DFS PORTION of FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

BCM94709R-H 802.11a/n/ac ACCESS POINT

MODEL NUMBER: BCM94709R-H

FCC ID: QDS-BRCM1092

REPORT NUMBER: 11533147-E2V1

ISSUE DATE: FEBRUARY 14, 2017

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	02/14/17	Initial Issue	Conan Cheung

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: BROADCOM CORPORATION
190 MATHILDA PLACE
SUNNYVALE, CA 94086, U.S.A

EUT DESCRIPTION: BCM94709R-H 802.11a/n/ac ACCESS POINT

MODEL: BCM94709R-H

SERIAL NUMBER: 1923036

DATE TESTED: DECEMBER 09, 2016 to FEBRUARY 02, 2017

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
DFS Portion of CFR 47 Part 15 Subpart E	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. 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 UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Verification Services Inc. By:

CONAN CHEUNG
PROJECT LEAD
UL Verification Services Inc.

Tested By:

DOUG ANDERSON
EMC ENGINEER
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the DFS portion of FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 06-96, FCC KDB 789033, KDB 905462 D02 and D03.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL Verification Services, Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

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. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB
Radiated Disturbance, 1 to 6 GHz	± 3.86 dB
Radiated Disturbance, 6 to 18 GHz	± 4.23 dB
Radiated Disturbance, 18 to 26 GHz	± 5.30 dB
Radiated Disturbance, 26 to 40 GHz	± 5.23 dB

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

5. DYNAMIC FREQUENCY SELECTION

5.1. OVERVIEW

5.1.1. LIMITS

FCC

§15.407 (h), FCC KDB 905462 D02 “COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION” and KDB 905462 D03 “U-NII CLIENT DEVICES WITHOUT RADAR DETECTION CAPABILITY”.

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
U-NII Detection Bandwidth	Yes	Not required	Yes

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
U-NII Detection Bandwidth	Yes	Not required	Yes

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar DFS	Client (without DFS)
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in all 20 MHz channel blocks and a null frequency between the bonded 20 MHz channel blocks.		

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

Maximum Transmit Power	Value (see notes)
E.I.R.P. ≥ 200 mill watt	-64 dBm
E.I.R.P. < 200 mill watt and power spectral density < 10 dBm/MHz	-62 dBm
E.I.R.P. < 200 mill watt that do not meet power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note 3: E.I.R.P. is based on the highest antenna gain. For MIMO devices refer to KDB publication 662911 D01.

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds (See Note 1)
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period. (See Notes 1 and 2)
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. (See Note 3)

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

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (usec)	PRI (usec)	Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in table 5a	Roundup: {(1/360) x (19 x 10^6 PRI_{usec})}	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 usec. With a minimum increment of 1 usec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Pulse Radar Type 0 should be used for the *Detection Bandwidth* test, *Channel Move Time*, and *Channel Closing Time* tests.

Table 6 – Long Pulse Radar Test Signal

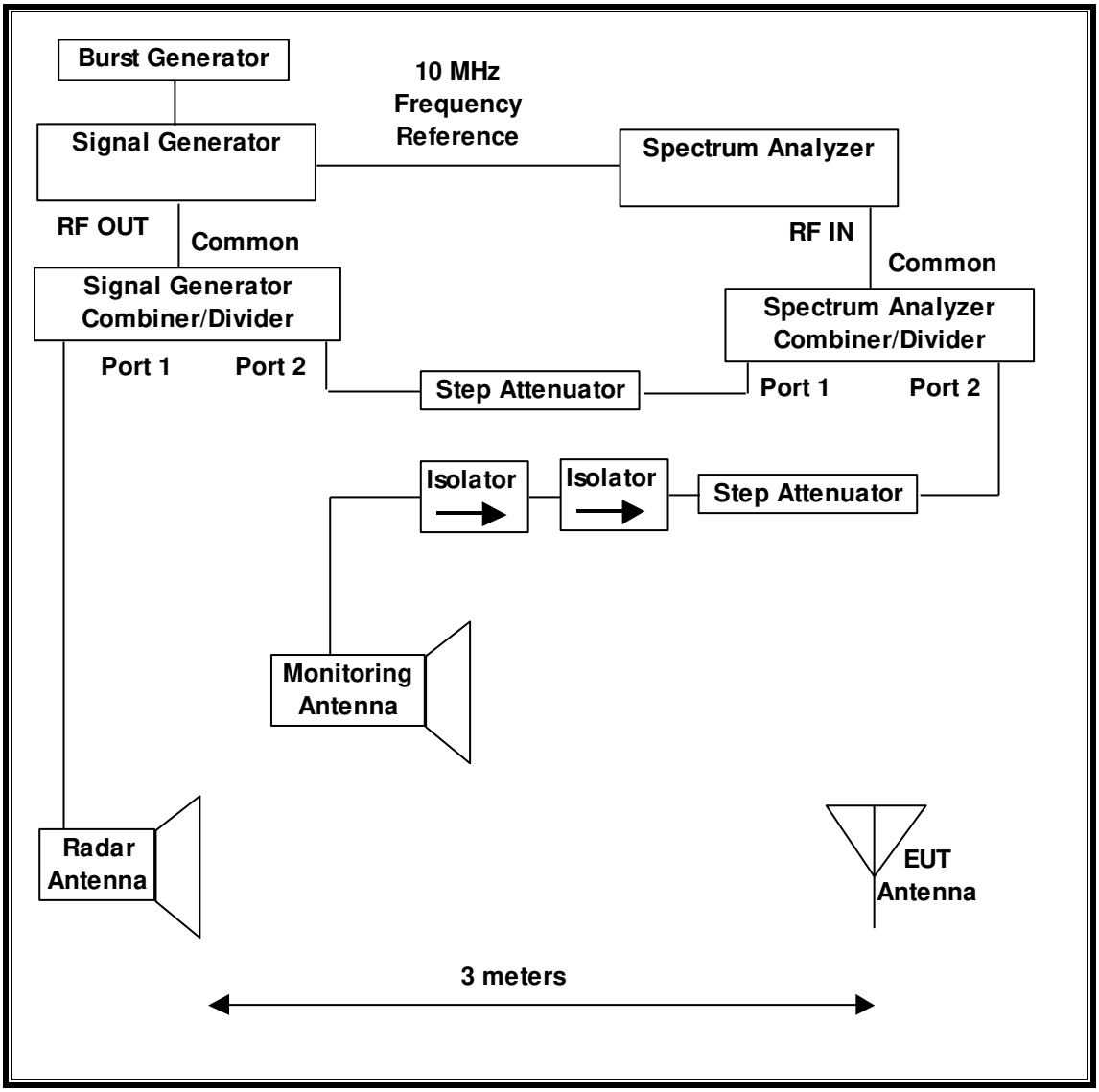
Radar Waveform Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 7 – Frequency Hopping Radar Test Signal

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

5.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



SYSTEM OVERVIEW

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 1, 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 Frequency Hopping Radar Waveform Generating Subsystem of KDB 905462 D02. 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. 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.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –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.

ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**Cal Due**
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	US51350187	06/13/17
Signal Generator, MXG X-Series RF Vector	Agilent	N5182B	MY51350337	03/11/17
Arbitrary Waveform Generator	Agilent / HP	33220A	MY44037572	04/11/17

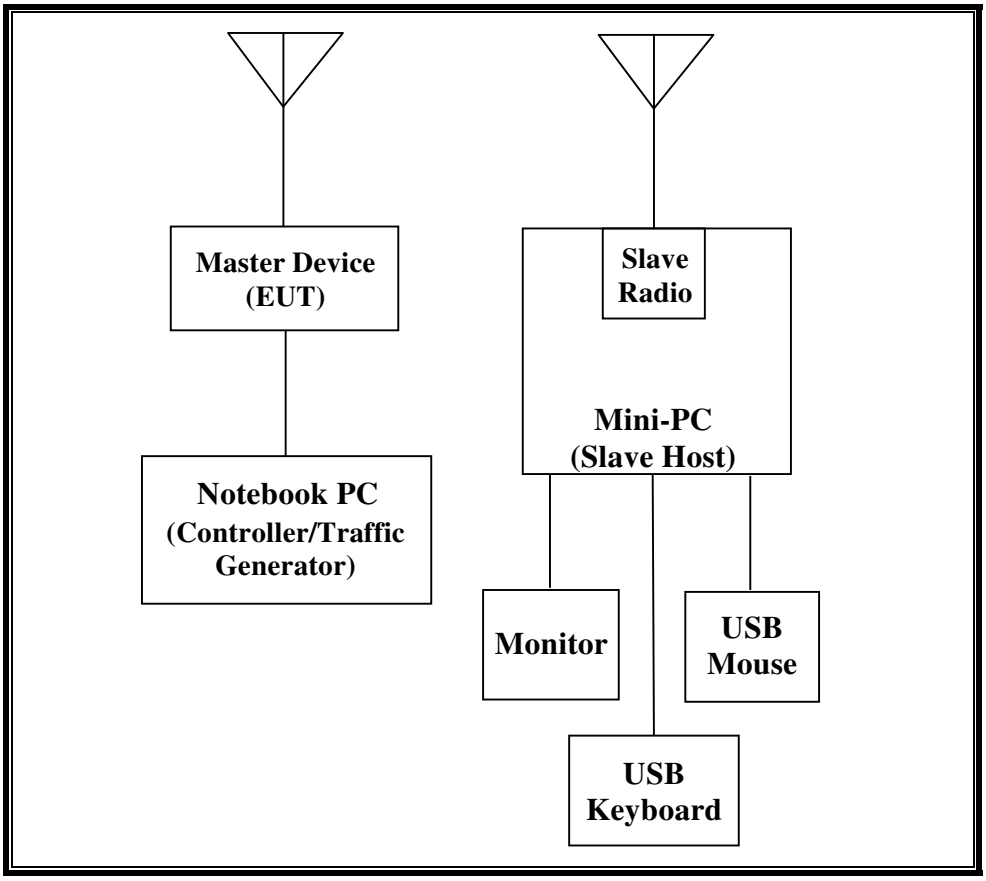
5.1.3. TEST AND MEASUREMENT SOFTWARE

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

TEST SOFTWARE LIST		
Name	**Version**	**Test / Function**
Aggregate Time-PXA	3.0	Channel Loading and Aggregate Closing Time
FCC 2014 Detection Bandwidth-PXA	3.0	Detection Bandwidth in 5 MHz Steps
In Service Monitoring-PXA	3.0	In-Service Monitoring (Probability of Detection)
PXA Read	3.0.0.9	Signal Generator Screen Capture
SGXProject.exe	1.7	Radar Waveform Generation and Download

5.1.4. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP (STANDARD MODE CONFIGURATION)

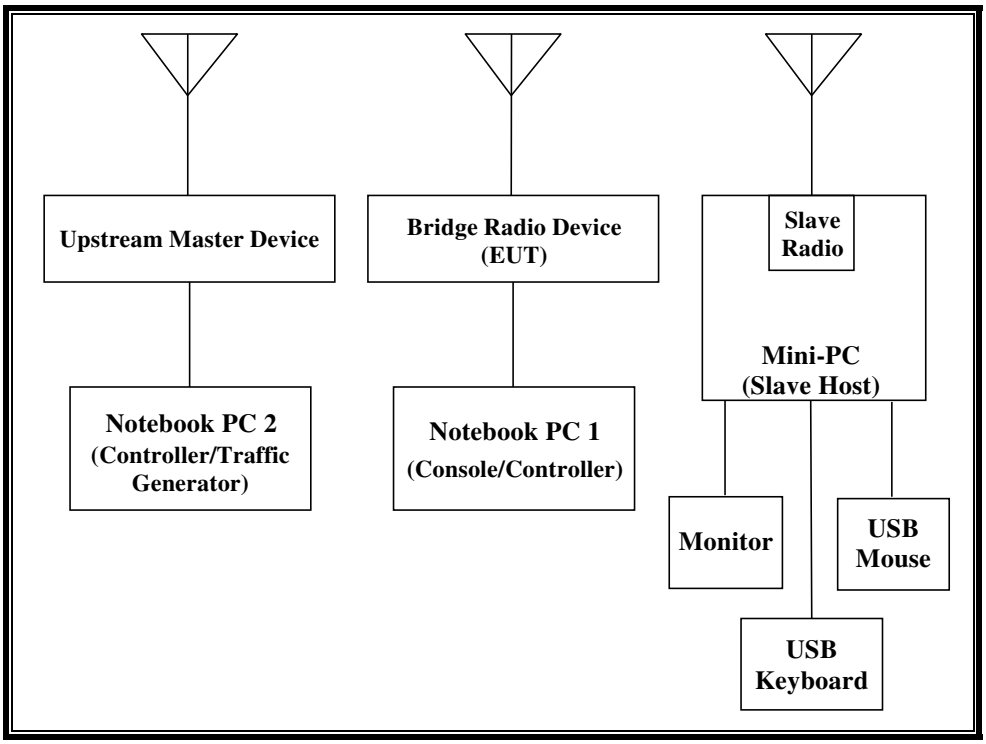


SUPPORT EQUIPMENT (STANDARD MODE CONFIGURATION)

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

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter (EUT)	Condor	HK-H1-A12	None	DoC
Notebook PC (EUT Controller/Traffic Generator)	Lenovo	0679	CBU4495737	DoC
AC Asdapter (EUT PC)	Delta Electronics	ADP-65HK B	11S36001646ZZ1000A D9WJ	DoC
802.11a/n/ac Radio Module (Slave Radio Device)	Broadcom	BCM94366MC	001018FBD897	Pending
Mini-PC (Slave Host)	Gigabyte	P105	1517631219	DoC
AC Adapter (Host PC)	Asian Power Devices, Ltd.	NB-65B19	YE45315128015560400	DoC
Monitor	ASUS	VS197	E2LMTF118423	DoC
USB Keyboard	HP	KU-0316	BAUHPOILUZJ124	DoC
USB Mouse	HP	MOFYUO	FCMHH0AKZ8R3Z9	DoC

RADIATED METHOD EUT TEST SETUP (BRIDGE MODE CONFIGURATION)



SUPPORT EQUIPMENT(BRIDGE MODE CONFIGURATION)

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

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter (EUT)	Condor	HK-H1-A12	None	DoC
Notebook PC 1 (EUT Console/Controller)	Lenovo	0679	CB06427441	DoC
AC Asdapter (EUT Console PC)	Lenovo	ADP-65KH B	11S36001646ZZ1000AD9WJ	DoC
802.11a/n/ac Mid-Power 5GHz AP (Upstream Master Device)	Broadcom	BCM94709R-M	1/22/6935	QDS-BRCM1091
AC Adapter (Upstream Master)	Condor	HK-H1-A12	None	DoC
Notebook PC 2 (Upstream Master Controller/Traffic Generator)	Lenovo	0679	CBU4495737	DoC
AC Asdapter (Upstream Master PC)	Delta Electronics	ADP-65YB B	11S42T4458Z1ZF4K96B09D	DoC
802.11a/n/ac Radio Module (Slave Radio Device)	Broadcom	BCM94366MC	001018FBD897	N/A
Mini-PC (Slave Host)	Gigabyte	P105	1517631219	DoC
AC Adapter (Host PC)	Asian Power Devices, Ltd.	NB-65B19	YE45315128015560400	DoC
Monitor	ASUS	VS197	E2LMTF118423	DoC
USB Keyboard	Dell	SK-8135	CN-0N6250-71616-646-1AUD	DoC
USB Mouse	Logitech	MU0026	None	DoC

5.1.5. DESCRIPTION OF EUT

For FCC the EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges.

The EUT is a Master Device which can also be configured as a Bridge Device.

The highest power level within these bands is 22.82 dBm EIRP in the 5250-5350 MHz band and 23.55 dBm EIRP in the 5470-5725 MHz band.

Each of the four individual antenna assemblies utilized with the EUT has a gain of 0.3 dBi.

Four identical antennas are utilized to meet the diversity and MIMO operational requirements.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

The EUT utilizes the 802.11ac Phase II architecture. Four nominal channel bandwidths are implemented: 20 MHz, 40 MHz, 80 MHz and 160 MHz.

The EUT is a Master Device which can also be configured as a Bridge Device. The EUT supports standard 20/40/80 MHz DFS as well as Zero-Wait CAC and 20 MHz sub-band radar detection on standard 40/80 MHz and 80-Plus-80 contiguous 160 MHz channel bandwidths.

160 MHz contiguous channel bandwidth is composed of two adjacent 80 MHz channel components on separate transmit and receive radio chains with a guard band separation of approximately 4 MHz at the 160 MHz center. Each component is treated as a separate 80 MHz channel during testing. While functioning in 80-Plus-80 mode each of the two components shall be designated as “80L” (80-Low) and “80H” (80-High), respectively.

The EUT does not support Zero-Wait CAC while in 80-Plus-80 mode.

While functioning in 20 MHz, 40 MHz or standard 80 MHz 11 ac modes the EUT uses four transmitter/receiver chains, each connected to an antenna to perform radiated tests.

While functioning in 160 MHz 11 ac Phase II mode the EUT uses two transmitter/receiver chains for each of the 80-Plus-80 MHz components, each connected to an antenna to perform radiated tests.

The EUT was tested while configured in a manner that exercised combinations of channel frequencies, channel bandwidths and transmit chains to demonstrate compliance.

The EUT was tested at the center frequency of the test channel while configured in standard 80 MHz 11 ac mode. This frequency not only demonstrates compliance for standard 11ac mode but also demonstrates compliance for the lower 80 MHz component of the EUT while configured in 160 MHz 80-Plus-80 MHz mode.

The EUT was tested at the center frequency of the upper 80 MHz component while configured in 160 MHz 80-Plus-80 MHz mode to demonstrate compliance for 160 MHz 80-Plus-80 MHz mode.

The Slave device associated with the EUT during these tests does not have radar detection capability.

WLAN traffic that meets or exceeds the minimum required loading was generated by transferring a data stream from the Master Device to the Slave Device using iPerf version 2.0.5 software package.

TPC is implemented in all operating modes.

The software installed in the EUT is Rel 7.14.164.301.

UNIFORM CHANNEL SPREADING

This function is not required per KDB 905462.

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is a Broadcom Corporation Access Point, FCC ID: QDS-BRCM1091. Each of the four individual antenna assemblies used by the Master Device has a minimum gain of 0.3 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

5.2. LOW BAND RESULTS FOR 20 MHz BANDWIDTH

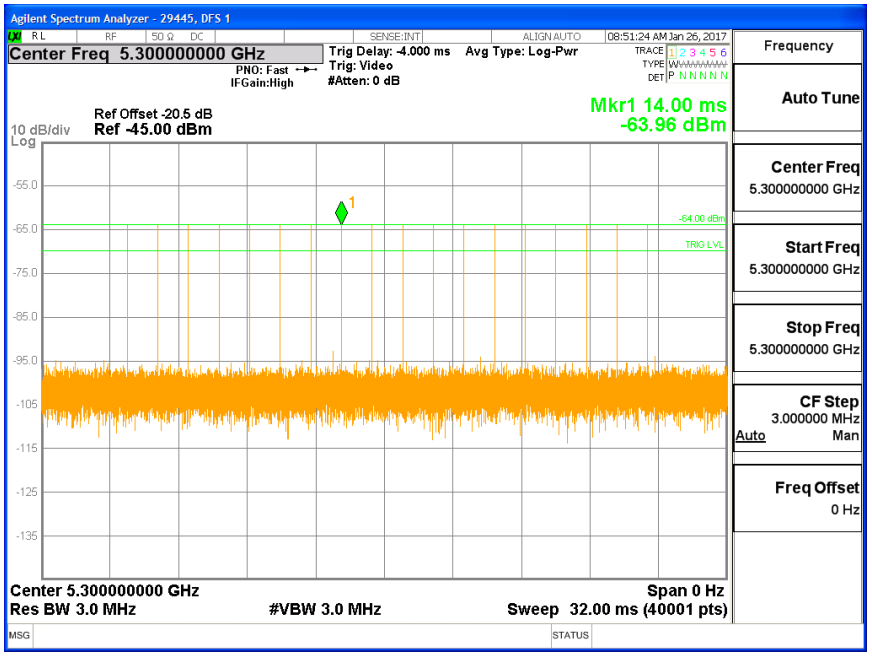
5.2.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5300 MHz.

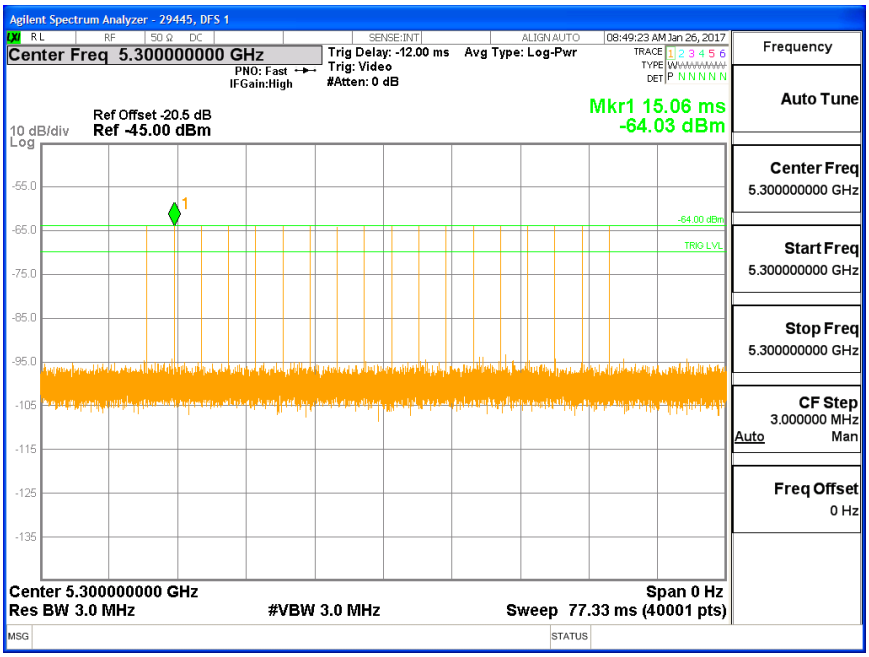
5.2.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS

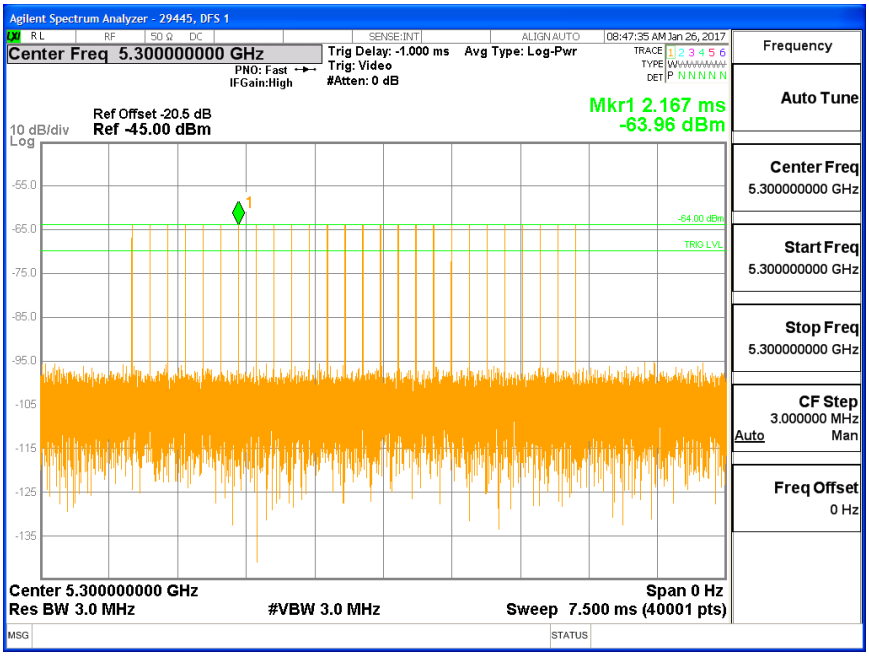
SHORT PULSE RADAR TYPE 0



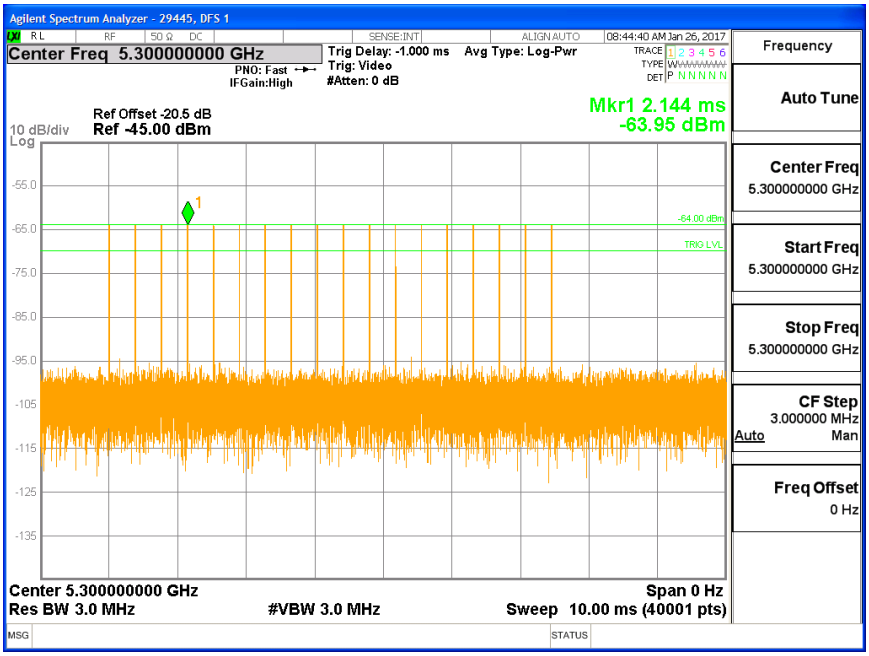
SAMPLE OF RADAR TYPE 1



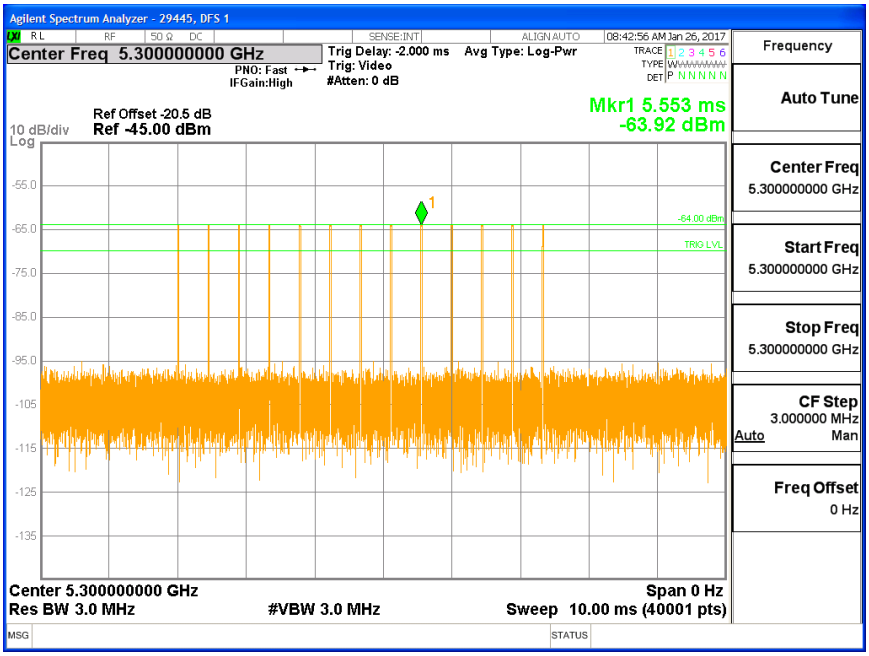
SAMPLE OF RADAR TYPE 2



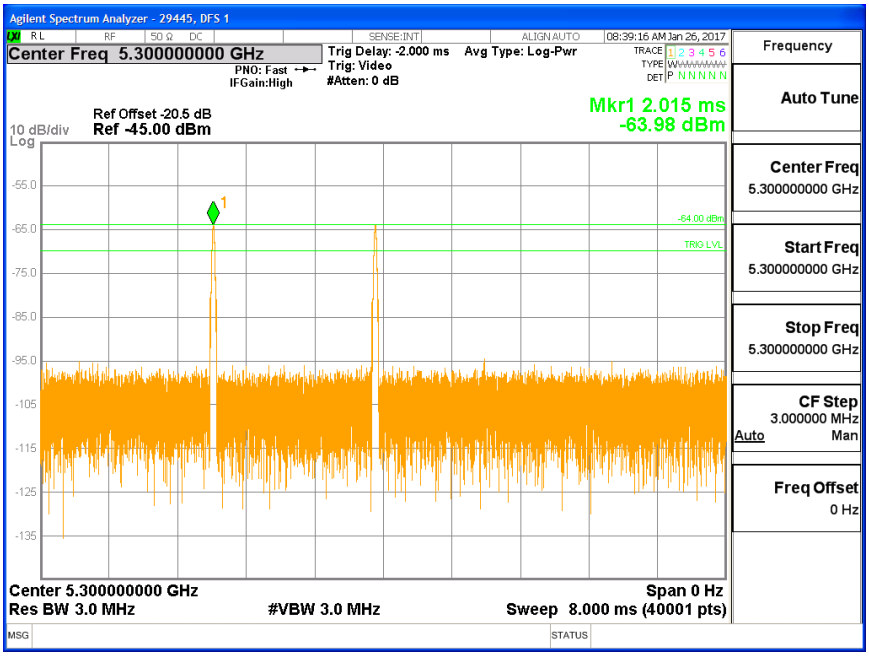
SAMPLE OF RADAR TYPE 3



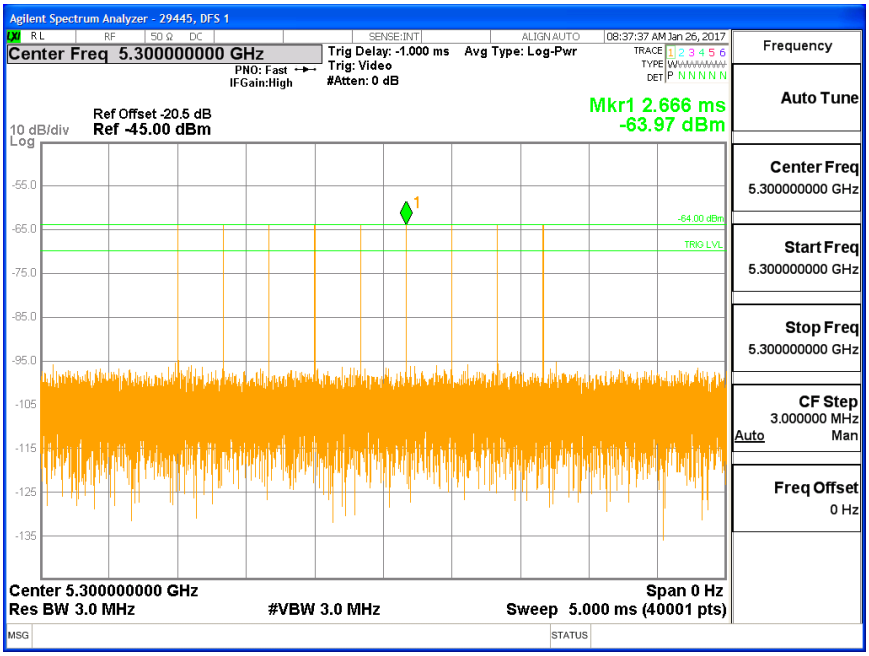
SAMPLE OF RADAR TYPE 4



SAMPLE OF SINGLE BURST OF RADAR TYPE 5

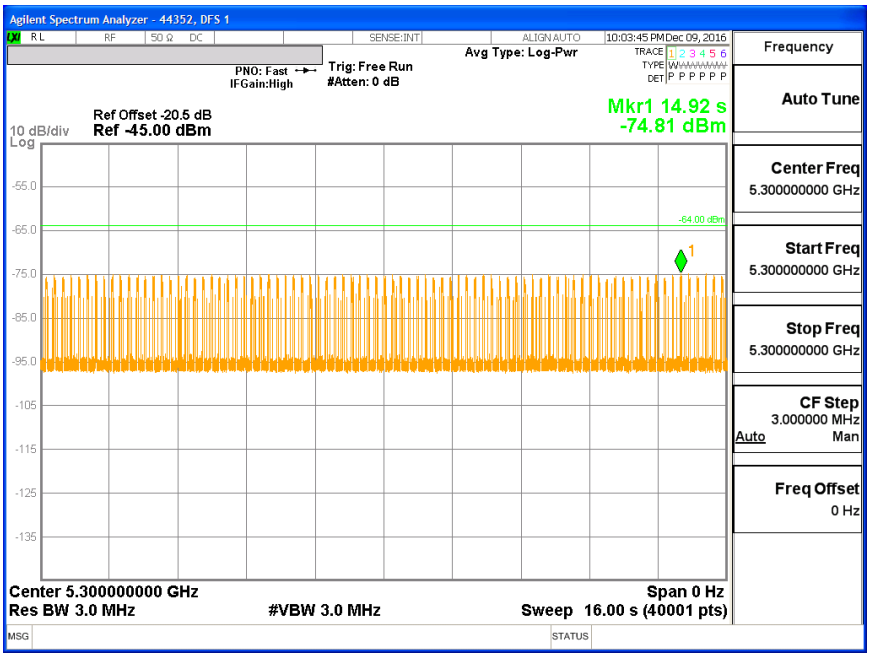


SINGLE BURST OF RADAR TYPE 6

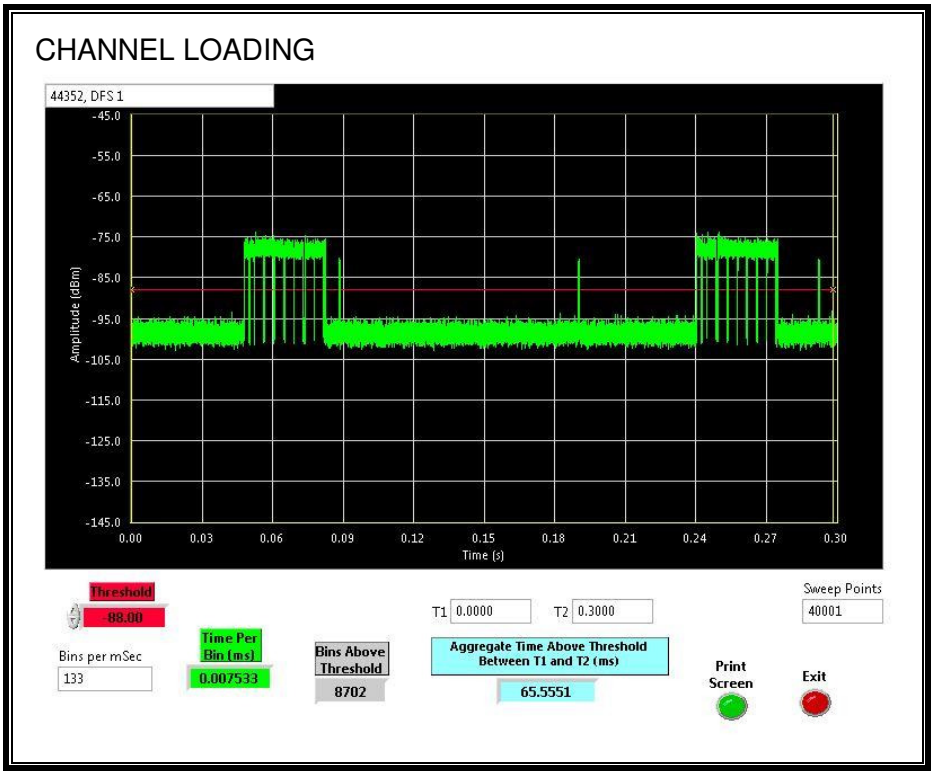


TRAFFIC

TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 21.85%

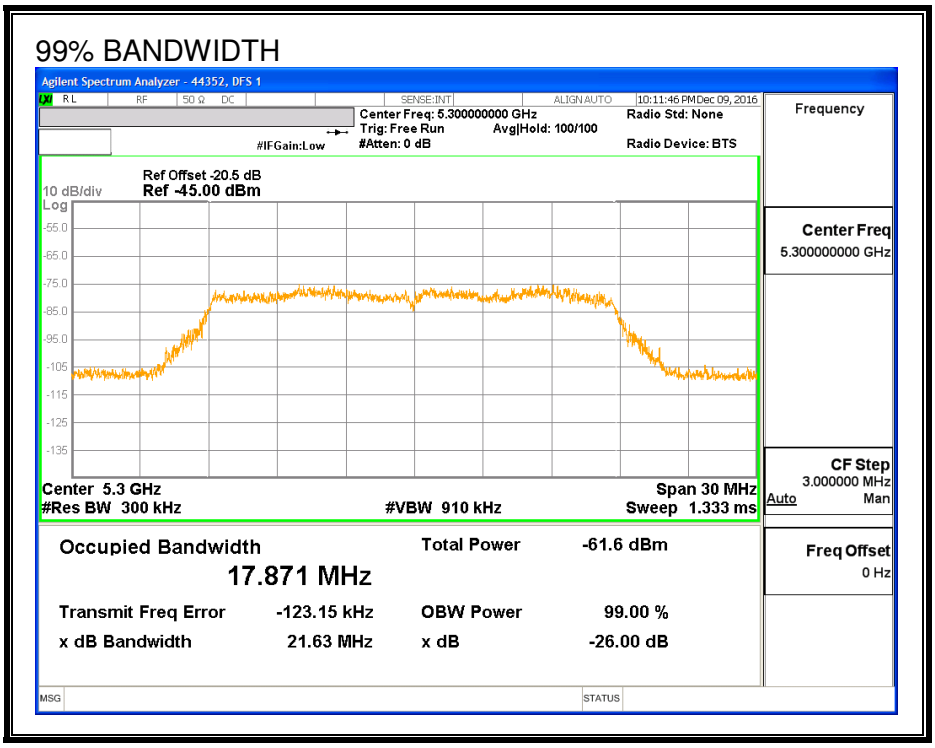
5.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

The channel spacing is not less than the channel bandwidth therefore the EUT does not have an overlapping channel plan.

5.2.4. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



RESULTS

FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5290	5310	20	17.871	111.9	100

DETECTION BANDWIDTH PROBABILITY

DETECTION BANDWIDTH PROBABILITY RESULTS

Detection Bandwidth Test Results		29445	DFS 1	
FCC Type 0 Waveform: 1 us Pulse Width, 1428 us PRI, 18 Pulses per Burst				
Frequency (MHz)	Number of Trials	Number Detected	Detection (%)	Mark
5290	10	10	100	FL
5295	10	10	100	
5300	10	10	100	
5305	10	10	100	
5310	10	10	100	FH

5.2.5. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summary

Signal Type	Number of Trials	Detection (%)	Limit (%)	Pass/Fail	Detection Bandwidth FL	Detection Bandwidth FH	OBW	Test Location	Employee Number	In-Service Monitoring Version
FCC Short Pulse Type 1	30	96.67	60	Pass	5290	5310	17.87	DFS 1	29445	Version 3.0
FCC Short Pulse Type 2	30	80.00	60	Pass	5290	5310	17.87	DFS 1	29445	Version 3.0
FCC Short Pulse Type 3	30	76.67	60	Pass	5290	5310	17.87	DFS 1	29445	Version 3.0
FCC Short Pulse Type 4	30	86.67	60	Pass	5290	5310	17.87	DFS 1	29445	Version 3.0
Aggregate		85.00	80	Pass						
FCC Long Pulse Type 5	30	86.67	80	Pass	5290	5310	17.87	DFS 1	29445	Version 3.0
FCC Hopping Type 6	42	100.00	70	Pass	5290	5310	17.87	DFS 1	29445	Version 3.0

TYPE 1 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 1

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Test (A/B)	Frequency (MHz)	Successful Detection (Yes/No)
1001	1	3066	18	A	5300	Yes
1002	1	578	92	A	5300	Yes
1003	1	598	89	A	5300	Yes
1004	1	718	74	A	5300	Yes
1005	1	678	78	A	5300	Yes
1006	1	818	65	A	5300	Yes
1007	1	778	68	A	5300	Yes
1008	1	838	63	A	5300	Yes
1009	1	698	76	A	5300	Yes
1010	1	518	102	A	5300	Yes
1011	1	658	81	A	5300	Yes
1012	1	798	67	A	5300	Yes
1013	1	898	59	A	5300	Yes
1014	1	618	86	A	5300	Yes
1015	1	738	72	A	5300	Yes
1016	1	1638	33	B	5300	Yes
1017	1	2465	22	B	5300	Yes
1018	1	1226	44	B	5300	Yes
1019	1	2182	25	B	5300	Yes
1020	1	1073	50	B	5300	Yes
1021	1	964	55	B	5300	Yes
1022	1	2532	21	B	5300	Yes
1023	1	2553	21	B	5300	Yes
1024	1	1703	31	B	5300	Yes
1025	1	1291	41	B	5300	Yes
1026	1	2924	19	B	5300	Yes
1027	1	1138	47	B	5300	Yes
1028	1	2900	19	B	5300	No
1029	1	2597	21	B	5300	Yes
1030	1	747	71	B	5300	Yes

TYPE 2 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 2

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
2001	3.8	194	26	5300	Yes
2002	2.8	188	26	5300	Yes
2003	1.1	154	24	5300	Yes
2004	2.2	195	24	5300	No
2005	3	208	23	5300	Yes
2006	2.4	172	27	5300	Yes
2007	3.3	189	26	5300	Yes
2008	2.9	157	27	5300	No
2009	2.2	222	27	5300	Yes
2010	4.2	156	28	5300	Yes
2011	3.6	182	25	5300	No
2012	3.6	163	26	5300	Yes
2013	1.4	155	27	5300	Yes
2014	3.8	178	29	5300	Yes
2015	1.7	217	23	5300	Yes
2016	4.3	206	29	5300	No
2017	4.7	168	24	5300	Yes
2018	1.5	162	23	5300	Yes
2019	3.9	209	29	5300	Yes
2020	3.1	169	29	5300	Yes
2021	1.7	182	28	5300	Yes
2022	1.1	227	24	5300	Yes
2023	2	164	28	5300	Yes
2024	3.8	213	25	5300	Yes
2025	5	196	28	5300	No
2026	2.9	211	26	5300	Yes
2027	2.3	199	23	5300	Yes
2028	4.5	218	24	5300	Yes
2029	4.2	210	25	5300	Yes
2030	2.5	195	27	5300	No

TYPE 3 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 3					
Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
3001	9.5	379	18	5300	Yes
3002	6.1	347	17	5300	Yes
3003	8.4	480	18	5300	Yes
3004	9.3	460	18	5300	Yes
3005	7.6	488	17	5300	Yes
3006	6.8	395	16	5300	Yes
3007	8.1	436	16	5300	Yes
3008	7.5	325	17	5300	Yes
3009	6.5	378	16	5300	No
3010	6.1	413	17	5300	Yes
3011	7.3	479	16	5300	Yes
3012	9.2	275	18	5300	Yes
3013	8.7	488	17	5300	Yes
3014	6.8	297	16	5300	No
3015	6.5	271	18	5300	Yes
3016	8.9	477	18	5300	Yes
3017	6.8	464	16	5300	No
3018	7.5	432	16	5300	Yes
3019	9.8	314	16	5300	Yes
3020	6.5	294	16	5300	No
3021	9	323	18	5300	Yes
3022	8.2	316	17	5300	No
3023	9	357	16	5300	Yes
3024	6.2	496	16	5300	Yes
3025	9.3	299	18	5300	Yes
3026	8.9	333	17	5300	No
3027	6	400	18	5300	Yes
3028	7.9	447	17	5300	No
3029	7.4	408	17	5300	Yes
3030	9.6	468	18	5300	Yes

TYPE 4 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 4

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
4001	18.3	443	13	5300	Yes
4002	14.5	398	12	5300	Yes
4003	19.1	385	16	5300	Yes
4004	11.5	352	15	5300	Yes
4005	16.6	485	16	5300	Yes
4006	18.5	348	13	5300	Yes
4007	14.9	494	15	5300	Yes
4008	13.1	370	12	5300	Yes
4009	14.8	277	16	5300	Yes
4010	13.4	417	14	5300	Yes
4011	15.5	470	14	5300	Yes
4012	14.6	254	12	5300	Yes
4013	13	320	14	5300	Yes
4014	12.5	368	15	5300	Yes
4015	11.3	329	13	5300	Yes
4016	16.2	389	14	5300	Yes
4017	15.5	363	12	5300	No
4018	16.5	318	16	5300	Yes
4019	16.2	305	14	5300	No
4020	17.7	273	13	5300	Yes
4021	13.7	406	12	5300	Yes
4022	15.6	269	12	5300	Yes
4023	16.9	415	13	5300	No
4024	19.3	290	16	5300	Yes
4025	11.9	449	15	5300	Yes
4026	19.6	337	13	5300	Yes
4027	12.7	273	12	5300	No
4028	11.7	425	13	5300	Yes
4029	14.9	374	15	5300	Yes
4030	14.5	421	16	5300	Yes

TYPE 5 DETECTION PROBABILITY

Data Sheet for FCC Long Pulse Radar Type 5		
Trial	Frequency (MHz)	Successful Detection (Yes/No)
1	5300	No
2	5300	Yes
3	5300	Yes
4	5300	No
5	5300	Yes
6	5300	Yes
7	5300	Yes
8	5300	Yes
9	5300	Yes
10	5300	Yes
11	5297	Yes
12	5297	Yes
13	5300	Yes
14	5298	Yes
15	5295	Yes
16	5297	Yes
17	5299	Yes
18	5298	Yes
19	5297	Yes
20	5299	Yes
21	5304	No
22	5303	Yes
23	5303	Yes
24	5301	Yes
25	5303	Yes
26	5303	Yes
27	5305	No
28	5301	Yes
29	5305	Yes
30	5303	Yes

Note: The Type 5 randomized parameters tested are shown in a separate document.

TYPE 6 DETECTION PROBABILITY

Data Sheet for FCC Hopping Radar Type 6
1 us Pulse Width, 333 us PRI, 9 Pulses per Burst, 1 Burst per Hop
NTIA August 2005 Hopping Sequence

Trial	Starting Index Within Sequence	Signal Generator Frequency (MHz)	Hops within Detection BW	Successful Detection (Yes/No)
1	115	5290	4	Yes
2	590	5291	2	Yes
3	1065	5292	2	Yes
4	1540	5293	3	Yes
5	2015	5294	1	Yes
6	2490	5295	7	Yes
7	2965	5296	6	Yes
8	3440	5297	4	Yes
9	3915	5298	6	Yes
10	4390	5299	3	Yes
11	4865	5300	3	Yes
12	5340	5301	3	Yes
13	5815	5302	1	Yes
14	6290	5303	3	Yes
15	6765	5304	4	Yes
16	7240	5305	6	Yes
17	7715	5306	2	Yes
18	8190	5307	3	Yes
19	8665	5308	6	Yes
20	9140	5309	2	Yes
21	9615	5310	6	Yes
22	10090	5290	3	Yes
23	10565	5291	5	Yes
24	11040	5292	7	Yes
25	11515	5293	3	Yes
26	11990	5294	7	Yes
27	12465	5295	2	Yes
28	12940	5296	4	Yes
29	13415	5297	8	Yes
30	13890	5298	7	Yes
31	14365	5299	7	Yes
32	14840	5300	3	Yes
33	15315	5301	7	Yes
34	15790	5302	6	Yes
35	16265	5303	5	Yes
36	16740	5304	2	Yes
37	17215	5305	2	Yes
38	17690	5306	7	Yes
39	18165	5307	4	Yes
40	18640	5308	6	Yes
41	19115	5309	5	Yes
42	19590	5310	6	Yes

5.3. LOW BAND RESULTS FOR 40 MHz BANDWIDTH

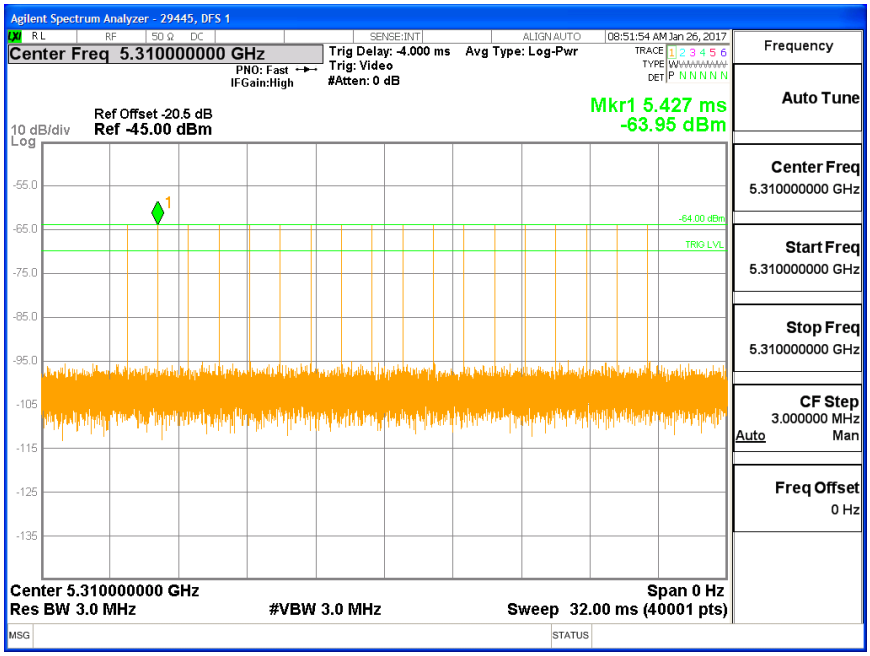
5.3.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5310 MHz.

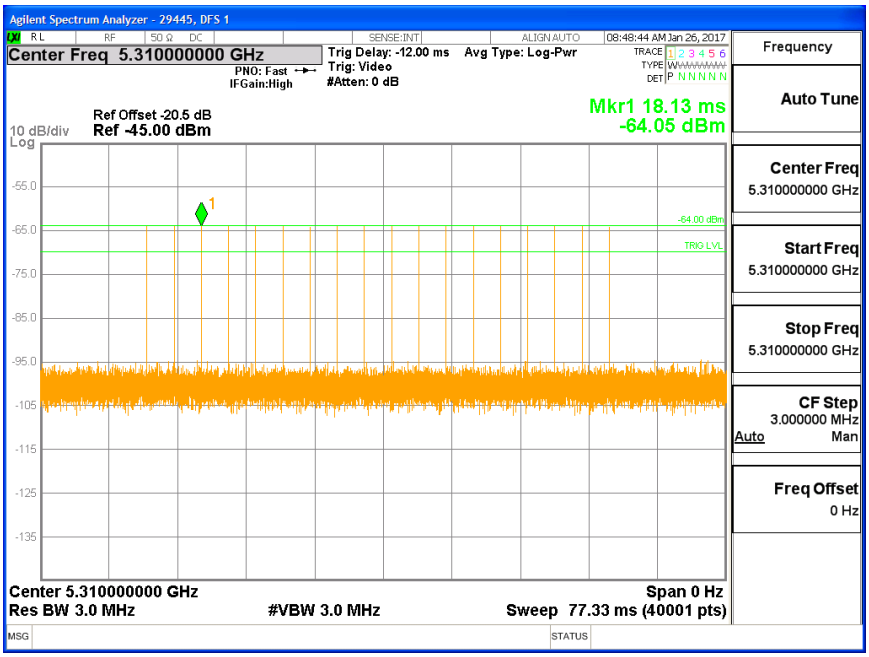
5.3.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS

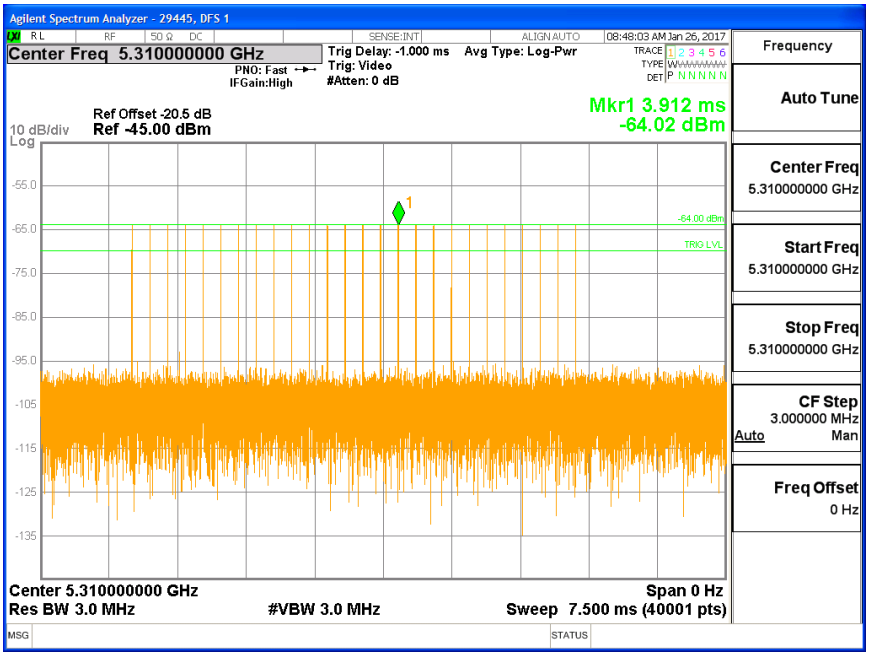
SHORT PULSE RADAR TYPE 0



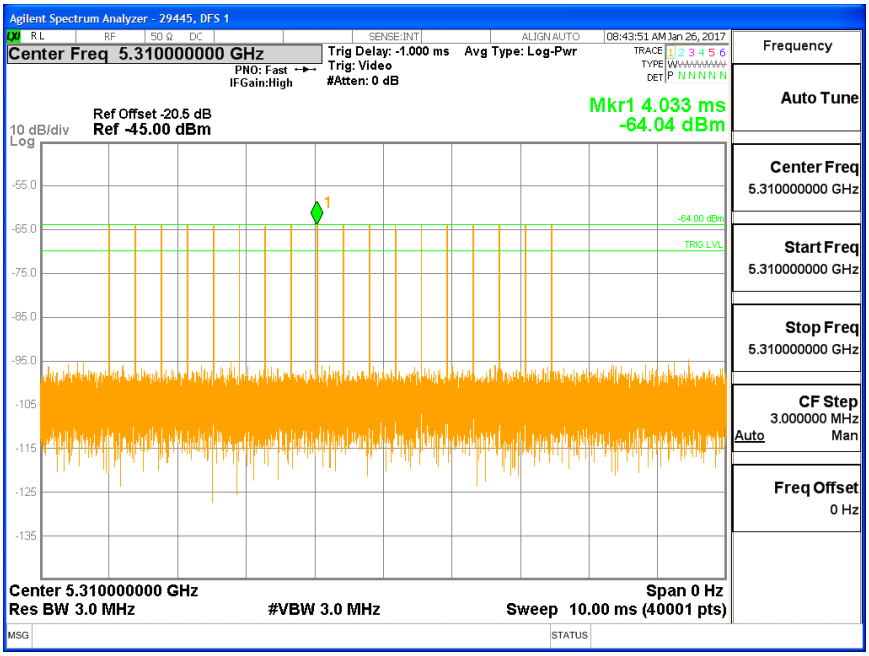
SAMPLE OF RADAR TYPE 1



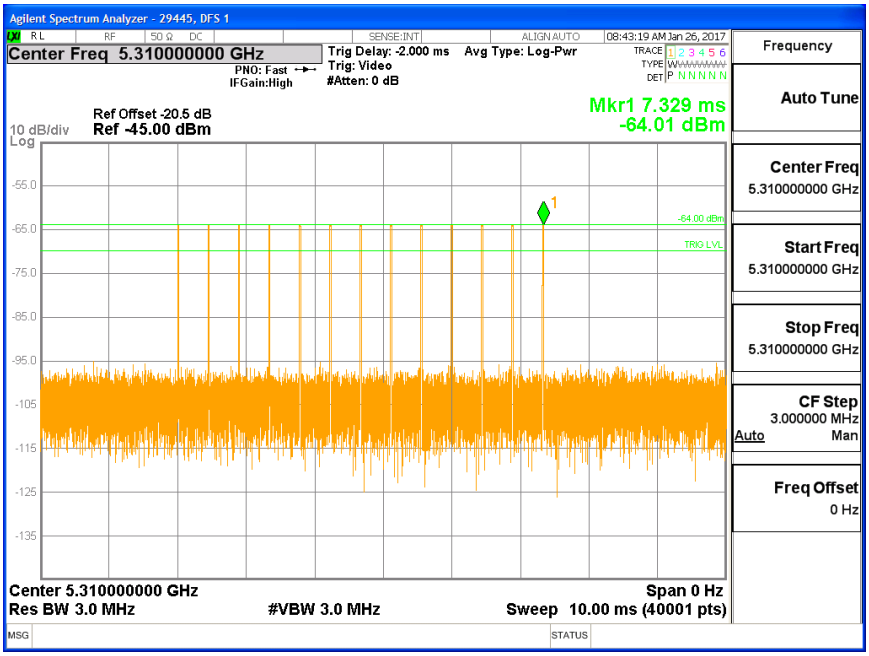
SAMPLE OF RADAR TYPE 2



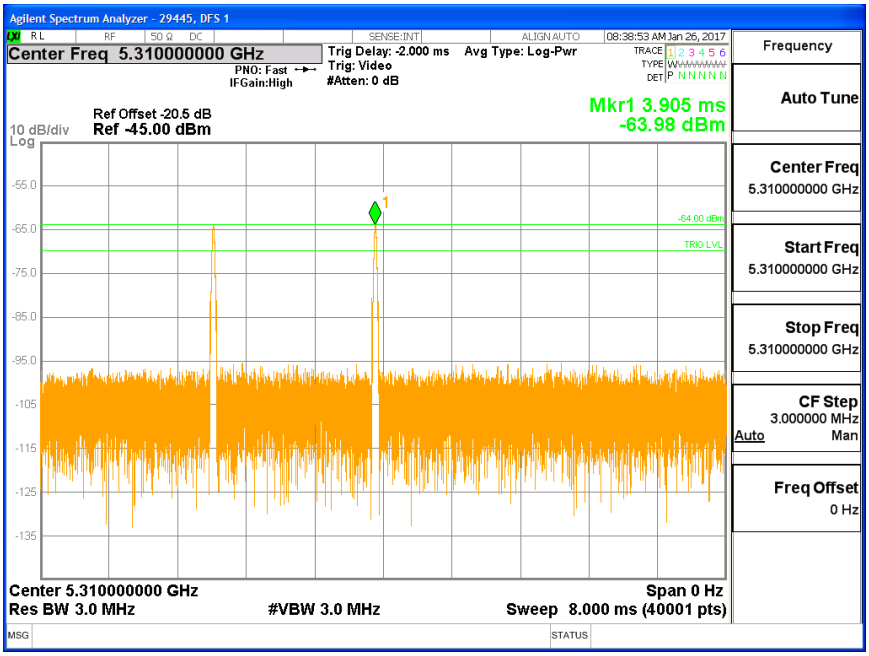
SAMPLE OF RADAR TYPE 3



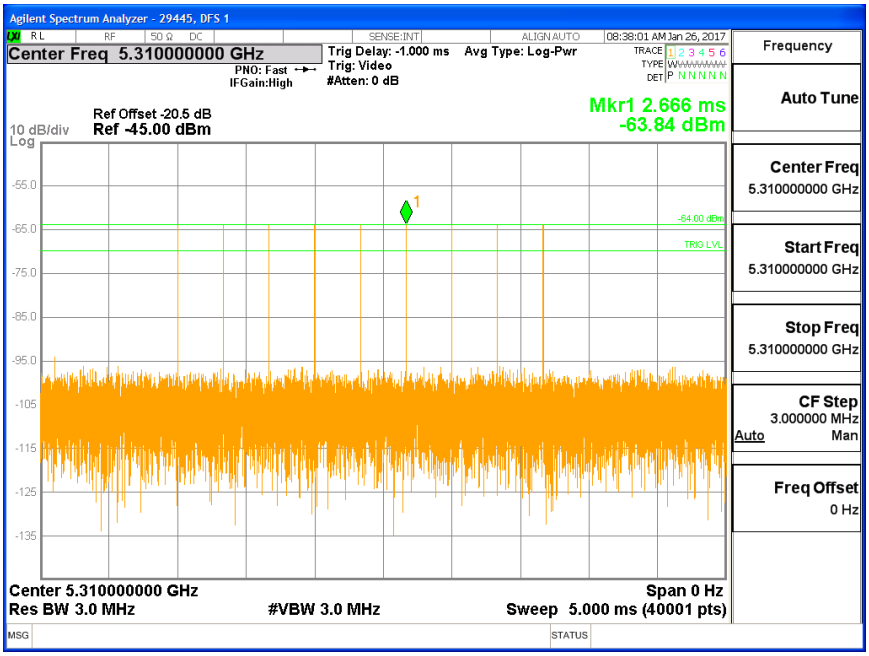
SAMPLE OF RADAR TYPE 4



SAMPLE OF SINGLE BURST OF RADAR TYPE 5

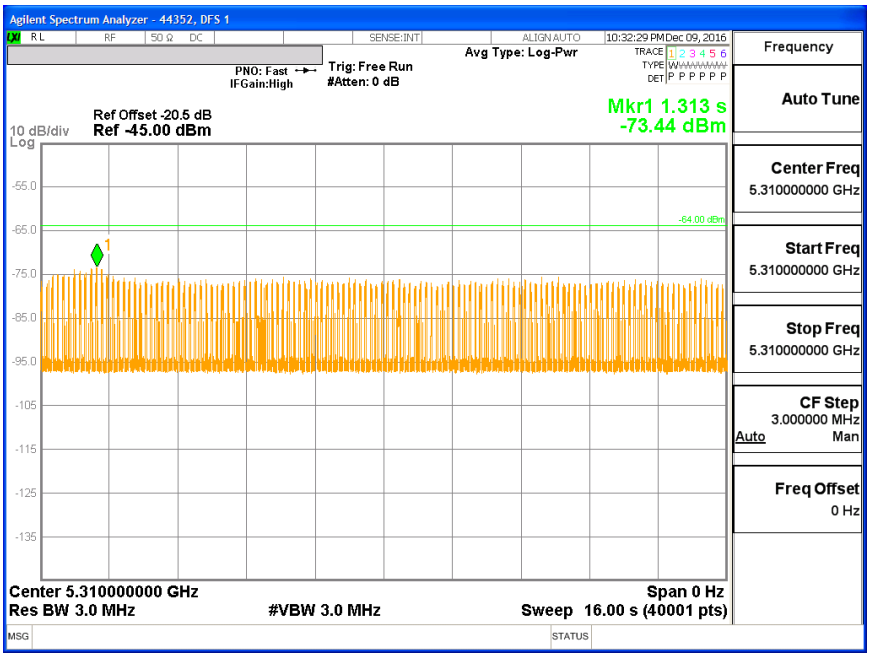


SINGLE BURST OF RADAR TYPE 6

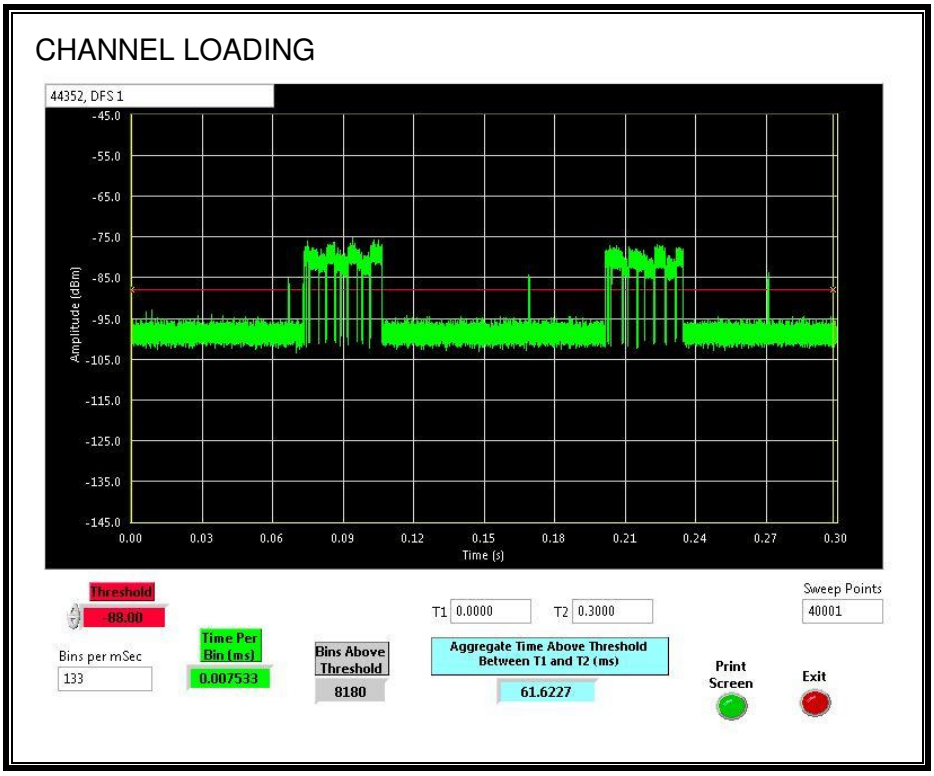


TRAFFIC

TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 20.54%

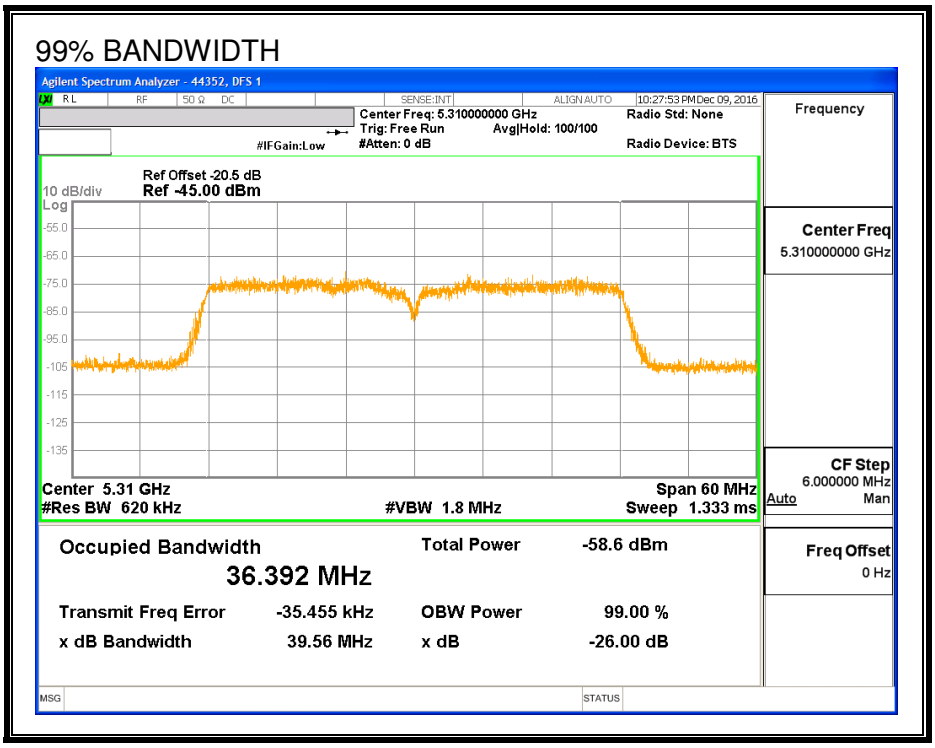
5.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

The channel spacing is not less than the channel bandwidth therefore the EUT does not have an overlapping channel plan.

5.3.4. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



RESULTS

FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5290	5330	40	36.392	109.9	100

DETECTION BANDWIDTH PROBABILITY

DETECTION BANDWIDTH PROBABILITY RESULTS

Detection Bandwidth Test Results		44352	DFS 1	
FCC Type 0 Waveform: 1 us Pulse Width, 1428 us PRI, 18 Pulses per Burst				
Frequency (MHz)	Number of Trials	Number Detected	Detection (%)	Mark
5289	10	0	0	
5290	10	10	100	FL
5295	10	10	100	
5300	10	10	100	
5305	10	10	100	
5310	10	10	100	
5315	10	10	100	
5320	10	10	100	
5325	10	10	100	
5330	10	10	100	FH
5331	10	0	0	

5.3.5. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summary

Signal Type	Number of Trials	Detection (%)	Limit (%)	Pass/Fail	Detection Bandwidth FL	Detection Bandwidth FH	OBW	Test Location	Employee Number	In-Service Monitoring Version
FCC Short Pulse Type 1	30	96.67	60	Pass	5290	5330	36.39	DFS 1	29445	Version 3.0
FCC Short Pulse Type 2	30	90.00	60	Pass	5290	5330	36.39	DFS 1	29445	Version 3.0
FCC Short Pulse Type 3	30	63.33	60	Pass	5290	5330	36.39	DFS 1	29445	Version 3.0
FCC Short Pulse Type 4	30	80.00	60	Pass	5290	5330	36.39	DFS 1	29445	Version 3.0
Aggregate		82.50	80	Pass						
FCC Long Pulse Type 5	30	90.00	80	Pass	5290	5330	36.39	DFS 1	29445	Version 3.0
FCC Hopping Type 6	41	100.00	70	Pass	5290	5330	36.39	DFS 1	29445	Version 3.0

TYPE 1 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 1						
Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Test (A/B)	Frequency (MHz)	Successful Detection (Yes/No)
1001	1	3066	18	A	5310	Yes
1002	1	578	92	A	5310	Yes
1003	1	598	89	A	5310	Yes
1004	1	718	74	A	5310	Yes
1005	1	678	78	A	5310	Yes
1006	1	818	65	A	5310	Yes
1007	1	778	68	A	5310	Yes
1008	1	838	63	A	5310	Yes
1009	1	698	76	A	5310	Yes
1010	1	518	102	A	5310	Yes
1011	1	658	81	A	5310	Yes
1012	1	798	67	A	5310	Yes
1013	1	898	59	A	5310	Yes
1014	1	618	86	A	5310	Yes
1015	1	738	72	A	5310	Yes
1016	1	1638	33	B	5310	No
1017	1	2465	22	B	5310	Yes
1018	1	1226	44	B	5310	Yes
1019	1	2182	25	B	5310	Yes
1020	1	1073	50	B	5310	Yes
1021	1	964	55	B	5310	Yes
1022	1	2532	21	B	5310	Yes
1023	1	2553	21	B	5310	Yes
1024	1	1703	31	B	5310	Yes
1025	1	1291	41	B	5310	Yes
1026	1	2924	19	B	5310	Yes
1027	1	1138	47	B	5310	Yes
1028	1	2900	19	B	5310	Yes
1029	1	2597	21	B	5310	Yes
1030	1	747	71	B	5310	Yes

TYPE 2 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 2

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
2001	3.8	194	26	5310	No
2002	2.8	188	26	5310	Yes
2003	1.1	154	24	5310	Yes
2004	2.2	195	24	5310	Yes
2005	3	208	23	5310	Yes
2006	2.4	172	27	5310	Yes
2007	3.3	189	26	5310	Yes
2008	2.9	157	27	5310	No
2009	2.2	222	27	5310	Yes
2010	4.2	156	28	5310	Yes
2011	3.6	182	25	5310	Yes
2012	3.6	163	26	5310	Yes
2013	1.4	155	27	5310	Yes
2014	3.8	178	29	5310	Yes
2015	1.7	217	23	5310	Yes
2016	4.3	206	29	5310	Yes
2017	4.7	168	24	5310	Yes
2018	1.5	162	23	5310	Yes
2019	3.9	209	29	5310	Yes
2020	3.1	169	29	5310	Yes
2021	1.7	182	28	5310	Yes
2022	1.1	227	24	5310	Yes
2023	2	164	28	5310	Yes
2024	3.8	213	25	5310	Yes
2025	5	196	28	5310	No
2026	2.9	211	26	5310	Yes
2027	2.3	199	23	5310	Yes
2028	4.5	218	24	5310	Yes
2029	4.2	210	25	5310	Yes
2030	2.5	195	27	5310	Yes

TYPE 3 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 3

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
3001	9.5	379	18	5310	Yes
3002	6.1	347	17	5310	Yes
3003	8.4	480	18	5310	Yes
3004	9.3	460	18	5310	Yes
3005	7.6	488	17	5310	Yes
3006	6.8	395	16	5310	Yes
3007	8.1	436	16	5310	No
3008	7.5	325	17	5310	No
3009	6.5	378	16	5310	No
3010	6.1	413	17	5310	Yes
3011	7.3	479	16	5310	Yes
3012	9.2	275	18	5310	No
3013	8.7	488	17	5310	No
3014	6.8	297	16	5310	Yes
3015	6.5	271	18	5310	Yes
3016	8.9	477	18	5310	Yes
3017	6.8	464	16	5310	Yes
3018	7.5	432	16	5310	Yes
3019	9.8	314	16	5310	Yes
3020	6.5	294	16	5310	Yes
3021	9	323	18	5310	No
3022	8.2	316	17	5310	No
3023	9	357	16	5310	Yes
3024	6.2	496	16	5310	No
3025	9.3	299	18	5310	No
3026	8.9	333	17	5310	No
3027	6	400	18	5310	Yes
3028	7.9	447	17	5310	Yes
3029	7.4	408	17	5310	No
3030	9.6	468	18	5310	Yes

TYPE 4 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 4					
Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
4001	18.3	443	13	5310	Yes
4002	14.5	398	12	5310	Yes
4003	19.1	385	16	5310	Yes
4004	11.5	352	15	5310	Yes
4005	16.6	485	16	5310	Yes
4006	18.5	348	13	5310	No
4007	14.9	494	15	5310	Yes
4008	13.1	370	12	5310	Yes
4009	14.8	277	16	5310	Yes
4010	13.4	417	14	5310	Yes
4011	15.5	470	14	5310	No
4012	14.6	254	12	5310	Yes
4013	13	320	14	5310	No
4014	12.5	368	15	5310	No
4015	11.3	329	13	5310	Yes
4016	16.2	389	14	5310	Yes
4017	15.5	363	12	5310	Yes
4018	16.5	318	16	5310	Yes
4019	16.2	305	14	5310	Yes
4020	17.7	273	13	5310	No
4021	13.7	406	12	5310	Yes
4022	15.6	269	12	5310	Yes
4023	16.9	415	13	5310	Yes
4024	19.3	290	16	5310	Yes
4025	11.9	449	15	5310	Yes
4026	19.6	337	13	5310	No
4027	12.7	273	12	5310	Yes
4028	11.7	425	13	5310	Yes
4029	14.9	374	15	5310	Yes
4030	14.5	421	16	5310	Yes

TYPE 5 DETECTION PROBABILITY

Data Sheet for FCC Long Pulse Radar Type 5		
Trial	Frequency (MHz)	Successful Detection (Yes/No)
1	5310	No
2	5310	Yes
3	5310	Yes
4	5310	No
5	5310	Yes
6	5310	Yes
7	5310	Yes
8	5310	Yes
9	5310	Yes
10	5310	Yes
11	5298	Yes
12	5298	Yes
13	5300	Yes
14	5298	Yes
15	5296	Yes
16	5298	Yes
17	5300	Yes
18	5299	Yes
19	5298	Yes
20	5300	Yes
21	5323	No
22	5322	Yes
23	5322	Yes
24	5320	Yes
25	5322	Yes
26	5322	Yes
27	5324	Yes
28	5321	Yes
29	5324	Yes
30	5323	Yes

Note: The Type 5 randomized parameters tested are shown in a separate document.

TYPE 6 DETECTION PROBABILITY

Data Sheet for FCC Hopping Radar Type 6
1 us Pulse Width, 333 us PRI, 9 Pulses per Burst, 1 Burst per Hop
NTIA August 2005 Hopping Sequence

Trial	Starting Index Within Sequence	Signal Generator Frequency (MHz)	Hops within Detection BW	Successful Detection (Yes/No)
1	374	5290	10	Yes
2	849	5291	13	Yes
3	1324	5292	7	Yes
4	1799	5293	11	Yes
5	2274	5294	5	Yes
6	2749	5295	6	Yes
7	3224	5296	7	Yes
8	3699	5297	11	Yes
9	4174	5298	4	Yes
10	4649	5299	8	Yes
11	5124	5300	8	Yes
12	5599	5301	14	Yes
13	6074	5302	9	Yes
14	6549	5303	7	Yes
15	7024	5304	9	Yes
16	7499	5305	9	Yes
17	7974	5306	7	Yes
18	8449	5307	6	Yes
19	8924	5308	8	Yes
20	9399	5309	13	Yes
21	9874	5310	12	Yes
22	10349	5311	11	Yes
23	10824	5312	7	Yes
24	11299	5313	3	Yes
25	11774	5314	8	Yes
26	12249	5315	6	Yes
27	12724	5316	6	Yes
28	13199	5317	7	Yes
29	13674	5318	4	Yes
30	14149	5319	5	Yes
31	14624	5320	4	Yes
32	15099	5321	5	Yes
33	15574	5322	7	Yes
34	16049	5323	9	Yes
35	16524	5324	11	Yes
36	16999	5325	10	Yes
37	17474	5326	8	Yes
38	17949	5327	7	Yes
39	18424	5328	8	Yes
40	18899	5329	7	Yes
41	19374	5330	7	Yes

5.4. LOW BAND RESULTS FOR 80 MHz BANDWIDTH

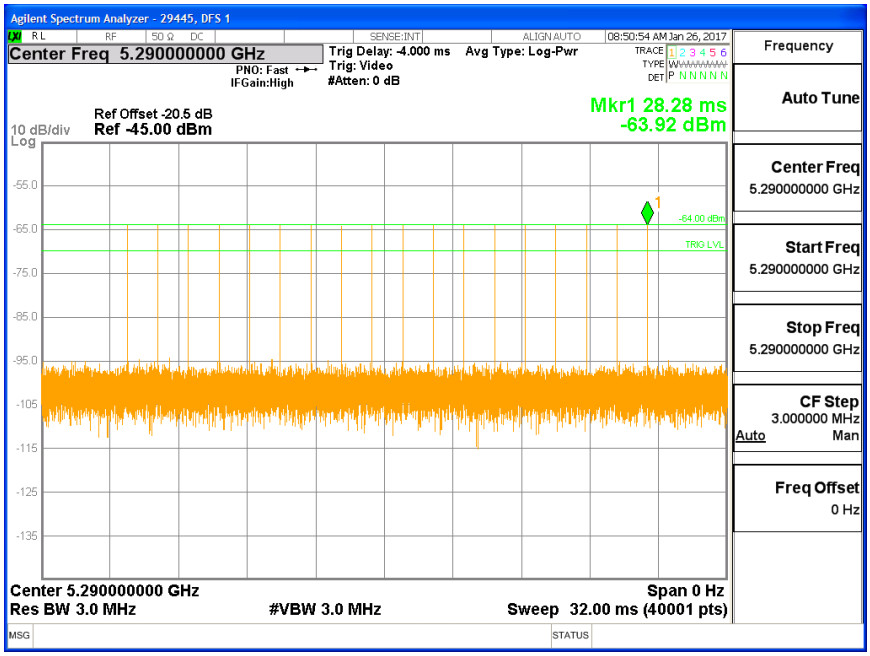
5.4.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5290 MHz.

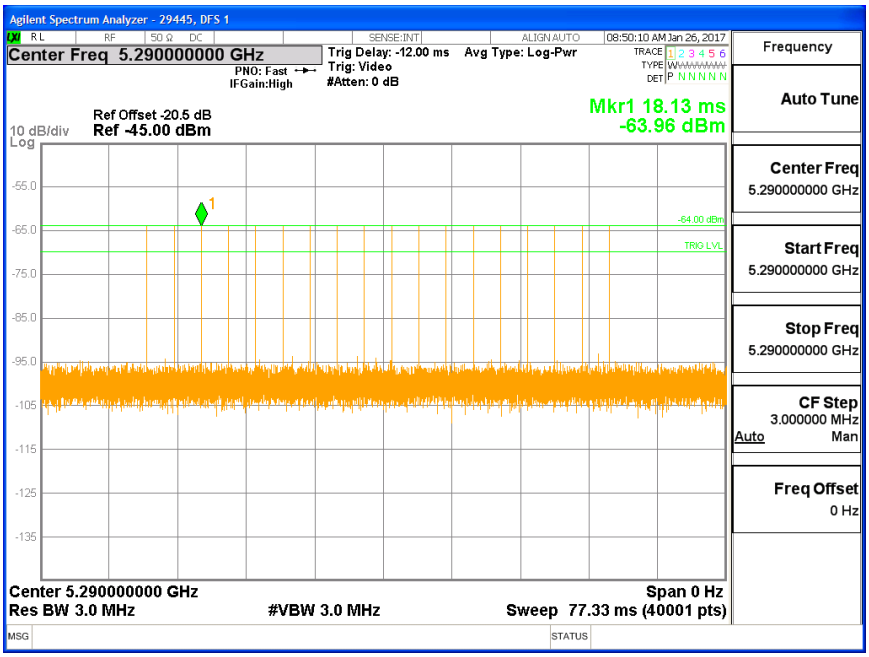
5.4.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS

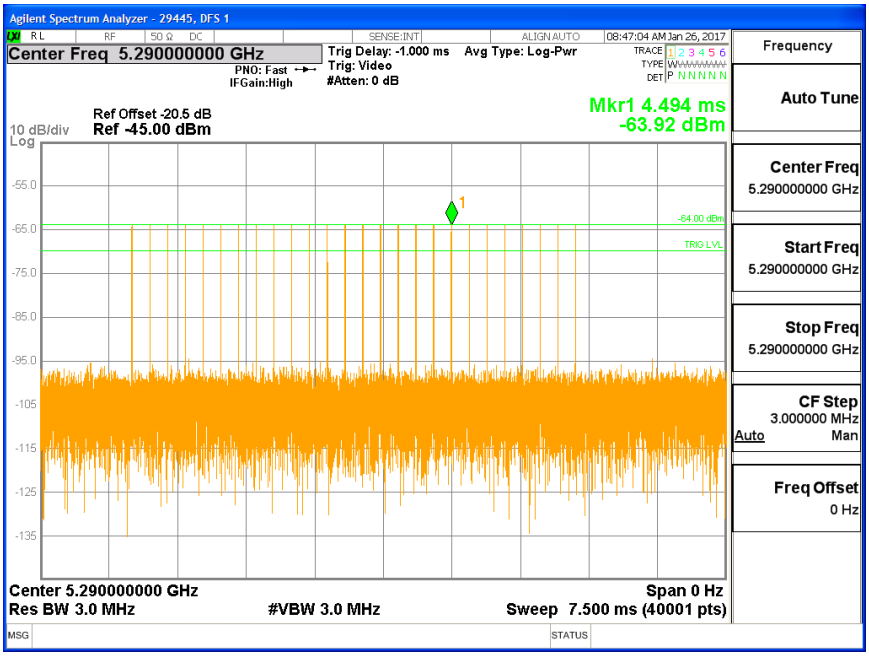
SHORT PULSE RADAR TYPE 0



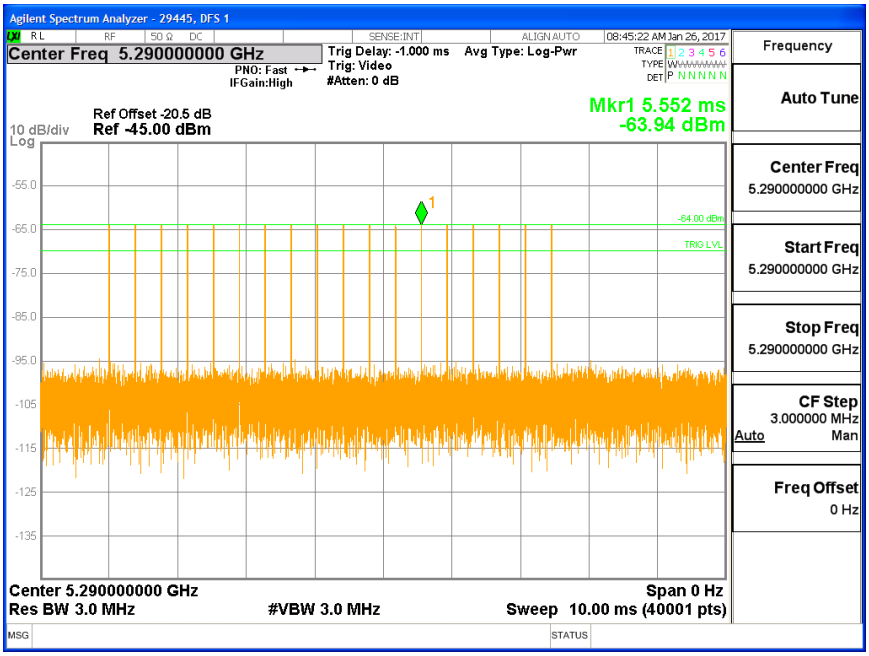
SAMPLE OF RADAR TYPE 1



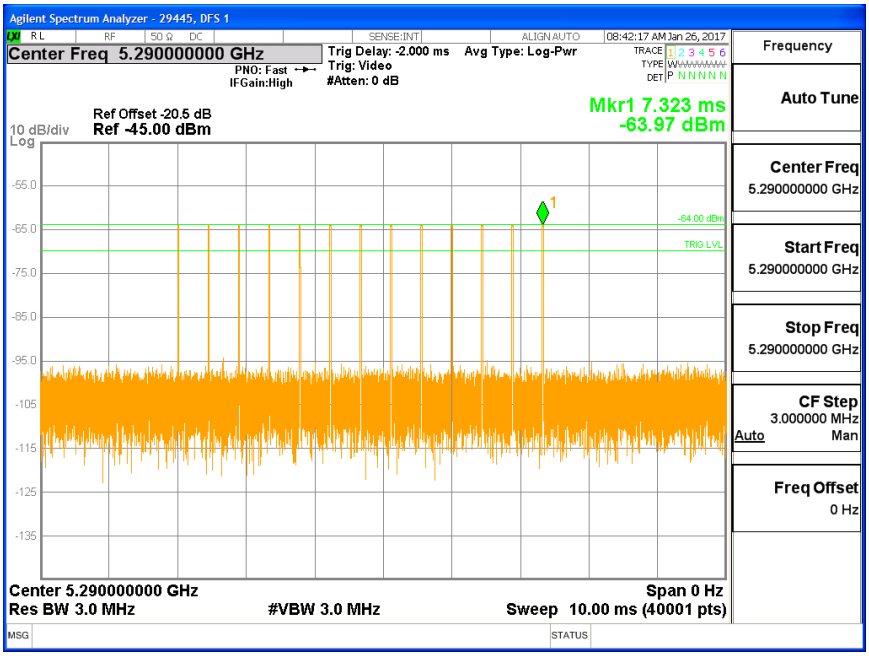
SAMPLE OF RADAR TYPE 2



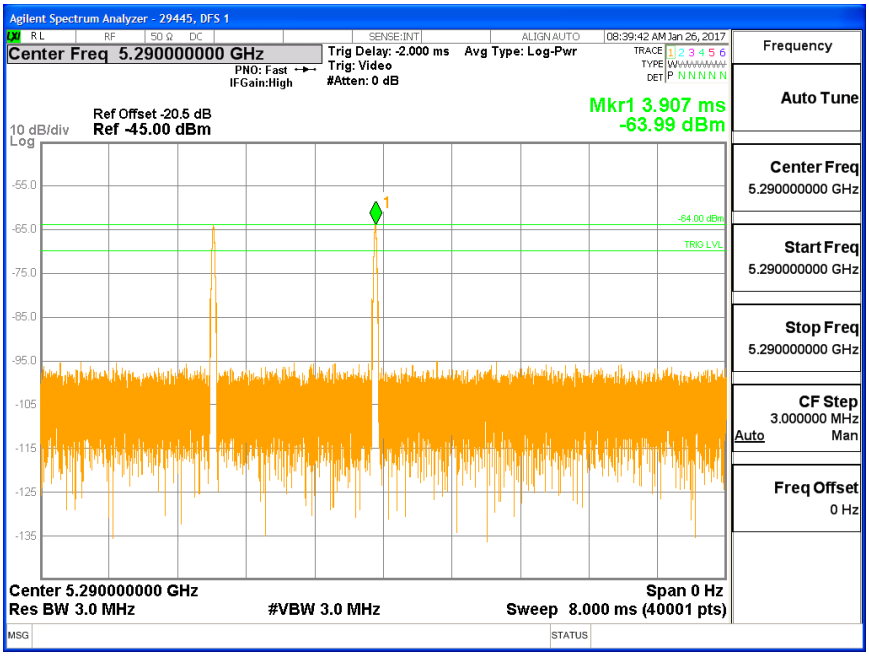
SAMPLE OF RADAR TYPE 3



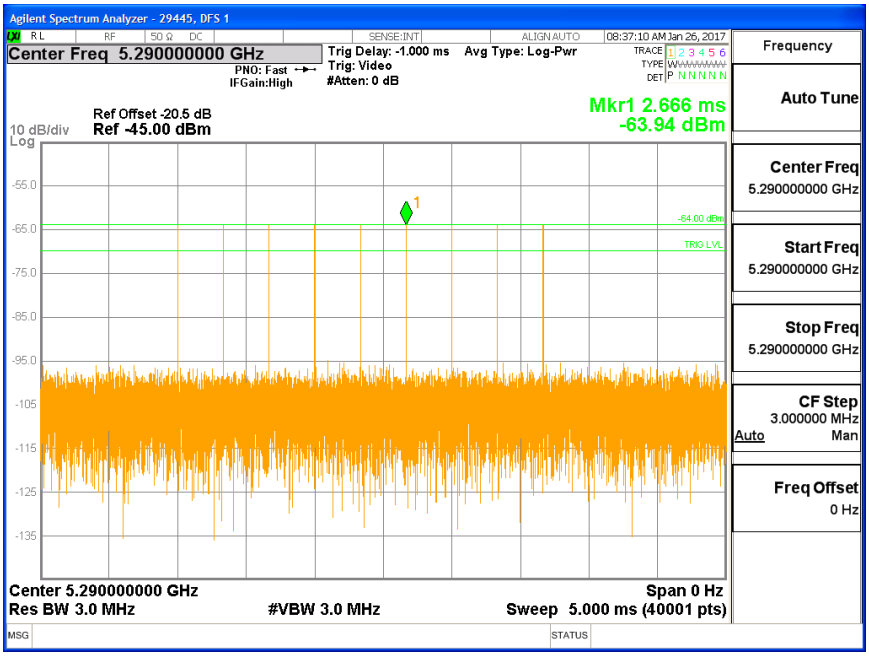
SAMPLE OF RADAR TYPE 4



SAMPLE OF SINGLE BURST OF RADAR TYPE 5

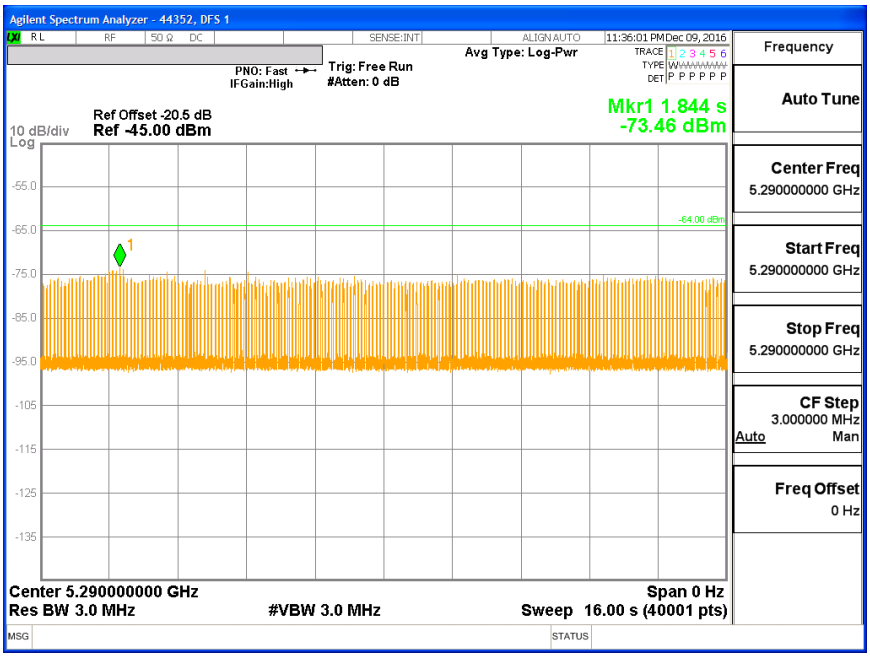


SINGLE BURST OF RADAR TYPE 6

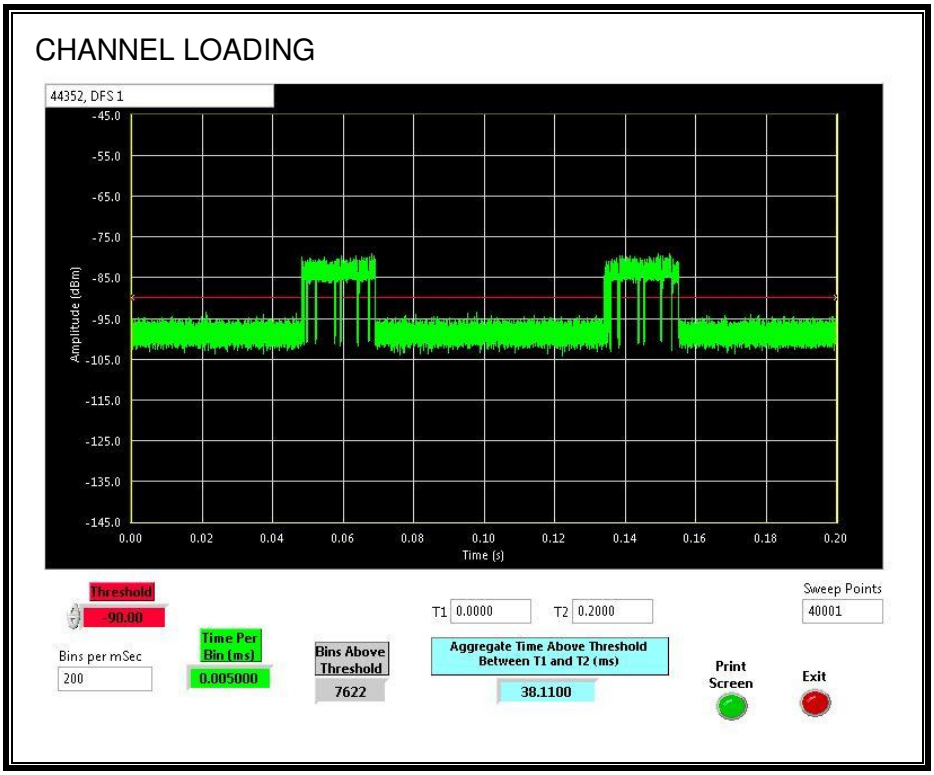


TRAFFIC

TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 19.055%

5.4.3. OVERLAPPING CHANNEL TESTS

RESULTS

The channel spacing is not less than the channel bandwidth therefore the EUT does not have an overlapping channel plan.

5.4.4. MOVE AND CLOSING TIME

REPORTING NOTES

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

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).

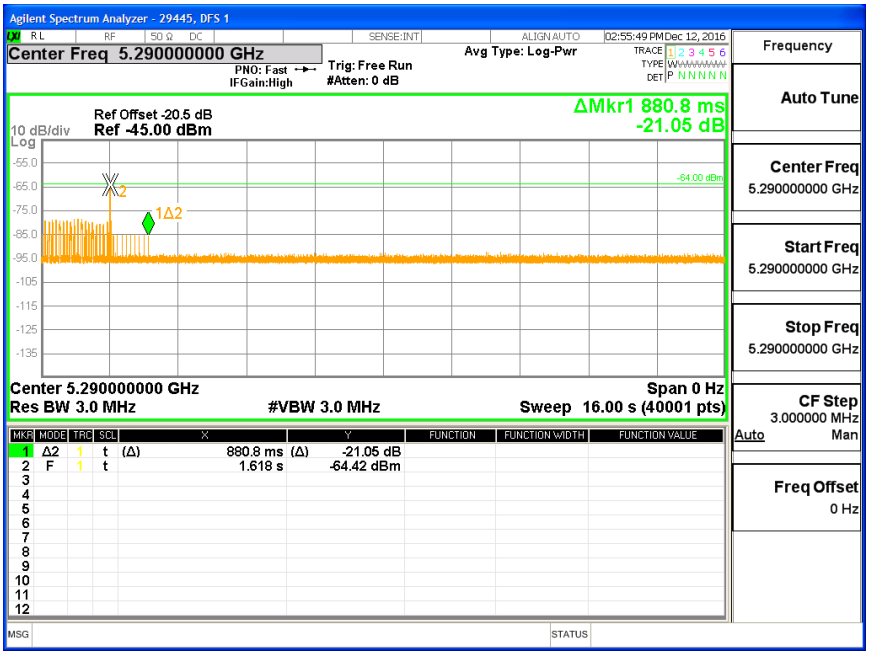
RESULTS

Channel Move Time (sec)	Limit (sec)
0.8808	10

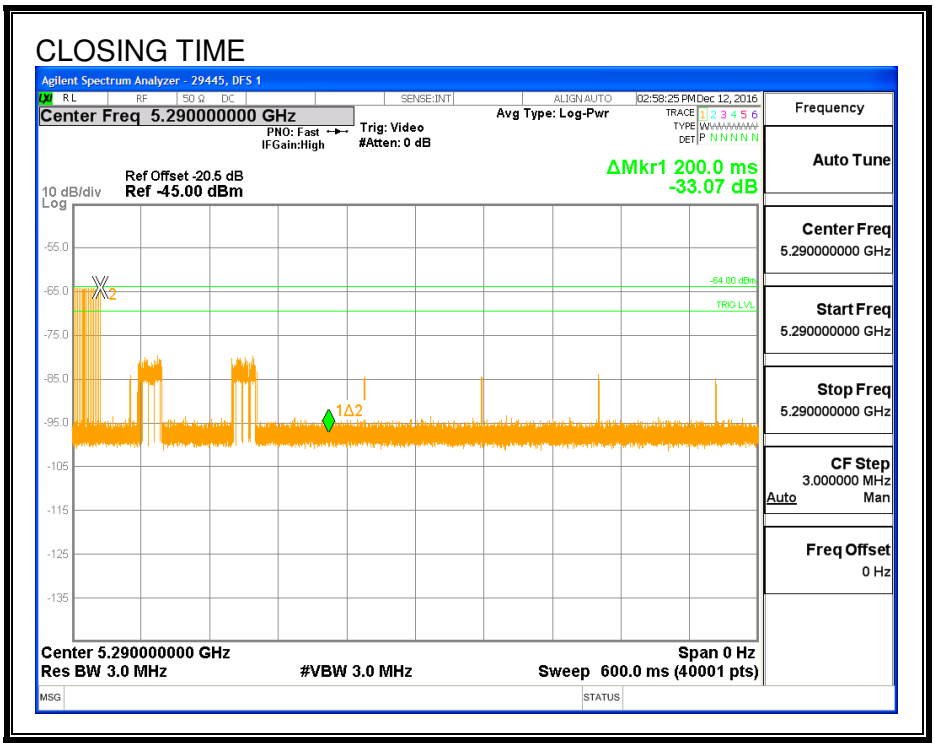
Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
5.6	60

MOVE TIME

MOVE TIME

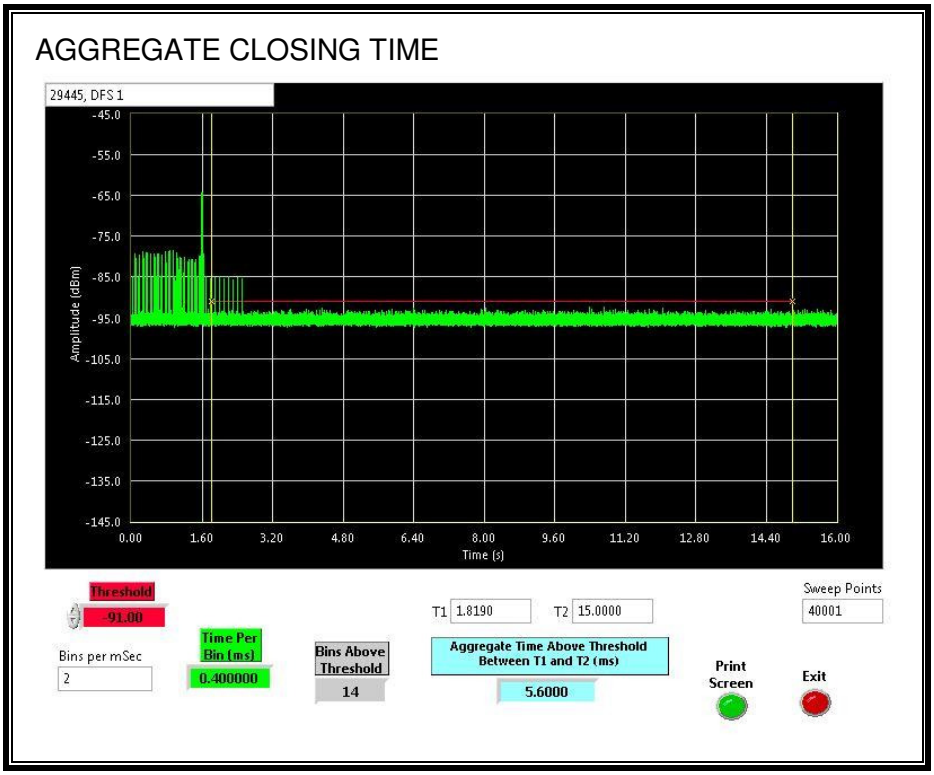


CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

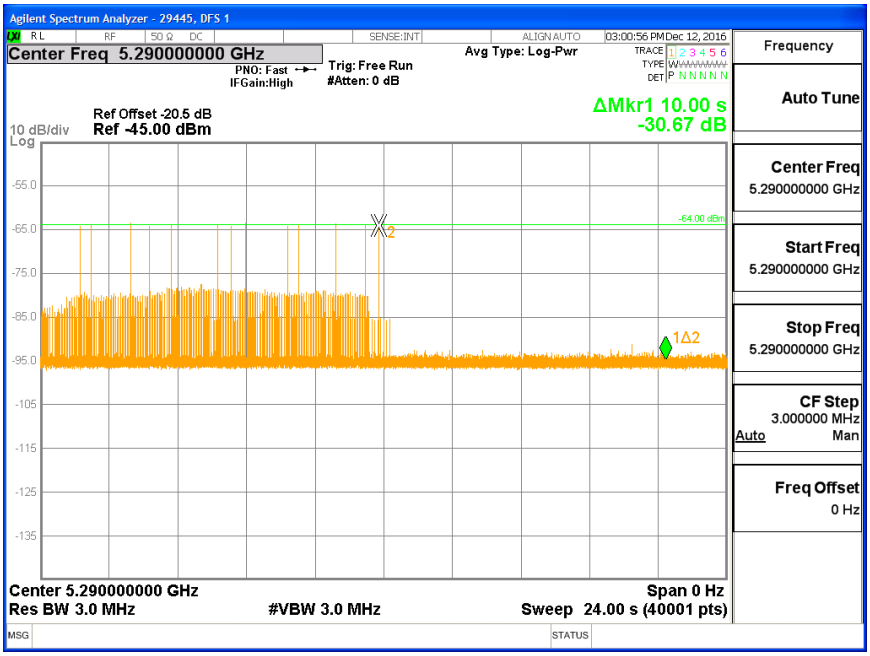
Only intermittent transmissions are observed during the aggregate monitoring period.



LONG PULSE CHANNEL MOVE TIME

The traffic ceases prior to 10 seconds after the end of the radar waveform.

MOVE TIME FOR LONG PULSE RADAR

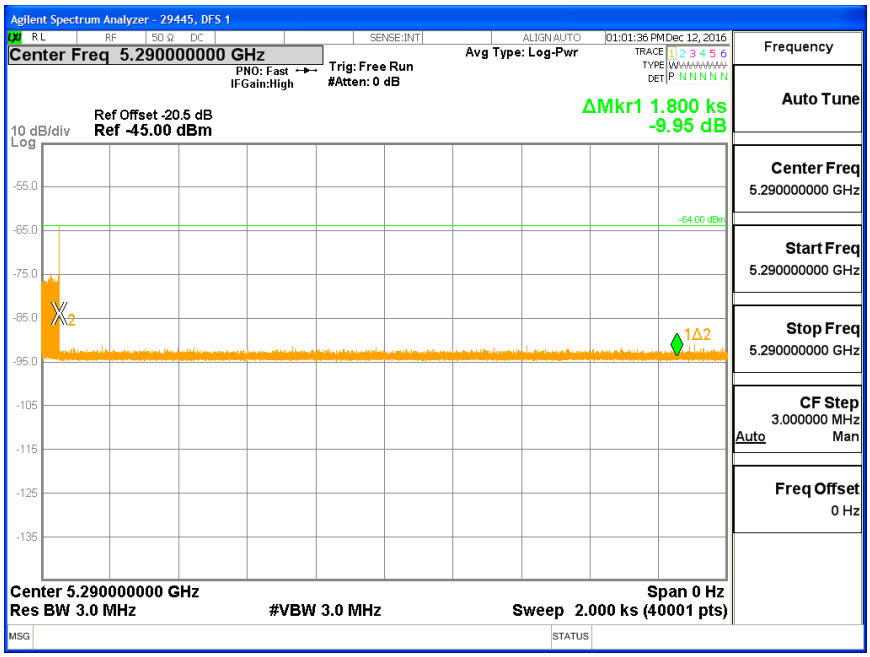


5.4.1. NON-OCCUPANCY PERIOD

RESULTS

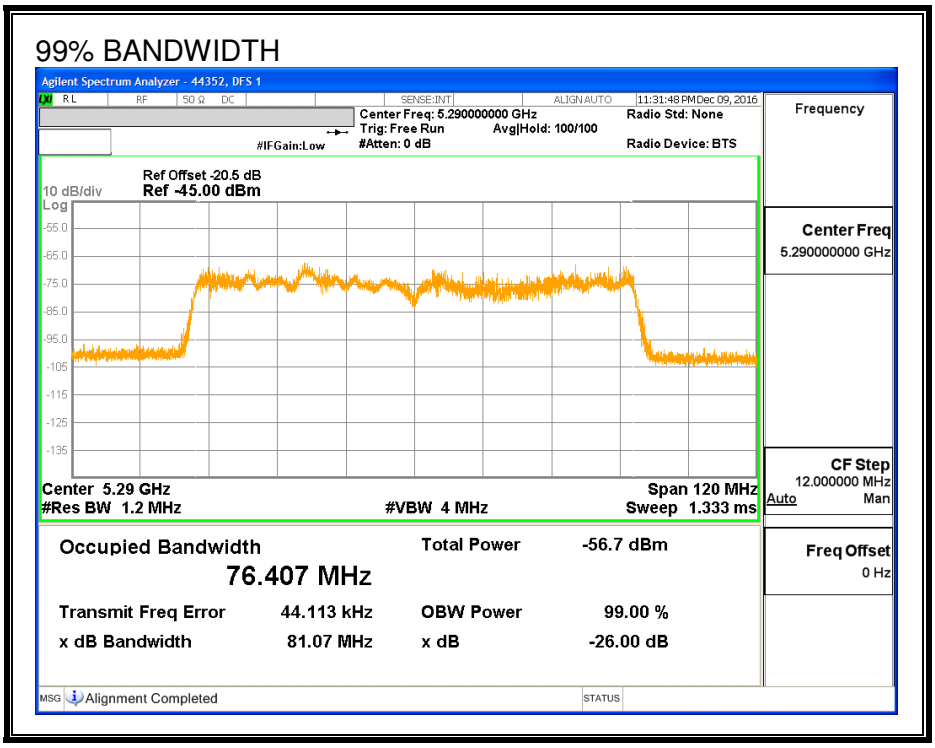
No EUT transmissions were observed on the test channel during the 30-minute observation time.

NON-OCCUPANCY PERIOD



5.4.2. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



RESULTS

FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5251	5329	78	76.407	102.1	100

DETECTION BANDWIDTH PROBABILITY

DETECTION BANDWIDTH PROBABILITY RESULTS

Detection Bandwidth Test Results		44352	DFS 1	
FCC Type 0 Waveform: 1 us Pulse Width, 1428 us PRI, 18 Pulses per Burst				
Frequency (MHz)	Number of Trials	Number Detected	Detection (%)	Mark
5250	1	0	0	
5251	10	10	100	FL
5252	10	10	100	
5253	10	10	100	
5254	10	10	100	
5255	10	10	100	
5260	10	10	100	
5265	10	10	100	
5270	10	10	100	
5275	10	10	100	
5280	10	10	100	
5285	10	10	100	
5290	10	10	100	
5295	10	10	100	
5300	10	10	100	
5305	10	10	100	
5310	10	10	100	
5315	10	10	100	
5320	10	10	100	
5325	10	10	100	
5326	10	10	100	
5327	10	10	100	
5328	10	10	100	
5329	10	10	100	FH
5330	1	0	0	

5.4.3. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summary

Signal Type	Number of Trials	Detection (%)	Limit (%)	Pass/Fail	Detection Bandwidth FL	Detection Bandwidth FH	OBW	Test Location	Employee Number	In-Service Monitoring Version
FCC Short Pulse Type 1	30	96.67	60	Pass	5251	5329	76.41	DFS 1	29445	Version 3.0
FCC Short Pulse Type 2	30	83.33	60	Pass	5251	5329	76.41	DFS 1	29445	Version 3.0
FCC Short Pulse Type 3	30	80.00	60	Pass	5251	5329	76.41	DFS 1	29445	Version 3.0
FCC Short Pulse Type 4	30	70.00	60	Pass	5251	5329	76.41	DFS 1	29445	Version 3.0
Aggregate		82.50	80	Pass						
FCC Long Pulse Type 5	30	93.33	80	Pass	5251	5329	76.41	DFS 1	29445	Version 3.0
FCC Hopping Type 6	79	100.00	70	Pass	5251	5329	76.41	DFS 1	29445	Version 3.0

TYPE 1 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 1

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Test (A/B)	Frequency (MHz)	Successful Detection (Yes/No)
1001	1	3066	18	A	5290	No
1002	1	578	92	A	5290	Yes
1003	1	598	89	A	5290	Yes
1004	1	718	74	A	5290	Yes
1005	1	678	78	A	5290	Yes
1006	1	818	65	A	5290	Yes
1007	1	778	68	A	5290	Yes
1008	1	838	63	A	5290	Yes
1009	1	698	76	A	5290	Yes
1010	1	518	102	A	5290	Yes
1011	1	658	81	A	5290	Yes
1012	1	798	67	A	5290	Yes
1013	1	898	59	A	5290	Yes
1014	1	618	86	A	5290	Yes
1015	1	738	72	A	5290	Yes
1016	1	1638	33	B	5290	Yes
1017	1	2465	22	B	5290	Yes
1018	1	1226	44	B	5290	Yes
1019	1	2182	25	B	5290	Yes
1020	1	1073	50	B	5290	Yes
1021	1	964	55	B	5290	Yes
1022	1	2532	21	B	5290	Yes
1023	1	2553	21	B	5290	Yes
1024	1	1703	31	B	5290	Yes
1025	1	1291	41	B	5290	Yes
1026	1	2924	19	B	5290	Yes
1027	1	1138	47	B	5290	Yes
1028	1	2900	19	B	5290	Yes
1029	1	2597	21	B	5290	Yes
1030	1	747	71	B	5290	Yes

TYPE 2 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 2

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
2001	3.8	194	26	5290	Yes
2002	2.8	188	26	5290	Yes
2003	1.1	154	24	5290	Yes
2004	2.2	195	24	5290	Yes
2005	3	208	23	5290	No
2006	2.4	172	27	5290	Yes
2007	3.3	189	26	5290	Yes
2008	2.9	157	27	5290	Yes
2009	2.2	222	27	5290	Yes
2010	4.2	156	28	5290	Yes
2011	3.6	182	25	5290	Yes
2012	3.6	163	26	5290	No
2013	1.4	155	27	5290	No
2014	3.8	178	29	5290	Yes
2015	1.7	217	23	5290	Yes
2016	4.3	206	29	5290	Yes
2017	4.7	168	24	5290	No
2018	1.5	162	23	5290	Yes
2019	3.9	209	29	5290	Yes
2020	3.1	169	29	5290	Yes
2021	1.7	182	28	5290	Yes
2022	1.1	227	24	5290	Yes
2023	2	164	28	5290	Yes
2024	3.8	213	25	5290	Yes
2025	5	196	28	5290	Yes
2026	2.9	211	26	5290	Yes
2027	2.3	199	23	5290	Yes
2028	4.5	218	24	5290	Yes
2029	4.2	210	25	5290	No
2030	2.5	195	27	5290	Yes

TYPE 3 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 3

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
3001	9.5	379	18	5290	No
3002	6.1	347	17	5290	Yes
3003	8.4	480	18	5290	Yes
3004	9.3	460	18	5290	Yes
3005	7.6	488	17	5290	Yes
3006	6.8	395	16	5290	Yes
3007	8.1	436	16	5290	Yes
3008	7.5	325	17	5290	Yes
3009	6.5	378	16	5290	Yes
3010	6.1	413	17	5290	No
3011	7.3	479	16	5290	Yes
3012	9.2	275	18	5290	Yes
3013	8.7	488	17	5290	No
3014	6.8	297	16	5290	Yes
3015	6.5	271	18	5290	Yes
3016	8.9	477	18	5290	Yes
3017	6.8	464	16	5290	No
3018	7.5	432	16	5290	Yes
3019	9.8	314	16	5290	No
3020	6.5	294	16	5290	Yes
3021	9	323	18	5290	Yes
3022	8.2	316	17	5290	Yes
3023	9	357	16	5290	Yes
3024	6.2	496	16	5290	Yes
3025	9.3	299	18	5290	Yes
3026	8.9	333	17	5290	No
3027	6	400	18	5290	Yes
3028	7.9	447	17	5290	Yes
3029	7.4	408	17	5290	Yes
3030	9.6	468	18	5290	Yes

TYPE 4 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 4

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
4001	18.3	443	13	5290	Yes
4002	14.5	398	12	5290	No
4003	19.1	385	16	5290	Yes
4004	11.5	352	15	5290	No
4005	16.6	485	16	5290	Yes
4006	18.5	348	13	5290	Yes
4007	14.9	494	15	5290	Yes
4008	13.1	370	12	5290	Yes
4009	14.8	277	16	5290	No
4010	13.4	417	14	5290	No
4011	15.5	470	14	5290	Yes
4012	14.6	254	12	5290	No
4013	13	320	14	5290	Yes
4014	12.5	368	15	5290	Yes
4015	11.3	329	13	5290	No
4016	16.2	389	14	5290	Yes
4017	15.5	363	12	5290	Yes
4018	16.5	318	16	5290	Yes
4019	16.2	305	14	5290	Yes
4020	17.7	273	13	5290	Yes
4021	13.7	406	12	5290	No
4022	15.6	269	12	5290	No
4023	16.9	415	13	5290	Yes
4024	19.3	290	16	5290	Yes
4025	11.9	449	15	5290	No
4026	19.6	337	13	5290	Yes
4027	12.7	273	12	5290	Yes
4028	11.7	425	13	5290	Yes
4029	14.9	374	15	5290	Yes
4030	14.5	421	16	5290	Yes

TYPE 5 DETECTION PROBABILITY

Data Sheet for FCC Long Pulse Radar Type 5		
Trial	Frequency (MHz)	Successful Detection (Yes/No)
1	5290	Yes
2	5290	Yes
3	5290	Yes
4	5290	Yes
5	5290	Yes
6	5290	Yes
7	5290	Yes
8	5290	Yes
9	5290	Yes
10	5290	Yes
11	5258	Yes
12	5258	Yes
13	5260	Yes
14	5258	Yes
15	5256	Yes
16	5258	Yes
17	5260	Yes
18	5259	Yes
19	5258	Yes
20	5260	Yes
21	5323	Yes
22	5322	Yes
23	5322	Yes
24	5320	Yes
25	5322	No
26	5322	No
27	5324	Yes
28	5321	Yes
29	5324	Yes
30	5323	Yes

Note: The Type 5 randomized parameters tested are shown in a separate document.

TYPE 6 DETECTION PROBABILITY

Data Sheet for FCC Hopping Radar Type 6
1 us Pulse Width, 333 us PRI, 9 Pulses per Burst, 1 Burst per Hop
NTIA August 2005 Hopping Sequence

Trial	Starting Index Within Sequence	Signal Generator Frequency (MHz)	Hops within Detection BW	Successful Detection (Yes/No)
1	172	5251	17	Yes
2	647	5252	13	Yes
3	1122	5253	18	Yes
4	1597	5254	18	Yes
5	2072	5255	11	Yes
6	2547	5256	12	Yes
7	3022	5257	15	Yes
8	3497	5258	11	Yes
9	3972	5259	16	Yes
10	4447	5260	17	Yes
11	4922	5261	14	Yes
12	5397	5262	9	Yes
13	5872	5263	13	Yes
14	6347	5264	17	Yes
15	6822	5265	20	Yes
16	7297	5266	17	Yes
17	7772	5267	14	Yes
18	8247	5268	23	Yes
19	8722	5269	16	Yes
20	9197	5270	13	Yes
21	9672	5271	16	Yes
22	10147	5272	9	Yes
23	10622	5273	23	Yes
24	11097	5274	19	Yes
25	11572	5275	17	Yes
26	12047	5276	20	Yes
27	12522	5277	14	Yes
28	12997	5278	21	Yes
29	13472	5279	19	Yes
30	13947	5280	22	Yes
31	14422	5281	21	Yes
32	14897	5282	17	Yes
33	15372	5283	17	Yes
34	15847	5284	19	Yes
35	16322	5285	16	Yes
36	16797	5286	16	Yes
37	17272	5287	18	Yes
38	17747	5288	11	Yes
39	18222	5289	13	Yes

TYPE 6 DETECTION PROBABILITY (CONTINUED)

40	18697	5290	20	Yes
41	19172	5291	11	Yes
42	19647	5292	18	Yes
43	20122	5293	17	Yes
44	20597	5294	19	Yes
45	21072	5295	22	Yes
46	21547	5296	16	Yes
47	22022	5297	18	Yes
48	22497	5298	16	Yes
49	22972	5299	18	Yes
50	23447	5300	15	Yes
51	23922	5301	21	Yes
52	24397	5302	15	Yes
53	24872	5303	22	Yes
54	25347	5304	12	Yes
55	25822	5305	8	Yes
56	26297	5306	12	Yes
57	26772	5307	15	Yes
58	27247	5308	15	Yes
59	27722	5309	15	Yes
60	28197	5310	20	Yes
61	28672	5311	14	Yes
62	29147	5312	19	Yes
63	29622	5313	10	Yes
64	30097	5314	17	Yes
65	30572	5315	13	Yes
66	31047	5316	22	Yes
67	31522	5317	14	Yes
68	31997	5318	15	Yes
69	32472	5319	16	Yes
70	32947	5320	17	Yes
71	33422	5321	21	Yes
72	33897	5322	13	Yes
73	34372	5323	14	Yes
74	34847	5324	17	Yes
75	35322	5325	21	Yes
76	35797	5326	20	Yes
77	36272	5327	13	Yes
78	36747	5328	9	Yes
79	37222	5329	23	Yes

5.5. LOW BAND RESULTS FOR 160 MHz BANDWIDTH (80H COMPONENT)

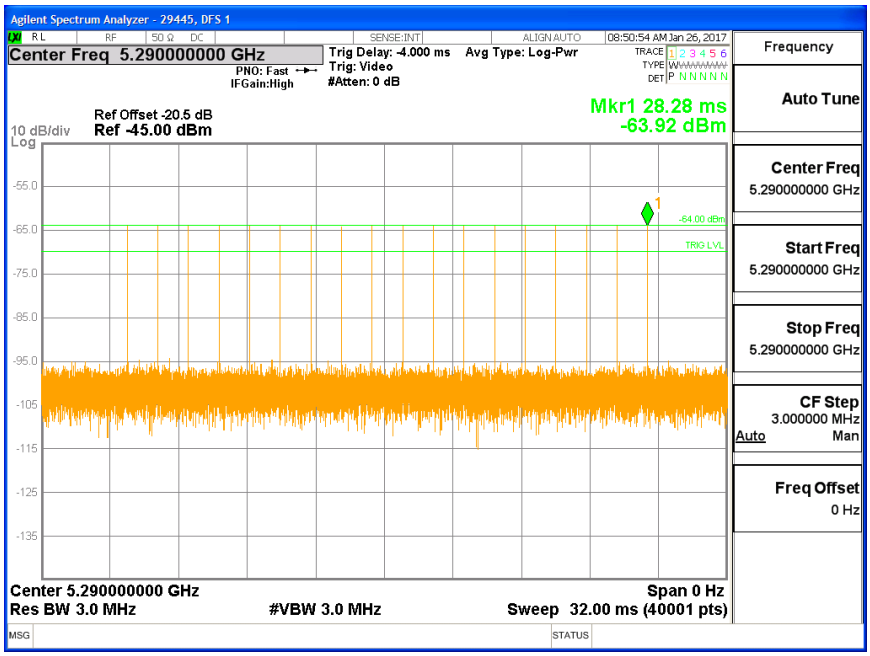
5.5.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5290 MHz.

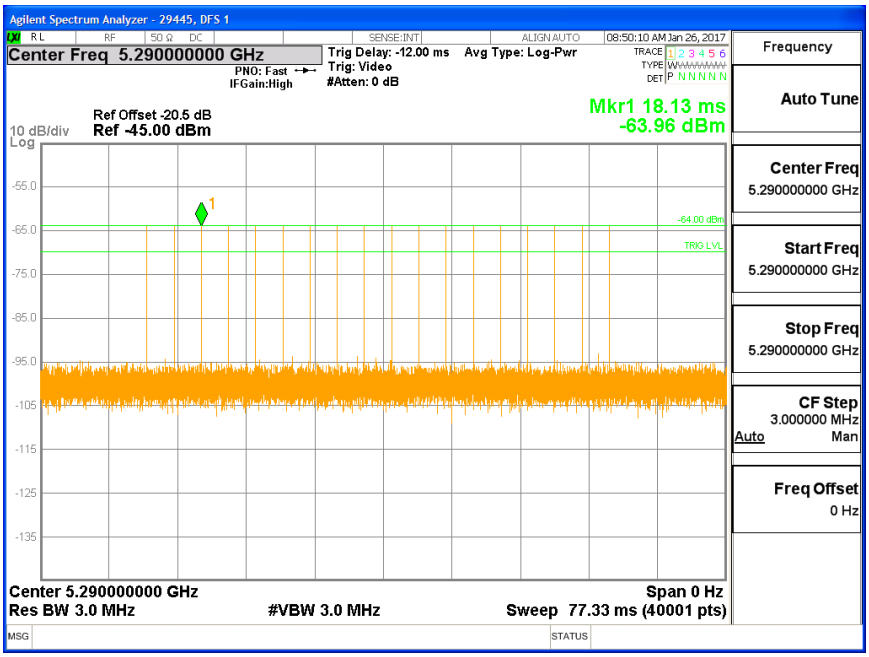
5.5.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS

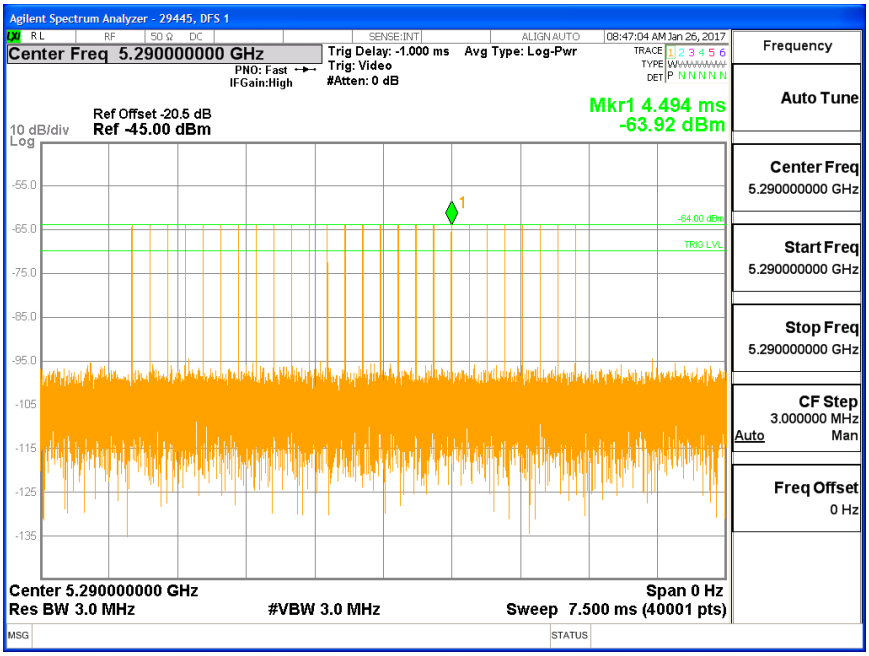
SHORT PULSE RADAR TYPE 0



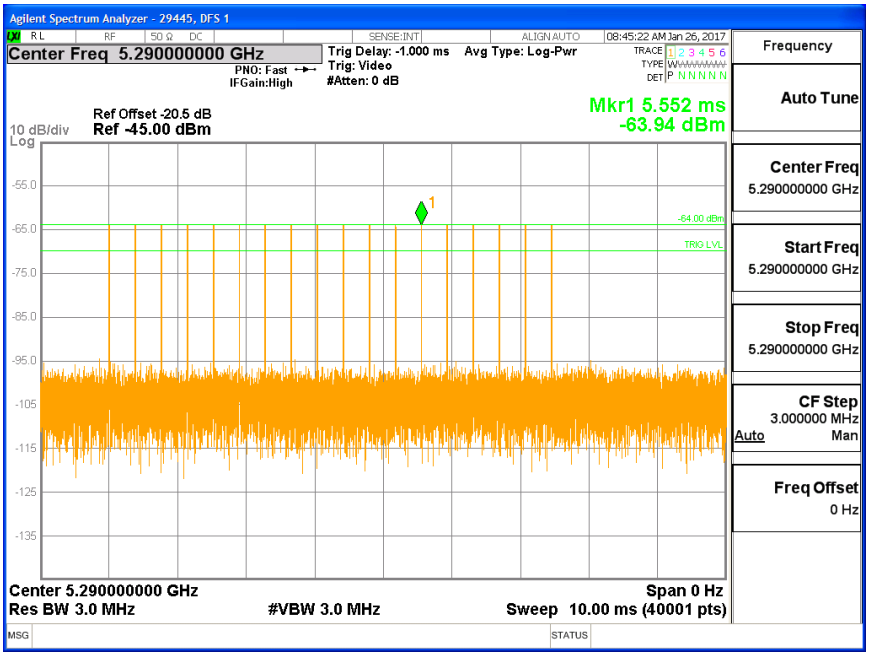
SAMPLE OF RADAR TYPE 1



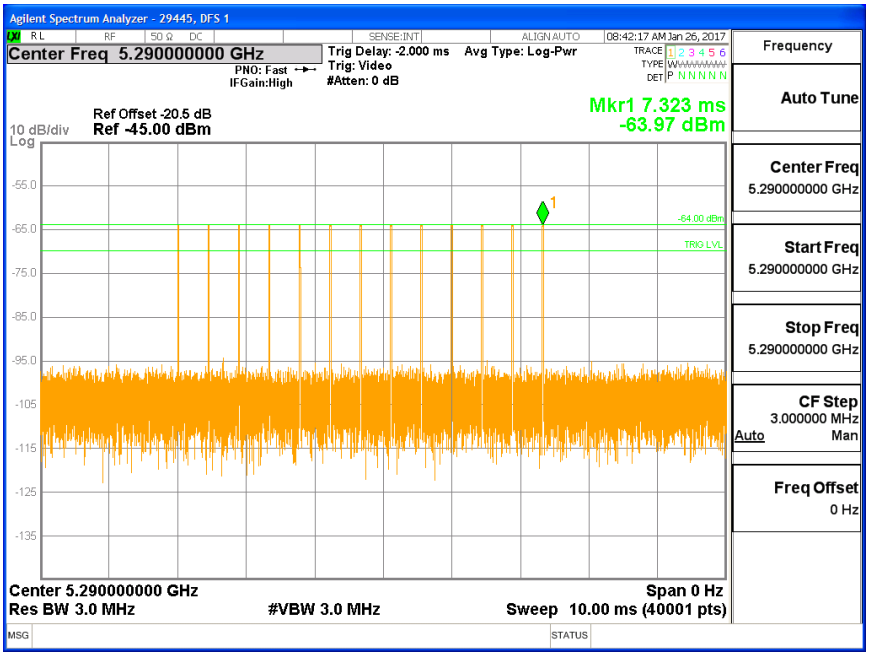
SAMPLE OF RADAR TYPE 2



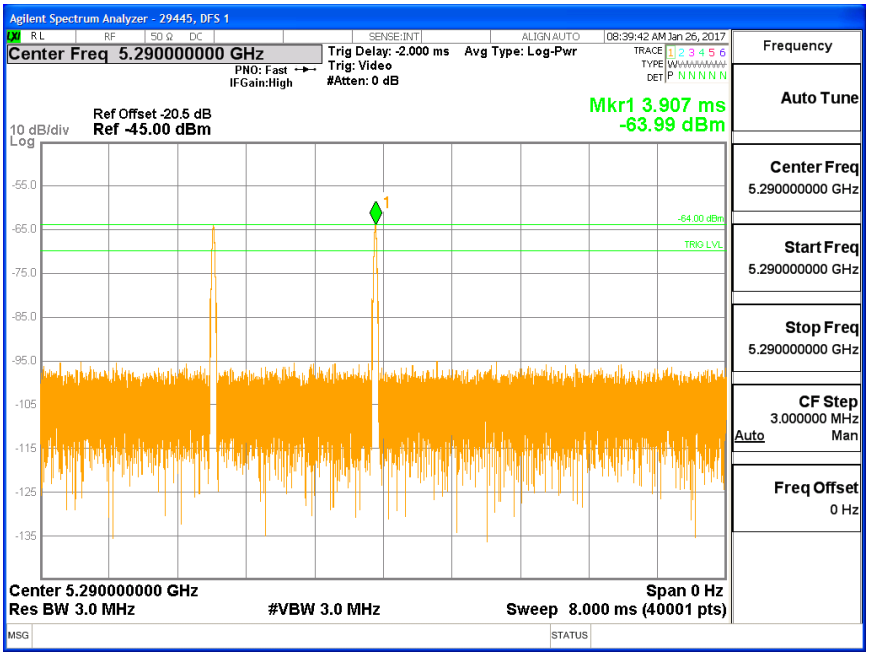
SAMPLE OF RADAR TYPE 3



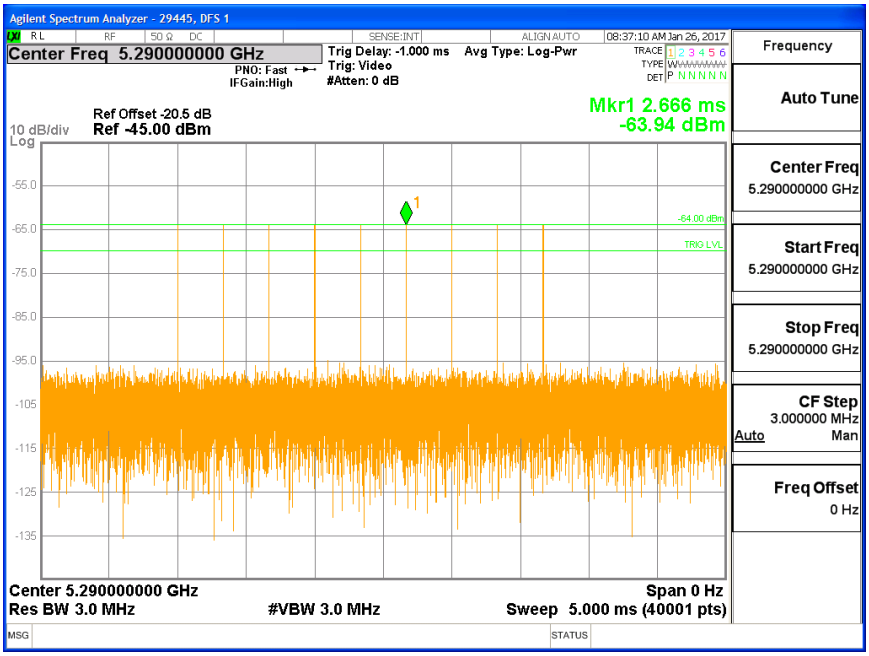
SAMPLE OF RADAR TYPE 4



SAMPLE OF SINGLE BURST OF RADAR TYPE 5

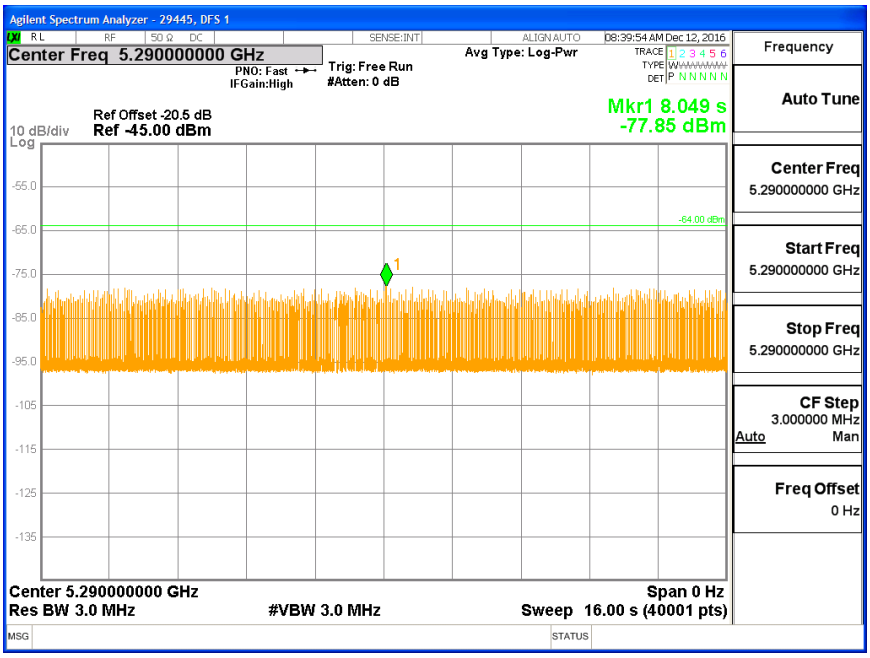


SINGLE BURST OF RADAR TYPE 6

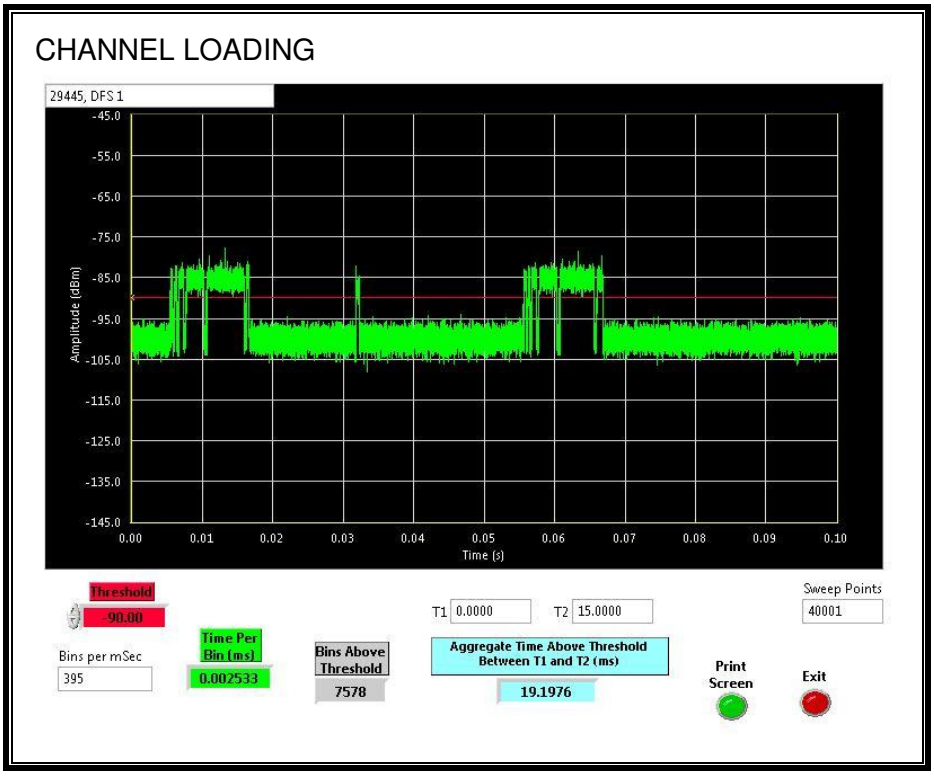


TRAFFIC

TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 19.19%

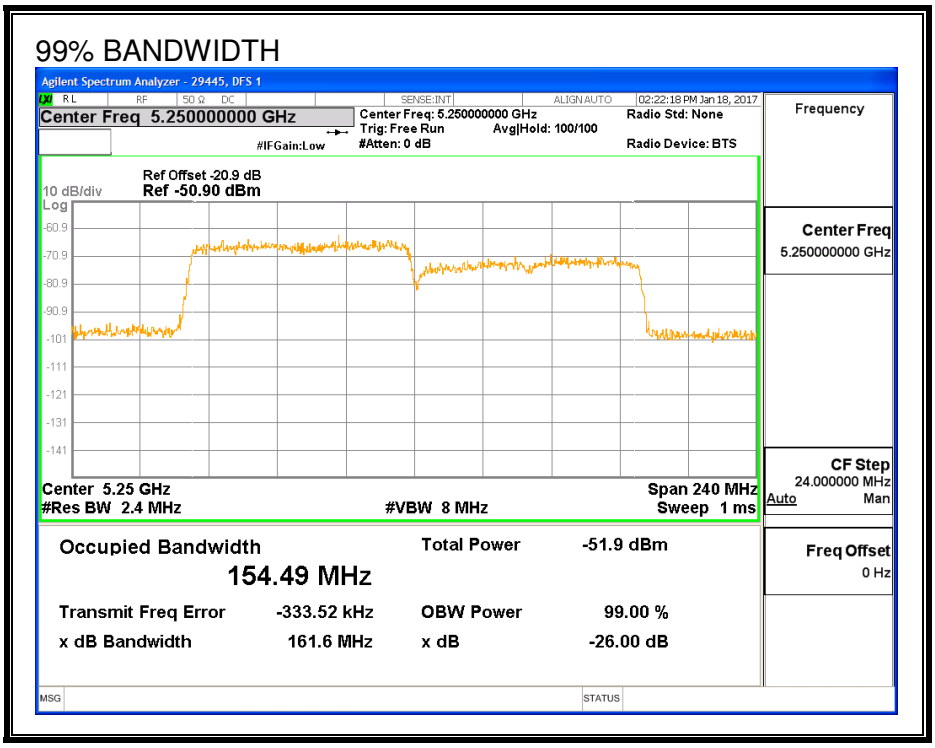
5.5.3. OVERLAPPING CHANNEL TESTS

RESULTS

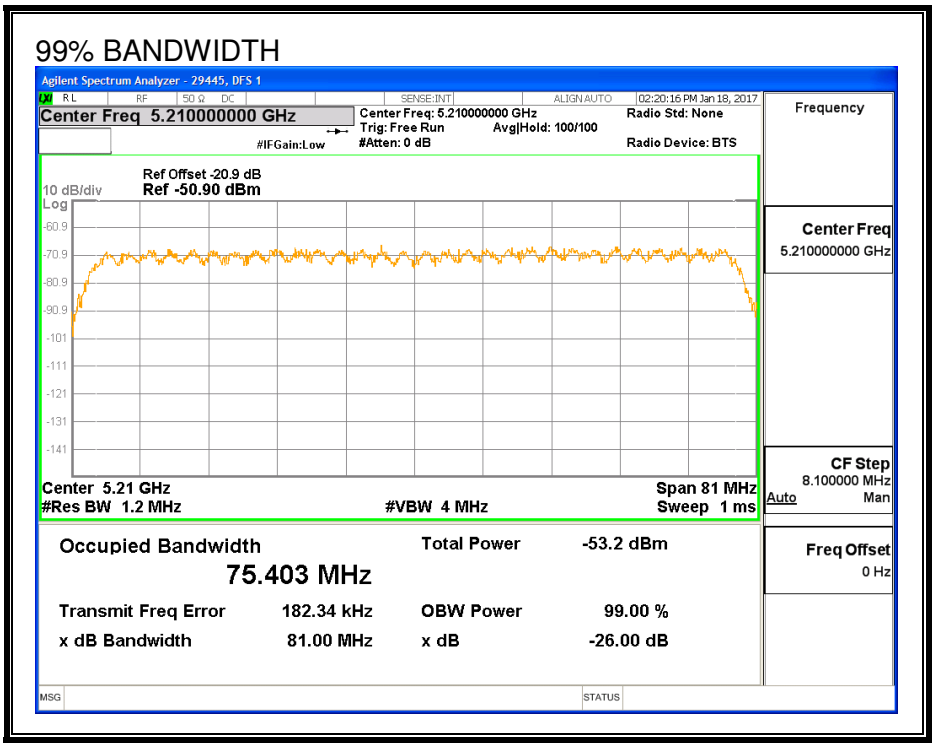
The channel spacing is not less than the channel bandwidth therefore the EUT does not have an overlapping channel plan.

5.5.4. DETECTION BANDWIDTH

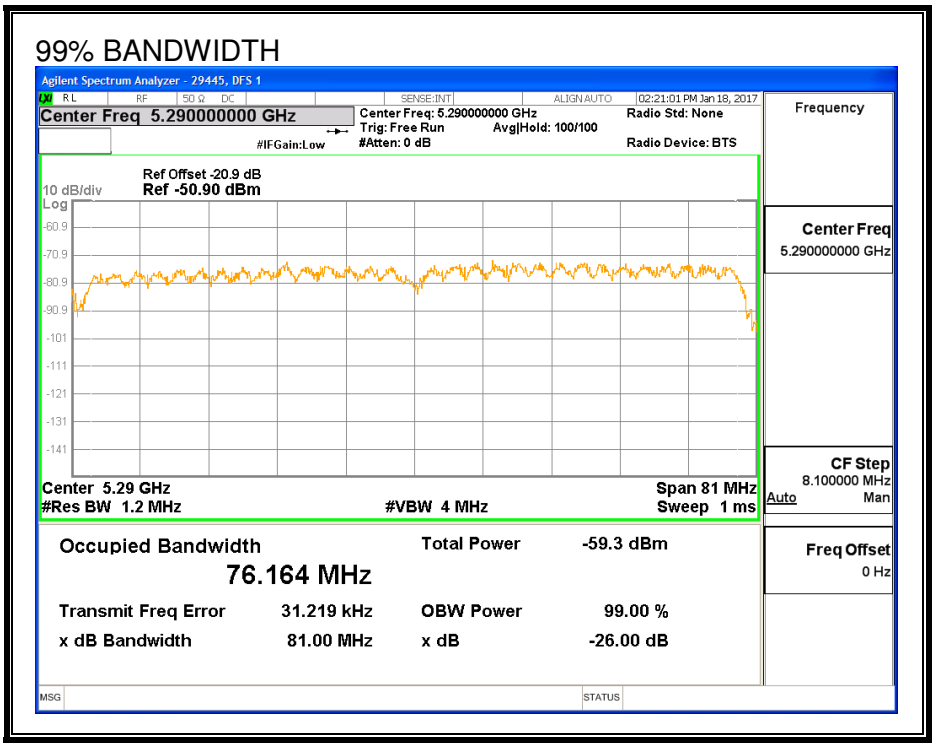
REFERENCE PLOT OF 99% POWER BANDWIDTH (80 PLUS 80 MODE)



REFERENCE PLOT OF 99% POWER BANDWIDTH (80 MHz LOW COMPONENT)



REFERENCE PLOT OF 99% POWER BANDWIDTH (80 MHz HIGH COMPONENT)



RESULTS

FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5251	5328	77	76.164	101.1	100

DETECTION BANDWIDTH PROBABILITY

DETECTION BANDWIDTH PROBABILITY RESULTS

Detection Bandwidth Test Results		29445	DFS 1	
FCC Type 0 Waveform: 1 us Pulse Width, 1428 us PRI, 18 Pulses per Burst				
Frequency (MHz)	Number of Trials	Number Detected	Detection (%)	Mark
5251	10	10	100	FL
5252	10	10	100	
5253	10	10	100	
5254	10	10	100	
5255	10	10	100	
5260	10	10	100	
5265	10	10	100	
5270	10	10	100	
5275	10	10	100	
5280	10	10	100	
5285	10	10	100	
5290	10	10	100	
5295	10	10	100	
5300	10	10	100	
5305	10	10	100	
5310	10	10	100	
5315	10	10	100	
5320	10	10	100	
5325	10	10	100	
5326	10	10	100	
5327	10	10	100	
5328	10	10	100	FH

5.5.5. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summary

Signal Type	Number of Trials	Detection (%)	Limit (%)	Pass/Fail	Detection Bandwidth FL	Detection Bandwidth FH	OBW	Test Location	Employee Number	In-Service Monitoring Version
FCC Short Pulse Type 1	30	100.00	60	Pass	5251	5328	76.16	DFS 1	29445	Version 3.0
FCC Short Pulse Type 2	30	90.00	60	Pass	5251	5328	76.16	DFS 1	29445	Version 3.0
FCC Short Pulse Type 3	30	80.00	60	Pass	5251	5328	76.16	DFS 1	29445	Version 3.0
FCC Short Pulse Type 4	30	83.33	60	Pass	5251	5328	76.16	DFS 1	29445	Version 3.0
Aggregate		88.33	80	Pass						
FCC Long Pulse Type 5	30	96.67	80	Pass	5251	5328	76.16	DFS 1	29445	Version 3.0
FCC Hopping Type 6	78	97.44	70	Pass	5251	5328	76.16	DFS 1	29445	Version 3.0

TYPE 1 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 1						
Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Test (A/B)	Frequency (MHz)	Successful Detection (Yes/No)
1001	1	3066	18	A	5290	Yes
1002	1	578	92	A	5290	Yes
1003	1	598	89	A	5290	Yes
1004	1	718	74	A	5290	Yes
1005	1	678	78	A	5290	Yes
1006	1	818	65	A	5290	Yes
1007	1	778	68	A	5290	Yes
1008	1	838	63	A	5290	Yes
1009	1	698	76	A	5290	Yes
1010	1	518	102	A	5290	Yes
1011	1	658	81	A	5290	Yes
1012	1	798	67	A	5290	Yes
1013	1	898	59	A	5290	Yes
1014	1	618	86	A	5290	Yes
1015	1	738	72	A	5290	Yes
1016	1	1638	33	B	5290	Yes
1017	1	2465	22	B	5290	Yes
1018	1	1226	44	B	5290	Yes
1019	1	2182	25	B	5290	Yes
1020	1	1073	50	B	5290	Yes
1021	1	964	55	B	5290	Yes
1022	1	2532	21	B	5290	Yes
1023	1	2553	21	B	5290	Yes
1024	1	1703	31	B	5290	Yes
1025	1	1291	41	B	5290	Yes
1026	1	2924	19	B	5290	Yes
1027	1	1138	47	B	5290	Yes
1028	1	2900	19	B	5290	Yes
1029	1	2597	21	B	5290	Yes
1030	1	747	71	B	5290	Yes

TYPE 2 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 2

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
2001	3.8	194	26	5290	Yes
2002	2.8	188	26	5290	Yes
2003	1.1	154	24	5290	Yes
2004	2.2	195	24	5290	Yes
2005	3	208	23	5290	Yes
2006	2.4	172	27	5290	Yes
2007	3.3	189	26	5290	Yes
2008	2.9	157	27	5290	No
2009	2.2	222	27	5290	Yes
2010	4.2	156	28	5290	Yes
2011	3.6	182	25	5290	Yes
2012	3.6	163	26	5290	Yes
2013	1.4	155	27	5290	Yes
2014	3.8	178	29	5290	Yes
2015	1.7	217	23	5290	Yes
2016	4.3	206	29	5290	No
2017	4.7	168	24	5290	Yes
2018	1.5	162	23	5290	Yes
2019	3.9	209	29	5290	Yes
2020	3.1	169	29	5290	Yes
2021	1.7	182	28	5290	No
2022	1.1	227	24	5290	Yes
2023	2	164	28	5290	Yes
2024	3.8	213	25	5290	Yes
2025	5	196	28	5290	Yes
2026	2.9	211	26	5290	Yes
2027	2.3	199	23	5290	Yes
2028	4.5	218	24	5290	Yes
2029	4.2	210	25	5290	Yes
2030	2.5	195	27	5290	Yes

TYPE 3 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 3

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
3001	9.5	379	18	5290	Yes
3002	6.1	347	17	5290	Yes
3003	8.4	480	18	5290	Yes
3004	9.3	460	18	5290	No
3005	7.6	488	17	5290	Yes
3006	6.8	395	16	5290	Yes
3007	8.1	436	16	5290	Yes
3008	7.5	325	17	5290	Yes
3009	6.5	378	16	5290	No
3010	6.1	413	17	5290	Yes
3011	7.3	479	16	5290	Yes
3012	9.2	275	18	5290	Yes
3013	8.7	488	17	5290	No
3014	6.8	297	16	5290	Yes
3015	6.5	271	18	5290	Yes
3016	8.9	477	18	5290	Yes
3017	6.8	464	16	5290	Yes
3018	7.5	432	16	5290	Yes
3019	9.8	314	16	5290	Yes
3020	6.5	294	16	5290	Yes
3021	9	323	18	5290	Yes
3022	8.2	316	17	5290	Yes
3023	9	357	16	5290	Yes
3024	6.2	496	16	5290	Yes
3025	9.3	299	18	5290	No
3026	8.9	333	17	5290	Yes
3027	6	400	18	5290	Yes
3028	7.9	447	17	5290	No
3029	7.4	408	17	5290	No
3030	9.6	468	18	5290	Yes

TYPE 4 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 4

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
4001	18.3	443	13	5290	Yes
4002	14.5	398	12	5290	No
4003	19.1	385	16	5290	Yes
4004	11.5	352	15	5290	Yes
4005	16.6	485	16	5290	Yes
4006	18.5	348	13	5290	Yes
4007	14.9	494	15	5290	Yes
4008	13.1	370	12	5290	Yes
4009	14.8	277	16	5290	Yes
4010	13.4	417	14	5290	No
4011	15.5	470	14	5290	Yes
4012	14.6	254	12	5290	Yes
4013	13	320	14	5290	Yes
4014	12.5	368	15	5290	Yes
4015	11.3	329	13	5290	No
4016	16.2	389	14	5290	Yes
4017	15.5	363	12	5290	Yes
4018	16.5	318	16	5290	Yes
4019	16.2	305	14	5290	Yes
4020	17.7	273	13	5290	No
4021	13.7	406	12	5290	Yes
4022	15.6	269	12	5290	Yes
4023	16.9	415	13	5290	Yes
4024	19.3	290	16	5290	Yes
4025	11.9	449	15	5290	Yes
4026	19.6	337	13	5290	Yes
4027	12.7	273	12	5290	Yes
4028	11.7	425	13	5290	Yes
4029	14.9	374	15	5290	No
4030	14.5	421	16	5290	Yes

TYPE 5 DETECTION PROBABILITY

Data Sheet for FCC Long Pulse Radar Type 5		
Trial	Frequency (MHz)	Successful Detection (Yes/No)
1	5290	Yes
2	5290	Yes
3	5290	Yes
4	5290	Yes
5	5290	Yes
6	5290	Yes
7	5290	Yes
8	5290	Yes
9	5290	Yes
10	5290	Yes
11	5258	Yes
12	5258	Yes
13	5261	Yes
14	5259	Yes
15	5256	Yes
16	5258	Yes
17	5260	Yes
18	5259	Yes
19	5258	Yes
20	5260	Yes
21	5323	No
22	5322	Yes
23	5322	Yes
24	5320	Yes
25	5322	Yes
26	5322	Yes
27	5324	Yes
28	5320	Yes
29	5324	Yes
30	5322	Yes

Note: The Type 5 randomized parameters tested are shown in a separate document.

TYPE 6 DETECTION PROBABILITY

Data Sheet for FCC Hopping Radar Type 6
1 us Pulse Width, 333 us PRI, 9 Pulses per Burst, 1 Burst per Hop
NTIA August 2005 Hopping Sequence

Trial	Starting Index Within Sequence	Signal Generator Frequency (MHz)	Hops within Detection BW	Successful Detection (Yes/No)
1	296	5251	18	No
2	771	5252	21	No
3	1246	5253	13	Yes
4	1721	5254	10	Yes
5	2196	5255	21	Yes
6	2671	5256	17	Yes
7	3146	5257	16	Yes
8	3621	5258	13	Yes
9	4096	5259	20	Yes
10	4571	5260	18	Yes
11	5046	5261	17	Yes
12	5521	5262	20	Yes
13	5996	5263	14	Yes
14	6471	5264	15	Yes
15	6946	5265	11	Yes
16	7421	5266	20	Yes
17	7896	5267	14	Yes
18	8371	5268	13	Yes
19	8846	5269	15	Yes
20	9321	5270	19	Yes
21	9796	5271	17	Yes
22	10271	5272	16	Yes
23	10746	5273	11	Yes
24	11221	5274	13	Yes
25	11696	5275	16	Yes
26	12171	5276	14	Yes
27	12646	5277	17	Yes
28	13121	5278	12	Yes
29	13596	5279	18	Yes
30	14071	5280	15	Yes
31	14546	5281	18	Yes
32	15021	5282	13	Yes
33	15496	5283	14	Yes
34	15971	5284	18	Yes
35	16446	5285	18	Yes
36	16921	5286	18	Yes
37	17396	5287	19	Yes
38	17871	5288	15	Yes
39	18346	5289	19	Yes

TYPE 6 DETECTION PROBABILITY (CONTINUED)

40	18821	5290	18	Yes
41	19296	5291	14	Yes
42	19771	5292	12	Yes
43	20246	5293	18	Yes
44	20721	5294	16	Yes
45	21196	5295	12	Yes
46	21671	5296	12	Yes
47	22146	5297	13	Yes
48	22621	5298	19	Yes
49	23096	5299	17	Yes
50	23571	5300	16	Yes
51	24046	5301	13	Yes
52	24521	5302	19	Yes
53	24996	5303	25	Yes
54	25471	5304	19	Yes
55	25946	5305	24	Yes
56	26421	5306	20	Yes
57	26896	5307	13	Yes
58	27371	5308	12	Yes
59	27846	5309	19	Yes
60	28321	5310	19	Yes
61	28796	5311	11	Yes
62	29271	5312	13	Yes
63	29746	5313	19	Yes
64	30221	5314	17	Yes
65	30696	5315	13	Yes
66	31171	5316	19	Yes
67	31646	5317	16	Yes
68	32121	5318	16	Yes
69	32596	5319	15	Yes
70	33071	5320	20	Yes
71	33546	5321	16	Yes
72	34021	5322	17	Yes
73	34496	5323	16	Yes
74	34971	5324	12	Yes
75	35446	5325	13	Yes
76	35921	5326	15	Yes
77	36396	5327	18	Yes
78	36871	5328	19	Yes

5.6. HIGH BAND RESULTS FOR 20 MHz BANDWIDTH

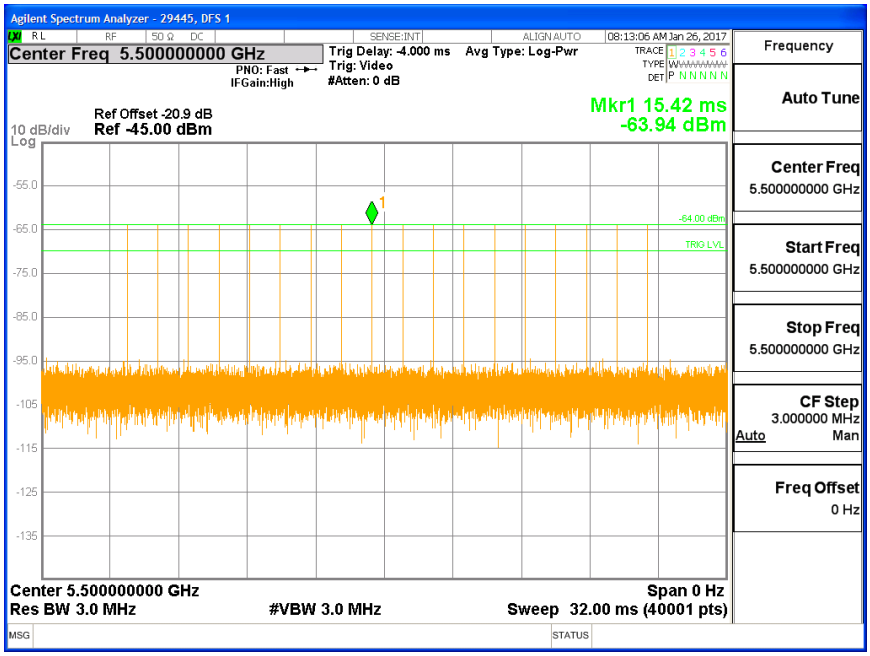
5.6.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5500 MHz.

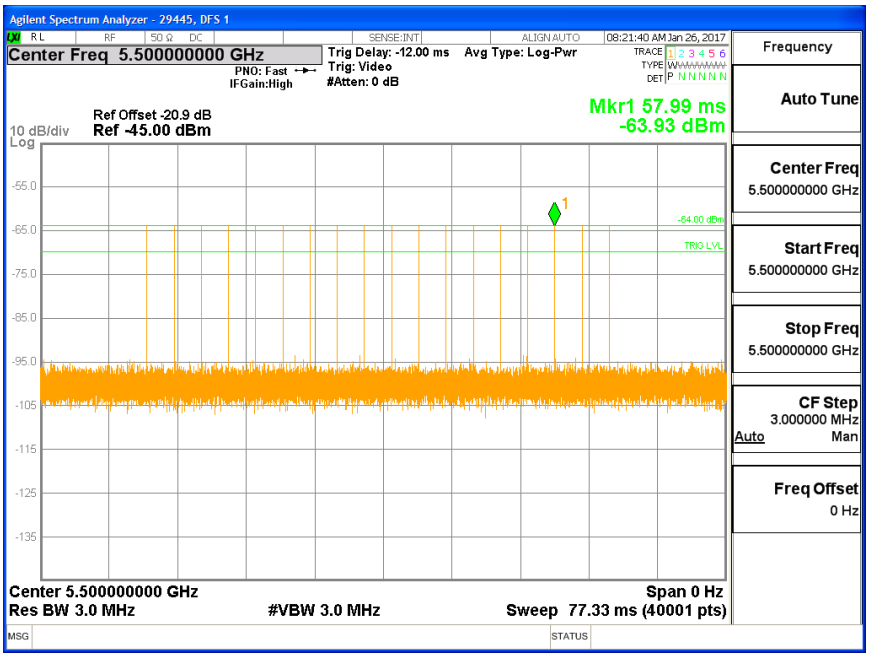
5.6.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS

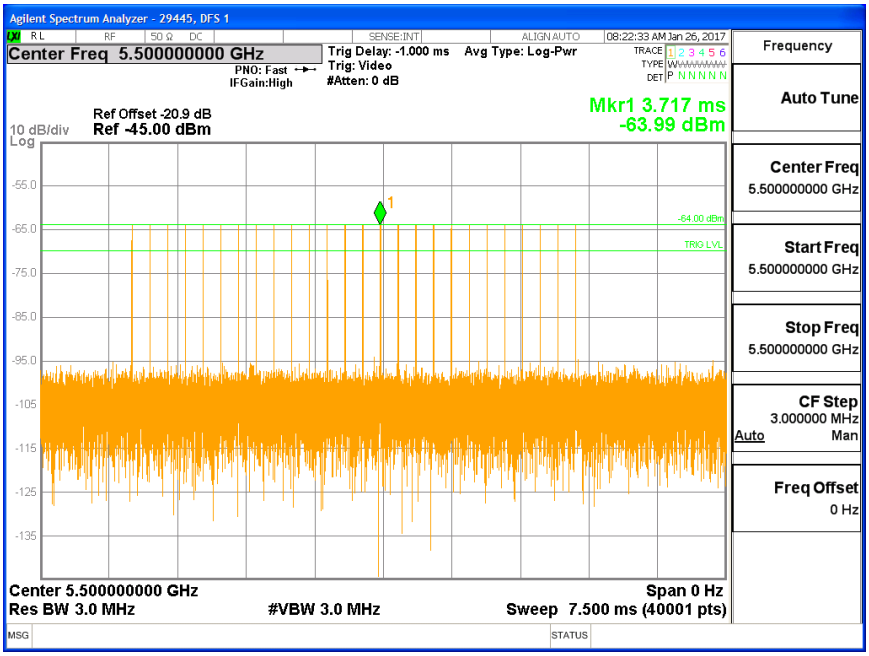
SHORT PULSE RADAR TYPE 0



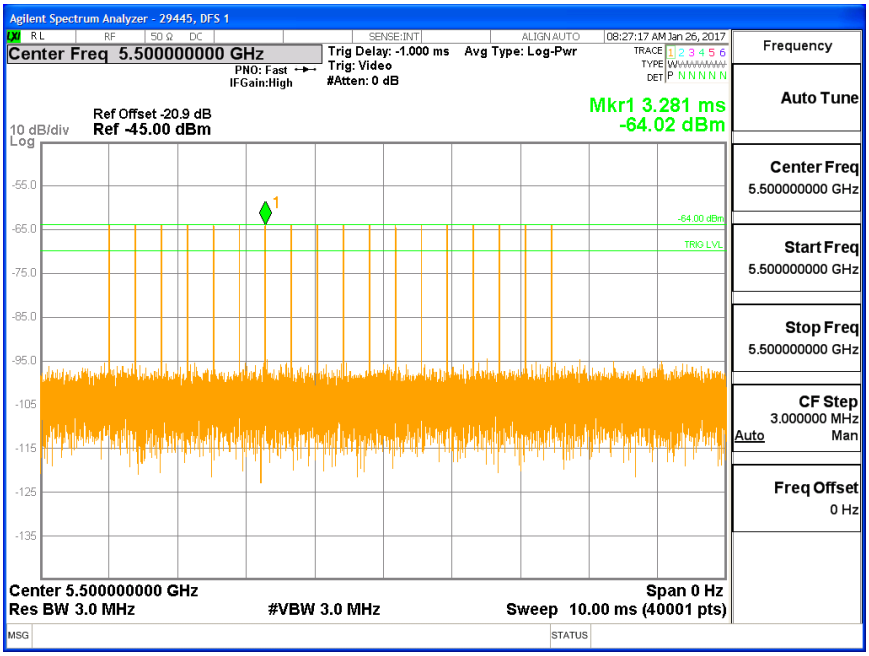
SAMPLE OF RADAR TYPE 1



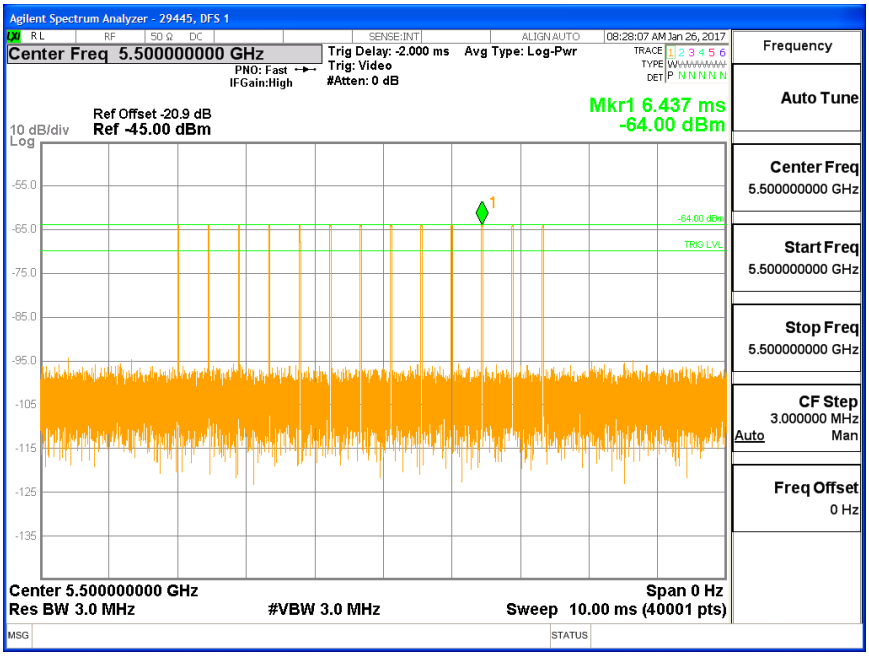
SAMPLE OF RADAR TYPE 2



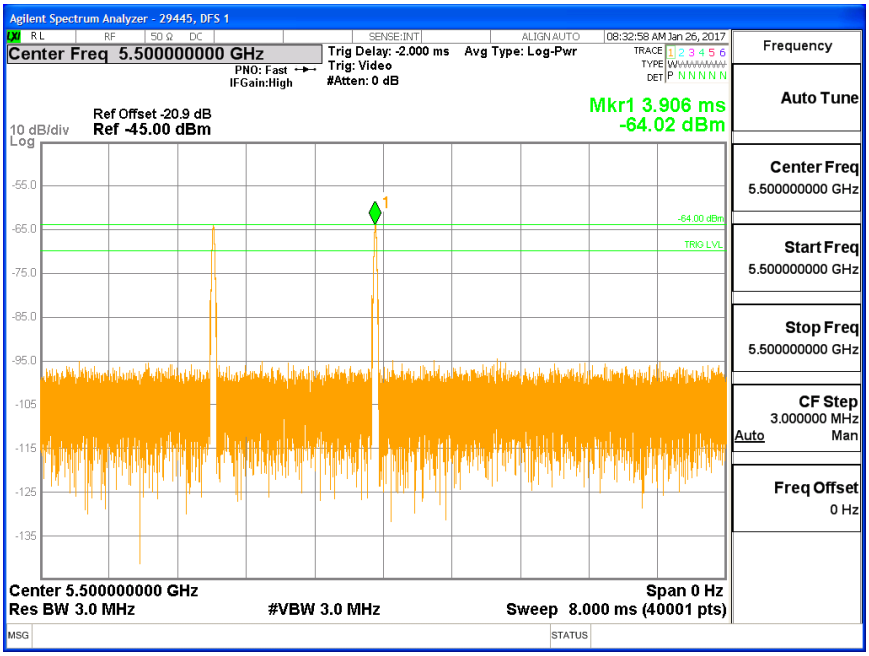
SAMPLE OF RADAR TYPE 3



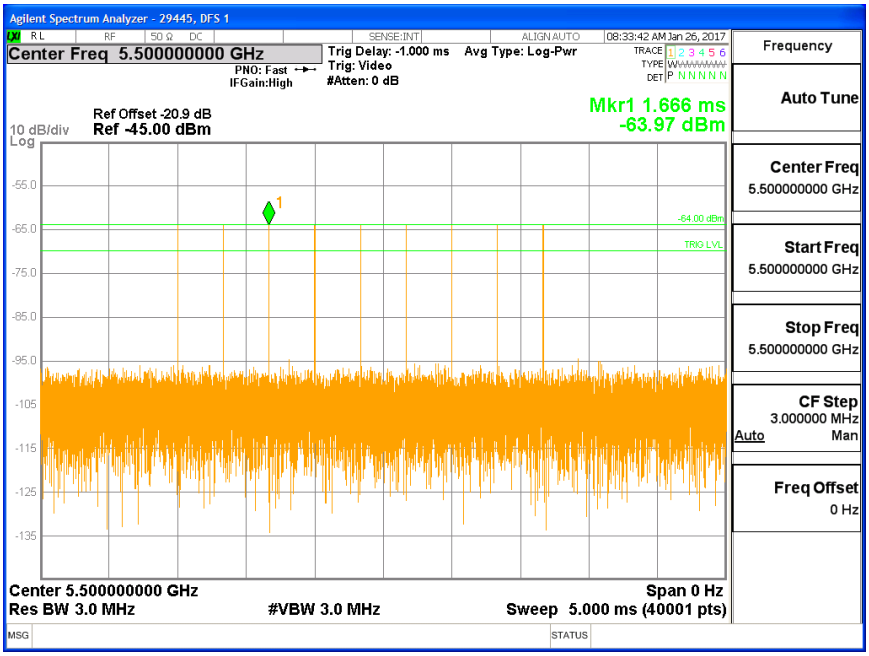
SAMPLE OF RADAR TYPE 4



SAMPLE OF SINGLE BURST OF RADAR TYPE 5

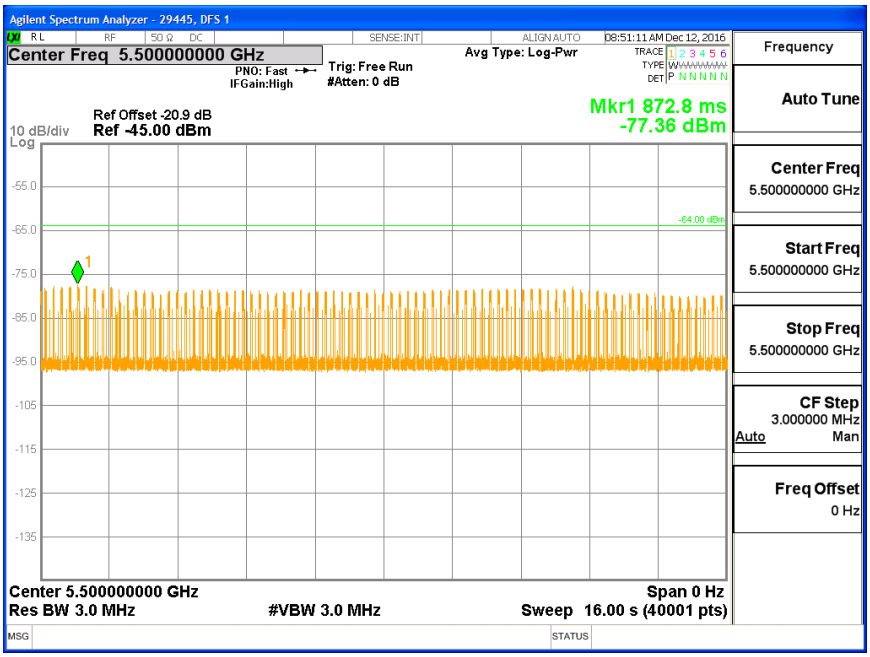


SINGLE BURST OF RADAR TYPE 6

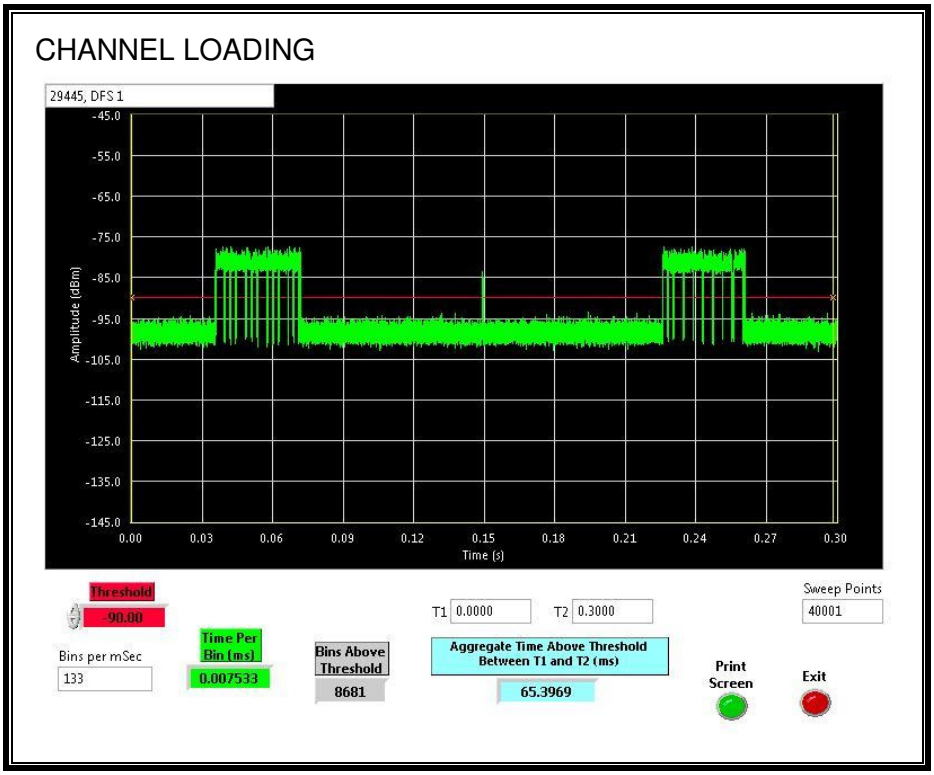


TRAFFIC

TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 21.78%

5.6.3. OVERLAPPING CHANNEL TESTS

RESULTS

The channel spacing is not less than the channel bandwidth therefore the EUT does not have an overlapping channel plan.

5.6.4. MOVE AND CLOSING TIME

REPORTING NOTES

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

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)

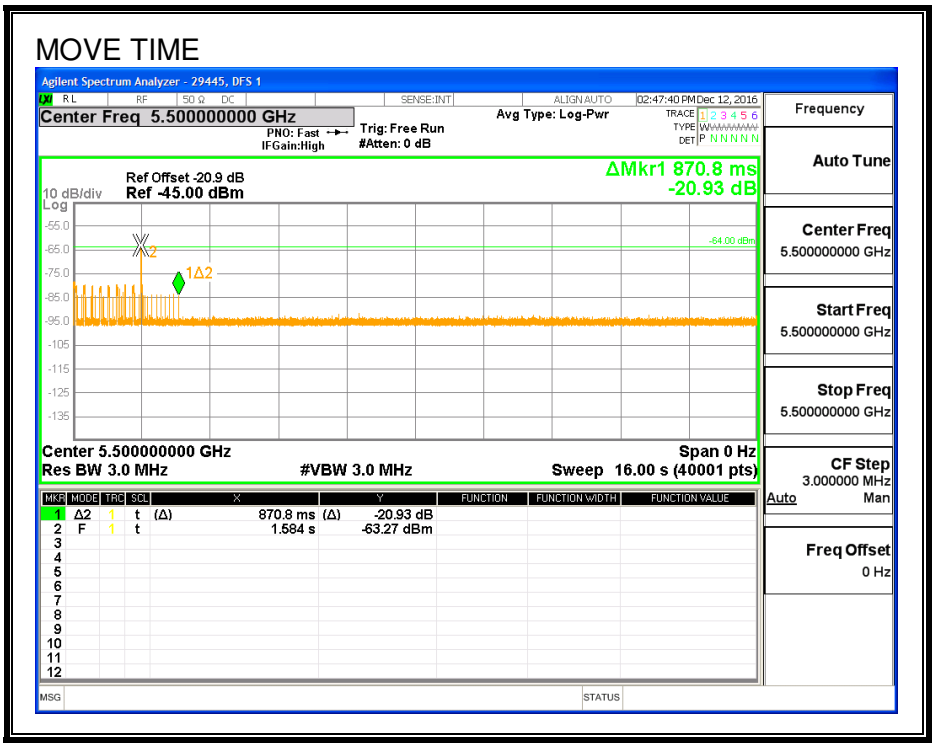
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

Channel Move Time (sec)	Limit (sec)
0.8708	10

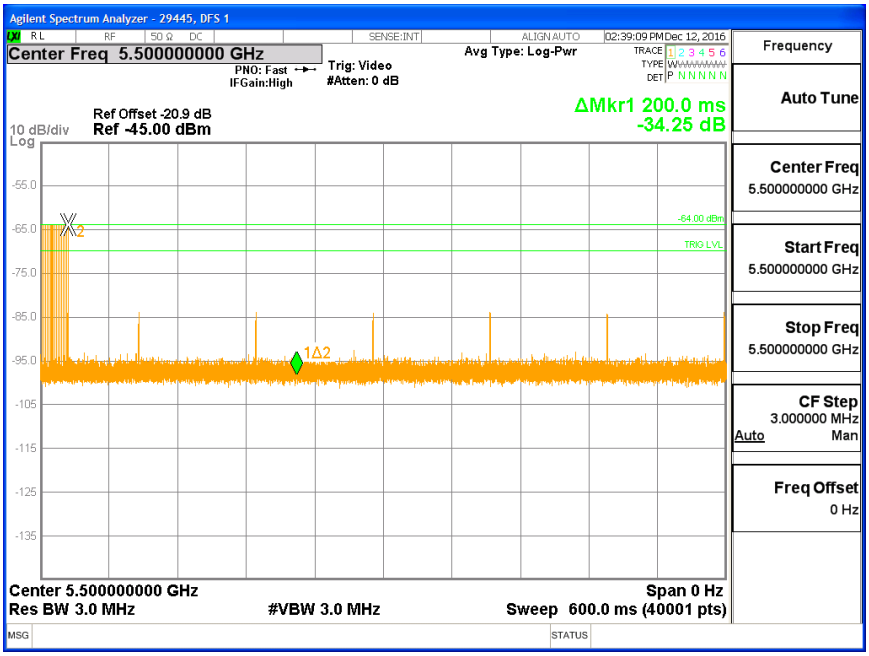
Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
8.4	60

MOVE TIME



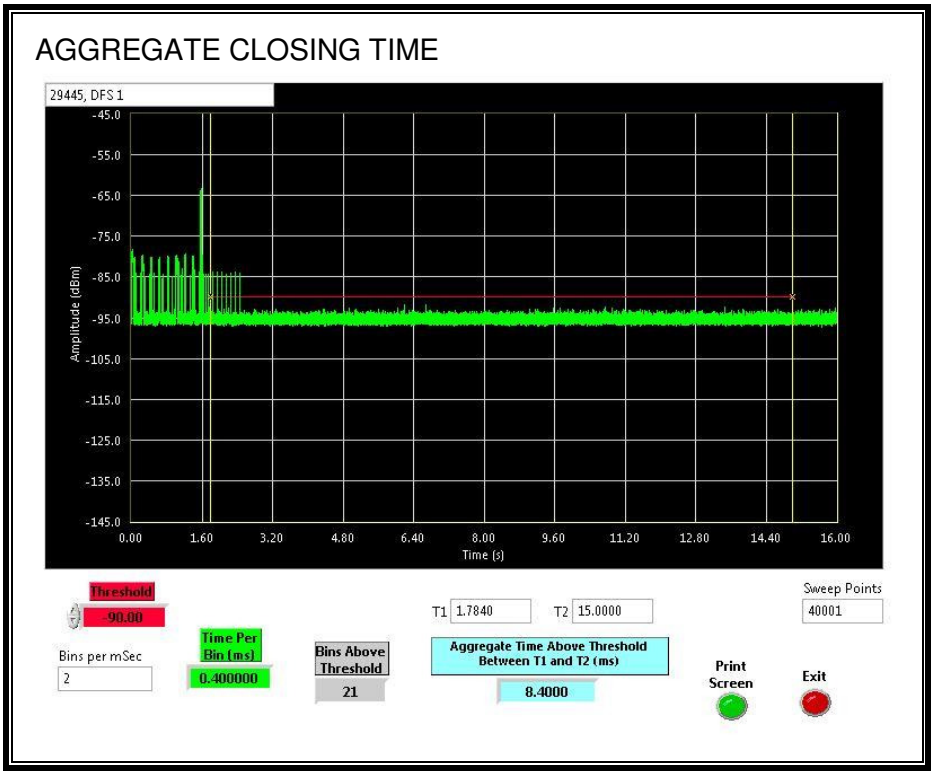
CHANNEL CLOSING TIME

CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

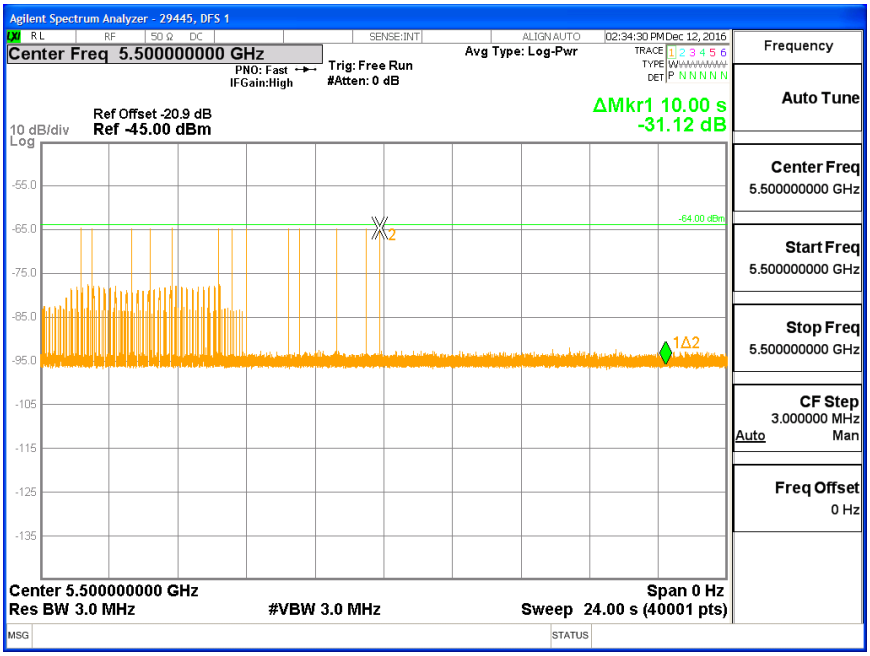
Only intermittent transmissions are observed during the aggregate monitoring period.



LONG PULSE CHANNEL MOVE TIME

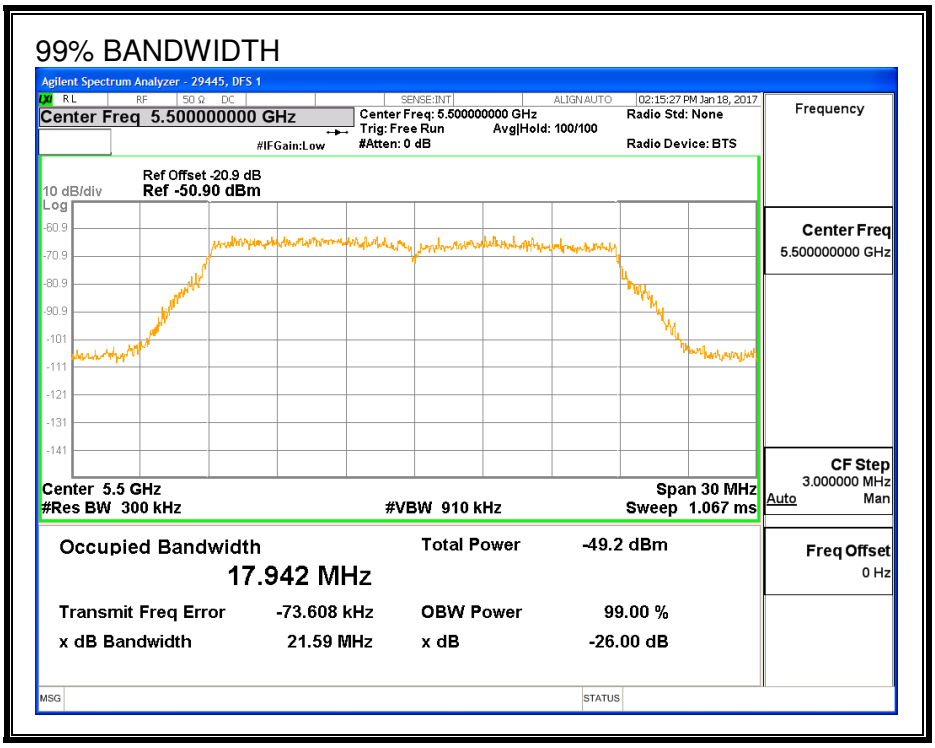
The traffic ceases prior to 10 seconds after the end of the radar waveform.

MOVE TIME FOR LONG PULSE RADAR



5.6.5. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



RESULTS

FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5490	5509	19	17.942	105.9	100

DETECTION BANDWIDTH PROBABILITY

DETECTION BANDWIDTH PROBABILITY RESULTS

Detection Bandwidth Test Results		29445	DFS 1	
FCC Type 0 Waveform: 1 us Pulse Width, 1428 us PRI, 18 Pulses per Burst				
Frequency (MHz)	Number of Trials	Number Detected	Detection (%)	Mark
5490	10	10	100	FL
5495	10	10	100	
5500	10	10	100	
5505	10	10	100	
5506	10	10	100	
5507	10	9	90	
5508	10	10	100	
5509	10	10	100	FH

5.6.6. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summary

Signal Type	Number of Trials	Detection (%)	Limit (%)	Pass/Fail	Detection Bandwidth FL	Detection Bandwidth FH	OBW	Test Location	Employee Number	In-Service Monitoring Version
FCC Short Pulse Type 1	30	90.00	60	Pass	5490	5509	17.94	DFS 1	29445	Version 3.0
FCC Short Pulse Type 2	30	90.00	60	Pass	5490	5509	17.94	DFS 1	29445	Version 3.0
FCC Short Pulse Type 3	30	80.00	60	Pass	5490	5509	17.94	DFS 1	29445	Version 3.0
FCC Short Pulse Type 4	30	73.33	60	Pass	5490	5509	17.94	DFS 1	29445	Version 3.0
Aggregate		83.33	80	Pass						
FCC Long Pulse Type 5	30	93.33	80	Pass	5490	5509	17.94	DFS 1	29445	Version 3.0
FCC Hopping Type 6	40	95.00	70	Pass	5490	5509	17.94	DFS 1	29445	Version 3.0

TYPE 1 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 1

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Test (A/B)	Frequency (MHz)	Successful Detection (Yes/No)
1001	1	3066	18	A	5500	No
1002	1	578	92	A	5500	Yes
1003	1	598	89	A	5500	Yes
1004	1	718	74	A	5500	Yes
1005	1	678	78	A	5500	Yes
1006	1	818	65	A	5500	Yes
1007	1	778	68	A	5500	Yes
1008	1	838	63	A	5500	Yes
1009	1	698	76	A	5500	Yes
1010	1	518	102	A	5500	Yes
1011	1	658	81	A	5500	Yes
1012	1	798	67	A	5500	Yes
1013	1	898	59	A	5500	Yes
1014	1	618	86	A	5500	Yes
1015	1	738	72	A	5500	Yes
1016	1	1638	33	B	5500	Yes
1017	1	2465	22	B	5500	Yes
1018	1	1226	44	B	5500	Yes
1019	1	2182	25	B	5500	Yes
1020	1	1073	50	B	5500	Yes
1021	1	964	55	B	5500	Yes
1022	1	2532	21	B	5500	Yes
1023	1	2553	21	B	5500	Yes
1024	1	1703	31	B	5500	Yes
1025	1	1291	41	B	5500	Yes
1026	1	2924	19	B	5500	No
1027	1	1138	47	B	5500	Yes
1028	1	2900	19	B	5500	Yes
1029	1	2597	21	B	5500	No
1030	1	747	71	B	5500	Yes

TYPE 2 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 2

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
2001	3.8	194	26	5500	No
2002	2.8	188	26	5500	Yes
2003	1.1	154	24	5500	Yes
2004	2.2	195	24	5500	Yes
2005	3	208	23	5500	Yes
2006	2.4	172	27	5500	Yes
2007	3.3	189	26	5500	Yes
2008	2.9	157	27	5500	Yes
2009	2.2	222	27	5500	Yes
2010	4.2	156	28	5500	Yes
2011	3.6	182	25	5500	Yes
2012	3.6	163	26	5500	Yes
2013	1.4	155	27	5500	Yes
2014	3.8	178	29	5500	Yes
2015	1.7	217	23	5500	Yes
2016	4.3	206	29	5500	Yes
2017	4.7	168	24	5500	Yes
2018	1.5	162	23	5500	Yes
2019	3.9	209	29	5500	Yes
2020	3.1	169	29	5500	Yes
2021	1.7	182	28	5500	Yes
2022	1.1	227	24	5500	Yes
2023	2	164	28	5500	Yes
2024	3.8	213	25	5500	No
2025	5	196	28	5500	Yes
2026	2.9	211	26	5500	Yes
2027	2.3	199	23	5500	Yes
2028	4.5	218	24	5500	No
2029	4.2	210	25	5500	Yes
2030	2.5	195	27	5500	Yes

TYPE 3 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 3

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
3001	9.5	379	18	5500	Yes
3002	6.1	347	17	5500	Yes
3003	8.4	480	18	5500	Yes
3004	9.3	460	18	5500	Yes
3005	7.6	488	17	5500	No
3006	6.8	395	16	5500	Yes
3007	8.1	436	16	5500	Yes
3008	7.5	325	17	5500	Yes
3009	6.5	378	16	5500	Yes
3010	6.1	413	17	5500	Yes
3011	7.3	479	16	5500	Yes
3012	9.2	275	18	5500	No
3013	8.7	488	17	5500	No
3014	6.8	297	16	5500	Yes
3015	6.5	271	18	5500	Yes
3016	8.9	477	18	5500	Yes
3017	6.8	464	16	5500	Yes
3018	7.5	432	16	5500	Yes
3019	9.8	314	16	5500	Yes
3020	6.5	294	16	5500	Yes
3021	9	323	18	5500	Yes
3022	8.2	316	17	5500	Yes
3023	9	357	16	5500	Yes
3024	6.2	496	16	5500	No
3025	9.3	299	18	5500	Yes
3026	8.9	333	17	5500	No
3027	6	400	18	5500	No
3028	7.9	447	17	5500	Yes
3029	7.4	408	17	5500	Yes
3030	9.6	468	18	5500	Yes

TYPE 4 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 4

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
4001	18.3	443	13	5500	Yes
4002	14.5	398	12	5500	Yes
4003	19.1	385	16	5500	Yes
4004	11.5	352	15	5500	Yes
4005	16.6	485	16	5500	Yes
4006	18.5	348	13	5500	Yes
4007	14.9	494	15	5500	No
4008	13.1	370	12	5500	Yes
4009	14.8	277	16	5500	Yes
4010	13.4	417	14	5500	Yes
4011	15.5	470	14	5500	No
4012	14.6	254	12	5500	No
4013	13	320	14	5500	No
4014	12.5	368	15	5500	No
4015	11.3	329	13	5500	Yes
4016	16.2	389	14	5500	No
4017	15.5	363	12	5500	No
4018	16.5	318	16	5500	No
4019	16.2	305	14	5500	Yes
4020	17.7	273	13	5500	Yes
4021	13.7	406	12	5500	Yes
4022	15.6	269	12	5500	Yes
4023	16.9	415	13	5500	Yes
4024	19.3	290	16	5500	Yes
4025	11.9	449	15	5500	Yes
4026	19.6	337	13	5500	Yes
4027	12.7	273	12	5500	Yes
4028	11.7	425	13	5500	Yes
4029	14.9	374	15	5500	Yes
4030	14.5	421	16	5500	Yes

TYPE 5 DETECTION PROBABILITY

Data Sheet for FCC Long Pulse Radar Type 5		
Trial	Frequency (MHz)	Successful Detection (Yes/No)
1	5500	No
2	5500	Yes
3	5500	Yes
4	5500	Yes
5	5500	Yes
6	5500	Yes
7	5500	Yes
8	5500	Yes
9	5500	Yes
10	5500	Yes
11	5497	Yes
12	5497	Yes
13	5500	Yes
14	5498	Yes
15	5495	Yes
16	5497	Yes
17	5499	Yes
18	5498	Yes
19	5497	Yes
20	5499	Yes
21	5504	Yes
22	5503	Yes
23	5503	Yes
24	5501	Yes
25	5503	Yes
26	5503	Yes
27	5505	No
28	5501	Yes
29	5505	Yes
30	5503	Yes

Note: The Type 5 randomized parameters tested are shown in a separate document.

TYPE 6 DETECTION PROBABILITY

Data Sheet for FCC Hopping Radar Type 6
1 us Pulse Width, 333 us PRI, 9 Pulses per Burst, 1 Burst per Hop
NTIA August 2005 Hopping Sequence

Trial	Starting Index Within Sequence	Signal Generator Frequency (MHz)	Hops within Detection BW	Successful Detection (Yes/No)
1	347	5490	2	Yes
2	822	5491	2	Yes
3	1297	5492	7	Yes
4	1772	5493	8	Yes
5	2247	5494	4	Yes
6	2722	5495	1	Yes
7	3197	5496	2	Yes
8	3672	5497	5	Yes
9	4147	5498	4	Yes
10	4622	5499	2	Yes
11	5097	5500	2	Yes
12	5572	5501	1	Yes
13	6047	5502	4	Yes
14	6522	5503	5	Yes
15	6997	5504	2	Yes
16	7472	5505	3	Yes
17	7947	5506	2	Yes
18	8422	5507	3	Yes
19	8897	5508	7	Yes
20	9372	5509	6	Yes
21	9847	5490	3	Yes
22	10322	5491	5	Yes
23	10797	5492	6	Yes
24	11272	5493	5	Yes
25	11747	5494	2	Yes
26	12222	5495	4	Yes
27	12697	5496	4	Yes
28	13172	5497	3	Yes
29	13647	5498	3	Yes
30	14122	5499	5	Yes
31	14597	5500	3	Yes
32	15072	5501	4	Yes
33	15547	5502	2	Yes
34	16022	5503	5	Yes
35	16497	5504	8	Yes
36	16972	5505	4	Yes
37	17447	5506	3	Yes
38	17922	5507	2	No
39	18397	5508	1	No
40	18872	5509	5	Yes

5.7. HIGH BAND RESULTS FOR 40 MHz BANDWIDTH

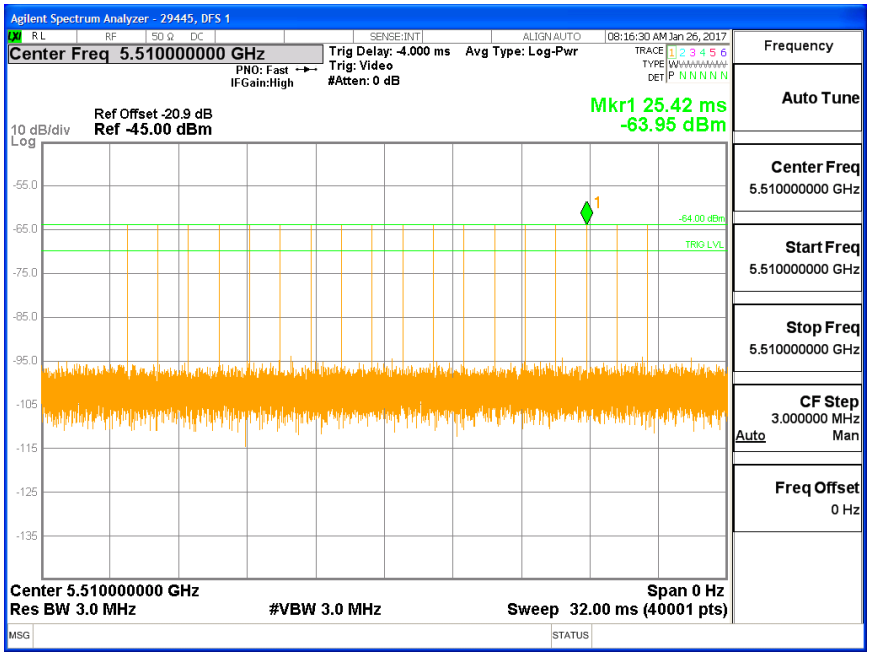
5.7.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5510 MHz.

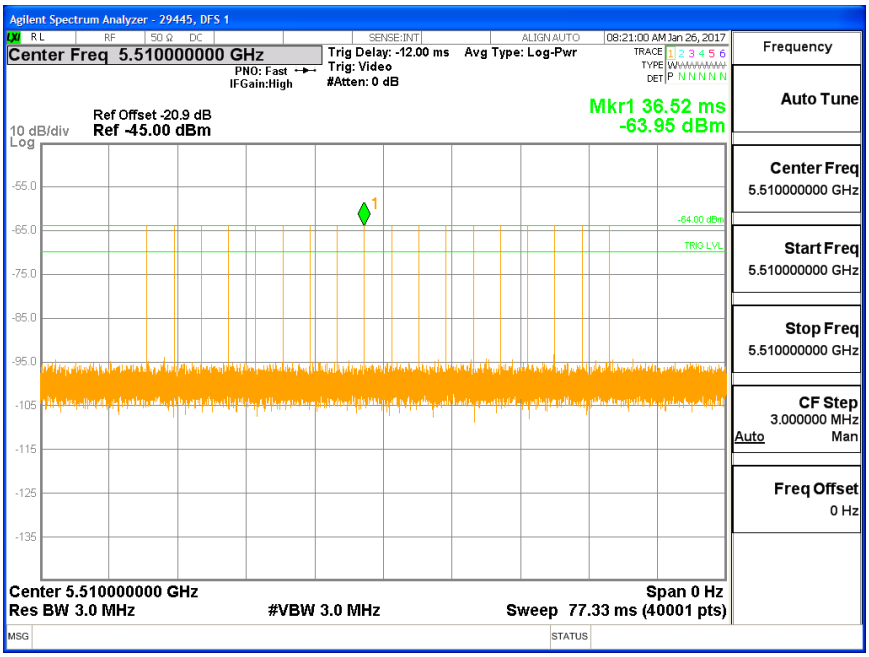
5.7.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS

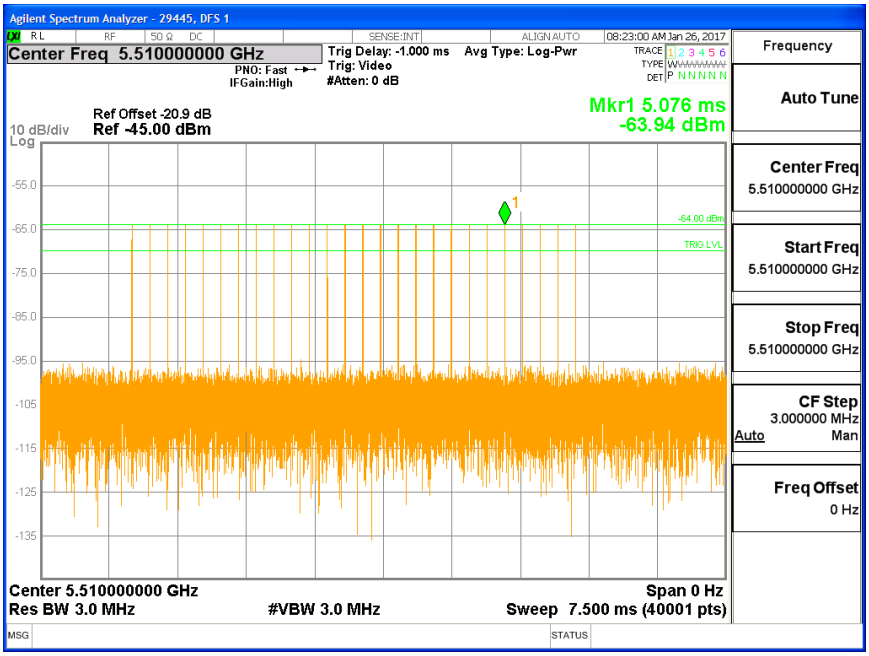
SHORT PULSE RADAR TYPE 0



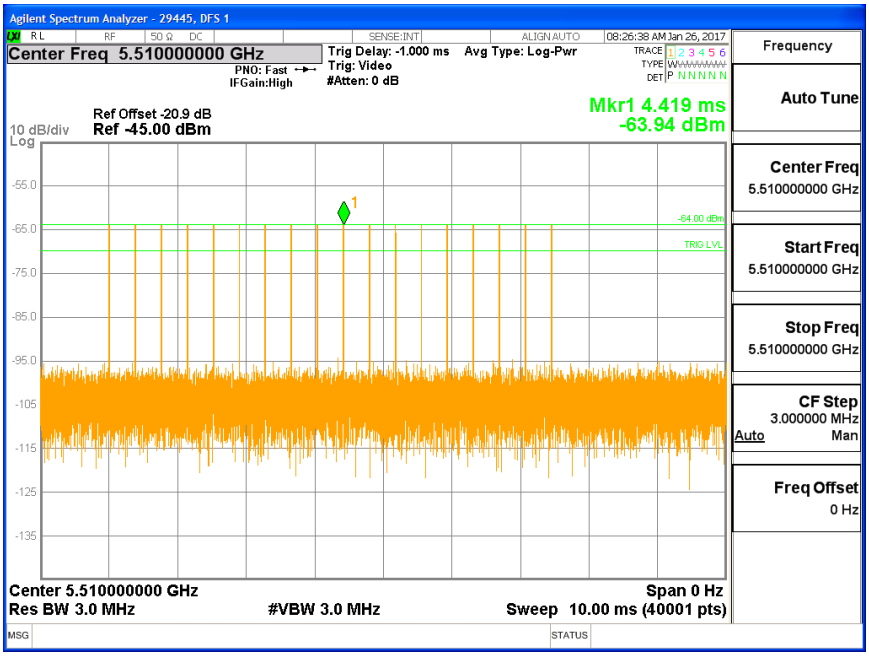
SAMPLE OF RADAR TYPE 1



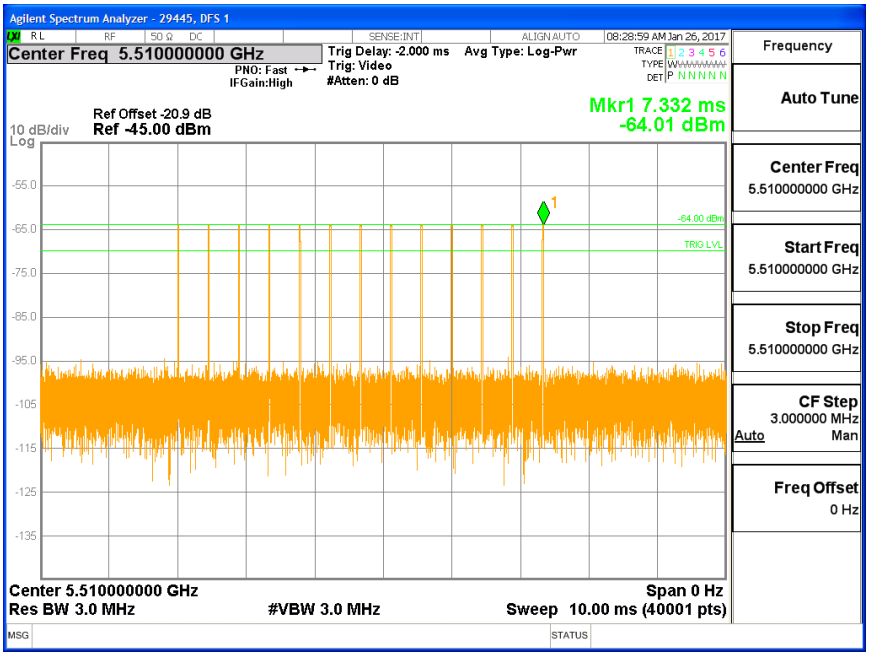
SAMPLE OF RADAR TYPE 2



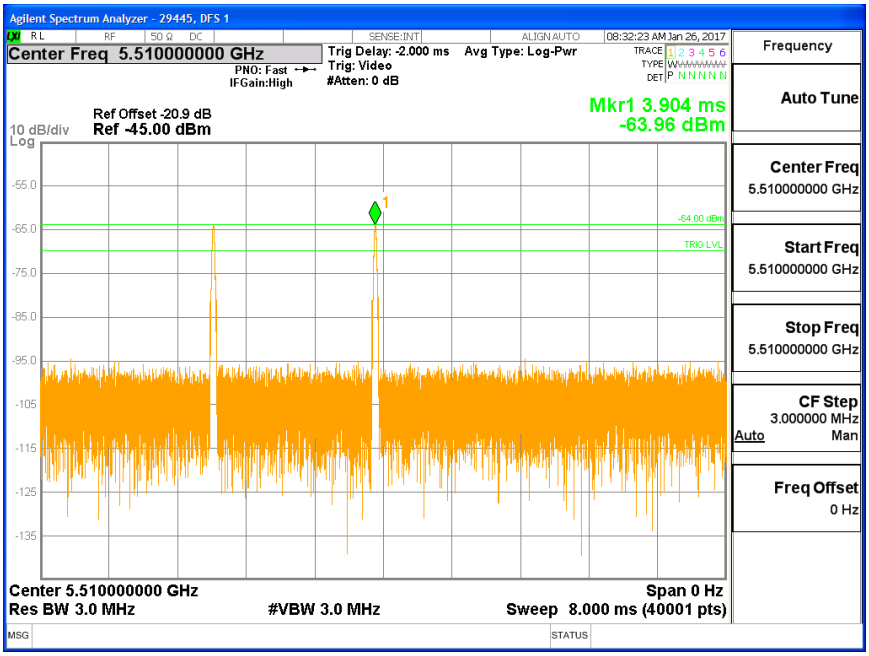
SAMPLE OF RADAR TYPE 3



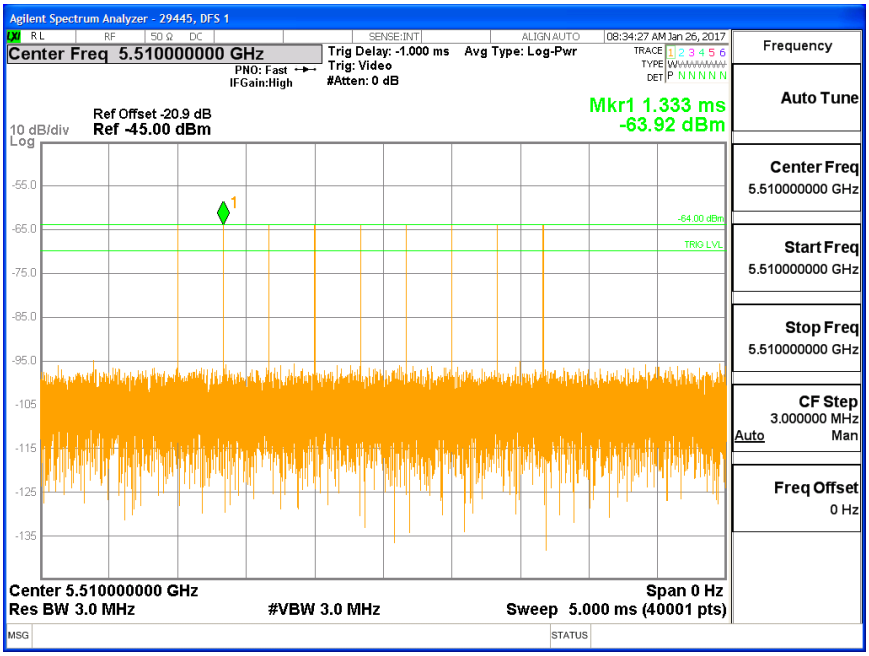
SAMPLE OF RADAR TYPE 4



SAMPLE OF SINGLE BURST OF RADAR TYPE 5

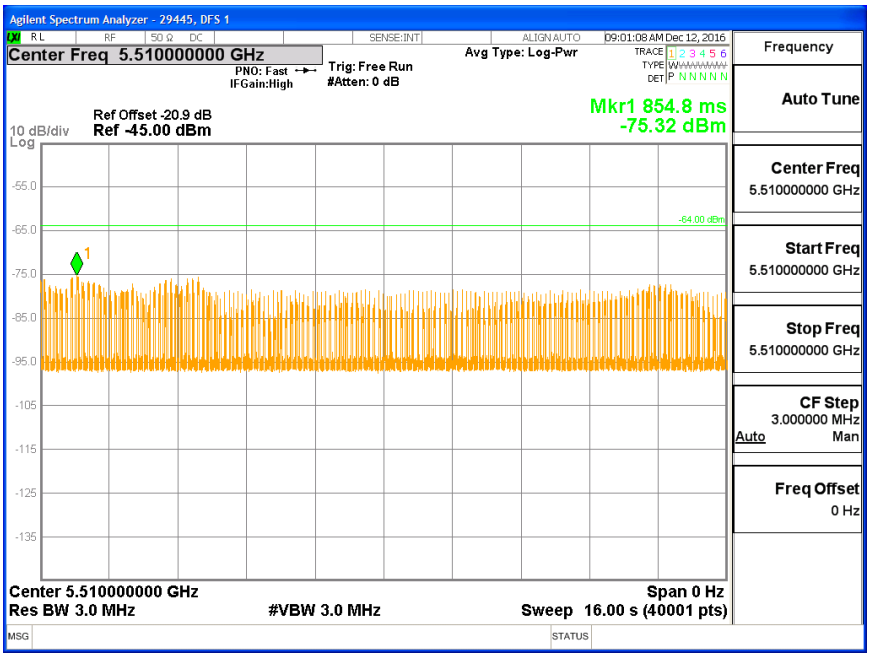


SINGLE BURST OF RADAR TYPE 6

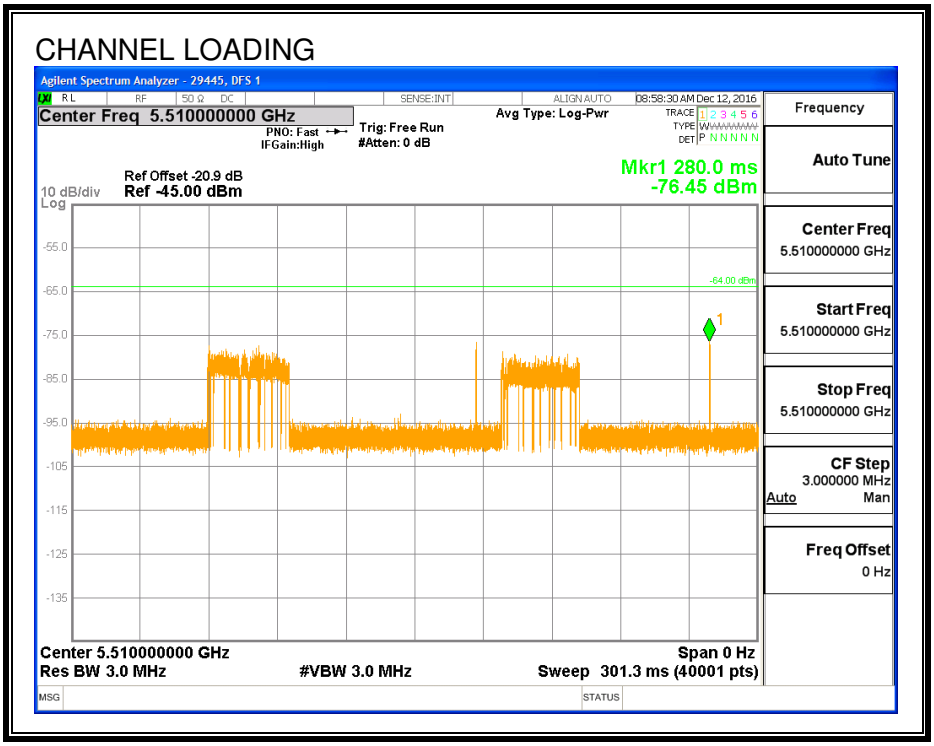


TRAFFIC

TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 20.92%

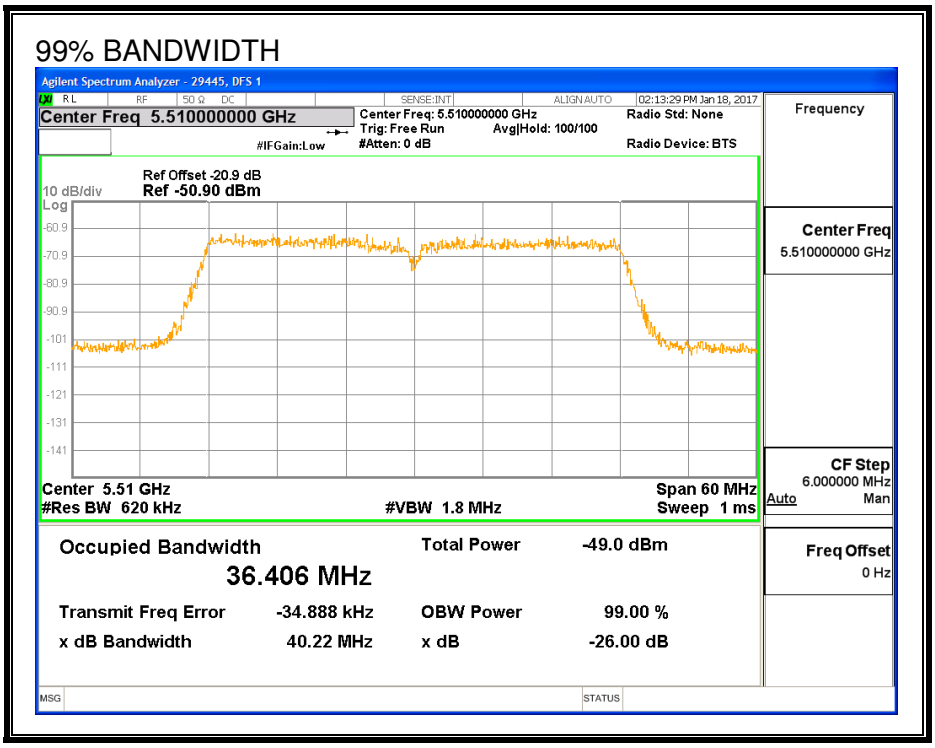
5.7.3. OVERLAPPING CHANNEL TESTS

RESULTS

The channel spacing is not less than the channel bandwidth therefore the EUT does not have an overlapping channel plan.

5.7.4. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



RESULTS

FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5490	5529	39	36.406	107.1	100

DETECTION BANDWIDTH PROBABILITY

DETECTION BANDWIDTH PROBABILITY RESULTS

Detection Bandwidth Test Results		29445	DFS 1	
FCC Type 0 Waveform: 1 us Pulse Width, 1428 us PRI, 18 Pulses per Burst				
Frequency (MHz)	Number of Trials	Number Detected	Detection (%)	Mark
5490	10	10	100	FL
5495	10	10	100	
5500	10	10	100	
5505	10	10	100	
5510	10	10	100	
5515	10	10	100	
5520	10	10	100	
5525	10	10	100	
5526	10	10	100	
5527	10	10	100	
5528	10	10	100	
5529	10	10	100	FH

5.7.5. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summary

Signal Type	Number of Trials	Detection (%)	Limit (%)	Pass/Fail	Detection Bandwidth FL	Detection Bandwidth FH	OBW	Test Location	Employee Number	In-Service Monitoring Version
FCC Short Pulse Type 1	30	100.00	60	Pass	5490	5529	36.41	DFS 1	29445	Version 3.0
FCC Short Pulse Type 2	30	73.33	60	Pass	5490	5529	36.41	DFS 1	29445	Version 3.0
FCC Short Pulse Type 3	30	73.33	60	Pass	5490	5529	36.41	DFS 1	29445	Version 3.0
FCC Short Pulse Type 4	30	76.67	60	Pass	5490	5529	36.41	DFS 1	29445	Version 3.0
Aggregate		80.83	80	Pass						
FCC Long Pulse Type 5	30	93.33	80	Pass	5490	5529	36.41	DFS 1	29445	Version 3.0
FCC Hopping Type 6	40	97.50	70	Pass	5490	5529	36.41	DFS 1	29445	Version 3.0

TYPE 1 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 1

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Test (A/B)	Frequency (MHz)	Successful Detection (Yes/No)
1001	1	3066	18	A	5510	Yes
1002	1	578	92	A	5510	Yes
1003	1	598	89	A	5510	Yes
1004	1	718	74	A	5510	Yes
1005	1	678	78	A	5510	Yes
1006	1	818	65	A	5510	Yes
1007	1	778	68	A	5510	Yes
1008	1	838	63	A	5510	Yes
1009	1	698	76	A	5510	Yes
1010	1	518	102	A	5510	Yes
1011	1	658	81	A	5510	Yes
1012	1	798	67	A	5510	Yes
1013	1	898	59	A	5510	Yes
1014	1	618	86	A	5510	Yes
1015	1	738	72	A	5510	Yes
1016	1	1638	33	B	5510	Yes
1017	1	2465	22	B	5510	Yes
1018	1	1226	44	B	5510	Yes
1019	1	2182	25	B	5510	Yes
1020	1	1073	50	B	5510	Yes
1021	1	964	55	B	5510	Yes
1022	1	2532	21	B	5510	Yes
1023	1	2553	21	B	5510	Yes
1024	1	1703	31	B	5510	Yes
1025	1	1291	41	B	5510	Yes
1026	1	2924	19	B	5510	Yes
1027	1	1138	47	B	5510	Yes
1028	1	2900	19	B	5510	Yes
1029	1	2597	21	B	5510	Yes
1030	1	747	71	B	5510	Yes

TYPE 2 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 2

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
2001	3.8	194	26	5510	Yes
2002	2.8	188	26	5510	No
2003	1.1	154	24	5510	Yes
2004	2.2	195	24	5510	Yes
2005	3	208	23	5510	Yes
2006	2.4	172	27	5510	No
2007	3.3	189	26	5510	No
2008	2.9	157	27	5510	Yes
2009	2.2	222	27	5510	Yes
2010	4.2	156	28	5510	Yes
2011	3.6	182	25	5510	No
2012	3.6	163	26	5510	Yes
2013	1.4	155	27	5510	Yes
2014	3.8	178	29	5510	Yes
2015	1.7	217	23	5510	No
2016	4.3	206	29	5510	No
2017	4.7	168	24	5510	Yes
2018	1.5	162	23	5510	Yes
2019	3.9	209	29	5510	No
2020	3.1	169	29	5510	Yes
2021	1.7	182	28	5510	Yes
2022	1.1	227	24	5510	Yes
2023	2	164	28	5510	Yes
2024	3.8	213	25	5510	Yes
2025	5	196	28	5510	Yes
2026	2.9	211	26	5510	Yes
2027	2.3	199	23	5510	Yes
2028	4.5	218	24	5510	Yes
2029	4.2	210	25	5510	No
2030	2.5	195	27	5510	Yes

TYPE 3 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 3

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
3001	9.5	379	18	5510	Yes
3002	6.1	347	17	5510	Yes
3003	8.4	480	18	5510	Yes
3004	9.3	460	18	5510	Yes
3005	7.6	488	17	5510	Yes
3006	6.8	395	16	5510	Yes
3007	8.1	436	16	5510	Yes
3008	7.5	325	17	5510	No
3009	6.5	378	16	5510	Yes
3010	6.1	413	17	5510	No
3011	7.3	479	16	5510	No
3012	9.2	275	18	5510	Yes
3013	8.7	488	17	5510	Yes
3014	6.8	297	16	5510	Yes
3015	6.5	271	18	5510	Yes
3016	8.9	477	18	5510	Yes
3017	6.8	464	16	5510	No
3018	7.5	432	16	5510	Yes
3019	9.8	314	16	5510	No
3020	6.5	294	16	5510	Yes
3021	9	323	18	5510	Yes
3022	8.2	316	17	5510	Yes
3023	9	357	16	5510	No
3024	6.2	496	16	5510	No
3025	9.3	299	18	5510	Yes
3026	8.9	333	17	5510	Yes
3027	6	400	18	5510	Yes
3028	7.9	447	17	5510	No
3029	7.4	408	17	5510	Yes
3030	9.6	468	18	5510	Yes

TYPE 4 DETECTION PROBABILITY

Data Sheet for FCC Short Pulse Radar Type 4

Waveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Frequency (MHz)	Successful Detection (Yes/No)
4001	18.3	443	13	5510	No
4002	14.5	398	12	5510	Yes
4003	19.1	385	16	5510	Yes
4004	11.5	352	15	5510	Yes
4005	16.6	485	16	5510	Yes
4006	18.5	348	13	5510	Yes
4007	14.9	494	15	5510	Yes
4008	13.1	370	12	5510	Yes
4009	14.8	277	16	5510	Yes
4010	13.4	417	14	5510	No
4011	15.5	470	14	5510	Yes
4012	14.6	254	12	5510	No
4013	13	320	14	5510	Yes
4014	12.5	368	15	5510	Yes
4015	11.3	329	13	5510	Yes
4016	16.2	389	14	5510	Yes
4017	15.5	363	12	5510	Yes
4018	16.5	318	16	5510	Yes
4019	16.2	305	14	5510	Yes
4020	17.7	273	13	5510	Yes
4021	13.7	406	12	5510	No
4022	15.6	269	12	5510	No
4023	16.9	415	13	5510	No
4024	19.3	290	16	5510	Yes
4025	11.9	449	15	5510	Yes
4026	19.6	337	13	5510	Yes
4027	12.7	273	12	5510	Yes
4028	11.7	425	13	5510	Yes
4029	14.9	374	15	5510	Yes
4030	14.5	421	16	5510	No

TYPE 5 DETECTION PROBABILITY

Data Sheet for FCC Long Pulse Radar Type 5		
Trial	Frequency (MHz)	Successful Detection (Yes/No)
1	5510	Yes
2	5510	Yes
3	5510	Yes
4	5510	Yes
5	5510	Yes
6	5510	Yes
7	5510	Yes
8	5510	Yes
9	5510	Yes
10	5510	Yes
11	5498	Yes
12	5498	Yes
13	5500	Yes
14	5498	Yes
15	5496	Yes
16	5498	Yes
17	5500	Yes
18	5499	Yes
19	5498	Yes
20	5500	Yes
21	5523	No
22	5522	Yes
23	5522	Yes
24	5520	Yes
25	5522	Yes
26	5522	Yes
27	5524	Yes
28	5521	Yes
29	5524	Yes
30	5523	No

Note: The Type 5 randomized parameters tested are shown in a separate document.

TYPE 6 DETECTION PROBABILITY

Data Sheet for FCC Hopping Radar Type 6
1 us Pulse Width, 333 us PRI, 9 Pulses per Burst, 1 Burst per Hop
NTIA August 2005 Hopping Sequence

Trial	Starting Index Within Sequence	Signal Generator Frequency (MHz)	Hops within Detection BW	Successful Detection (Yes/No)
1	160	5490	5	Yes
2	635	5491	12	Yes
3	1110	5492	9	Yes
4	1585	5493	6	Yes
5	2060	5494	8	Yes
6	2535	5495	7	Yes
7	3010	5496	7	Yes
8	3485	5497	7	Yes
9	3960	5498	7	Yes
10	4435	5499	11	Yes
11	4910	5500	11	Yes
12	5385	5501	11	Yes
13	5860	5502	9	Yes
14	6335	5503	5	Yes
15	6810	5504	7	Yes
16	7285	5505	10	Yes
17	7760	5506	10	Yes
18	8235	5507	9	Yes
19	8710	5508	8	Yes
20	9185	5509	9	Yes
21	9660	5510	8	Yes
22	10135	5511	6	Yes
23	10610	5512	5	Yes
24	11085	5513	9	Yes
25	11560	5514	9	Yes
26	12035	5515	7	Yes
27	12510	5516	8	Yes
28	12985	5517	12	Yes
29	13460	5518	9	Yes
30	13935	5519	3	No
31	14410	5520	11	Yes
32	14885	5521	12	Yes
33	15360	5522	10	Yes
34	15835	5523	6	Yes
35	16310	5524	5	Yes
36	16785	5525	6	Yes
37	17260	5526	6	Yes
38	17735	5527	9	Yes
39	18210	5528	12	Yes
40	18685	5529	10	Yes

5.8. HIGH BAND RESULTS FOR 80 MHz BANDWIDTH

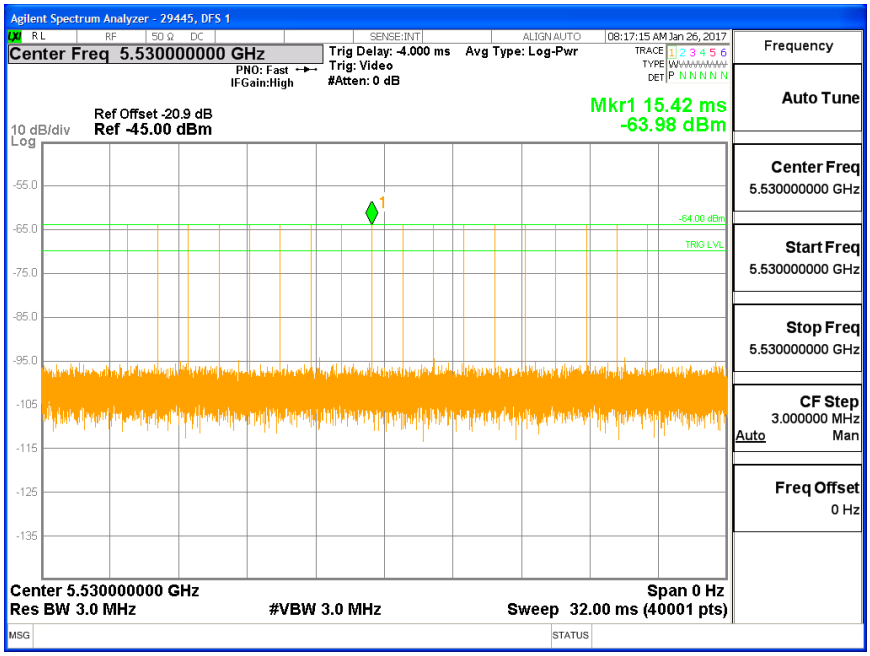
5.8.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5530 MHz.

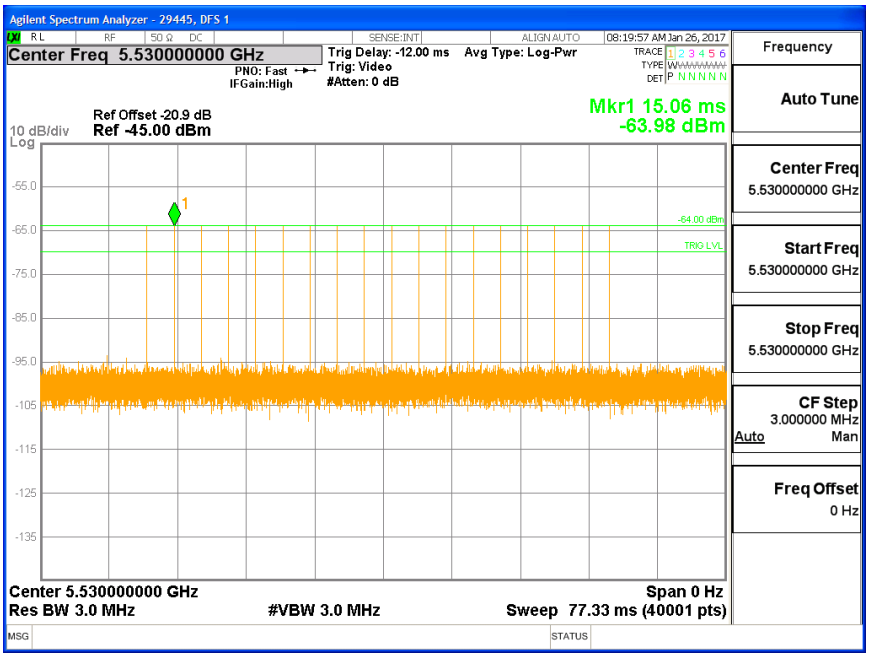
5.8.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS

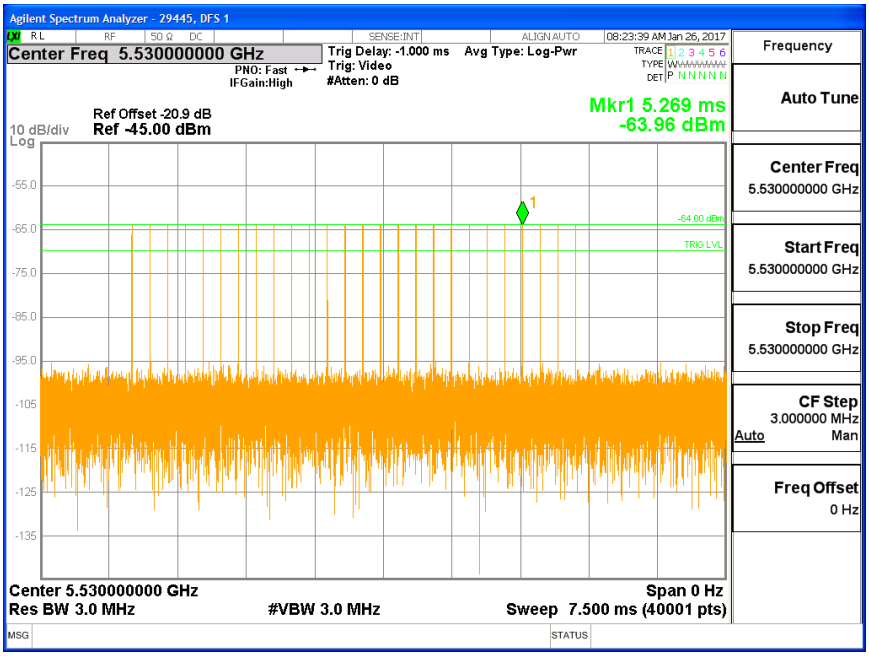
SHORT PULSE RADAR TYPE 0



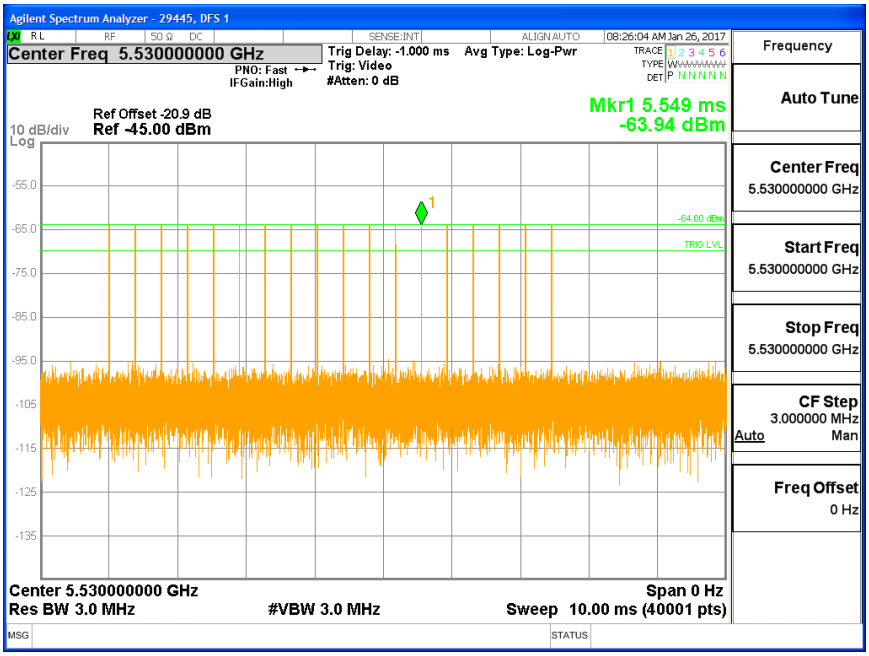
SAMPLE OF RADAR TYPE 1



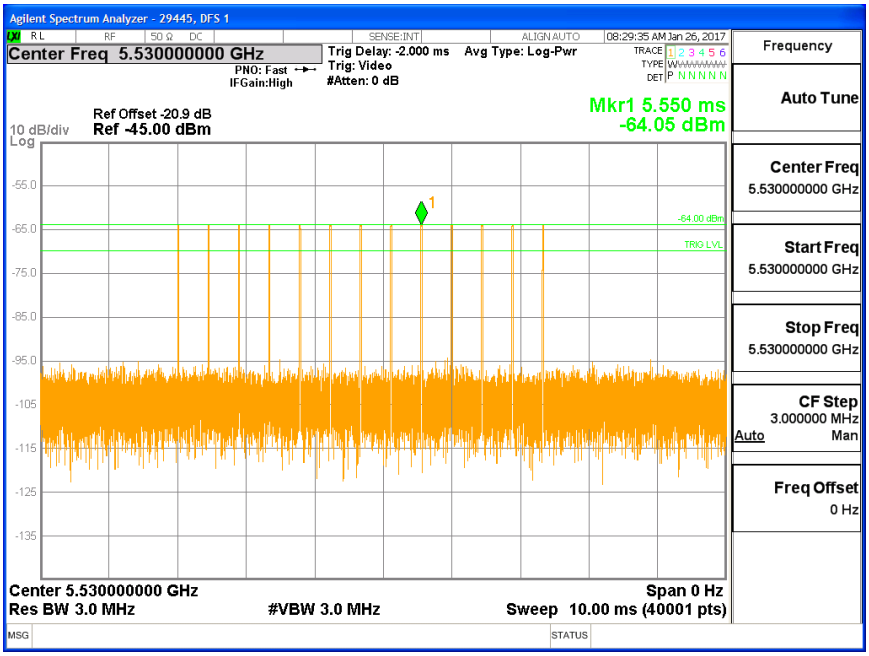
SAMPLE OF RADAR TYPE 2



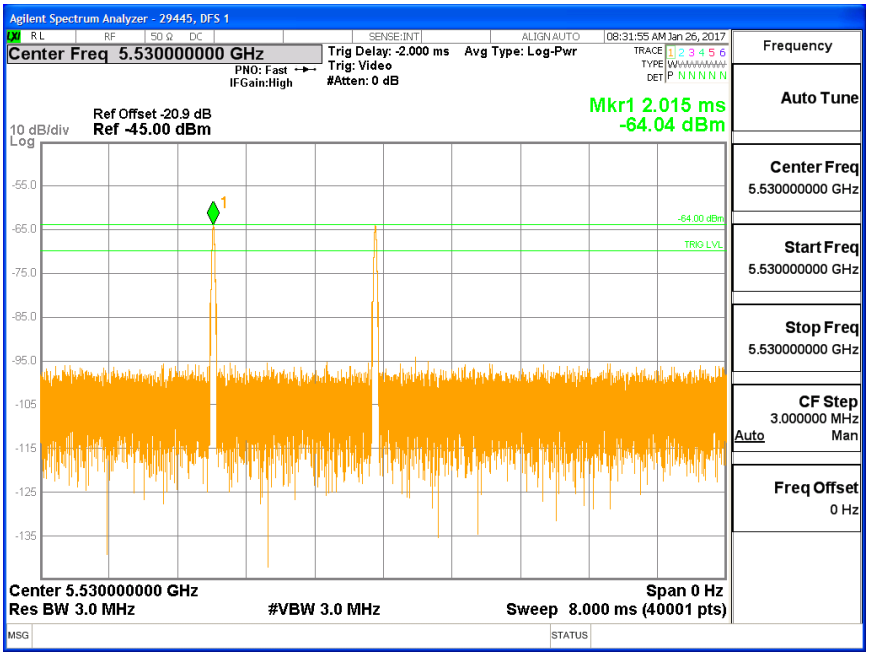
SAMPLE OF RADAR TYPE 3



SAMPLE OF RADAR TYPE 4



SAMPLE OF SINGLE BURST OF RADAR TYPE 5



SINGLE BURST OF RADAR TYPE 6