

# TEST REPORT

# Covering the DYNAMIC FREQUENCY SELECTION (DFS) REQUIREMENTS OF

FCC Part 15 Subpart E (UNII), RSS-210 Annex 9

Cambium Networks
Model(s): C058900P112A (FCC) / C050900P011A (IC)

COMPANY: Cambium Networks

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

TEST SITE: National Technical Systems - Silicon Valley

41039 Boyce Road Fremont, CA 94538

REPORT DATE: August 20, 2013

FINAL TEST DATE: July 23, 24, 29, 2013

TEST ENGINEER: Wayne Fisher

PROGRAM MGR / TECHNICAL REVIEWER:

Mark Hill ( Staff Engineer QUALITY ASSURANCE DELEGATE / FINAL REPORT PREPARER:

Wayne Fisher Engineering Team Lead



National Technical Systems - Silicon Valley is accredited by the A2LA, certificate number 0214.26, to perform the test(s) listed in this report, except where noted otherwise. This report and the information contained herein represent the results of testing test articles identified and selected by the client performed to specifications and/or procedures selected by the client. National Technical Systems (NTS) makes no representations, expressed or implied, that such testing is adequate (or inadequate) to demonstrate efficiency, performance, reliability, or any other characteristic of the articles being tested, or similar products. This report should not be relied upon as an endorsement or certification by NTS of the equipment tested, nor does it represent any statement whatsoever as to its merchantability or fitness of the test article, or similar products, for a particular purpose. This report shall not be reproduced except in full

File: R93093 Page 1 of 105

# **REVISION HISTORY**

Rev#	Date	Comments	Modified By
-	08-20-2013	Initial Release	-

File: R93093 Page 2 of 105

# **TABLE OF CONTENTS**

REVISION HISTORY	2
TABLE OF CONTENTS	3
LIST OF TABLES	3
LIST OF FIGURES	5
SCOPE	6
OBJECTIVE	6
STATEMENT OF COMPLIANCE	6
DEVIATIONS FROM THE STANDARD	6
TEST RESULTS	
TEST RESULTS SUMMARY – FCC PART 15, MASTER DEVICE	
TEST RESULTS SUMMARY – FCC PART 15, CLIENT DEVICE	
MEASUREMENT UNCERTAINTIES	
EQUIPMENT UNDER TEST (EUT) DETAILSGENERAL	
ENCLOSURE	
MODIFICATIONS	
SUPPORT EQUIPMENT	10
EUT INTERFACE PORTS	
EUT OPERATION	
RADAR WAVEFORMS	
DFS TEST METHODSRADIATED TEST METHOD	
CONDUCTED TEST METHOD	
DFS MEASUREMENT INSTRUMENTATION	
RADAR GENERATION SYSTEM	
CHANNEL MONITORING SYSTEM	
DFS MEASUREMENT METHODS	18
DFS RADAR DETECTION BANDWIDTH	
DFS - CHANNEL CLOSING TRANSMISSION TIME AND CHANNEL MOVE TIME	
DFS – CHANNEL NON-OCCUPANCY AND VERIFICATION OF PASSIVE SCANNINGDFS CHANNEL AVAILABILITY CHECK TIME	
UNIFORM LOADINGUNIFORM LOADING	
TRANSMIT POWER CONTROL (TPC)	19
SAMPLE CALCULATIONS	
DETECTION PROBABILITY / SUCCESS RATE	
THRESHOLD LEVEL	20
APPENDIX A TEST EQUIPMENT CALIBRATION DATA	
APPENDIX B TEST DATA TABLES FOR RADAR DETECTION PROBABILITY	22
APPENDIX C TEST DATA TABLES AND PLOTS FOR CHANNEL CLOSING	
FCC PART 15 SUBPART E CHANNEL CLOSING MEASUREMENTS	
APPENDIX D TEST DATA - CHANNEL AVAILABILITY CHECK	
5250- 5350 MHZ, 5470 – 5725 MHZ	
APPENDIX E TEST DATA – UNIFORM LOADING	
APPENDIX F ANTENNA SPECIFICATION	
APPENDIX G TEST CONFIGURATION PHOTOGRAPH(S)	103
LIST OF TABLES	
Table 1 - FCC Part 15 Subpart E Master Device Test Result Summary	7
Table 2 - FCC Part 15 Subpart E Client Device Test Result Summary	

1	
Table 3 - FCC Short Pulse Radar Test Waveforms	12
Table 4 - FCC Long Pulse Radar Test Waveforms	12
Table 5 - FCC Frequency Hopping Radar Test Waveforms	12
Table 6 - Detection Bandwidth Measurements (Bandwidth: +8MHz /-8MHz) 20MHz	23
Table 7 - Summary of All Results 20MHz_Conducted	25
Table 8 - FCC Short Pulse Radar (Type 1) Results 20MHz	25
Table 9 - FCC Short Pulse Radar (Type 2) Results 20MHz	26
Table 10 - FCC Short Pulse Radar (Type 3) Results 20MHz	27
Table 11 - FCC Short Pulse Radar (Type 4) Results 20MHz	
Table 12 - Long Sequence Waveform Summary 20MHz	30
Table 13 - Long Sequence Waveform Trial#1 (Detected) 20MHz	31
Table 14 - Long Sequence Waveform Trial#2 (Detected) 20MHz	
Table 15 - Long Sequence Waveform Trial#3 (Detected) 20MHz	
Table 16 - Long Sequence Waveform Trial#4 (Detected) 20MHz	
Table 17 - Long Sequence Waveform Trial#5 (Detected) 20MHz	
Table 18 - Long Sequence Waveform Trial#6 (Detected) 20MHz	33
Table 19 - Long Sequence Waveform Trial#7 (Detected) 20MHz	33
Table 20 - Long Sequence Waveform Trial#8 (Detected) 20MHz	34
Table 21 - Long Sequence Waveform Trial#9 (Detected) 20MHz	34
Table 22 - Long Sequence Waveform Trial#10 (Detected) 20MHz	
Table 23 - Long Sequence Waveform Trial#11 (Detected) 20MHz	
Table 24 - Long Sequence Waveform Trial#12 (Detected) 20MHz	
Table 25 - Long Sequence Waveform Trial#13 (Detected) 20MHz	
Table 26 - Long Sequence Waveform Trial#14 (Detected) 20MHz	
Table 27 - Long Sequence Waveform Trial#15 (Detected) 20MHz	
Table 28 - Long Sequence Waveform Trial#16 (Detected) 20MHz	
Table 29 - Long Sequence Waveform Trial#17 (Detected) 20MHz	37
Table 30 - Long Sequence Waveform Trial#18 (Detected) 20MHz	37
Table 31 - Long Sequence Waveform Trial#19 (Detected) 20MHz	
Table 32 - Long Sequence Waveform Trial#20 (Detected) 20MHz	38
Table 33 - Long Sequence Waveform Trial#21 (Detected) 20MHz	39
Table 34 - Long Sequence Waveform Trial#22 (Detected) 20MHz	
Table 35 - Long Sequence Waveform Trial#23 (Detected) 20MHz	
Table 36 - Long Sequence Waveform Trial#24 (Detected) 20MHz	
Table 37 - Long Sequence Waveform Trial#25 (Detected) 20MHz	
Table 38 - Long Sequence Waveform Trial#26 (Detected) 20MHz	
Table 39 - Long Sequence Waveform Trial#27 (Detected) 20MHz	
Table 40 - Long Sequence Waveform Trial#28 (Detected) 20MHz	
Table 41 - Long Sequence Waveform Trial#29 (Detected) 20MHz	
Table 42 - Long Sequence Waveform Trial#30 (Detected) 20MHz	
Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz	43
Table 44 - Summary of All Results AP_20MHz_Radiated	
Table 45 - FCC Short Pulse Radar (Type 1) Results AP_20MHz_Radiated	
Table 46 - FCC Short Pulse Radar (Type 2) Results AP_20MHz_Radiated	
Table 47 - FCC Short Pulse Radar (Type 3) Results AP_20MHz_Radiated	
Table 48 - FCC Short Pulse Radar (Type 4) Results AP_20MHz_Radiated	
Table 49 - Long Sequence Waveform Summary AP_20MHz_Radiated	
Table 50 - Long Sequence Waveform Trial#1 (Detected) AP_20MHz_Radiated	
Table 51 - Long Sequence Waveform Trial#2 (Detected) AP_20MHz_Radiated	
Table 52 - Long Sequence Waveform Trial#3 (Detected) AP_20MHz_Radiated	
Table 53 - Long Sequence Waveform Trial#4 (Detected) AP_20MHz_Radiated	
Table 54 - Long Sequence Waveform Trial#5 (Detected) AP_20MHz_Radiated	
Table 55 - Long Sequence Waveform Trial#6 (Detected) AP_20MHz_Radiated	
Table 56 - Long Sequence Waveform Trial#7 (Detected) AP_20MHz_Radiated	
Table 57 - Long Sequence Waveform Trial#8 (Detected) AP 20MHz Radiated	

Table 58 - Long Sequence Waveform Trial#9 (Detected) AP_20MHz_Radiated	66
Table 59 - Long Sequence Waveform Trial#10 (Detected) AP_20MHz_Radiated	66
Table 60 - Long Sequence Waveform Trial#11 (Detected) AP_20MHz_Radiated	66
Table 61 - Long Sequence Waveform Trial#12 (Detected) AP_20MHz_Radiated	67
Table 62 - Long Sequence Waveform Trial#13 (Detected) AP_20MHz_Radiated	
Table 63 - Long Sequence Waveform Trial#14 (Detected) AP_20MHz_Radiated	
Table 64 - Long Sequence Waveform Trial#15 (Detected) AP_20MHz_Radiated	
Table 65 - Long Sequence Waveform Trial#16 (Detected) AP_20MHz_Radiated	
Table 66 - Long Sequence Waveform Trial#17 (NOT Detected) AP_20MHz_Radiated	
Table 67 - Long Sequence Waveform Trial#18 (Detected) AP_20MHz_Radiated	
Table 68 - Long Sequence Waveform Trial#19 (Detected) AP_20MHz_Radiated	
Table 69 - Long Sequence Waveform Trial#20 (Detected) AP_20MHz_Radiated	
Table 70 - Long Sequence Waveform Trial#21 (Detected) AP_20MHz_Radiated	
Table 71 - Long Sequence Waveform Trial#21 (Detected) AP_20MHz_Radiated	
Table 72 - Long Sequence Waveform Trial#23 (NOT Detected) AP_20MHz_Radiated	
Table 73 - Long Sequence Waveform Trial#24 (Detected) AP_20MHz_Radiated	
Table 74 - Long Sequence Waveform Trial#25 (Detected) AP_20MHz_Radiated	
Table 75 - Long Sequence Waveform Trial#26 (Detected) AP_20MHz_Radiated	
Table 76 - Long Sequence Waveform Trial#27 (Detected) AP_20MHz_Radiated	
Table 77 - Long Sequence Waveform Trial#28 (Detected) AP_20MHz_Radiated	
Table 78 - Long Sequence Waveform Trial#29 (Detected) AP_20MHz_Radiated	
Table 79 - Long Sequence Waveform Trial#30 (Detected) AP_20MHz_Radiated	
Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated	
Table 81 - FCC Part 15 Subpart E Channel Closing Test Results (Master Mode)	
Table 82 - FCC Part 15 Subpart E Channel Closing Test Results (Slave Mode)	94
LIST OF FIGURES	
	10
Figure 1 Test Configuration for radiated Measurement Method	
Figure 2 Test Configuration for Conducted Measurement Method	
Figure 3 Channel Utilization During In-Service Detection Measurements	
Figure 4 Channel Closing Time and Channel Move Time – 40 second plot, Type 1 (Master mode)	90
Figure 5 Close-Up of Transmissions Occurring More Than 200ms After The End of Radar, Type 1	0.1
(Master mode)	
Figure 6 Channel Closing Time and Channel Move Time – 40 second plot. Type 5 (Master mode)	92
Figure 7 Close-Up of Transmissions Occurring More Than 200ms After The End of Radar, Type 5	
(Master mode)	
Figure 8 Channel Closing Time and Channel Move Time – 40 second plot, Type 1 (Slave Mode)	
Figure 9 Close-Up of Transmissions Occurring More Than 200ms After The End of Radar, Type 1 (Sl	
Mode)	
Figure 10 Radar Channel Non-Occupancy Plot (Master Mode)	
Figure 11 Radar Channel Non-Occupancy Plot (Slave Mode)	
Figure 12 Plot of EUT Start-Up After CAC	98
Figure 13 Radar Applied At Start of CAC	
Figure 14 Radar Applied At End of CAC	100

File: R93093 Page 5 of 105

## **SCOPE**

Test data has been taken pursuant to the relevant DFS requirements of the following standard(s):

- FCC Part 15 Subpart E Unlicensed National Information Infrastructure (U-NII)
  Devices
- RSS-210 Annex 9 Local Area Network Devices.

Tests were performed in accordance with these standards together with the current published versions of the basic standards referenced therein including FCC KDB 848637 and the appendix to FCC 06-96 MO&O as outlined in NTS Silicon Valley test procedures. The test results recorded herein are based on a single type test of the Cambium Networks model C058900P112A (FCC) / C050900P011A (IC) and therefore apply only to the tested sample. The sample was selected and prepared by Steve Payne of Cambium Networks.

## **OBJECTIVE**

The objective of the manufacturer is to comply with the standards identified in the previous section. In order to demonstrate compliance, the manufacturer or a contracted laboratory makes measurements and takes the necessary steps to ensure that the equipment complies with the appropriate technical standards. Compliance with some DFS features is covered through a manufacturer statement or through observation of the device.

#### STATEMENT OF COMPLIANCE

The tested sample of the Cambium Networks model C058900P112A (FCC) / C050900P011A (IC) complied with the DFS requirements of FCC Part 15.407(h)(2), RSS-210 Annex 9.3.

Maintenance of compliance is the responsibility of the manufacturer. Any modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

#### DEVIATIONS FROM THE STANDARD

No deviations were made from the test methods and requirements covered by the scope of this report.

File: R93093 Page 6 of 105

# **TEST RESULTS**

## TEST RESULTS SUMMARY - FCC Part 15, MASTER DEVICE

Table 1 - FCC Part 15 Subpart E Master Device Test Result Summary						
Description	Radar Type	EUT Frequency	Measured Value	Requirement	Test Data	Status
Channel Availability Check (CAC) Time	Type 1	5550MHz	67s	≥ 60s	Appendix D	Pass
CAC Detection Threshold	Type 1	5550MHz	-64 dBm (note 2)	-64dBm (See note 2)	Appendix D	Pass
In-Service Monitoring Detection Threshold	Type 1 Type 2 Type 3 Type 4 Type 5 Type 6	5550MHz	-64 dBm (note 2)	-64dBm (See note 2)	Appendix B	Pass
Bandwidth Detection	Type 1	Varies	+/-8 MHz	80% of the 99% BW	-	Pass
Channel closing transmission time	Type 1 Type 5	5550MHz	Oms Oms	≤ 260ms	Appendix C	Pass
Channel move time	Type 1 Type 5	5550MHz	8ms 0ms	≤ 10s	Appendix C	Pass
Non-occupancy period	-	5550MHz	1800sec	> 30 minutes	Appendix C	Pass
Uniform Loading		-	-	Uniform Loading	Refer to operational description	N/A

- 1) Tests were performed using the conducted test method with re-checks of In-Service Monitoring using the radiated test method.
- 2) The measured detection threshold is based on the master device having an antenna gain of 16 dBi. The measured detection threshold is based on testing the master device using the radiated test method when connected to an antenna with a nominal gain of 16 dBi. The limit is based on an eirp of more than 23 dBm.
- 3) The in-service monitoring detection threshold and detection probability measurements were made with the device operating in the 5500-5700 MHz band.

## TEST RESULTS SUMMARY - FCC Part 15, CLIENT DEVICE

Table 2 - FCC Part 15 Subpart E Client Device Test Result Summary						
Description	Radar Type	EUT Frequency	Measured Value	Requirement	Test Data	Status
Channel closing transmission time	Type 1	5550MHz	0 ms	≤ 260ms	Appendix C	Pass
Channel move time	Type 1	5550MHz	14ms	≤ 10s	Appendix C	Pass
Non-occupancy period - associated	Type 1	5550MHz	1800sec	> 30 minutes	Appendix C	Pass
Passive Scanning	N/A	N/A Refer to manufacturer attestation				

- 1) Tests were performed using the conducted test method.
- 2) Channel availability check, detection threshold and non-occupancy period are not applicable to client devices.

File: R93093 Page 7 of 105

# **MEASUREMENT UNCERTAINTIES**

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level, with a coverage factor (k=2) and were calculated in accordance with UKAS document LAB 34.

Measurement	Measurement Unit	Expanded Uncertainty
Timing (Channel move time, aggregate transmission time)	ms	Timing resolution +/- 0.24%
Timing (non occupancy period)	seconds	5 seconds
DFS Threshold (radiated)	dBm	1.6
DFS Threshold (conducted)	dBm	1.2

File: R93093 Page 8 of 105

# **EQUIPMENT UNDER TEST (EUT) DETAILS**

#### **GENERAL**

The Cambium Networks model C058900P112A (FCC) / C050900P011A (IC) is an enhance Point to Multipoint 802.11 frame based wireless radio.

The sample was received on July 23, 2013 and tested on July 23, 24, 29, 2013. The EUT consisted of the following component(s):

Manufacturer	Model	Description	Mac Address
Cambium Networks	C058900P112A (FCC) /	Access Point	000456C005EC
	C050900P011A (ROW)	FCC:	
		Z8H89FT0006 /	
		IC:109W-0006	
Cambium Networks	C058900P112A (FCC) /	Slave Radio	000456C00726
	C050900P011A (ROW)	FCC:	
		Z8H89FT0006 /	
		IC:109W-0006	

The manufacturer declared values for the EUT operational characteristics that affect DFS are as follows:

# **Operating Modes (5250 – 5350 MHz, 5470 – 5725 MHz)**

$\boxtimes$	1. D : 5050 5050 1.
VI.	Master Device 5250-5350 MHz
/\ I	- WIASIEL DEVICE 37, 30-33 30 WILL.

Master Device 5470-5725 MHz (excluding 5600-5650 MHz)

Client Device (no In Service Monitoring, no Ad-Hoc mode)

# <u>Antenna Gains / EIRP (5250 – 5350 MHz, 5470 – 5725 MHz)</u>

	5250 – 5350 MHz	5470 – 5725 MHz
Lowest Antenna Gain (dBi)	16	16
Highest Antenna Gain (dBi)	16	16
EIRP Output Power (dBm)	30	30

Power can exceed 200mW eirp

# **Channel Protocol**

IP Based

Frame Based

# **ENCLOSURE**

The EUT enclosure measures approximately 8.5 by 22 by 3.5 centimeters. It is primarily constructed of aluminum and uncoated plastic.

File: R93093 Page 9 of 105

## **MODIFICATIONS**

The EUT did not require modifications during testing in order to comply with the requirements of the standard(s) referenced in this test report.

## SUPPORT EQUIPMENT

The following equipment was used as local support equipment for testing:

Manufacturer	Model	Description	Serial Number	FCC ID
Cambrium	C058900P112A	Slave Radio(for	000456C00726	Z8H89FT0006
Networks		conducted mode)		
Cambrium	C058900P032A	Slave Radio(for	000456C0094A	Z8H89FT0005
Networks		radiated mode)		
Motorola	HK 1322	Laptop computer	3433JC0021	DoC
Dell	PP02X	Laptop computer	42707742661	DoC

The italicized device was the client device.

## **EUT INTERFACE PORTS**

The I/O cabling configuration during testing was as follows:

			Cable(s)	
Port	Connected To	Description	Shielded or Unshielded	Length (m)
Ethernet (EUT)	POE Injector	CAT5	Shielded	10.0
Data Ethernet	Motorola Laptop	CAT5	Unshielded	1.0
(POE Injector)				
Ethernet (Slave)	POE Injector	CAT5	Unshielded	10.0
Data Ethernet	Dell Laptop	CAT5	Unshielded	1.0
(POE Injector)				

File: R93093 Page 10 of 105

#### **EUT OPERATION**

The EUT was operating with the following software. The software is secured by digital software signature, anti-cloning mechanism and hardware security bits so no software or user can change power, frequency or disable the DFS function.

Master Device: 0.11.10-RC1

Client Device: 0.11.10-RC1

The manufacturer provided special software that over-rode the non-occupancy mechanism (allowing return to the same channel) for the purposes of determining the probability of detection. This test feature was disabled and the normal operating software enabled for verifying the 30-minute non-occupancy period and channel move time.

The start of the Channel Availability Check was 38.4 seconds after power on of radio.

During the in-service monitoring detection probability and channel moving tests the system was configured with a streaming video file from the master device (sourced by the PC connected to the master device via an Ethernet interface) to the client device.

The streamed file was the "FCC" test file and the client device was using Windows Media Player Classic as required by FCC Part 15 Subpart E

Data stream is Framebased, and configured with 75/25 downlink/uplink traffic.

File: R93093 Page 11 of 105

# RADAR WAVEFORMS

	Table 3 - FCC Short Pulse Radar Test Waveforms								
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses / burst	Minimum Detection Percentage	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 (Ra	adar Types 1-4)			80%	120				

	Table 4 - FCC Long Pulse Radar Test Waveforms							
Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Pulses / burst	Number of <i>Bursts</i>	Minimum Detection Percentage	Minimum Number of Trials	
5	50-100	5-20	1000- 2000	1-3	8-20	80%	30	

Table 5 - FCC Frequency Hopping Radar Test Waveforms								
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses / hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Detection Percentage	Minimum Number of Trials	
6	1	333	9	0.333	300	70%	30	

File: R93093 Page 12 of 105

# **DFS TEST METHODS**

#### RADIATED TEST METHOD

The combination of master and slave devices is located in an anechoic chamber. The simulated radar waveform is transmitted from a directional horn antenna (typically an EMCO 3115) toward the unit performing the radar detection (radar detection device, RDD). Every effort is made to ensure that the main beam of the EUT's antenna is aligned with the radar-generating antenna.

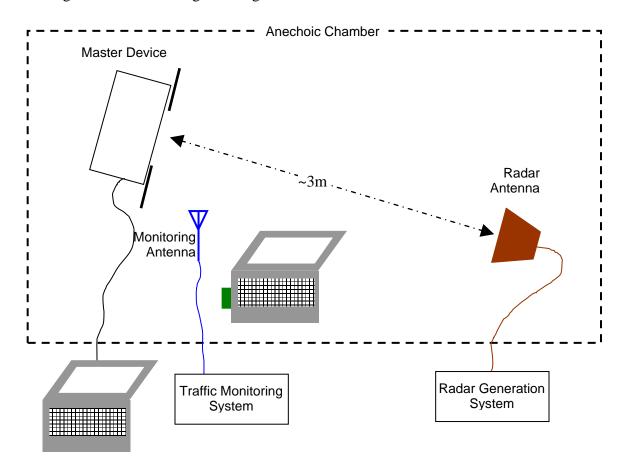


Figure 1 Test Configuration for radiated Measurement Method

File: R93093 Page 13 of 105

The signal level of the simulated waveform is set to a reference level equal to the threshold level (plus 1dB if testing against FCC requirements). Lower levels may also be applied on request of the manufacturer. The level reported is the level at the RDD antenna and so it is not corrected for the RDD's antenna gain. The RDD is configured with the lowest gain antenna assembly intended for use with the device.

The signal level is verified by measuring the CW signal level from the radar generation system using a reference antenna of gain  $G_{REF}$  (dBi). The radar signal level is calculated from the measured level, R (dBm), and any cable loss, L (dB), between the reference antenna and the measuring instrument:

Applied level 
$$(dBm) = R - G_{REF} + L$$

If both master and client devices have radar detection capability then the device not under test is positioned with absorbing material between its antenna and the radar generating antenna, and the radar level at the non RDD is verified to be at least 20dB below the threshold level to ensure that any responses are due to the RDD detecting radar.

The antenna connected to the channel monitoring subsystem is positioned to allow both master and client transmissions to be observed, with the level of the EUT's transmissions between 6 and 10dB higher than those from the other device.

File: R93093 Page 14 of 105

#### CONDUCTED TEST METHOD

The combination of master and slave devices is located in an anechoic chamber. The simulated radar waveform is coupled into the unit performing the radar detection (radar detection device, RDD) via couplers and attenuators.

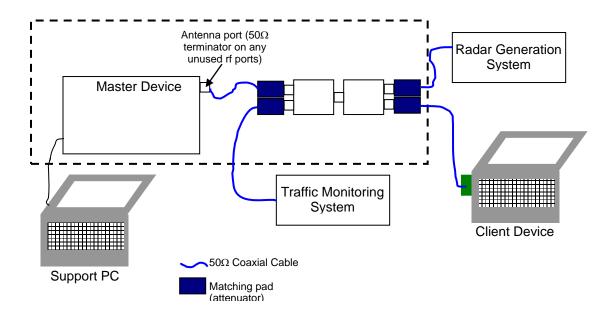


Figure 2 Test Configuration for Conducted Measurement Method

The signal level of the simulated waveform is set to a reference level equal to the threshold level (plus 1dB if testing against FCC requirements). Lower levels may also be applied on request of the manufacturer.

The signal level is verified by measuring the CW signal level at the coupling point to the RDD antenna port. The radar signal level is calculated from the measured level, R (dBm) and the lowest gain antenna assembly intended for use with the RDD,  $G_{RDD}$  (dBi):

Applied level (
$$dBm$$
) = R -  $G_{RDD}$ 

If both master and client devices have radar detection capability then the radar level at the non RDD is verified to be at least 20dB below the threshold level to ensure that any responses are due to the RDD detecting radar.

The antenna connected to the channel monitoring subsystem is positioned to allow both master and client transmissions to be observed, with the level of the EUT's transmissions between 6 and 10dB higher than those from the other device.

File: R93093 Page 15 of 105

## DFS MEASUREMENT INSTRUMENTATION

#### RADAR GENERATION SYSTEM

An Agilent PSG is used as the radar-generating source. The integral arbitrary waveform generators are programmed using Agilent's "Pulse Building" software and NTS Silicon Valley custom software to produce the required waveforms, with the capability to produce both un-modulated and modulated (FM Chirp) pulses. Where there are multiple values for a specific radar parameter then the software selects a value at random and, for FCC tests, the software verifies that the resulting waveform is truly unique.

With the exception of the hopping waveforms required by the FCC's rules (see below), the radar generator is set to a single frequency within the radar detection bandwidth of the EUT. The frequency is varied from trial to trial by stepping in 5MHz steps.

Frequency hopping radar waveforms are simulated using a time domain model. A randomly hopping sequence algorithm (which uses each channel in the hopping radar's range once in a hopping sequence) generates a hop sequence. A segment of the first 100 elements of the hop sequence are then examined to determine if it contains one or more frequencies within the radar detection bandwidth of the EUT. If it does not then the first element of the segment is discarded and the next frequency in the sequence is added. The process repeats until a valid segment is produced. The radar system is then programmed to produce bursts at time slots coincident with the frequencies within the segment that fall in the detection bandwidth. The frequency of the generator is stepped in 1 MHz increments across the EUT's detection range.

The radar signal level is verified during testing using a CW signal with the AGC function switched on. Correction factors to account for the fact that pulses are generated with the AGC functions switched off are measured annually and an offset is used to account for this in the software.

The generator output is connected to the coupling port of the conducted set-up or to the radar-generating antenna.

File: R93093 Page 16 of 105

#### CHANNEL MONITORING SYSTEM

Channel monitoring is achieved using a spectrum analyzer and digital storage oscilloscope. The analyzer is configured in a zero-span mode, center frequency set to the radar waveform's frequency or the center frequency of the EUT's operating channel. The IF output of the analyzer is connected to one input of the oscilloscope.

A signal generator output is set to send either the modulating signal directly or a pulse gate with an output pulse co-incident with each radar pulse. This output is connected to a second input on the oscilloscope and the oscilloscope displays both the channel traffic (via the if input) and the radar pulses on its display.

For in service monitoring tests the analyzer sweep time is set to > 20 seconds and the oscilloscope is configured with a data record length of 10 seconds for the short duration and frequency hopping waveforms, 20 seconds for the long duration waveforms. Both instruments are set for a single acquisition sequence. The analyzer is triggered 500ms before the start of the waveform and the oscilloscope is triggered directly by the modulating pulse train. Timing measurements for aggregate channel transmission time and channel move time are made from the oscilloscope data, with the end of the waveform clearly identified by the pulse train on one trace. The analyzer trace data is used to confirm that the last transmission occurred within the 10-second record of the oscilloscope. If necessary the record length of the oscilloscope is expanded to capture the last transmission on the channel prior to the channel move.

Channel availability check time timing plots are made using the analyzer. The analyzer is triggered at start of the EUT's channel availability check and used to verify that the EUT does not transmit when radar is applied during the check time.

The analyzer detector and oscilloscope sampling mode is set to peak detect for all plots.

File: R93093 Page 17 of 105

## DFS MEASUREMENT METHODS

#### DFS RADAR DETECTION BANDWIDTH

The radar detection bandwidth is determined by using FCC radar waveform 1 and applying radar pulses at offsets from the center channel frequency by multiples of 1MHz. These bursts are applied with no traffic on the channel. The first frequencies above and below the center channel frequency that have a detection rate below 90% define the radar bandwidth, the actual range being 1MHz below the upper frequency and 1MHz above the lower frequency.

#### DFS - CHANNEL CLOSING TRANSMISSION TIME AND CHANNEL MOVE TIME

Channel clearing and closing times are measured by applying a burst of radar with the device configured to change channel and by observing the channel for transmissions. The time between the end of the applied radar waveform and the final transmission on the channel is the channel move time.

The aggregate transmission closing time is measured in one of two ways:

FCC/KCC Notice No. 2010-48 – the total time of all individual transmissions from the EUT that are observed starting 200ms at the end of the last radar pulse in the waveform. This value is required to be less than 60ms.

ETSI – the total time of all individual transmissions from the EUT that are observed from the end of the last radar pulse in the waveform. This value is required to be less than 1000ms.

#### DFS - CHANNEL NON-OCCUPANCY AND VERIFICATION OF PASSIVE SCANNING

The channel that was in use prior to radar detection by the master is additionally monitored for 30 minutes to ensure no transmissions on the vacated channel over the required non-occupancy period. This is achieved by tuning the spectrum analyzer to the vacated channel in zero-span mode and connecting the IF output to an oscilloscope. The oscilloscope is triggered by the radar pulse and set to provide a single sweep (in peak detect mode) that lasts for at least 30 minutes after the end of the channel move time.

For devices with a client-mode that are being evaluated against FCC rules the manufacturer must supply an attestation letter stating that the client device does not employ any active scanning techniques (i.e. does not transmit in the DFS bands without authorization from a Master device).

File: R93093 Page 18 of 105

#### DFS CHANNEL AVAILABILITY CHECK TIME

It is preferred that the EUT report when it starts the radar channel availability check. If the EUT does not report the start of the check time, then the time to start transmitting on a channel after switching the device on is measured to approximate the time from power-on to the end of the channel availability check. The start of the channel availability check is assumed to be 67 seconds prior to the first transmission on the channel.

To evaluate the channel availability check, a single burst of one radar type is applied within the first 2 seconds of the start of the channel availability check and it is verified that the device does not use the channel by continuing to monitor the channel for a period of at least 60 seconds. The test is repeated by applying a burst of radar in the last 2 seconds (i.e. between 65 and 67 seconds after the start of CAC when evaluating a 67-second CAC) of the channel availability check.

#### UNIFORM I OADING

Compliance with the FCC's channel loading requirement is demonstrated through the manufacturer's operational description for the device under test.

## TRANSMIT POWER CONTROL (TPC)

Compliance with the transmit power control requirements for devices is demonstrated through measurements showing multiple power levels and manufacturer statements explaining how the power control is implemented.

File: R93093 Page 19 of 105

# SAMPLE CALCULATIONS

#### DETECTION PROBABILITY / SUCCESS RATE

The detection probability, or success rate, for any one radar waveform equals the number of successful trials divided by the total number of trials for that waveform.

In the case of the FCC requirements, for radar waveform types 1 through 4 an additional calculation is made to determine the average detection probability over all four radar waveform types. This calculation is the arithmetic mean of the four individual probabilities.

#### THRESHOLD LEVEL

The threshold level is the level of the simulated radar waveform at the EUT's antenna. If the test is performed in a conducted fashion then the level at the rf input equals the level at the antenna plus the gain of the antenna assembly, in dBi. The gain of the antenna assembly equals the gain of the antenna minus the loss of the cabling between the rf input and the antenna. The lowest gain value for all antenna assemblies intended for use with the device is used when making this calculation.

If the test is performed using the radiated method then the threshold level is the level at the antenna.

File: R93093 Page 20 of 105

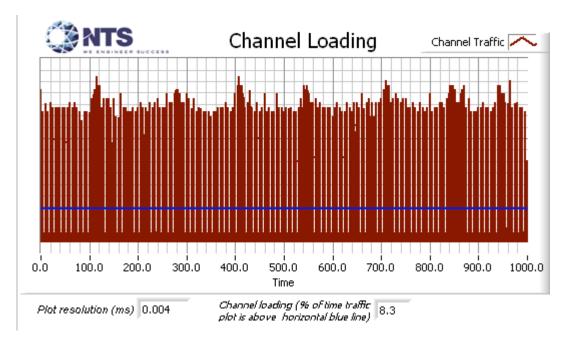
# Appendix A Test Equipment Calibration Data

<b>Manufacturer</b>	<u>Description</u>	Model #	Asset #	Cal Due
Hewlett Packard	EMC Spectrum Analyzer, 9 kHz - 6.5 GHz	8595EM	787	28-Aug-13
Agilent Technologies	PSG Vector Signal Generator (250kHz - 20GHz)	E8267C	1877	05-Jun-14
Tektronix	500MHz, 2CH, 5GS/s Scope	TDS5052B	2118	22-Oct-13
EMCO	Antenna, Horn, 1-18 GHz (SA40- Purple). Used for Chamber 6	3115	1779	17-Apr-14

File: R93093 Page 21 of 105

# Appendix B Test Data Tables for Radar Detection Probability

The plot below shows the channel loading during testing as evaluated over a 1 second period. The traffic was generated by FCC Movie.



**Figure 3 Channel Utilization During In-Service Detection Measurements** 

File: R93093 Page 22 of 105

Table 6	6 - Detection Bar	dwidth Measuren	nents (Bandwidt	th: +8MHz /-8MHz)	20MHz
EUT Frequency	Radar Type	Radar Frequency	# Detected	# Not Detected	Success (%)
	FCC Short				
5550.00 MHz	Pulse Radar	5541.00 MHz	0	3	0
	(Type 1)				
	FCC Short				
5550.00 MHz	Pulse Radar	5542.00 MHz	9	1	90
	(Type 1)				
	FCC Short				
5550.00 MHz	Pulse Radar	5543.00 MHz	10	0	100
	(Type 1)				
	FCC Short				
5550.00 MHz	Pulse Radar	5544.00 MHz	10	0	100
	(Type 1)				
	FCC Short				
5550.00 MHz	Pulse Radar	5545.00 MHz	10	0	100
	(Type 1)		1		
	FCC Short				
5550.00 MHz	Pulse Radar	5546.00 MHz	9	1	90
	(Type 1)				
	FCC Short				100
5550.00 MHz	Pulse Radar	5547.00 MHz	10	0	100
	(Type 1)				
5550.00 MHz	FCC Short				100
	Pulse Radar	5548.00 MHz	10	0	100
	(Type 1)				
	FCC Short				100
5550.00 MHz	Pulse Radar	5549.00 MHz	10	0	100
	(Type 1)				
	FCC Short				100
5550.00 MHz	Pulse Radar	5550.00 MHz	10	0	100
	(Type 1)				
	FCC Short				
5550.00 MHz	Pulse Radar	5551.00 MHz	10	0	100
	(Type 1)				
###O OO 3 577	FCC Short				100
5550.00 MHz	Pulse Radar	5552.00 MHz	10	0	100
	(Type 1)				
###O OO 3 577	FCC Short				100
5550.00 MHz	Pulse Radar	5553.00 MHz	10	0	100
	(Type 1)		1		
~~~~ 00 3 5TT	FCC Short	5554.003.533			
5550.00 MHz	Pulse Radar	5554.00 MHz	9	1	90
	(Type 1)		1		
###O 00 3 555	FCC Short	#### 00 3 555	10		100
5550.00 MHz	Pulse Radar	5555.00 MHz	10	0	100
	(Type 1)	1	1		
	FCC Short	### COO 3 555			
5550.00 MHz	Pulse Radar	5556.00 MHz	9	1	90
	(Type 1)	1	1		
###O OO 3 ****	FCC Short	FFFF 00 3 555	10		100
5550.00 MHz	Pulse Radar	5557.00 MHz	10	0	100
2220.00 11112	(Type 1)				
	FCC Short				

File: R93093 Page 23 of 105

Test Report Report Date: August 20, 2013

Table 6 - Detection Bandwidth Measurements (Bandwidth: +8MHz /-8MHz) 20MHz							
EUT Frequency	Radar Type	Radar Frequency	# Detected	# Not Detected	Success (%)		
	(Type 1)						
5550.00 MHz	FCC Short Pulse Radar (Type 1)	5559.00 MHz	4	3	57		

File: R93093 Page 24 of 105

# 20MHz Channel at 5550MHz, Conducted Method

Table 7 - Summary of All Results 20MHz_Conducted							
Waveform Name	Pd (%)	Pd Required (%)	Number of Trials	Status			
FCC Short Pulse Radar (Type 1)	100.0 %	60.0 %	31	PASSED			
FCC Short Pulse Radar (Type 2)	93.3 %	60.0 %	30	PASSED			
FCC Short Pulse Radar (Type 3)	76.7 %	60.0 %	30	PASSED			
FCC Short Pulse Radar (Type 4)	80.0 %	60.0 %	30	PASSED			
Aggregate of above results	87.5 %	80.0 %	121	PASSED			
Long Sequence	100.0 %	80.0 %	30	PASSED			
FCC frequency hopping radar (Type 6)	100.0 %	70.0 %	34	PASSED			

	Table 8 - FCC Short Pulse Radar (Type 1) Results 20MHz								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
1	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 12:57:29 PM)			
2	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:02:57 PM)			
3	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:05:15 PM)			
4	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:08:13 PM)			
5	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:09:30 PM)			
6	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:10:34 PM)			
7	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:12:30 PM)			
8	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:13:54 PM)			
9	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:15:38 PM)			
10	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:16:56 PM)			
11	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 01:18:11 PM)			
12	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:20:05 PM)			
13	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:21:31 PM)			
14	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:24:40 PM)			
15	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:26:21 PM)			
16	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:27:35 PM)			
17	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:29:00 PM)			
18	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:30:13 PM)			
19	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:31:44 PM)			

File: R93093 Page 25 of 105

	Table 8 - FCC Short Pulse Radar (Type 1) Results 20MHz								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
20	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:33:27 PM)			
21	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 01:35:09 PM)			
22	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:37:48 PM)			
23	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:39:10 PM)			
24	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:40:23 PM)			
25	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:41:30 PM)			
26	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:44:07 PM)			
27	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:46:02 PM)			
28	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:48:13 PM)			
29	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:50:27 PM)			
30	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:51:57 PM)			
31	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 01:54:05 PM)			

	Table 9 - FCC Short Pulse Radar (Type 2) Results 20MHz								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
1	24	3.6	170.0	No	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:34:57 PM)			
2	23	3.1	180.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:36:01 PM)			
3	26	3.1	164.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:37:06 PM)			
4	29	2.3	202.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:39:20 PM)			
5	25	3.1	178.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 02:40:46 PM)			
6	27	2.9	188.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 02:42:07 PM)			
7	26	3.7	204.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:43:18 PM)			
8	29	4.0	222.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 02:44:41 PM)			
9	28	1.7	161.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 02:46:13 PM)			
10	24	1.8	212.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:47:52 PM)			
11	27	3.6	190.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 02:49:53 PM)			
12	23	4.7	164.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 02:51:10 PM)			
13	24	2.9	167.0	Yes	5550.0MHz,	Single burst (07/23/2013 02:52:44			

File: R93093 Page 26 of 105

	Table 9 - FCC Short Pulse Radar (Type 2) Results 20MHz							
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information		
					-64.0dBm	PM)		
14	26	3.6	190.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 02:54:12 PM)		
15	24	2.2	166.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 02:55:26 PM)		
16	29	3.8	224.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:56:43 PM)		
17	26	4.0	181.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 02:57:59 PM)		
18	26	3.8	186.0	No	5555.0MHz, -64.0dBm	Single burst (07/23/2013 02:59:05 PM)		
19	26	3.4	211.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 02:59:22 PM)		
20	27	2.9	216.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:00:36 PM)		
21	28	3.5	153.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:01:42 PM)		
22	28	4.1	226.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:02:54 PM)		
23	27	1.1	213.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:03:51 PM)		
24	28	4.6	220.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:05:07 PM)		
25	25	4.9	219.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:06:55 PM)		
26	25	4.3	198.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:08:03 PM)		
27	27	2.9	222.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:09:21 PM)		
28	25	1.7	208.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:10:37 PM)		
29	28	1.6	214.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:12:00 PM)		
30	24	3.3	206.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:13:23 PM)		

	Table 10 - FCC Short Pulse Radar (Type 3) Results 20MHz								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
1	17	7.1	227.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:15:20 PM)			
2	16	8.2	226.0	No	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:24:22 PM)			
3	16	9.8	473.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:24:44 PM)			
4	18	7.1	458.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:26:25 PM)			
5	16	8.3	462.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:27:52 PM)			
6	18	8.5	345.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:29:22 PM)			
7	16	9.2	430.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:30:42 PM)			

File: R93093 Page 27 of 105

	Table 10 - FCC Short Pulse Radar (Type 3) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
8	17	9.4	227.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:32:04 PM)				
9	17	6.1	383.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:33:48 PM)				
10	18	8.3	371.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:34:49 PM)				
11	17	9.4	448.0	No	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:36:05 PM)				
12	17	6.1	267.0	No	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:36:20 PM)				
13	16	8.8	338.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:36:34 PM)				
14	18	7.3	445.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:38:16 PM)				
15	18	9.6	241.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:40:26 PM)				
16	16	8.9	466.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:42:41 PM)				
17	16	8.5	405.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:43:59 PM)				
18	17	7.1	497.0	No	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:45:34 PM)				
19	18	9.4	429.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:45:59 PM)				
20	16	7.8	209.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:53:26 PM)				
21	17	7.0	453.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:54:42 PM)				
22	18	6.9	262.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:56:03 PM)				
23	16	7.7	475.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 03:57:05 PM)				
24	17	6.3	336.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 03:58:14 PM)				
25	18	7.9	214.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 03:59:39 PM)				
26	17	7.6	473.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:00:57 PM)				
27	18	6.7	482.0	No	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:04:22 PM)				
28	18	9.9	350.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:04:41 PM)				
29	16	9.0	434.0	No	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:06:20 PM)				
30	16	8.6	244.0	No	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:06:43 PM)				

	Table 11 - FCC Short Pulse Radar (Type 4) Results 20MHz								
Trial #	Trial # Pulses/ Burst Pulse Width (us) PRI (us) Detected Fr (MHz) and level (dBm) Burst Information								
1	1 14 16.9 334.0 Yes 5550.0MHz, Single burst (07/23/2013 04:08:19 PM)								

File: R93093 Page 28 of 105

	Report Date: August 20, 201										
	Table 11 - FCC Short Pulse Radar (Type 4) Results 20MHz										
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information					
2	16	18.0	400.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:11:55 PM)					
3	16	19.2	416.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:13:25 PM)					
4	13	18.6	381.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:14:47 PM)					
5	15	12.0	280.0	No	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:16:56 PM)					
6	13	17.2	473.0	No	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:17:35 PM)					
7	13	16.7	390.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:18:30 PM)					
8	12	18.0	324.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:21:36 PM)					
9	16	14.0	469.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:23:12 PM)					
10	14	16.1	246.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:24:24 PM)					
11	16	17.8	403.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:25:40 PM)					
12	15	15.5	437.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:26:42 PM)					
13	14	11.5	402.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:27:59 PM)					
14	13	17.1	399.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:29:45 PM)					
15	13	18.8	286.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:31:15 PM)					
16	14	12.6	225.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:33:18 PM)					
17	12	18.4	409.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:34:28 PM)					
18	16	15.4	255.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:35:46 PM)					
19	14	11.8	275.0	No	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:37:52 PM)					
20	15	11.4	306.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:38:11 PM)					
21	14	18.1	251.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:39:30 PM)					
22	13	19.4	314.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:40:34 PM)					
23	16	18.0	298.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:41:38 PM)					
24	13	16.0	401.0	No	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:42:50 PM)					
25	14	17.0	290.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:43:05 PM)					
26	12	19.9	382.0	No	5545.0MHz, -64.0dBm	Single burst (07/23/2013 04:44:49 PM)					
27	14	19.8	392.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/23/2013 04:45:09 PM)					
28	15	13.6	319.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/23/2013 04:46:30 PM)					

File: R93093 Page 29 of 105

	Table 11 - FCC Short Pulse Radar (Type 4) Results 20MHz									
Trial #	Trial # Pulses/ Burst Pulse Width (us) PRI (us) Detected Fr (MHz) and level (dBm) Burst Information									
29	5545 0MHz Single burst (07/23/2013 04·48·02									
30	5555 0MHz Single burst (07/23/2013 04:48:26									

Table 12 - Long Sequence Waveform Summary 20MHz							
Long Sequence Trial	Result	Radar Frequency / Amplitude					
Trial #1	Detected	5550.0MHz,					
111a1 #1	Detected	-64.0dBm					
Trial #2	Detected	5545.0MHz,					
111a1 π2	Beteeted	-64.0dBm					
Trial #3	Detected	5555.0MHz,					
11141 113	Bettetted	-64.0dBm					
Trial #4	Detected	5550.0MHz,					
		-64.0dBm					
Trial #5	Detected	5545.0MHz,					
		-64.0dBm					
Trial #6	Detected	5555.0MHz,					
		-64.0dBm 5550.0MHz,					
Trial #7	Detected	5550.0MHz, -64.0dBm					
	+	5545.0MHz,					
Trial #8	Detected	-64.0dBm					
		5555.0MHz,					
Trial #9	Detected	-64.0dBm					
	D 1	5550.0MHz,					
Trial #10	Detected	-64.0dBm					
TD: 1 #44		5545.0MHz,					
Trial #11	Detected	-64.0dBm					
Trial #12	Detected	5555.0MHz,					
111a1 #12	Detected	-64.0dBm					
Trial #13	Detected	5550.0MHz,					
111α1 π13	Detected	-64.0dBm					
Trial #14	Detected	5545.0MHz,					
11141 // 1	Bettetted	-64.0dBm					
Trial #15	Detected	5555.0MHz,					
<del></del>		-64.0dBm					
Trial #16	Detected	5550.0MHz,					
		-64.0dBm 5545.0MHz,					
Trial #17	Detected	5545.0MHz,   -64.0dBm					
		-04.0dBm 5555.0MHz,					
Trial #18	Detected	-64.0dBm					
		5550.0MHz,					
Trial #19	Detected	-64.0dBm					
		5545.0MHz,					
Trial #20	Detected	-64.0dBm					
T. 1 #24		5555.0MHz,					
Trial #21	Detected	-64.0dBm					
T. 1 1100	D 1	5550.0MHz,					
Trial #22	Detected	-64.0dBm					

File: R93093 Page 30 of 105

Table 12 - Long Sequence Waveform Summary 20MHz							
Long Sequence Trial	Result	Radar Frequency / Amplitude					
Trial #23	Detected	5545.0MHz,					
111a1 #25	Detected	-64.0dBm					
Trial #24	Detected	5555.0MHz,					
111a1 #24	Detected	-64.0dBm					
Trial #25	Detected	5550.0MHz,					
111a1 #25	Detected	-64.0dBm					
Trial #26	Detected	5545.0MHz,					
111a1 #20	Detected	-64.0dBm					
Trial #27	Detected	5555.0MHz,					
111a1 #27	Detected	-64.0dBm					
Trial #28	Detected	5550.0MHz,					
111a1 #28	Detected	-64.0dBm					
Trial #29	Detected	5545.0MHz,					
11101 #29	Detected	-64.0dBm					
Trial #30	Detected	5555.0MHz,					
11141 #30	Detected	-64.0dBm					

	Table 13 - Long Sequence Waveform Trial#1 (Detected) 20MHz									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	2	79.0	6	1404.0	-	0.832863				
2	1	51.6	18	-	-	1.536065				
3	1	72.7	20	-	-	2.494035				
4	1	75.7	13	-	-	3.369091				
5	1	96.2	13	-	-	4.133564				
6	2	90.9	6	1505.0	-	5.320952				
7	3	64.7	9	1962.0	1438.0	5.801397				
8	2	83.6	10	1854.0	-	7.286565				
9	2	57.3	9	1367.0	-	7.890301				
10	3	87.9	9	1519.0	1842.0	8.897970				
11	1	67.7	12	-	-	9.327575				
12	3	88.9	15	1898.0	1384.0	10.897264				
13	2	86.8	10	1029.0	-	11.768436				

	Table 14 - Long Sequence Waveform Trial#2 (Detected) 20MHz									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	3	90.3	15	1129.0	1957.0	0.543400				
2	2	99.9	7	1740.0	-	1.161827				
3	2	67.4	15	1216.0	-	1.674789				
4	2	55.1	7	1388.0	-	2.612679				
5	2	94.1	12	1654.0	-	3.627909				
6	3	57.6	13	1268.0	1463.0	4.438667				
7	2	59.5	7	1004.0	-	4.912342				
8	1	83.7	16	-	-	5.558333				
9	2	68.9	17	1959.0	-	6.045986				
10	2	52.1	18	1103.0	-	7.315198				
11	1	85.7	15	-	-	8.146326				
12	2	52.8	18	1454.0	-	8.333393				
13	3	61.9	9	1994.0	1241.0	9.188511				
14	2	64.0	20	1616.0	-	9.808083				
15	2	92.9	17	1470.0	-	11.030301				

File: R93093 Page 31 of 105

	Table 14 - Long Sequence Waveform Trial#2 (Detected) 20MHz								
Burst #	Burst #   # Pulse Width (Chirp (MHz)   Interval 1 to 2 (us)   Interval 2 to 3 (us)   Start time (s)								
16	2	89.9	6	1768.0	-	11.855827			

Table 15 - Long Sequence Waveform Trial#3 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	2	73.8	6	1662.0	-	0.636678		
2	1	69.5	11	-	-	1.315456		
3	2	58.0	6	1948.0	-	1.961967		
4	2	97.8	18	1019.0	-	2.546971		
5	3	87.1	9	1233.0	1281.0	3.505567		
6	2	72.2	11	1708.0	-	4.004558		
7	2	67.7	7	1384.0	-	4.716245		
8	2	56.1	16	1002.0	-	5.347994		
9	2	82.6	19	1581.0	-	6.245821		
10	2	94.6	10	1709.0	-	7.259427		
11	2	59.1	8	1518.0	-	7.713656		
12	2	99.9	15	1336.0	-	8.269108		
13	2	69.6	8	1668.0	-	9.633378		
14	1	97.8	14	-	-	9.973266		
15	1	85.2	12	-	-	11.110606		
16	2	99.3	17	1219.0	-	11.587761		

Table 16 - Long Sequence Waveform Trial#4 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	2	76.0	19	1385.0	-	0.434523		
2	2	83.9	19	1356.0	-	1.214729		
3	2	98.8	10	1944.0	-	1.556796		
4	3	95.6	9	1615.0	1505.0	2.004178		
5	2	81.0	15	1128.0	-	2.865697		
6	2	96.3	18	1330.0	-	3.159560		
7	2	75.6	6	1696.0	-	4.052661		
8	2	92.2	17	1304.0	-	4.505757		
9	3	69.0	19	1821.0	1442.0	5.546494		
10	2	86.3	13	1731.0	-	6.154732		
11	1	55.3	16	-	-	6.877317		
12	3	50.9	19	1256.0	1193.0	7.364081		
13	3	82.3	14	1891.0	1046.0	8.070457		
14	1	97.6	6	-	-	8.708230		
15	3	84.5	13	1543.0	1419.0	9.238091		
16	1	96.1	17	-	-	9.551445		
17	3	76.6	17	1312.0	1899.0	10.441416		
18	1	55.6	16	-	-	11.339622		
19	3	58.9	14	1433.0	1529.0	11.665083		

	Table 17 - Long Sequence Waveform Trial#5 (Detected) 20MHz									
Burst #	Burst # Pulses   Pulse Width   Chirp (MHz)   Interval 1 to 2 (us)   Interval 2 to 3 (us)   Start time (s)									
1	2	57.1	14	1106.0	-	0.233247				

File: R93093 Page 32 of 105

	Table 17 - Long Sequence Waveform Trial#5 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
2	2	55.1	19	1397.0	-	1.036979			
3	2	78.9	14	1466.0	-	1.831781			
4	2	94.8	6	1169.0	-	2.267201			
5	1	71.1	11	-	-	3.442523			
6	1	67.9	8	-	-	4.103867			
7	2	54.7	13	1211.0	-	5.246480			
8	2	82.6	19	1718.0	-	5.635812			
9	2	59.4	13	1813.0	-	6.733055			
10	2	63.9	11	1452.0	-	7.174962			
11	1	66.0	17	-	-	7.755090			
12	1	69.6	16	-	-	8.944673			
13	3	65.2	16	1250.0	1529.0	9.214398			
14	3	50.5	11	1060.0	1846.0	10.002407			
15	1	59.4	8	-	-	10.821165			
16	3	50.6	12	1915.0	1810.0	11.502668			

	Table 18 - Long Sequence Waveform Trial#6 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	73.8	16	1438.0	-	0.151591			
2	3	95.3	17	1613.0	1828.0	0.853209			
3	2	57.7	20	1925.0	-	1.654248			
4	3	88.5	10	1433.0	1825.0	2.378460			
5	1	81.3	14	-	-	2.439983			
6	1	67.3	16	-	-	3.489692			
7	1	96.3	14	-	-	3.754396			
8	3	63.3	18	1630.0	1345.0	4.755525			
9	2	72.4	18	1755.0	-	5.387349			
10	2	98.5	9	1016.0	-	5.991647			
11	2	68.9	19	1415.0	-	6.104811			
12	2	67.1	5	1056.0	-	6.802628			
13	2	74.6	8	1741.0	-	7.505778			
14	1	81.4	16	=	=	8.319524			
15	1	89.1	8	-	-	8.625495			
16	2	71.3	8	1729.0	-	9.183069			
17	1	93.2	14	-	-	9.852428			
18	1	79.6	14	=	=	10.208887			
19	2	53.5	18	1413.0	-	11.100445			
20	2	91.5	10	1264.0	-	11.659085			

	Table 19 - Long Sequence Waveform Trial#7 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	84.8	10	1389.0	-	0.485820			
2	1	60.9	6	-	-	1.074981			
3	2	50.3	8	1587.0	-	1.776283			
4	2	64.1	16	1185.0	-	2.601962			
5	3	70.9	10	1100.0	1664.0	3.037602			
6	2	63.0	10	1029.0	-	3.862414			
7	2	65.6	11	1510.0	-	5.041094			

File: R93093 Page 33 of 105

	Table 19 - Long Sequence Waveform Trial#7 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
8	2	55.1	11	1032.0	-	5.328427			
9	2	70.1	12	1830.0	-	6.737300			
10	2	53.9	20	1409.0	-	6.756103			
11	1	86.1	13	-	-	8.188137			
12	2	72.4	11	1433.0	-	8.745297			
13	2	84.9	8	1816.0	-	9.531818			
14	2	55.6	10	1991.0	-	10.174753			
15	2	97.0	20	1383.0	-	10.762329			
16	1	80.1	18	-	-	11.818801			

	Table 20 - Long Sequence Waveform Trial#8 (Detected) 20MHz							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	2	78.9	16	1314.0	-	0.749391		
2	1	51.9	17	-	-	2.217822		
3	2	75.8	13	1879.0	-	4.245297		
4	2	55.7	9	1478.0	-	5.531791		
5	2	87.9	12	1932.0	-	7.449482		
6	2	90.5	16	1837.0	=	7.671490		
7	1	74.6	18	-	-	9.176694		
8	1	62.7	9	-	-	11.289980		

	Table 21 - Long Sequence Waveform Trial#9 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	89.8	16	1415.0	-	0.303212			
2	2	71.9	9	1173.0	-	1.494055			
3	2	53.9	6	1415.0	-	2.376688			
4	1	78.2	20	=	-	2.747068			
5	1	54.3	16	=	-	3.427587			
6	2	90.4	19	1721.0	-	4.608392			
7	3	71.3	6	1861.0	1625.0	5.518439			
8	2	92.4	11	1160.0	-	5.853931			
9	3	82.2	12	1879.0	1417.0	7.060229			
10	3	79.8	18	1064.0	1169.0	7.693099			
11	3	51.6	13	1003.0	1821.0	8.574248			
12	1	52.2	20	-	-	9.025115			
13	2	61.7	12	1153.0	-	9.917685			
14	1	95.4	9	-	-	10.808170			
15	2	64.7	13	1845.0	-	11.279648			

Table 22 - Long Sequence Waveform Trial#10 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	2	63.5	14	1076.0	-	0.089118		
2	3	97.1	8	1746.0	1008.0	1.067901		
3	3	83.5	7	1209.0	1733.0	1.679406		
4	1	85.7	7	-	-	2.563604		
5	2	63.9	12	1967.0	-	2.707123		

File: R93093 Page 34 of 105

	Table 22 - Long Sequence Waveform Trial#10 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
6	1	77.0	8	-	-	3.986636			
7	1	59.3	16	-	-	4.607627			
8	2	88.2	12	1457.0	-	4.918516			
9	2	99.4	15	1597.0	-	5.906038			
10	2	72.2	12	1333.0	-	6.206683			
11	3	90.4	7	1041.0	2000.0	7.263051			
12	2	86.7	6	1263.0	-	7.347234			
13	2	63.7	17	1157.0	-	8.556991			
14	3	74.6	15	1754.0	1101.0	8.900126			
15	1	63.5	7	-	-	9.845134			
16	2	96.7	9	1000.0	-	10.059885			
17	1	67.1	10	-	-	10.702979			
18	2	88.2	17	1119.0	-	11.403580			

Table 23 - Long Sequence Waveform Trial#11 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	2	80.1	13	1668.0	-	0.329736		
2	1	60.4	6	-	-	1.565503		
3	3	70.0	20	1516.0	1455.0	2.627521		
4	2	90.1	12	1608.0	-	3.121661		
5	1	68.6	11	-	-	4.699172		
6	2	92.3	12	1577.0	-	5.143126		
7	3	80.9	8	1247.0	1889.0	6.460932		
8	2	52.9	8	1078.0	-	7.238306		
9	1	91.1	9	-	-	8.443977		
10	1	51.6	5	-	-	9.939665		
11	1	88.0	19	-	-	10.311628		
12	2	91.7	12	1120.0	-	11.235300		

	Table 24 - Long Sequence Waveform Trial#12 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	91.3	14	1436.0	1540.0	0.046163			
2	1	60.2	7	-	-	1.218478			
3	2	53.2	12	1379.0	-	1.641634			
4	1	56.7	12	-	-	2.544015			
5	2	98.0	17	1859.0	-	3.327462			
6	3	54.3	7	1670.0	1549.0	3.514448			
7	3	64.8	13	1451.0	1027.0	4.163979			
8	2	63.7	7	1084.0	-	4.876618			
9	2	71.9	19	1509.0	=	5.558658			
10	2	89.9	20	1646.0	=	6.563593			
11	3	76.1	6	1123.0	1369.0	7.136033			
12	2	86.4	5	1356.0	-	7.578288			
13	2	63.8	13	1225.0	-	8.485839			
14	1	75.9	18	-	-	9.057811			
15	2	75.4	10	1524.0	-	9.688247			
16	1	58.4	16	-	-	10.142051			
17	2	67.2	10	1299.0	-	10.825420			

File: R93093 Page 35 of 105

Table 24 - Long Sequence Waveform Trial#12 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
18	1	82.7	6	-	-	11.995276		

	Table 25 - Long Sequence Waveform Trial#13 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	1	50.8	5	-	-	0.756774			
2	2	68.9	17	1951.0	-	1.132545			
3	3	88.9	8	1567.0	1064.0	2.034775			
4	3	53.3	10	1707.0	1366.0	3.135288			
5	3	66.5	20	1744.0	1379.0	3.776912			
6	1	98.3	6	-	-	4.115194			
7	3	78.2	8	1060.0	1468.0	5.343822			
8	1	66.2	19	-	-	5.880102			
9	2	78.1	13	1581.0	-	6.997301			
10	1	74.4	7	-	-	7.290172			
11	1	85.7	20	-	-	8.095169			
12	2	78.7	10	1222.0	-	9.452993			
13	2	58.1	15	1611.0	-	9.972277			
14	3	76.8	10	1349.0	1923.0	11.059940			
15	1	70.1	10	-	-	11.734119			

Table 26 - Long Sequence Waveform Trial#14 (Detected) 20MHz										
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	1	83.5	18	-	-	0.425597				
2	2	95.0	8	1643.0	-	1.618019				
3	3	62.8	15	1980.0	1968.0	2.446998				
4	3	84.8	11	1389.0	1063.0	3.033970				
5	3	54.7	8	1033.0	1300.0	4.917698				
6	2	73.2	15	1550.0	-	5.670284				
7	2	87.3	9	1526.0	-	6.684212				
8	1	70.7	7	-	-	7.968065				
9	3	69.3	17	1476.0	1710.0	8.150420				
10	3	80.6	17	1087.0	1994.0	9.235841				
11	2	89.9	12	1626.0	-	10.424875				
12	3	72.3	16	1195.0	1088.0	11.249953				

Table 27 - Long Sequence Waveform Trial#15 (Detected) 20MHz										
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	1	67.9	8	-	-	0.157808				
2	3	93.5	8	1622.0	1712.0	1.629340				
3	2	61.1	19	1867.0	-	1.944271				
4	1	54.4	14	-	-	3.311131				
5	2	94.3	11	1811.0	-	3.674218				
6	3	80.7	6	1290.0	1461.0	4.465820				
7	1	81.2	17	-	-	5.592760				
8	2	95.7	11	1649.0	-	6.338659				
9	3	52.9	9	1587.0	1330.0	7.400817				

File: R93093 Page 36 of 105

	Table 27 - Long Sequence Waveform Trial#15 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
10	1	64.2	8	-	-	8.255232			
11	1	88.4	9	-	-	8.995557			
12	2	73.5	9	1538.0	-	9.671081			
13	2	59.9	12	1710.0	-	11.072666			
14	2	84.1	11	1851.0	-	11.565603			

	Table 28 - Long Sequence Waveform Trial#16 (Detected) 20MHz									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	2	93.9	9	1636.0	-	1.016877				
2	1	71.1	16	-	-	1.700195				
3	2	55.6	19	1806.0	-	3.521590				
4	2	56.8	14	1618.0	-	4.197917				
5	2	79.6	14	1925.0	-	5.095909				
6	2	84.5	7	1320.0	-	6.042753				
7	2	52.1	14	1063.0	-	7.431289				
8	3	70.1	9	1630.0	1284.0	9.155944				
9	2	65.4	6	1588.0	-	10.471259				
10	1	64.7	8	-	-	10.809463				

	Table 29 - Long Sequence Waveform Trial#17 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	58.1	7	1156.0	1935.0	0.470830			
2	3	97.3	8	1760.0	1735.0	0.855193			
3	2	73.0	16	1862.0	-	1.525892			
4	3	56.3	10	1334.0	1531.0	2.471101			
5	1	77.3	9	-	-	3.130487			
6	2	91.6	5	1906.0	-	3.989313			
7	2	86.0	6	1292.0	-	4.516004			
8	1	86.0	9	-	-	5.314091			
9	2	98.5	13	1076.0	-	6.163114			
10	3	86.2	8	1487.0	1430.0	6.429024			
11	1	98.9	12	-	-	7.405900			
12	1	95.9	14	-	-	8.175498			
13	1	52.5	13	-	-	9.073790			
14	1	57.0	15	-	-	9.685004			
15	1	80.7	8	-	-	10.427714			
16	2	86.6	15	1050.0	-	10.589101			
17	2	54.4	18	1223.0	-	11.445603			

	Table 30 - Long Sequence Waveform Trial#18 (Detected) 20MHz							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	1	57.7	6	-	-	0.308691		
2	2	70.9	8	1815.0	-	1.123729		
3	3	66.4	9	1358.0	1472.0	1.513058		
4	2	80.1	15	1591.0	-	2.123714		
5	3	76.1	7	1781.0	1370.0	2.853603		

File: R93093 Page 37 of 105

	Table 30 - Long Sequence Waveform Trial#18 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
6	1	87.7	20	-	-	3.585036			
7	2	58.8	20	1663.0	-	3.829875			
8	3	51.9	12	1989.0	1078.0	4.878370			
9	1	89.8	9	-	-	5.357780			
10	2	96.5	11	1742.0	-	5.924479			
11	2	65.3	6	1715.0	-	6.785225			
12	2	82.5	8	1951.0	-	7.522149			
13	3	96.2	10	1052.0	1301.0	7.723282			
14	1	96.8	8	-	-	8.249957			
15	2	98.5	17	1567.0	-	8.987170			
16	3	94.3	14	1163.0	1017.0	9.977359			
17	2	85.2	12	1885.0	-	10.659054			
18	2	79.1	12	1118.0	-	11.230939			
19	3	98.3	14	1945.0	1663.0	11.733458			

	Table 31 - Long Sequence Waveform Trial#19 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	1	78.5	14	-	-	0.683494			
2	3	90.1	15	1269.0	1737.0	1.046276			
3	3	57.1	12	1262.0	1203.0	2.218707			
4	3	64.2	7	1086.0	1651.0	3.018175			
5	2	95.4	6	1525.0	-	3.262485			
6	1	99.5	7	-	-	4.104170			
7	1	83.6	12	-	-	4.930587			
8	2	54.1	17	1423.0	-	6.048617			
9	2	65.7	20	1182.0	-	6.715651			
10	2	72.1	16	1822.0	-	7.493101			
11	2	71.8	6	1255.0	-	8.221266			
12	1	73.7	16	-	-	8.896167			
13	2	92.0	18	1437.0	-	9.727593			
14	1	78.0	8	-	-	10.674285			
15	1	74.7	12	-	-	11.213125			

	Table 32 - Long Sequence Waveform Trial#20 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	69.4	19	1196.0	-	0.191609			
2	2	65.0	9	1029.0	-	1.234134			
3	3	56.5	5	1165.0	1050.0	1.897646			
4	2	69.1	8	1708.0	-	2.727968			
5	3	53.9	16	1486.0	1692.0	3.605745			
6	3	79.1	18	1133.0	1563.0	4.448839			
7	1	77.4	6	-	-	5.005521			
8	3	93.1	13	1900.0	1121.0	5.989281			
9	2	68.1	10	1028.0	-	6.131005			
10	2	69.4	8	1913.0	-	7.172096			
11	3	66.6	12	1903.0	1924.0	7.952880			
12	1	53.3	19	-	-	8.899294			
13	2	79.1	10	1109.0	-	9.105260			

File: R93093 Page 38 of 105

Table 32 - Long Sequence Waveform Trial#20 (Detected) 20MHz									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
14	2	67.0	18	1340.0	-	9.787561			
15	2	71.8	8	1248.0	-	10.658786			
16	2	60.6	13	1296.0	-	11.337440			

	Table 33 - Long Sequence Waveform Trial#21 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	87.0	15	1193.0	-	0.118472			
2	2	91.6	14	1397.0	-	2.526738			
3	2	54.2	6	1052.0	-	3.165143			
4	2	71.1	11	1781.0	=	4.664188			
5	2	73.4	12	1304.0	=	5.682797			
6	1	56.6	8	=	-	7.228474			
7	2	56.2	19	1291.0	-	9.224322			
8	2	97.0	8	1446.0	-	9.732399			
9	1	86.4	13	-	-	10.812396			

	Table 34 - Long Sequence Waveform Trial#22 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	63.0	10	1405.0	-	1.356626			
2	2	75.1	6	1725.0	-	2.006620			
3	1	96.6	16	-	-	3.260696			
4	2	78.3	6	1106.0	-	5.145609			
5	2	57.2	18	1800.0	-	7.245835			
6	1	83.4	14	-	-	8.473465			
7	3	98.9	20	1277.0	1279.0	9.652276			
8	2	62.9	15	1863.0	-	10.868245			

	Table 35 - Long Sequence Waveform Trial#23 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	73.0	15	1232.0	1179.0	0.116133			
2	2	82.1	16	1591.0	-	0.733468			
3	2	57.1	14	1691.0	-	1.556484			
4	3	83.4	8	1627.0	1250.0	1.917191			
5	3	92.1	17	1495.0	1103.0	2.564201			
6	1	55.7	8	-	-	3.545207			
7	3	99.4	19	1327.0	1409.0	3.816830			
8	3	92.8	17	1337.0	1643.0	4.775104			
9	2	95.0	19	1484.0	-	5.180326			
10	1	70.8	17	-	-	6.315308			
11	2	83.9	8	1790.0	-	6.879195			
12	2	76.4	16	1667.0	-	7.565277			
13	2	78.7	10	1848.0	-	7.693501			
14	3	67.2	6	1129.0	1572.0	8.687274			
15	2	82.8	16	1089.0	-	9.091456			
16	1	65.9	14	-	-	9.649720			
17	2	94.5	18	1024.0	-	10.441861			

File: R93093 Page 39 of 105

Table 35 - Long Sequence Waveform Trial#23 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
18	1	50.6	8	-	-	11.185133		
19	3	62.7	11	1262.0	1833.0	11.896558		

	Table 36 - Long Sequence Waveform Trial#24 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	1	81.9	6	-	-	0.388172			
2	2	67.0	6	1073.0	-	1.055080			
3	2	95.2	9	1779.0	-	1.875463			
4	3	72.0	19	1186.0	1089.0	3.475022			
5	1	57.8	18	-	-	4.541959			
6	1	98.6	18	-	-	4.927777			
7	1	61.3	9	-	-	5.850291			
8	1	57.5	13	-	-	7.032315			
9	2	74.9	12	1530.0	-	8.253815			
10	2	52.4	14	1464.0	-	8.414805			
11	2	91.9	12	1870.0	-	9.378665			
12	2	57.0	20	1516.0	-	10.475903			
13	2	55.9	8	1327.0	-	11.413618			

	Table 37 - Long Sequence Waveform Trial#25 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	1	50.4	15	-	-	0.255472			
2	3	56.0	17	1756.0	1199.0	1.297952			
3	1	60.0	14	-	-	2.141879			
4	2	71.5	18	1735.0	-	3.629928			
5	2	87.6	7	1082.0	=	3.956459			
6	2	54.3	6	1780.0	=	5.445037			
7	2	98.3	7	1273.0	-	5.829324			
8	2	56.3	12	1489.0	=	6.756793			
9	1	94.1	16	-	-	8.072866			
10	2	61.5	7	1244.0	-	8.954241			
11	1	66.5	18	-	-	9.328354			
12	1	85.9	8	-	-	10.750471			
13	2	65.3	16	1918.0	-	11.832082			

	Table 38 - Long Sequence Waveform Trial#26 (Detected) 20MHz									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	2	51.8	8	1886.0	-	0.728296				
2	2	77.3	16	1413.0	-	1.591057				
3	3	77.8	8	1075.0	1405.0	3.105170				
4	2	74.2	15	1813.0	-	3.646875				
5	2	51.7	13	1236.0	-	5.979022				
6	3	89.8	6	1781.0	1933.0	6.855968				
7	3	82.1	19	1485.0	1970.0	7.578747				
8	2	63.5	9	1922.0	-	8.955256				
9	2	71.4	19	1541.0	-	10.490326				

File: R93093 Page 40 of 105

	Table 38 - Long Sequence Waveform Trial#26 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
10	2	58.2	17	1803.0	-	11.977459			

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)
1	2	54.0	15	1180.0	-	0.299087
2	3	64.8	9	1672.0	1123.0	1.270857
3	3	89.8	10	1920.0	1821.0	1.549724
4	2	57.6	18	1847.0	-	2.442189
5	2	87.6	13	1791.0	-	3.072459
6	2	52.7	16	1896.0	-	3.993606
7	3	52.2	10	1963.0	1422.0	4.860285
8	2	82.8	17	1902.0	-	4.958536
9	2	78.9	9	1792.0	-	6.109697
10	3	64.4	11	1573.0	1150.0	6.577228
11	2	65.8	10	1589.0	-	7.652410
12	2	89.6	8	1107.0	-	7.991540
13	3	50.8	19	1159.0	1532.0	8.824114
14	2	79.9	13	1581.0	-	9.426427
15	2	52.6	19	1807.0	-	10.220781
16	2	88.1	16	1064.0	=	11.059260
17	1	85.0	11	-	-	11.660792

	Table 40 - Long Sequence Waveform Trial#28 (Detected) 20MHz									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	2	61.3	8	1148.0	-	0.118797				
2	3	88.8	11	1495.0	1080.0	1.121879				
3	3	82.3	9	1185.0	1154.0	2.182127				
4	2	82.8	7	1947.0	-	3.602784				
5	2	89.8	16	1245.0	-	4.000876				
6	1	70.0	16	-	-	5.026080				
7	2	68.3	14	1233.0	-	6.413993				
8	1	79.3	19	-	-	7.521714				
9	3	89.5	8	1020.0	1642.0	8.075382				
10	3	99.4	19	1908.0	1250.0	9.075708				
11	2	92.1	16	1891.0	-	10.004646				
12	3	54.1	10	1694.0	1045.0	11.023780				

	Table 41 - Long Sequence Waveform Trial#29 (Detected) 20MHz								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	68.4	12	1258.0	-	0.631917			
2	1	52.1	13	-	-	1.098325			
3	3	84.2	7	1931.0	1084.0	1.901429			
4	2	82.2	17	1029.0	-	2.902879			
5	1	100.0	13	-	=	3.498700			
6	1	81.3	18	-	-	4.220433			
7	1	71.0	5	-	-	4.839990			

File: R93093 Page 41 of 105

Test Report Report Date: August 20, 2013

	Table 41 - Long Sequence Waveform Trial#29 (Detected) 20MHz									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
8	2	64.2	14	1976.0	-	5.951919				
9	2	62.3	5	1339.0	-	6.069696				
10	2	51.9	15	1839.0	-	7.106984				
11	2	57.4	19	1669.0	-	8.202521				
12	1	55.4	17	-	-	8.598261				
13	3	87.7	16	1897.0	1309.0	9.537075				
14	1	96.9	19	-	-	10.058881				
15	3	76.7	9	1860.0	1048.0	11.139714				
16	3	51.1	9	1167.0	1389.0	11.845242				

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)
1	2	61.5	7	1936.0	-	0.559165
2	1	95.2	16	-	-	1.671723
3	1	56.3	8	-	-	2.428502
4	2	68.8	14	1111.0	-	3.555724
5	2	56.1	8	1094.0	-	4.902961
6	1	80.5	10	-	-	5.707644
7	1	61.7	12	-	-	6.570356
8	2	68.3	8	1794.0	-	7.192587
9	2	53.0	16	1471.0	-	8.812123
10	3	64.9	10	1026.0	1859.0	9.696646
11	2	56.8	16	1782.0	-	10.887698
12	2	67.9	5	1044.0	-	11.840397

File: R93093 Page 42 of 105

		Table 43 -	FCC frequ	ency hopping	g radar (Type 6) l	Results 20MHz
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information
1	9	1.0	333.0	Yes	5557.0MHz, -64.0dBm	Hop sequence: 5471, 5697, 5349, 5445, 5308, 5284, 5523, 5470, 5485, 5396, 5279, 5718, 5663, 5706, 5593, 5265, 5509, 5270, 5379, 5373, 5394, 5319, 5416, 5277, 5278, 5369, 5450, 5360, 5690, 5392, 5554, 5514, 5385, 5306, 5578, 5513, 5340, 5656, 5410, 5687, 5294, 5325, 5276, 5501, 5409, 5381, 5457, 5378, 5441, 5631, 5362, 5256, 5603, 5343, 5377, 5666, 5646, 5689, 5365, 5577, 5395, 5367, 5642, 5518, 5460, 5399, 5332, 5668, 5629, 5561, 5645, 5326, 5576, 5496, 5412, 5289, 5607, 5302, 5380, 5512, 5443, 5315, 5648, 5327, 5658, 5336, 5649, 5654, 5255, 5710, 5333, 5672, 5427, 5474, 5374, 5608, 5635, 5463, 5440, 5510 (1 hits) (07/24/2013 10:58:37 AM)
2	9	1.0	333.0	Yes	5558.0MHz, -64.0dBm	Hop sequence: 5472, 5360, 5359, 5329, 5298, 5586, 5505, 5507, 5481, 5624, 5423, 5393, 5356, 5674, 5383, 5362, 5572, 5476, 5697, 5389, 5619, 5580, 5590, 5374, 5693, 5428, 5322, 5569, 5528, 5660, 5666, 5613, 5679, 5312, 5595, 5444, 5434, 5391, 5514, 5645, 5594, 5672, 5456, 5474, 5630, 5361, 5689, 5626, 5401, 5424, 5467, 5421, 5654, 5367, 5349, 5394, 5293, 5540, 5395, 5651, 5358, 5287, 5542, 5341, 5375, 5352, 5279, 5455, 5690, 5493, 5334, 5254, 5460, 5325, 5441, 5623, 5649, 5390, 5426, 5258, 5527, 5364, 5508, 5610, 5600, 5288, 5272, 5631, 5640, 5469, 5477, 5583, 5648, 5323, 5315, 5284, 5708, 5450, 5574, 5568 (1 hits) (07/24/2013 11:00:28 AM)

File: R93093 Page 43 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
3	9	1.0	333.0	Yes	5542.0MHz, -64.0dBm	Hop sequence: 5698, 5641, 5375, 5596, 5693, 5319, 5611, 5401, 5655, 5390, 5681, 5291, 5352, 5582, 5264, 5696, 5437, 5279, 5481, 5610, 5517, 5261, 5595, 5259, 5357, 5497, 5434, 5374, 5560, 5705, 5459, 5487, 5547, 5426, 5561, 5335, 5296, 5625, 5502, 5418, 5347, 5308, 5494, 5644, 5615, 5350, 5462, 5659, 5689, 5589, 5273, 5411, 5676, 5637, 5301, 5454, 5306, 5656, 5268, 5694, 5540, 5674, 5302, 5677, 5664, 5368, 5447, 5341, 5428, 5537, 5305, 5365, 5251, 5309, 5578, 5569, 5333, 5420, 5300, 5329, 5584, 5359, 5344, 5405, 5460, 5639, 5666, 5622, 5654, 5533, 5384, 5702, 5725, 5483, 5293, 5269, 5410, 5559, 5524, 5479 (1 hits) (07/24/2013 11:01:44 AM)			
4	9	1.0	333.0	Yes	5543.0MHz, -64.0dBm	Hop sequence: 5328, 5374, 5258, 5368, 5558, 5340, 5537, 5678, 5658, 5588, 5329, 5648, 5665, 5512, 5509, 5691, 5685, 5555, 5457, 5617, 5469, 5492, 5644, 5548, 5550, 5452, 5427, 5535, 5384, 5299, 5275, 5587, 5284, 5264, 5298, 5624, 5346, 5610, 5633, 5461, 5319, 5554, 5403, 5282, 5543, 5378, 5641, 5272, 5413, 5631, 5404, 5723, 5440, 5418, 5504, 5266, 5606, 5429, 5467, 5575, 5506, 5306, 5677, 5416, 5654, 5424, 5498, 5482, 5682, 5485, 5518, 5415, 5541, 5455, 5411, 5396, 5433, 5542, 5540, 5370, 5285, 5473, 5625, 5629, 5348, 5556, 5712, 5286, 5557, 5680, 5471, 5619, 5716, 5591, 5690, 5407, 5355, 5315, 5630, 5651 (9 hits) (07/24/2013 11:03:32 AM)			
5	9	1.0	333.0	Yes	5544.0MHz, -64.0dBm	Hop sequence: 5559, 5505, 5399, 5294, 5547, 5648, 5479, 5340, 5291, 5491, 5391, 5653, 5257, 5362, 5432, 5365, 5376, 5667, 5525, 5335, 5608, 5632, 5293, 5299, 5631, 5454, 5518, 5418, 5425, 5435, 5361, 5663, 5577, 5414, 5552, 5372, 5329, 5467, 5499, 5343, 5574, 5458, 5507, 5593, 5535, 5538, 5285, 5708, 5471, 5265, 5566, 5628, 5256,			

File: R93093 Page 44 of 105

		m 11 42	EGG A		1 /20	Report Date. August 20, 201.
			FCC frequ	ency hopping	g radar (Type 6) I	Results 20MHz
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information
						5303, 5366, 5529, 5561, 5583, 5702, 5563, 5339, 5396, 5304, 5567, 5588, 5352, 5504, 5536, 5444, 5326, 5549, 5478, 5387, 5305, 5415, 5380, 5542, 5465, 5408, 5439, 5597, 5526, 5683, 5691, 5307, 5516, 5338, 5690, 5495, 5635, 5720, 5434, 5719, 5520, 5609, 5645, 5656, 5350, 5533, 5565 (4 hits) (07/24/2013 11:06:08 AM)
6	9	1.0	333.0	Yes	5545.0MHz, -64.0dBm	Hop sequence: 5308, 5360, 5586, 5505, 5303, 5710, 5399, 5681, 5694, 5496, 5310, 5351, 5724, 5511, 5271, 5349, 5377, 5275, 5256, 5623, 5589, 5546, 5658, 5624, 5324, 5625, 5334, 5260, 5344, 5687, 5411, 5583, 5276, 5705, 5494, 5373, 5676, 5656, 5493, 5465, 5412, 5719, 5596, 5504, 5647, 5420, 5325, 5491, 5392, 5577, 5380, 5263, 5525, 5488, 5560, 5382, 5386, 5607, 5706, 5726, 5588, 5721, 5666, 5701, 5544, 5529, 5287, 5457, 5407, 5473, 5704, 5646, 5253, 5640, 5289, 5384, 5690, 5293, 5652, 5535, 5450, 5437, 5665, 5559, 5584, 5332, 5497, 5495, 5689, 5404, 5433, 5700, 5519, 5639, 5366, 5668, 5715, 5290, 5630, 5490 (2 hits) (07/24/2013 11:07:46 AM)
7	9	1.0	333.0	Yes	5546.0MHz, -64.0dBm	Hop sequence: 5514, 5689, 5484, 5720, 5505, 5355, 5504, 5578, 5618, 5449, 5581, 5540, 5510, 5585, 5401, 5450, 5466, 5600, 5529, 5334, 5262, 5654, 5519, 5344, 5300, 5611, 5602, 5250, 5532, 5284, 5328, 5577, 5272, 5351, 5583, 5383, 5616, 5318, 5324, 5683, 5255, 5476, 5673, 5580, 5402, 5545, 5393, 5496, 5281, 5271, 5336, 5405, 5327, 5552, 5445, 5481, 5564, 5557, 5462, 5350, 5458, 5560, 5457, 5672, 5575, 5513, 5622, 5536, 5495, 5718, 5699, 5340, 5621, 5446, 5558, 5719, 5280, 5298, 5378, 5439, 5485, 5455, 5544, 5323, 5316, 5534, 5256, 5429, 5362, 5411, 5447, 5656, 5677, 5664, 5635, 5709, 5566, 5582, 5530, 5502 (5 hits) (07/24/2013 11:08:52 AM)

File: R93093 Page 45 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
8	9	1.0	333.0	Yes	5547.0MHz, -64.0dBm	Hop sequence: 5444, 5492, 5468, 5386, 5344, 5273, 5458, 5337, 5534, 5412, 5363, 5266, 5684, 5697, 5689, 5603, 5433, 5533, 5632, 5440, 5609, 5698, 5361, 5490, 5554, 5445, 5293, 5343, 5394, 5621, 5448, 5587, 5378, 5275, 5308, 5477, 5255, 5699, 5535, 5679, 5325, 5583, 5278, 5577, 5599, 5419, 5542, 5280, 5438, 5479, 5329, 5449, 5367, 5722, 5686, 5582, 5415, 5606, 5272, 5680, 5390, 5548, 5287, 5398, 5316, 5437, 5401, 5678, 5380, 5560, 5265, 5466, 5342, 5425, 5526, 5528, 5500, 5663, 5336, 5382, 5667, 5403, 5624, 5326, 5299, 5252, 5546, 5472, 5338, 5496, 5705, 5410, 5718, 5525, 5409, 5286, 5486, 5279, 5644, 5274 (4 hits) (07/24/2013 11:10:44 AM)				
9	9	1.0	333.0	Yes	5548.0MHz, -64.0dBm	Hop sequence: 5256, 5370, 5643, 5466, 5634, 5373, 5327, 5489, 5698, 5705, 5396, 5529, 5638, 5444, 5337, 5421, 5568, 5315, 5349, 5307, 5550, 5625, 5722, 5506, 5500, 5695, 5660, 5345, 5451, 5662, 5577, 5471, 5273, 5422, 5681, 5458, 5555, 5564, 5700, 5470, 5620, 5655, 5335, 5305, 5487, 5703, 5517, 5572, 5538, 5343, 5710, 5677, 5557, 5299, 5360, 5362, 5291, 5535, 5566, 5464, 5472, 5497, 5484, 5531, 5693, 5687, 5469, 5493, 5453, 5543, 5561, 5672, 5298, 5626, 5716, 5709, 5526, 5501, 5608, 5530, 5599, 5297, 5482, 5718, 5282, 5683, 5548, 5649, 5717, 5514, 5711, 5544, 5680, 5682, 5669, 5267, 5480, 5322, 5288, 5341 (6 hits) (07/24/2013 11:12:19 AM)				
10	9	1.0	333.0	Yes	5549.0MHz, -64.0dBm	Hop sequence: 5645, 5500, 5637, 5595, 5563, 5260, 5308, 5437, 5670, 5421, 5271, 5488, 5345, 5682, 5479, 5621, 5326, 5364, 5615, 5610, 5428, 5484, 5379, 5350, 5281, 5270, 5655, 5543, 5429, 5583, 5702, 5508, 5538, 5325, 5489, 5391, 5586, 5471, 5353, 5373, 5427, 5639, 5475, 5524, 5598, 5328, 5286, 5658, 5431, 5689, 5631, 5368, 5461,				

File: R93093 Page 46 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz								
	D 1 /		FCC frequ	ency hopping		Results 20MHz			
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
						5375, 5613, 5620, 5393, 5582, 5356, 5311, 5542, 5257, 5605, 5699, 5515, 5450, 5512, 5483, 5335, 5503, 5721, 5700, 5340, 5372, 5604, 5459, 5584, 5534, 5619, 5380, 5296, 5540, 5347, 5346, 5320, 5447, 5688, 5468, 5433, 5547, 5624, 5622, 5455, 5398, 5708, 5533, 5297, 5571, 5558, 5272 (4 hits) (07/24/2013 11:13:36 AM)			
11	9	1.0	333.0	Yes	5550.0MHz, -64.0dBm	Hop sequence: 5617, 5269, 5456, 5403, 5443, 5507, 5535, 5254, 5418, 5327, 5594, 5560, 5576, 5382, 5428, 5525, 5342, 5265, 5436, 5601, 5577, 5694, 5431, 5419, 5438, 5685, 5338, 5416, 5359, 5252, 5278, 5529, 5462, 5423, 5513, 5340, 5484, 5722, 5682, 5394, 5314, 5533, 5360, 5619, 5634, 5388, 5271, 5557, 5714, 5626, 5356, 5666, 5624, 5319, 5702, 5663, 5481, 5531, 5717, 5346, 5374, 5681, 5284, 5496, 5526, 5457, 5709, 5347, 5503, 5603, 5649, 5701, 5448, 5485, 5540, 5488, 5565, 5413, 5566, 5409, 5514, 5486, 5320, 5695, 5711, 5664, 5530, 5683, 5445, 5324, 5537, 5325, 5323, 5512, 5442, 5552, 5421, 5611, 5653, 5511 (2 hits) (07/24/2013 11:15:00 AM)			
12	9	1.0	333.0	Yes	5551.0MHz, -64.0dBm	Hop sequence: 5612, 5652, 5518, 5391, 5642, 5583, 5624, 5623, 5263, 5626, 5464, 5526, 5342, 5257, 5475, 5533, 5436, 5316, 5324, 5545, 5604, 5711, 5723, 5369, 5365, 5381, 5407, 5373, 5529, 5404, 5528, 5522, 5428, 5415, 5692, 5493, 5678, 5310, 5375, 5532, 5615, 5704, 5298, 5427, 5376, 5708, 5465, 5593, 5517, 5421, 5502, 5333, 5327, 5680, 5462, 5620, 5357, 5253, 5322, 5682, 5614, 5713, 5379, 5487, 5368, 5666, 5695, 5691, 5603, 5602, 5573, 5556, 5495, 5308, 5592, 5637, 5426, 5303, 5571, 5621, 5569, 5355, 5433, 5380, 5531, 5405, 5352, 5440, 5530, 5673, 5501, 5267, 5478, 5663, 5402, 5437, 5706, 5605, 5677, 5309 (2 hits) (07/24/2013 11:16:15 AM)			

File: R93093 Page 47 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
13	9	1.0	333.0	Yes	5552.0MHz, -64.0dBm	Hop sequence: 5455, 5330, 5565, 5700, 5535, 5299, 5718, 5386, 5528, 5312, 5354, 5670, 5481, 5267, 5333, 5672, 5306, 5522, 5472, 5595, 5374, 5283, 5480, 5573, 5667, 5305, 5307, 5544, 5460, 5292, 5478, 5505, 5417, 5651, 5375, 5272, 5459, 5324, 5298, 5686, 5636, 5545, 5564, 5388, 5634, 5656, 5597, 5484, 5448, 5698, 5269, 5437, 5532, 5589, 5303, 5339, 5702, 5665, 5696, 5392, 5676, 5295, 5541, 5692, 5265, 5561, 5551, 5501, 5632, 5383, 5471, 5630, 5336, 5724, 5356, 5552, 5488, 5323, 5714, 5557, 5349, 5397, 5492, 5497, 5334, 5403, 5345, 5326, 5276, 5725, 5592, 5599, 5445, 5507, 5263, 5594, 5608, 5444, 5577, 5550 (6 hits) (07/24/2013 11:17:41 AM)				
14	9	1.0	333.0	Yes	5553.0MHz, -64.0dBm	Hop sequence: 5365, 5706, 5695, 5436, 5422, 5459, 5383, 5569, 5661, 5665, 5484, 5296, 5415, 5297, 5539, 5476, 5382, 5613, 5454, 5417, 5458, 5299, 5320, 5647, 5359, 5552, 5603, 5367, 5310, 5516, 5307, 5580, 5373, 5486, 5522, 5434, 5304, 5395, 5681, 5472, 5362, 5273, 5295, 5444, 5316, 5672, 5696, 5502, 5541, 5574, 5326, 5408, 5252, 5489, 5478, 5693, 5657, 5512, 5535, 5534, 5621, 5591, 5550, 5389, 5361, 5324, 5509, 5464, 5536, 5514, 5581, 5598, 5372, 5630, 5494, 5497, 5642, 5333, 5461, 5292, 5649, 5271, 5602, 5555, 5445, 5544, 5496, 5640, 5413, 5653, 5369, 5450, 5593, 5470, 5491, 5500, 5440, 5351, 5495 (4 hits) (07/24/2013 11:27:55 AM)				
15	9	1.0	333.0	Yes	5554.0MHz, -64.0dBm	Hop sequence: 5722, 5487, 5374, 5720, 5726, 5718, 5400, 5401, 5479, 5448, 5478, 5385, 5422, 5436, 5468, 5306, 5431, 5442, 5311, 5466, 5288, 5528, 5440, 5656, 5297, 5563, 5610, 5252, 5373, 5325, 5716, 5654, 5602, 5277, 5307, 5331, 5429, 5509, 5675, 5278, 5424, 5608, 5706, 5270, 5519, 5368, 5546, 5526, 5578, 5263, 5332, 5570, 5588,				

File: R93093 Page 48 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
			FCC frequ	ency hopping		Results 20MHz				
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
						5451, 5419, 5465, 5668, 5420, 5551, 5305, 5286, 5579, 5725, 5361, 5458, 5553, 5335, 5382, 5443, 5696, 5710, 5536, 5464, 5280, 5660, 5640, 5376, 5301, 5495, 5414, 5303, 5568, 5367, 5387, 5566, 5333, 5680, 5688, 5338, 5702, 5490, 5647, 5597, 5389, 5711, 5339, 5403, 5416, 5628, 5632 (3 hits) (07/24/2013 11:29:31 AM)				
16	9	1.0	333.0	Yes	5555.0MHz, -64.0dBm	Hop sequence: 5544, 5270, 5380, 5331, 5573, 5448, 5527, 5359, 5282, 5387, 5509, 5614, 5431, 5423, 5303, 5612, 5350, 5334, 5706, 5688, 5340, 5392, 5351, 5610, 5559, 5409, 5504, 5433, 5325, 5454, 5515, 5309, 5438, 5361, 5561, 5623, 5389, 5635, 5584, 5335, 5567, 5252, 5577, 5677, 5396, 5498, 5401, 5526, 5479, 5420, 5385, 5377, 5496, 5338, 5304, 5653, 5295, 5726, 5324, 5485, 5370, 5398, 5320, 5302, 5523, 5354, 5555, 5474, 5711, 5263, 5669, 5670, 5592, 5572, 5681, 5531, 5524, 5716, 5697, 5643, 5511, 5300, 5517, 5444, 5427, 5600, 5708, 5357, 5566, 5333, 5368, 5353, 5704, 5262, 5650, 5593, 5483, 5306, 5663, 5599 (2 hits) (07/24/2013 11:34:21 AM)				
17	9	1.0	333.0	Yes	5556.0MHz, -64.0dBm	Hop sequence: 5550, 5477, 5445, 5571, 5478, 5634, 5544, 5496, 5369, 5702, 5306, 5471, 5689, 5340, 5330, 5534, 5622, 5331, 5646, 5303, 5396, 5264, 5378, 5255, 5276, 5284, 5322, 5635, 5379, 5724, 5717, 5458, 5621, 5641, 5613, 5718, 5277, 5574, 5491, 5687, 5602, 5615, 5372, 5695, 5657, 5416, 5608, 5638, 5604, 5541, 5650, 5670, 5643, 5520, 5317, 5424, 5361, 5426, 5386, 5297, 5427, 5357, 5653, 5266, 5282, 5311, 5665, 5312, 5569, 5707, 5536, 5511, 5410, 5432, 5398, 5437, 5428, 5593, 5696, 5572, 5716, 5381, 5470, 5583, 5508, 5452, 5599, 5366, 5555, 5515, 5268, 5283, 5595, 5397, 5270, 5353, 5459, 5294, 5667, 5457 (3 hits) (07/24/2013 11:35:21 AM)				

File: R93093 Page 49 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Results 20MHz  Burst Information				
18	9	1.0	333.0	Yes	5557.0MHz, -64.0dBm	Hop sequence: 5616, 5520, 5650, 5332, 5537, 5315, 5430, 5692, 5305, 5431, 5666, 5489, 5525, 5335, 5682, 5515, 5560, 5269, 5311, 5413, 5536, 5300, 5357, 5299, 5705, 5596, 5485, 5348, 5563, 5674, 5611, 5456, 5289, 5314, 5295, 5342, 5303, 5260, 5496, 5266, 5445, 5558, 5262, 5691, 5256, 5652, 5614, 5302, 5707, 5572, 5720, 5511, 5414, 5428, 5638, 5700, 5559, 5278, 5405, 5597, 5510, 5281, 5608, 5458, 5603, 5265, 5367, 5443, 5719, 5644, 5512, 5527, 5310, 5709, 5258, 5524, 5507, 5553, 5694, 5545, 5253, 5255, 5353, 5502, 5647, 5304, 5380, 5636, 5695, 5288, 5641, 5529, 5571, 5492, 5454, 5678, 5714, 5659, 5711, 5386 (3 hits) (07/24/2013 11:36:25 AM)				
19	9	1.0	333.0	Yes	5558.0MHz, -64.0dBm	Hop sequence: 5276, 5354, 5592, 5314, 5376, 5507, 5663, 5693, 5336, 5594, 5597, 5500, 5305, 5363, 5294, 5412, 5266, 5330, 5661, 5288, 5658, 5390, 5357, 5713, 5656, 5516, 5296, 5319, 5572, 5329, 5335, 5583, 5715, 5375, 5717, 5491, 5602, 5413, 5668, 5487, 5673, 5604, 5554, 5322, 5257, 5651, 5438, 5671, 5278, 5341, 5253, 5509, 5596, 5389, 5701, 5344, 5719, 5262, 5723, 5573, 5566, 5359, 5424, 5355, 5612, 5581, 5615, 5620, 5340, 5485, 5674, 5644, 5444, 5523, 5481, 5528, 5519, 5625, 5718, 5268, 5577, 5548, 5483, 5692, 5712, 5698, 5549, 5559, 5264, 5427, 5530, 5391, 5515, 5610, 5452, 5272, 5646, 5510, 5571, 5505 (3 hits) (07/24/2013 11:37:27 AM)				
20	9	1.0	333.0	Yes	5542.0MHz, -64.0dBm	Hop sequence: 5302, 5500, 5704, 5598, 5380, 5427, 5503, 5654, 5658, 5619, 5484, 5338, 5306, 5367, 5445, 5425, 5483, 5275, 5420, 5519, 5550, 5482, 5606, 5422, 5383, 5575, 5264, 5343, 5604, 5320, 5342, 5480, 5326, 5504, 5310, 5562, 5552, 5360, 5434, 5674, 5277, 5587, 5700, 5633, 5547, 5579, 5648, 5574, 5413, 5351, 5335, 5313, 5447,				

File: R93093 Page 50 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
	Burst	Widel (us)			iover (ubin)	5668, 5468, 5573, 5385, 5530, 5357, 5646, 5664, 5638, 5618, 5564, 5406, 5440, 5271, 5682, 5522, 5656, 5449, 5518, 5368, 5580, 5714, 5443, 5456, 5370, 5470, 5323, 5577, 5636, 5570, 5525, 5719, 5472, 5437, 5426, 5457, 5715, 5526, 5397, 5355, 5479, 5452, 5268, 5461, 5494, 5635, 5377 (3 hits) (07/24/2013 11:38:52 AM)				
21	9	1.0	333.0	Yes	5543.0MHz, -64.0dBm	Hop sequence: 5407, 5554, 5271, 5368, 5438, 5575, 5547, 5576, 5431, 5564, 5296, 5643, 5357, 5655, 5657, 5541, 5277, 5318, 5542, 5380, 5443, 5314, 5423, 5611, 5416, 5419, 5441, 5719, 5303, 5269, 5504, 5724, 5387, 5560, 5391, 5709, 5687, 5278, 5679, 5671, 5550, 5555, 5343, 5399, 5519, 5344, 5606, 5454, 5319, 5334, 5463, 5393, 5463, 5590, 5470, 5601, 5531, 5463, 5590, 5470, 5600, 5348, 5361, 5705, 5602, 5316, 5505, 5390, 5614, 5666, 5466, 5293, 5544, 5584, 5482, 5506, 5546, 5287, 5367, 5450, 5625, 5252, 5615, 5672, 5613, 5272, 5377, 5485, 5624, 5394, 5690, 5716, 5621, 5257 (7 hits) (07/24/2013 11:40:13 AM)				
22	9	1.0	333.0	Yes	5544.0MHz, -64.0dBm	Hop sequence: 5452, 5493, 5549, 5360, 5302, 5705, 5571, 5704, 5706, 5380, 5710, 5489, 5599, 5416, 5260, 5474, 5712, 5403, 5304, 5444, 5472, 5351, 5332, 5517, 5456, 5532, 5567, 5417, 5596, 5621, 5460, 5440, 5400, 5619, 5420, 5649, 5615, 5468, 5519, 5572, 5589, 5500, 5406, 5280, 5269, 5711, 5282, 5376, 5677, 5449, 5684, 5518, 5510, 5476, 5521, 5431, 5356, 5526, 5715, 5387, 5699, 5331, 5412, 5480, 5457, 5576, 5594, 5582, 5550, 5359, 5482, 5501, 5479, 5361, 5689, 5494, 5552, 5492, 5265, 5533, 5345, 5293, 5578, 5726, 5422, 5573, 5642, 5701, 5647, 5584, 5495, 5267, 5553, 5399, 5683, 5696, 5349, 5591, 5680, 5271 (4 hits) (07/24/2013 11:41:53 AM)				

File: R93093 Page 51 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
23	9	1.0	333.0	Yes	5545.0MHz, -64.0dBm	Hop sequence: 5659, 5563, 5346, 5469, 5369, 5656, 5361, 5319, 5433, 5329, 5440, 5419, 5367, 5270, 5501, 5581, 5660, 5302, 5524, 5666, 5587, 5604, 5500, 5252, 5503, 5544, 5256, 5554, 5458, 5276, 5692, 5504, 5479, 5685, 5442, 5531, 5253, 5403, 5374, 5673, 5414, 5283, 5322, 5631, 5427, 5376, 5623, 5447, 5308, 5543, 5609, 5516, 5280, 5355, 5304, 5467, 5411, 5549, 5429, 5310, 5547, 5630, 5470, 5513, 5594, 5719, 5472, 5576, 5674, 5359, 5327, 5481, 5282, 5257, 5274, 5345, 5263, 5330, 5288, 5409, 5527, 5303, 5451, 5680, 5684, 5693, 5610, 5294, 5418, 5542, 5592, 5608, 5550, 5718, 5437, 5261, 5605, 5260, 5297, 5286 (7 hits) (07/24/2013 11:43:30 AM)				
24	9	1.0	333.0	Yes	5546.0MHz, -64.0dBm	Hop sequence: 5665, 5308, 5334, 5438, 5327, 5600, 5366, 5365, 5622, 5439, 5288, 5348, 5409, 5372, 5454, 5489, 5701, 5342, 5582, 5553, 5280, 5617, 5262, 5270, 5592, 5255, 5363, 5260, 5531, 5530, 5321, 5672, 5628, 5561, 5458, 5381, 5619, 5411, 5560, 5502, 5679, 5289, 5472, 5535, 5359, 5614, 5593, 5583, 5465, 5380, 5597, 5362, 5443, 5527, 5390, 5607, 5717, 5605, 5452, 5421, 5514, 5320, 5538, 5360, 5300, 5596, 5683, 5351, 5481, 5379, 5536, 5310, 5407, 5567, 5676, 5445, 5341, 5467, 5461, 5261, 5281, 5637, 5278, 5305, 5258, 5550, 5304, 5598, 5464, 5495, 5661, 5640, 5466, 5423, 5639, 5713, 5528, 5290, 5663, 5482 (2 hits) (07/24/2013 11:44:44 AM)				
25	9	1.0	333.0	Yes	5547.0MHz, -64.0dBm	Hop sequence: 5522, 5549, 5317, 5407, 5557, 5281, 5297, 5584, 5485, 5652, 5509, 5471, 5605, 5572, 5478, 5596, 5676, 5345, 5593, 5672, 5424, 5372, 5561, 5721, 5413, 5617, 5663, 5386, 5669, 5438, 5427, 5355, 5457, 5484, 5468, 5679, 5307, 5612, 5398, 5421, 5618, 5542, 5367, 5359, 5483, 5603, 5261, 5707, 5711, 5328, 5412, 5504, 5335,				

File: R93093 Page 52 of 105

		Table 43 -	FCC frequ	ency hopping	g radar (Type 6) l	Results 20MHz
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information
		Widel (us)			iover (ubin)	5548, 5275, 5431, 5680, 5543, 5696, 5622, 5346, 5594, 5435, 5670, 5587, 5473, 5623, 5516, 5691, 5491, 5597, 5725, 5704, 5397, 5501, 5285, 5674, 5327, 5462, 5718, 5361, 5280, 5688, 5313, 5425, 5266, 5255, 5526, 5552, 5312, 5305, 5571, 5409, 5528, 5530, 5460, 5715, 5503, 5318, 5449 (6 hits) (07/24/2013 11:46:11 AM)
26	9	1.0	333.0	Yes	5548.0MHz, -64.0dBm	Hop sequence: 5440, 5388, 5661, 5466, 5659, 5338, 5334, 5647, 5262, 5450, 5366, 5692, 5282, 5357, 5562, 5267, 5448, 5570, 5451, 5719, 5433, 5408, 5623, 5463, 5529, 5372, 5474, 5386, 5507, 5317, 5483, 5506, 5410, 5577, 5558, 5566, 5646, 5540, 5528, 5284, 5671, 5665, 5270, 5402, 5524, 5631, 5493, 5521, 5373, 5621, 5384, 5616, 5639, 5393, 5554, 5650, 5335, 5442, 5648, 5640, 5461, 5689, 5610, 5505, 5470, 5391, 5576, 5427, 5688, 5634, 5307, 5539, 5543, 5349, 5641, 5538, 5594, 5417, 5614, 5403, 5383, 5399, 5477, 5355, 5677, 5490, 5628, 5322, 5722, 5375, 5469, 5336, 5574, 5581, 5632, 5595, 5573, 5714, 5423, 5288 (3 hits) (07/24/2013 11:47:30 AM)
27	9	1.0	333.0	Yes	5549.0MHz, -64.0dBm	Hop sequence: 5579, 5511, 5659, 5575, 5401, 5533, 5317, 5685, 5632, 5707, 5300, 5334, 5524, 5298, 5667, 5722, 5519, 5451, 5357, 5363, 5348, 5589, 5550, 5539, 5478, 5276, 5367, 5375, 5304, 5569, 5605, 5329, 5456, 5488, 5406, 5259, 5333, 5556, 5315, 5466, 5641, 5376, 5661, 5634, 5481, 5391, 5672, 5251, 5344, 5709, 5643, 5504, 5346, 5564, 5368, 5508, 5576, 5299, 5681, 5340, 5513, 5677, 5574, 5265, 5349, 5423, 5553, 5557, 5570, 5568, 5444, 5440, 5250, 5380, 5306, 5566, 5642, 5660, 5693, 5398, 5542, 5473, 5695, 5330, 5397, 5582, 5388, 5436, 5313, 5318, 5449, 5706, 5720, 5577, 5664, 5596, 5692, 5497, 5580, 5673 (5 hits) (07/24/2013 11:48:51 AM)

File: R93093 Page 53 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
28	9	1.0	333.0	Yes	5550.0MHz, -64.0dBm	Hop sequence: 5699, 5267, 5284, 5562, 5546, 5266, 5655, 5307, 5497, 5321, 5301, 5482, 5290, 5522, 5654, 5332, 5258, 5541, 5309, 5383, 5323, 5696, 5465, 5427, 5495, 5695, 5296, 5536, 5574, 5594, 5462, 5631, 5678, 5282, 5350, 5270, 5467, 5701, 5633, 5439, 5486, 5645, 5572, 5624, 5647, 5684, 5304, 5550, 5540, 5511, 5513, 5349, 5381, 5256, 5380, 5520, 5336, 5724, 5361, 5485, 5662, 5406, 5689, 5416, 5494, 5626, 5558, 5340, 5705, 5432, 5711, 5687, 5490, 5584, 5668, 5539, 5553, 5351, 5335, 5501, 5605, 5387, 5414, 5431, 5325, 5666, 5561, 5651, 5464, 5514, 5377, 5390, 5398, 5629, 5364, 5250, 5358, 5322, 5591, 5359 (4 hits) (07/24/2013 11:49:55 AM)				
29	9	1.0	333.0	Yes	5551.0MHz, -64.0dBm	Hop sequence: 5383, 5679, 5374, 5308, 5351, 5430, 5508, 5285, 5469, 5372, 5268, 5390, 5536, 5293, 5529, 5342, 5652, 5677, 5352, 5648, 5424, 5516, 5589, 5706, 5666, 5590, 5450, 5412, 5659, 5687, 5425, 5643, 5461, 5551, 5522, 5377, 5466, 5399, 5622, 5558, 5434, 5528, 5327, 5416, 5557, 5365, 5626, 5655, 5597, 5674, 5442, 5432, 5295, 5332, 5384, 5361, 5571, 5472, 5492, 5596, 5468, 5657, 5717, 5298, 5359, 5703, 5584, 5698, 5366, 5650, 5503, 5464, 5354, 5387, 5329, 5587, 5624, 5482, 5569, 5316, 5368, 5406, 5563, 5479, 5310, 5610, 5573, 5629, 5615, 5525, 5370, 5476, 5579, 5362, 5409, 5470, 5538, 5428, 5537, 5600 (3 hits) (07/24/2013 11:51:15 AM)				
30	9	1.0	333.0	Yes	5552.0MHz, -64.0dBm	Hop sequence: 5540, 5566, 5602, 5556, 5659, 5514, 5608, 5432, 5723, 5473, 5520, 5415, 5442, 5343, 5255, 5664, 5437, 5582, 5584, 5515, 5720, 5595, 5333, 5403, 5482, 5412, 5311, 5537, 5318, 5702, 5652, 5450, 5683, 5426, 5335, 5344, 5614, 5444, 5626, 5289, 5599, 5617, 5625, 5506, 5460, 5721, 5623, 5261, 5690, 5345, 5550, 5559, 5385,				

File: R93093 Page 54 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
	T		FCC frequ	ency hopping		Results 20MHz				
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
						5457, 5637, 5277, 5310, 5708, 5580, 5627, 5619, 5571, 5305, 5295, 5523, 5535, 5392, 5700, 5491, 5355, 5420, 5670, 5388, 5665, 5598, 5725, 5679, 5636, 5370, 5684, 5332, 5593, 5527, 5431, 5337, 5298, 5713, 5299, 5423, 5276, 5505, 5624, 5635, 5292, 5677, 5377, 5646, 5597, 5429, 5518 (2 hits) (07/24/2013 11:58:01 AM)				
31	9	1.0	333.0	Yes	5553.0MHz, -64.0dBm	Hop sequence: 5441, 5496, 5504, 5314, 5260, 5410, 5374, 5708, 5458, 5662, 5266, 5515, 5482, 5526, 5390, 5550, 5699, 5387, 5273, 5367, 5453, 5621, 5286, 5691, 5435, 5602, 5438, 5649, 5562, 5660, 5521, 5399, 5293, 5600, 5328, 5624, 5713, 5676, 5267, 5300, 5298, 5352, 5508, 5455, 5498, 5647, 5431, 5639, 5327, 5679, 5369, 5535, 5304, 5348, 5440, 5485, 5292, 5723, 5400, 5680, 5467, 5454, 5488, 5290, 5347, 5698, 5460, 5416, 5389, 5666, 5695, 5349, 5321, 5489, 5308, 5497, 5538, 5542, 5584, 5671, 5572, 5579, 5637, 5388, 5590, 5424, 5258, 5307, 5362, 5339, 5491, 5593, 5391, 5565, 5342, 5530, 5316, 5636, 5329, 5549 (3 hits) (07/24/2013 11:59:42 AM)				
32	9	1.0	333.0	Yes	5554.0MHz, -64.0dBm	Hop sequence: 5501, 5526, 5559, 5571, 5635, 5631, 5396, 5452, 5652, 5422, 5450, 5474, 5574, 5511, 5464, 5342, 5512, 5653, 5558, 5372, 5605, 5369, 5668, 5696, 5351, 5434, 5593, 5693, 5663, 5612, 5399, 5552, 5674, 5697, 5641, 5340, 5557, 5577, 5319, 5550, 5686, 5314, 5680, 5407, 5541, 5726, 5669, 5463, 5646, 5618, 5315, 5607, 5473, 5586, 5283, 5637, 5264, 5447, 5597, 5483, 5704, 5517, 5446, 5627, 5563, 5485, 5291, 5719, 5711, 5406, 5588, 5549, 5313, 5402, 5408, 5528, 5323, 5715, 5683, 5424, 5490, 5633, 5277, 5667, 5658, 5670, 5381, 5311, 5651, 5703, 5472, 5505, 5328, 5352, 5285, 5393, 5488, 5643, 5359, 5679 (5 hits) (07/24/2013 12:02:21 PM)				

File: R93093 Page 55 of 105

	Table 43 - FCC frequency hopping radar (Type 6) Results 20MHz									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
33	9	1.0	333.0	Yes	5555.0MHz, -64.0dBm	Hop sequence: 5355, 5314, 5698, 5340, 5693, 5418, 5493, 5547, 5572, 5311, 5558, 5647, 5632, 5699, 5276, 5487, 5612, 5316, 5628, 5504, 5587, 5344, 5543, 5651, 5571, 5266, 5251, 5330, 5433, 5694, 5521, 5388, 5461, 5384, 5463, 5361, 5718, 5636, 5261, 5503, 5368, 5505, 5263, 5456, 5383, 5614, 5260, 5269, 5272, 5484, 5576, 5482, 5485, 5267, 5389, 5575, 5430, 5332, 5606, 5428, 5365, 5557, 5395, 5690, 5720, 5443, 5623, 5458, 5452, 5476, 5597, 5502, 5375, 5371, 5509, 5338, 5532, 5620, 5510, 5579, 5577, 5407, 5302, 5603, 5282, 5402, 5352, 5381, 5519, 5607, 5353, 5478, 5653, 5719, 5531, 5483, 5580, 5323, 5591, 5475 (4 hits) (07/24/2013 12:03:35 PM)				
34	9	1.0	333.0	Yes	5556.0MHz, -64.0dBm	Hop sequence: 5436, 5369, 5483, 5578, 5692, 5428, 5658, 5475, 5511, 5715, 5702, 5516, 5280, 5415, 5346, 5319, 5555, 5341, 5393, 5559, 5618, 5546, 5574, 5423, 5311, 5663, 5725, 5537, 5482, 5628, 5497, 5671, 5287, 5464, 5470, 5292, 5410, 5595, 5712, 5659, 5597, 5446, 5569, 5606, 5350, 5632, 5329, 5621, 5361, 5600, 5613, 5642, 5352, 5527, 5535, 5520, 5463, 5377, 5316, 5716, 5348, 5690, 5484, 5365, 5585, 5421, 5472, 5598, 5577, 5614, 5609, 5657, 5588, 5252, 5641, 5305, 5648, 5651, 5274, 5561, 5477, 5286, 5448, 5681, 5285, 5514, 5264, 5359, 5529, 5645, 5521, 5524, 5375, 5695, 5705, 5337, 5492, 5587, 5661, 5501 (2 hits) (07/24/2013 12:04:51 PM)				

File: R93093 Page 56 of 105

## 20MHz Channel at 5550MHz, Radiated Method Spot Check

Table 44 - Summary of All Results AP_20MHz_Radiated									
Waveform Name	Pd (%)	Pd Required (%)	Number of Trials	Status					
FCC Short Pulse Radar (Type 1)	76.7 %	60.0 %	30	PASSED					
FCC Short Pulse Radar (Type 2)	93.3 %	60.0 %	30	PASSED					
FCC Short Pulse Radar (Type 3)	93.3 %	60.0 %	30	PASSED					
FCC Short Pulse Radar (Type 4)	90.0 %	60.0 %	30	PASSED					
Aggregate of above results	88.3 %	80.0 %	120	PASSED					
Long Sequence	93.3 %	80.0 %	30	PASSED					
FCC frequency hopping radar (Type 6)	97.1 %	70.0 %	34	PASSED					

	Table 45 - FCC Short Pulse Radar (Type 1) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
1	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 09:52:41 AM)				
2	18	1.0	1428.0	No	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:04:44 AM)				
3	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:05:16 AM)				
4	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:06:37 AM)				
5	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:07:54 AM)				
6	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:10:43 AM)				
7	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:11:55 AM)				
8	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:13:25 AM)				
9	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:14:48 AM)				
10	18	1.0	1428.0	No	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:16:08 AM)				
11	18	1.0	1428.0	No	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:16:23 AM)				
12	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:16:39 AM)				
13	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:17:41 AM)				
14	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:18:21 AM)				
15	18	1.0	1428.0	No	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:19:18 AM)				
16	18	1.0	1428.0	No	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:19:30 AM)				
17	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:19:42 AM)				
18	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:20:49 AM)				
19	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:22:55 AM)				

File: R93093 Page 57 of 105

	Table 45 - FCC Short Pulse Radar (Type 1) Results AP_20MHz_Radiated										
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information					
20	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:24:33 AM)					
21	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:26:01 AM)					
22	18	1.0	1428.0	Yes	5555.0MHz, Single burst (07/29/2013 10:27:5 -64.0dBm AM)						
23	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:29:12 AM)					
24	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:30:36 AM)					
25	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:31:58 AM)					
26	18	1.0	1428.0	No	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:33:05 AM)					
27	18	1.0	1428.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:33:27 AM)					
28	18	1.0	1428.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 10:34:39 AM)					
29	18	1.0	1428.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 10:36:00 AM)					
30	18	1.0	1428.0	No	5545.0MHz, -64.0dBm	Single burst (07/29/2013 10:37:26 AM)					

	Table 46 - FCC Short Pulse Radar (Type 2) Results AP_20MHz_Radiated										
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information					
1	27	3.6	159.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 02:58:14 PM)					
2	26	2.6	209.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:01:21 PM)					
3	23	2.3	204.0	No	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:02:40 PM)					
4	25	4.1	154.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:02:54 PM)					
5	26	1.3	153.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:03:58 PM)					
6	24	3.8	165.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:05:15 PM)					
7	25	4.4	206.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:06:20 PM)					
8	28	2.4	195.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:07:32 PM)					
9	27	1.6	198.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:09:48 PM)					
10	27	3.5	207.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:11:16 PM)					
11	28	4.9	194.0	No	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:12:29 PM)					
12	25	4.1	217.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:12:40 PM)					

File: R93093 Page 58 of 105

	Table 46 - FCC Short Pulse Radar (Type 2) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
13	27	2.9	169.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:14:09 PM)				
14	27	2.1	220.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:15:26 PM)				
15	28	1.4	183.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:16:56 PM)				
16	25	4.5	208.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:18:09 PM)				
17	26	4.5	164.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:19:28 PM)				
18	27	2.0	183.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:20:32 PM)				
19	24	4.1	174.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:21:44 PM)				
20	27	4.7	214.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:22:43 PM)				
21	25	2.9	170.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:24:04 PM)				
22	25	4.1	161.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:24:59 PM)				
23	26	1.3	207.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:26:15 PM)				
24	28	1.6	218.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:27:23 PM)				
25	24	3.6	215.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:28:23 PM)				
26	26	2.4	203.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:31:18 PM)				
27	29	3.7	214.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:33:08 PM)				
28	24	2.9	176.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 03:34:41 PM)				
29	27	2.5	172.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 03:36:19 PM)				
30	23	1.1	178.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 03:37:44 PM)				

	Table 47 - FCC Short Pulse Radar (Type 3) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us) Detected Fr (MHz) and level (dBm) Burst Information							
1	18	7.1	291.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:18:58 PM)				
2	17	9.7	307.0	No	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:21:34 PM)				
3	16	6.7	207.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:21:51 PM)				
4	17	8.6	454.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:23:50 PM)				
5	18	6.1	376.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:25:13 PM)				

File: R93093 Page 59 of 105

	Table 47 - FCC Short Pulse Radar (Type 3) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
6	17	9.2	279.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:26:17 PM)				
7	17	9.7	205.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:27:29 PM)				
8	17	8.3	208.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:28:41 PM)				
9	17	7.8	409.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:30:01 PM)				
10	17	9.9	205.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:31:23 PM)				
11	18	7.1	460.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:32:44 PM)				
12	16	9.1	382.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:33:51 PM)				
13	16	9.1	415.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:34:49 PM)				
14	18	9.7	318.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:36:17 PM)				
15	18	9.0	321.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:37:39 PM)				
16	17	9.6	333.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:40:01 PM)				
17	17	8.9	356.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:41:33 PM)				
18	17	9.8	400.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:43:12 PM)				
19	16	7.0	317.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:45:05 PM)				
20	17	9.0	329.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:46:25 PM)				
21	16	9.0	474.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:47:50 PM)				
22	17	7.5	470.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:49:23 PM)				
23	17	6.3	382.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:50:21 PM)				
24	17	8.7	221.0	No	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:51:32 PM)				
25	18	7.9	236.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:51:59 PM)				
26	18	6.7	315.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:52:28 PM)				
27	18	9.9	244.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:53:46 PM)				
28	17	9.5	452.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:54:59 PM)				
29	18	7.1	358.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:56:41 PM)				
30	17	7.8	467.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:58:21 PM)				

File: R93093 Page 60 of 105

	Table 48 - FCC Short Pulse Radar (Type 4) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
1	13	18.0	442.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 11:53:06 AM)			
2	13	16.6	337.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 11:56:29 AM)			
3	13	18.0	385.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 11:57:48 AM)			
4	12	14.7	465.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 11:59:15 AM)			
5	13	19.8	479.0	No	5545.0MHz, -64.0dBm	Single burst (07/29/2013 12:00:30 PM)			
6	15	18.6	236.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 12:00:55 PM)			
7	12	19.5	234.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 12:02:00 PM)			
8	14	12.3	463.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 12:43:09 PM)			
9	15	17.2	357.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 12:44:14 PM)			
10	15	11.5	496.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 12:45:48 PM)			
11	14	11.8	454.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 12:47:32 PM)			
12	13	19.8	468.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 12:48:32 PM)			
13	15	16.6	230.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 12:49:53 PM)			
14	14	16.0	398.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 12:51:05 PM)			
15	14	12.1	297.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 12:52:41 PM)			
16	16	17.1	330.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 12:53:52 PM)			
17	13	16.4	341.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 12:55:09 PM)			
18	15	15.8	347.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 12:56:32 PM)			
19	15	11.7	406.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 12:57:47 PM)			
20	13	18.5	247.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 12:59:11 PM)			
21	12	14.7	328.0	No	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:00:24 PM)			
22	14	17.2	325.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:00:37 PM)			
23	13	12.8	377.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:02:15 PM)			
24	14	13.4	337.0	No	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:03:27 PM)			
25	13	14.2	348.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:03:35 PM)			
26	15	19.0	325.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:04:46 PM)			
27	16	16.9	400.0	Yes	5555.0MHz,	Single burst (07/29/2013 01:06:14			

File: R93093 Page 61 of 105

	Table 48 - FCC Short Pulse Radar (Type 4) Results AP_20MHz_Radiated									
Trial # Pulses/ Burst Pulse Width (us) PRI (us) Detected Fr (MHz) and level (dBm) Burst Information						Burst Information				
					-64.0dBm	PM)				
28	13	17.3	378.0	Yes	5550.0MHz, -64.0dBm	Single burst (07/29/2013 01:07:52 PM)				
29	15	19.3	377.0	Yes	5545.0MHz, -64.0dBm	Single burst (07/29/2013 01:10:17 PM)				
30	12	17.0	459.0	Yes	5555.0MHz, -64.0dBm	Single burst (07/29/2013 01:11:49 PM)				

<b>Table 49 - 1</b>	Table 49 - Long Sequence Waveform Summary AP_20MHz_Radiated							
Long Sequence Trial	Result	Radar Frequency / Amplitude						
Tri ol #1	Datastad	5550.0MHz,						
Trial #1	Detected	-64.0dBm						
Trial #2	Detected	5545.0MHz,						
111a1 #2	Detected	-64.0dBm						
Trial #3	Detected	5555.0MHz,						
111α1 π3	Detected	-64.0dBm						
Trial #4	Detected	5550.0MHz,						
111α1 π4	Detected	-64.0dBm						
Trial #5	Detected	5545.0MHz,						
111a1 #5	Beteeted	-64.0dBm						
Trial #6	Detected	5555.0MHz,						
11141 110	Beteeted	-64.0dBm						
Trial #7	Detected	5550.0MHz,						
11141 11 /	Beteeted	-64.0dBm						
Trial #8	Detected	5545.0MHz,						
Tital #0	Beteeted	-64.0dBm						
Trial #9	Detected	5555.0MHz,						
Tital "7	Beteeted	-64.0dBm						
Trial #10	Detected	5550.0MHz,						
11141 11 10	Bettetted	-64.0dBm						
Trial #11	Detected	5545.0MHz,						
111111 11 11	200000	-64.0dBm						
Trial #12	Detected	5555.0MHz,						
		-64.0dBm						
Trial #13	Detected	5550.0MHz,						
		-64.0dBm						
Trial #14	Detected	5545.0MHz,						
		-64.0dBm						
Trial #15	Detected	5555.0MHz,						
		-64.0dBm						
Trial #16	Detected	5550.0MHz,						
		-64.0dBm 5545.0MHz,						
Trial #17	NOT Detected	· · · · · · · · · · · · · · · · · · ·						
		-64.0dBm 5555.0MHz,						
Trial #18	Detected	-64.0dBm						
		5550.0MHz,						
Trial #19	Detected	-64.0dBm						
		5545.0MHz,						
Trial #20	Detected	-64.0dBm						
		-04.UUBIII						

File: R93093 Page 62 of 105

<b>Table 49 - I</b>	Table 49 - Long Sequence Waveform Summary AP_20MHz_Radiated								
Long Sequence Trial	Result	Radar Frequency / Amplitude							
Trial #21	Detected	5555.0MHz,							
111α1 π21	Detected	-64.0dBm							
Trial #22	Detected	5550.0MHz,							
111α1 π22	Detected	-64.0dBm							
Trial #23	NOT Detected	5545.0MHz,							
111a1 #25	NOT Detected	-64.0dBm							
Trial #24	Detected	5555.0MHz,							
111a1 #24	Detected	-64.0dBm							
Trial #25	Detected	5550.0MHz,							
111ai #25	Detected	-64.0dBm							
Trial #26	Detected	5545.0MHz,							
111a1 #20	Detected	-64.0dBm							
Trial #27	Detected	5555.0MHz,							
111a1 #27	Beteeted	-64.0dBm							
Trial #28	Detected	5550.0MHz,							
111d1 #20	Beteeted	-64.0dBm							
Trial #29	Detected	5545.0MHz,							
11101 112)	Detected	-64.0dBm							
Trial #30	Detected	5555.0MHz,							
11141 1130	Detected	-64.0dBm							

	Table 50 - Long Sequence Waveform Trial#1 (Detected) AP_20MHz_Radiated										
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)					
1	3	57.4	16	1072.0	1081.0	0.867809					
2	1	71.3	19	-	-	2.044596					
3	1	59.4	9	-	-	3.390529					
4	2	90.3	7	1334.0	-	4.660752					
5	2	79.9	9	1270.0	-	5.545941					
6	1	82.6	19	-	-	6.936033					
7	1	90.1	10	-	-	8.230927					
8	2	54.5	17	1247.0	-	10.398330					
9	2	68.7	8	1702.0	-	11.995055					

	Table 51 - Long Sequence Waveform Trial#2 (Detected) AP_20MHz_Radiated									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	1	82.8	9	-	-	0.243159				
2	2	69.7	16	1719.0	-	1.579731				
3	1	91.0	19	-	-	2.178641				
4	2	99.0	6	1580.0	-	2.437164				
5	2	65.0	13	1079.0	-	3.491058				
6	3	53.3	6	1673.0	1300.0	4.207361				
7	1	62.4	12	-	-	5.271310				
8	3	53.6	19	1486.0	1451.0	6.180987				
9	1	97.0	7	-	-	7.042037				
10	2	60.2	11	1016.0	-	7.402185				
11	3	88.0	12	1451.0	1808.0	8.573955				
12	1	54.3	18	-	-	9.234261				
13	2	90.7	17	1579.0	-	9.909138				
14	2	97.3	7	1023.0	-	10.942770				
15	2	84.4	17	1693.0	-	11.678027				

File: R93093 Page 63 of 105

	Table 52 - Long Sequence Waveform Trial#3 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	56.0	8	1902.0	-	0.090425			
2	2	94.2	5	1547.0	-	1.183828			
3	1	75.5	19	-	-	1.756347			
4	3	77.8	7	1891.0	1388.0	2.373203			
5	2	89.6	14	1537.0	-	3.070445			
6	1	93.9	15	-	-	3.992968			
7	2	80.7	12	1746.0	-	4.561592			
8	2	64.3	14	1587.0	-	4.991134			
9	3	87.9	9	1956.0	1365.0	5.360264			
10	2	80.3	19	1781.0	-	6.530375			
11	1	80.0	15	-	-	6.887905			
12	3	81.2	15	1257.0	1439.0	7.733844			
13	2	63.2	10	1394.0	-	8.380197			
14	2	75.9	14	1523.0	-	9.319797			
15	3	59.6	12	1494.0	1860.0	9.355116			
16	3	58.1	12	1807.0	1219.0	10.029030			
17	2	56.7	5	1646.0	-	11.024865			
18	2	95.1	9	1114.0	-	11.489394			

	Table 53 - Long Sequence Waveform Trial#4 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	1	85.1	17	-	-	0.589848			
2	2	64.6	18	1050.0	-	1.023399			
3	3	74.6	9	1010.0	1648.0	2.059956			
4	1	52.8	8	-	-	2.421079			
5	3	50.1	16	1593.0	1877.0	3.363712			
6	2	95.2	19	1411.0	-	4.334045			
7	2	77.1	18	1608.0	-	5.238242			
8	2	68.0	19	1218.0	-	5.849769			
9	3	80.9	15	1140.0	1509.0	6.270924			
10	3	87.6	10	1854.0	1175.0	7.029705			
11	2	54.9	12	1673.0	-	7.813988			
12	2	90.6	9	1372.0	-	8.996505			
13	1	87.3	17	-	-	9.492141			
14	1	86.8	12	-	-	9.803612			
15	1	53.6	15	-	-	11.160266			
16	2	79.5	15	1693.0	-	11.928666			

	Table 54 - Long Sequence Waveform Trial#5 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	76.5	5	1889.0	1938.0	0.363428			
2	2	68.4	12	1879.0	-	1.796959			
3	1	85.7	19	-	-	2.420284			
4	2	80.8	9	1325.0	-	3.807847			
5	3	54.7	17	1371.0	1882.0	5.429313			
6	1	60.7	6	-	-	6.427223			
7	3	50.6	19	1601.0	1801.0	6.640092			

File: R93093 Page 64 of 105

	Table 54 - Long Sequence Waveform Trial#5 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
8	3	75.3	8	1660.0	1794.0	7.830355		
9	2	77.9	5	1214.0	-	9.309563		
10	2	86.7	6	1180.0	-	10.782638		
11	3	86.7	8	1869.0	1104.0	10.916946		

	Table 55 - Long Sequence Waveform Trial#6 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	96.4	7	1709.0	1288.0	0.336373			
2	1	86.2	16	-	-	0.971326			
3	2	64.3	7	1631.0	-	1.433073			
4	3	70.9	13	1870.0	1436.0	2.251792			
5	2	91.5	8	1257.0	-	2.670508			
6	1	89.8	17	-	-	3.218451			
7	2	69.4	16	1671.0	-	4.345621			
8	1	91.7	14	-	-	4.864930			
9	2	66.8	17	1054.0	-	5.101018			
10	2	95.3	7	1635.0	-	5.902927			
11	3	77.5	16	1125.0	1353.0	6.593191			
12	2	79.6	11	1801.0	-	7.466335			
13	2	70.9	17	1614.0	-	7.853380			
14	2	69.3	7	1801.0	-	8.747246			
15	2	94.1	19	1896.0	-	9.171202			
16	3	67.7	8	1104.0	1728.0	9.713994			
17	2	71.6	14	1201.0	-	10.704964			
18	2	84.9	20	1571.0	-	10.944595			
19	1	71.4	17	-	-	11.871122			

	Table 56 - Long Sequence Waveform Trial#7 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	1	85.0	8	-	-	0.496521		
2	3	75.3	17	1754.0	1722.0	0.744951		
3	2	80.3	7	1763.0	-	2.019472		
4	2	68.6	12	1051.0	-	2.605119		
5	1	88.9	11	-	-	3.478303		
6	2	69.7	6	1007.0	-	4.032406		
7	1	59.0	12	=	-	4.775516		
8	2	87.9	12	1818.0	-	5.169688		
9	3	55.5	16	1891.0	1975.0	5.841654		
10	1	60.4	12	=	-	6.763608		
11	3	74.6	8	1264.0	1132.0	7.554498		
12	2	73.4	13	1185.0	-	8.353627		
13	2	68.0	6	1061.0	-	8.507448		
14	2	92.2	12	1343.0	-	9.775037		
15	1	84.2	12	-	-	10.442365		
16	1	68.0	14	-	-	11.251278		
17	2	65.9	18	1901.0	-	11.878297		

File: R93093 Page 65 of 105

	Table 57 - Long Sequence Waveform Trial#8 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	96.6	17	1686.0	-	0.081640			
2	3	96.9	14	1666.0	1946.0	1.959334			
3	3	60.1	14	1609.0	1300.0	2.747387			
4	2	87.6	14	1292.0	-	3.920725			
5	2	51.0	15	1311.0	-	5.225860			
6	1	75.8	12	-	-	5.521948			
7	2	80.0	20	1887.0	-	7.490506			
8	3	53.2	12	1955.0	1854.0	8.260885			
9	3	78.2	17	1596.0	1448.0	9.077061			
10	3	96.7	14	1524.0	1037.0	10.692362			
11	1	92.8	19	-	-	10.945255			

	Table 58 - Long Sequence Waveform Trial#9 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	51.2	8	1236.0	-	1.043440			
2	2	62.2	17	1014.0	-	1.707750			
3	2	98.4	17	1776.0	-	2.805675			
4	3	57.8	5	1743.0	1165.0	3.917319			
5	1	97.9	10	-	-	4.928149			
6	1	65.5	19	-	-	6.331412			
7	1	63.9	7	-	-	7.849315			
8	2	97.8	16	1405.0	-	8.590819			
9	2	62.0	13	1486.0	-	10.373647			
10	2	69.4	6	1623.0	-	11.009673			

	Table 59 - Long Sequence Waveform Trial#10 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	1	67.6	6	-	-	0.204979			
2	2	93.7	18	1269.0	-	1.620093			
3	2	74.3	18	1035.0	-	2.231199			
4	1	55.0	11	-	-	2.809078			
5	3	55.7	7	1823.0	1107.0	3.598786			
6	2	86.2	12	1731.0	-	4.551975			
7	2	82.2	13	1642.0	-	5.348941			
8	3	74.4	19	1140.0	1547.0	6.286715			
9	1	69.0	8	-	-	7.354222			
10	2	86.0	12	1975.0	-	7.730033			
11	2	65.3	11	1451.0	-	9.112794			
12	1	56.7	7	-	-	9.701934			
13	2	90.9	15	1445.0	-	10.851787			
14	3	99.4	9	1798.0	1945.0	11.898647			

Table 60 - Long Sequence Waveform Trial#11 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)	
1	2	92.4	11	1696.0	-	0.456594	
2	2	55.6	10	1236.0	-	1.337927	

File: R93093 Page 66 of 105

	Table 60 - Long Sequence Waveform Trial#11 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
3	2	90.0	17	1779.0	-	2.523222			
4	2	54.8	15	1437.0	-	3.111716			
5	2	68.5	16	1990.0	-	3.845392			
6	1	60.8	6	-	-	4.886642			
7	2	68.8	19	1022.0	-	5.743030			
8	2	51.9	16	1244.0	-	6.579793			
9	3	88.3	5	1887.0	1776.0	7.627072			
10	3	56.4	13	1766.0	1962.0	8.036972			
11	2	75.5	13	1556.0	-	8.774724			
12	3	86.9	8	1173.0	1252.0	9.780271			
13	2	66.9	19	1976.0	-	10.409955			
14	1	98.5	15	-	-	11.894456			

	Table 61 - Long Sequence Waveform Trial#12 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	50.4	14	1179.0	1633.0	0.252815			
2	2	98.7	5	1360.0	-	1.081122			
3	2	68.1	16	1842.0	-	1.638957			
4	1	77.6	8	-	=	2.376500			
5	1	62.2	17	-	-	2.808001			
6	2	85.4	12	1778.0	-	3.481638			
7	3	53.5	18	1647.0	1911.0	3.790630			
8	2	72.5	9	1495.0	-	4.445893			
9	3	54.4	11	1486.0	1390.0	5.411225			
10	1	74.8	18	-	-	5.798236			
11	1	67.5	10	-	-	6.603270			
12	1	82.0	8	-	-	6.986037			
13	1	88.9	13	-	-	7.640656			
14	3	93.4	10	1751.0	1784.0	8.324475			
15	1	68.6	16	-	-	8.896612			
16	2	96.5	10	1115.0	-	10.074260			
17	1	80.8	11	-	-	10.718587			
18	2	62.2	14	1024.0	-	10.761893			
19	1	70.1	19	-	-	11.894946			

Table 62 - Long Sequence Waveform Trial#13 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	1	69.2	6	-	-	0.268418		
2	2	69.8	12	1657.0	-	0.957920		
3	2	70.7	8	1329.0	-	1.785855		
4	3	91.8	12	1908.0	1072.0	2.617890		
5	2	58.1	16	1239.0	-	3.327312		
6	2	86.3	17	1354.0	-	3.560360		
7	2	62.4	20	1498.0	-	4.551218		
8	3	58.7	20	1391.0	1768.0	5.208196		
9	2	92.8	10	1783.0	-	6.035865		
10	2	63.8	17	1339.0	-	6.745955		
11	2	59.7	14	1756.0	-	7.212912		

File: R93093 Page 67 of 105

	Table 62 - Long Sequence Waveform Trial#13 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
12	2	78.3	15	1338.0	-	7.930582		
13	1	74.0	12	-	-	8.963737		
14	2	96.6	10	1737.0	-	9.666733		
15	2	81.9	8	1072.0	-	9.884300		
16	3	53.8	9	1370.0	1448.0	11.117790		
17	2	54.4	15	1218.0	-	11.524491		

	Table 63 - Long Sequence Waveform Trial#14 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	2	62.9	5	1301.0	-	0.478655		
2	3	89.8	9	1775.0	1381.0	1.460097		
3	2	56.9	14	1583.0	-	2.637724		
4	2	61.5	7	1915.0	-	4.234297		
5	2	78.2	11	1687.0	-	5.084879		
6	1	50.2	17	-	-	5.914088		
7	1	59.3	20	-	-	6.724762		
8	2	69.3	12	1205.0	-	8.108290		
9	1	95.3	11	-	-	9.135021		
10	3	70.0	7	1160.0	1428.0	9.999860		
11	2	65.8	13	1864.0	-	11.111806		

	Table 64 - Long Sequence Waveform Trial#15 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	94.9	19	1882.0	-	0.245894			
2	3	81.2	9	1615.0	1556.0	1.144604			
3	2	70.3	5	1497.0	-	2.663581			
4	2	51.1	6	1735.0	-	3.372322			
5	3	98.1	5	1818.0	1271.0	5.167737			
6	3	80.2	6	1067.0	1844.0	5.928178			
7	2	54.6	19	1999.0	-	6.582940			
8	2	83.2	10	1882.0	-	8.164556			
9	1	88.6	8	-	-	8.871281			
10	2	87.1	13	1652.0	-	10.561904			
11	2	85.0	7	1619.0	-	10.982668			

	Table 65 - Long Sequence Waveform Trial#16 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	57.3	7	1853.0	-	0.561783			
2	1	86.2	9	-	-	1.350290			
3	2	74.3	10	1448.0	-	3.083170			
4	3	77.6	12	1305.0	1974.0	4.751113			
5	1	62.3	10	-	-	5.585916			
6	3	58.8	7	1428.0	1848.0	6.779009			
7	1	94.4	16	-	-	7.481128			
8	1	85.7	10	-	-	8.730018			
9	2	58.1	14	1296.0	-	9.671737			

File: R93093 Page 68 of 105

Table 65 - Long Sequence Waveform Trial#16 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
10	1	69.2	14	-	-	11.714166		

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)
1	1	86.0	17	-	-	0.189844
2	3	91.5	18	1924.0	1092.0	1.134035
3	2	60.5	17	1394.0	-	2.549199
4	3	67.7	12	1747.0	1324.0	3.270677
5	3	73.3	17	1654.0	1830.0	4.187471
6	3	88.5	16	1479.0	1297.0	4.816106
7	2	67.0	18	1314.0	-	6.108753
8	2	97.9	8	1710.0	-	7.311692
9	1	82.0	18	-	-	7.592761
10	2	96.0	18	1056.0	-	8.720843
11	2	65.7	20	1288.0	-	9.858056
12	1	76.3	13	-	-	10.525964
13	2	89.5	12	1912.0	-	11.169889

	Table 67 - Long Sequence Waveform Trial#18 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	78.0	7	1934.0	-	0.333368			
2	2	73.8	15	1641.0	-	1.079855			
3	2	78.0	20	1430.0	-	2.337490			
4	1	66.6	6	-	-	2.925428			
5	2	79.4	15	1776.0	-	3.450037			
6	1	65.6	18	-	-	4.014376			
7	3	94.7	14	1895.0	1746.0	5.152632			
8	2	68.3	11	1877.0	-	5.749575			
9	2	60.1	8	1496.0	-	6.992612			
10	1	64.3	9	-	-	7.346691			
11	2	86.3	9	1490.0	-	8.419627			
12	3	98.3	11	1889.0	1331.0	8.982418			
13	1	52.1	9	-	-	10.135549			
14	1	81.8	9	-	-	11.065134			
15	2	51.1	12	1834.0	=	11.803532			

	Table 68 - Long Sequence Waveform Trial#19 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	2	69.0	11	1099.0	-	0.205267		
2	1	90.9	14	-	-	1.156838		
3	1	72.1	17	-	-	1.647048		
4	2	68.1	17	1816.0	-	2.476727		
5	1	59.1	7	-	-	2.618653		
6	1	57.4	17	-	-	3.283009		
7	2	77.0	5	1425.0	-	4.352597		
8	2	53.1	20	1870.0	-	4.727842		

File: R93093 Page 69 of 105

	Table 68 - Long Sequence Waveform Trial#19 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
9	3	55.6	11	1331.0	1603.0	5.431205		
10	1	68.9	10	-	-	5.688347		
11	1	72.6	19	-	-	6.596199		
12	2	79.0	9	1448.0	-	7.550148		
13	3	70.8	17	1040.0	1744.0	8.036559		
14	1	67.1	17	-	-	8.411867		
15	3	85.8	11	1925.0	1077.0	9.043697		
16	3	89.4	13	1614.0	1964.0	9.525541		
17	1	97.1	10	-	-	10.273828		
18	2	65.9	11	1002.0	-	10.794228		
19	1	83.7	8	-	-	11.851056		

	Table 69 - Long Sequence Waveform Trial#20 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	92.6	13	1180.0	1496.0	0.668301			
2	2	88.0	13	1169.0	-	1.058693			
3	3	98.9	17	1031.0	1518.0	2.009818			
4	3	87.5	5	1880.0	1607.0	2.753312			
5	2	95.4	6	1856.0	-	3.442302			
6	3	90.4	12	1761.0	1126.0	4.102432			
7	1	99.3	11	-	-	5.232960			
8	3	55.6	8	1698.0	1753.0	5.777353			
9	3	57.4	14	1952.0	1627.0	6.331482			
10	3	57.7	12	1205.0	1753.0	6.950959			
11	2	62.1	19	1146.0	-	8.032912			
12	2	58.0	5	1791.0	-	8.338379			
13	2	89.9	20	1044.0	-	9.401399			
14	3	75.2	10	1752.0	1098.0	10.466966			
15	3	57.8	8	1153.0	1186.0	11.192524			
16	2	72.2	8	1688.0	-	11.834044			

	Table 70 - Long Sequence Waveform Trial#21 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	94.4	13	1219.0	1175.0	0.007269			
2	1	81.5	13	-	-	1.534577			
3	3	80.8	14	1881.0	1705.0	3.535518			
4	1	55.6	14	-	-	3.653866			
5	1	77.2	13	-	-	5.686356			
6	1	94.9	15	-	-	6.840042			
7	2	80.0	13	1507.0	-	8.189096			
8	2	78.3	14	1321.0	-	8.855750			
9	2	74.5	6	1693.0	-	10.428915			
10	2	52.3	7	1665.0	-	10.803401			

Table 71 - Long Sequence Waveform Trial#22 (Detected) AP_20MHz_Radiated						
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)

File: R93093 Page 70 of 105

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)
1	3	83.2	8	1169.0	1109.0	0.351505
2	2	88.9	18	1655.0	-	0.683818
3	1	54.3	15	-	-	1.406190
4	2	57.7	20	1525.0	-	2.262951
5	3	73.2	15	1247.0	1225.0	3.141466
6	2	95.7	10	1772.0	-	3.175905
7	2	53.0	10	1242.0	-	4.245200
8	1	88.0	16	-	-	4.782875
9	2	73.6	6	1563.0	-	5.455939
10	3	74.8	11	1866.0	1025.0	5.877615
11	1	99.5	17	-	-	6.934008
12	2	81.6	12	1454.0	-	7.118227
13	2	59.1	20	1027.0	-	8.000483
14	2	80.2	18	1907.0	-	8.807110
15	2	78.7	19	1141.0	-	9.056877
16	2	53.6	19	1580.0	-	9.601538
17	1	63.0	18	-	-	10.586485
18	1	94.6	7	-	-	11.261958
19	3	90.0	7	1396.0	1940.0	11.399264

	Table 72 - Long Sequence Waveform Trial#23 (NOT Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	2	91.7	13	1064.0	-	0.796233			
2	3	77.4	20	1221.0	1481.0	1.852604			
3	1	76.0	18	-	-	2.831804			
4	2	86.8	10	1460.0	-	3.829288			
5	3	82.8	19	1082.0	1156.0	5.825924			
6	2	70.8	7	1858.0	-	6.039330			
7	2	77.8	9	1356.0	-	7.582582			
8	2	81.7	10	1992.0	-	8.476711			
9	3	63.0	15	1202.0	1700.0	9.997757			
10	1	96.4	17	-	-	11.867158			

	Table 73 - Long Sequence Waveform Trial#24 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	3	56.6	18	1804.0	1010.0	0.273766		
2	1	97.9	8	-	-	0.747185		
3	3	83.7	12	1285.0	1513.0	1.661866		
4	2	91.1	11	1278.0	-	1.826916		
5	3	90.9	9	1068.0	1478.0	2.896473		
6	2	72.2	16	1655.0	-	3.138137		
7	1	79.4	20	-	-	3.905053		
8	2	62.9	10	1928.0	-	4.668751		
9	2	99.6	6	1470.0	-	5.261849		
10	1	89.4	13	-	-	5.464508		
11	1	88.9	13	-	-	6.071889		
12	1	99.7	18	-	-	6.916498		
13	2	65.2	14	1084.0	-	7.678503		

File: R93093 Page 71 of 105

Table 73 - Long Sequence Waveform Trial#24 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)	
14	2	88.0	17	1969.0	-	8.175533	
15	1	94.2	9	-	-	8.862664	
16	3	99.5	12	1409.0	1813.0	9.002387	
17	1	67.7	12	-	-	10.159974	
18	3	77.8	7	1750.0	1439.0	10.736533	
19	2	60.8	14	1948.0	-	10.888296	
20	2	86.5	9	1202.0	-	11.770897	

	Table 74 - Long Sequence Waveform Trial#25 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)		
1	3	57.0	9	1615.0	1025.0	0.154916		
2	1	59.4	9	-	-	1.275080		
3	1	69.2	18	-	-	2.698832		
4	1	50.0	13	-	-	2.841902		
5	3	71.7	14	1278.0	1365.0	3.933309		
6	3	78.7	13	1155.0	1421.0	4.944368		
7	3	88.0	14	1488.0	1635.0	6.076142		
8	2	68.4	10	1830.0	-	6.666623		
9	3	96.2	15	1736.0	1168.0	7.540167		
10	2	51.3	16	1767.0	-	8.675918		
11	2	65.4	8	1502.0	-	9.330183		
12	1	62.7	5	-	-	10.804961		
13	3	71.3	16	1687.0	1873.0	11.213477		

	Table 75 - Long Sequence Waveform Trial#26 (Detected) AP_20MHz_Radiated								
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)			
1	3	67.5	10	1731.0	1374.0	0.596435			
2	2	54.1	12	1253.0	-	1.585159			
3	3	53.6	9	1492.0	1291.0	2.754778			
4	3	55.8	10	1587.0	1088.0	3.986402			
5	1	67.7	20	-	-	4.752144			
6	1	68.4	10	-	-	5.766908			
7	1	80.7	15	-	-	7.488135			
8	2	54.1	7	1991.0	-	8.299179			
9	3	60.8	14	1251.0	1570.0	9.244105			
10	1	95.7	18	-	-	10.663184			
11	1	87.1	18	-	-	11.491526			

Table 76 - Long Sequence Waveform Trial#27 (Detected) AP_20MHz_Radiated							
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)	
1	1	87.1	19	-	-	0.228464	
2	2	69.5	5	1544.0	-	1.931506	
3	2	97.6	13	1988.0	-	2.404164	
4	2	71.5	12	1928.0	=	3.659295	
5	2	84.1	19	1493.0	-	5.339634	
6	2	78.4	18	1215.0	-	5.619350	

File: R93093 Page 72 of 105

	Table 76 - Long Sequence Waveform Trial#27 (Detected) AP_20MHz_Radiated									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
7	2	69.0	10	1687.0	-	7.625866				
8	2	71.8	19	1644.0	-	8.113081				
9	2	84.0	12	1741.0	-	8.792136				
10	2	64.7	12	1383.0	-	10.550892				
11	1	73.4	16	-	-	11.524774				

	Table 77 - Long Sequence Waveform Trial#28 (Detected) AP_20MHz_Radiated									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	3	89.5	16	1078.0	1772.0	0.435215				
2	2	76.4	15	1229.0	-	2.240821				
3	3	91.7	12	1518.0	1805.0	3.495408				
4	2	68.6	18	1368.0	-	4.403660				
5	2	90.0	7	1849.0	-	5.333875				
6	2	97.1	17	1800.0	-	7.102561				
7	2	81.3	7	1812.0	-	9.061257				
8	2	67.2	19	1657.0	-	10.624031				
9	2	75.8	16	1279.0	-	11.344934				

	Table 78 - Long Sequence Waveform Trial#29 (Detected) AP_20MHz_Radiated									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	1	63.7	10	-	-	1.122740				
2	2	93.4	18	1712.0	-	2.385740				
3	3	87.0	17	1391.0	1218.0	3.065241				
4	2	97.8	13	1000.0	-	3.851784				
5	3	96.2	9	1323.0	1507.0	5.528853				
6	3	65.1	20	1689.0	1881.0	6.078502				
7	2	84.3	18	1352.0	-	7.344527				
8	2	77.1	6	1974.0	-	8.913515				
9	1	62.3	13	-	-	10.588545				
10	2	73.0	9	1434.0	-	10.967084				

	Table 79 - Long Sequence Waveform Trial#30 (Detected) AP_20MHz_Radiated									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
1	2	68.4	14	1919.0	-	0.534243				
2	1	52.7	9	-	-	1.266011				
3	2	78.4	13	1872.0	-	1.464262				
4	2	91.4	12	1763.0	-	2.259385				
5	1	77.3	7	-	-	3.007791				
6	3	76.1	10	1082.0	1880.0	3.362054				
7	3	81.2	10	1794.0	1531.0	4.598037				
8	3	68.3	8	1566.0	1214.0	5.037233				
9	2	73.7	20	1878.0	-	5.637156				
10	2	55.2	17	1009.0	-	6.105646				
11	2	75.0	19	1861.0	-	7.014997				
12	2	76.8	17	1586.0	-	7.405570				
13	1	53.1	18	=	=	8.180390				

File: R93093 Page 73 of 105

Test Report Report Date: August 20, 2013

	Table 79 - Long Sequence Waveform Trial#30 (Detected) AP_20MHz_Radiated									
Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (s)				
14	2	97.4	7	1094.0	-	8.672185				
15	2	55.8	9	1420.0	-	9.711746				
16	3	92.7	12	1514.0	1122.0	10.310942				
17	2	89.3	8	1336.0	-	10.703367				
18	2	72.8	11	1218.0	-	11.441124				

File: R93093 Page 74 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
1	9	1.0	333.0	Yes	5557.0MHz, -64.0dBm	Hop sequence: 5633, 5681, 5350, 5308, 5488, 5262, 5266, 5320, 5661, 5328, 5610, 5341, 5361, 5597, 5693, 5636, 5639, 5538, 5585, 5714, 5409, 5339, 5306, 5302, 5591, 5584, 5578, 5363, 5278, 5290, 5617, 5426, 5646, 5437, 5705, 5527, 5487, 5333, 5510, 5651, 5600, 5526, 5444, 5716, 5495, 5479, 5474, 5654, 5455, 5392, 5629, 5292, 5415, 5569, 5628, 5359, 5684, 5599, 5644, 5718, 5720, 5319, 5323, 5283, 5658, 5375, 5711, 5269, 5552, 5259, 5470, 5562, 5570, 5417, 5374, 5499, 5348, 5295, 5268, 5441, 5452, 5623, 5659, 5576, 5294, 5431, 5255, 5285, 5673, 5367, 5563, 5425, 5626, 5377, 5296, 5276, 5349, 5579, 5522, 5383 (1 hits) (07/29/2013 01:59:45 PM)				
2	9	1.0	333.0	Yes	5558.0MHz, -64.0dBm	Hop sequence: 5309, 5719, 5343, 5354, 5295, 5324, 5646, 5492, 5391, 5661, 5707, 5701, 5442, 5706, 5325, 5363, 5557, 5668, 5416, 5407, 5470, 5440, 5424, 5454, 5640, 5642, 5367, 5333, 5307, 5499, 5421, 5608, 5614, 5629, 5271, 5715, 5443, 5380, 5376, 5592, 5536, 5575, 5691, 5455, 5550, 5660, 5562, 5722, 5573, 5704, 5366, 5467, 5636, 5387, 5667, 5297, 5510, 5579, 5336, 5417, 5429, 5370, 5696, 5705, 5373, 5337, 5618, 5472, 5594, 5485, 5377, 5717, 5616, 5681, 5256, 5314, 5448, 5582, 5308, 5710, 5571, 5291, 5529, 5431, 5526, 5634, 5542, 5266, 5276, 5658, 5565, 5425, 5611, 5569, 5326, 5312, 5384, 5348, 5369, 5364 (3 hits) (07/29/2013 02:02:16 PM)				

File: R93093 Page 75 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
3	9	1.0	333.0	Yes	5542.0MHz, -64.0dBm	Hop sequence: 5307, 5275, 5279, 5274, 5483, 5633, 5457, 5602, 5612, 5272, 5396, 5419, 5449, 5560, 5713, 5320, 5383, 5643, 5446, 5253, 5671, 5301, 5563, 5288, 5513, 5724, 5715, 5698, 5268, 5514, 5263, 5624, 5682, 5478, 5375, 5394, 5362, 5398, 5663, 5576, 5330, 5405, 5290, 5411, 5363, 5282, 5500, 5305, 5623, 5533, 5725, 5595, 5443, 5425, 5448, 5385, 5490, 5609, 5584, 5628, 5355, 5540, 5701, 5539, 5702, 5703, 5550, 5677, 5315, 5339, 5537, 5292, 5506, 5632, 5389, 5408, 5471, 5415, 5549, 5638, 5723, 5424, 5509, 5556, 5694, 5571, 5706, 5294, 5678, 5444, 5720, 5304, 5322, 5658, 5660, 5662, 5352, 5416, 5661, 5599 (3 hits) (07/29/2013 02:03:26 PM)			
4	9	1.0	333.0	Yes	5543.0MHz, -64.0dBm	Hop sequence: 5537, 5593, 5300, 5390, 5609, 5571, 5659, 5269, 5465, 5505, 5372, 5614, 5712, 5385, 5363, 5416, 5661, 5469, 5615, 5669, 5629, 5549, 5250, 5667, 5573, 5452, 5526, 5359, 5660, 5705, 5299, 5707, 5563, 5418, 5355, 5487, 5688, 5448, 5252, 5716, 5419, 5375, 5541, 5320, 5267, 5699, 5367, 5554, 5437, 5627, 5662, 5532, 5283, 5308, 5403, 5298, 5525, 5378, 5553, 5445, 5400, 5604, 5433, 5679, 5693, 5646, 5634, 5257, 5677, 5492, 5550, 5586, 5683, 5587, 5488, 5496, 5467, 5610, 5435, 5444, 5561, 5397, 5432, 5350, 5529, 5439, 5535, 5457, 5288, 5251, 5262, 5353, 5377, 5618, 5401, 5454, 5657, 5341 (4 hits) (07/29/2013 02:04:35 PM)			
5	9	1.0	333.0	Yes	5544.0MHz, -64.0dBm	Hop sequence: 5446, 5658, 5636, 5583, 5304, 5705, 5622, 5725, 5547, 5714, 5313, 5699, 5512, 5338, 5674, 5278, 5569, 5595, 5458, 5417, 5362, 5653, 5683, 5666, 5346, 5482, 5326, 5454, 5723, 5704, 5461, 5508, 5570, 5463, 5498, 5473, 5553, 5604, 5656, 5502, 5518, 5334, 5581, 5491, 5606, 5360, 5281, 5426, 5598, 5340, 5331, 5568, 5306,			

File: R93093 Page 76 of 105

	Tabl	le 80 - FCC fr	eauency ho	opping radar	(Type 6) Results	AP_20MHz_Radiated
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information
	Buist	width (us)			level (dibili)	5438, 5609, 5460, 5381, 5651, 5565, 5261, 5543, 5689, 5514, 5679, 5634, 5447, 5530, 5277, 5499, 5680, 5484, 5388, 5648, 5357, 5366, 5314, 5324, 5435, 5621, 5400, 5650, 5393, 5465, 5712, 5577, 5386, 5661, 5721, 5293, 5623, 5312, 5497, 5412, 5280, 5398, 5605, 5303, 5526, 5478, 5688 (3 hits) (07/29/2013 02:05:55 PM)
6	9	1.0	333.0	Yes	5545.0MHz, -64.0dBm	Hop sequence: 5371, 5691, 5490, 5372, 5584, 5459, 5450, 5468, 5520, 5646, 5719, 5547, 5426, 5635, 5694, 5375, 5507, 5411, 5353, 5319, 5375, 5680, 5548, 5563, 5499, 5475, 5351, 5428, 5581, 5524, 5655, 5396, 5456, 5279, 5369, 5299, 5386, 5313, 5442, 5686, 5523, 5318, 5387, 5302, 5400, 5341, 5684, 5282, 5628, 5413, 5277, 5297, 5526, 5276, 5578, 5325, 5274, 5506, 5663, 5281, 5472, 5365, 5640, 5674, 5437, 5389, 5608, 5482, 5575, 5632, 5539, 5607, 5498, 5416, 5712, 5610, 5314, 5409, 5504, 5620, 5564, 5496, 5398, 5631, 5463, 5558, 5606, 5623, 5391, 5670, 5261, 5678, 5339, 5275, 5433, 5473, 5491, 5306, 5698, 5287 (3 hits) (07/29/2013 02:06:58 PM)
7	9	1.0	333.0	Yes	5546.0MHz, -64.0dBm	Hop sequence: 5409, 5540, 5421, 5508, 5648, 5350, 5700, 5527, 5286, 5328, 5613, 5403, 5453, 5669, 5445, 5288, 5257, 5298, 5652, 5258, 5455, 5574, 5703, 5425, 5483, 5426, 5440, 5660, 5423, 5497, 5501, 5297, 5616, 5578, 5555, 5597, 5524, 5580, 5496, 5522, 5491, 5468, 5704, 5665, 5545, 5477, 5563, 5523, 5367, 5454, 5333, 5385, 5472, 5300, 5436, 5431, 5383, 5253, 5589, 5724, 5325, 5673, 5686, 5678, 5561, 5683, 5269, 5661, 5418, 5544, 5721, 5305, 5609, 5390, 5539, 5674, 5434, 5713, 5372, 5283, 5582, 5603, 5462, 5583, 5529, 5552, 5287, 5506, 5487, 5560, 5586, 5498, 5265, 5726, 5396, 5461, 5263, 5467, 5682, 5327 (4 hits) (07/29/2013 02:08:16 PM)

File: R93093 Page 77 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
8	9	1.0	333.0	Yes	5547.0MHz, -64.0dBm	Hop sequence: 5430, 5285, 5591, 5568, 5410, 5337, 5336, 5636, 5260, 5253, 5476, 5524, 5274, 5513, 5291, 5377, 5350, 5575, 5459, 5256, 5710, 5278, 5385, 5679, 5585, 5660, 5315, 5310, 5365, 5486, 5690, 5546, 5537, 5370, 5482, 5622, 5700, 5528, 5474, 5654, 5544, 5427, 5394, 5374, 5409, 5523, 5688, 5704, 5432, 5506, 5296, 5714, 5535, 5407, 5325, 5485, 5715, 5451, 5596, 5611, 5533, 5635, 5725, 5549, 5610, 5347, 5466, 5536, 5252, 5264, 5392, 5299, 5620, 5452, 5423, 5426, 5574, 5615, 5702, 5413, 5693, 5512, 5653, 5646, 5724, 5366, 5441, 5588, 5425, 5541, 5447, 5531, 5303, 5618, 5645, 5263, 5497, 5258, 5609, 5436 (3 hits) (07/29/2013 02:09:43 PM)			
9	9	1.0	333.0	Yes	5548.0MHz, -64.0dBm	Hop sequence: 5680, 5354, 5534, 5333, 5725, 5361, 5578, 5329, 5648, 5383, 5558, 5340, 5548, 5667, 5647, 5419, 5598, 5543, 5266, 5262, 5712, 5571, 5601, 5623, 5511, 5498, 5409, 5426, 5382, 5642, 5675, 5338, 5495, 5299, 5323, 5322, 5325, 5439, 5622, 5380, 5273, 5516, 5486, 5621, 5512, 5500, 5368, 5425, 5412, 5288, 5575, 5289, 5339, 5546, 5528, 5284, 5544, 5644, 5668, 5602, 5581, 5576, 5252, 5515, 5257, 5650, 5653, 5722, 5478, 5633, 5719, 5637, 5673, 5369, 5255, 5311, 5707, 5455, 5331, 5312, 5414, 5256, 5351, 5393, 5272, 5670, 5357, 5661, 5265, 5386, 5541, 5434, 5551, 5607, 5683, 5326, 5537, 5408, 5560, 5397 (6 hits) (07/29/2013 02:11:07 PM)			
10	9	1.0	333.0	Yes	5549.0MHz, -64.0dBm	Hop sequence: 5266, 5612, 5481, 5713, 5315, 5704, 5330, 5587, 5702, 5382, 5563, 5722, 5358, 5682, 5278, 5349, 5317, 5516, 5623, 5619, 5470, 5492, 5327, 5652, 5396, 5263, 5491, 5708, 5259, 5618, 5398, 5649, 5495, 5700, 5505, 5597, 5479, 5542, 5615, 5585, 5721, 5548, 5578, 5323, 5533, 5385, 5689, 5484, 5251, 5507, 5646, 5487, 5613,			

File: R93093 Page 78 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
						5630, 5321, 5617, 5483, 5449, 5416, 5644, 5544, 5547, 5498, 5318, 5294, 5311, 5367, 5664, 5381, 5710, 5308, 5346, 5625, 5437, 5531, 5573, 5430, 5463, 5363, 5577, 5265, 5614, 5293, 5506, 5296, 5515, 5300, 5281, 5583, 5641, 5471, 5316, 5421, 5566, 5424, 5640, 5304, 5301, 5273, 5568 (4 hits) (07/29/2013 02:12:29 PM)			
11	9	1.0	333.0	No	5550.0MHz, -64.0dBm	Hop sequence: 5298, 5250, 5635, 5634, 5466, 5479, 5396, 5591, 5439, 5345, 5508, 5636, 5694, 5671, 5253, 5438, 5364, 5717, 5318, 5424, 5451, 5296, 5465, 5332, 5581, 5568, 5471, 5338, 5705, 5275, 5308, 5498, 5408, 5477, 5584, 5687, 5463, 5460, 5719, 5659, 5274, 5611, 5573, 5662, 5363, 5475, 5464, 5425, 5706, 5507, 5610, 5570, 5349, 5721, 5346, 5324, 5319, 5373, 5521, 5302, 5454, 5668, 5447, 5481, 5472, 5487, 5579, 5450, 5462, 5293, 5516, 5723, 5526, 5301, 5515, 5383, 5692, 5587, 5540, 5589, 5514, 5440, 5606, 5263, 5693, 5331, 5259, 5317, 5602, 5679, 5646, 5647, 5509, 5640, 5310, 5583, 5437, 5501, 5718, 5550 (1 hits) (07/29/2013 02:13:42 PM)			
12	9	1.0	333.0	Yes	5551.0MHz, -64.0dBm	Hop sequence: 5314, 5410, 5272, 5261, 5659, 5452, 5394, 5269, 5649, 5532, 5496, 5673, 5504, 5590, 5675, 5252, 5354, 5634, 5555, 5414, 5562, 5336, 5259, 5478, 5692, 5527, 5476, 5672, 5411, 5447, 5359, 5369, 5388, 5582, 5501, 5290, 5275, 5305, 5702, 5443, 5552, 5418, 5298, 5653, 5427, 5294, 5262, 5620, 5254, 5382, 5438, 5274, 5547, 5312, 5473, 5470, 5608, 5674, 5446, 5654, 5700, 5286, 5326, 5349, 5624, 5607, 5477, 5600, 5637, 5471, 5453, 5622, 5614, 5451, 5705, 5379, 5563, 5639, 5355, 5467, 5458, 5387, 5699, 5707, 5260, 5280, 5352, 5450, 5343, 5335, 5633, 5711, 5347, 5279, 5513, 5288, 5724, 5586, 5529, 5396 (3 hits) (07/29/2013 02:13:54 PM)			

File: R93093 Page 79 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
13	9	1.0	333.0	Yes	5552.0MHz, -64.0dBm	Hop sequence: 5503, 5470, 5670, 5439, 5356, 5573, 5560, 5559, 5515, 5435, 5473, 5453, 5454, 5297, 5566, 5582, 5669, 5554, 5276, 5552, 5477, 5367, 5711, 5565, 5307, 5648, 5376, 5375, 5614, 5526, 5594, 5675, 5395, 5605, 5639, 5502, 5606, 5510, 5325, 5583, 5387, 5555, 5579, 5478, 5283, 5685, 5327, 5335, 5703, 5403, 5705, 5420, 5576, 5535, 5660, 5592, 5295, 5320, 5704, 5463, 5318, 5545, 5542, 5553, 5430, 5516, 5337, 5434, 5441, 5625, 5404, 5600, 5486, 5725, 5671, 5531, 5538, 5448, 5408, 5253, 5433, 5462, 5509, 5468, 5720, 5628, 5306, 5442, 5290, 5349, 5401, 5461, 5257, 5328, 5698, 5452, 5623, 5716, 5569, 5702 (6 hits) (07/29/2013 02:15:06 PM)			
14	9	1.0	333.0	Yes	5553.0MHz, -64.0dBm	Hop sequence: 5431, 5514, 5572, 5340, 5562, 5584, 5383, 5671, 5271, 5571, 5259, 5276, 5258, 5637, 5582, 5269, 5346, 5660, 5626, 5593, 5399, 5369, 5666, 5503, 5706, 5652, 5542, 5612, 5587, 5334, 5704, 5651, 5348, 5581, 5710, 5669, 5464, 5590, 5522, 5306, 5338, 5471, 5628, 5524, 5456, 5354, 5419, 5699, 5650, 5692, 5255, 5290, 5438, 5375, 5523, 5689, 5607, 5547, 5408, 5316, 5498, 5632, 5350, 5277, 5609, 5544, 5642, 5557, 5693, 5292, 5344, 5680, 5265, 5409, 5630, 5396, 5623, 5371, 5585, 5596, 5481, 5565, 5654, 5360, 5401, 5537, 5307, 5434, 5655, 5564, 5386, 5332, 5380, 5273, 5437, 5695, 5633, 5262, 5525, 5428 (4 hits) (07/29/2013 02:16:30 PM)			
15	9	1.0	333.0	Yes	5554.0MHz, -64.0dBm	Hop sequence: 5407, 5599, 5498, 5629, 5290, 5428, 5419, 5551, 5579, 5684, 5286, 5258, 5378, 5639, 5330, 5444, 5393, 5614, 5549, 5526, 5531, 5581, 5710, 5680, 5400, 5389, 5380, 5686, 5492, 5520, 5674, 5281, 5449, 5692, 5603, 5636, 5347, 5662, 5423, 5412, 5420, 5650, 5318, 5295, 5707, 5265, 5316, 5509, 5470, 5687, 5708, 5505, 5658,			

File: R93093 Page 80 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
	Burst	Width (us)			lever (abili)	5279, 5529, 5373, 5371, 5659, 5278, 5553, 5723, 5446, 5294, 5718, 5268, 5277, 5319, 5602, 5583, 5548, 5267, 5306, 5374, 5572, 5352, 5592, 5395, 5254, 5369, 5361, 5724, 5586, 5641, 5346, 5469, 5611, 5326, 5328, 5487, 5693, 5544, 5709, 5545, 5628, 5414, 5462, 5343, 5677, 5712, 5429 (6 hits) (07/29/2013 02:17:24 PM)			
16	9	1.0	333.0	Yes	5555.0MHz, -64.0dBm	Hop sequence: 5251, 5390, 5393, 5671, 5534, 5683, 5382, 5642, 5602, 5507, 5563, 5276, 5494, 5477, 5412, 5569, 5680, 5458, 5475, 5461, 5600, 5409, 5346, 5260, 5691, 5254, 5401, 5432, 5307, 5367, 5705, 5706, 5353, 5497, 5604, 5648, 5453, 5433, 5553, 5323, 5443, 5561, 5363, 5380, 5677, 5557, 5416, 5425, 5608, 5442, 5655, 5581, 5531, 5621, 5556, 5366, 5721, 5376, 5678, 5513, 5690, 5360, 5256, 5487, 5339, 5478, 5281, 5282, 5699, 5297, 5529, 5349, 5549, 5479, 5565, 5698, 5644, 5325, 5266, 5559, 5279, 5668, 5469, 5539, 5310, 5422, 5327, 5590, 5586, 5709, 5350, 5330, 5373, 5708, 5267, 5681, 5623, 5455, 5319, 5722 (4 hits) (07/29/2013 02:18:31 PM)			
17	9	1.0	333.0	Yes	5556.0MHz, -64.0dBm	Hop sequence: 5290, 5630, 5410, 5697, 5413, 5325, 5645, 5635, 5583, 5315, 5356, 5636, 5495, 5662, 5601, 5499, 5396, 5663, 5426, 5618, 5258, 5309, 5665, 5703, 5265, 5477, 5328, 5510, 5532, 5404, 5472, 5310, 5424, 5613, 5541, 5474, 5504, 5463, 5459, 5689, 5620, 5266, 5584, 5492, 5269, 5445, 5391, 5313, 5713, 5641, 5384, 5603, 5710, 5345, 5624, 5615, 5674, 5486, 5555, 5354, 5427, 5655, 5523, 5374, 5375, 5698, 5314, 5575, 5257, 5271, 5362, 5684, 5316, 5372, 5342, 5721, 5429, 5357, 5521, 5640, 5460, 5628, 5264, 5406, 5650, 5282, 5507, 5720, 5712, 5466, 5693, 5428, 5548, 5602, 5702, 5536, 5343, 5447, 5378, 5634 (2 hits) (07/29/2013 02:19:45 PM)			

File: R93093 Page 81 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
18	9	1.0	333.0	Yes	5557.0MHz, -64.0dBm	Hop sequence: 5491, 5594, 5423, 5355, 5435, 5667, 5589, 5360, 5529, 5613, 5349, 5390, 5415, 5436, 5597, 5525, 5332, 5680, 5475, 5330, 5726, 5456, 5370, 5418, 5324, 5388, 5274, 5476, 5615, 5252, 5310, 5365, 5354, 5517, 5585, 5553, 5453, 5495, 5698, 5326, 5353, 5425, 5605, 5386, 5262, 5439, 5696, 5701, 5708, 5684, 5631, 5409, 5522, 5278, 5382, 5393, 5459, 5508, 5466, 5272, 5329, 5641, 5691, 5494, 5697, 5315, 5700, 5661, 5633, 5578, 5478, 5325, 5429, 5300, 5336, 5321, 5432, 5504, 5450, 5557, 5548, 5414, 5520, 5559, 5281, 5564, 5482, 5552, 5358, 5644, 5465, 5492, 5598, 5554, 5523, 5682, 5383, 5455, 5622, 5672 (5 hits) (07/29/2013 02:20:51 PM)				
19	9	1.0	333.0	Yes	5558.0MHz, -64.0dBm	Hop sequence: 5709, 5510, 5618, 5686, 5339, 5454, 5449, 5386, 5393, 5529, 5442, 5321, 5278, 5663, 5532, 5701, 5622, 5544, 5541, 5338, 5556, 5285, 5540, 5688, 5392, 5539, 5302, 5412, 5483, 5517, 5494, 5358, 5435, 5492, 5538, 5707, 5270, 5699, 5646, 5429, 5355, 5421, 5341, 5525, 5404, 5323, 5722, 5654, 5433, 5472, 5271, 5280, 5500, 5598, 5411, 5479, 5352, 5712, 5490, 5294, 5632, 5342, 5474, 5561, 5645, 5417, 5574, 5508, 5291, 5387, 5528, 5272, 5678, 5406, 5390, 5366, 5644, 5400, 5669, 5467, 5456, 5327, 5334, 5298, 5680, 5250, 5553, 5601, 5522, 5478, 5713, 5326, 5512, 5726, 5279, 5405, 5457, 5252, 5466, 5613 (3 hits) (07/29/2013 02:22:04 PM)				
20	9	1.0	333.0	Yes	5542.0MHz, -64.0dBm	Hop sequence: 5372, 5551, 5440, 5529, 5252, 5695, 5296, 5607, 5570, 5422, 5675, 5575, 5283, 5485, 5403, 5404, 5686, 5305, 5339, 5693, 5639, 5472, 5679, 5623, 5517, 5259, 5653, 5438, 5581, 5391, 5398, 5646, 5426, 5605, 5301, 5660, 5610, 5484, 5262, 5497, 5580, 5634, 5261, 5476, 5303, 5564, 5583, 5282, 5670, 5618, 5622, 5699, 5467,				

File: R93093 Page 82 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
	Buist	wittii (us)			lever (dibility	5722, 5632, 5269, 5444, 5617, 5718, 5556, 5350, 5524, 5519, 5509, 5621, 5668, 5678, 5399, 5432, 5725, 5362, 5419, 5365, 5532, 5433, 5528, 5414, 5326, 5352, 5455, 5685, 5627, 5337, 5449, 5370, 5395, 5495, 5342, 5389, 5258, 5462, 5603, 5374, 5635, 5320, 5599, 5387, 5400, 5354, 5256 (2 hits) (07/29/2013 02:23:28 PM)				
21	9	1.0	333.0	Yes	5543.0MHz, -64.0dBm	Hop sequence: 5504, 5442, 5513, 5659, 5711, 5591, 5589, 5452, 5458, 5718, 5434, 5632, 5473, 5451, 5719, 5690, 5459, 5619, 5290, 5538, 5710, 5660, 5493, 5618, 5545, 5465, 5386, 5629, 5583, 5382, 5703, 5482, 5526, 5331, 5295, 5277, 5354, 5418, 5501, 5522, 5643, 5664, 5476, 5449, 5489, 5571, 5649, 5668, 5359, 5483, 5285, 5684, 5469, 5485, 5631, 5412, 5431, 5612, 5667, 5330, 5392, 5499, 5634, 5417, 5570, 5528, 5627, 5389, 5375, 5486, 5637, 5698, 5460, 5462, 5391, 5644, 5360, 5507, 5292, 5448, 5358, 5335, 5699, 5447, 5596, 5264, 5303, 5682, 5297, 5349, 5520, 5274, 5437, 5461, 5319, 5353, 5511, 5328, 5474, 5463 (1 hits) (07/29/2013 02:24:24 PM)				
22	9	1.0	333.0	Yes	5544.0MHz, -64.0dBm	Hop sequence: 5669, 5342, 5699, 5317, 5514, 5430, 5544, 5411, 5330, 5399, 5550, 5511, 5371, 5620, 5527, 5615, 5709, 5316, 5697, 5408, 5326, 5540, 5470, 5389, 5645, 5417, 5311, 5253, 5395, 5676, 5422, 5630, 5664, 5481, 5643, 5696, 5726, 5310, 5409, 5689, 5635, 5295, 5705, 5475, 5609, 5503, 5320, 5573, 5661, 5283, 5596, 5572, 5272, 5655, 5377, 5510, 5269, 5381, 5369, 5520, 5281, 5441, 5706, 5659, 5489, 5670, 5619, 5467, 5695, 5547, 5276, 5294, 5355, 5419, 5548, 5300, 5280, 5337, 5353, 5372, 5348, 5590, 5552, 5341, 5543, 5460, 5678, 5679, 5356, 5496, 5505, 5684, 5402, 5542, 5490, 5455, 5477, 5325, 5429, 5267 (7 hits) (07/29/2013 02:25:56 PM)				

File: R93093 Page 83 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
23	9	1.0	333.0	Yes	5545.0MHz, -64.0dBm	Hop sequence: 5596, 5609, 5336, 5259, 5328, 5636, 5468, 5705, 5473, 5257, 5658, 5577, 5573, 5657, 5308, 5494, 5296, 5453, 5416, 5610, 5517, 5725, 5378, 5641, 5685, 5559, 5522, 5407, 5688, 5684, 5411, 5600, 5319, 5380, 5446, 5512, 5635, 5706, 5427, 5252, 5451, 5649, 5420, 5452, 5424, 5397, 5704, 5337, 5334, 5469, 5629, 5650, 5663, 5556, 5525, 5286, 5428, 5484, 5716, 5676, 5399, 5724, 5491, 5547, 5455, 5549, 5454, 5333, 5686, 5604, 5476, 5598, 5272, 5585, 5668, 5540, 5267, 5318, 5445, 5570, 5534, 5555, 5607, 5723, 5709, 5421, 5396, 5507, 5590, 5391, 5561, 5303, 5601, 5406, 5674, 5633, 5583, 5279, 5327, 5293 (4 hits) (07/29/2013 02:27:08 PM)				
24	9	1.0	333.0	Yes	5546.0MHz, -64.0dBm	Hop sequence: 5281, 5516, 5407, 5723, 5273, 5705, 5519, 5376, 5406, 5503, 5696, 5517, 5420, 5633, 5632, 5630, 5493, 5469, 5291, 5525, 5548, 5427, 5631, 5377, 5501, 5269, 5423, 5297, 5686, 5613, 5592, 5466, 5378, 5365, 5480, 5476, 5622, 5306, 5403, 5707, 5717, 5706, 5385, 5430, 5669, 5380, 5496, 5665, 5500, 5290, 5583, 5698, 5513, 5432, 5428, 5561, 5419, 5512, 5687, 5449, 5489, 5462, 5316, 5507, 5576, 5495, 5570, 5678, 5356, 5724, 5324, 5465, 5374, 5650, 5463, 5572, 5652, 5531, 5526, 5360, 5456, 5367, 5643, 5267, 5657, 5680, 5627, 5282, 5562, 5286, 5581, 5624, 5596, 5661, 5461, 5429, 5610, 5564, 5535, 5266 (1 hits) (07/29/2013 02:28:15 PM)				
25	9	1.0	333.0	Yes	5547.0MHz, -64.0dBm	Hop sequence: 5609, 5268, 5323, 5630, 5463, 5612, 5695, 5648, 5662, 5533, 5313, 5578, 5666, 5350, 5513, 5614, 5297, 5505, 5458, 5448, 5349, 5619, 5274, 5704, 5637, 5285, 5651, 5543, 5557, 5363, 5413, 5586, 5588, 5554, 5306, 5574, 5613, 5375, 5276, 5364, 5576, 5265, 5319, 5686, 5404, 5301, 5608, 5538, 5382, 5433, 5515, 5566, 5339,				

File: R93093 Page 84 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
						5650, 5371, 5717, 5490, 5401, 5351, 5280, 5644, 5527, 5469, 5498, 5491, 5589, 5611, 5536, 5365, 5716, 5530, 5615, 5373, 5494, 5675, 5522, 5518, 5334, 5423, 5480, 5539, 5502, 5553, 5596, 5598, 5684, 5471, 5703, 5294, 5379, 5524, 5352, 5326, 5400, 5273, 5446, 5283, 5369, 5403, 5387 (4 hits) (07/29/2013 02:29:16 PM)			
26	9	1.0	333.0	Yes	5548.0MHz, -64.0dBm	Hop sequence: 5257, 5719, 5409, 5397, 5440, 5372, 5267, 5322, 5337, 5572, 5539, 5700, 5634, 5707, 5704, 5277, 5439, 5326, 5624, 5472, 5381, 5600, 5378, 5623, 5408, 5269, 5256, 5345, 5404, 5271, 5630, 5341, 5681, 5370, 5275, 5382, 5666, 5599, 5426, 5342, 5596, 5535, 5252, 5687, 5396, 5583, 5476, 5494, 5313, 5585, 5276, 5537, 5639, 5581, 5645, 5458, 5457, 5454, 5650, 5428, 5321, 5417, 5415, 5456, 5435, 5374, 5604, 5351, 5659, 5307, 5578, 5602, 5496, 5298, 5557, 5660, 5328, 5621, 5652, 5445, 5420, 5407, 5706, 5478, 5638, 5518, 5588, 5375, 5573, 5608, 5379, 5444, 5618, 5389, 5607 (1 hits) (07/29/2013 02:30:29 PM)			
27	9	1.0	333.0	Yes	5549.0MHz, -64.0dBm	Hop sequence: 5345, 5284, 5488, 5565, 5320, 5484, 5683, 5540, 5700, 5419, 5273, 5562, 5614, 5665, 5624, 5463, 5389, 5414, 5342, 5554, 5577, 5613, 5534, 5709, 5630, 5574, 5309, 5471, 5627, 5274, 5430, 5429, 5417, 5357, 5494, 5585, 5362, 5536, 5326, 5361, 5418, 5404, 5644, 5450, 5341, 5437, 5466, 5697, 5646, 5713, 5653, 5719, 5428, 5516, 5363, 5319, 5541, 5276, 5706, 5659, 5299, 5558, 5716, 5642, 5660, 5432, 5667, 5256, 5572, 5348, 5310, 5251, 5615, 5344, 5514, 5493, 5298, 5586, 5498, 5259, 5340, 5477, 5553, 5332, 5692, 5507, 5411, 5599, 5272, 5517, 5423, 5470, 5547, 5641, 5701, 5643, 5480, 5280, 5350, 5416 (4 hits) (07/29/2013 02:31:35 PM)			

File: R93093 Page 85 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated									
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information				
28	9	1.0	333.0	Yes	5550.0MHz, -64.0dBm	Hop sequence: 5448, 5658, 5390, 5325, 5459, 5549, 5634, 5419, 5257, 5672, 5350, 5327, 5725, 5391, 5576, 5647, 5668, 5664, 5317, 5406, 5426, 5472, 5271, 5616, 5678, 5720, 5329, 5557, 5545, 5359, 5402, 5333, 5677, 5256, 5291, 5387, 5515, 5547, 5251, 5337, 5534, 5502, 5300, 5698, 5537, 5528, 5481, 5400, 5439, 5612, 5389, 5553, 5587, 5521, 5469, 5418, 5490, 5294, 5629, 5275, 5377, 5694, 5676, 5383, 5717, 5345, 5573, 5423, 5354, 5399, 5338, 5466, 5474, 5542, 5695, 5623, 5493, 5274, 5691, 5304, 5702, 5363, 5395, 5382, 5655, 5589, 5360, 5665, 5529, 5689, 5479, 5268, 5305, 5449, 5575, 5590, 5457, 5631, 5263, 5519 (6 hits) (07/29/2013 02:32:36 PM)				
29	9	1.0	333.0	Yes	5551.0MHz, -64.0dBm	Hop sequence: 5692, 5363, 5465, 5479, 5725, 5559, 5486, 5533, 5347, 5399, 5641, 5303, 5388, 5391, 5281, 5346, 5580, 5395, 5417, 5512, 5574, 5532, 5390, 5687, 5343, 5473, 5571, 5476, 5256, 5323, 5507, 5298, 5673, 5336, 5292, 5516, 5400, 5624, 5715, 5564, 5338, 5287, 5515, 5445, 5699, 5587, 5675, 5356, 5341, 5362, 5688, 5505, 5448, 5612, 5297, 5697, 5668, 5633, 5589, 5579, 5536, 5573, 5657, 5632, 5331, 5320, 5550, 5301, 5299, 5631, 5645, 5544, 5577, 5584, 5315, 5549, 5710, 5511, 5265, 5458, 5524, 5665, 5353, 5623, 5502, 5726, 5264, 5294, 5368, 5709, 5613, 5427, 5670, 5276, 5560, 5411, 5671, 5654, 5674, 5372 (3 hits) (07/29/2013 02:35:21 PM)				
30	9	1.0	333.0	Yes	5552.0MHz, -64.0dBm	Hop sequence: 5645, 5338, 5268, 5395, 5303, 5337, 5564, 5280, 5519, 5335, 5350, 5368, 5302, 5448, 5331, 5648, 5474, 5665, 5484, 5479, 5371, 5531, 5299, 5475, 5405, 5544, 5273, 5308, 5483, 5683, 5372, 5399, 5691, 5348, 5408, 5600, 5356, 5324, 5718, 5391, 5430, 5384, 5490, 5707, 5507, 5651, 5453, 5481, 5478, 5572, 5263, 5626, 5518,				

File: R93093 Page 86 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
						5604, 5307, 5378, 5472, 5485, 5340, 5525, 5471, 5596, 5379, 5279, 5656, 5454, 5576, 5522, 5313, 5563, 5602, 5620, 5360, 5725, 5438, 5386, 5693, 5270, 5416, 5567, 5619, 5615, 5417, 5459, 5330, 5509, 5675, 5632, 5446, 5316, 5556, 5560, 5669, 5631, 5292, 5329, 5711, 5715, 5477, 5553 (3 hits) (07/29/2013 02:36:22 PM)			
31	9	1.0	333.0	Yes	5553.0MHz, -64.0dBm	Hop sequence: 5600, 5377, 5382, 5487, 5306, 5596, 5549, 5639, 5631, 5277, 5329, 5704, 5275, 5301, 5421, 5594, 5542, 5318, 5460, 5608, 5611, 5691, 5622, 5378, 5302, 5669, 5591, 5496, 5656, 5592, 5399, 5307, 5658, 5375, 5590, 5488, 5534, 5546, 5706, 5467, 5469, 5612, 5287, 5615, 5289, 5714, 5477, 5499, 5251, 5485, 5726, 5578, 5672, 5689, 5494, 5347, 5326, 5666, 5649, 5695, 5330, 5447, 5263, 5693, 5613, 5570, 5500, 5677, 5530, 5402, 5572, 5364, 5363, 5456, 5325, 5595, 5518, 5383, 5501, 5538, 5424, 5569, 5657, 5295, 5332, 5583, 5386, 5292, 5556, 5646, 5713, 5660, 5624, 5598, 5586, 5417, 5552, 5637, 5352, 5650 (5 hits) (07/29/2013 02:37:49 PM)			
32	9	1.0	333.0	Yes	5554.0MHz, -64.0dBm	Hop sequence: 5634, 5406, 5699, 5724, 5535, 5610, 5328, 5719, 5479, 5463, 5462, 5638, 5492, 5628, 5281, 5704, 5418, 5362, 5368, 5701, 5565, 5569, 5583, 5303, 5533, 5703, 5380, 5507, 5698, 5359, 5276, 5496, 5260, 5602, 5470, 5384, 5511, 5432, 5562, 5611, 5439, 5264, 5278, 5386, 5708, 5632, 5267, 5579, 5665, 5570, 5295, 5593, 5320, 5677, 5523, 5274, 5446, 5494, 5474, 5444, 5430, 5706, 5481, 5349, 5350, 5721, 5676, 5682, 5696, 5289, 5551, 5331, 5572, 5615, 5356, 5316, 5339, 5342, 5587, 5613, 5449, 5448, 5559, 5549, 5423, 5529, 5358, 5438, 5568, 5454, 5319, 5270, 5271, 5458, 5414, 5348, 5641, 5684 (2 hits) (07/29/2013 02:38:53 PM)			

File: R93093 Page 87 of 105

	Table 80 - FCC frequency hopping radar (Type 6) Results AP_20MHz_Radiated								
Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected	Fr (MHz) and level (dBm)	Burst Information			
33	9	1.0	333.0	Yes	55555.0MHz, -64.0dBm	Hop sequence: 5723, 5332, 5329, 5592, 5552, 5367, 5627, 5280, 5287, 5515, 5631, 5351, 5433, 5252, 5691, 5468, 5660, 5333, 5681, 5604, 5384, 5692, 5547, 5593, 5666, 5489, 5323, 5267, 5496, 5616, 5282, 5519, 5279, 5703, 5623, 5346, 5704, 5560, 5577, 5483, 5722, 5537, 5671, 5533, 5269, 5504, 5524, 5686, 5277, 5700, 5348, 5531, 5550, 5713, 5465, 5618, 5638, 5714, 5270, 5309, 5711, 5688, 5412, 5424, 5308, 5718, 5416, 5633, 5451, 5506, 5570, 5614, 5563, 5319, 5356, 5474, 5352, 5326, 5634, 5499, 5579, 5669, 5382, 5274, 5276, 5374, 5603, 5349, 5419, 5719, 5590, 5268, 5350, 5664, 5258, 5580, 5261, 5645, 5516, 5612 (3 hits) (07/29/2013 02:40:17 PM)			
34	9	1.0	333.0	Yes	5556.0MHz, -64.0dBm	Hop sequence: 5463, 5432, 5266, 5258, 5481, 5419, 5417, 5480, 5700, 5637, 5518, 5280, 5652, 5601, 5358, 5625, 5341, 5384, 5657, 5412, 5260, 5682, 5714, 5289, 5718, 5672, 5628, 5421, 5367, 5678, 5584, 5354, 5257, 5530, 5620, 5604, 5563, 5318, 5586, 5531, 5430, 5403, 5328, 5436, 5276, 5615, 5663, 5345, 5575, 5253, 5582, 5342, 5692, 5288, 5591, 5502, 5534, 5381, 5567, 5347, 5261, 5444, 5456, 5396, 5702, 5319, 5496, 5437, 5603, 5680, 5427, 5353, 5626, 5655, 5492, 5569, 5653, 5630, 5522, 5495, 5696, 5558, 5254, 5560, 5340, 5478, 5423, 5445, 5404, 5540, 5269, 5410, 5312, 5538, 5409, 5520, 5475, 5566, 5590, 5549 (2 hits) (07/29/2013 02:41:36 PM)			

File: R93093 Page 88 of 105

### Appendix C Test Data Tables and Plots for Channel Closing

FCC PART 15 SUBPART E Channel Closing Measurements

Table 81 - FCC Part 15 Subpart E Channel Closing Test Results (Master Mode)									
Waveform Type	Channel C Transmission		Channe Tir	Result					
	Measured	Limit	Measured	Limit					
Radar Type 1	0 ms	60 ms	8 ms	10 s	Pass				
Radar Type 5	0 ms	60 ms	0 ms	10 s	Pass				

File: R93093 Page 89 of 105

<sup>&</sup>lt;sup>1</sup> Channel closing time for FCC measurements is the aggregate transmission time starting from 200ms after the end of the radar signal to the completion of the channel move.

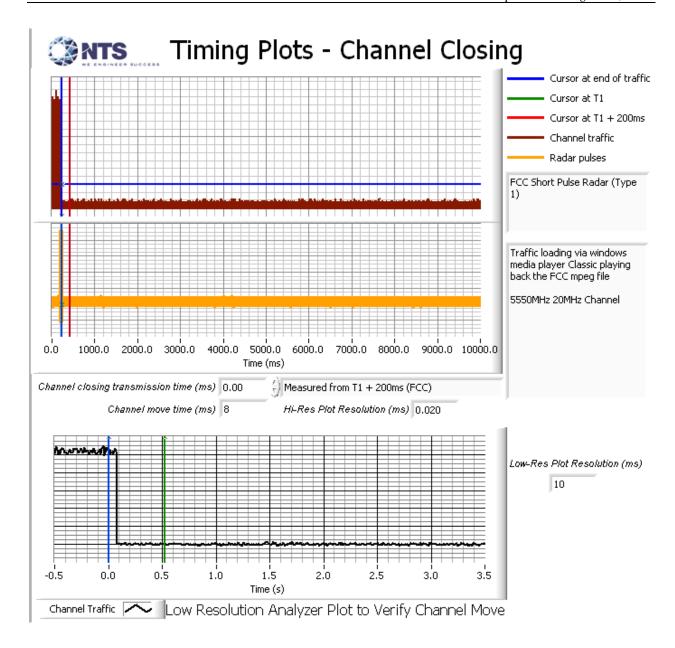


Figure 4 Channel Closing Time and Channel Move Time – 40 second plot, Type 1 (Master mode)

File: R93093 Page 90 of 105

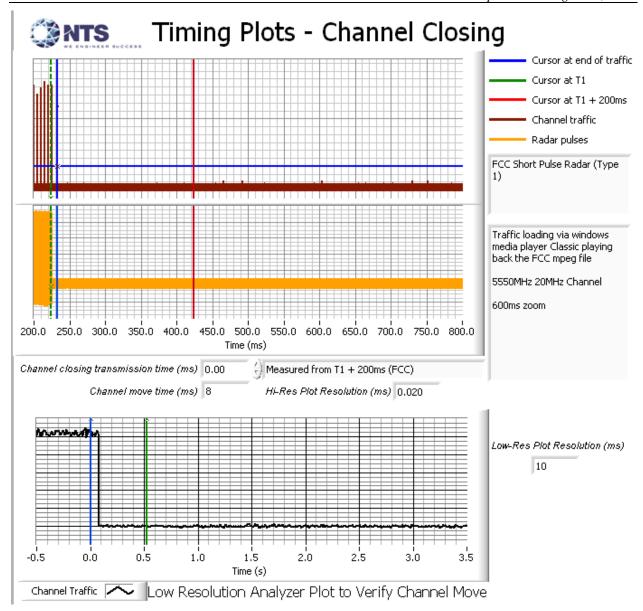


Figure 5 Close-Up of Transmissions Occurring More Than 200ms After The End of Radar, Type 1 (Master mode)

File: R93093 Page 91 of 105

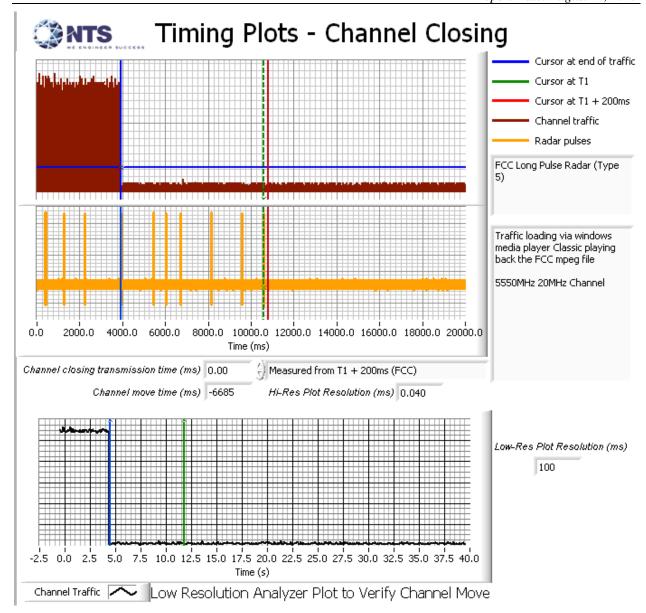


Figure 6 Channel Closing Time and Channel Move Time – 40 second plot. Type 5 (Master mode)

File: R93093 Page 92 of 105

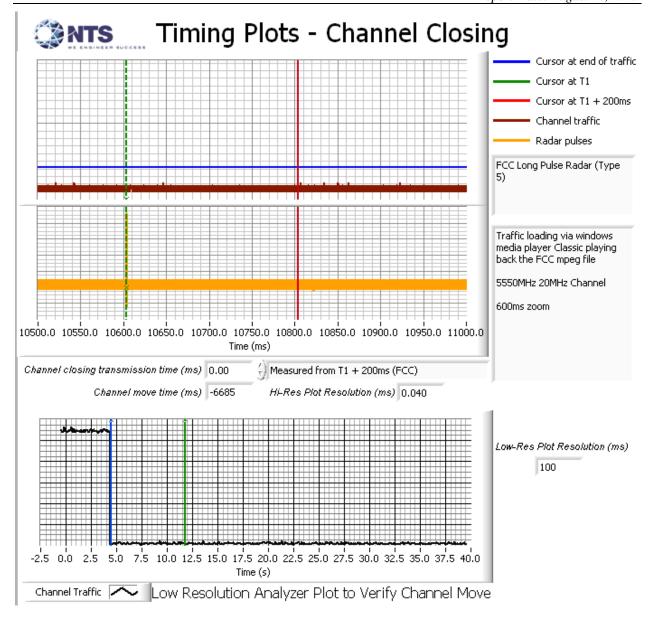


Figure 7 Close-Up of Transmissions Occurring More Than 200ms After The End of Radar, Type 5 (Master mode)

File: R93093 Page 93 of 105

Table 82 - FCC Part 15 Subpart E Channel Closing Test Results (Slave Mode)								
Waveform Type	Channel C Transmissic		Channe Tir	Result				
	Measured	Limit	Measured	Limit				
Radar Type 1	0 ms	60 ms	14 ms	10 s	Pass			

File: R93093 Page 94 of 105

<sup>&</sup>lt;sup>1</sup> Channel closing time for FCC measurements is the aggregate transmission time starting from 200ms after the end of the radar signal to the completion of the channel move.

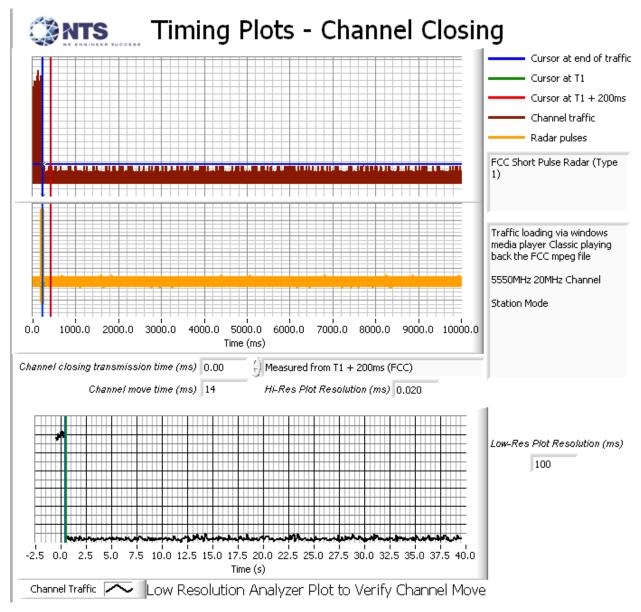


Figure 8 Channel Closing Time and Channel Move Time – 40 second plot, Type 1 (Slave Mode)

File: R93093 Page 95 of 105

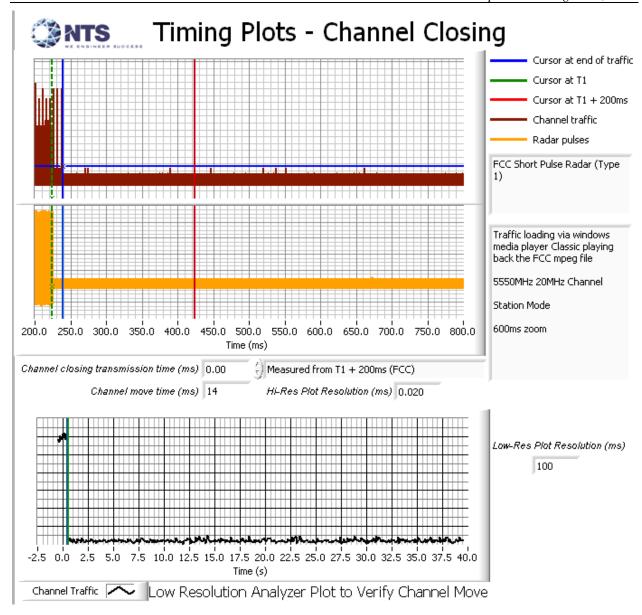


Figure 9 Close-Up of Transmissions Occurring More Than 200ms After The End of Radar, Type 1 (Slave Mode)

File: R93093 Page 96 of 105

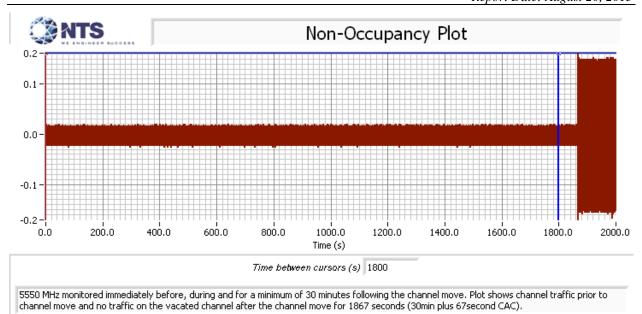


Figure 10 Radar Channel Non-Occupancy Plot (Master Mode)

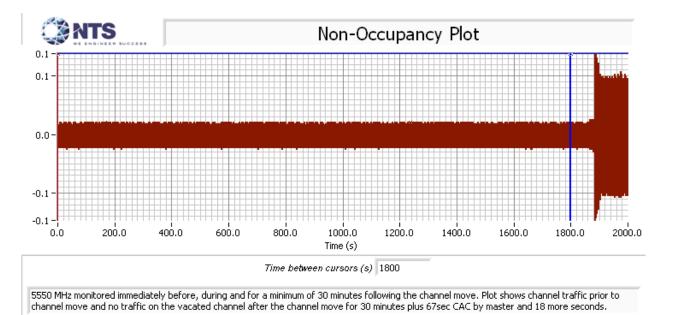


Figure 11 Radar Channel Non-Occupancy Plot (Slave Mode)

The non-occupancy plot was made over a 30-minute time period following the channel move time with the analyzer IF output connected to the scope and tuned to the vacated channel. No transmissions were observed on the vacated channel after the channel move had been completed for 1867seconds, which includes thirty minute non-occupancy plus a 67 channel availability check.

After the channel move the client device stopped transmitting on the vacated channel.

File: R93093 Page 97 of 105

#### Appendix D Test Data - Channel Availability Check

5250- 5350 MHz, 5470 - 5725 MHz

The first plot shows the first transmissions on a channel after restarting/power cycling the master device, with no radar applied during the CAC. The start of CAC is assumed to be 60 seconds before the first transmission as indicated by the green cursor line.

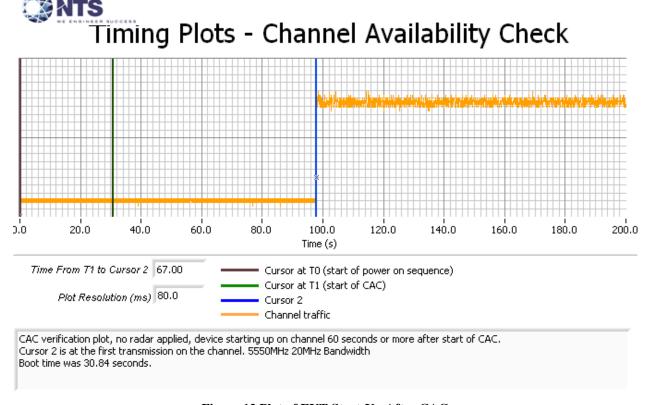


Figure 12 Plot of EUT Start-Up After CAC

The channel availability check (CAC) was made by applying type 1 radar during either the first 6 seconds or last 6 seconds of the CAC period.

The level of the radar signal applied was -64dBm. Measurements were made on channel 110 (5550 MHz).

The start time is the same for each of the plots and the green cursor is positioned to coincide with the start of the Channel Availability Check period based on the plot taken with no radar applied during the CAC.

The plots show that there were no transmissions on the channel after the radar burst was applied during the CAC, and confirm that the CAC is at least 60 seconds. The description of "Channel Traffic" in the plot legend indicates the transmissions from both the radar system and the EUT on the start-up channel. In all cases only the radar burst is observed. The resolution of the plot is not fine enough to resolve the individual pulses within the burst.

File: R93093 Page 98 of 105

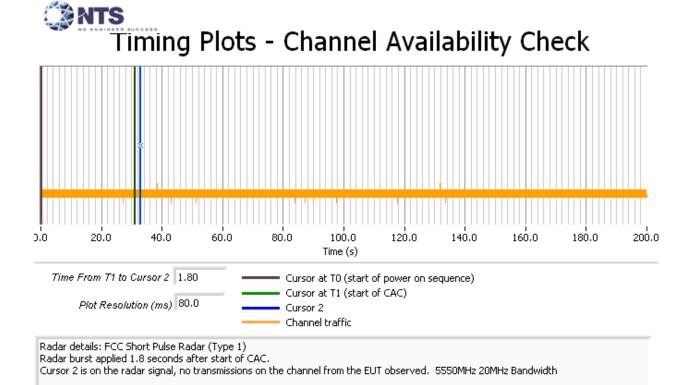


Figure 13 Radar Applied At Start of CAC

File: R93093 Page 99 of 105

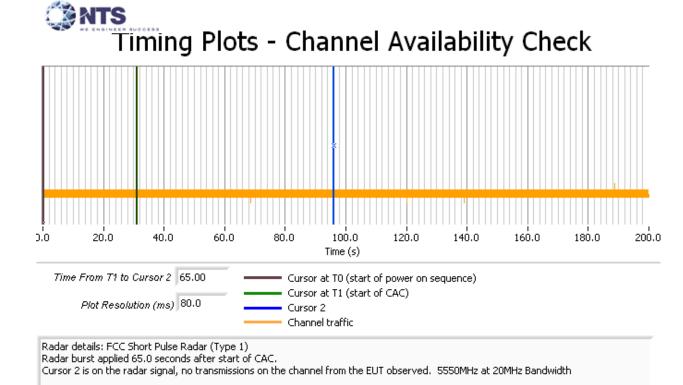


Figure 14 Radar Applied At End of CAC

File: R93093 Page 100 of 105

#### Appendix E Test Data - Uniform Loading

Uniform Loading tests are not applicable; this device is part of a managed network and is professionally installed. Field units will be configured with one primary channel and two alternate channels.

File: R93093 Page 101 of 105

## Appendix F Antenna Specification

Only one antenna is shipped with this radio with a net gain of +16dB.

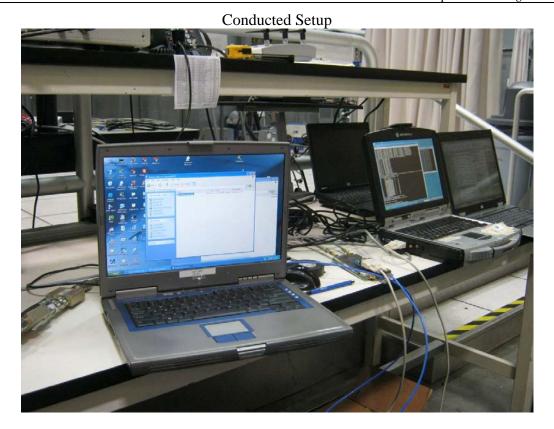
File: R93093 Page 102 of 105

# Appendix G Test Configuration Photograph(s)





File: R93093 Page 103 of 105





File: R93093 Page 104 of 105



File: R93093 Page 105 of 105