



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA Phone + Bluetooth, DTS/UNII a/b/g/n & ANT+

MODEL NUMBER: SM-A500H/DS, SM-A500H

FCC ID: A3LSMA500H

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Prepared for

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

Prepared by

**UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888**



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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA Phone + Bluetooth, DTS/UNII a/b/g/n & ANT+
MODEL: SM-A500H/DS, SM-A500H
SERIAL NUMBER: 1959554 (CONDUCTED); 1948914 (RADIATED)
DATE TESTED: SEPTEMBER 3-10, 2014

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.

Approved & Released

For UL Verification Services Inc. By:

Tested By:



PENG ZHANG
CONSUMER TECHNOLOGY DIVISION
PROJECT LEAD
UL Verification Services Inc.



STEVEN TRAN
CONSUMER TECHNOLOGY DIVISION
LAB ENGINEER
UL Verification Services Inc.

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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

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 40000 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, DTS/UNII a/b/g/n, 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	17.5	56.23
2412 - 2462	802.11g	13.5	22.39
2412 - 2462	802.11n HT20	12.5	17.78
5745 - 5825	802.11a	13.5	22.39
5745 - 5825	802.11n HT20	12.5	17.78
5755 - 5795	802.11n HT40	11.5	14.13

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -5.49 dBi for 2.4GHz and -11.71 for 5.8GHz.

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

802.11a mode: 6 Mbps

802.11n HT20mode: MCS0

802.11n HT40mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SAMSUNG	EP-TA50EWE	N/A	N/A
Earphone	SAMSUNG	EHS64AVFWE	N/A	N/A

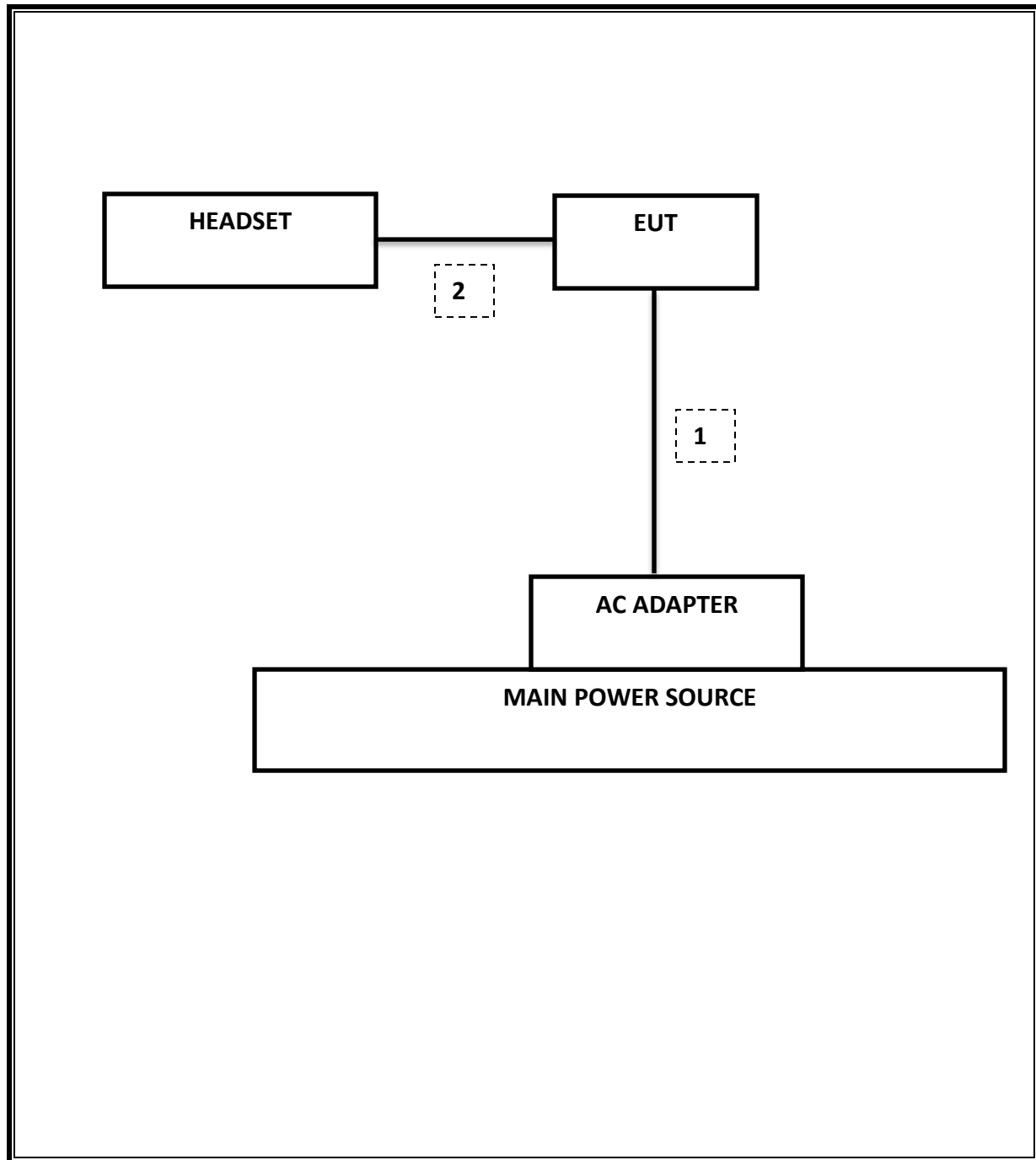
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	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	08/13/15
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/15
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	06/28/15
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

The model FCC ID: A3LSMA500H shares the same enclosure and circuit board as mode FCC ID: A3LSMA500F. The WLAN/Bluetooth circuitry and layout, including antenna, are almost identical between the two units. The WLAN/Bluetooth antenna and surrounding circuitry is the same between these two units.

After confirming through preliminary radiated emissions that the performance of the A3LSMA500F WLAN remains representative of this model (FCC ID A3LSMA500H) test data for FCC ID: A3LSMA500F is being submitted for this application.

Radiated emissions were fully re-evaluated against 15B requirements for digital devices and results indicated no significant differences between the two versions. Other differences between the two FCC IDs are in the WWAN PCB Layout, removal of LTE block and WWAN SAR and EMC has been fully retested for FCC ID: A3LSMA500H.

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	9.12MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-27.01dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	17.5dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-11.99dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	29.9dBuV(av)
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	50.31dBuV/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 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	10.06	0.5
Mid	2437	9.12	0.5
High	2462	9.12	0.5
Worst		9.12	

9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.55	0.5
Mid	2437	16.55	0.5
High	2462	16.45	0.5
Worst		16.45	

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	17.70	0.5
Mid	2437	17.78	0.5
High	2462	17.68	0.5
Worst		17.68	

9.1.4. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	16.44	0.5
Mid	5785	16.50	0.5
High	5825	16.50	0.5
Worst		16.44	

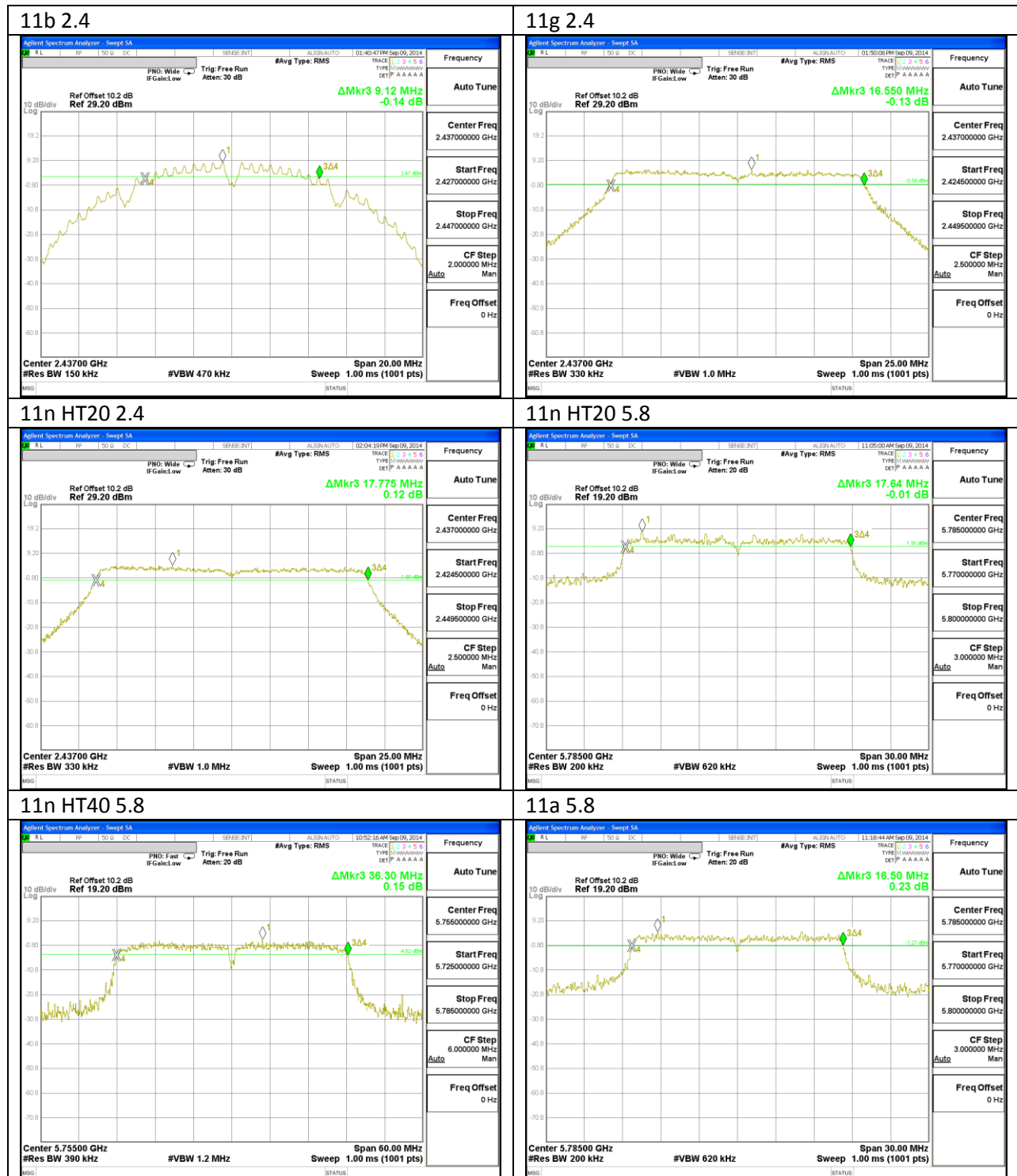
9.1.5. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.79	0.5
Mid	5785	17.64	0.5
High	5825	17.67	0.5
Worst		17.64	

9.1.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5755	36.30	0.5
High	5795	36.30	0.5
Worst		36.30	0.5

9.1.7. 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	13.43
Mid	2437	13.69
High	2462	13.19
Worst		13.69

9.2.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.57
Mid	2437	16.62
High	2462	16.56
Worst		16.62

9.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.78
Mid	2437	17.81
High	2462	17.69
Worst		17.81

9.2.4. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.89
Mid	5785	16.82
High	5825	16.64
Worst		16.89

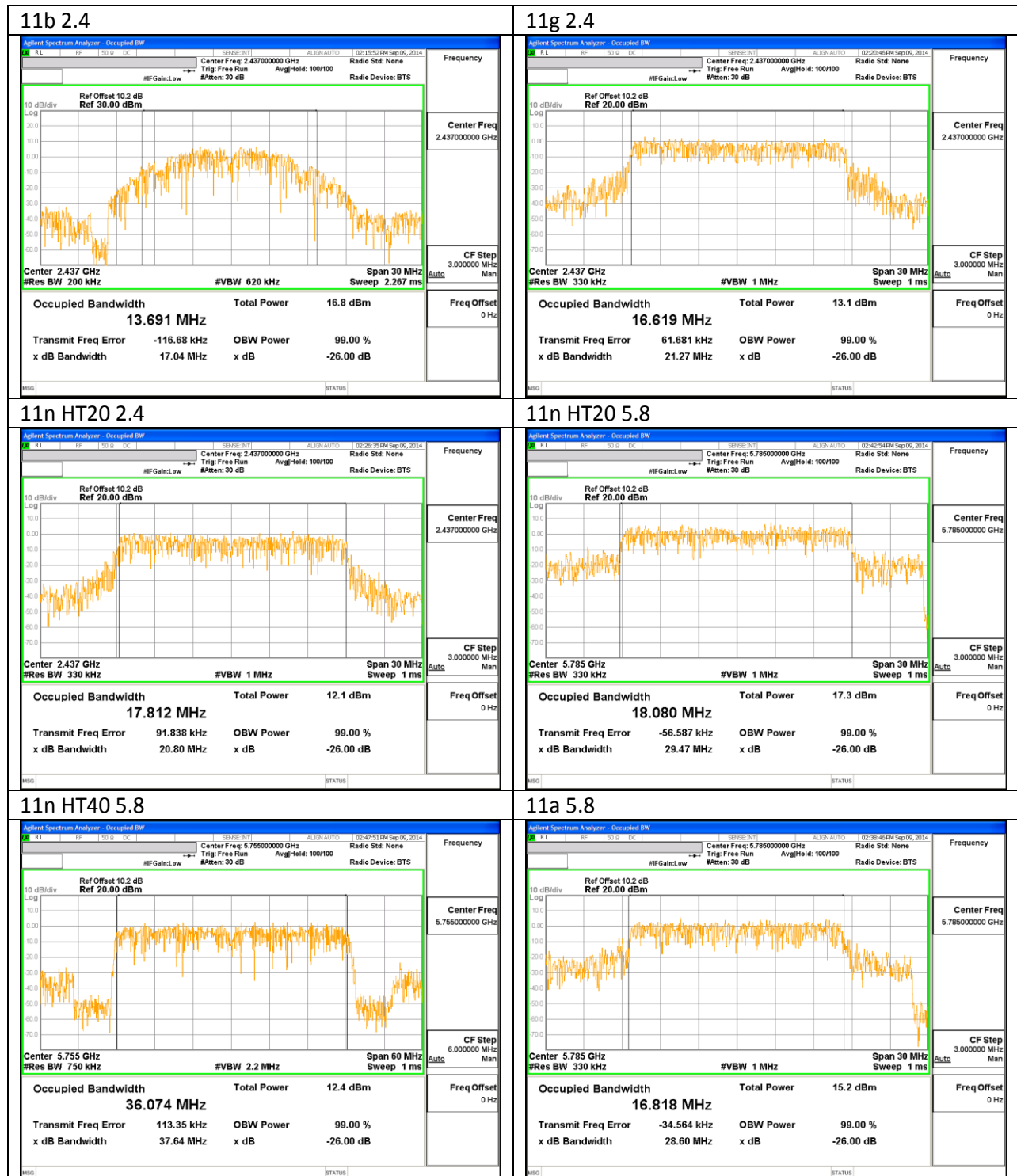
9.2.5. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.79
Mid	5785	18.08
High	5825	17.95
Worst		18.08

9.2.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.07
High	5795	36.22
Worst		36.22

9.2.7. 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.

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	-5.49	30.00	30	36	30.00
Mid	2437	-5.49	30.00	30	36	30.00
High	2462	-5.49	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	17.4	17.40	30.00	-12.60
Mid	2437	17.3	17.30	30.00	-12.70
High	2462	17.5	17.50	30.00	-12.50
Worst			17.50		

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	-5.49	30.00	30	36	30.00
Mid	2437	-5.49	30.00	30	36	30.00
High	2462	-5.49	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	13.50	13.50	30.00	-16.50
Mid	2437	13.40	13.40	30.00	-16.60
High	2462	13.50	13.50	30.00	-16.50
Worst			13.50		

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	-5.49	30.00	30	36	30.00
Mid	2437	-5.49	30.00	30	36	30.00
High	2462	-5.49	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	12.50	12.50	30.00	-17.50
Mid	2437	12.20	12.20	30.00	-17.80
High	2462	12.50	12.50	30.00	-17.50
Worst			12.50		

9.3.4. 802.11a MODE IN THE 5.8 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	5745	-11.71	30.00	30	36	30.00
Mid	5785	-11.71	30.00	30	36	30.00
High	5825	-11.71	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	5745	13.50	13.50	30.00	-16.50
Mid	5785	13.50	13.50	30.00	-16.50
High	5825	13.50	13.50	30.00	-16.50
Worst			13.50		

9.3.5. 802.11n HT20 MODE IN THE 5.8 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	5745	-11.71	30.00	30	36	30.00
Mid	5785	-11.71	30.00	30	36	30.00
High	5825	-11.71	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	5745	12.50	12.50	30.00	-17.50
Mid	5785	12.50	12.50	30.00	-17.50
High	5825	12.20	12.20	30.00	-17.80
Worst			12.50		

9.3.6. 802.11n HT40 MODE IN THE 5.8 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	5755	-11.71	30.00	30	36	30.00
High	5795	-11.71	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	5755	11.50	11.50	30.00	-18.50
High	5795	11.50	11.50	30.00	-18.50
Worst			11.50		

9.4. PSD

LIMITS

FCC §15.247

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

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	-12.12	8.0	-20.1
Mid	2437	-12.36	8.0	-20.4
High	2462	-11.99	8.0	-20.0

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	-19.60	8.0	-27.6
Mid	2437	-19.55	8.0	-27.6
High	2462	-19.38	8.0	-27.4

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	-20.53	8.0	-28.5
Mid	2437	-20.94	8.0	-28.9
High	2462	-20.67	8.0	-28.7

9.4.4. 802.11a MODE IN THE 5.8 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	5745	-19.49	8.0	-27.5
Mid	5785	-17.21	8.0	-25.2
High	5825	-18.49	8.0	-26.5

9.4.5. 802.11n HT20 MODE IN THE 5.8 GHz BAND

PSD Results

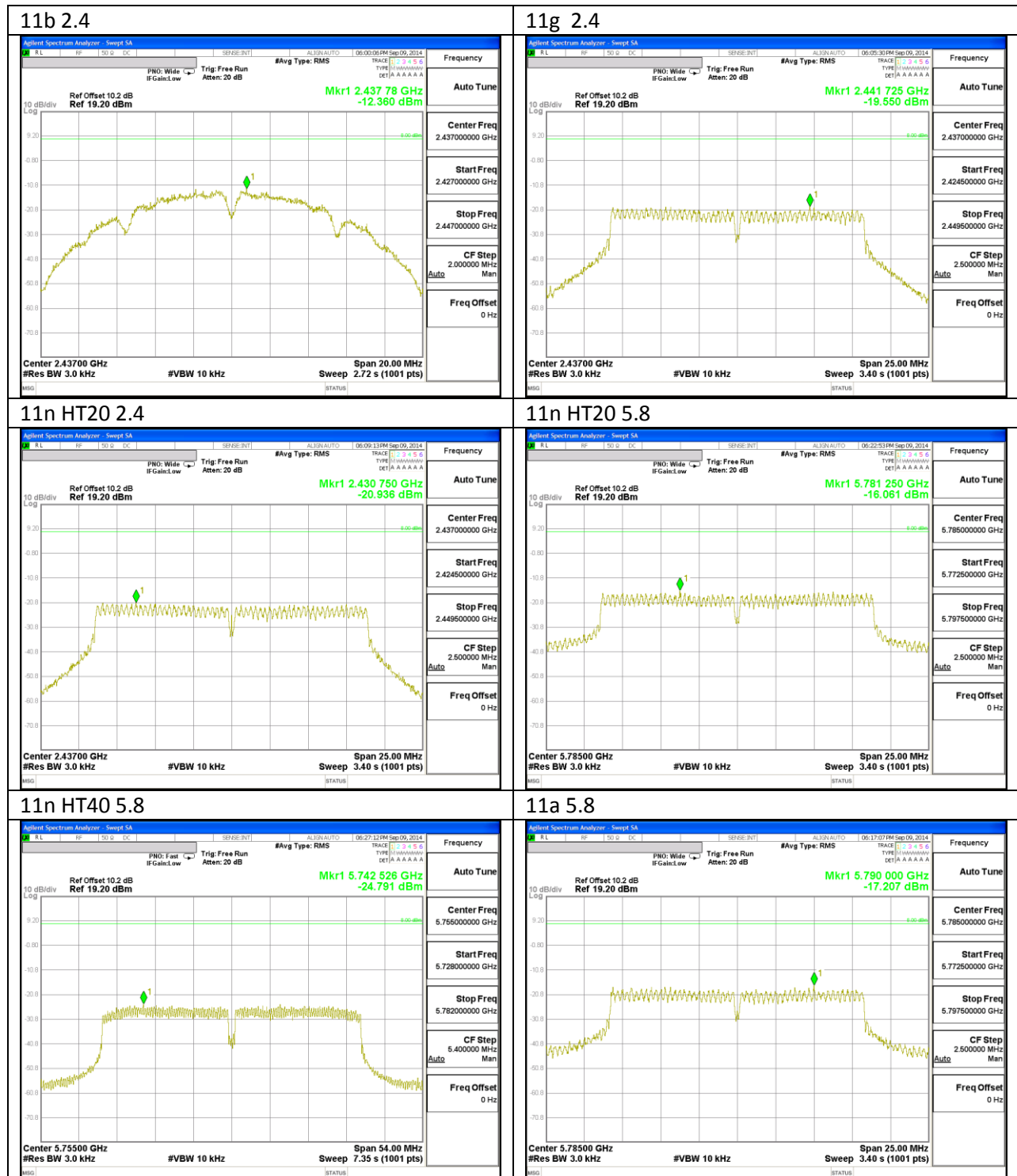
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	5745	-19.53	8.0	-27.5
Mid	5785	-16.06	8.0	-24.1
High	5825	-20.12	8.0	-28.1

9.4.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	5755	-24.79	8.0	-32.8
High	5795	-24.20	8.0	-32.2

9.4.7. 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.

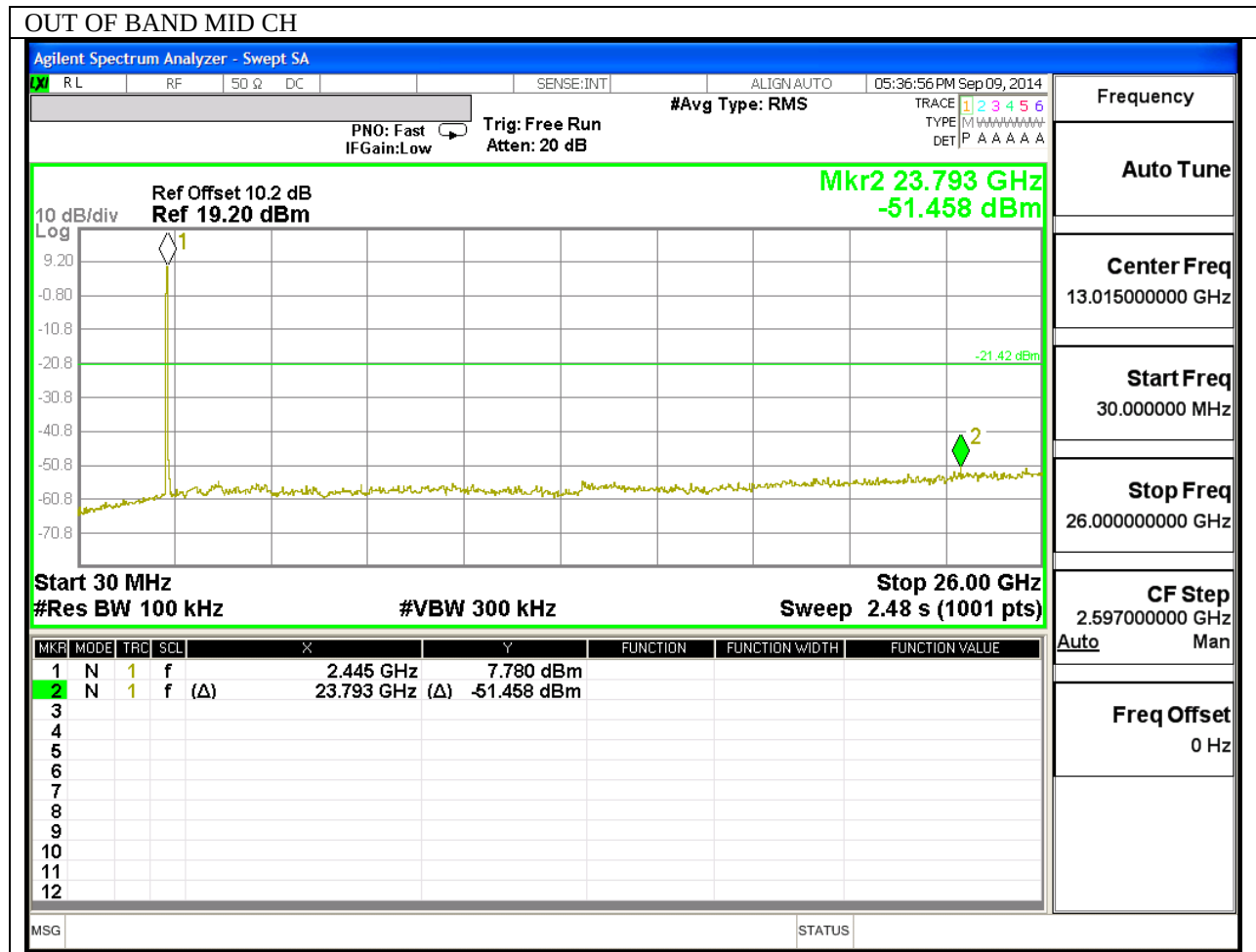
TEST PROCEDURE

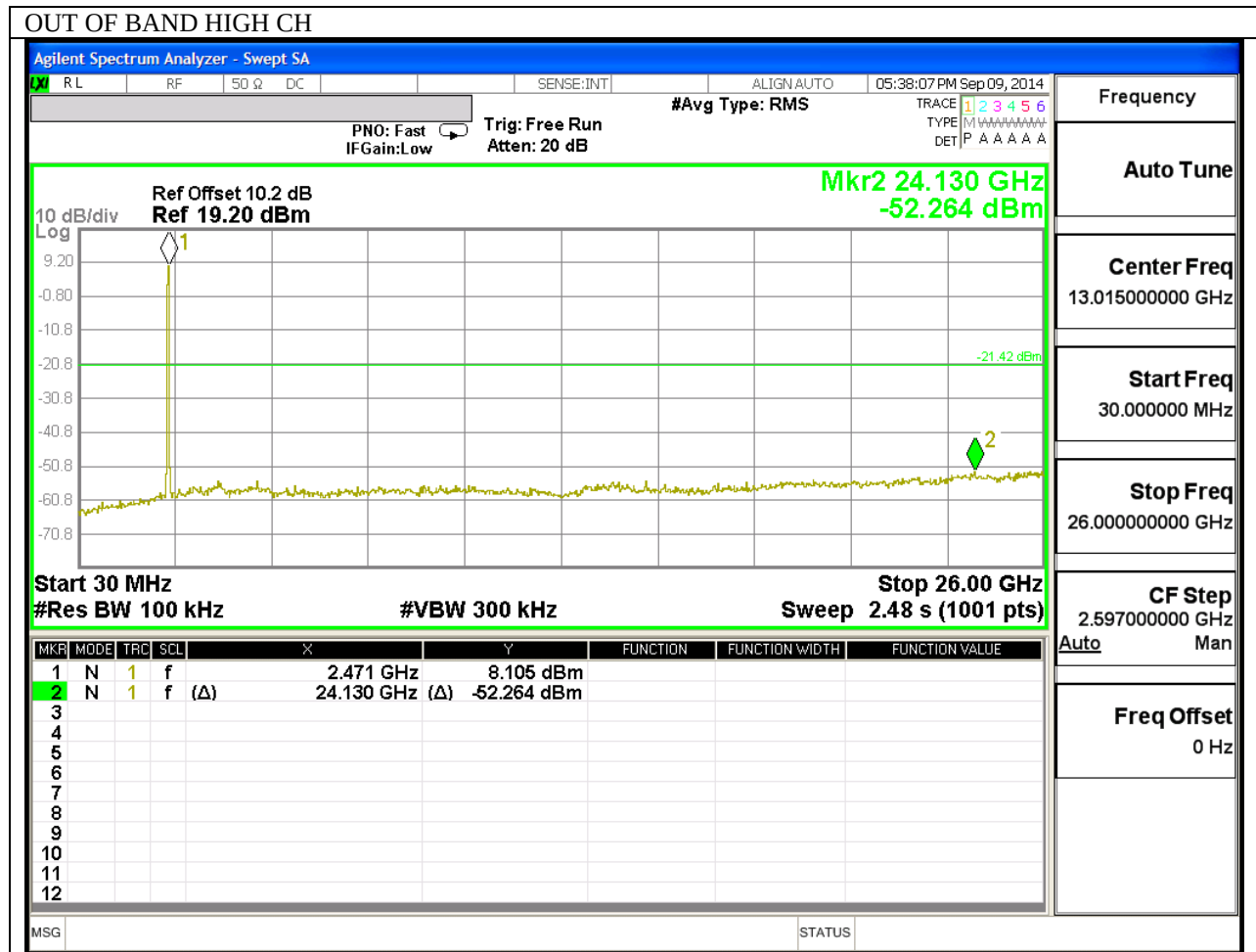
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS

LOW CHANNEL BANDEDGE

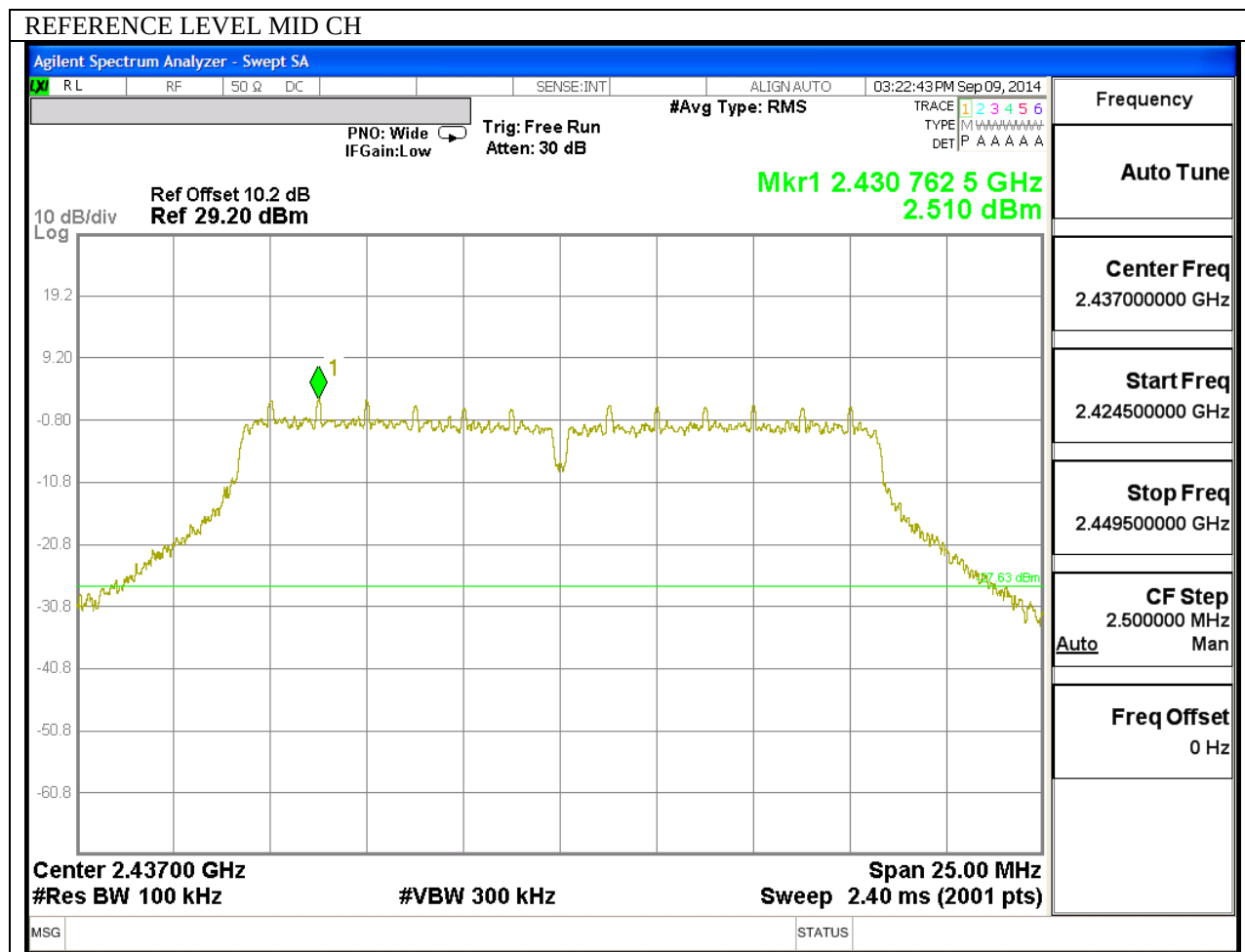


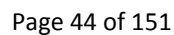




9.5.2. 802.11g MODE IN THE 2.4 GHz BAND

IN-BAND REFERENCE LEVEL





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC SENSE:INT ALIGN: AUTO 05:42:22 PM Sep 09, 2014

#Avg Type: RMS

TRAC 1 2 3 4 5 6
TYPE M W W W W W W W
DET P A A A A A

PNO: Fast IF Gain: Low Trig: Free Run Atten: 20 dB

Ref Offset 10.2 dB
Ref 19.20 dBm

Mkr2 14.210 GHz
-54.548 dBm

10 dB/div
Log

Start 30 MHz
#Res BW 100 kHz

#VBW 300 kHz

Stop 26.00 GHz
Sweep 2.48 s (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.471 GHz	1.865 dBm			
2	N	1	f (Δ)	14.210 GHz (Δ)	-54.548 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

MSG STATUS

Frequency

Auto Tune

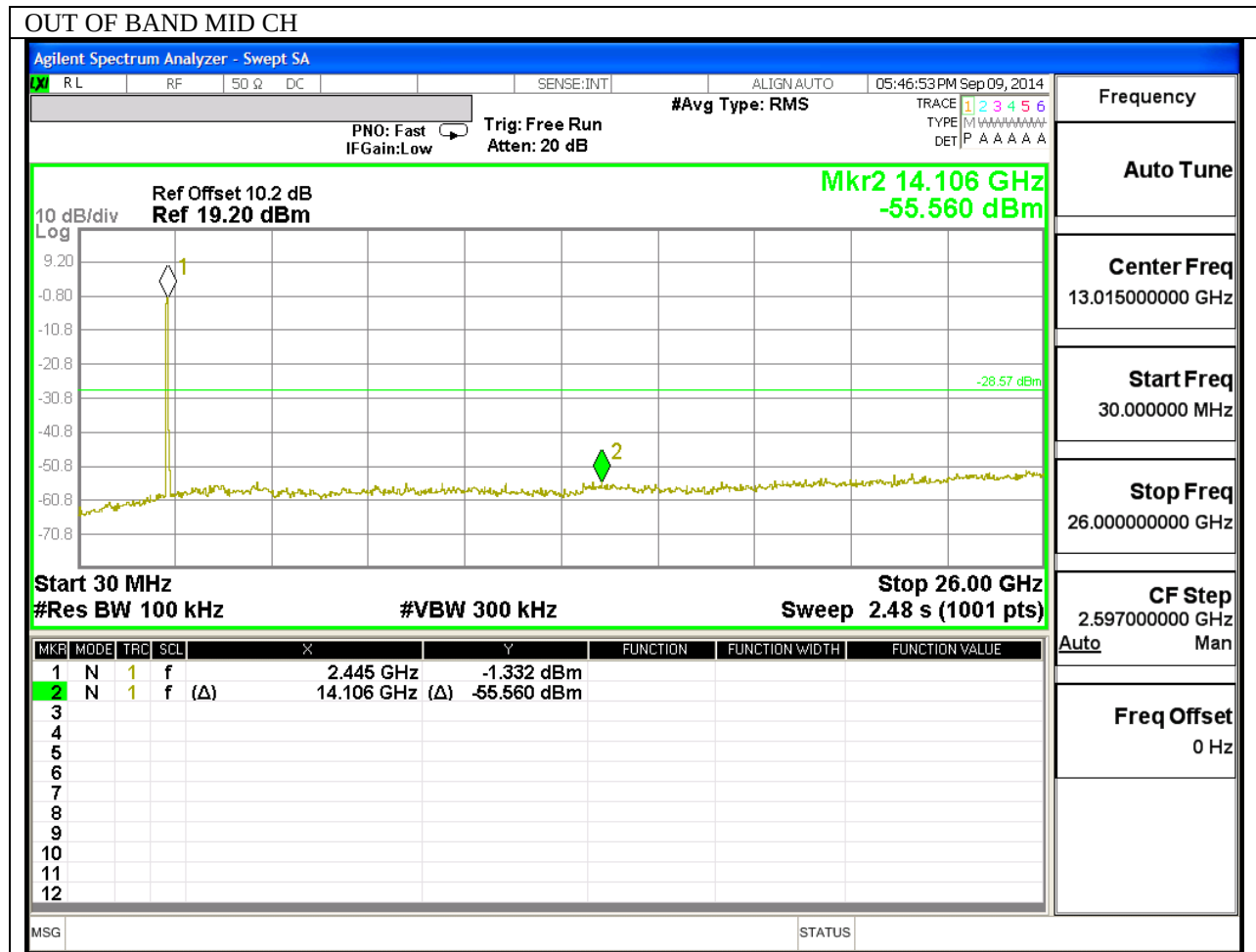
Center Freq
13.015000000 GHz

Start Freq
30.000000 MHz

Stop Freq
26.000000000 GHz

CF Step
2.597000000 GHz
Auto Man

Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC SENSE:INT ALIGN: AUTO 05:45:33 PM Sep 09, 2014

#Avg Type: RMS

PN0: Fast IF Gain: Low Trig: Free Run Atten: 20 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W
DET P A A A A A

Ref Offset 10.2 dB
Ref 19.20 dBm

Mkr2 23.819 GHz
-52.554 dBm

10 dB/div
Log

Start 30 MHz
#Res BW 100 kHz

Stop 26.00 GHz
Sweep 2.48 s (1001 pts)

#VBW 300 kHz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.471 GHz	1.415 dBm			
2	N	1	f (Δ)	23.819 GHz (Δ)	-52.554 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

MSG STATUS

Frequency

Auto Tune

Center Freq
13.015000000 GHz

Start Freq
30.000000 MHz

Stop Freq
26.000000000 GHz

CF Step
2.597000000 GHz

Auto Man

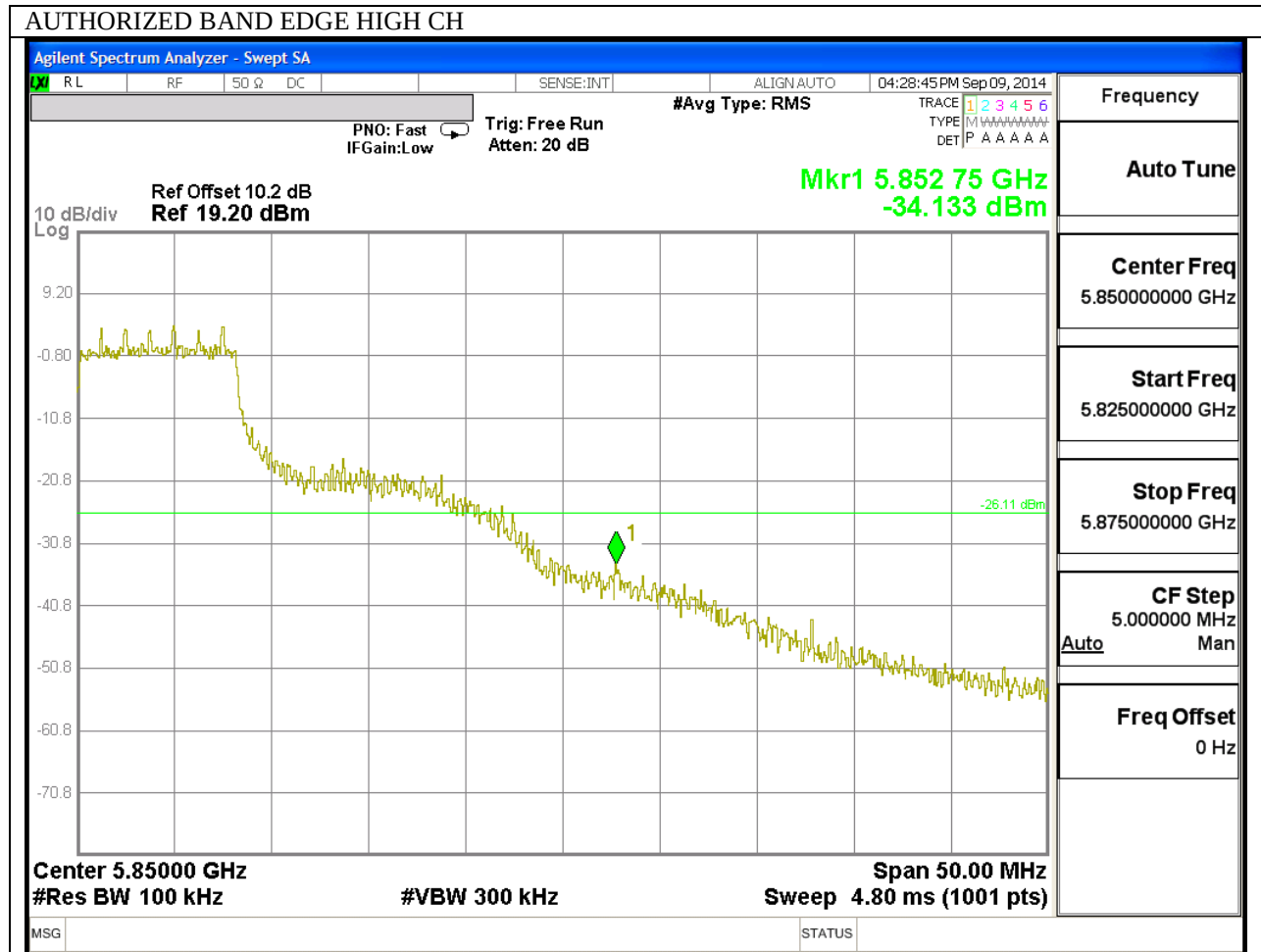
Freq Offset
0 Hz

9.5.4. 802.11a MODE IN THE 5.8 GHz BAND

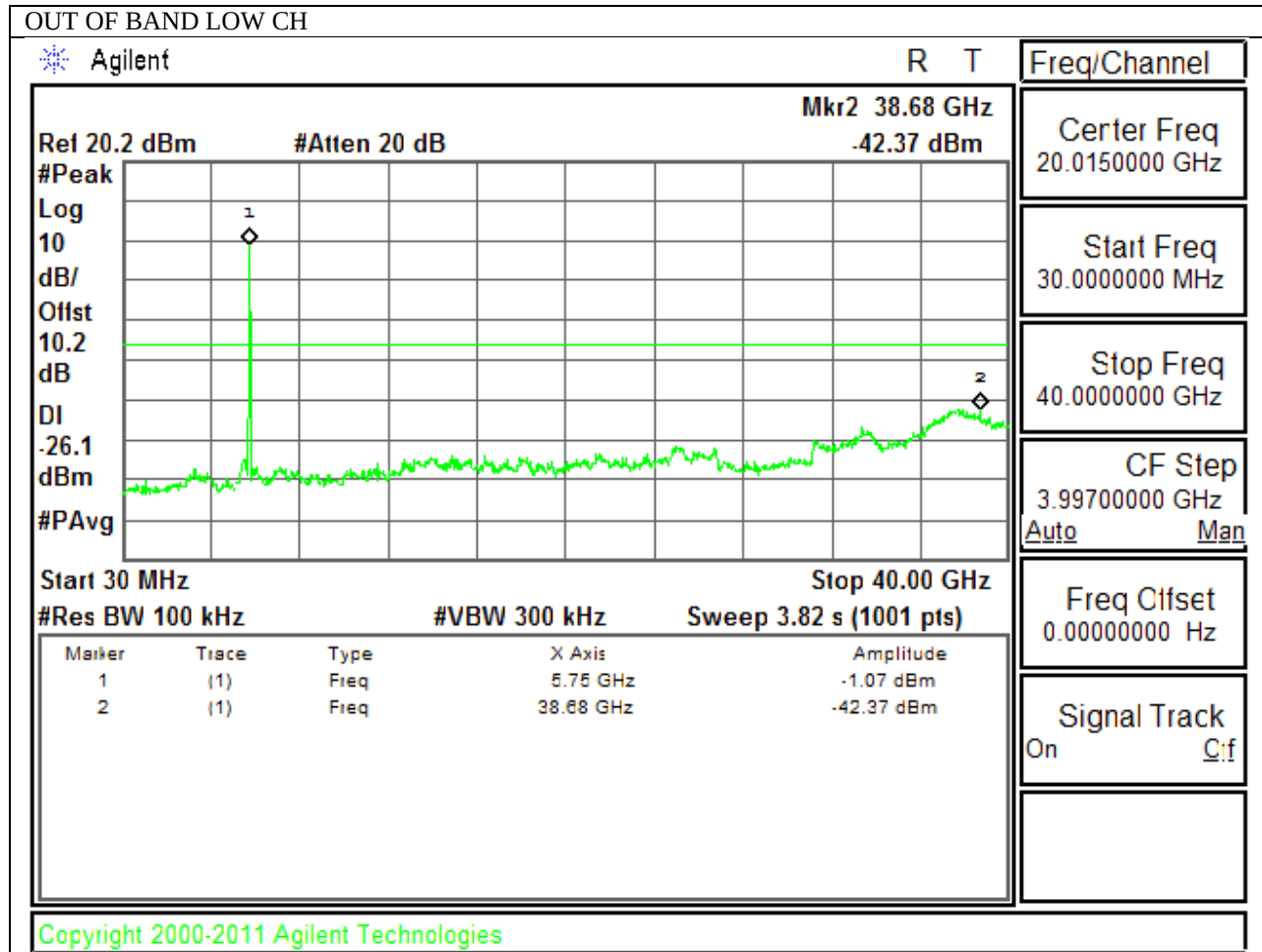
IN-BAND REFERENCE LEVEL

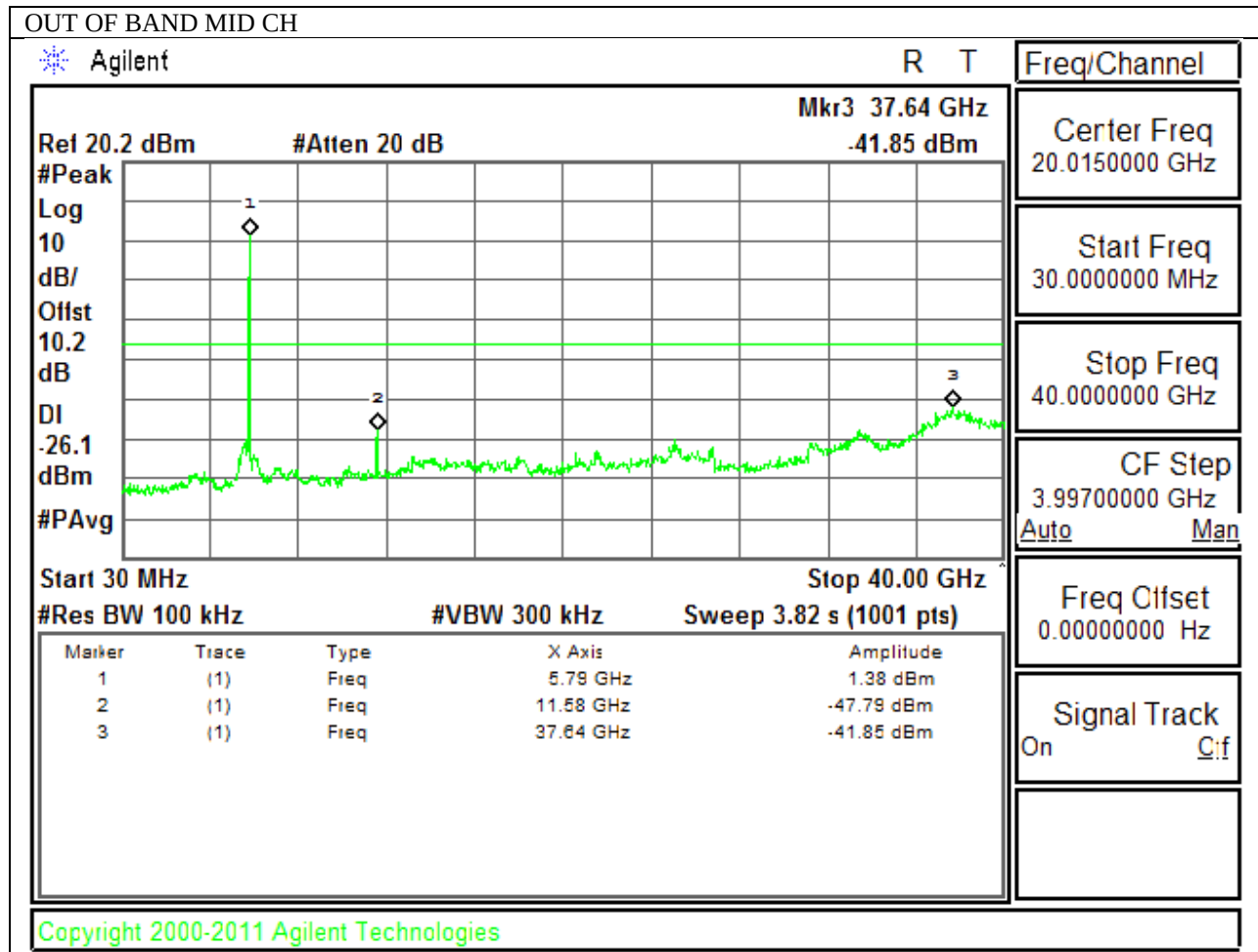


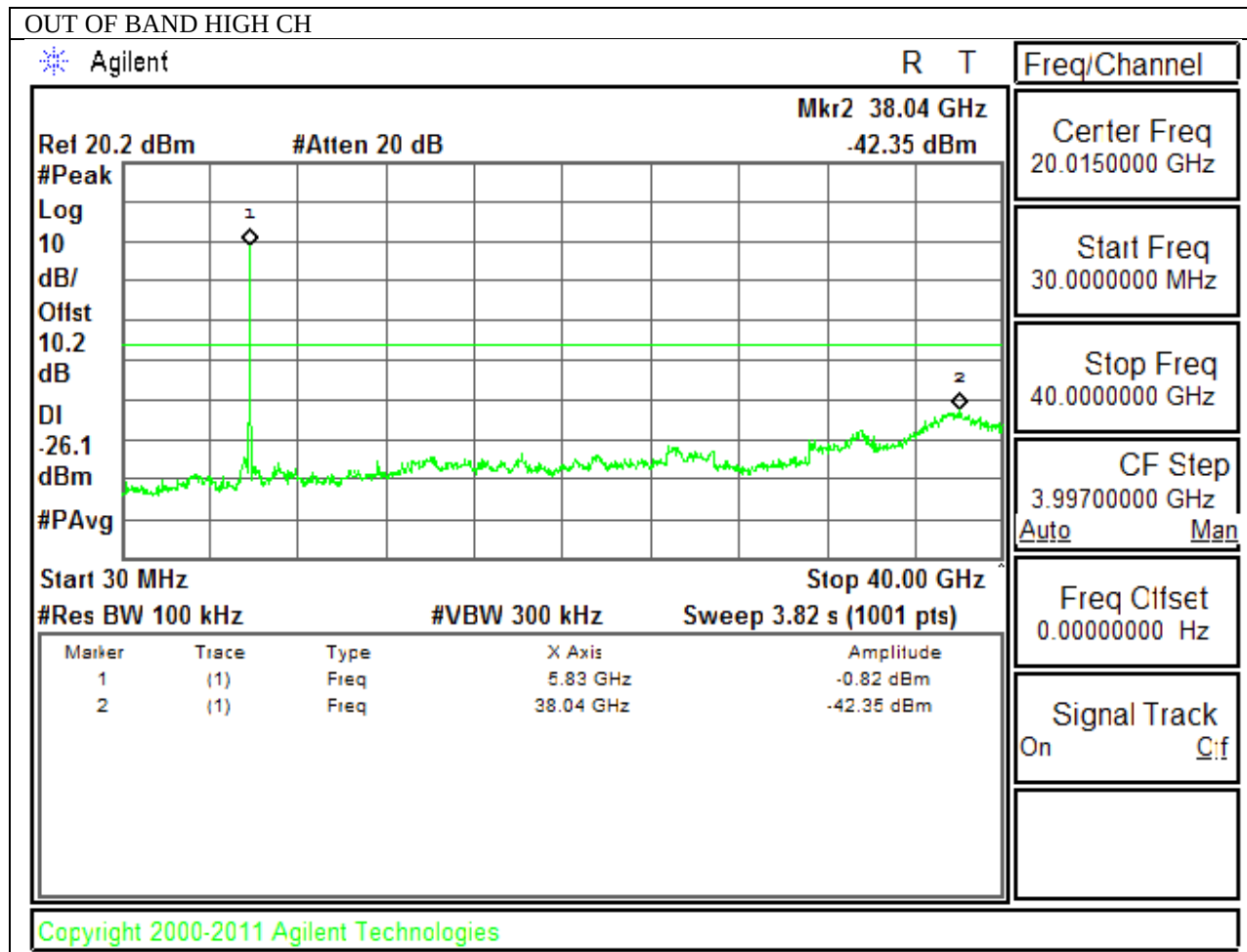
HIGH CHANNEL BANDEDGE



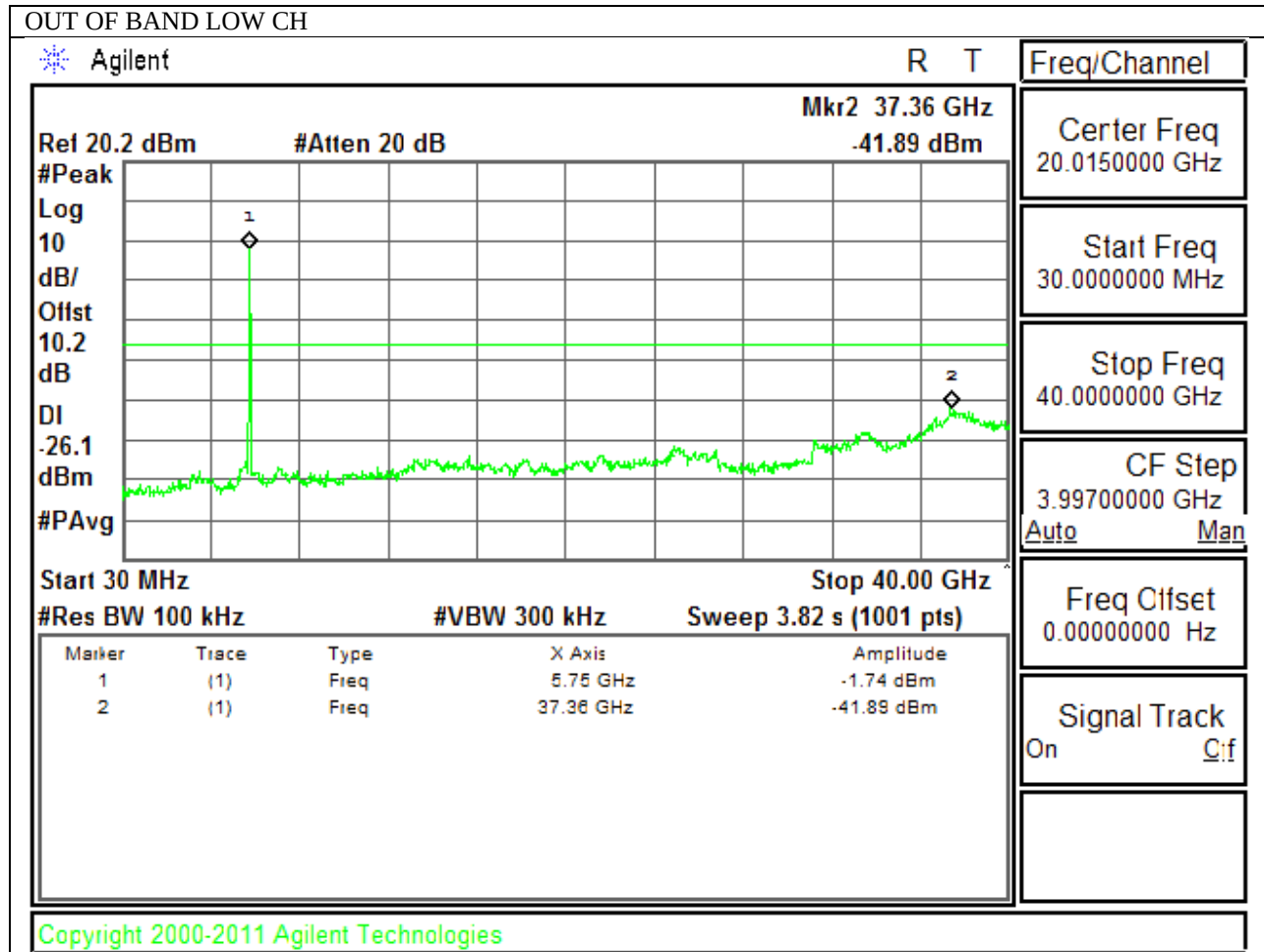
OUT-OF-BAND EMISSIONS

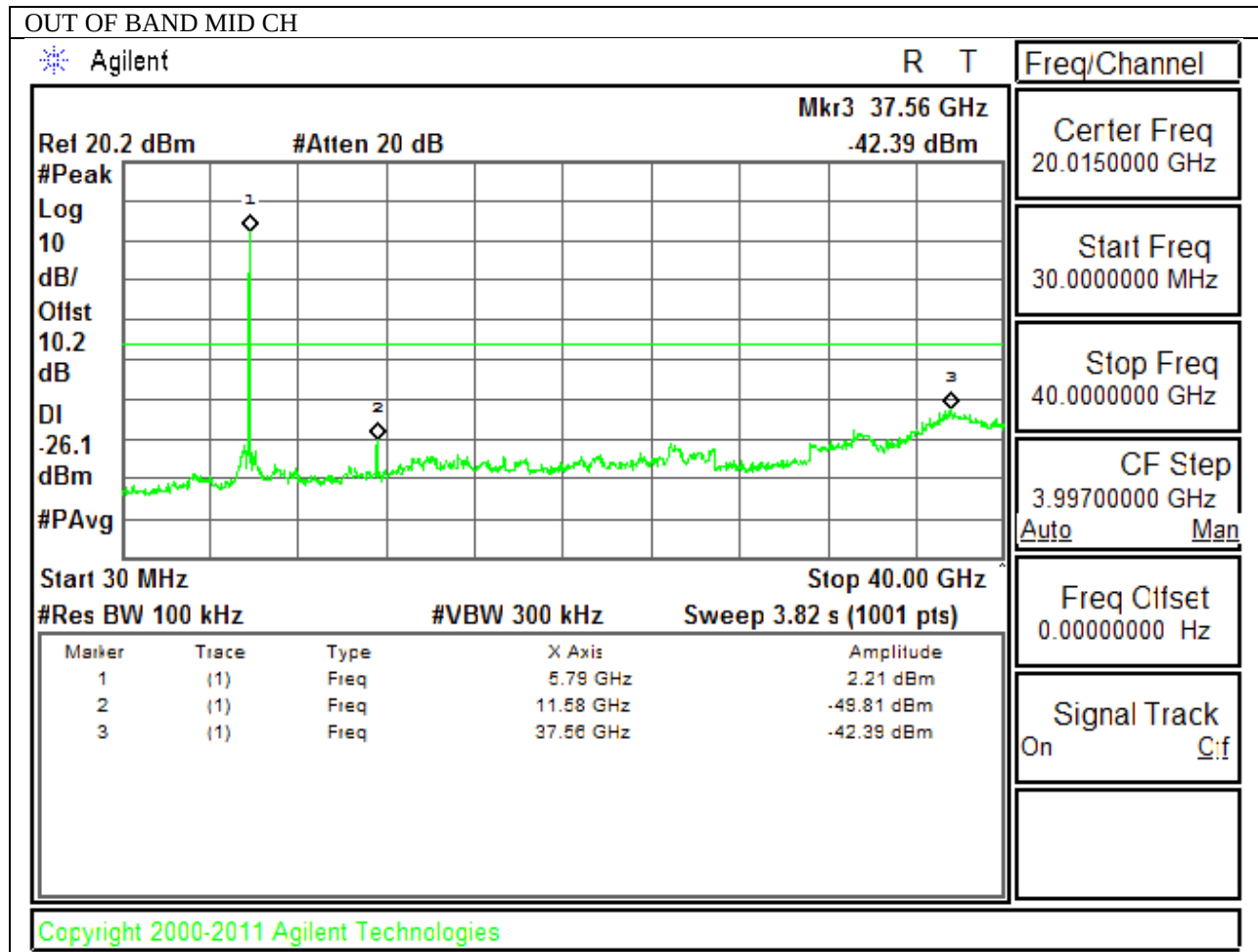


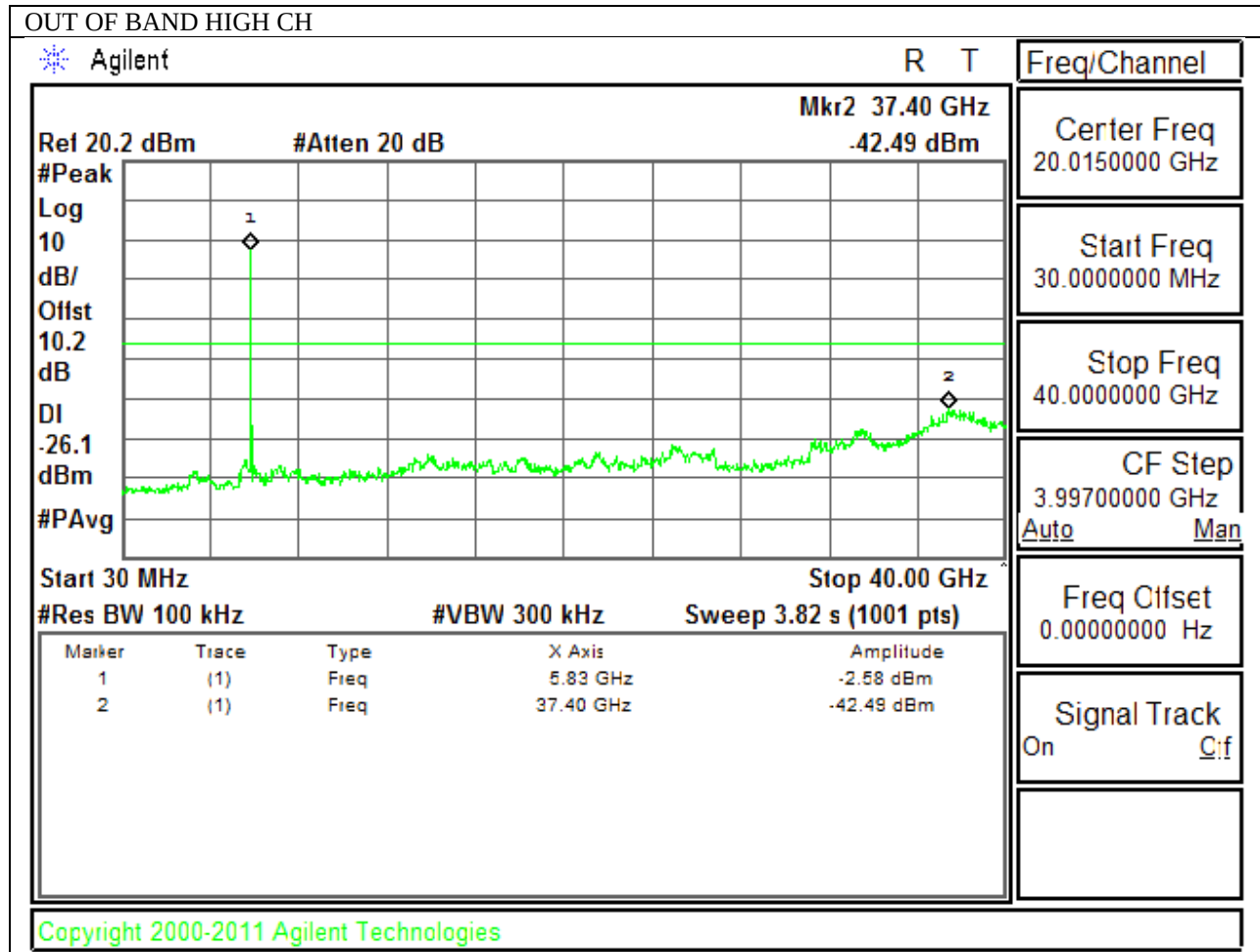




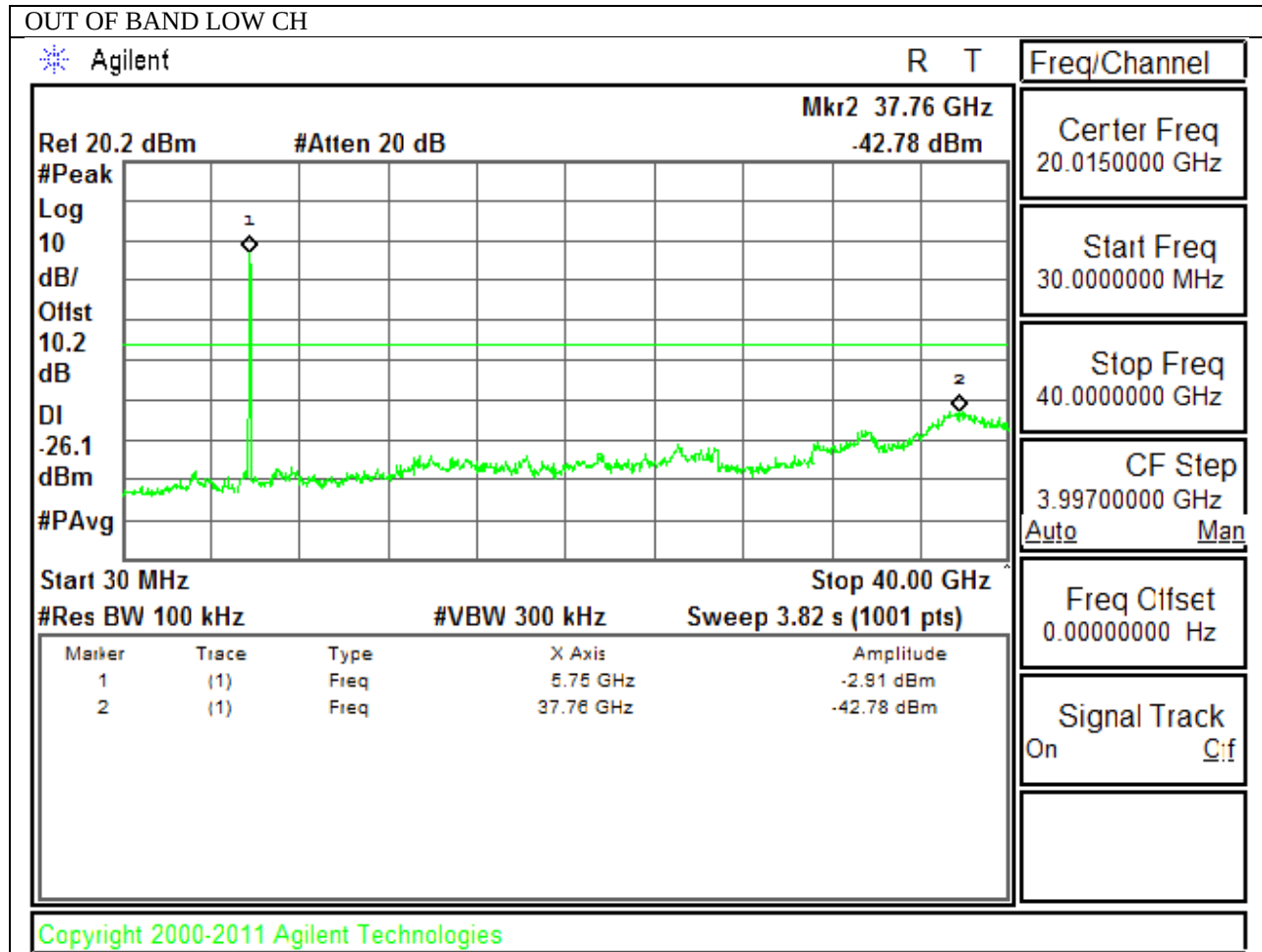
OUT-OF-BAND EMISSIONS

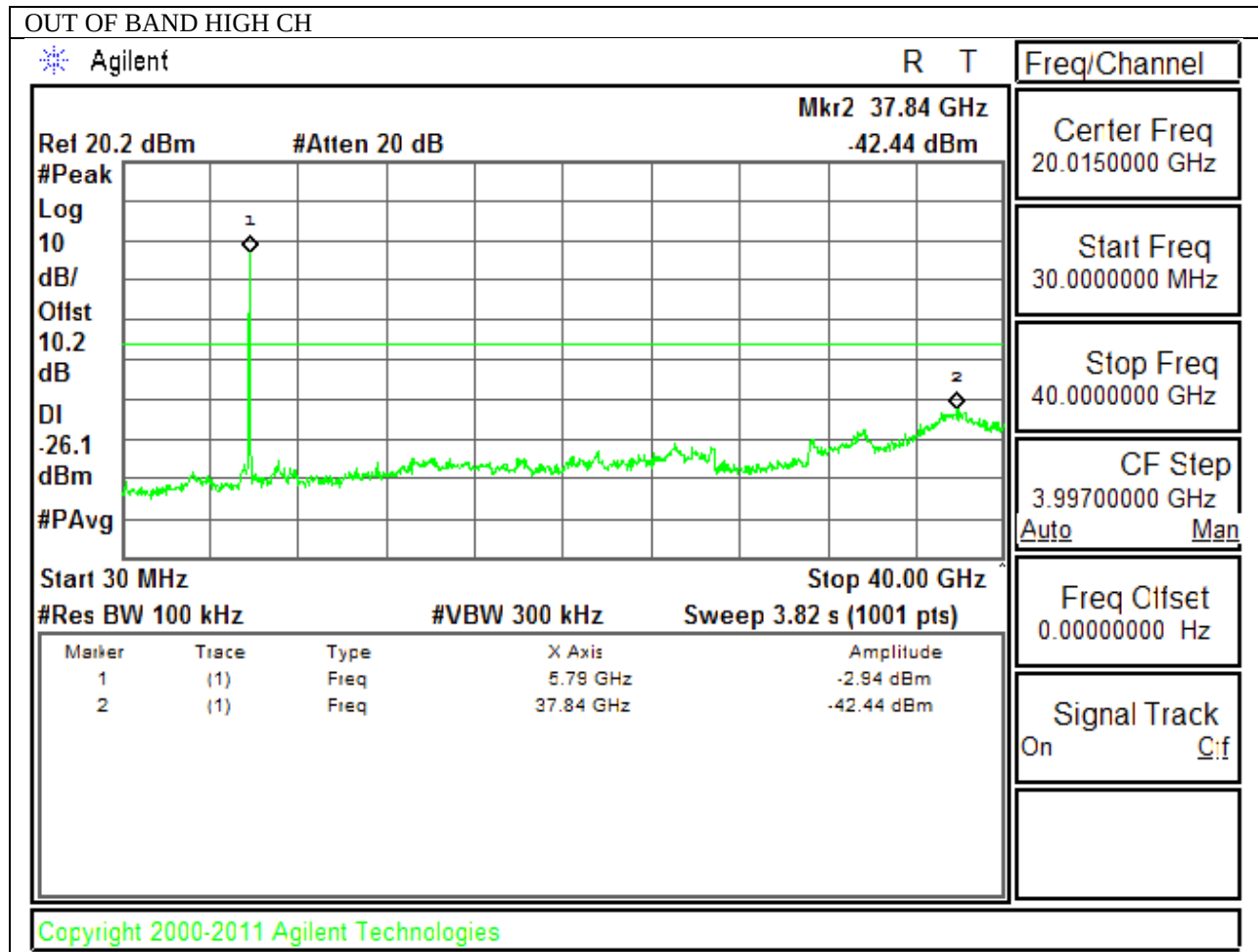






OUT-OF-BAND EMISSIONS





10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit ($\mu\text{V/m}$) at 3 m	Field Strength Limit (dB $\mu\text{V/m}$) 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 and A mode = 0.31dB; N HT20 mode = 0.35dB; N HT40 mode= 0.66dB.

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.

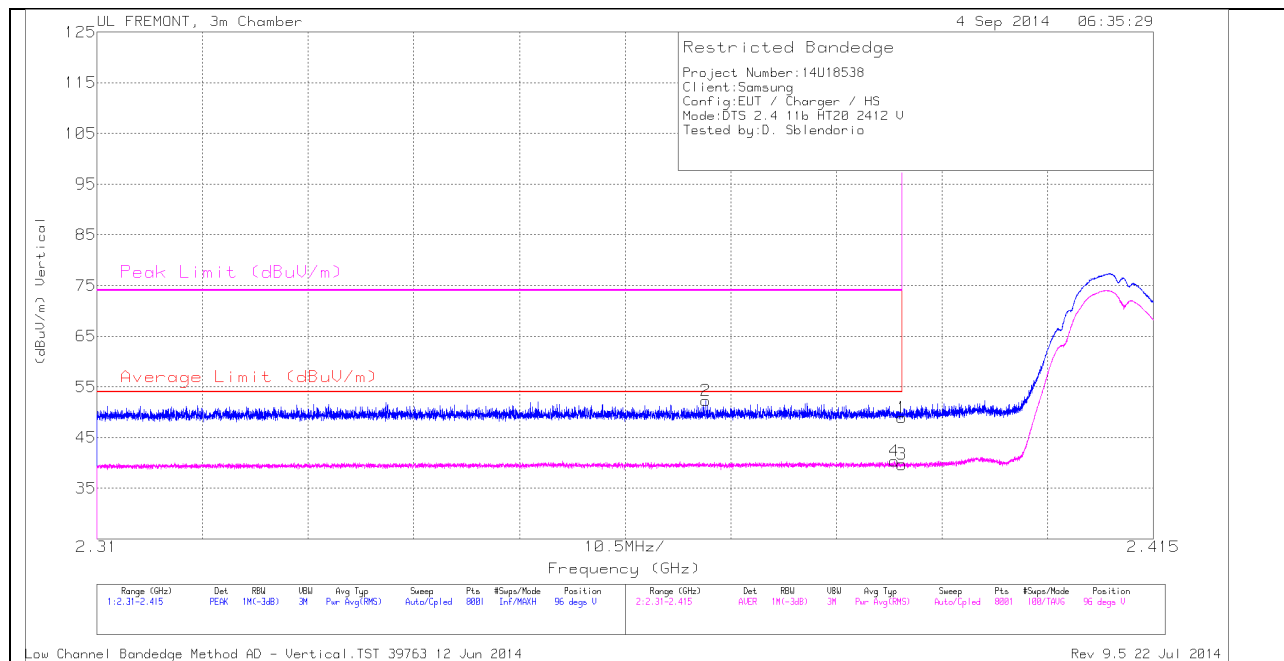
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

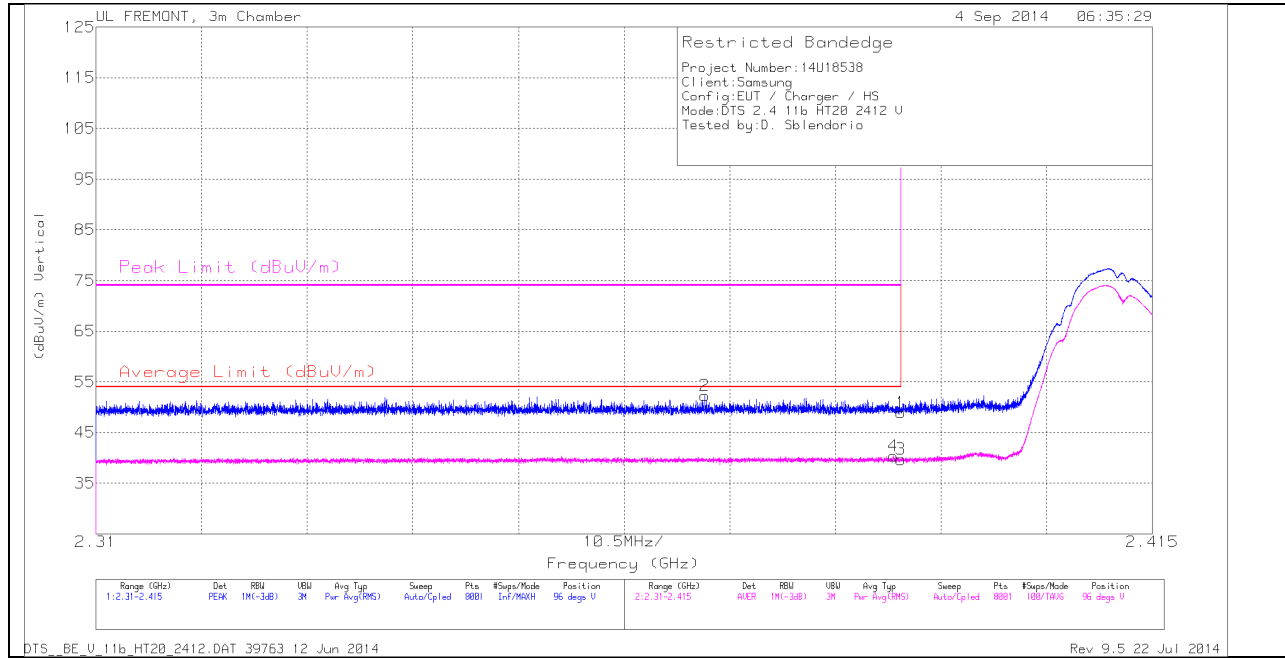
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ 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
2	2.371	43.29	PK	32	-23	52.29	-	-	74	-21.71	96	289	V
4	2.389	31.32	RMS	32.1	-23.1	40.32	54	-13.68	-	-	96	289	V
1	2.39	39.87	PK	32.1	-23.1	48.87	-	-	74	-25.13	96	289	V
3	2.39	30.68	RMS	32.1	-23.1	39.68	54	-14.32	-	-	96	289	V

VERTICAL PEAK AND AVERAGE PLOT

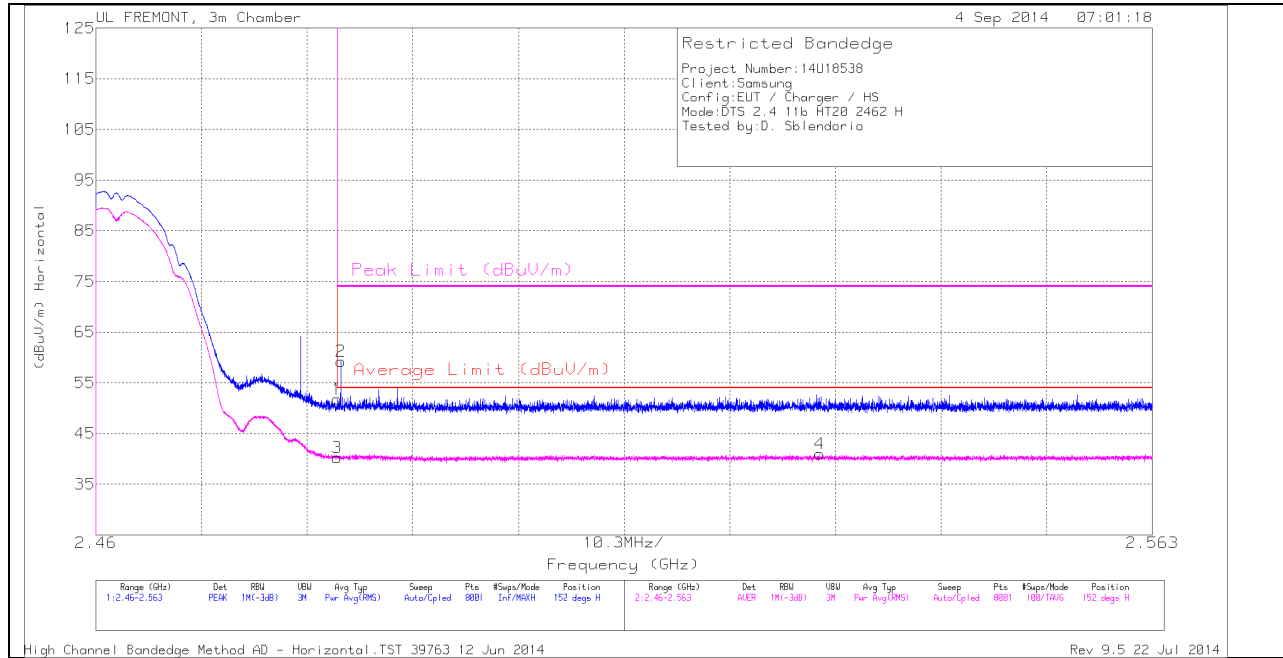


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	2.371	43.29	PK	32	-23	52.29	-	-	74	-21.71	96	289	V
4	2.389	31.32	RMS	32.1	-23.1	40.32	54	-13.68	-	-	96	289	V
1	2.39	39.87	PK	32.1	-23.1	48.87	-	-	74	-25.13	96	289	V
3	2.39	30.68	RMS	32.1	-23.1	39.68	54	-14.32	-	-	96	289	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

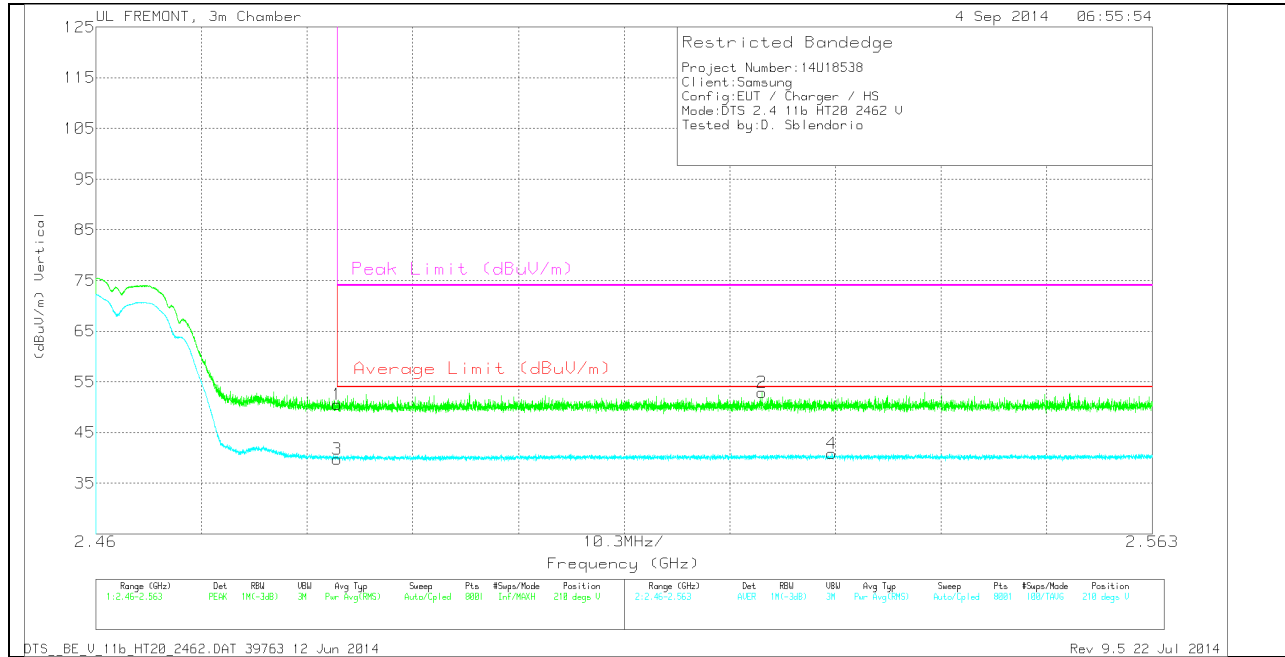
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/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	42.23	PK	32.3	-22.8	51.73	-	-	74	-22.27	152	276	H
2	2.484	49.78	PK	32.3	-22.8	59.28	-	-	74	-14.72	152	276	H
3	2.484	30.7	RMS	32.3	-22.8	40.2	54	-13.8	-	-	152	276	H
4	2.531	31.13	RMS	32.4	-22.6	40.93	54	-13.07	-	-	152	276	H

VERTICAL PEAK AND AVERAGE PLOT

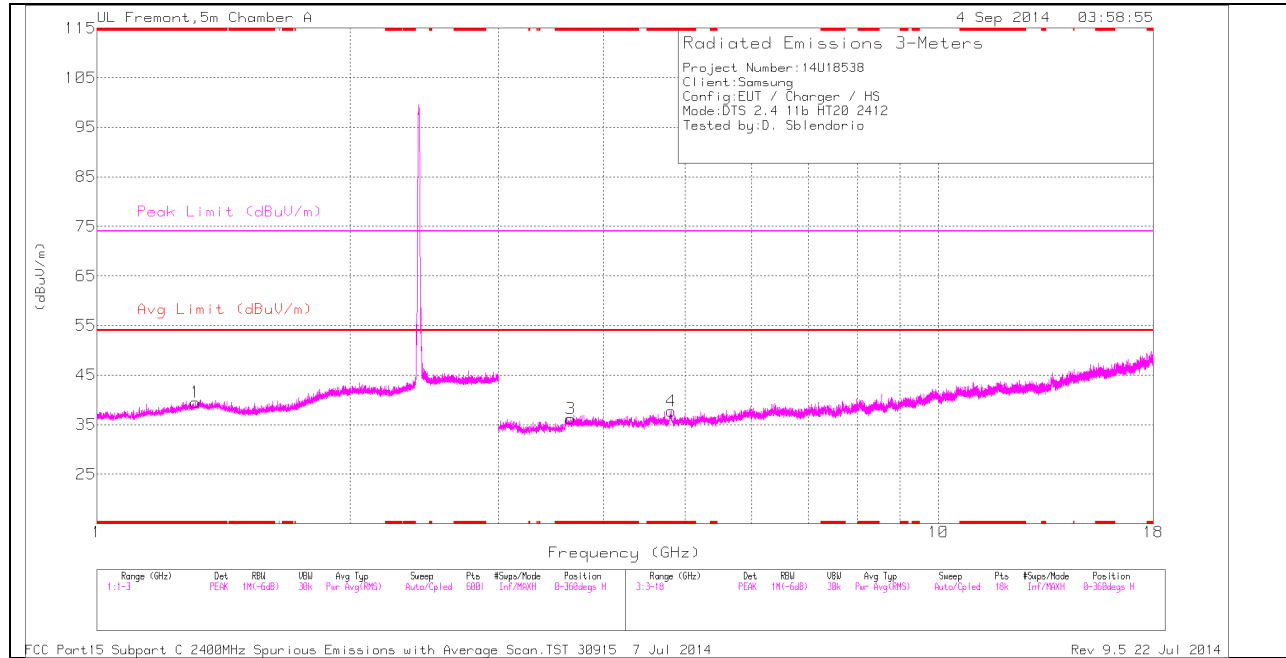


VERTICAL DATA

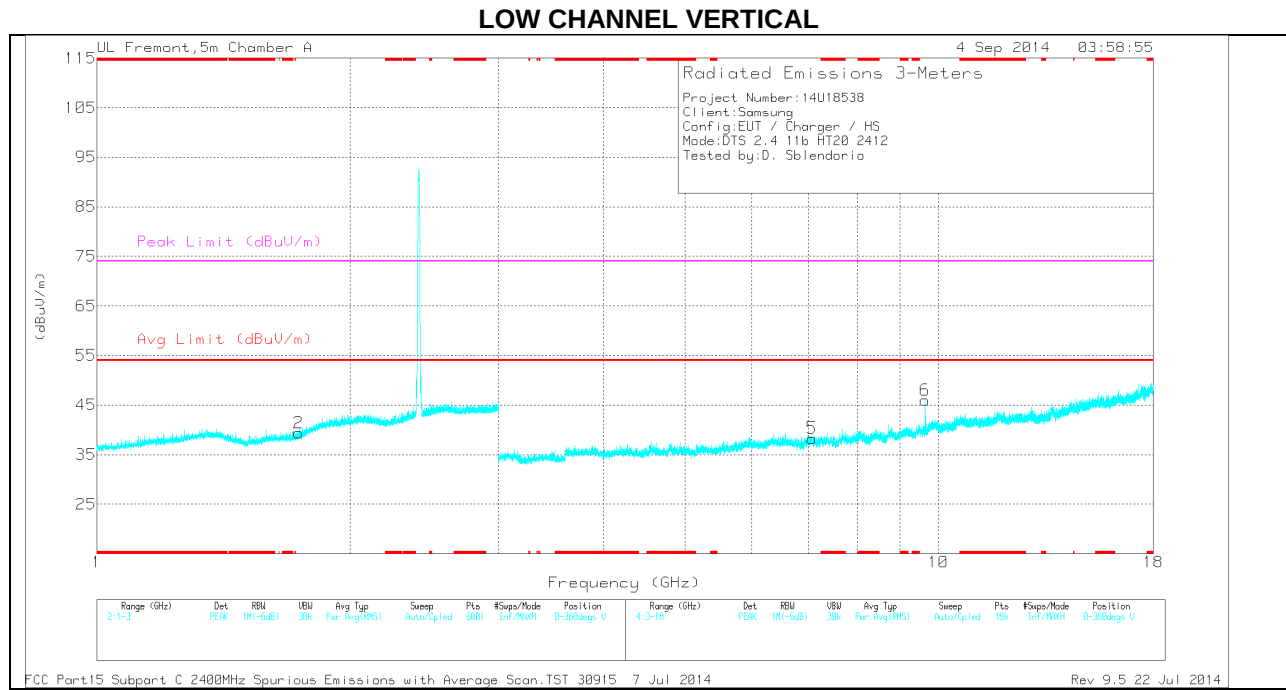
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	40.99	PK	32.3	-22.8	50.49	-	-	74	-23.51	210	283	V
3	2.484	30.26	RMS	32.3	-22.8	39.76	54	-14.24	-	-	210	283	V
2	2.525	43.15	PK	32.4	-22.7	52.85	-	-	74	-21.15	210	283	V
4	2.532	31.14	RMS	32.4	-22.7	40.84	54	-13.16	-	-	210	283	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.



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

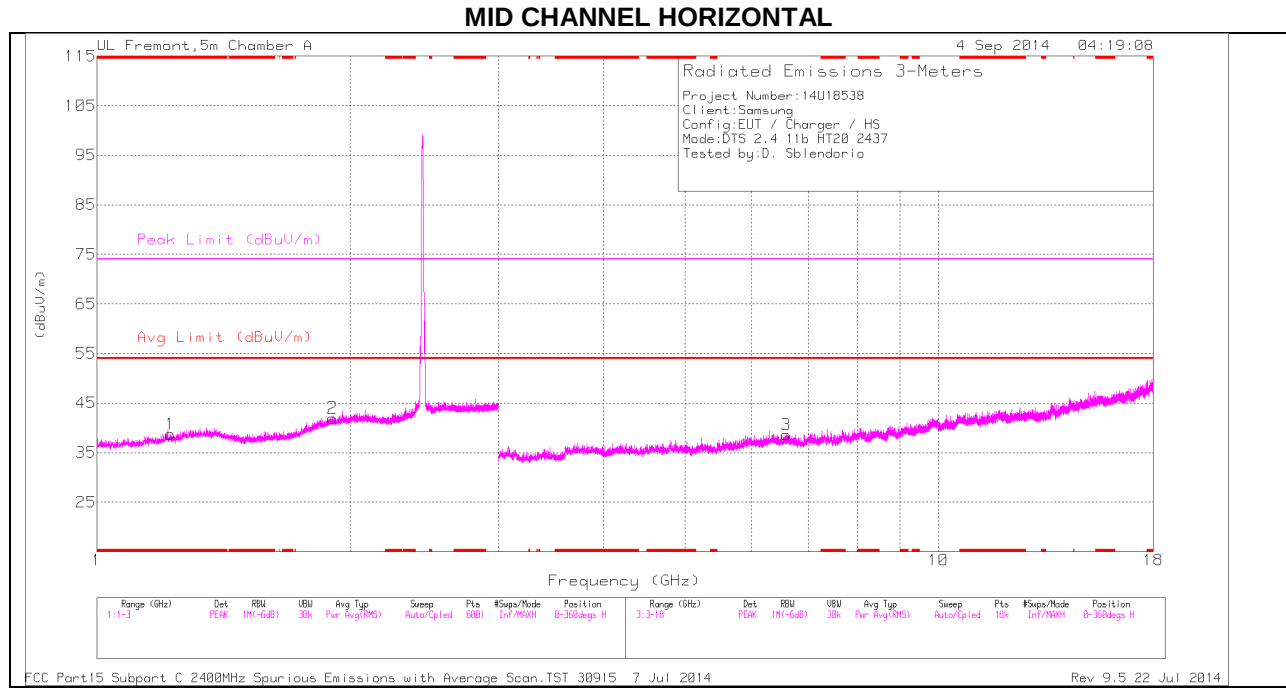
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.309	36.19	PK	30.2	-26.9	39.49	-	-	74	-34.51	0-360	201	H
3	* 3.658	33.5	PK	33.3	-30.6	36.2	-	-	74	-37.8	0-360	100	H
4	* 4.817	32.93	PK	34	-29.2	37.73	-	-	74	-36.27	0-360	201	H
2	1.735	35.78	PK	29.6	-26	39.38	-	-	-	-	0-360	201	V
5	7.071	29.4	PK	35.3	-26.4	38.3	-	-	-	-	0-360	201	V
6	9.648	33.26	PK	36.8	-24.1	45.96	-	-	-	-	0-360	201	V

PK - Peak detector

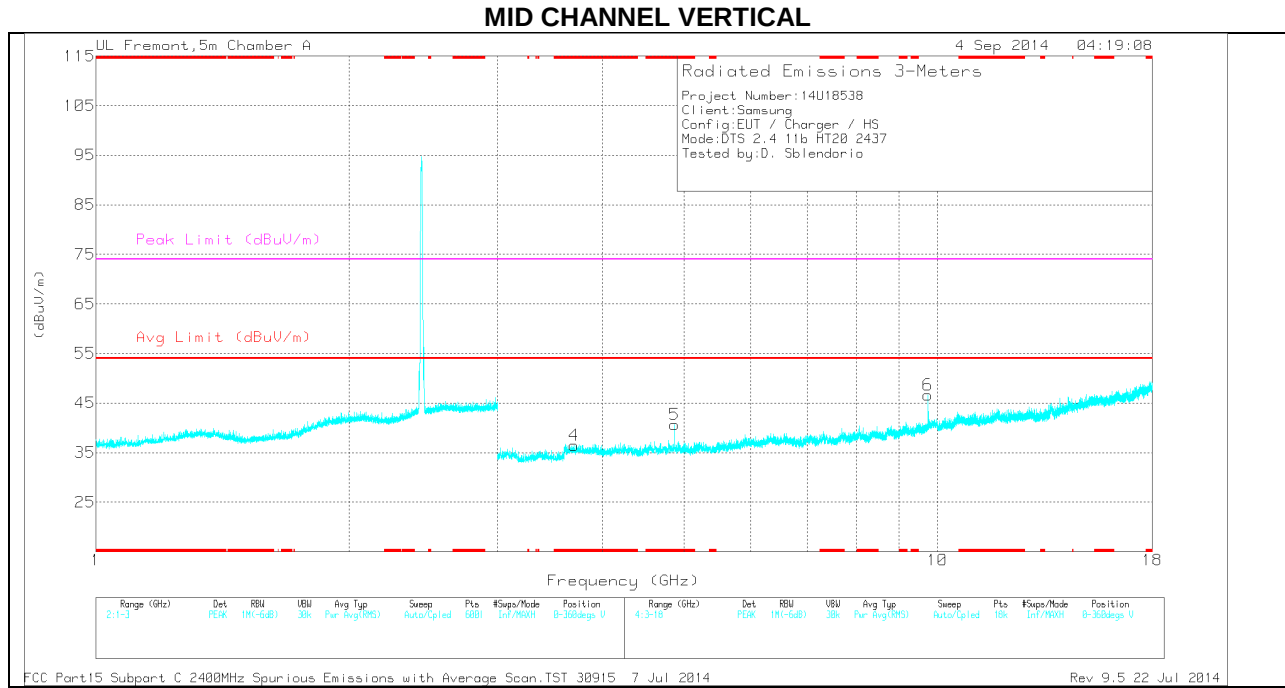
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
9.648	38.94	PK2	36.8	-24.1	51.64	-	-	-	-	38	251	V
9.648	32.44	MAV1	36.8	-24.1	45.14	-	-	-	-	38	251	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013



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



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

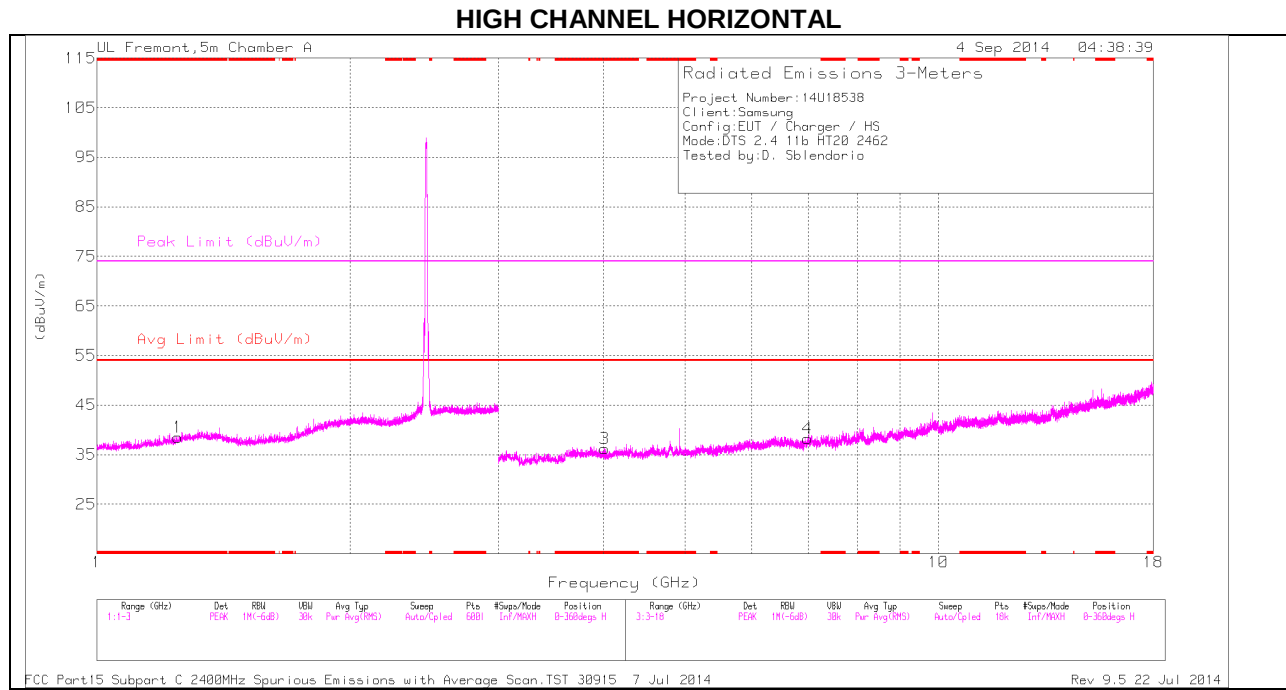
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.223	36.67	PK	29.5	-27.4	38.77	-	-	74	-35.23	0-360	201	H
4	* 3.702	33.53	PK	33.4	-30.5	36.43	-	-	74	-37.57	0-360	201	V
5	* 4.874	35.2	PK	34	-28.6	40.6	-	-	74	-33.4	0-360	201	V
2	1.904	35.58	PK	31.7	-25.3	41.98	-	-	-	-	0-360	201	H
3	6.591	29.79	PK	35.5	-26.7	38.59	-	-	-	-	0-360	100	H
6	9.748	33.17	PK	36.9	-23.5	46.57	-	-	-	-	0-360	201	V

PK - Peak detector

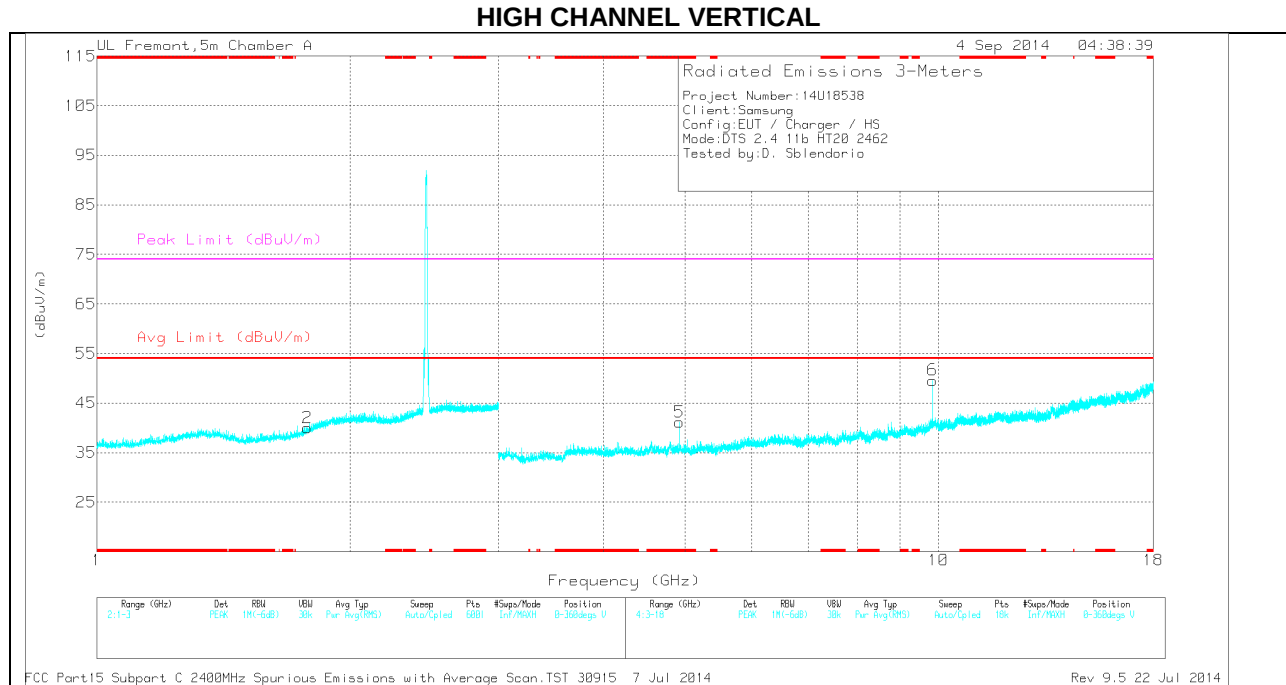
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
9.748	39.88	PK2	36.9	-23.5	53.28	-	-	-	-	250	263	V
9.748	33.87	MAV1	36.9	-23.5	47.27	-	-	-	-	250	263	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013



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



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 T136 (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	* 1.249	36.15	PK	29.8	-27.4	38.55	-	-	74	-35.45	0-360	201	H
3	* 4.011	32.81	PK	33.7	-30.3	36.21	-	-	74	-37.79	0-360	201	H
5	* 4.924	36.11	PK	33.9	-28.8	41.21	-	-	74	-32.79	0-360	201	V
2	1.777	35.57	PK	30.2	-25.7	40.07	-	-	-	-	0-360	100	V
4	6.991	29.28	PK	35.3	-26.3	38.28	-	-	-	-	0-360	100	H
6	9.847	35	PK	37	-22.4	49.6	-	-	-	-	0-360	201	V

PK - Peak detector

RADIATED EMISSIONS

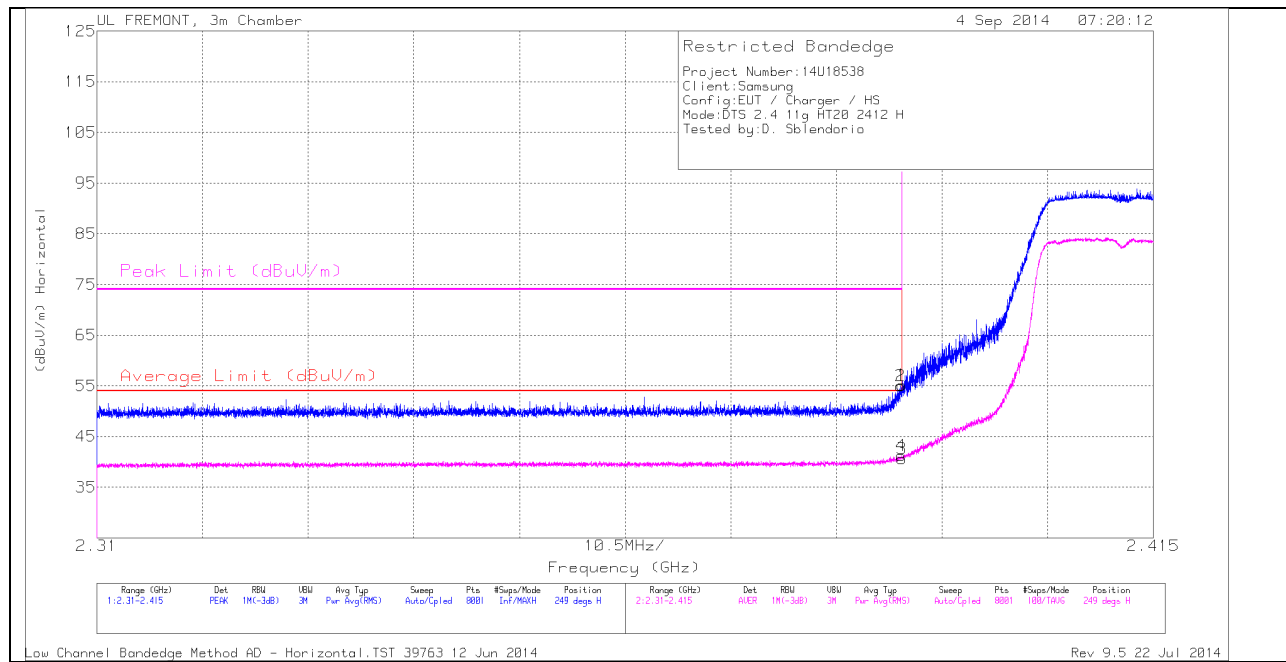
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	39.45	PK2	33.9	-28.8	44.55	-	-	74	-29.45	359	202	V
* 4.924	29.25	MAV1	33.9	-28.8	34.35	54	-19.65	-	-	359	202	V
9.848	39.33	PK2	37	-22.4	53.93	-	-	-	-	232	200	V
9.848	33.76	MAV1	37	-22.4	48.36	-	-	-	-	232	200	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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

RESTRICTED BANDEDGE (LOW CHANNEL)

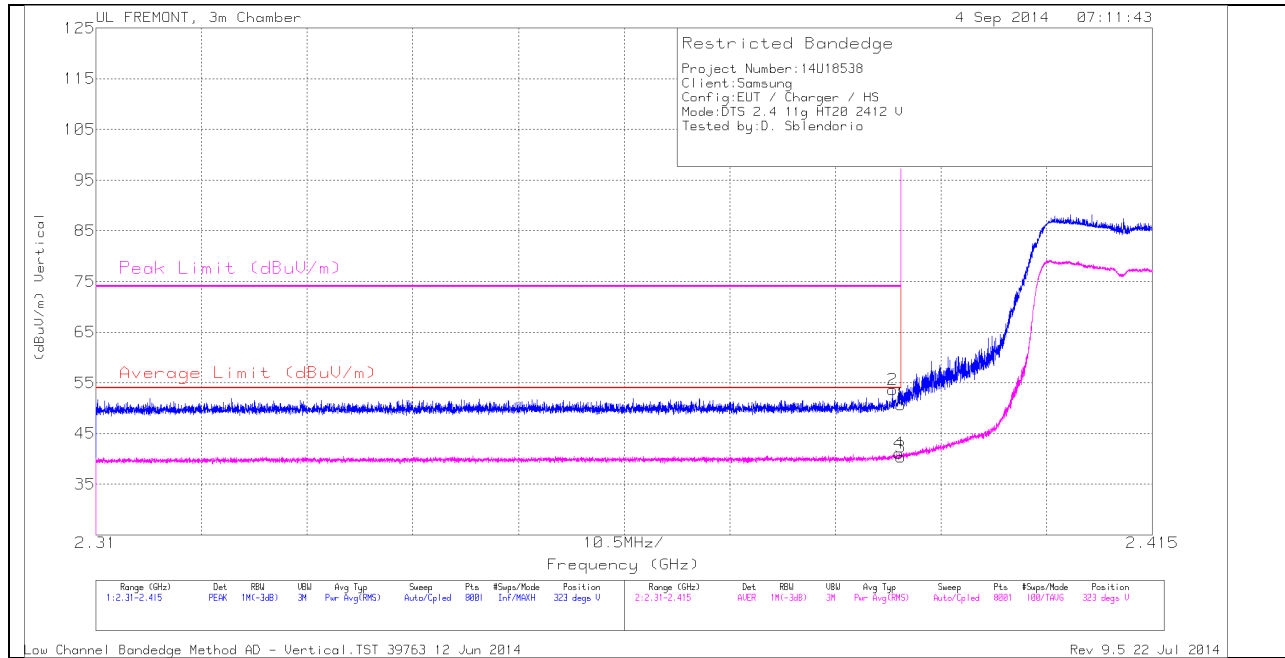
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/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
1	2.39	46.09	PK	32.1	-23.1	0	55.09	-	-	74	-18.91	249	120	H
2	2.39	46.06	PK	32.1	-23.1	0	55.06	-	-	74	-18.94	249	120	H
3	2.39	31.57	RMS	32.1	-23.1	.3	40.87	54	-13.13	-	-	249	120	H
4	2.39	32.24	RMS	32.1	-23.1	.3	41.54	54	-12.46	-	-	249	120	H

VERTICAL PEAK AND AVERAGE PLOT

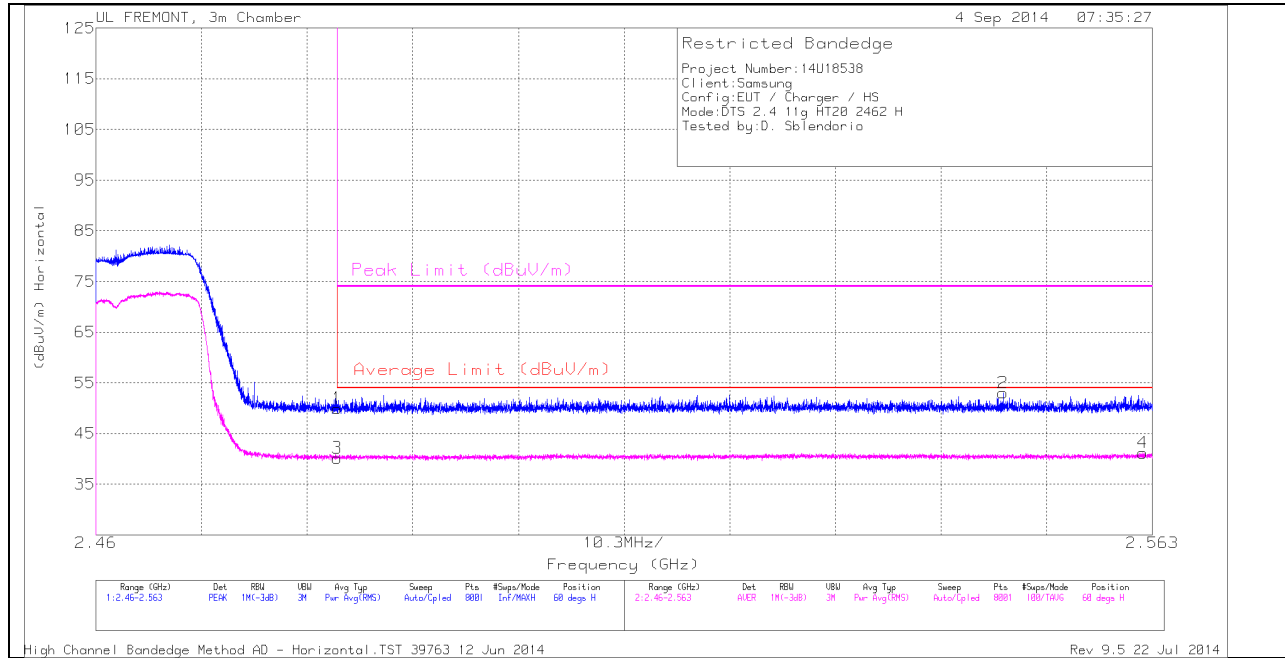


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	2.389	44.59	PK	32.1	-23.1	0	53.59	-	-	74	-20.41	323	265	V
1	2.39	41.73	PK	32.1	-23.1	0	50.73	-	-	74	-23.27	323	265	V
3	2.39	31.09	RMS	32.1	-23.1	.3	40.39	54	-13.7	-	-	323	265	V
4	2.39	31.78	RMS	32.1	-23.1	.3	41.08	54	-12.92	-	-	323	265	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

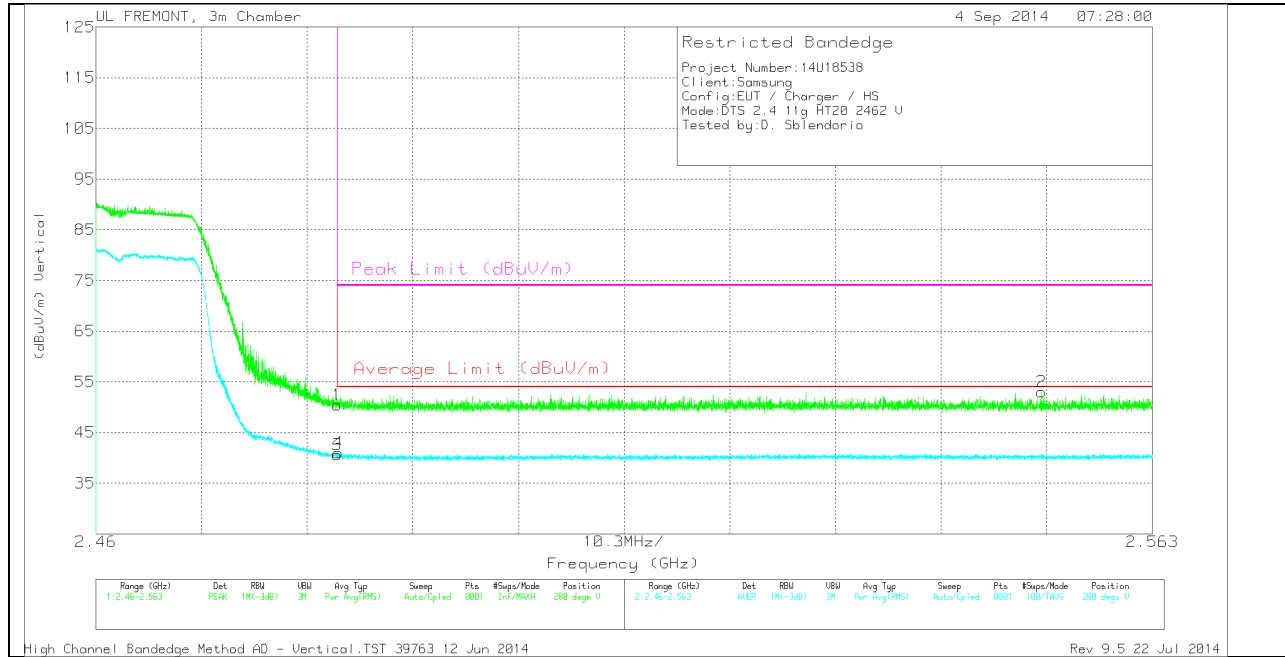
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	2.484	40.48	PK	32.3	-22.8	0	49.98	-	-	74	-24.02	60	165	H
3	2.484	30.36	RMS	32.3	-22.8	.3	40.16	54	-13.84	-	-	60	165	H
2	2.548	43.27	PK	32.4	-22.7	0	52.97	-	-	74	-21.03	60	165	H
4	2.562	31.16	RMS	32.4	-22.7	.3	41.16	54	-12.84	-	-	60	165	H

VERTICAL PEAK AND AVERAGE PLOT

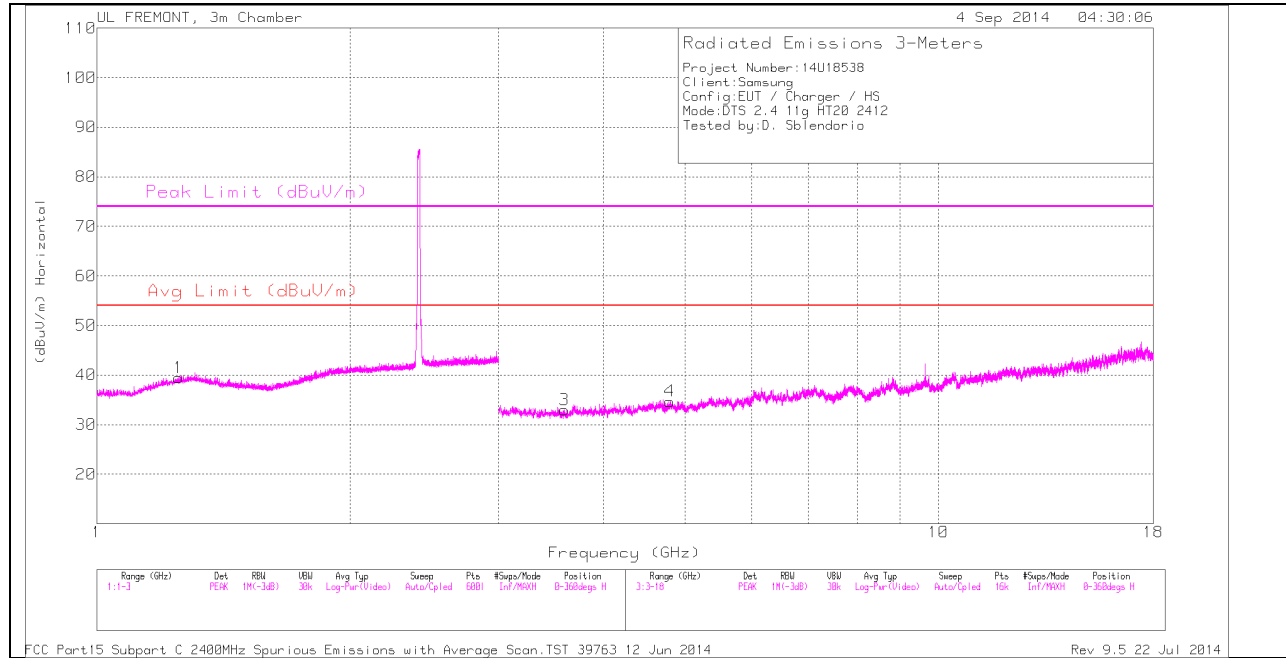


VERTICAL DATA

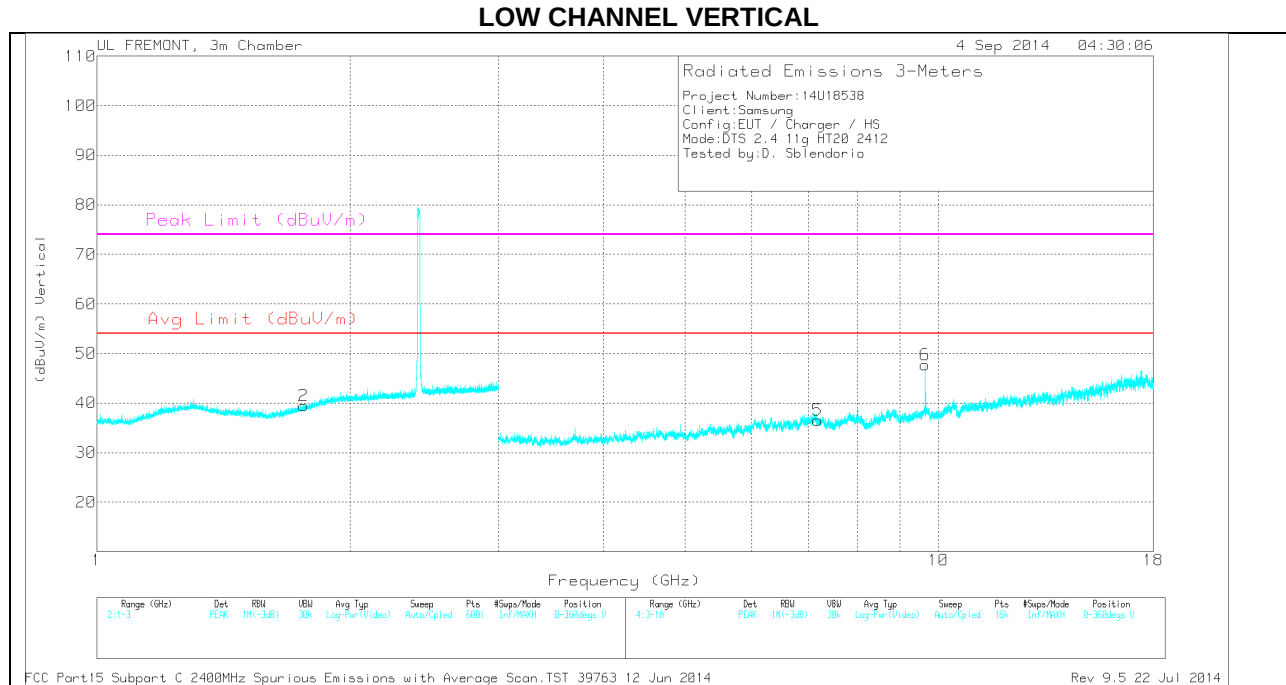
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	40.95	PK	32.3	-22.8	0	50.45	-	-	74	-23.55	280	326	V
3	2.484	31.1	RMS	32.3	-22.8	.3	40.59	54	-13.41	-	-	280	326	V
4	2.484	31.43	RMS	32.3	-22.8	.3	40.92	54	-13.08	-	-	280	326	V
2	2.552	43.27	PK	32.4	-22.7	0	52.97	-	-	74	-21.03	280	326	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.



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)	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	33.55	PK	29.7	-23.8	39.45	-	-	74	-34.55	0-360	100	H
2	1.761	33.18	PK	29.7	-23.4	39.48	-	-	-	-	0-360	100	V
3	3.594	31.64	PK	33	-31.7	32.94	-	-	74	-41.06	0-360	200	H
4	4.792	31	PK	34.1	-30.4	34.7	-	-	74	-39.3	0-360	200	H
5	7.184	30.06	PK	35.6	-29.1	36.56	-	-	-	-	0-360	200	V
6	9.647	36.52	PK	36.8	-25.6	47.72	-	-	-	-	0-360	200	V

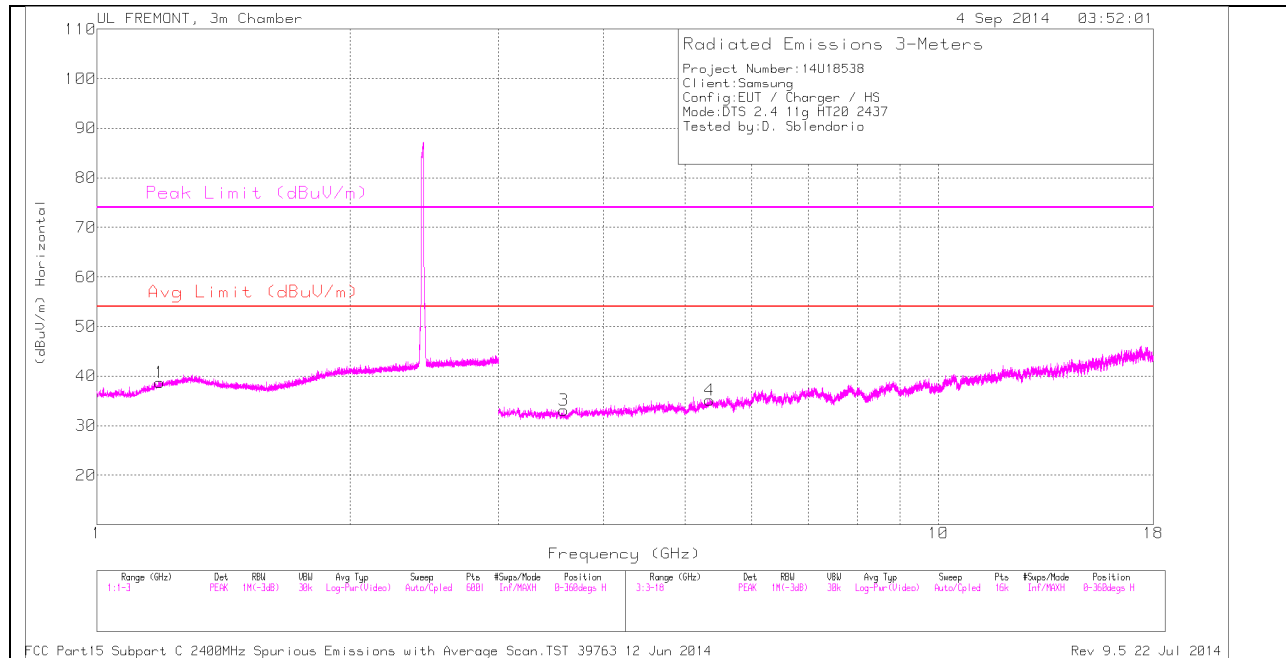
PK - Peak detector

RADIATED EMISSIONS

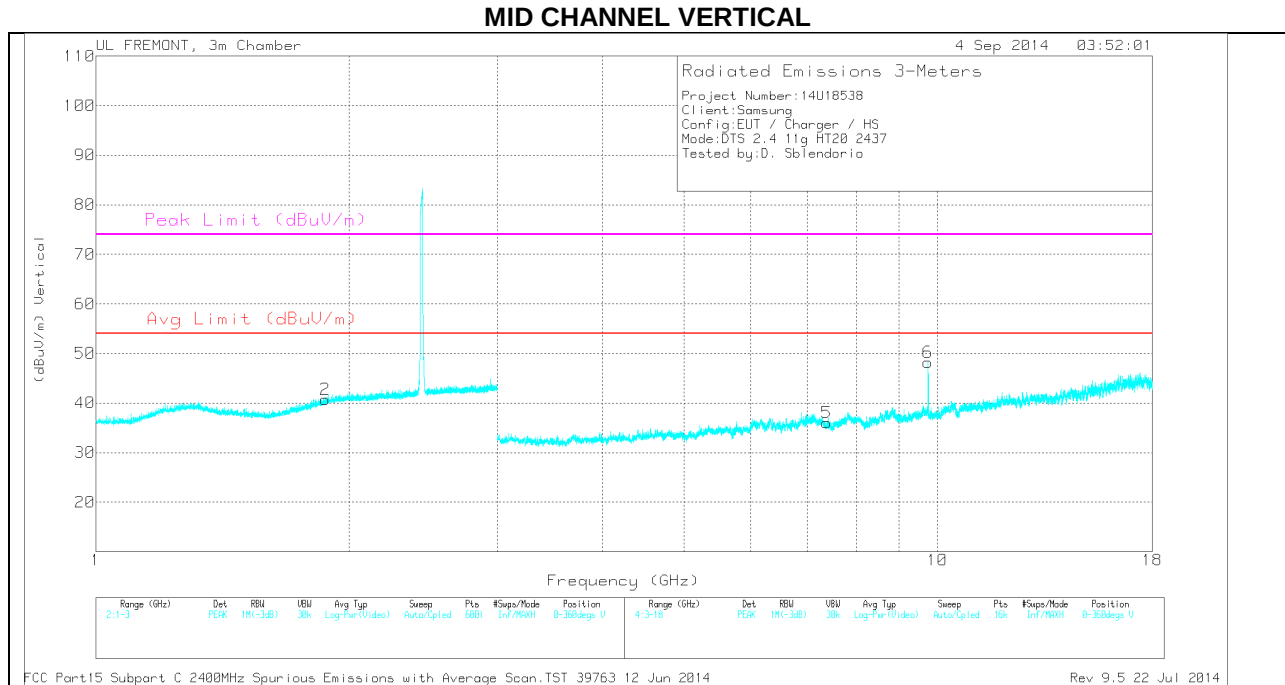
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.648	40.23	PK2	36.8	-25.6	0	51.43	-	-	-	-	13	265	V
9.648	33.95	MAV1	36.8	-25.6	.3	45.14	-	-	-	-	13	265	V

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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.



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

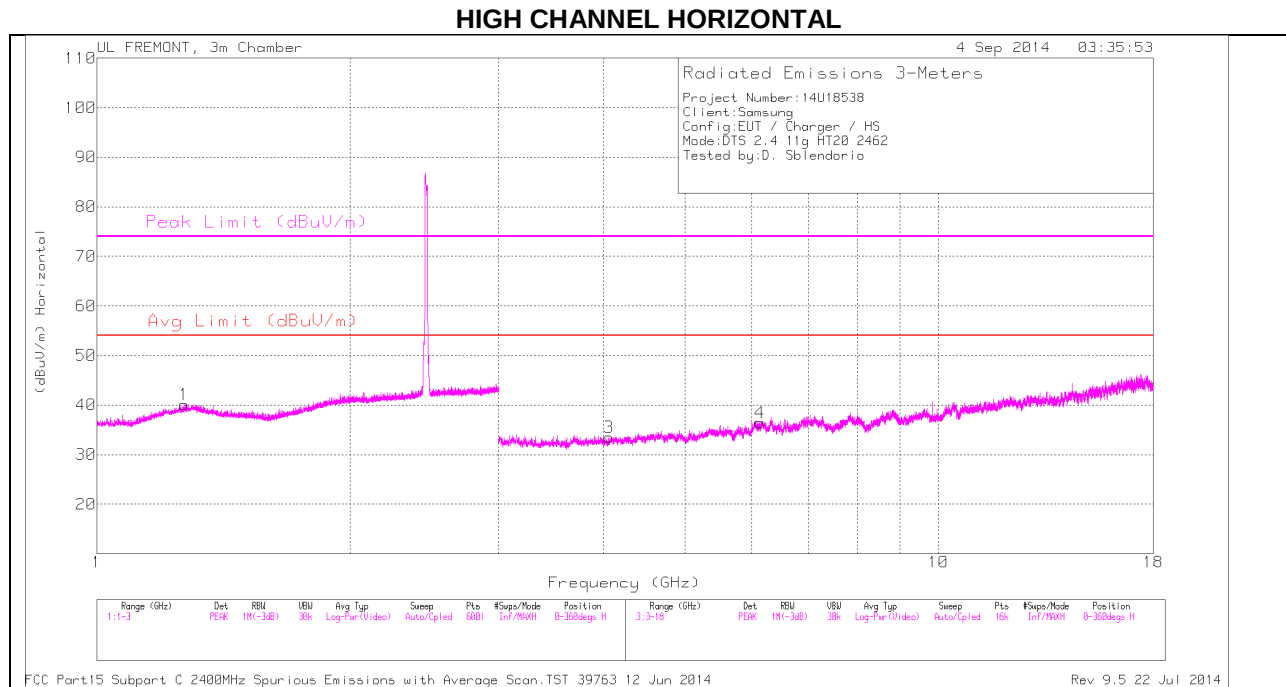
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/CbI/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.188	33.46	PK	29	-23.8	0	38.66	-	-	74	-35.34	0-360	100	H
2	1.871	33.16	PK	30.9	-23.3	0	40.76	-	-	-	-	0-360	100	V
3	3.587	31.66	PK	33	-31.6	0	33.06	-	-	74	-40.94	0-360	100	H
4	5.342	30.68	PK	34.5	-30	0	35.18	-	-	-	-	0-360	200	H
5	7.383	28.64	PK	35.7	-28.3	0	36.04	-	-	74	-37.96	0-360	100	V
6	9.748	37.06	PK	36.9	-25.7	0	48.26	-	-	-	-	0-360	200	V

PK - Peak detector

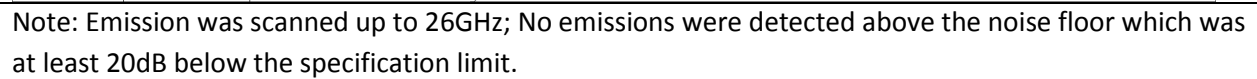
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/CbI/Ftr /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
9.748	42.32	PK2	36.9	-25.7	0	53.52	-	-	-	-	228	207	V
9.748	37.56	MAV1	36.9	-25.7	.3	48.75	-	-	-	-	228	207	V

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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	AFT119 (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	1.27	34.05	PK	29.9	-23.8	0	40.15	-	-	74	-33.85	0-360	100	H
2	1.854	33.12	PK	30.7	-23.3	0	40.52	-	-	-	-	0-360	100	V
3	4.057	31.43	PK	33.4	-31.3	0	33.53	-	-	74	-40.47	0-360	100	H
4	6.139	30.48	PK	35.3	-29.4	0	36.38	-	-	-	-	0-360	100	H
5	8.286	28.53	PK	35.8	-28.1	0	36.23	-	-	74	-37.77	0-360	100	V
6	9.847	34.66	PK	36.9	-25.9	0	45.66	-	-	-	-	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

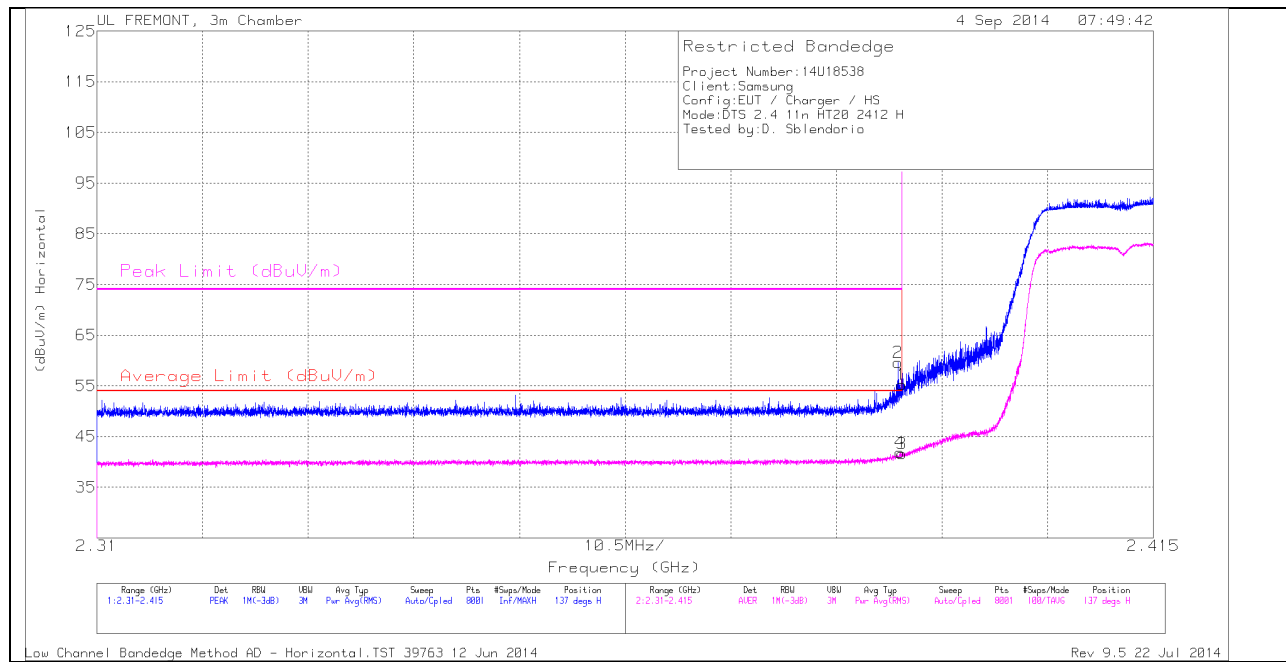
Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.848	41.94	PK2	36.9	-25.9	0	52.94	-	-	-	-	11	285	V
9.848	36.05	MAv1	36.9	-25.9	.3	47.04	-	-	-	-	11	285	V

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

RESTRICTED BANDEDGE (LOW CHANNEL)

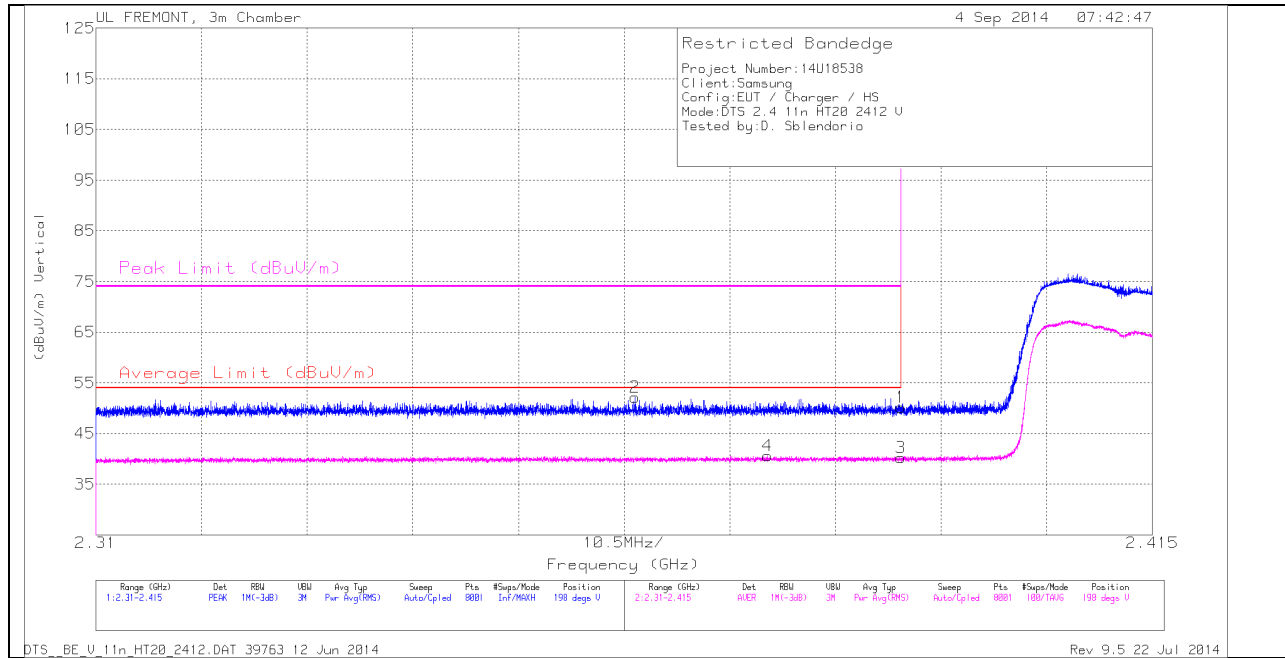
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/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
1	2.39	46.24	PK	32.1	-23.1	0	55.24	-	-	74	-18.76	137	309	H
2	2.39	50.58	PK	32.1	-23.1	0	59.58	-	-	74	-14.42	137	309	H
3	2.39	32.21	RMS	32.1	-23.1	.32	41.53	54	-12.47	-	-	137	309	H
4	2.39	32.51	RMS	32.1	-23.1	.32	41.83	54	-12.17	-	-	137	309	H

VERTICAL PEAK AND AVERAGE PLOT

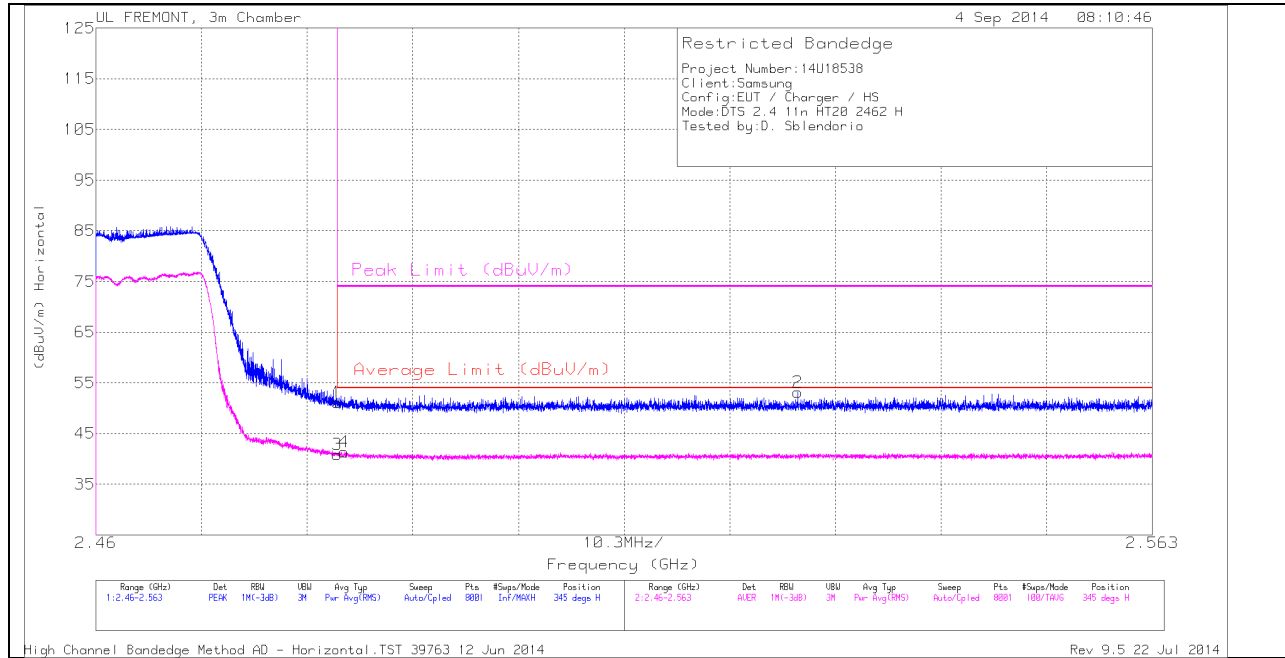


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	2.364	43.28	PK	32	-23.1	0	52.18	-	-	74	-21.82	198	181	V
4	2.377	31.4	RMS	32	-23.1	.32	40.62	54	-13.38	-	-	198	181	V
1	2.39	41.16	PK	32.1	-23.1	0	50.16	-	-	74	-23.84	198	181	V
3	2.39	30.89	RMS	32.1	-23.1	.32	40.21	54	-13.79	-	-	198	181	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

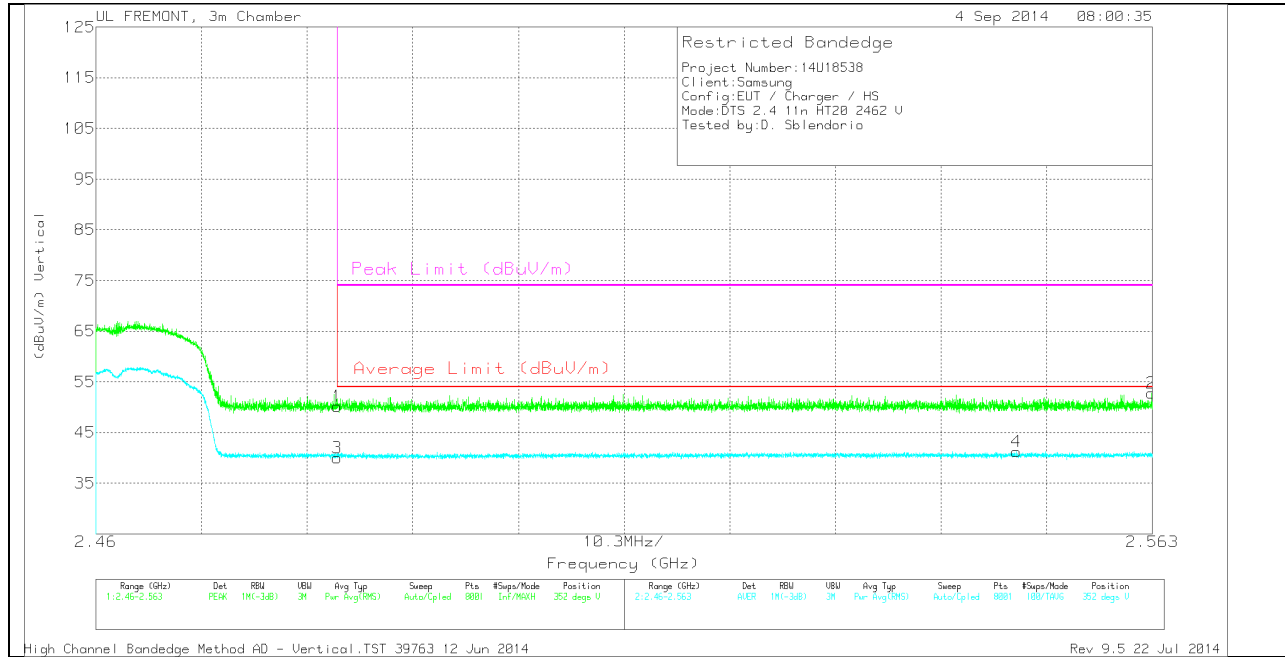
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	2.484	41.62	PK	32.3	-22.8	0	51.12	-	-	74	-22.88	345	355	H
3	2.484	31	RMS	32.3	-22.8	.32	40.82	54	-13.18	-	-	345	355	H
4	2.484	31.51	RMS	32.3	-22.8	.32	41.33	54	-12.67	-	-	345	355	H
2	2.528	43.31	PK	32.4	-22.6	0	53.11	-	-	74	-20.89	345	355	H

VERTICAL PEAK AND AVERAGE PLOT

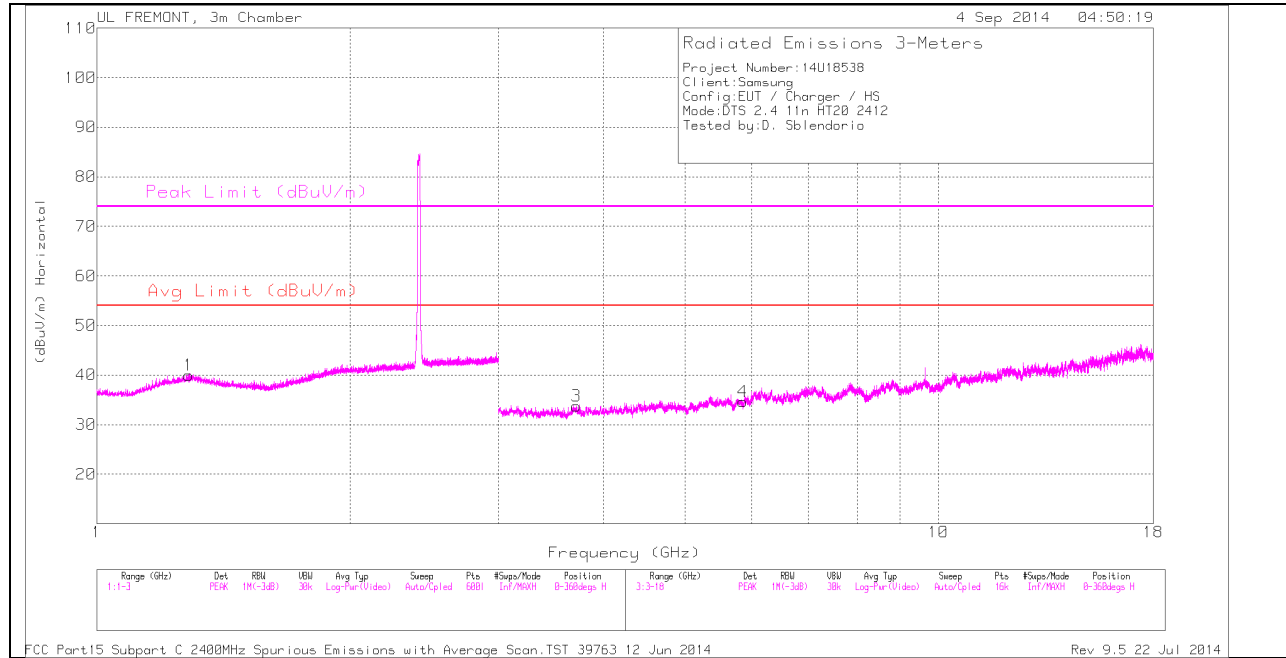


VERTICAL DATA

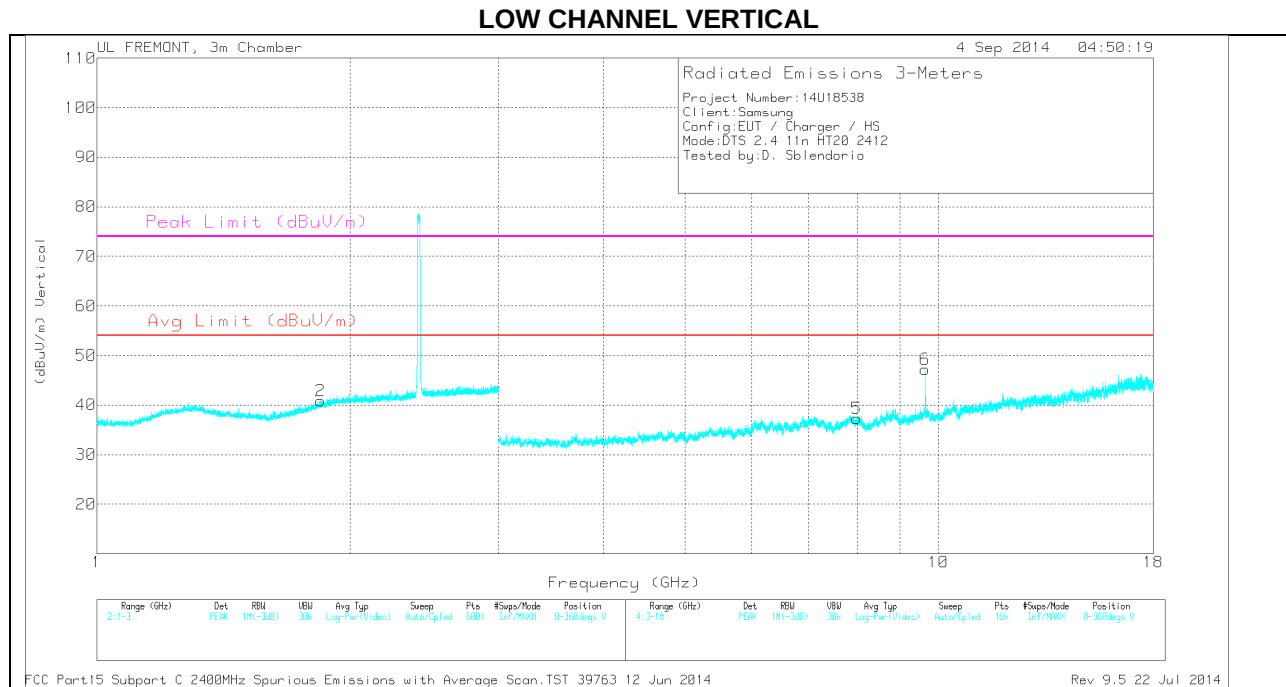
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	40.67	PK	32.3	-22.8	0	50.17	-	-	74	-23.83	352	131	V
3	2.484	30.13	RMS	32.3	-22.8	.32	40.01	54	-14.05	-	-	352	131	V
4	2.55	31.16	RMS	32.4	-22.7	.32	41.18	54	-12.82	-	-	352	131	V
2	2.563	43.06	PK	32.4	-22.7	0	52.76	-	-	74	-21.24	352	131	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.



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

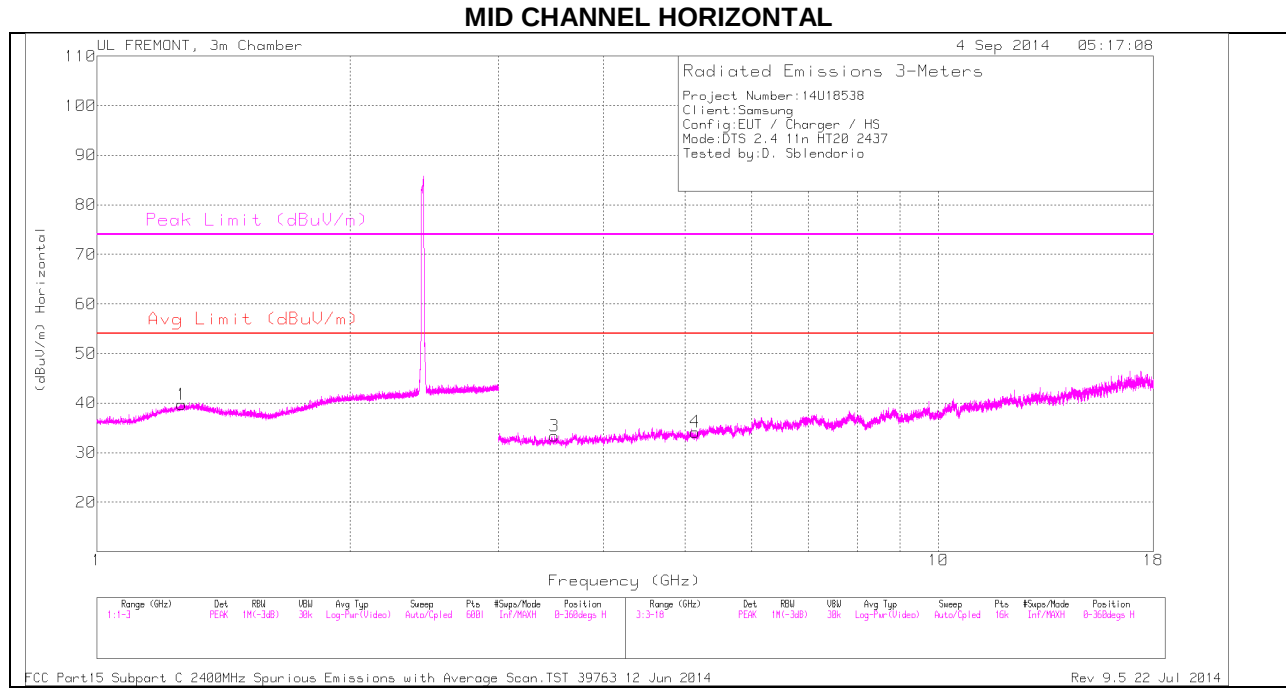
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.285	33.55	PK	30.1	-23.7	0	39.95	-	-	74	-34.05	0-360	100	H
2	1.844	33.6	PK	30.6	-23.3	0	40.9	-	-	-	-	0-360	100	V
3	3.712	31.43	PK	33.2	-30.9	0	33.73	-	-	74	-40.27	0-360	200	H
4	5.852	29.22	PK	35	-29.6	0	34.62	-	-	-	-	0-360	100	H
5	7.992	30.35	PK	35.7	-28.7	0	37.35	-	-	-	-	0-360	100	V
6	9.647	35.97	PK	36.8	-25.6	0	47.17	-	-	-	-	0-360	200	V

PK - Peak detector

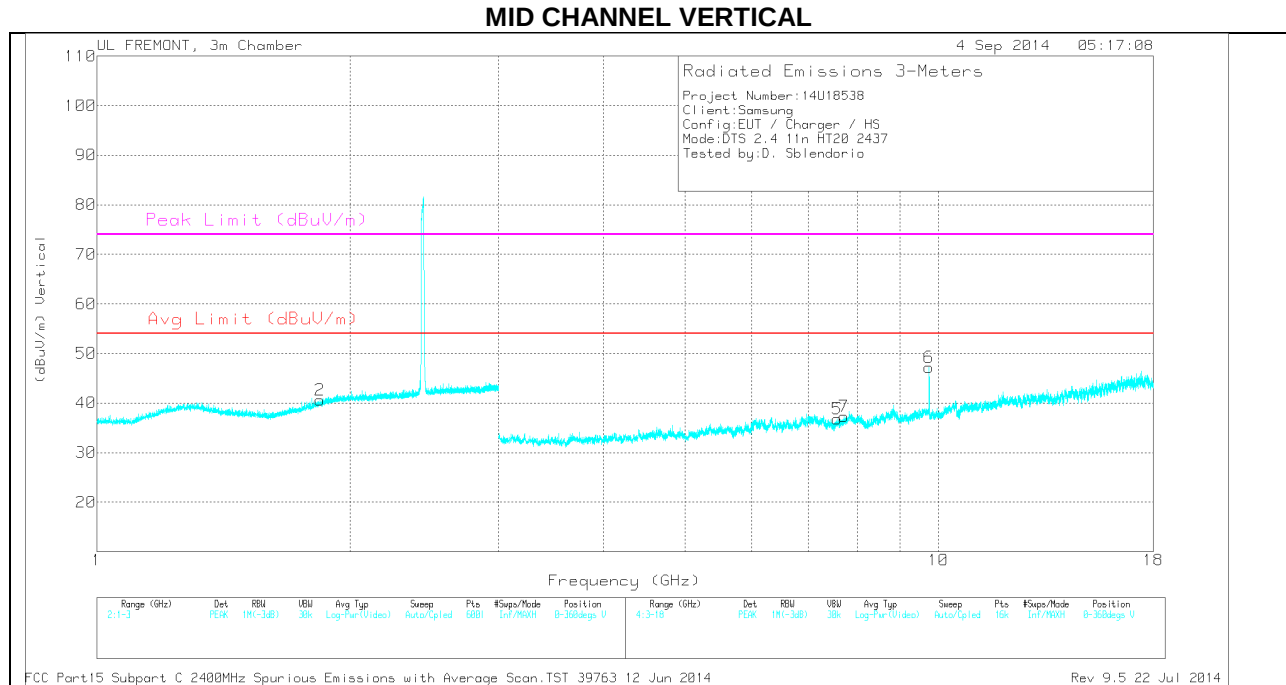
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /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
9.648	40.69	PK2	36.8	-25.6	0	51.89	-	-	-	-	229	218	V
9.648	34.78	MAV1	36.8	-25.6	.32	45.95	-	-	-	-	229	218	V

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



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

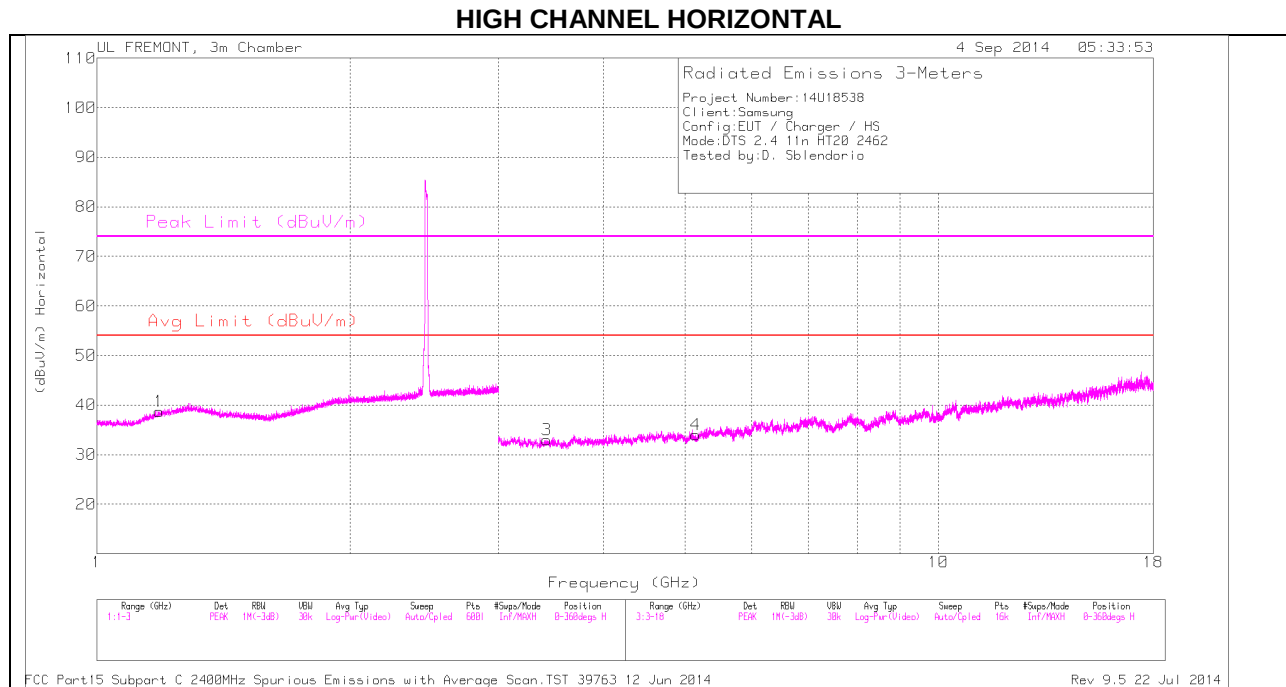
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.261	33.65	PK	29.9	-23.8	0	39.75	-	-	74	-34.25	0-360	100	H
2	1.842	33.25	PK	30.6	-23.3	0	40.55	-	-	-	-	0-360	200	V
3	3.497	31.28	PK	33	-30.9	0	33.38	-	-	-	-	0-360	200	H
4	5.136	30.19	PK	34.2	-30.2	0	34.19	-	-	74	-39.81	0-360	200	H
5	7.573	29.31	PK	35.7	-28.2	0	36.81	-	-	74	-37.19	0-360	100	V
7	7.728	30.76	PK	35.8	-29.3	0	37.26	-	-	74	-36.74	0-360	200	V
6	9.748	35.97	PK	36.9	-25.7	0	47.17	-	-	-	-	0-360	200	V

PK - Peak detector

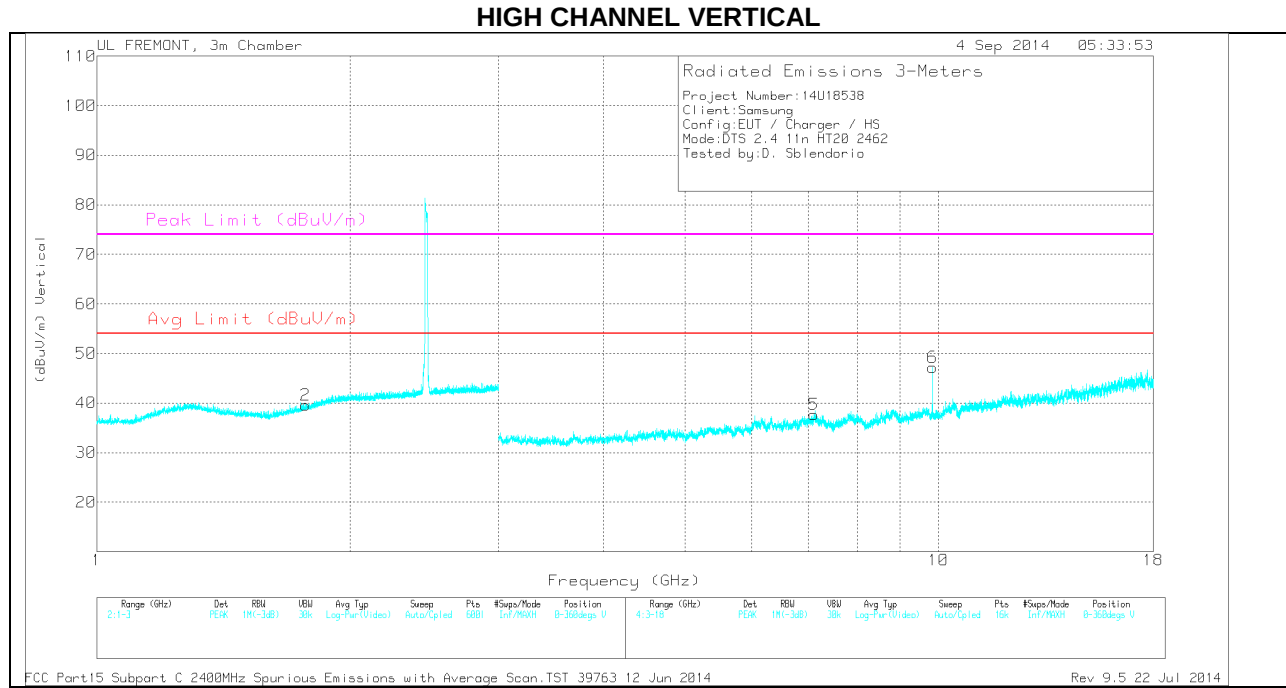
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /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
9.748	42.02	PK2	36.9	-25.7	0	53.22	-	-	-	-	228	206	V
9.748	37.16	MAv1	36.9	-25.7	.32	48.33	-	-	-	-	228	206	V

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



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/Ftr /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	1.185	33.57	PK	28.9	-23.8	0	38.67	-	-	74	-35.33	0-360	200	H
2	1.77	33.05	PK	29.8	-23.3	0	39.55	-	-	-	-	0-360	100	V
3	3.425	31.66	PK	32.9	-31.6	0	32.96	-	-	-	-	0-360	200	H
4	5.149	30.19	PK	34.2	-30.4	0	33.99	-	-	74	-40.01	0-360	100	H
5	7.108	30.1	PK	35.6	-28	0	37.7	-	-	-	-	0-360	100	V
6	9.848	36.21	PK	36.9	-25.9	0	47.21	-	-	-	-	0-360	200	V

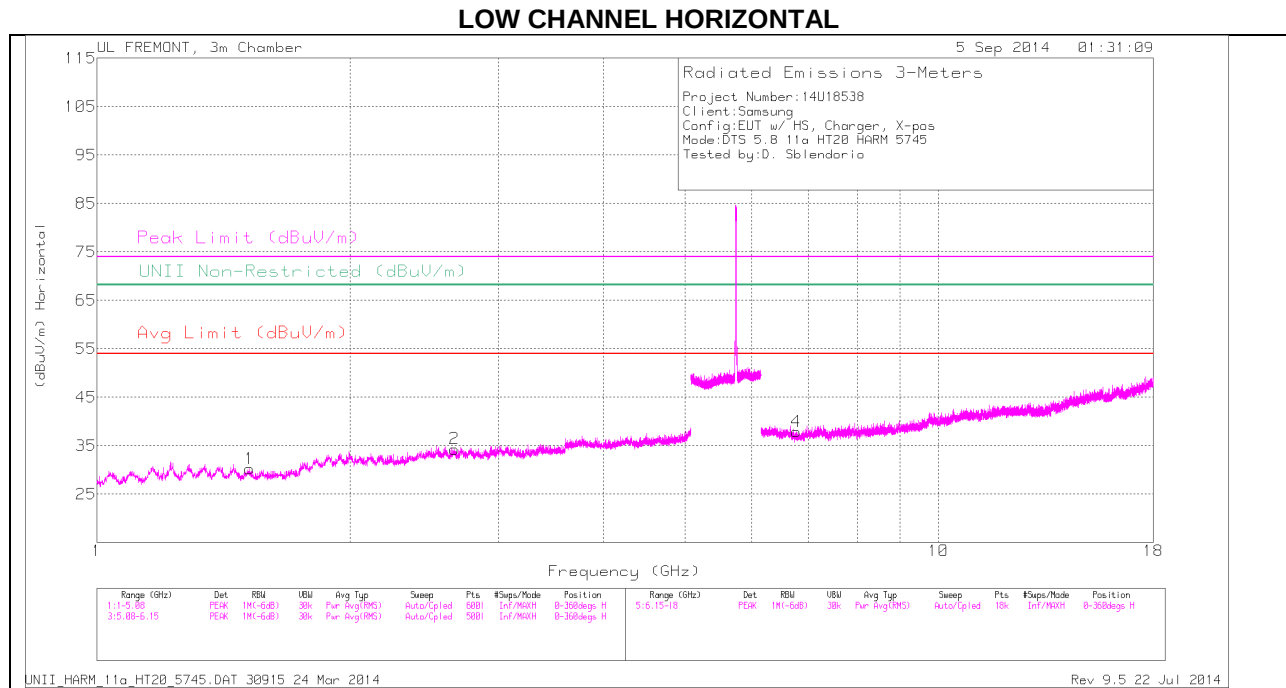
PK - Peak detector

RADIATED EMISSIONS

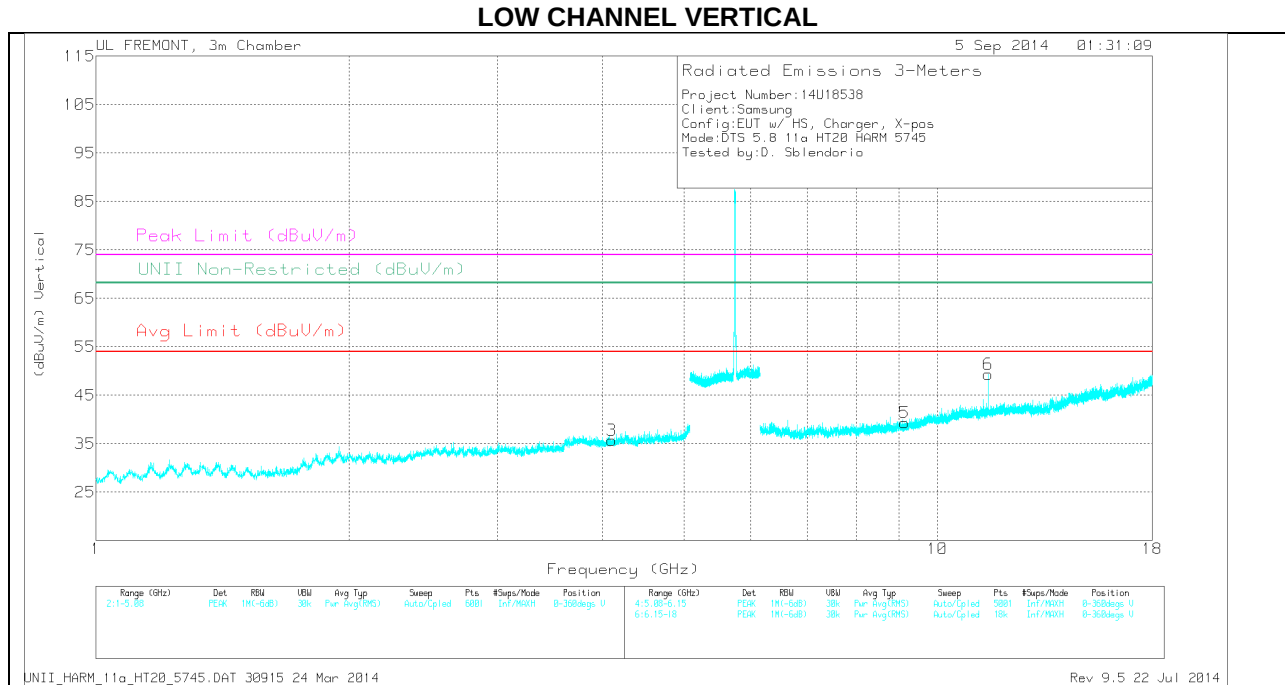
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.848	41.69	PK2	36.9	-25.9	0	52.69	-	-	-	-	14	349	V
9.848	36.37	MAV1	36.9	-25.9	.32	47.34	-	-	-	-	14	349	V

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10.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; 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 T136 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.52	35.37	PK	28.7	-33.8	30.27	-	-	74	-43.73	-	-	0-360	99	H
2	2.659	34.04	PK	32.8	-32.5	34.34	-	-	74	-39.66	-	-	0-360	99	H
3	4.099	32.46	PK	33.9	-30.6	35.76	-	-	74	-38.24	-	-	0-360	99	V
4	6.775	30	PK	35.3	-27.4	37.9	-	-	-	-	68.2	-30.3	0-360	201	H
5	9.146	28.02	PK	36.1	-24.8	39.32	-	-	74	-34.68	-	-	0-360	201	V
6	11.489	33.48	PK	38.3	-22.5	49.28	-	-	74	-24.72	-	-	0-360	99	V

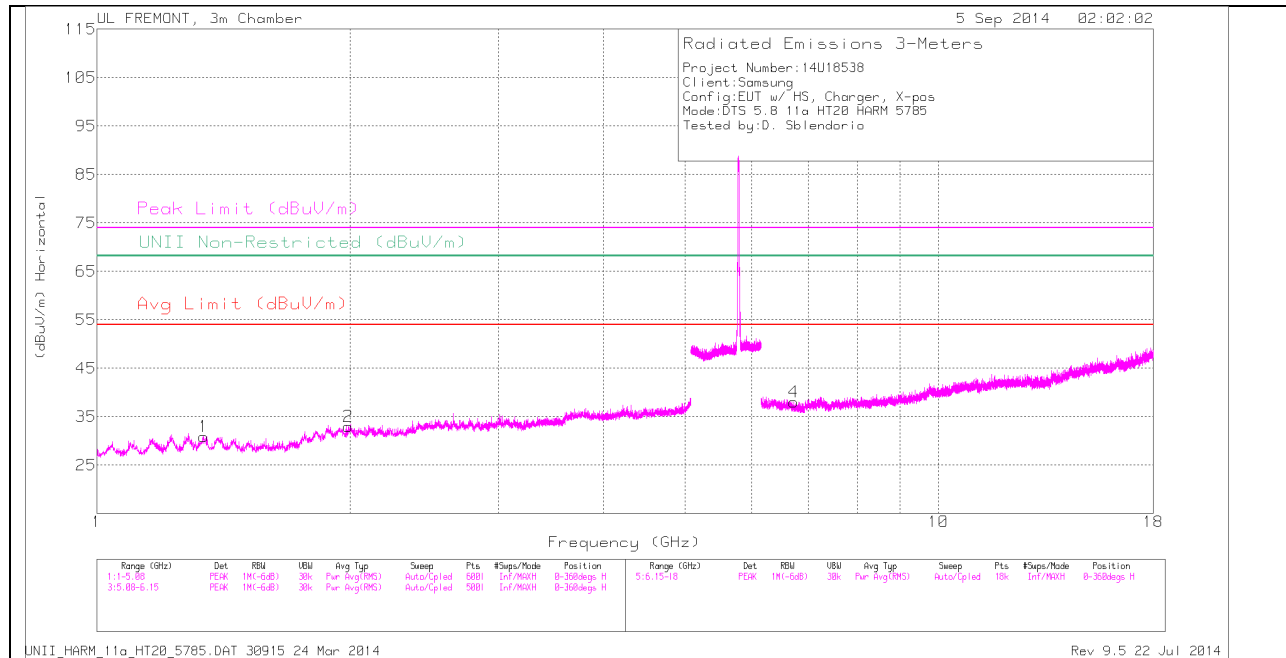
PK - Peak detector

RADIATED EMISSIONS

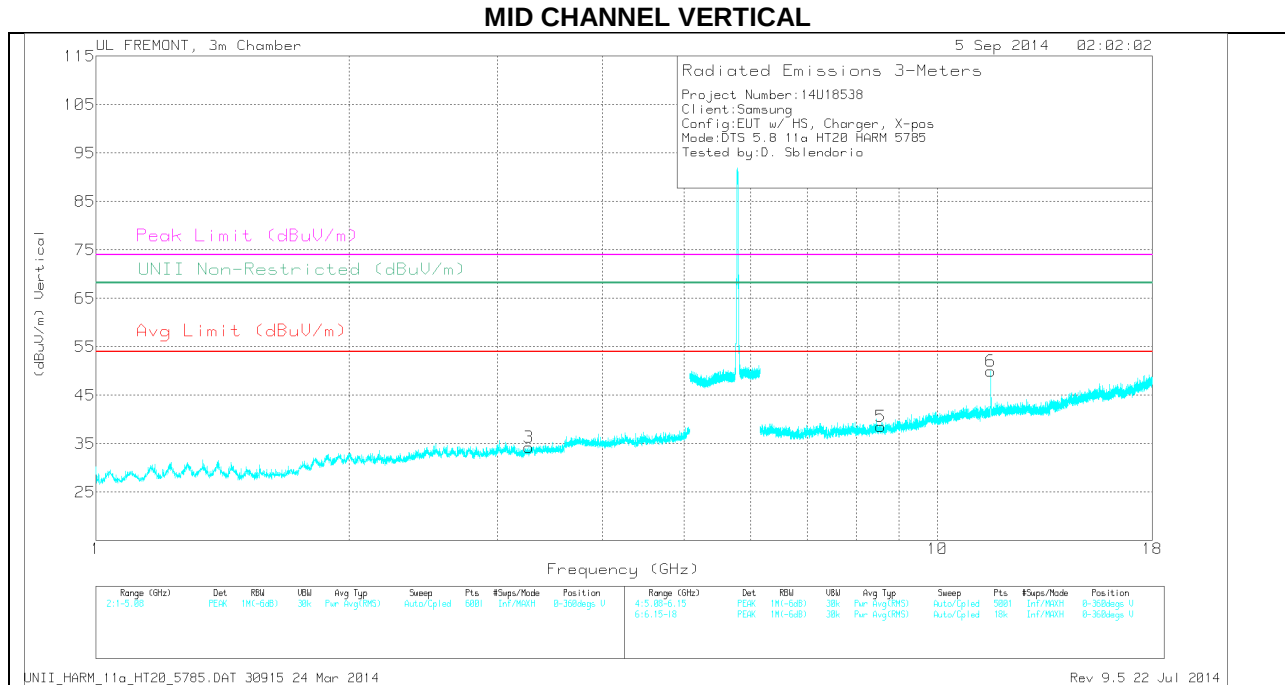
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.49	38.63	PK1	38.3	-22.5	0	54.43	-	-	74	-19.57	-	-	124	133	V
11.49	33.19	AD1	38.3	-22.5	.3	48.98	54	-5.02	-	-	-	-	124	133	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; 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 T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.339	35.79	PK	30.1	-35	0	30.89	-	-	74	-43.11	-	-	0-360	99	H
2	1.99	34.66	PK	32	-33.7	0	32.96	-	-	-	-	68.2	-35.24	0-360	201	H
3	3.271	33.07	PK	32.8	-31.6	0	34.27	-	-	-	-	68.2	-33.93	0-360	201	V
4	6.725	30.46	PK	35.4	-27.8	0	38.06	-	-	-	-	68.2	-30.14	0-360	201	H
5	8.564	28.46	PK	35.7	-25.6	0	38.56	-	-	-	-	68.2	-29.64	0-360	99	V
6	11.57	34.04	PK	38.4	-22.5	0	49.94	-	-	74	-24.06	-	-	0-360	99	V

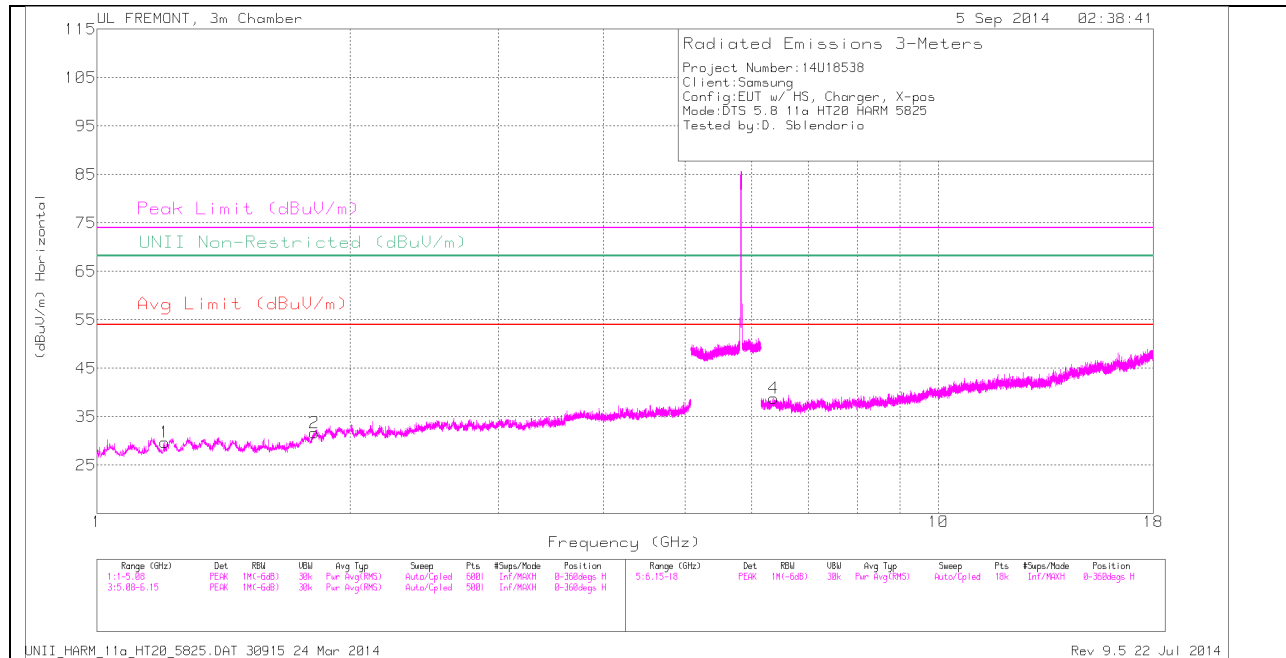
PK - Peak detector

RADIATED EMISSIONS

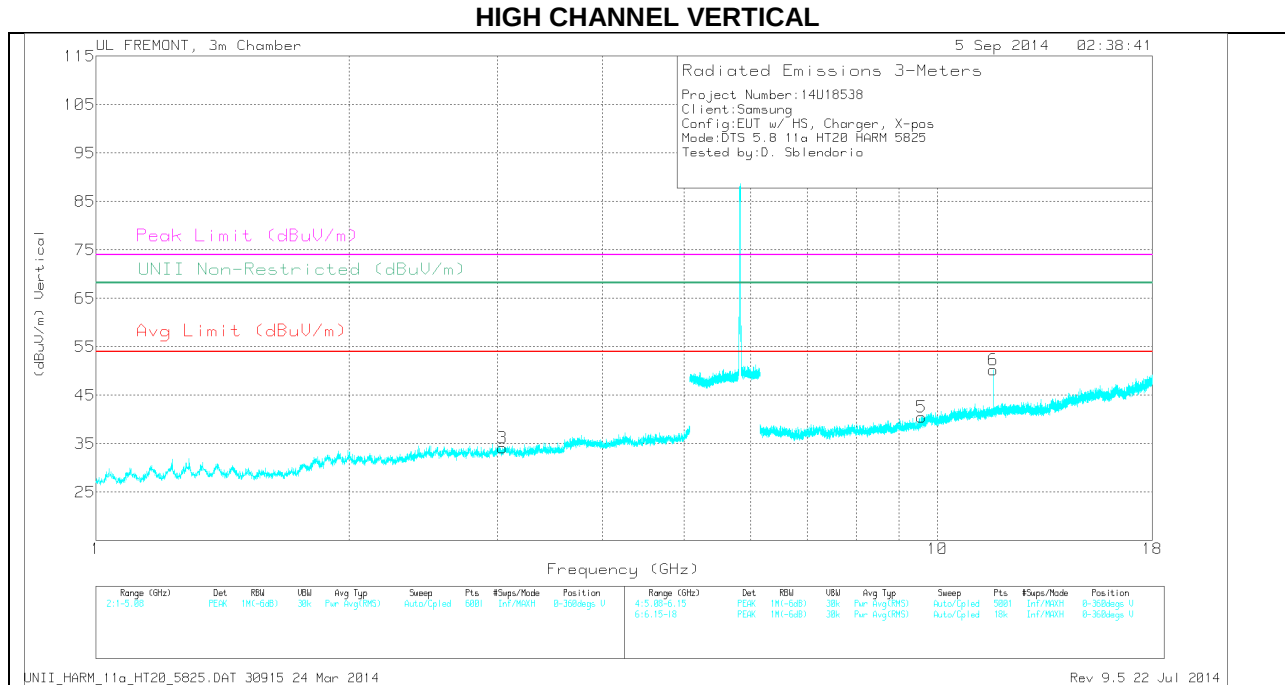
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.57	41.65	PK1	38.4	-22.5	0	57.55	-	-	74	-16.45	-	-	120	150	V
11.57	34.1	AD1	38.4	-22.5	.3	50.3	54	-3.70	-	-	-	-	120	150	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; 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 T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.203	34.98	PK	29.3	-34.5	0	29.78	-	-	74	-44.22	-	-	0-360	201	H
2	1.812	33.91	PK	30.7	-32.9	0	31.71	-	-	-	-	68.2	-36.49	0-360	99	H
3	3.041	32.31	PK	32.8	-31	0	34.11	-	-	-	-	68.2	-34.09	0-360	201	V
4	6.37	30.32	PK	35.5	-27	0	38.82	-	-	-	-	68.2	-29.38	0-360	201	H
5	9.567	28	PK	36.7	-24.2	0	40.5	-	-	-	-	68.2	-27.7	0-360	201	V
6	11.649	34.2	PK	38.6	-22.5	0	50.3	-	-	74	-23.7	-	-	0-360	99	V

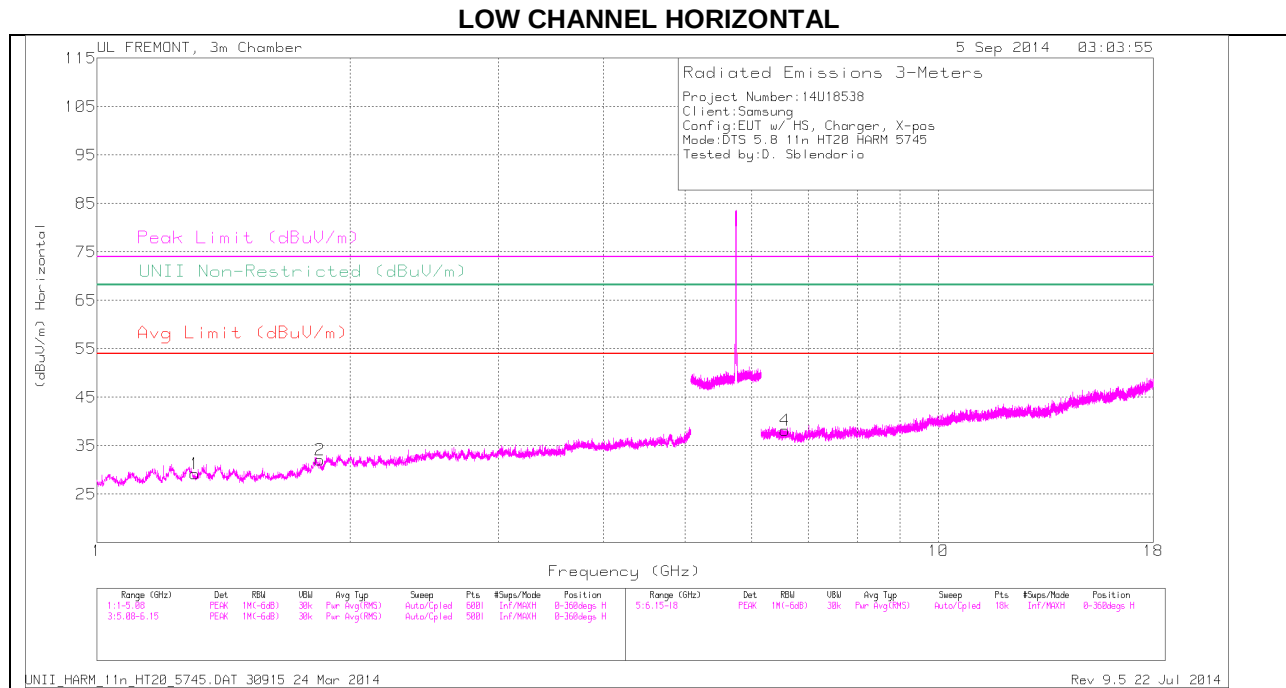
PK - Peak detector

RADIATED EMISSIONS

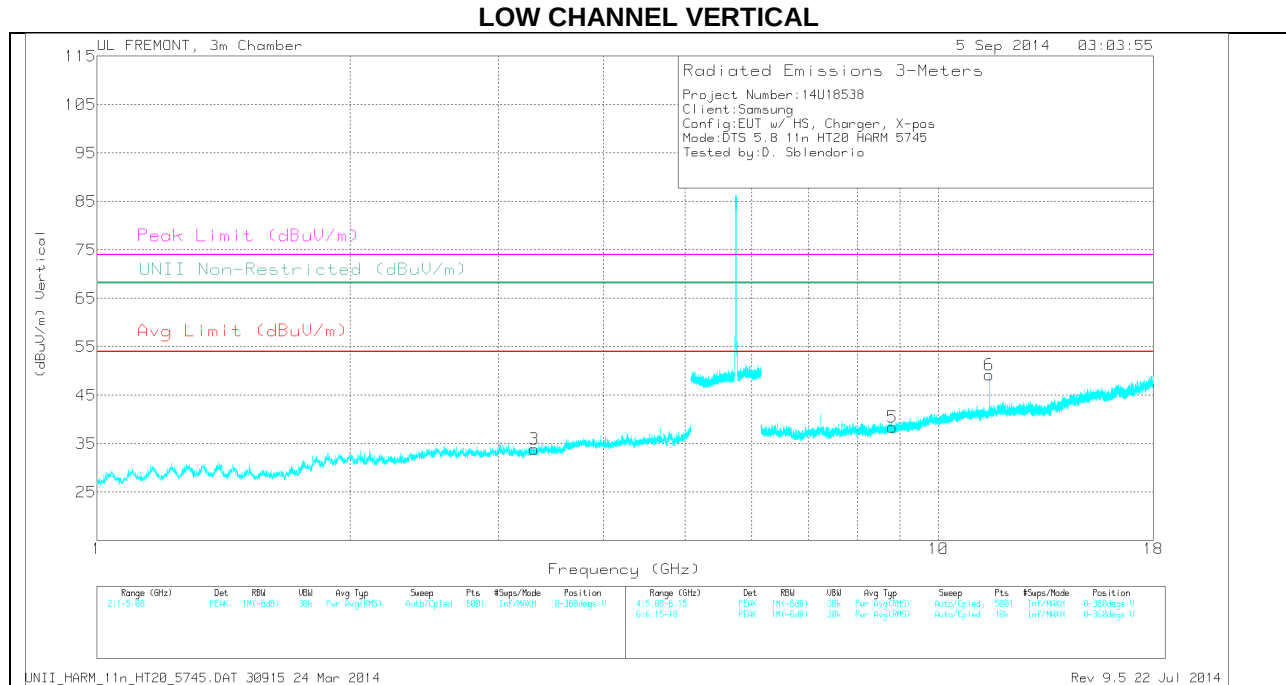
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.65	38.72	PK1	38.6	-22.5	0	54.82	-	-	74	-19.18	-	-	121	132	V
11.65	33.58	AD1	38.6	-22.5	.3	49.98	54	-4.02	-	-	-	-	121	132	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

10.2.1. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; 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 T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.307	33.98	PK	30.2	-35	0	29.18	-	-	74	-44.82	-	-	0-360	99	H
2	1.84	33.73	PK	31	-32.7	0	32.03	-	-	-	-	68.2	-36.17	0-360	201	H
3	3.309	32.17	PK	32.9	-31.2	0	33.87	-	-	-	-	68.2	-34.33	0-360	201	V
4	6.573	29.44	PK	35.5	-26.8	0	38.14	-	-	-	-	68.2	-30.06	0-360	201	H
5	8.819	27.92	PK	35.8	-25.3	0	38.42	-	-	-	-	68.2	-29.78	0-360	99	V
6	11.49	33.44	PK	38.3	-22.5	0	49.24	-	-	74	-24.76	-	-	0-360	99	V

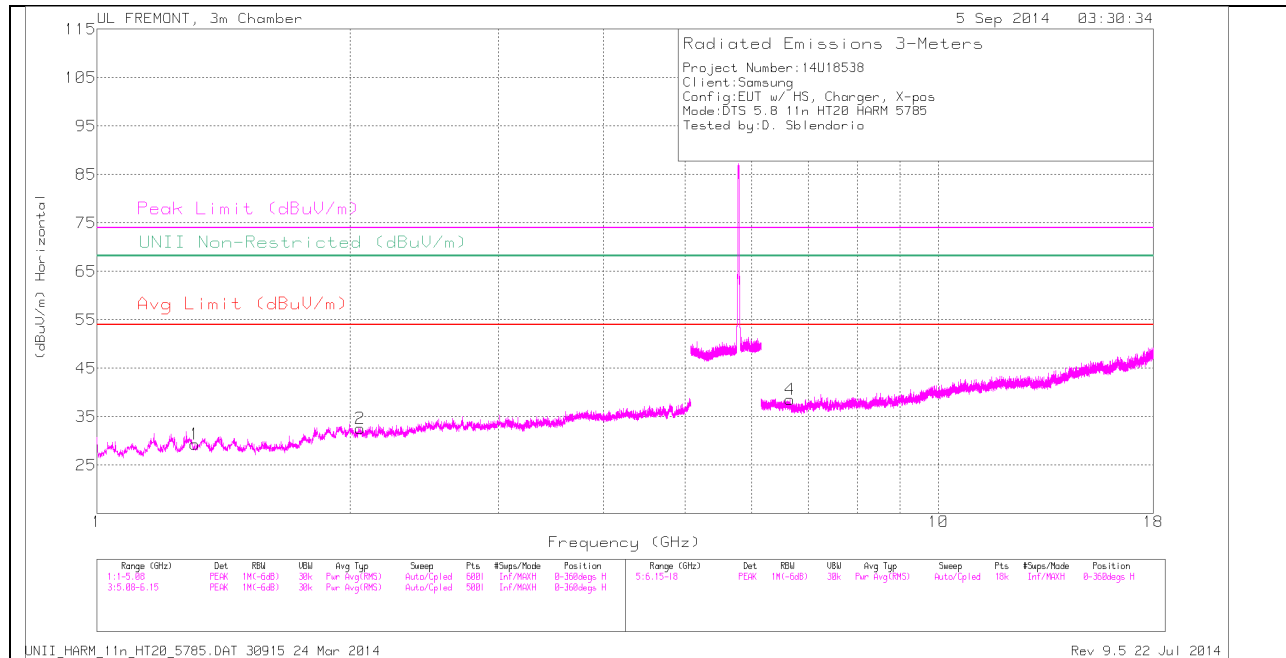
PK - Peak detector

RADIATED EMISSIONS

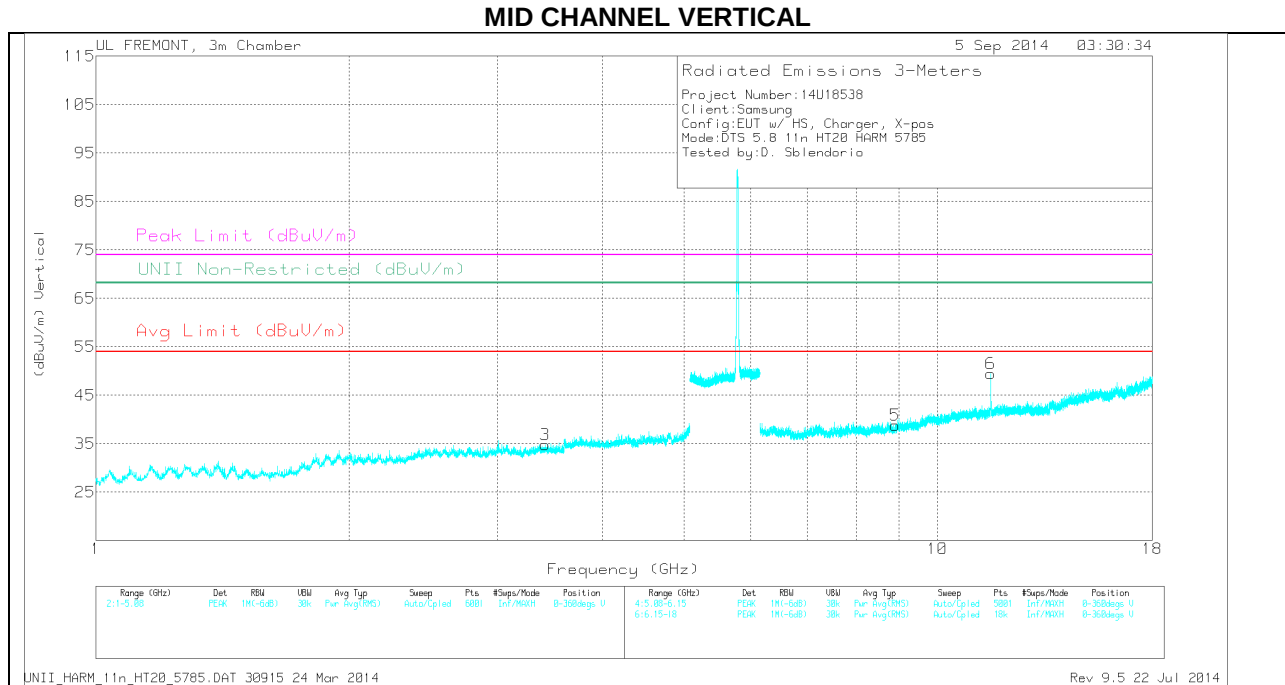
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.49	38.86	PK1	38.3	-22.5	0	54.66	-	-	74	-19.34	-	-	124	134	V
11.49	32.96	AD1	38.3	-22.5	.32	49.08	54	-4.92	-	-	-	-	124	134	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; 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 T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.307	34.12	PK	30.2	-35	0	29.32	-	-	74	-44.68	-	-	0-360	99	H
2	2.055	34.44	PK	31.9	-33.7	0	32.64	-	-	-	-	68.2	-35.56	0-360	99	H
3	3.419	32.58	PK	33	-30.8	0	34.78	-	-	-	-	68.2	-33.42	0-360	99	V
4	6.66	30	PK	35.4	-26.9	0	38.5	-	-	-	-	68.2	-29.7	0-360	201	H
5	8.902	28.29	PK	35.8	-25.3	0	38.79	-	-	-	-	68.2	-29.41	0-360	99	V
6	11.57	33.57	PK	38.4	-22.5	0	49.47	-	-	74	-24.53	-	-	0-360	99	V

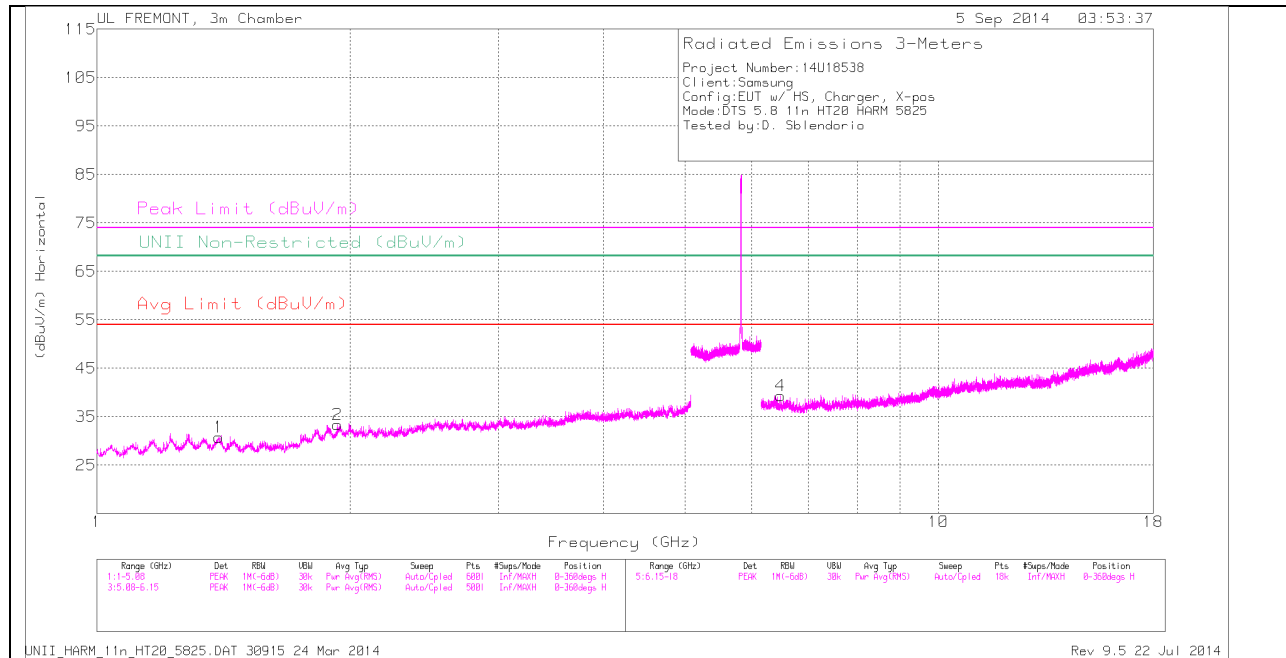
PK - Peak detector

RADIATED EMISSIONS

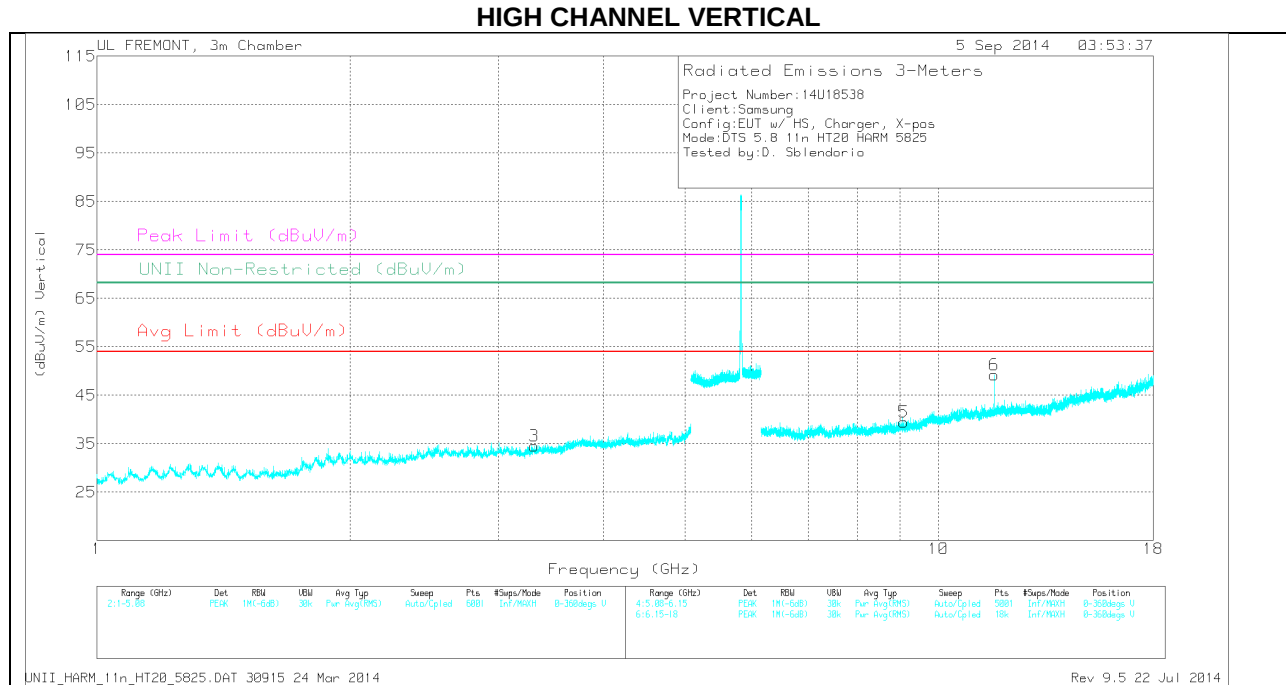
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.57	38.66	PK1	38.4	-22.5	0	54.56	-	-	74	-19.44	-	-	252	202	V
11.57	30.99	AD1	38.4	-22.5	.32	47.21	54	-6.79	-	-	-	-	252	202	V

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HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; 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 T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.395	35.49	PK	29.8	-34.5	0	30.79	-	-	74	-43.21	-	-	0-360	201	H
2	1.933	34.87	PK	31.8	-33.3	0	33.37	-	-	-	-	68.2	-34.83	0-360	99	H
3	3.307	32.98	PK	32.9	-31.3	0	34.58	-	-	-	-	68.2	-33.62	0-360	201	V
4	6.492	32.17	PK	35.5	-28.3	0	39.37	-	-	-	-	68.2	-28.83	0-360	99	H
5	9.1	28.39	PK	36	-24.9	0	39.49	-	-	74	-34.51	-	-	0-360	201	V
6	11.649	33.16	PK	38.6	-22.5	0	49.26	-	-	74	-24.74	-	-	0-360	99	V

PK - Peak detector

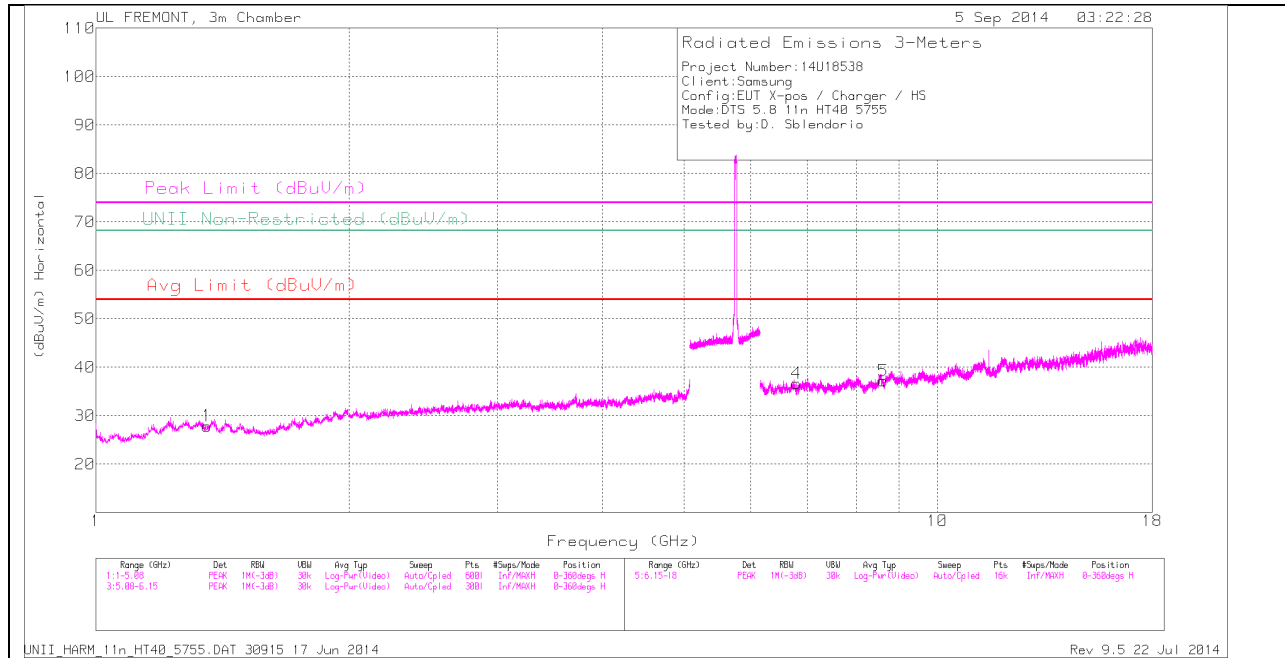
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.65	38.51	PK1	38.6	-22.5	0	54.61	-	-	74	-19.39	-	-	119	149	V
11.65	32.43	AD1	38.6	-22.5	.32	48.85	54	-5.15	-	-	-	-	119	149	V

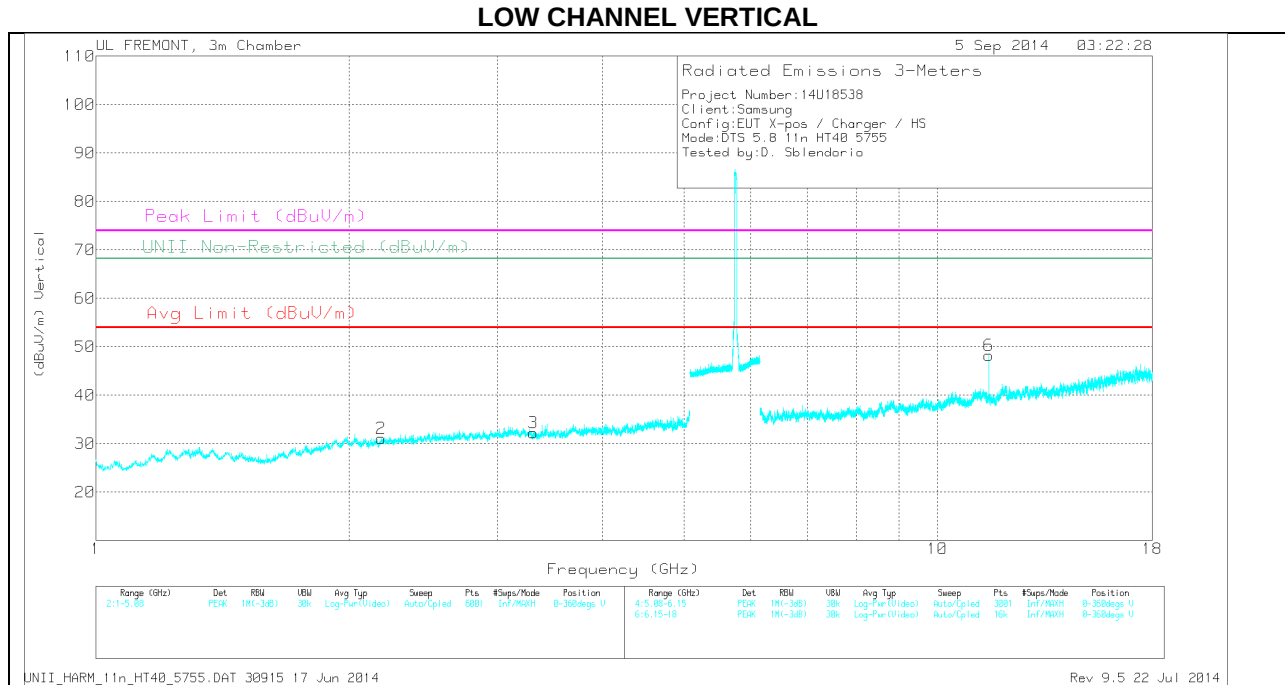
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

10.2.1. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

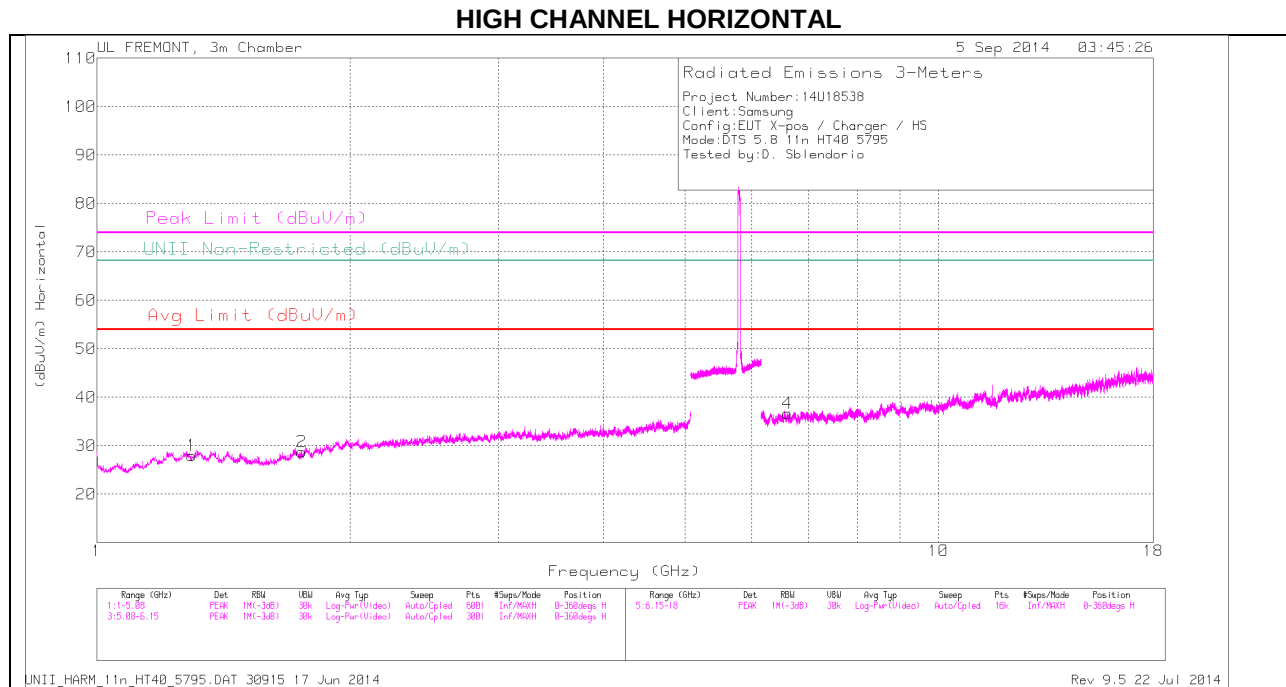
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.356	31.61	PK	29.6	-33.3	0	27.91	-	-	74	-46.09	-	-	0-360	200	H
2	2.183	32.03	PK	31.7	-32.6	0	31.13	-	-	-	-	68.2	-37.07	0-360	100	V
3	3.309	31.65	PK	32.9	-32.3	0	32.25	-	-	-	-	68.2	-35.95	0-360	200	V
4	6.805	30.73	PK	35.6	-29.7	0	36.63	-	-	-	-	68.2	-31.57	0-360	200	H
5	8.624	28.25	PK	35.8	-26.9	0	37.15	-	-	-	-	68.2	-31.05	0-360	100	H
6	11.51	36.12	PK	38.3	-26.2	0	48.22	-	-	74	-25.78	-	-	0-360	100	V

PK - Peak detector

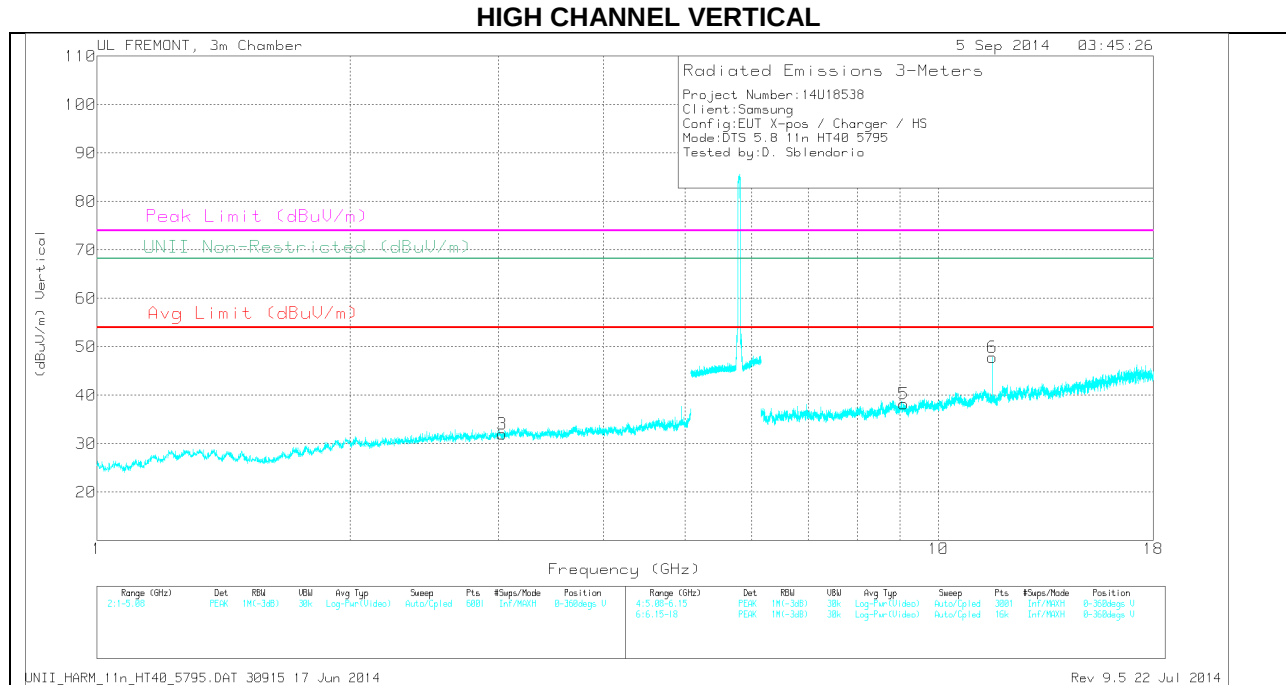
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.51	42.74	PK1	38.3	-26.2	0	54.84	-	-	74	-19.16	-	-	351	151	V
11.51	37.41	AD1	38.3	-26.2	.66	50.17	54	-3.83	-	-	-	-	351	151	V

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; 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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.296	31.53	PK	30.2	-33.7	0	28.03	-	-	74	-45.97	-	-	0-360	100	H
2	1.75	31.44	PK	29.6	-32.3	0	28.74	-	-	-	-	68.2	-39.46	0-360	200	H
3	3.033	30.94	PK	33	-31.9	0	32.04	-	-	-	-	68.2	-36.16	0-360	200	V
4	6.617	30.43	PK	35.6	-29.4	0	36.63	-	-	-	-	68.2	-31.57	0-360	100	H
5	9.089	27.77	PK	36.1	-25.6	0	38.27	-	-	74	-35.73	-	-	0-360	100	V
6	11.59	35.39	PK	38.4	-25.9	0	47.89	-	-	74	-26.11	-	-	0-360	200	V

PK - Peak detector

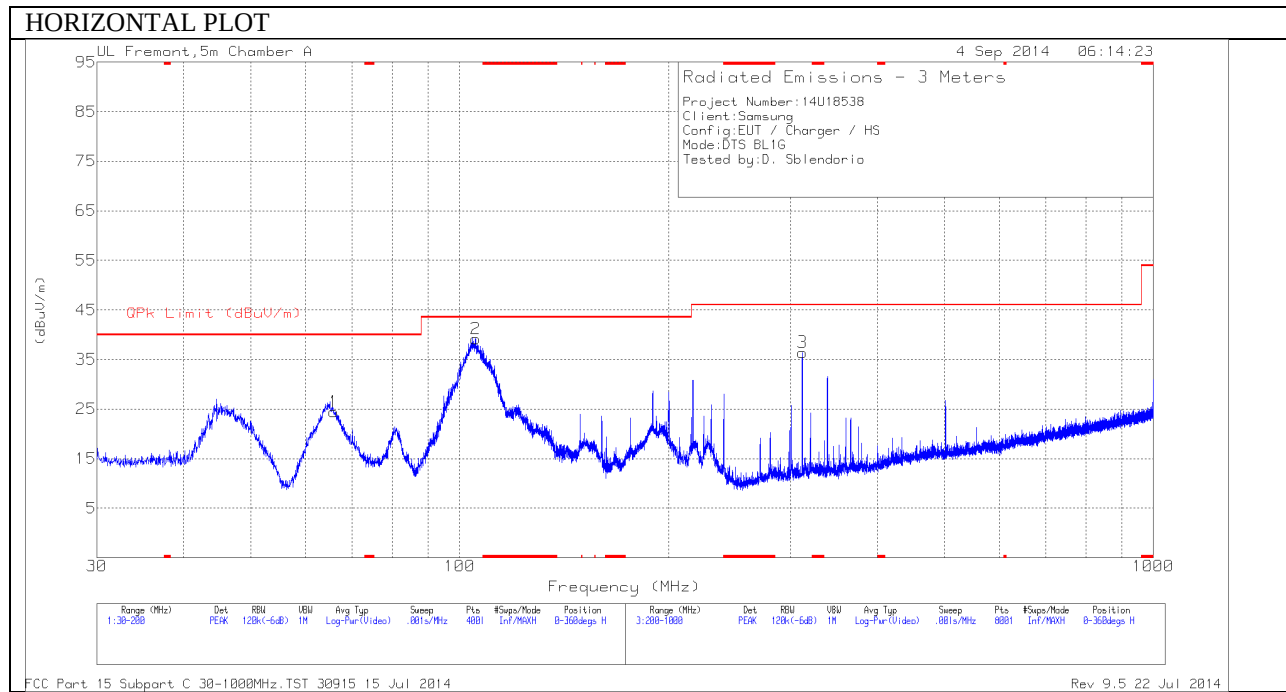
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.59	42.14	PK1	38.4	-25.9	0	54.64	-	-	74	-19.36	-	-	353	171	V
11.59	36.76	AD1	38.4	-25.9	.66	49.92	54	-4.08	-	-	-	-	353	171	V

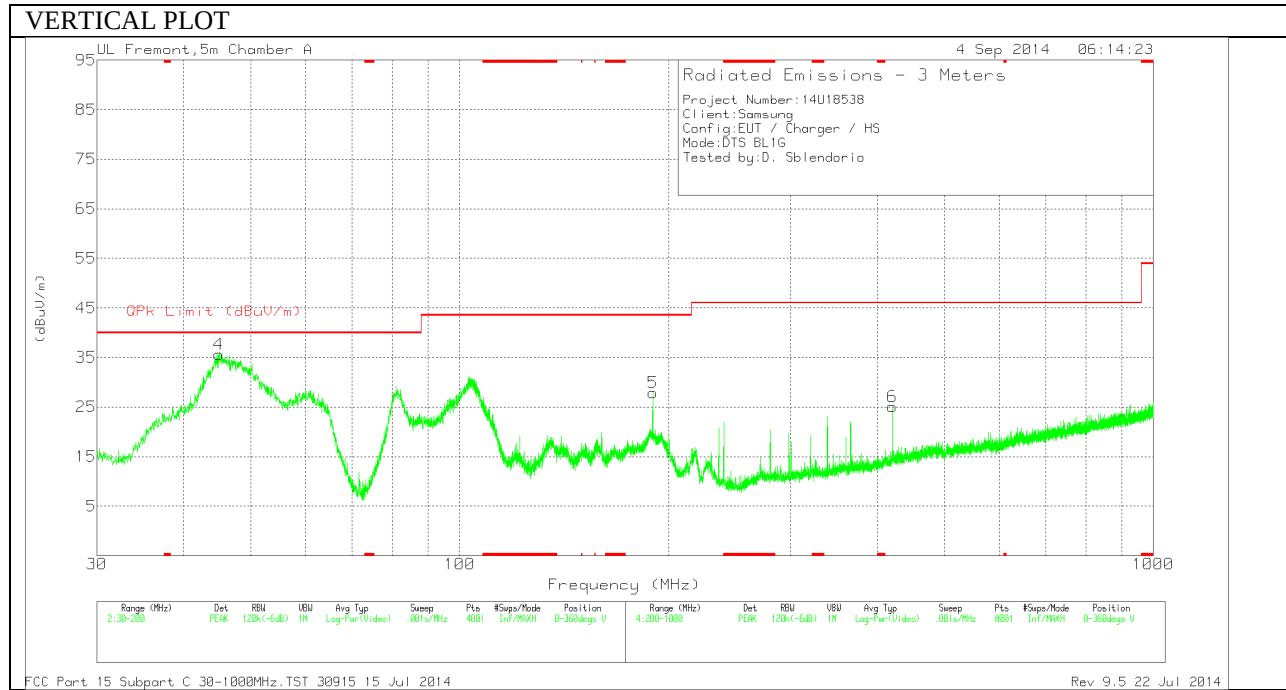
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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 T477 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	44.96	56.16	PK	10.3	-30.8	35.66	40	-4.34	0-360	101	V
1	65.8275	47.31	PK	8	-30.8	24.51	40	-15.49	0-360	400	H
2	105.565	57.91	PK	11.8	-30.5	39.21	43.52	-4.31	0-360	300	H
5	189.8425	46.35	PK	11.3	-29.8	27.85	43.52	-15.67	0-360	101	V
3	311.9	52.05	PK	13.7	-29.3	36.45	46.02	-9.57	0-360	101	H
6	420.3	37.66	PK	16.2	-28.8	25.06	46.02	-20.96	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.

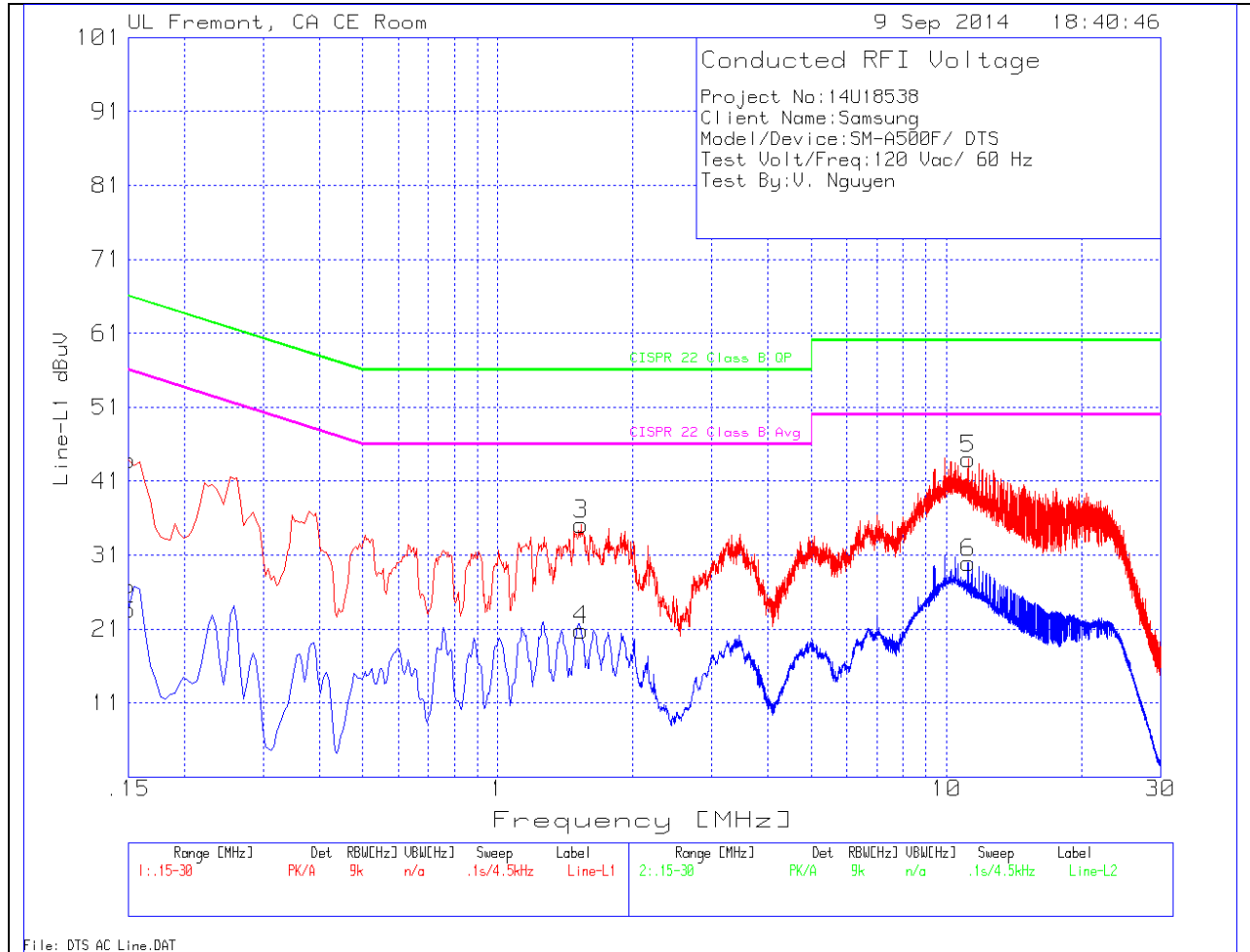
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



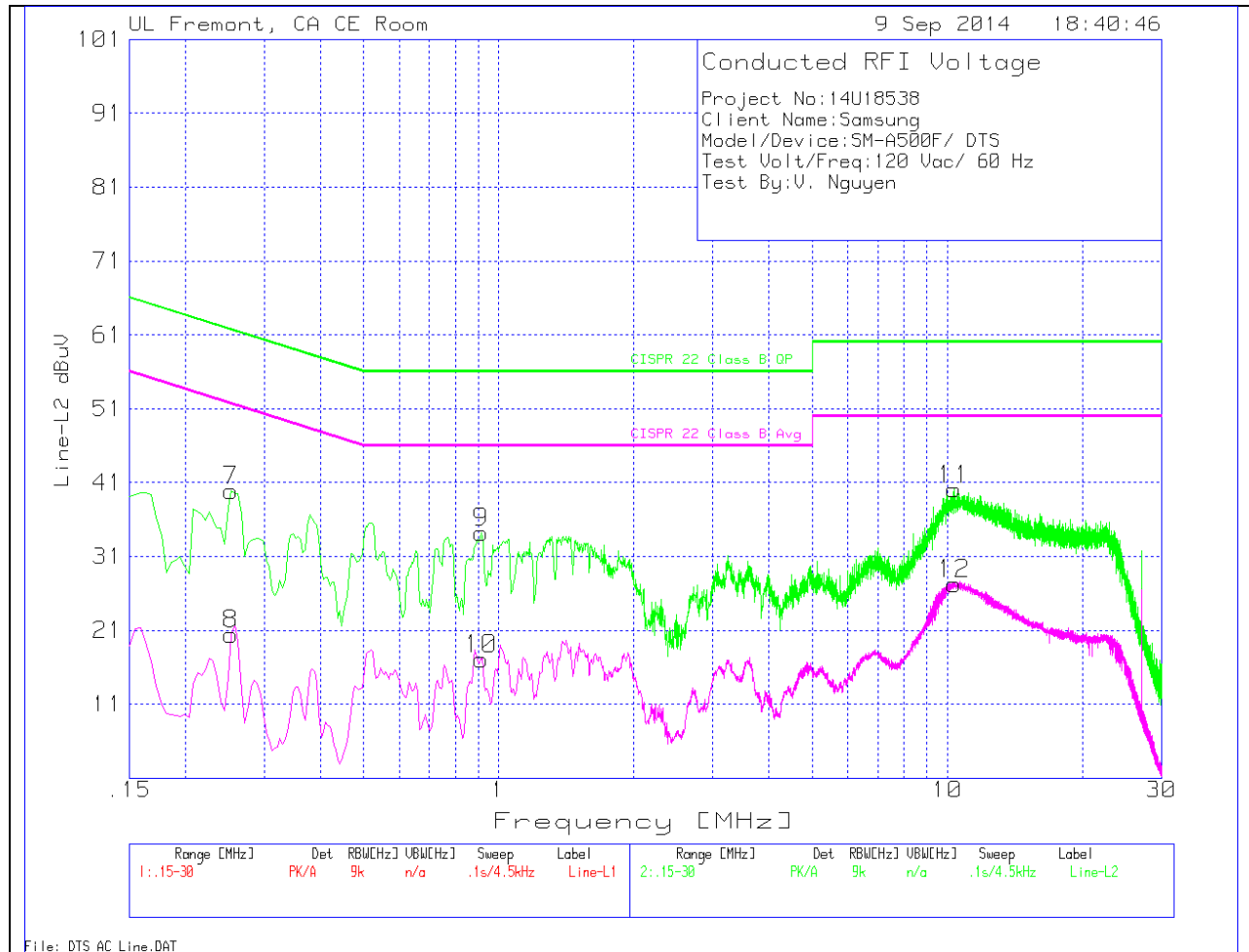
LINE 1 RESULTS

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	.15	42.51	PK	1.4	0	43.91	66	-22.09	-	-
2	.15	22.29	Av	1.4	0	23.69	-	-	56	-32.31
3	1.5315	34.82	PK	.2	.1	35.12	56	-20.88	-	-
4	1.5315	20.54	Av	.2	.1	20.84	-	-	46	-25.16
5	11.2155	43.55	PK	.2	.2	43.95	60	-16.05	-	-
6	11.2155	29.5	Av	.2	.2	29.9	-	-	50	-20.1

LINE 2 PLOT



LINE 2 RESULTS

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)
7	.2535	39.15	PK	.7	0	39.85	61.6	-21.75	-	-
8	.2535	19.7	Av	.7	0	20.4	-	-	51.6	-31.2
9	.915	33.93	PK	.3	0	34.23	56	-21.77	-	-
10	.915	16.79	Av	.3	0	17.09	-	-	46	-28.91
11	10.356	39.68	PK	.2	.2	40.08	60	-19.92	-	-
12	10.356	26.87	Av	.2	.2	27.27	-	-	50	-22.73

PK - Peak detector

Av - average detection