



**FCC CFR47 PART 15 SUBPART C**

**DTS Wireless LAN**

**CERTIFICATION TEST REPORT**

**FOR**

**GSM/WCDMA/LTE Phone + BT/BLE and DTS/UNII a/b/g/n**

**MODEL NUMBER : SM-G615F/DS, SM-G615FU/DS**

**FCC ID: A3LSMG615F**

**REPORT NUMBER: 4787892916-E1V2**

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Revision History

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V1	04/07/17	Initial issue	Junwhan Lee
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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SAMSUNG ELECTRONICS CO., LTD.  
**EUT DESCRIPTION:** GSM/WCDMA/LTE Phone + BT/BLE and DTS/UNII a/b/g/n  
**MODEL NUMBER:** SM-G615F/DS, SM-G615FU/DS  
**SERIAL NUMBER:** R38J10CMN2H (RADIATED);  
4210c557ce68b36b (CONDUCTED)  
**DATE TESTED:** MAR 14, 2017 – APR 04, 2017

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass

UL Korea, Ltd. 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 Korea, Ltd. 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 Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. 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 IAS, any agency of the Federal Government, or any agency of any government.

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UL Korea, Ltd.

Tested By:



Junwhan Lee  
Suwon Lab Engineer  
UL Korea, Ltd.

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. KDB 558074 D01 DTS Meas Guidance v03r05.
4. ANSI C63.10-2013.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 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.

218 Maeyeong-ro
<input checked="" type="checkbox"/> Chamber 1
<input checked="" type="checkbox"/> Chamber 2

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <http://www.iasonline.org/PDF/TL/TL-637.pdf>.

## 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	2.32 dB
Radiated Disturbance, Below 1GHz	4.14 dB
Radiated Disturbance, Above 1 GHz	5.97 dB

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

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone + BT/BLE and DTS/UNII a/b/g/n.  
This test report addresses the DTS (WLAN) operational mode.

SM-G615F/DS and SM-G615FU/DS are same H/W and only difference is Main camera led and Deco of rear side. PED document described the differences in detail.  
SM-G615F/DS was used for the test.

### 5.2. MAXIMUM OUTPUT POWER

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

Frequency Range [MHz]	Mode	Output Power [dBm]	Output Power [mW]
2412 - 2472	802.11b	18.32	67.92
	802.11g	16.26	42.27
	802.11n HT20	16.27	42.36

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal antennas, with a antenna's maximum gain of -1.87 dBi.

### 5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission below 1GHz and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Radiated emission above 1GHz was performed with the EUT set to transmit low/mid/high channels.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y and 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 HT20 mode: MCS0

## 5.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA50IWE	RC3J202AS/A -E	N/A
Data Cable	SAMSUNG	ECB-DU68WE	N/A	N/A
Earphone	SAMSUNG	EHS61ASFWE	N/A	N/A

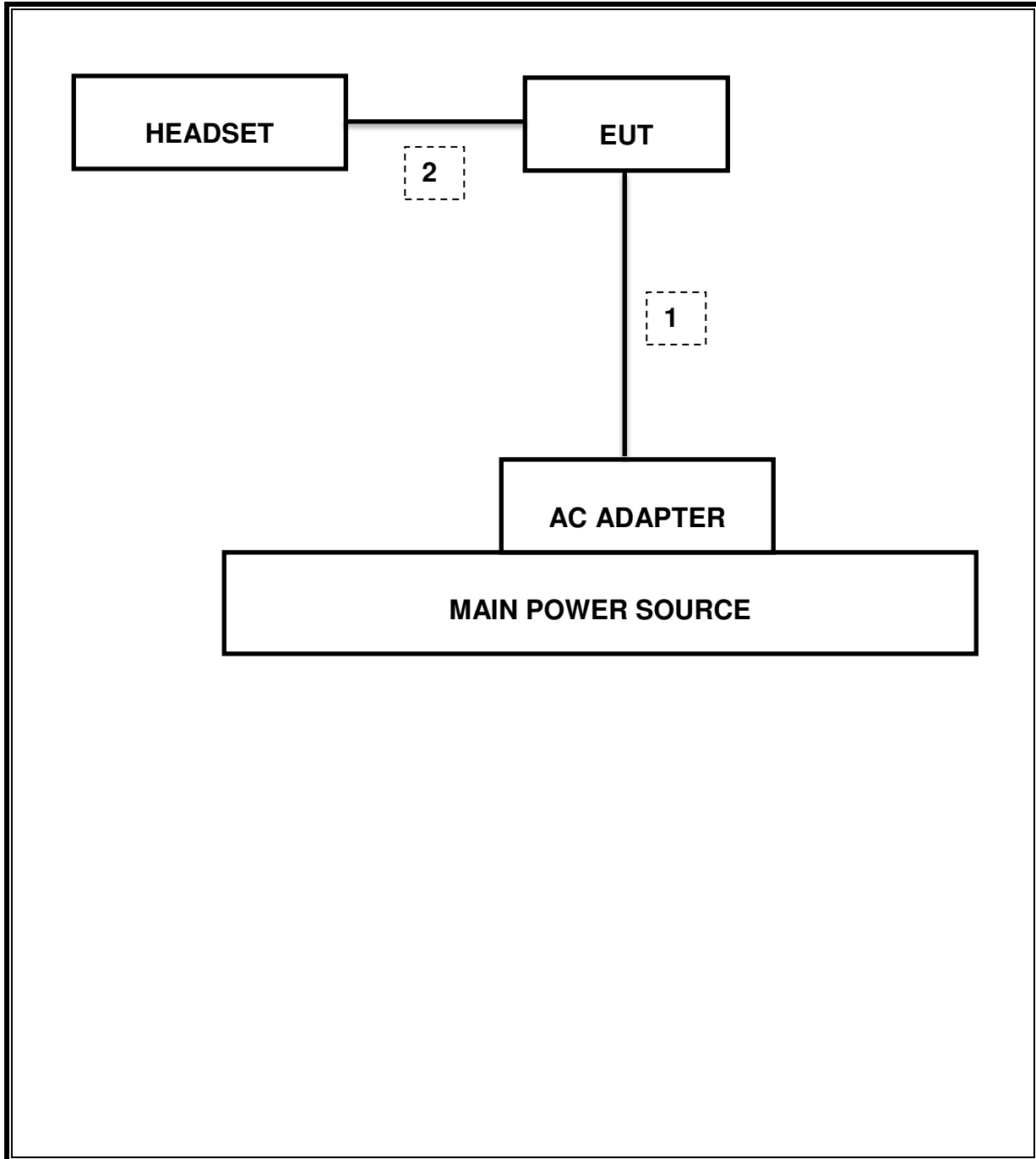
### I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	0.8m	N/A
2	Audio	2	Mini-Jack	Unshielded	1.5m	N/A

### TEST SETUP

The EUT is a stand-alone unit during the tests.  
 Test software in hidden menu exercised the EUT to enable DTS mode.

**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	S/N	Cal Due
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	10-14-18
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	04-25-17
Antenna, Horn, 18 GHz	ETS	3115	00167211	10-14-18
Antenna, Horn, 18 GHz	ETS	3117	00168724	06-17-17
Antenna, Horn, 18 GHz	ETS	3117	00168717	06-17-17
Antenna, Horn, 40 GHz	ETS	3116C	00166155	11-30-17
Antenna, Horn, 40 GHz	ETS	3116C-PA	00168841	12-15-17
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-17-17
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-16-17
Preamplifier	ETS	3115-PA	00167475	08-17-17
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-16-17
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	08-17-17
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	03-09-18
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	11-25-17
Average Power Sensor	R&S	NRP-Z91	102681	08-16-17
Average Power Sensor	Agilent / HP	U2000	MY54270007	08-17-17
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-17-17
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-16-17
EMI Test Receive, 3 GHz	R&S	ESR3	101832	08-16-17
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	08-17-17
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	015	08-16-17
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	08-17-17
High Pass Filter 3GHz	Micro-Tronics	HPM17543	015	08-16-17
High Pass Filter 6GHz	Micro-Tronics	HPM17542	009	08-17-17
High Pass Filter 6GHz	Micro-Tronics	HPM17542	016	08-16-17
LISN	R&S	ENV-216	101837	08-16-17
Attenuator	PASTERNAK	PE7087-10	A009	08-16-17
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

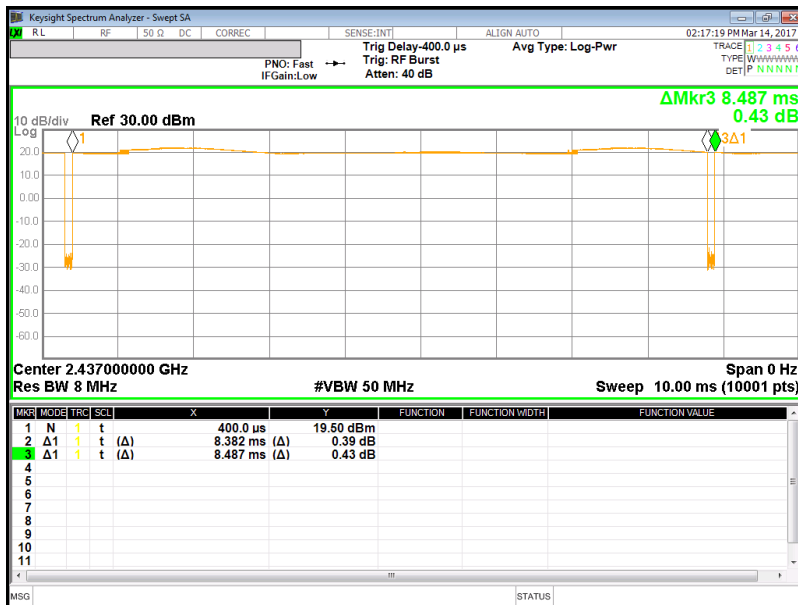
## 7. REFERENCE MEASUREMENT RESULTS

### 7.1. ON TIME AND DUTY CYCLE RESULTS

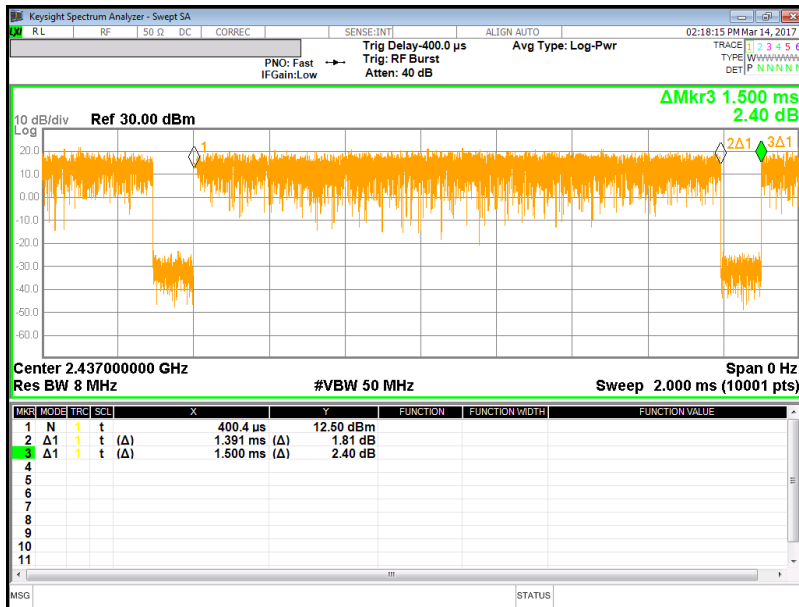
#### LIMITS

None; for reporting purposes only.

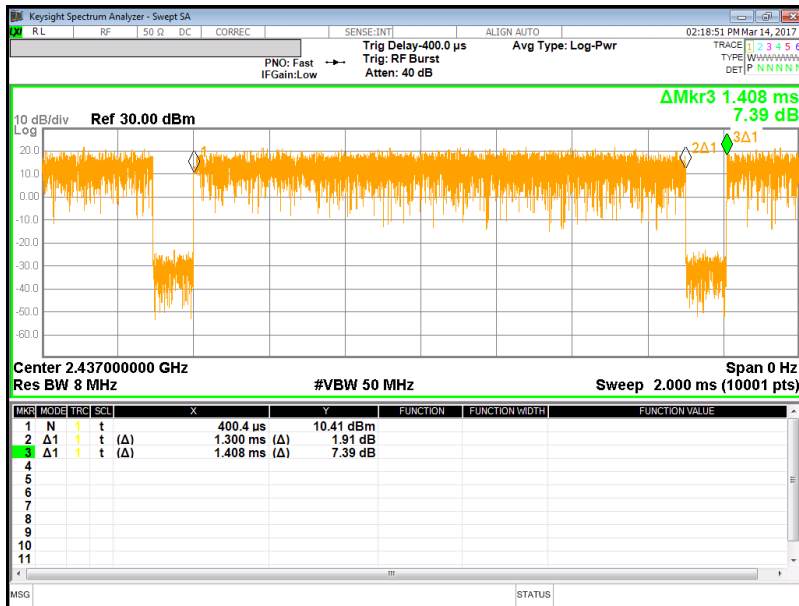
Mode	ON Time B [msec]	Period [msec]	Duty Cycle x [linear]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
<b>2400MHz Bands</b>						
802.11b	8.382	8.487	0.988	98.8%	0.00	0.010
802.11g	1.391	1.5	0.927	92.7%	0.33	0.719
802.11n HT20	1.3	1.408	0.923	92.3%	0.35	0.769



[802.11b]



[802.11g]



[802.11n]

## 8. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	9.043 MHz
2.1051, 15.247 (d)	Band Edge / Conducted Spurious Emission	-30dBc		Pass	-29.189 dBm
15.247	TX conducted output power	<30dBm		Pass	18.32 dBm
15.247	PSD	<8dBm		Pass	-10.363 dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Power Line conducted	Pass	33.63 dBuV (Av)
15.205, 15.209	Radiated Spurious Emission	< 74dBuV/m	Radiated	Pass	70.85 dBuV/m (Pk)

## 9. ANTENNA PORT TEST RESULTS

### 9.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

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

#### TEST PROCEDURE

Reference to KDB 558074 D01 DTS Meas Guidance v03r05: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

**RESULTS**

**9.1.1. 802.11b MODE IN THE 2.4 GHz BAND**

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
Low	2412	9.522	0.5
Mid	2437	9.043	0.5
High	2462	9.067	0.5
12	2467	9.568	0.5
13	2472	10.040	0.5
Worst		9.043	0.5

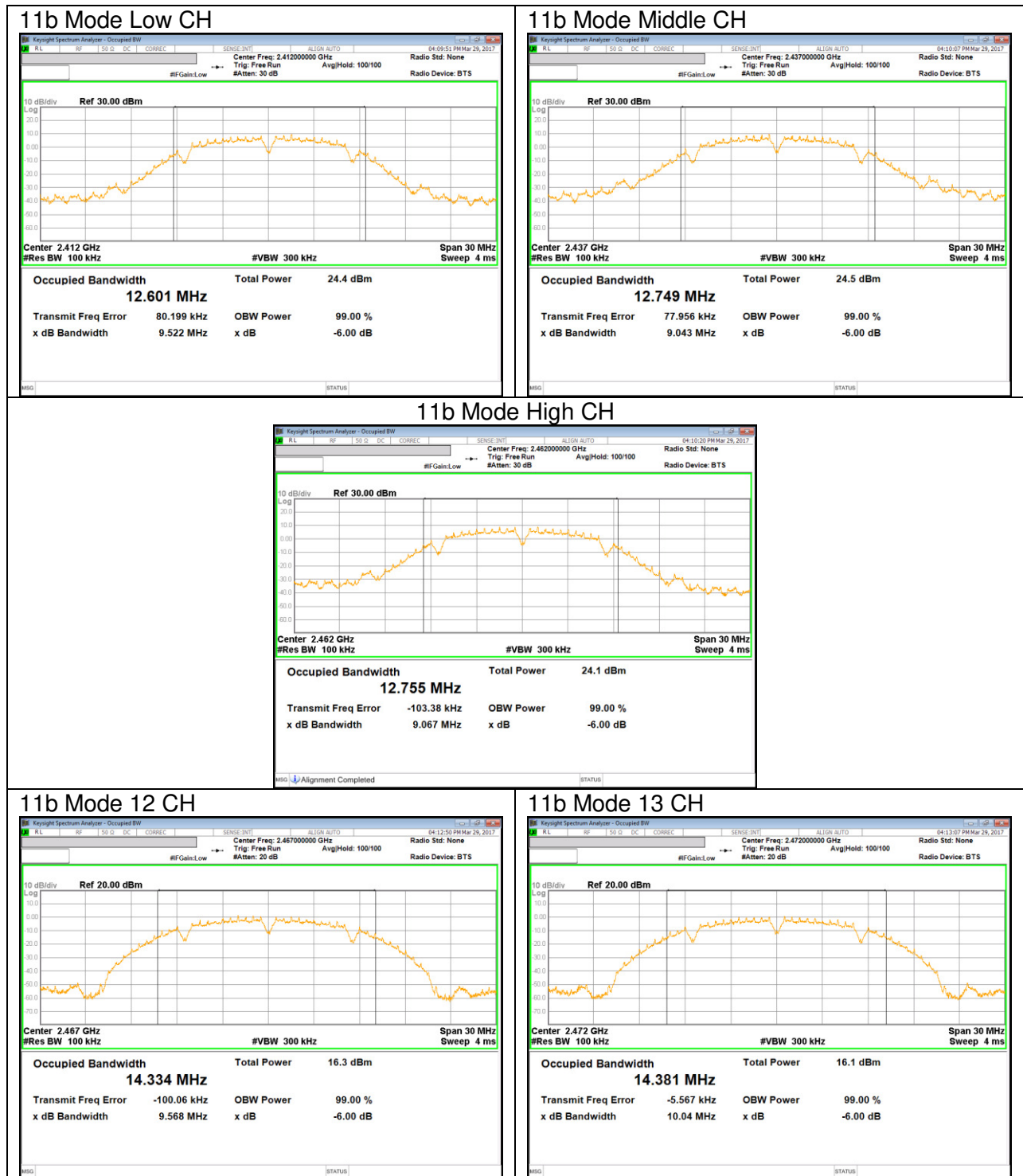
**9.1.2. 802.11g MODE IN THE 2.4 GHz BAND**

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
1	2412	15.410	0.5
2	2417	15.670	0.5
6	2437	15.060	0.5
10	2457	15.690	0.5
11	2462	15.680	0.5
12	2467	16.350	0.5
13	2472	16.350	0.5
Worst		15.060	0.5

**9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND**

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
1	2412	14.260	0.5
2	2417	15.690	0.5
6	2437	15.040	0.5
10	2457	14.710	0.5
11	2462	15.830	0.5
12	2467	17.600	0.5
13	2472	17.600	0.5
Worst		14.260	0.5

### 9.1.4. 6 dB BANDWIDTH PLOTS







## **9.2. OUTPUT POWER**

### **LIMITS**

FCC §15.247

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 from 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.

### **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss was entered as an offset in the power meter to allow for direct reading of power.

Output power measurement was performed utilizing the “§9.2.3.1 AVGPM” under KDB558074 D01 DTS Meas Guidance v03r05.

Duty cycle correction factor is already added to the average output power results for duty cycle factor < 98%. (802.11g, 802.11n mode)

**RESULTS**

**9.2.1. 802.11b MODE IN THE 2.4 GHz BAND**

**Limits**

Channel	Frequency [MHz]	Directional Gain Primary [dBi]	FCC Power Limit [dBm]	Max Power [dBm]
Low	2412	-1.87	30.00	30.00
Mid	2437	-1.87	30.00	30.00
High	2462	-1.87	30.00	30.00
12	2467	-1.87	30.00	30.00
13	2472	-1.87	30.00	30.00

**Results**

Channel	Frequency [MHz]	Meas Power [dBm]	Total Power [dBm]	Power Limit [dBm]	Margin [dB]
Low	2412	18.19	18.19	30.00	-11.81
Mid	2437	18.32	18.32	30.00	-11.68
High	2462	17.87	17.87	30.00	-12.13
12	2467	10.12	10.12	30.00	-19.88
13	2472	9.85	9.85	30.00	-20.15
Worst			18.32	30.00	-11.68

**9.2.2. 802.11g MODE IN THE 2.4 GHz BAND**

**Limits**

Channel	Frequency [MHz]	Directional Gain Primary [dBi]	FCC Power Limit [dBm]	Max Power [dBm]
1	2412	-1.87	30.00	30.00
2	2417	-1.87	30.00	30.00
6	2437	-1.87	30.00	30.00
10	2457	-1.87	30.00	30.00
11	2462	-1.87	30.00	30.00
12	2467	-1.87	30.00	30.00
13	2472	-1.87	30.00	30.00

**Results**

Channel	Frequency [MHz]	Meas Power [dBm]	Total Power [dBm]	Power Limit [dBm]	Margin [dB]
1	2412	14.18	14.18	30.00	-15.82
2	2417	16.26	16.26	30.00	-13.74
6	2437	16.18	16.18	30.00	-13.82
10	2457	15.82	15.82	30.00	-14.18
11	2462	13.86	13.86	30.00	-16.14
12	2467	8.06	8.06	30.00	-21.94
13	2472	7.95	7.95	30.00	-22.05
Worst			16.26	30.00	-13.74

**9.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND**

**Limits**

Channel	Frequency [MHz]	Directional Gain Primary [dBi]	FCC Power Limit [dBm]	Max Power [dBm]
1	2412	-1.87	30.00	30.00
2	2417	-1.87	30.00	30.00
6	2437	-1.87	30.00	30.00
10	2457	-1.87	30.00	30.00
11	2462	-1.87	30.00	30.00
12	2467	-1.87	30.00	30.00
13	2472	-1.87	30.00	30.00

**Results**

Channel	Frequency [MHz]	Meas Power [dBm]	Total Power [dBm]	Power Limit [dBm]	Margin [dB]
1	2412	14.17	14.17	30.00	-15.83
2	2417	16.27	16.27	30.00	-13.73
6	2437	16.17	16.17	30.00	-13.83
10	2457	15.82	15.82	30.00	-14.18
11	2462	13.90	13.90	30.00	-16.10
12	2467	8.16	8.16	30.00	-21.84
13	2472	8.03	8.03	30.00	-21.97
Worst			16.27	30.00	-13.73

### **9.3. PSD**

#### **LIMITS**

FCC §15.247

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.

#### **TEST PROCEDURE**

Power Spectral Density was performed utilizing the “Method §10.3 AVGPSD-1 (802.11 b mode) and §10.5 AVGPSD-2(802.11 g/n mode)” under KDB558074 D01 DTS Meas Guidance v03r05.

**RESULTS**

**9.3.1. 802.11b MODE IN THE 2.4 GHz BAND**

**PSD Results**

Channel	Frequency [MHz]	PSD Meas [dBm]	Duty Factor [dB]	Final PSD [dBm]	Limit [dBm]	Margin [dB]
Low	2412	-13.375	0.00	-13.375	8.00	-21.375
Mid	2437	-10.363	0.00	-10.363	8.00	-18.363
High	2462	-13.490	0.00	-13.490	8.00	-21.490
12	2467	-20.560	0.00	-20.560	8.00	-28.560
13	2472	-20.491	0.00	-20.491	8.00	-28.491

**9.3.2. 802.11g MODE IN THE 2.4 GHz BAND**

**PSD Results**

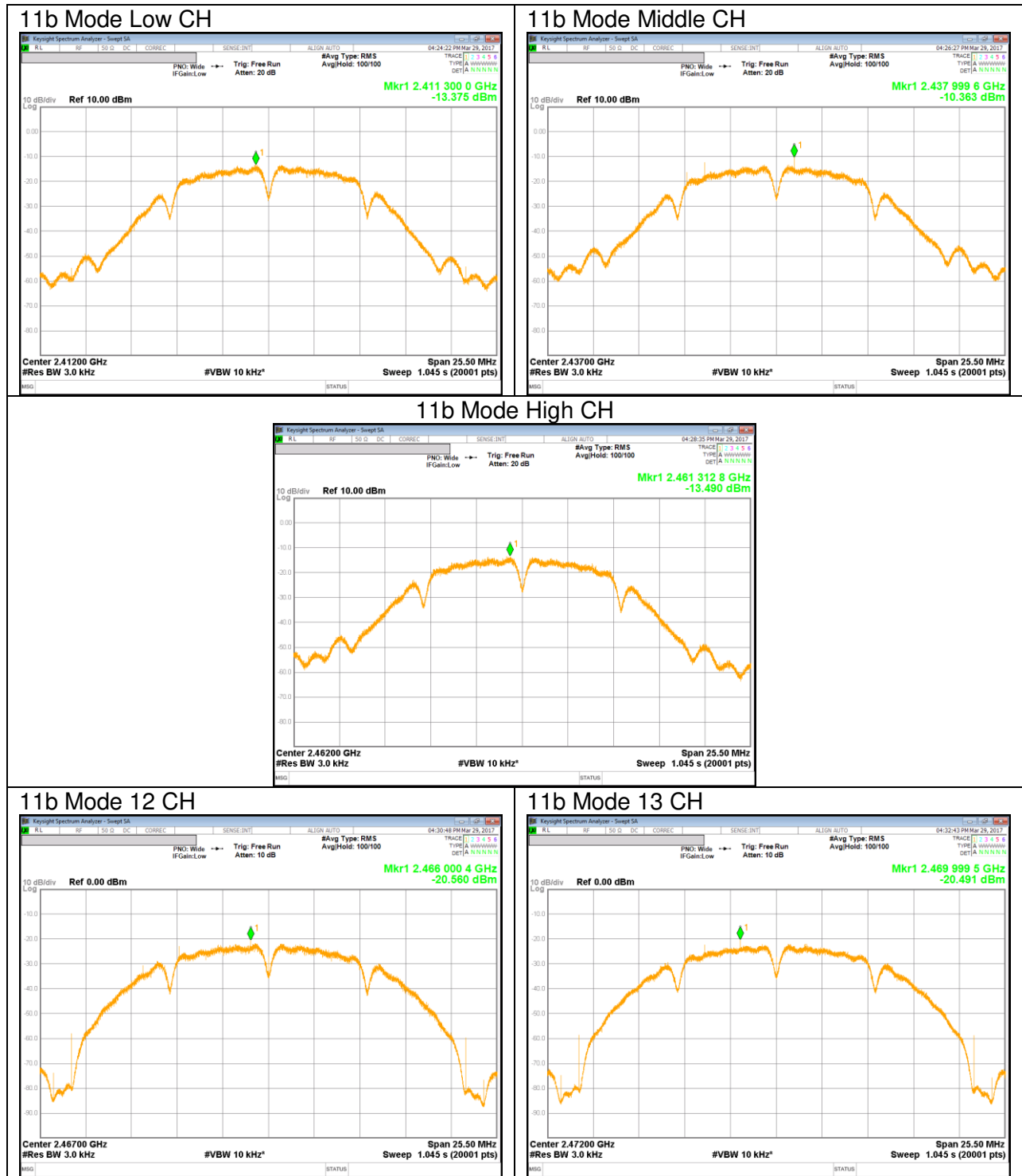
Channel	Frequency [MHz]	PSD Meas [dBm]	Duty Factor [dB]	Final PSD [dBm]	Limit [dBm]	Margin [dB]
1	2412	-19.199	0.33	-18.869	8.00	-27.199
2	2417	-17.253	0.33	-16.923	9.00	-26.253
6	2437	-17.108	0.33	-16.778	10.00	-27.108
10	2457	-17.445	0.33	-17.115	8.00	-25.445
11	2462	-19.368	0.33	-19.038	8.00	-27.368
12	2467	-26.169	0.33	-25.839	8.00	-34.169
13	2472	-26.534	0.33	-26.204	8.00	-34.534

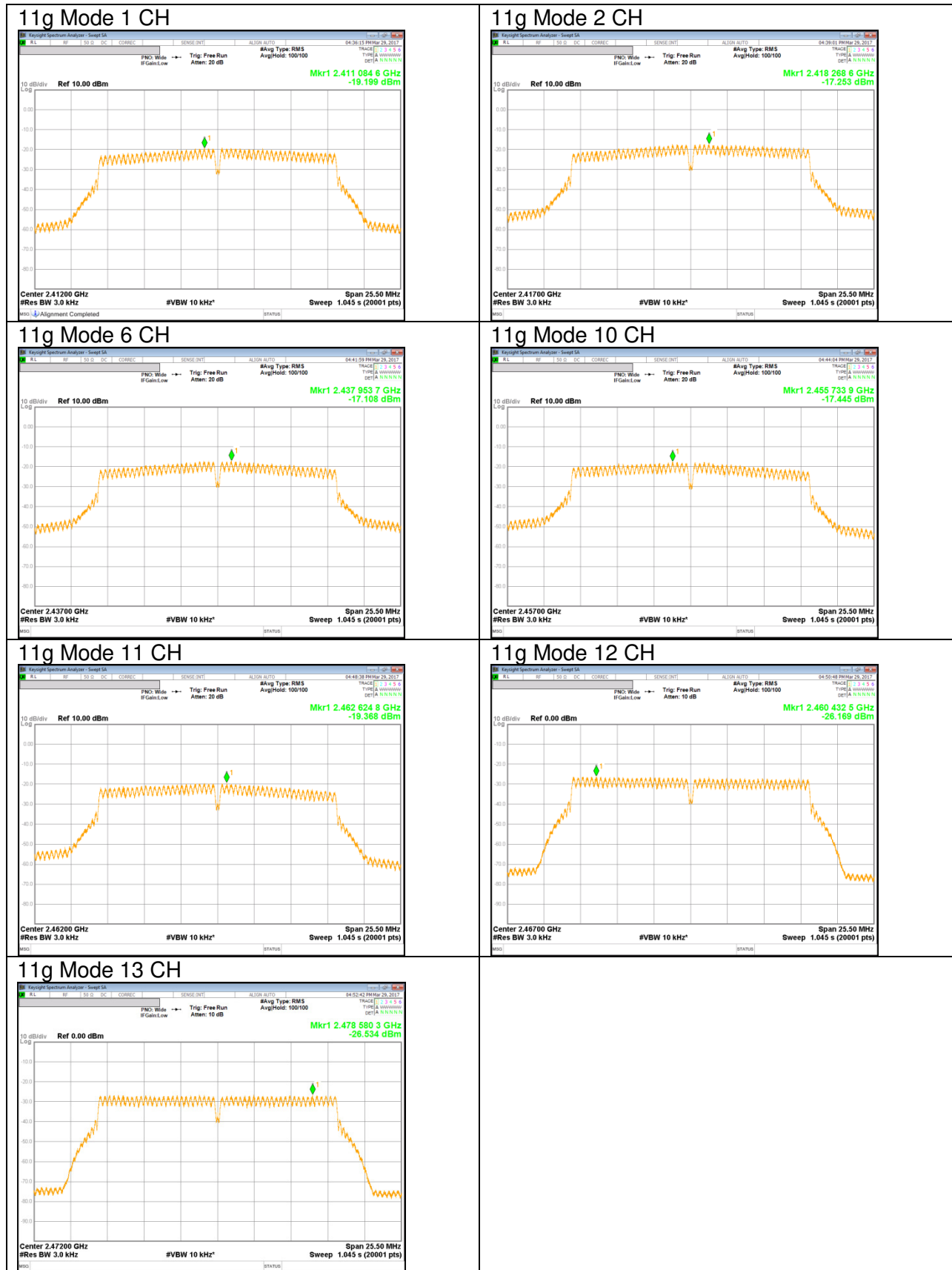
**9.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND**

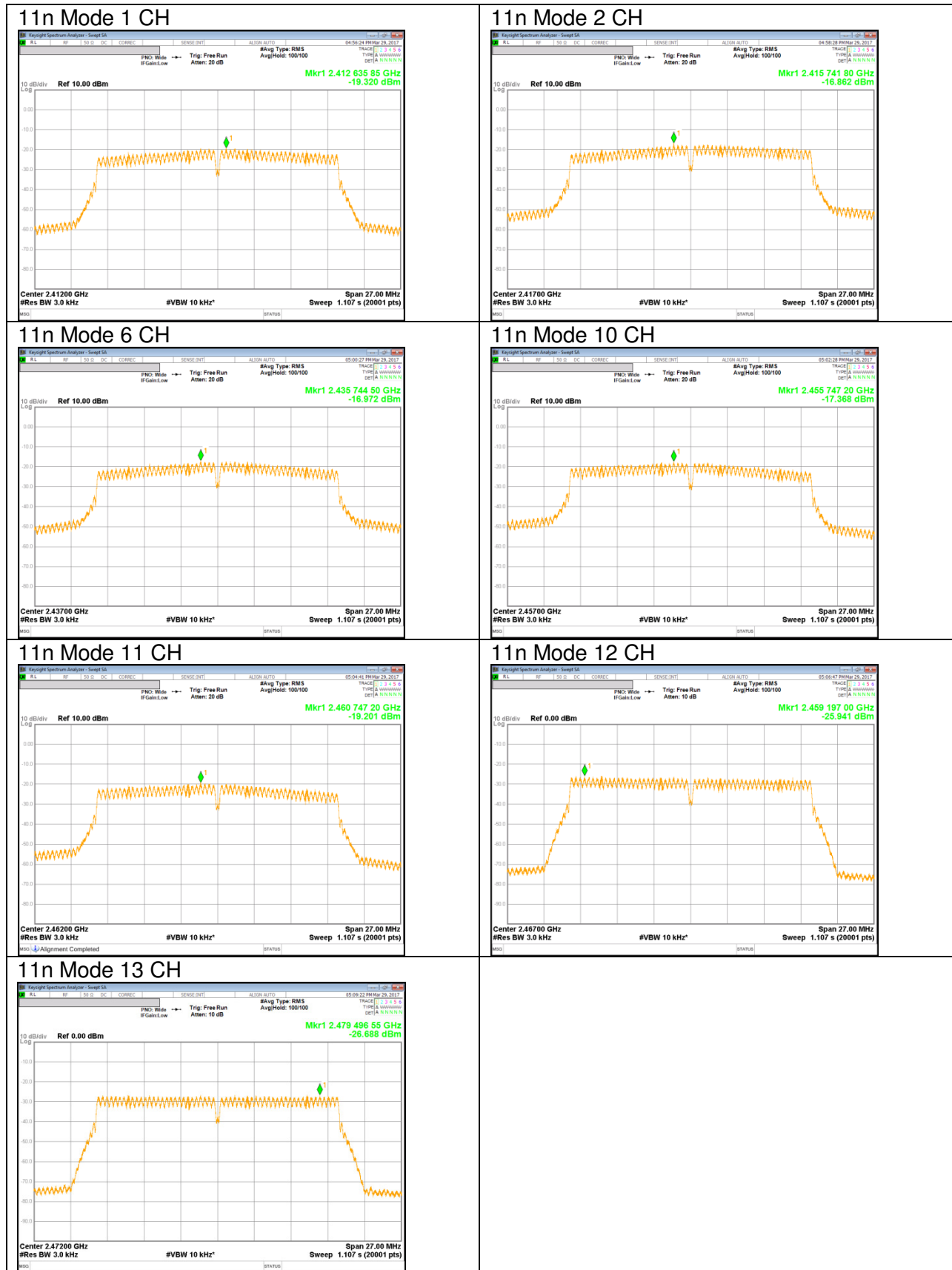
**PSD Results**

Channel	Frequency [MHz]	PSD Meas [dBm]	Duty Factor [dB]	Final PSD [dBm]	Limit [dBm]	Margin [dB]
1	2412	-19.32	0.35	-18.970	8.00	-27.320
2	2417	-16.862	0.35	-16.512	9.00	-25.862
6	2437	-16.972	0.35	-16.622	10.00	-26.972
10	2457	-17.368	0.35	-17.018	8.00	-25.368
11	2462	-19.201	0.35	-18.851	8.00	-27.201
12	2467	-25.941	0.35	-25.591	8.00	-33.941
13	2472	-26.688	0.35	-26.338	8.00	-34.688

### 9.3.4. PSD PLOTS







## 9.4. OUT-OF-BAND EMISSIONS

### LIMITS

FCC §15.247 (d)

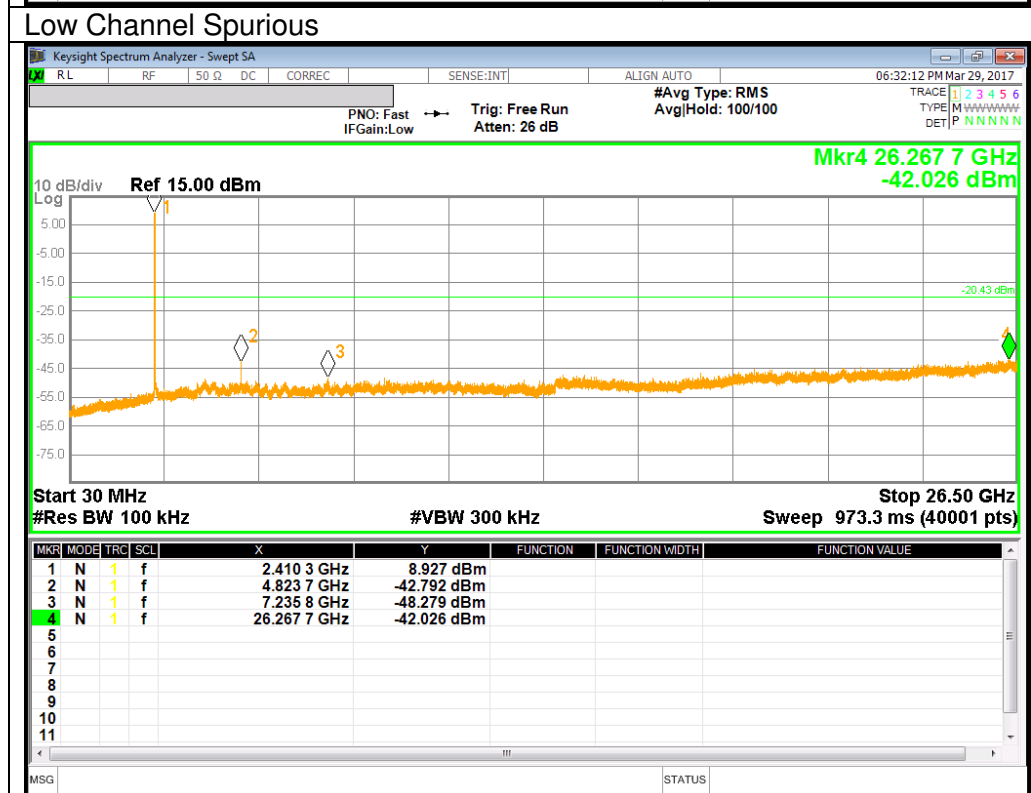
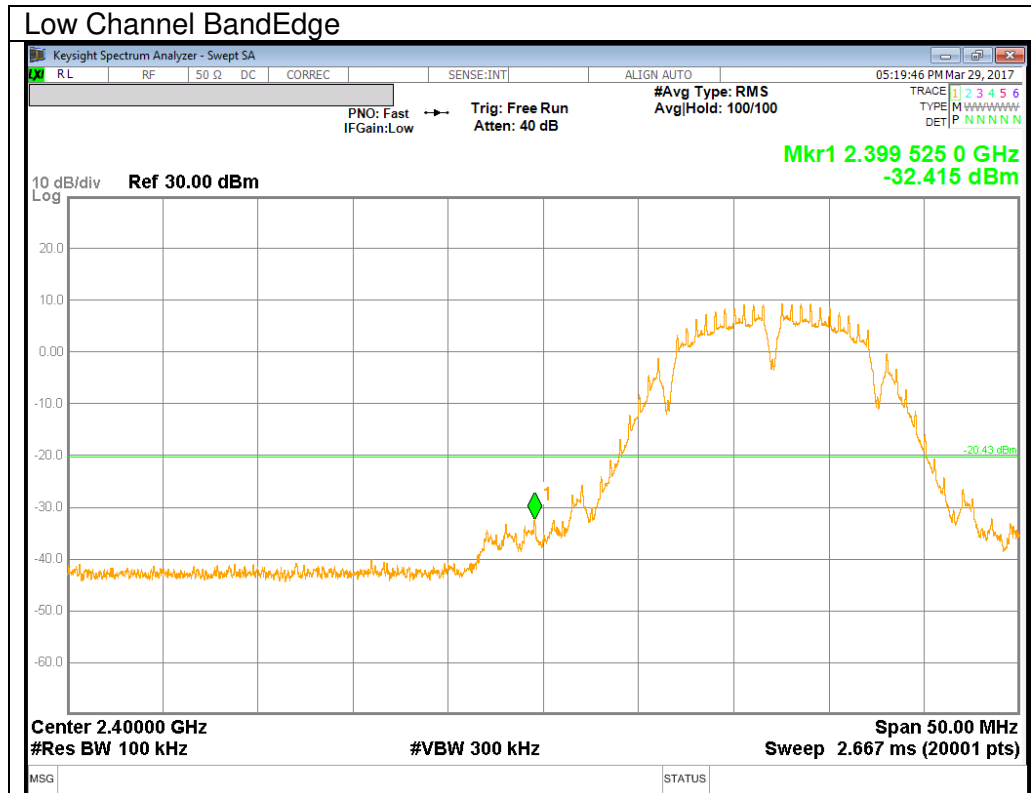
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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.

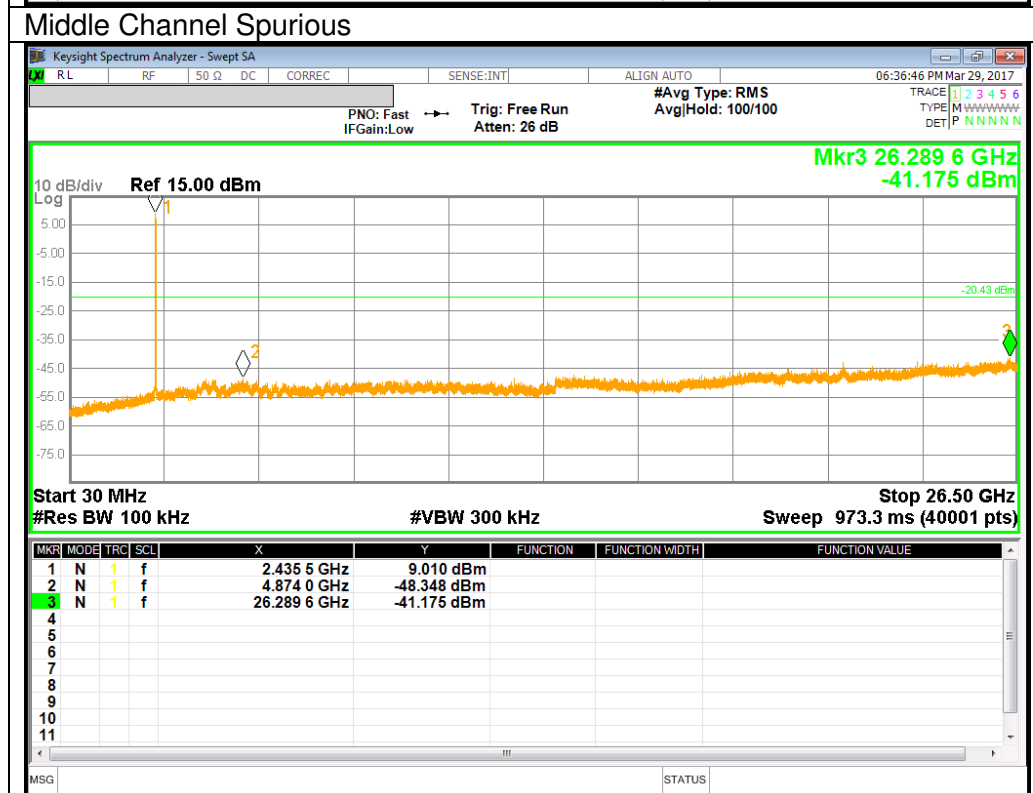
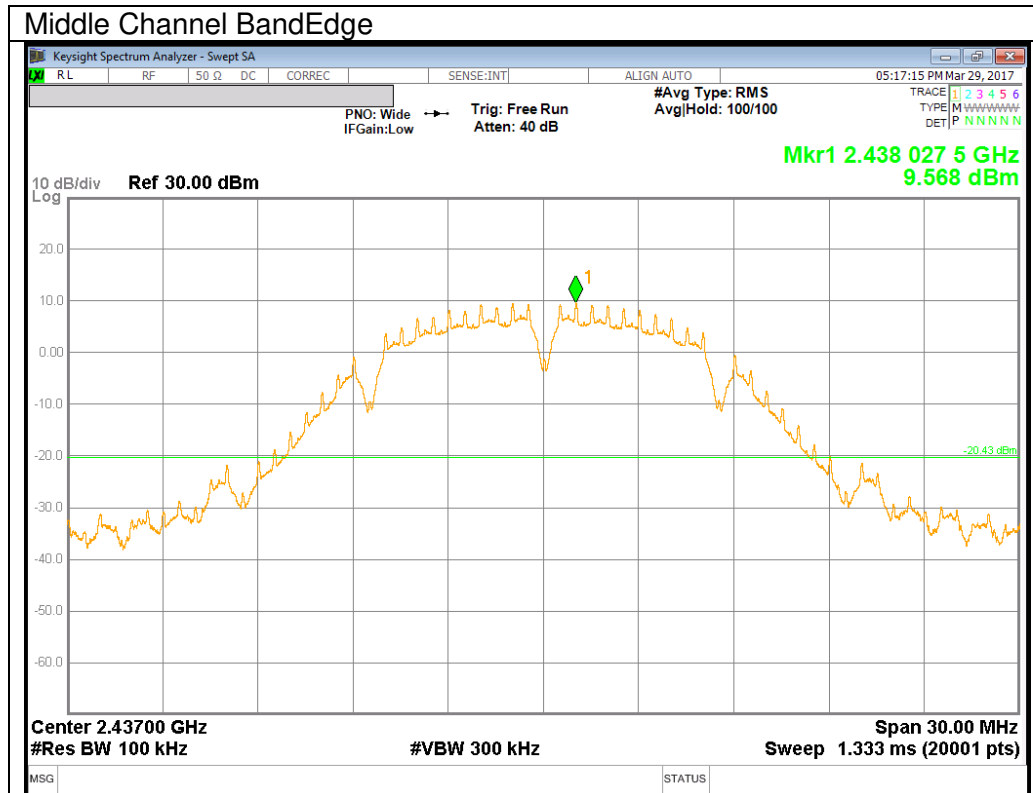
### TEST PROCEDURE

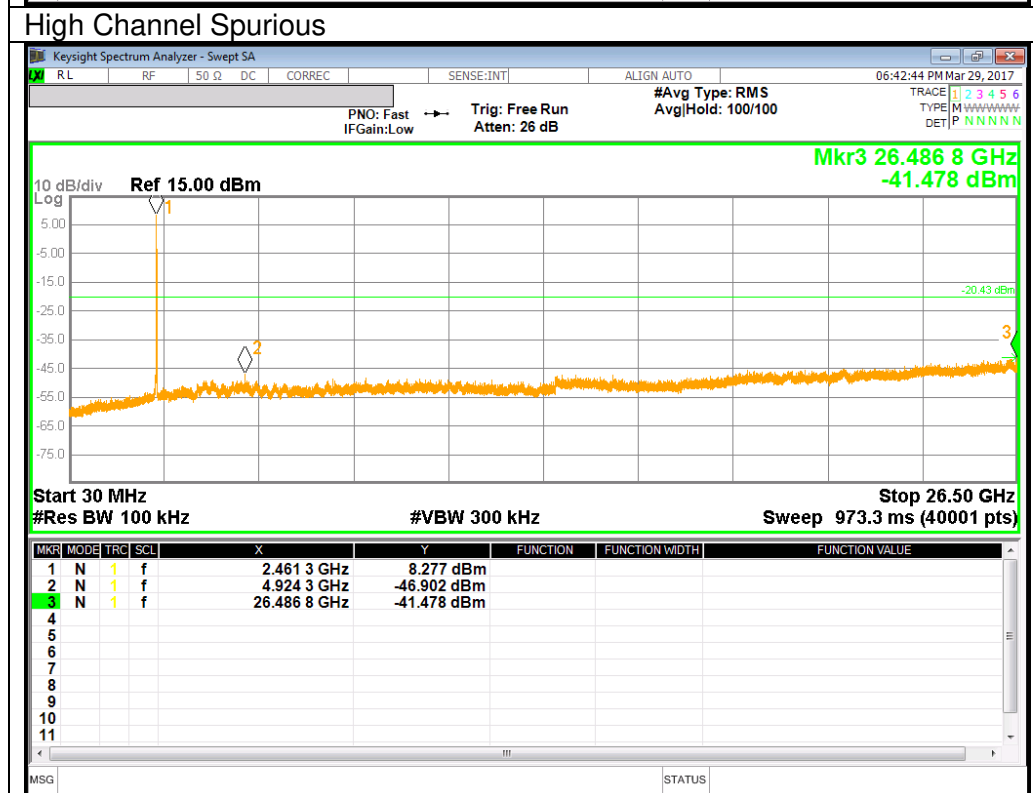
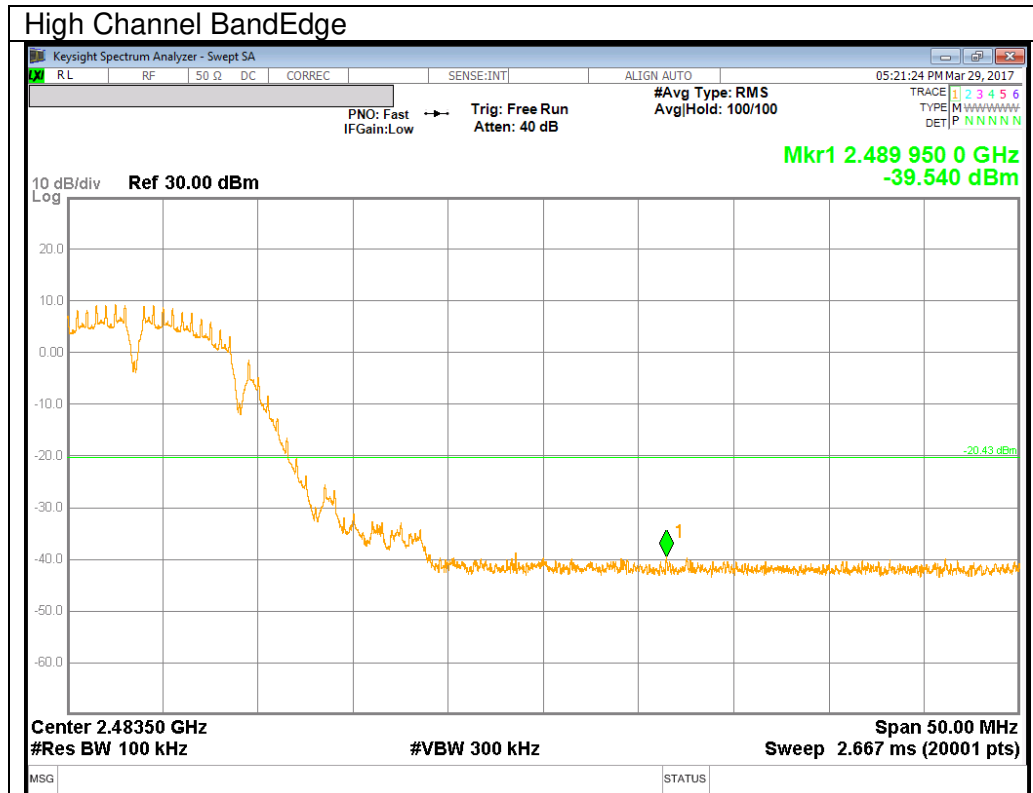
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

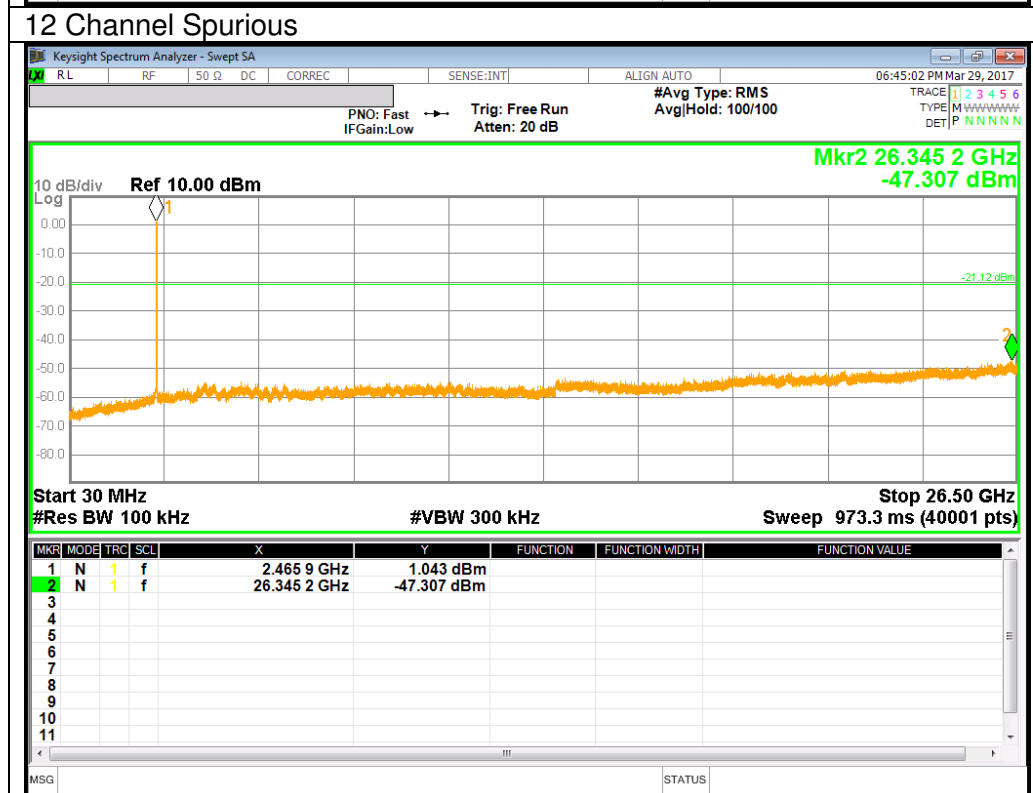
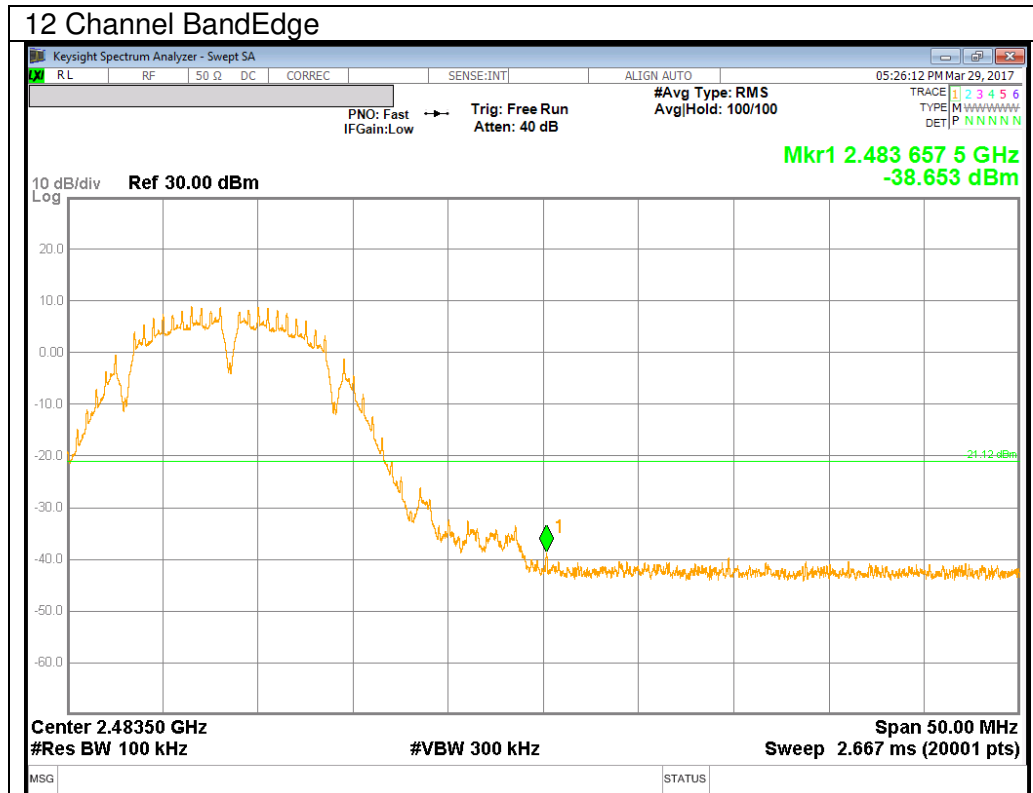
**RESULTS**

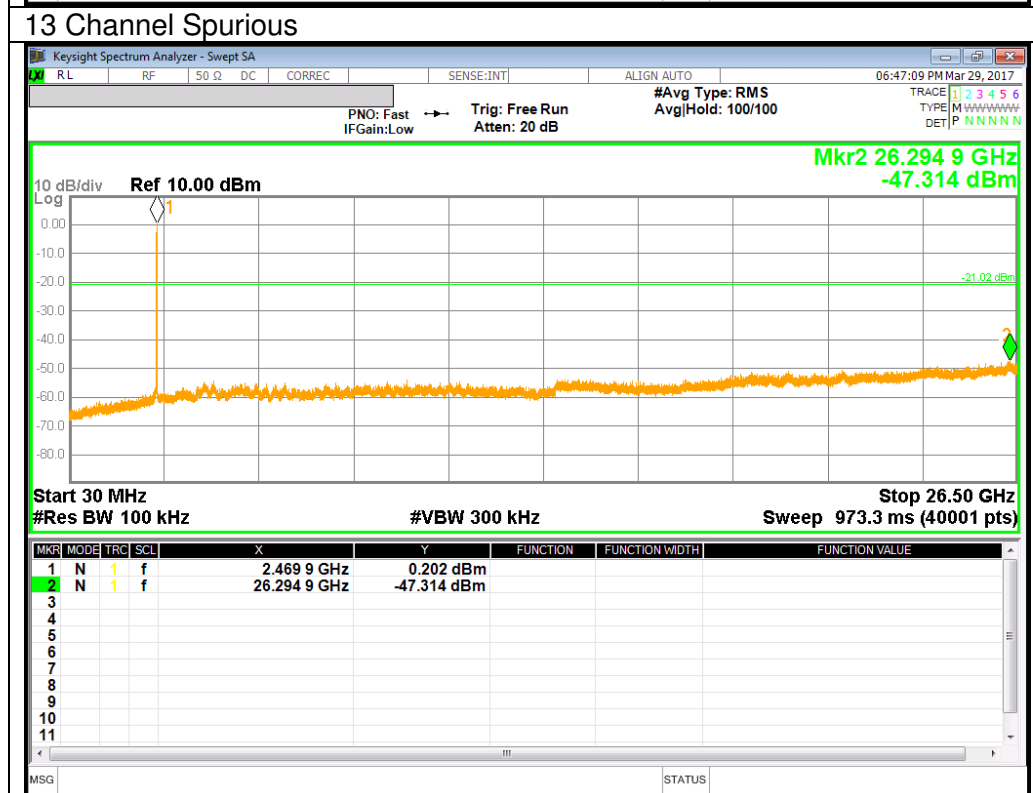
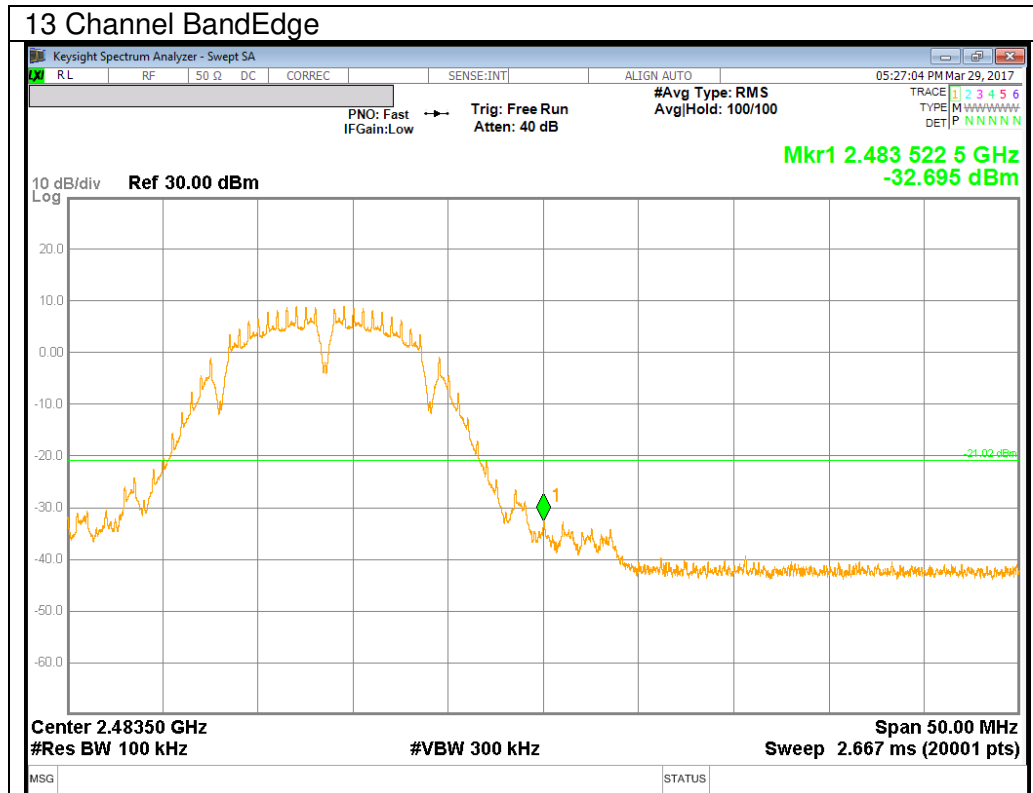
**9.4.1. 802.11b MODE IN THE 2.4 GHz BAND**



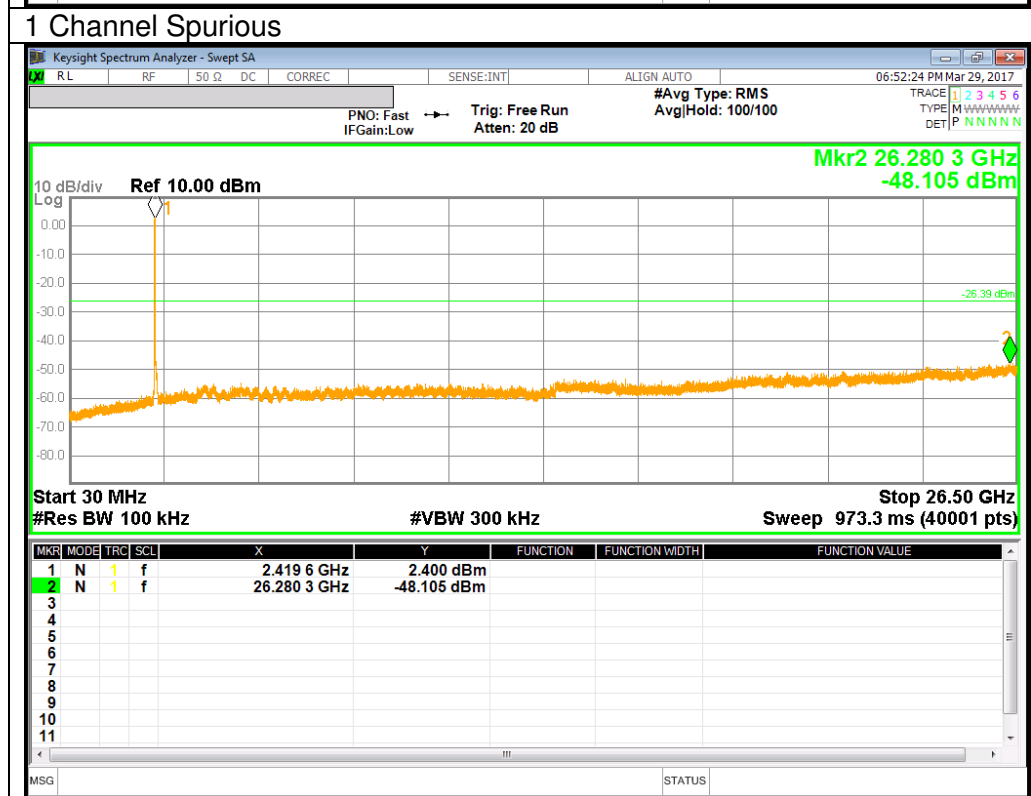
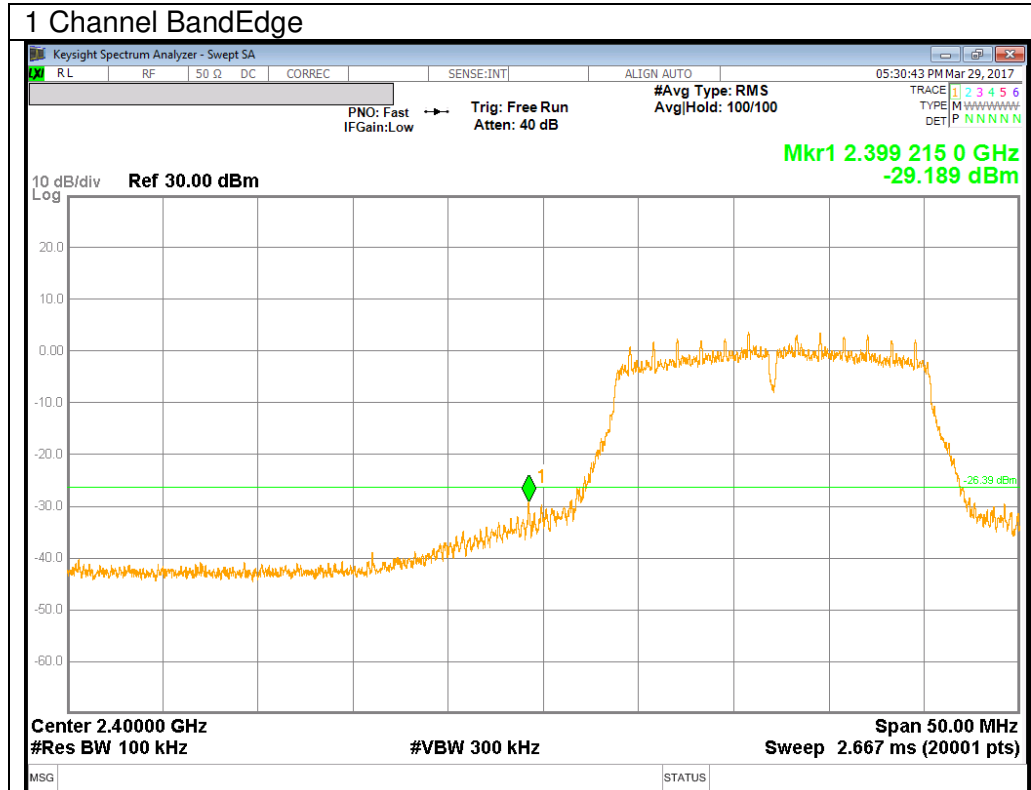


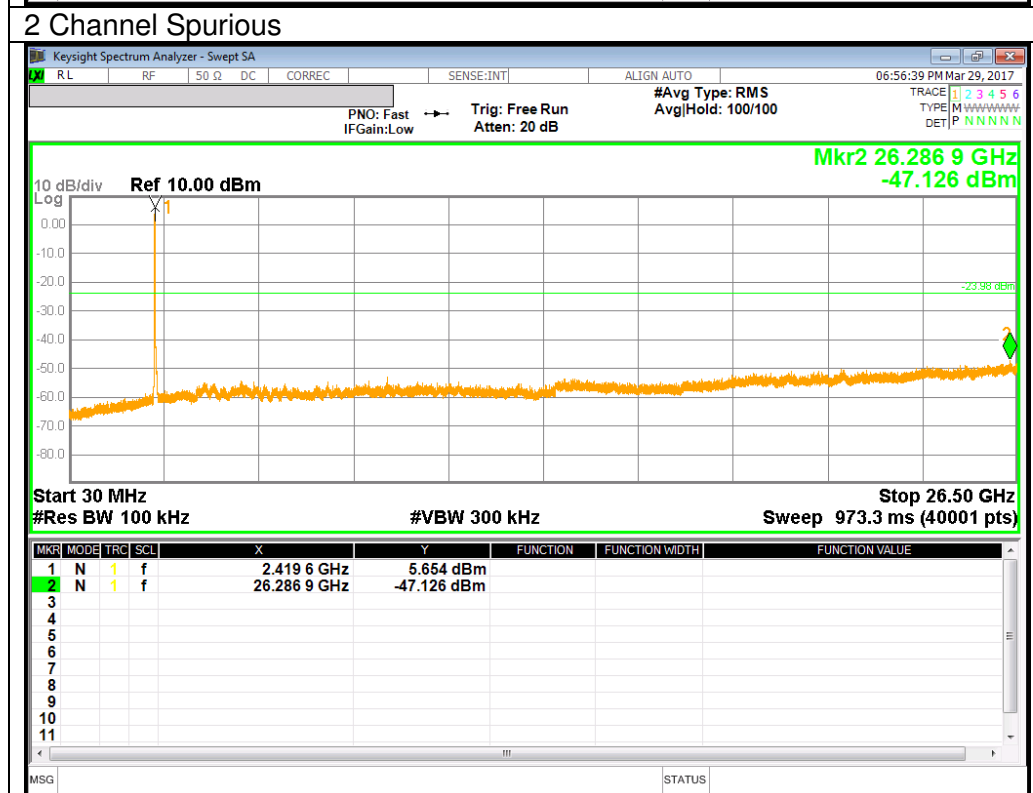
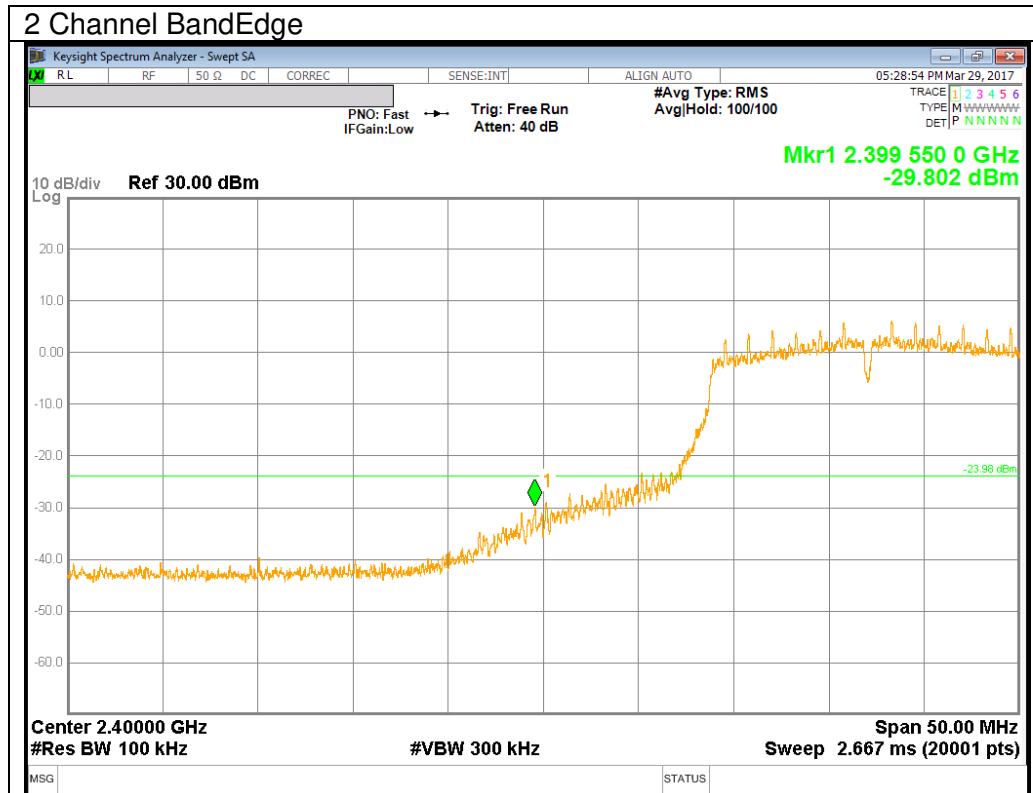


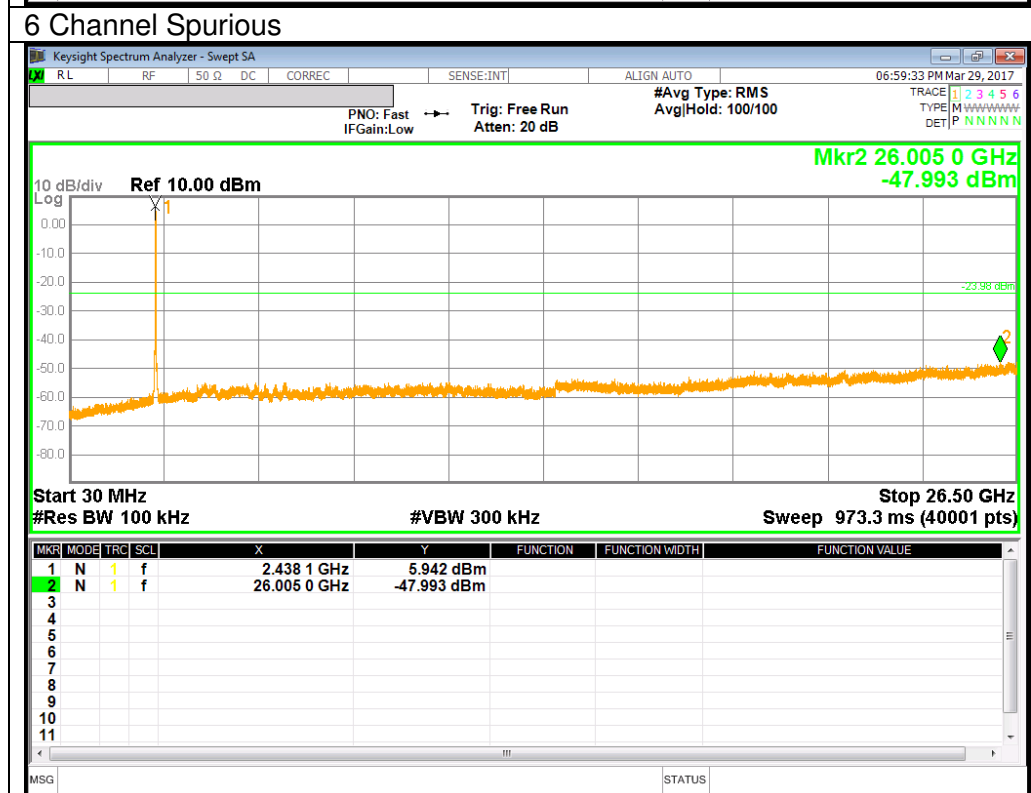
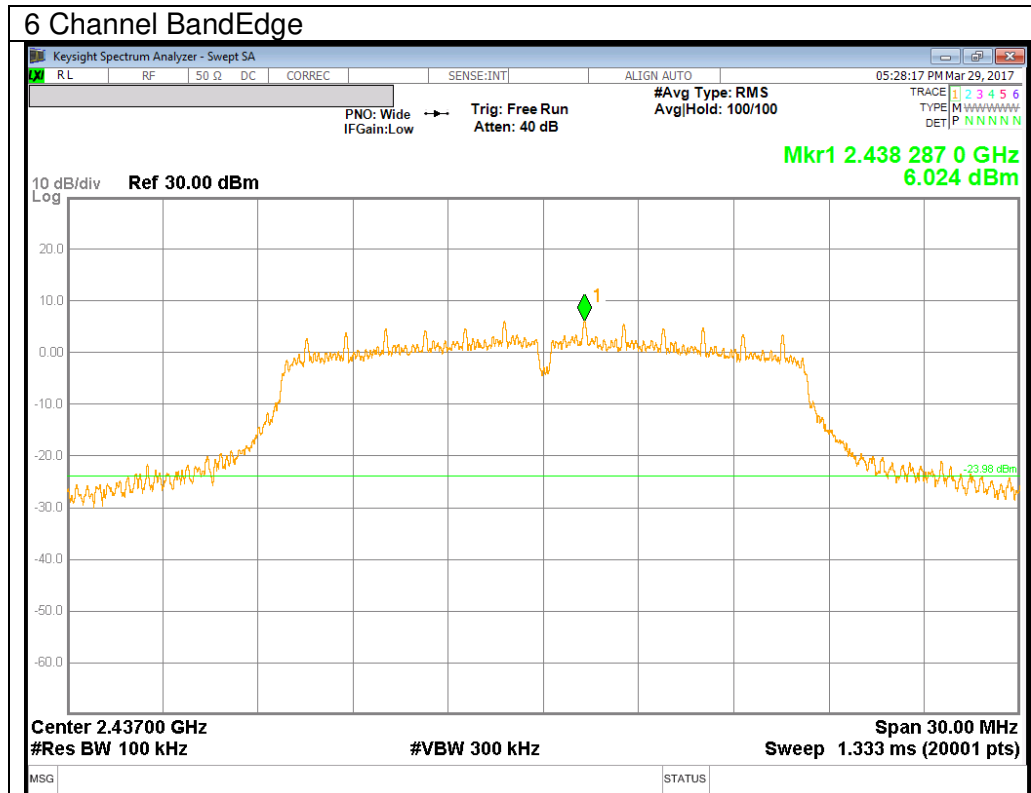


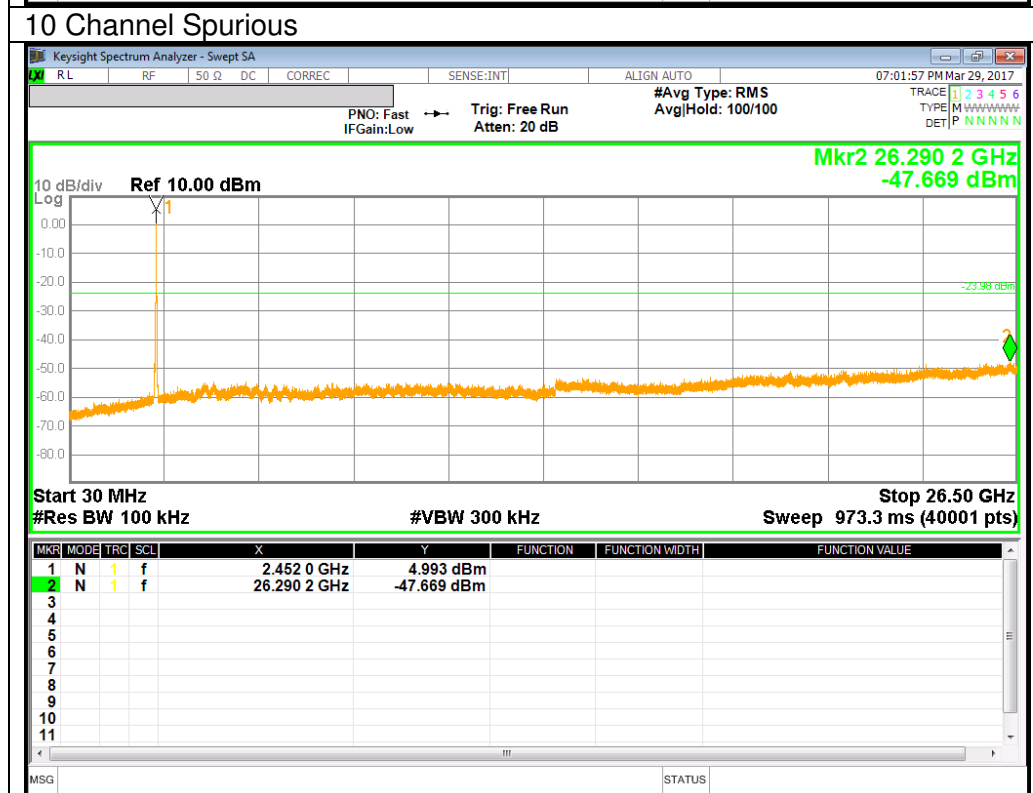
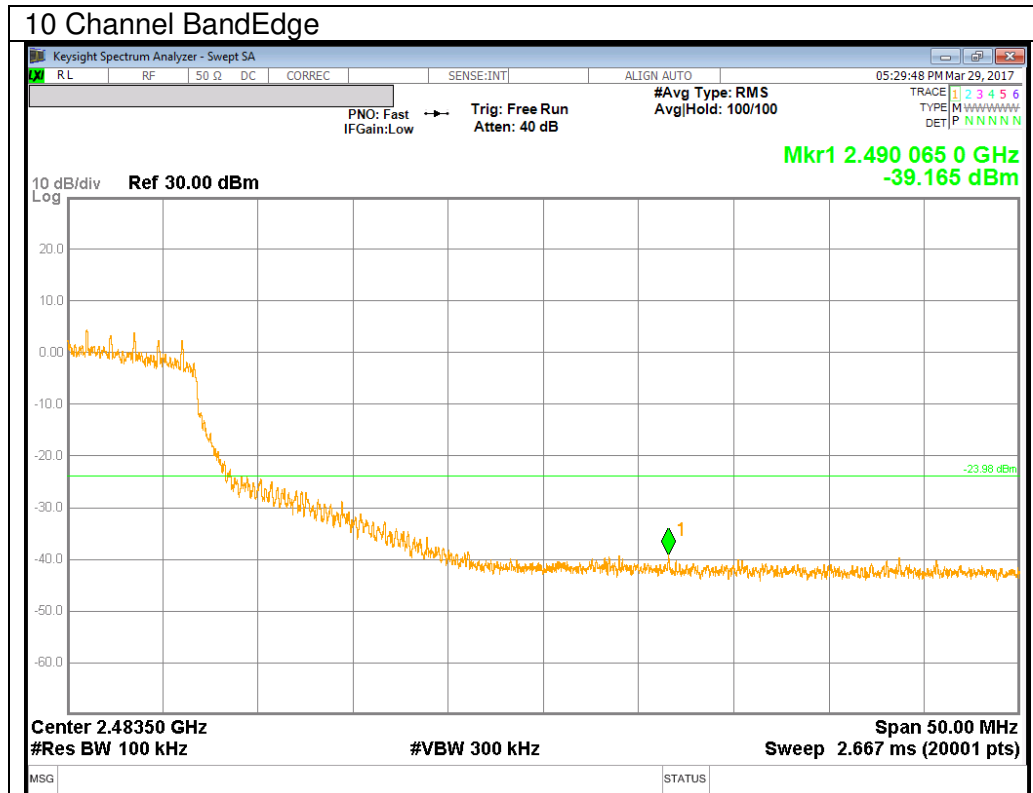


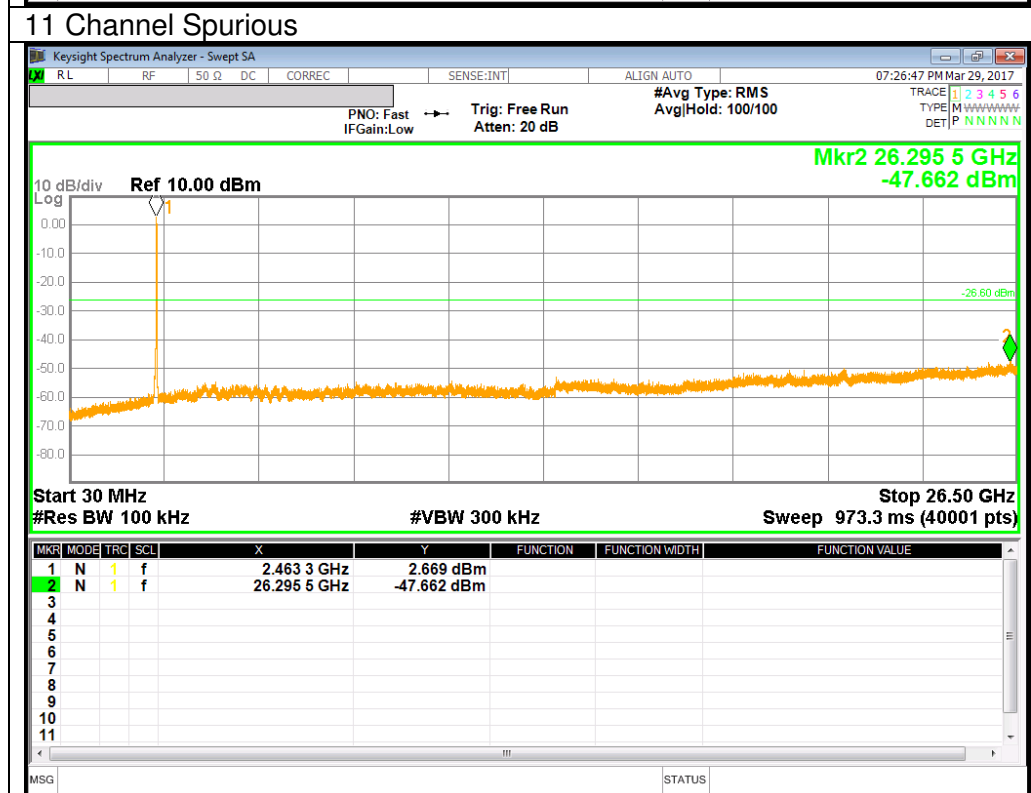
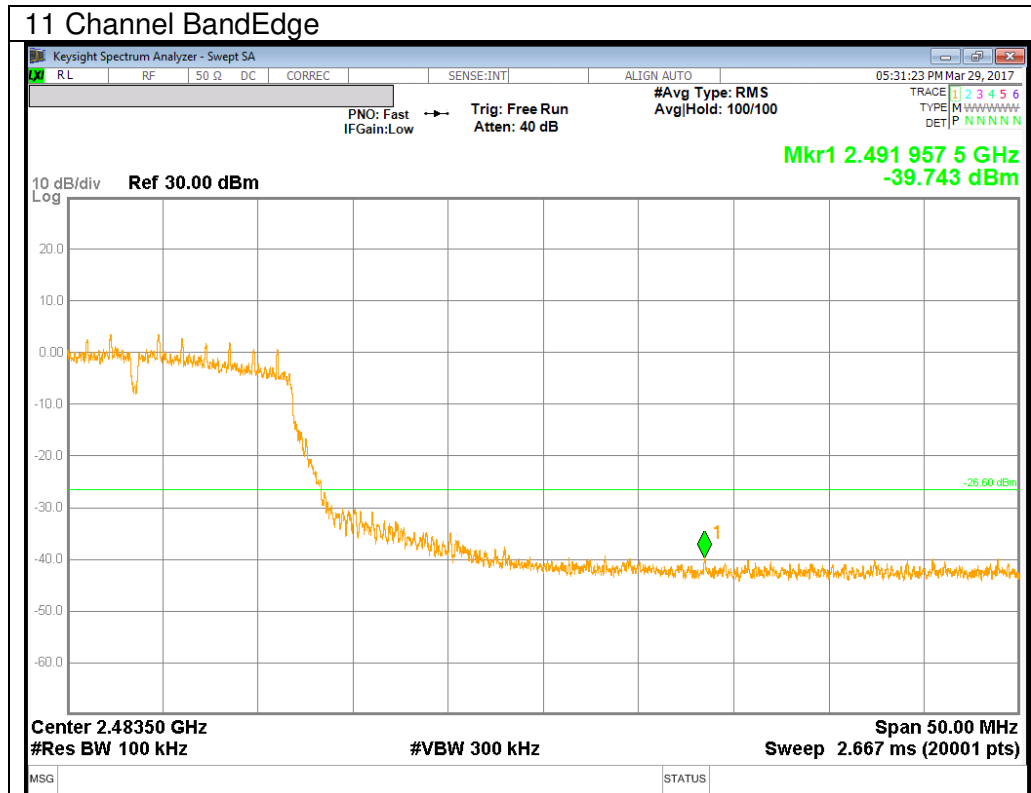
### 9.4.2. 802.11g MODE IN THE 2.4 GHz BAND

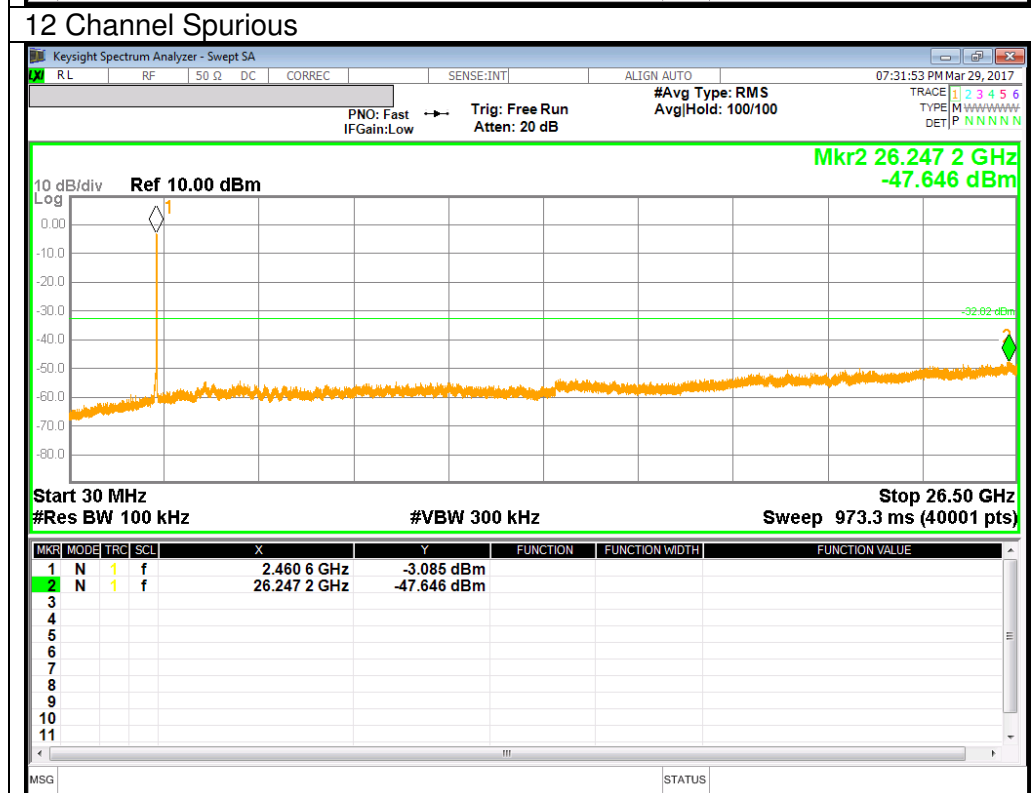
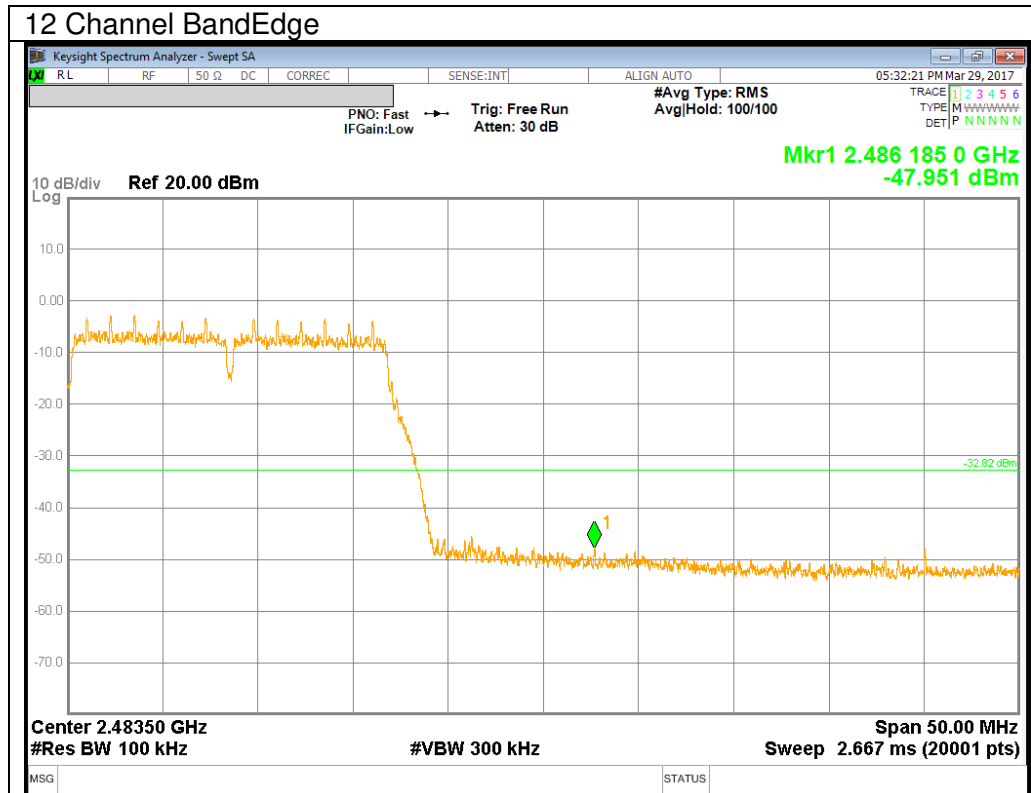


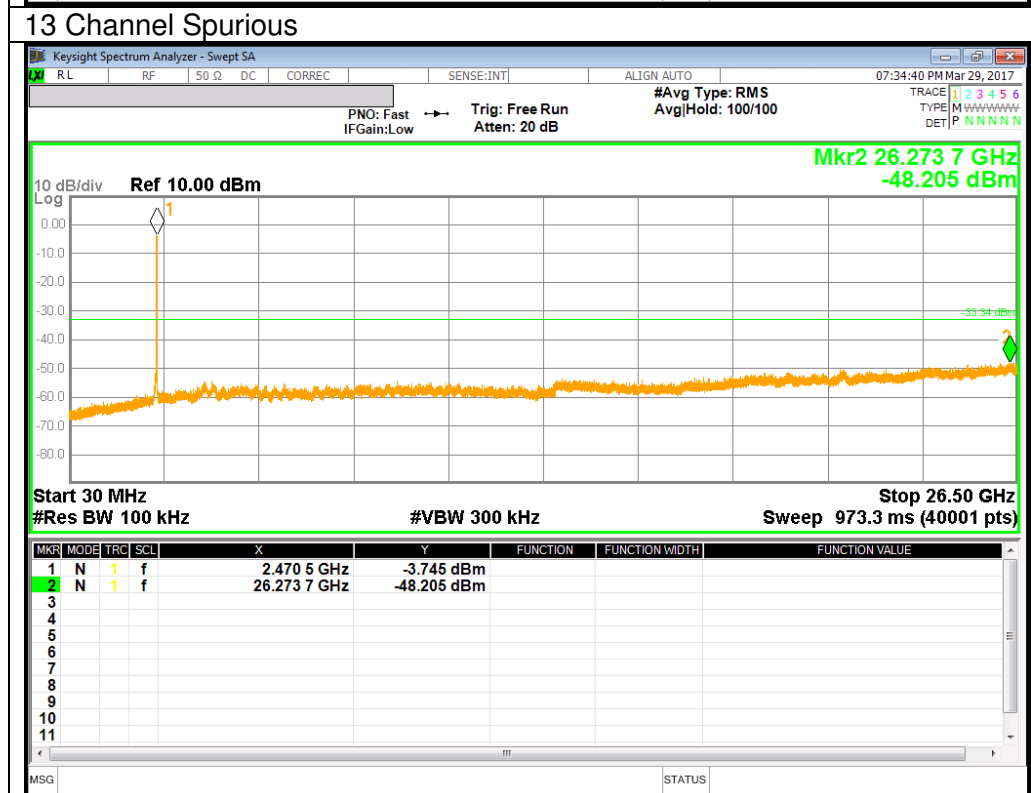
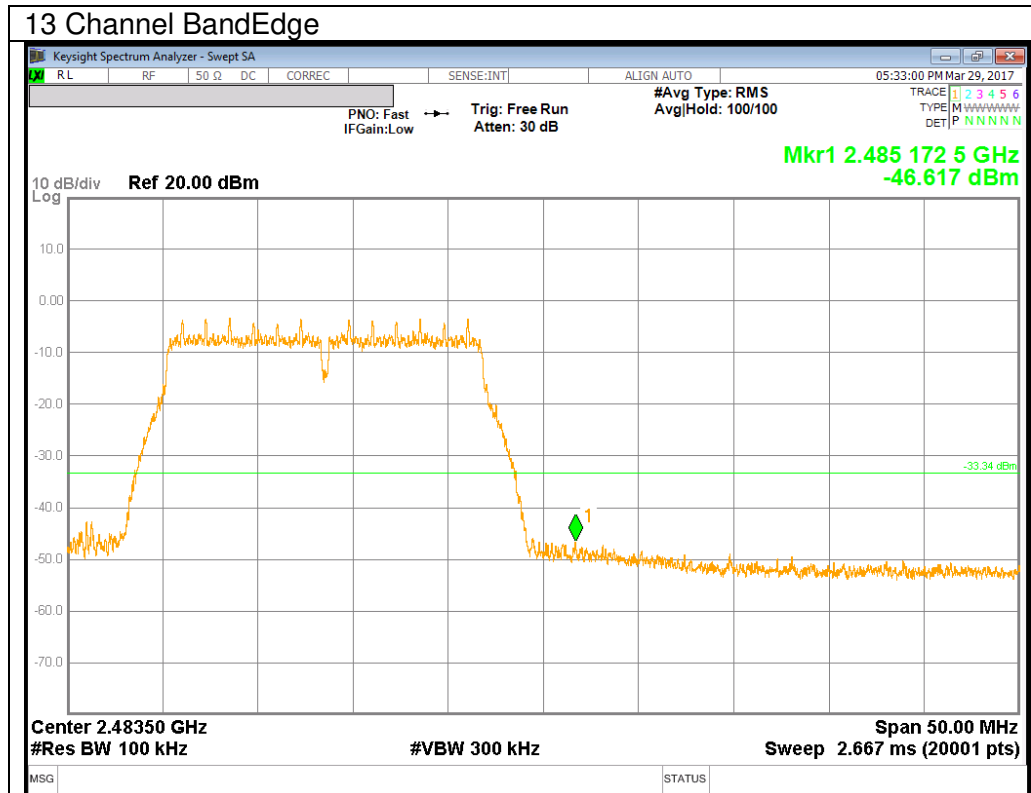




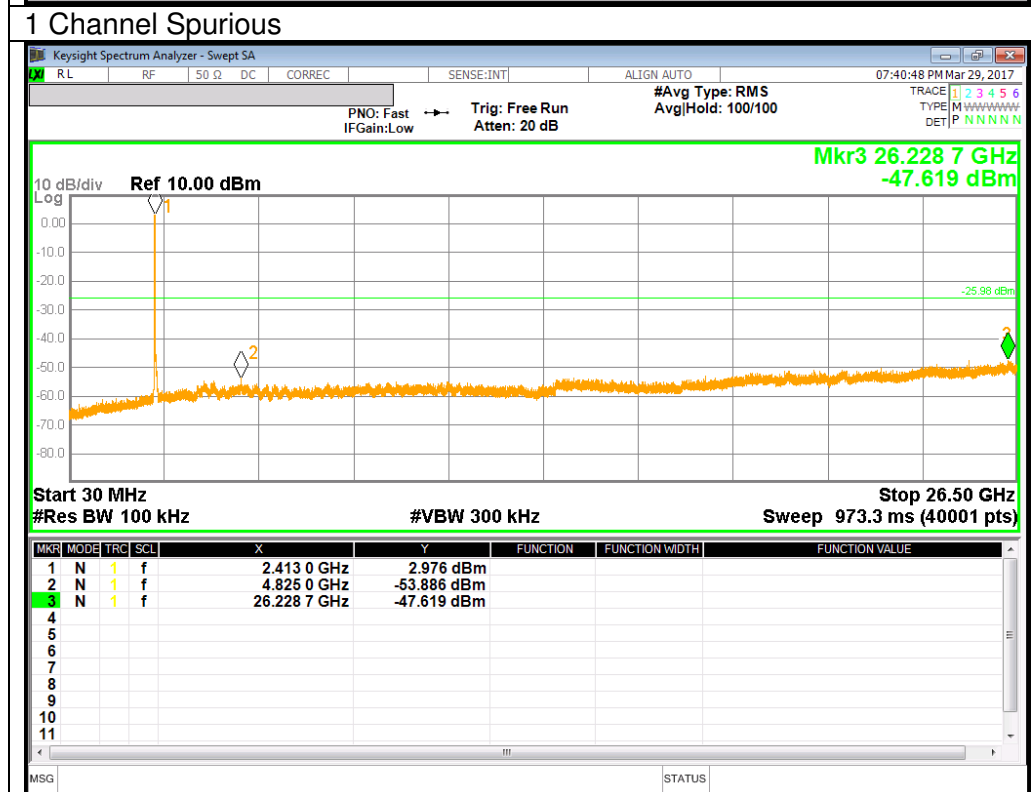
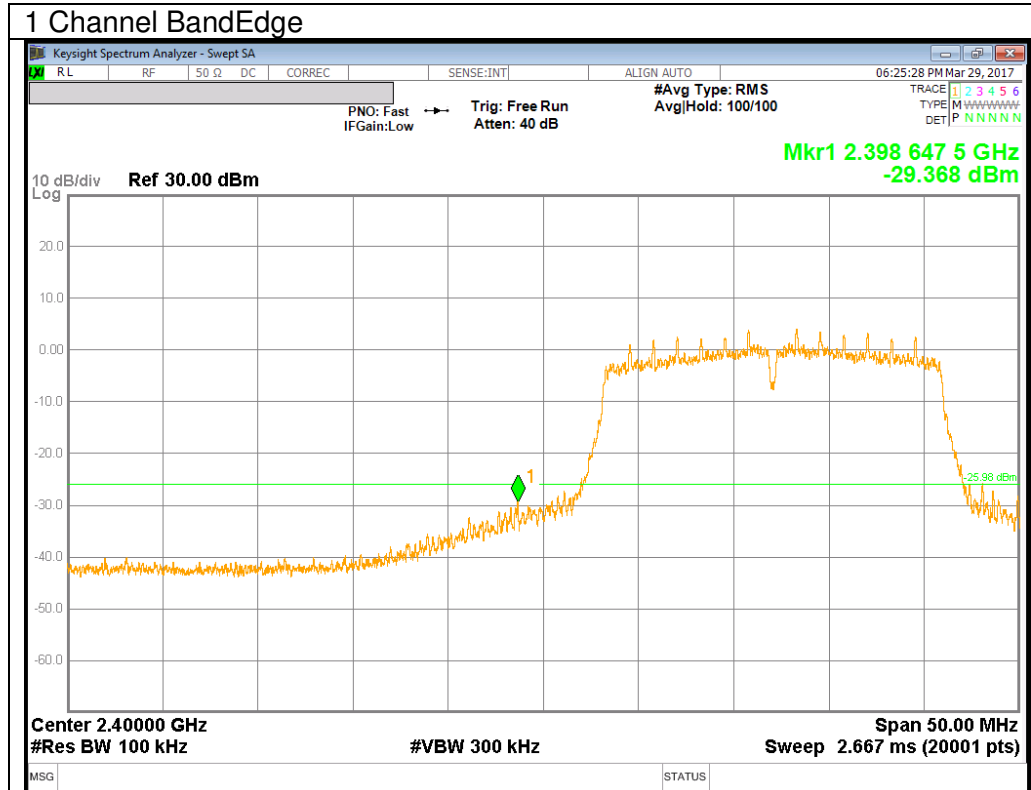


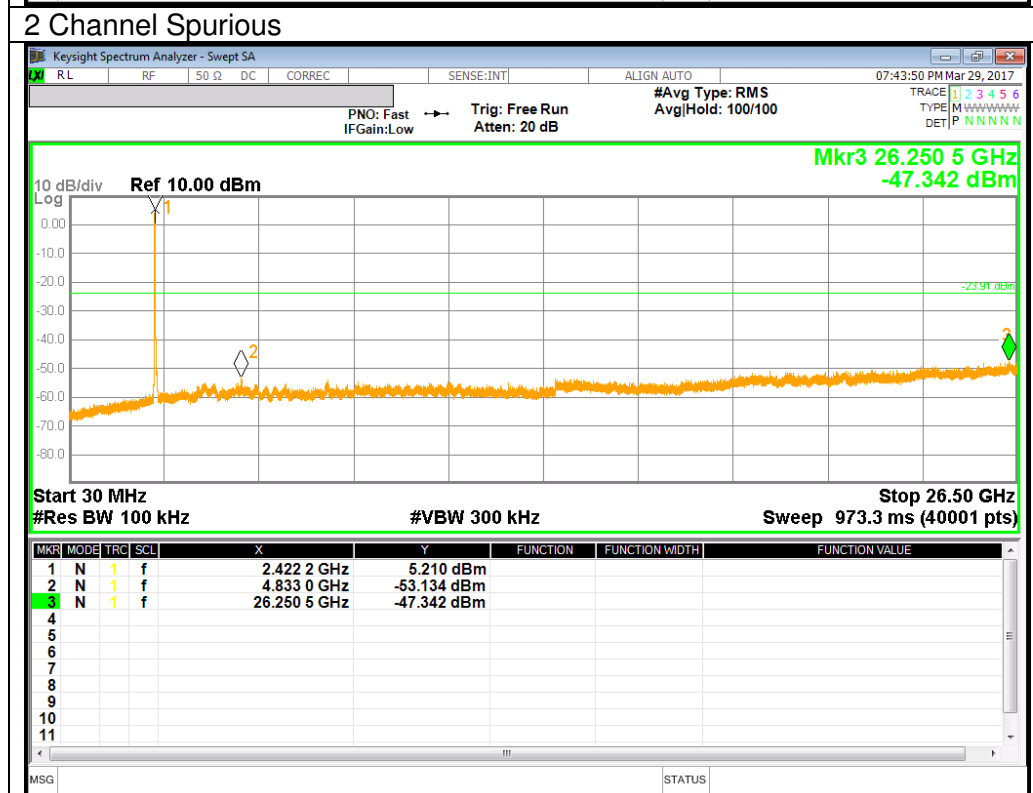
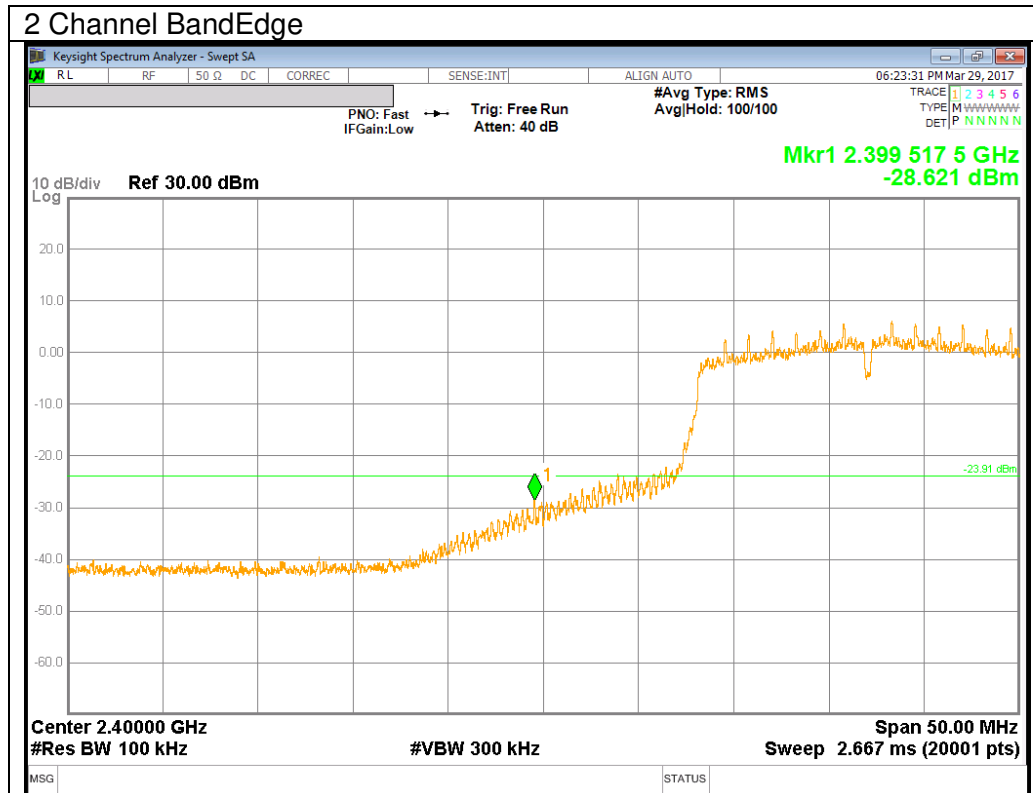


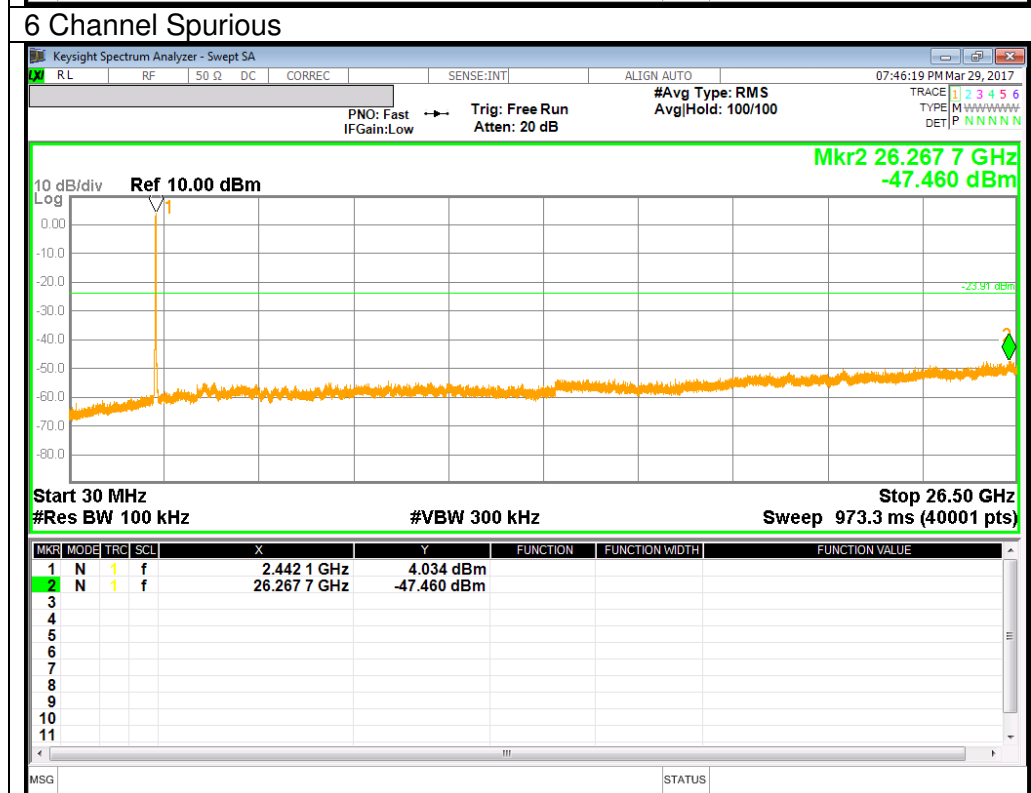
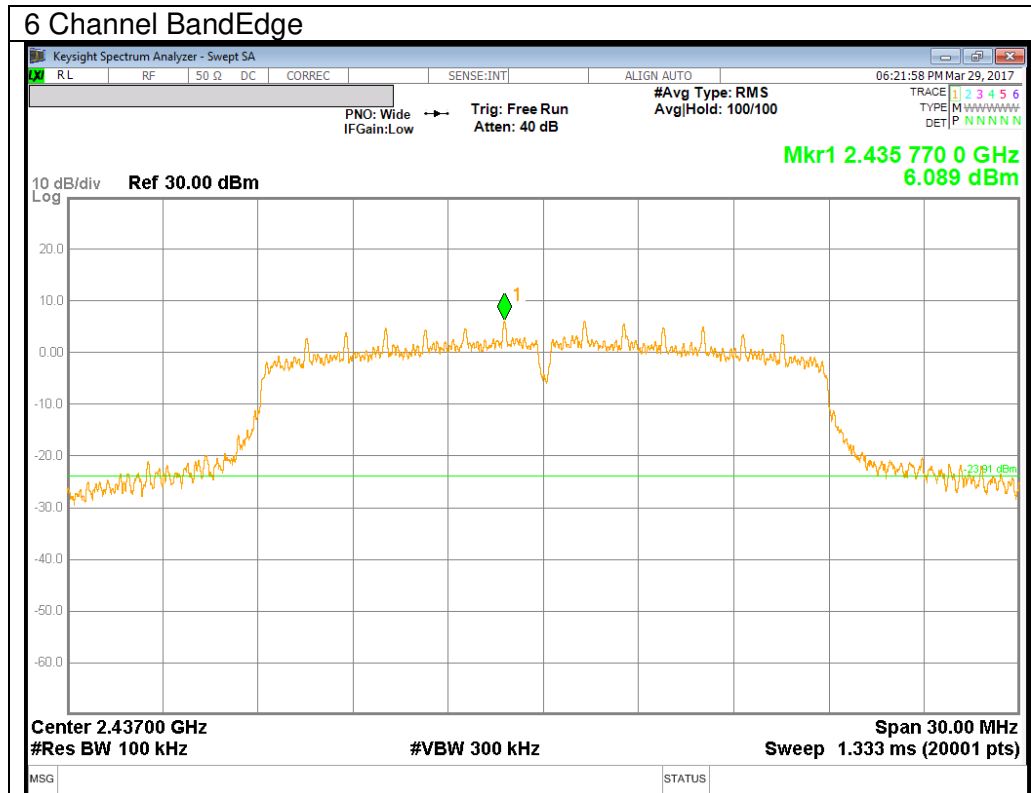


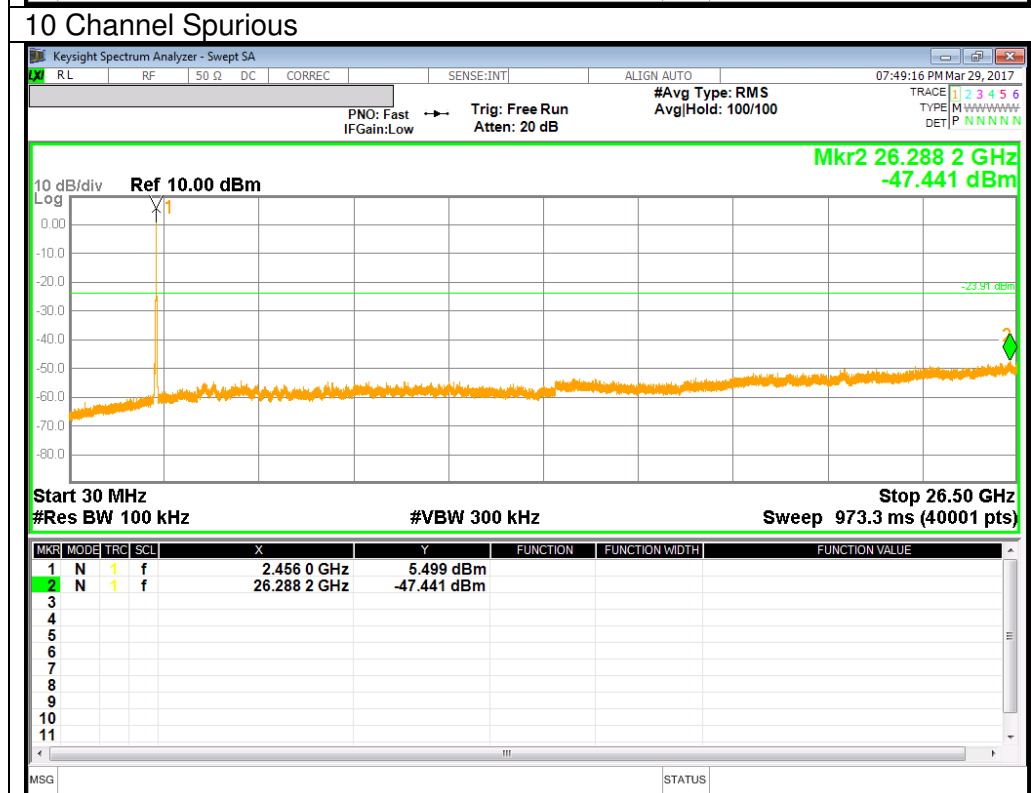
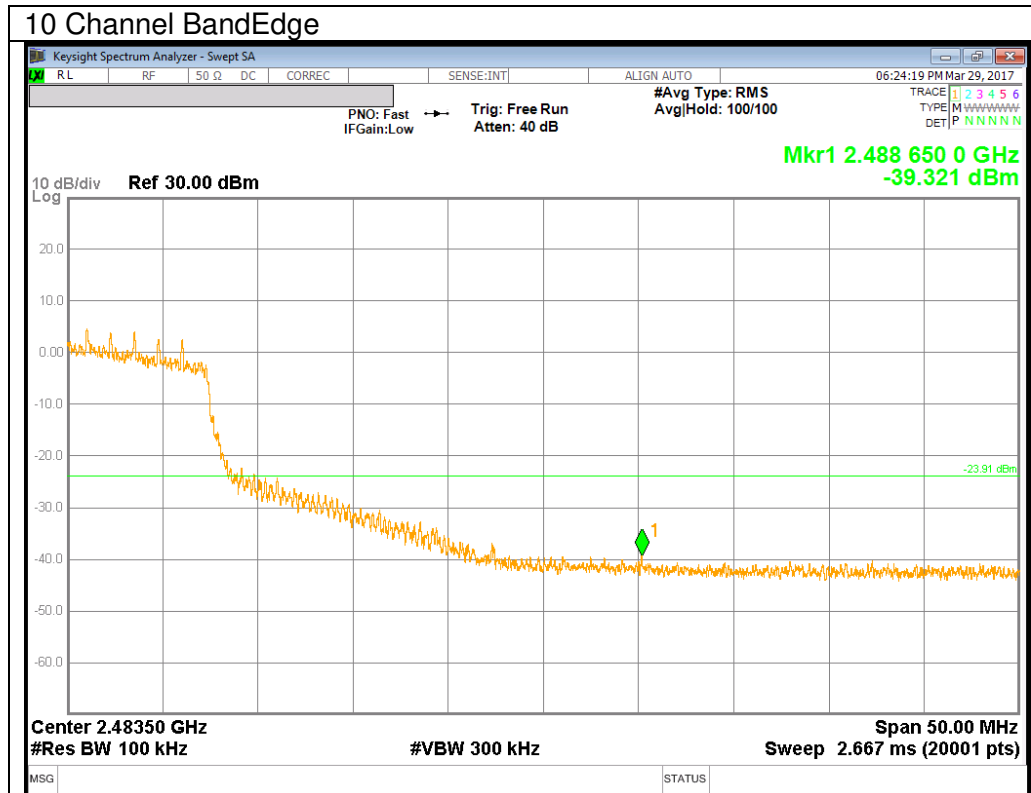


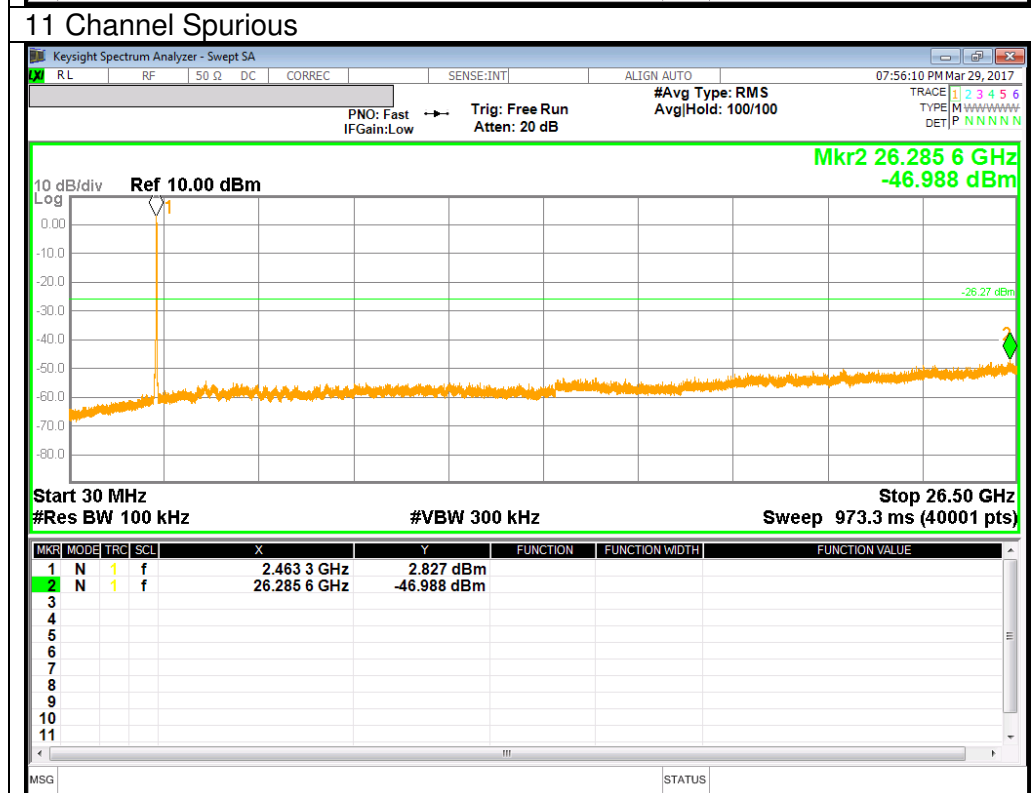
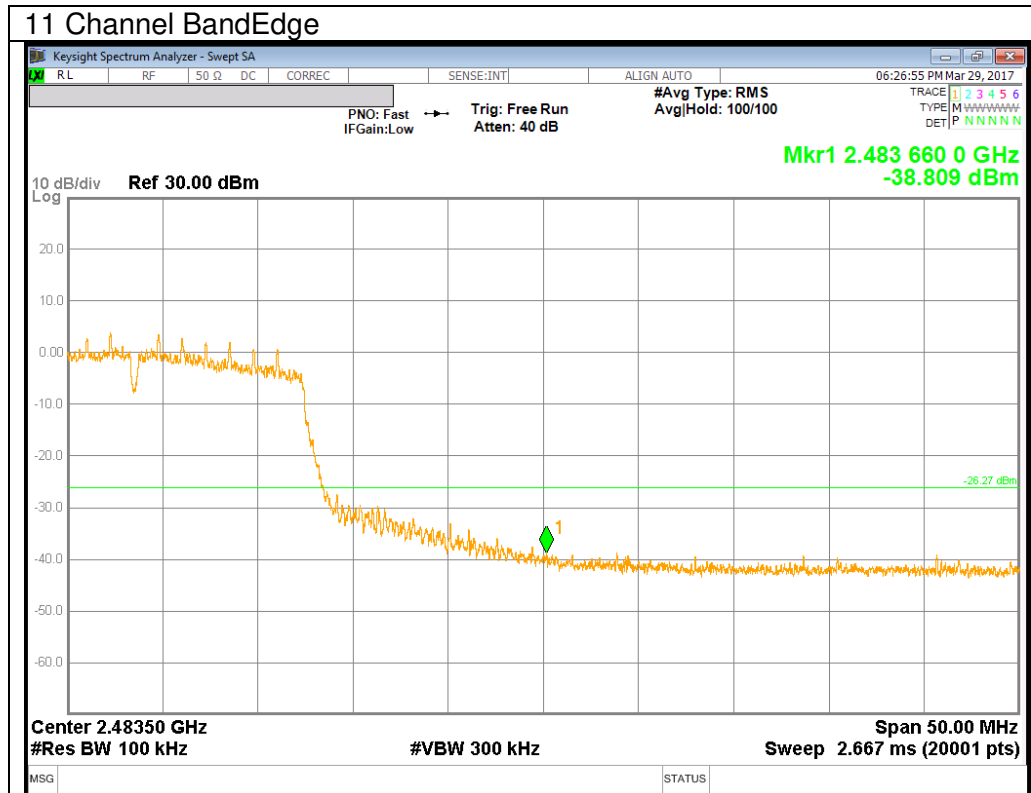
### 9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

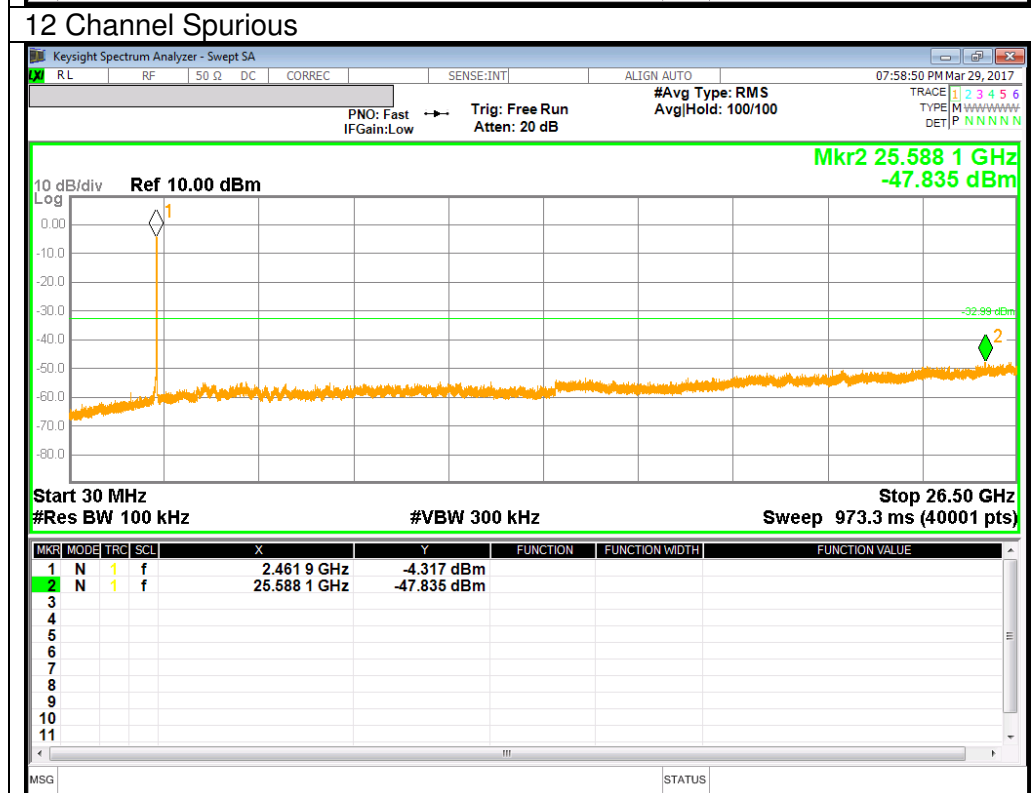
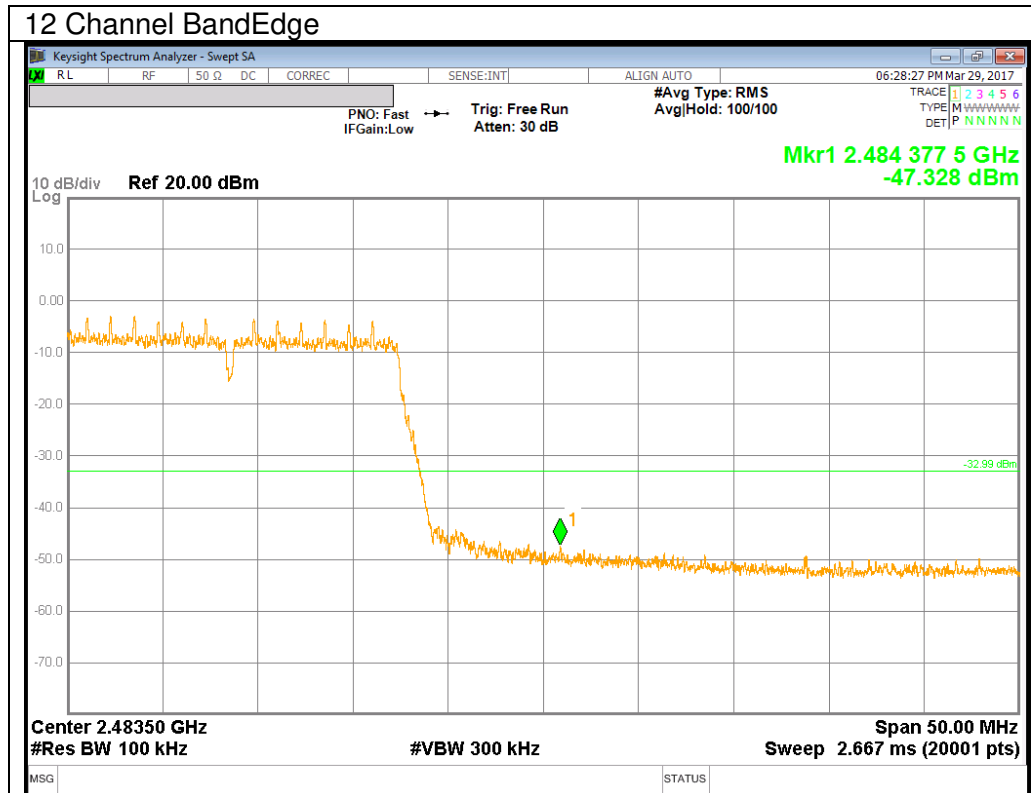


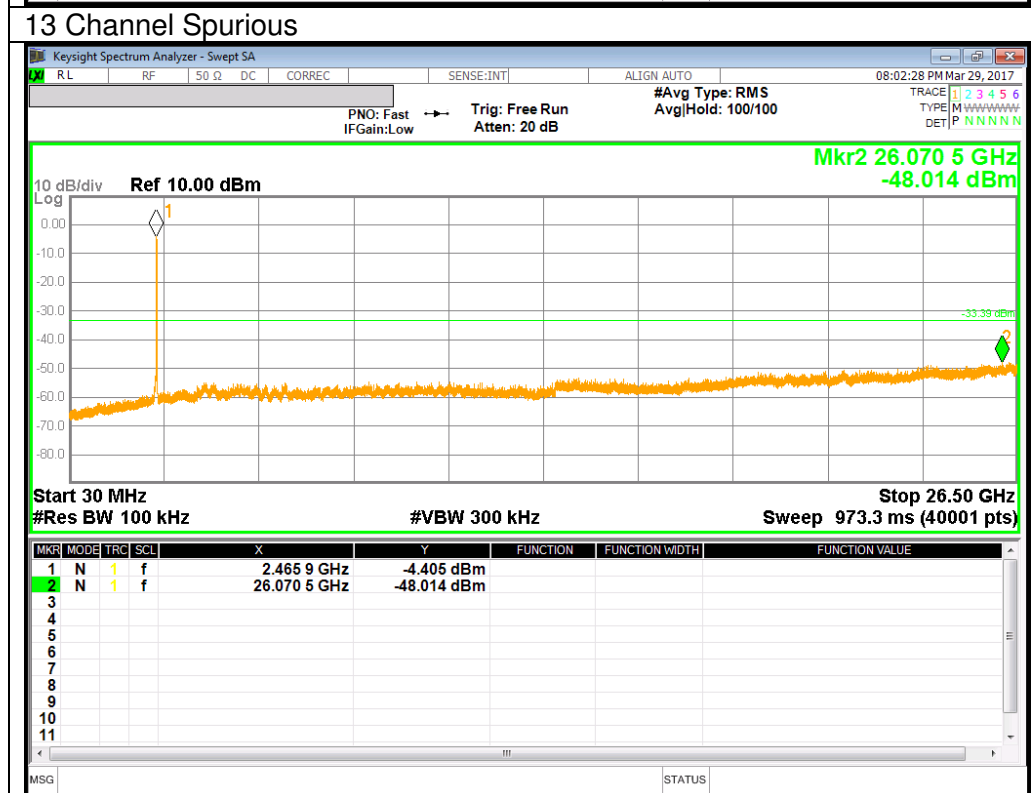
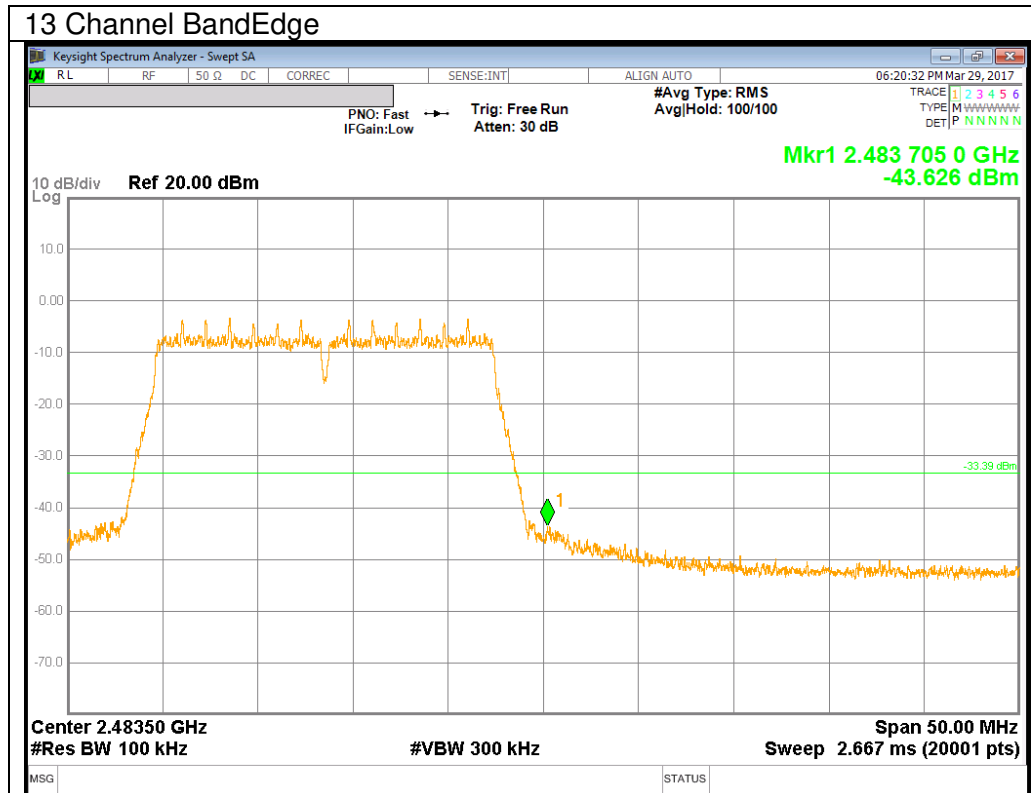












## 10. RADIATED TEST RESULTS

### 10.1. LIMITS AND PROCEDURE

#### LIMITS

FCC §15.205 and §15.209

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

## **TEST PROCEDURE**

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm 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; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. (Restricted bandedge, Final detection of spurious harmonic emissions)  
Duty cycle factor=  $10\log(1/x)$  For this sample B mode = 0dB (duty cycle >98%); G mode = 0.33dB; N mode = 0.35dB.

Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

The spectrum from 1 GHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.  
(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

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.

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.

Note : Emission was pre-scanned from 9KHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).  
Per FCC part 15.31(o), test results were not reported.

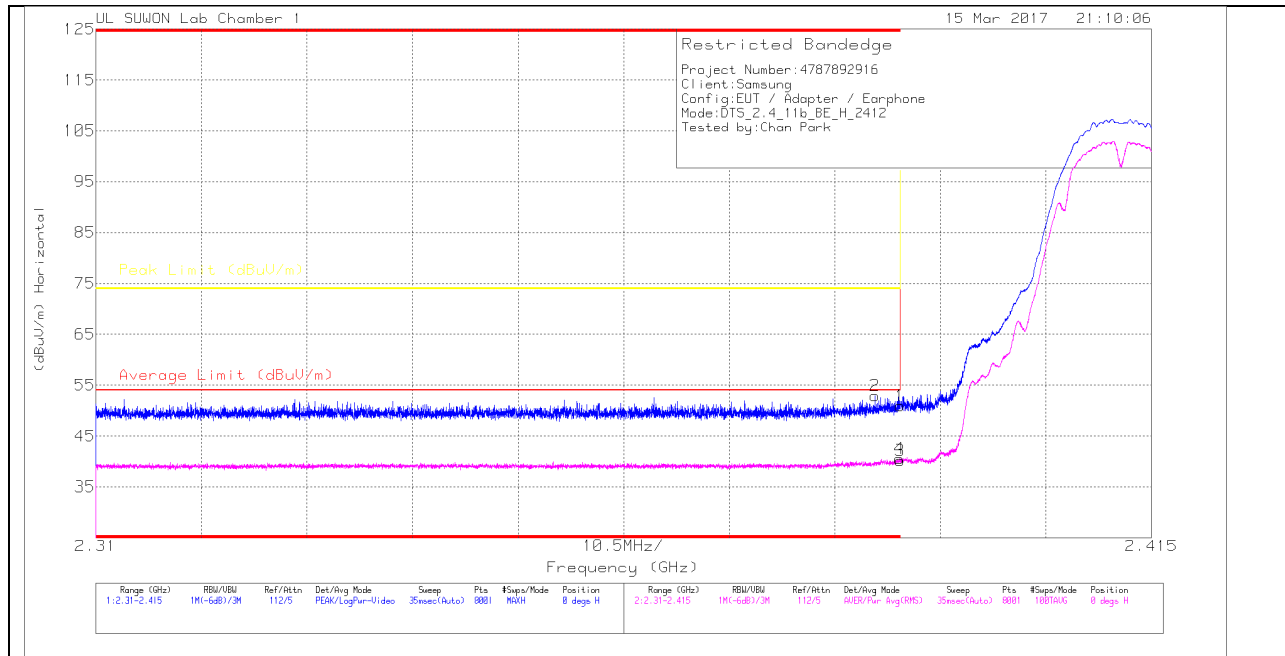
Formula for converting the filed strength from uV/m to dBuV/m is:  
Limit (dBuV/m) =  $20 \log \text{limit (uV/m)}$

## 10.2. TRANSMITTER ABOVE 1 GHz

### 10.2.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

#### RESTRICTED BANDEDGE (LOW CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

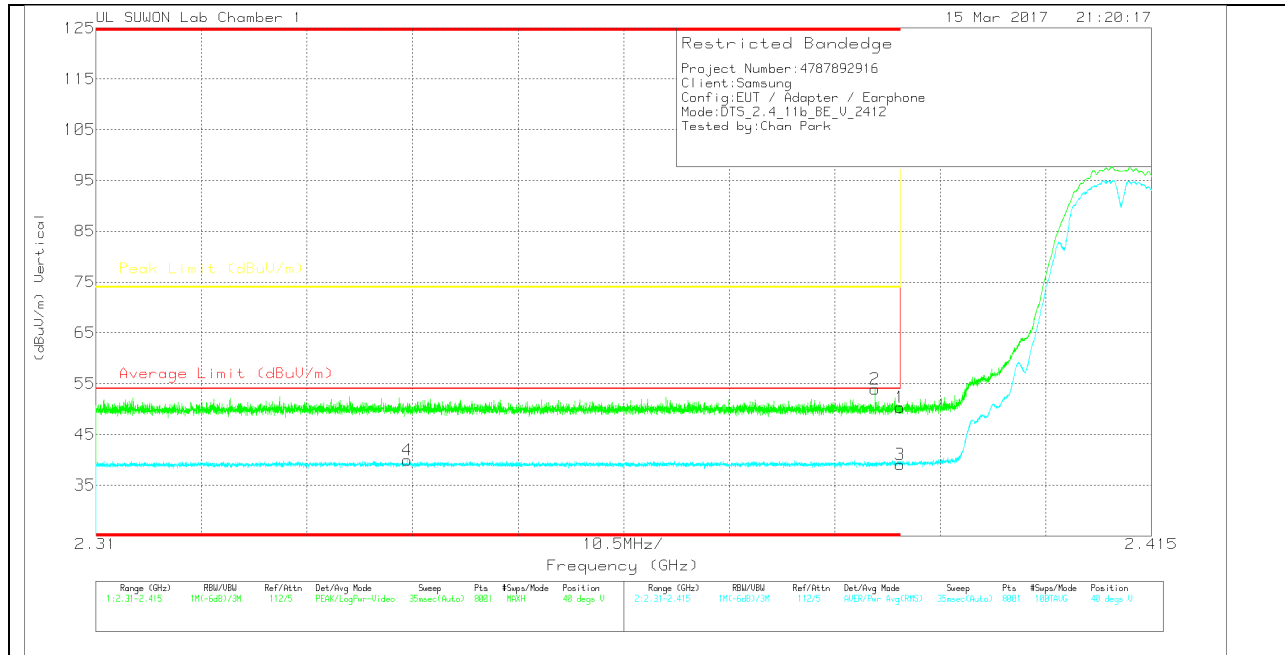
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061_9	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	47.84	Pk	31.8	-28.7	0	50.94	-	-	74	-23.06	0	131	H
2	* 2.388	49.93	Pk	31.8	-28.8	0	52.93	-	-	74	-21.07	0	131	H
3	* 2.39	37.08	RMS	31.8	-28.7	0	40.18	54	-13.82	-	-	0	131	H
4	* 2.39	37.44	RMS	31.8	-28.7	0	40.54	54	-13.46	-	-	0	131	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150619	10dB_Att(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	47.26	Pk	31.8	-28.7	0	50.36	-	-	74	-23.64	40	118	V
2	* 2.388	50.97	Pk	31.8	-28.8	0	53.97	-	-	74	-20.03	40	118	V
3	* 2.39	35.98	RMS	31.8	-28.7	0	39.08	54	-14.92	-	-	40	118	V
4	* 2.341	37.08	RMS	31.7	-28.8	0	39.98	54	-14.02	-	-	40	118	V

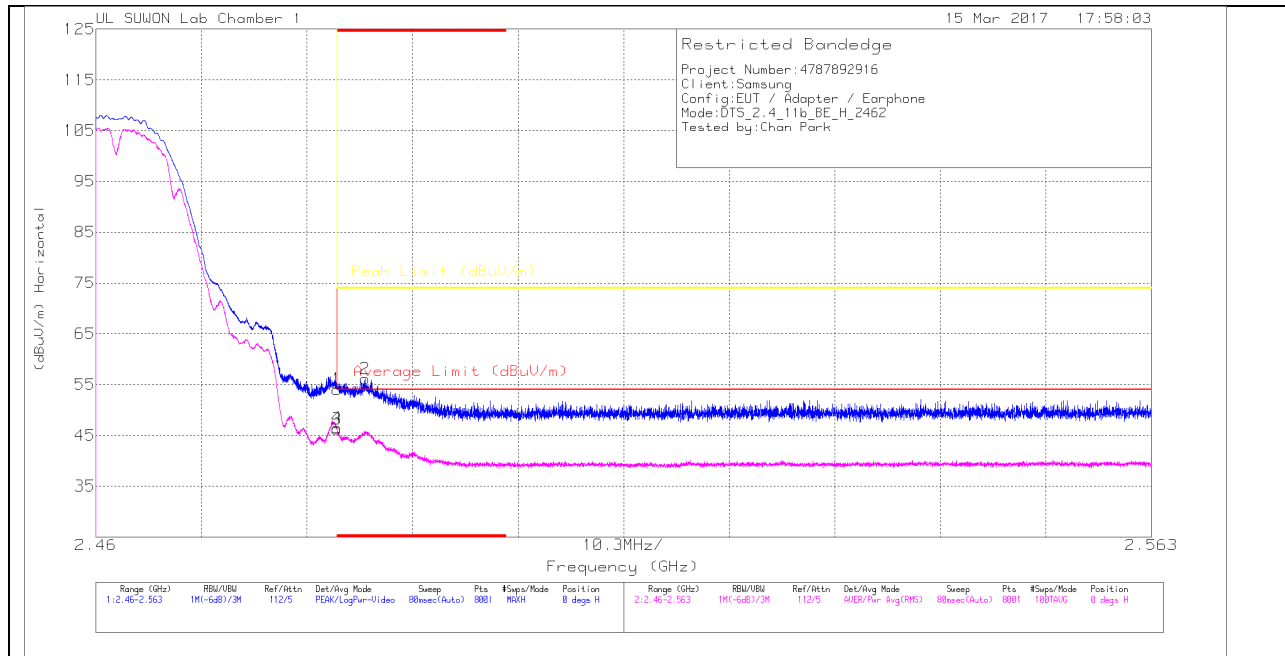
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

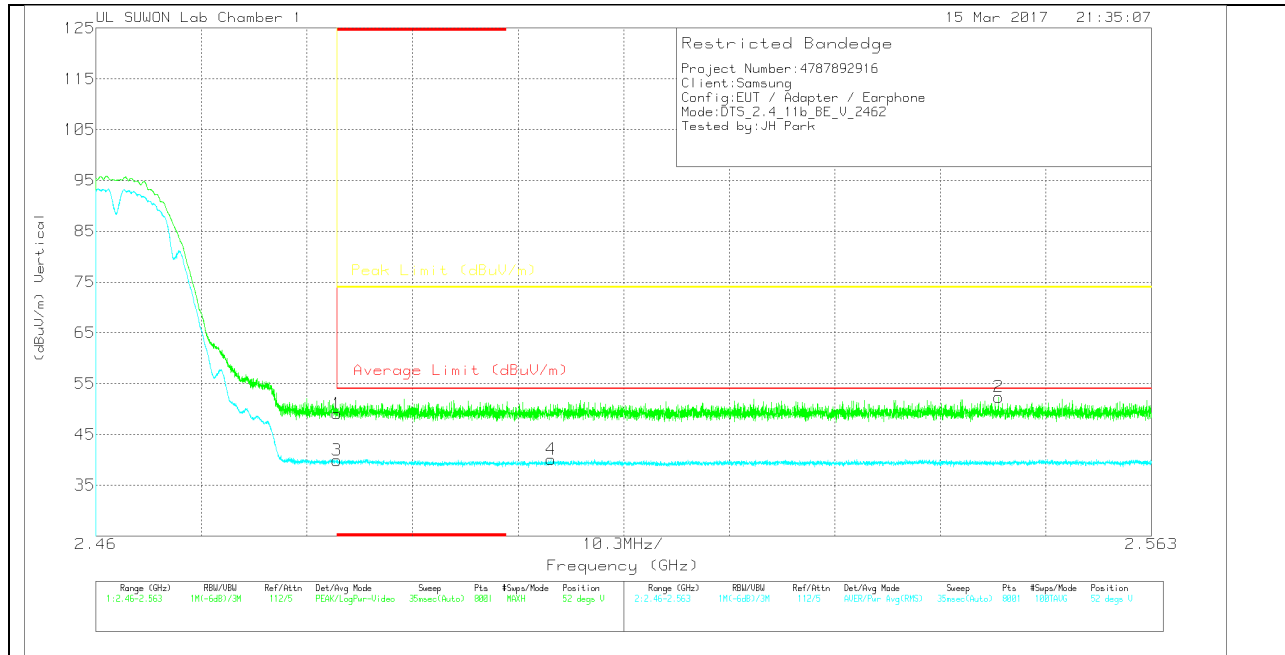
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 17)_150619	10dB_Att(dB )	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	50.8	Pk	32	-28.7	0	54.1	-	-	74	-19.9	0	146	H
2	* 2.486	52.75	Pk	32	-28.6	0	56.15	-	-	74	-17.85	0	146	H
3	* 2.484	42.89	RMS	32	-28.7	0	46.19	54	-7.81	-	-	0	146	H
4	* 2.484	43.16	RMS	32	-28.7	0	46.46	54	-7.54	-	-	0	146	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	10dB_Att(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	45.79	Pk	32	-28.7	0	49.09	-	-	74	-24.91	52	155	V
2	2.548	48.97	Pk	32	-28.6	0	52.37	-	-	74	-21.63	52	155	V
3	* 2.484	36.58	RMS	32	-28.7	0	39.88	54	-14.12	-	-	52	155	V
4	2.504	36.72	RMS	32	-28.6	0	40.12	54	-13.88	-	-	52	155	V

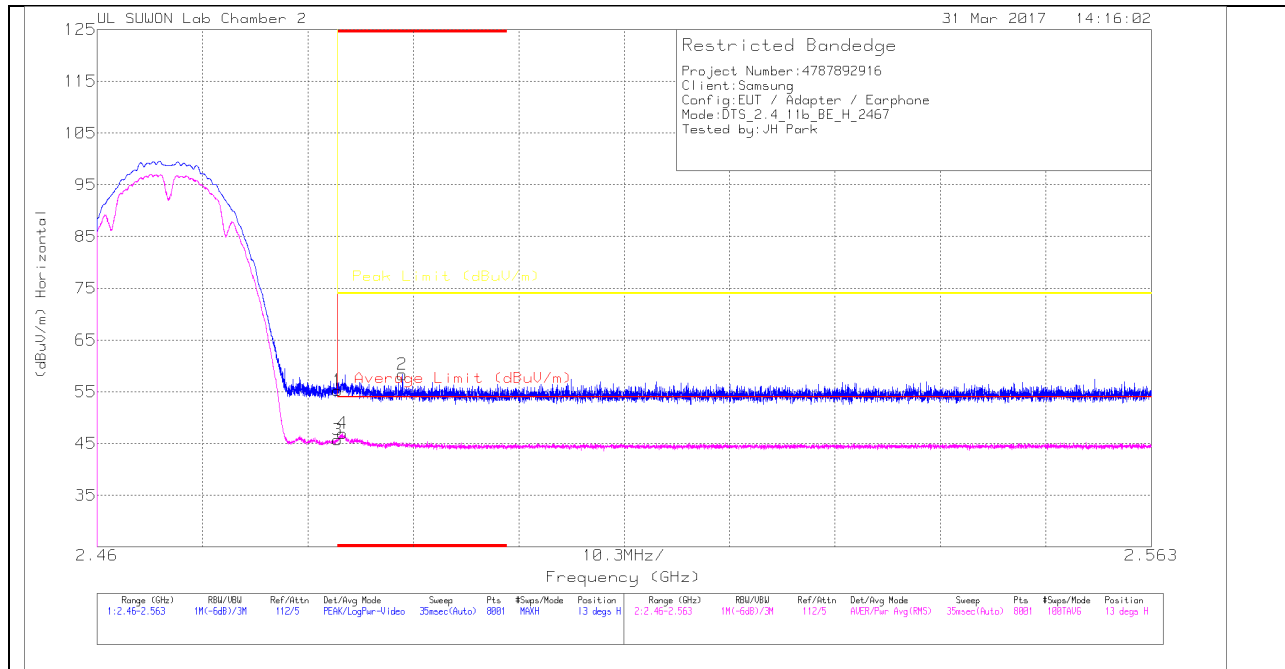
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

## AUTHORIZED BANDEDGE (12 CHANNEL)

### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

#### Trace Markers

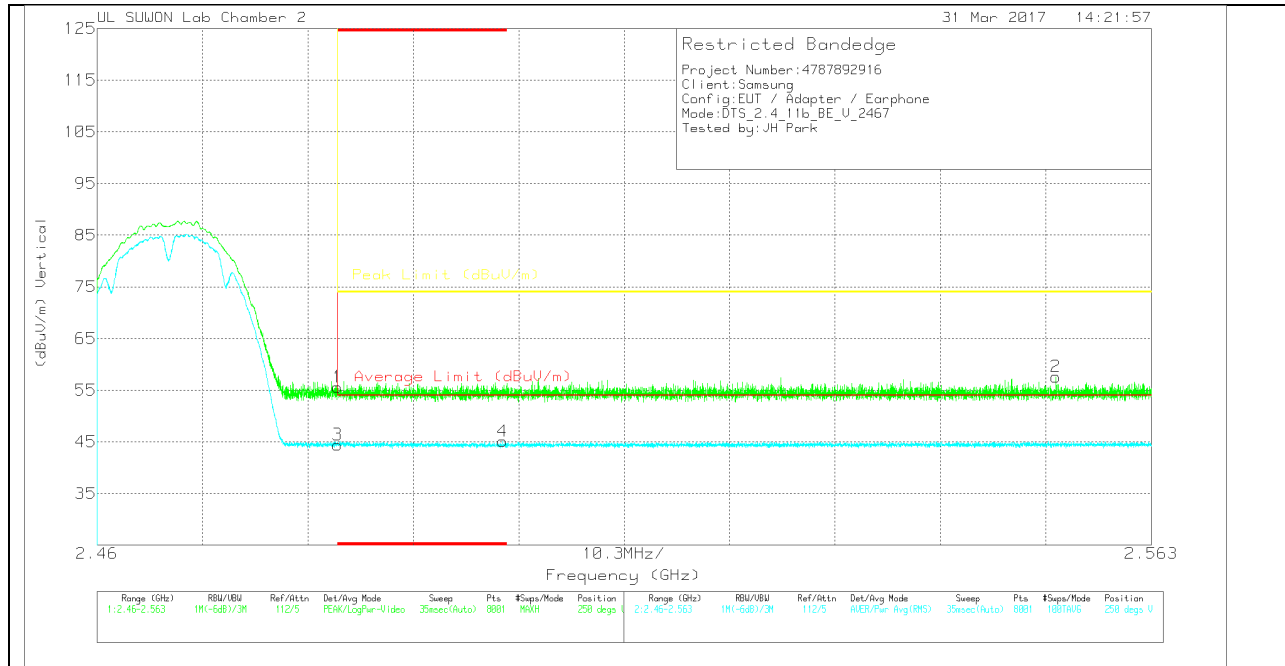
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.45	PK	31.8	-18	0	55.25	-	-	74	-18.75	13	189	H
2	* 2.49	44.55	PK	31.8	-18	0	58.35	-	-	74	-15.65	13	189	H
3	* 2.484	31.93	RMS	31.8	-18	0	45.73	54	-8.27	-	-	13	189	H
4	* 2.484	33.18	RMS	31.8	-18	0	46.98	54	-7.02	-	-	13	189	H

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

PK - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(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	41.81	PK		-18	0	55.61	-	-	74	-18.39	250	400	V
2	2.554	43.71	PK		-18	0	57.61	-	-	74	-16.39	250	400	V
3	* 2.484	30.64	RMS		-18	0	44.44	54	-9.56	-	-	250	400	V
4	* 2.5	31.34	RMS		-18	0	45.14	54	-8.86	-	-	250	400	V

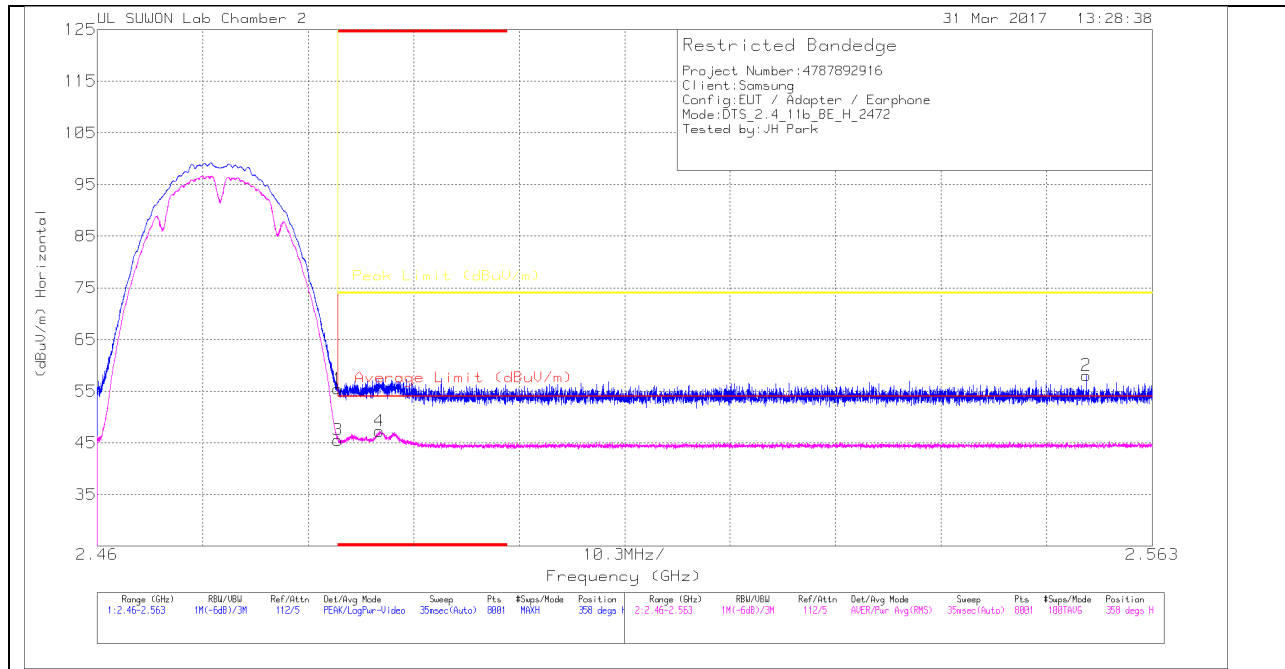
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

## AUTHORIZED BANDEDGE (13 CHANNEL)

### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

#### Trace Markers

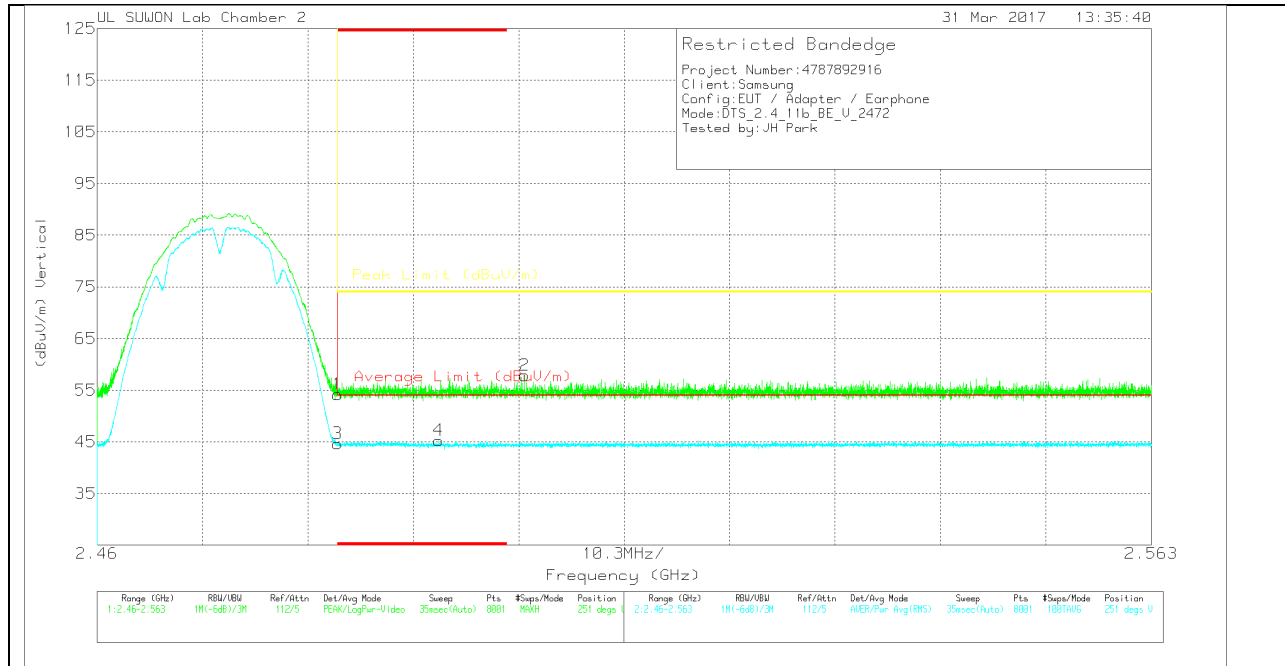
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.68	PK	31.8	-18	0	55.48	-	-	74	-18.52	358	238	H
2	2.557	44.15	PK	31.9	-18	0	58.05	-	-	74	-15.95	358	238	H
3	* 2.484	31.76	RMS	31.8	-18	0	45.56	54	-8.44	-	-	358	238	H
4	* 2.488	33.47	RMS	31.8	-18	0	47.27	54	-6.73	-	-	358	238	H

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

PK - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(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	40.4	PK	31.8	-18	0	54.2	-	-	74	-19.8	251	398	V
2	2.502	43.97	PK	31.9	-18	0	57.87	-	-	74	-16.13	251	398	V
3	* 2.484	30.87	RMS	31.8	-18	0	44.67	54	-9.33	-	-	251	398	V
4	* 2.493	31.49	RMS	31.8	-18	0	45.29	54	-8.71	-	-	251	398	V

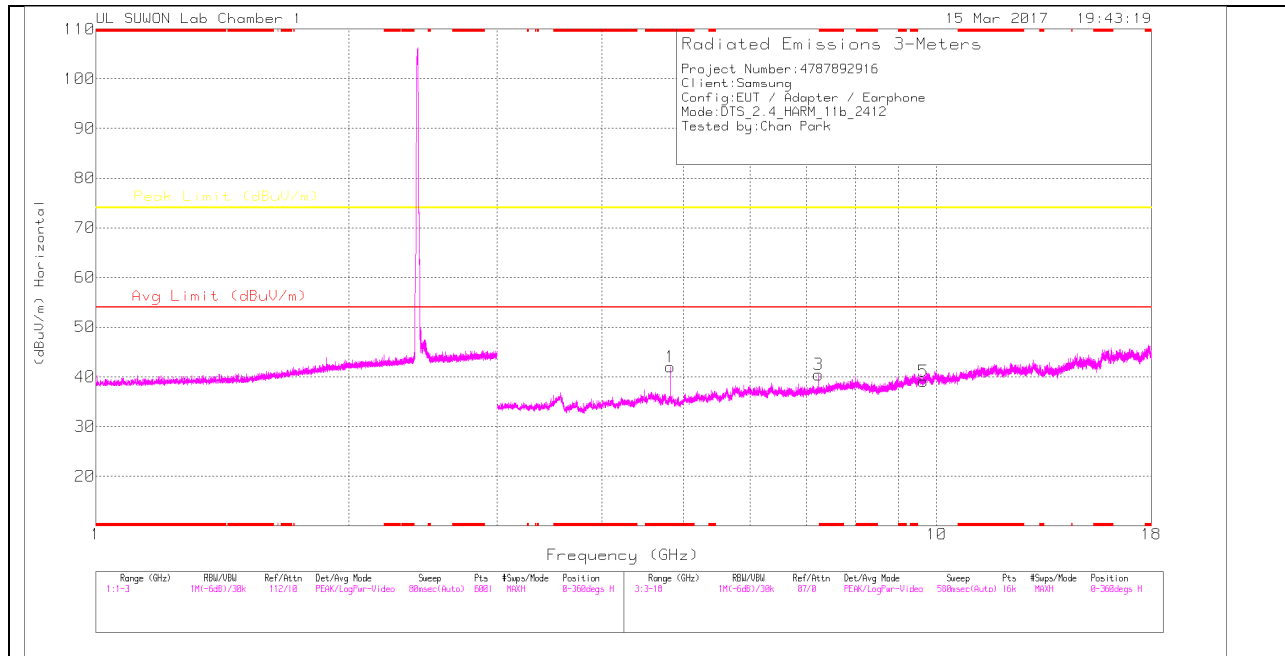
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

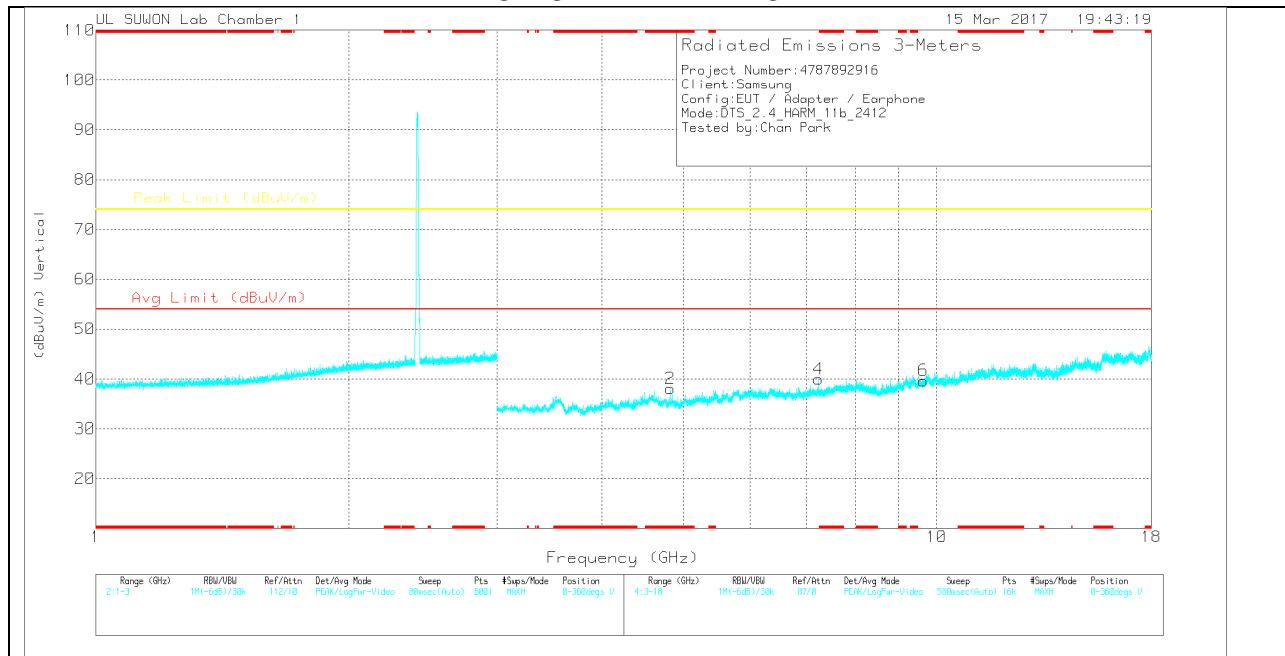
RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL HORIZONTAL



### 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	3117(001687 17)_150619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.823	42.06	Pk	34	-34	0	42.06	-	-	74	-31.94	0-360	150	H
3	7.235	35.93	Pk	35.7	-31.2	0	40.43	-	-	74	-33.57	0-360	150	H
5	9.648	30.17	Pk	37.1	-28.2	0	39.07	-	-	74	-34.93	0-360	150	H
2	* 4.823	38.08	Pk	34	-34	0	38.08	-	-	74	-35.92	0-360	250	V
4	7.237	35.52	Pk	35.7	-31.2	0	40.02	-	-	74	-33.98	0-360	250	V
6	9.647	30.77	Pk	37.1	-28.2	0	39.67	-	-	74	-34.33	0-360	250	V

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

Pk – Peak detector

Radiated Emissions

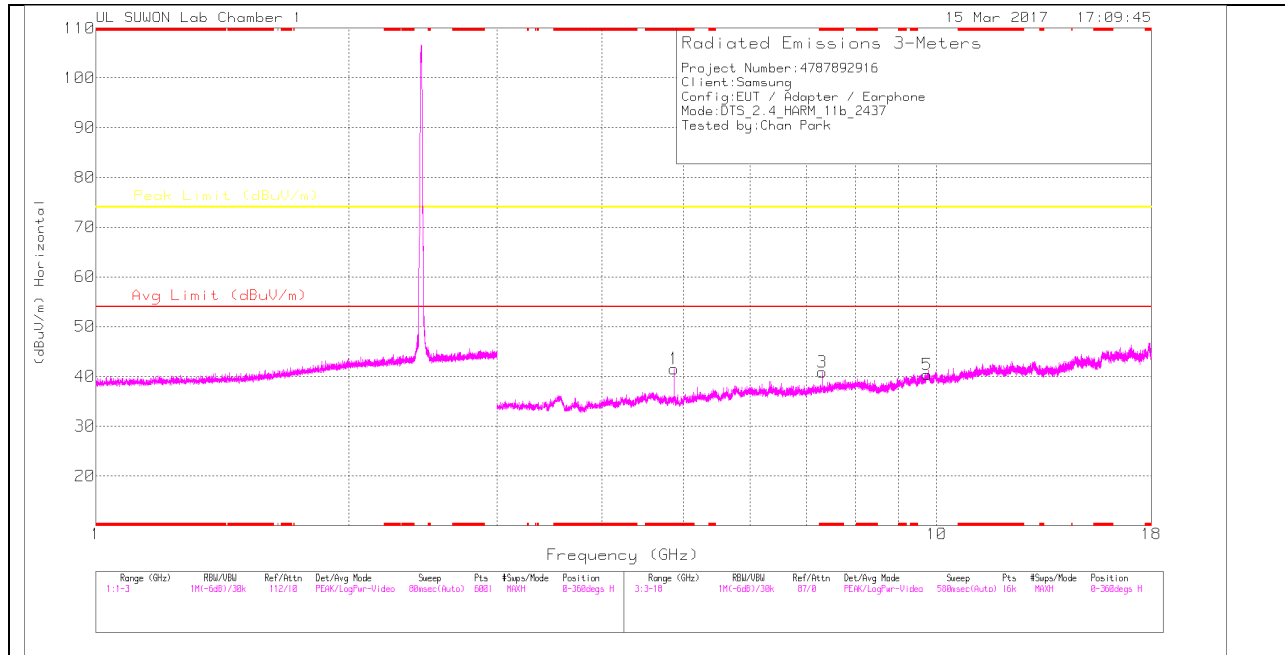
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	3Ghz_HP( dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.824	49.63	PK2	34	-34	0	49.63	-	-	74	-24.37	13	267	H
* 4.824	41.26	MAV1	34	-34	0	41.26	54	-12.74	-	-	13	267	H
7.238	46.58	PK2	35.7	-31.2	0	51.08	-	-	74	-22.92	47	161	H
* 4.824	48.7	PK2	34	-34	0	48.7	-	-	74	-25.3	74	386	V
* 4.824	39.48	MAV1	34	-34	0	39.48	54	-14.52	-	-	74	386	V
7.235	46.12	PK2	35.7	-31.2	0	50.62	-	-	74	-23.38	259	282	V

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

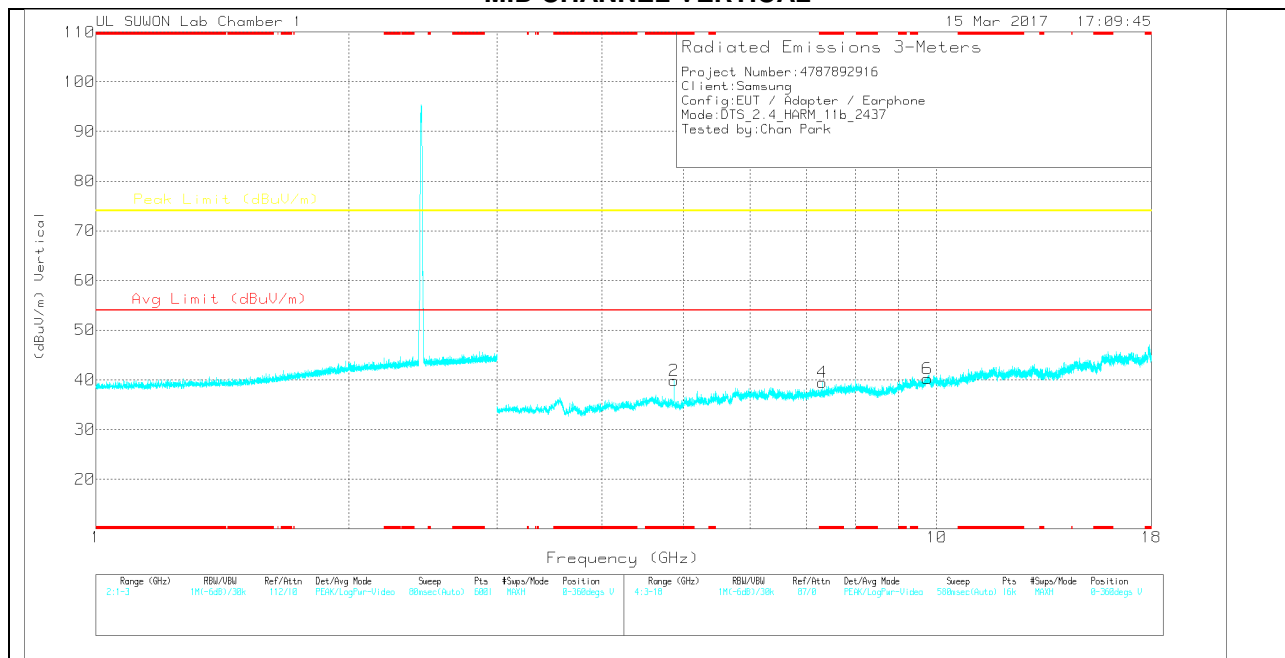
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

**MID CHANNEL HORIZONTAL**



**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	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717_150619)	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.874	41.76	Pk	34	-34.2	0	41.56	-	-	74	-32.44	0-360	250	H
3	* 7.31	36.2	Pk	35.7	-31	0	40.9	-	-	74	-33.1	0-360	150	H
5	9.748	30.91	Pk	37.2	-27.7	0	40.41	-	-	74	-33.59	0-360	150	H
2	* 4.873	40.02	Pk	34	-34.2	0	39.82	-	-	74	-34.18	0-360	250	V
4	* 7.309	34.78	Pk	35.7	-31	0	39.48	-	-	74	-34.52	0-360	150	V
6	9.749	30.73	Pk	37.2	-27.7	0	40.23	-	-	74	-33.77	0-360	250	V

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

Pk – Peak detector

Radiated Emissions

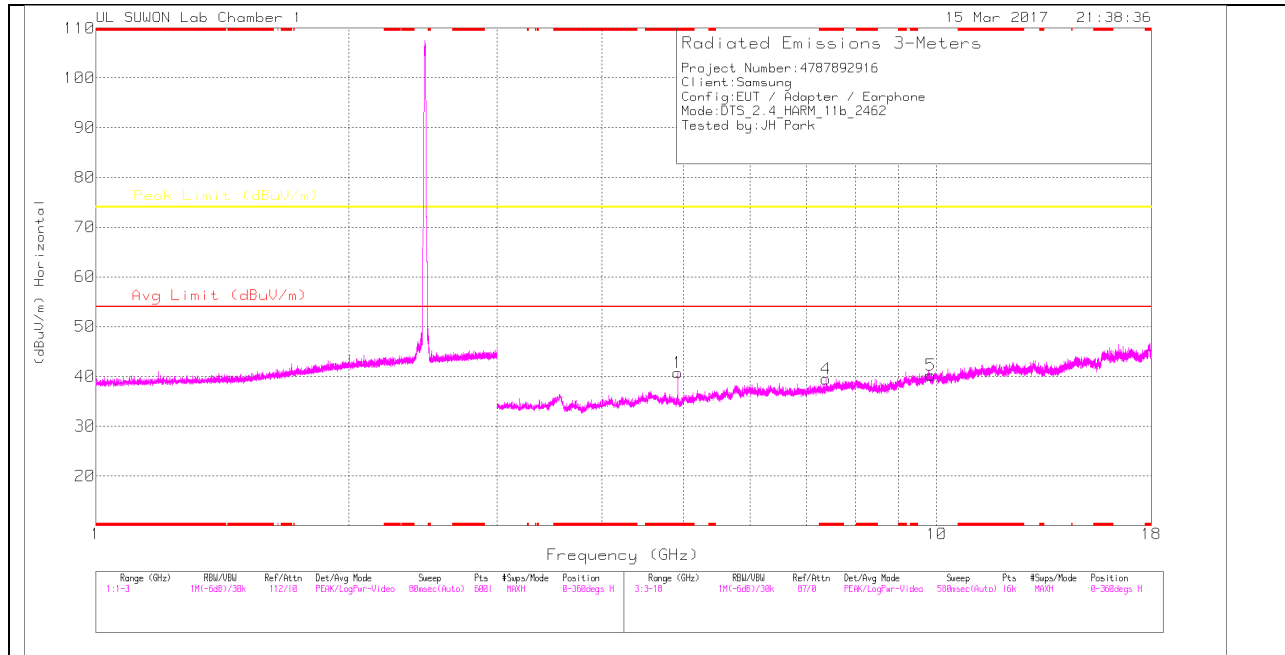
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717_150619)	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.874	50.1	PK2	34	-34.2	0	49.9	-	-	74	-24.1	13	261	H
* 4.874	43	MAv1	34	-34.2	0	42.8	54	-11.2	-	-	13	261	H
* 7.311	46.35	PK2	35.7	-30.9	0	51.15	-	-	74	-22.85	31	173	H
* 7.31	35.25	MAv1	35.7	-31	0	39.95	54	-14.05	-	-	31	173	H
* 4.874	48.83	PK2	34	-34.2	0	48.63	-	-	74	-25.37	76	302	V
* 4.874	39.91	MAv1	34	-34.2	0	39.71	54	-14.29	-	-	76	302	V
* 7.31	46.37	PK2	35.7	-31	0	51.07	-	-	74	-22.93	254	278	V
* 7.312	34.58	MAv1	35.7	-30.9	0	39.38	54	-14.62	-	-	254	278	V

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

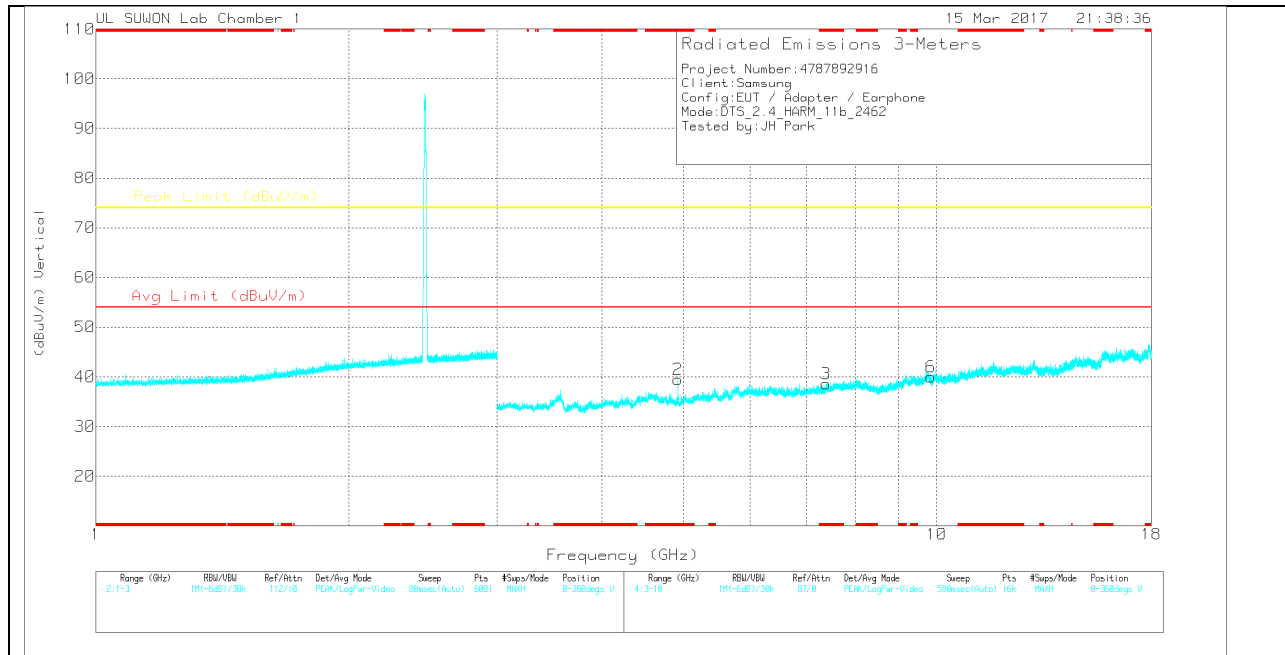
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

### HIGH CHANNEL HORIZONTAL



### 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	3117(00168717_150619)	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.924	40.58	PK	34	-33.8	0	40.78	-	-	74	-33.22	0-360	250	H
4	* 7.384	34.68	PK	35.8	-31	0	39.48	-	-	74	-34.52	0-360	250	H
5	9.848	31.29	PK	37.3	-28.3	0	40.29	-	-	74	-33.71	0-360	150	H
2	* 4.924	39.31	PK	34	-33.8	0	39.51	-	-	74	-34.49	0-360	250	V
3	* 7.383	33.8	PK	35.8	-31	0	38.6	-	-	74	-35.4	0-360	250	V
6	9.845	30.94	PK	37.3	-28.2	0	40.04	-	-	74	-33.96	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

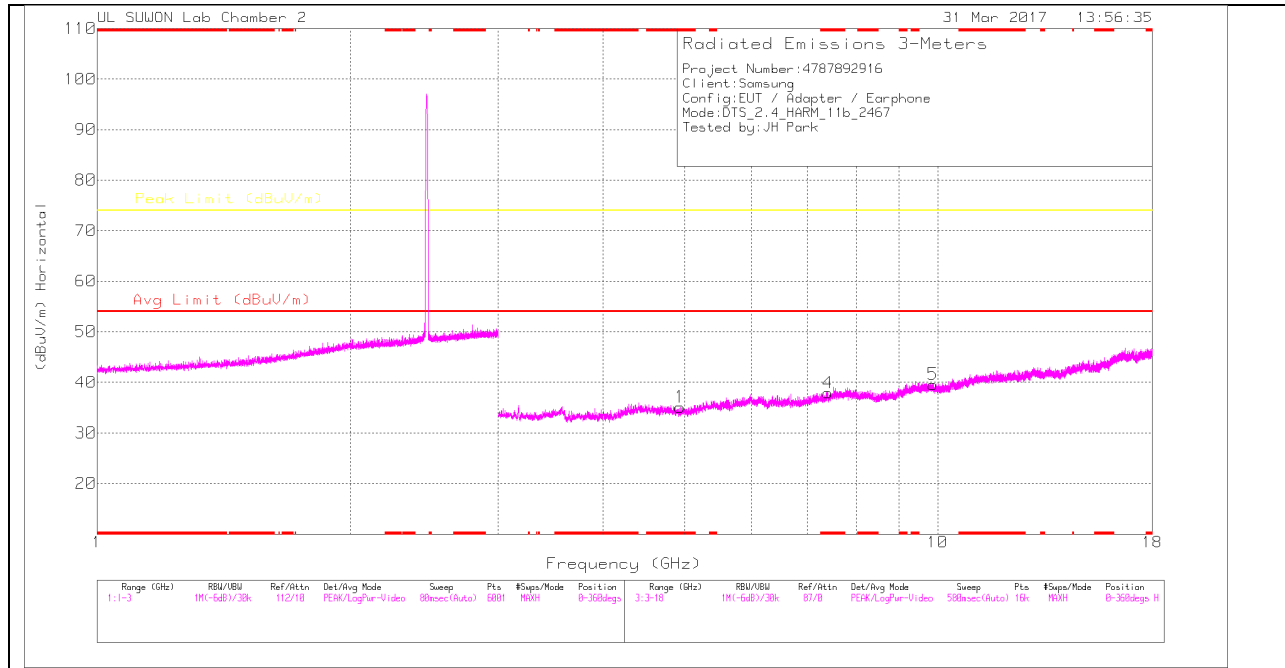
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717_150619)	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	49.95	PK2	34	-33.9	0	50.05	-	-	74	-23.95	28	301	H
* 4.924	40.32	MAV1	34	-33.9	0	40.42	54	-13.58	-	-	28	301	H
* 4.924	48.94	PK2	34	-33.9	0	49.04	-	-	74	-24.96	32	172	V
* 4.924	39.41	MAV1	34	-33.9	0	39.51	54	-14.49	-	-	32	172	V

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

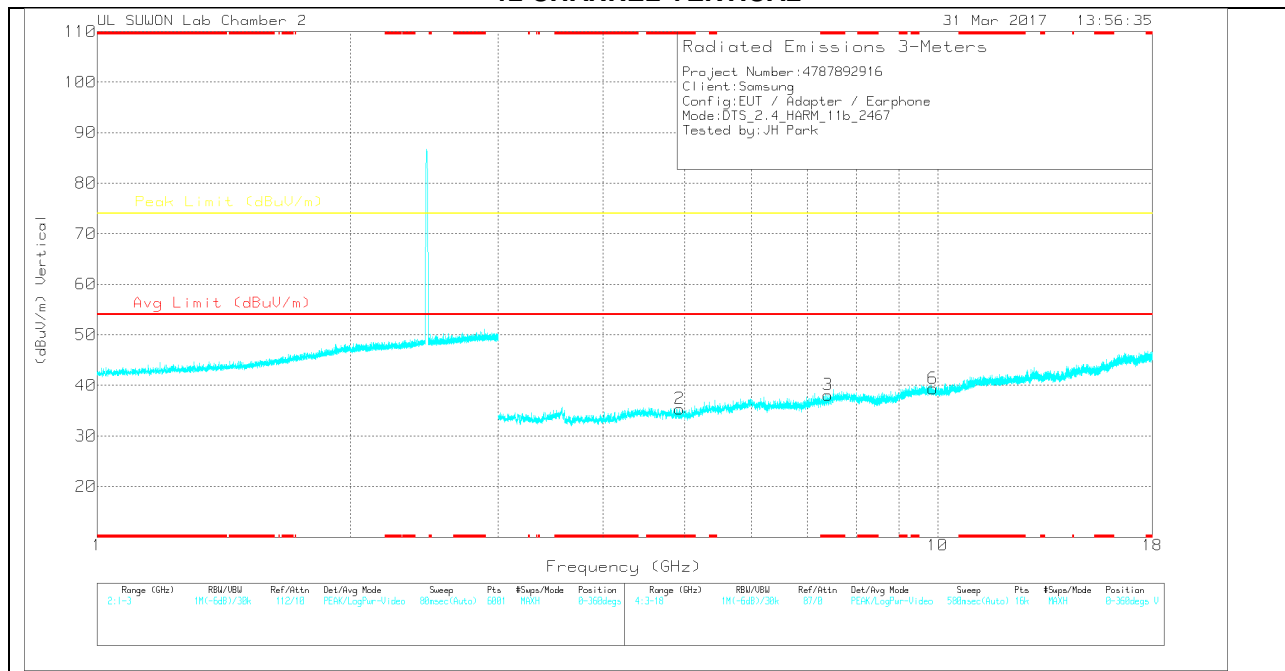
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

### 12 CHANNEL HORIZONTAL



### 12 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.

**12 CHANNEL DATA**

Trace Markers

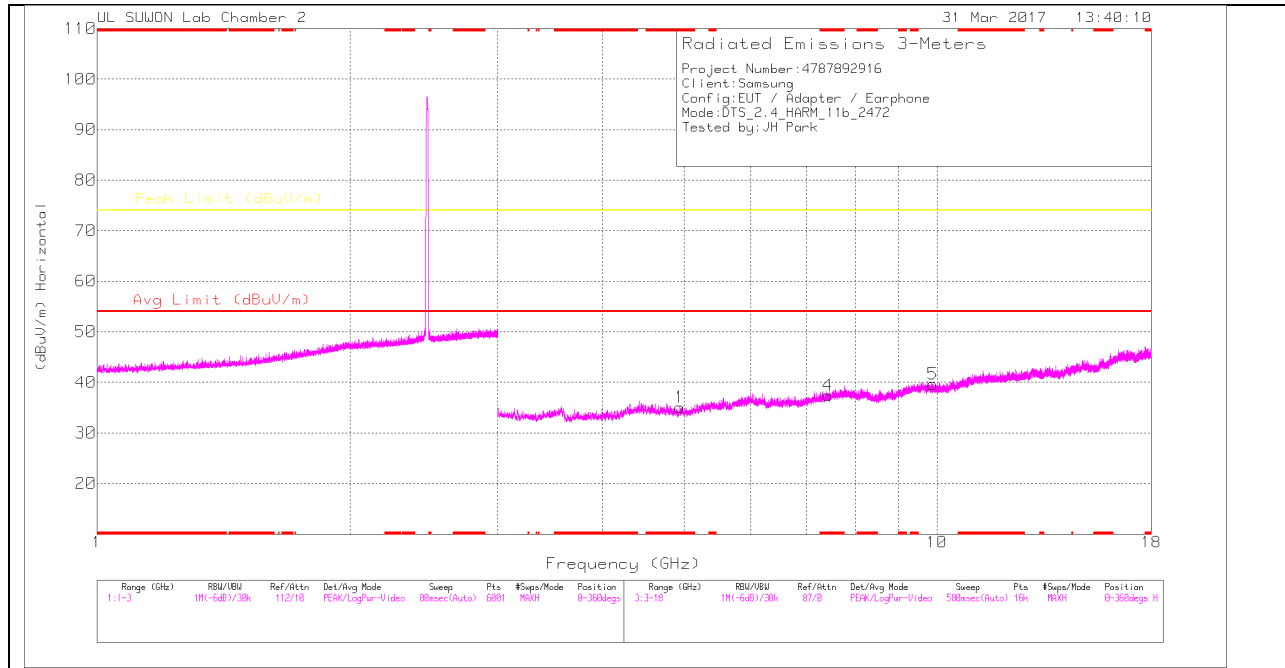
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.937	26.02	PK	33.9	-24.8	0	35.12	-	-	74	-38.88	0-360	150	H
4	* 7.401	23.24	PK	36	-21.3	0	37.94	-	-	74	-36.06	0-360	150	H
5	9.87	20.49	PK	37.1	-18	0	39.59	-	-	74	-34.41	0-360	250	H
2	* 4.932	26.17	PK	33.9	-24.7	0	35.37	-	-	74	-38.63	0-360	250	V
3	* 7.4	23.42	PK	36	-21.3	0	38.12	-	-	74	-35.88	0-360	250	V
6	9.871	20.27	PK	37.1	-18	0	39.37	-	-	74	-34.63	0-360	150	V

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

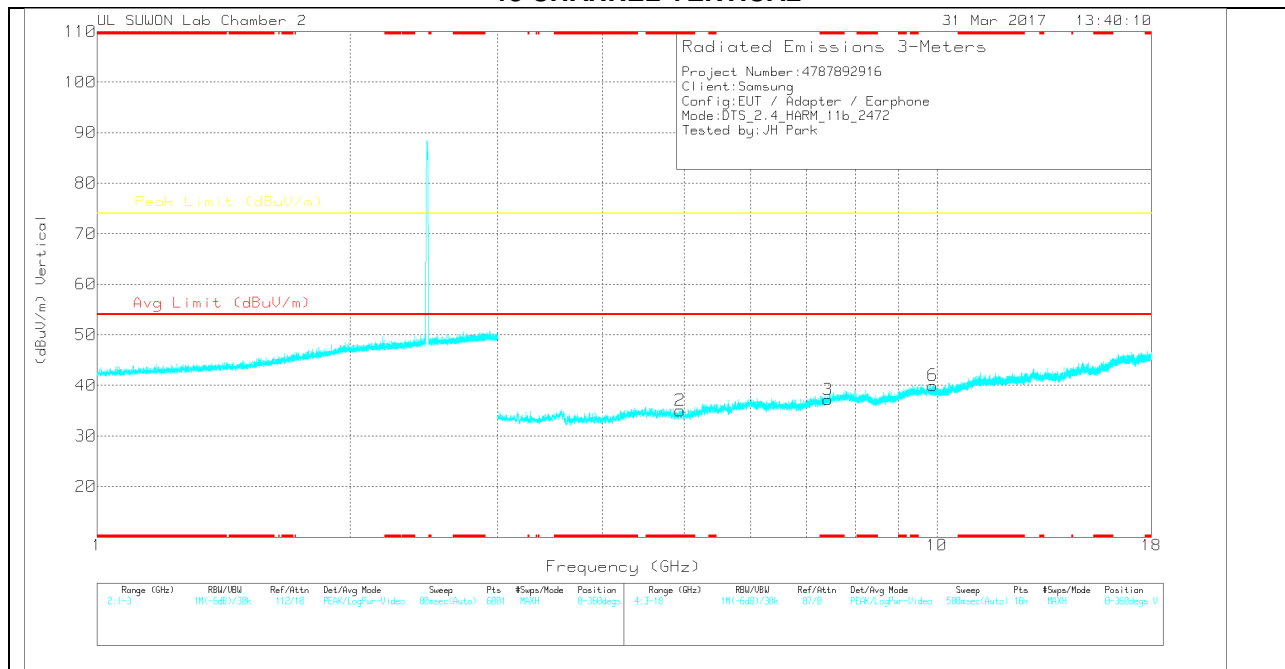
PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

### 13 CHANNEL HORIZONTAL



### 13 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.

**13 CHANNEL DATA**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.943	25.86	PK	33.9	-24.7	0	35.06	-	-	74	-38.94	0-360	150	H
4	* 7.415	22.64	PK	36	-21.2	0	37.44	-	-	74	-36.56	0-360	250	H
5	9.89	20.53	PK	37.1	-18	0	39.63	-	-	74	-34.37	0-360	250	H
2	* 4.945	25.81	PK	33.9	-24.7	0	35.01	-	-	74	-38.99	0-360	150	V
3	* 7.419	22.35	PK	36	-21.2	0	37.15	-	-	74	-36.85	0-360	250	V
6	9.888	20.87	PK	37.1	-18	0	39.97	-	-	74	-34.03	0-360	250	V

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

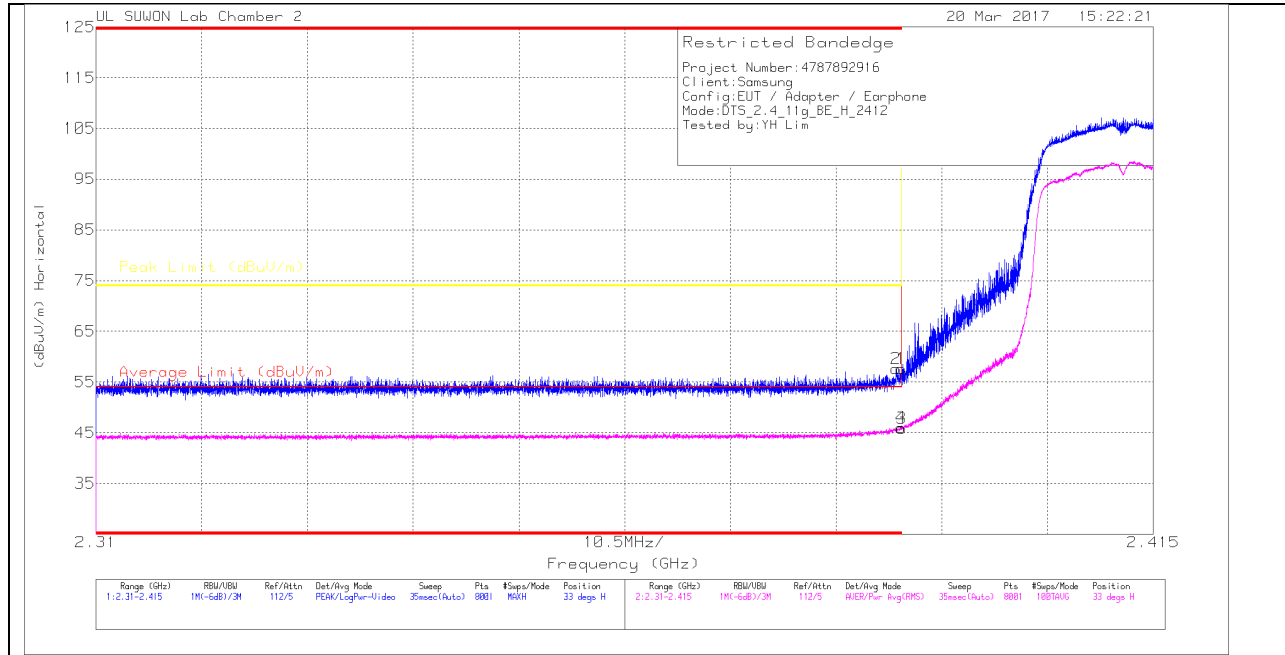
PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

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

#### BANDEDGE (1 CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

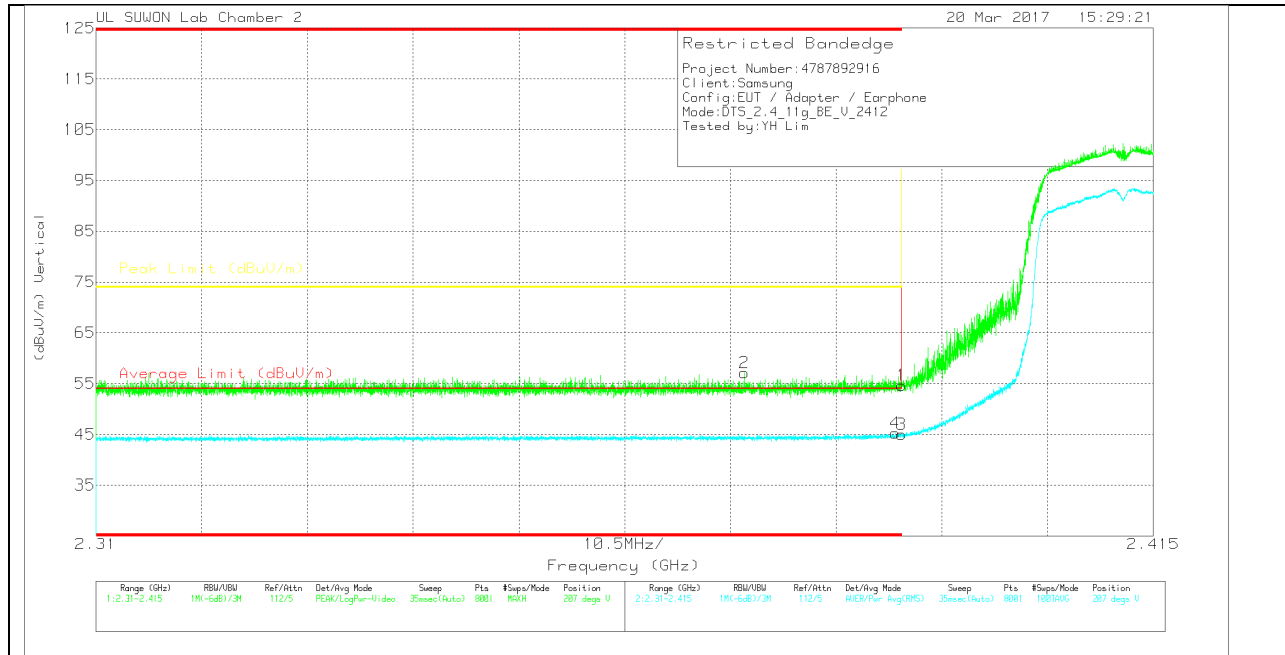
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24_150619)	10dB[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	44.09	PK	31.7	-18.2	0	57.59	-	-	74	-16.41	33	121	H
2	* 2.389	44.12	PK	31.7	-18.2	0	57.62	-	-	74	-16.38	33	121	H
3	* 2.39	32.05	RMS	31.7	-18.2	.33	45.88	54	-8.12	-	-	33	121	H
4	* 2.39	32.2	RMS	31.7	-18.2	.33	46.03	54	-7.97	-	-	33	121	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(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	41.13	PK	31.7	-18.2	0	54.63	-	-	74	-19.37	207	367	V
2	* 2.374	43.69	PK	31.7	-18.3	0	57.09	-	-	74	-16.91	207	367	V
3	* 2.39	31.13	RMS	31.7	-18.2	.33	44.96	54	-9.04	-	-	207	367	V
4	* 2.389	31.39	RMS	31.7	-18.2	.33	45.22	54	-8.78	-	-	207	367	V

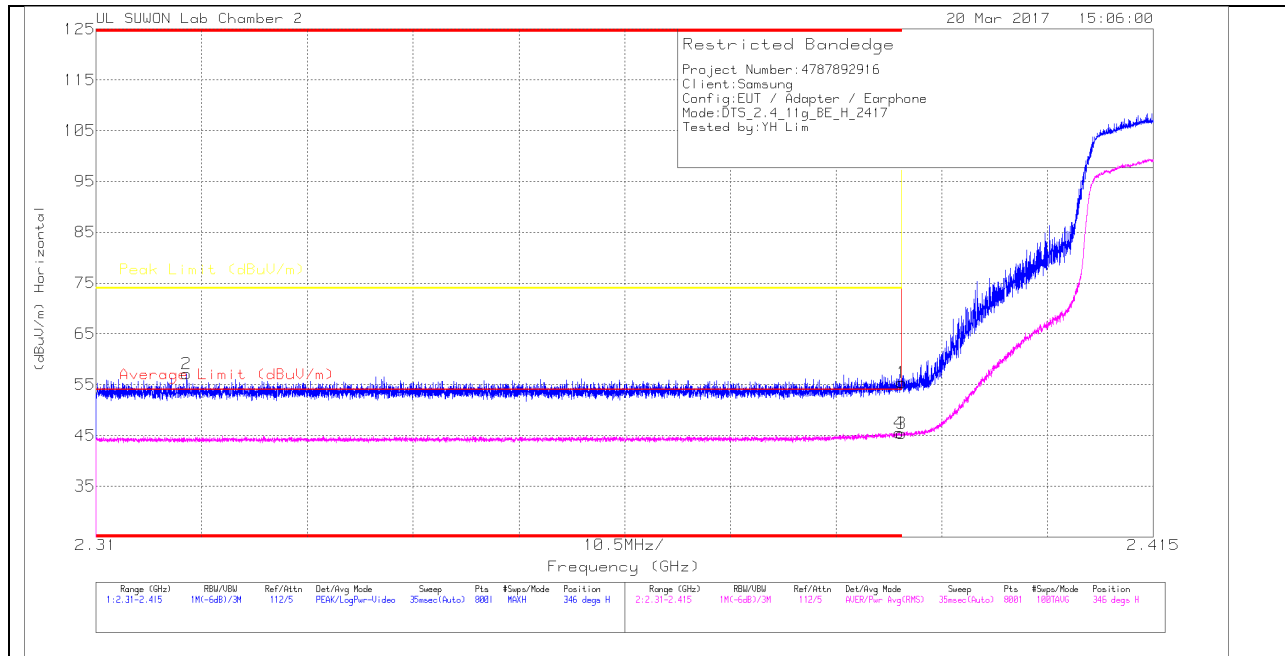
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

## BANEDGE (2 CHANNEL)

### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

#### Trace Markers

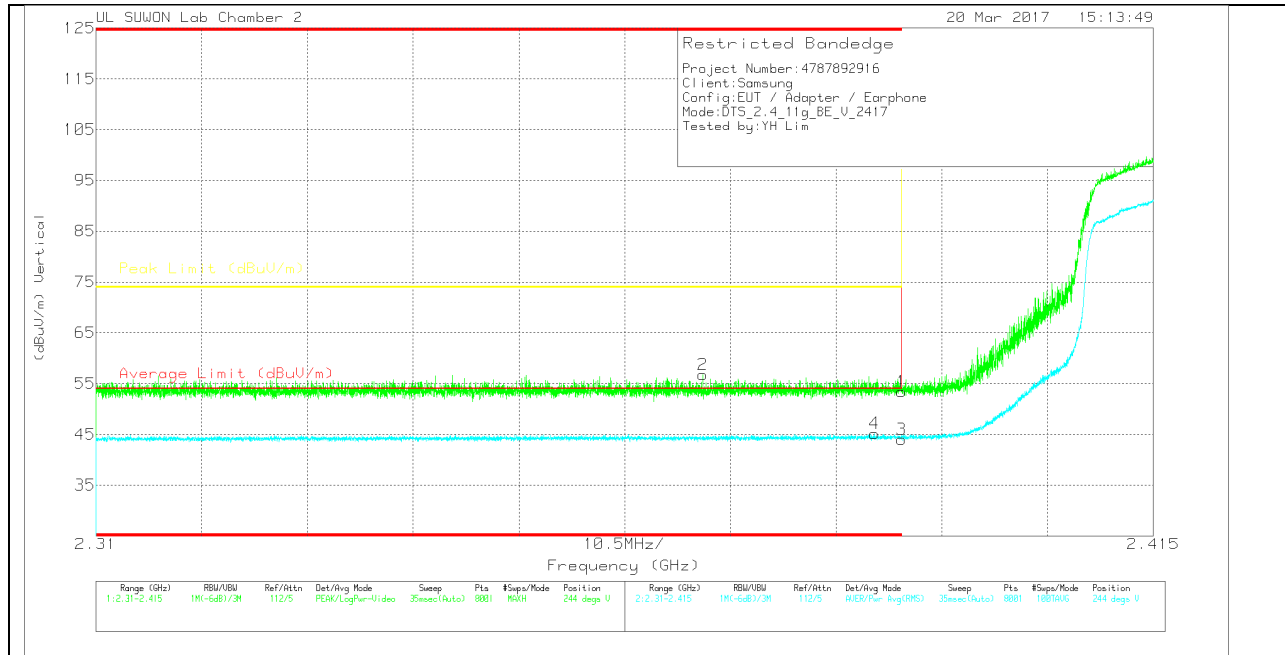
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 24_150619	10dB[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	41.87	PK	31.7	-18.2	0	55.37	-	-	74	-18.63	346	104	H
2	* 2.319	43.91	PK	31.6	-18.4	0	57.11	-	-	74	-16.89	346	104	H
3	* 2.39	31.6	RMS	31.7	-18.2	.33	45.43	54	-8.57	-	-	346	104	H
4	* 2.39	31.72	RMS	31.7	-18.2	.33	45.55	54	-8.45	-	-	346	104	H

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

PK - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(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	39.89	PK	31.7	-18.2	0	53.39	-	-	74	-20.61	244	398	V
2	* 2.37	43.34	PK	31.7	-18.3	0	56.74	-	-	74	-17.26	244	398	V
3	* 2.39	30.17	RMS	31.7	-18.2	.33	44	54	-10	-	-	244	398	V
4	* 2.387	31.36	RMS	31.7	-18.2	.33	45.19	54	-8.81	-	-	244	398	V

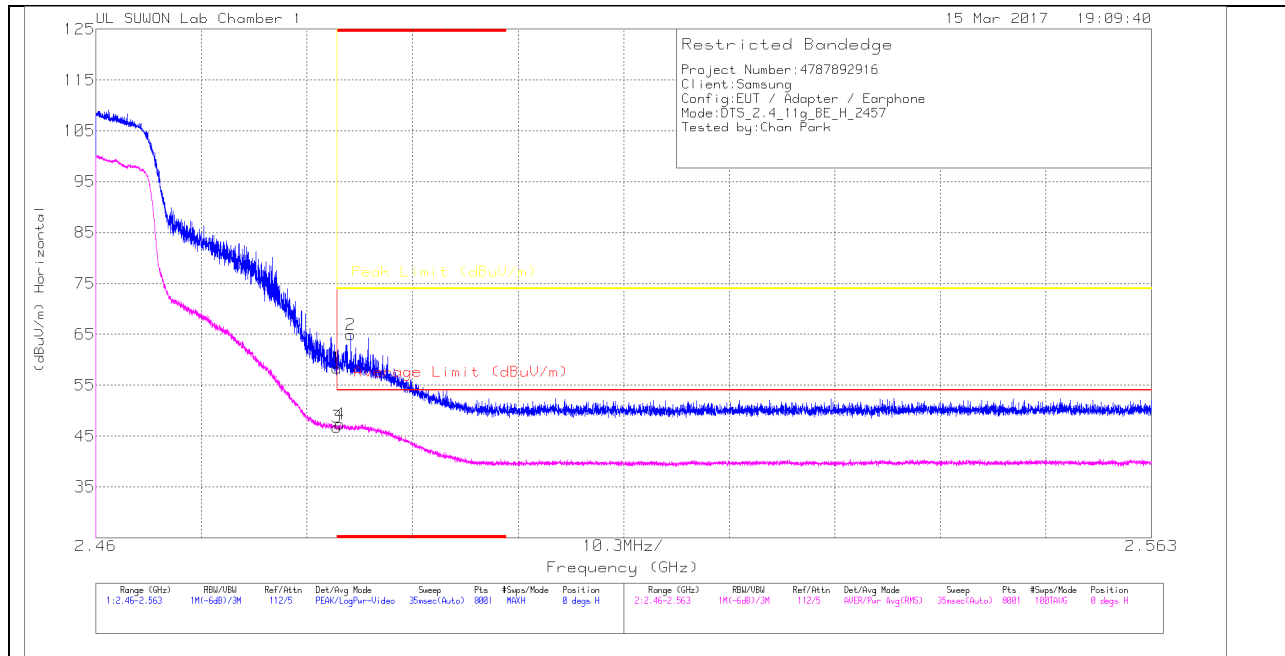
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

### BANEDGE (10 CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

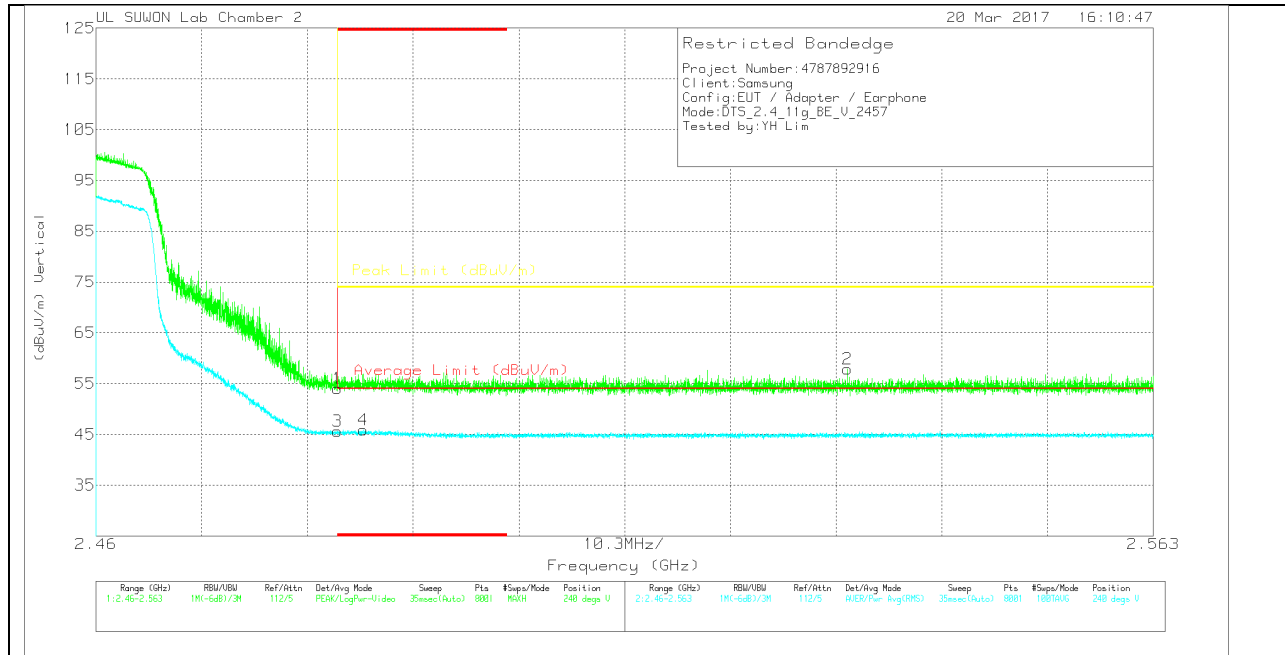
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Att(dB )	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	55.01	Pk	32	-28.7	0	58.31	-	-	74	-15.69	0	147	H
2	* 2.485	61.61	Pk	32	-28.7	0	64.91	-	-	74	-9.09	0	147	H
3	* 2.484	43.17	RMS	32	-28.7	.33	46.8	54	-7.2	-	-	0	147	H
4	* 2.484	43.77	RMS	32	-28.7	.33	47.4	54	-6.6	-	-	0	147	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(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	40.21	PK	31.8	-18	0	54.01	-	-	74	-19.99	240	398	V
2	2.533	44.01	PK	31.9	-18	0	57.91	-	-	74	-16.09	240	398	V
3	* 2.484	31.44	RMS	31.8	-18	.33	45.57	54	-8.43	-	-	240	398	V
4	* 2.486	31.79	RMS	31.8	-18	.33	45.92	54	-8.08	-	-	240	398	V

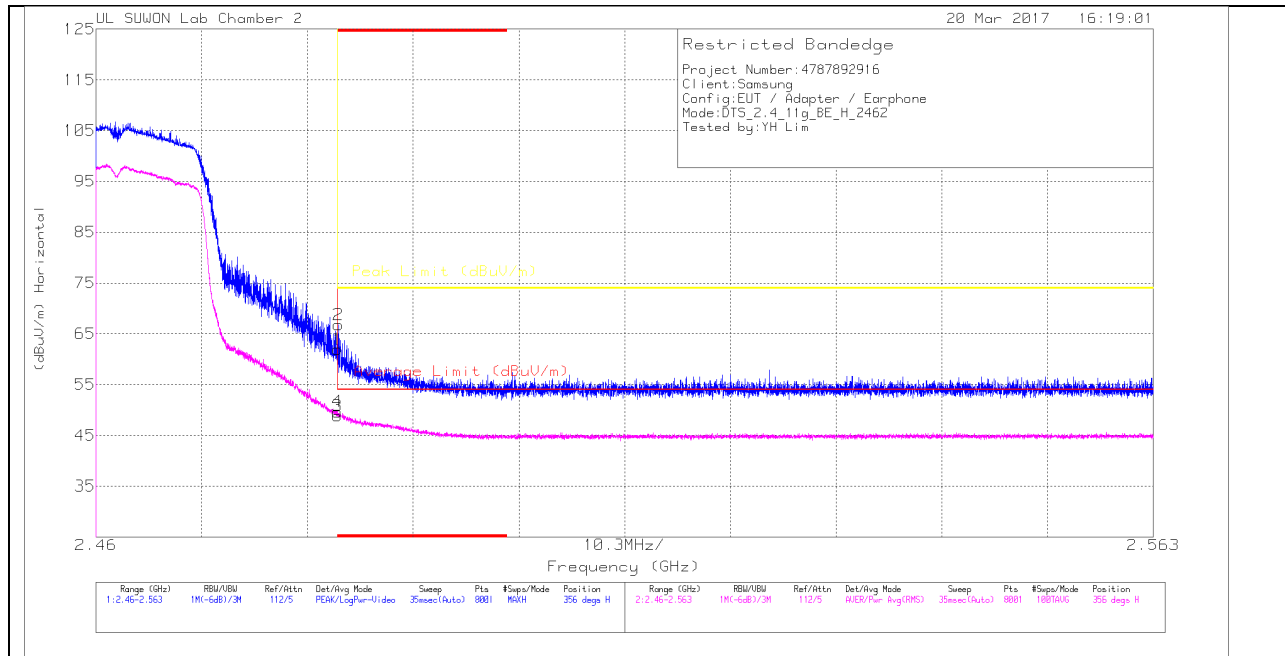
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

### BANDEDGE (11 CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

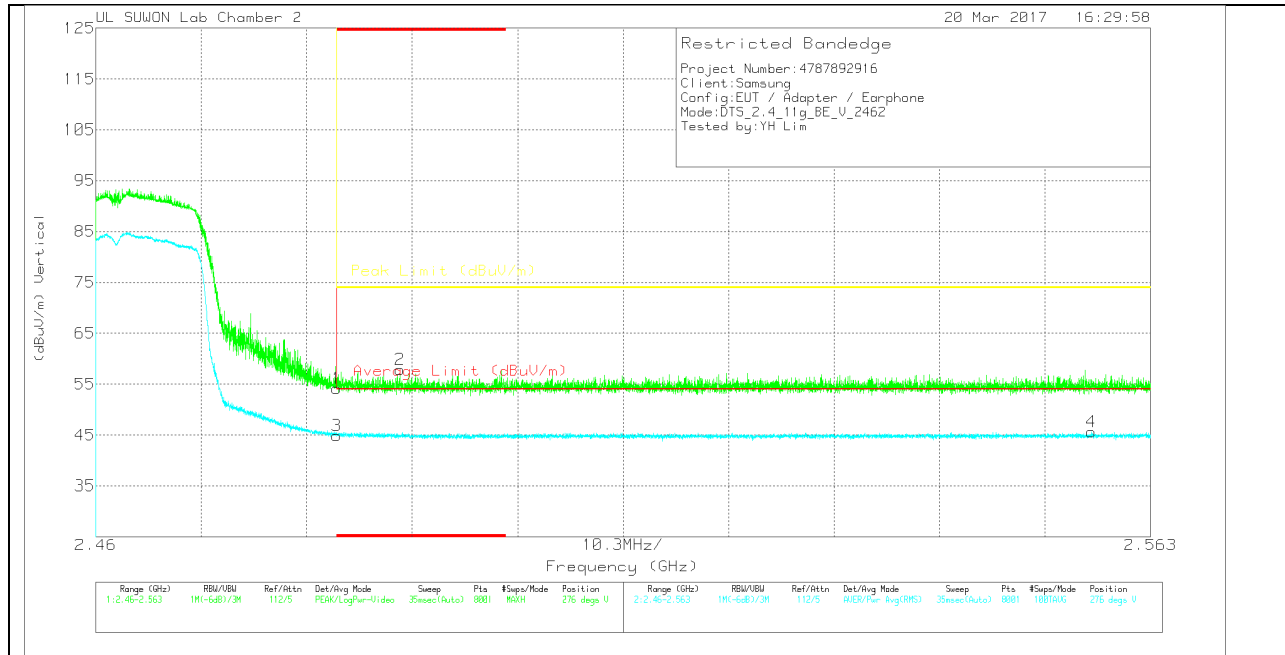
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 24_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	48.1	PK	31.8	-18	0	61.9	-	-	74	-12.1	356	205	H
2	* 2.484	52.98	PK	31.8	-18	0	66.78	-	-	74	-7.22	356	205	H
3	* 2.484	34.72	RMS	31.8	-18	.33	48.85	54	-5.15	-	-	356	205	H
4	* 2.484	35.52	RMS	31.8	-18	.33	49.65	54	-4.35	-	-	356	205	H

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

PK - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(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	40.4	Pk	31.8	-18	0	54.2	-	-	74	-19.8	276	123	V
2	* 2.49	44.05	Pk	31.8	-18	0	57.85	-	-	74	-16.15	276	123	V
3	* 2.484	30.73	RMS	31.8	-18	.33	44.86	54	-9.14	-	-	276	123	V
4	2.557	31.39	RMS	31.9	-18	.33	45.62	54	-8.38	-	-	276	123	V

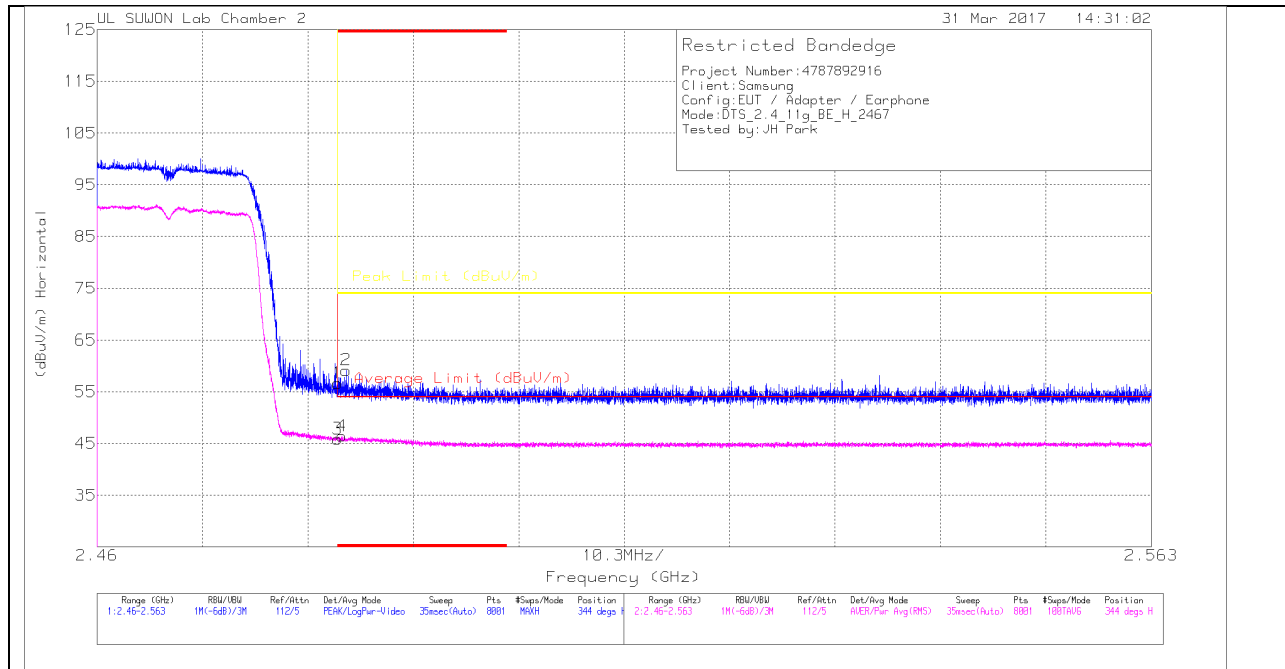
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

**BANEDGE (12 CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

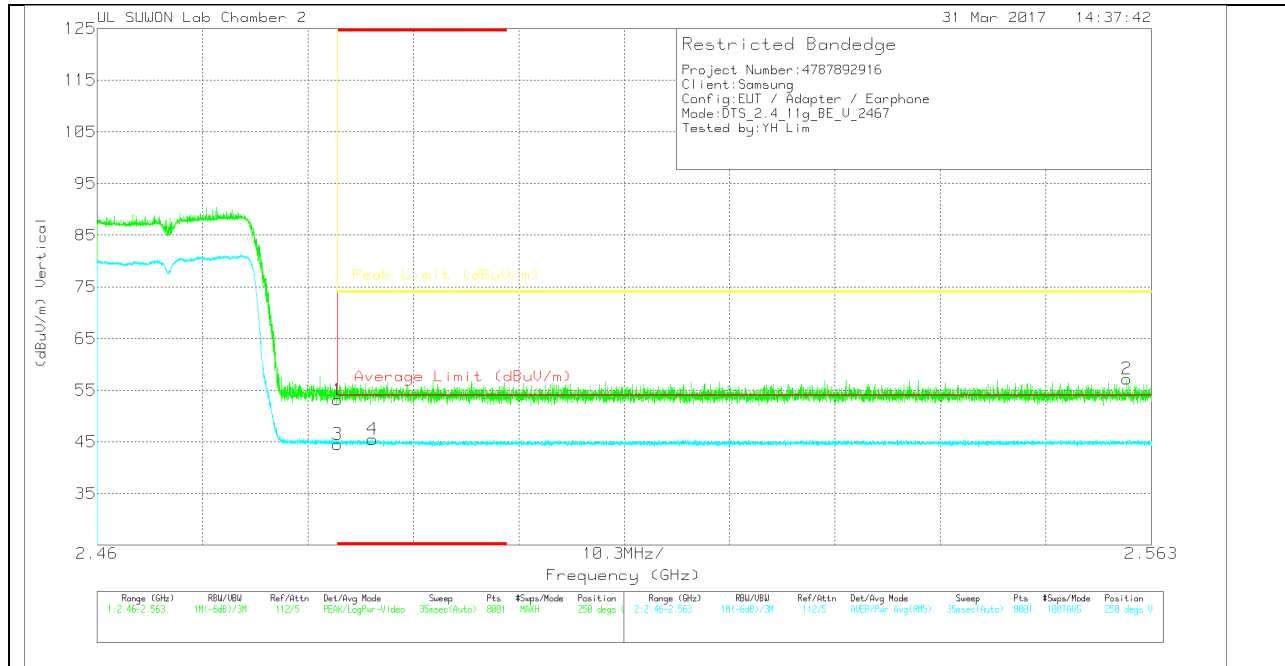
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	42.85	Pk	31.8	-18	0	56.65	-	-	74	-17.35	344	270	H
2	* 2.484	45.39	Pk	31.8	-18	0	59.19	-	-	74	-14.81	344	270	H
3	* 2.484	31.75	RMS	31.8	-18	.33	45.88	54	-8.12	-	-	344	270	H
4	* 2.484	32.32	RMS	31.8	-18	.33	46.45	54	-7.55	-	-	344	270	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(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	39.36	PK	31.8	-18	0	53.16	-	-	74	-20.84	250	398	V
2	2.561	43.32	PK	31.9	-18	0	57.22	-	-	74	-16.78	250	398	V
3	* 2.484	30.42	RMS	31.8	-18	.33	44.55	54	-9.45	-	-	250	398	V
4	* 2.487	31.41	RMS	31.8	-18	.33	45.54	54	-8.46	-	-	250	398	V

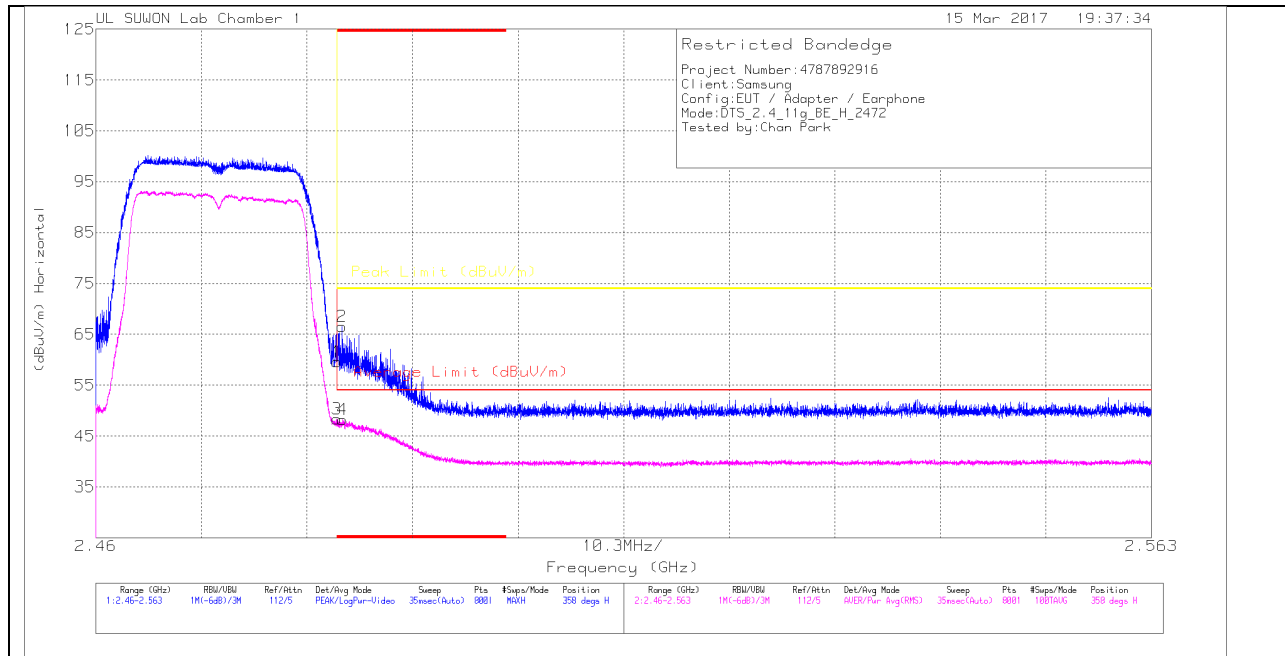
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

## AUTHORIZED BANDEDGE (13 CHANNEL)

### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

#### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Att(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	56.3	Pk	32	-28.7	0	59.6	-	-	74	-14.4	358	192	H
2	* 2.484	63.2	Pk	32	-28.7	0	66.5	-	-	74	-7.5	358	192	H
3	* 2.484	44.76	RMS	32	-28.7	.33	48.39	54	-5.61	-	-	358	192	H
4	* 2.484	44.64	RMS	32	-28.7	.33	48.27	54	-5.73	-	-	358	192	H

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

Pk - Peak detector

RMS - RMS detection