



FCC CFR47 PART 15 SUBPART C

DTS Wireless LAN

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER : SM-G390F

FCC ID: A3LSMG390F

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Prepared for

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Revision History

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n and NFC
MODEL NUMBER: SM-G390F
SERIAL NUMBER: R38HC02382L, R38J10B58PH (RADIATED);
420044acec93b391 (CONDUCTED)
DATE TESTED: JAN 18, 2017 – FEB 21, 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.

Approved & Released For
UL Korea, Ltd. By:



SungGil Park
Suwon Lab Engineer
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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, DTS/UNII a/b/g/n and NFC.
This test report addresses the DTS (WLAN) operational mode.

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	17.48	55.98
	802.11g	13.44	22.08
	802.11n HT20	13.39	21.83

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal antennas, with a antenna's maximum gain of 2.27 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-TA50EWE	DK1H822VS/A-E	N/A
Data Cable	SAMSUNG	ECB-DU68WE	N/A	N/A
Earphone	SAMSUNG	EHS64AVFWE	N/A	N/A

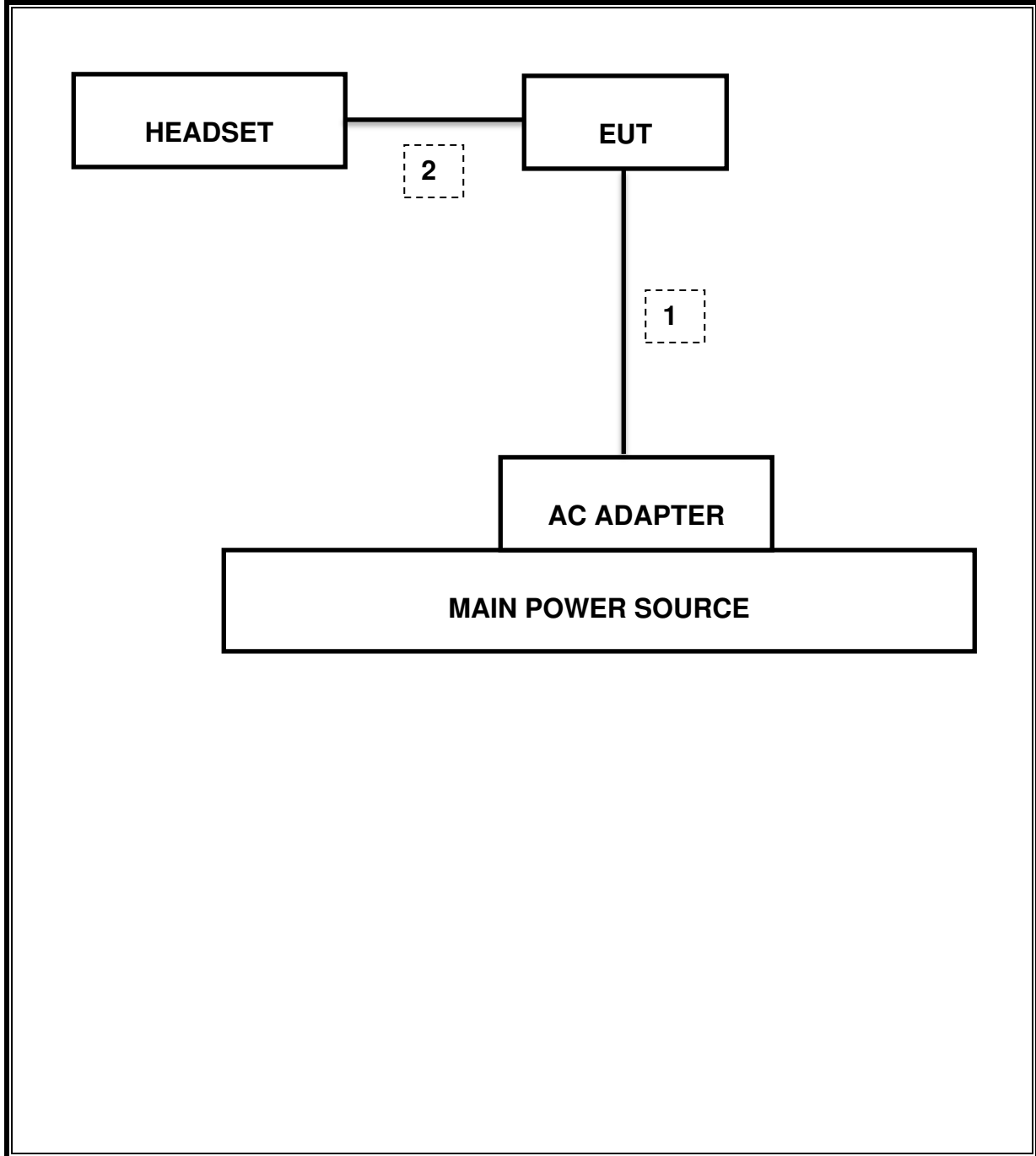
I/O CABLES

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	1.0m	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	3115	00161451	03-17-17
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
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	101836	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	

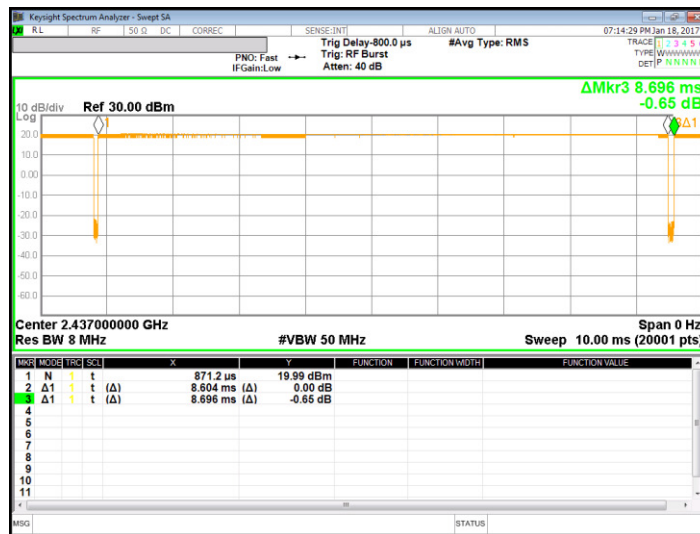
7. REFERENCE MEASUREMENT RESULTS

7.1. ON TIME AND DUTY CYCLE RESULTS

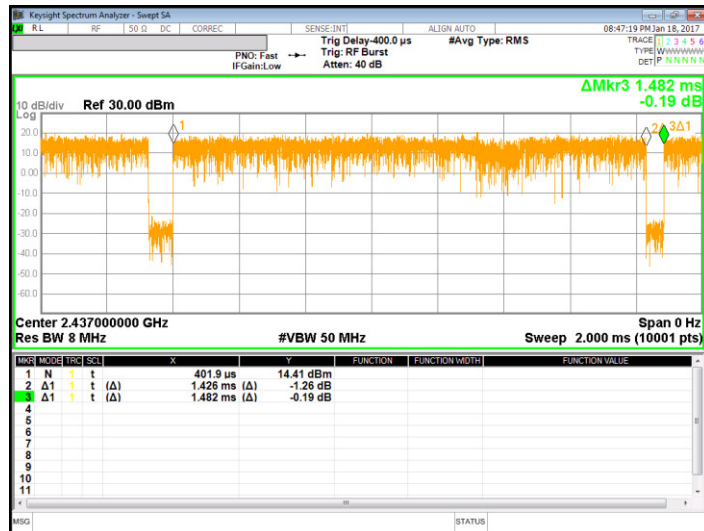
LIMITS

None; for reporting purposes only.

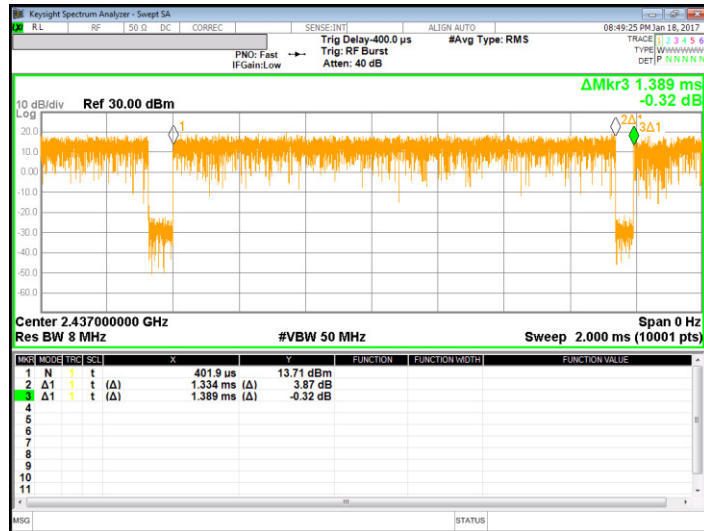
Mode	ON Time B [msec]	Period [msec]	Duty Cycle x [linear]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
2400MHz Bands						
802.11b	8.604	8.696	0.989	98.9%	0.00	0.010
802.11g	1.426	1.482	0.962	96.2%	0.17	0.701
802.11n HT20	1.334	1.389	0.960	96.0%	0.18	0.750



[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	8.547 MHz
2.1051, 15.247 (d)	Band Edge / Conducted Spurious Emission	-30dBc		Pass	-27.662 dBm
15.247	TX conducted output power	<30dBm		Pass	17.48 dBm
15.247	PSD	<8dBm		Pass	-13.617 dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Power Line conducted	Pass	53.09 dBuV (Pk)
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m	Radiated	Pass	51.66 dBuV/m (Av)

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	9.039	0.5
Mid	2437	8.547	0.5
High	2462	9.020	0.5
12	2467	9.486	0.5
13	2472	8.559	0.5
Worst		8.547	0.5

9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

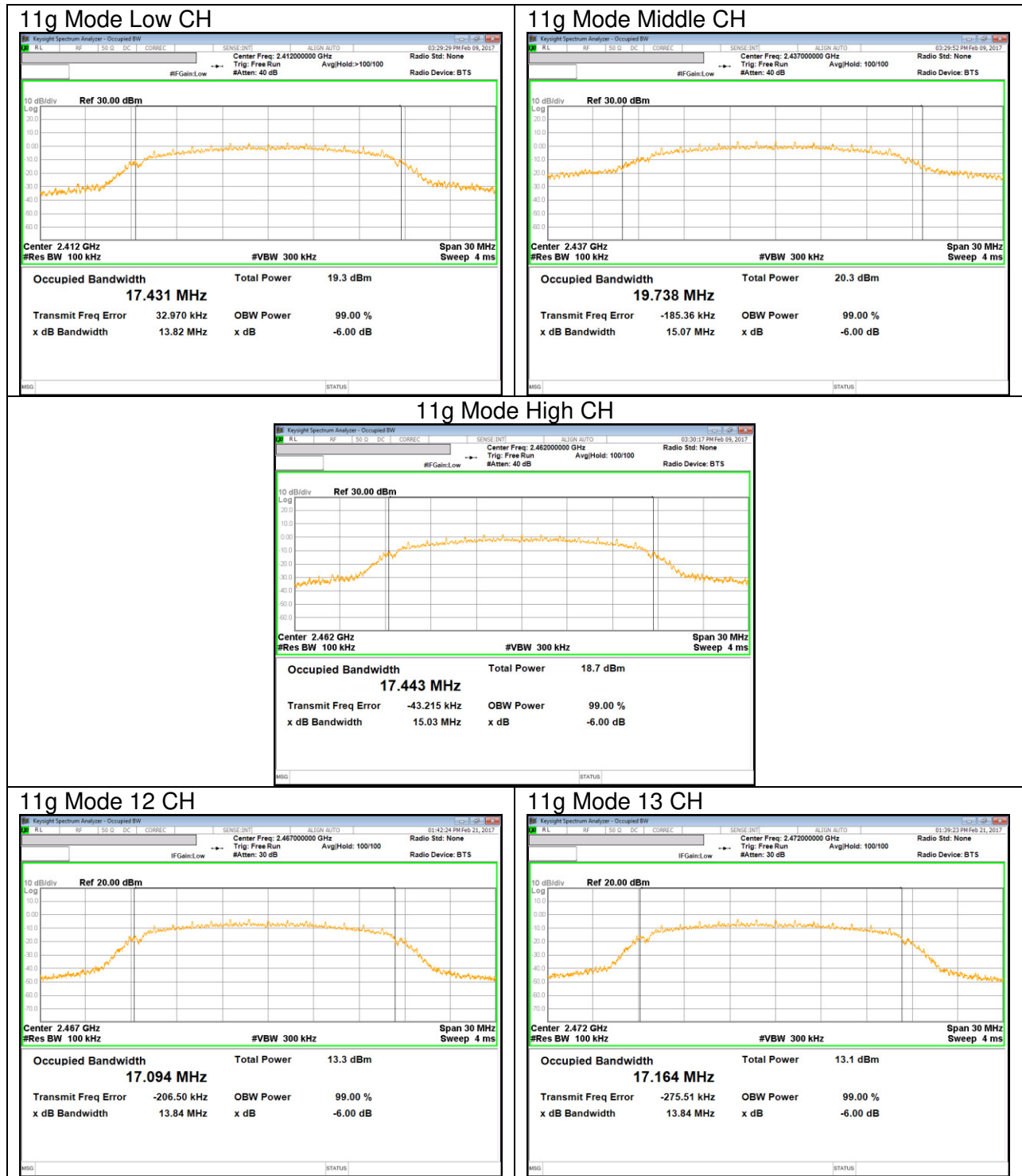
Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
Low	2412	13.820	0.5
Mid	2437	15.070	0.5
High	2462	15.030	0.5
12	2467	13.840	0.5
13	2472	13.840	0.5
Worst		13.820	0.5

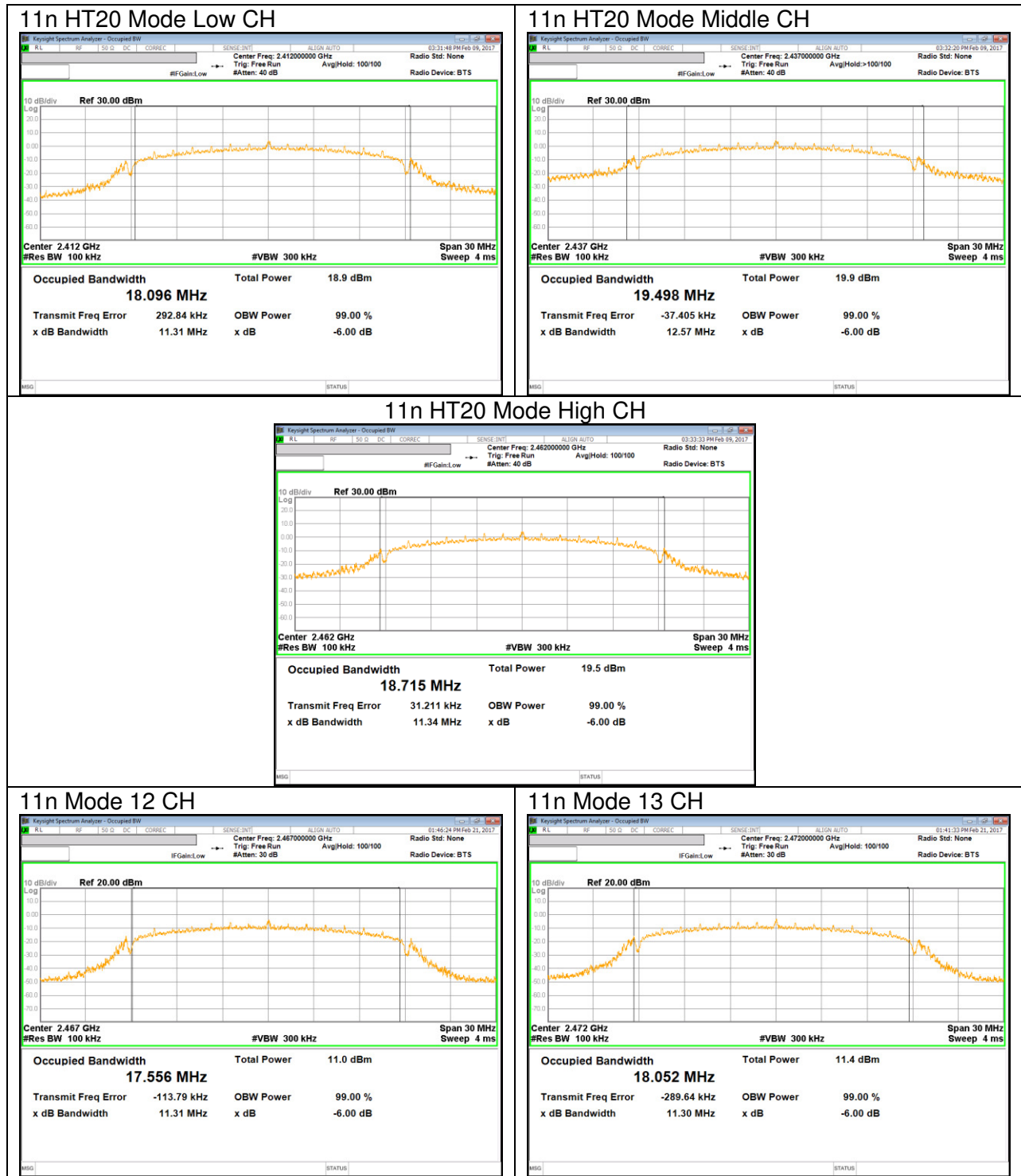
9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
Low	2412	11.310	0.5
Mid	2437	12.570	0.5
High	2462	11.340	0.5
12	2467	11.310	0.5
13	2472	11.300	0.5
Worst		11.300	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	2.27	30.00	30.00
Mid	2437	2.27	30.00	30.00
High	2462	2.27	30.00	30.00
12	2467	2.27	30.00	30.00
13	2472	2.27	30.00	30.00

Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Power [dBm]	Power Limit [dBm]	Margin [dB]
Low	2412	17.16	17.16	30.00	-12.84
Mid	2437	16.98	16.98	30.00	-13.02
High	2462	17.48	17.48	30.00	-12.52
12	2467	6.68	6.68	30.00	-23.32
13	2472	6.97	6.97	30.00	-23.03
Worst			17.48	30.00	-12.52

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]
Low	2412	2.27	30.00	30.00
Mid	2437	2.27	30.00	30.00
High	2462	2.27	30.00	30.00
12	2467	2.27	30.00	30.00
13	2472	2.27	30.00	30.00

Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Power [dBm]	Power Limit [dBm]	Margin [dB]
Low	2412	13.19	13.19	30.00	-16.81
Mid	2437	13.44	13.44	30.00	-16.56
High	2462	13.21	13.21	30.00	-16.79
12	2467	7.02	7.02	30.00	-22.98
13	2472	6.77	6.77	30.00	-23.23
Worst			13.44	30.00	-16.56

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]
Low	2412	2.27	30.00	30.00
Mid	2437	2.27	30.00	30.00
High	2462	2.27	30.00	30.00
12	2467	2.27	30.00	30.00
13	2472	2.27	30.00	30.00

Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Power [dBm]	Power Limit [dBm]	Margin [dB]
Low	2412	13.16	13.16	30.00	-16.84
Mid	2437	13.39	13.39	30.00	-16.61
High	2462	13.20	13.20	30.00	-16.80
12	2467	4.88	4.88	30.00	-25.12
13	2472	4.85	4.85	30.00	-25.15
Worst			13.39	30.00	-16.61

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	-13.617	0.00	-13.617	8.00	-21.617
Mid	2437	-14.323	0.00	-14.323	8.00	-22.323
High	2462	-13.751	0.00	-13.751	8.00	-21.751
12	2467	-20.965	0.00	-20.965	8.00	-28.965
13	2472	-18.755	0.00	-18.755	8.00	-26.755

9.3.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

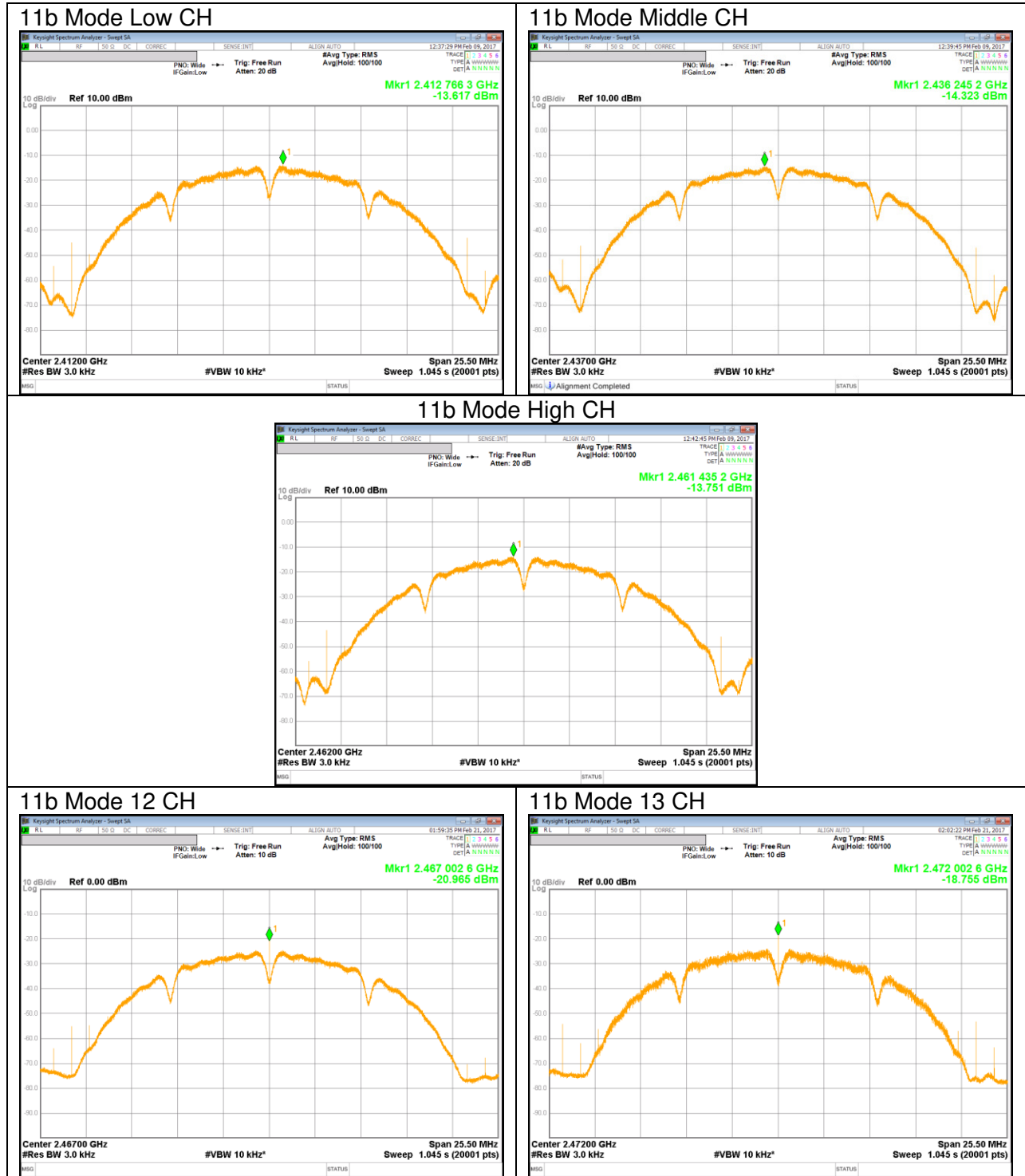
Channel	Frequency [MHz]	PSD Meas [dBm]	Duty Factor [dB]	Final PSD [dBm]	Limit [dBm]	Margin [dB]
Low	2412	-19.69	0.17	-19.520	8.00	-27.690
Mid	2437	-19.008	0.17	-18.838	8.00	-27.008
High	2462	-19.683	0.17	-19.513	8.00	-27.683
12	2467	-22.205	0.17	-22.035	8.00	-30.205
13	2472	-20.715	0.17	-20.545	8.00	-28.715

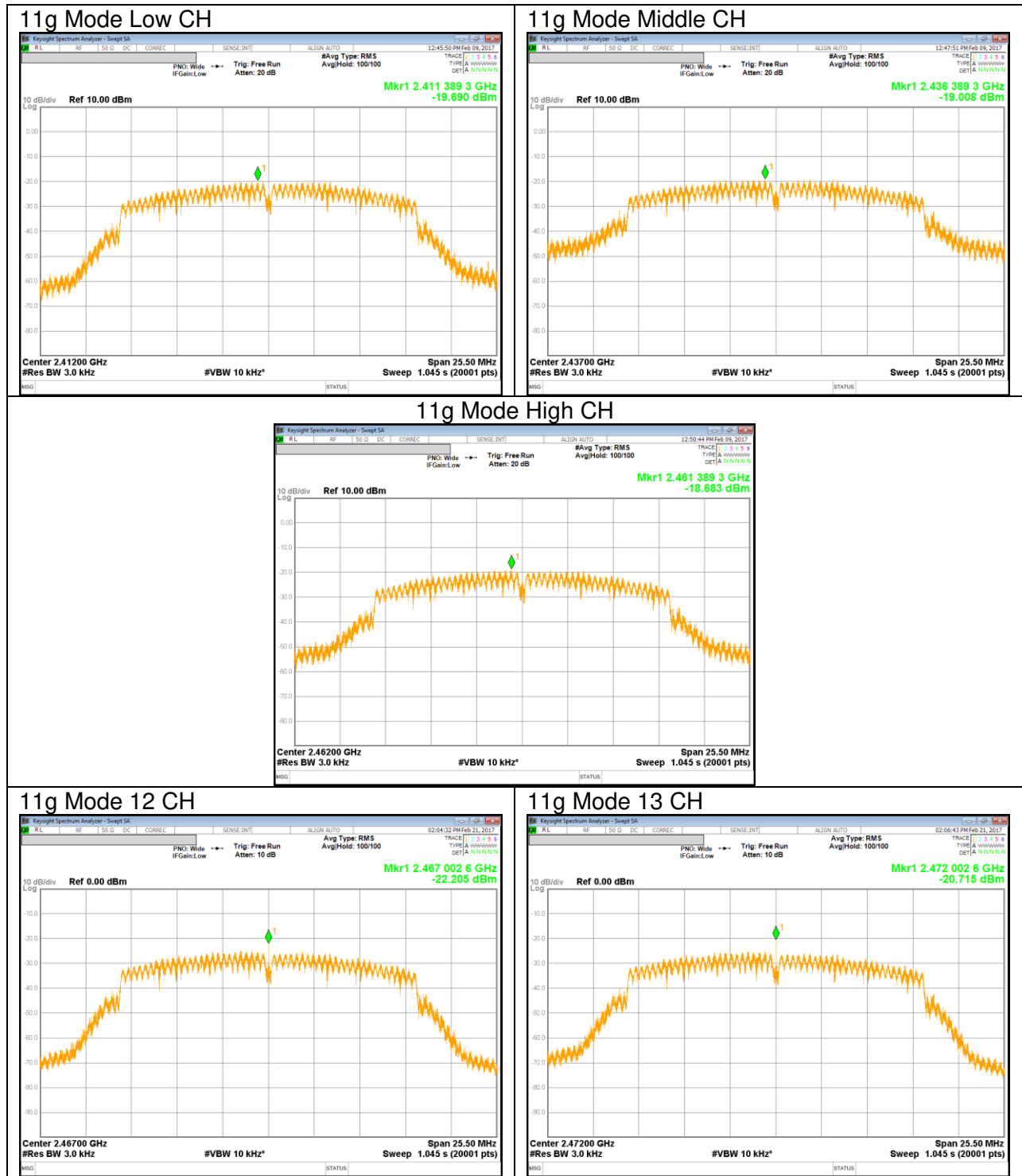
9.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

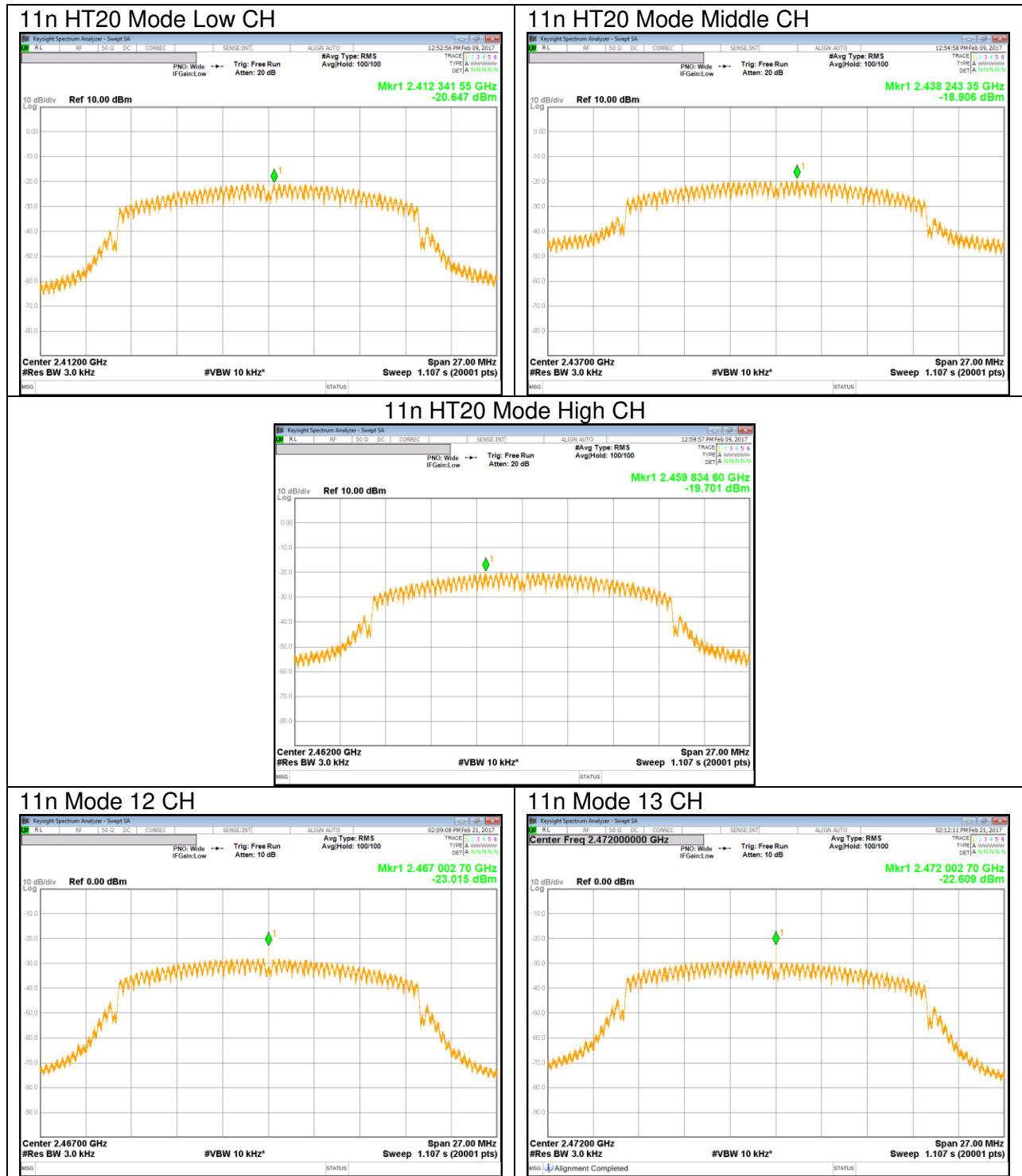
PSD Results

Channel	Frequency [MHz]	PSD Meas [dBm]	Duty Factor [dB]	Final PSD [dBm]	Limit [dBm]	Margin [dB]
Low	2412	-20.647	0.18	-20.467	8.00	-28.647
Mid	2437	-18.906	0.18	-18.726	8.00	-26.906
High	2462	-19.701	0.18	-19.521	8.00	-27.701
12	2467	-23.015	0.18	-22.835	8.00	-31.015
13	2472	-22.609	0.18	-22.429	8.00	-30.609

9.3.4. PSD PLOTS







9.4. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

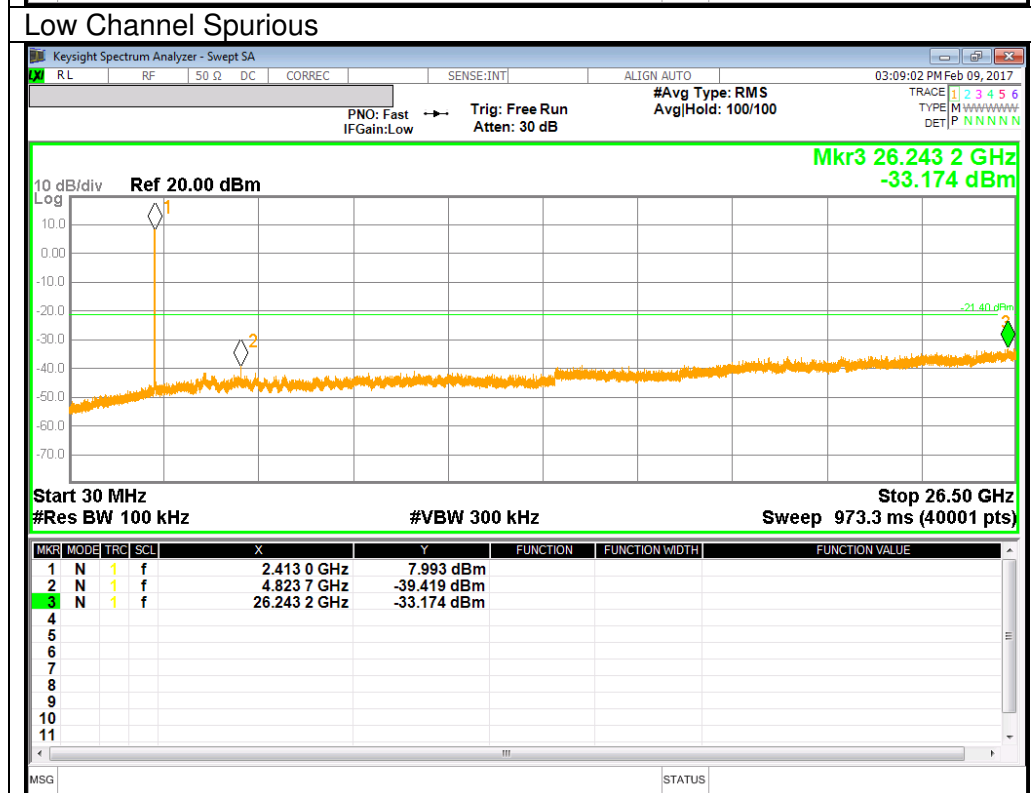
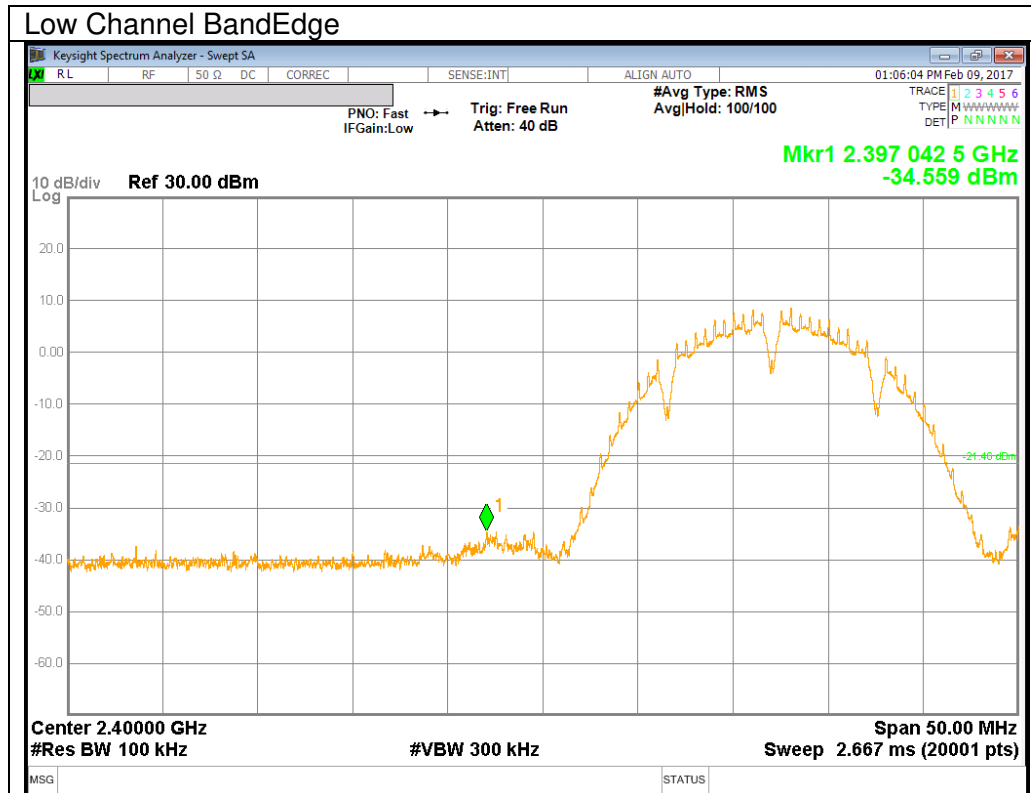
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the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

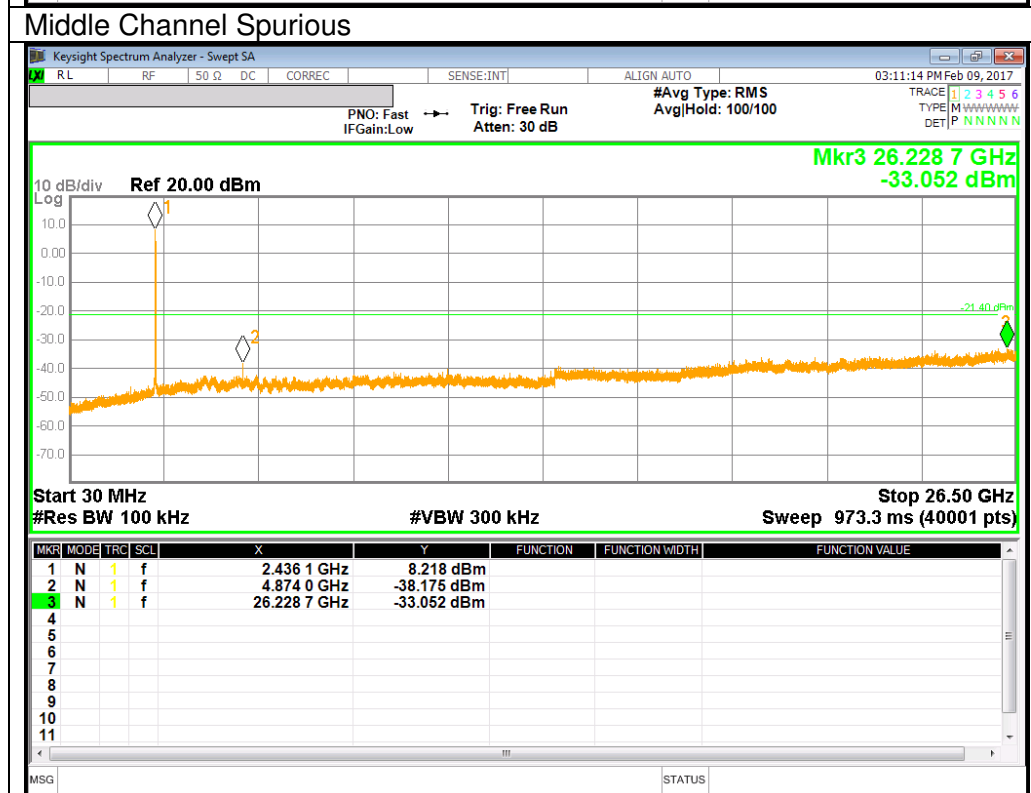
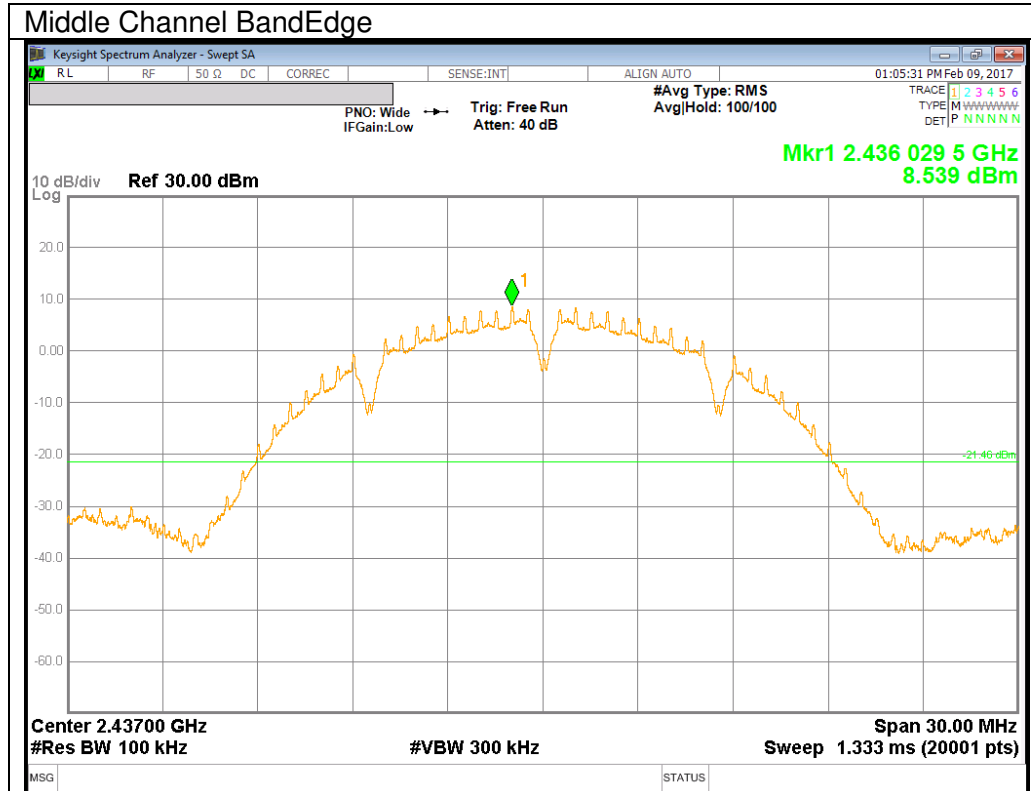
TEST PROCEDURE

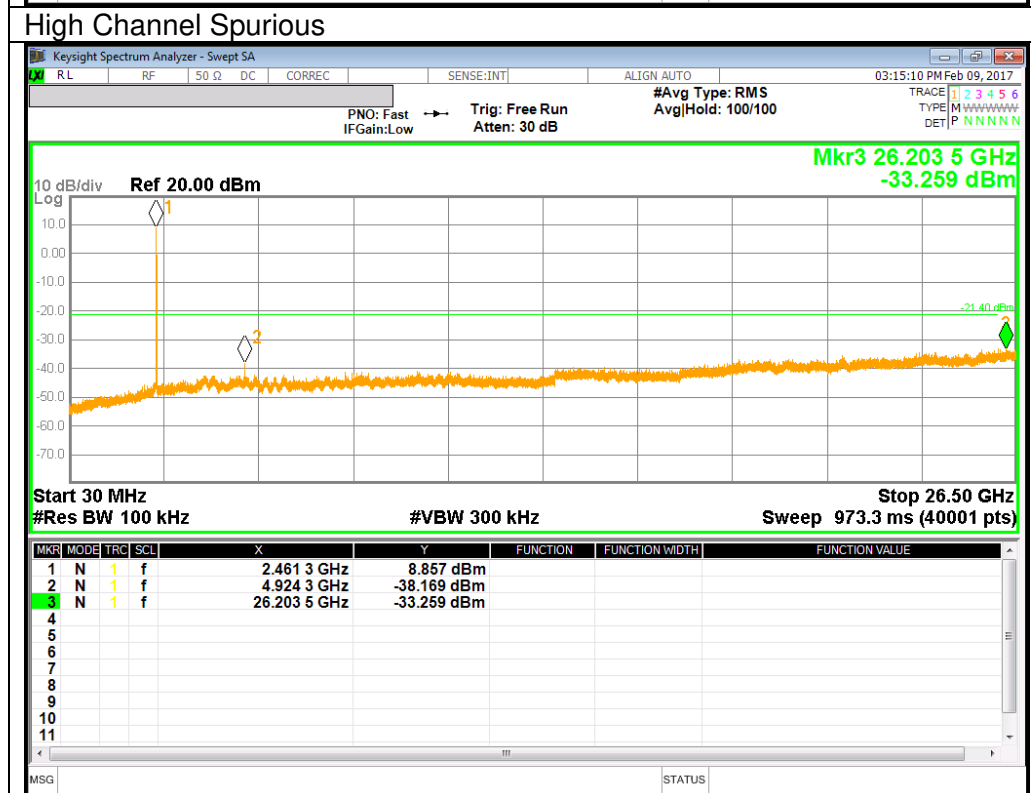
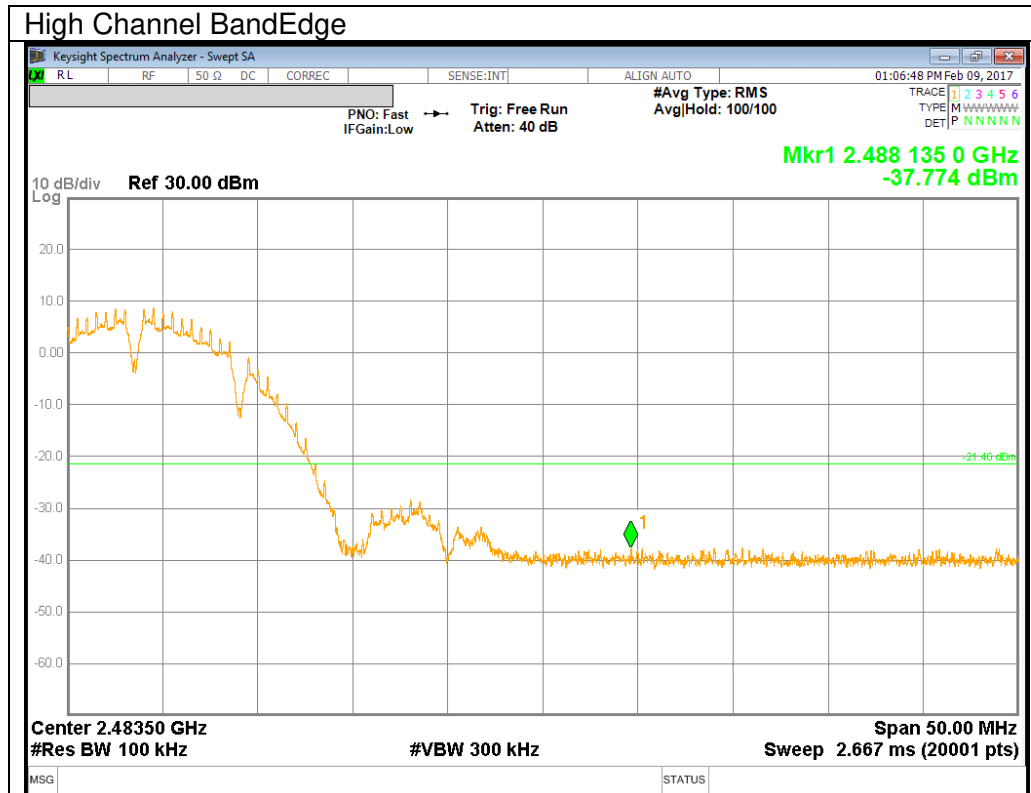
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

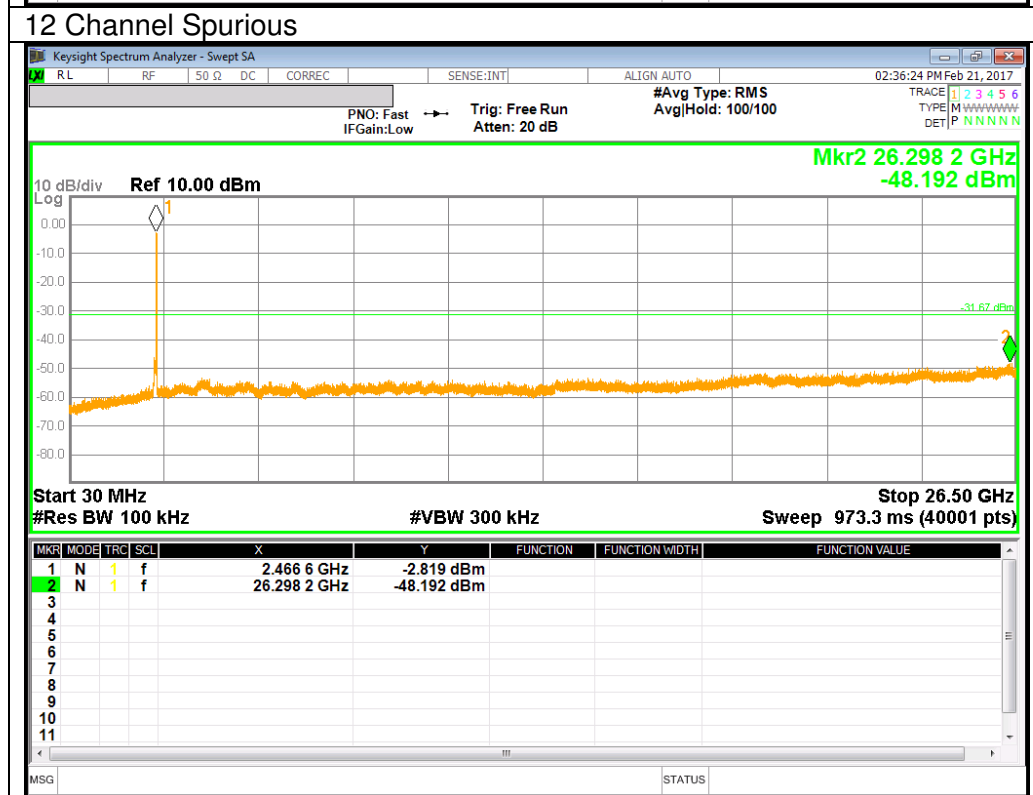
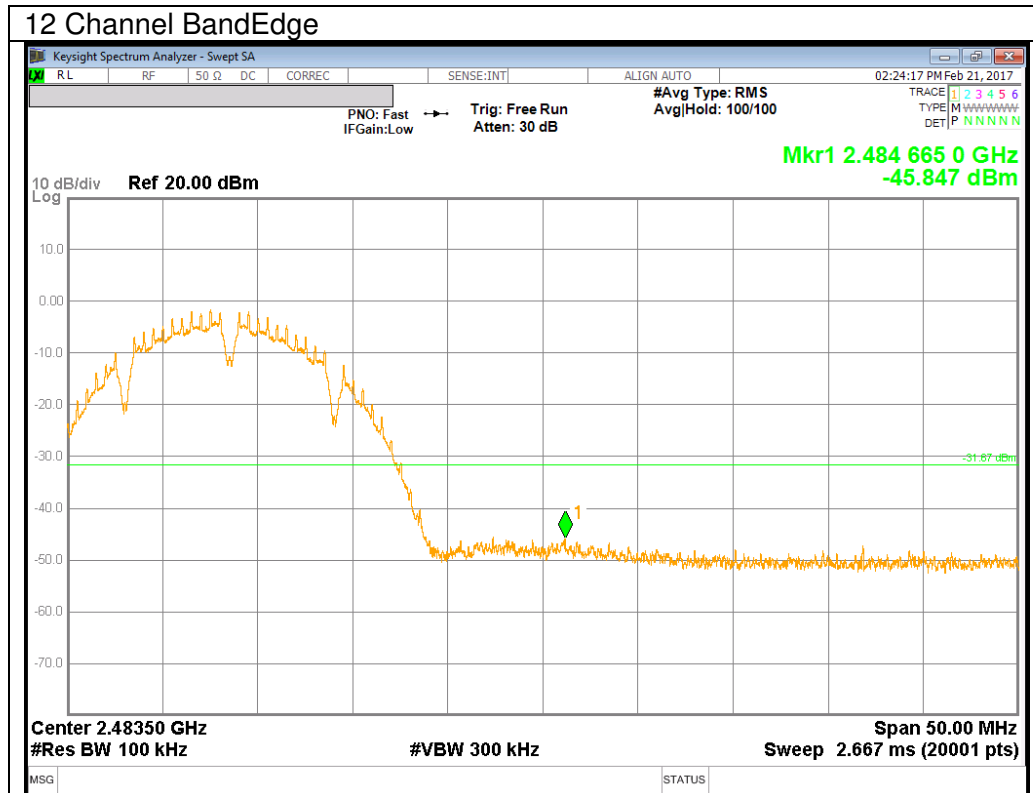
RESULTS

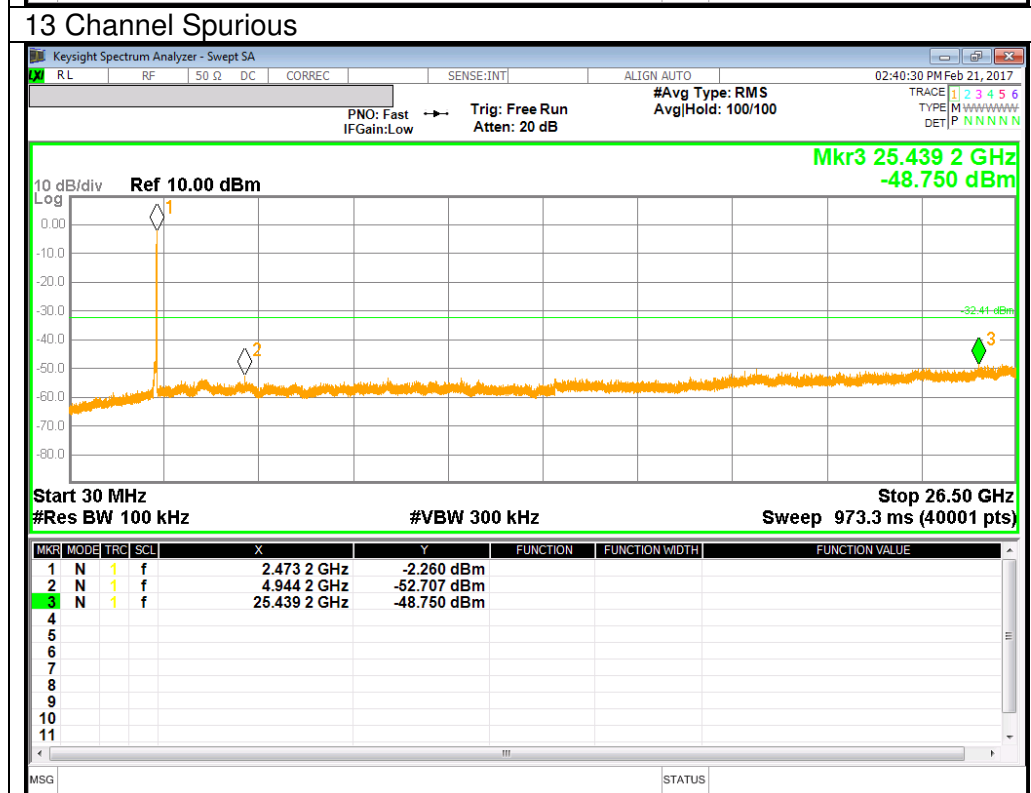
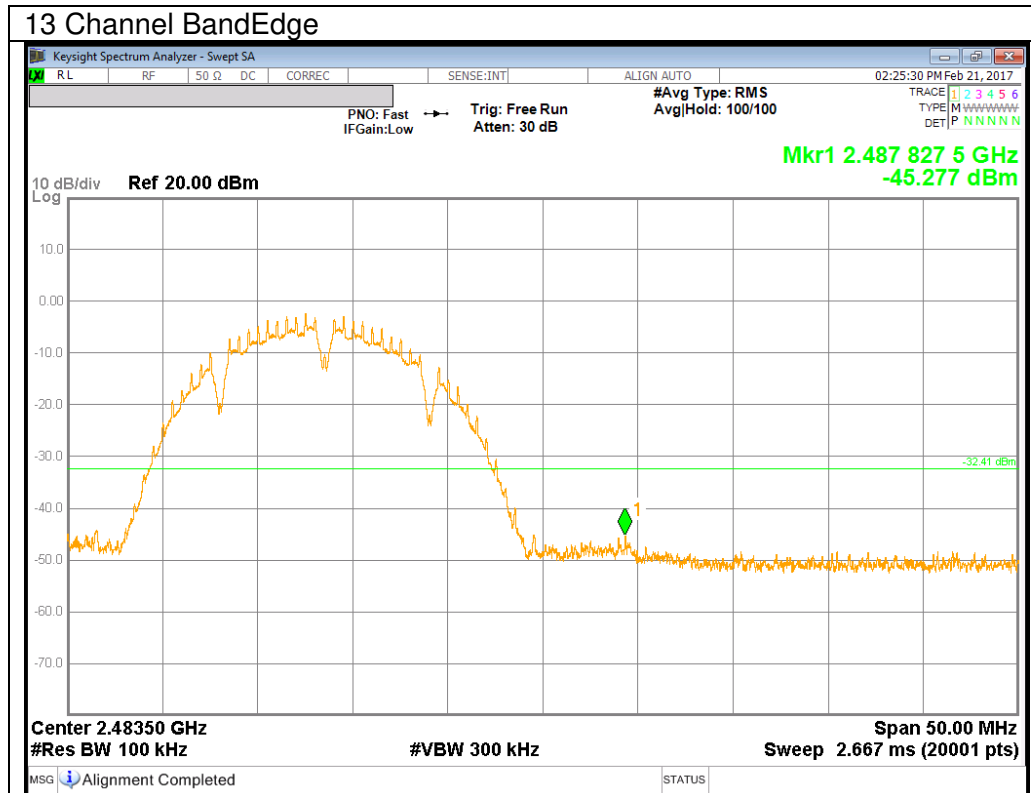
9.4.1. 802.11b MODE IN THE 2.4 GHz BAND



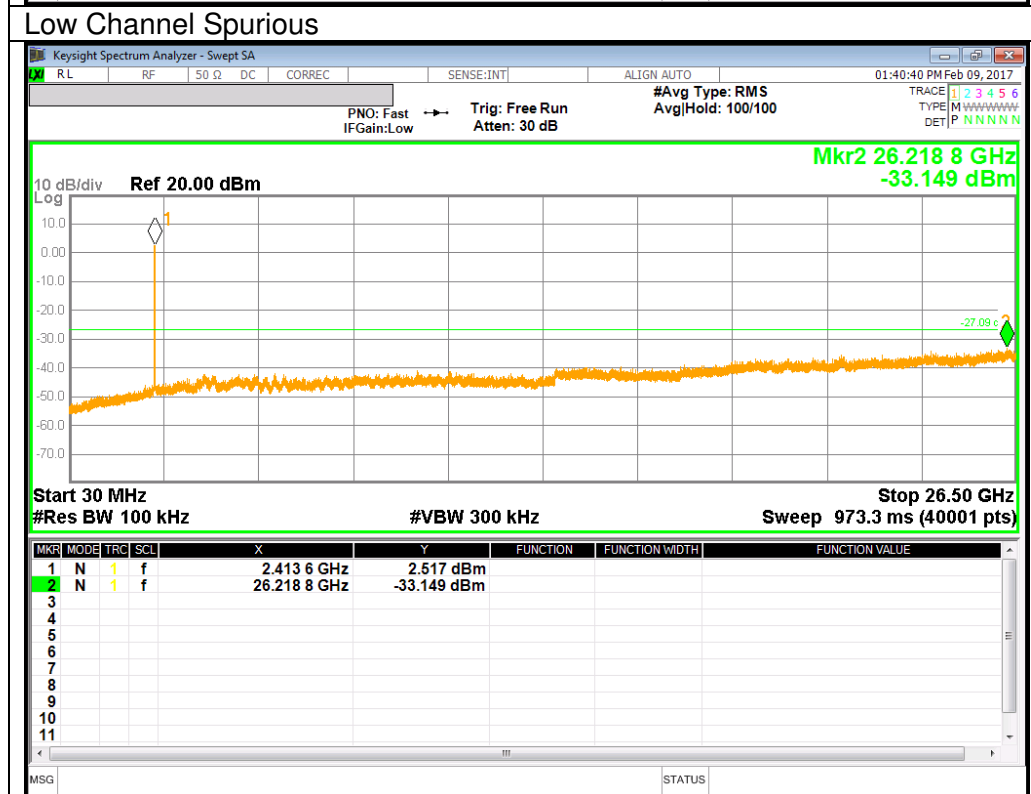
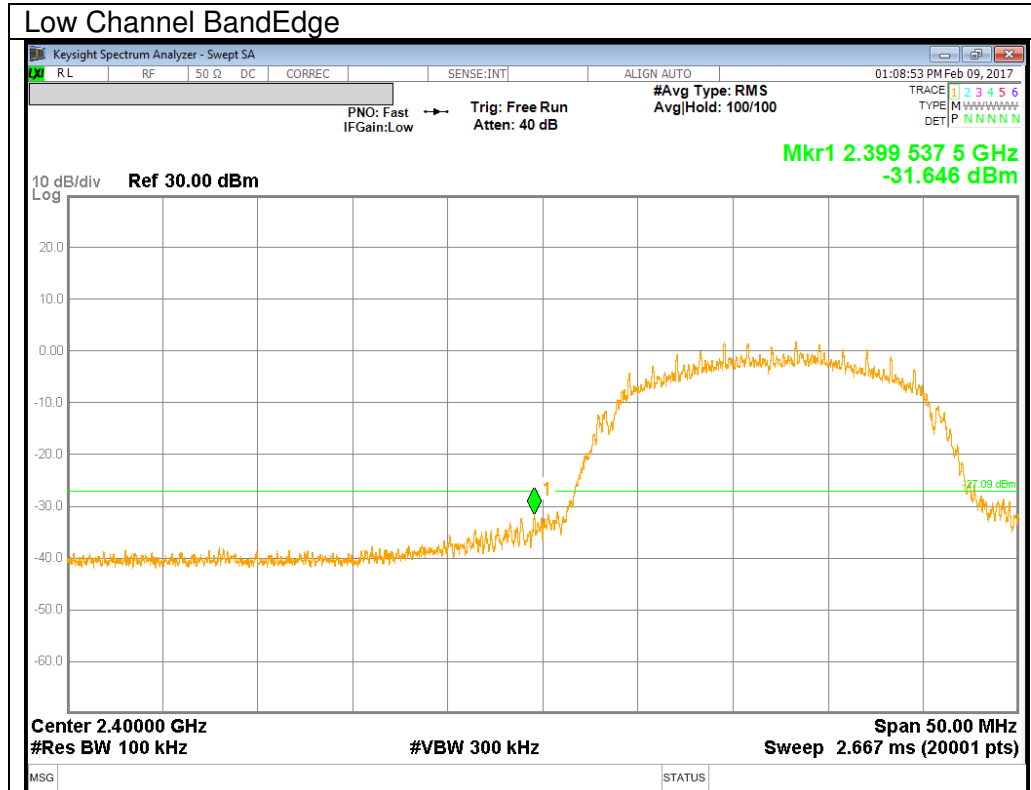


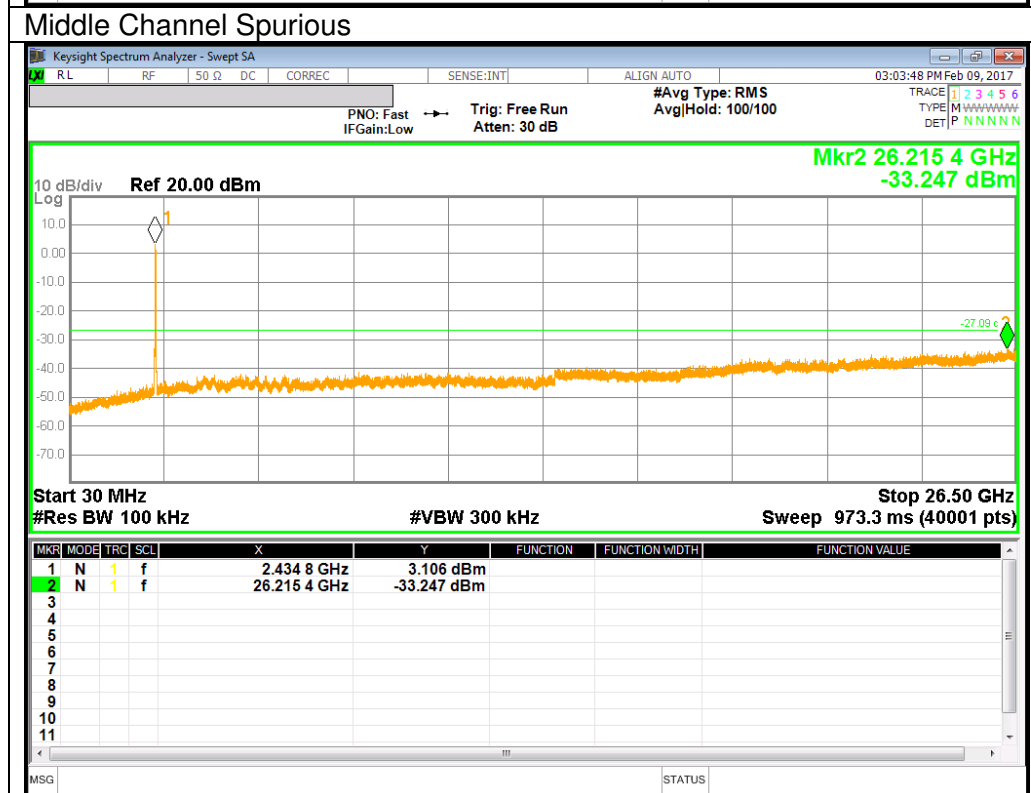
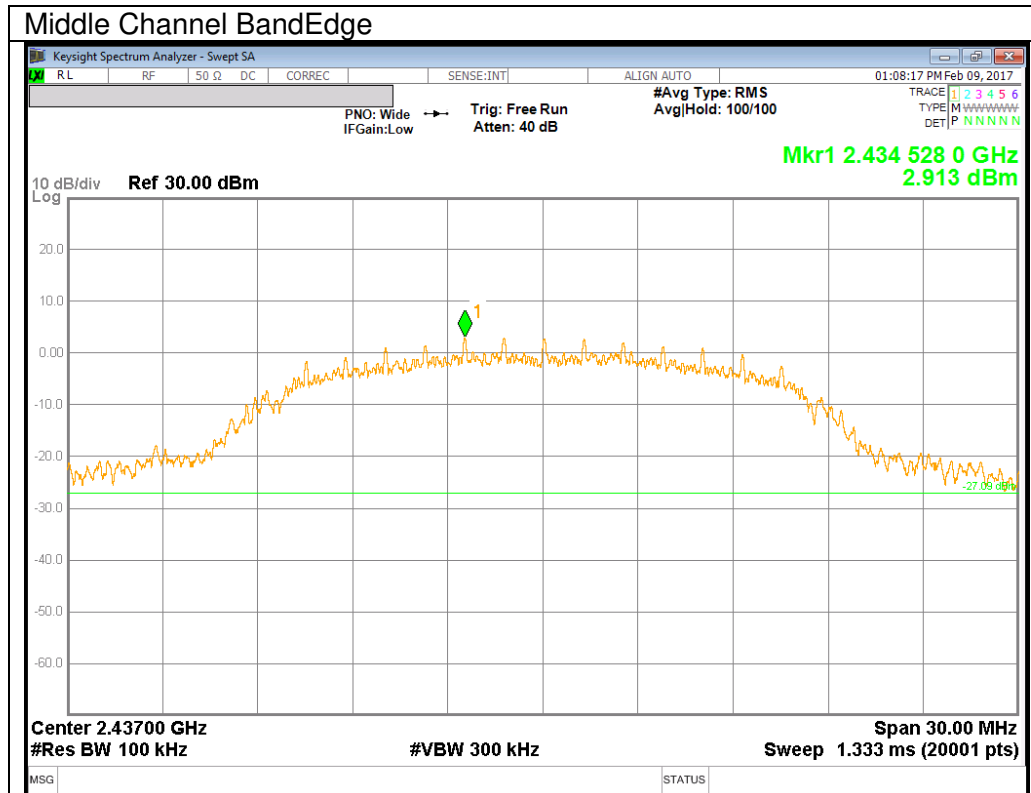


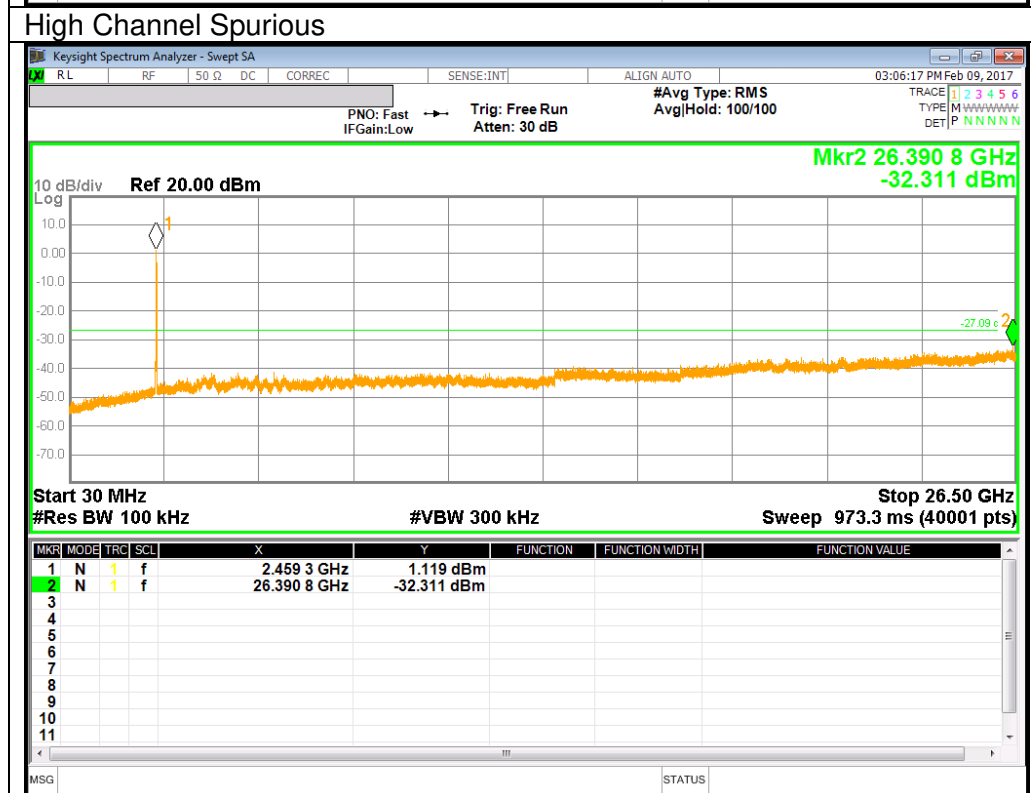
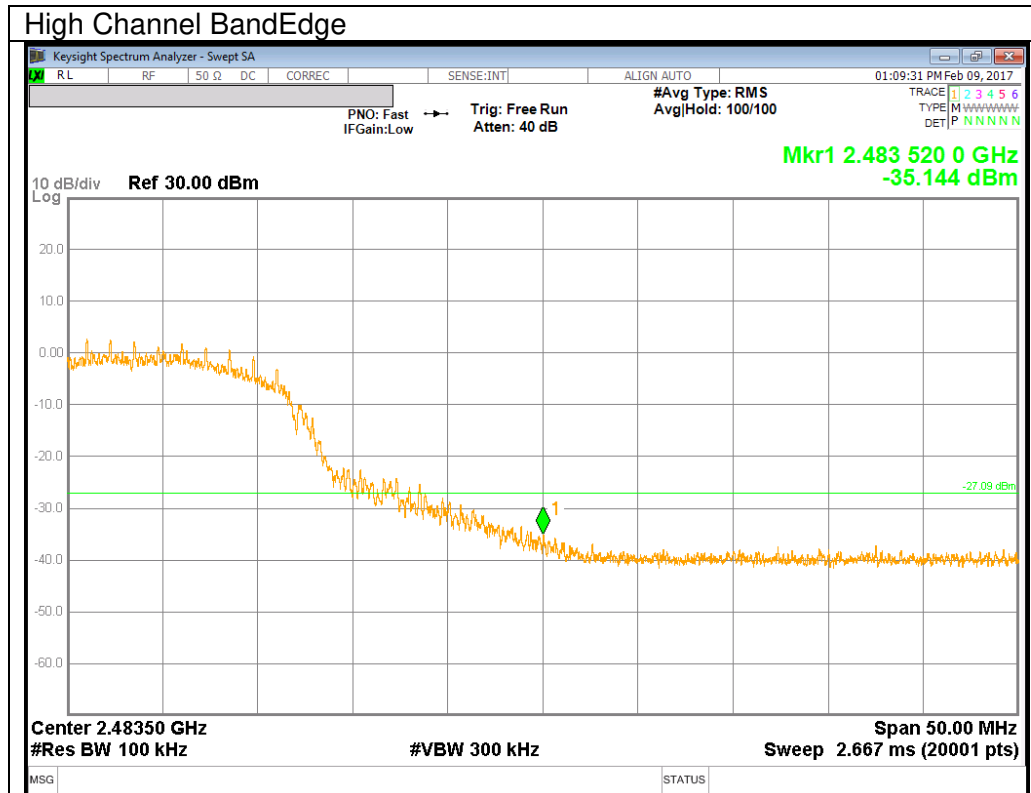


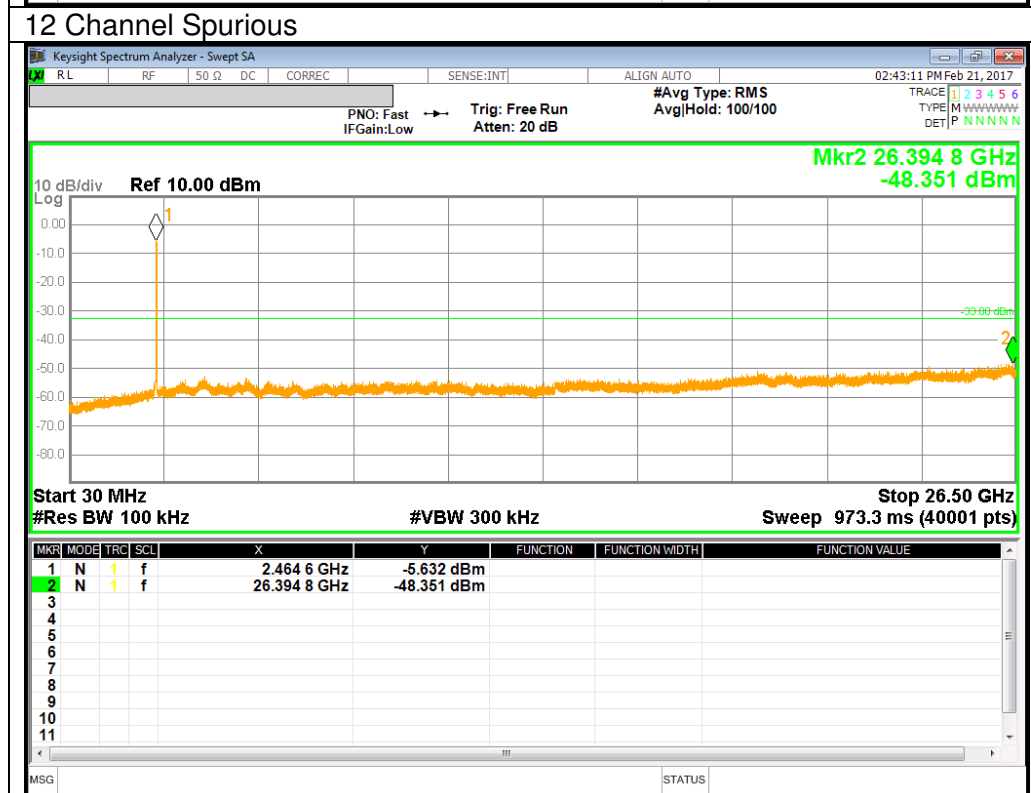
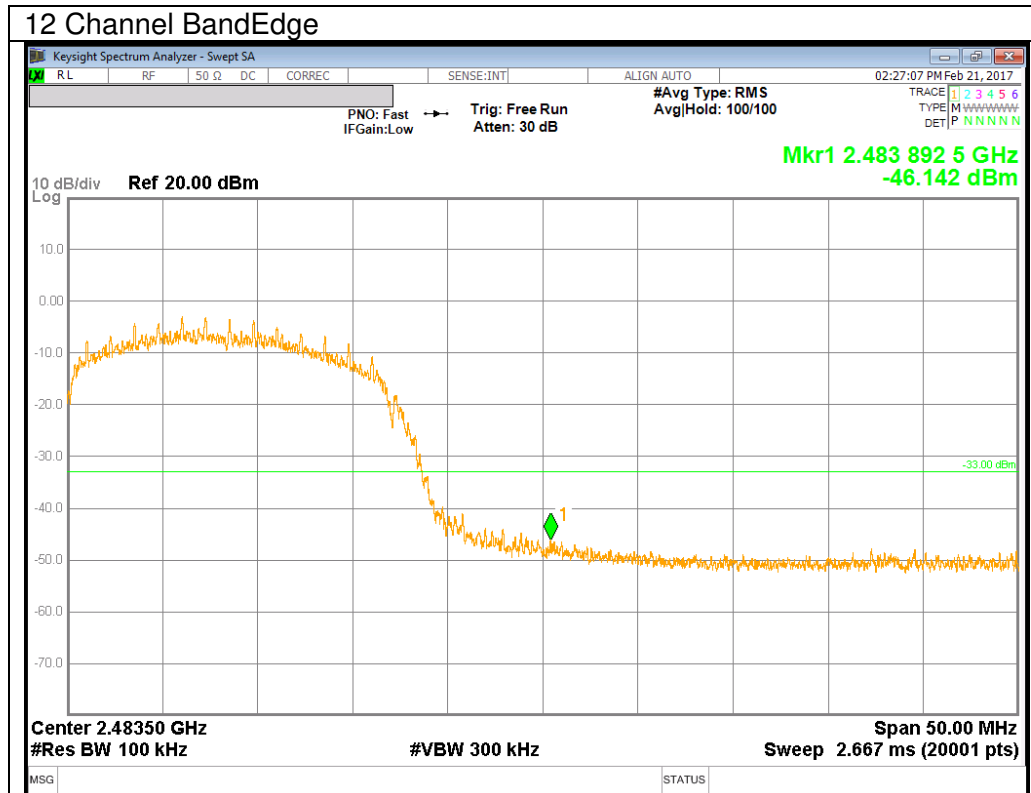


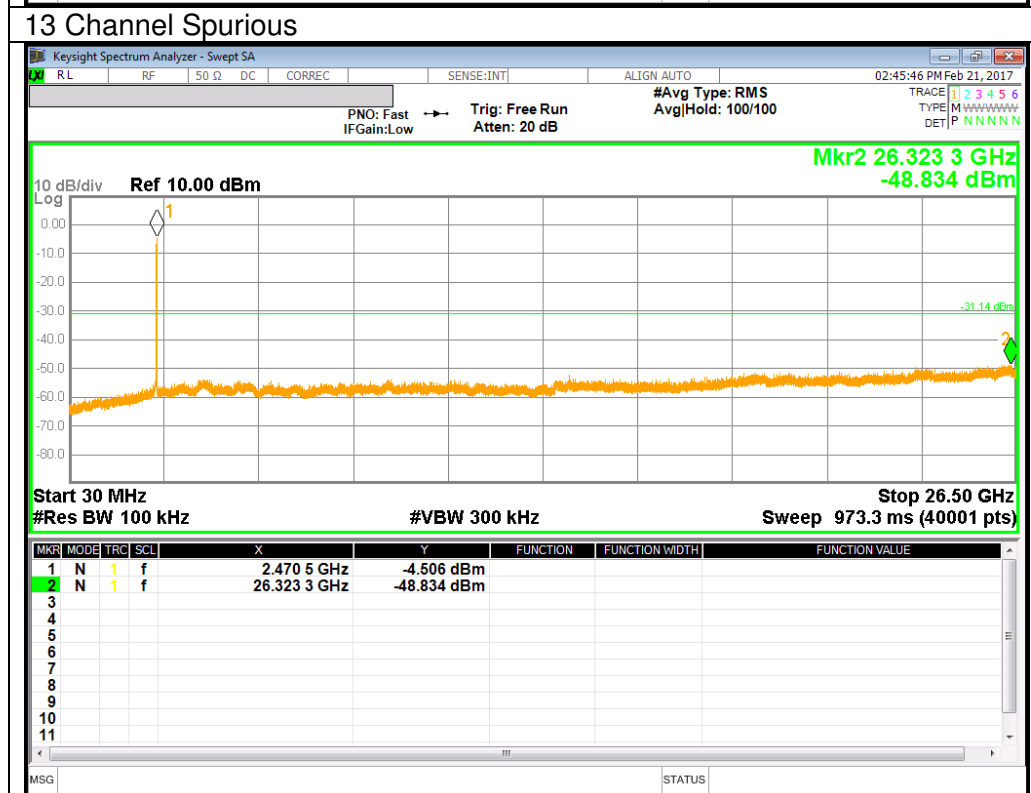
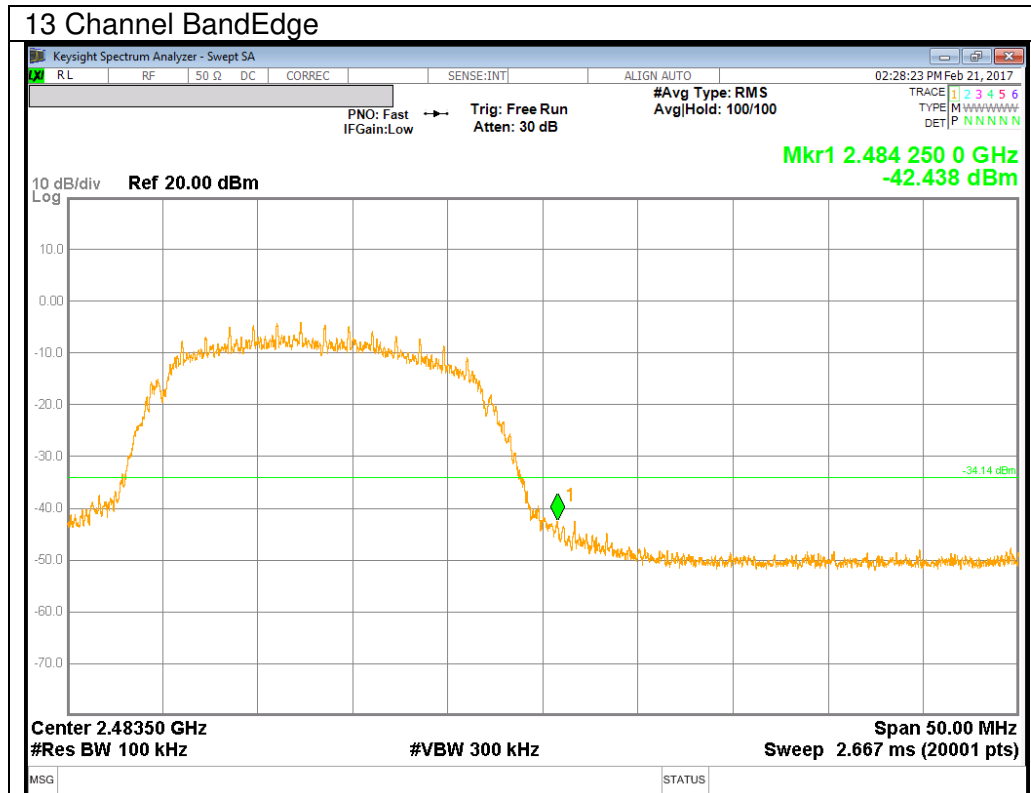
9.4.2. 802.11g MODE IN THE 2.4 GHz BAND



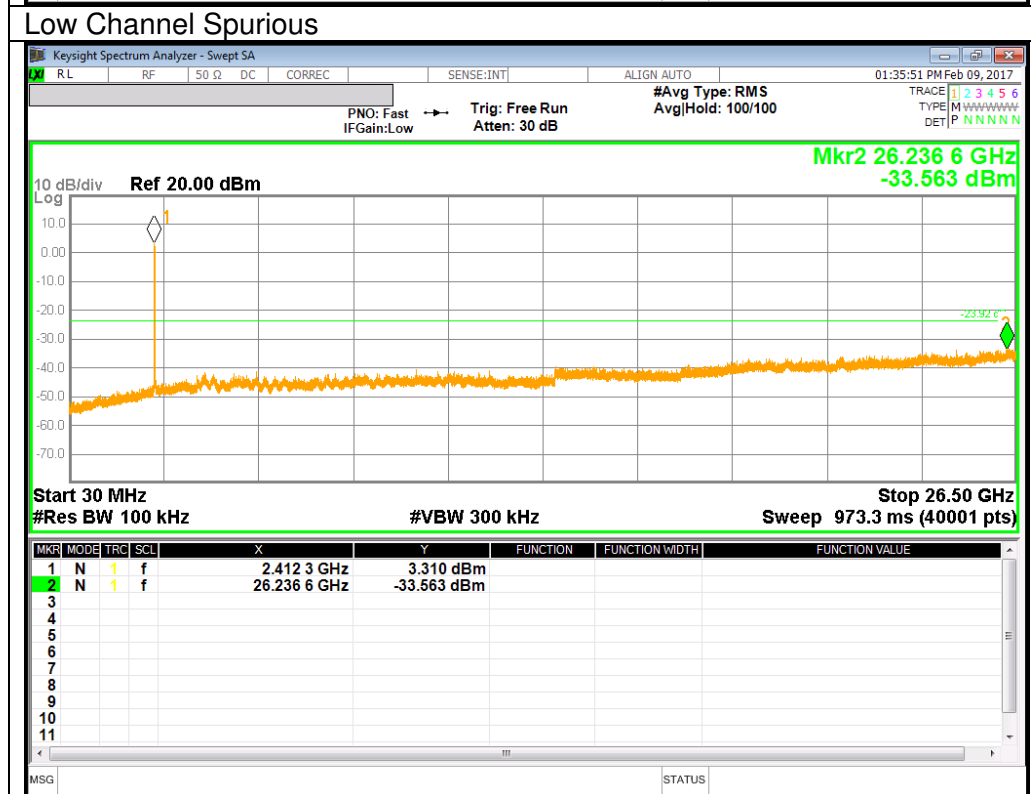
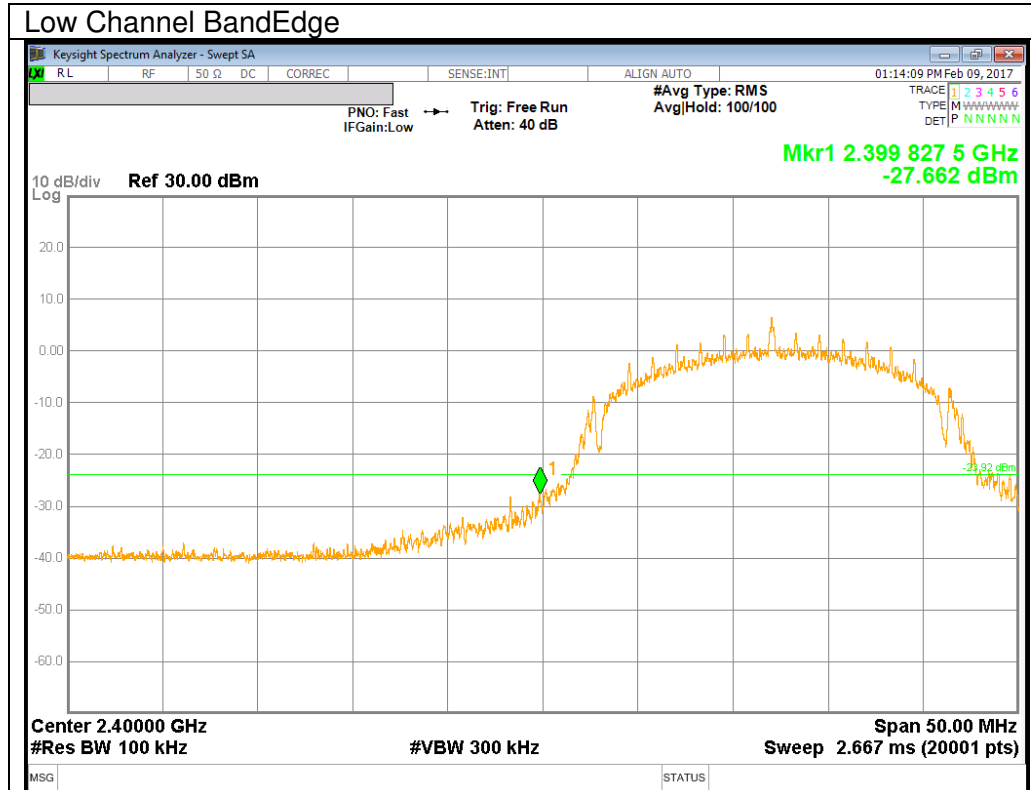


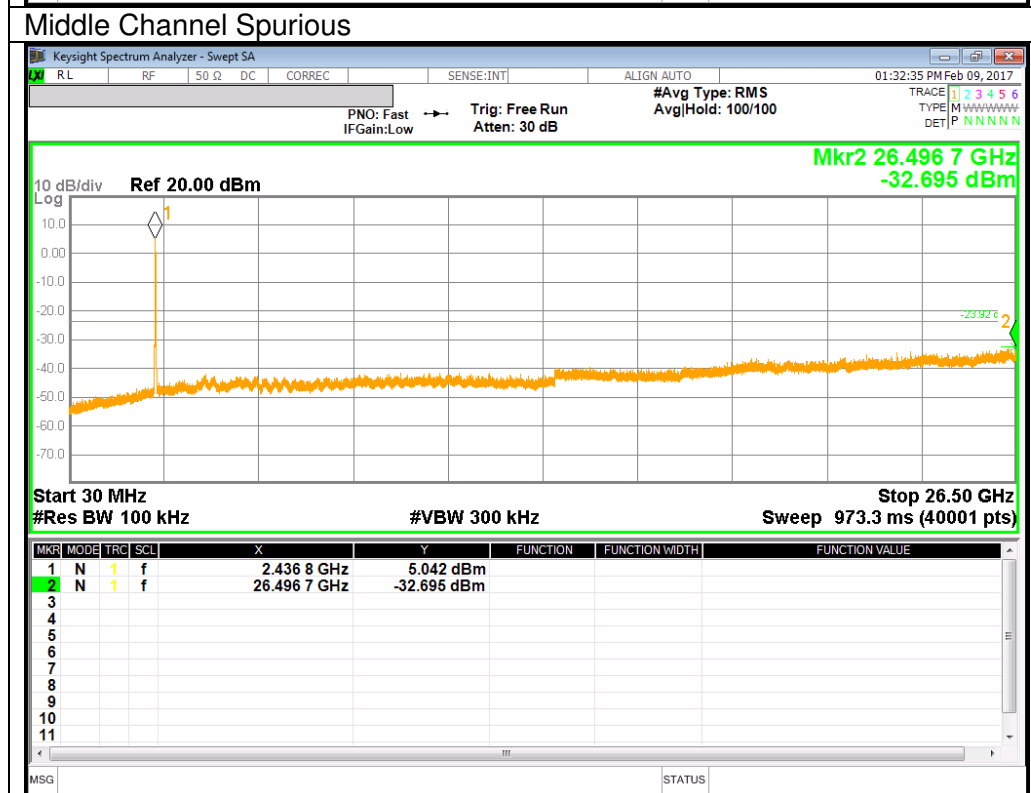
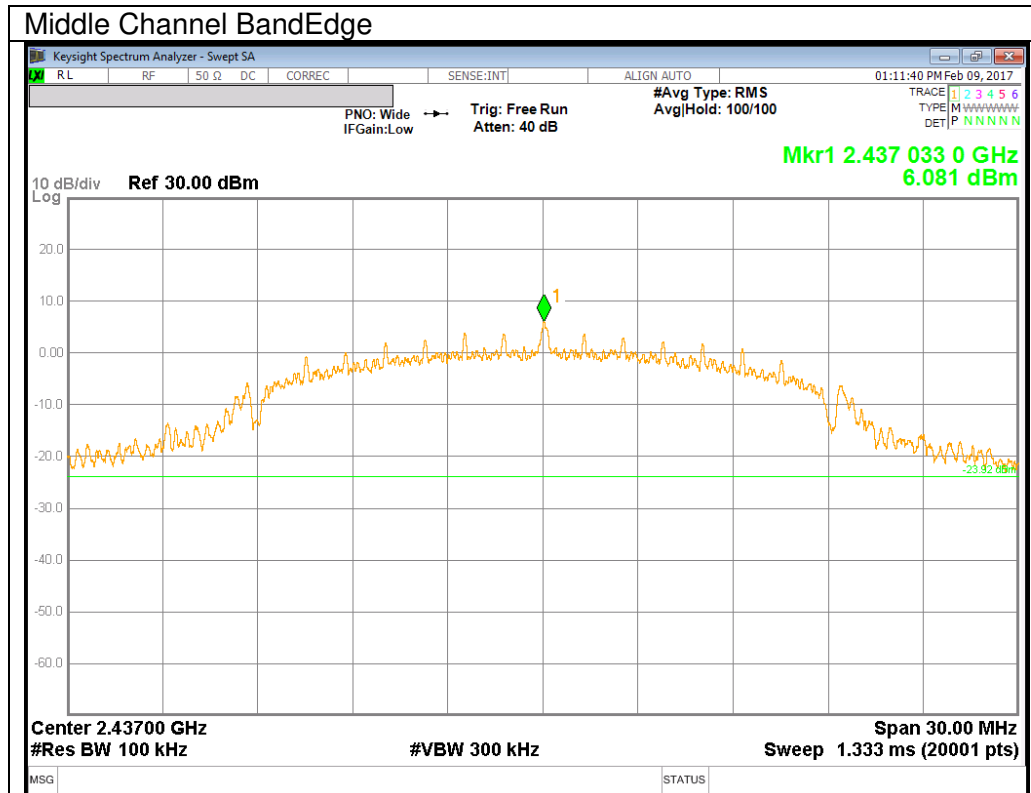


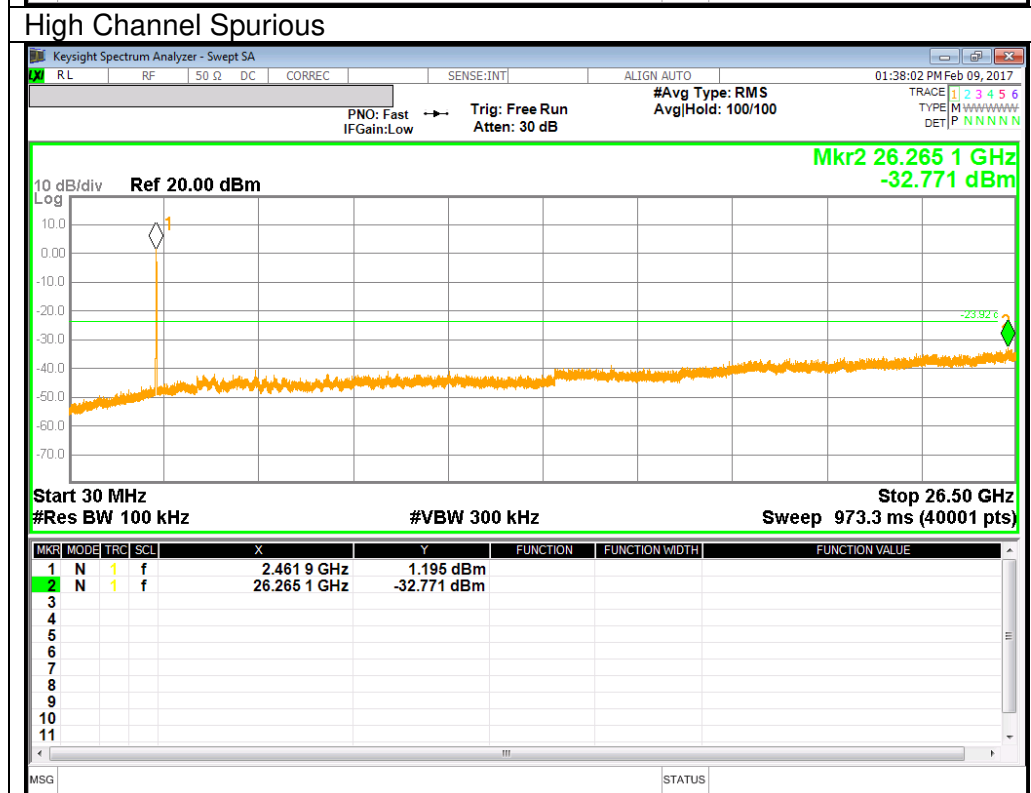
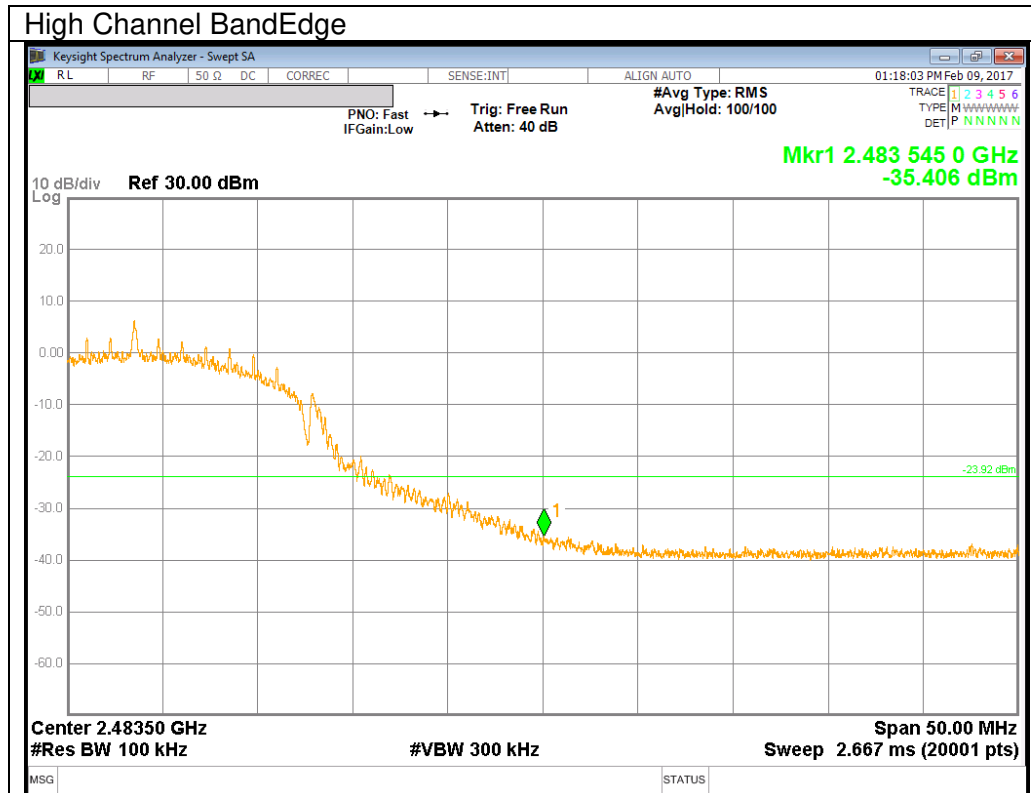


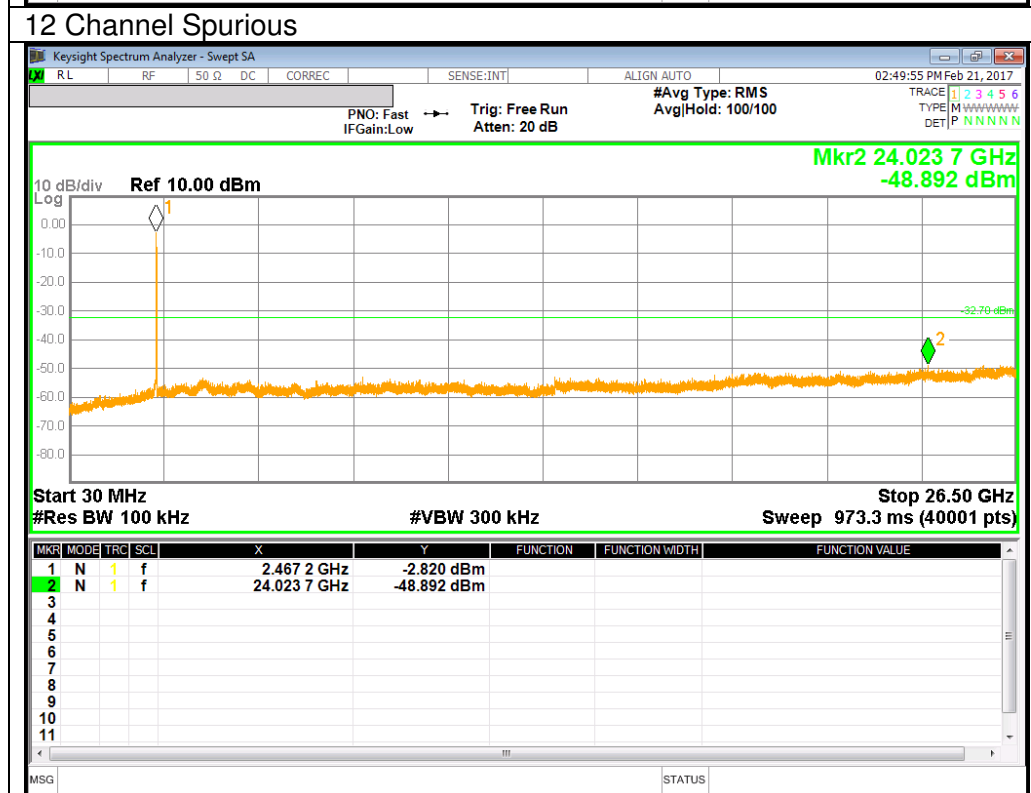


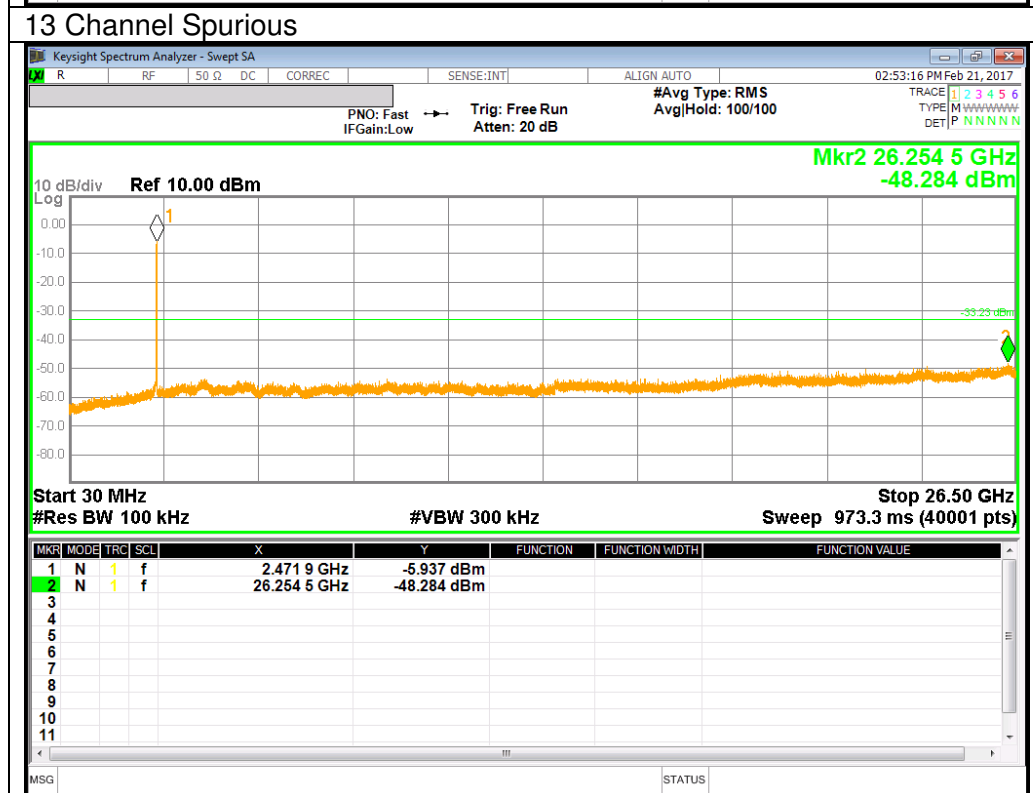
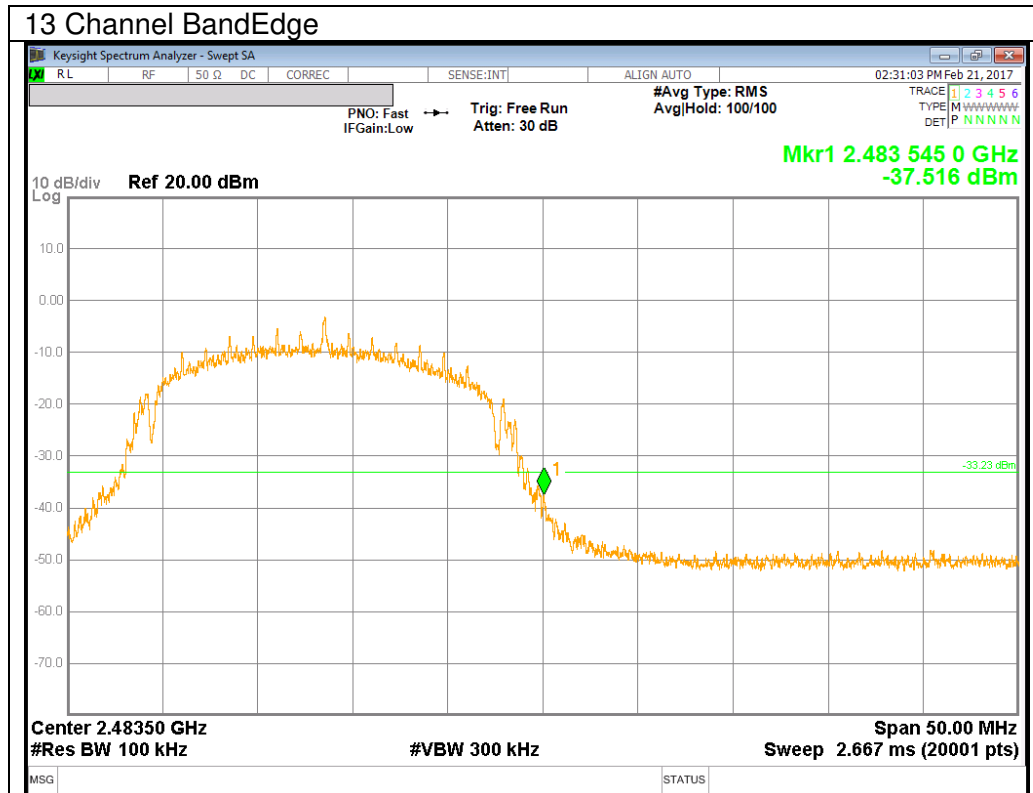
9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND











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 = 0.17dB; N mode = 0.18dB.

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) = $20 \log \text{limit (uV/m)}$

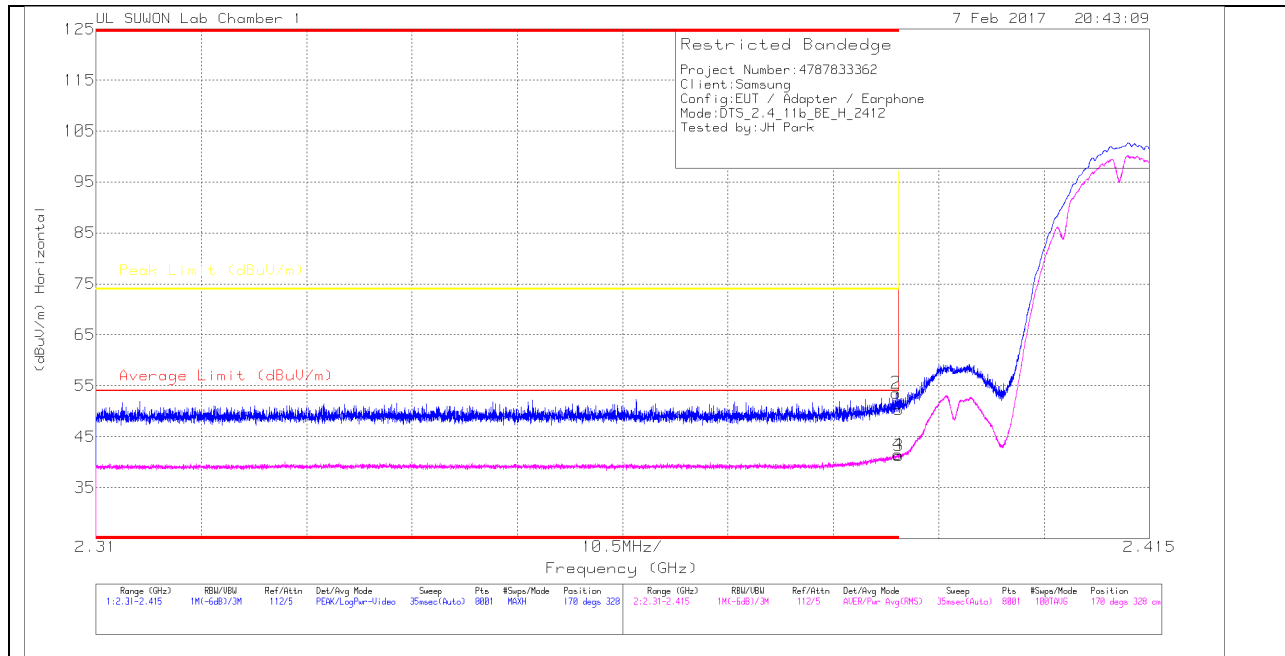
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 937606.

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

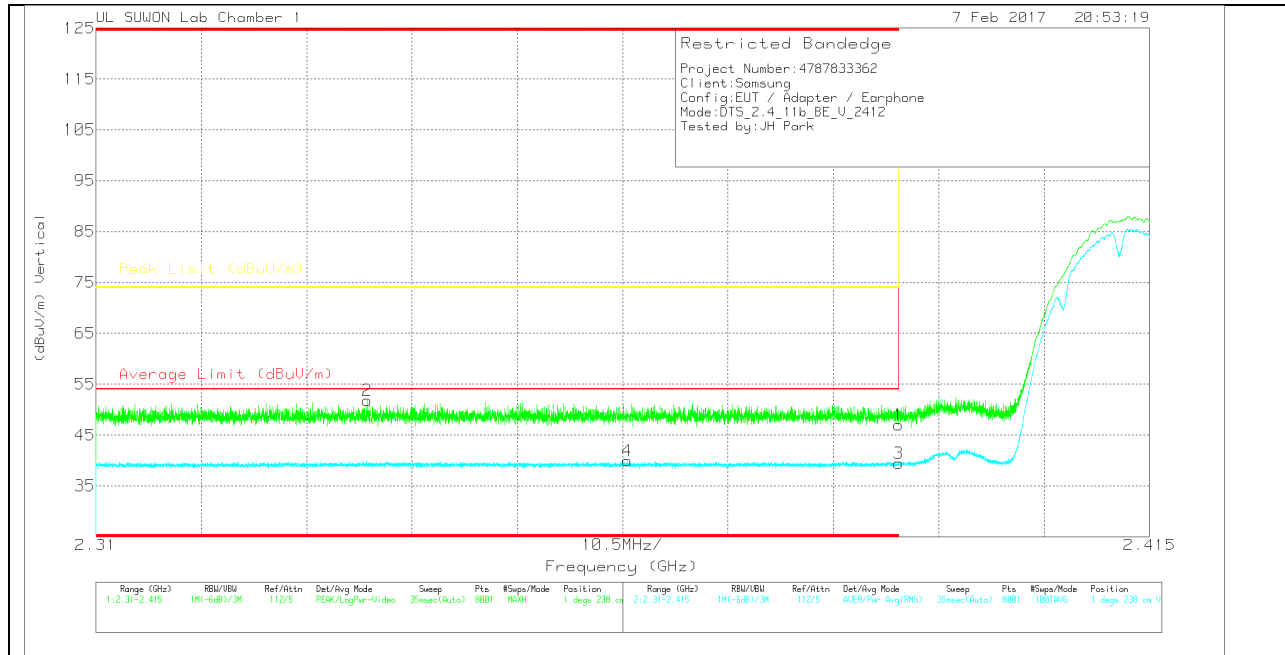
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061_9	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	47.29	Pk	31.8	-28.7	0	50.39	-	-	74	-23.61	170	328	H
2	* 2.39	50.5	Pk	31.8	-28.7	0	53.6	-	-	74	-20.4	170	328	H
3	* 2.39	38.16	RMS	31.8	-28.7	0	41.26	54	-12.74	-	-	170	328	H
4	* 2.39	38.39	RMS	31.8	-28.7	0	41.49	54	-12.51	-	-	170	328	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	* 2.39	43.85	Pk	31.8	-28.7	0	46.95	-	-	74	-27.05	1	238	V
2	* 2.337	48.95	Pk	31.7	-28.8	0	51.85	-	-	74	-22.15	1	238	V
3	* 2.39	36.35	RMS	31.8	-28.7	0	39.45	54	-14.55	-	-	1	238	V
4	* 2.363	36.81	RMS	31.8	-28.7	0	39.91	54	-14.09	-	-	1	238	V

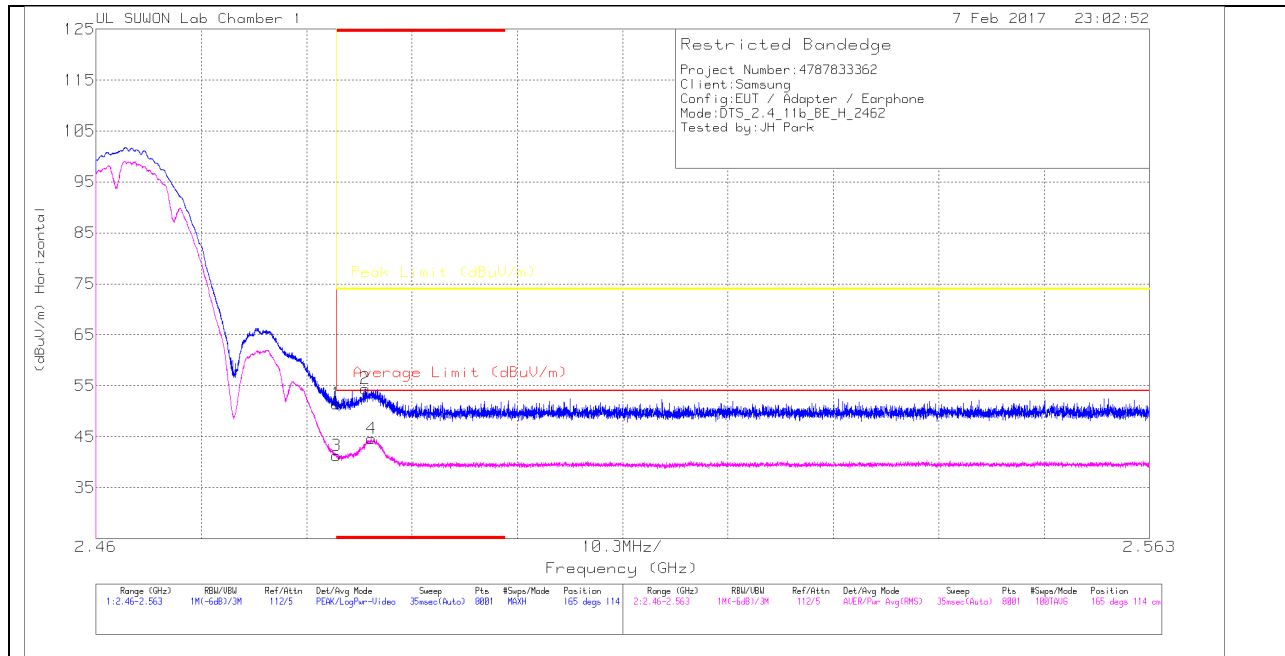
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

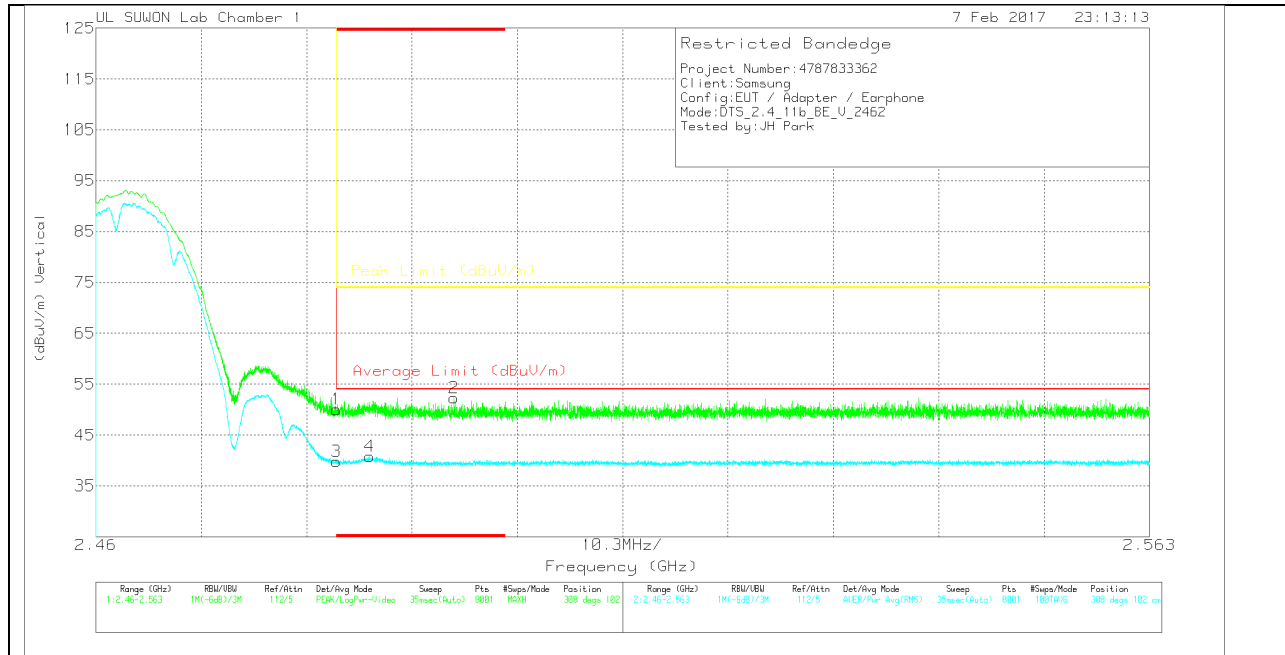
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	48.2	Pk		-28.7	0	51.5	-	-	74	-22.5	165	114	H
2	* 2.486	51.07	Pk		-28.6	0	54.47	-	-	74	-19.53	165	114	H
3	* 2.484	38.04	RMS		-28.7	0	41.34	54	-12.66	-	-	165	114	H
4	* 2.487	41.27	RMS		-28.6	0	44.67	54	-9.33	-	-	165	114	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	46.72	Pk	32	-28.7	0	50.02	-	-	74	-23.98	308	102	V
2	* 2.495	48.94	Pk	32	-28.6	0	52.34	-	-	74	-21.66	308	102	V
3	* 2.484	36.47	RMS	32	-28.7	0	39.77	54	-14.23	-	-	308	102	V
4	* 2.487	37.35	RMS	32	-28.6	0	40.75	54	-13.25	-	-	308	102	V

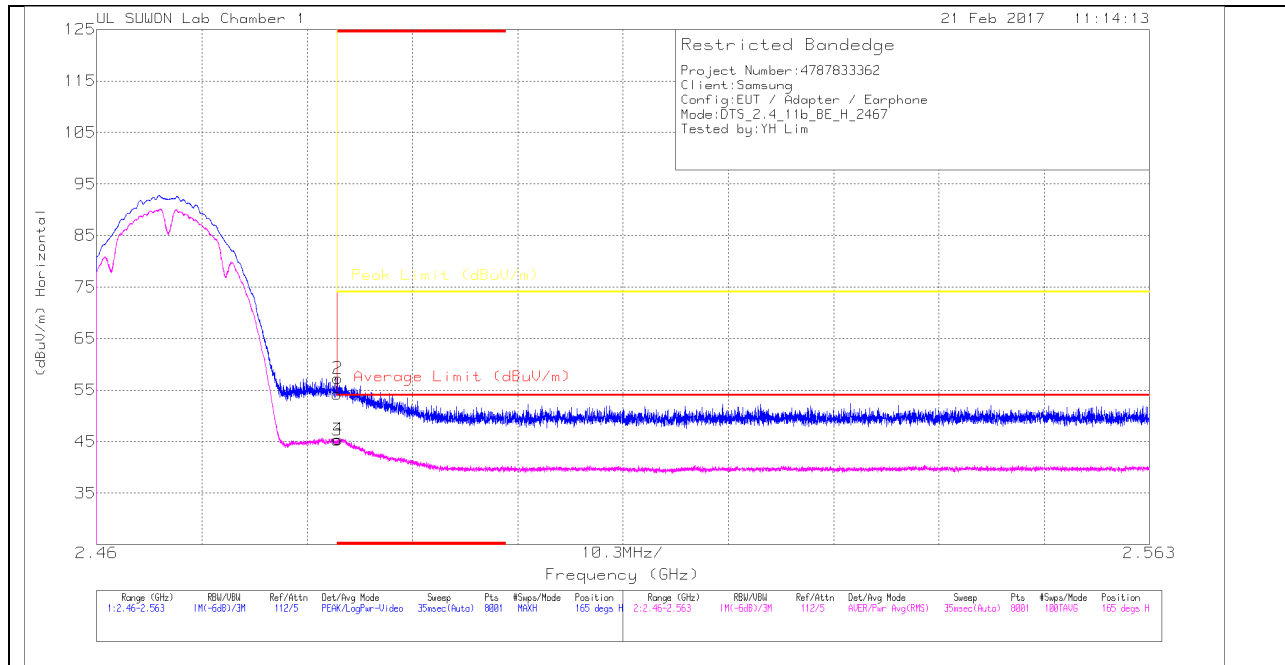
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (12 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

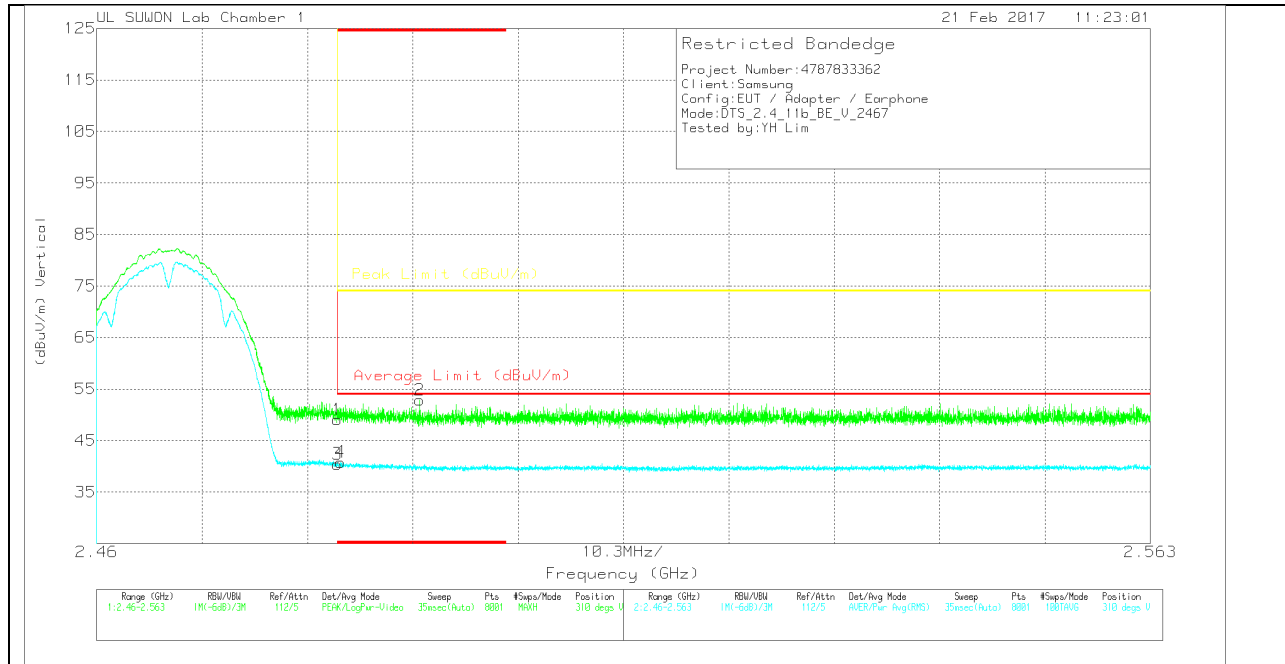
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Attn(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	50.89	Pk	32	-28.7	0	54.19	-	-	74	-19.81	165	327	H
2	* 2.484	53.99	Pk	32	-28.7	0	57.29	-	-	74	-16.71	165	327	H
3	* 2.484	42.01	RMS	32	-28.7	0	45.31	54	-8.69	-	-	165	327	H
4	* 2.484	42.15	RMS	32	-28.7	0	45.45	54	-8.55	-	-	165	327	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	45.76	Pk	32	-28.7	0	49.06	-	-	74	-24.94	310	261	V
2	* 2.492	49.48	Pk	32	-28.6	0	52.88	-	-	74	-21.12	310	261	V
3	* 2.484	37.14	RMS	32	-28.7	0	40.44	54	-13.56	-	-	310	261	V
4	* 2.484	37.49	RMS	32	-28.7	0	40.79	54	-13.21	-	-	310	261	V

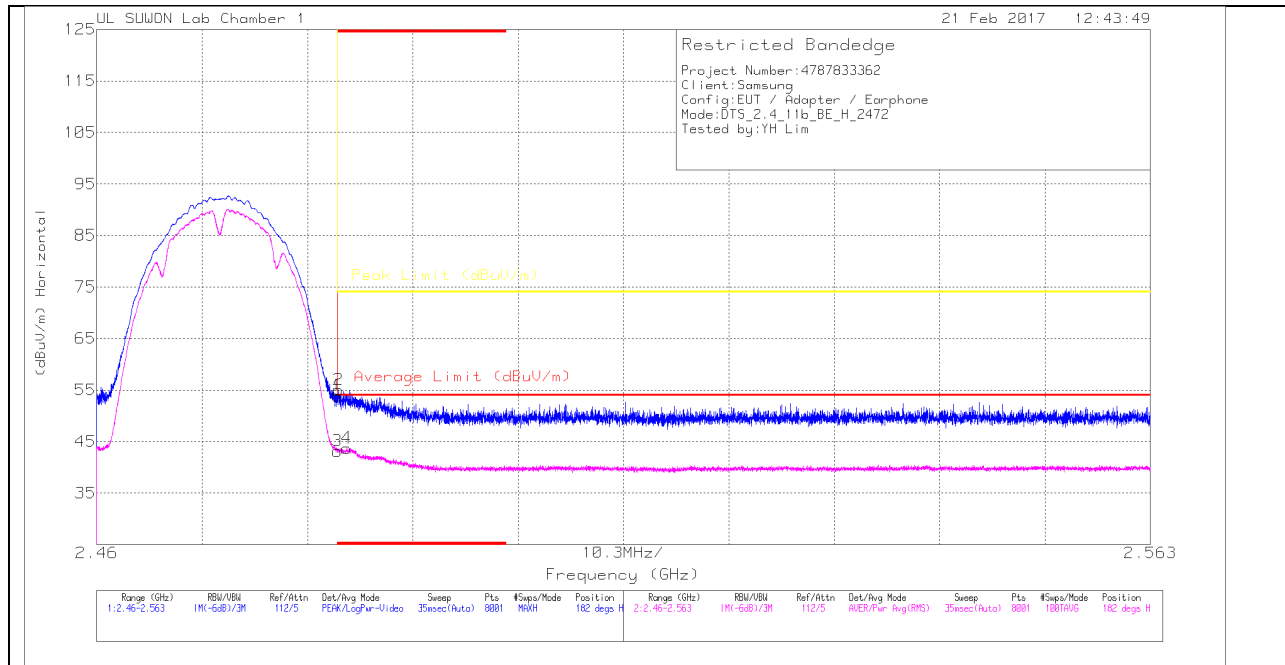
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (13 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

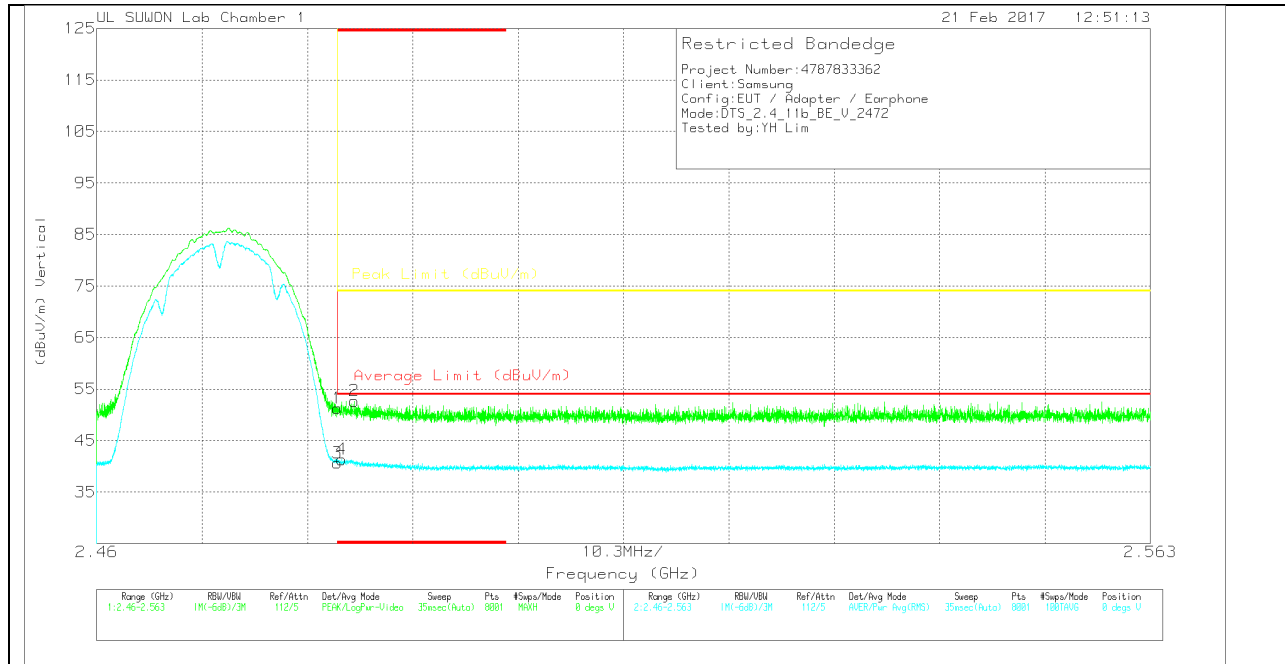
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	50.61	Pk	32	-28.7	0	53.91	-	-	74	-20.09	182	100	H
2	* 2.484	51.71	Pk	32	-28.7	0	55.01	-	-	74	-18.99	182	100	H
3	* 2.484	39.86	RMS	32	-28.7	0	43.16	54	-10.84	-	-	182	100	H
4	* 2.484	40.43	RMS	32	-28.7	0	43.73	54	-10.27	-	-	182	100	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	47.98	Pk	32	-28.7	0	51.28	-	-	74	-22.72	0	120	V
2	* 2.485	49.38	Pk	32	-28.7	0	52.68	-	-	74	-21.32	0	120	V
3	* 2.484	37.31	RMS	32	-28.7	0	40.61	54	-13.39	-	-	0	120	V
4	* 2.484	38.03	RMS	32	-28.7	0	41.33	54	-12.67	-	-	0	120	V

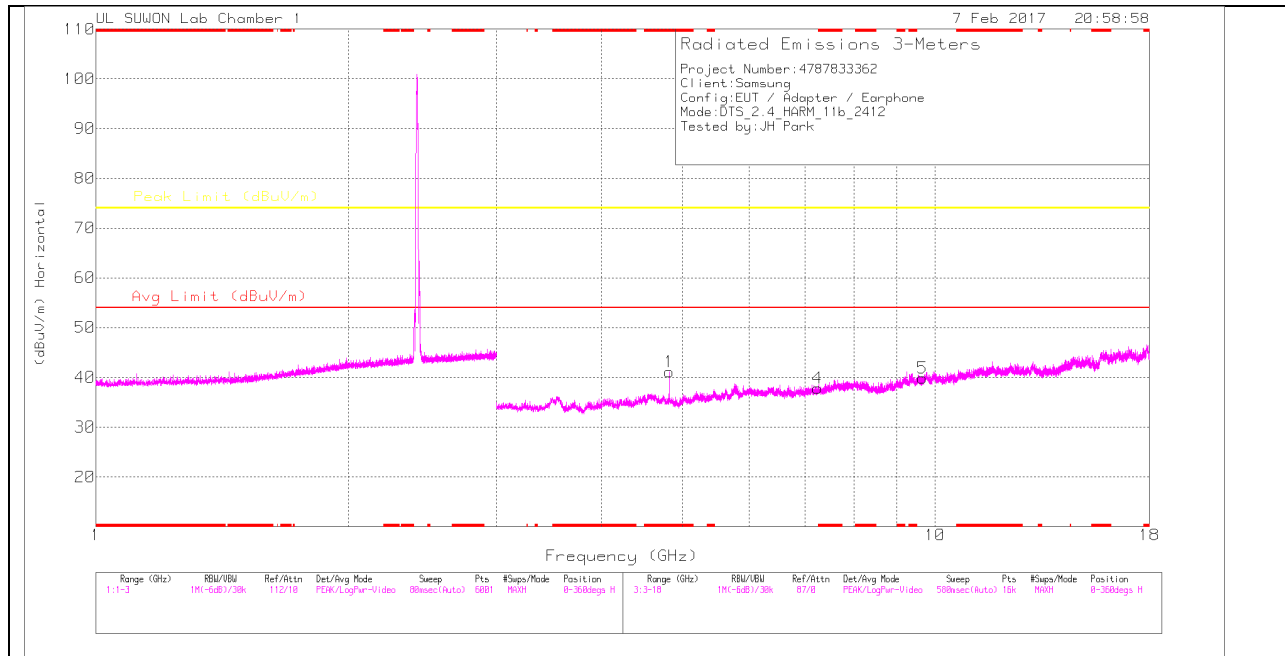
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

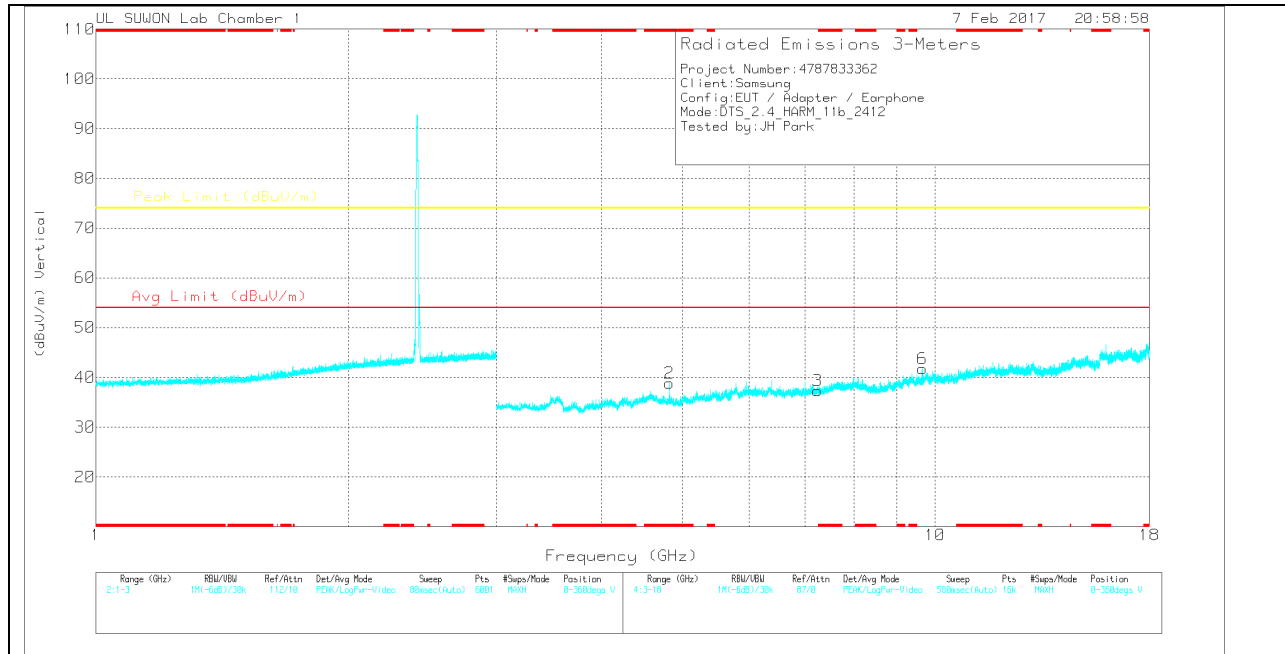
RMS - RMS detection

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(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	* 4.823	41.17	PK	34	-34	0	41.17	-	-	74	-32.83	0-360	150	H
4	7.238	33.32	PK	35.7	-31.2	0	37.82	-	-	74	-36.18	0-360	150	H
5	9.65	31.06	PK	37.1	-28.3	0	39.86	-	-	74	-34.14	0-360	150	H
2	* 4.823	38.79	PK	34	-34	0	38.79	-	-	74	-35.21	0-360	250	V
3	7.238	32.82	PK	35.7	-31.2	0	37.32	-	-	74	-36.68	0-360	250	V
6	9.648	32.87	PK	37.1	-28.2	0	41.77	-	-	74	-32.23	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

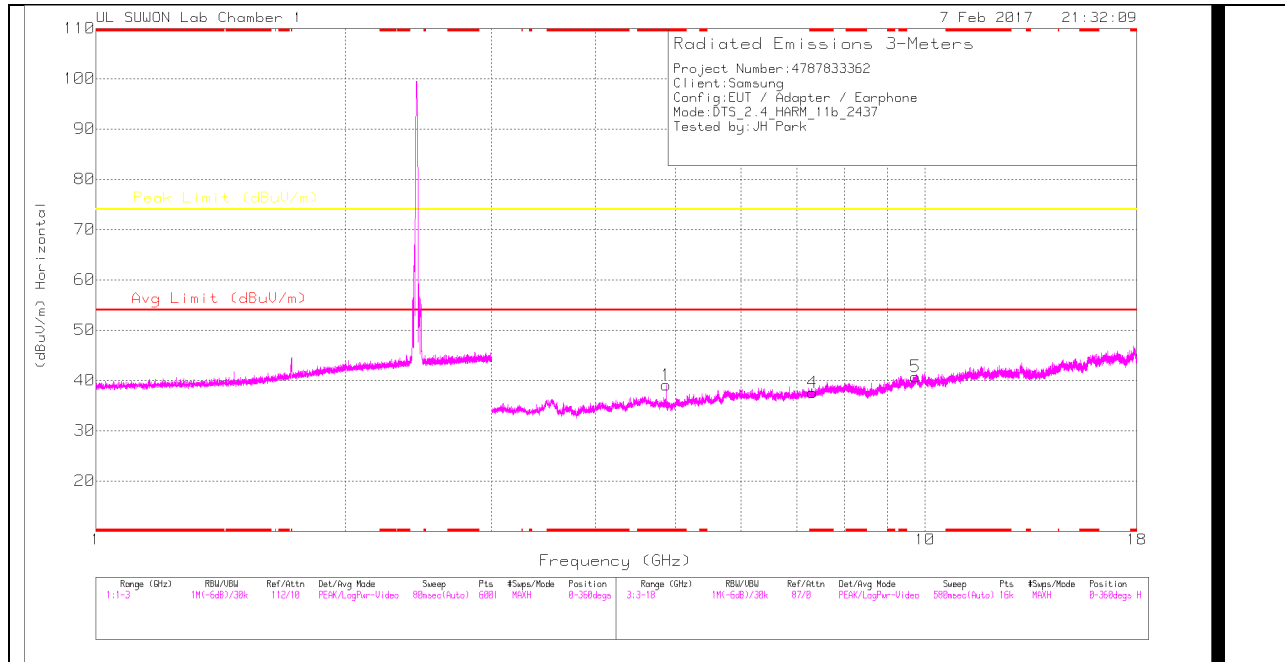
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.824	50.72	PK2	34	-34	0	50.72	-	-	74	-23.28	181	139	H
* 4.824	41.04	MAv1	34	-34	0	41.04	54	-12.96	-	-	181	139	H
* 4.824	48.53	PK2	34	-34	0	48.53	-	-	74	-25.47	290	265	V
* 4.824	37.17	MAv1	34	-34	0	37.17	54	-16.83	-	-	290	265	V

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

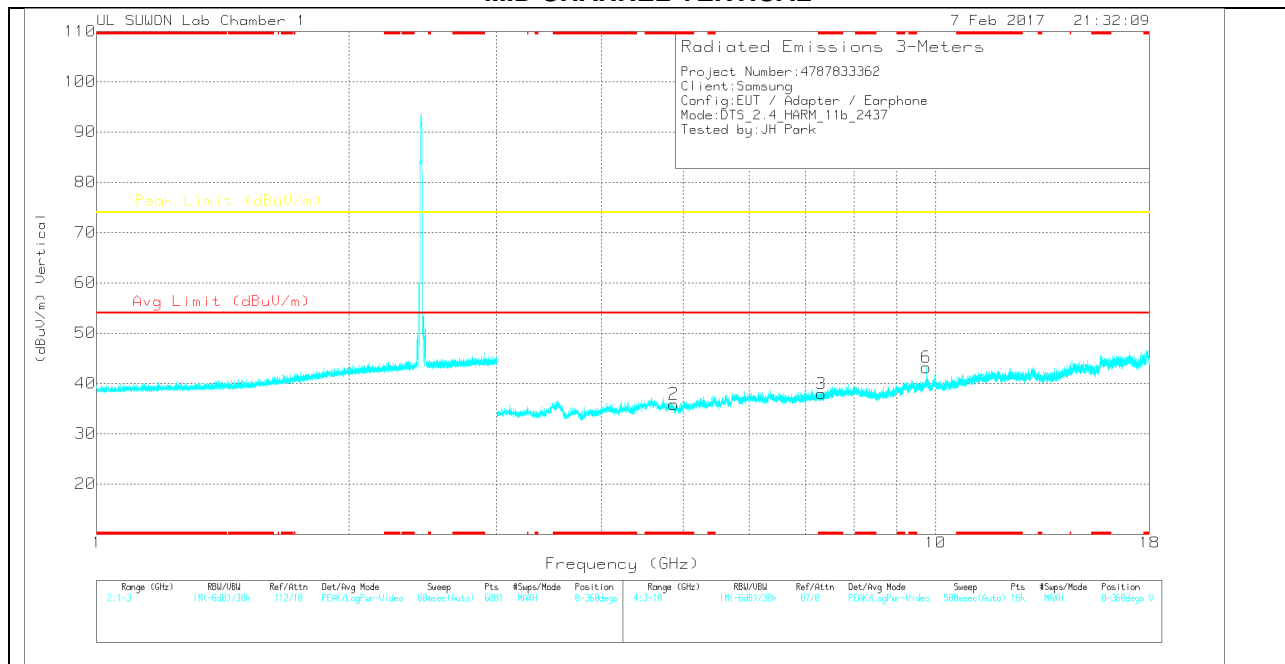
PK2 - KDB558074 Method: Maximum Peak

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(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	* 4.874	39.28	PK	34	-34.2	0	39.08	-	-	74	-34.92	0-360	150	H
4	* 7.317	32.8	PK	35.8	-31	0	37.6	-	-	74	-36.4	0-360	150	H
5	9.748	31.24	PK	37.2	-27.7	0	40.74	-	-	74	-33.26	0-360	150	H
2	* 4.874	36.08	PK	34	-34.2	0	35.88	-	-	74	-38.12	0-360	250	V
3	* 7.31	33.27	PK	35.7	-31	0	37.97	-	-	74	-36.03	0-360	150	V
6	9.748	33.66	PK	37.2	-27.7	0	43.16	-	-	74	-30.84	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

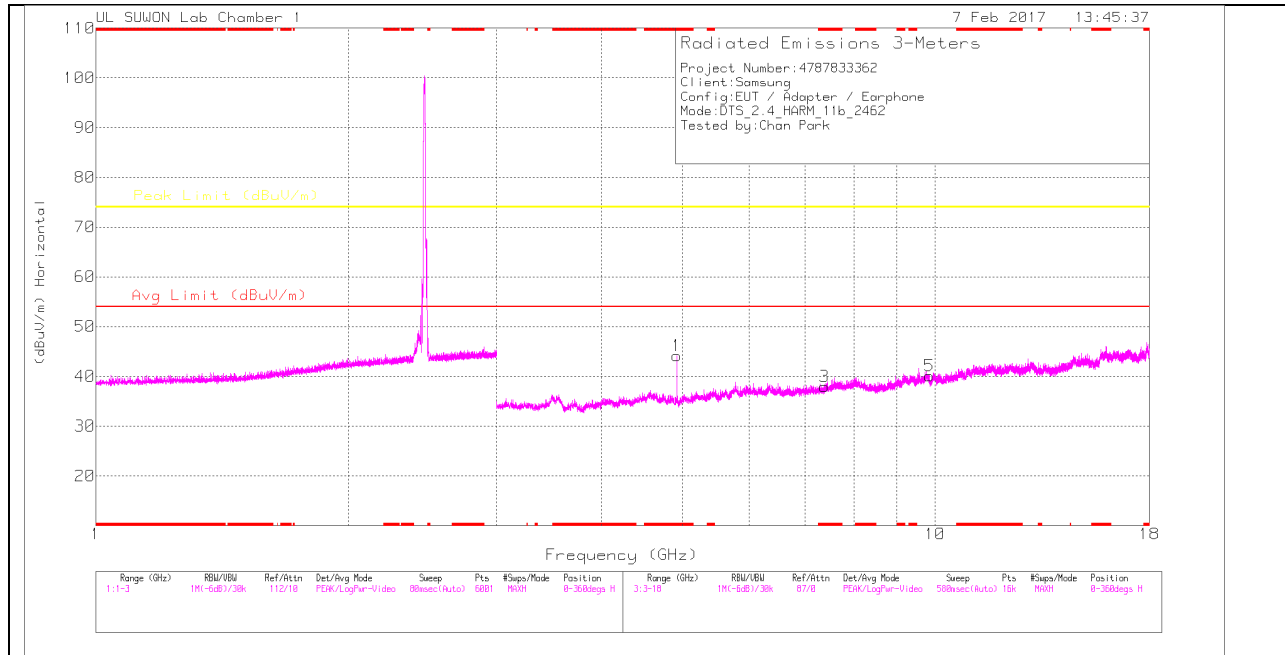
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.874	49.59	PK2	34	-34.2	0	49.39	-	-	74	-24.61	112	107	H
* 4.874	39.98	MAV1	34	-34.2	0	39.78	54	-14.22	-	-	112	107	H
9.748	42.48	PK2	37.2	-27.7	0	51.98	-	-	74	-22.02	6	117	V

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

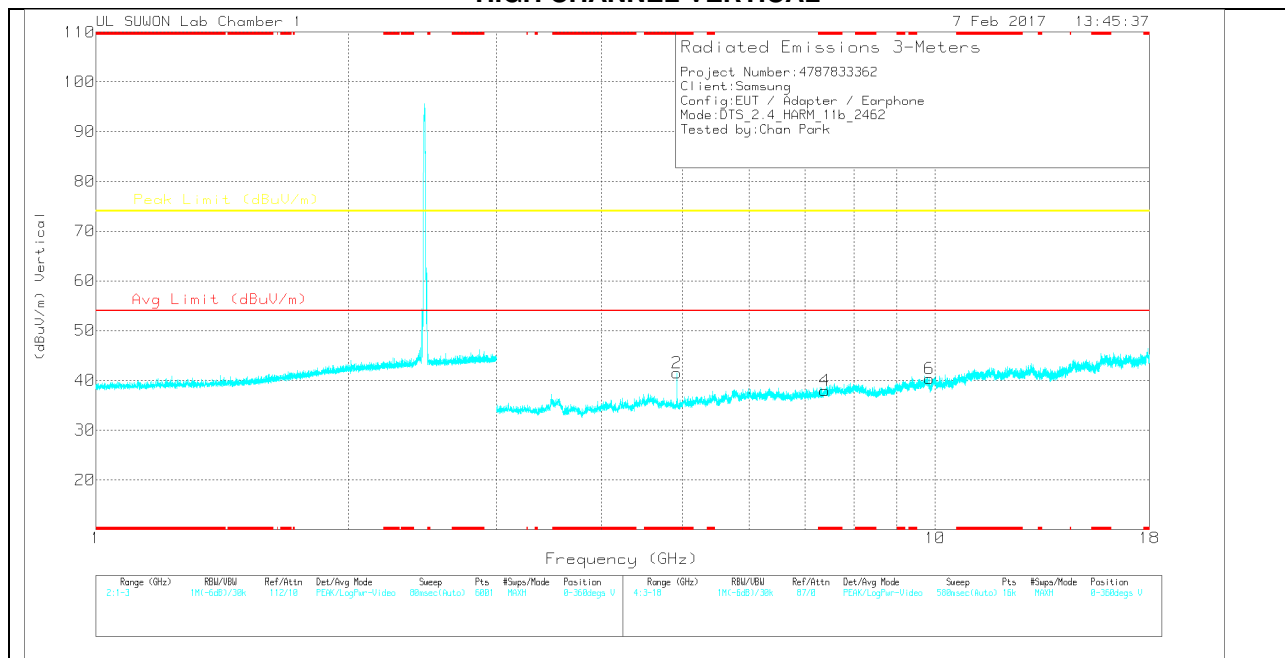
PK2 - KDB558074 Method: Maximum Peak

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(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	* 4.924	43.98	Avg	34	-33.8	0	44.18	-	-	74	-29.82	0-360	250	H
3	* 7.384	33.14	Avg	35.8	-31	0	37.94	-	-	74	-36.06	0-360	150	H
5	9.848	31.13	Avg	37.3	-28.3	0	40.13	-	-	74	-33.87	0-360	150	H
2	* 4.924	41.32	Avg	34	-33.8	0	41.52	-	-	74	-32.48	0-360	150	V
4	* 7.386	33.21	Avg	35.8	-31	0	38.01	-	-	74	-35.99	0-360	150	V
6	9.848	31.42	Avg	37.3	-28.3	0	40.42	-	-	74	-33.58	0-360	150	V

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

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

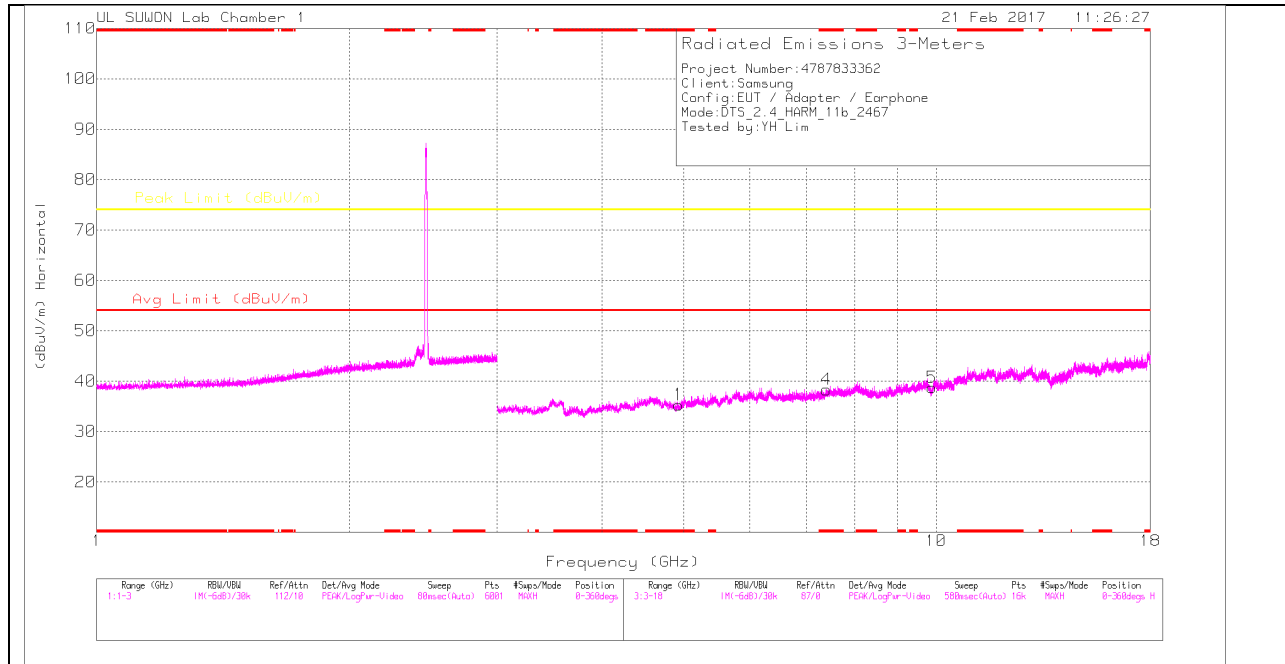
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	52.54	PK2	34	-33.9	0	52.64	-	-	74	-21.36	19	138	H
* 4.924	46.4	MAv1	34	-33.9	0	46.5	54	-7.5	-	-	19	138	H
* 4.924	49.89	PK2	34	-33.9	0	49.99	-	-	74	-24.01	90	136	V
* 4.924	42.2	MAv1	34	-33.9	0	42.3	54	-11.7	-	-	90	136	V

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

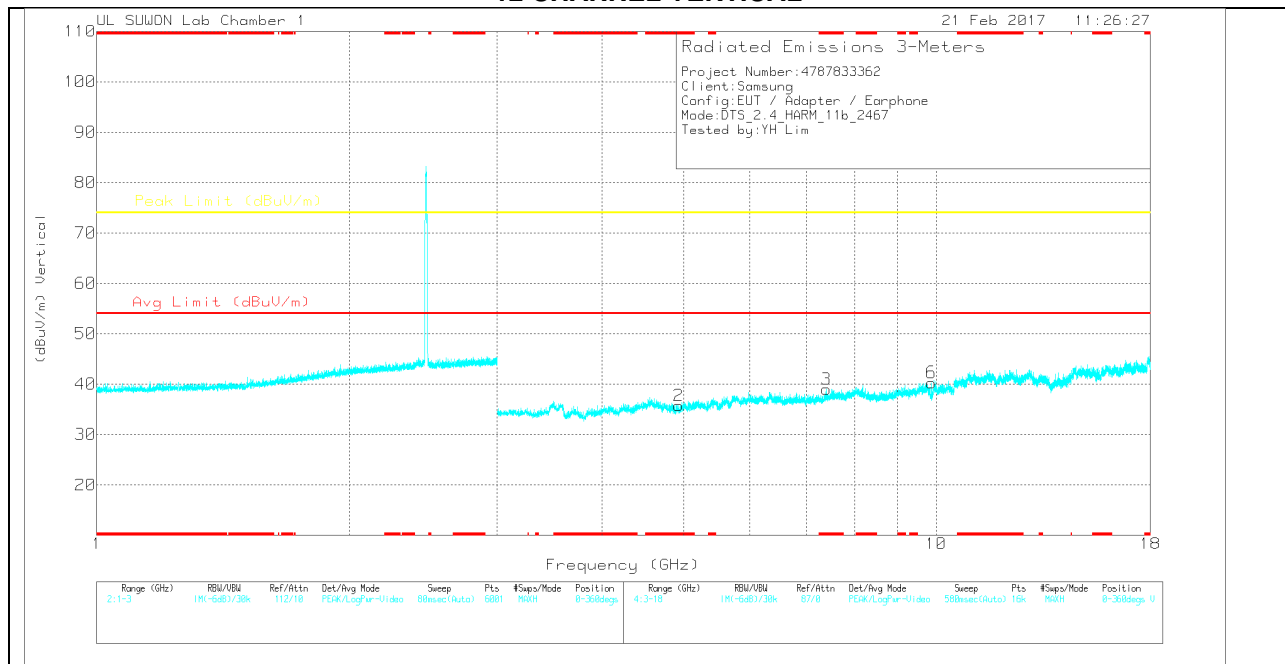
PK2 - KDB558074 Method: Maximum Peak

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

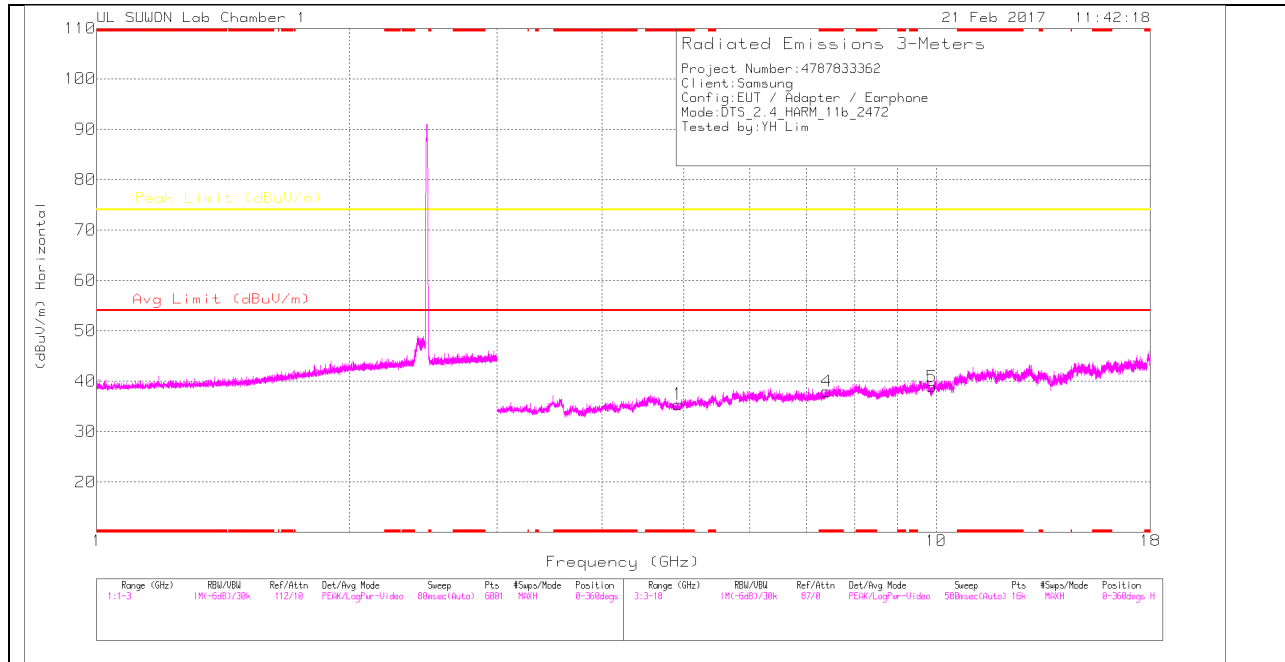
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.933	35.2	Pk	34	-33.9	0	35.3	-	-	74	-38.7	0-360	250	H
4	* 7.405	33.52	Pk	35.8	-31	0	38.32	-	-	74	-35.68	0-360	250	H
5	9.881	30.01	Pk	37.3	-28.6	0	38.71	-	-	74	-35.29	0-360	250	H
2	* 4.937	35.66	Pk	34	-33.9	0	35.76	-	-	74	-38.24	0-360	250	V
3	* 7.398	34.16	Pk	35.8	-31	0	38.96	-	-	74	-35.04	0-360	150	V
6	9.869	31.59	Pk	37.3	-28.6	0	40.29	-	-	74	-33.71	0-360	150	V

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

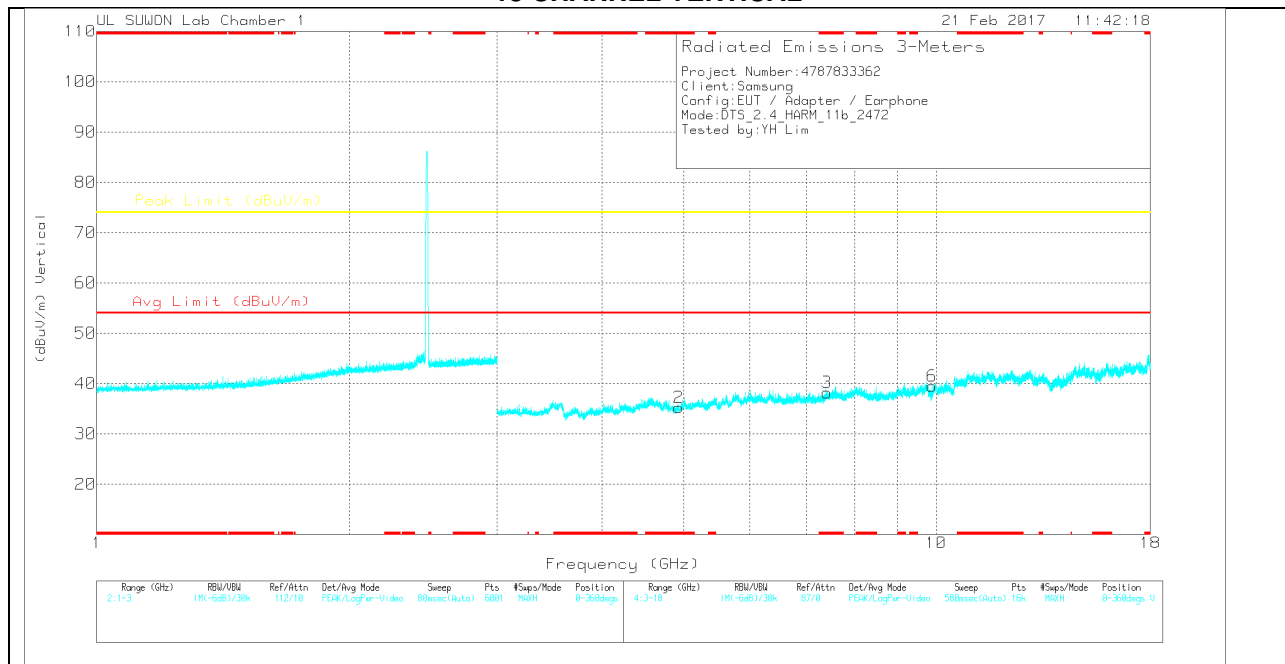
Pk – Peak detector

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 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	* 4.93	35.31	Pk	34	-33.9	0	35.41	-	-	74	-38.59	0-360	250	H
4	* 7.407	33.15	Pk	35.8	-31	0	37.95	-	-	74	-36.05	0-360	150	H
5	9.884	30.19	Pk	37.3	-28.6	0	38.89	-	-	74	-35.11	0-360	250	H
2	* 4.936	35.13	Pk	34	-33.9	0	35.23	-	-	74	-38.77	0-360	250	V
3	* 7.409	33.4	Pk	35.8	-31	0	38.2	-	-	74	-35.8	0-360	250	V
6	9.888	30.68	Pk	37.3	-28.5	0	39.48	-	-	74	-34.52	0-360	150	V

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

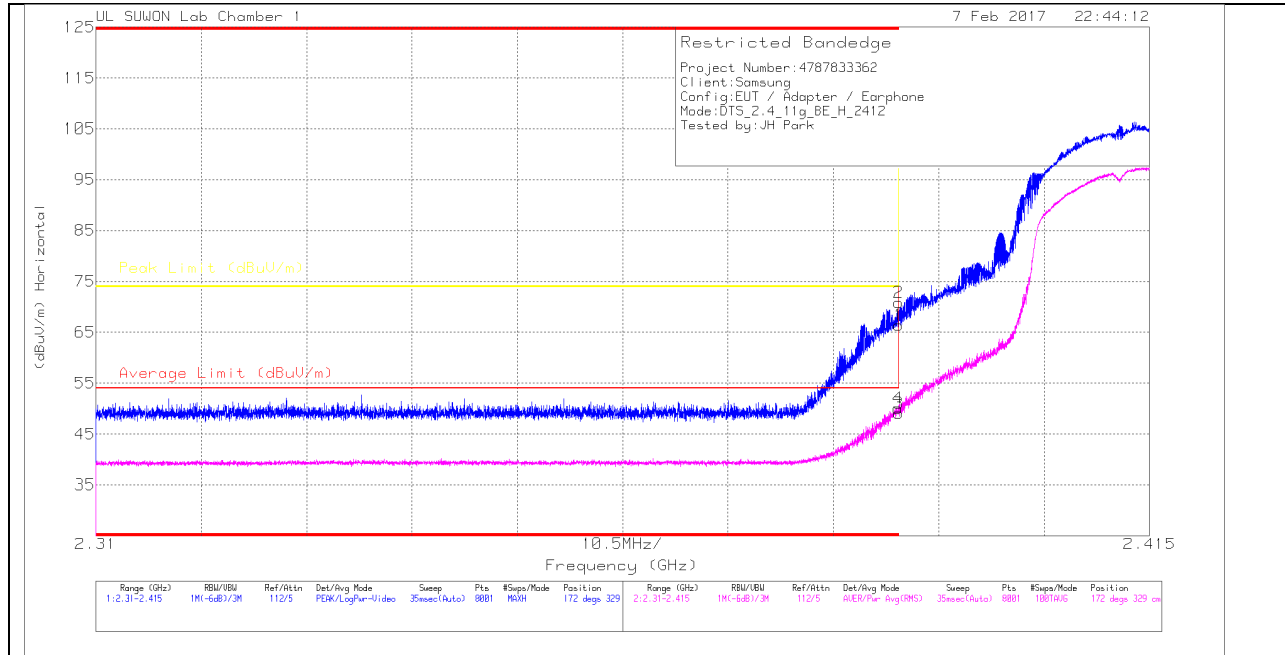
Pk – Peak detector

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

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

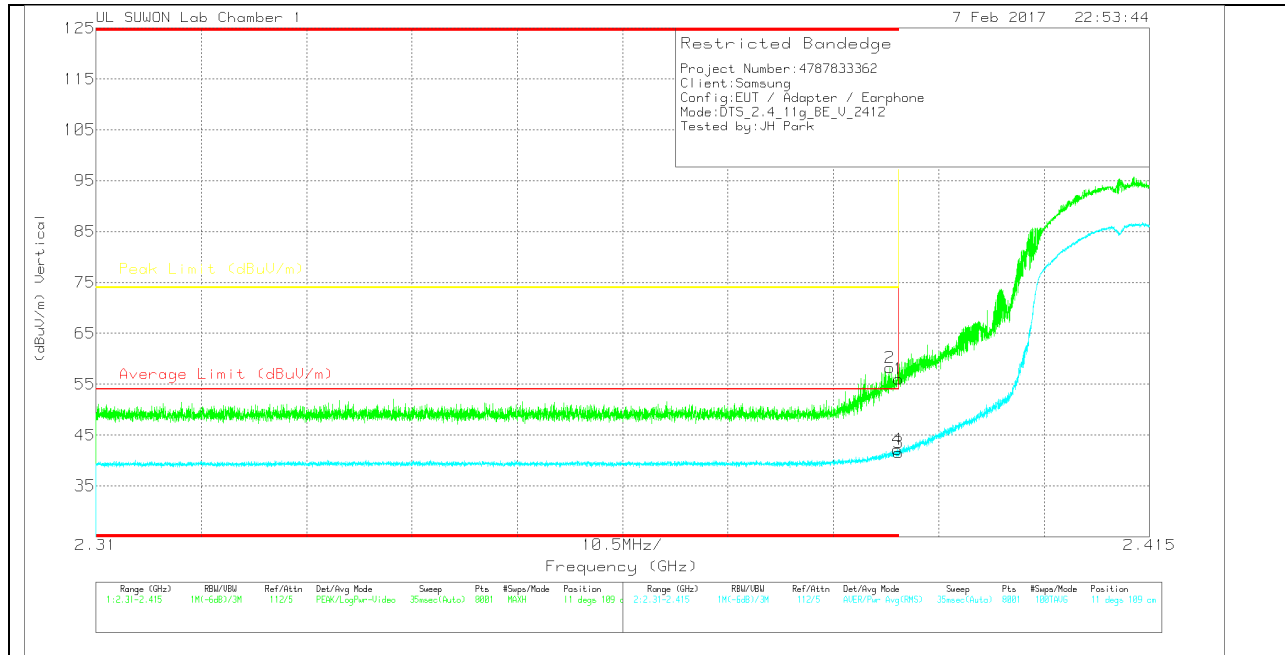
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 17_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	63.27	Pk		-28.7	0	66.37	-	-	74	-7.63	172	329	H
2	* 2.39	67.75	Pk		-28.7		70.85	-	-	74	-3.15	172	329	H
3	* 2.39	45.77	RMS		-28.7	.17	49.04	54	-4.96	-	-	172	329	H
4	* 2.39	46.81	RMS		-28.7	.17	50.08	54	-3.92	-	-	172	329	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	* 2.39	52.91	Pk	31.8	-28.7	0	56.01	-	-	74	-17.99	11	109	V
2	* 2.389	55.19	Pk	31.8	-28.7	0	58.29	-	-	74	-15.71	11	109	V
3	* 2.39	38.32	RMS	31.8	-28.7	.17	41.59	54	-12.41	-	-	11	109	V
4	* 2.39	38.88	RMS	31.8	-28.7	.17	42.15	54	-11.85	-	-	11	109	V

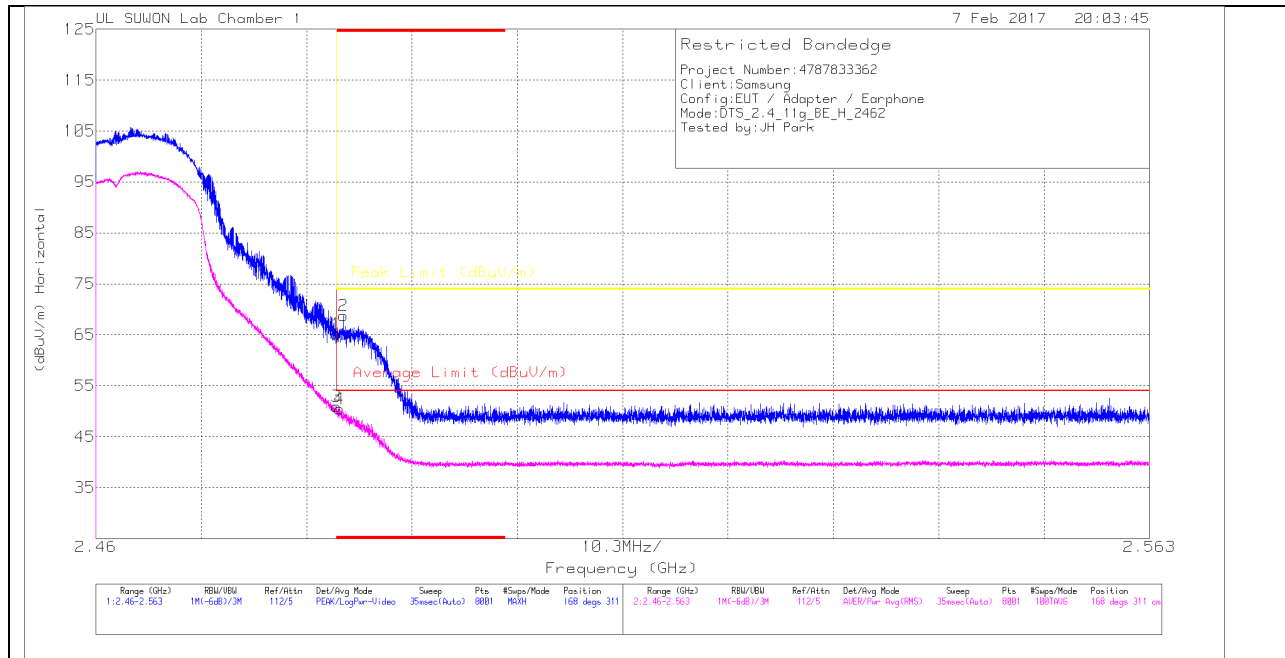
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

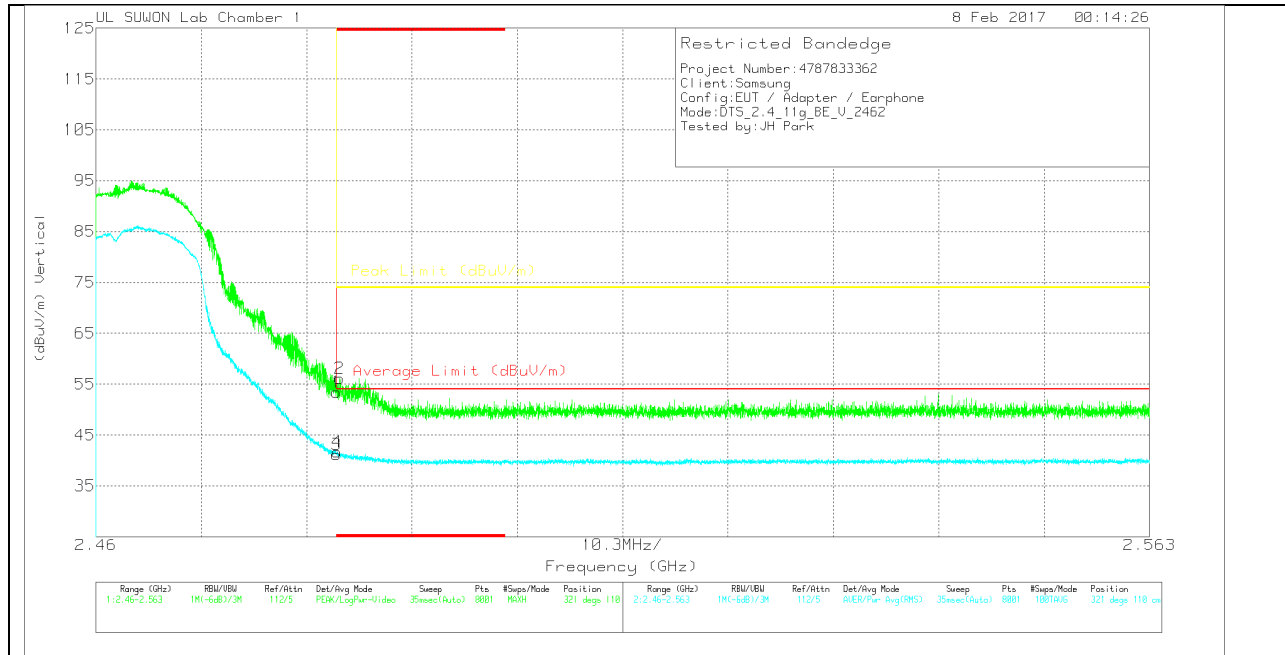
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 171_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	61.87	Pk	32	-28.7	0	65.17	-	-	74	-8.83	168	311	H
2	* 2.484	65.4	Pk	32	-28.7	0	68.7	-	-	74	-5.3	168	311	H
3	* 2.484	47.43	RMS	32	-28.7	.17	50.9	54	-3.1	-	-	168	311	H
4	* 2.484	47.01	RMS	32	-28.7	.17	50.48	54	-3.52	-	-	168	311	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	50.14	Pk	32	-28.7	0	53.44	-	-	74	-20.56	321	110	V
2	* 2.484	52.83	Pk	32	-28.7	0	56.13	-	-	74	-17.87	321	110	V
3	* 2.484	37.66	RMS	32	-28.7	.17	41.13	54	-12.87	-	-	321	110	V
4	* 2.484	38.22	RMS	32	-28.7	.17	41.69	54	-12.31	-	-	321	110	V

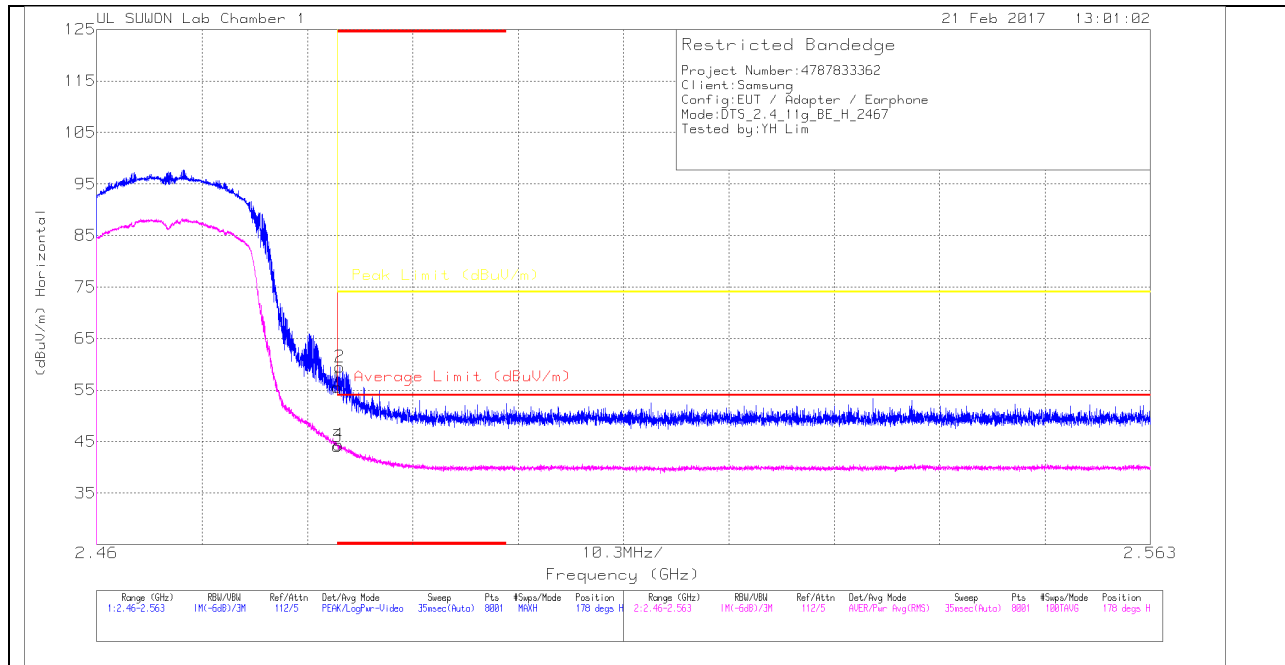
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (12 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

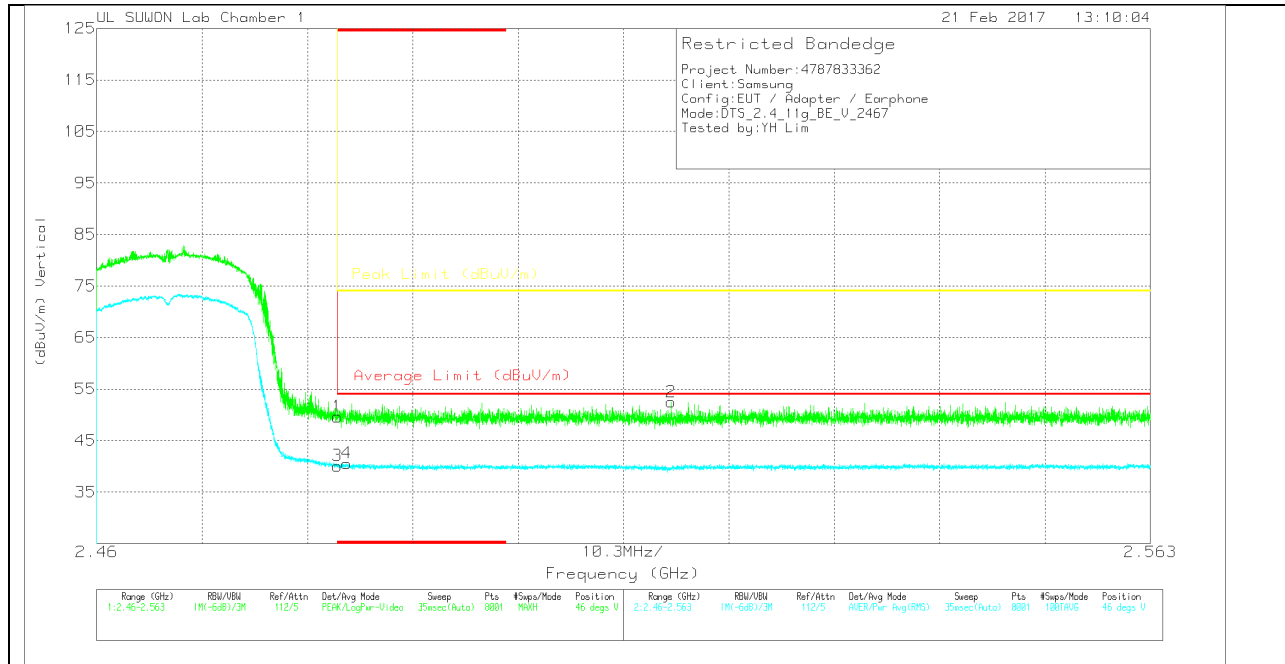
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Attn(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.22	Pk	32	-28.7	0	55.52	-	-	74	-18.48	178	249	H
2	* 2.484	56.21	Pk	32	-28.7	0	59.51	-	-	74	-14.49	178	249	H
3	* 2.484	40.63	RMS	32	-28.7	.17	44.1	54	-9.9	-	-	178	249	H
4	* 2.484	40.9	RMS	32	-28.7	.17	44.37	54	-9.63	-	-	178	249	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	46.33	Pk	32	-28.7	0	49.63	-	-	74	-24.37	46	115	V
2	2.516	49.28	Pk	32	-28.8	0	52.48	-	-	74	-21.52	46	115	V
3	* 2.484	36.62	RMS	32	-28.7	.17	40.09	54	-13.91	-	-	46	115	V
4	* 2.484	37.11	RMS	32	-28.7	.17	40.58	54	-13.42	-	-	46	115	V

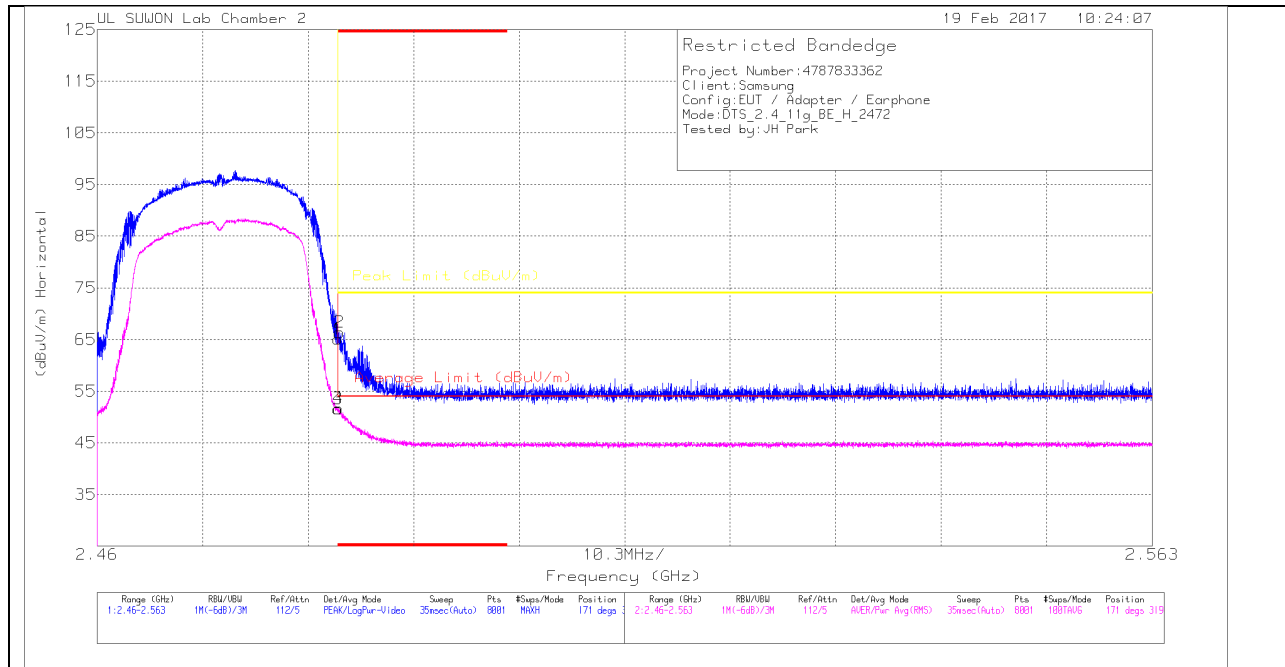
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (13 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

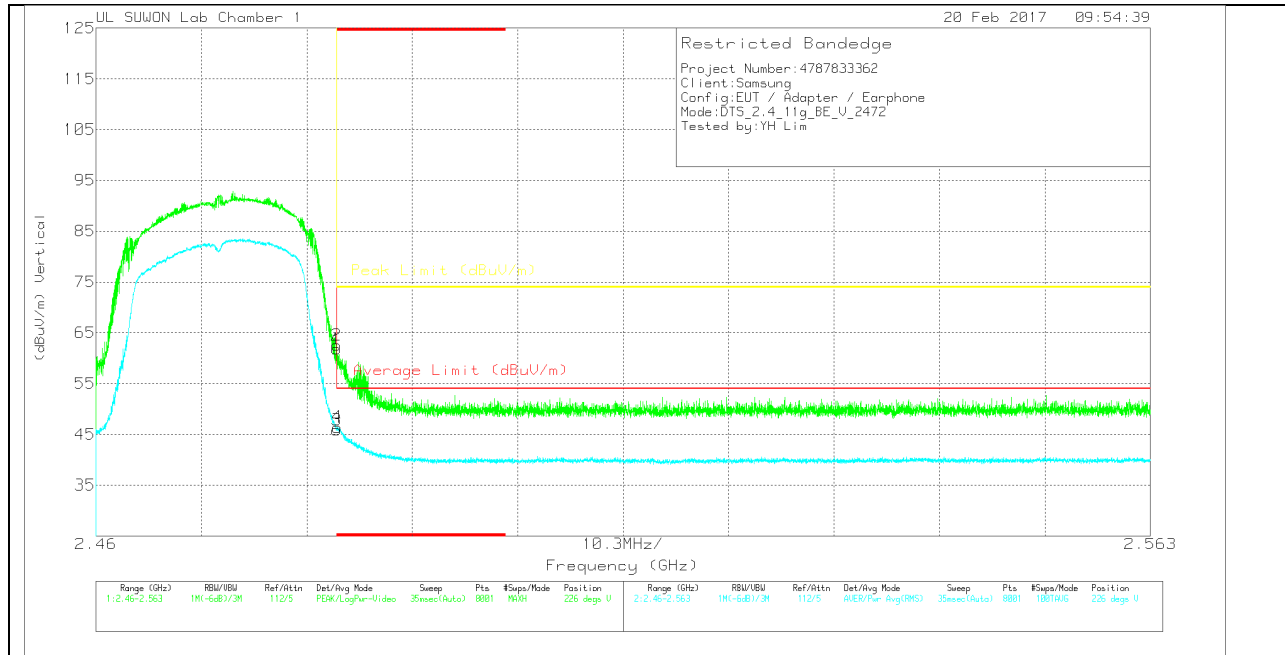
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	51.31	Pk	31.8	-18	0	65.11	-	-	74	-8.89	171	319	H
2	* 2.484	52.58	Pk	31.8	-18	0	66.38	-	-	74	-7.62	171	319	H
3	* 2.484	37.64	RMS	31.8	-18	.17	51.61	54	-2.39	-	-	171	319	H
4	* 2.484	37.69	RMS	31.8	-18	.17	51.66	54	-2.34	-	-	171	319	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 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	58.48	Pk	32	-28.7	0	61.78	-	-	74	-12.22	226	400	V
2	* 2.484	59.3	Pk	32	-28.7	0	62.6	-	-	74	-11.4	226	400	V
3	* 2.484	42.35	RMS	32	-28.7	.17	45.82	54	-8.18	-	-	226	400	V
4	* 2.484	42.96	RMS	32	-28.7	.17	46.43	54	-7.57	-	-	226	400	V

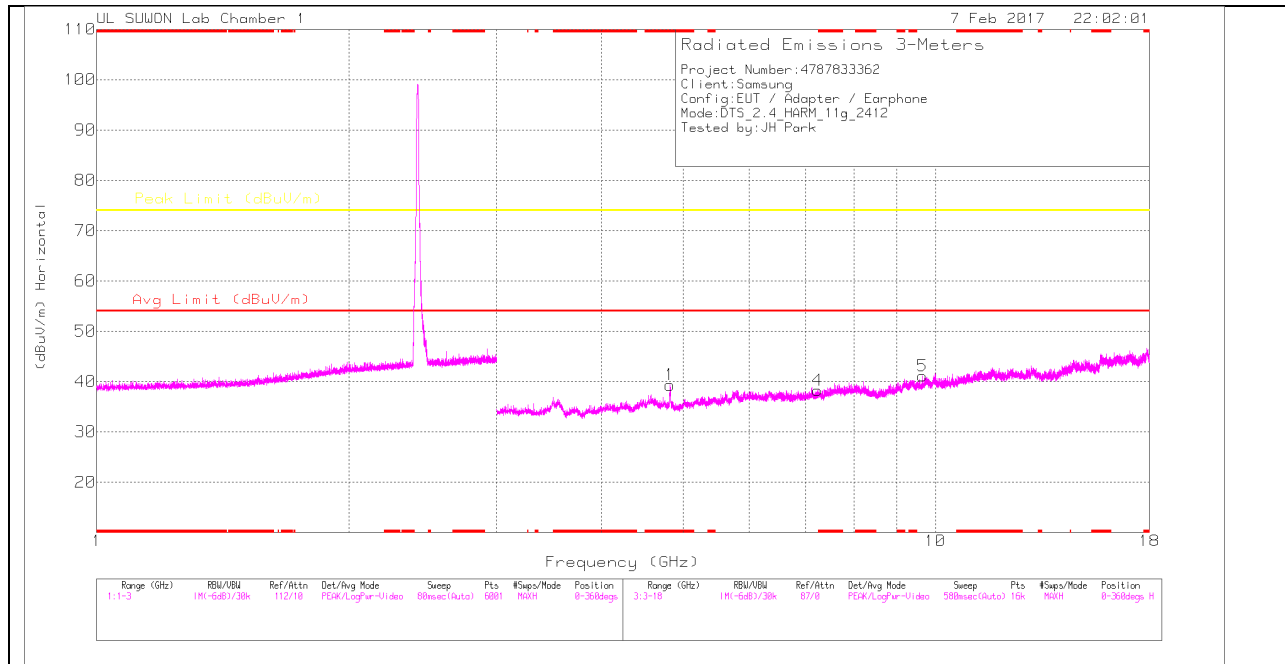
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

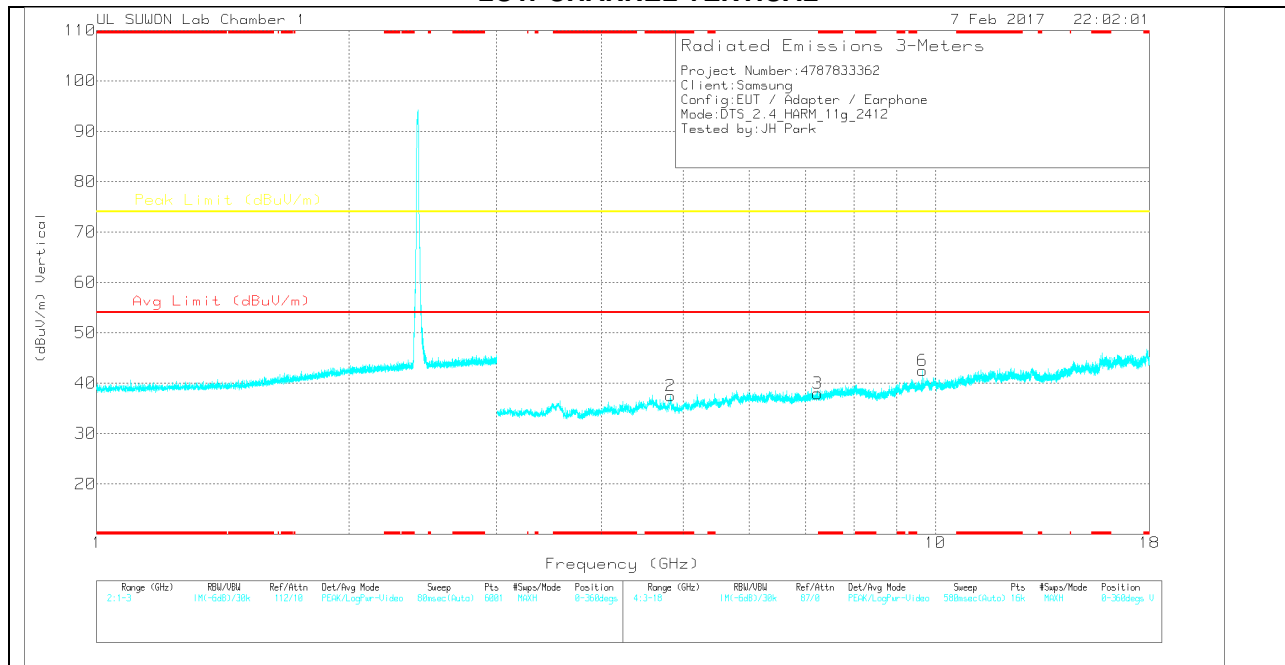
RMS - RMS detection

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	* 4.826	39.32	PK	34	-34	0	39.32	-	-	74	-34.68	0-360	150	H
4	7.235	33.71	PK	35.7	-31.2	0	38.21	-	-	74	-35.79	0-360	150	H
5	9.647	32.23	PK	37.1	-28.2	0	41.13	-	-	74	-32.87	0-360	150	H
2	* 4.831	37.36	PK	34	-33.9	0	37.46	-	-	74	-36.54	0-360	150	V
3	7.237	33.45	PK	35.7	-31.2	0	37.95	-	-	74	-36.05	0-360	150	V
6	9.648	33.61	PK	37.1	-28.2	0	42.51	-	-	74	-31.49	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

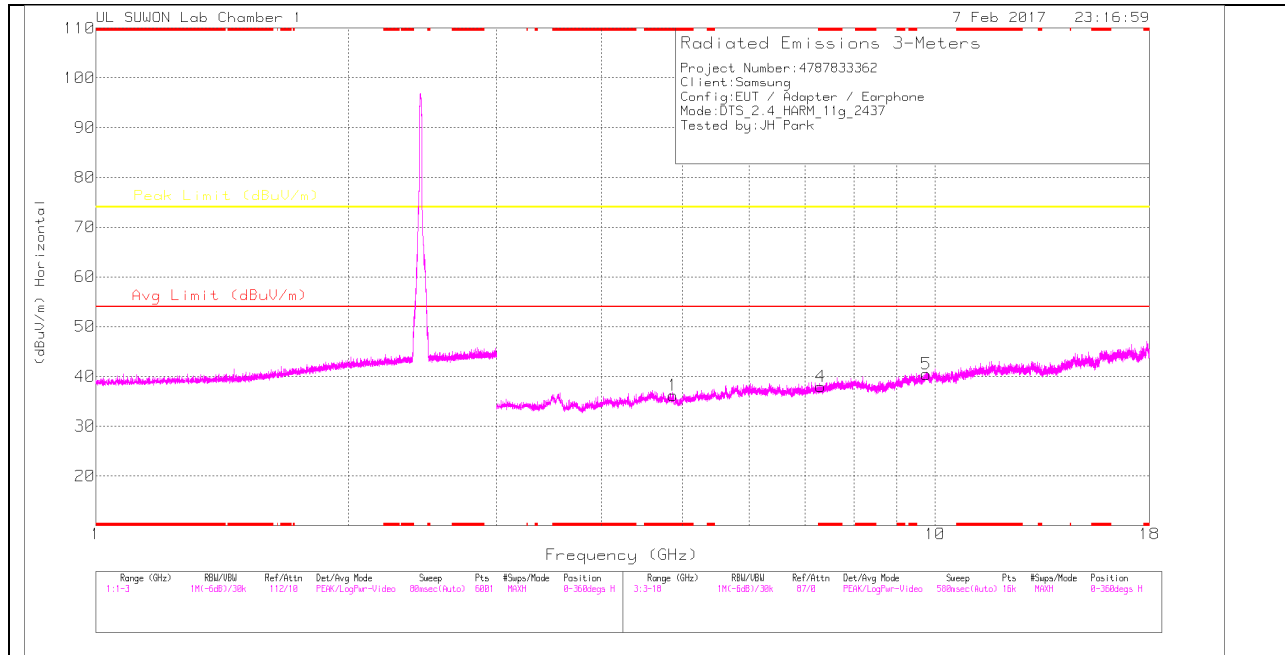
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.825	50.97	PK2	34	-34	0	50.97	-	-	74	-23.03	11	109	H
* 4.827	39.28	MAv1	34	-34	.17	39.45	54	-14.55	-	-	11	109	H
9.652	41.49	PK2	37.1	-28.3	0	50.29	-	-	74	-23.71	344	400	V

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

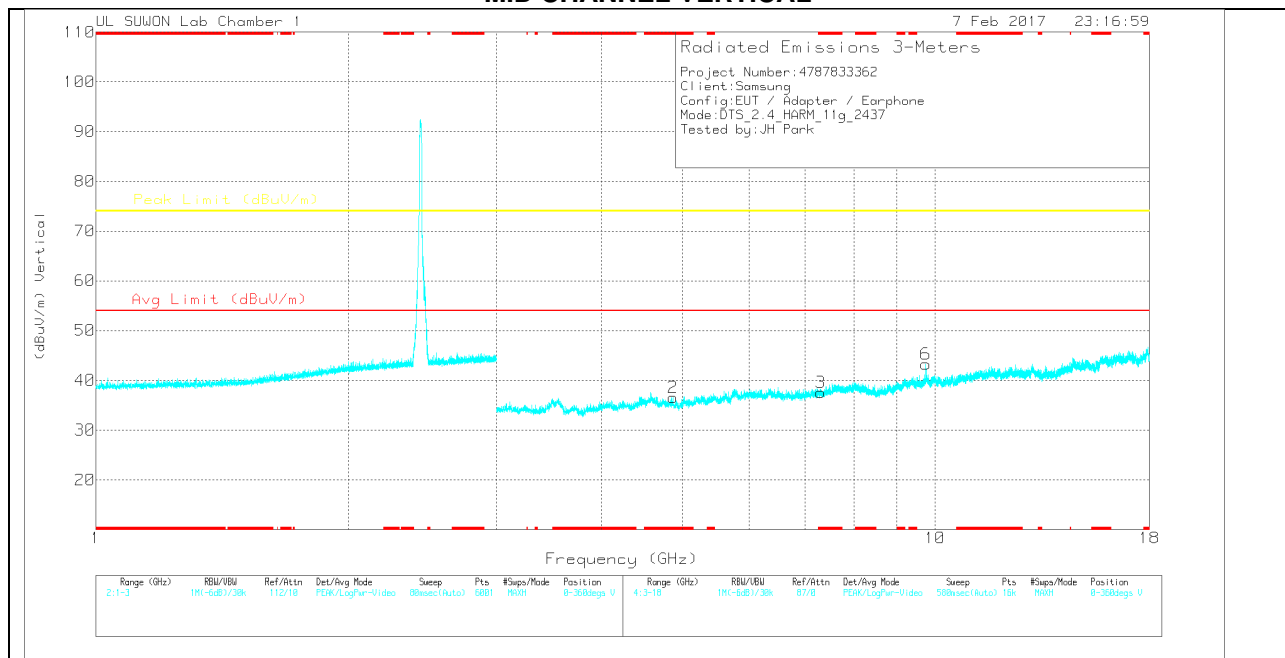
PK2 - KDB558074 Method: Maximum Peak

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(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	* 4.873	36.42	PK	34	-34.2	0	36.22	-	-	74	-37.78	0-360	150	H
4	* 7.308	33.26	PK	35.7	-31	0	37.96	-	-	74	-36.04	0-360	150	H
5	9.749	30.93	PK	37.2	-27.7	0	40.43	-	-	74	-33.57	0-360	150	H
2	* 4.869	36.79	PK	34	-34.2	0	36.59	-	-	74	-37.41	0-360	250	V
3	* 7.308	32.75	PK	35.7	-30.9	0	37.55	-	-	74	-36.45	0-360	250	V
6	9.748	33.72	PK	37.2	-27.7	0	43.22	-	-	74	-30.78	0-360	150	V

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

PK – Peak Detector

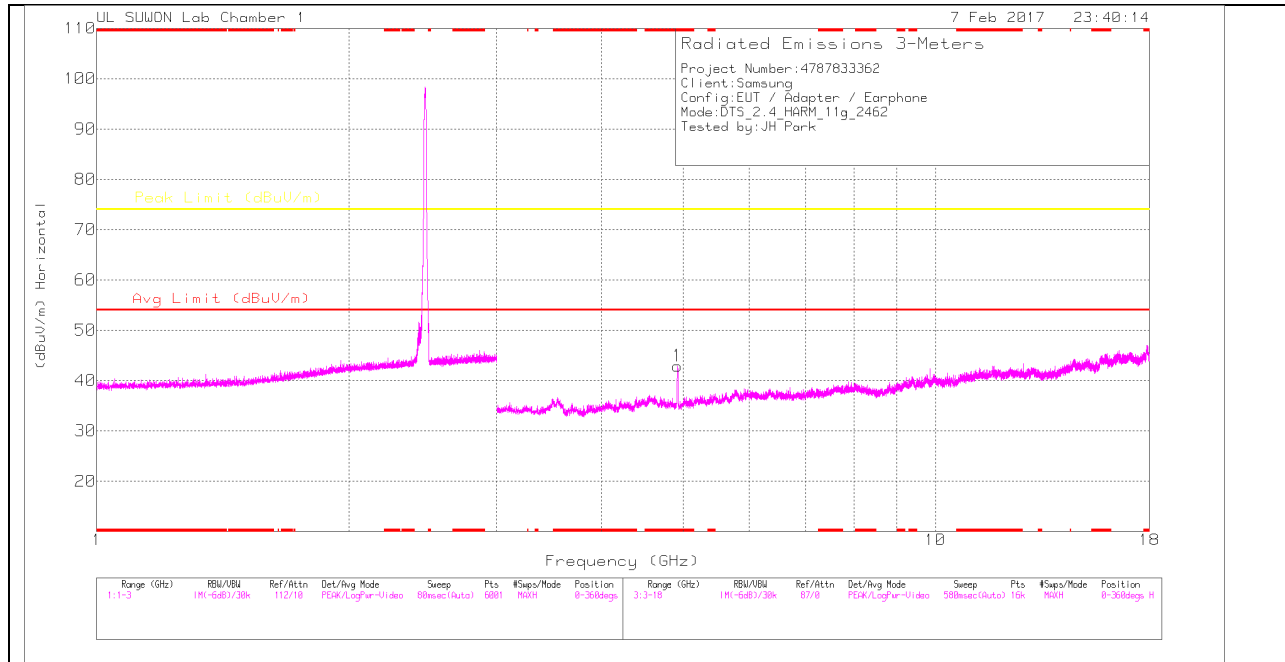
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	3Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.748	42.75	PK2	37.2	-27.7	0	52.25	-	-	74	-21.75	9	102	V

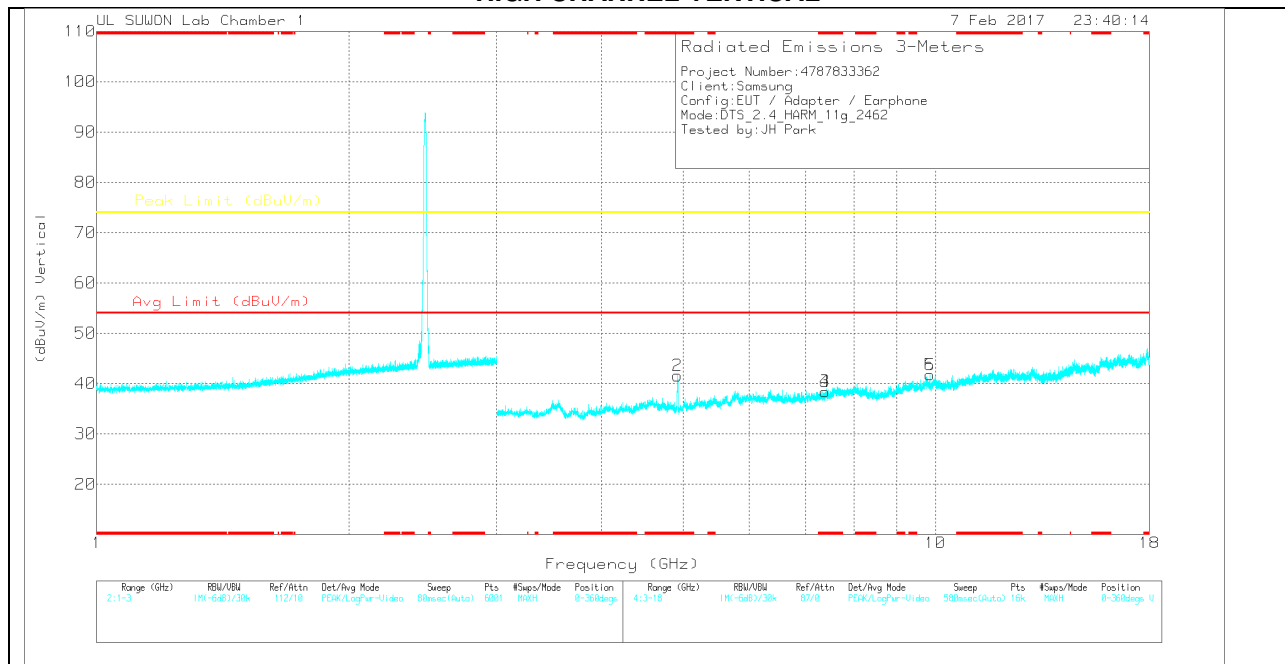
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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(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	* 4.928	42.71	PK	34	-33.8	0	42.91	-	-	74	-31.09	0-360	150	H
2	* 4.927	41.48	PK	34	-33.9	0	41.58	-	-	74	-32.42	0-360	250	V
3	* 7.386	33.63	PK	35.8	-31	0	38.43	-	-	74	-35.57	0-360	150	V
4	* 7.386	33.63	PK	35.8	-31	0	38.43	-	-	74	-35.57	0-360	150	V
5	9.848	32.72	PK	37.3	-28.3	0	41.72	-	-	74	-32.28	0-360	150	V
6	9.848	32.72	PK	37.3	-28.3	0	41.72	-	-	74	-32.28	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

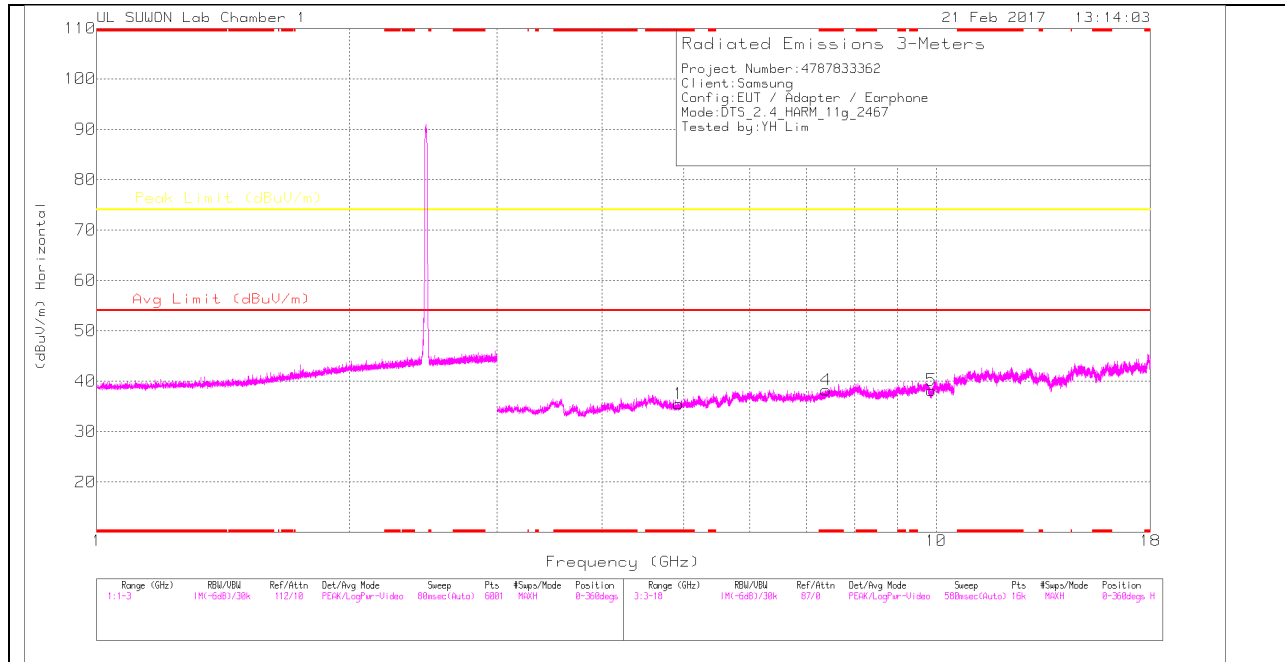
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.928	54.93	PK2	34	-33.9	0	55.03	-	-	74	-18.97	360	123	H
* 4.927	41.73	MAV1	34	-33.9	.17	42	54	-12	-	-	360	123	H
* 4.927	51.7	PK2	34	-33.9	0	51.8	-	-	74	-22.2	179	116	V
* 4.926	39.61	MAV1	34	-33.9	.17	39.88	54	-14.12	-	-	179	116	V

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

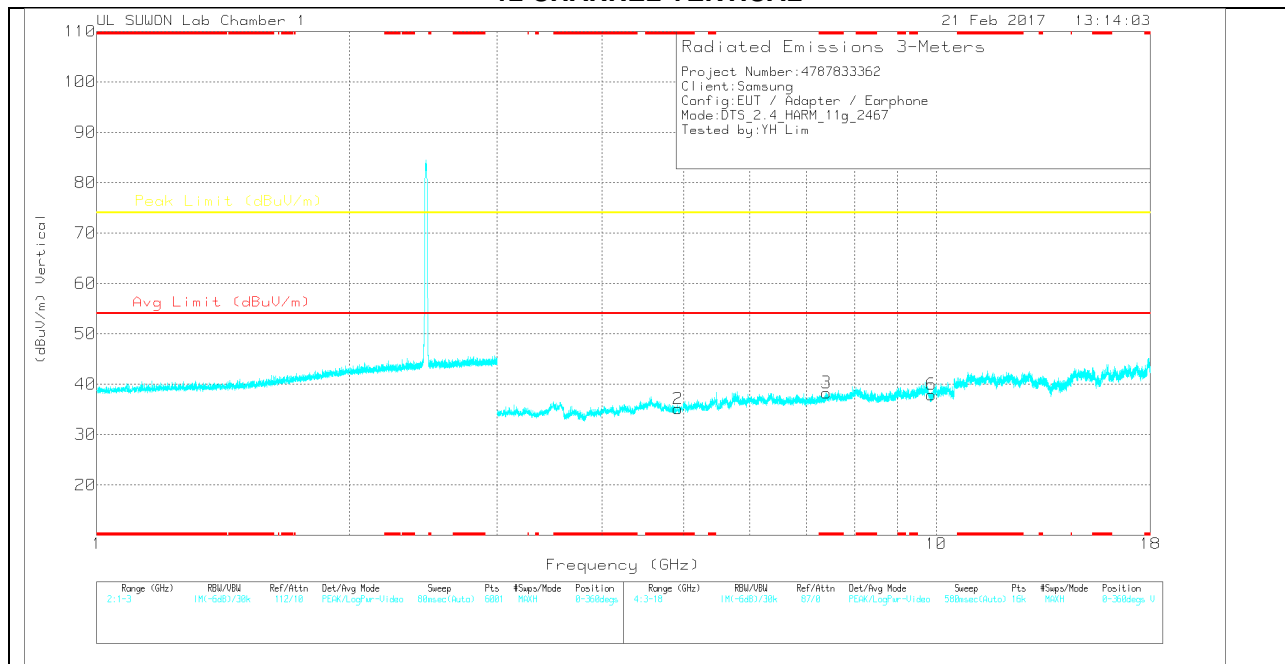
PK2 - KDB558074 Method: Maximum Peak

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

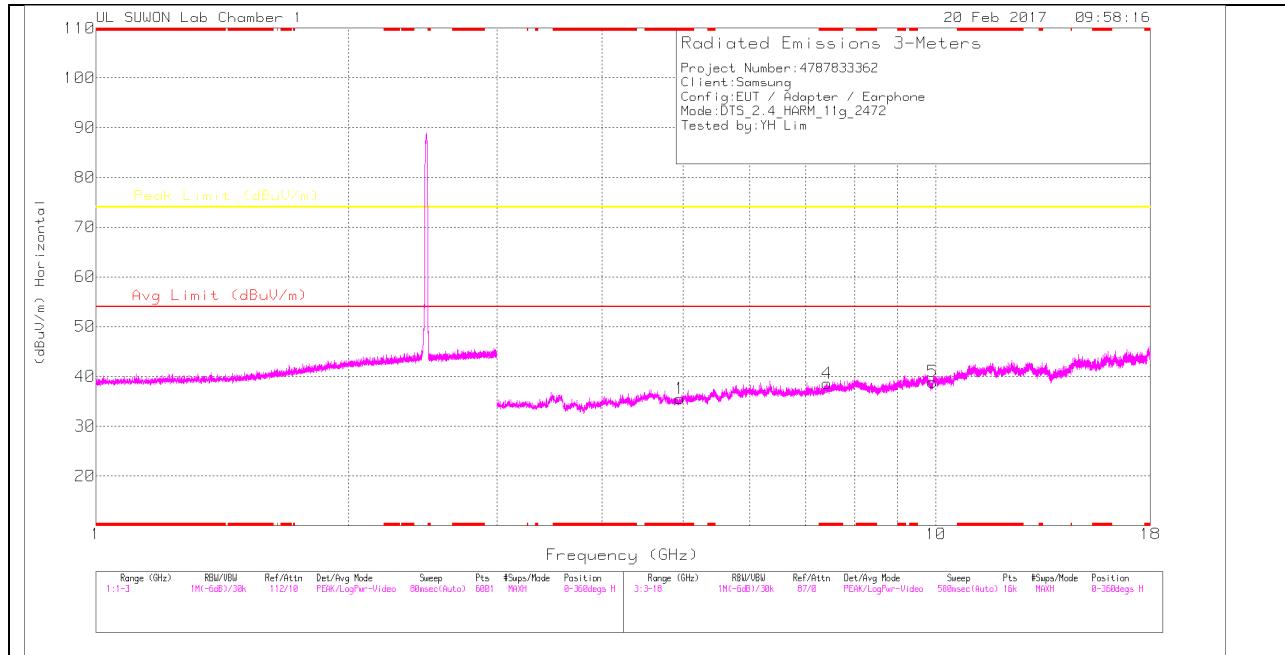
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.932	35.42	Pk	34	-33.9	0	35.52	-	-	74	-38.48	0-360	150	H
4	* 7.394	33.32	Pk	35.8	-30.9	0	38.22	-	-	74	-35.78	0-360	150	H
5	9.872	29.38	Pk	37.3	-28.5	0	38.18	-	-	74	-35.82	0-360	150	H
2	* 4.927	35.05	Pk	34	-33.9	0	35.15	-	-	74	-38.85	0-360	150	V
3	* 7.4	33.49	Pk	35.8	-31	0	38.29	-	-	74	-35.71	0-360	150	V
6	9.87	29.24	Pk	37.3	-28.6	0	37.94	-	-	74	-36.06	0-360	150	V

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

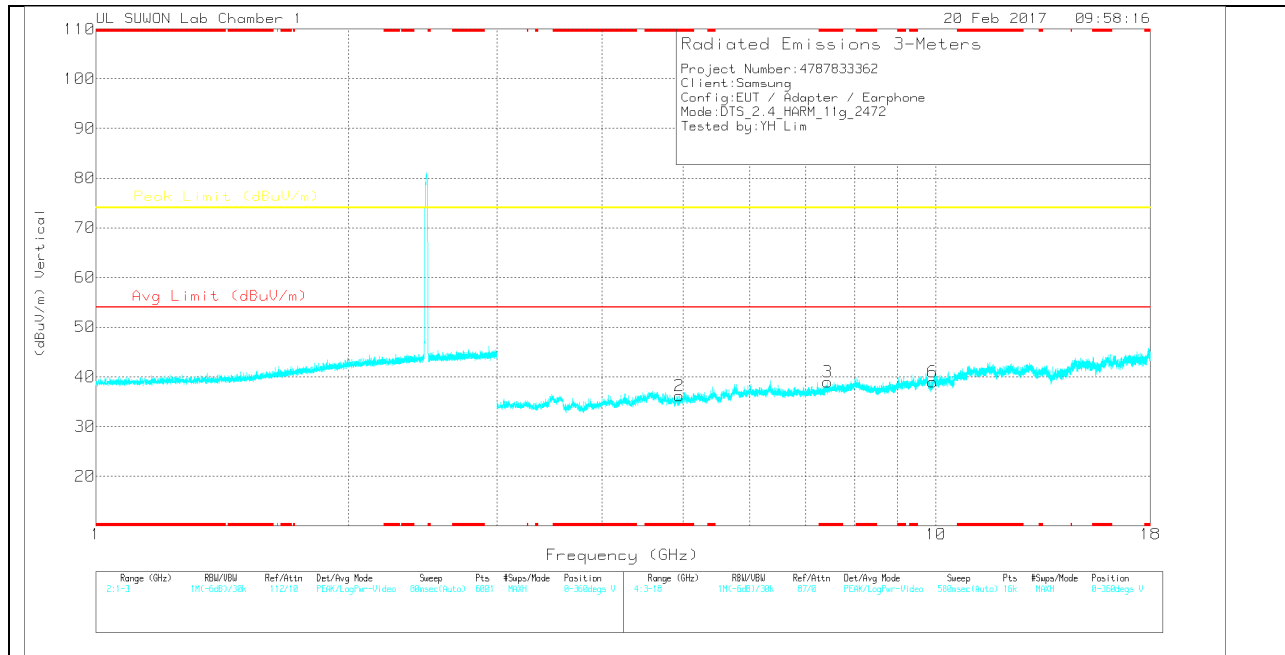
Pk – Peak detector

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 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	* 4.957	35.63	PK	34	-34.1	0	35.53	-	-	74	-38.47	0-360	150	H
4	* 7.423	33.95	PK	35.8	-31.1	0	38.65	-	-	74	-35.35	0-360	150	H
5	9.909	29.71	PK	37.4	-28.2	0	38.91	-	-	74	-35.09	0-360	250	H
2	* 4.95	36.25	PK	34	-34.1	0	36.15	-	-	74	-37.85	0-360	150	V
3	* 7.428	34.13	PK	35.8	-31	0	38.93	-	-	74	-35.07	0-360	150	V
6	9.915	29.53	PK	37.4	-28	0	38.93	-	-	74	-35.07	0-360	250	V

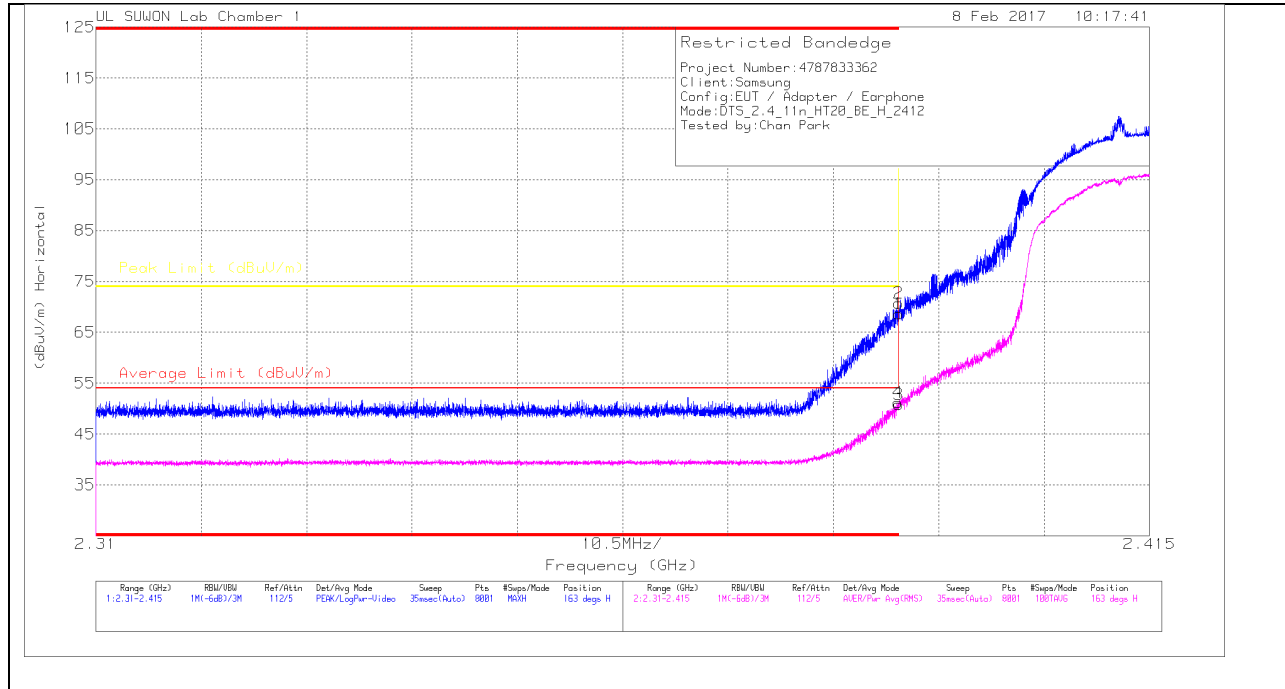
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK – Peak detector

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

10.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

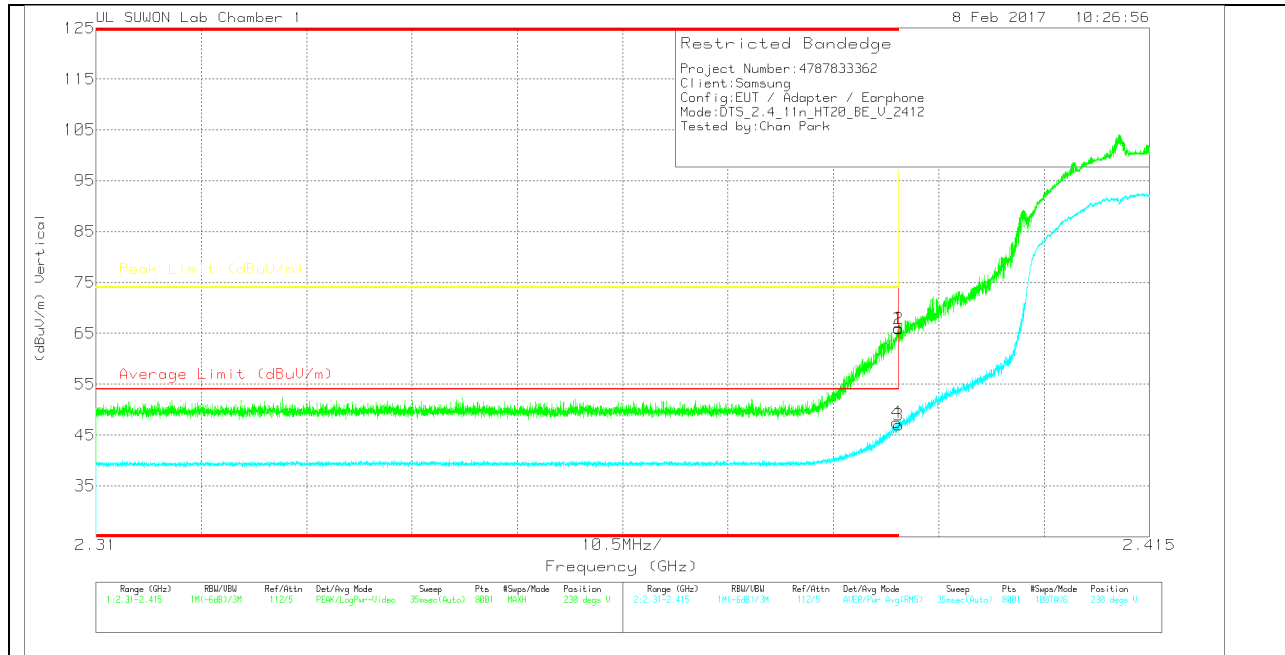
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	65.51	Pk	31.8	-28.7	0	68.61	-	-	74	-5.39	163	106	H
2	* 2.39	67.58	Pk	31.8	-28.7	0	70.68	-	-	74	-3.32	163	106	H
3	* 2.39	47.53	RMS	31.8	-28.7	.18	50.81	54	-3.19	-	-	163	106	H
4	* 2.39	47.93	RMS	31.8	-28.7	.18	51.21	54	-2.79	-	-	163	106	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 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	* 2.39	62.88	Pk	31.8	-28.7	0	65.98	-	-	74	-8.02	230	330	V
2	* 2.39	62.78	Pk	31.8	-28.7	0	65.88	-	-	74	-8.12	230	330	V
3	* 2.39	43.67	RMS	31.8	-28.7	.18	46.95	54	-7.05	-	-	230	330	V
4	* 2.39	44.15	RMS	31.8	-28.7	.18	47.43	54	-6.57	-	-	230	330	V

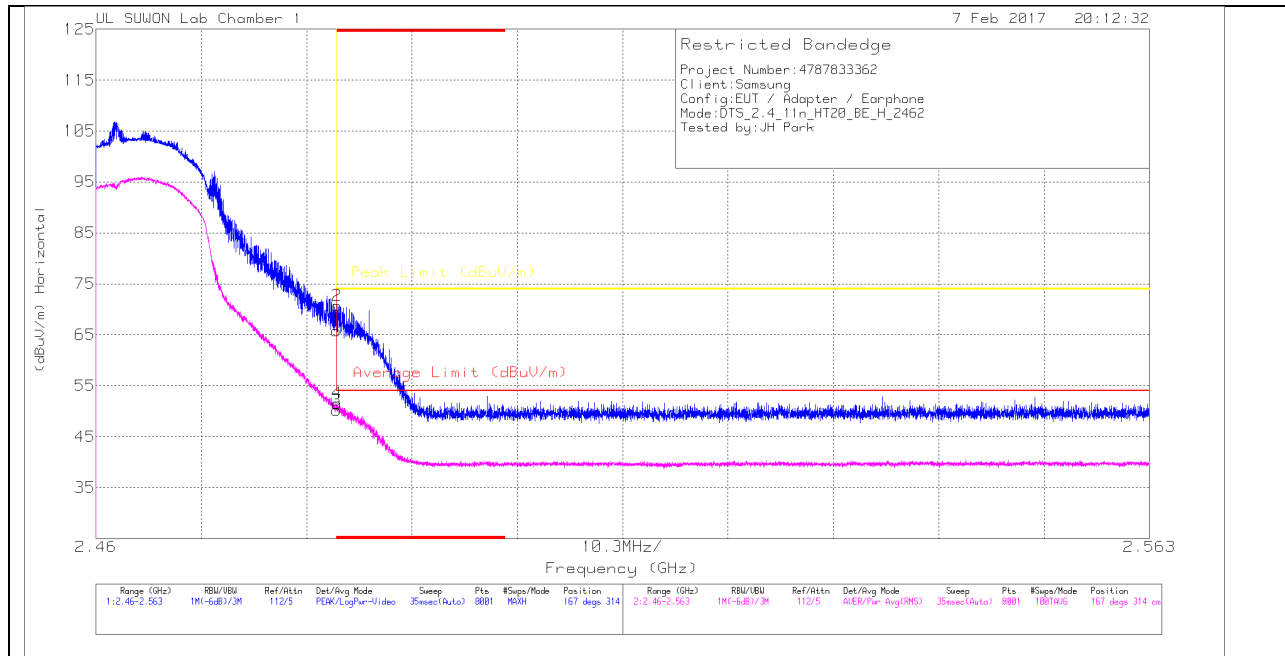
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

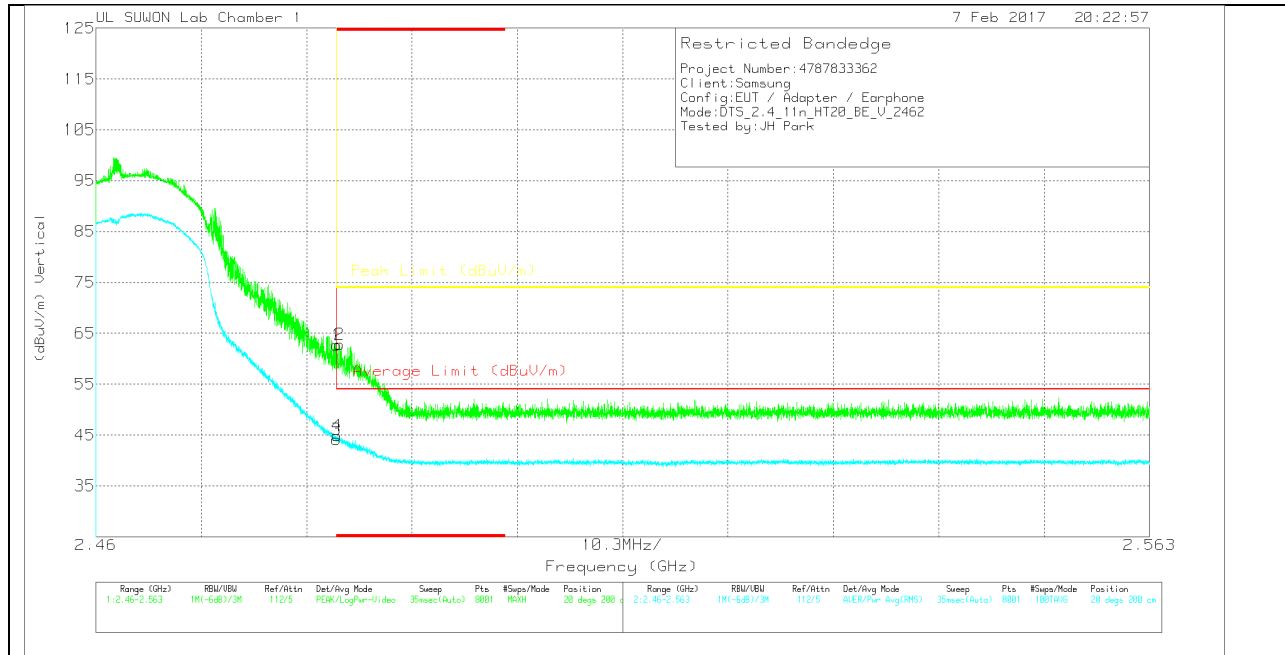
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 171_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	62.48	Pk	32	-28.7	0	65.78	-	-	74	-8.22	167	314	H
2	* 2.484	67.39	Pk	32	-28.7	0	70.69	-	-	74	-3.31	167	314	H
3	* 2.484	46.71	RMS	32	-28.7	.18	50.19	54	-3.81	-	-	167	314	H
4	* 2.484	48.09	RMS	32	-28.7	.18	51.57	54	-2.43	-	-	167	314	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 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	59.36	Pk	32	-28.7	0	62.66	-	-	74	-11.34	20	200	V
2	* 2.484	59.54	Pk	32	-28.7	0	62.84	-	-	74	-11.16	20	200	V
3	* 2.484	40.64	RMS	32	-28.7	.18	44.12	54	-9.88	-	-	20	200	V
4	* 2.484	41.35	RMS	32	-28.7	.18	44.83	54	-9.17	-	-	20	200	V

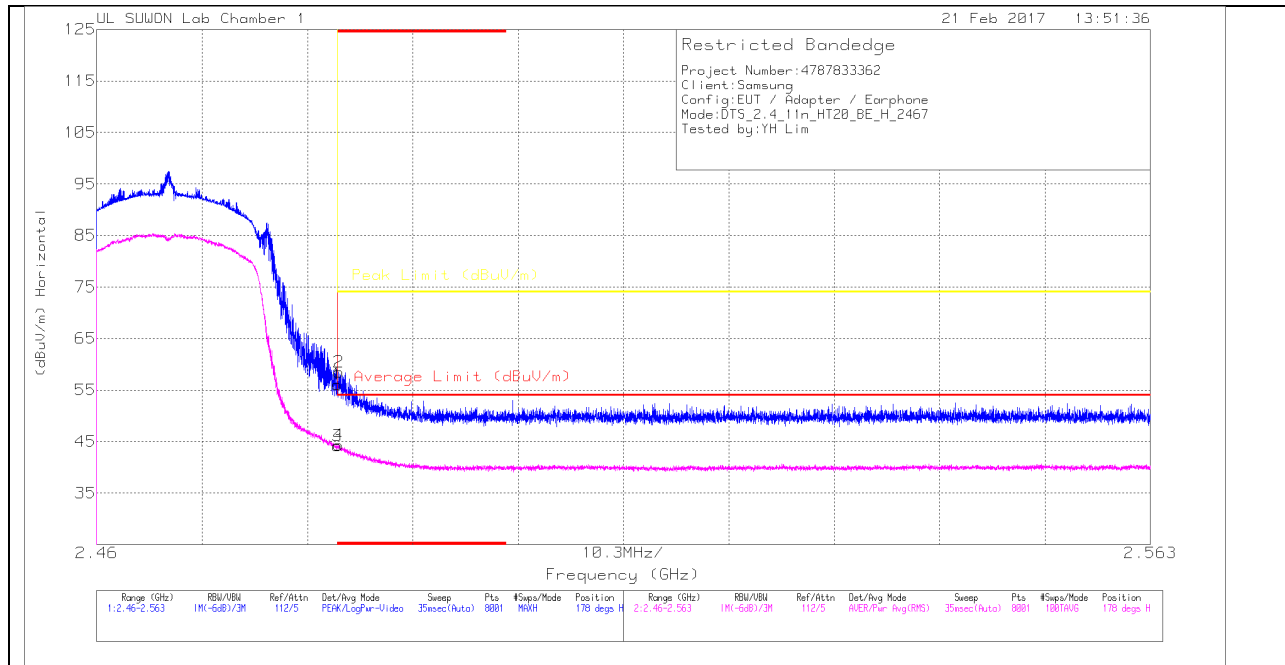
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (12 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

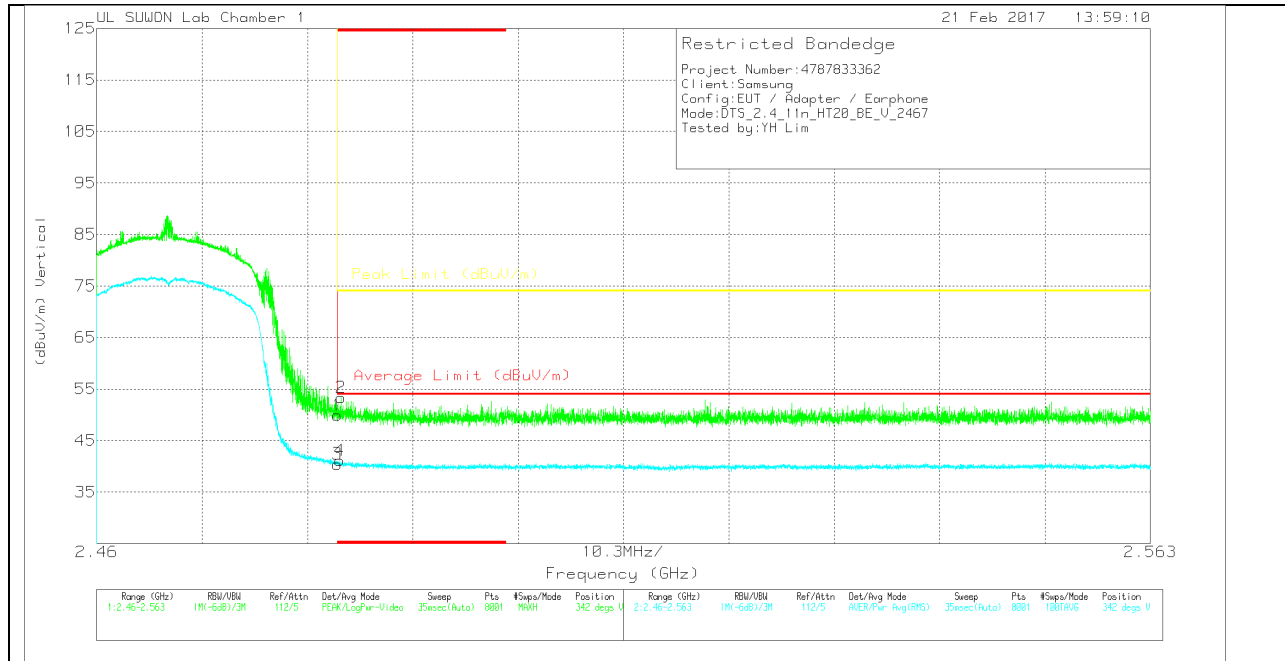
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150619	10dB_Attn(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.79	Pk	32	-28.7	0	56.09	-	-	74	-17.91	178	318	H
2	* 2.484	55.14	Pk	32	-28.7	0	58.44	-	-	74	-15.56	178	318	H
3	* 2.484	40.71	RMS	32	-28.7	.18	44.19	54	-9.81	-	-	178	318	H
4	* 2.484	40.83	RMS	32	-28.7	.18	44.31	54	-9.69	-	-	178	318	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)_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	46.59	Pk	32	-28.7	0	49.89	-	-	74	-24.11	342	102	V
2	* 2.484	50.01	Pk	32	-28.7	0	53.31	-	-	74	-20.69	342	102	V
3	* 2.484	36.96	RMS	32	-28.7	.18	40.44	54	-13.56	-	-	342	102	V
4	* 2.484	37.62	RMS	32	-28.7	.18	41.1	54	-12.9	-	-	342	102	V

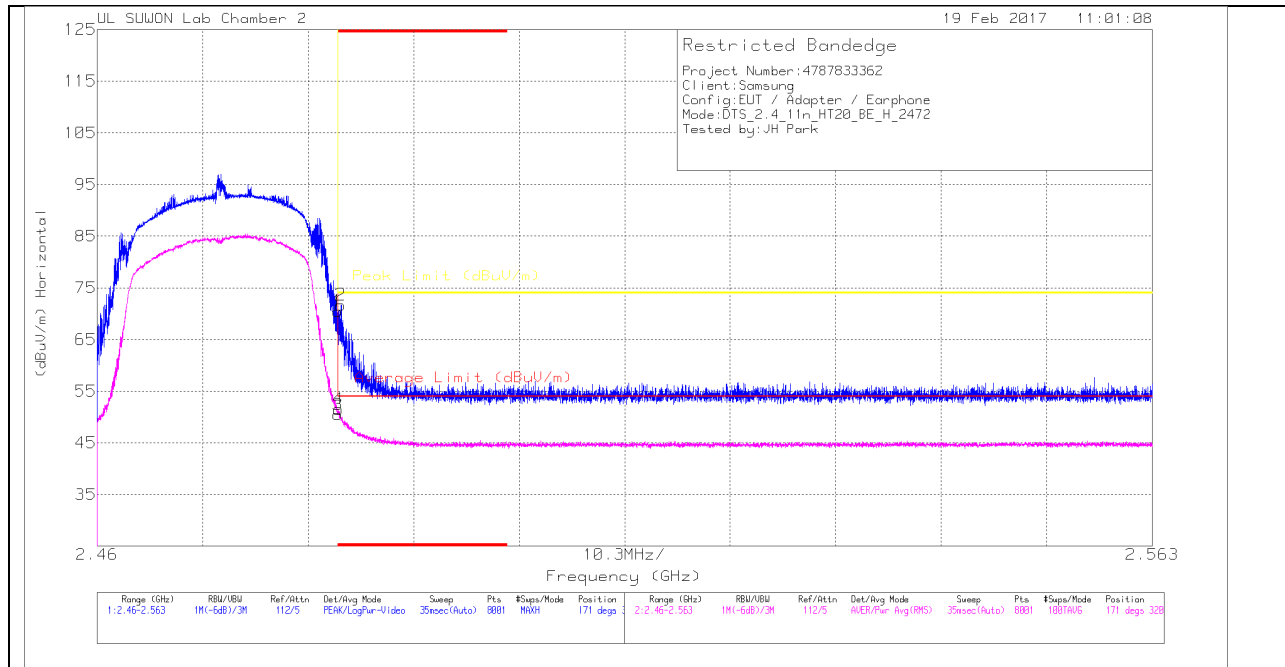
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (13 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

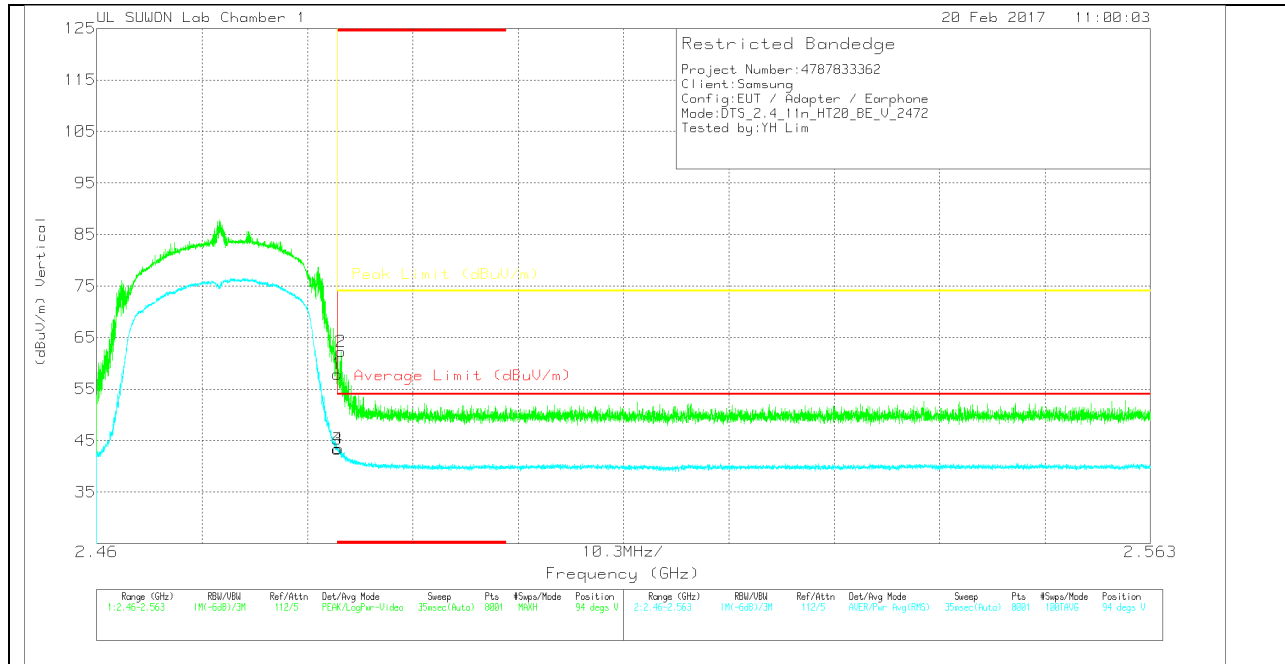
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	56.68	Pk	31.8	-18	0	70.48	-	-	74	-3.52	171	320	H
2	* 2.484	57.88	Pk	31.8	-18	0	71.68	-	-	74	-2.32	171	320	H
3	* 2.484	36.48	RMS	31.8	-18	.18	50.46	54	-3.54	-	-	171	320	H
4	* 2.484	37.55	RMS	31.8	-18	.18	51.53	54	-2.47	-	-	171	320	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	54.63	Pk	32	-28.7	0	57.93	-	-	74	-16.07	94	393	V
2	* 2.484	58.95	Pk	32	-28.7	0	62.25	-	-	74	-11.75	94	393	V
3	* 2.484	39.85	RMS	32	-28.7	.18	43.33	54	-10.67	-	-	94	393	V
4	* 2.484	39.99	RMS	32	-28.7	.18	43.47	54	-10.53	-	-	94	393	V

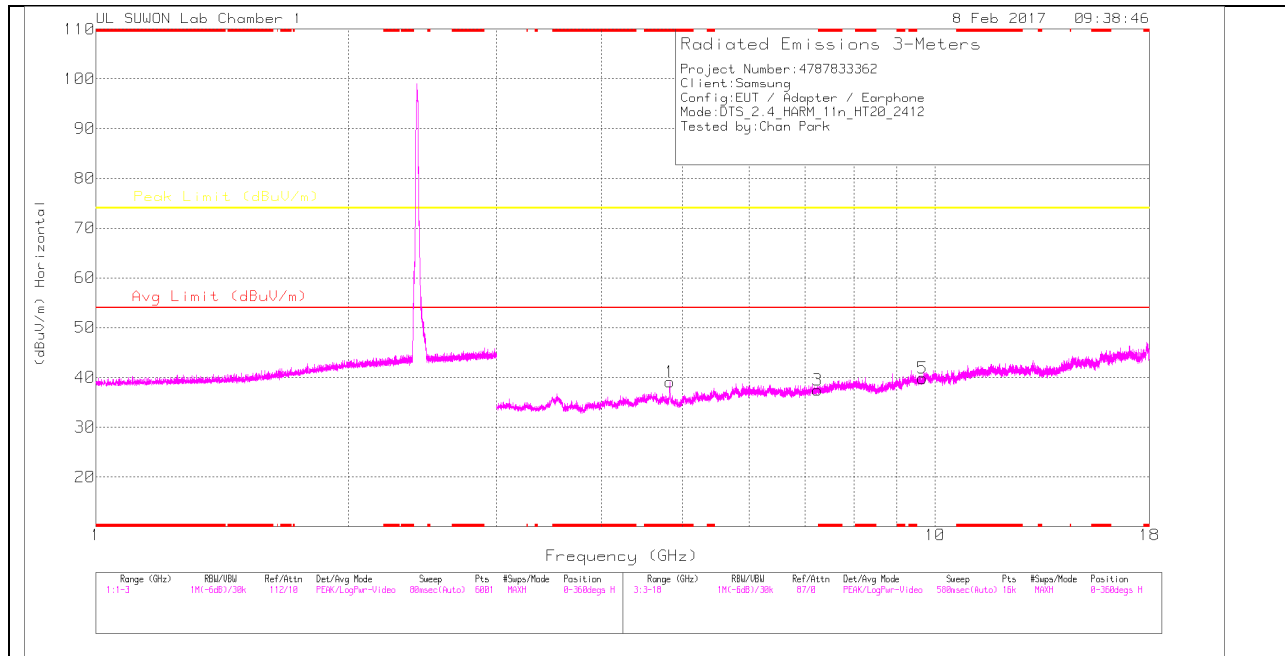
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

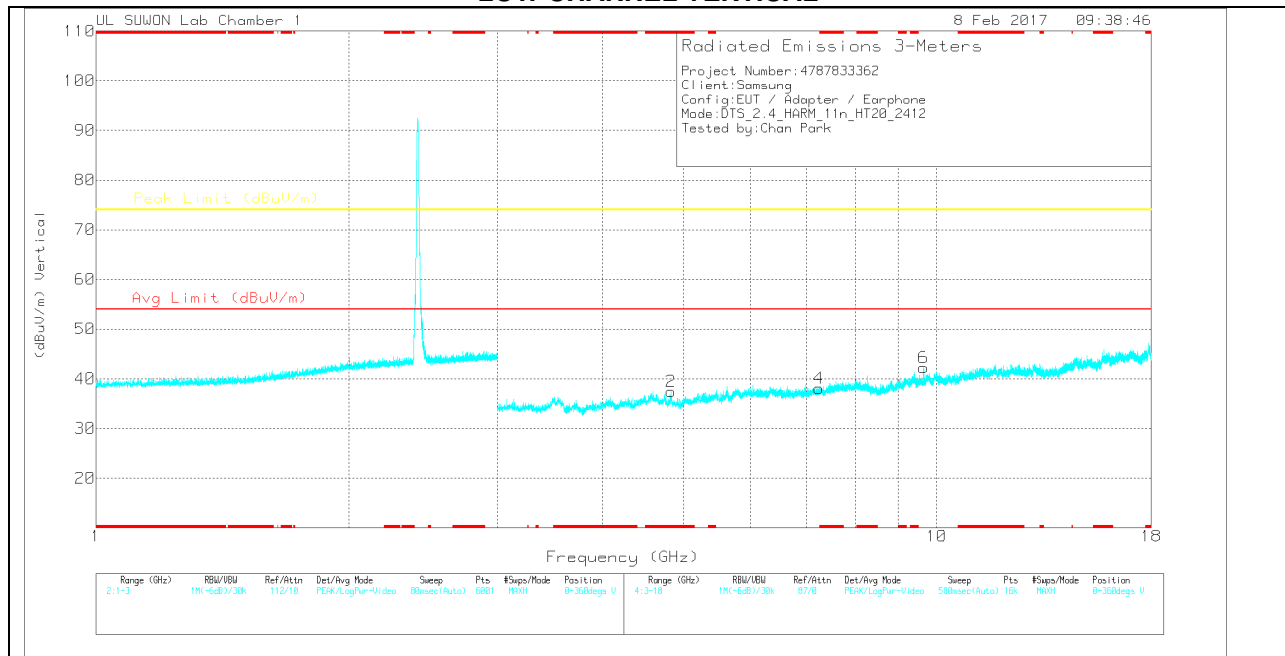
RMS - RMS detection

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	* 4.829	38.95	PK	34	-33.9	0	39.05	-	-	74	-34.95	0-360	150	H
3	7.235	33	PK	35.7	-31.2	0	37.5	-	-	74	-36.5	0-360	150	H
5	9.648	30.9	PK	37.1	-28.2	0	39.8	-	-	74	-34.2	0-360	250	H
2	* 4.831	37.37	PK	34	-33.9	0	37.47	-	-	74	-36.53	0-360	250	V
4	7.241	33.61	PK	35.7	-31.2	0	38.11	-	-	74	-35.89	0-360	150	V
6	9.647	33.32	PK	37.1	-28.2	0	42.22	-	-	74	-31.78	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

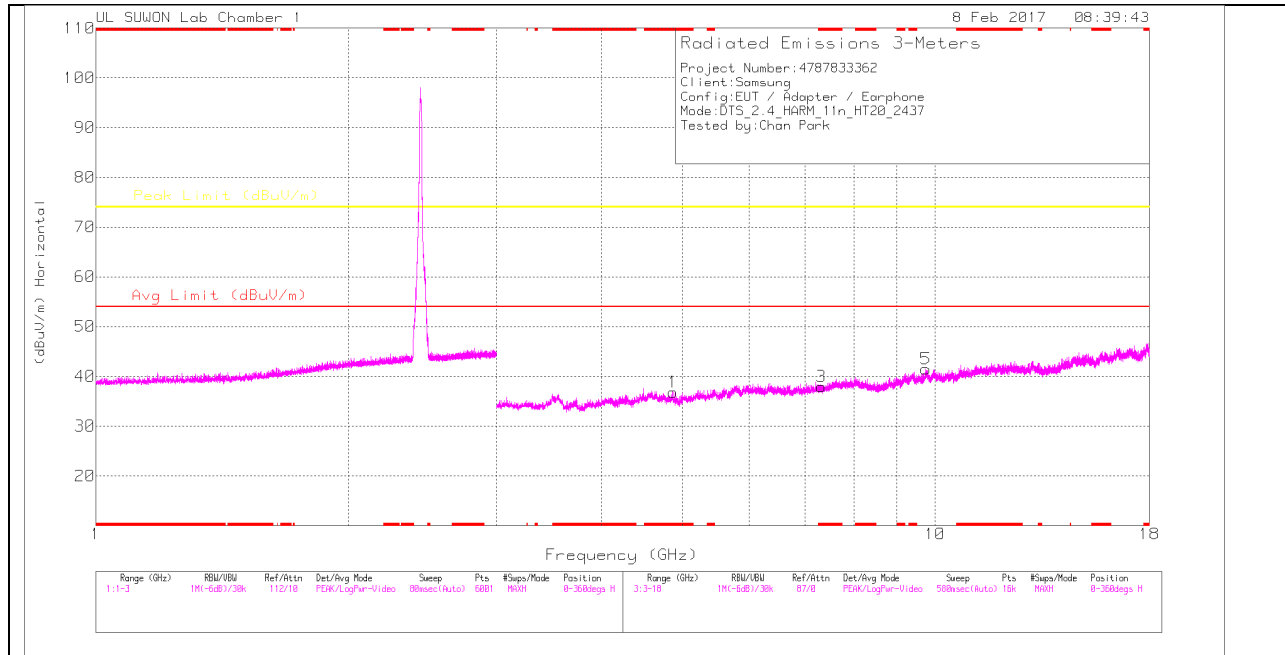
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.824	51.99	PK2	34	-34	0	51.99	-	-	74	-22.01	15	309	H
* 4.826	37.94	MAv1	34	-34	.18	38.12	54	-15.88	-	-	15	309	H
9.648	43.23	PK2	37.1	-28.2	0	52.13	-	-	74	-21.87	16	103	V

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

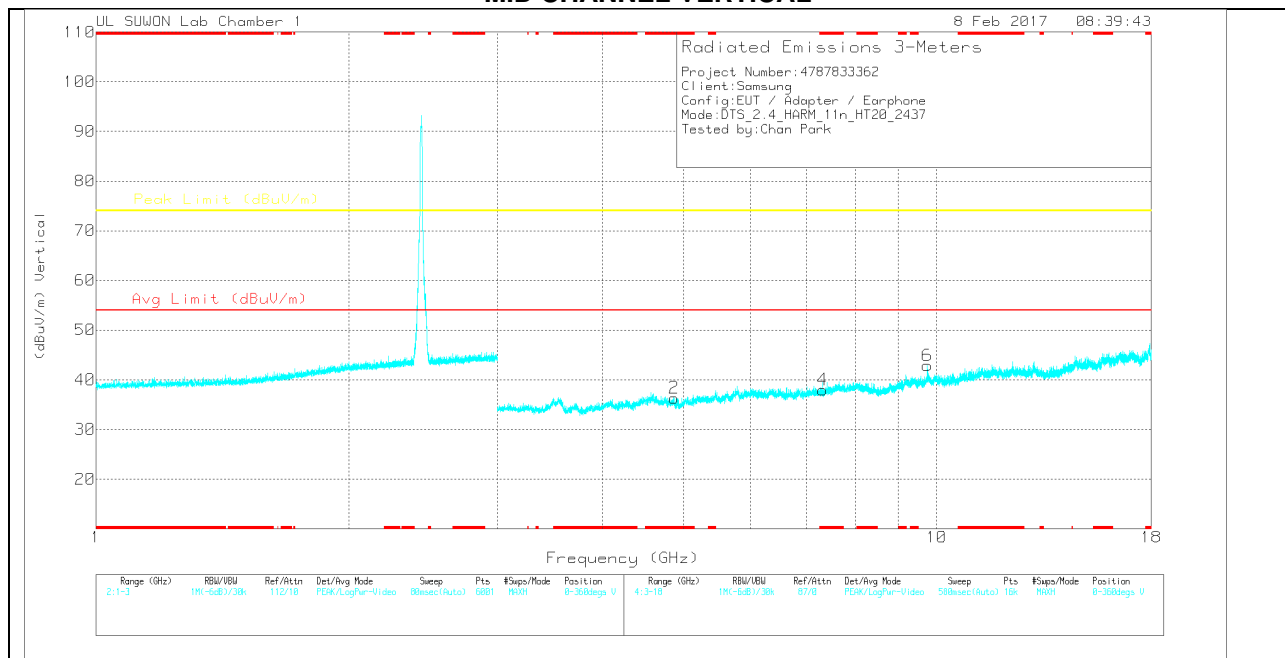
PK2 - KDB558074 Method: Maximum Peak

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(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	* 4.87	37.01	PK	34	-34.2	0	36.81	-	-	74	-37.19	0-360	150	H
3	* 7.314	33.2	PK	35.8	-31	0	38	-	-	74	-36	0-360	150	H
5	9.748	32.02	PK	37.2	-27.7	0	41.52	-	-	74	-32.48	0-360	150	H
2	* 4.874	36.58	PK	34	-34.2	0	36.38	-	-	74	-37.62	0-360	250	V
4	* 7.314	33.22	PK	35.8	-31	0	38.02	-	-	74	-35.98	0-360	150	V
6	9.748	33.4	PK	37.2	-27.7	0	42.9	-	-	74	-31.1	0-360	150	V

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

PK – Peak Detector

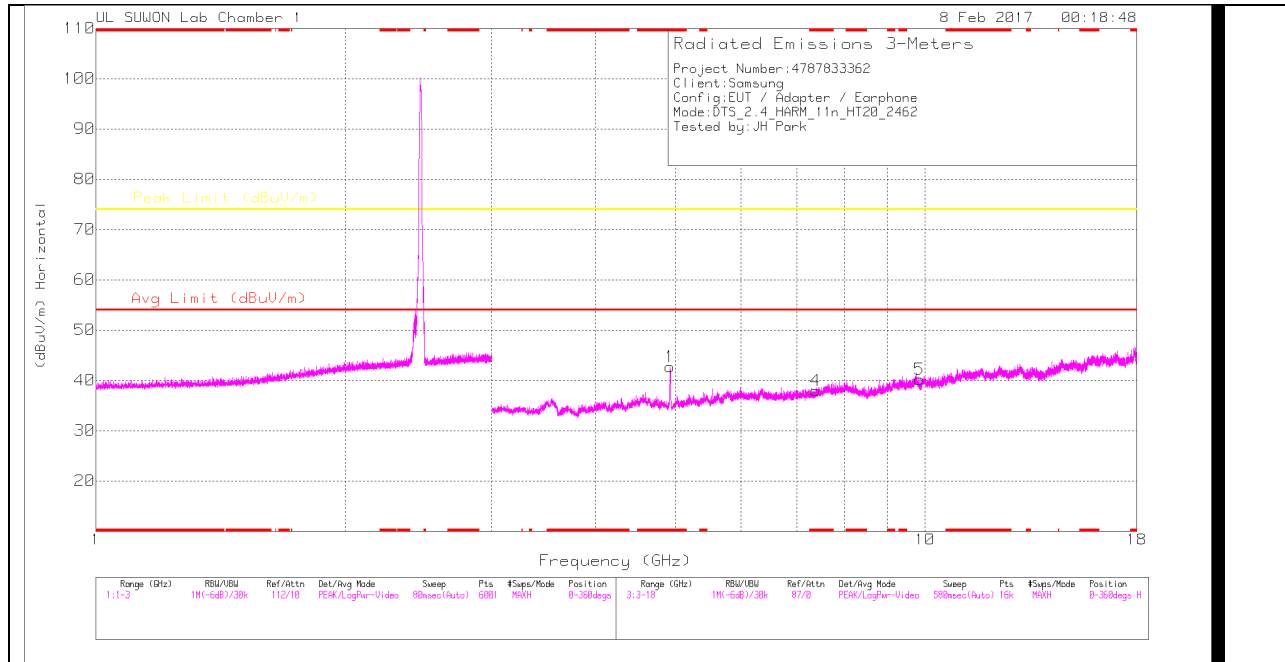
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	3Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.748	43.12	PK2	37.2	-27.7	0	52.62	-	-	74	-21.38	14	103	V

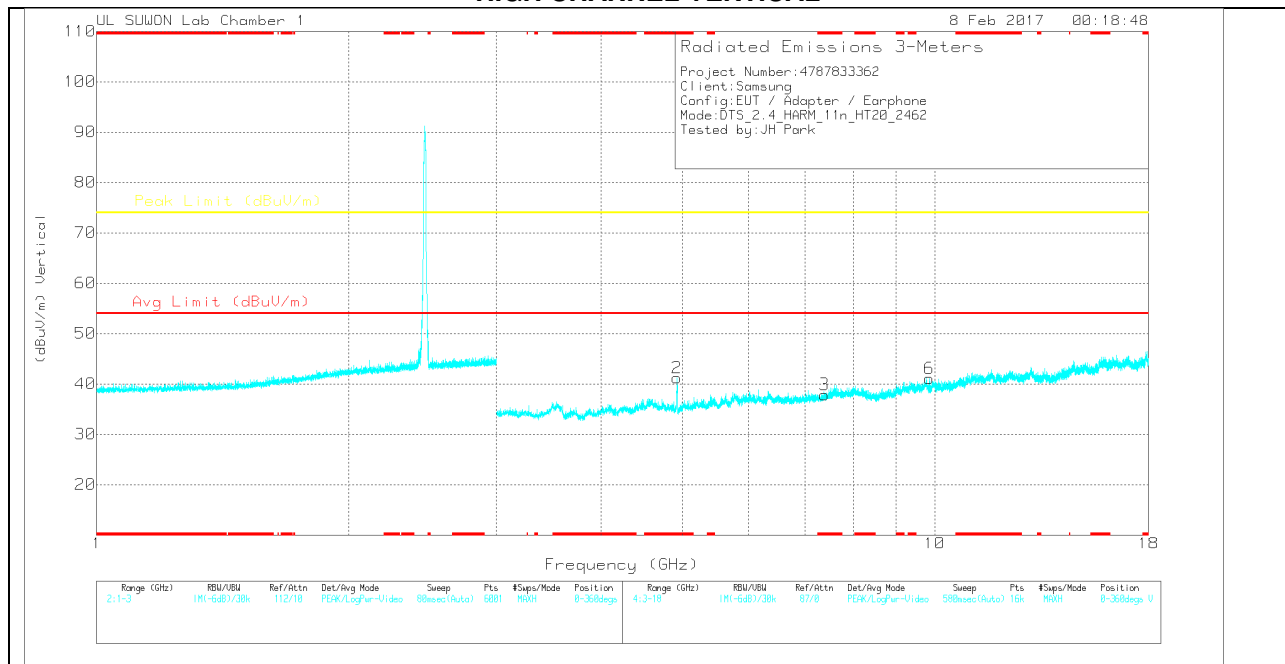
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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(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	* 4.926	42.58	PK	34	-33.9	0	42.68	-	-	74	-31.32	0-360	150	H
4	* 7.387	33.18	PK	35.8	-31	0	37.98	-	-	74	-36.02	0-360	150	H
5	9.848	31.2	PK	37.3	-28.3	0	40.2	-	-	74	-33.8	0-360	250	H
2	* 4.928	40.97	PK	34	-33.8	0	41.17	-	-	74	-32.83	0-360	150	V
3	* 7.386	33.07	PK	35.8	-31	0	37.87	-	-	74	-36.13	0-360	250	V
6	9.848	32.05	PK	37.3	-28.3	0	41.05	-	-	74	-32.95	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

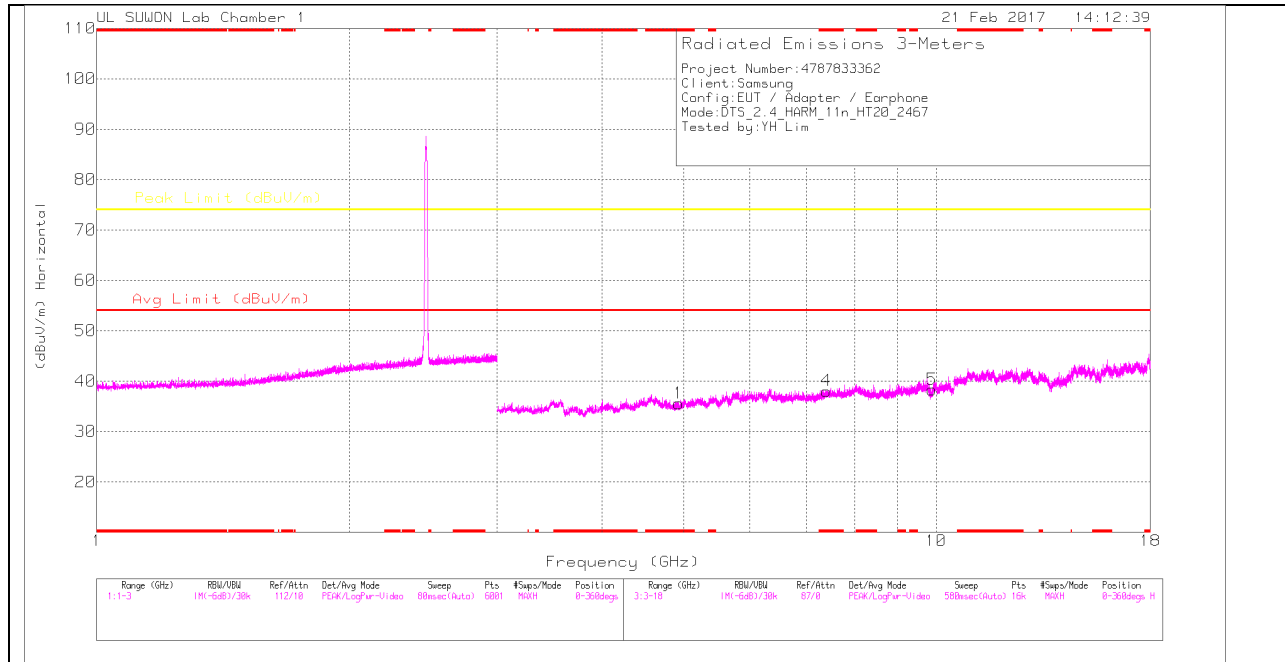
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	55.6	PK2	34	-33.9	0	55.7	-	-	74	-18.3	4	138	H
* 4.927	39.75	MAv1	34	-33.9	.18	40.03	54	-13.97	-	-	4	138	H
* 4.93	54.56	PK2	34	-33.9	0	54.66	-	-	74	-19.34	187	238	V
* 4.93	41.35	MAv1	34	-33.9	.18	41.63	54	-12.37	-	-	187	238	V

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

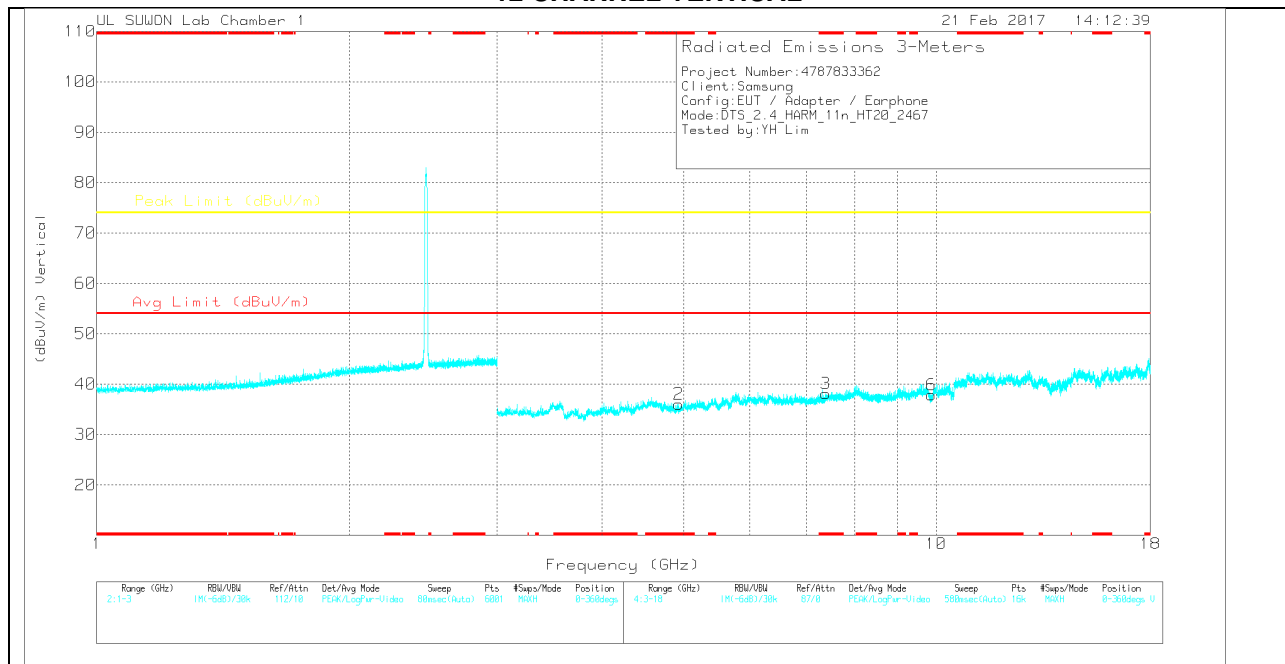
PK2 - KDB558074 Method: Maximum Peak

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

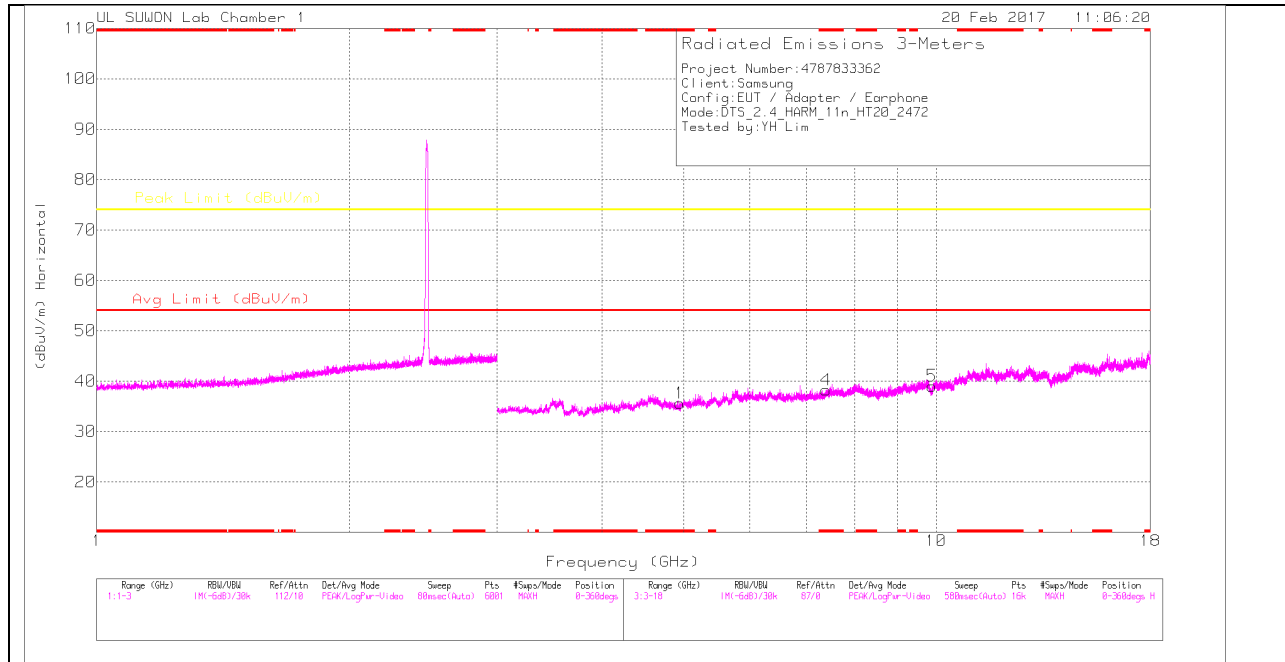
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	3Ghz_HP(d B)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.934	35.48	Pk	34	-33.9	35.58	-	-	74	-38.42	0-360	150	H
4	* 7.396	33.16	Pk	35.8	-30.9	38.06	-	-	74	-35.94	0-360	250	H
5	9.883	29.53	Pk	37.3	-28.5	38.33	-	-	74	-35.67	0-360	250	H
2	* 4.932	35.93	Pk	34	-33.9	36.03	-	-	74	-37.97	0-360	250	V
3	* 7.391	33.23	Pk	35.8	-30.9	38.13	-	-	74	-35.87	0-360	250	V
6	9.868	29.17	Pk	37.3	-28.6	37.87	-	-	74	-36.13	0-360	150	V

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

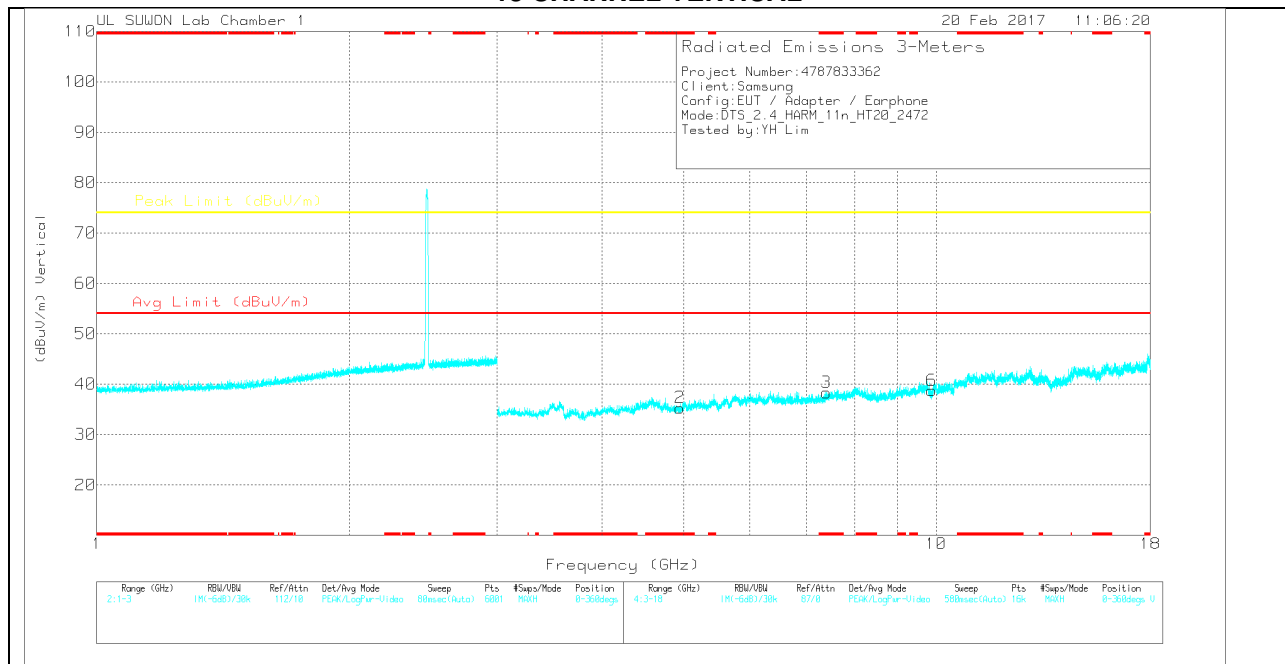
Pk – Peak detector

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 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	* 4.952	35.73	PK	34	-34.1	0	35.63	-	-	74	-38.37	0-360	150	H
4	* 7.395	33.33	PK	35.8	-30.9	0	38.23	-	-	74	-35.77	0-360	150	H
5	9.882	30.23	PK	37.3	-28.5	0	39.03	-	-	74	-34.97	0-360	150	H
2	* 4.952	35.41	PK	34	-34.1	0	35.31	-	-	74	-38.69	0-360	150	V
3	* 7.399	33.52	PK	35.8	-31	0	38.32	-	-	74	-35.68	0-360	150	V
6	9.879	30.07	PK	37.3	-28.6	0	38.77	-	-	74	-35.23	0-360	250	V

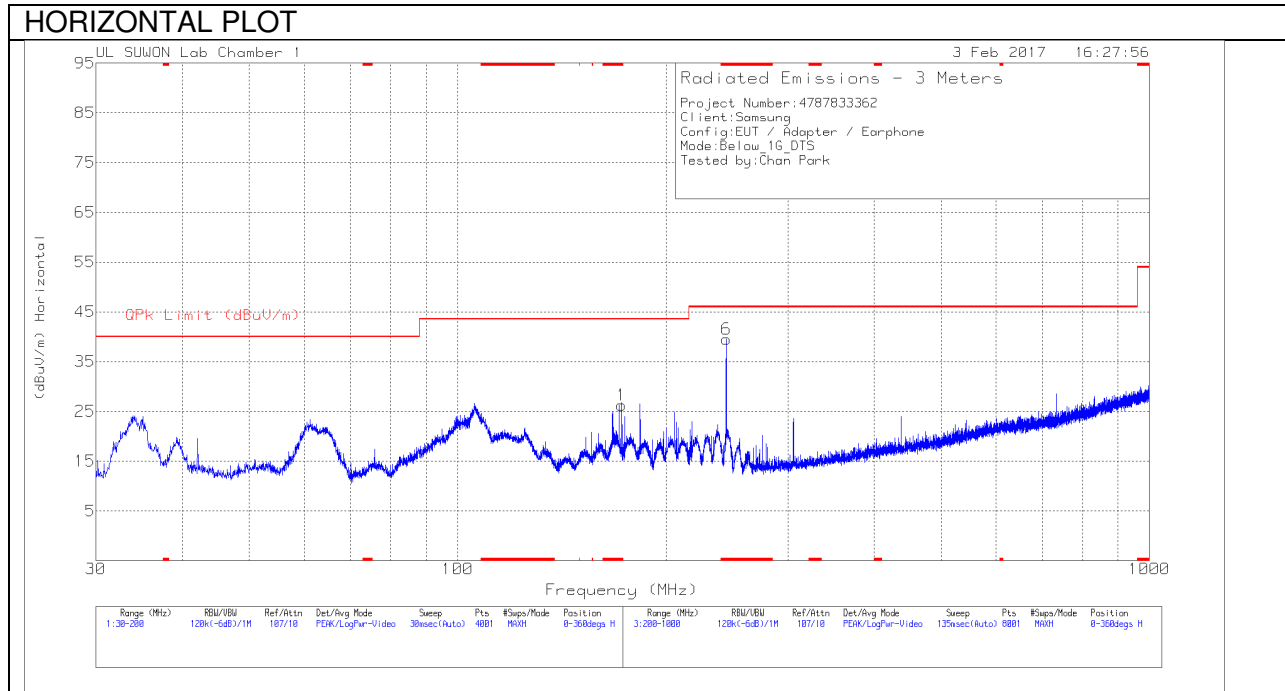
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK – Peak detector

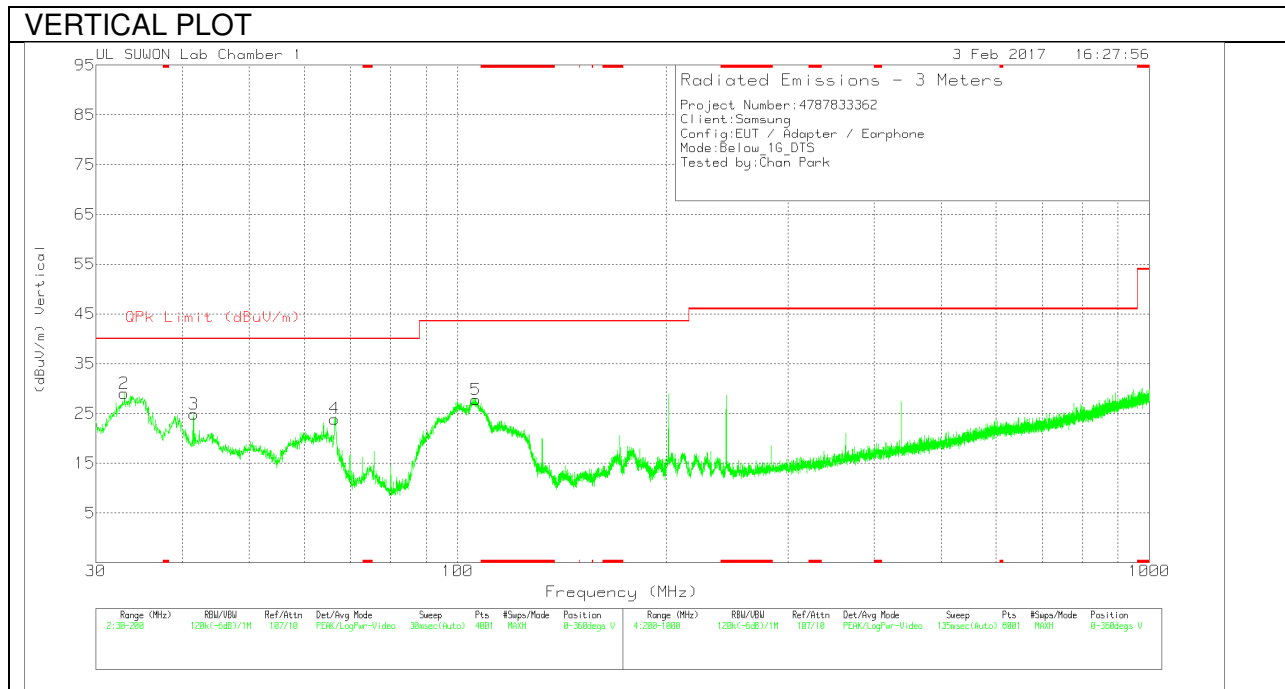
Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

10.3. WORST-CASE BELOW 1 GHz

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



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



Below 1G Data

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163-750	Bi-Log	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 172.715	45.58	Pk	9.1	-28.4	26.28	43.52	-17.24	0-360	300	H
2	32.975	49.1	Pk	10.4	-30.5	29	40	-11	0-360	100	V
3	41.5175	42.31	Pk	12.8	-30.3	24.81	40	-15.19	0-360	100	V
4	66.4225	43.01	Pk	10.7	-29.8	23.91	40	-16.09	0-360	100	V
5	106.2875	45.93	Pk	11	-29.2	27.73	43.52	-15.79	0-360	100	V
6	* 244.5	55.19	Pk	12.2	-27.9	39.49	46.02	-6.53	0-360	100	H

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

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163-750	Bi-Log	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 244.565	54.91	Qp	12.2	-27.8	39.31	46.02	-6.71	31	114	H

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

Qp - Quasi-Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

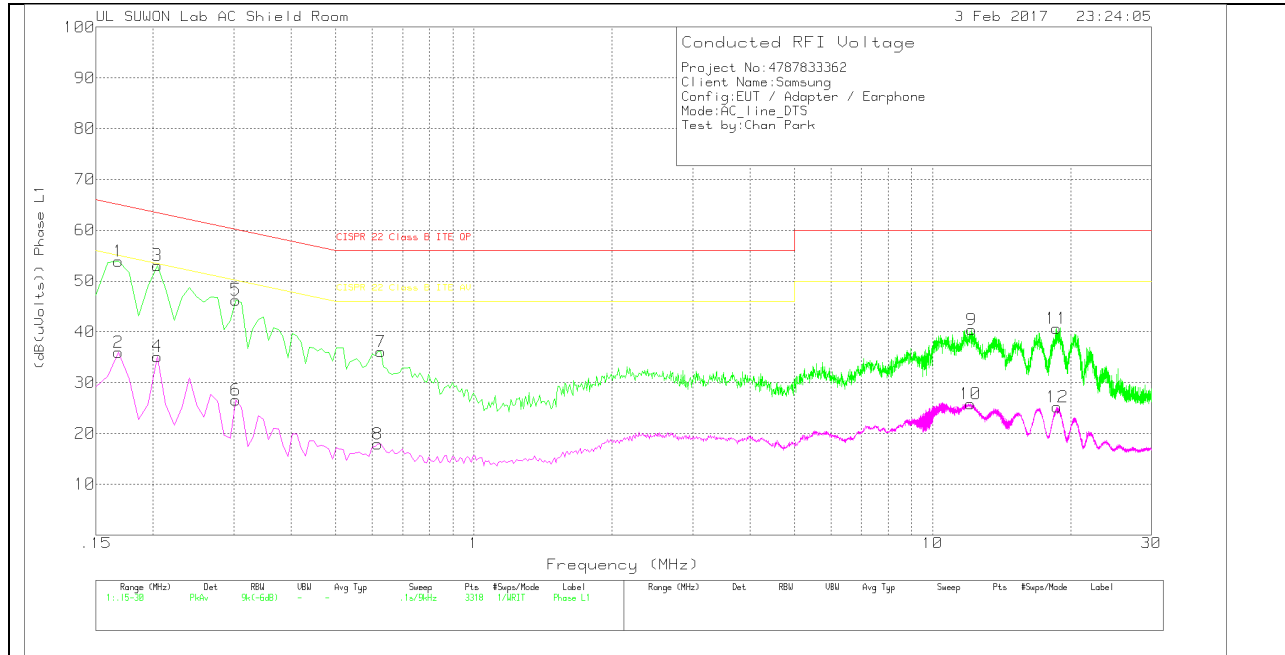
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULTS

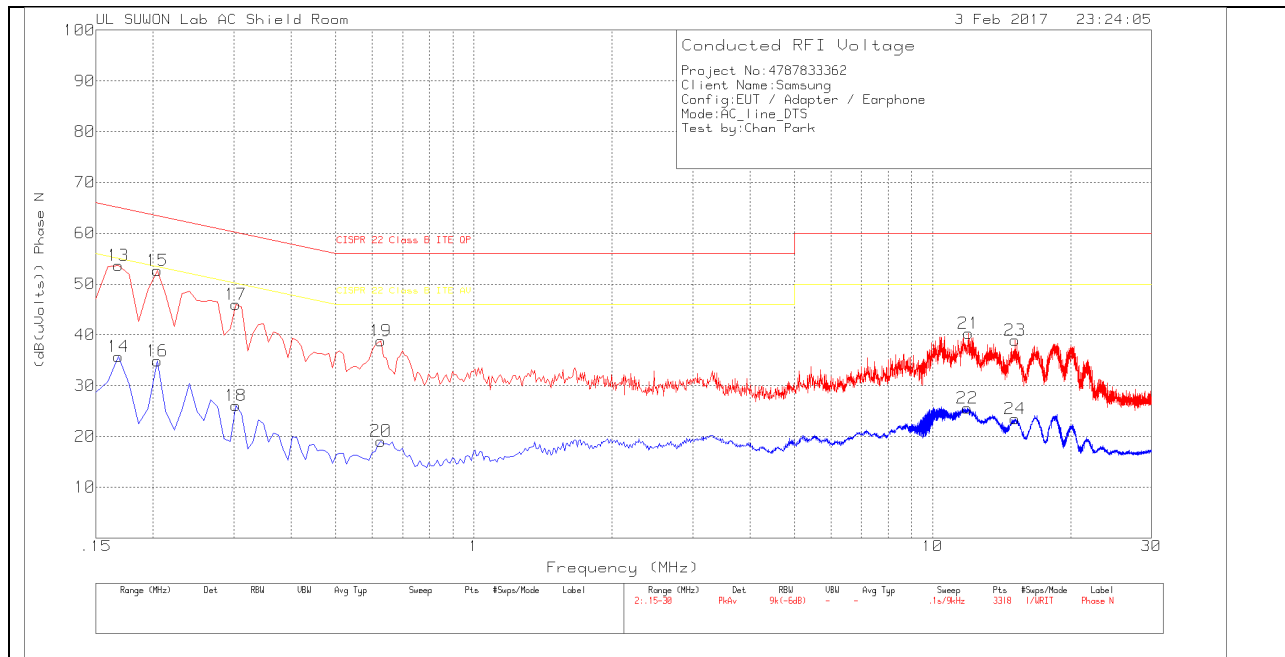
Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_w ith ex-cord_L1	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
1	.168	43.87	Pk	10	0	53.87	65.06	-11.19	-	-
2	.168	26.02	Av	10	0	36.02	-	-	55.06	-19.04
3	.204	43.19	Pk	9.9	0	53.09	63.45	-10.36	-	-
4	.204	25.26	Av	9.9	0	35.16	-	-	53.45	-18.29
5	.303	36.59	Pk	9.7	0	46.29	60.16	-13.87	-	-
6	.303	16.85	Av	9.7	0	26.55	-	-	50.16	-23.61
7	.627	26.24	Pk	9.9	0	36.14	56	-19.86	-	-
8	.618	7.99	Av	9.9	0	17.89	-	-	46	-28.11
9	12.156	30.07	Pk	10.1	.2	40.37	60	-19.63	-	-
10	12.093	15.56	Av	10.1	.2	25.86	-	-	50	-24.14
11	18.654	30.17	Pk	10.3	.2	40.67	60	-19.33	-	-
12	18.717	14.7	Av	10.3	.2	25.2	-	-	50	-24.8

Pk - Peak detector

Av - Average detection

LINE 2 PLOT



LINE 2 RESULTS

Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_w ith ex-cord_N	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
13	.168	43.69	Pk	10	0	53.69	65.06	-11.37	-	-
14	.168	25.76	Av	10	0	35.76	-	-	55.06	-19.3
15	.204	42.79	Pk	9.9	0	52.69	63.45	-10.76	-	-
16	.204	24.93	Av	9.9	0	34.83	-	-	53.45	-18.62
17	.303	36.3	Pk	9.7	0	46	60.16	-14.16	-	-
18	.303	16.42	Av	9.7	0	26.12	-	-	50.16	-24.04
19	.627	28.92	Pk	9.9	0	38.82	56	-17.18	-	-
20	.627	9.18	Av	9.9	0	19.08	-	-	46	-26.92
21	11.976	29.88	Pk	10.2	.2	40.28	60	-19.72	-	-
22	11.913	15.15	Av	10.2	.2	25.55	-	-	50	-24.45
23	15.117	28.32	Pk	10.4	.2	38.92	60	-21.08	-	-
24	15.117	12.88	Av	10.4	.2	23.48	-	-	50	-26.52

Pk - Peak detector

Av - Average detection