation.
4. The test results in this report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
6. This report is a revised version of 10229481H-C. 10229481H-C is replaced with this report.

Date of test: April 17 to 24, 2014

Representative test engineer:

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NVLAP LAB CODE: 200572-0

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SECTION 1: Customer information

Company Name : Panasonic System Networks Co., Ltd.*
 Address : 1-62, 4-chome, Minoshima, Hakata-ku, Fukuoka 812-853 Japan
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 Facsimile Number : +81-92-477-1487
 Contact Person : Yukio Kaneko

* Panasonic System Networks Co., Ltd. is on behalf of the applicant: Panasonic Corporation of North America.

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Wireless LAN Module
 Model No. : WJ-VR3004
 Serial No. : Refer to Section 4, Clause 4.2
 Rating : DC10.5V
 Receipt Date of Sample : March 24, 2014
 Country of Mass-production : Japan
 Condition of EUT : Production prototype
 (Not for Sale: This sample is equivalent to mass-produced items.)
 Modification of EUT : No Modification by the test lab

2.2 Product Description

General Specification

Clock frequency(ies) in the system : 32.768kHz, 38.4MHz

Radio Specification

[WLAN (IEEE802.11a/b/g/n-20)]

Equipment Type	Transceiver	
Frequency of Operation	2412-2462MHz	W53: 5280-5320MHz W58: 5745-5825MHz
Type of Modulation	DSSS, OFDM	OFDM
Antenna Type	Dual (Planar patch)	Dual (Inverted F)
Antenna connector type	Module side: Rectangular Coaxial Connector (SMT) Antenna side: RP-SMA	
Antenna Gain with cable loss	0.58dBi (2.4GHz)	-0.98dBi (5GHz)

[WLAN (IEEE802.11n-40)]

Equipment Type	Transceiver	
Frequency of Operation	2422-2452MHz	W53: 5310MHz W58: 5755-5795MHz
Type of Modulation	OFDM	OFDM
Antenna Type	Dual (Planar patch)	Dual (Inverted F)
Antenna connector type	Module side: Rectangular Coaxial Connector (SMT) Antenna side: RP-SMA	
Antenna Gain with cable loss	0.58dBi (2.4GHz)	-0.98dBi (5GHz)

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SECTION 3: Scope of Report

This report only covers DFS requirement, as specified by the following referenced procedures.

SECTION 4: Test specification, procedures & results

4.1 Test Specification

Test Specification : FCC Part 15 Subpart E: 2014, final revised on May 1, 2014 and effective June 2, 2014*

* The revision on May 1, 2014 does not affect the test specification applied to the EUT.

Title : FCC 47CFR Part15 Radio Frequency Device
Subpart E Unlicensed National Information Infrastructure Devices
Section 15.407 General technical requirements

Test Specification : KDB905462 APPENDIX B
Title : COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-
NATIONAL INFORMATION INFRASTRUCTURE DEVICES
OPERATING IN THE 5.25-5.35GHz AND 5.47-5.725GHz BANDS
INCORPORATING DYNAMIC FREQUENCY SELECTION

FCC 15.31 (e)

The RF Module has its own regulator.

The RF Module is constantly provided voltage (DC3.3/1.8V) through the regulator regardless of input voltage.

Therefore, this EUT complies with the requirement.

FCC Part 15.203/212 Antenna requirement

The EUT has a unique coupling/antenna connector (Module side: Rectangular Coaxial Connector (SMT), Antenna side: RP-SMA).

Therefore the equipment complies with the requirement of 15.203/212.

4.2 Procedures and results

Table 1 Applicability of DFS Requirements

Requirement	Operating Mode	Test Procedures & Limits	Deviation	Results
	Master			
U-NII Detection Bandwidth	Yes	KDB905462 Appendix B 7.8.1	N/A	Complied
Channel Availability Check Time	Yes	FCC15.407 (h)	N/A	Complied
		KDB905462		
		Appendix B 7.8.2.1		
		Appendix B 7.8.2.2		
		Appendix B 7.8.2.3		
		RSS-210 A9.3		
Channel Move Time, Channel Closing Transmission Time	Yes	FCC15.407 (h)	N/A	Complied
		KDB905462		
		Appendix B 7.8.3		
		RSS-210 A9.3		
		FCC15.407 (h)	N/A	Complied
		KDB905462		
		Appendix B 7.8.3		
Non-Occupancy period	Yes	RSS-210 A9.3		
		FCC15.407 (h)	N/A	Complied
		KDB905462		
		Appendix B 7.8.3		
		RSS-210 A9.3		
In-Service Monitoring	Yes	FCC15.407 (h)	N/A	Complied
		KDB905462		
		Appendix B 7.8.3		
Overlapping Channel Tests	Not required	FCC15.407 (h)	N/A	N/A

Table 2 DFS Detection Thresholds for Master Devices and Client Devices With Radar

Maximum Transmit Power	Value (See Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.	
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.	

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Table 3 DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2
U-NII Detection Bandwidth	Minimum 80% of the U-NII 99% transmission power bandwidth See Note 3
Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows: • For the Short Pulse Radar Test Signals this instant is the end of the <i>Burst</i>. • For the Frequency Hopping radar Test Signal, this instant is the end of the last radar <i>Burst</i> generated • For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the <i>Radar Waveform</i>. Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signal will not count quiet periods in between transmissions. Note 3: During the U-NII Detection Bandwidth detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

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Table 4 Short Pulse Radar Test Waveform

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

Table 5 Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chip Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Burst	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 6 Frequency Hopping Radar Test Waveform

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

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4.3 Test Location

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	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	313583	2973C-1	19.2 x 11.2 x 7.7m	7.0 x 6.0m	No.1 Power source room
No.2 semi-anechoic chamber	655103	2973C-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	148738	2973C-3	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.3 Preparation room
No.3 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 semi-anechoic chamber	134570	2973C-4	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.4 Preparation room
No.4 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 semi-anechoic chamber	-	-	6.0 x 6.0 x 3.9m	6.0 x 6.0m	-
No.6 shielded room	-	-	4.0 x 4.5 x 2.7m	4.75 x 5.4 m	-
No.6 measurement room	-	-	4.75 x 5.4 x 3.0m	4.75 x 4.15 m	-
No.7 shielded room	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.8 measurement room	-	-	3.1 x 5.0 x 2.7m	N/A	-
No.9 measurement room	-	-	8.8 x 4.6 x 2.8m	2.4 x 2.4m	-
No.11 measurement room	-	-	6.2 x 4.7 x 3.0m	4.8 x 4.6m	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

4.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.
Time Measurement uncertainty for this test was: ($\pm$) 0.012%

4.5 Data of DFS test, Test instruments of DFS, Test set up

Refer to APPENDIX.

SECTION 5: Operation of E.U.T. during testing

5.1 Operating Modes

The EUT, which is a Master Device, operates over the 5250-5350MHz.

Power level(EIRP) of the EUT[dBm]

5250-5350MHz Band*	
Output Power (Max)	
20Mband	40Mband
15.12	14.64

*Refer to 10229481H-B, FCC Part 15E (FCC 15.407) report for other parts than DFS.

WLAN traffic is generated by streaming the MPEG Test file “6 ½ Magic Hours” from the Master to the Client in full motion video mode.

The EUT utilizes the 802.11n architecture, with a 20MHz and 40MHz channel bandwidth.

The rated output power of the Master unit is <200mW(23dBm). Therefore the required interference threshold level is -62 dBm. After correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is $-62 + 1 + (-0.98) + 1.2 = -60.78$ dBm (threshold level + additional 1dB + antenna gain with cable loss + cable loss).

It is impossible for users to change DFS control, because the DFS function is written on the firmware and users cannot access it.

The EUT was set by the software as follows:

Software name & version: Dut Wlan BT Labtool Version 1.0.8.1.6

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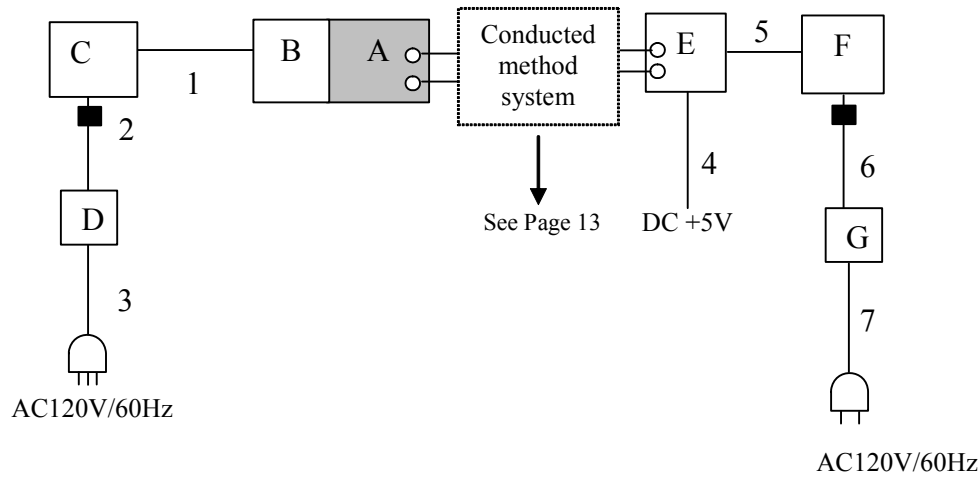
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5.2 Configuration and peripherals



■ : Standard Ferrite Core

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	WLAN Module	WJ-VR3004	ES2-35	Panasonic	EUT
B	Jig Board	-	-	Panasonic	-
C	Laptop PC	CF-31	0LKSA37565	Panasonic	-
D	AC Adaptor	CF-AA5713A	5713AM110808682A	Panasonic	-
E	WLAN Module	WBSBCVJXM	-	TAIYO YUDEN	-
F	Laptop PC	FMV-B8240	R7901207	FUJITSU	-
G	AC Adaptor	SEB55N2-16-0	08X03576A	FUJITSU	-

List of cables used

No.	Name	Length (m)	Shield	
			Cable	Connector
1	USB Cable	2.0	Shielded	Shielded
2	DC Cable	1.8	Unshielded	Unshielded
3	AC Cable	1.9	Unshielded	Unshielded
4	DC Cable	1.5	Unshielded	Unshielded
5	USB Cable	1.8	Shielded	Shielded
6	DC Cable	1.2	Unshielded	Unshielded
7	AC Cable	2.0	Unshielded	Unshielded

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5.3 Test and Measurement System

SYSTEM OVERVIEW

The measurement system is based on a conducted test method.

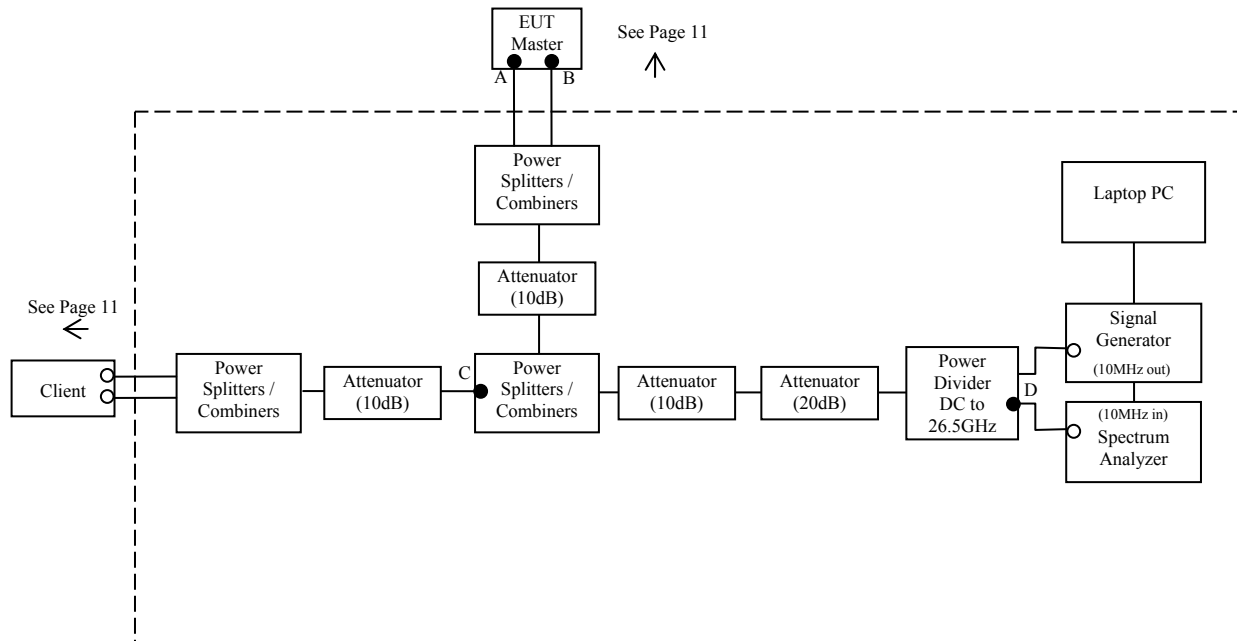
The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution. The short pulse types 2, 3, and 4, the long pulse type 5, and the frequency hopping type 6 parameters are randomized at run-time.

The signal monitoring equipment consists of a spectrum analyzer with the capacity to display 8001 bins on the horizontal axis. A time-domain resolution of 2 msec/bin is achievable with a 16 second sweep time, meeting the 10 seconds short pulse reporting criteria. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection. A time-domain resolution of 3 msec/bin is achievable with a 24 second sweep time, meeting the 22 second long pulse reporting criteria and allowing a minimum of 10 seconds after the end of the long pulse waveform.

FREQUENCY HOPPING RADAR WAVEFORM GENERATING SUBSYSTEM

The first 100 frequencies are selected out of the hopping sequence of the randomized 475 hop frequencies. Only a *Burst* that has the frequency falling within the receiver bandwidth of the tested U-NII device is selected among those frequencies. (Frequency-domain simulation). The radar waveform generated at the start time of the selected *Burst* (Time-domain simulation) is download to the Signal Generator. If all of the randomly selected 100 frequencies do not fall within the receiver bandwidth of the U-NII device, the radar waveform is not used for the test.

CONDUCTED METHODS SYSTEM BLOCK DIAGRM



MEASUREMENT SYSTEM FREQUENCY REFERENCE

Lock the signal generator and the spectrum analyzer to the same reference sources as follows: Connect the 10MHz OUT on the signal generator to the 10MHz IN on the spectrum analyzer and set the spectrum analyzer 10MHz In to On.

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SYSTEM CALIBRATION

Step 1: Set the system as shown in Figure 2 of KDB905462 APPENDIX B 7.2.1.

Step 2: Adjust each attenuator to fulfill the following three conditions:

- WLAN can be communicated, and
- Rader detection threshold level is bigger than Master Device traffic level on the spectrum analyzer, and
- Slave Device traffic level is not displayed on the spectrum analyzer.

Step 3: Terminate at the points, B, C, and D and connect the spectrum analyzer to the point A. (See the figure on page 13)
At the point A, adjust the signal generator and spectrum analyzer to the center frequency of the channel to be measured.

Download the applicable radar waveforms to the signal generator. Select the radar waveform, trigger a burst manually and measure the amplitude on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold.

Separate signal generator amplitude settings are determined as required for each radar type.

Terminate at the points A, C, and D and confirm at the point B if it has the same value as point A.
If necessary, add the attenuator to make the same level.

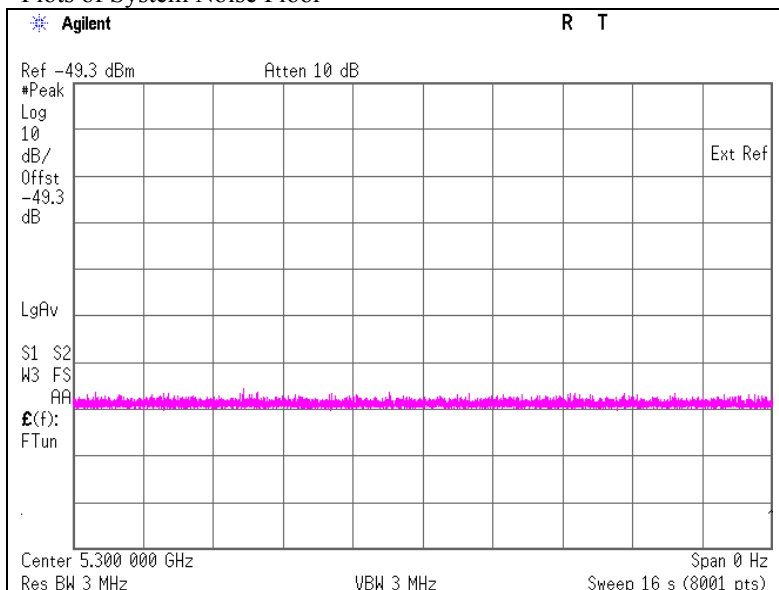
Step 4: Without changing any of the instrument settings, restore the system setting to Step 2 and adjust the Reference Level Offset of the spectrum analyzer to the level at Step 3.

By taking the above steps 1 to 4, the spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device.

See Clause 5.4 for Plots of Noise, Rader Waveforms, and WLAN signals.

5.4 Plots of Noise, Rader Waveforms, and WLAN signals

Plots of System Noise Floor



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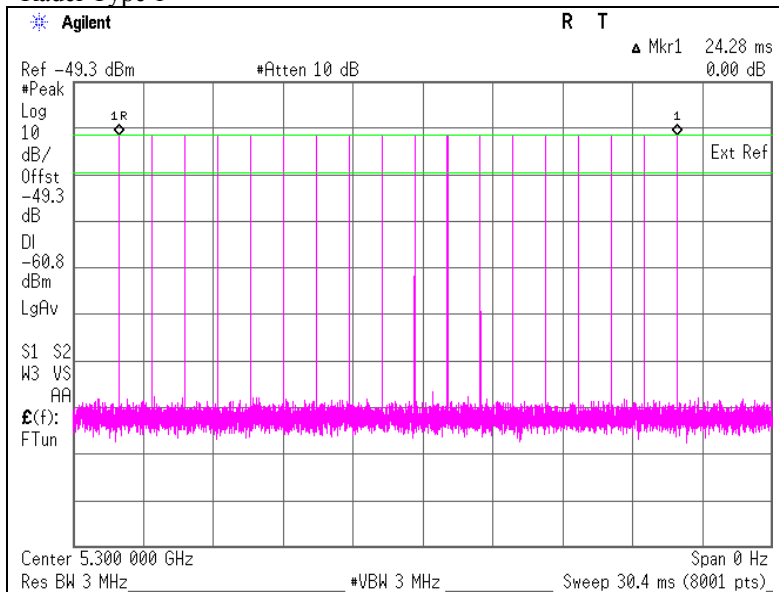
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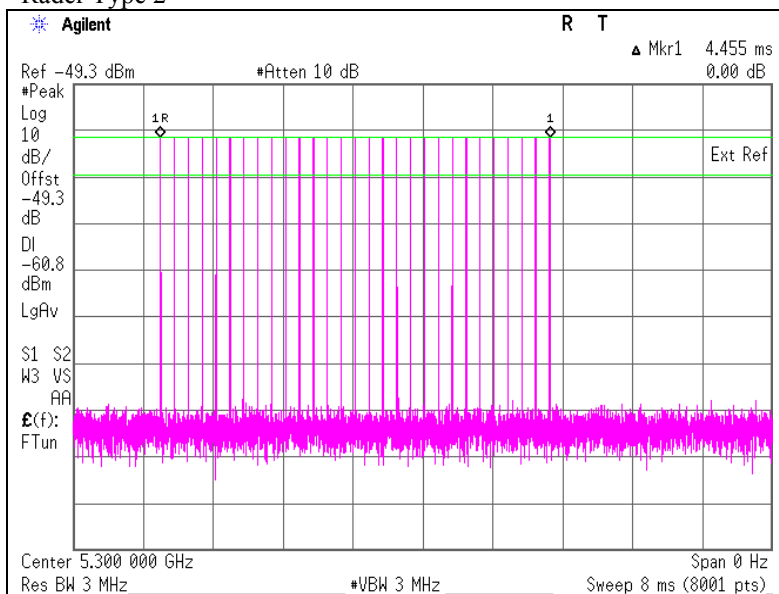
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Plots of Radar Waveforms

Rader Type 1



Rader Type 2



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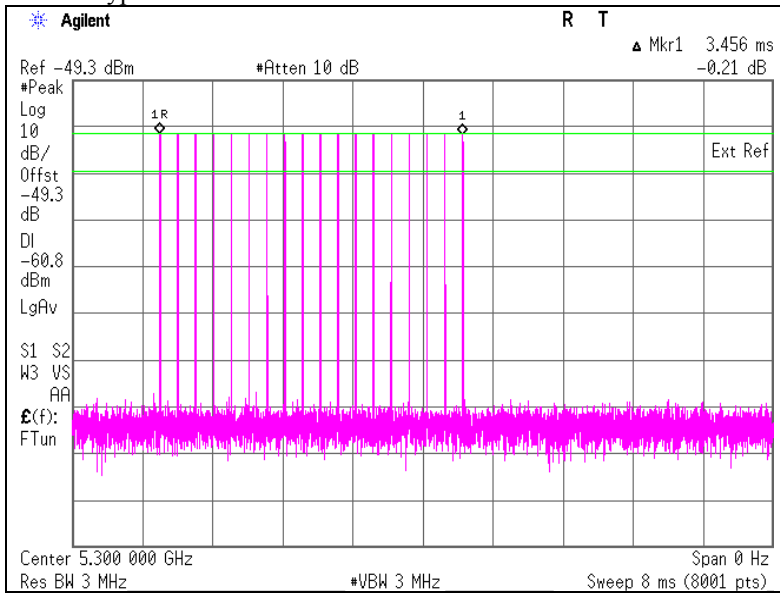
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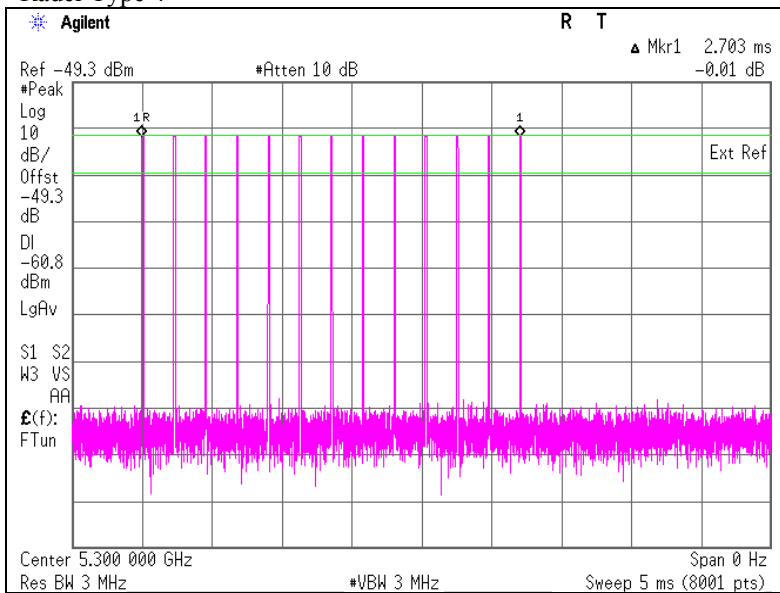
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Rader Type 3



Rader Type 4



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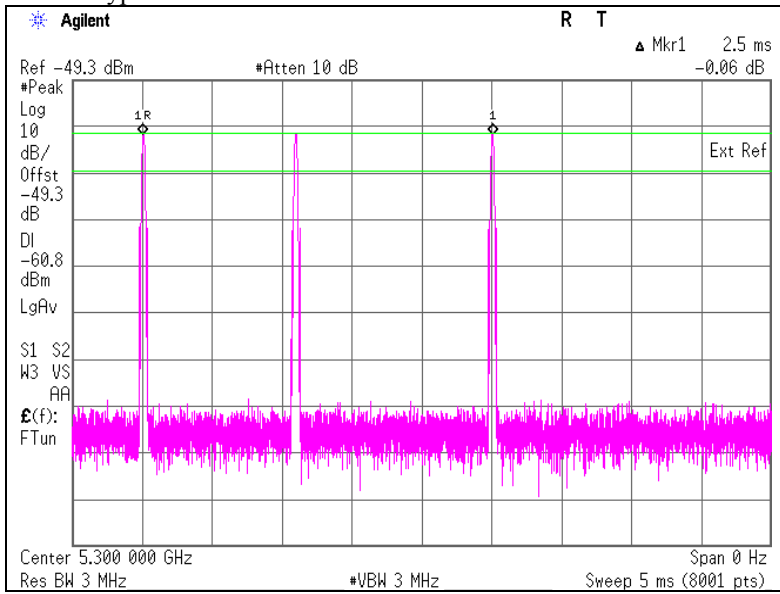
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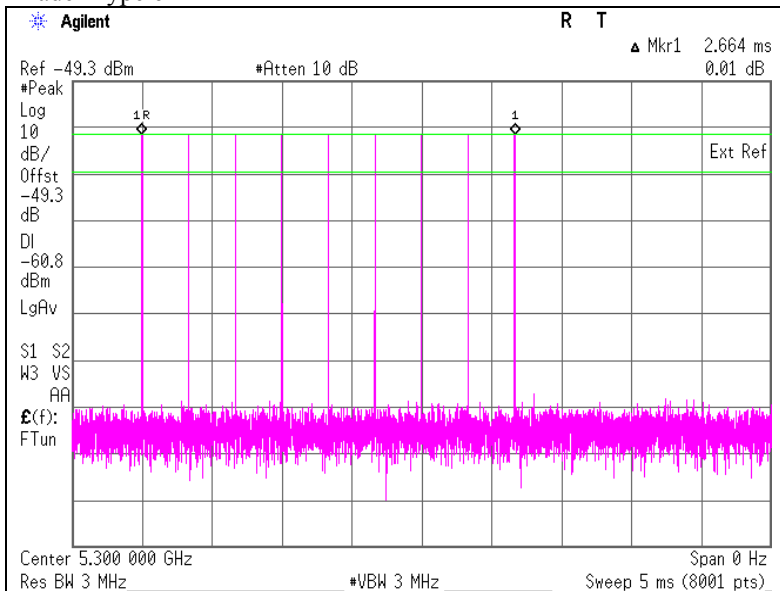
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Rader Type 5



Rader Type 6



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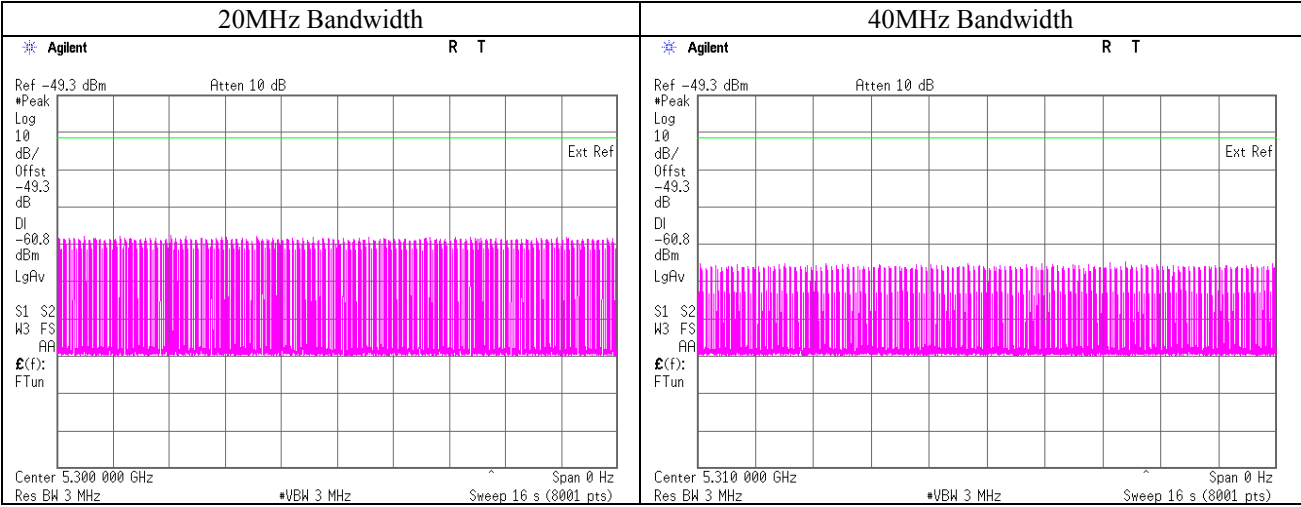
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Plots of WLAN Traffic



SECTION 6: U-NII Detection Bandwidth

6.1 Operating environment

Test date	: April 17, 2014,	April 22, 2014
Test place	: No.6 measurement room,	No.7 measurement room
Temperature	: 25 deg.C,	24 deg.C
Humidity	: 46 % RH,	41 % RH

6.2 Test Procedure

Adjust the equipment to produce a single Burst of the Short Pulse Radar Type 1 at the center frequency of the EUT Operating Channel at the specified DFS Detection Threshold level.
Set the EUT up as a standalone device (no associated Client or Master, as appropriate) and no traffic.
Frame based systems will be set to a talk/listen ratio of 0%/100% during this test.
Generate a single radar Burst, and note the response of the EUT. Repeat for a minimum of 10 trials. The EUT must detect the Radar Waveform using the specified U-NII Detection Bandwidth criterion.

Starting at the center frequency of the EUT operating Channel, increase the radar frequency in 1 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion. Record the highest frequency (denote as FH) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies above FH is not required to demonstrate compliance.
Starting at the center frequency of the EUT operating Channel, decrease the radar frequency in 1 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion. Record the lowest frequency (denote as FL) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies below FL is not required to demonstrate compliance.

The U-NII Detection Bandwidth is calculated as follows:

U-NII Detection Bandwidth = FH – FL

Radar detection is observed by two techniques.

- a). Monitoring LAN traffic with Spectrum Analyzer.
- b). Indicator of EUT and PC connected to EUT

6.3 Test data

5300MHz (20MHz Bandwidth)

Waveform : Radar Type 1

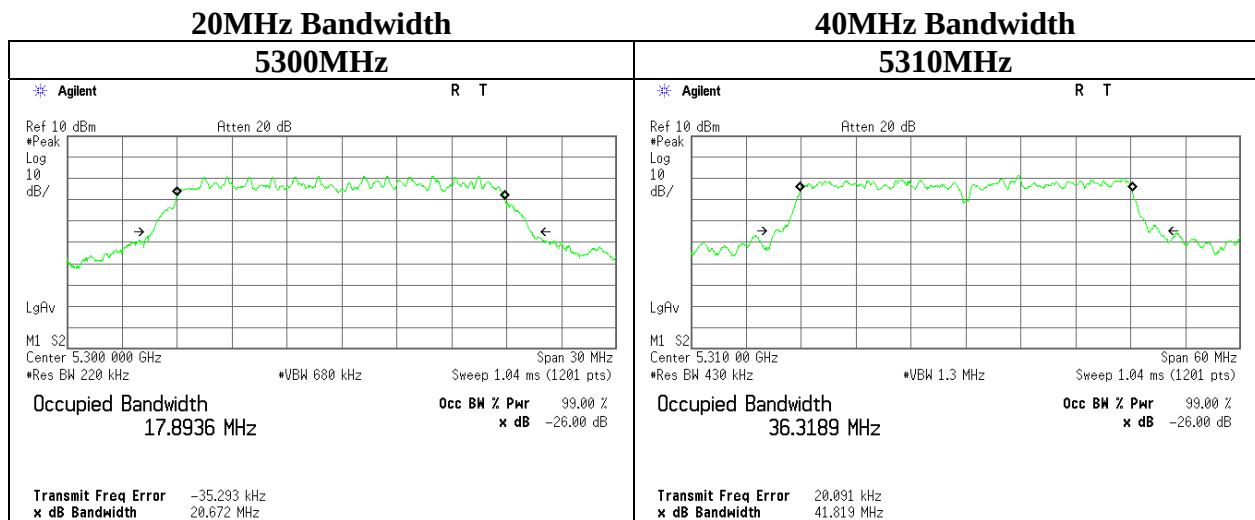
FL [MHz]	FH [MHz]	Detection Bandwidth [MHz]	99% Power Bandwidth [MHz]	Ratio of Detection BW to 99% Power BW [%]	Limit [%]	Results
5290	5310	20	17.8936	100	80	Pass

5310MHz (40MHz Bandwidth)

Waveform : Radar Type 1

FL [MHz]	FH [MHz]	Detection Bandwidth [MHz]	99% Power Bandwidth [MHz]	Ratio of Detection BW to 99% Power BW [%]	Limit [%]	Results
5291	5329	38	36.3189	100	80	Pass

99% Occupied Bandwidth



6.4 Test result

Test result: Pass

Date : April 17 and 22, 2014

Test engineer : Satofumi Matsuyama

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SECTION 7: Initial Channel Availability Check Time

7.1 Operating environment

Test date	: April 17, 2014,	April 22, 2014
Test place	: No.6 measurement room,	No.7 measurement room
Temperature	: 25 deg.C,	24 deg.C
Humidity	: 46 % RH,	41 % RH

7.2 Test Procedure

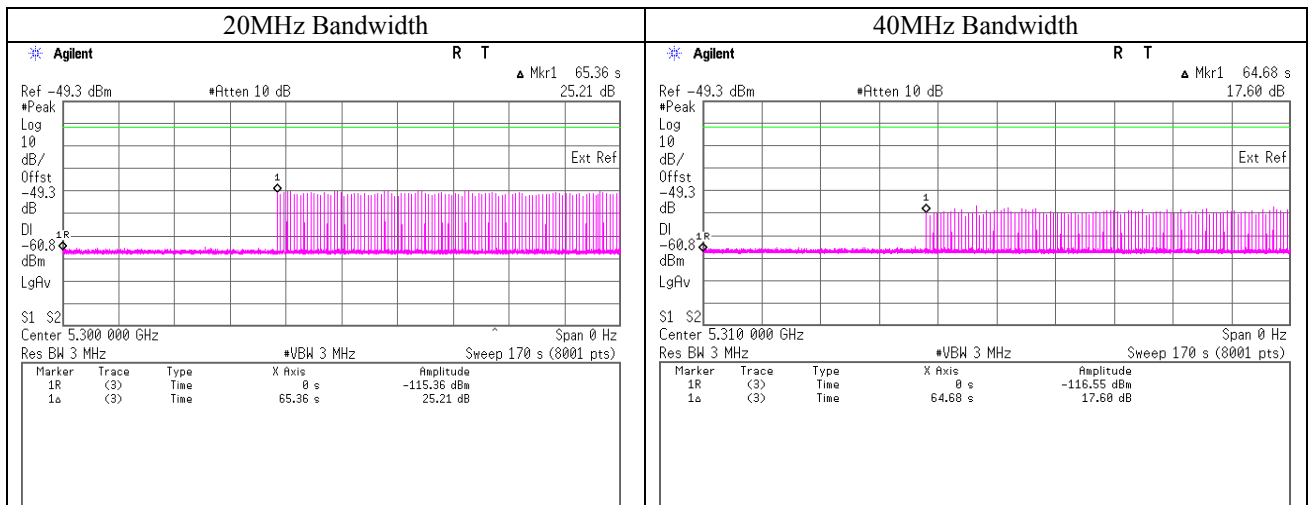
The Initial Channel Availability Check Time tests that the EUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel.

This test does not use any Radar Waveforms and only needs to be performed one time.

The U-NII devices will be powered on and be instructed to operate on the appropriate U-NII Channel that must incorporate DFS functions. At the same time the EUT is powered on, the spectrum analyzer will be set to zero span mode with a 3 MHz RBW and 3 MHz VBW on the Channel occupied by the radar (Chr) with a 2.5 minute sweep time. The spectrum analyzer's sweep will be started at the same time power is applied to the U-NII device.

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

7.3 Test data



7.4 Test result

Test result: Pass

Date : April 17 and 22, 2014

Test engineer : Satofumi Matsuyama

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SECTION 8: Radar Burst at the Beginning of the Channel Availability Check Time

8.1 Operating environment

Test date	: April 17, 2014,	April 22, 2014
Test place	: No.6 measurement room,	No.7 measurement room
Temperature	: 25 deg.C,	24 deg.C
Humidity	: 46 % RH,	41 % RH

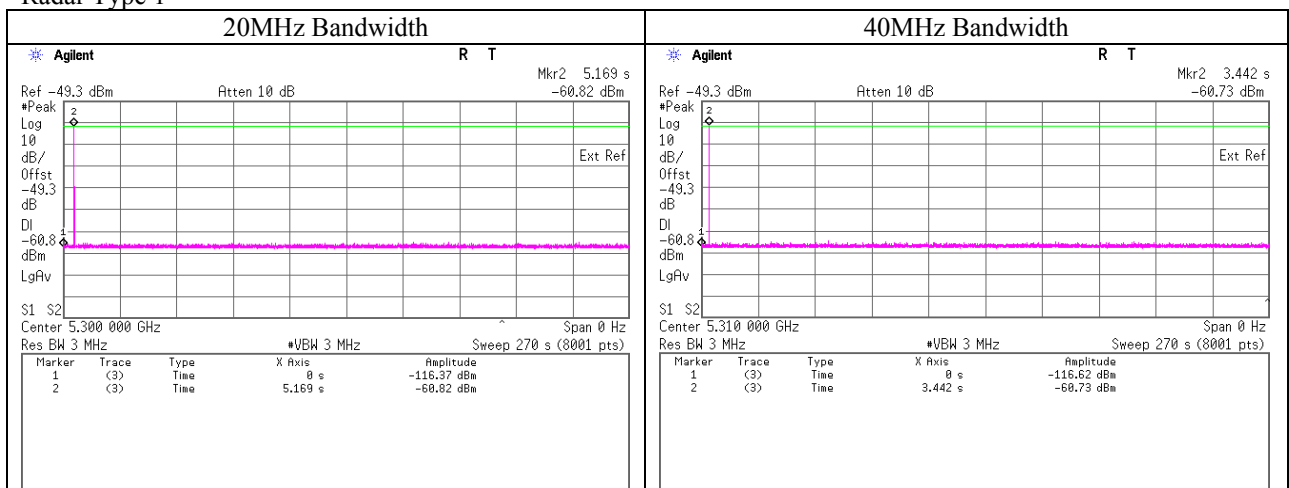
8.2 Test Procedure

A single Burst of one of the Short Pulse Radar Types 1-4 will commence within a 6 second window starting at Start of CAC. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Verify that during the 2.5 minute measurement window no EUT transmissions occurred on Chr.

8.3 Test data

Radar Type 1



8.4 Test result

Test result: Pass

Date : April 17 and 22, 2014

Test engineer : Satofumi Matsuyama

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SECTION 9: Radar Burst at the End of the Channel Availability Check Time

9.1 Operating environment

Test date	: April 17, 2014,	April 22, 2014
Test place	: No.6 measurement room,	No.7 measurement room
Temperature	: 25 deg.C,	24 deg.C
Humidity	: 46 % RH,	41 % RH

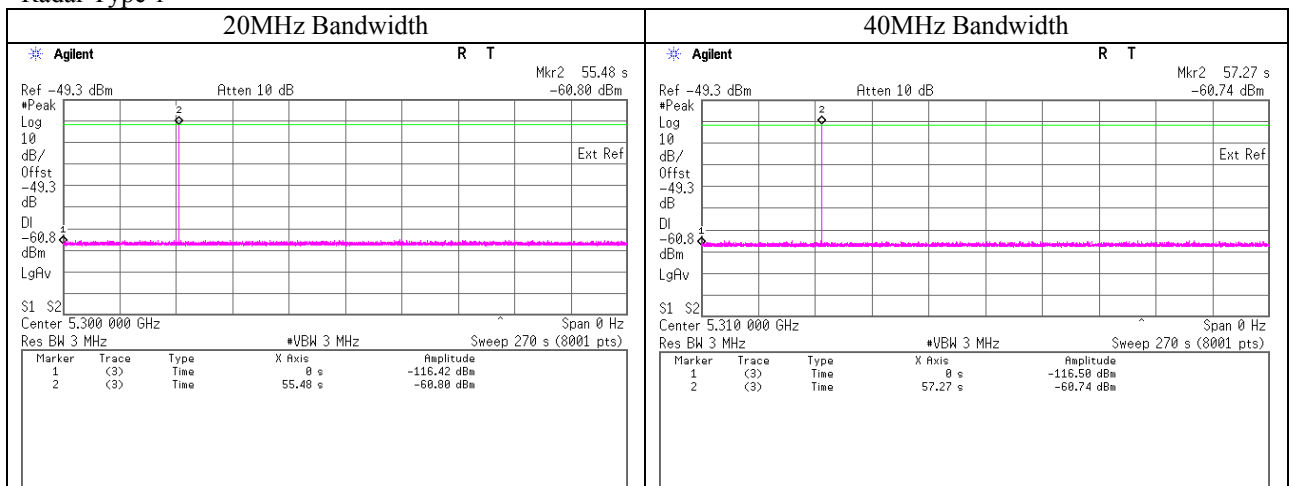
9.2 Test Procedure

A single Burst of one of the Short Pulse Radar Types 1-4 will commence within a 6 second window starting at Start of CAC + 54 seconds. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Verify that during the 2.5 minute measurement window no EUT transmissions occurred on Chr.

9.3 Test data

Radar Type 1



Marker 1 : Start of CAC : 0 sec
 Marker 2 : Radar Signal(Type 1) applied : 55.48 sec

: 0 sec
 : 57.27 sec

9.4 Test result

Test result: Pass

Date : April 17 and 22, 2014

Test engineer : Satofumi Matsuyama

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SECTION 10: Channel Move Time, Channel Closing Transmission Time

10.1 Operating environment

Test date	: April 17, 2014,	April 22, 2014
Test place	: No.6 measurement room,	No.7 measurement room
Temperature	: 25 deg.C,	24 deg.C
Humidity	: 46 % RH,	41 % RH

10.2 Test Procedure

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

the Radar Waveform generator sends a Burst of pulses for one of the Short Pulse Radar Types 1-4 at levels defined , on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds.

10.3 Test data

20MHz Bandwidth

Test Item	Unit	Measuremnt Time		Limit	Results
		Radar Type 1	Radar Type 5		
Channel Move Time *1)	[sec]	2.998	0.000	10.000	Pass
Channel Closing Transmission Time *2)	[msec]	6	0	60	Pass

40MHz Bandwidth

Test Item	Unit	Measuremnt Time		Limit	Results
		Radar Type 1	Radar Type 5		
Channel Move Time *1)	[sec]	3.004	0.000	10.000	Pass
Channel Closing Transmission Time *2)	[msec]	12	0	60	Pass

*1) Channel Move Time is calculated as follows:

(Channel Move Time) = (End of Transmission) - (End of Burst)

*2) Channel Closing Transmission Time is calculated from (End of Burst + 200msec) to (End of Burst + 10sec)

(Channel Closing Transmission Time) = (Number of analyzer bins showing transmission) * (dwell time per bin)

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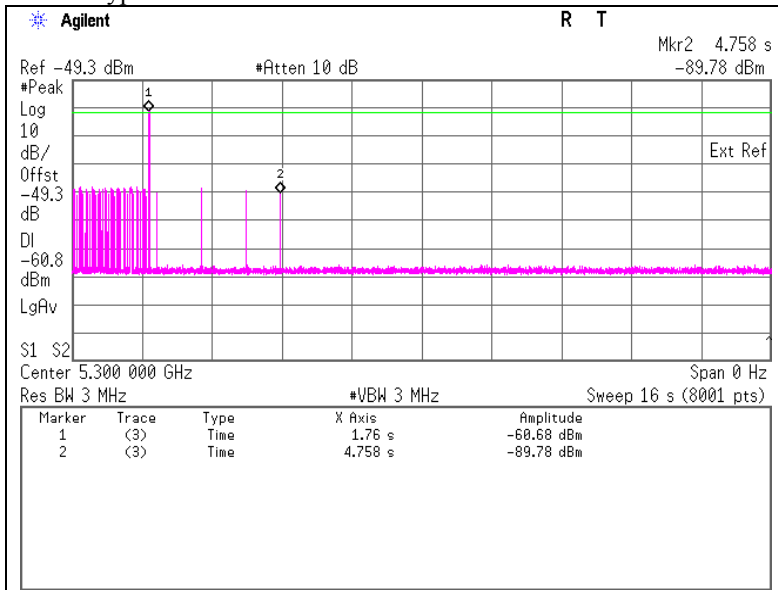
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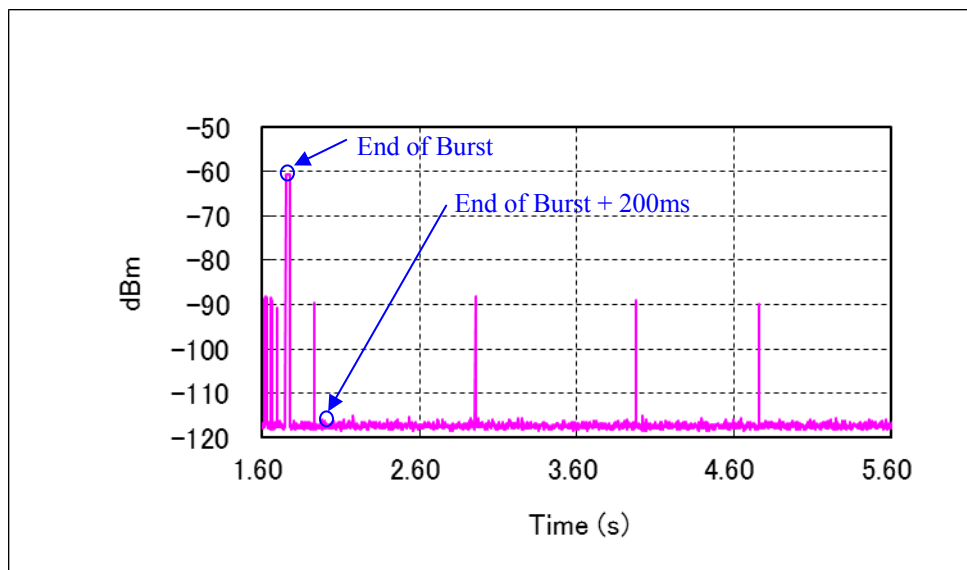
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20MHz Bandwidth
 Radar Type 1



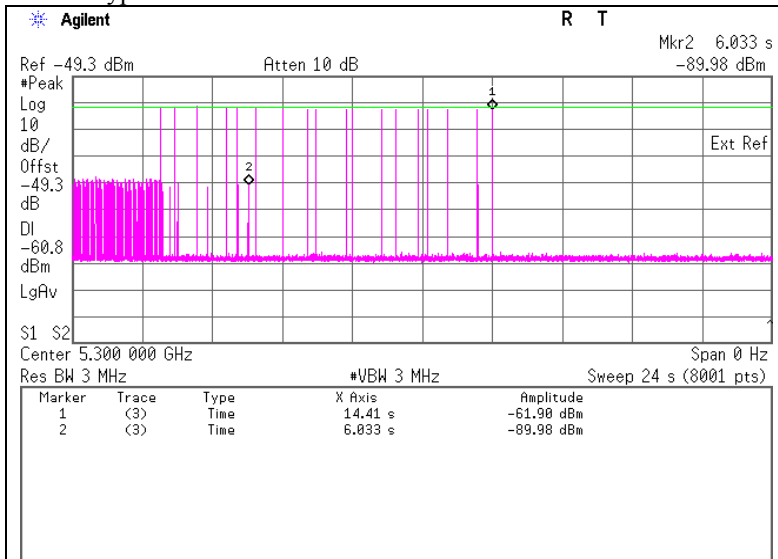
Marker 1 : End of Burst : 1760 ms
 Marker 2 : End of Transmission : 4758 ms



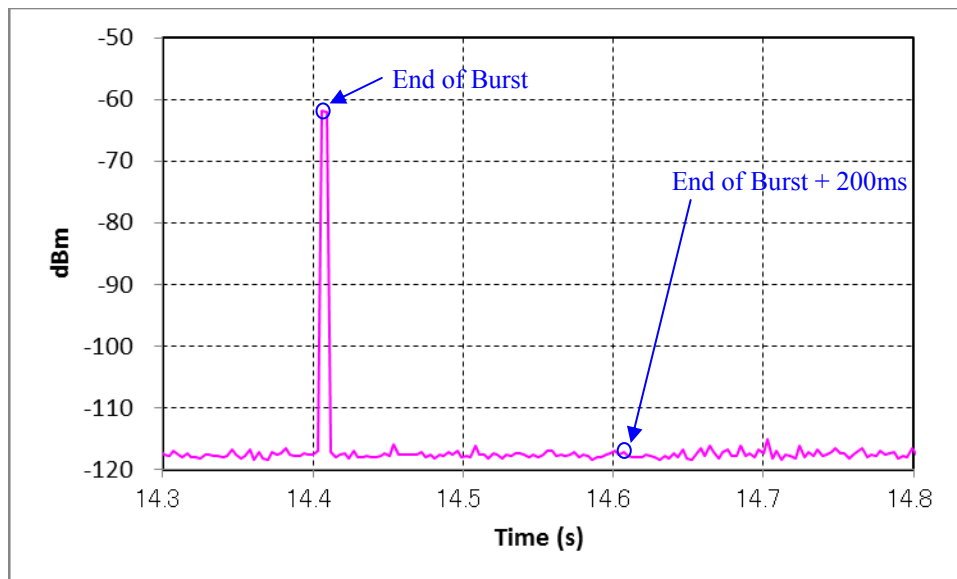
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20MHz Bandwidth
Radat Type 5



Marker 1 : End of Burst : 14410 ms
Marker 2 : End of Transmission : 6033 ms



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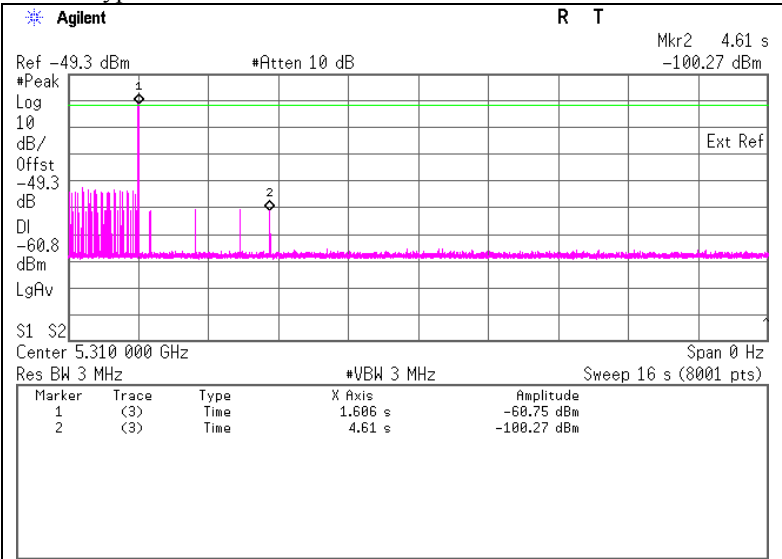
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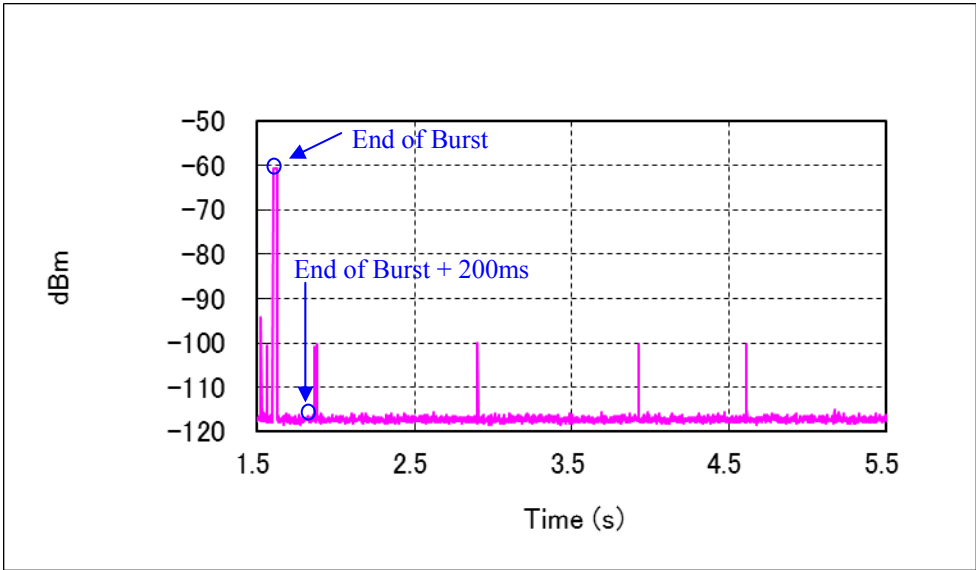
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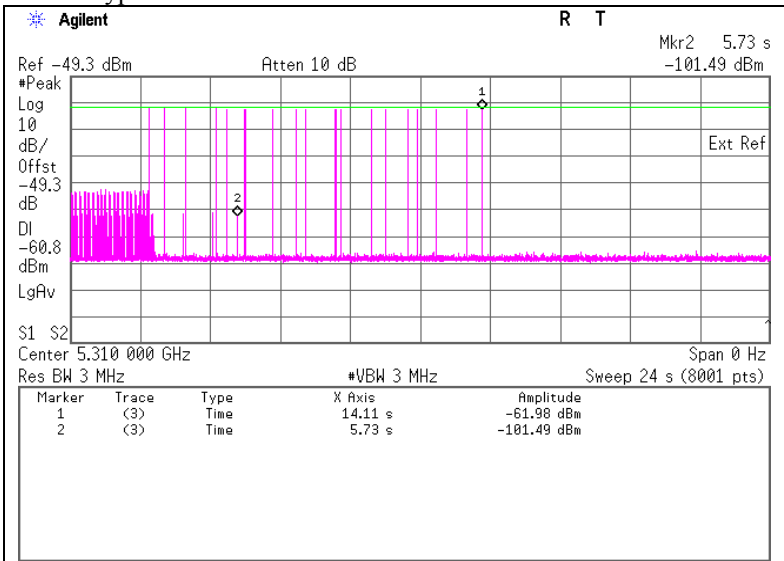
40MHz Bandwidth
Radar Type 1



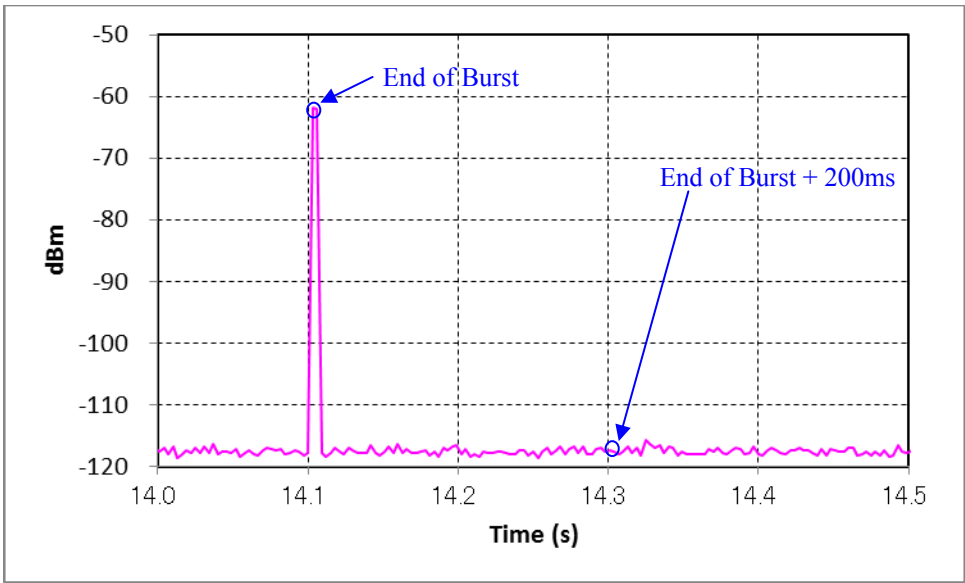
Marker 1 : End of Burst : 1606 ms
Marker 2 : End of Transmission : 4610 ms



40MHz Bandwidth
Radar Type 5



Marker 1 : End of Burst : 14110 ms
Marker 2 : End of Transmission : 5730 ms



10.4 Test result

Test result: Pass
Date : April 17 and 22, 2014
Test engineer : Satofumi Matsuyama

SECTION 11: Non-Occupancy Period

11.1 Operating environment

Test date	: April 17, 2014,	April 22, 2014
Test place	: No.6 measurement room,	No.7 measurement room
Temperature	: 25 deg.C,	24 deg.C
Humidity	: 46 % RH,	41 % RH

11.2 Test Procedure

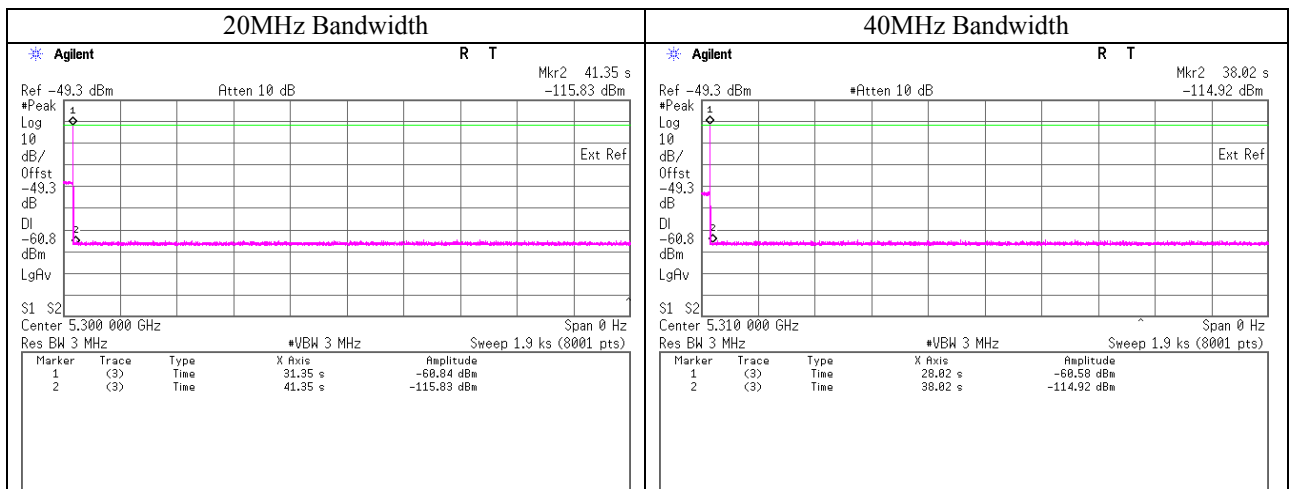
Stream the MPEG test file from the Master Device to the Client Device on the test Channel for the entire period of the test.

The Radar Waveform generator sends a Burst of pulses for one of the Radar Types 1-6 at levels defined on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Monitor the EUT for more than 30 minutes following End of Channel Move Time to verify that the EUT does not resume any transmissions on this Channel.

11.3 Test data

Radar Type 1



Marker 1 : End of Burst	: 31.35 sec	: 28.02 sec
Marker 2 : End of Burst +10sec	: 41.35 sec	: 38.02 sec

11.4 Test result

Test result: Pass

Date : April 17 and 22, 2014

Test engineer : Satofumi Matsuyama

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SECTION 12: In-Service Monitoring(Statistical Performance Check)

12.1 Operating environment

Test place	No.6 measurement room,	No.7 measurement room,	No.7 measurement room
Test Date	April 17, 2014,	April 21, 2014,	April 24, 2014
Temperature	25 deg.C,	26 deg.C,	25 deg.C
Humidity	46 % RH,	44 % RH,	34 % RH

12.2 Test Procedure

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

Radar Waveform generator sends the individual waveform for each of the Radar Types 1-6, at levels defined, on the Operating Channel. An additional 1dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Observe the transmissions of the EUT 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.

Observe the transmissions of the EUT 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.

Radar detection is observed by two techniques.

- a). Monitoring LAN traffic with Spectrum Analyzer.
- b). Indicator of PC connected to EUT

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12.3 Test data

5300MHz (20MHz Bandwidth)

Radar Type	Number of Trials	Number of Successful Detections	Percentage of Successful Detections [%]	Limit [%]	Results
1	30	30	100.00	60	Pass
2	30	29	96.67	60	Pass
3	30	28	93.33	60	Pass
4	30	21	70.00	60	Pass
Aggregate of 1 to 4	-	-	90.00	80	Pass
5	30	30	100.00	80	Pass
6	30	29	96.67	70	Pass

5310MHz (40MHz Bandwidth)

Radar Type	Number of Trials	Number of Successful Detections	Percentage of Successful Detections [%]	Limit [%]	Results
1	30	30	100.00	60	Pass
2	30	30	100.00	60	Pass
3	30	29	96.67	60	Pass
4	30	24	80.00	60	Pass
Aggregate of 1 to 4	-	-	94.17	80	Pass
5	30	30	100.00	80	Pass
6	30	30	100.00	70	Pass

12.4 Test result

Test result: Pass

Date : April 17, 21 and 24, 2014

Test engineer : Satofumi Matsuyama

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APPENDIX 1: Data of DFS test

U-NII Detection Bandwidth

5300MHz (20MHz Bandwidth)

Frequency [MHz]	Number of Trials [Times]	Number of Detected [Times]	Ratio of Detected [%]	Mark
5290	10	10	100	FL
5291	10	10	100	
5292	10	10	100	
5293	10	10	100	
5294	10	10	100	
5295	10	10	100	
5296	10	10	100	
5297	10	10	100	
5298	10	10	100	
5299	10	10	100	
5300	10	10	100	
5301	10	10	100	
5302	10	10	100	
5303	10	10	100	
5304	10	10	100	
5305	10	10	100	
5306	10	10	100	
5307	10	10	100	
5308	10	10	100	
5309	10	10	100	
5310	10	10	100	FH

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U-NII Detection Bandwidth

5310MHz (40MHz Bandwidth)

Frequency [MHz]	Number of Trials [Times]	Number of Detected [Times]	Ratio of Detected [%]	Mark
5291	10	10	100	FL
5292	10	10	100	
5293	10	10	100	
5294	10	10	100	
5295	10	10	100	
5296	10	10	100	
5297	10	10	100	
5298	10	10	100	
5299	10	10	100	
5300	10	10	100	
5301	10	10	100	
5302	10	10	100	
5303	10	10	100	
5304	10	10	100	
5305	10	10	100	
5306	10	10	100	
5307	10	10	100	
5308	10	10	100	
5309	10	10	100	
5310	10	10	100	
5311	10	10	100	
5312	10	10	100	
5313	10	10	100	
5314	10	10	100	
5315	10	10	100	
5316	10	10	100	
5317	10	10	100	
5318	10	10	100	
5319	10	10	100	
5320	10	10	100	
5321	10	10	100	
5322	10	10	100	
5323	10	10	100	
5324	10	10	100	
5325	10	10	100	
5326	10	10	100	
5327	10	10	100	
5328	10	10	100	
5329	10	10	100	FH

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Statistical Performance Check (Radar Type 1)

5300MHz (20MHz Bandwidth)

Waveform : Radar Type 1

Trial #	Successful Detection (Yes/No)
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

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Statistical Performance Check (Radar Type 1)

5310MHz (40MHz Bandwidth)

Waveform : Radar Type 1

Trial #	Successful Detection (Yes/No)
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

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Statistical Performance Check (Radar Type 2)

5300MHz (20MHz Bandwidth)

Waveform : Radar Type 2

Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]	Successful Detection (Yes/No)
1	28	1.9	168	Yes
2	25	1.2	204	Yes
3	23	4.4	159	Yes
4	24	4.1	171	Yes
5	26	4.3	192	Yes
6	26	1.9	186	Yes
7	28	4.8	206	Yes
8	23	3.0	170	Yes
9	25	2.4	210	Yes
10	27	3.3	224	Yes
11	23	3.7	223	Yes
12	24	4.8	206	Yes
13	23	3.3	160	Yes
14	29	3.3	200	No
15	23	4.0	177	Yes
16	28	3.7	214	Yes
17	23	1.8	177	Yes
18	29	3.9	169	Yes
19	27	4.8	184	Yes
20	29	4.9	226	Yes
21	24	3.7	202	Yes
22	26	1.7	226	Yes
23	28	4.9	159	Yes
24	28	2.0	171	Yes
25	25	4.2	198	Yes
26	27	2.1	210	Yes
27	29	4.1	199	Yes
28	24	1.0	185	Yes
29	28	2.1	220	Yes
30	27	4.8	222	Yes

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Statistical Performance Check (Radar Type 2)

5310MHz (40MHz Bandwidth)

Waveform : Radar Type 2

Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]	Successful Detection (Yes/No)
1	27	3.2	189	Yes
2	26	1.4	182	Yes
3	29	4.7	230	Yes
4	29	2.3	155	Yes
5	24	2.1	207	Yes
6	28	3.5	154	Yes
7	26	4.6	155	Yes
8	25	2.6	216	Yes
9	28	1.0	222	Yes
10	24	2.5	207	Yes
11	25	2.3	151	Yes
12	29	2.3	183	Yes
13	25	3.8	196	Yes
14	27	3.2	217	Yes
15	29	1.6	175	Yes
16	25	5.0	177	Yes
17	24	1.1	160	Yes
18	24	4.8	203	Yes
19	24	3.3	165	Yes
20	23	1.4	193	Yes
21	24	3.4	158	Yes
22	23	1.4	180	Yes
23	23	5.0	195	Yes
24	29	4.4	227	Yes
25	27	4.7	179	Yes
26	24	1.1	173	Yes
27	27	1.4	194	Yes
28	24	3.3	218	Yes
29	29	4.9	203	Yes
30	28	3.1	212	Yes

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Statistical Performance Check (Radar Type 3)

5300MHz (20MHz Bandwidth)

Waveform : Radar Type 3

Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]	Successful Detection (Yes/No)
1	18	7.8	450	Yes
2	17	9.8	280	No
3	17	6.8	312	Yes
4	17	7.6	455	Yes
5	16	6.1	330	Yes
6	18	8.3	350	Yes
7	18	6.0	408	Yes
8	18	7.0	214	Yes
9	17	7.1	477	Yes
10	18	6.5	282	Yes
11	16	9.2	420	Yes
12	16	9.2	355	Yes
13	16	8.8	304	Yes
14	16	8.2	417	Yes
15	18	8.6	480	Yes
16	18	7.4	267	Yes
17	16	8.0	312	Yes
18	16	7.6	286	Yes
19	16	6.3	486	Yes
20	18	9.3	277	Yes
21	17	7.0	387	Yes
22	16	9.3	489	Yes
23	16	7.8	274	No
24	16	6.7	303	Yes
25	16	7.4	439	Yes
26	16	7.8	235	Yes
27	16	6.4	454	Yes
28	17	6.3	211	Yes
29	16	7.6	413	Yes
30	17	7.0	326	Yes

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Statistical Performance Check (Radar Type 3)

5310MHz (40MHz Bandwidth)

Waveform : Radar Type 3

Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]	Successful Detection (Yes/No)
1	16	8.0	353	Yes
2	16	7.2	268	Yes
3	17	7.8	246	Yes
4	16	8.0	237	Yes
5	18	9.7	462	Yes
6	17	7.5	425	Yes
7	18	6.5	213	Yes
8	18	7.1	417	Yes
9	16	8.1	321	Yes
10	17	8.3	446	Yes
11	16	9.9	394	Yes
12	18	9.2	222	Yes
13	18	8.6	420	Yes
14	17	7.7	474	Yes
15	18	7.2	440	Yes
16	17	9.2	376	Yes
17	18	7.7	207	Yes
18	18	7.7	451	Yes
19	18	6.8	208	Yes
20	16	8.3	242	Yes
21	16	8.1	475	Yes
22	17	8.9	279	Yes
23	17	7.9	468	Yes
24	17	6.6	322	Yes
25	16	7.1	246	Yes
26	18	8.5	462	No
27	16	8.0	206	Yes
28	16	6.1	209	Yes
29	17	6.2	216	Yes
30	18	8.4	294	Yes

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Statistical Performance Check (Radar Type 4)

5300MHz (20MHz Bandwidth)

Waveform : Radar Type 4

Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]	Successful Detection (Yes/No)
1	13	15.5	488	Yes
2	14	20.0	267	Yes
3	14	19.4	379	No
4	16	11.3	410	Yes
5	16	17.3	342	No
6	14	16.0	354	Yes
7	13	14.5	313	Yes
8	16	13.0	276	Yes
9	12	17.3	403	Yes
10	16	13.7	364	Yes
11	15	13.2	384	Yes
12	15	13.1	291	Yes
13	14	19.8	319	Yes
14	15	16.2	216	No
15	13	19.5	280	Yes
16	16	15.8	245	Yes
17	13	12.7	441	Yes
18	13	11.0	448	No
19	15	19.7	367	No
20	14	16.7	251	Yes
21	13	11.2	407	Yes
22	15	17.8	499	No
23	12	19.8	412	Yes
24	12	19.5	247	Yes
25	16	18.2	405	Yes
26	16	18.9	329	Yes
27	12	19.2	235	Yes
28	14	13.8	482	No
29	15	13.2	229	No
30	16	13.9	368	No

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Statistical Performance Check (Radar Type 4)

5310MHz (40MHz Bandwidth)

Waveform : Radar Type 4

Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]	Successful Detection (Yes/No)
1	12	20.0	344	No
2	12	11.9	468	Yes
3	14	13.3	446	Yes
4	13	20.0	448	Yes
5	16	12.2	415	Yes
6	15	11.2	331	Yes
7	13	20.0	326	Yes
8	12	17.2	247	Yes
9	15	19.1	395	No
10	13	19.2	205	Yes
11	12	15.4	470	Yes
12	13	13.1	406	No
13	12	19.1	279	Yes
14	15	20.0	269	Yes
15	13	14.4	317	Yes
16	14	14.2	404	Yes
17	13	19.4	408	Yes
18	16	20.0	484	Yes
19	14	14.1	355	No
20	16	19.0	296	Yes
21	16	15.5	480	No
22	16	15.8	348	Yes
23	15	12.5	495	Yes
24	15	15.8	467	Yes
25	12	16.7	263	Yes
26	15	18.7	489	Yes
27	14	11.6	356	No
28	14	20.0	332	Yes
29	16	14.2	204	Yes
30	16	19.5	212	Yes

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Statistical Performance Check (Radar Type 5)

5300MHz (20MHz Bandwidth)

Waveform : Radar Type 5

Trial #	Successful Detection (Yes/No)
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

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Statistical Performance Check (Radar Type 5)

5310MHz (40MHz Bandwidth)

Waveform : Radar Type 5

Trial #	Successful Detection (Yes/No)
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

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Statistical Performance Check (Radar Type 6)

5300MHz (20MHz Bandwidth)

Waveform : Radar Type 6

Trial #	Successful Detection (Yes/No)
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	No
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

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Statistical Performance Check (Radar Type 6)

5310MHz (40MHz Bandwidth)

Waveform : Radar Type 6

Trial #	Successful Detection (Yes/No)
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

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Parameter Data for Radar Type 5

5300MHz (20MHz Bandwidth)

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
1	1	3	78	5	1848	1690	151760
	2	1	76	5			70454
	3	1	100	9			456391
	4	1	57	9			402348
	5	2	55	16	1653		297068
	6	1	72	8			574155
	7	3	85	20	1436	1388	287231
	8	1	76	7			575200
	9	2	61	10	1425		126829
	10	1	50	19			451610
	11	2	72	10	1291		427946
	12	1	55	16			1972
	13	2	61	17	1646		176756
	14	1	100	12			97269
	15	3	63	13	1090	1406	305771
	16	2	98	18	1143		85171
	17	1	96	9			62375
	18	3	79	15	1917	1764	617463
	19	2	72	9	1446		419004

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
2	1	2	60	8	1000		502437
	2	1	90	17			153014
	3	3	59	7	1006	1304	262883
	4	1	92	19			384035
	5	3	54	15	1822	1531	222767
	6	2	82	8	1133		308958
	7	1	72	20			271850
	8	3	74	15	1277	1291	491880
	9	1	80	17			696923
	10	1	76	18			276346
	11	1	89	19			215747
	12	2	66	19	1617		67122
	13	1	86	8			731133
	14	3	92	17	1014	1265	660126
	15	3	72	17	1549	1665	623359
	16	1	54	9			605939

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
3	1	1	58	9			890
	2	3	62	10	1976	1005	859121
	3	2	66	10	1835		282086
	4	3	98	14	1170	1095	461971
	5	2	82	17	1966		166661
	6	3	50	9	1590	1353	606545
	7	3	58	18	1426	1883	412977
	8	2	94	6	1681		731278
	9	1	88	10			784107
	10	3	54	14	1976	1756	284219
	11	1	87	17			679440
	12	3	94	11	1603	1302	285211

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
4	1	3	83	11	1126	1927	1140402
	2	1	68	11			1440555
	3	2	82	15	1051		1419309
	4	3	50	5	1358	1196	664015
	5	2	81	7	1094		34031
	6	2	84	9	1005		454672
	7	1	92	19			571728
	8	2	71	10	1660		1384769

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
5	1	1	74	5			211
	2	3	75	5	1183	1115	1029597
	3	3	67	12	1547	1168	714992
	4	1	64	17			398035
	5	1	93	12			454209
	6	3	65	7	1041	1951	318863
	7	2	62	6	1648		688995
	8	1	69	19			615698
	9	2	94	5	1323		388091

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
6	1	2	56	7	1000		40165
	2	1	65	14			166703
	3	1	72	17			503955
	4	3	74	7	1183	1038	369730
	5	3	87	8	1658	1392	356111
	6	2	93	10	1784		508359
	7	2	85	9	1407		273377
	8	2	54	13	1145		446227
	9	1	88	12			424203
	10	2	82	9	1764		44496
	11	3	59	10	1863	1246	26290
	12	3	60	11	1048	1237	85635
	13	3	93	6	1375	1386	284961
	14	3	86	10	1047	1766	154973
	15	2	55	13	1427		479834
	16	1	84	18			421193
	17	1	79	20			226632
	18	2	82	19	1371		508318
	19	1	83	6			395179
	20	2	53	10	1418		145011

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
7	1	3	57	6	1368	1520	655443
	2	2	67	19	1663		359864
	3	2	68	18	1670		432416
	4	2	57	7	1435		474105
	5	1	76	13			515246
	6	1	74	12			207657
	7	1	58	17			457452
	8	2	57	12	1362		451510
	9	2	66	12	1075		25987
	10	1	57	10			174748
	11	2	56	19	1705		222491
	12	2	60	20	1375		94362
	13	3	82	18	1900	1234	497590
	14	3	50	11	1539	1979	250723
	15	3	69	14	1746	1315	512471
	16	2	88	7	1192		377987
	17	3	64	18	1890	1822	603539

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
8	1	3	95	19	1887	1724	745961
	2	1	75	10			16495
	3	3	96	18	1056	1047	787556
	4	2	91	15	1292		1201092
	5	2	60	14	1412		514071
	6	1	83	16			462259
	7	2	71	7	1763		394983
	8	2	53	8	1613		29027
	9	1	74	5			1004356

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
9	1	2	90	9	1000		260294
	2	2	81	13	1894		90249
	3	2	77	8	1758		167886
	4	2	69	18	1235		536066
	5	3	88	10	1702	1610	236715
	6	2	61	8	1575		198539
	7	1	95	10			469017
	8	2	82	5	1159		637231
	9	3	68	15	1081	1926	266247
	10	3	89	8	1781	1903	639846
	11	1	92	15			170414
	12	2	94	19	1410		528222
	13	2	86	5	1740		339690
	14	2	72	13	1703		445157
	15	1	88	10			98762
	16	3	97	6	1033	1199	100352
	17	2	92	18	1594		468609
	18	3	70	16	1078	1999	312232

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
10	1	1	66	6			130
	2	1	88	7			138563
	3	2	82	11	1300		43662
	4	2	77	13	1486		391708
	5	1	88	19			840809
	6	2	71	18	1119		392367
	7	3	70	13	1949	1787	1065398
	8	2	81	6	1701		151394
	9	2	80	17	1221		1029020
	10	3	74	15	1213	1300	1012617
	11	1	60	18			261384

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
11	1	2	91	12	1000		346929
	2	2	95	14	1360		865980
	3	3	88	8	1647	1671	616782
	4	1	54	15			400744
	5	2	74	15	1895		197507
	6	1	66	17			9919
	7	3	69	14	1528	1050	831800
	8	2	90	17	1432		588167
	9	3	86	18	1778	1508	343564
	10	3	67	6	1709	1879	818421
	11	1	90	14			591452
	12	2	71	15	1361		763176
	13	3	65	10	1673	1349	276202

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
12	1	2	68	9	1000		58464
	2	2	58	18	1613		752342
	3	3	64	14	1909	1076	181596
	4	1	61	15			243627
	5	2	69	7	1905		930999
	6	3	55	5	1686	1250	25090
	7	2	71	5	1810		166000
	8	3	67	18	1603	1321	516753
	9	2	51	6	1241		841258
	10	2	92	14	1030		655198
	11	2	54	18	1641		589055
	12	2	77	14	1013		633889

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
13	1	1	75	12			346
	2	1	87	20			131368
	3	1	84	19			277187
	4	1	91	19			439290
	5	3	58	14	1091	1557	240036
	6	1	100	20			641621
	7	1	77	13			542289
	8	1	67	10			313698
	9	1	74	13			373416
	10	2	99	8	1767		260486
	11	2	52	13	1929		561986
	12	3	96	17	1240	1582	180935
	13	3	55	10	1582	1258	479079
	14	3	92	13	1891	1741	221784
	15	3	81	14	1217	1382	207149
	16	2	62	6	1139		586105

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
14	1	3	76	20	1009	1018	272017
	2	1	97	9			677195
	3	3	93	10	1971	1299	361165
	4	3	96	17	1742	1295	160000
	5	3	55	6	1039	1491	31575
	6	2	94	18	1143		318674
	7	2	91	17	1416		551346
	8	2	57	9	1573		359715
	9	1	79	8			326616
	10	1	74	14			77734
	11	1	78	13			686601
	12	1	76	11			40667
	13	1	59	10			257760
	14	2	86	10	1455		559751
	15	2	99	6	1106		9786
	16	3	95	7	1954	1393	552223

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
15	1	2	66	8	1000		287529
	2	3	77	13	1800	1784	666703
	3	2	71	6	1469		619474
	4	1	73	5			647498
	5	1	70	19			520651
	6	1	97	7			412169
	7	2	90	13	1489		338247
	8	2	88	16	1404		443467
	9	2	71	11	1687		22813
	10	2	88	14	1328		463079
	11	3	56	5	1158	1894	255787
	12	1	90	7			402445
	13	2	90	11	1384		202451
	14	1	56	9			164902
	15	2	95	14	1686		202574

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
16	1	2	57	11	1000		867872
	2	2	80	13	1368		1135411
	3	1	53	7			610637
	4	1	62	11			224603
	5	2	81	7	1584		186060
	6	2	78	5	1187		1071951
	7	2	84	18	1335		929798
	8	1	74	11			310248
	9	3	66	5	1310	1596	546733
	10	1	83	19			369126

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
17	1	3	80	12	1275	1036	905517
	2	2	70	7	1587		779541
	3	3	87	7	1493	1406	351077
	4	1	55	19			905129
	5	2	55	12	1661		1062968
	6	2	64	9	1074		1162907
	7	2	98	20	1708		288717
	8	3	68	17	1244	1495	259980
	9	2	68	18	1444		1154171

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
18	1	2	56	15	1000		842904
	2	2	91	10	1148		227816
	3	2	96	15	1058		300791
	4	3	89	12	1828	1399	705934
	5	3	80	14	1027	1241	710598
	6	3	83	12	1283	1334	70830
	7	3	61	6	1582	1207	569941
	8	3	99	20	1196	1002	157609
	9	1	72	11			288260
	10	3	88	5	1444	1381	808023
	11	3	68	6	1077	1943	279027
	12	1	98	17			604379
	13	3	74	18	1529	1014	419325
	14	1	72	19			808890

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
19	1	3	71	16	1169	1453	417246
	2	1	72	18			346929
	3	2	62	13	1042		255626
	4	2	84	6	1377		478557
	5	3	98	13	1113	1115	95092
	6	1	93	5			137809
	7	3	57	15	1018	1597	561204
	8	1	70	20			562444
	9	1	76	19			336425
	10	3	55	14	1000	1077	485230
	11	2	75	20	1882		616492
	12	2	78	17	1313		116008
	13	3	92	19	1129	1097	556890
	14	1	71	14			50865
	15	2	76	7	1697		652418
	16	1	69	20			676570
	17	1	54	20			46451

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
20	1	3	63	9	1394	1708	596563
	2	3	60	19	1093	1411	319010
	3	3	67	7	1510	1417	424815
	4	3	52	19	1146	1744	555383
	5	1	84	14			311379
	6	2	72	17	1799		464491
	7	3	58	20	1479	1929	78106
	8	3	53	8	1522	1692	72358
	9	1	99	5			207570
	10	3	72	11	1125	1085	377563
	11	1	66	5			540509
	12	1	50	5			519588
	13	1	72	20			259011
	14	3	92	9	1606	1369	454272
	15	2	65	5	1788		231168
	16	2	61	14	1803		297531
	17	3	90	20	1983	1353	559419
	18	1	86	5			355547
	19	1	54	11			558224

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
21	1	2	60	11	1000		585994
	2	1	97	15			2855
	3	1	87	16			329923
	4	1	99	11			1022709
	5	1	82	10			464653
	6	2	86	15	1188		971398
	7	3	52	19	1310	1925	537423
	8	2	63	17	1668		1001534
	9	1	53	9			530913
	10	2	69	9	1106		1076575

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
22	1	3	63	20	1042	1053	418341
	2	1	50	18			567350
	3	3	86	11	1553	1427	698595
	4	2	71	5	1679		1028869
	5	1	67	19			661139
	6	2	71	14	1087		434306
	7	3	88	15	1444	1407	190730
	8	1	99	9			657475
	9	3	81	17	1663	1585	1006513

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
23	1	3	84	13	1452	1795	416159
	2	2	95	19	1237		760111
	3	3	87	18	1854	1489	351514
	4	2	52	19	1741		641417
	5	1	98	9			893958
	6	3	72	17	1920	1899	761429
	7	2	60	13	1766		125732
	8	3	63	18	1968	1494	866937
	9	1	93	8			530474
	10	2	76	16	1310		2007
	11	2	61	19	1123		372722
	12	3	82	7	1379	1469	504195
	13	2	66	9	1977		242187

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
24	1	1	82	6			202
	2	3	80	9	1935	1930	639838
	3	3	98	8	1460	1349	466509
	4	1	69	20			255992
	5	3	89	6	1013	1230	155655
	6	3	57	14	1302	1488	588328
	7	3	76	20	1503	1889	487512
	8	2	75	5	1603		224191
	9	1	86	11			364073
	10	1	87	17			434374
	11	2	63	14	1631		65174
	12	3	66	16	1406	1929	449515
	13	1	73	15			455143
	14	1	59	14			628462
	15	3	59	6	1203	1196	231770
	16	3	50	12	1493	1885	125520
	17	2	60	7	1146		372207

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
25	1	3	100	12	1004	1865	1292282
	2	1	55	11			1055988
	3	3	93	19	1050	1738	826057
	4	2	74	7	1663		430650
	5	2	78	15	1066		255091
	6	3	65	14	1694	1602	1094033
	7	1	79	10			77175
	8	2	98	15	1125		738837
	9	1	78	17			1265280

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
26	1	1	70	19			396
	2	3	66	9	1169	1256	407221
	3	2	50	18	1421		73608
	4	3	79	20	1988	1388	441587
	5	1	81	10			167416
	6	2	76	16	1296		277006
	7	2	68	9	1023		575299
	8	3	100	13	1863	1749	196346
	9	1	55	20			5929
	10	3	52	18	1317	1350	390166
	11	1	80	13			82339
	12	3	59	16	1410	1836	252293
	13	3	72	15	1022	1715	415385
	14	3	56	13	1532	1745	517106
	15	1	97	7			278239
	16	2	62	20	1200		583594
	17	2	54	12	1440		400859
	18	2	70	12	1304		166920
	19	3	79	11	1606	1152	59776
	20	1	79	13			341718

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
27	1	3	55	16	1064	1043	390840
	2	1	66	9			94230
	3	1	69	13			237406
	4	1	91	16			685706
	5	3	70	8	1577	1553	223658
	6	2	59	15	1261		567281
	7	1	58	16			652992
	8	2	74	14	1091		351025
	9	1	88	14			460681
	10	2	67	7	1030		396109
	11	1	68	14			631048
	12	2	68	10	1318		383263
	13	3	79	10	1308	1901	587352
	14	2	93	12	1930		446510
	15	3	78	8	1220	1542	517013
	16	3	78	14	1130	1607	292209
	17	3	61	18	1600	1268	347674

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
28	1	1	56	14			325
	2	2	57	15	1488		73735
	3	1	82	9			86217
	4	1	50	10			50256
	5	1	92	15			283120
	6	1	86	19			349691
	7	2	87	14	1783		307277
	8	2	99	14	1502		283989
	9	1	91	19			176214
	10	1	74	18			216482
	11	1	67	8			113731
	12	2	80	12	1718		476726
	13	1	77	6			246126
	14	3	66	9	1447	1256	486386
	15	1	76	6			297599
	16	1	93	20			497624
	17	1	94	5			135009
	18	3	95	8	1448	1703	194635

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
29	1	3	89	14	1025	1640	308199
	2	3	96	13	1028	1782	296006
	3	1	98	14			53942
	4	2	57	17	1921		484292
	5	3	89	13	1233	1667	397151
	6	1	58	12			507967
	7	3	66	13	1503	1363	575898
	8	2	70	5	1476		435017
	9	2	75	10	1985		604799
	10	1	50	17			179292
	11	1	96	10			442137
	12	2	55	14	1296		329251
	13	3	68	9	1971	1396	434466
	14	2	65	10	1834		154868
	15	3	79	5	1239	1760	472945
	16	2	72	14	1225		252909
	17	2	83	8	1957		183137
	18	1	91	10			428582
	19	3	97	8	1558	1343	434582

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
30	1	1	99	17			27
	2	1	91	5			43516
	3	3	76	12	1514	1297	585702
	4	1	51	15			118173
	5	3	52	8	1375	1749	24912
	6	3	81	16	1251	1038	262264
	7	1	63	17			583728
	8	2	93	6	1984		39977
	9	1	96	19			429803
	10	2	82	18	1027		295352
	11	3	55	5	1319	1600	12318
	12	2	85	15	1477		147041
	13	3	89	7	1551	1723	366597
	14	2	78	8	1319		91793
	15	1	82	7			484866
	16	1	66	8			188337
	17	2	78	11	1049		451914
	18	2	54	13	1185		486030
	19	1	71	14			331128

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Parameter Data for Radar Type 5

5310MHz (40MHz Bandwidth)

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
1	1	2	87	8	1000		966176
	2	1	80	17			474898
	3	3	76	20	1452	1673	172271
	4	3	53	15	1661	1372	328718
	5	1	81	10			17480
	6	3	92	8	1778	1522	244467
	7	3	90	16	1949	1456	645087
	8	1	100	9			972208
	9	2	86	18	1747		426031
	10	3	75	18	1095	1946	911042
	11	3	98	14	1812	1651	754254
	12	1	95	12			365685

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
2	1	1	72	5			1052
	2	3	55	18	1695	1593	611276
	3	2	75	14	1795		902450
	4	2	58	11	1406		368042
	5	1	89	6			878812
	6	2	82	10	1837		334340
	7	1	57	8			117341
	8	1	72	20			550024
	9	3	70	10	1675	1746	766423
	10	3	51	10	1199	1233	588683
	11	1	54	19			414924

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
3	1	3	80	11	1497	1404	357997
	2	2	65	13	1762		952237
	3	1	59	10			42110
	4	3	87	10	1082	1930	671466
	5	2	64	7	1153		808403
	6	3	92	18	1576	1521	366337
	7	2	98	9	1618		843270
	8	2	63	19	1614		801680
	9	2	85	10	1318		385743
	10	1	99	16			760296
	11	2	63	6	1080		490306
	12	2	51	16	1412		406507

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
4	1	3	62	14	1656	1248	36647
	2	3	52	9	1019	1017	717701
	3	1	73	5			672593
	4	1	78	19			51894
	5	2	71	12	1157		300703
	6	3	79	16	1837	1853	114255
	7	2	83	10	1232		784725
	8	2	62	10	1124		834260
	9	2	84	13	1660		834038
	10	3	69	5	1985	1233	351179
	11	2	89	8	1665		496176
	12	1	83	8			742991
	13	3	87	17	1581	1451	153970
	14	3	77	17	1335	1113	800233

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
5	1	3	88	6	1390	1629	691715
	2	3	52	11	1750	1690	409072
	3	3	58	11	1034	1754	605386
	4	1	97	12			190968
	5	2	72	7	1263		139268
	6	2	59	10	1286		372908
	7	2	98	19	1384		74219
	8	2	82	12	1866		69763

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
6	1	2	51	14	1000		374158
	2	1	88	9			221270
	3	3	81	9	1992	1461	514678
	4	2	80	6	1316		224563
	5	3	58	16	1846	1839	518330
	6	3	97	15	1936	1699	302072
	7	1	91	19			265925
	8	2	79	7	1485		512975
	9	1	62	16			255571
	10	1	78	10			553568
	11	1	73	8			260960
	12	3	61	12	1148	1746	224204
	13	3	65	9	1904	1425	270039
	14	1	72	13			117286
	15	3	64	6	1506	1741	692492

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
7	1	2	71	6	1000		204282
	2	1	76	7			83511
	3	3	99	9	1935	1313	243295
	4	2	81	9	1313		25203
	5	1	100	18			165538
	6	3	66	17	1288	1299	414089
	7	2	68	14	1666		111281
	8	3	60	19	1579	1912	116247
	9	2	83	8	1442		335508
	10	1	52	19			728696
	11	2	63	6	1503		154489
	12	3	90	9	1660	1763	646510
	13	3	97	17	1916	1218	118956
	14	3	60	13	1125	1614	89958
	15	2	67	17	1631		273463
	16	3	91	19	1017	1364	131575

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
8	1	3	57	14	1061	1243	612307
	2	3	81	10	1782	1441	52931
	3	2	74	5	1125		187825
	4	2	65	18	1263		467949
	5	2	92	6	1070		50354
	6	3	100	19	1679	1400	511697
	7	1	71	12			325666
	8	1	69	11			75577
	9	2	64	9	1396		78444
	10	2	68	18	1239		336964
	11	3	90	16	1572	1858	129077
	12	3	66	7	1644	1406	162952
	13	1	65	5			603184
	14	1	100	19			397838
	15	2	86	8	1123		189746
	16	1	77	7			357519
	17	2	82	20	1652		252224
	18	2	69	12	1054		25357
	19	3	68	18	1953	1386	335412

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
9	1	2	70	12	1000		868588
	2	1	51	16			846504
	3	1	80	9			528523
	4	1	71	17			915093
	5	2	97	18	1319		788508
	6	3	55	7	1934	1719	119307
	7	3	79	5	1766	1160	119268
	8	3	100	5	1038	1613	115063
	9	2	65	13	1218		905572
	10	2	77	16	1633		802696
	11	3	86	12	1979	1762	198494

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
10	1	2	75	16	1000		457977
	2	1	83	17			680415
	3	3	58	10	1459	1574	204890
	4	2	59	18	1402		111620
	5	1	65	12			204921
	6	2	68	11	1216		623967
	7	3	78	17	1718	1761	218088
	8	3	90	11	1289	1558	685455
	9	3	68	17	1914	1774	320917
	10	3	56	19	1275	1537	711656
	11	2	74	20	1149		627535
	12	3	88	12	1450	1338	488105
	13	3	72	6	1865	1036	81541
	14	2	71	11	1014		709554
	15	2	56	5	1487		681790
	16	3	80	11	1888	1312	599880

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
11	1	2	51	17	1000		432627
	2	1	85	13			56267
	3	3	51	19	1423	1766	121572
	4	3	95	11	1572	1802	70574
	5	1	85	16			160194
	6	2	90	17	1876		342422
	7	2	90	10	1037		384086
	8	2	69	8	1843		426480
	9	3	96	9	1352	1331	508655
	10	1	56	11			489750
	11	1	67	9			481076
	12	2	90	17	1006		526051
	13	3	51	8	1622	1151	67970
	14	3	71	5	1343	1247	540172
	15	3	53	13	1824	1535	239636
	16	1	64	12			533889
	17	3	93	11	1762	1982	279971

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
12	1	1	60	6			249
	2	1	54	16			735771
	3	3	84	17	1886	1718	50724
	4	3	75	10	1972	1989	477793
	5	3	96	13	1270	1974	1147937
	6	1	98	7			383098
	7	2	54	18	1484		110632
	8	3	78	8	1345	1058	806879
	9	2	80	20	1706		536891
	10	2	58	12	1017		1151466

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
13	1	1	86	10			24
	2	3	78	14	1848	1176	44048
	3	2	80	12	1329		646317
	4	3	75	9	1250	1883	50597
	5	3	56	20	1121	1163	495438
	6	3	76	18	1650	1162	481638
	7	1	75	13			50237
	8	3	91	16	1114	1717	347603
	9	1	63	14			549824
	10	1	84	17			208587
	11	3	71	7	1725	1836	406294
	12	1	75	16			440676
	13	1	73	10			467935
	14	1	96	14			218175
	15	3	74	13	1404	1345	384977
	16	1	93	16			473792
	17	1	82	16			16415

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
14	1	1	92	5			763
	2	2	70	20	1982		404748
	3	3	82	16	1159	1009	873498
	4	3	50	10	1952	1820	71298
	5	1	60	7			779660
	6	1	61	20			709383
	7	2	89	16	1173		696390
	8	3	59	9	1604	1914	312578
	9	2	100	14	1617		551642
	10	3	72	5	1203	1955	364707
	11	1	52	10			224213
	12	3	57	19	1640	1989	355762
	13	3	59	5	1091	1100	613264

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
15	1	3	71	9	1379	1464	914736
	2	2	93	14	1788		748233
	3	3	81	13	1494	1160	899829
	4	2	70	5	1467		83735
	5	2	54	7	1693		827342
	6	3	69	14	1095	1943	671512
	7	3	52	19	1680	1546	1107620
	8	1	61	5			1066207
	9	2	77	14	1240		303160

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
16	1	1	55	9			770
	2	1	94	12			336695
	3	1	84	9			34699
	4	2	88	8	1554		383347
	5	3	70	17	1480	1783	978685
	6	1	69	19			41124
	7	2	86	15	1496		1009992
	8	1	61	9			1051215
	9	2	57	10	1315		385778
	10	1	81	11			818309
	11	3	77	17	1883	1453	150778

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
17	1	3	70	20	1835	1088	239959
	2	3	79	8	1150	1869	729737
	3	2	78	13	1458		1086462
	4	1	81	19			440203
	5	1	85	17			517071
	6	1	65	13			633128
	7	1	67	10			270399
	8	2	95	20	1187		147032
	9	3	100	18	1964	1955	407411
	10	2	64	7	1590		676768

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
18	1	3	55	7	1915	1458	519895
	2	1	55	7			79341
	3	2	88	9	1805		619064
	4	3	68	8	1720	1518	105972
	5	3	91	13	1329	1914	203167
	6	2	91	10	1580		556436
	7	1	94	11			393740
	8	1	76	13			374370
	9	1	92	18			544606
	10	2	51	16	1392		593673
	11	3	68	18	1759	1629	99833
	12	2	72	5	1491		637629
	13	2	99	18	1581		357284
	14	2	82	10	1707		569186
	15	1	75	17			419520
	16	2	95	15	1542		658497
	17	1	91	20			128664

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
19	1	3	70	9	1573	1141	1329534
	2	3	65	14	1416	1080	241461
	3	3	74	16	1718	1558	112488
	4	2	52	17	1260		196242
	5	3	87	12	1702	1509	385107
	6	3	70	11	1045	1770	1112173
	7	2	95	8	1229		349214
	8	2	92	16	1749		1158753

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
20	1	1	59	5			688
	2	3	99	16	1364	1890	757323
	3	2	81	18	1996		702230
	4	1	99	8			659168
	5	3	100	8	1282	1673	364217
	6	1	73	14			575495
	7	1	64	16			15894
	8	1	60	13			717286
	9	1	78	11			201075
	10	3	76	9	1976	1514	93043
	11	2	62	20	1193		671794
	12	1	90	5			34761
	13	2	79	7	1951		441235
	14	2	91	19	1115		89116
	15	3	77	18	1181	1027	83502

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
21	1	1	88	8			545
	2	2	52	20	1369		191805
	3	2	95	11	1712		1160384
	4	3	97	12	1584	1086	23029
	5	2	81	13	1209		40399
	6	3	97	17	1198	1915	621949
	7	2	84	16	1898		1025386
	8	2	56	15	1770		908514
	9	3	60	17	1848	1174	459646
	10	2	94	20	1430		544543

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
22	1	1	67	7			275
	2	1	59	7			82121
	3	2	96	20	1446		353827
	4	3	76	11	1886	1580	275352
	5	2	54	10	1407		215070
	6	2	62	7	1268		611210
	7	1	71	13			295546
	8	1	96	6			494708
	9	2	81	10	1591		347538
	10	2	82	8	1317		781375
	11	1	99	11			548623
	12	2	92	7	1522		610203
	13	3	51	11	1281	1098	408264
	14	2	80	10	1234		657292
	15	1	76	12			232955

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
23	1	2	79	16	1000		677241
	2	3	82	18	1322	1228	808491
	3	2	73	13	1843		517936
	4	3	75	15	1426	1569	417552
	5	2	51	14	1968		794488
	6	2	92	8	1757		897482
	7	3	77	19	1787	1067	911075
	8	3	73	19	1755	1020	670347
	9	1	68	12			570303
	10	2	53	19	1126		745840
	11	1	82	18			33673
	12	2	97	16	1909		78275

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
24	1	3	66	10	1141	1512	693339
	2	2	98	10	1119		610269
	3	1	93	15			109963
	4	1	73	17			146631
	5	3	70	15	1098	1483	560959
	6	3	52	13	1477	1099	505530
	7	2	92	11	1326		216155
	8	2	86	13	1372		94036
	9	3	87	5	1005	1716	202155
	10	2	87	15	1754		243507
	11	2	54	6	1878		341229
	12	2	74	17	1515		689550
	13	1	82	13			490436
	14	3	95	20	1804	1402	581352
	15	2	86	5	1925		571533
	16	2	50	7	1556		199836

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
25	1	2	63	7	1000		18869
	2	1	82	12			62660
	3	2	90	11	1708		591238
	4	3	59	13	1708	1188	182670
	5	1	70	17			853532
	6	2	84	19	1373		66428
	7	2	77	10	1060		531356
	8	1	87	15			843546
	9	3	79	10	1827	1828	368435
	10	2	91	16	1794		36019
	11	2	77	18	1578		733491
	12	1	80	8			115974
	13	1	59	12			671118

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
26	1	1	50	9			687
	2	2	87	5	1681		14303
	3	2	54	11	1755		616871
	4	1	67	11			167552
	5	1	72	20			186541
	6	1	98	15			92578
	7	3	71	12	1642	1395	289634
	8	3	86	15	1418	1018	604802
	9	1	67	16			504803
	10	1	100	6			455374
	11	3	92	16	1275	1429	562843
	12	2	58	19	1070		276228
	13	3	56	8	1073	1784	174044
	14	2	60	6	1670		326708
	15	3	67	12	1852	1135	30379
	16	2	75	13	1982		65097

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
27	1	2	62	20	1000		817432
	2	2	78	11	1836		772815
	3	2	56	10	1937		347943
	4	2	94	13	1710		299444
	5	3	69	13	1326	1608	795423
	6	3	56	15	1845	1384	627936
	7	3	66	17	1583	1409	645556
	8	1	98	6			98407
	9	2	68	5	1015		640873
	10	2	73	5	1974		254747
	11	2	77	12	1673		768864
	12	2	92	8	1258		367698
	13	1	69	8			549957
	14	1	64	10			371883

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Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
28	1	3	92	12	1051	1048	200054
	2	3	98	5	1227	1204	541792
	3	1	94	18			1209006
	4	3	67	7	1500	1626	331751
	5	1	50	11			442524
	6	2	60	16	1399		481232
	7	1	64	19			721696
	8	3	80	5	1546	1288	116863

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
29	1	2	73	6	1000		839387
	2	3	94	17	1210	1800	1055855
	3	1	76	9			171819
	4	1	95	15			734161
	5	2	73	11	1571		403364
	6	1	73	10			703748
	7	2	82	18	1000		1175672
	8	1	50	13			177395
	9	3	97	20	1111	1585	625115

Trial #	Burst Number	Number of Pulses	Pulse Width [usec]	Chirp Width [MHz]	Pulse 1-to-2 Spacing [usec]	Pulse 2-to-3 Spacing [usec]	Starting Location Within Interval [usec]
30	1	3	54	8	1535	1632	341784
	2	2	86	20	1440		852391
	3	3	57	19	1904	1143	43990
	4	2	86	19	1360		355510
	5	1	95	20			456154
	6	3	55	8	1016	1405	513898
	7	3	68	13	1682	1301	411440
	8	2	97	14	1756		397531
	9	1	100	19			671316
	10	3	93	9	1693	1557	259357
	11	3	80	7	1600	1464	374539
	12	1	57	11			317530
	13	1	84	11			508107

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Parameter Data for Radar Type 6

5300MHz (20MHz Bandwidth)

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
1	18	51	5307
	45	132	5298
	70	207	5293
	84	249	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
2	31	90	5302
	44	129	5308
	80	237	5306

Trial #	Hopping Number	Start Time	Frequency [MHz]
3	8	21	5298
	13	36	5295
	89	264	5297
	93	276	5306
	100	297	5303

Trial #	Hopping Number	Start Time	Frequency [MHz]
4	8	21	5290
	14	39	5305
	28	81	5301
	73	216	5292

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
5	26	75	5310
	57	168	5306
	69	204	5301
	81	240	5307
	88	261	5298

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Trial #	Hopping Number	Start Time	Frequency [MHz]
6	36	105	5309
	45	132	5302
	72	213	5300
	76	225	5292
	77	228	5301
	80	237	5307

Trial #	Hopping Number	Start Time	Frequency [MHz]
7	11	30	5310
	16	45	5295
	19	54	5298
	33	96	5293
	45	132	5291
	74	219	5301

Trial #	Hopping Number	Start Time	Frequency [MHz]
8	13	36	5303
	34	99	5308
	52	153	5307
	64	189	5291

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
9	23	66	5308
	51	150	5291
	59	174	5310
	95	282	5304
	96	285	5298

Trial #	Hopping Number	Start Time	Frequency [MHz]
10	35	102	5297
	45	132	5310

Trial #	Hopping Number	Start Time	Frequency [MHz]
11	34	99	5306
	36	105	5309
	87	258	5293

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Trial #	Hopping Number	Start Time	Frequency [MHz]
12	26	75	5297
	28	81	5290
	40	117	5295
	47	138	5292
	62	183	5294
	82	243	5296
	97	288	5303

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
13	3	6	5301
	12	33	5297
	70	207	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
14	20	57	5296
	23	66	5301
	36	105	5302
	43	126	5293
	63	186	5295
	87	258	5306

Trial #	Hopping Number	Start Time	Frequency [MHz]
15	25	72	5296
	52	153	5293
	63	186	5305
	73	216	5290
	74	219	5300
	75	222	5301
	92	273	5303
	95	282	5298

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
16	43	126	5309
	64	189	5302
	84	249	5298

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Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
17	21	60	5298
	64	189	5296
	66	195	5303
	85	252	5306
	86	255	5300

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
18	9	24	5307
	16	45	5301
	76	225	5297

Trial #	Hopping Number	Start Time	Frequency [MHz]
19	38	111	5293
	49	144	5309
	51	150	5302
	68	201	5299
	76	225	5305
	94	279	5300
	100	297	5298

Trial #	Hopping Number	Start Time	Frequency [MHz]
20	9	24	5290
	15	42	5293
	20	57	5308

Trial #	Hopping Number	Start Time	Frequency [MHz]
21	38	111	5292
	49	144	5306

Trial #	Hopping Number	Start Time	Frequency [MHz]
22	6	15	5308
	38	111	5309
	46	135	5299
	76	225	5295

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Trial #	Hopping Number	Start Time	Frequency [MHz]
23	80	237	5296
	96	285	5297

Trial #	Hopping Number	Start Time	Frequency [MHz]
24	15	42	5295
	47	138	5300
	58	171	5303
	91	270	5298

Trial #	Hopping Number	Start Time	Frequency [MHz]
25	7	18	5301
	24	69	5294
	92	273	5298

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
26	3	6	5300
	61	180	5295
	68	201	5307
	69	204	5293
	81	240	5294
	82	243	5306

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
27	78	231	5309
	96	285	5301

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
28	2	3	5307
	14	39	5290
	17	48	5291
	76	225	5300
	87	258	5293
	91	270	5295
	96	285	5298

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Trial #	Hopping Number	Start Time	Frequency [MHz]
29	8	21	5302
	15	42	5301
	32	93	5304

Trial #	Hopping Number	Start Time	Frequency [MHz]
30	20	57	5308
	27	78	5298

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Parameter Data for Radar Type 6

5310MHz (40MHz Bandwidth)

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
1	8	21	5319
	10	27	5308
	11	30	5303
	23	66	5313
	40	117	5318
	41	120	5329
	59	174	5320
	73	216	5317
	82	243	5329
	91	270	5316
	95	282	5322
	97	288	5305
	98	291	5314

Trial #	Hopping Number	Start Time	Frequency [MHz]
2	12	33	5297
	18	51	5311
	57	168	5325
	60	177	5307
	72	213	5303
	76	225	5294
	86	255	5310
	95	282	5324
	100	297	5314

Trial #	Hopping Number	Start Time	Frequency [MHz]
3	8	21	5312
	42	123	5298
	56	165	5313
	60	177	5310
	68	201	5305
	84	249	5294
	87	258	5317

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Trial #	Hopping Number	Start Time	Frequency [MHz]
4	9	24	5295
	30	87	5301
	36	105	5311
	37	108	5307
	53	156	5309
	67	198	5328

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
5	2	3	5306
	3	6	5299
	12	33	5322
	23	66	5309
	55	162	5307
	57	168	5313
	63	186	5296
	94	279	5316
	96	285	5308

Trial #	Hopping Number	Start Time	Frequency [MHz]
6	5	12	5304
	7	18	5317
	27	78	5329
	32	93	5318
	43	126	5300
	51	150	5305
	58	171	5293
	71	210	5299
	76	225	5294
	99	294	5309

Trial #	Hopping Number	Start Time	Frequency [MHz]
7	18	51	5319
	24	69	5303
	36	105	5291
	56	165	5297
	78	231	5300
	99	294	5320

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Trial #	Hopping Number	Start Time	Frequency [MHz]
8	8	21	5329
	32	93	5313
	33	96	5311
	48	141	5294
	77	228	5315

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
9	25	72	5304
	47	138	5291
	74	219	5322
	81	240	5318
	85	252	5329
	95	282	5298
	96	285	5299

Trial #	Hopping Number	Start Time	Frequency [MHz]
10	8	21	5291
	31	90	5292
	48	141	5318
	85	252	5329
	89	264	5305

Trial #	Hopping Number	Start Time	Frequency [MHz]
11	14	39	5317
	20	57	5291
	36	105	5300
	41	120	5328
	46	135	5308
	51	150	5323
	52	153	5305
	59	174	5327
	61	180	5306
	66	195	5322
	74	219	5319
	84	249	5297
	97	288	5312

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Trial #	Hopping Number	Start Time	Frequency [MHz]
12	21	60	5316
	27	78	5326
	48	141	5318
	57	168	5308
	62	183	5319
	70	207	5329
	80	237	5305
	88	261	5324
	91	270	5325

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
13	5	12	5310
	6	15	5308
	11	30	5316
	14	39	5292
	43	126	5296
	80	237	5309
	83	246	5305
	99	294	5307

Trial #	Hopping Number	Start Time	Frequency [MHz]
14	8	21	5309
	11	30	5323
	18	51	5317
	43	126	5291
	46	135	5306
	74	219	5321
	85	252	5324

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Trial #	Hopping Number	Start Time	Frequency [MHz]
15	2	3	5299
	21	60	5292
	41	120	5314
	46	135	5313
	48	141	5325
	57	168	5306
	77	228	5329
	80	237	5296
	82	243	5303
	87	258	5319
	90	267	5291
	99	294	5300

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
16	3	6	5303
	10	27	5291
	27	78	5310
	40	117	5302
	72	213	5325
	83	246	5312
	87	258	5298

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
17	2	3	5318
	6	15	5297
	9	24	5291
	28	81	5301
	37	108	5315
	57	168	5322
	65	192	5307
	85	252	5304

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Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
18	7	18	5297
	17	48	5309
	45	132	5319
	46	135	5318
	49	144	5306
	55	162	5291
	68	201	5296
	95	282	5317
	99	294	5326

Trial #	Hopping Number	Start Time	Frequency [MHz]
19	4	9	5311
	22	63	5294
	33	96	5291
	46	135	5307
	49	144	5324
	69	204	5329
	91	270	5300

Trial #	Hopping Number	Start Time	Frequency [MHz]
20	2	3	5296
	17	48	5317
	23	66	5310
	27	78	5329
	28	81	5312
	31	90	5321
	56	165	5308
	76	225	5295
	87	258	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
21	20	57	5321
	22	63	5323
	27	78	5328
	28	81	5314
	47	138	5299
	59	174	5313
	85	252	5295
	90	267	5320

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Trial #	Hopping Number	Start Time	Frequency [MHz]
22	31	90	5297
	36	105	5329
	41	120	5299
	69	204	5305
	81	240	5312
	100	297	5328

Trial #	Hopping Number	Start Time	Frequency [MHz]
23	6	15	5294
	9	24	5320
	18	51	5301
	34	99	5315
	46	135	5303
	72	213	5304
	76	225	5313
	88	261	5319

Trial #	Hopping Number	Start Time	Frequency [MHz]
24	5	12	5321
	10	27	5315
	16	45	5324
	25	72	5301
	27	78	5307
	28	81	5318
	78	231	5292
	84	249	5322
	89	264	5291

Trial #	Hopping Number	Start Time	Frequency [MHz]
25	11	30	5302
	36	105	5303
	37	108	5329
	46	135	5325
	55	162	5317
	59	174	5309
	77	228	5312
	84	249	5301

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Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
26	7	18	5324
	9	24	5316
	28	81	5308
	30	87	5320
	37	108	5304
	40	117	5327
	85	252	5293
	88	261	5297
	98	291	5295

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
27	15	42	5323
	20	57	5307
	22	63	5298
	24	69	5312
	32	93	5319
	55	162	5316
	99	294	5291

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
28	34	99	5308
	48	141	5322
	52	153	5302
	62	183	5311
	63	186	5312
	68	201	5313
	92	273	5297

Trial #	Hopping Number	Start Time	Frequency [MHz]
29	5	12	5329
	17	48	5304
	21	60	5322
	23	66	5328
	30	87	5318
	41	120	5325
	44	129	5323
	48	141	5309
	52	153	5307
	88	261	5327

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Trial #	Hopping Number	Start Time	Frequency [MHz]
30	10	27	5303
	21	60	5292
	23	66	5295
	41	120	5302
	44	129	5297
	56	165	5329
	59	174	5311
	61	180	5319
	66	195	5309
	69	204	5298
	88	261	5324

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APPENDIX 2: Test instruments

EMI Test Equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MRENT-112	Spectrum Analyzer	Agilent	E4440A	MY48250080	DFS	2013/10/04 * 12
EST-48 *1)	Signal Generator	Agilent	E4438C	MY45090353	DFS	2013/12/10 * 12
MCC-66	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	28636/2	DFS	2014/04/09 * 12
MCC-137	Microwave cable	HUBER+SUHNER	SUCOFLEX 102	37954/2	DFS	2013/10/18 * 12
MCC-92	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	30813/2	DFS	2013/05/31 * 12
MCC-93	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	30814/2	DFS	2013/05/31 * 12
MPD-01	Power Divider DC to 26.5GHz	Agilent	11636B	52258	DFS	2014/03/24 * 12
MPSC-01	Power splitters/Combiners	Mini-Circuit	ZFSC-2-2500	0124	DFS	2013/09/30 * 12
MPSC-02	Power Splitters/Combiners	Mini-Circuit	ZFSC-2-10G	0127	DFS	2013/09/30 * 12
MPSC-04	Power Splitters/Combiners	Mini-Circuit	ZFSC-2-10G	0326	DFS	2013/09/30 * 12
MAT-57	Attenuator(10dB)	Suhner	6810.19.A	-	DFS	2014/01/15 * 12
MAT-58	Attenuator(10dB)	Suhner	6810.19.A	-	DFS	2014/01/15 * 12
MAT-56	Attenuator(10dB)	Suhner	6810.19.A	-	DFS	2014/01/15 * 12
MAT-60	Attenuator(20dB)	Suhner	6820.19.A	-	DFS	Pre Check
MOS-14	Thermo-Hygrometer	Custom	CTH-201	1401	DFS	2014/02/20 * 12
MOS-19	Thermo-Hygrometer	Custom	CTH-201	0001	DFS	2013/12/17 * 12

***1) Signal generator is only used to generate radar test signal, and the wave form is confirmed with spectrum analyzer every time before the test.**

The expiration date of the calibration is the end of the expired month.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

DFS: Dynamic Frequency Selection

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