FCC CFR47 PART 15 SUBPART E
(DFS REQUIREMENTS)
CERTIFICATION TEST REPORT

FOR

FIXED POINT TO POINT WIRELESS BRIDGE

BRAND NAME: MOTOROLA
MODEL SERIES: PTP54400 Full and PTP54400 Lite
MODELS: 5430BH and 5430BH20

FCC ID: QWP54XX

REPORT NUMBER: 06U10769-1, Revision B

ISSUE DATE: MARCH 9, 2007

Prepared for
ORTHOGON SYSTEMS, LTD.
UNIT A1, LINHAY BUSINESS PARK, EASTERN ROAD
ASHBURTON, DEVON, TQ13 7UP, UK

Prepared by
COMPLIANCE CERTIFICATION SERVICES
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	02/21/2007	Initial Issue	MH
B	03/09/2007	Clarified authorized band and carrier frequency range in Section 5	M. Heckrotte

This report shall not be reproduced except in full, without the written approval of CCS.

TABLE OF CONTENTS

This report shall not be reproduced except in full, without the written approval of CCS.

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: OTHOGON SYSTEMS, LTD.
UNIT A1, LINHAY BUSINESS PARK, EASTERN ROAD
ASHBURTON, DEVON, TQ13 7UP, UK

EUT DESCRIPTION: Fixed Point to Point Wireless Bridge

BRAND NAME: MOTOROLA

MODEL SERIES: PTP54400 Full and PTP54400 Lite

MODEL TESTED: 5430BH20

SERIAL NUMBER: ESN000456003FBO (Master) and ESN000456003FAF (Slave)

DATE TESTED: January 9 – 13, 2007

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART E (DFS REQUIREMENTS)	NO NON-COMPLIANCE NOTED

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

MICHAEL HECKROTTE
ENGINEERING MANAGER
COMPLIANCE CERTIFICATION SERVICES

Tested By:

WILLIAM ZHUANG
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

This report shall not be reproduced except in full, without the written approval of CCS.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and FCC 06-96 APPENDIX "COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION".

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

This report shall not be reproduced except in full, without the written approval of CCS.

5. DESCRIPTION OF EUT

The EUT is a fixed point-to-point wireless link operating in the 5470 to 5725 MHz U-NII band, with a transmitter carrier frequency range of 5479 to 5717 MHz. The hardware is identical for each end of the link; one device is configured as a Master device and the other device is configured as a Slave device. The Master / Slave configuration is selected in software by the manufacturer.

Each device contains two transceivers and one integral dual-polarized patch antenna with a gain of 23 dBi. Each of the transceivers is dedicated to a particular antenna polarization, and they operate simultaneously. The power is adjustable, with a maximum output of 3.8 dBm.

The software is PTP 400 Series Software, version 09:00, modified as engineering build 5450-Dev-B58-!wdog to incorporates test tools (not available to the end user) enabled to simplify testing.

5.1. DESCRIPTION OF MODEL DIFFERENCES

Units with a 20 suffix (Lite model series) have a throttled data capacity without affecting RF parameters or airside performance such that all versions are identical with respect to worst-case determination. 'The throttled data capacity is achieved in the MAC layer of the product software. The PHY layer is identical in both variants and there is no impact on the operating TDD structure, RF bandwidth, on-air signalling rate, power level, or receiver performance. Therefore, in our opinion, the results from the versions tested apply equally to the entire model series.

This report shall not be reproduced except in full, without the written approval of CCS.

6. APPLICABLE LIMITS AND RESULTS

6.1. DYNAMIC FREQUENCY SELECTION

6.1.1. LIMITS

§15.407 (h) and FCC 06-96 APPENDIX "COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION".

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	**Operational Mode**		
	Master	**Client (without radar detection)**	**Client (with radar detection)**
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required

Table 2: Applicability of DFS requirements during normal operation

Requirement	**Operational Mode**		
	Master	**Client** (without DFS)	**Client** (with DFS)
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes

This report shall not be reproduced except in full, without the written approval of CCS.

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

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

Table 4: DFS Response requirement values

Parameter	**Value**
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period
The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows: • For the Short pulse radar Test Signals this instant is the end of the *Burst*. • For the Frequency Hopping radar Test Signal, this instant is the end of the last radar burst generated. • For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission. The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate channel changes (an aggregate of approximately 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.	

This report shall not be reproduced except in full, without the written approval of CCS.

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (Microseconds)	PRI (Microseconds)	Pulses	Minimum Percentage of Successful Detection	Minimum 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 (Radar Types 1-4)				80%	120

Table 6 – Long Pulse Radar Test Signal

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

Table 7 – Frequency Hopping Radar Test Signal

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

This report shall not be reproduced except in full, without the written approval of CCS.

6.1.2. TEST AND MEASUREMENT SYSTEM

SYSTEM OVERVIEW

Measurements were performed using both conducted and radiated test methods.

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

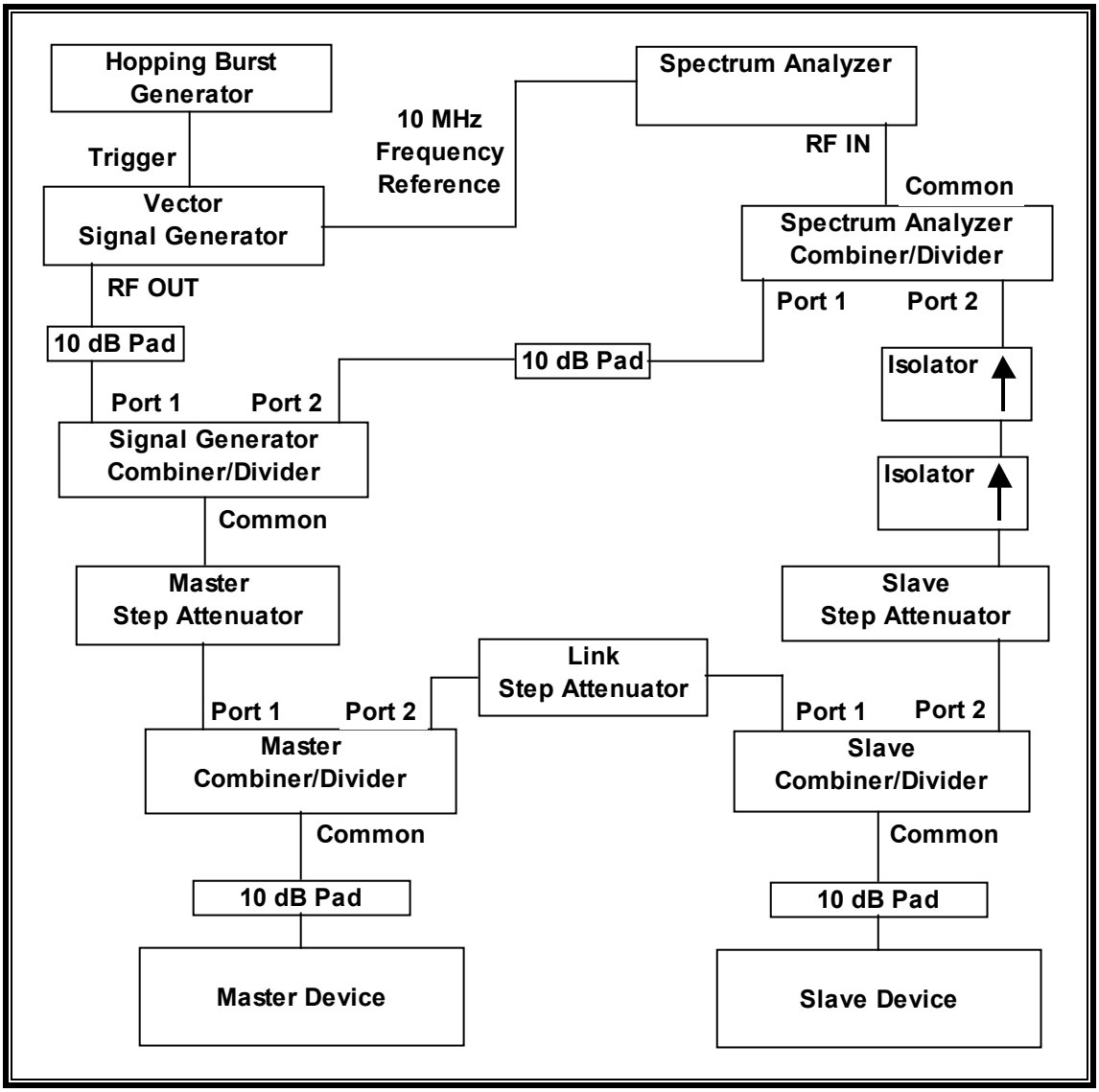
The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Freqeuncy Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

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

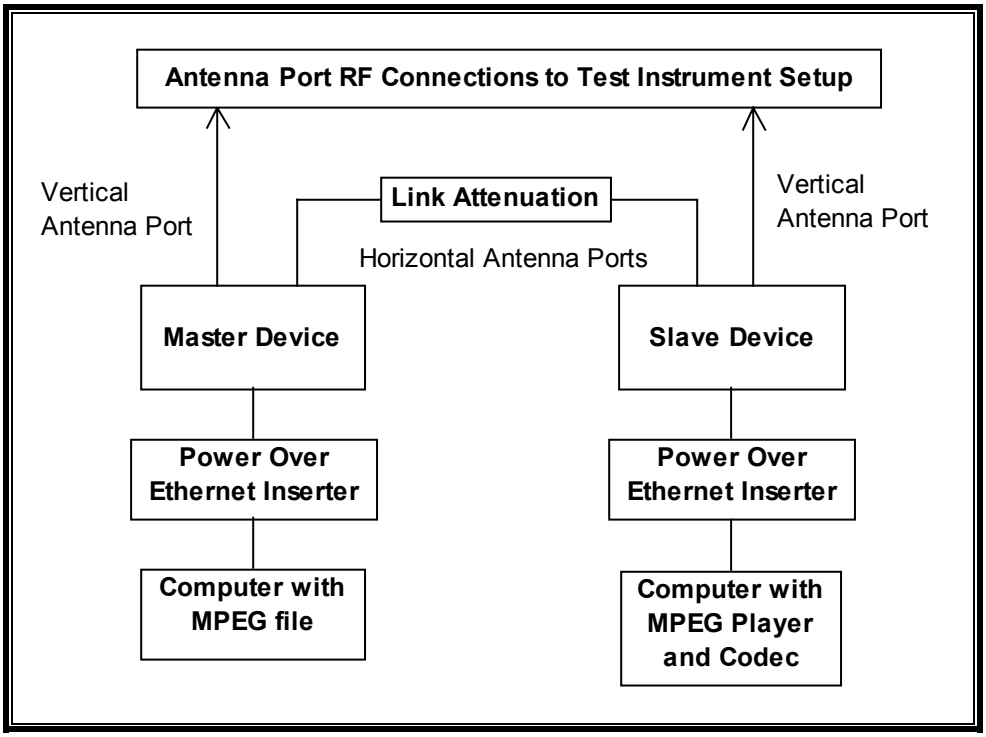
This report shall not be reproduced except in full, without the written approval of CCS.

CONDUCTED METHOD SYSTEM BLOCK DIAGRAM



This report shall not be reproduced except in full, without the written approval of CCS.

CONDUCTED METHOD EUT TEST SETUP



This report shall not be reproduced except in full, without the written approval of CCS.

SYSTEM CALIBRATION

Connect the spectrum analyzer to the test system in place of the master device. Set the signal generator to CW mode. Adjust the amplitude of the signal generator to yield a measured level of –64 dBm on the spectrum analyzer.

Without changing any of the instrument settings, reconnect the spectrum analyer to the Common port of the Spectrum Analyzer Combiner/Divider and connect a 50 ohm load to the Master Device port of the test system.

Measure the amplitude and calculate the difference from –64 dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference. Confirm that the signal is displayed at –64 dBm. Readjust the RBW and VBW to 3 MHz, set the span to 10 MHz, and confirm that the signal is still displayed at –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold. Separate signal generator amplitude settings are determined as required for each radar type.

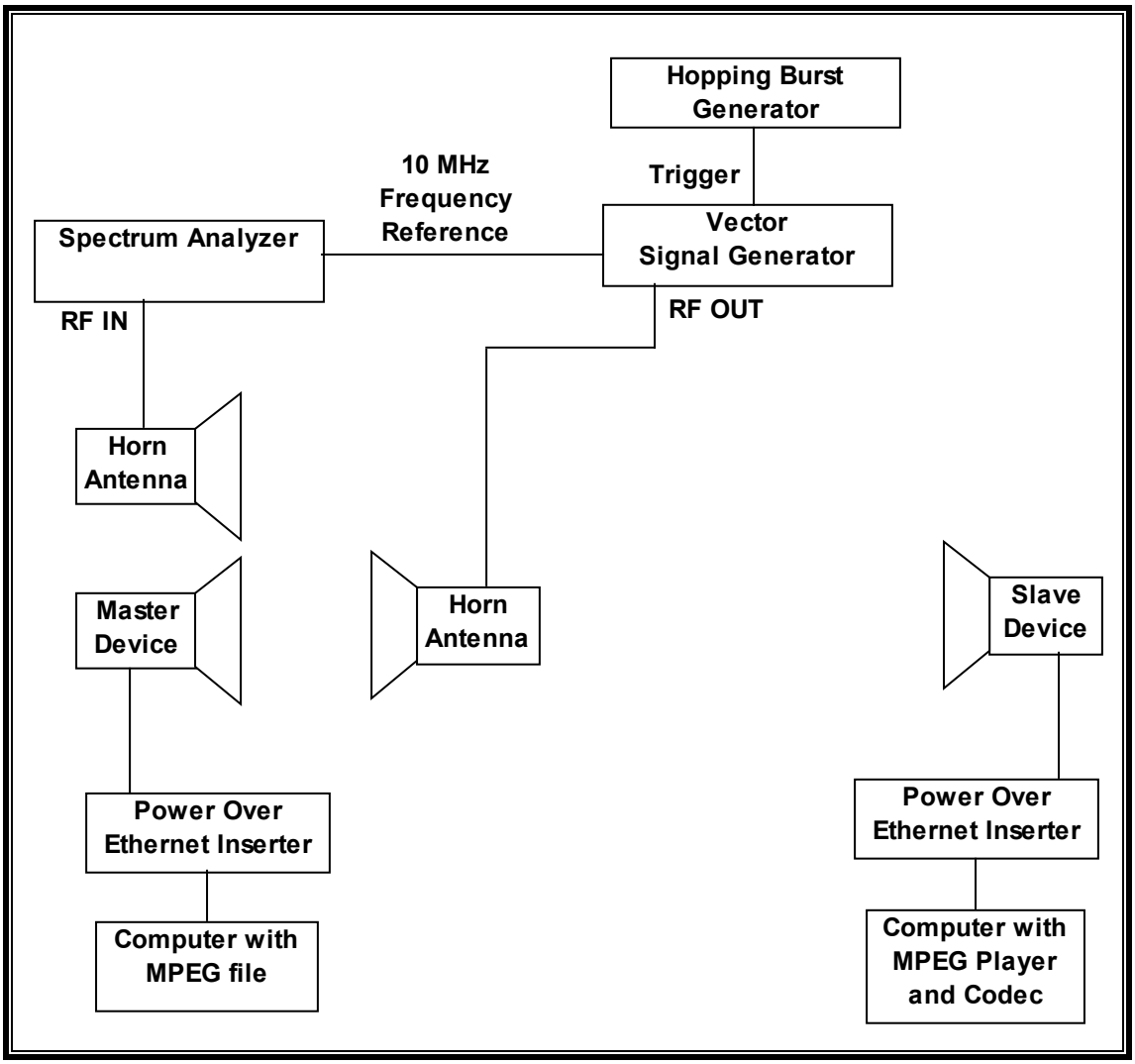
ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

Establish a link between the Master and Slave, adjusting the Link Step Attenuator as needed to provide a suitable received level at the Master and Slave devices. Stream the video test file to generate WLAN traffic. Confirm that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold. Confirm that the displayed traffic is from the Master Device. For Master Device testing confirm that the displayed traffic does not include Slave Device traffic. For Slave Device testing confirm that the displayed traffic does not include Master Device traffic.

If a different setting of the Master Step Attenuator is required to meet the above conditions, perform a new System Calibration for the new Master Step Attenuator setting.

This report shall not be reproduced except in full, without the written approval of CCS.

RADIATED METHOD SETUP DIAGRAM



This report shall not be reproduced except in full, without the written approval of CCS.

6.1.3. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**Cal Due**
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	US42070220	7/29/2007
Vector Signal Generator 250kHz-20GHz	Agilent / HP	E8267C	US43320336	11/2/2007
High Speed Digital I/O Card	National Instruments	PCI-6534	HA1612845	1/16/2008

6.1.4. SUPPORT EQUIPMENT

The following EUT support equipment was utilized for the tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Brand**	**Model**	**Serial Number**	**FCC ID**
Laptop	DELL	PRECISION M90	39-877-078-51	DoC
AC Adapter	DELL	DA90PS0-00	OXD757-48661-63T-6IS8	DoC
Laptop	TOSHIBA	TECRA 8200	12048027PU	DoC
AC Adapter	TOSHIBA	PA3048U-1ACA	1092289G	DoC
Power IDU	MOTOLORA	Canopy Power IDU 30/60 Mbps	628238861	DoC
Power IDU	MOTOLORA	Canopy Power IDU 30/60 Mbps	628238987	DoC

This report shall not be reproduced except in full, without the written approval of CCS.

6.1.5. DESCRIPTION OF EUT

The EUT operates over the 5470-5725 MHz range.

The EUT can be configured either as a Master Device or as a Slave Device without Radar Detection. Each installation consists of two devices set up to make a point-to-point link. One of the devices in each installation is configured as the Master and the other device is configured as the Slave.

Within each device, two identical transceivers are connected to one integrated dual-polarized antenna. The antenna has a gain of 23 dBi in each polarization.

The power level is adjustable. The highest composite (horizontal polarization + vertical polarization) power level is 3.8 dBm. The highest composite EIRP is 26.8 dBm.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is –64 + 23 + 1 = -40 dBm.

The calibrated conducted DFS Detection Threshold level is set to –40 dBm. For test purposes a connector plate is added so that each transmitter may be connected to a 50-ohm coaxial antenna port. The vertically polarized antenna ports are connected to the test system to perform conducted tests. The horizontally polarized antenna ports between the Master and Slave are connected via 60 dB link attenuation to simulate typical link losses in an installed configuration.

The calibrated radiated DFS Detection Threshold level is set to –63 dBm.

WLAN traffic is generated by streaming the video file TestFile.mp2 “6 ½ Magic Hours” from the Master to the Slave in full motion video mode using the media player with the V2.61 Codec package.

The rated output power of the Master unit is < 27dBm (EIRP) therefore TPC is not required.

The EUT is a Frame-based system utilizing OFDM modulation with a 10 MHz nominal channel bandwidth. The maximum Talk/Listen ratio is 50% / 50%, and this setting is used for all DFS testing.

The software version installed in the access point is PTP 400 Series Software, version 09:00, modified as engineering build 5450-Dev-B58-!wdog to incorporates test tools (notavailable to the end user) enabled to simplify testing.

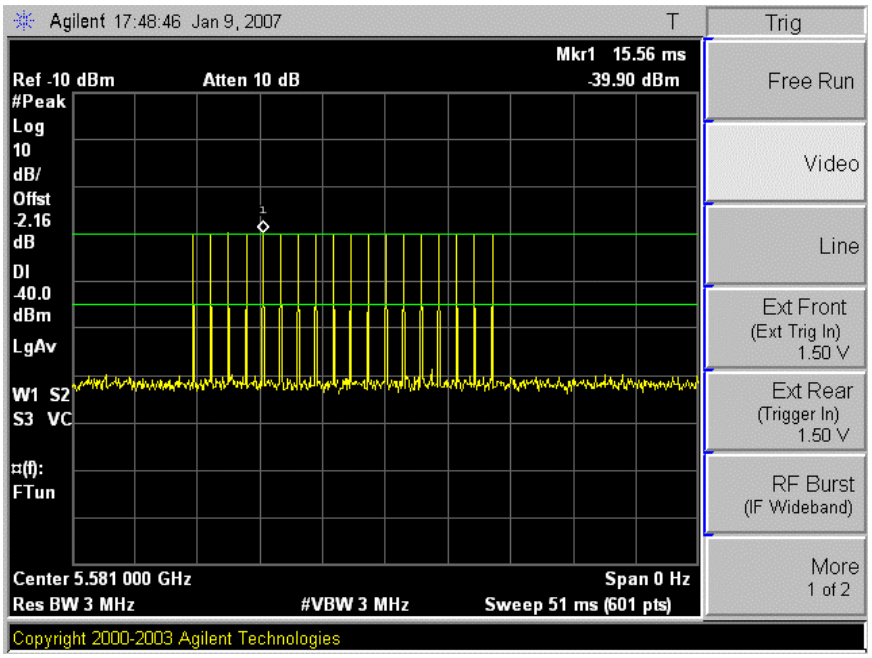
Test results show that the EUT requires 43.59 seconds to complete its initial power-up cycle.

This report shall not be reproduced except in full, without the written approval of CCS.

6.1.6. PLOTS OF RADAR WAVEFORM, AND WLAN TRAFFIC

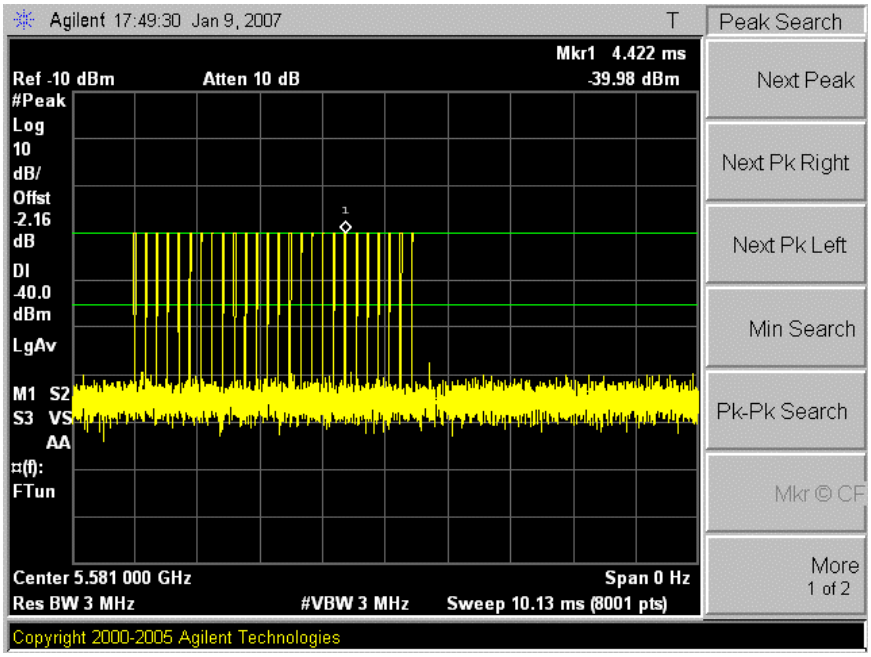
PLOTS OF RADAR WAVEFORMS

RADAR TYPE 1



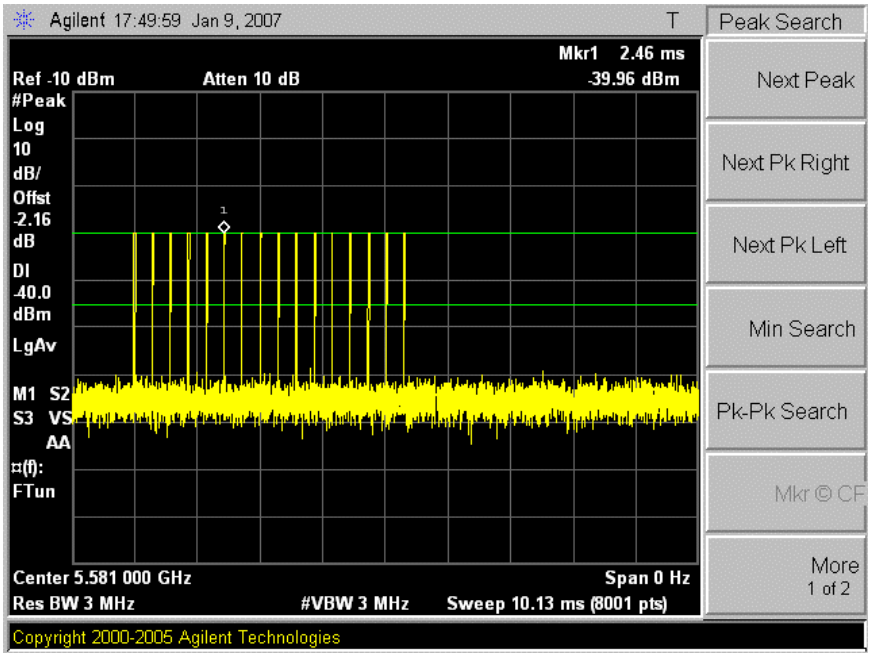
This report shall not be reproduced except in full, without the written approval of CCS.

SAMPLE OF RADAR TYPE 2



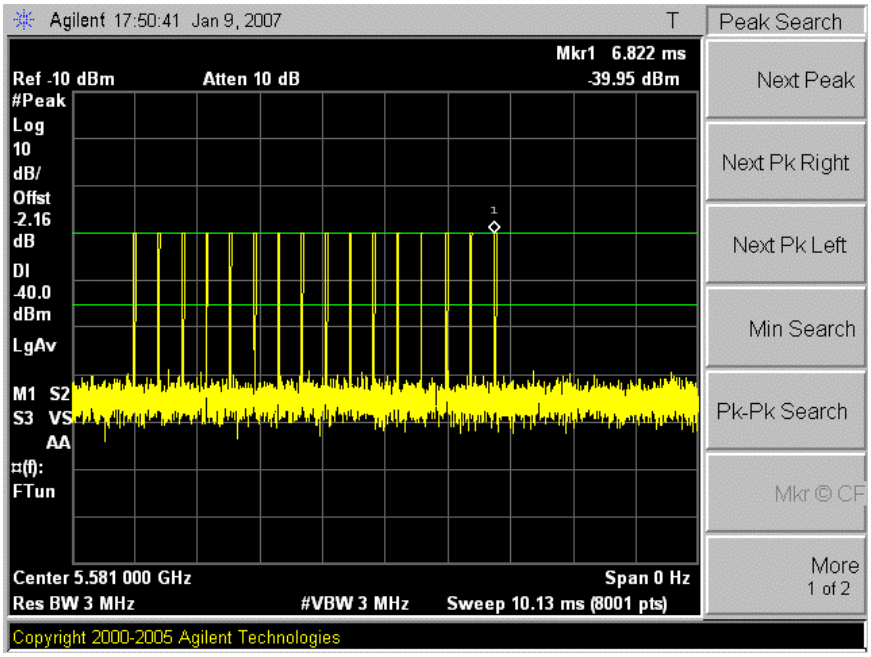
This report shall not be reproduced except in full, without the written approval of CCS.

SAMPLE OF RADAR TYPE 3



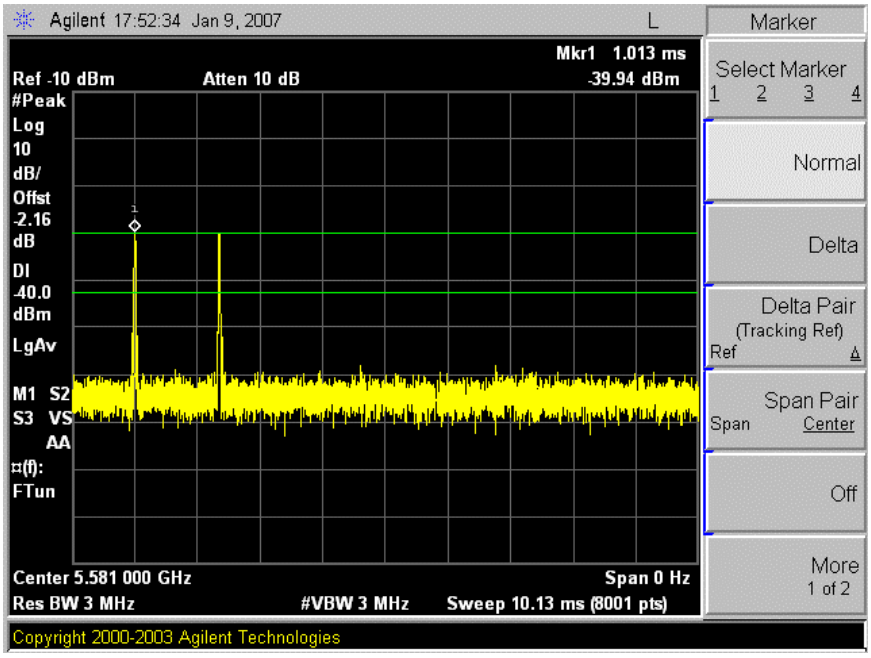
This report shall not be reproduced except in full, without the written approval of CCS.

SAMPLE OF RADAR TYPE 4



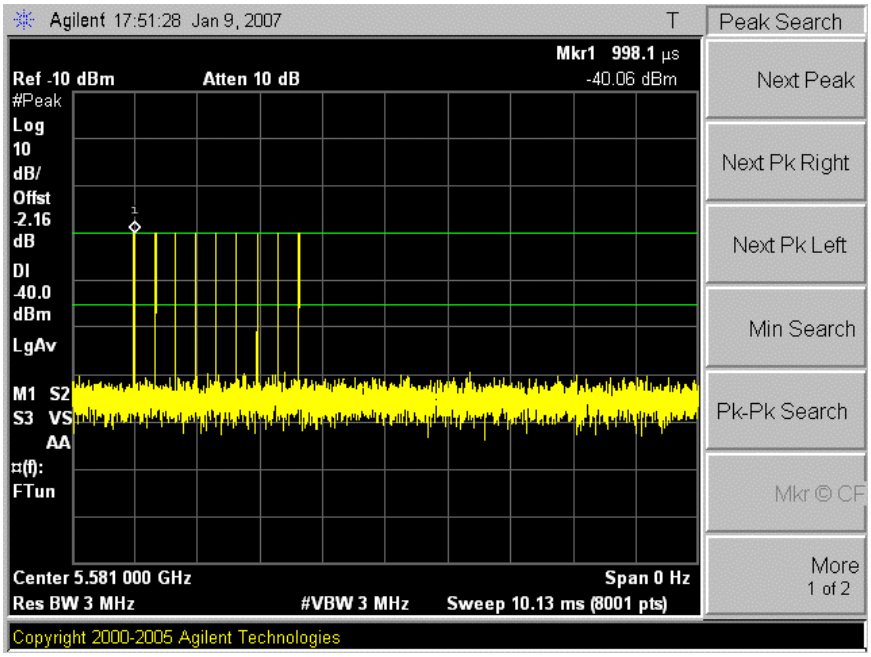
This report shall not be reproduced except in full, without the written approval of CCS.

SAMPLE OF SINGLE BURST OF RADAR TYPE 5



This report shall not be reproduced except in full, without the written approval of CCS.

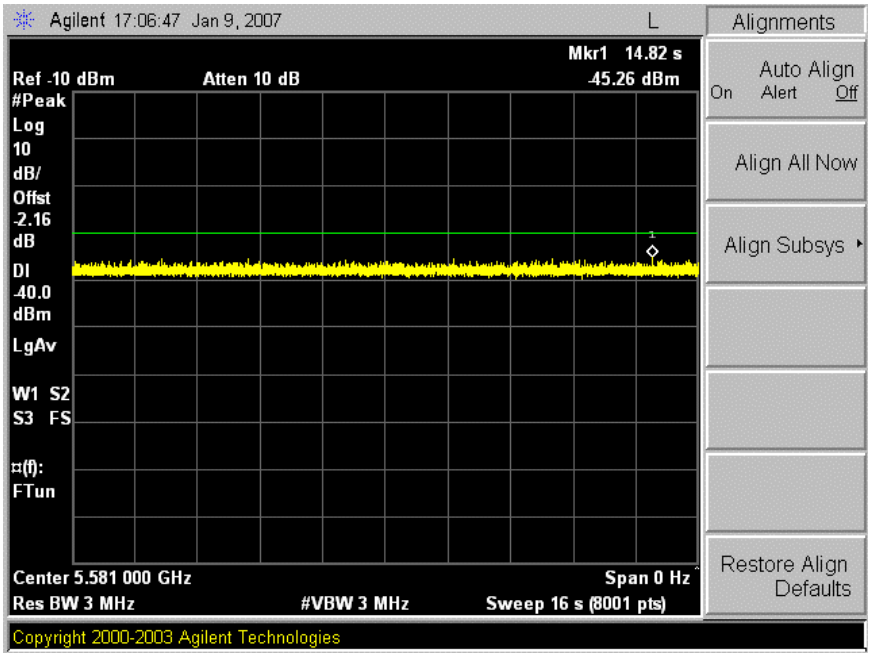
SINGLE BURST OF RADAR TYPE 6



This report shall not be reproduced except in full, without the written approval of CCS.

PLOT OF WLAN TRAFFIC FROM MASTER

WLAN TRAFIC



This report shall not be reproduced except in full, without the written approval of CCS.

6.1.7. TEST CHANNEL AND METHOD

All tests were performed at a channel center frequency of 5581 MHz. The conducted test method was utilized for timing measurements and the radiated test method was utilized for detection probability measurements.

6.1.8. CHANNEL AVAILABILITY CHECK TIME

TEST PROCEDURE TO DETERMINE INITIAL POWER-UP CYCLE TIME

A link was established on channel, then the EUT was rebooted. The time from the cessation of traffic to the re-initialization of traffic was measured as the time required for the EUT to complete the total power-up cycle. The time to complete the initial power-up period is 60 seconds less than this total power-up time.

TEST PROCEDURE FOR TIMING OF RADAR BURST

With a link established on channel, the EUT was rebooted. A radar signal was triggered within 0 to 6 seconds after the initial power-up period, and transmissions on the channel were monitored on the spectrum analyzer.

The Non-Occupancy list was cleared. With a link established on channel, the EUT was rebooted. A radar signal was triggered within 54 to 60 seconds after the initial power-up period, and transmissions on the channel were monitored on the channel were monitored on the spectrum analyzer.

This report shall not be reproduced except in full, without the written approval of CCS.

CHANNEL AVAILABILITY CHECK TIME RESULTS

No non-compliance noted:

Time required for EUT to complete the initial power-up cycle (sec)
43.59

If a radar signal is detected during the channel availability check then the PC controlling the EUT displays a message stating that radar was detected.

Timing of Radar Burst	Display on Control Computer	Spectrum Analyzer Display
No Radar Triggered	EUT marks Channel as active	Transmissions begin on channel after completion of the initial power-up cycle and the 60 second CAC
Within 0 to 6 second window	EUT indicates radar detected EUT does not display any radar parameter values	No transmissions on channel
Within 54 to 60 second window	EUT indicates radar detected EUT does not display any radar parameter values	No transmissions on channel

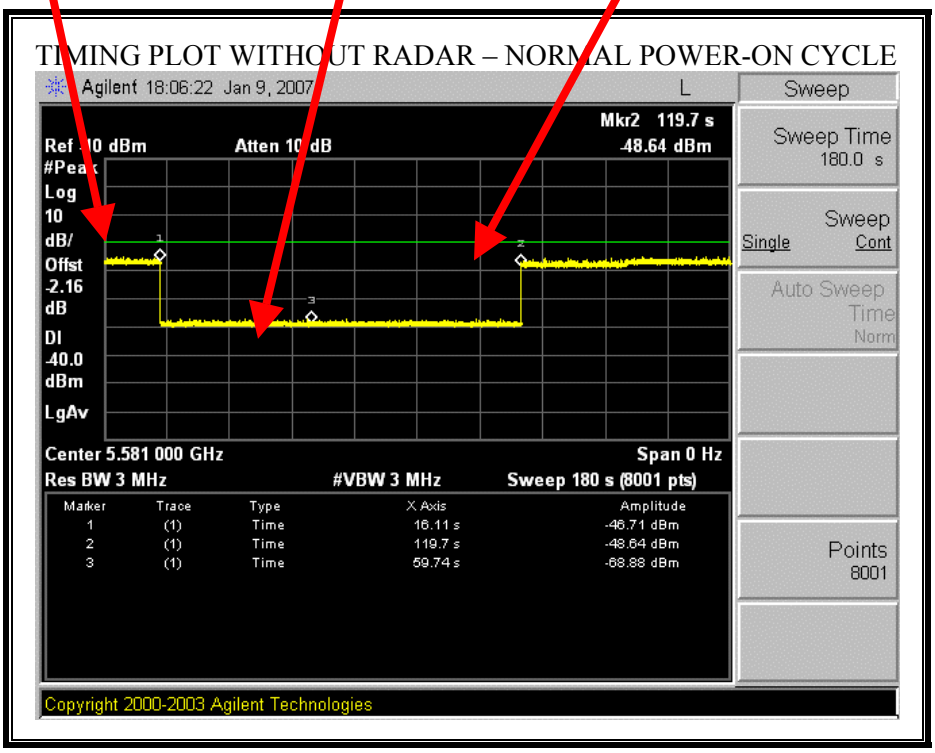
This report shall not be reproduced except in full, without the written approval of CCS.

TIMING PLOT WITHOUT RADAR DURING CAC

Master is rebooted
Traffic ceases
Start of Initial Power-up cycle

End of Initial Power-up cycle
Start of CAC

End of CAC
Traffic is Initiated



The initial power-up cycle requires (119.7 – 16.11 – 60) = 43.59 seconds.

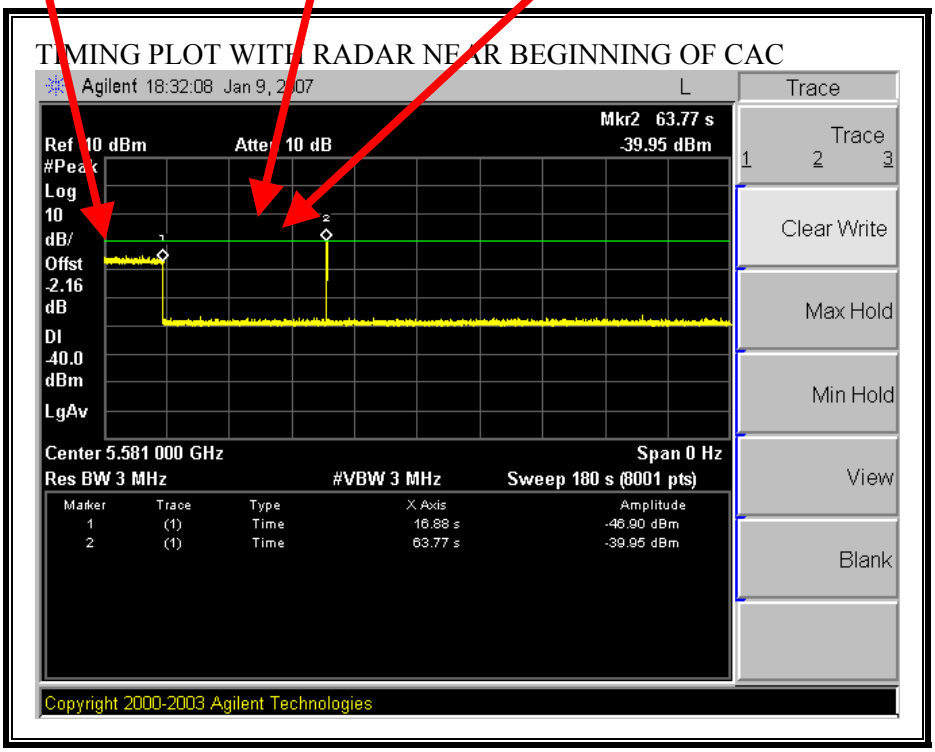
This report shall not be reproduced except in full, without the written approval of CCS.

TIMING PLOT WITH RADAR NEAR BEGINNING OF CAC

AP is rebooted
Traffic ceases
Start of Initial Power-up cycle

End of Initial Power-up cycle
Start of CAC

Radar Signal Applied



The radar signal is applied (63.77 – 16.88) = 46.89 seconds after reboot, which is (46.89 – 43.59) = 3.3 seconds after the start of the CAC period.

No EUT transmissions were observed after the radar signal.

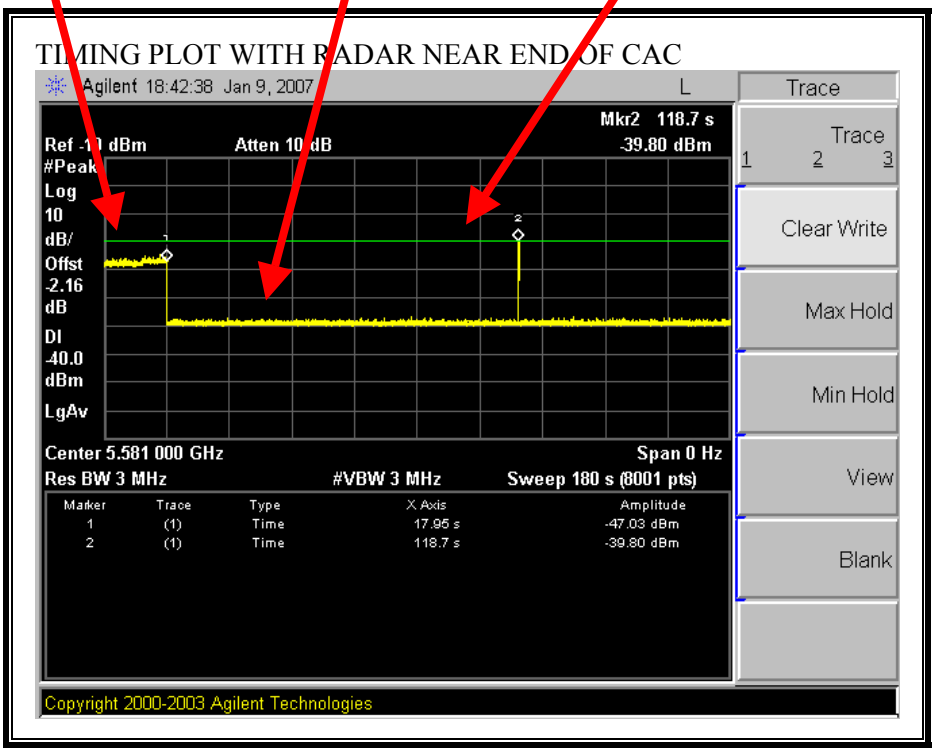
This report shall not be reproduced except in full, without the written approval of CCS.

TIMING PLOT WITH RADAR NEAR END OF CAC

AP is rebooted
Traffic ceases
Start of Initial Power-up cycle

End of Initial Power-up cycle
Start of CAC

Radar Signal Applied



The radar signal is applied (118.7 – 17.95) = 100.75 seconds after reboot, which is (100.75 – 43.59) = 57.16 seconds after the start of the CAC period.

No EUT transmissions were observed after the radar signal.

This report shall not be reproduced except in full, without the written approval of CCS.

6.1.9. CHANNEL MOVE TIME AND CHANNEL CLOSING TRANSMISSION TIME FOR CONFIGURATION AS A MASTER DEVICE

GENERAL REPORTING NOTES

The reference marker is set at the end of last radar pulse.

TYPE 1 RADAR REPORTING NOTES

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

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

The observation period over which the aggregate time is calculated
Begins at (Reference Marker + 200 msec)
and
Ends no earlier than (Reference Marker + 10 sec).

TYPE 5 RADAR REPORTING NOTES

The delta marker is set to 10 seconds after the end of the radar pulse.

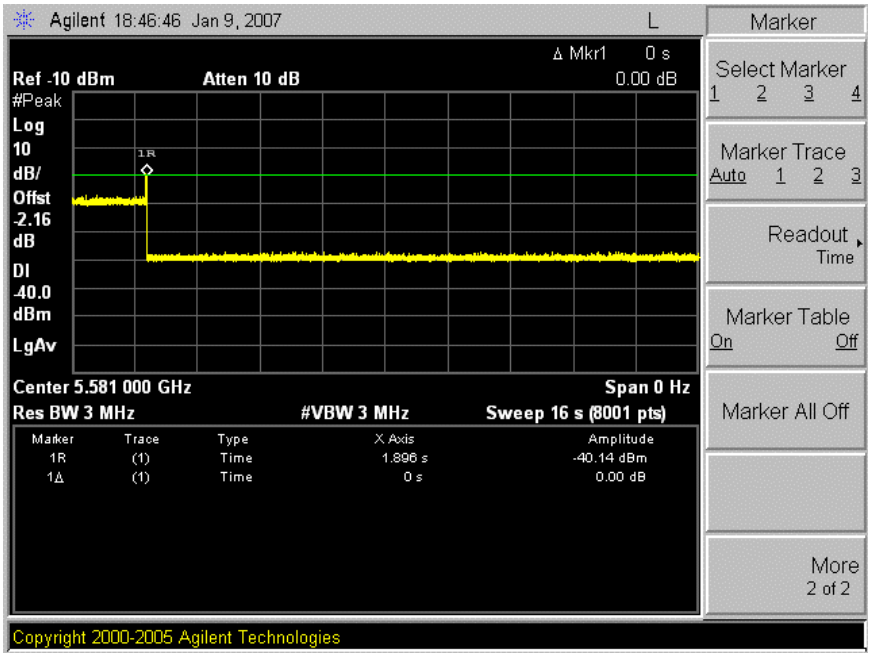
This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 1 CHANNEL MOVE TIME RESULTS

No non-compliance noted:

Channel Move Time (s)	Limit (s)
0.000	10

MOVE TIME PLOT FOR SHORT PULSE RADAR



This report shall not be reproduced except in full, without the written approval of CCS.

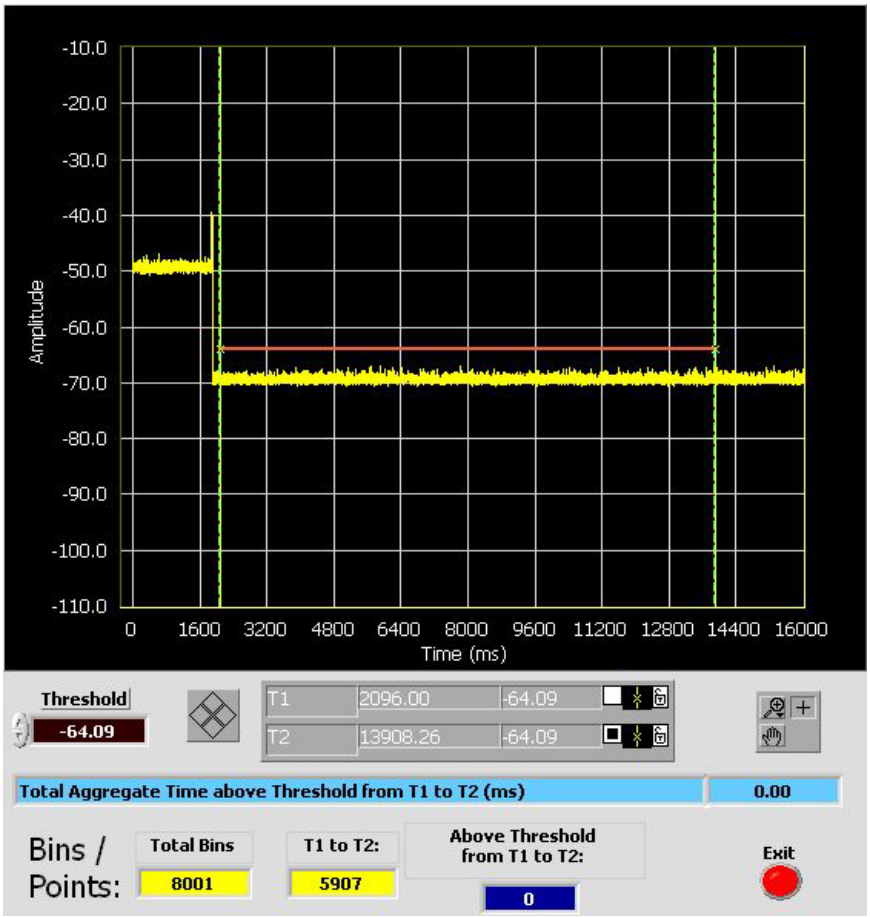
TYPE 1 CHANNEL CLOSING TRANSMISSION TIME RESULTS

No non-compliance noted:

Aggregate Transmission Time (ms)	Limit (ms)	Margin (ms)
0.00	60	60.00

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME PLOT

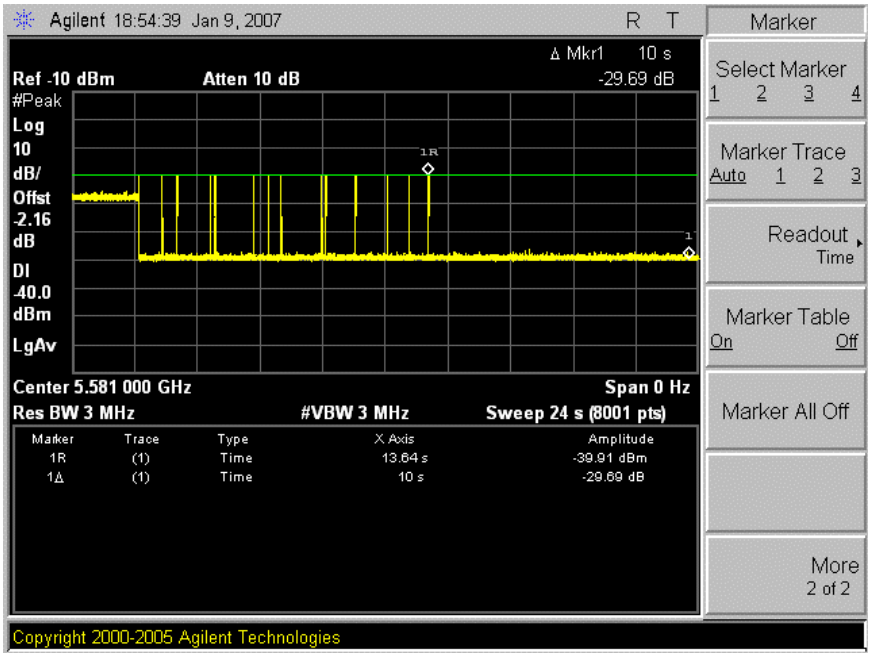


This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 5 CHANNEL MOVE TIME RESULTS

No non-compliance noted: The traffic ceases prior to the end of the radar waveform, therefore it also ceases prior to 10 seconds after the end of the radar waveform.

MOVE TIME PLOT FOR LONG PULSE RADAR



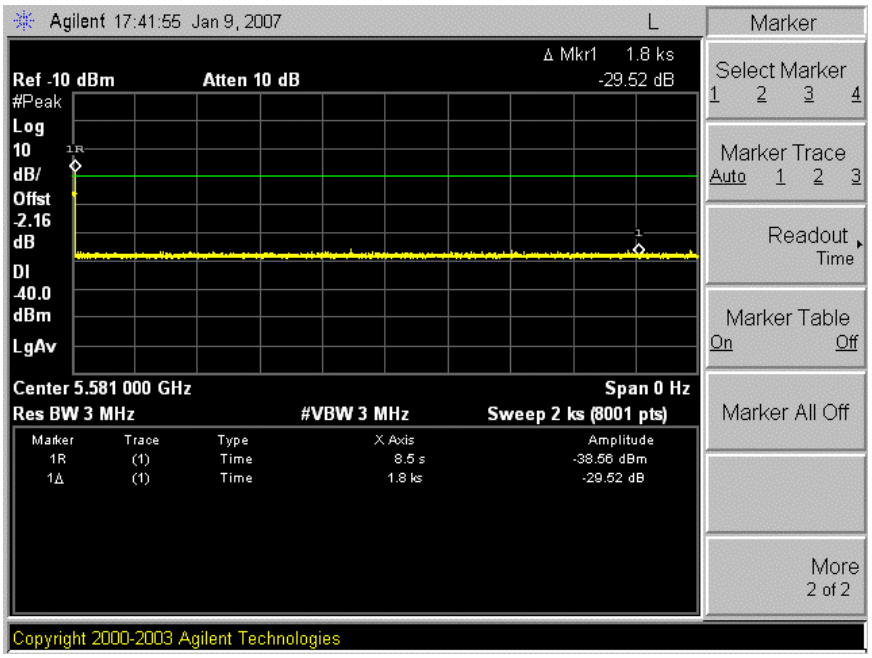
This report shall not be reproduced except in full, without the written approval of CCS.

6.1.10. NON-OCCUPANCY PERIOD

RESULTS

No non-compliance noted: No EUT transmissions were observed on the test channel during the 30 minute observation time.

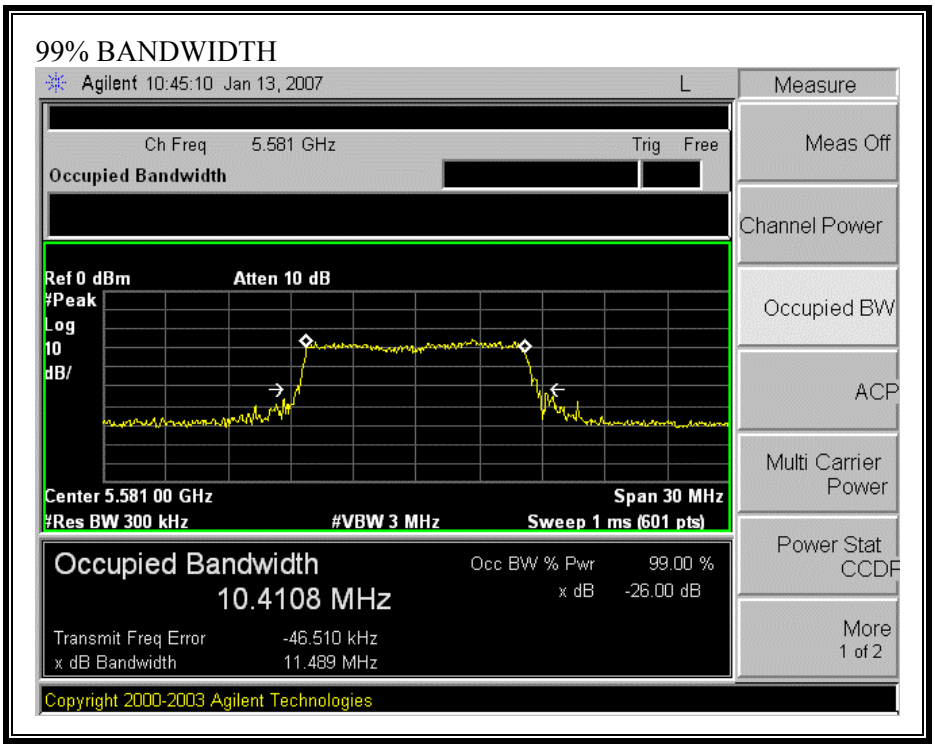
NON-OCCUPANCY PERIOD PLOT



This report shall not be reproduced except in full, without the written approval of CCS.

6.1.11. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



This report shall not be reproduced except in full, without the written approval of CCS.

RESULTS

No non-compliance noted:

FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5575	5587	12	10.411	115.3	80

DETECTION BANDWIDTH PROBABILITY

DETECTION BANDWIDTH PROBABILITY RESULTS

Detection Bandwidth Test Results:			Waveform: TYPE 1	
Frequency (MHz)	Number of Trials	Number Detected	Detection (%)	Mark
5574	10	2	20.00	
5575	10	10	100.00	FL
5576	10	10	100.00	
5577	10	10	100.00	
5578	10	10	100.00	
5579	10	10	100.00	
5580	10	10	100.00	
5581	10	10	100.00	
5582	10	10	100.00	
5583	10	10	100.00	
5584	10	10	100.00	
5585	10	10	100.00	
5586	10	10	100.00	
5587	10	10	100.00	FH
5588	10	1	10.00	

This report shall not be reproduced except in full, without the written approval of CCS.

6.1.12. IN-SERVICE MONITORING

RESULTS

No non-compliance noted:

Radar Test Summary:				
Signal Type	Waveform/Trial No.	Detection (%)	Limit (%)	Pas/Fail
FCC TYPE 1	30	100.00	60.00	Pass
FCC TYPE 2	30	100.00	60.00	Pass
FCC TYPE 3	30	100.00	60.00	Pass
FCC TYPE 4	30	90.00	60.00	Pass
Aggregate	4	97.50	80.00	Pass
FCC TYPE 5	30	100.00	80.00	Pass
FCC TYPE 6	39	94.87	70.00	Pass

This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 1 DETECTION PROBABILITY

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

This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 2 DETECTION PROBABILITY

Data Sheet for Short Pulse Radar Type 2				
Waveform No.	# Pulses per burst	Pulse Width (us)	Pulse repetition Interval (us)	Successful Detection (Yes/No)
2001	26	4.90	180	Yes
2002	25	1.40	195	Yes
2003	26	3.00	151	Yes
2004	28	2.90	221	Yes
2005	26	2.10	204	Yes
2006	26	1.90	221	Yes
2007	24	3.50	184	Yes
2008	24	2.70	197	Yes
2009	28	3.70	150	Yes
2010	27	4.00	184	Yes
2011	23	5.00	175	Yes
2012	27	4.70	213	Yes
2013	26	3.00	162	Yes
2014	26	2.20	220	Yes
2015	25	2.10	203	Yes
2016	24	4.70	215	Yes
2017	27	1.80	160	Yes
2018	23	3.10	190	Yes
2019	29	4.70	185	Yes
2020	26	2.40	164	Yes
2021	28	3.40	189	Yes
2022	24	4.50	172	Yes
2023	24	1.70	203	Yes
2024	27	1.00	178	Yes
2025	24	4.10	199	Yes
2026	26	4.80	163	Yes
2027	23	4.30	180	Yes
2028	23	2.80	222	Yes
2029	27	1.70	227	Yes
2030	29	1.10	203	Yes

This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 3 DETECTION PROBABILITY

Data Sheet for Short Pulse Radar Type 3				
Waveform No.	# Pulses per burst	Pulse Width (us)	Pulse repetition Interval (us)	Successful Detection (Yes/No)
3001	16	5.10	292	Yes
3002	17	5.80	253	Yes
3003	18	6.10	291	Yes
3004	18	7.00	266	Yes
3005	16	5.40	462	Yes
3006	18	7.70	471	Yes
3007	18	9.90	337	Yes
3008	18	5.70	435	Yes
3009	17	5.20	427	Yes
3010	16	9.60	388	Yes
3011	18	7.70	373	Yes
3012	17	5.00	352	Yes
3013	17	9.00	399	Yes
3014	17	8.30	467	Yes
3015	16	8.50	457	Yes
3016	18	5.80	276	Yes
3017	16	6.30	342	Yes
3018	18	9.00	264	Yes
3019	16	6.00	491	Yes
3020	17	8.10	447	Yes
3021	16	6.90	402	Yes
3022	18	5.50	307	Yes
3023	16	7.40	469	Yes
3024	17	8.90	354	Yes
3025	18	5.60	486	Yes
3026	18	7.80	486	Yes
3027	18	7.50	376	Yes
3028	18	7.20	361	Yes
3029	17	8.40	497	Yes
3030	16	6.00	255	Yes

This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 4 DETECTION PROBABILITY

Data Sheet for Short Pulse Radar Type 4				
Waveform No.	# Pulses per burst	Pulse Width (us)	Pulse repetition Interval (us)	Successful Detection (Yes/No)
4001	16	19.30	388	Yes
4002	14	17.20	465	Yes
4003	13	15.70	418	Yes
4004	14	10.00	306	Yes
4005	13	10.50	415	Yes
4006	16	12.10	498	Yes
4007	13	17.40	293	Yes
4008	14	13.90	303	Yes
4009	13	17.50	405	Yes
4010	16	15.10	336	Yes
4011	14	18.00	455	Yes
4012	14	13.30	397	Yes
4013	15	15.00	341	Yes
4014	14	13.50	494	Yes
4015	12	12.50	494	No
4016	15	17.10	344	No
4017	13	14.40	282	No
4018	13	18.70	264	Yes
4019	13	16.10	351	Yes
4020	15	13.50	484	Yes
4021	12	16.10	499	Yes
4022	15	17.80	386	Yes
4023	16	14.00	465	Yes
4024	14	11.70	391	Yes
4025	13	16.30	328	Yes
4026	12	12.90	337	Yes
4027	14	17.10	475	Yes
4028	13	13.50	345	Yes
4029	13	17.80	440	Yes
4030	13	14.30	387	Yes

This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 5 DETECTION PROBABILITY

Data Sheet for Long Pulse Radar Type 5	
Waveform No.	**Successful Detection (Yes/No)**
5001	Yes
5002	Yes
5003	Yes
5004	Yes
5005	Yes
5006	Yes
5007	Yes
5008	Yes
5009	Yes
5010	Yes
5011	Yes
5012	Yes
5013	Yes
5014	Yes
5015	Yes
5016	Yes
5017	Yes
5018	Yes
5019	Yes
5020	Yes
5021	Yes
5022	Yes
5023	Yes
5024	Yes
5025	Yes
5026	Yes
5027	Yes
5028	Yes
5029	Yes
5030	Yes

This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 5 WAVEFORM PARAMETERS

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 1; Num of Bursts = 14; Burst Interval (us) = 857143.0; Total number of pulses = 25						
1	2	75	19	1341	1918	548118
2	2	50	16	1498	1013	1474194
3	3	75	10	1216	1705	2019235
4	1	85	9	1039	---	3347312
5	3	65	8	1441	1802	3493823
6	1	90	11	1438	---	5012250
7	1	80	7	1569	---	5579654
8	1	60	14	1624	---	6054052
9	1	70	11	1234	---	7610049
10	3	50	9	1380	1863	7731407
11	2	95	16	1953	1236	8907599
12	1	85	9	1748	---	10153667
13	1	60	9	1794	---	10979720
14	3	50	14	1977	1200	11673426
Waveform Num = 2; Num of Bursts = 19; Burst Interval (us) = 631579.0; Total number of pulses = 41						
1	3	100	9	1578	1640	154874
2	2	70	14	1734	---	798852
3	3	50	9	1805	1571	489258
4	1	55	15	---	---	704629
5	1	70	17	---	---	421500
6	2	55	12	1375	---	775250
7	3	95	11	1373	1511	922619
8	3	75	11	1451	1989	300231
9	3	95	5	1819	1329	750884
10	1	85	20	---	---	961135
11	2	55	5	1386	---	97641
12	2	70	9	1370	---	675375
13	2	95	17	1639	---	1075979
14	3	65	8	1139	1682	336776
15	3	90	9	1964	1292	470816
16	1	70	20	---	---	525845
17	3	75	7	1146	1525	798717
18	2	70	5	1725	---	903499
19	1	70	20	---	---	706743

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 3; Num of Bursts = 14; Burst Interval (us) = 857143.0; Total number of pulses = 36						
1	3	60	18	1810	1236	160562
2	3	50	14	1726	1136	954347
3	2	60	7	1792	---	1064528
4	1	90	5	---	---	454230
5	3	55	10	1263	1735	1380979
6	3	95	15	1023	1042	396278
7	3	80	20	1980	1875	1112380
8	1	85	14	---	---	858136
9	3	70	7	1670	1236	849633
10	2	55	18	1353	---	1057149
11	3	85	8	1358	1903	1004879
12	3	60	17	1350	1678	541665
13	3	55	8	1869	1814	1167700
14	3	100	14	1094	1442	255397
Waveform Num = 4; Num of Bursts = 9; Burst Interval (us) = 1333333.0; Total number of pulses = 21						
1	2	95	9	1209	---	1172744
2	3	90	17	1394	1601	847561
3	1	80	14	---	---	819620
4	2	75	15	1814	---	1208683
5	3	95	14	1541	1028	1389454
6	3	75	20	1991	1216	1490272
7	2	100	20	1941	---	1687876
8	3	50	14	1618	1493	935009
9	2	95	5	1579	---	1440082
Waveform Num = 5; Num of Bursts = 20; Burst Interval (us) = 600000.0; Total number of pulses = 41						
1	2	65	10	1783	---	571535
2	3	70	20	1867	1694	602495
3	3	95	20	1099	1427	185295
4	2	100	13	1023	---	616795
5	1	100	9	---	---	838580
6	2	100	16	1200	---	719707
7	2	90	8	1089	---	394063
8	1	70	9	---	---	404756
9	2	60	17	1146	---	1019000
10	3	70	9	1942	1294	576870
11	3	55	11	1726	1808	258176
12	2	55	13	1309	---	750807
13	1	100	18	---	---	679644
14	2	70	11	1508	---	430318
15	2	55	9	1407	---	798516
16	3	65	18	1309	1549	194725
17	1	60	15	---	---	867985
18	3	100	5	1534	1057	646720
19	1	50	12	---	---	590922
20	2	95	17	1755	---	736826

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 6; Num of Bursts = 11; Burst Interval (us) = 1090909.0; Total number of pulses = 23						
1	3	95	16	1656	1755	589469
2	1	75	14	---	---	1387883
3	3	70	14	1671	1390	239726
4	2	60	9	1165	---	1279003
5	2	100	6	1901	---	1393622
6	2	75	7	1062	---	1595204
7	3	65	11	1041	1898	297700
8	1	60	16	---	---	1254420
9	2	60	19	1163	---	1433732
10	2	60	5	1739	---	1286243
11	2	65	9	1377	---	641763
Waveform Num = 7; Num of Bursts = 12; Burst Interval (us) = 1000000.0; Total number of pulses = 25						
1	1	80	20	---	---	623060
2	2	75	18	1965	---	853069
3	1	95	10	---	---	1317371
4	3	95	8	1181	1497	869226
5	2	75	6	1526	---	1010438
6	3	65	9	1474	1548	414054
7	1	65	6	---	---	1102531
8	2	80	13	1225	---	1398051
9	3	55	16	1450	1539	1297706
10	2	80	18	1603	---	339786
11	3	70	6	1846	1981	1682373
12	2	85	6	1708	---	886635
Waveform Num = 8; Num of Bursts = 11; Burst Interval (us) = 1090909.0; Total number of pulses = 23						
1	3	95	18	1213	1891	533945
2	2	80	7	1210	---	816517
3	2	95	13	1227	---	1903243
4	3	75	18	1389	1937	623699
5	1	70	11	---	---	1069243
6	1	55	6	---	---	1395908
7	3	80	20	1036	1546	1269266
8	2	65	12	1097	---	104522
9	2	75	15	1898	---	1729471
10	2	95	7	1050	---	989925
11	2	60	18	1548	---	893293

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 9; Num of Bursts = 15; Burst Interval (us) = 800000.0; Total number of pulses = 31						
1	3	55	18	1844	1801	629503
2	2	50	9	1440	---	541088
3	1	85	13	---	---	628273
4	2	85	10	1153	---	903173
5	3	95	13	1045	1925	1186431
6	2	65	14	1724	---	871304
7	2	75	12	1728	---	244647
8	2	90	7	1459	---	1045153
9	2	95	14	1515	---	633782
10	2	90	19	1322	---	673135
11	3	65	19	1067	1742	870949
12	1	95	9	---	---	1263793
13	2	90	16	1919	---	691722
14	3	50	7	1687	1350	217749
15	1	85	14	---	---	975059
Waveform Num = 10; Num of Bursts = 19; Burst Interval (us) = 631579.0; Total number of pulses = 37						
1	2	60	10	1196	---	164579
2	2	60	14	1239	---	539098
3	2	65	14	1008	---	1004425
4	3	60	6	1883	1023	371294
5	2	95	13	1093	---	648379
6	3	90	20	1025	1075	801253
7	2	65	6	1236	---	260867
8	2	90	12	1962	---	1047877
9	1	95	13	---	---	591155
10	3	60	11	1404	1232	852454
11	1	80	10	---	---	415051
12	3	85	7	1459	1322	814628
13	1	100	15	---	---	98212
14	2	55	18	1370	---	1096519
15	2	75	5	1086	---	440991
16	1	70	14	---	---	835867
17	1	90	12	---	---	160933
18	1	55	17	---	---	743616
19	3	90	7	1597	1913	810242

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 11; Num of Bursts = 11; Burst Interval (us) = 1090909.0; Total number of pulses = 23						
1	2	95	5	1934	---	304464
2	3	100	12	2000	1416	1719335
3	2	95	9	1267	---	374327
4	3	95	14	1442	1827	1057433
5	1	70	11	---	---	1639125
6	1	50	7	---	---	755470
7	3	75	15	1431	1704	1390592
8	3	85	5	1523	1595	668301
9	3	75	5	1887	1565	1458184
10	1	100	11	---	---	674871
11	1	90	7	---	---	1181333
Waveform Num = 12; Num of Bursts = 19; Burst Interval (us) = 631579.0; Total number of pulses = 37						
1	3	100	11	1610	1220	348769
2	1	60	8	---	---	439296
3	3	75	20	1563	1558	509594
4	2	55	5	1027	---	952510
5	2	75	16	1487	---	597434
6	3	65	10	1881	1887	487922
7	1	75	15	---	---	910228
8	1	70	5	---	---	505848
9	1	90	12	---	---	619638
10	3	80	8	1497	1791	418831
11	2	50	11	1656	---	621058
12	3	55	10	1211	1300	808197
13	1	85	13	---	---	657115
14	3	100	14	1020	1940	746965
15	1	95	12	---	---	565020
16	1	65	11	---	---	338259
17	3	80	9	1150	1386	534650
18	2	100	9	1757	---	961821
19	1	60	10	---	---	426633

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 13; Num of Bursts = 20; Burst Interval (us) = 600000.0; Total number of pulses = 35						
1	2	75	14	1505	---	290362
2	3	80	6	1300	1480	470977
3	2	95	9	1992	---	642133
4	2	85	17	1158	---	793359
5	1	55	14	---	---	289758
6	2	75	9	1976	---	751387
7	1	55	14	---	---	917185
8	2	75	17	1571	---	190835
9	1	85	8	---	---	613473
10	2	95	7	1064	---	903986
11	1	65	17	---	---	458200
12	1	50	14	---	---	454660
13	3	80	8	1863	1827	668058
14	2	100	8	1496	---	867725
15	2	65	17	1796	---	262036
16	2	60	18	1480	---	723777
17	1	70	9	---	---	316631
18	1	100	5	---	---	824967
19	3	75	15	1973	1641	537002
20	1	90	12	---	---	765159
Waveform Num = 14; Num of Bursts = 8; Burst Interval (us) = 1500000.0; Total number of pulses = 18						
1	1	50	12	---	---	1307272
2	3	55	14	1484	1949	1096929
3	2	75	19	1613	---	603229
4	3	55	10	1985	1490	1910091
5	3	55	11	1740	1968	2085569
6	2	65	13	1360	---	608301
7	3	90	17	1833	1111	1918690
8	1	65	16	---	---	2171298
Waveform Num = 15; Num of Bursts = 16; Burst Interval (us) = 750000.0; Total number of pulses = 28						
1	1	60	14	---	---	181224
2	2	55	12	1033	---	915313
3	1	90	16	---	---	616959
4	2	60	15	1174	---	1227358
5	2	55	8	1050	---	140713
6	1	60	10	---	---	972277
7	1	50	10	---	---	927835
8	3	95	8	1227	1616	722944
9	2	65	8	1683	---	771518
10	1	90	15	---	---	419453
11	2	60	5	1610	---	1117996
12	3	50	17	1608	1812	381057
13	1	50	13	---	---	1103470
14	2	90	7	1231	---	637618
15	2	70	12	1593	---	666368
16	2	50	7	1674	---	881413

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 16; Num of Bursts = 17; Burst Interval (us) = 705882.0; Total number of pulses = 30						
1	3	65	20	1637	1797	232659
2	2	70	9	1639	---	738763
3	1	60	5	---	---	938584
4	3	90	5	1171	1896	878087
5	2	65	16	1624	---	121276
6	1	75	11	---	---	855640
7	1	60	11	---	---	713007
8	1	90	20	---	---	470569
9	2	95	17	1539	---	987947
10	1	90	13	---	---	668328
11	3	55	7	1132	1054	548283
12	3	65	11	1556	1087	855140
13	3	95	6	1459	1181	438166
14	1	70	20	---	---	1001545
15	1	65	7	---	---	457686
16	1	80	15	---	---	1027442
17	1	55	19	---	---	790113
Waveform Num = 17; Num of Bursts = 17; Burst Interval (us) = 705882.0; Total number of pulses = 32						
1	3	95	11	1730	1579	610903
2	1	90	16	---	---	441580
3	2	70	19	1933	---	804551
4	1	100	9	---	---	880987
5	1	85	15	---	---	532381
6	1	70	10	---	---	787364
7	2	60	20	1015	---	721059
8	3	100	8	1564	1752	474012
9	3	75	15	1446	1283	505624
10	3	100	10	1537	1029	1172080
11	3	90	14	1136	1683	322819
12	3	55	20	1696	1583	519153
13	2	70	14	1751	---	1124340
14	1	50	18	---	---	502316
15	1	80	16	---	---	1079966
16	1	85	14	---	---	268127
17	1	55	8	---	---	816520

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 18; Num of Bursts = 20; Burst Interval (us) = 600000.0; Total number of pulses = 33						
1	2	75	9	1898	---	388933
2	1	100	9	---	---	550610
3	3	80	17	1588	1626	276121
4	2	90	17	1823	---	1160450
5	1	85	10	---	---	533120
6	3	95	13	1672	1578	530881
7	1	55	9	---	---	694557
8	1	85	17	---	---	507266
9	1	50	16	---	---	526243
10	1	60	10	---	---	321324
11	1	90	8	---	---	558940
12	2	55	6	1843	---	602055
13	2	70	5	1016	---	788516
14	1	60	6	---	---	521175
15	1	95	15	---	---	814033
16	1	65	10	---	---	265569
17	3	80	7	1561	1665	1018321
18	1	70	14	---	---	583722
19	3	100	8	1857	1755	584061
20	2	65	15	1760	---	405064
Waveform Num = 19; Num of Bursts = 12; Burst Interval (us) = 1000000.0; Total number of pulses = 25						
1	3	65	8	1767	1586	226912
2	3	75	16	1783	1677	1457913
3	2	85	8	1571	---	786048
4	1	95	19	---	---	1032414
5	2	90	5	1968	---	1312464
6	2	80	15	1982	---	1066595
7	2	90	7	1898	---	630132
8	3	50	15	1310	1084	1103739
9	1	80	7	---	---	1347414
10	2	65	10	1583	---	600686
11	2	55	16	1118	---	849918
12	2	90	12	1982	---	1203085

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 20; Num of Bursts = 15; Burst Interval (us) = 800000.0; Total number of pulses = 32						
1	3	55	17	1777	1156	385007
2	2	50	19	1297	---	703936
3	1	100	19	---	---	1009619
4	2	55	9	1877	---	590842
5	3	85	12	1787	1086	1209448
6	2	70	9	1720	---	625716
7	1	80	20	---	---	755203
8	3	95	10	1815	1169	778522
9	3	90	7	1392	1714	440148
10	1	100	8	---	---	1367054
11	2	60	12	1254	---	442956
12	1	75	11	---	---	1029692
13	3	90	20	1169	1848	511704
14	3	70	18	1375	1459	1261962
15	2	75	16	1467	---	470129
Waveform Num = 21; Num of Bursts = 11; Burst Interval (us) = 1090909.0; Total number of pulses = 21						
1	3	50	6	1140	1200	30484
2	1	55	17	---	---	2044672
3	2	70	7	1647	---	819660
4	2	100	9	1404	---	459120
5	1	85	18	---	---	2063050
6	3	60	9	1593	1340	445367
7	1	70	20	---	---	1445750
8	2	65	20	1105	---	682237
9	3	50	18	1411	1183	1072108
10	2	70	13	1362	---	1348651
11	1	100	12	---	---	1166052
Waveform Num = 22; Num of Bursts = 8; Burst Interval (us) = 1500000.0; Total number of pulses = 17						
1	2	50	6	1684	---	1415470
2	1	75	5	---	---	1156092
3	3	55	10	1917	1824	1062656
4	1	65	13	---	---	1645097
5	2	70	6	1649	---	797393
6	2	50	10	1660	---	2810083
7	3	70	15	1623	1099	1525680
8	3	65	19	1041	1872	223935

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 23; Num of Bursts = 18; Burst Interval (us) = 666667.0; Total number of pulses = 34						
1	3	65	5	1101	1283	98417
2	2	65	14	1022	---	594530
3	2	60	6	1181	---	1043445
4	1	90	13	---	---	807946
5	3	65	9	1895	1225	403468
6	3	80	17	1360	1873	665857
7	1	80	10	---	---	415675
8	2	55	13	1358	---	836822
9	2	80	17	1250	---	788954
10	2	90	17	1881	---	715419
11	1	60	17	---	---	405033
12	1	70	13	---	---	1055706
13	1	85	20	---	---	505121
14	2	70	15	1392	---	315162
15	3	90	12	1147	1362	936119
16	1	95	7	---	---	796236
17	3	65	6	1348	1155	581425
18	1	50	12	---	---	836505
Waveform Num = 24; Num of Bursts = 12; Burst Interval (us) = 1000000.0; Total number of pulses = 21						
1	1	95	10	---	---	868330
2	2	75	18	1582	---	411863
3	2	70	8	1736	---	1012328
4	1	100	11	---	---	760291
5	2	50	20	1782	---	1809001
6	1	85	12	---	---	464786
7	2	90	18	1538	---	1560572
8	1	75	19	---	---	111429
9	2	100	13	1023	---	1370086
10	2	85	9	1526	---	609954
11	3	65	12	1901	1295	1391089
12	2	90	12	1578	---	934474
Waveform Num = 25; Num of Bursts = 11; Burst Interval (us) = 1090909.0; Total number of pulses = 22						
1	2	100	9	1214	---	1058781
2	1	100	17	---	---	353695
3	2	75	10	1307	---	1765758
4	1	65	8	---	---	788882
5	2	50	16	1130	---	911897
6	1	50	15	---	---	975474
7	3	70	17	1833	1883	785275
8	1	70	12	---	---	1306923
9	3	65	20	1758	1150	897021
10	3	75	9	1695	1961	1532875
11	3	65	20	1788	1280	638071

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 26; Num of Bursts = 18; Burst Interval (us) = 666667.0; Total number of pulses = 37						
1	2	75	9	1478	---	178725
2	3	95	10	1757	1878	926665
3	1	65	10	---	---	587073
4	1	100	16	---	---	680504
5	1	50	16	---	---	803882
6	3	100	12	1602	1412	414765
7	3	55	20	1197	1896	965413
8	1	75	16	---	---	463510
9	3	60	12	1954	1766	390996
10	2	60	7	1673	---	924802
11	3	65	19	1978	1380	317412
12	3	55	7	1286	1679	663882
13	2	100	9	1054	---	740682
14	1	60	10	---	---	858505
15	3	90	15	1783	1983	893600
16	1	60	11	---	---	252575
17	3	100	20	1896	1278	989112
18	1	65	11	---	---	767492
Waveform Num = 27; Num of Bursts = 16; Burst Interval (us) = 750000.0; Total number of pulses = 27						
1	1	100	11	---	---	394347
2	2	50	10	1442	---	582248
3	1	55	12	---	---	1103565
4	1	60	5	---	---	715782
5	1	80	8	---	---	556698
6	2	80	14	1042	---	701186
7	3	55	14	1153	1858	1010870
8	1	90	19	---	---	295377
9	3	80	13	1978	1368	789151
10	3	95	10	1793	1441	642553
11	1	60	7	---	---	1403194
12	1	50	10	---	---	726793
13	2	70	14	1943	---	722783
14	2	80	20	1557	---	297367
15	2	75	10	1129	---	1248364
16	1	95	19	---	---	337980
Waveform Num = 28; Num of Bursts = 8; Burst Interval (us) = 1500000.0; Total number of pulses = 22						
1	3	70	13	1362	1861	1386134
2	3	95	17	1352	1741	172820
3	3	65	10	1488	1343	2043162
4	2	75	17	1105	---	2147951
5	3	80	16	1562	1745	245642
6	3	65	18	1360	1417	2559163
7	3	55	15	1725	1823	1566525
8	2	75	17	1789	---	375563

This report shall not be reproduced except in full, without the written approval of CCS.

Burst #	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1 to 2 Pri (usec)	Pulse 2 to 3 Pri (usec)	Starting Location Within Interval (usec)
Waveform Num = 29; Num of Bursts = 20; Burst Interval (us) = 600000.0; Total number of pulses = 32						
1	1	85	20	---	---	489067
2	3	85	19	1071	1599	385069
3	3	55	17	1150	1903	628934
4	1	95	8	---	---	710086
5	2	55	16	1708	---	532719
6	3	70	18	1457	1518	468095
7	1	50	16	---	---	606583
8	2	60	19	1424	---	798218
9	1	80	10	---	---	365775
10	1	80	14	---	---	782485
11	1	50	7	---	---	292760
12	1	75	7	---	---	917154
13	1	65	20	---	---	504245
14	3	85	15	1537	1271	483710
15	1	90	5	---	---	734277
16	2	85	13	1426	---	720990
17	1	100	14	---	---	263505
18	1	85	8	---	---	868489
19	2	75	8	1301	---	601174
20	1	85	8	---	---	301469
Waveform Num = 30; Num of Bursts = 10; Burst Interval (us) = 1200000.0; Total number of pulses = 22						
1	3	60	16	1268	1554	414890
2	2	100	17	1591	---	1084479
3	3	55	11	1416	1114	1614840
4	1	90	14	---	---	631029
5	3	70	12	1583	1774	1607510
6	3	60	9	1503	1186	981737
7	1	70	5	---	---	1541774
8	3	60	20	1400	1347	550240
9	2	50	9	1012	---	2150326
10	1	100	20	---	---	842984

This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 6 DETECTION PROBABILITY

Data Sheet for Hopping Signal				
Trial No.	Starting Index within NTIA August 2005 Sequence	Signal Generator Frequency (MHz)	Hops within Detection BW	Successful Detection (Yes/No)
1	29	5575	3	Yes
2	504	5576	3	Yes
3	979	5577	4	Yes
4	1454	5578	4	Yes
5	1929	5579	3	Yes
6	2404	5580	4	Yes
7	2879	5581	4	Yes
8	3354	5582	2	Yes
9	3829	5583	5	Yes
10	4304	5584	5	Yes
11	4779	5585	5	Yes
12	5254	5586	2	Yes
13	5729	5587	1	Yes
14	6204	5575	2	No
15	6679	5576	3	Yes
16	7154	5577	5	Yes
17	8104	5578	3	Yes
18	8579	5579	3	Yes
19	9054	5580	5	Yes
20	9529	5581	2	Yes
21	10004	5582	2	Yes
22	10479	5583	2	Yes
23	10954	5584	1	Yes
24	11429	5585	2	Yes
25	11904	5586	4	Yes
26	12379	5587	1	Yes
27	12854	5575	2	Yes
28	13329	5576	4	Yes
29	13804	5577	2	Yes
30	14279	5578	2	Yes
31	14754	5579	3	Yes
32	15229	5580	1	Yes
33	15704	5581	2	Yes
34	16179	5582	4	Yes
35	16654	5583	3	Yes
36	17129	5584	5	Yes
37	17604	5585	4	Yes
38	18079	5586	2	Yes
39	18554	5587	1	No

This report shall not be reproduced except in full, without the written approval of CCS.

6.1.13. CHANNEL MOVE TIME AND CHANNEL CLOSING TRANSMISSION TIME FOR CONFIGURATION AS A SLAVE DEVICE

GENERAL REPORTING NOTES

The reference marker is set at the end of last radar pulse.

TYPE 1 RADAR REPORTING NOTES

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

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

The observation period over which the aggregate time is calculated
Begins at (Reference Marker + 200 msec)
and
Ends no earlier than (Reference Marker + 10 sec).

TYPE 5 RADAR REPORTING NOTES

The delta marker is set to 10 seconds after the end of the radar pulse.

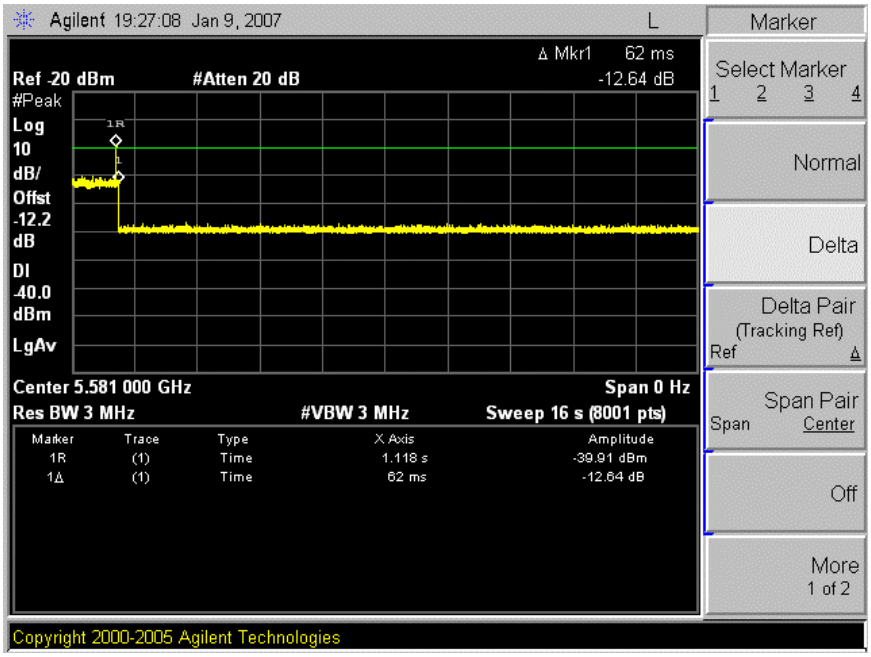
This report shall not be reproduced except in full, without the written approval of CCS.

TYPE 1 CHANNEL MOVE TIME RESULTS

No non-compliance noted:

Channel Move Time (s)	Limit (s)
0.062	10

MOVE TIME PLOT FOR SHORT PULSE RADAR



This report shall not be reproduced except in full, without the written approval of CCS.

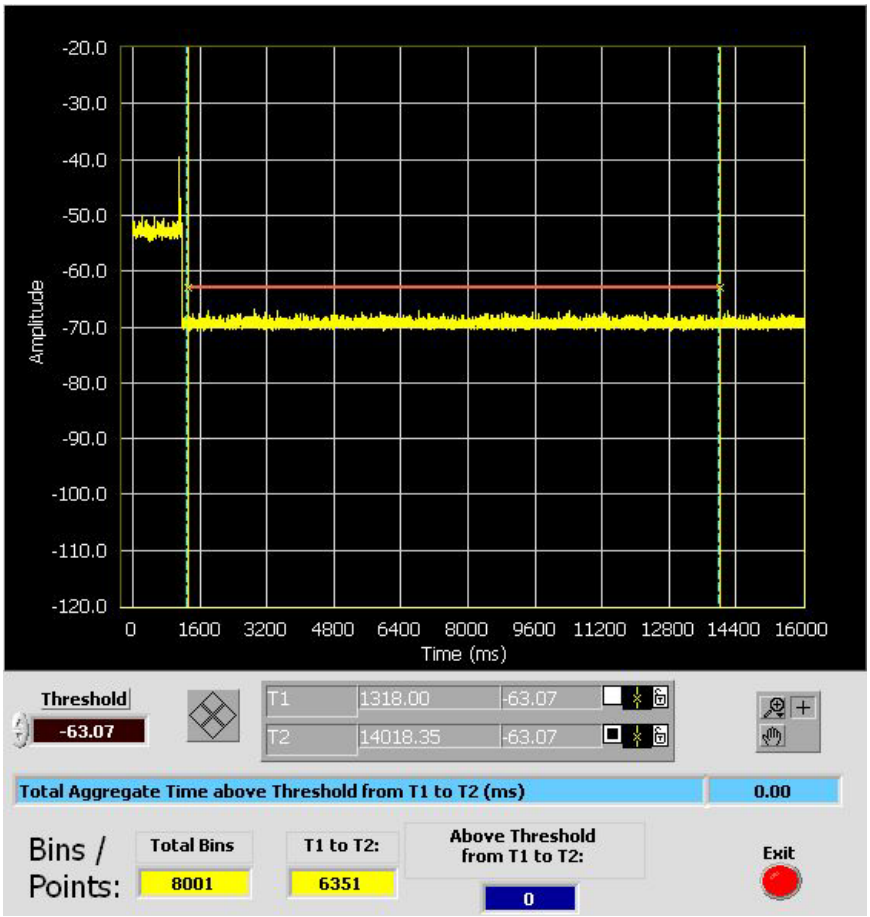
TYPE 1 CHANNEL CLOSING TRANSMISSION TIME RESULTS

No non-compliance noted:

Aggregate Transmission Time (ms)	Limit (ms)	Margin (ms)
0.00	60	60.00

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME PLOT

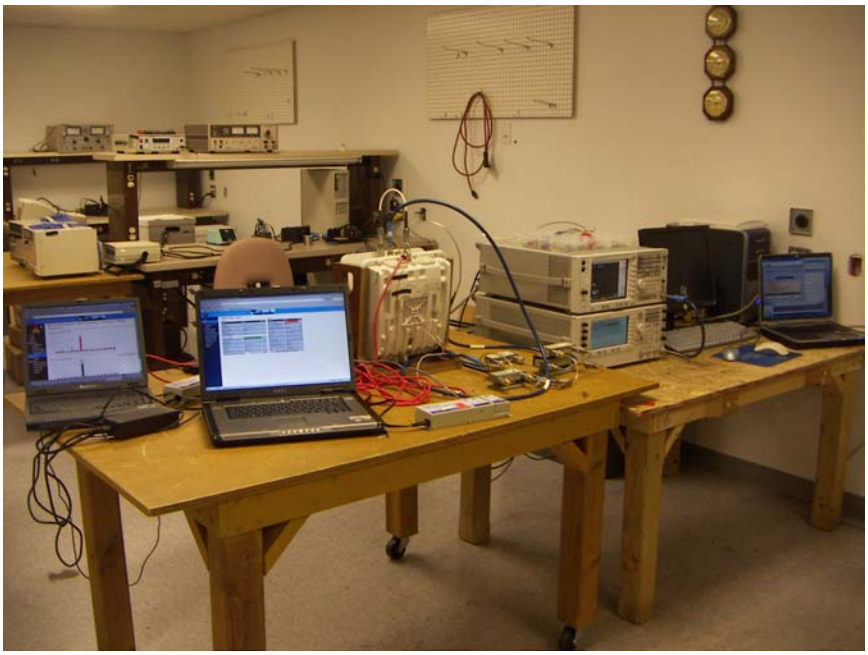


This report shall not be reproduced except in full, without the written approval of CCS.

7. SETUP PHOTOS

CONDUCTED DFS MEASUREMENT SETUP

CONDUCTED DFS PHOTO



This report shall not be reproduced except in full, without the written approval of CCS.

RADIATED DFS MEASUREMENT SETUP

MASTER DEVICE FRONT VIEW

This report shall not be reproduced except in full, without the written approval of CCS.

MASTER DEVICE BACK VIEW

This report shall not be reproduced except in full, without the written approval of CCS.

SLAVE DEVICE FRONT VIEW

This report shall not be reproduced except in full, without the written approval of CCS.

SLAVE DEVICE BACK VIEW

END OF REPORT

This report shall not be reproduced except in full, without the written approval of CCS.