



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

**BLUETOOTH LOW ENERGY
C2PC CERTIFICATION TEST REPORT**

**FOR
DOLPHIN CT50 HEALTHCARE**

**MODEL NUMBER: CT50L0N
FCC ID: HD5-CT50L0N
IC ID: 1693B-CT50L0N**

REPORT NUMBER: 15U21901-E2V3

ISSUE DATE: JANUARY 12, 2016

Prepared for
**HONEYWELL INTERNATIONAL INC
HONEYWELL SENSING AND PRODUCTIVITY SOLUTIONS
9680 OLD BAILES ROAD
FORT MILL, SOUTH CAROLINA 29715, USA**

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

NVLAP®

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	12/21/2015	Initial Issue	C.S.OOI
V2	01/05//2016	Added Section 5.6	C.S.OOI
V3	01/12//2016	Added KDB 558074 D01 v03r04 on page 5	C.S.OOI

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY	6
4.1. <i>MEASURING INSTRUMENT CALIBRATION</i>	6
4.2. <i>SAMPLE CALCULATION</i>	6
4.3. <i>MEASUREMENT UNCERTAINTY</i>	6
5. EQUIPMENT UNDER TEST	7
5.1. <i>DESCRIPTION OF EUT</i>	7
5.2. <i>MAXIMUM OUTPUT POWER</i>	7
5.3. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i>	7
5.4. <i>SOFTWARE AND FIRMWARE</i>	7
5.5. <i>WORST-CASE CONFIGURATION AND MODE</i>	7
5.6. <i>DESCRIPTION OF TEST SETUP</i>	8
6. TEST AND MEASUREMENT EQUIPMENT	10
7. SUMMARY	11
8. RADIATED TEST RESULTS.....	12
8.1. <i>LIMITS AND PROCEDURE</i>	12
8.2. <i>TRANSMITTER ABOVE 1 GHz</i>	13
<i>WORST-CASE BELOW 1 GHz</i>	23
9. SETUP PHOTOS.....	26

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: HONEYWELL INTERNATIONAL INC
HONEYWELL SENSING AND PRODUCTIVITY SOLUTIONS

EUT DESCRIPTION: DOLPHIN CT50 HEALTHCARE

MODEL: CT50L0N

SERIAL NUMBER: 152884063F (Radiated)

DATE TESTED: NOVEMBER 16 – 17, 2015

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.

Approved & Released For
UL Verification Services Inc. By:

Tested By:



CHOON OOI
CONSUMER TECHNOLOGY DIVISION
PROJECT LEAD
UL Verification Services Inc.



JUDE SEMANA
CONSUMER TECHNOLOGY DIVISION
WISE LAB TECHNICIAN
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, KDB 558074 D01 v03r04, ANSI C63.10-2013, RSS-GEN Issue 4, 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
<input type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 2324B-4)
<input type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 2324B-5)
<input checked="" type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 2324B-6)
	<input type="checkbox"/> Chamber G(IC: 2324B-7)
	<input type="checkbox"/> Chamber H(IC: 2324B-8)

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Dolphin CT50 Healthcare with BT, BLE, DTS & UNII a/b/g/n/ac and NFC.

Reason for C2PC:

Enclosure plastic material changed compound. Enclosure is the same shape and size as what was filed but will be produce with no hand strap. All other electronic components are the same as what was filed.

5.2. MAXIMUM OUTPUT POWER

Refer to the original report, 15U20259-E9A for detail.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an embedded antenna, with a maximum gain of 1.7 dBi.

5.4. SOFTWARE AND FIRMWARE

The EUT driver software installed in the equipment during testing was Android Helsinki-eng 4.4.4 KTU84P 59.02.02.0013E dev-keys.

The test utility software used during testing was FTM Tool, Ver. 1.6.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest 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.

5.6. REASON FOR C2PC

Enclosure plastic material changed compound. Enclosure is the same shape and size as what was filed but will be produce with no hand strap. All other electronic components are the same as what was filed. Only radiated emissions tests were performed in this filing. Results of other tests performed in the original filing would not be affected by this change

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	PHIHONG	PSA10F-050Q	N/A	N/A
USB CUP Adapter	Honeywell	N/A	N/A	N/A

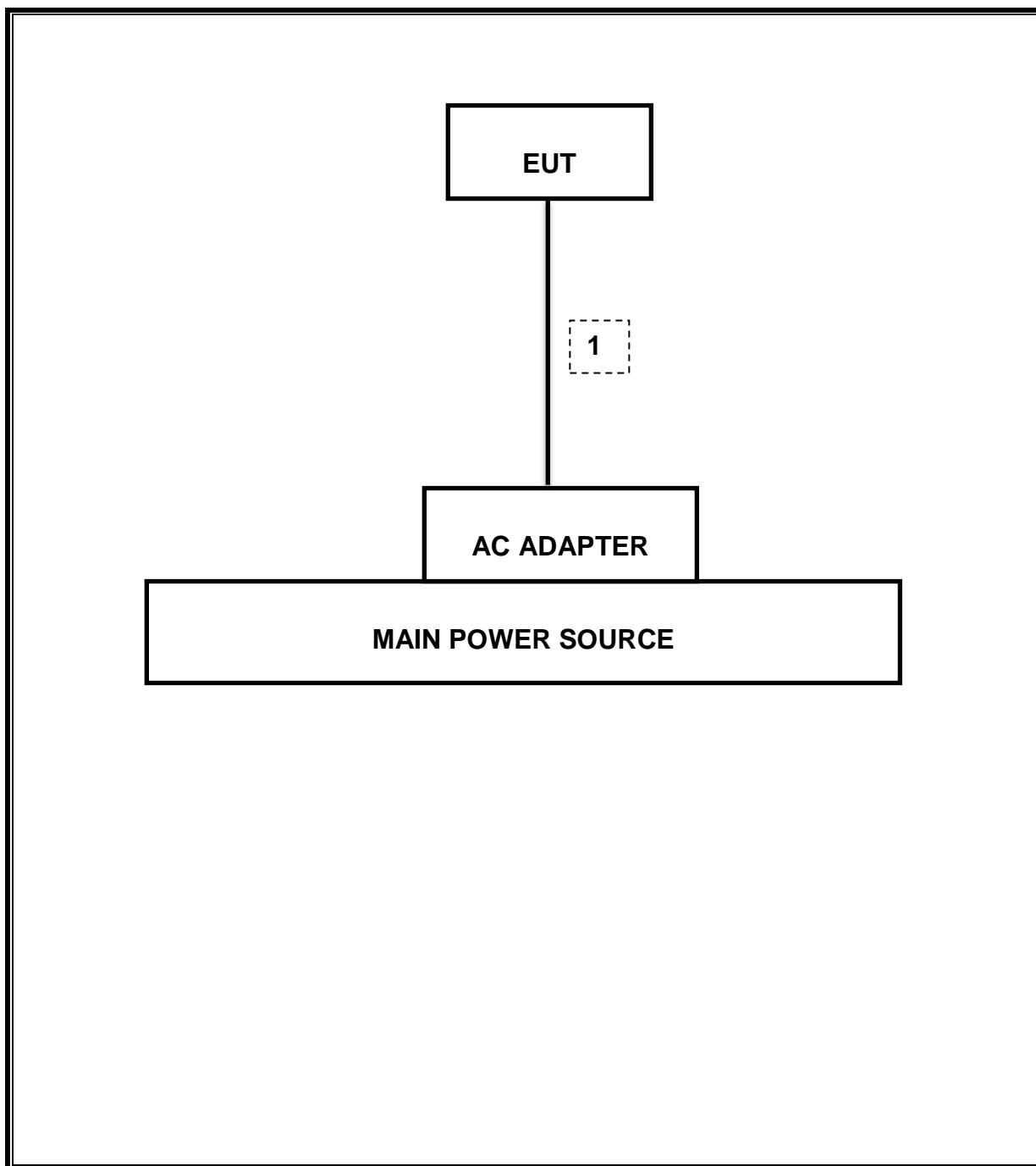
I/O CABLES

N/A

TEST SETUP

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

SETUP DIAGRAM FOR TESTS



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	Asset	Cal Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01171	02/13/16
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/16
RF Preamplifier, 100KHz -> 1300MHz	HP	8447D	T10	01/06/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
CBT Bluetooth Tester	R & S	CBT	None	07/12/16
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/16
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	N02684	CNR
Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014	
Conducted Software	UL	UL EMC	Ver 9.5, May 17 2012	
CLT Software	UL	UL RF	Ver 1.0, Feb 2 2015	
Antenna Port Software	UL	UL RF	Ver 2.1.1.1, Jan 20 2015	

7. SUMMARY

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-247 5.2 (1)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	Refer to 15U20259-E9A
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	Refer to 15U20259-E9A
15.247	RSS-247 5.4 (4)	TX conducted output power	<30dBm		Pass	Refer to 15U20259-E9A
15.247	RSS-247 5.2 (2)	PSD	<8dBm		Pass	Refer to 15U20259-E9A
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	Refer to 15U20259-E9A
15.205, 15.209	RSS-GEN 8.9	Radiated Spurious Emission	< 54dBuV/m		Pass	30.33dBuV/m

8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

IC RSS-GEN Clause 7 (Receiver)

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. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4 - 2009. 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 = $10 \log (1/x)$. For this sample: DCF = $10\log(1/0.623)=2.05\text{dB}$.

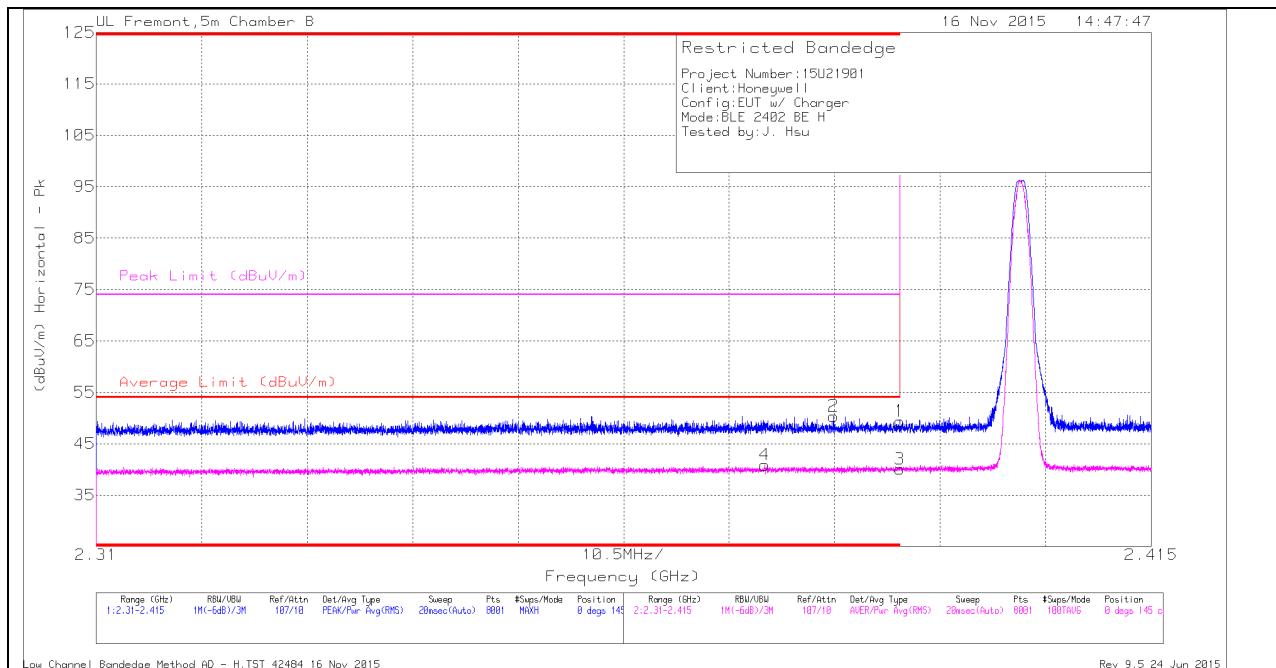
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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.

8.2. TRANSMITTER ABOVE 1 GHz RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/FI tr/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	41.5	Pk	32	-24.1	0	49.4	-	-	74	-24.6	0	145	H
2	* 2.383	42.47	Pk	32	-24.1	0	50.37	-	-	74	-23.63	0	145	H
3	* 2.39	30.1	RMS	32	-24.1	2.05	40.05	54	-13.95	-	-	0	145	H
4	* 2.377	31.02	RMS	31.9	-24.1	2.05	40.87	54	-13.13	-	-	0	145	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

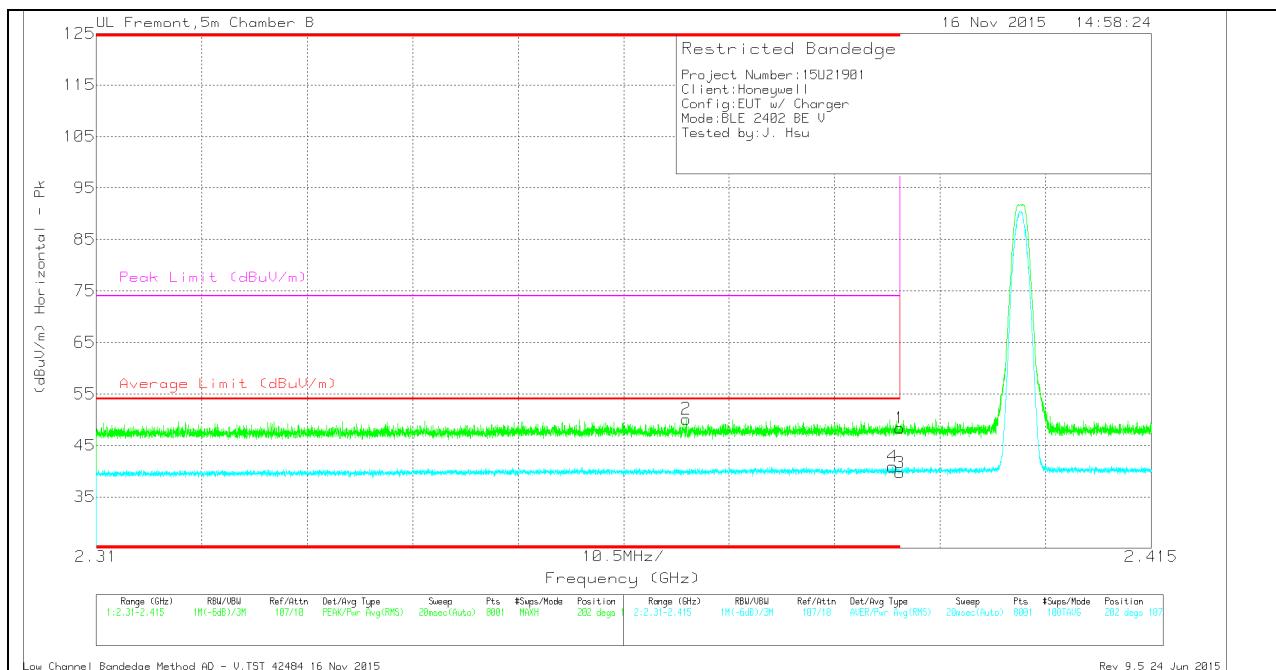
Pk - Peak detector

RMS - RMS detection

Low Channel Bandedge Method AD - H.TST 42484 16 Nov 2015

Rev 9.5 24 Jun 2015

VERTICAL PEAK AND AVERAGE PLOT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ft tr/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	40.48	Pk	32	-24.1	0	48.38	-	-	74	-25.62	202	107	V
2	* 2.369	42.43	Pk	31.9	-24.2	0	50.13	-	-	74	-23.87	202	107	V
3	* 2.39	29.76	RMS	32	-24.1	2.05	39.71	54	-14.29	-	-	202	107	V
4	* 2.389	30.92	RMS	32	-24.1	2.05	40.87	54	-13.13	-	-	202	107	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

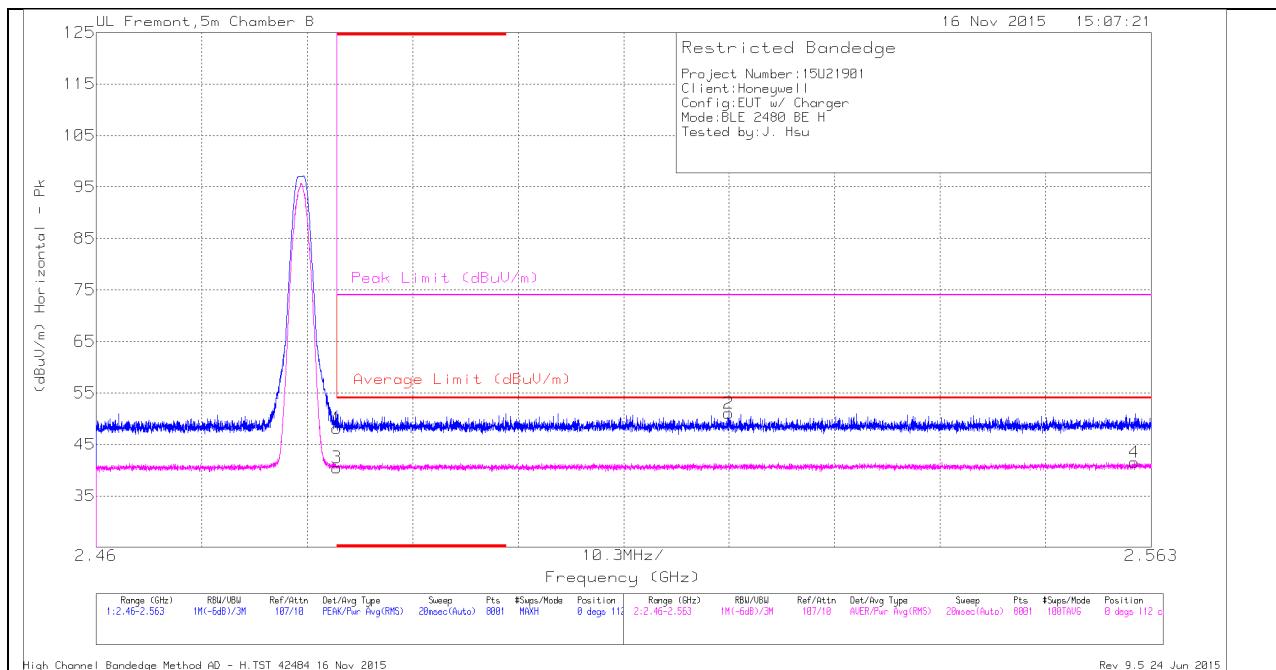
RMS - RMS detection

Low Channel Bandedge Method AD - V.TST 42484 16 Nov 2015

Rev 9.5 24 Jun 2015

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ft tr/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	39.6	Pk	32.5	-24	0	48.1	-	-	74	-25.9	0	112	H
3	* 2.484	29.92	RMS	32.5	-24	2.05	40.47	54	-13.53	-	-	0	112	H
2	2.522	42.33	Pk	32.6	-23.9	0	51.03	-	-	74	-22.97	0	112	H
4	2.561	30.69	RMS	32.7	-23.9	2.05	41.54	54	-12.46	-	-	0	112	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

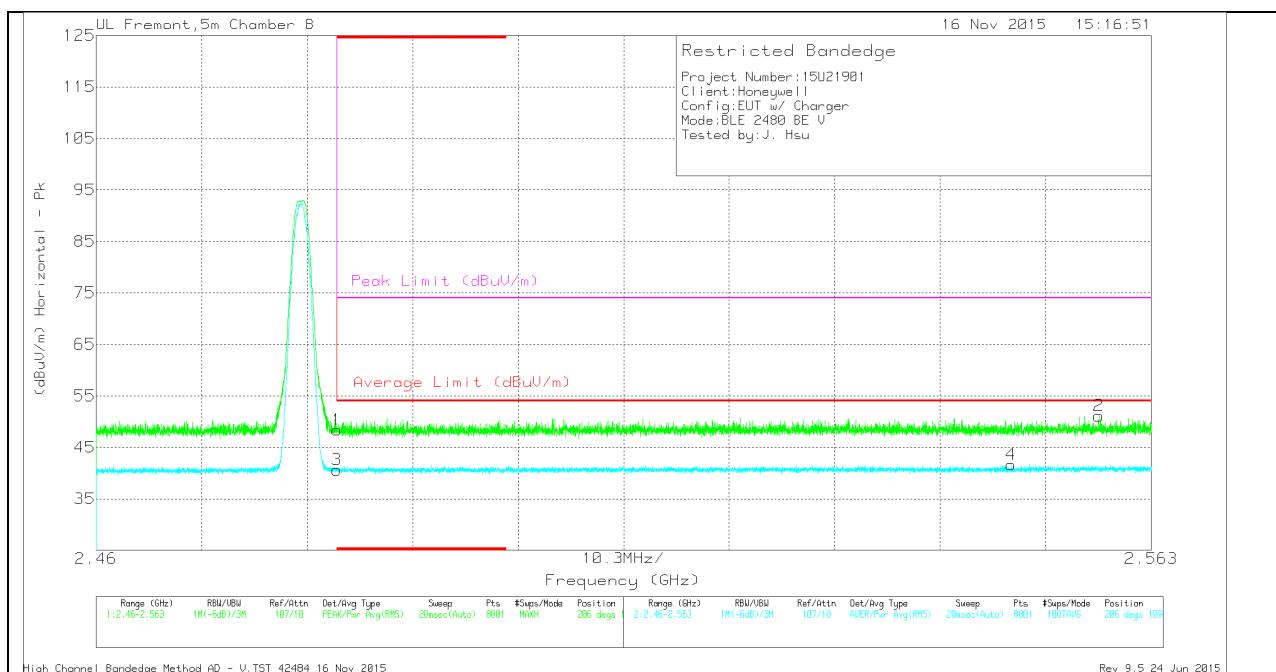
Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - H.TST 42484 16 Nov 2015

Rev 9.5 24 Jun 2015

VERTICAL PEAK AND AVERAGE PLOT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/FI tr/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	39.85	Pk	32.5	-24	0	48.35	-	-	74	-25.65	206	109	V
3	* 2.484	30.09	RMS	32.5	-24	2.05	40.64	54	-13.36	-	-	206	109	V
4	2.549	30.79	RMS	32.7	-23.9	2.05	41.64	54	-12.36	-	-	206	109	V
2	2.558	42.34	Pk	32.7	-23.9	0	51.14	-	-	74	-22.86	206	109	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

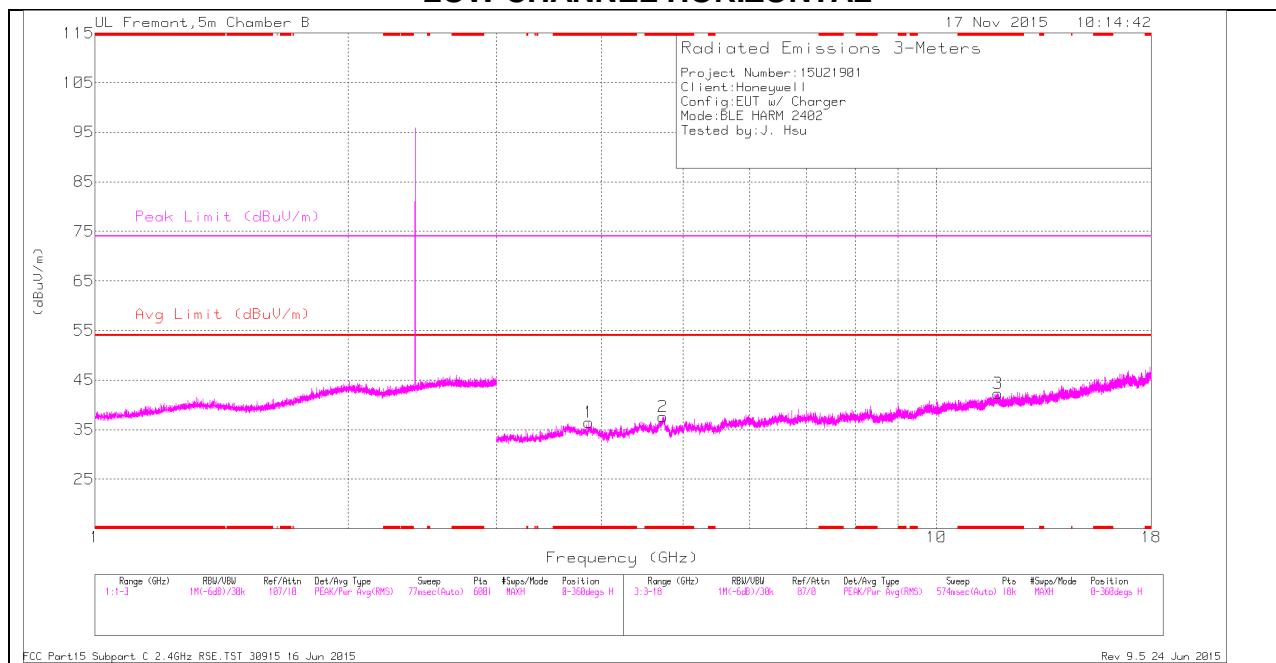
RMS - RMS detection

High Channel Bandedge Method AD - V.TST 42484 16 Nov 2015

Rev 9.5 24 Jun 2015

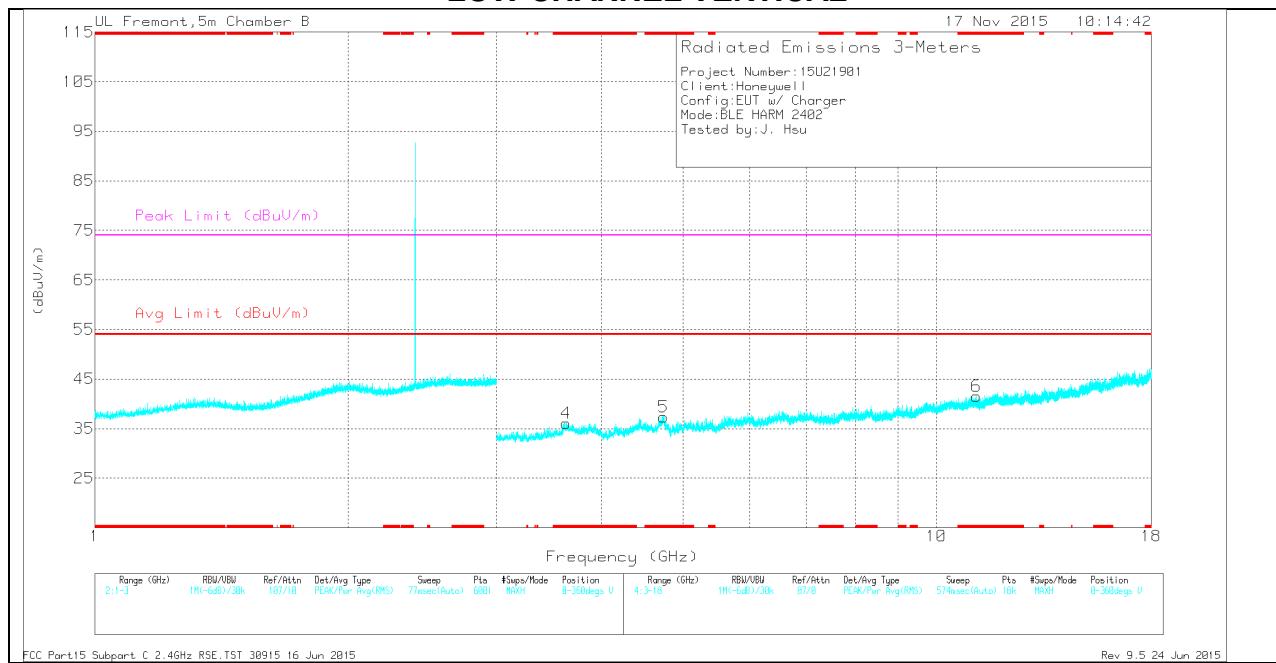
HARMONICS AND SPURIOUS EMISSIONS

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.

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.

Low Channel Data

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filt/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	* 3.864	34.85	Pk	33.4	-31.8	0	36.45	-	-	74	-37.55	0-360	101	H
2	* 4.729	34.02	Pk	34.3	-30.7	0	37.62	-	-	74	-36.38	0-360	101	H
3	* 11.827	28.15	Pk	38.6	-24.4	0	42.35	-	-	74	-31.65	0-360	101	H
4	* 3.632	35.1	Pk	33.8	-32.8	0	36.1	-	-	74	-37.9	0-360	200	V
5	* 4.737	33.75	Pk	34.3	-30.7	0	37.35	-	-	74	-36.65	0-360	102	V
6	* 11.159	28.81	Pk	37.8	-25.1	0	41.51	-	-	74	-32.49	0-360	200	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filt/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
* 3.866	42.21	PK2	33.4	-31.7	0	43.91	-	-	74	-30.09	359	102	H
* 3.866	31.15	MAv1	33.4	-31.7	2.05	34.9	54	-19.1	-	-	359	102	H
* 4.729	42.32	PK2	34.3	-30.7	0	45.92	-	-	74	-28.08	359	102	H
* 4.73	30.95	MAv1	34.3	-30.7	2.05	36.6	54	-17.4	-	-	359	102	H
* 11.827	35.53	PK2	38.6	-24.4	0	49.73	-	-	74	-24.27	359	102	H
* 11.828	24.47	MAv1	38.6	-24.4	2.05	40.72	54	-13.28	-	-	359	102	H
* 3.634	42.78	PK2	33.8	-32.8	0	43.78	-	-	74	-30.22	359	102	V
* 3.634	31.34	MAv1	33.8	-32.8	2.05	34.39	54	-19.61	-	-	359	102	V
* 4.737	42.48	PK2	34.3	-30.7	0	46.08	-	-	74	-27.92	359	102	V
* 4.737	31.03	MAv1	34.3	-30.7	2.05	36.68	54	-17.32	-	-	359	102	V
* 11.158	35.98	PK2	37.8	-25.1	0	48.68	-	-	74	-25.32	359	102	V
* 11.158	24.9	MAv1	37.8	-25.1	2.05	39.65	54	-14.35	-	-	359	102	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

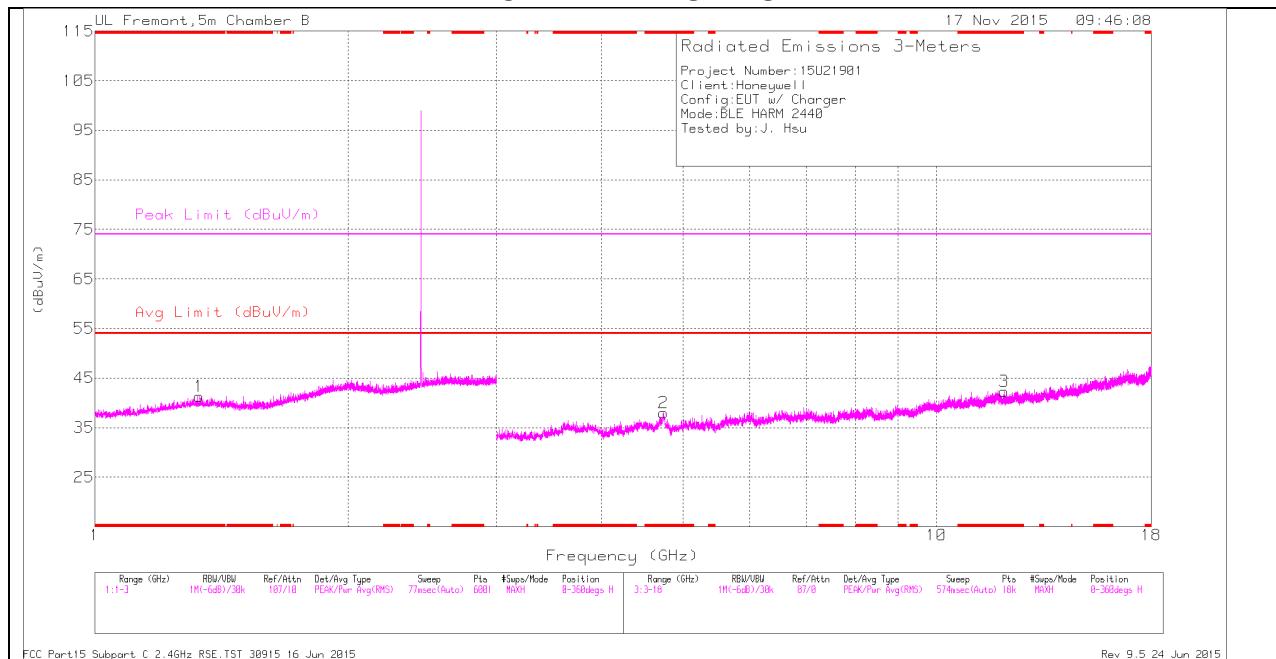
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

FCC Part15 Subpart C 2.4GHz RSE.TST 30915 16 Jun 2015

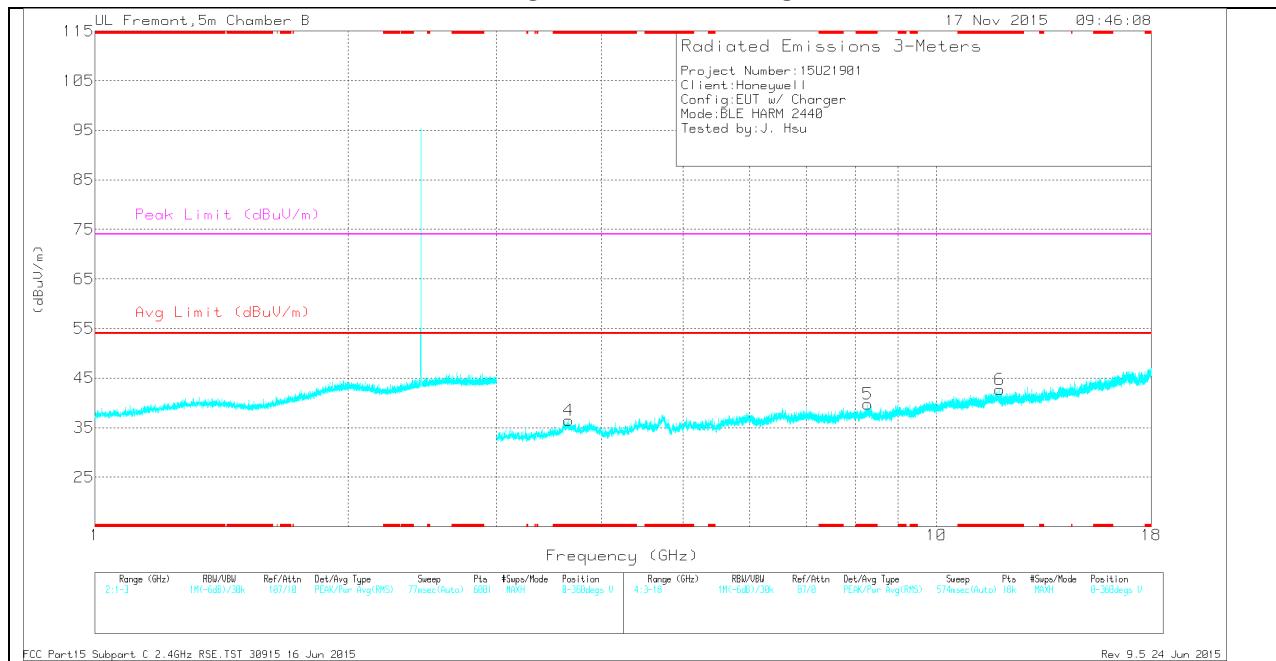
Rev 9.5 24 Jun 2015

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.

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.

MID CHANNEL DATA

Trace Markers

Marker	Frequenc y (GHz)	Meter Readin g (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.331	37.23	Pk	29.4	-25.4	0	41.23	-	-	74	-32.77	0-360	102	H
2	* 4.736	34.33	Pk	34.3	-30.7	0	37.93	-	-	74	-36.07	0-360	101	H
3	* 12.033	28.85	Pk	38.6	-25.2	0	42.25	-	-	74	-31.75	0-360	101	H
4	* 3.655	35.4	Pk	33.7	-32.6	0	36.5	-	-	74	-37.5	0-360	101	V
5	* 8.287	31.6	Pk	35.7	-27.5	0	39.8	-	-	74	-34.2	0-360	199	V
6	* 11.892	29	Pk	38.6	-24.9	0	42.7	-	-	74	-31.3	0-360	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequenc y (GHz)	Meter Readin g (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	DC Corr (dB)	Correcte d Reading (dBuV/m)	Avg	Margin	Peak	PK	Azimuth	Height	Polarity
* 1.332	44.76	PK2	29.4	-25.4	0	48.76	-	-	74	-25.24	360	101	H
* 1.329	33.06	MAv1	29.4	-25.4	2.05	39.11	54	-14.89	-	-	360	101	H
* 4.737	42.47	PK2	34.3	-30.7	0	46.07	-	-	74	-27.93	360	101	H
* 4.736	31.1	MAv1	34.3	-30.7	2.05	36.75	54	-17.25	-	-	360	101	H
* 12.033	35.66	PK2	38.6	-25.2	0	49.06	-	-	74	-24.94	360	101	H
* 12.034	24.98	MAv1	38.6	-25.2	2.05	40.43	54	-13.57	-	-	360	101	H
* 3.657	43.07	PK2	33.7	-32.6	0	44.17	-	-	74	-29.83	360	101	V
* 3.655	31.73	MAv1	33.7	-32.6	2.05	34.88	54	-19.12	-	-	360	101	V
* 8.286	38.58	PK2	35.7	-27.5	0	46.78	-	-	74	-27.22	360	101	V
* 8.289	27.69	MAv1	35.7	-27.5	2.05	37.94	54	-16.06	-	-	360	101	V
* 11.893	36.12	PK2	38.6	-24.9	0	49.82	-	-	74	-24.18	360	101	V
* 11.891	24.73	MAv1	38.6	-24.9	2.05	40.48	54	-13.52	-	-	360	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

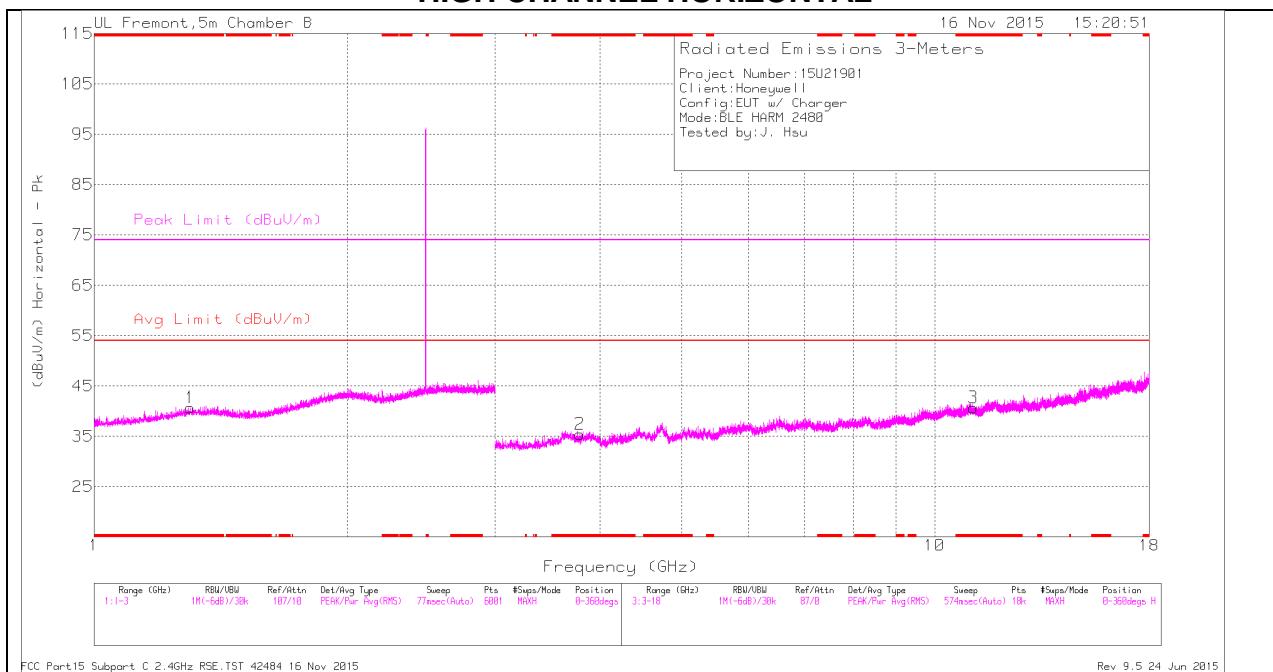
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

FCC Part15 Subpart C 2.4GHz RSE.TST 30915 16 Jun 2015

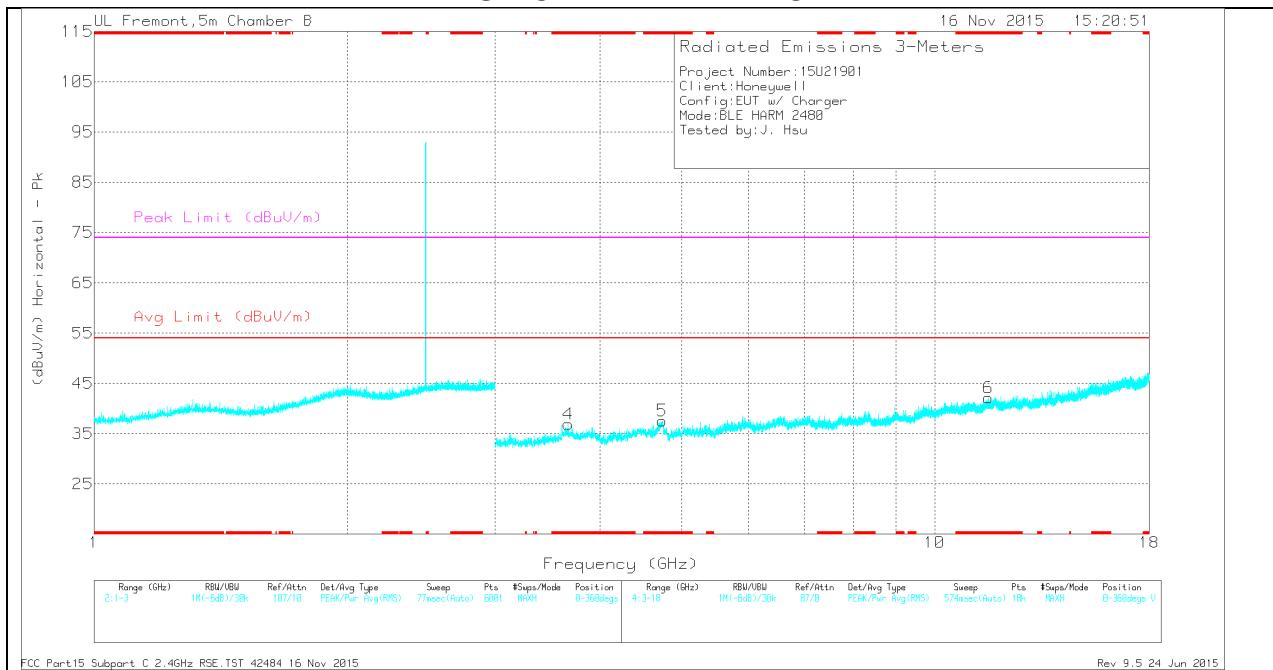
Rev 9.5 24 Jun 2015

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.

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.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/FItr/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	* 1.302	36.67	Pk	29.4	-25.4	0	40.67	-	-	74	-33.33	0-360	102	H
2	* 3.782	34.84	Pk	33.4	-32.8	0	35.44	-	-	74	-38.56	0-360	199	H
3	* 11.118	27.99	Pk	37.8	-25.1	0	40.69	-	-	74	-33.31	0-360	101	H
4	* 3.665	35.92	Pk	33.7	-32.7	0	36.92	-	-	74	-37.08	0-360	199	V
5	* 4.744	33.95	Pk	34.3	-30.7	0	37.55	-	-	74	-36.45	0-360	101	V
6	* 11.589	28.44	Pk	38.4	-24.7	0	42.14	-	-	74	-31.86	0-360	199	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/FItr/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
* 1.303	44.5	PK2	29.4	-25.4	0	48.5	-	-	74	-25.5	359	101	H
* 1.301	32.85	MAv1	29.4	-25.4	2.05	38.9	54	-15.1	-	-	359	101	H
* 3.782	42.71	PK2	33.4	-32.8	0	43.31	-	-	74	-30.69	359	101	H
* 3.782	31.37	MAv1	33.4	-32.8	2.05	34.02	54	-19.98	-	-	359	101	H
* 11.116	37.05	PK2	37.8	-25.1	0	49.75	-	-	74	-24.25	359	101	H
* 11.117	25.21	MAv1	37.8	-25.1	2.05	39.96	54	-14.04	-	-	359	101	H
* 3.665	42.8	PK2	33.7	-32.7	0	43.8	-	-	74	-30.2	359	101	V
* 3.667	31.39	MAv1	33.7	-32.7	2.05	34.44	54	-19.56	-	-	359	101	V
* 4.744	41.86	PK2	34.3	-30.7	0	45.46	-	-	74	-28.54	359	101	V
* 4.744	31.25	MAv1	34.3	-30.7	2.05	36.9	54	-17.1	-	-	359	101	V
* 11.59	36.17	PK2	38.4	-24.7	0	49.87	-	-	74	-24.13	359	101	V
* 11.59	24.74	MAv1	38.4	-24.7	2.05	40.49	54	-13.51	-	-	359	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

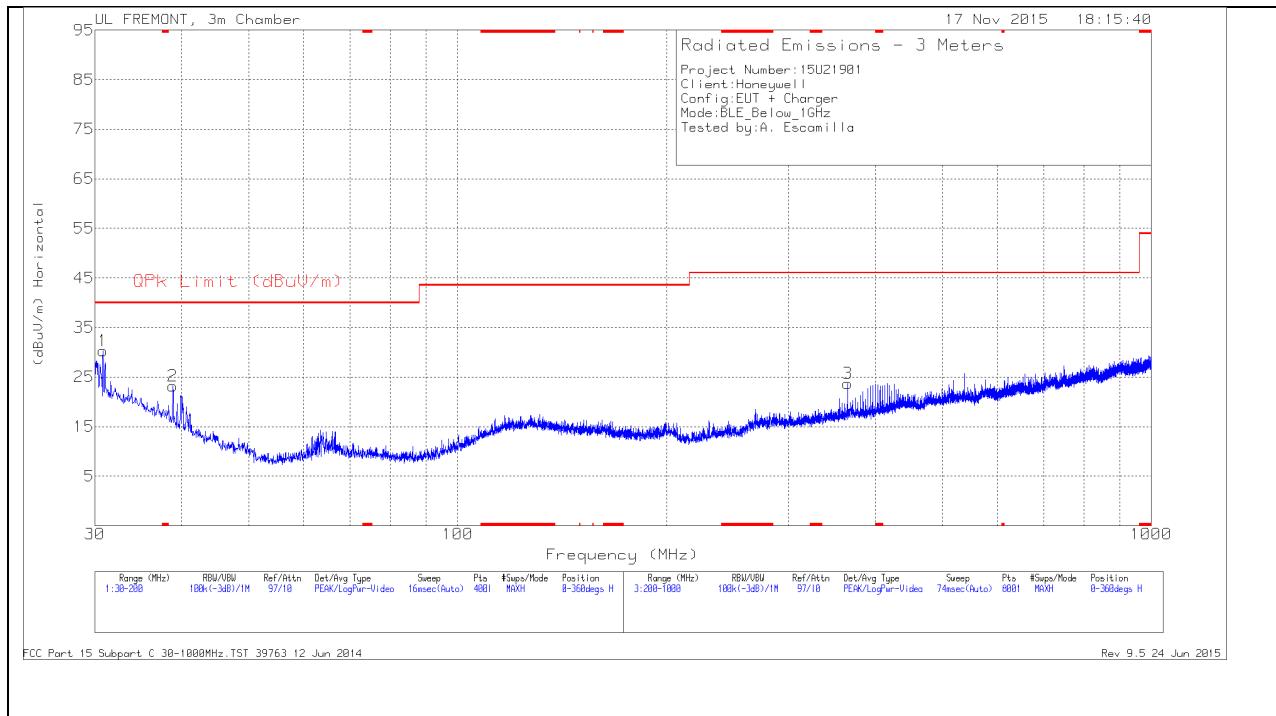
FCC Part15 Subpart C 2.4GHz RSE.TST 42484 16 Nov 2015

Rev 9.5 24 Jun 2015

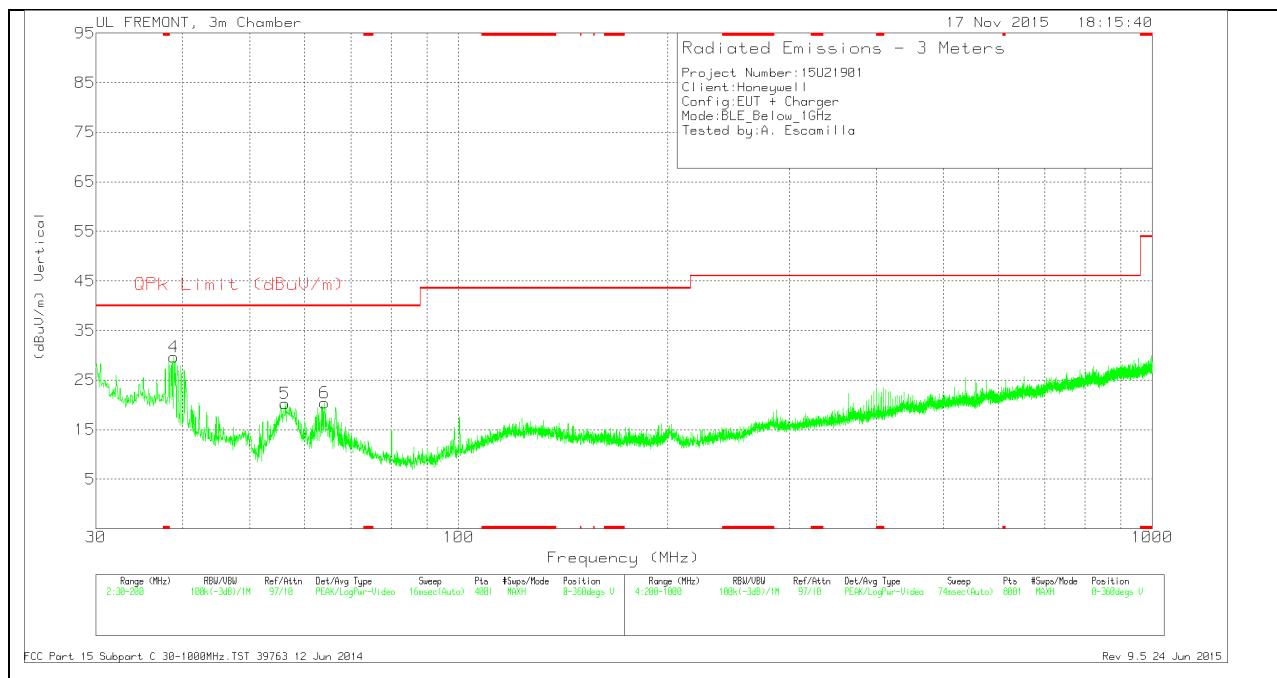
WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



BELOW 1 GHz TABLE

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	30.8075	36.43	Pk	21.1	-27.2	30.33	40	-9.67	0-360	200	H
2	38.8825	35.2	Pk	15.1	-27.1	23.2	40	-16.8	0-360	100	H
4	38.8825	41.61	Pk	15.1	-27.1	29.61	40	-10.39	0-360	100	V
5	56.2225	40.05	Pk	7.1	-26.9	20.25	40	-19.75	0-360	100	V
6	64.1275	39.38	Pk	7.8	-26.8	20.38	40	-19.62	0-360	100	V
3	364.8	33.35	Pk	14.9	-24.6	23.65	46.02	-22.37	0-360	100	H

Pk - Peak detector

FCC Part 15 Subpart C 30-1000MHz.TST 39763 12 Jun 2014
Rev 9.5 24 Jun 2015