RADIO TEST REPORT

Test Report No. : 10607274H-D-R1

Applicant	:	**MITSUBISHI ELECTRIC CORPORATION SANDA WORKS**
Type of Equipment	:	**HEADUNIT A-HIGH**
Model No.	:	**NR-213**
FCC ID	:	**UJHNR213**
Test regulation	:	**FCC Part 15 Subpart E: 2015 (DFS test only)**
Test Result	:	**Complied**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
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 test report covers Radio technical requirements. It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
7. This report is a revised version of 10607274H-D. 10607274H-D is replaced with this report.

Date of test: April 13 to 17, 2015

Representative test engineer:
Tsubasa Takayama
Engineer
Consumer Technology Division

Approved by:
Takahiro Hatakeda
Leader
Consumer Technology Division

NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.
*As for the range of Accreditation in NVLAP, you may refer to the WEB address,
http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap

UL Japan, Inc.
Ise EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8999
Facsimile : +81 596 24 8124

REVISION HISTORY

Original Test Report No.: 10607274H-D

Revision	Test report No.	Date	Page revised	Contents
- (Original)	10607274H-D	June 26, 2015	-	-
1	10607274H-D-R1	July 7, 2015	P11	Correction of Power spectral density level (Conducted)
1	10607274H-D-R1	July 7, 2015	P11	Correction of test frequency range
1	10607274H-D-R1	July 7, 2015	P43-70	Addition of explanatory note for test data

CONTENTS PAGE

SECTION 1: Customer information 4
SECTION 2: Equipment under test (E.U.T.) 4
SECTION 3: Scope of Report 6
SECTION 4: Test specification, procedures & results 6
SECTION 5: Operation of E.U.T. during testing 11
SECTION 6: U-NII Detection Bandwidth 19
SECTION 7: Initial Channel Availability Check Time 21
SECTION 8: Radar Burst at the Beginning of the Channel Availability Check Time 22
SECTION 9: Radar Burst at the End of the Channel Availability Check Time 24
SECTION 10: Channel Move Time, Channel Closing Transmission Time 26
SECTION 11: Non-Occupancy Period 28
SECTION 12: In-Service Monitoring(Statistical Performance Check) 30
APPENDIX 1: Data of DFS test 32
APPENDIX 2: Test instruments 87
APPENDIX 3: Photographs of test setup 88

SECTION 1: Customer information

Company Name	:	MITSUBISHI ELECTRIC CORPORATION SANDA WORKS
Address	:	2-3-33, Miwa, Sanda-city, Hyogo, 669-1513, Japan
Telephone Number	:	+81-79-559-3607
Facsimile Number	:	+81-79-559-3875
Contact Person	:	Yuji Funaba

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

2.1 Identification of E.U.T.

Type of Equipment	:	HEADUNIT A-HIGH
Model No.	:	NR-213
Serial No.	:	Refer to Clause 4.2
Rating	:	DC 12 V
Receipt Date of Sample	:	February 26, 2015
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 : 1.4 GHz,
40 MHz (Radio part)

Radio Specification

	IEEE802.11b	IEEE802.11g/n (20 M band)	IEEE802.11a/n (20 M band)	IEEE802.11n (40 M band)	Bluetooth Ver.3.0 with EDR function
Frequency of operation	2412-2462MHz	2412-2462MHz	5180-5240MHz 5260-5320MHz *1) 5500-5700MHz *1) 5745-5825MHz	5190-5230MHz 5270-5310MHz *1) 5510-5670MHz *1) 5755-5795MHz	2402-2480MHz
Type of modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)		FHSS (GFSK, π/4-DQPSK, 8-DPSK)
Channel spacing	5MHz		20MHz		1MHz
Antenna type	Printed patch Antenna				Dipole Pattern Antenna
Antenna Gain	3.3dBi		6.5dBi		2.32dBi
Antenna Connector type	FAKRA				PSE-LP2

*1) This test report applies for WLAN (IEEE802.11a/n-20/n-40 [5260-5320MHz, 5270-5310MHz, 5500-5700MHz, and 5510-5670MHz]).

	GPS/GLONASS
Frequency of operation	GPS: 1575.42MHz GLONASS: 1597.55-1605.89MHz
Type of modulation	GPS: BPSK GLONASS: BPSK
Channel spacing	GLONASS: 0.5625MHz
Antenna type	Active antenna
Antenna Connector type	FAKRA
Antenna Gain	25dBi

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: 2015, final revised on January 21, 2015
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices Section 15.407 General technical requirements
Test Specification	:	KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02
Title	:	COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350MHz AND 5470-5725MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION
Test Specification	:	KDB905462 D04 Operational Modes for DFS Testing New Rules v01
Title	:	OPERATIONAL MODES SUGGESTED FOR DFS TESTING

FCC 15.31 (e)
The EUT provides stable voltage (DC 3.3 V) constantly to the wireless transmitter regardless of input voltage.
Instead of a new battery, DC power supply was used for the test.
That does not affect the test result, therefore the EUT complies with the requirement.

FCC Part 15.203 Antenna requirement
It is impossible for end users to replace the antenna, because the antenna is mounted inside of the vehicle. Therefore, the equipment complies with the antenna requirement of Section 15.203.

4.2 Procedures and results

Table 1: Applicability of DFS Requirements

<Master mode>

Requirement	Operating Mode Master Device	Test Procedures & Limits	Deviation	Results
U-NII Detection Bandwidth	Yes	KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02	N/A	Complied
Initial Channel Availability Check Time	Yes	FCC15.407 (h) KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02 RSS-247 6.3	N/A	Complied
Radar Burst at the Beginning of the Channel Availability Check Time	Yes	FCC15.407 (h) KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02 RSS-247 6.3	N/A	Complied
Radar Burst at the End of the Channel Availability Check Time	Yes	FCC15.407 (h) KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02 RSS-247 6.3	N/A	Complied
In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time	Yes	FCC15.407 (h) KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02 RSS-247 6.3	N/A	Complied
In-Service Monitoring for Non-Occupancy period	Yes	FCC15.407 (h) KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02 RSS-247 6.3	N/A	Complied
Statistical Performance Check	Yes	FCC15.407 (h) KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02	N/A	Complied
Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0422.				

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

Maximum Transmit Power	Value (See Notes 1,2, and 3)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt and power spectral density < 10dBm/MHz	-62 dBm
< 200 milliwatt that do not meet the power spectral density requirement	-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. Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

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 100% of the U-NII 99% transmission power bandwidth See Note 3
Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. **Note 2:** The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signal will not count quiet periods in between transmissions. **Note 3:** During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

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 Traials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup{(1/360)*(19*10^6/PRI $_{usec}$)}	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Rader Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

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

4.3 Test Location

UL Japan, Inc. Ise EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8999 Facsimile : +81 596 24 8124

	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	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	2973C-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	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	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	4.0 x 4.5 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	-	8.0 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: (±) 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

For FCC the EUT operates over the 5250-5350MHz and 5470-5725MHz ranges.
For IC the EUT operates over the 5250-5350MHz and 5470-5725MHz ranges, excluding the 5600-5650MHz range.

The EUT has the Master mode.

The highest power level is 7.94dBm EIRP in the 5250-5350MHz and 5470-5725MHz ranges.

Power level (EIRP) of the EUT[dBm]

Output Power (Max)	
20Mband	40Mband
7.94	4.39

Power spectral density level (Conducted) of the EUT[dBm/MHz]

Output Power (Max)	
20Mband	40Mband
-7.94	-13.59

*Refer to 10607274H-C-R1, FCC Part 15E (FCC 15.407) report for other parts than DFS.

The channel-loading of approximately 17% or greater was used for testing, and its test data was transferred from the Master Device to the Client Device for all test configurations.

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

WLAN traffic is generated by using internal software that simulated streaming from the Master to the Client device.

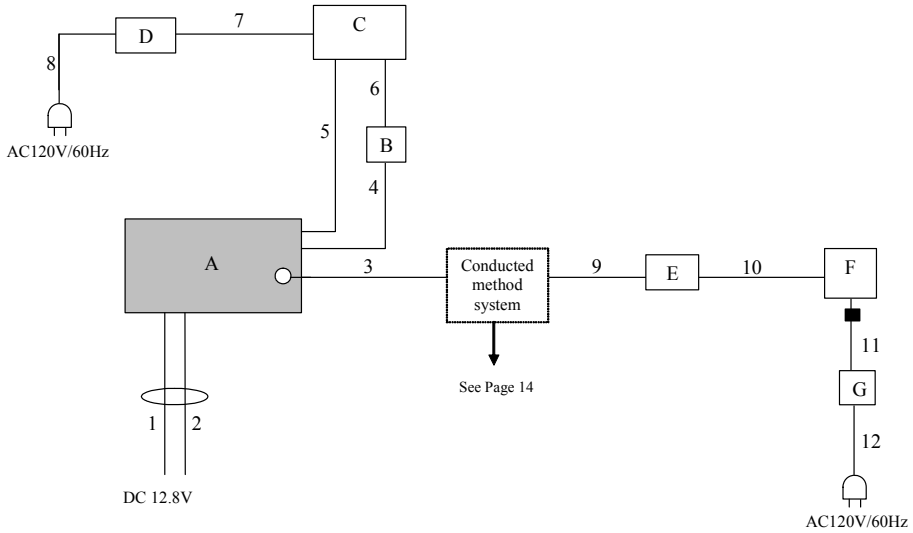
1. In case of Master mode

The rated output power of the Master Device is <200mW(23dBm) and power spectral density of the Master Device is <10dBm/MHz. However, worst condition was selected for interference threshold level and Antenna gain according to the customer's request. 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 = -61 dBm (threshold level + additional 1dB + antenna gain).

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:
-Chovolu Ver 03.14_00
-Telnet.exe
-iPerf.exe

5.2 Configuration and peripherals



* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.
* The testing was performed with DC 12.8 V only.
The voltage which the car battery mounted in the car outputs was selected as a test voltage according to the customer's request.
As the stable voltage (DC 3.3 V) is provided to RF module via the internal regulator, it does not influence on the test result.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	HEADUNIT A-HIGH	NR-213	No 3-1	MITSUBISHI ELECTRIC CORPORATION SANDA WORKS	EUT
B	USB Debag board	K-22	No 31	MITSUBISHI ELECTRIC CORPORATION SANDA WORKS	-
C	Laptop PC	T410	2522C49	lenovo	-
D	AC Adapter	92P1160	11S92P1160Z1ZBGH86PEAN	lenovo	-
E	USB dongle	WI-U3-866D	A40707	BUFFALO	-
F	Laptop PC	CF-W5	7HKSA 86870	Panasonic	-
G	AC Adapter	PEW1628N	6282AM107619146A	Panasonic	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC Cable (+)	1.0	Unshielded	Unshielded	-
2	DC Cable (-)	1.0	Unshielded	Unshielded	-
3	RF Cable	0.15	Shielded	Shielded	-
4	Flat Cable	0.1	Unshielded	Unshielded	-
5	LAN Cable	1.5	Unshielded	Unshielded	-
6	USB Cable	1.0	Shielded	Shielded	-
7	DC Cable	1.8	Shielded	Shielded	-
8	AC Cable	0.8	Unshielded	Unshielded	-
9	RF Cable	0.25	Shielded	Shielded	-
10	USB Cable	0.6	Shielded	Shielded	-
11	DC Cable	1.8	Shielded	Shielded	-
12	AC Cable	0.8	Unshielded	Unshielded	-

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 1, 2, 3, and 4, the long pulse type 5, and the frequency hopping type 6 parameters are randomized at run-time.

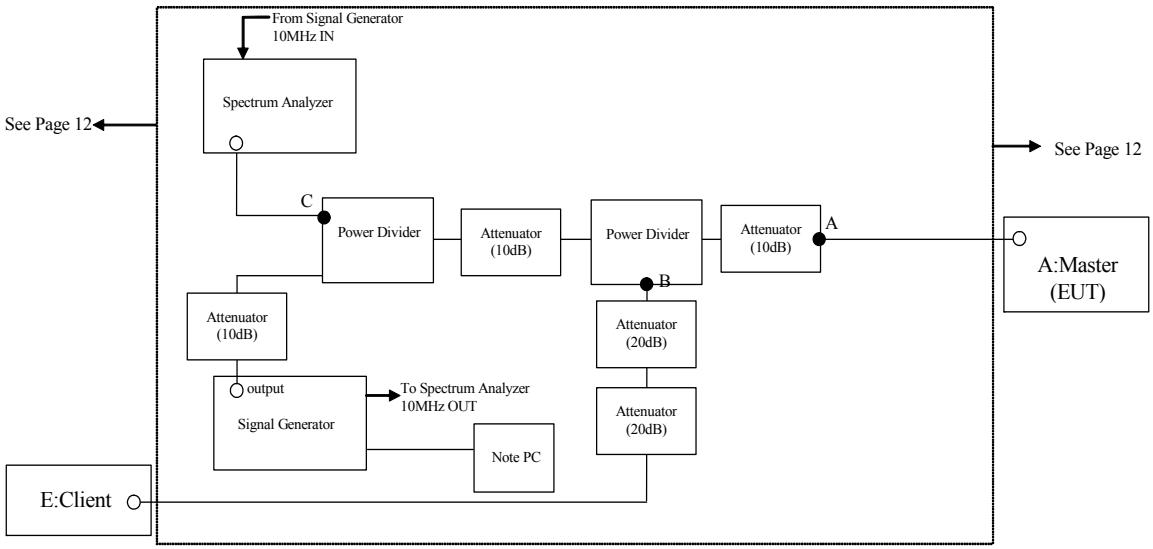
The signal monitoring equipment consists of a spectrum analyzer with the capacity to display 8001 bins on the horizontal axis. A time-domain resolution of 2 msec/bin is achievable with a 16 second sweep time, meeting the 10 seconds short pulse reporting criteria. The aggregate ON time is calculated by 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.

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

<Master mode>



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.

SYSTEM CALIBRATION

<Master mode>
Step 1:Set the system as shown in Figure 2 of KDB905462 D02 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
- Client Device traffic level is not displayed on the spectrum analyzer.

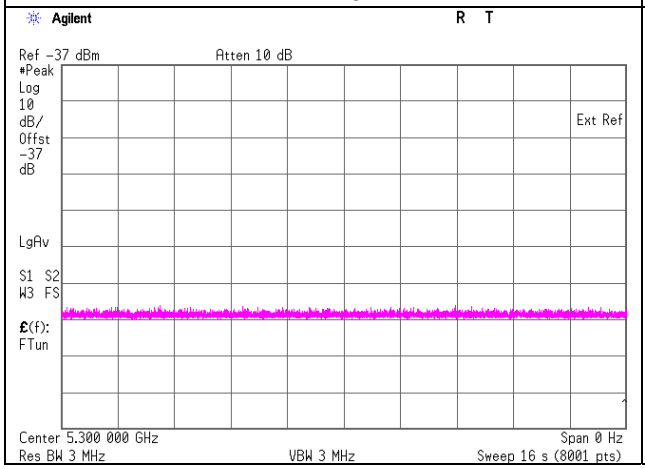
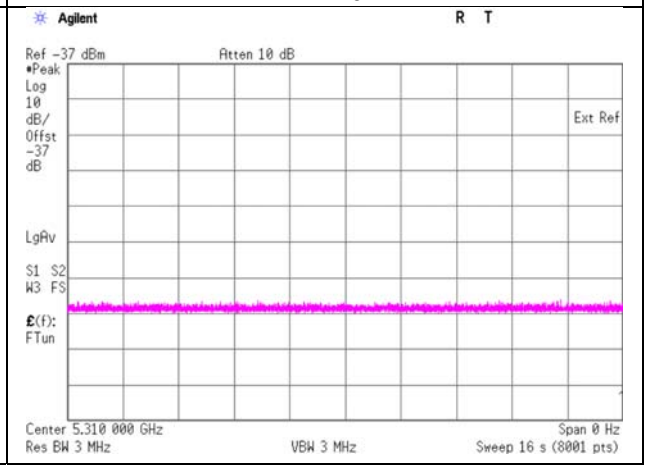
Step 3: Terminate 50 ohm at B and C points, and connect the spectrum analyzer to the point A. (See the figure on page 14)
At the point A, adjust the signal generator and spectrum analyzer to the center frequency of the channel to be measured.
Download the applicable radar waveforms to the signal generator. 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.

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.

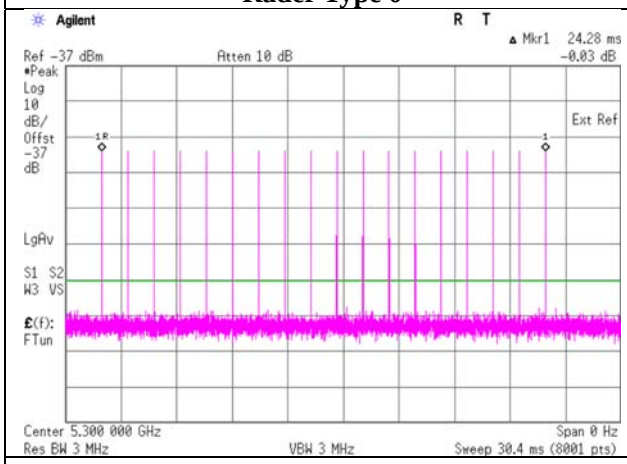
5.4 Plots of Noise, Rader Waveforms, and WLAN signals

<Master mode>

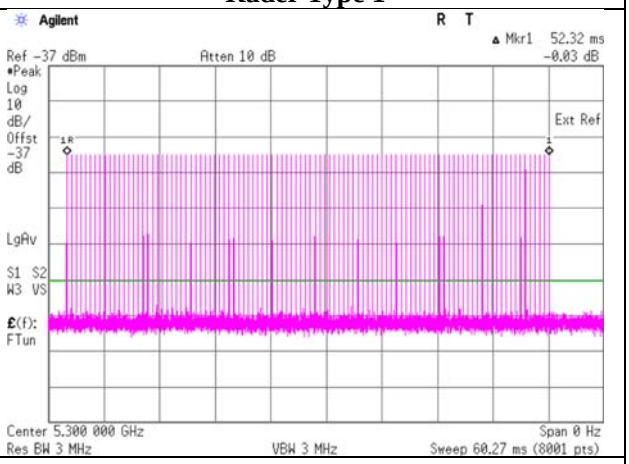
Plots of System Noise Floor	
11n-20	**11n-40**
	

Plots of Radar Waveforms

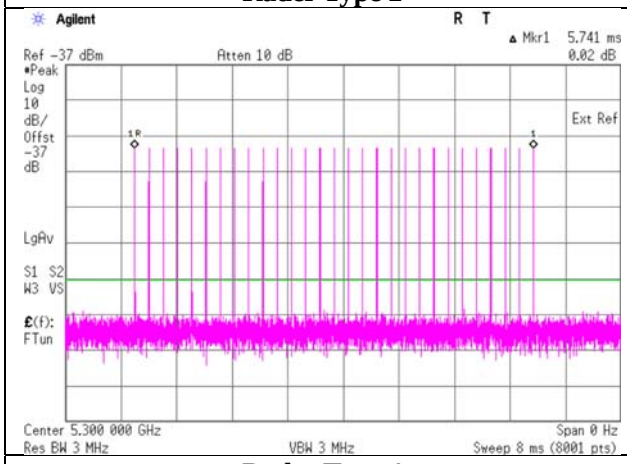
Rader Type 0



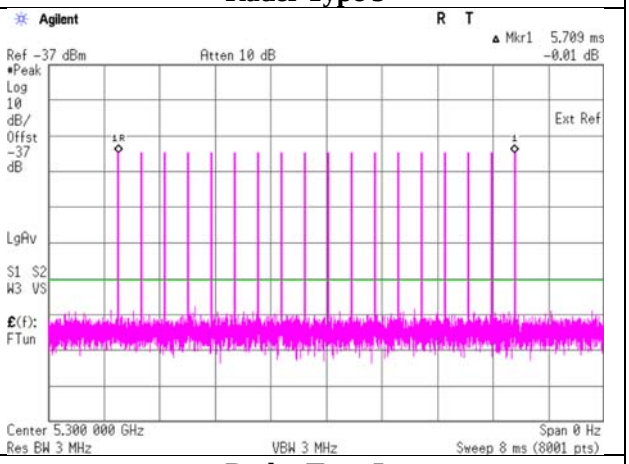
Rader Type 1



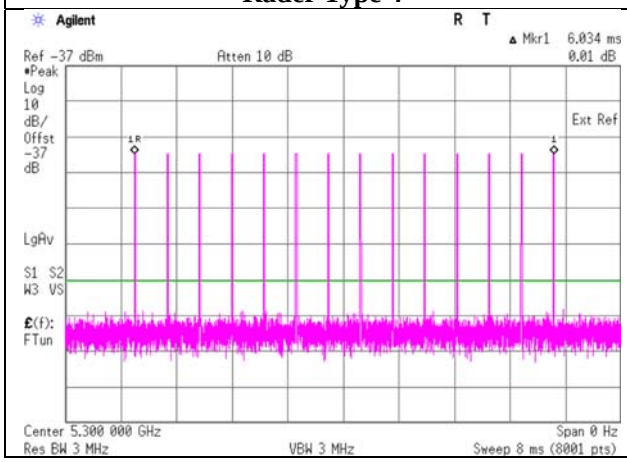
Rader Type 2



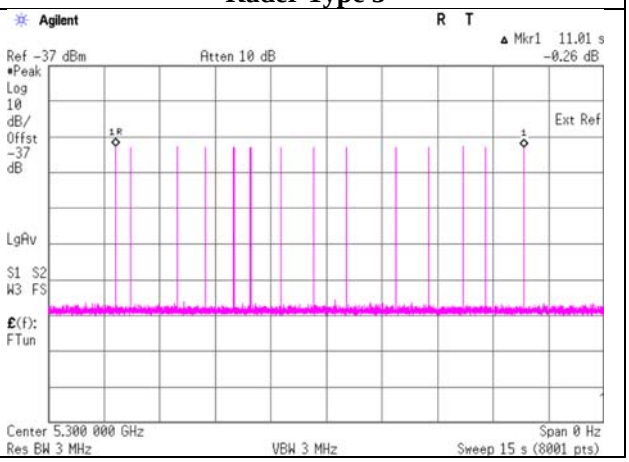
Rader Type 3



Rader Type 4

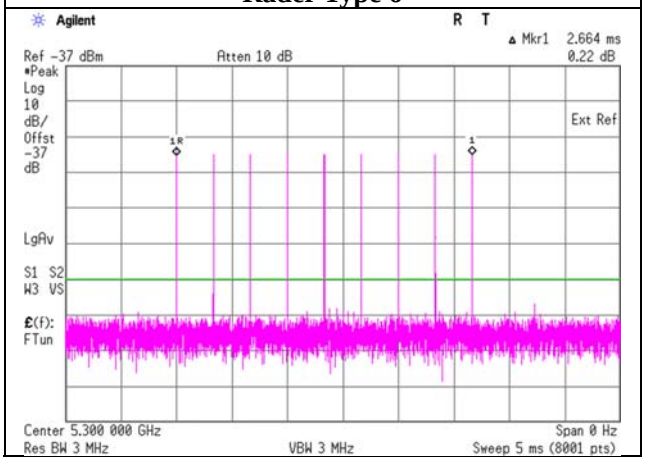


Rader Type 5



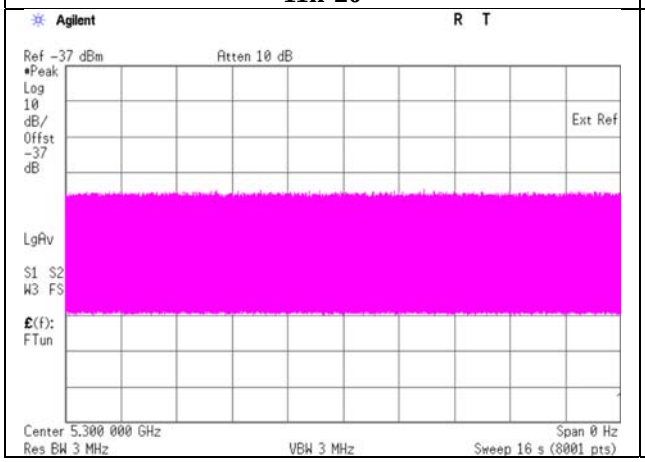
Plots of Radar Waveforms

Rader Type 6

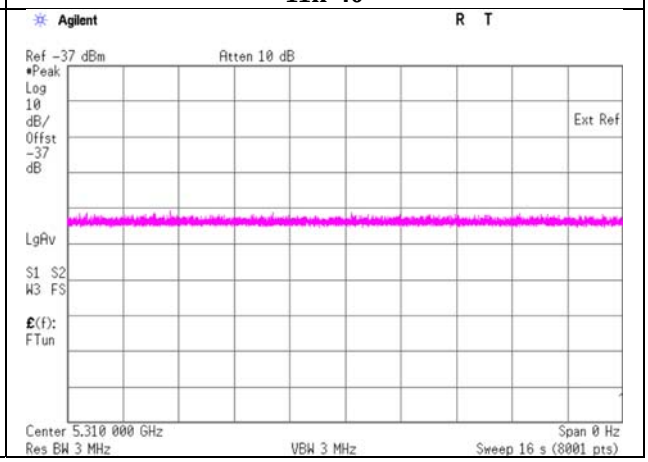


Plots of WLAN Traffic

11n-20



11n-40



SECTION 6: U-NII Detection Bandwidth

6.1 Operating environment

Test place	Ise EMC Lab. No.7 Shield room
Date	04/16/2015
Temperature/ Humidity	23deg. C / 41% RH
Engineer	Tsubasa Takayama
Mode	11n-20

6.2 Test Procedure

Adjust the equipment to produce a single Burst of the Short Pulse Radar Type 0 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 reflecting the worst case (maximum) that is user configurable 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 within the DFS band using the specified U-NII Detection Bandwidth criterion.
In cases where the channel bandwidth may exceed past the DFS band edge on specific channels (i.e., 802.11ac or wideband frame based systems) select a channel that has the entire emission bandwidth within the DFS band. If this is not possible, test the detection BW to the DFS band edge.

Starting at the center frequency of the EUT operating Channel, increase the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion.
Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall.
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 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion.
Repeat this measurement in 1MHz steps at frequencies 5 MHz above where the detection rate begins to fall.
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 (11n-20)
Waveform : Radar Type 0

FL [MHz]	FH [MHz]	Detection Bandwidth [MHz]	99% Power Bandwidth	Ratio of Detection BW to 99% Power BW [%]	Limit [%]	Results
5291	5310	19	17.8380	106.5	100	Pass

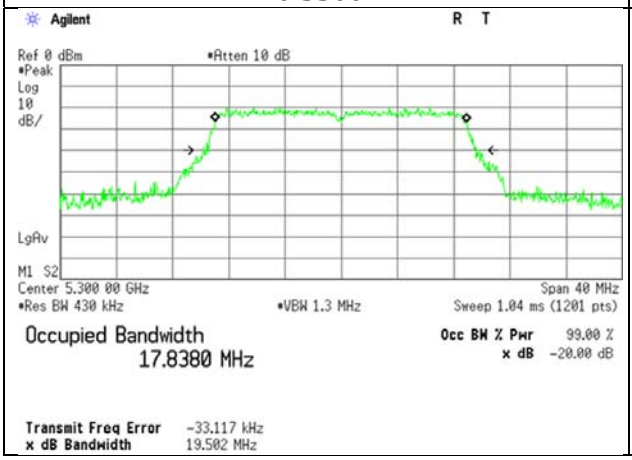
5310MHz (11n-40)
Waveform : Radar Type 0

FL [MHz]	FH [MHz]	Detection Bandwidth [MHz]	99% Power Bandwidth	Ratio of Detection BW to 99% Power BW [%]	Limit [%]	Results
5290	5330	40	36.3859	109.9	100	Pass

99% Occupied Bandwidth

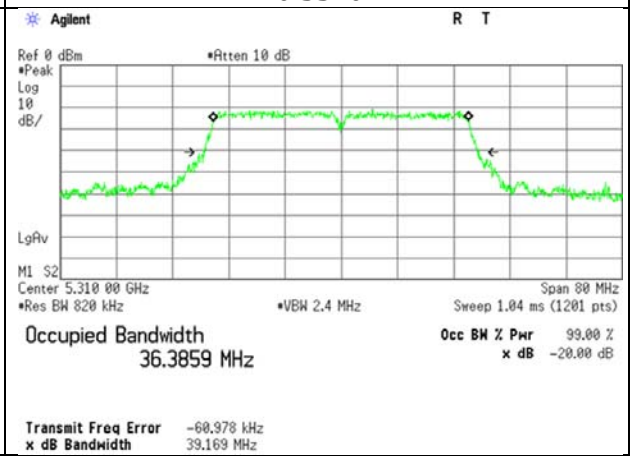
20MHz Bandwidth

11n-20 5300MHz



40MHz Bandwidth

11n-40 5310MHz



6.4 Test result

Test result: Pass

SECTION 7: Initial Channel Availability Check Time

7.1 Operating environment

Test place	Ise EMC Lab. No.7 Shield room
Date	04/16/2015
Temperature/ Humidity	23deg. C / 41% RH
Engineer	Tsubasa Takayama
Mode	11n-20

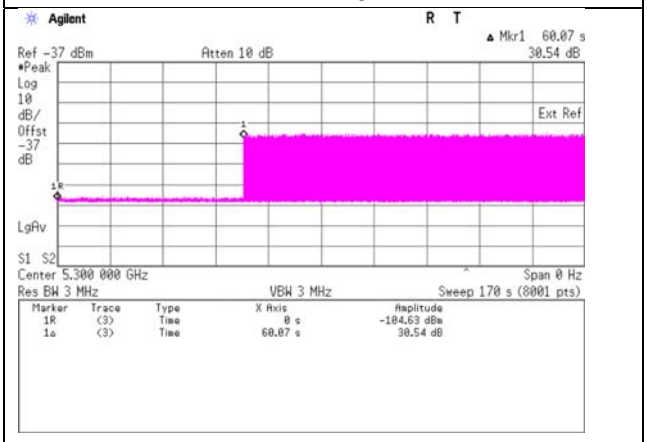
7.2 Test Procedure

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 170sec 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

Initial Channel Availability Check Time

11n-20



Marker 1R : Start of CAC	**: 0 sec**
Marker 1 : End of CAC	**: 60.07 sec**
Channel Availability Check Time	**: 60.07 sec**

7.4 Test result

Test result: Pass

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

8.1 Operating environment

Test place	Ise EMC Lab. No.7 Shield room
Date	04/17/2015
Temperature/ Humidity	23deg. C / 41% RH
Engineer	Tsubasa Takayama
Mode	11n-20

8.2 Test Procedure

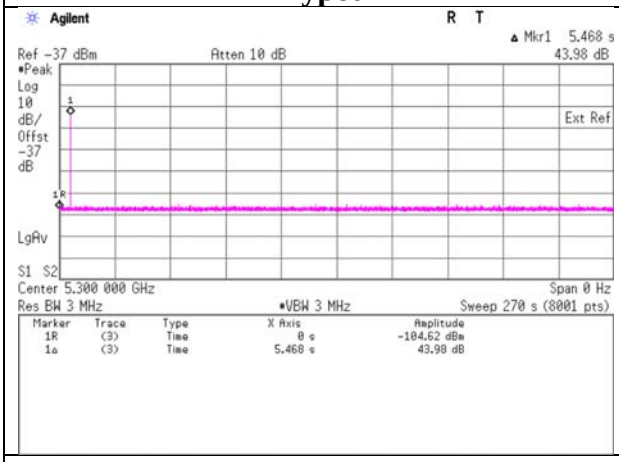
A single Burst of the Short Pulse Radar Types 0-4 will commence within a 6 second window starting at Start of CAC. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
Verify that during the 270 sec measurement window no EUT transmissions occurred on Chr.

8.3 Test data

Radar Burst at the Beginning of the Channel Availability Check Time

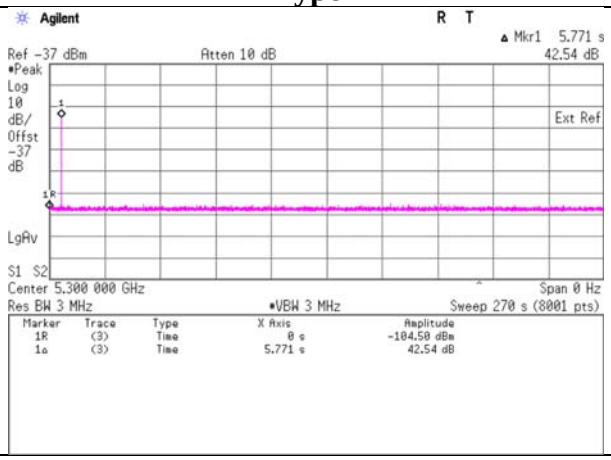
11n-20

Type0



Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 0) applied : 5.468 sec

Type1

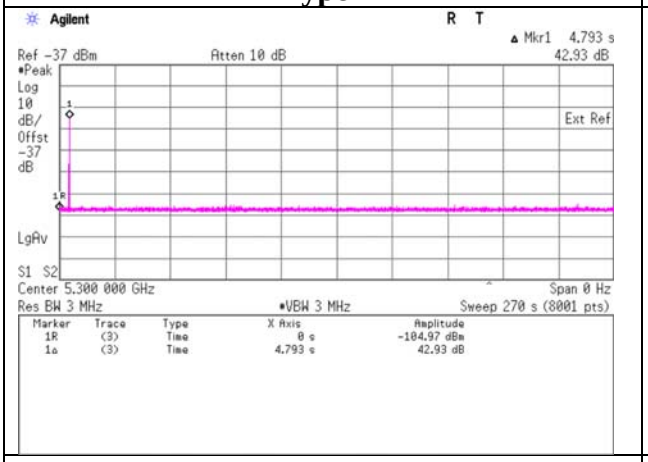


Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 1) applied : 5.771 sec

Radar Burst at the Beginning of the Channel Availability Check Time

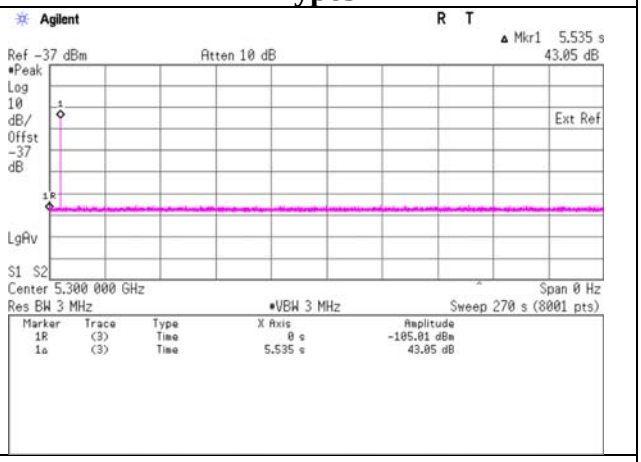
11n-20

Type2



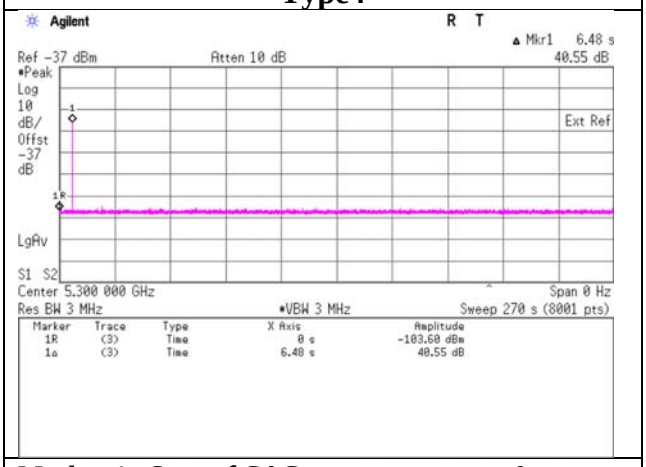
Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 2) applied : 4.793 sec

Type3



Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 3) applied : 5.535 sec

Type4



Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 4) applied : 6.48 sec

8.4 Test result

Test result: Pass

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

9.1 Operating environment

Test place	Ise EMC Lab. No.7 Shield room
Date	04/17/2015
Temperature/ Humidity	23deg. C / 41% RH
Engineer	Tsubasa Takayama
Mode	11n-20

9.2 Test Procedure

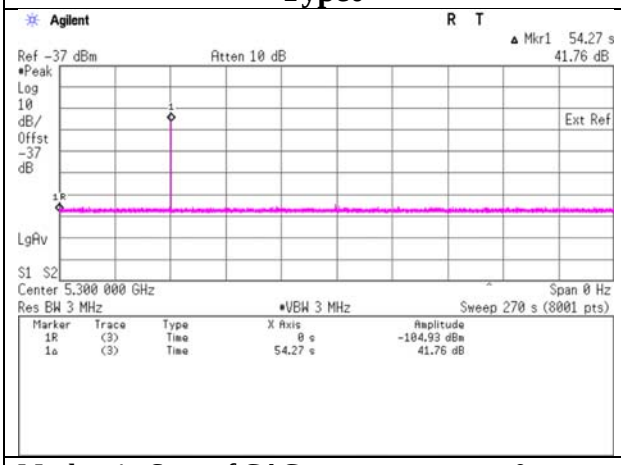
A single Burst of the Short Pulse Radar Types 0-4 will commence within a 6 second window starting at Start of CAC + 54 seconds. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
Verify that during the 270 sec measurement window no EUT transmissions occurred on Chr.

9.3 Test data

Radar Burst at the End of the Channel Availability Check Time

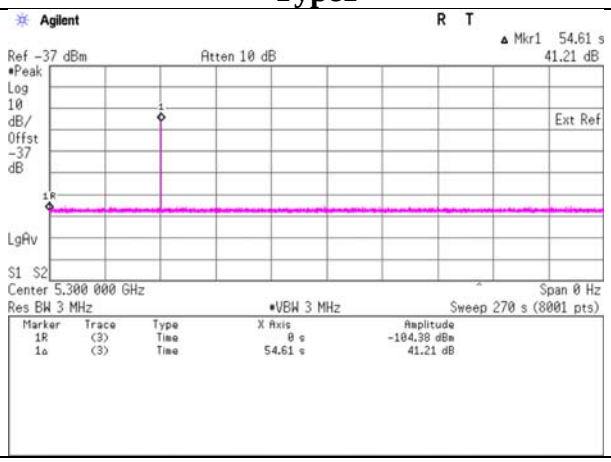
11n-20

Type0



Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 0) applied : 54.27 sec

Type1

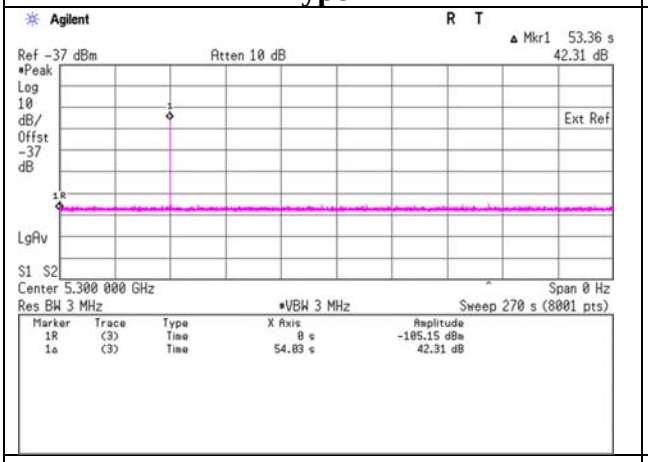


Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 1) applied : 54.61 sec

Radar Burst at the End of the Channel Availability Check Time

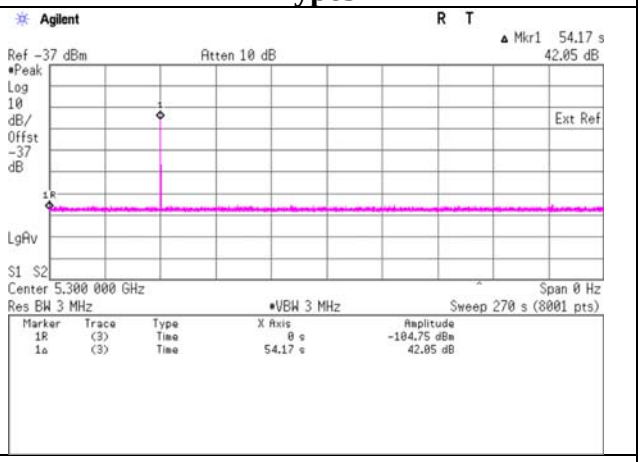
11n-20

Type2



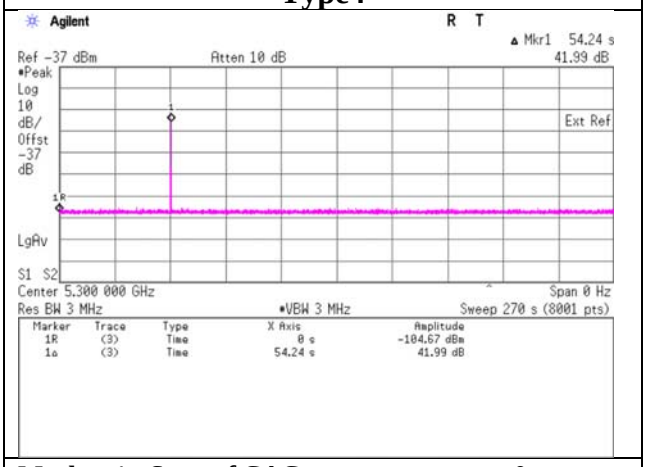
Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 2) applied : 54.03 sec

Type3



Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 3) applied : 54.17 sec

Type4



Marker 1 : Start of CAC : 0 sec
Marker 2 : Radar Signal(Type 4) applied : 54.24 sec

9.4 Test result

Test result: Pass

SECTION 10: Channel Move Time, Channel Closing Transmission Time

10.1 Operating environment

Test place	Ise EMC Lab. No.7 Shield room
Date	04/17/2015
Temperature/ Humidity	23deg. C / 41% RH
Engineer	Tsubasa Takayama
Mode	11n-40

10.2 Test Procedure

Internal software that simulated streaming 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 0 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

<Master Device>

11n-40

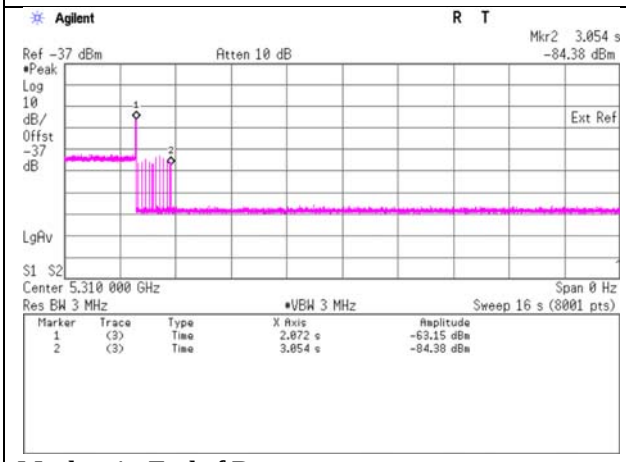
Test Item	Unit	Measurement Time	Limit	Results
Channel Move Time *1)	[sec]	0.982	10.000	Pass
Channel Closing Transmission Time *2)	[msec]	20	60	Pass

*1) Channel Move Time is calculated as follows:
(Channel Move Time) = (End of Transmission) - (End of Burst) = 3.054-2.072
*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)
= 10 × 2[msec]

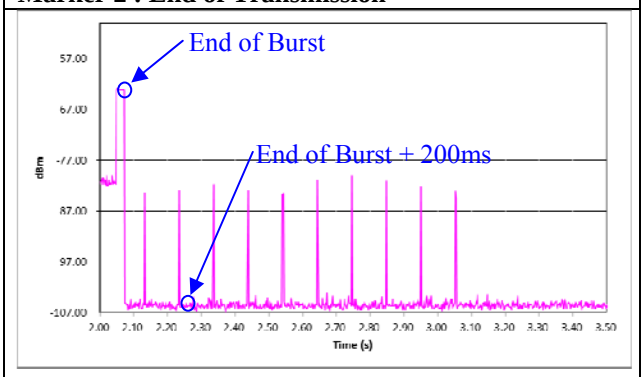
<Master mode>

Radar Type 0

11n-40



Marker 1 : End of Burst
Marker 2 : End of Transmission



SECTION 11: Non-Occupancy Period

11.1 Operating environment

Test place	Ise EMC Lab. No.7 Shield room
Date	04/17/2015
Temperature/ Humidity	23deg. C / 41% RH
Engineer	Tsubasa Takayama
Mode	11n-20

11.2 Test Procedure

The following two tests are performed:

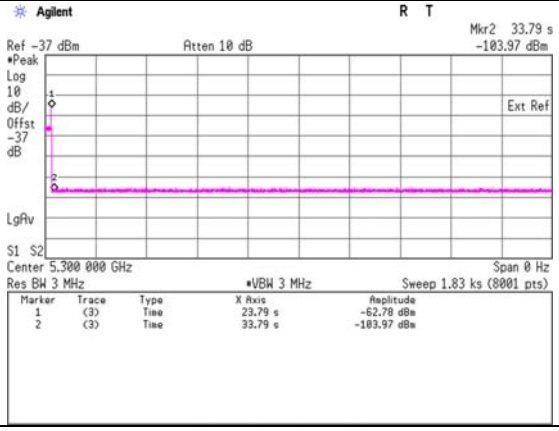
1). Internal software that simulated streaming from the Master Device to the Client Device on the test Channel for the entire period of the test.
The Radar Waveform generator sends a Burst of pulses for one of the Radar Types 0-4(Master Device) or the Radar Types 0(Client Device) at levels defined on 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 after the Channel Move Time on the Operating Channel for duration greater than 30 minutes.

11.3 Test data

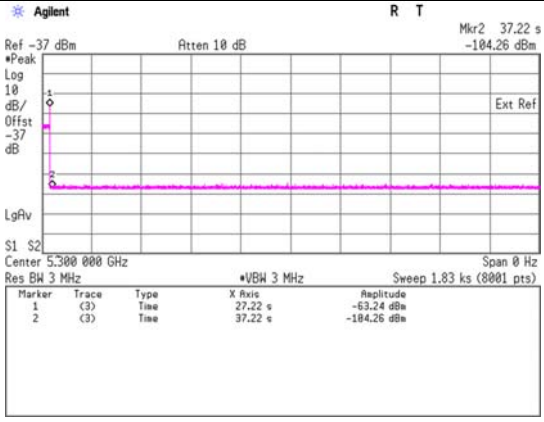
<Master mode>

Non-Occupancy Period

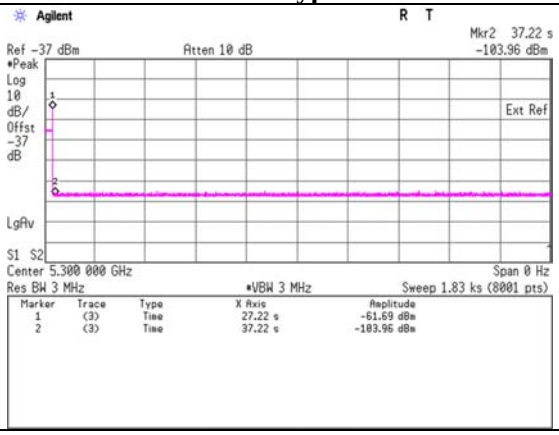
Rader Type 0



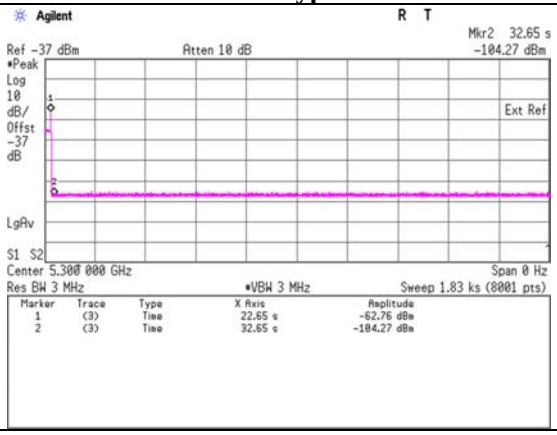
Rader Type 1



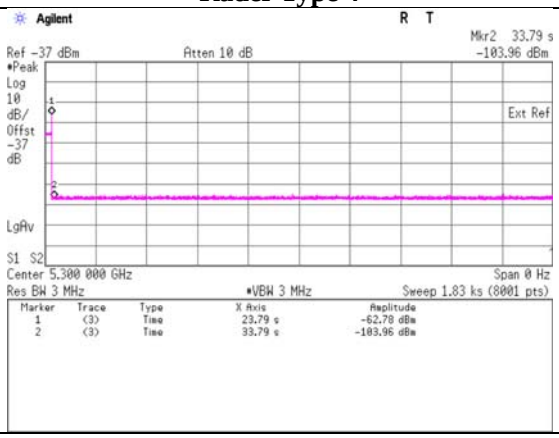
Rader Type 2



Rader Type 3



Rader Type 4



Marker 1 : End of Burst , Marker 2 : End of Burst + 10sec

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

12.1 Operating environment

Test place	Ise EMC Lab. No.7 shielded room and No.11 measurement room
Date	04/13/2015 to 04/16/2015
Temperature/ Humidity	22 to 23deg. C / 42 to 45% RH
Engineer	Tsubasa Takayama
Mode	11n-20 / 11n-40

12.2 Test Procedure

Internal software that simulated streaming 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

12.3 Test data

5300MHz (11n-20)

Radar Type	Number of Trials	Number of Successful Detections	Percentage of Successful Detections [%]	Limit [%]	Results
1	30	26	86.67	60	Pass
2	30	30	100.00	60	Pass
3	30	28	93.33	60	Pass
4	30	27	90.00	60	Pass
Aggregate of 1 to 4	-	-	92.50	80	Pass
5	30	30	100.00	80	Pass
6	30	26	86.67	70	Pass

5310MHz (11n-40)

Radar Type	Number of Trials	Number of Successful Detections	Percentage of Successful Detections [%]	Limit [%]	Results
1	30	26	86.67	60	Pass
2	30	27	90.00	60	Pass
3	30	26	86.67	60	Pass
4	30	26	86.67	60	Pass
Aggregate of 1 to 4	-	-	87.50	80	Pass
5	30	29	96.67	80	Pass
6	30	29	96.67	70	Pass

12.4 Test result

Test result: Pass

APPENDIX 1: Data of DFS test

U-NII Detection Bandwidth

5300MHz (11n-20)

Frequency [MHz]	Number of Trials [Times]	Number of Detected [Times]	Ratio of Detected [%]	Mark
5290	10	7	70	
5291	10	10	100	FL
5292	10	10	100	
5293	10	10	100	
5294	10	10	100	
5295	10	10	100	
5300	10	10	100	
5305	10	10	100	
5310	10	10	100	FH
5311	10	8	80	
5315	10	2	20	

5310MHz (11n-40)

Frequency [MHz]	Number of Trials [Times]	Number of Detected [Times]	Ratio of Detected [%]	Mark
5285	10	0	0	
5289	10	0	0	
5290	10	10	100	FL
5295	10	10	100	
5300	10	10	100	
5305	10	10	100	
5310	10	10	100	
5315	10	10	100	
5320	10	10	100	
5325	10	10	100	
5330	10	10	100	FH
5331	10	0	0	
5335	10	0	0	

Statistical Performance Check

5300MHz (11n-20)

Trial #	Radar Type1 Dectection Yes/No	Radar Type2 Dectection Yes/No	Radar Type3 Dectection Yes/No	Radar Type4 Dectection Yes/No	Radar Type5 Dectection Yes/No	Radar Type6 Dectection Yes/No
1	No	Yes	Yes	Yes	Yes	No
2	Yes	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes	Yes	Yes
4	No	Yes	Yes	Yes	Yes	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes
6	No	Yes	Yes	Yes	Yes	Yes
7	Yes	Yes	Yes	Yes	Yes	Yes
8	Yes	Yes	Yes	Yes	Yes	Yes
9	Yes	Yes	Yes	Yes	Yes	Yes
10	Yes	Yes	No	Yes	Yes	Yes
11	Yes	Yes	Yes	Yes	Yes	Yes
12	Yes	Yes	Yes	Yes	Yes	Yes
13	Yes	Yes	Yes	Yes	Yes	No
14	No	Yes	Yes	Yes	Yes	Yes
15	Yes	Yes	Yes	Yes	Yes	Yes
16	Yes	Yes	Yes	Yes	Yes	Yes
17	Yes	Yes	Yes	No	Yes	Yes
18	Yes	Yes	Yes	Yes	Yes	Yes
19	Yes	Yes	Yes	Yes	Yes	Yes
20	Yes	Yes	Yes	Yes	Yes	Yes
21	Yes	Yes	Yes	No	Yes	Yes
22	Yes	Yes	Yes	Yes	Yes	Yes
23	Yes	Yes	No	Yes	Yes	Yes
24	Yes	Yes	Yes	No	Yes	No
25	Yes	Yes	Yes	Yes	Yes	No
26	Yes	Yes	Yes	Yes	Yes	Yes
27	Yes	Yes	Yes	Yes	Yes	Yes
28	Yes	Yes	Yes	Yes	Yes	Yes
29	Yes	Yes	Yes	Yes	Yes	Yes
30	Yes	Yes	Yes	Yes	Yes	Yes

EUT Test Frequency:5300MHz
Radar Frequency:5300MHz

Statistical Performance Check

5310MHz (11n-40)

Trial #	Radar Type1 Dectection Yes/No	Radar Type2 Dectection Yes/No	Radar Type3 Dectection Yes/No	Radar Type4 Dectection Yes/No	Radar Type5 Dectection Yes/No	Radar Type6 Dectection Yes/No
1	Yes	Yes	Yes	Yes	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	No	Yes	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes
6	Yes	No	Yes	Yes	Yes	Yes
7	Yes	Yes	No	Yes	Yes	No
8	Yes	Yes	Yes	No	Yes	Yes
9	Yes	No	Yes	Yes	Yes	Yes
10	Yes	Yes	Yes	Yes	Yes	Yes
11	Yes	Yes	Yes	Yes	Yes	Yes
12	No	Yes	No	Yes	Yes	Yes
13	Yes	Yes	Yes	Yes	Yes	Yes
14	Yes	Yes	Yes	Yes	Yes	Yes
15	No	Yes	Yes	Yes	No	Yes
16	Yes	Yes	Yes	No	Yes	Yes
17	Yes	Yes	Yes	Yes	Yes	Yes
18	Yes	Yes	No	Yes	Yes	Yes
19	No	Yes	Yes	Yes	Yes	Yes
20	Yes	Yes	Yes	Yes	Yes	Yes
21	Yes	Yes	No	Yes	Yes	Yes
22	Yes	Yes	Yes	Yes	Yes	Yes
23	Yes	Yes	Yes	Yes	Yes	Yes
24	Yes	Yes	Yes	Yes	Yes	Yes
25	Yes	Yes	Yes	Yes	Yes	Yes
26	Yes	No	Yes	Yes	Yes	Yes
27	Yes	Yes	Yes	Yes	Yes	Yes
28	Yes	Yes	Yes	Yes	Yes	Yes
29	Yes	Yes	Yes	Yes	Yes	Yes
30	No	Yes	Yes	No	Yes	Yes
EUT Test Frequency:5310MHz Radar Frequency:5310MHz						

Parameter Data sheet for Radar Type 1

5300MHz (11n-20)

Radar Type1				
Trial #	Pulse Repetition Frequency Number(1 to 23)	Pulse Repetition Frequency (Pulses Per Second)	Number of Pulses	Pulse Repetition Interval (Microseconds)
1	8	1519.8	81	658
2	13	1319.3	70	758
3	19	1139.0	61	878
4	6	1618.1	86	618
5	3	1672.2	95	558
6	8	1519.8	81	658
7	10	1432.7	76	698
8	21	1089.3	58	918
9	4	1474.9	92	578
10	21	1089.3	58	918
11	4	1730.1	92	578
12	12	1355.0	72	738
13	2	1858.7	99	538
14	6	1618.1	86	618
15	22	1066.1	57	938
16	-	393.1	21	2544
17	-	887.3	47	1127
18	-	347.0	19	2882
19	-	914.9	49	1093
20	-	1059.3	56	944
21	-	491.2	26	2036
22	-	415.1	22	2409
23	-	436.3	24	2292
24	-	525.2	28	1904
25	-	405.0	22	2469
26	-	499.5	27	2002
27	-	385.2	21	2596
28	-	388.0	21	2577
29	-	671.1	36	1490
30	-	338.2	18	2957

Parameter Data sheet for Radar Type 1

5310MHz (11n-40)

Radar Type1				
Trial #	Pulse Repetition Frequency Number(1 to 23)	Pulse Repetition Frequency (Pulses Per Second)	Number of Pulses	Pulse Repetition Interval (Microseconds)
1	18	1165.6	62	858
2	12	1355.0	72	738
3	9	1474.9	78	678
4	18	1165.6	62	858
5	4	1730.1	92	578
6	15	1253.1	67	798
7	23	326.2	18	3066
8	5	1672.2	89	598
9	17	1193.3	63	838
10	4	1730.1	92	578
11	10	1432.7	76	698
12	9	1474.9	78	678
13	18	1165.6	62	858
14	11	1392.8	74	718
15	13	1319.3	70	758
16	-	1237.6	66	808
17	-	421.2	23	2374
18	-	450.5	24	2220
19	-	365.1	20	2739
20	-	612.7	33	1632
21	-	354.2	19	2823
22	-	367.6	20	2720
23	-	380.7	21	2627
24	-	408.3	22	2449
25	-	900.1	48	1111
26	-	422.7	23	2366
27	-	342.0	19	2924
28	-	488.3	26	2048
29	-	374.0	20	2674
30	-	396.8	21	2520

Parameter Data sheet for Radar Type 2

5300MHz (11n-20)

Radar Type2			
Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]
1	29	1.8	205
2	25	2.2	195
3	28	2.0	183
4	24	1.4	166
5	24	1.7	190
6	25	1.4	165
7	25	3.9	206
8	25	1.6	207
9	26	4.8	163
10	23	4.6	181
11	24	1.1	195
12	23	2.6	198
13	29	2.2	184
14	27	3.1	178
15	23	3.9	200
16	25	3.4	158
17	27	2.7	177
18	29	4.6	198
19	24	1.4	151
20	26	1.2	156
21	29	4.0	220
22	23	1.4	176
23	29	3.2	165
24	27	4.8	200
25	23	1.8	163
26	29	1.0	215
27	26	1.4	209
28	24	3.6	219
29	25	5.0	219
30	25	2.8	178

Parameter Data sheet for Radar Type 2

5310MHz (11n-40)

Radar Type2			
Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]
1	26	1.0	168
2	25	1.6	189
3	28	4.8	204
4	26	3.6	217
5	27	2.5	180
6	24	4.9	158
7	27	2.3	154
8	26	2.1	165
9	29	2.5	209
10	26	2.4	205
11	24	3.8	215
12	28	1.1	213
13	23	3.2	203
14	27	2.1	199
15	29	4.1	197
16	27	1.6	186
17	23	3.6	156
18	29	4.5	217
19	24	2.6	157
20	27	1.7	178
21	24	5.0	198
22	28	3.5	218
23	27	3.7	198
24	25	2.7	183
25	25	5.0	203
26	29	1.4	179
27	25	4.1	179
28	24	2.2	214
29	24	4.7	153
30	25	1.6	205

Parameter Data sheet for Radar Type 3

5300MHz (11n-20)

Radar Type3			
Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]
1	18	10.0	336
2	16	6.2	453
3	18	6.6	456
4	18	7.9	445
5	17	9.6	246
6	18	9.6	221
7	16	7.8	476
8	18	8.6	379
9	17	6.5	493
10	17	9.1	355
11	18	7.1	213
12	17	6.6	245
13	16	8.0	460
14	17	9.0	299
15	18	7.4	282
16	18	8.9	226
17	17	8.2	400
18	18	7.0	375
19	18	6.7	209
20	17	6.1	413
21	16	7.5	422
22	16	6.9	470
23	17	7.0	430
24	18	9.3	350
25	17	7.8	427
26	16	7.5	314
27	17	7.9	466
28	17	8.1	279
29	17	8.7	252
30	18	7.1	202

Parameter Data sheet for Radar Type 3

5310MHz (11n-40)

Radar Type3			
Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]
1	16	6.7	422
2	17	6.0	279
3	18	7.5	245
4	18	6.9	216
5	17	7.5	269
6	17	8.5	490
7	16	9.5	481
8	16	6.2	452
9	18	7.6	337
10	17	9.6	356
11	16	8.8	361
12	18	10.0	343
13	18	8.9	459
14	16	8.5	372
15	17	9.7	292
16	17	9.4	333
17	17	6.4	496
18	18	9.8	280
19	17	6.3	241
20	17	7.1	371
21	17	8.2	411
22	17	8.0	434
23	18	6.5	428
24	16	9.5	299
25	17	9.1	484
26	17	9.0	367
27	17	9.3	222
28	16	7.4	306
29	17	6.1	218
30	17	8.0	433

Parameter Data sheet for Radar Type 4

5300MHz (11n-20)

Radar Type4			
Trial #	Number Pulses per	Pulse Width [us]	PRI [us]
1	14	14.9	463
2	12	19.2	266
3	15	19.6	373
4	13	19.8	380
5	16	16.8	373
6	12	13.6	369
7	12	18.8	449
8	12	13.9	227
9	14	14.7	259
10	16	18.2	260
11	16	19.4	241
12	12	15.8	455
13	15	19.6	359
14	14	13.8	308
15	15	14.4	475
16	14	15.0	216
17	16	16.1	445
18	15	17.4	358
19	14	18.9	387
20	12	17.2	307
21	14	13.5	382
22	16	16.5	414
23	13	15.4	396
24	12	14.8	333
25	15	18.2	258
26	12	17.8	463
27	12	19.7	338
28	13	16.1	288
29	16	15.4	384
30	15	17.3	273

Parameter Data sheet for Radar Type 4

5310MHz (11n-40)

Radar Type4			
Trial #	Number Pulses per Burst	Pulse Width [us]	PRI [us]
1	12	19.3	346
2	13	16.3	249
3	13	11.4	313
4	13	20.0	309
5	13	16.0	226
6	14	18.6	222
7	13	11.0	241
8	15	19.5	490
9	14	11.4	325
10	12	17.5	303
11	13	11.6	206
12	12	19.4	257
13	14	16.7	222
14	14	14.6	358
15	16	15.5	308
16	14	11.7	223
17	15	17.5	397
18	12	19.6	450
19	12	16.2	235
20	14	14.8	392
21	15	13.3	337
22	15	12.6	485
23	14	15.4	420
24	15	15.1	277
25	14	13.5	372
26	14	19.5	248
27	15	16.0	370
28	15	17.1	240
29	14	12.6	321
30	15	20.0	411

Parameter Data sheet for Radar Type 5

5300MHz (11n-20)

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	70	19	1272	1887	714081
	2	3	87	17	1889	1180	258784
	3	2	72	14	1963		663251
	4	2	80	18	1395		559687
	5	3	80	7	1260	1463	470855
	6	2	71	11	1987		67980
	7	3	97	15	1645	1366	26883
	8	3	50	6	1992	1840	49878
	9	3	70	10	1659	1429	70445
	10	3	82	5	1642	1131	550987
	11	2	63	13	1396		582407
	12	3	57	20	1250	1143	664683
	13	3	99	14	1823	1809	399144
	14	3	57	10	1630	1403	580640

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	3	54	12	1924	1446	776515
	2	1	78	17			452355
	3	2	59	13	1851		656611
	4	3	93	7	1420	1635	530064
	5	3	76	10	1867	1059	307535
	6	2	64	15	1787		274393
	7	3	61	20	1223	1427	634042
	8	2	66	14	1132		268113
	9	1	100	14			768697
	10	1	72	8			8143
	11	2	89	7	1433		128937
	12	2	80	7	1789		11780
	13	1	67	9			735728
	14	3	53	8	1071	1884	648057
	15	1	54	7			711574

*All trial were performed at frequency of 5300MHz (11n-20).

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	2	89	18	1000		1052542
	2	1	92	5			955711
	3	1	58	16			369836
	4	1	93	11			669869
	5	1	60	9			628299
	6	2	62	7	1920		1089138
	7	2	68	6	1943		771076
	8	1	100	6			790237
	9	2	56	16	1172		105714

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	2	70	15	1000		478817
	2	1	94	9			296570
	3	1	76	16			271048
	4	3	61	11	1716	1041	307975
	5	2	57	18	1322		12577
	6	2	76	15	1336		298722
	7	3	64	16	1802	1919	99631
	8	2	58	17	1264		136896
	9	3	84	5	1363	1612	510376
	10	1	60	13			576016
	11	2	100	10	1485		49199
	12	2	61	11	1963		428240
	13	2	85	17	1408		60592
	14	1	51	15			494071
	15	1	83	18			446648
	16	1	70	8			173317
	17	1	74	19			560548
	18	1	55	10			352093
	19	1	90	9			504457
	20	3	80	19	1076	1081	417945

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	2	90	10	1000		22807
	2	2	91	13	1168		4716
	3	1	72	11			16176
	4	3	66	10	1546	1494	507335
	5	1	86	14			682754
	6	2	65	11	1180		641292
	7	3	66	19	1104	1679	251254
	8	3	74	15	1439	1870	144170
	9	2	71	18	1752		1047442
	10	1	87	15			798226
	11	3	63	15	1273	1250	418036

*All trial were performed at frequency of 5300MHz (11n-20).

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	3	56	16	1382	1453	239920
	2	3	69	13	1431	1715	5718
	3	2	85	10	1889		140972
	4	2	55	11	1569		483902
	5	2	68	12	1211		546749
	6	3	78	14	1853	1956	382023
	7	2	96	19	1002		285984
	8	2	88	5	1373		345790
	9	1	64	8			390106
	10	1	77	16			158953
	11	1	92	8			247870
	12	3	63	7	1187	1246	435828
	13	3	96	6	1425	1118	52081
	14	3	66	17	1259	1603	508849
	15	2	58	13	1887		251966
	16	1	93	9			79333
	17	1	96	12			363921
	18	1	89	14			118964
	19	1	91	9			238711
	20	2	95	8	1086		201852

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	64	10	1000		229992
	2	2	50	9	1821		62283
	3	2	88	17	1469		271427
	4	3	52	5	1820	1408	514817
	5	1	69	13			50047
	6	2	72	10	1787		520575
	7	3	62	17	1594	1353	485487
	8	3	88	10	1116	1203	35398
	9	1	94	17			148564
	10	2	83	20	1655		547654
	11	3	67	15	1447	1032	272335
	12	2	76	9	1179		523610
	13	1	74	11			13896
	14	3	53	5	1080	1239	308243
	15	1	58	14			60249
	16	3	85	10	1449	1344	237821
	17	2	52	15	1302		332887
	18	3	77	16	1346	1126	256937
	19	3	99	10	1157	1718	186084

*All trial were performed at frequency of 5300MHz (11n-20).

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	1	65	6			368
	2	1	58	8			525078
	3	1	74	20			478242
	4	2	58	11	1446		549554
	5	1	56	13			616082
	6	2	80	14	1294		405260
	7	1	77	14			378307
	8	1	70	7			455249
	9	3	88	16	1749	1959	268615
	10	2	84	16	1047		413901
	11	1	84	5			522400
	12	3	97	14	1131	1954	73279
	13	2	77	12	1924		287349
	14	1	64	13			139596
	15	2	94	16	1250		197050
	16	1	59	20			353699
	17	1	66	15			214657
	18	2	86	10	1210		353861
	19	2	73	9	1781		465446

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	3	82	16	1999	1684	605540
	2	2	97	6	1683		145881
	3	2	70	14	1866		401625
	4	2	77	11	1487		112753
	5	1	82	18			546378
	6	3	51	10	1327	1378	227836
	7	1	60	18			346299
	8	1	66	6			45610
	9	3	89	15	1287	1814	190075
	10	1	62	8			107291
	11	2	72	6	1404		472789
	12	2	74	8	1477		137260
	13	3	95	20	1089	1503	189039
	14	1	57	16			125309
	15	1	80	11			158120
	16	1	62	17			573952
	17	3	68	15	1264	1479	460758
	18	1	92	9			3543

*All trial were performed at frequency of 5300MHz (11n-20).

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	96	9	1000		225559
	2	3	69	12	1862	1972	251353
	3	3	97	5	1459	1450	472184
	4	1	94	6			494816
	5	1	82	5			490101
	6	2	76	7	1774		3137
	7	3	57	9	1136	1133	47419
	8	1	64	20			194794
	9	2	78	5	1543		616123
	10	3	57	8	1747	1653	669070
	11	2	64	12	1447		493540
	12	3	76	9	1583	1284	318736
	13	3	61	12	1238	1919	672300
	14	2	54	15	1335		427343
	15	1	56	7			194346
	16	2	72	5	1408		289370
	17	2	71	11	1554		622821

*All trial were performed at frequency of 5300MHz (11n-20).

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	3	86	12	1468	1014	602756
	2	1	61	11			89216
	3	3	82	18	1554	1082	502734
	4	1	68	9			650938
	5	1	72	5			173942
	6	2	56	16	1397		447095
	7	3	50	17	1971	1808	249644
	8	3	56	10	1176	1844	330990
	9	1	64	14			558554
	10	3	96	14	1809	1612	360357
	11	1	98	7			694417
	12	2	92	8	1147		87684
	13	1	73	9			405037
	14	1	92	16			170387
	15	2	91	8	1578		344636
	16	1	69	6			658419
	17	3	95	7	1501	1596	601718

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	3	52	15	1642	1642	127110
	2	2	75	14	1717		945589
	3	2	71	8	1437		83321
	4	3	65	5	1377	1808	623439
	5	3	72	19	1665	1480	1403711
	6	3	70	7	1608	1208	1014259
	7	3	78	9	1879	1571	330791
	8	1	90	12			1447543

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	3	83	14	1265	1760	225977
	2	3	91	10	1434	1236	705355
	3	3	99	15	1182	1382	401701
	4	2	99	10	1412		1142288
	5	2	64	20	1724		30419
	6	1	62	18			540275
	7	1	71	5			1058315
	8	1	54	8			256356

*All trial were performed at frequency of 5300MHz (11n-20).

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	60	13	1430	1773	953959
	2	2	58	7	1634		108105
	3	2	89	15	1264		417252
	4	1	81	18			769104
	5	2	61	8	1671		496232
	6	1	62	14			672503
	7	3	90	20	1988	1783	1141569
	8	3	54	10	1111	1429	127412
	9	1	72	17			34823
	10	1	95	14			786331

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	84	17	1587	1747	438861
	2	1	60	15			448972
	3	1	76	15			731548
	4	3	90	13	1463	1658	823968
	5	1	67	11			664321
	6	2	90	19	1383		199290
	7	3	96	19	1919	1979	349306
	8	3	88	11	1542	1002	605096
	9	1	65	7			777849
	10	1	84	16			546699
	11	3	72	6	1748	1490	978345
	12	3	53	11	1097	1465	975145

*All trial were performed at frequency of 5300MHz (11n-20).

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	3	89	6	1256	1902	1154229
	2	2	70	17	1188		973826
	3	3	58	8	1169	1036	159265
	4	3	74	20	1871	1800	1132064
	5	2	70	7	1217		165542
	6	2	59	20	1579		1042089
	7	2	60	18	1188		104960
	8	2	63	8	1356		56915
	9	2	69	15	1802		918220
	10	1	82	20			19244

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	1	88	5			490
	2	3	87	6	1366	1192	554098
	3	2	79	9	1414		542082
	4	2	99	9	1013		64747
	5	1	88	8			121772
	6	3	82	8	1054	1505	485178
	7	2	68	20	1386		298050
	8	2	71	19	1250		110428
	9	3	56	12	1868	1326	593929
	10	3	95	14	1511	1248	588754
	11	2	96	10	1032		253800
	12	3	52	8	1518	1092	99847
	13	3	68	7	1740	1443	86338
	14	1	79	19			362494
	15	3	82	12	1725	1563	235180
	16	2	80	19	1864		61862
	17	3	71	6	1903	1737	413034

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	1	51	16			378
	2	2	66	9	1227		698721
	3	2	80	14	1633		794009
	4	1	73	18			865555
	5	1	53	11			468998
	6	2	95	8	1943		570052
	7	1	53	9			222141
	8	3	52	11	1261	1892	286347
	9	2	80	13	1763		760029
	10	3	91	11	1688	1850	808986
	11	1	78	13			228960
	12	1	89	9			439822
	13	2	100	9	1878		545977

*All trial were performed at frequency of 5300MHz (11n-20).

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	81	6	1006	1843	1047688
	2	1	86	20			313402
	3	3	69	13	1774	1394	115434
	4	3	63	15	1132	1031	651511
	5	2	79	6	1211		493830
	6	1	83	17			257421
	7	2	52	6	1184		939339
	8	2	68	19	1987		750846
	9	1	63	15			628006
	10	2	75	18	1539		946115
	11	1	52	6			412667

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	2	55	9	1000		1416607
	2	3	59	12	1915	1273	421687
	3	3	97	16	1654	1390	481611
	4	3	98	14	1647	1101	725648
	5	1	60	5			519997
	6	3	82	20	1230	1311	342369
	7	2	74	20	1432		1342140
	8	1	51	10			1088947

*All trial were performed at frequency of 5300MHz (11n-20).

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	65	7			136
	2	3	75	20	1613	1239	994808
	3	3	87	17	1391	1405	239015
	4	1	88	5			550839
	5	1	87	13			783955
	6	2	58	11	1157		704577
	7	2	70	14	1297		187604
	8	2	86	5	1585		774986
	9	2	62	14	1223		953317
	10	1	89	10			375050
	11	1	82	15			379317

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	64	13			38
	2	1	72	15			81014
	3	2	68	20	1367		419980
	4	3	91	9	1678	1329	186560
	5	1	68	16			119008
	6	3	63	14	1102	1305	125541
	7	2	57	13	1747		298881
	8	3	59	11	1474	1263	357263
	9	3	92	16	1180	1378	159930
	10	3	59	16	1428	1600	7864
	11	2	53	13	1903		386556
	12	3	92	14	1576	1543	69299
	13	1	52	6			587508
	14	2	84	16	1065		379152
	15	3	68	11	1795	1815	296293
	16	2	91	15	1719		616622
	17	3	91	10	1535	1647	198858
	18	2	81	14	1027		53852
	19	3	57	11	1297	1082	99356

*All trial were performed at frequency of 5300MHz (11n-20).

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	1	58	9			480
	2	2	72	17	1883		115188
	3	1	98	14			584824
	4	3	68	16	1610	1983	569615
	5	3	53	19	1468	1646	485193
	6	1	54	17			138388
	7	3	58	14	1515	1261	44265
	8	1	57	17			78400
	9	1	70	7			617884
	10	2	88	15	1115		114832
	11	1	72	7			397774
	12	2	55	10	1397		24192
	13	3	91	18	1487	1801	331733
	14	2	71	7	1954		165145
	15	3	75	17	1806	1628	543354
	16	1	83	15			257998
	17	1	72	14			540244
	18	2	95	16	1665		326527
	19	2	51	8	1456		61414

*All trial were performed at frequency of 5300MHz (11n-20).

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	2	73	20	1000		18130
	2	3	50	15	1170	1813	912728
	3	1	58	8			28164
	4	2	66	7	1697		879911
	5	3	66	19	1835	1393	1136725
	6	3	79	8	1106	1038	672699
	7	1	97	15			439373
	8	3	56	18	1957	1029	776621
	9	3	86	7	1192	1417	568985
	10	2	86	8	1952		148386

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	92	19	1450	1467	484992
	2	2	71	19	1184		5470
	3	1	97	18			389075
	4	2	90	8	1486		270323
	5	3	82	18	1790	1621	178870
	6	1	59	15			80431
	7	2	57	13	1341		428774
	8	3	74	14	1298	1191	589610
	9	1	55	11			440625
	10	3	83	8	1330	1563	105355
	11	1	90	7			595069
	12	2	91	10	1522		339339
	13	2	91	16	1039		132607
	14	1	94	16			28772
	15	3	66	6	1131	1052	610123
	16	1	51	7			33675

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	2	65	18	1000		417669
	2	1	86	7			248365
	3	2	86	9	1479		443174
	4	2	53	17	1138		96371
	5	1	73	20			611937
	6	2	52	9	1351		46344
	7	2	88	15	1854		637921
	8	1	57	16			533942
	9	1	99	19			713223
	10	2	95	7	1829		554000
	11	2	53	17	1297		51564
	12	2	91	11	1210		556477
	13	3	73	12	1252	1636	364481
	14	2	51	6	1030		691826
	15	2	100	9	1430		240131
	16	2	60	8	1770		283071

*All trial were performed at frequency of 5300MHz (11n-20).

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	66	19	1000		124904
	2	2	57	15	1526		574319
	3	1	78	12			163331
	4	1	98	10			523299
	5	2	66	9	1327		68565
	6	3	83	5	1895	1064	343255
	7	1	82	13			107446
	8	3	76	16	1238	1520	545151
	9	1	69	19			4082
	10	1	79	19			324369
	11	2	67	20	1032		483717
	12	2	93	14	1435		475354
	13	3	76	9	1208	1464	340773
	14	3	79	8	1480	1292	316146
	15	1	96	7			454864
	16	3	55	19	1249	1645	547600
	17	1	90	7			339168
	18	2	96	7	1167		530746
	19	1	69	6			24873

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	57	15	1674	1286	347215
	2	3	73	18	1953	1088	223406
	3	3	82	10	1585	1757	126001
	4	3	97	16	1745	1038	272798
	5	2	76	14	1079		528499
	6	3	56	14	1536	1601	53217
	7	2	71	14	1046		472821
	8	1	70	20			286757
	9	3	100	11	1996	1707	382689
	10	3	72	11	1646	1813	249763
	11	3	72	8	1661	1786	508899
	12	1	72	11			429751
	13	1	83	6			554134
	14	2	84	7	1125		409734
	15	2	57	6	1902		224693
	16	2	79	15	1150		331022
	17	3	76	9	1262	1829	323903
	18	1	56	8			31754

*All trial were performed at frequency of 5300MHz (11n-20).

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	68	7	1000		531128
	2	2	68	20	1058		619257
	3	3	62	15	1542	1944	387247
	4	1	68	9			770786
	5	1	100	15			171678
	6	2	88	11	1282		816063
	7	2	98	16	1874		350170
	8	2	98	7	1442		347038
	9	2	73	14	1276		122852
	10	3	69	11	1833	1739	241744
	11	1	74	11			406694
	12	2	66	8	1937		442840
	13	2	67	11	1066		313973
	14	2	58	19	1086		503982

*All trial were performed at frequency of 5300MHz (11n-20).

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	97	10			376
	2	3	57	11	1667	1168	160461
	3	2	61	8	1910		87074
	4	3	91	8	1868	1493	333769
	5	2	77	14	1389		50466
	6	3	58	5	1606	1934	590142
	7	1	92	16			218360
	8	1	61	8			423029
	9	2	95	12	1951		36309
	10	2	99	12	1042		604041
	11	3	73	6	1869	1418	429720
	12	1	96	14			505551
	13	2	94	9	1278		298627
	14	3	68	20	1307	1774	459979
	15	3	60	14	1048	1540	145697
	16	1	62	5			9982
	17	3	71	19	1944	1601	575821
	18	2	97	10	1855		225664
	19	1	86	15			68933

*All trial were performed at frequency of 5300MHz (11n-20).

Parameter Data sheet for Radar Type 5

5310MHz (11n-40)

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	1	77	9			791
	2	3	94	8	1916	1042	33230
	3	1	83	6			75184
	4	1	84	12			215209
	5	3	63	10	1442	1983	268292
	6	2	56	19	1957		717897
	7	3	83	9	1111	1231	592270
	8	3	90	5	1299	1160	208492
	9	1	82	6			299806
	10	3	99	8	1443	1516	871352
	11	1	77	7			113801
	12	2	52	13	1107		117575

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	3	55	14	1140	1888	459764
	2	3	69	9	1013	1310	9512
	3	2	68	16	1448		550656
	4	3	62	20	1056	1497	771084
	5	3	90	19	1793	1701	759166
	6	1	95	7			365493
	7	2	61	16	1264		649583
	8	1	63	17			442173
	9	2	71	19	1900		709617
	10	2	75	7	1887		371961
	11	2	58	12	1125		757990
	12	2	82	19	1110		106736
	13	2	67	6	1131		423742
	14	3	79	17	1714	1084	515626
	15	1	87	20			120011

*All trial were performed at frequency of 5310MHz (11n-40).

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	55	7			56
	2	2	58	13	1658		429959
	3	3	59	20	1477	1980	833878
	4	1	53	10			760662
	5	2	89	19	1283		730594
	6	3	77	7	1712	1517	577592
	7	3	74	6	1516	1511	106203
	8	2	95	8	1297		484395
	9	2	64	13	1416		735021
	10	3	83	6	1453	1848	703827
	11	2	68	20	1881		425620
	12	3	80	10	1075	1370	87035
	13	3	73	9	1361	1957	628480
	14	1	62	18			837506

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	1	85	5			691
	2	3	58	7	1057	1172	43702
	3	1	93	5			575237
	4	3	64	20	1797	1041	290612
	5	3	93	7	1109	1252	136829
	6	2	76	8	1858		593021
	7	2	77	7	1797		512702
	8	1	89	19			591200
	9	2	87	18	1643		438198
	10	3	59	9	1394	1748	119620
	11	3	60	9	1761	1607	62011
	12	1	68	12			653797
	13	3	62	9	1527	1826	297161
	14	1	95	20			94098
	15	3	76	10	1207	1713	386273
	16	2	52	9	1387		456318
	17	2	71	18	1505		535341

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	65	11	1080	1240	183745
	2	1	62	12			779691
	3	1	78	20			5213
	4	1	73	20			117758
	5	3	98	7	1351	1722	447778
	6	3	94	9	1669	1334	578527
	7	2	81	19	1511		597474
	8	3	53	15	1913	1933	741133
	9	2	84	16	1100		813428
	10	3	86	11	1017	1582	497551
	11	3	59	17	1746	1430	389972
	12	2	54	14	1228		107208
	13	2	71	20	1088		78298
	14	3	100	9	1512	1947	142635

*All trial were performed at frequency of 5310MHz (11n-40).

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	1	89	13			1109
	2	2	89	10	1388		557102
	3	2	77	19	1605		768580
	4	2	77	20	1872		503622
	5	2	94	10	1951		410577
	6	1	80	11			1061534
	7	2	82	16	1980		303977
	8	2	76	5	1903		1158788
	9	2	91	9	1710		804171
	10	1	94	14			146438

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	70	10	1452	1196	402337
	2	2	80	6	1628		692800
	3	1	77	10			197466
	4	1	99	17			72284
	5	3	64	7	1632	1010	288936
	6	3	56	13	1371	1113	34992
	7	2	65	19	1322		406399
	8	3	56	11	1883	1542	370496
	9	2	76	5	1452		78140
	10	2	87	6	1984		184699
	11	3	90	17	1108	1645	45602
	12	3	86	11	1587	1967	291824
	13	1	60	13			135739
	14	2	98	6	1279		552758
	15	2	94	9	1413		42940
	16	3	81	14	1789	1005	245519
	17	2	67	15	1839		287372

*All trial were performed at frequency of 5310MHz (11n-40).

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	2	77	14	1000		338063
	2	3	69	7	1091	1714	492080
	3	1	62	12			570429
	4	2	96	9	1128		314870
	5	3	95	12	1014	1713	177343
	6	1	74	11			571907
	7	1	52	6			374513
	8	3	52	5	1996	1232	597254
	9	1	59	5			60534
	10	3	52	6	1526	1260	461807
	11	3	86	13	1821	1631	602782
	12	1	87	7			64072
	13	2	88	16	1896		372662
	14	2	87	17	1885		388059
	15	3	84	17	1620	1426	545279
	16	3	59	17	1332	1199	175490
	17	3	92	15	1799	1353	589763
	18	3	93	19	1141	1748	384280

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	3	87	8	1750	1897	712783
	2	3	65	14	1844	1604	454625
	3	2	68	14	1833		442382
	4	2	93	17	1385		33866
	5	2	71	8	1946		173020
	6	2	52	13	1717		908931
	7	1	72	7			490471
	8	3	79	20	1278	1489	327457
	9	3	98	8	1209	1644	740661
	10	1	79	17			828375
	11	1	63	13			211477
	12	1	81	6			769033
	13	2	79	14	1233		166075

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	99	10			466
	2	2	73	6	1052		103326
	3	1	69	8			77797
	4	3	55	16	1817	1246	348809
	5	1	90	13			1134808
	6	2	69	13	1078		1189031
	7	2	54	6	1906		623035
	8	3	80	17	2000	1222	687945

*All trial were performed at frequency of 5310MHz (11n-40).

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	3	70	13	1834	1265	65931
	2	3	51	19	1918	1449	310979
	3	1	78	16			176677
	4	1	62	16			377746
	5	1	73	5			129993
	6	3	88	12	1203	1474	497137
	7	1	63	19			657879
	8	3	69	10	1159	1731	371746
	9	1	58	15			378100
	10	1	86	16			286683
	11	2	53	8	1196		575729
	12	1	73	11			104104
	13	3	86	12	1424	1031	672132
	14	1	62	5			500558
	15	1	80	17			334095
	16	2	68	11	1022		105508
	17	2	96	7	1482		592402

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	79	10			429
	2	3	67	12	1575	1413	385153
	3	1	94	12			50482
	4	1	91	8			596569
	5	2	52	11	1445		286842
	6	2	65	8	1847		72789
	7	1	84	9			607492
	8	1	86	12			385493
	9	1	55	10			64826
	10	2	76	8	1119		306090
	11	2	98	14	1044		376513
	12	3	62	18	1894	1063	570991
	13	2	61	9	1231		33899
	14	3	66	6	1966	1844	14960
	15	3	54	19	1477	1953	354270
	16	1	98	18			237793
	17	1	66	17			470869
	18	1	69	18			326182
	19	3	89	8	1427	1965	463054

*All trial were performed at frequency of 5310MHz (11n-40).

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	68	16			473
	2	2	52	11	1430		214002
	3	1	69	7			521197
	4	3	53	6	1573	1029	582818
	5	2	81	11	1579		186172
	6	1	92	18			648183
	7	2	52	10	1819		148322
	8	1	70	11			677894
	9	2	94	11	1093		420554
	10	3	75	12	1148	1316	462037
	11	3	86	14	1780	1216	529015
	12	3	87	19	1969	1595	126195
	13	1	81	19			596699
	14	3	94	7	1212	1469	608771
	15	1	90	15			642138
	16	3	84	8	1569	1111	630424
	17	2	73	10	1237		594428

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	100	8	1686	1213	454604
	2	2	70	5	1721		475295
	3	3	66	18	1363	1317	382694
	4	2	94	5	1269		63807
	5	2	77	19	1282		542666
	6	1	83	13			821319
	7	1	65	12			706525
	8	3	94	20	1439	1656	811919
	9	2	70	16	1970		607851
	10	1	58	8			21103
	11	2	64	16	1729		342938
	12	3	99	14	1642	1124	311138
	13	3	82	15	1153	1833	827882
	14	1	59	17			327102

*All trial were performed at frequency of 5310MHz (11n-40).

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	52	11	1176	1267	407003
	2	1	91	13			101446
	3	3	100	14	1605	1767	84533
	4	1	67	9			317849
	5	1	64	19			17041
	6	1	80	6			383738
	7	2	81	12	1364		258371
	8	2	52	7	1275		353080
	9	2	84	15	1563		333092
	10	1	51	7			394124
	11	2	52	18	1897		389061
	12	1	85	7			559744
	13	3	56	11	1661	1325	288548
	14	1	79	10			155091
	15	2	83	15	1214		384413
	16	3	90	9	1421	1793	225112
	17	2	79	18	1825		318162
	18	1	50	18			435948
	19	1	90	8			219918

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	3	51	19	1004	1001	338323
	2	2	56	18	1706		916470
	3	3	86	17	1480	1330	949723
	4	2	82	9	1185		172163
	5	2	55	8	1978		639753
	6	2	72	5	1383		923676
	7	2	78	20	1015		547734
	8	1	98	18			223363

*All trial were performed at frequency of 5310MHz (11n-40).

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	90	8	1233	1439	1126983
	2	1	60	17			121008
	3	2	87	6	1023		14034
	4	2	97	9	1241		717991
	5	3	80	15	1703	1544	888587
	6	1	50	14			1263140
	7	2	93	8	1872		1016978
	8	2	51	15	1577		574324
	9	3	84	10	1329	1447	510943

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	58	11	1391	1427	110310
	2	3	69	19	1140	1719	667921
	3	2	99	20	1064		722448
	4	1	72	16			752404
	5	2	93	7	1411		524864
	6	3	87	9	1615	1449	528804
	7	2	63	13	1875		464068
	8	2	69	19	1727		642360
	9	2	69	8	1666		600258
	10	3	57	8	1598	1800	793334
	11	1	79	18			306908
	12	2	78	12	1524		691679
	13	1	97	11			294493
	14	3	95	12	1622	1162	668617

*All trial were performed at frequency of 5310MHz (11n-40).

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	1	72	8			411
	2	1	77	14			628019
	3	3	62	14	1119	1019	75212
	4	1	72	12			185376
	5	3	51	9	1404	1839	700304
	6	3	59	7	1809	1339	574618
	7	3	51	20	1425	1849	464848
	8	1	88	9			535009
	9	3	72	15	1647	1755	285539
	10	1	56	20			208339
	11	3	53	7	1338	1750	241793
	12	2	80	19	1682		290443
	13	2	86	13	1005		340176
	14	2	71	6	1992		614622
	15	3	94	5	1517	1728	189111
	16	2	78	14	1270		660037

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	78	11			315
	2	1	81	13			106381
	3	1	87	11			439123
	4	1	90	19			302903
	5	1	86	5			81530
	6	1	95	7			213329
	7	3	90	20	1169	1599	244442
	8	3	78	7	1174	1702	458061
	9	2	89	15	1848		334374
	10	3	82	7	1683	1485	554664
	11	3	86	12	1383	1572	462449
	12	2	59	15	1547		67002
	13	3	75	14	1159	1188	94243
	14	2	88	12	1818		345524
	15	3	83	13	1888	1757	349970
	16	3	79	12	1789	1241	98787
	17	3	84	6	1584	1007	62632
	18	3	55	12	1623	1570	482502
	19	3	71	15	1311	1473	201156
	20	3	74	14	1791	1061	248077

*All trial were performed at frequency of 5310MHz (11n-40).

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	3	66	17	1935	1502	500291
	2	2	84	17	1459		210703
	3	2	98	6	1623		568426
	4	1	80	20			377544
	5	2	87	12	1201		28814
	6	1	68	5			488954
	7	1	95	15			169101
	8	3	59	18	1190	1162	34624
	9	3	70	13	1959	1145	58303
	10	3	92	9	1623	1382	446048
	11	2	98	17	1765		138717
	12	3	89	10	1021	1946	216374
	13	3	87	14	1428	1897	518122
	14	1	87	20			580209
	15	2	71	20	1239		369368
	16	2	58	17	1202		43682
	17	2	97	15	1367		528181
	18	1	79	14			277949
	19	3	79	11	1404	1129	32899
	20	3	65	16	1600	1900	213259

*All trial were performed at frequency of 5310MHz (11n-40).

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	96	9			1290
	2	3	88	15	1838	1142	1103616
	3	2	80	13	1991		1134596
	4	3	86	20	1832	1321	815803
	5	2	68	16	1463		820114
	6	3	73	10	1094	1514	1219996
	7	1	93	15			1249639
	8	2	78	17	1894		262095
	9	1	94	19			206355

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	74	9	1725	1888	115052
	2	2	75	16	1176		516157
	3	3	86	9	1729	1740	474794
	4	1	69	11			313124
	5	3	95	12	1981	1564	90343
	6	1	80	7			398461
	7	1	82	6			190466
	8	1	74	8			150847
	9	1	66	5			619369
	10	1	72	13			592613
	11	1	50	16			306579
	12	2	74	11	1198		216172
	13	2	52	20	1470		450303
	14	2	55	9	1598		226641
	15	2	56	13	1412		307672
	16	1	84	16			558316
	17	2	56	9	1889		373123
	18	3	54	17	1116	1788	346745
	19	2	56	5	1778		163901

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	65	19	1926	1522	495334
	2	1	86	8			543192
	3	3	92	6	1475	1601	245545
	4	2	62	14	1491		577906
	5	1	68	13			437699
	6	3	69	14	1731	1345	762844
	7	2	89	13	1815		323439
	8	2	89	6	1482		194044
	9	2	57	12	1625		484497
	10	1	56	10			369586
	11	3	70	13	1345	1095	706705
	12	1	72	18			321404
	13	3	85	17	1934	1902	38178
	14	3	56	8	1883	1680	842877

*All trial were performed at frequency of 5310MHz (11n-40).

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	1	73	5			567
	2	1	95	7			606612
	3	3	59	14	1005	1139	736597
	4	3	77	13	1600	1193	374812
	5	3	94	15	1185	1601	249929
	6	3	87	15	1731	1868	733947
	7	3	89	19	1073	1816	578378
	8	3	98	10	1153	1982	379237
	9	2	70	13	1080		699072
	10	2	70	10	1048		224640
	11	2	82	16	1583		247455
	12	3	81	17	1021	1217	573904
	13	3	68	7	1616	1017	656161
	14	2	83	18	1050		100121
	15	1	81	14			20039
	16	3	76	19	1928	1649	384826

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	58	18			367
	2	2	85	7	1648		520550
	3	1	58	5			718886
	4	3	66	20	1920	1923	622281
	5	1	97	6			275995
	6	2	90	15	1874		577806
	7	1	98	11			513845
	8	2	95	18	1016		128100
	9	3	63	18	1164	1384	413599
	10	3	69	12	1115	1850	78770
	11	1	56	6			17109
	12	3	82	10	1337	1222	93434
	13	1	100	5			345208
	14	2	78	14	1787		662925
	15	2	68	5	1656		697571
	16	1	72	20			269072

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	1	64	18			100
	2	3	97	8	1427	1811	239107
	3	2	54	9	1789		264441
	4	1	59	13			922061
	5	3	56	16	1510	1476	744408
	6	1	64	5			985099
	7	2	97	9	1315		526430
	8	3	80	16	1031	1832	935994
	9	3	84	14	1583	1701	709065
	10	3	98	5	1907	1362	248221
	11	3	54	11	1885	1674	597182
	12	2	52	11	1951		578726

*All trial were performed at frequency of 5310MHz (11n-40).

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	90	15	1963	1147	43645
	2	1	81	18			664365
	3	3	94	13	1026	1520	229489
	4	1	88	13			327537
	5	1	70	7			692709
	6	2	74	13	1712		200287
	7	1	90	16			669009
	8	2	52	10	1123		240821
	9	2	70	5	1415		425736
	10	3	76	13	1214	1035	332272
	11	3	67	9	1829	1606	486019
	12	3	69	17	1573	1761	618063
	13	1	59	10			643063
	14	3	97	8	1307	1603	645640
	15	2	65	12	1360		457752
	16	2	79	12	1701		133893
	17	2	60	17	1177		502361

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	1	74	13			120
	2	3	98	12	1295	1171	571344
	3	1	78	5			568992
	4	3	80	16	1186	1721	243983
	5	3	67	18	1545	1495	256335
	6	2	74	9	1537		122563
	7	2	82	7	1373		556520
	8	1	76	19			506690
	9	1	78	13			477091
	10	1	99	15			534295
	11	3	83	8	1677	1391	286867
	12	2	89	8	1699		137760
	13	2	70	11	1340		304200
	14	3	50	13	1141	1848	535403
	15	1	70	5			285617
	16	2	50	7	1978		356847
	17	3	87	13	1550	1616	592359
	18	1	69	20			555483
	19	2	94	5	1121		232020

*All trial were performed at frequency of 5310MHz (11n-40).

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	54	19			570
	2	3	66	6	1665	1590	628716
	3	1	96	5			296809
	4	3	99	18	1435	1598	187054
	5	2	95	20	1451		575771
	6	2	74	12	1172		654978
	7	2	60	12	1924		323703
	8	1	70	9			230998
	9	1	61	7			635357
	10	1	95	13			372619
	11	3	62	18	1817	1092	150734
	12	2	51	13	1473		527272
	13	1	90	5			238094
	14	1	70	18			436236
	15	3	70	11	1096	1508	468158
	16	3	79	18	1093	1005	495972
	17	1	94	19			676341

*All trial were performed at frequency of 5310MHz (11n-40).

Parameter Data sheet for Radar Type 6

5300MHz (11n-20)

Trial #	Hopping Number	Start Time	Frequency [MHz]
1	23	66	5291
	32	93	5305
	70	207	5291
	88	261	5310

Trial #	Hopping Number	Start Time	Frequency [MHz]
2	33	96	5302
	39	114	5303
	60	117	5301
	94	279	5306

Trial #	Hopping Number	Start Time	Frequency [MHz]
3	4	9	5309
	28	81	5304
	49	144	5297
	52	153	5295
	64	186	5299

Trial #	Hopping Number	Start Time	Frequency [MHz]
4	31	90	5308
	49	141	5296
	67	198	5304
	90	267	5303

Trial #	Hopping Number	Start Time	Frequency [MHz]
5	12	33	5309
	27	78	5305
	31	90	5292
	54	159	5295
	68	201	5299
	91	273	5306

Trial #	Hopping Number	Start Time	Frequency [MHz]
6	16	45	5308
	20	57	5296
	23	66	5297
	37	108	5294
	41	120	5290
	44	129	5304
	57	168	5309

Trial #	Hopping Number	Start Time	Frequency [MHz]
7	22	63	5305
	23	66	5299
	31	90	5296
	33	96	5308
	76	225	5294
	88	261	5300
	96	285	5297

Trial #	Hopping Number	Start Time	Frequency [MHz]
8	9	24	5298
	27	78	5304
	30	87	5307
	57	168	5296
	78	231	5293

Trial #	Hopping Number	Start Time	Frequency [MHz]
9	39	114	5295
	44	129	5305
	56	165	5299
	77	228	5293
	94	279	5306

Trial #	Hopping Number	Start Time	Frequency [MHz]
10	5	12	5301
	31	90	5295
	33	96	5302
	43	126	5296
	99	294	5309

Trial #	Hopping Number	Start Time	Frequency [MHz]
11	20	57	5305
	25	72	5300
	38	111	5293
	56	114	5304
	61	180	5308

Trial #	Hopping Number	Start Time	Frequency [MHz]
12	26	75	5290
	27	78	5303
	57	168	5306
	61	180	5298
	73	216	5304
	88	261	5296

Trial #	Hopping Number	Start Time	Frequency [MHz]
13	25	72	5298
	36	105	5308
	41	120	5310
	64	189	5303
	96	285	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
14	32	93	5300
	40	117	5301
	41	120	5294
	78	231	5296
	97	288	5305

Trial #	Hopping Number	Start Time	Frequency [MHz]
15	35	102	5307
	59	174	5297
	61	180	5294
	90	267	5295

Trial #	Hopping Number	Start Time	Frequency [MHz]
16	30	87	5301
	58	171	5310
	79	234	5305

Trial #	Hopping Number	Start Time	Frequency [MHz]
17	6	15	5295
	21	60	5310
	34	99	5303
	39	114	5309
	64	189	5290
	66	195	5296
	93	276	5305

Trial #	Hopping Number	Start Time	Frequency [MHz]
18	16	45	5305
	37	109	5300
	71	210	5310
	78	231	5296
	83	246	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
19	7	18	5308
	10	27	5298
	74	219	5292

Trial #	Hopping Number	Start Time	Frequency [MHz]
20	18	51	5299
	41	120	5296
	43	126	5305
	88	261	5301

Trial #	Hopping Number	Start Time	Frequency [MHz]
21	5	12	5304
	57	168	5302
	67	198	5303
	82	243	5310

Trial #	Hopping Number	Start Time	Frequency [MHz]
22	22	12	5293
	32	168	5306
	56	198	5304
	95	243	5301

Trial #	Hopping Number	Start Time	Frequency [MHz]
23	8	21	5296
	24	69	5305
	38	111	5300
	62	183	5294
	84	249	5304

Trial #	Hopping Number	Start Time	Frequency [MHz]
24	21	60	5310
	39	114	5296

Trial #	Hopping Number	Start Time	Frequency [MHz]
25	21	60	5308
	93	276	5305

Trial #	Hopping Number	Start Time	Frequency [MHz]
26	22	63	5291
	55	162	5300
	88	261	5309

Trial #	Hopping Number	Start Time	Frequency [MHz]
27	5	12	5294
	37	108	5290
	43	126	5297
	70	207	5292
	80	237	5303

Trial #	Hopping Number	Start Time	Frequency [MHz]
28	3	6	5301
	8	21	5296
	19	54	5295
	23	66	5290
	38	111	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
29	4	9	5302
	7	18	5305
	39	114	5308
	40	117	5309
	56	165	5303
	63	186	5310

Trial #	Hopping Number	Start Time	Frequency [MHz]
30	31	90	5297
	98	291	5307

Parameter Data sheet for Radar Type 6

5310MHz (11n-40)

Trial #	Hopping Number	Start Time	Frequency [MHz]
1	34	99	5295
	50	147	5299
	61	180	5320
	72	213	5325
	77	228	5297
	82	243	5329
	87	258	5293

Trial #	Hopping Number	Start Time	Frequency [MHz]
2	4	9	5319
	7	18	5327
	9	24	5298
	19	54	5299
	20	57	5330
	44	129	5328
	45	132	5302
	54	159	5329
	69	204	5312
	72	213	5325
	88	261	5323

Trial #	Hopping Number	Start Time	Frequency [MHz]
3	14	9	5298
	26	18	5310
	30	21	5327
	34	54	5295
	52	57	5314
	58	129	5302
	59	159	5329
	69	204	5316
	81	213	5315
	86	261	5296

Trial #	Hopping Number	Start Time	Frequency [MHz]
4	35	102	5314
	53	156	5309
	63	186	5324
	71	210	5325
	77	228	5312
	89	264	5300
	92	273	5315
	98	291	5311
	100	297	5308

Trial #	Hopping Number	Start Time	Frequency [MHz]
5	4	9	5315
	11	30	5297
	12	33	5324
	13	36	5294
	15	42	5329
	39	114	5302
	44	129	5298
	45	132	5301
	48	141	5296
	54	159	5314
	67	198	5292

Trial #	Hopping Number	Start Time	Frequency [MHz]
6	5	12	5310
	14	39	5329
	64	189	5316
	77	228	5308
	82	243	5298

Trial #	Hopping Number	Start Time	Frequency [MHz]
7	13	36	5299
	42	123	5305
	57	168	5304
	61	180	5298
	76	225	5303
	85	252	5309

Trial #	Hopping Number	Start Time	Frequency [MHz]
8	8	21	5326
	9	24	5302
	10	27	5303
	13	36	5330
	24	69	5311
	31	90	5315
	55	162	5301
	65	246	5329
	74	219	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
9	4	9	5318
	5	12	5292
	23	66	5308
	25	72	5293
	31	90	5295
	67	93	5324
	81	240	5313
	93	276	5307
	94	279	5323

Trial #	Hopping Number	Start Time	Frequency [MHz]
10	3	6	5297
	5	12	5305
	11	30	5301
	54	159	5323
	60	177	5319
	63	186	5327
	72	213	5316
	78	231	5298
	93	276	5315
	97	288	5292
	99	294	5318

Trial #	Hopping Number	Start Time	Frequency [MHz]
11	15	42	5291
	32	93	5294
	40	117	5303
	43	126	5310
	50	147	5321
	54	159	5308
	58	171	5293
	100	297	5328

Trial #	Hopping Number	Start Time	Frequency [MHz]
12	6	15	5310
	11	30	5321
	25	72	5315
	26	75	5311
	46	135	5322
	59	174	5329
	62	183	5319
	70	207	5294
	71	210	5297

Trial #	Hopping Number	Start Time	Frequency [MHz]
13	18	51	5313
	26	75	5311
	46	135	5312
	52	153	5298
	57	168	5320
	60	177	5321
	66	195	5310
	75	222	5305
	79	234	5328
	93	276	5301

Trial #	Hopping Number	Start Time	Frequency [MHz]
14	11	30	5327
	24	69	5302
	49	144	5301
	51	150	5310
	52	153	5319
	59	174	5304
	68	201	5325
	69	204	5314
	100	297	5313

Trial #	Hopping Number	Start Time	Frequency [MHz]
15	18	51	5318
	46	135	5321
	55	162	5325
	71	210	5317
	74	219	5308
	88	261	5292
	89	264	5327

Trial #	Hopping Number	Start Time	Frequency [MHz]
16	6	15	5319
	25	72	5315
	38	111	5328
	47	138	5302
	66	195	5291
	71	210	5294
	81	240	5305
	84	249	5323

Trial #	Hopping Number	Start Time	Frequency [MHz]
17	3	6	5314
	11	30	5319
	15	42	5298
	23	66	5304
	24	69	5324
	39	114	5310
	41	120	5326
	45	132	5316
	57	168	5327
	67	198	5303

Trial #	Hopping Number	Start Time	Frequency [MHz]
18	9	24	5320
	20	57	5319
	24	69	5296
	74	219	5328
	86	259	5294

Trial #	Hopping Number	Start Time	Frequency [MHz]
19	12	33	5307
	44	129	5302
	51	132	5327
	65	192	5292
	76	225	5326
	89	264	5297
	92	273	5329
	94	279	5310

Trial #	Hopping Number	Start Time	Frequency [MHz]
20	13	36	5303
	15	42	5310
	26	75	5304
	33	78	5327
	50	99	5305
	78	147	5325
	83	234	5328
	89	264	5319

Trial #	Hopping Number	Start Time	Frequency [MHz]
21	16	45	5330
	23	66	5320
	31	90	5316
	37	108	5327
	51	150	5295
	55	162	5307
	89	261	5324

Trial #	Hopping Number	Start Time	Frequency [MHz]
22	12	33	5307
	44	36	5302
	51	150	5327
	65	192	5292
	76	225	5326
	89	264	5297
	92	273	5329
	94	279	5310

Trial #	Hopping Number	Start Time	Frequency [MHz]
23	13	36	5303
	15	42	5310
	26	75	5304
	33	96	5327
	50	147	5305
	78	231	5325
	83	246	5328
	89	267	5319

Trial #	Hopping Number	Start Time	Frequency [MHz]
24	3	6	5308
	7	18	5328
	31	90	5305
	41	120	5325
	68	201	5307
	71	210	5312
	79	234	5324
	80	237	5317
	81	240	5326
	88	261	5316

Trial #	Hopping Number	Start Time	Frequency [MHz]
25	16	45	5323
	32	93	5306
	37	108	5321
	47	138	5303
	52	153	5324
	60	177	5300
	74	219	5295
	93	276	5293
	95	282	5314

Trial #	Hopping Number	Start Time	Frequency [MHz]
26	7	18	5303
	20	57	5302
	25	72	5323
	26	75	5320
	47	138	5307
	57	168	5318
	69	204	5315
	77	228	5306
	93	276	5325
	95	292	5321

Trial #	Hopping Number	Start Time [ms]	Frequency [MHz]
27	15	42	5315
	23	66	5308
	25	72	5326
	37	108	5309
	44	129	5311
	76	225	5312
	89	264	5305

Trial #	Hopping Number	Start Time	Frequency [MHz]
28	23	66	5314
	26	75	5298
	43	126	5290
	71	210	5321
	80	237	5312
	84	249	5305
	92	273	5315
	93	276	5300

Trial #	Hopping Number	Start Time	Frequency [MHz]
29	40	117	5298
	54	120	5303
	58	171	5301
	60	177	5308
	68	201	5311
	96	285	5306

Trial #	Hopping Number	Start Time	Frequency [MHz]
30	2	3	5306
	6	15	5311
	36	105	5304
	59	174	5302
	71	210	5305
	91	270	5295
	97	288	5315
	98	291	5300

APPENDIX 2: Test instruments

EMI Test Equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MSA-13	Spectrum Analyzer	Agilent	E4440A	MY46185823	DFS	2014/06/06 * 12
EST-48 *1)	Signal Generator	Agilent	E4438C	MY45090353	DFS	2014/12/19 * 12
MAT-23	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	DFS	2015/03/13 * 12
MAT-56	Attenuator(10dB)	Suhner	6810.19.A	-	DFS	2015/01/08 * 12
MAT-58	Attenuator(10dB)	Suhner	6810.19.A	-	DFS	2015/01/09 * 12
MAT-60	Attenuator(20dB)	Suhner	6820.19.A	-	DFS	Pre Check
MAT-61	Attenuator(20dB)	Suhner	6820.19.A	-	DFS	Pre Check
MCC-45	Microwave Cable	Murata	MXGS83RK3000	-	DFS	2014/07/31 * 12
MCC-170	Microwave Cable	Junkosha	MWX221	1409S493	DFS	2015/03/04 * 12
MCC-171	Microwave Cable	Junkosha	MWX221	1409S494	DFS	2015/03/04 * 12
MCC-182	Microwave Cable	Junkosha	MMX221-00500DMSDMS	1502S309	DFS	Pre Check
MPSC-06	Power Splitters/Combiners	Pasternack Enterprises	ZFRSC-123-S+	ZFRSC-123-00231	DFS	Pre Check
MPSC-07	Power Splitters/Combiners	Pasternack Enterprises	ZFRSC-123-S+	ZFRSC-123-00232	DFS	Pre Check
MOS-34	Thermo-Hygrometer	Custom	CTH-201	3401	DFS	2015/01/13 * 12
MBM-11	Barometer	Sunoh	SBR121	839	DFS	2013/12/17 * 36

***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