FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-247 ISSUE 1

CERTIFICATION TEST REPORT

FOR

BLUETOOTH, BLE, and 802.11 a/b/g/n Measuring Device

MODEL NUMBER: IKE-IK04-L

FCC ID: 2ACBG4000

IC: 11952A-4000

REPORT NUMBER:16U22614-E3V2

ISSUE DATE: 3/31/2016

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	03/17/16	Initial Issue	C. Vergonio
V2	03/31/16	Updated Section 5.2.	C. Vergonio

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: IkeGPS

EUT DESCRIPTION: BLUETOOTH, BLE, and 802.11 a/b/g/n Measuring Device

MODEL: IKE-IK04-L

SERIAL NUMBER: DVT2 UNIT37 (Radiated), DVT2 UNIT46 (Conducted)

DATE TESTED: February 23 – March 16, 2016

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	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.

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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-GEN Issue 4, and RSS-247 Issue 1.

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

The EUT is a Bluetooth, BLE, and 802.11 a/b/g/n Measuring Device.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	20.42	110.15
2412 - 2462	802.11g	16.81	47.97
2412 - 2462	802.11n HT20	15.21	33.19
2422 - 2452	802.11n HT40	12.56	18.03

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPC antenna, with a maximum gain of .79dBi.

5.4. SOFTWARE and HARDWARE

The test utility software and hardware used during testing was Software Version: 1.0 and Hardware Version: 1.0.

5.5. 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 X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20mode: MCS0

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5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	IkeGPS	ASSA41w2-050250	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	USB	Unshielded	1.5	N/A

TEST SETUP

The EUT is a stand-alone unit during the tests. Test software exercised the radio card.

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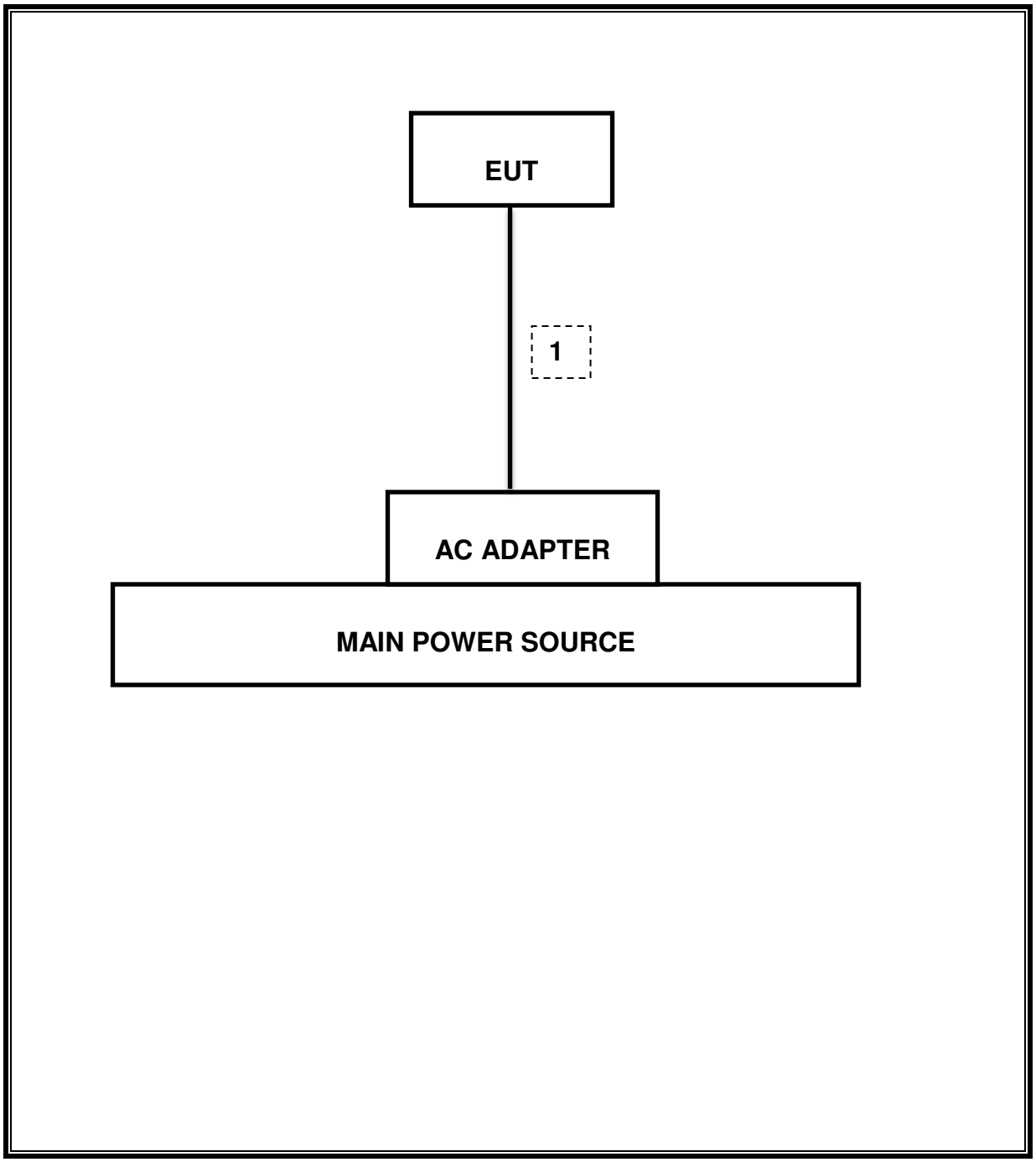
SETUP DIAGRAM FOR TESTS



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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, Horn, 18GHz	EMCO	3115	59	11/18/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	88	04/07/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	404	06/29/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	123	10/22/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	907	06/11/16
EMI Test Receiver, 9 KHz to 7 GHz	Rohde & Schwarz	ECSI7	284	09/10/16
Peak Power Meter	Agilent / HP	N1914A	254	06/08/16
Peak / Average Power Sensor	Keysight	E9323A	338	04/16/16
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
Antenna Port Software	UL	UL RF	Ver 3.9.1, Dec 28, 2015

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7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 558074 D01 v03r04, Section 6.0.

6 dB BW: KDB 558074 D01 v03r04, Section 8.1.

99% BW: ANSI C63.10-2013, Section 6.9.3.

Output Power: KDB 558074 D01 v03r04, Section 9.2.3.2.

Power Spectral Density: KDB 558074 D01 v03r04, Section 10.3

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r04, Section 11.0.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r04, Section 12.1.

Band-edge: KDB 558074 D01 v03r04, Section 13.3.1.

AC Power Line Conducted Emissions: ANSI C63.10-2013 Section 6.2.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

Band edge emissions within Restricted Bands are measured using RMS with duty cycle factor offset method.

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8. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	RSS-247 5.2.1	Occupied Bandwidth (6dB)	>500KHz	Conducted	Pass
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass
15.247	RSS-247 5.4.4	TX conducted output power	<30dBm		Pass
15.247	RSS-247 5.2.2	PSD	<8dBm		Pass
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

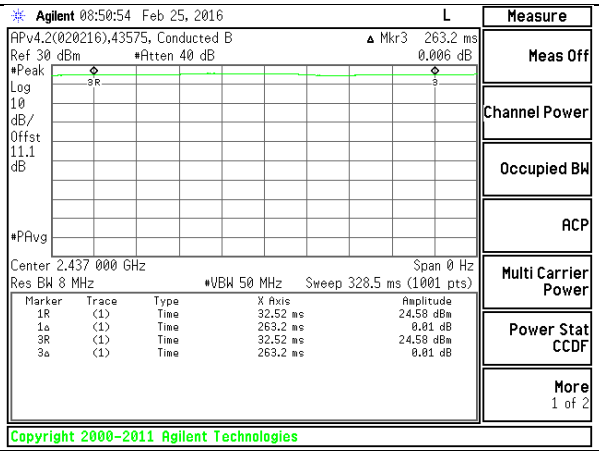
9.1.1. ON TIME AND DUTY CYCLE RESULTS

ON TIME AND DUTY CYCLE RESULTS

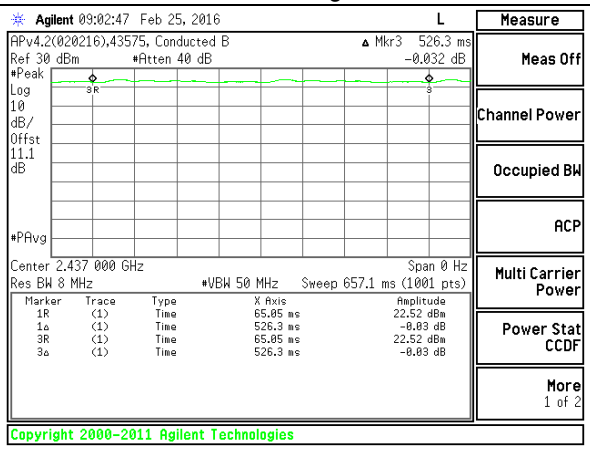
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11b	0.263	0.263	1.000	100.00%	0.00	0.010
802.11g	0.526	0.526	1.000	100.00%	0.00	0.010
802.11n HT20	0.526	0.526	1.000	100.00%	0.00	0.010
802.11n HT40	0.526	0.526	1.000	100.00%	0.00	0.010

DUTY CYCLE PLOTS

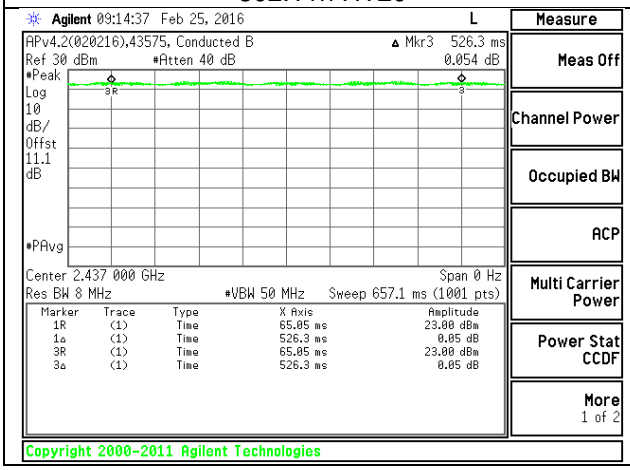
802.11b



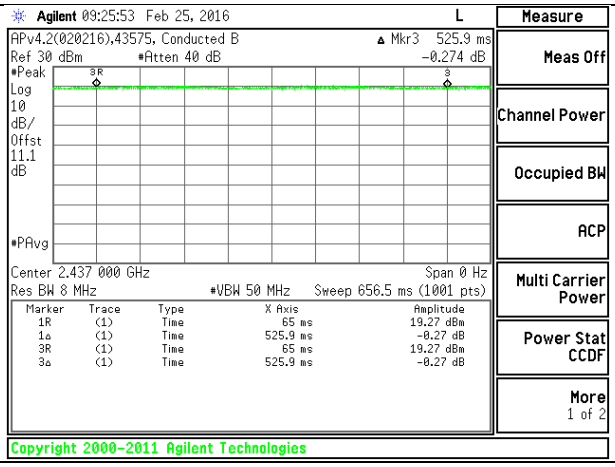
802.11g



802.11n HT20



802.11n HT40



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9.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-247 5.2.1

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

TEST PROCEDURE

Reference to KDB 558074 D01 DTS Meas Guidance v03r04: The transmitter output is connected to a spectrum analyzer with the RBW set to100KHz, the VBW >= 3 x RBW, peak detector and max hold.

RESULTS

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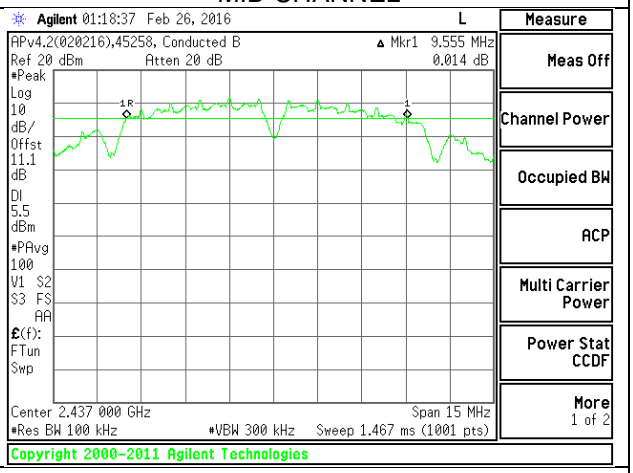
9.2.1. 6 dB BANDWIDTH MID CH PLOTS AND TABLE

802.11b TEST RESULT TABLE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
Low	2412	9.525
Middle	2437	9.555
High	2462	8.515

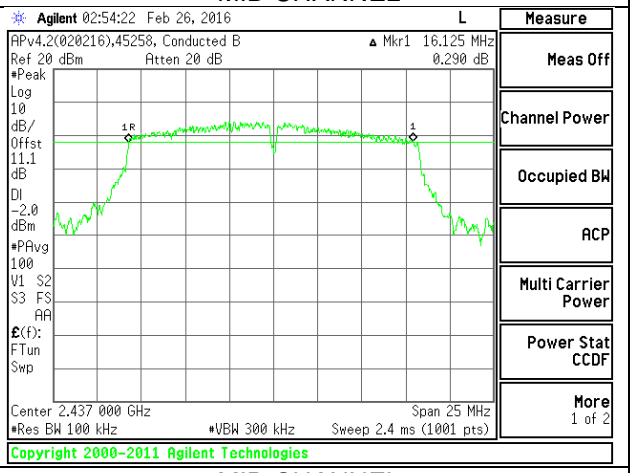
MID CHANNEL



802.11g TEST RESULT TABLE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
Low	2412	16.400
Middle	2437	16.125
High	2462	14.927

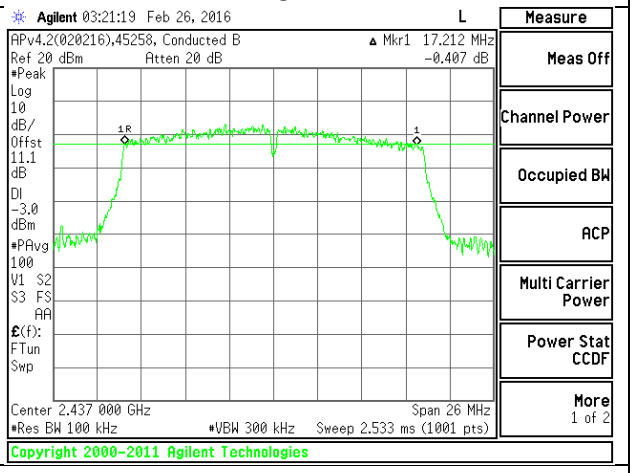
MID CHANNEL



802.11n HT20 TEST RESULT TABLE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
Low	2412	17.631
Middle	2437	17.212
High	2462	15.318

MID CHANNEL



NOTE: --

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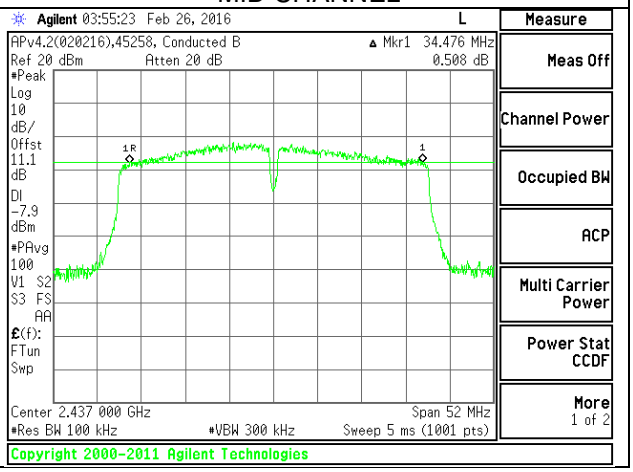
802.11n HT40 TEST RESULT TABLE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
Low	2422	35.964
Middle	2437	34.476
High	2452	34.424

MID CHANNEL



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9.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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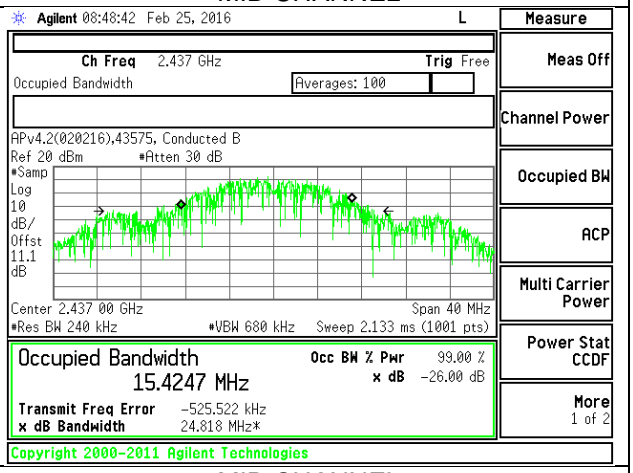
9.3.1. 99% BANDWIDTH MID CH PLOTS AND TABLE

802.11b TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.848
Middle	2437	15.425
High	2462	12.673

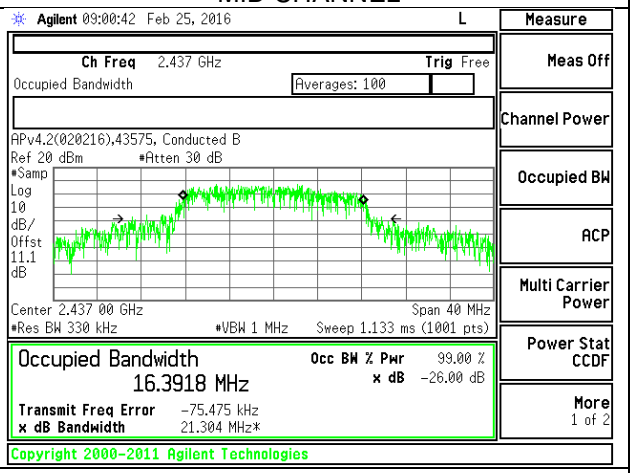
MID CHANNEL



802.11g TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.549
Middle	2437	16.392
High	2462	16.383

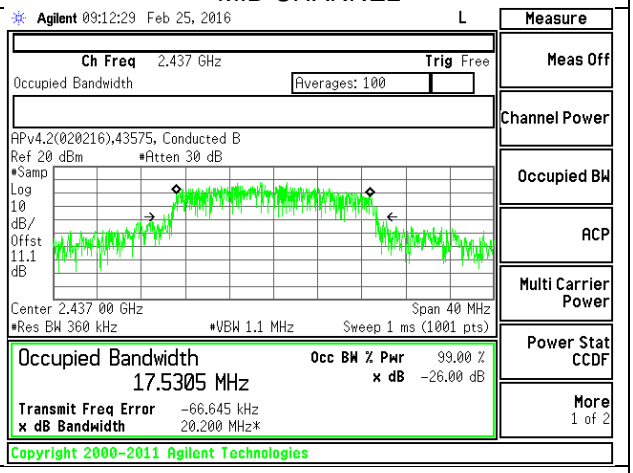
MID CHANNEL



802.11n HT20 TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.682
Middle	2437	17.531
High	2462	17.636

MID CHANNEL



NOTE: --

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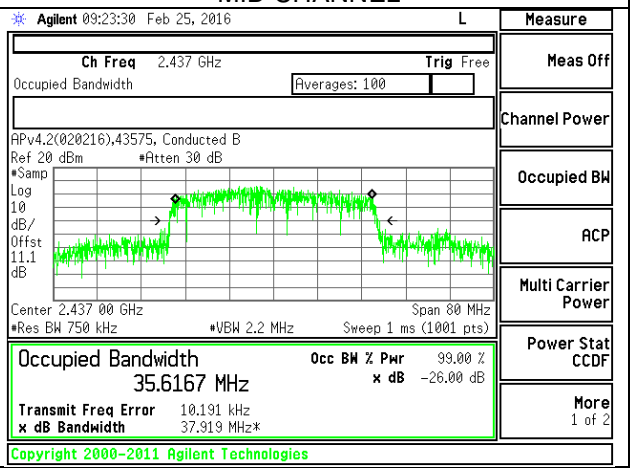
802.11n HT40 TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2422	35.984
Middle	2437	35.617
High	2452	36.577

MID CHANNEL



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9.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-247 5.4.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power of the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

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9.4.1. 802.11b MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	0.79	30.00	30	36	30.00
Mid	2437	0.79	30.00	30	36	30.00
High	2462	0.79	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	20.42	20.42	30.00	-9.58
Mid	2437	20.41	20.41	30.00	-9.59
High	2462	19.60	19.60	30.00	-10.40
Worst			20.42		

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

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9.4.2. 802.11g MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	0.79	30.00	30	36	30.00
Mid	2437	0.79	30.00	30	36	30.00
High	2462	0.79	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	16.65	16.65	30.00	-13.35
Mid	2437	16.81	16.81	30.00	-13.19
High	2462	16.32	16.32	30.00	-13.68
Worst			16.81		

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

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9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	0.79	30.00	30	36	30.00
Mid	2437	0.79	30.00	30	36	30.00
High	2462	0.79	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	14.85	14.85	30.00	-15.15
Mid	2437	14.67	14.67	30.00	-15.33
High	2462	15.21	15.21	30.00	-14.79
Worst			15.21		

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

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9.4.4. 802.11n HT40 MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2422	0.79	30.00	30	36	30.00
Mid	2437	0.79	30.00	30	36	30.00
High	2452	0.79	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2422	12.56	12.56	30.00	-17.44
Mid	2437	12.21	12.21	30.00	-17.79
High	2452	12.47	12.47	30.00	-17.53
Worst			12.56		

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9.5. PSD

LIMITS

FCC §15.247

IC RSS-247 5.2.2

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

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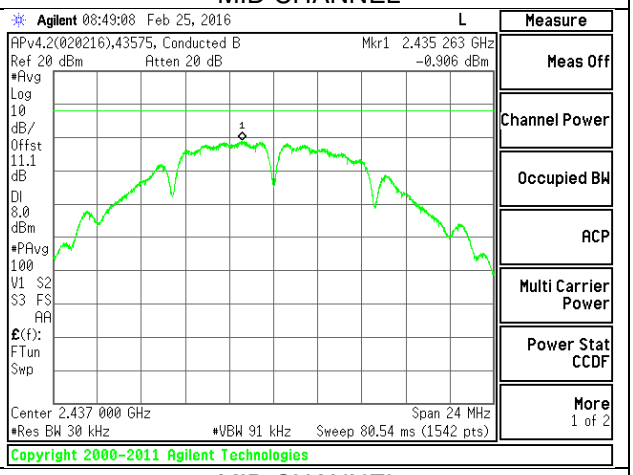
9.5.1. POWER SPECTRAQL DENSITY PLOTS AND TABLE

802.11b TEST RESULT TABLE

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412.00	-1.88	8.00	-9.88
Middle	2437.00	-0.91	8.00	-8.91
High	2462.00	-3.95	8.00	-11.95

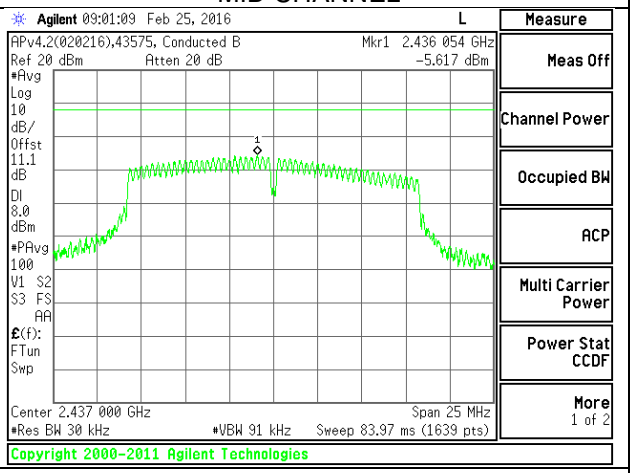
MID CHANNEL



802.11g TEST RESULT TABLE

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412.00	-6.74	8.00	-14.74
Middle	2437.00	-5.62	8.00	-13.62
High	2462.00	-7.10	8.00	-15.10

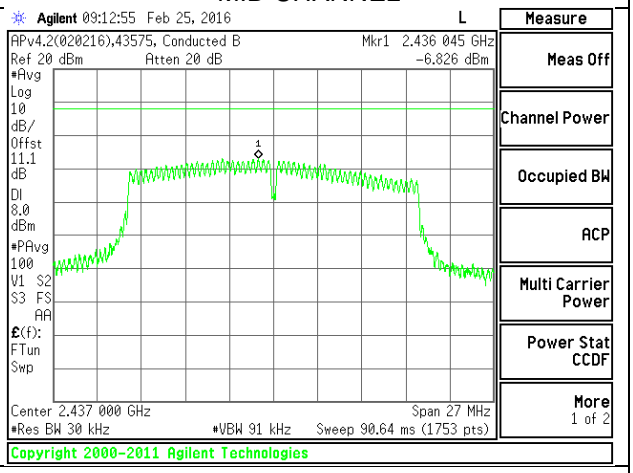
MID CHANNEL



802.11n HT20 TEST RESULT TABLE

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412.00	-8.20	8.00	-16.20
Middle	2437.00	-6.83	8.00	-14.83
High	2462.00	-8.23	8.00	-16.23

MID CHANNEL



NOTE: --

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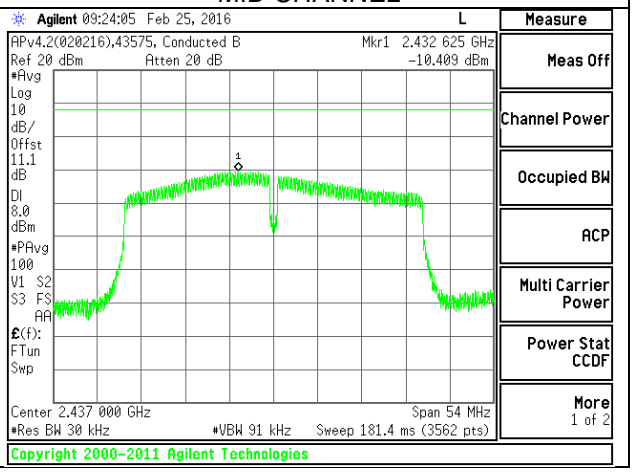
802.11n HT40 TEST RESULT TABLE

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2422.00	-10.32	8.00	-18.32
Middle	2437.00	-10.41	8.00	-18.41
High	2452.00	-14.18	8.00	-22.18

MID CHANNEL



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9.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-247 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS

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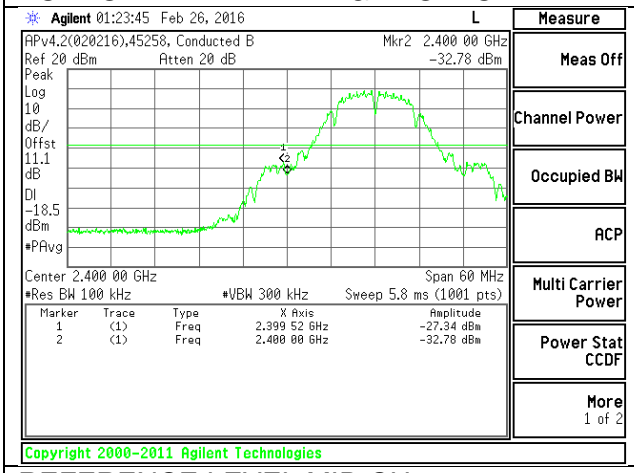
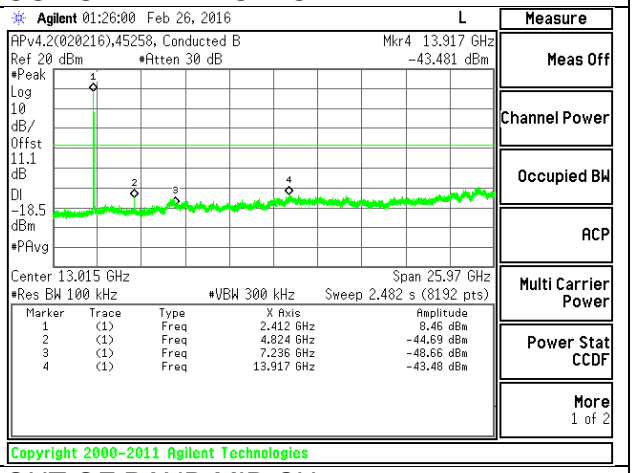
9.6.1. 802.11b MODE IN THE 2.4 GHz BAND

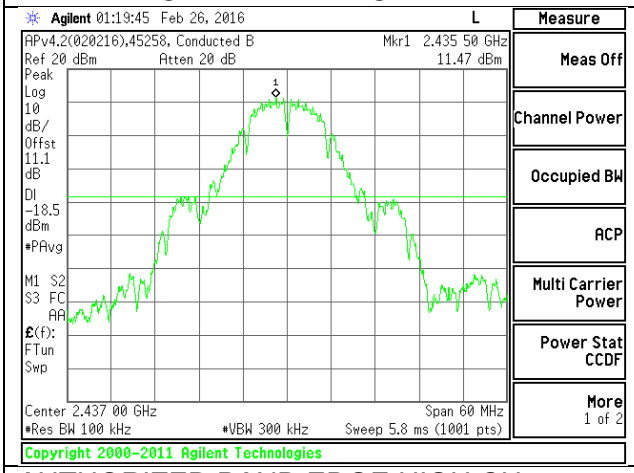
AUTHORIZED BAND EDGE LOW CH



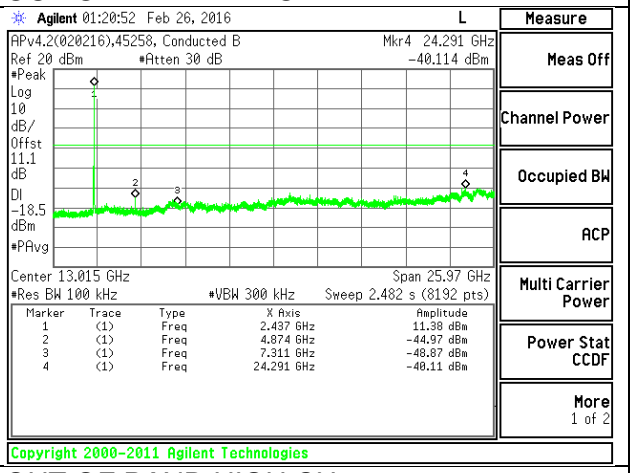
OUT OF BAND LOW CH



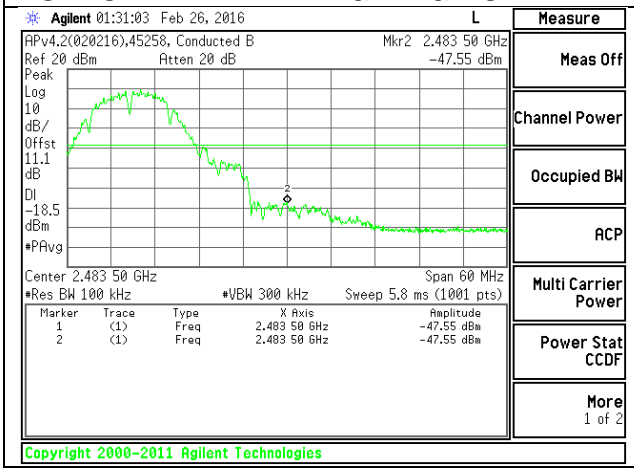
REFERENCE LEVEL MID CH



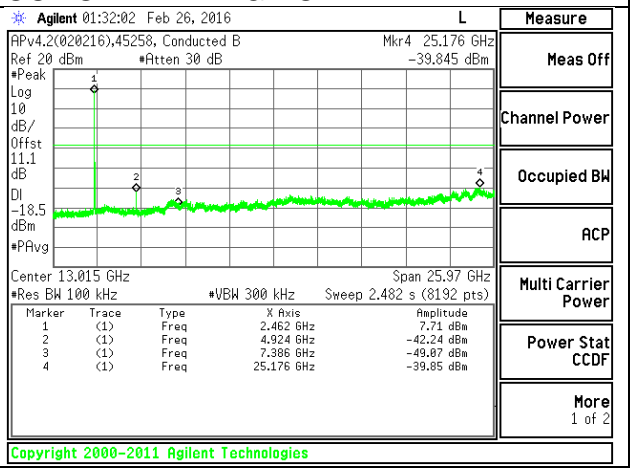
OUT OF BAND MID CH



AUTHORIZED BAND EDGE HIGH CH



OUT OF BAND HIGH CH



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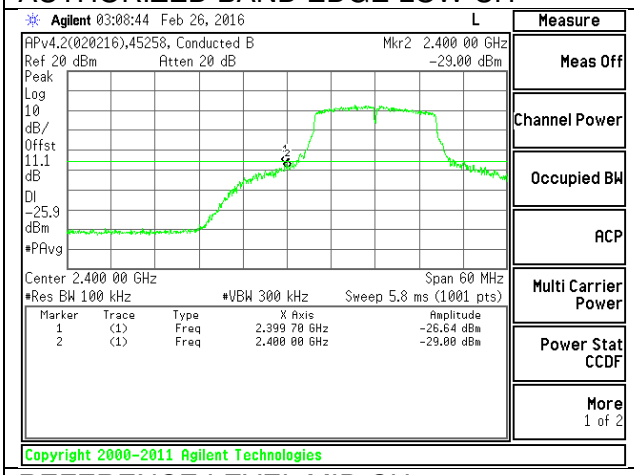
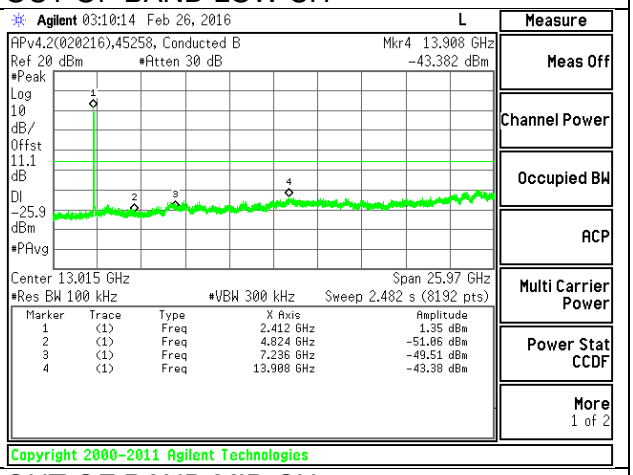
9.6.2. 802.11g MODE IN THE 2.4 GHz BAND

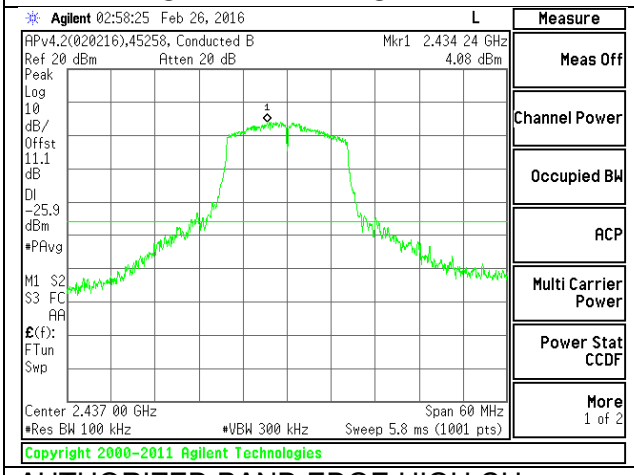
AUTHORIZED BAND EDGE LOW CH



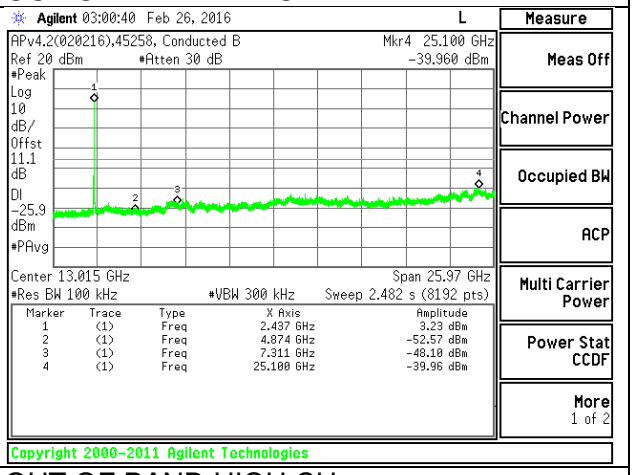
OUT OF BAND LOW CH



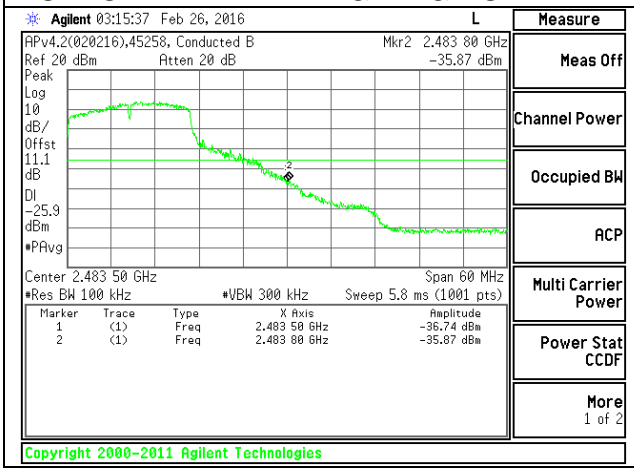
REFERENCE LEVEL MID CH



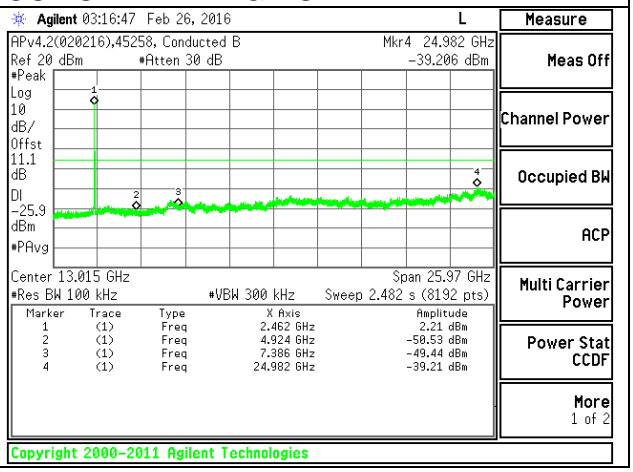
OUT OF BAND MID CH



AUTHORIZED BAND EDGE HIGH CH



OUT OF BAND HIGH CH



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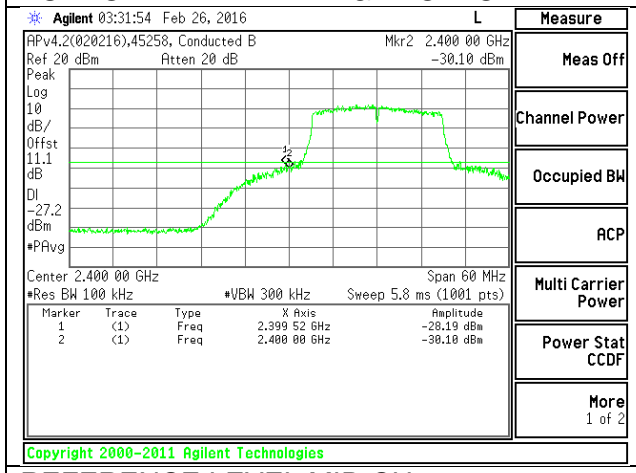
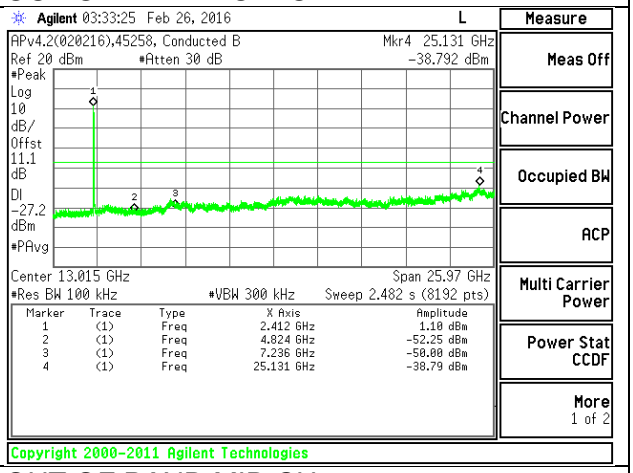
9.6.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

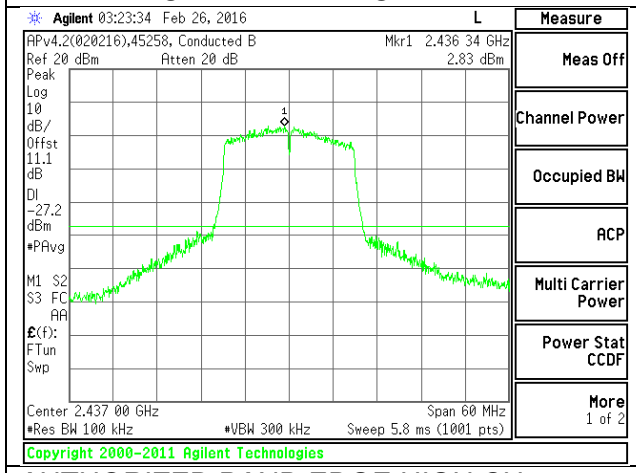
AUTHORIZED BAND EDGE LOW CH



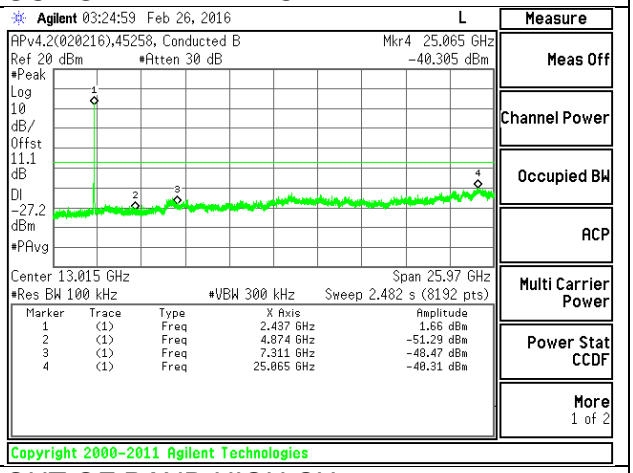
OUT OF BAND LOW CH



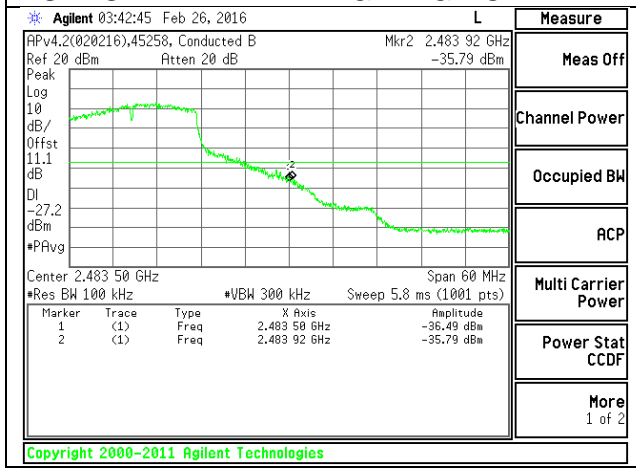
REFERENCE LEVEL MID CH



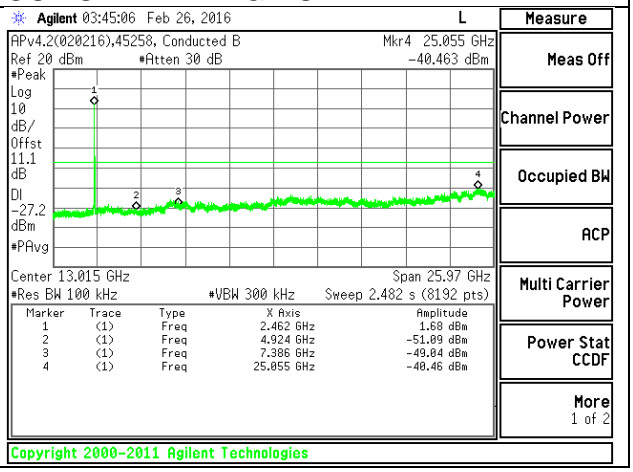
OUT OF BAND MID CH



AUTHORIZED BAND EDGE HIGH CH



OUT OF BAND HIGH CH



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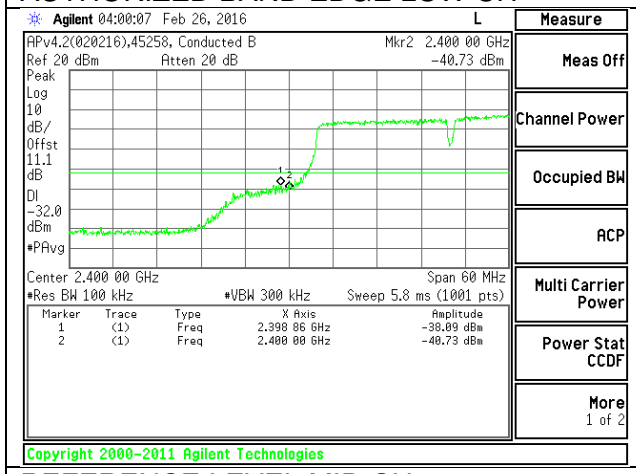
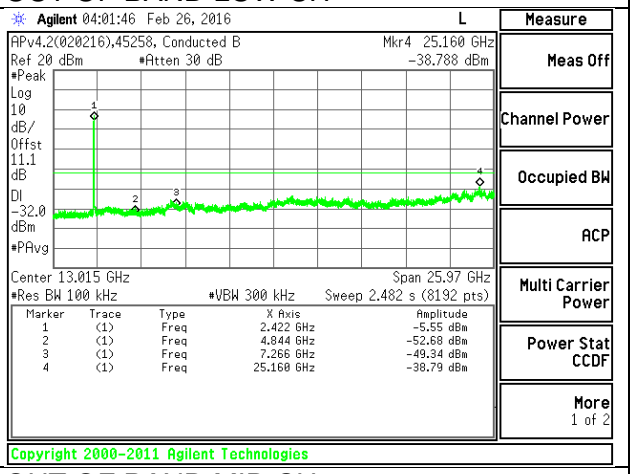
9.6.4. 802.11n HT40 MODE IN THE 2.4 GHz BAND

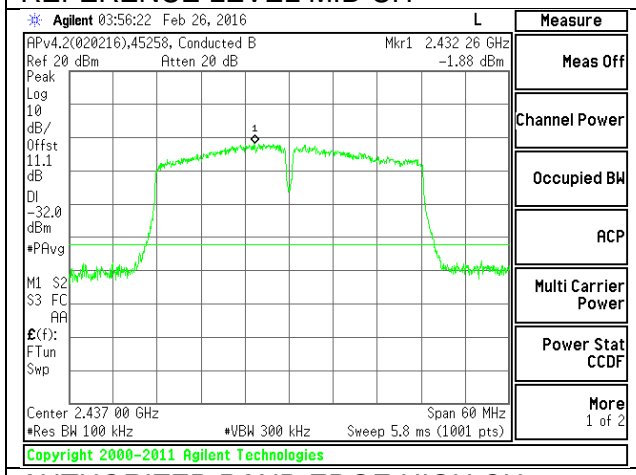
AUTHORIZED BAND EDGE LOW CH



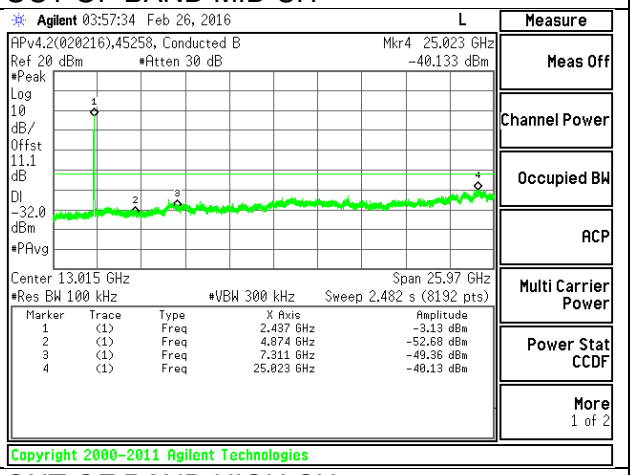
OUT OF BAND LOW CH



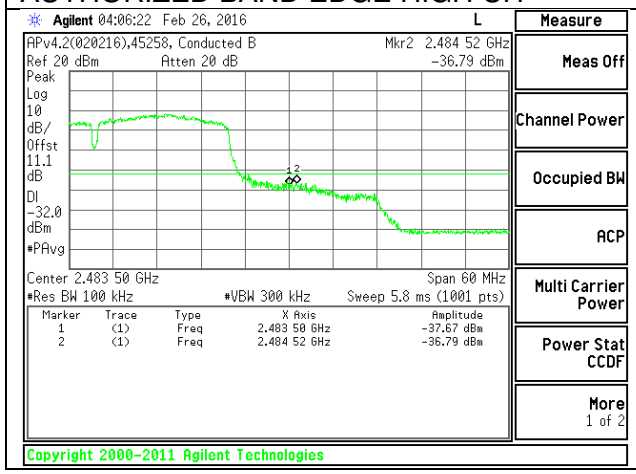
REFERENCE LEVEL MID CH



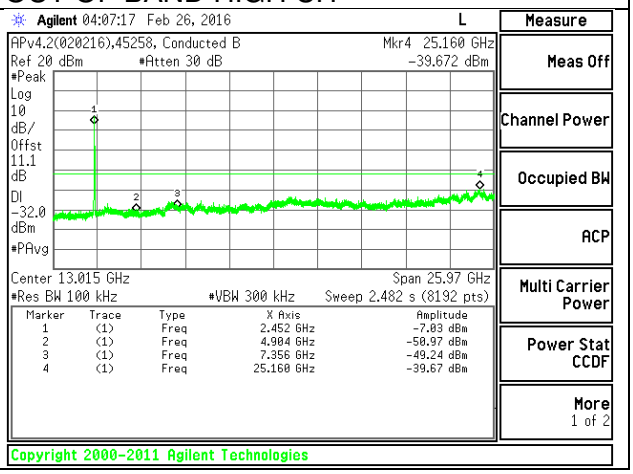
OUT OF BAND MID CH



AUTHORIZED BAND EDGE HIGH CH



OUT OF BAND HIGH CH



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10. RADIATED EMISSION TEST

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 1 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 26 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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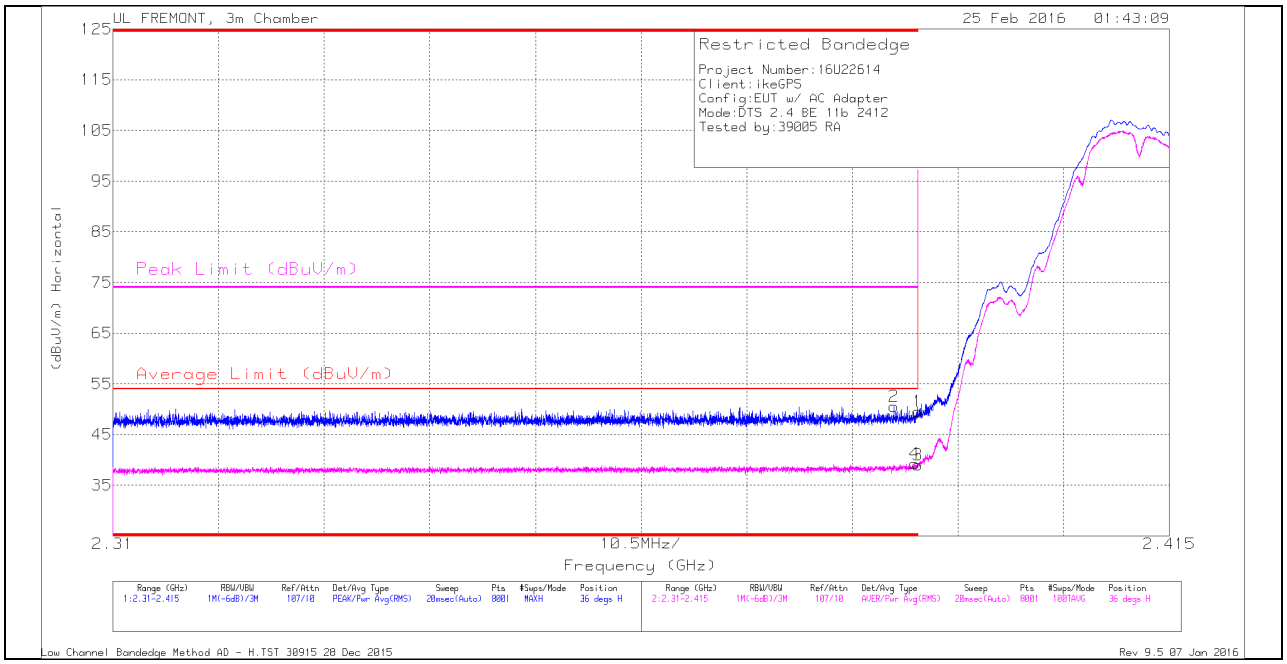
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. TX ABOVE 1 GHz, 802.11b MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.388	40.76	Pk	32	-22.2	0	50.56	-	-	74	-23.44	36	156	H
1	* 2.39	39.73	Pk	32	-22.2	0	49.53	-	-	74	-24.47	36	156	H
3	* 2.39	29.15	RMS	32	-22.2	0	38.95	54	-15.05	-	-	36	156	H
4	* 2.39	29.49	RMS	32	-22.2	0	39.29	54	-14.71	-	-	36	156	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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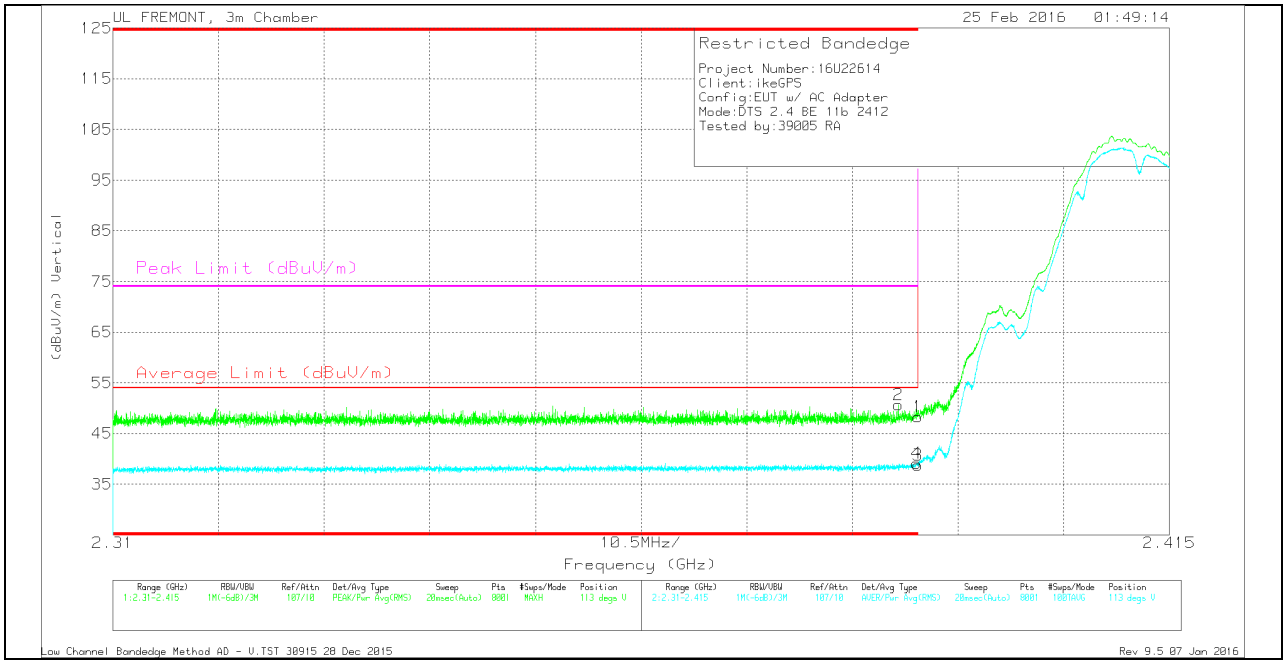
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.388	40.88	Pk	32	-22.2	0	50.68	-	-	74	-23.32	113	187	V
1	* 2.39	38.51	Pk	32	-22.2	0	48.31	-	-	74	-25.69	113	187	V
3	* 2.39	28.97	RMS	32	-22.2	0	38.77	54	-15.23	-	-	113	187	V
4	* 2.39	29.34	RMS	32	-22.2	0	39.14	54	-14.86	-	-	113	187	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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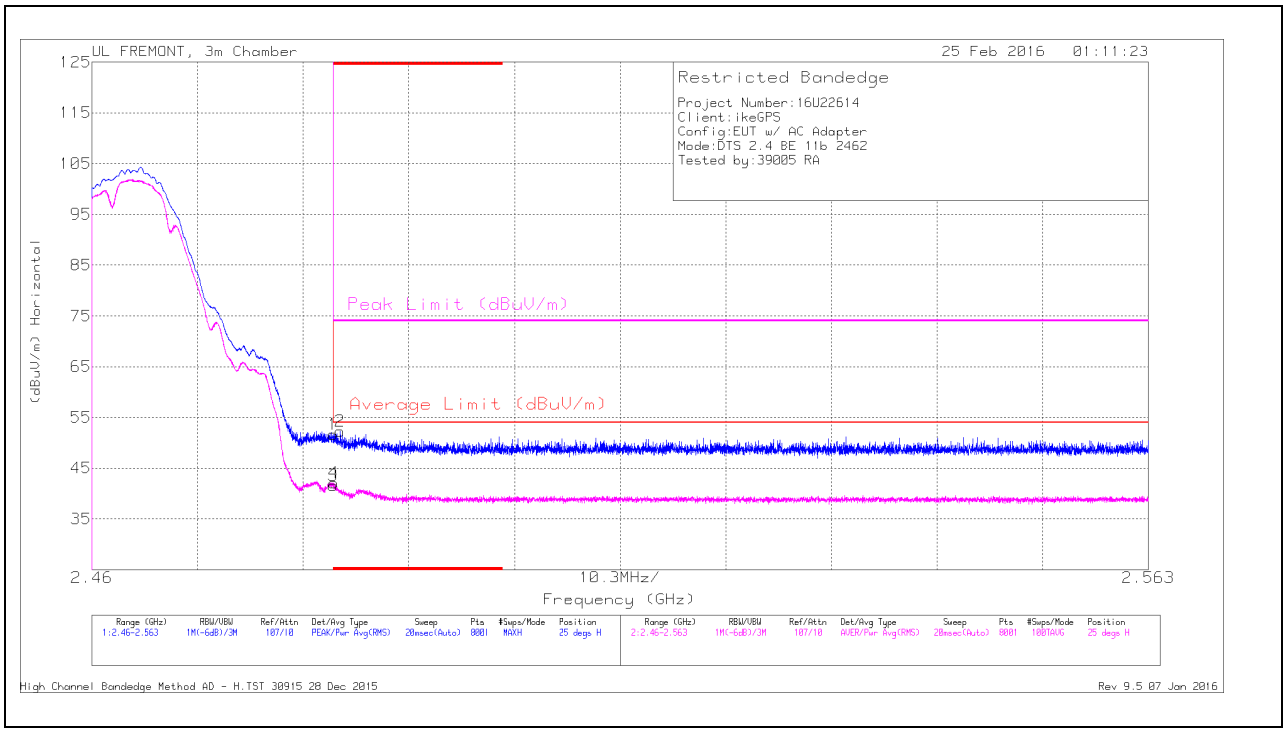
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.36	Pk	32.3	-22	0	51.66	-	-	74	-22.34	25	278	H
2	* 2.484	41.97	Pk	32.3	-22	0	52.27	-	-	74	-21.73	25	278	H
3	* 2.484	31.27	RMS	32.3	-22	0	41.57	54	-12.43	-	-	25	278	H
4	* 2.484	31.85	RMS	32.3	-22	0	42.15	54	-11.85	-	-	25	278	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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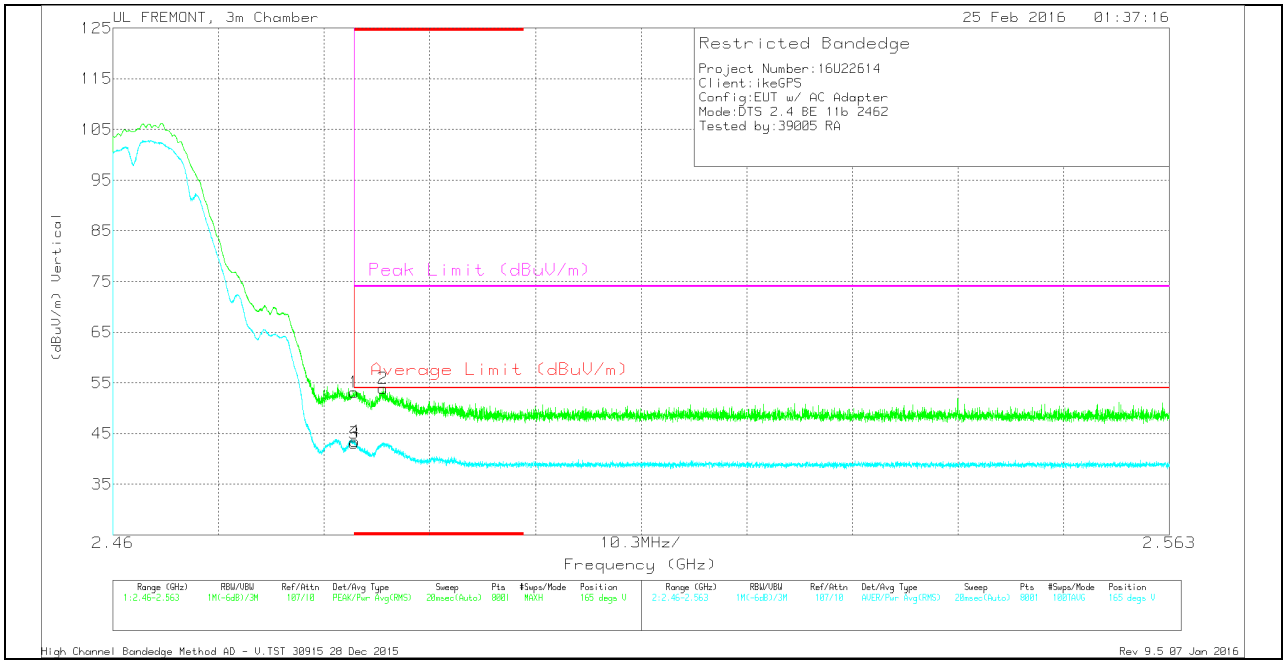
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	42.8	Pk	32.3	-22	0	53.1	-	-	74	-20.9	165	298	V
3	* 2.484	32.8	RMS	32.3	-22	0	43.1	54	-10.9	-	-	165	298	V
4	* 2.484	33.15	RMS	32.3	-22	0	43.45	54	-10.55	-	-	165	298	V
2	* 2.486	43.62	Pk	32.3	-22	0	53.92	-	-	74	-20.08	165	298	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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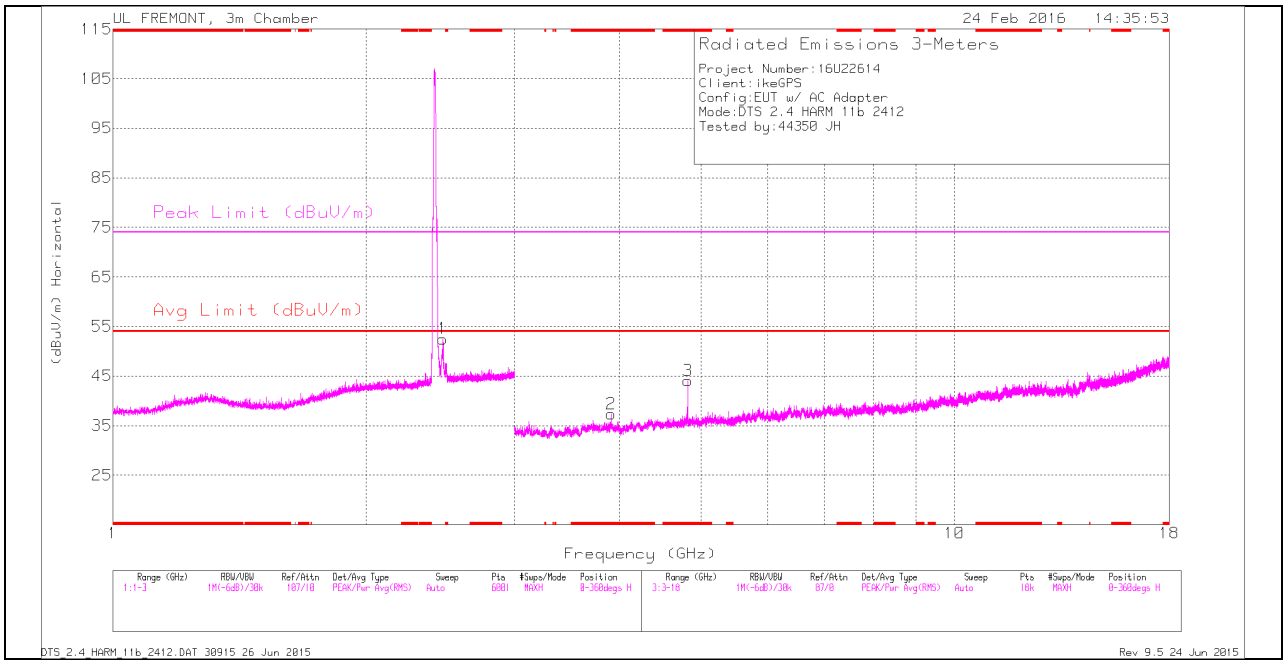
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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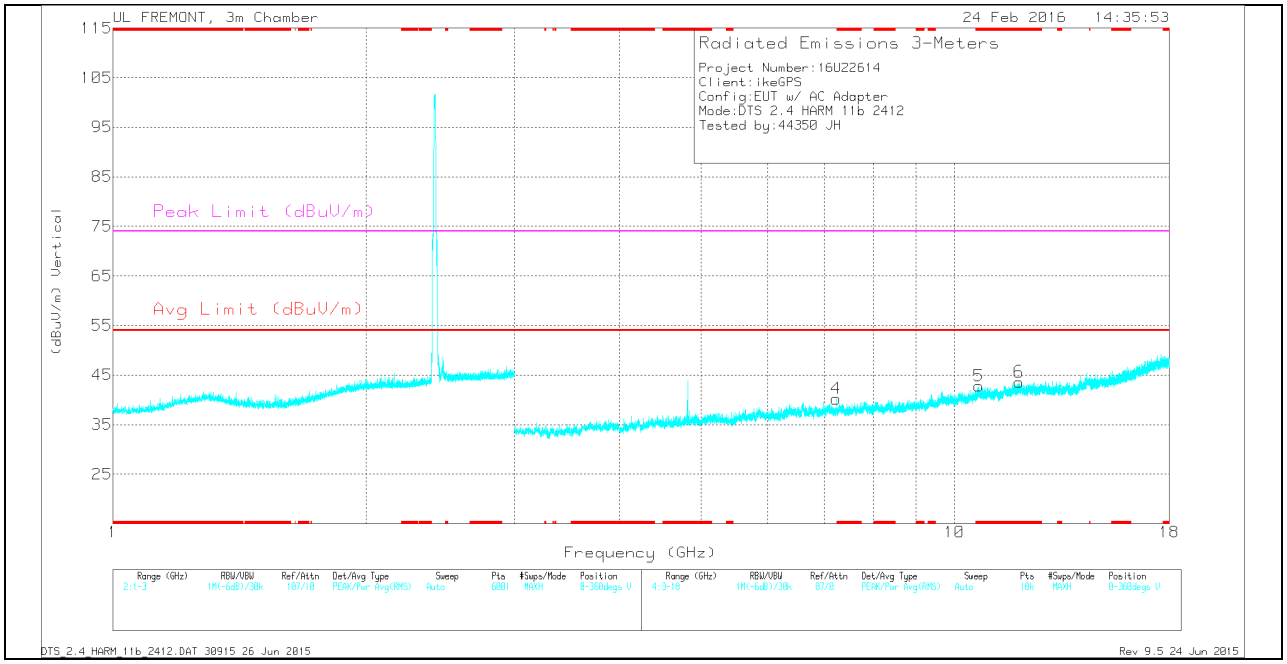
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.91	34.35	Pk	33.2	-30.2	0	37.35	-	-	74	-36.65	0-360	100	H
3	* 4.824	39.27	Pk	34	-29.2	0	44.07	-	-	74	-29.93	0-360	200	H
5	* 10.682	27.6	Pk	37.8	-22.6	0	42.8	-	-	74	-31.2	0-360	100	V
6	* 11.934	28.23	Pk	39.1	-23.7	0	43.63	-	-	74	-30.37	0-360	200	V
1	2.467	42.32	Pk	32.2	-22	0	52.52	-	-	-	-	0-360	100	H
4	7.234	32.71	Pk	35.6	-28.1	0	40.21	-	-	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 3.912	41.55	PK2	33.2	-30.3	0	44.45	-	-	74	-29.55	282	160	H
* 3.909	30.33	MAv1	33.2	-30.2	0	33.33	54	-20.67	-	-	282	160	H
* 4.824	44.69	PK2	34	-29.2	0	49.49	-	-	74	-24.51	178	268	H
* 4.824	39.37	MAv1	34	-29.2	0	44.17	54	-9.83	-	-	178	268	H
* 10.683	35.37	PK2	37.8	-22.6	0	50.57	-	-	74	-23.43	297	140	V
* 10.683	24.81	MAv1	37.8	-22.6	0	40.01	54	-13.99	-	-	297	140	V
* 11.935	35.42	PK2	39.1	-23.7	0	50.82	-	-	74	-23.18	246	284	V
* 11.935	24.73	MAv1	39.1	-23.7	0	40.13	54	-13.87	-	-	246	284	V
2.467	48.61	PK2	32.2	-22	0	58.81	-	-	-	-	226	104	H
2.468	39.52	MAv1	32.2	-22	0	49.72	-	-	-	-	226	104	H
7.232	39.83	PK2	35.6	-28.1	0	47.33	-	-	-	-	259	346	V
7.235	29.05	MAv1	35.6	-28.1	0	36.55	-	-	-	-	259	346	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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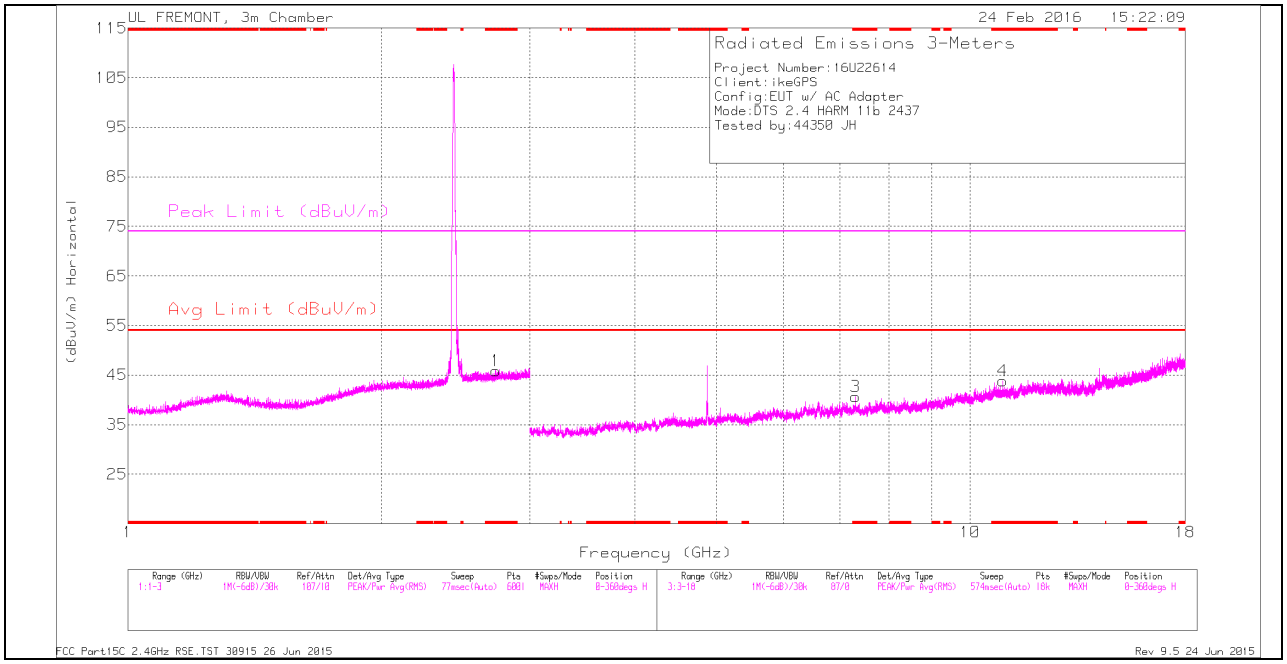
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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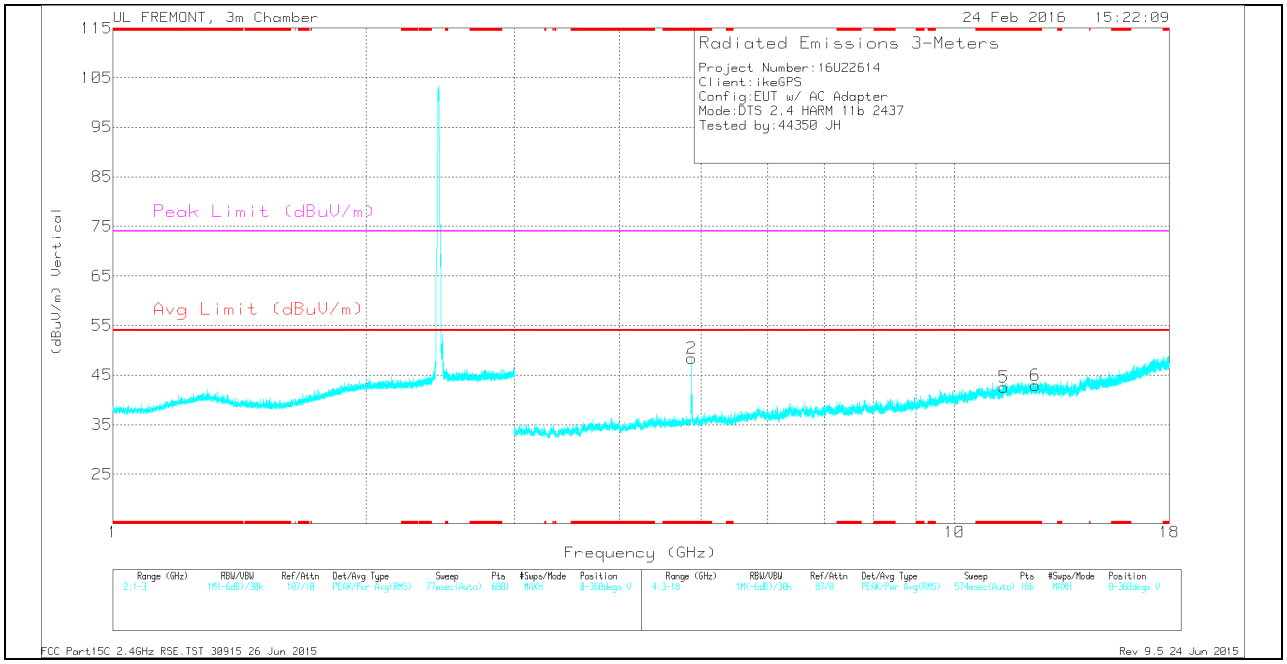
MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.734	35.4	Pk	32.4	-21.9	0	45.9	-	-	74	-28.1	0-360	200	H
3	* 7.31	31.78	Pk	35.6	-26.7	0	40.68	-	-	74	-33.32	0-360	200	H
4	* 10.931	28.9	Pk	37.9	-23	0	43.8	-	-	74	-30.2	0-360	100	H
2	* 4.874	43.13	Pk	34	-28.7	0	48.43	-	-	74	-25.57	0-360	100	V
5	* 11.45	27.11	Pk	38.3	-22.8	0	42.61	-	-	74	-31.39	0-360	200	V
6	* 12.474	27.98	Pk	39	-24.1	0	42.88	-	-	74	-31.12	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.734	42.27	PK2	32.4	-21.9	0	52.77	-	-	74	-21.23	266	212	H
* 2.734	30.79	MAv1	32.4	-21.9	0	41.29	54	-12.71	-	-	266	212	H
* 7.31	38.63	PK2	35.6	-26.7	0	47.53	-	-	74	-26.47	302	264	H
* 7.31	27.46	MAv1	35.6	-26.7	0	36.36	54	-17.64	-	-	302	264	H
* 10.931	35.51	PK2	37.9	-23	0	50.41	-	-	74	-23.59	329	235	H
* 10.931	23.89	MAv1	37.8	-23	0	38.69	54	-15.31	-	-	329	235	H
* 4.874	45.87	PK2	34	-28.7	0	51.17	-	-	74	-22.83	72	114	V
* 4.874	41.45	MAv1	34	-28.7	0	46.75	54	-7.25	-	-	72	114	V
* 11.448	35.54	PK2	38.3	-22.8	0	51.04	-	-	74	-22.96	115	180	V
* 11.448	24.25	MAv1	38.3	-22.8	0	39.75	54	-14.25	-	-	115	180	V
* 12.475	34.88	PK2	39	-24.1	0	49.78	-	-	74	-24.22	149	231	V
* 12.474	23.84	MAv1	39	-24.1	0	38.74	54	-15.26	-	-	149	231	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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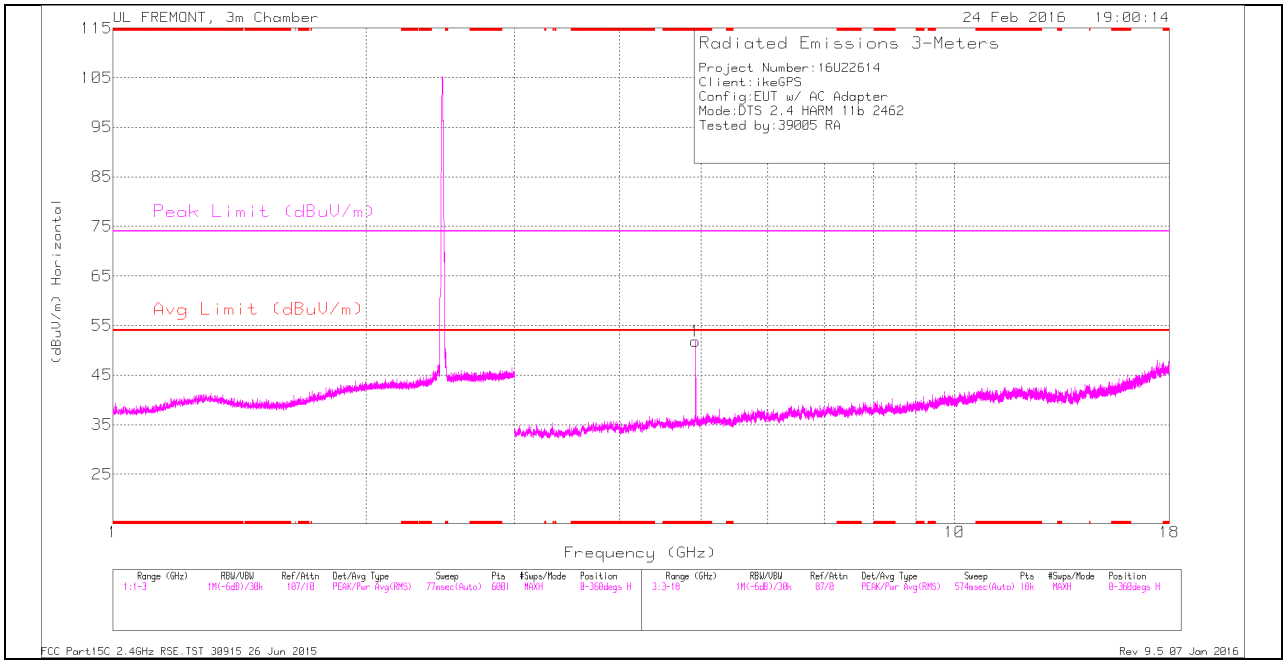
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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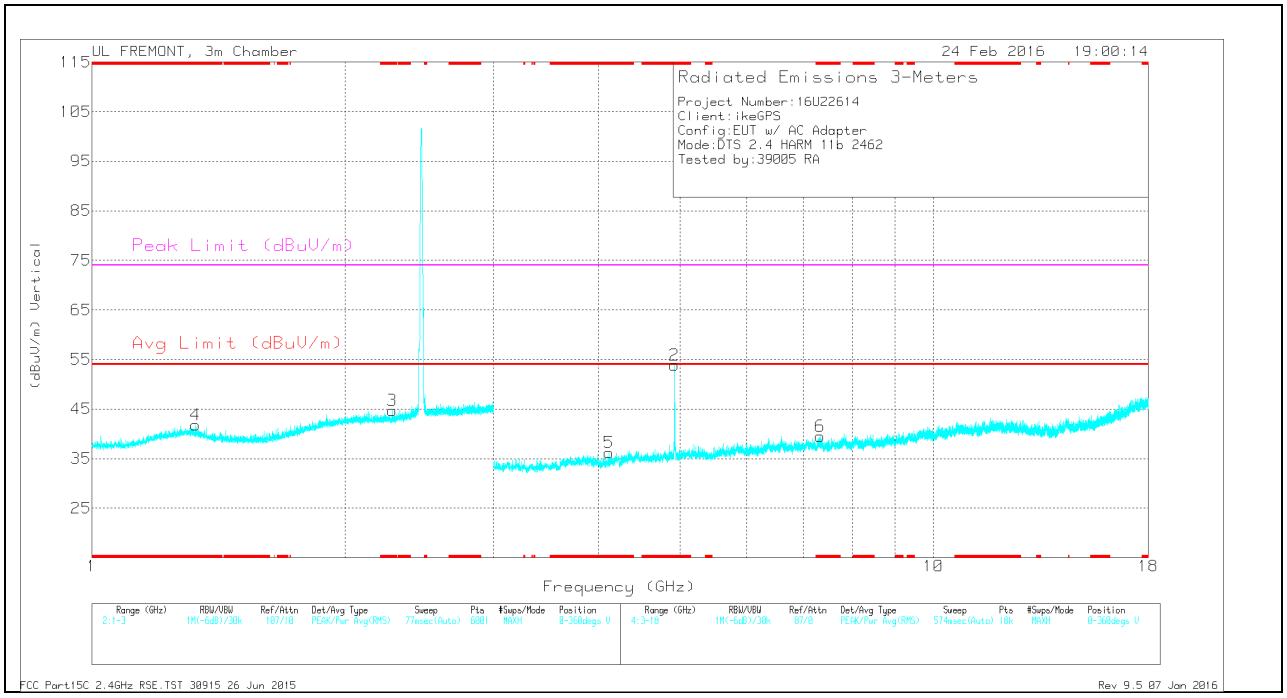
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
3	* 2.275	35.26	Pk	31.6	-22.2	0	44.66	-	-	74	-29.34	0-360	200	V
4	* 1.327	35.38	Pk	29.5	-23.1	0	41.78	-	-	74	-32.22	0-360	100	V
1	* 4.924	47.08	Pk	34	-29.3	0	51.78	-	-	74	-22.22	0-360	100	H
2	* 4.924	49.15	Pk	34	-29.3	0	53.85	-	-	74	-20.15	0-360	200	V
5	* 4.118	32.85	Pk	33.3	-29.9	0	36.25	-	-	74	-37.75	0-360	100	V
6	* 7.329	30.55	Pk	35.6	-26.6	0	39.55	-	-	74	-34.45	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.276	41.26	PK2	31.6	-22.2	0	50.66	-	-	74	-23.34	300	180	V
* 2.274	29.17	MAv1	31.6	-22.2	0	38.57	54	-15.43	-	-	300	180	V
* 1.326	40.99	PK2	29.6	-23.1	0	47.49	-	-	74	-26.51	289	182	V
* 1.328	29.43	MAv1	29.5	-23.1	0	35.83	54	-18.17	-	-	289	182	V
* 4.924	49.28	PK2	34	-29.3	0	53.98	-	-	74	-20.02	113	101	H
* 4.924	46.62	MAv1	34	-29.3	0	51.32	54	-2.68	-	-	113	101	H
* 4.924	51.03	PK2	34	-29.3	0	55.73	-	-	74	-18.27	332	160	V
* 4.924	48.88	MAv1	34	-29.3	0	53.58	54	-.42	-	-	332	160	V
* 4.119	38.92	PK2	33.3	-29.9	0	42.32	-	-	74	-31.68	275	190	V
* 4.119	27.35	MAv1	33.3	-29.9	0	30.75	54	-23.25	-	-	275	190	V
* 7.33	35.73	PK2	35.6	-26.6	0	44.73	-	-	74	-29.27	283	220	V
* 7.328	24.56	MAv1	35.6	-26.5	0	33.66	54	-20.34	-	-	283	220	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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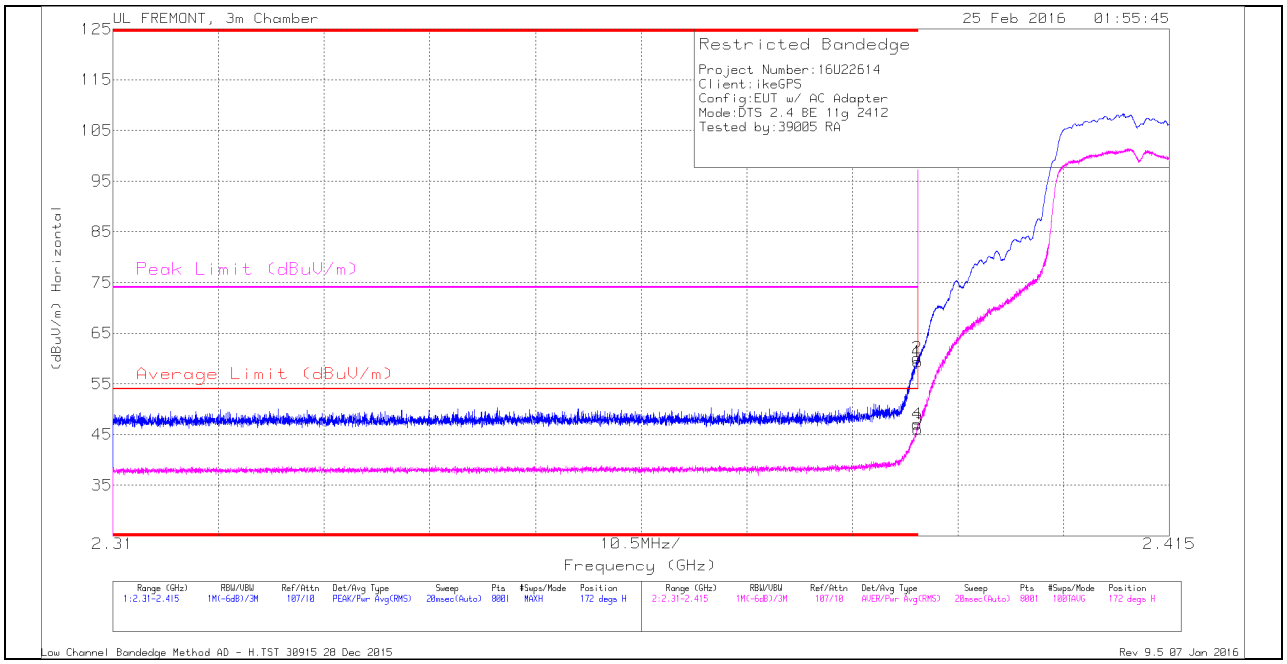
10.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	49.59	Pk	32	-22.2	0	59.39	-	-	74	-14.61	172	148	H
2	* 2.39	50.27	Pk	32	-22.2	0	60.07	-	-	74	-13.93	172	148	H
3	* 2.39	36.29	RMS	32	-22.2	0	46.09	54	-7.91	-	-	172	148	H
4	* 2.39	37.23	RMS	32	-22.2	0	47.03	54	-6.97	-	-	172	148	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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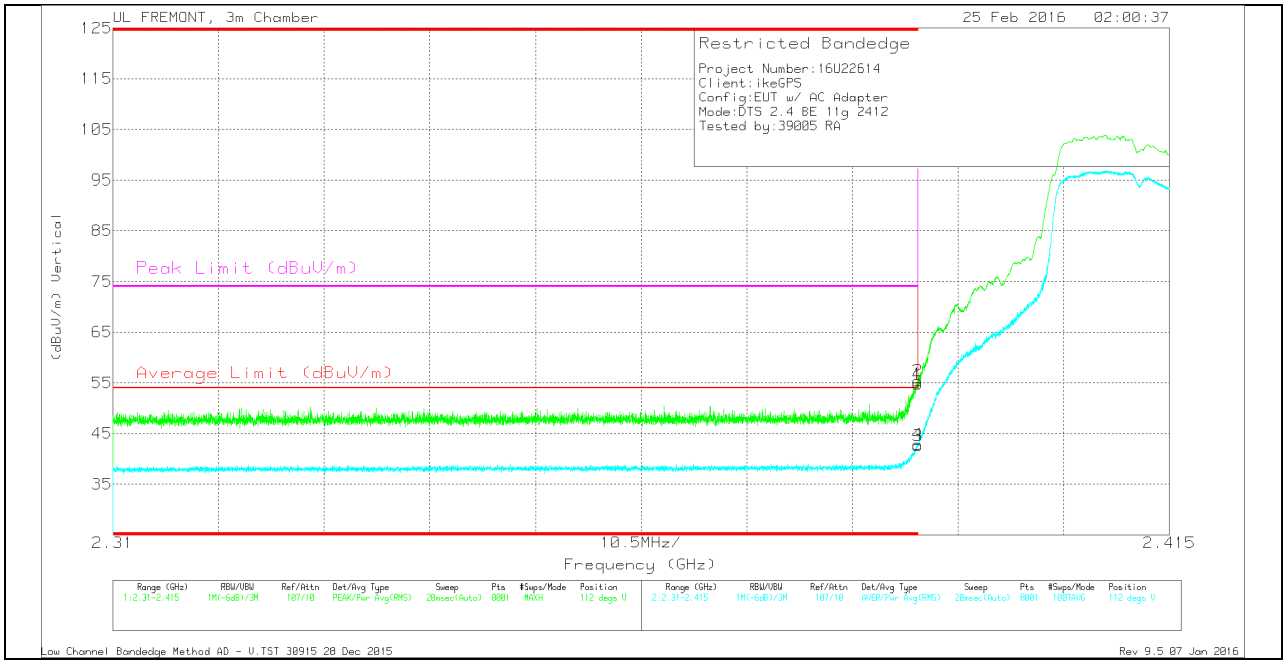
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	44.94	Pk	32	-22.2	0	54.74	-	-	74	-19.26	112	185	V
2	* 2.39	45.55	Pk	32	-22.2	0	55.35	-	-	74	-18.65	112	185	V
3	* 2.39	32.75	RMS	32	-22.2	0	42.55	54	-11.45	-	-	112	185	V
4	* 2.39	33.06	RMS	32	-22.2	0	42.86	54	-11.14	-	-	112	185	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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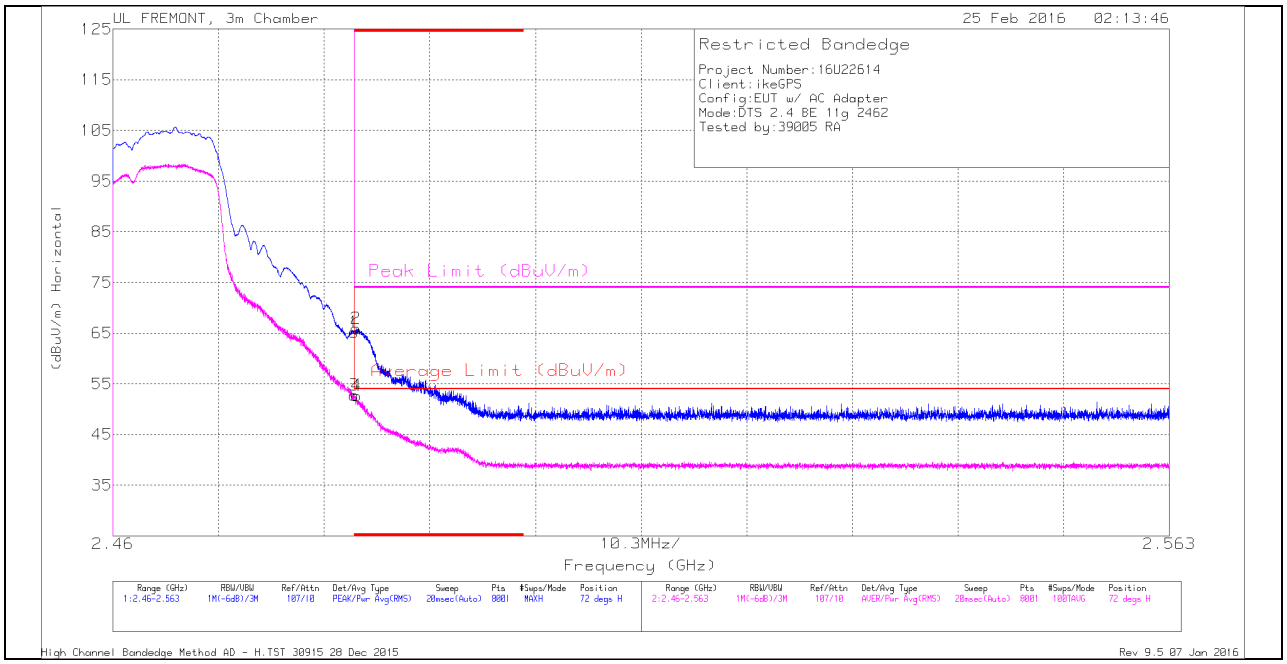
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.86	Pk	32.3	-22	0	65.16	-	-	74	-8.84	72	185	H
2	* 2.484	55.65	Pk	32.3	-22	0	65.95	-	-	74	-8.05	72	185	H
3	* 2.484	42.42	RMS	32.3	-22	0	52.72	54	-1.28	-	-	72	185	H
4	* 2.484	42.41	RMS	32.3	-22	0	52.71	54	-1.29	-	-	72	185	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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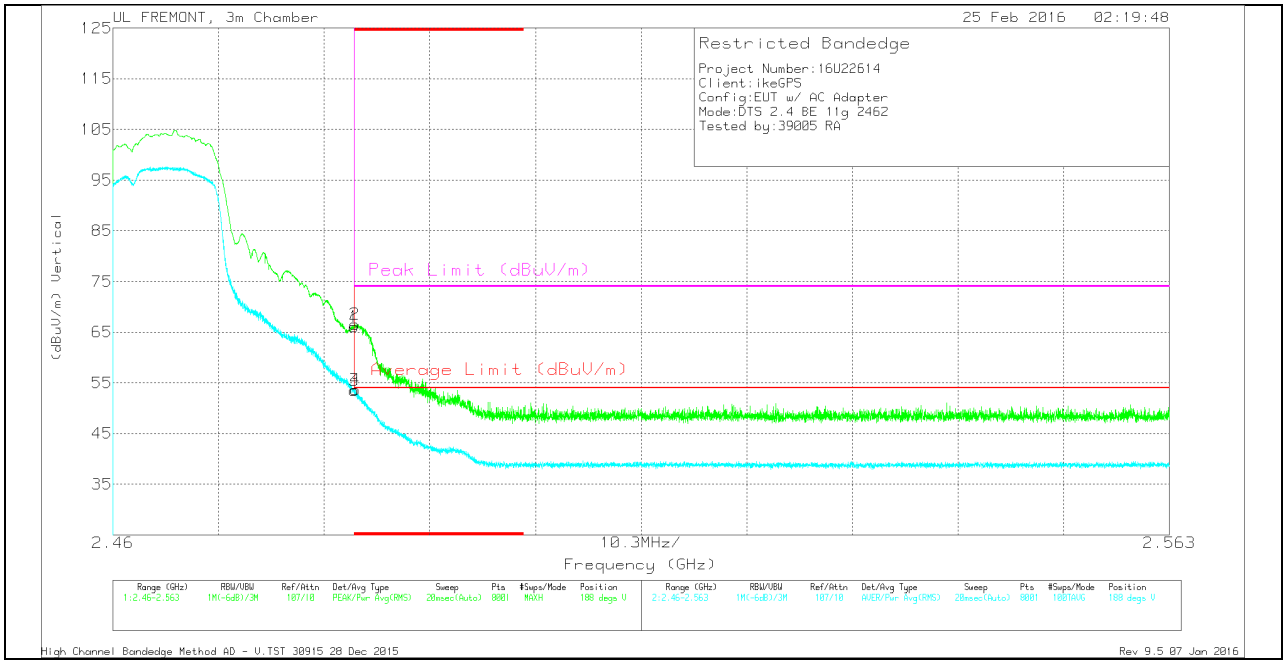
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	55.74	Pk	32.3	-22	0	66.04	-	-	74	-7.96	188	303	V
2	* 2.484	56.2	Pk	32.3	-22	0	66.5	-	-	74	-7.5	188	303	V
3	* 2.484	43.28	RMS	32.3	-22	0	53.58	54	-.42	-	-	188	303	V
4	* 2.484	43.4	RMS	32.3	-22	0	53.7	54	-.3	-	-	188	303	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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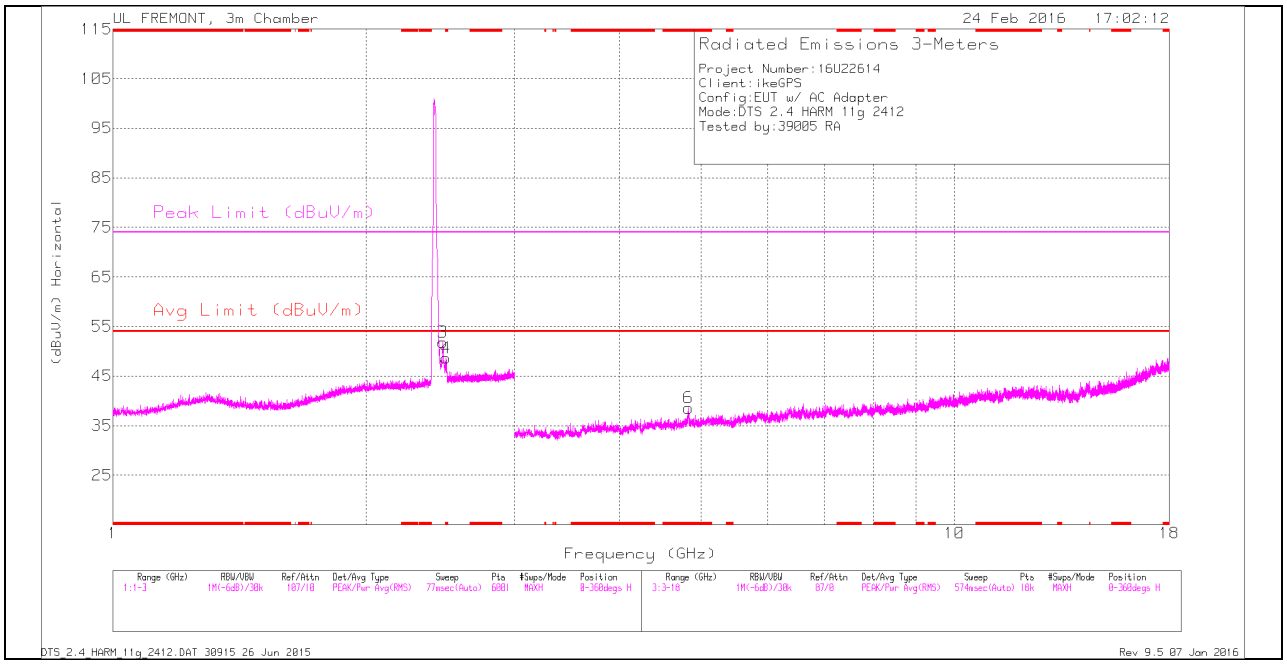
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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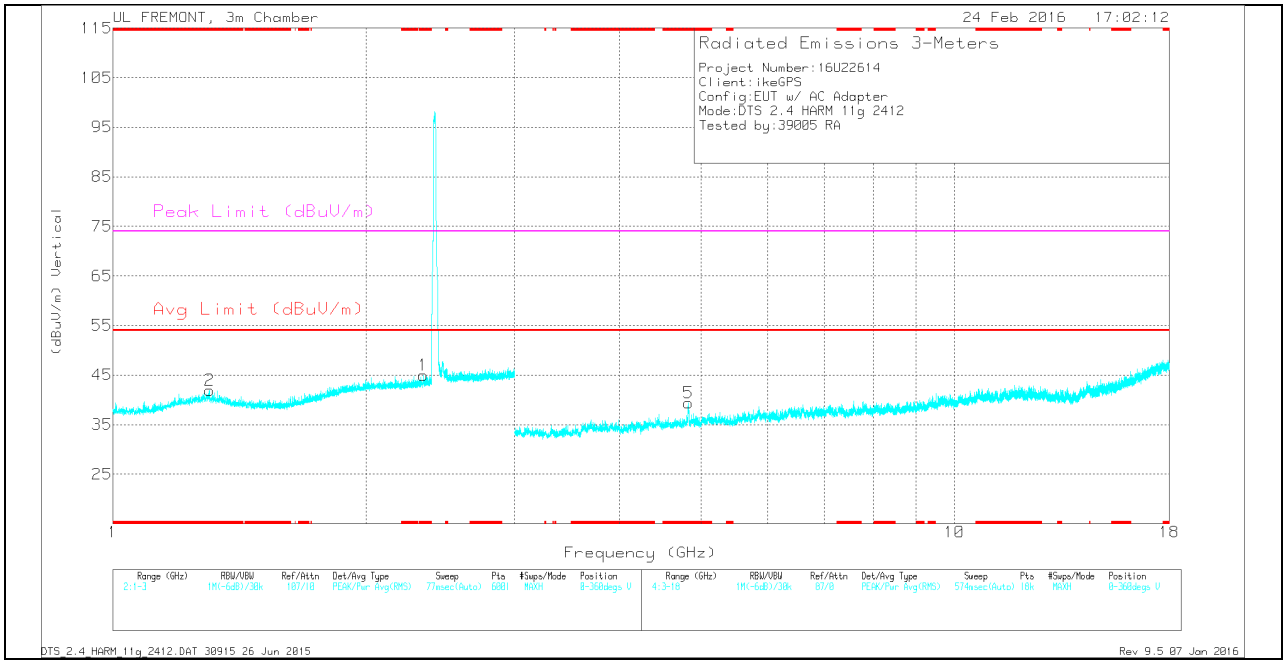
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.486	38.29	Pk	32.3	-22	0	48.59	-	-	74	-25.41	0-360	100	H
1	* 2.337	35.47	Pk	31.8	-22.3	0	44.97	-	-	74	-29.03	0-360	200	V
2	* 1.303	35.19	Pk	29.9	-23.2	0	41.89	-	-	74	-32.11	0-360	100	V
6	* 4.826	33.66	Pk	34	-29.1	0	38.56	-	-	74	-35.44	0-360	100	H
5	* 4.832	34.46	Pk	34	-29.1	0	39.36	-	-	74	-34.64	0-360	200	V
3	2.466	41.62	Pk	32.2	-22	0	51.82	-	-	-	-	0-360	100	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.486	44.71	PK2	32.3	-22	0	55.01	-	-	74	-18.99	100	198	H
* 2.486	33.25	MAv1	32.3	-22	0	43.55	54	-10.45	-	-	100	198	H
* 2.336	40.85	PK2	31.8	-22.3	0	50.35	-	-	74	-23.65	36	107	V
* 2.337	28.81	MAv1	31.8	-22.3	0	38.31	54	-15.69	-	-	36	107	V
* 1.303	40.54	PK2	29.8	-23.2	0	47.14	-	-	74	-26.86	273	384	V
* 1.303	28.87	MAv1	29.9	-23.2	0	35.57	54	-18.43	-	-	273	384	V
* 4.827	41.93	PK2	34	-29.1	0	46.83	-	-	74	-27.17	28	101	H
* 4.826	29.38	MAv1	34	-29.1	0	34.28	54	-19.72	-	-	28	101	H
* 4.831	40.63	PK2	34	-29.1	0	45.53	-	-	74	-28.47	6	210	V
* 4.831	28.29	MAv1	34	-29.1	0	33.19	54	-20.81	-	-	6	210	V
2.465	47.14	PK2	32.2	-22	0	57.34	-	-	74	-16.66	27	201	H
2.467	35.96	MAv1	32.2	-22	0	46.16	54	-7.84	-	-	27	201	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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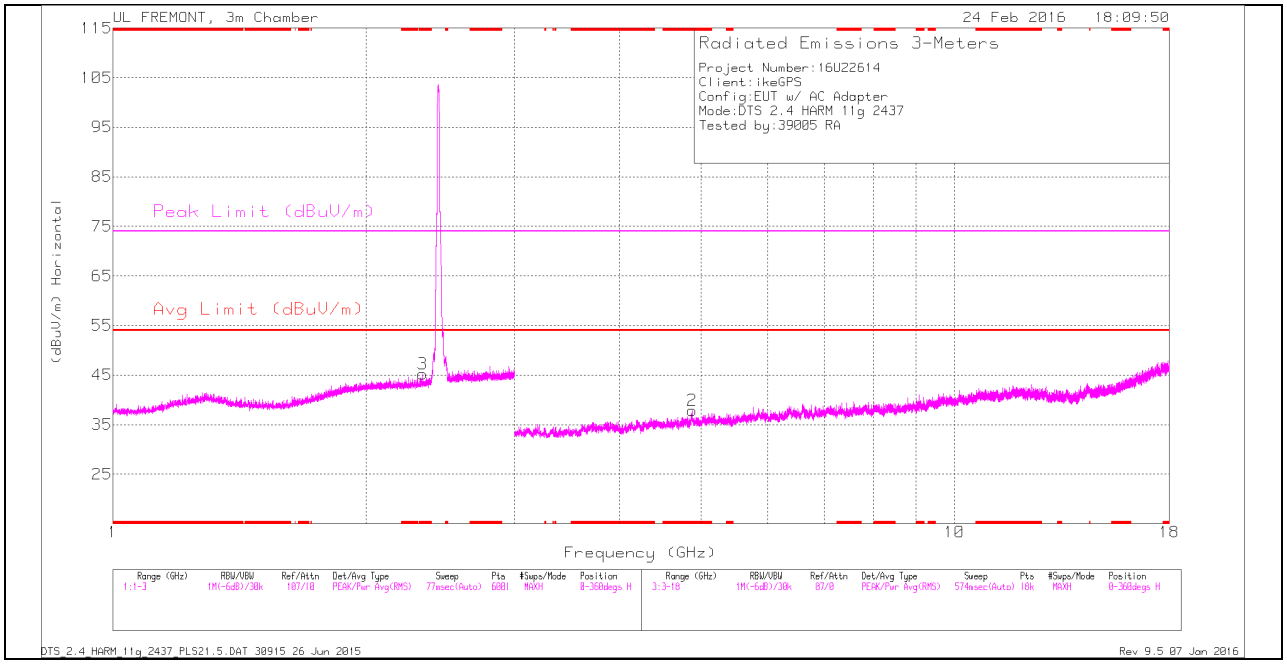
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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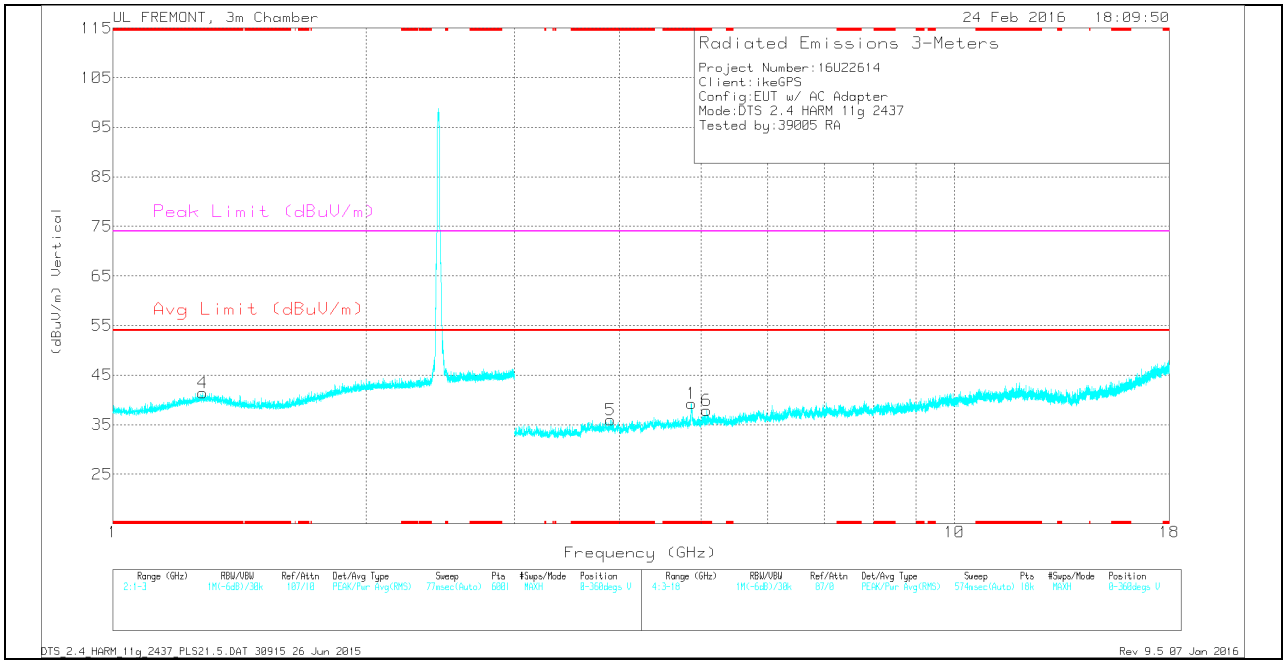
MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
3	* 2.335	35.74	Pk	31.8	-22.3	0	45.24	-	-	74	-28.76	0-360	100	H
4	* 1.278	34.76	Pk	29.7	-23.1	0	41.36	-	-	74	-32.64	0-360	100	V
2	* 4.88	32.65	Pk	34	-28.8	0	37.85	-	-	74	-36.15	0-360	100	H
1	* 4.871	34.08	Pk	34	-28.8	0	39.28	-	-	74	-34.72	0-360	100	V
5	* 3.899	33.08	Pk	33.2	-30.3	0	35.98	-	-	74	-38.02	0-360	200	V
6	* 5.077	32.53	Pk	34.1	-28.8	0	37.83	-	-	74	-36.17	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.335	41.31	PK2	31.8	-22.3	0	50.81	-	-	74	-23.19	344	196	H
* 2.334	29.28	MAv1	31.8	-22.3	0	38.78	54	-15.22	-	-	344	196	H
* 1.278	40.82	PK2	29.7	-23.1	0	47.42	-	-	74	-26.58	280	230	V
* 1.278	29.45	MAv1	29.7	-23.1	0	36.05	54	-17.95	-	-	280	230	V
* 4.88	39.45	PK2	34	-28.8	0	44.65	-	-	74	-29.35	95	247	H
* 4.88	27.46	MAv1	34	-28.8	0	32.66	54	-21.34	-	-	95	247	H
* 4.87	42.16	PK2	34	-28.8	0	47.36	-	-	74	-26.64	79	202	V
* 4.872	29.14	MAv1	34	-28.7	0	34.44	54	-19.56	-	-	79	202	V
* 3.9	39.95	PK2	33.2	-30.3	0	42.85	-	-	74	-31.15	83	194	V
* 3.9	28.25	MAv1	33.2	-30.3	0	31.15	54	-22.85	-	-	83	194	V
* 5.077	38.18	PK2	34.1	-28.8	0	43.48	-	-	74	-30.52	102	197	V
* 5.076	26.78	MAv1	34.1	-28.8	0	32.08	54	-21.92	-	-	102	197	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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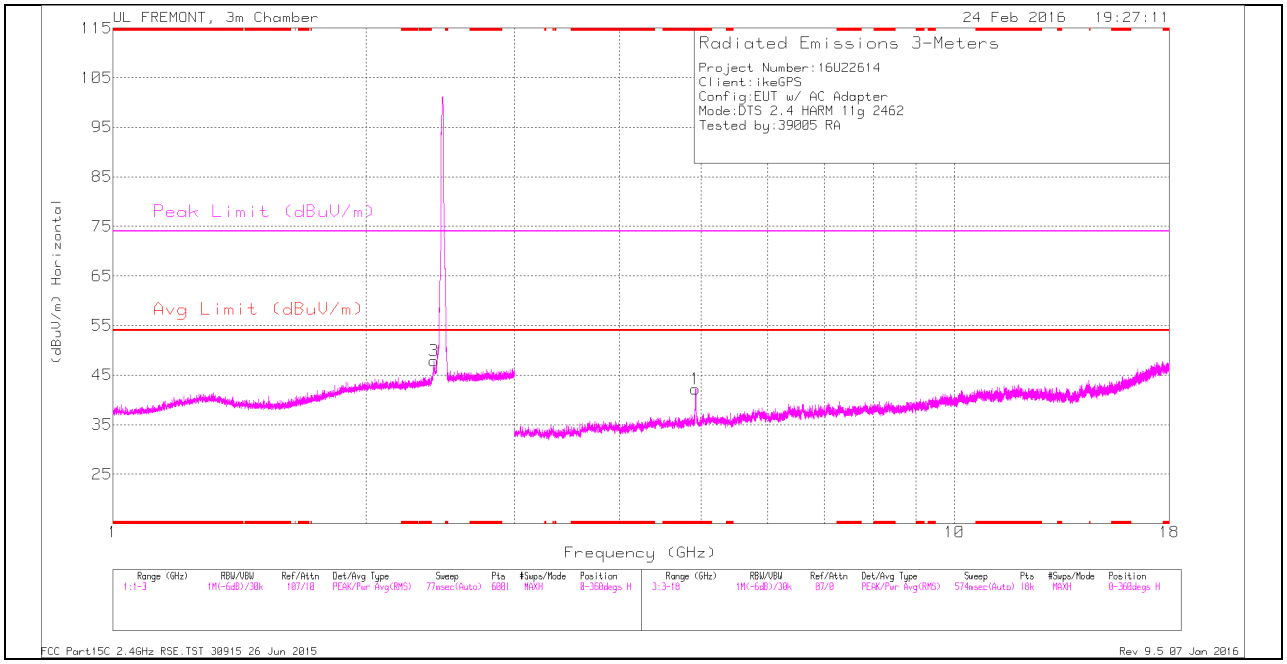
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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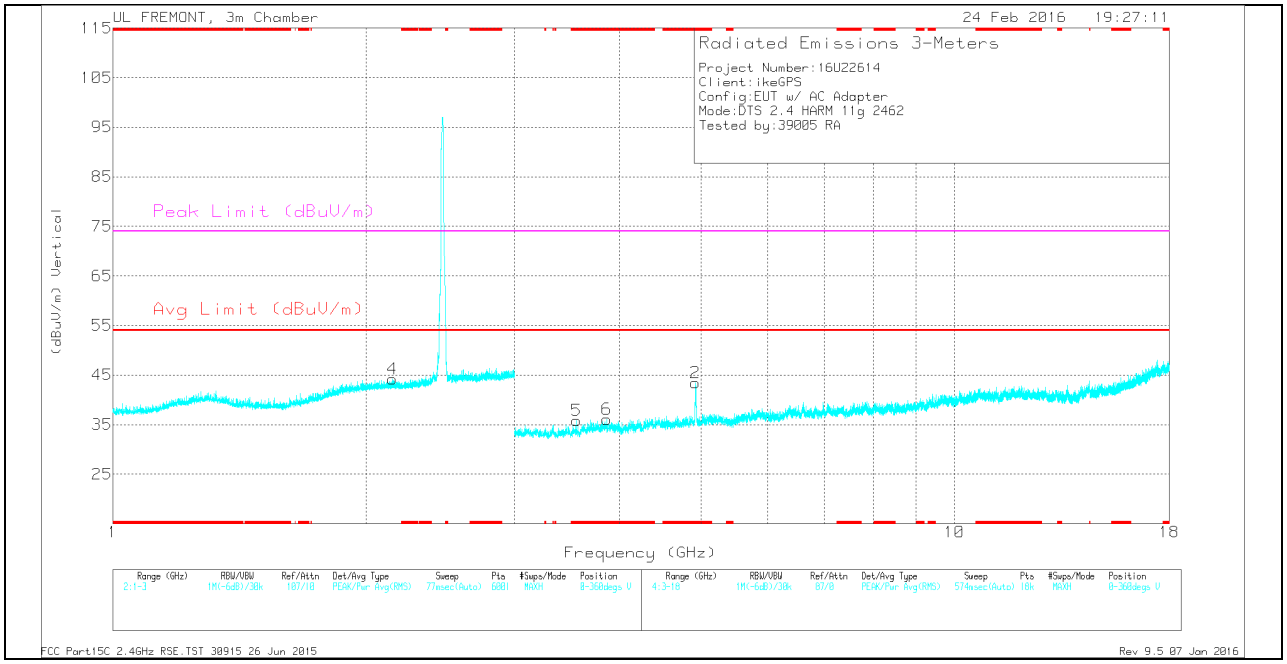
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.926	37.51	Pk	34	-29.3	0	42.21	-	-	74	-31.79	0-360	100	H
2	* 4.926	38.72	Pk	34	-29.3	0	43.42	-	-	74	-30.58	0-360	200	V
5	* 3.557	33.16	Pk	32.8	-30.1	0	35.86	-	-	74	-38.14	0-360	100	V
6	* 3.86	33.04	Pk	33.1	-30.1	0	36.04	-	-	74	-37.96	0-360	100	V
4	2.149	34.9	Pk	31.5	-22.2	0	44.2	-	-	-	-	0-360	200	V
3	2.405	38	Pk	32	-22.1	0	47.9	-	-	-	-	0-360	200	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 4.926	45.31	PK2	34	-29.3	0	50.01	-	-	74	-23.99	109	100	H
* 4.926	33.02	MAv1	34	-29.3	0	37.72	54	-16.28	-	-	109	100	H
* 4.925	45.98	PK2	34	-29.3	0	50.68	-	-	74	-23.32	326	199	V
* 4.926	33.81	MAv1	34	-29.3	0	38.51	54	-15.49	-	-	326	199	V
* 3.558	38.62	PK2	32.8	-30.2	0	41.22	-	-	74	-32.78	321	193	V
* 3.558	27.03	MAv1	32.8	-30.1	0	29.73	54	-24.27	-	-	321	193	V
* 3.86	39.54	PK2	33.1	-30.1	0	42.54	-	-	74	-31.46	340	196	V
* 3.861	27.92	MAv1	33.1	-30.1	0	30.92	54	-23.08	-	-	340	196	V
2.149	29.16	MAv1	31.5	-22.2	0	38.46	54	-15.54	-	-	250	195	V
2.15	40.56	PK2	31.5	-22.2	0	49.86	-	-	74	-24.14	250	195	V
2.405	29.97	MAv1	32	-22.1	0	39.87	54	-14.13	-	-	320	201	H
2.406	41.63	PK2	32	-22.1	0	51.53	-	-	74	-22.47	320	201	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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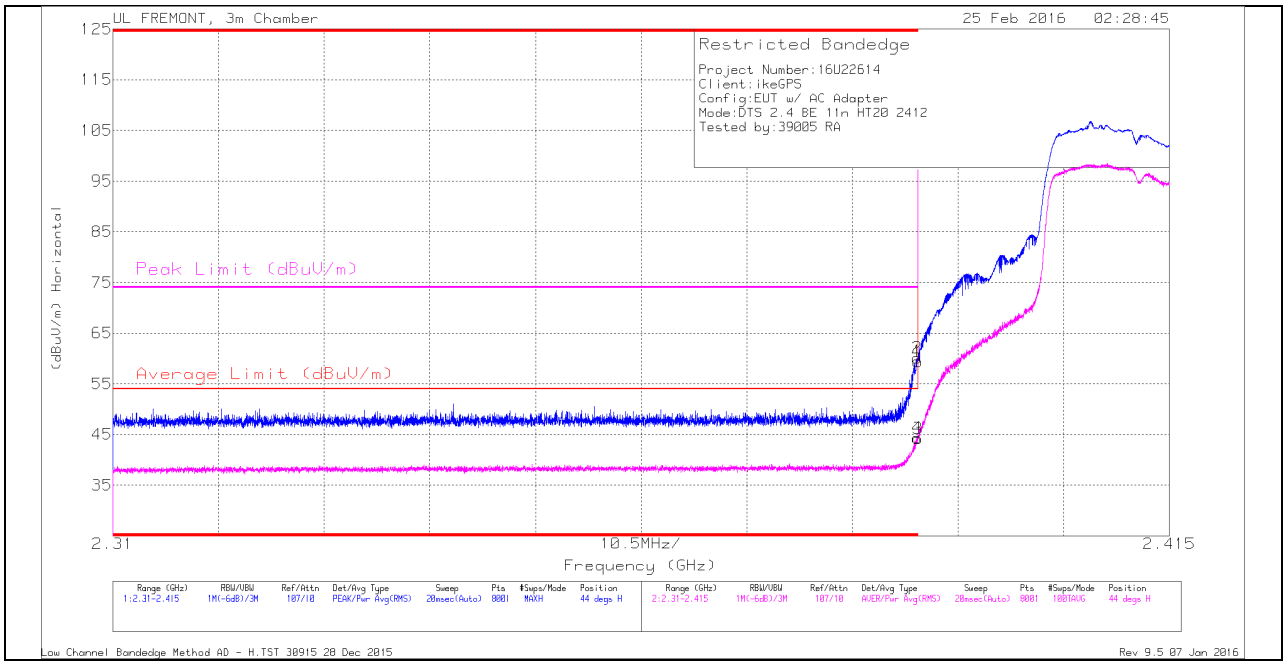
10.1.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	49.62	Pk	32	-22.2	0	59.42	-	-	74	-14.58	44	179	H
2	* 2.39	50.26	Pk	32	-22.2	0	60.06	-	-	74	-13.94	44	179	H
3	* 2.39	34.46	RMS	32	-22.2	0	44.26	54	-9.74	-	-	44	179	H
4	* 2.39	34.5	RMS	32	-22.2	0	44.3	54	-9.7	-	-	44	179	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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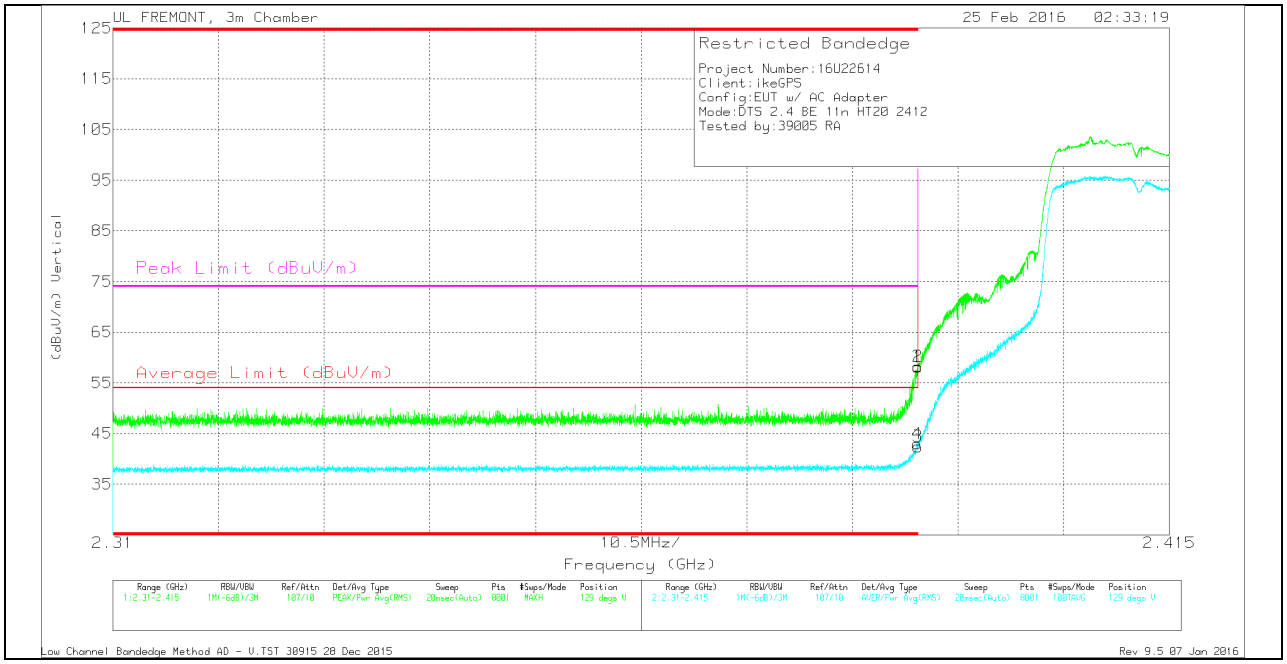
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	48.36	Pk	32	-22.2	0	58.16	-	-	74	-15.84	129	222	V
2	* 2.39	48.39	Pk	32	-22.2	0	58.19	-	-	74	-15.81	129	222	V
3	* 2.39	32.61	RMS	32	-22.2	0	42.41	54	-11.59	-	-	129	222	V
4	* 2.39	33.15	RMS	32	-22.2	0	42.95	54	-11.05	-	-	129	222	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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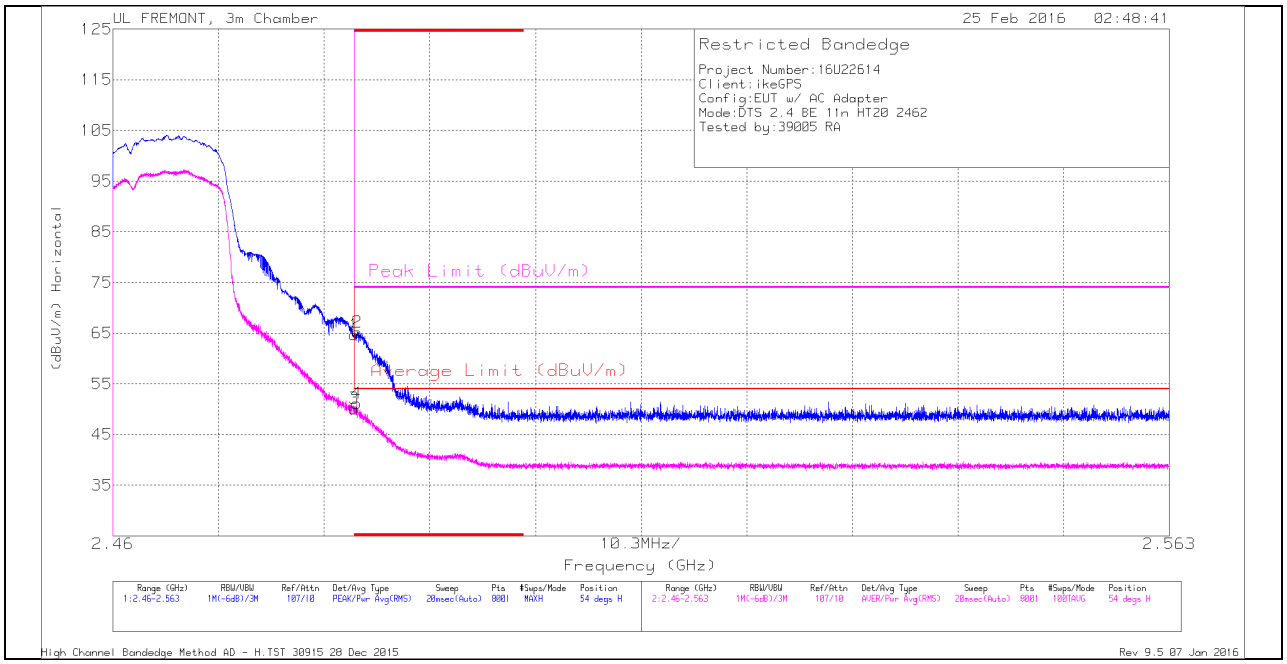
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.39	Pk	32.3	-22	0	64.69	-	-	74	-9.31	54	241	H
2	* 2.484	54.93	Pk	32.3	-22	0	65.23	-	-	74	-8.77	54	241	H
3	* 2.484	39.81	RMS	32.3	-22	0	50.11	54	-3.89	-	-	54	241	H
4	* 2.484	40.84	RMS	32.3	-22	0	51.14	54	-2.86	-	-	54	241	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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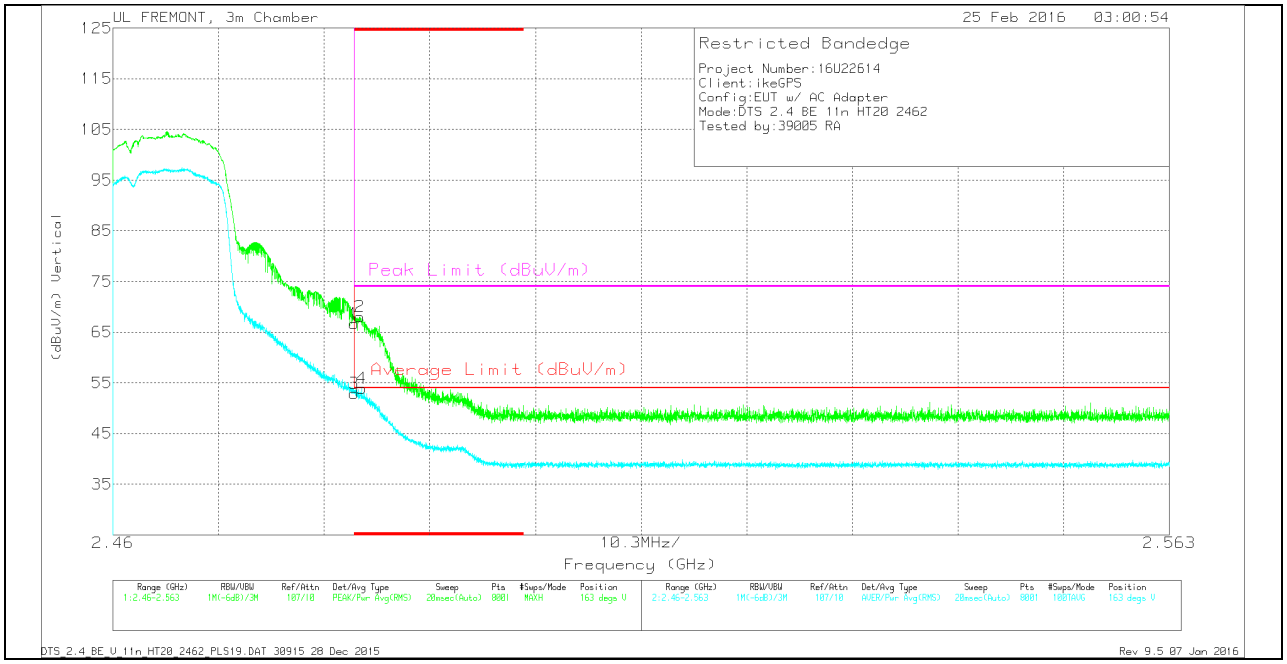
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	56.35	Pk	32.3	-22	0	66.65	-	-	74	-7.35	163	343	V
2	* 2.484	57.77	Pk	32.3	-22	0	68.07	-	-	74	-5.93	163	343	V
3	* 2.484	42.58	RMS	32.3	-22	0	52.88	54	-1.12	-	-	163	343	V
4	* 2.484	43.54	RMS	32.3	-22	0	53.84	54	-.16	-	-	163	343	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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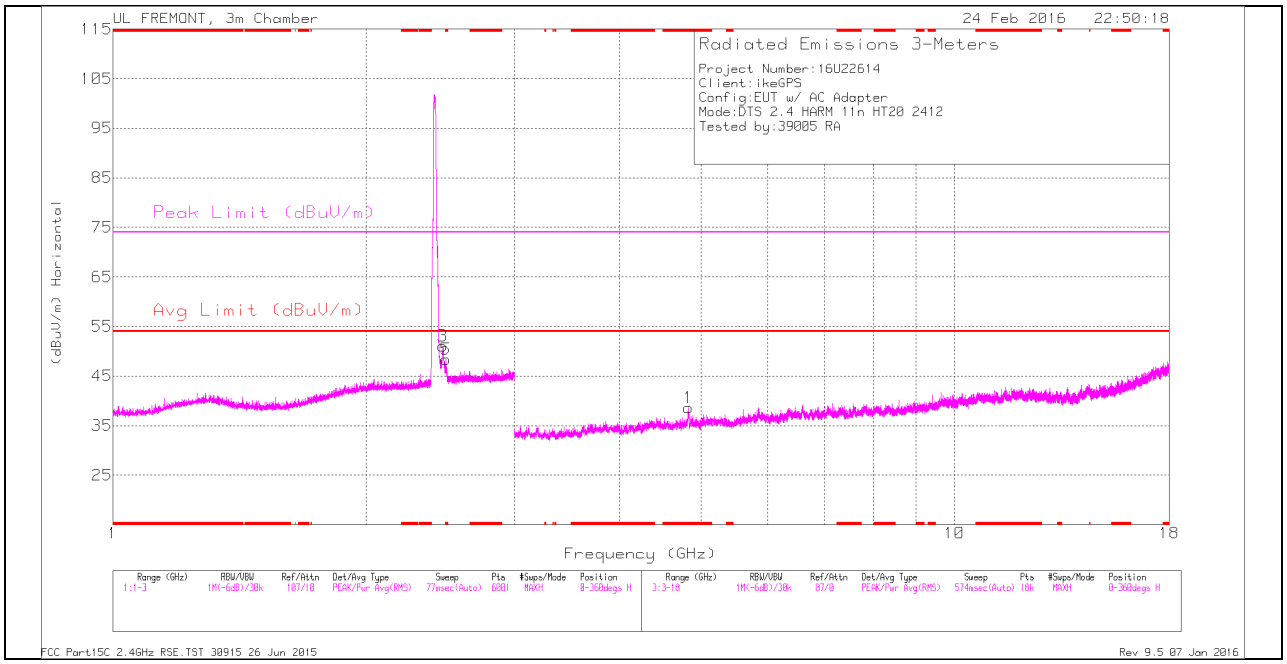
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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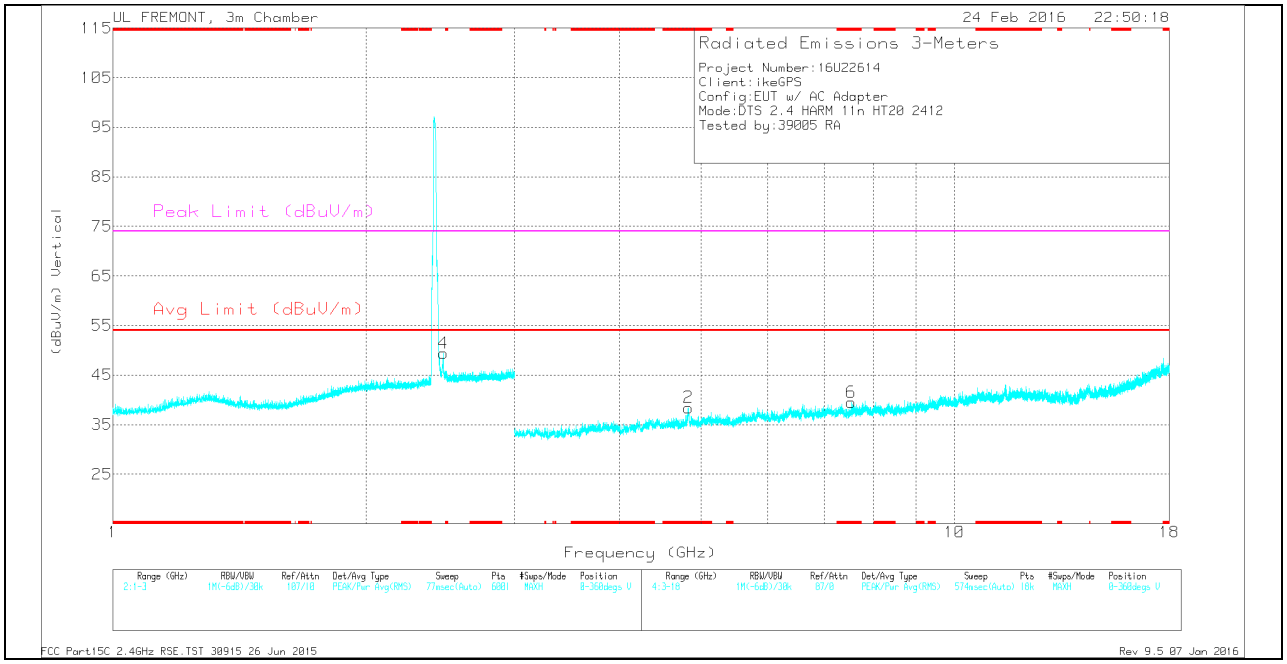
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
5	* 2.487	38.14	Pk	32.3	-22	0	48.44	-	-	74	-25.56	0-360	100	H
1	* 4.828	33.74	Pk	34	-29.1	0	38.64	-	-	74	-35.36	0-360	200	H
2	* 4.831	33.43	Pk	34	-29	0	38.43	-	-	74	-35.57	0-360	100	V
6	* 7.541	30.95	Pk	35.7	-27.1	0	39.55	-	-	74	-34.45	0-360	200	V
3	2.468	40.9	Pk	32.2	-22	0	51.1	-	-	-	-	0-360	100	H
4	2.468	39.19	Pk	32.2	-22	0	49.39	-	-	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.486	44.66	PK2	32.3	-22	0	54.96	-	-	74	-19.04	62	182	H
* 2.486	33.01	MAv1	32.3	-22	0	43.31	54	-10.69	-	-	62	182	H
* 4.829	39.58	PK2	34	-29.1	0	44.48	-	-	74	-29.52	34	358	H
* 4.828	27.43	MAv1	34	-29.1	0	32.33	54	-21.67	-	-	34	358	H
* 4.83	38.47	PK2	34	-29	0	43.47	-	-	74	-30.53	103	300	V
* 4.832	27.21	MAv1	34	-29.1	0	32.11	54	-21.89	-	-	103	300	V
* 7.541	36.18	PK2	35.7	-27.1	0	44.78	-	-	74	-29.22	166	250	V
* 7.542	24.8	MAv1	35.7	-27.1	0	33.4	54	-20.6	-	-	166	250	V
2.467	37.26	MAv1	32.2	-22	0	47.46	54	-6.54	-	-	128	113	H
2.467	34.17	MAv1	32.2	-22	0	44.37	54	-9.63	-	-	101	103	V
2.468	49.27	PK2	32.2	-22	0	59.47	-	-	74	-14.53	128	113	H
2.469	45.94	PK2	32.2	-22.1	0	56.04	-	-	74	-17.96	101	103	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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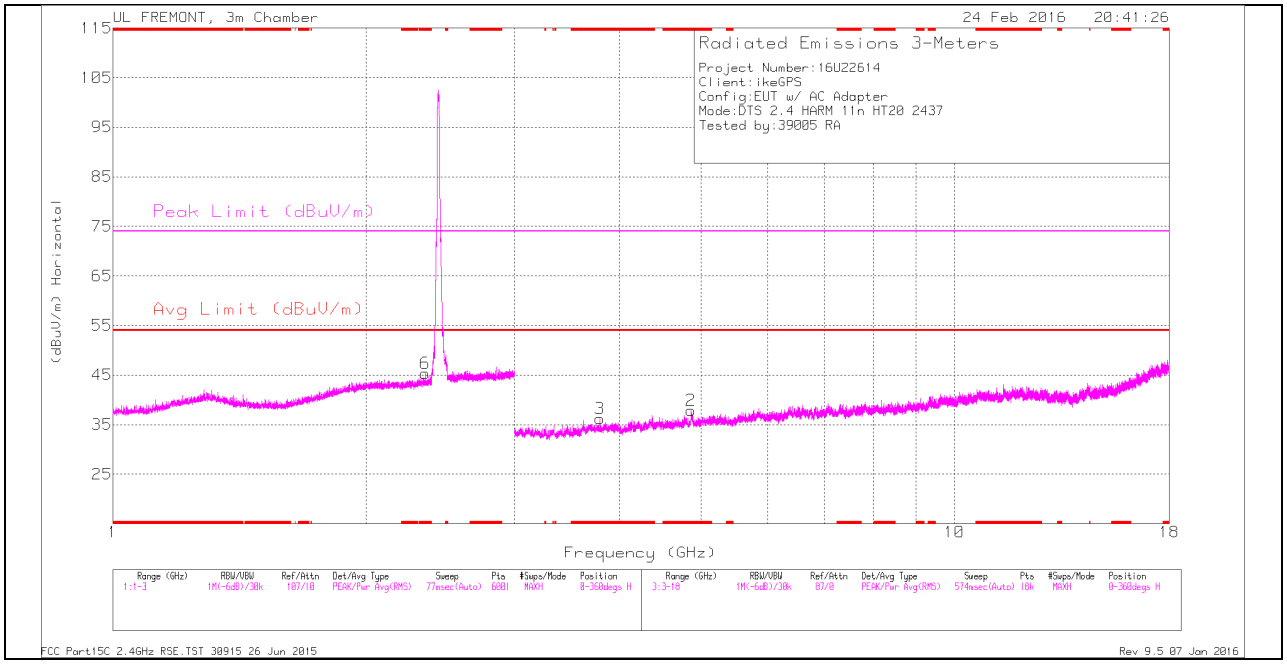
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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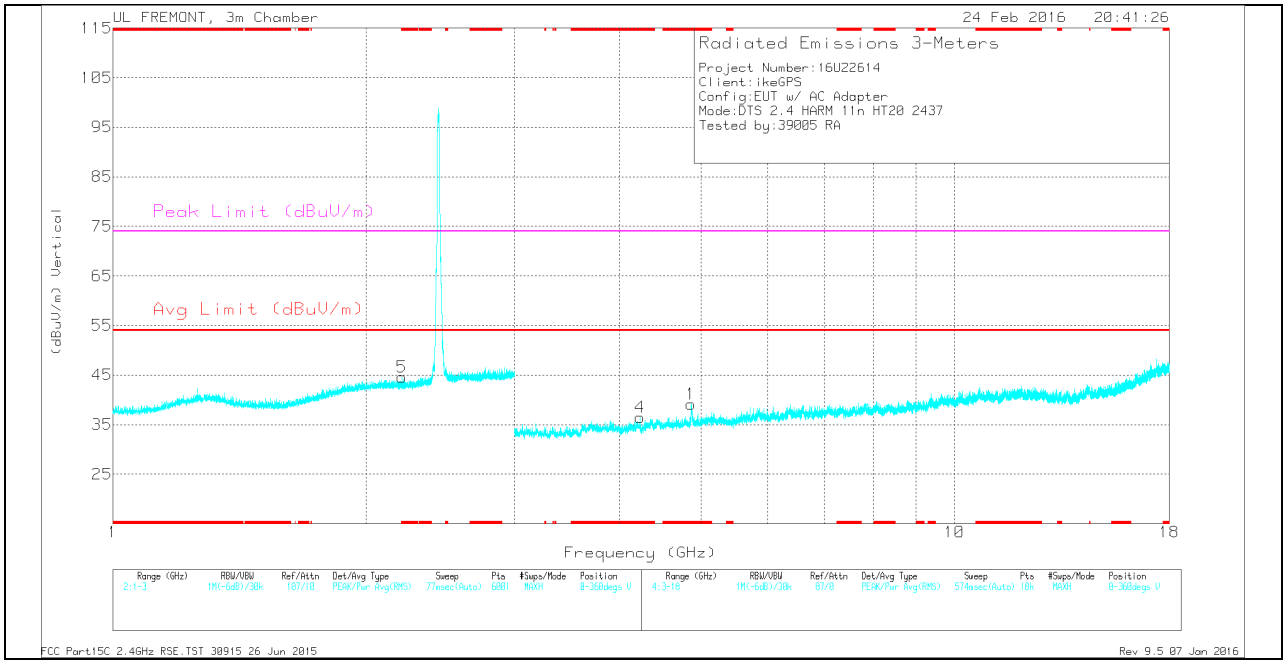
MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
6	* 2.35	35.73	Pk	31.8	-22.2	0	45.33	-	-	74	-28.67	0-360	200	H
5	* 2.205	35.43	Pk	31.4	-22.2	0	44.63	-	-	74	-29.37	0-360	200	V
2	* 4.866	32.63	Pk	34	-28.8	0	37.83	-	-	74	-36.17	0-360	100	H
3	* 3.791	33.13	Pk	33.1	-30	0	36.23	-	-	74	-37.77	0-360	200	H
1	* 4.865	33.87	Pk	34	-28.8	0	39.07	-	-	74	-34.93	0-360	200	V
4	* 4.233	33.01	Pk	33.4	-30	0	36.41	-	-	74	-37.59	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.35	40.66	PK2	31.8	-22.2	0	50.26	-	-	74	-23.74	344	169	H
* 2.35	29.34	MAv1	31.8	-22.2	0	38.94	54	-15.06	-	-	344	169	H
* 2.204	41.13	PK2	31.4	-22.2	0	50.33	-	-	74	-23.67	355	173	V
* 2.204	29.1	MAv1	31.4	-22.2	0	38.3	54	-15.7	-	-	355	173	V
* 4.866	40.41	PK2	34	-28.8	0	45.61	-	-	74	-28.39	118	203	H
* 4.866	27.78	MAv1	34	-28.8	0	32.98	54	-21.02	-	-	118	203	H
* 3.791	39.74	PK2	33.1	-30	0	42.84	-	-	74	-31.16	341	200	H
* 3.792	27.92	MAv1	33.1	-30	0	31.02	54	-22.98	-	-	341	200	H
* 4.866	41	PK2	34	-28.8	0	46.2	-	-	74	-27.8	355	170	V
* 4.866	28.69	MAv1	34	-28.8	0	33.89	54	-20.11	-	-	355	170	V
* 4.233	39.09	PK2	33.4	-30	0	42.49	-	-	74	-31.51	289	184	V
* 4.234	27.84	MAv1	33.4	-30	0	31.24	54	-22.76	-	-	289	184	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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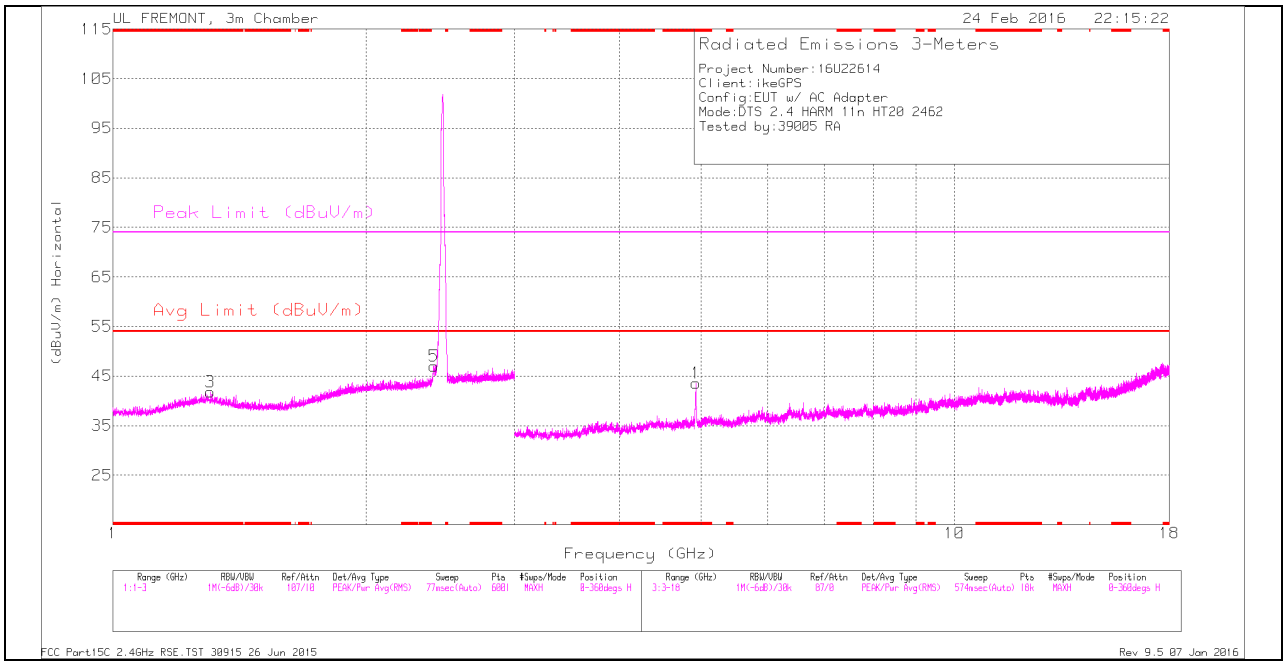
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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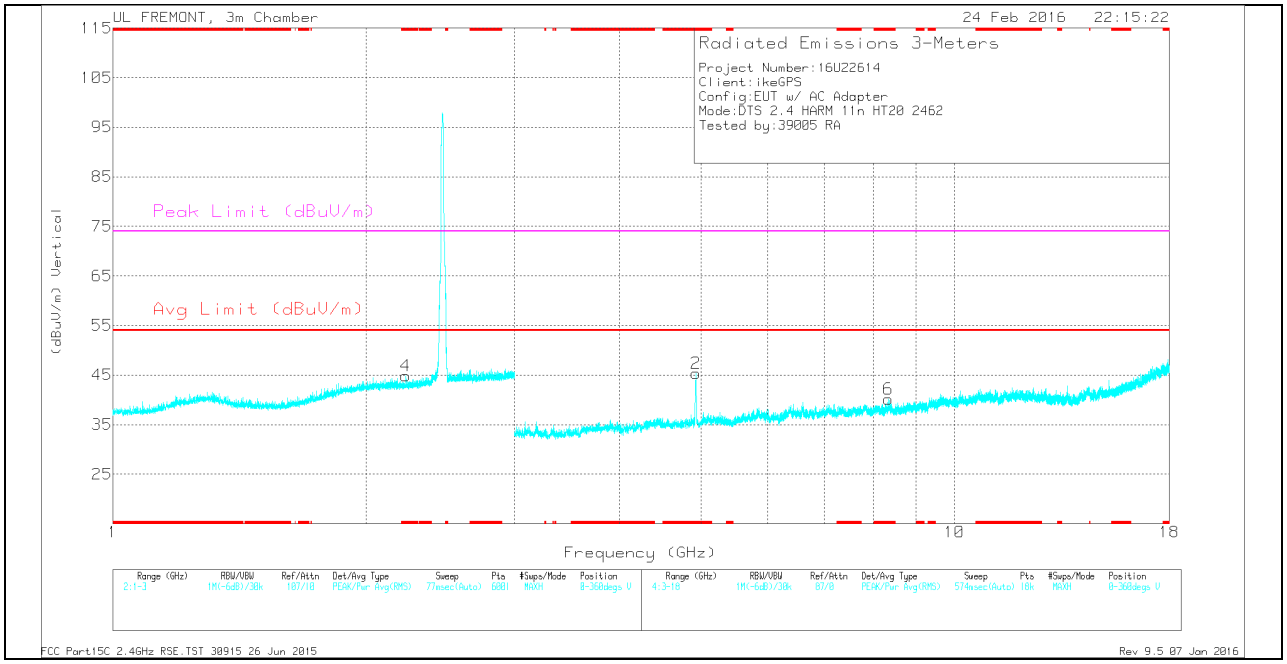
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
3	* 1.305	35.2	Pk	29.8	-23.2	0	41.8	-	-	74	-32.2	0-360	100	H
4	* 2.228	35.69	Pk	31.5	-22.3	0	44.89	-	-	74	-29.11	0-360	100	V
1	* 4.927	38.89	Pk	34	-29.3	0	43.59	-	-	74	-30.41	0-360	100	H
2	* 4.93	40.67	Pk	34	-29.3	0	45.37	-	-	74	-28.63	0-360	100	V
6	* 8.346	29.99	Pk	35.8	-25.7	0	40.09	-	-	74	-33.91	0-360	200	V
5	2.406	37.06	Pk	32	-22.1	0	46.96	-	-	-	-	0-360	200	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 1.305	41.13	PK2	29.8	-23.2	0	47.73	-	-	74	-26.27	25	188	H
* 1.304	29.35	MAv1	29.8	-23.2	0	35.95	54	-18.05	-	-	25	188	H
* 2.228	41.63	PK2	31.5	-22.3	0	50.83	-	-	74	-23.17	219	396	V
* 2.228	28.62	MAv1	31.5	-22.3	0	37.82	54	-16.18	-	-	219	396	V
* 4.928	45.24	PK2	34	-29.3	0	49.94	-	-	74	-24.06	92	339	H
* 4.928	32.01	MAv1	34	-29.3	0	36.71	54	-17.29	-	-	92	339	H
* 4.929	47.38	PK2	34	-29.3	0	52.08	-	-	74	-21.92	2	181	V
* 4.929	35.28	MAv1	34	-29.3	0	39.98	54	-14.02	-	-	2	181	V
* 8.345	36.55	PK2	35.8	-25.7	0	46.65	-	-	74	-27.35	223	321	V
* 8.345	24.44	MAv1	35.8	-25.7	0	34.54	54	-19.46	-	-	223	321	V
2.406	44.15	PK2	32	-22.1	0	54.05	-	-	74	-19.95	60	203	H
2.406	32.51	MAv1	32	-22.1	0	42.41	54	-11.59	-	-	60	203	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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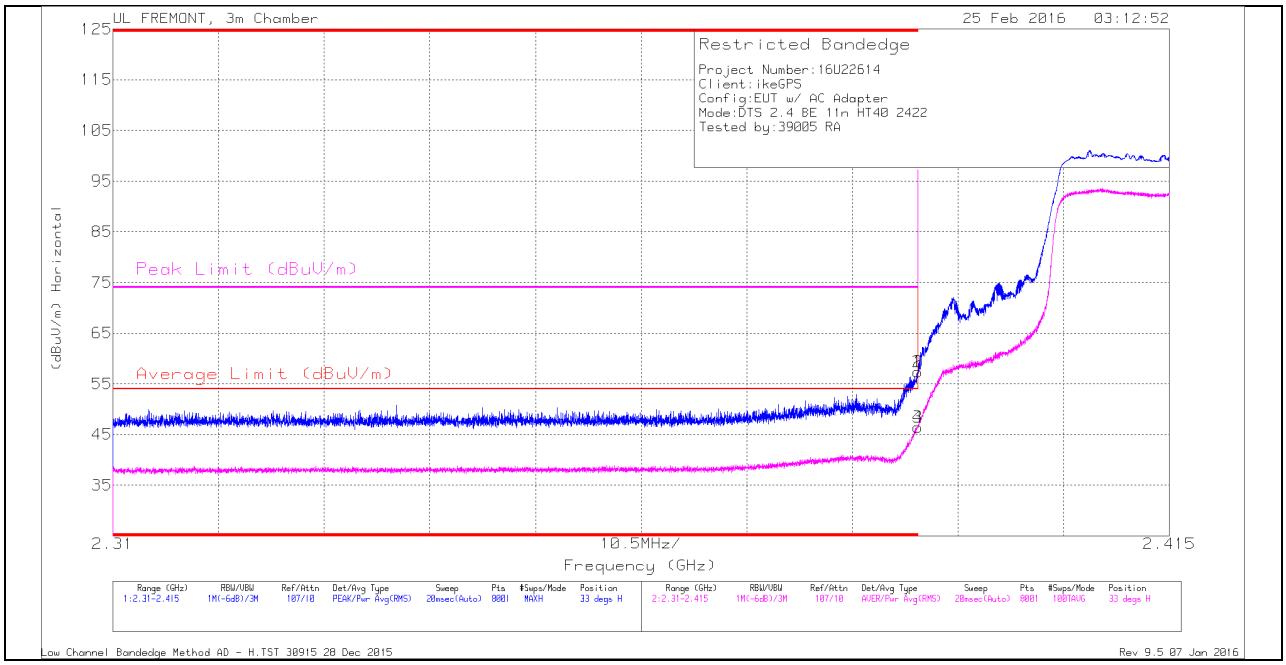
10.1.4. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	47.59	Pk	32	-22.2	0	57.39	-	-	74	-16.61	33	308	H
2	* 2.39	47.52	Pk	32	-22.2	0	57.32	-	-	74	-16.68	33	308	H
3	* 2.39	36.62	RMS	32	-22.2	0	46.42	54	-7.58	-	-	33	308	H
4	* 2.39	36.69	RMS	32	-22.2	0	46.49	54	-7.51	-	-	33	308	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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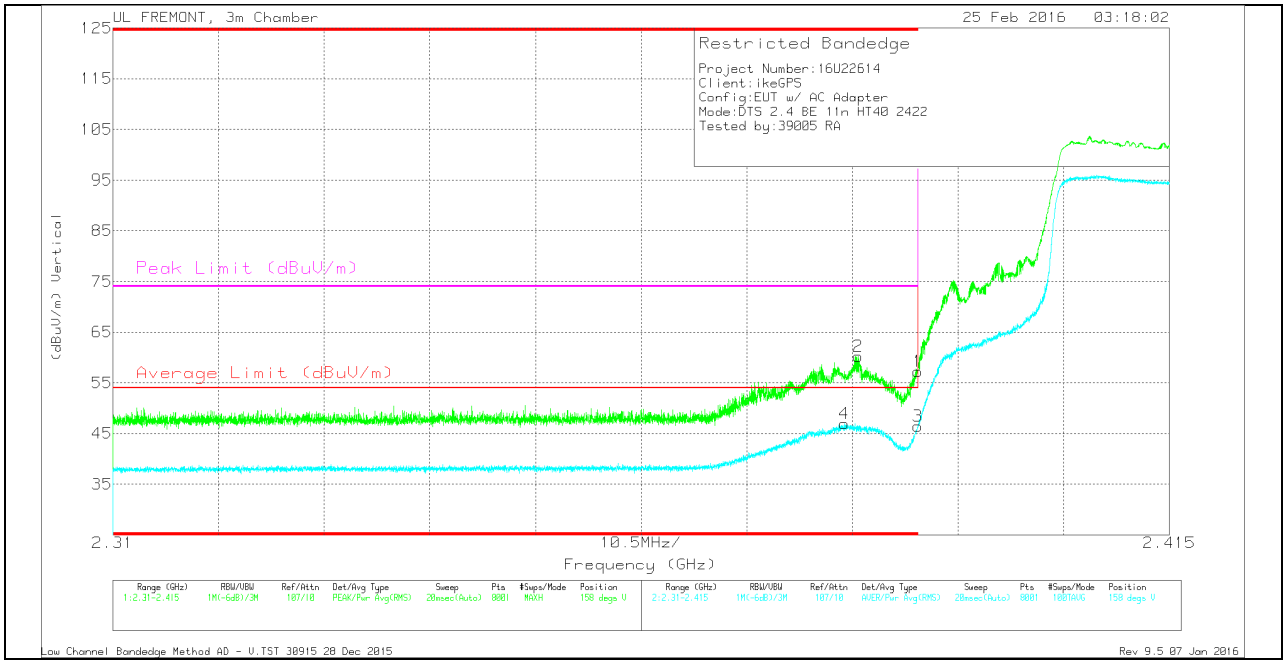
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.383	37.13	RMS	32	-22.2	0	46.93	54	-7.07	-	-	158	282	V
2	* 2.384	50.42	Pk	32	-22.2	0	60.22	-	-	74	-13.78	158	282	V
1	* 2.39	47.39	Pk	32	-22.2	0	57.19	-	-	74	-16.81	158	282	V
3	* 2.39	36.69	RMS	32	-22.2	0	46.49	54	-7.51	-	-	158	282	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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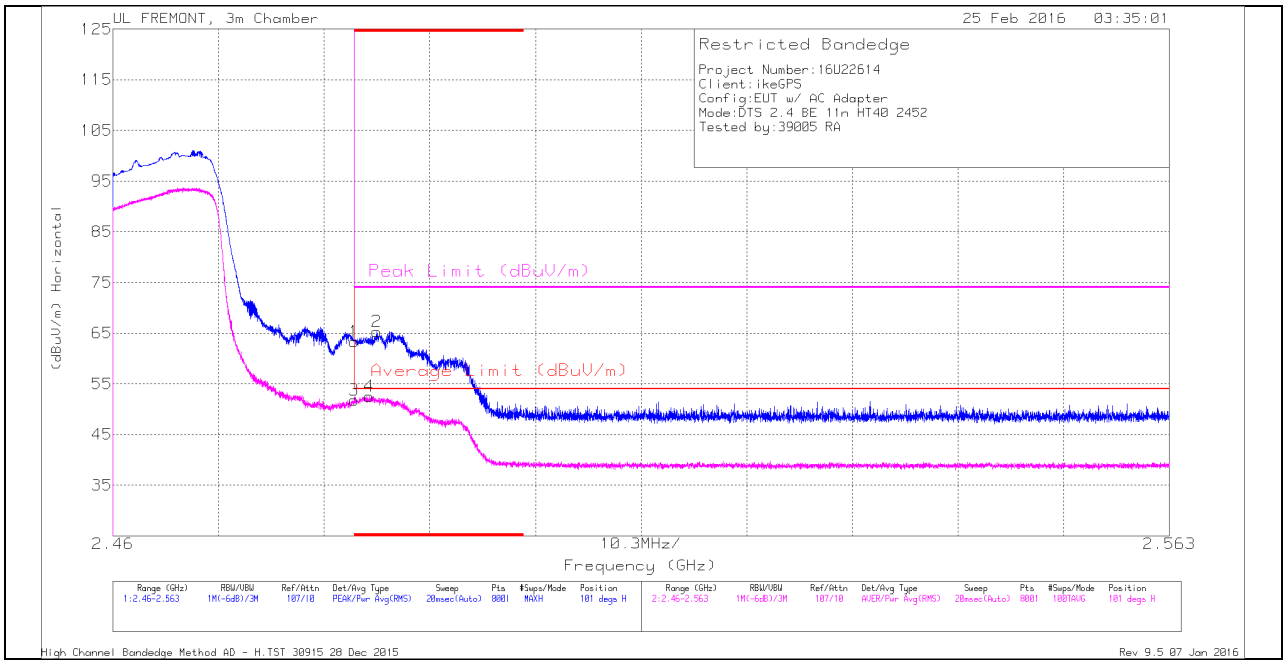
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.98	Pk	32.3	-22	0	63.28	-	-	74	-10.72	101	268	H
3	* 2.484	41.49	RMS	32.3	-22	0	51.79	54	-2.21	-	-	101	268	H
4	* 2.485	42.22	RMS	32.3	-22	0	52.52	54	-1.48	-	-	101	268	H
2	* 2.486	55.03	Pk	32.3	-22	0	65.33	-	-	74	-8.67	101	268	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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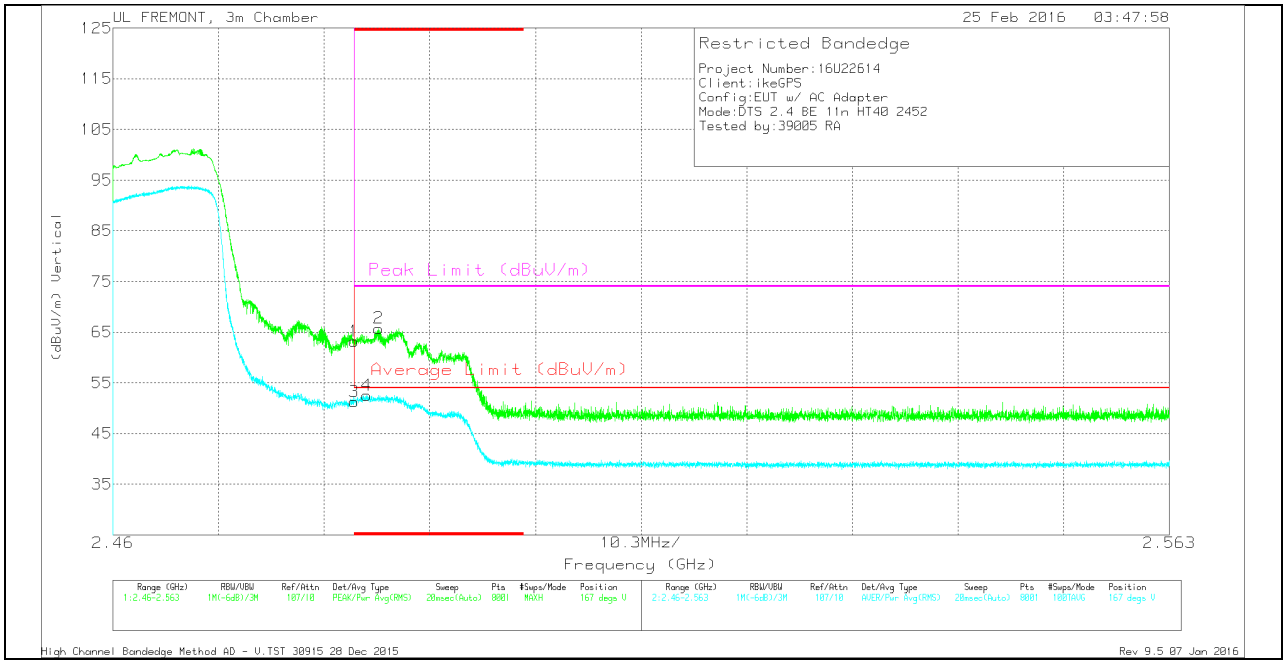
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.92	Pk	32.3	-22	0	63.22	-	-	74	-10.78	167	337	V
3	* 2.484	40.93	RMS	32.3	-22	0	51.23	54	-2.77	-	-	167	337	V
4	* 2.485	42.28	RMS	32.3	-22	0	52.58	54	-1.42	-	-	167	337	V
2	* 2.486	55.45	Pk	32.3	-22	0	65.75	-	-	74	-8.25	167	337	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

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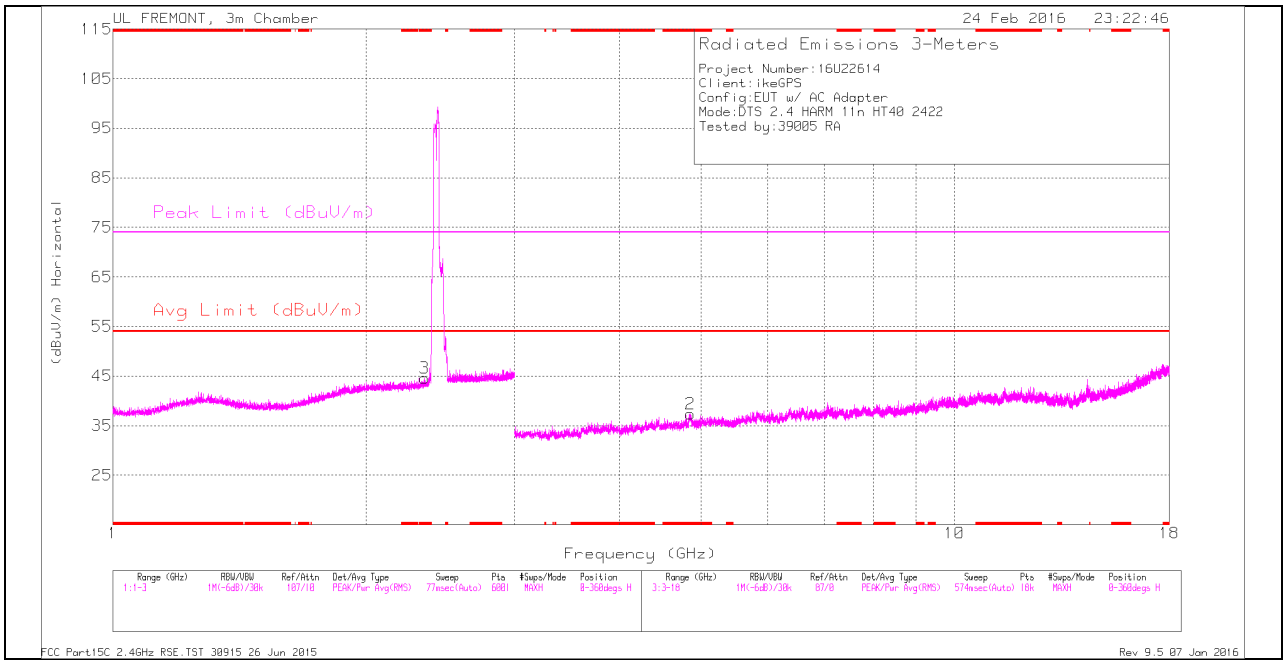
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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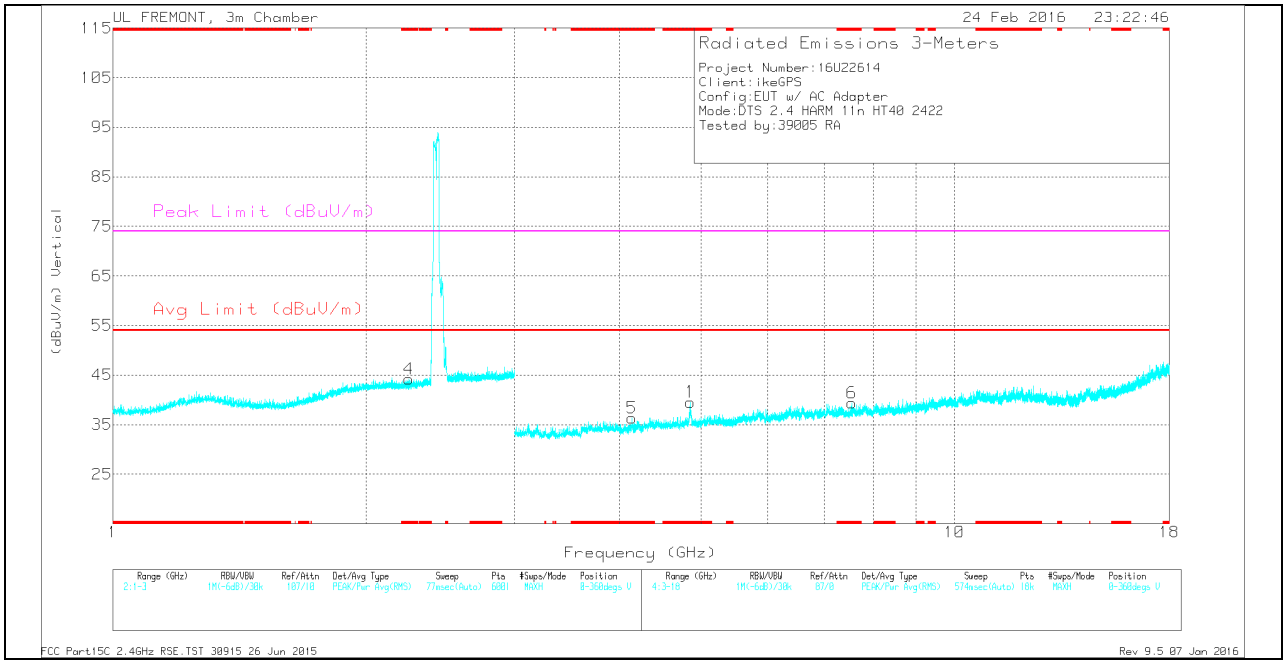
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
3	* 2.345	35.14	Pk	31.8	-22.3	0	44.64	-	-	74	-29.36	0-360	200	H
4	* 2.248	34.8	Pk	31.5	-22.1	0	44.2	-	-	74	-29.8	0-360	200	V
2	* 4.857	32.17	Pk	34	-28.8	0	37.37	-	-	74	-36.63	0-360	100	H
1	* 4.855	34.47	Pk	34	-28.9	0	39.57	-	-	74	-34.43	0-360	200	V
5	* 4.138	32.62	Pk	33.3	-29.6	0	36.32	-	-	74	-37.68	0-360	100	V
6	* 7.551	30.64	Pk	35.7	-27	0	39.34	-	-	74	-34.66	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.346	40.59	PK2	31.8	-22.3	0	50.09	-	-	74	-23.91	101	206	H
* 2.345	29.31	MAv1	31.8	-22.3	0	38.81	54	-15.19	-	-	101	206	H
* 2.247	40.51	PK2	31.5	-22.1	0	49.91	-	-	74	-24.09	134	187	V
* 2.249	29.09	MAv1	31.5	-22.1	0	38.49	54	-15.51	-	-	134	187	V
* 4.856	38.44	PK2	34	-28.8	0	43.64	-	-	74	-30.36	202	192	H
* 4.857	26.8	MAv1	34	-28.8	0	32	54	-22	-	-	202	192	H
* 4.856	40.16	PK2	34	-28.8	0	45.36	-	-	74	-28.64	343	209	V
* 4.856	28.27	MAv1	34	-28.9	0	33.37	54	-20.63	-	-	343	209	V
* 4.139	38.49	PK2	33.3	-29.5	0	42.29	-	-	74	-31.71	333	191	V
* 4.138	27.33	MAv1	33.3	-29.6	0	31.03	54	-22.97	-	-	333	191	V
* 7.551	36.75	PK2	35.7	-27	0	45.45	-	-	74	-28.55	301	220	V
* 7.551	24.66	MAv1	35.7	-27	0	33.36	54	-20.64	-	-	301	220	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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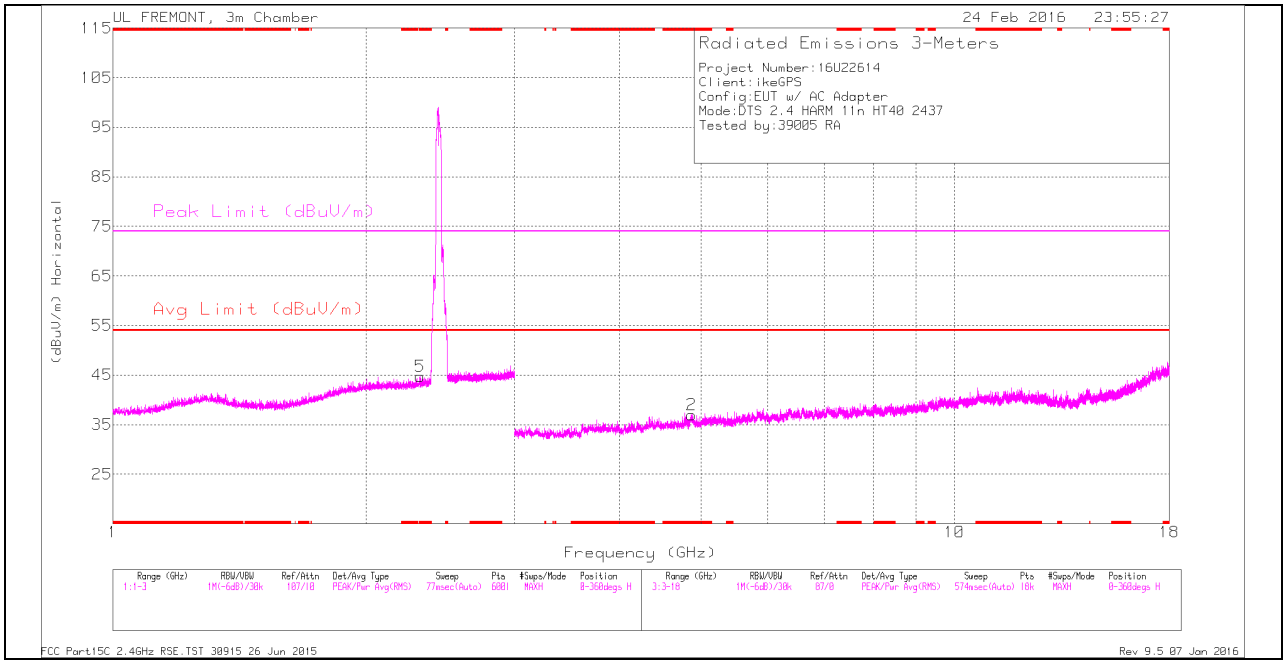
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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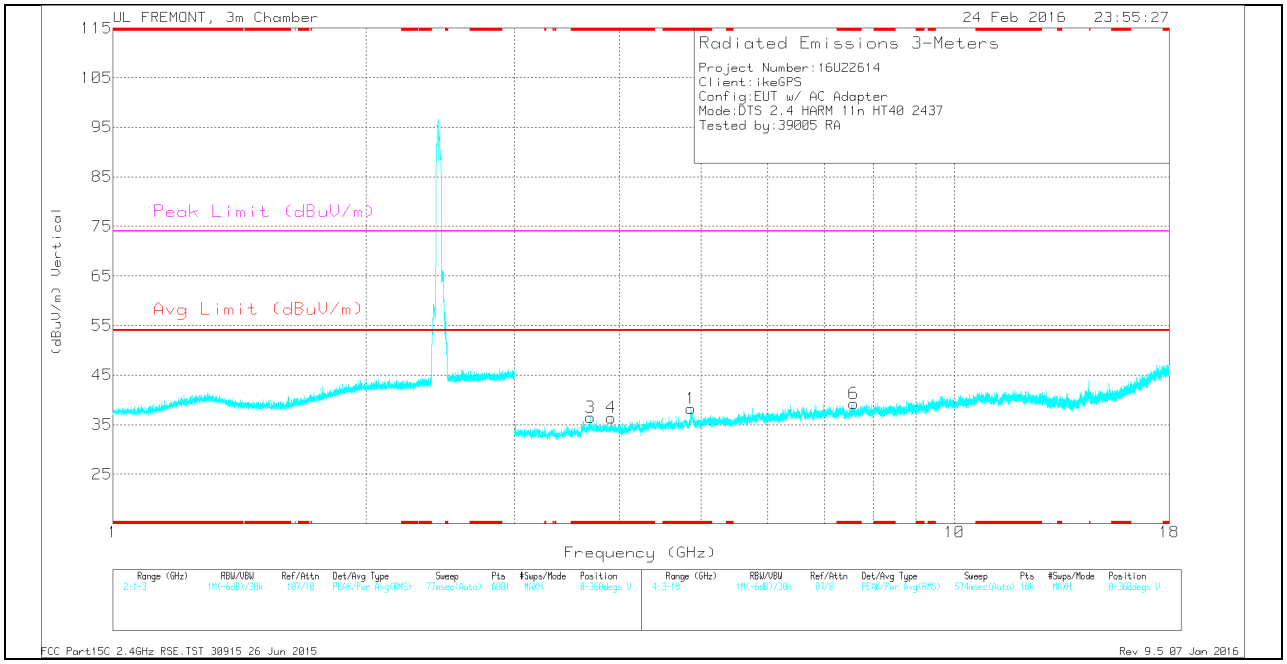
MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
5	* 2.319	35.17	Pk	31.7	-22.2	0	44.67	-	-	74	-29.33	0-360	200	H
2	* 4.874	31.68	Pk	34	-28.7	0	36.98	-	-	74	-37.02	0-360	100	H
1	* 4.863	33.06	Pk	34	-28.8	0	38.26	-	-	74	-35.74	0-360	100	V
3	* 3.691	32.96	Pk	33	-29.5	0	36.46	-	-	74	-37.54	0-360	200	V
4	* 3.912	33.5	Pk	33.2	-30.3	0	36.4	-	-	74	-37.6	0-360	100	V
6	* 7.591	29.89	Pk	35.7	-26.3	0	39.29	-	-	74	-34.71	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.319	40.69	PK2	31.7	-22.2	0	50.19	-	-	74	-23.81	301	183	H
* 2.318	29.25	MAv1	31.7	-22.2	0	38.75	54	-15.25	-	-	301	183	H
* 4.874	37.93	PK2	34	-28.7	0	43.23	-	-	74	-30.77	344	224	H
* 4.875	26.64	MAv1	34	-28.7	0	31.94	54	-22.06	-	-	344	224	H
* 4.863	38.42	PK2	34	-28.8	0	43.62	-	-	74	-30.38	239	256	V
* 4.863	26.84	MAv1	34	-28.8	0	32.04	54	-21.96	-	-	239	256	V
* 3.69	38.49	PK2	33	-29.5	0	41.99	-	-	74	-32.01	257	228	V
* 3.691	27.01	MAv1	33	-29.5	0	30.51	54	-23.49	-	-	257	228	V
* 3.912	38.97	PK2	33.2	-30.2	0	41.97	-	-	74	-32.03	252	226	V
* 3.913	27.94	MAv1	33.2	-30.2	0	30.94	54	-23.06	-	-	252	226	V
* 7.592	36.48	PK2	35.7	-26.3	0	45.88	-	-	74	-28.12	268	230	V
* 7.592	24.31	MAv1	35.7	-26.3	0	33.71	54	-20.29	-	-	268	230	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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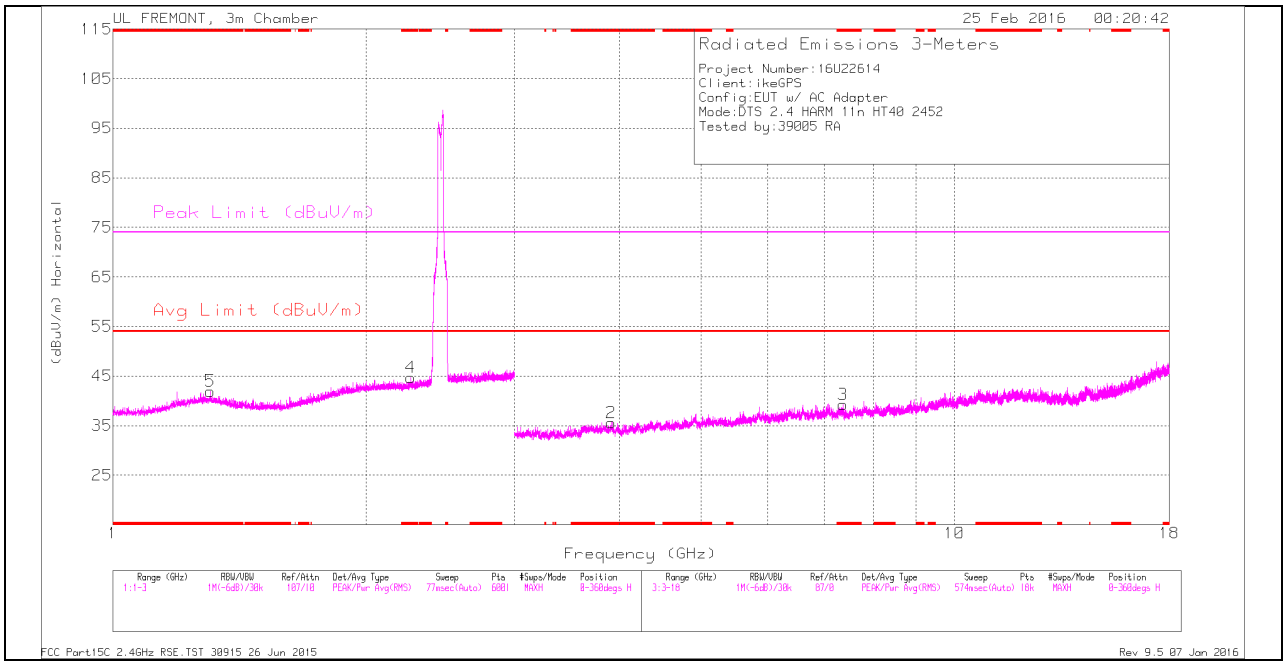
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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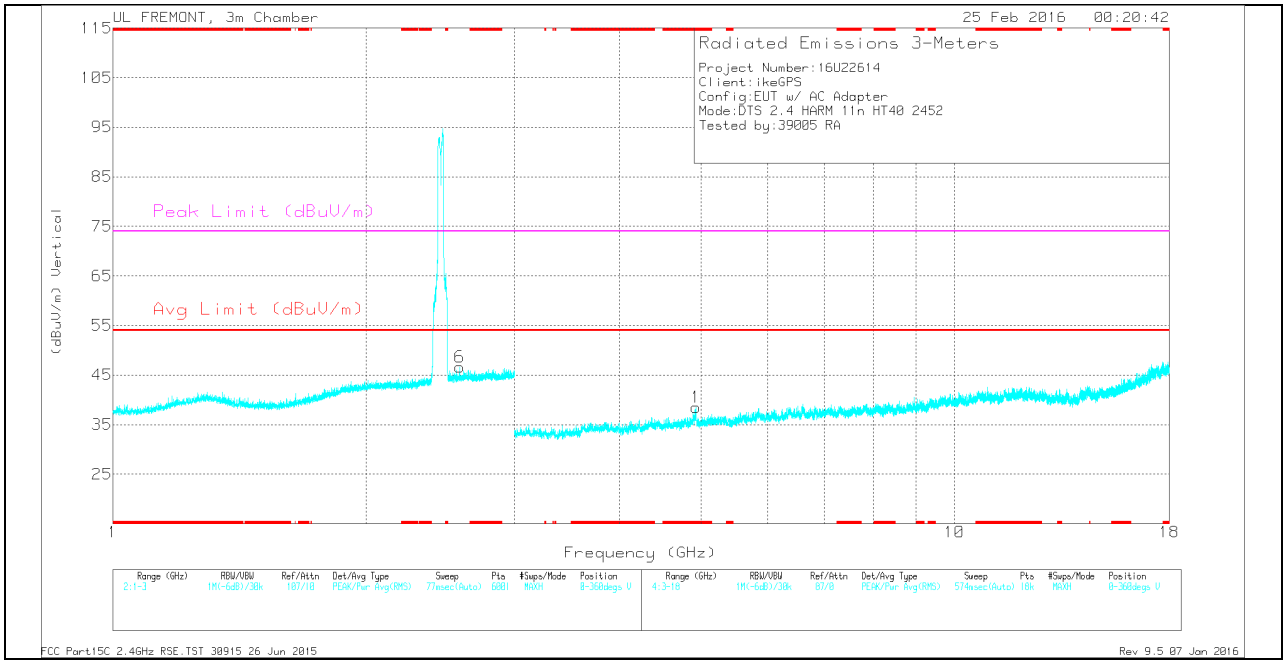
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; 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 T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.258	35.46	Pk	31.5	-22.3	0	44.66	-	-	74	-29.34	0-360	200	H
5	* 1.305	35.38	Pk	29.8	-23.2	0	41.98	-	-	74	-32.02	0-360	200	H
2	* 3.906	32.56	Pk	33.2	-30.2	0	35.56	-	-	74	-38.44	0-360	100	H
3	* 7.371	30.18	Pk	35.6	-26.5	0	39.28	-	-	74	-34.72	0-360	100	H
1	* 4.928	33.75	Pk	34	-29.3	0	38.45	-	-	74	-35.55	0-360	200	V
6	2.581	36.14	Pk	32.4	-21.9	0	46.64	-	-	-	-	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	Azimuth (Degs)	Height (cm)	Polarity
* 2.257	41.46	PK2	31.5	-22.3	0	50.66	-	-	74	-23.34	300	199	H
* 2.259	29.07	MAv1	31.5	-22.2	0	38.37	54	-15.63	-	-	300	199	H
* 1.305	40.86	PK2	29.8	-23.2	0	47.46	-	-	74	-26.54	332	215	H
* 1.306	29.4	MAv1	29.8	-23.2	0	36	54	-18	-	-	332	215	H
* 3.907	39.47	PK2	33.2	-30.2	0	42.47	-	-	74	-31.53	225	179	H
* 3.906	28.1	MAv1	33.2	-30.2	0	31.1	54	-22.9	-	-	225	179	H
* 7.37	36.11	PK2	35.6	-26.5	0	45.21	-	-	74	-28.79	298	197	H
* 7.371	24.8	MAv1	35.6	-26.5	0	33.9	54	-20.1	-	-	298	197	H
* 4.928	40.15	PK2	34	-29.3	0	44.85	-	-	74	-29.15	302	203	V
* 4.928	28.61	MAv1	34	-29.3	0	33.31	54	-20.69	-	-	302	203	V
2.581	40.57	PK2	32.4	-21.9	0	51.07	-	-	74	-22.93	259	226	V
2.582	29.23	MAv1	32.4	-21.9	0	39.73	54	-14.27	-	-	259	226	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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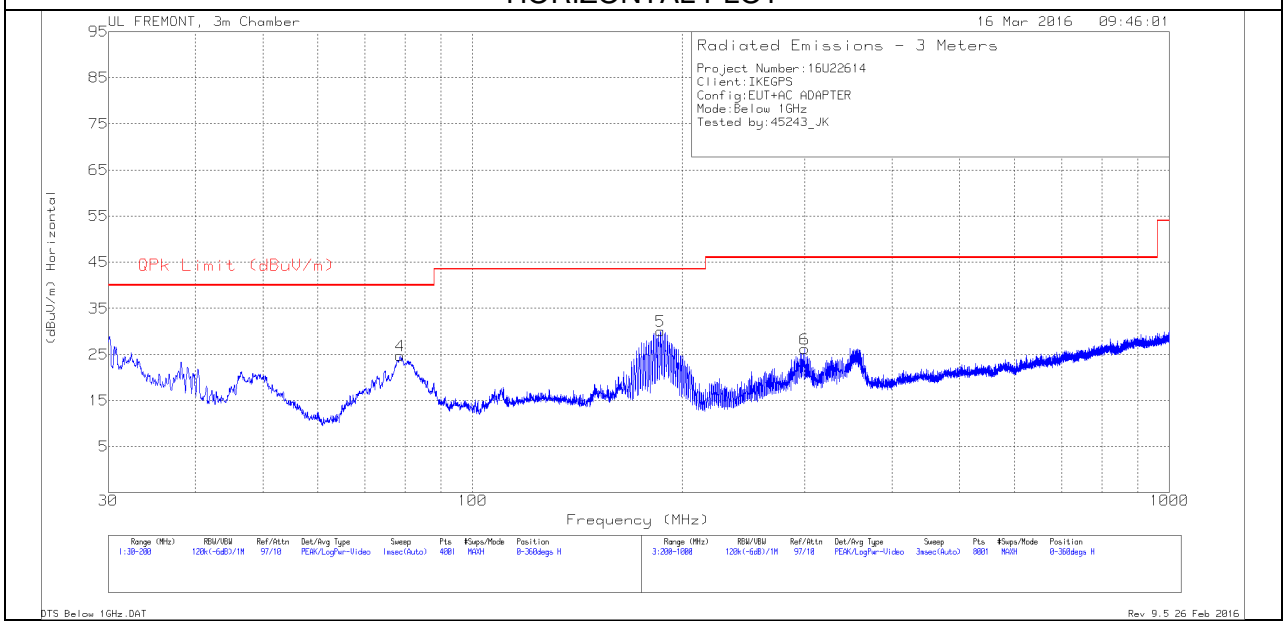
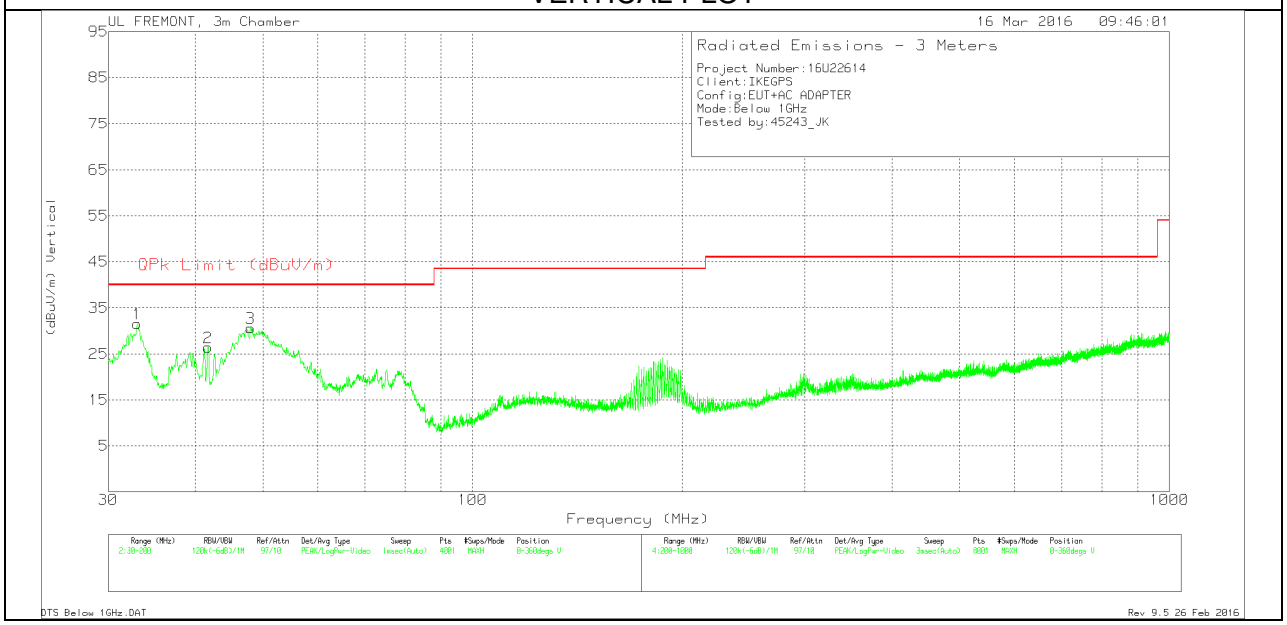
10.2. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



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Below 1G Data

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	33.0175	39.14	Pk	19.5	-27.1	31.54	40	-8.46	0-360	100	V
2	41.73	40.52	Pk	13	-27.1	26.42	40	-13.58	0-360	100	V
3	48.02	48.5	Pk	9	-26.9	30.6	40	-9.4	0-360	100	V
4	78.705	43.23	Pk	8.1	-26.6	24.73	40	-15.27	0-360	400	H
5	186.06	44.33	Pk	11	-25.3	30.03	43.52	-13.49	0-360	100	H
6	299.7	37.5	Pk	13.1	-24.4	26.2	46.02	-19.82	0-360	100	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56	56 to 46
0.5 - 5	56	46
5 - 30	60	50

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

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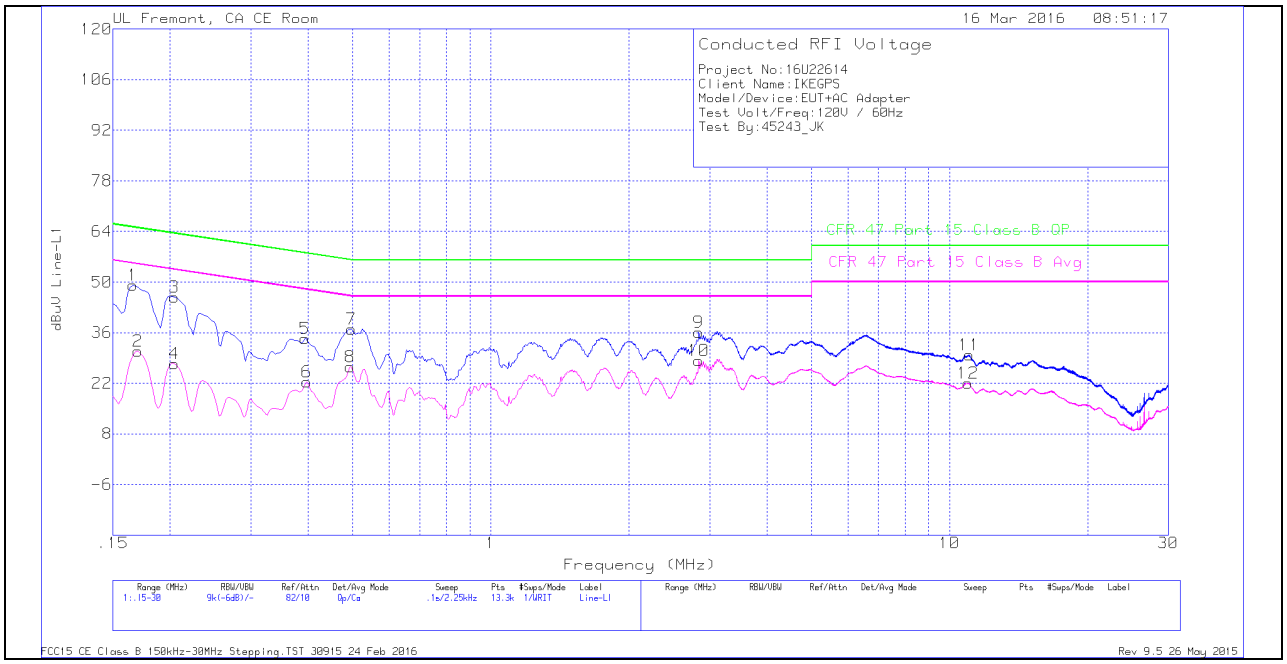
6 WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULTS

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.16575	37.75	Qp	1.2	0	10.1	49.05	65.17	-16.12	-	-
2	.17025	19.63	Ca	1.2	0	10.1	30.93	-	-	54.95	-24.02
3	.204	34.89	Qp	.9	0	10.1	45.89	63.45	-17.56	-	-
4	.204	16.47	Ca	.9	0	10.1	27.47	-	-	53.45	-25.98
5	.393	23.92	Qp	.4	0	10.1	34.42	58	-23.58	-	-
6	.3975	11.83	Ca	.4	0	10.1	22.33	-	-	47.91	-25.58
7	.4965	26.43	Qp	.4	0	10.1	36.93	56.06	-19.13	-	-
8	.49425	16.08	Ca	.4	0	10.1	26.58	-	-	46.1	-19.52
9	2.841	25.68	Qp	.2	.1	10.1	36.08	56	-19.92	-	-
10	2.841	17.82	Ca	.2	.1	10.1	28.22	-	-	46	-17.78
11	11.02875	19.18	Qp	.2	.2	10.2	29.78	60	-30.22	-	-
12	10.9815	11.41	Ca	.2	.2	10.2	22.01	-	-	50	-27.99

Qp - Quasi-Peak detector

Ca - CISPR average detection

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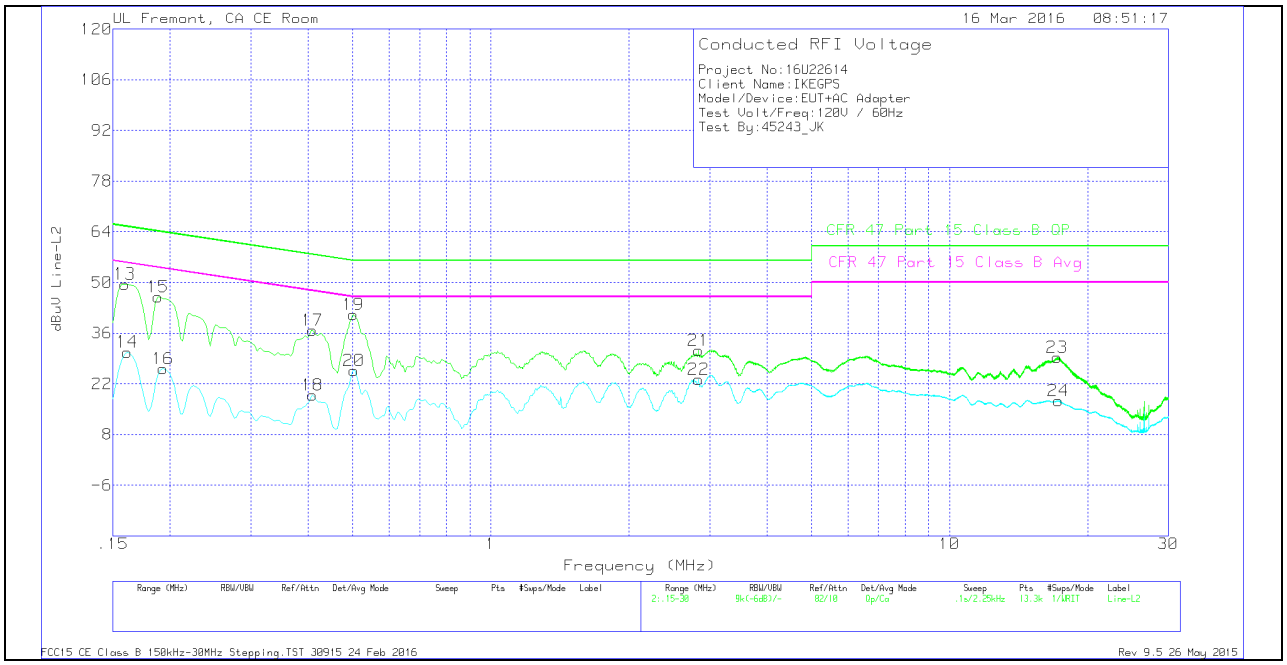
LINE 2 PLOT



LINE 2 RESULTS

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.159	38.06	Qp	1.4	0	10.1	49.56	65.52	-15.96	-	-
14	.16125	19.29	Ca	1.4	0	10.1	30.79	-	-	55.4	-24.61
15	.18825	34.86	Qp	1.1	0	10.1	46.06	64.11	-18.05	-	-
16	.19275	15	Ca	1.1	0	10.1	26.2	-	-	53.92	-27.72
17	.40875	26.31	Qp	.4	0	10.1	36.81	57.67	-20.86	-	-
18	.40875	8.31	Ca	.4	0	10.1	18.81	-	-	47.67	-28.86
19	.501	30.57	Qp	.4	0	10.1	41.07	56	-14.93	-	-
20	.50325	15.23	Ca	.4	0	10.1	25.73	-	-	46	-20.27
21	2.83875	20.77	Qp	.2	.1	10.1	31.17	56	-24.83	-	-
22	2.83875	12.78	Ca	.2	.1	10.1	23.18	-	-	46	-22.82
23	17.18475	18.47	Qp	.3	.2	10.3	29.27	60	-30.73	-	-
24	17.25	6.58	Ca	.3	.2	10.3	17.38	-	-	50	-32.62

Qp - Quasi-Peak detector

Ca - CISPR average detection

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