



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA Phone + Bluetooth & WLAN 2.4GHz b/g/n

MODEL NUMBER: SM-G355M/DS, SM-G355M

FCC ID: A3LSMG355M

REPORT NUMBER: 14I17720-4 REVISION A

ISSUE DATE: MAY 20, 2014

Prepared for

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	5/8/14	Initial Issue	P. Kim
A	5/20/14	Updated section 10.2.2	P. Zhang

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
416, MAETAN 3-DONG, YEONGTONG-GU
SUWON-CITY, GYEONGGI-DO 443-742, SOUTH KOREA

EUT DESCRIPTION: GSM/WCDMA Phone + Bluetooth & WLAN 2.4GHz b/g/n

MODEL: SM-G355M

SERIAL NUMBER: R31F3037MFJ (Conducted), R31F3037N0H (Radiated)

DATE TESTED: MAY 5 - 8, 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 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

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 18000 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.

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	18.64	73.11
2412 - 2462	802.11g	22.11	162.55
2412 - 2462	802.11n HT20	20.26	106.17

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.4 dBi.

5.1. SOFTWARE AND FIRMWARE

Software version was G355MUBU0AND3.

5.2. 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

5.3. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

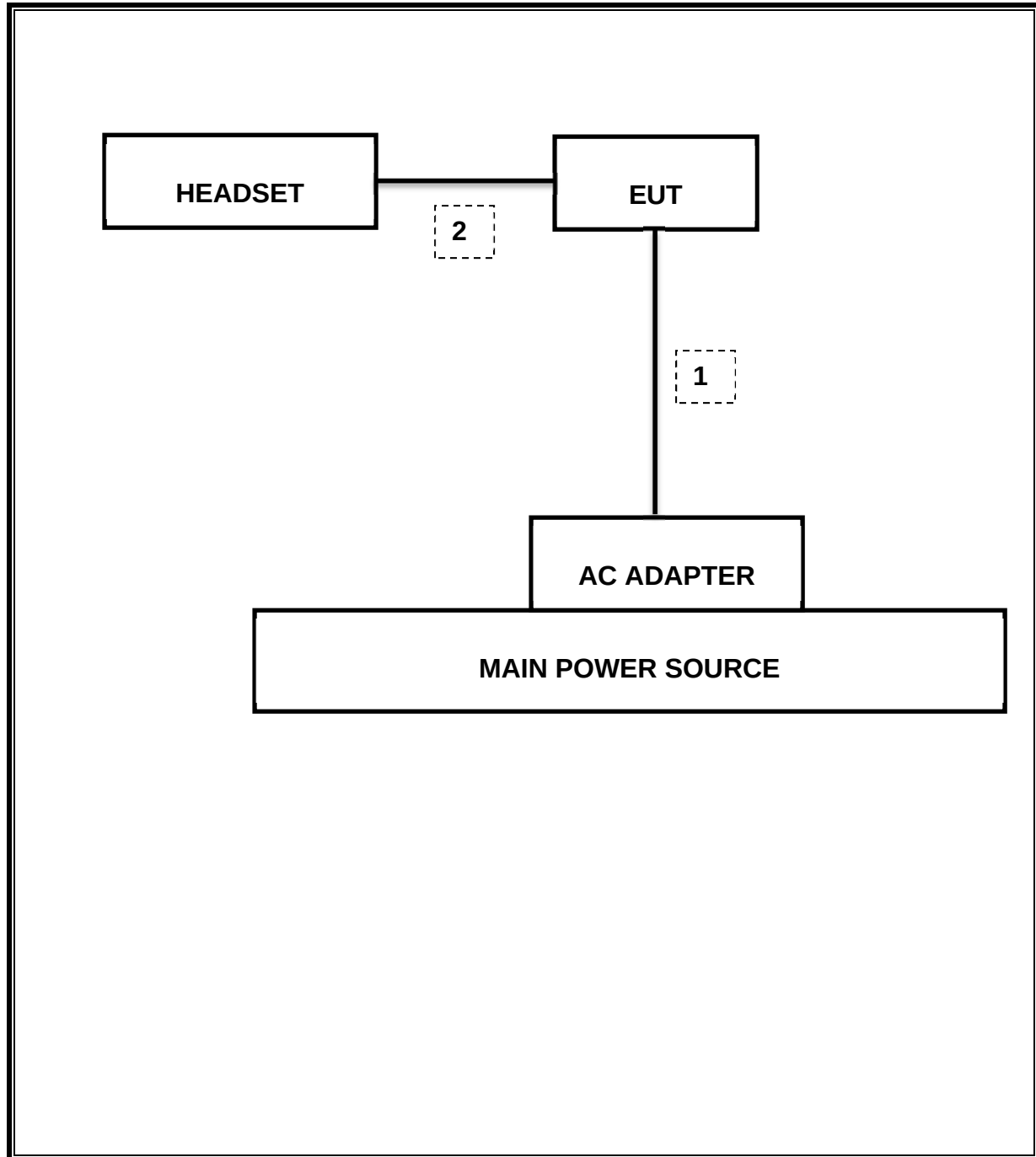
Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	ETA0U10JBS	N/A	N/A
Earphone	Samsung	N/A	N/A	N/A

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. Test software exercised the radio card.

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	12/20/14
Spectrum Analyzer, 9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/14
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/15
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/14
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/14
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/14
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/14
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/14
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/14
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/14
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/14

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Meas Guidance v03r01:Measurement Procedure PK2 is used for power and PKPSD 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	8.53MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-31.82dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	22.11dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-3.78dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	36.02dBuV(AV)
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	42.92dBuV/m

9. ANTENNA PORT TEST RESULTS

9.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

TEST PROCEDURE

Reference to KDB 558074 D01 DTS Meas Guidance v03r01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100 kHz, 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	8.53	0.5
Mid	2437	9.00	0.5
High	2462	8.57	0.5
Worst		8.53	

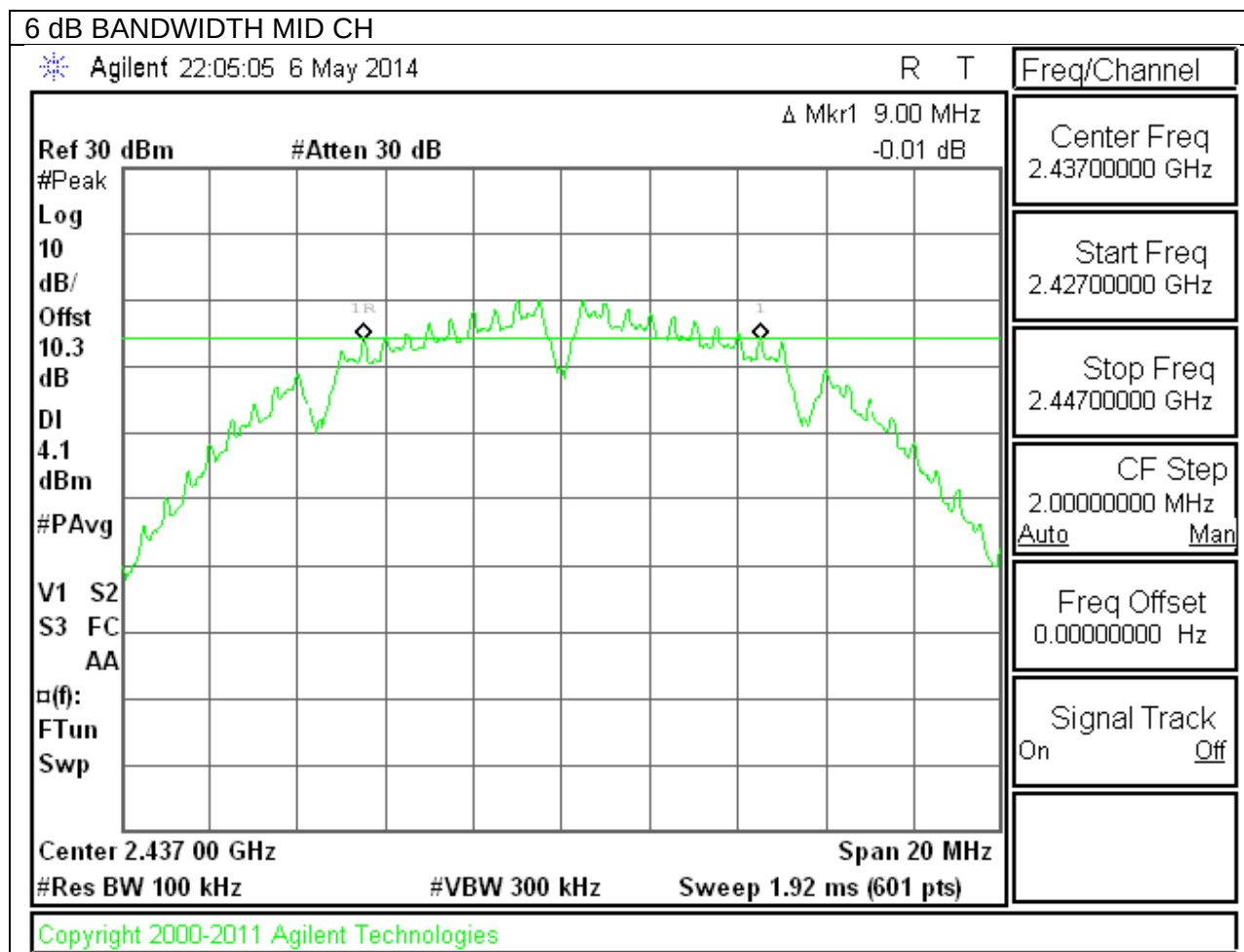
9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

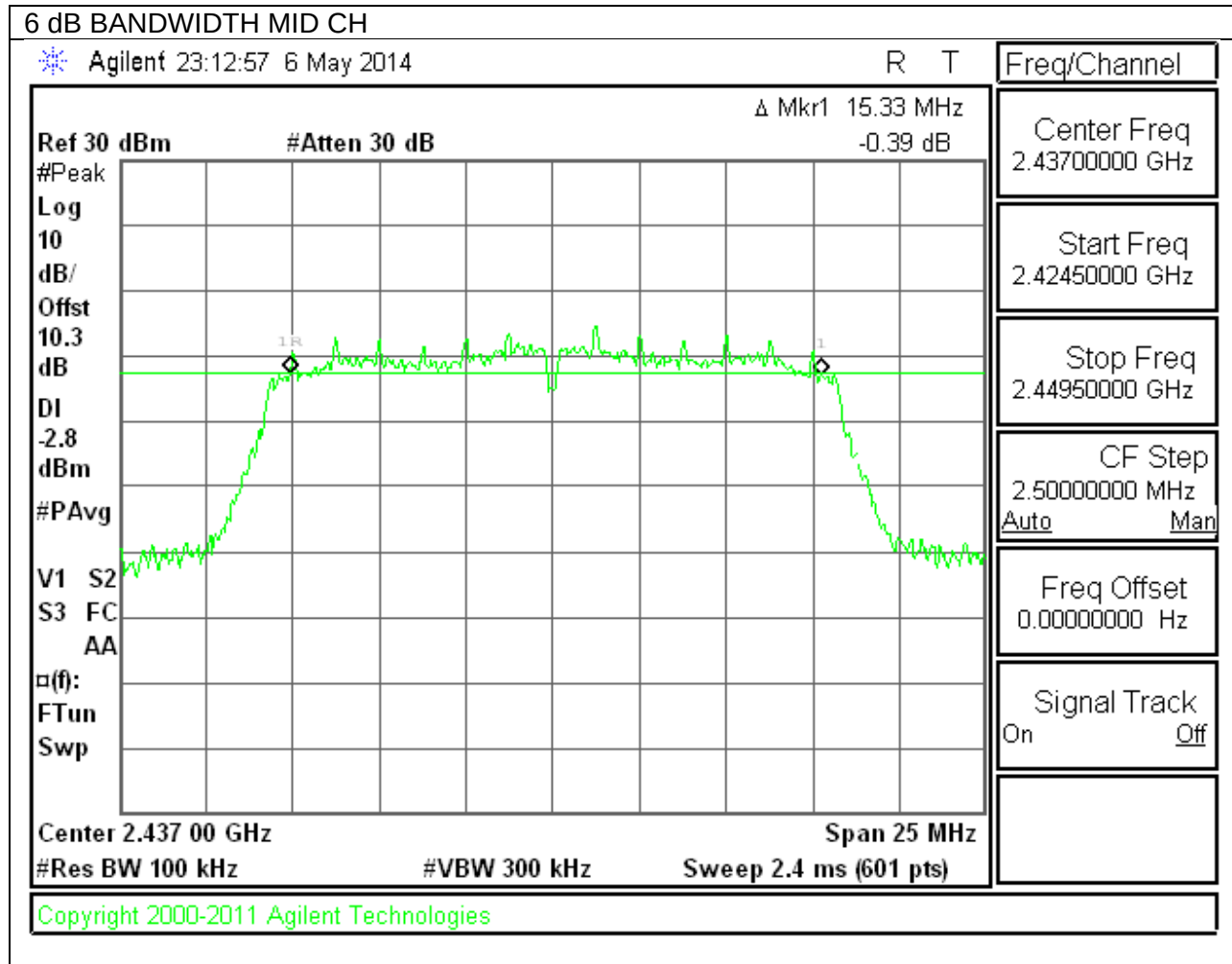
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.33	0.5
Mid	2437	15.33	0.5
High	2462	15.33	0.5
Worst		15.33	

9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

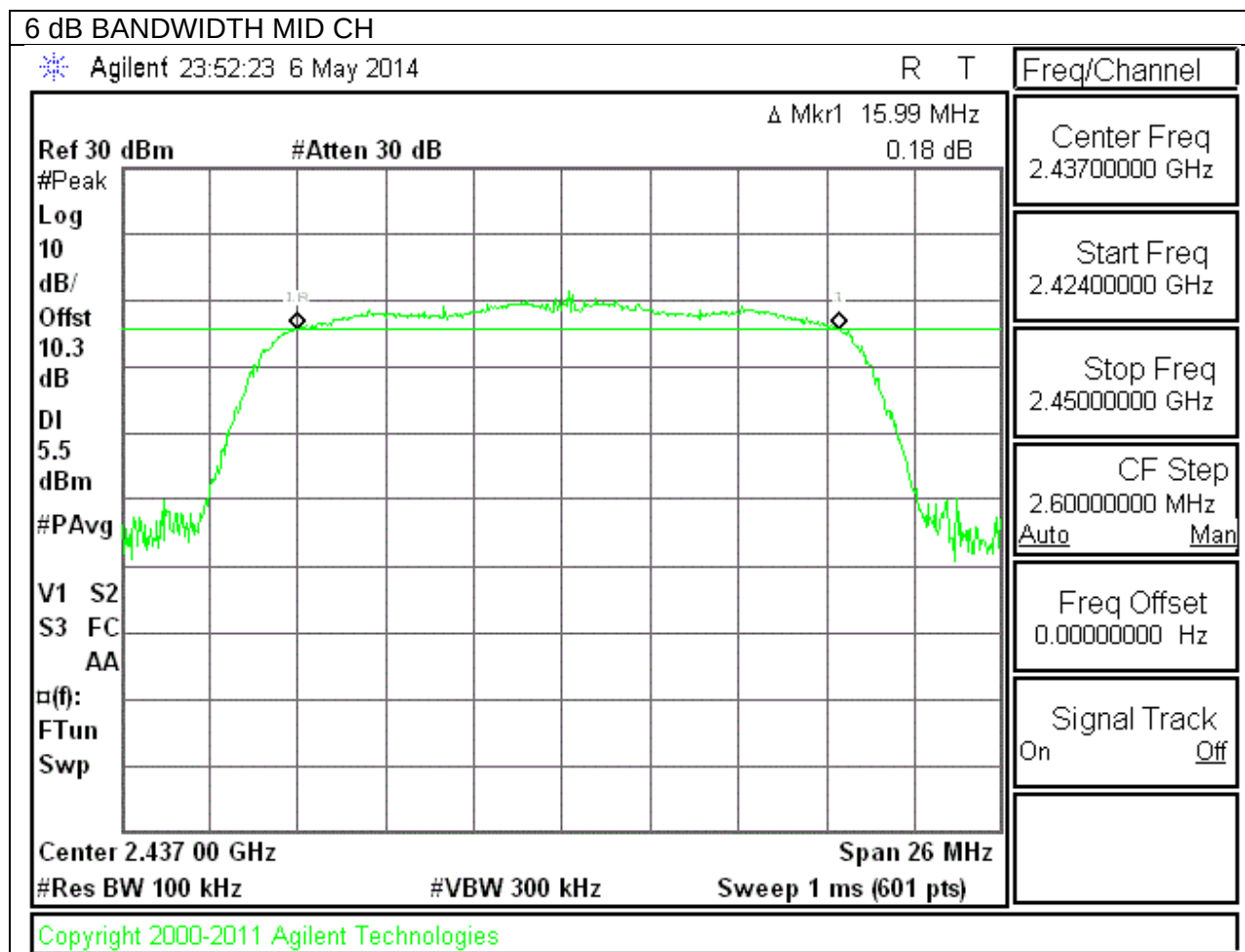
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.25	0.5
Mid	2437	15.99	0.5
High	2462	16.77	0.5
Worst		15.99	

802.11b 6 dB BANDWIDTH



802.11g 6 dB BANDWIDTH

802.11n 6 dB BANDWIDTH



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	13.45
Mid	2437	13.46
High	2462	13.41
Worst		13.46

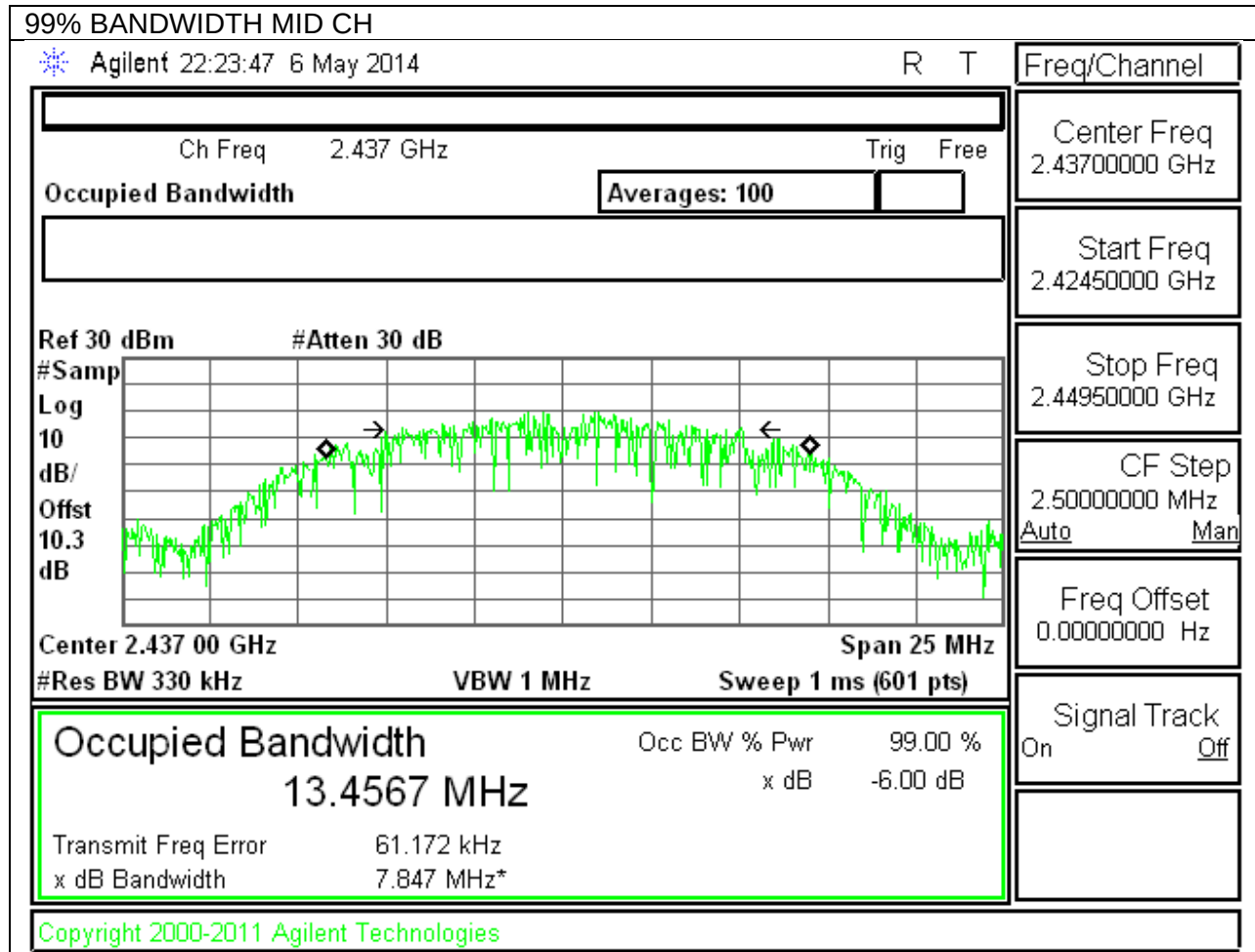
9.2.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.22
Mid	2437	16.26
High	2462	16.19
Worst		16.26

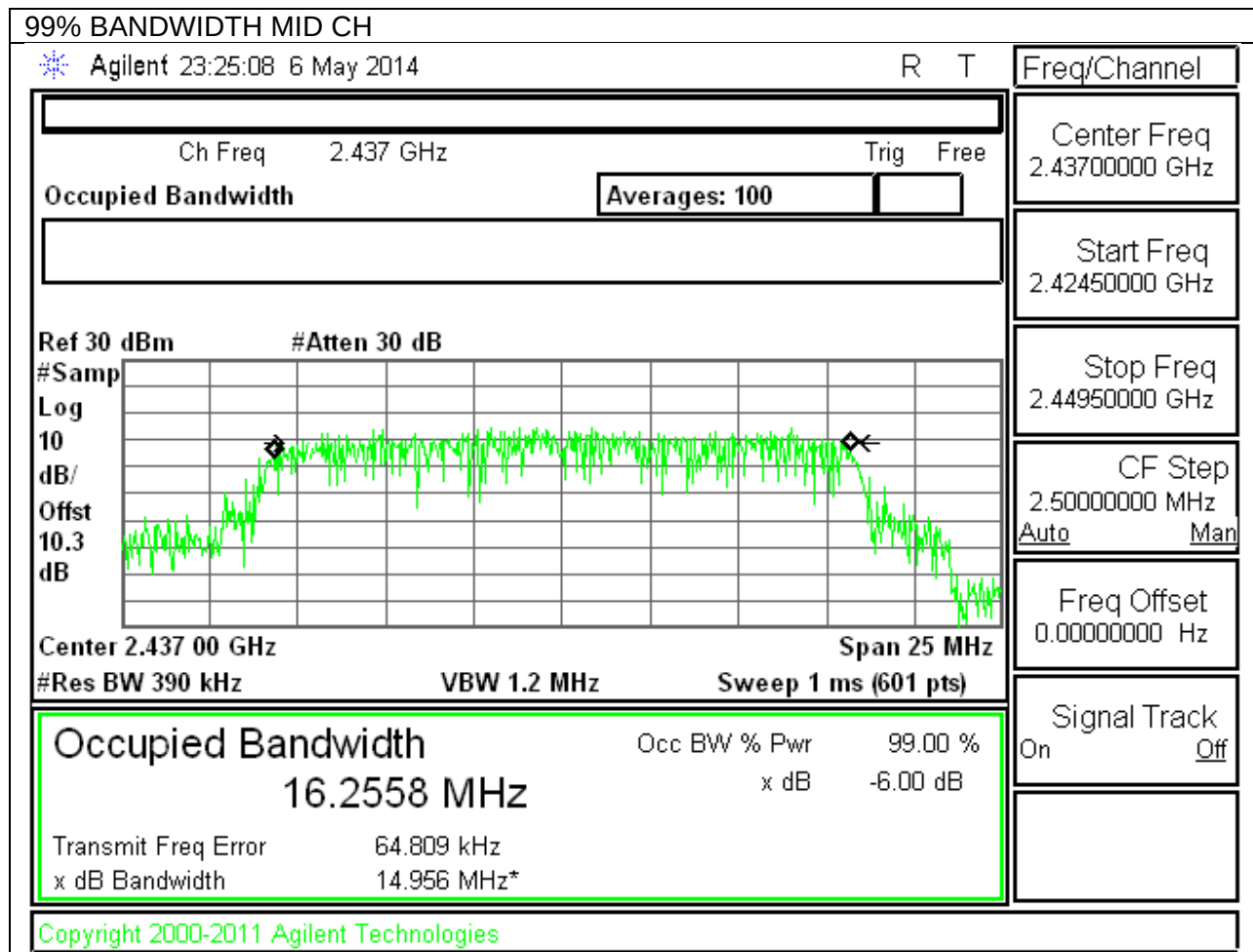
9.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.36
Mid	2437	17.27
High	2462	17.39
Worst		17.39

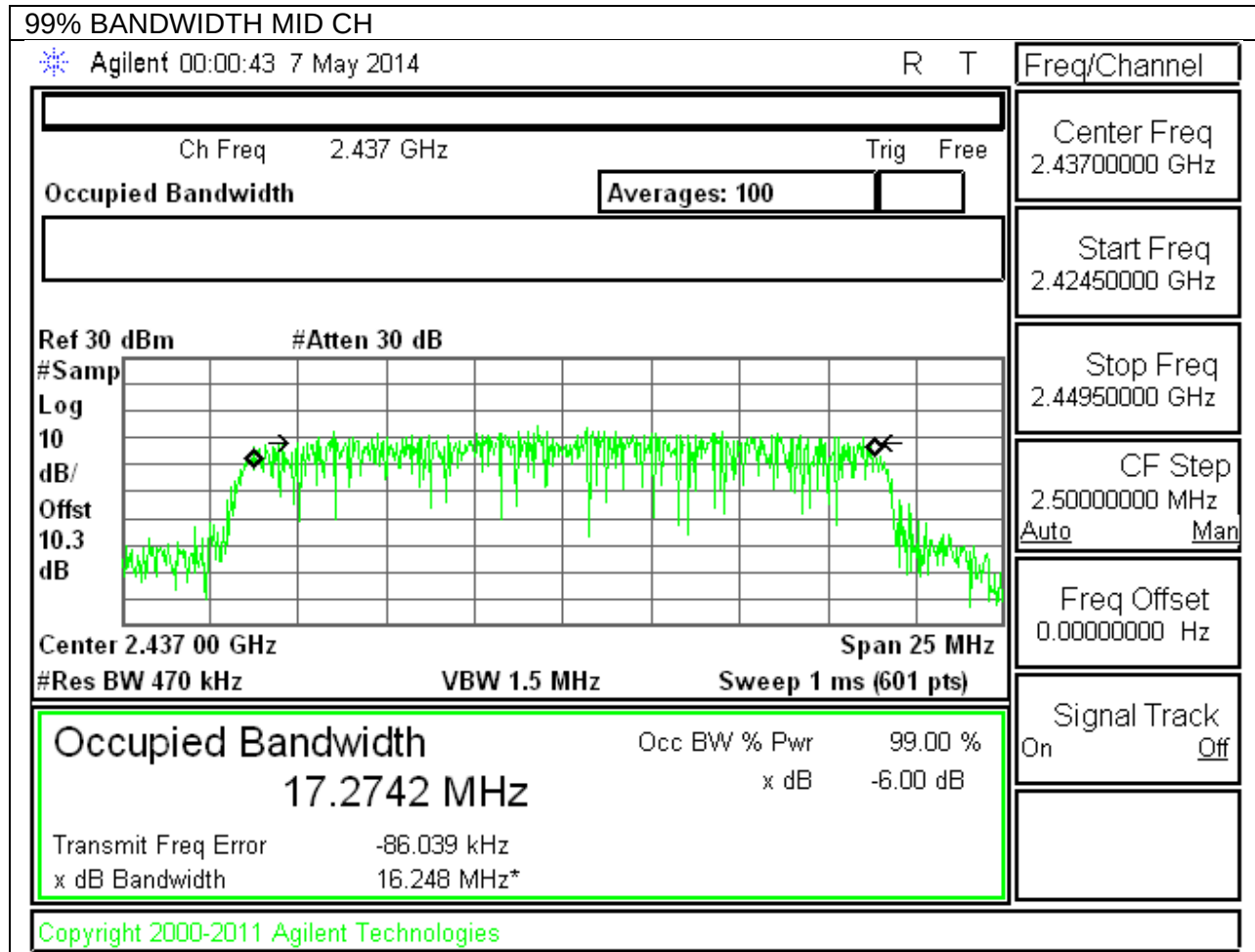
802.11b 99% BANDWIDTH



802.11g 99% BANDWIDTH



802.11n 99% BANDWIDTH



9.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 0.3 dB (0.3 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

9.3.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	2412	15.80
Mid	2437	15.80
High	2462	15.70
Worst		15.800

9.3.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	2412	14.20
Mid	2437	14.20
High	2462	14.15
Worst		14.200

9.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	2412	12.00
Mid	2437	12.05
High	2462	12.05
Worst		12.050

9.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

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.

RESULTS

9.4.1. 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	-1.40	30.00	30	36	30.00
Mid	2437	-1.40	30.00	30	36	30.00
High	2462	-1.40	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	18.34	18.34	30.00	-11.66
Mid	2437	18.64	18.64	30.00	-11.36
High	2462	18.43	18.43	30.00	-11.57
Worst			18.64		

9.4.2. 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	-1.40	30.00	30	36	30.00
Mid	2437	-1.40	30.00	30	36	30.00
High	2462	-1.40	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	22.04	22.04	30.00	-7.96
Mid	2437	22.11	22.11	30.00	-7.89
High	2462	21.97	21.97	30.00	-8.03
Worst			22.11		

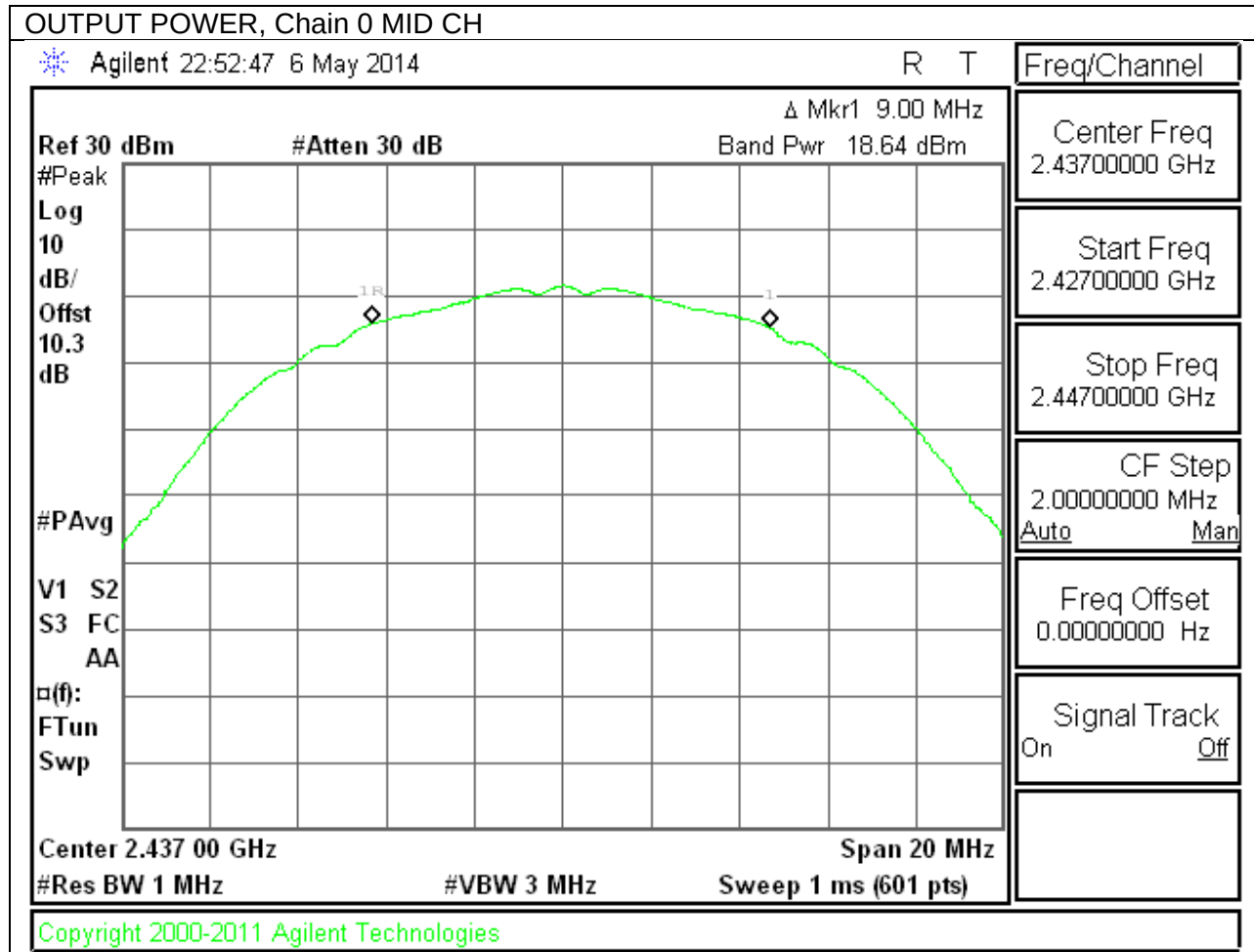
9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Limits

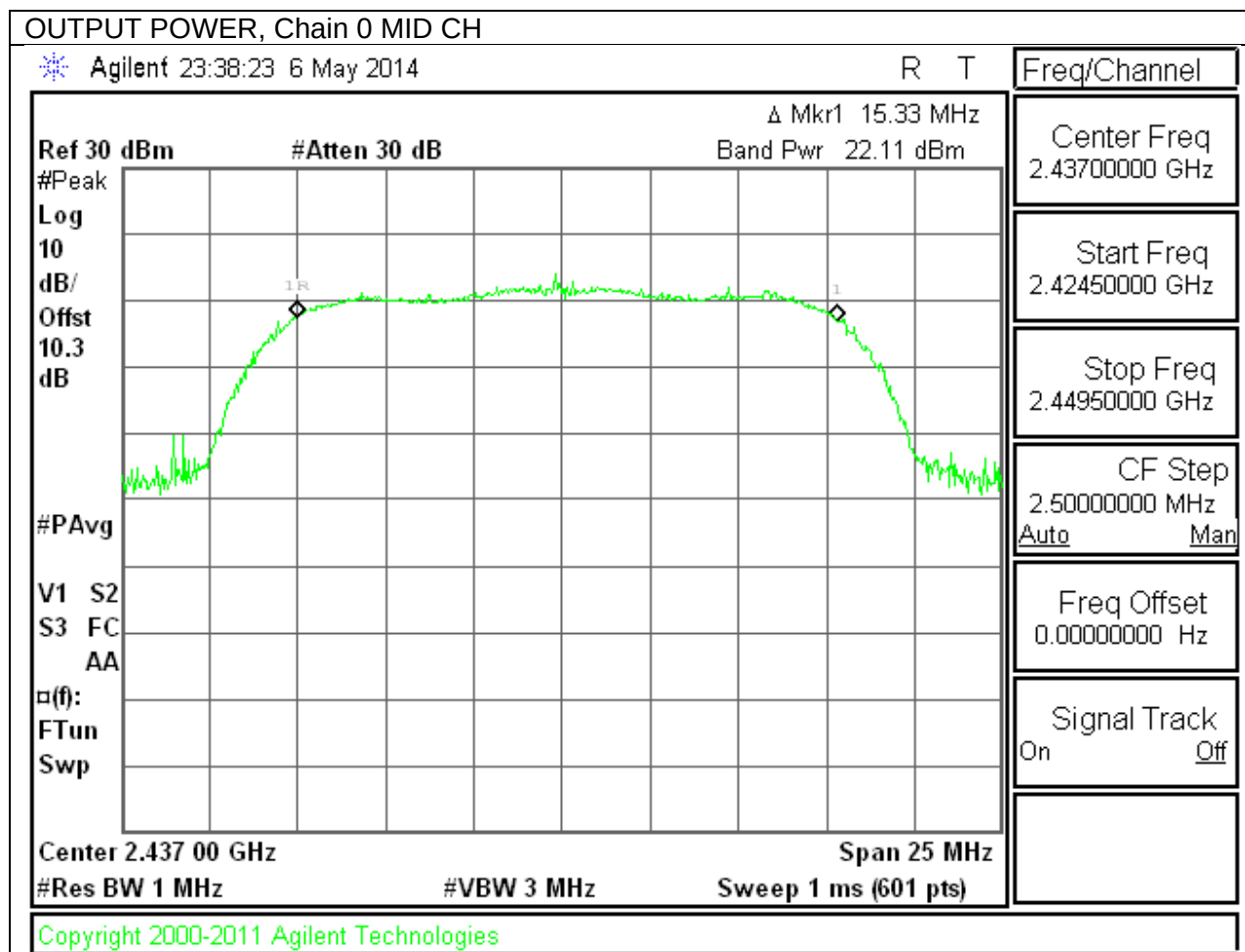
Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-1.40	30.00	30	36	30.00
Mid	2437	-1.40	30.00	30	36	30.00
High	2462	-1.40	30.00	30	36	30.00

Results

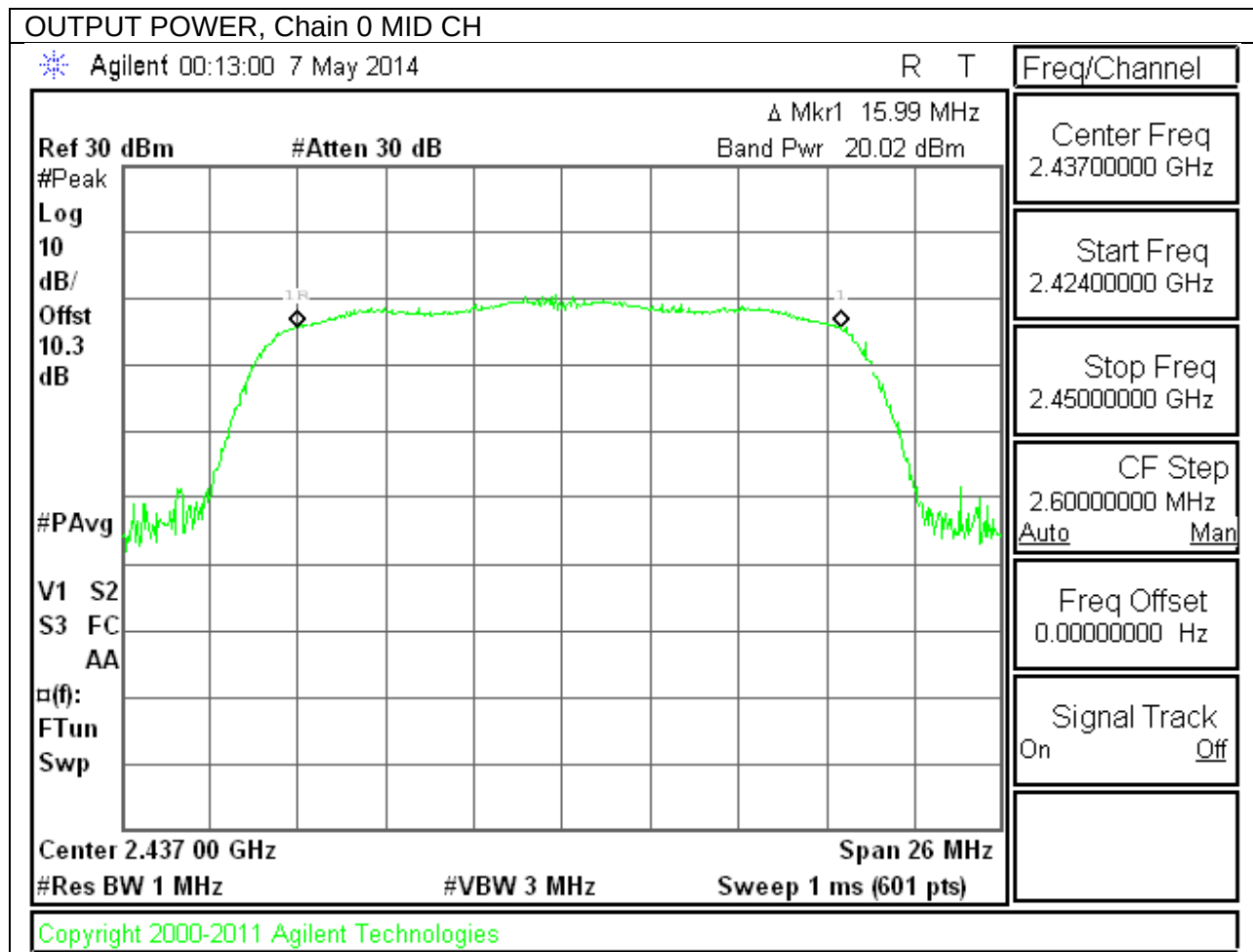
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	20.26	20.26	30.00	-9.74
Mid	2437	20.02	20.02	30.00	-9.98
High	2462	20.05	20.05	30.00	-9.95
Worst			20.26		

802.11b OUTPUT POWER, Chain 0

802.11g OUTPUT POWER, Chain 0



802.11n OUTPUT POWER, Chain 0



9.5. 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

9.5.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-4.64	8.0	-12.6
Mid	2437	-4.29	8.0	-12.3
High	2462	-3.78	8.0	-11.8

9.5.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

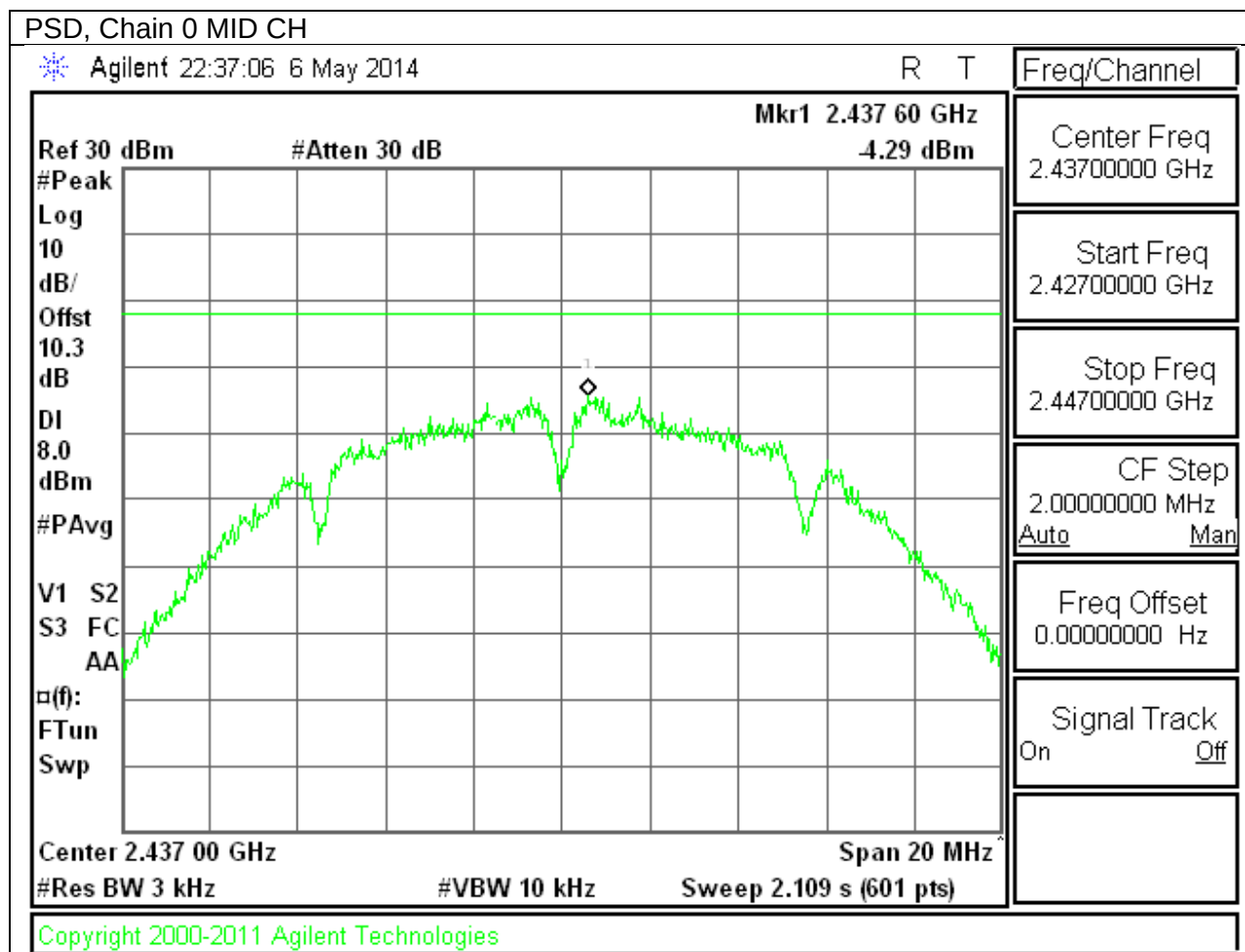
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-10.22	8.0	-18.2
Mid	2437	-9.87	8.0	-17.9
High	2462	-10.08	8.0	-18.1

9.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

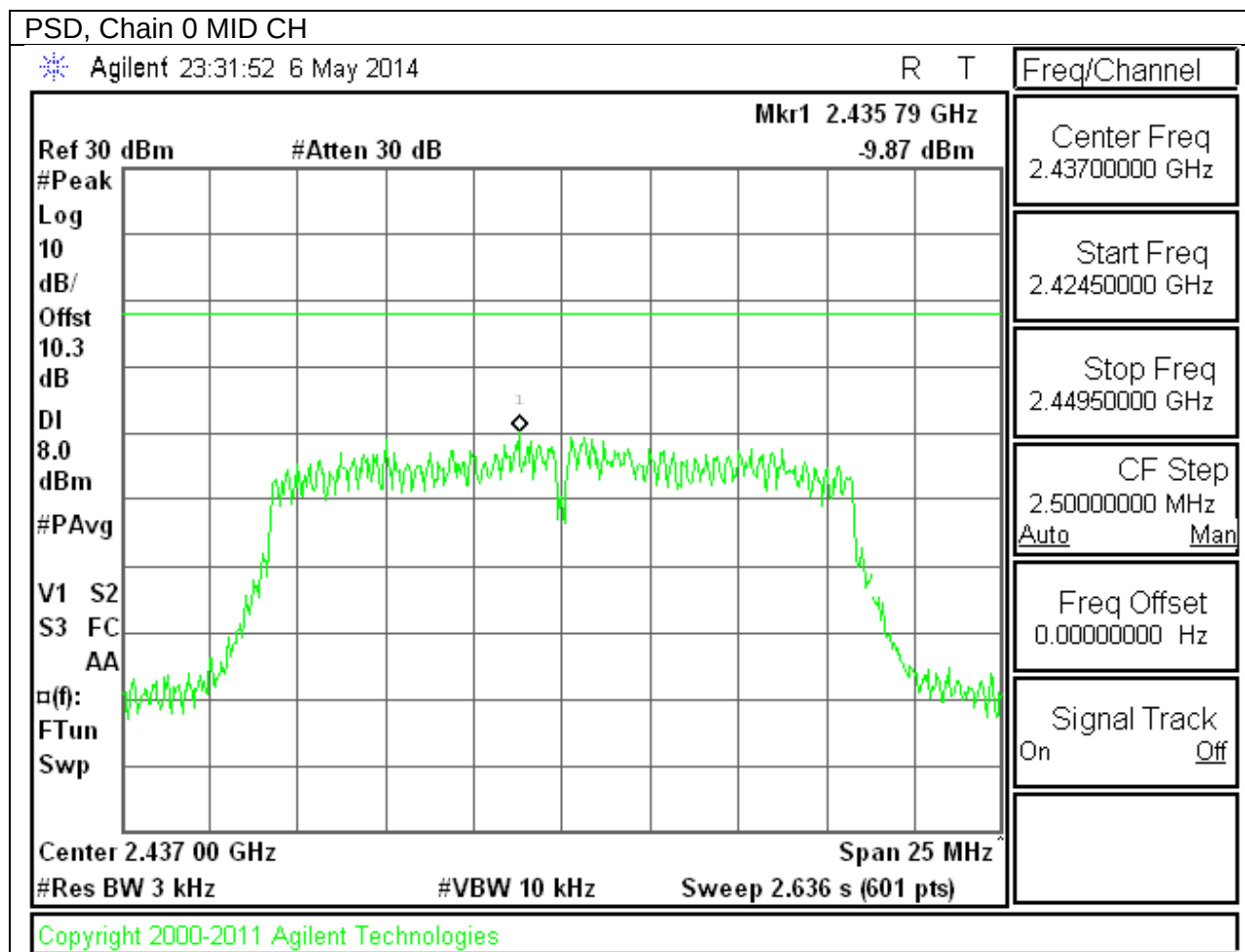
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-12.47	8.0	-20.5
Mid	2437	-11.89	8.0	-19.9
High	2462	-12.23	8.0	-20.2

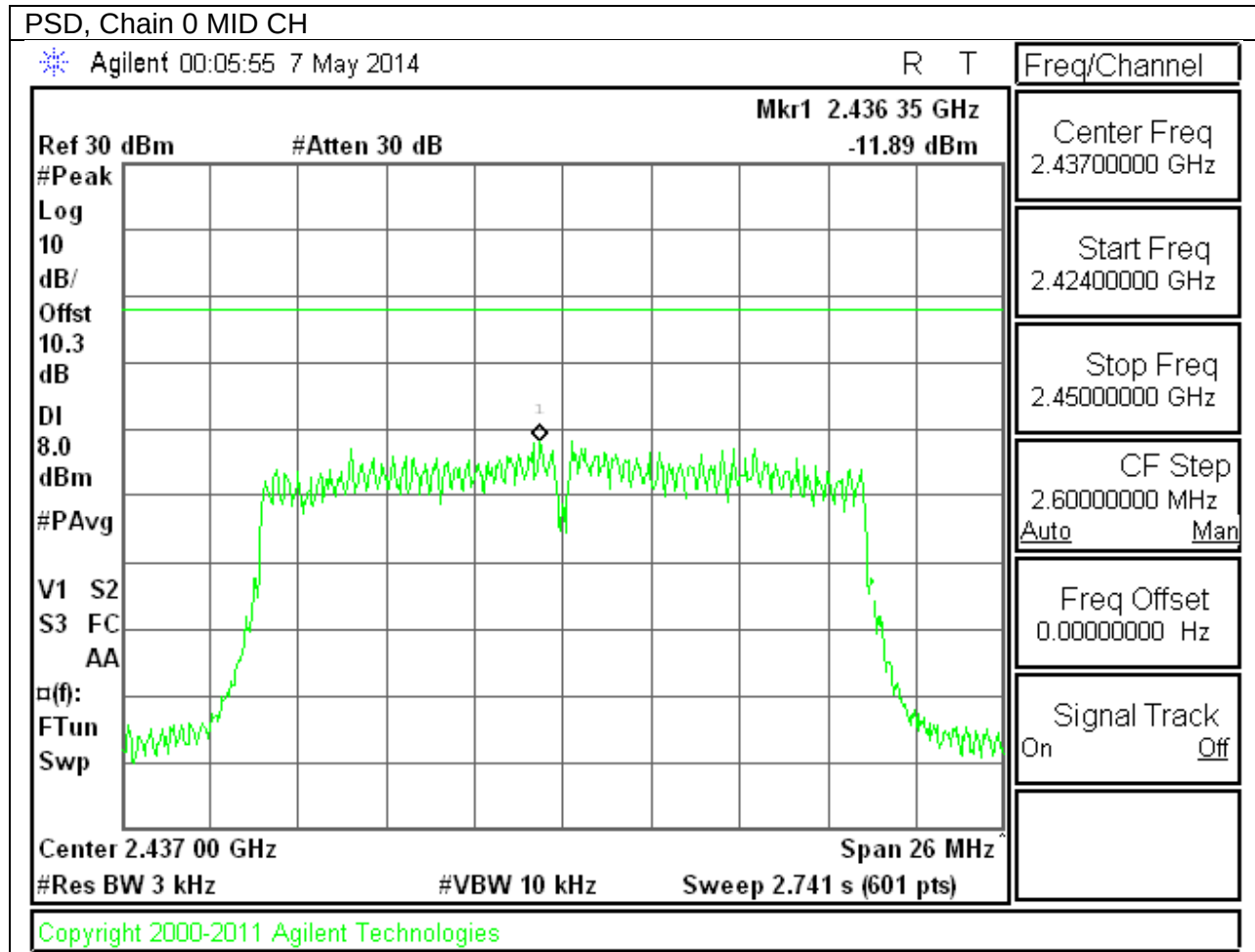
802.11b PSD, Chain 0



802.11g PSD, Chain 0



802.11n PSD, Chain 0



9.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

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.

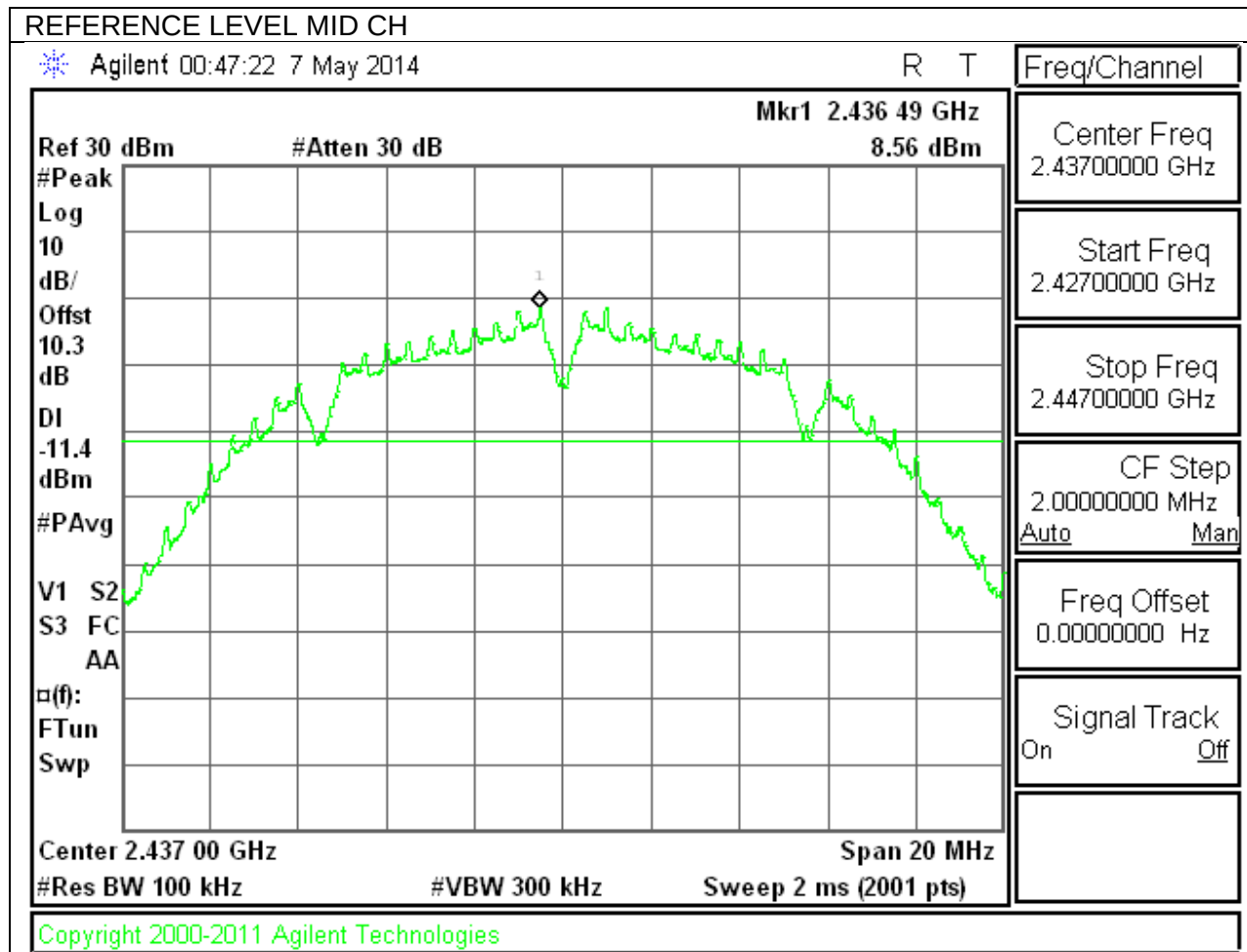
TEST PROCEDURE

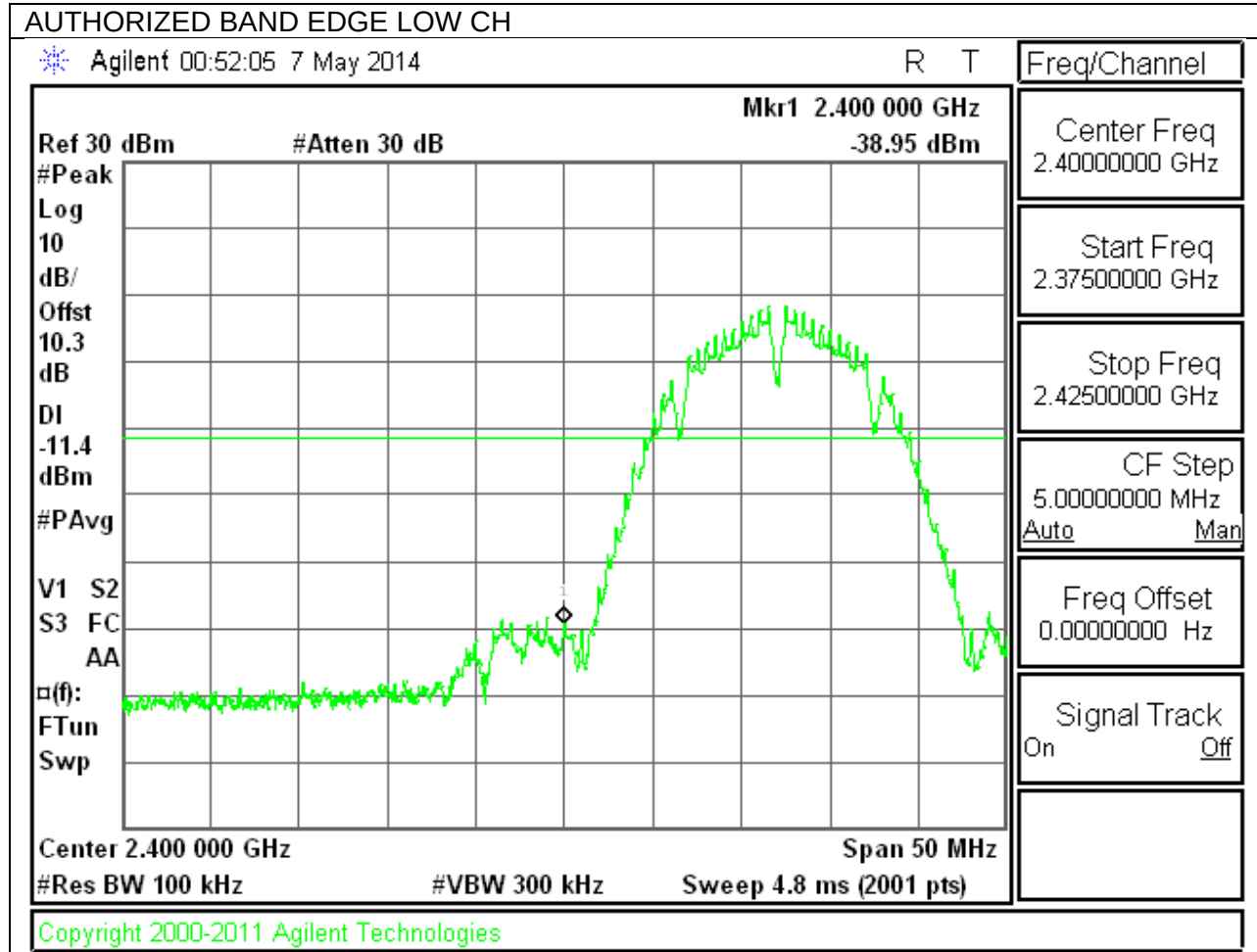
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS

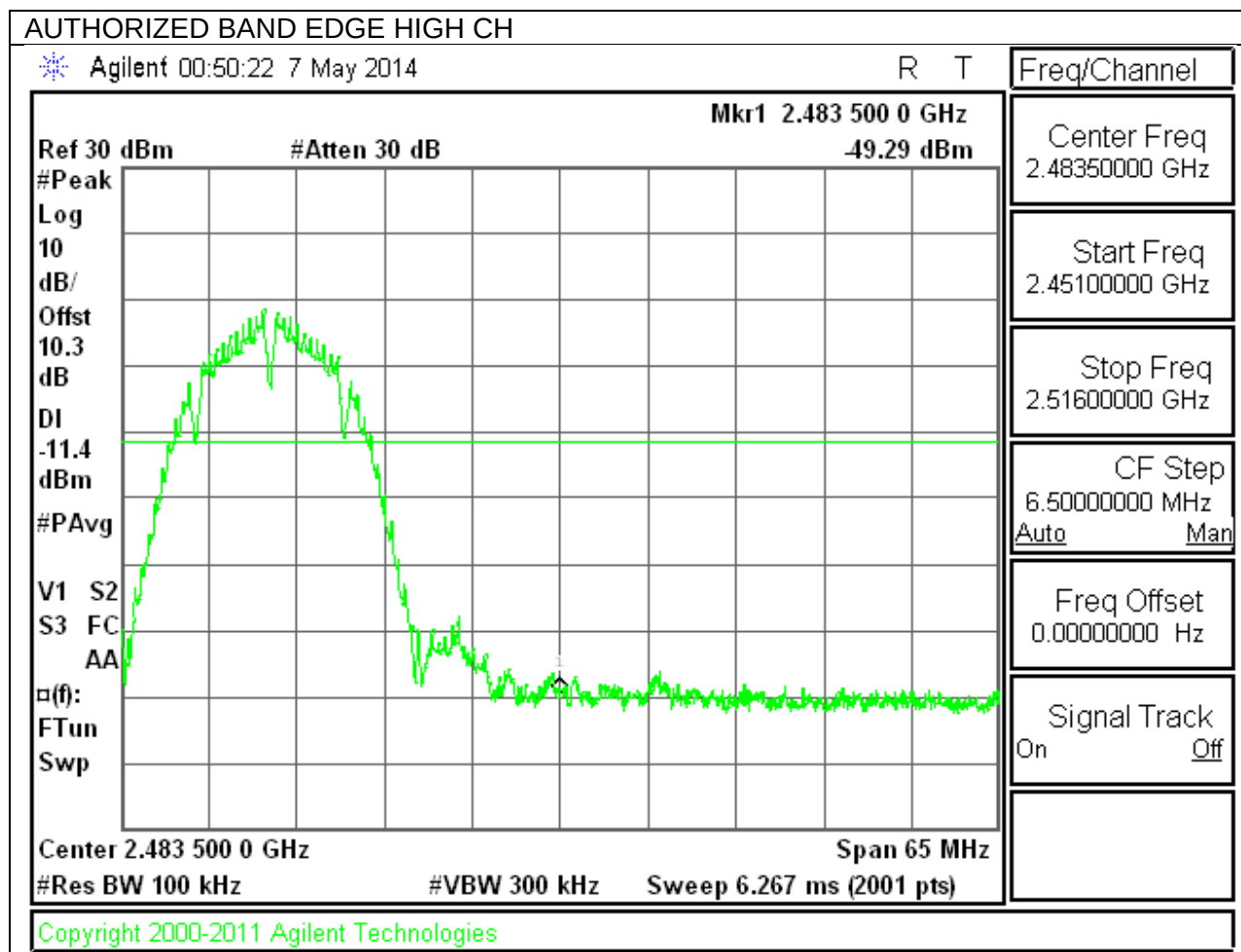
9.6.1. 802.11b MODE IN THE 2.4 GHz BAND

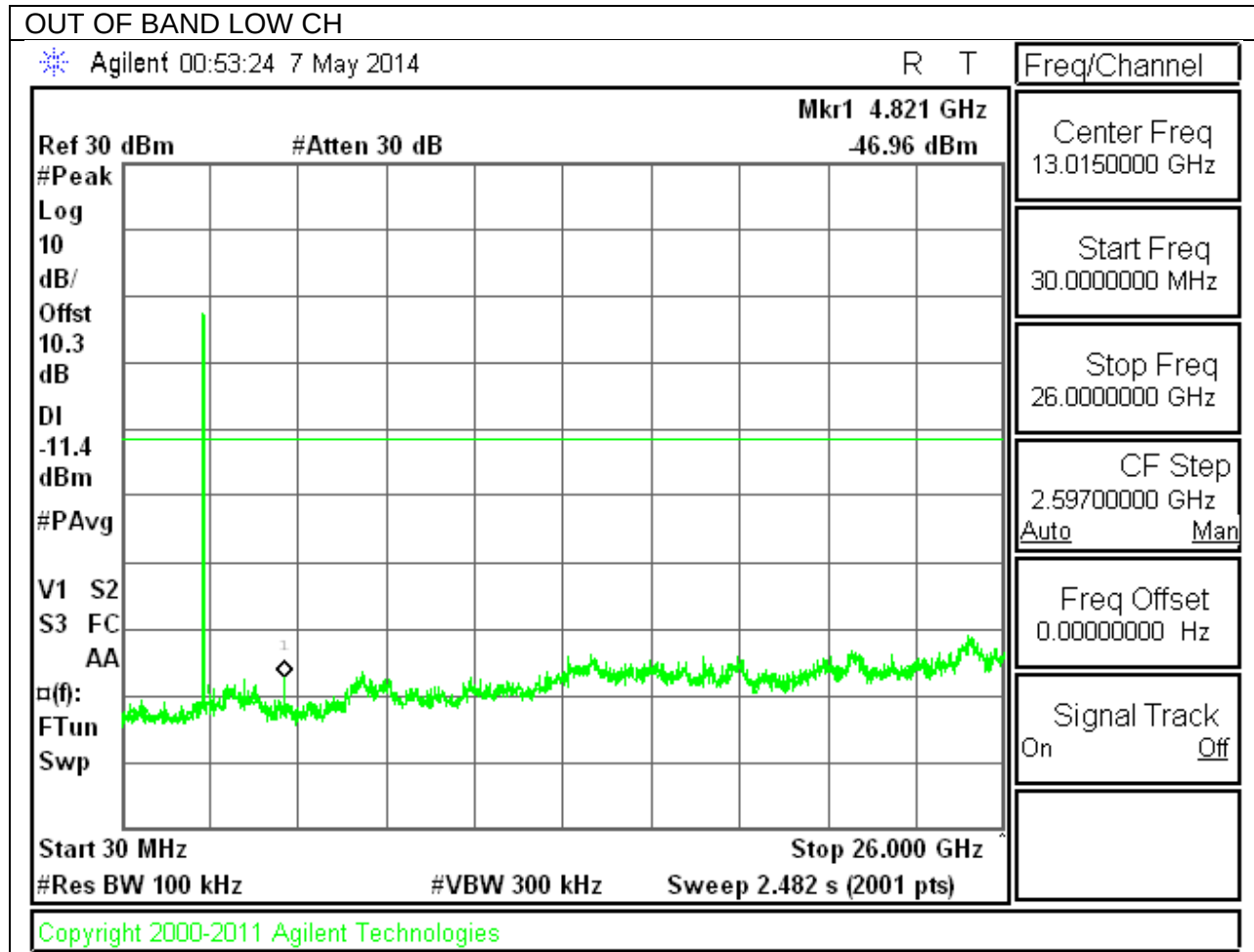
IN-BAND REFERENCE LEVEL

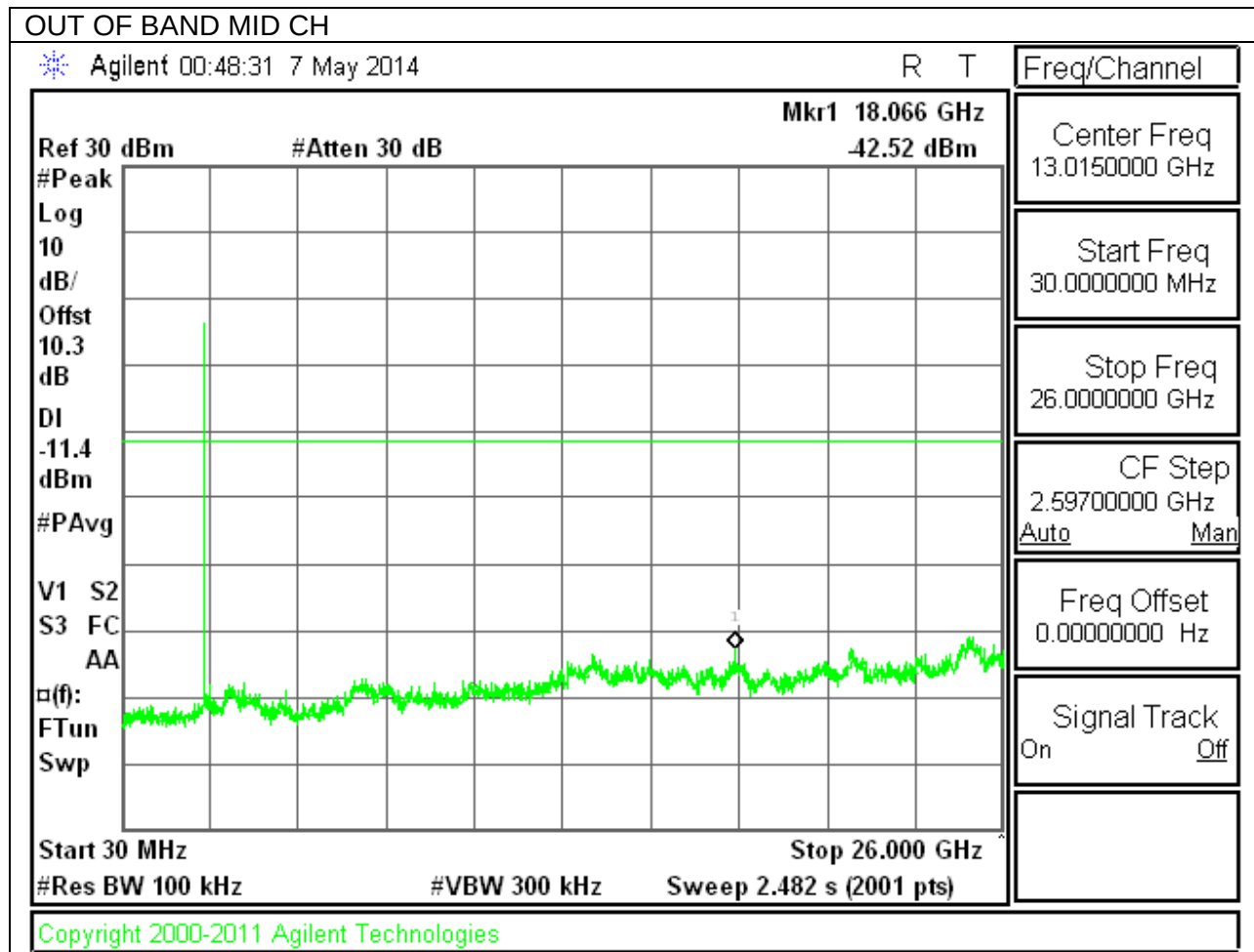


LOW CHANNEL BANDEDGE

HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

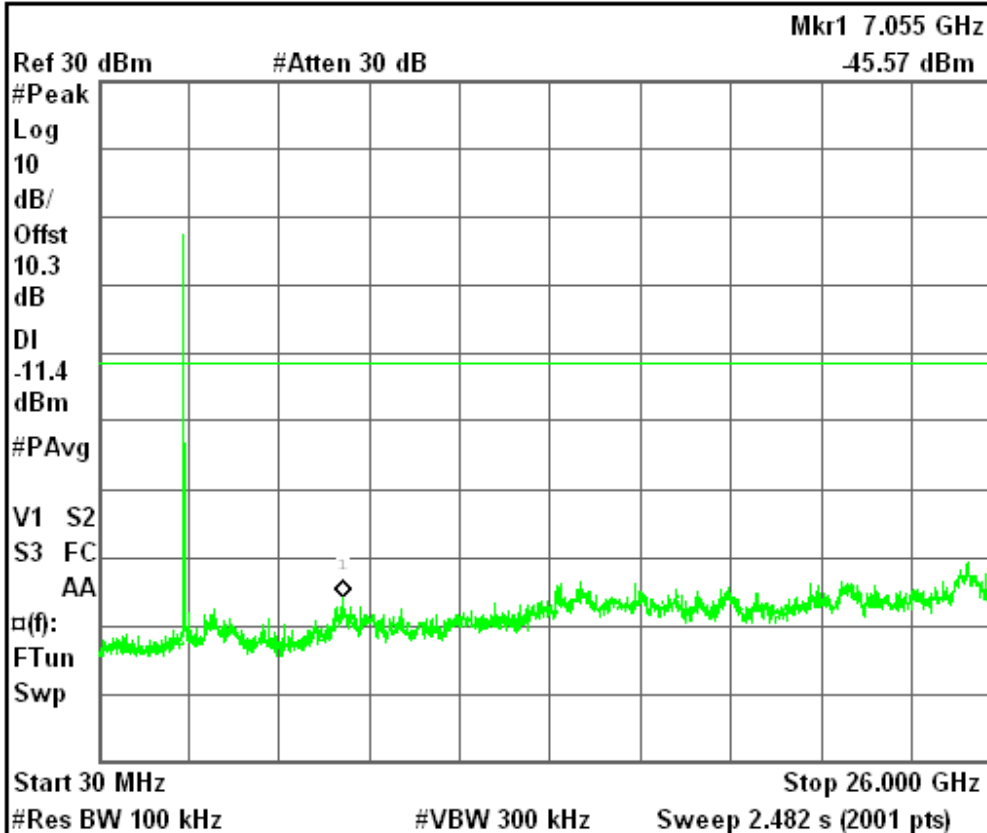


OUT OF BAND HIGH CH

Agilent 00:49:17 7 May 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

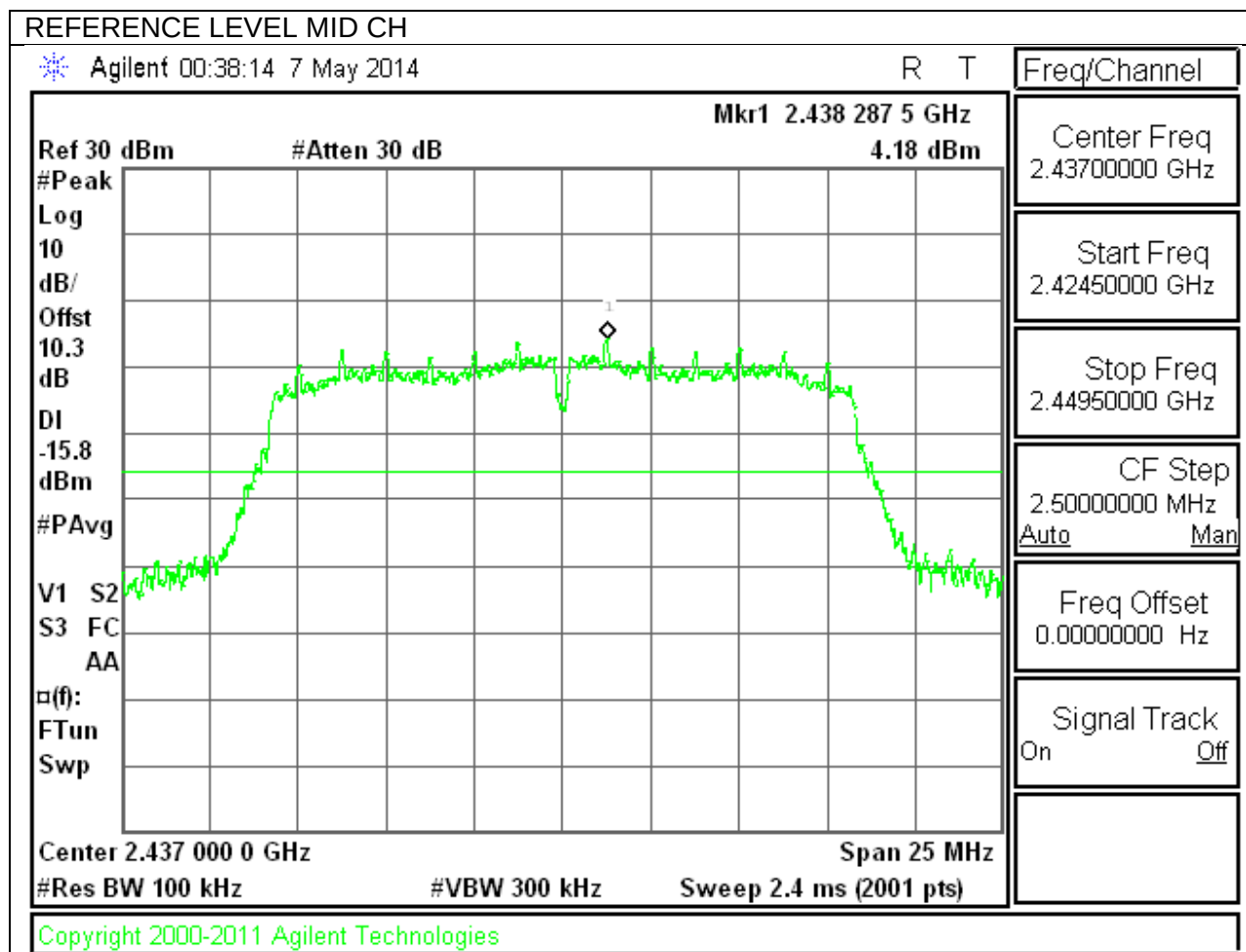
Freq Offset
0.00000000 Hz

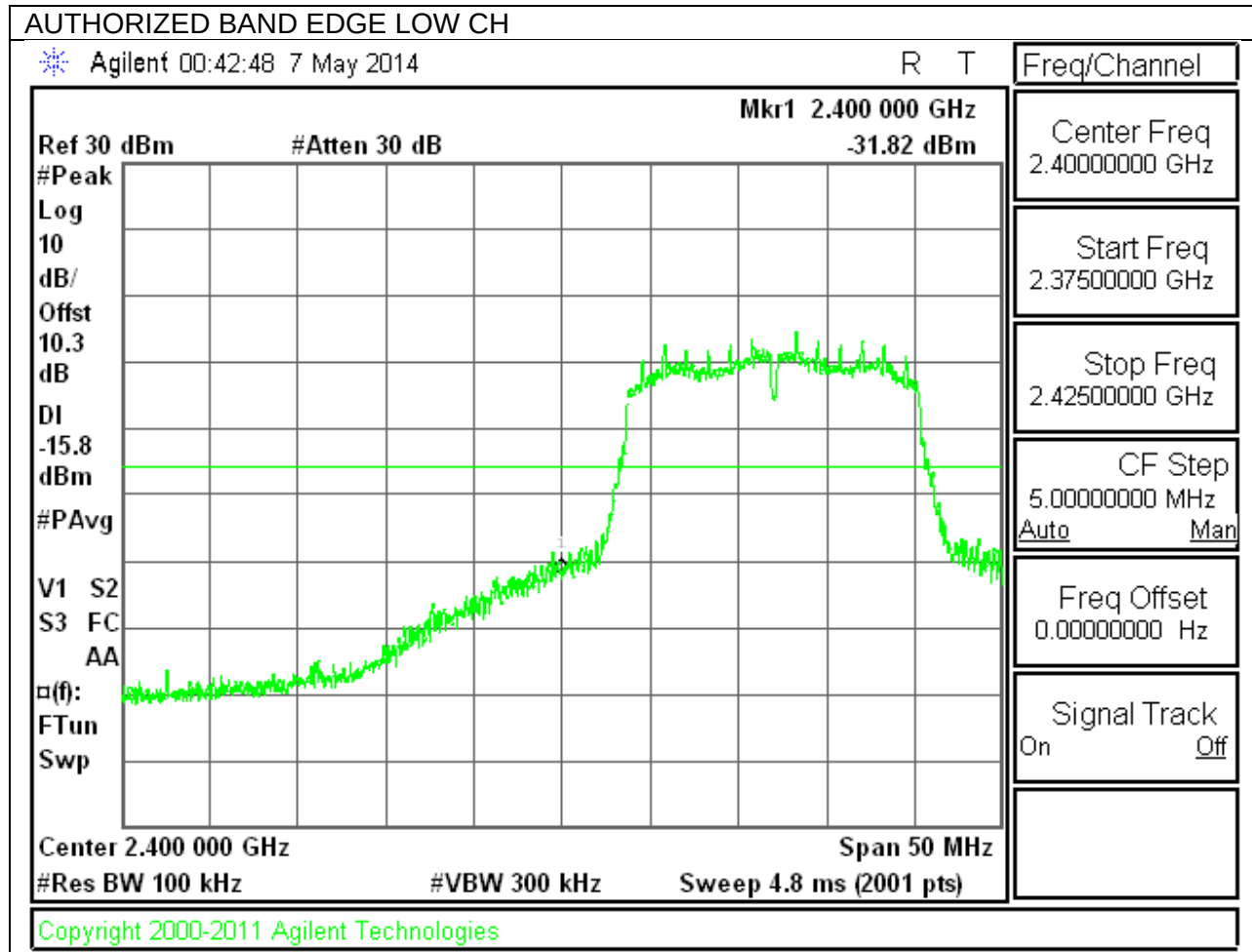
Signal Track
On Off

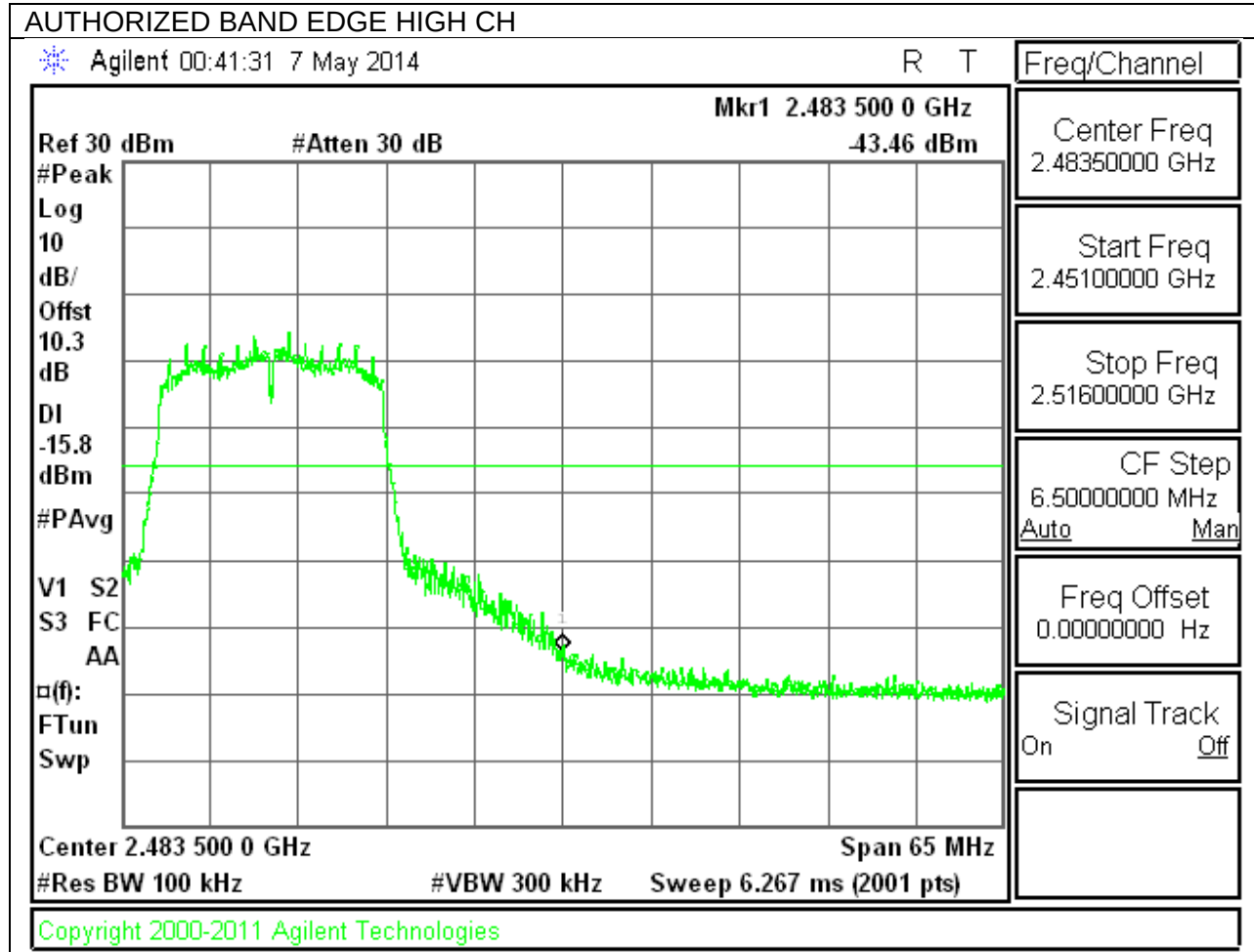
Copyright 2000-2011 Agilent Technologies

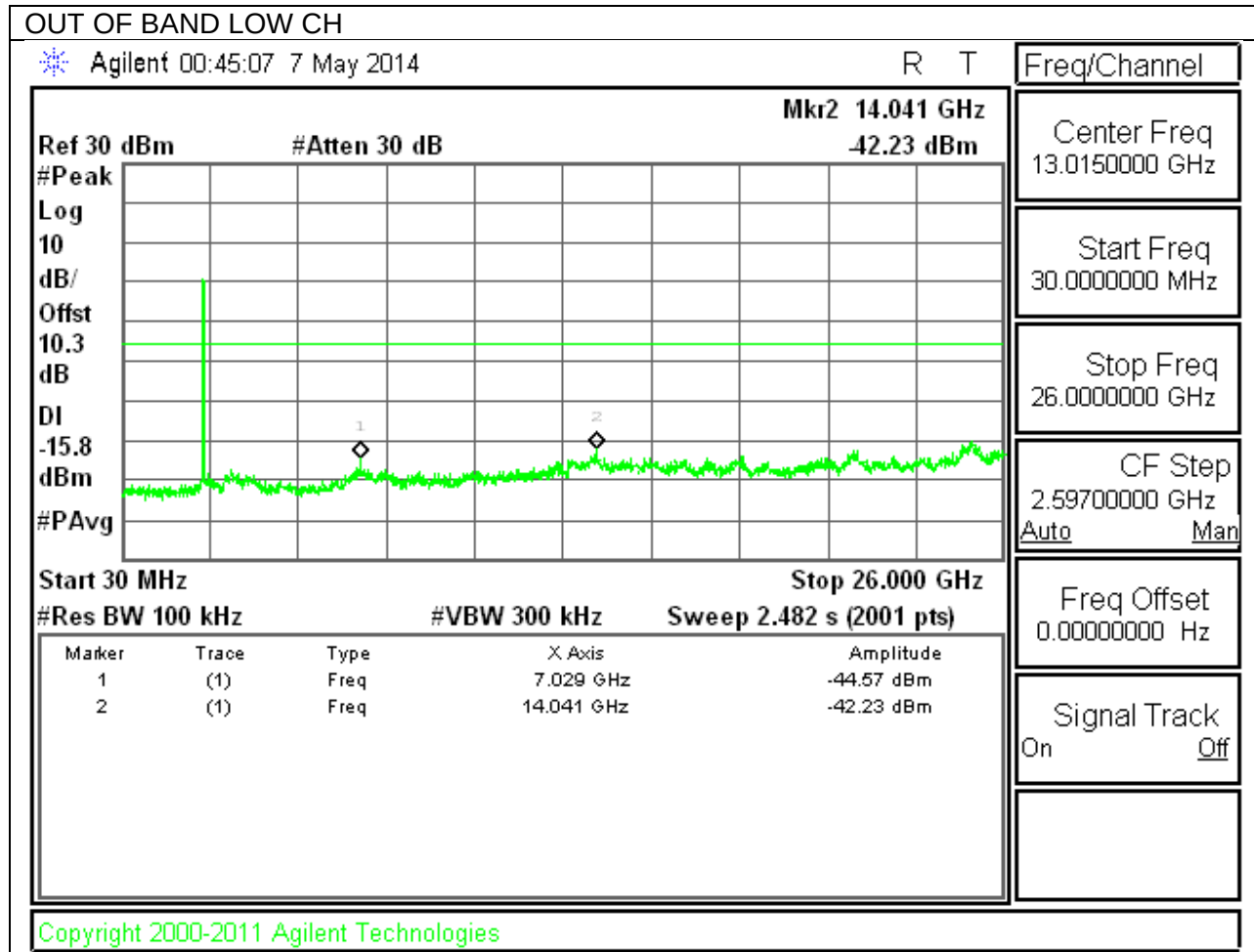
9.6.2. 802.11g MODE IN THE 2.4 GHz BAND

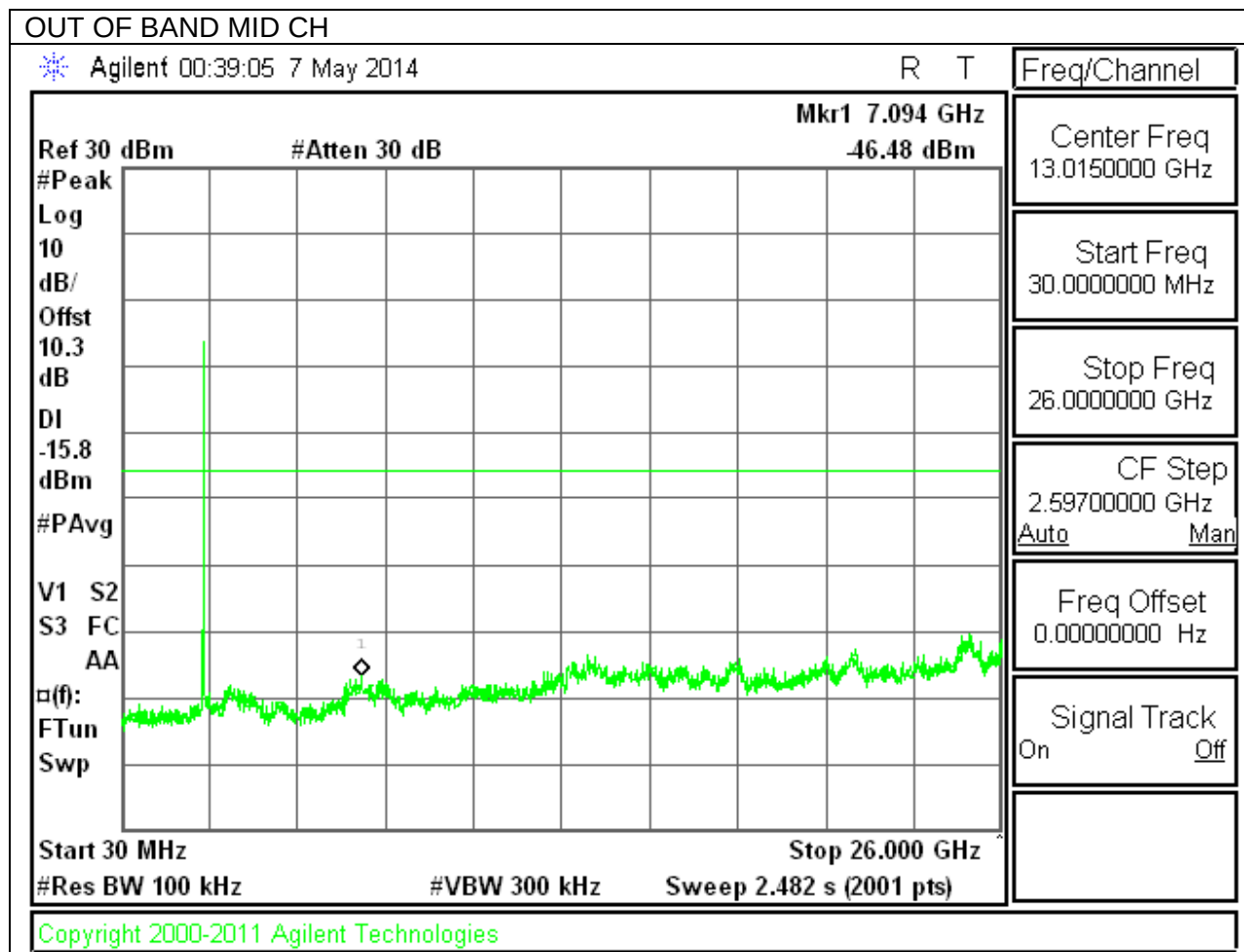
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

HIGH CHANNEL BANDEDGE

OUT-OF-BAND EMISSIONS

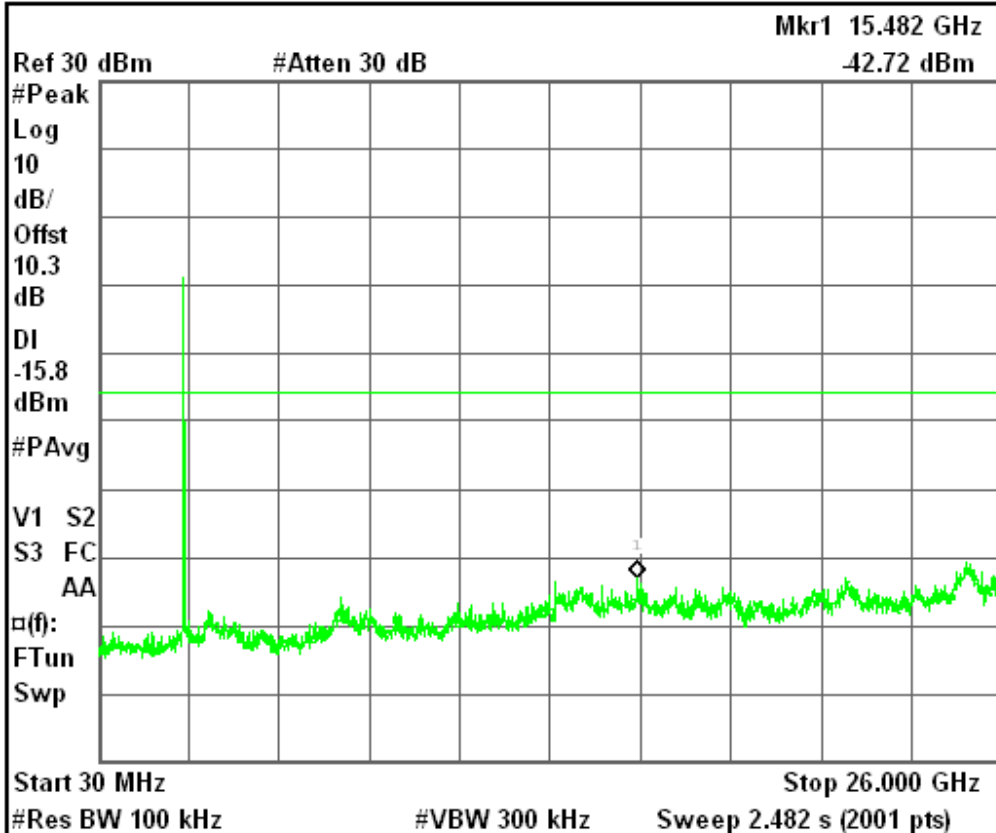


OUT OF BAND HIGH CH

Agilent 00:40:10 7 May 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

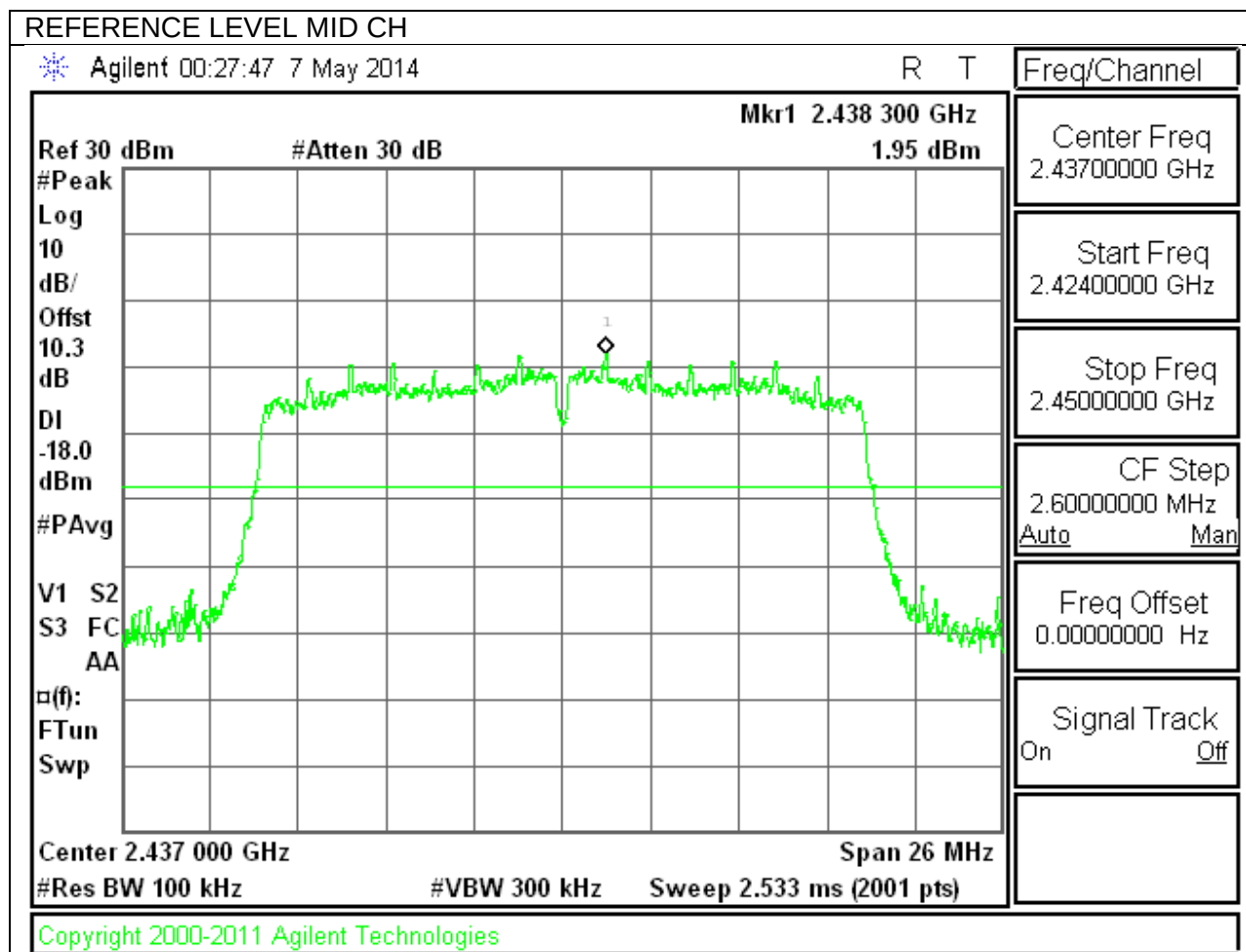
Freq Offset
0.00000000 Hz

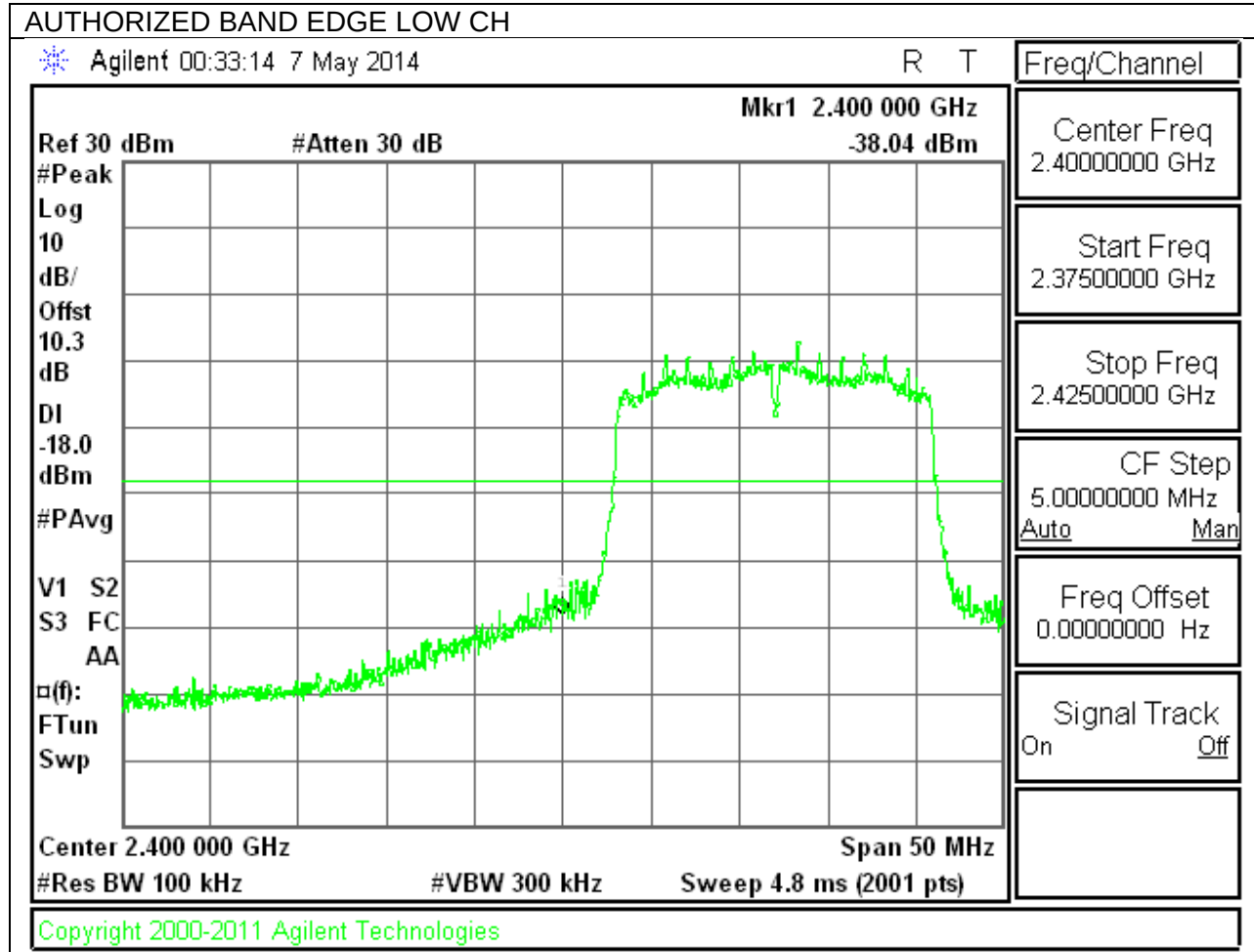
Signal Track
On Off

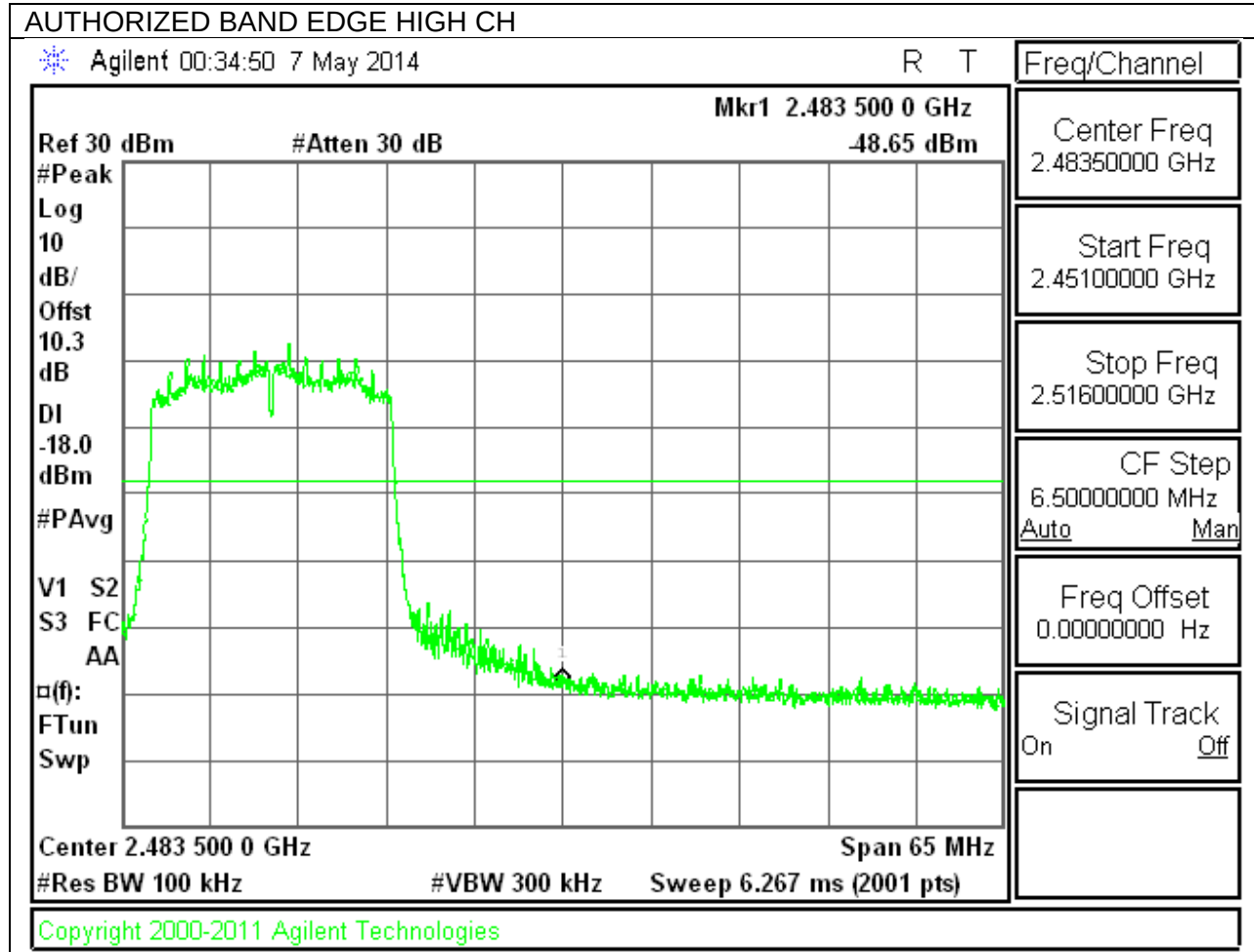
Copyright 2000-2011 Agilent Technologies

9.6.3. 802.11n MODE IN THE 2.4 GHz BAND

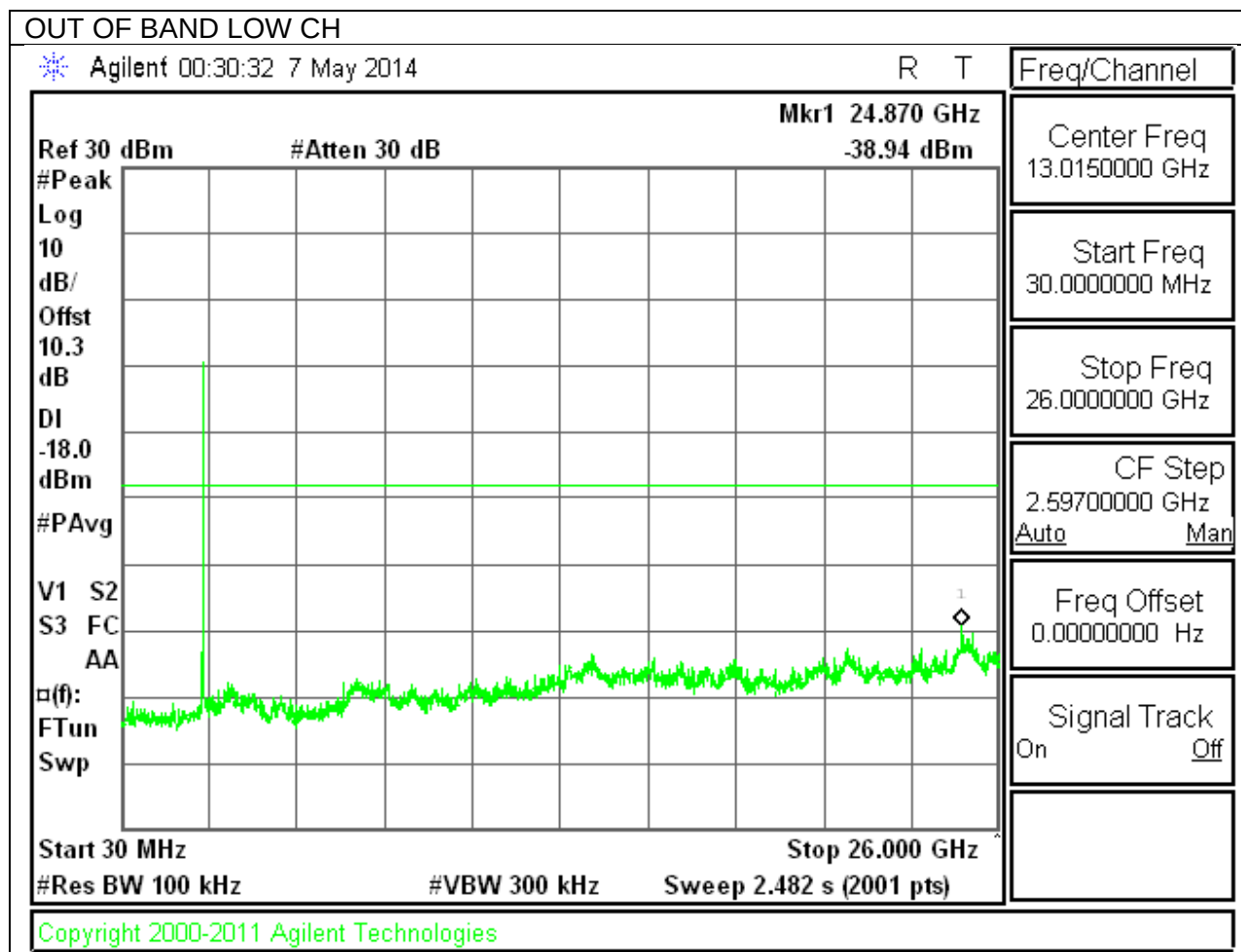
IN-BAND REFERENCE LEVEL

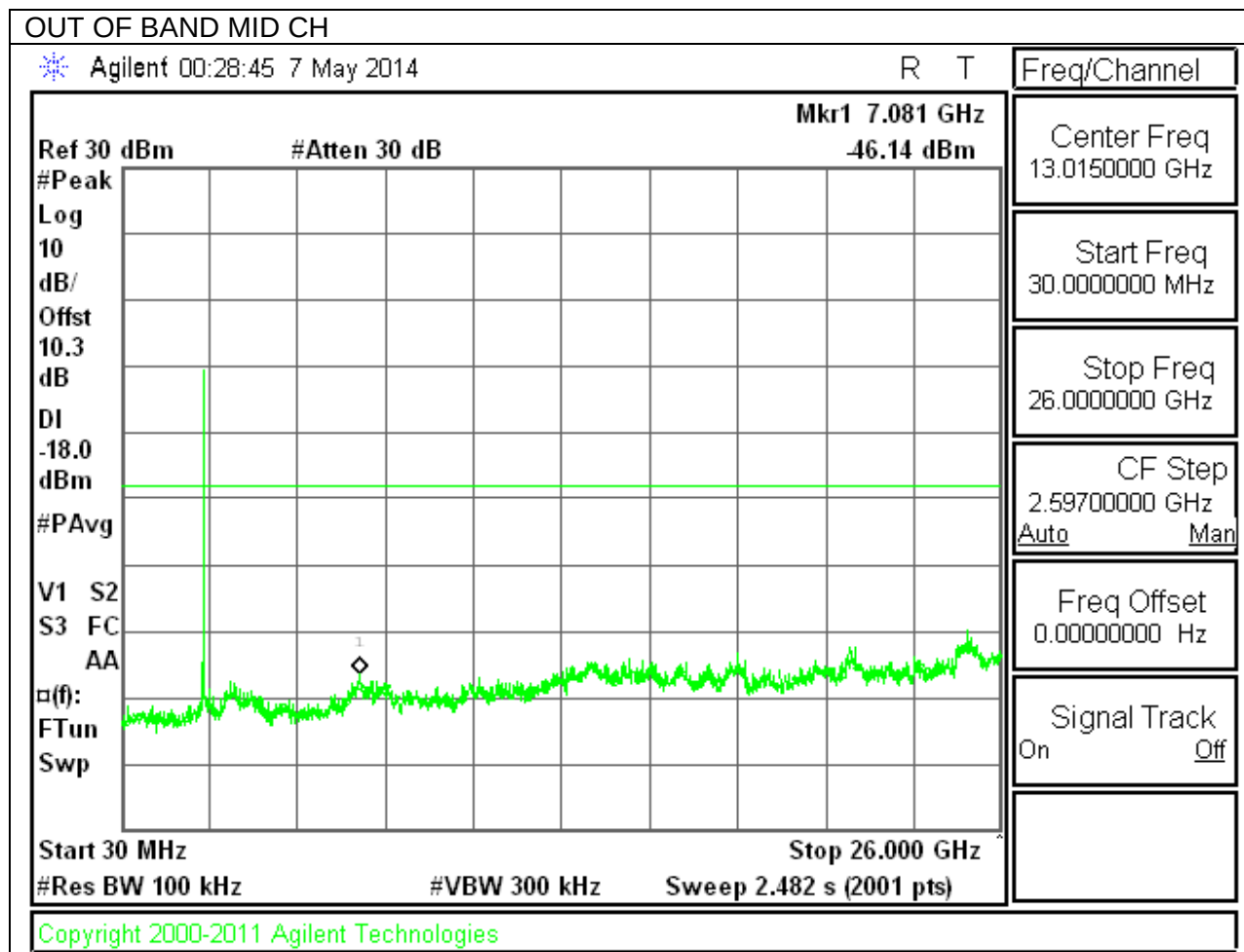


LOW CHANNEL BANDEDGE

HIGH CHANNEL BANDEDGE

OUT-OF-BAND EMISSIONS



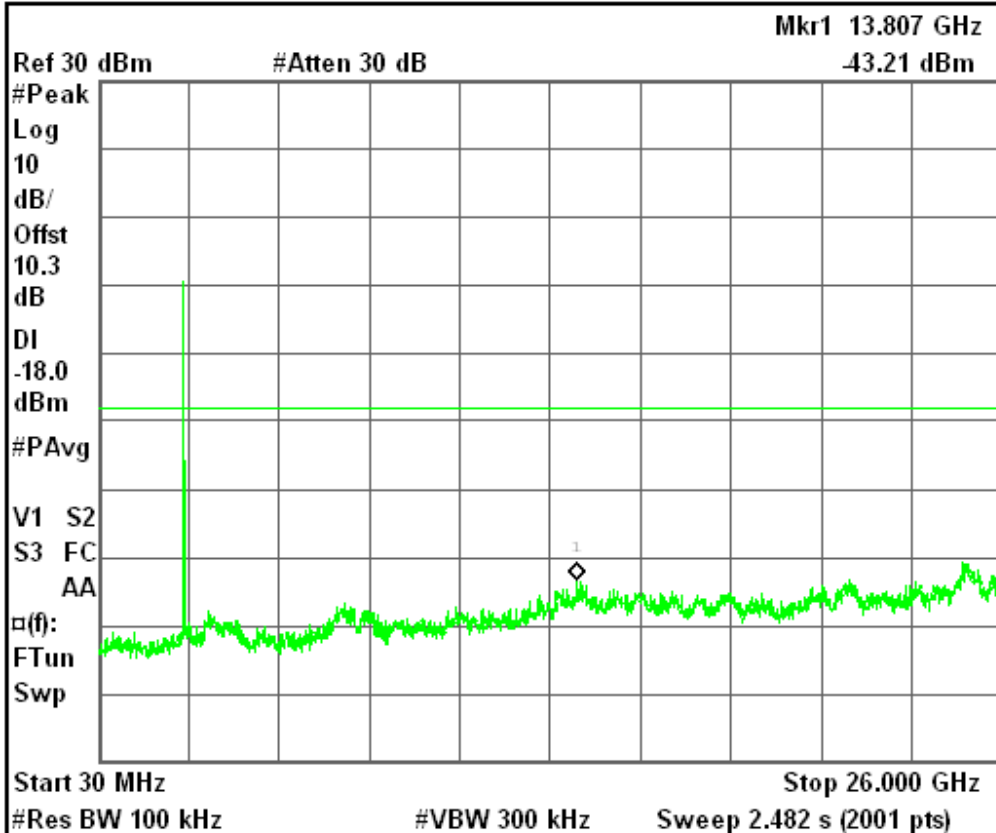


OUT OF BAND HIGH CH

Agilent 00:29:47 7 May 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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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 = 0.31dB.

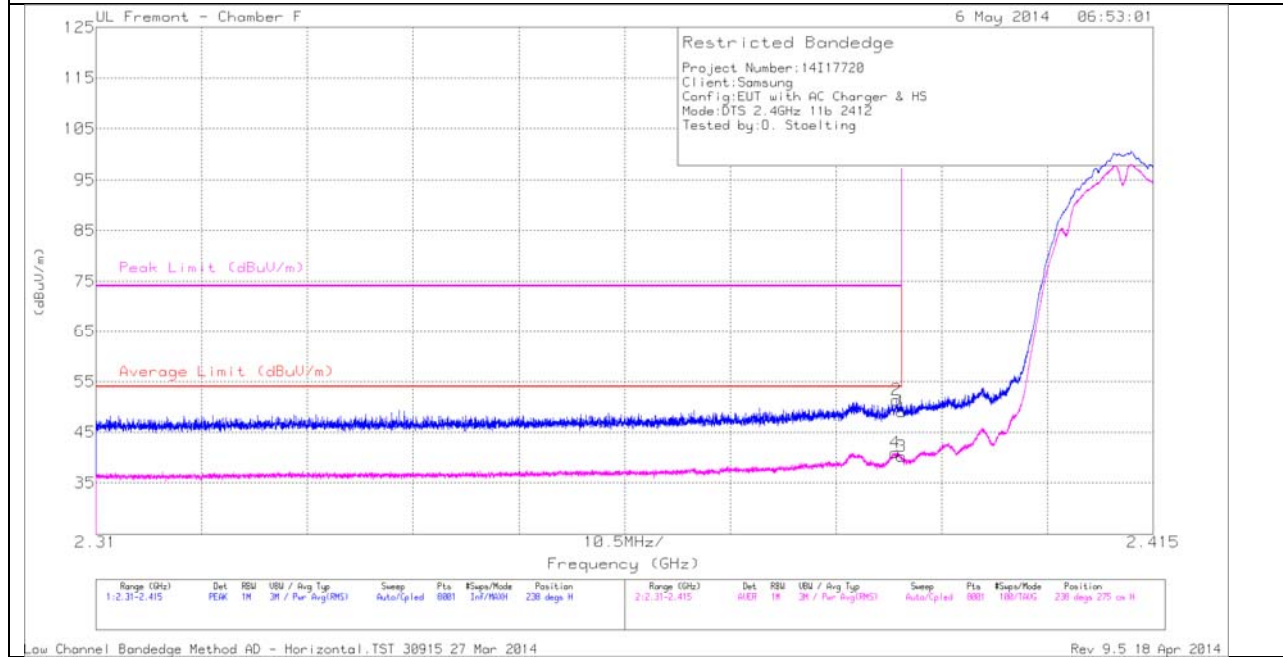
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

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)

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



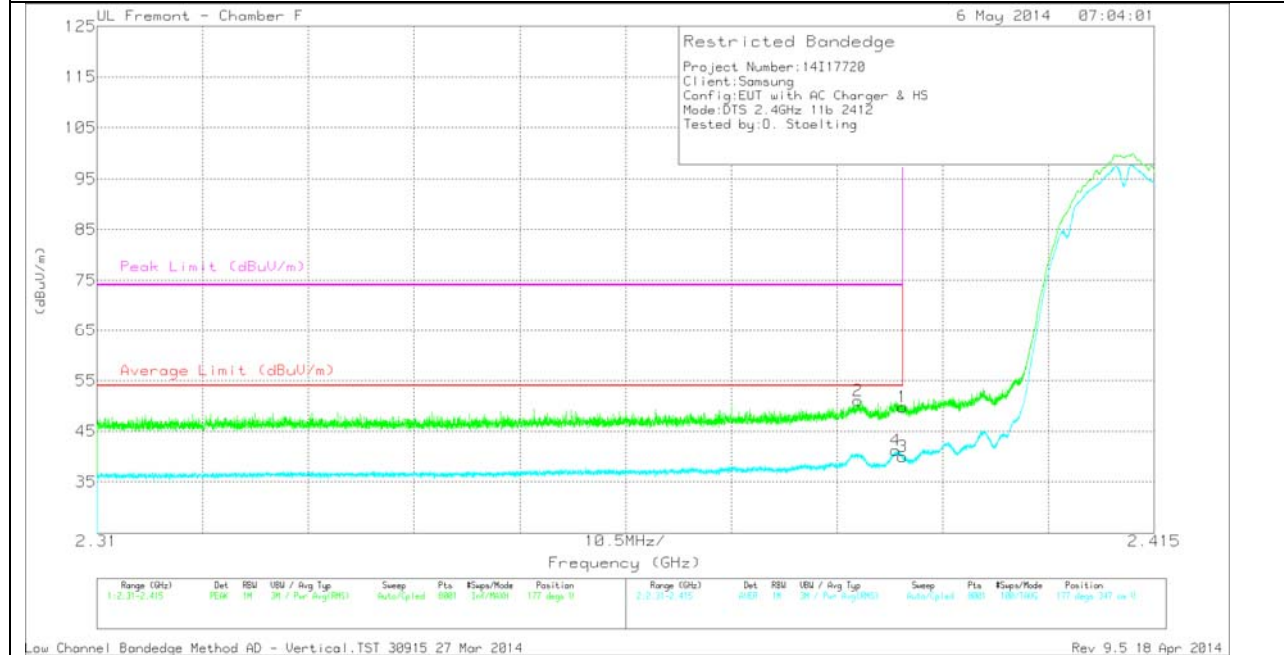
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.63	PK	32.2	-23.8	49.03	-	-	74	-24.97	238	275	H
2	* 2.39	42.95	PK	32.2	-23.8	51.35	-	-	74	-22.65	238	275	H
3	* 2.39	31.81	RMS	32.2	-23.8	40.21	54	-13.79	-	-	238	275	H
4	* 2.389	32.63	RMS	32.2	-23.8	41.03	54	-12.97	-	-	238	275	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



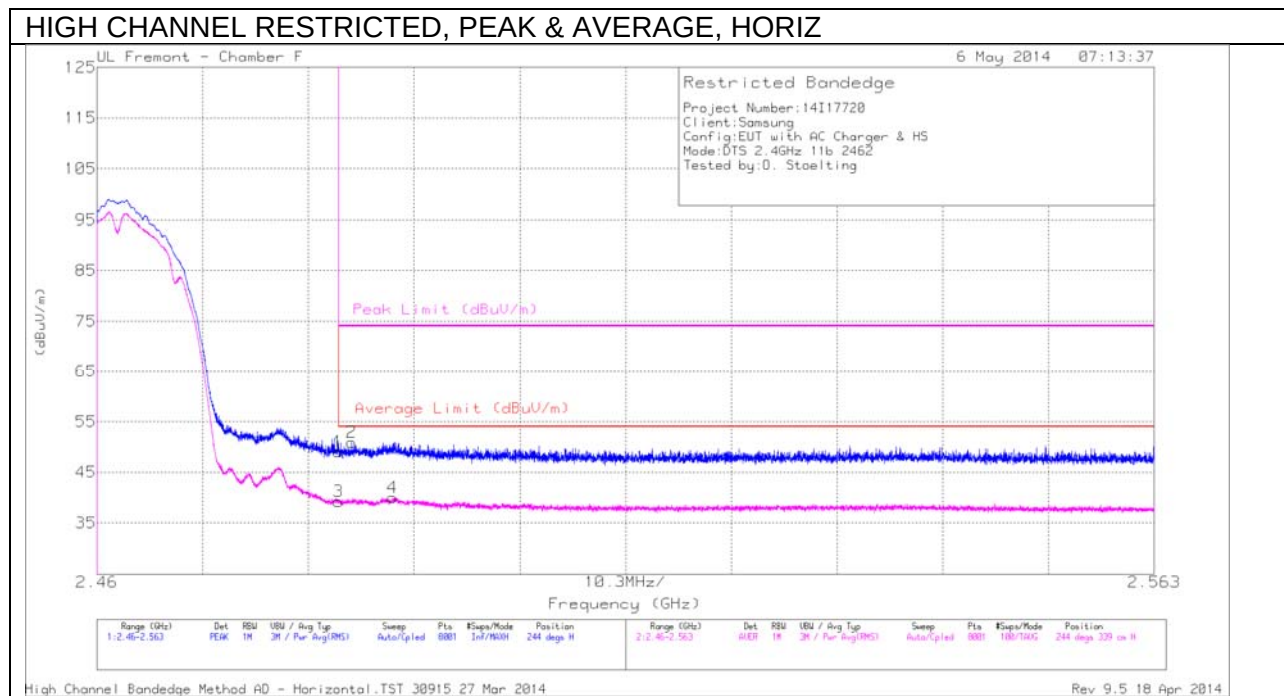
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	41.37	PK	32.2	-23.8	49.77	-	-	74	-24.23	177	347	V
2	* 2.386	42.72	PK	32.1	-23.8	51.02	-	-	74	-22.98	177	347	V
3	* 2.39	31.64	RMS	32.2	-23.8	40.04	54	-13.96	-	-	177	347	V
4	* 2.389	32.8	RMS	32.2	-23.8	41.2	54	-12.8	-	-	177	347	V

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

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)



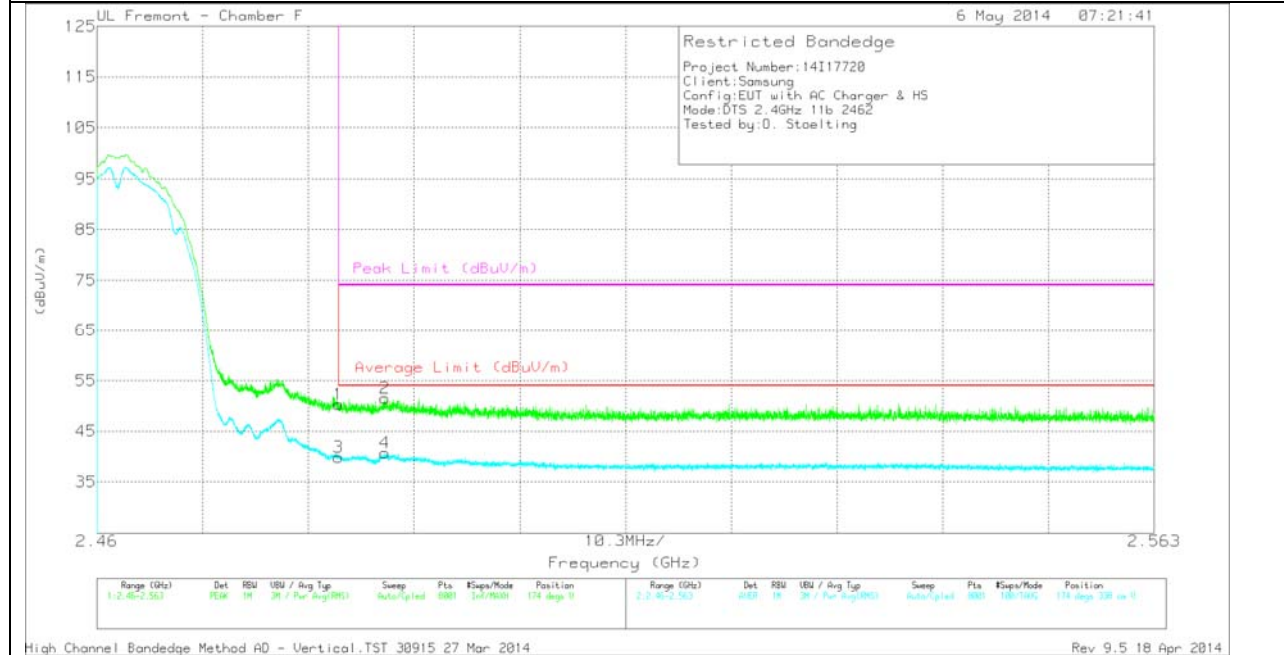
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.48	PK	32.6	-23	49.08	-	-	74	-24.92	244	339	H
2	* 2.485	41.25	PK	32.6	-22.9	50.95	-	-	74	-23.05	244	339	H
3	* 2.484	29.63	RMS	32.6	-23	39.23	54	-14.77	-	-	244	339	H
4	* 2.489	30.24	RMS	32.6	-22.8	40.04	54	-13.96	-	-	244	339	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Fltr/Pad (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	40.64	PK	32.6	-23	50.24	-	-	74	-23.76	174	338	V
2	* 2.488	41.76	PK	32.6	-22.8	51.56	-	-	74	-22.44	174	338	V
3	* 2.484	30.21	RMS	32.6	-23	39.81	54	-14.19	-	-	174	338	V
4	* 2.488	30.9	RMS	32.6	-22.8	40.7	54	-13.3	-	-	174	338	V

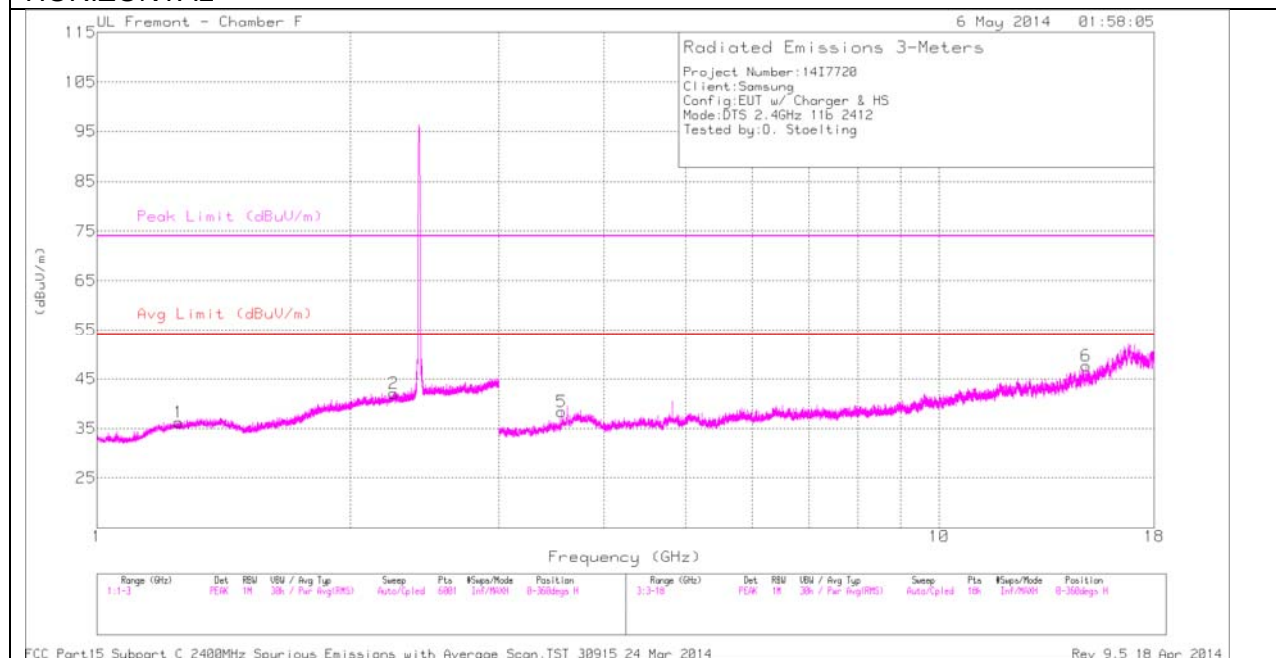
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

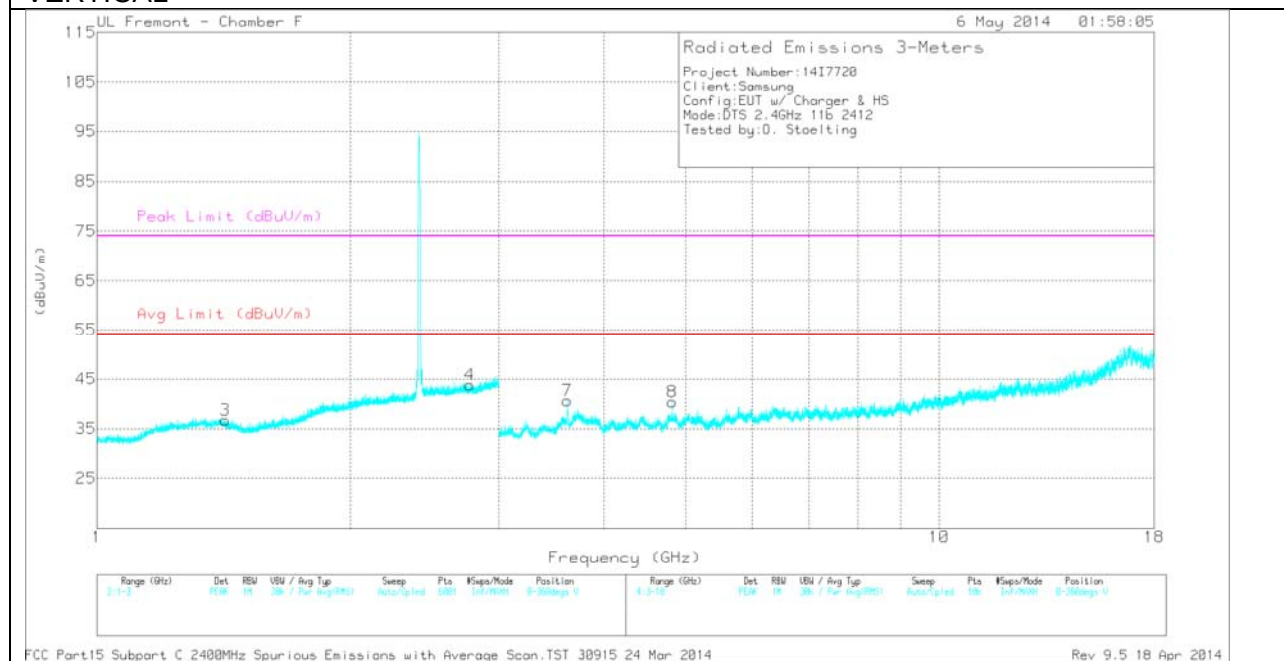
HARMONICS AND SPURIOUS EMISSIONS

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.

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.25	33.3	PK	29.5	-26.6	36.2	-	-	74	-37.8	0-360	100	H
2	* 2.251	33.59	PK	31.8	-23.4	41.99	-	-	74	-32.01	0-360	200	H
3	* 1.421	33.18	PK	29	-25.5	36.68	-	-	74	-37.32	0-360	201	V
4	* 2.77	33.7	PK	32.8	-22.7	43.8	-	-	74	-30.2	0-360	201	V
5	* 3.564	32.31	PK	34.7	-28.6	38.41	-	-	74	-35.59	0-360	200	H
6	14.953	30.3	PK	39.8	-22.5	47.6	-	-	-	-	0-360	101	H
7	* 3.617	35.12	PK	34.9	-29.4	40.62	-	-	74	-33.38	0-360	201	V
8	* 4.824	33.65	PK	34.1	-27.3	40.45	-	-	74	-33.55	0-360	201	V

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

PK - Peak detector

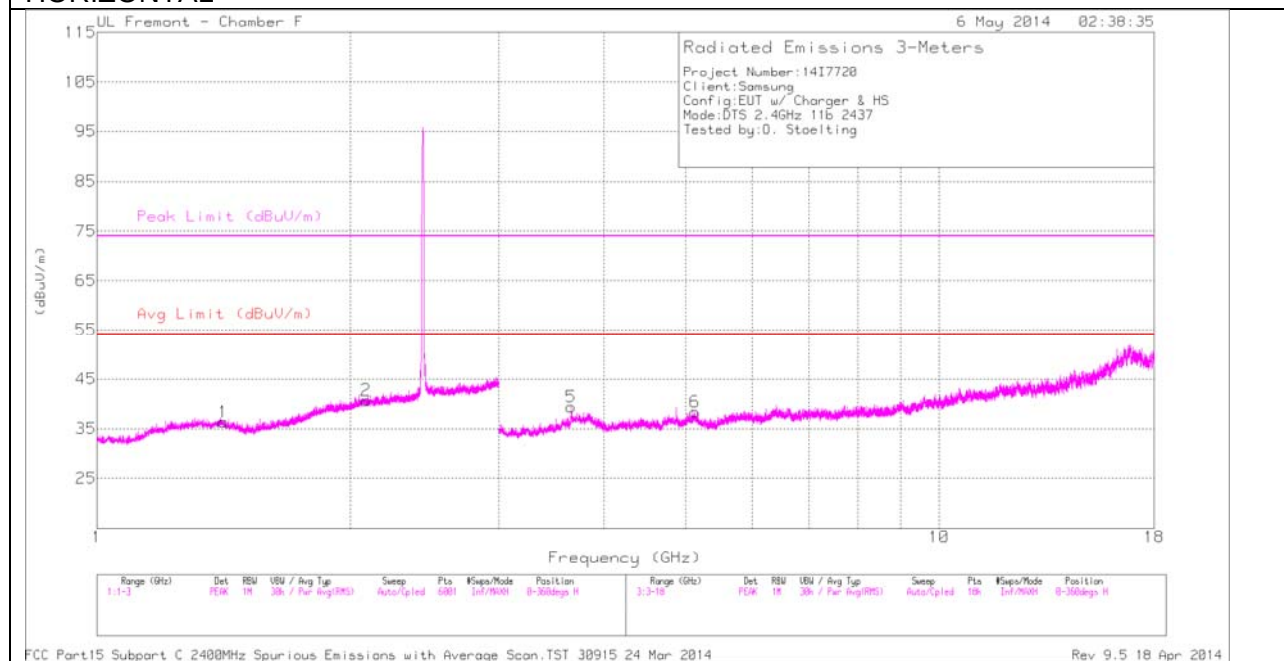
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.617	41.88	PK2	34.9	-29.4	47.38	-	-	74	-26.62	25	274	V
* 3.617	33.54	MAV1	34.9	-29.4	39.04	54	-14.96	-	-	25	274	V
* 4.824	40.81	PK2	34.1	-27.3	47.61	-	-	74	-26.39	215	160	V
* 4.824	32.39	MAV1	34.1	-27.3	39.19	54	-14.81	-	-	215	160	V

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

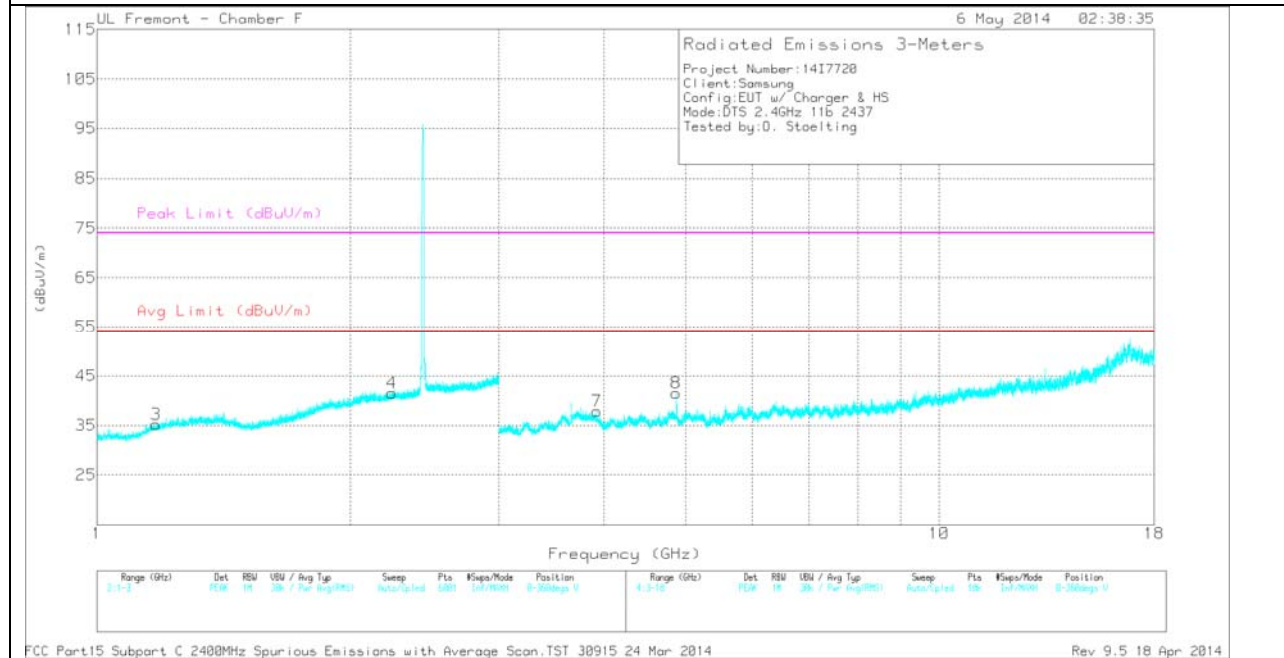
PK2 - KDB558074 Method: Maximum Peak

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.

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.412	32.65	PK	29.1	-25.4	36.35	-	-	74	-37.65	0-360	200	H
2	2.088	32.91	PK	31.8	-24	40.71	-	-	-	-	0-360	101	H
3	* 1.175	33.01	PK	28.6	-26.4	35.21	-	-	74	-38.79	0-360	200	V
4	* 2.238	33.3	PK	31.8	-23.6	41.5	-	-	74	-32.5	0-360	200	V
5	* 3.657	34.04	PK	34.9	-29.6	39.34	-	-	74	-34.66	0-360	101	H
6	* 5.129	31.12	PK	34.4	-27.2	38.32	-	-	74	-35.68	0-360	101	H
7	* 3.922	33.32	PK	33.9	-29.4	37.82	-	-	74	-36.18	0-360	101	V
8	* 4.874	35	PK	34.2	-27.7	41.5	-	-	74	-32.5	0-360	200	V

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

PK - Peak detector

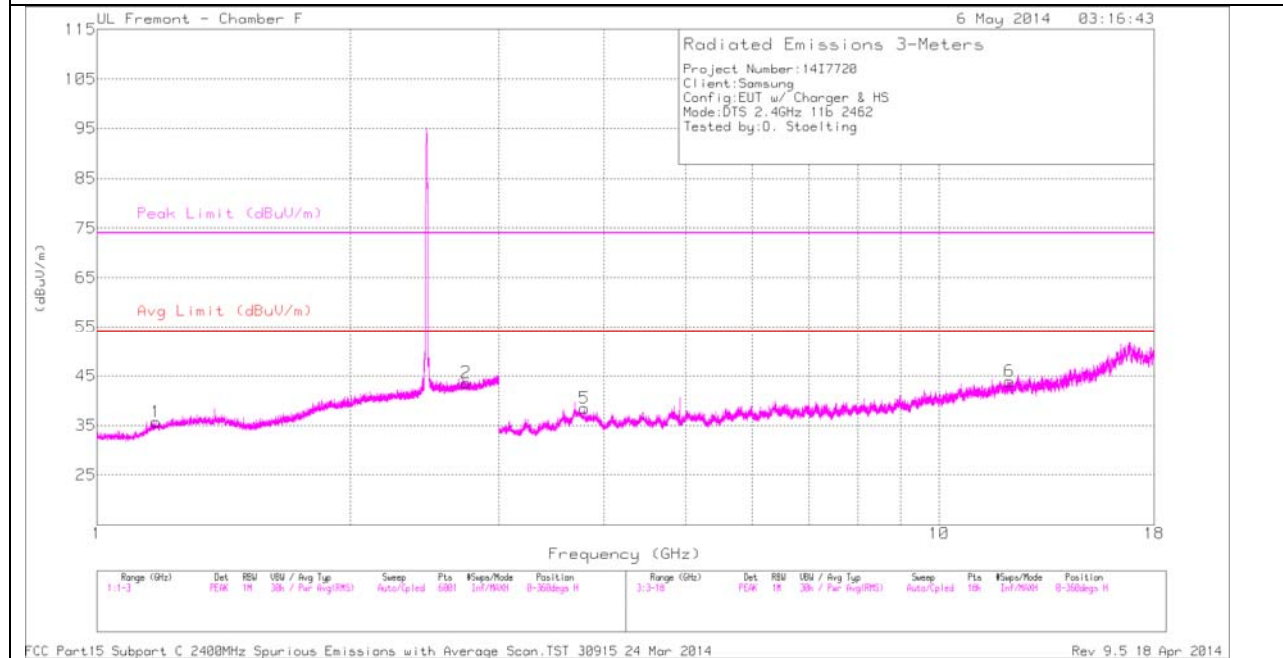
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.656	43.2	PK2	34.9	-29.6	48.5	-	-	74	-25.5	308	349	H
* 3.656	34.73	MAv1	34.9	-29.6	40.03	54	-13.97	-	-	308	349	H
* 4.874	41.34	PK2	34.2	-27.7	47.84	-	-	74	-26.16	202	207	V
* 4.874	33.69	MAv1	34.2	-27.7	40.19	54	-13.81	-	-	202	207	V

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

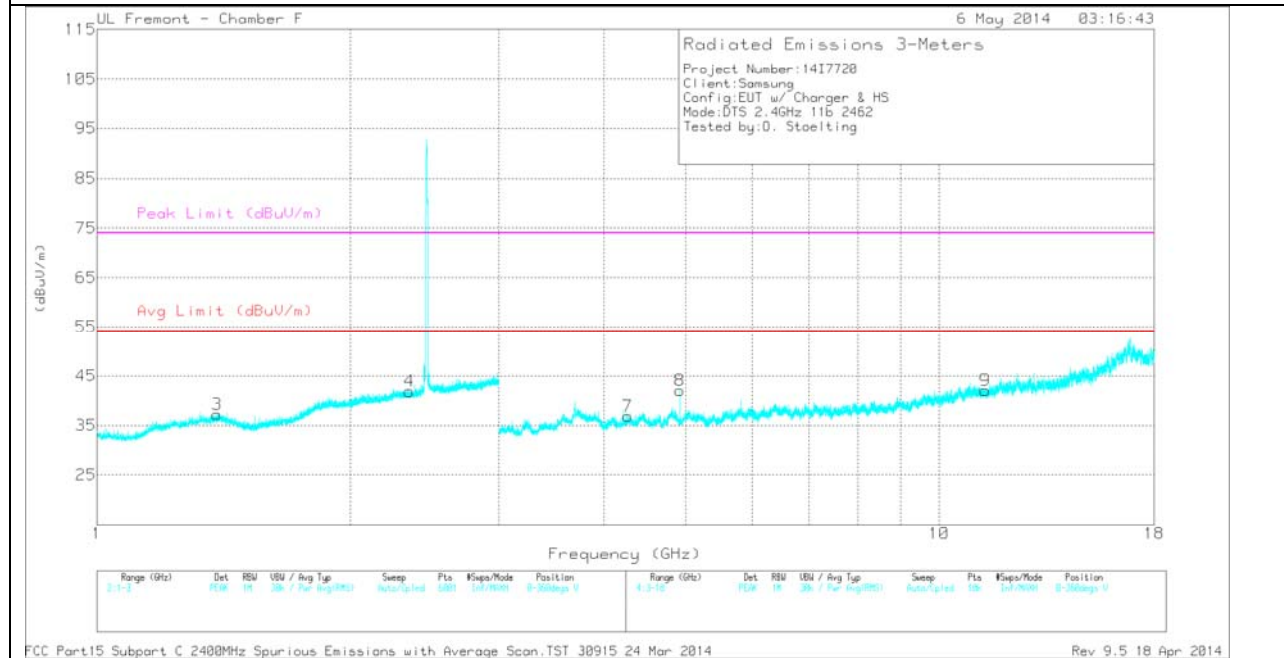
PK2 - KDB558074 Method: Maximum Peak

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.

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.176	33.54	PK	28.6	-26.4	35.74	-	-	74	-38.26	0-360	100	H
2	* 2.742	33.53	PK	32.8	-22.7	43.63	-	-	74	-30.37	0-360	199	H
3	* 1.389	33.68	PK	29.3	-25.7	37.28	-	-	74	-36.72	0-360	201	V
4	* 2.348	33.56	PK	32	-23.7	41.86	-	-	74	-32.14	0-360	101	V
5	* 3.787	33.19	PK	34.4	-29.1	38.49	-	-	74	-35.51	0-360	199	H
6	* 12.119	27.49	PK	39	-22.6	43.89	-	-	74	-30.11	0-360	101	H
7	* 4.265	31.91	PK	33.7	-28.8	36.81	-	-	74	-37.19	0-360	201	V
8	* 4.924	36.95	PK	34.2	-29.1	42.05	-	-	74	-31.95	0-360	201	V
9	* 11.341	26.41	PK	38.2	-22.6	42.01	-	-	74	-31.99	0-360	201	V

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

PK - Peak detector

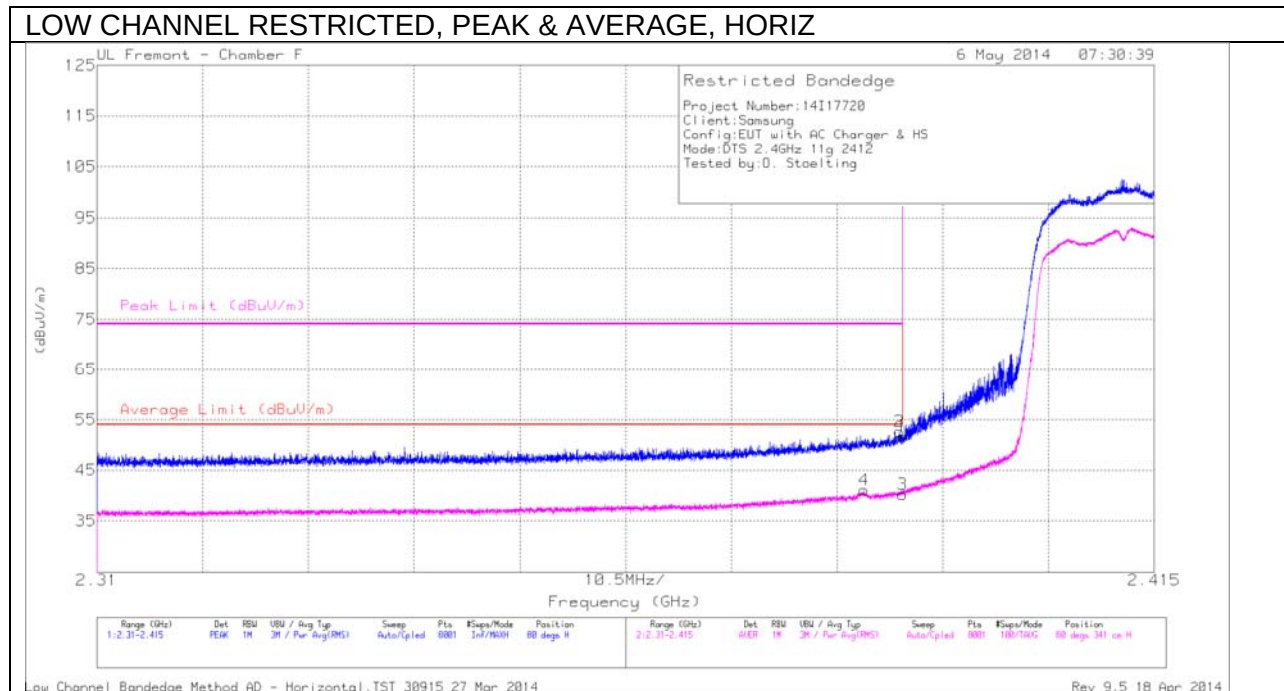
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	42.4	PK2	34.2	-29.1	47.5	-	-	74	-26.5	201	201	V
* 4.924	35.73	MAV1	34.2	-29.1	40.83	54	-13.17	-	-	201	201	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)



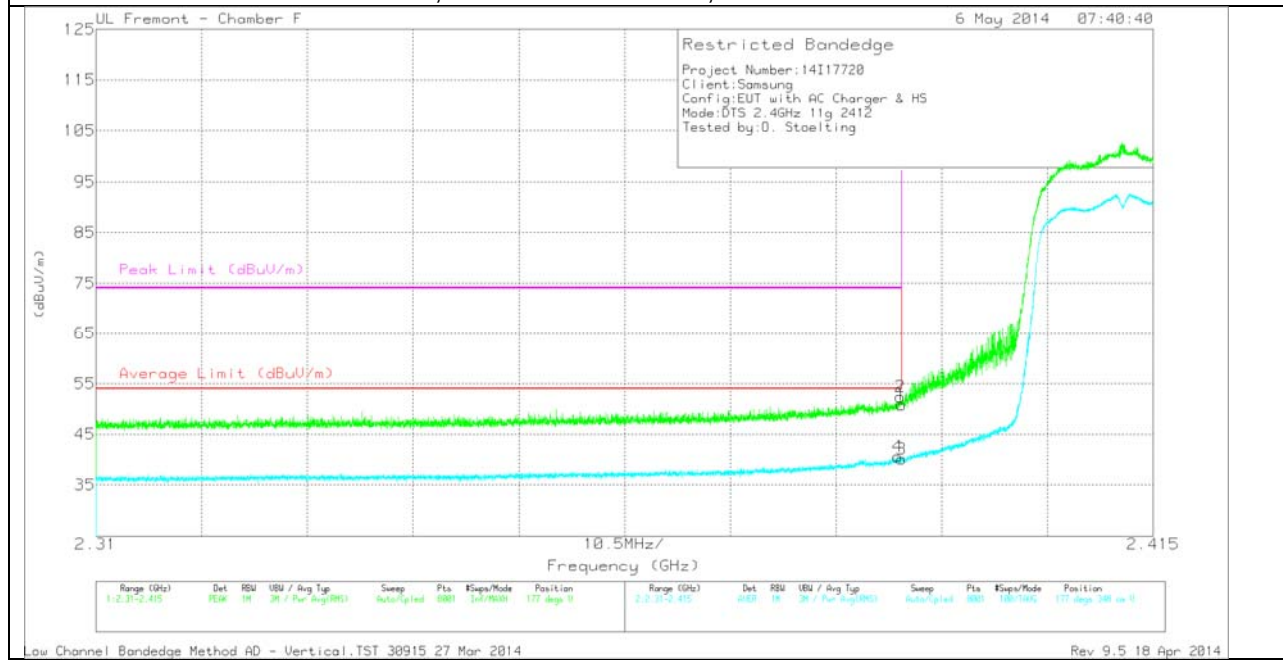
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	43.21	PK	32.2	-23.8	0	51.61	-	-	74	-22.39	80	341	H
2	* 2.39	44.2	PK	32.2	-23.8	0	52.6	-	-	74	-21.4	80	341	H
3	* 2.39	31.54	RMS	32.2	-23.8	.3	40.24	54	-13.76	-	-	80	341	H
4	* 2.386	32.48	RMS	32.1	-23.8	.3	41.08	54	-12.92	-	-	80	341	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 2.39	42.45	PK	32.2	-23.8	0	50.85	-	-	74	-23.15	177	348	V
2	* 2.39	44.03	PK	32.2	-23.8	0	52.43	-	-	74	-21.57	177	348	V
3	* 2.39	31.75	RMS	32.2	-23.8	.3	40.45	54	-13.55	-	-	177	348	V
4	* 2.39	32.17	RMS	32.2	-23.8	.3	40.87	54	-13.13	-	-	177	348	V

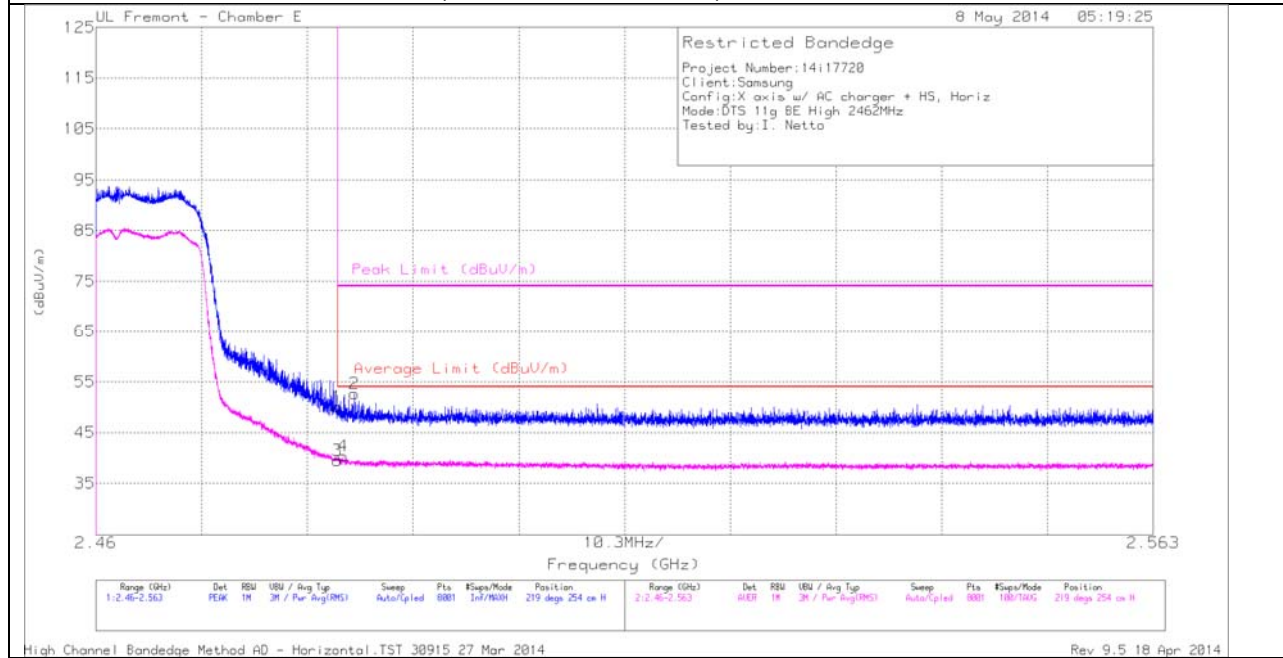
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



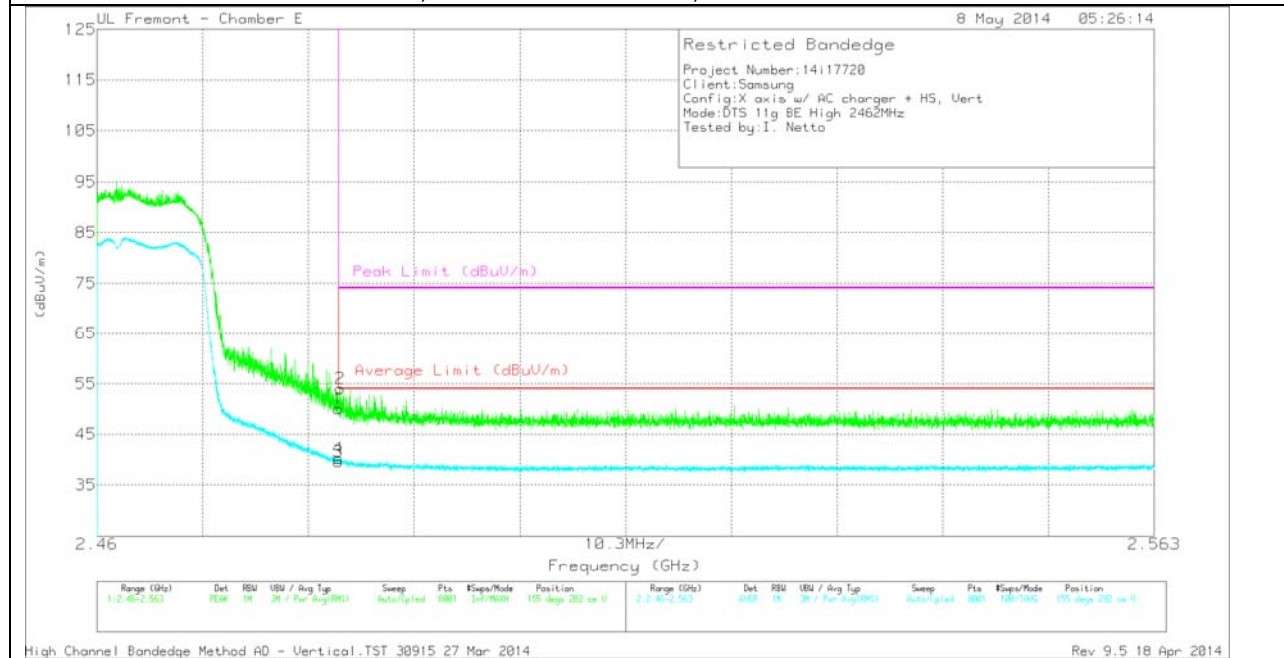
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	42.09	PK	32.3	-24.3	0	50.09	-	-	74	-23.91	219	254	H
2	* 2.485	44.65	PK	32.3	-24.3	0	52.65	-	-	74	-21.35	219	254	H
3	* 2.484	31.53	RMS	32.3	-24.3	.3	39.83	54	-14.17	-	-	219	254	H
4	* 2.484	32.33	RMS	32.3	-24.3	.3	40.63	54	-13.37	-	-	219	254	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/ Filt/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	42.04	PK	32.3	-24.3	0	50.04	-	-	74	-23.96	155	282	V
2	* 2.484	46.05	PK	32.3	-24.3	0	54.05	-	-	74	-19.95	155	282	V
3	* 2.484	31.63	RMS	32.3	-24.3	.3	39.93	54	-14.07	-	-	155	282	V
4	* 2.484	32.18	RMS	32.3	-24.3	.3	40.48	54	-13.52	-	-	155	282	V

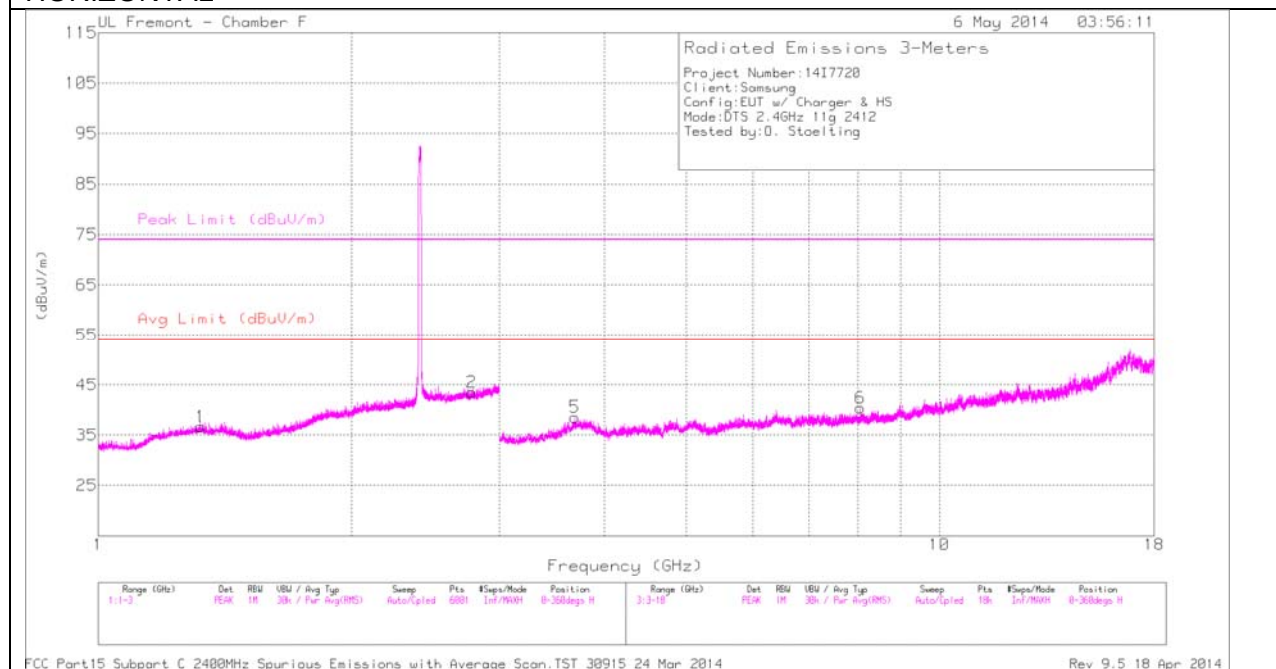
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

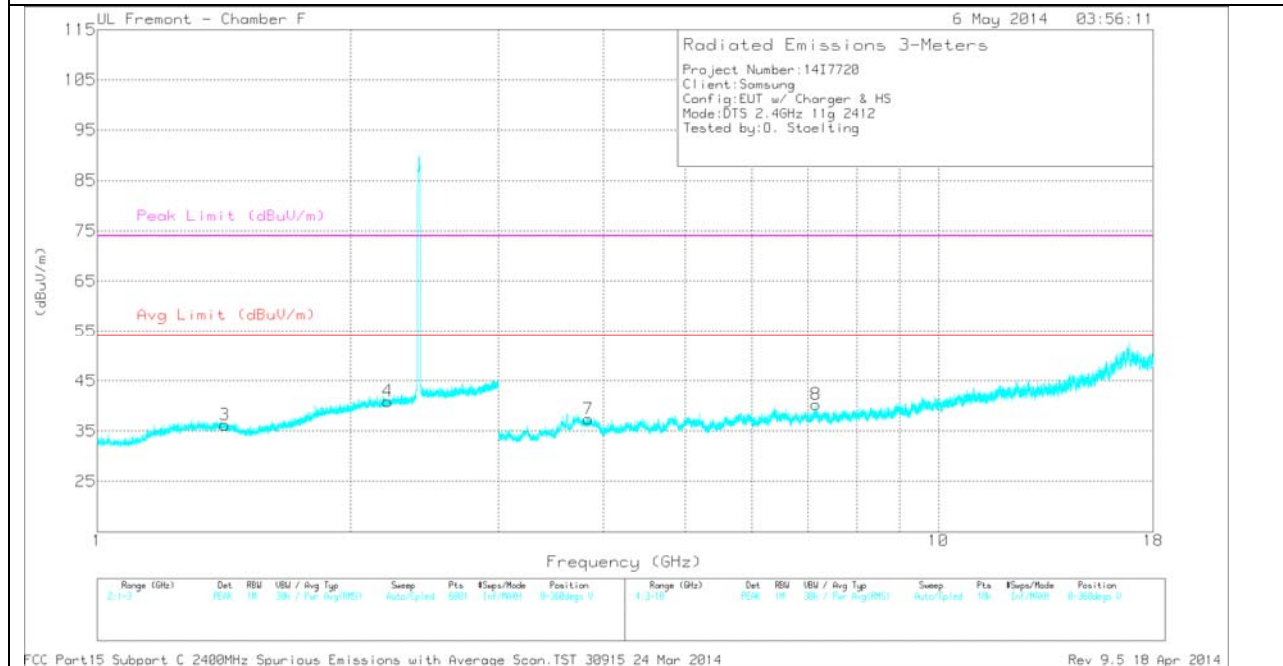
HARMONICS AND SPURIOUS EMISSIONS

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

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 1.325	33.37	PK	29.9	-26.6	0	36.67	-	-	74	-37.33	0-360	101	H
2	* 2.779	33.33	PK	32.9	-22.7	0	43.53	-	-	74	-30.47	0-360	201	H
3	* 1.419	32.64	PK	29.1	-25.5	0	36.24	-	-	74	-37.76	0-360	101	V
4	* 2.215	33.04	PK	31.8	-23.9	0	40.94	-	-	74	-33.06	0-360	101	V
5	* 3.686	32.85	PK	34.9	-29.2	0	38.55	-	-	74	-35.45	0-360	201	H
6	* 8.061	29.77	PK	35.7	-25.1	0	40.37	-	-	74	-33.63	0-360	101	H
7	* 3.835	32.09	PK	34.2	-28.9	0	37.39	-	-	74	-36.61	0-360	200	V
8	7.151	30.8	PK	35.5	-26	0	40.3	-	-	-	-	0-360	200	V

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

PK - Peak detector

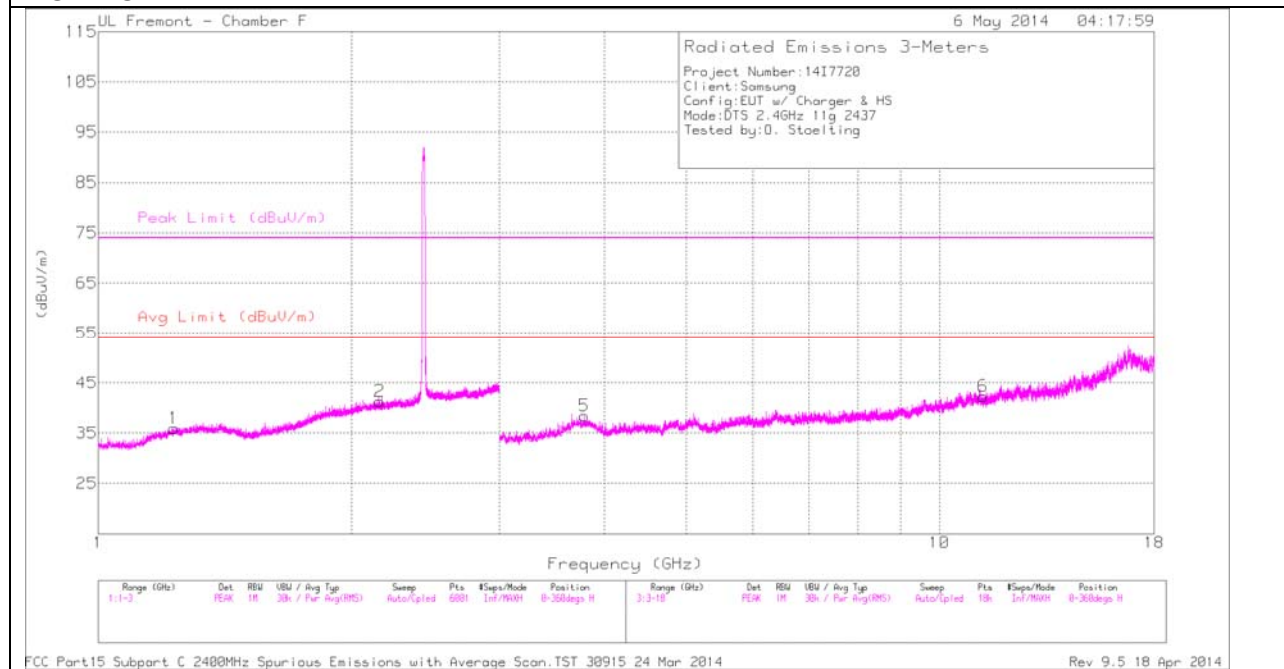
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
* 2.795	41.42	PK2	32.9	-22.9	0	51.42	-	-	74	-22.58	360	100	H
* 2.799	30.29	MAV1	32.9	-22.9	.3	40.59	54	-13.41	-	-	360	100	H

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

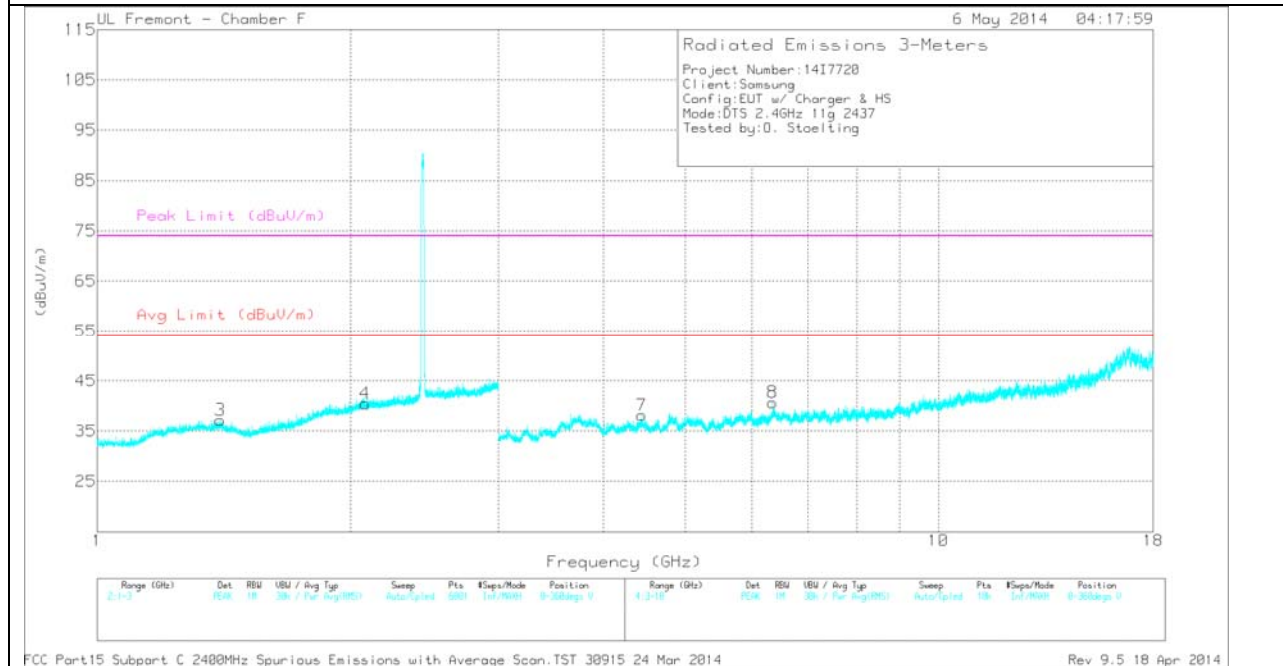
PK2 - KDB558074 Method: Maximum Peak

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.

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 1.231	33.16	PK	29.3	-26.5	0	35.96	-	-	74	-38.04	0-360	199	H
2	2.161	33.6	PK	31.8	-24.1	0	41.3	-	-	-	-	0-360	199	H
3	* 1.401	33.48	PK	29.2	-25.5	0	37.18	-	-	74	-36.82	0-360	201	V
4	2.083	32.48	PK	31.8	-23.8	0	40.48	-	-	-	-	0-360	101	V
5	* 3.784	33.03	PK	34.5	-29.1	0	38.43	-	-	74	-35.57	0-360	101	H
6	* 11.263	26.21	PK	38.2	-22.1	0	42.31	-	-	74	-31.69	0-360	101	H
7	4.442	32.57	PK	33.9	-28.3	0	38.17	-	-	-	-	0-360	101	V
8	6.35	32.5	PK	35.6	-27.4	0	40.7	-	-	-	-	0-360	201	V

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

PK - Peak detector

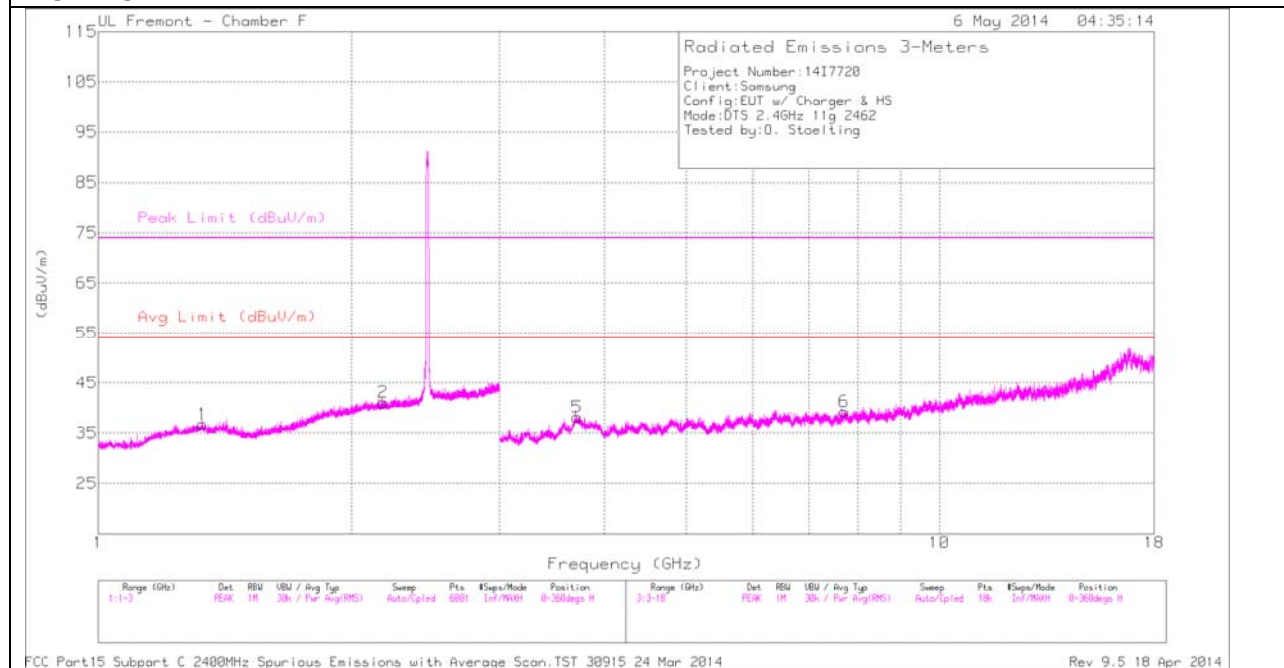
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
6.351	39.43	PK2	35.6	-27.4	0	47.63	-	-	-	-	360	101	V
6.354	28.1	MAV1	35.6	-27.4	.3	36.6	-	-	-	-	360	101	V

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

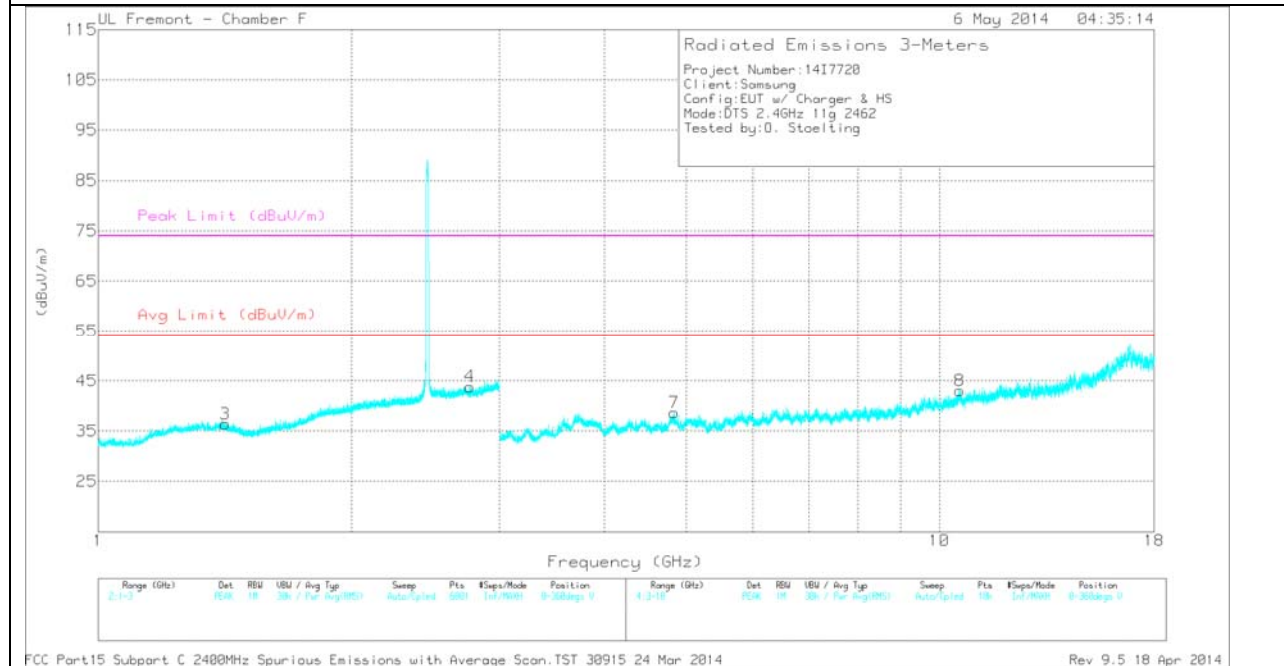
PK2 - KDB558074 Method: Maximum Peak

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.

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 1.331	33.48	PK	29.8	-26.5	0	36.78	-	-	74	-37.22	0-360	101	H
2	2.181	33.3	PK	31.8	-24	0	41.1	-	-	-	-	0-360	200	H
3	* 1.415	32.69	PK	29.1	-25.4	0	36.39	-	-	74	-37.61	0-360	201	V
4	* 2.768	33.73	PK	32.8	-22.7	0	43.83	-	-	74	-30.17	0-360	101	V
5	* 3.709	32.74	PK	34.8	-29.4	0	38.14	-	-	74	-35.86	0-360	101	H
6	* 7.704	29.06	PK	35.6	-25.4	0	39.26	-	-	74	-34.74	0-360	101	H
7	* 4.841	31.96	PK	34.1	-27.4	0	38.66	-	-	74	-35.34	0-360	101	V
8	10.576	26.21	PK	37.8	-21	0	43.01	-	-	-	-	0-360	101	V

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

PK - Peak detector

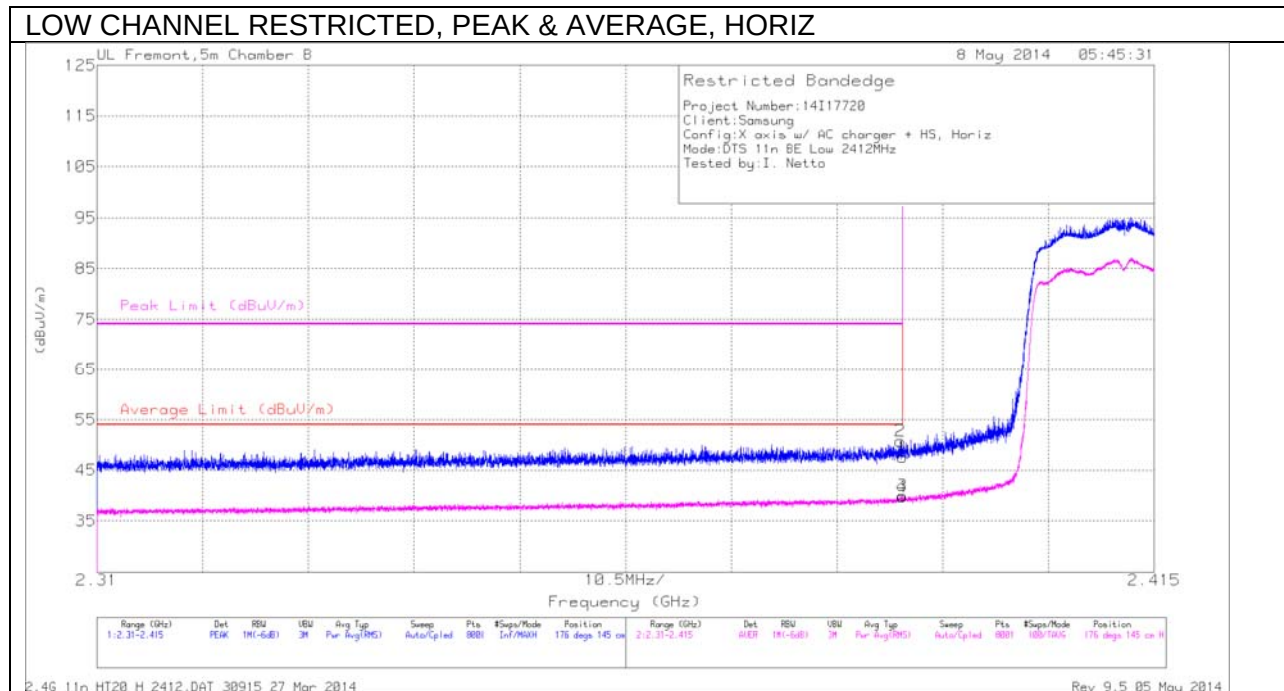
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
* 4.824	39.14	PK2	34.1	-27.3	0	45.94	-	-	74	-28.06	360	101	V
* 4.82	28.38	MAV1	34.1	-27.3	.3	35.48	54	-18.52	-	-	360	101	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)



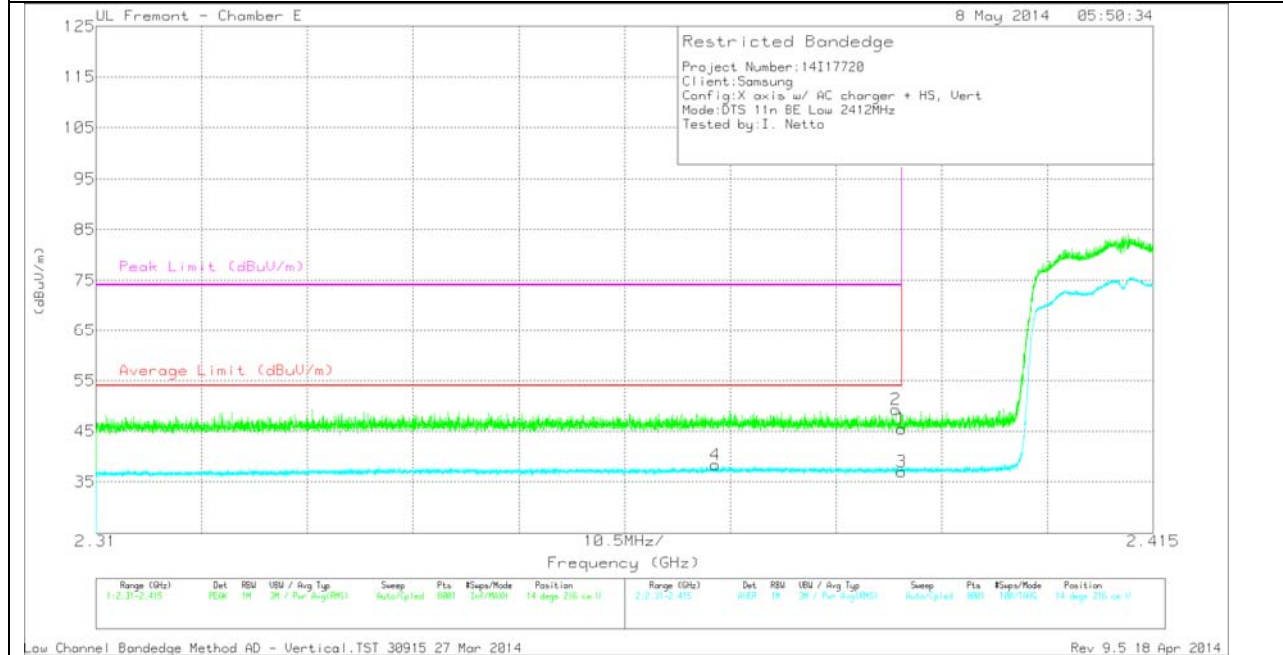
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.31	PK	32	-24.7	0	47.61	-	-	74	-26.39	176	145	H
2	* 2.39	43.43	PK	32	-24.7	0	50.73	-	-	74	-23.27	176	145	H
3	* 2.39	32.64	RMS	32	-24.7	.3	40.24	54	-13.76	-	-	176	145	H
4	* 2.39	32.47	RMS	32	-24.7	.3	40.07	54	-13.93	-	-	176	145	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/ Filt/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	38.21	PK	32	-24.7	0	45.51	-	-	74	-28.49	14	216	V
2	* 2.389	42.01	PK	32	-24.7	0	49.31	-	-	74	-24.69	14	216	V
3	* 2.39	29.74	RMS	32	-24.7	.3	37.34	54	-16.66	-	-	14	216	V
4	* 2.372	31.06	RMS	31.9	-24.6	.3	38.66	54	-15.34	-	-	14	216	V

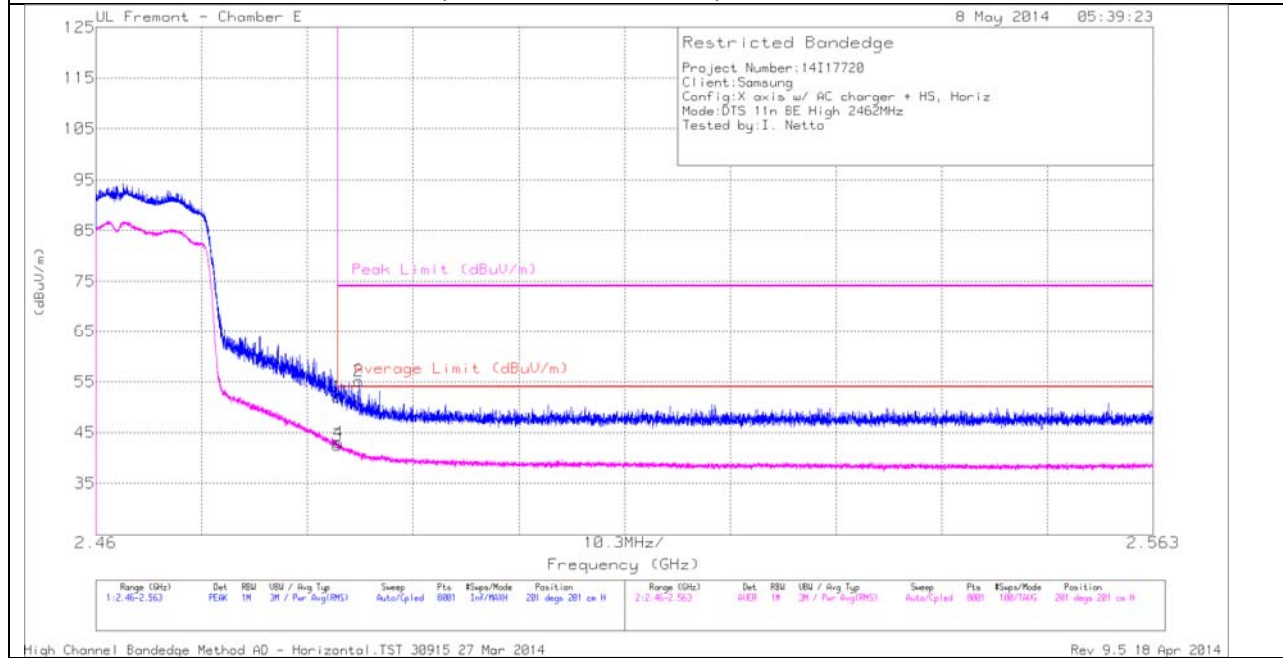
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



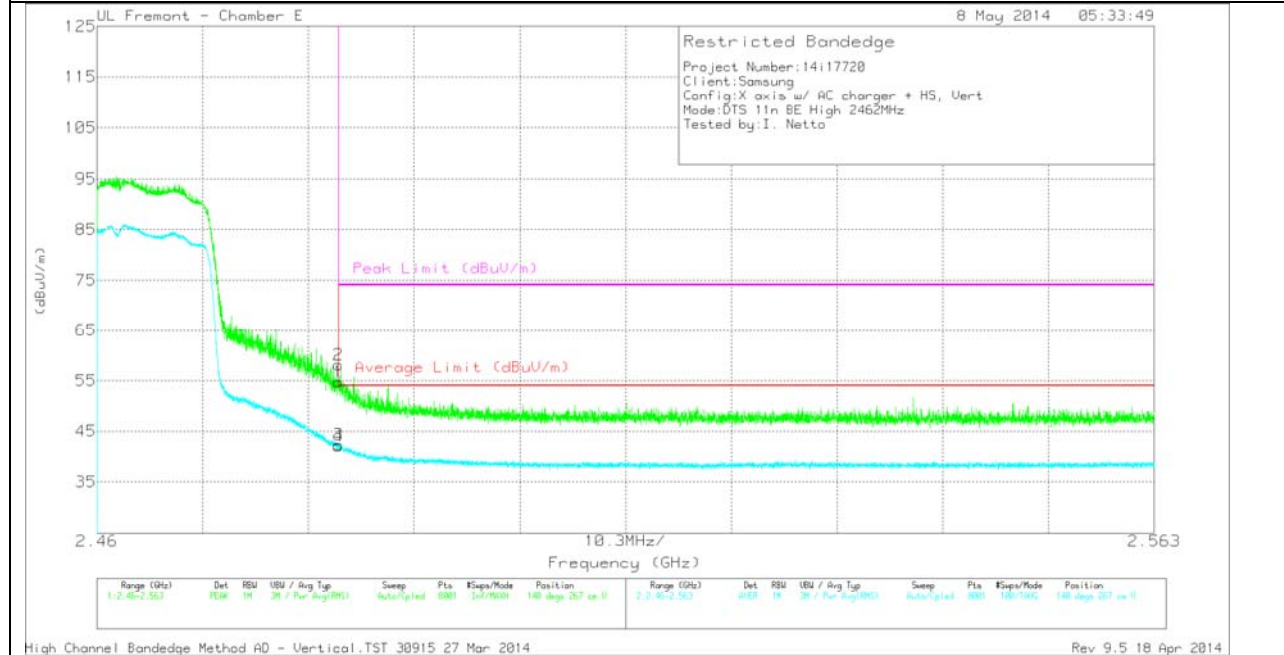
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	44	PK	32.3	-24.3	0	52	-	-	74	-22	201	201	H
2	* 2.486	47.18	PK	32.3	-24.3	0	55.18	-	-	74	-18.82	201	201	H
3	* 2.484	34.49	RMS	32.3	-24.3	.3	42.79	54	-11.21	-	-	201	201	H
4	* 2.484	34.92	RMS	32.3	-24.3	.3	43.22	54	-10.78	-	-	201	201	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/ Filt/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	46.77	PK	32.3	-24.3	0	54.77	-	-	74	-19.23	140	267	V
2	* 2.484	50.15	PK	32.3	-24.3	0	58.15	-	-	74	-15.85	140	267	V
3	* 2.484	34.4	RMS	32.3	-24.3	.3	42.7	54	-11.3	-	-	140	267	V
4	* 2.484	34.11	RMS	32.3	-24.3	.3	42.41	54	-11.59	-	-	140	267	V

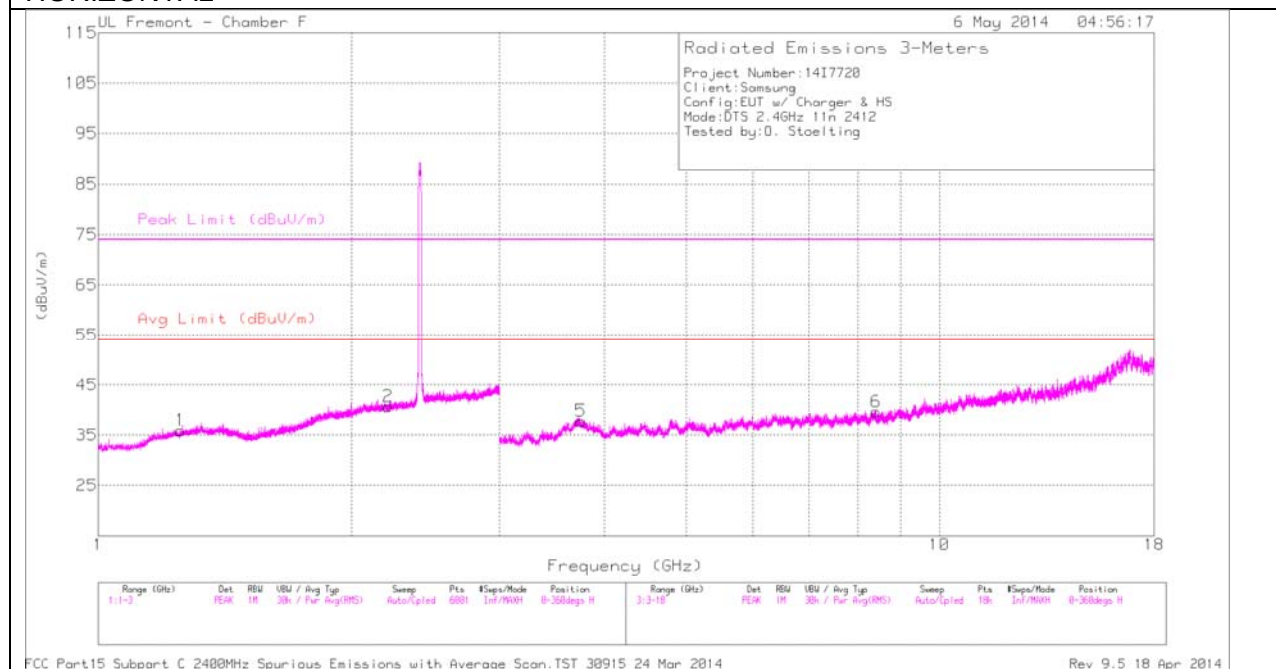
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

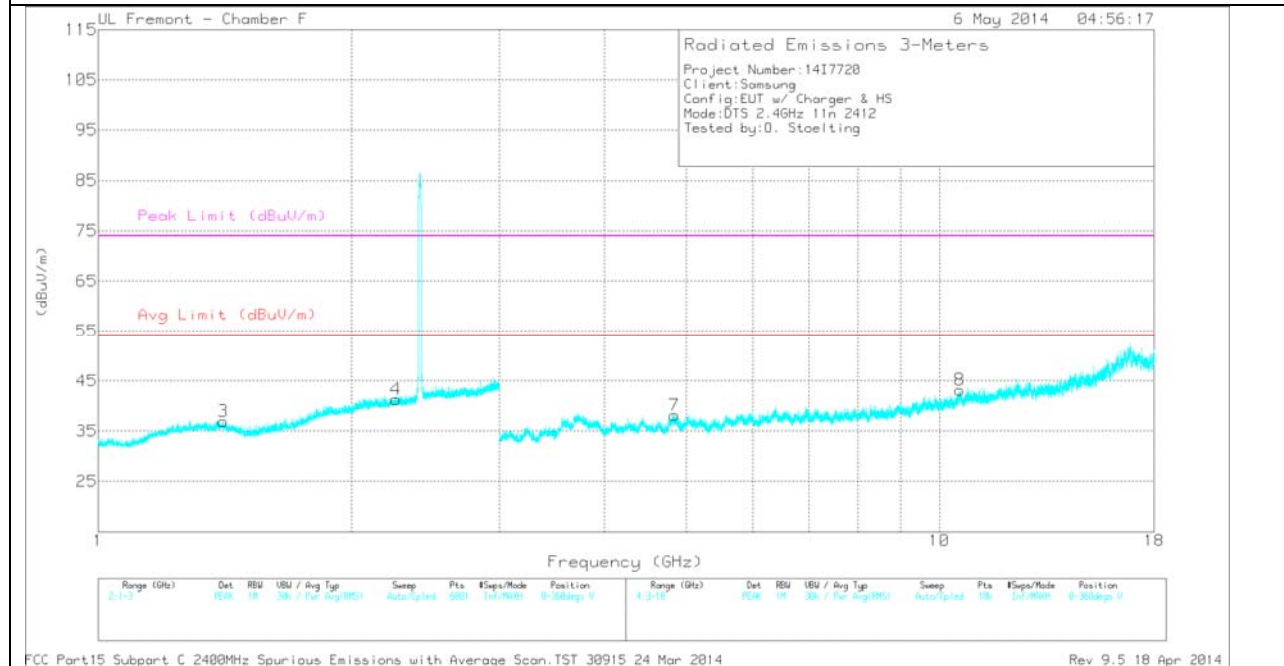
HARMONICS AND SPURIOUS EMISSIONS

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

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 1.253	33.16	PK	29.5	-26.7	0	35.96	-	-	74	-38.04	0-360	101	H
2	* 2.211	32.9	PK	31.8	-24	0	40.7	-	-	74	-33.3	0-360	199	H
3	* 1.41	33.24	PK	29.1	-25.4	0	36.94	-	-	74	-37.06	0-360	201	V
4	* 2.26	32.92	PK	31.8	-23.4	0	41.32	-	-	74	-32.68	0-360	201	V
5	* 3.748	32.61	PK	34.6	-29.4	0	37.81	-	-	74	-36.19	0-360	101	H
6	* 8.408	28.56	PK	35.8	-24.7	0	39.66	-	-	74	-34.34	0-360	200	H
7	* 4.843	31.44	PK	34.1	-27.4	0	38.14	-	-	74	-35.86	0-360	101	V
8	10.573	26.18	PK	37.8	-20.8	0	43.18	-	-	-	-	0-360	201	V

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

PK - Peak detector

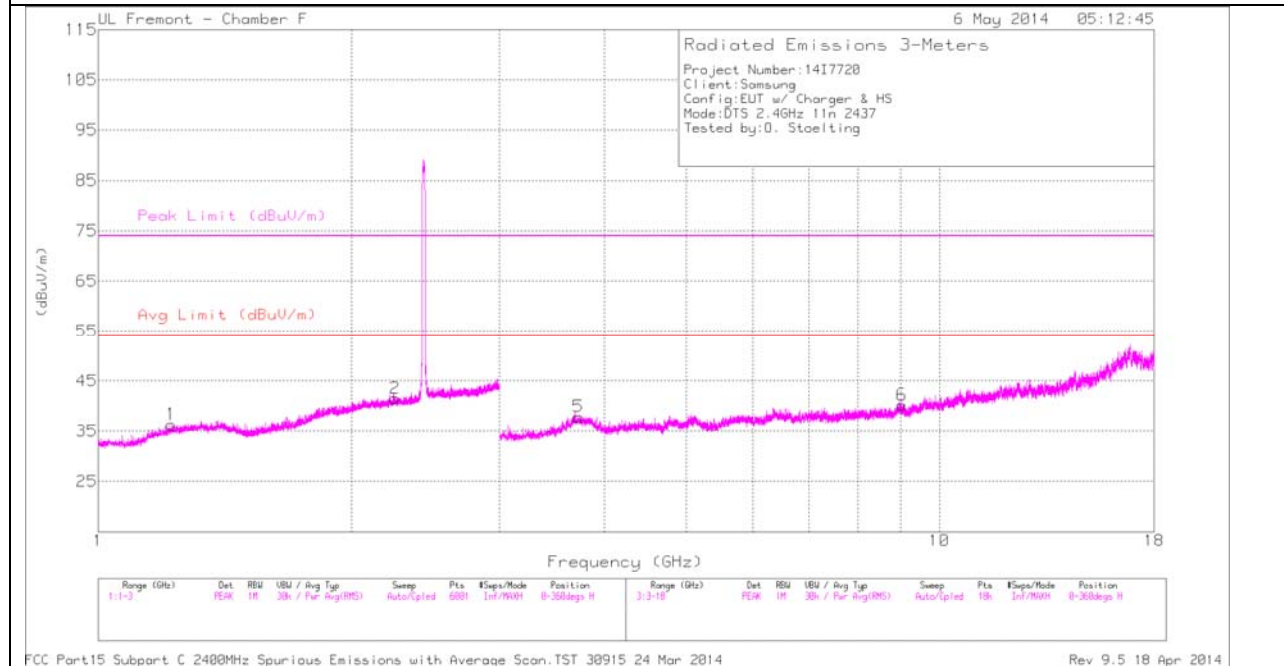
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
* 3.728	40.49	PK2	34.7	-29.4	0	45.79	-	-	74	-28.21	360	101	H
* 3.724	30.42	MAV1	34.7	-29.5	.3	35.92	54	-18.08	-	-	360	101	H

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

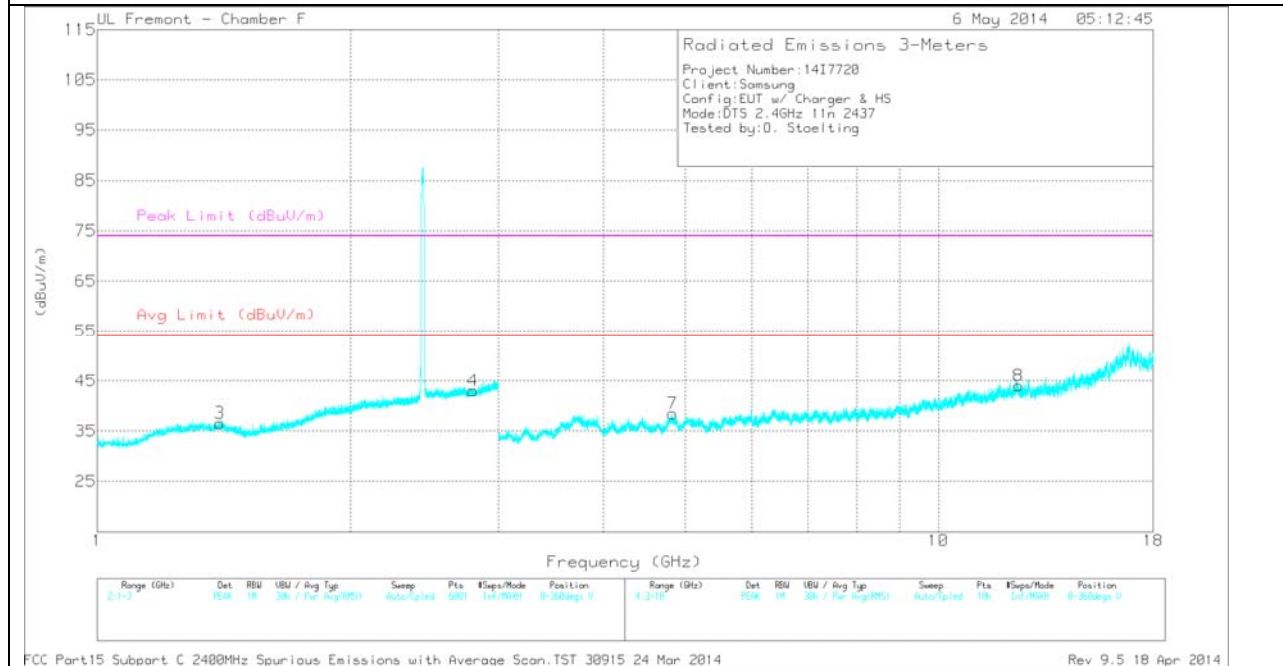
PK2 - KDB558074 Method: Maximum Peak

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

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 1.222	33.62	PK	29.2	-26.5	0	36.32	-	-	74	-37.68	0-360	200	H
2	* 2.254	33.02	PK	31.8	-23.3	0	41.52	-	-	74	-32.48	0-360	101	H
3	* 1.399	32.95	PK	29.2	-25.6	0	36.55	-	-	74	-37.45	0-360	201	V
4	* 2.797	33.04	PK	32.9	-22.9	0	43.04	-	-	74	-30.96	0-360	201	V
5	* 3.722	32.64	PK	34.7	-29.5	0	37.84	-	-	74	-36.16	0-360	200	H
6	* 9.021	27.18	PK	36.1	-23.1	0	40.18	-	-	74	-33.82	0-360	101	H
7	* 4.833	31.88	PK	34.1	-27.5	0	38.48	-	-	74	-35.52	0-360	201	V
8	* 12.447	27.2	PK	38.9	-22.1	0	44	-	-	74	-30	0-360	201	V

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

PK - Peak detector

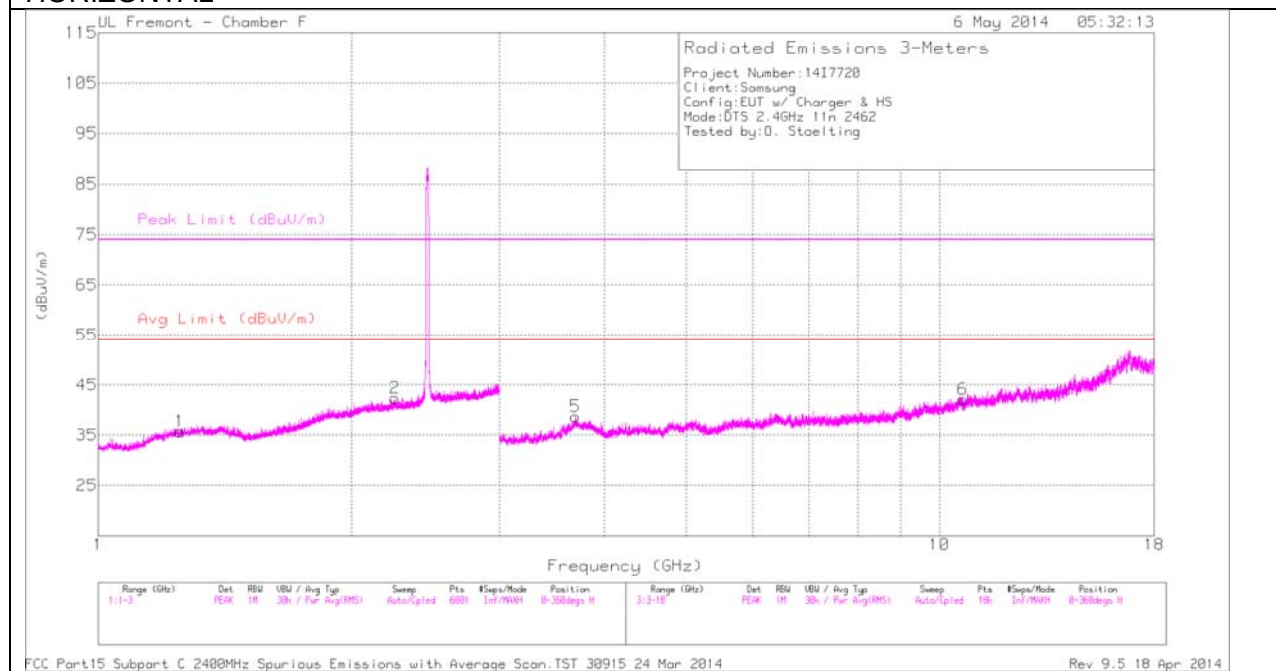
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
* 3.716	40.5	PK2	34.8	-29.5	0	45.8	-	-	74	-28.2	360	101	H
* 3.723	30.36	MAV1	34.7	-29.5	.3	35.86	54	-18.14	-	-	360	101	H

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

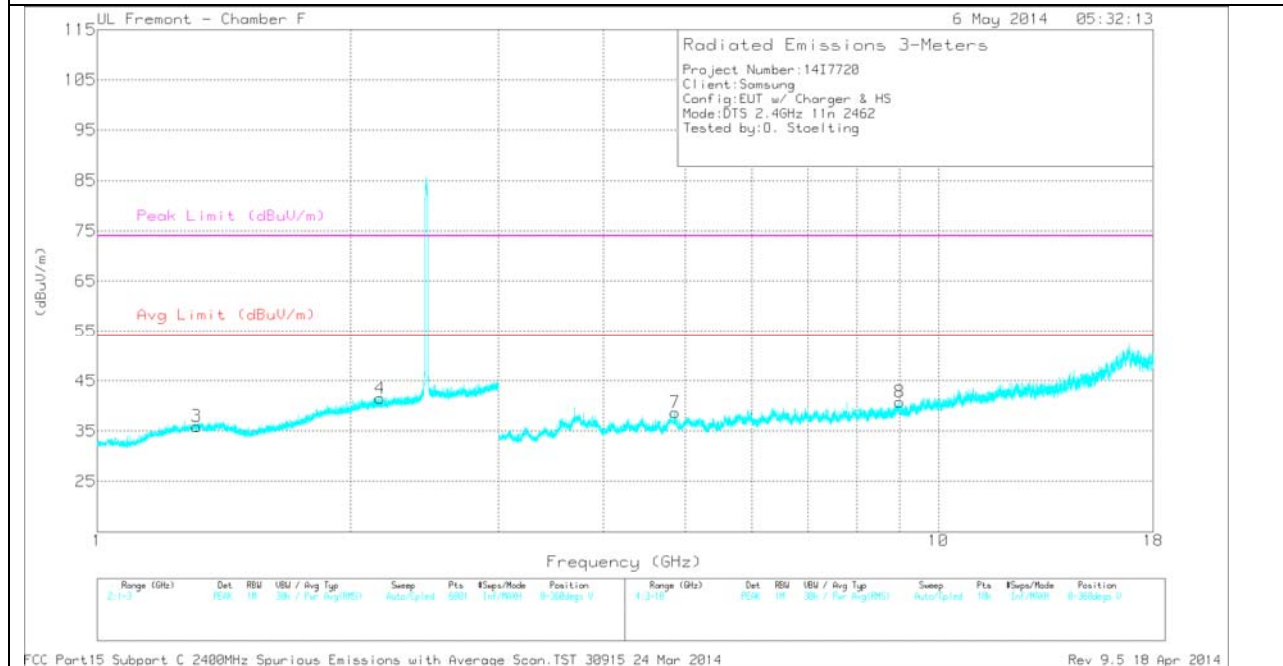
PK2 - KDB558074 Method: Maximum Peak

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.

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 1.251	32.93	PK	29.5	-26.7	0	35.73	-	-	74	-38.27	0-360	101	H
2	* 2.253	33.85	PK	31.8	-23.3	0	42.35	-	-	74	-31.65	0-360	101	H
3	* 1.313	32.96	PK	29.9	-26.9	0	35.96	-	-	74	-38.04	0-360	101	V
4	2.17	33.92	PK	31.8	-24.2	0	41.52	-	-	-	-	0-360	101	V
5	* 3.692	33.08	PK	34.9	-29.3	0	38.68	-	-	74	-35.32	0-360	101	H
6	* 10.663	26.96	PK	38	-22.8	0	42.16	-	-	74	-31.84	0-360	101	H
7	* 4.867	32.1	PK	34.2	-27.6	0	38.7	-	-	74	-35.3	0-360	101	V
8	8.988	27.61	PK	36.1	-22.9	0	40.81	-	-	-	-	0-360	201	V

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

PK - Peak detector

Radiated Emissions

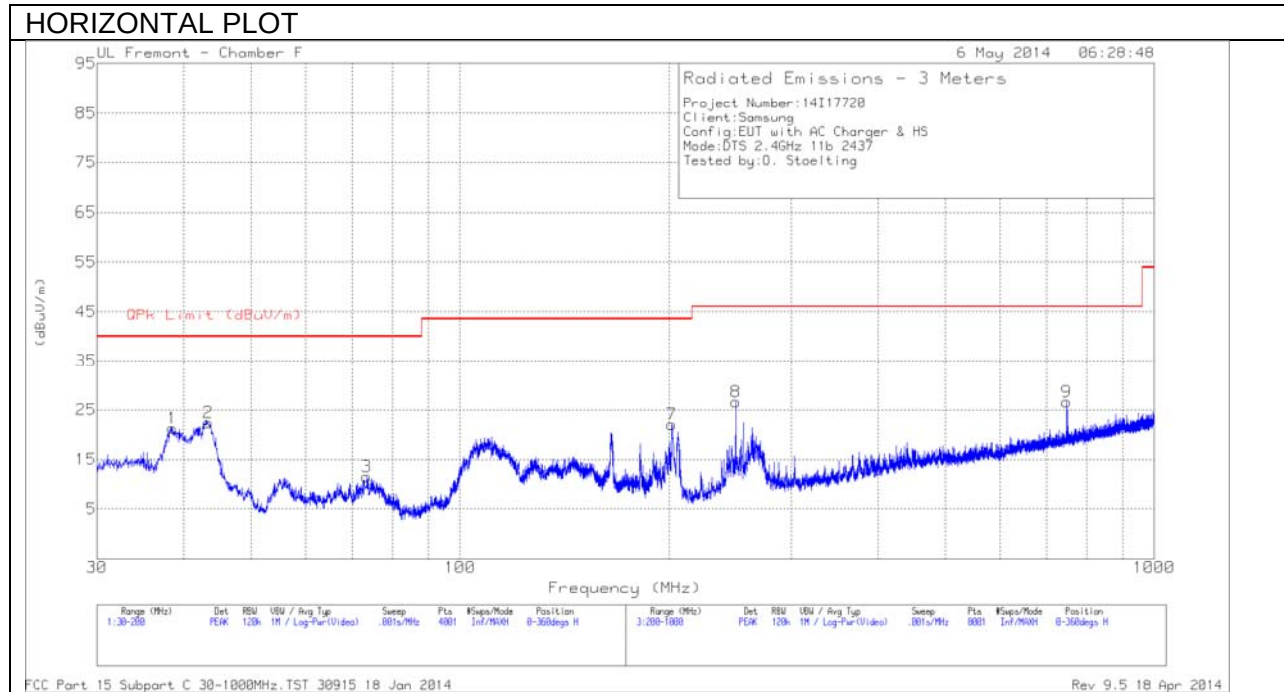
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.7	40.75	PK2	34.9	-29.5	0	46.15	-	-	74	-27.85	360	101	H
* 3.693	30.68	MAV1	34.9	-29.4	.3	36.48	54	-17.52	-	-	360	101	H

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

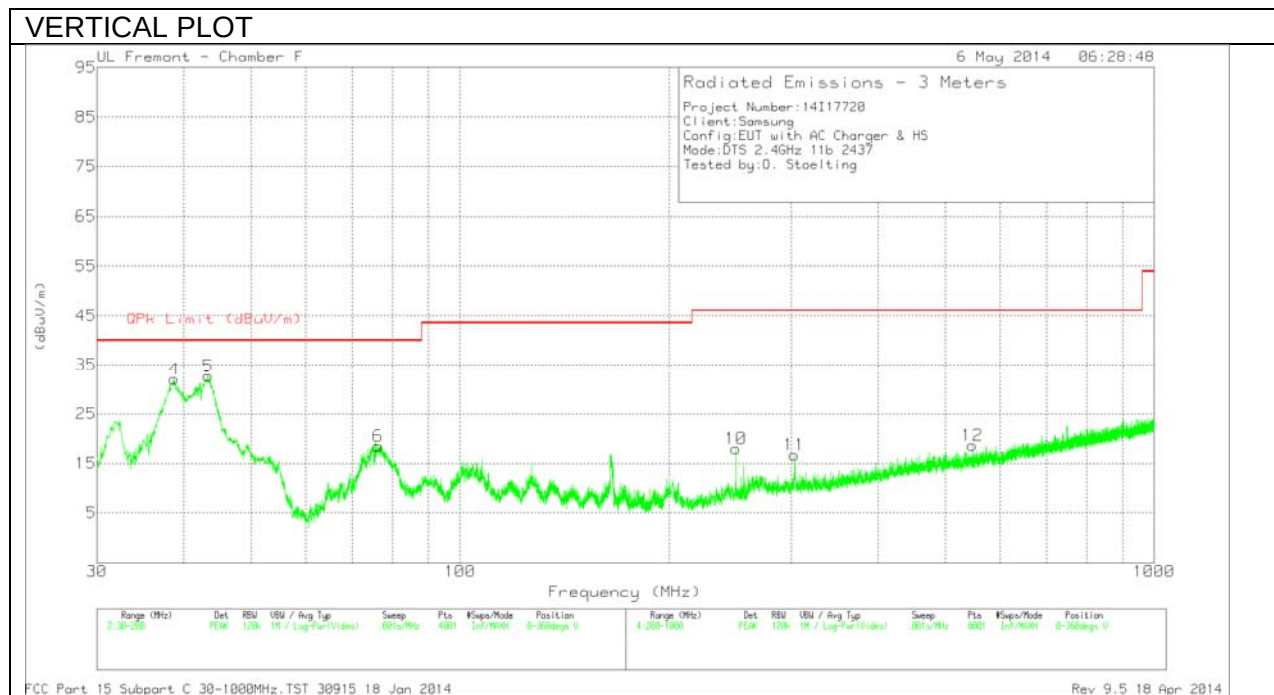
PK2 - KDB558074 Method: Maximum Peak

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

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T122 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.5	38.35	PK	15	-32.1	21.25	40	-18.75	0-360	301	H
2	43.43	42.79	PK	11.4	-31.8	22.39	40	-17.61	0-360	400	H
3	* 73.435	34.72	PK	8.1	-31.3	11.52	40	-28.48	0-360	200	H
4	38.7975	49.6	PK	14.7	-32.2	32.1	40	-7.9	0-360	101	V
5	43.345	52.99	PK	11.5	-31.8	32.69	40	-7.31	0-360	101	V
6	76.1975	41.79	PK	8	-31.3	18.49	40	-21.51	0-360	101	V
7	202	41.15	PK	12.2	-31.3	22.05	43.52	-21.47	0-360	101	H
8	* 249.6	46.04	PK	11.5	-30.9	26.64	46.02	-19.38	0-360	101	H
9	748.8	35.08	PK	20.8	-29.3	26.58	46.02	-19.44	0-360	201	H
10	* 249.6	37.33	PK	11.5	-30.9	17.93	46.02	-28.09	0-360	200	V
11	303.2	33.98	PK	13.5	-30.8	16.68	46.02	-29.34	0-360	200	V
12	546.9	30.49	PK	18.2	-30.1	18.59	46.02	-27.43	0-360	100	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)

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

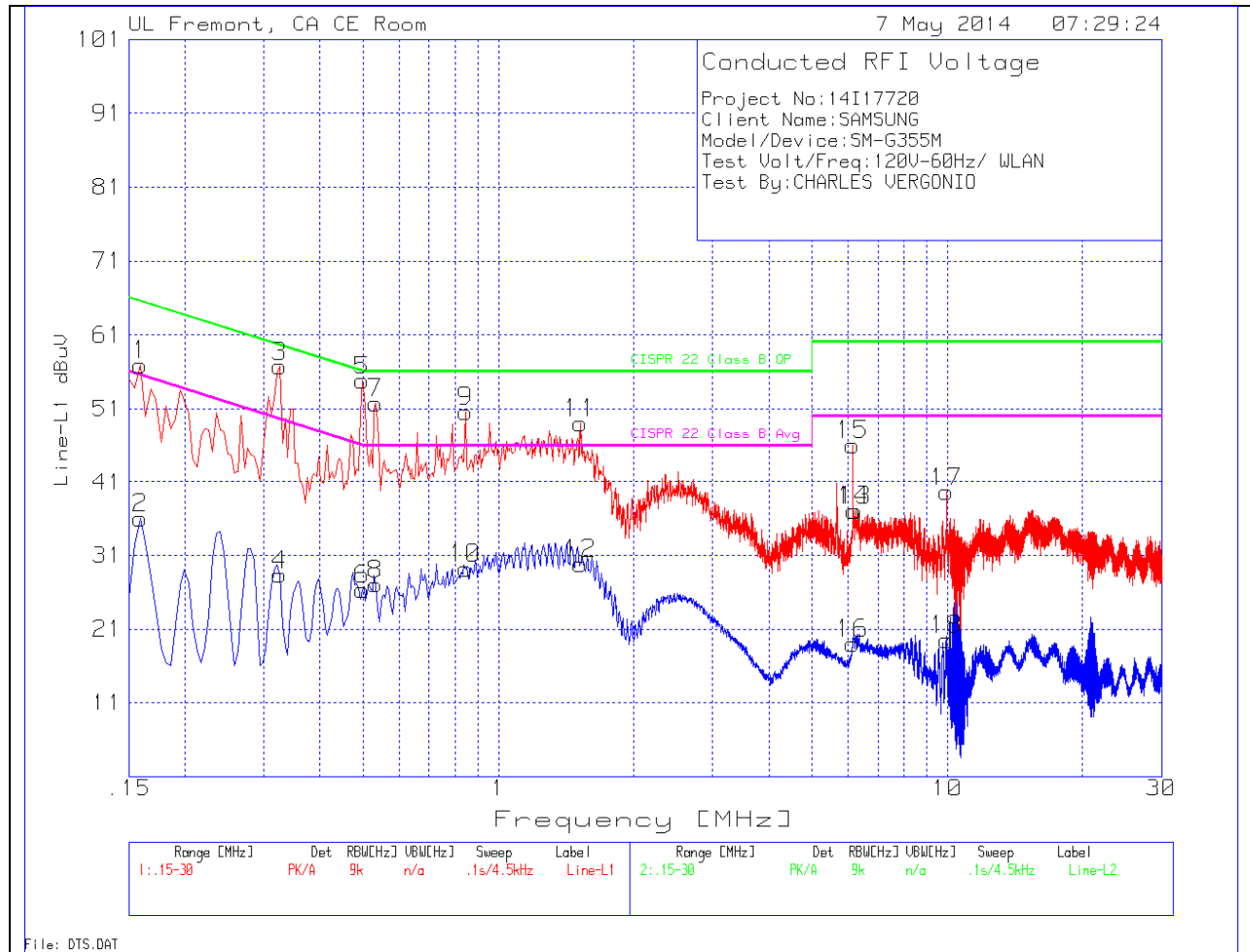
Line-L1 .15 - 30MHz

Trace Markers										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.159	55.57	PK	1.3	0	56.87	65.5	-8.63	-	-
2	.159	34.72	Av	1.3	0	36.02	-	-	55.5	-19.48
3	.3255	56.21	PK	.5	0	56.71	59.6	-2.89	-	-
4	.3255	27.85	Av	.5	0	28.35	-	-	49.6	-21.25
5	.4965	54.38	PK	.4	0	54.78	56.1	-1.32	-	-
6	.4965	25.94	Av	.4	0	26.34	-	-	46.1	-19.76
7	.5325	51.4	PK	.3	0	51.7	56	-4.3	-	-
8	.5325	26.76	Av	.3	0	27.06	-	-	46	-18.94
9	.843	50.27	PK	.3	0	50.57	56	-5.43	-	-
10	.843	28.92	Av	.3	0	29.22	-	-	46	-16.78
11	1.5225	48.75	PK	.2	.1	49.05	56	-6.95	-	-
12	1.5225	29.5	Av	.2	.1	29.8	-	-	46	-16.2
15	6.144	45.78	PK	.2	.1	46.08	60	-13.92	-	-
16	6.144	18.75	Av	.2	.1	19.05	-	-	50	-30.95
14	6.1755	36.71	PK	.2	.1	37.01	60	-22.99	-	-
13	6.2475	36.74	PK	.2	.1	37.04	60	-22.96	-	-
17	9.942	39.24	PK	.2	.2	39.64	60	-20.36	-	-
18	9.942	19.07	Av	.2	.2	19.47	-	-	50	-30.53

Line-L2 .15 - 30MHz

Trace Markers										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
19	.168	56.85	PK	1.3	0	58.15	65.1	-6.95	-	-
20	.168	22.94	Av	1.3	0	24.24	-	-	55.1	-30.86
21	.2265	54.91	PK	.9	0	55.81	62.6	-6.79	-	-
22	.2265	12.63	Av	.9	0	13.53	-	-	52.6	-39.07
23	.582	44.58	PK	.3	0	44.88	56	-11.12	-	-
24	.582	19.61	Av	.3	0	19.91	-	-	46	-26.09
25	2.5215	48.68	PK	.2	.1	48.98	56	-7.02	-	-
26	2.5215	24.5	Av	.2	.1	24.8	-	-	46	-21.2
27	27.9555	37.38	PK	.3	.3	37.98	60	-22.02	-	-
28	27.9555	18.22	Av	.3	.3	18.82	-	-	50	-31.18
29	29.0085	38.23	PK	.3	.3	38.83	60	-21.17	-	-
30	29.0085	15.6	Av	.3	.3	16.2	-	-	50	-33.8

LINE 1 RESULTS



LINE 2 RESULTS

