



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

**BLUETOOTH LOW ENERGY  
CERTIFICATION TEST REPORT**

**FOR**

**HEALTH MONITORING DEVICE**

**MODEL NUMBER: 848766**

**FCC ID: 2AB8ZND6  
IC: 1000X-ND6**

**REPORT NUMBER: 15U20766-E1V3**

**ISSUE DATE: DECEMBER 11, 2015**

*Prepared for*  
**INTEL CORPORATION  
2200 MISSION COLLEGE BOULEVARD,  
SANTA CLARA, CA 95052, U.S.A**

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



**NVLAP LAB CODE 200065-0**

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	10/27/2015	Initial Issue	C. PANG
V2	12/04/2015	Address TCB's Questions	C. PANG
V3	12/11/2015	Removed conducted results	D.Weaver

## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS .....</b>	<b>4</b>
<b>2. TEST METHODOLOGY .....</b>	<b>5</b>
<b>3. FACILITIES AND ACCREDITATION .....</b>	<b>5</b>
<b>4. CALIBRATION AND UNCERTAINTY .....</b>	<b>5</b>
4.1. MEASURING INSTRUMENT CALIBRATION .....	5
4.2. SAMPLE CALCULATION .....	6
4.3. MEASUREMENT UNCERTAINTY .....	6
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>7</b>
5.1. DESCRIPTION OF EUT .....	7
5.2. MAXIMUM OUTPUT POWER.....	7
5.3. DESCRIPTION OF AVAILABLE ANTENNAS .....	7
5.4. SOFTWARE AND FIRMWARE.....	7
5.5. WORST-CASE CONFIGURATION AND MODE.....	7
5.6. DESCRIPTION OF TEST SETUP.....	8
<b>6. TEST AND MEASUREMENT EQUIPMENT .....</b>	<b>11</b>
<b>7. ANTENNA PORT TEST RESULTS .....</b>	<b>12</b>
7.1. MEASUREMENT METHODS .....	12
7.2. ON TIME AND DUTY CYCLE RESULTS.....	13
7.3. 6 dB BANDWIDTH.....	14
7.4. 99% BANDWIDTH.....	17
7.5. OUTPUT POWER.....	20
7.6. AVERAGE POWER.....	23
7.7. POWER SPECTRAL DENSITY .....	24
7.8. CONDUCTED SPURIOUS EMISSIONS.....	27
<b>8. RADIATED TEST RESULTS.....</b>	<b>31</b>
8.1. LIMITS AND PROCEDURE .....	31
8.2. TRANSMITTER ABOVE 1 GHz .....	32
8.3. WORST-CASE BELOW 1 GHz.....	42
8.4. WORST CASE BELOW 30MHz.....	45
8.5. WORST-CASE 18 to 26 GHz.....	46
<b>9. SETUP PHOTOS.....</b>	<b>48</b>

## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** INTEL CORPORATION  
2200 MISSION COLLEGE BOULEVARD  
SANTA CLARA, CA 95052, U.S.A.

**EUT DESCRIPTION:** HEALTH MONITORING DEVICE

**MODEL:** 848766

**SERIAL NUMBER:** VT0123FZ53200HG (CONDUCTED)  
VT0123FZ53200HU (RADIATED)

**DATE TESTED:** SEPTEMBER 09 -10, 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.

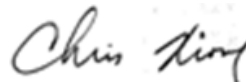
**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. 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:



CHIN PANG  
EMC SENIOR ENGINEER  
UL VERIFICATION SERVICES INC.



CHRIS XIONG  
EMC ENGINEER  
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, 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 Benicia Street, Fremont, California, USA.

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	<input type="checkbox"/> Chamber D
<input type="checkbox"/> Chamber B	<input type="checkbox"/> Chamber E
<input type="checkbox"/> Chamber C	<input checked="" type="checkbox"/> Chamber F
	<input type="checkbox"/> Chamber G
	<input checked="" type="checkbox"/> Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

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:

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

## 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 Wearable Device with BLE. It is battery operated and is not functional while charging.

### 5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	BLE	4.03	2.53

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PCB Trace antenna, with a maximum gain of 0 dBi.

### 5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 1.12.0x1.

The test utility software used during testing was Vortex Control Panel, ver. 3.2.7.

### 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.

Worst-case data rates as provided by the client were:

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

BLE: 1 Mbps.

## 5.6. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	Yoga 2 11	YB04499042	N/A
AC Adapter	Lenovo	ADLX45NCC3A	11S45N0297ZSH443G0XE	N/A
Test Board	INTEL	N/A	N/A	N/A

### I/O CABLES

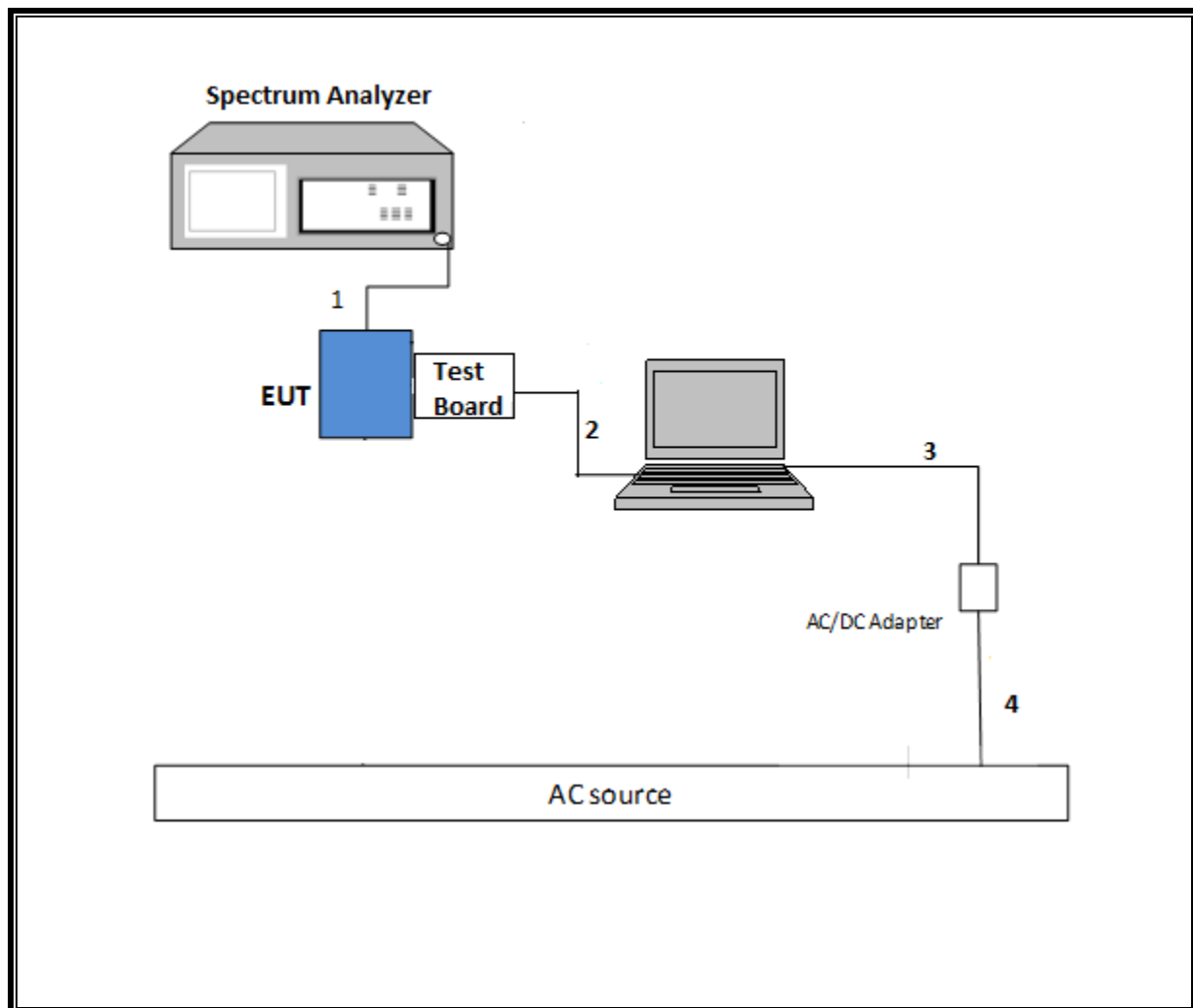
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	SMA	un-shielded	0.045	To Spectrum Analyzer
2	USB	1	USB	shielded	1.85	Test board to Laptop
3	DC	1	DC	un-shielded	1	N/A
4	AC	1	3-Prong	un-shielded	1.8	N/A

### TEST SETUP

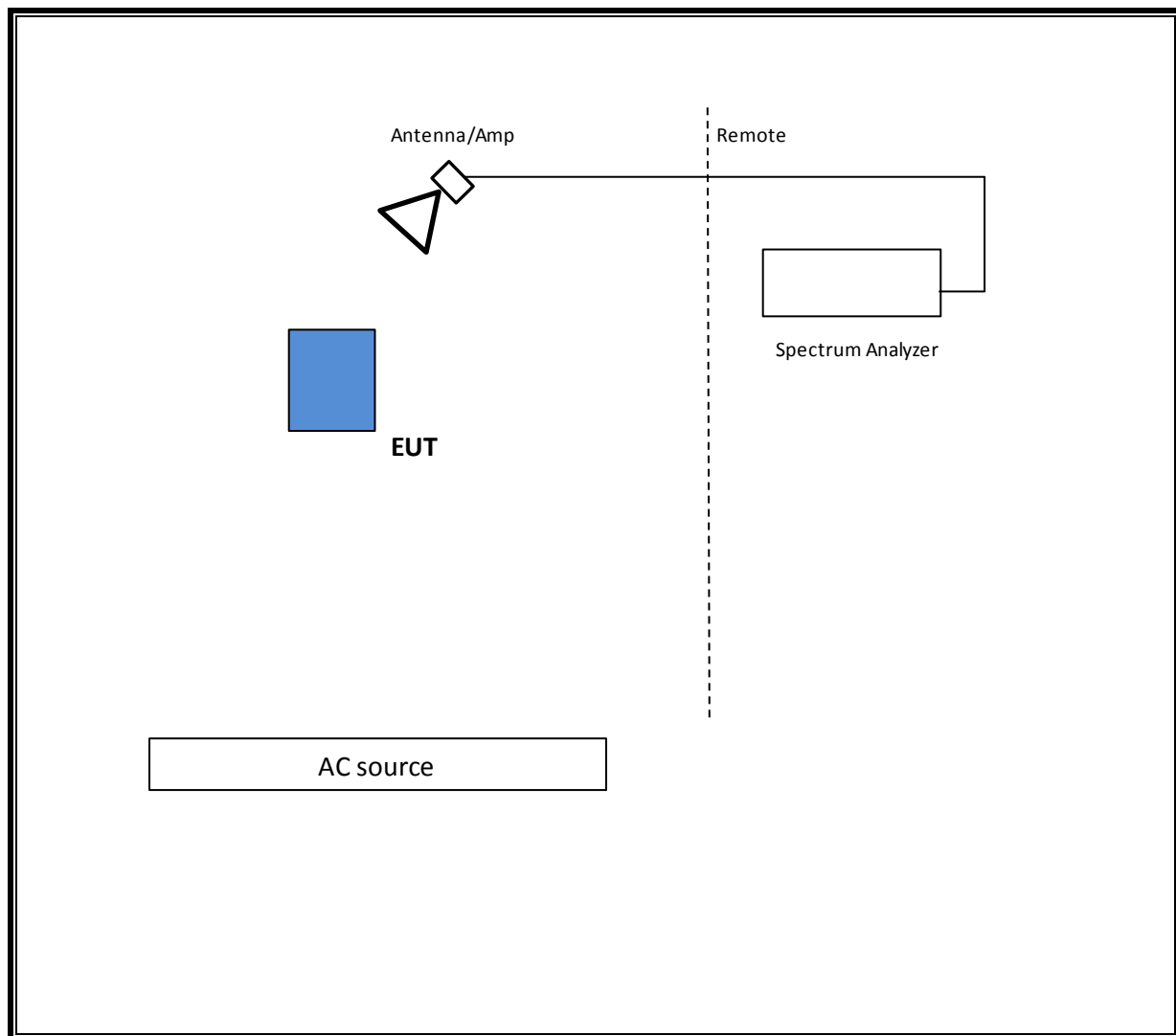
The EUT is a standalone device. Test software exercised the radio card.



**SETUP DIAGRAM FOR CONDUCTED TESTS**



**SETUP DIAGRAM FOR RADIATED 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	T No.	Cal Due
Spectrum Analyzer, PXA,3Hz to 44GHz	Agilent	N9030A	341	2/20/16
Antenna, Horn 1-18GHz	ETS Lindgren	3117	120	3/26/16
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB1	122	2/13/16
Amplifier, 10KHz to 1GHz,	Sonoma	310N	173	6/9/16
Amplifier, 1 - 18GHz	Miteq	AFS42-00101800-25-S-42	742	1/31/16
Amplifier, 1 to 26.5GHz, 23.5dB Gain minimum	Keysight	8449B	404	6/29/16
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826	39	1/29/16
Spectrum Analyzer, PXA,3Hz to 44GHz	Agilent	N9030A	342	6/29/16
EMI Test Receiver, 9kHz to 7GHz	Rhode & Schwarz	ESCI 7	1124	9/30/15
LISN, 30MHz	FCC	50/250-25-2	24	1/16/16
Antenna, Active Loop 9kHz-30MHz	ETS Lindgren	6502	757	5/21/16
Spectrum Analyzer, PXA,3Hz to 44GHz	Agilent	N9030A	906	6/11/16
UL SOFTWARE				
*Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014	
*Conducted Software	UL	UL EMC	Ver 3.4, August 28, 2015	
*AC Line Conducted Software	UL	UL EMC	Ver 9.5, April 3, 2015	

## 7. ANTENNA PORT TEST RESULTS

### 7.1. MEASUREMENT METHODS

6 dB BW: KDB 558074 D01 v03r03, Section 8.1.

Output Power: KDB 558074 D01 v03r03, Section 9.1.2.

Power Spectral Density: KDB 558074 D01 v03r03, Section 10.2.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r03, Section 11.0.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r03, Section 12.1.

Band-edge: KDB 558074 D01 v03r03, Section 12.1

## 7.2. ON TIME AND DUTY CYCLE RESULTS

### LIMITS

None; for reporting purposes only.

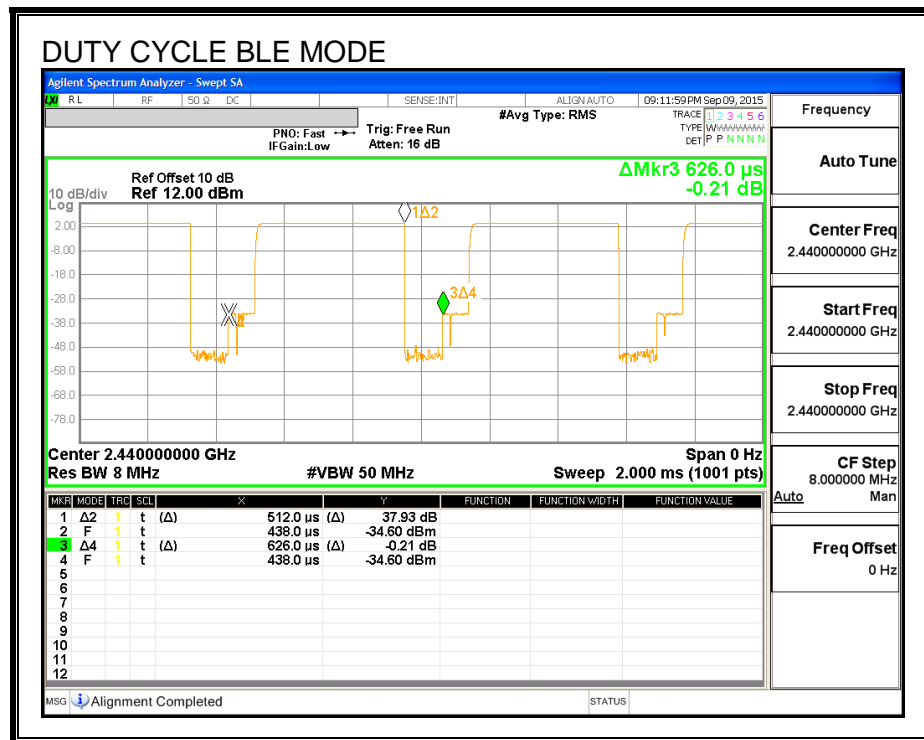
### PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

### 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)
BLE	0.512	0.626	0.818	81.79%	0.87	1.953

### DUTY CYCLE PLOTS



### 7.3. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

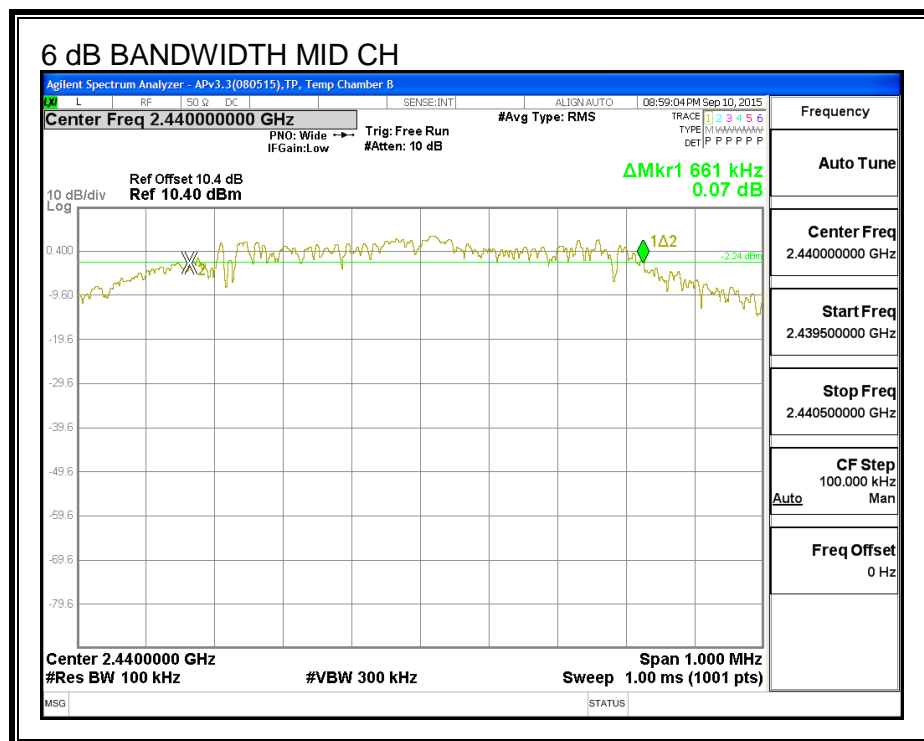
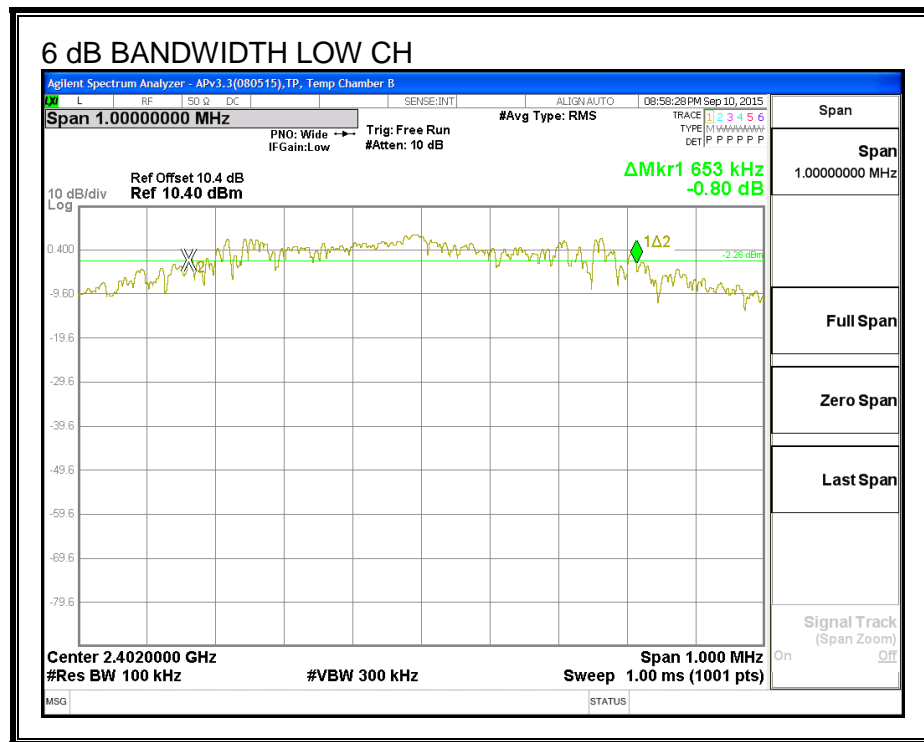
IC RSS-247 (5.2) (1)

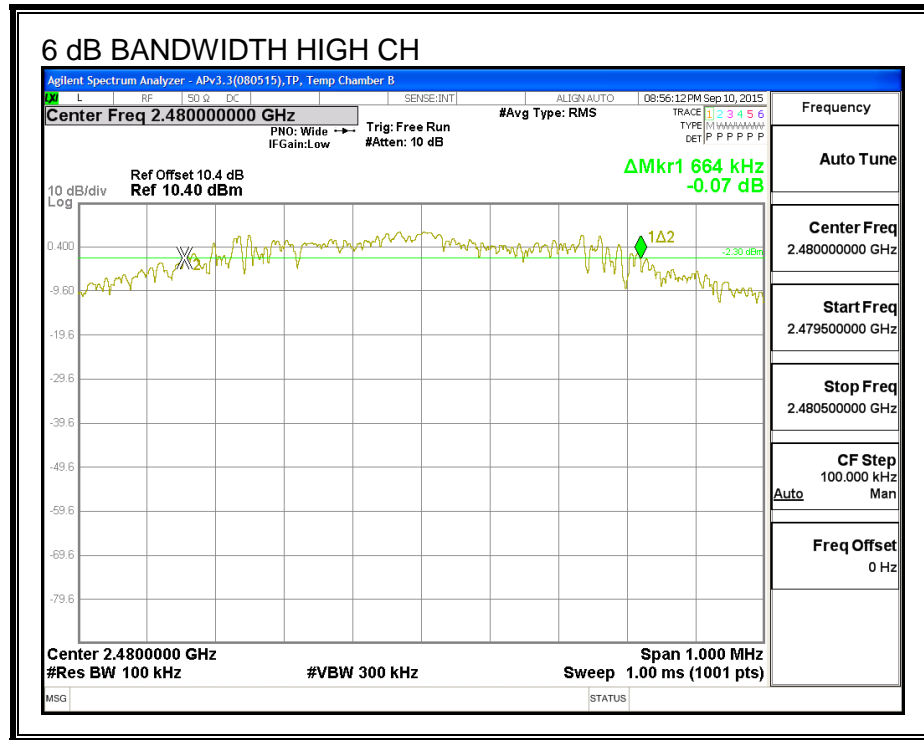
The minimum 6 dB bandwidth shall be at least 500 kHz.

#### RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.653	0.5
Middle	2440	0.661	0.5
High	2480	0.664	0.5

## 6 dB BANDWIDTH







## 7.4. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

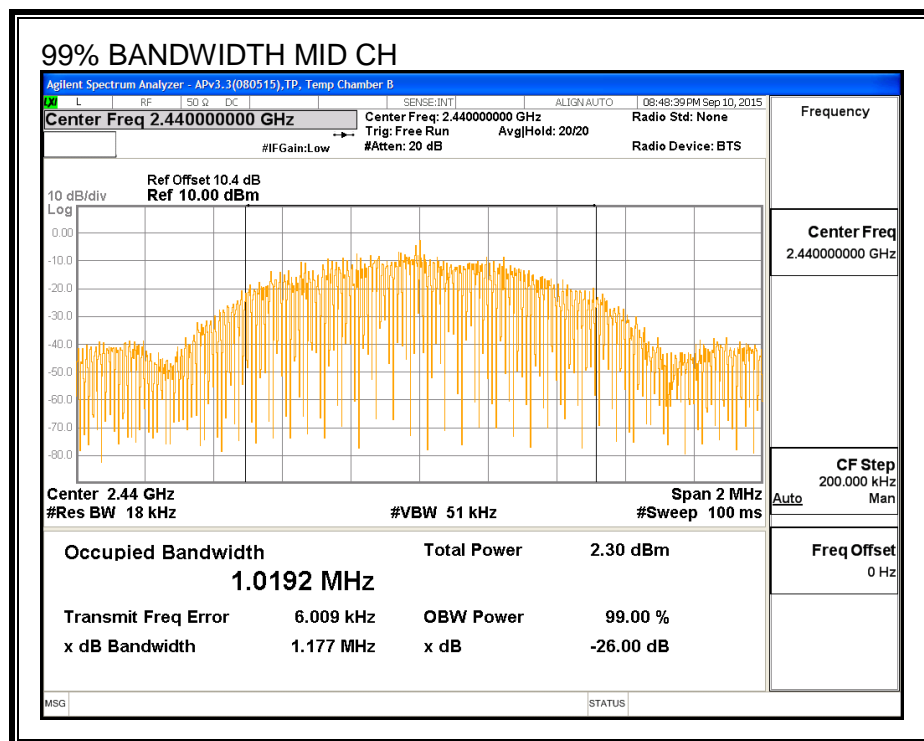
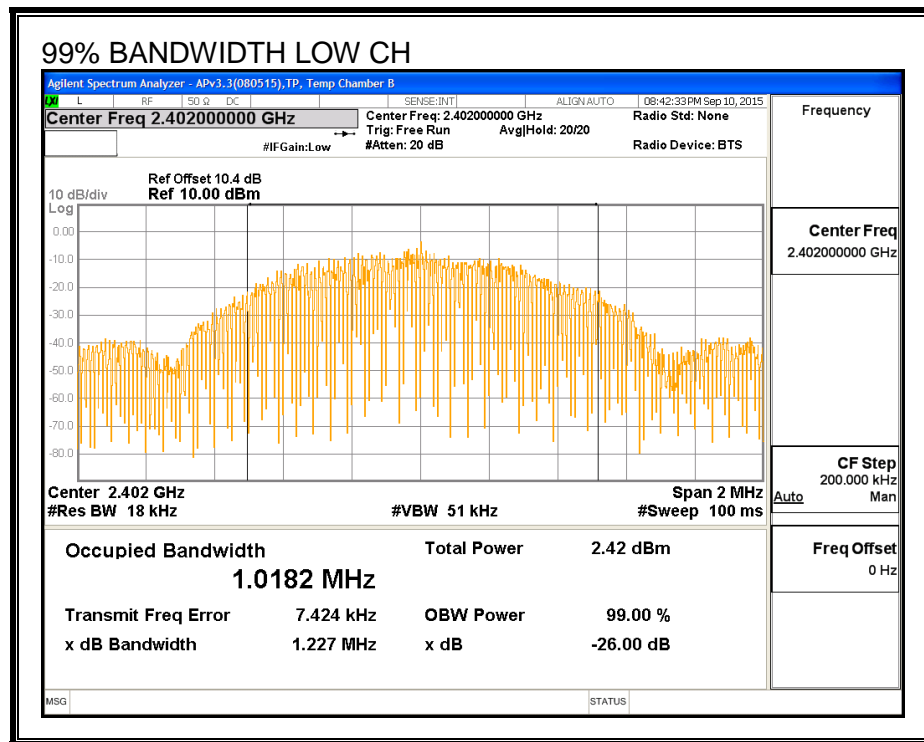
### TEST PROCEDURE

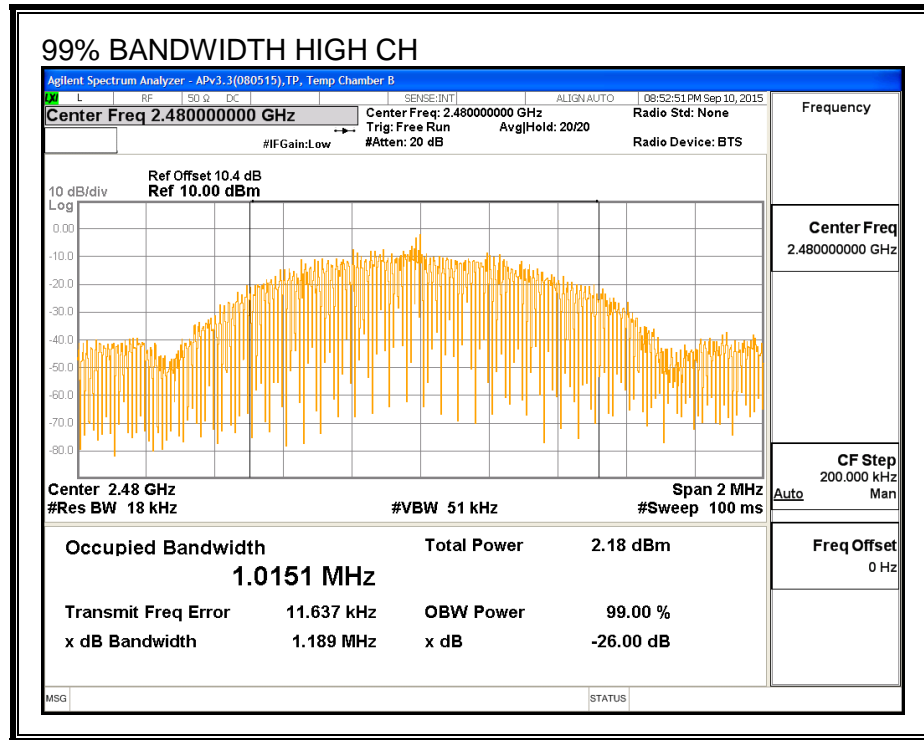
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

### RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0182
Middle	2440	1.0192
High	2480	1.0151

## 99% BANDWIDTH





## 7.5. OUTPUT POWER

### LIMITS

FCC §15.247 (b)

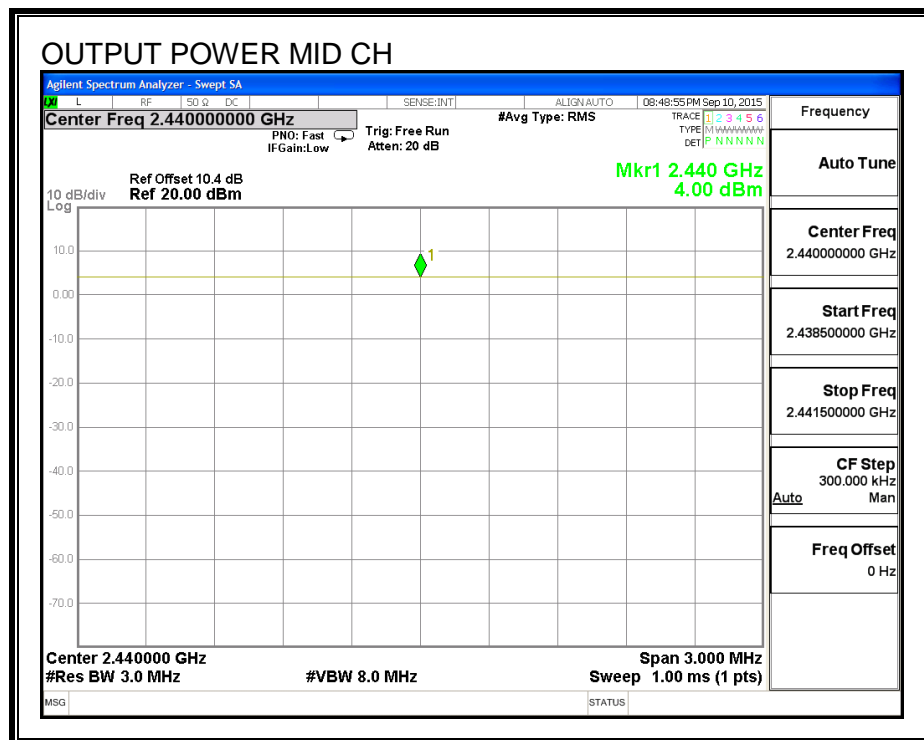
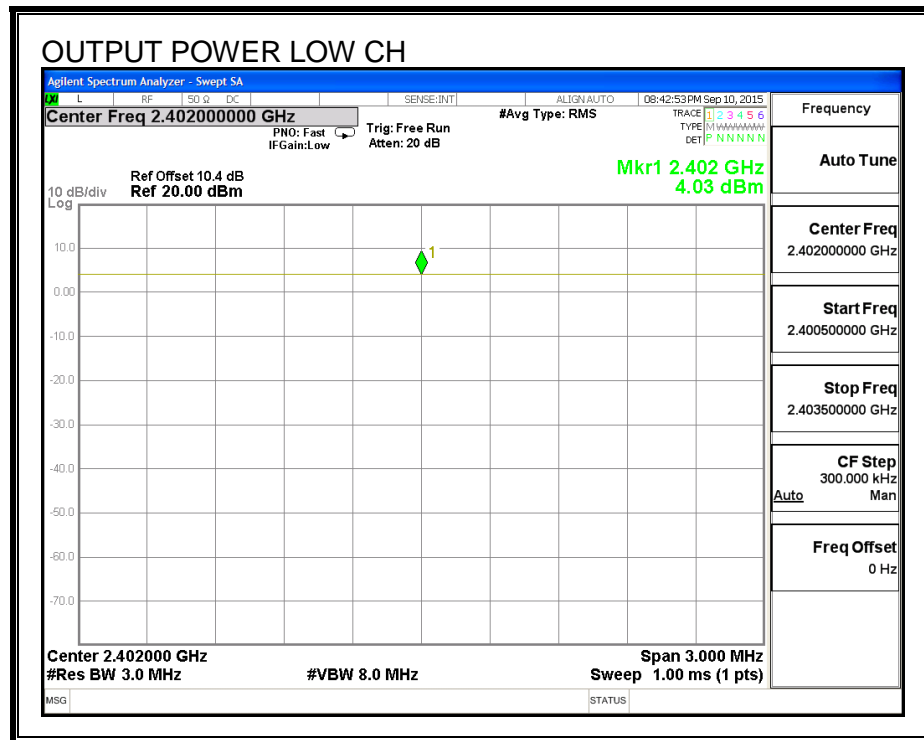
IC RSS-247 (5.4) (4)

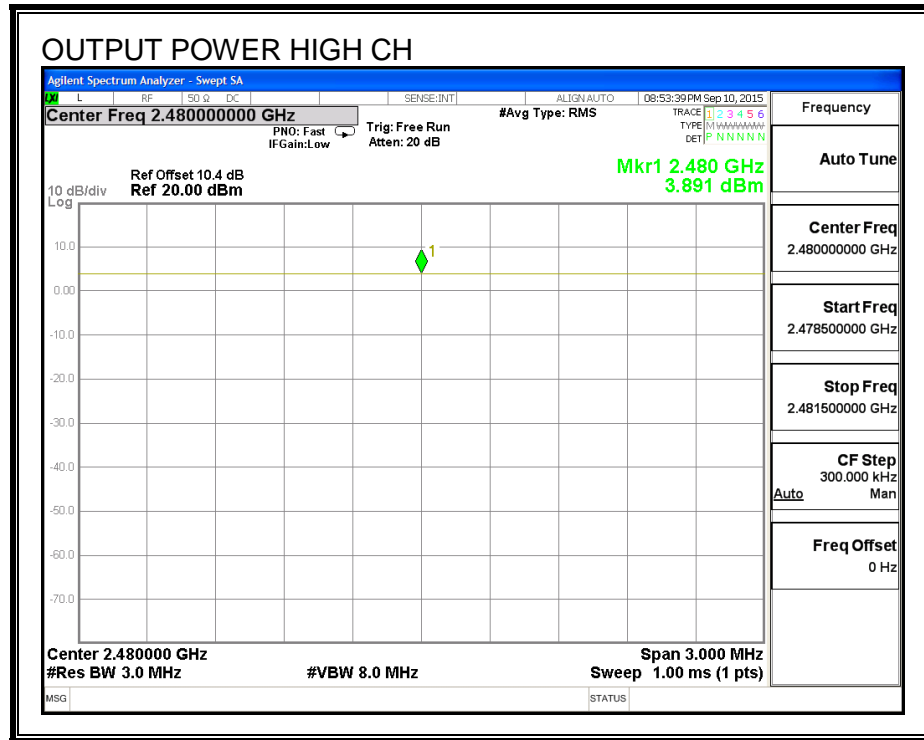
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

### RESULTS

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	4.03	30	-25.970
Middle	2440	4.00	30	-26.000
High	2480	3.89	30	-26.109

## OUTPUT POWER





## 7.6. AVERAGE POWER

### LIMITS

None; for reporting purposes only.

### RESULTS

The cable assembly insertion loss of 10.4 dB (including 10 dB pad and 0.4dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	3.89
Middle	2440	3.94
High	2480	3.85

## 7.7. POWER SPECTRAL DENSITY

### LIMITS

FCC §15.247 (e)

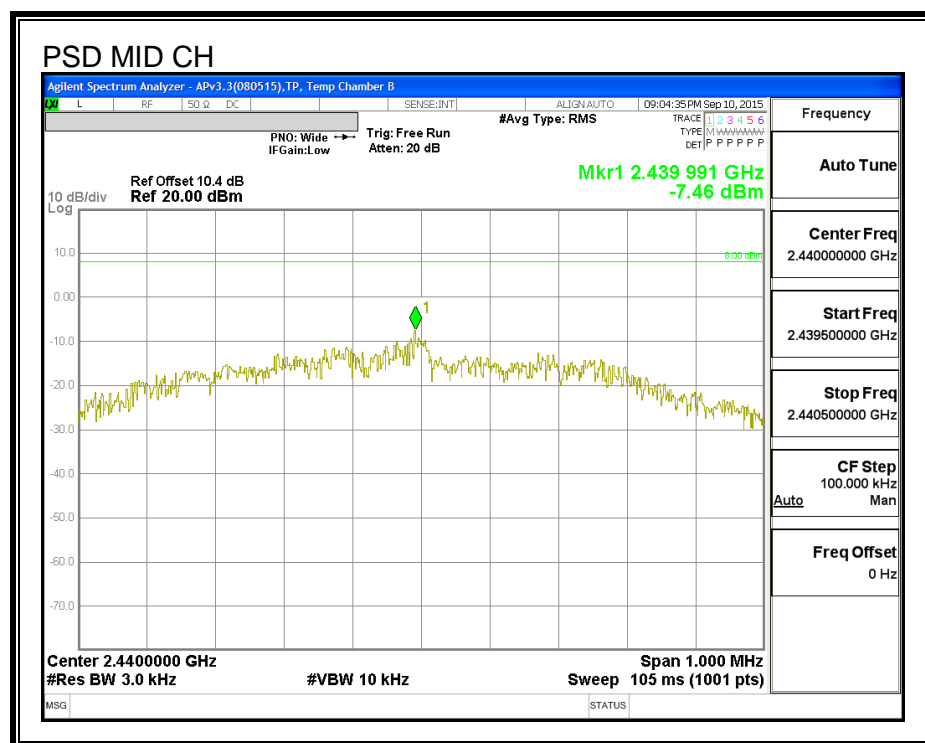
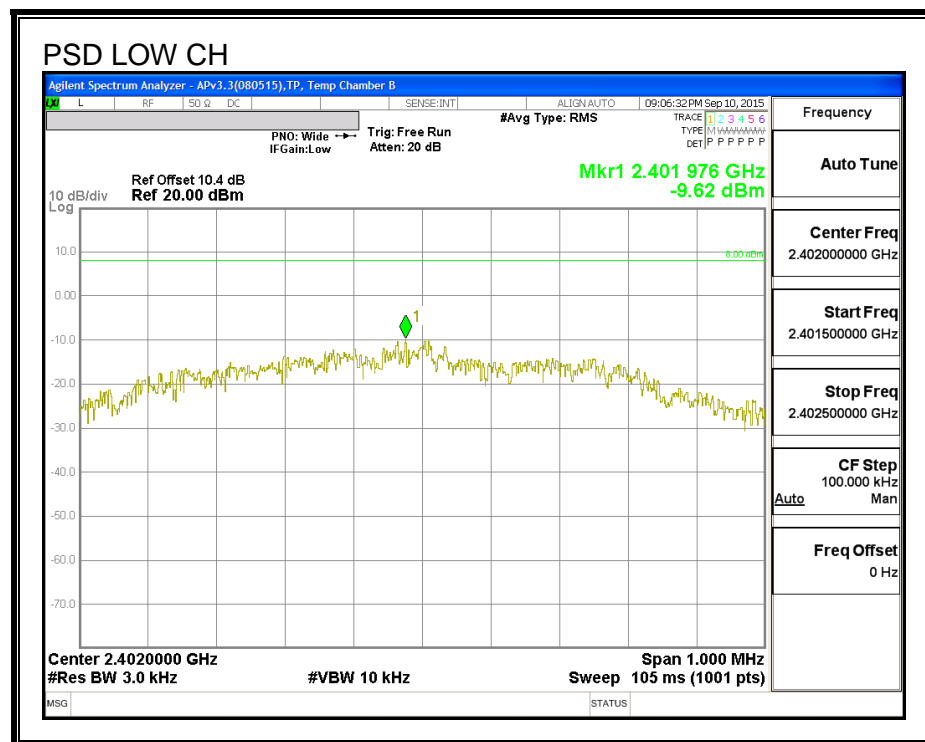
IC RSS-247 (5.2) (2)

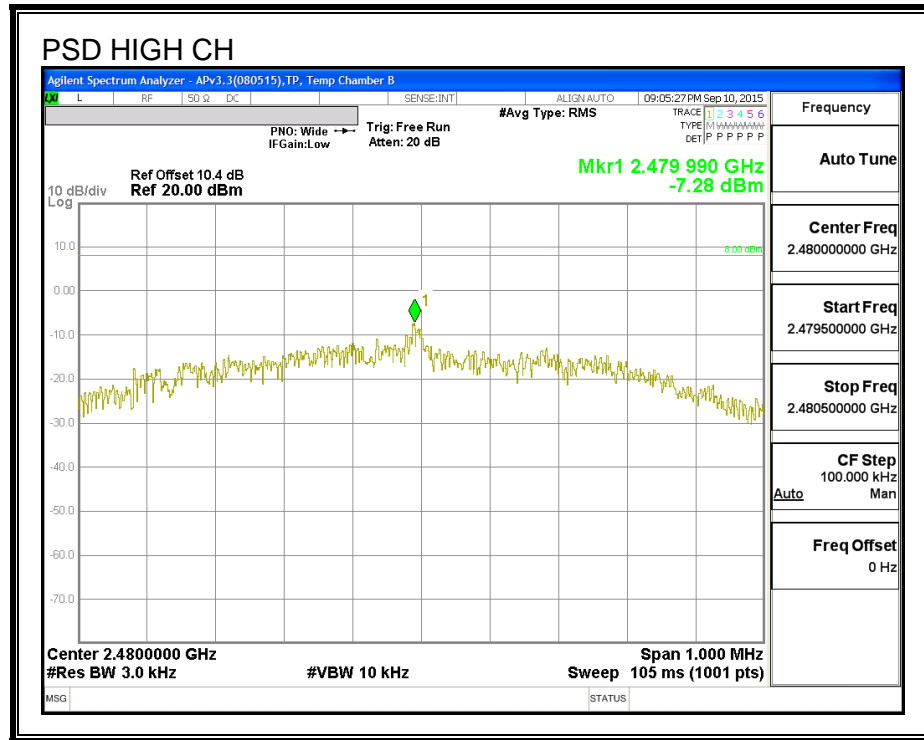
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### RESULTS

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-9.62	8	-17.62
Middle	2440	-7.46	8	-15.46
High	2480	-7.28	8	-15.28







## **7.8. CONDUCTED SPURIOUS EMISSIONS**

### **LIMITS**

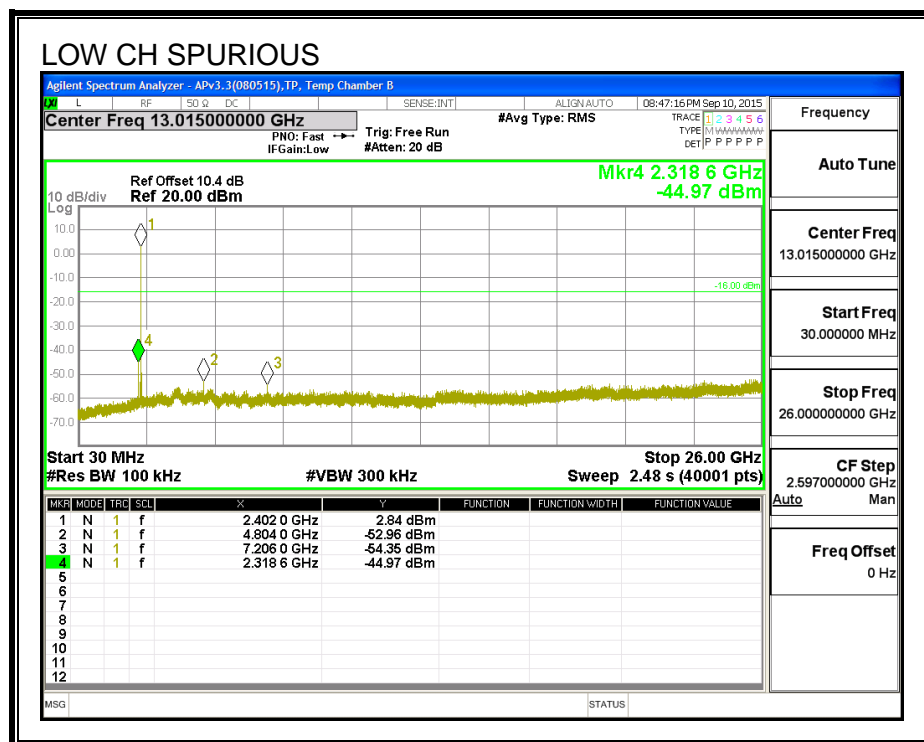
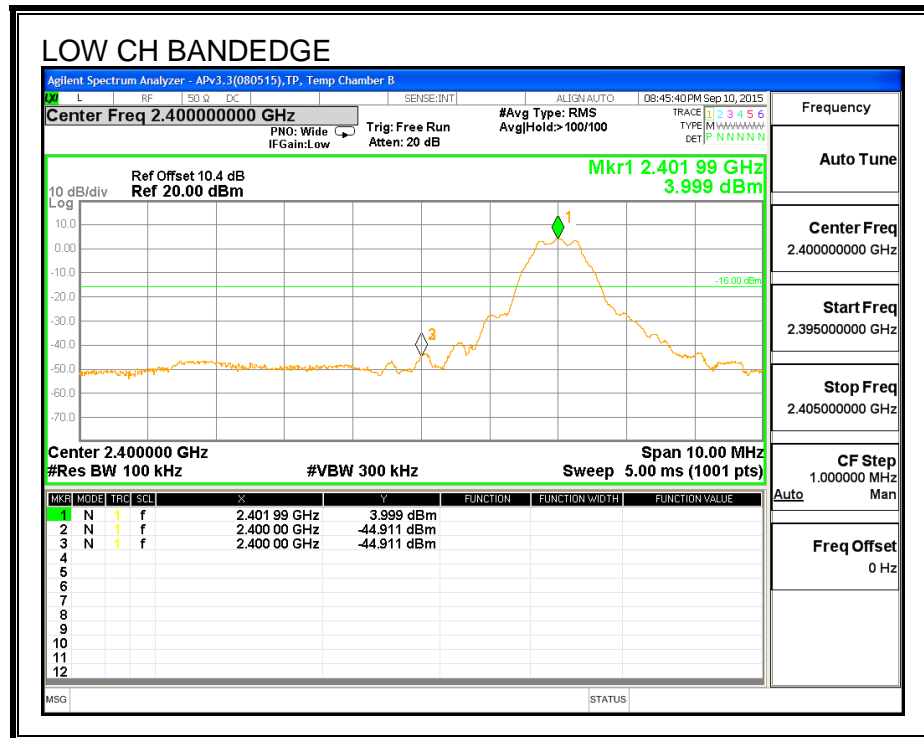
FCC §15.247 (d)

IC RSS-247 (5.5)

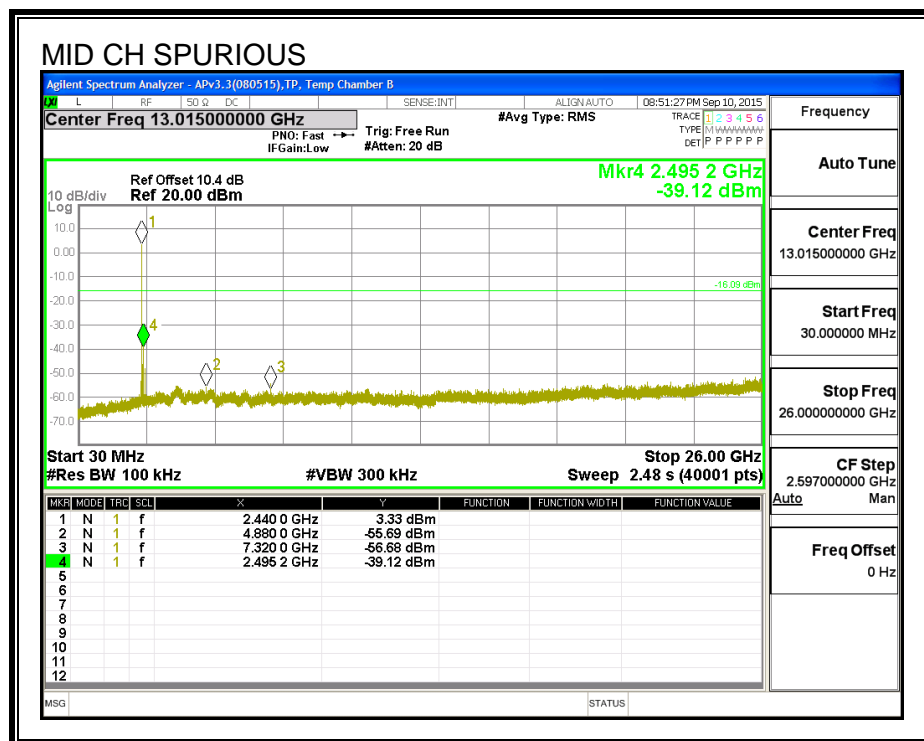
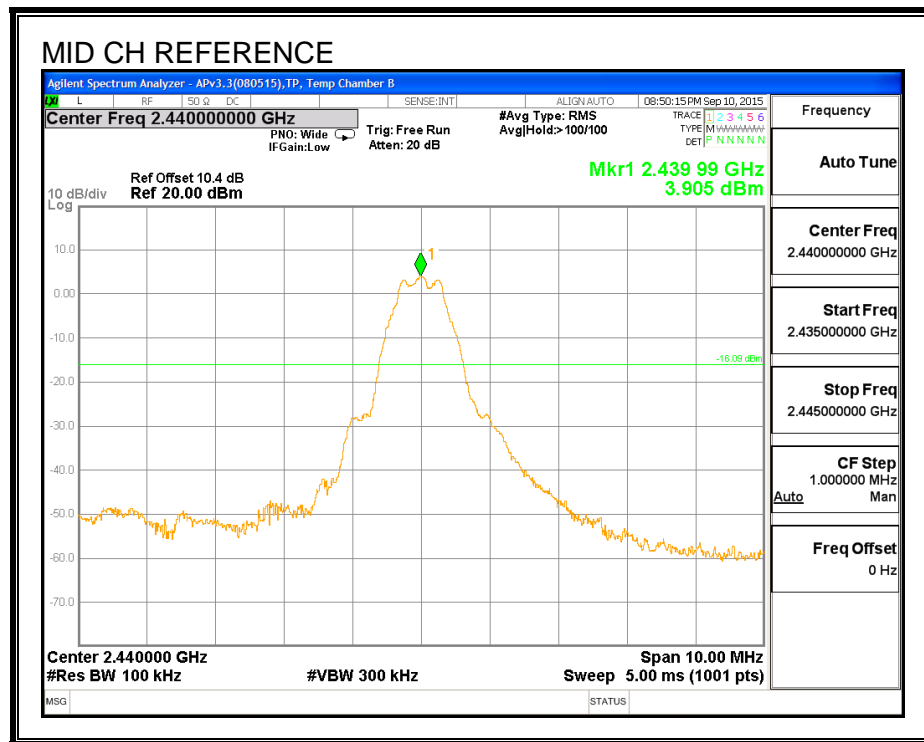
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

## RESULTS

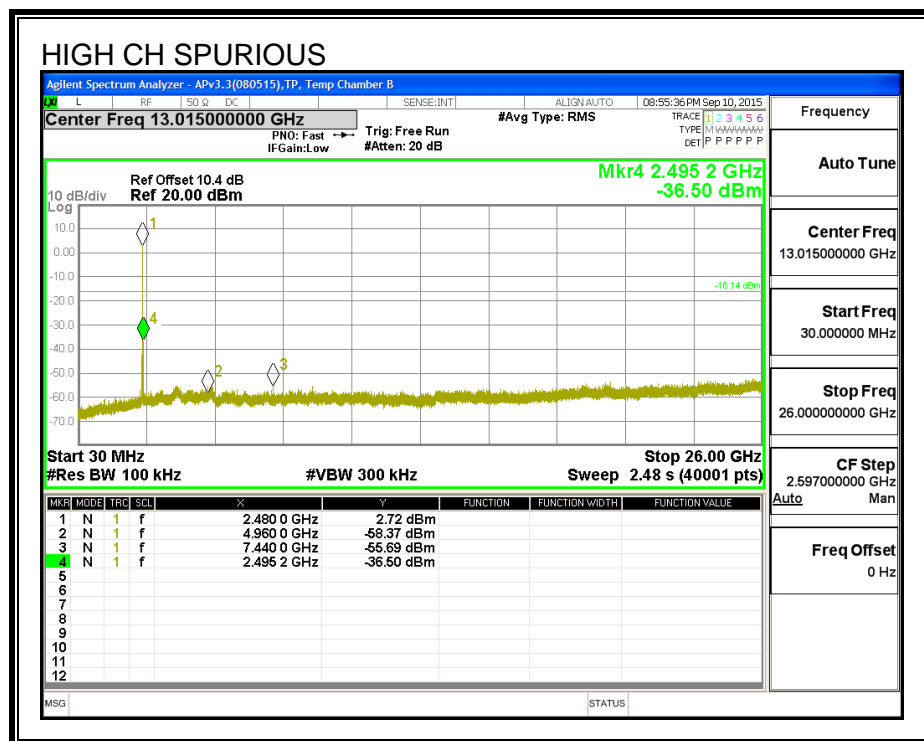
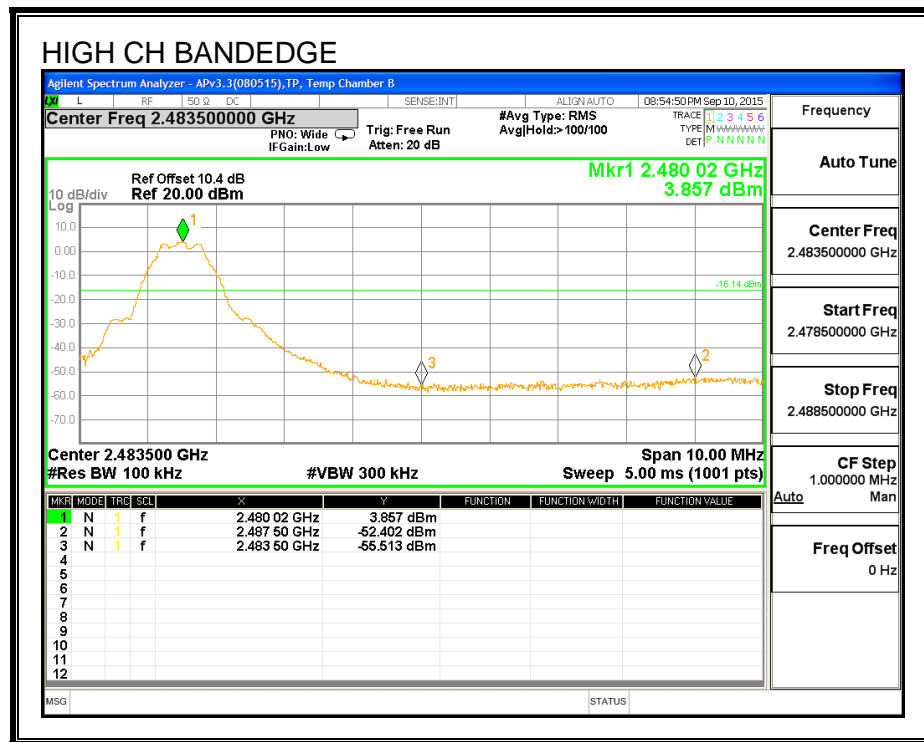
### SPURIOUS EMISSIONS, LOW CHANNEL



# **SPURIOUS EMISSIONS, MID CHANNEL**



## SPURIOUS EMISSIONS, HIGH CHANNEL



## 8. RADIATED TEST RESULTS

### 8.1. LIMITS AND PROCEDURE

#### LIMITS

FCC §15.205 and §15.209

IC RSS-GEN, Section 8.9 and 8.10.

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 measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

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

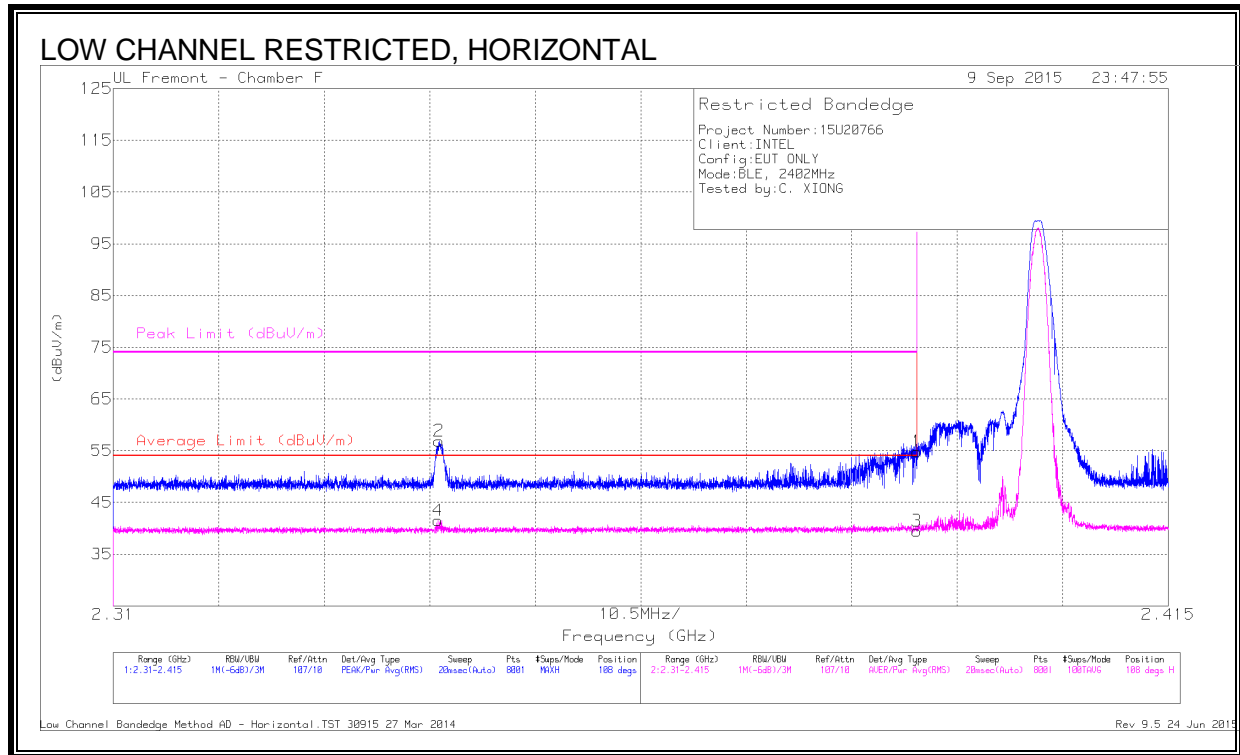
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 3MHz video bandwidth with average detector for average measurements.

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 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)



### DATA

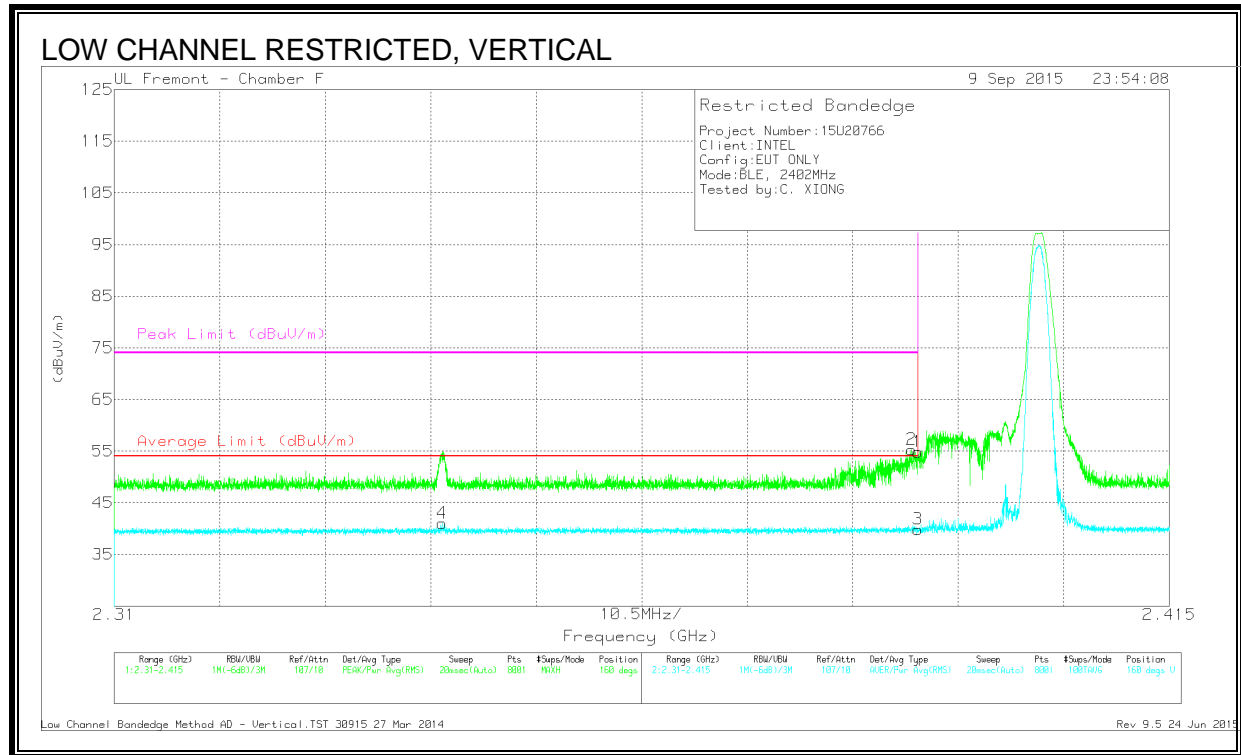
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	43.93	Pk	31.9	-21	0	54.83	-	-	74	-19.17	108	272	H
2	* 2.342	46.17	Pk	31.8	-21.1	0	56.87	-	-	74	-17.13	108	272	H
3	* 2.39	27.69	RMS	31.9	-21	.87	39.46	54	-14.54	-	-	108	272	H
4	* 2.342	29.94	RMS	31.8	-21.1	.87	41.51	54	-12.49	-	-	108	272	H

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

Pk - Peak detector

RMS - RMS detection





## DATA

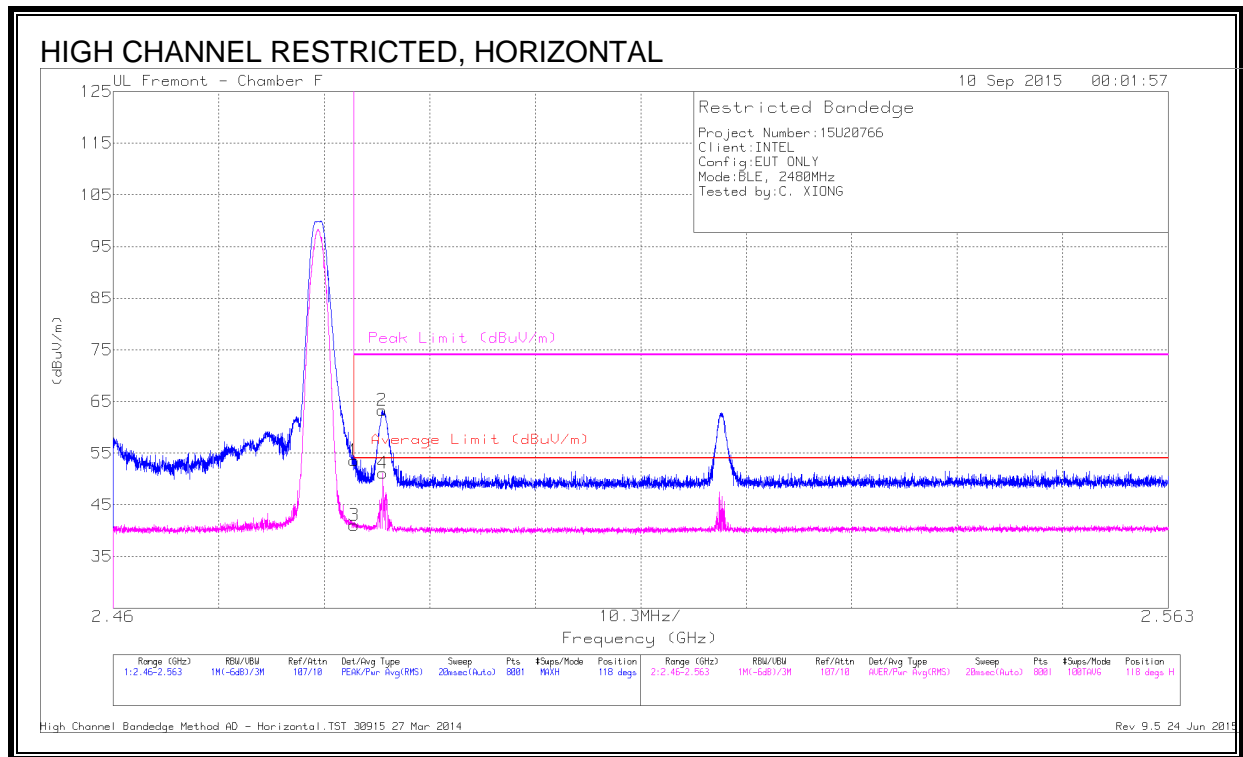
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	43.96	Pk	31.9	-21	0	54.86	-	-	74	-19.14	160	345	V
2	* 2.389	44.4	Pk	31.9	-21	0	55.3	-	-	74	-18.7	160	345	V
3	* 2.39	28.1	RMS	31.9	-21	.87	39.87	54	-14.13	-	-	160	345	V
4	* 2.343	29.36	RMS	31.9	-21.1	.87	41.03	54	-12.97	-	-	160	345	V

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

Pk - Peak detector

RMS - RMS detection

# **RESTRICTED BANDEDGE (HIGH CHANNEL)**



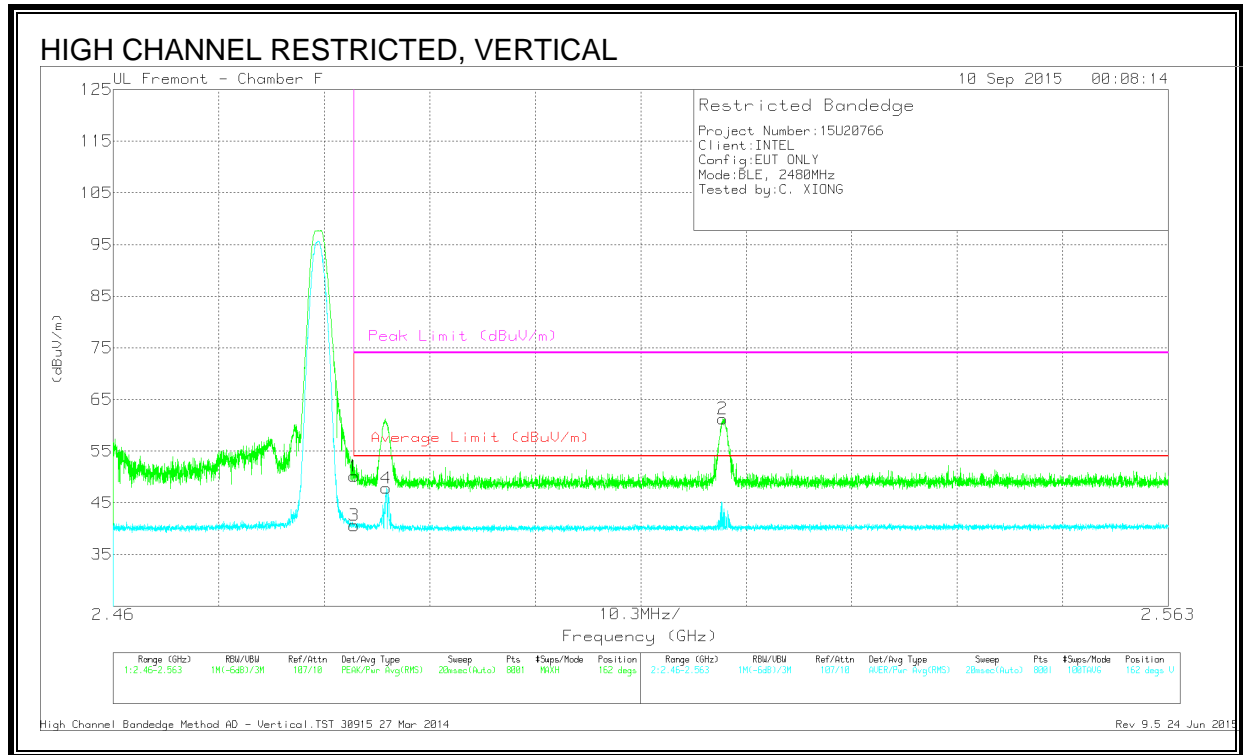
## **DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Filter/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	42.52	Pk	32.2	-21.1	0	53.62	-	-	74	-20.38	118	311	H
2	* 2.486	52.22	Pk	32.2	-21.1	0	63.32	-	-	74	-10.68	118	311	H
3	* 2.484	29.1	RMS	32.2	-21.1	.87	41.07	54	-12.93	-	-	118	311	H
4	* 2.486	39.18	RMS	32.2	-21.1	.87	51.15	54	-2.85	-	-	118	311	H

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

Pk - Peak detector

RMS - RMS detection



## DATA

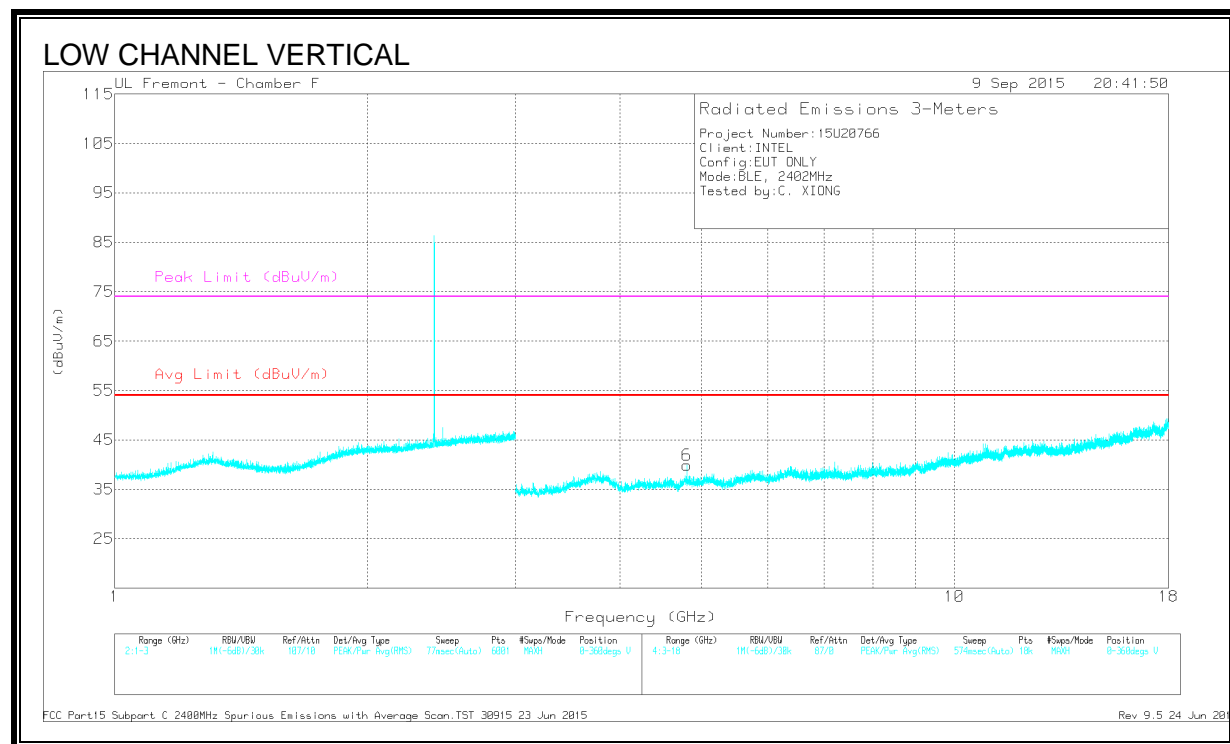
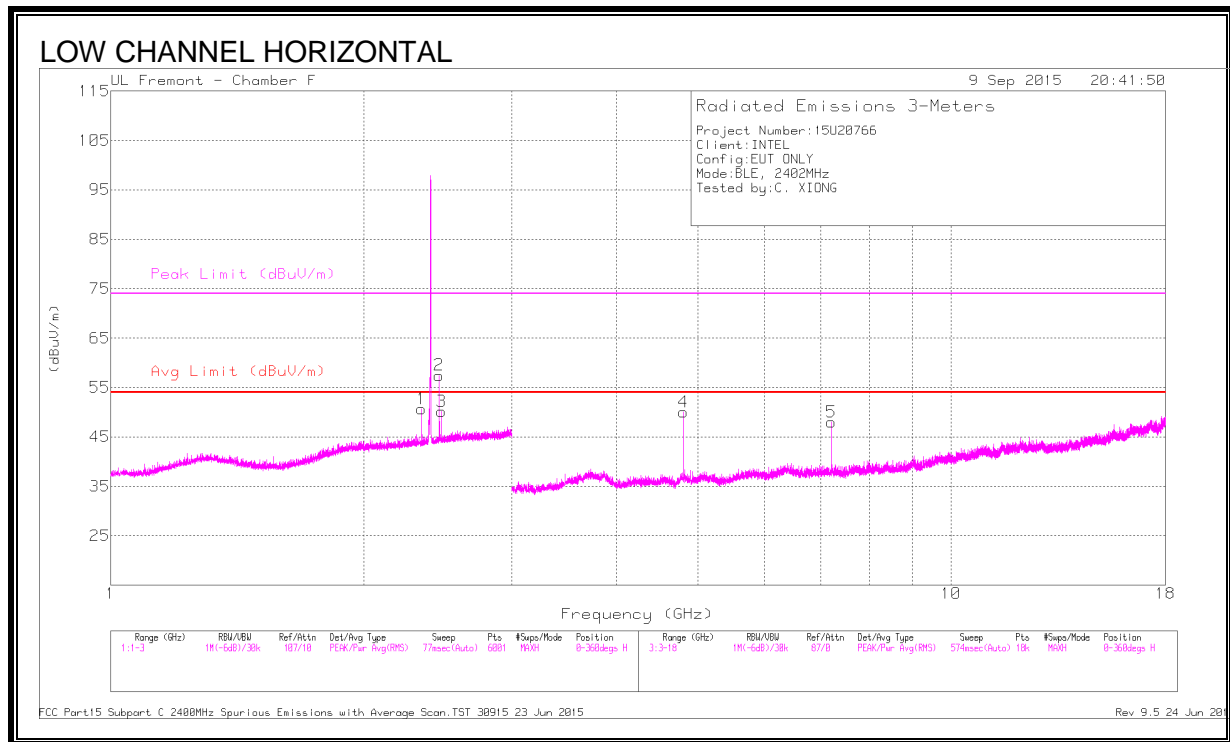
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.05	Pk	32.2	-21.1	0	50.15	-	-	74	-23.85	162	395	V
2	2.519	50.07	Pk	32.3	-21.1	0	61.27	-	-	74	-12.73	162	395	V
3	* 2.484	28.64	RMS	32.2	-21.1	.87	40.61	54	-13.39	-	-	162	395	V
4	* 2.487	35.87	RMS	32.2	-21.1	.87	47.84	54	-6.16	-	-	162	395	V

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

Pk - Peak detector

RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS



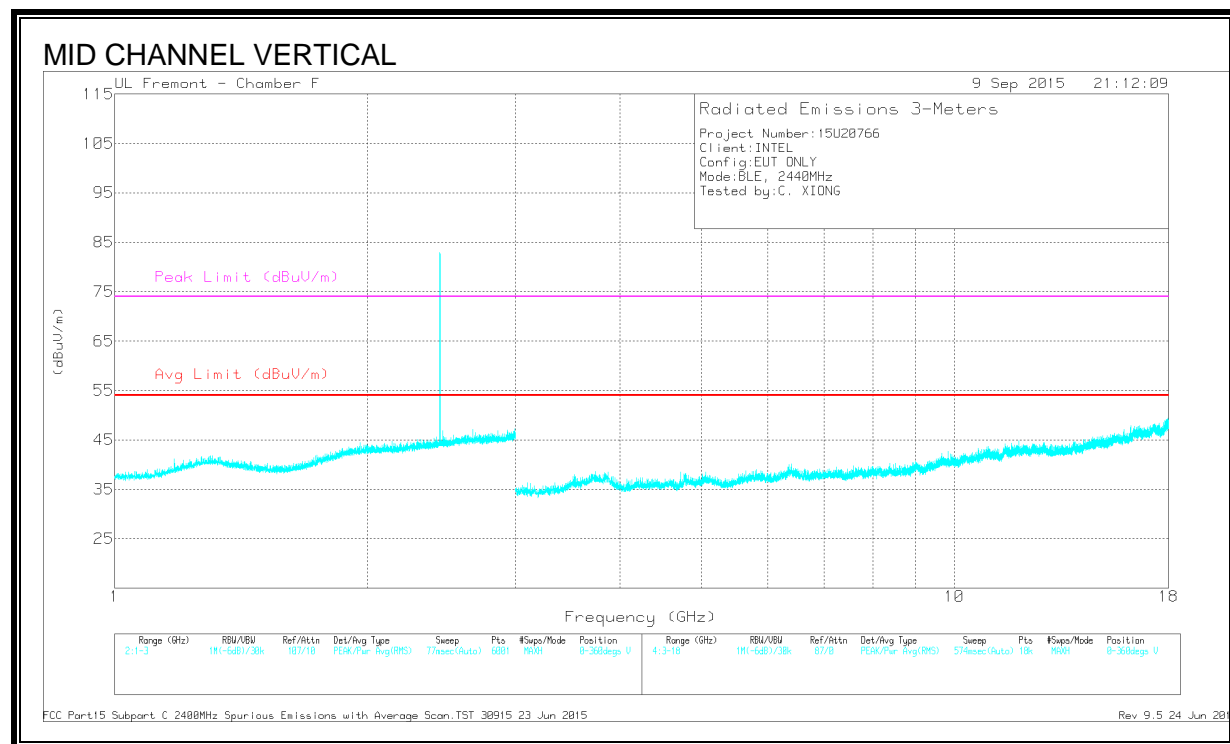
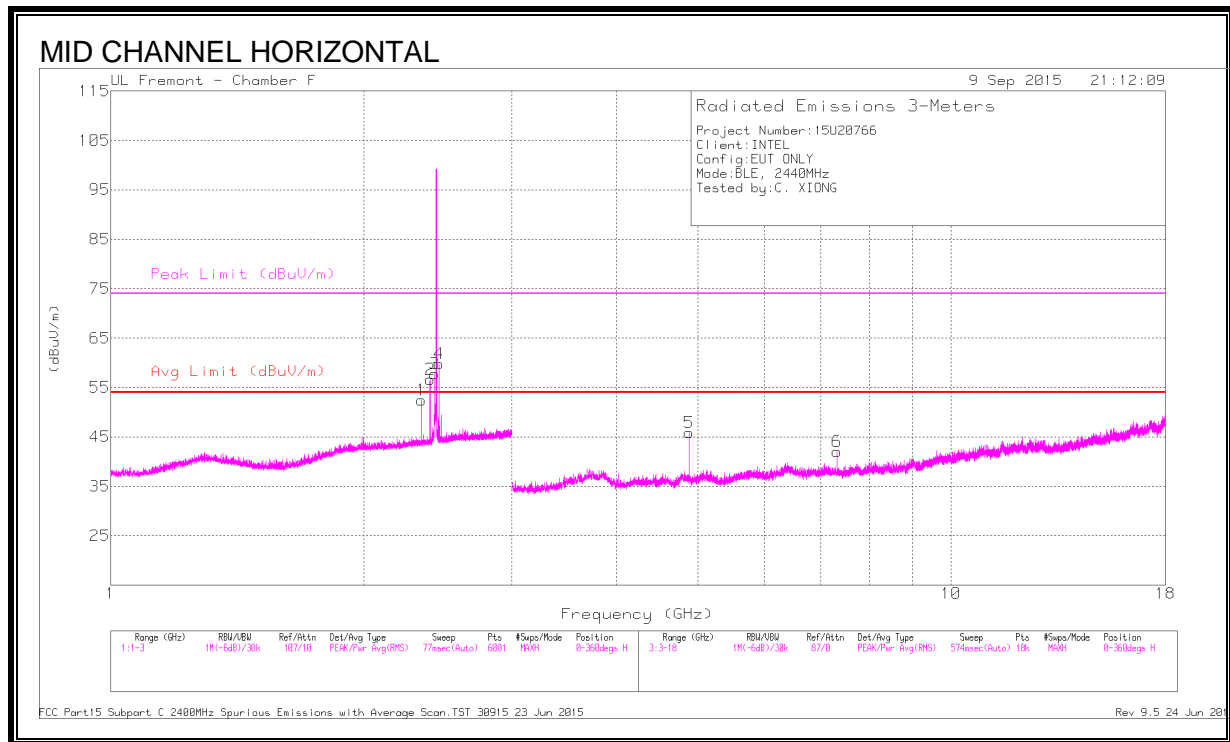
## DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 2.343	46.91	PK2	31.9	-21.1	0	57.71	-	-	74	-16.29	200	267	H
	* 2.343	30.9	MAv1	31.9	-21.1	.87	42.57	54	-11.43	-	-	200	267	H
4	* 4.804	45.89	PK2	34.1	-27.7	0	52.29	-	-	74	-21.71	217	102	H
	* 4.804	39.5	MAv1	34.1	-27.7	.87	46.77	54	-7.23	-	-	217	102	H
6	* 4.805	40.85	PK2	34.1	-27.7	0	47.25	-	-	74	-26.75	109	354	V
	* 4.804	30.56	MAv1	34.1	-27.7	.87	37.83	54	-16.17	-	-	109	354	V
2	2.459	46.47	Pk2	32.1	-21.1	0	57.47	-	-	74	-16.53	0-360	201	H
3	2.475	39.03	Pk2	32.2	-21.1	0	50.13	-	-	74	-23.87	0-360	101	H
5	7.205	38.96	Pk2	35.6	-26.6	0	47.96	-	-	74	-26.04	0-360	100	H

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



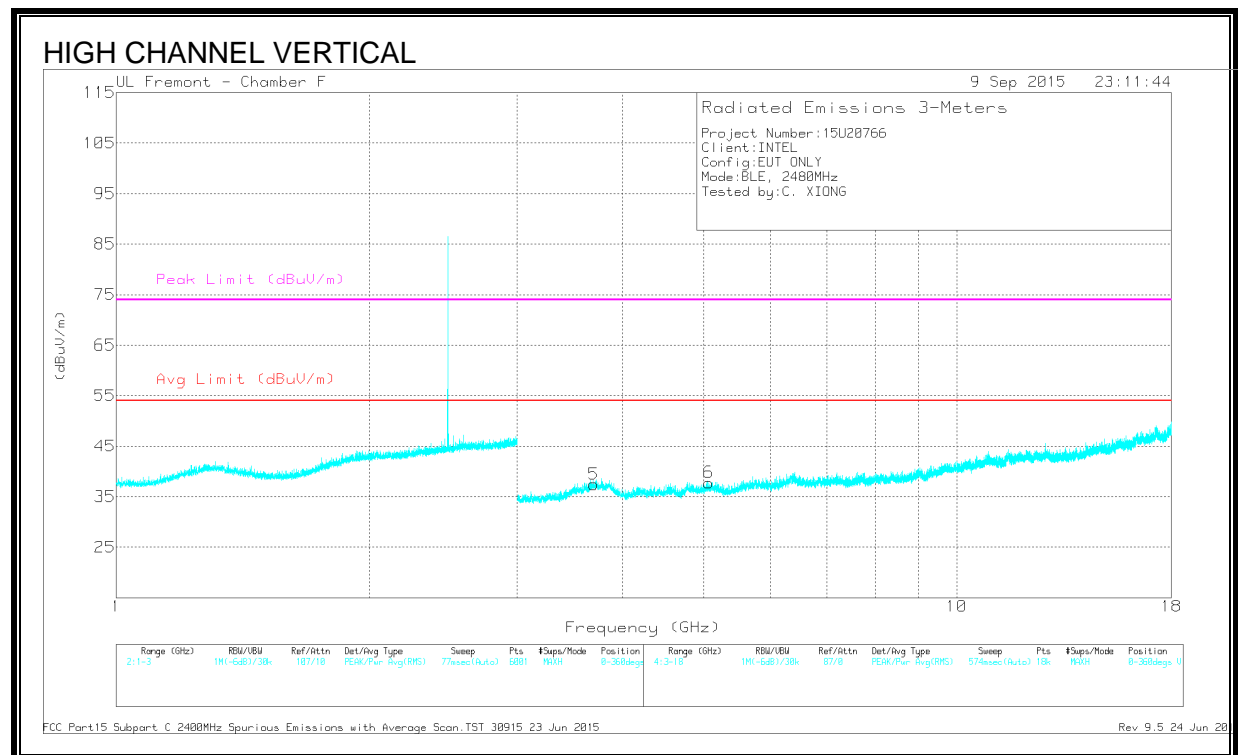
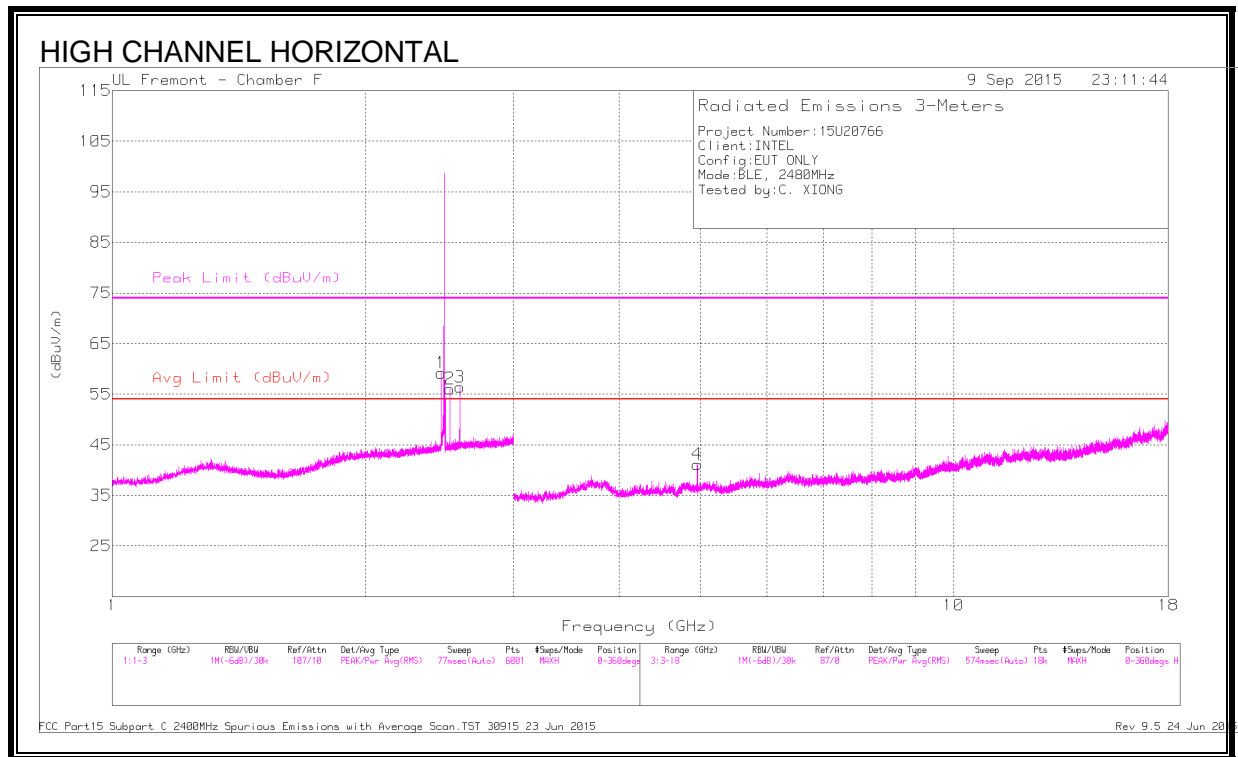
## DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 2.343	47.81	PK2	31.9	-21.1	0	58.61	-	-	74	-15.39	356	123	H
	* 2.343	31.14	MAv1	31.9	-21.1	.87	42.81	54	-11.19	-	-	356	123	H
5	* 4.88	42.81	PK2	34.1	-27.9	0	49.01	-	-	74	-24.99	45	101	H
	* 4.88	35.1	MAv1	34.1	-27.9	.87	42.17	54	-11.83	-	-	45	101	H
6	* 7.32	40.54	PK2	35.7	-26.6	0	49.64	-	-	74	-24.36	59	108	H
	* 7.32	30.11	MAv1	35.7	-26.6	.87	40.08	54	-13.92	-	-	59	108	H
2	2.399	45.77	Pk	31.9	-21	0	56.67	-	-	74	-17.33	0-360	100	H
3	2.428	46.79	Pk	32	-21	0	57.79	-	-	74	-16.21	0-360	100	H
4	2.459	48.78	Pk	32.1	-21.1	0	59.78	-	-	74	-14.22	0-360	100	H

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average





## DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
4	* 4.96	42.01	PK2	34.1	-28.7	0	47.41	-	-	74	-26.59	47	121	H
	* 4.96	32.96	MAv1	34.1	-28.7	.87	39.23	54	-14.77	-	-	47	121	H
5	* 3.691	40.75	PK2	34.7	-29.5	0	45.95	-	-	74	-28.05	93	259	V
	* 3.69	29.15	MAv1	34.7	-29.5	.87	35.22	54	-18.78	-	-	93	259	V
6	* 5.06	39.64	PK2	34.2	-28.1	0	45.74	-	-	74	-28.26	150	343	V
	* 5.056	28.22	MAv1	34.2	-28.2	.87	35.09	54	-18.91	-	-	150	343	V
1	2.459	48.22	Pk2	32.1	-21.1	0	59.22	-	-	74	-14.78	0-360	100	H
2	2.519	44.87	Pk2	32.3	-21.1	0	56.07	-	-	74	-17.93	0-360	100	H
3	2.588	44.78	Pk2	32.6	-21	0	56.38	-	-	74	-17.62	0-360	201	H

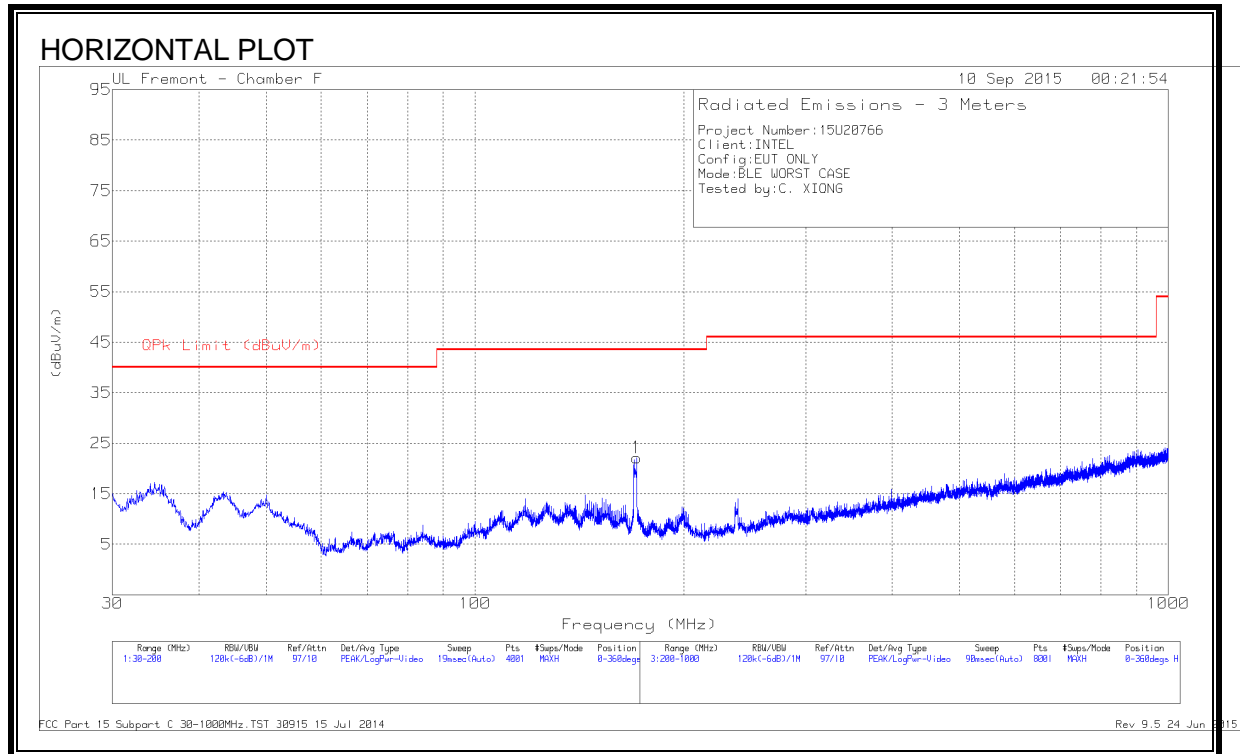
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

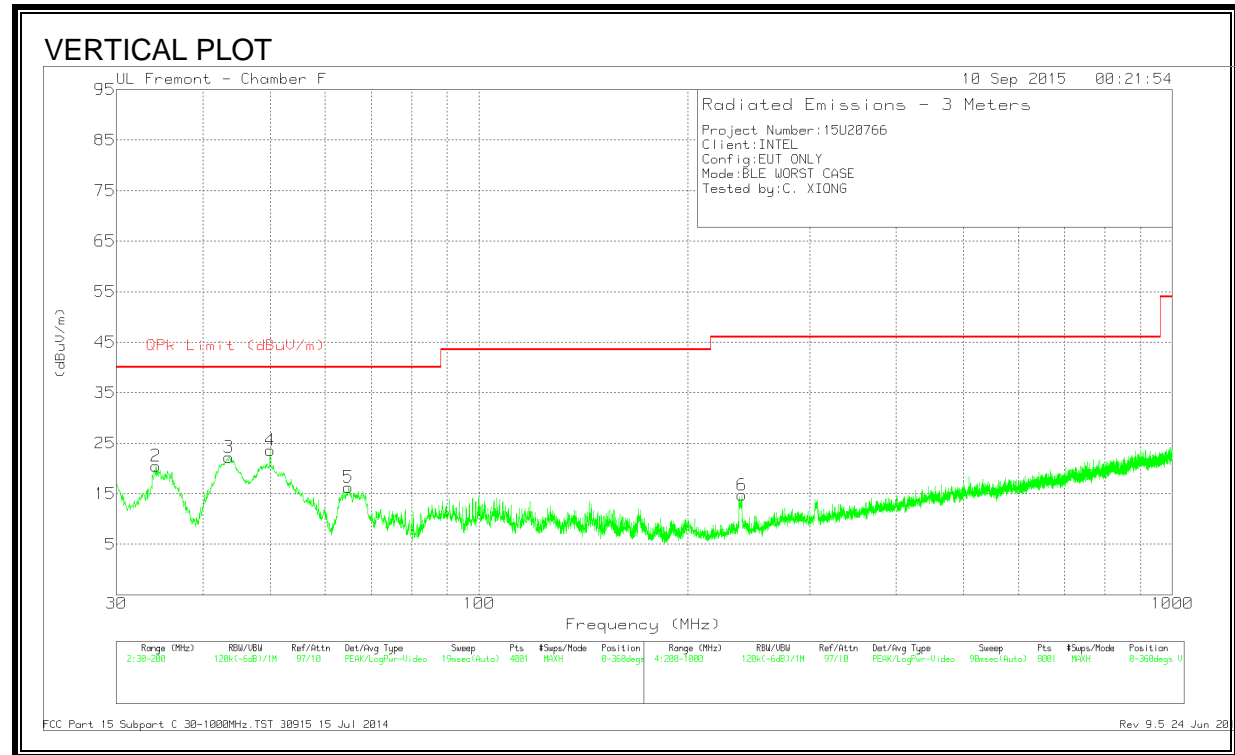
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

### 8.3. WORST-CASE BELOW 1 GHz

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





## DATA

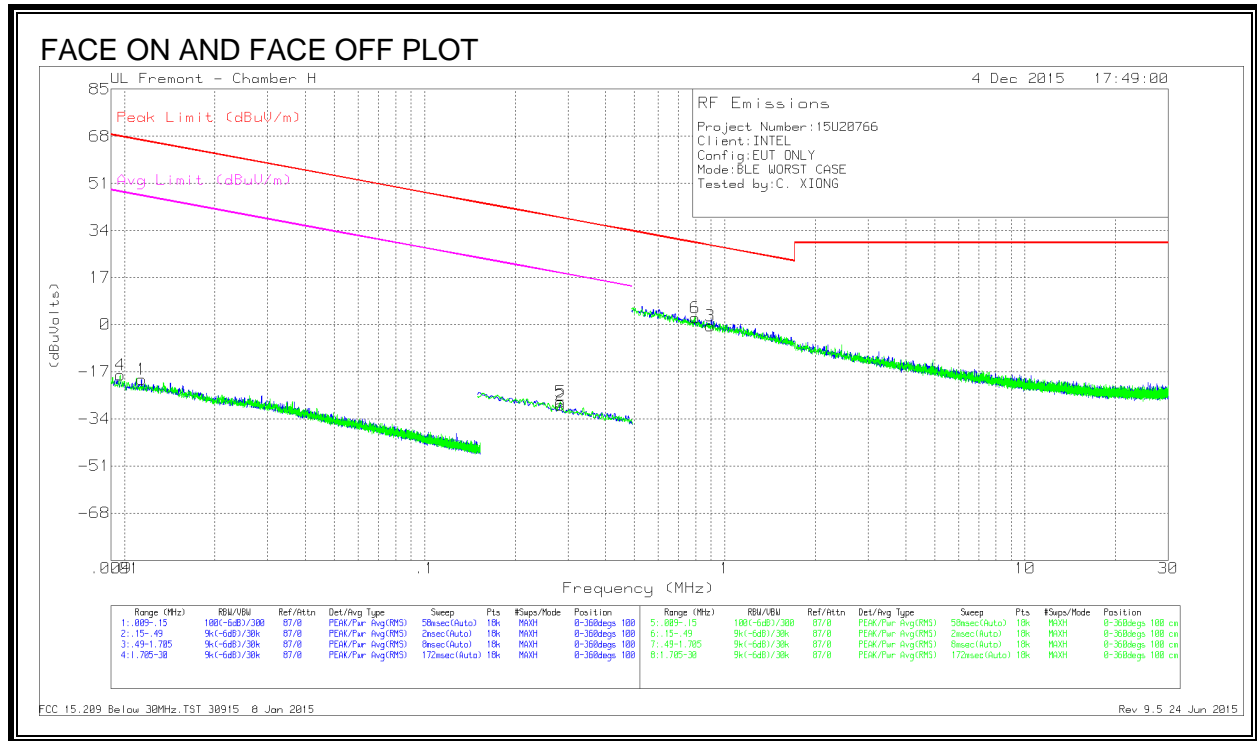
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T122 (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 171.0575	41.02	Pk	11.8	-30.7	0	22.12	43.52	-21.4	0-360	103	H
2	34.2075	34.08	Pk	18.2	-31.8	0	20.48	40	-19.52	0-360	100	V
3	43.6	42.44	Pk	11.5	-31.7	0	22.24	40	-17.76	0-360	100	V
4	50.0175	47.01	Pk	8.3	-31.7	0	23.61	40	-16.39	0-360	100	V
5	64.85	39.99	Pk	7.9	-31.6	0	16.29	40	-23.71	0-360	100	V
6	239.5	33.44	Pk	11.6	-30.3	0	14.74	46.02	-31.28	0-360	301	V

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

Pk - Peak detector

## 8.4. WORST CASE BELOW 30MHz

### SPURIOUS EMISSIONS 0.15 TO 30 MHz (WORST-CASE CONFIGURATION)



## DATA

### FACE ON

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.01139	41.97	Pk	18.2	.1	-80	-19.73	66.47	-86.2	46.47	-66.2	0-360
2	.28371	40.65	Pk	10.2	.1	-80	-29.05	38.55	-67.6	18.55	-47.6	0-360
3	.89471	29.17	Pk	10.2	.2	-40	-.43	28.57	-29	-	-	0-360

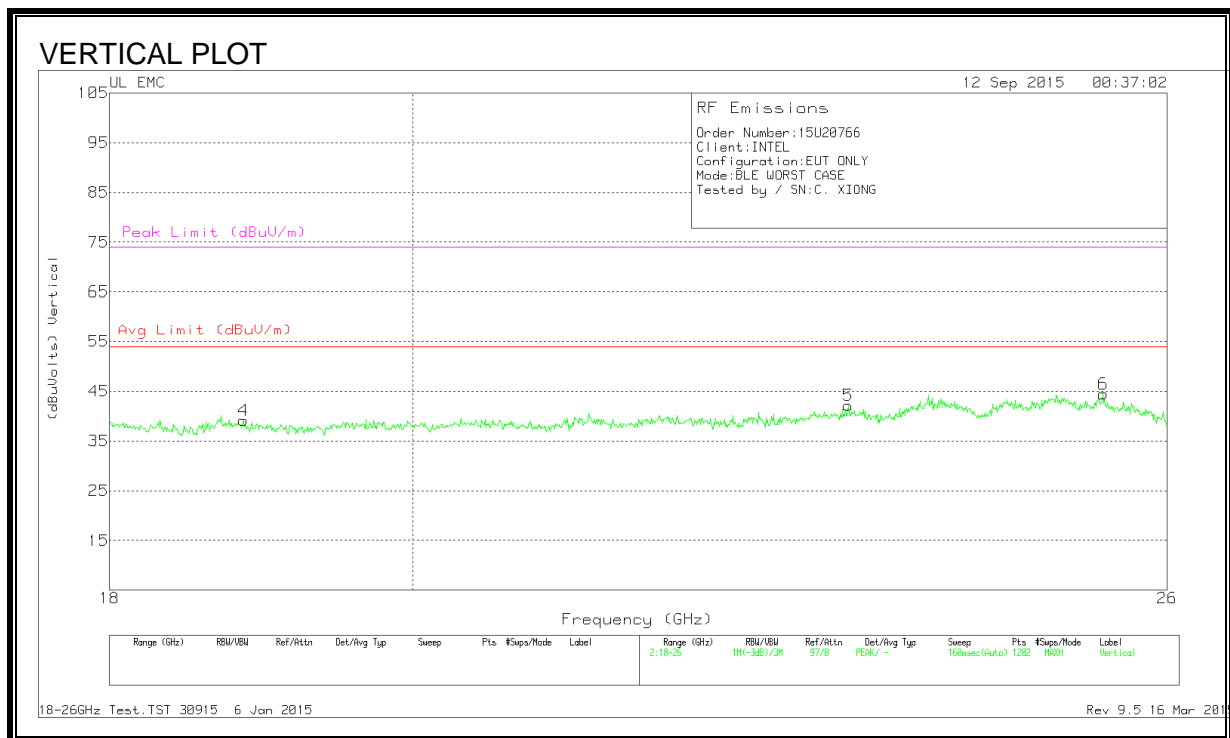
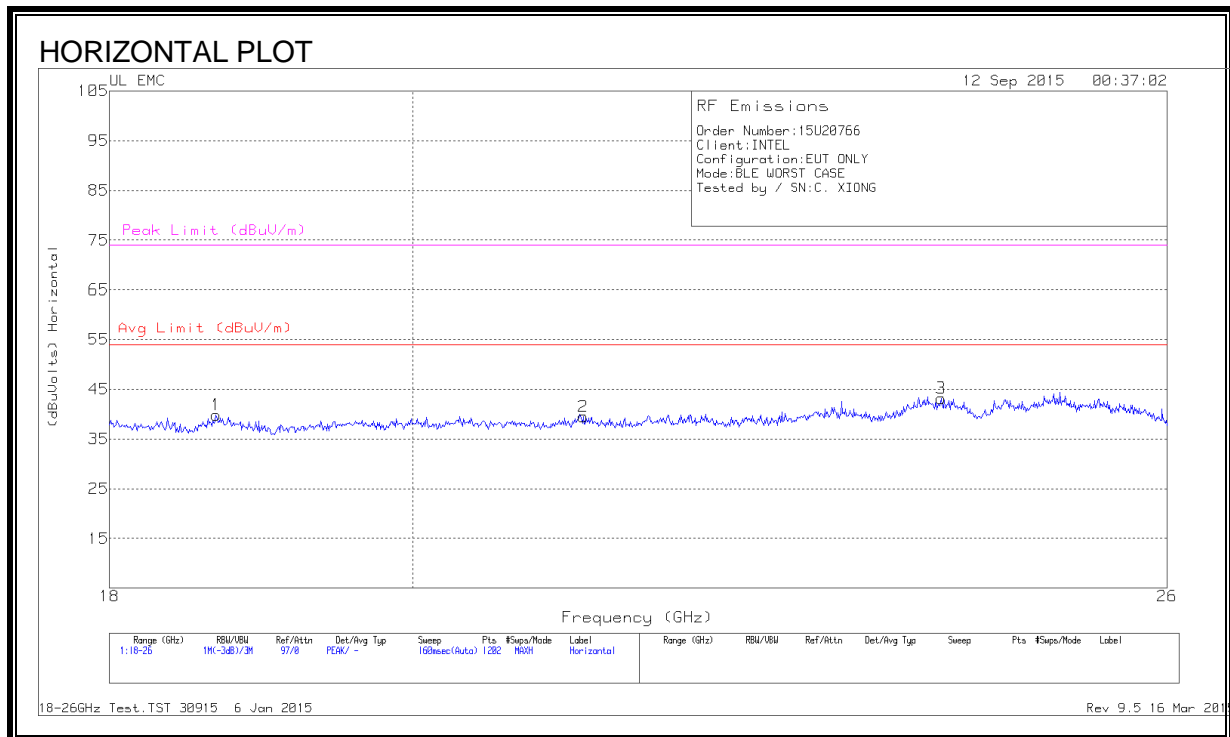
### FACE OFF

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
4	.00969	42.65	Pk	19.1	.1	-80	-18.15	67.88	-86.03	47.88	-66.03	0-360
5	.28367	41.73	Pk	10.2	.1	-80	-27.97	38.55	-66.52	18.55	-46.52	0-360
6	.79639	32.11	Pk	10.2	.1	-40	2.41	29.58	-27.17	-	-	0-360

Pk - Peak detector

## 8.5. WORST-CASE 18 to 26 GHz

### SPURIOUS EMISSIONS 18 to 26 GHz (WORST-CASE CONFIGURATION)



# **DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	18.679	41.43	Pk	32.5	-24.6	-9.5	39.83	54	-14.17	74	-34.17
2	21.224	40.9	Pk	33.1	-25	-9.5	39.50	54	-14.50	74	-34.50
3	24.035	43.67	Pk	33.3	-24.3	-9.5	43.17	54	-10.83	74	-30.83
4	18.859	41.37	Pk	32.4	-25.1	-9.5	39.17	54	-14.83	74	-34.83
5	23.269	42.87	Pk	33.5	-24.7	-9.5	42.17	54	-11.83	74	-31.83
6	25.427	44.5	Pk	33.8	-24.3	-9.5	44.50	54	-9.50	74	-29.50

Pk - Peak detector