



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-G390Y

FCC ID: A3LSMG390Y

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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-G390Y
SERIAL NUMBER: R38J10TM59M (RADIATED);
R38J10TM4SK (CONDUCTED)
DATE TESTED: FEB 28, 2017 – MAR 17, 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
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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	
☒	Chamber 1
☒	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	17.26	53.21
	802.11g	13.47	22.23
	802.11n HT20	13.20	20.89

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-TA50HWE	DK4H630HS/A -E	N/A
Data Cable	SAMSUNG	ECB-DU68WE	N/A	N/A
Earphone	SAMSUNG	EHS64AVFWE	N/A	N/A

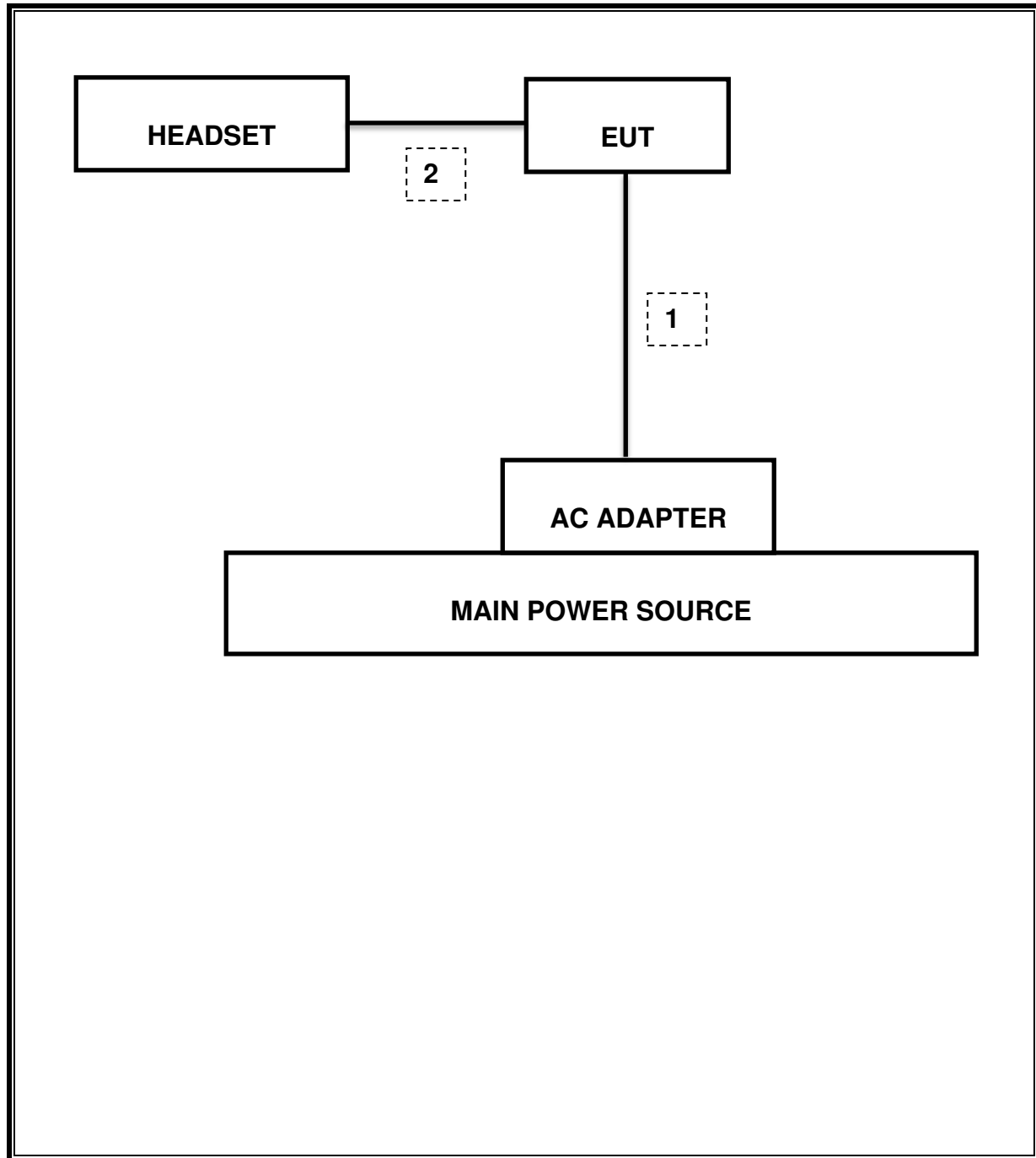
I/O CABLES

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	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, 7 GHz	Agilent / HP	N9010A	MY54200580	08-17-17
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

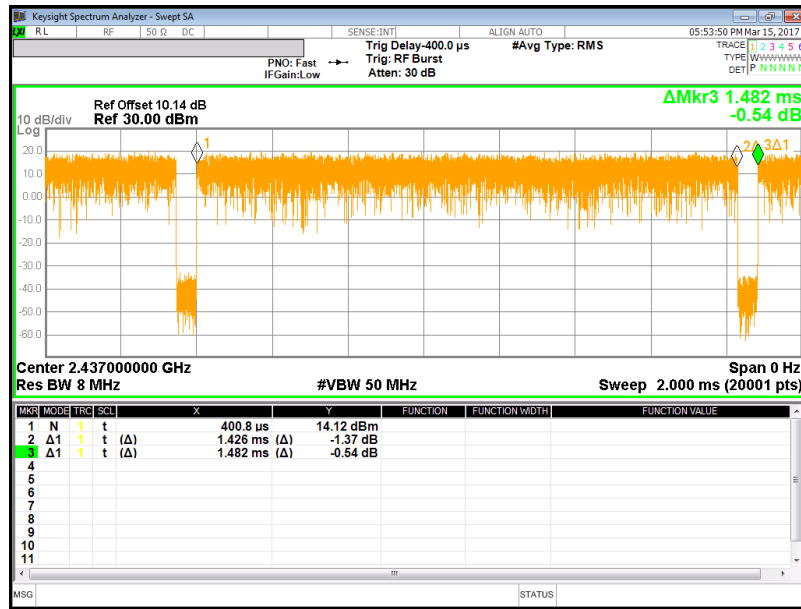
LIMITS

None; for reporting purposes only.

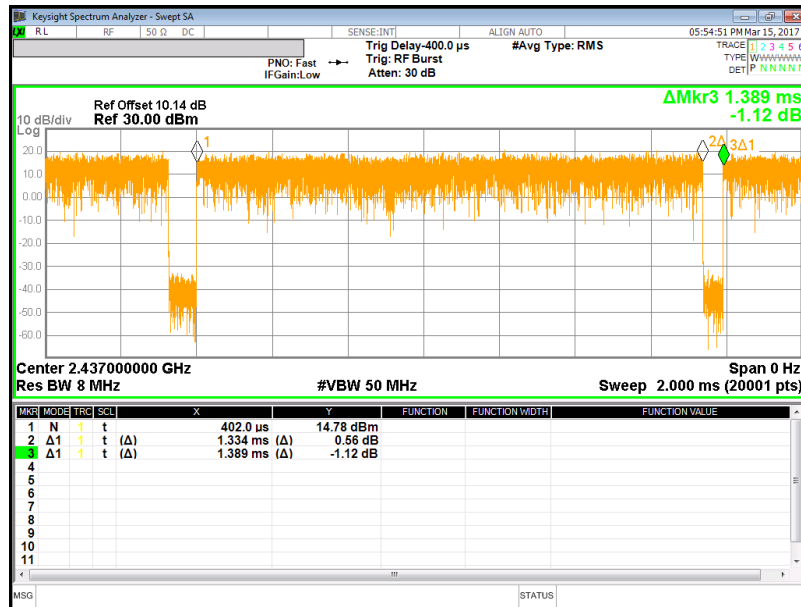
Mode	ON Time B [msec]	Period [msec]	Duty Cycle x [linear]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
2400MHz Bands						
802.11b	8.604	8.696	0.989	98.9%	0.00	0.010
802.11g	1.426	1.482	0.962	96.2%	0.17	0.701
802.11n HT20	1.334	1.389	0.960	96.0%	0.18	0.750



[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	8.563 MHz
2.1051, 15.247 (d)	Band Edge / Conducted Spurious Emission	-30dBc		Pass	-28.084 dBm
15.247	TX conducted output power	<30dBm		Pass	17.26 dBm
15.247	PSD	<8dBm		Pass	-13.998 dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Power Line conducted	Pass	54.07 dBuV (Qp)
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m	Radiated	Pass	50.65 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	9.521	0.5
Mid	2437	8.576	0.5
High	2462	8.563	0.5
12	2467	9.562	0.5
13	2472	9.527	0.5
Worst		8.563	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	15.010	0.5
Mid	2437	13.790	0.5
High	2462	13.860	0.5
12	2467	14.750	0.5
13	2472	15.070	0.5
Worst		13.790	0.5

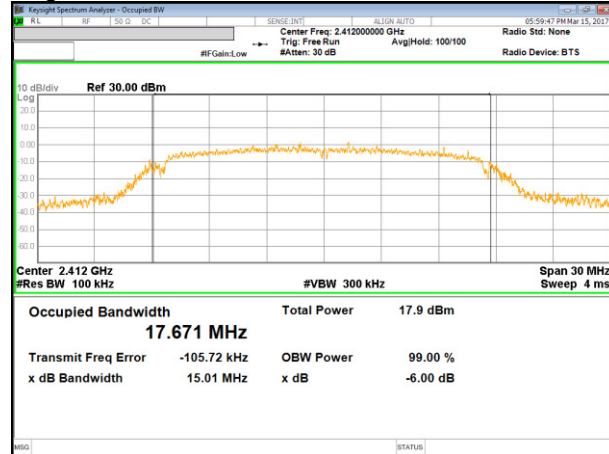
9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
Low	2412	14.970	0.5
Mid	2437	13.770	0.5
High	2462	12.500	0.5
12	2467	14.980	0.5
13	2472	10.060	0.5
Worst		10.060	0.5

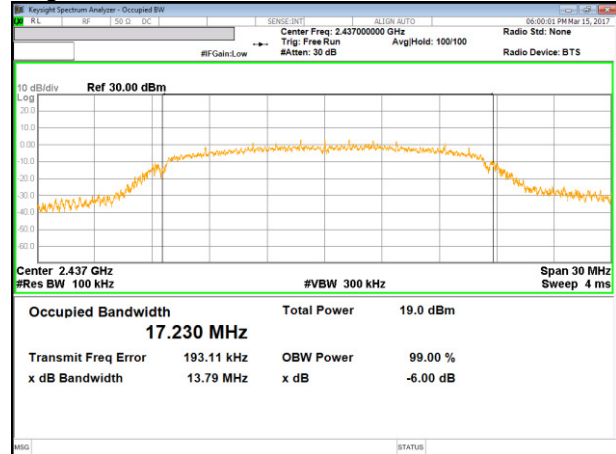
9.1.4. 6 dB BANDWIDTH PLOTS



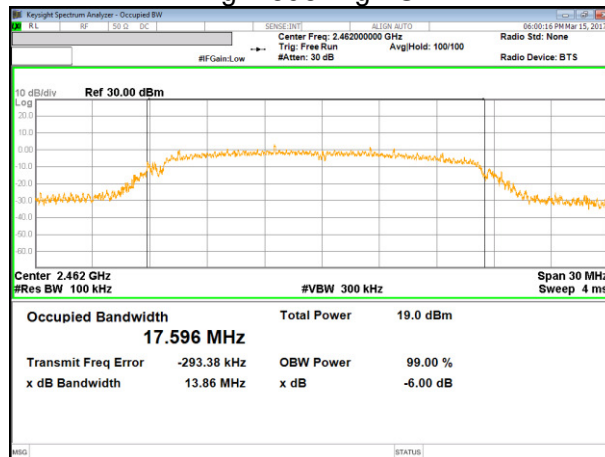
11g Mode Low CH



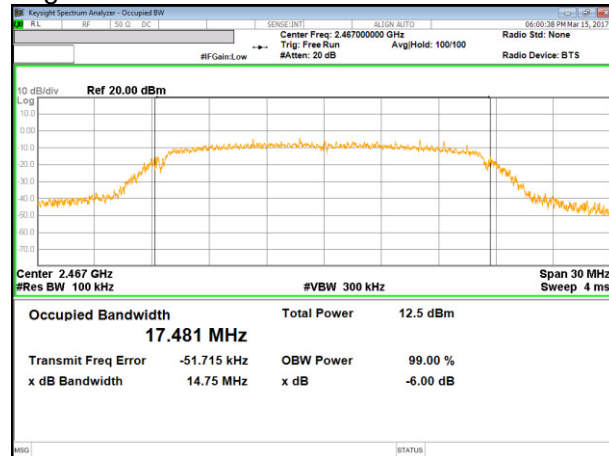
11g Mode Middle CH



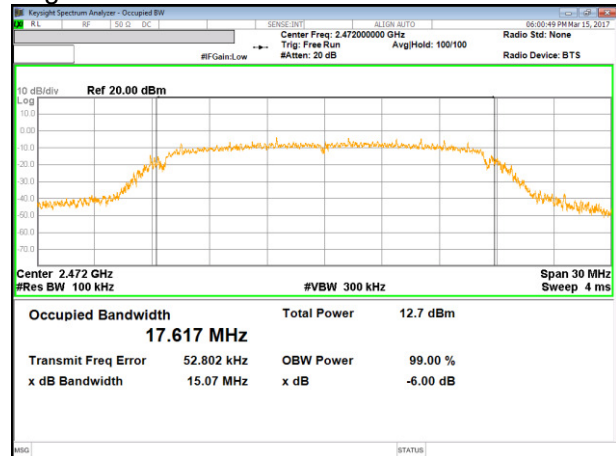
11g Mode High CH



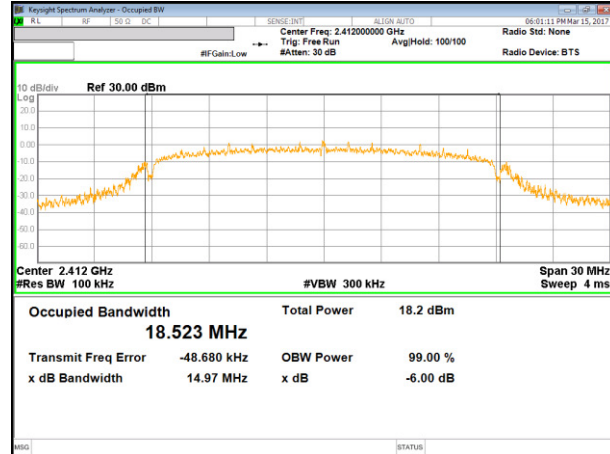
11g Mode 12 CH



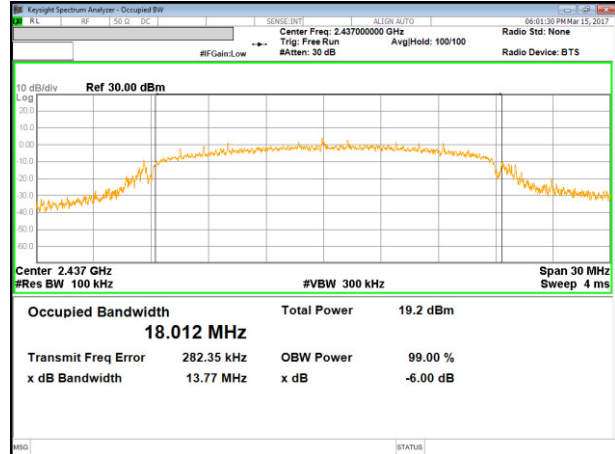
11g Mode 13 CH



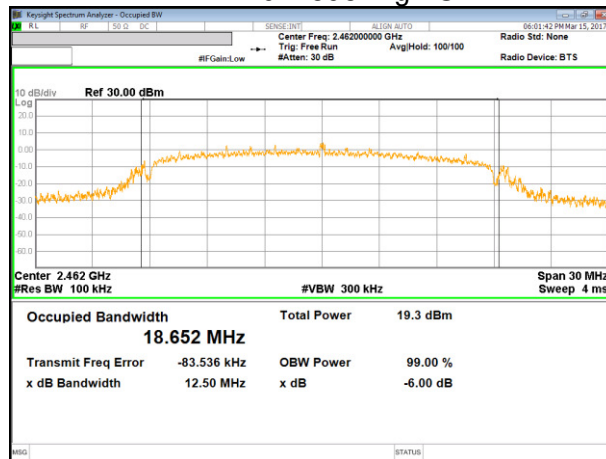
11n HT20 Mode Low CH



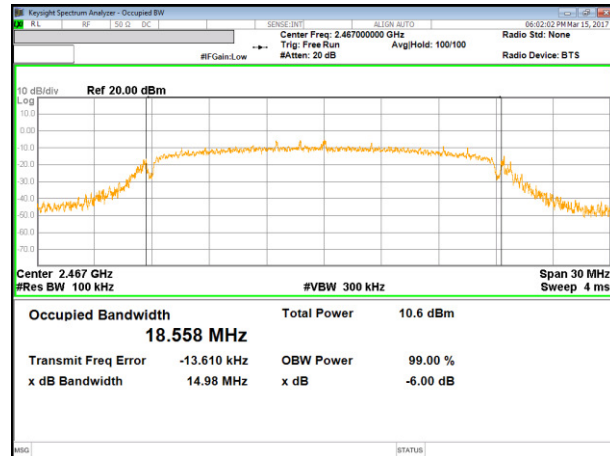
11n HT20 Mode Middle CH



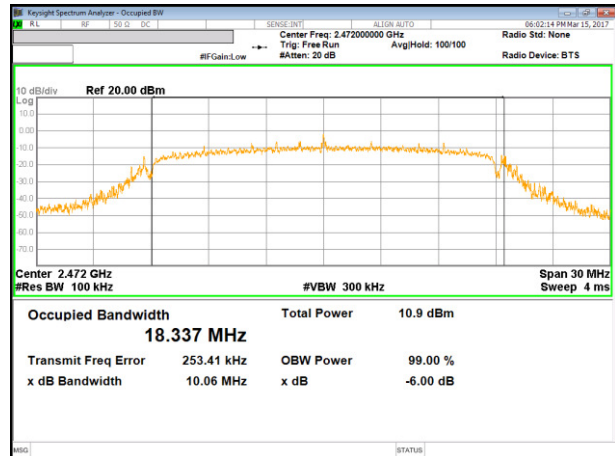
11n HT20 Mode High CH



11n Mode 12 CH



11n Mode 13 CH



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	16.41	16.41	30.00	-13.59
Mid	2437	17.26	17.26	30.00	-12.74
High	2462	17.21	17.21	30.00	-12.79
12	2467	6.67	6.68	30.00	-23.32
13	2472	6.66	6.97	30.00	-23.03
Worst			17.26	30.00	-12.74

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	12.67	12.67	30.00	-17.33
Mid	2437	13.46	13.46	30.00	-16.54
High	2462	13.47	13.47	30.00	-16.53
12	2467	7.01	7.01	30.00	-22.99
13	2472	7.16	7.16	30.00	-22.84
Worst			13.47	30.00	-16.53

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	12.76	12.76	30.00	-17.24
Mid	2437	13.20	13.20	30.00	-16.80
High	2462	13.14	13.14	30.00	-16.86
12	2467	5.01	5.01	30.00	-24.99
13	2472	4.74	4.74	30.00	-25.26
Worst			13.20	30.00	-16.80

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 AVGPDS-1 (802.11 b mode) and §10.5 AVGPDS-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	-14.743	0.00	-14.743	8.00	-22.743
Mid	2437	-13.998	0.00	-13.998	8.00	-21.998
High	2462	-14.264	0.00	-14.264	8.00	-22.264
12	2467	-23.401	0.00	-23.401	8.00	-31.401
13	2472	-24.447	0.00	-24.447	8.00	-32.447

9.3.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

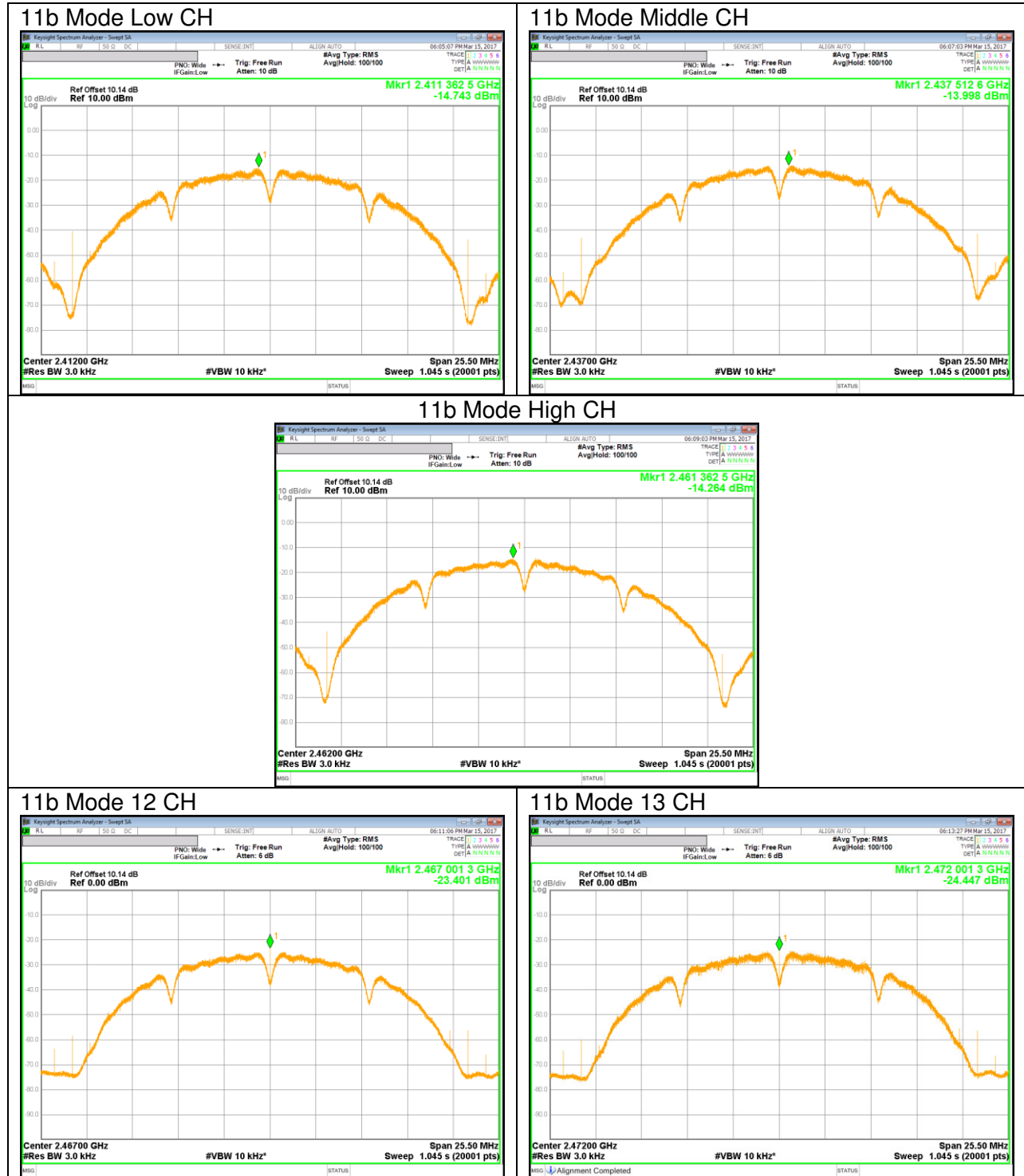
Channel	Frequency [MHz]	PSD Meas [dBm]	Duty Factor [dB]	Final PSD [dBm]	Limit [dBm]	Margin [dB]
Low	2412	-20.449	0.17	-20.279	8.00	-28.449
Mid	2437	-19.149	0.17	-18.979	8.00	-27.149
High	2462	-18.351	0.17	-18.181	8.00	-26.351
12	2467	-24.752	0.17	-24.582	8.00	-32.752
13	2472	-23.764	0.17	-23.594	8.00	-31.764

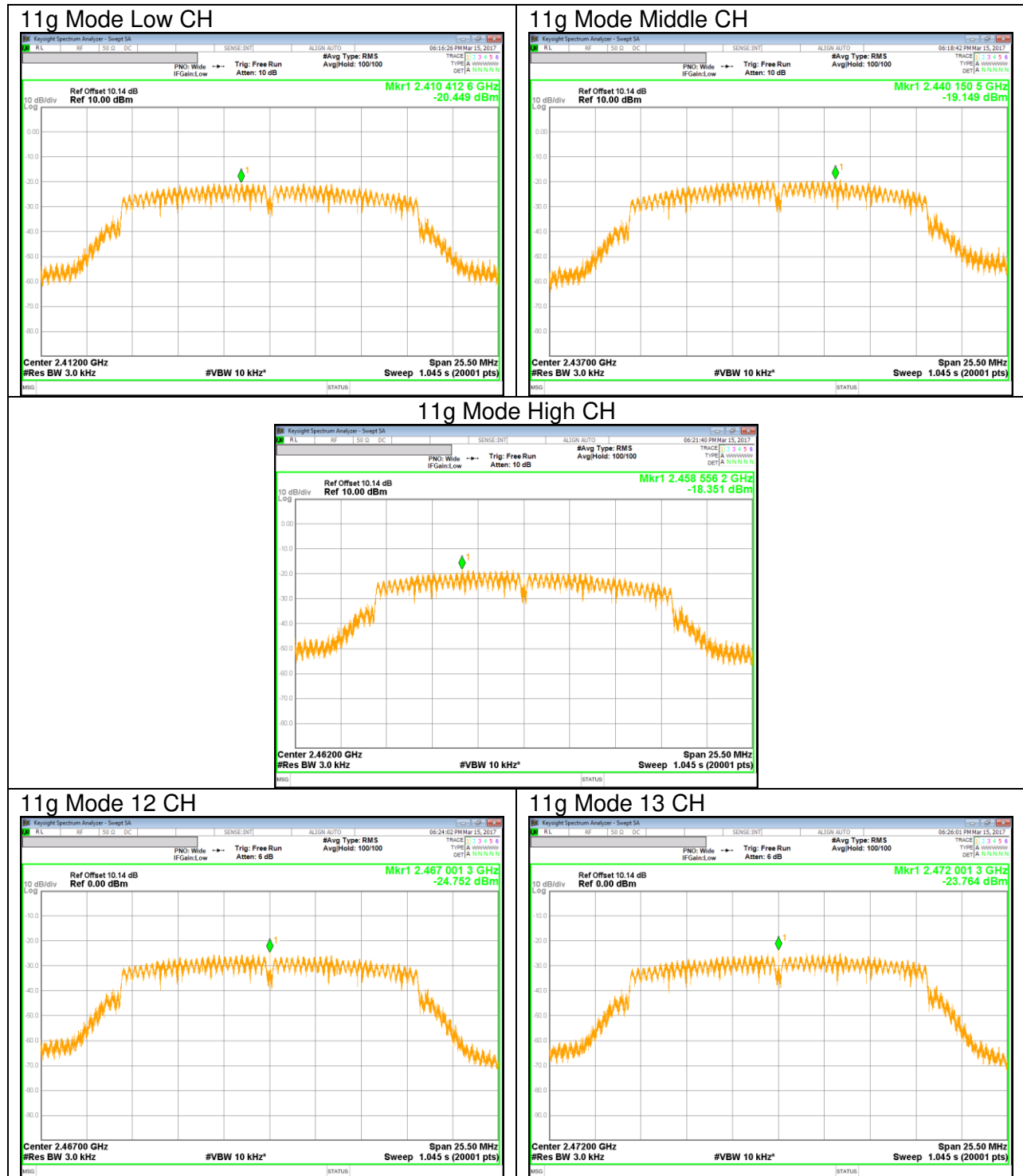
9.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

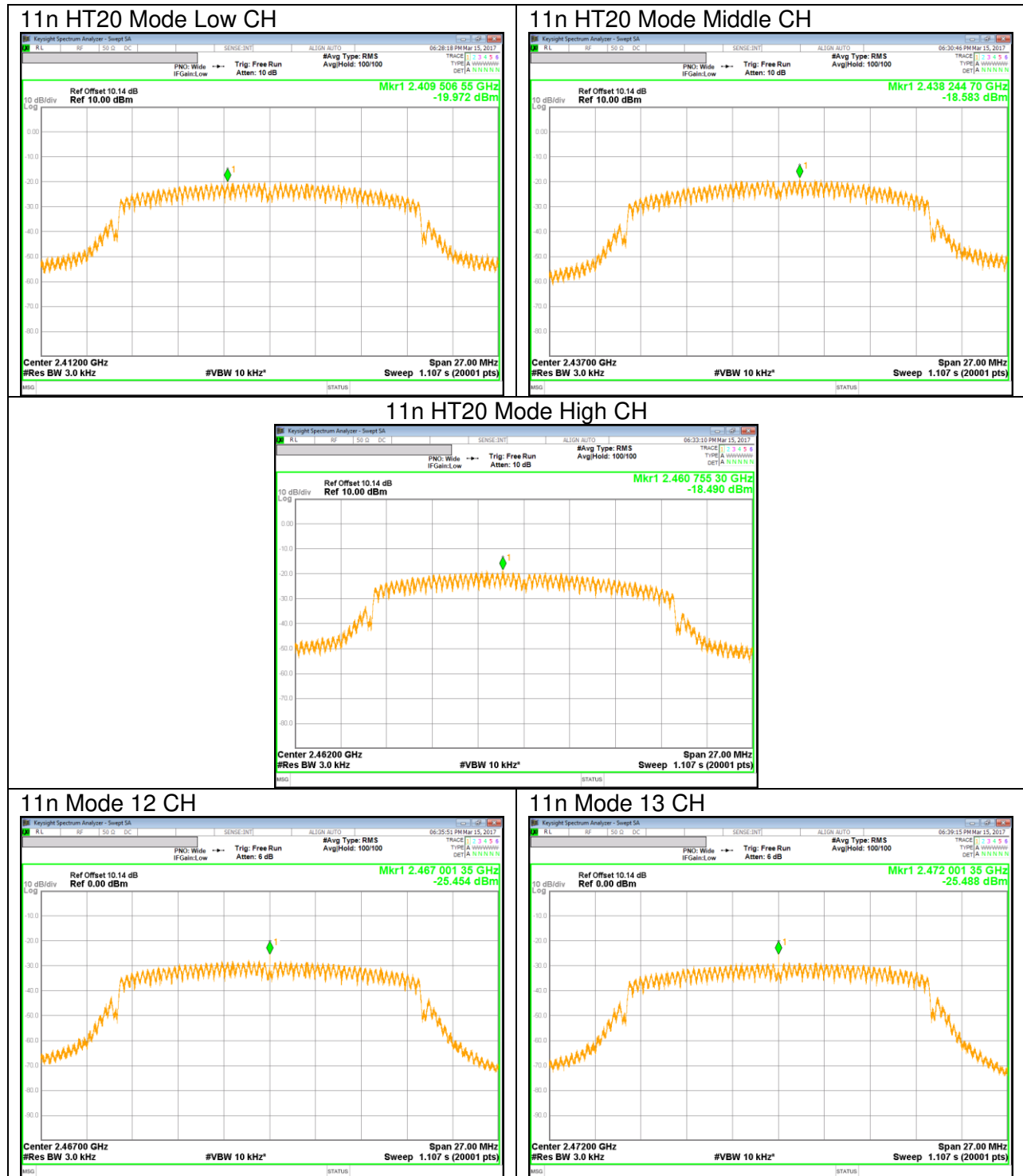
PSD Results

Channel	Frequency [MHz]	PSD Meas [dBm]	Duty Factor [dB]	Final PSD [dBm]	Limit [dBm]	Margin [dB]
Low	2412	-19.972	0.18	-19.792	8.00	-27.972
Mid	2437	-18.583	0.18	-18.403	8.00	-26.583
High	2462	-18.490	0.18	-18.310	8.00	-26.490
12	2467	-25.454	0.18	-25.274	8.00	-33.454
13	2472	-25.488	0.18	-25.308	8.00	-33.488

9.3.4. PSD PLOTS







9.4. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

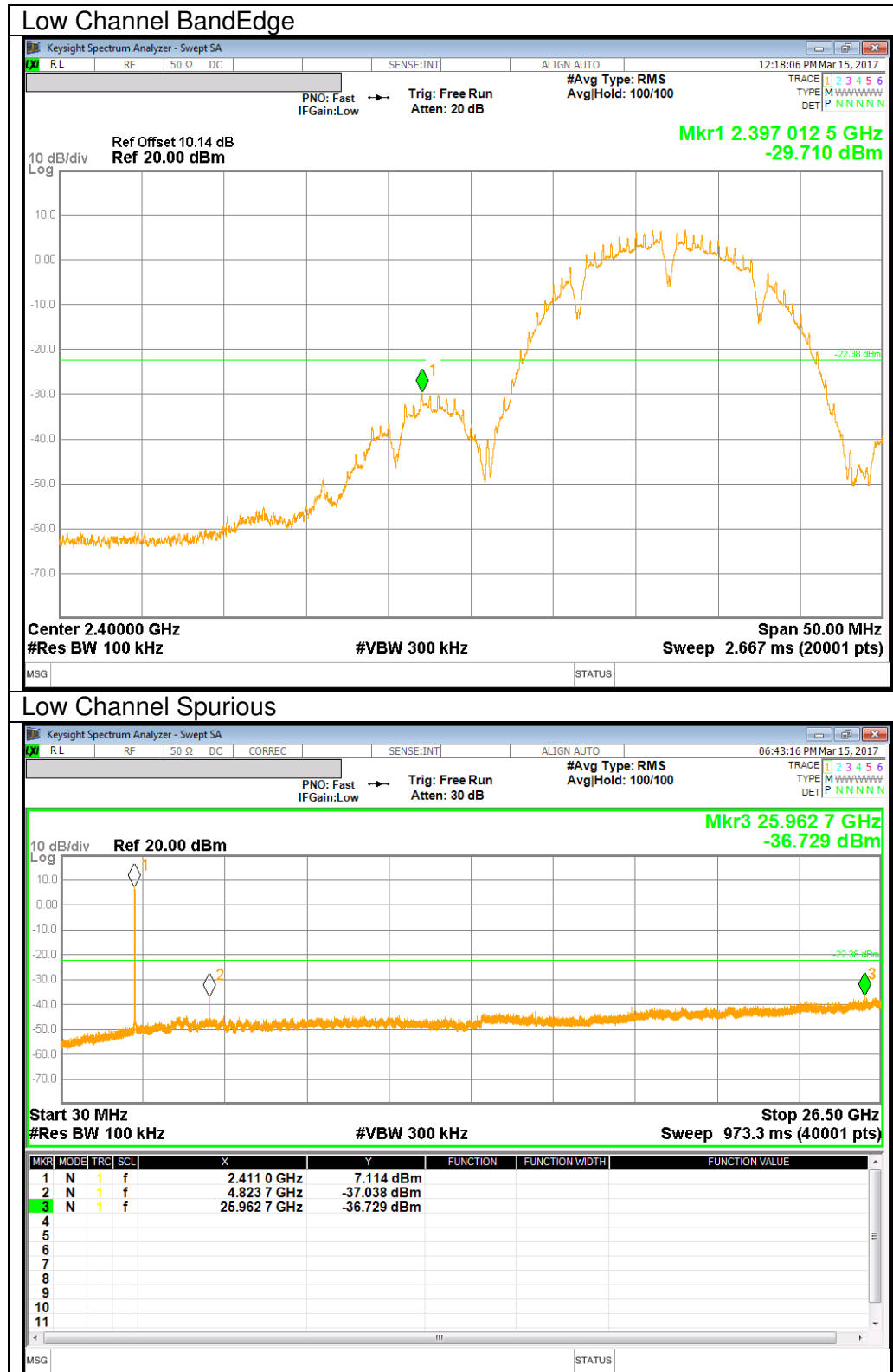
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the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

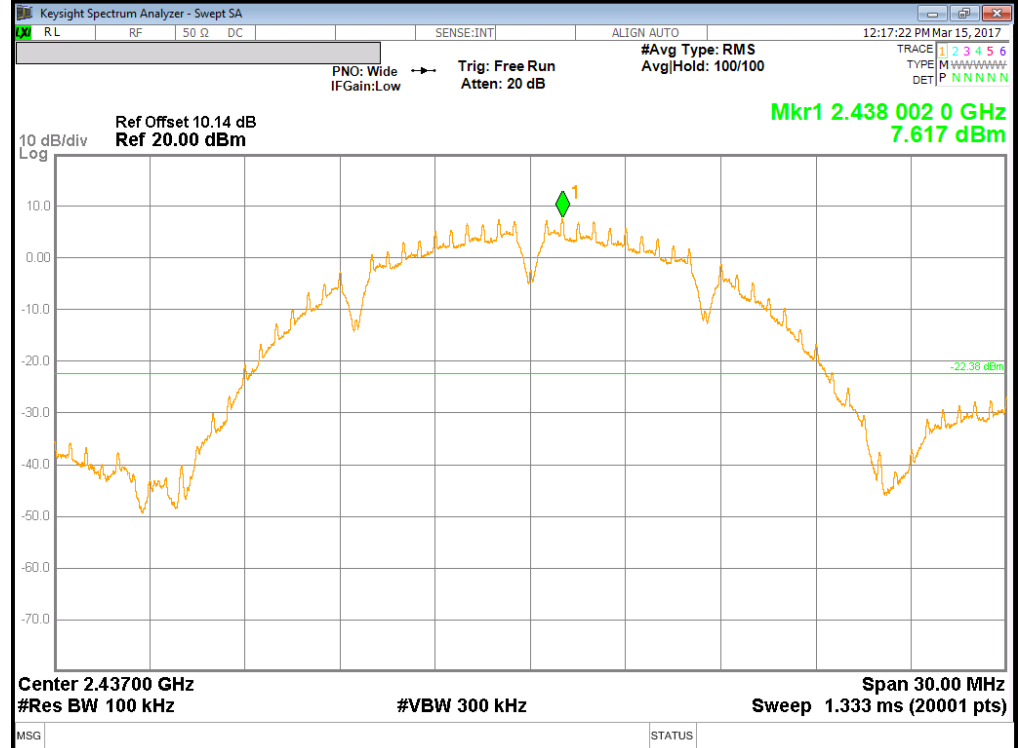
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS

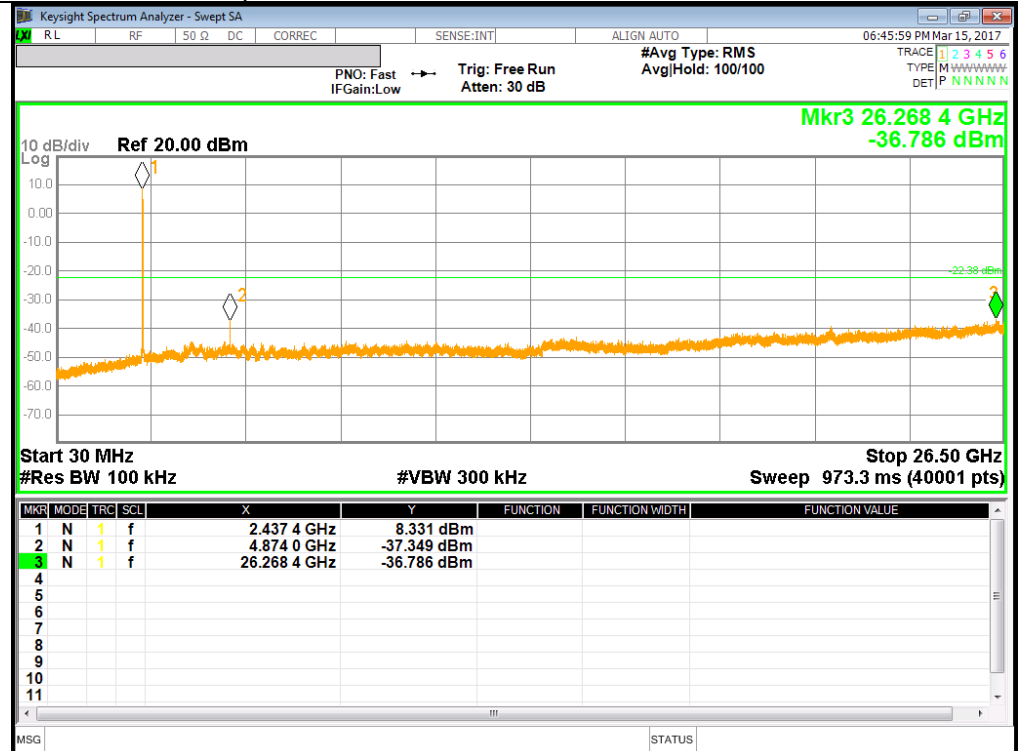
9.4.1. 802.11b MODE IN THE 2.4 GHz BAND



Middle Channel BandEdge



Middle Channel Spurious

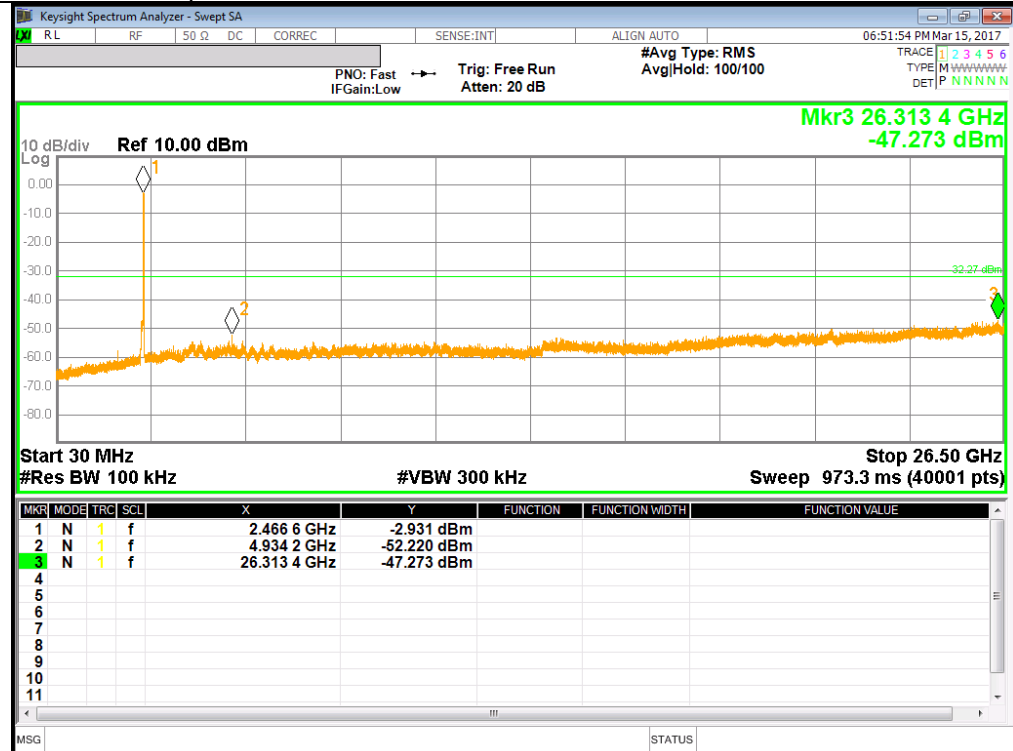




12 Channel BandEdge



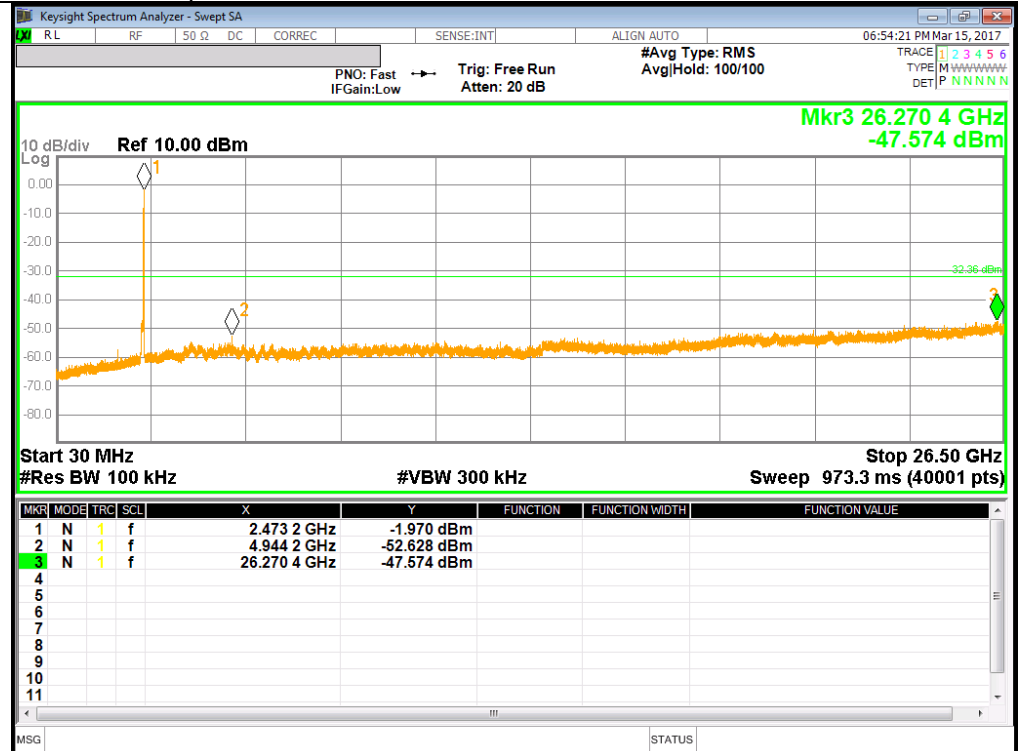
12 Channel Spurious



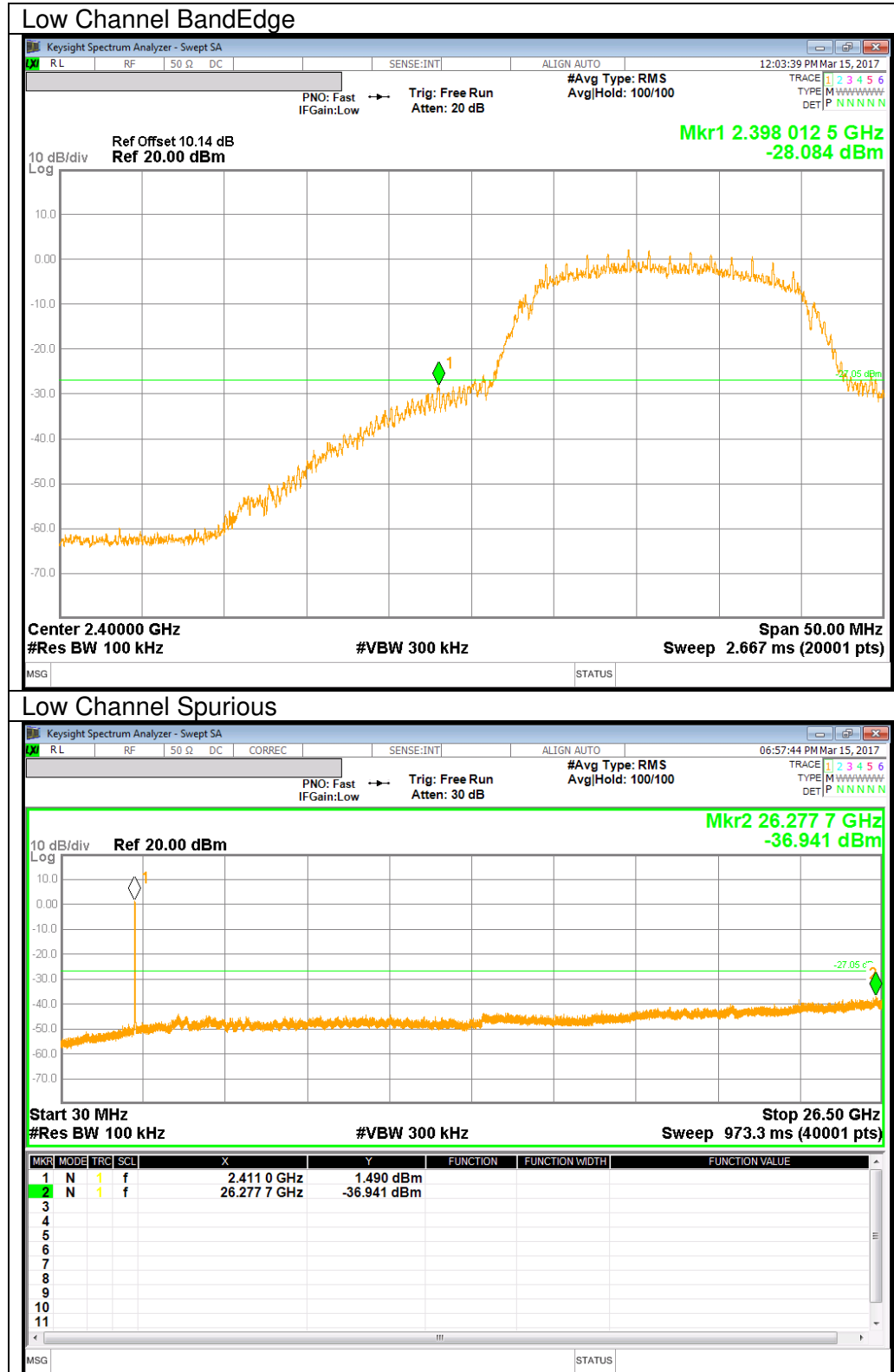
13 Channel BandEdge



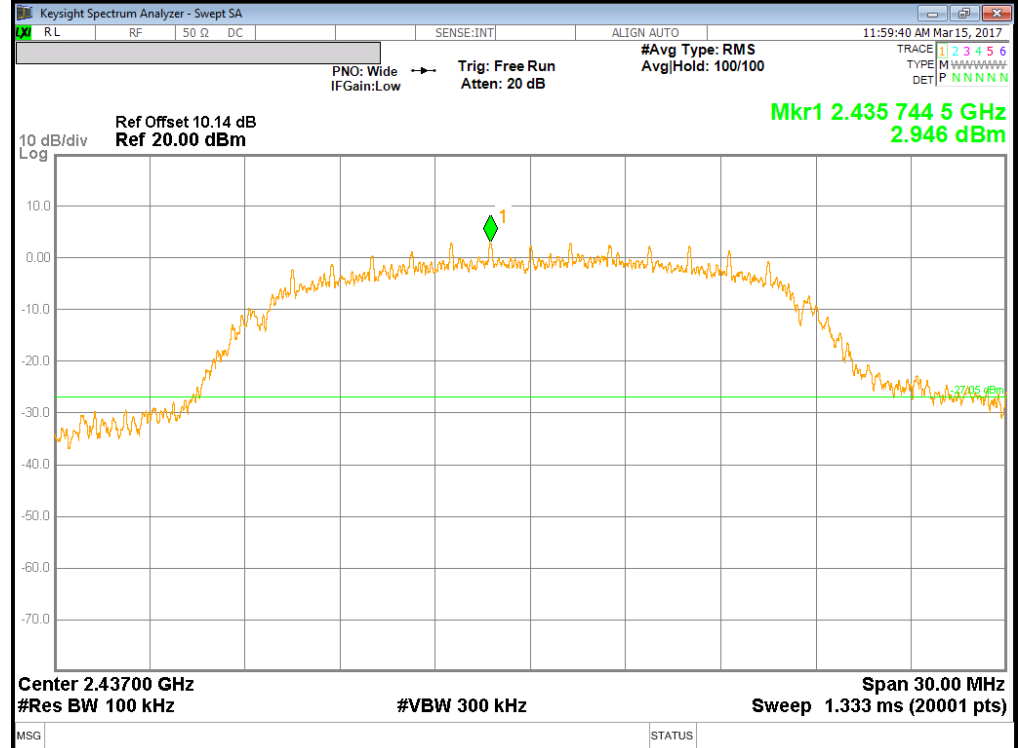
13 Channel Spurious



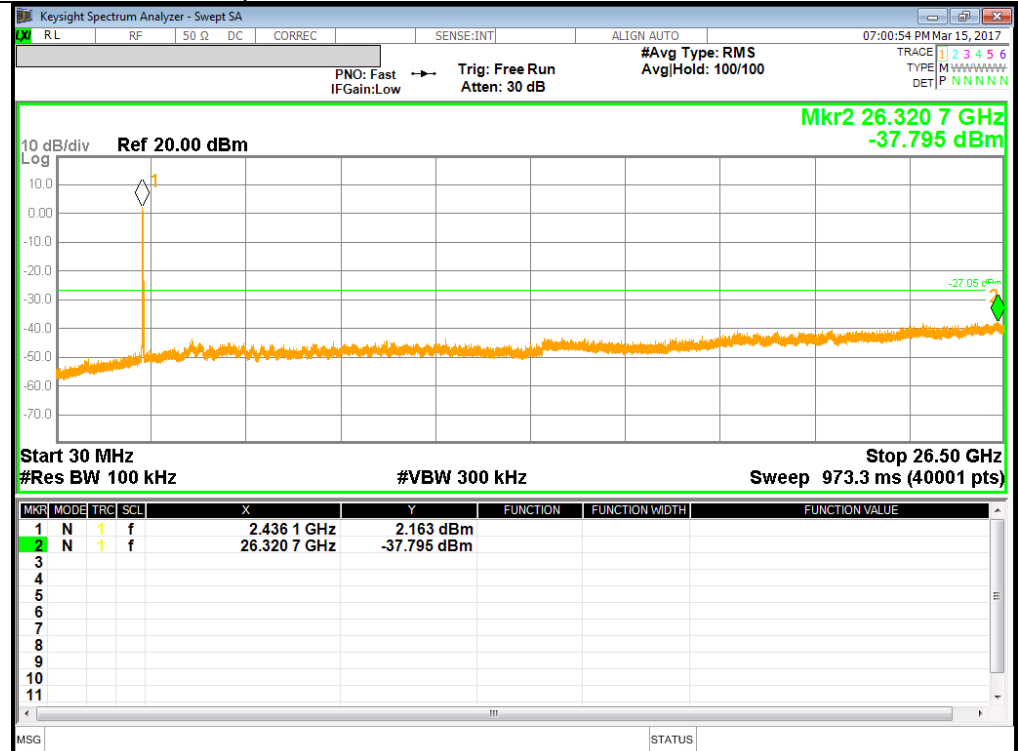
9.4.2. 802.11g MODE IN THE 2.4 GHz BAND

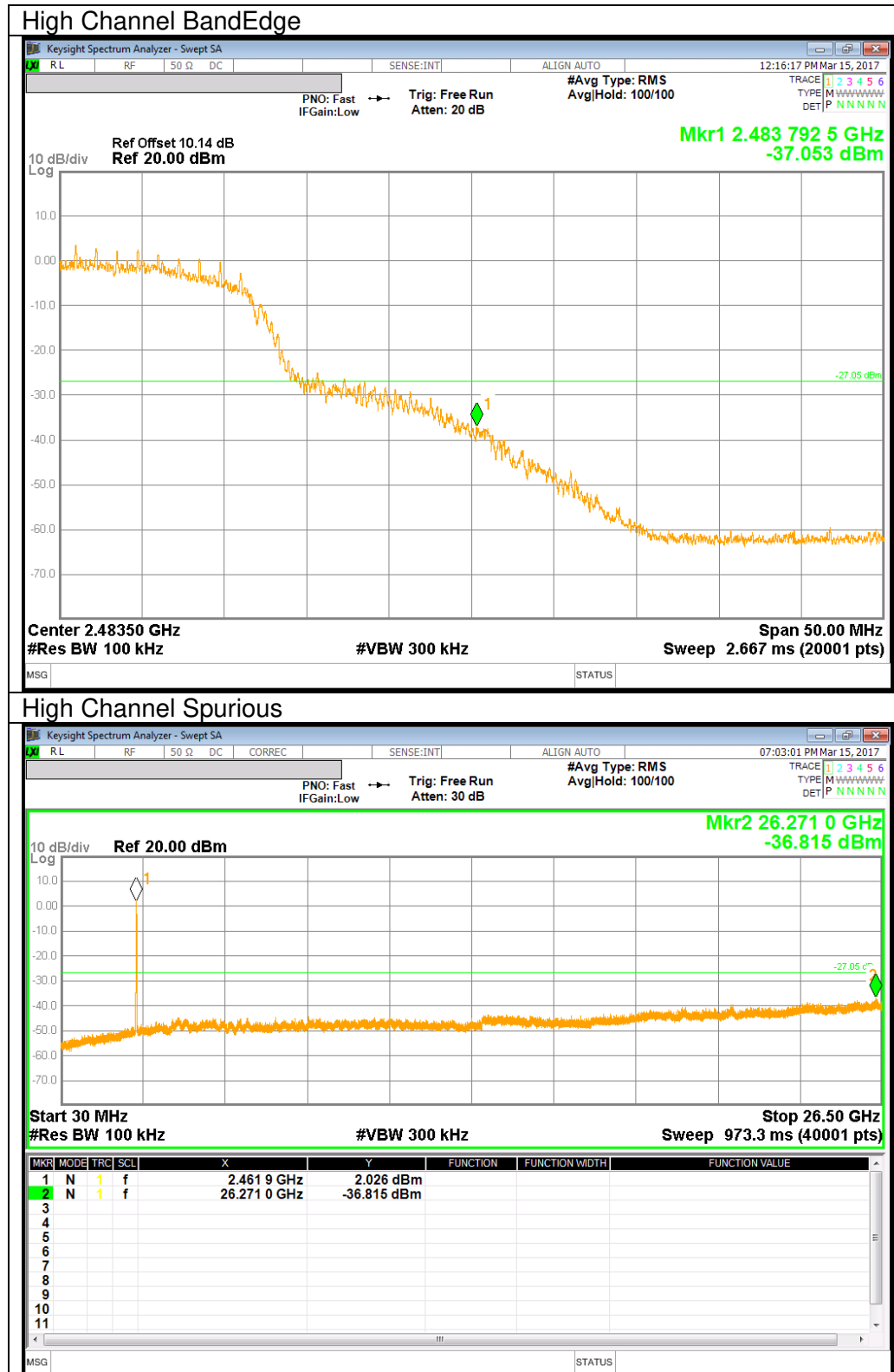


Middle Channel BandEdge

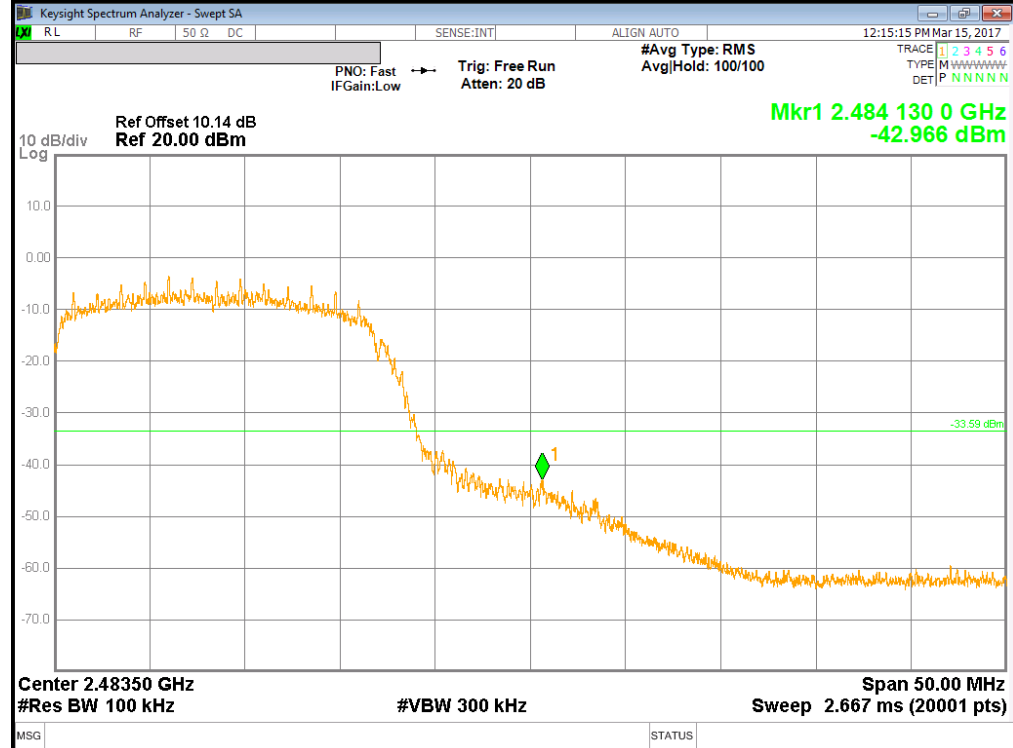


Middle Channel Spurious

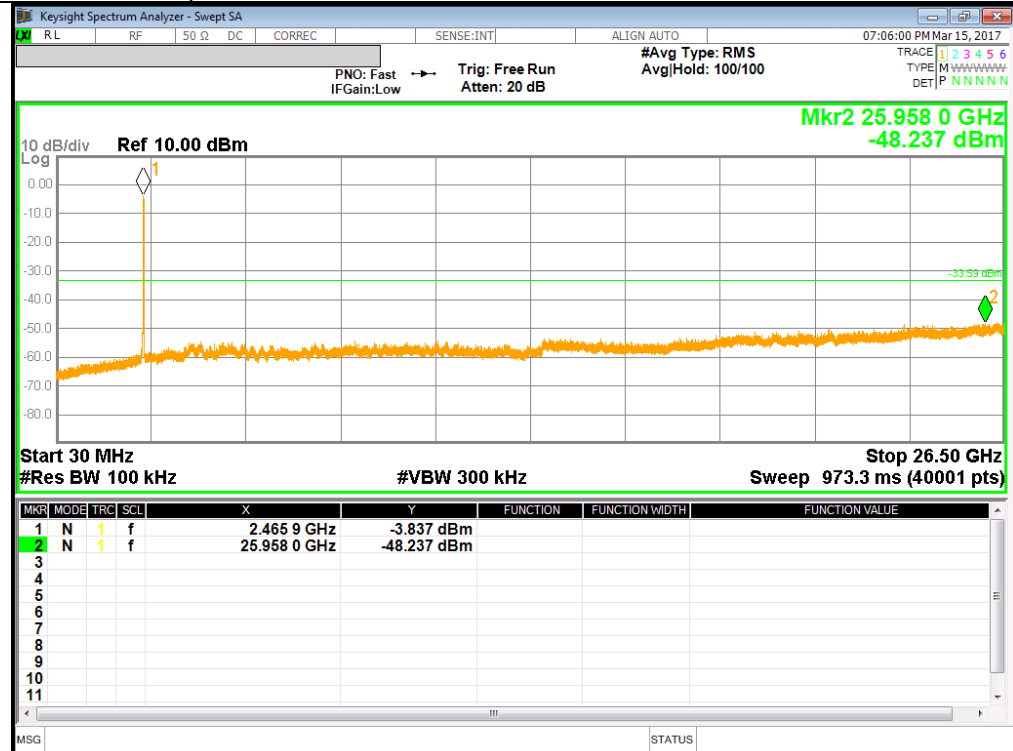




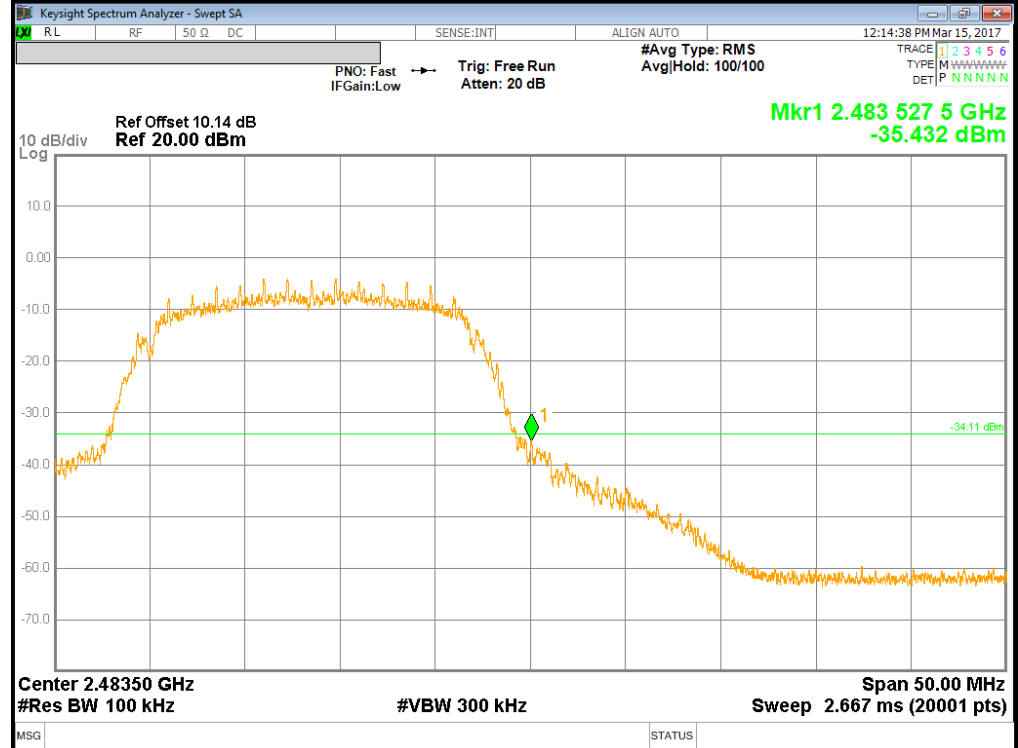
12 Channel BandEdge



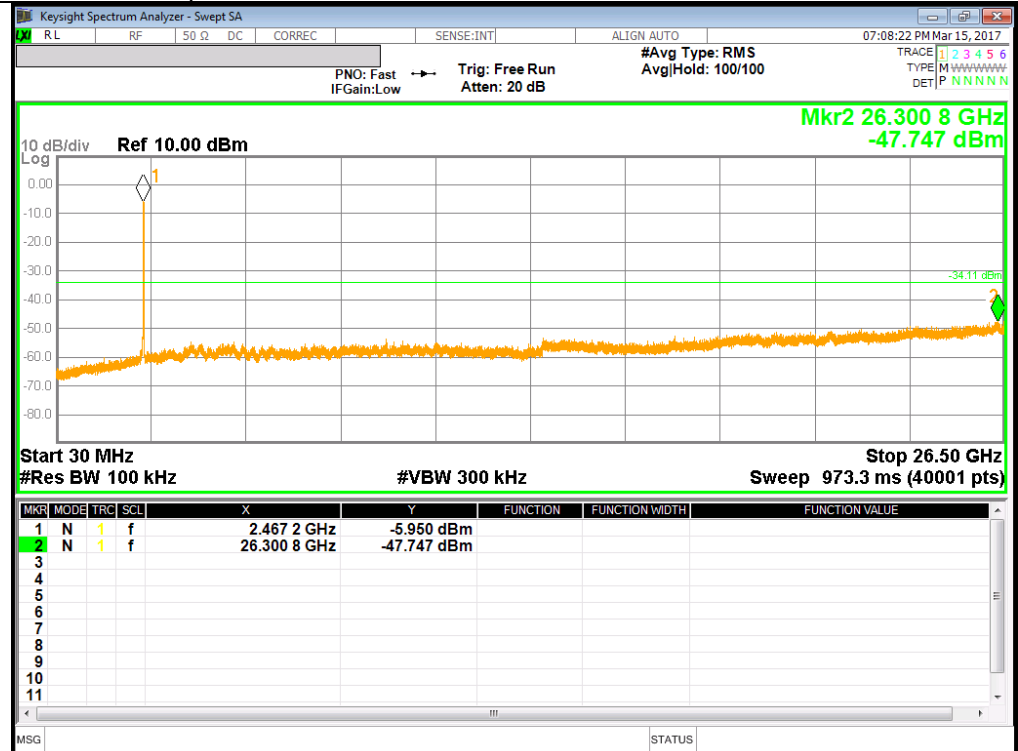
12 Channel Spurious



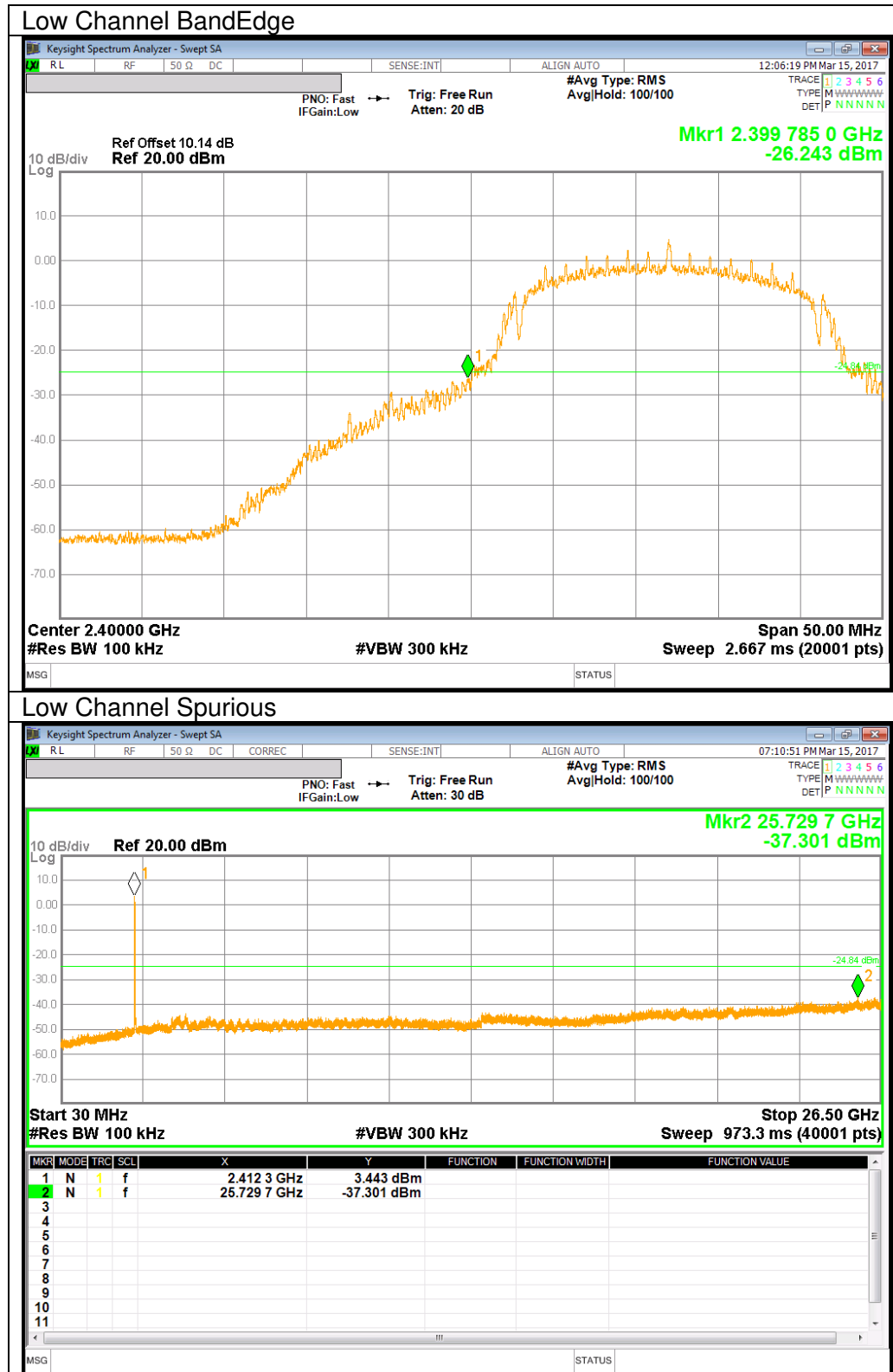
13 Channel BandEdge



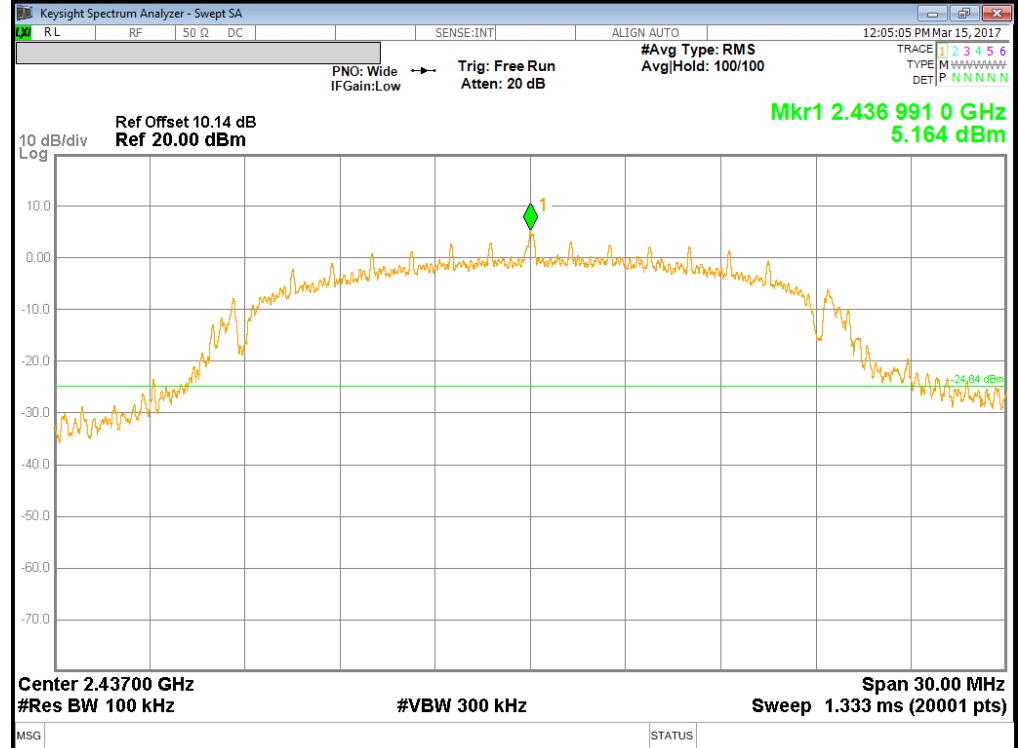
13 Channel Spurious



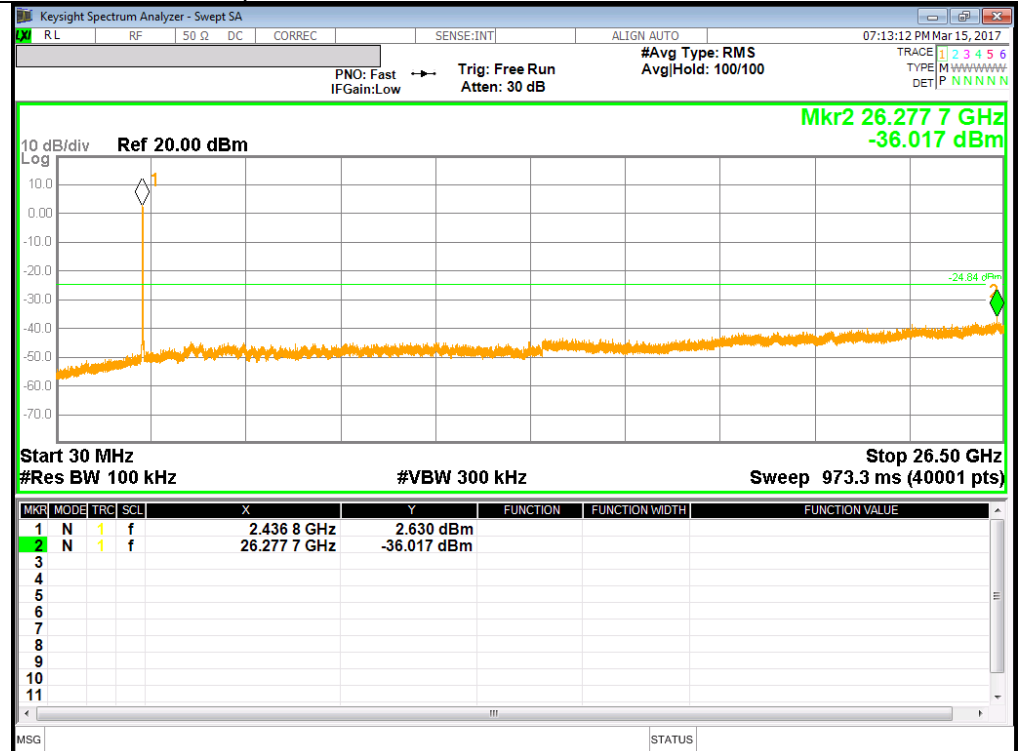
9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

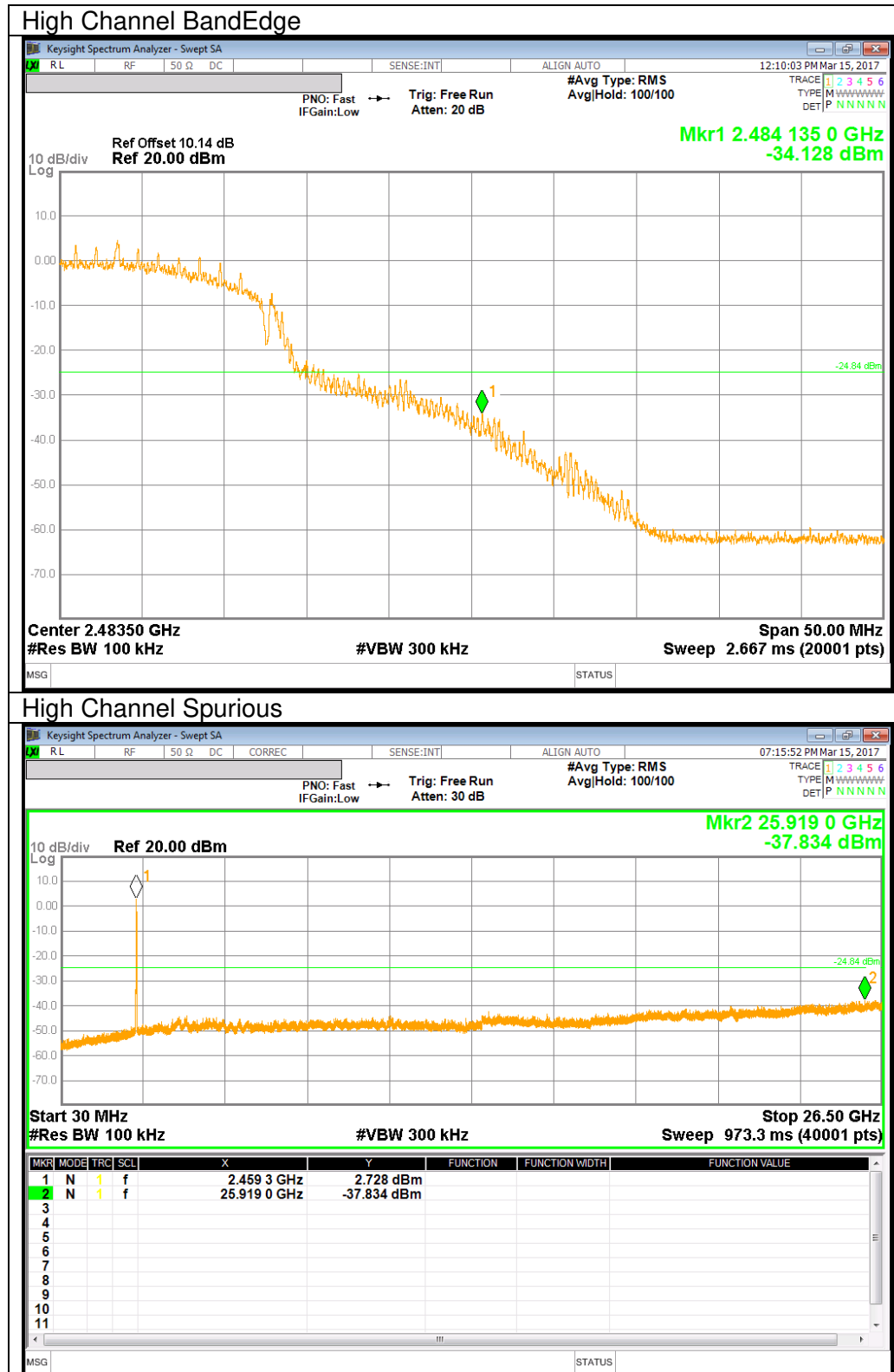


Middle Channel BandEdge

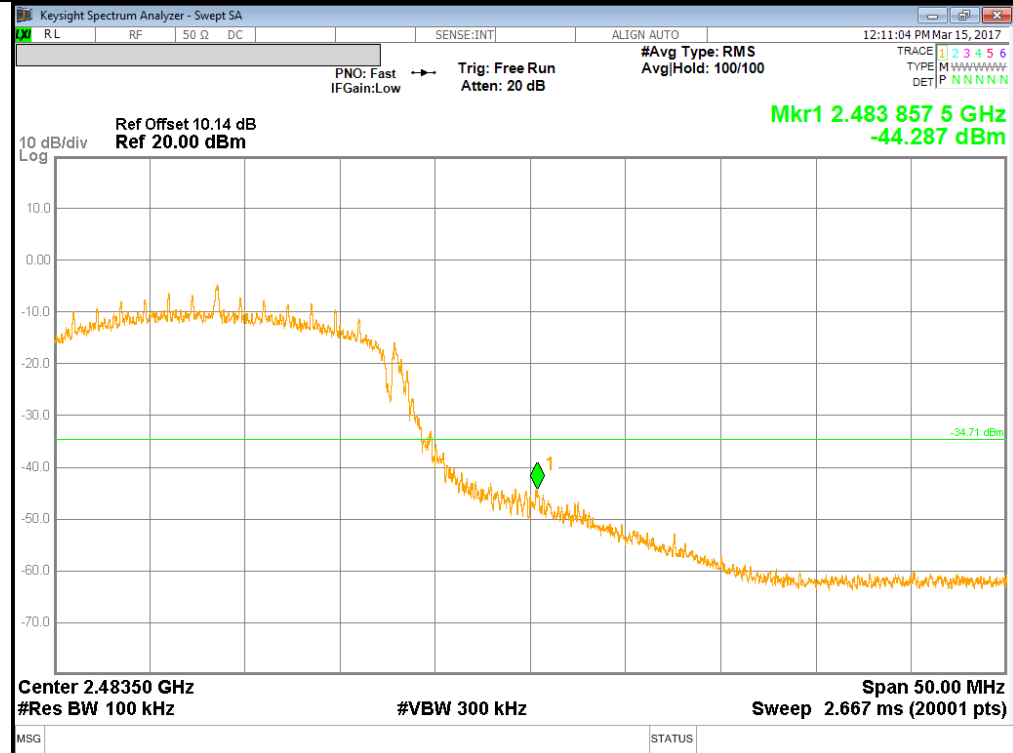


Middle Channel Spurious

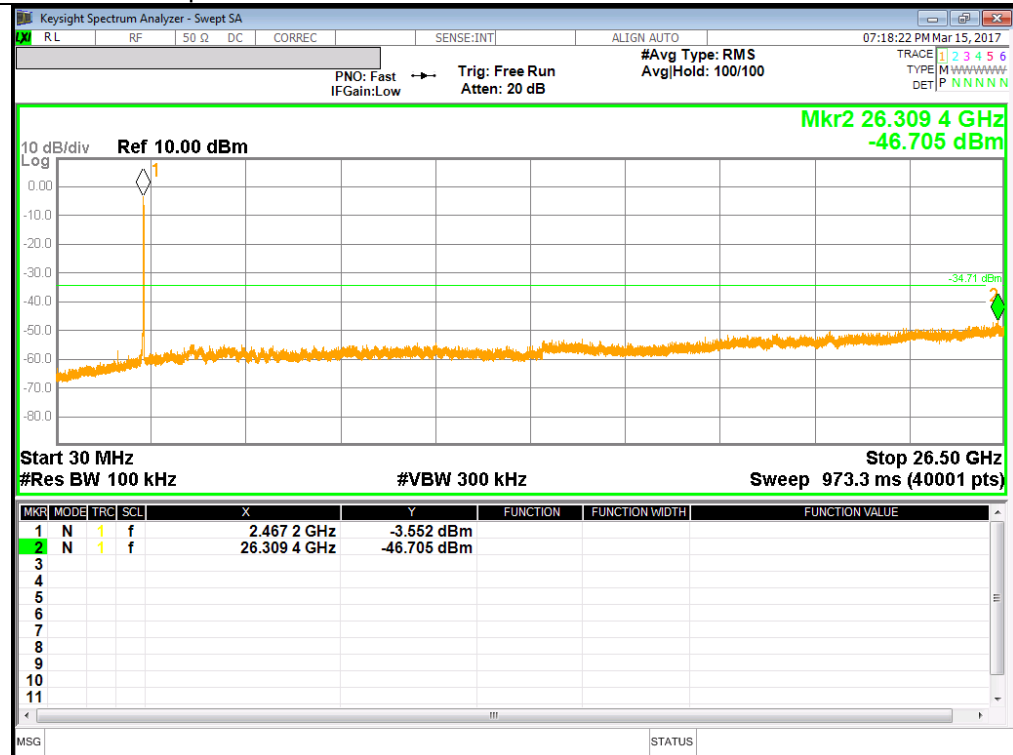




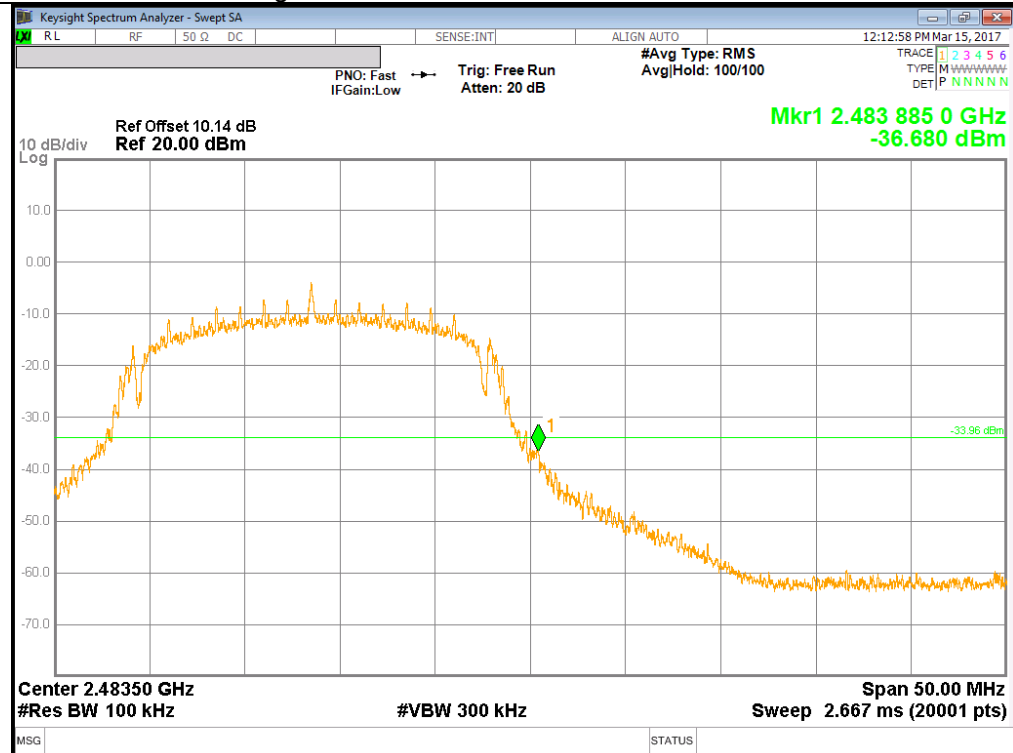
12 Channel BandEdge



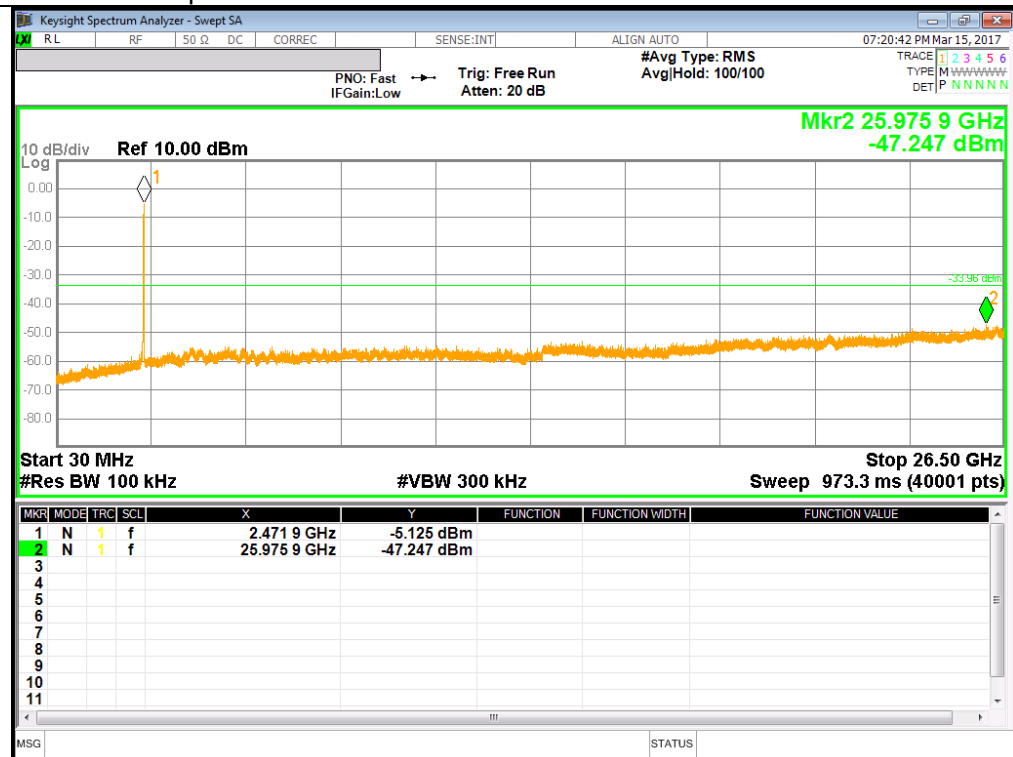
12 Channel Spurious



13 Channel BandEdge



13 Channel Spurious



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.

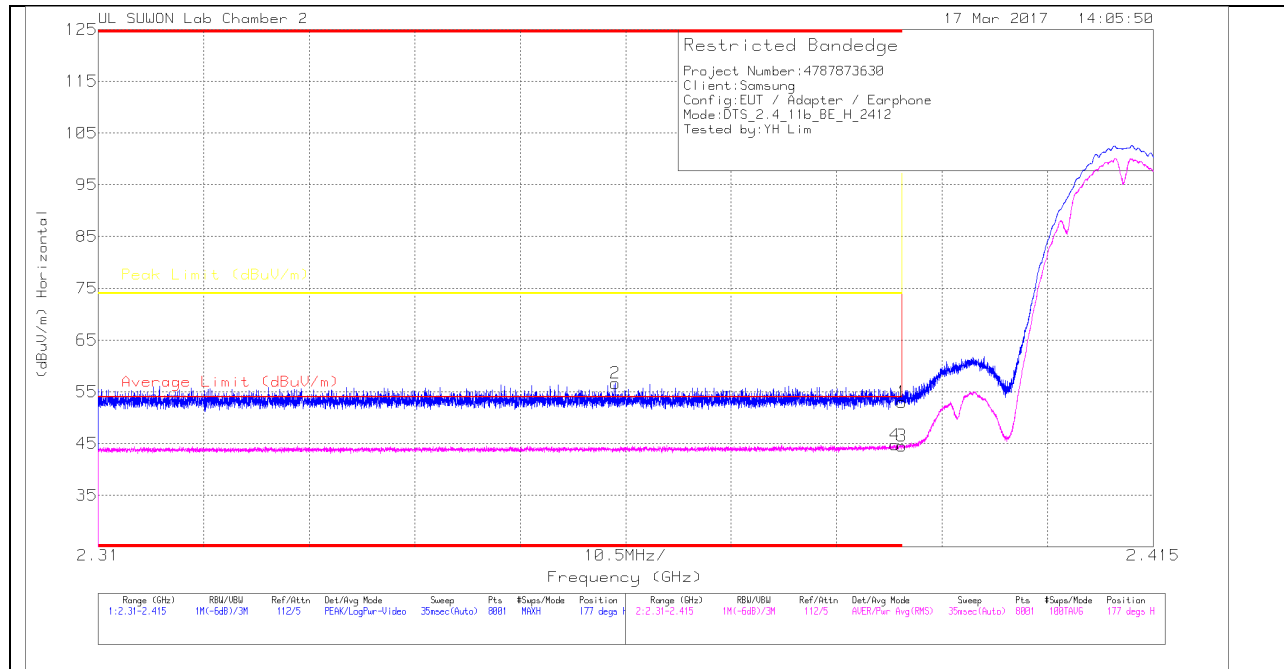
Formula for converting the filed strength from uV/m to dBuV/m is:
Limit (dBuV/m) = $20 \log \text{limit (uV/m)}$

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

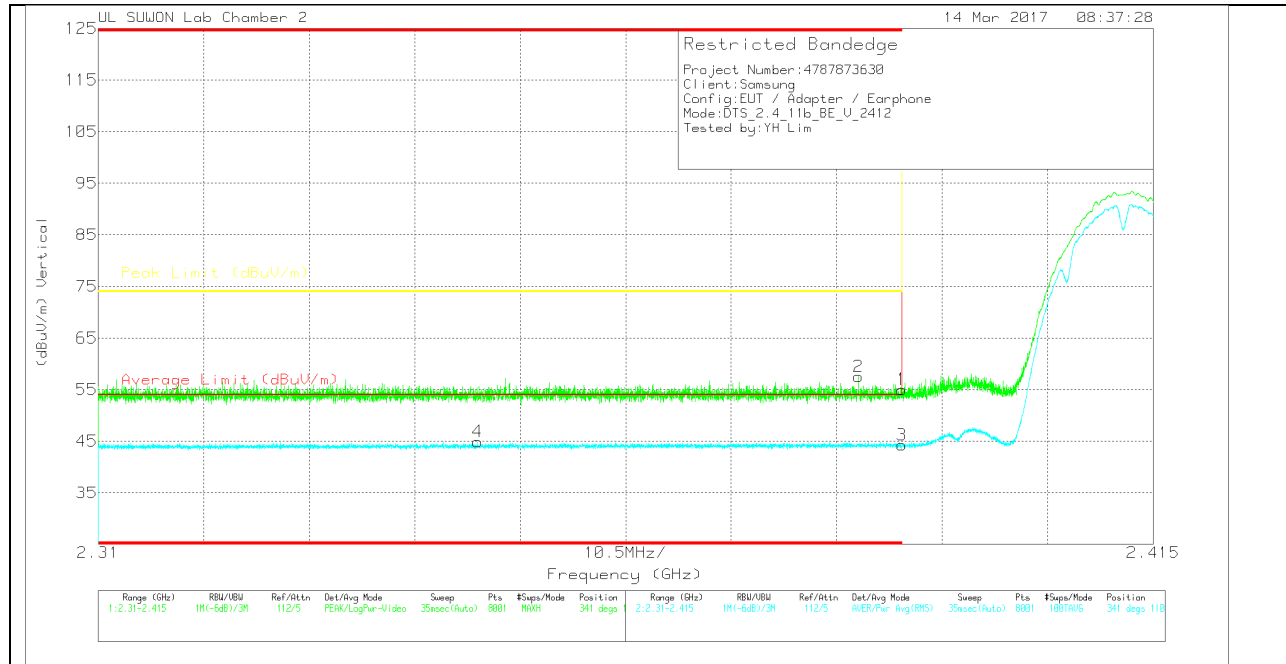
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.49	Pk	31.7	-18.2	0	52.99	-	-	74	-21.01	177	336	H
2	* 2.361	43.24	Pk	31.7	-18.3	0	56.64	-	-	74	-17.36	177	336	H
3	* 2.39	31.04	RMS	31.7	-18.2	0	44.54	54	-9.46	-	-	177	336	H
4	* 2.389	31.25	RMS	31.7	-18.2	0	44.75	54	-9.25	-	-	177	336	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	41.52	Pk	31.7	-18.2	0	55.02	-	-	74	-18.98	341	110	V
2	* 2.386	44.03	Pk	31.7	-18.2	0	57.53	-	-	74	-16.47	341	110	V
3	* 2.39	30.77	RMS	31.7	-18.2	0	44.27	54	-9.73	-	-	341	110	V
4	* 2.348	31.6	RMS	31.6	-18.3	0	44.9	54	-9.1	-	-	341	110	V

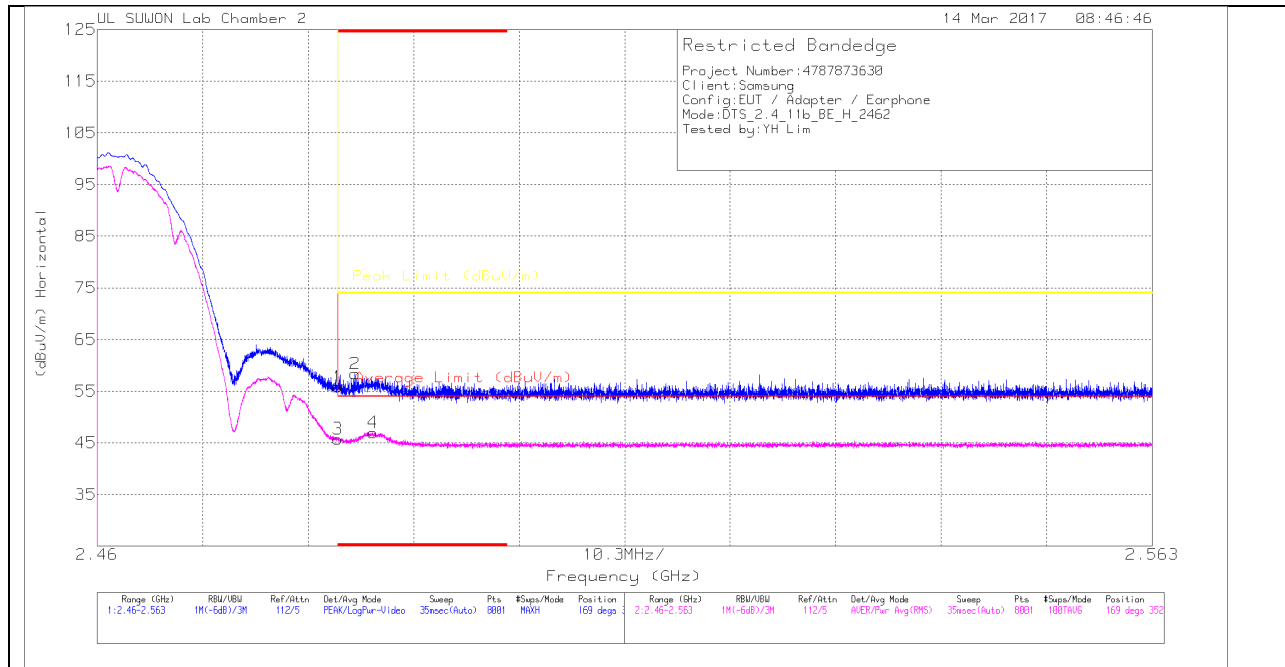
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

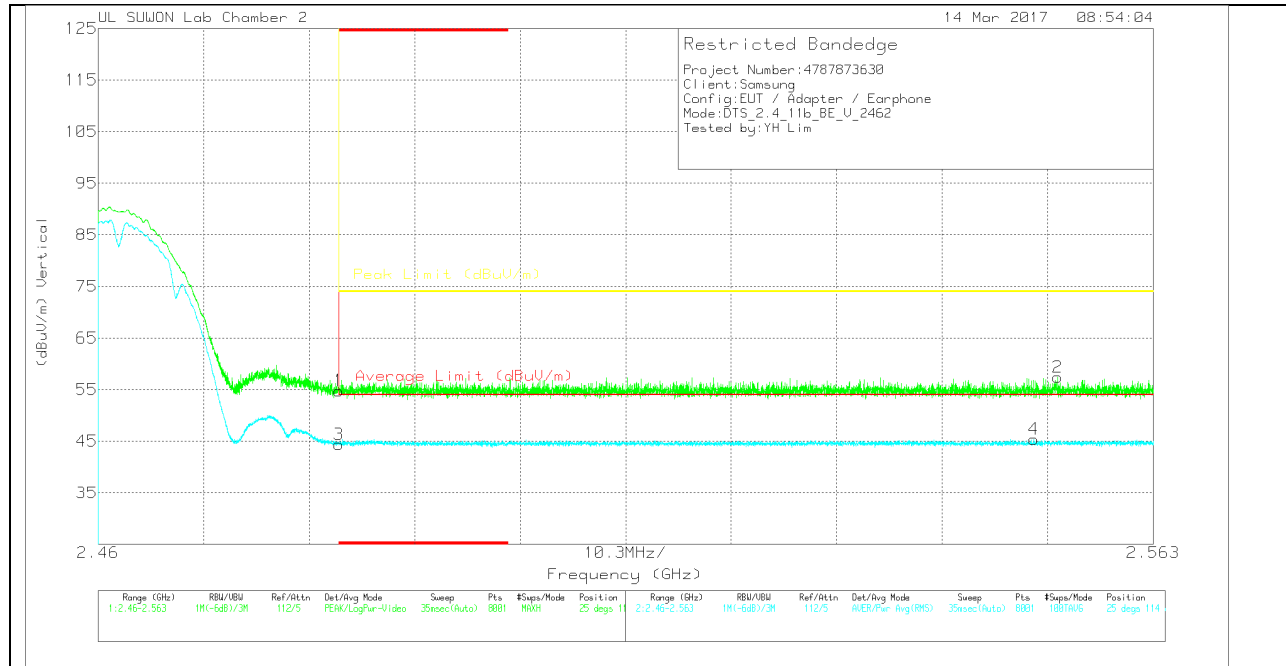
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	48.2	Pk	32	-28.7	0	51.5	-	-	74	-22.5	165	114	H
2	* 2.486	51.07	Pk	32	-28.6	0	54.47	-	-	74	-19.53	165	114	H
3	* 2.484	38.04	RMS	32	-28.7	0	41.34	54	-12.66	-	-	165	114	H
4	* 2.487	41.27	RMS	32	-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(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	40.98	Pk	31.8	-18	0	54.78	-	-	74	-19.22	25	114	V
2	2.554	43.53	Pk	31.9	-18	0	57.43	-	-	74	-16.57	25	114	V
3	* 2.484	30.58	RMS	31.8	-18	0	44.38	54	-9.62	-	-	25	114	V
4	2.551	31.5	RMS	31.9	-18	0	45.4	54	-8.6	-	-	25	114	V

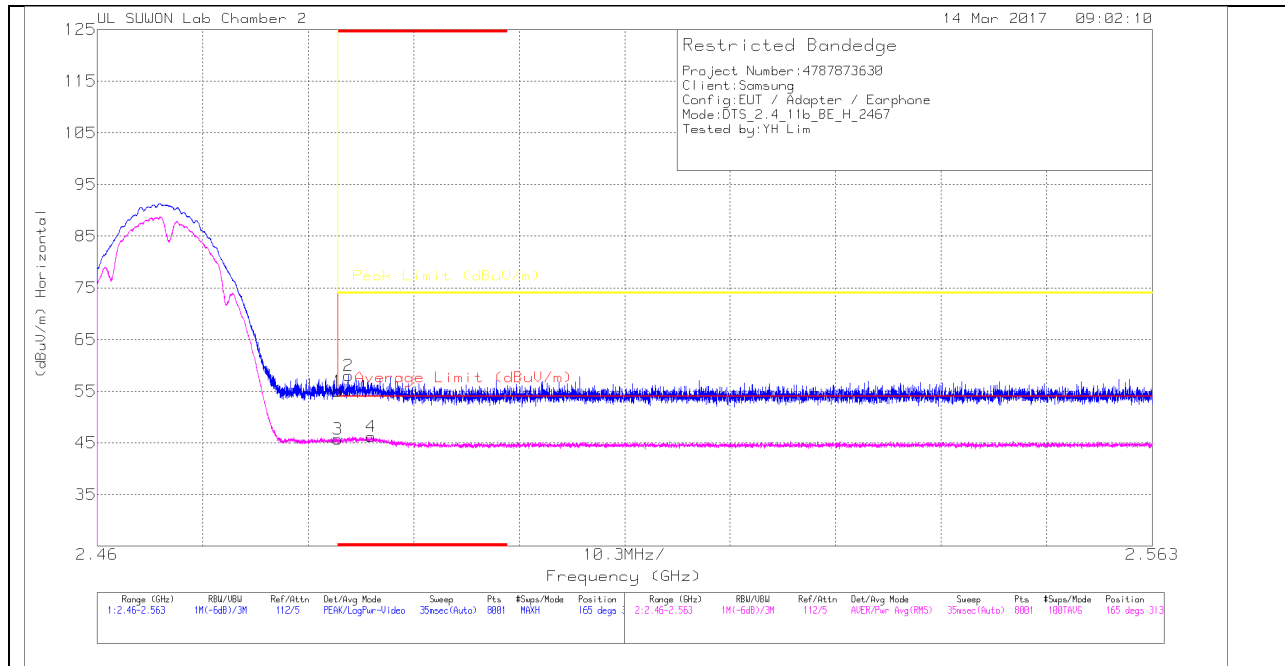
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (12 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

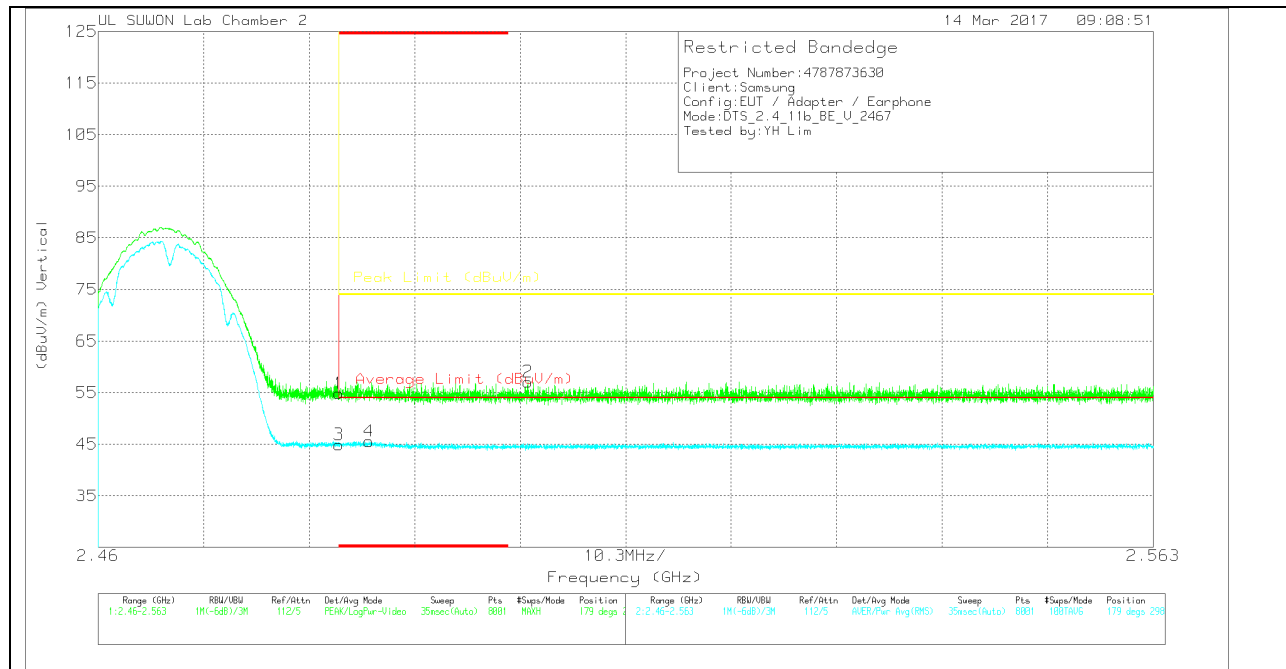
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.18	Pk		31.8	-18	0	54.98	-	74	-19.02	165	313	H
2	* 2.485	44.24	Pk		31.8	-18	0	58.04	-	74	-15.96	165	313	H
3	* 2.484	31.94	RMS		31.8	-18	0	45.74	54	-8.26	-	165	313	H
4	* 2.487	32.42	RMS		31.8	-18	0	46.22	54	-7.78	-	165	313	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	41.05	Pk	31.8	-18	0	54.85	-	-	74	-19.15	179	298	V
2	2.502	43.18	Pk	31.9	-18	0	57.08	-	-	74	-16.92	179	298	V
3	* 2.484	31.12	RMS	31.8	-18	0	44.92	54	-9.08	-	-	179	298	V
4	* 2.486	31.76	RMS	31.8	-18	0	45.56	54	-8.44	-	-	179	298	V

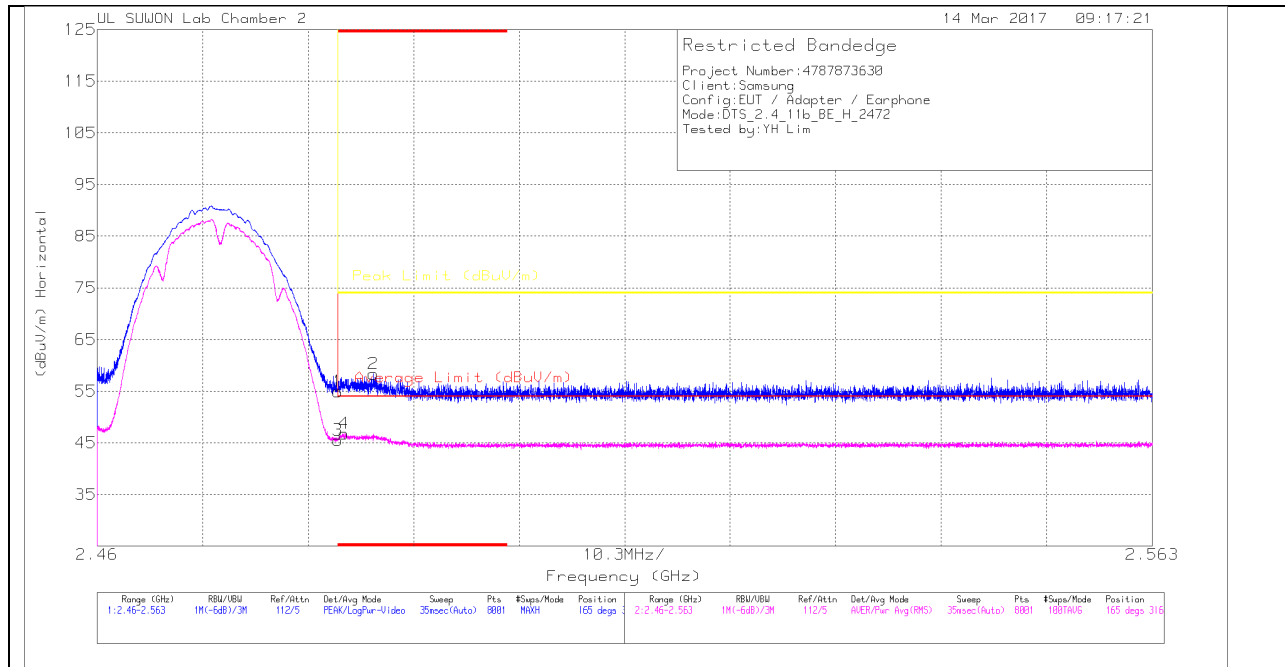
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (13 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

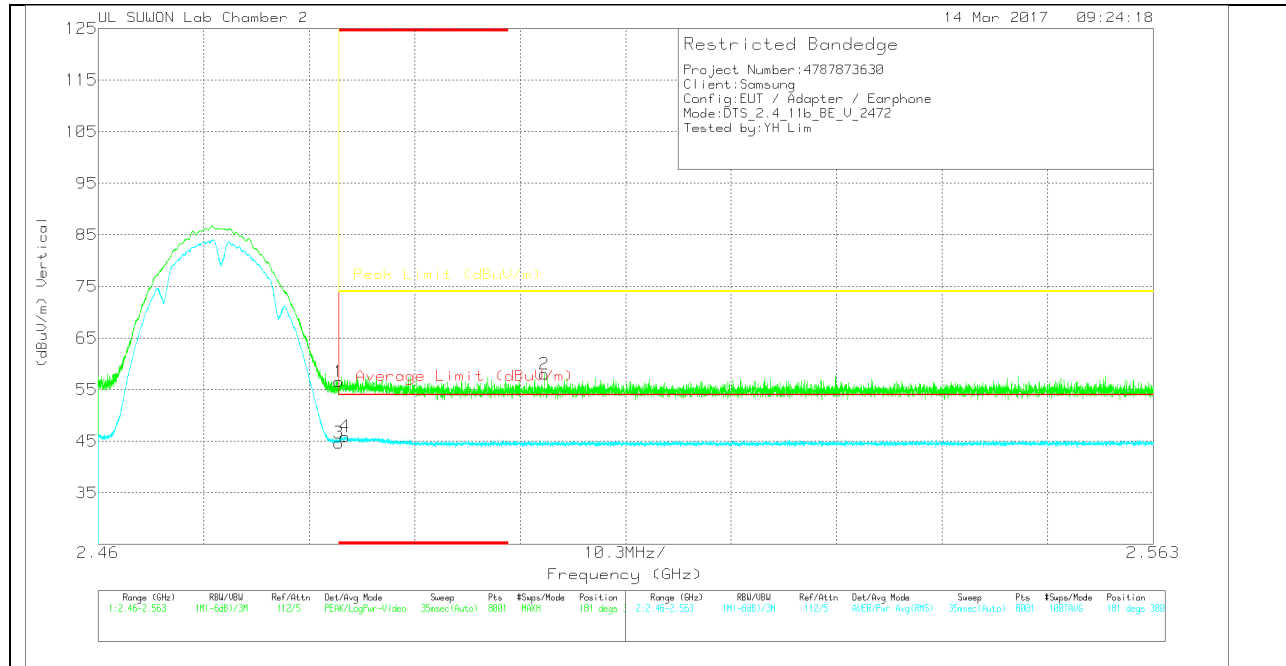
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.13	Pk	31.8	-18	0	54.93	-	-	74	-19.07	165	316	H
2	* 2.487	44.55	Pk	31.8	-18	0	58.35	-	-	74	-15.65	165	316	H
3	* 2.484	31.71	RMS	31.8	-18	0	45.51	54	-8.49	-	-	165	316	H
4	* 2.484	32.99	RMS	31.8	-18	0	46.79	54	-7.21	-	-	165	316	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	42.78	Pk	31.8	-18	0	56.58	-	-	74	-17.42	181	300	V
2	2.504	44.11	Pk	31.9	-18	0	58.01	-	-	74	-15.99	181	300	V
3	* 2.484	30.89	RMS	31.8	-18	0	44.69	54	-9.31	-	-	181	300	V
4	* 2.484	32.1	RMS	31.8	-18	0	45.9	54	-8.1	-	-	181	300	V

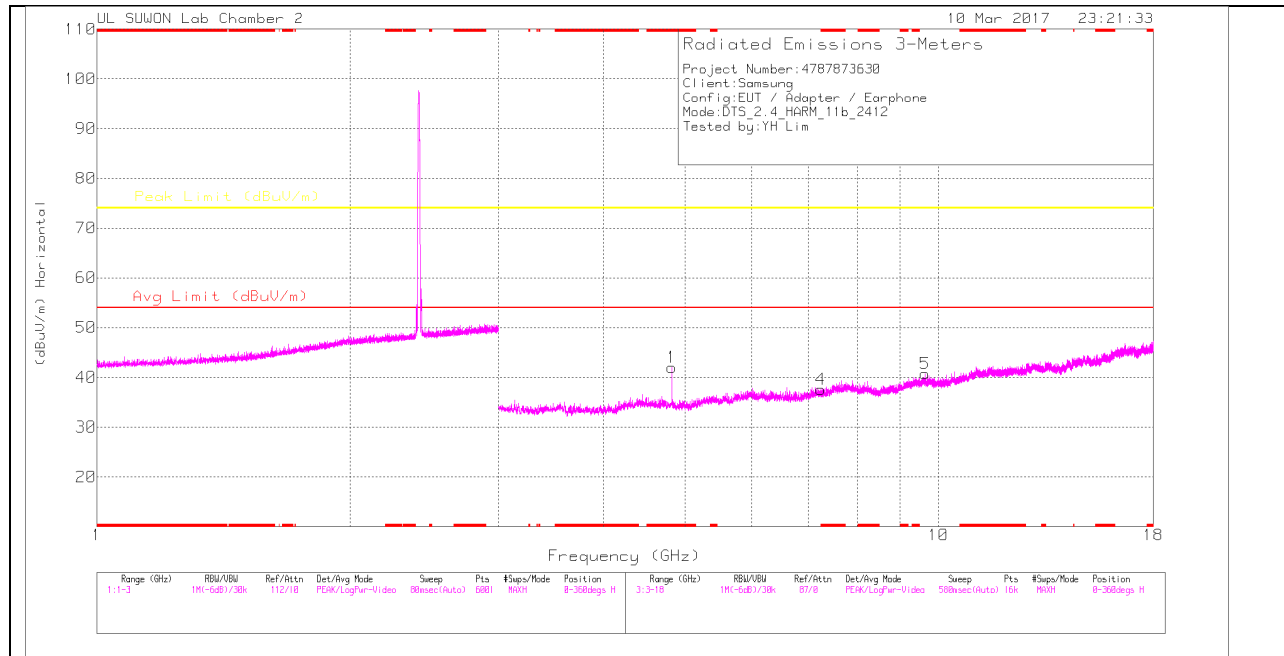
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

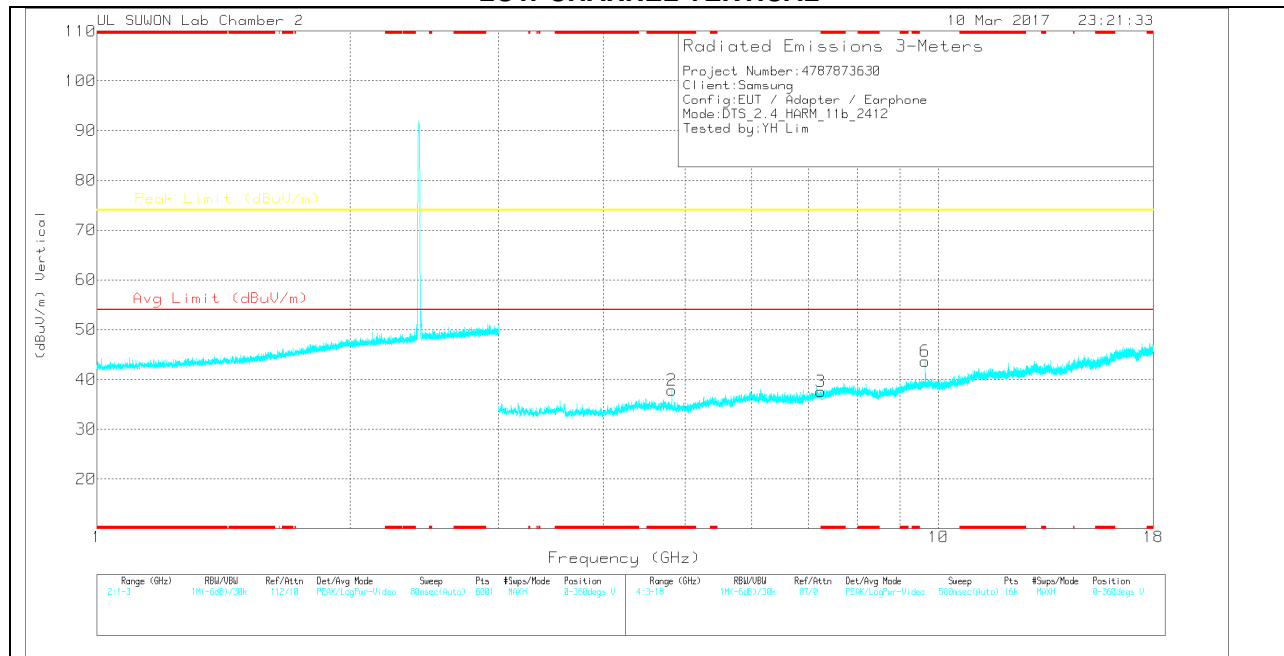
RMS - RMS detection

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 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	* 4.823	32.46	PK	33.9	-24.3	0	42.06	-	-	74	-31.94	0-360	150	H
4	7.248	23.75	PK	35.8	-22	0	37.55	-	-	74	-36.45	0-360	150	H
5	9.648	22.14	PK	36.9	-18.3	0	40.74	-	-	74	-33.26	0-360	250	H
2	* 4.823	28.28	PK	33.9	-24.3	0	37.88	-	-	74	-36.12	0-360	250	V
3	7.244	23.84	PK	35.8	-22	0	37.64	-	-	74	-36.36	0-360	250	V
6	9.647	25.01	PK	36.9	-18.3	0	43.61	-	-	74	-30.39	0-360	150	V

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

PK – Peak detector

Radiated Emissions

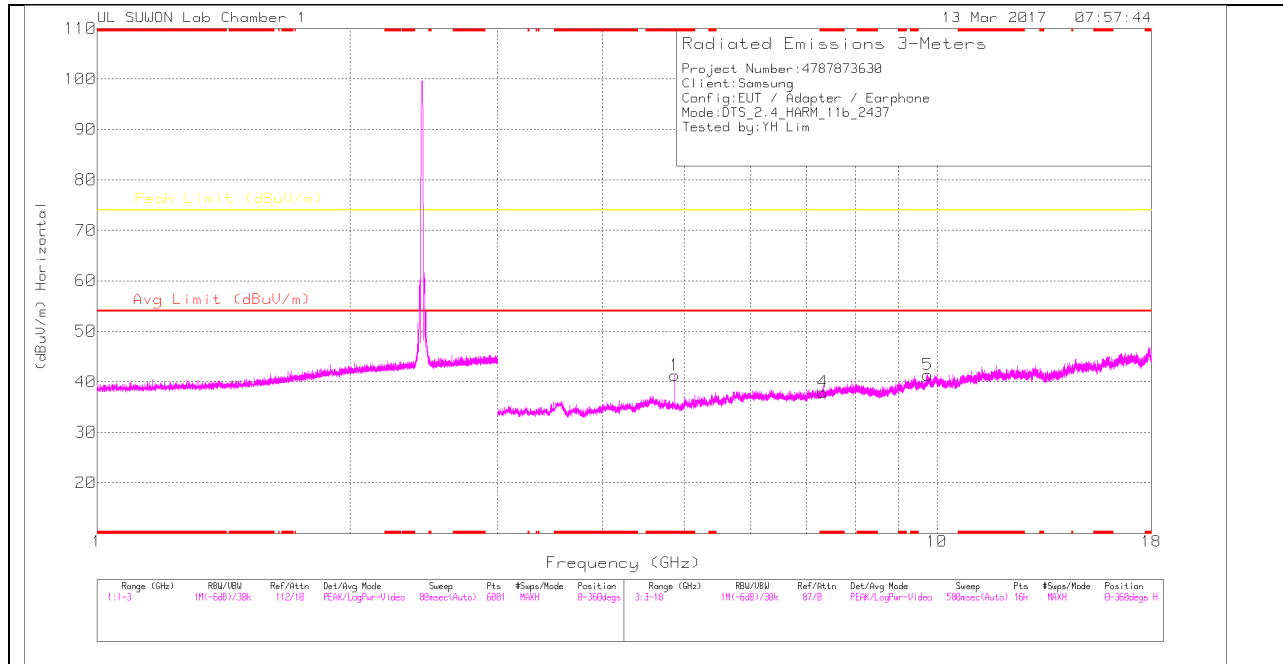
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8724)_150 619	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.824	40.76	PK2	33.9	-24.3	0	50.36	-	-	74	-23.64	19	367	H
* 4.824	34.02	MAv1	33.9	-24.3	0	43.62	54	-10.38	-	-	19	367	H
* 4.824	37.62	PK2	33.9	-24.3	0	47.22	-	-	74	-26.78	71	103	V
* 4.824	27.59	MAv1	33.9	-24.3	0	37.19	54	-16.81	-	-	71	103	V
9.648	33.61	PK2	36.9	-18.3	0	52.21	-	-	74	-21.79	354	103	V
9.652	31.8	PK2	36.9	-18.3	0	50.4	-	-	74	-23.6	95	100	H

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

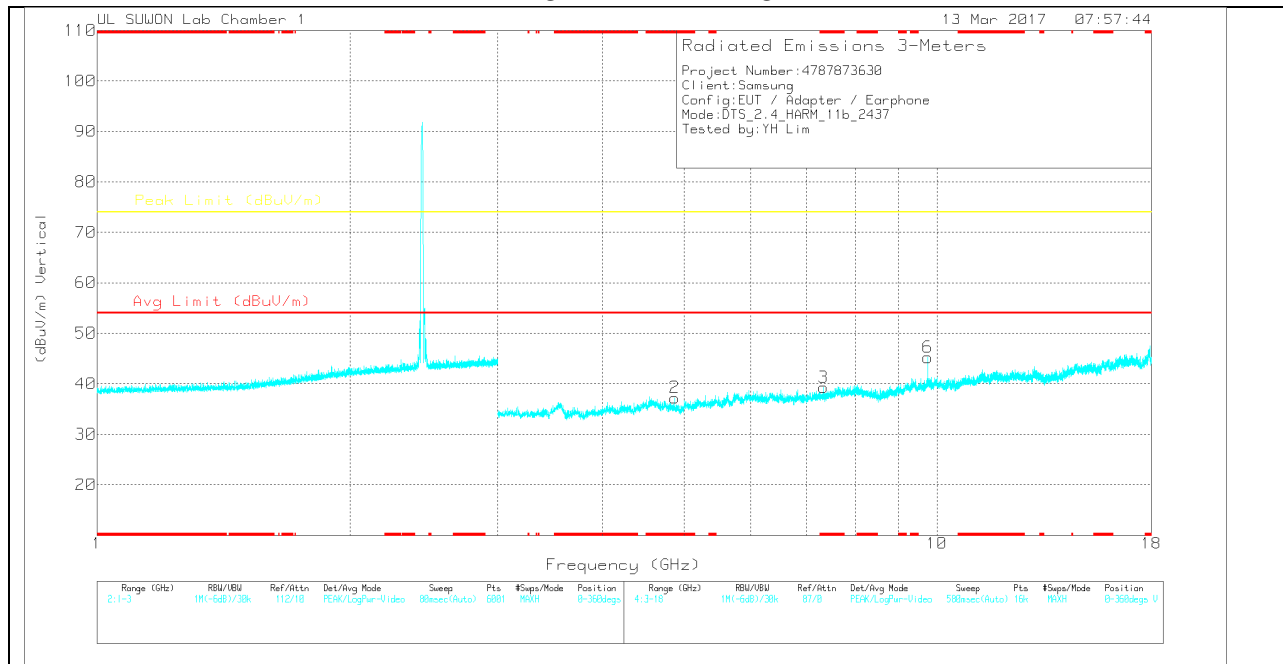
PK2 - KDB558074 Method: Maximum Peak

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	41.5	PK	34	-34.2	0	41.3	-	-	74	-32.7	0-360	150	H
4	* 7.315	33.16	PK	35.8	-31	0	37.96	-	-	74	-36.04	0-360	150	H
5	9.748	31.87	PK	37.2	-27.7	0	41.37	-	-	74	-32.63	0-360	250	H
2	* 4.874	37.44	PK	34	-34.2	0	37.24	-	-	74	-36.76	0-360	150	V
3	* 7.323	34.4	PK	35.8	-30.9	0	39.3	-	-	74	-34.7	0-360	150	V
6	9.748	35.72	PK	37.2	-27.7	0	45.22	-	-	74	-28.78	0-360	150	V

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

PK – Peak detector

Radiated Emissions

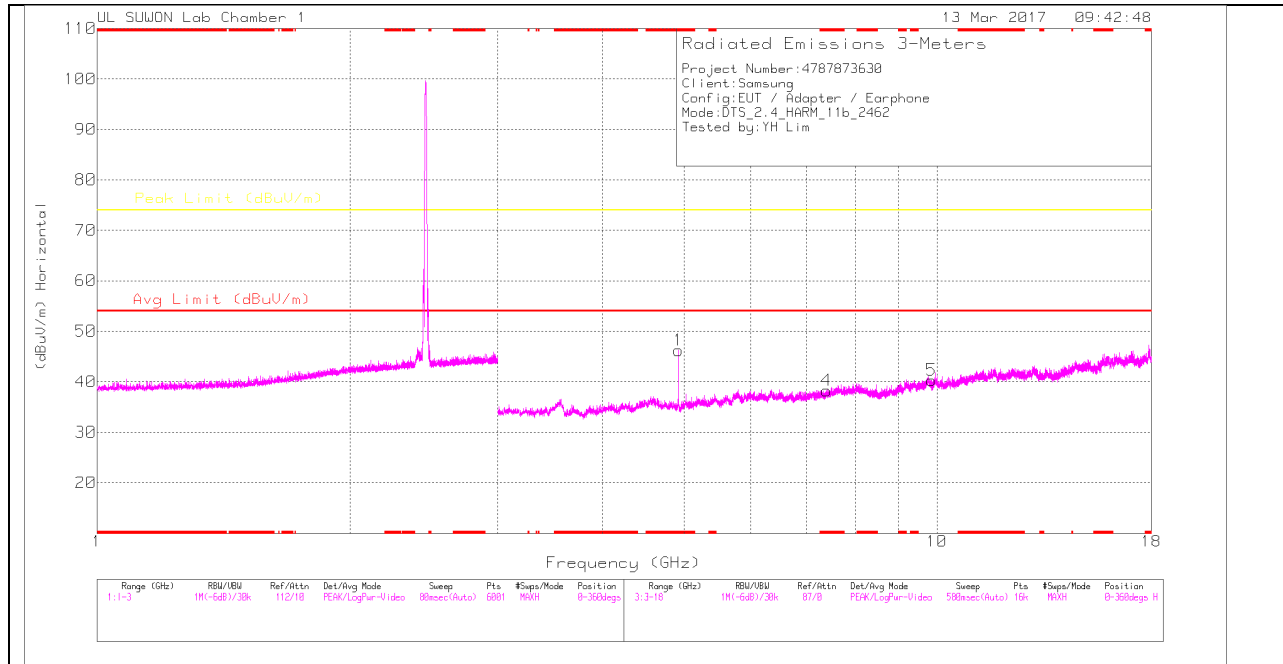
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.874	49.64	PK2	34	-34.2	0	49.44	-	-	74	-24.56	26	136	H
* 4.874	40.25	MAv1	34	-34.2	0	40.05	54	-13.95	-	-	26	136	H
* 4.874	49.54	PK2	34	-34.2	0	49.34	-	-	74	-24.66	90	165	V
* 4.874	38.74	MAv1	34	-34.2	0	38.54	54	-15.46	-	-	90	165	V
9.748	43.27	PK2	37.2	-27.7	0	52.77	-	-	74	-21.23	8	105	V
9.748	41.91	PK2	37.2	-27.7	0	51.41	-	-	74	-22.59	31	249	H

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

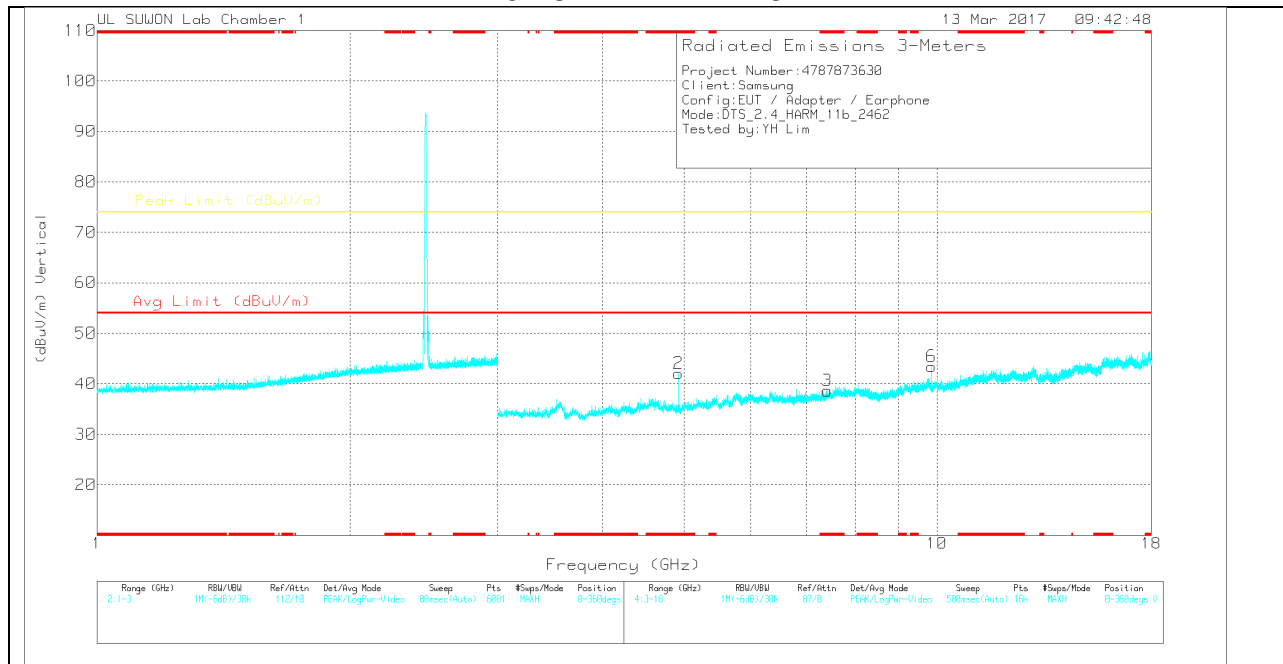
PK2 - KDB558074 Method: Maximum Peak

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	46.03	PK	34	-33.8	0	46.23	-	-	74	-27.77	0-360	150	H
4	* 7.388	33.35	PK	35.8	-30.9	0	38.25	-	-	74	-35.75	0-360	150	H
5	9.848	31.31	PK	37.3	-28.3	0	40.31	-	-	74	-33.69	0-360	250	H
2	* 4.924	41.88	PK	34	-33.8	0	42.08	-	-	74	-31.92	0-360	150	V
3	* 7.399	33.84	PK	35.8	-31	0	38.64	-	-	74	-35.36	0-360	250	V
6	9.848	34.42	PK	37.3	-28.3	0	43.42	-	-	74	-30.58	0-360	150	V

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

PK – Peak detector

Radiated Emissions

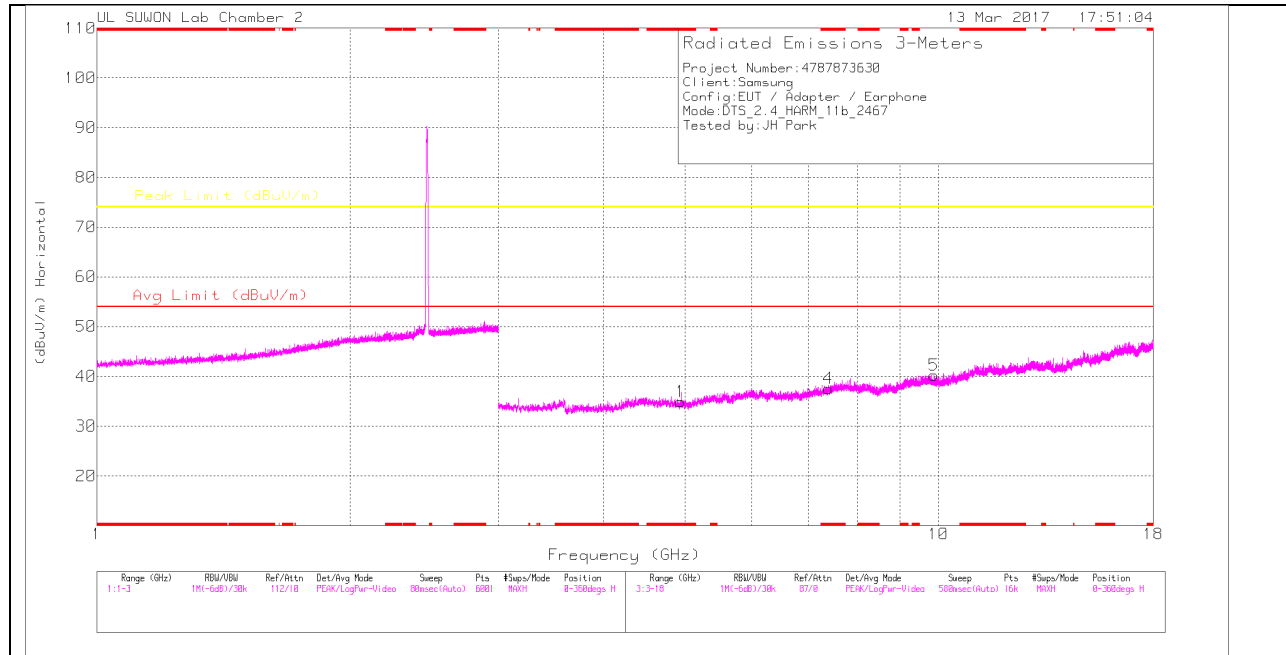
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150619	3Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	51.76	PK2	34	-33.9	0	51.86	-	-	74	-22.14	19	146	H
* 4.924	46.47	MAv1	34	-33.9	0	46.57	54	-7.43	-	-	19	146	H
* 4.924	49.57	PK2	34	-33.9	0	49.67	-	-	74	-24.33	98	149	V
* 4.924	41.68	MAv1	34	-33.9	0	41.78	54	-12.22	-	-	98	149	V
9.848	42.73	PK2	37.3	-28.3	0	51.73	-	-	74	-22.27	17	142	V
9.848	41.56	PK2	37.3	-28.3	0	50.56	-	-	74	-23.44	39	363	H

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

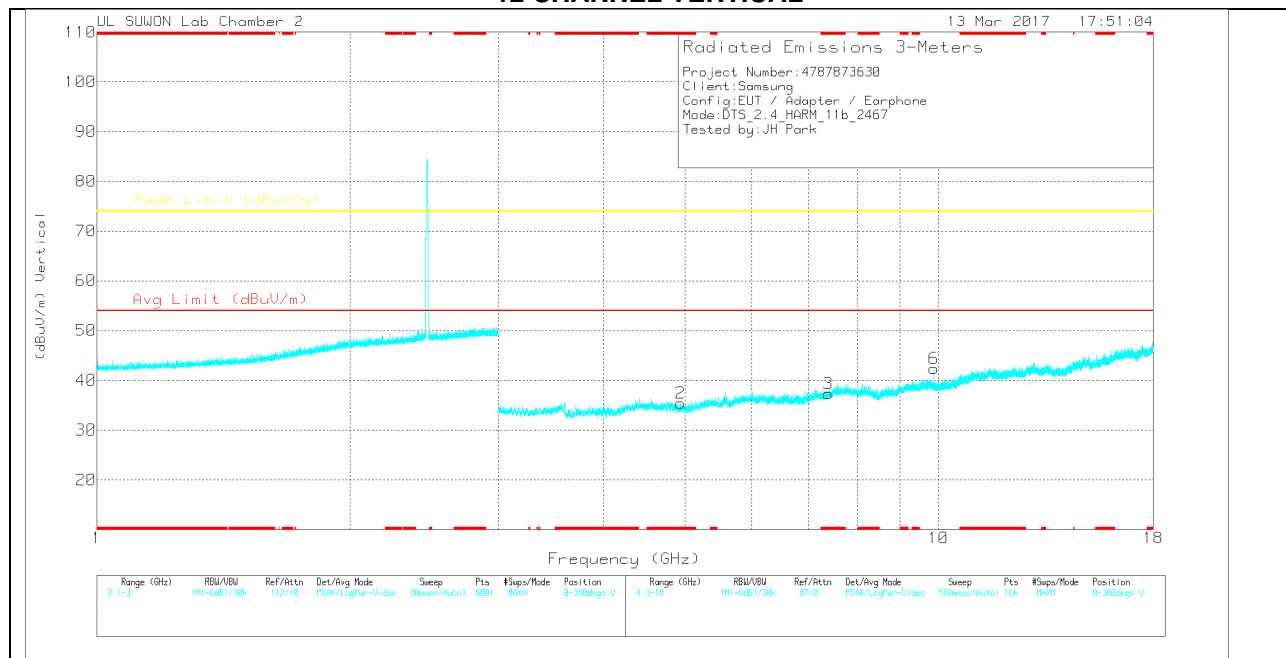
PK2 - KDB558074 Method: Maximum Peak

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	* 4.938	25.84	PK	33.9	-24.8	0	34.94	-	-	74	-39.06	0-360	150	H
4	* 7.398	22.83	PK	36	-21.3	0	37.53	-	-	74	-36.47	0-360	150	H
5	9.869	21.12	PK	37.1	-18	0	40.22	-	-	74	-33.78	0-360	150	H
2	* 4.935	26.21	PK	33.9	-24.7	0	35.41	-	-	74	-38.59	0-360	250	V
3	* 7.402	22.67	PK	36	-21.3	0	37.37	-	-	74	-36.63	0-360	150	V
6	9.868	23.23	PK	37.1	-18	0	42.33	-	-	74	-31.67	0-360	150	V

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

PK – Peak Detector

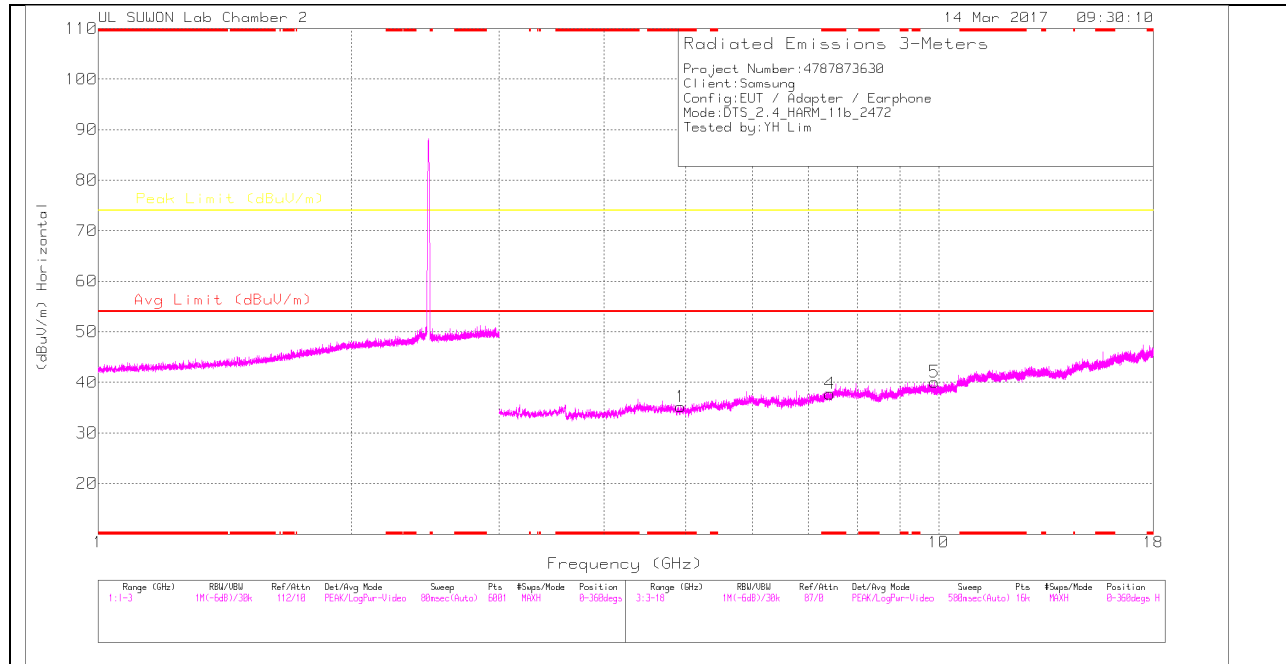
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724_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
9.868	31.98	PK2	37.1	-18	0	51.08	-	-	74	-22.92	31	109	H
9.868	33.65	PK2	37.1	-18	0	52.75	-	-	74	-21.25	4	100	V

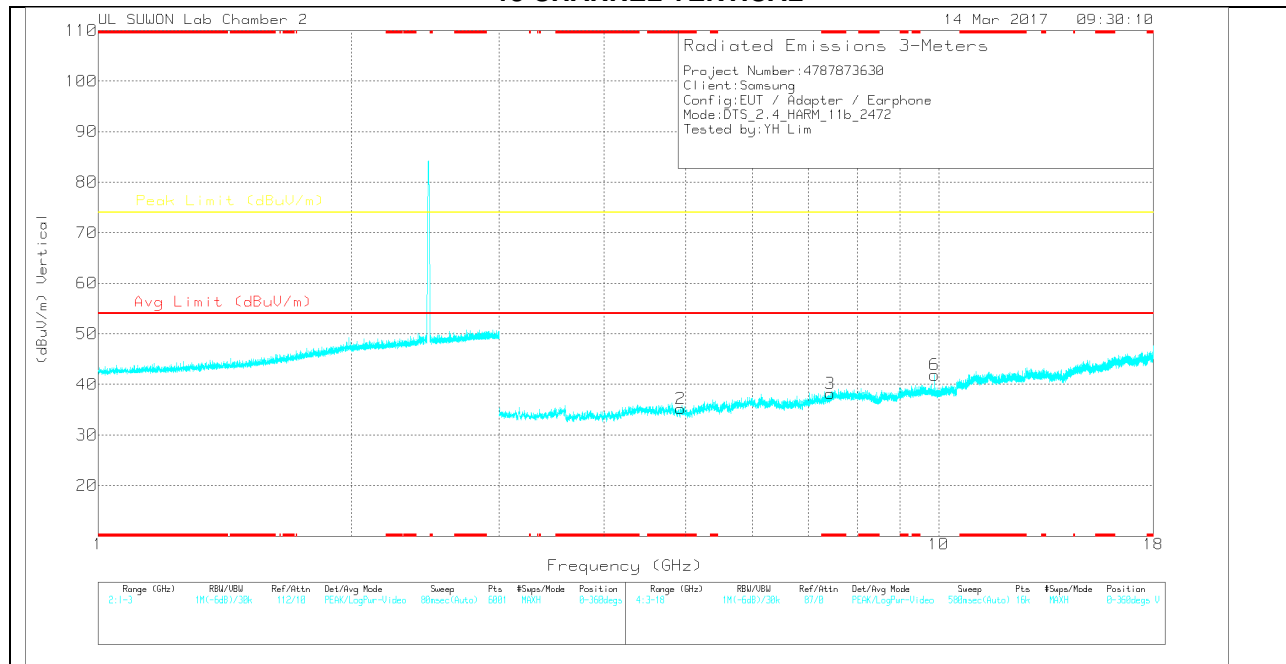
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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	* 4.934	26	PK	33.9	-24.7	0	35.2	-	-	74	-38.8	0-360	250	H
4	* 7.425	22.85	PK	36	-21.1	0	37.75	-	-	74	-36.25	0-360	150	H
5	9.888	20.96	PK	37.1	-18	0	40.06	-	-	74	-33.94	0-360	150	H
2	* 4.931	25.98	PK	33.9	-24.7	0	35.18	-	-	74	-38.82	0-360	150	V
3	* 7.428	23.26	PK	36	-21.1	0	38.16	-	-	74	-35.84	0-360	150	V
6	9.888	22.77	PK	37.1	-18	0	41.87	-	-	74	-32.13	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 8724_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
9.888	31.7	PK2	37.1	-18	0	50.8	-	-	74	-23.2	91	101	H
9.888	33.28	PK2	37.1	-18	0	52.38	-	-	74	-21.62	7	116	V

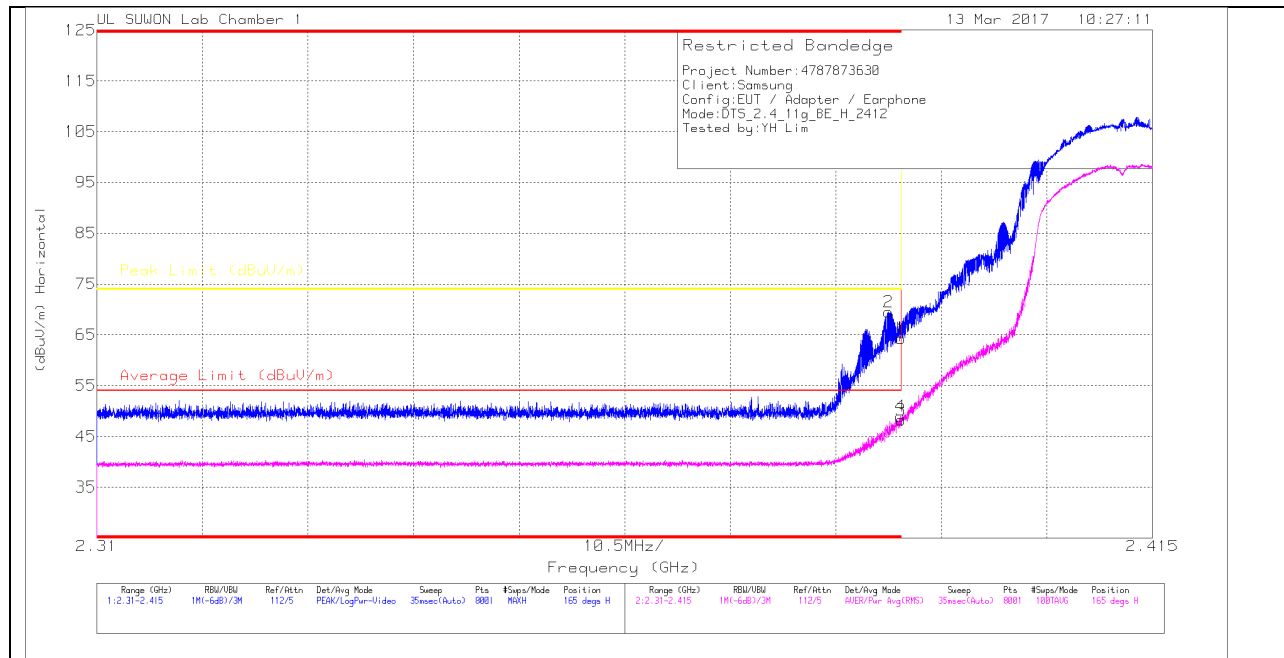
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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

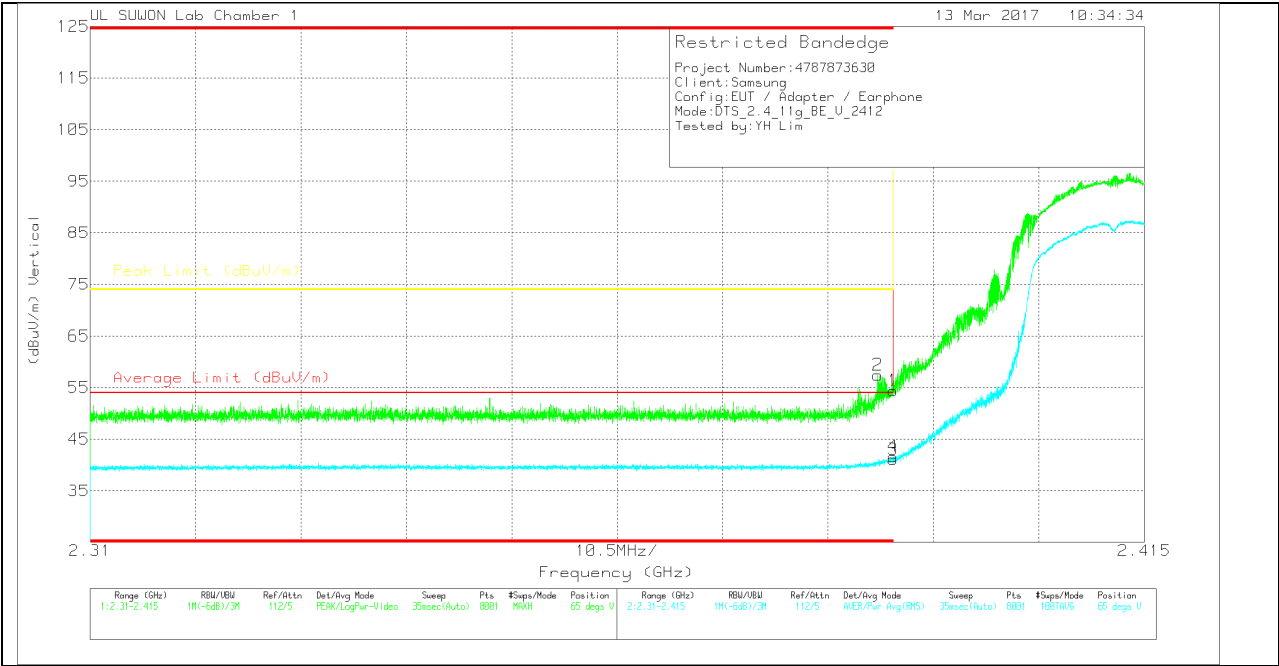
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 17_150619	10dB[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.88	Pk		-28.4	0	64.28	-	-	74	-9.72	165	344	H
2	* 2.389	66.14	Pk		-28.4	0	69.54	-	-	74	-4.46	165	344	H
3	* 2.39	44.65	RMS		-28.4	.17	48.22	54	-5.78	-	-	165	344	H
4	* 2.39	45.41	RMS		-28.4	.17	48.98	54	-5.02	-	-	165	344	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[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	51.03	Pk		-28.4	0	54.43	-	-	74	-19.57	65	400	V
2	* 2.388	54.05	Pk		-28.4	0	57.45	-	-	74	-16.55	65	400	V
3	* 2.39	37.53	RMS		-28.4	.17	41.1	54	-12.9	-	-	65	400	V
4	* 2.39	38.09	RMS		-28.4	.17	41.66	54	-12.34	-	-	65	400	V

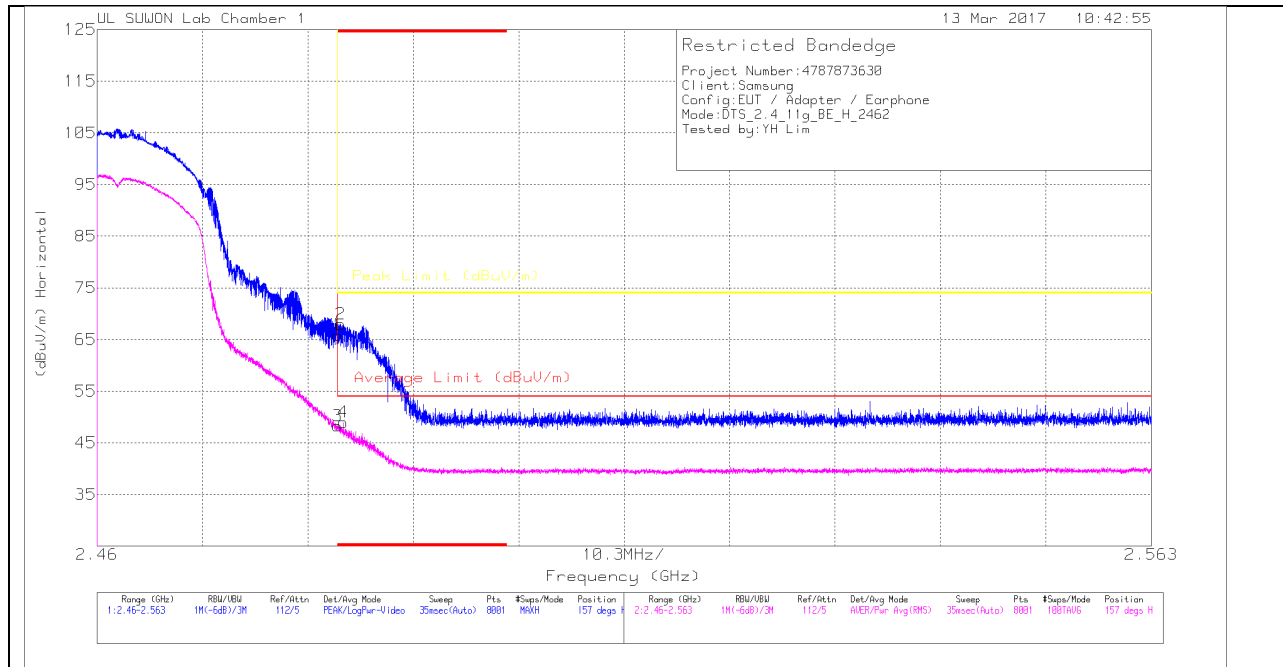
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

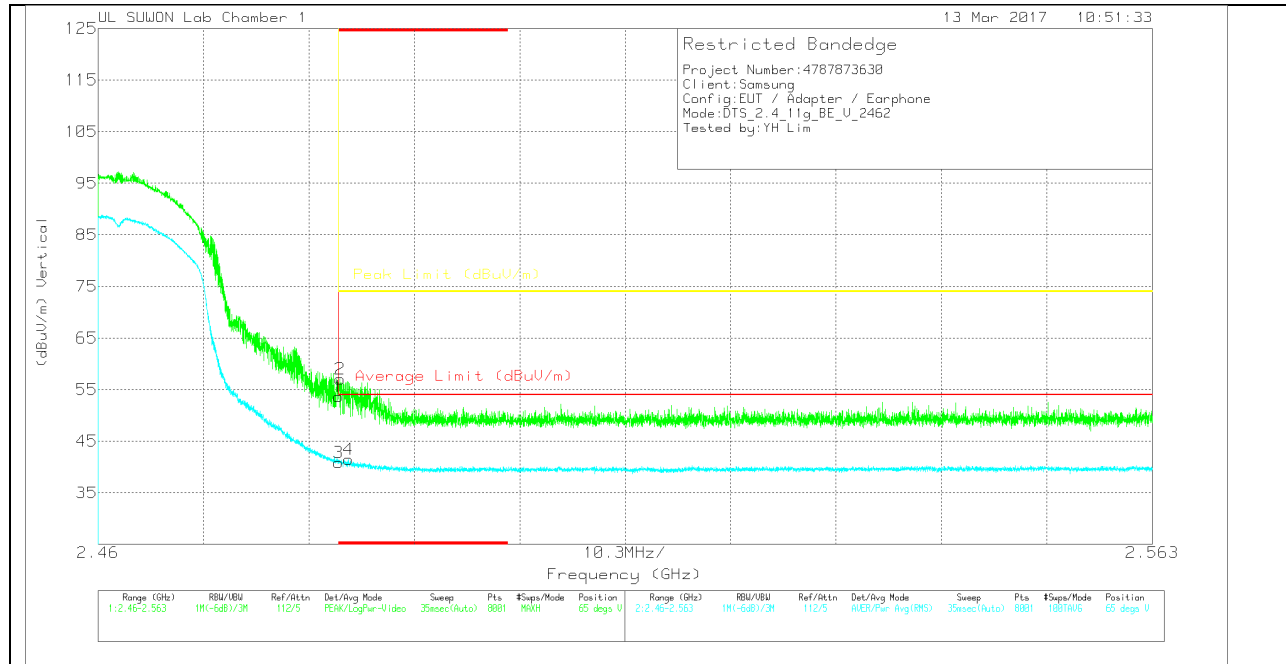
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 171_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	62.5	Pk	32	-28.7	0	65.8	-	-	74	-8.2	157	321	H
2	* 2.484	64.67	Pk	32	-28.7	0	67.97	-	-	74	-6.03	157	321	H
3	* 2.484	44.83	RMS	32	-28.7	.17	48.3	54	-5.7	-	-	157	321	H
4	* 2.484	45.5	RMS	32	-28.7	.17	48.97	54	-5.03	-	-	157	321	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	50.32	Pk	32	-28.7	0	53.62	-	-	74	-20.38	65	267	V
2	* 2.484	53.73	Pk	32	-28.7	0	57.03	-	-	74	-16.97	65	267	V
3	* 2.484	37.38	RMS	32	-28.7	.17	40.85	54	-13.15	-	-	65	267	V
4	* 2.484	37.99	RMS	32	-28.7	.17	41.46	54	-12.54	-	-	65	267	V

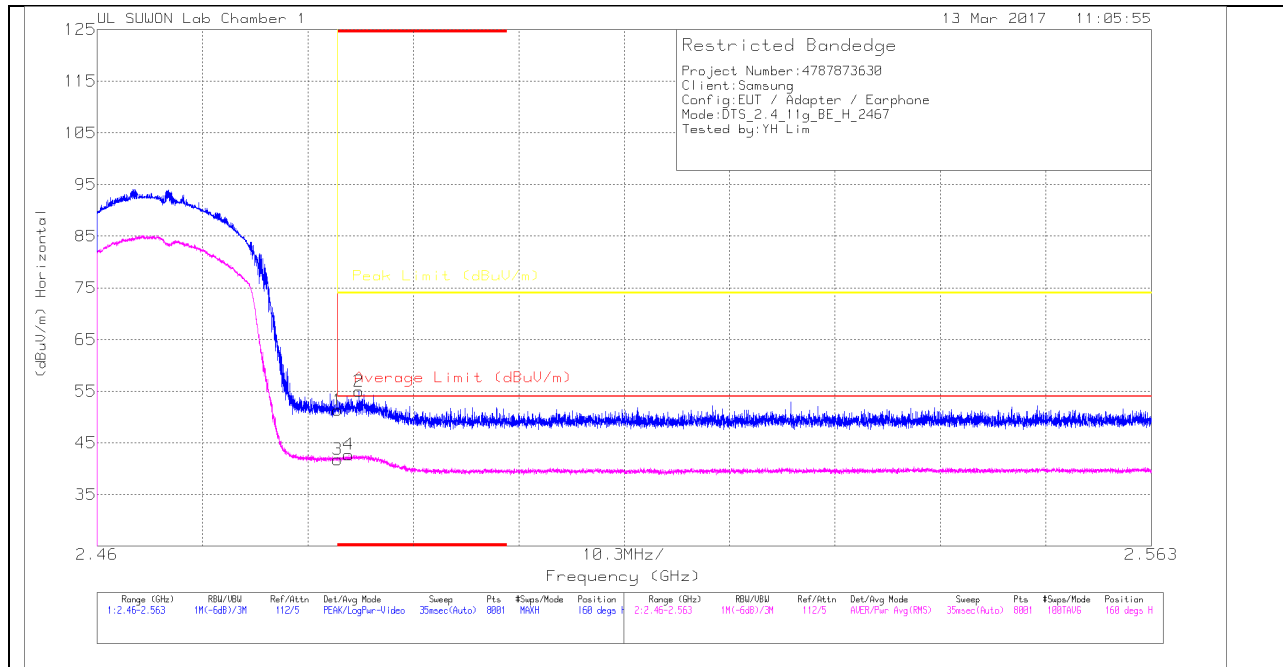
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (12 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

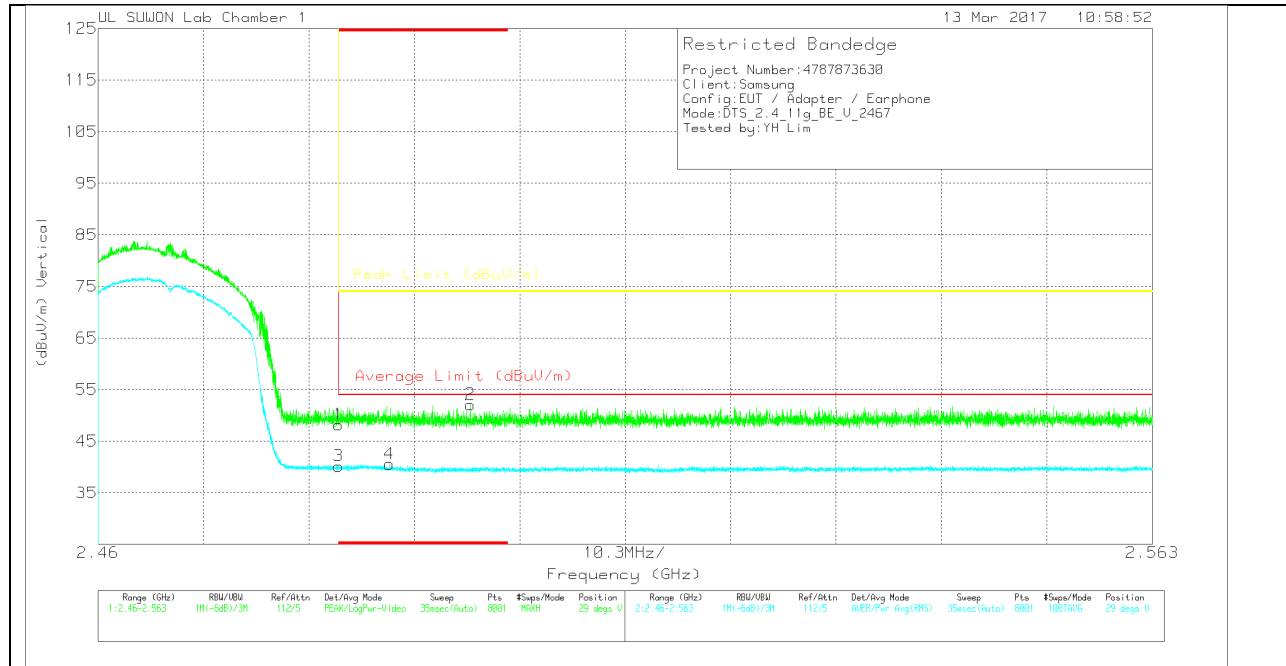
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	48.01	Pk	32	-28.7	0	51.31	-	-	74	-22.69	160	198	H
2	* 2.486	51.57	Pk	32	-28.6	0	54.97	-	-	74	-19.03	160	198	H
3	* 2.484	38.32	RMS	32	-28.7	.17	41.79	54	-12.21	-	-	160	198	H
4	* 2.485	39.28	RMS	32	-28.7	.17	42.75	54	-11.25	-	-	160	198	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	44.9	Pk	32	-28.7	0	48.2	-	-	74	-25.8	29	301	V
2	* 2.496	48.81	Pk	32	-28.7	0	52.11	-	-	74	-21.89	29	301	V
3	* 2.484	36.72	RMS	32	-28.7	.17	40.19	54	-13.81	-	-	29	301	V
4	* 2.488	37.01	RMS	32	-28.6	.17	40.58	54	-13.42	-	-	29	301	V

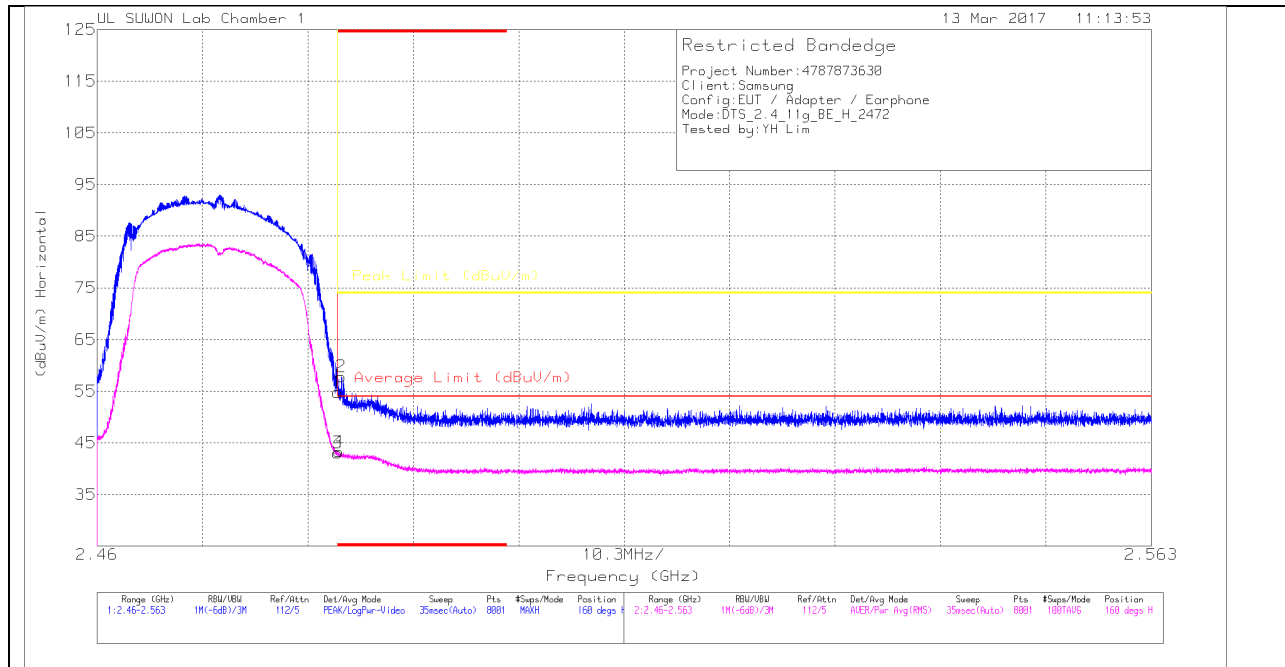
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (13 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

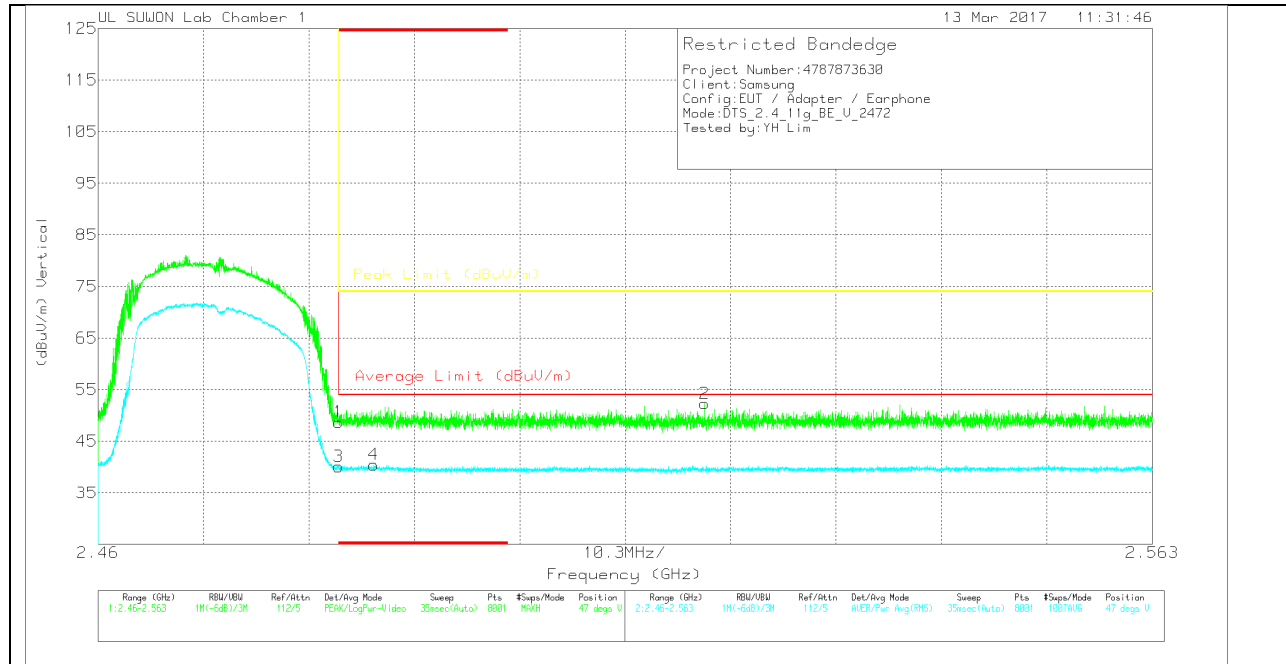
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	51.52	Pk	32	-28.7	0	54.82	-	-	74	-19.18	160	196	H
2	* 2.484	54.52	Pk	32	-28.7	0	57.82	-	-	74	-16.18	160	196	H
3	* 2.484	39.64	RMS	32	-28.7	.17	43.11	54	-10.89	-	-	160	196	H
4	* 2.484	39.82	RMS	32	-28.7	.17	43.29	54	-10.71	-	-	160	196	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	45.42	Pk	32	-28.7	0	48.72	-	-	74	-25.28	47	261	V
2	2.519	48.91	Pk	32	-28.6	0	52.31	-	-	74	-21.69	47	261	V
3	* 2.484	36.63	RMS	32	-28.7	.17	40.1	54	-13.9	-	-	47	261	V
4	* 2.487	36.88	RMS	32	-28.6	.17	40.45	54	-13.55	-	-	47	261	V

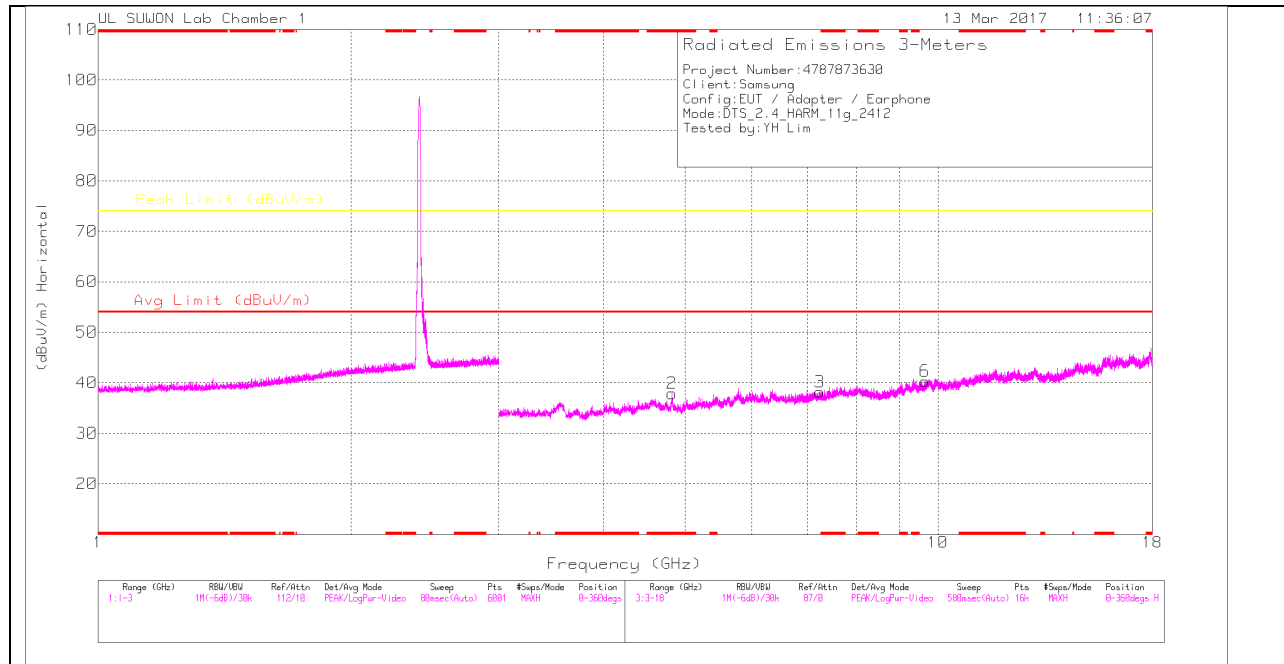
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

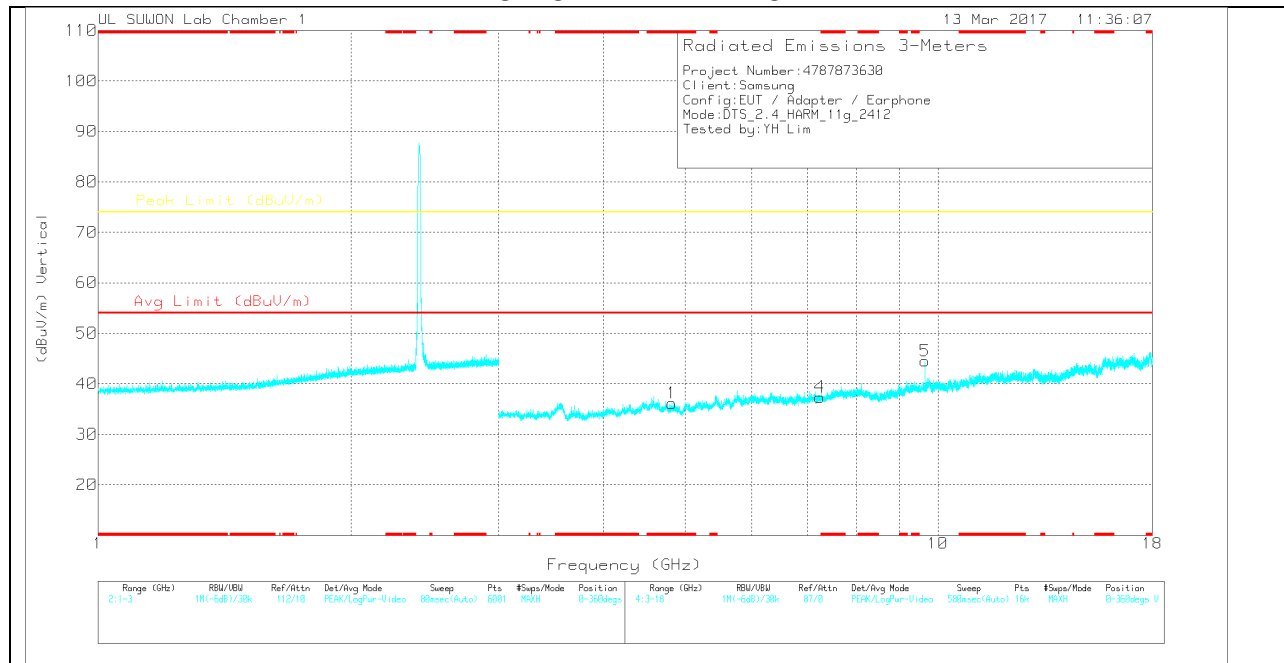
RMS - RMS detection

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
2	* 4.826	37.88	PK	34	-34	0	37.88	-	-	74	-36.12	0-360	250	H
3	7.233	33.66	PK	35.7	-31.2	0	38.16	-	-	74	-35.84	0-360	250	H
6	9.648	31.41	PK	37.1	-28.2	0	40.31	-	-	74	-33.69	0-360	250	H
1	* 4.824	36.13	PK	34	-34	0	36.13	-	-	74	-37.87	0-360	250	V
4	7.234	32.86	PK	35.7	-31.2	0	37.36	-	-	74	-36.64	0-360	150	V
5	9.647	35.61	PK	37.1	-28.2	0	44.51	-	-	74	-29.49	0-360	150	V

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

PK – Peak detector

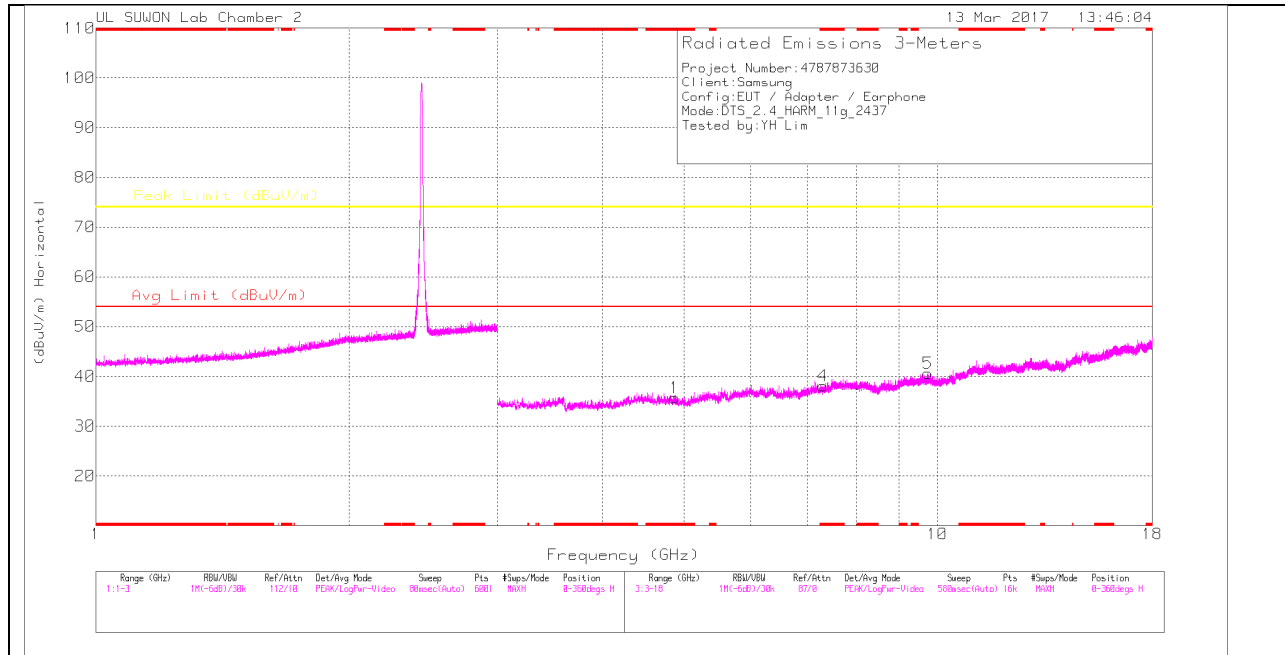
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(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
9.646	41.99	PK2	37.1	-28.2	0	50.89	-	-	74	-23.11	30	221	H
9.648	43.17	PK2	37.1	-28.2	0	52.07	-	-	74	-21.93	8	131	V

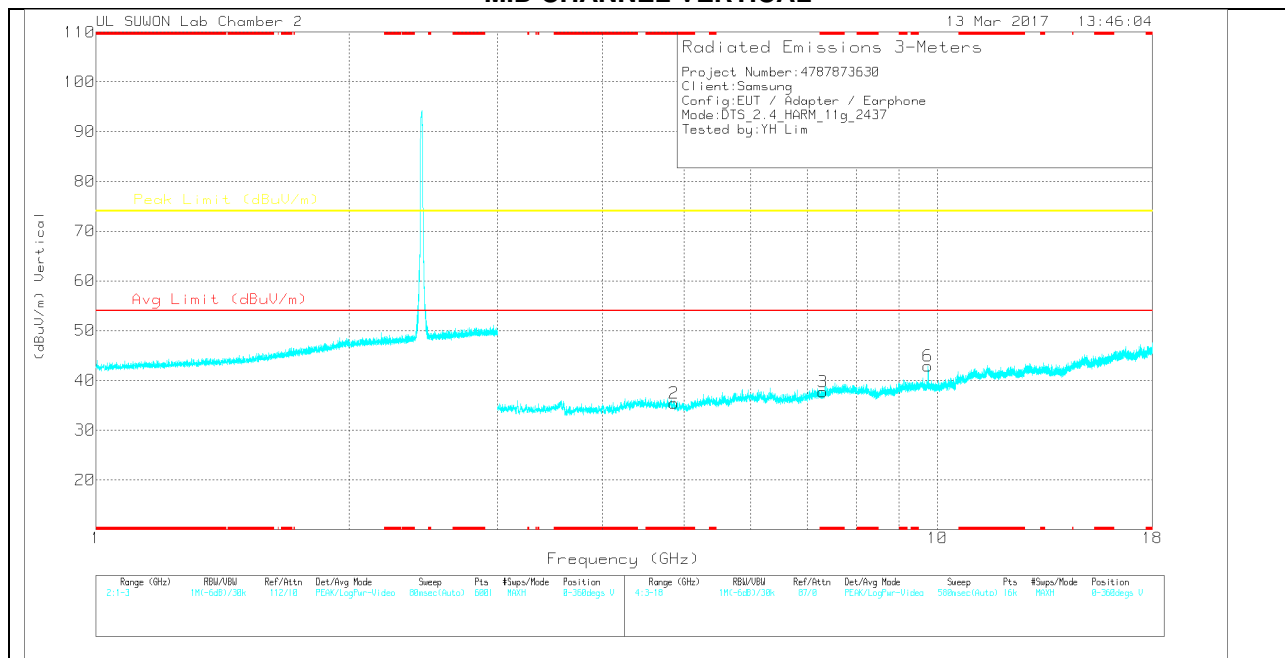
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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 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	* 4.875	26.26	PK	33.9	-24.5	0	35.66	-	-	74	-38.34	0-360	150	H
4	* 7.313	24.18	PK	35.9	-22	0	38.08	-	-	74	-35.92	0-360	150	H
5	9.748	21.76	PK	37	-18.1	0	40.66	-	-	74	-33.34	0-360	250	H
2	* 4.866	25.93	PK	33.9	-24.4	0	35.43	-	-	74	-38.57	0-360	250	V
3	* 7.312	23.86	PK	35.9	-22	0	37.76	-	-	74	-36.24	0-360	250	V
6	9.748	23.95	PK	37	-18.1	0	42.85	-	-	74	-31.15	0-360	150	V

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

PK – Peak detector

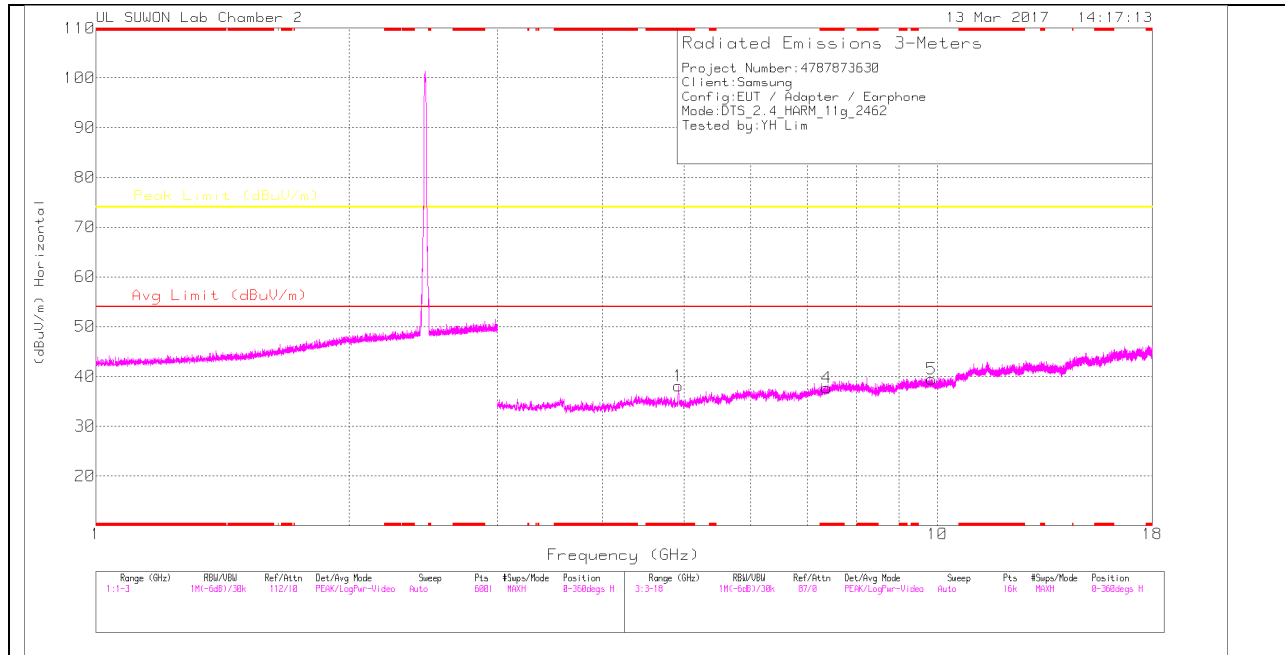
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724_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
9.748	32.25	PK2	37	-18.1	0	51.15	-	-	74	-22.85	31	107	H
9.748	33.64	PK2	37	-18.1	0	52.54	-	-	74	-21.46	8	101	V

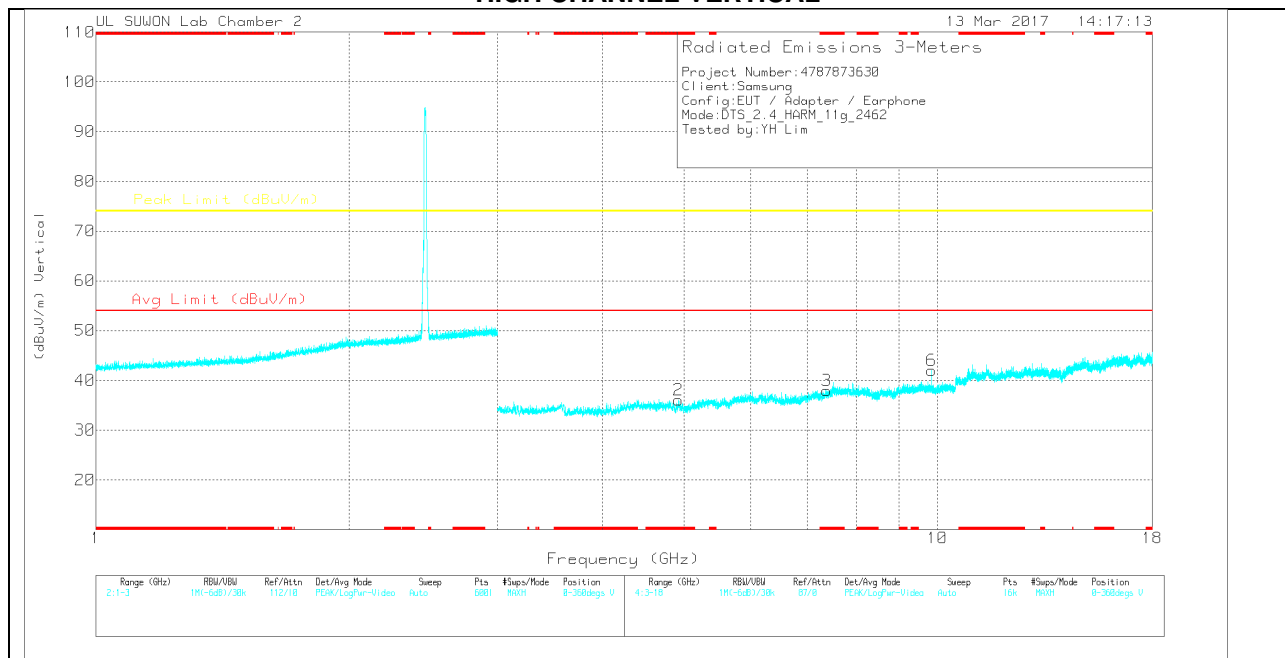
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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 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	* 4.923	28.88	PK	33.9	-24.7	0	38.08	-	-	74	-35.92	0-360	150	H
4	* 7.387	23.26	PK	35.9	-21.4	0	37.76	-	-	74	-36.24	0-360	250	H
5	9.845	20.25	PK	37.1	-17.9	0	39.45	-	-	74	-34.55	0-360	150	H
2	* 4.922	26.91	PK	33.9	-24.7	0	36.11	-	-	74	-37.89	0-360	150	V
3	* 7.386	23.49	PK	35.9	-21.4	0	37.99	-	-	74	-36.01	0-360	250	V
6	9.848	22.85	PK	37.1	-17.9	0	42.05	-	-	74	-31.95	0-360	150	V

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

PK – Peak detector

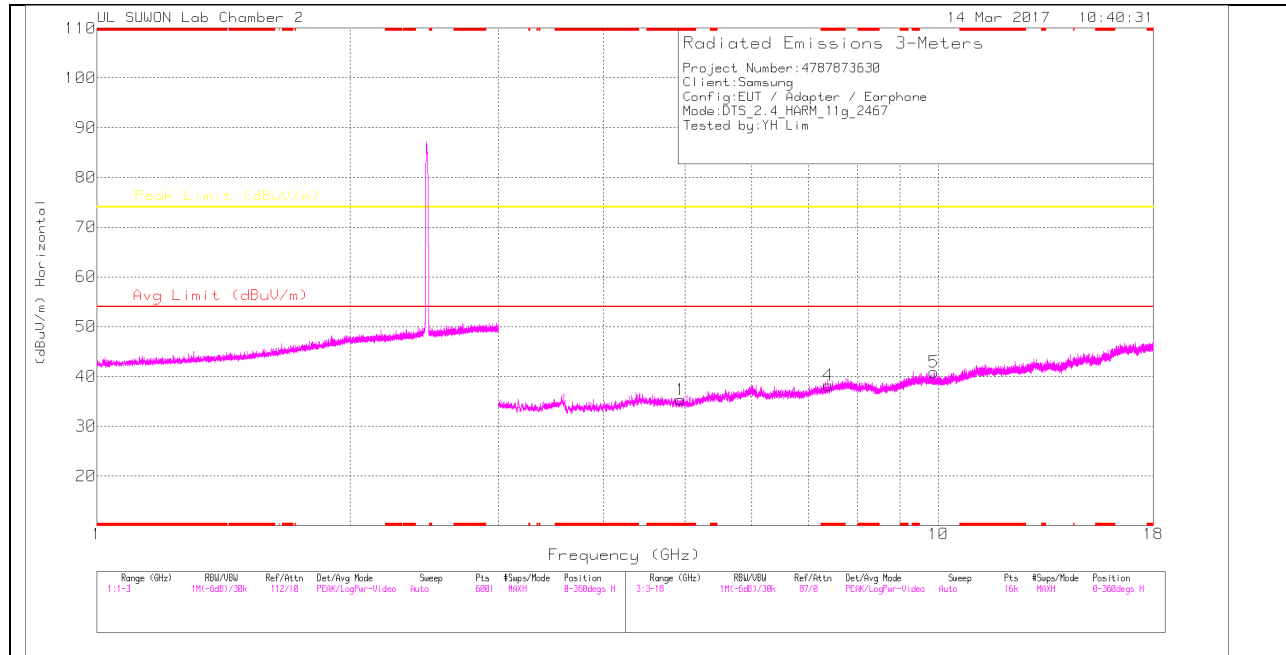
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724_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
9.848	32.21	PK2	37.1	-17.9	0	51.41	-	-	74	-22.59	91	104	H
9.848	33.02	PK2	37.1	-17.9	0	52.22	-	-	74	-21.78	4	110	V

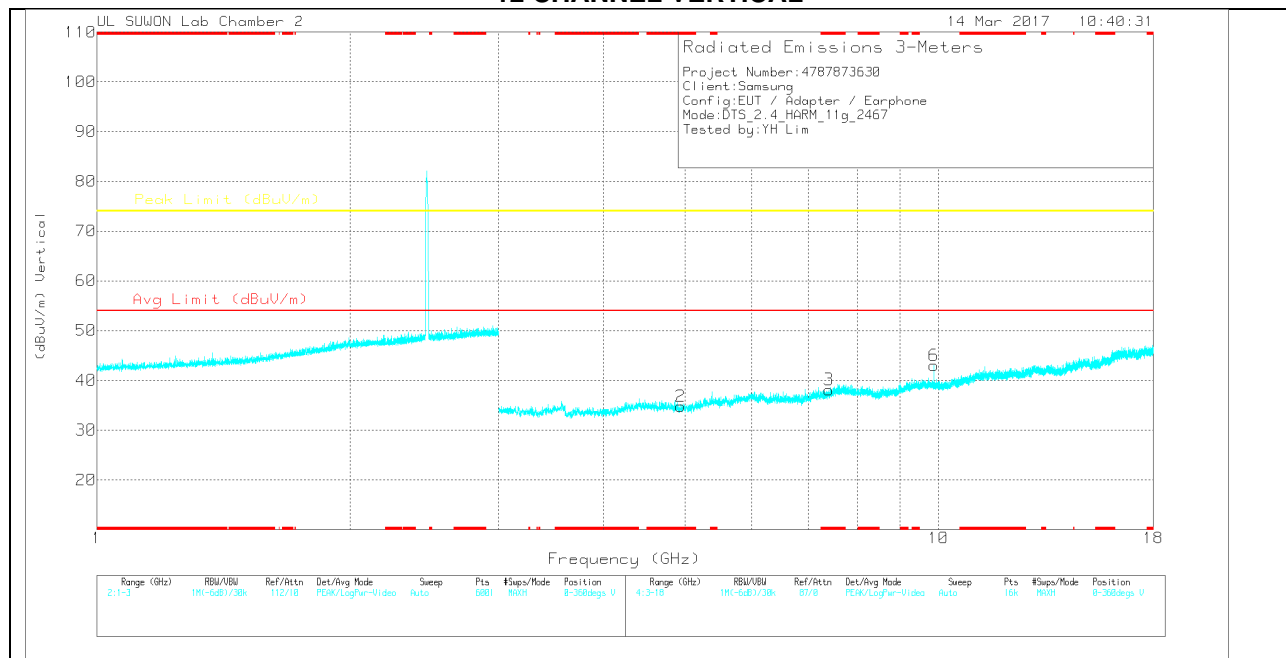
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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	* 4.935	26.05	PK	33.9	-24.7	0	35.25	-	-	74	-38.75	0-360	150	H
4	* 7.4	23.55	PK	36	-21.3	0	38.25	-	-	74	-35.75	0-360	250	H
5	9.868	21.73	PK	37.1	-18	0	40.83	-	-	74	-33.17	0-360	250	H
2	* 4.936	25.65	PK	33.9	-24.7	0	34.85	-	-	74	-39.15	0-360	250	V
3	* 7.408	23.45	PK	36	-21.3	0	38.15	-	-	74	-35.85	0-360	250	V
6	9.868	23.92	PK	37.1	-18	0	43.02	-	-	74	-30.98	0-360	150	V

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

PK – Peak Detector

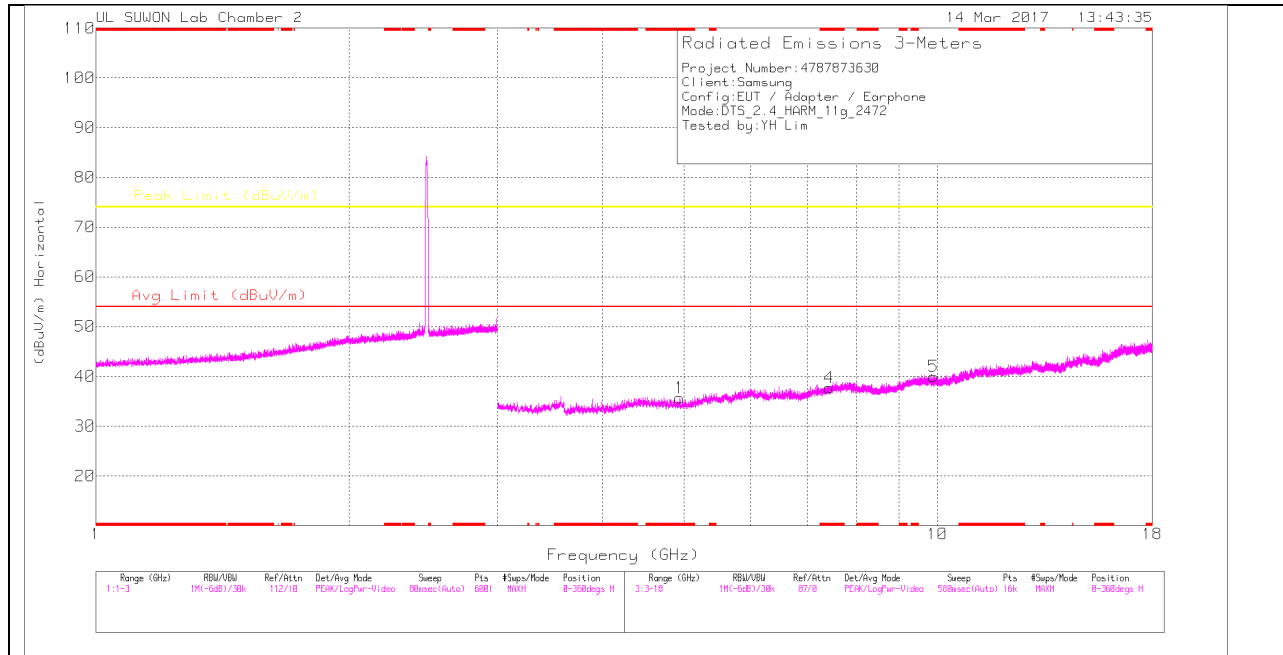
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724_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
9.868	31.79	PK2	37.1	-18	0	50.89	-	-	74	-23.11	92	100	H
9.868	32.7	PK2	37.1	-18	0	51.8	-	-	74	-22.2	19	119	V

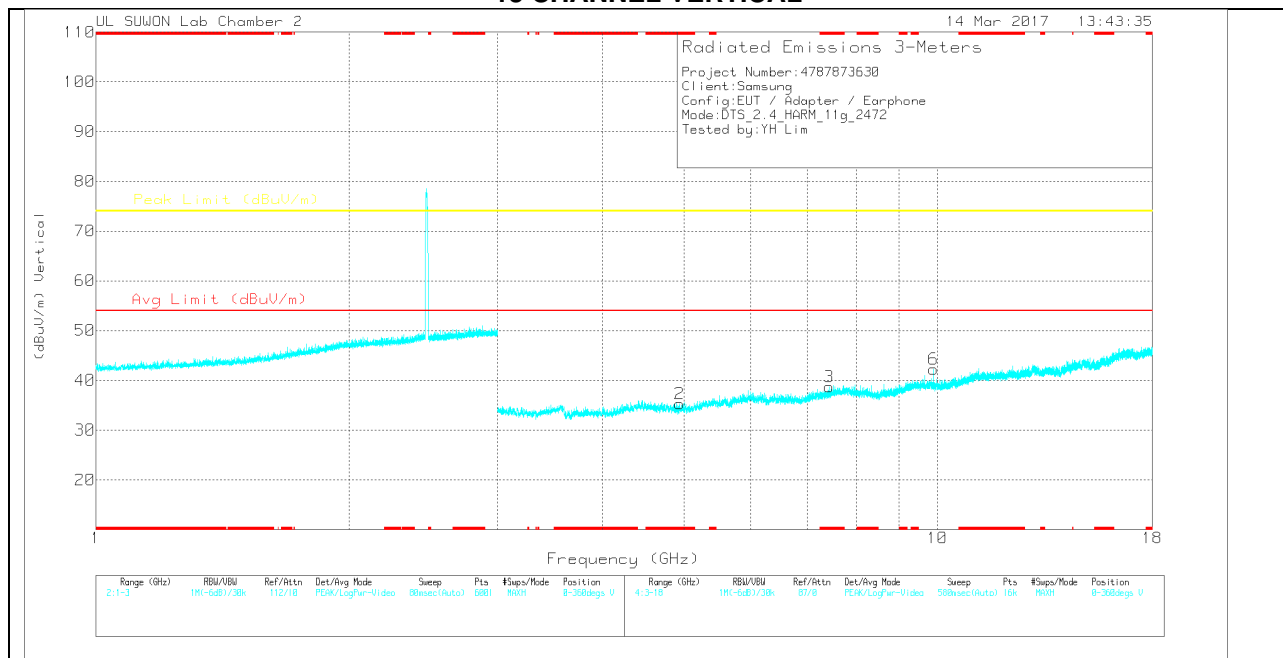
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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	* 4.937	26.62	PK	33.9	-24.8	0	35.72	-	-	74	-38.28	0-360	150	H
4	* 7.433	22.75	PK	36	-21	0	37.75	-	-	74	-36.25	0-360	250	H
5	9.887	20.85	PK	37.1	-18	0	39.95	-	-	74	-34.05	0-360	150	H
2	* 4.937	26.19	PK	33.9	-24.8	0	35.29	-	-	74	-38.71	0-360	150	V
3	* 7.436	23.76	PK	36	-21	0	38.76	-	-	74	-35.24	0-360	150	V
6	9.888	23.18	PK	37.1	-18	0	42.28	-	-	74	-31.72	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

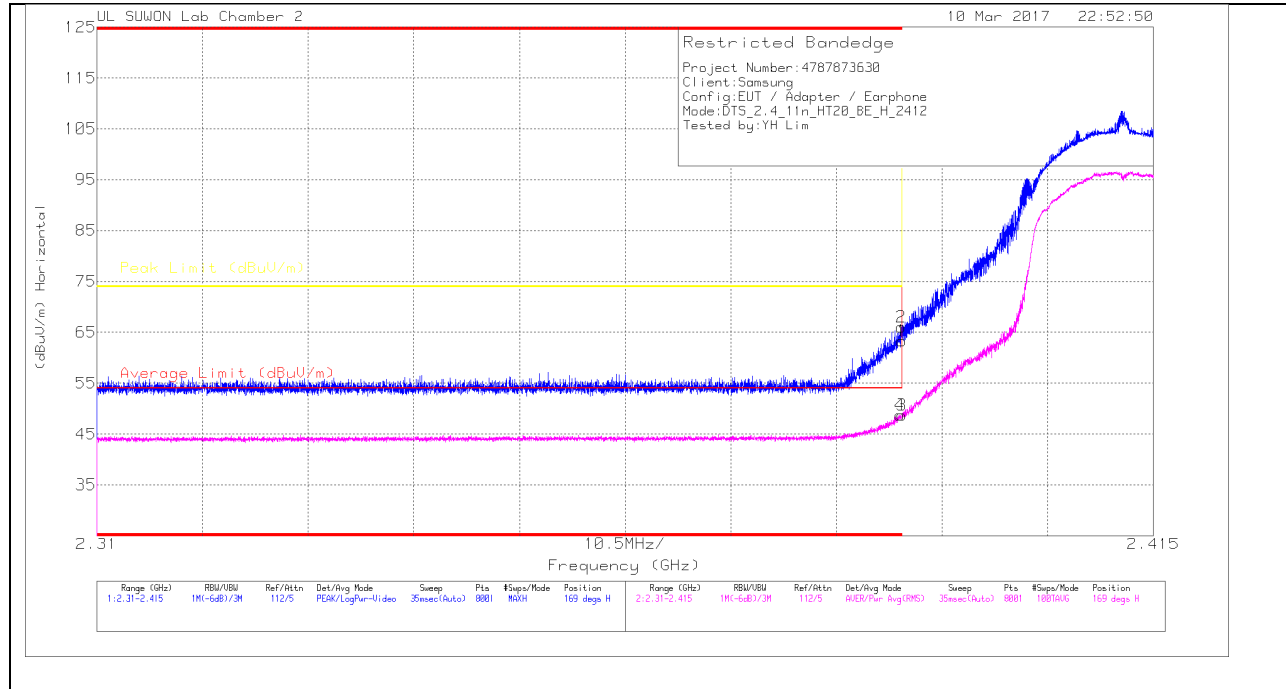
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8724)_150 619	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.888	31.6	PK2	37.1	-18	0	50.7	-	-	74	-23.3	96	113	H
9.888	33.18	PK2	37.1	-18	0	52.28	-	-	74	-21.72	16	112	V

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

PK2 - KDB558074 Method: Maximum Peak

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

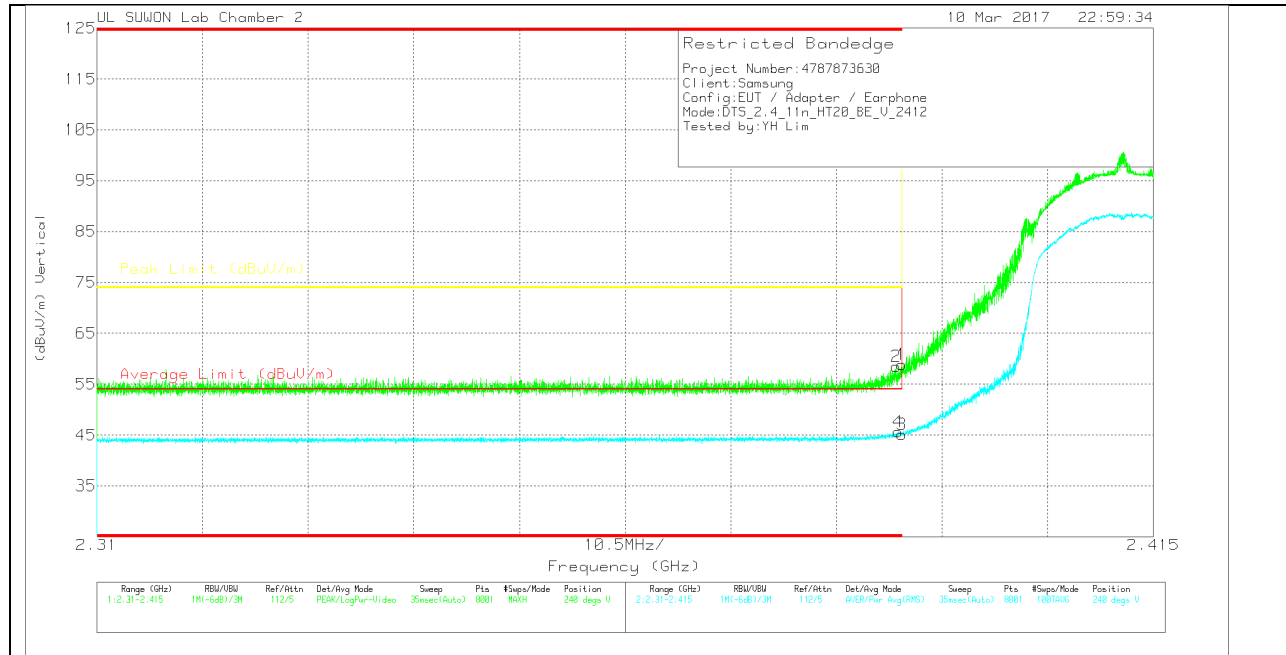
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	49.86	Pk	31.7	-18.2	0	63.36	-	-	74	-10.64	169	105	H
2	* 2.39	52.59	Pk	31.7	-18.2	0	66.09	-	-	74	-7.91	169	105	H
3	* 2.39	35.03	RMS	31.7	-18.2	.18	48.71	54	-5.29	-	-	169	105	H
4	* 2.39	35.08	RMS	31.7	-18.2	.18	48.76	54	-5.24	-	-	169	105	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	45.31	Pk	31.7	-18.2	0	58.81	-	-	74	-15.19	240	334	V
2	* 2.389	45.02	Pk	31.7	-18.2	0	58.52	-	-	74	-15.48	240	334	V
3	* 2.39	31.46	RMS	31.7	-18.2	.18	45.14	54	-8.86	-	-	240	334	V
4	* 2.39	31.93	RMS	31.7	-18.2	.18	45.61	54	-8.39	-	-	240	334	V

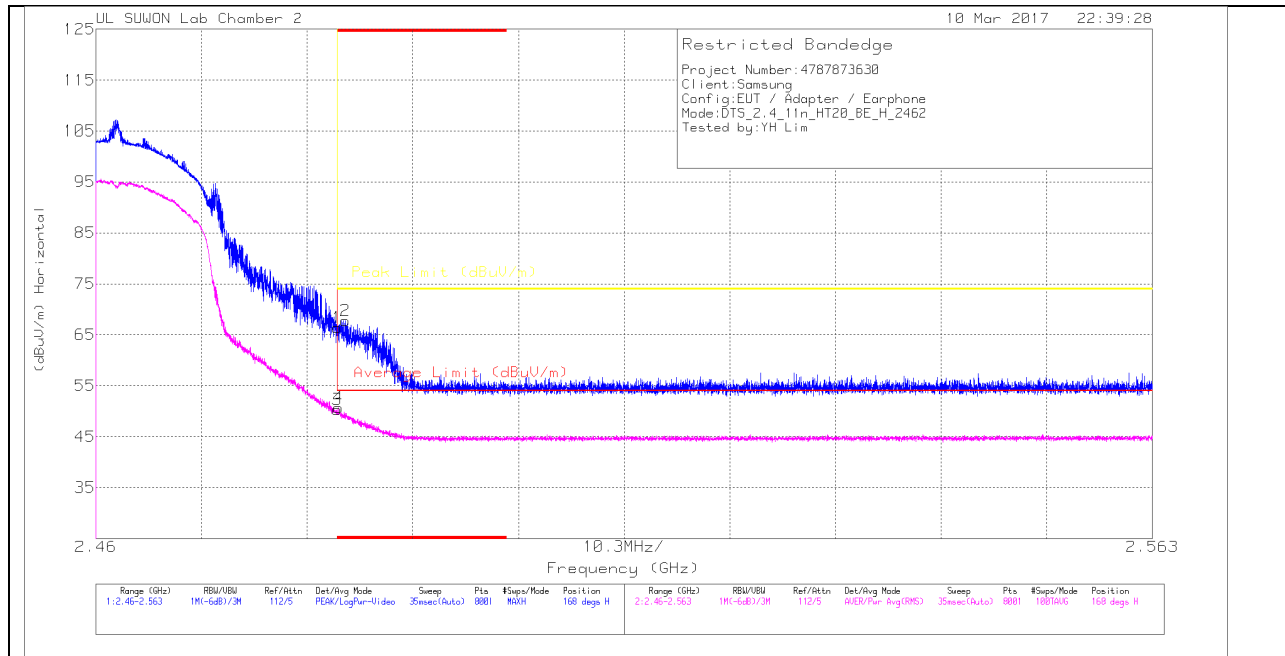
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

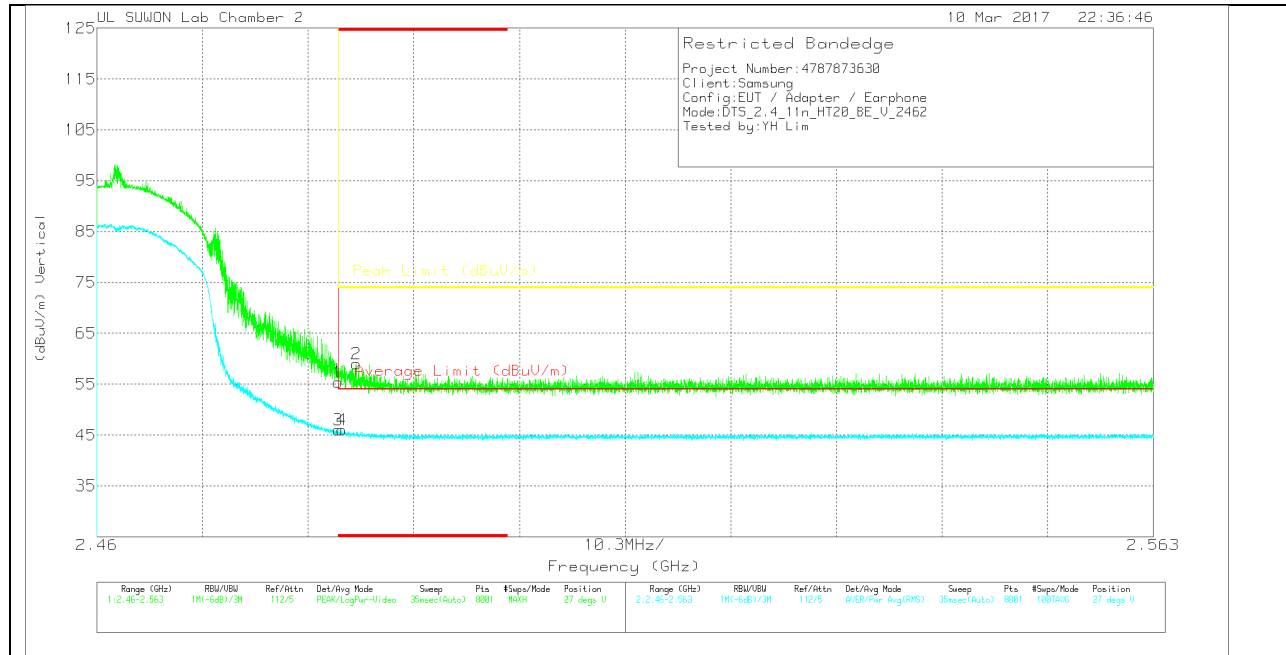
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.56	Pk	31.8	-18	0	66.36	-	-	74	-7.64	168	398	H
2	* 2.484	54.01	Pk	31.8	-18	0	67.81	-	-	74	-6.19	168	398	H
3	* 2.484	36.36	RMS	31.8	-18	.18	50.34	54	-3.66	-	-	168	398	H
4	* 2.484	36.67	RMS	31.8	-18	.18	50.65	54	-3.35	-	-	168	398	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	41.65	Pk	31.8	-18	0	55.45	-	-	74	-18.55	27	182	V
2	* 2.485	45.16	Pk	31.8	-18	0	58.96	-	-	74	-15.04	27	182	V
3	* 2.484	32.03	RMS	31.8	-18	.18	46.01	54	-7.99	-	-	27	182	V
4	* 2.484	32.03	RMS	31.8	-18	.18	46.01	54	-7.99	-	-	27	182	V

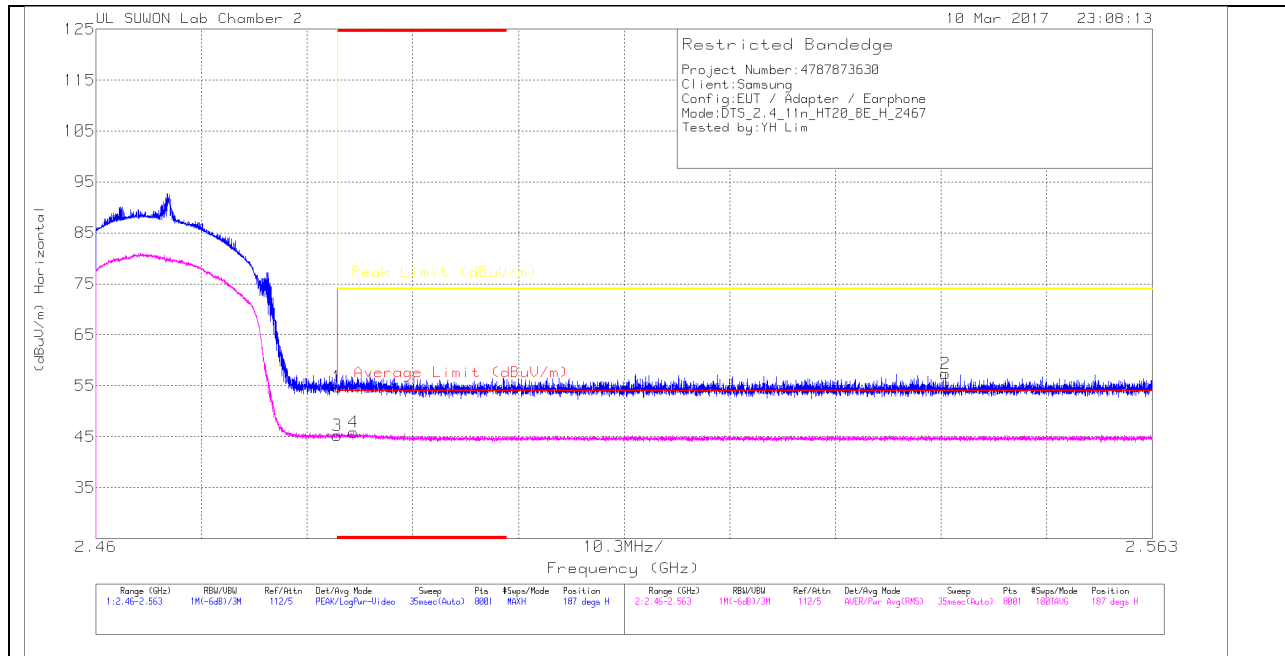
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (12 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

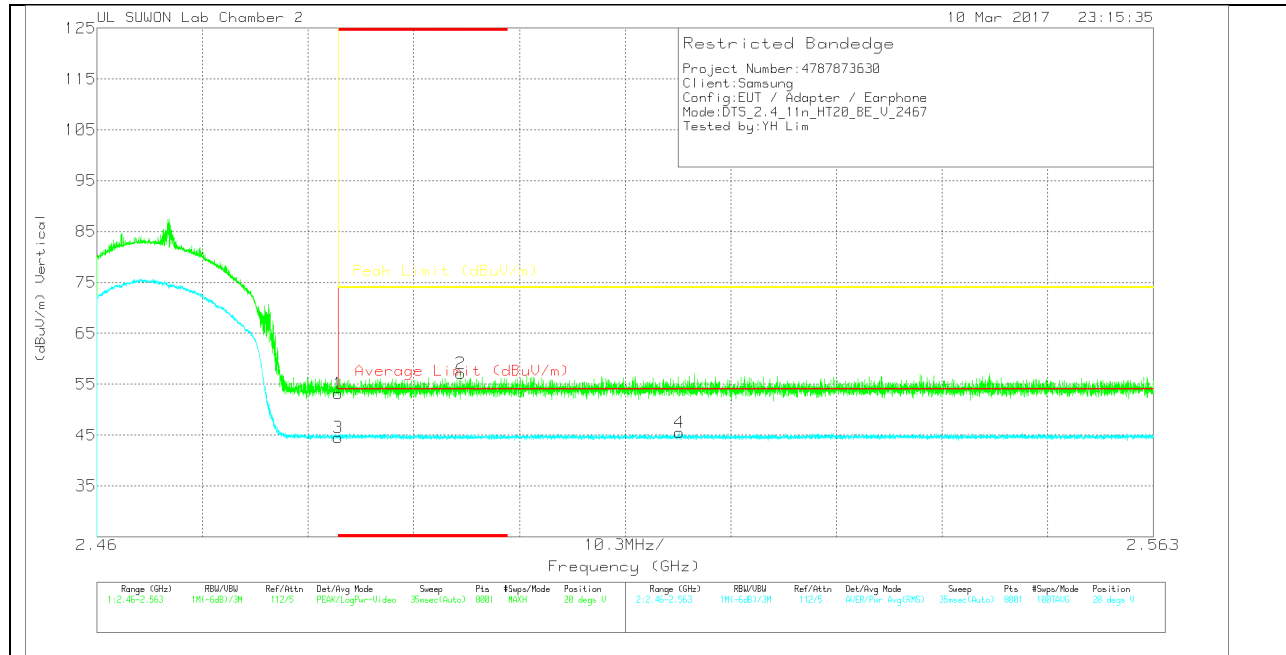
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41	PK	31.8	-18	0	54.8	-	-	74	-19.2	187	114	H
2	2.543	43.53	PK	31.9	-18	0	57.43	-	-	74	-16.57	187	114	H
3	* 2.484	31.24	RMS	31.8	-18	.18	45.22	54	-8.78	-	-	187	114	H
4	* 2.485	31.9	RMS	31.8	-18	.18	45.88	54	-8.12	-	-	187	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(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	39.4	Pk	31.8	-18	0	53.2	-	-	74	-20.8	20	115	V
2	* 2.495	43.31	Pk	31.8	-18	0	57.11	-	-	74	-16.89	20	115	V
3	* 2.484	30.58	RMS	31.8	-18	.18	44.56	54	-9.44	-	-	20	115	V
4	2.517	31.42	RMS	31.9	-18	.18	45.5	54	-8.5	-	-	20	115	V

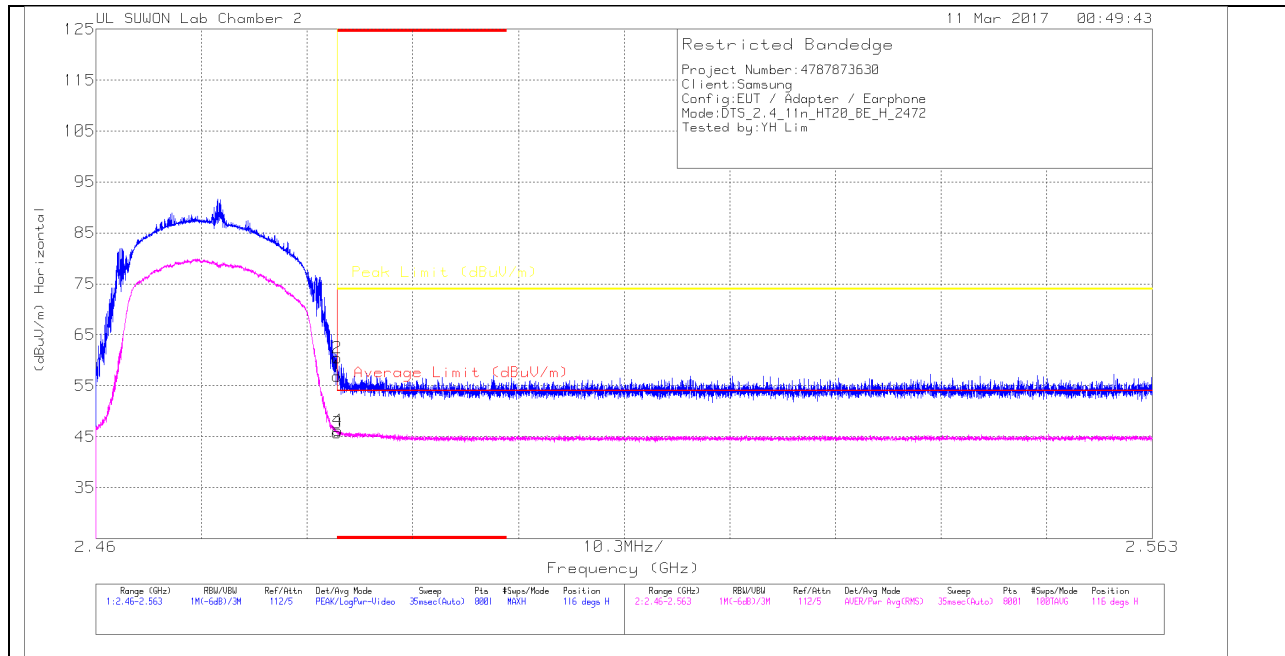
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (13 CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

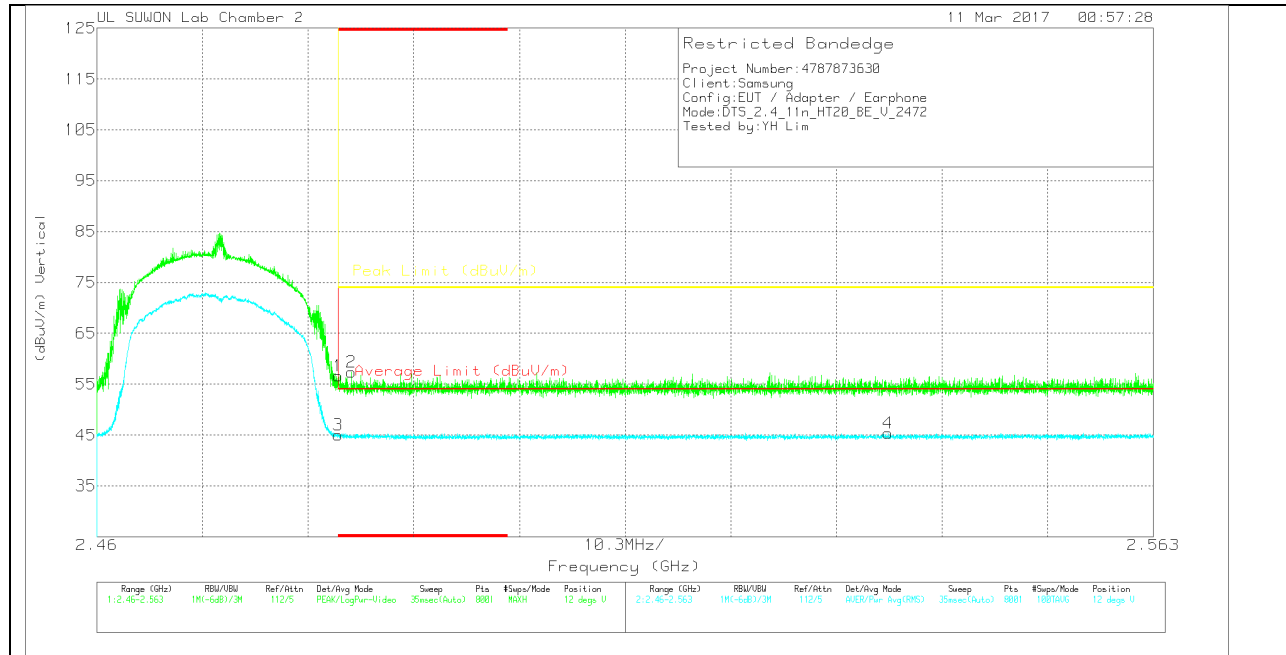
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 24)_150619	10dB[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43.09	Pk	31.8	-18	0	56.89	-	-	74	-17.11	116	156	H
2	* 2.484	46.68	Pk	31.8	-18	0	60.48	-	-	74	-13.52	116	156	H
3	* 2.484	31.78	RMS	31.8	-18	.18	45.76	54	-8.24	-	-	116	156	H
4	* 2.484	32.31	RMS	31.8	-18	.18	46.29	54	-7.71	-	-	116	156	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	42.88	Pk	31.8	-18	0	56.68	-	-	74	-17.32	12	117	V
2	* 2.485	43.53	Pk	31.8	-18	0	57.33	-	-	74	-16.67	12	117	V
3	* 2.484	31.01	RMS	31.8	-18	.18	44.99	54	-9.01	-	-	12	117	V
4	2.537	31.33	RMS	31.9	-18	.18	45.41	54	-8.59	-	-	12	117	V

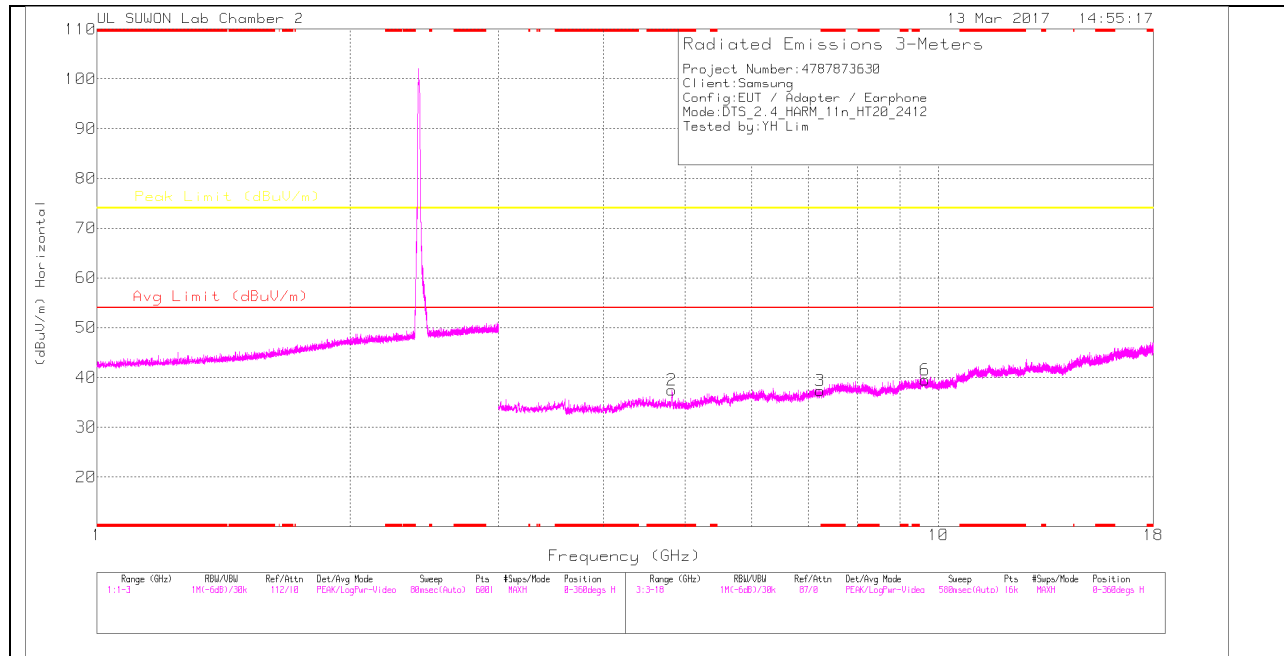
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

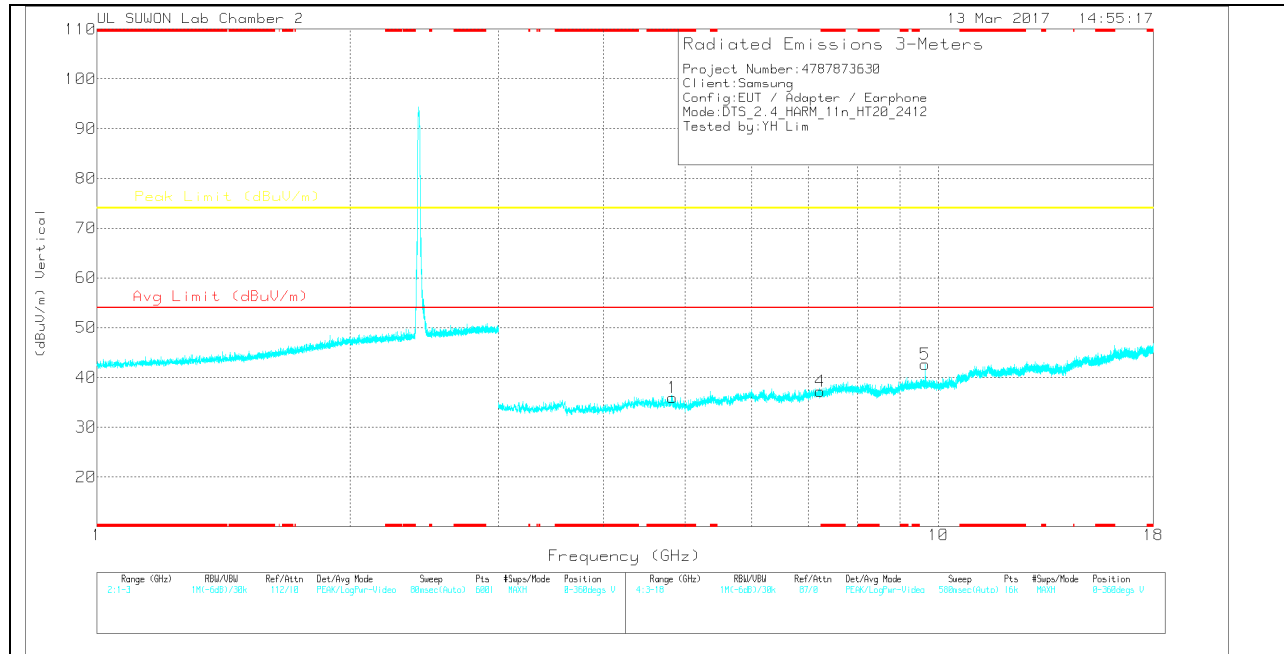
RMS - RMS detection

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 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
2	* 4.822	27.82	PK	33.9	-24.3	0	37.42	-	-	74	-36.58	0-360	150	H
3	7.233	23.44	PK	35.8	-21.9	0	37.34	-	-	74	-36.66	0-360	150	H
6	9.648	20.84	PK	36.9	-18.3	0	39.44	-	-	74	-34.56	0-360	150	H
1	* 4.827	26.31	PK	33.9	-24.3	0	35.91	-	-	74	-38.09	0-360	150	V
4	7.235	23.35	PK	35.8	-21.9	0	37.25	-	-	74	-36.75	0-360	150	V
5	9.648	24.09	PK	36.9	-18.3	0	42.69	-	-	74	-31.31	0-360	150	V

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

PK – Peak detector

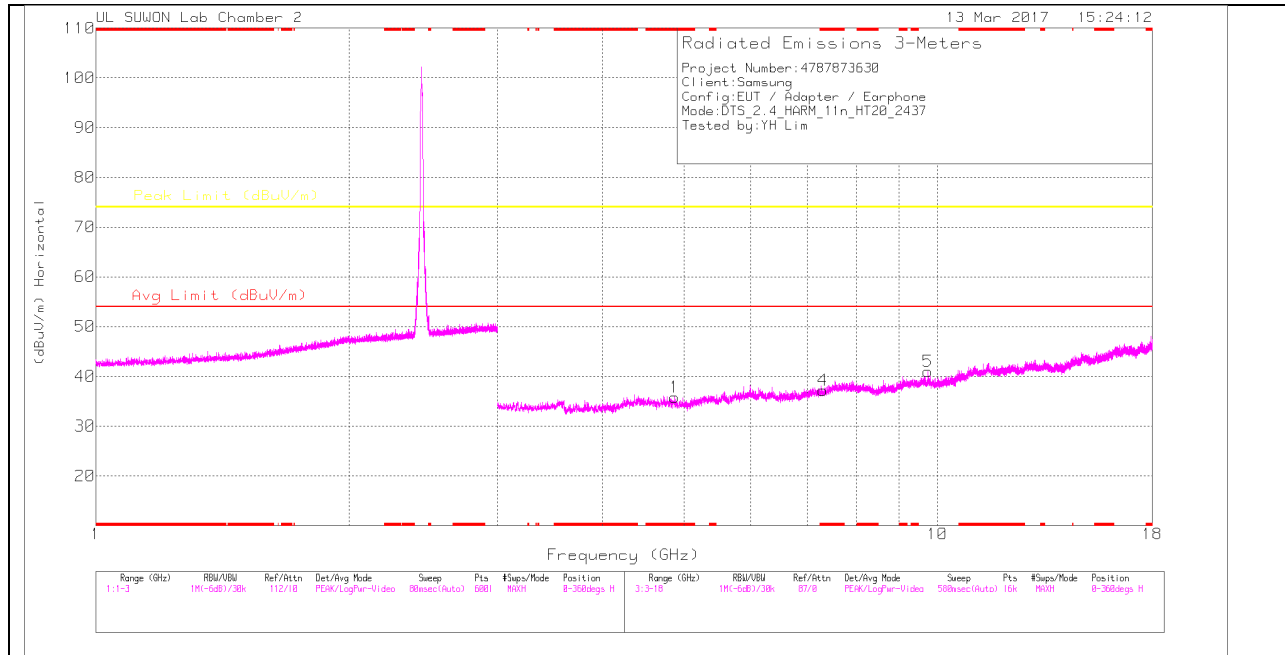
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724_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
9.648	32.27	PK2	36.9	-18.3	0	50.87	-	-	74	-23.13	29	253	H
9.648	33.79	PK2	36.9	-18.3	0	52.39	-	-	74	-21.61	6	103	V

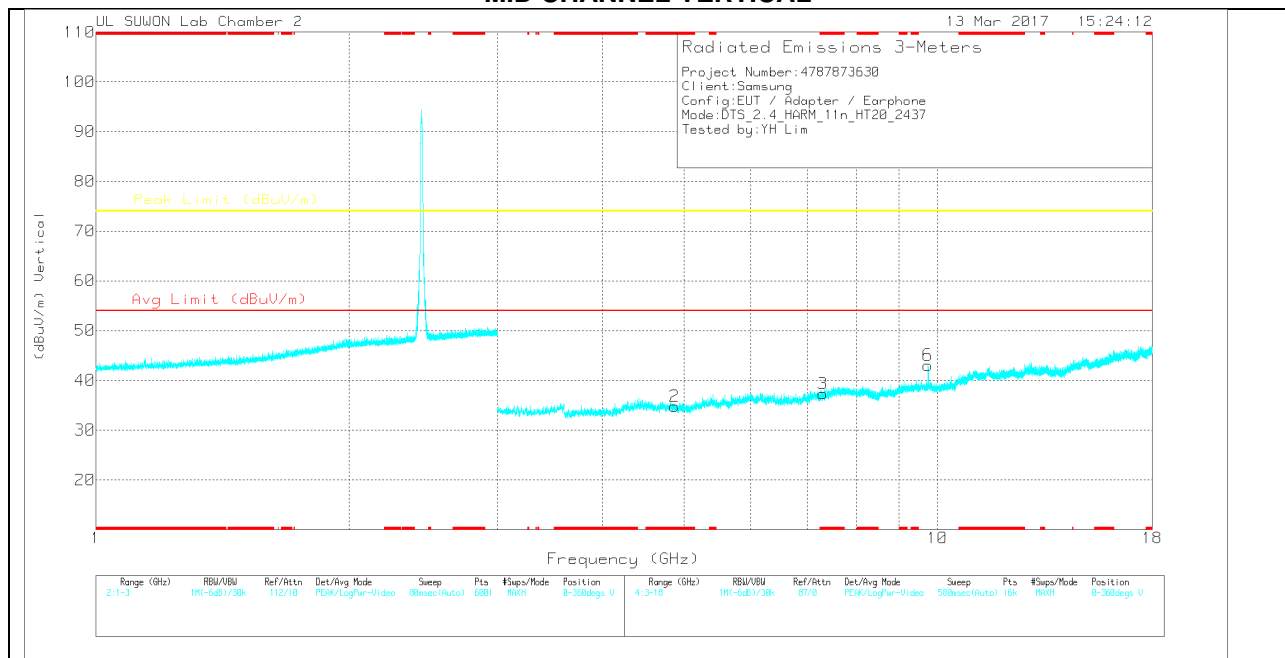
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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 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	* 4.874	26.39	PK	33.9	-24.5	0	35.79	-	-	74	-38.21	0-360	250	H
4	* 7.315	23.3	PK	35.9	-22	0	37.2	-	-	74	-36.8	0-360	150	H
5	9.748	22.09	PK	37	-18.1	0	40.99	-	-	74	-33.01	0-360	150	H
2	* 4.875	25.44	PK	33.9	-24.5	0	34.84	-	-	74	-39.16	0-360	250	V
3	* 7.313	23.41	PK	35.9	-22	0	37.31	-	-	74	-36.69	0-360	150	V
6	9.748	24.18	PK	37	-18.1	0	43.08	-	-	74	-30.92	0-360	150	V

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

PK – Peak Detector

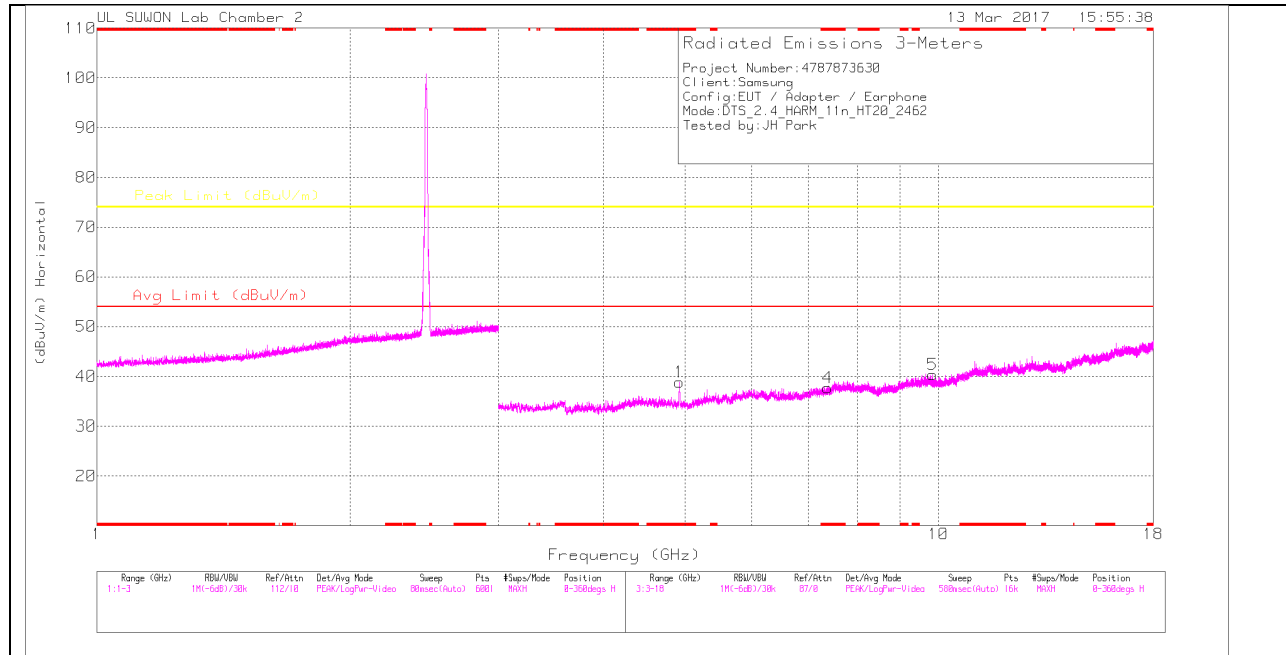
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724]_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
9.748	32.22	PK2	37	-18.1	0	51.12	-	-	74	-22.88	37	319	H
9.748	33.35	PK2	37	-18.1	0	52.25	-	-	74	-21.75	6	135	V

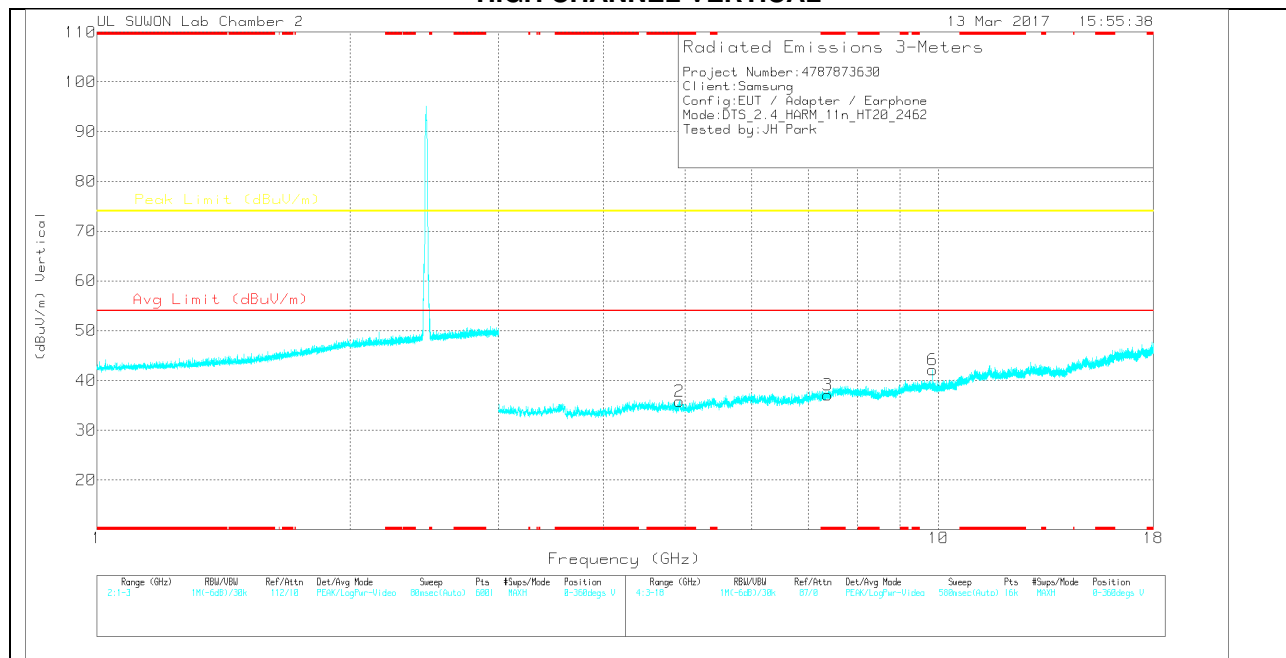
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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 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	* 4.921	29.64	PK	33.9	-24.7	0	38.84	-	-	74	-35.16	0-360	150	H
4	* 7.383	23.21	PK	35.9	-21.4	0	37.71	-	-	74	-36.29	0-360	150	H
5	9.848	21.12	PK	37.1	-17.9	0	40.32	-	-	74	-33.68	0-360	250	H
2	* 4.924	26.62	PK	33.9	-24.7	0	35.82	-	-	74	-38.18	0-360	250	V
3	* 7.388	22.59	PK	35.9	-21.4	0	37.09	-	-	74	-36.91	0-360	250	V
6	9.848	22.93	PK	37.1	-17.9	0	42.13	-	-	74	-31.87	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

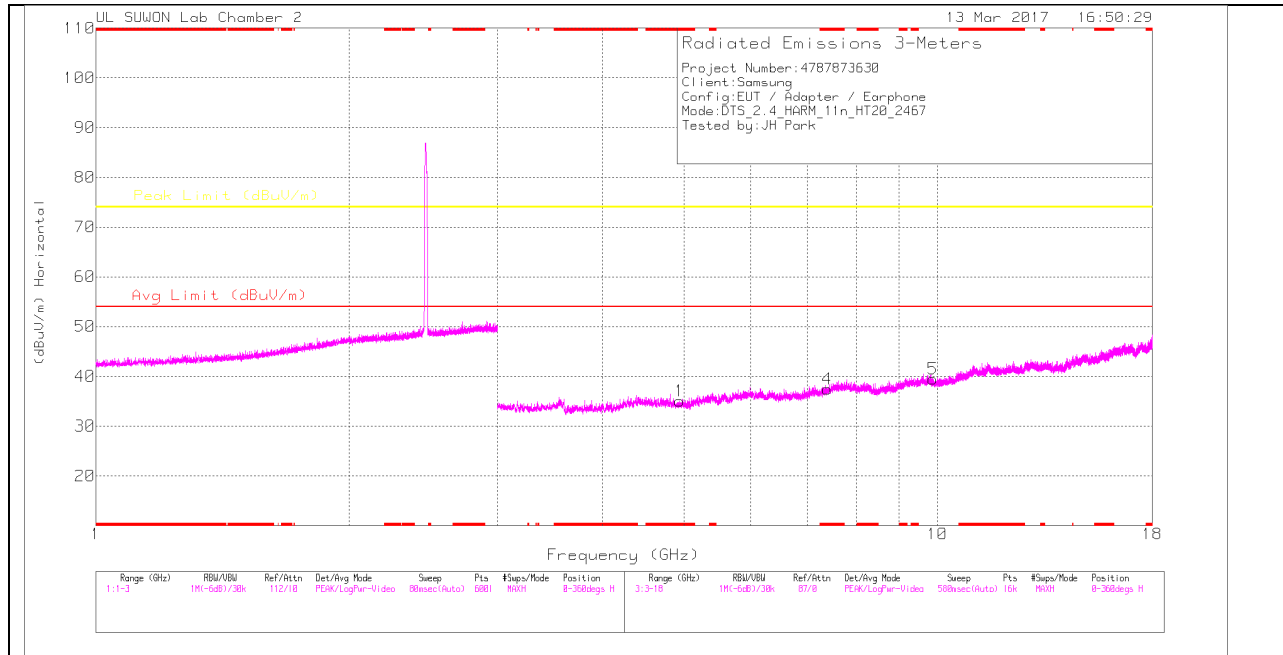
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8724)_150 619	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.925	41.7	PK2	33.9	-24.7	0	50.9	-	-	74	-23.1	7	132	H
* 4.922	27.13	MAv1	33.9	-24.7	.18	36.51	54	-17.49	-	-	7	132	H
* 4.925	39.1	PK2	33.9	-24.7	0	48.3	-	-	74	-25.7	93	184	V
* 4.922	24.96	MAv1	33.9	-24.7	.18	34.34	54	-19.66	-	-	93	184	V
9.848	32.49	PK2	37.1	-17.9	0	51.69	-	-	74	-22.31	35	104	V
9.847	31.04	PK2	37.1	-17.9	0	50.24	-	-	74	-23.76	41	319	H

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

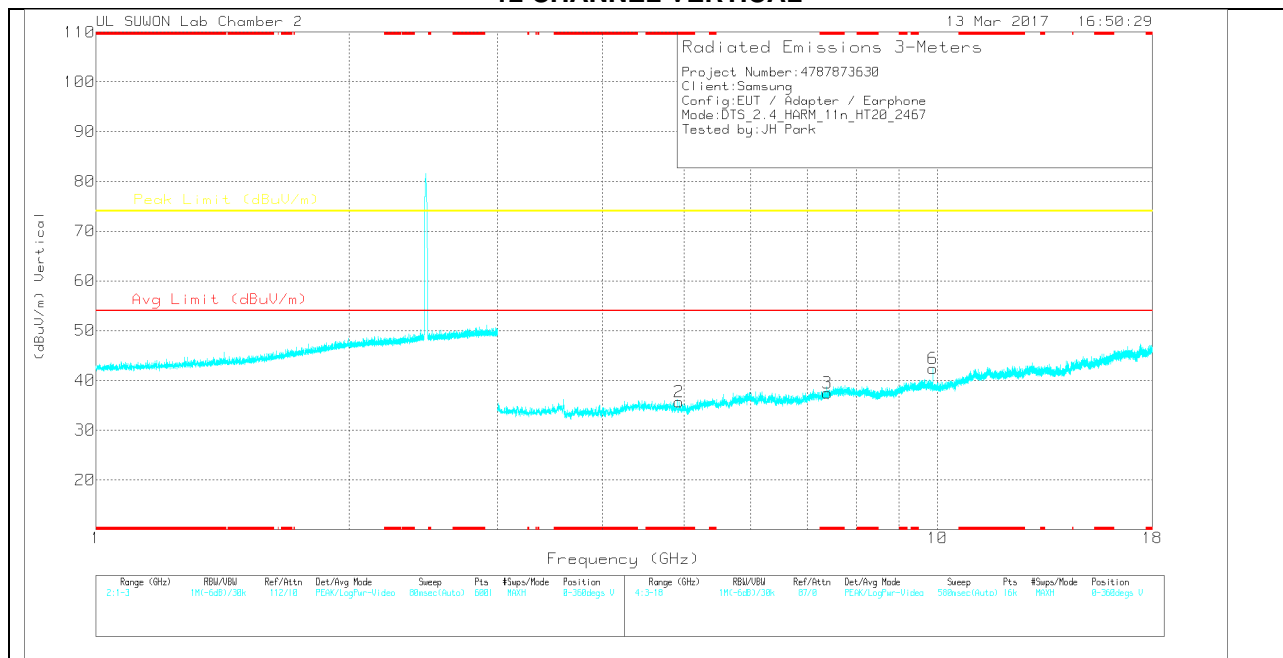
PK2 - KDB558074 Method: Maximum Peak

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	25.91	PK	33.9	-24.8	0	35.01	-	-	74	-38.99	0-360	150	H
4	* 7.397	22.7	PK	36	-21.3	0	37.4	-	-	74	-36.6	0-360	250	H
5	9.868	20.4	PK	37.1	-18	0	39.5	-	-	74	-34.5	0-360	250	H
2	* 4.934	26.46	PK	33.9	-24.7	0	35.66	-	-	74	-38.34	0-360	250	V
3	* 7.403	22.81	PK	36	-21.3	0	37.51	-	-	74	-36.49	0-360	150	V
6	9.868	23.33	PK	37.1	-18	0	42.43	-	-	74	-31.57	0-360	150	V

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

PK – Peak Detector

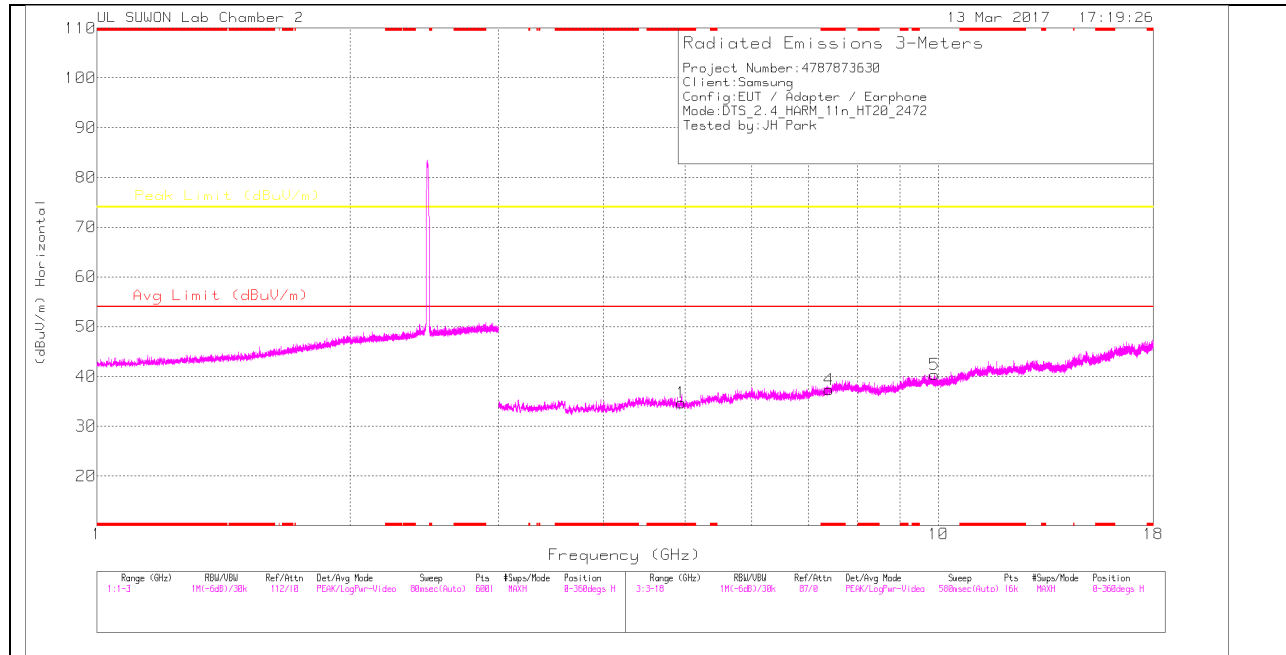
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724_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
9.868	31.75	PK2	37.1	-18	0	50.85	-	-	74	-23.15	335	246	H
9.868	33.26	PK2	37.1	-18	0	52.36	-	-	74	-21.64	4	100	V

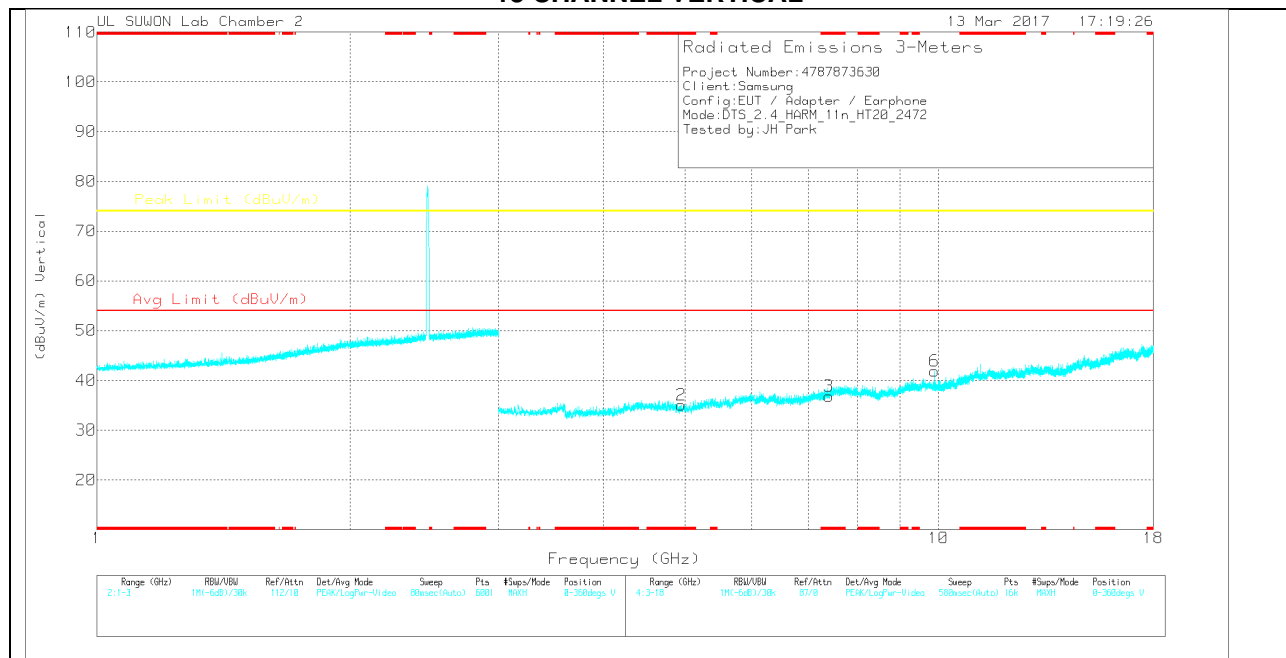
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

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	* 4.945	25.43	PK	33.9	-24.7	0	34.63	-	-	74	-39.37	0-360	150	H
4	* 7.414	22.58	PK	36	-21.2	0	37.38	-	-	74	-36.62	0-360	250	H
5	9.888	21.22	PK	37.1	-18	0	40.32	-	-	74	-33.68	0-360	250	H
2	* 4.946	25.82	PK	33.9	-24.7	0	35.02	-	-	74	-38.98	0-360	250	V
3	* 7.414	21.99	PK	36	-21.2	0	36.79	-	-	74	-37.21	0-360	250	V
6	9.888	22.81	PK	37.1	-18	0	41.91	-	-	74	-32.09	0-360	150	V

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

PK – Peak Detector

Radiated Emissions

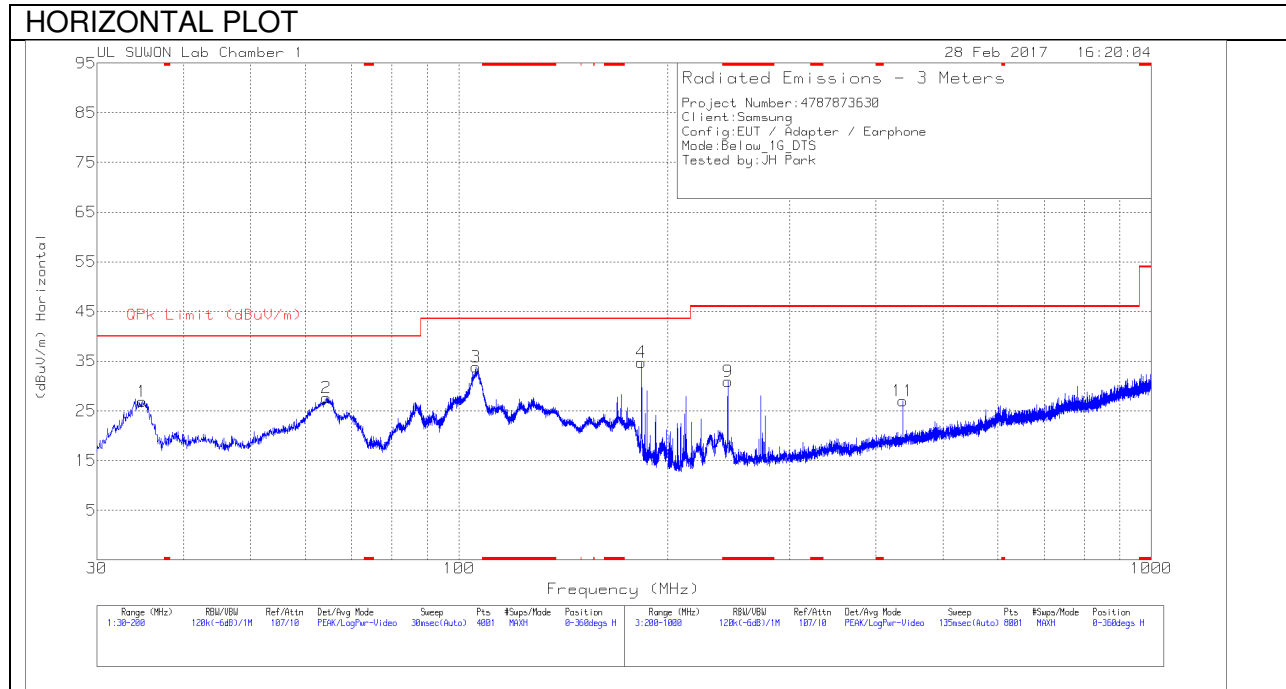
Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0016 8724_150 619]	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.887	31.72	PK2	37.1	-18	0	50.82	-	-	74	-23.18	27	276	H
9.888	33.1	PK2	37.1	-18	0	52.2	-	-	74	-21.8	9	107	V

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

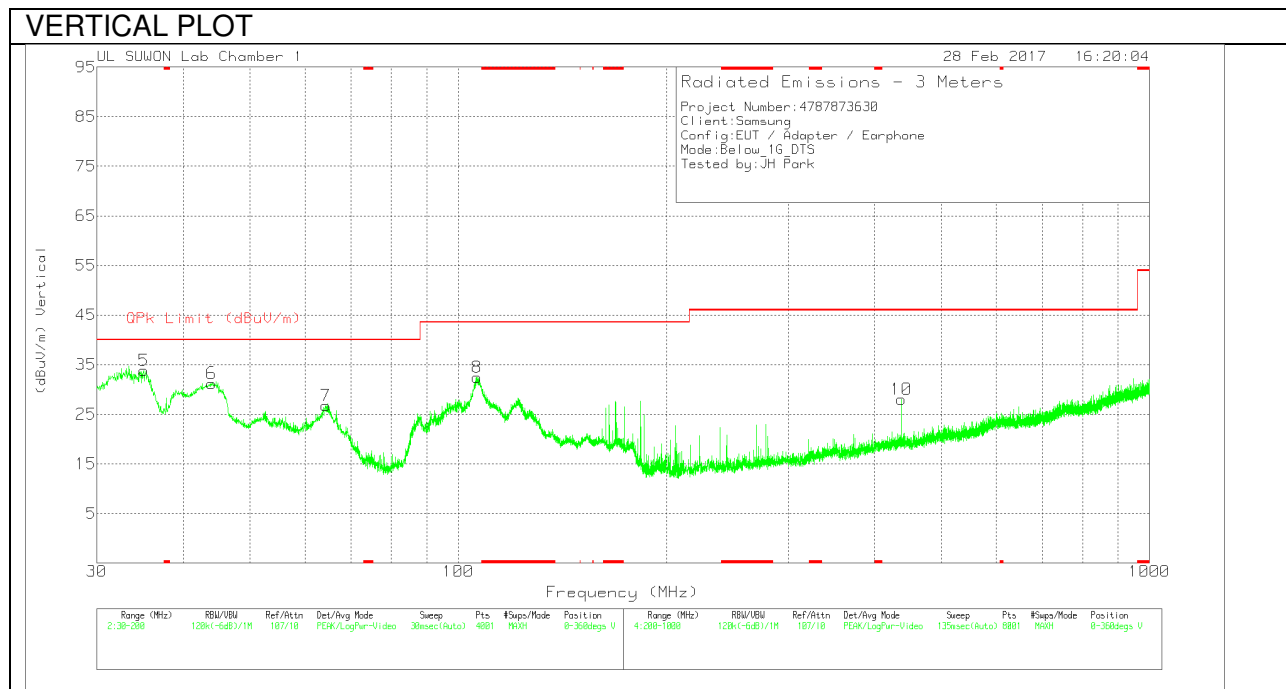
PK2 - KDB558074 Method: Maximum Peak

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_7 50(dB)	30-1000MHz(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	34.8875	44.82	Pk	10.7	-28.6	26.92	40	-13.08	0-360	400	H
2	64.34	44.19	Pk	11.4	-27.9	27.69	40	-12.31	0-360	400	H
3	105.8625	49.38	Pk	11.6	-27.2	33.78	43.52	-9.74	0-360	300	H
4	183.4675	51.68	Pk	9.7	-26.6	34.78	43.52	-8.74	0-360	200	H
5	35.0575	51.69	Pk	10.7	-28.6	33.79	40	-6.21	0-360	100	V
6	43.94	45.84	Pk	13.4	-28	31.24	40	-8.76	0-360	100	V
7	64.3825	43.21	Pk	11.4	-27.8	26.81	40	-13.19	0-360	300	V
8	106.5425	47.99	Pk	11.6	-27.2	32.39	43.52	-11.13	0-360	100	V
9	* 244.5	45.3	Pk	12.2	-26.6	30.9	46.02	-15.12	0-360	100	H
11	437.5	35.92	Pk	15.9	-24.8	27.02	46.02	-19	0-360	200	H
10	437.5	36.94	Pk	15.9	-24.8	28.04	46.02	-17.98	0-360	200	V

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

Pk - 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.

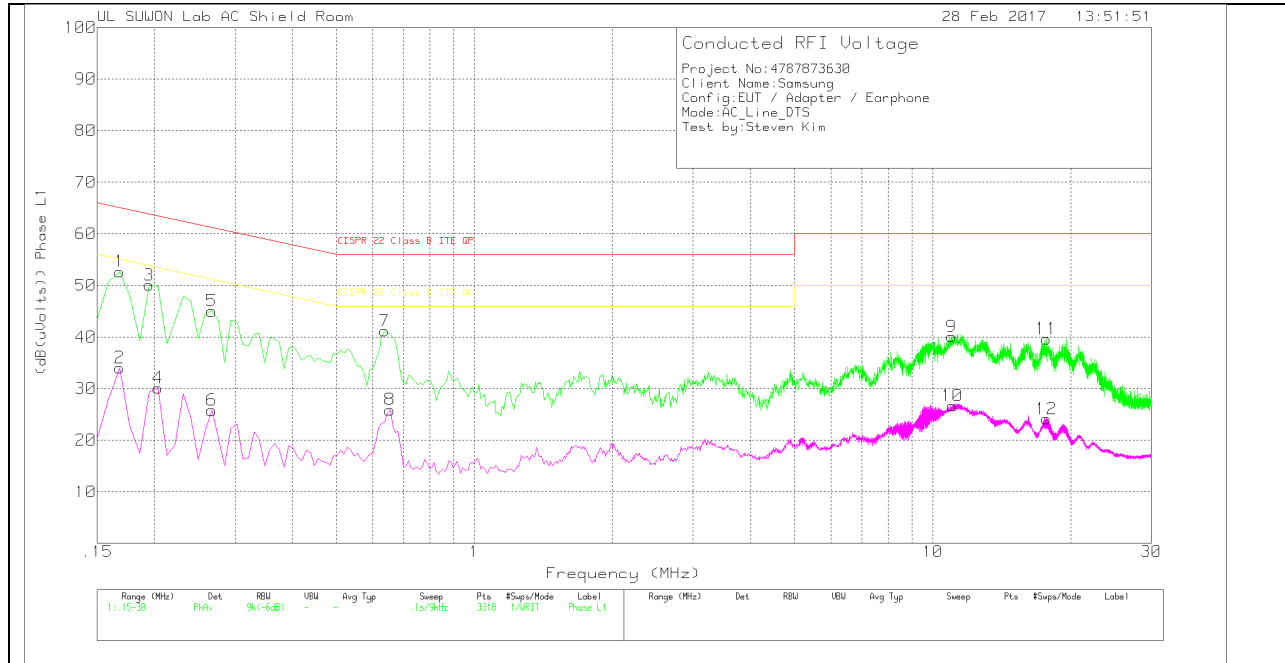
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULTS

Trace Markers

Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_w ith ex- cord_L1	CABLELOS S(dB)	Corrected Reading (dB(uVolts)	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
1	.168	42.58	Pk	10	.1	52.68	65.06	-12.38	-	-
2	.168	23.95	Av	10	.1	34.05	-	-	55.06	-21.01
3	.195	39.97	Pk	9.9	.2	50.07	63.82	-13.75	-	-
4	.204	20.03	Av	9.9	.2	30.13	-	-	53.45	-23.32
5	.267	35.13	Pk	9.7	.2	45.03	61.21	-16.18	-	-
6	.267	15.9	Av	9.7	.2	25.8	-	-	51.21	-25.41
7	.636	31.09	Pk	9.9	.2	41.19	56	-14.81	-	-
8	.654	15.81	Av	9.9	.2	25.91	-	-	46	-20.09
9	10.995	29.76	Pk	10	.3	40.06	60	-19.94	-	-
10	11.031	16.37	Av	10	.3	26.67	-	-	50	-23.33
11	17.709	28.94	Pk	10.3	.4	39.64	60	-20.36	-	-
12	17.691	13.45	Av	10.3	.4	24.15	-	-	50	-25.85

Pk - Peak detector

Av - Average detection

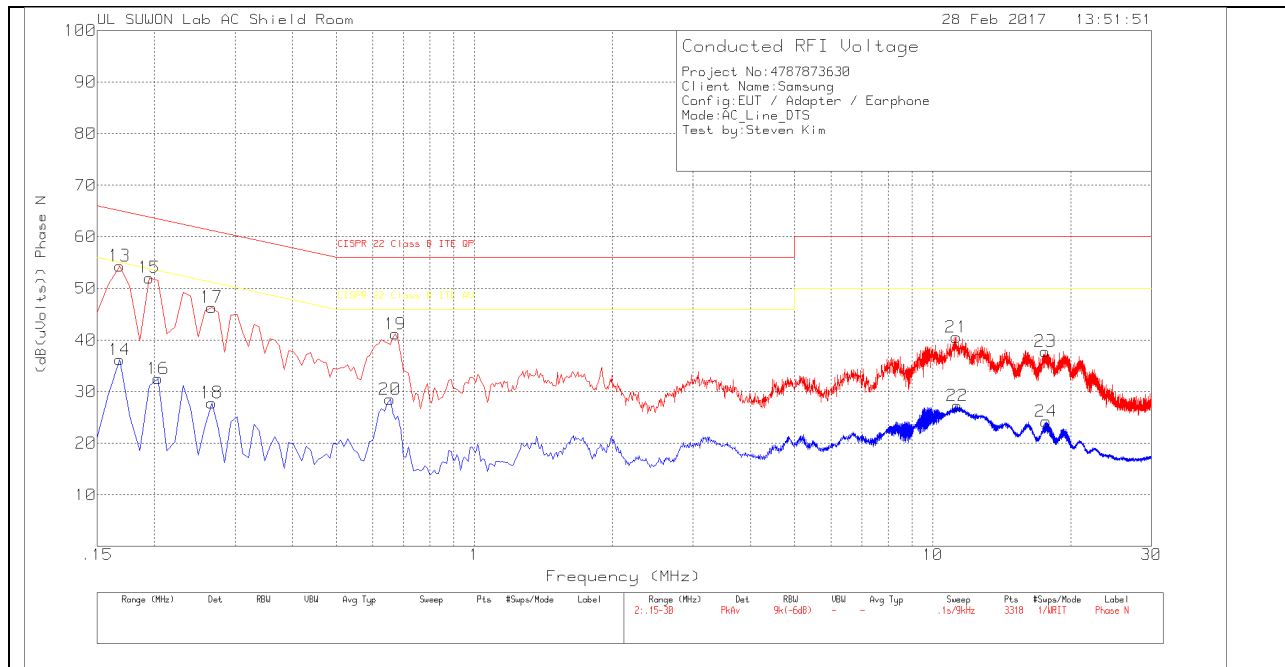
Quasi-Peak Emissions

Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101837_wit h ex-cord_L1	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
.1644	44.02	Qp	9.9	.1	54.02	65.24	-11.22	-	-

Qp – Quasi-Peak detector

LINE 2 PLOT



LINE 2 RESULTS

Trace Markers

Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_w ith ex- cord_N	CABLELOS S(dB)	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
13	.168	44.26	Pk	10	.1	54.36	65.06	-10.7	-	-
14	.168	26.07	Av	10	.1	36.17	-	-	55.06	-18.89
15	.195	41.97	Pk	9.9	.2	52.07	63.82	-11.75	-	-
16	.204	22.42	Av	9.9	.2	32.52	-	-	53.45	-20.93
17	.267	36.43	Pk	9.7	.2	46.33	61.21	-14.88	-	-
18	.267	17.94	Av	9.7	.2	27.84	-	-	51.21	-23.37
19	.672	31.06	Pk	9.9	.2	41.16	56	-14.84	-	-
20	.654	18.42	Av	9.9	.2	28.52	-	-	46	-17.48
21	11.256	30.04	Pk	10.2	.3	40.54	60	-19.46	-	-
22	11.319	16.8	Av	10.2	.3	27.3	-	-	50	-22.7
23	17.61	26.89	Pk	10.5	.4	37.79	60	-22.21	-	-
24	17.682	13.31	Av	10.5	.4	24.21	-	-	50	-25.79

Pk - Peak detector

Av - Average detection

Quasi-Peak Emissions

Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101837_wit h ex-cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
.1644	44.07	Qp	9.9	.1	54.07	65.24	-11.17	-	-

Qp – Quasi-Peak detector