FCC 47 CFR PART 15 SUBPART E
INDUSTRY CANADA RSS-247 ISSUE 1

C2PC CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n & NFC

MODEL NUMBER: LG-D725, LGD725, D725, LG-D727, LGD727, D727

FCC ID: ZNFD725
IC ID: 2703C-D727

REPORT NUMBER: 16I22793-E1V3

ISSUE DATE: 4/20/2016

Prepared for
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	4/18/2016	Initial Issue	D. CORONIA
V2	4/19/2016	Updated Section 6, 7, 11, Antenna Gain and EUT Description	D. CORONIA
V3	4/20/2016	Updated KDB reference on page 11	D. CORONIA

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC

EUT DESCRIPTION: GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n & NFC

MODEL: LG-D725, LGD725, D725, LG-D727, LGD727, D727

SERIAL NUMBER: 403KPVH000431 (Conducted), 403KPVXV000426 (Radiated)

DATE TESTED: FEBRUARY 04~10, 2016

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Pass
INDUSTRY CANADA RSS-247 Issue 1	Pass
INDUSTRY CANADA RSS-GEN Issue 4	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
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, RSS-247 Issue 1,RSS-GEN Issue 4.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☒ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☐ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

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

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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, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance,1000 to 6000 MHz	3.86 dB
Radiated Disturbance,6000 to 18000 MHz	4.23 dB
Radiated Disturbance,18000 to 26000 MHz	5.30 dB
Radiated Disturbance,26000 to 40000 MHz	5.23 dB

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

This EUT is a GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n & NFC.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted output power as follows:

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Output Power (mW)
5745 - 5825	802.11a	9.2	8.32
5745 - 5825	802.11n_HT20	9.0	7.94
5755 - 5795	802.11n HT40	9.3	8.51

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIF antenna, with a maximum gain of -0.3 dBi

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit on the channel with higher output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that the X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation.

Based on the baseline scan, the worst-case data rates were:

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	LG Electronics	N/A	N/A	N/A
Earphone	LG Electronics	N/A	N/A	N/A

I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.0m	N/A

TEST SETUP

The EUT is setup as a stand-alone device.

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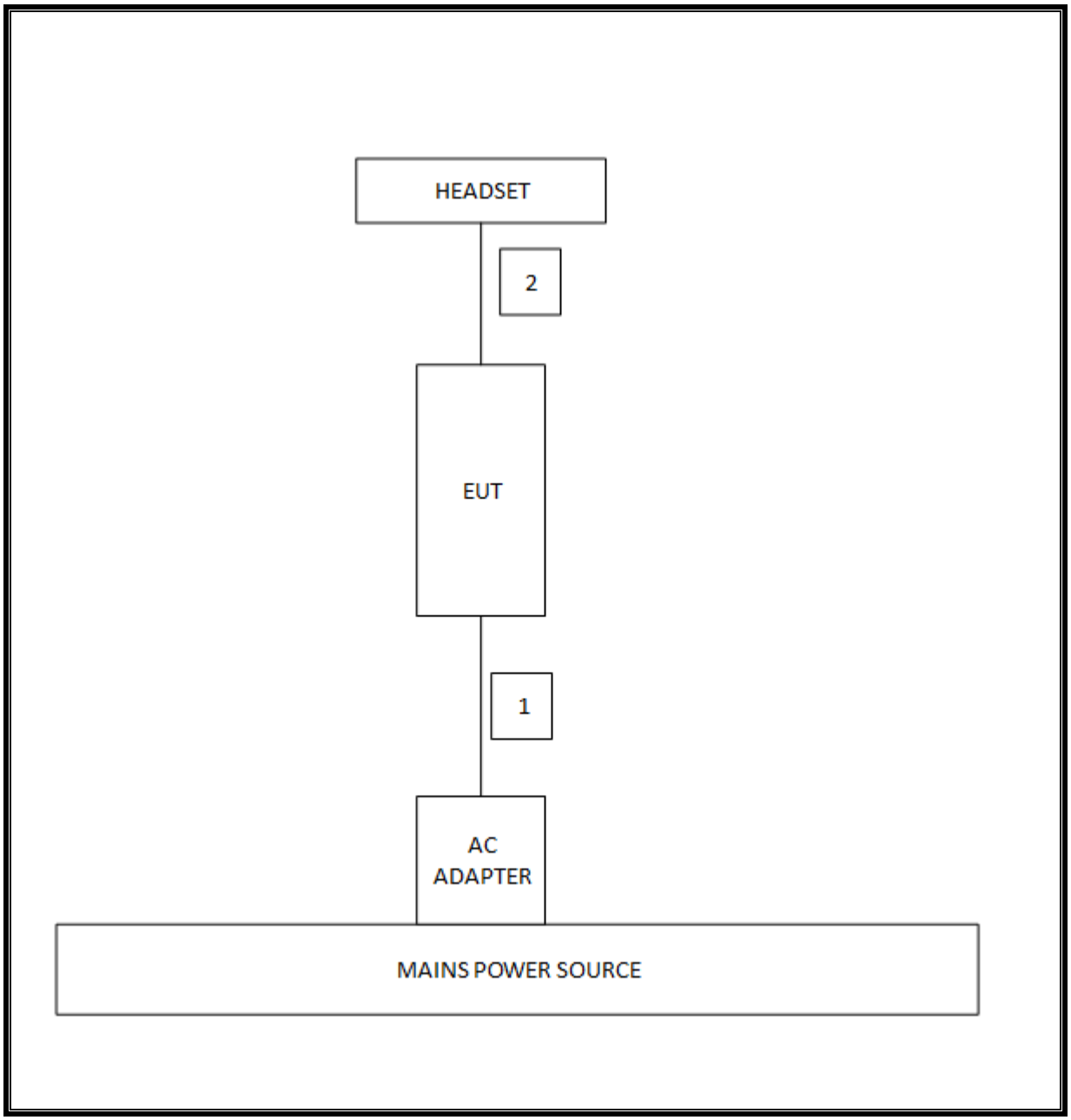
SETUP DIAGRAM FOR TESTS



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6. 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**	**T Number**	**Cal Due**
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	130	09/01/16
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	477	06/10/16
Antenna, Horn, 18GHz	EMCO	3115	59	11/18/16
Antenna, Horn, 18GHz	ETS Lindgren	3117	345	03/03/16
Antenna, Horn, 18GHz	ETS Lindgren	3117	136	03/03/16
Antenna, Horn, 18GHz	ETS Lindgren	3117	863	04/10/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16
Antenna, Horn, 26.5 GHz to 40GHz	ARA	MWH-2640/B	446	5/12/2016
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	88	04/07/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	404	06/29/16
RF Amplifier, 26 – 40GHz	Miteq	NSP4000-SP2	88	04/7/2017
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	123	10/22/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	906	03/03/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	907	06/11/16
EMI Test Receiver, 9 KHz to 7 GHz	R&S	ECSI7	284	09/10/16
Peak Power Meter	Agilent / HP	N1914A	254	06/08/16
Peak / Average Power Sensor	Keysight	E9327A	117	03/09/16
LISN, 30 MHz	Solar	8012-50-R-24-BNC	28	7/28/2016
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	160	CNR
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	417	05/04/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	893	04/25/16
High Pass Filter 3GHz	Micro-Tronics	HPS17543	898	04/25/16

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
CLT Software	UL	UL RF	Ver 1.0, Feb 2, 2015
Antenna Port Software	UL	UL RF	Ver 3.7, Nov 12, 2015

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7. SUMMARY TABLE

C2PC REASON:

The purpose of this C2PC is to upgrade the device described under section 5.4 of this report to the new rules per KDB 789033 D02 v01r02.

For UNII-1, UNII-2 and UNII-2C bands, we have reviewed the original test report (report no. 14U17493-5A) and are hereby attesting that all the current technical requirements are still met and all applicable test procedures remain the same. Therefore, the original test report is still applicable and no additional testing is done.

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
15.407	RSS-247 6.2.4	6dB Band width (5.8GHz)	500KHz	Conducted	Pass
15.407(a)(3)	RSS-247 6.2.4	TX Cond. Power 5.725-5.825	<30dBm		Pass
15.407(a)(5)	RSS-247 6.2.4	PSD (5.8GHz)	30dBm per 500kHz		Pass
15.407 (b), 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m	Radiated	Pass

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8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

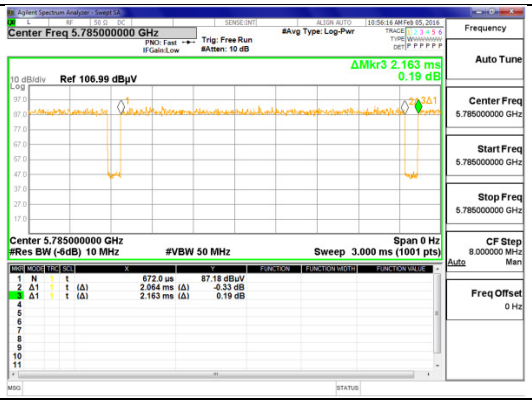
ON TIME AND DUTY CYCLE RESULTS

ON TIME AND DUTY CYCLE RESULTS

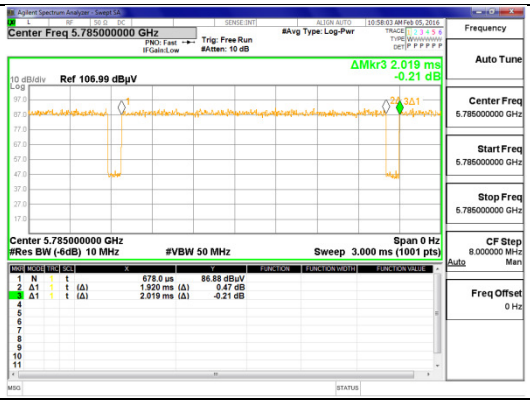
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.064	2.163	0.954	95.4%	0.20	0.484
802.11n HT20	1.920	2.019	0.951	95.1%	0.22	0.521
802.11n HT40	0.943	1.042	0.905	90.5%	0.43	1.061

DUTY CYCLE PLOTS

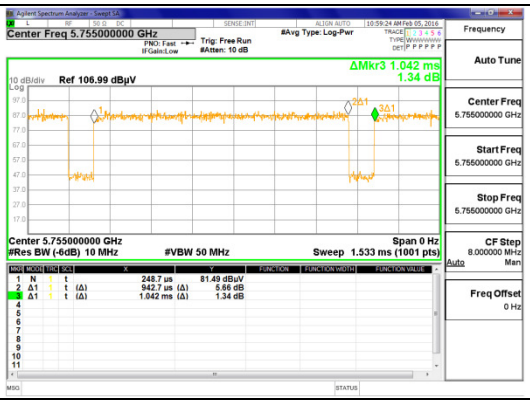
802.11a



802.11n HT20



802.11n HT40



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9. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 789033 D02 v01r02, Section B.

6 dB Emission BW: KDB 789033 D02 v01r02, Section C.2.

99% Occupied BW: KDB 789033 D02 v01r02, Section D.

Conducted Output Power: KDB 789033 D02 v01r02, Section E.3.b (Method PM-G), and KDB 662911 D01 v02r01.

Power Spectral Density: KDB 789033 D02 v01r02, Section F, and KDB 662911 D01 v02r01.

Unwanted emissions in restricted bands: KDB 789033 D02 v01r02, Sections G.2, G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v01r02, Sections G.2, G.3, G.4, and G.5.

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10. ANTENNA PORT TEST RESULTS

10.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407

RSS-247 6.2.4

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

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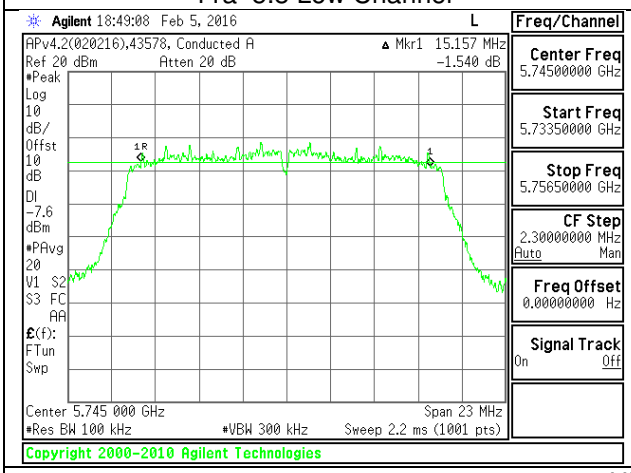
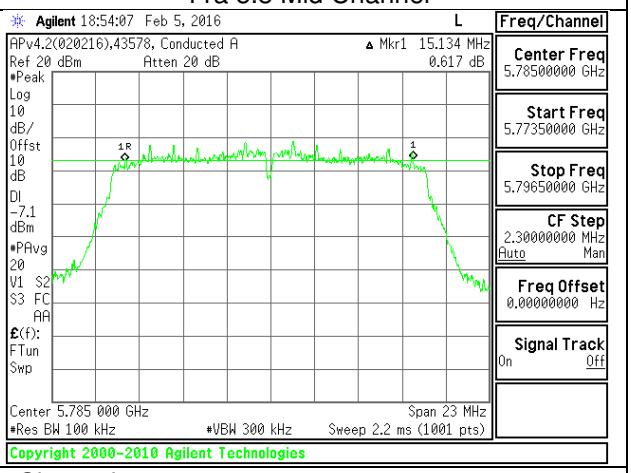
802.11a MODE IN THE 5.8 GHz BAND TEST RESULT TABLE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	15.157	0.5
Mid	5785	15.134	0.5
High	5825	15.786	0.5

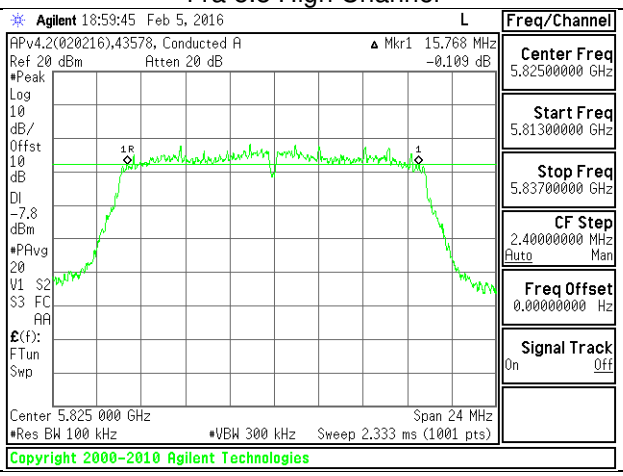
11a 5.8 Low Channel



11a 5.8 Mid Channel



11a 5.8 High Channel



NOTE:

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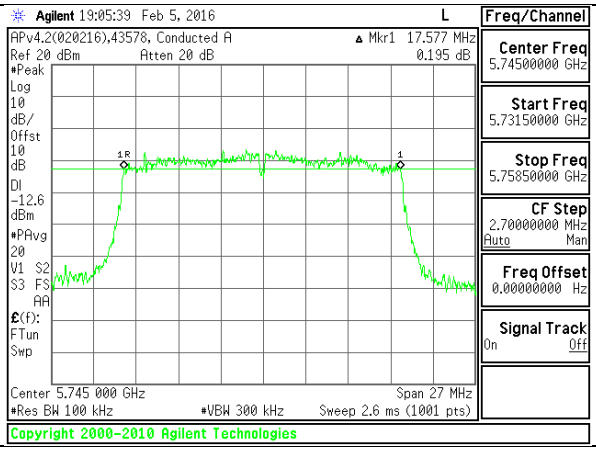
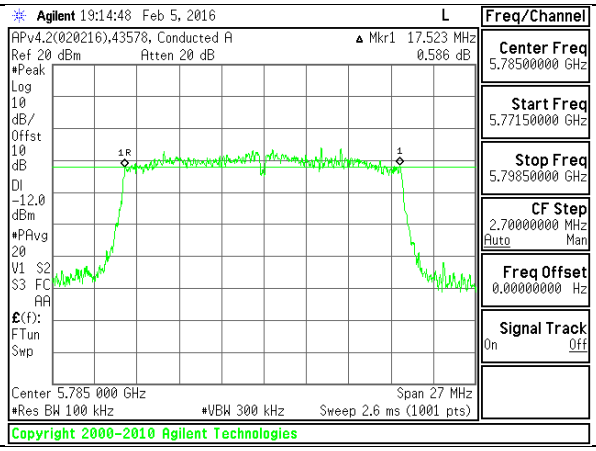
802.11n HT20 MODE IN THE 5.8 GHz BAND TEST RESULT TABLE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.577	0.5
Mid	5785	17.523	0.5
High	5825	17.598	0.5

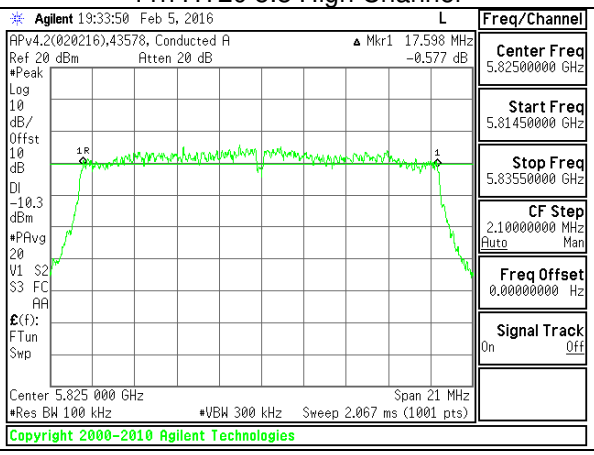
11n HT20 5.8 Low Channel



11n HT20 5.8 Mid Channel



11n HT20 5.8 High Channel



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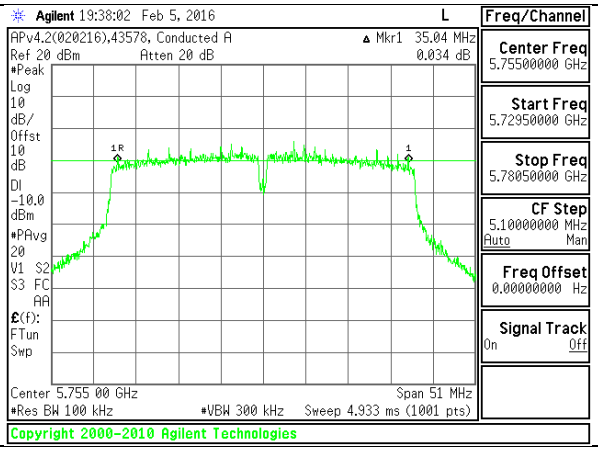
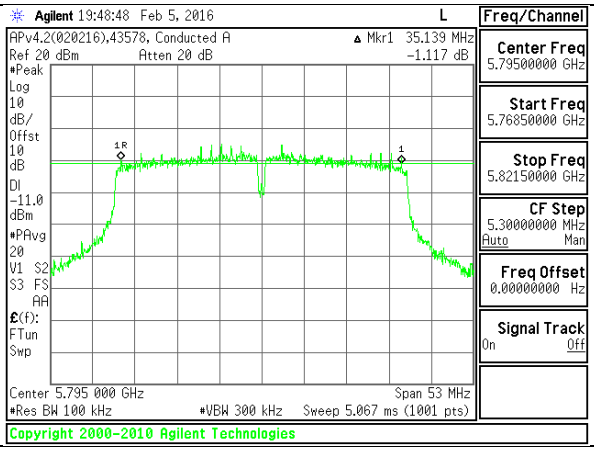
802.11n HT40 MODE IN THE 5.8 GHz BAND TEST RESULT TABLE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5755	35.040	0.5
High	5795	35.139	0.5

11n HT40 5.8 Low Channel



11n HT40 5.8 Mid Channel



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10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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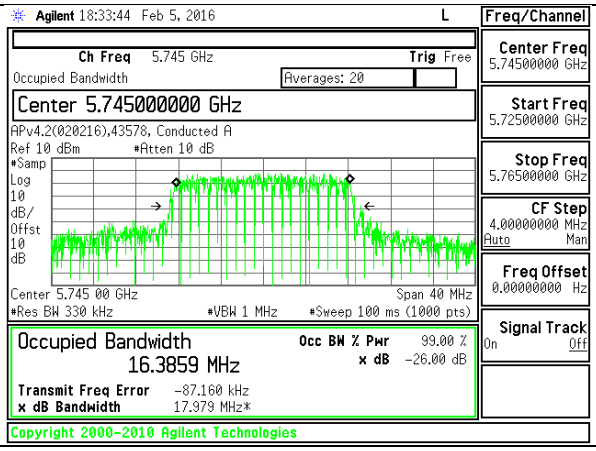
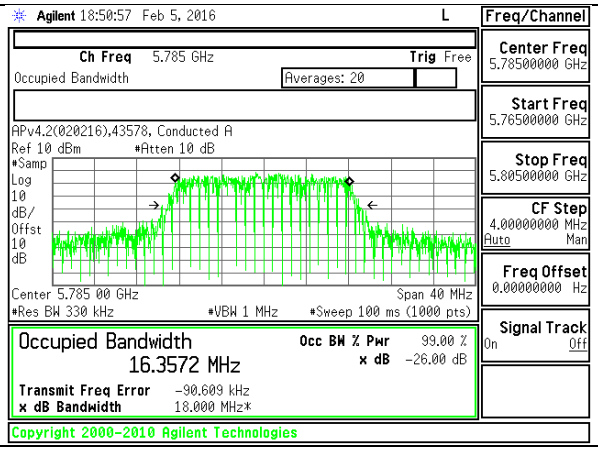
802.11a MODE IN THE 5.8 GHz BAND TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.3859
Mid	5785	16.3572
High	5825	16.3472

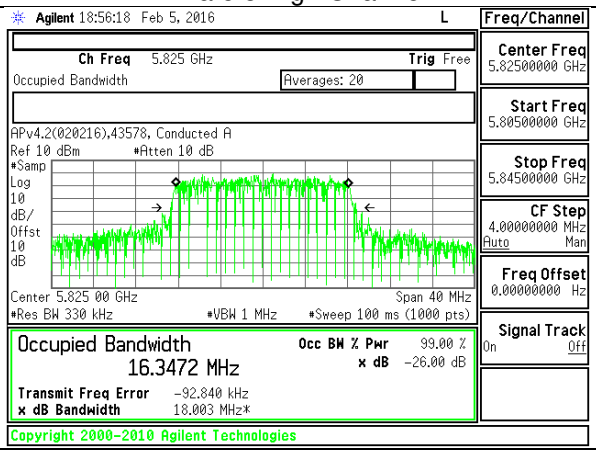
11a 5.8 Low Channel



11a 5.8 Mid Channel



11a 5.8 High Channel



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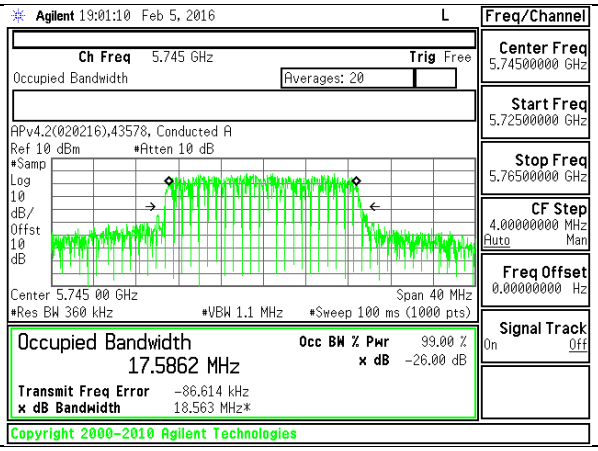
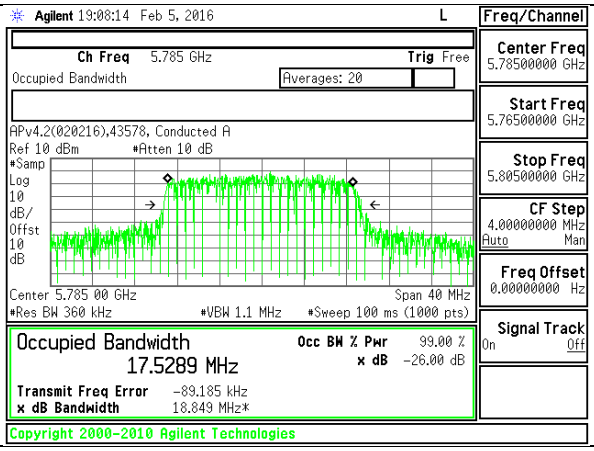
802.11n HT20 MODE IN THE 5.8 GHz BAND TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.5862
Mid	5785	17.5289
High	5825	17.5633

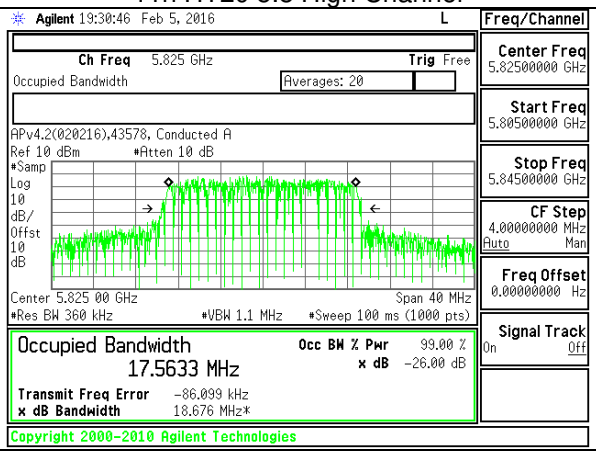
11n HT20 5.8 Low Channel



11n HT20 5.8 Mid Channel



11n HT20 5.8 High Channel



NOTE:

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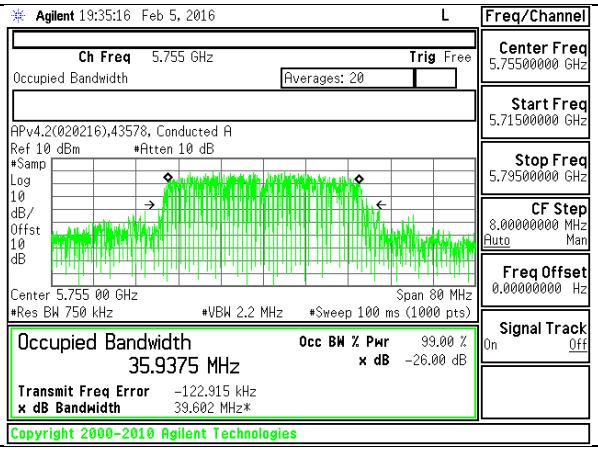
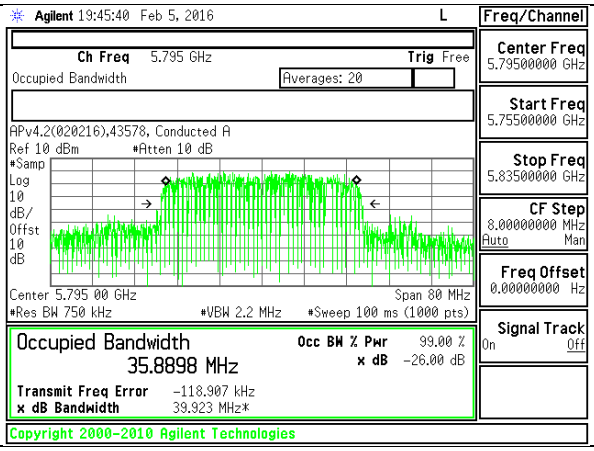
802.11n HT40 MODE IN THE 5.8 GHz BAND TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	35.9375
High	5795	35.8898

11n HT40 5.8 Low Channel



11n HT40 5.8 Mid Channel



NOTE:

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10.3. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RSS-247

Band 5725-5850 MHz:

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipointFootnote3 systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

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10.3.1.802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Power (dBm)
Low	5745	9.10
Mid	5785	9.00
High	5825	9.20

10.3.2.802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Power (dBm)
Low	5745	9.00
Mid	5785	9.00
High	5825	9.00

10.3.3.802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Power (dBm)
Low	5755	9.30
High	5795	9.30

Note: All power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

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10.4. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RSS-247

Band 5725-5850 MHz:

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipointFootnote3 systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

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10.4.1.802.11a MODE IN THE 5.8 GHz BAND

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	-0.3	30.00
Mid	5785	-0.3	30.00
High	5825	-0.3	30.00

Duty Cycle CF (dB)	0.20	**Included in Calculations of Corr'd PSD**

PSD Results

Channel	Frequency (MHz)	Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	-3.98	-3.78	30.00	-33.78
Mid	5785	-3.93	-3.73	30.00	-33.73
High	5825	-3.85	-3.65	30.00	-33.65

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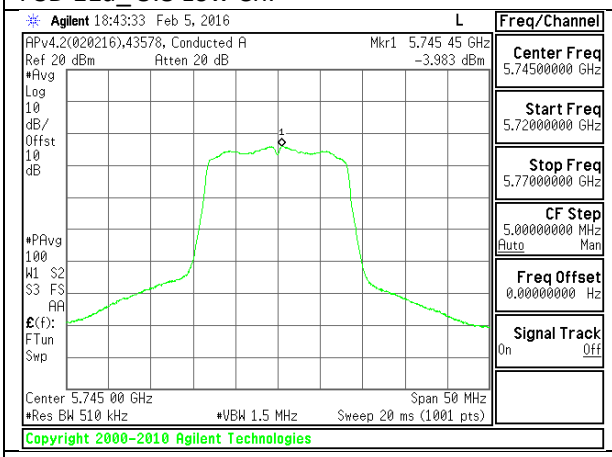
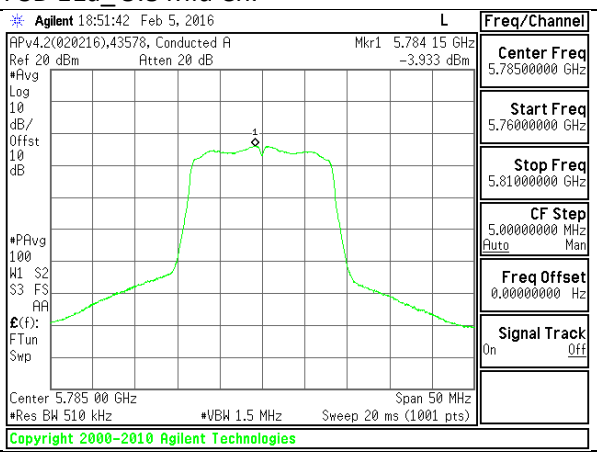
PSD PLOT

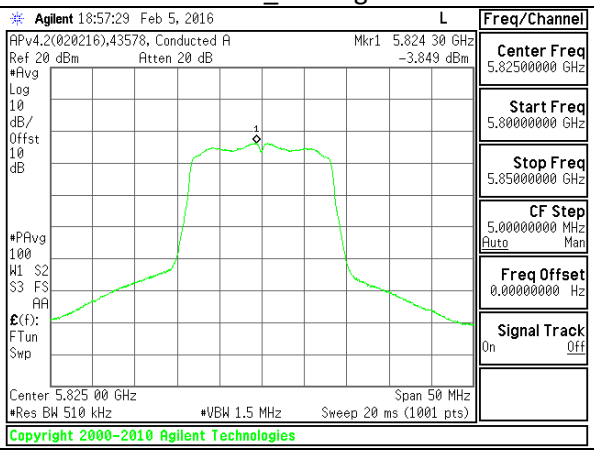
PSD 11a_ 5.8 Low Ch.



PSD 11a_ 5.8 Mid Ch.



PSD 11a_ 5.8 High Ch.



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10.4.1.802.11n HT20 MODE IN THE 5.8 GHz BAND

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	-0.3	30.00
Mid	5785	-0.3	30.00
High	5825	-0.3	30.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	-4.68	-4.46	30.00	-34.46
Mid	5785	-4.72	-4.50	30.00	-34.50
High	5825	-4.34	-4.12	30.00	-34.12

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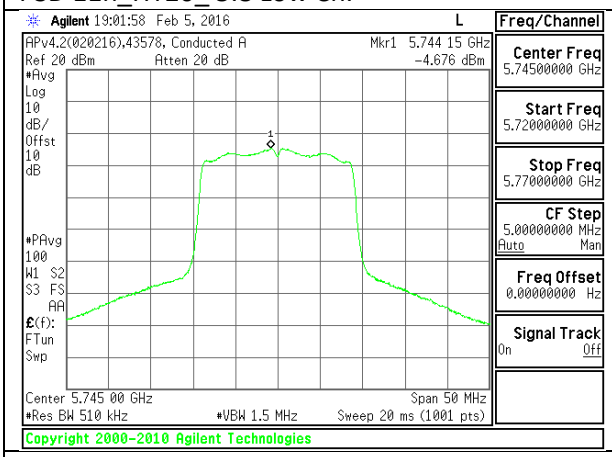
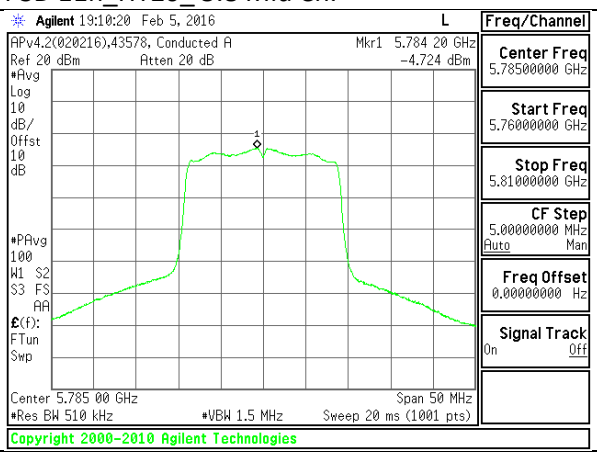
PSD PLOT

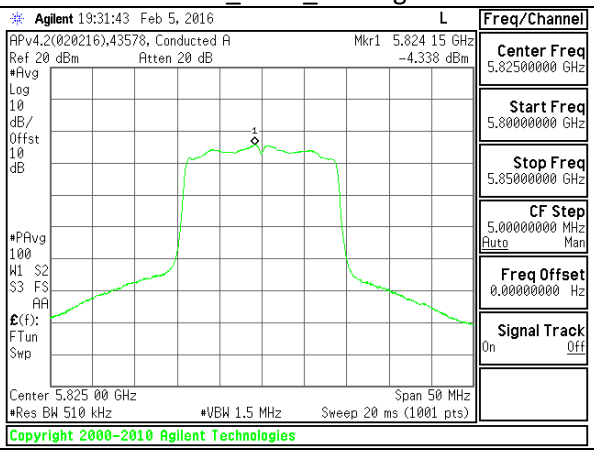
PSD 11n_HT20_ 5.8 Low Ch.



PSD 11n_HT20_ 5.8 Mid Ch.



PSD 11n_HT20_ 5.8 High Ch.



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10.4.2.802.11n HT40 MODE IN THE 5.8 GHz BAND

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	-0.3	30.00
High	5795	-0.3	30.00

Duty Cycle CF (dB)	0.43	**Included in Calculations of Corr'd PSD**

PSD Results

Channel	Frequency (MHz)	Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	-7.73	-7.30	30.00	-37.30
High	5795	-7.94	-7.51	30.00	-37.51

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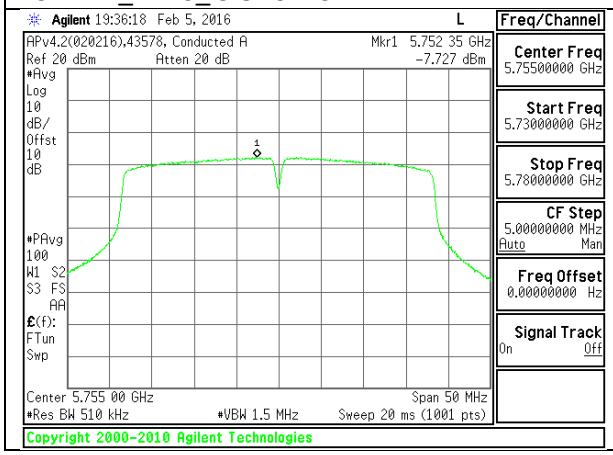
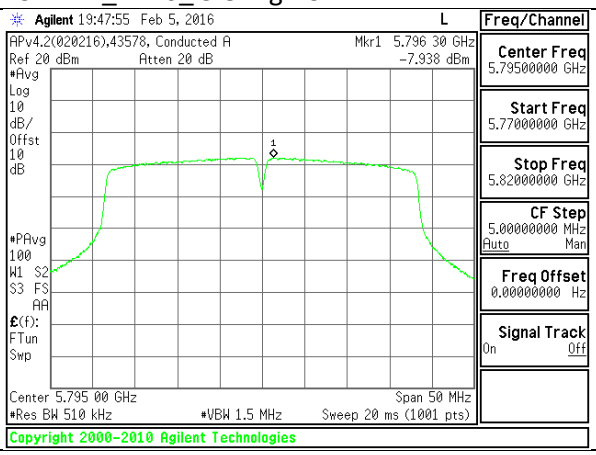
PSD PLOT

PSD 11n_HT40_ 5.8 Low Ch.



PSD 11n_HT40_ 5.8 High Ch.



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11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. Duty cycle factor = 10 log (1/x).

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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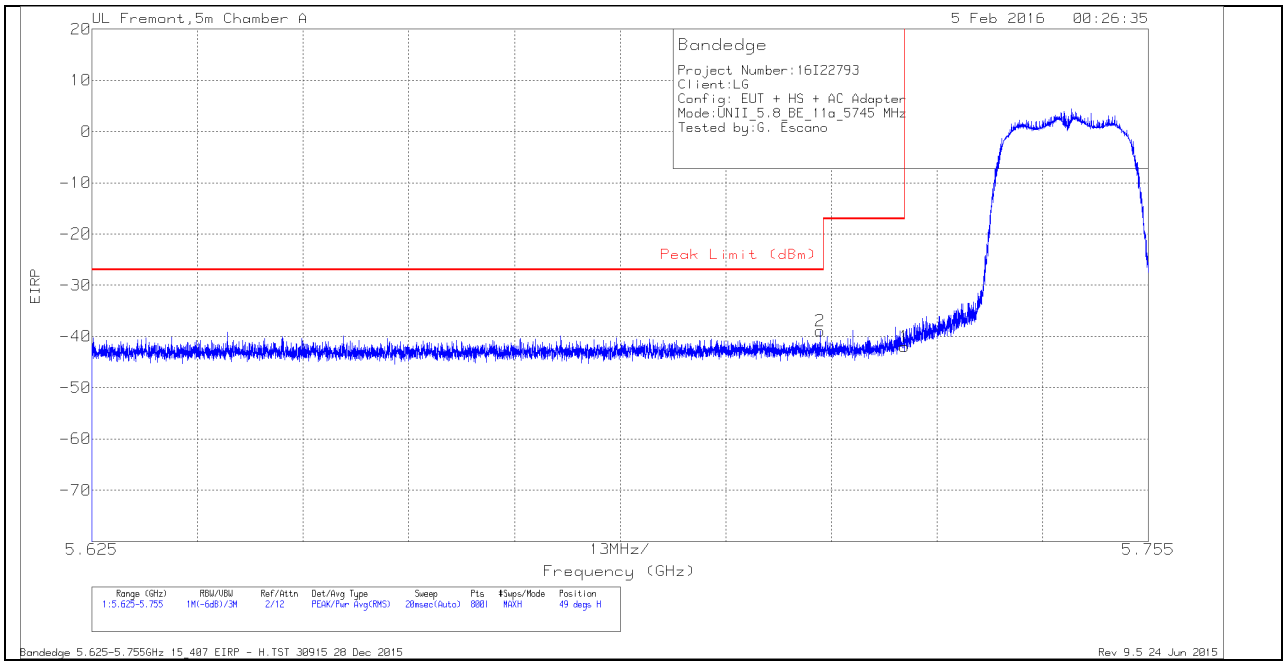
11.1. 5.8 GHz

11.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.715	-65.27	Pk	34.7	-20.1	11.8	-38.87	-27	-11.87	49	104	H
1	5.725	-68.36	Pk	34.7	-20.1	11.8	-41.96	-17	-24.96	49	104	H

Pk - Peak detector

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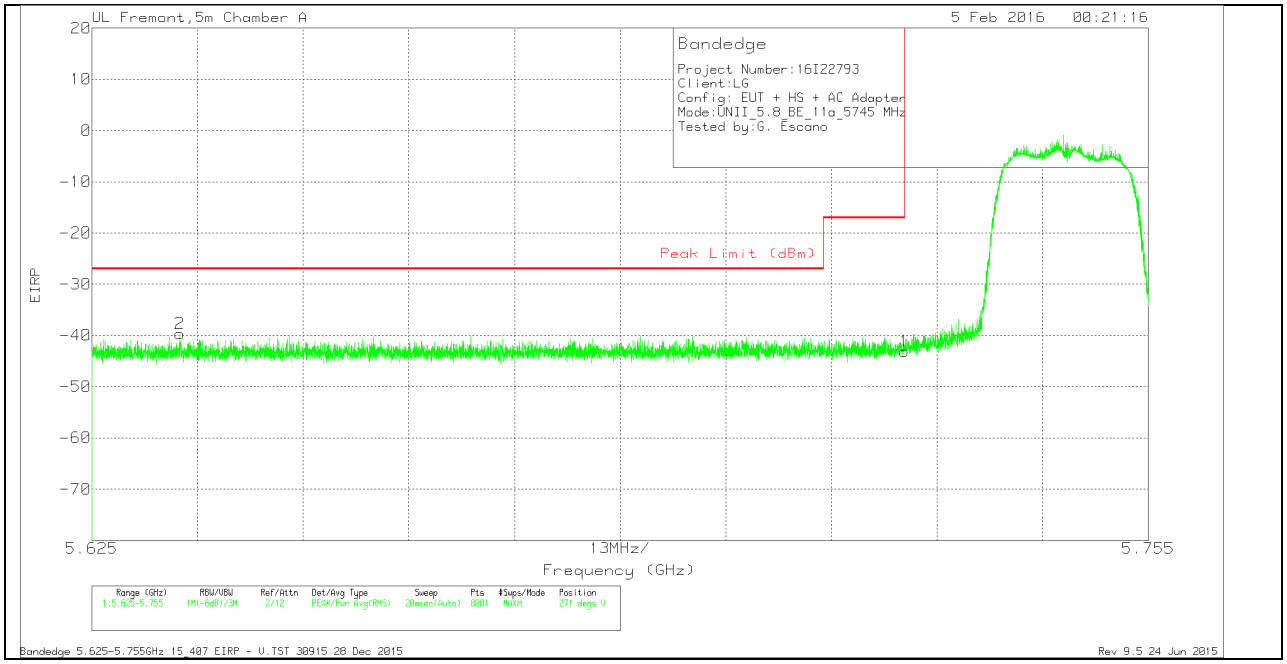
VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.636	-65.52	Pk	34.5	-20.4	11.8	-39.62	-27	-12.62	271	100	V
1	5.725	-69.54	Pk	34.7	-20.1	11.8	-43.14	-17	-26.14	271	100	V

Pk - Peak detector

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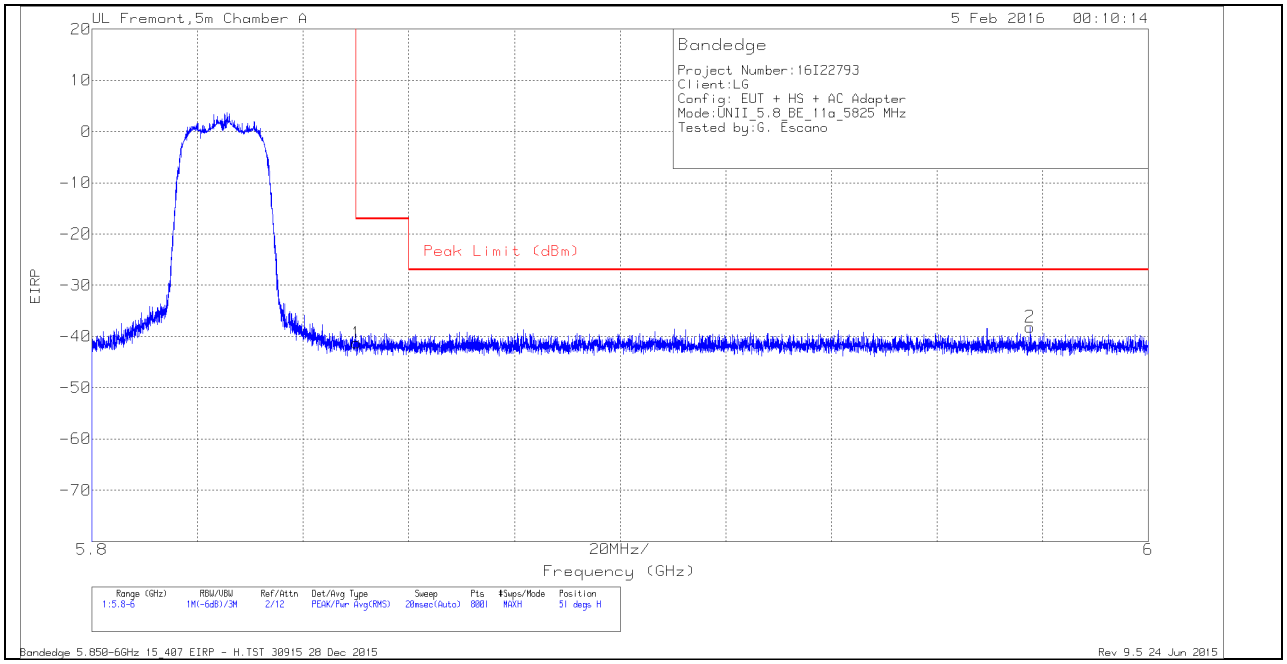
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-68.45	Pk	35.1	-19.7	11.8	-41.25	-17	-24.25	51	104	H
2	5.978	-65.82	Pk	35.3	-19.4	11.8	-38.12	-27	-11.12	51	104	H

Pk - Peak detector

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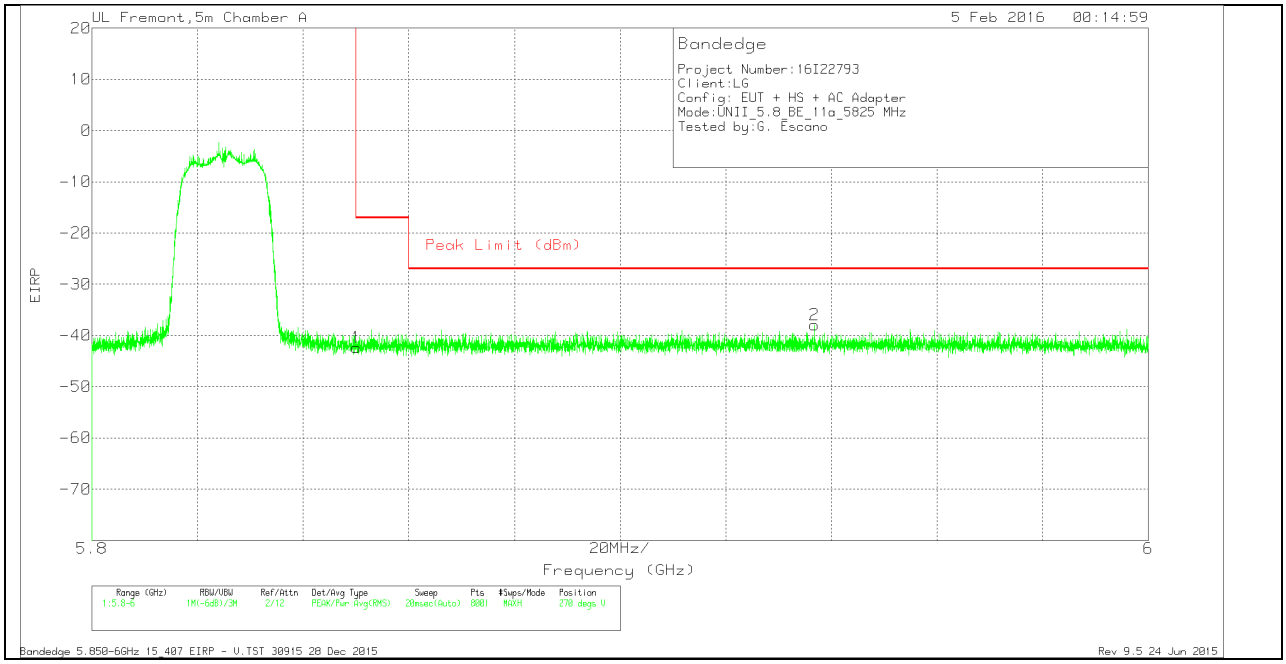
VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-69.57	Pk	35.1	-19.7	11.8	-42.37	-17	-25.37	270	107	V
2	5.937	-65.53	Pk	35.3	-19.5	11.8	-37.93	-27	-10.93	270	107	V

Pk - Peak detector

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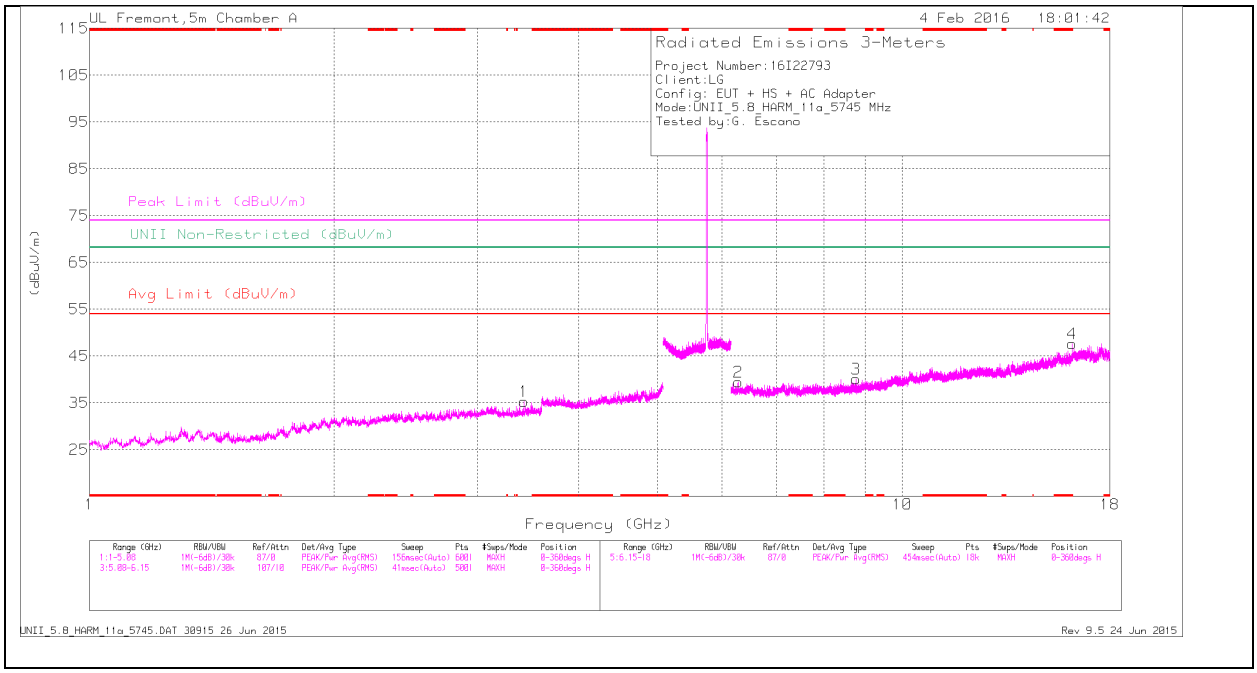
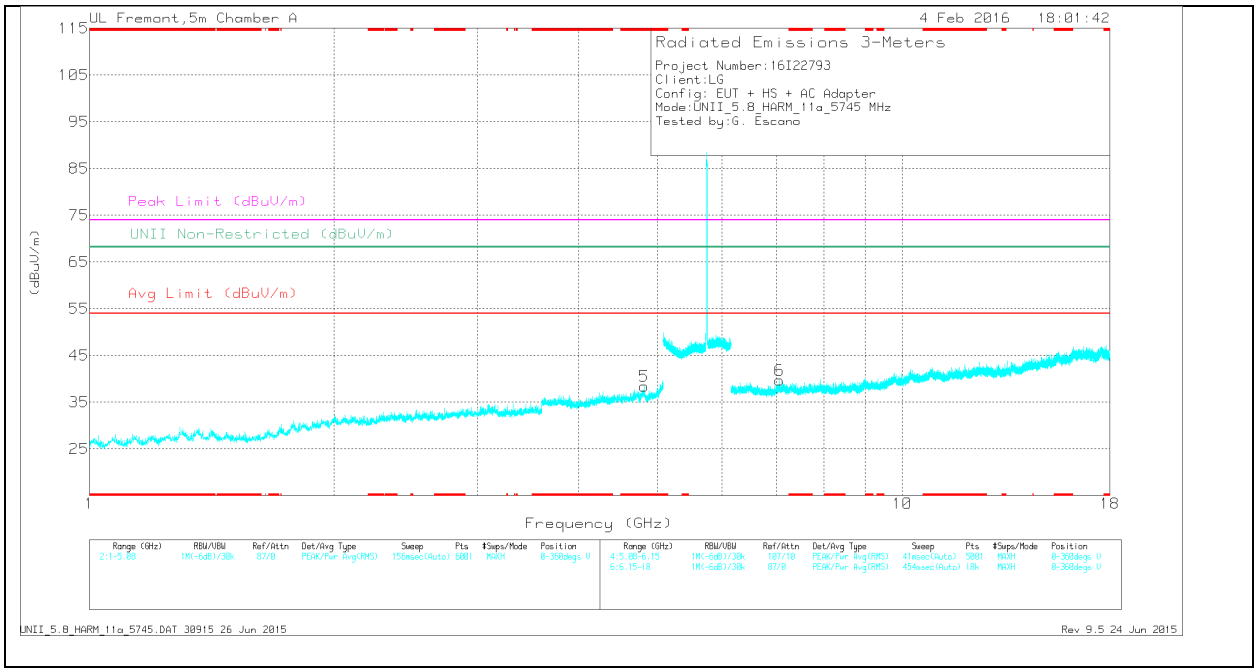
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 4.811	34.36	Pk	34	-29.9	0	38.46	-	-	74	-35.54	-	-	0-360	200	V
4	* 16.188	28.66	Pk	41	-22	0	47.66	-	-	74	-26.34	-	-	0-360	201	H
1	3.426	35.02	Pk	33	-32.7	0	35.32	-	-	-	-	68.2	-32.88	0-360	100	H
2	6.287	31.73	Pk	35.5	-27.8	0	39.43	-	-	-	-	68.2	-28.77	0-360	100	H
6	7.062	30.04	Pk	35.6	-25.9	0	39.74	-	-	-	-	68.2	-28.46	0-360	100	V
3	8.771	29.47	Pk	36	-25.3	0	40.17	-	-	-	-	68.2	-28.03	0-360	201	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.81	42.24	PK-U	34	-29.9	0	46.34	-	-	74	-27.66	-	-	220	201	V
* 4.81	29.84	ADR	34	-29.9	.2	34.14	54	-19.86	-	-	-	-	220	201	V
* 16.189	35.21	PK-U	41	-22	0	54.21	-	-	74	-19.79	-	-	132	202	H
* 16.188	23.29	ADR	41	-22	.2	42.49	54	-11.51	-	-	-	-	132	202	H
3.425	41.92	PK-U	33	-32.8	0	42.12	-	-	-	-	68.2	-26.08	55	100	H
6.285	38.58	PK-U	35.5	-27.9	0	46.18	-	-	-	-	68.2	-22.02	179	100	H
7.06	37.44	PK-U	35.6	-26	0	47.04	-	-	-	-	68.2	-21.16	21	100	V
8.772	35.69	PK-U	36	-25.3	0	46.39	-	-	-	-	68.2	-21.81	112	202	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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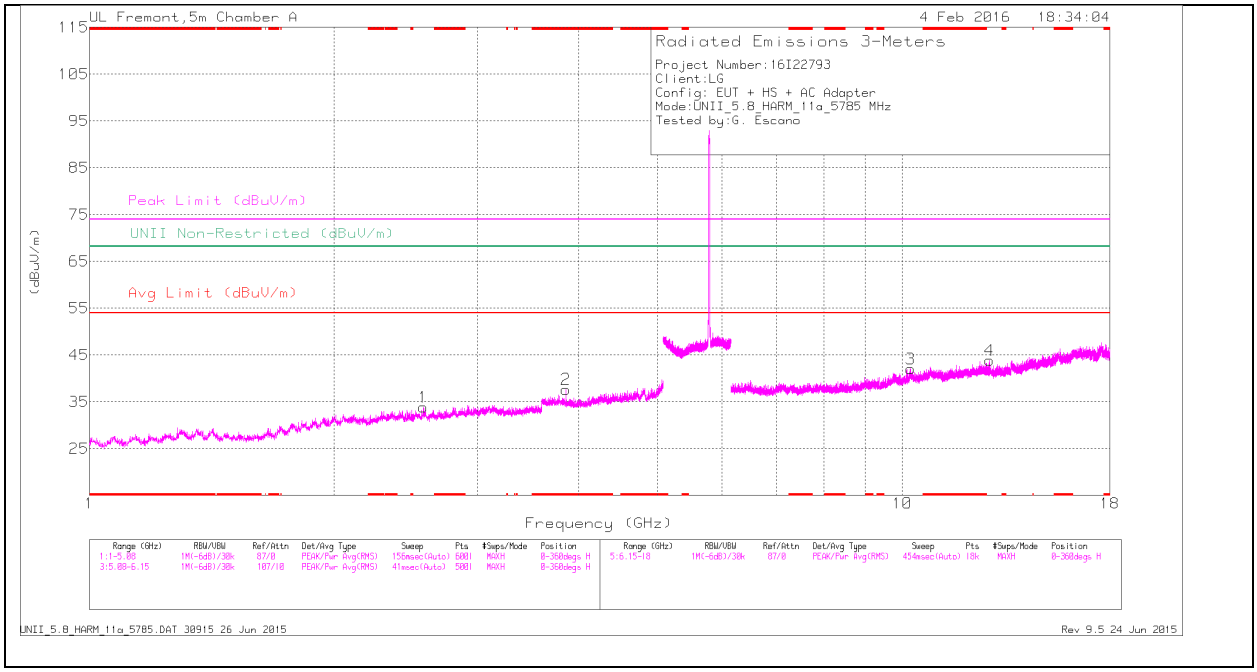
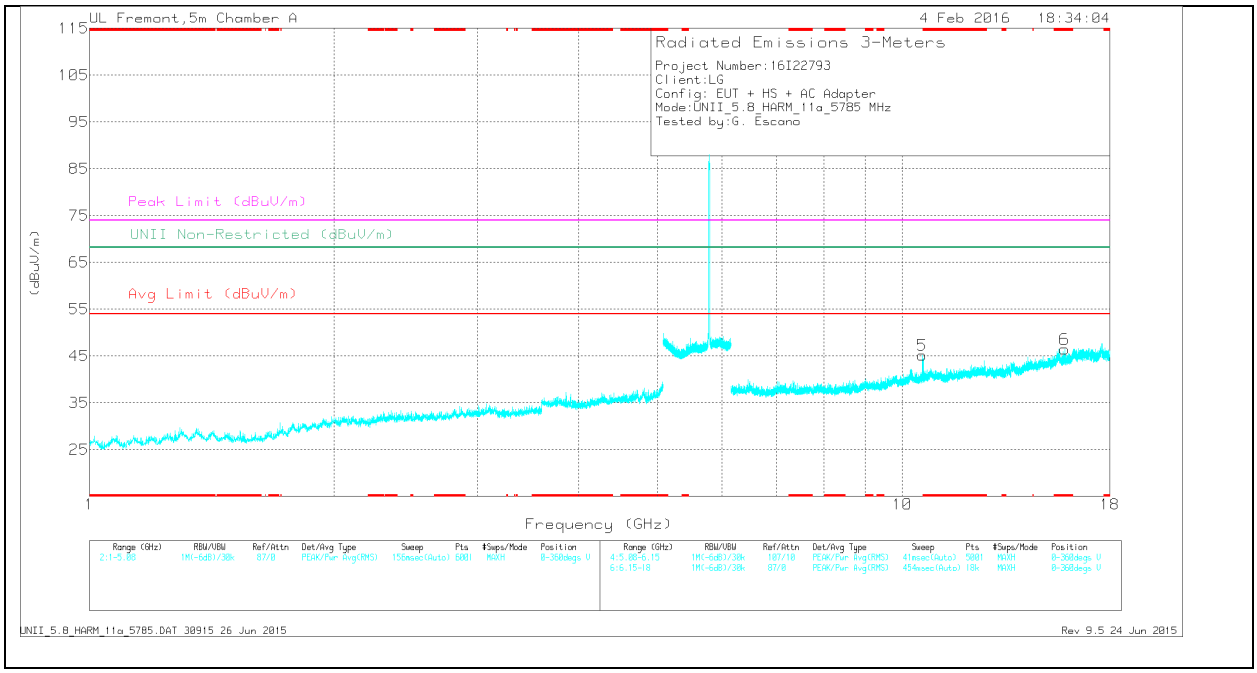
MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.857	36.21	Pk	33.4	-31.9	0	37.71	-	-	74	-36.29	-	-	0-360	201	H
6	* 15.832	28.15	Pk	40.5	-22.2	0	46.45	-	-	74	-27.55	-	-	0-360	200	V
1	2.576	35.57	Pk	32.2	-33.9	0	33.87	-	-	-	-	68.2	-34.33	0-360	201	H
3	10.239	27.22	Pk	37.3	-22.4	0	42.12	-	-	-	-	68.2	-26.08	0-360	201	H
5	10.582	30.74	Pk	37.6	-23.1	0	45.24	-	-	-	-	68.2	-22.96	0-360	100	V
4	12.792	27.54	Pk	39.2	-22.8	0	43.94	-	-	-	-	68.2	-24.26	0-360	201	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.856	44.55	PK-U	33.4	-31.9	0	46.05	-	-	74	-27.95	-	-	127	120	H
* 3.857	35.4	ADR	33.4	-31.9	.2	37.1	54	-16.9	-	-	-	-	127	120	H
* 15.832	35.22	PK-U	40.5	-22.2	0	53.52	-	-	74	-20.48	-	-	37	200	V
* 15.831	23.5	ADR	40.5	-22.3	.2	41.9	54	-12.1	-	-	-	-	37	200	V
2.575	42.41	PK-U	32.2	-33.9	0	40.71	-	-	-	-	68.2	-27.49	31	202	H
10.239	34.54	PK-U	37.3	-22.4	0	49.44	-	-	-	-	68.2	-18.76	112	202	H
10.58	34.71	PK-U	37.6	-23.1	0	49.21	-	-	-	-	68.2	-18.99	124	363	V
12.792	33.66	PK-U	39.2	-22.8	0	50.06	-	-	-	-	68.2	-18.14	51	202	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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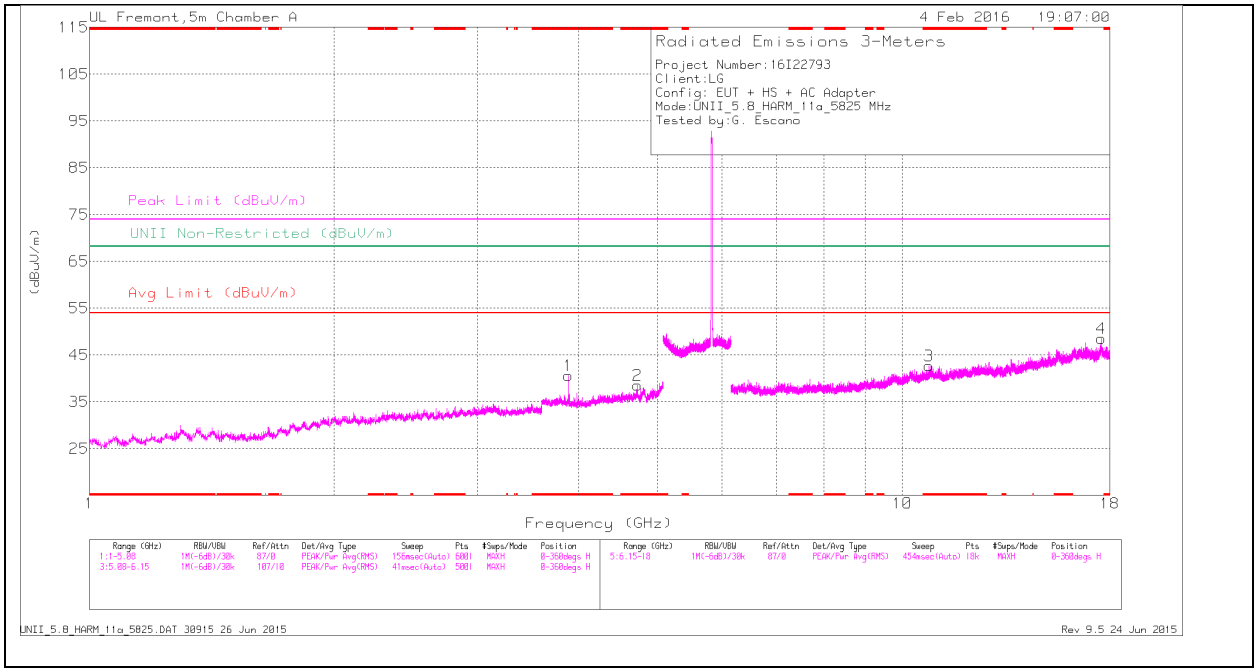
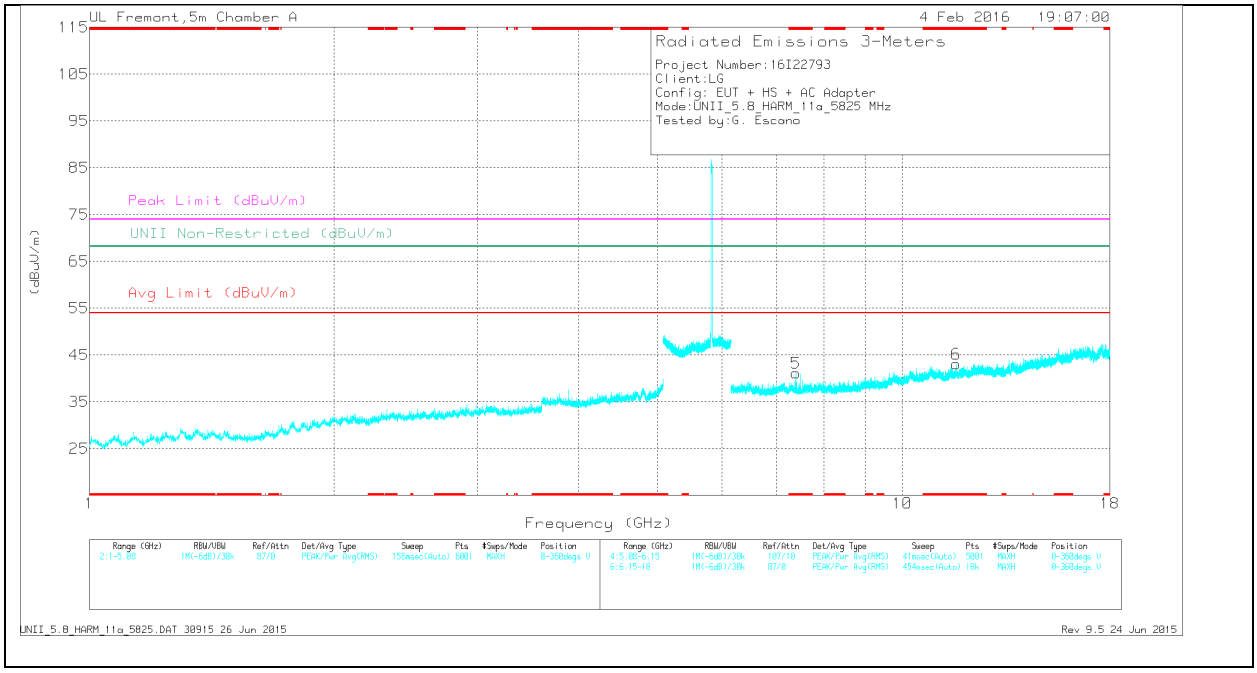
HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.883	39.38	Pk	33.5	-32.3	0	40.58	-	-	74	-33.42	-	-	0-360	100	H
2	* 4.726	34.85	Pk	34.1	-30.4	0	38.55	-	-	74	-35.45	-	-	0-360	201	H
3	* 10.784	27.66	Pk	37.8	-22.7	0	42.76	-	-	74	-31.24	-	-	0-360	100	H
5	* 7.401	31.55	Pk	35.6	-26	0	41.15	-	-	74	-32.85	-	-	0-360	200	V
6	* 11.649	27.28	Pk	38.2	-22.4	0	43.08	-	-	74	-30.92	-	-	0-360	100	V
4	17.56	27.94	Pk	41.7	-21.1	0	48.54	-	-	-	-	68.2	-19.66	0-360	201	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.883	45.74	PK-U	33.5	-32.3	0	46.94	-	-	74	-27.06	-	-	87	400	H
* 3.883	37.69	ADR	33.5	-32.3	.2	39.09	54	-14.91	-	-	-	-	87	400	H
* 4.726	41.65	PK-U	34.1	-30.4	0	45.35	-	-	74	-28.65	-	-	294	201	H
* 4.725	30.03	ADR	34.1	-30.4	.2	33.93	54	-20.07	-	-	-	-	294	201	H
* 10.784	34.68	PK-U	37.8	-22.7	0	49.78	-	-	74	-24.22	-	-	334	100	H
* 10.783	22.48	ADR	37.8	-22.7	.2	37.78	54	-16.22	-	-	-	-	334	100	H
* 7.4	37.5	PK-U	35.6	-26	0	47.1	-	-	74	-26.9	-	-	151	202	V
* 7.401	24.94	ADR	35.6	-26	.2	34.74	54	-19.26	-	-	-	-	151	202	V
* 11.649	36.7	PK-U	38.2	-22.4	0	52.5	-	-	74	-21.5	-	-	344	100	V
* 11.65	23.99	ADR	38.2	-22.4	.2	39.99	54	-14.01	-	-	-	-	344	100	V
17.56	34.49	PK-U	41.7	-21.1	0	55.09	-	-	-	-	68.2	-13.11	84	202	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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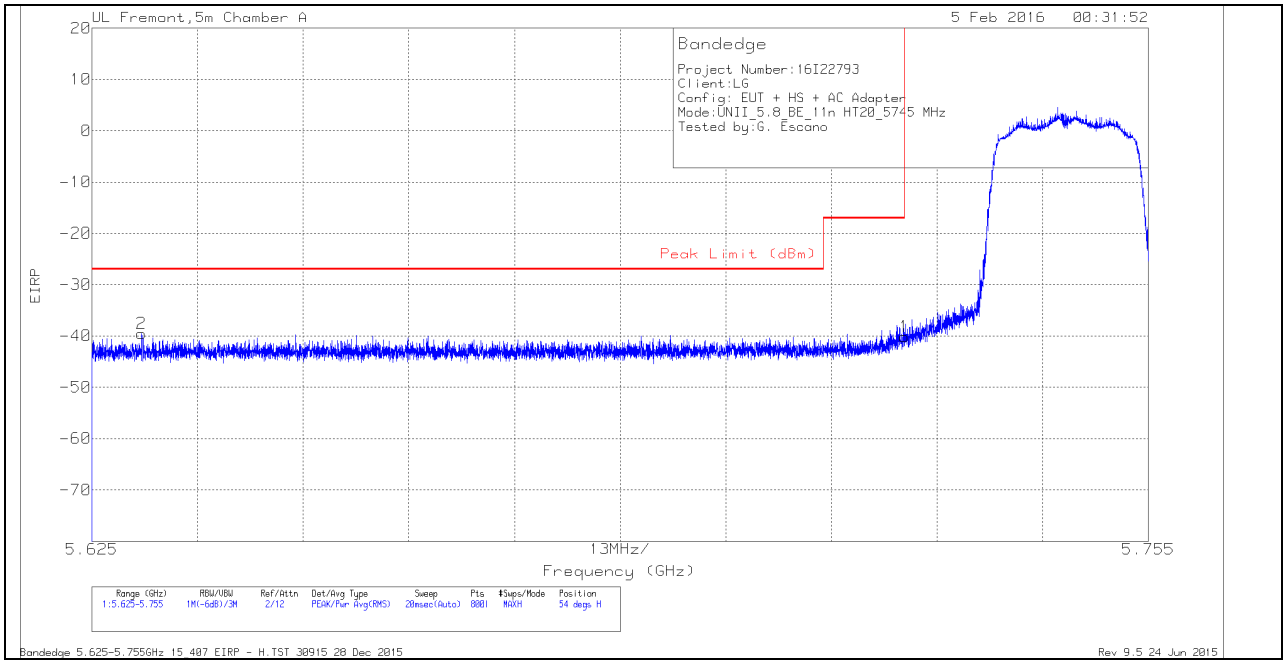
11.1.2.TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.631	-65.4	Pk	34.5	-20.4	11.8	-39.5	-27	-12.5	54	106	H
1	5.725	-66.55	Pk	34.7	-20.1	11.8	-40.15	-17	-23.15	54	106	H

Pk - Peak detector

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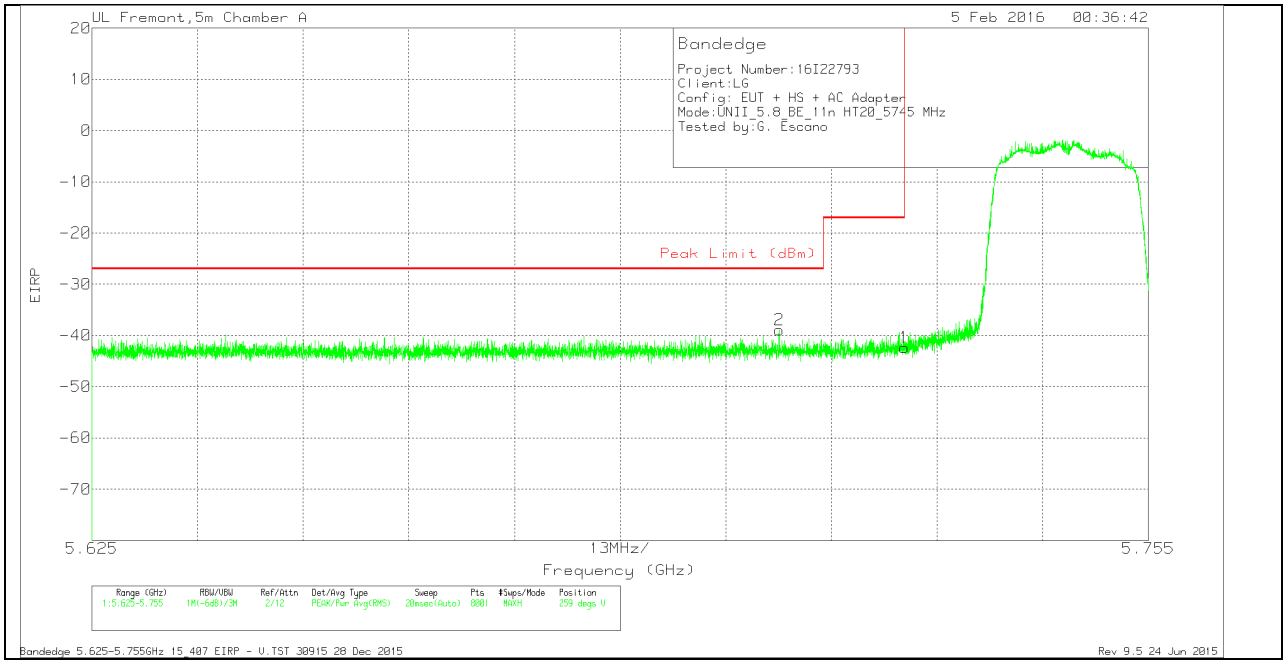
VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.71	-65.34	Pk	34.7	-20.1	11.8	-38.94	-27	-11.94	259	101	V
1	5.725	-68.71	Pk	34.7	-20.1	11.8	-42.31	-17	-25.31	259	101	V

Pk - Peak detector

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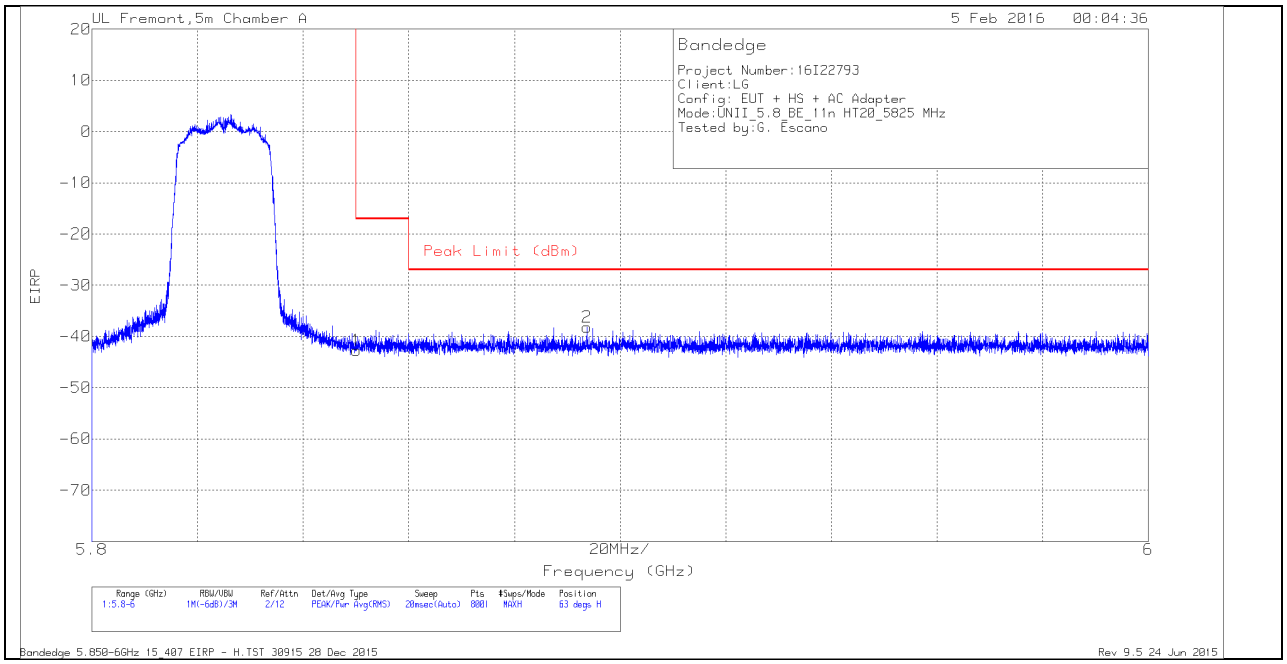
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-69.97	Pk	35.1	-19.7	11.8	-42.77	-17	-25.77	63	125	H
2	5.894	-65.49	Pk	35.2	-19.7	11.8	-38.19	-27	-11.19	63	125	H

Pk - Peak detector

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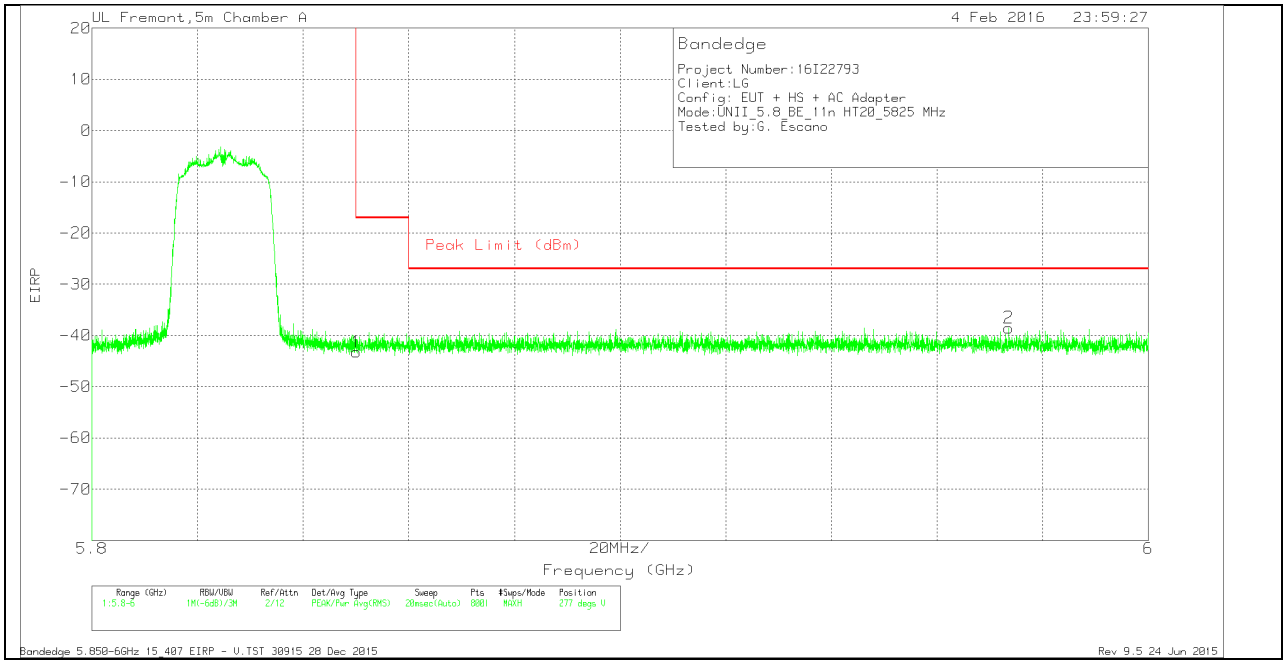
VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-70.47	Pk	35.1	-19.7	11.8	-43.27	-17	-26.27	277	107	V
2	5.974	-66.19	Pk	35.3	-19.4	11.8	-38.49	-27	-11.49	277	107	V

Pk - Peak detector

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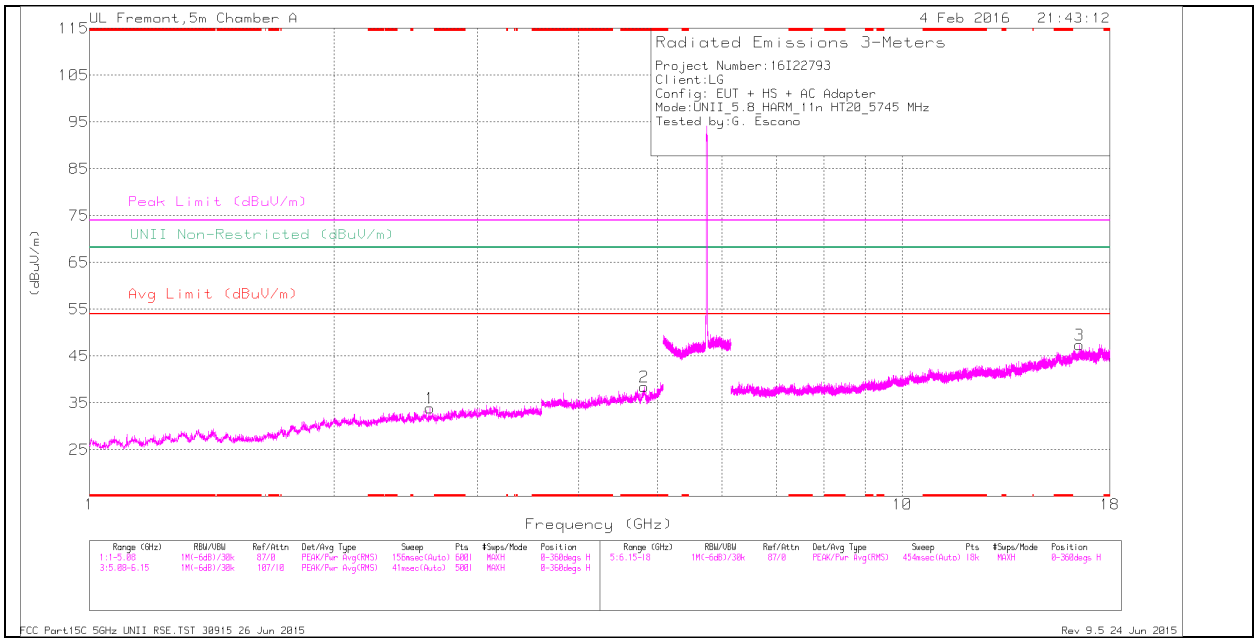
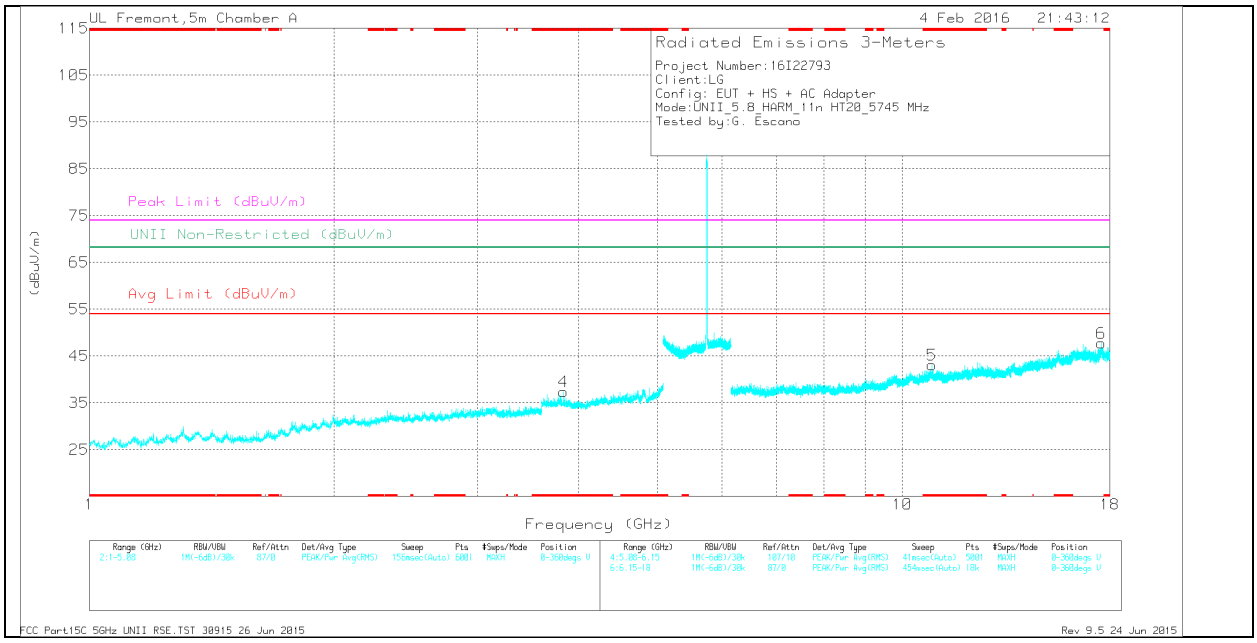
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.812	34.46	Pk	33.9	-29.9	0	38.46	-	-	74	-35.54	-	-	0-360	100	H
4	* 3.83	35.79	Pk	33.4	-31.8	0	37.39	-	-	74	-36.61	-	-	0-360	100	V
5	* 10.873	27.4	Pk	37.8	-22.1	0	43.1	-	-	74	-30.9	-	-	0-360	100	V
1	2.623	35.78	Pk	32.2	-34.1	0	33.88	-	-	-	-	68.2	-34.32	0-360	100	H
3	16.511	28.64	Pk	41.6	-22.9	0	47.34	-	-	-	-	68.2	-20.86	0-360	100	H
6	17.56	27.19	Pk	41.7	-21.1	0	47.79	-	-	-	-	68.2	-20.41	0-360	200	V

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.813	42.46	PK-U	33.9	-29.9	0	46.46	-	-	74	-27.54	-	-	160	100	H
* 4.811	29.92	ADR	34	-29.9	.22	34.24	54	-19.76	-	-	-	-	160	100	H
* 3.83	44.04	PK-U	33.4	-31.8	0	45.64	-	-	74	-28.36	-	-	175	100	V
* 3.83	33.7	ADR	33.4	-31.8	.22	35.52	54	-18.48	-	-	-	-	175	100	V
* 10.873	34.41	PK-U	37.8	-22.1	0	50.11	-	-	74	-23.89	-	-	132	100	V
* 10.872	22.28	ADR	37.8	-22.1	.22	38.2	54	-15.88	-	-	-	-	132	100	V
2.622	42.48	PK-U	32.2	-34.1	0	40.58	-	-	-	-	68.2	-27.62	46	100	H
16.513	35.17	PK-U	41.6	-22.9	0	53.87	-	-	-	-	68.2	-14.33	243	100	H
17.561	34.09	PK-U	41.7	-21	0	54.79	-	-	-	-	68.2	-13.41	345	201	V

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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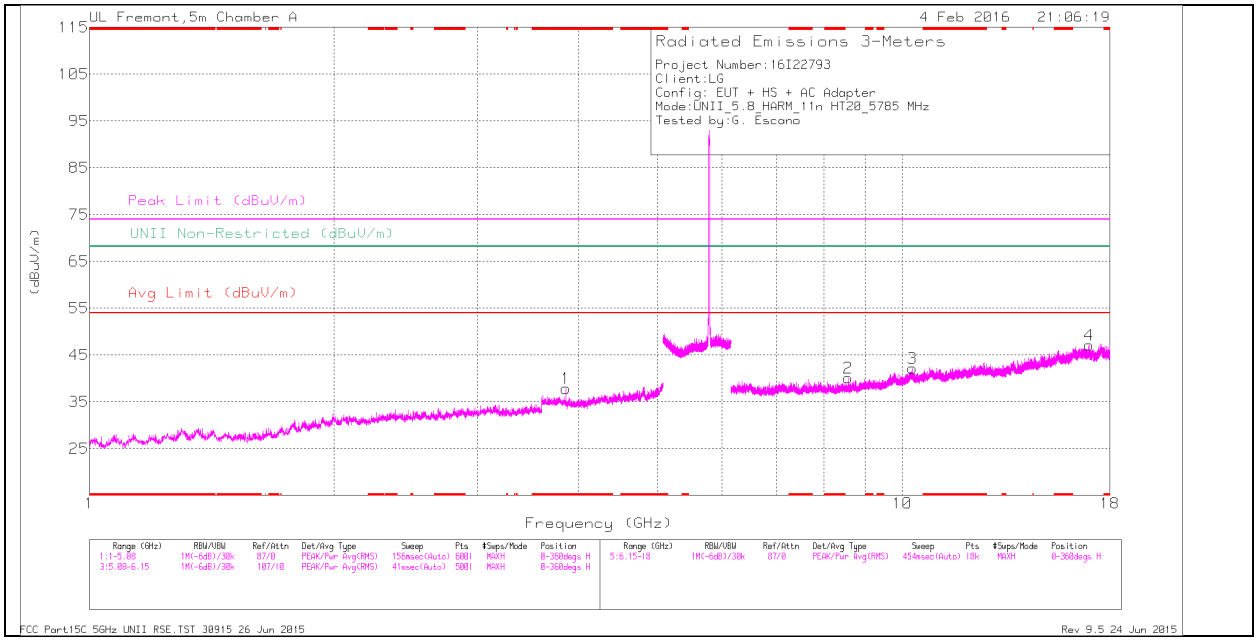
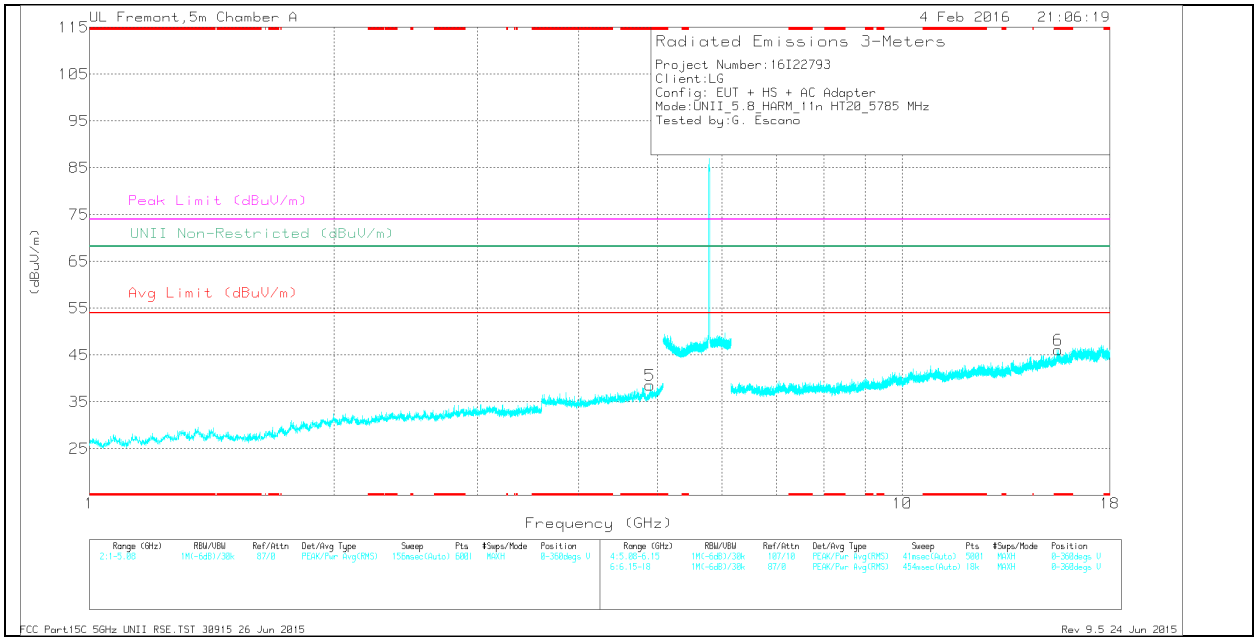
MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.857	36.35	Pk	33.4	-31.9	0	37.85	-	-	74	-36.15	-	-	0-360	100	H
5	* 4.892	34.01	Pk	33.9	-29.4	0	38.51	-	-	74	-35.49	-	-	0-360	200	V
6	* 15.536	27.01	Pk	40.3	-21.2	0	46.11	-	-	74	-27.89	-	-	0-360	200	V
2	8.582	29.67	Pk	35.8	-25.4	0	40.07	-	-	-	-	68.2	-28.13	0-360	100	H
3	10.285	27.25	Pk	37.3	-22.4	0	42.15	-	-	-	-	68.2	-26.05	0-360	100	H
4	16.985	27.76	Pk	41.4	-22	0	47.16	-	-	-	-	68.2	-21.04	0-360	201	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.857	44.57	PK-U	33.4	-31.9	0	46.07	-	-	74	-27.93	-	-	44	100	H
* 3.857	35.19	ADR	33.4	-31.9	.22	36.91	54	-17.09	-	-	-	-	44	100	H
* 4.892	40.7	PK-U	33.9	-29.5	0	45.1	-	-	74	-28.9	-	-	262	201	V
* 4.892	28.48	ADR	33.9	-29.5	.22	33.1	54	-20.9	-	-	-	-	262	201	V
* 15.536	34.77	PK-U	40.3	-21.2	0	53.87	-	-	74	-20.13	-	-	115	202	V
* 15.535	23.23	ADR	40.3	-21.2	.22	42.55	54	-11.45	-	-	-	-	115	202	V
8.582	36.21	PK-U	35.8	-25.4	0	46.61	-	-	-	-	68.2	-21.59	201	100	H
10.284	34.64	PK-U	37.3	-22.4	0	49.54	-	-	-	-	68.2	-18.66	102	100	H
16.985	34.36	PK-U	41.4	-22	0	53.76	-	-	-	-	68.2	-14.44	31	202	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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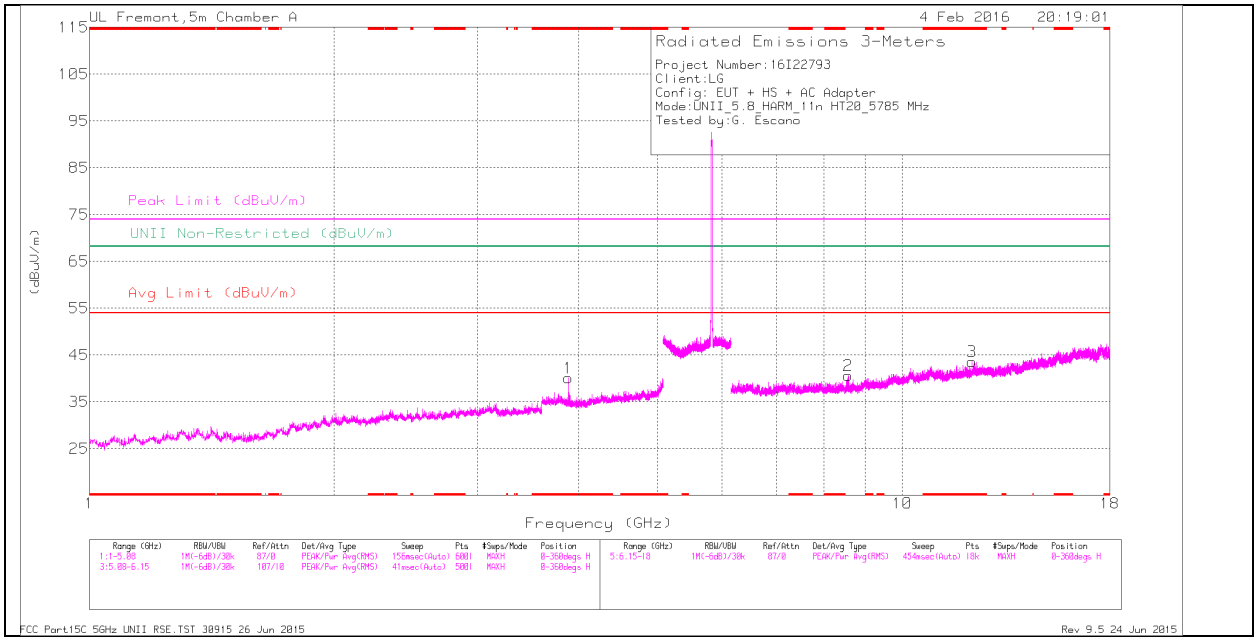
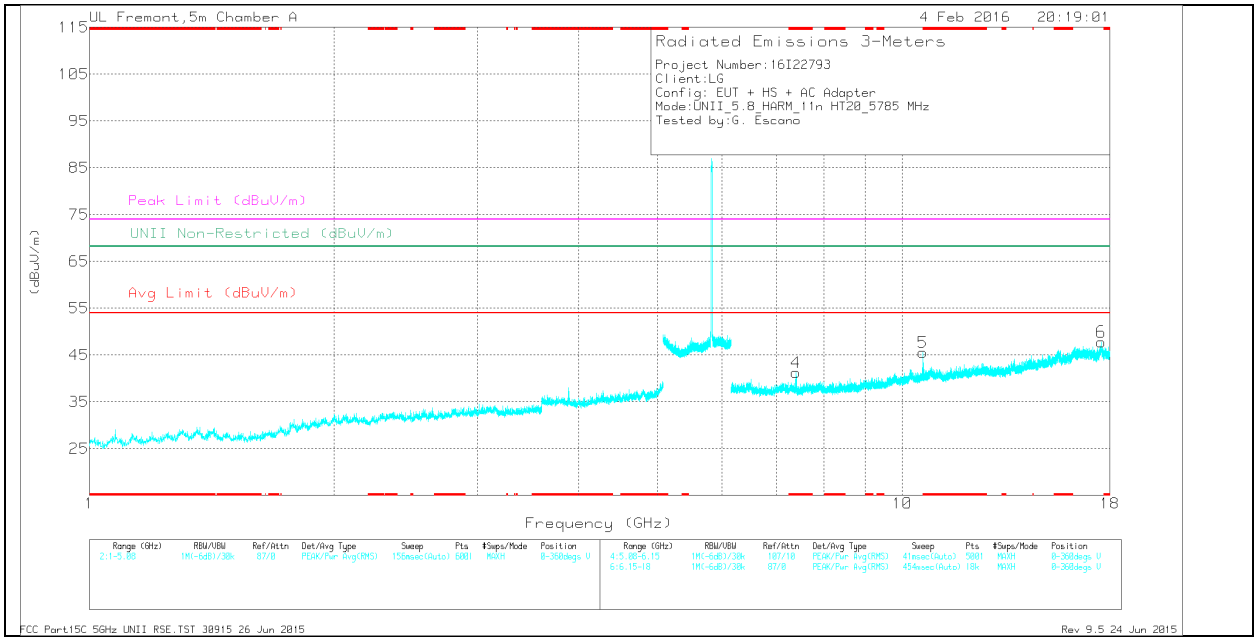
HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.883	38.91	Pk	33.5	-32.3	0	40.11	-	-	74	-33.89	-	-	0-360	100	H
3	* 12.188	27.46	Pk	38.8	-22.6	0	43.66	-	-	74	-30.34	-	-	0-360	201	H
4	* 7.394	31.7	Pk	35.5	-25.9	0	41.3	-	-	74	-32.7	-	-	0-360	100	V
2	8.582	30.29	Pk	35.8	-25.4	0	40.69	-	-	-	-	68.2	-27.51	0-360	100	H
5	10.599	30.84	Pk	37.7	-23	0	45.54	-	-	-	-	68.2	-22.66	0-360	100	V
6	17.566	27.14	Pk	41.7	-21	0	47.84	-	-	-	-	68.2	-20.36	0-360	200	V

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.883	46.02	PK-U	33.5	-32.3	0	47.22	-	-	74	-26.78	-	-	125	136	H
* 3.883	37.37	ADR	33.5	-32.3	.22	38.79	54	-15.21	-	-	-	-	125	136	H
* 12.189	35.69	PK-U	38.8	-22.6	0	51.89	-	-	74	-22.11	-	-	108	202	H
* 12.189	22.1	ADR	38.8	-22.6	.22	38.52	54	-15.48	-	-	-	-	108	202	H
* 7.395	37.28	PK-U	35.5	-25.9	0	46.88	-	-	74	-27.12	-	-	221	230	V
* 7.393	24.83	ADR	35.5	-25.9	.22	34.65	54	-19.35	-	-	-	-	221	230	V
8.581	36.48	PK-U	35.8	-25.4	0	46.88	-	-	-	-	68.2	-21.32	191	100	H
10.599	34.43	PK-U	37.7	-23	0	49.13	-	-	-	-	68.2	-19.07	131	100	V
17.565	34.19	PK-U	41.7	-21	0	54.89	-	-	-	-	68.2	-13.31	34	201	V

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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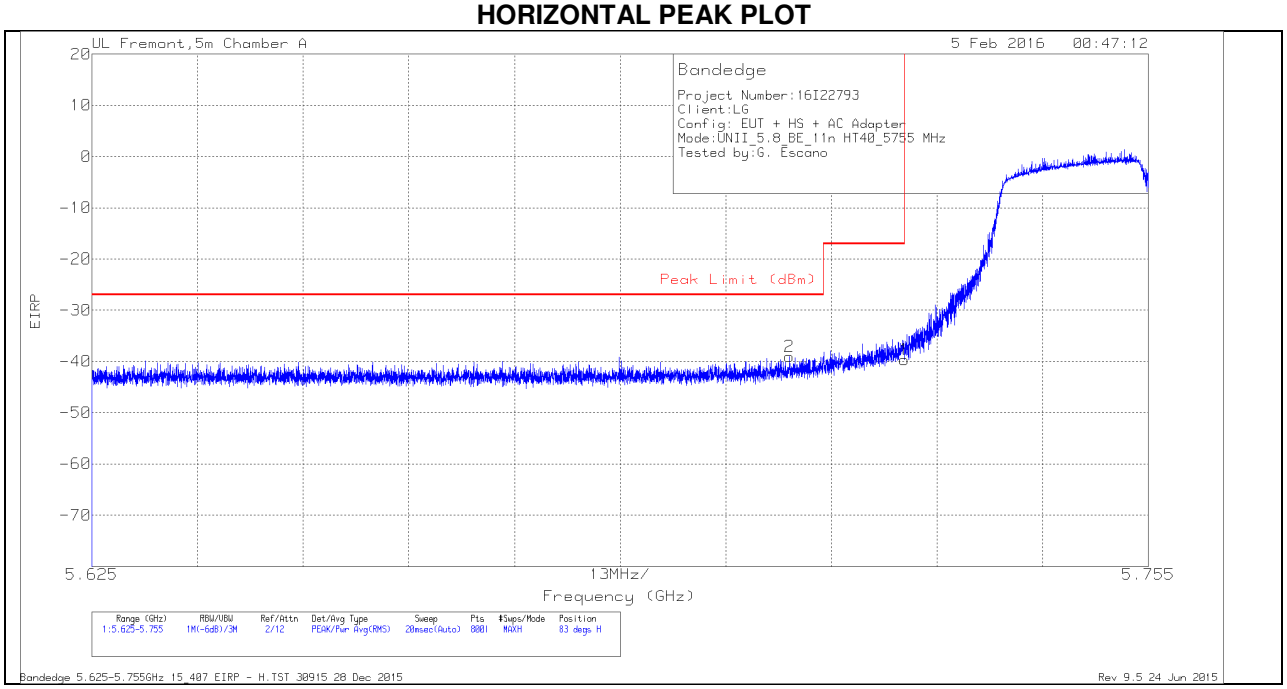
11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.711	-65.43	Pk	34.7	-20.1	11.8	-39.03	-27	-12.03	83	153	H
1	5.725	-66.08	Pk	34.7	-20.1	11.8	-39.68	-17	-22.68	83	153	H

Pk - Peak detector

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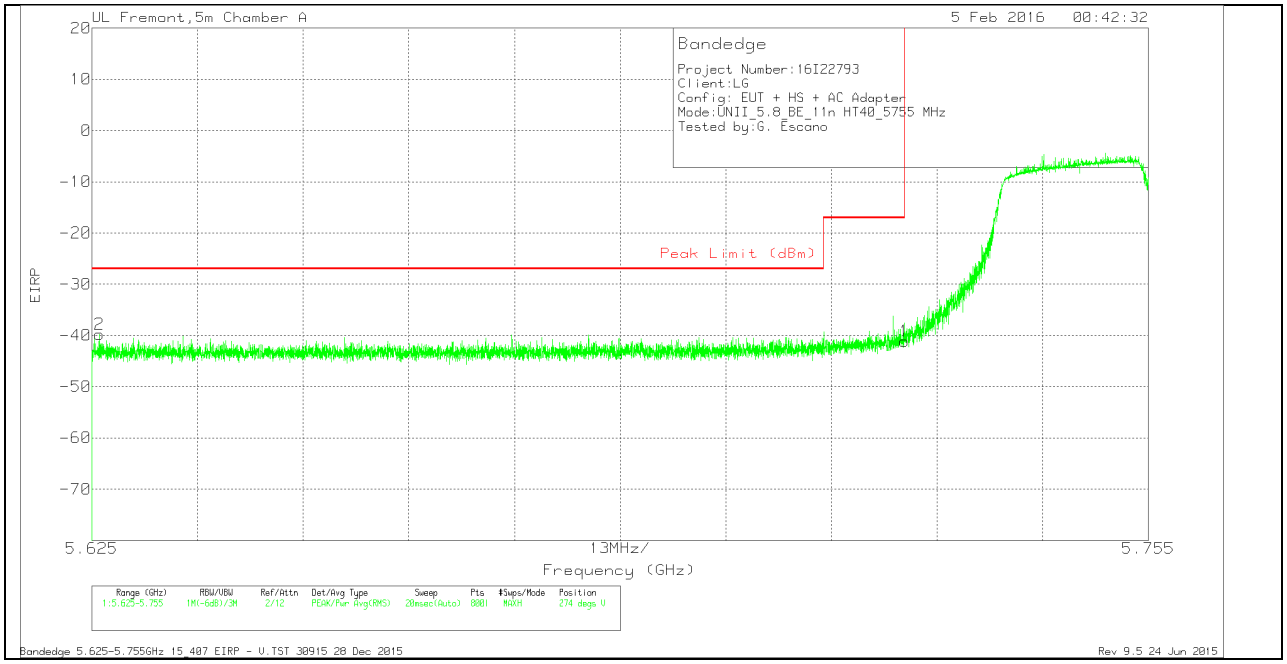
VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.626	-65.64	Pk	34.5	-20.4	11.8	-39.74	-27	-12.74	274	110	V
1	5.725	-67.53	Pk	34.7	-20.1	11.8	-41.13	-17	-24.13	274	110	V

Pk - Peak detector

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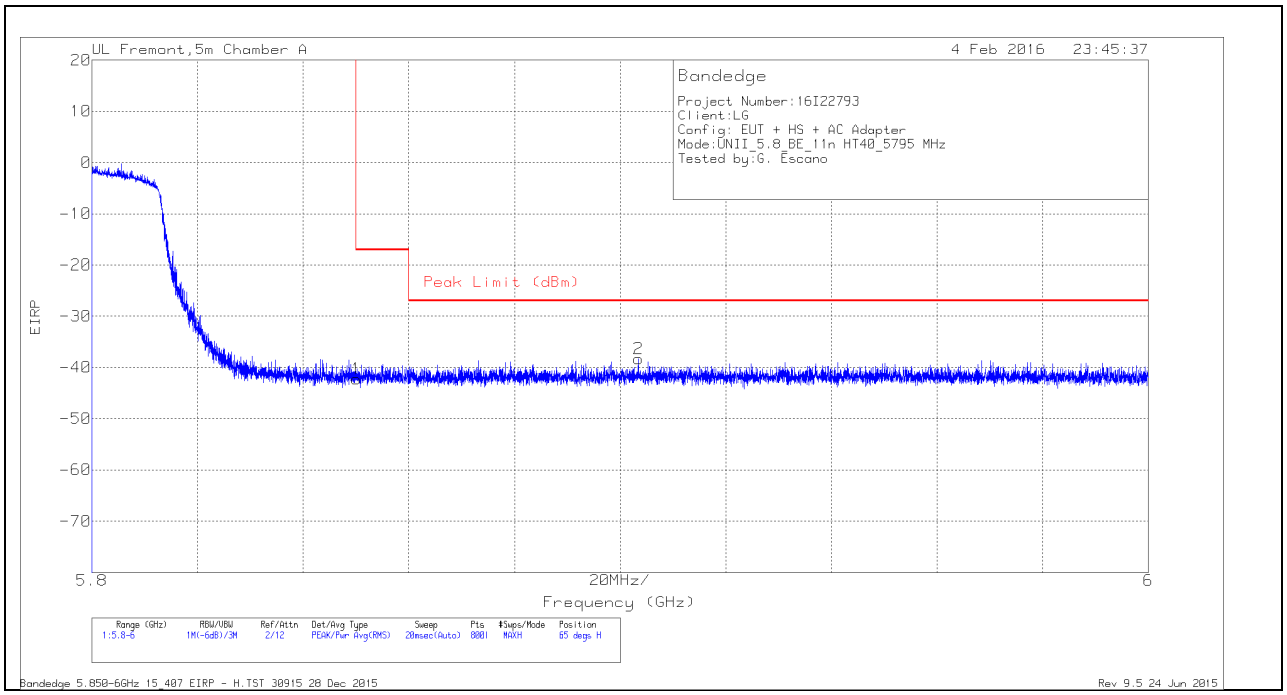
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-69.41	Pk	35.1	-19.7	11.8	-42.21	-17	-25.21	65	100	H
2	5.903	-65.6	Pk	35.2	-19.7	11.8	-38.3	-27	-11.3	65	100	H

Pk - Peak detector

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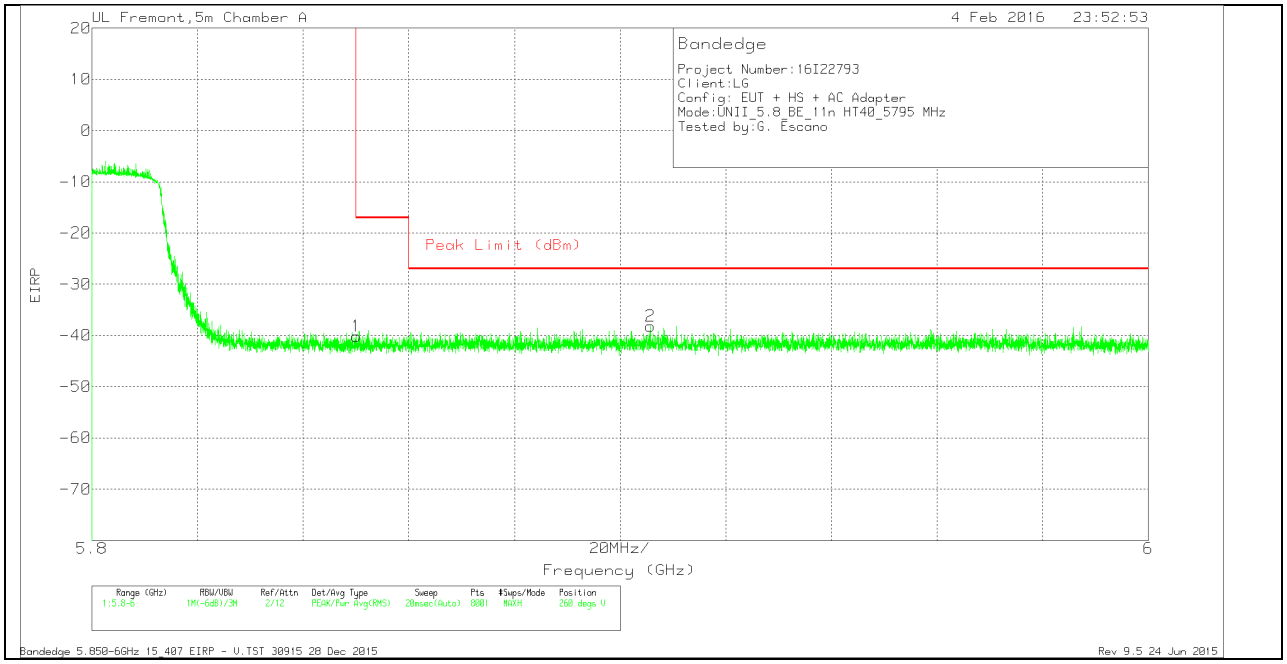
VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.38	Pk	35.1	-19.7	11.8	-40.18	-17	-23.18	260	100	V
2	5.906	-65.57	Pk	35.2	-19.6	11.8	-38.17	-27	-11.17	260	100	V

Pk - Peak detector

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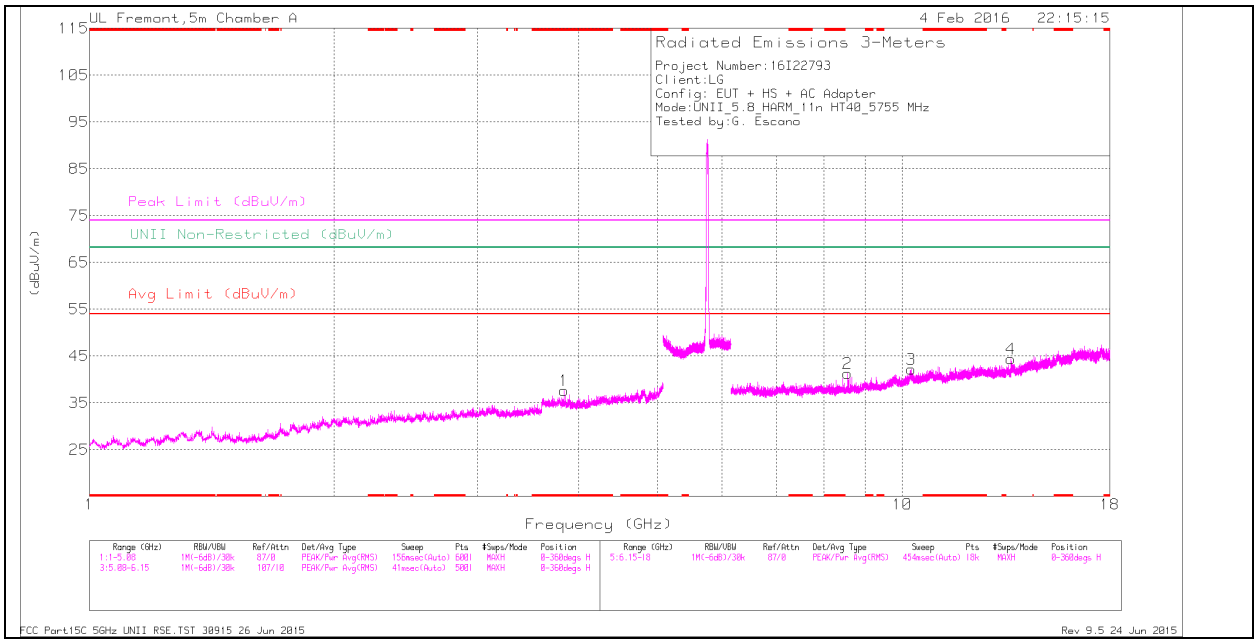
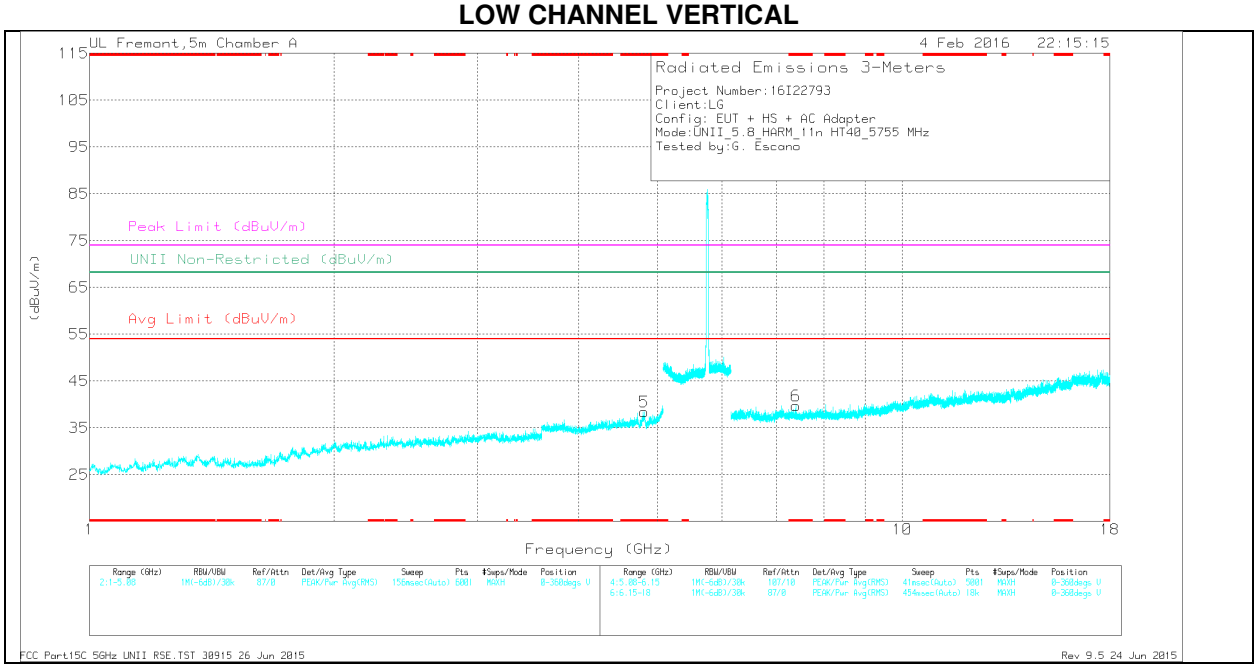
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.836	36.08	Pk	33.4	-31.8	0	37.68	-	-	74	-36.32	-	-	0-360	100	H
5	* 4.812	34.42	Pk	33.9	-29.9	0	38.42	-	-	74	-35.58	-	-	0-360	200	V
6	* 7.399	30	Pk	35.6	-25.9	0	39.7	-	-	74	-34.3	-	-	0-360	100	V
2	8.569	30.92	Pk	35.8	-25.4	0	41.32	-	-	-	-	68.2	-26.88	0-360	100	H
3	10.26	27.41	Pk	37.3	-22.5	0	42.21	-	-	-	-	68.2	-25.99	0-360	201	H
4	13.605	28.28	Pk	38.9	-22.8	0	44.38	-	-	-	-	68.2	-23.82	0-360	100	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.836	44.68	PK-U	33.4	-31.8	0	46.28	-	-	74	-27.72	-	-	76	296	H
* 3.837	34.43	ADR	33.4	-31.8	.43	36.46	54	-17.54	-	-	-	-	76	296	H
* 4.812	42	PK-U	33.9	-29.9	0	46	-	-	74	-28	-	-	151	200	V
* 4.812	30.53	ADR	33.9	-29.9	.43	34.96	54	-19.04	-	-	-	-	151	200	V
* 7.4	36.24	PK-U	35.6	-26	0	45.84	-	-	74	-28.16	-	-	197	100	V
* 7.401	25.16	ADR	35.6	-26	.43	35.19	54	-18.81	-	-	-	-	197	100	V
8.57	36.24	PK-U	35.8	-25.3	0	46.74	-	-	-	-	68.2	-21.46	202	100	H
10.259	34.84	PK-U	37.3	-22.5	0	49.64	-	-	-	-	68.2	-18.56	291	202	H
13.604	34.83	PK-U	38.9	-22.8	0	50.93	-	-	-	-	68.2	-17.27	321	100	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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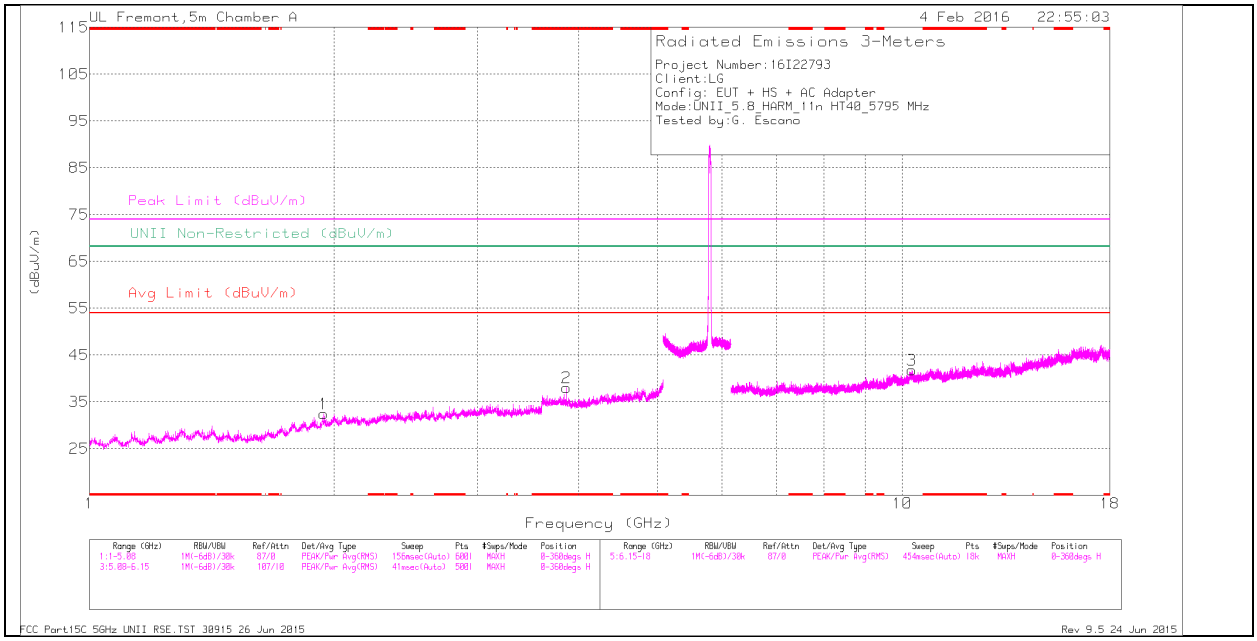
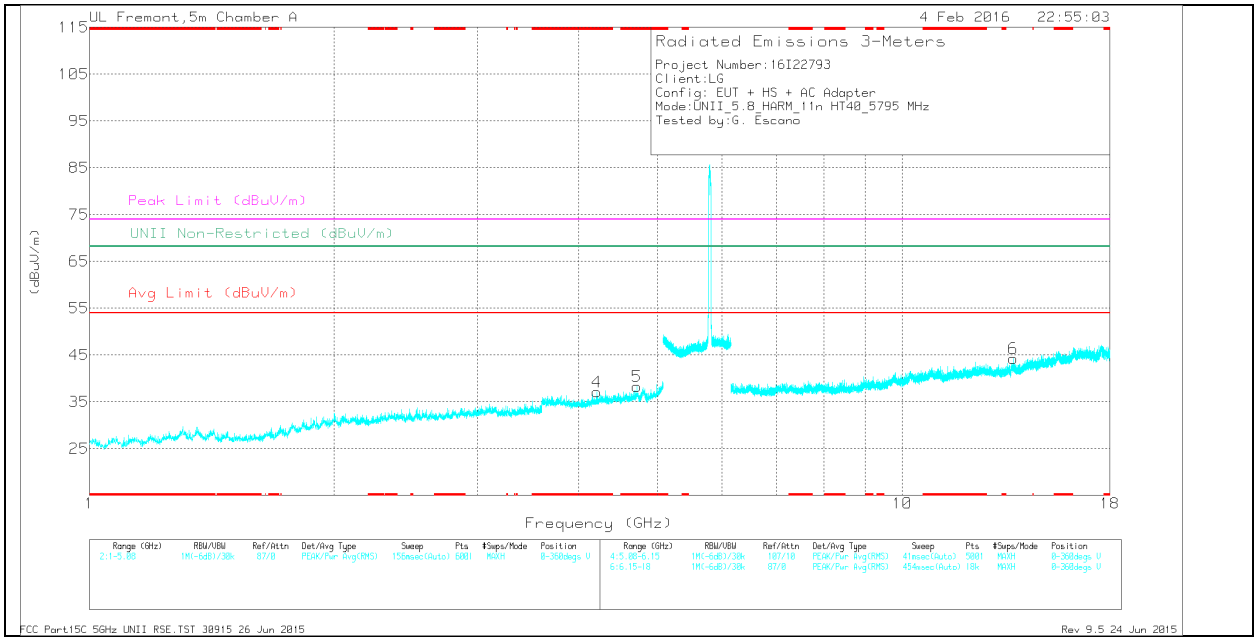
HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.863	36.53	Pk	33.5	-32	0	38.03	-	-	74	-35.97	-	-	0-360	100	H
4	* 4.206	34.88	Pk	33.3	-31.1	0	37.08	-	-	74	-36.92	-	-	0-360	200	V
5	* 4.718	34.59	Pk	34.1	-30.4	0	38.29	-	-	74	-35.71	-	-	0-360	200	V
1	1.943	36.21	Pk	31	-34.8	0	32.41	-	-	-	-	68.2	-35.79	0-360	201	H
3	10.274	26.96	Pk	37.3	-22.4	0	41.86	-	-	-	-	68.2	-26.34	0-360	100	H
6	13.684	27.97	Pk	38.8	-22.5	0	44.27	-	-	-	-	68.2	-23.93	0-360	100	V

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.863	44.89	PK-U	33.5	-32	0	46.39	-	-	74	-27.61	-	-	85	116	H
* 3.863	35.3	ADR	33.5	-32	.43	37.23	54	-16.77	-	-	-	-	85	116	H
* 4.205	42.13	PK-U	33.3	-31.1	0	44.33	-	-	74	-29.67	-	-	135	201	V
* 4.206	30.27	ADR	33.3	-31.1	.43	32.9	54	-21.1	-	-	-	-	135	201	V
* 4.719	42.73	PK-U	34.1	-30.4	0	46.43	-	-	74	-27.57	-	-	185	201	V
* 4.717	30.45	ADR	34.1	-30.4	.43	34.58	54	-19.42	-	-	-	-	185	201	V
1.945	43.7	PK-U	31	-34.8	0	39.9	-	-	-	-	68.2	-28.3	310	202	H
10.275	33.97	PK-U	37.3	-22.4	0	48.87	-	-	-	-	68.2	-19.33	264	100	H
13.684	34.79	PK-U	38.8	-22.5	0	51.09	-	-	-	-	68.2	-17.11	301	100	V

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

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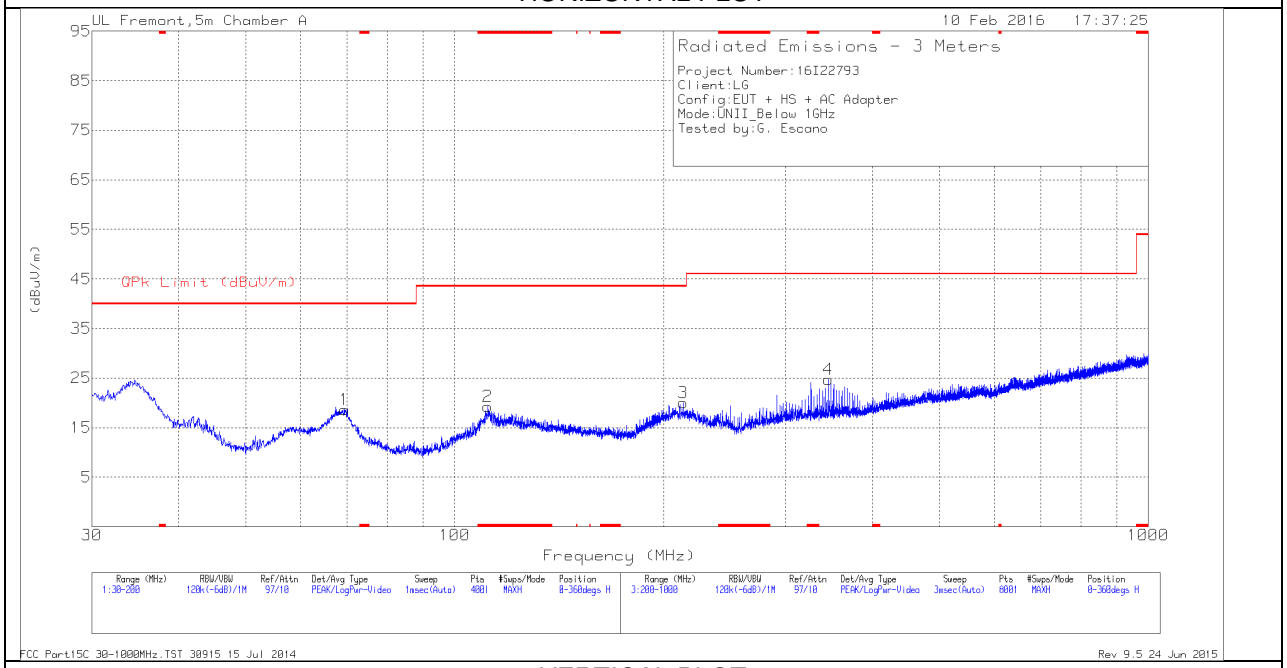
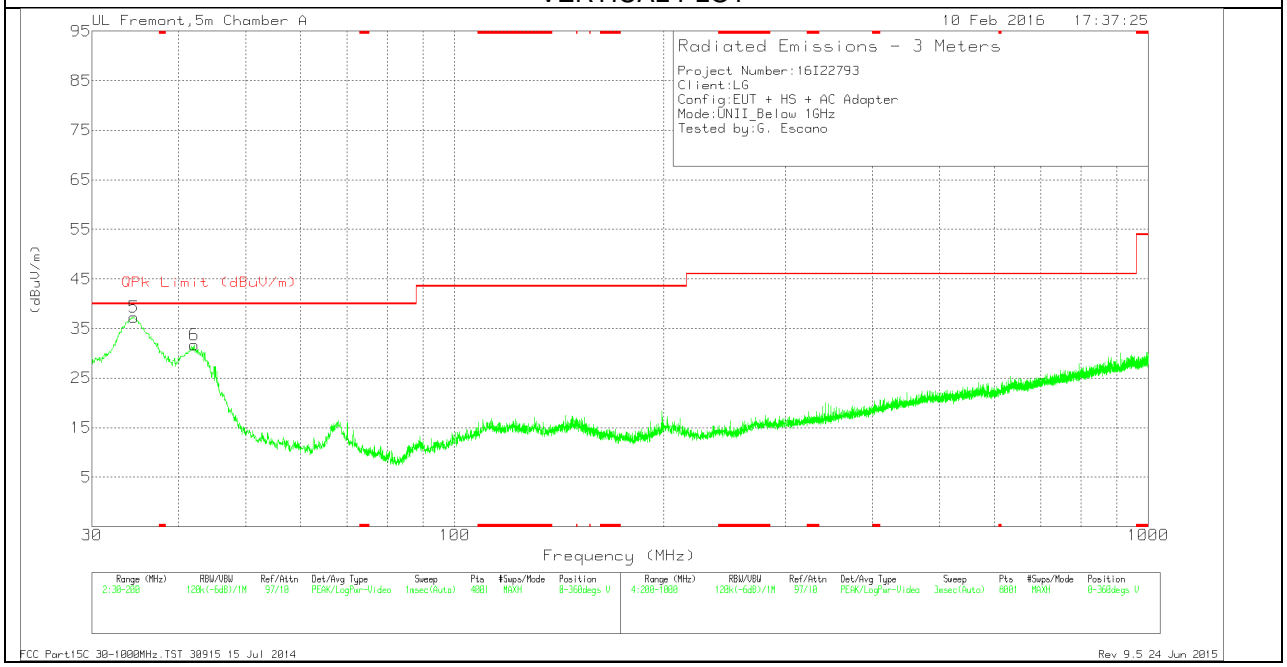
12. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)

HORIZONTAL PLOT



VERTICAL PLOT



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Below 1G Data

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 111.7275	32.98	Pk	16.8	-30.5	19.28	43.52	-24.24	0-360	299	H
5	34.4625	46.59	Pk	21.9	-31.2	37.29	40	-2.71	0-360	101	V
6	42.1125	46.44	Pk	16.3	-31.1	31.64	40	-8.36	0-360	101	V
1	69.3125	37.57	Pk	11.9	-30.8	18.67	40	-21.33	0-360	399	H
3	213.6	35.57	Pk	14.4	-29.9	20.07	43.52	-23.45	0-360	101	H
4	345.6	35.87	Pk	18.1	-29.2	24.77	46.02	-21.25	0-360	101	H

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
34.3713	43.23	Qp	22	-31.2	34.03	40	-5.97	100	104	V

* - indicates frequency in 47 CFR §15.205/IC RSS-Gen §8.10 Restricted Band

Qp - Quasi-Peak detector

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