



FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: SM-A500K, SM-A500L, SM-A500S

FCC ID: A3LSMA500KOR

REPORT NUMBER: 14U19262-E5 REVISION A

ISSUE DATE: DECEMBER 3, 2014

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Revision History



NVLAP LAB CODE 200065-0

Issue			
Rev.	Date	Revisions	Revised By
--	11/21/14	Initial Issue	P. Zhang
A	12/3/14	Update DFS Reference	C. Cheung

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC
MODEL: SM-A500K, SM-A500L, SM-A500S
SERIAL NUMBER: 1992967 (Radiated); 1992964 (Conducted)
DATE TESTED: NOVEMBER 7-21, 2014

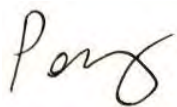
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Pass

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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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.

U-NII procedures and limits were applied for operations in the frequency band from 5.725-5.850 GHz in accordance with this KDB 644545 D01 Guidance for IEEE 802.11ac v01r01; 644545 D02 Alternative Guidance for 802.11ac v01 publication to demonstrate compliance with 15.247 requirements in that band.

2. 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>.

3. CALIBRATION AND UNCERTAINTY

3.1. 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.

3.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

3.3. 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%.

4. EQUIPMENT UNDER TEST

4.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC.

4.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5180-5240	802.11a	13.82	24.10
5180-5240	802.11n HT20	12.98	19.86
5190-5230	802.11n HT40	12.30	16.98
5260-5320	802.11a	13.70	23.44
5260-5320	802.11n HT20	12.64	18.37
5270-5310	802.11n HT40	12.07	16.11
5500-5700	802.11a	14.7	29.51
5500-5700	802.11n HT20	14.17	26.12
5510-5670	802.11n HT40	13.04	20.14
5745 - 5825	802.11a	13.5	22.39
5745 - 5825	802.11n HT20	12.37	17.26
5755 - 5795	802.11n HT40	12.46	17.62

4.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.62 dBi.

4.4. 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 the X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation.

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

802.11a mode: 6 Mbps

802.11n HT20mode: MCS0

802.11n HT40mode: MCS0

4.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SAMSUNG	EP_TA50KWK	N/A	N/A
Earphone	SAMSUNG	N/A	N/A	N/A

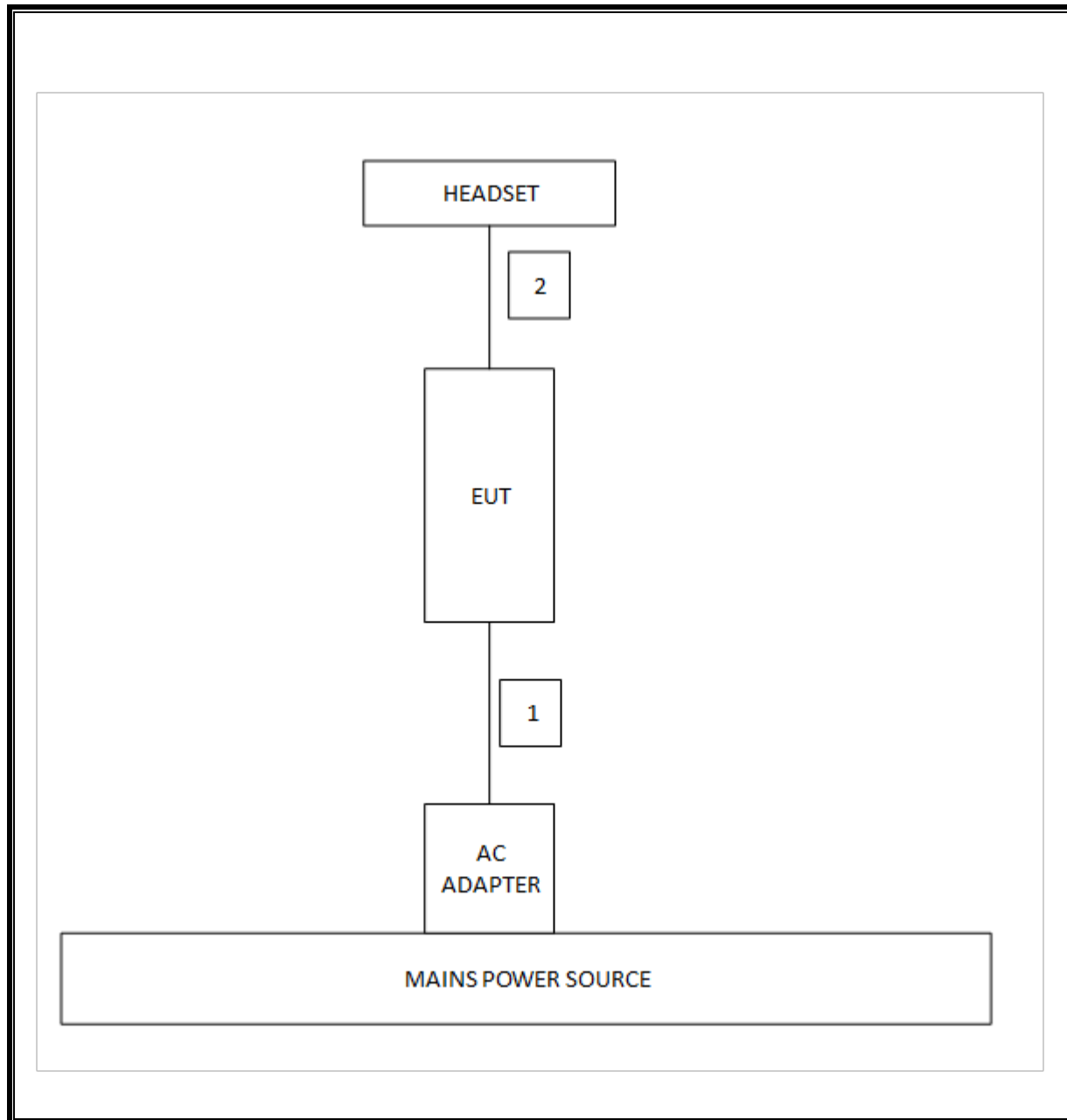
I/O CABLES

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	1.0m	N/A

TEST SETUP

The EUT is setup as a stand-alone device.

SETUP DIAGRAM FOR TESTS



5. 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	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

6. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
2.1051, 15.407 (b)	Occupied Band width (26dB)	N/A	Conducted	Pass	93.6MHz
15.407 (a)(1)	TX Cond. Power 5.15-2.25	<17dBm or 4+10Log(OBW)		Pass	13.82dBm
15.407 (a)(2)	TX Cond. Power 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	14.7dBm
15.407 (a)(3)	TX Cond. Power 5.725-5.825	< 30dBm or 17+10Log(OBW)		Pass	13.5dBm
15.407 (a)(5)	PSD	<8dBm		Pass	2.33dBm
15.407 (a)(6)	Peak Excursion Ratio	13dB		Pass	10.27dB
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	52.4dBuV
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	53.87dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Conducted	Pass	N/A

7. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

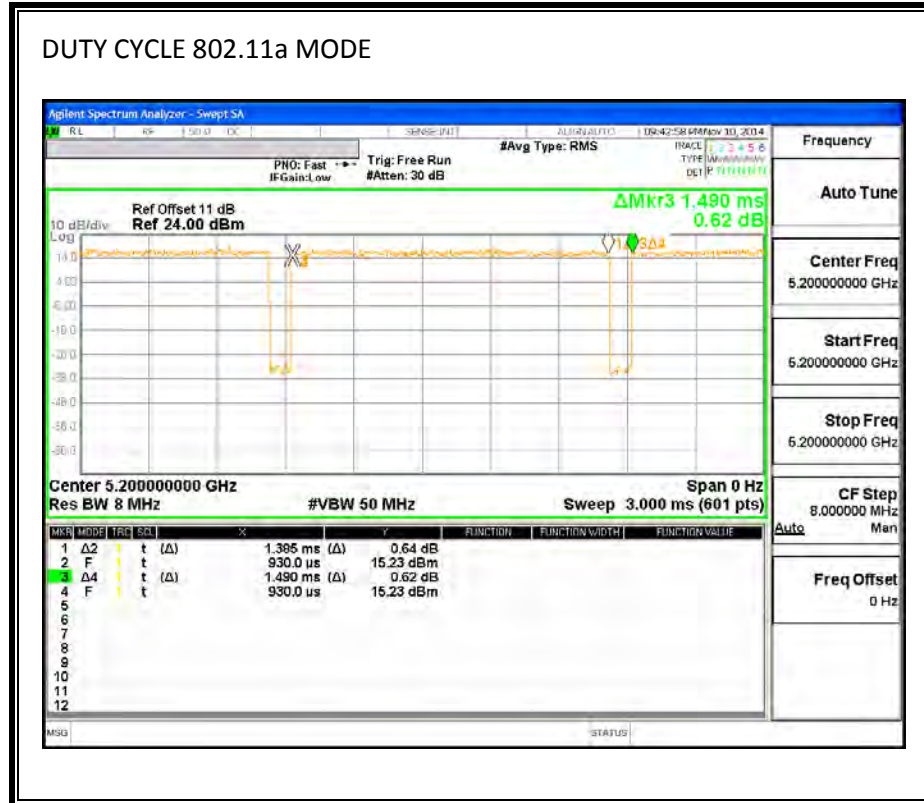
PROCEDURE

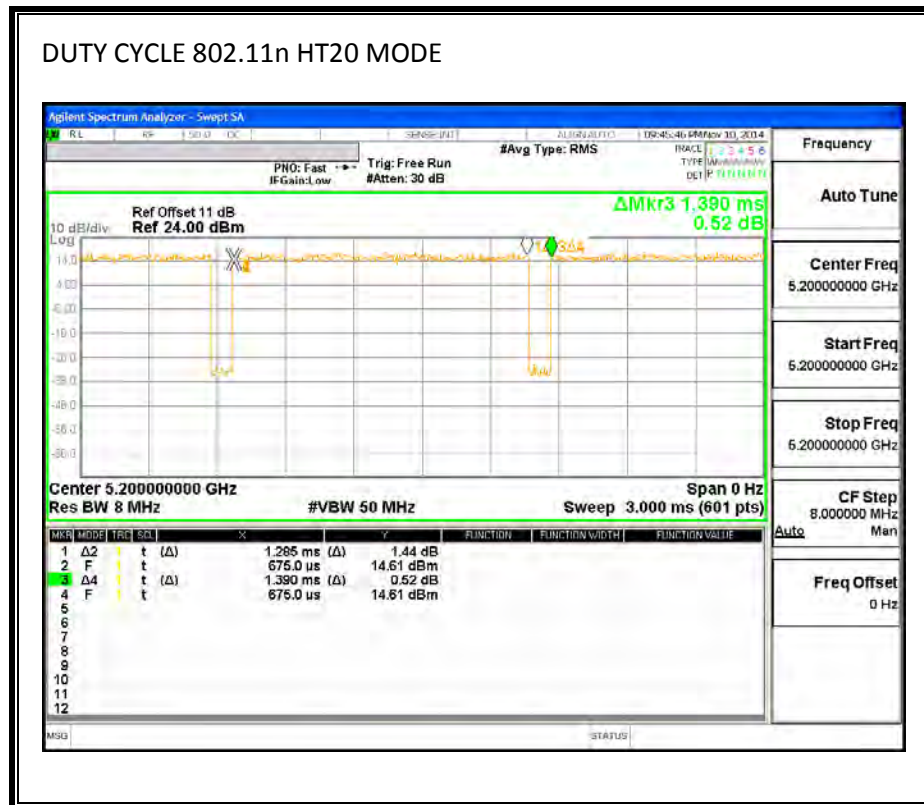
KDB 789033 Zero-Span Spectrum Analyzer Method.

7.1. ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	1.39	1.49	0.930	93.0%	0.32	0.722
802.11n HT20	1.29	1	0.924	92.4%	0.34	0.778
802.11n HT40	0.63	1	0.859	85.9%	0.66	1.580

7.2. DUTY CYCLE PLOTS





DUTY CYCLE 802.11n HT40 MODE



8. MEASUREMENT METHOD

The Duty Cycle is less than 98% and consistent therefore KDB 789033 Method SA-2 is used for .power and PPSD

The Duty Cycle is less than 98% and consistent, KDB 789033 Method AD with Power RMS Averaging and duty cycle correction is used.

9. ANTENNA PORT TEST RESULTS

9.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

9.1.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	44.08
Mid	5200	42.92
High	5240	45.25
Worst		45.25

9.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	44.83
Mid	5200	45.42
High	5240	43.67
Worst		45.42

9.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 Bandwidth (MHz)
Low	5190	78.60
Mid	5230	88.60
Worst		88.60

9.1.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	44.85
Mid	5300	44.09
High	5320	43.55
Worst		44.85

9.1.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	46.15
Mid	5300	44.74
High	5320	45.39
Worst		46.15

9.1.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	86.20
High	5310	85.60
Worst		86.20

9.1.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	39.98
Mid	5580	44.85
High	5700	40.82
Worst		44.85

9.1.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	43.55
Mid	5580	45.50
High	5700	39.71
Worst		45.50

9.1.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	82.60
Mid	5550	87.40
High	5670	68.80
Worst		87.40

9.1.10. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	48.53
Mid	5785	48.53
High	5825	45.50
Worst		48.53

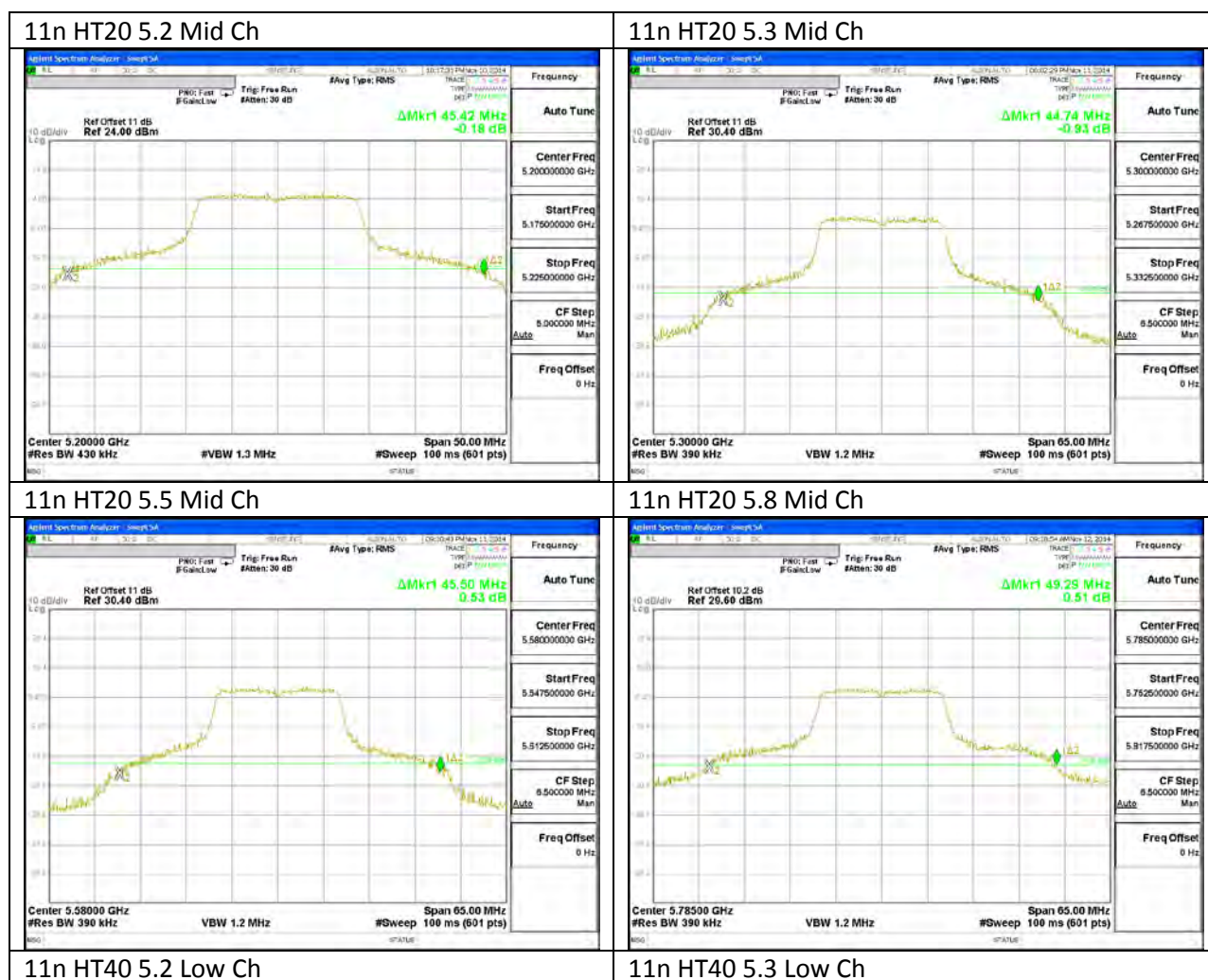
9.1.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

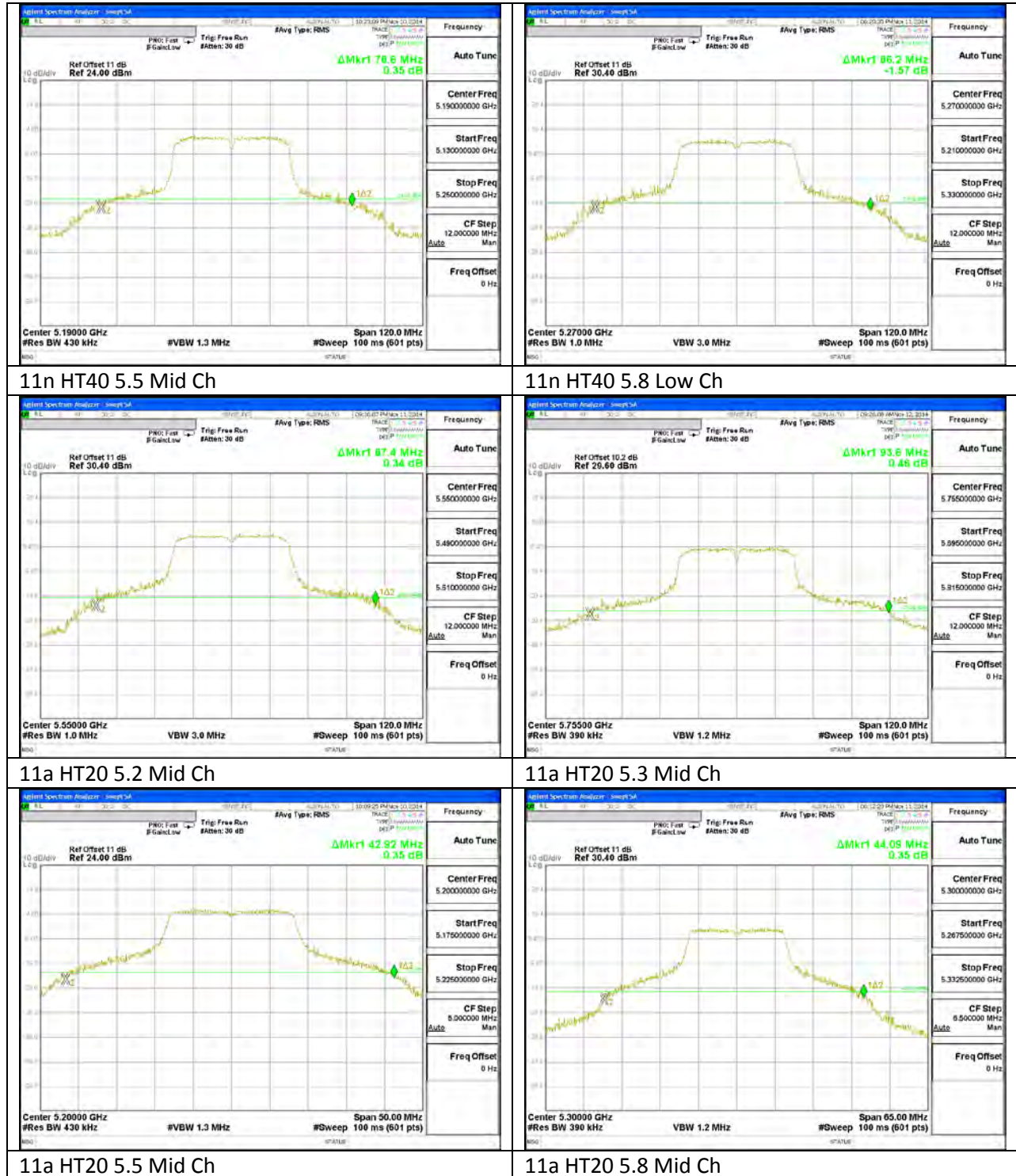
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	49.62
Mid	5785	49.29
High	5825	32.05
Worst		49.62

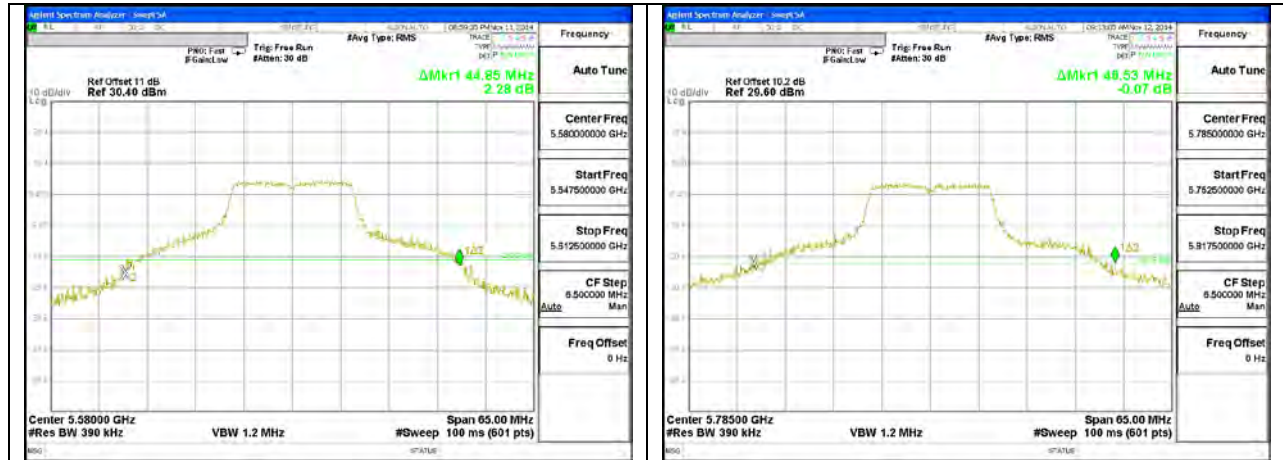
9.1.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5755	93.60
High	5795	92.00
Worst		93.60

9.1.13. 26 dB BANDWIDTH PLOTS







9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.64
Mid	5200	17.50
High	5240	18.55
Worst		18.55

802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	18.43
Mid	5200	17.99
High	5240	17.94
Worst		17.99

802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	36.139
Mid	5230	36.207
Worst		36.207

9.2.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	18.53
Mid	5300	17.50
High	5320	18.14
Worst		18.53

9.2.2. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	18.15
Mid	5300	17.96
High	5320	17.99
Worst		18.15

802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.68
High	5310	36.22
Worst		36.68

9.2.3. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.092
Mid	5580	18.020
High	5700	16.629
Worst		18.020

9.2.4. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	18.22
Mid	5580	18.44
High	5700	18.37
Worst		18.44

802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	36.46
Mid	5550	36.41
High	5670	36.37
Worst		36.46

9.2.5. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	18.92
Mid	5785	18.35
High	5825	18.49
Worst		18.92

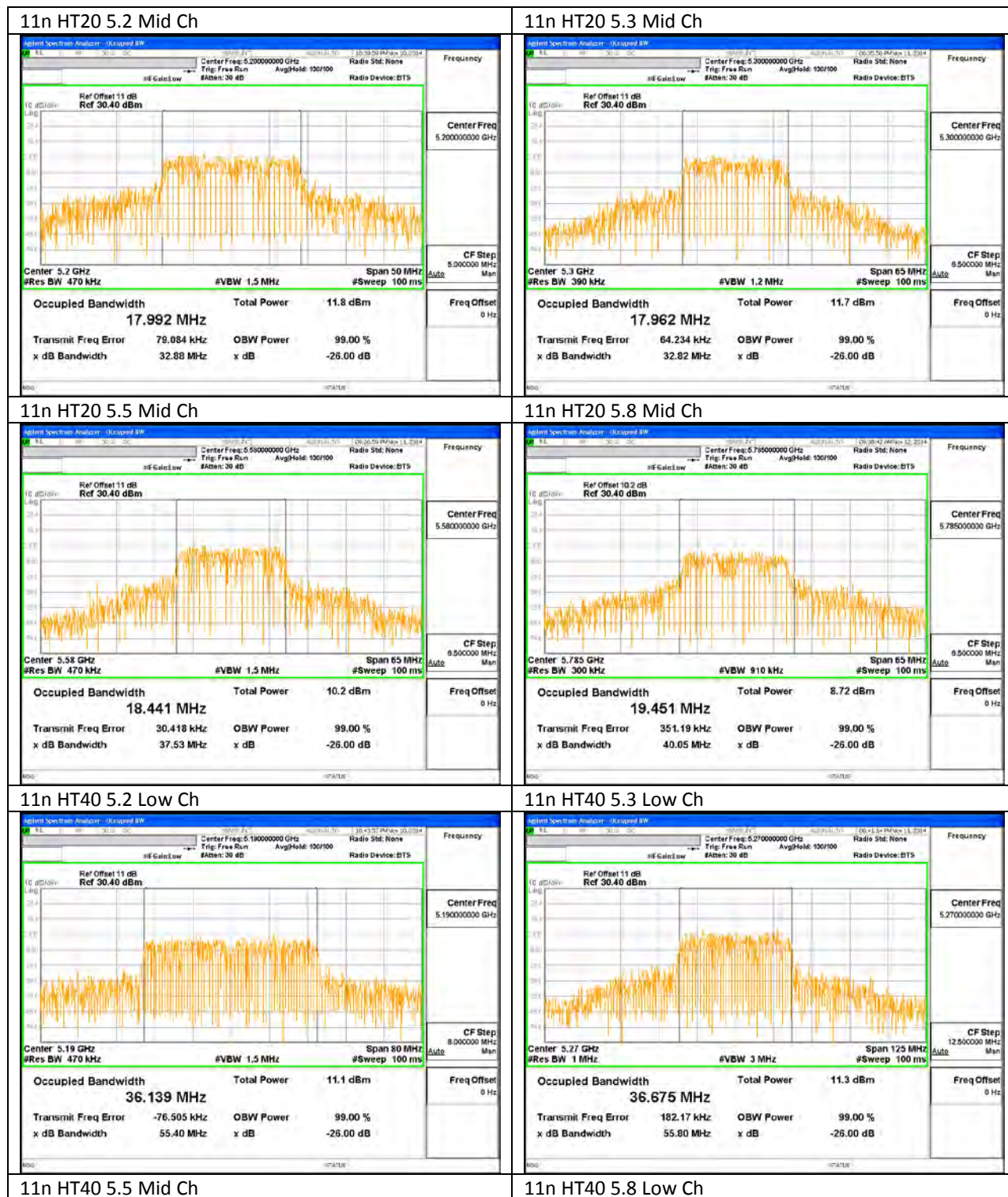
9.2.6. 802.11n HT20 MODE IN THE 5.8 GHz BAND

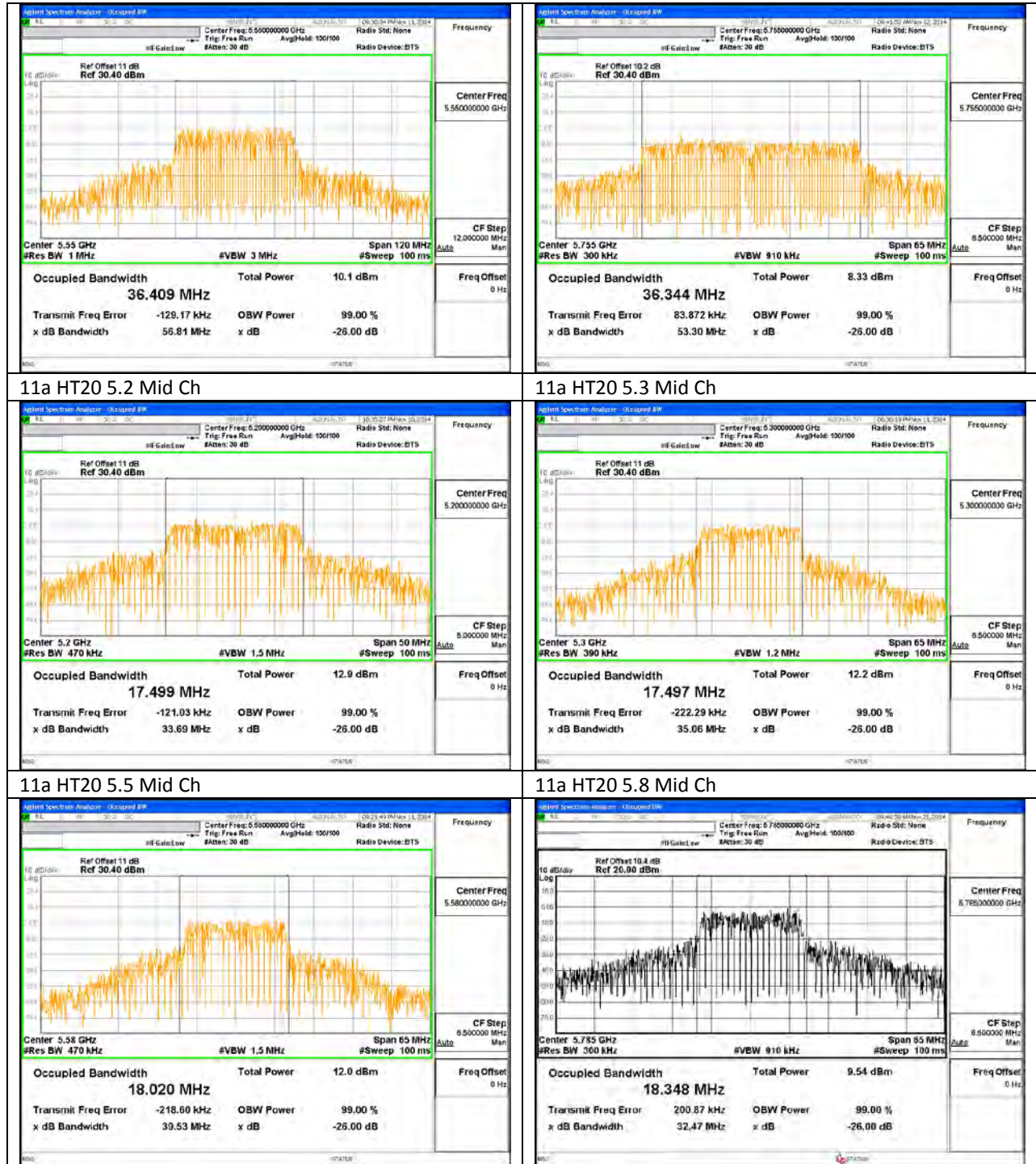
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	19.08
Mid	5785	19.45
High	5825	17.99
Worst		19.45

802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.34
High	5795	36.38
Worst		36.38

99% BANDWIDTH PLOTS





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 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

9.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	12.80
Mid	5200	13.00
High	5240	12.90
Worst		13.00

9.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	12.10
Mid	5200	12.00
High	5240	12.00
Worst		12.10

9.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5190	10.700
Mid	5230	11.200
Worst		11.200

9.3.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	13.00
Mid	5300	13.00
High	5320	12.90
Worst		13.00

9.3.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	12.20
Mid	5300	11.80
High	5320	12.00
Worst		12.20

9.3.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5270	11.0
High	5310	10.9
Worst		11.0

9.3.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	13.000
Mid	5580	13.100
High	5700	13.000
Worst		13.100

9.3.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	12.100
Mid	5580	12.000
High	5700	12.000
Worst		12.100

9.3.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5510	11.1
Mid	5550	11.2
High	5670	11.1
Worst		11.2

9.3.10. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	13.100
Mid	5785	12.700
High	5825	13.000
Worst		13.100

9.3.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	12.200
Mid	5785	11.800
High	5825	12.000
Worst		12.200

9.3.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5755	11.3
High	5795	11.0
Worst		11.3

9.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Test Methodology

RESULTS

9.4.1. 802.11a MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	44.080	17.643	-1.62
Mid	5200	42.920	17.499	-1.62
High	5240	45.250	18.548	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	17.00	22.47	24.09	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.43	24.05	17.00	4.00	10.00	4.00
High	5240	17.00	22.68	24.30	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.32	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	13.502	13.82	17.00	-3.18
Mid	5200	13.197	13.52	17.00	-3.48
High	5240	13.452	13.77	17.00	-3.23

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	2.012	2.33	4.00	-1.67
Mid	5200	1.849	2.17	4.00	-1.83
High	5240	0.407	0.73	4.00	-3.27

9.4.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	44.830	18.430	-1.62
Mid	5200	45.420	17.990	-1.62
High	5240	43.670	17.939	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	17.00	22.66	24.28	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.55	24.17	17.00	4.00	10.00	4.00
High	5240	17.00	22.54	24.16	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.34	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.644	12.98	17.00	-4.02
Mid	5200	12.484	12.82	17.00	-4.18
High	5240	12.070	12.41	17.00	-4.59

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-1.079	-0.74	4.00	-4.74
Mid	5200	-1.163	-0.82	4.00	-4.82
High	5240	-1.778	-1.44	4.00	-5.44

9.4.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5190	78.6	36.139	-1.62
Mid	5230	88.6	36.207	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5190	17.00	23.00	24.62	17.00	4.00	10.00	4.00
Mid	5230	17.00	23.00	24.62	17.00	4.00	10.00	4.00
Duty Cycle CF (dB)		0.66	Included in Calculations of Corr'd Power & PPSP					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	11.405	12.07	17.00	-4.94
Mid	5230	11.640	12.30	17.00	-4.70

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-2.976	-2.32	4.00	-6.32
Mid	5230	-2.802	-2.14	4.00	-6.14

9.4.4. 802.11a MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	44.85	18.528	-1.62
Mid	5300	44.09	17.497	-1.62
High	5320	43.55	18.138	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.68	29.68	23.68	11.00	11.00	11.00
Mid	5300	24.00	23.43	29.43	23.43	11.00	11.00	11.00
High	5320	24.00	23.59	29.59	23.59	11.00	11.00	11.00

Duty Cycle CF (dB)	0.32	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	13.018	13.34	23.68	-10.34
Mid	5300	12.734	13.05	23.43	-10.38
High	5320	13.376	13.70	23.59	-9.89

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	1.580	1.90	11.00	-9.10
Mid	5300	0.722	1.04	11.00	-9.96
High	5320	2.011	2.33	11.00	-8.67

9.4.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	46.15	18.152	-1.62
Mid	5300	44.74	17.962	-1.62
High	5320	45.39	17.993	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.59	29.59	23.59	11.00	11.00	11.00
Mid	5300	24.00	23.54	29.54	23.54	11.00	11.00	11.00
High	5320	24.00	23.55	29.55	23.55	11.00	11.00	11.00

Duty Cycle CF (dB)	0.34	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.304	12.64	23.59	-10.95
Mid	5300	12.256	12.60	23.54	-10.95
High	5320	12.244	12.58	23.55	-10.97

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	1.061	1.40	11.00	-9.60
Mid	5300	0.276	0.62	11.00	-10.38
High	5320	0.634	0.97	11.00	-10.03

9.4.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5270	86.2	36.7	-1.62
High	5310	85.6	36.2	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.66	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	11.41	12.07	24.00	-11.93
High	5310	11.22	11.88	24.00	-12.12

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-3.08	-2.42	11.00	-13.42
High	5310	-3.75	-3.09	11.00	-14.09

9.4.7. 802.11a MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	39.98	17.092	-1.62
Mid	5580	44.85	18.020	-1.62
High	5700	40.82	16.629	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.33	29.33	23.33	11.00	11.00	11.00
Mid	5580	24.00	23.56	29.56	23.56	11.00	11.00	11.00
High	5700	24.00	23.21	29.21	23.21	11.00	11.00	11.00

Duty Cycle CF (dB)	0.32	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	12.738	13.06	23.33	-10.27
Mid	5580	13.454	13.77	23.56	-9.78
High	5700	14.382	14.70	23.21	-8.51

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.992	1.31	11.00	-9.69
Mid	5580	1.828	2.15	11.00	-8.85
High	5700	0.918	1.24	11.00	-9.76

9.4.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	43.55	18.216	-1.62
Mid	5580	45.50	18.441	-1.62
High	5700	39.72	18.373	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.60	29.60	23.60	11.00	11.00	11.00
Mid	5580	24.00	23.66	29.66	23.66	11.00	11.00	11.00
High	5700	24.00	23.64	29.64	23.64	11.00	11.00	11.00

Duty Cycle CF (dB)	0.34	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	12.114	12.45	23.60	-11.15
Mid	5580	12.712	13.05	23.66	-10.61
High	5700	13.832	14.17	23.64	-9.47

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.285	0.63	11.00	-10.38
Mid	5580	1.233	1.57	11.00	-9.43
High	5700	0.159	0.50	11.00	-10.50

9.4.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5510	82.6	36.455	-1.62
Mid	5550	87.4	36.409	-1.62
High	5670	68.8	36.374	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.66	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	11.318	11.98	24.00	-12.02
Mid	5550	12.092	12.75	24.00	-11.25
High	5670	12.383	13.04	24.00	-10.96

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-3.366	-2.71	11.00	-13.71
Mid	5550	-2.321	-1.66	11.00	-12.66
High	5670	-1.991	-1.33	11.00	-12.33

9.4.10. 802.11a MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5745	48.5	18.9	-1.62
Mid	5785	48.5	18.3	-1.62
High	5825	45.5	18.4	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5745	30.00	29.76	35.76	29.76	17.00	17.00	17.00
Mid	5785	30.00	29.62	35.62	29.62	17.00	17.00	17.00
High	5825	30.00	29.65	35.65	29.65	17.00	17.00	17.00

Duty Cycle CF (dB)	0.32	Included in Calculations of Corr'd Power & PSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	13.12	13.44	29.76	-16.32
Mid	5785	12.85	13.17	29.62	-16.46
High	5825	13.18	13.50	29.65	-16.15

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	1.13	1.45	17.00	-15.55
Mid	5785	1.79	2.11	17.00	-14.89
High	5825	1.57	1.89	17.00	-15.11

9.4.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5745	49.6	19.1	-1.62
Mid	5785	49.3	19.5	-1.62
High	5825	32.0	18.0	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5745	30.00	29.81	35.81	29.81	17.00	17.00	17.00
Mid	5785	30.00	29.89	35.89	29.89	17.00	17.00	17.00
High	5825	30.00	29.55	35.55	29.55	17.00	17.00	17.00

Duty Cycle CF (dB)	0.34	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	12.03	12.37	29.81	-17.43
Mid	5785	11.90	12.24	29.89	-17.65
High	5825	10.22	10.56	29.55	-18.99

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-0.48	-0.14	17.00	-17.14
Mid	5785	-0.27	0.07	17.00	-16.93
High	5825	-1.42	-1.08	17.00	-18.08

9.4.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5755	93.6	36.3	-1.62
High	5795	92.0	36.4	-1.62

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5755	30.00	30.00	36.00	30.00	17.00	17.00	17.00
High	5795	30.00	30.00	36.00	30.00	17.00	17.00	17.00

Duty Cycle CF (dB)	0.66	Included in Calculations of Corr'd Power & PSD
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Output Power Results

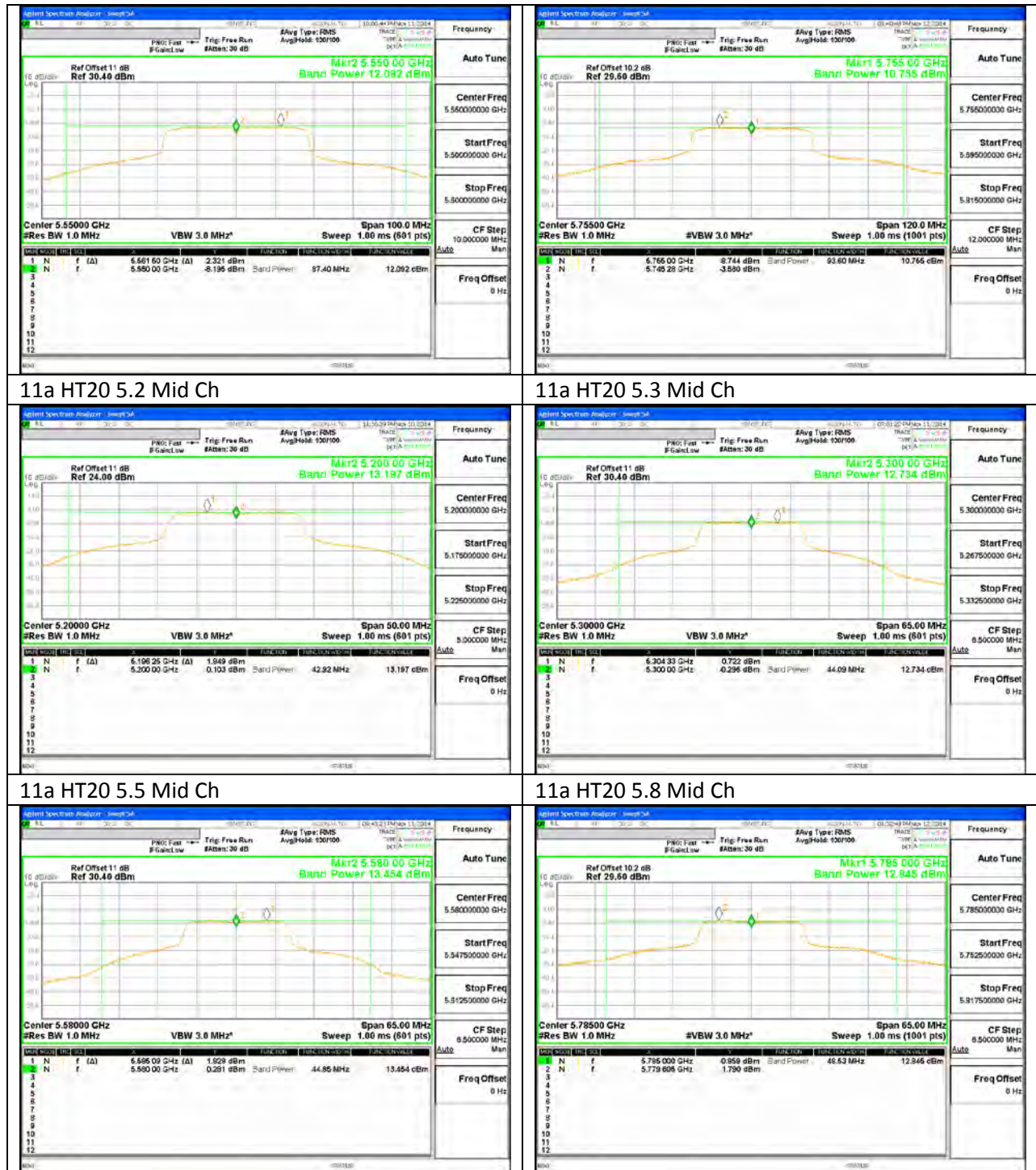
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	10.76	11.42	30.00	-18.59
High	5795	11.80	12.46	30.00	-17.54

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5755	-3.58	-2.92	17.00	-19.92
High	5795	-2.38	-1.72	17.00	-18.72

9.4.13. OUTPUT POWER AND PPSD PLOTS, Chain 0





9.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

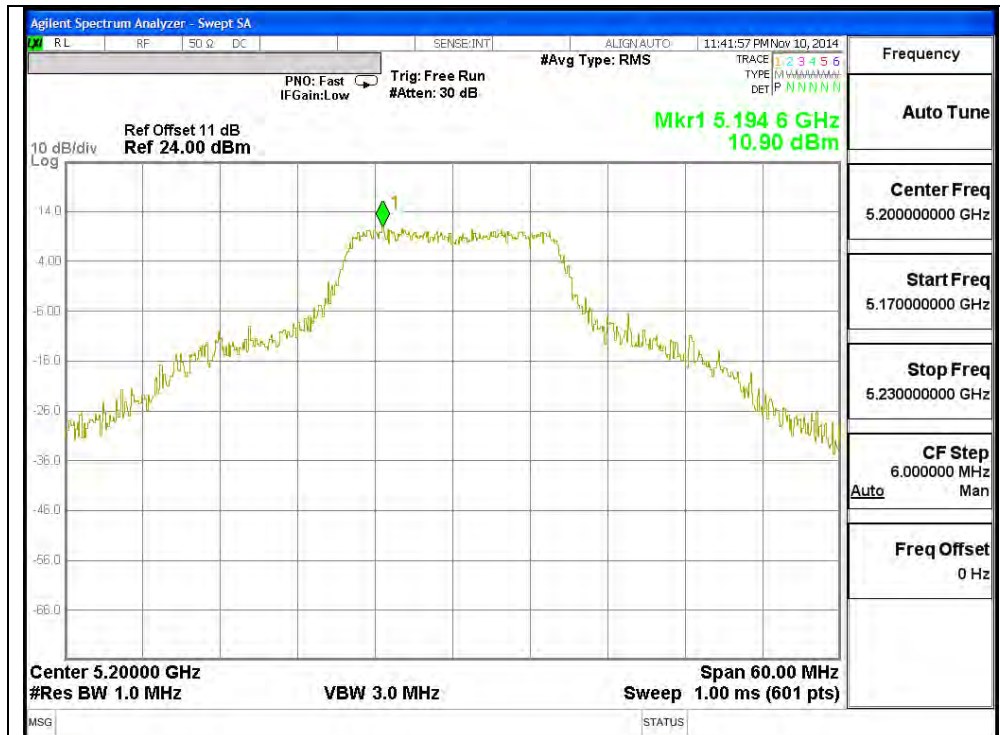
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

9.5.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	10.900	1.85	0.32	8.73	13	-4.27

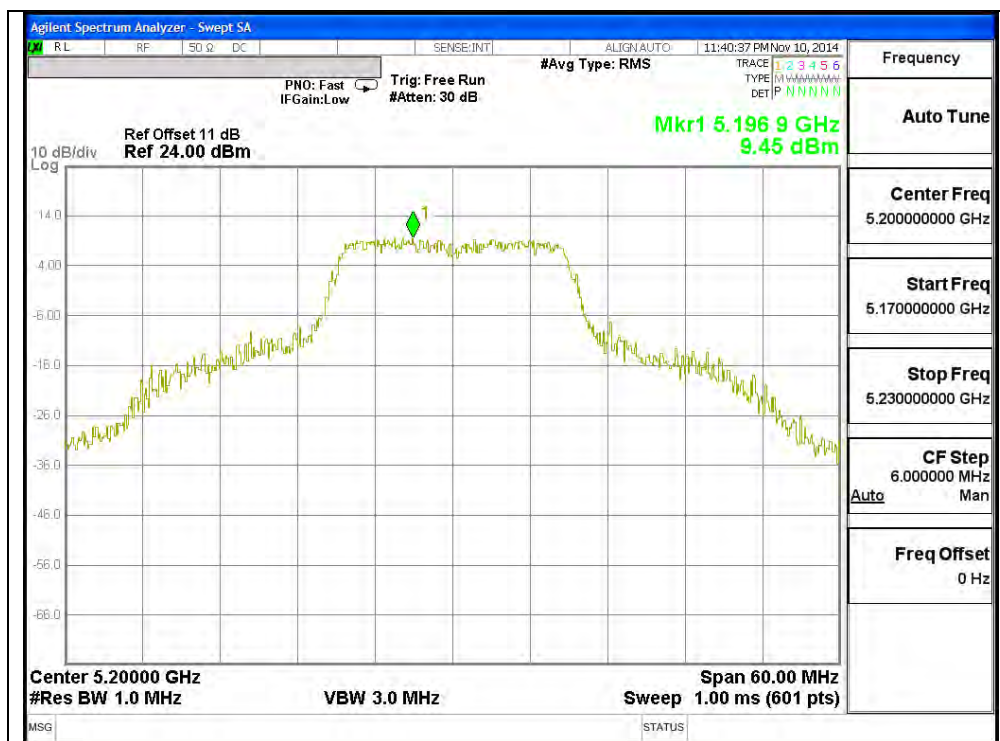
PEAK EXCURSION



9.5.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	9.450	-1.16	0.34	10.27	13	-2.73

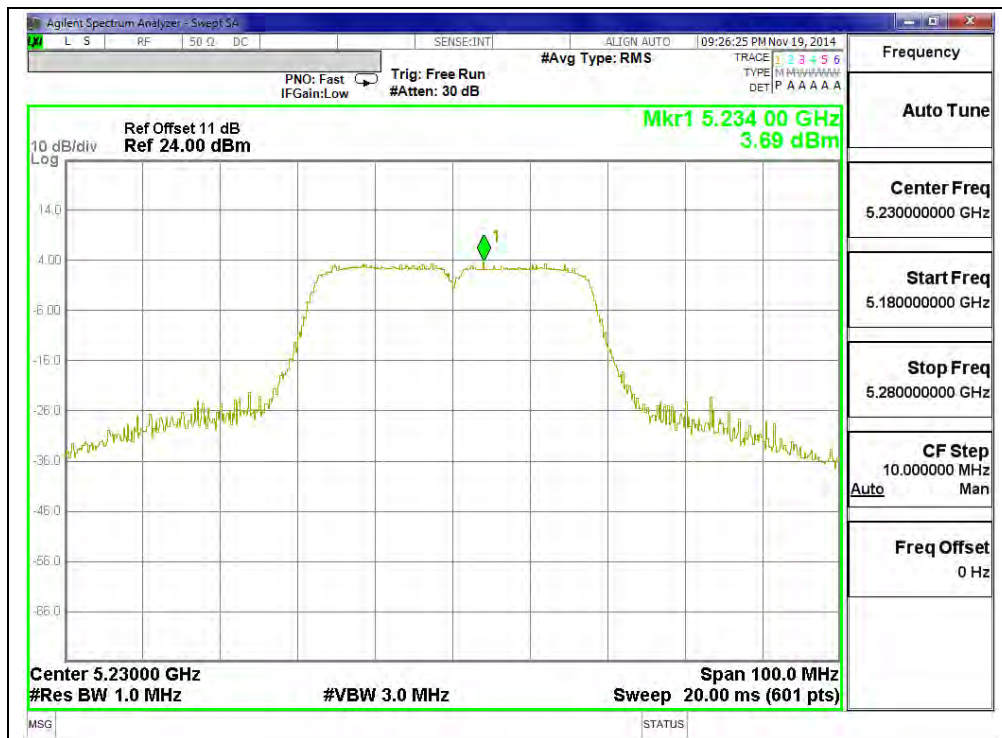
PEAK EXCURSION



9.5.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5230	3.690	-2.80	0.66	5.83	13	-7.17

PEAK EXCURSION



10. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit ($\mu\text{V}/\text{m}$) at 3 m	Field Strength Limit (dB $\mu\text{V}/\text{m}$) 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.

Reference to KDB 789033 UNII part H) 6) d) Method VB:

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 to the reading offset for average measurements.

The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

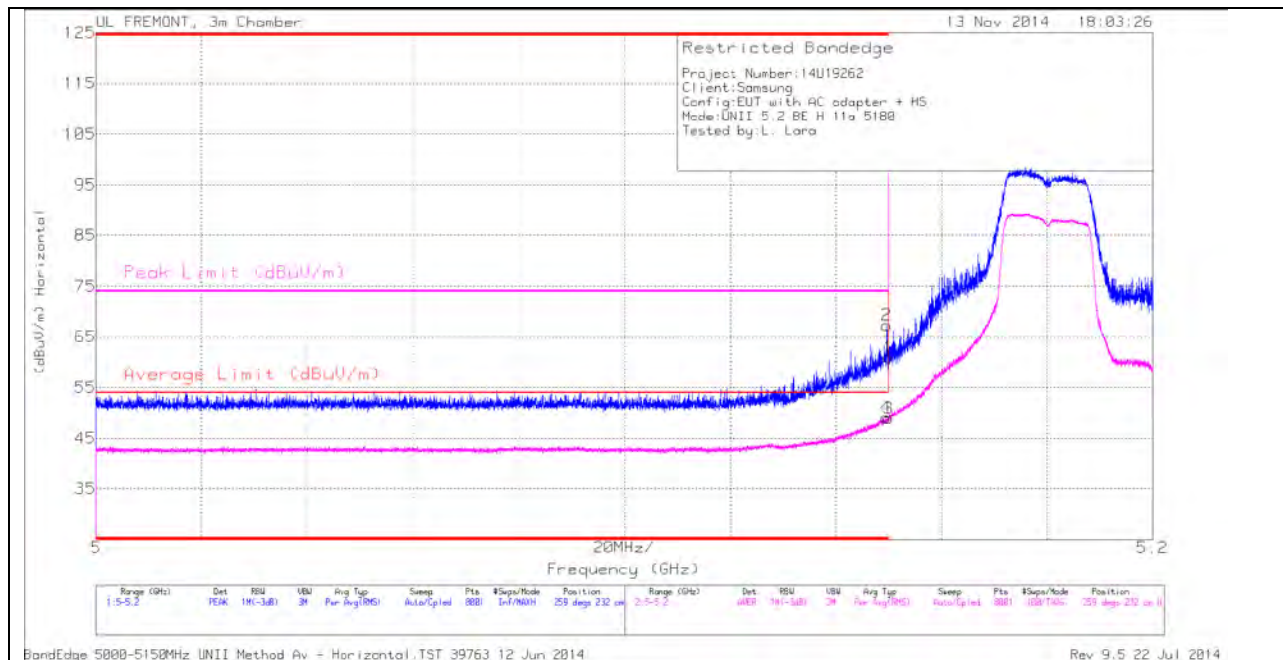
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

10.1. 5.2 GHz

10.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

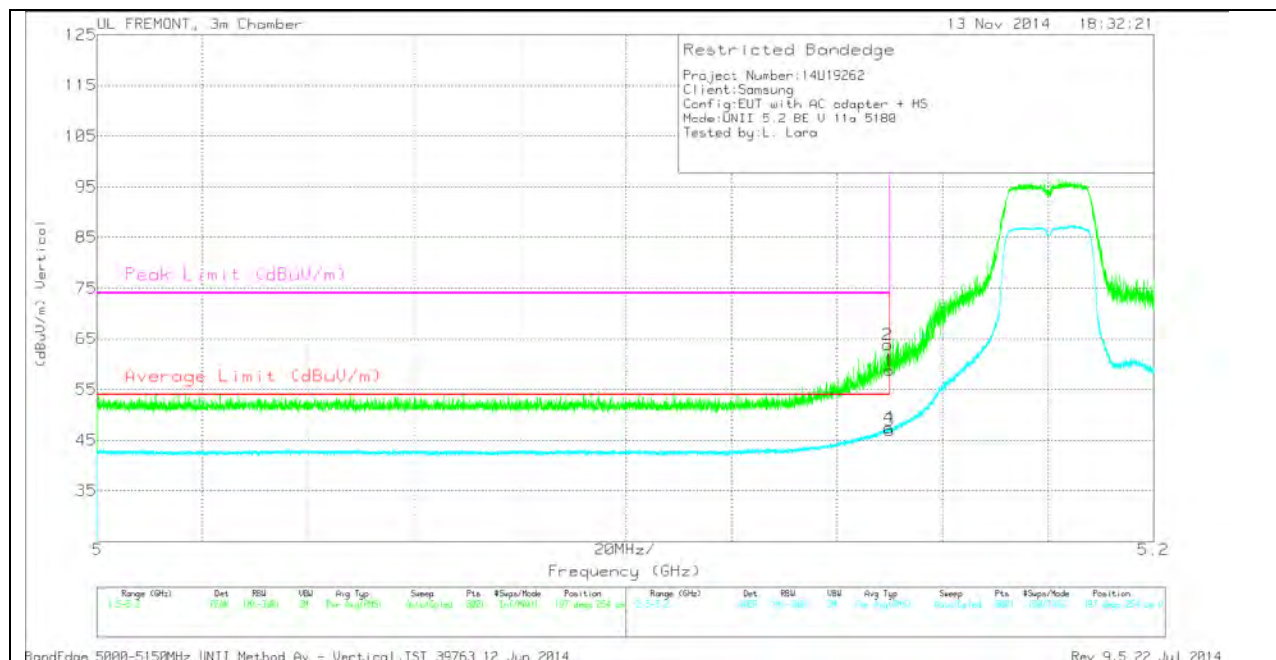
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt 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	* 5.15	48.32	PK	34.2	-21.6	0	60.92	-	-	74	-13.08	259	232	H
2	* 5.15	54.68	PK	34.2	-21.6	0	67.28	-	-	74	-6.72	259	232	H
3	* 5.15	36.06	RMS	34.2	-21.6	.32	48.98	54	-5.02	-	-	259	232	H
4	* 5.15	36.14	RMS	34.2	-21.6	.32	49.06	54	-4.94	-	-	259	232	H

VERTICAL PEAK AND AVERAGE PLOT

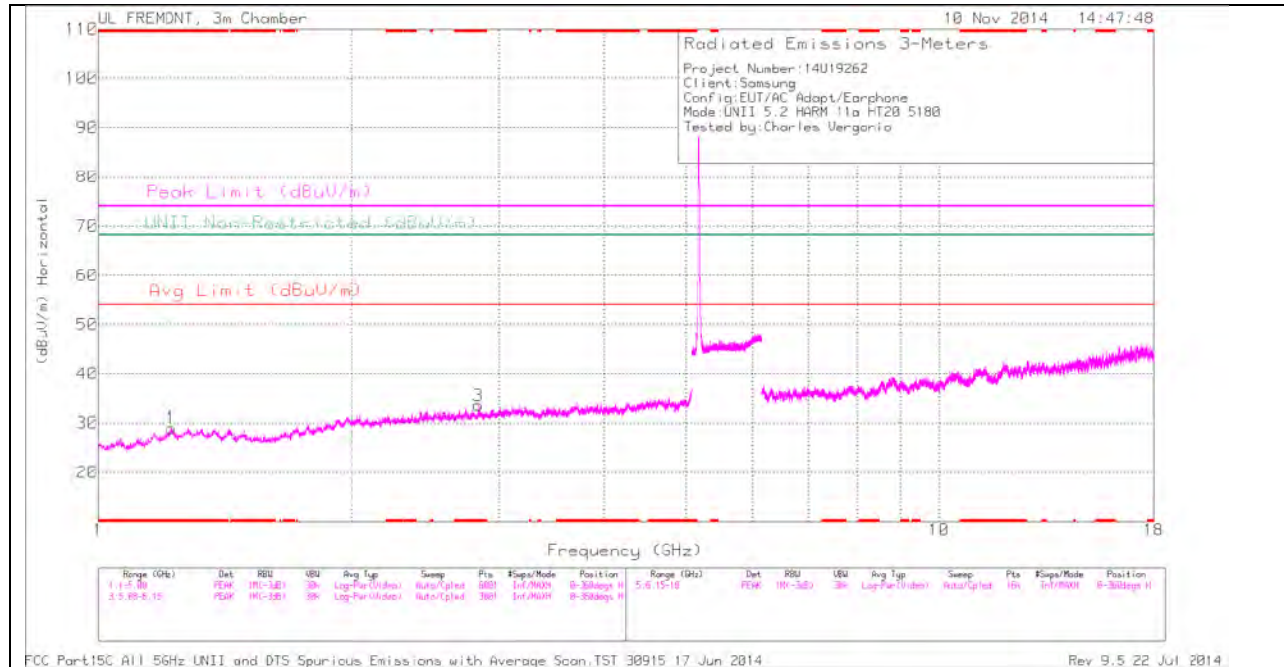


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Plt 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	5.15	46.19	PK	34.2	-21.6	0	58.79	-	-	74	-15.21	197	254	V
2	5.15	51.27	PK	34.2	-21.6	0	63.87	-	-	74	-10.13	197	254	V
3	5.15	34.03	RMS	34.2	-21.6	.32	46.95	54	-7.05	-	-	197	254	V
4	5.15	34.51	RMS	34.2	-21.6	.32	47.43	54	-6.57	-	-	197	254	V

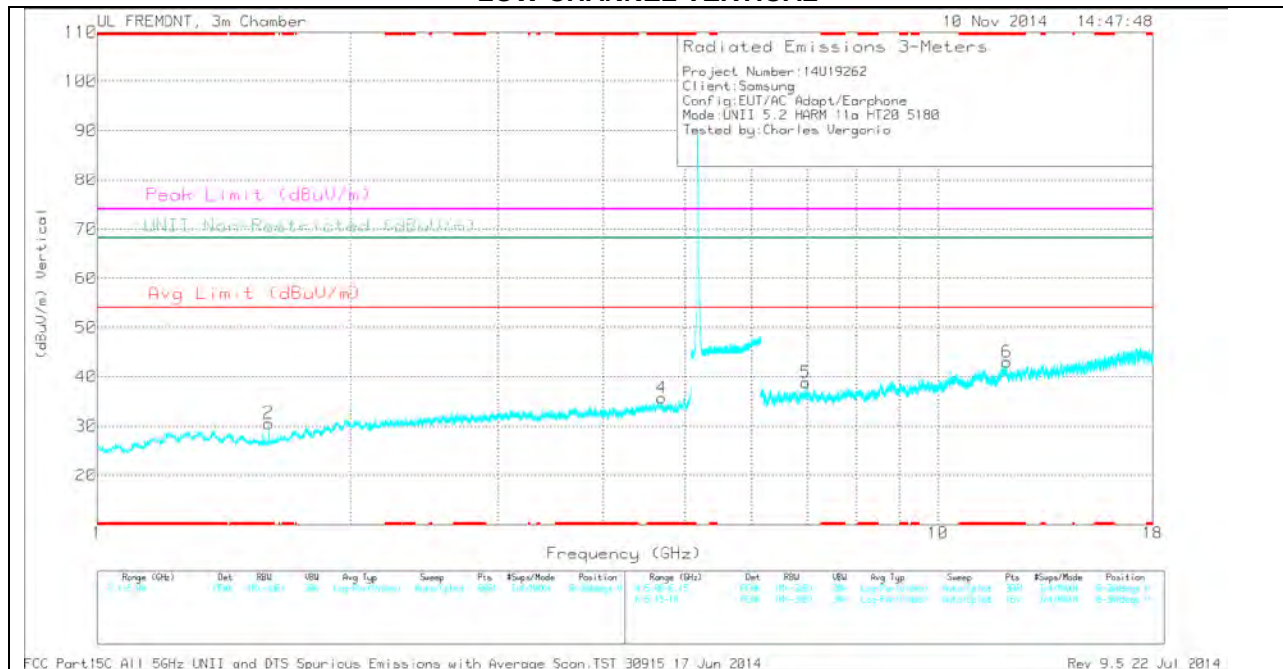
HARMONICS AND SPURIOUS EMISSIONS

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.

LOW CHANNEL VERTICAL



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

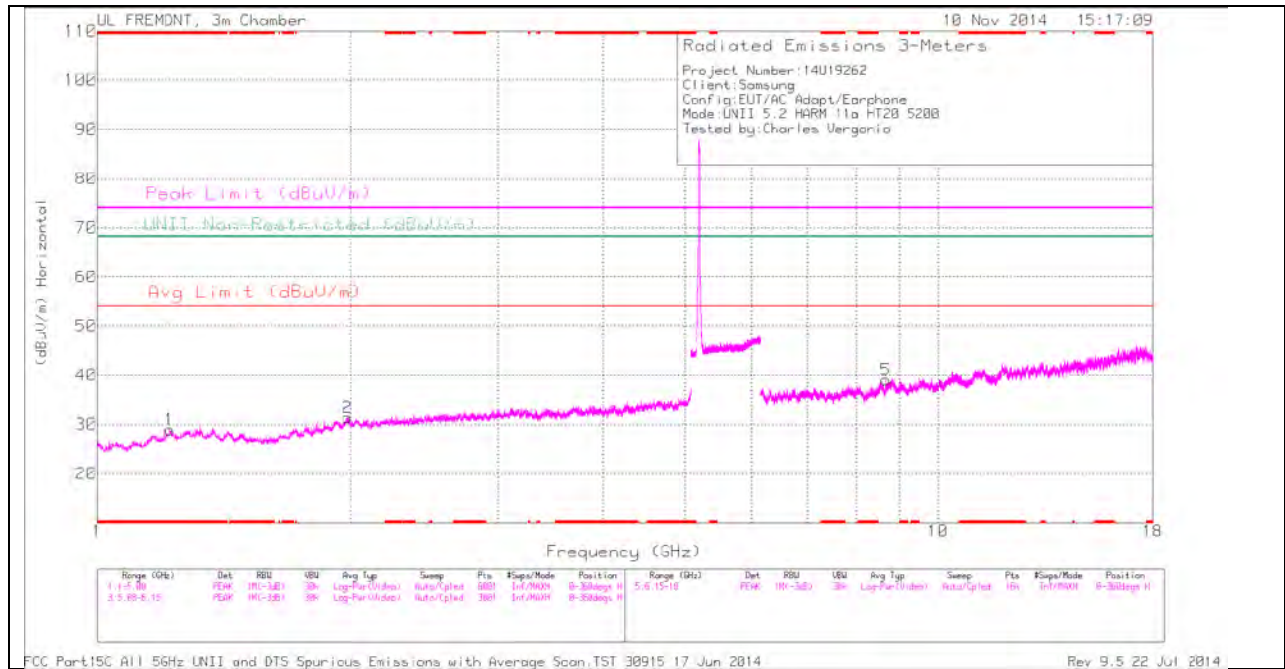
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/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	* 1.222	32.71	PK	29.5	-33.2	29.01	-	-	74	-44.99	-	-	0-360	200	H
3	* 2.829	33.14	PK	32.7	-32.3	33.54	-	-	74	-40.46	-	-	0-360	200	H
2	* 1.598	35.86	PK	28.1	-33.4	30.56	-	-	74	-43.44	-	-	0-360	200	V
4	* 4.69	32.04	PK	34.1	-30.4	35.74	-	-	74	-38.26	-	-	0-360	100	V
6	* 12.071	30.33	PK	39.1	-26.4	43.03	-	-	74	-30.97	-	-	0-360	100	V
5	6.961	31.66	PK	35.6	-28.4	38.86	-	-	-	-	68.2	-29.34	0-360	100	V

PK - Peak detector

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.

UL FREMONT, 3m Chamber

10 Nov 2014 15:10:09

Radiated Emissions 3-Meters

Project Number: 14U19262
 Client: Samsung
 Config: EUT/AC Adapt/Earphone
 Made: UNII 5.2 HARM 11a HT20 5208
 Tested by: Charles Vergoria

Peak Limit (dBuV/m)
 UNII Non-Restricted (dBuV/m)
 Avg Limit (dBuV/m)

(dBuV/m) Vertical

Frequency (GHz)

Range (GHz)	Det	RBW	UWB	Avg Type	Sweep	PLS	#Sweeps/Mode	Position
0-18	FEM	100-100	30	Long-Peak(Avg)	Auto/Stop	500	100/10000	B-300cm

Range (GHz)	Det	RBW	UWB	Avg Type	Sweep	PLS	#Sweeps/Mode	Position
0-18	FEM	100-100	30	Long-Peak(Avg)	Auto/Stop	500	100/10000	B-300cm

FCC Part 15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 17 Jun 2014

Rev 9.5 22 Jul 2014

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MID CHANNEL DATA

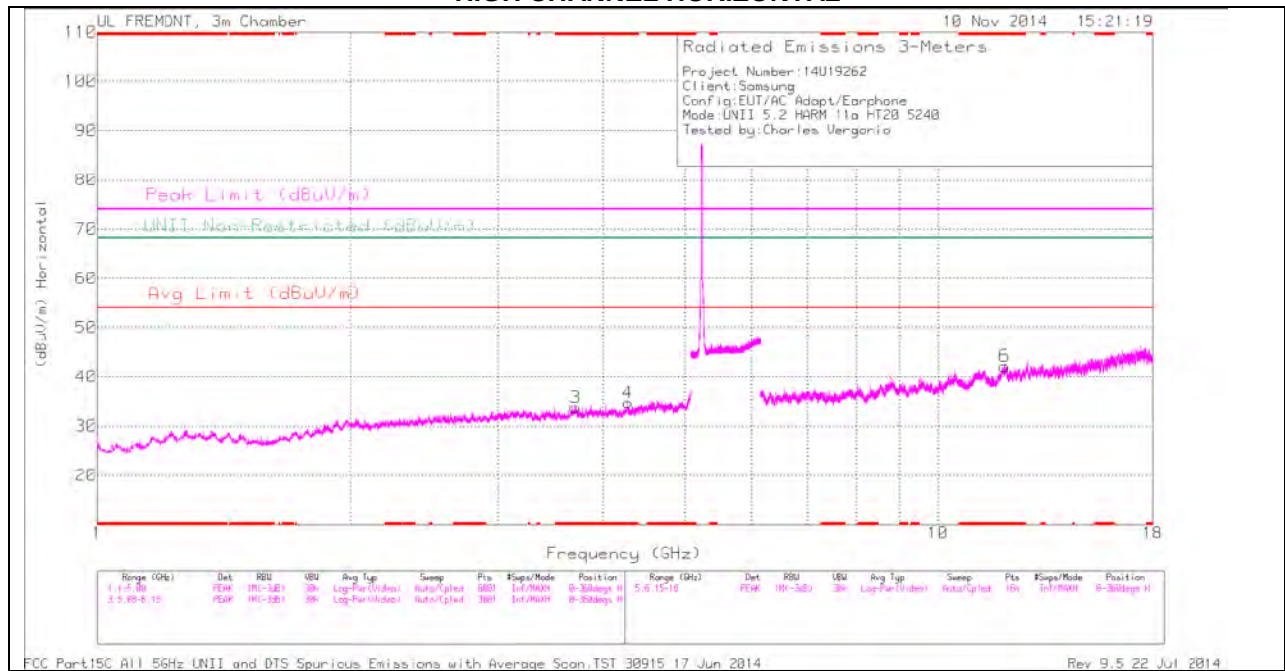
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Chl/Ftr /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	* 1.22	32.78	PK	29.4	-33.2	28.98	-	-	74	-45.02	-	-	0-360	200	H
4	* 4.772	31.58	PK	34.1	-30.2	35.48	-	-	74	-38.52	-	-	0-360	100	V
2	1.983	31.87	PK	31.5	-32	31.37	-	-	-	-	68.2	-36.83	0-360	100	H
3	3.162	32.39	PK	33	-31.5	33.89	-	-	-	-	68.2	-34.31	0-360	100	V
5	8.679	31.25	PK	35.9	-28.1	39.05	-	-	-	-	68.2	-29.15	0-360	100	H
6	10.399	30.62	PK	37.3	-25.8	42.12	-	-	-	-	68.2	-26.08	0-360	200	V

PK - Peak detector

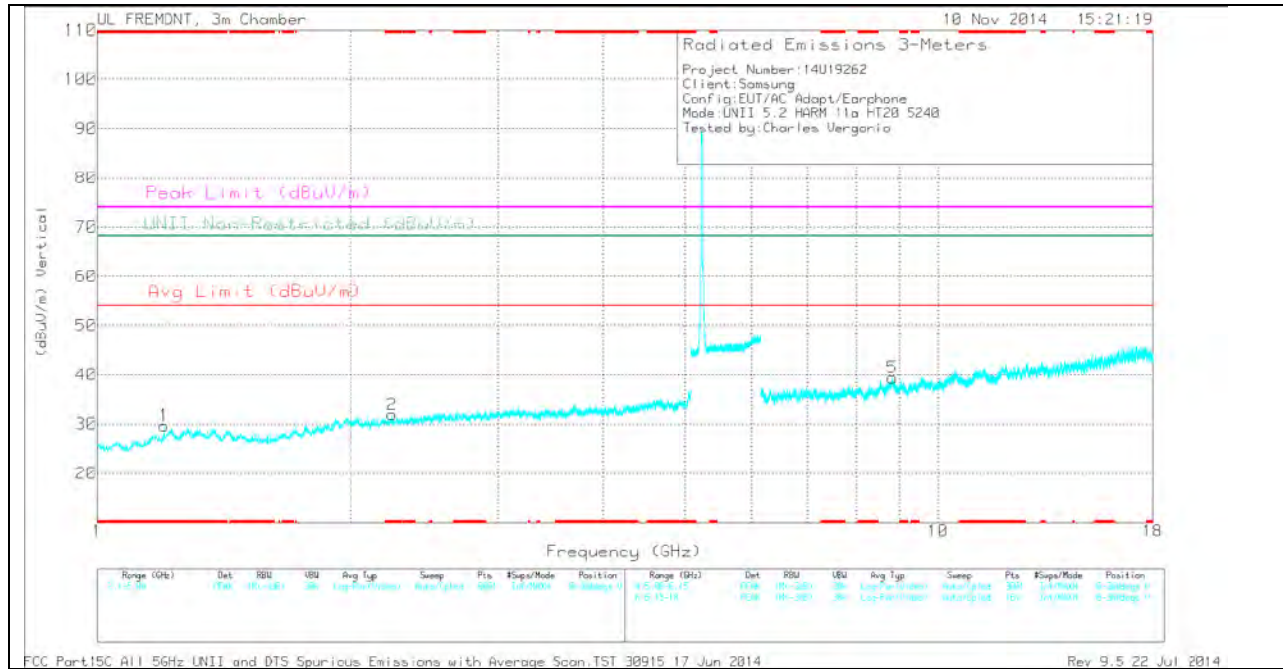
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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.

HIGH CHANNEL VERTICAL



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

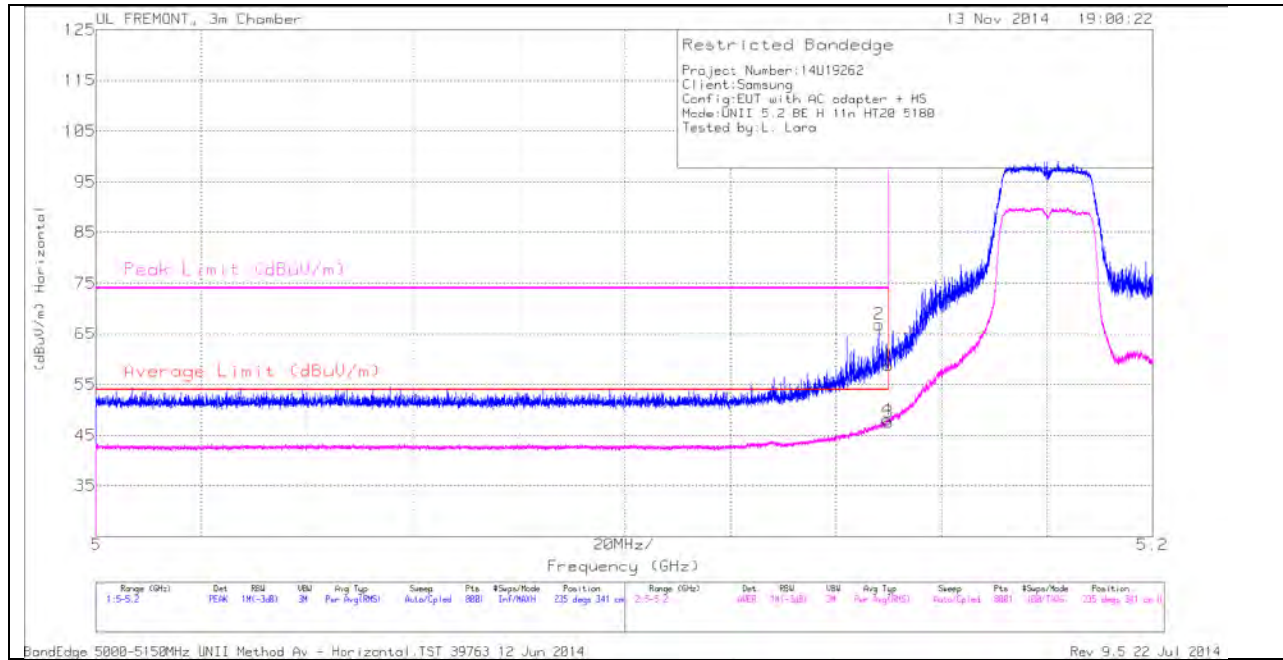
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.704	31.39	PK	33.2	-30.8	33.79	-	-	74	-40.21	-	-	0-360	100	H
4	* 4.279	31.52	PK	33.6	-30.4	34.72	-	-	74	-39.28	-	-	0-360	100	H
1	* 1.2	33.64	PK	29.2	-33.2	29.64	-	-	74	-44.36	-	-	0-360	100	V
2	* 2.242	32.6	PK	31.7	-32.4	31.9	-	-	74	-42.1	-	-	0-360	200	V
6	* 11.998	29.28	PK	39.1	-26.2	42.18	-	-	74	-31.82	-	-	0-360	100	H
5	8.821	29.1	PK	36	-25.7	39.4	-	-	-	-	68.2	-28.8	0-360	200	V

PK - Peak detector

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

10.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

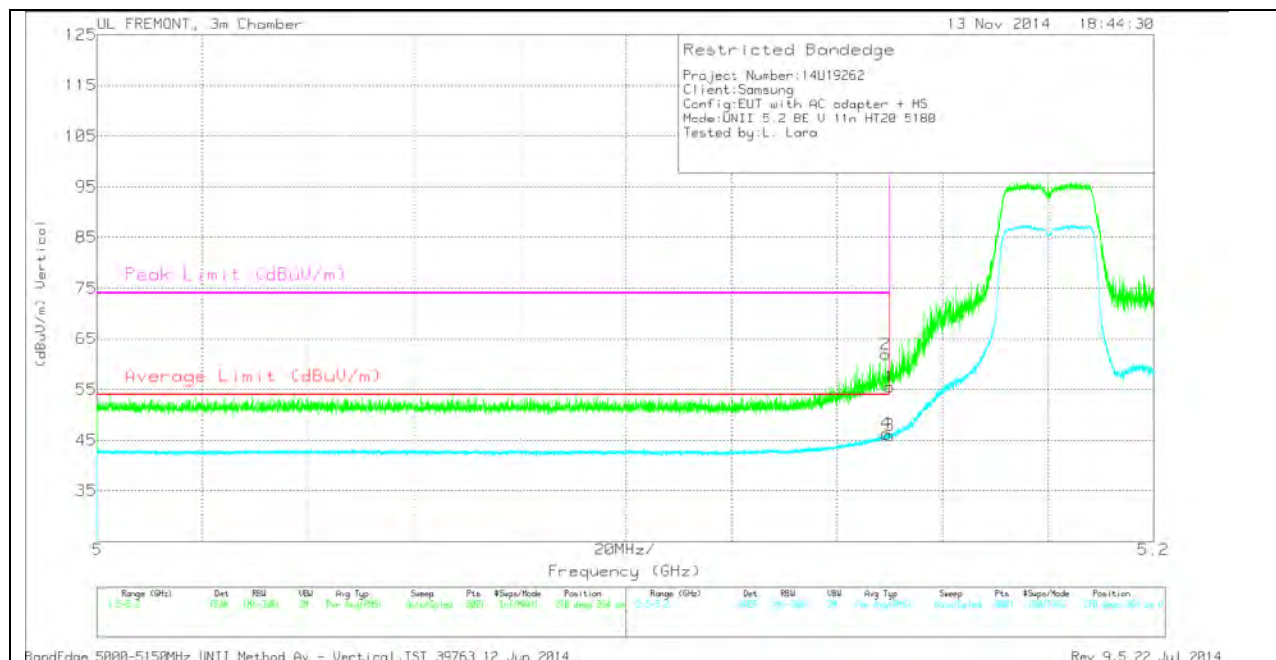
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.148	54.27	PK	34.2	-21.6	0	66.87	-	-	74	-7.13	235	341	H
1	5.15	46.14	PK	34.2	-21.6	0	58.74	-	-	74	-15.26	235	341	H
3	5.15	34.57	RMS	34.2	-21.6	.34	47.51	54	-6.49	-	-	235	341	H
4	5.15	35.15	RMS	34.2	-21.6	.34	48.09	54	-5.91	-	-	235	341	H

VERTICAL PEAK AND AVERAGE PLOT

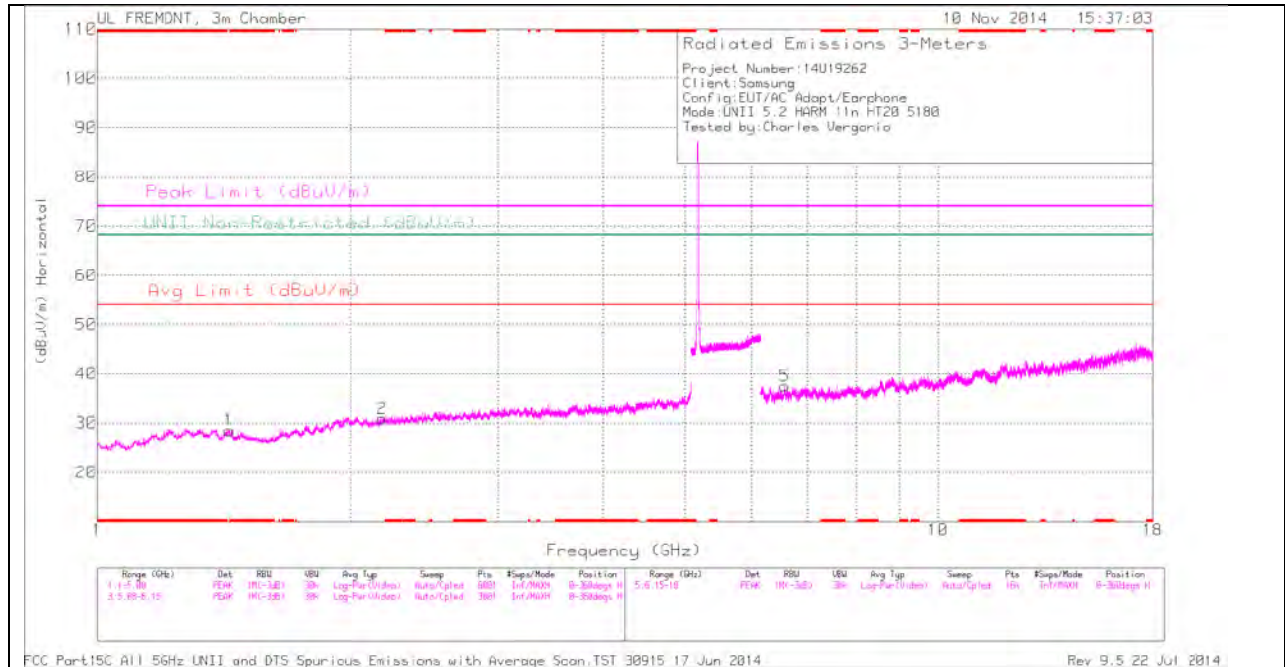


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Plt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.149	49.36	PK	34.2	-21.6	0	61.96	-	-	74	-12.04	270	364	V
4	5.149	33.32	RMS	34.2	-21.6	.34	46.26	54	-7.74	-	-	270	364	V
1	5.15	42.95	PK	34.2	-21.6	0	55.55	-	-	74	-18.45	270	364	V
3	5.15	32.96	RMS	34.2	-21.6	.34	45.9	54	-8.1	-	-	270	364	V

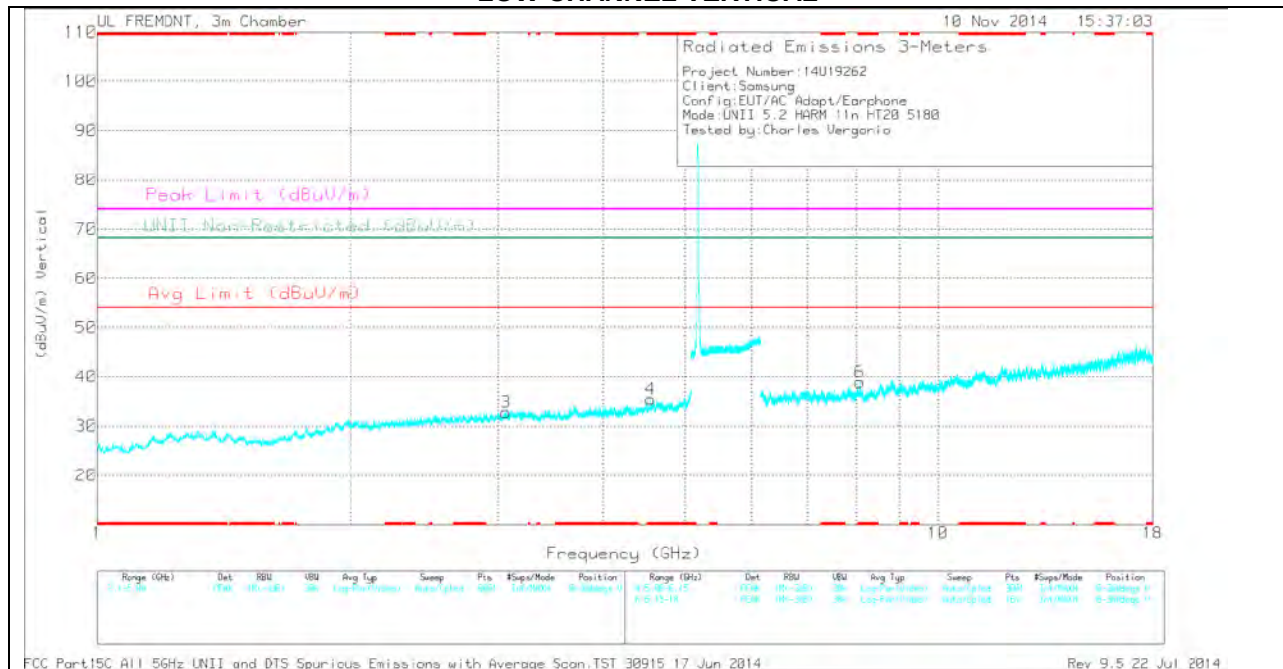
HARMONICS AND SPURIOUS EMISSIONS

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.

LOW CHANNEL VERTICAL



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

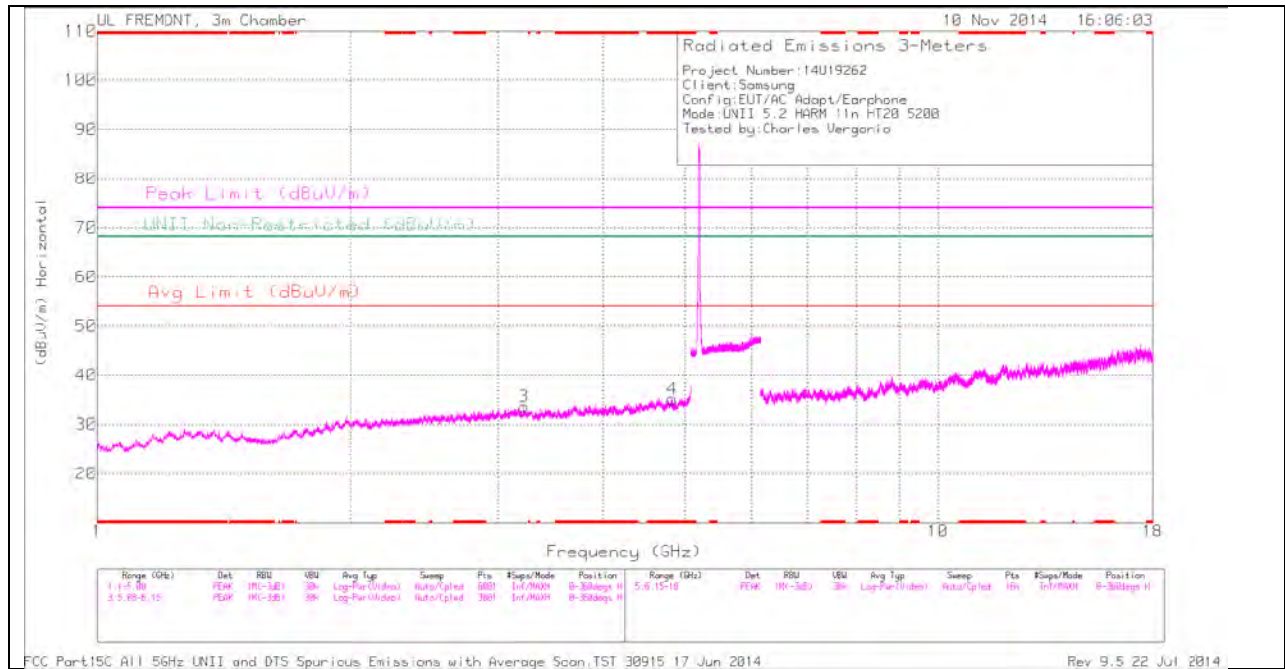
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/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
4	* 4.547	32.97	PK	34	-31.5	35.47	-	-	74	-38.53	-	-	0-360	200	V
6	* 8.07	30.39	PK	35.7	-27.2	38.89	-	-	74	-35.11	-	-	0-360	100	V
1	1.435	32.22	PK	28.9	-32.6	28.52	-	-	-	-	68.2	-39.68	0-360	200	H
2	2.182	31.9	PK	31.7	-32.7	30.9	-	-	-	-	68.2	-37.3	0-360	100	H
3	3.06	31.85	PK	33	-32.1	32.75	-	-	-	-	68.2	-35.45	0-360	100	V
5	6.573	31.24	PK	35.6	-29.3	37.54	-	-	-	-	68.2	-30.66	0-360	200	H

PK - Peak detector

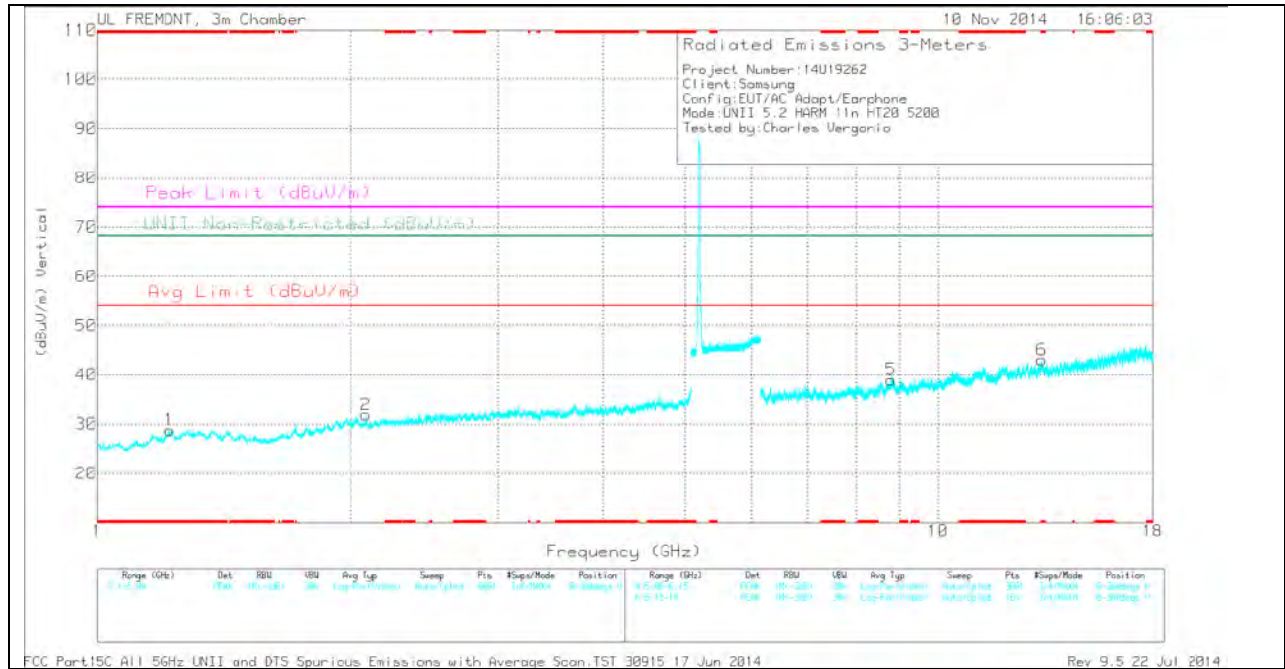
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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.

MID CHANNEL VERTICAL



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

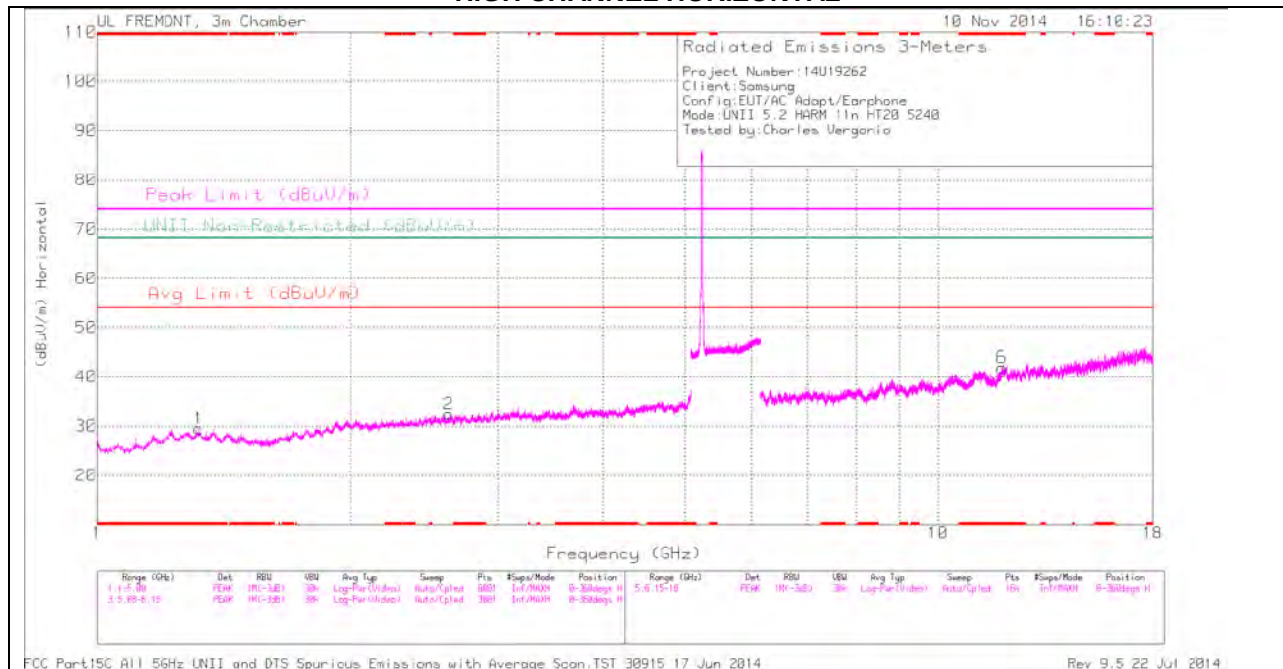
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /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
4	* 4.832	31.42	PK	34	-30.2	35.22	-	-	74	-38.78	-	-	0-360	200	H
1	* 1.22	32.57	PK	29.4	-33.2	28.77	-	-	74	-45.23	-	-	0-360	200	V
6	* 13.284	30.1	PK	39.2	-26.3	43	-	-	74	-31	-	-	0-360	200	V
2	2.087	33.27	PK	31.5	-32.9	31.87	-	-	-	-	68.2	-36.33	0-360	200	V
3	3.22	32.03	PK	32.9	-31.3	33.63	-	-	-	-	68.2	-34.57	0-360	100	H
5	8.796	28.9	PK	35.9	-25.8	39	-	-	-	-	68.2	-29.2	0-360	100	V

PK - Peak detector

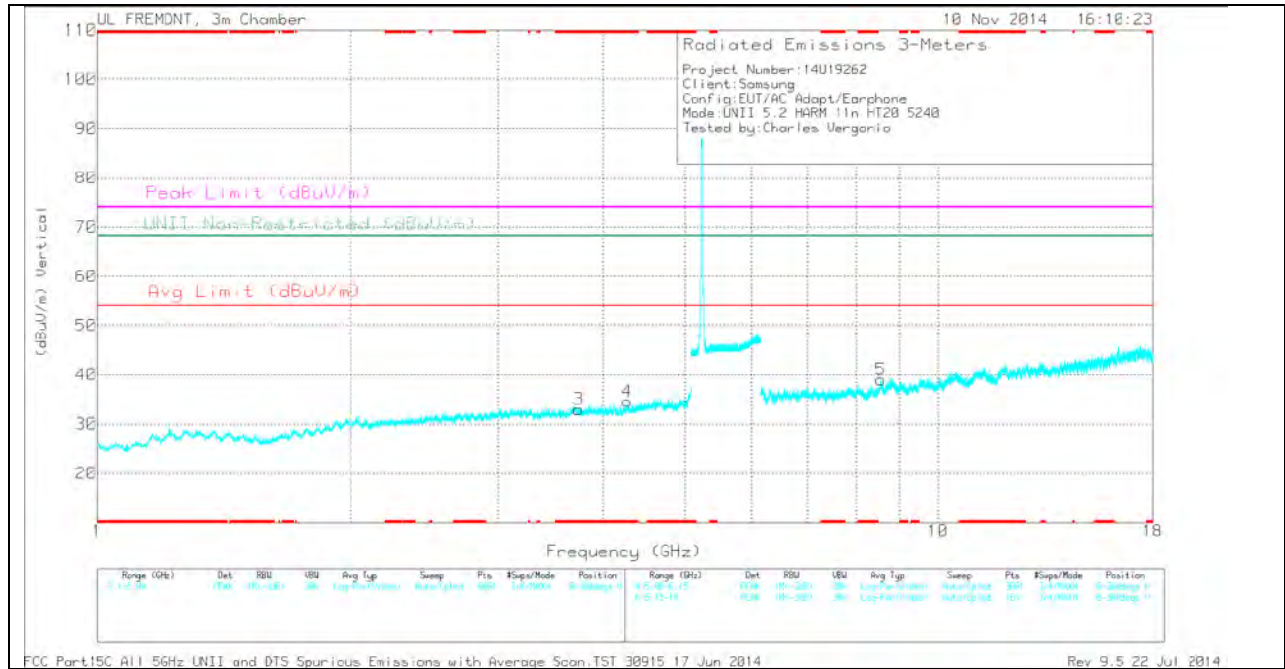
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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.

HIGH CHANNEL VERTICAL



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

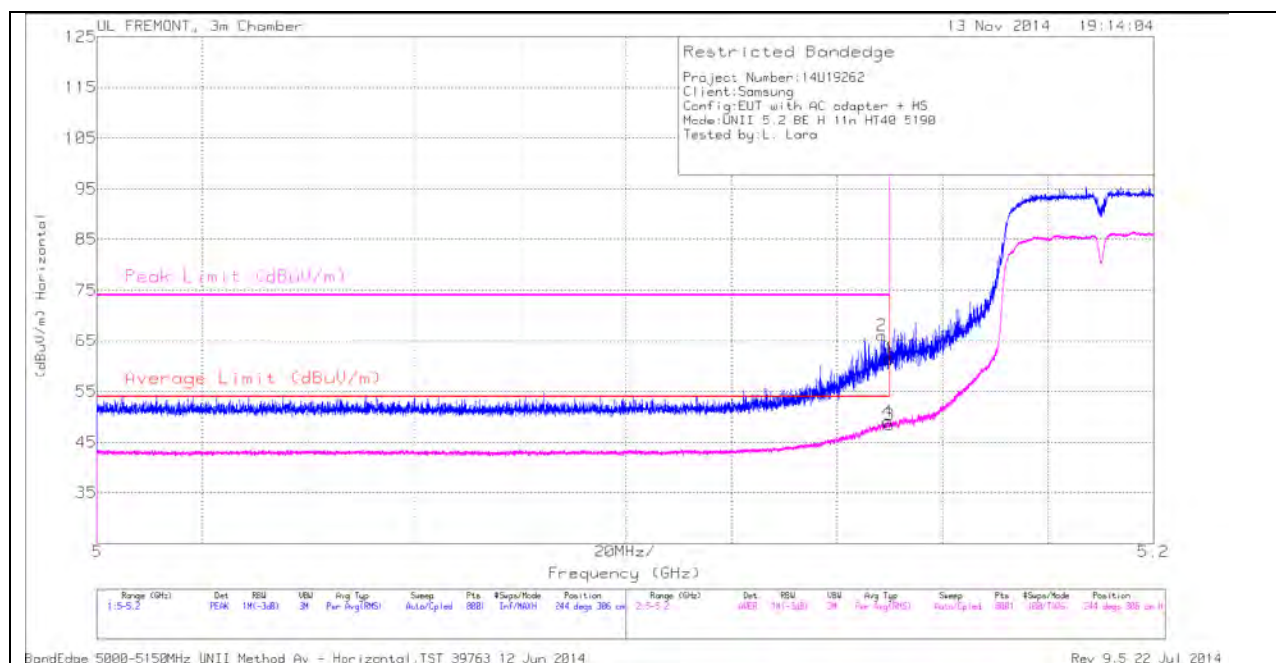
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.32	33.05	PK	30	-33.6	29.45	-	-	74	-44.55	-	-	0-360	100	H
3	* 3.736	31.09	PK	33.2	-31.3	32.99	-	-	74	-41.01	-	-	0-360	200	V
4	* 4.27	31.28	PK	33.6	-30.3	34.58	-	-	74	-39.42	-	-	0-360	200	V
6	* 11.916	29.1	PK	39	-26.2	41.9	-	-	74	-32.1	-	-	0-360	200	H
2	2.62	32.34	PK	32.5	-32.4	32.44	-	-	-	-	68.2	-35.76	0-360	200	H
5	8.553	29.32	PK	35.8	-26.1	39.02	-	-	-	-	68.2	-29.18	0-360	200	V

PK - Peak detector

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

10.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

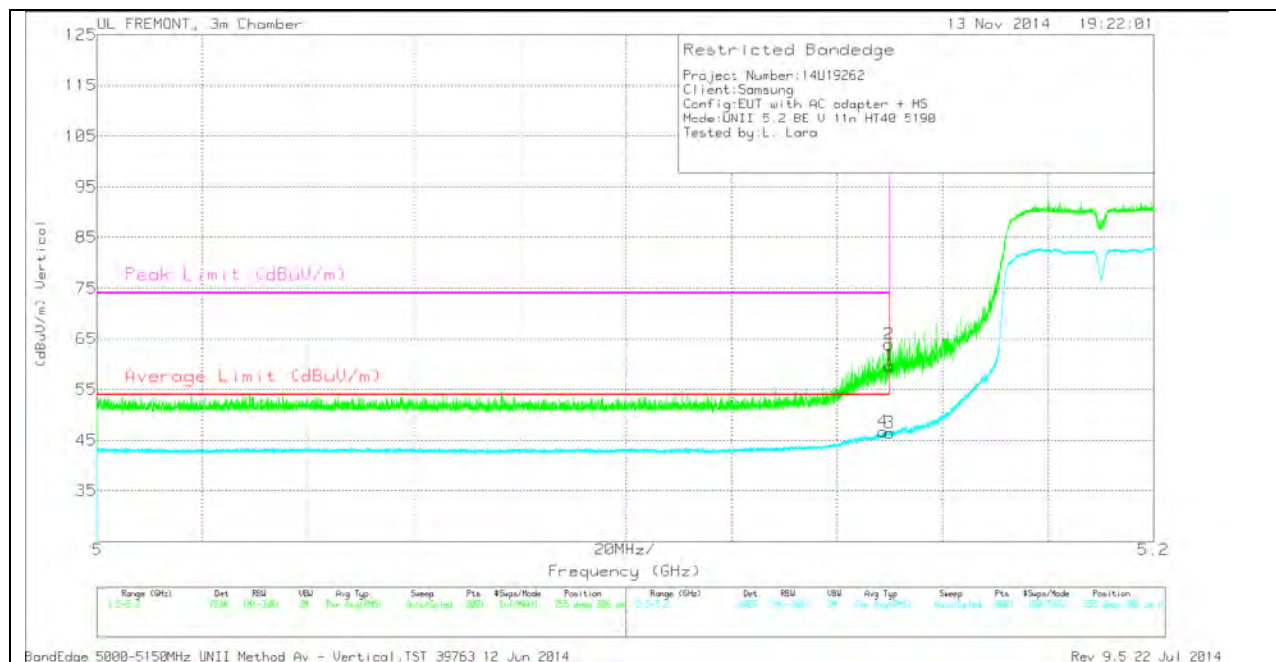
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.149	53.5	PK	34.2	-21.6	0	66.1	-	-	74	-7.9	244	306	H
1	5.15	48.81	PK	34.2	-21.6	0	61.41	-	-	74	-12.59	244	306	H
3	5.15	35.18	RMS	34.2	-21.6	.66	48.44	54	-5.56	-	-	244	306	H
4	5.15	35.79	RMS	34.2	-21.6	.66	49.05	54	-4.95	-	-	244	306	H

VERTICAL PEAK AND AVERAGE PLOT

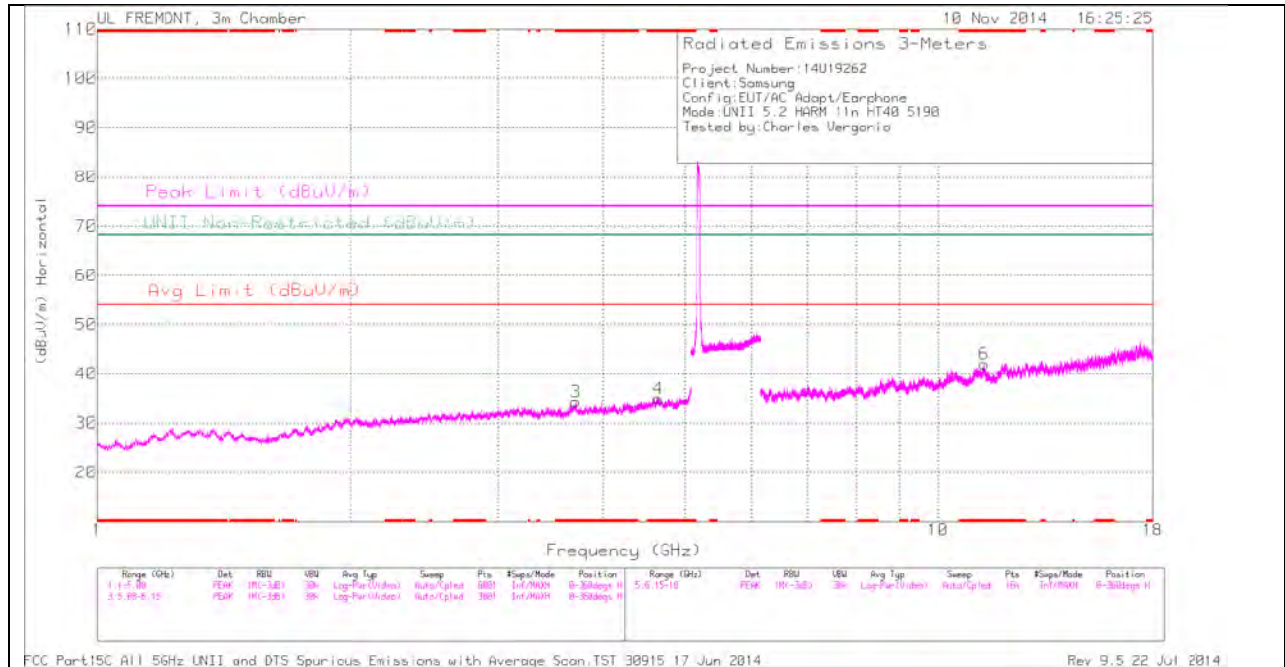


VERTICAL DATA

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
4	5.149	33.39	RMS	34.2	-21.6	.66	46.65	54	-7.35	-	-	255	306	V
1	5.15	47.1	PK	34.2	-21.6	0	59.7	-	-	74	-14.3	255	306	V
2	5.15	51.29	PK	34.2	-21.6	0	63.89	-	-	74	-10.11	255	306	V
3	5.15	33.18	RMS	34.2	-21.6	.66	46.44	54	-7.56	-	-	255	306	V

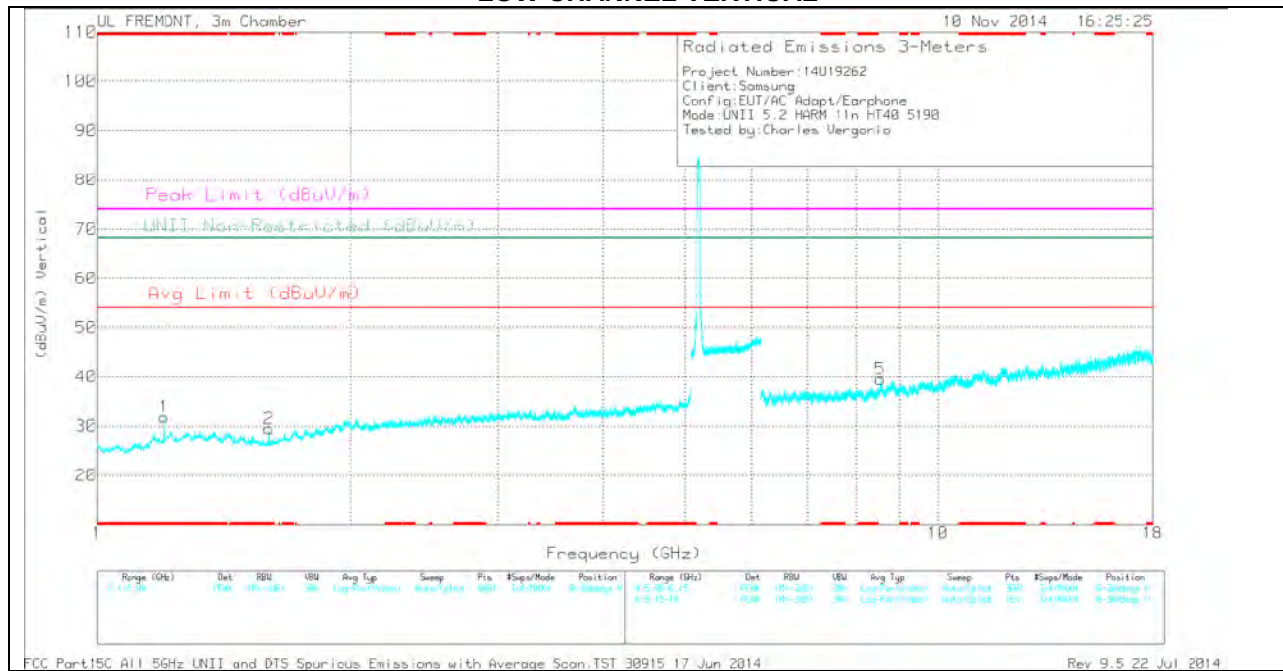
HARMONICS AND SPURIOUS EMISSIONS

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.

LOW CHANNEL VERTICAL



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

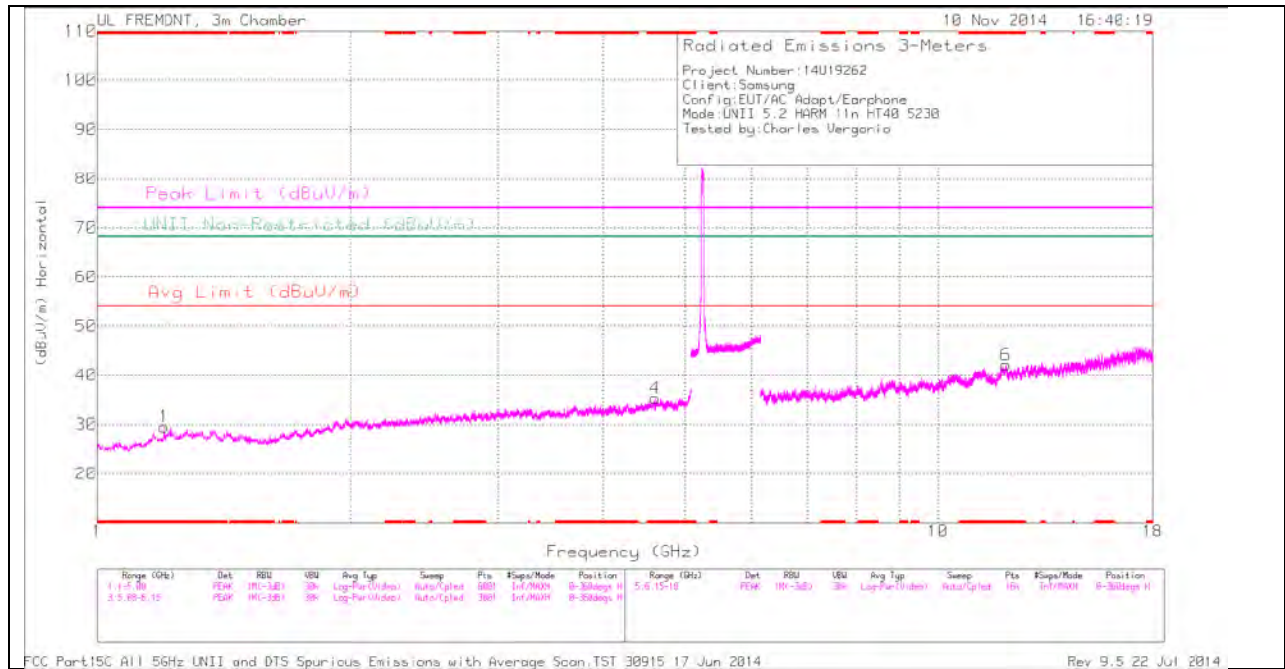
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	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
3	* 3.707	31.94	PK	33.2	-30.8	34.34	-	-	74	-39.66	-	-	0-360	200	H
4	* 4.647	31.15	PK	34.1	-30.3	34.95	-	-	74	-39.05	-	-	0-360	200	H
1	* 1.2	35.84	PK	29.2	-33.2	31.84	-	-	74	-42.16	-	-	0-360	100	V
2	* 1.599	34.69	PK	28.1	-33.3	29.49	-	-	74	-44.51	-	-	0-360	100	V
6	* 11.35	29.68	PK	38	-25.7	41.98	-	-	74	-32.02	-	-	0-360	200	H
5	8.544	29.83	PK	35.8	-26.1	39.53	-	-	-	-	68.2	-28.67	0-360	200	V

PK - Peak detector

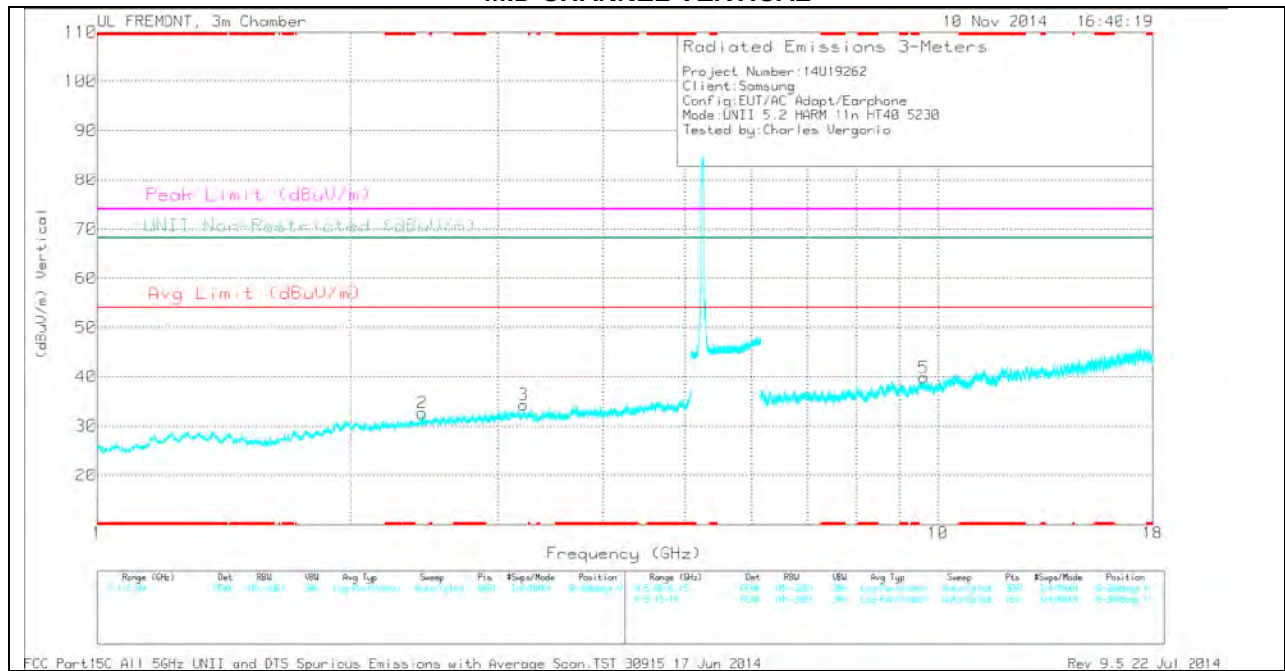
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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.

MID CHANNEL VERTICAL



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 T119 (dB/m)	Amp/Cbl/Ftr /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	* 1.2	33.51	PK	29.2	-33.2	29.51	-	-	74	-44.49	-	-	0-360	100	H
4	* 4.605	32.06	PK	34	-30.7	35.36	-	-	74	-38.64	-	-	0-360	200	H
6	* 12.042	29.24	PK	39.1	-26.2	42.14	-	-	74	-31.86	-	-	0-360	100	H
2	2.436	32.94	PK	32.2	-32.5	32.64	-	-	-	-	68.2	-35.56	0-360	200	V
3	3.213	32.69	PK	32.9	-31.3	34.29	-	-	-	-	68.2	-33.91	0-360	100	V
5	9.617	28.33	PK	36.7	-25.2	39.83	-	-	-	-	68.2	-28.37	0-360	100	V

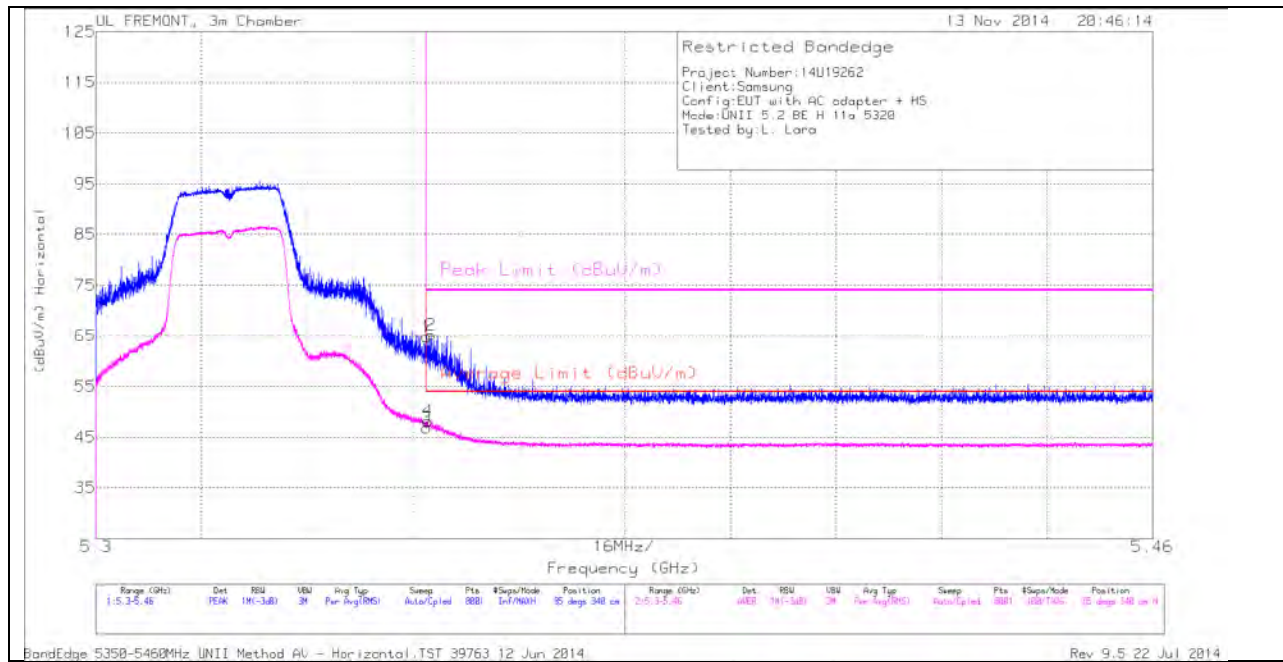
PK - Peak detector

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

10.2. 5.3 GHz

10.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

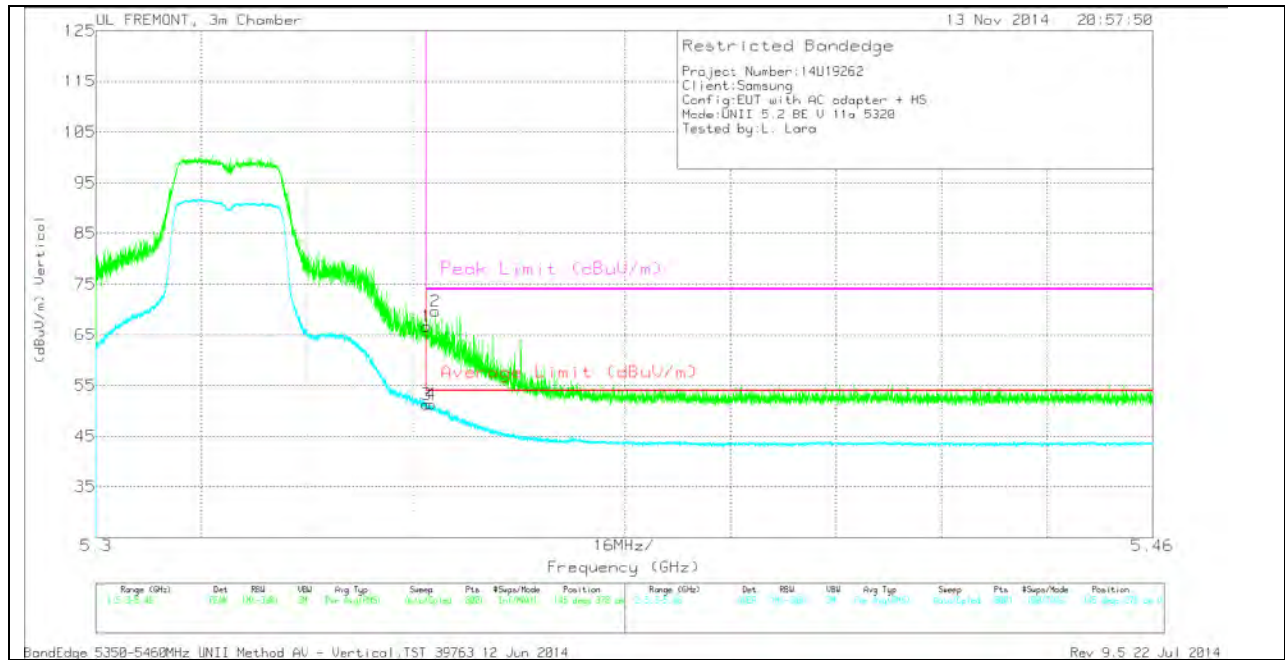
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Flt 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	5.35	51.75	PK	34.5	-21.4	0	64.85	-	-	74	-9.15	85	340	H
3	5.35	33.44	RMS	34.5	-21.4	.32	46.86	54	-7.14	-	-	85	340	H
4	5.35	34.78	RMS	34.5	-21.4	.32	48.2	54	-5.8	-	-	85	340	H
2	5.351	52.12	PK	34.5	-21.4	0	65.22	-	-	74	-8.78	85	340	H

VERTICAL PEAK AND AVERAGE PLOT

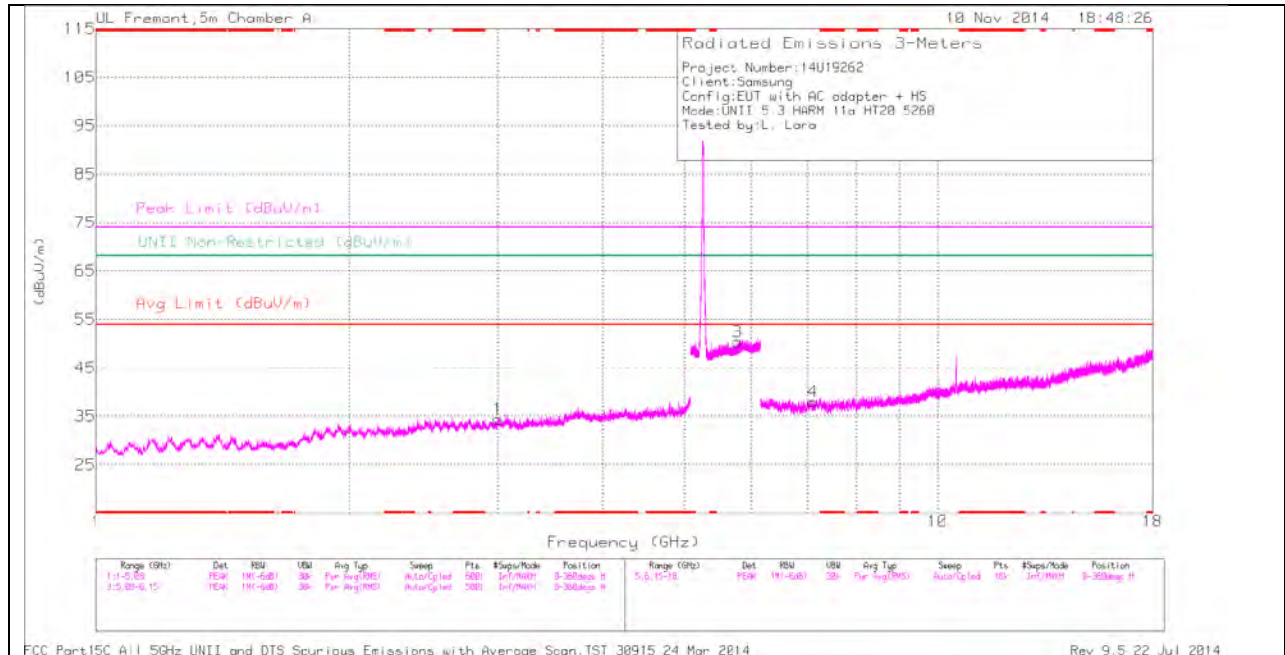


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Plt 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	5.35	53.55	PK	34.5	-21.4	0	66.65	-	-	74	-7.35	145	378	V
3	5.35	37.81	RMS	34.5	-21.4	.32	51.23	54	-2.77	-	-	145	378	V
2	5.351	56.57	PK	34.5	-21.4	0	69.67	-	-	74	-4.33	145	378	V
4	5.351	37.87	RMS	34.5	-21.4	.32	51.29	54	-2.71	-	-	145	378	V

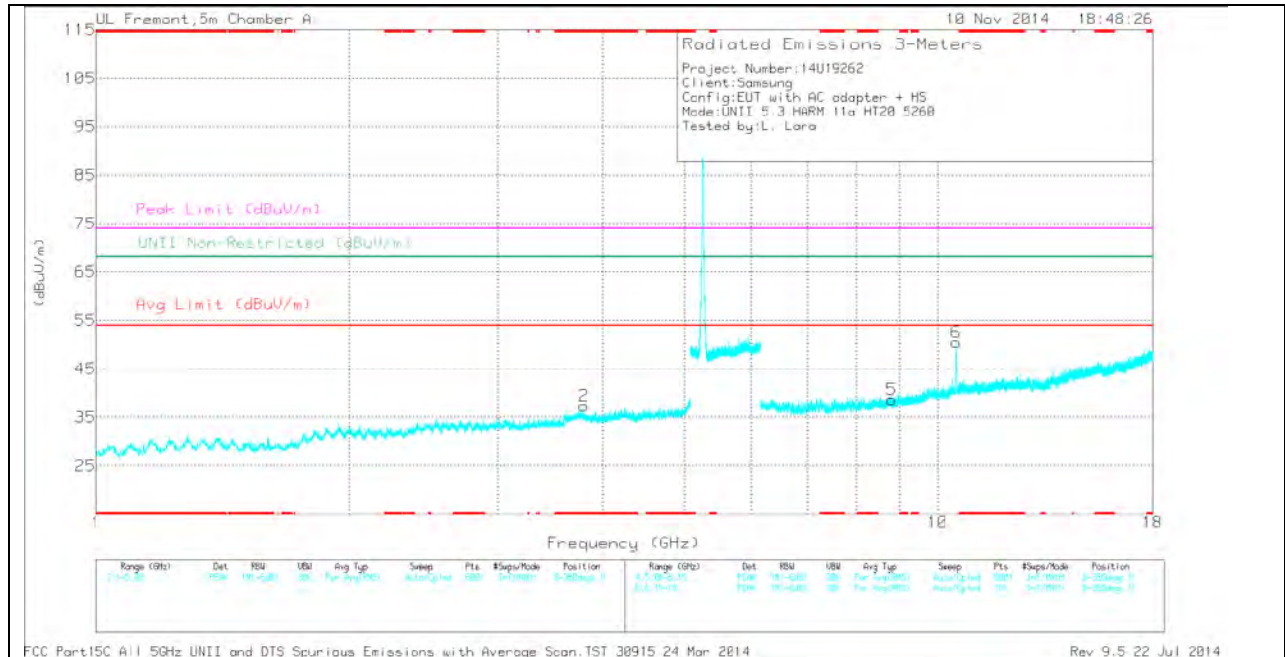
HARMONICS AND SPURIOUS EMISSIONS

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.

LOW CHANNEL VERTICAL



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
2	* 3.795	33.94	PK	33.6	-30.2	0	37.34	-	-	74	-36.66	-	-	0-360	100	V
1	3.003	32.86	PK	32.8	-31.2	0	34.46	-	-	-	-	68.2	-33.74	0-360	99	H
3	5.781	35.46	PK	34.7	-19.8	0	50.36	-	-	-	-	68.2	-17.84	0-360	100	H
4	7.116	30.43	PK	35.3	-27.7	0	38.03	-	-	-	-	68.2	-30.17	0-360	201	H
5	8.823	28.14	PK	35.8	-25.3	0	38.64	-	-	-	-	68.2	-29.56	0-360	201	V
6	10.522	35.91	PK	37.5	-22.9	0	50.51	-	-	-	-	68.2	-17.69	0-360	201	V

PK - Peak detector

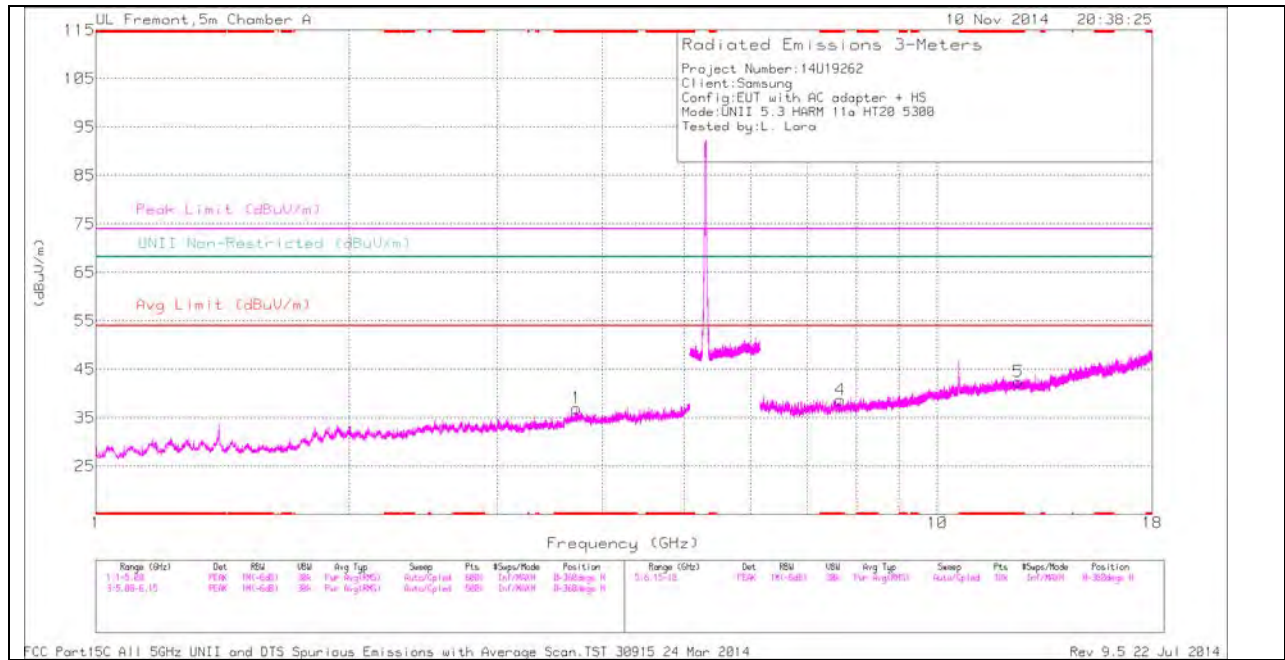
RADIATED EMISSIONS

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
* 3.794	39.59	PK1	33.6	-30.2	0	42.99	-	-	74	-31.01	-	-	256	100	V
* 3.794	28.6	AD1	33.6	-30.2	.32	32.3	54	-21.7	-	-	-	-	256	100	V
10.52	31.26	AD1	37.5	-22.9	.32	46.16	-	-	-	-	-	-	256	272	V
10.521	44.72	PK1	37.5	-22.9	0	59.32	-	-	-	-	68.2	-8.88	256	272	V

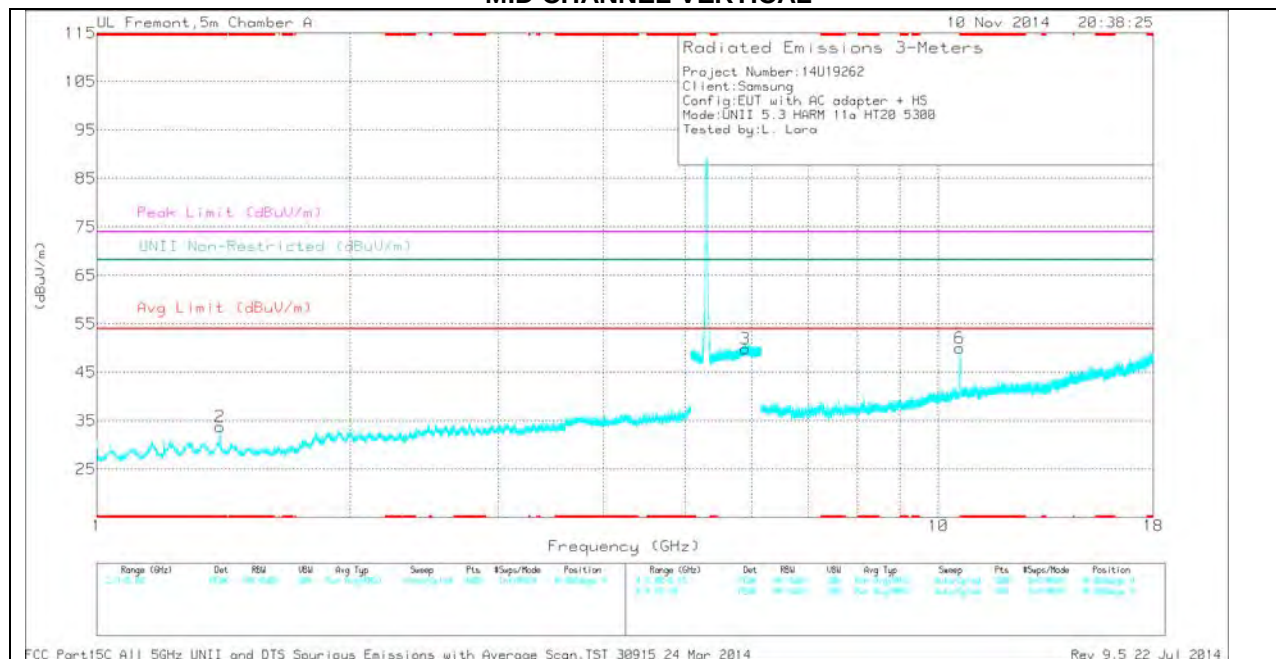
FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 24 Mar 2014

Rev 9.5 22 Jul 2014

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	* 3.728	33.94	PK	33.4	-30.4	0	36.94	-	-	74	-37.06	-	-	0-360	100	H
2	* 1.4	38.49	PK	29.8	-34.5	0	33.79	-	-	74	-40.21	-	-	0-360	201	V
4	* 7.672	29.96	PK	35.4	-26.7	0	38.66	-	-	74	-35.34	-	-	0-360	100	H
5	* 12.487	25.69	PK	38.9	-22.1	0	42.49	-	-	74	-31.51	-	-	0-360	100	H
6	* 10.603	34.68	PK	37.7	-22.4	0	49.98	-	-	74	-24.02	-	-	0-360	201	V
3	5.896	34.18	PK	35	-19.3	0	49.88	-	-	-	-	68.2	-18.32	0-360	100	V

PK - Peak detector

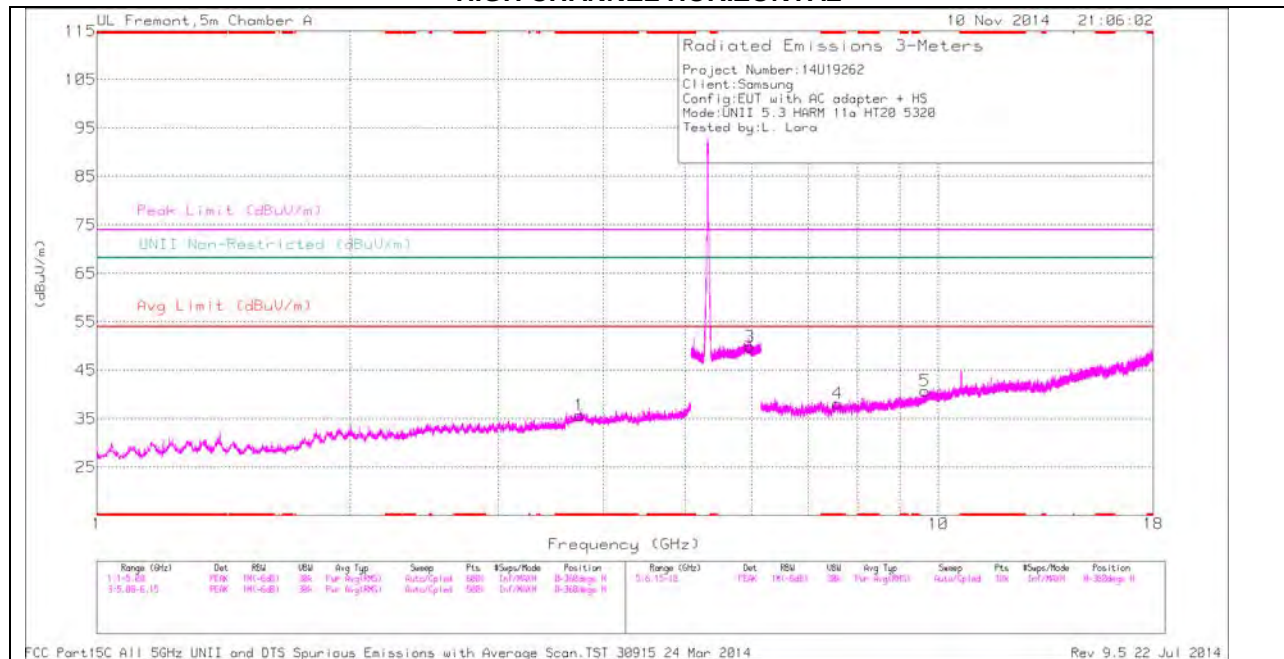
RADIATED EMISSIONS

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
* 10.602	44.54	PK1	37.7	-22.4	0	59.84	-	-	74	-14.16	-	-	233	236	V
* 10.601	31.54	AD1	37.7	-22.4	.32	47.14	54	-6.86	-	-	-	-	233	236	V

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 24 Mar 2014

Rev 9.5 22 Jul 2014

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.

UL Fremont, 5m Chamber A

10 Nov 2014 21:06:02

Radiated Emissions 3-Meters

Project Number: 14U19262

Client: Samsung

Config: EUT with AC adapter + HS

Mode: UNII 5.3 HARM 11a HT20 5328

Tested by: L. Lora

Peak Limit (dBuV/m)

UNII Non-Restricted (dBuV/m)

Avg Limit (dBuV/m)

Frequency (GHz)

Range (GHz)	Det	Res	USW	Avg Typ	Sweep	Pts	#Sweeps/Node	Position	Range (GHz)	Det	Res	USW	Avg Typ	Sweep	Pts	#Sweeps/Node	Position
2.1-6.86	Peak	100 dBuV	3dB	Full Spectrum	Continuous	1000	1000	1000	2.1-6.86	Peak	100 dBuV	3dB	Full Spectrum	Continuous	1000	1000	1000

FCC Part 15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 24 Mar 2014

Rev 9.5 22 Jul 2014

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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	* 3.744	32.46	PK	33.5	-30.2	0	35.76	-	-	74	-38.24	-	-	0-360	100	H
2	* 1.599	39.69	PK	28.8	-34	0	34.49	-	-	74	-39.51	-	-	0-360	201	V
4	* 7.596	28.46	PK	35.4	-25.7	0	38.16	-	-	74	-35.84	-	-	0-360	100	H
6	* 10.643	33.21	PK	37.8	-22.5	0	48.51	-	-	74	-25.49	-	-	0-360	201	V
3	5.967	34.11	PK	35.2	-19.4	0	49.91	-	-	-	-	68.2	-18.29	0-360	100	H
5	9.642	28.21	PK	36.8	-24.3	0	40.71	-	-	-	-	68.2	-27.49	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

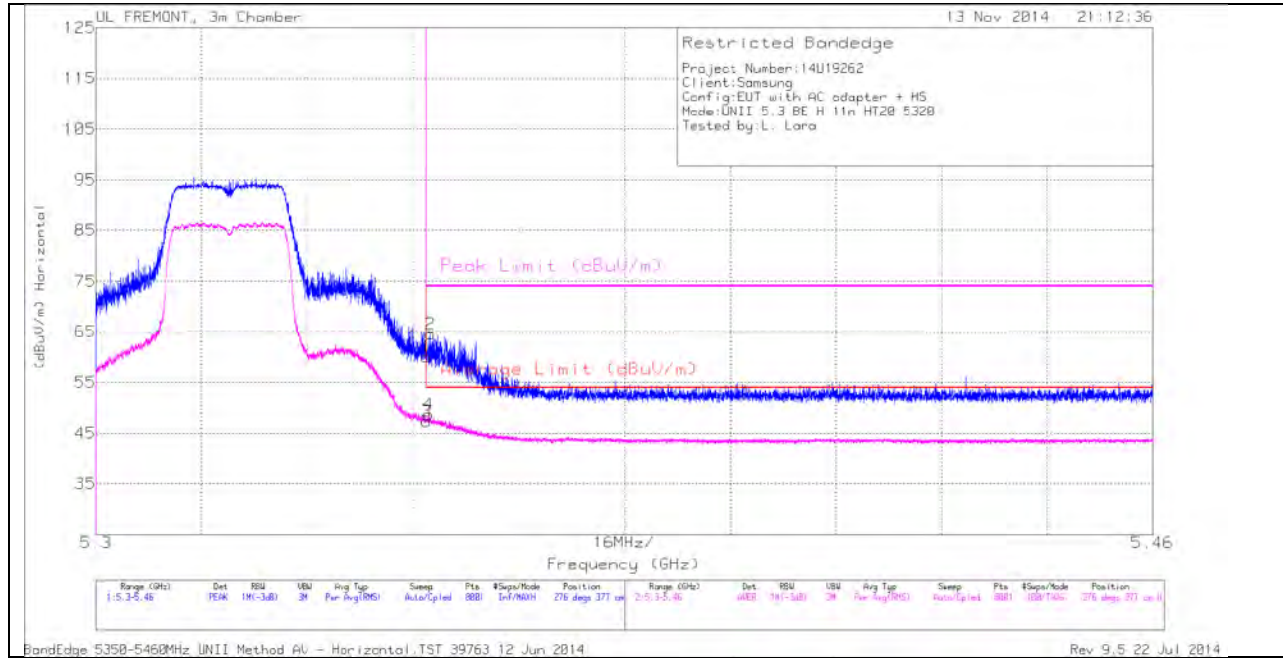
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.634	43.36	PK1	37.7	-22.6	0	58.46	-	-	74	-15.54	-	-	245	145	V
* 10.64	31.41	AD1	37.8	-22.6	32	46.91	54	-7.09	-	-	-	-	245	145	V

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 24 Mar 2014

Rev 9.5 22 Jul 2014

10.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.35	47.03	PK	34.5	-21.4	0	60.13	-	-	74	-13.87	276	377	H
3	5.35	33.91	RMS	34.5	-21.4	.34	47.35	54	-6.65	-	-	276	377	H
4	5.35	35.18	RMS	34.5	-21.4	.34	48.62	54	-5.38	-	-	276	377	H
2	5.351	51.44	PK	34.5	-21.4	0	64.54	-	-	74	-9.46	276	377	H

UL FREMONT, 3m Chamber

13 Nov 2014 21:05:52

Restricted Bandedge

Project Number: 14U19262
Client: Samsung
Config: EUT with AC adapter + HS
Model: UNII 5.3 BE U 11n HT20 5320
Tested by: L. Lora

Peak Limit (dBuV/m)

Average Limit (dBuV/m)

16MHz/
Frequency (GHz)

Range (GHz)	Det	Res	USB	Avg Type	Sweep	P1a	#Seps/Mode	Position	Range (GHz)	Det	Res	USB	Avg Type	Sweep	P1a	#Seps/Mode	Position
5.3-5.46	TEAR	10-3dB	2H	Pwr Spect	AutoSweep	5320	1-1/2MHz	148 dBm-37 dB	5.3-5.46	TEAR	10-3dB	2H	Pwr Spect	AutoSweep	5320	1-1/2MHz	148 dBm-37 dB

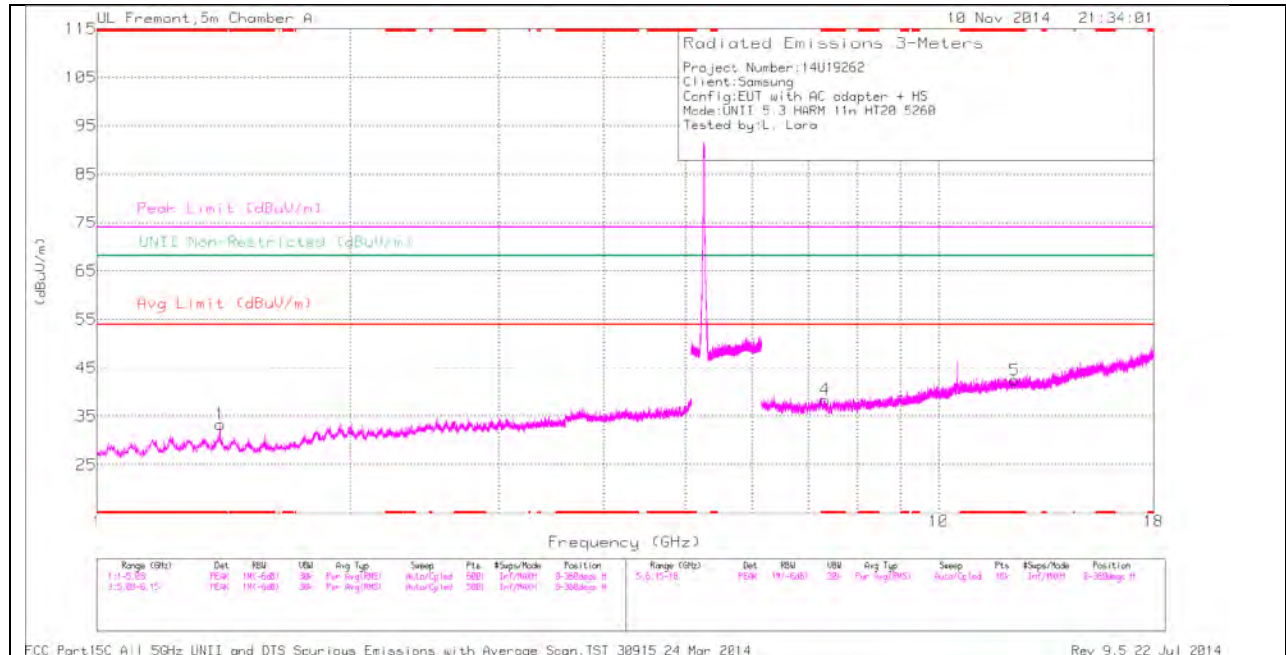
BandEdge 5350-5460MHz UNII Method 6U - Vertical, IST 39763 12 Jun 2014

Rev 9.5 22 Jul 2014

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/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	5.35	53.19	PK	34.5	-21.4	0	66.29	-	-	74	-7.71	146	377	V
3	5.35	37.5	RMS	34.5	-21.4	.34	50.94	54	-3.06	-	-	146	377	V
4	5.351	38.06	RMS	34.5	-21.4	.34	51.5	54	-2.5	-	-	146	377	V
2	5.353	56.94	PK	34.5	-21.4	0	70.04	-	-	74	-3.96	146	377	V

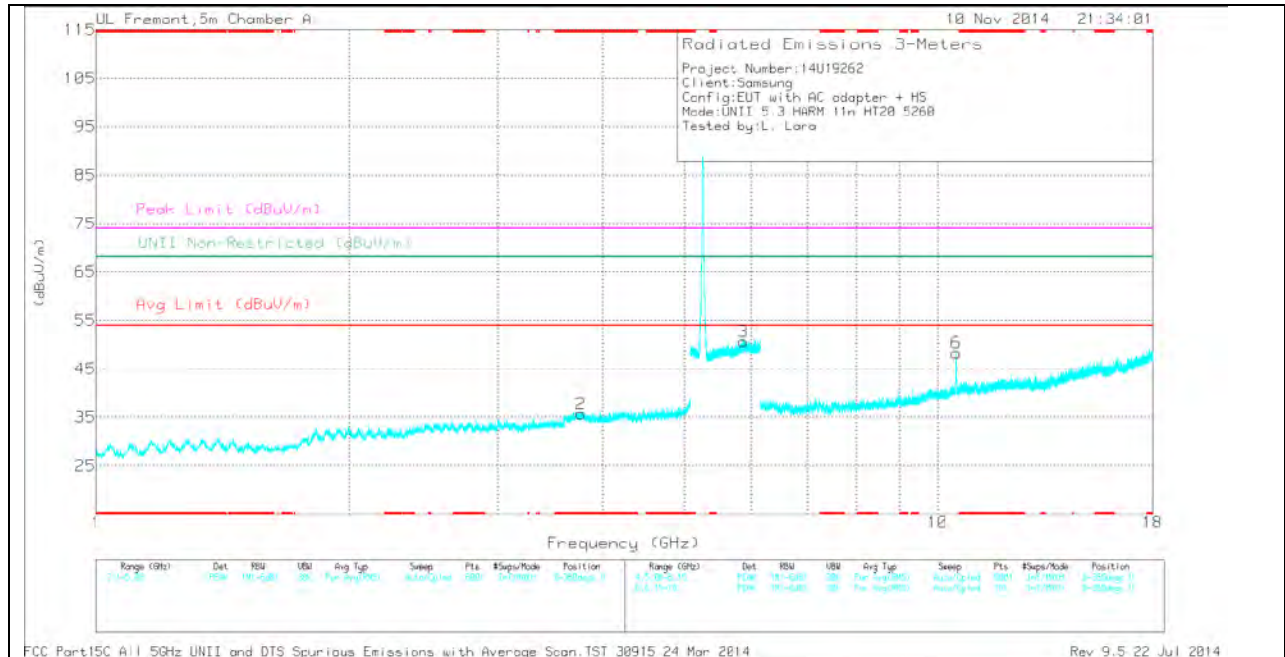
HARMONICS AND SPURIOUS EMISSIONS

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.

LOW CHANNEL VERTICAL



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/Fltr/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
2	* 3.795	33.94	PK	33.6	-30.2	0	37.34	-	-	74	-36.66	-	-	0-360	100	V
1	3.003	32.86	PK	32.8	-31.2	0	34.46	-	-	-	-	68.2	-33.74	0-360	99	H
3	5.781	35.46	PK	34.7	-19.8	0	50.36	-	-	-	-	68.2	-17.84	0-360	100	H
4	7.116	30.43	PK	35.3	-27.7	0	38.03	-	-	-	-	68.2	-30.17	0-360	201	H
5	8.823	28.14	PK	35.8	-25.3	0	38.64	-	-	-	-	68.2	-29.56	0-360	201	V
6	10.522	35.91	PK	37.5	-22.9	0	50.51	-	-	-	-	68.2	-17.69	0-360	201	V

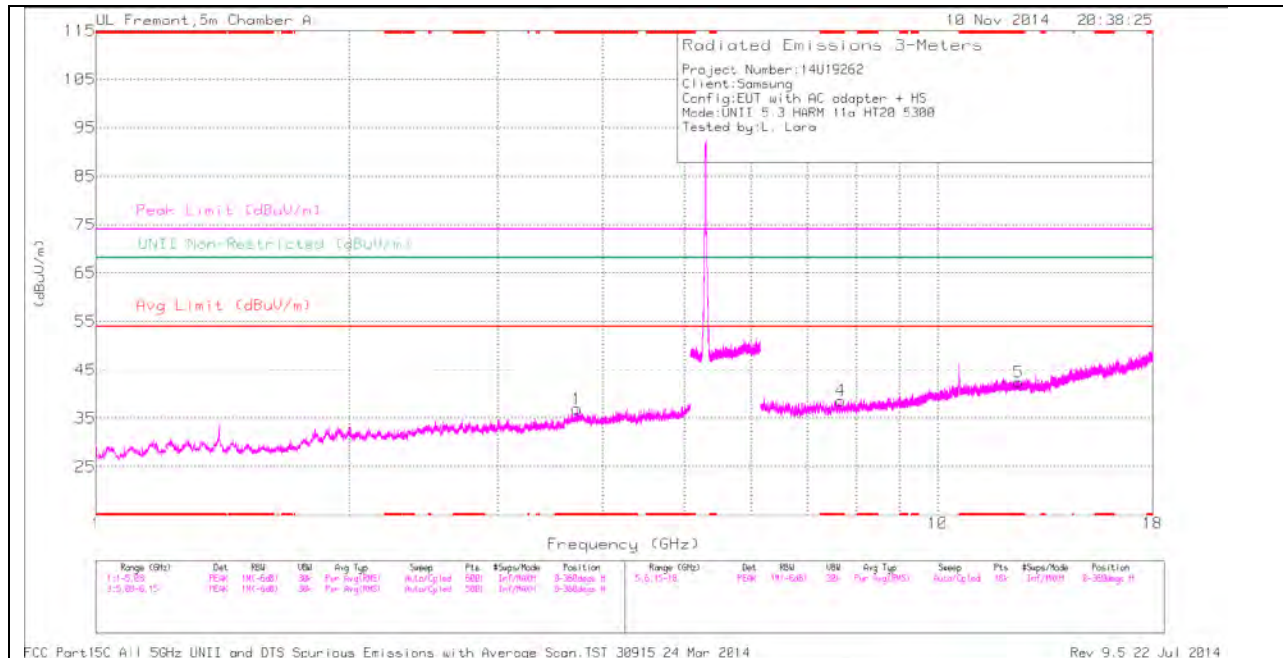
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/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
* 3.794	39.59	PK1	33.6	-30.2	0	42.99	-	-	74	-31.01	-	-	256	100	V
* 3.794	28.6	AD1	33.6	-30.2	.34	32.3	54	-21.7	-	-	-	-	256	100	V
10.52	31.26	AD1	37.5	-22.9	.34	46.16	-	-	-	-	-	-	256	272	V
10.521	44.72	PK1	37.5	-22.9	0	59.32	-	-	-	-	68.2	-8.88	256	272	V

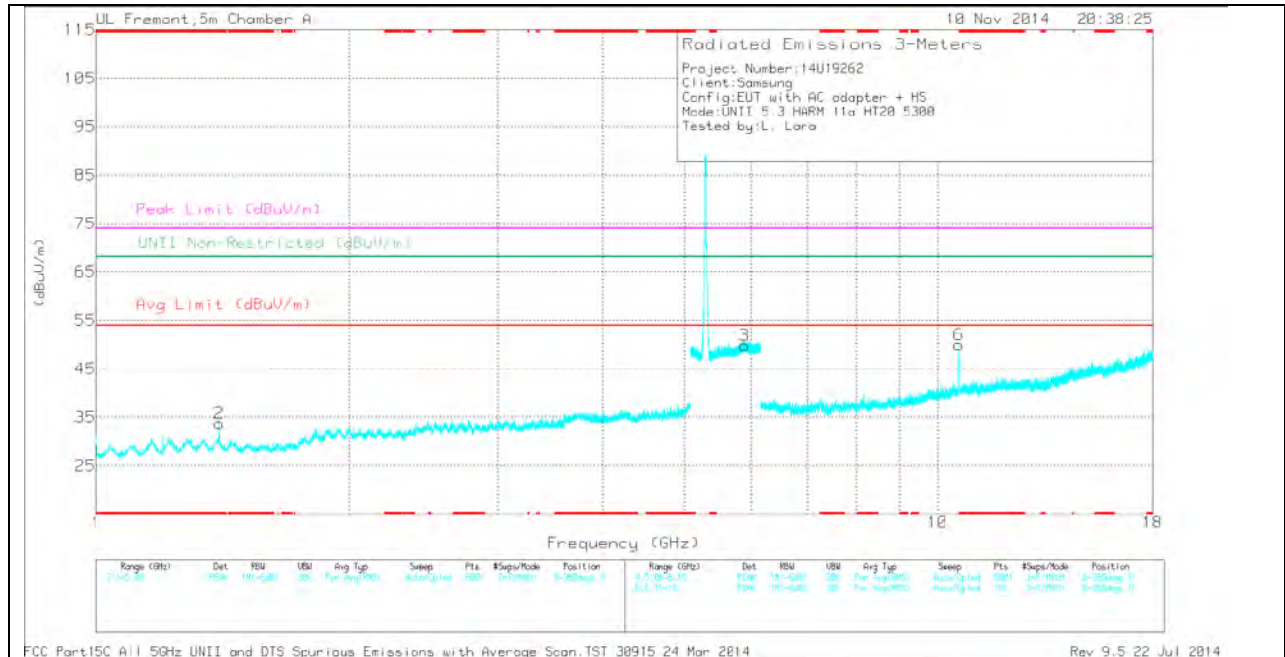
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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.

MID CHANNEL VERTICAL



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	* 3.728	33.94	PK	33.4	-30.4	0	36.94	-	-	74	-37.06	-	-	0-360	100	H
2	* 1.4	38.49	PK	29.8	-34.5	0	33.79	-	-	74	-40.21	-	-	0-360	201	V
4	* 7.672	29.96	PK	35.4	-26.7	0	38.66	-	-	74	-35.34	-	-	0-360	100	H
5	* 12.487	25.69	PK	38.9	-22.1	0	42.49	-	-	74	-31.51	-	-	0-360	100	H
6	* 10.603	34.68	PK	37.7	-22.4	0	49.98	-	-	74	-24.02	-	-	0-360	201	V
3	5.896	34.18	PK	35	-19.3	0	49.88	-	-	-	-	68.2	-18.32	0-360	100	V

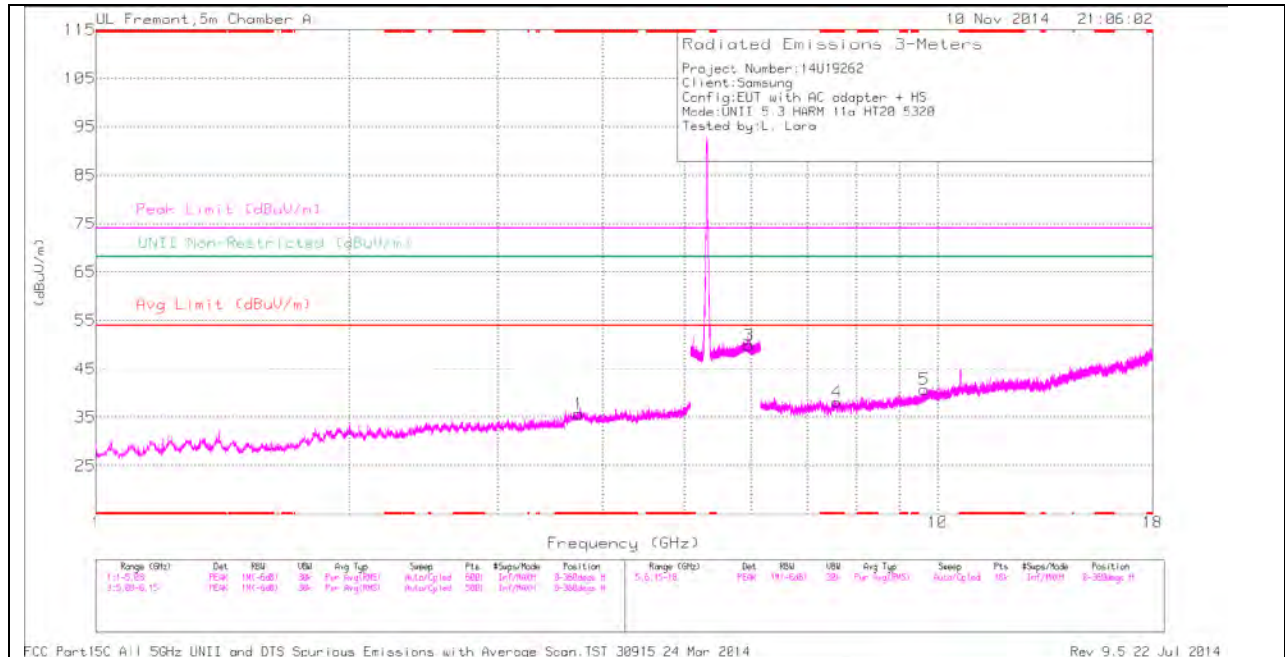
PK - Peak detector

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
* 10.602	44.54	PK1	37.7	-22.4	0	59.84	-	-	74	-14.16	-	-	233	236	V
* 10.601	31.54	AD1	37.7	-22.4	.34	47.14	54	-6.86	-	-	-	-	233	236	V

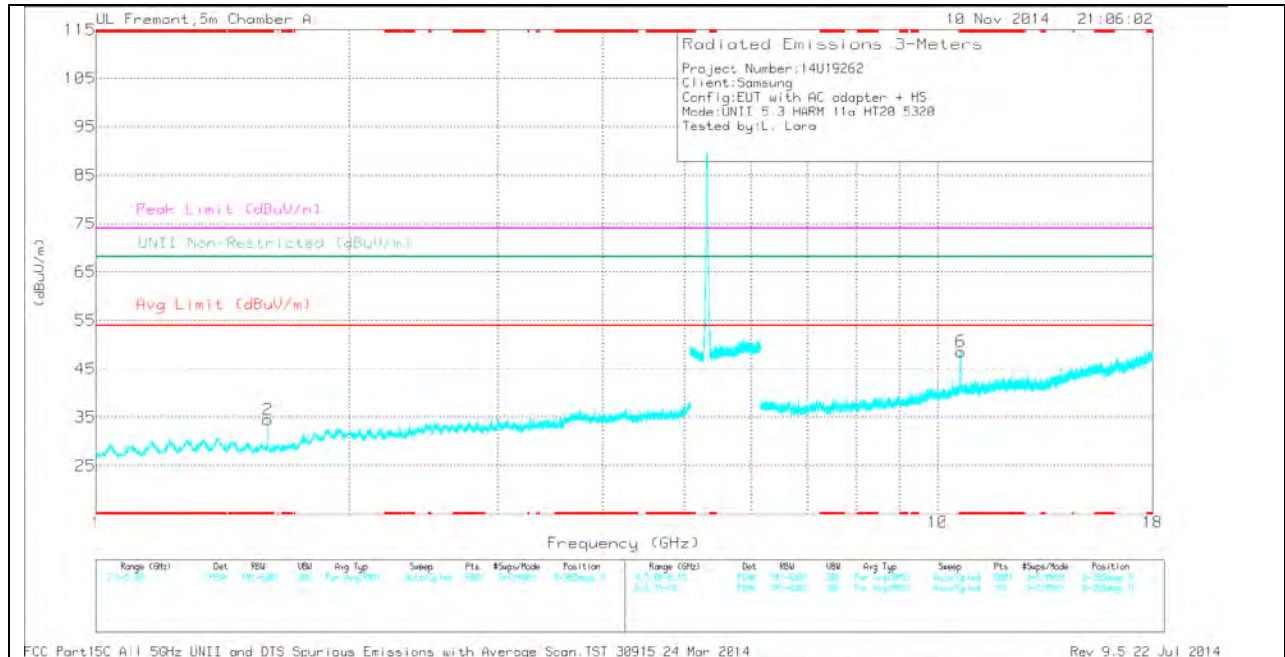
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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.

HIGH CHANNEL VERTICAL



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/Fil tr/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	* 3.744	32.46	PK	33.5	-30.2	0	35.76	-	-	74	-38.24	-	-	0-360	100	H
2	* 1.599	39.69	PK	28.8	-34	0	34.49	-	-	74	-39.51	-	-	0-360	201	V
4	* 7.596	28.46	PK	35.4	-25.7	0	38.16	-	-	74	-35.84	-	-	0-360	100	H
6	* 10.643	33.21	PK	37.8	-22.5	0	48.51	-	-	74	-25.49	-	-	0-360	201	V
3	5.967	34.11	PK	35.2	-19.4	0	49.91	-	-	-	-	68.2	-18.29	0-360	100	H
5	9.642	28.21	PK	36.8	-24.3	0	40.71	-	-	-	-	68.2	-27.49	0-360	100	H

PK - Peak detector

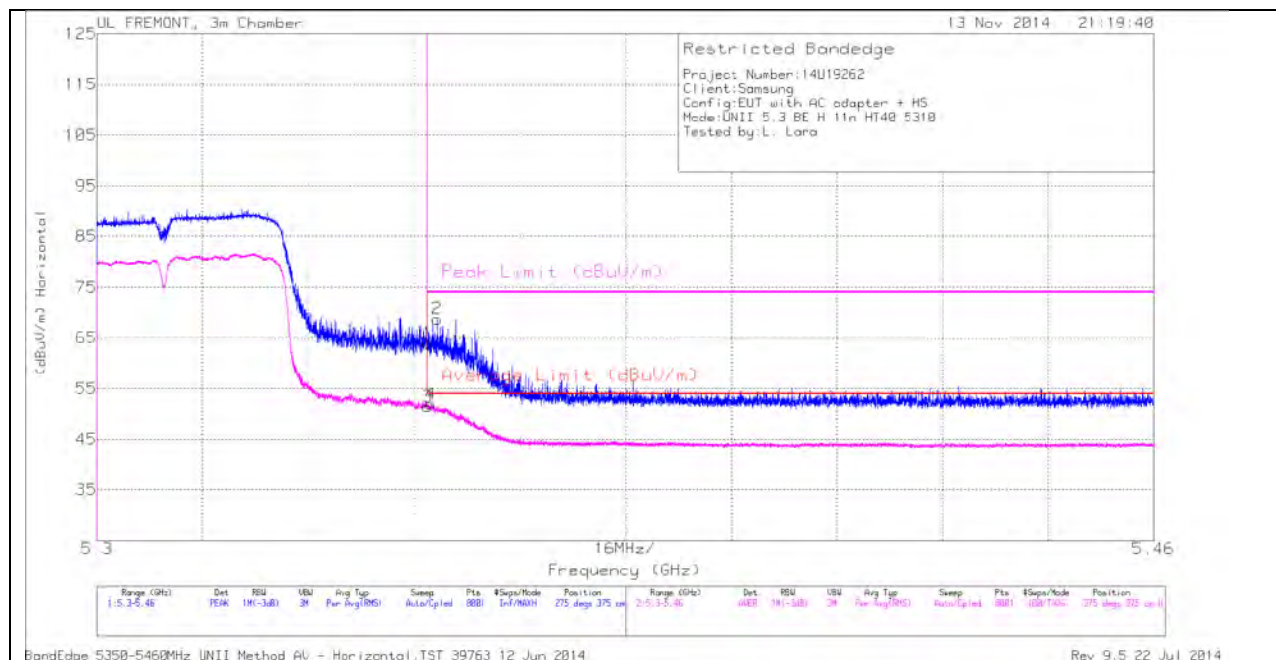
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fil tr/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
* 10.634	43.36	PK1	37.7	-22.6	0	58.46	-	-	74	-15.54	-	-	245	145	V
* 10.64	31.41	AD1	37.8	-22.6	-34	46.91	-54	-7.09	-	-	-	-	245	145	V

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10.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

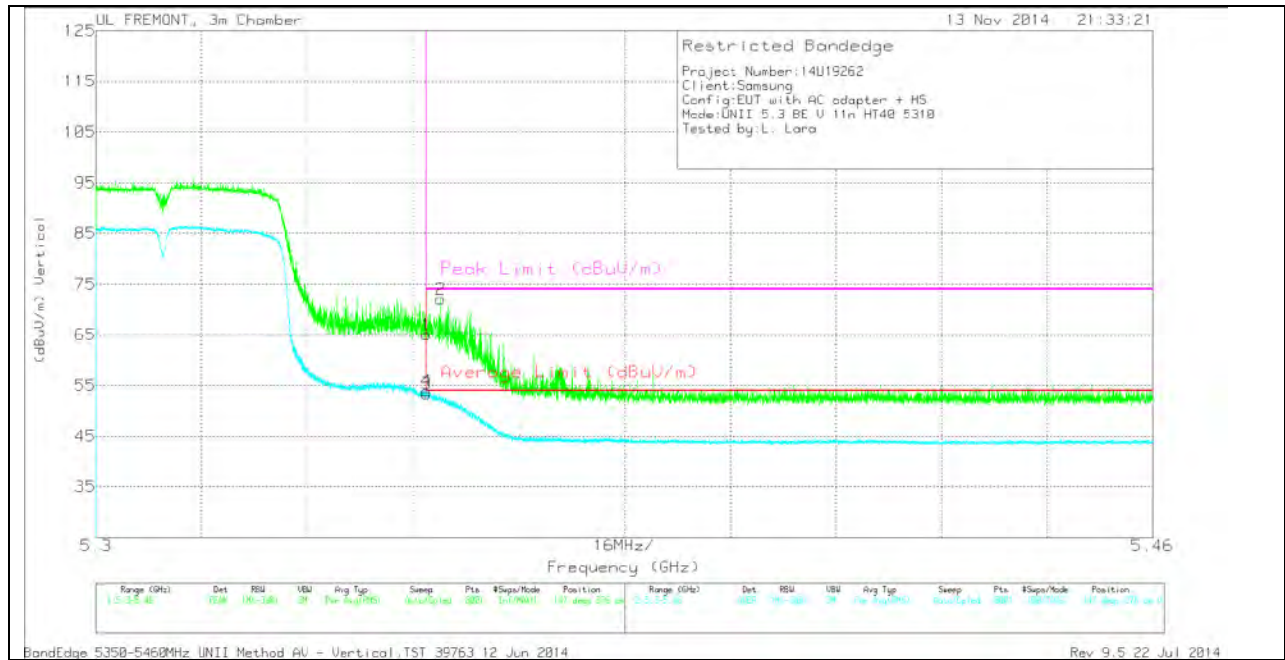
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.35	50.82	PK	34.5	-21.4	0	63.92	-	-	74	-10.08	275	375	H
3	5.35	37.65	RMS	34.5	-21.4	.66	51.41	54	-2.59	-	-	275	375	H
2	5.351	55.63	PK	34.5	-21.4	0	68.73	-	-	74	-5.27	275	375	H
4	5.351	38.15	RMS	34.5	-21.4	.66	51.91	54	-2.09	-	-	275	375	H

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Plt 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	5.35	51.98	PK	34.5	-21.4	0	65.08	-	-	74	-8.92	147	376	V
3	5.35	39.69	RMS	34.5	-21.4	.66	53.45	54	-55	-	-	147	376	V
4	5.35	40.11	RMS	34.5	-21.4	.66	53.87	54	-13	-	-	147	376	V
2	5.352	58.94	PK	34.5	-21.4	0	72.04	-	-	74	-1.96	147	376	V

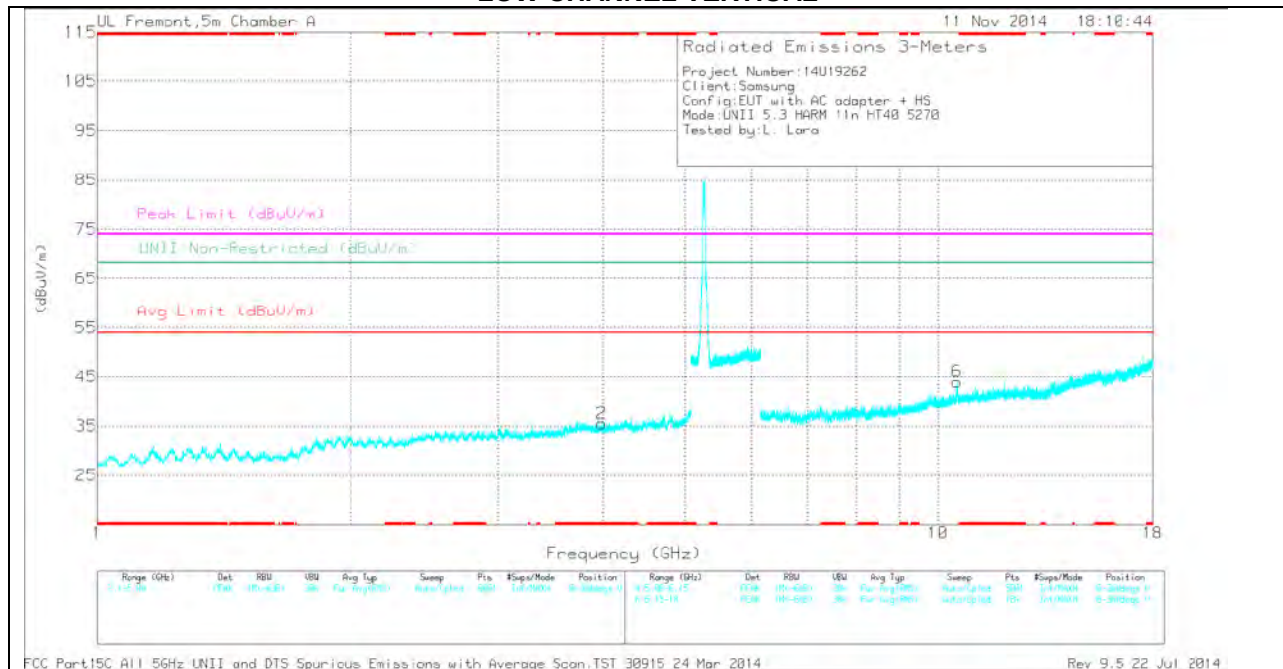
HARMONICS AND SPURIOUS EMISSIONS

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.

LOW CHANNEL VERTICAL



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	* 1.399	38.06	PK	29.8	-34.5	0	33.36	-	-	74	-40.64	-	-	0-360	100	H
2	* 3.981	32.07	PK	33.7	-30.3	0	35.47	-	-	74	-38.53	-	-	0-360	201	V
5	* 8.172	27.57	PK	35.5	-25	0	38.07	-	-	74	-35.93	-	-	0-360	201	H
3	5.849	34.08	PK	34.9	-19.6	0	49.38	-	-	-	-	68.2	-18.82	0-360	100	H
4	6.841	29.64	PK	35.3	-27.5	0	37.44	-	-	-	-	68.2	-30.76	0-360	100	H
6	10.542	29.2	PK	37.6	-22.8	0	44	-	-	-	-	68.2	-24.2	0-360	201	V

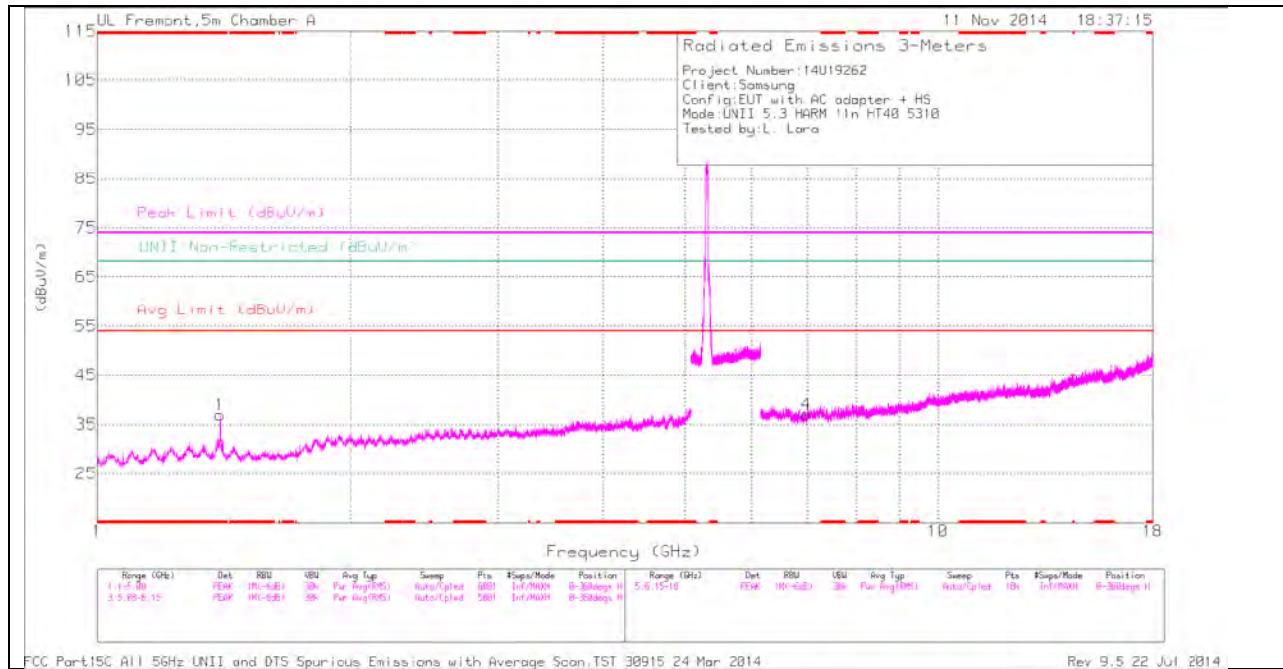
PK - Peak detector

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
* 8.173	35.69	PK1	35.5	-25.1	0	46.09	-	-	74	-27.91	-	-	241	202	H
* 8.171	24.85	AD1	35.5	-25	.66	36.06	54	-17.94	-	-	-	-	241	202	H
10.54	26.74	AD1	37.6	-22.8	.66	42.25	-	-	-	-	-	-	241	195	V
10.541	41.03	PK1	37.6	-22.8	0	55.83	-	-	-	-	68.2	-12.37	241	195	V

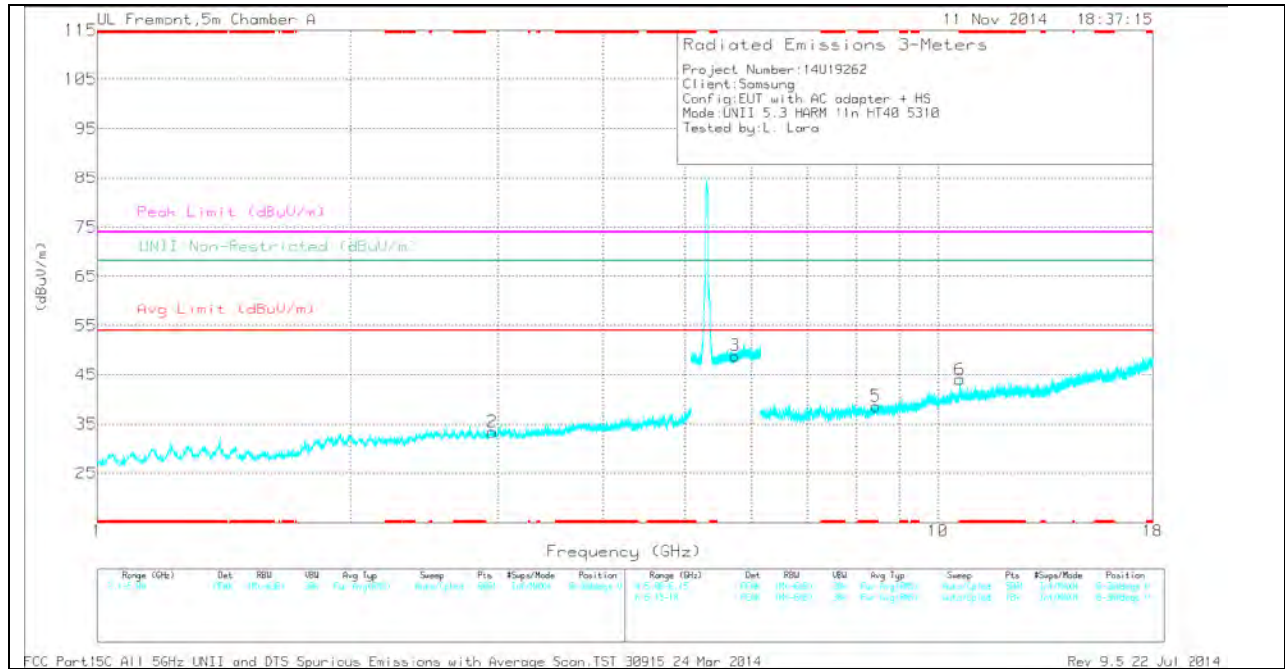
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

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.

HIGH CHANNEL VERTICAL



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/Fr 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	* 1.4	41.61	PK	29.8	-34.5	0	36.91	-	-	74	-37.09	-	-	0-360	100	H
5	* 8.436	28.31	PK	35.7	-25.4	0	38.61	-	-	74	-35.39	-	-	0-360	201	V
6	* 10.62	28.67	PK	37.7	-22.3	0	44.07	-	-	74	-29.93	-	-	0-360	201	V
2	2.952	32.61	PK	32.7	-31.9	0	33.41	-	-	-	-	68.2	-34.79	0-360	100	V
3	5.739	34.45	PK	34.6	-20.2	0	48.85	-	-	-	-	68.2	-19.35	0-360	201	V
4	6.97	28.54	PK	35.3	-26.8	0	37.04	-	-	-	-	68.2	-31.16	0-360	201	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fr tr/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
* 10.619	37.78	PK1	37.7	-22.4	0	53.08	-	-	74	-20.92	-	-	238	234	V
* 10.62	25.93	AD1	37.7	-22.3	.66	42.04	54	-11.96	-	-	-	-	238	234	V

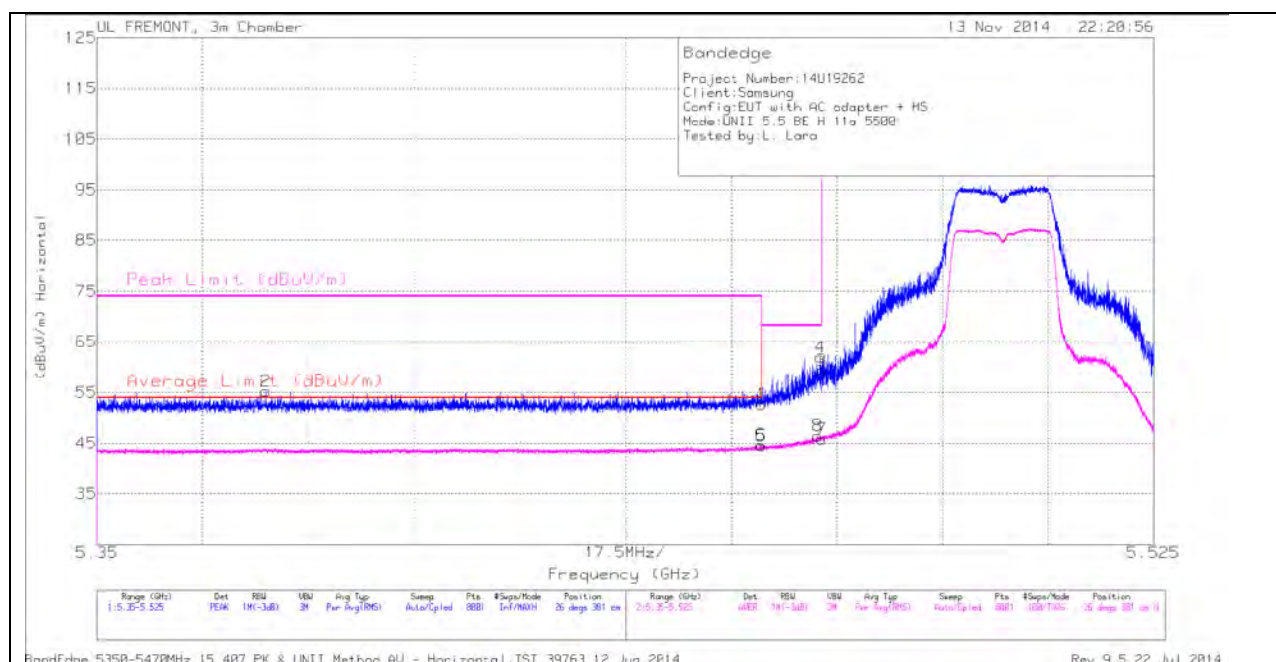
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

10.3. 5.5-5.6 GHz

10.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

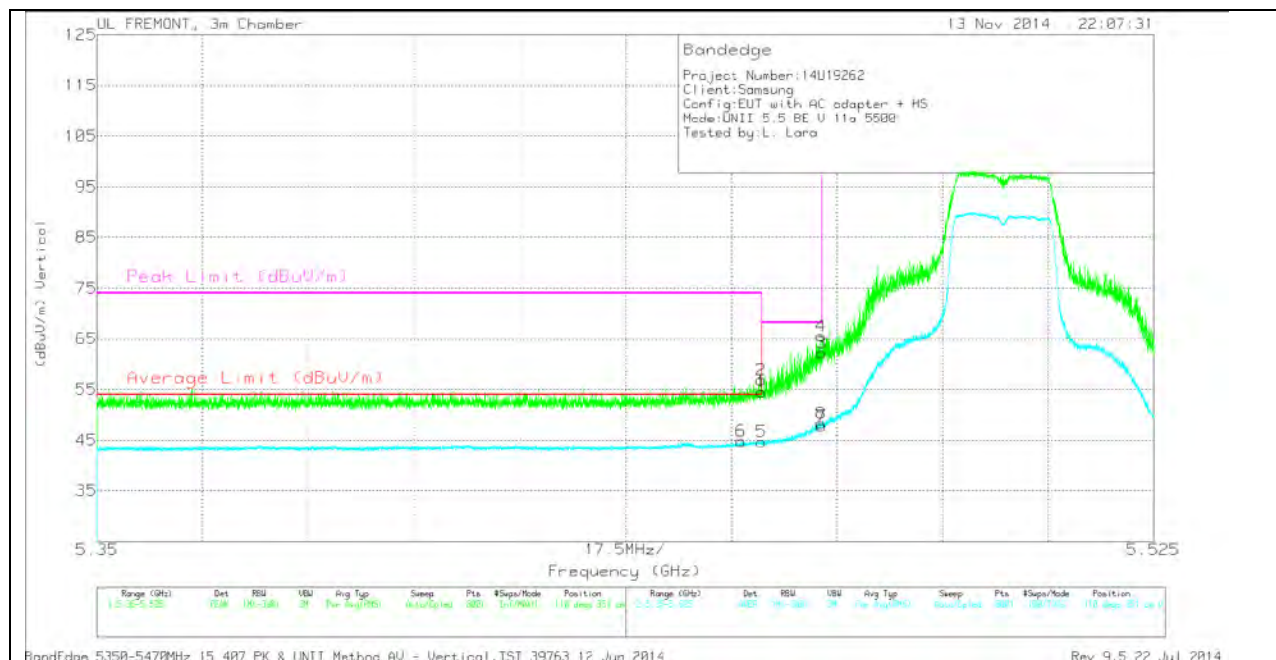
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.378	41.93	PK	34.6	-21.3	0	55.23	-	-	74	-18.77	26	381	H
1	5.46	39.22	PK	34.8	-21.4	0	52.62	-	-	74	-21.38	26	381	H
5	5.46	30.73	RMS	34.8	-21.4	.32	44.45	54	-9.55	-	-	26	381	H
6	5.46	31	RMS	34.8	-21.4	.32	44.72	54	-9.28	-	-	26	381	H
8	5.469	32.57	RMS	34.8	-21.3	.32	46.39	-	-	-	-	26	381	H
3	5.47	45.91	PK	34.8	-21.3	0	59.41	-	-	68.2	-8.79	26	381	H
4	5.47	48.44	PK	34.8	-21.3	0	61.94	-	-	68.2	-6.26	26	381	H
7	5.47	31.98	RMS	34.8	-21.3	.32	45.8	-	-	-	-	26	381	H

VERTICAL PEAK AND AVERAGE PLOT

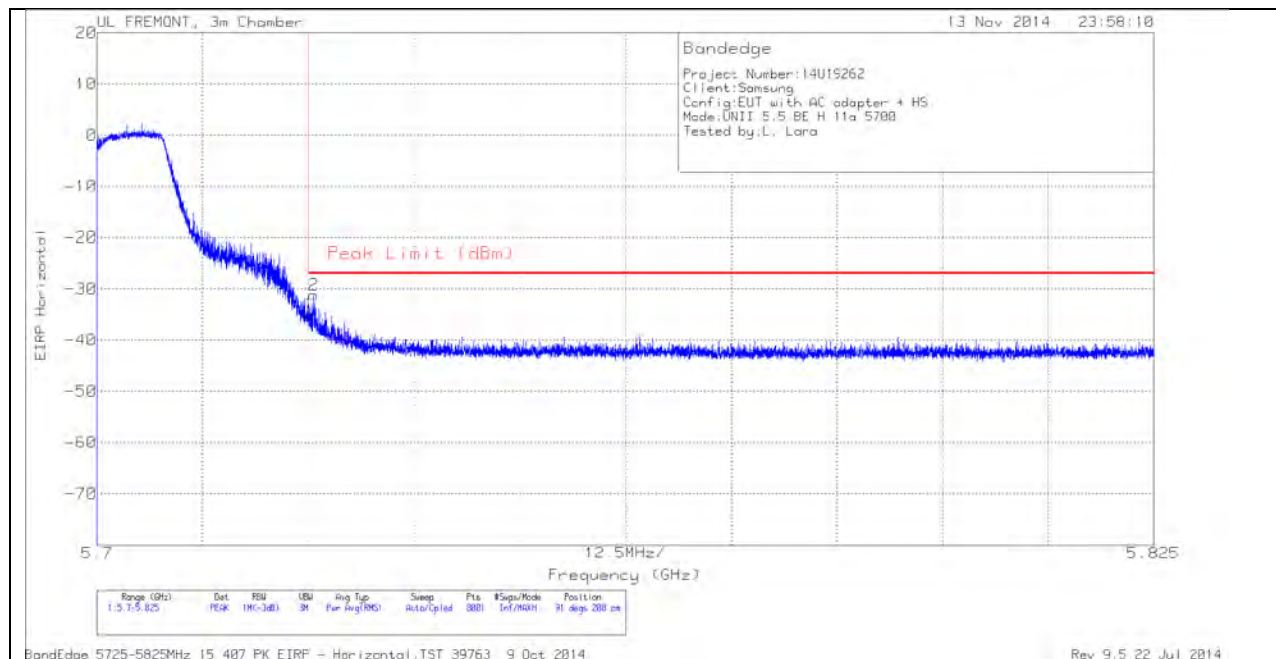


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Plt 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
6	5.457	31.07	RMS	34.8	-21.4	.32	44.79	54	-9.21	-	-	110	351	V
1	5.46	41.14	PK	34.8	-21.4	0	54.54	-	-	74	-19.46	110	351	V
2	5.46	43.44	PK	34.8	-21.4	0	56.84	-	-	74	-17.16	110	351	V
5	5.46	30.99	RMS	34.8	-21.4	.32	44.71	54	-9.29	-	-	110	351	V
3	5.47	48.75	PK	34.8	-21.3	0	62.25	-	-	68.2	-5.95	110	351	V
4	5.47	52.09	PK	34.8	-21.3	0	65.59	-	-	68.2	-2.61	110	351	V
7	5.47	33.94	RMS	34.8	-21.3	.32	47.76	-	-	-	-	110	351	V
8	5.47	34.53	RMS	34.8	-21.3	.32	48.35	-	-	-	-	110	351	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

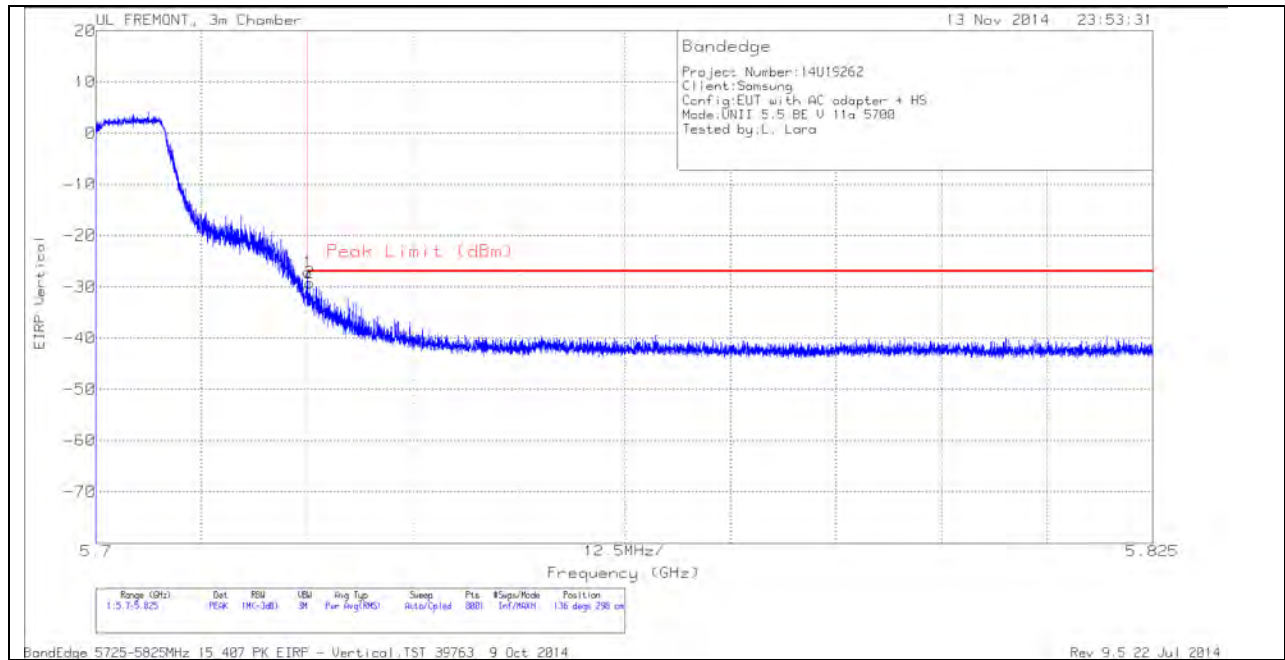
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cb/F ltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-60.35	PK	34.8	-21.1	11.8	-34.85	-27	-7.85	91	208	H
2	5.726	-56.63	PK	34.8	-21.1	11.8	-31.13	-27	-4.13	91	208	H

VERTICAL PEAK AND AVERAGE PLOT

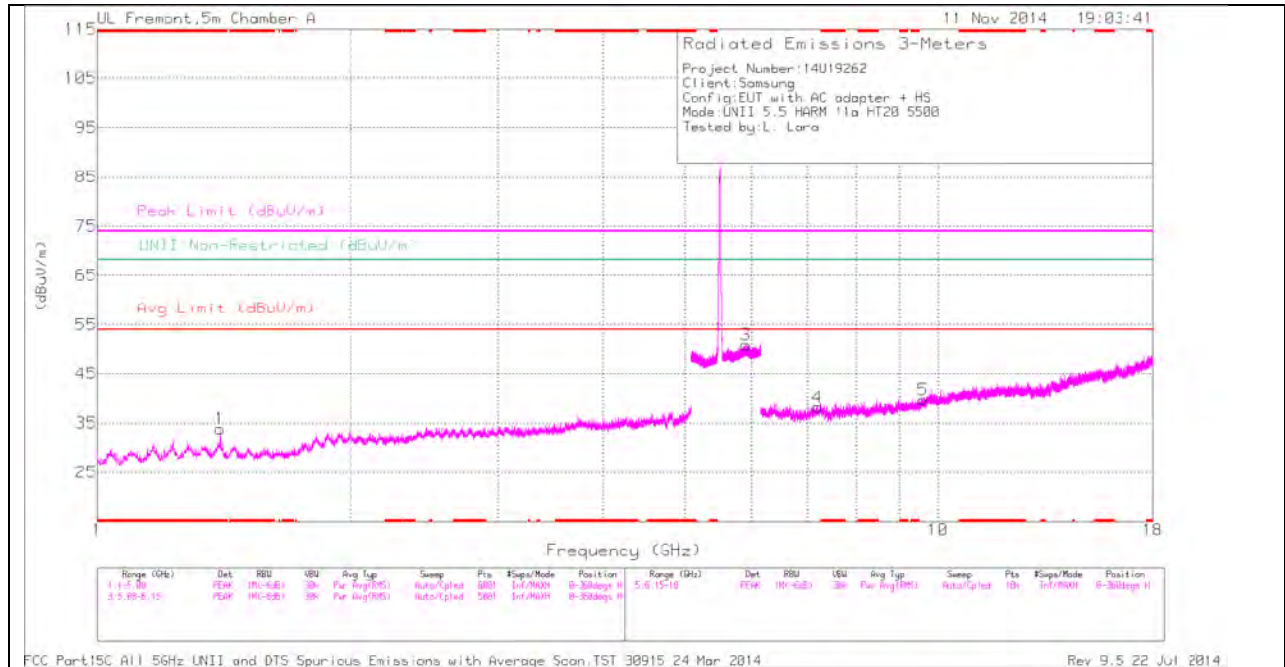


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-52.6	PK	34.8	-21.1	11.8	-27.1	-27	-1	136	298	V
2	5.725	-54.66	PK	34.8	-21.1	11.8	-29.16	-27	-2.16	136	298	V

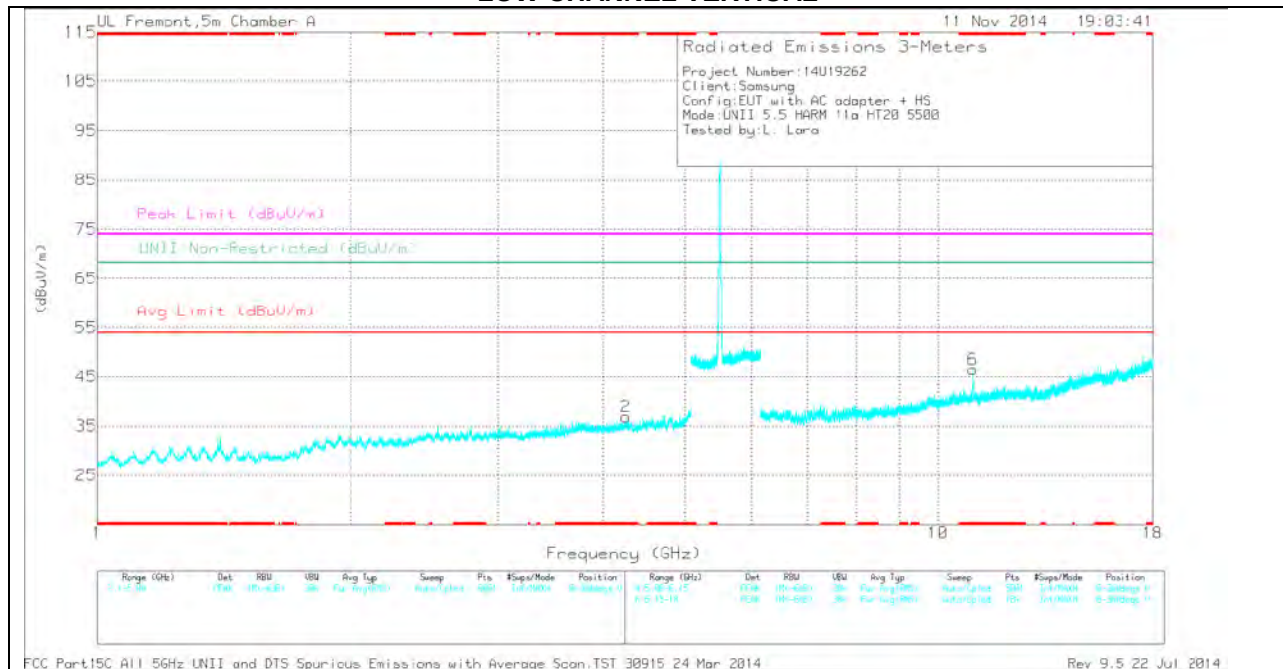
HARMONICS AND SPURIOUS EMISSIONS

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.

LOW CHANNEL VERTICAL



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	* 1.4	38.55	PK	29.8	-34.5	0	33.85	-	-	74	-40.15	-	-	0-360	201	H
2	* 4.254	31.86	PK	34	-29	0	36.86	-	-	74	-37.14	-	-	0-360	100	V
6	* 11	31.07	PK	37.7	-22.3	0	46.47	-	-	74	-27.53	-	-	0-360	201	V
3	5.91	35.16	PK	35	-19.3	0	50.86	-	-	-	-	68.2	-17.34	0-360	100	H
4	7.195	29	PK	35.2	-26	0	38.2	-	-	-	-	68.2	-30	0-360	100	H
5	9.596	27.03	PK	36.8	-24.1	0	39.73	-	-	-	-	68.2	-28.47	0-360	201	H

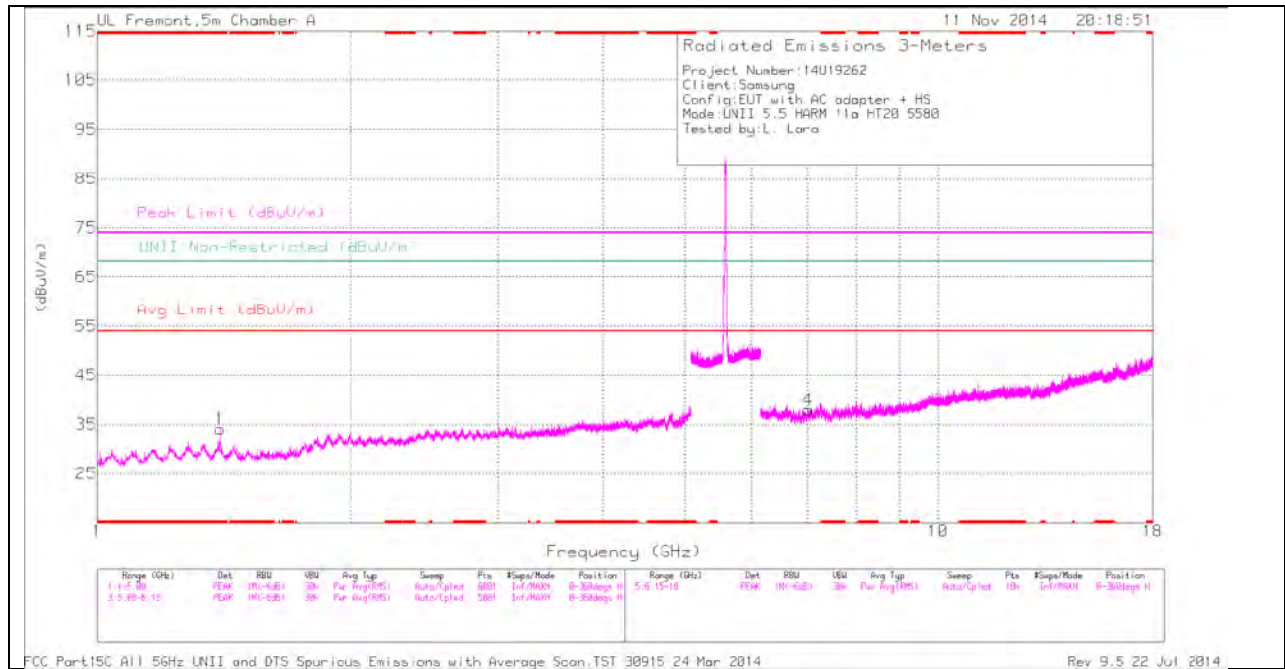
PK - Peak detector

RADIATED EMISSIONS

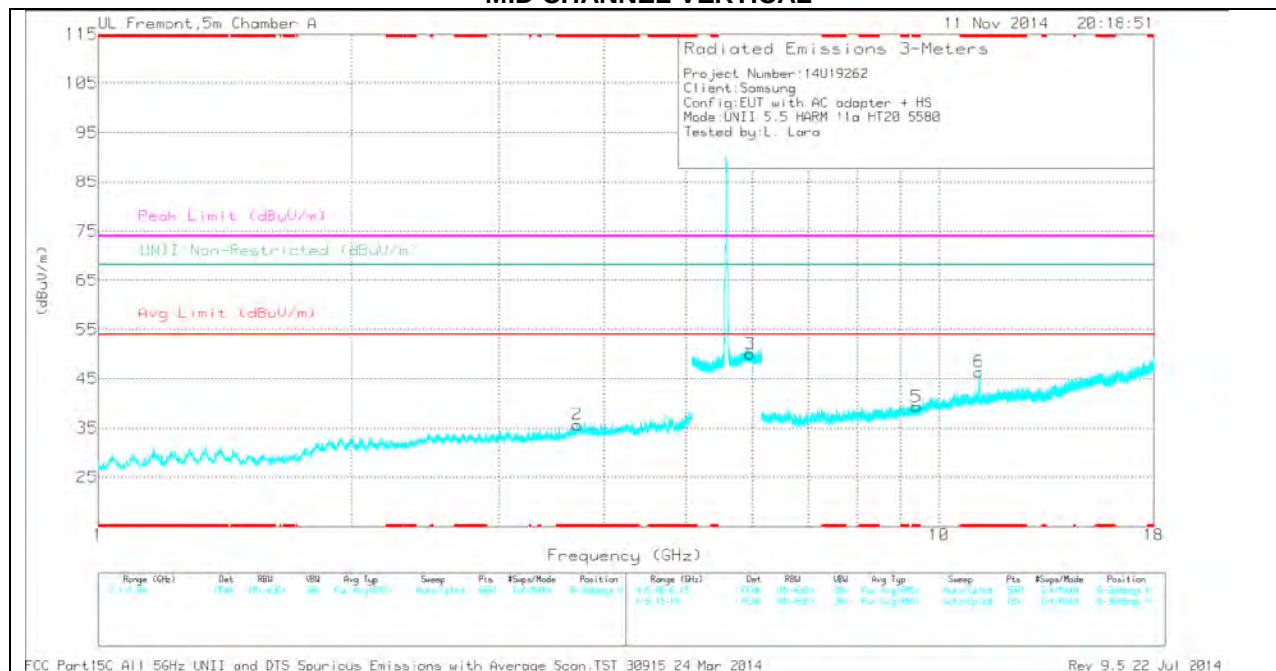
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11	40.78	PK1	37.7	-22.3	0	56.18	-	-	74	-17.82	-	-	245	191	V
* 11	28.72	AD1	37.7	-22.3	.32	44.47	54	-9.53	-	-	-	-	245	191	V

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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	* 1.399	38.81	PK	29.8	-34.5	0	34.11	-	-	74	-39.89	-	-	0-360	100	H
2	* 3.715	32.89	PK	33.4	-30.6	0	35.69	-	-	74	-38.31	-	-	0-360	201	V
5	* 9.412	27.22	PK	36.4	-24.3	0	39.32	-	-	74	-34.68	-	-	0-360	100	V
6	* 11.159	31.12	PK	37.8	-22.5	0	46.42	-	-	74	-27.58	-	-	0-360	201	V
3	5.961	34.36	PK	35.2	-19.5	0	50.06	-	-	-	-	68.2	-18.14	0-360	100	V
4	7.012	28.91	PK	35.3	-26.3	0	37.91	-	-	-	-	68.2	-30.29	0-360	201	H

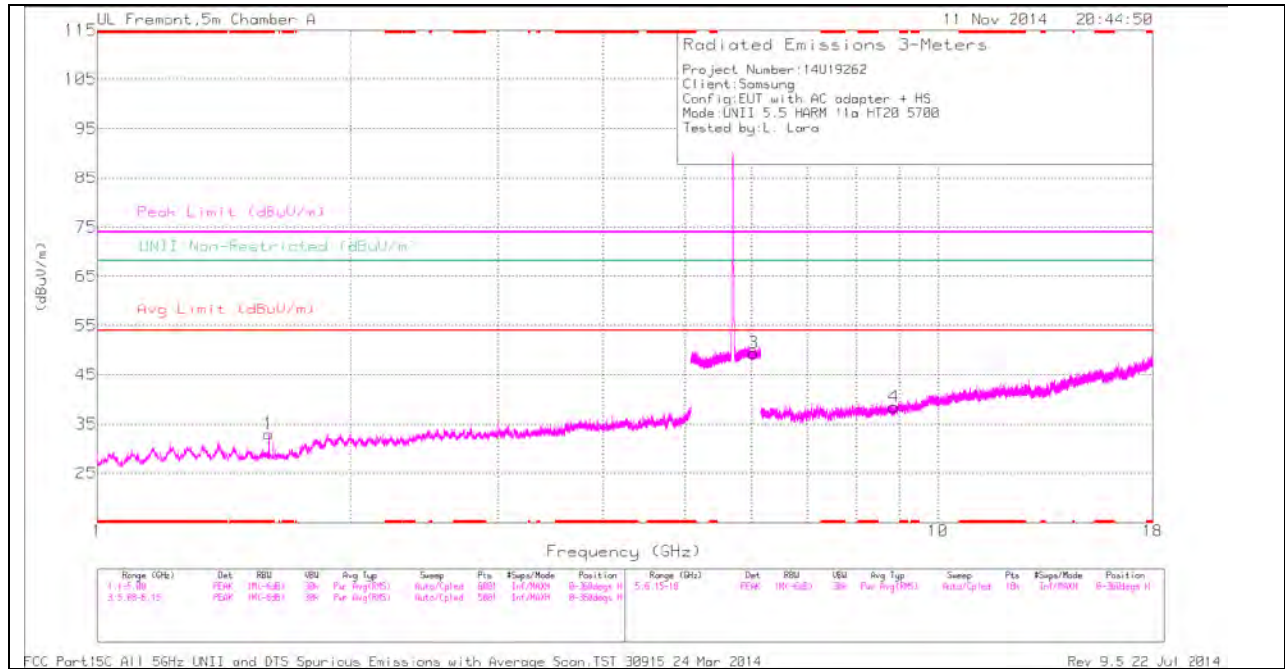
PK - Peak detector

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
* 11.162	42.75	PK1	37.8	-22.6	0	57.95	-	-	74	-16.05	-	-	219	176	V
* 11.16	29.44	AD1	37.8	-22.5	.32	45.09	54	-8.91	-	-	-	-	219	176	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.

UL Fremont, 5m Chamber A

11 Nov 2014 20:44:50

Radiated Emissions 3-Meters

Project Number: 14U19262
 Client: Samsung
 Config: EUT with AC adapter + HS
 Mode: UNII 5.5 HARM 11a HT20 5700
 Tested by: L. Lara

Peak Limit (dBuV/m)

UNII Non-Restricted (dBuV/m)

Avg Limit (dBuV/m)

2

4

5

Frequency (GHz)

Range (GHz)	Det	RBW	UNII	Avg Typ	Sweep	Pls	#Seps/Mode	Position	Range (GHz)	Det	RBW	UNII	Avg Typ	Sweep	Pls	#Seps/Mode	Position
2 to 5	ENF	100 kHz	20	Pk Avg (dB)	Auto (1/2)	500	100/5000	0-3000000	1.5 to 2	ENF	100 kHz	20	Pk Avg (dB)	Auto (1/2)	500	100/5000	0-3000000
2 to 5	ENF	100 kHz	20	Pk Avg (dB)	Auto (1/2)	500	100/5000	0-3000000	2 to 5	ENF	100 kHz	20	Pk Avg (dB)	Auto (1/2)	500	100/5000	0-3000000

FCC Part 15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 24 Mar 2014

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/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	* 1.598	38.19	PK	28.8	-34	0	32.99	-	-	74	-41.01	-	-	0-360	100	H
2	* 4.112	32.62	PK	33.9	-30.7	0	35.82	-	-	74	-38.18	-	-	0-360	100	V
5	* 7.261	30.76	PK	35.2	-25.5	0	40.46	-	-	74	-33.54	-	-	0-360	201	V
6	* 11.407	29.57	PK	38.1	-22.5	0	45.17	-	-	74	-28.83	-	-	0-360	201	V
3	6.033	33.76	PK	35.3	-19.6	0	49.46	-	-	-	-	68.2	-18.74	0-360	100	H
4	8.863	28.11	PK	35.8	-25.4	0	38.51	-	-	-	-	68.2	-29.69	0-360	201	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/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
* 11.408	40.38	PK1	38.1	-22.5	0	55.98	-	-	74	-18.02	-	-	206	229	V
* 11.406	24.07	AD1	38.1	-22.5	.32	40.02	54	-13.98	-	-	-	-	206	229	V

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