



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCMA Phone + Bluetooth, WLAN 2.4GHz b/g/n, and ANT+

MODEL NUMBER: SM-G7202/D

FCC ID: A3LSMG7202

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Prepared for

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: GSM/WCDMA Phone + Bluetooth, WLAN 2.4GHz b/g/n, and ANT+.

MODEL: SM-G7202/D

SERIAL NUMBER: 2022560 (Radiated); 2022561 (Conducted)

DATE TESTED: DECEMBER 30-JANUARY 2, 2014

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

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.4-2009.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☒ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☒ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☐ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 26000 MHz	4.94 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 Phone + Bluetooth, WLAN 2.4GHz b/g/n and ANT+.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	17	50.12
2412 - 2462	802.11g	14.1	25.70
2412 - 2462	802.11n HT20	13.2	20.89

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -4.5 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

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

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SAMSUNG	GH44-02666A	N/A	N/A
Earphone	SAMSUNG	N/A	N/A	N/A

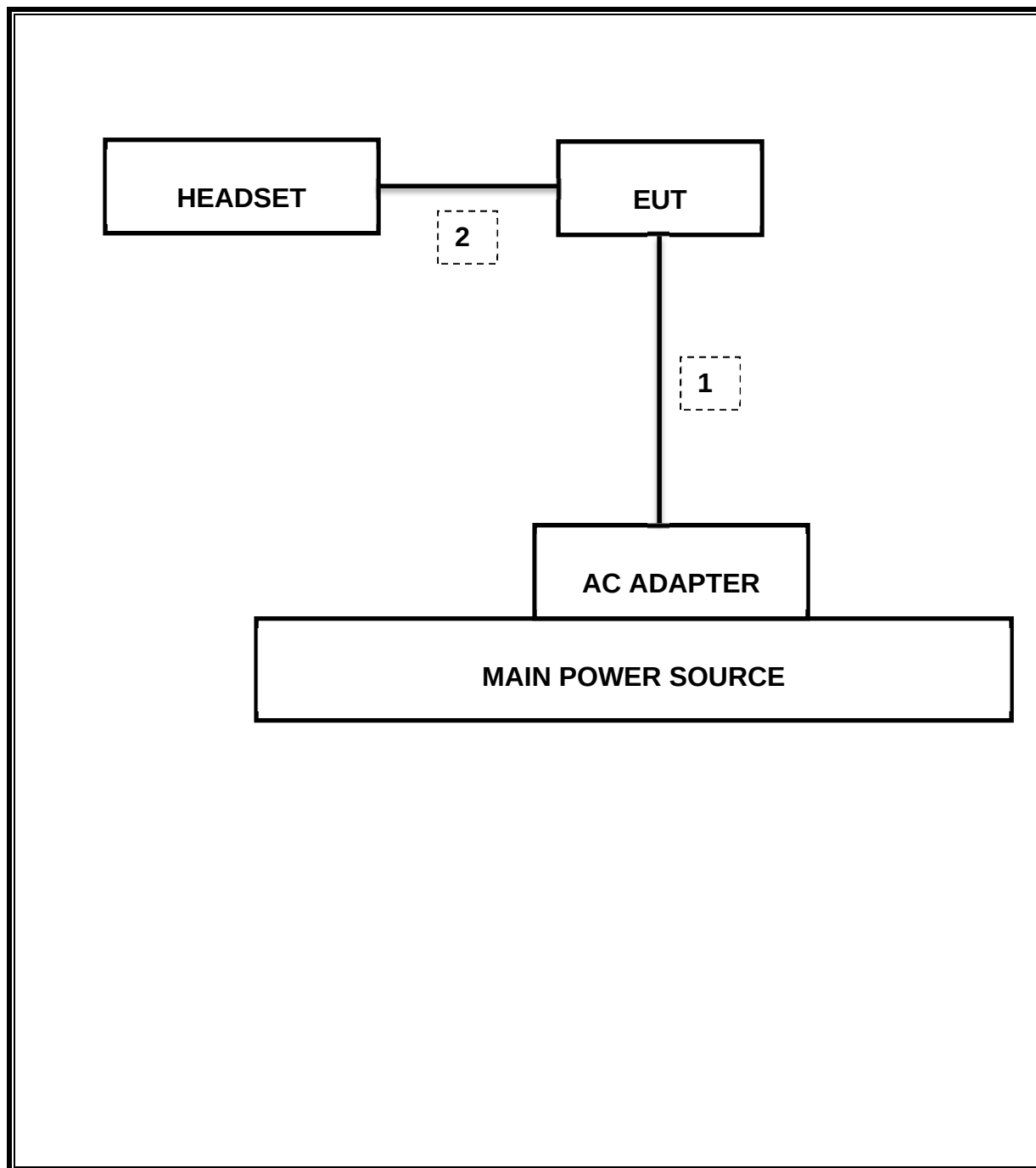
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

TEST SETUP

The EUT is a stand-alone unit during the tests. EUT was set in the Hidden menu mode to enable WLAN.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer, 9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/15
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/15
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Meas Guidance v03r02:Measurement Procedure AVGPM-G is used for power and AVGPS-3 is used for power spectral density.

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.

8. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-210 A8.2(a)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	7.09MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-26.44dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	17.0dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-12.88dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	32.57dBuV(AV)
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	51.76dBuV/m

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 v03r02: 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	7.11	0.5
Mid	2437	7.57	0.5
High	2462	7.09	0.5
Worst		7.09	

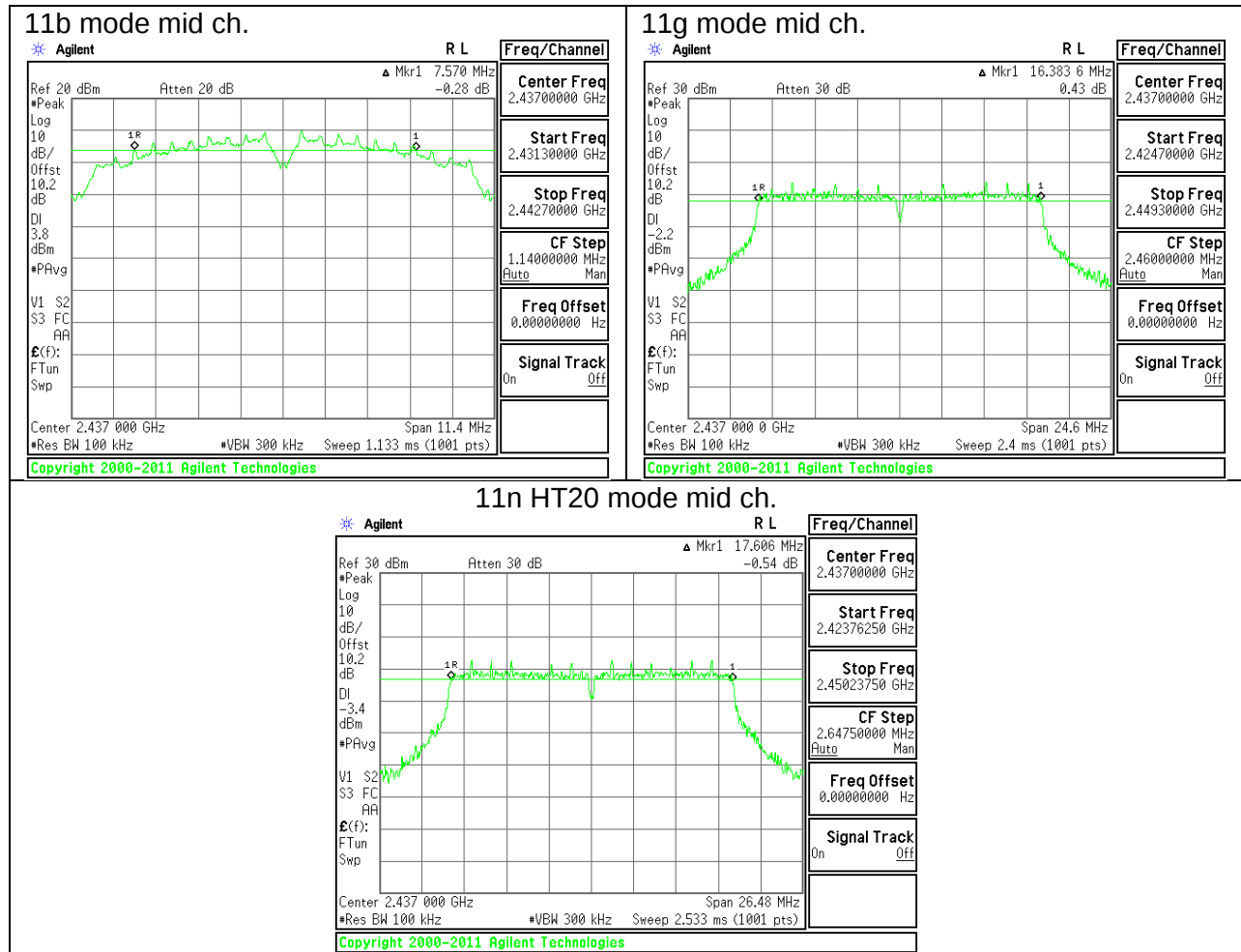
9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.36	0.5
Mid	2437	16.38	0.5
High	2462	16.41	0.5
Worst		16.36	

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	17.61	0.5
Mid	2437	17.61	0.5
High	2462	17.61	0.5
Worst		17.61	

9.1.4. 6 dB BANDWIDTH MID CH PLOTS



9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

9.2.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	12.79
Mid	2437	12.46
High	2462	12.46
Worst		12.79

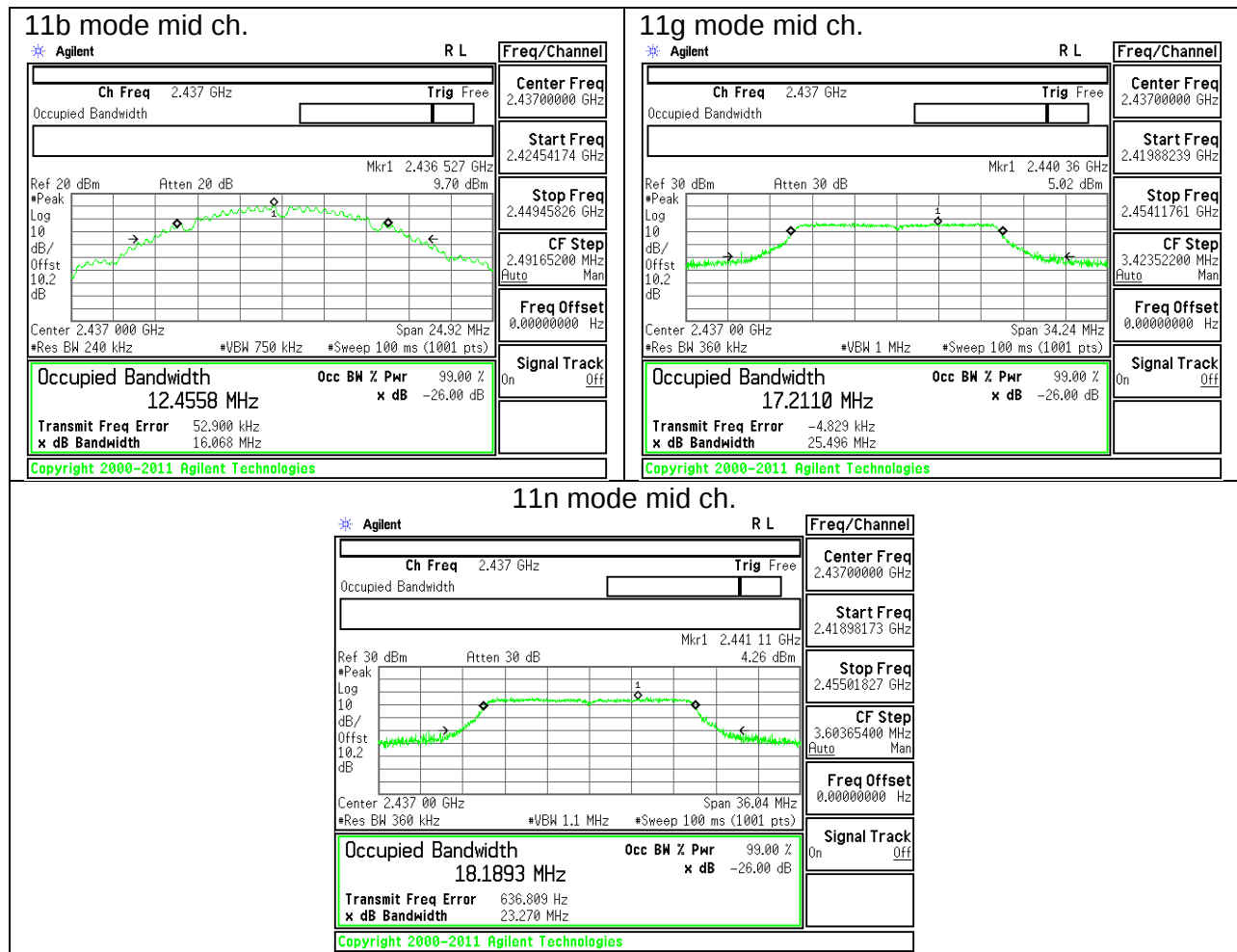
9.2.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.27
Mid	2437	17.21
High	2462	17.21
Worst		17.27

9.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	18.17
Mid	2437	18.19
High	2462	18.17
Worst		18.19

9.2.4. 99% BANDWIDTH MID CH PLOTS



9.3. 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.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.2 dB (including 10 dB pad and 0.2 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

9.3.1. 802.11b MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-4.50	30.00	30	36	30.00
Mid	2437	-4.50	30.00	30	36	30.00
High	2462	-4.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	16.90	16.90	30.00	-13.10
Mid	2437	16.60	16.60	30.00	-13.40
High	2462	17.00	17.00	30.00	-13.00
Worst			17.00		

9.3.2. 802.11g MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-4.50	30.00	30	36	30.00
Mid	2437	-4.50	30.00	30	36	30.00
High	2462	-4.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	13.80	13.80	30.00	-16.20
Mid	2437	13.80	13.80	30.00	-16.20
High	2462	14.10	14.10	30.00	-15.90
Worst			14.10		

9.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-4.50	30.00	30	36	30.00
Mid	2437	-4.50	30.00	30	36	30.00
High	2462	-4.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	12.80	12.80	30.00	-17.20
Mid	2437	12.80	12.80	30.00	-17.20
High	2462	13.20	13.20	30.00	-16.80
Worst			13.20		

9.4. PSD

LIMITS

FCC §15.247

IC RSS-210 A8.2

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

RESULTS

9.4.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-13.12	8.0	-21.1
Mid	2437	-13.46	8.0	-21.5
High	2462	-12.88	8.0	-20.9

9.4.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

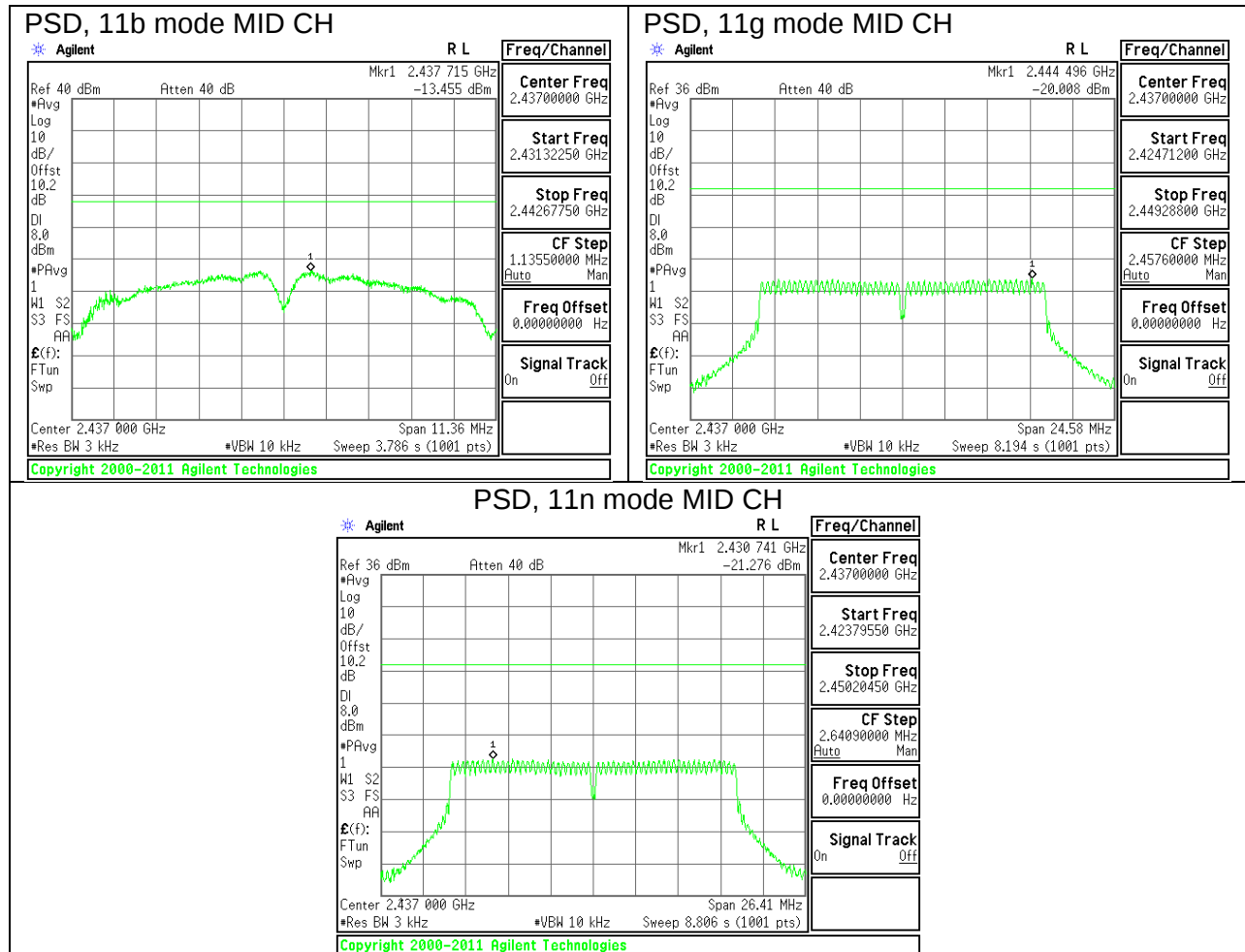
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-19.68	8.0	-27.7
Mid	2437	-20.01	8.0	-28.0
High	2462	-19.72	8.0	-27.7

9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-21.19	8.0	-29.2
Mid	2437	-21.28	8.0	-29.3
High	2462	-20.88	8.0	-28.9

9.4.4. PSD Chain 0 MID CH PLOTS



9.5. 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.

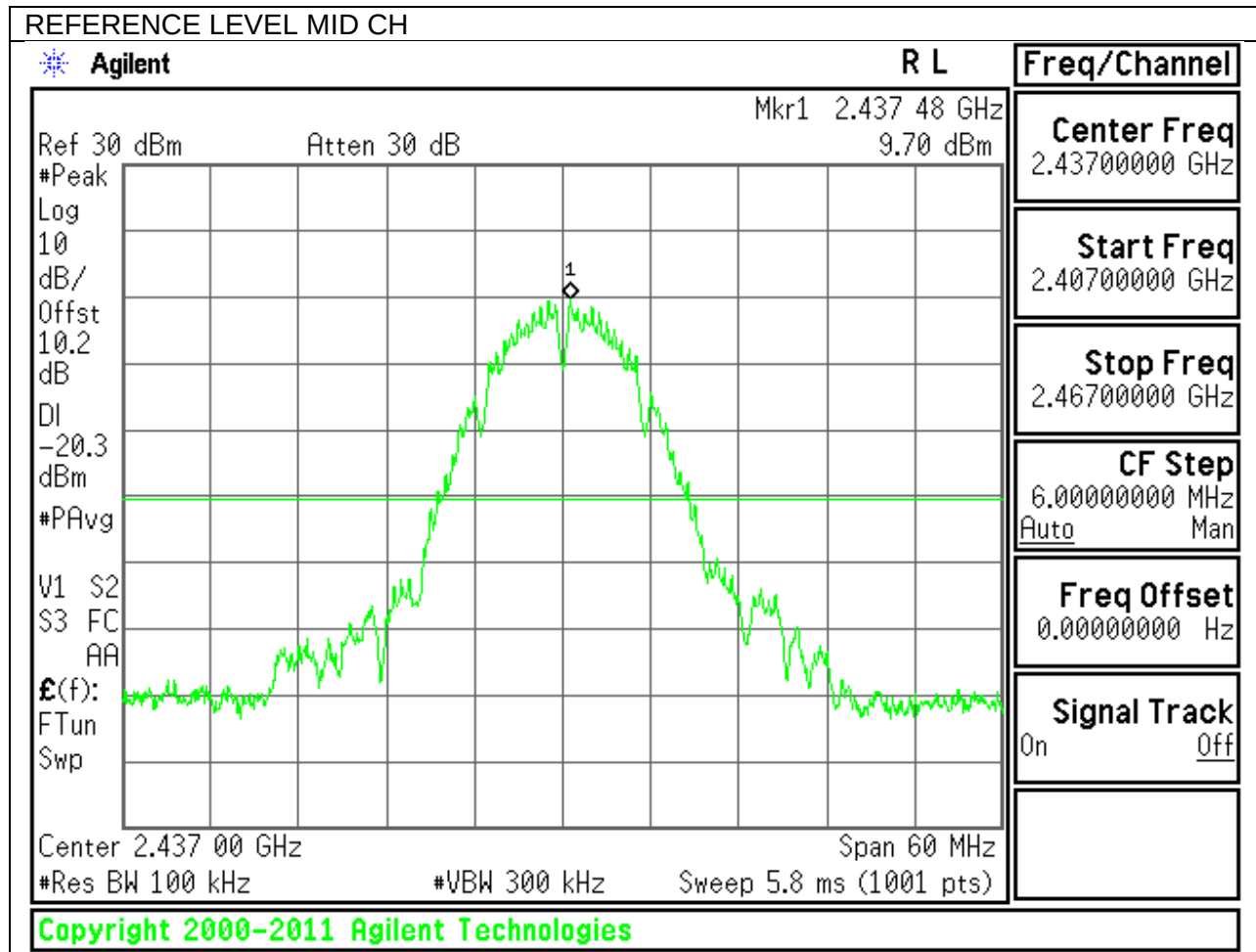
TEST PROCEDURE

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.

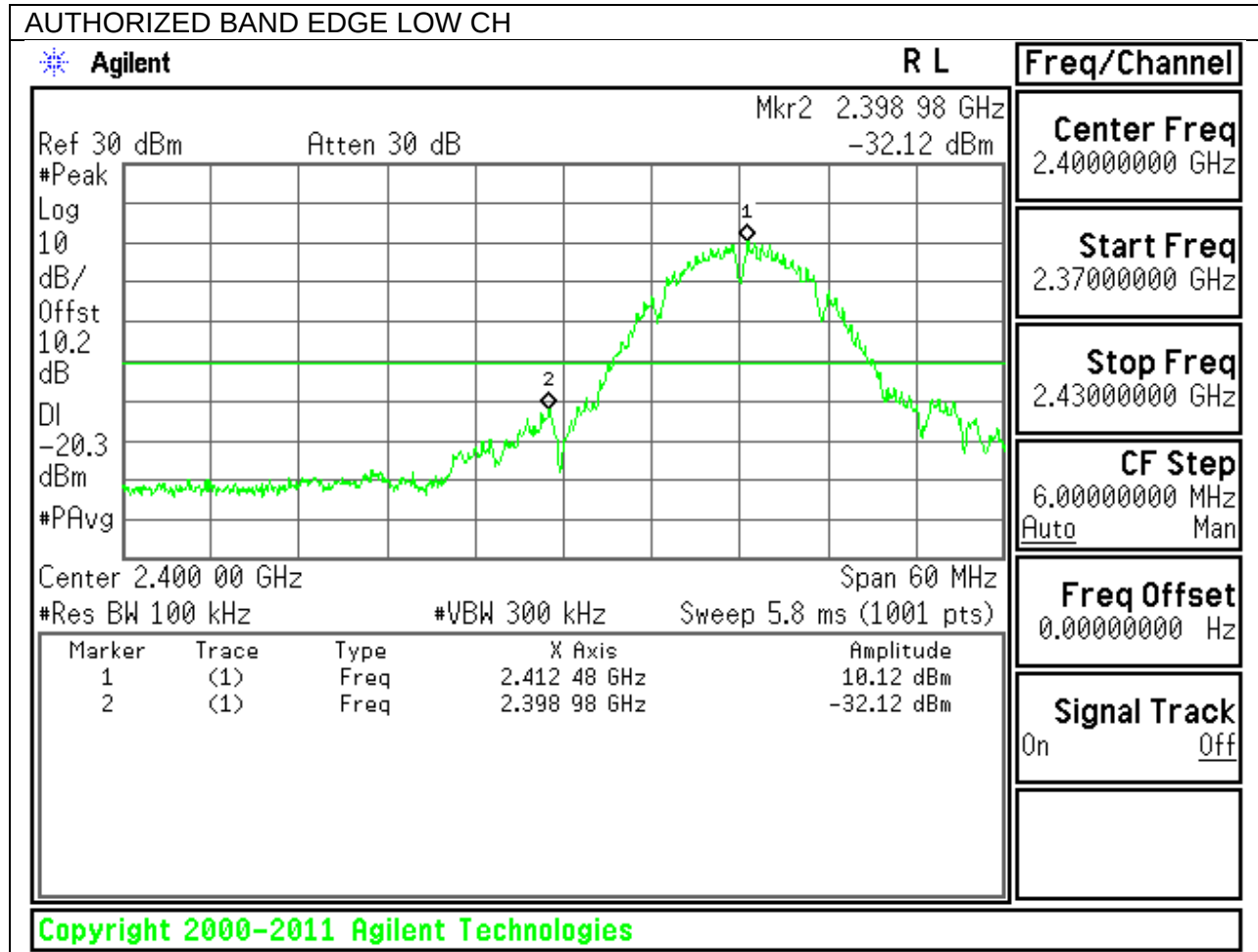
RESULTS

9.5.1. 802.11b MODE IN THE 2.4 GHz BAND

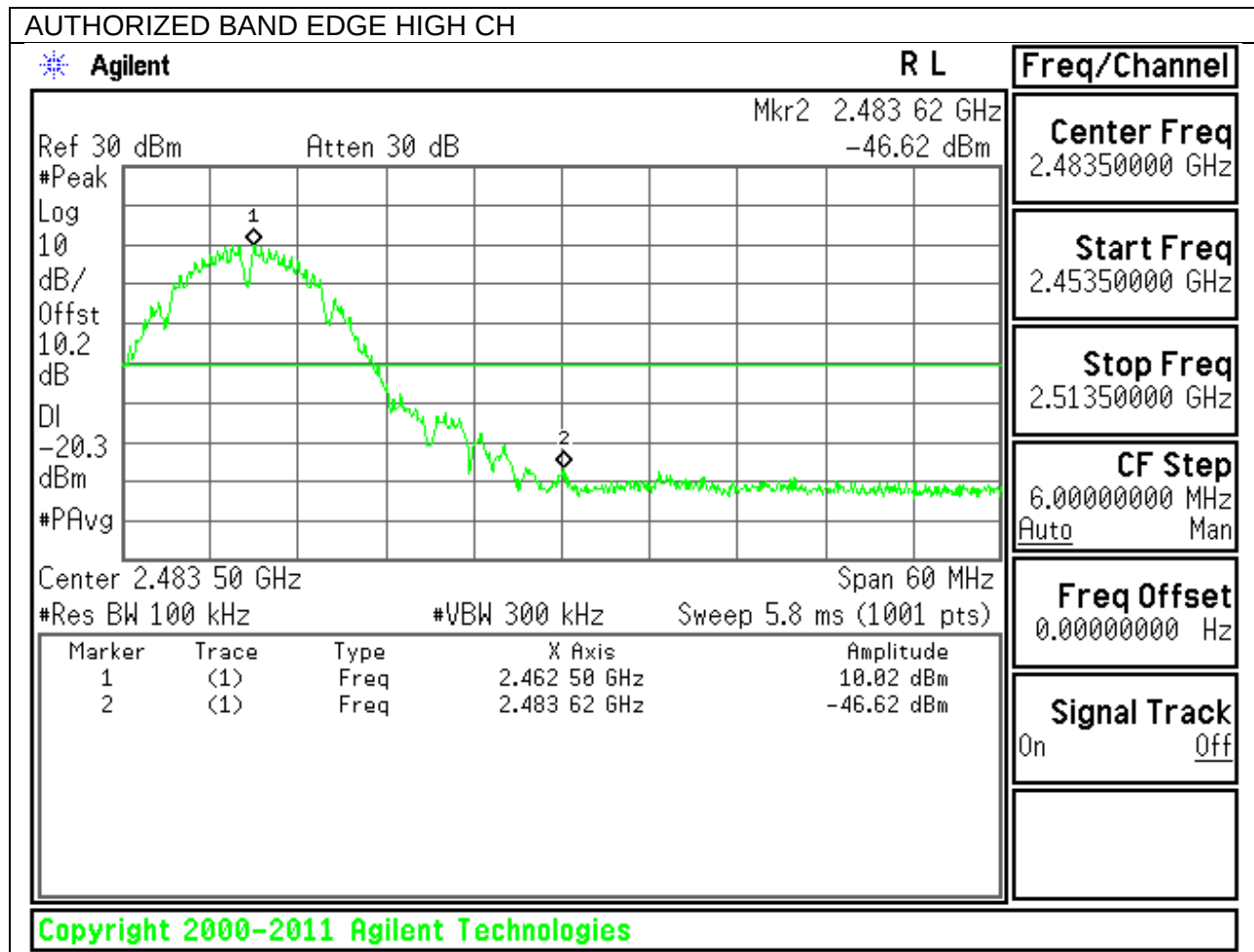
IN-BAND REFERENCE LEVEL



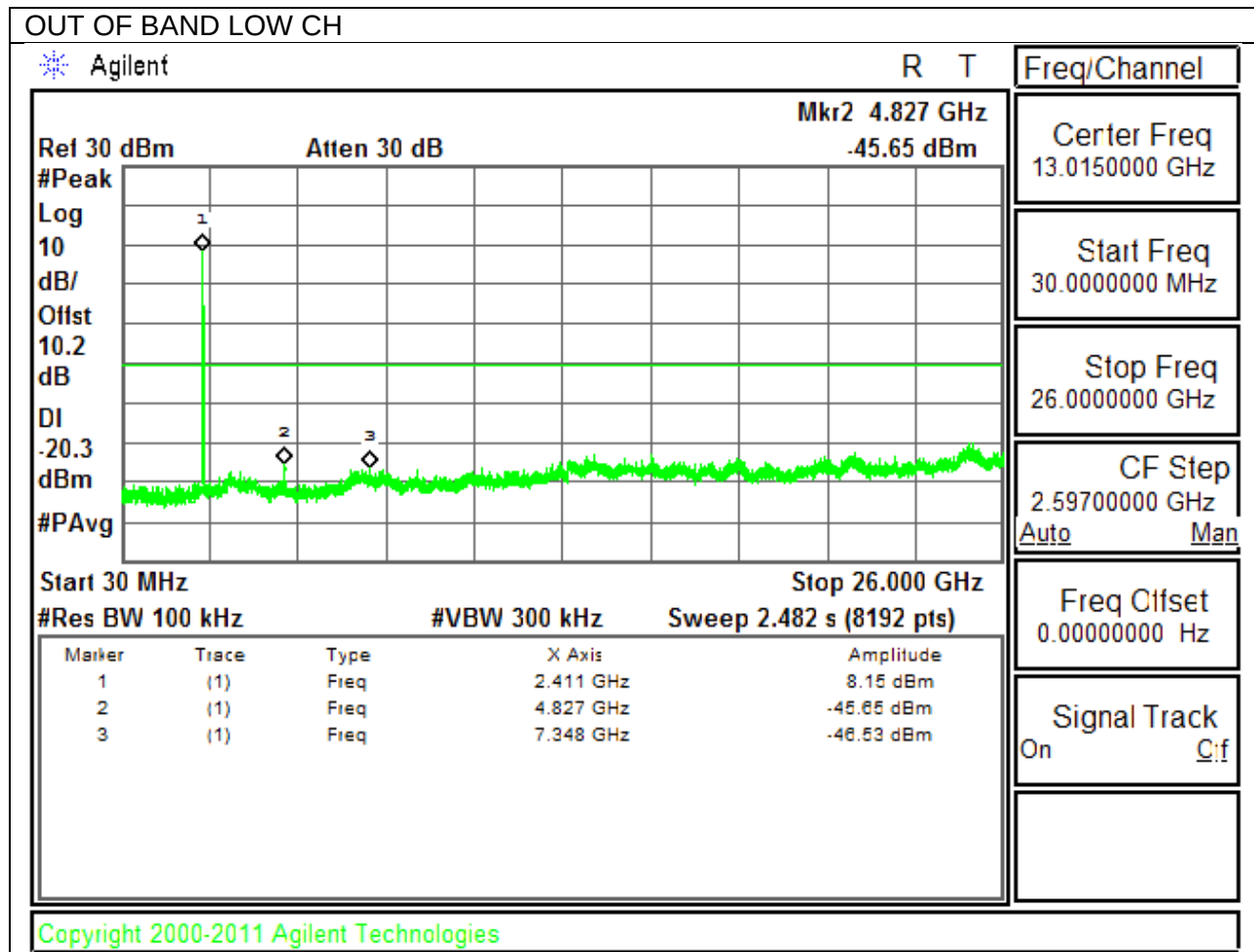
LOW CHANNEL BANDEDGE

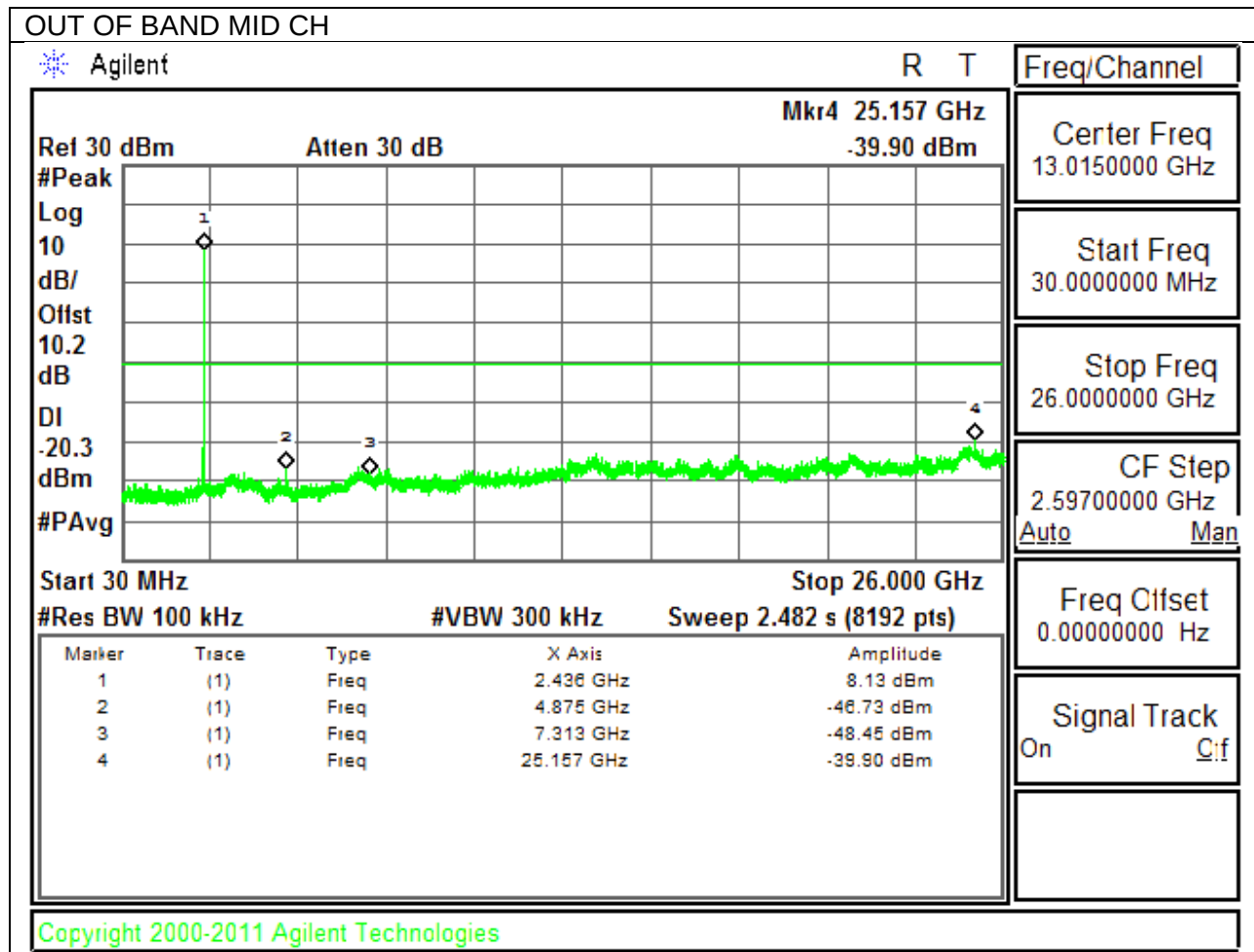


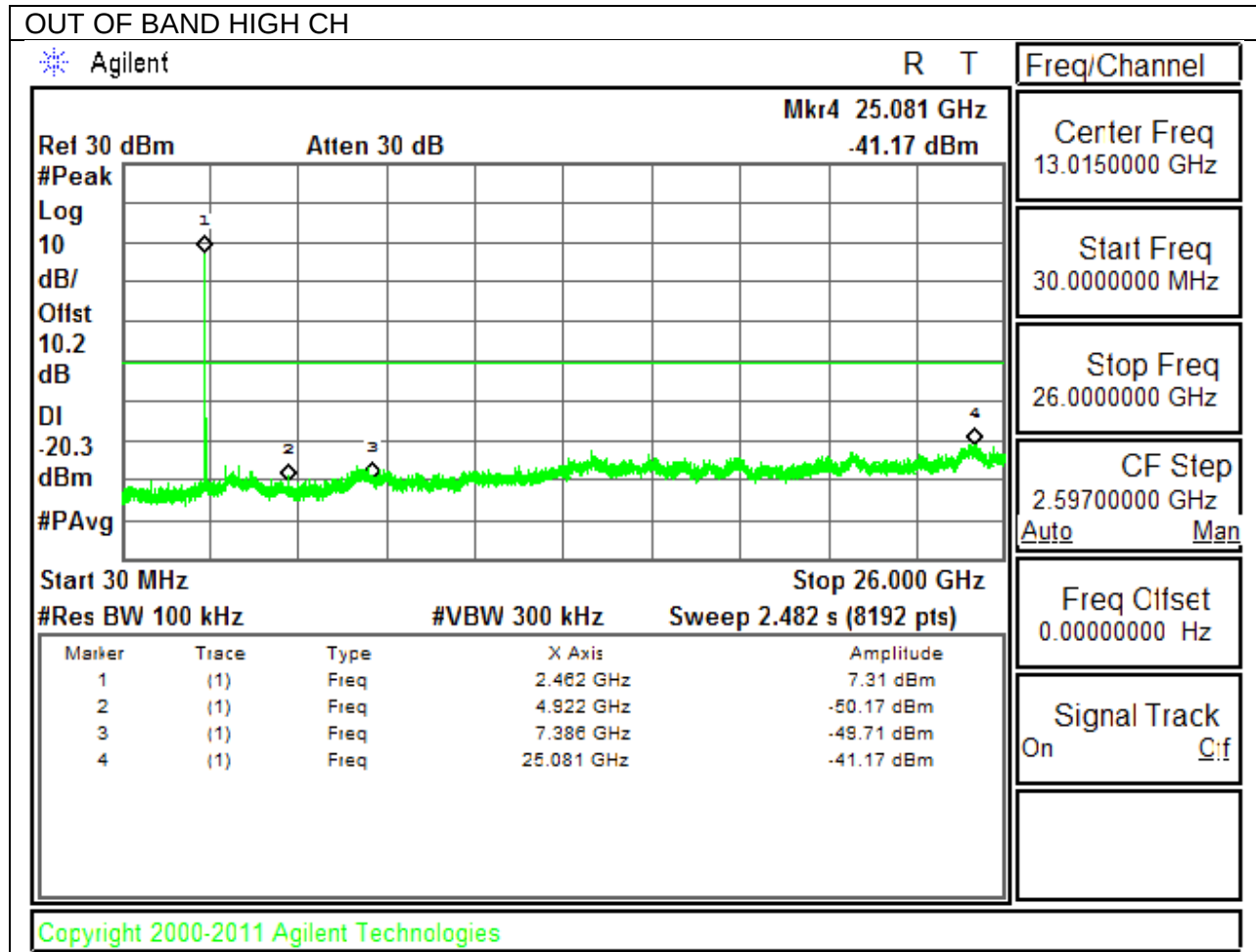
HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

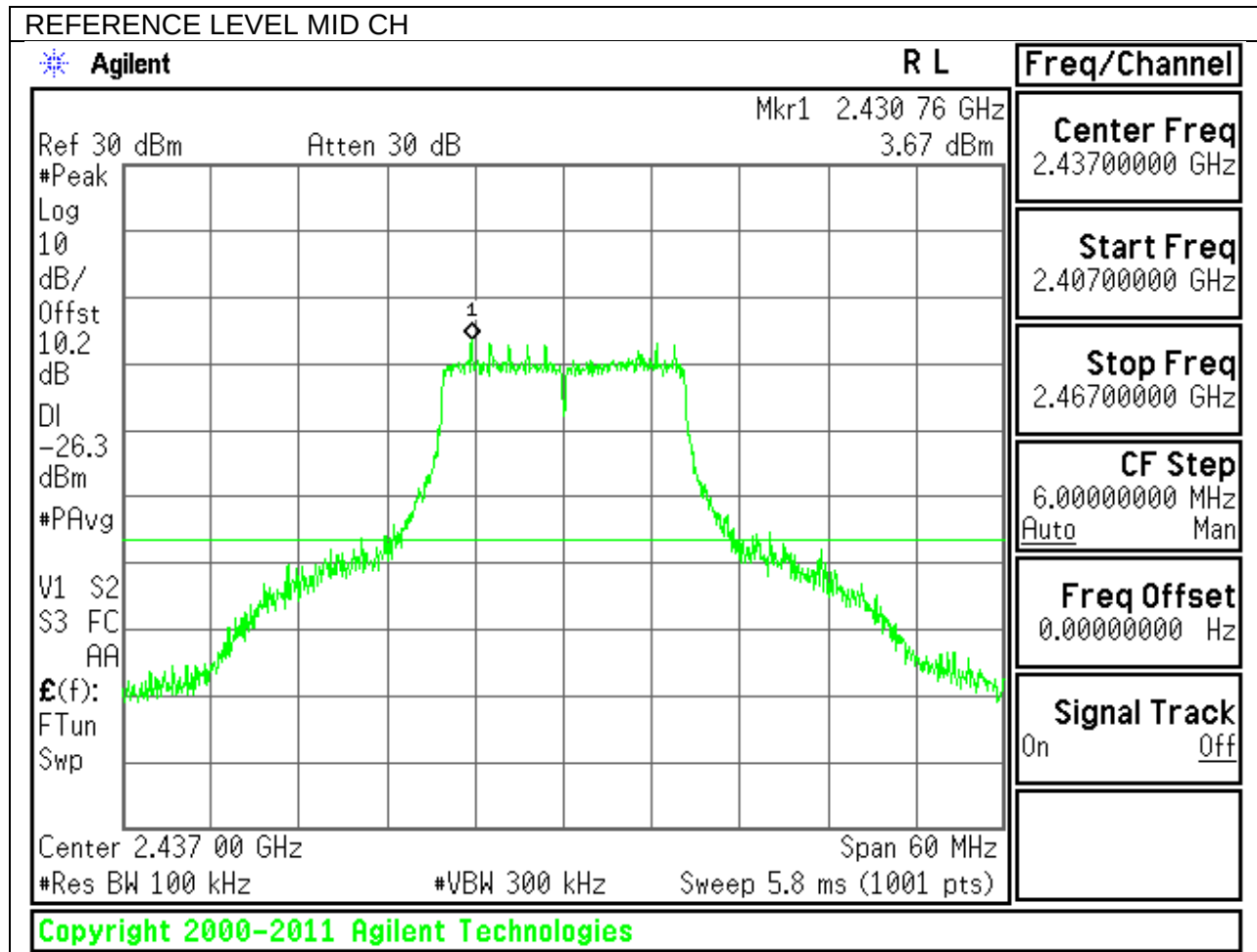




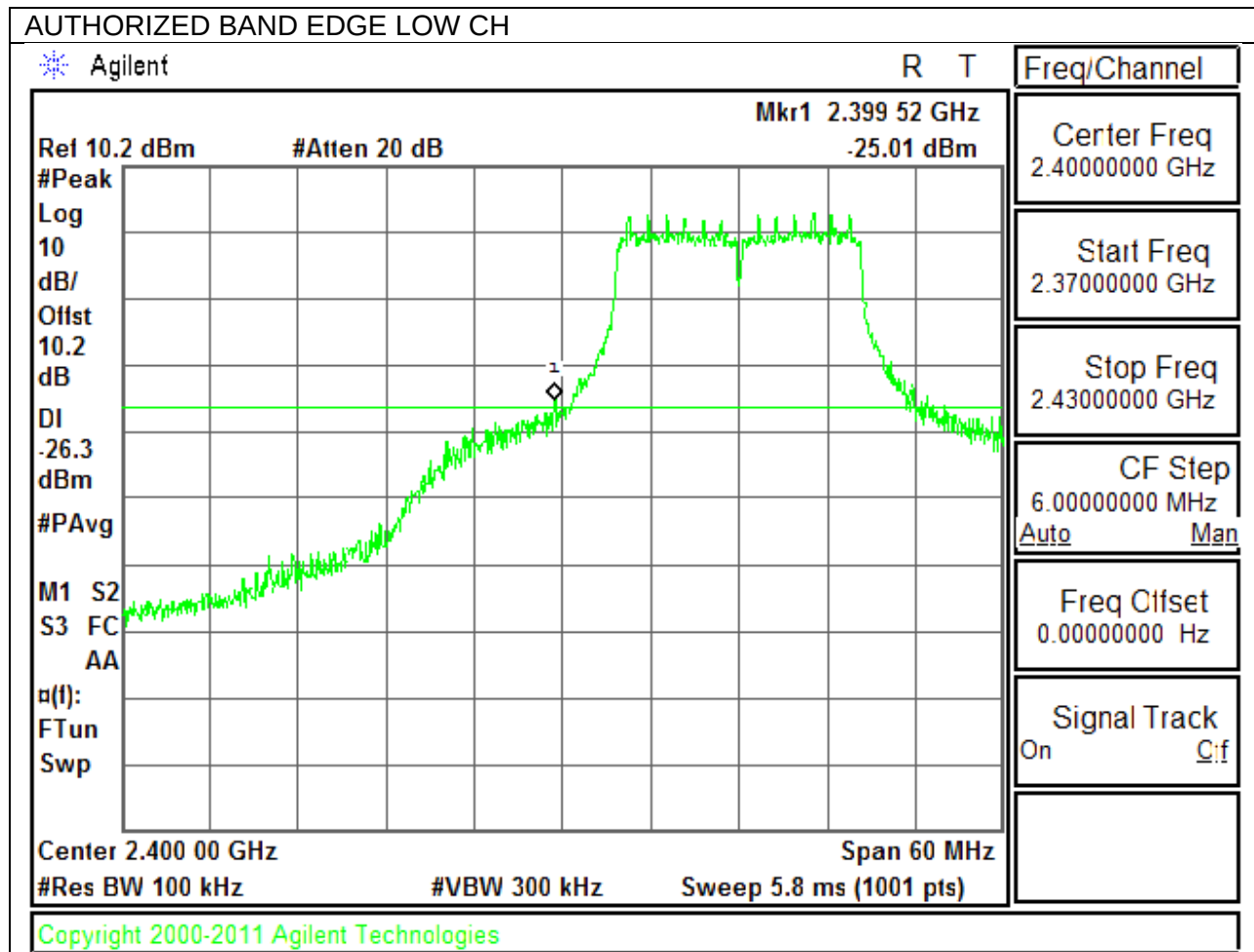


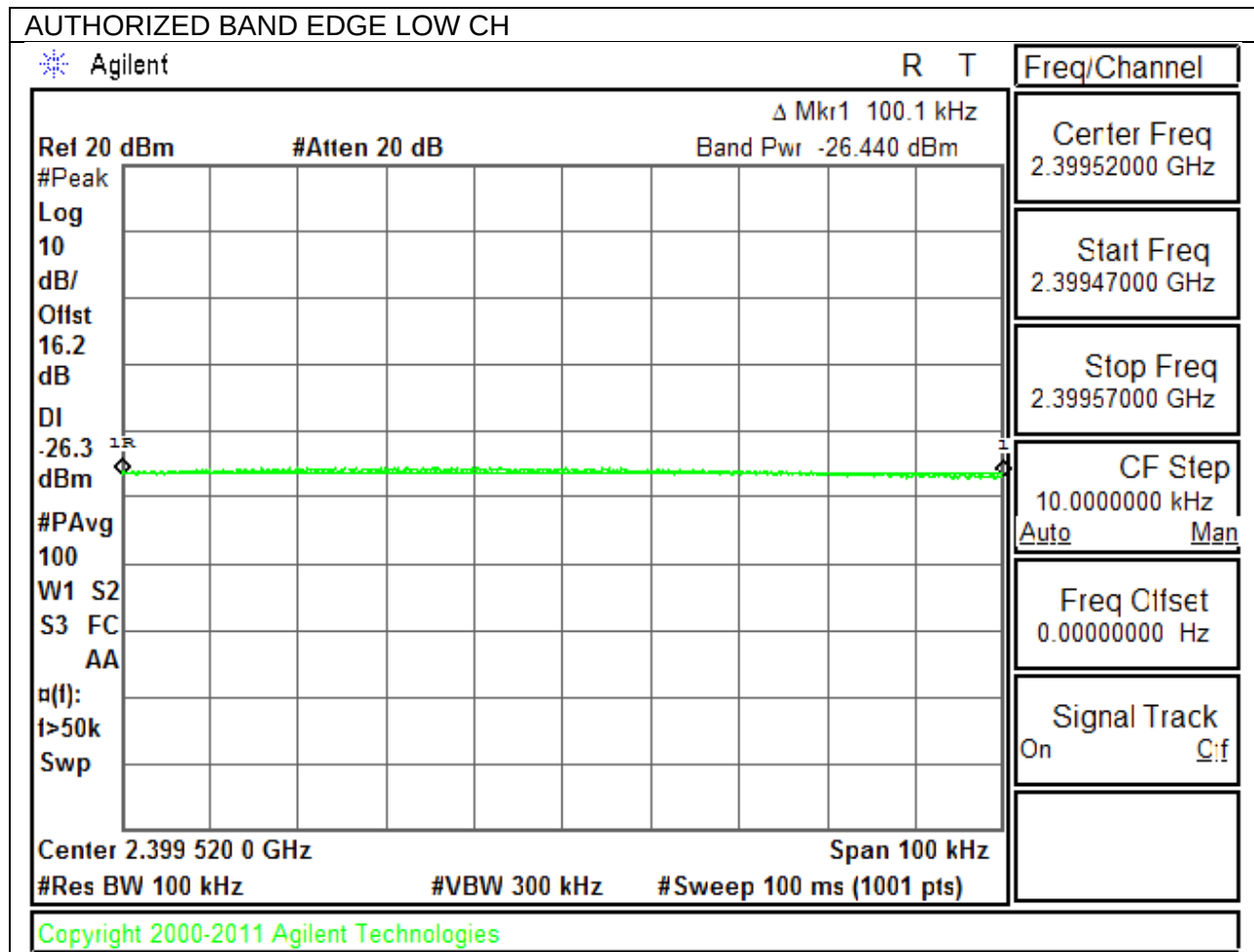
9.5.2. 802.11g MODE IN THE 2.4 GHz BAND

IN-BAND REFERENCE LEVEL

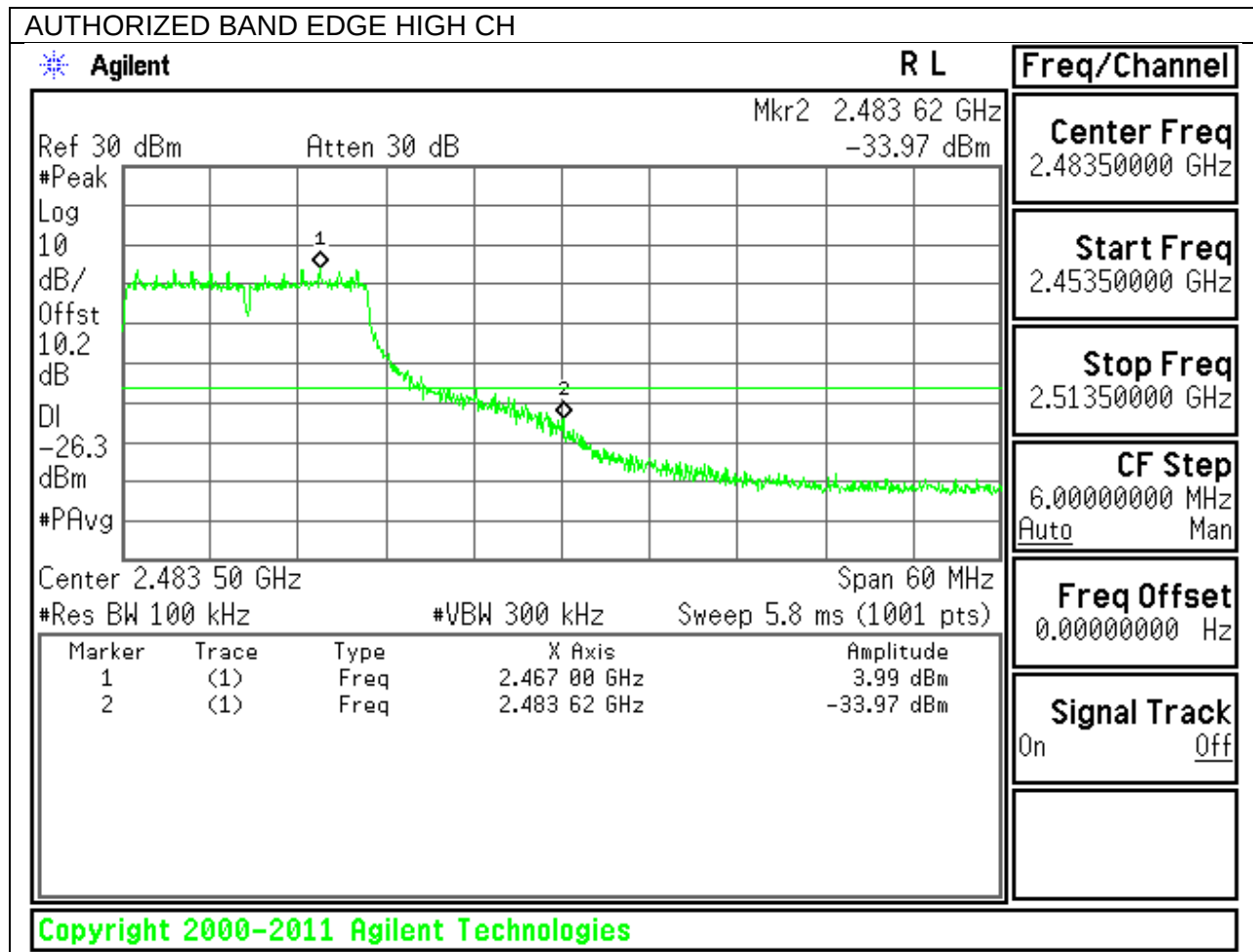


LOW CHANNEL BANDEDGE

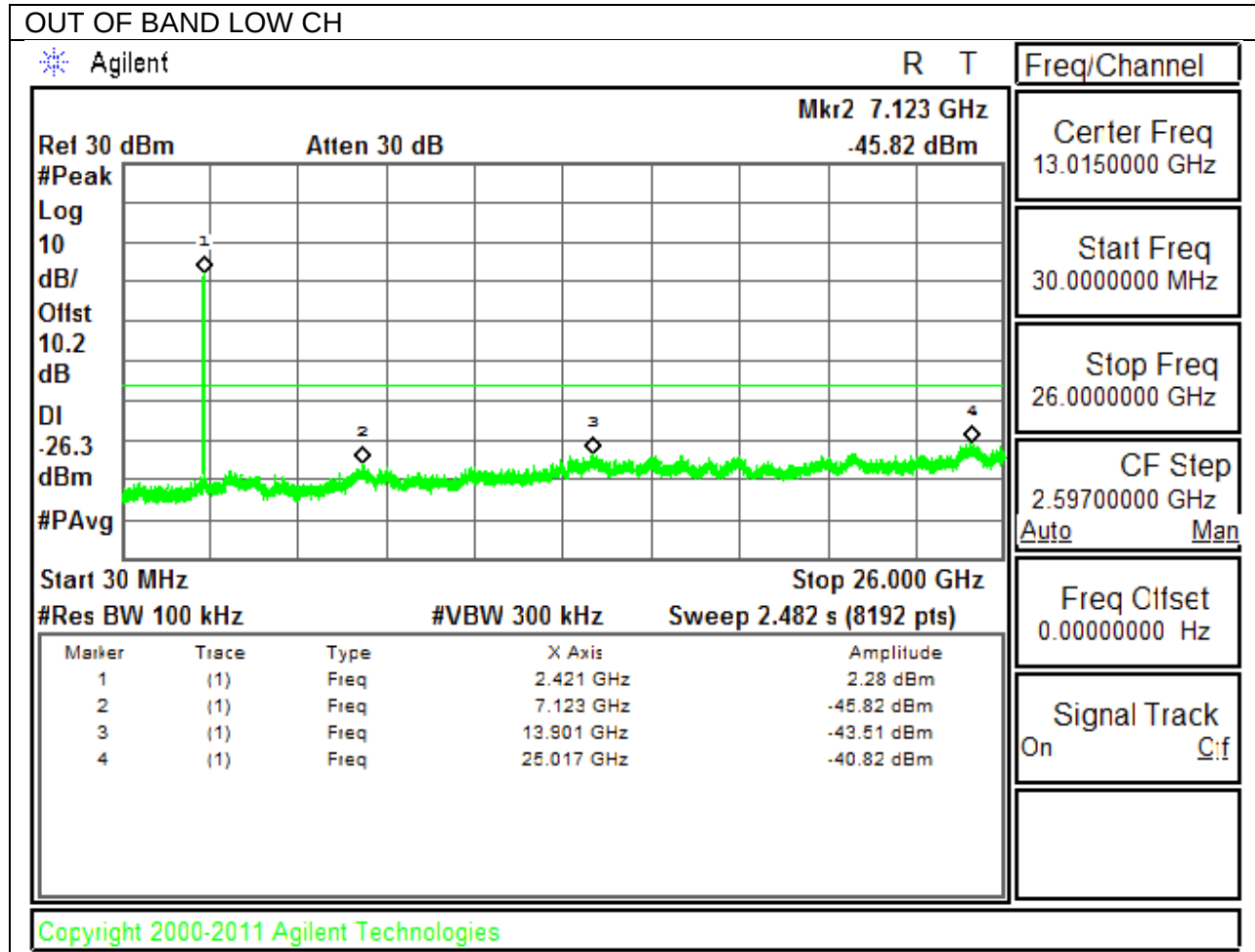


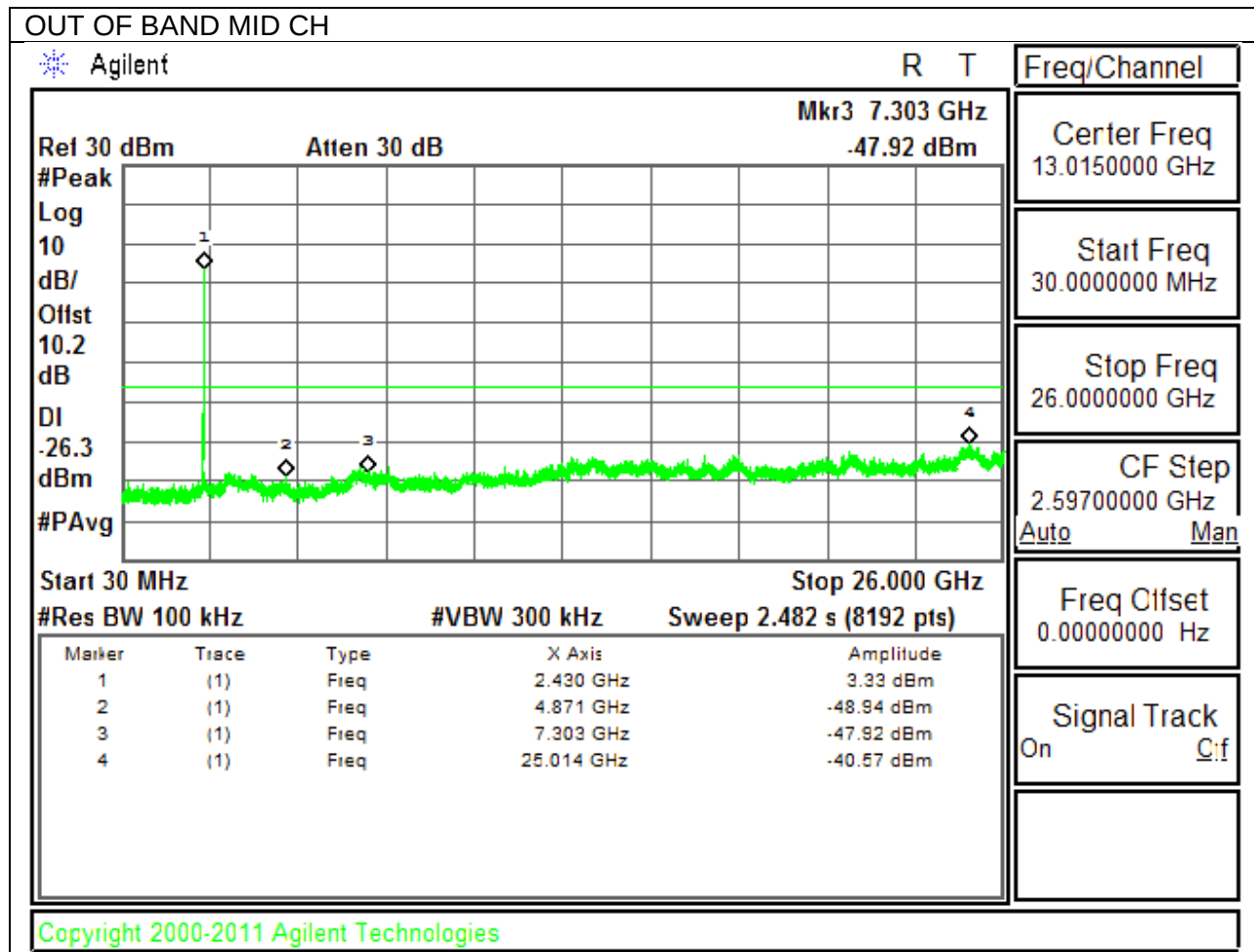


HIGH CHANNEL BANDEDGE

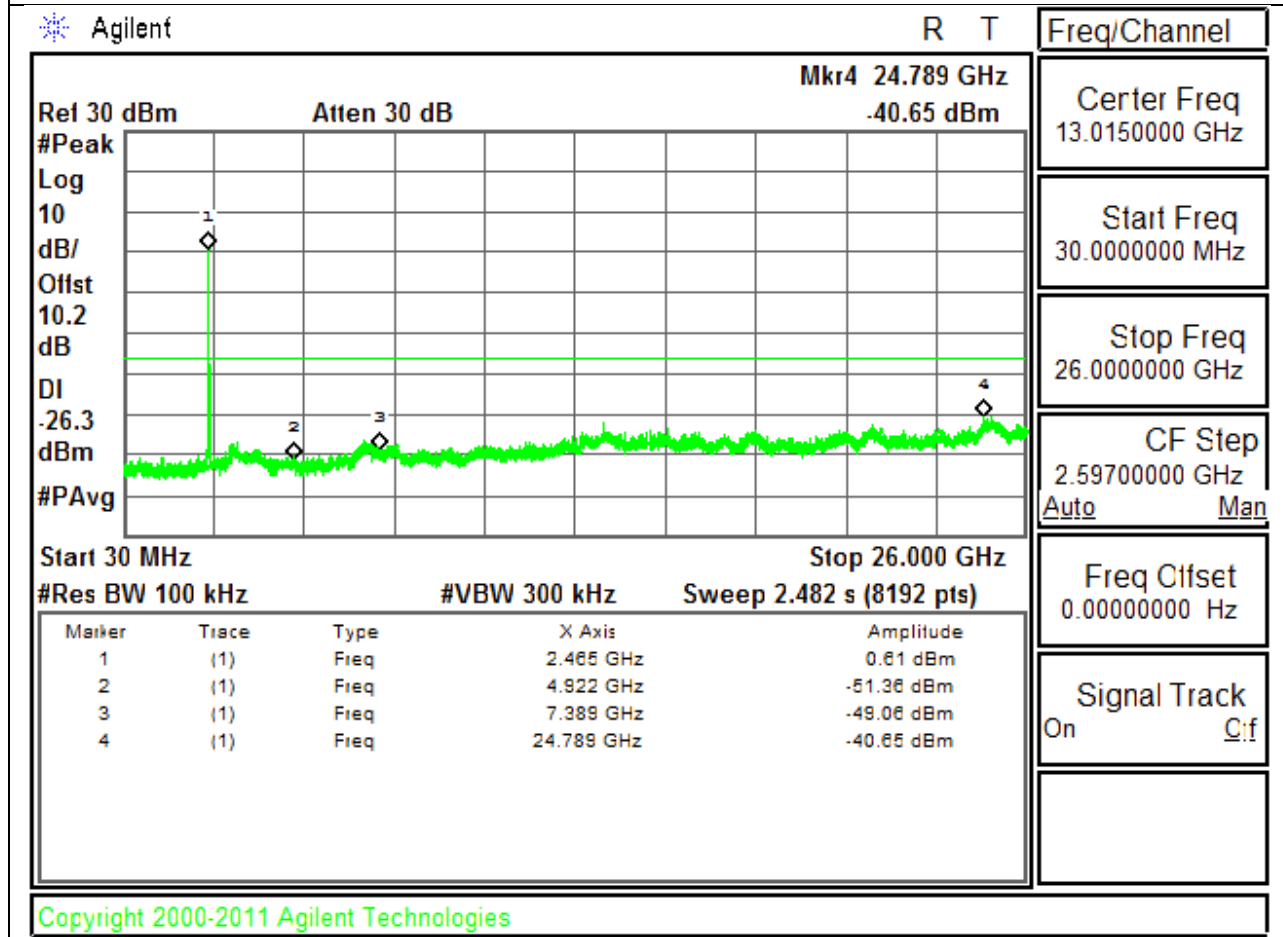


OUT-OF-BAND EMISSIONS



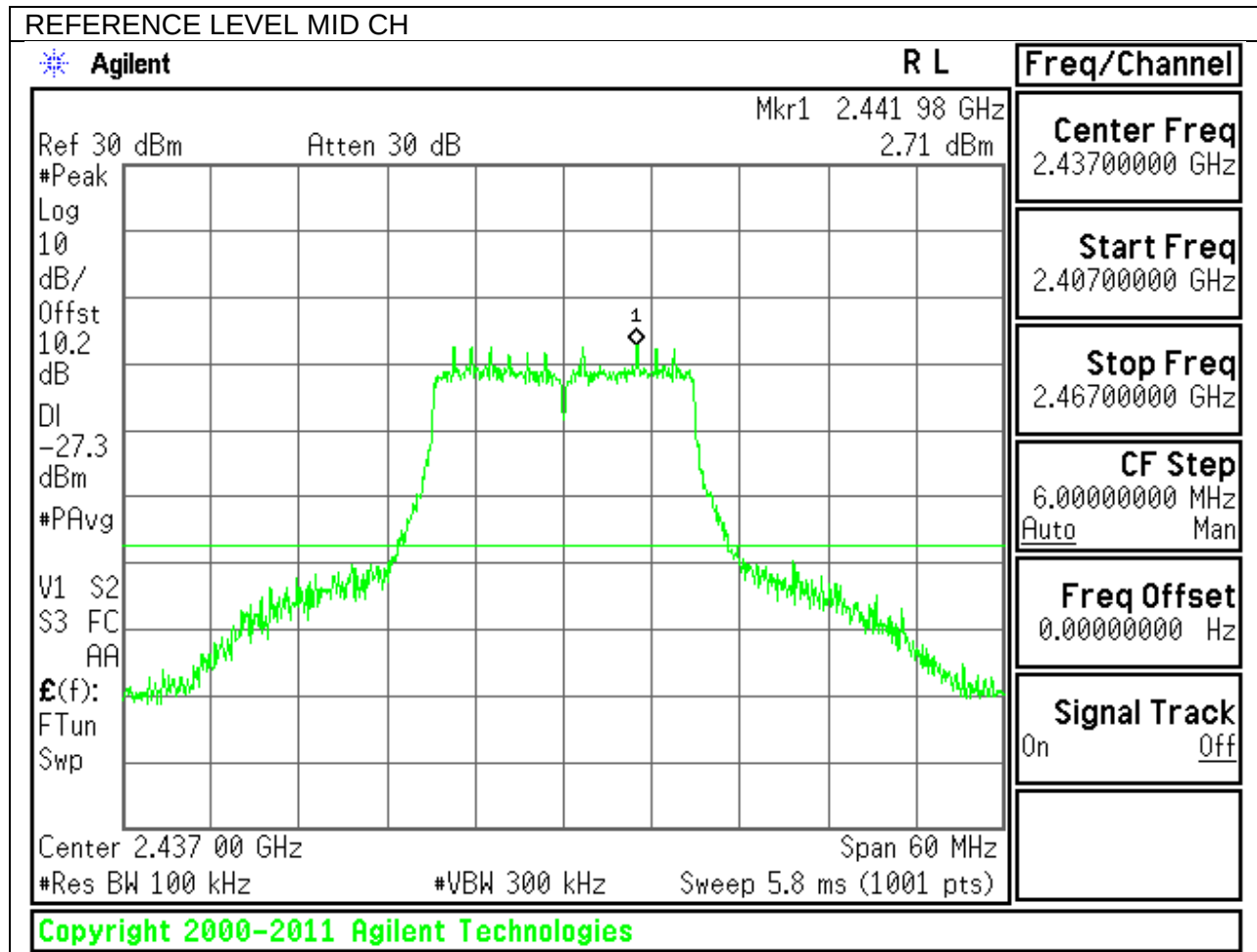


OUT OF BAND HIGH CH

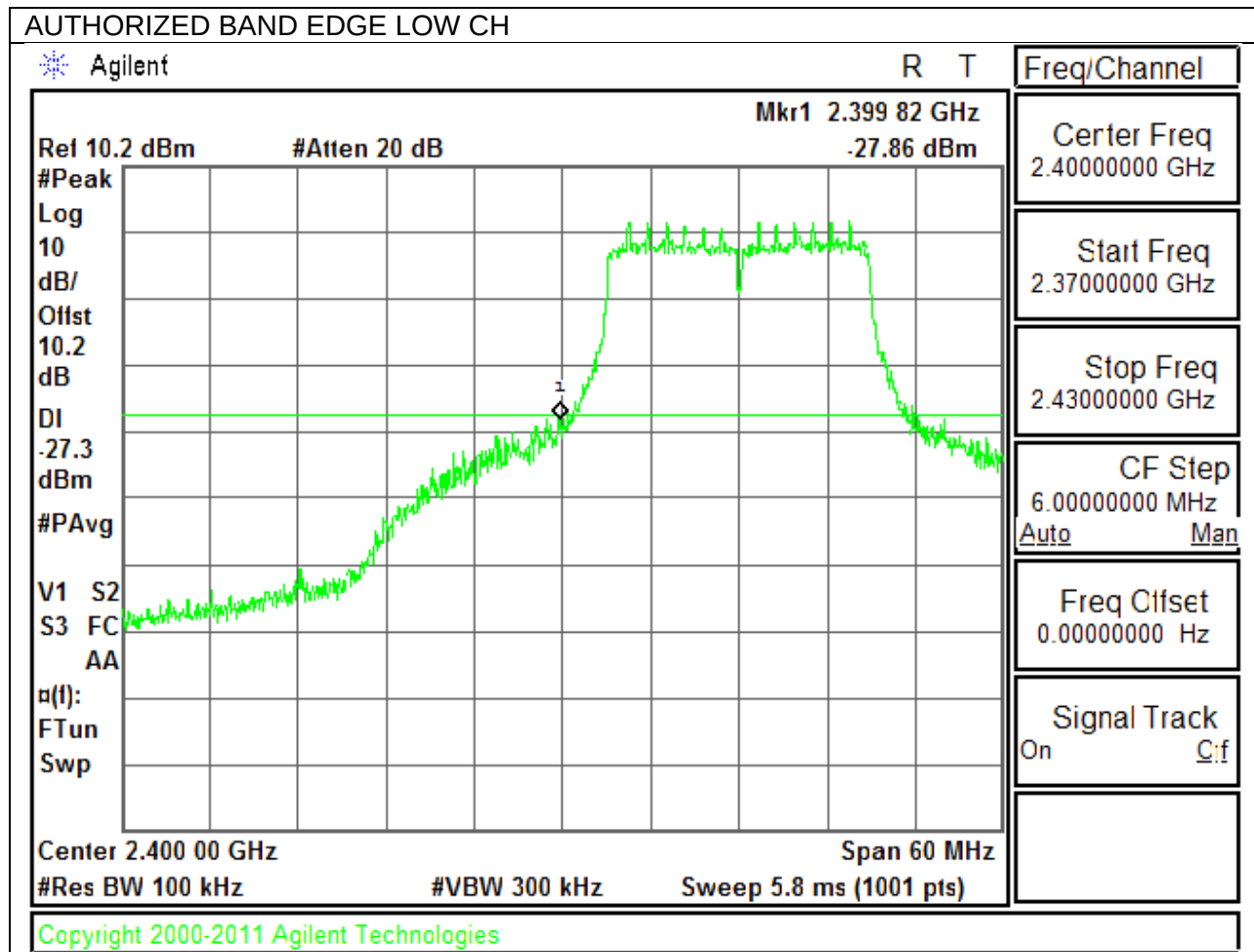


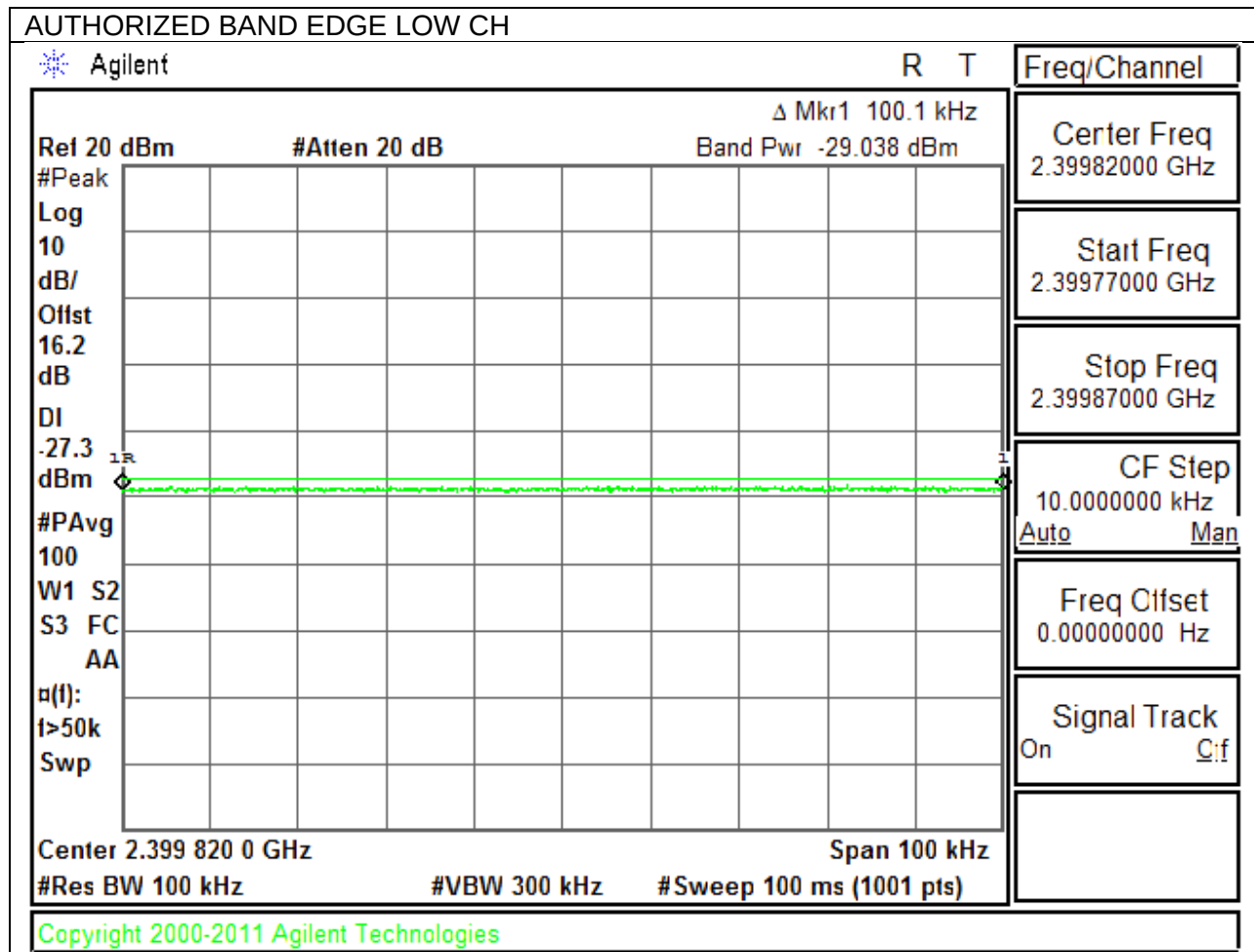
9.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

IN-BAND REFERENCE LEVEL



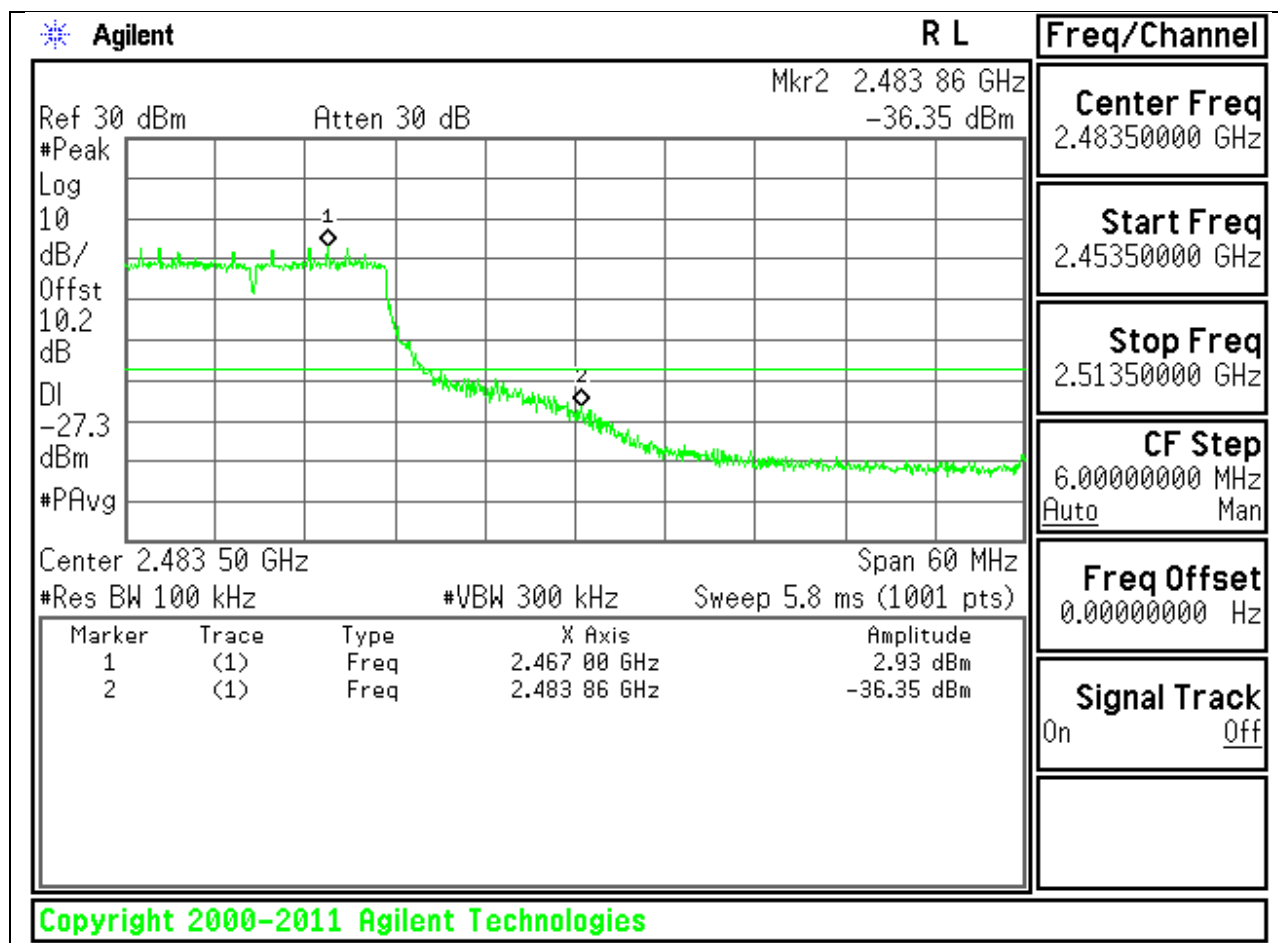
LOW CHANNEL BANDEDGE



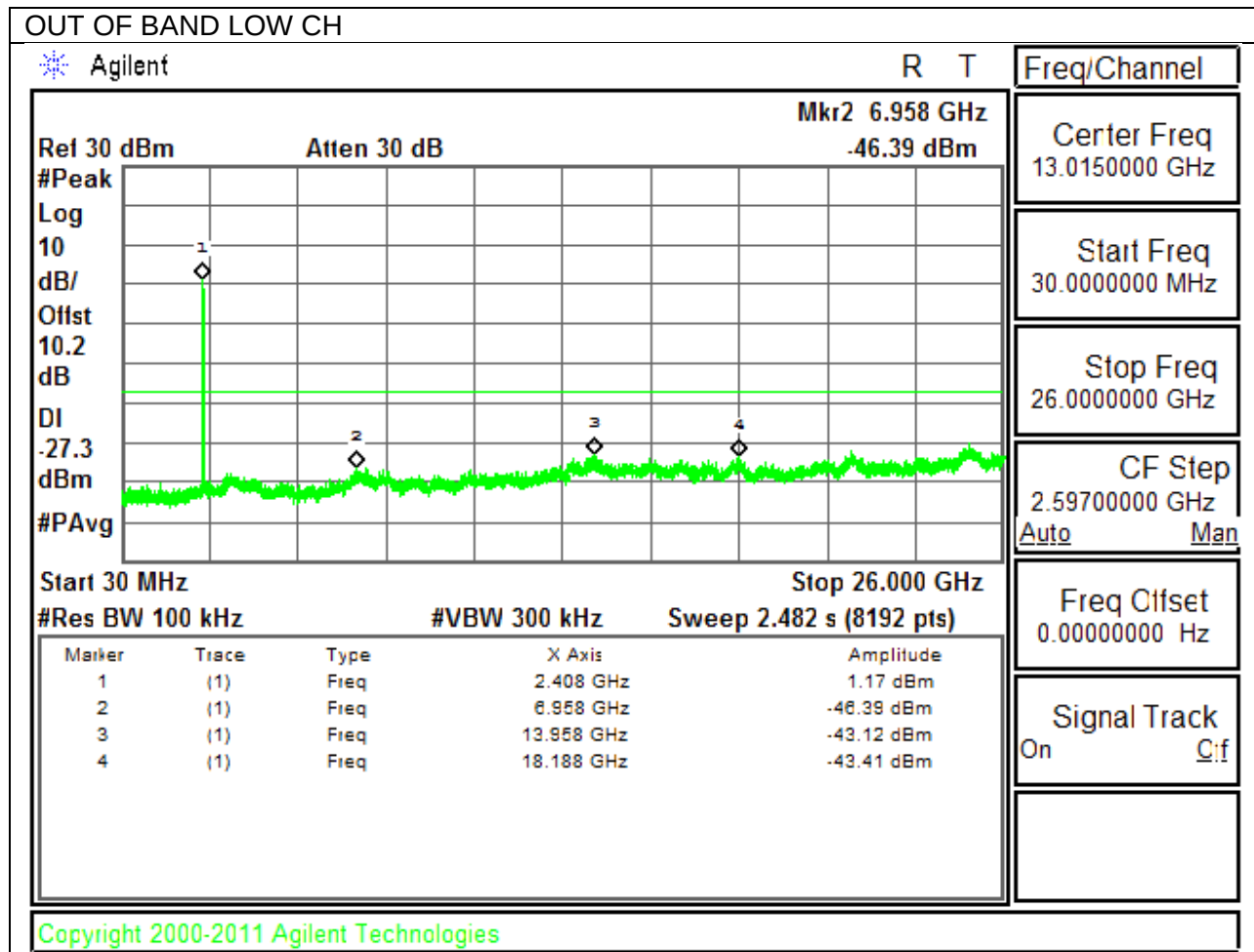


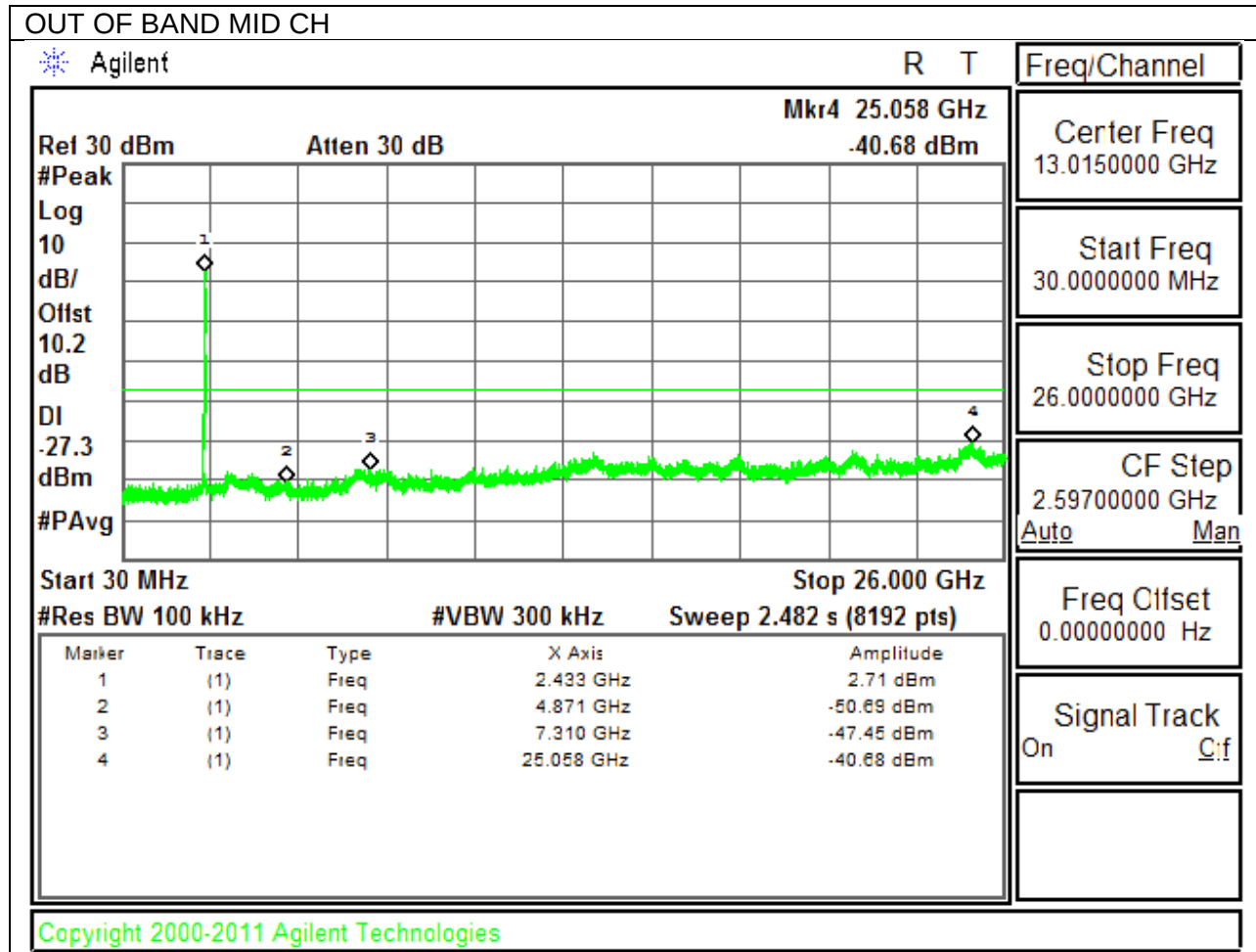
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

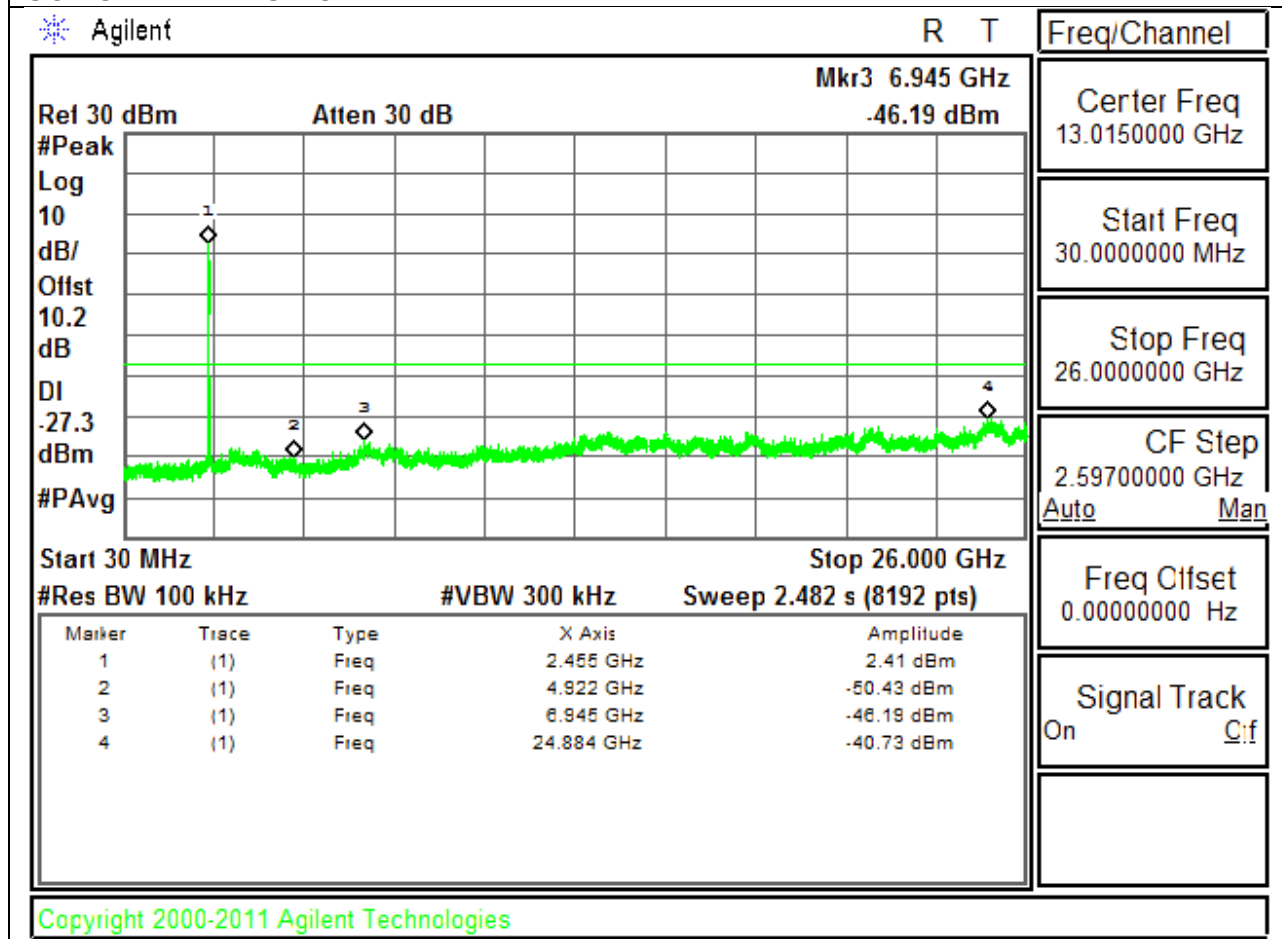


OUT-OF-BAND EMISSIONS





OUT OF BAND HIGH CH



10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

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. Duty cycle factor= $10\log(1/x)$ For this sample B mode = 0dB (duty cycle >98%); G mode = 0.3dB; N mode = 0.32dB.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

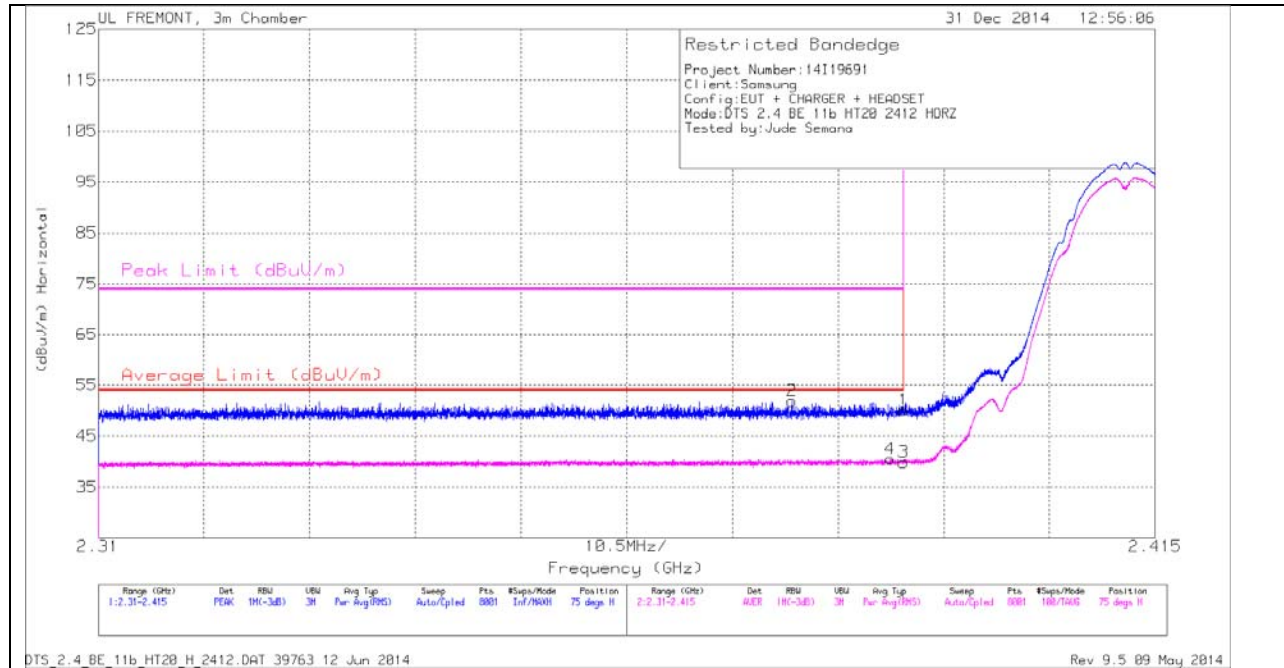
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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)

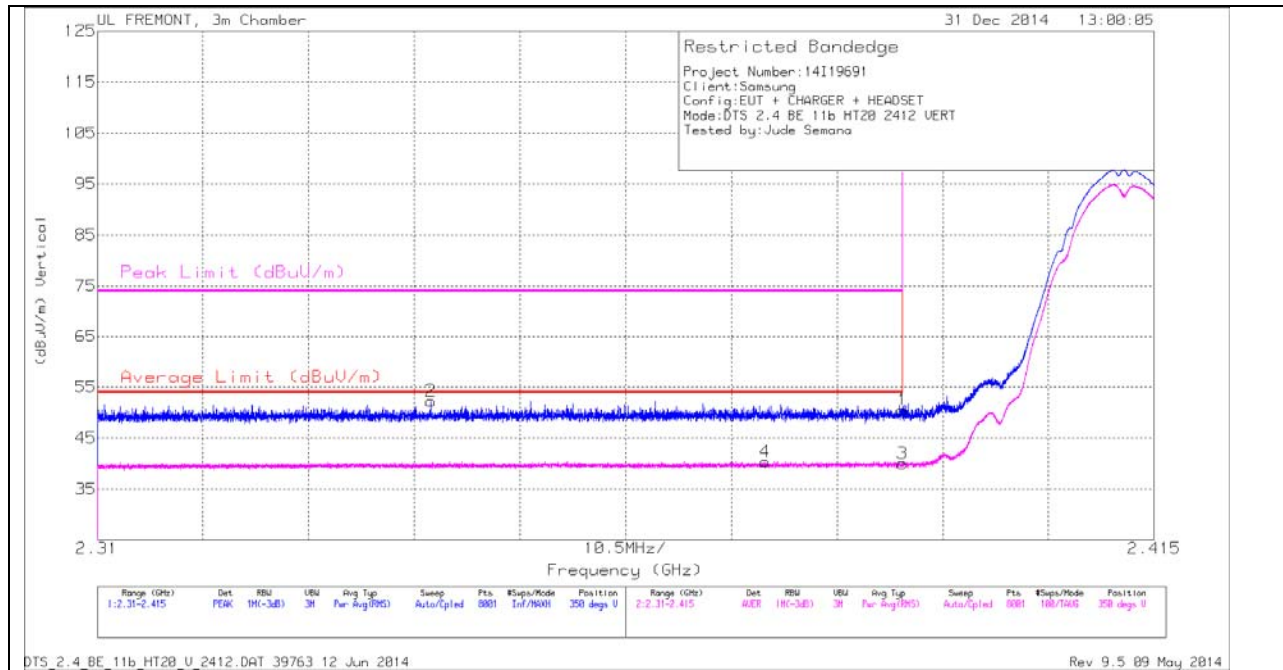
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.379	42.9	PK	32.1	-23.1	0	51.9	-	-	74	-22.1	75	306	H
4	2.389	31.45	RMS	32.1	-23.1	0	40.55	54	-13.45	-	-	75	306	H
1	2.39	41.06	PK	32.1	-23.1	0	50.06	-	-	74	-23.94	75	306	H
3	2.39	30.85	RMS	32.1	-23.1	0	39.95	54	-14.05	-	-	75	306	H

VERTICAL PEAK AND AVERAGE PLOT

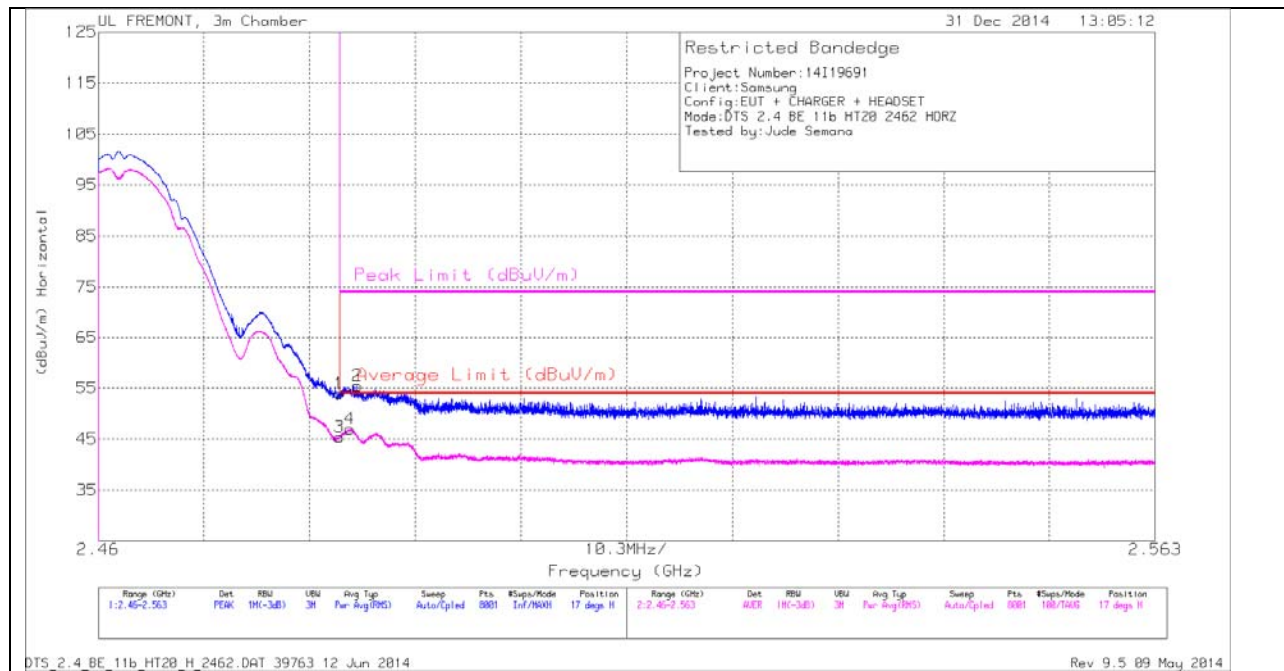


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.343	43.34	PK	32	-23.1	0	52.24	-	-	74	-21.76	350	320	V
4	2.376	31.42	RMS	32	-23.1	0	40.42	54	-13.58	-	-	350	320	V
1	2.39	41.5	PK	32.1	-23.1	0	50.5	-	-	74	-23.5	350	320	V
3	2.39	30.98	RMS	32.1	-23.1	0	40.08	54	-13.92	-	-	350	320	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

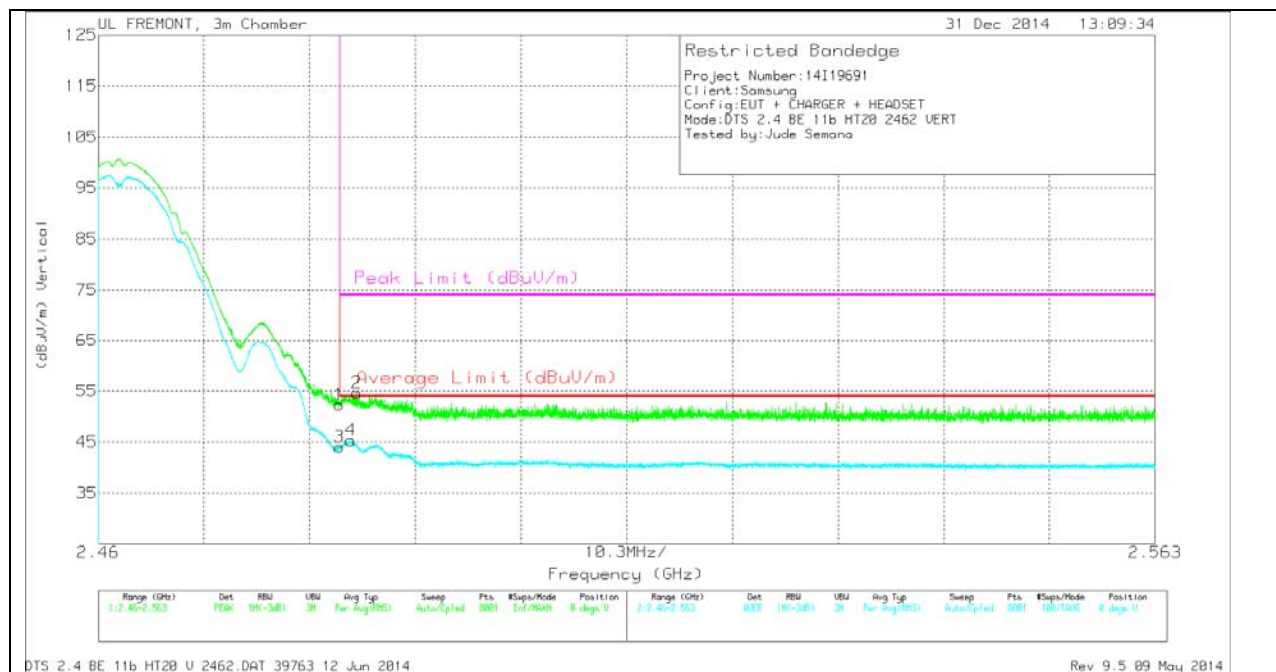
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	44.39	PK	32.3	-22.8	0	53.89	-	-	74	-20.11	17	247	H
3	2.484	35.84	RMS	32.3	-22.8	0	45.44	54	-8.56	-	-	17	247	H
2	2.485	45.9	PK	32.3	-22.8	0	55.4	-	-	74	-18.6	17	247	H
4	2.485	37.46	RMS	32.3	-22.8	0	47.06	54	-6.94	-	-	17	247	H

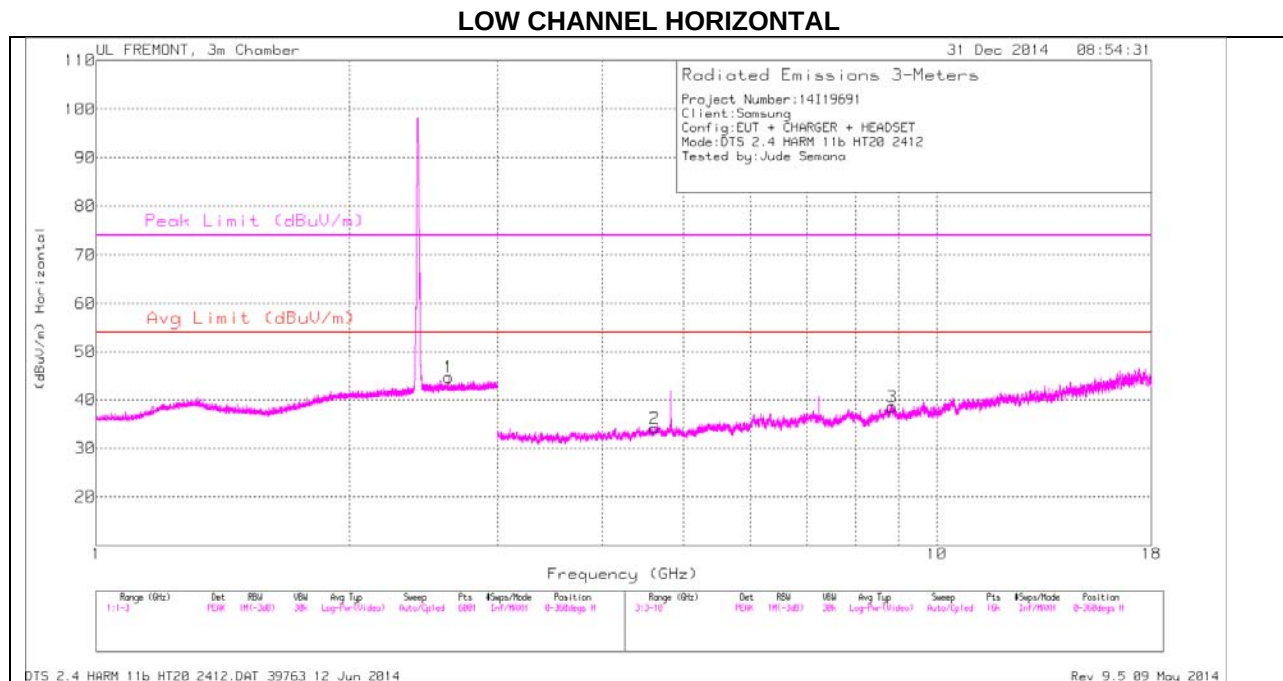
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

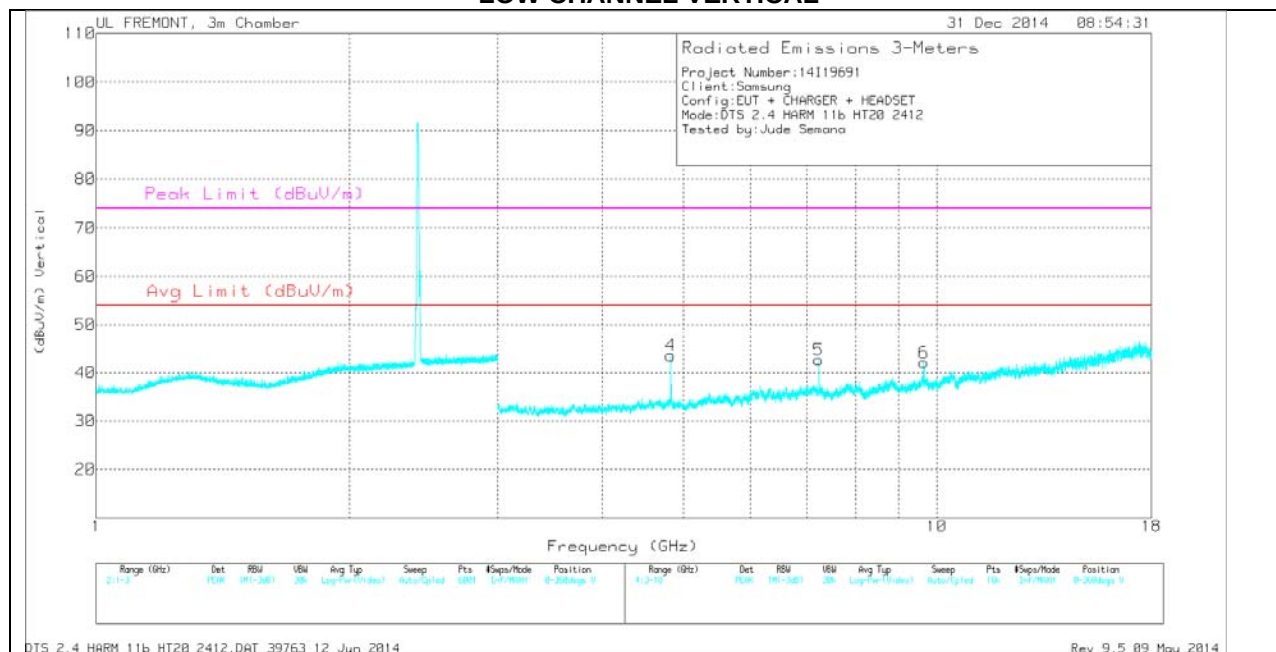
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	42.85	PK	32.3	-22.8	0	52.35	-	-	74	-21.65	0	370	V
3	2.484	34.5	RMS	32.3	-22.8	0	44.1	54	-9.9	-	-	0	370	V
2	2.485	45.12	PK	32.3	-22.8	0	54.62	-	-	74	-19.38	0	370	V
4	2.485	35.82	RMS	32.3	-22.8	0	45.42	54	-8.58	-	-	0	370	V

HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

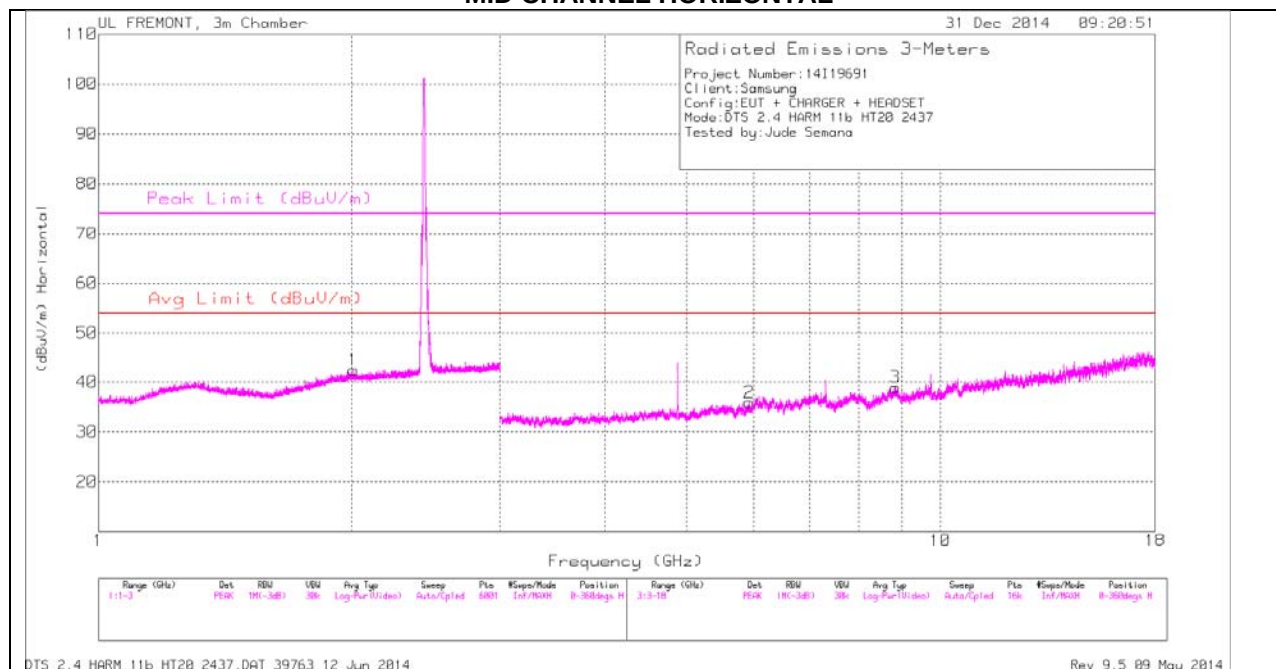
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.627	34.69	PK	32.6	-22.7	0	44.59	-	-	-	-	0-360	200	H
2	4.619	30.83	PK	34	-30.7	0	34.13	-	-	74	-39.87	0-360	200	H
4	4.824	39.7	PK	34	-30.2	0	43.5	-	-	74	-30.5	0-360	200	V
5	7.234	36.69	PK	35.6	-29.7	0	42.59	-	-	-	-	0-360	200	V
3	8.847	29.02	PK	36	-26.5	0	38.52	-	-	-	-	0-360	200	H
6	9.647	30.88	PK	36.8	-25.6	0	42.08	-	-	-	-	0-360	100	V

PK - Peak detector

Radiated Emissions

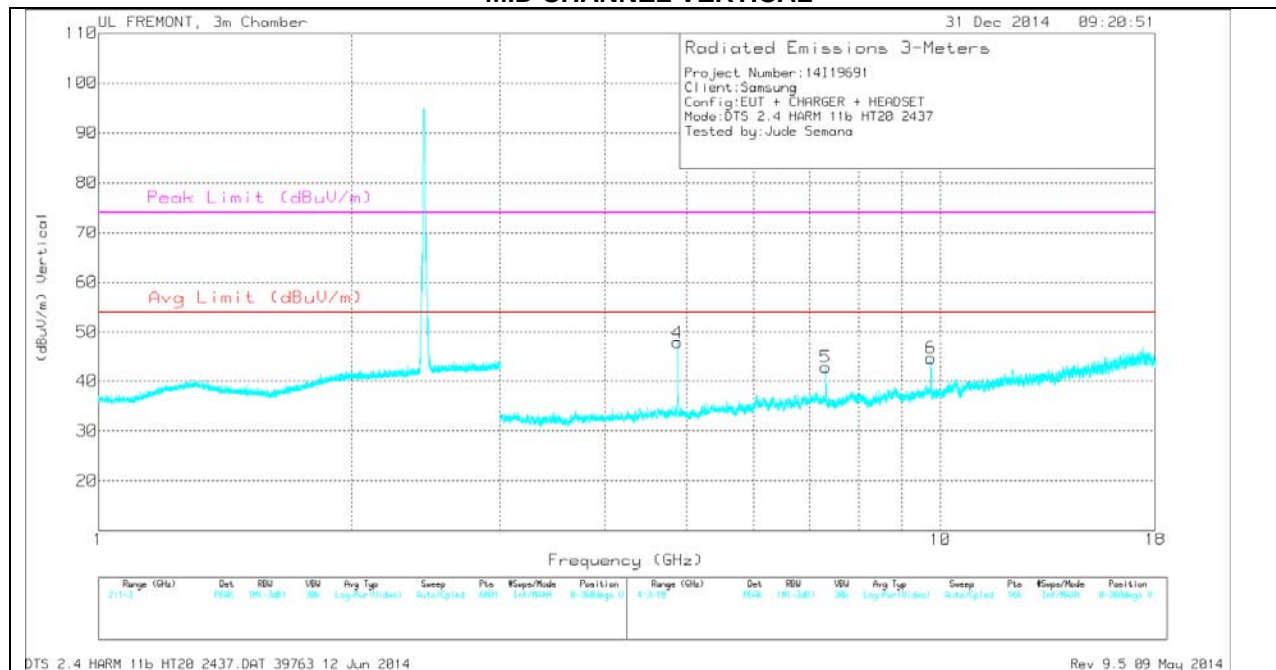
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAv1	38.9	-26.4	0	36.18	54	-17.82	-	-	297	199	H

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

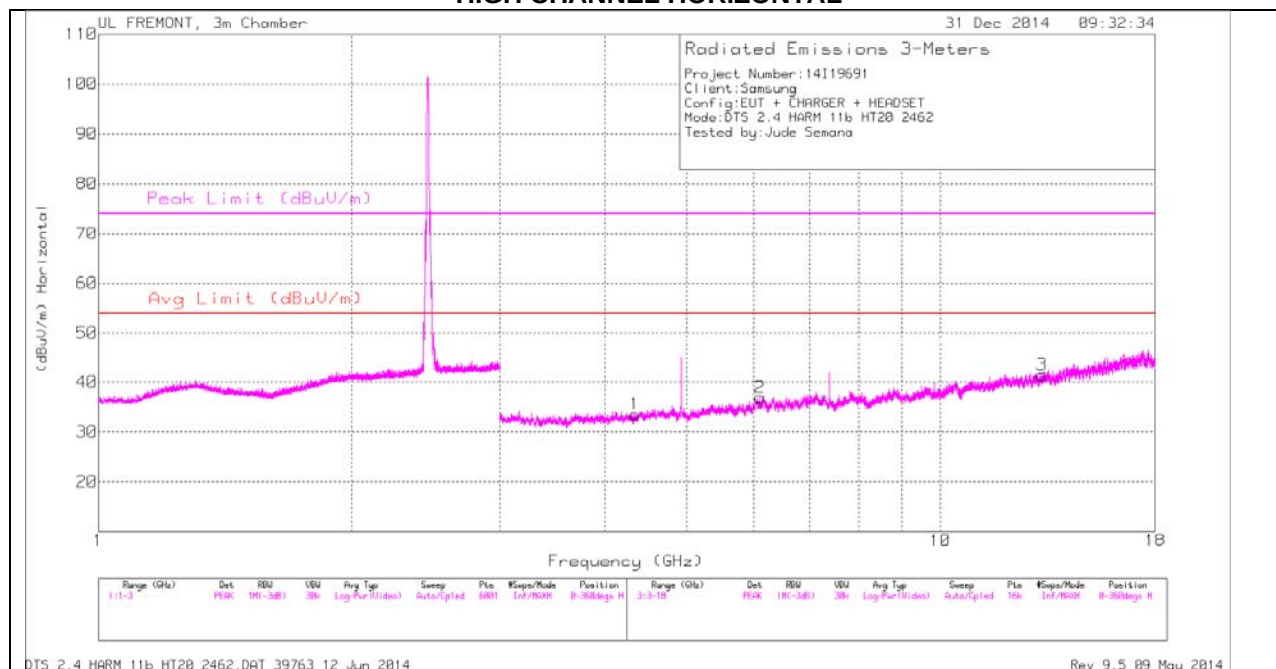
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.009	34.06	PK	31.6	-23.2	0	42.46	-	-	-	-	0-360	200	H
4	4.874	43.89	PK	34	-30.1	0	47.79	-	-	74	-26.21	0-360	200	V
2	5.932	31.32	PK	35.2	-30.6	0	35.92	-	-	-	-	0-360	100	H
5	7.31	35.77	PK	35.6	-28.6	0	42.77	-	-	74	-31.23	0-360	200	V
3	8.847	29.47	PK	36	-26.5	0	38.97	-	-	-	-	0-360	100	H
6	9.748	33.44	PK	36.9	-25.7	0	44.64	-	-	-	-	0-360	100	V

PK - Peak detector

Radiated Emissions

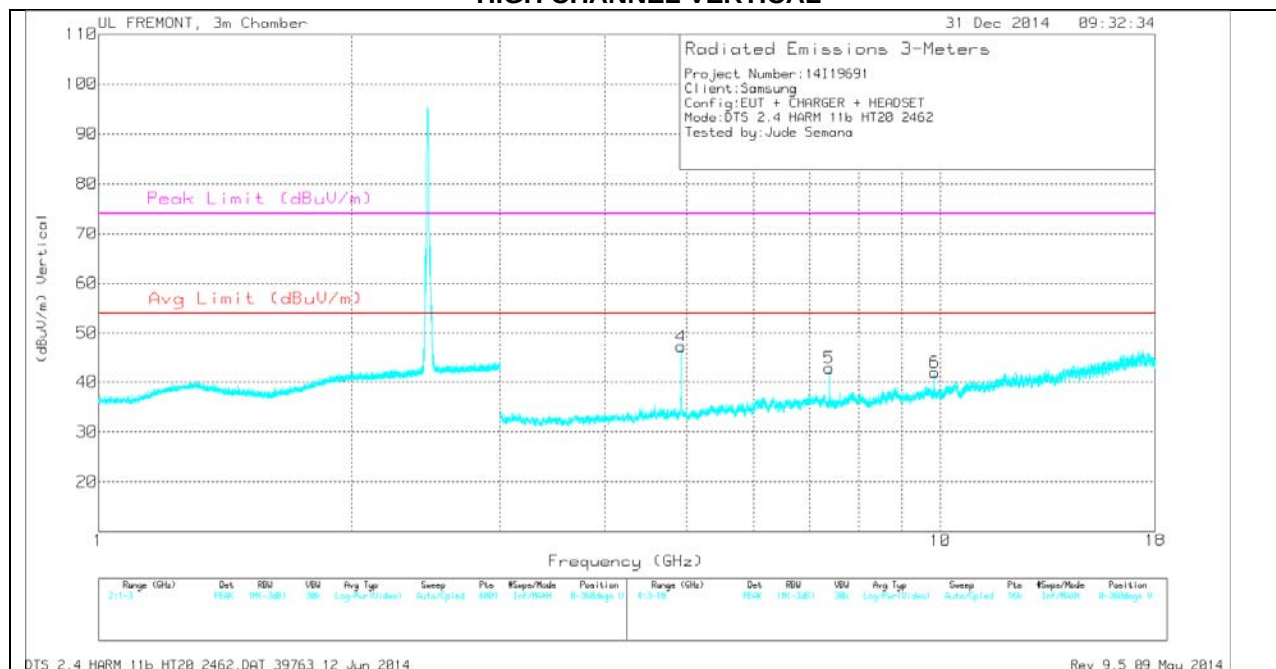
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	0	36.18	54	-17.82	-	-	297	199	H

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	4.338	30.06	PK	33.6	-30.1	0	33.56	-	-	74	-40.44	0-360	200	H
4	4.924	43.62	PK	34	-30.4	0	47.22	-	-	74	-26.78	0-360	100	V
2	6.107	30.41	PK	35.3	-28.8	0	36.91	-	-	-	-	0-360	100	H
5	7.384	35.39	PK	35.7	-28.3	0	42.79	-	-	74	-31.21	0-360	200	V
6	9.848	30.95	PK	36.9	-25.9	0	41.95	-	-	-	-	0-360	100	V
3	13.2	29.17	PK	39	-26.7	0	41.47	-	-	-	-	0-360	100	H

PK - Peak detector

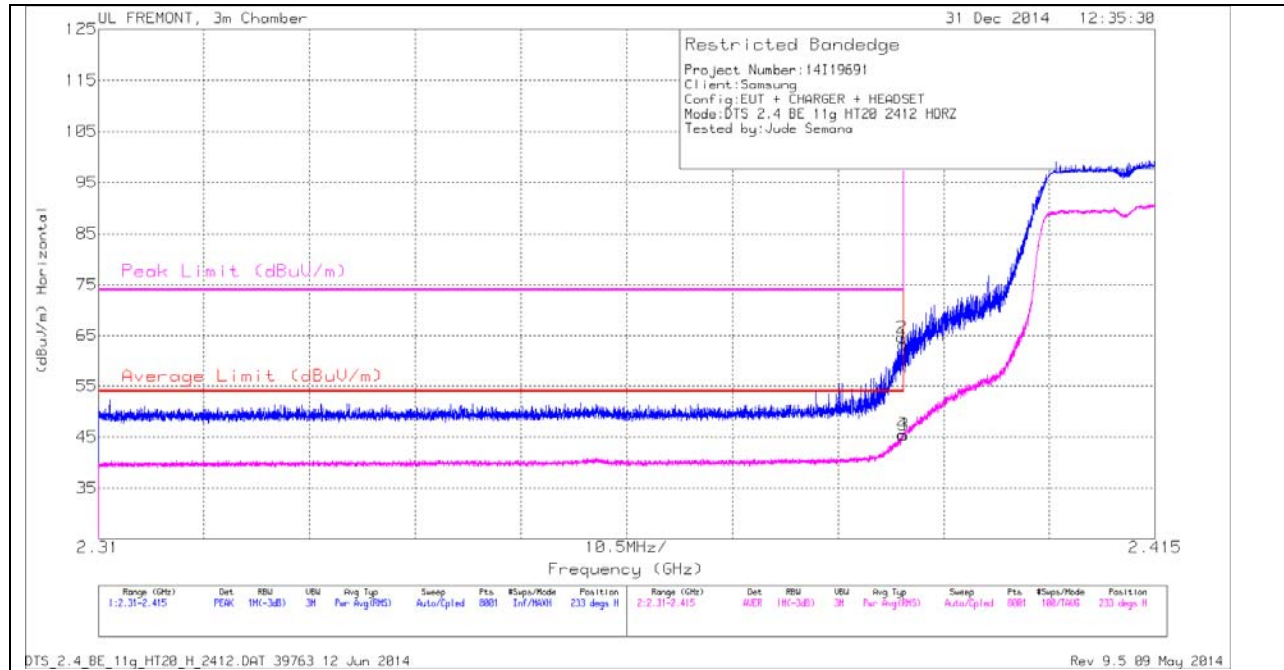
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	0	36.18	54	-17.82	-	-	297	199	H

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

RESTRICTED BANDEDGE (LOW CHANNEL)

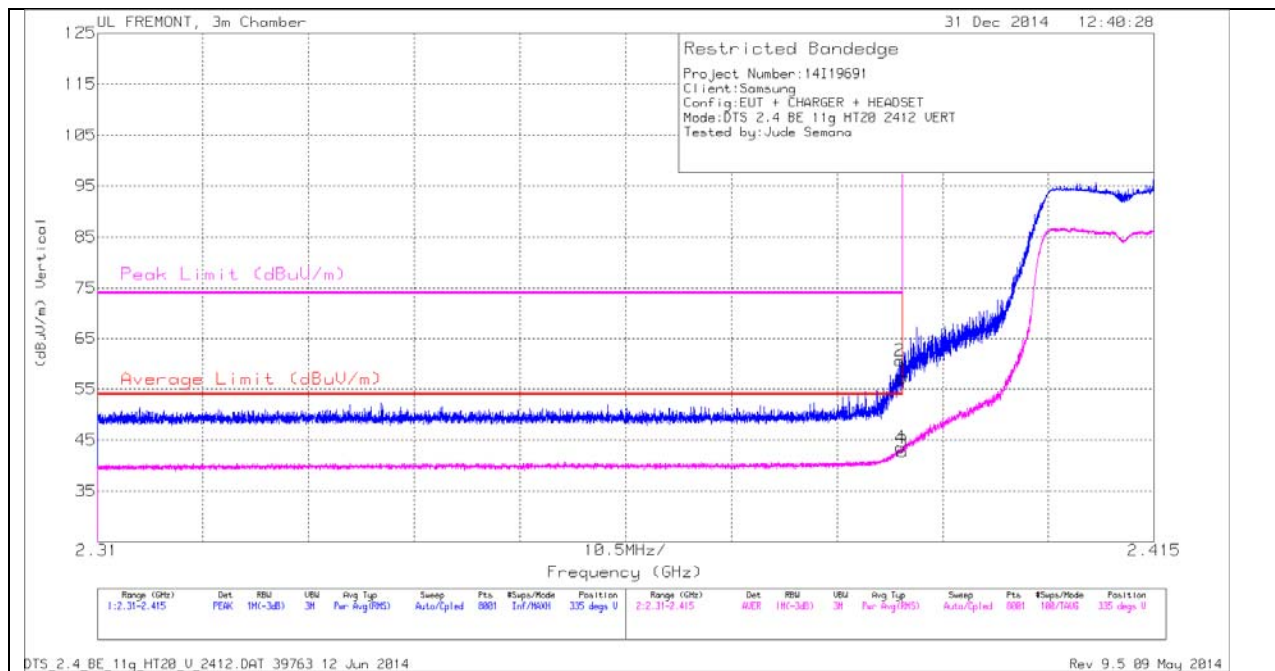
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.39	54.17	PK	32.1	-23.1	0	63.17	-	-	74	-10.83	233	210	H
2	2.39	55.66	PK	32.1	-23.1	0	64.66	-	-	74	-9.34	233	210	H
3	2.39	36.12	RMS	32.1	-23.1	.3	45.42	54	-8.58	-	-	233	210	H
4	2.39	36.2	RMS	32.1	-23.1	.3	45.5	54	-8.5	-	-	233	210	H

VERTICAL PEAK AND AVERAGE PLOT

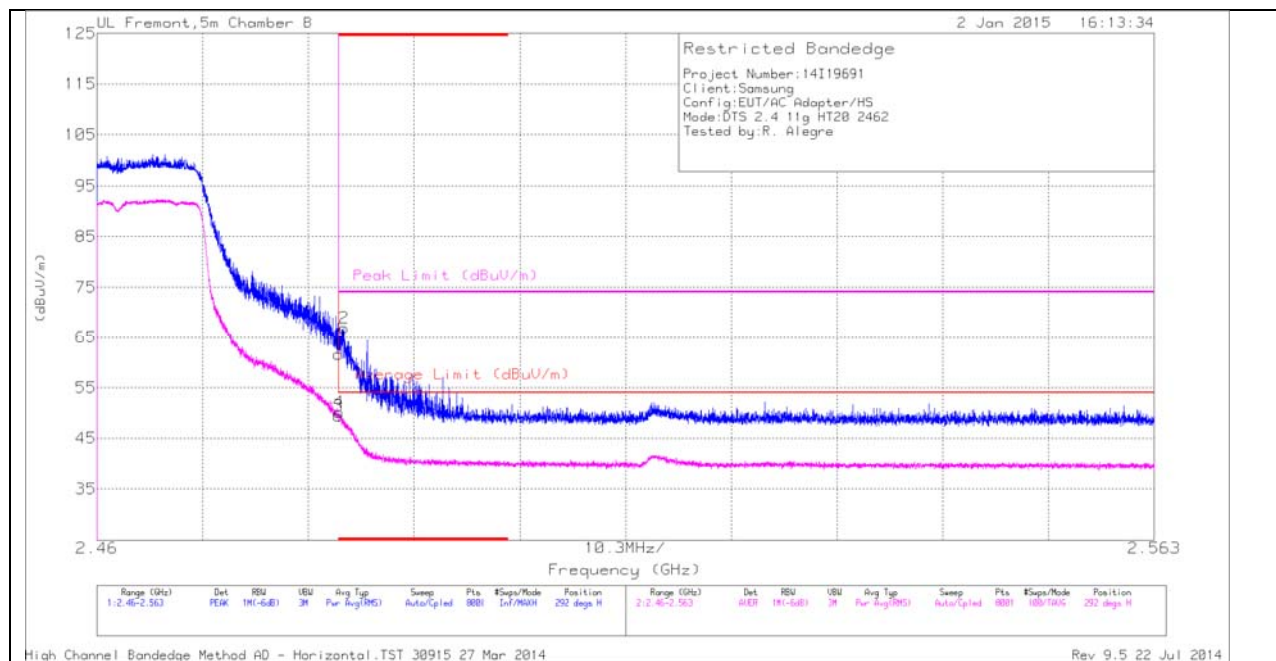


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.39	48.21	PK	32.1	-23.1	0	57.21	-	-	74	-16.79	335	268	V
2	2.39	51.57	PK	32.1	-23.1	0	60.57	-	-	74	-13.43	335	268	V
3	2.39	33.45	RMS	32.1	-23.1	.3	42.75	54	-11.25	-	-	335	268	V
4	2.39	34.21	RMS	32.1	-23.1	.3	43.51	54	-10.49	-	-	335	268	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

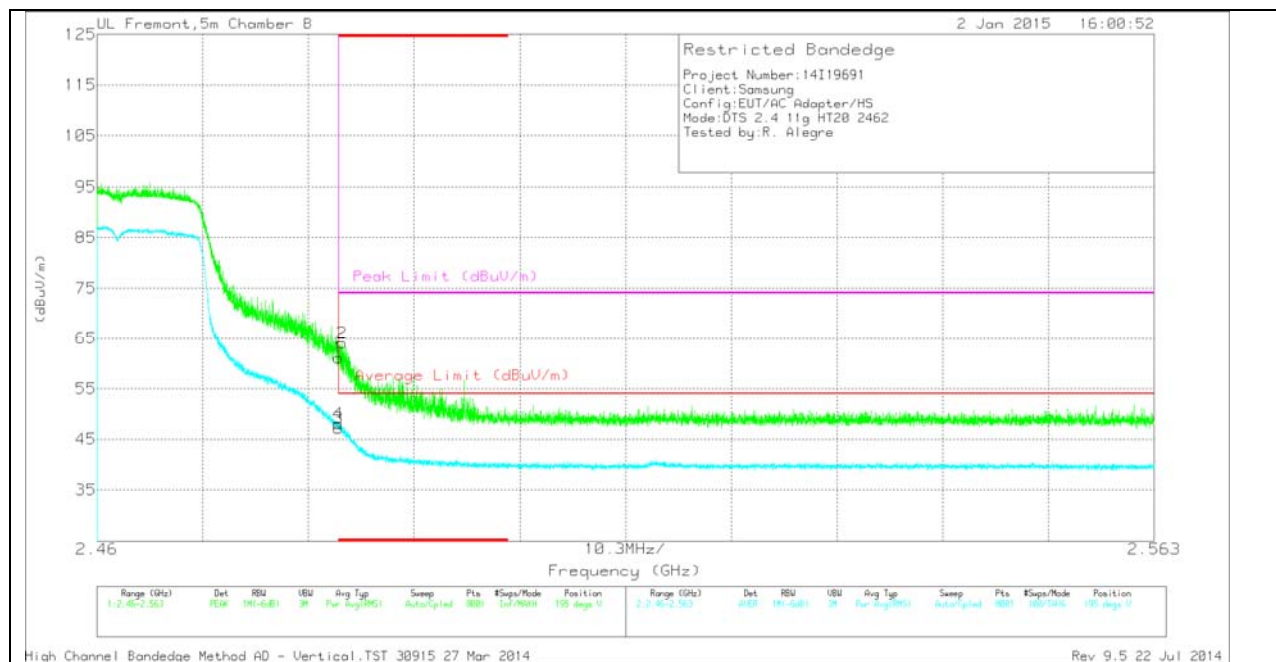
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	51.83	PK	32.4	-22.6	0	61.63	-	-	74	-12.37	292	183	H
2	* 2.484	57.16	PK	32.4	-22.6	0	66.96	-	-	74	-7.04	292	183	H
3	* 2.484	39.32	RMS	32.4	-22.6	.3	49.42	54	-4.58	-	-	292	183	H
4	* 2.484	40.04	RMS	32.4	-22.6	.3	50.14	54	-3.86	-	-	292	183	H

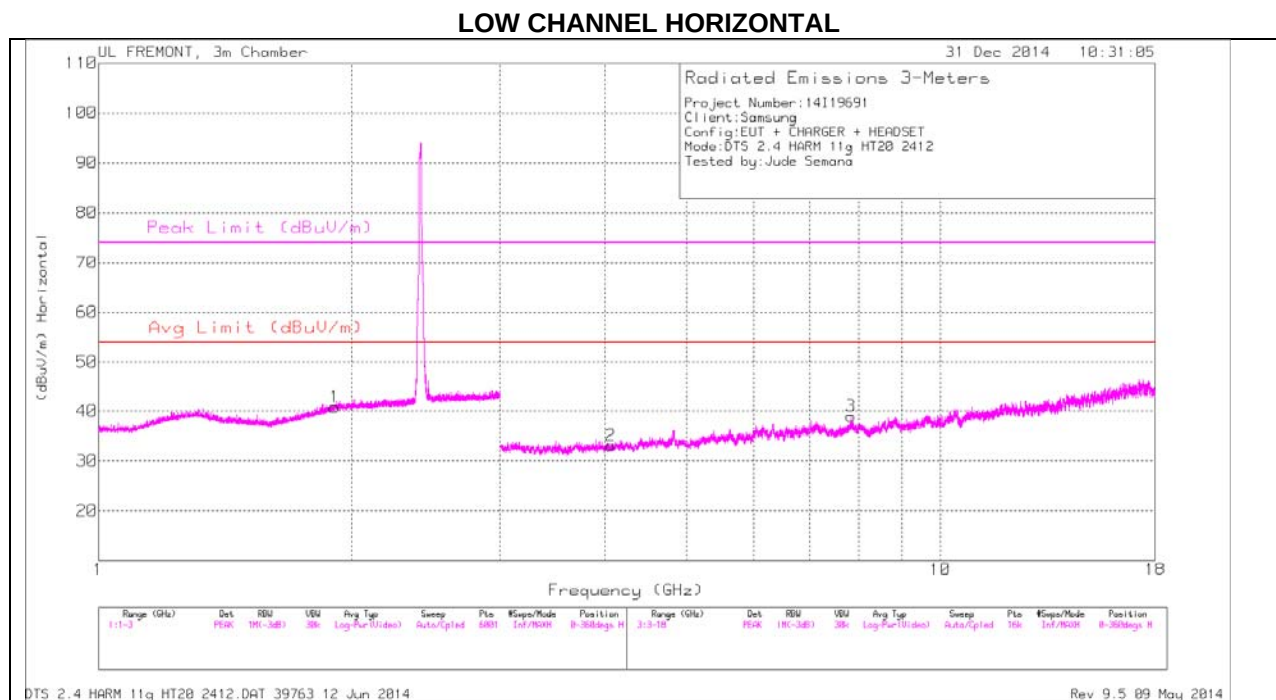
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

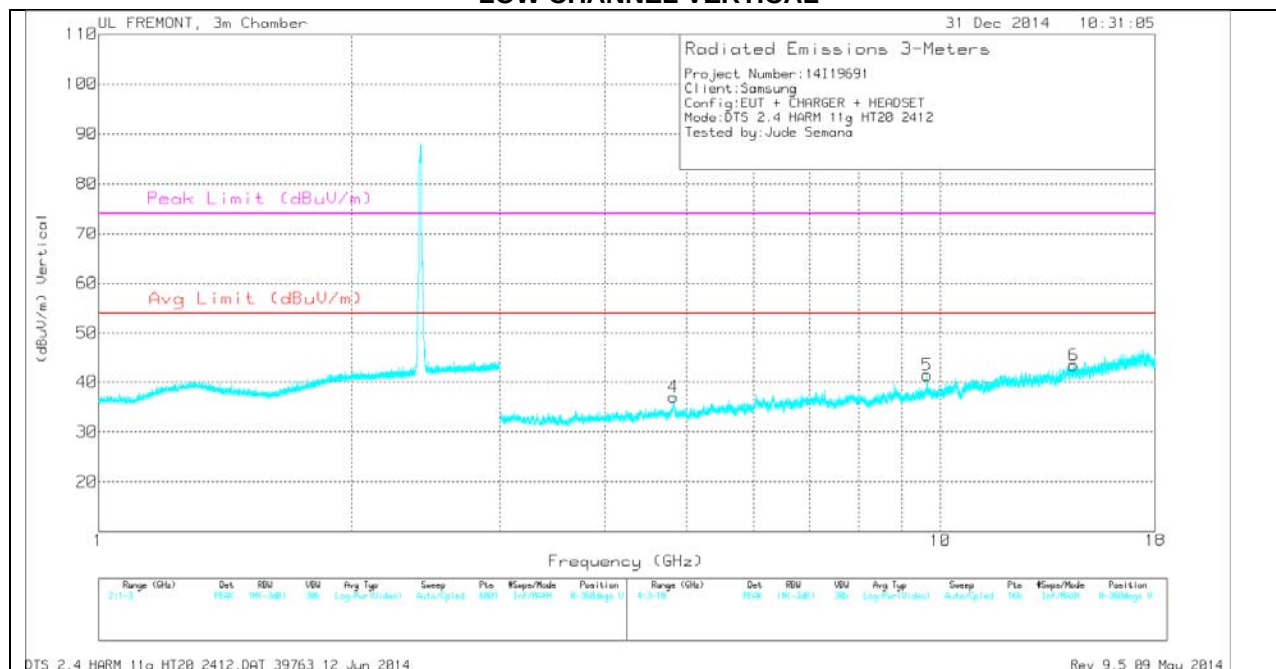
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	51.28	PK	32.4	-22.6	0	61.08	-	-	74	-12.92	195	180	V
2	* 2.484	54.25	PK	32.4	-22.6	0	64.05	-	-	74	-9.95	195	180	V
3	* 2.484	37.12	RMS	32.4	-22.6	.3	47.22	54	-6.78	-	-	195	180	V
4	* 2.484	37.91	RMS	32.4	-22.6	.3	48.01	54	-5.99	-	-	195	180	V

HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

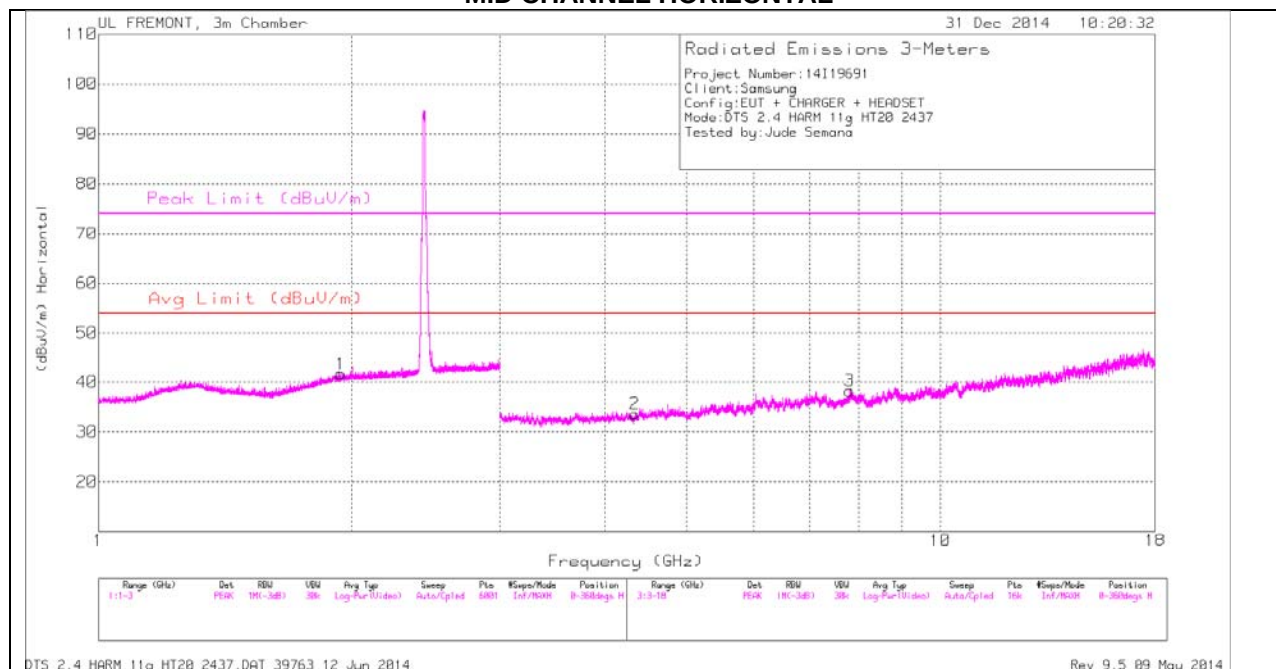
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.908	32.63	PK	31.3	-23.1	0	40.83	-	-	-	-	0-360	100	H
2	4.063	31.19	PK	33.4	-31.5	0	33.09	-	-	74	-40.91	0-360	200	H
4	4.821	33.28	PK	34	-30.3	0	36.98	-	-	74	-37.02	0-360	200	V
3	7.833	30.77	PK	35.8	-27.6	0	38.97	-	-	-	-	0-360	100	H
5	9.647	30.22	PK	36.8	-25.6	0	41.42	-	-	-	-	0-360	200	V
6	14.407	30.09	PK	39.5	-26.2	0	43.39	-	-	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

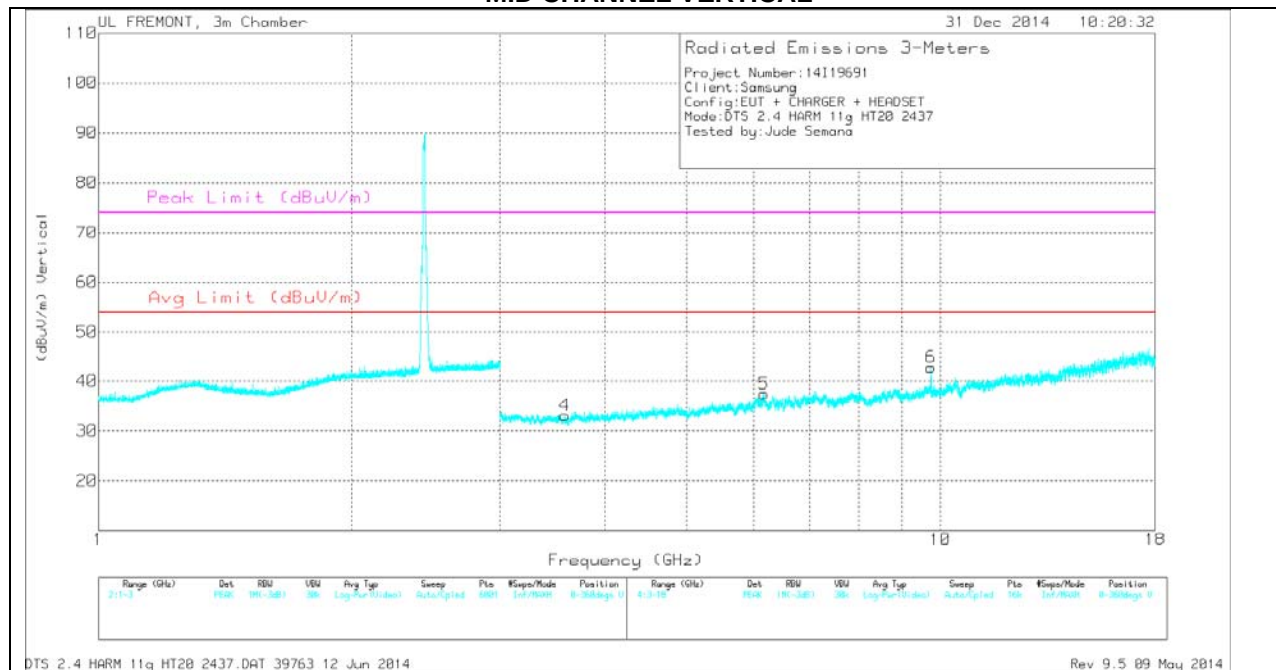
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	.3	36.38	54	-17.62	-	-	297	199	H

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

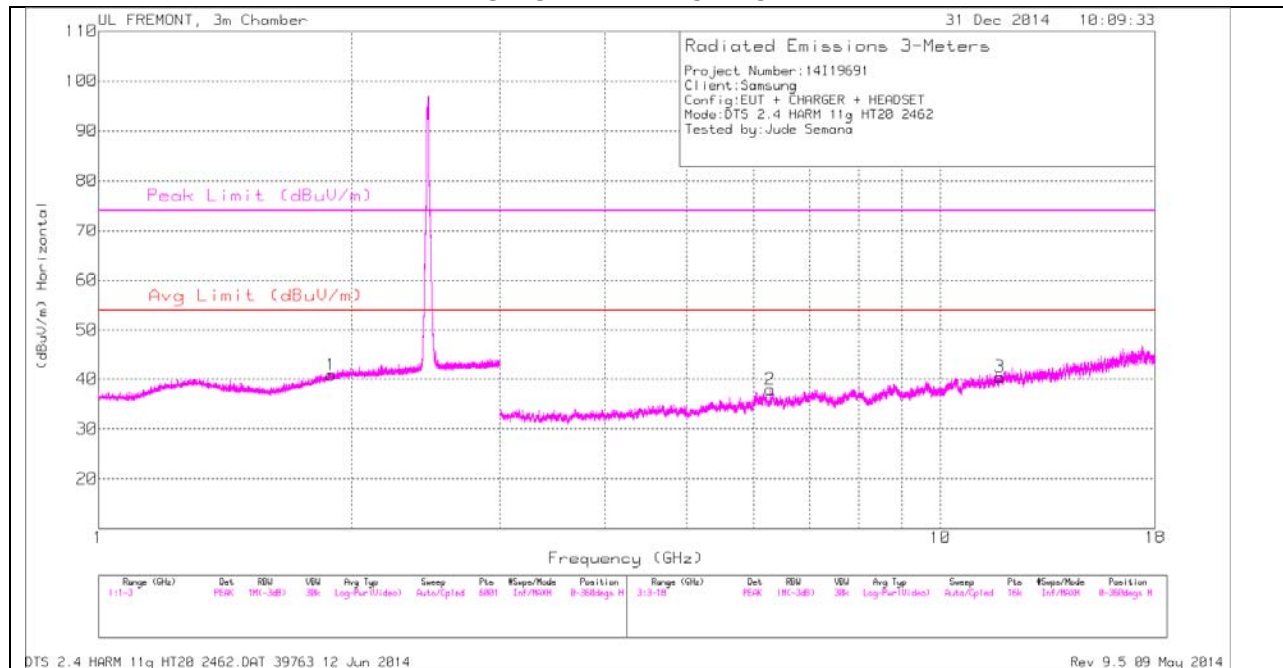
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.941	33.44	PK	31.4	-23.2	0	41.64	-	-	-	-	0-360	200	H
4	3.583	31.64	PK	33	-31.5	0	33.14	-	-	74	-40.86	0-360	100	V
2	4.338	30.12	PK	33.6	-30.1	0	33.62	-	-	74	-40.38	0-360	100	H
5	6.175	32.14	PK	35.3	-30	0	37.44	-	-	-	-	0-360	200	V
3	7.806	30.49	PK	35.8	-28	0	38.29	-	-	-	-	0-360	100	H
6	9.748	31.56	PK	36.9	-25.7	0	42.76	-	-	-	-	0-360	100	V

PK - Peak detector

Radiated Emissions

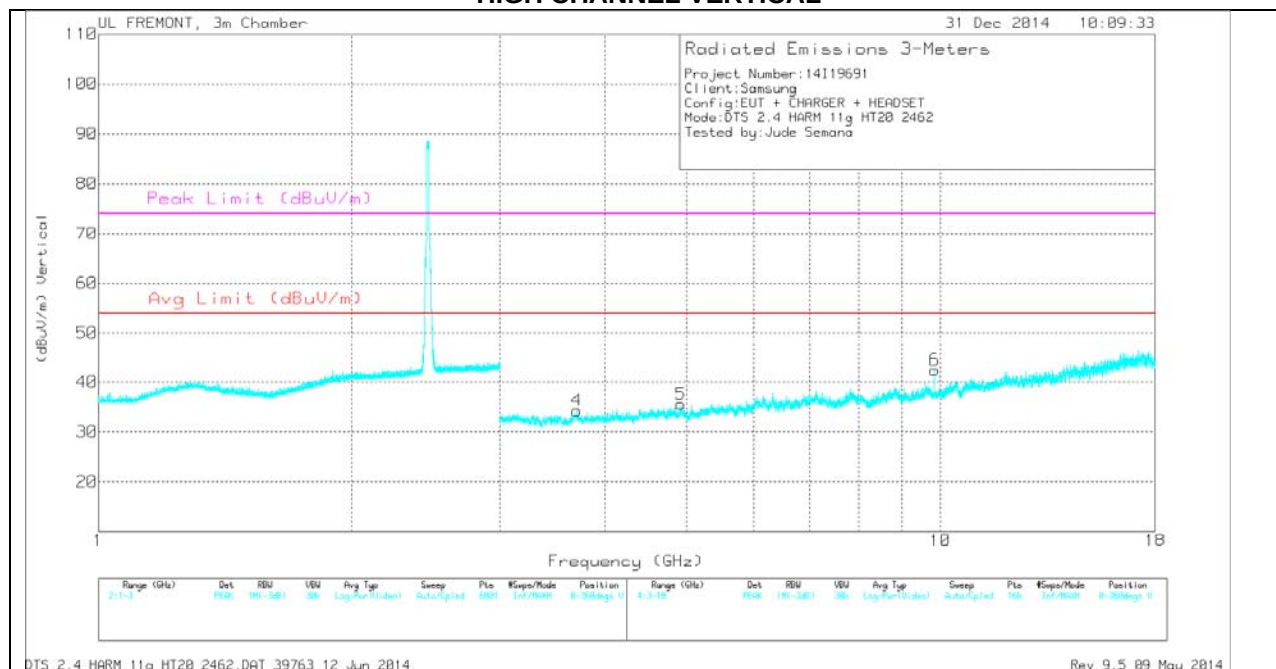
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	.3	36.38	54	-17.62	-	-	297	199	H

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.891	33.04	PK	31.1	-23.3	0	40.84	-	-	-	-	0-360	200	H
4	3.703	31.9	PK	33.2	-30.8	0	34.3	-	-	74	-39.7	0-360	200	V
5	4.92	31.88	PK	34	-30.3	0	35.58	-	-	74	-38.42	0-360	100	V
2	6.283	32.76	PK	35.3	-30.1	0	37.96	-	-	-	-	0-360	100	H
6	9.848	31.44	PK	36.9	-25.9	0	42.44	-	-	-	-	0-360	100	V
3	11.769	27.65	PK	38.8	-26	0	40.45	-	-	74	-33.55	0-360	200	H

PK - Peak detector

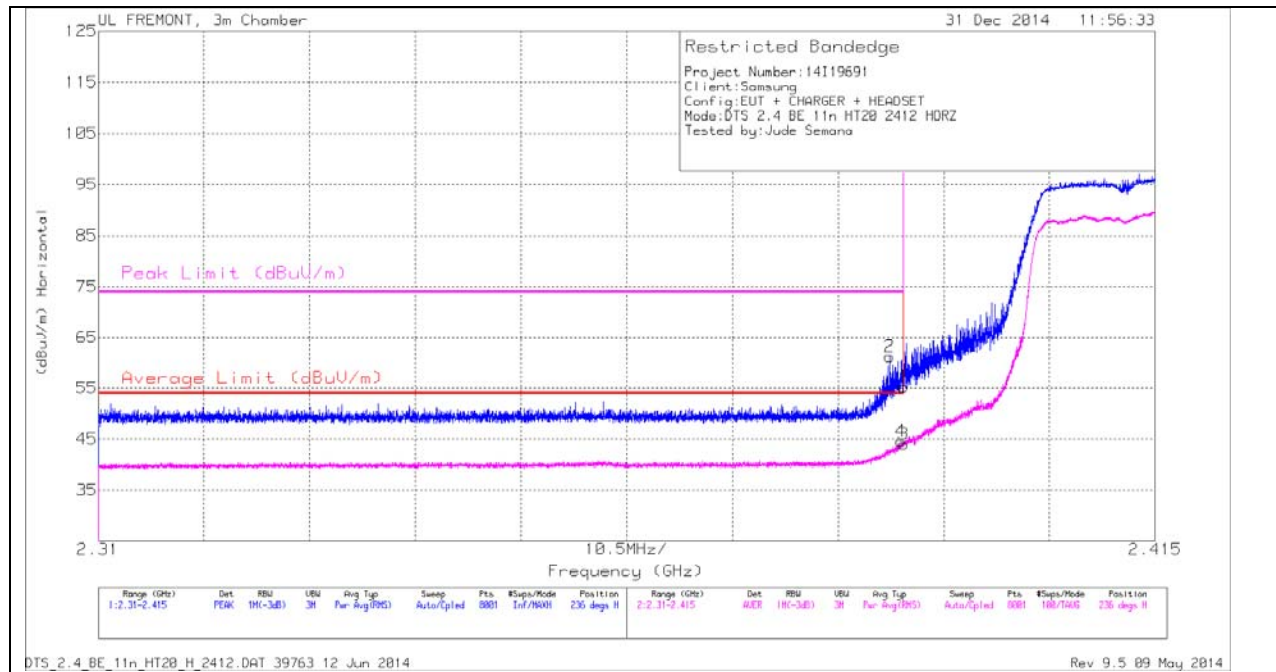
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	.3	36.38	54	-17.62	-	-	297	199	H

10.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

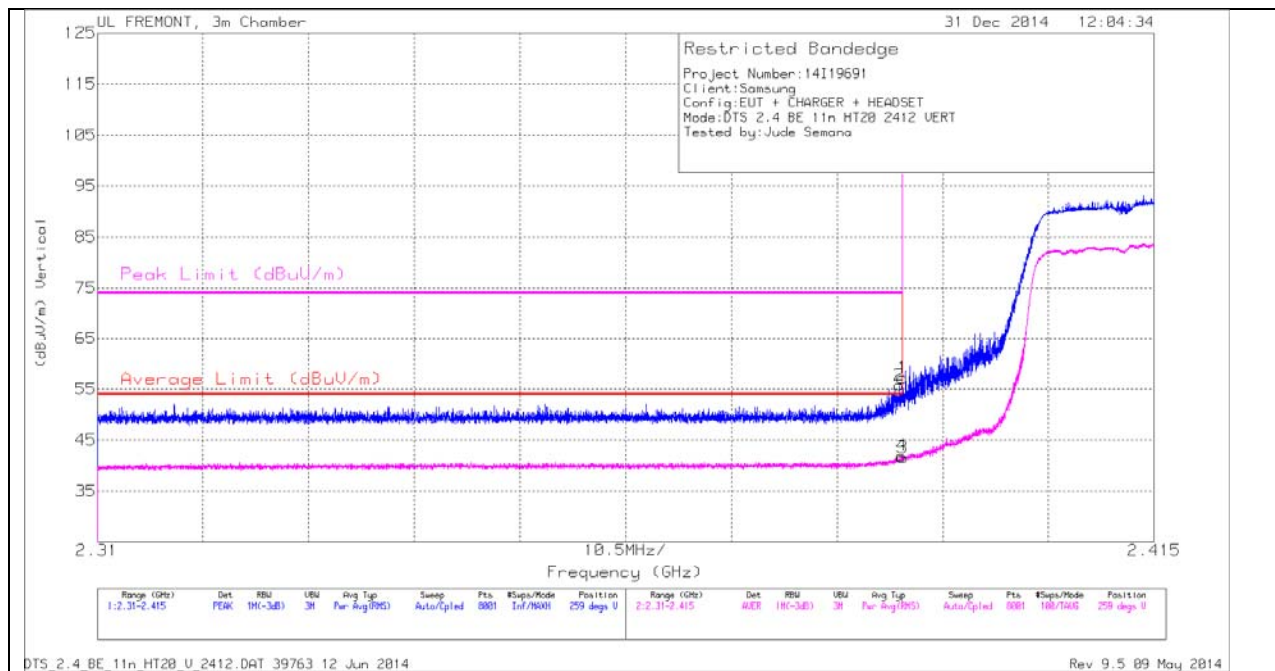
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.389	52.16	PK	32.1	-23.1	0	61.16	-	-	74	-12.84	236	250	H
1	2.39	46.22	PK	32.1	-23.1	0	55.22	-	-	74	-18.78	236	250	H
3	2.39	34.72	RMS	32.1	-23.1	.32	44.02	54	-9.98	-	-	236	250	H
4	2.39	35.24	RMS	32.1	-23.1	.32	44.54	54	-9.46	-	-	236	250	H

VERTICAL PEAK AND AVERAGE PLOT

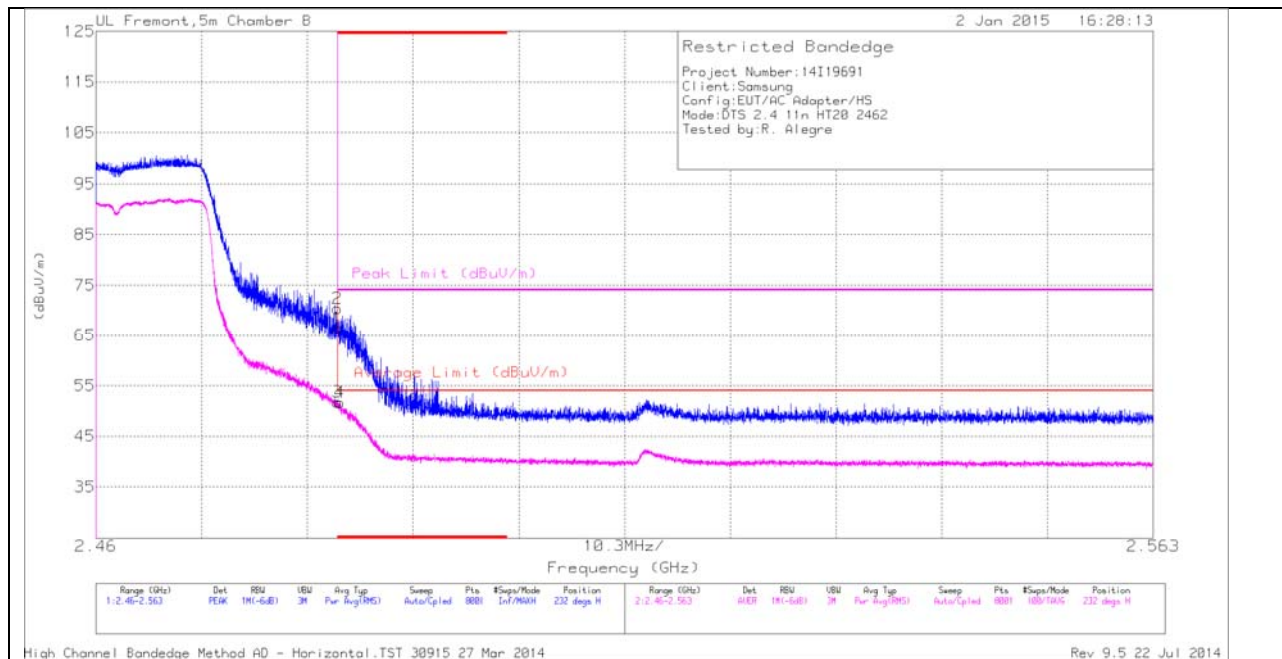


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.39	48.24	PK	32.1	-23.1	0	57.24	-	-	74	-16.76	259	265	V
2	2.39	46.79	PK	32.1	-23.1	0	55.79	-	-	74	-18.21	259	265	V
3	2.39	32.26	RMS	32.1	-23.1	.32	41.56	54	-12.44	-	-	259	265	V
4	2.39	32.59	RMS	32.1	-23.1	.32	41.89	54	-12.11	-	-	259	265	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

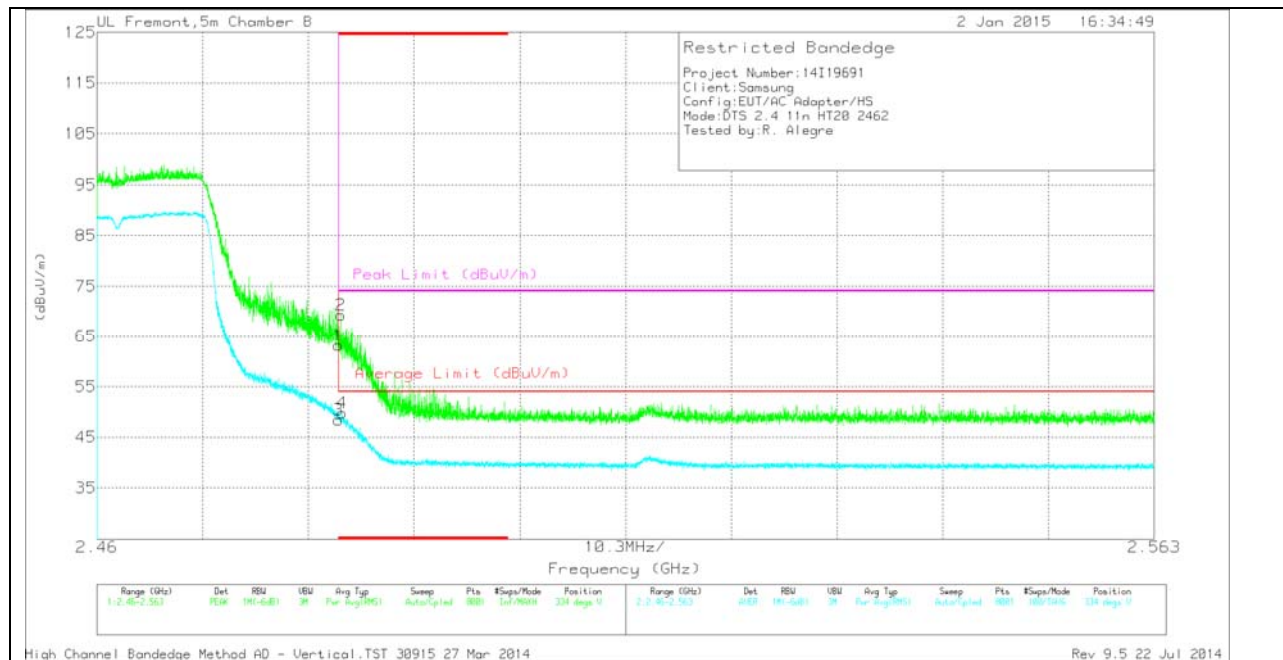
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	56.69	PK	32.4	-22.6	0	66.49	-	-	74	-7.51	232	276	H
2	* 2.484	60.56	PK	32.4	-22.6	0	70.36	-	-	74	-3.64	232	276	H
3	* 2.484	41.66	RMS	32.4	-22.6	.32	51.76	54	-2.24	-	-	232	276	H
4	* 2.484	41.6	RMS	32.4	-22.6	.32	51.7	54	-2.3	-	-	232	276	H

VERTICAL PEAK AND AVERAGE PLOT

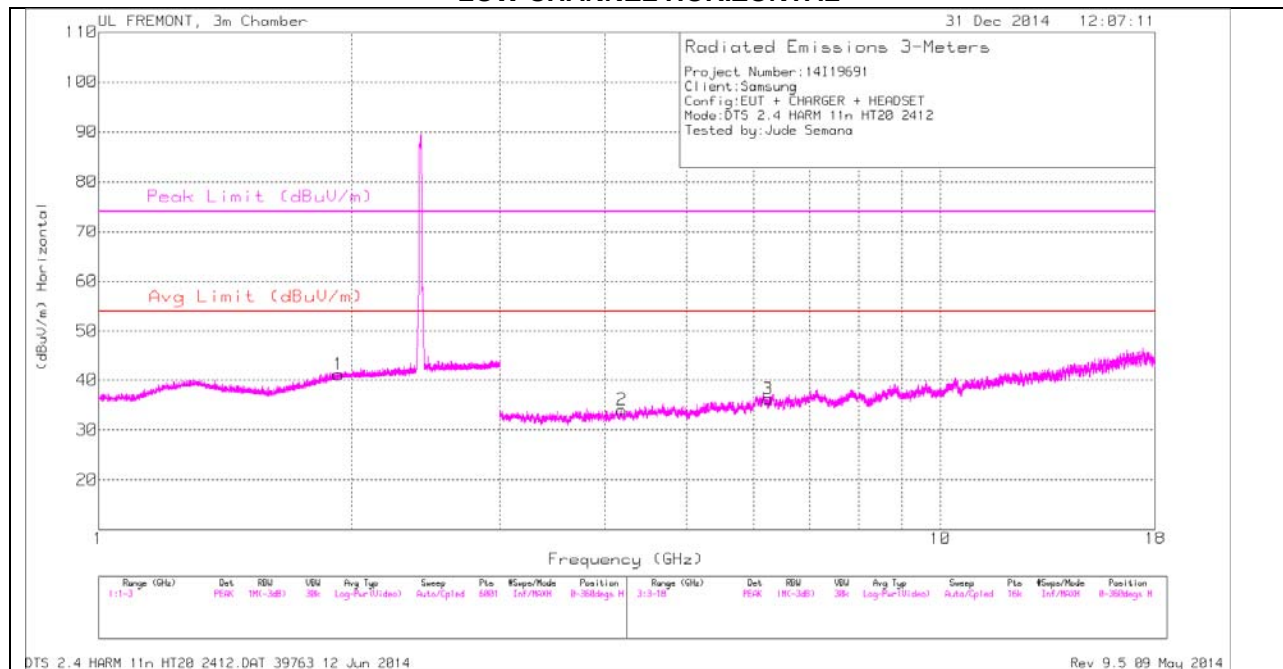


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	53.43	PK	32.4	-22.6	0	63.23	-	-	74	-10.77	334	285	V
2	* 2.484	59.48	PK	32.4	-22.6	0	69.28	-	-	74	-4.72	334	285	V
3	* 2.484	38.59	RMS	32.4	-22.6	.32	48.39	54	-5.61	-	-	334	285	V
4	* 2.484	39.94	RMS	32.4	-22.6	.32	49.74	54	-4.26	-	-	334	285	V

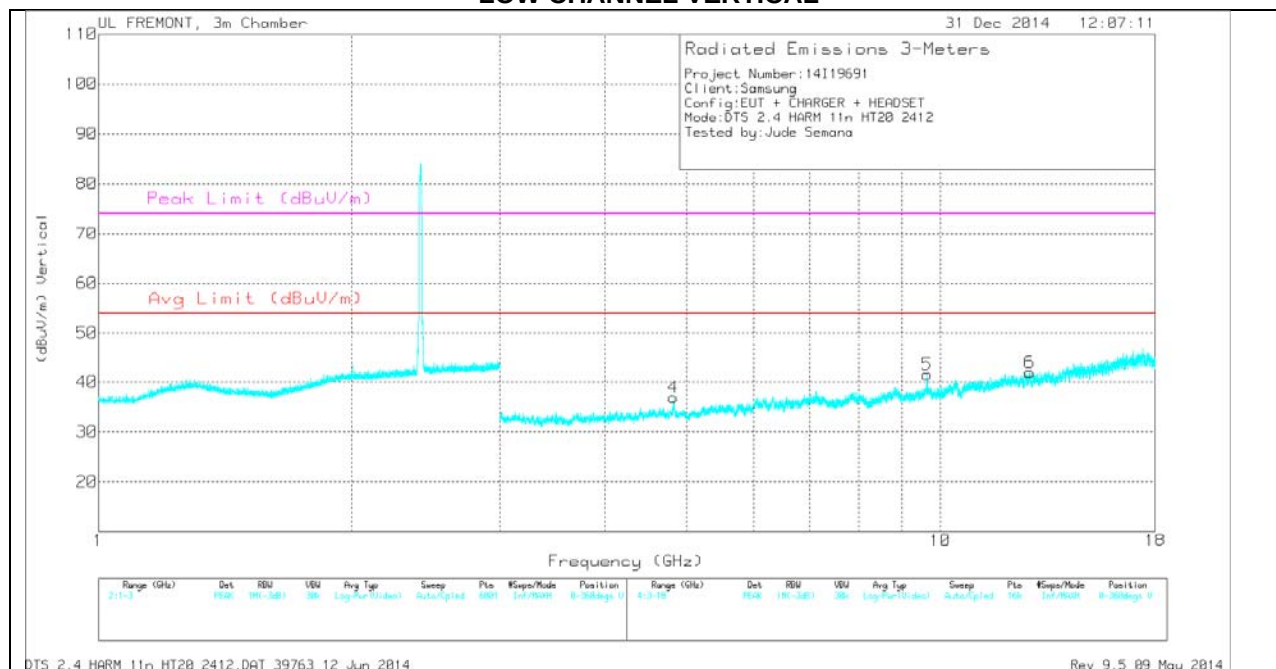
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

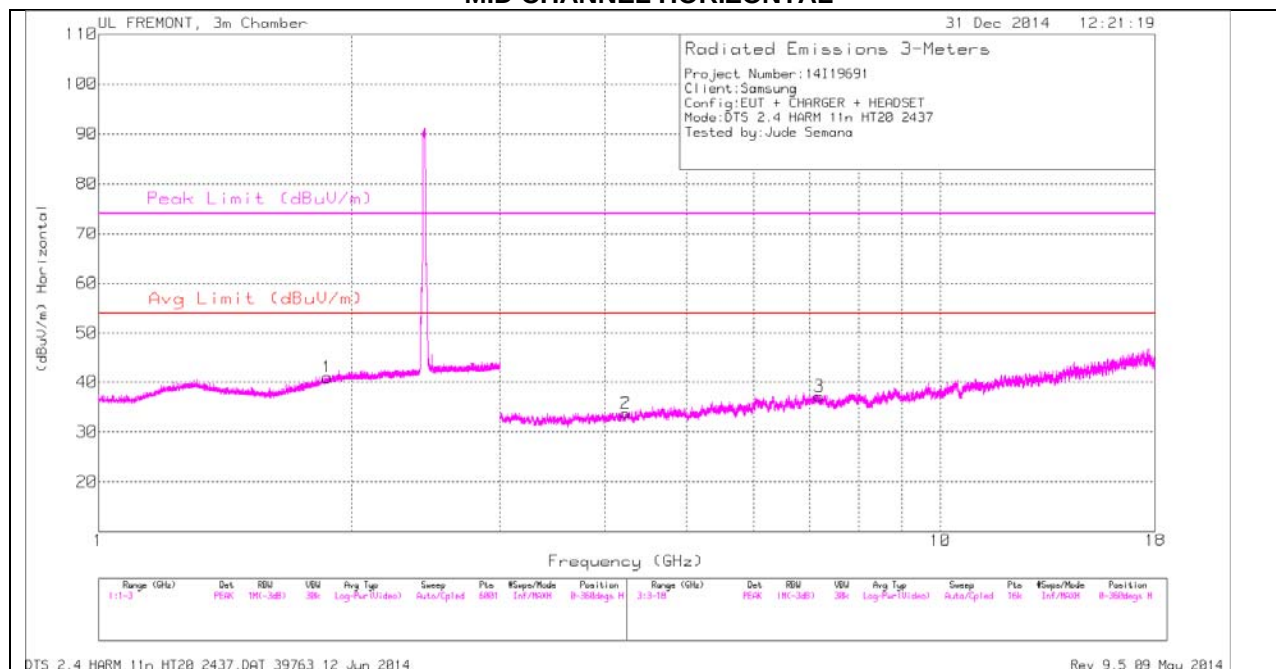
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.928	33.13	PK	31.3	-23.3	0	41.13	-	-	-	-	0-360	100	H
2	4.186	30.98	PK	33.5	-30.4	0	34.08	-	-	74	-39.92	0-360	100	H
4	4.82	33.23	PK	34	-30.3	0	36.93	-	-	74	-37.07	0-360	200	V
3	6.246	31.47	PK	35.3	-30.5	0	36.27	-	-	-	-	0-360	100	H
5	9.647	30.34	PK	36.8	-25.6	0	41.54	-	-	-	-	0-360	100	V
6	12.77	29.44	PK	39.2	-26.7	0	41.94	-	-	-	-	0-360	100	V

PK - Peak detector

Radiated Emissions

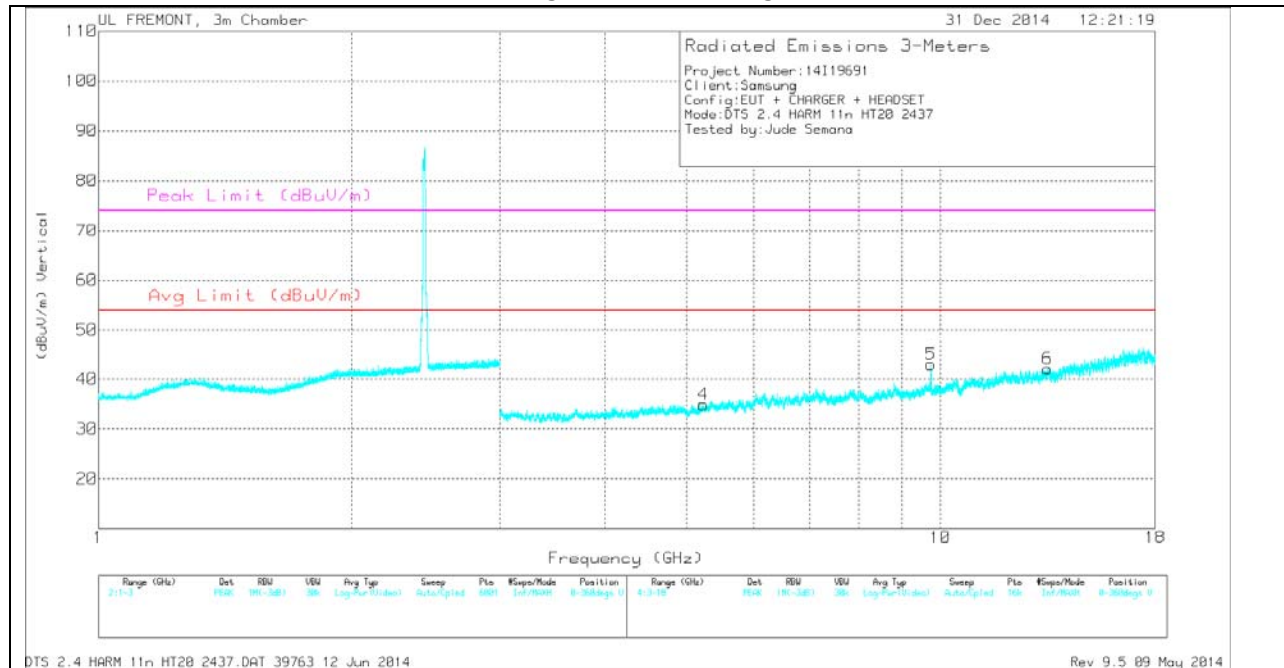
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	.32	36.38	54	-17.62	-	-	297	199	H

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

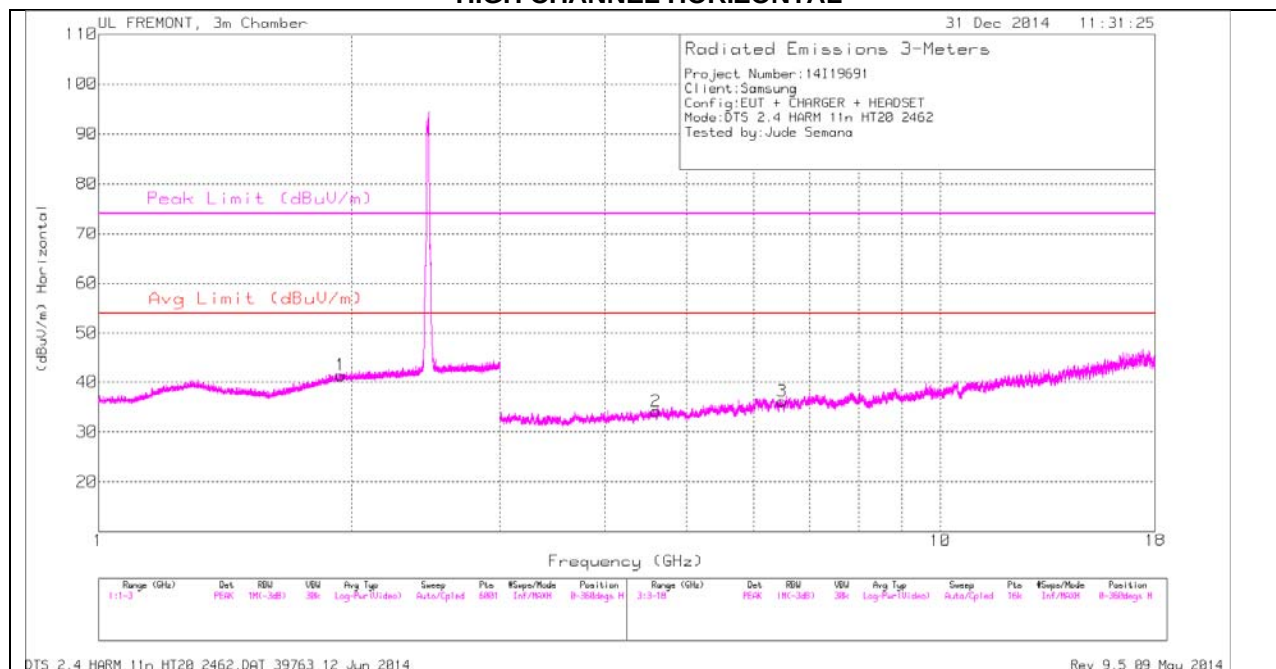
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.871	33.35	PK	30.9	-23.3	0	40.95	-	-	-	-	0-360	200	H
2	4.233	31.16	PK	33.5	-30.9	0	33.76	-	-	74	-40.24	0-360	200	H
4	5.232	31.51	PK	34.3	-30.9	0	34.91	-	-	-	-	0-360	200	V
3	7.186	30.53	PK	35.6	-29	0	37.13	-	-	-	-	0-360	100	H
5	9.748	31.77	PK	36.9	-25.7	0	42.97	-	-	-	-	0-360	100	V
6	13.409	29.99	PK	39.1	-27	0	42.09	-	-	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

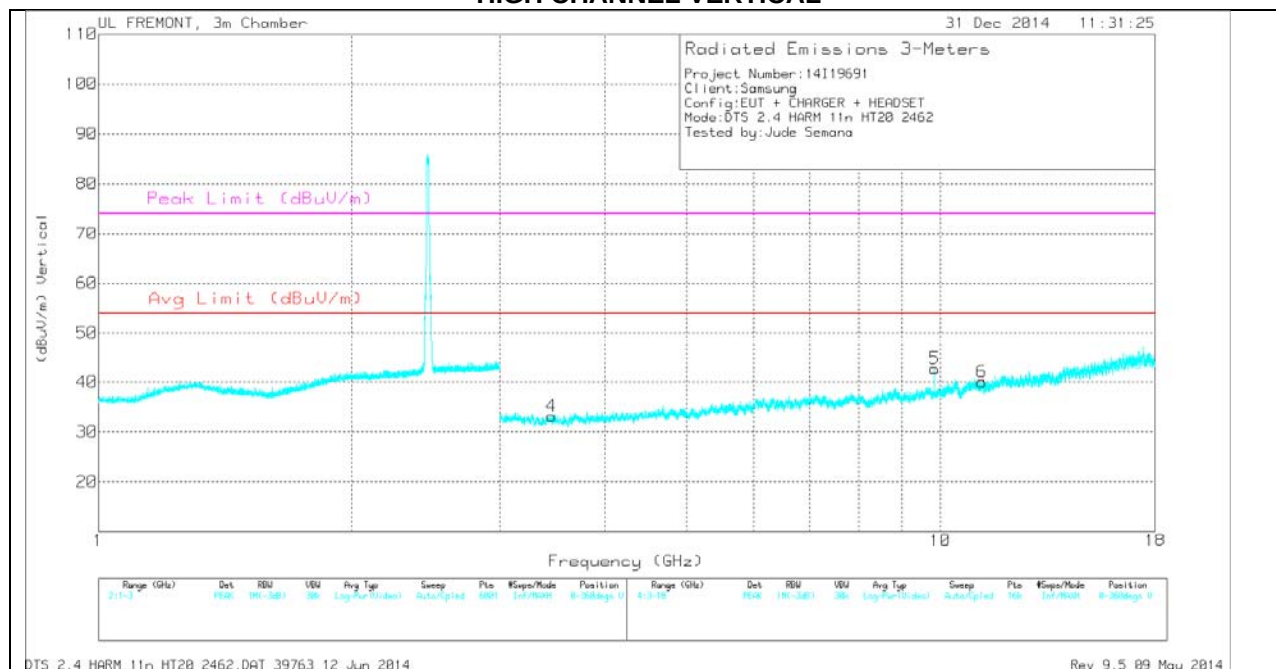
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	.32	36.38	54	-17.62	-	-	297	199	H

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.942	33.19	PK	31.4	-23.2	0	41.39	-	-	-	-	0-360	100	H
4	3.456	31.49	PK	33	-31.3	0	33.19	-	-	-	-	0-360	100	V
2	4.596	31.16	PK	34	-31	0	34.16	-	-	74	-39.84	0-360	100	H
3	6.491	30.67	PK	35.5	-30	0	36.17	-	-	-	-	0-360	100	H
5	9.848	31.72	PK	36.9	-25.9	0	42.72	-	-	-	-	0-360	100	V
6	11.206	27.16	PK	37.9	-25	0	40.06	-	-	74	-33.94	0-360	100	V

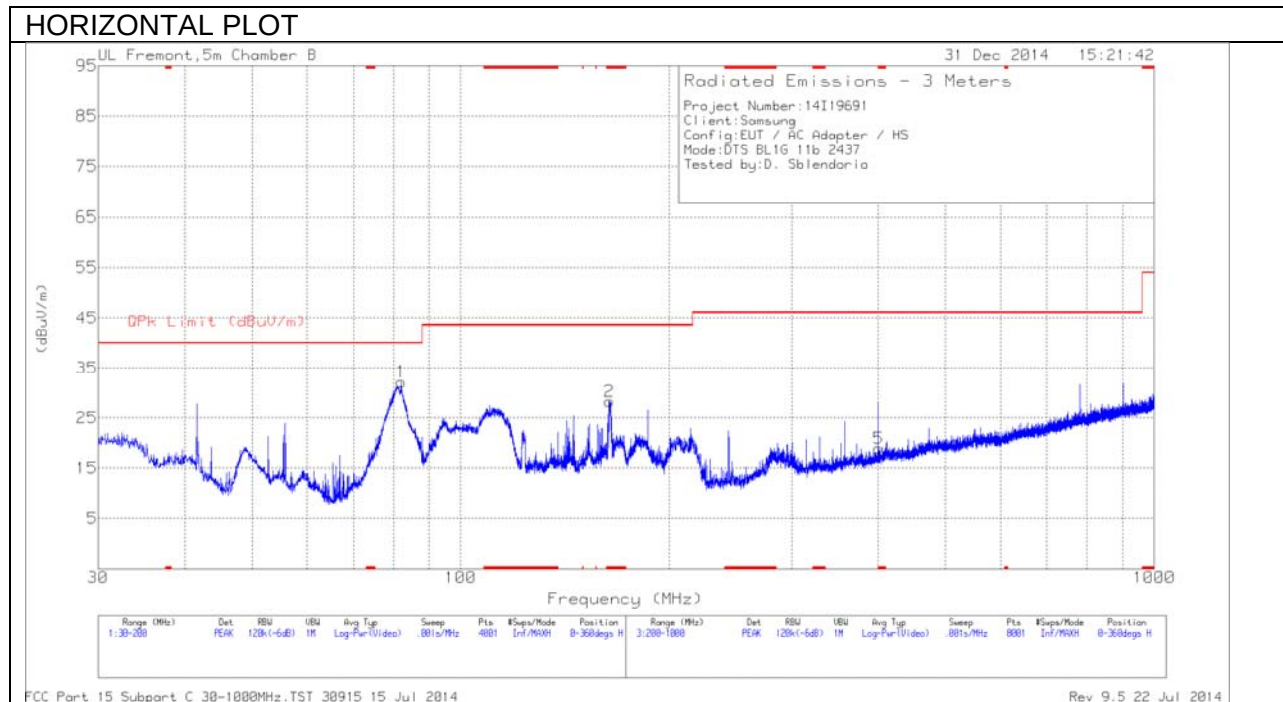
PK - Peak detector

Radiated Emissions

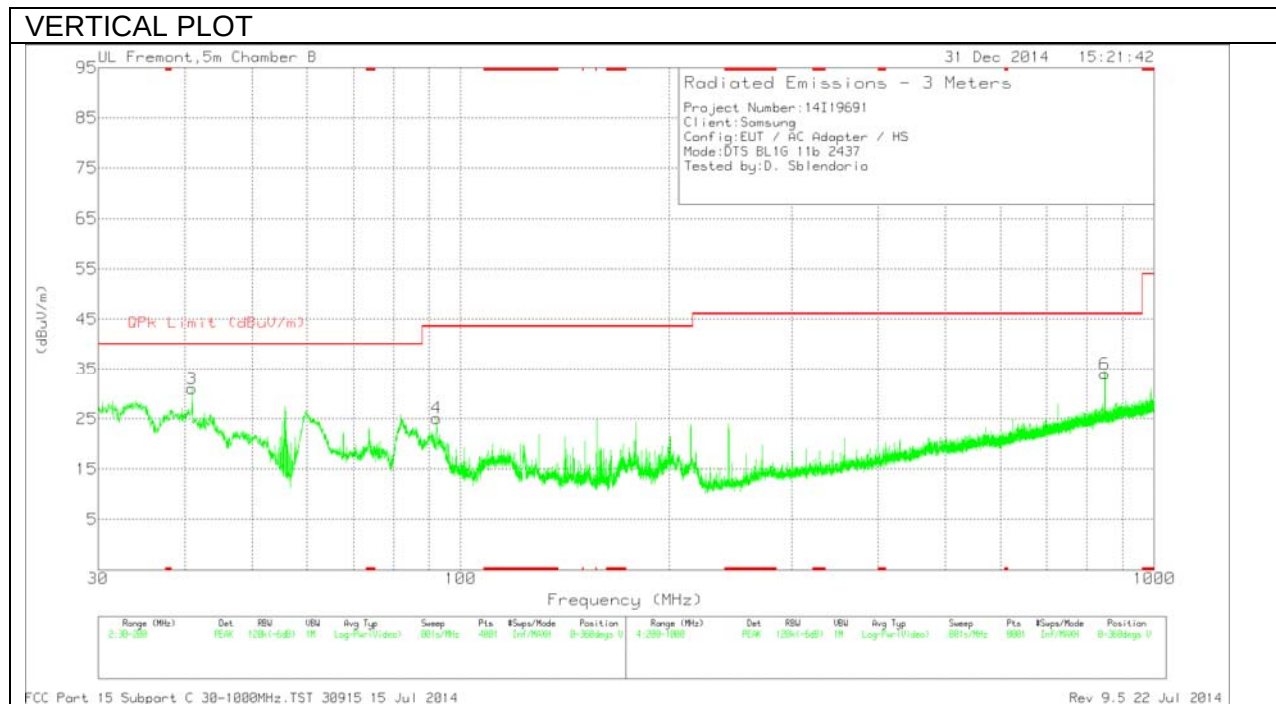
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.851	34.84	PK2	38.9	-26.4	0	47.34	-	-	74	-26.66	297	199	H
11.851	23.58	MAV1	38.9	-26.4	.32	36.38	54	-17.62	-	-	297	199	H

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

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 164.0025	43.54	PK	12	-27.3	0	28.24	43.52	-15.28	0-360	200	H
5	* 400.8	29.41	PK	15.5	-26	0	18.91	46.02	-27.11	0-360	300	H
3	40.965	46.22	PK	13.4	-28.6	0	31.02	40	-8.98	0-360	101	V
1	82.105	52.97	PK	7.4	-28.2	0	32.17	40	-7.83	0-360	200	H
4	92.305	45.01	PK	8.2	-28.1	0	25.11	43.52	-18.41	0-360	101	V
6	848.6	35.43	PK	22	-23.4	0	34.03	46.02	-11.99	0-360	101	V

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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 C63.4 2009.

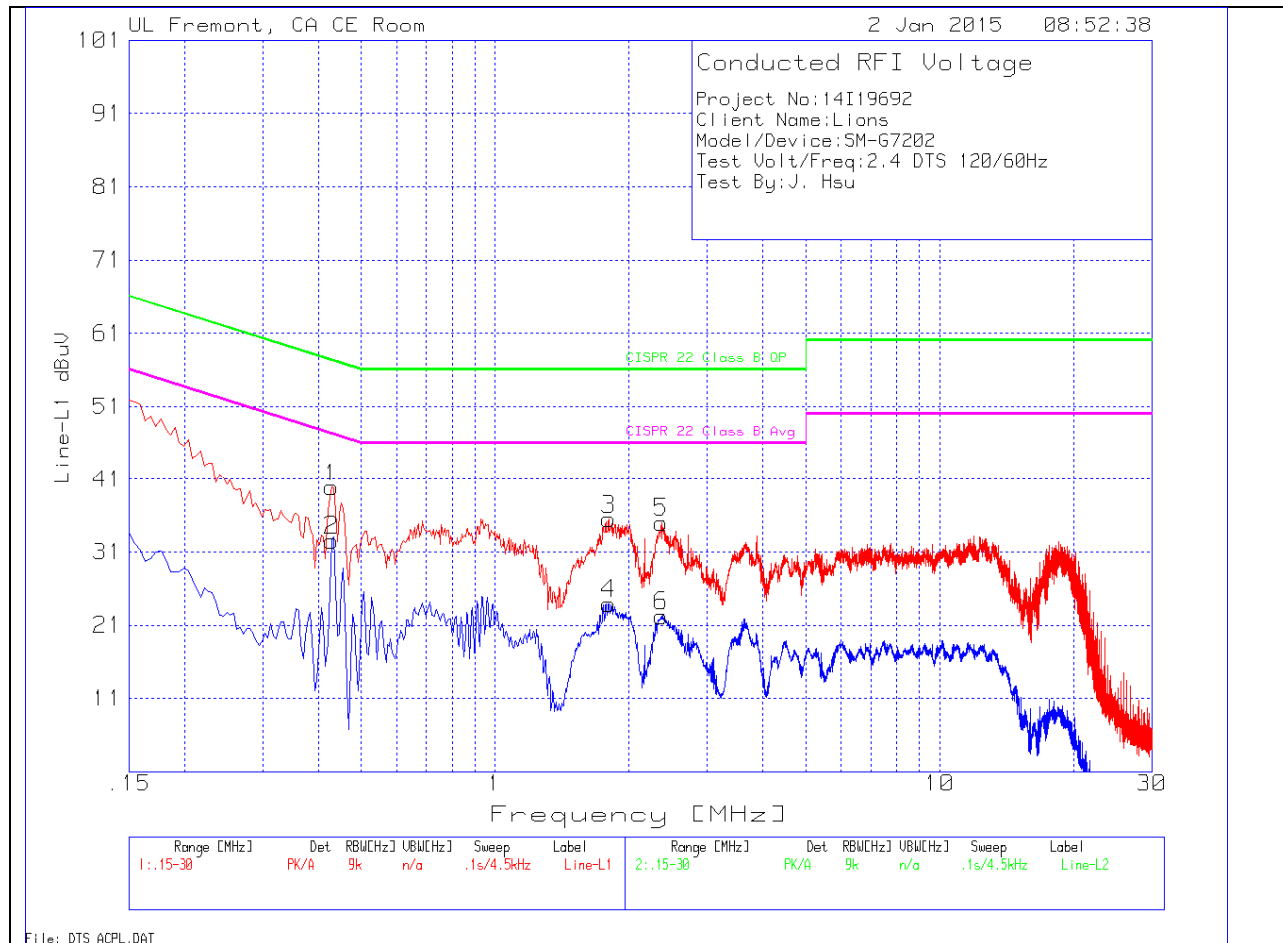
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT

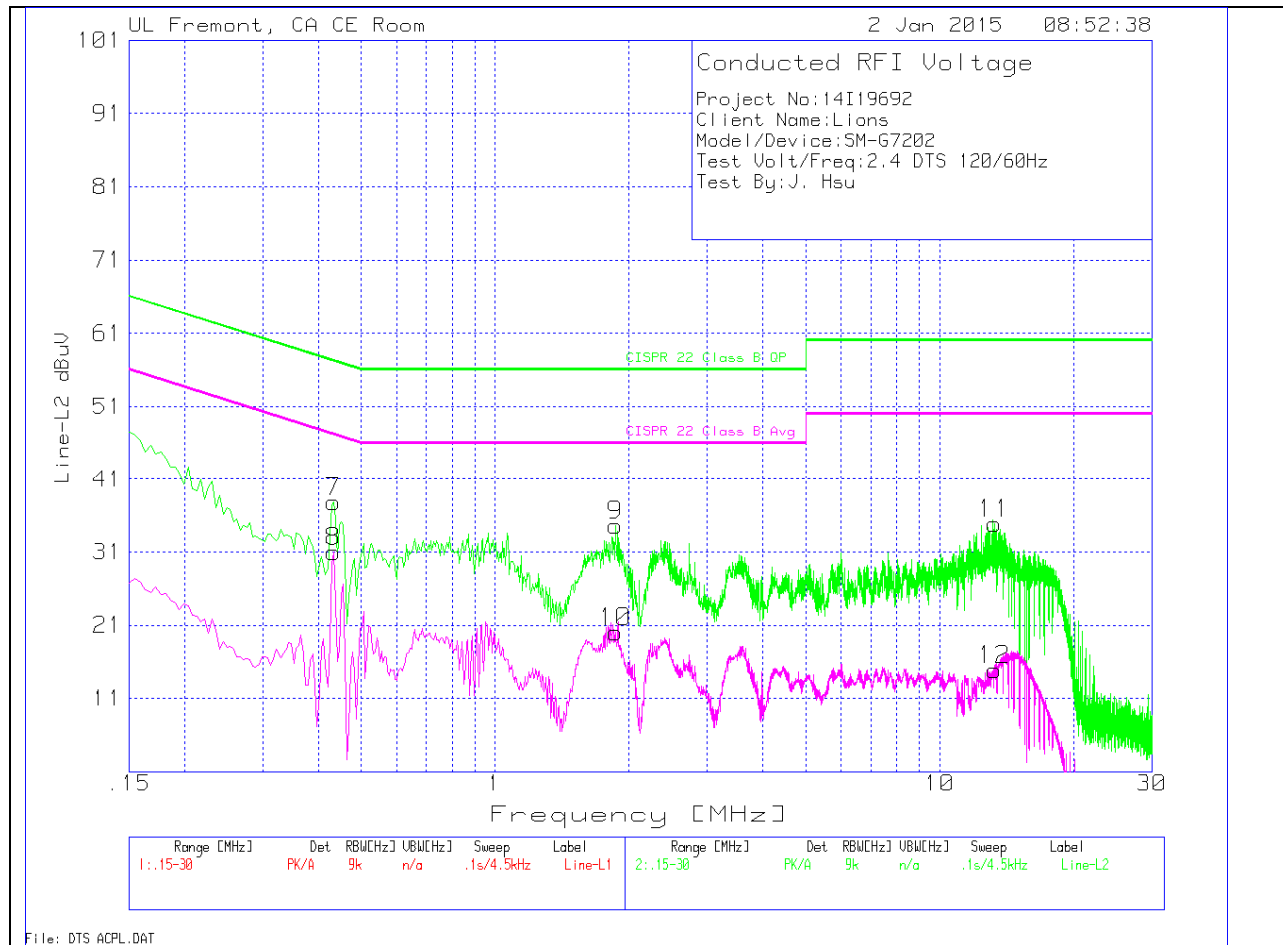


LINE 1 RESULTS

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	10dB Attn (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.429	49.43	PK	.4	0	-10	39.83	57.3	-17.47	-	-
2	.429	42.17	Av	.4	0	-10	32.57	-	-	47.3	-14.73
3	1.8015	45.14	PK	.2	.1	-10	35.44	56	-20.56	-	-
4	1.8015	33.57	Av	.2	.1	-10	23.87	-	-	46	-22.13
5	2.364	44.71	PK	.2	.1	-10	35.01	56	-20.99	-	-
6	2.364	31.88	Av	.2	.1	-10	22.18	-	-	46	-23.82

LINE 2 PLOT



LINE 2 RESULTS

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	10dB Attn (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
7	.4335	47.38	PK	.4	0	-10	37.78	57.2	-19.42	-	-
8	.4335	40.56	Av	.4	0	-10	30.96	-	-	47.2	-16.24
9	1.8645	44.31	PK	.2	.1	-10	34.61	56	-21.39	-	-
10	1.8645	29.69	Av	.2	.1	-10	19.99	-	-	46	-26.01
11	13.2495	44.36	PK	.3	.2	-10	34.86	60	-25.14	-	-
12	13.2495	24.44	Av	.3	.2	-10	14.94	-	-	50	-35.06