FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: SM-A5000; SM-A5009

FCC ID: A3LSMA5000

REPORT NUMBER: 14I18594-E5 REVISION A

ISSUE DATE: SEPTEMBER 16, 2014

Prepared for

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	9/8/14	Initial Issue	P. Zhang
A	9/16/14	Updated KDB reference; 5.8GHz high bandedge	P. Zhang

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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+ and NFC

MODEL: SM-A5000; SM-A5009

SERIAL NUMBER: R38F70L4XVV (Conducted); R38F70L4XTH (Radiated)

DATE TESTED: AUG 18- SEP 8, 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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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.
UNII procedures and limits were applied for operations in the frequency band from 5.725-5.850 GHz in accordance with FCC KDB publication 644545 D02 to demonstrate compliance with 15.247 requirements in that band.

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 18000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

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)
5180-5240	802.11a	13.70	23.44
5180-5240	802.11n HT20	13.92	24.66
5190-5230	802.11n HT40	13.53	22.54
5260-5320	802.11a	14.00	25.12
5260-5320	802.11n HT20	14.14	25.94
5270-5310	802.11n HT40	13.83	24.15
5500-5700	802.11a	13.37	21.73
5500-5700	802.11n HT20	13.39	21.83
5510-5670	802.11n HT40	12.88	19.41
5745 - 5825	802.11a	12.77	18.92
5745 - 5825	802.11n HT20	12.88	19.41
5755 - 5795	802.11n HT40	12.49	17.74

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -3.46 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

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

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that 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

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	SAMSUNG	EP-TA50CBC	N/A	N/A
Earphone	SAMSUNG	N/A	N/A	N/A

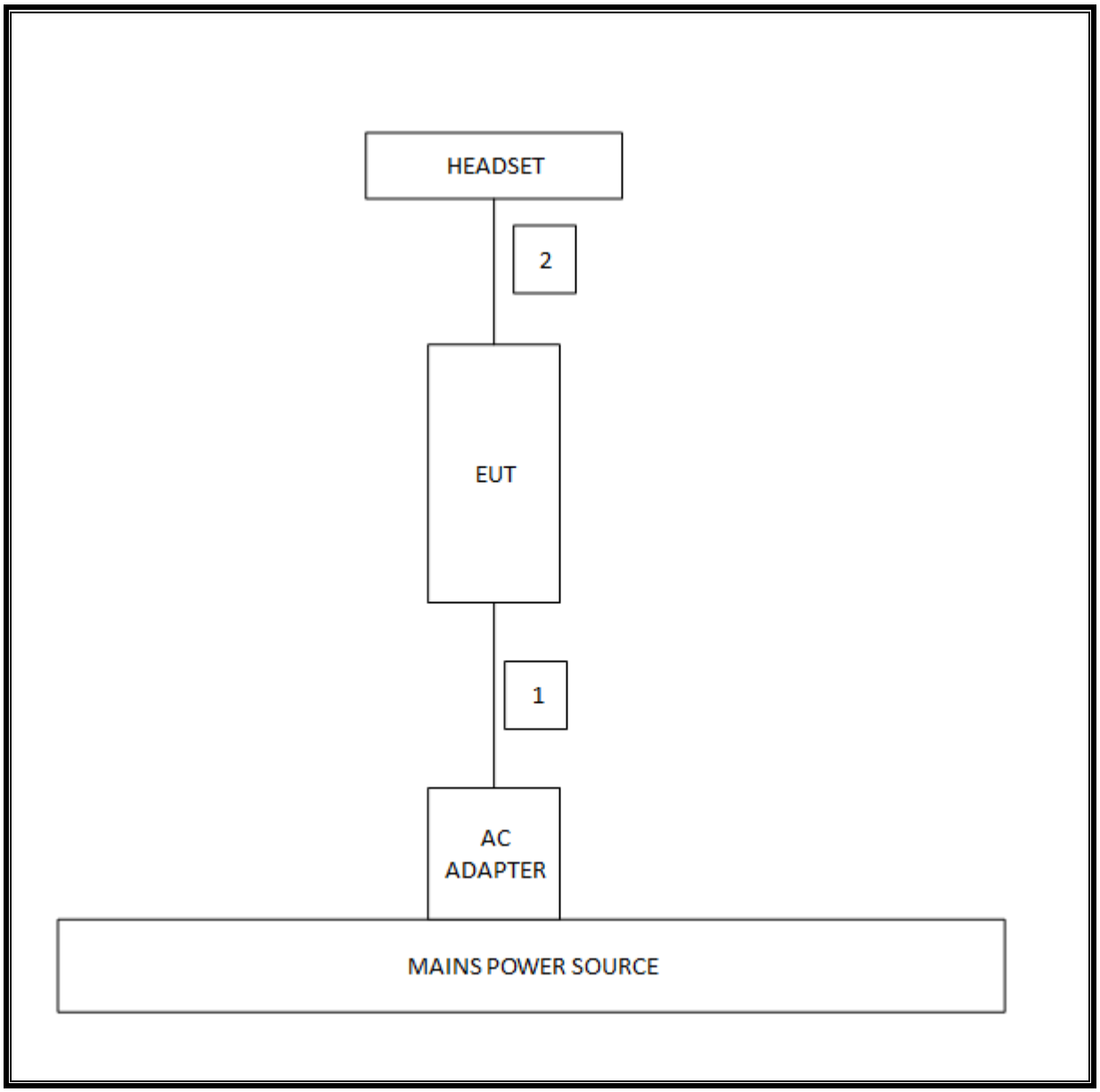
I/O CABLES

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



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. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)	Occupied Band width (26dB)	N/A	Conducted	Pass	58.87MHz
15.407 (a)(1)	TX Cond. Power 5.15-2.25	<17dBm or 4+10Log(OBW)		Pass	13.92 dBm
15.407 (a)(2)	TX Cond. Power 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	14.14 dBm
15.407 (a)(3)	TX Cond. Power 5.725-5.825	< 30dBm or 17+10Log(OBW)		Pass	12.88 dBm
15.407 (a)(5)	PSD	<8dBm		Pass	-1.30 dBm
15.407 (a)(6)	Peak Excursion Ratio	13dB		Pass	7.9 dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	27.18 dBuV(AV)
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	48.93 dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	N/A

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

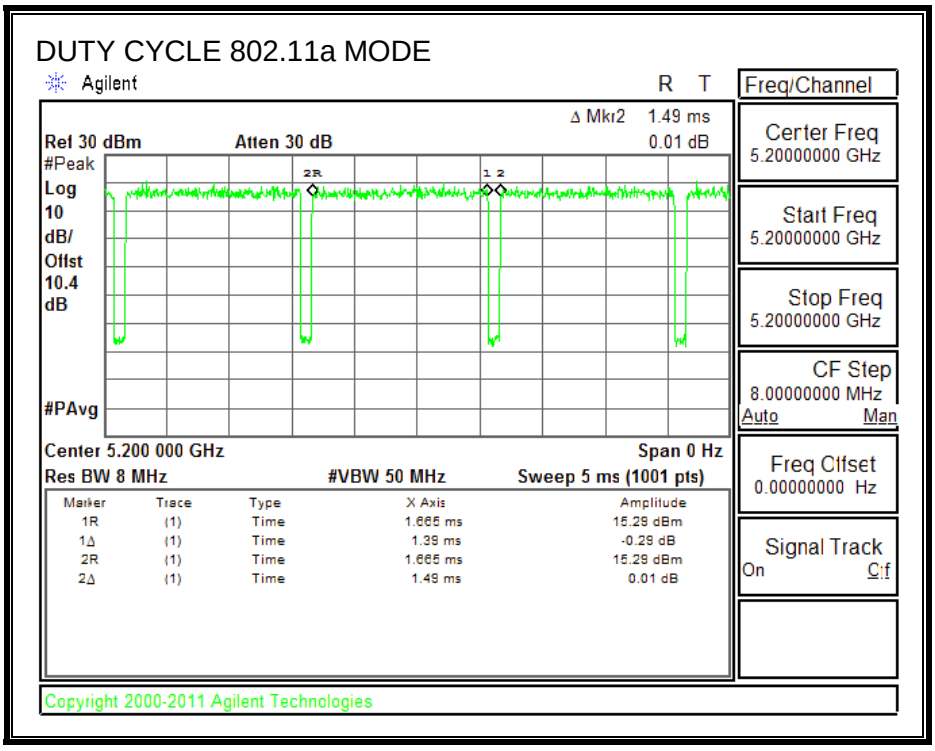
PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

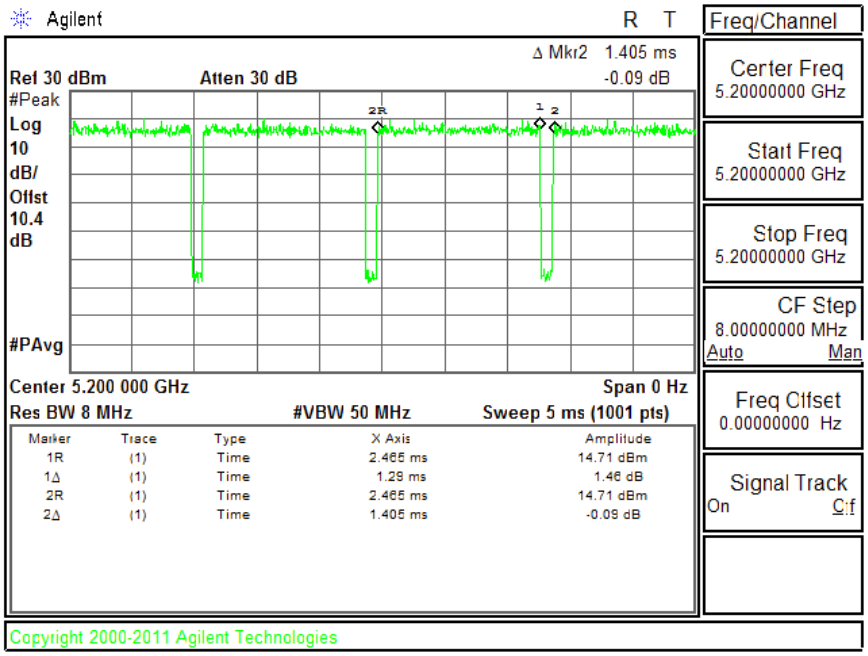
8.1. ON TIME AND DUTY CYCLE RESULTS

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	0.933	93.3%	0.30	0.719
802.11n HT20	1.29	1	0.918	91.8%	0.37	0.775
802.11n HT40	0.63	1	0.853	85.3%	0.69	1.595

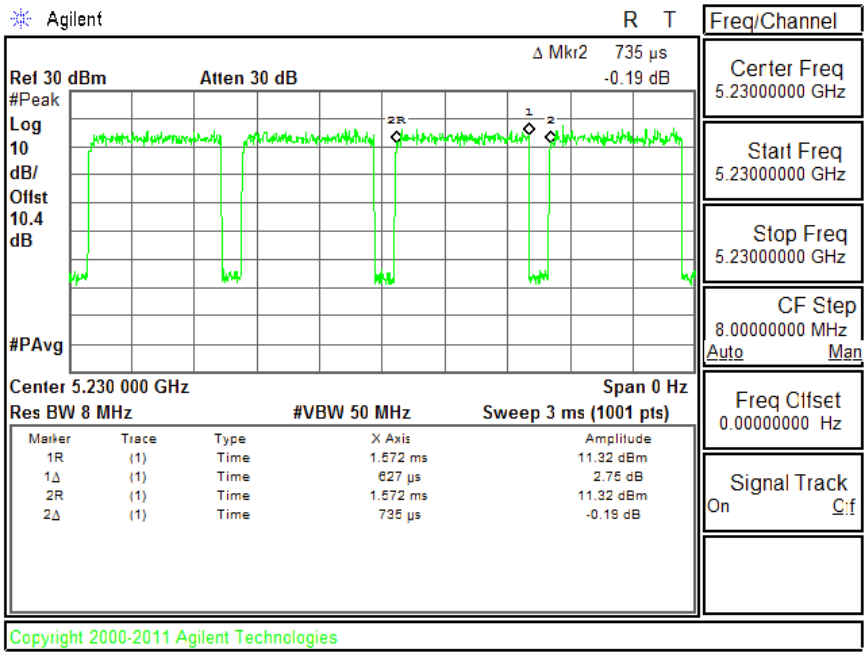
8.2. DUTY CYCLE PLOTS



DUTY CYCLE 802.11n HT20 MODE



DUTY CYCLE 802.11n HT40 MODE



9. MEASUREMENT METHOD

KDB 789033 D01 is used for testing.

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.

10. ANTENNA PORT TEST RESULTS

10.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.1.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	24.50
Mid	5200	24.10
High	5240	25.20
Worst		25.20

10.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	23.80
Mid	5200	25.60
High	5240	25.70
Worst		25.70

10.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
Low	5190	45.800
Mid	5230	45.900
Worst		45.900

10.1.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	26.60
Mid	5300	28.47
High	5320	28.87
Worst		28.87

10.1.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	24.40
Mid	5300	24.60
High	5320	25.13
Worst		25.13

10.1.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	47.100
High	5310	52.400
Worst		52.400

10.1.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	28.600
Mid	5580	25.800
High	5700	27.730
Worst		28.600

10.1.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	25.070
Mid	5580	25.000
High	5700	24.600
Worst		25.070

10.1.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	45.530
Mid	5550	45.400
High	5670	45.000
Worst		45.530

10.1.10. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	35.930
Mid	5785	33.730
High	5825	32.400
Worst		35.930

10.1.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

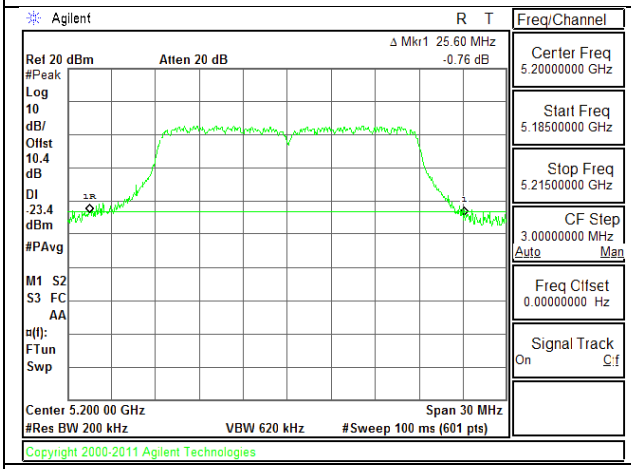
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	32.470
Mid	5785	29.730
High	5825	29.870
Worst		32.470

10.1.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

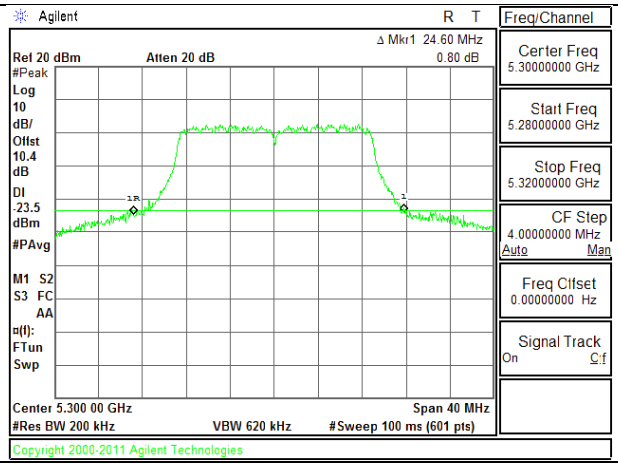
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5755	58.870
High	5795	57.930
Worst		58.870

10.1.13. 26 dB BANDWIDTH PLOTS

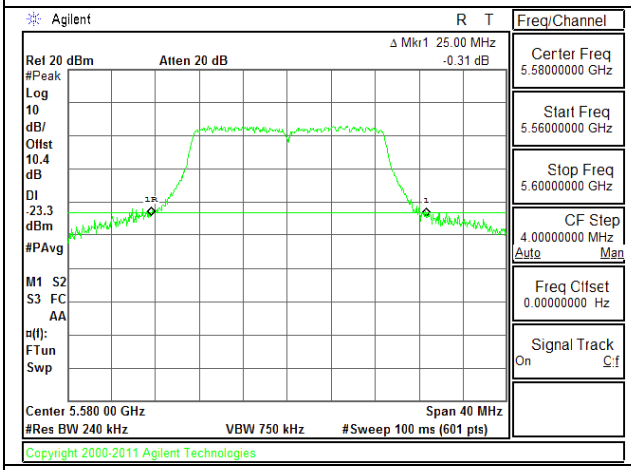
11n HT20 5.2 Mid Ch



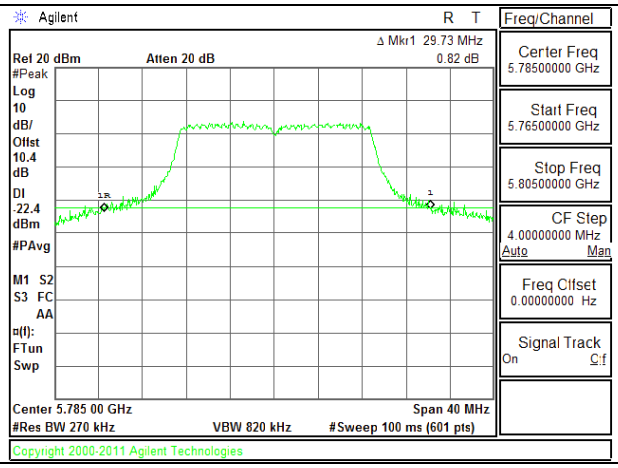
11n HT20 5.3 Mid Ch



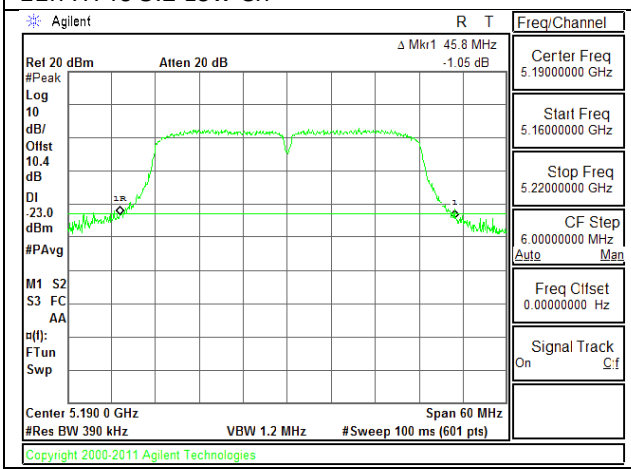
11n HT20 5.5 Mid Ch



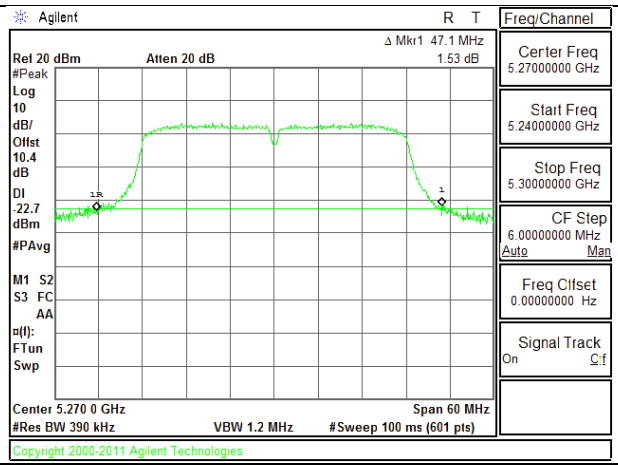
11n HT20 5.8 Mid Ch



11n HT40 5.2 Low Ch

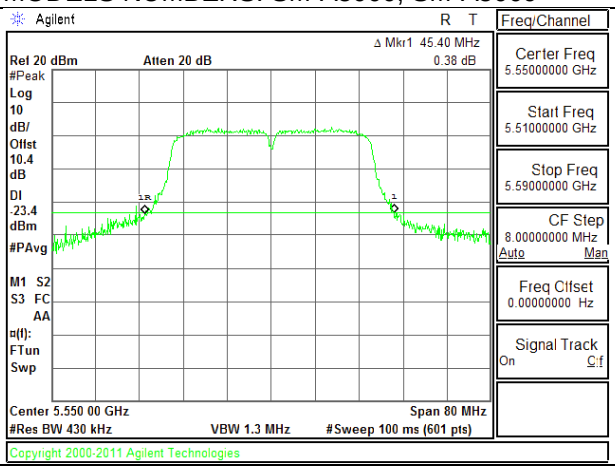


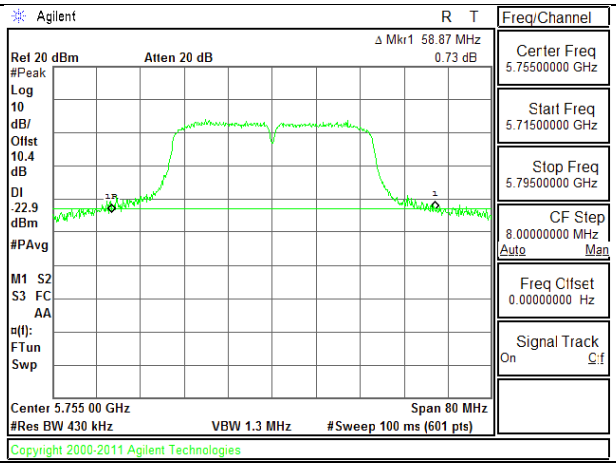
11n HT40 5.3 Low Ch



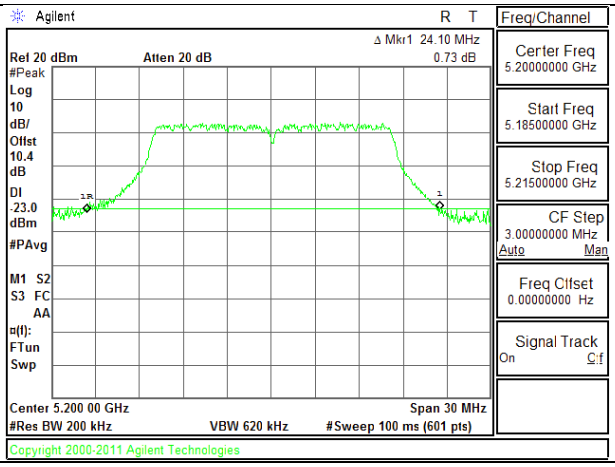
11n HT40 5.5 Mid Ch

11n HT40 5.8 Low Ch

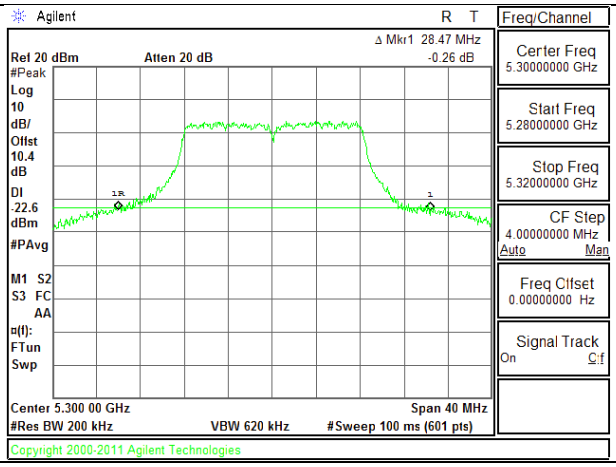




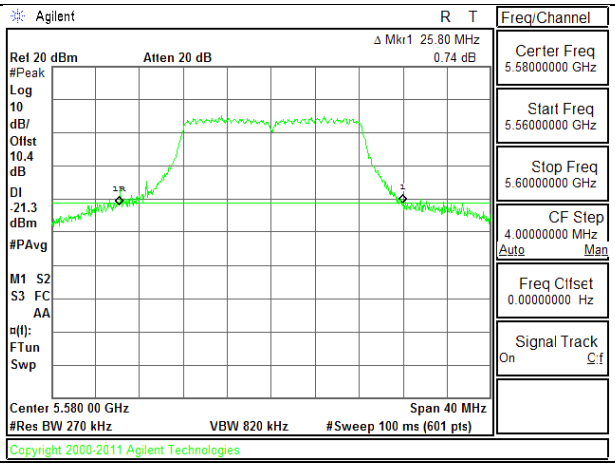
11a HT20 5.2 Mid Ch



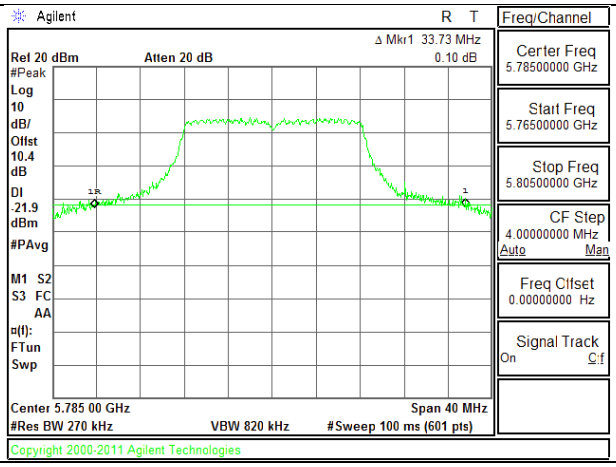
11a HT20 5.3 Mid Ch



11a HT20 5.5 Mid Ch



11a HT20 5.8 Mid Ch



10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	16.48
Mid	5200	16.47
High	5240	16.47
Worst		16.48

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.67
Mid	5200	17.66
High	5240	17.66
Worst		17.67

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	35.910
Mid	5230	35.960
Worst		35.960

10.2.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.47
Mid	5300	16.48
High	5320	16.49
Worst		16.49

10.2.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.66
Mid	5300	17.66
High	5320	17.67
Worst		17.67

10.2.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	35.94
High	5310	35.93
Worst		35.94

10.2.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.490
Mid	5580	16.470
High	5700	16.470
Worst		16.490

10.2.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.670
Mid	5580	17.660
High	5700	17.660
Worst		17.670

10.2.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	35.93
Mid	5550	35.92
High	5670	35.91
Worst		35.93

10.2.10. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.490
Mid	5785	16.490
High	5825	16.490
Worst		16.490

10.2.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

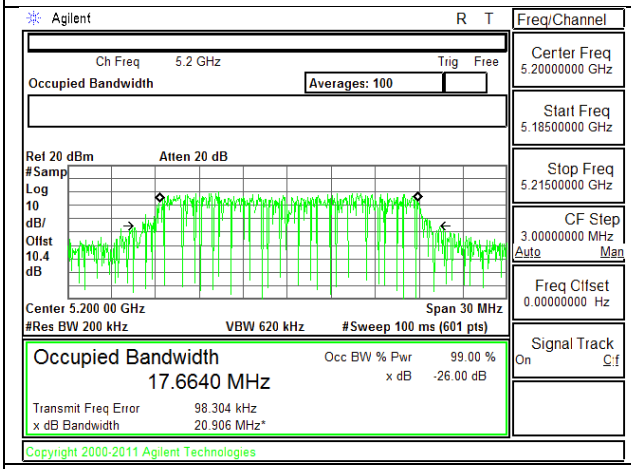
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.680
Mid	5785	17.670
High	5825	17.660
Worst		17.680

10.2.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

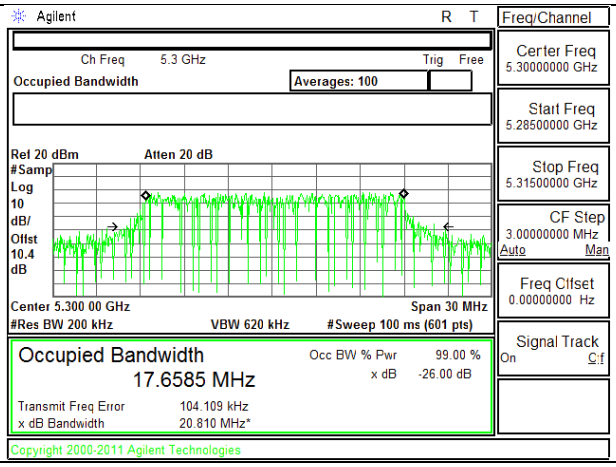
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	35.93
High	5795	35.92
Worst		35.93

10.2.13. 99% BANDWIDTH PLOTS

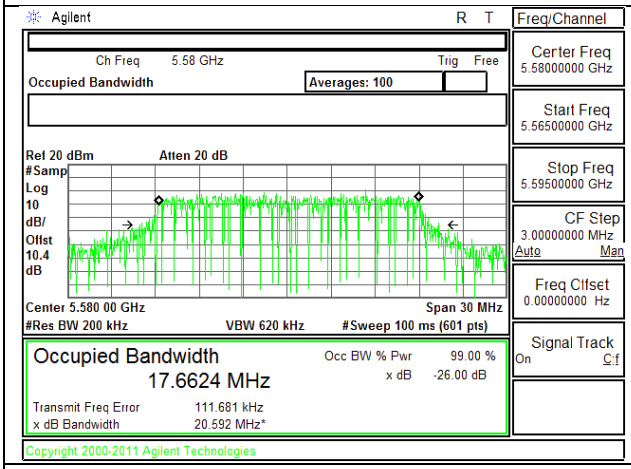
11n HT20 5.2 Mid Ch



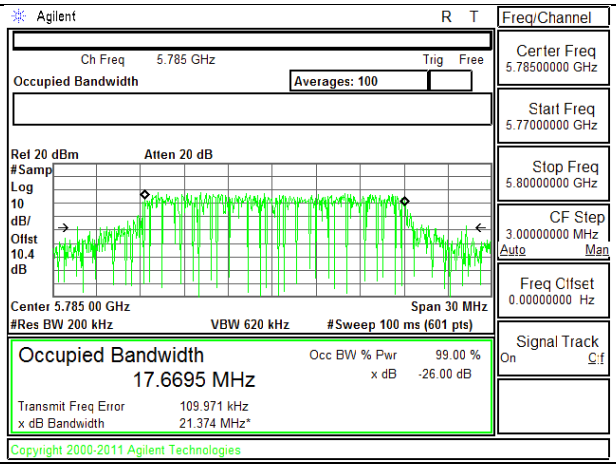
11n HT20 5.3 Mid Ch



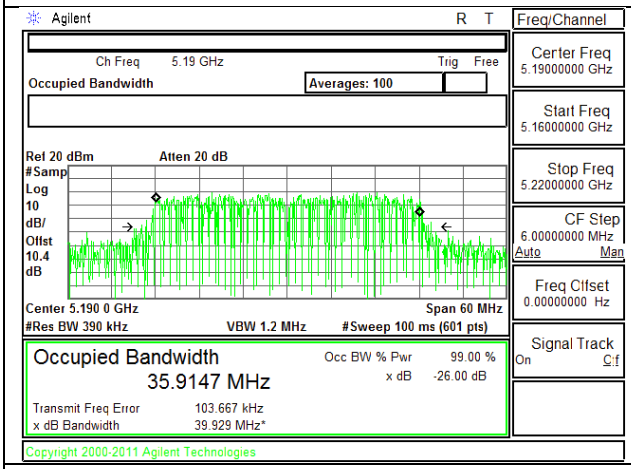
11n HT20 5.5 Mid Ch



11n HT20 5.8 Mid Ch



11n HT40 5.2 Low Ch



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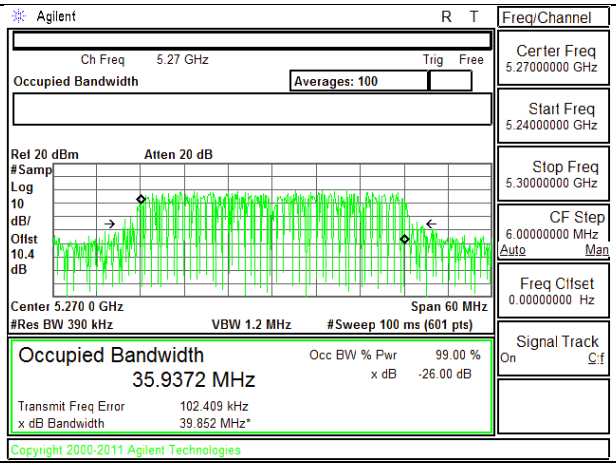
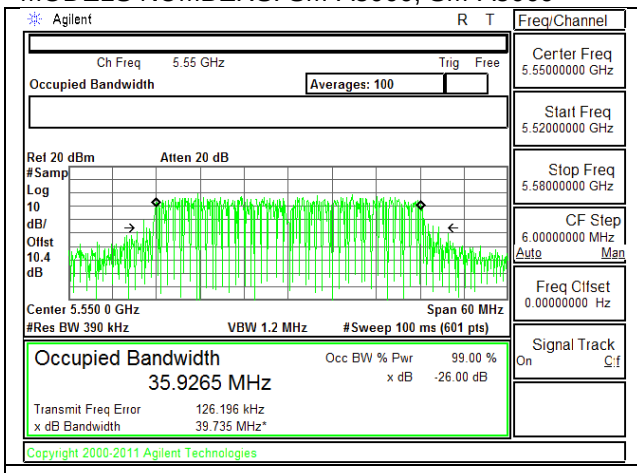
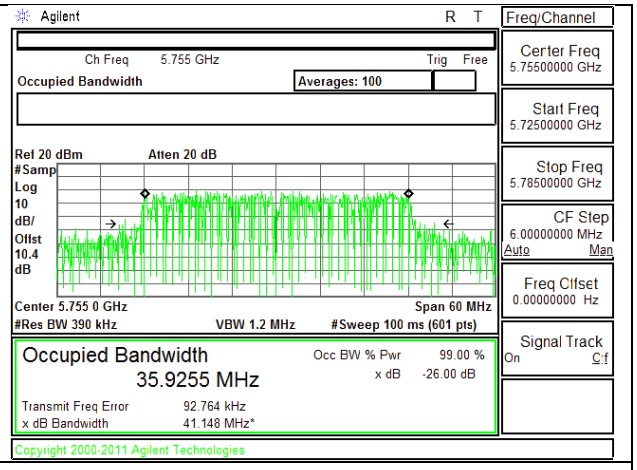


11n HT40 5.5 Mid Ch

11n HT40 5.8 Low Ch



11a HT20 5.2 Mid Ch



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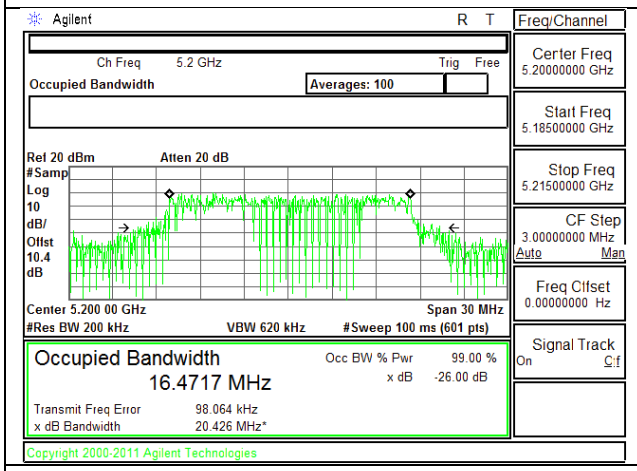
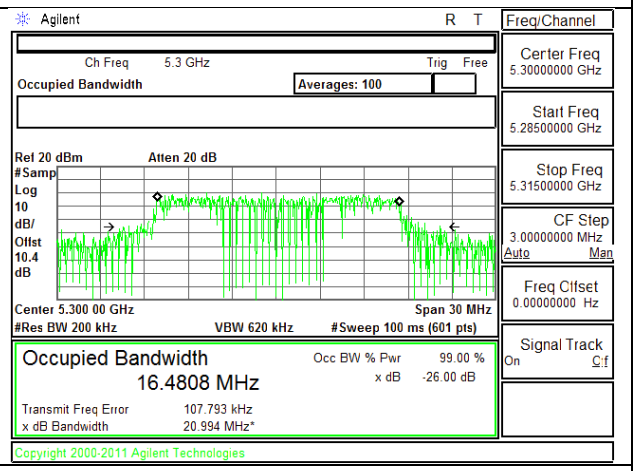
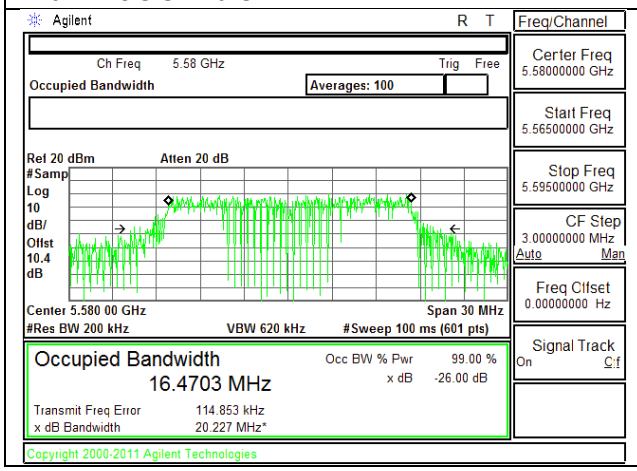


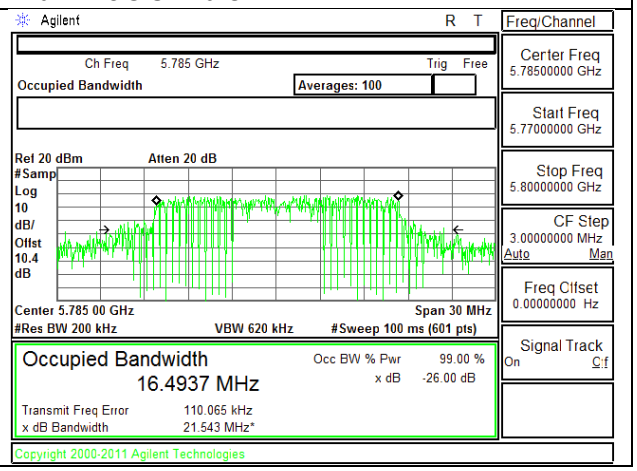
11a HT20 5.5 Mid Ch



11a HT20 5.8 Mid Ch



11a HT20 5.5 Mid Ch



11a HT20 5.8 Mid Ch

10.3. 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

10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

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

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	12.00
Mid	5200	12.10
High	5240	12.20
Worst		12.20

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5190	11.7
Mid	5230	11.8
Worst		11.8

10.3.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	12.20
Mid	5300	12.30
High	5320	12.40
Worst		12.40

10.3.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	12.10
Mid	5300	12.30
High	5320	12.40
Worst		12.40

10.3.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5270	11.9
High	5310	12.0
Worst		12.0

10.3.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	12.0
Mid	5580	11.5
High	5700	11.6
Worst		12.0

10.3.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	12.1
Mid	5580	11.6
High	5700	11.7
Worst		12.1

10.3.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5510	11.2
Mid	5550	11.7
High	5670	11.3
Worst		11.7

10.3.10. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	11.3
Mid	5785	10.7
High	5825	10.7
Worst		11.3

10.3.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	11.3
Mid	5785	10.8
High	5825	10.7
Worst		11.3

10.3.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5755	10.4
High	5795	10.9
Worst		10.9

10.4. 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 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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

Test Methodology

RESULTS

10.4.1. 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	24.500	16.480	-3.46
Mid	5200	24.100	16.470	-3.46
High	5240	25.200	16.470	-3.46

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	22.17	25.63	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.17	25.63	17.00	4.00	10.00	4.00
High	5240	17.00	22.17	25.63	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.30	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.582	12.88	17.00	-4.12
Mid	5200	12.705	13.01	17.00	-4.00
High	5240	13.397	13.70	17.00	-3.30

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	0.620	0.92	4.00	-3.08
Mid	5200	1.310	1.61	4.00	-2.39
High	5240	2.050	2.35	4.00	-1.65

10.4.2. 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	23.800	17.670	-3.46
Mid	5200	25.600	17.660	-3.46
High	5240	25.700	17.660	-3.46

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	25.93	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.47	25.93	17.00	4.00	10.00	4.00
High	5240	17.00	22.47	25.93	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.37	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.716	13.09	17.00	-3.91
Mid	5200	12.912	13.28	17.00	-3.72
High	5240	13.549	13.92	17.00	-3.08

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	1.260	1.63	4.00	-2.37
Mid	5200	1.430	1.80	4.00	-2.20
High	5240	1.970	2.34	4.00	-1.66

10.4.3. 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	45.8	35.910	-3.46
Mid	5230	45.9	35.960	-3.46

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	26.46	17.00	4.00	10.00	4.00
Mid	5230	17.00	23.00	26.46	17.00	4.00	10.00	4.00
Duty Cycle CF (dB)		0.69	Included in Calculations of Corr'd Power & PPSD					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	12.608	13.30	17.00	-3.70
Mid	5230	12.841	13.53	17.00	-3.47

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-1.770	-1.08	4.00	-5.08
Mid	5230	-1.580	-0.89	4.00	-4.89

10.4.4. 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	26.60	16.470	-3.46
Mid	5300	28.47	16.480	-3.46
High	5320	28.87	16.490	-3.46

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	23.17	29.17	23.17	11.00	11.00	11.00
Mid	5300	24.00	23.17	29.17	23.17	11.00	11.00	11.00
High	5320	24.00	23.17	29.17	23.17	11.00	11.00	11.00

Duty Cycle CF (dB)	0.30	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	13.703	14.00	23.17	-9.16
Mid	5300	13.367	13.67	23.17	-9.50
High	5320	13.390	13.69	23.17	-9.48

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	2.500	2.80	11.00	-8.20
Mid	5300	1.890	2.19	11.00	-8.81
High	5320	2.060	2.36	11.00	-8.64

10.4.5. 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	24.40	17.660	-3.46
Mid	5300	24.60	17.660	-3.46
High	5320	25.13	17.670	-3.46

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	23.47	29.47	23.47	11.00	11.00	11.00
Mid	5300	24.00	23.47	29.47	23.47	11.00	11.00	11.00
High	5320	24.00	23.47	29.47	23.47	11.00	11.00	11.00

Duty Cycle CF (dB)	0.37	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	13.770	14.14	23.47	-9.33
Mid	5300	13.369	13.74	23.47	-9.73
High	5320	13.377	13.75	23.47	-9.73

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	2.150	2.52	11.00	-8.48
Mid	5300	1.780	2.15	11.00	-8.85
High	5320	1.740	2.11	11.00	-8.89

10.4.6. 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	47.1	35.9	-3.46
High	5310	52.4	35.9	-3.46

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)	0.69	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.86	13.55	24.00	-10.45
High	5310	13.14	13.83	24.00	-10.17

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-1.44	-0.75	11.00	-11.75
High	5310	-1.08	-0.39	11.00	-11.39

10.4.7. 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	28.60	16.490	-3.46
Mid	5580	25.80	16.470	-3.46
High	5700	27.73	16.470	-3.46

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	23.17	29.17	23.17	11.00	11.00	11.00
Mid	5580	24.00	23.17	29.17	23.17	11.00	11.00	11.00
High	5700	24.00	23.17	29.17	23.17	11.00	11.00	11.00

Duty Cycle CF (dB)	0.30	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.074	13.37	23.17	-9.80
Mid	5580	12.477	12.78	23.17	-10.39
High	5700	12.272	12.57	23.17	-10.59

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	1.780	2.08	11.00	-8.92
Mid	5580	1.340	1.64	11.00	-9.36
High	5700	1.050	1.35	11.00	-9.65

10.4.8. 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	25.07	17.670	-3.46
Mid	5580	25.00	17.660	-3.46
High	5700	24.60	17.660	-3.46

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	23.47	29.47	23.47	11.00	11.00	11.00
Mid	5580	24.00	23.47	29.47	23.47	11.00	11.00	11.00
High	5700	24.00	23.47	29.47	23.47	11.00	11.00	11.00

Duty Cycle CF (dB)	0.37	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.022	13.39	23.47	-10.08
Mid	5580	12.560	12.93	23.47	-10.54
High	5700	12.187	12.56	23.47	-10.91

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	1.470	1.84	11.00	-9.16
Mid	5580	0.940	1.31	11.00	-9.69
High	5700	0.590	0.96	11.00	-10.04

10.4.9. 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	45.5	35.930	-3.46
Mid	5550	45.4	35.930	-3.46
High	5670	45.0	35.910	-3.46

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)	0.69	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	12.191	12.88	24.00	-11.12
Mid	5550	11.806	12.50	24.00	-11.50
High	5670	11.968	12.66	24.00	-11.34

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-2.230	-1.54	11.00	-12.54
Mid	5550	-2.470	-1.78	11.00	-12.78
High	5670	-2.580	-1.89	11.00	-12.89

10.4.10. 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	35.9	16.5	-3.46
Mid	5785	33.7	16.5	-3.46
High	5825	32.4	16.5	-3.46

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	29.17	35.17	29.17	17.00	17.00	17.00
Mid	5785	30.00	29.17	35.17	29.17	17.00	17.00	17.00
High	5825	30.00	29.17	35.17	29.17	17.00	17.00	17.00

Duty Cycle CF (dB)	0.30	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	12.47	12.77	29.17	-16.41
Mid	5785	11.67	11.97	29.17	-17.21
High	5825	11.65	11.95	29.17	-17.22

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	1.20	1.50	17.00	-15.50
Mid	5785	0.37	0.67	17.00	-16.33
High	5825	0.32	0.62	17.00	-16.38

10.4.11. 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	32.5	17.7	-3.46
Mid	5785	29.7	17.7	-3.46
High	5825	29.9	17.7	-3.46

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	29.47	35.47	29.47	17.00	17.00	17.00
Mid	5785	30.00	29.47	35.47	29.47	17.00	17.00	17.00
High	5825	30.00	29.47	35.47	29.47	17.00	17.00	17.00

Duty Cycle CF (dB)	0.37	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	12.51	12.88	29.47	-16.60
Mid	5785	11.75	12.12	29.47	-17.35
High	5825	11.70	12.07	29.47	-17.40

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	0.96	1.33	17.00	-15.67
Mid	5785	0.15	0.52	17.00	-16.48
High	5825	0.04	0.41	17.00	-16.59

10.4.12. 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	58.9	35.9	-3.46
High	5795	57.9	35.9	-3.46

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)	0.69	Included in Calculations of Corr'd Power & PPSD

Output Power Results

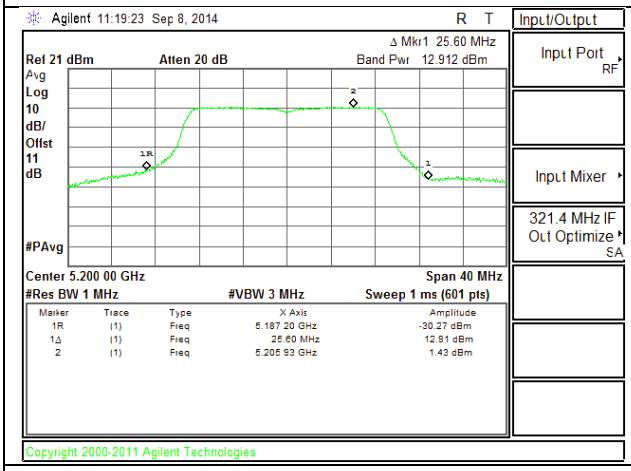
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	11.80	12.49	30.00	-17.51
High	5795	11.45	12.14	30.00	-17.86

PPSD Results

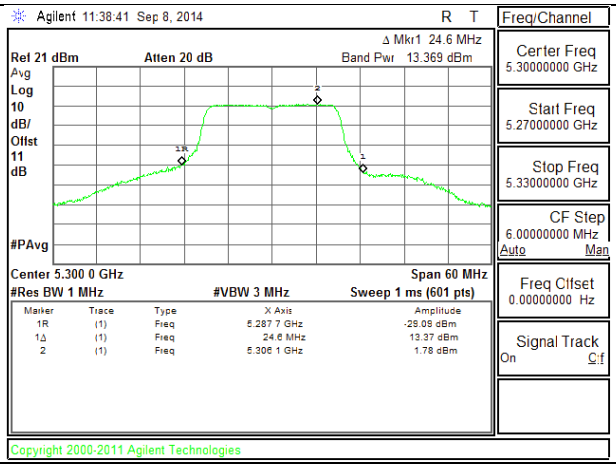
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5755	-2.64	-1.95	17.00	-18.95
High	5795	-2.71	-2.02	17.00	-19.02

10.4.13. OUTPUT POWER AND PPSD PLOTS, Chain 0

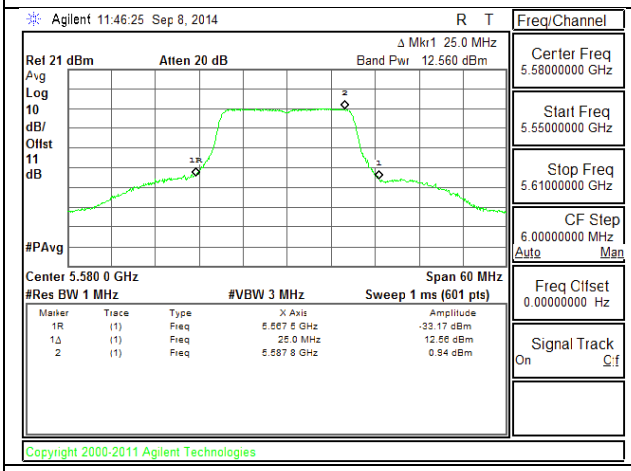
11n HT20 5.2 Mid Ch



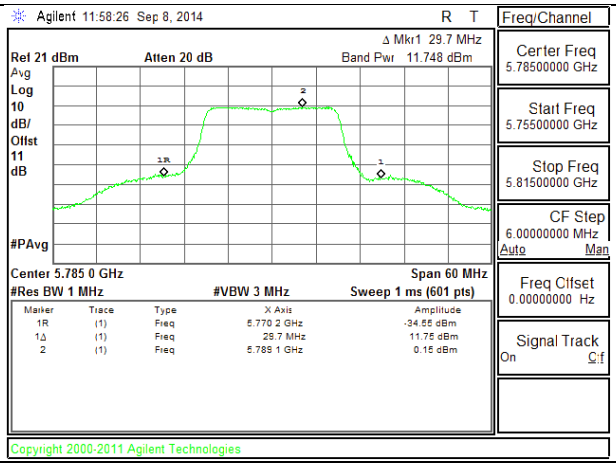
11n HT20 5.3 Mid Ch



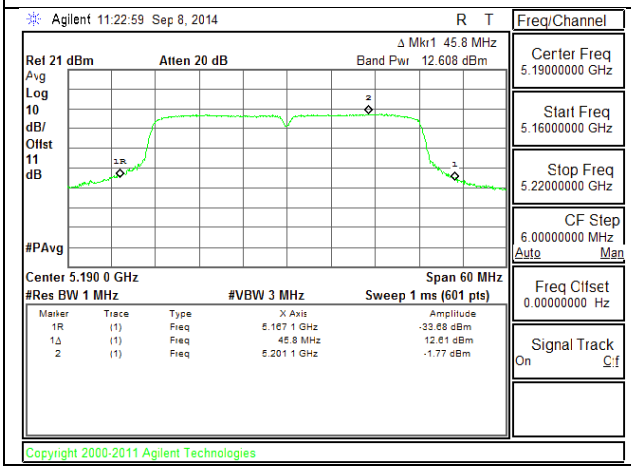
11n HT20 5.5 Mid Ch



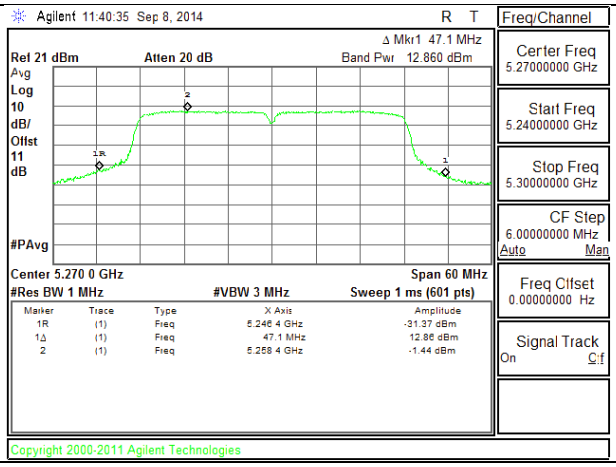
11n HT20 5.8 Mid Ch



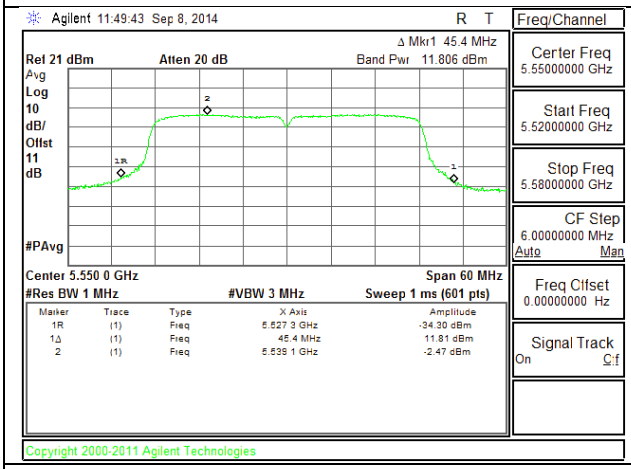
11n HT40 5.2 Low Ch



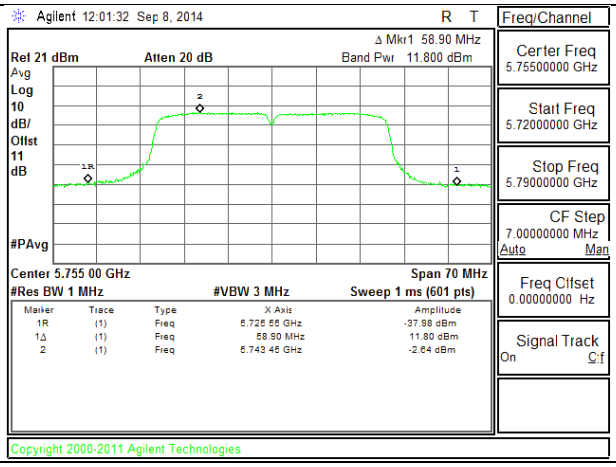
11n HT40 5.3 Low Ch



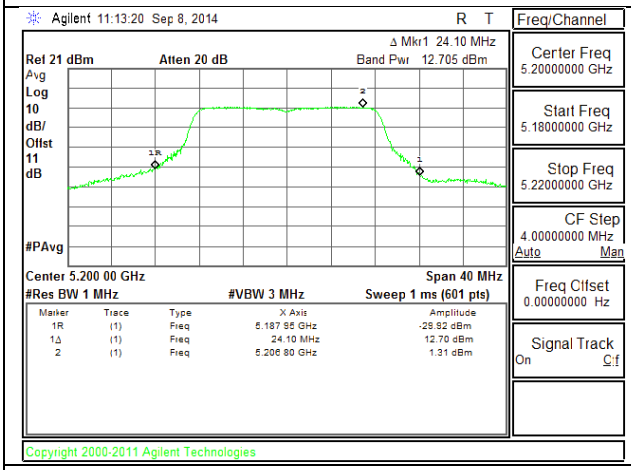
11n HT40 5.5 Mid Ch



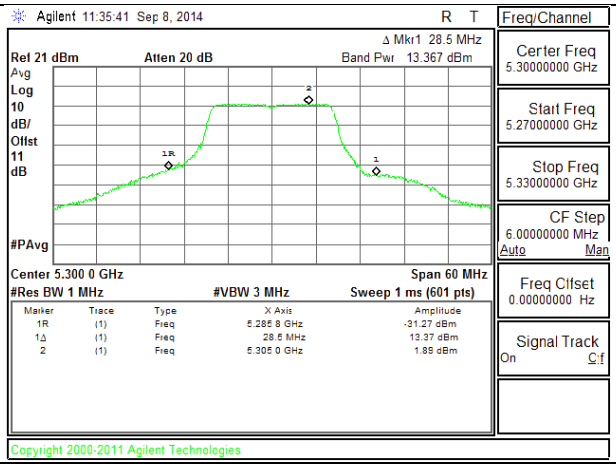
11n HT40 5.8 Low Ch



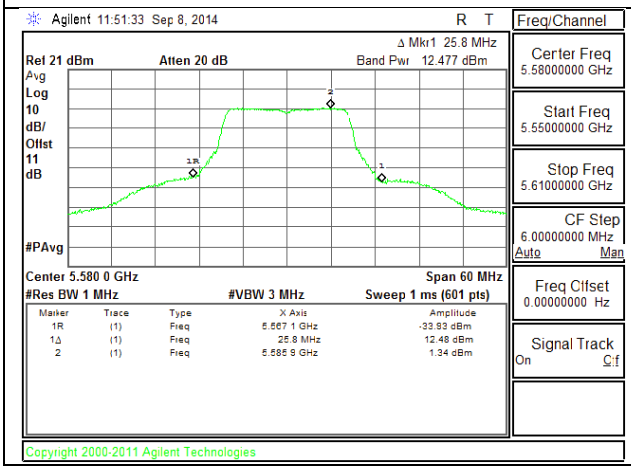
11a HT20 5.2 Mid Ch



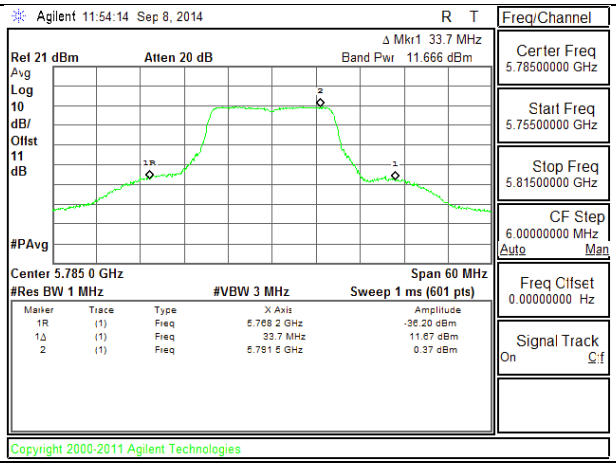
11a HT20 5.3 Mid Ch



11a HT20 5.5 Mid Ch



11a HT20 5.8 Mid Ch



10.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

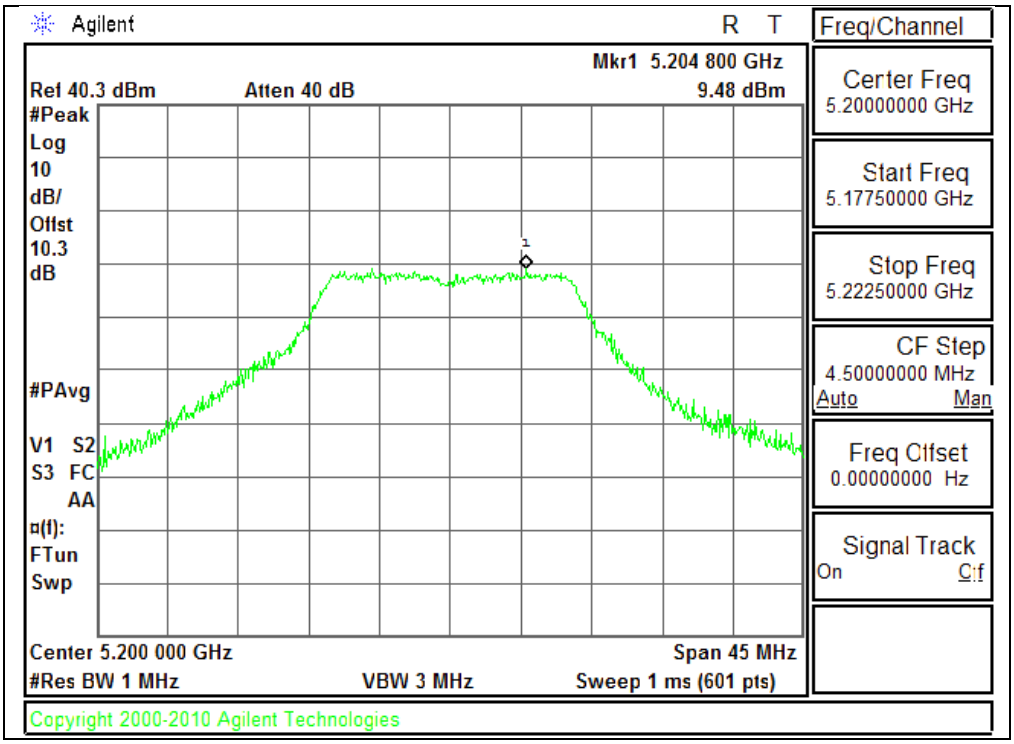
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

10.5.1. 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	9.480	1.31	0.30	7.87	13	-5.13

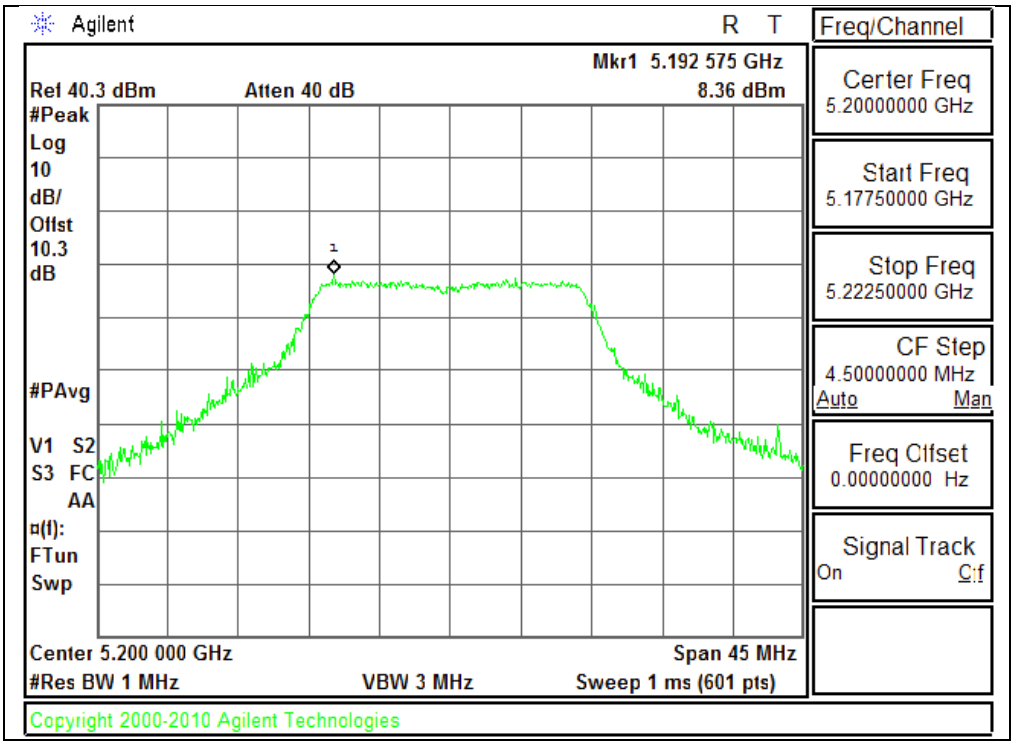
PEAK EXCURSION



10.5.2. 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	8.360	1.43	0.37	6.56	13	-6.44

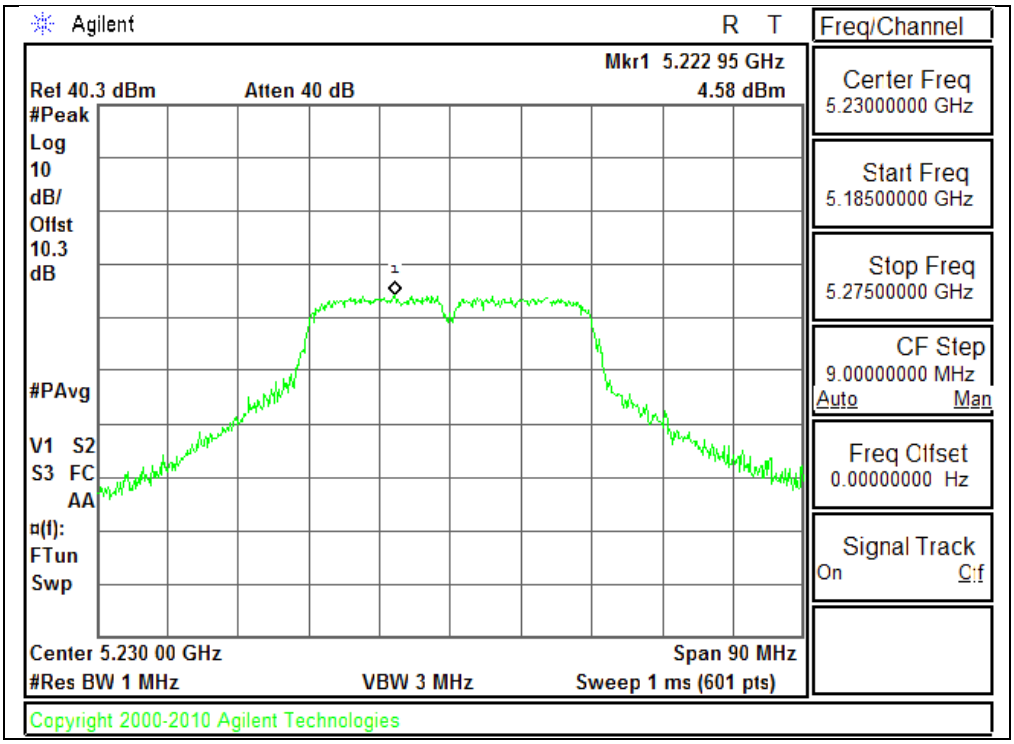
PEAK EXCURSION



10.5.3. 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	4.580	-0.89	0.69	4.78	13	-8.22

PEAK EXCURSION



11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

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

TEST PROCEDURE

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

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

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

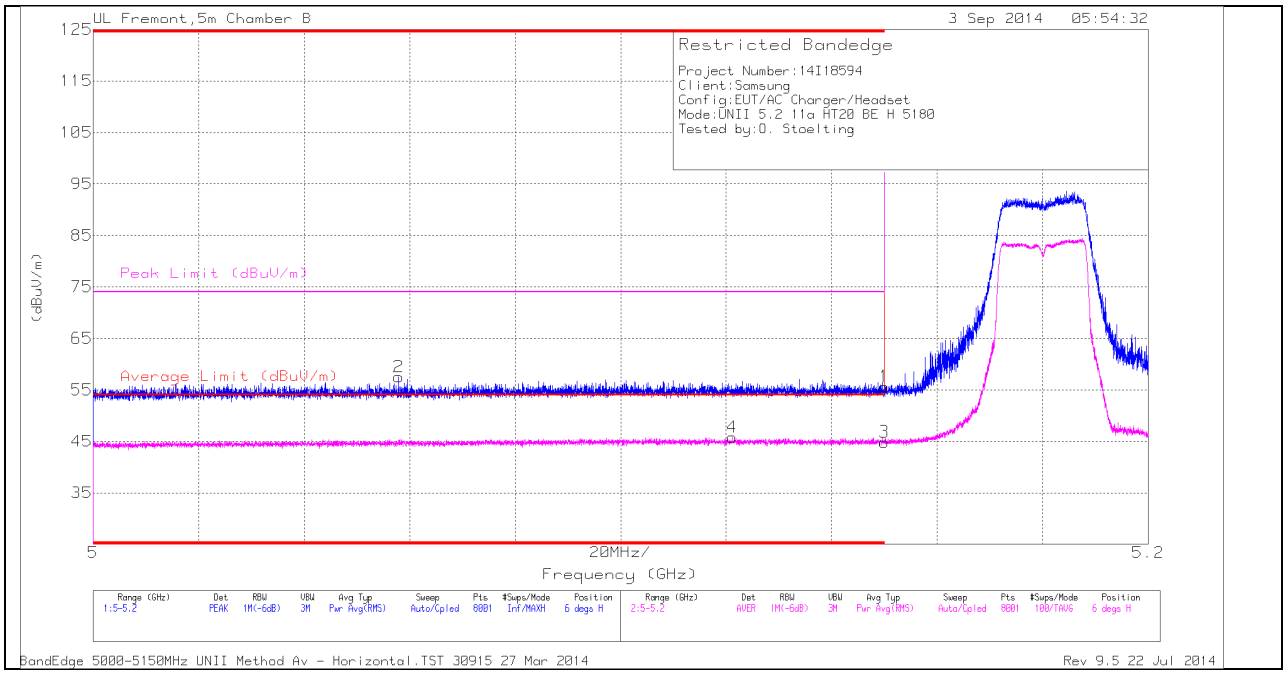
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

11.1. 5.2 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

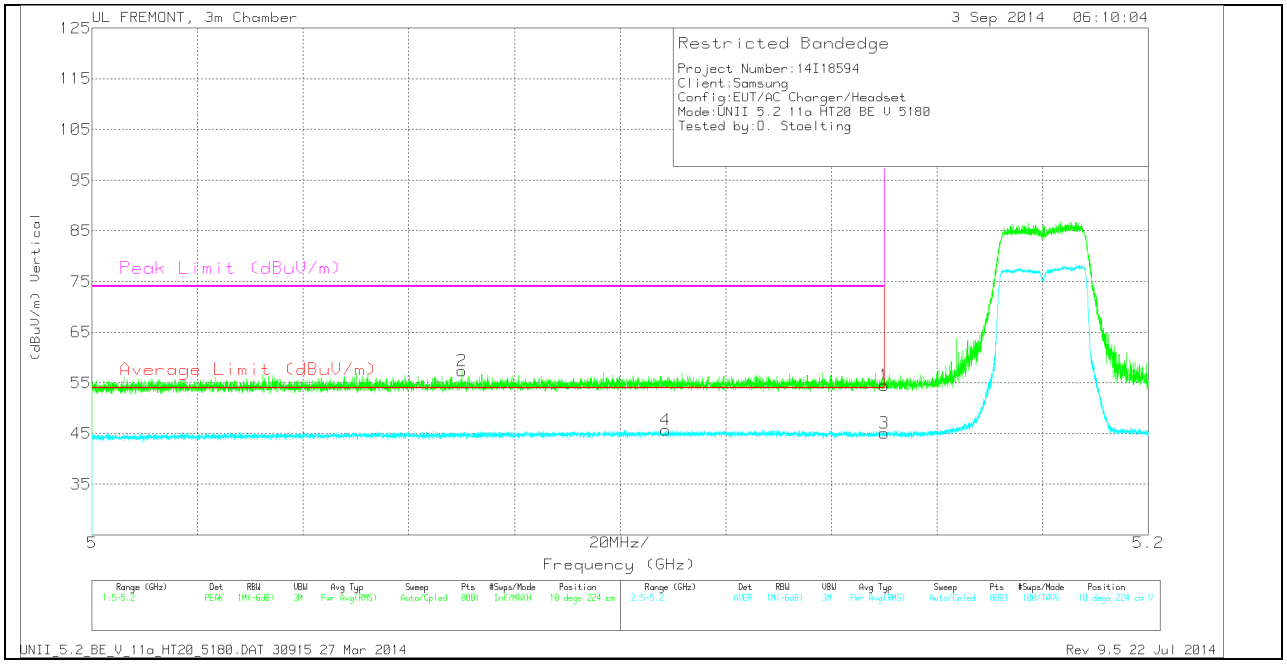
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.82	PK	34.3	-20.5	0	55.62	-	-	74	-18.38	6	339	H
2	* 5.058	43.74	PK	34.2	-20.4	0	57.54	-	-	74	-16.46	6	339	H
3	* 5.15	31.06	RMS	34.3	-20.5	.3	44.86	54	-9.14	-	-	6	339	H
4	* 5.121	31.99	RMS	34.3	-20.5	.3	45.79	54	-8.21	-	-	6	339	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

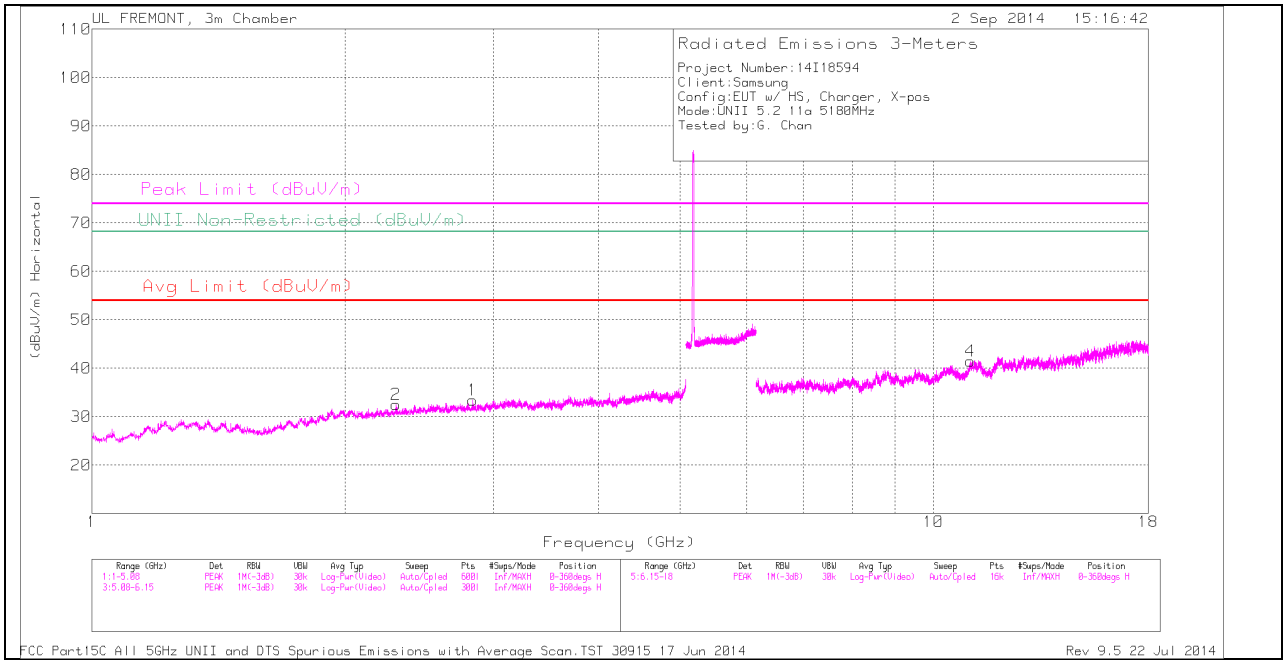
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.07	43.66	PK	34.2	-20.5	0	57.36	-	-	74	-16.64	10	224	V
4	5.109	31.85	RMS	34.3	-20.4	.3	45.75	54	-8.25	-	-	10	224	V
1	5.15	40.72	PK	34.3	-20.5	0	54.52	-	-	74	-19.48	10	224	V
3	5.15	31.3	RMS	34.3	-20.5	.3	45.1	54	-8.9	-	-	10	224	V

PK - Peak detector

RMS - RMS detection

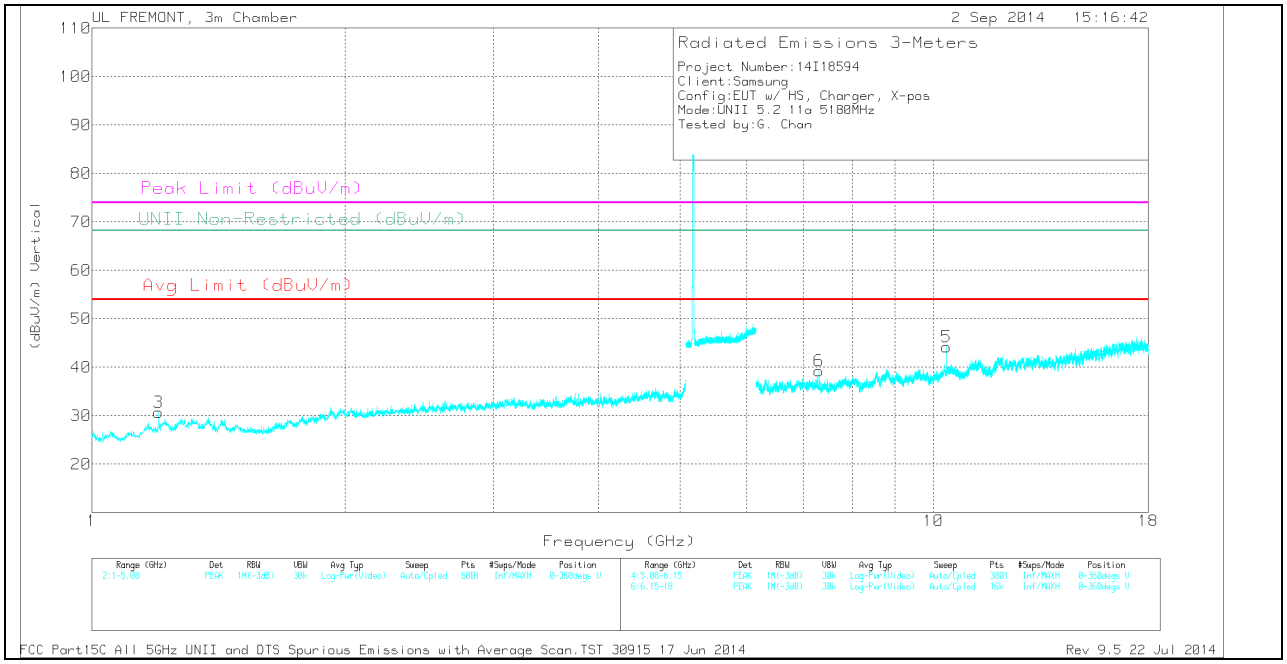
HARMONICS AND SPURIOUS EMISSIONS

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/ 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	1.2	34.7	PK	29.2	-33.2	0	30.7	-	-	74	-43.3	-	-	0-360	200	V
2	2.297	33.26	PK	31.8	-32.5	0	32.56	-	-	74	-41.44	-	-	0-360	200	H
1	2.835	33.16	PK	32.7	-32.4	0	33.46	-	-	74	-40.54	-	-	0-360	200	H
6	7.314	33.12	PK	35.6	-29.5	0	39.22	-	-	74	-34.78	-	-	0-360	200	V
5	10.359	32.25	PK	37.3	-25.4	0	44.15	-	-	-	-	68.2	-24.05	0-360	200	V
4	11.058	28.65	PK	37.9	-25.1	0	41.45	-	-	74	-32.55	-	-	0-360	200	H

PK - Peak detector

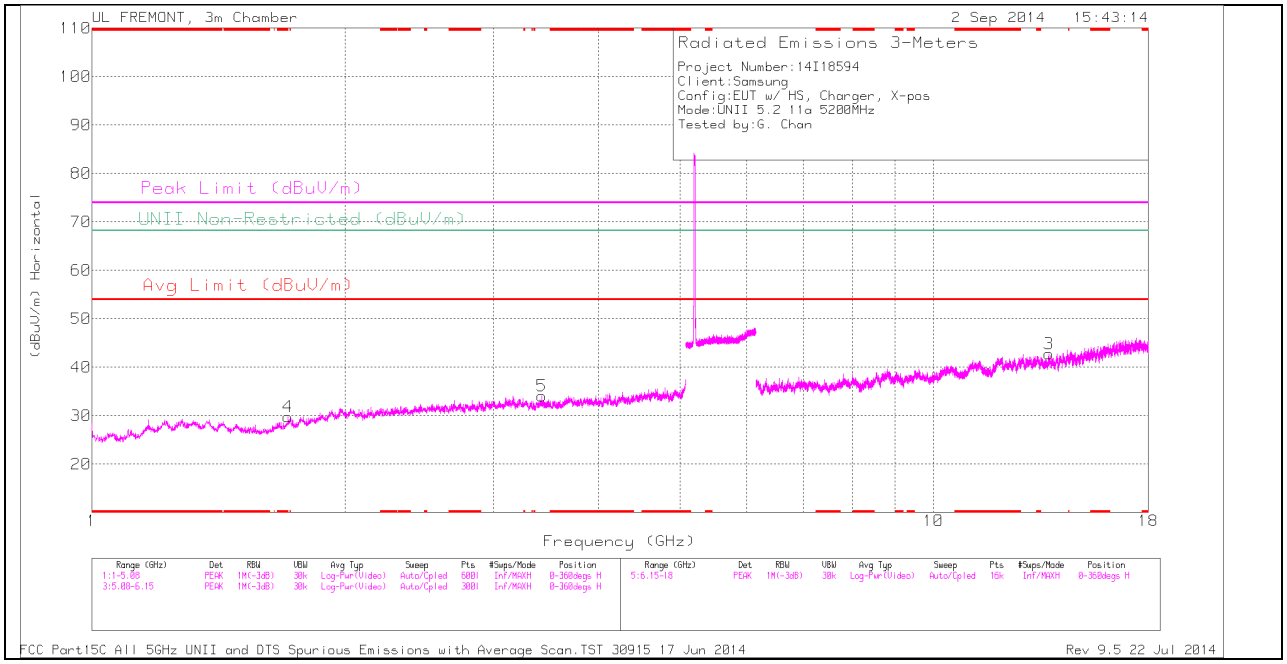
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
10.36	38.85	PK1	37.3	-25.4	0	50.75	-	-	-	-	68.2	-17.45	34	174	V
10.36	30.23	AD1	37.3	-25.4	.3	42.43	-	-	-	-	-	-	34	174	V

PK1 - KDB789033 Method: Peak

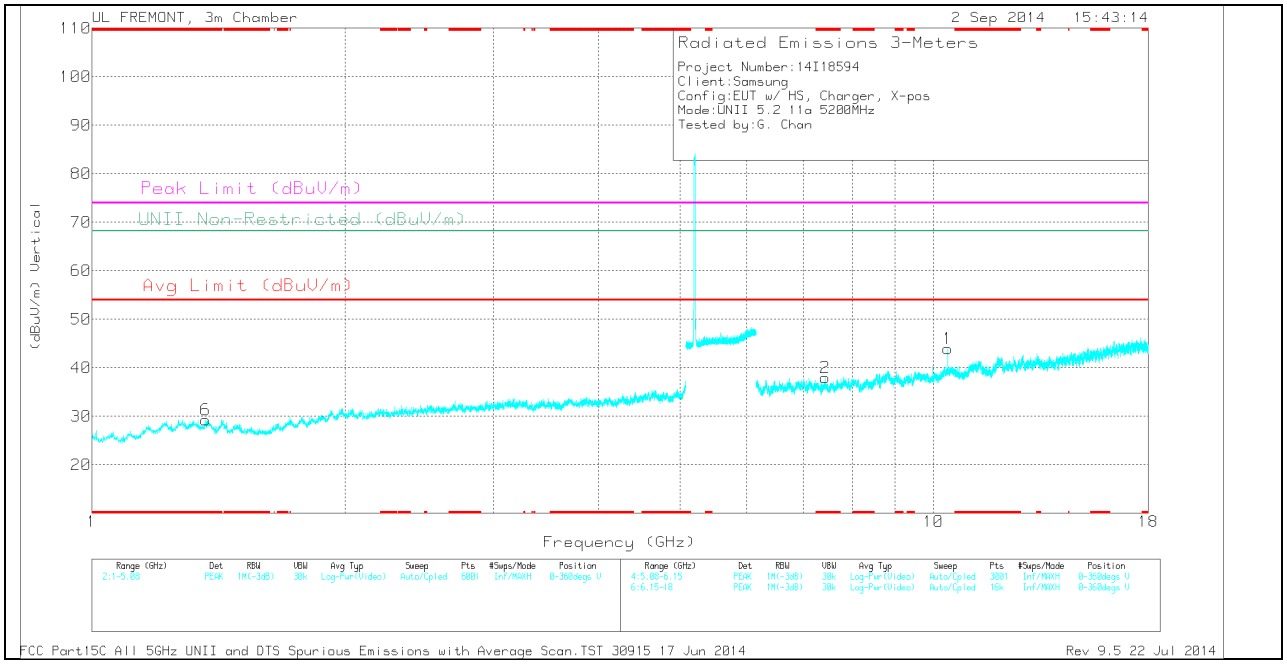
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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
6	* 1.366	33	PK	29.5	-33.2	0	29.3	-	-	74	-44.7	-	-	0-360	200	V
2	* 7.434	30.83	PK	35.7	-28.6	0	37.93	-	-	74	-36.07	-	-	0-360	200	V
4	1.711	32.71	PK	29.2	-32.1	0	29.81	-	-	-	-	68.2	-38.39	0-360	100	H
5	3.425	32.59	PK	32.9	-31.4	0	34.09	-	-	-	-	68.2	-34.11	0-360	200	H
1	10.4	32.47	PK	37.3	-25.8	0	43.97	-	-	-	-	68.2	-24.23	0-360	200	V
3	13.719	31.1	PK	38.8	-27.1	0	42.8	-	-	-	-	68.2	-25.4	0-360	100	H

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

PK - Peak detector

Radiated Emissions

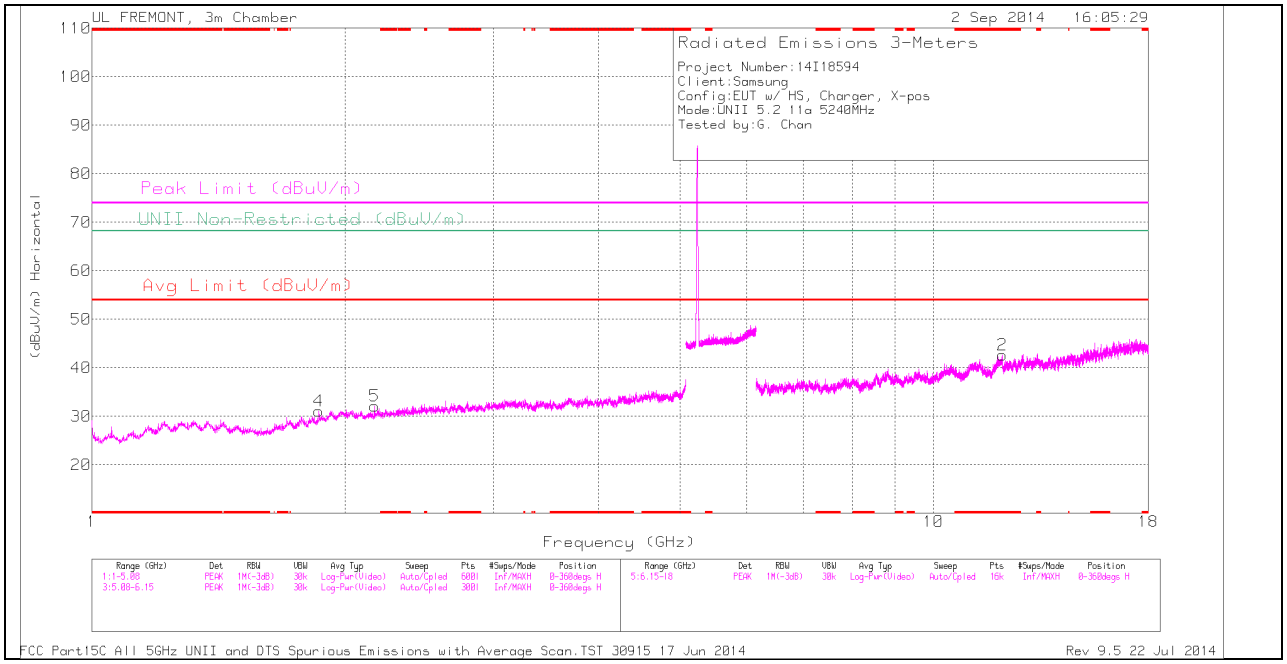
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10.4	39.85	PK1	37.3	-25.8	0	51.35	-	-	-	-	68.2	-16.85	30	237	V
10.4	32.31	AD1	37.3	-25.8	.3	44.11	-	-	-	-	-	-	30	237	V

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

PK1 - KDB789033 Method: Peak

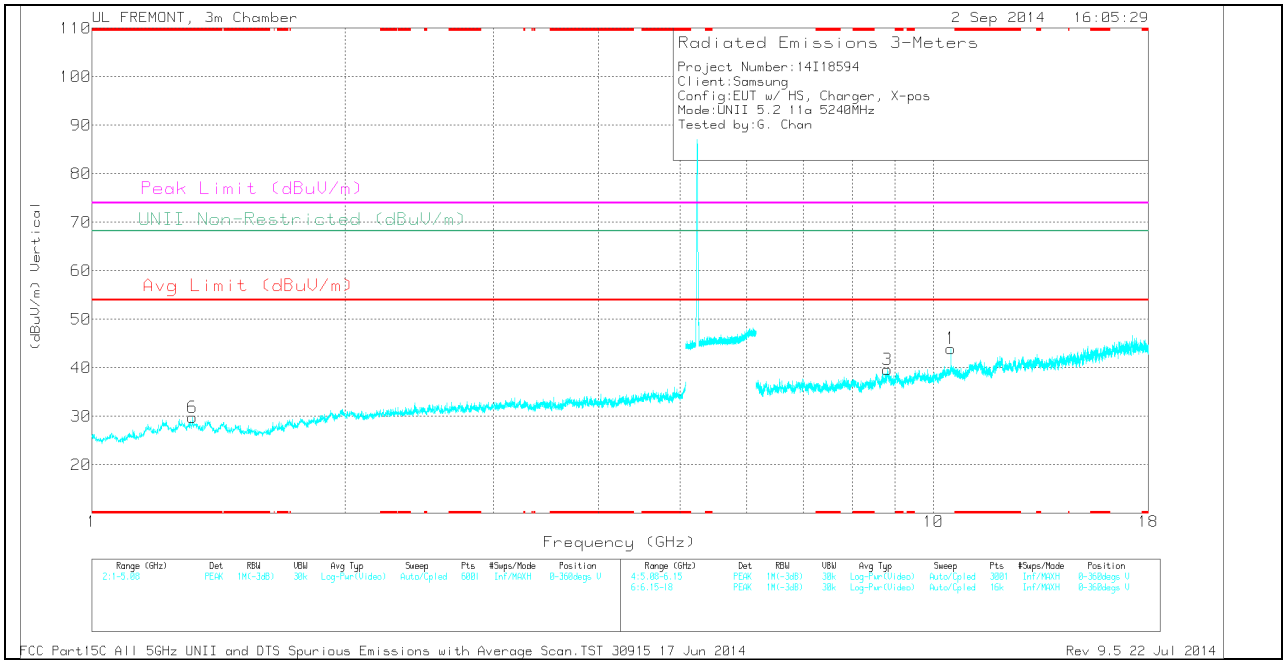
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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
6	* 1.317	33.4	PK	30	-33.6	0	29.8	-	-	74	-44.2	-	-	0-360	200	V
2	* 12.072	29.97	PK	39.1	-26.4	0	42.67	-	-	74	-31.33	-	-	0-360	200	H
4	1.861	33.53	PK	30.8	-33.2	0	31.13	-	-	-	-	68.2	-37.07	0-360	200	H
5	2.168	33.14	PK	31.6	-32.6	0	32.14	-	-	-	-	68.2	-36.06	0-360	100	H
3	8.812	29.21	PK	36	-25.6	0	39.61	-	-	-	-	68.2	-28.59	0-360	100	V
1	10.48	32.21	PK	37.5	-25.7	0	44.01	-	-	-	-	68.2	-24.19	0-360	200	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
10.48	38.89	PK1	37.5	-25.7	0	50.69	-	-	-	-	68.2	-17.51	24	242	V
10.48	31.32	AD1	37.5	-25.7	.3	43.42	-	-	-	-	-	-	24	242	V

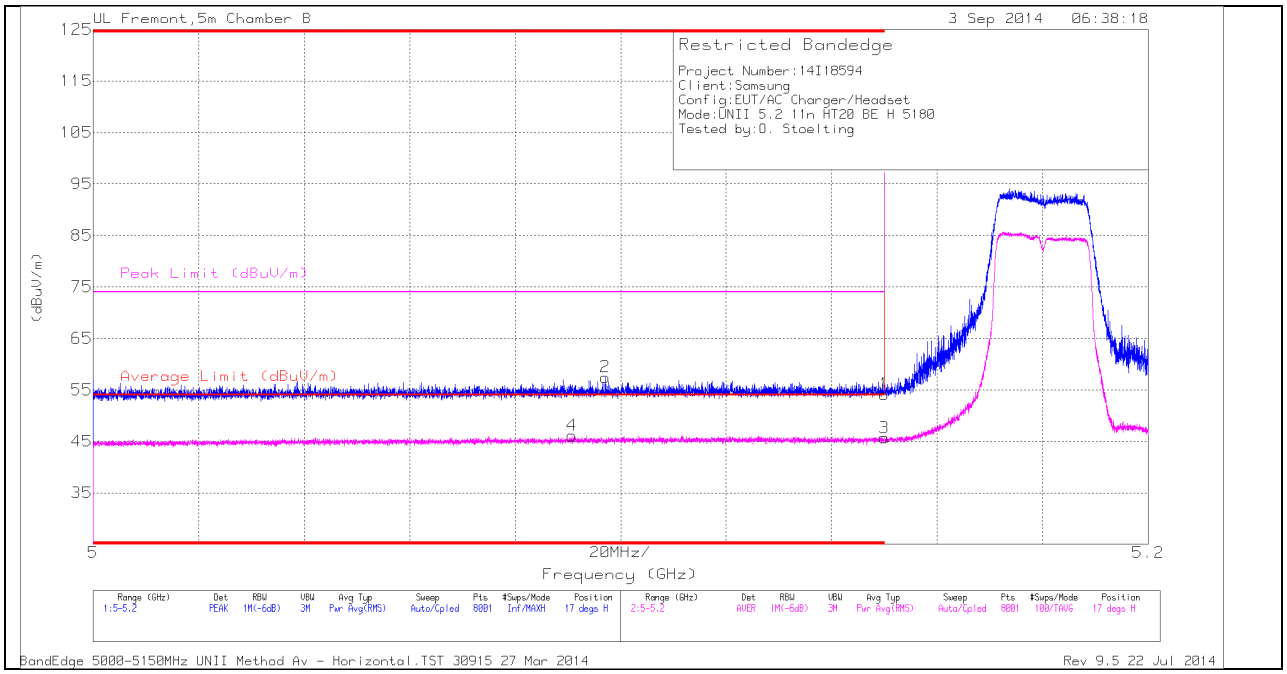
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.1.2. 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

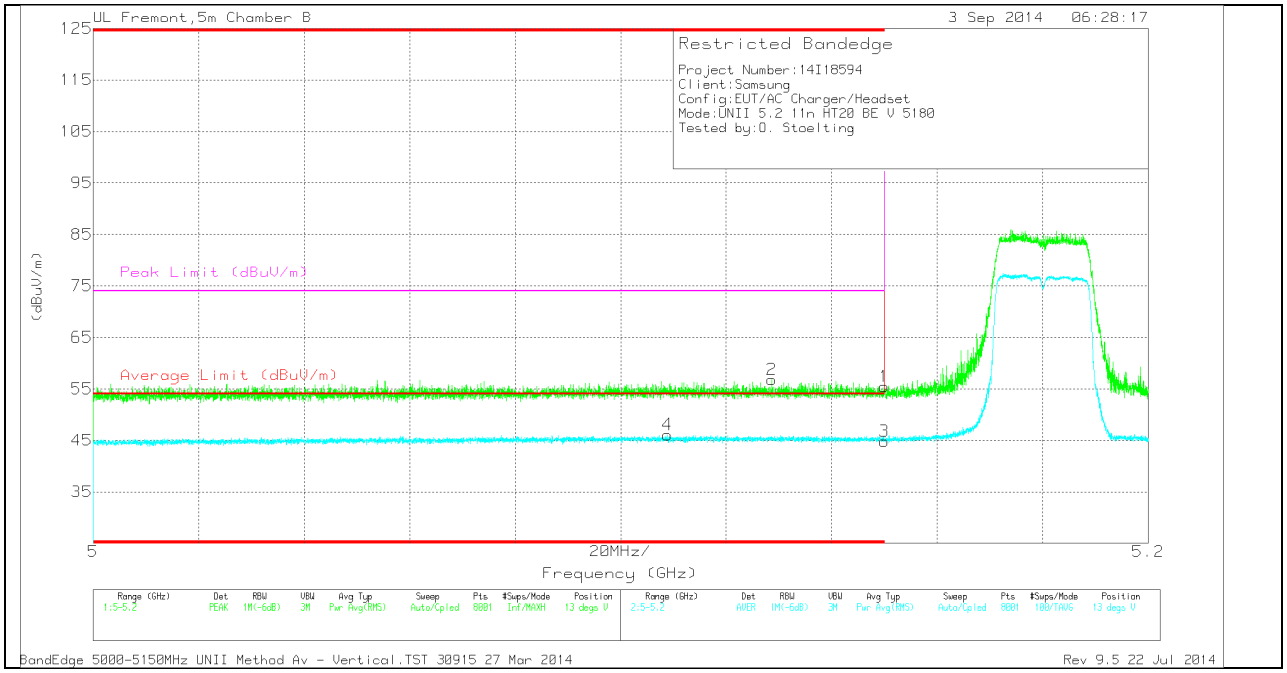
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.34	PK	34.3	-20.5	0	54.14	-	-	74	-19.86	17	344	H
2	* 5.097	43.67	PK	34.2	-20.4	0	57.47	-	-	74	-16.53	17	344	H
3	* 5.15	31.52	RMS	34.3	-20.5	.37	45.69	54	-8.31	-	-	17	344	H
4	* 5.091	31.96	RMS	34.2	-20.4	.37	46.13	54	-7.87	-	-	17	344	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	41.67	PK	34.3	-20.5	0	55.47	-	-	74	-18.53	13	227	V
2	* 5.129	42.98	PK	34.3	-20.5	0	56.78	-	-	74	-17.22	13	227	V
3	* 5.15	30.67	RMS	34.3	-20.5	.37	44.84	54	-9.16	-	-	13	227	V
4	* 5.109	31.82	RMS	34.3	-20.4	.37	46.09	54	-7.91	-	-	13	227	V

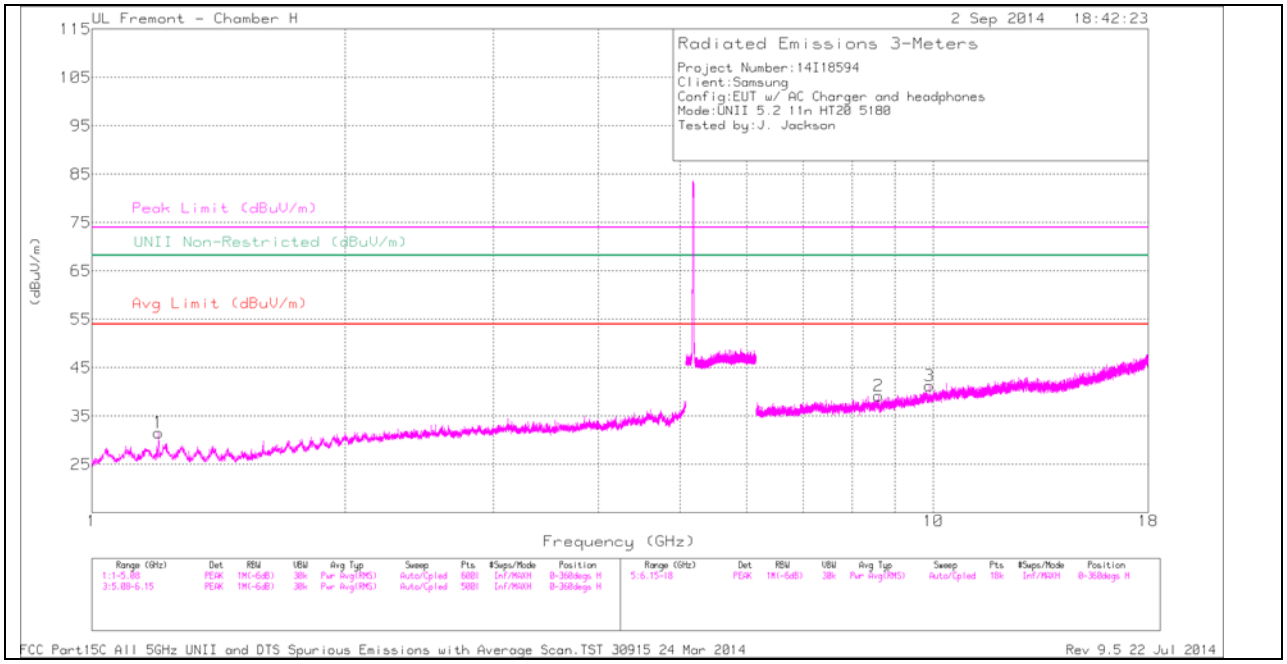
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

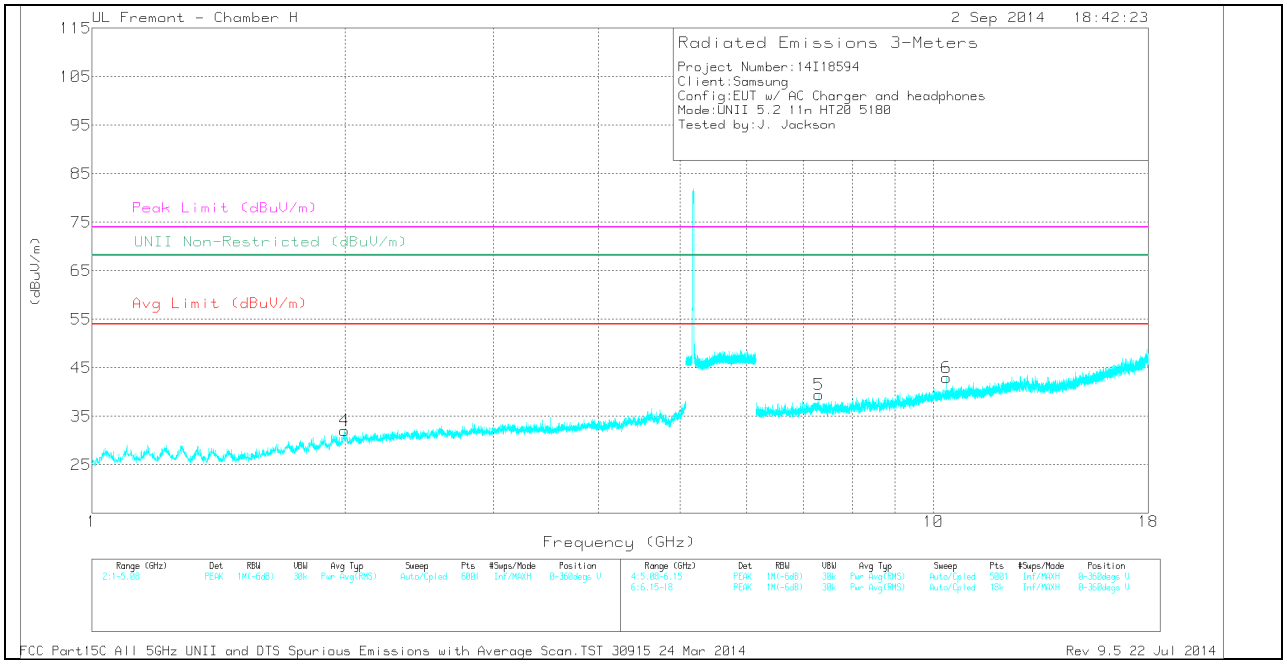
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 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 T863 (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	* 1.201	38.51	PK	28.7	-35.6	0	31.61	-	-	74	-42.39	-	-	0-360	201	H
5	* 7.311	33.09	PK	36.2	-29.8	0	39.49	-	-	74	-34.51	-	-	0-360	201	V
4	1.997	35.27	PK	31.3	-34.5	0	32.07	-	-	-	-	68.2	-36.13	0-360	201	V
2	8.602	30.67	PK	36.1	-27.6	0	39.17	-	-	-	-	68.2	-29.03	0-360	100	H
3	9.886	30.85	PK	37.1	-26.7	0	41.25	-	-	-	-	68.2	-26.95	0-360	100	H
6	10.36	31.43	PK	37.5	-25.9	0	43.03	-	-	-	-	68.2	-25.17	0-360	201	V

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

PK - Peak detector

Radiated Emissions

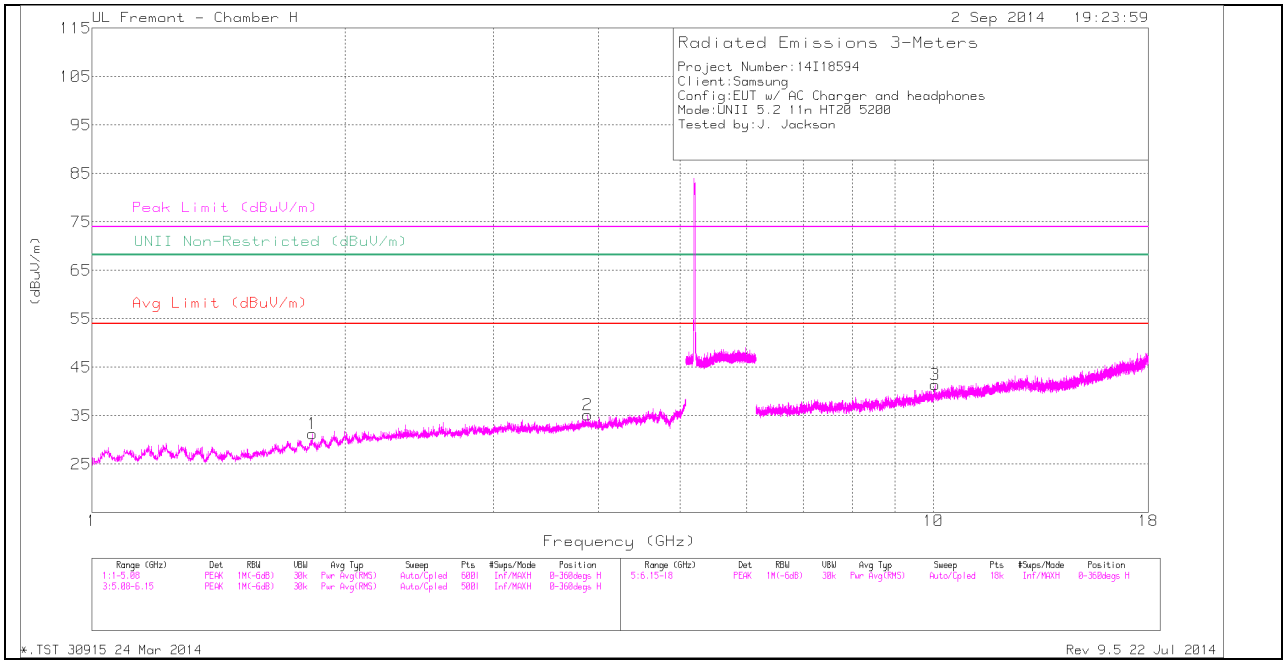
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.2	43.81	PK1	28.7	-35.6	0	36.91	-	-	74	-37.09	-	-	3	202	H
* 7.311	39.17	PK1	36.2	-29.8	0	45.57	-	-	74	-28.43	-	-	51	202	V
1.997	43.14	PK1	31.3	-34.5	0	39.94	-	-	-	-	68.2	-28.26	3	202	V
8.601	37.73	PK1	36.1	-27.6	0	46.23	-	-	-	-	68.2	-21.97	3	100	H
10.36	38.9	PK1	37.5	-25.9	0	50.5	-	-	-	-	68.2	-17.7	275	232	V
10.36	31.02	AD1	37.5	-25.9	.37	42.99	-	-	-	-	-	-	275	232	V

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

PK1 - KDB789033 Method: Peak

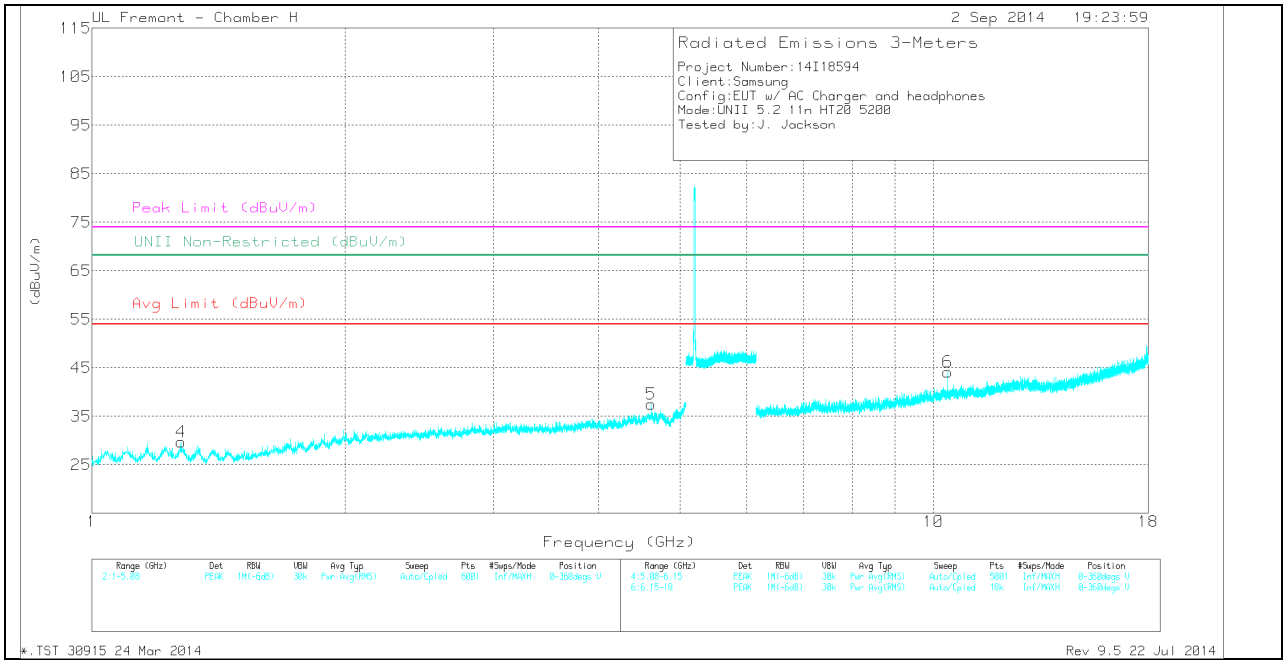
AD1 - KDB789033 Method: AD Primary Power Average

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 T863 (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	* 3.885	34.62	PK	33.4	-32.8	0	35.22	-	-	74	-38.78	-	-	0-360	100	H
4	* 1.275	36.42	PK	28.9	-35.6	0	29.72	-	-	74	-44.28	-	-	0-360	201	V
5	* 4.62	35.3	PK	34.1	-31.9	0	37.5	-	-	74	-36.5	-	-	0-360	201	V
1	1.827	36.12	PK	30.2	-35	0	31.32	-	-	-	-	68.2	-36.88	0-360	100	H
3	10.039	29.8	PK	37.3	-25.7	0	41.4	-	-	-	-	68.2	-26.8	0-360	201	H
6	10.4	32.41	PK	37.5	-25.8	0	44.11	-	-	-	-	68.2	-24.09	0-360	201	V

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

PK - Peak detector

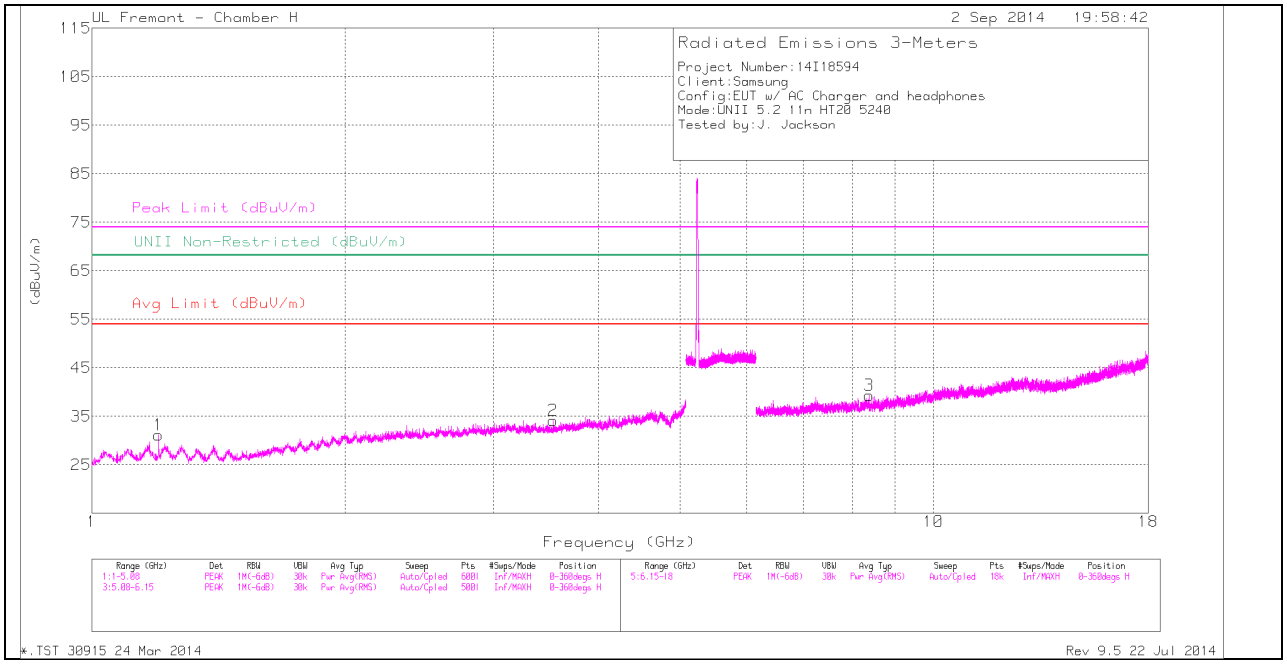
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
* 1.276	43.47	PK1	28.9	-35.6	0	36.77	-	-	74	-37.23	-	-	68	202	V
* 4.619	41.64	PK1	34.1	-31.9	0	43.84	-	-	74	-30.16	-	-	182	202	V
1.825	42.58	PK1	30.2	-35	0	37.78	-	-	-	-	68.2	-30.42	68	100	H
10.038	36.47	PK1	37.3	-25.7	0	48.07	-	-	-	-	68.2	-20.13	154	202	H

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

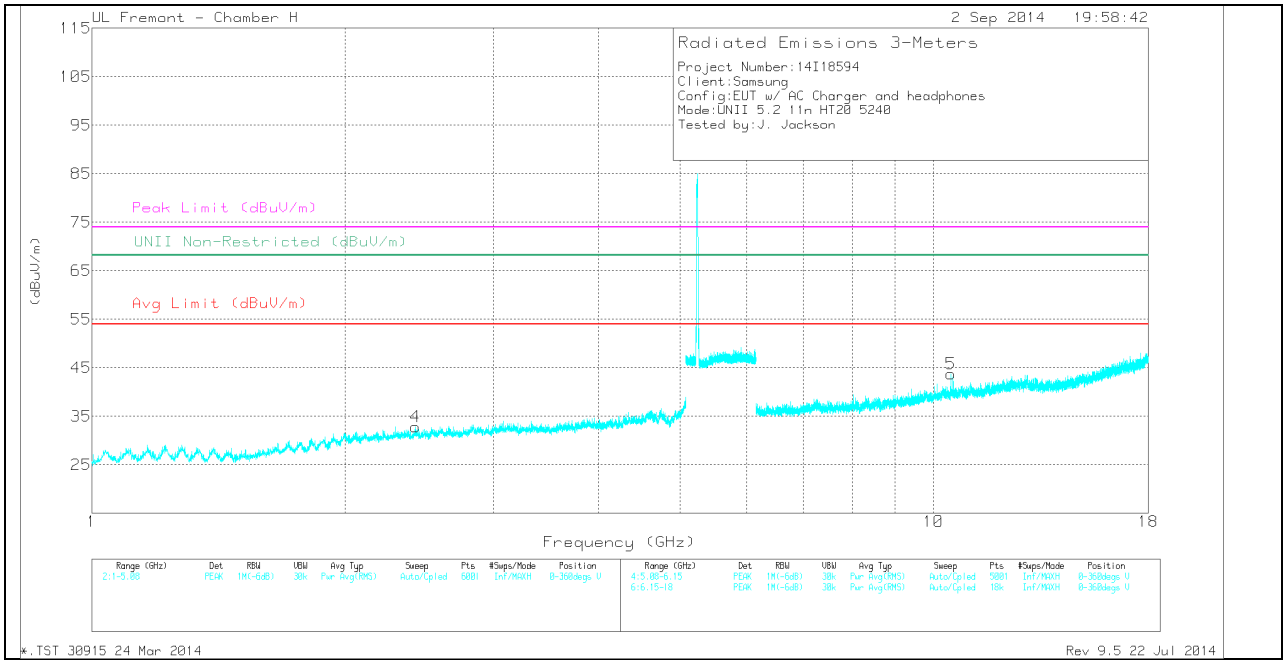
PK1 - KDB789033 Method: Peak

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 T863 (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	* 1.2	38.09	PK	28.7	-35.6	0	31.19	-	-	74	-42.81	-	-	0-360	100	H
2	* 3.534	34.76	PK	32.9	-33.5	0	34.16	-	-	74	-39.84	-	-	0-360	100	H
3	* 8.381	31.11	PK	36.1	-27.9	0	39.31	-	-	74	-34.69	-	-	0-360	201	H
4	2.423	34.9	PK	32	-34.1	0	32.8	-	-	-	-	68.2	-35.4	0-360	100	V
5	10.48	31.98	PK	37.6	-25.8	0	43.78	-	-	-	-	68.2	-24.42	0-360	100	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
* 1.2	50.77	PK1	28.7	-35.6	0	43.87	-	-	74	-30.13	-	-	161	257	H
* 1.202	30.5	AD1	28.7	-35.6	.37	23.97	54	-30.03	-	-	-	-	161	257	H
* 3.534	41.82	PK1	32.9	-33.5	0	41.22	-	-	74	-32.78	-	-	161	100	H
* 8.38	37.96	PK1	36.1	-27.9	0	46.16	-	-	74	-27.84	-	-	161	202	H
2.421	42.23	PK1	32	-34.1	0	40.13	-	-	-	-	68.2	-28.07	161	100	H
10.48	38.67	PK1	37.6	-25.8	0	50.47	-	-	-	-	68.2	-17.73	137	162	V
10.48	29.29	AD	37.6	-25.8	.37	41.46	-	-	-	-	-	-	137	162	V

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

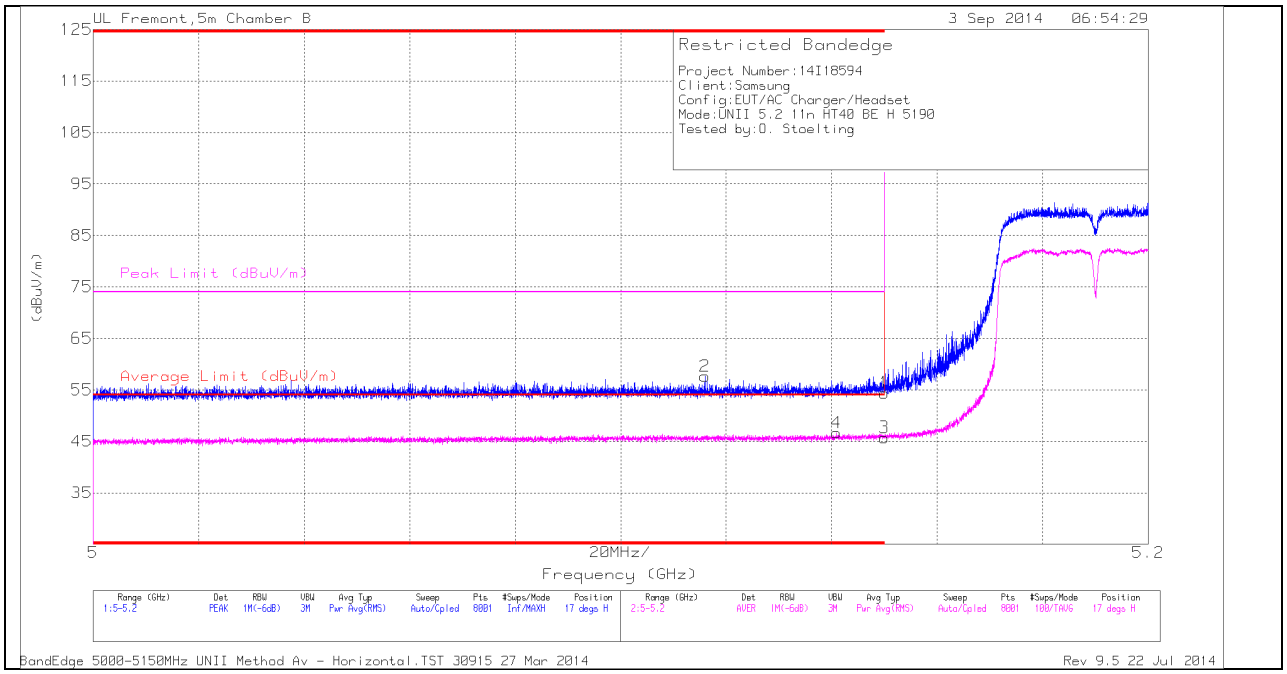
Avg - Video bandwidth < Resolution bandwidth

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.1.3. 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

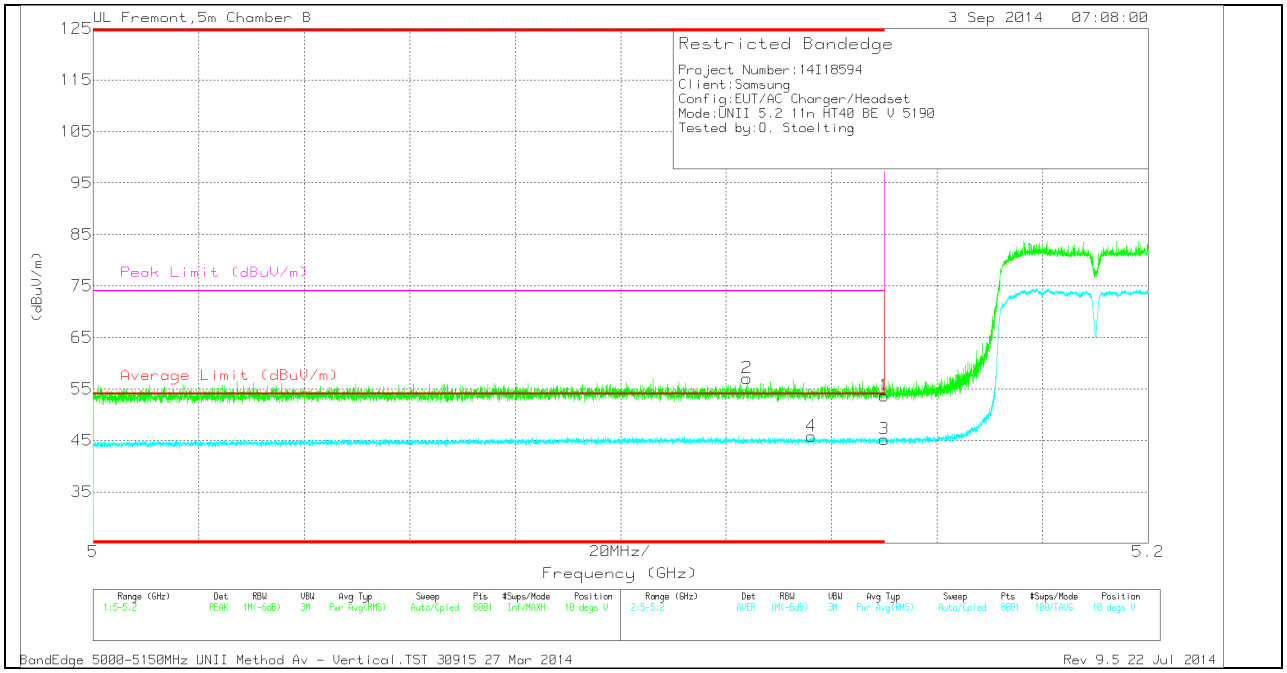
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.116	43.85	PK	34.3	-20.5	0	57.65	-	-	74	-16.35	17	225	H
4	* 5.141	32.17	RMS	34.3	-20.5	.69	46.66	54	-7.34	-	-	17	225	H
1	* 5.15	40.62	PK	34.3	-20.5	0	54.42	-	-	74	-19.58	17	225	H
3	* 5.15	31.23	RMS	34.3	-20.5	.69	45.72	54	-8.28	-	-	17	225	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	* 5.124	43.3	PK	34.3	-20.5	0	57.1	-	-	74	-16.9	10	227	V
4	* 5.136	32.04	RMS	34.3	-20.5	.69	46.53	54	-7.47	-	-	10	227	V
1	* 5.15	39.89	PK	34.3	-20.5	0	53.69	-	-	74	-20.31	10	227	V
3	* 5.15	31.46	RMS	34.3	-20.5	.69	45.95	54	-8.05	-	-	10	227	V

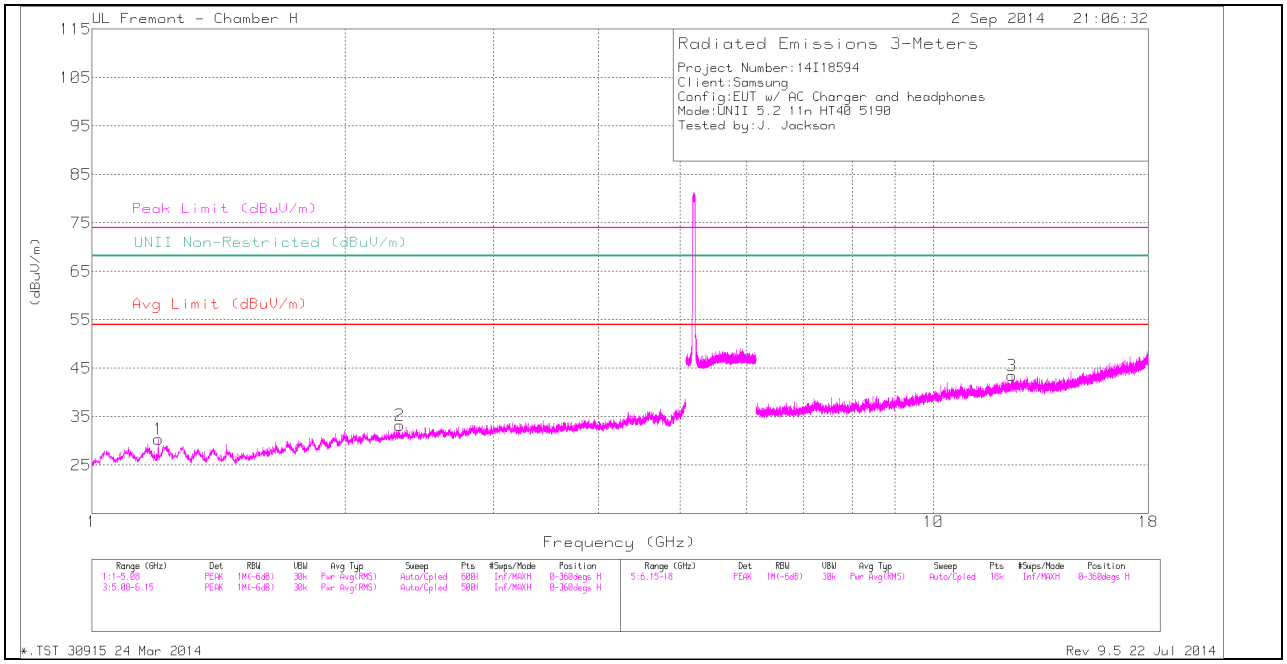
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

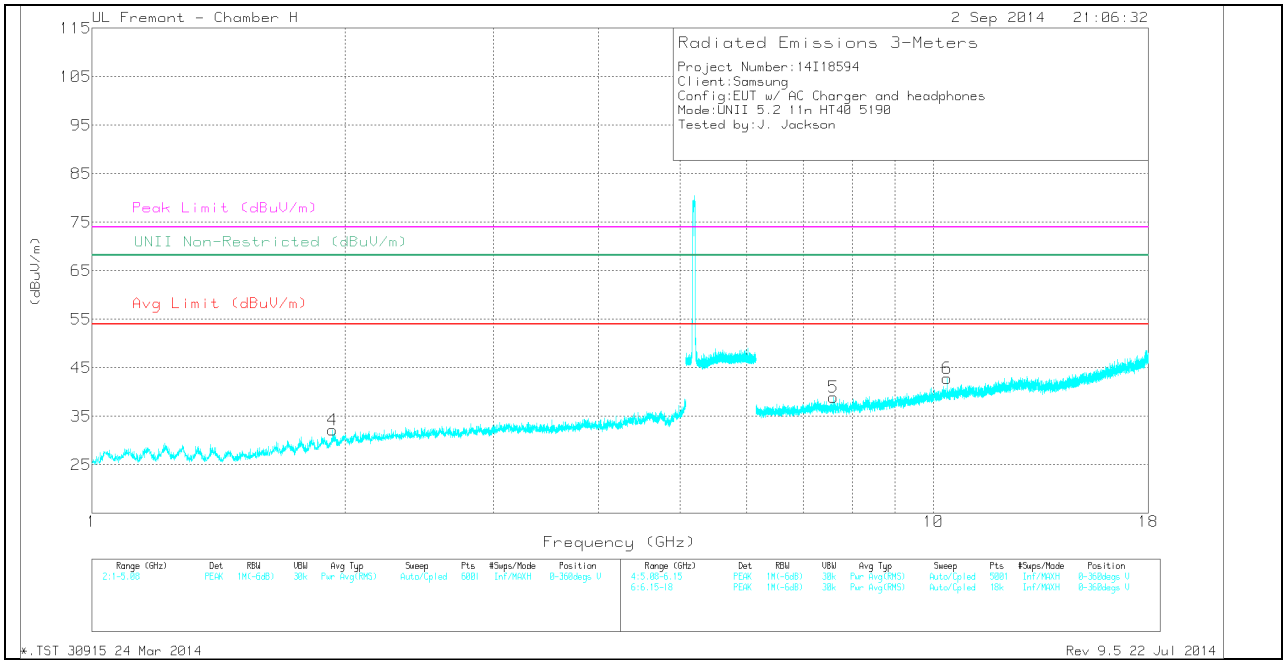
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 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 T863 (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	* 1.2	37.32	PK	28.7	-35.6	0	30.42	-	-	74	-43.58	-	-	0-360	100	H
2	* 2.321	35.49	PK	31.8	-34	0	33.29	-	-	74	-40.71	-	-	0-360	100	H
3	* 12.393	29.64	PK	39.1	-25.2	0	43.54	-	-	74	-30.46	-	-	0-360	100	H
5	* 7.6	32.36	PK	36.1	-29.5	0	38.96	-	-	74	-35.04	-	-	0-360	201	V
4	1.933	35.89	PK	30.9	-34.6	0	32.19	-	-	-	-	68.2	-36.01	0-360	100	V
6	10.38	31.04	PK	37.5	-25.7	0	42.84	-	-	-	-	68.2	-25.36	0-360	201	V

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

PK - Peak detector

Radiated Emissions

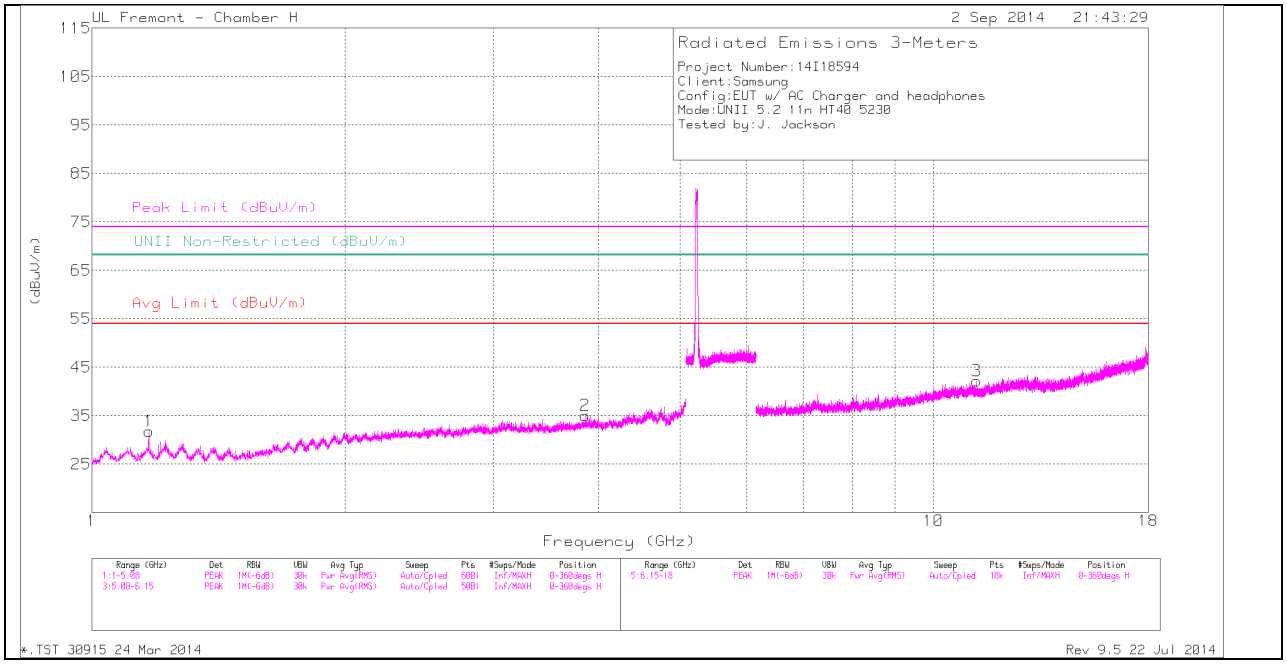
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.2	56.38	PK1	28.7	-35.6	0	49.48	-	-	74	-24.52	-	-	336	206	H
* 1.2	32.2	AD1	28.7	-35.6	.69	25.99	54	-28.01	-	-	-	-	336	206	H
* 2.322	33.89	PK1	31.8	-34	0	31.69	-	-	74	-42.31	-	-	336	100	H
* 12.395	36.73	PK1	39.1	-25.1	0	50.73	-	-	74	-23.27	-	-	173	100	H
* 7.601	39.89	PK1	36.1	-29.6	0	46.39	-	-	74	-27.61	-	-	53	202	V
1.933	42.84	PK1	30.9	-34.6	0	39.14	-	-	-	-	68.2	-29.06	336	100	V

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

PK1 - KDB789033 Method: Peak

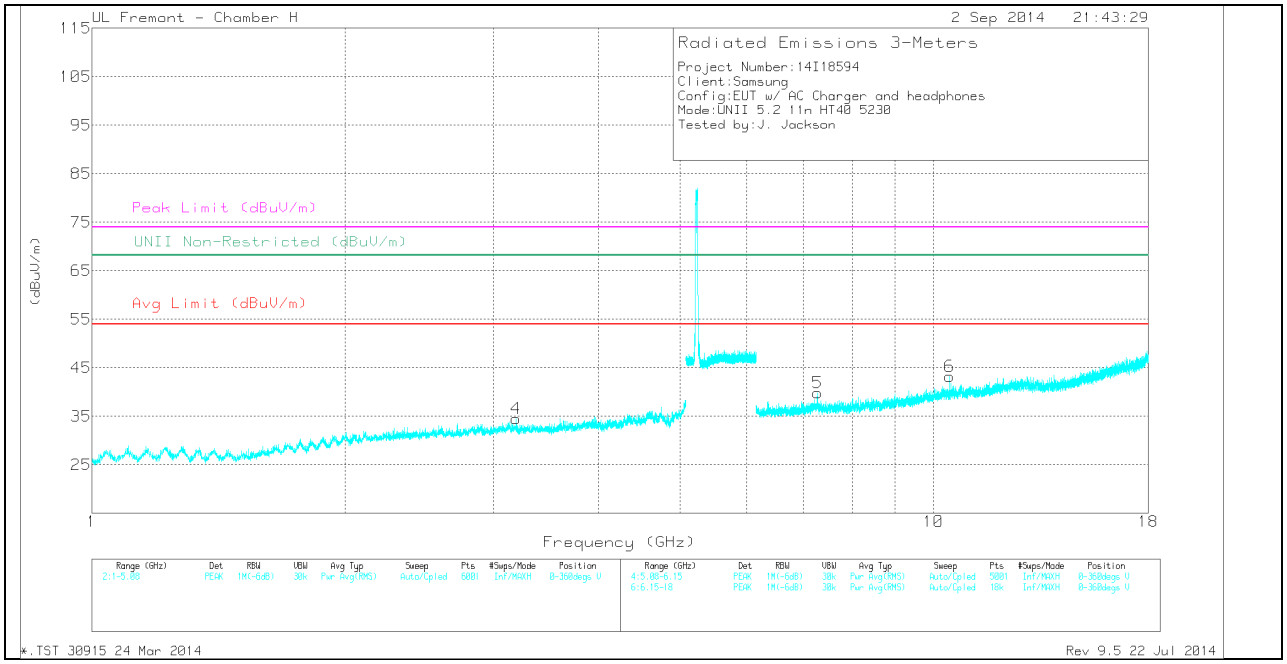
AD1 - KDB789033 Method: AD Primary Power Average

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 T863 (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	* 1.169	38.81	PK	28.6	-35.6	0	31.81	-	-	74	-42.19	-	-	0-360	201	H
2	* 3.858	34.58	PK	33.3	-32.8	0	35.08	-	-	74	-38.92	-	-	0-360	201	H
3	* 11.25	29.92	PK	37.9	-25.6	0	42.22	-	-	74	-31.78	-	-	0-360	201	H
5	* 7.28	33.15	PK	36.2	-29.5	0	39.85	-	-	74	-34.15	-	-	0-360	201	V
4	3.19	34.97	PK	32.9	-33.3	0	34.57	-	-	-	-	68.2	-33.63	0-360	201	V
6	10.46	31.69	PK	37.6	-26.1	0	43.19	-	-	-	-	68.2	-25.01	0-360	100	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
* 1.169	46.44	PK1	28.6	-35.6	0	39.44	-	-	74	-34.56	-	-	149	232	H
* 1.167	32.06	AD1	28.6	-35.5	.69	25.85	54	-28.15	-	-	-	-	149	232	H
* 3.857	42.13	PK1	33.3	-32.8	0	42.63	-	-	74	-31.37	-	-	149	201	H
* 11.249	31.73	PK1	37.9	-25.6	0	44.03	-	-	74	-29.97	-	-	327	201	H
* 7.279	39.87	PK1	36.2	-29.5	0	46.57	-	-	74	-27.43	-	-	345	100	V
3.191	41.72	PK1	32.9	-33.4	0	41.22	-	-	-	-	68.2	-26.98	149	201	V

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

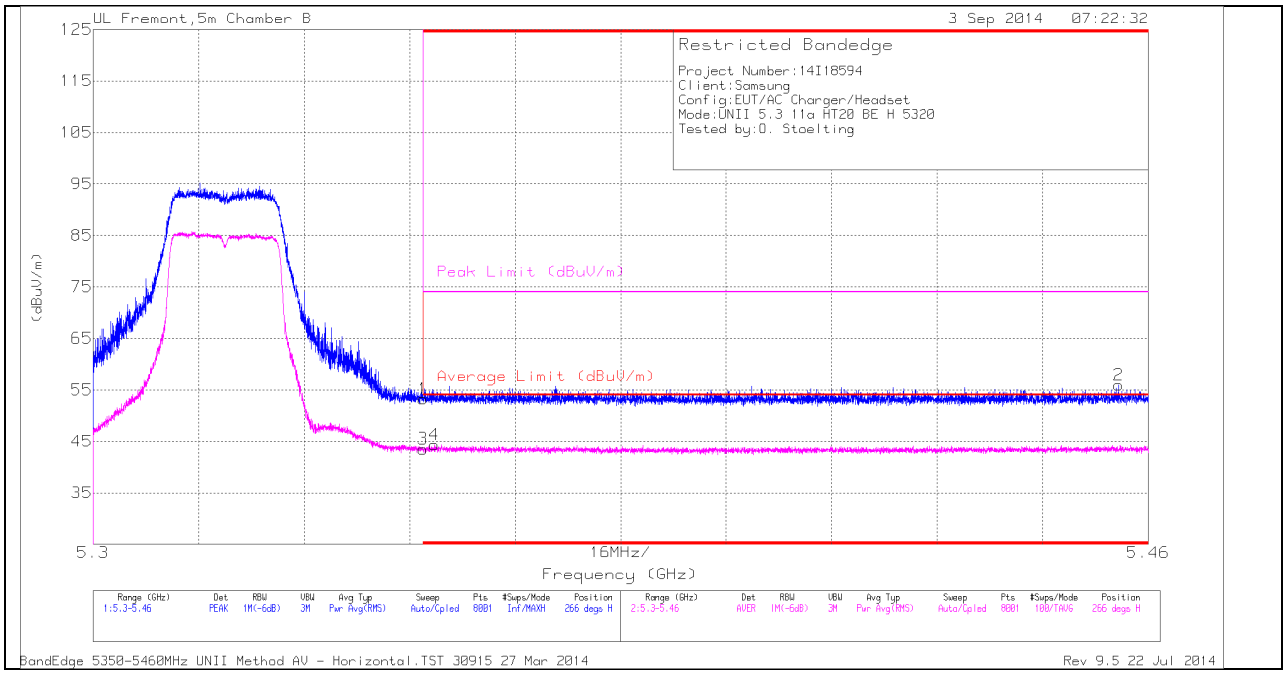
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2. 5.3 GHz

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

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

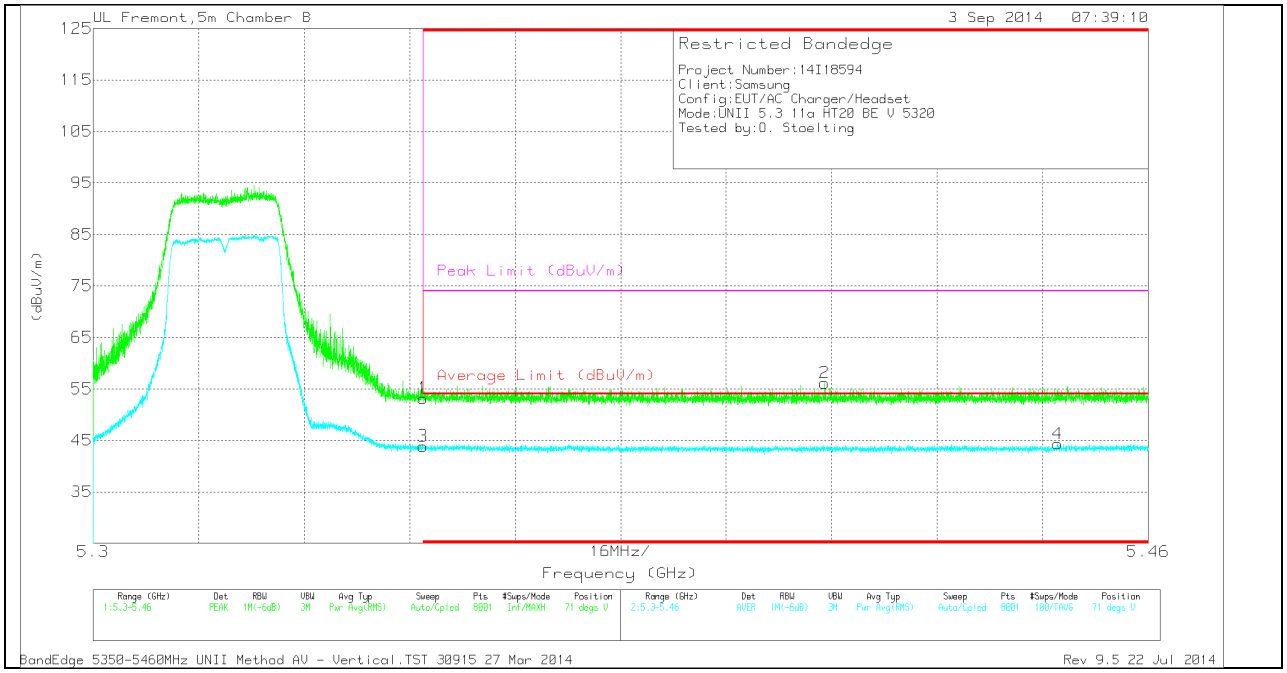
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.87	PK	34.5	-20.1	0	53.27	-	-	74	-20.73	266	228	H
3	* 5.35	29.13	RMS	34.5	-20.1	.3	43.53	54	-10.47	-	-	266	228	H
4	* 5.352	29.95	RMS	34.5	-20.1	.3	44.35	54	-9.65	-	-	266	228	H
2	* 5.455	41.74	PK	34.5	-20.3	0	55.94	-	-	74	-18.06	266	228	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC factor	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	38.77	PK	34.5	-20.1	0	53.17	-	-	74	-20.83	71	280	V
3	* 5.35	29.48	RMS	34.5	-20.1	.3	43.88	54	-10.12	-	-	71	280	V
2	* 5.411	41.95	PK	34.5	-20.3	.3	56.15	-	-	74	-17.85	71	280	V
4	* 5.446	30.11	RMS	34.5	-20.3	0	44.31	54	-9.69	-	-	71	280	V

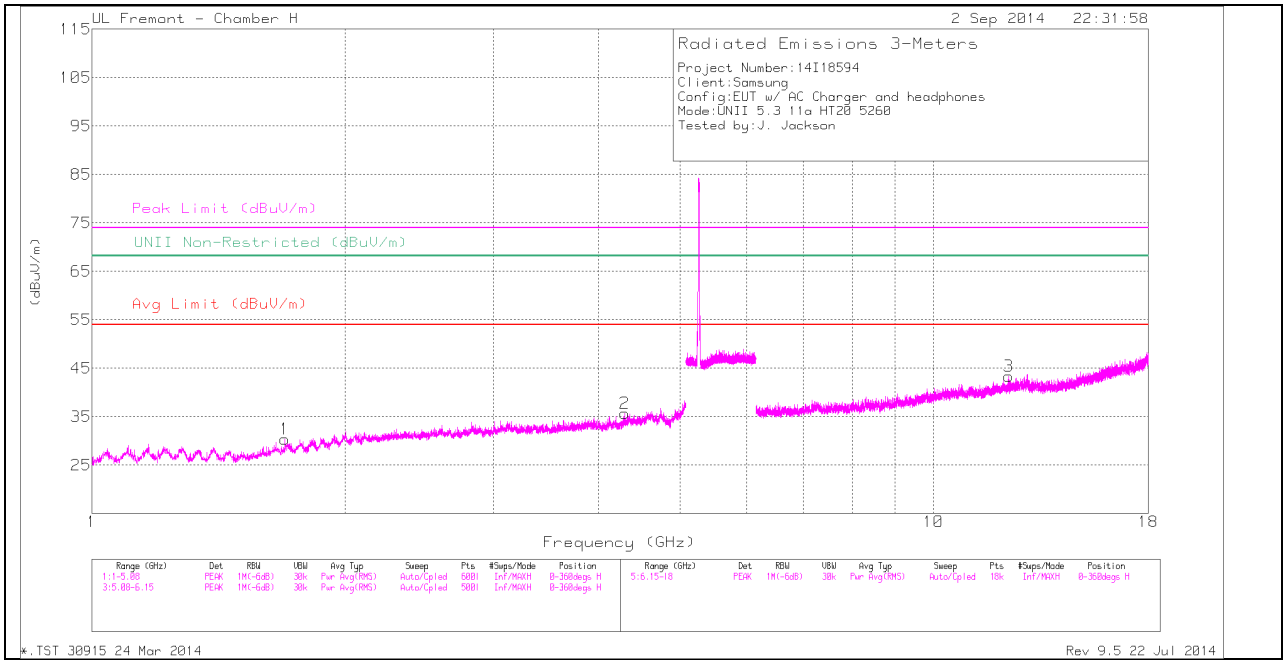
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

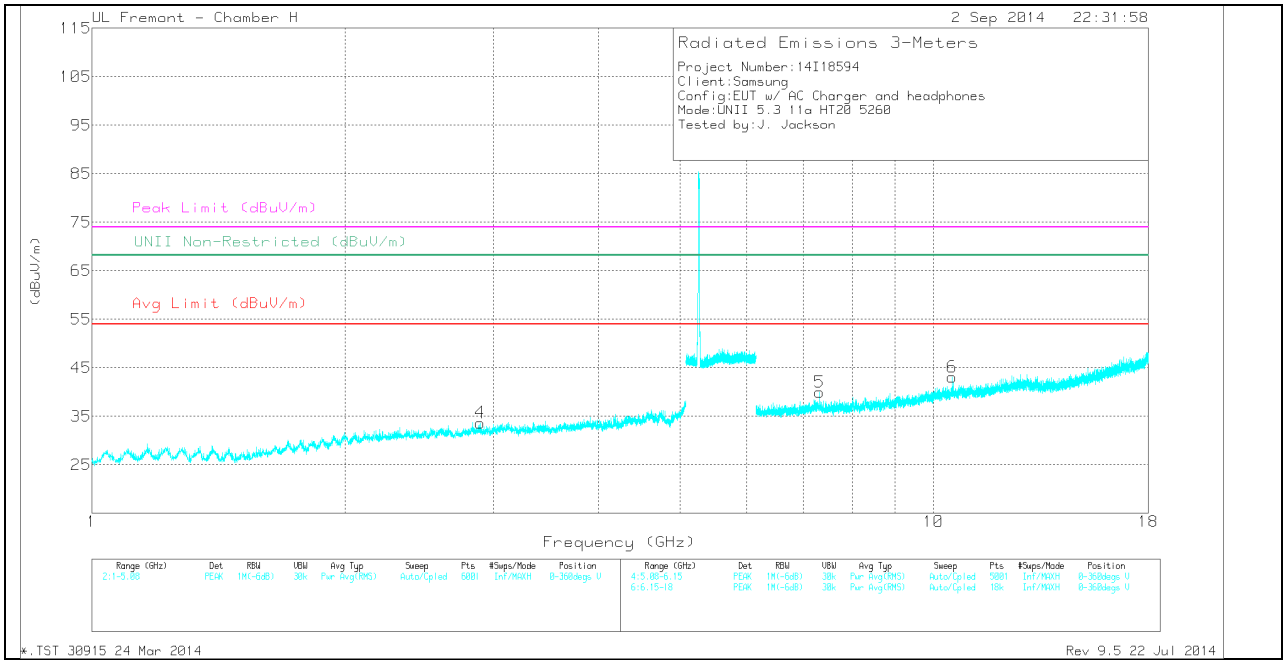
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 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

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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	* 1.696	35.53	PK	29.3	-34.4	0	30.43	-	-	74	-43.57	-	-	0-360	201	H
2	* 4.299	33.96	PK	33.6	-31.8	0	35.76	-	-	74	-38.24	-	-	0-360	100	H
4	* 2.895	34.49	PK	32.6	-33.4	0	33.69	-	-	74	-40.31	-	-	0-360	201	V
3	* 12.281	30.07	PK	39	-25.7	0	43.37	-	-	74	-30.63	-	-	0-360	201	H
5	* 7.322	33.71	PK	36.2	-29.9	0	40.01	-	-	74	-33.99	-	-	0-360	201	V
6	10.52	31.06	PK	37.6	-25.6	0	43.06	-	-	-	-	68.2	-25.14	0-360	201	V

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

PK - Peak detector

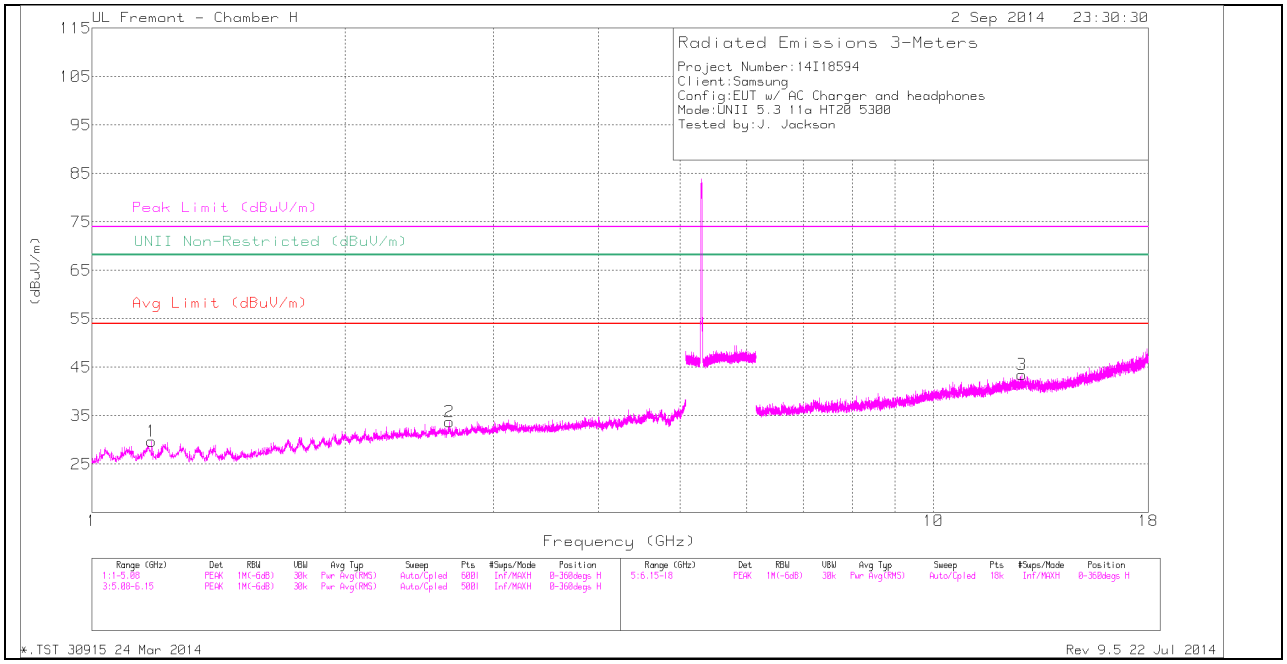
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
* 1.695	42.25	PK1	29.3	-34.4	0	37.15	-	-	74	-36.85	-	-	94	202	H
* 4.298	41.85	PK1	33.6	-31.8	0	43.65	-	-	74	-30.35	-	-	94	100	H
* 2.895	42.1	PK1	32.6	-33.4	0	41.3	-	-	74	-32.7	-	-	94	202	V
* 12.282	36.62	PK1	39	-25.7	0	49.92	-	-	74	-24.08	-	-	78	202	H
* 7.324	39.94	PK1	36.2	-29.9	0	46.24	-	-	74	-27.76	-	-	181	202	V

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

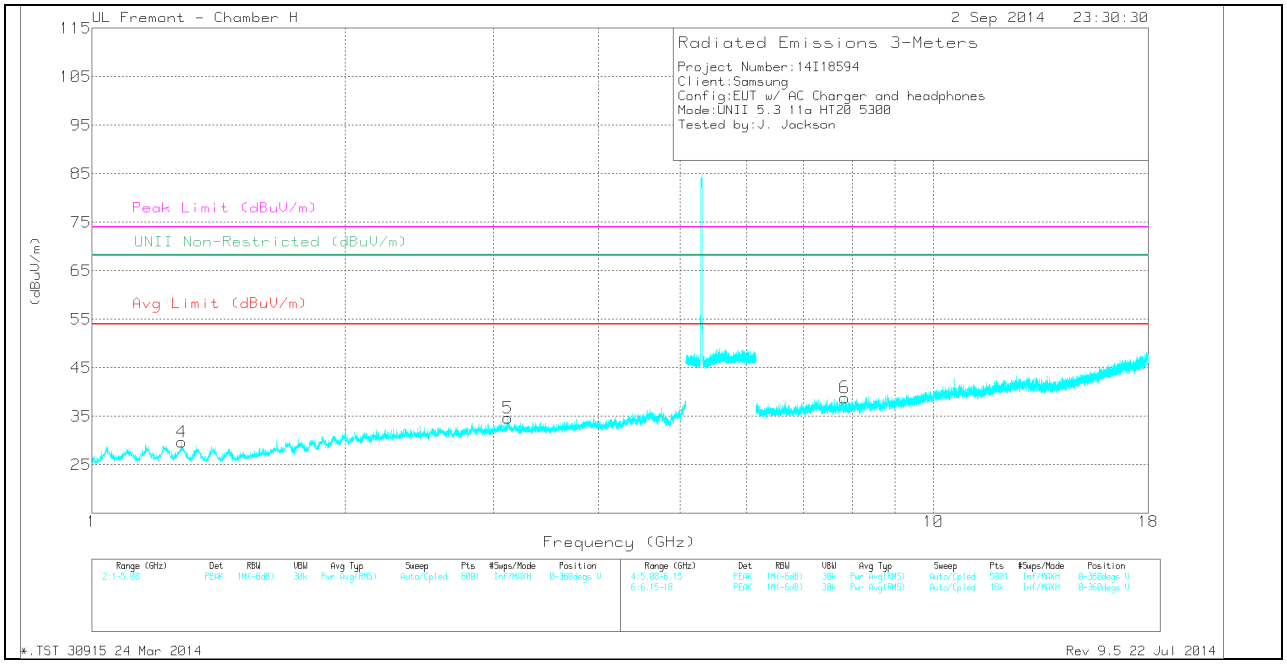
PK1 - KDB789033 Method: Peak

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

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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	* 1.178	36.68	PK	28.6	-35.6	0	29.68	-	-	74	-44.32	-	-	0-360	201	H
2	* 2.659	35.26	PK	32.3	-33.8	0	33.76	-	-	74	-40.24	-	-	0-360	100	H
4	* 1.279	36.4	PK	28.9	-35.6	0	29.7	-	-	74	-44.3	-	-	0-360	201	V
5	3.122	34.52	PK	32.8	-32.7	0	34.62	-	-	-	-	68.2	-33.58	0-360	100	V
6	7.848	31.48	PK	36.1	-28.7	0	38.88	-	-	-	-	68.2	-29.32	0-360	201	V
3	12.737	29.74	PK	39.3	-25.5	0	43.54	-	-	-	-	68.2	-24.66	0-360	100	H

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

PK - Peak detector

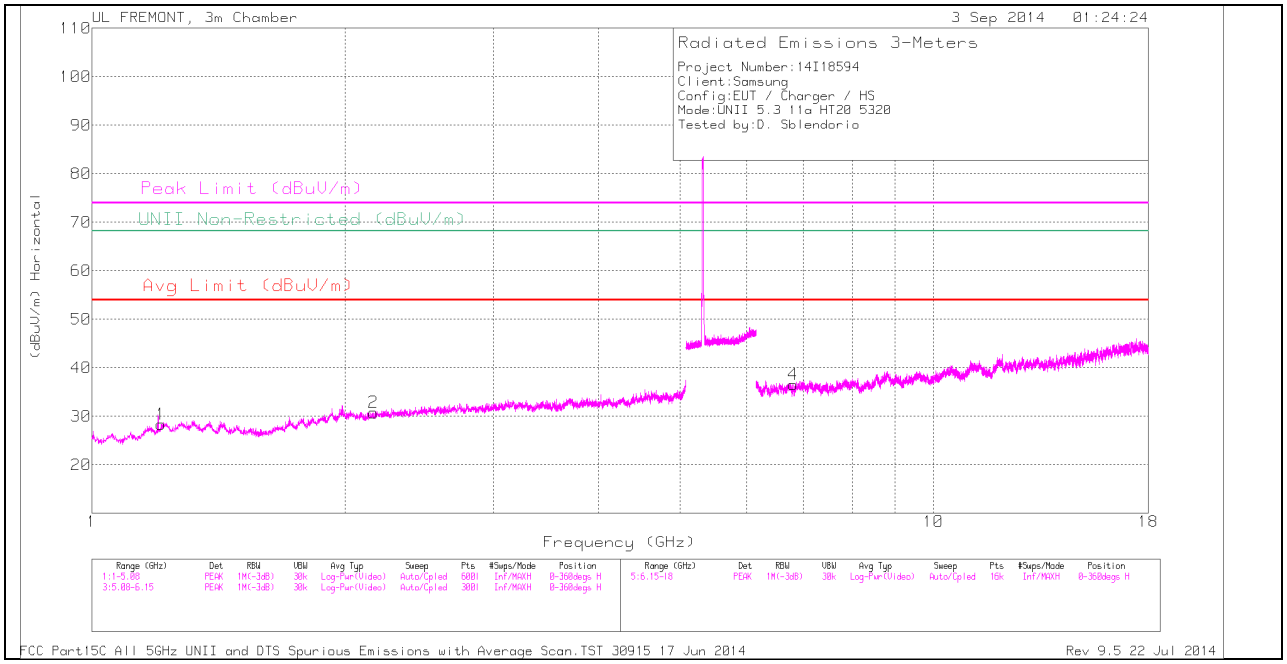
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
* 1.179	48.8	PK1	28.6	-35.6	0	41.8	-	-	74	-32.2	-	-	342	202	H
* 2.659	41.81	PK1	32.3	-33.8	0	40.31	-	-	74	-33.69	-	-	342	100	H
3.123	42.02	PK1	32.8	-32.7	0	42.12	-	-	-	-	68.2	-26.08	342	100	V
7.849	38	PK1	36.1	-28.7	0	45.4	-	-	-	-	68.2	-22.8	318	201	V
12.735	35.67	PK1	39.3	-25.6	0	49.37	-	-	-	-	68.2	-18.83	342	100	H

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

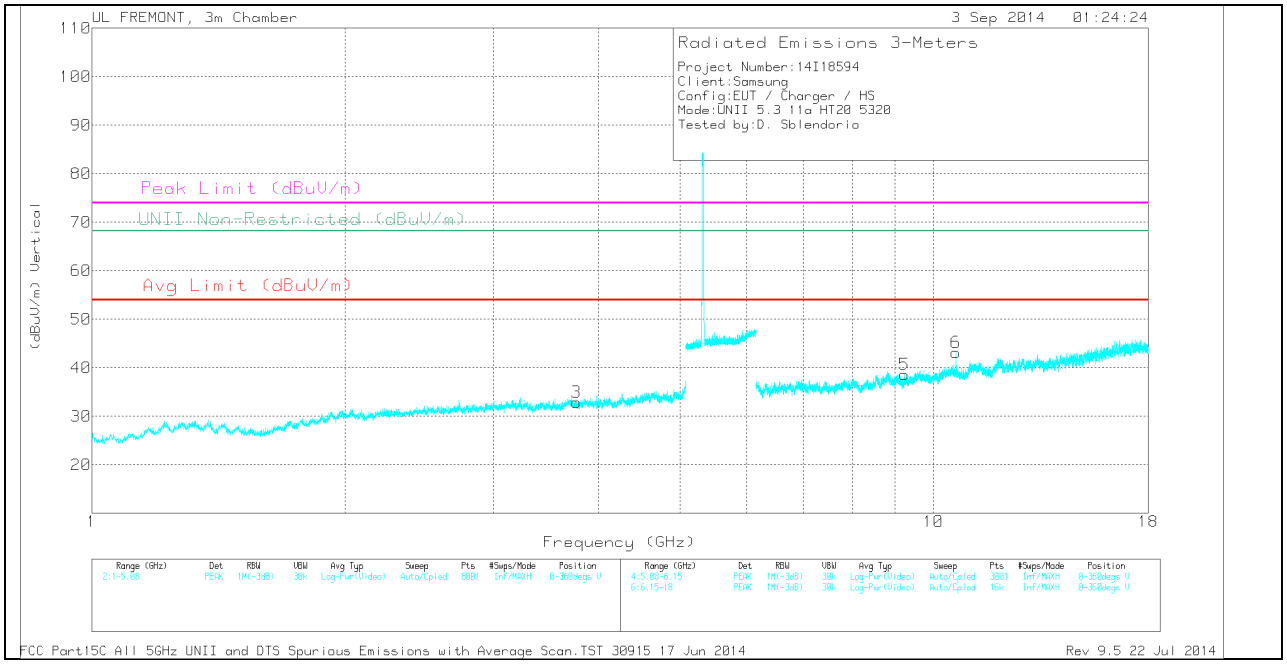
PK1 - KDB789033 Method: Peak

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

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr /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	1.209	32.22	PK	29.3	-33.1	28.42	-	-	74	-45.58	-	-	0-360	100	H
2	2.159	31.87	PK	31.6	-32.7	30.77	-	-	-	-	68.2	-37.43	0-360	100	H
3	3.764	31.56	PK	33.2	-31.8	32.96	-	-	74	-41.04	-	-	0-360	200	V
4	6.811	30.64	PK	35.6	-29.7	36.54	-	-	-	-	68.2	-31.66	0-360	100	H
5	9.227	28.98	PK	36.3	-26.7	38.58	-	-	-	-	68.2	-29.62	0-360	200	V
6	10.64	30.57	PK	37.8	-25.2	43.17	-	-	74	-30.83	-	-	0-360	100	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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
10.64	25.14	AD1	37.8	-25.1	.3	37.84	54	-16.16	-	-	-	-	0	100	V
10.641	37.2	PK1	37.8	-25.2	0	49.8	-	-	74	-24.2	-	-	0	100	V

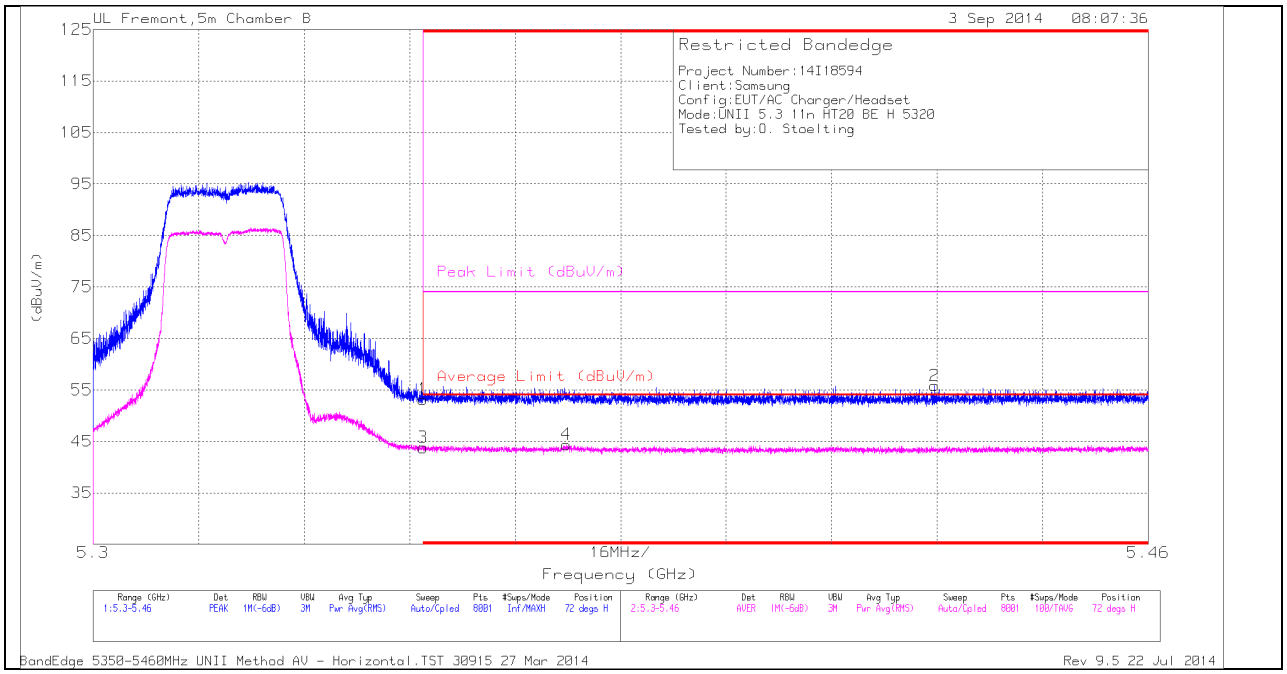
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2.2. 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

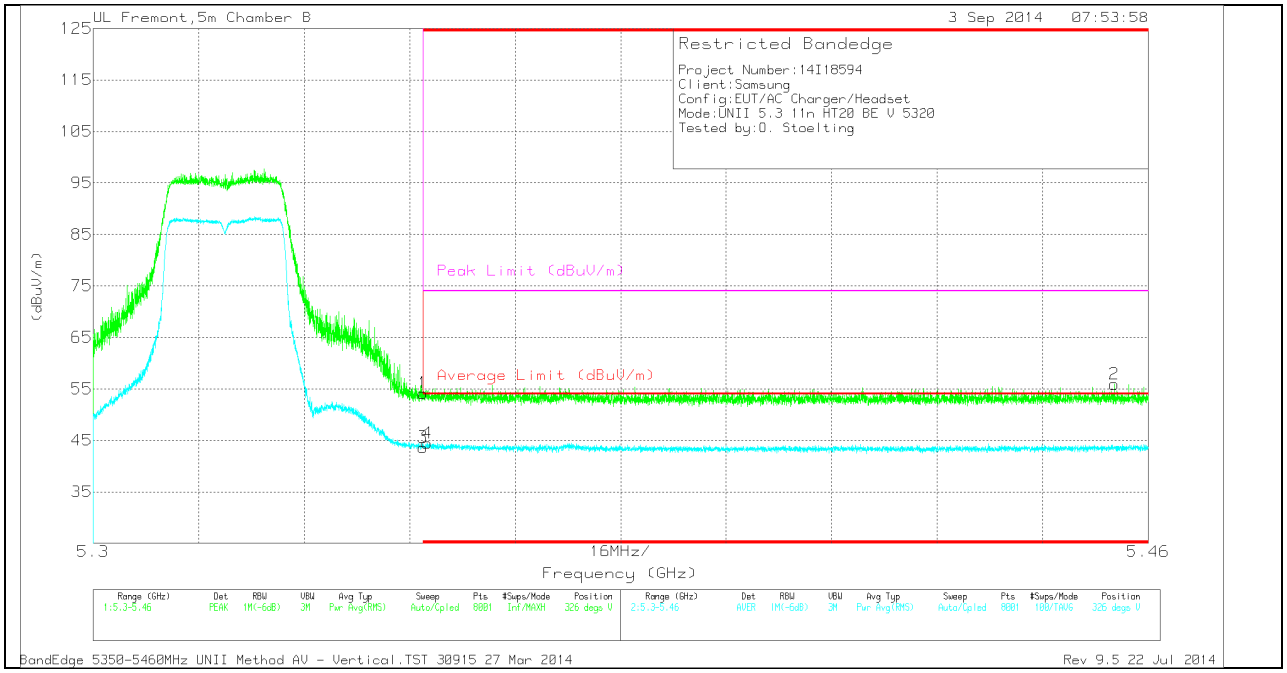
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.78	PK	34.5	-20.1	0	53.18	-	-	74	-20.82	72	278	H
3	* 5.35	29.4	RMS	34.5	-20.1	.37	44.17	54	-9.83	-	-	72	278	H
4	* 5.372	29.99	RMS	34.5	-20.1	.37	44.76	54	-9.24	-	-	72	278	H
2	* 5.428	41.59	PK	34.5	-20.3	0	55.79	-	-	74	-18.21	72	278	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	39.77	PK	34.5	-20.1	0	54.17	-	-	74	-19.83	326	252	V
3	* 5.35	29.24	RMS	34.5	-20.1	.37	44.01	54	-9.99	-	-	326	252	V
4	* 5.351	30.06	RMS	34.5	-20.1	.37	44.83	54	-9.17	-	-	326	252	V
2	* 5.455	41.7	PK	34.5	-20.3	0	55.9	-	-	74	-18.1	326	252	V

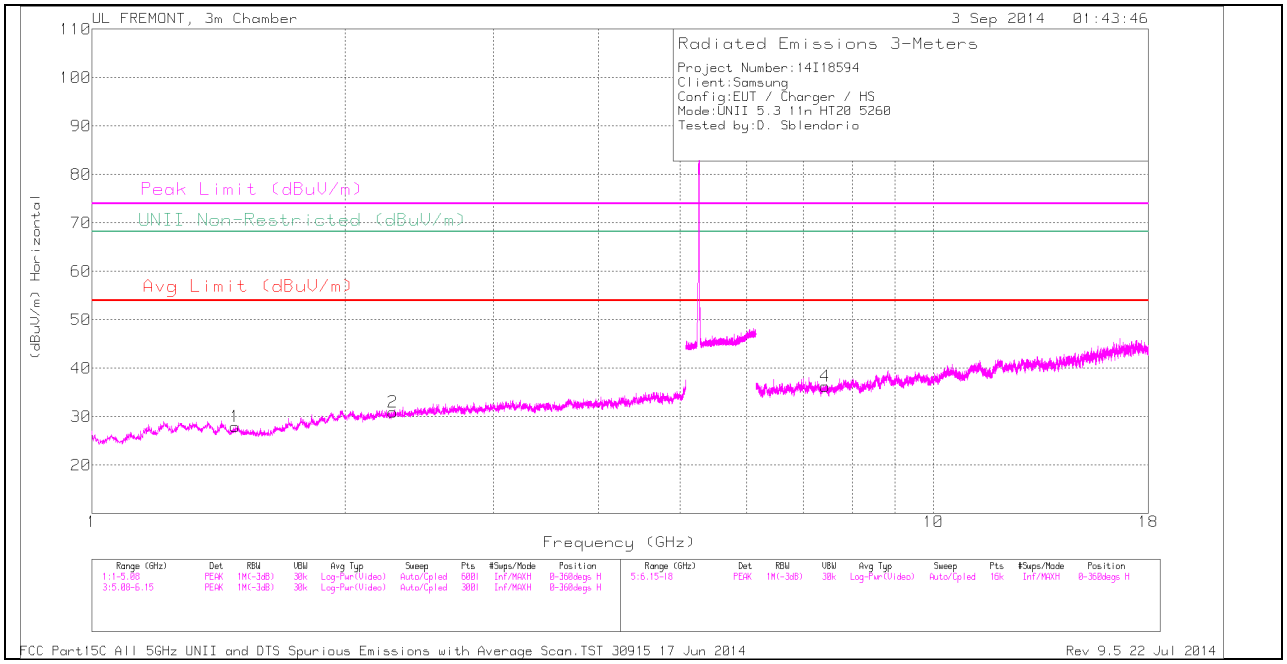
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

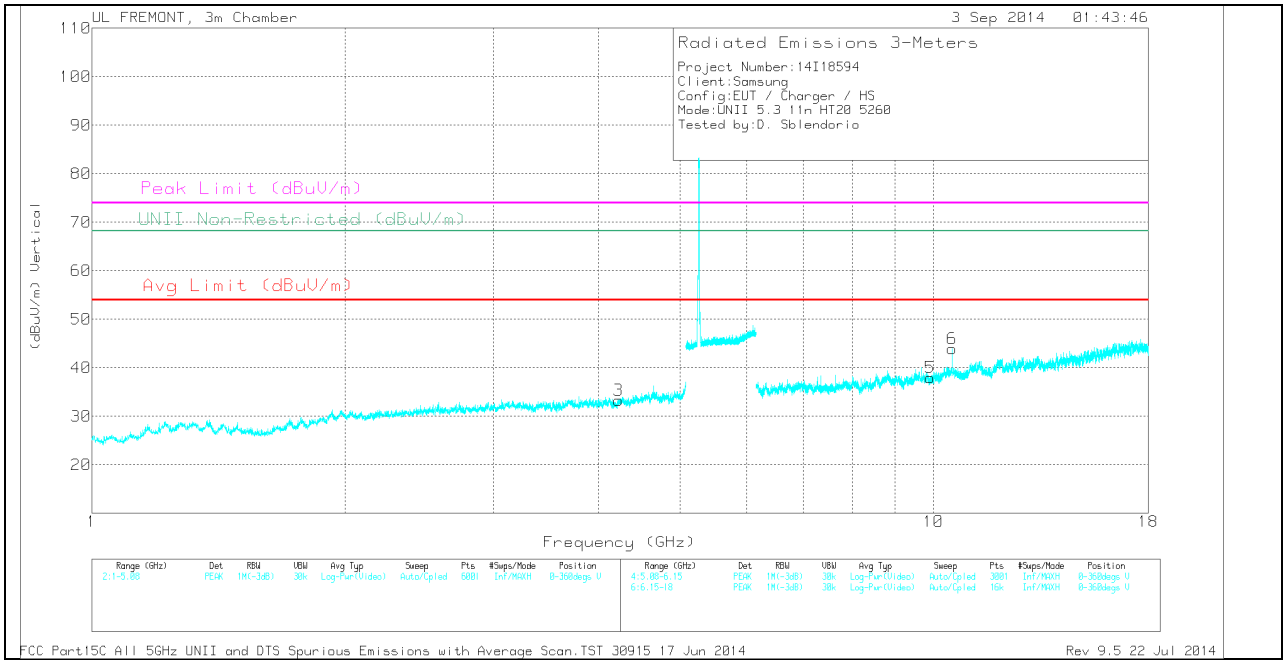
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 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/ 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	1.48	32.2	PK	28.6	-32.8	0	28	-	-	74	-46	-	-	0-360	100	H
2	2.279	31.43	PK	31.8	-32.3	0	30.93	-	-	74	-43.07	-	-	0-360	200	H
3	4.222	31.25	PK	33.5	-31.4	0	33.35	-	-	74	-40.65	-	-	0-360	200	V
4	7.433	29.19	PK	35.7	-28.6	0	36.29	-	-	74	-37.71	-	-	0-360	100	H
5	9.905	27.12	PK	36.9	-26.1	0	37.92	-	-	-	-	68.2	-30.28	0-360	100	V
6	10.52	31.39	PK	37.5	-25	0	43.89	-	-	-	-	68.2	-24.31	0-360	200	V

PK - Peak detector

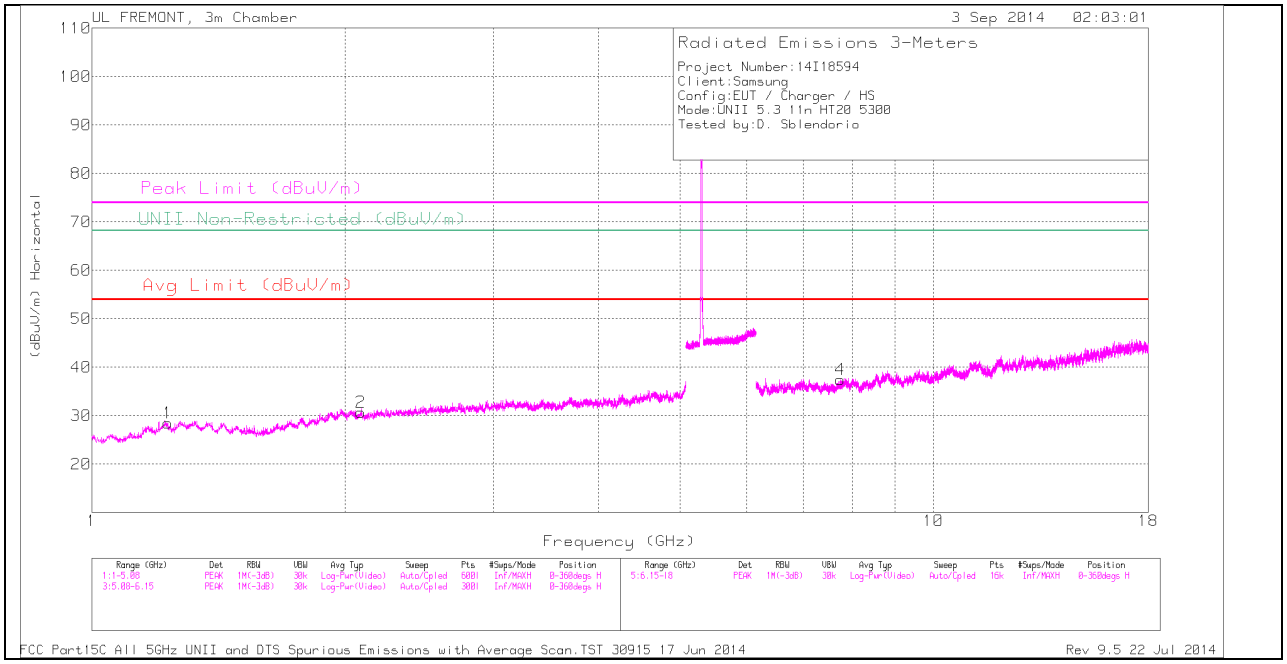
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
10.52	25.93	AD1	37.5	-25	.37	38.8	-	-	-	-	-	-	0	200	V
10.521	37.17	PK1	37.5	-25	0	49.67	-	-	-	-	68.2	-18.53	0	200	V

PK1 - KDB789033 Method: Peak

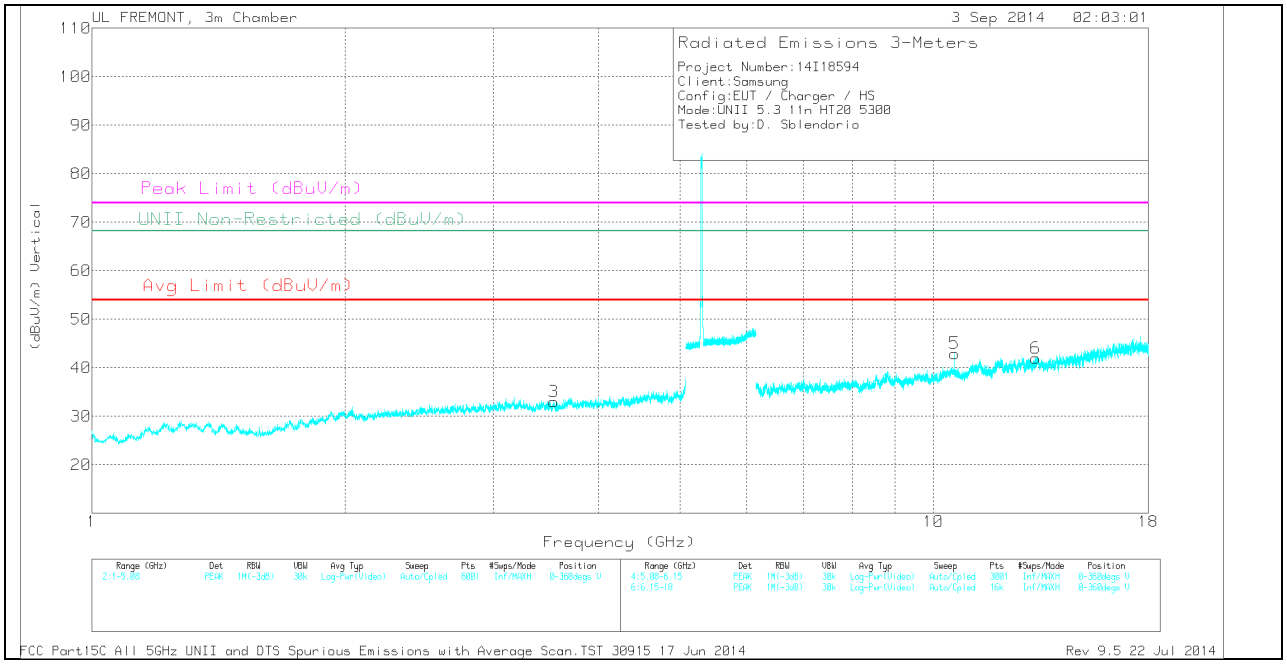
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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	1.231	32.22	PK	29.6	-33.3	0	28.52	-	-	74	-45.48	-	-	0-360	100	H
2	2.085	32.02	PK	31.5	-32.8	0	30.72	-	-	-	-	68.2	-37.48	0-360	200	H
3	3.54	31.82	PK	33	-31.8	0	33.02	-	-	74	-40.98	-	-	0-360	100	V
4	7.755	30.82	PK	35.8	-29.2	0	37.42	-	-	-	-	68.2	-30.78	0-360	100	H
5	10.6	30.57	PK	37.7	-25.3	0	42.97	-	-	74	-31.03	-	-	0-360	200	V
6	13.219	29.32	PK	39.1	-26.4	0	42.02	-	-	-	-	68.2	-26.18	0-360	100	V

PK - Peak detector

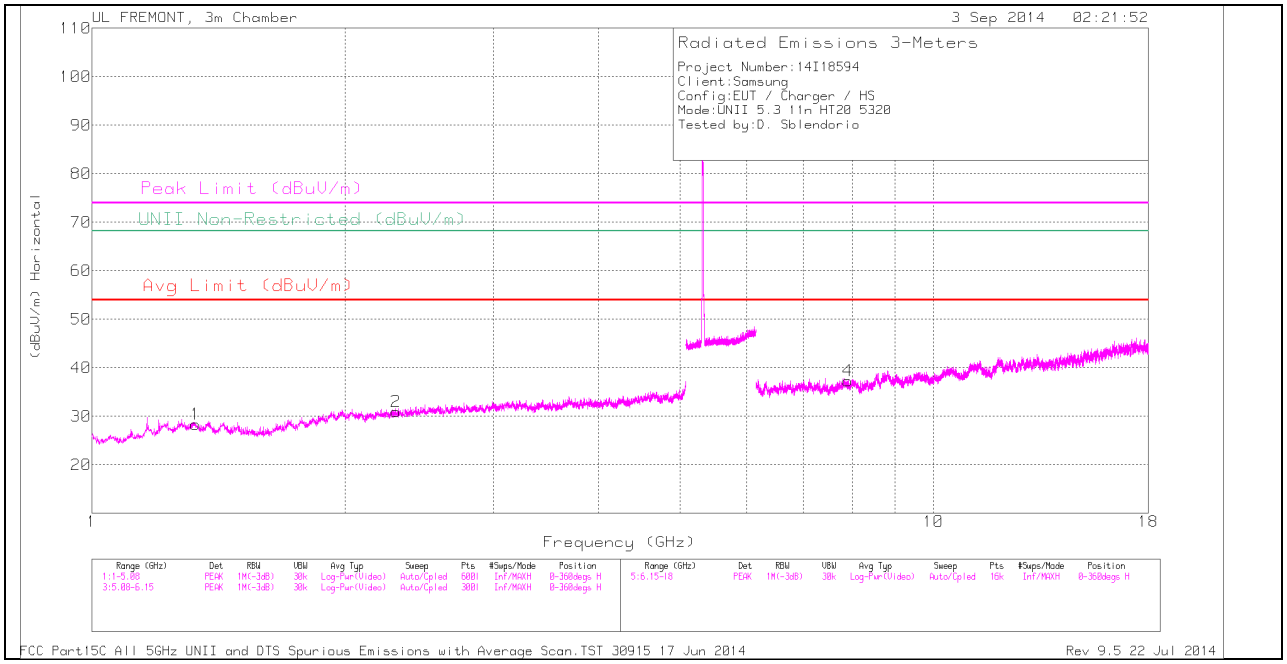
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
10.601	35.96	PK1	37.7	-25.3	0	48.36	-	-	74	-25.64	-	-	0	200	V
10.601	24.68	AD1	37.7	-25.3	.37	37.45	54	-16.55	-	-	-	-	0	200	V

PK1 - KDB789033 Method: Peak

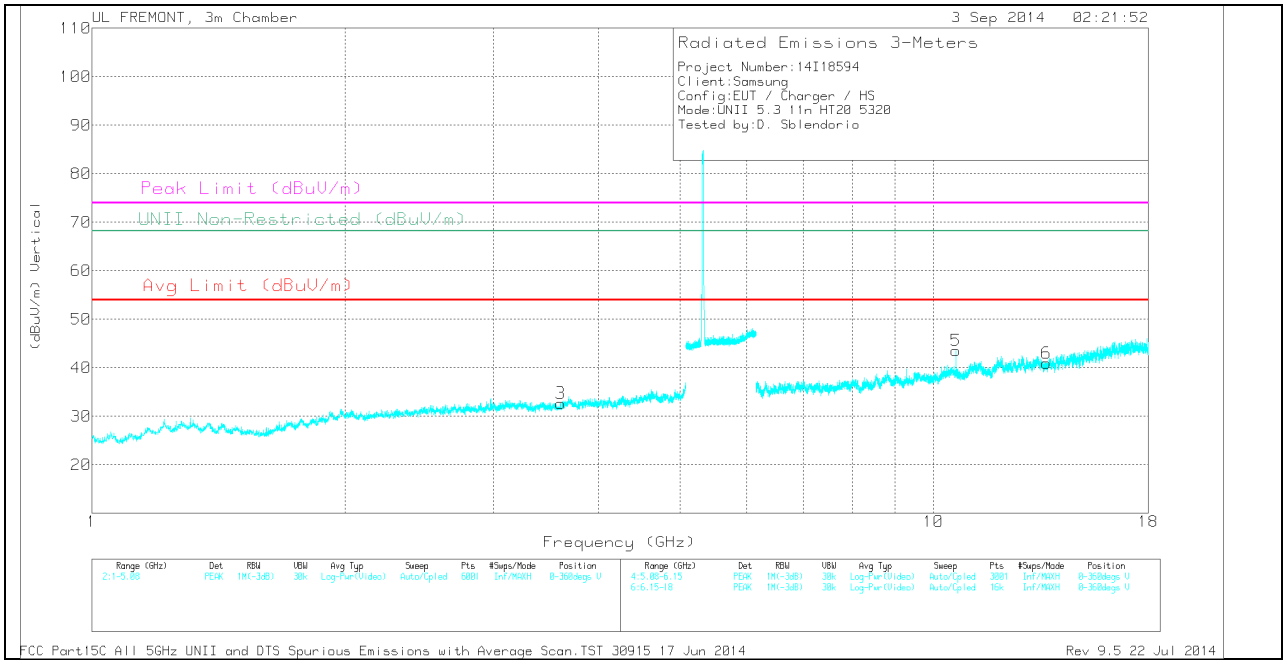
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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	1.327	32.05	PK	29.9	-33.6	0	28.35	-	-	74	-45.65	-	-	0-360	200	H
2	2.299	31.61	PK	31.8	-32.5	0	30.91	-	-	74	-43.09	-	-	0-360	100	H
3	3.604	31.51	PK	33	-31.8	0	32.71	-	-	74	-41.29	-	-	0-360	100	V
4	7.911	29.66	PK	35.8	-28.1	0	37.36	-	-	-	-	68.2	-30.84	0-360	200	H
5	10.64	30.96	PK	37.8	-25.2	0	43.56	-	-	74	-30.44	-	-	0-360	100	V
6	13.612	29.7	PK	38.9	-27.6	0	41	-	-	-	-	68.2	-27.2	0-360	100	V

PK - Peak detector

Radiated Emissions

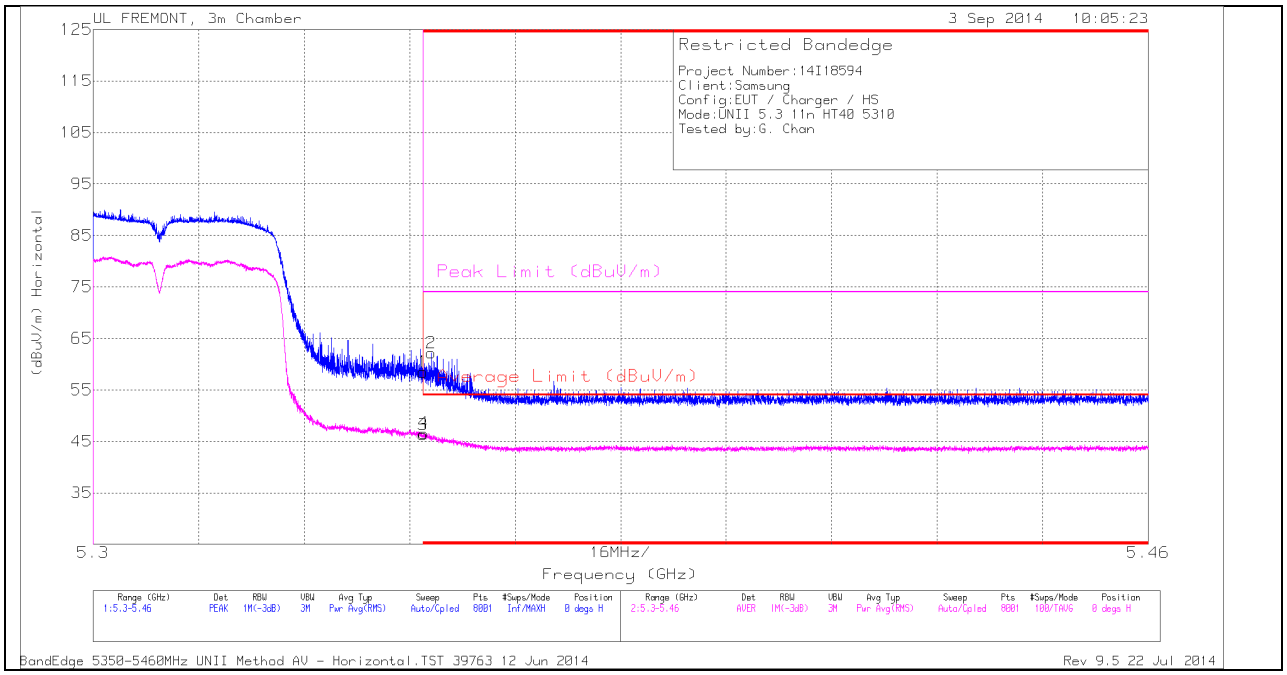
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10.64	25.2	AD1	37.8	-25.2	.37	38.17	54	-15.83	-	-	-	-	0	100	V
10.641	36.37	PK1	37.8	-25.2	0	48.97	-	-	74	-25.03	-	-	0	100	V

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2.3. 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

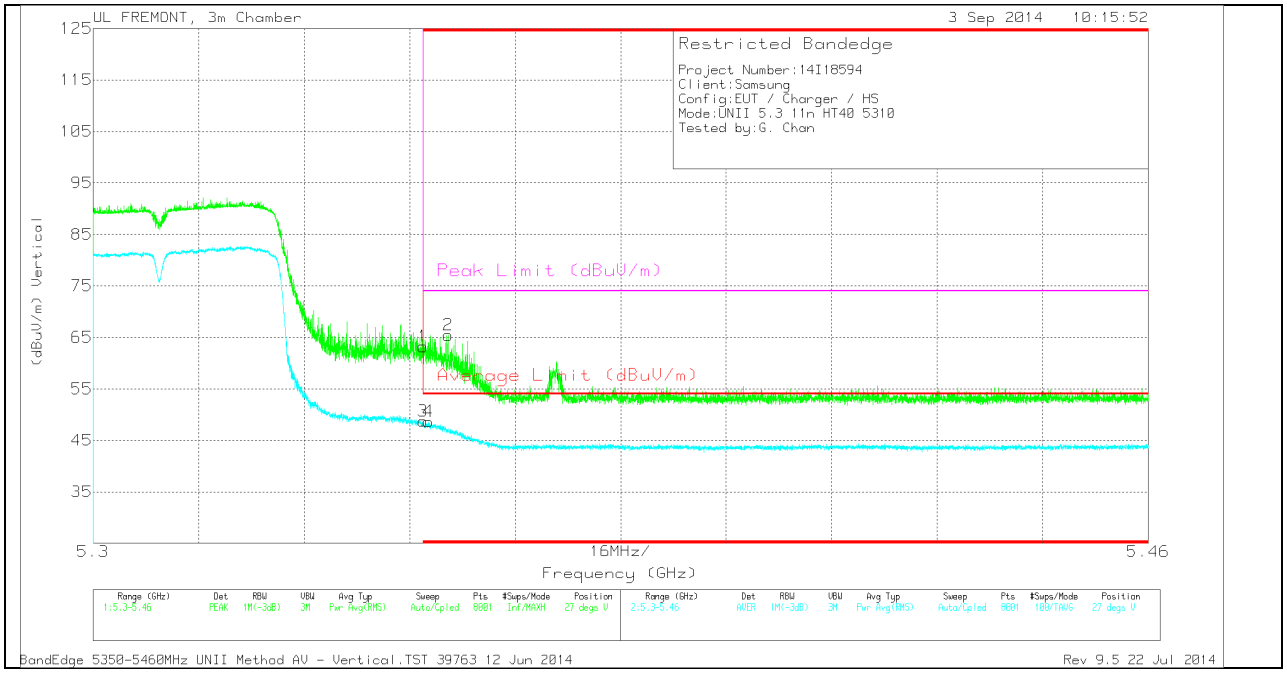
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	45.37	PK	34.5	-21.4	0	58.47	-	-	74	-15.53	0	335	H
2	* 5.351	49.08	PK	34.5	-21.4	0	62.18	-	-	74	-11.82	0	335	H
3	* 5.35	32.68	RMS	34.5	-21.4	.69	46.47	54	-7.53	-	-	0	335	H
4	* 5.35	33	RMS	34.5	-21.4	..69	46.79	54	-7.21	-	-	0	335	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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	50.13	PK	34.5	-21.4	0	63.23	-	-	74	-10.77	27	368	V
2	* 5.354	52.33	PK	34.5	-21.4	0	65.43	-	-	74	-8.57	27	368	V
3	* 5.35	35.14	RMS	34.5	-21.4	.69	48.93	54	-5.07	-	-	27	368	V
4	* 5.351	35.04	RMS	34.5	-21.4	.69	48.83	54	-5.17	-	-	27	368	V

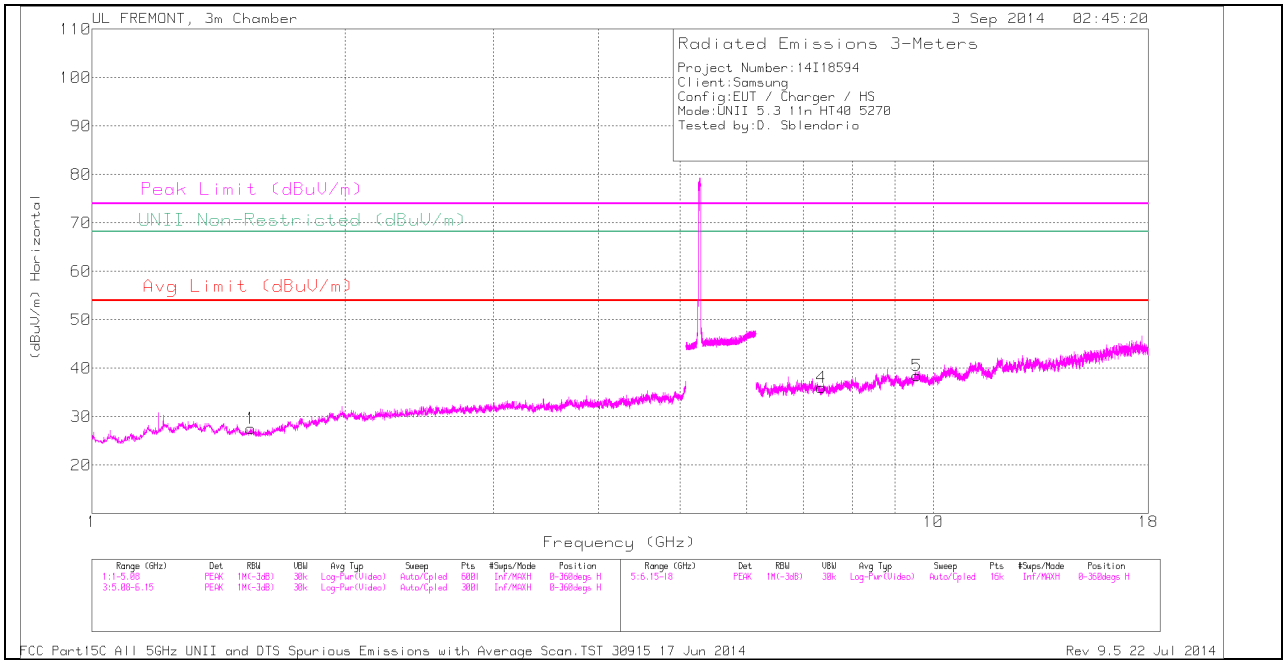
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

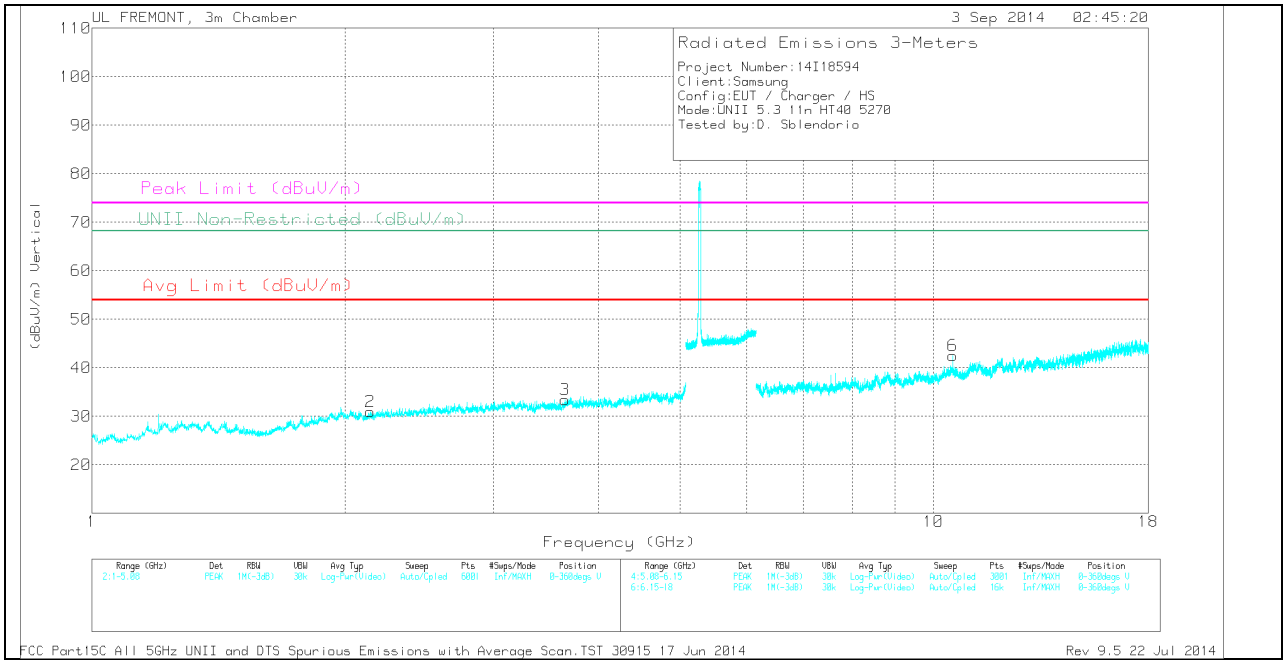
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 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/ 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	1.544	32.57	PK	28.3	-33.3	0	27.57	-	-	74	-46.43	-	-	0-360	200	H
2	2.142	32.25	PK	31.6	-32.9	0	30.95	-	-	-	-	68.2	-37.25	0-360	100	V
3	3.648	31.42	PK	33.1	-31.1	0	33.42	-	-	74	-40.58	-	-	0-360	200	V
4	7.362	29.37	PK	35.6	-29	0	35.97	-	-	74	-38.03	-	-	0-360	200	H
5	9.551	27.25	PK	36.6	-25.3	0	38.55	-	-	-	-	68.2	-29.65	0-360	100	H
6	10.54	30.36	PK	37.6	-25.4	0	42.56	-	-	-	-	68.2	-25.64	0-360	200	V

PK - Peak detector

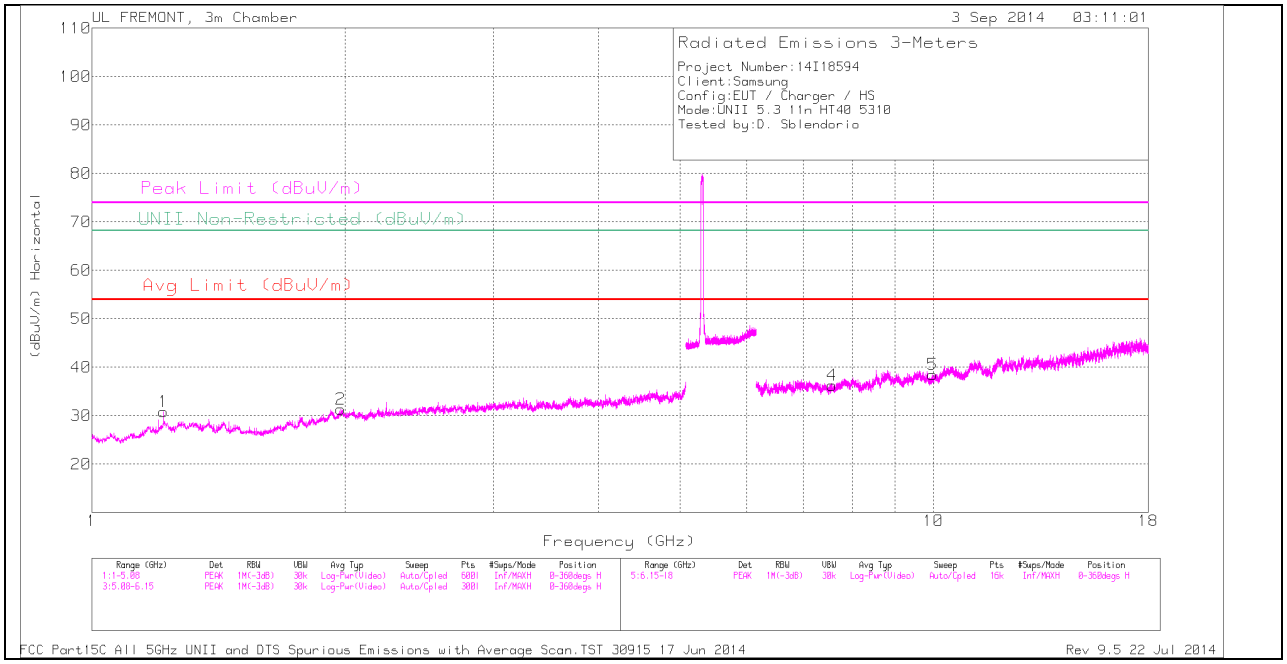
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
10.54	36.68	PK1	37.6	-25.4	0	48.88	-	-	-	-	68.2	-19.32	0	200	V
10.54	25.82	AD1	37.6	-25.4	.69	38.71	-	-	-	-	-	-	0	200	V

PK1 - KDB789033 Method: Peak

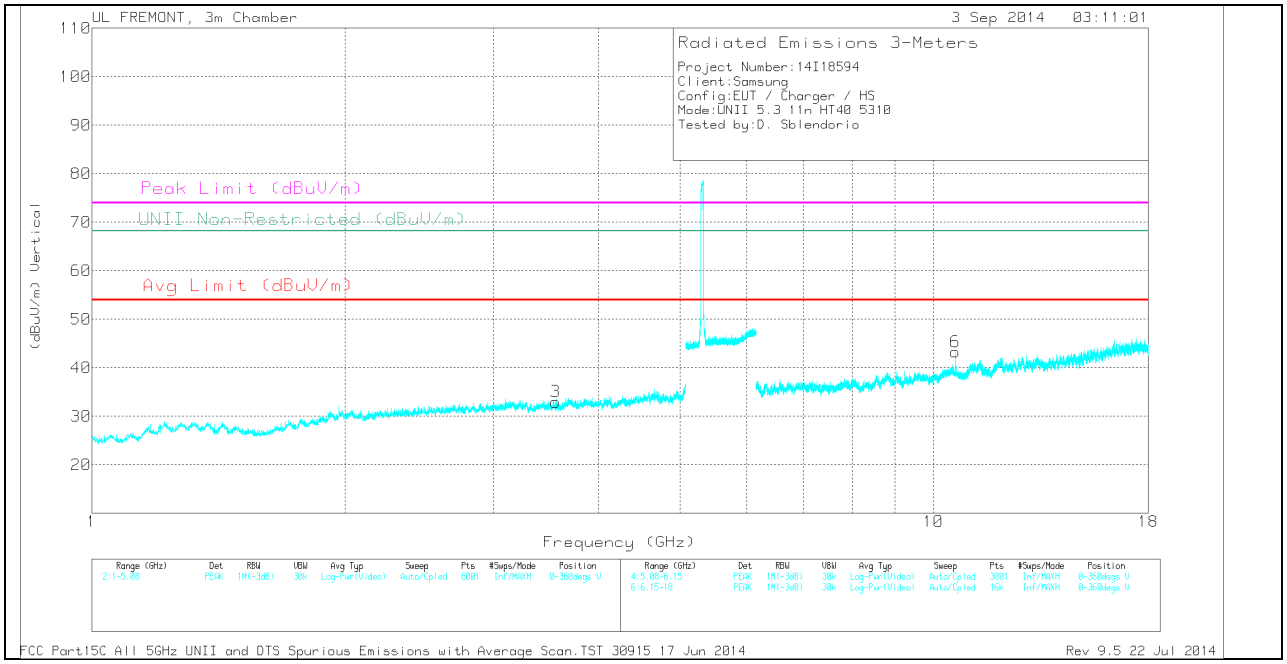
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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	1.216	34.61	PK	29.4	-33.2	0	30.81	-	-	74	-43.19	-	-	0-360	200	H
2	1.976	32.1	PK	31.5	-32.2	0	31.4	-	-	-	-	68.2	-36.8	0-360	100	H
3	3.555	31.98	PK	33	-32	0	32.98	-	-	74	-41.02	-	-	0-360	200	V
4	7.582	29.14	PK	35.7	-28.6	0	36.24	-	-	74	-37.76	-	-	0-360	200	H
5	9.984	27.45	PK	37	-25.9	0	38.55	-	-	-	-	68.2	-29.65	0-360	100	H
6	10.619	30.68	PK	37.7	-25.1	0	43.28	-	-	74	-30.72	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
10.62	26.47	AD1	37.7	-25	.69	39.86	54	-14.14	-	-	-	-	0	200	V
10.621	36.84	PK1	37.7	-25	0	49.54	-	-	74	-24.46	-	-	0	200	V

PK1 - KDB789033 Method: Peak

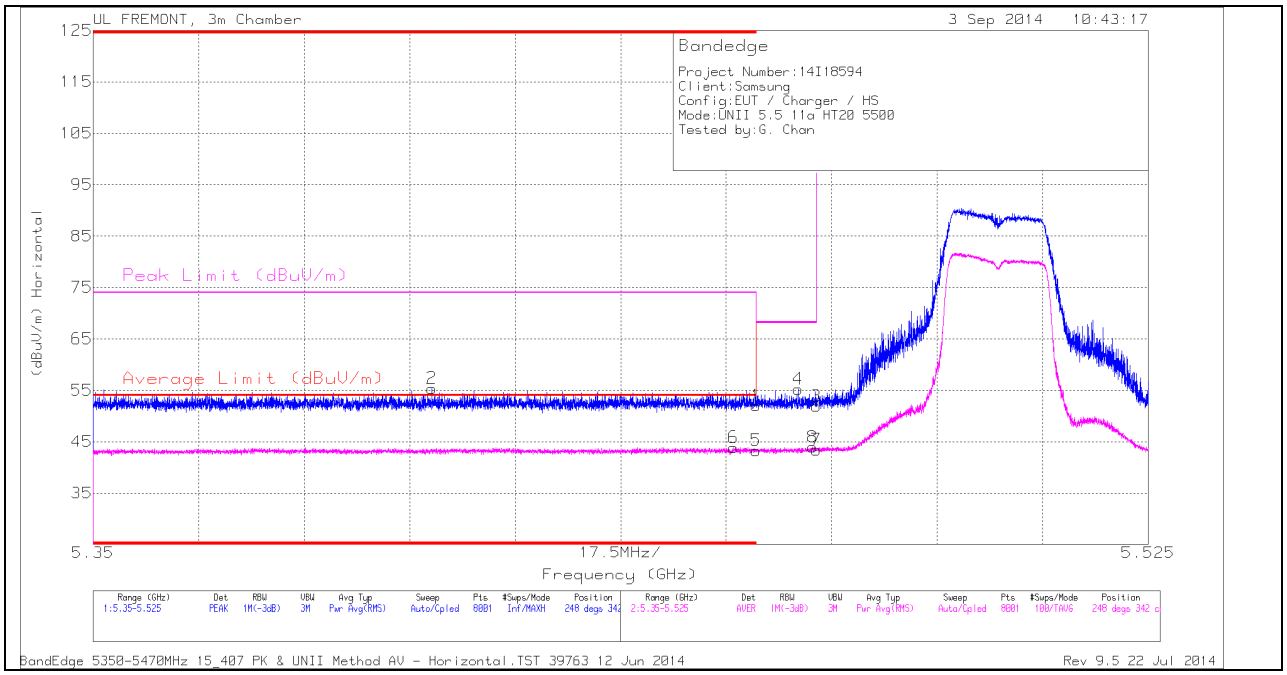
AD1 - KDB789033 Method: AD Primary Power Average

11.3. 5.5-5.6 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

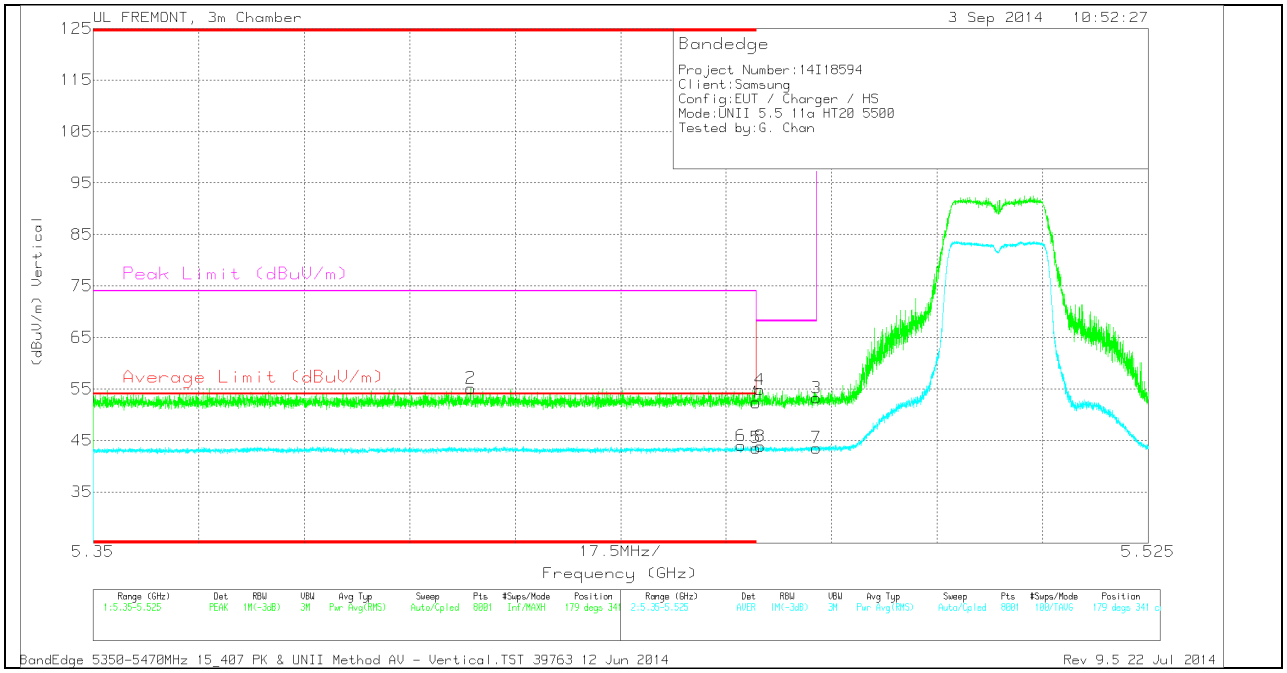
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	38.61	PK	34.8	-21.4	0	52.01	-	-	74	-21.99	248	342	H
2	* 5.406	42.08	PK	34.7	-21.4	0	55.38	-	-	74	-18.62	248	342	H
5	* 5.46	29.89	RMS	34.8	-21.4	.3	43.29	54	-10.71	-	-	248	342	H
6	* 5.456	30.48	RMS	34.8	-21.4	.3	43.88	54	-10.12	-	-	248	342	H
4	5.467	41.75	PK	34.8	-21.3	0	55.25	-	-	68.2	-12.95	248	342	H
8	5.469	30.45	RMS	34.8	-21.3	.3	43.95	-	-	-	-	248	342	H
3	5.47	38.42	PK	34.8	-21.3	0	51.92	-	-	68.2	-16.28	248	342	H
7	5.47	29.93	RMS	34.8	-21.3	.3	43.43	-	-	-	-	248	342	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	38.96	PK	34.8	-21.4	0	52.36	-	-	74	-21.64	179	341	V
2	* 5.413	41.84	PK	34.7	-21.4	0	55.14	-	-	74	-18.86	179	341	V
5	* 5.46	30.14	RMS	34.8	-21.4	.3	43.54	54	-10.46	-	-	179	341	V
6	* 5.457	30.57	RMS	34.8	-21.4	.3	43.97	54	-10.03	-	-	179	341	V
4	5.461	41.44	PK	34.8	-21.4	0	54.84	-	-	68.2	-13.36	179	341	V
8	5.461	30.43	RMS	34.8	-21.4	.3	43.83	-	-	-	-	179	341	V
3	5.47	39.75	PK	34.8	-21.3	0	53.25	-	-	68.2	-14.95	179	341	V
7	5.47	30.05	RMS	34.8	-21.3	.3	43.55	-	-	-	-	179	341	V

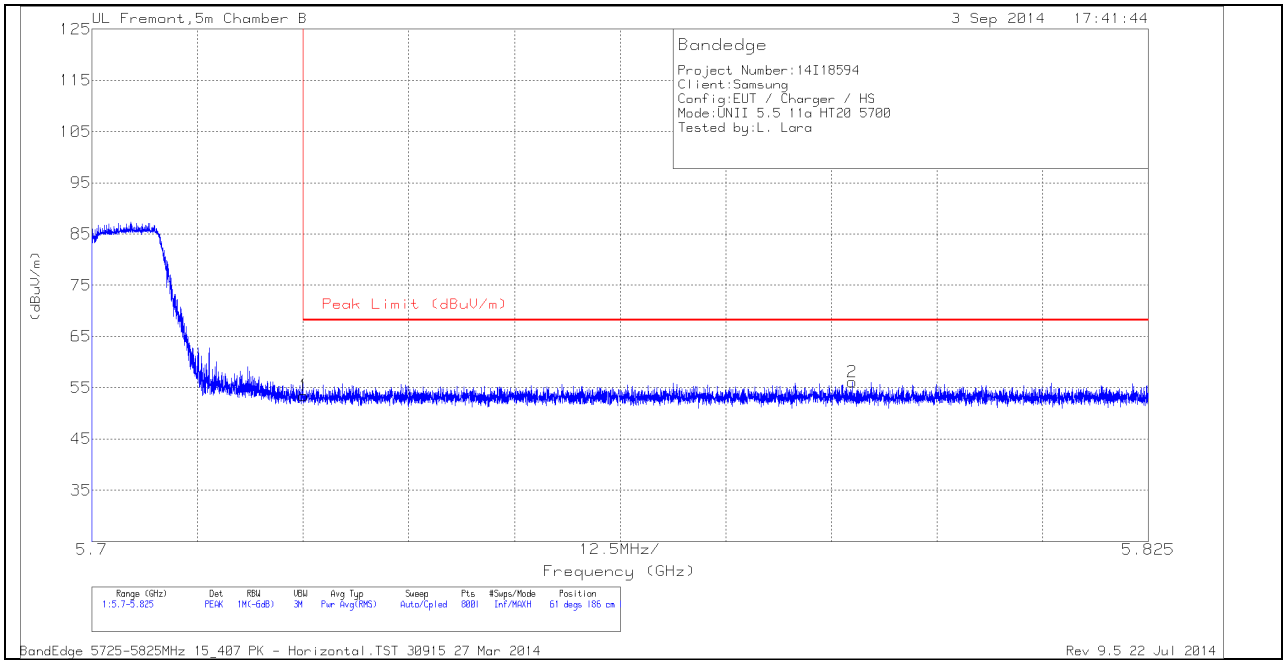
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT

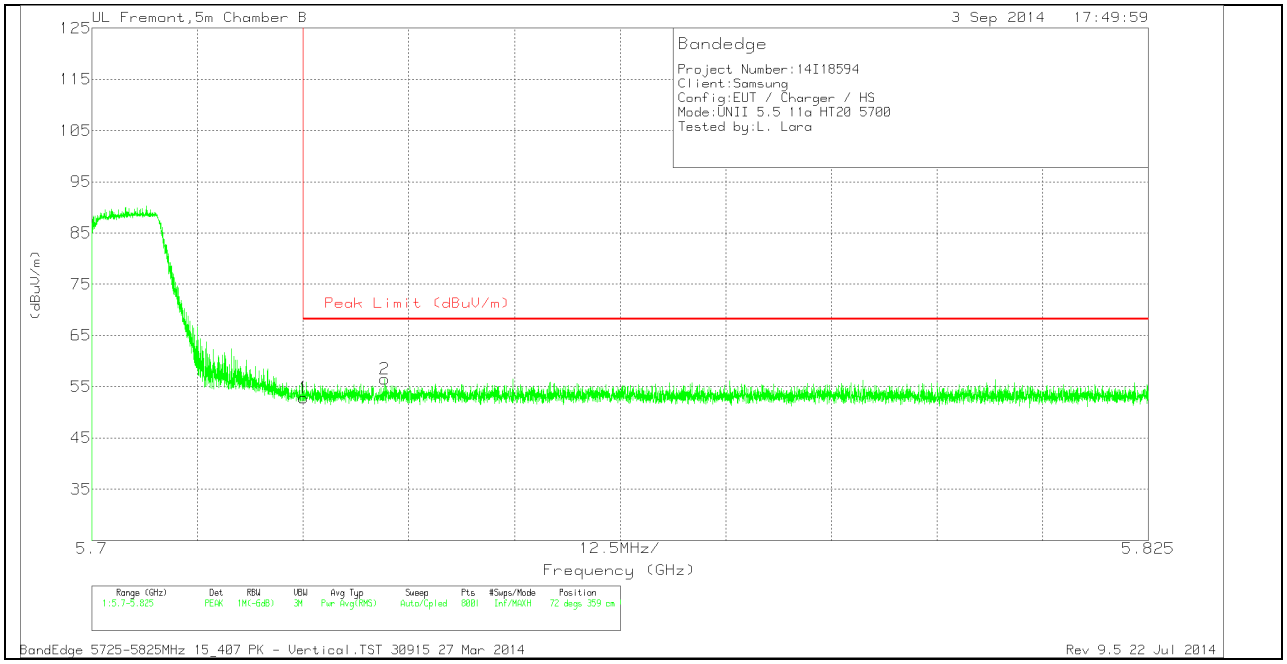


HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	38.94	PK	34.6	-20.1	53.44	68.2	-14.76	61	186	H
2	5.79	41.39	PK	34.7	-19.9	56.19	68.2	-12.01	61	186	H

PK - Peak detector

VERTICAL PEAK PLOT



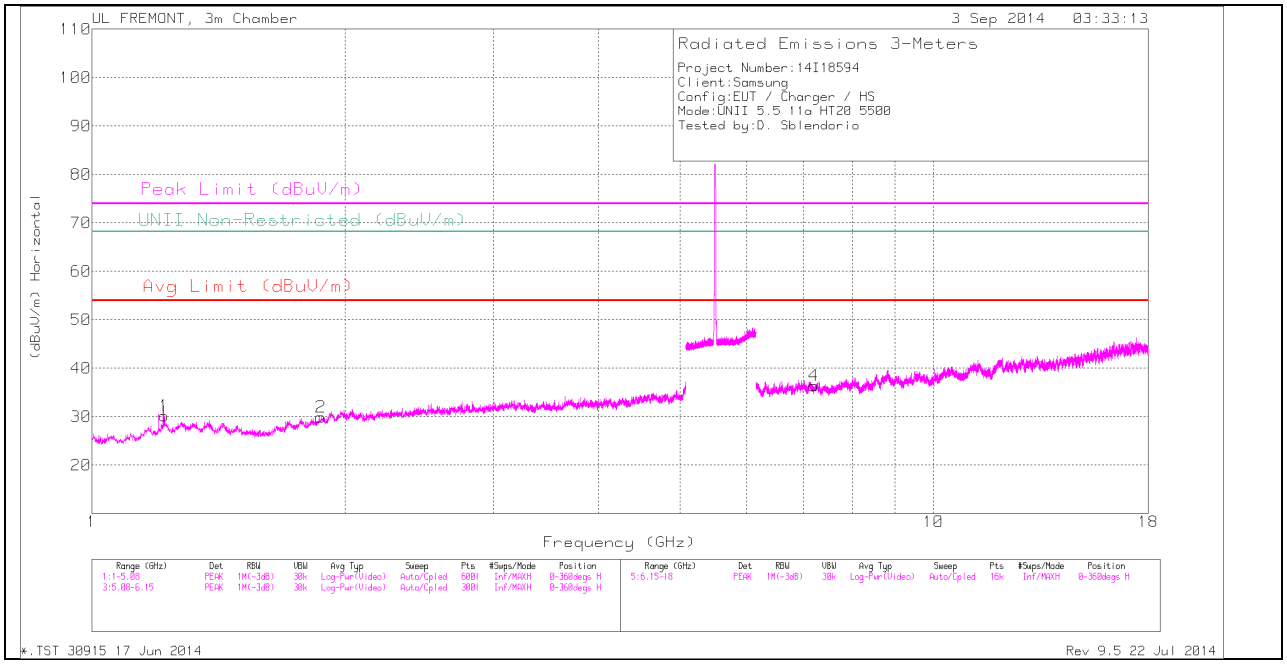
VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	38.36	PK	34.6	-20.1	52.86	68.2	-15.34	72	359	V
2	5.735	42.03	PK	34.6	-20.1	56.53	68.2	-11.67	72	359	V

PK - Peak detector

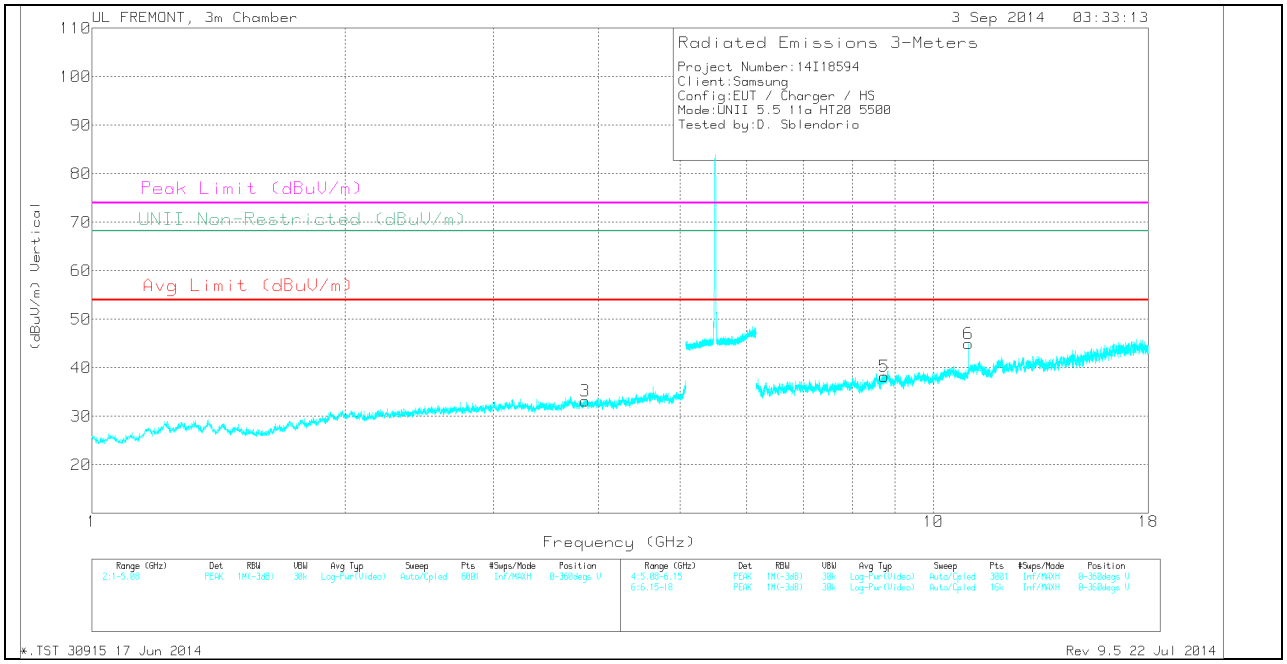
HARMONICS AND SPURIOUS EMISSIONS

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/Fltr /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	1.219	33.96	PK	29.4	-33.2	30.16	-	-	74	-43.84	-	-	0-360	200	H
2	1.871	32.17	PK	30.9	-33.2	29.87	-	-	-	-	68.2	-38.33	0-360	100	H
3	3.854	30.72	PK	33.2	-30.7	33.22	-	-	74	-40.78	-	-	0-360	200	V
4	7.208	29.93	PK	35.6	-29.1	36.43	-	-	-	-	68.2	-31.77	0-360	100	H
5	8.744	29.05	PK	35.9	-26.7	38.25	-	-	-	-	68.2	-29.95	0-360	200	V
6	10.999	32.57	PK	37.9	-25.5	44.97	-	-	74	-29.03	-	-	0-360	200	V

PK - Peak detector

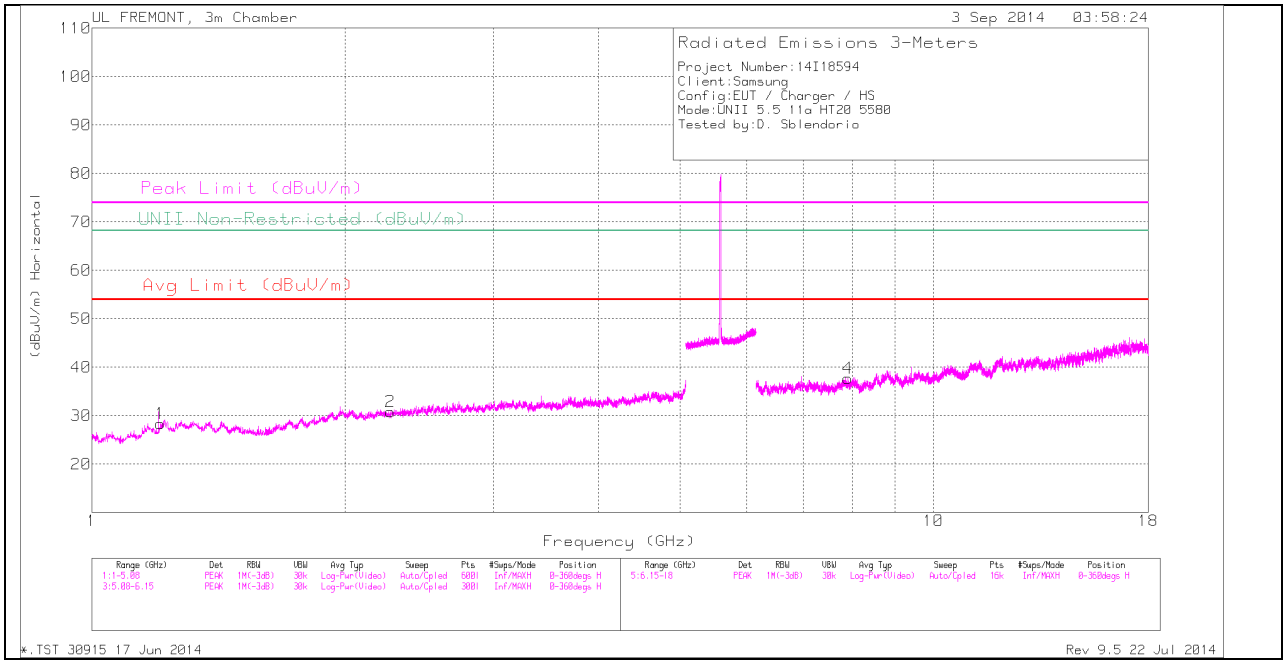
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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	37.85	PK1	37.9	-25.4	0	50.35	-	-	74	-23.65	-	-	0	200	V
11	38.25	PK1	37.9	-25.4	0	50.75	-	-	74	-23.25	-	-	0	200	V
11	27.75	AD1	37.9	-25.4	.3	40.25	54	-13.75	-	-	-	-	0	200	V

PK1 - KDB789033 Method: Peak

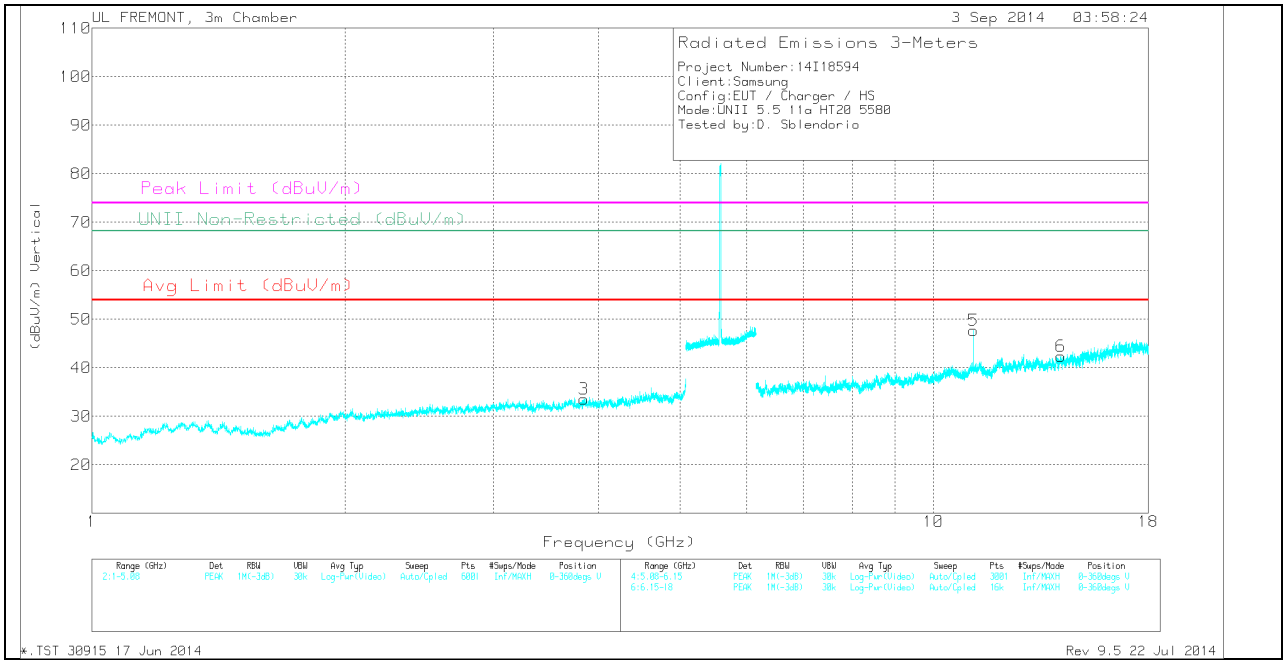
AD1 - KDB789033 Method: AD Primary Power Average

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/Fltr /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	1.206	32.22	PK	29.3	-33.1	28.42	-	-	74	-45.58	-	-	0-360	200	H
2	2.263	31.29	PK	31.8	-32.2	30.89	-	-	74	-43.11	-	-	0-360	200	H
3	3.844	31.23	PK	33.2	-30.9	33.53	-	-	74	-40.47	-	-	0-360	200	V
4	7.914	30.16	PK	35.8	-28.3	37.66	-	-	-	-	68.2	-30.54	0-360	200	H
5	11.159	35.67	PK	37.9	-25.8	47.77	-	-	74	-26.23	-	-	0-360	200	V
6	14.177	30.18	PK	39.1	-26.9	42.38	-	-	-	-	68.2	-25.82	0-360	100	V

PK - Peak detector

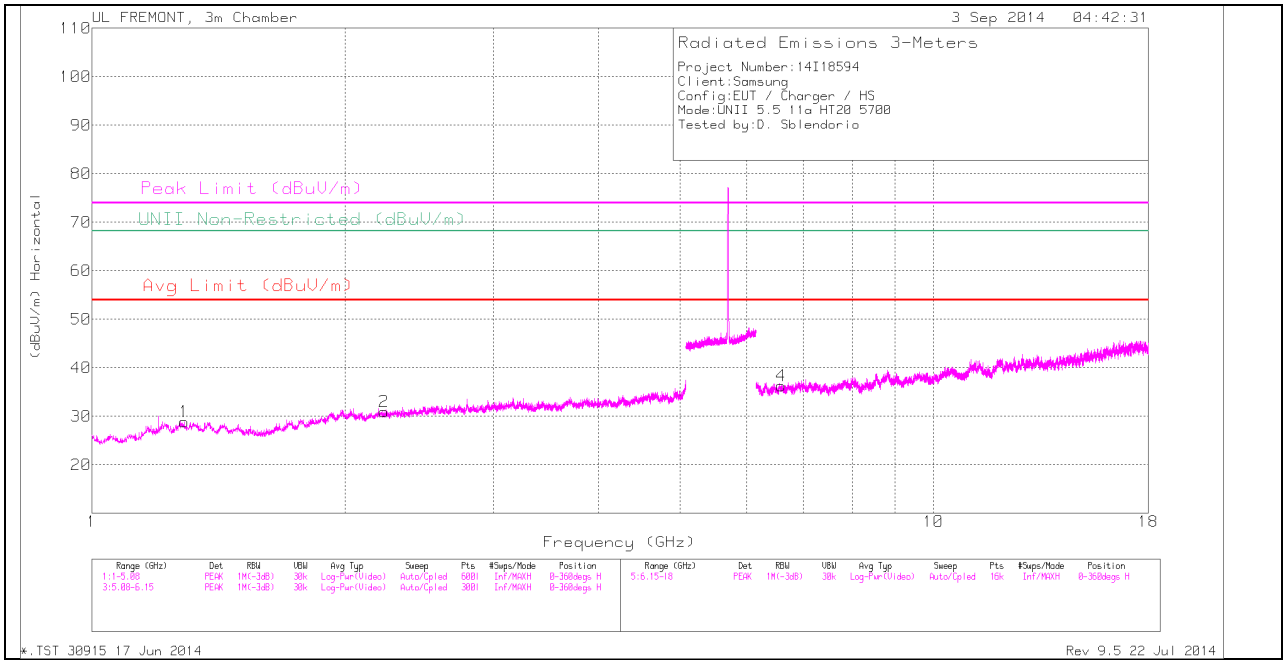
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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
11.16	40.64	PK1	37.9	-25.8	0	52.74	-	-	74	-21.26	-	-	221	186	V
11.16	33.46	AD1	37.9	-25.8	.3	45.56	54	-8.44	-	-	-	-	221	186	V

PK1 - KDB789033 Method: Peak

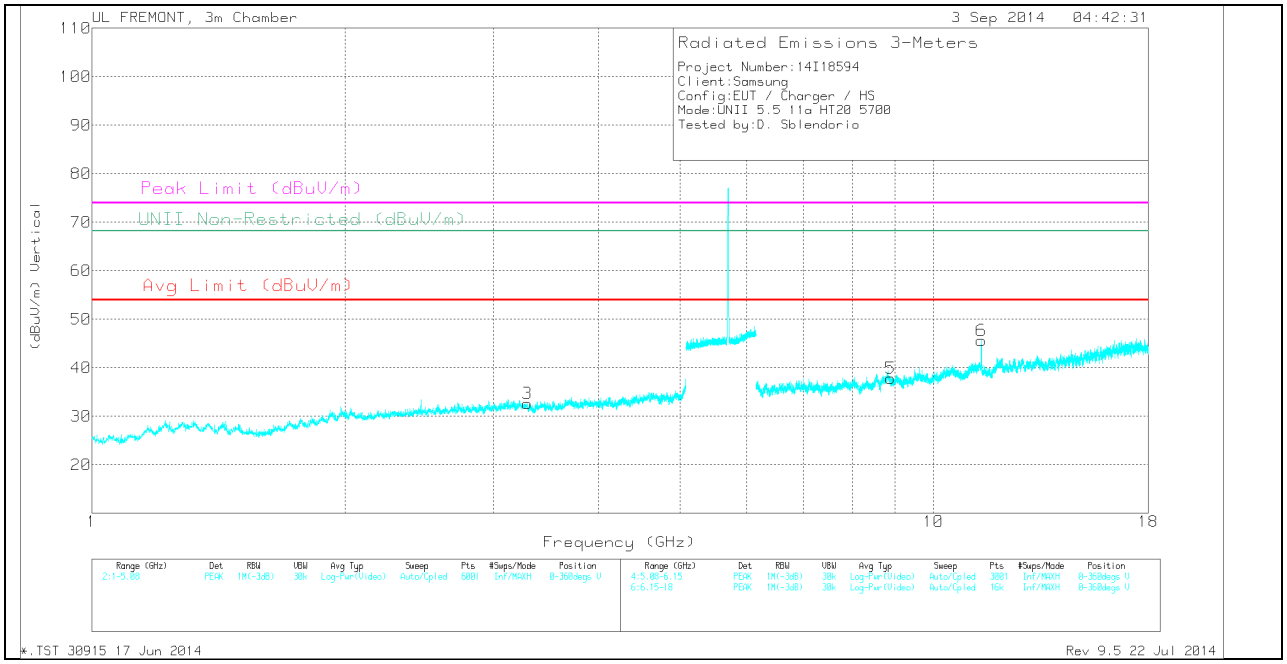
AD1 - KDB789033 Method: AD Primary Power Average

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/Fltr /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	1.286	32.42	PK	30.1	-33.6	28.92	-	-	74	-45.08	-	-	0-360	200	H
2	2.223	31.57	PK	31.7	-32.3	30.97	-	-	74	-43.03	-	-	0-360	200	H
3	3.29	31.84	PK	32.9	-32.1	32.64	-	-	-	-	68.2	-35.56	0-360	200	V
4	6.588	30.16	PK	35.6	-29.5	36.26	-	-	-	-	68.2	-31.94	0-360	200	H
5	8.886	28.57	PK	36	-26.7	37.87	-	-	-	-	68.2	-30.33	0-360	100	V
6	11.4	33.48	PK	38.1	-26	45.58	-	-	74	-28.42	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

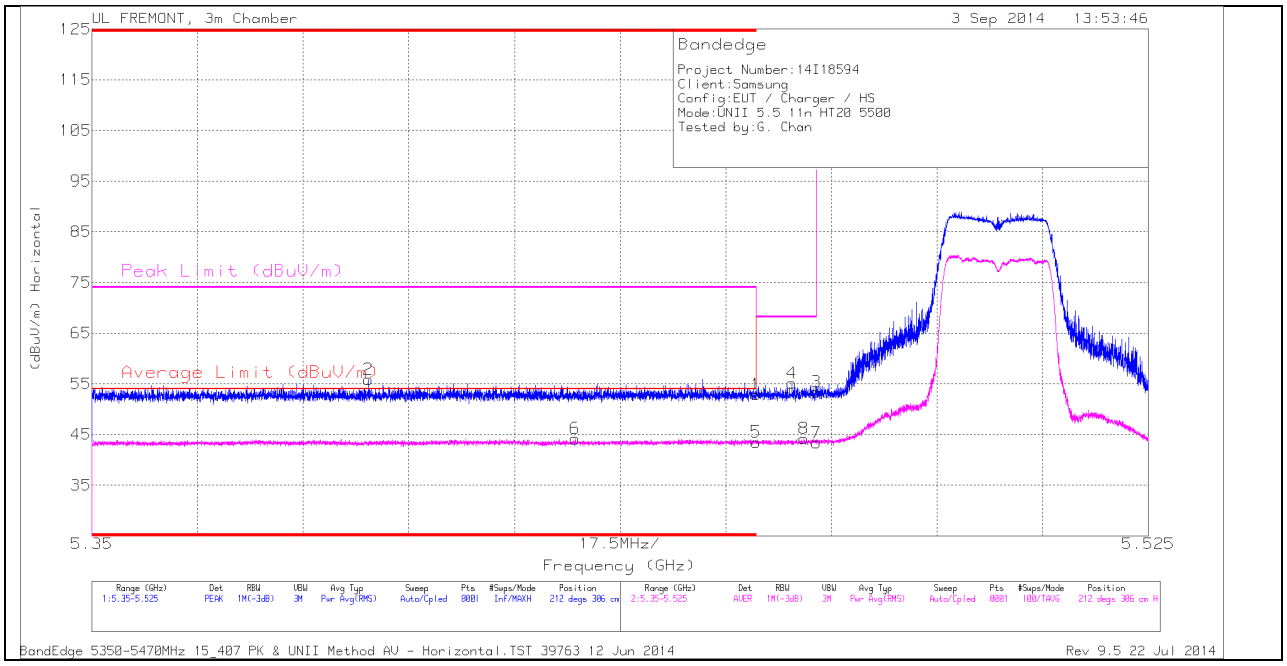
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC factor	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.4	38.49	PK1	38.1	-26	0	50.59	-	-	74	-23.41	-	-	360	200	V
11.4	28.69	AD1	38.1	-26	.3	40.79	54	-13.21	-	-	-	-	360	200	V

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.3.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

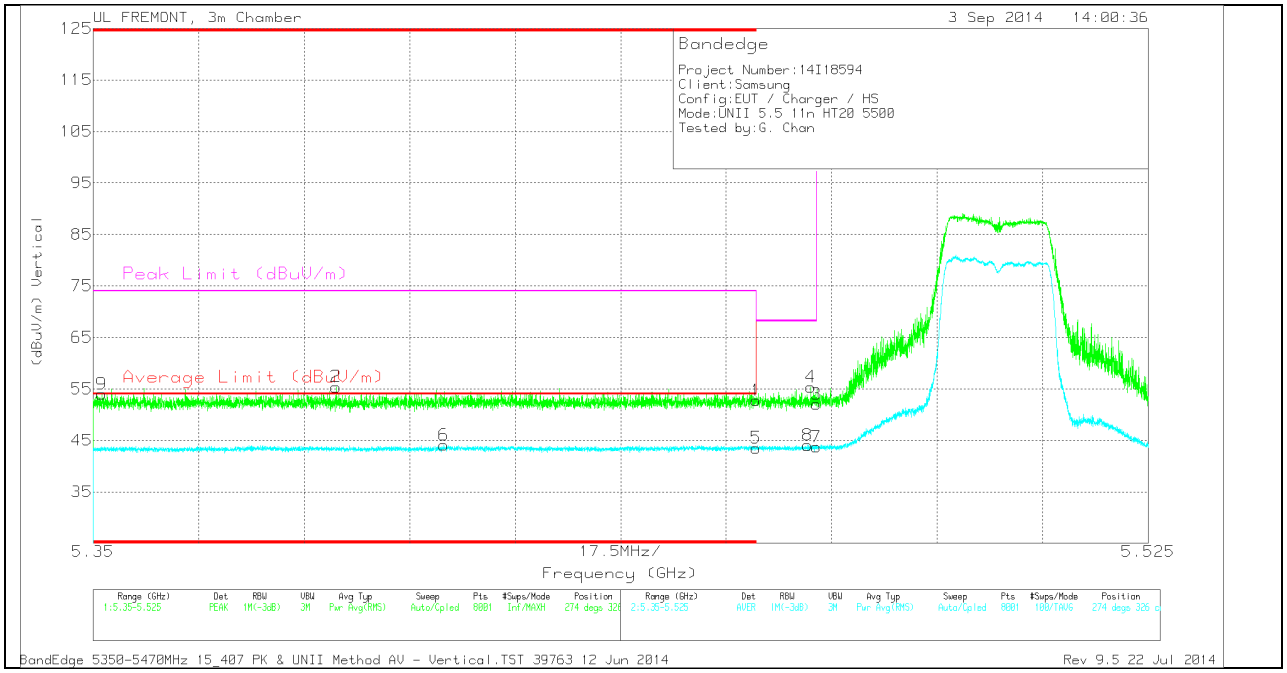
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.396	42.62	PK	34.7	-21.4	0	55.92	-	-	74	-18.08	212	306	H
6	* 5.43	30.71	RMS	34.7	-21.5	.37	44.28	54	-9.72	-	-	212	306	H
1	* 5.46	39.54	PK	34.8	-21.4	0	52.94	-	-	74	-21.06	212	306	H
5	* 5.46	29.88	RMS	34.8	-21.4	.37	43.65	54	-10.35	-	-	212	306	H
4	5.466	41.68	PK	34.8	-21.3	0	55.18	-	-	68.2	-13.02	212	306	H
8	5.468	30.45	RMS	34.8	-21.3	.37	44.19	-	-	-	-	212	306	H
3	5.47	39.85	PK	34.8	-21.3	0	53.35	-	-	68.2	-14.85	212	306	H
7	5.47	29.61	RMS	34.8	-21.3	.37	43.35	-	-	-	-	212	306	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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
9	* 5.351	40.9	PK	34.5	-21.4	0	54	-	-	74	-20	274	326	V
2	* 5.39	42.09	PK	34.7	-21.4	0	55.39	-	-	74	-18.61	274	326	V
6	* 5.408	30.54	RMS	34.7	-21.4	.37	44.21	54	-9.79	-	-	274	326	V
1	* 5.46	39.36	PK	34.8	-21.4	0	52.76	-	-	74	-21.24	274	326	V
5	* 5.46	29.88	RMS	34.8	-21.4	.37	43.65	54	-10.35	-	-	274	326	V
8	5.468	30.32	RMS	34.8	-21.3	.37	44.19	-	-	-	-	274	326	V
4	5.469	41.86	PK	34.8	-21.3	0	55.36	-	-	68.2	-12.84	274	326	V
3	5.47	38.51	PK	34.8	-21.3	0	52.01	-	-	68.2	-16.19	274	326	V
7	5.47	29.97	RMS	34.8	-21.3	.37	43.84	-	-	-	-	274	326	V

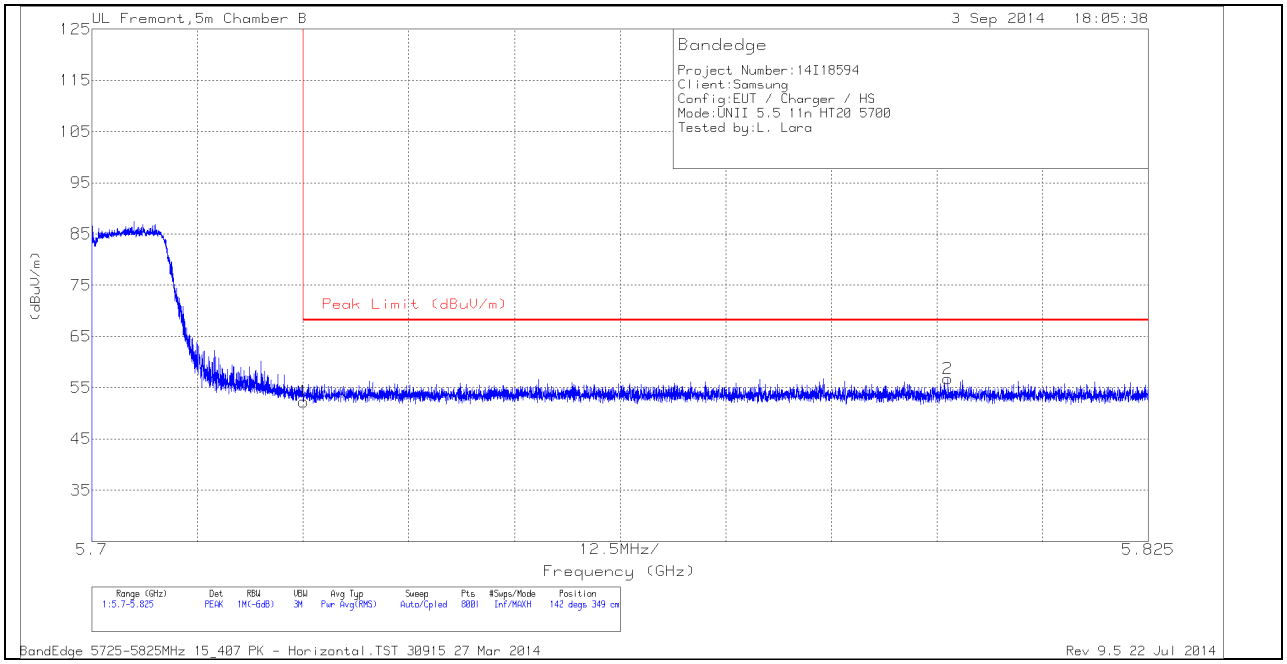
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT

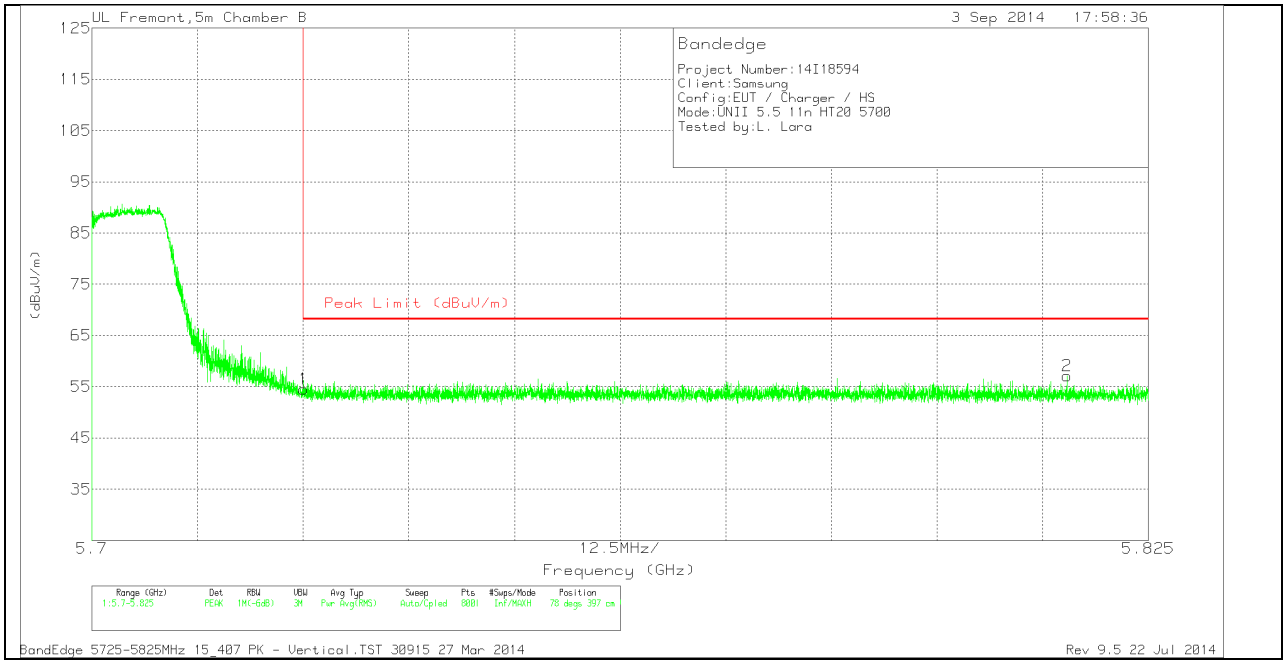


HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	37.77	PK	34.6	-20.1	52.27	68.2	-15.93	142	349	H
2	5.801	41.97	PK	34.7	-19.9	56.77	68.2	-11.43	142	349	H

PK - Peak detector

VERTICAL PEAK AND AVERAGE PLOT



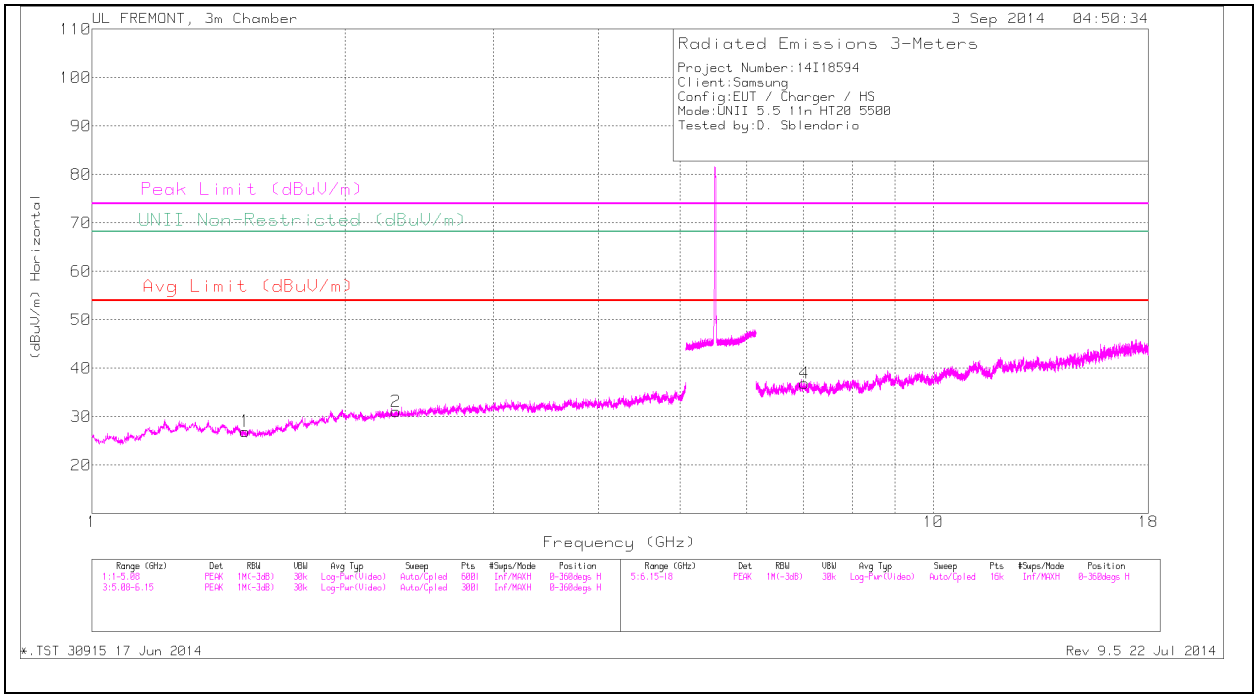
VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	40.02	PK	34.6	-20.1	54.52	68.2	-13.68	78	397	V
2	5.815	42.36	PK	34.7	-19.9	57.16	68.2	-11.04	78	397	V

PK - Peak detector

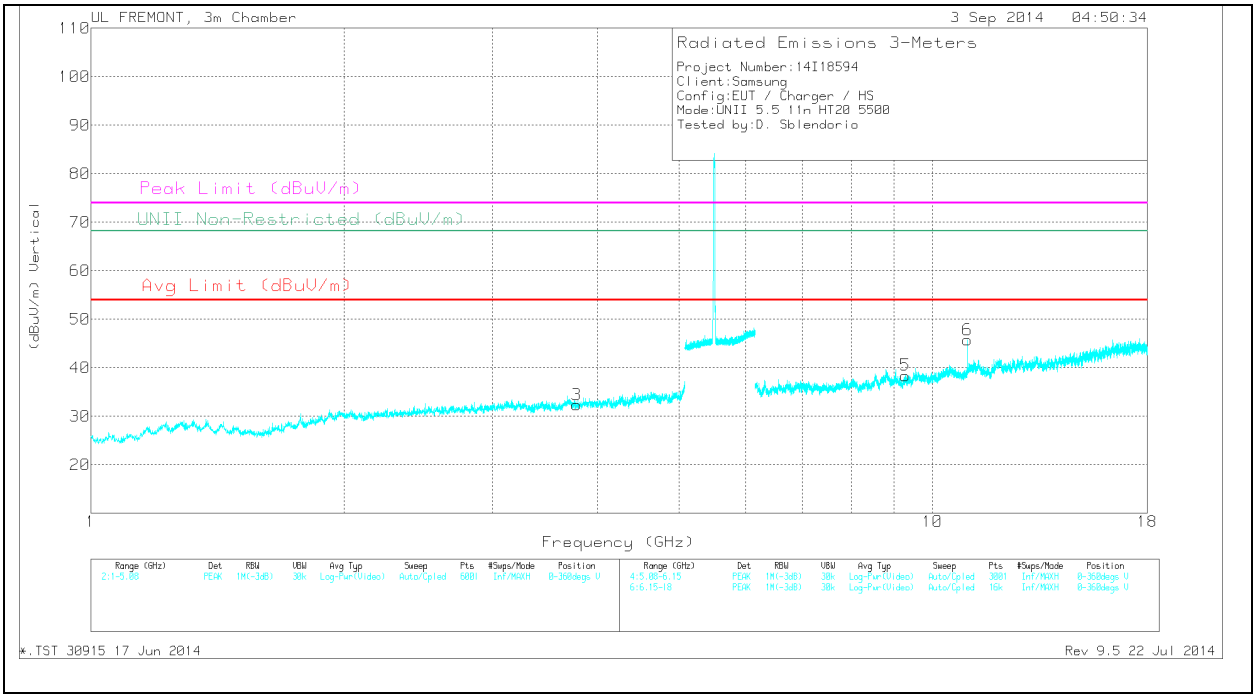
HARMONICS AND SPURIOUS EMISSIONS

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/ 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	1.52	31.7	PK	28.4	-33.1	0	27	-	-	74	-47	-	-	0-360	100	H
2	2.298	31.8	PK	31.8	-32.5	0	31.1	-	-	74	-42.9	-	-	0-360	100	H
3	3.778	31.04	PK	33.2	-31.8	0	32.44	-	-	74	-41.56	-	-	0-360	100	V
4	7.02	29.99	PK	35.6	-28.7	0	36.89	-	-	-	-	68.2	-31.31	0-360	200	H
5	9.29	27.93	PK	36.3	-25.8	0	38.43	-	-	-	-	68.2	-29.77	0-360	200	V
6	11	33.22	PK	37.9	-25.4	0	45.72	-	-	74	-28.28	-	-	0-360	200	V

PK - Peak detector

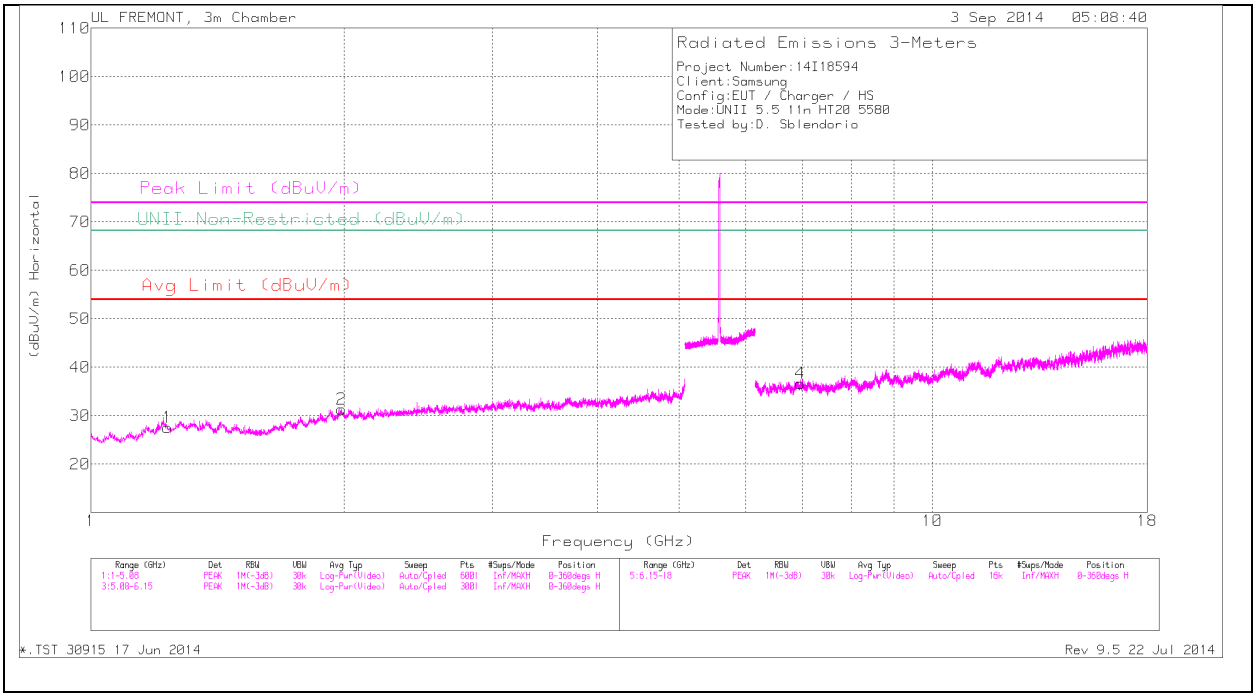
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	38.05	PK1	37.9	-25.4	0	50.55	-	-	74	-23.45	-	-	360	200	V
11	28.27	AD1	37.9	-25.4	.37	41.14	54	-12.86	-	-	-	-	360	200	V

PK1 - KDB789033 Method: Peak

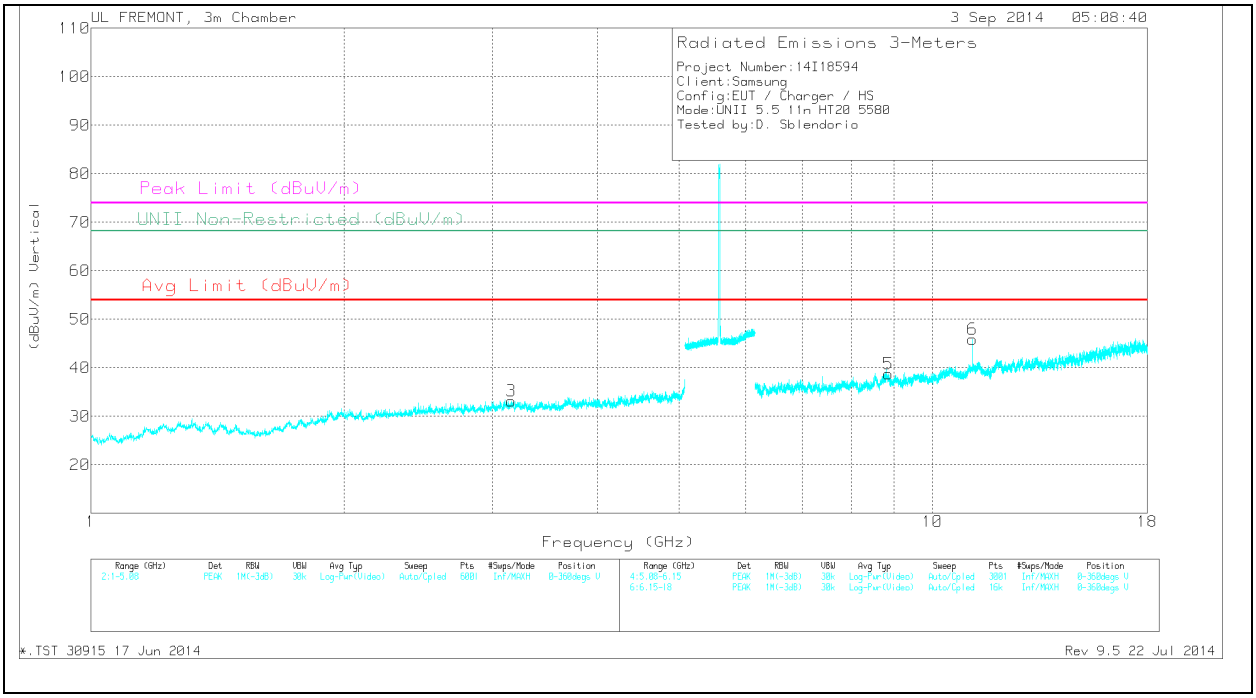
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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	1.234	31.42	PK	29.6	-33.4	0	27.62	-	-	74	-46.38	-	-	0-360	100	H
2	1.984	31.8	PK	31.5	-32	0	31.3	-	-	-	-	68.2	-36.9	0-360	200	H
3	3.16	31.66	PK	33	-31.5	0	33.16	-	-	-	-	68.2	-35.04	0-360	200	V
4	6.968	29.79	PK	35.6	-28.7	0	36.69	-	-	-	-	68.2	-31.51	0-360	200	H
5	8.868	29.31	PK	36	-26.5	0	38.81	-	-	-	-	68.2	-29.39	0-360	200	V
6	11.16	33.82	PK	37.9	-25.8	0	45.92	-	-	74	-28.08	-	-	0-360	200	V

PK - Peak detector

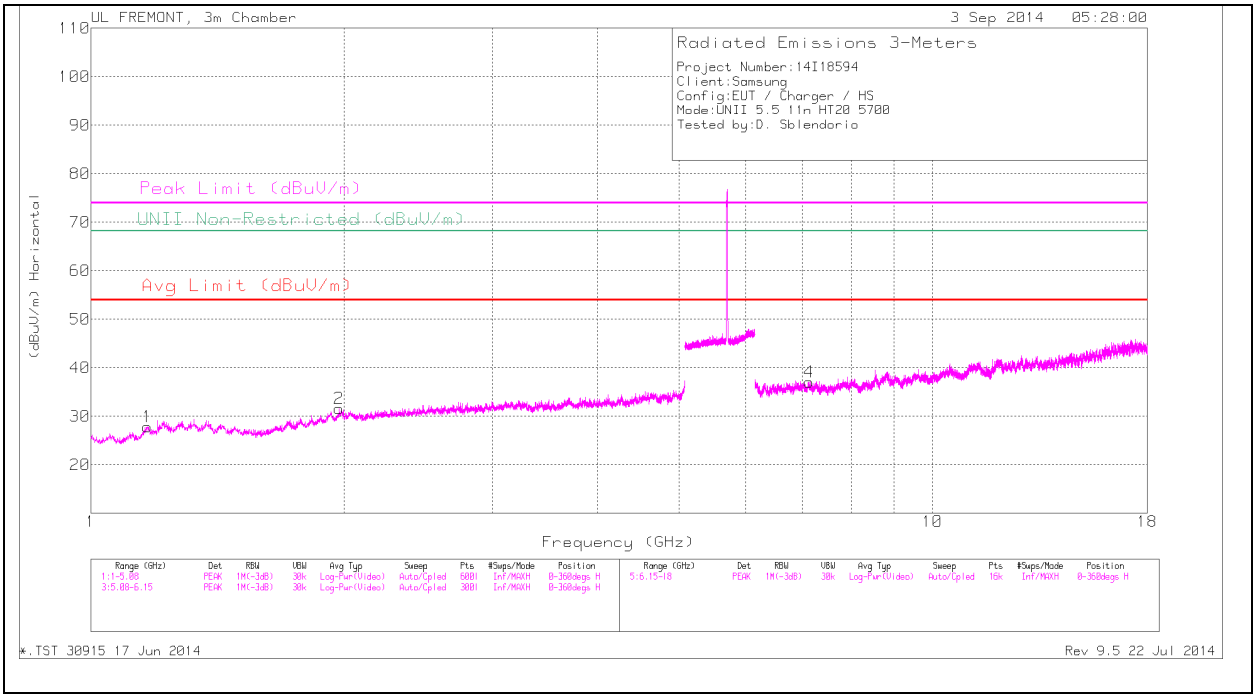
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/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
11.16	40.53	PK1	37.9	-25.8	0	52.63	-	-	74	-21.37	-	-	220	174	V
11.16	33.39	AD1	37.9	-25.8	.37	45.86	54	-8.14	-	-	-	-	220	174	V

PK1 - KDB789033 Method: Peak

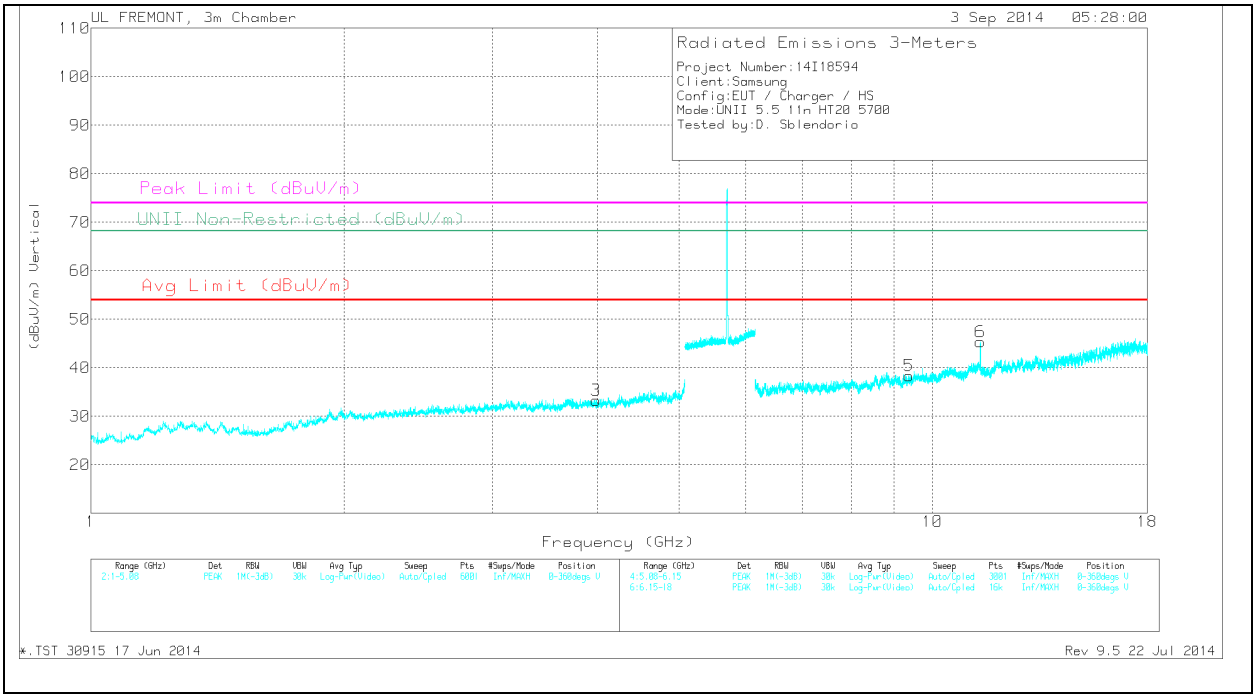
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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	1.168	32.58	PK	28.6	-33.3	0	27.88	-	-	74	-46.12	-	-	0-360	200	H
2	1.973	32.28	PK	31.5	-32.2	0	31.58	-	-	-	-	68.2	-36.62	0-360	200	H
3	3.987	31.59	PK	33.3	-31.6	0	33.29	-	-	74	-40.71	-	-	0-360	200	V
4	7.139	30.48	PK	35.6	-29	0	37.08	-	-	-	-	68.2	-31.12	0-360	100	H
5	9.373	28.2	PK	36.4	-26.2	0	38.4	-	-	74	-35.6	-	-	0-360	100	V
6	11.4	33.27	PK	38.1	-26	0	45.37	-	-	74	-28.63	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

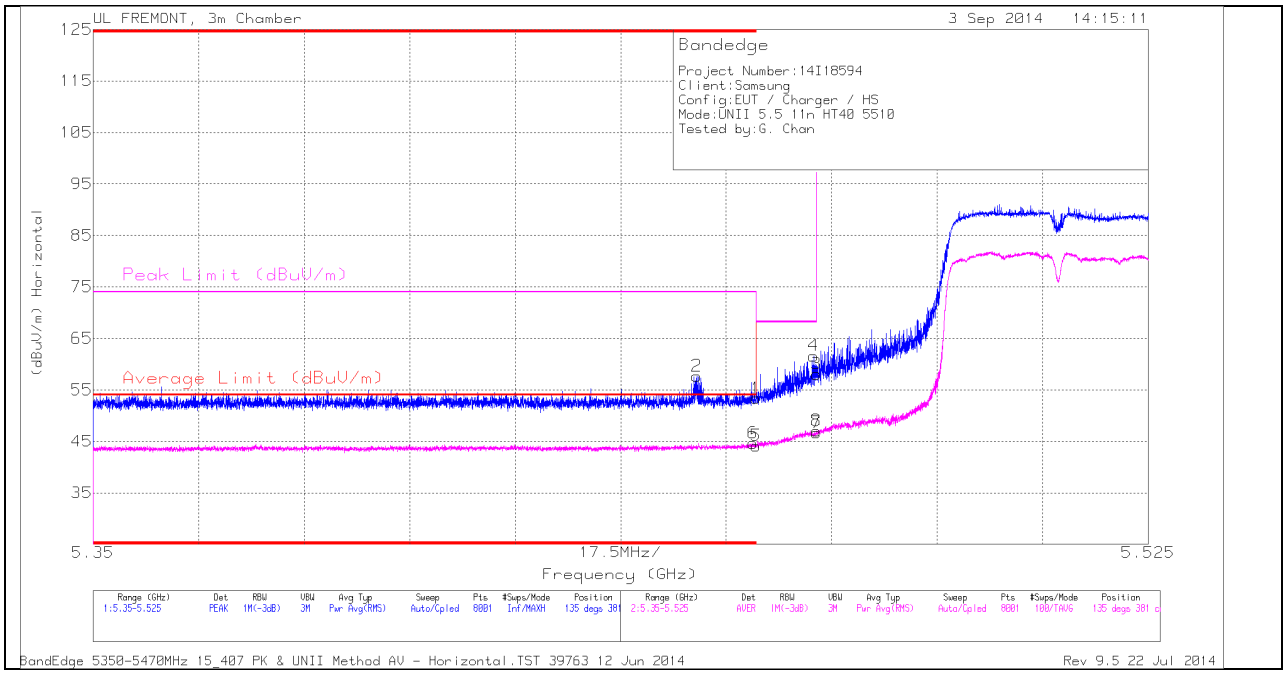
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.4	39.8	PK1	38.1	-26	0	51.9	-	-	74	-22.1	-	-	269	195	V
11.4	31.67	AD1	38.1	-26	.37	44.14	54	-9.86	-	-	-	-	269	195	V

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.3.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

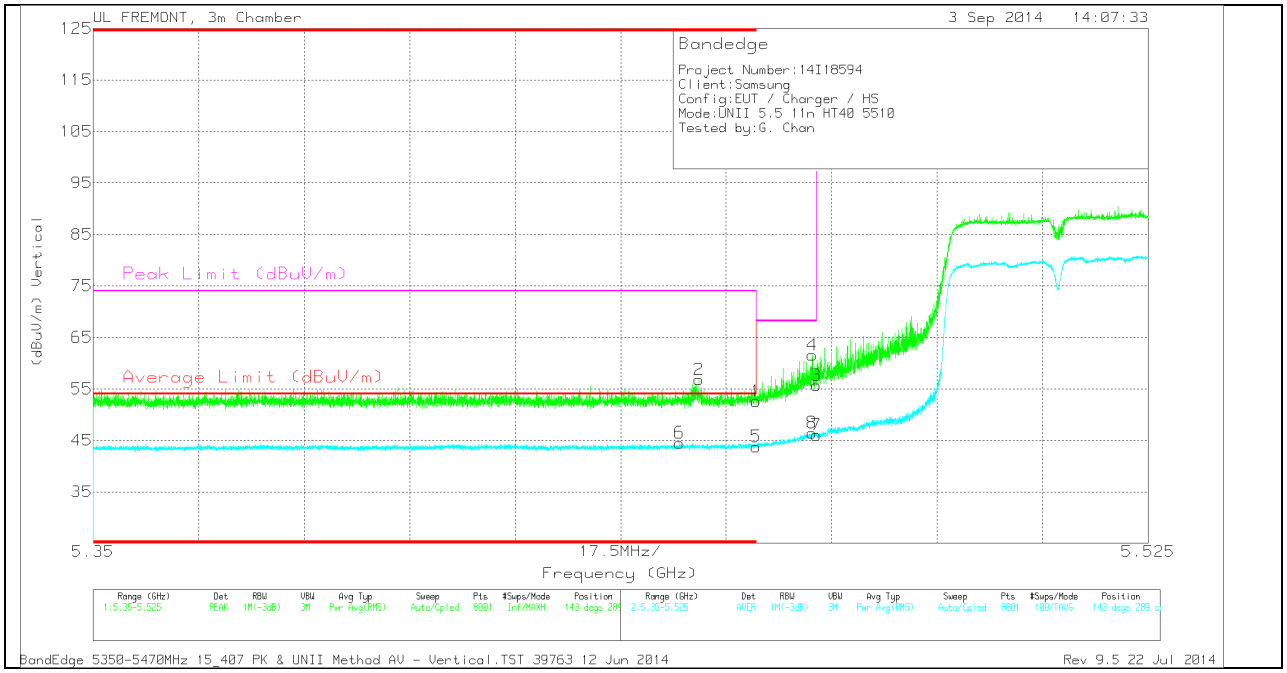
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.45	44.28	PK	34.8	-21.4	0	57.68	-	-	74	-16.32	135	381	H
6	* 5.459	30.77	RMS	34.8	-21.4	.69	44.86	54	-9.14	-	-	135	381	H
1	* 5.46	39.95	PK	34.8	-21.4	0	53.35	-	-	74	-20.65	135	381	H
5	* 5.46	30.27	RMS	34.8	-21.4	.69	44.36	54	-9.64	-	-	135	381	H
3	5.47	44.59	PK	34.8	-21.3	0	58.09	-	-	68.2	-10.11	135	381	H
4	5.47	48.13	PK	34.8	-21.3	0	61.63	-	-	68.2	-6.57	135	381	H
7	5.47	32.7	RMS	34.8	-21.3	.69	46.69	-	-	-	-	135	381	H
8	5.47	33.07	RMS	34.8	-21.3	.69	47.06	-	-	-	-	135	381	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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	* 5.447	30.62	RMS	34.8	-21.4	.69	44.71	54	-9.29	-	-	143	289	V
2	* 5.45	43.41	PK	34.8	-21.4	0	56.81	-	-	74	-17.19	143	289	V
1	* 5.46	39.21	PK	34.8	-21.4	0	52.61	-	-	74	-21.39	143	289	V
5	* 5.46	29.88	RMS	34.8	-21.4	.69	43.97	54	-10.03	-	-	143	289	V
4	5.469	48.05	PK	34.8	-21.3	0	61.55	-	-	68.2	-6.45	143	289	V
8	5.469	32.45	RMS	34.8	-21.3	.69	46.64	-	-	-	-	143	289	V
3	5.47	42.17	PK	34.8	-21.3	0	55.67	-	-	68.2	-12.33	143	289	V
7	5.47	32.02	RMS	34.8	-21.3	.69	46.21	-	-	-	-	143	289	V

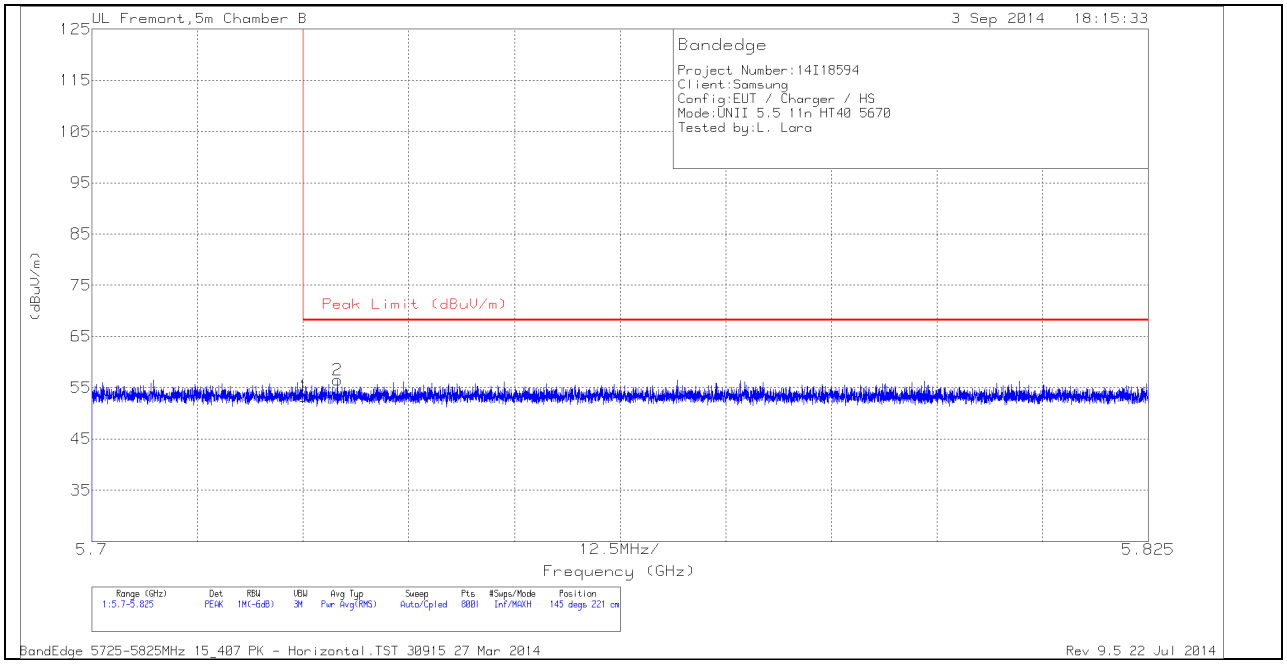
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT

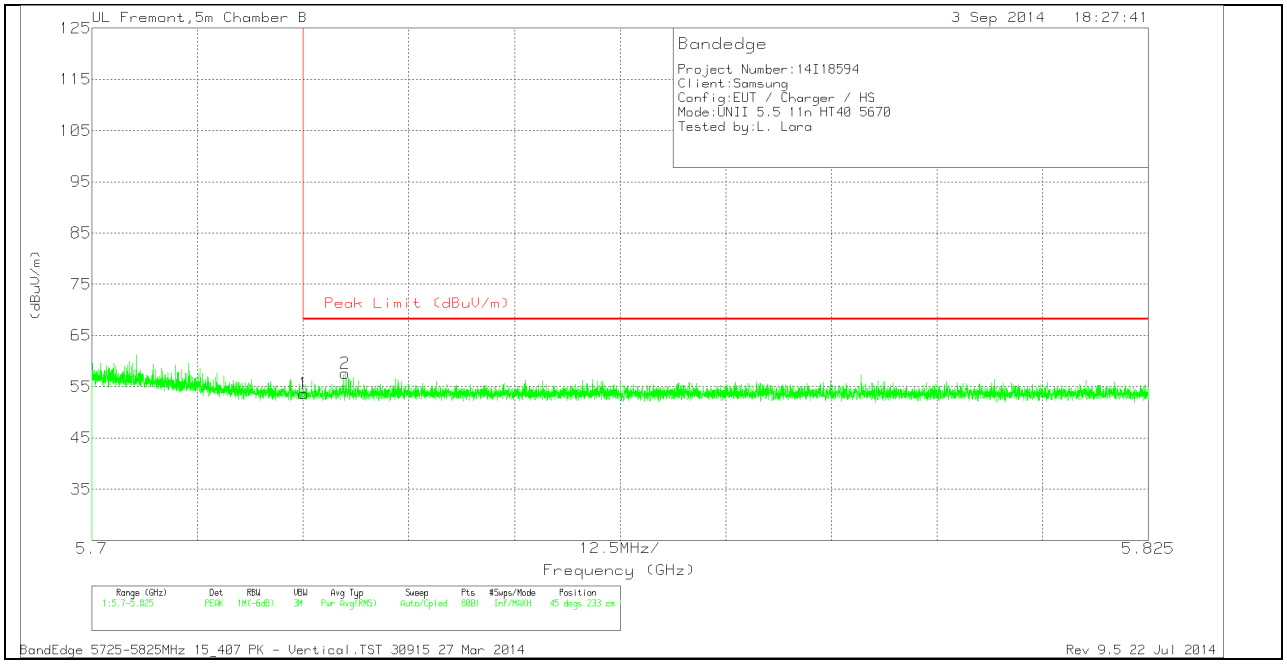


HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	38.82	PK	34.6	-20.1	53.32	68.2	-14.88	145	221	H
2	5.729	42.02	PK	34.6	-20.1	56.52	68.2	-11.68	145	221	H

PK - Peak detector

VERTICAL PEAK AND AVERAGE PLOT



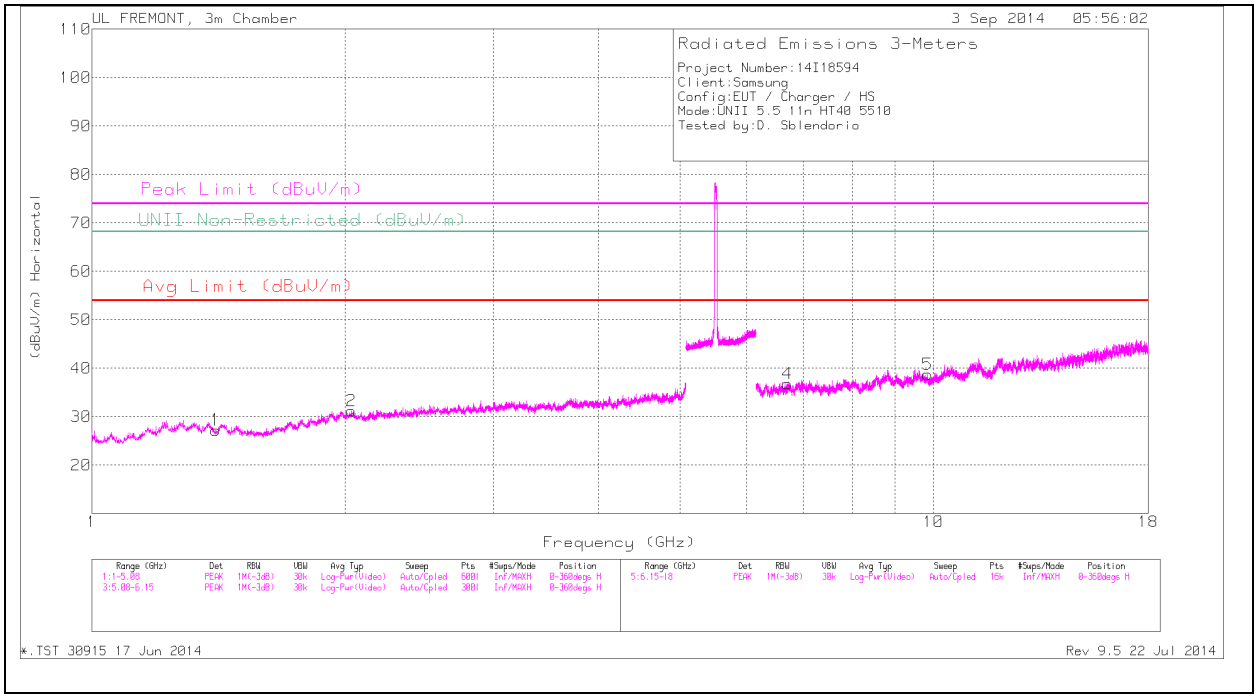
VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.15	PK	34.6	-20.1	53.65	68.2	-14.55	45	233	V
2	5.73	43.15	PK	34.6	-20.1	57.65	68.2	-10.55	45	233	V

PK - Peak detector

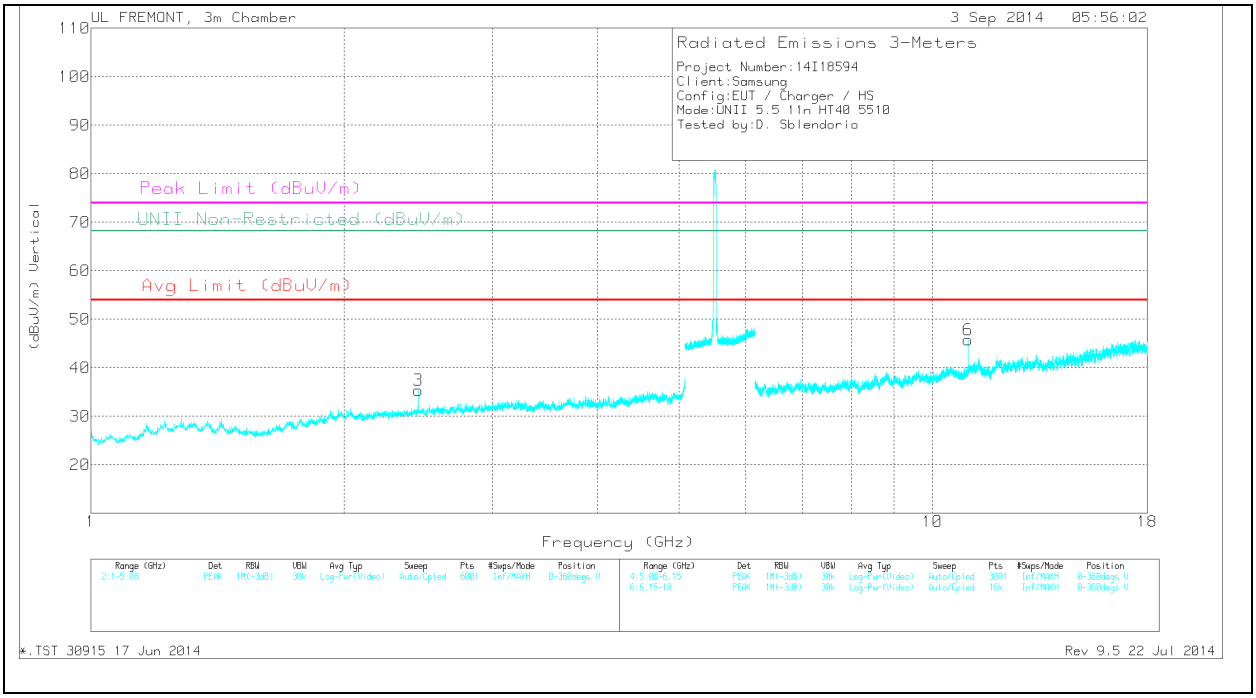
HARMONICS AND SPURIOUS EMISSIONS

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/ 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	1.404	31.06	PK	29.1	-32.9	0	27.26	-	-	74	-46.74	-	-	0-360	100	H
2	2.034	31.91	PK	31.6	-32.3	0	31.21	-	-	-	-	68.2	-36.99	0-360	100	H
3	2.448	35.62	PK	32.2	-32.5	0	35.32	-	-	-	-	68.2	-32.88	0-360	100	V
4	6.711	30.4	PK	35.6	-29.2	0	36.8	-	-	-	-	68.2	-31.4	0-360	200	H
5	9.836	27.09	PK	36.9	-25.2	0	38.79	-	-	-	-	68.2	-29.41	0-360	100	H
6	11.019	33.39	PK	37.9	-25.5	0	45.79	-	-	74	-28.21	-	-	0-360	200	V

PK - Peak detector

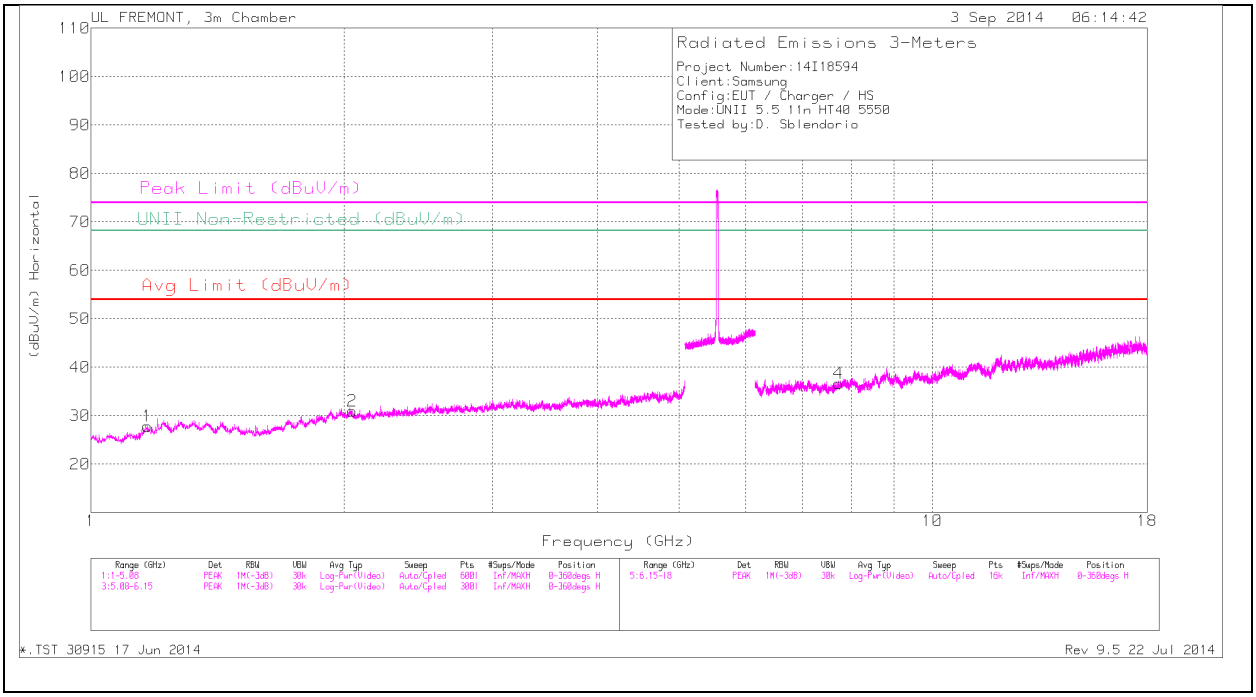
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
11.02	38.59	PK1	37.9	-25.5	0	50.99	-	-	74	-23.01	-	-	360	200	V
11.02	29.51	AD1	37.9	-25.5	.69	42.6	54	-11.4	-	-	-	-	360	200	V

PK1 - KDB789033 Method: Peak

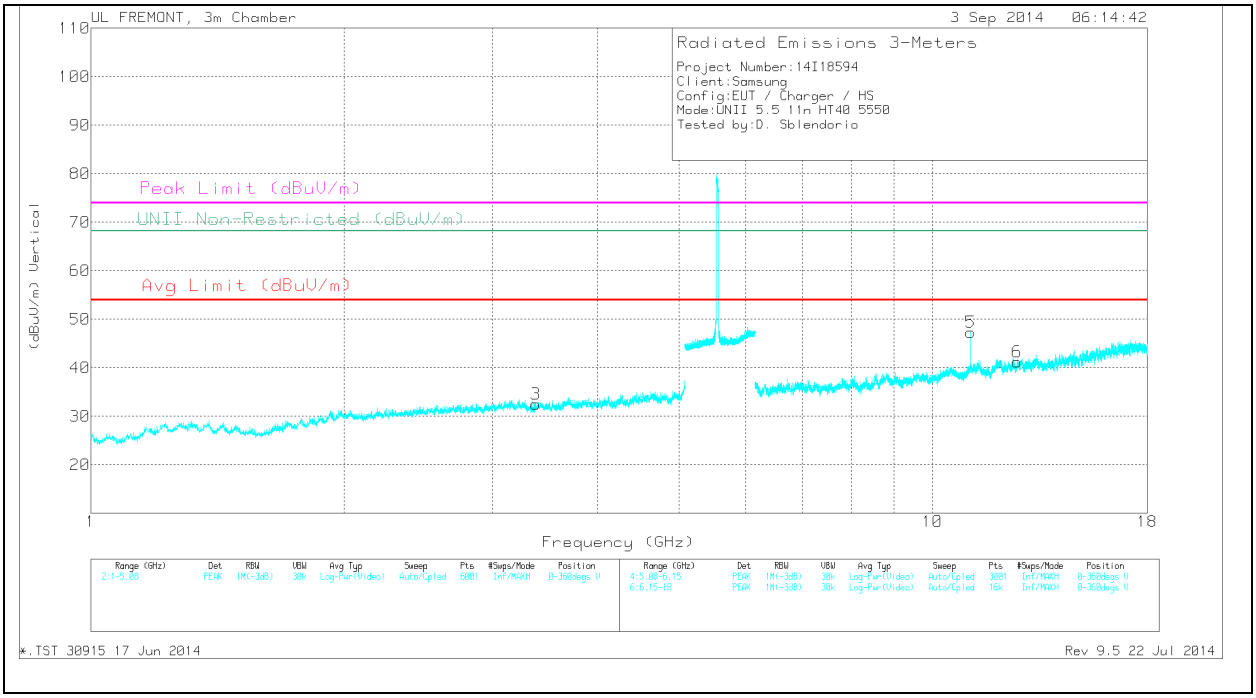
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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	1.167	32.47	PK	28.6	-33.2	0	27.87	-	-	74	-46.13	-	-	0-360	200	H
2	2.043	31.79	PK	31.6	-32.4	0	30.99	-	-	-	-	68.2	-37.21	0-360	200	H
3	3.379	31.49	PK	32.9	-31.9	0	32.49	-	-	-	-	68.2	-35.71	0-360	100	V
4	7.737	30.13	PK	35.8	-29.2	0	36.73	-	-	74	-37.27	-	-	0-360	100	H
5	11.1	34.71	PK	37.9	-25.3	0	47.31	-	-	74	-26.69	-	-	0-360	200	V
6	12.609	28.93	PK	39.2	-26.9	0	41.23	-	-	74	-32.77	-	-	0-360	200	V

PK - Peak detector

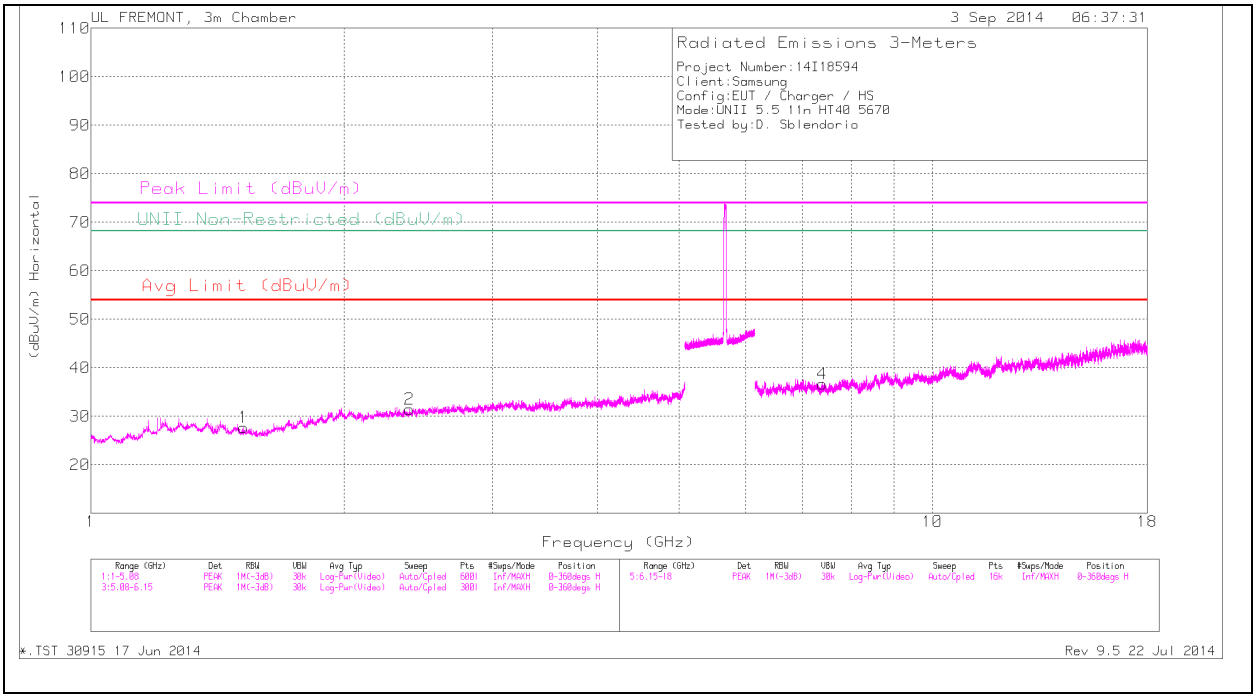
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
11.1	37.99	PK1	37.9	-25.3	0	50.59	-	-	74	-23.41	-	-	360	200	V
11.1	28.24	AD1	37.9	-25.3	.69	41.53	54	-12.47	-	-	-	-	360	200	V

PK1 - KDB789033 Method: Peak

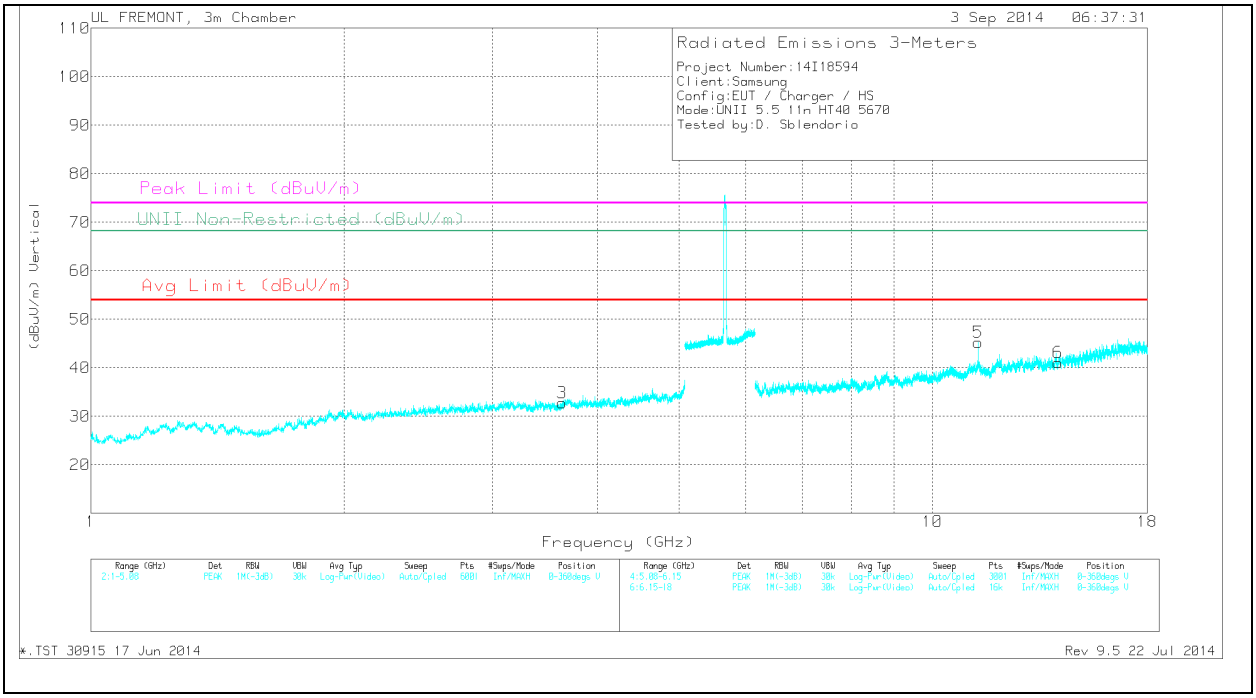
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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	1.517	32.39	PK	28.4	-33.1	0	27.69	-	-	74	-46.31	-	-	0-360	200	H
2	2.391	32.07	PK	32.1	-32.7	0	31.47	-	-	-	-	68.2	-36.73	0-360	200	H
3	3.631	30.87	PK	33.1	-31.2	0	32.77	-	-	74	-41.23	-	-	0-360	200	V
4	7.393	29.68	PK	35.7	-28.7	0	36.68	-	-	74	-37.32	-	-	0-360	100	H
5	11.339	32.69	PK	38	-25.5	0	45.19	-	-	74	-28.81	-	-	0-360	200	V
6	14.085	29.64	PK	38.9	-27.4	0	41.14	-	-	-	-	68.2	-27.06	0-360	100	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
11.34	38.87	PK1	38	-25.5	0	51.37	-	-	74	-22.63	-	-	360	200	V
11.34	29.9	AD1	38	-25.5	.69	43.09	54	-10.91	-	-	-	-	360	200	V

PK1 - KDB789033 Method: Peak

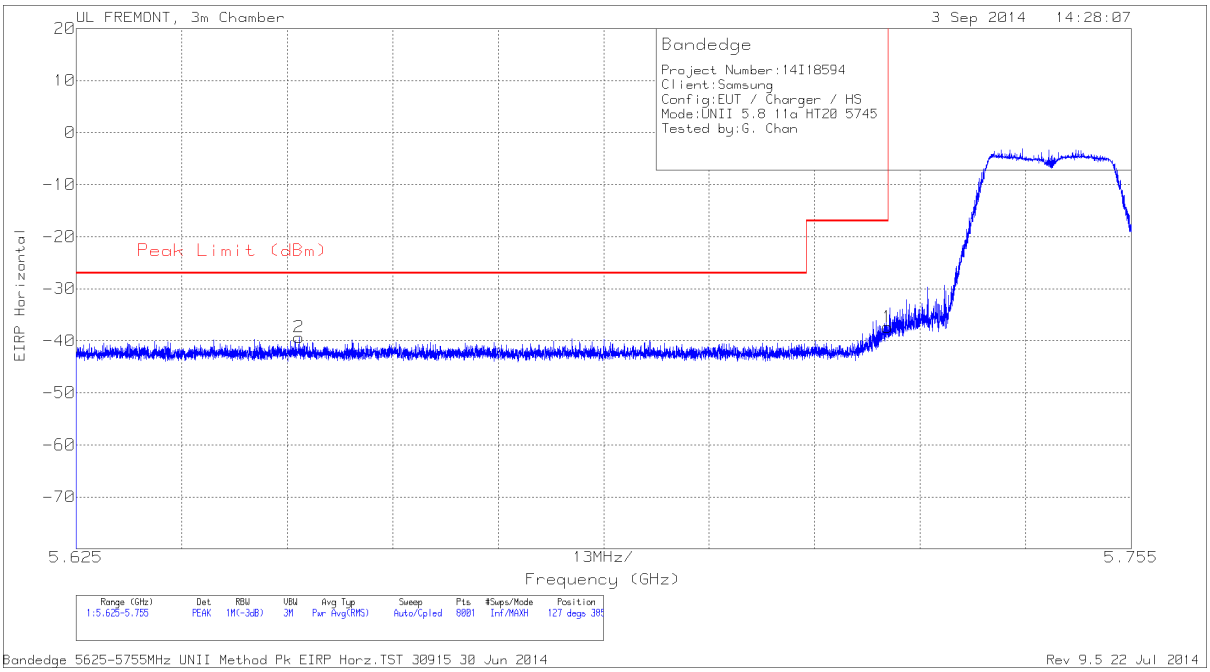
AD1 - KDB789033 Method: AD Primary Power Average

11.4. 5.8 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

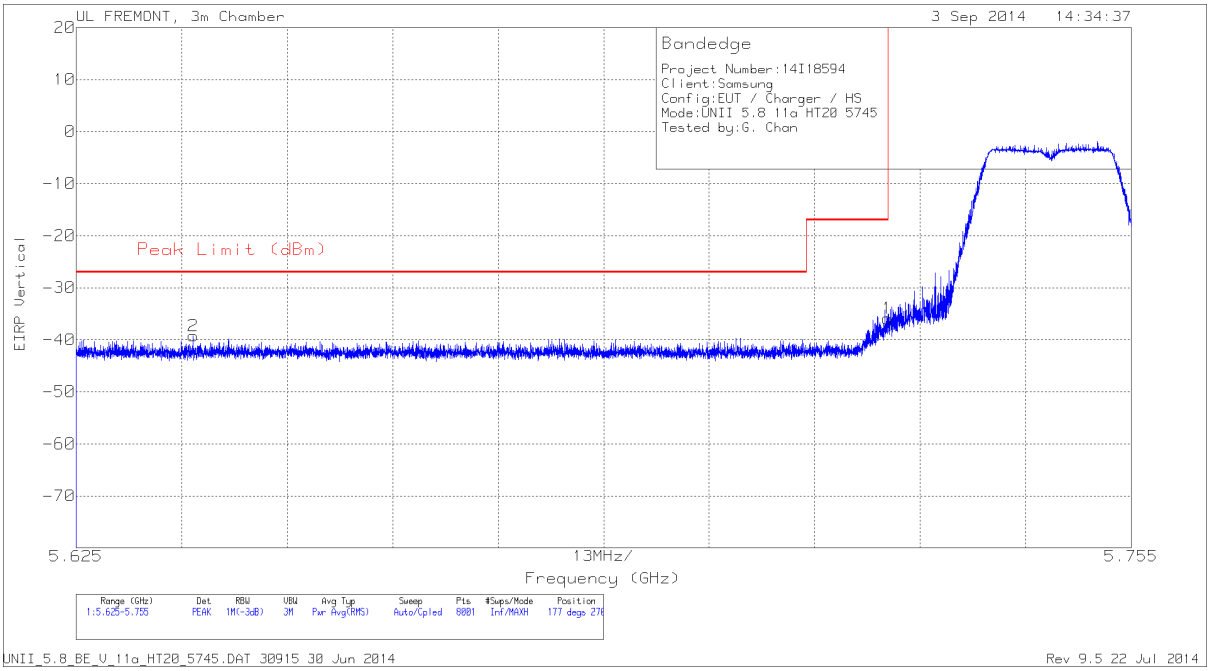
HORIZONTAL PEAK PLOT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.652	-64.91	PK	34.7	-20.9	11.8	0	-39.31	-27	-12.31	127	385	H
1	5.725	-62.86	PK	34.8	-21.1	11.8	0	-37.36	-17	-20.36	127	385	H

PK - Peak detector

VERTICAL PEAK PLOT

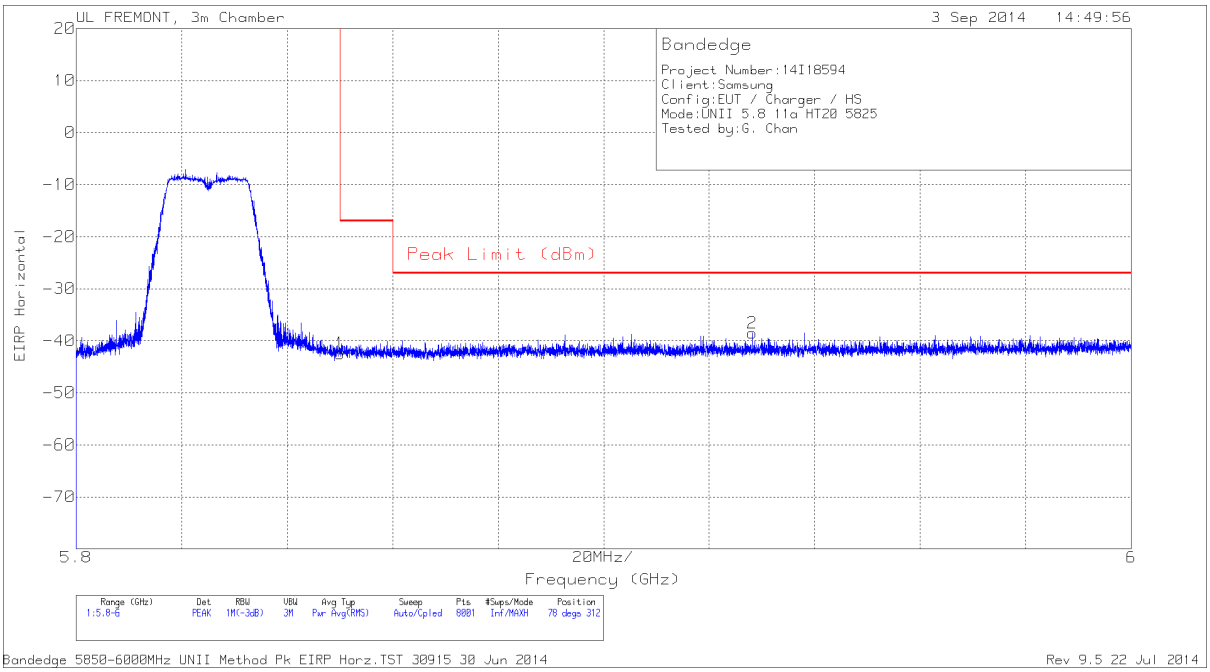


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.639	-64.83	PK	34.7	-20.9	11.8	0	-39.23	-27	-12.23	177	270	V
1	5.725	-61.41	PK	34.8	-21.1	11.8	0	-35.91	-17	-18.91	177	270	V

PK - Peak detector

RESTRICTED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT

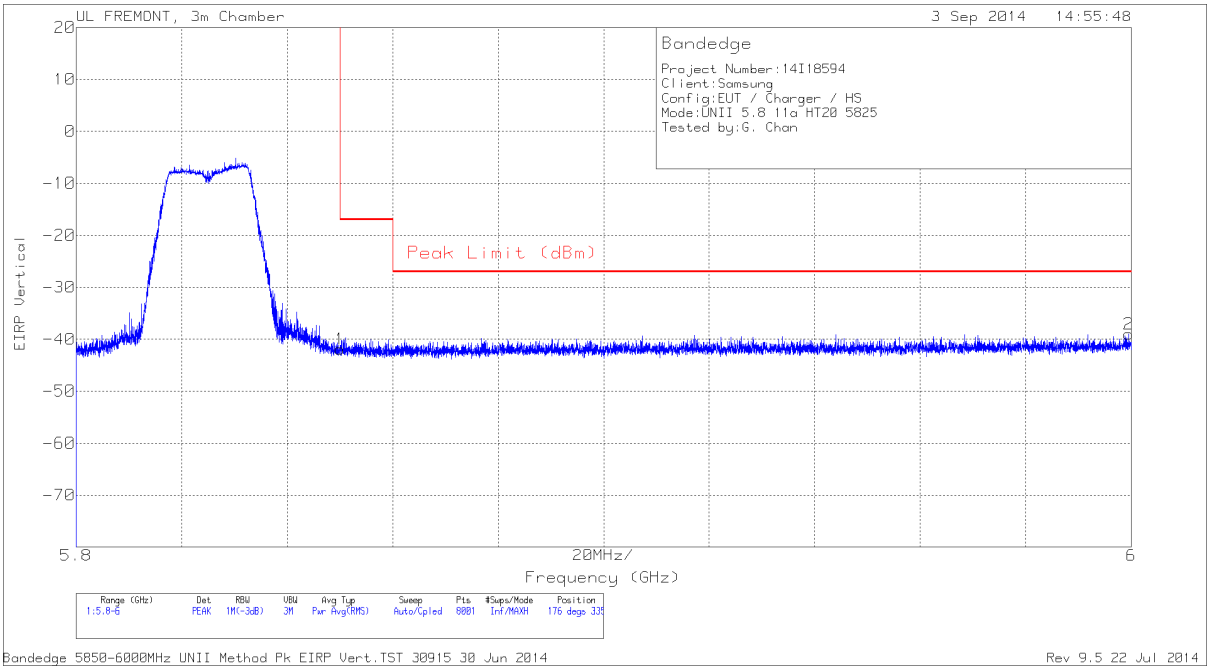


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.94	PK	35	-21.3	11.8	0	-42.44	-27	-15.44	78	312	H
2	5.928	-64.35	PK	35.1	-21.1	11.8	0	-38.55	-27	-11.55	78	312	H

Note: The plot limit is during pre-scan and not the final data. Please refer to tablet for final measurement.

PK - Peak detector

VERTICAL PEAK PLOT



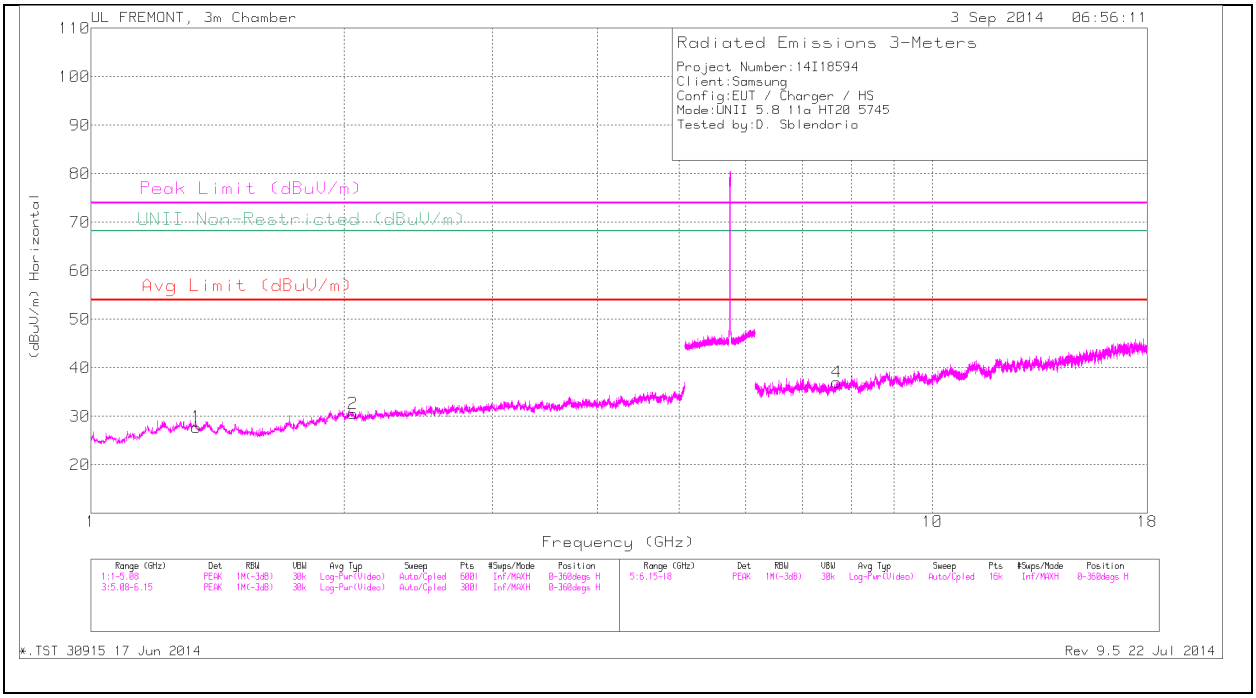
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.39	PK	35	-21.3	11.8	0	-41.89	-27	-14.89	176	335	V
2	6	-65.41	PK	35.3	-20.7	11.8	0	-39.01	-27	-12.01	176	335	V

Note: The plot limit is during pre-scan and not the final data. Please refer to tablet for final measurement.

PK - Peak detector

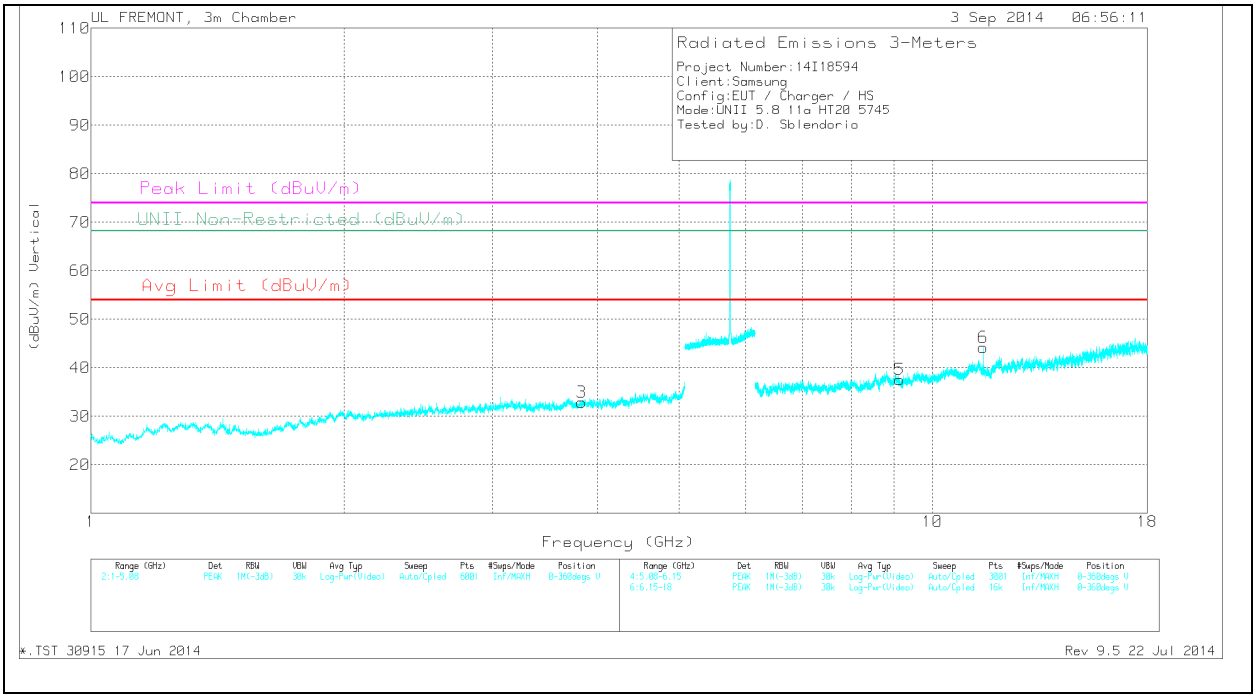
11.4.2. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

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.

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/Fltr /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	1.335	31.48	PK	29.8	-33.5	27.78	-	-	74	-46.22	-	-	0-360	100	H
2	2.048	31.43	PK	31.6	-32.4	30.63	-	-	-	-	68.2	-37.57	0-360	200	H
3	3.828	30.92	PK	33.2	-31.2	32.92	-	-	74	-41.08	-	-	0-360	200	V
4	7.69	30.16	PK	35.8	-28.9	37.06	-	-	74	-36.94	-	-	0-360	100	H
5	9.137	27.77	PK	36.2	-26.4	37.57	-	-	74	-36.43	-	-	0-360	100	V
6	11.49	32.05	PK	38.2	-26	44.25	-	-	74	-29.75	-	-	0-360	200	V

PK - Peak detector

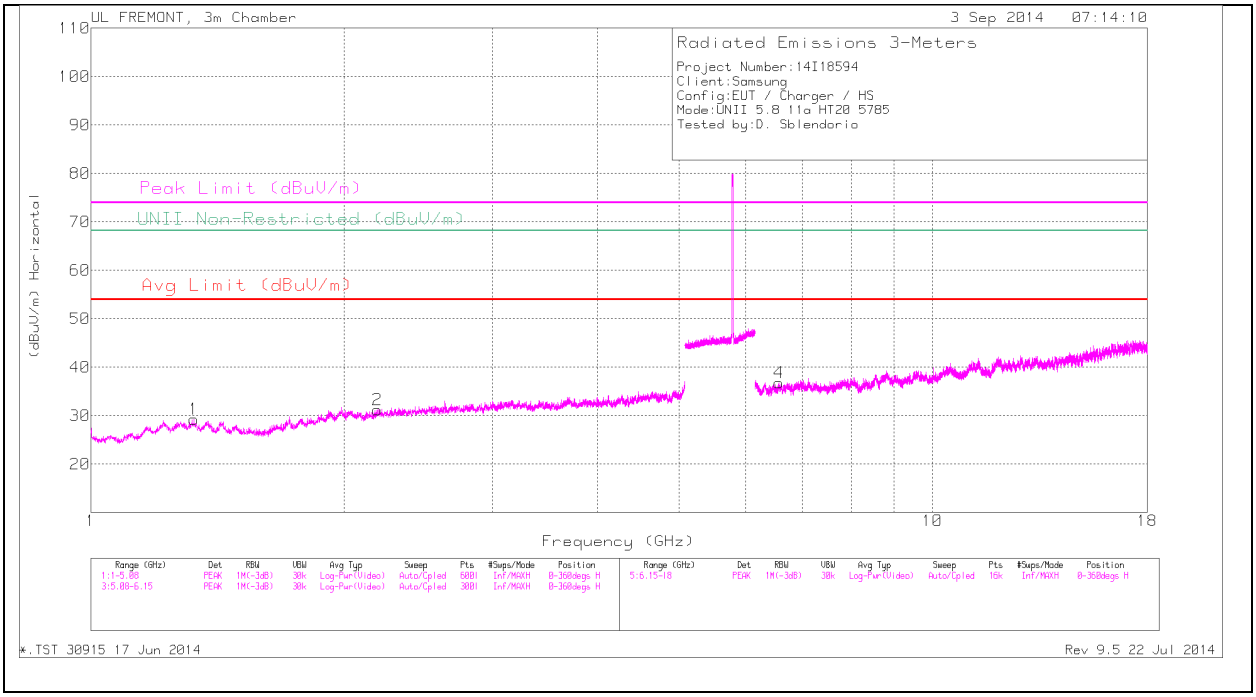
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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
11.49	37.46	PK1	38.2	-26	49.66	-	-	74	-24.34	-	-	360	200	V
11.49	27.44	AD1	38.2	-26	39.64	54	-14.36	-	-	-	-	360	200	V

PK1 - KDB789033 Method: Peak

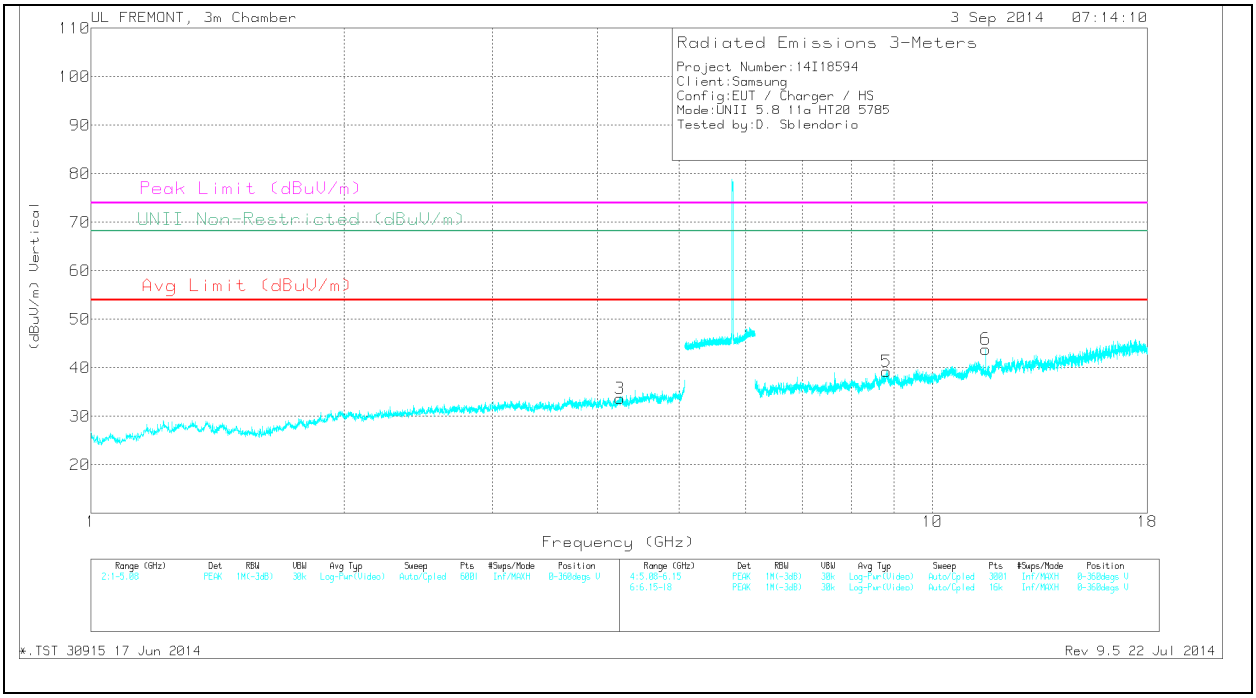
AD1 - KDB789033 Method: AD Primary Power Average

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/Fltr /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	1.326	33.01	PK	29.9	-33.6	29.31	-	-	74	-44.69	-	-	0-360	200	H
2	2.189	32.28	PK	31.7	-32.7	31.28	-	-	-	-	68.2	-36.92	0-360	200	H
3	4.25	31.22	PK	33.5	-31	33.72	-	-	74	-40.28	-	-	0-360	100	V
4	6.566	30.73	PK	35.6	-29.5	36.83	-	-	-	-	68.2	-31.37	0-360	200	H
5	8.821	29.03	PK	36	-25.7	39.33	-	-	-	-	68.2	-28.87	0-360	200	V
6	11.57	31.58	PK	38.4	-26.1	43.88	-	-	74	-30.12	-	-	0-360	200	V

PK - Peak detector

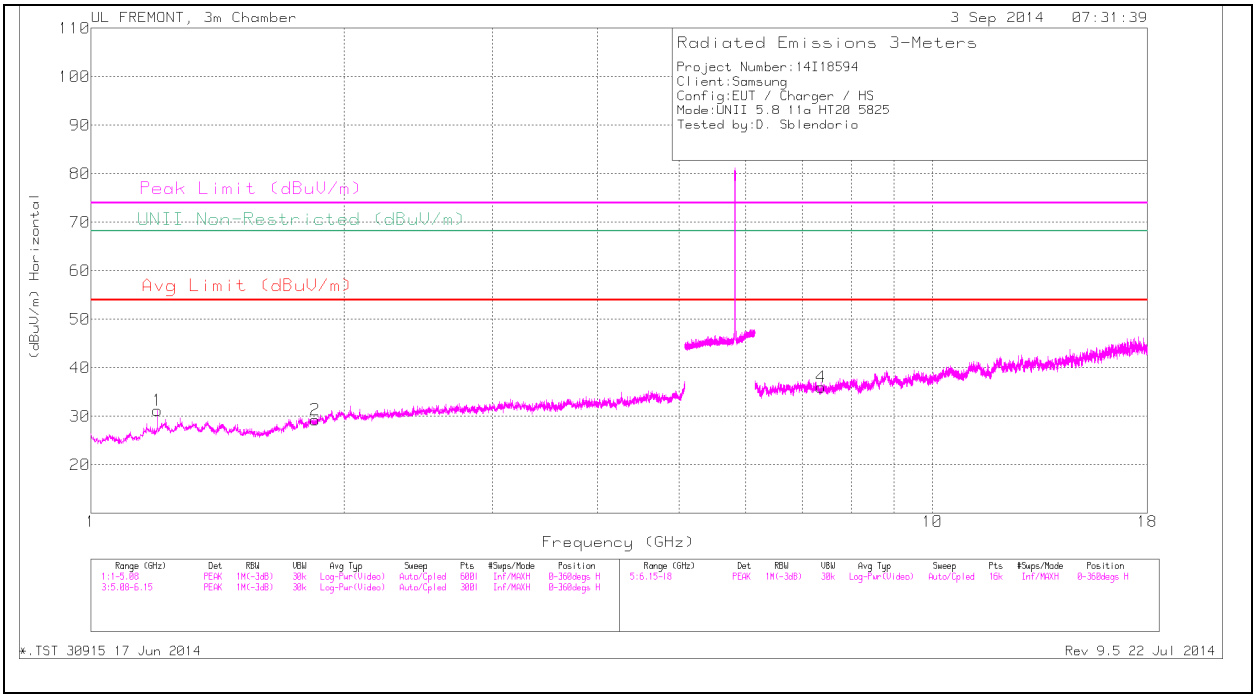
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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
11.57	26.55	AD1	38.4	-26.1	38.85	54	-15.15	-	-	-	-	360	200	V
11.571	37.57	PK1	38.4	-26.1	49.87	-	-	74	-24.13	-	-	360	200	V

PK1 - KDB789033 Method: Peak

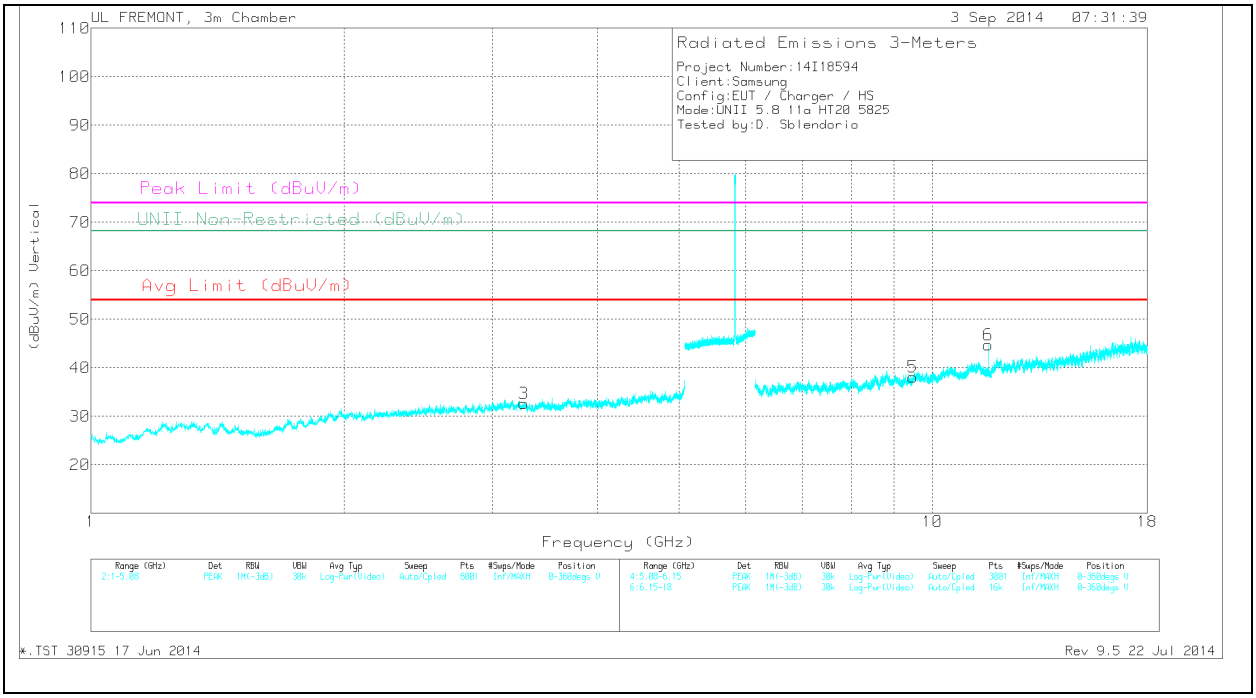
AD1 - KDB789033 Method: AD Primary Power Average

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/Fltr /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	35.23	PK	29.2	-33.2	31.23	-	-	74	-42.77	-	-	0-360	200	H
2	1.849	31.8	PK	30.7	-33.2	29.3	-	-	-	-	68.2	-38.9	0-360	200	H
3	3.271	31.74	PK	32.9	-32	32.64	-	-	-	-	68.2	-35.56	0-360	200	V
4	7.369	29.51	PK	35.6	-29.1	36.01	-	-	74	-37.99	-	-	0-360	200	H
5	9.483	27.7	PK	36.5	-26.1	38.1	-	-	74	-35.9	-	-	0-360	200	V
6	11.65	32.29	PK	38.6	-26.2	44.69	-	-	74	-29.31	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/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
11.65	37.89	PK1	38.6	-26.2	50.29	-	-	74	-23.71	-	-	360	200	V
11.65	27.43	AD1	38.6	-26.2	39.83	54	-14.17	-	-	-	-	360	200	V

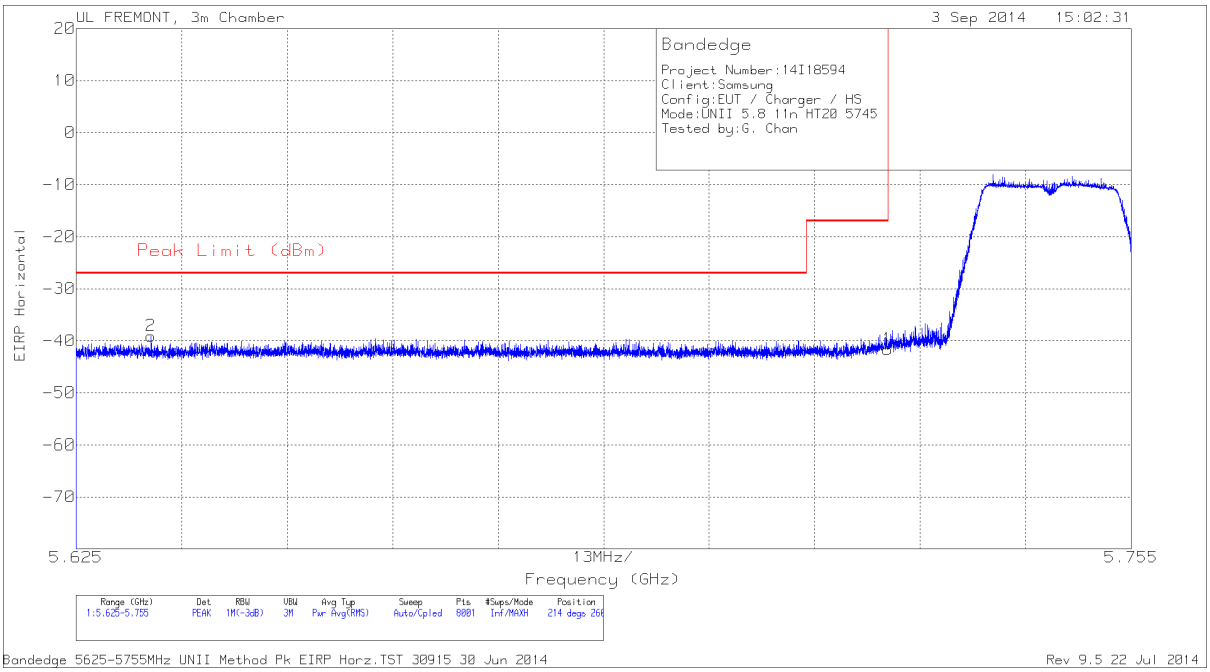
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.4.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

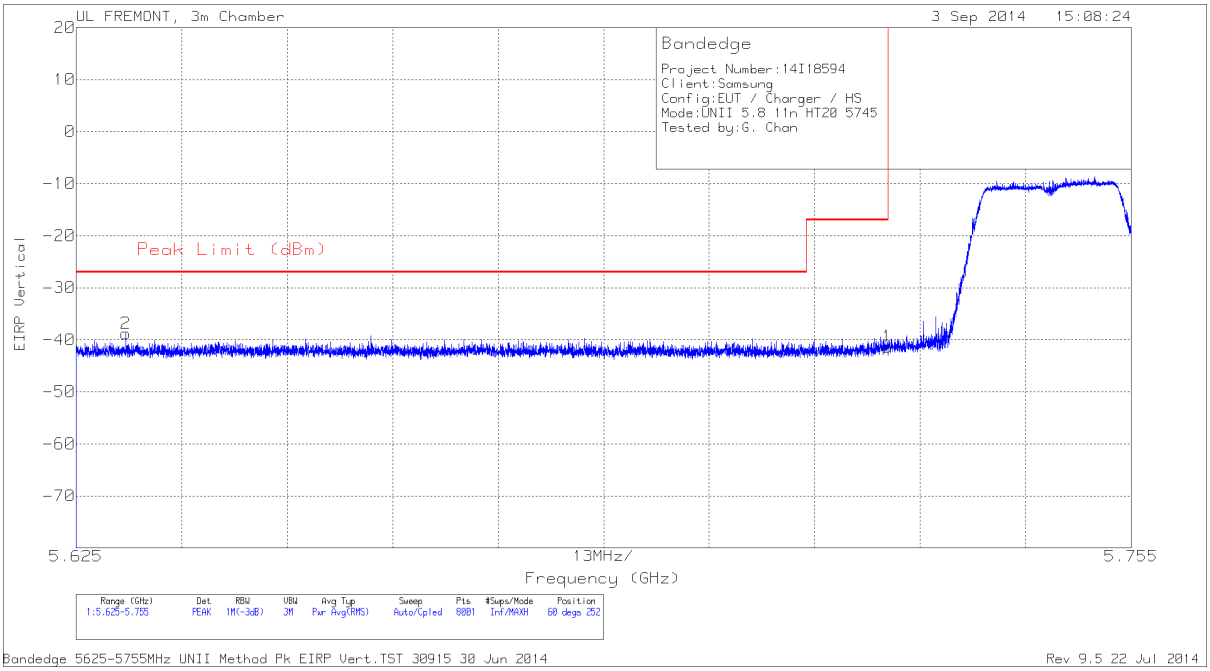
HORIZONTAL PEAK PLOT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.634	-64.56	PK	34.7	-21	11.8	0	-39.06	-27	-12.06	214	260	H
1	5.725	-67.12	PK	34.8	-21.1	11.8	0	-41.62	-17	-24.62	214	260	H

PK - Peak detector

VERTICAL PEAK PLOT

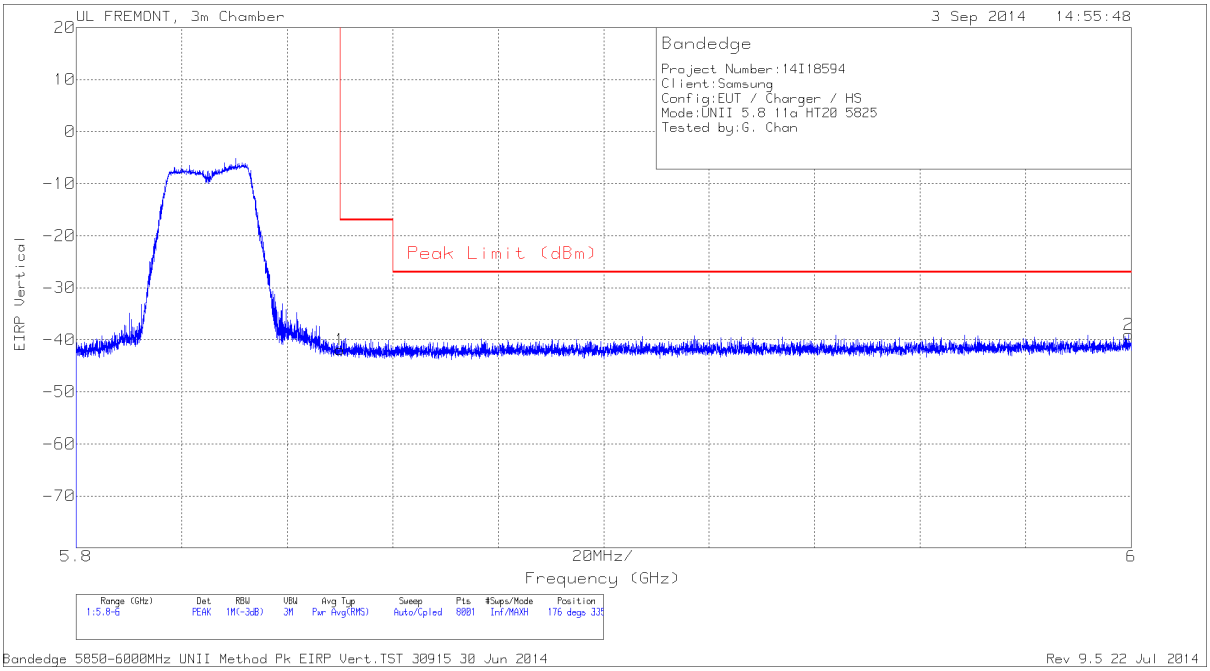


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.631	-64.3	PK	34.7	-21	11.8	0	-38.8	-27	-11.8	60	252	V
1	5.725	-66.86	PK	34.8	-21.1	11.8	0	-41.36	-17	-24.36	60	252	V

PK - Peak detector

RESTRICTED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT

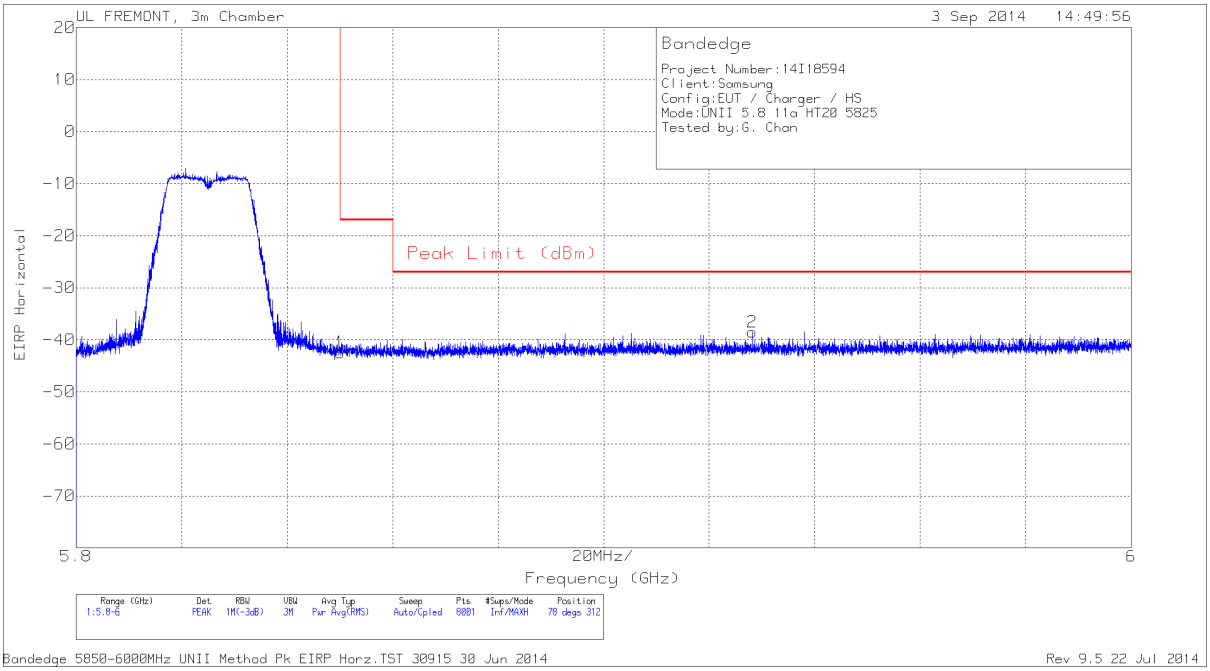


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.39	PK	35	-21.3	11.8	0	-41.89	-27	-14.89	176	335	V
2	6	-65.41	PK	35.3	-20.7	11.8	0	-39.01	-27	-12.01	176	335	V

Note: The plot limit is during pre-scan and not the final data. Please refer to tablet for final measurement.

PK - Peak detector

VERTICAL PEAK PLOT



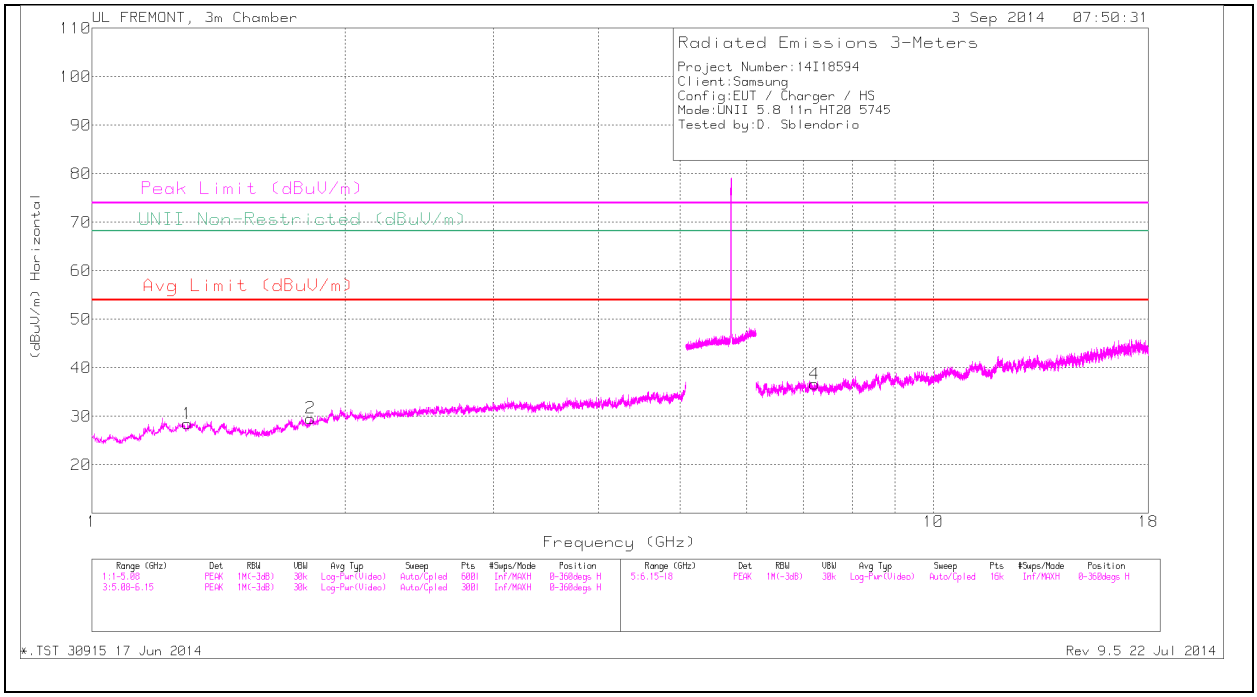
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.94	PK	35	-21.3	11.8	0	-42.44	-27	-15.44	78	312	H
2	5.928	-64.35	PK	35.1	-21.1	11.8	0	-38.55	-27	-11.55	78	312	H

Note: The plot limit is during pre-scan and not the final data. Please refer to tablet for final measurement.

PK - Peak detector

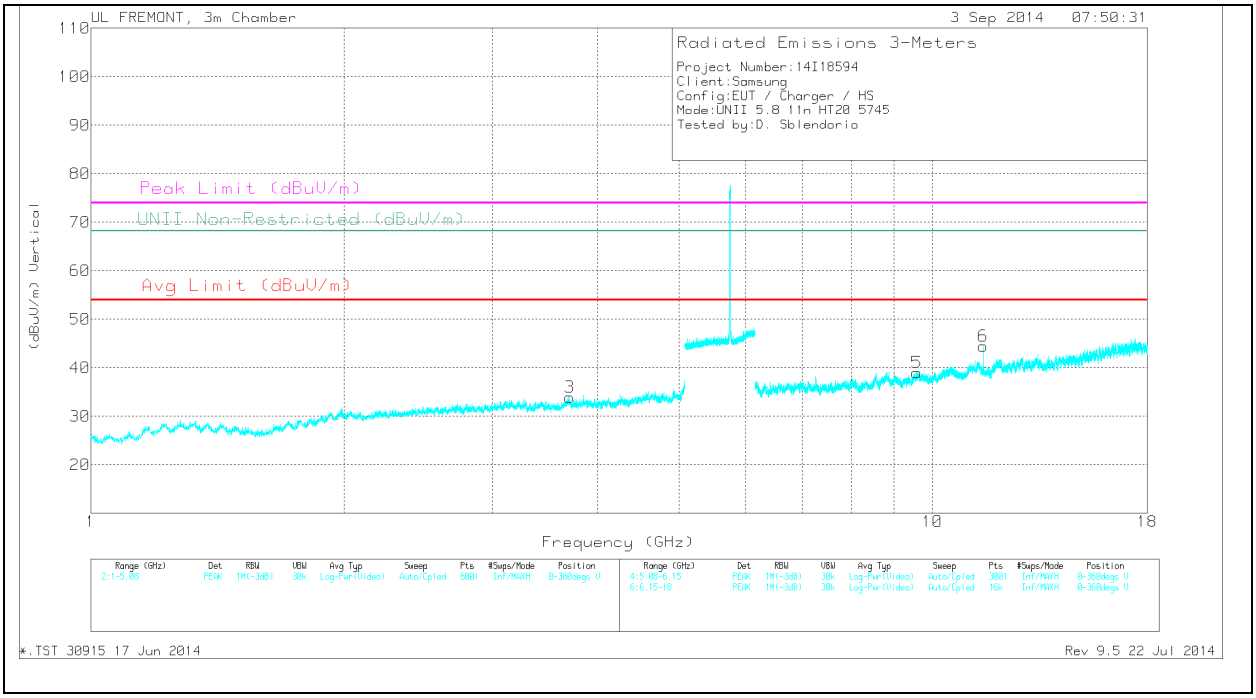
HARMONICS AND SPURIOUS EMISSIONS

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/ 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	1.299	31.95	PK	30.2	-33.7	0	28.45	-	-	74	-45.55	-	-	0-360	100	H
2	1.817	32.4	PK	30.3	-33.1	0	29.6	-	-	-	-	68.2	-38.6	0-360	200	H
3	3.704	31.52	PK	33.2	-30.8	0	33.92	-	-	74	-40.08	-	-	0-360	100	V
4	7.218	30.37	PK	35.6	-29.3	0	36.67	-	-	-	-	68.2	-31.53	0-360	200	H
5	9.583	27.66	PK	36.7	-25.3	0	39.06	-	-	-	-	68.2	-29.14	0-360	100	V
6	11.49	32.23	PK	38.2	-26	0	44.43	-	-	74	-29.57	-	-	0-360	200	V

PK - Peak detector

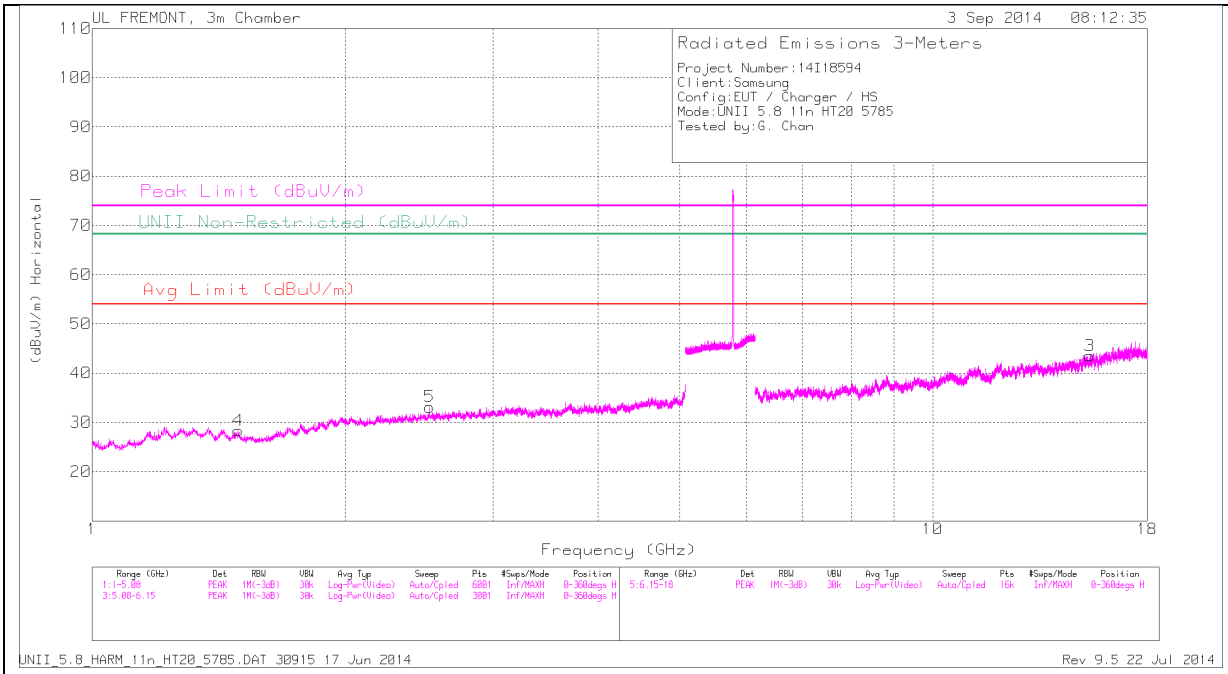
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
11.49	26.9	AD1	38.2	-26	.37	39.47	54	-14.53	-	-	-	-	360	200	V
11.491	37.56	PK1	38.2	-26.1	0	49.66	-	-	74	-24.34	-	-	360	200	V

PK1 - KDB789033 Method: Peak

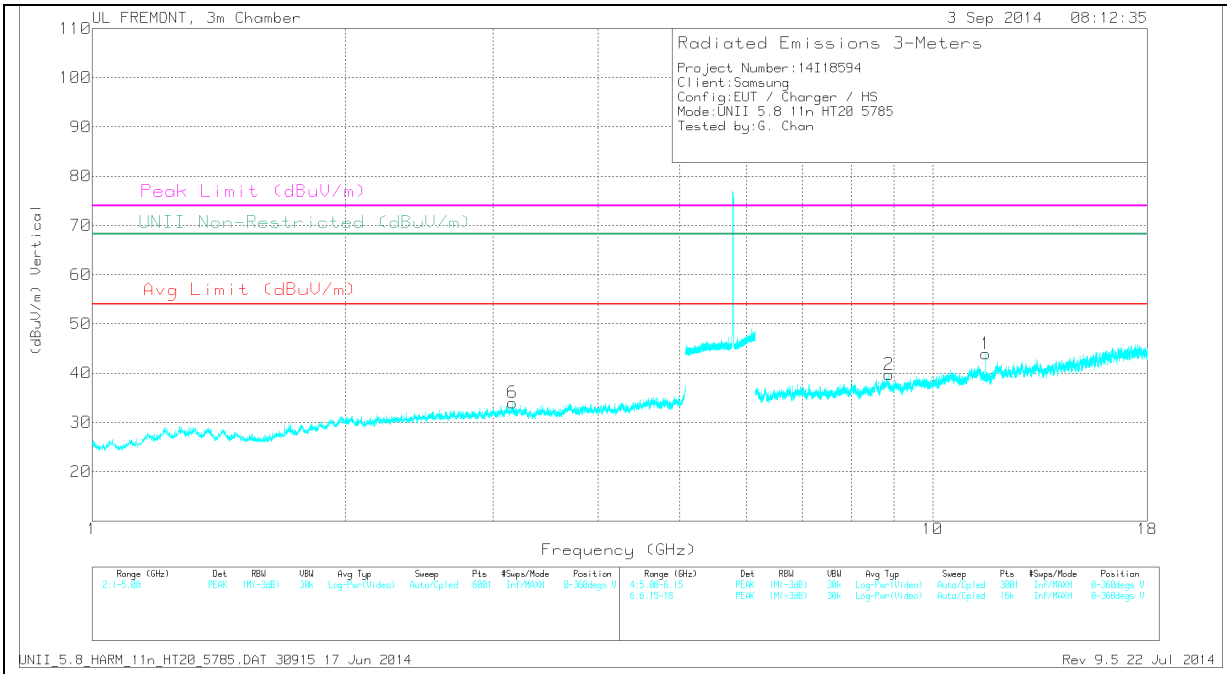
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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
4	1.492	32.52	PK	28.6	-32.8	0	28.32	-	-	74	-45.68	-	-	0-360	200	H
5	2.521	32.93	PK	32.4	-32.2	0	33.13	-	-	-	-	68.2	-35.07	0-360	200	H
6	3.164	32.62	PK	32.9	-31.5	0	34.02	-	-	-	-	68.2	-34.18	0-360	200	V
2	8.872	30.24	PK	36	-26.5	0	39.74	-	-	-	-	68.2	-28.46	0-360	200	V
1	11.57	31.64	PK	38.4	-26.1	0	43.94	-	-	74	-30.06	-	-	0-360	200	V
3	15.374	30.33	PK	40.1	-26.9	0	43.53	-	-	74	-30.47	-	-	0-360	100	H

PK - Peak detector

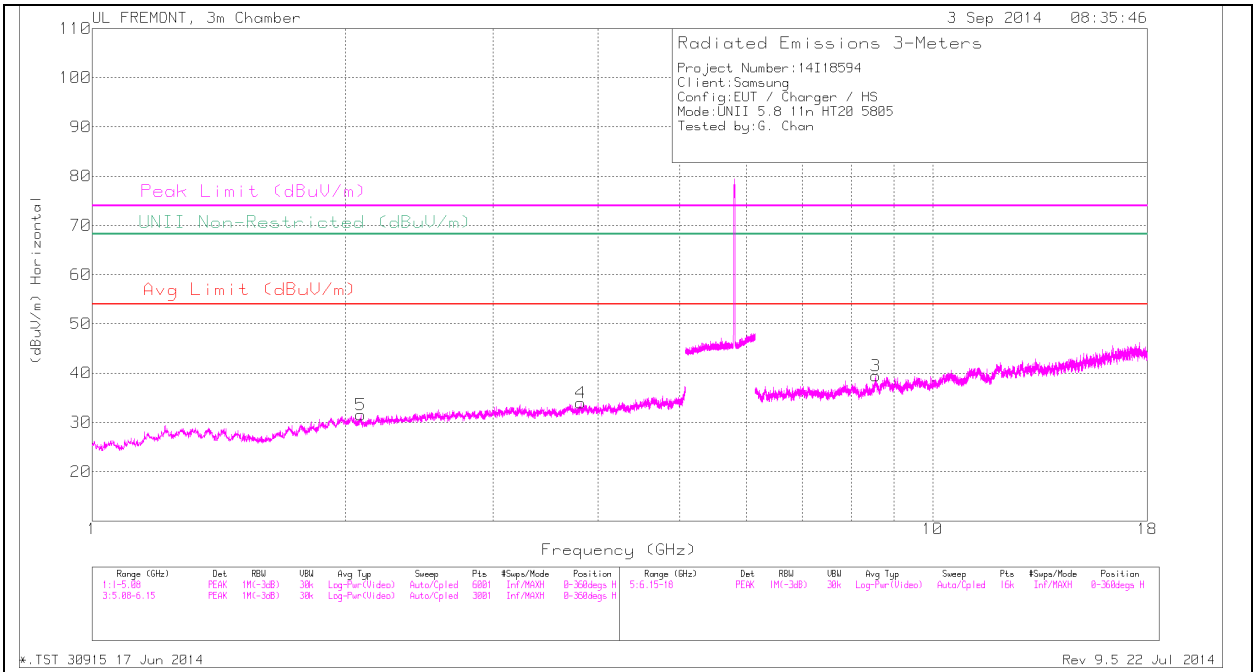
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
11.57	40.32	PK1	38.4	-26.1	0	52.62	-	-	74	-21.38	-	-	196	369	V
11.57	33.62	AD1	38.4	-26.1	.37	46.29	54	-7.71	-	-	-	-	196	369	V

PK1 - KDB789033 Method: Peak

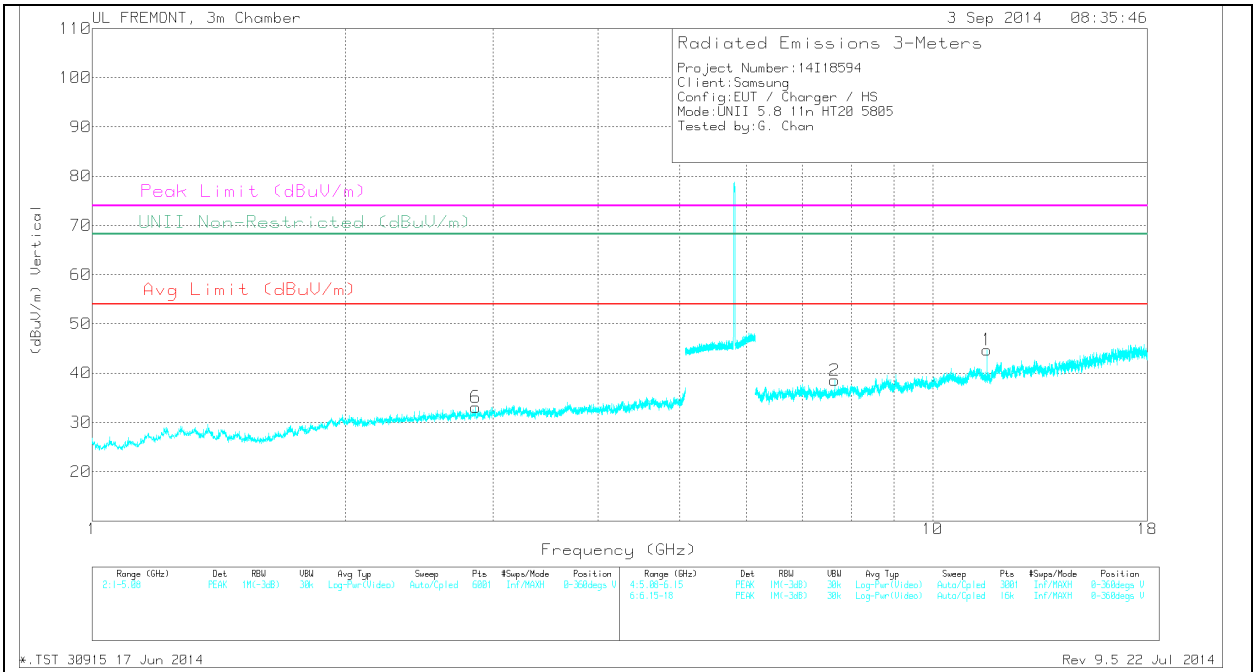
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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
5	2.088	32.94	PK	31.5	-32.9	0	31.54	-	-	-	-	68.2	-36.66	0-360	100	H
6	2.86	32.68	PK	32.7	-32.3	0	33.08	-	-	74	-40.92	-	-	0-360	200	V
4	3.813	32.25	PK	33.2	-31.5	0	33.95	-	-	74	-40.05	-	-	0-360	200	H
2	7.644	31.34	PK	35.8	-28.6	0	38.54	-	-	74	-35.46	-	-	0-360	200	V
3	8.553	29.74	PK	35.8	-26.1	0	39.44	-	-	-	-	68.2	-28.76	0-360	200	H
1	11.61	32.02	PK	38.5	-25.8	0	44.72	-	-	74	-29.28	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
11.61	40.39	PK1	38.5	-25.8	0	53.09	-	-	74	-20.91	-	-	240	180	V
11.61	32.58	AD1	38.5	-25.8	.37	45.65	54	-8.35	-	-	-	-	240	180	V

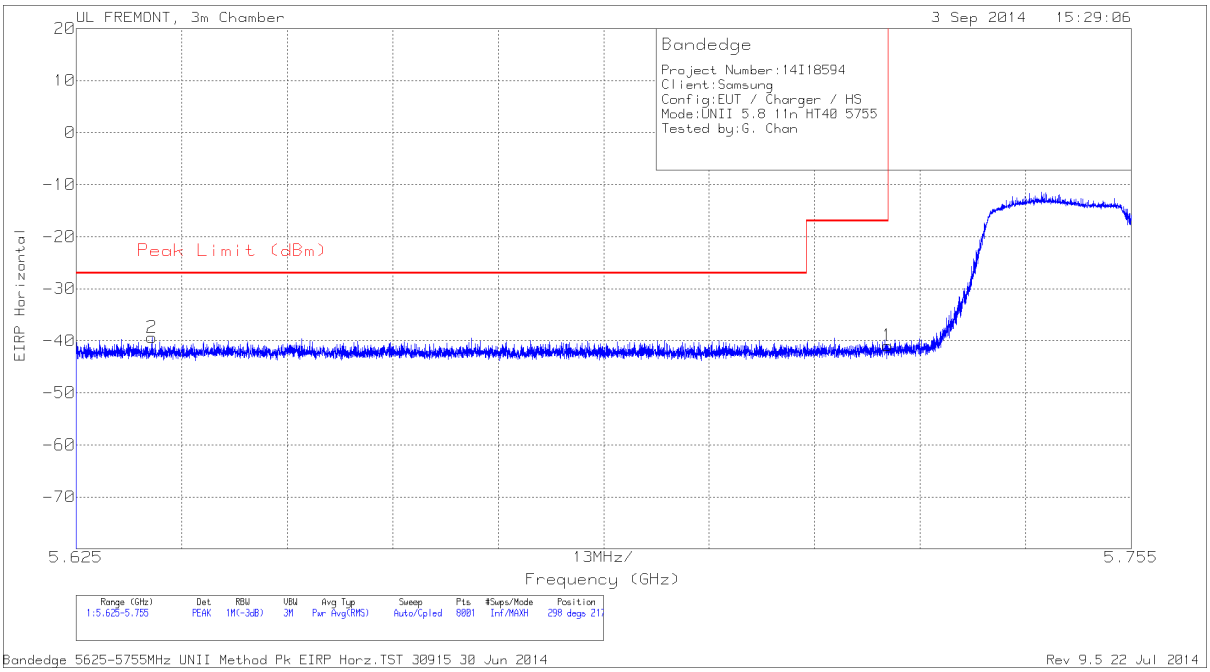
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.4.4. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

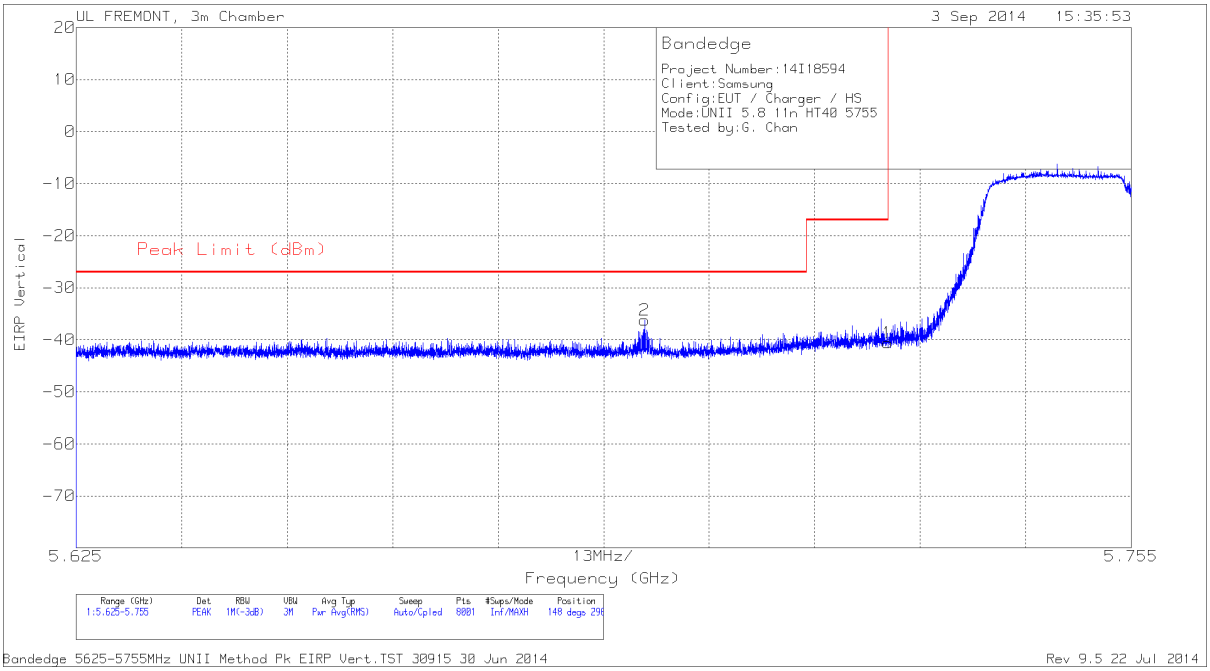
HORIZONTAL PEAK PLOT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.634	-64.82	PK	34.7	-21	11.8	0	-39.32	-27	-12.32	298	217	H
1	5.725	-66.4	PK	34.8	-21.1	11.8	0	-40.9	-17	-23.9	298	217	H

PK - Peak detector

VERTICAL PEAK PLOT

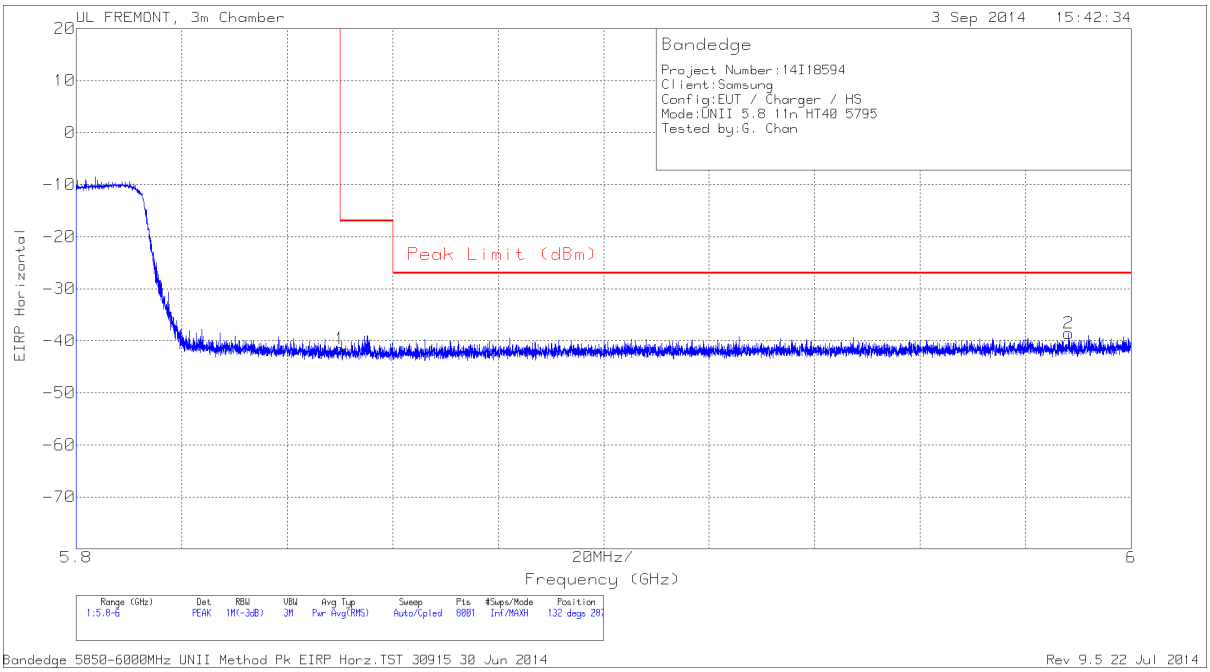


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.695	-61.82	PK	34.8	-21	11.8	0	-36.22	-27	-9.22	148	296	V
1	5.725	-66.1	PK	34.8	-21.1	11.8	0	-40.6	-17	-23.6	148	296	V

PK - Peak detector

RESTRICTED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT

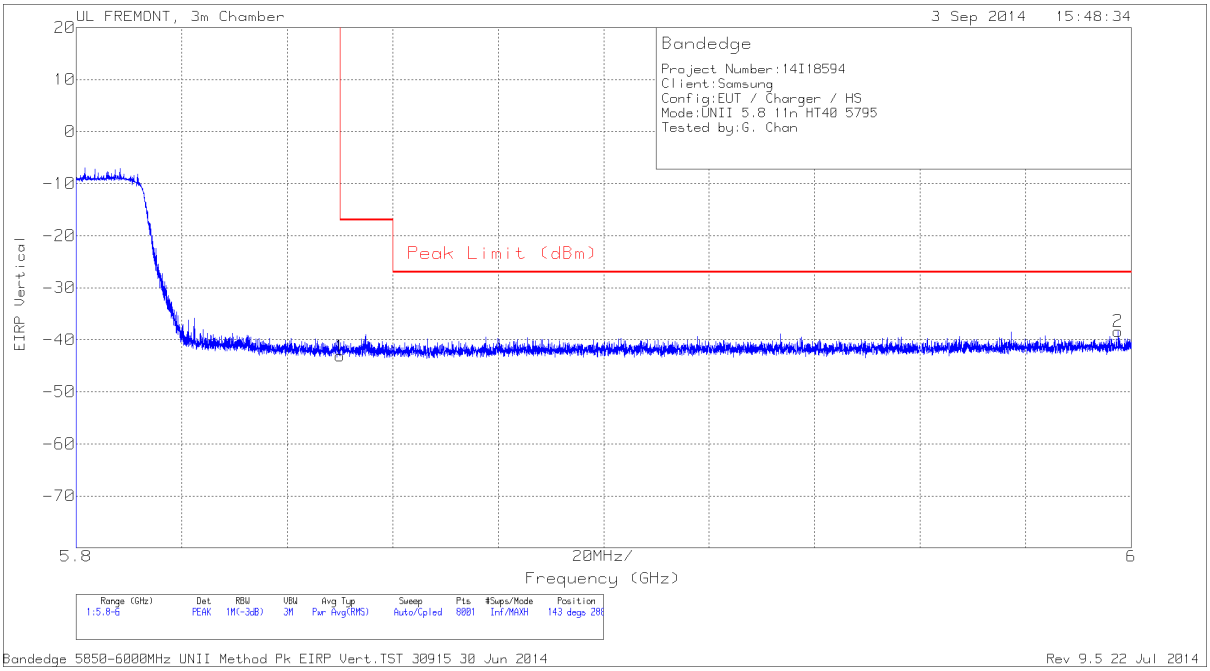


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.02	PK	35	-21.3	11.8	0	-41.52	-27	-14.52	132	287	H
2	5.988	-64.76	PK	35.3	-20.9	11.8	0	-38.56	-27	-11.56	132	287	H

Note: The plot limit is during pre-scan and not the final data. Please refer to tablet for final measurement.

PK - Peak detector

VERTICAL PEAK PLOT



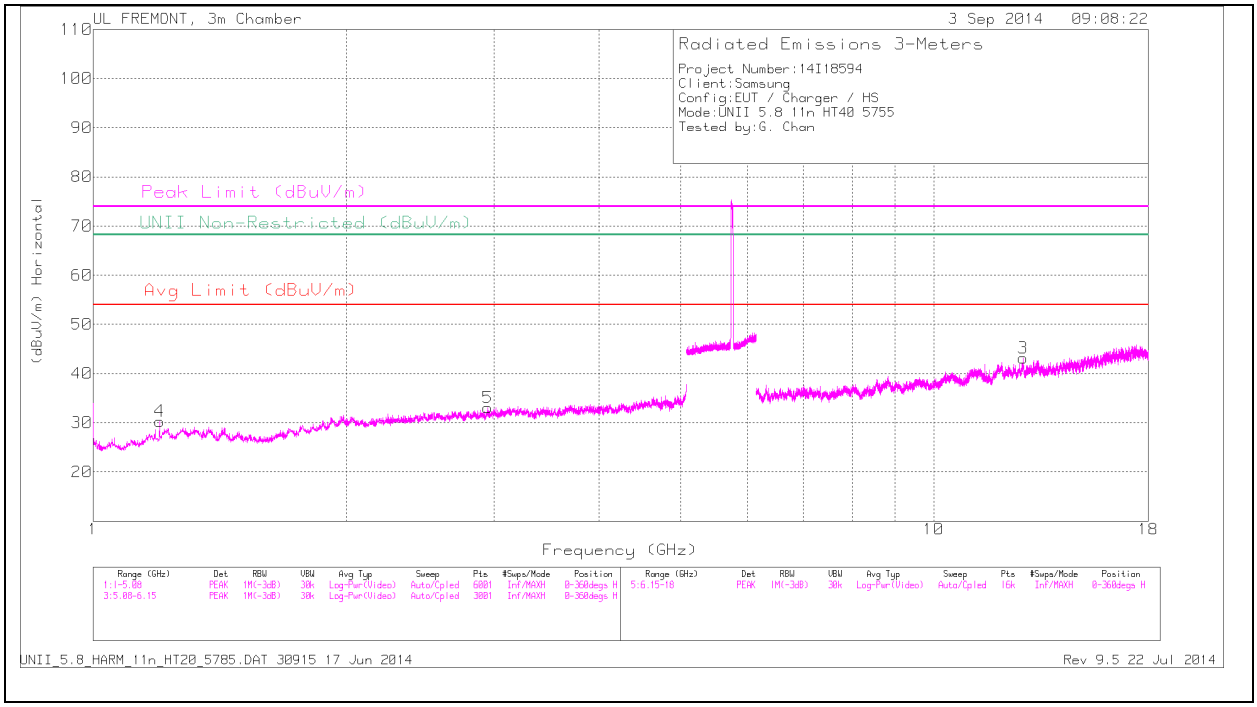
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-68.63	PK	35	-21.3	11.8	0	-43.13	-27	-16.13	143	288	V
2	5.998	-64.75	PK	35.3	-20.7	11.8	0	-38.35	-27	-11.35	143	288	V

Note: The plot limit is during pre-scan and not the final data. Please refer to tablet for final measurement.

PK - Peak detector

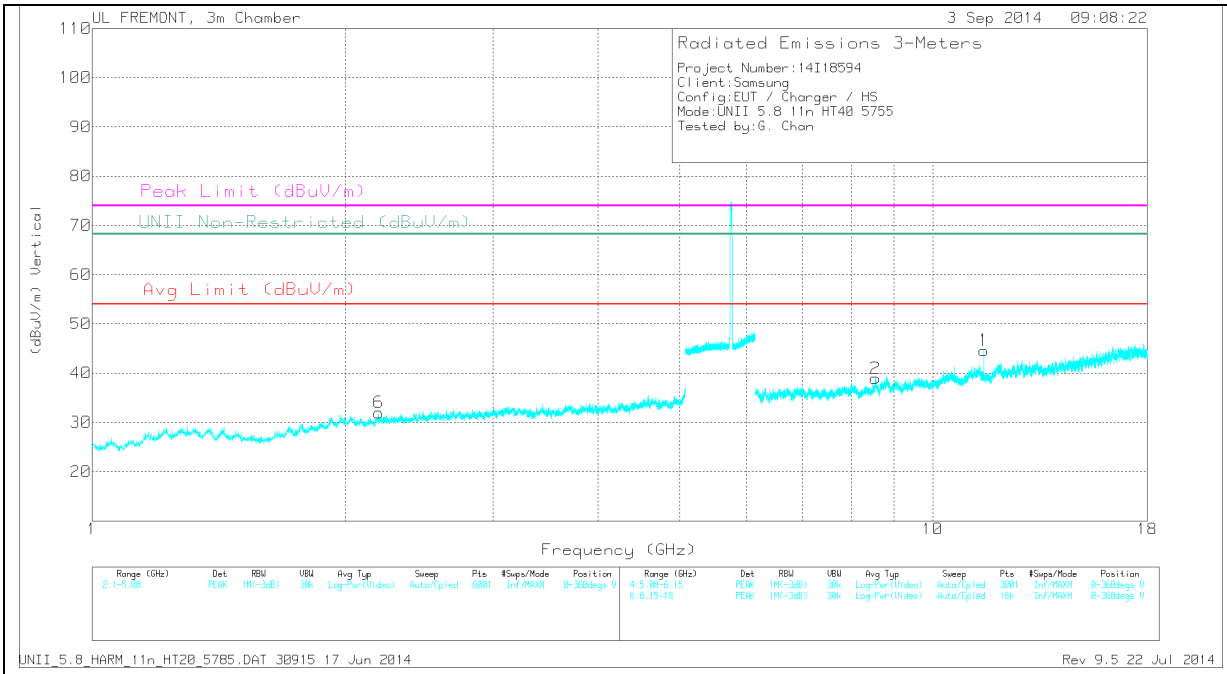
HARMONICS AND SPURIOUS EMISSIONS

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/ 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
4	1.2	34.29	PK	29.2	-33.2	0	30.29	-	-	74	-43.71	-	-	0-360	100	H
6	2.191	32.98	PK	31.7	-32.7	0	31.98	-	-	-	-	68.2	-36.22	0-360	200	V
5	2.947	32.26	PK	32.8	-32	0	33.06	-	-	-	-	68.2	-35.14	0-360	200	H
2	8.547	29.11	PK	35.8	-26	0	38.91	-	-	-	-	68.2	-29.29	0-360	100	V
1	11.51	32.51	PK	38.3	-26.2	0	44.61	-	-	74	-29.39	-	-	0-360	200	V
3	12.774	29.93	PK	39.2	-26	0	43.13	-	-	-	-	68.2	-25.07	0-360	200	H

PK - Peak detector

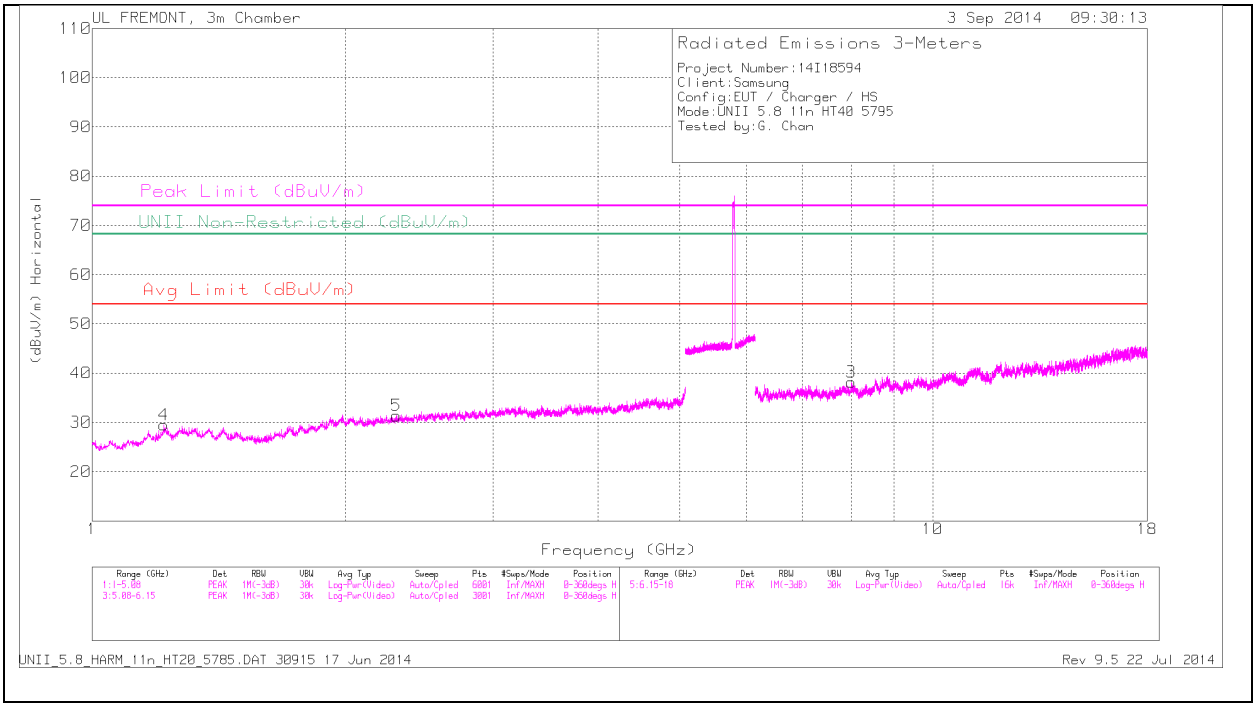
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
11.51	40.23	PK1	38.3	-26.2	0	52.33	-	-	74	-21.67	-	-	53	279	V
11.51	32.64	AD1	38.3	-26.2	.69	45.43	54	-8.57	-	-	-	-	53	279	V

PK1 - KDB789033 Method: Peak

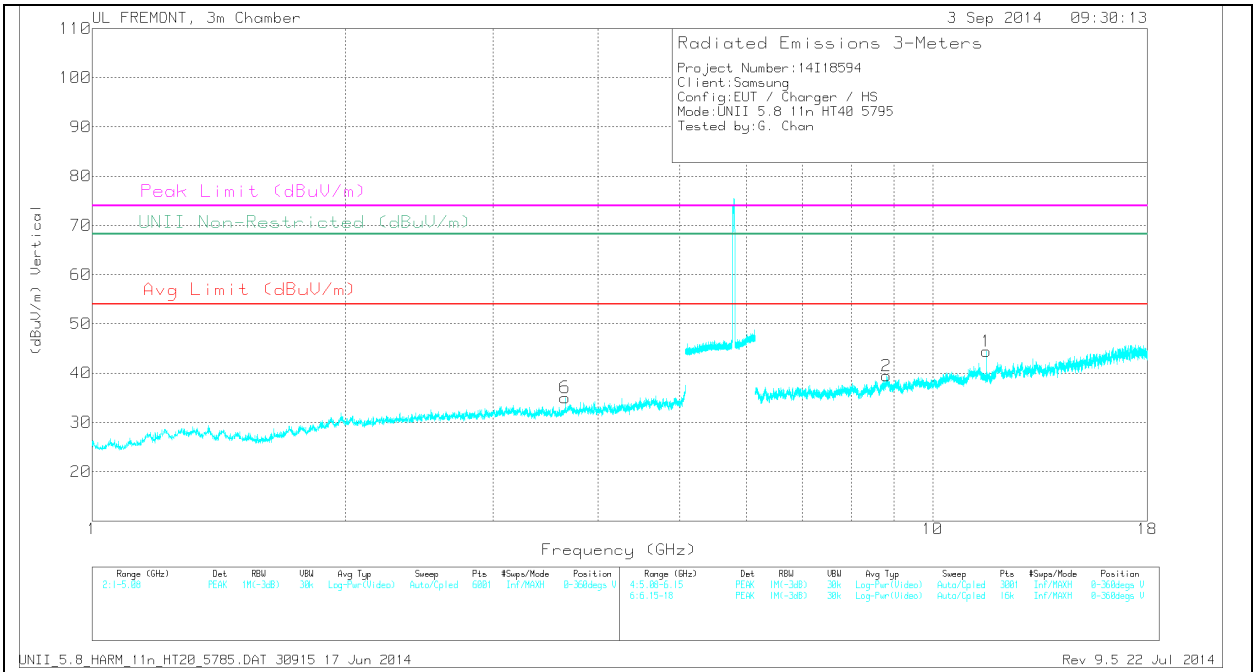
AD1 - KDB789033 Method: AD Primary Power Average

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/ 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
4	1.217	33.27	PK	29.4	-33.2	0	29.47	-	-	74	-44.53	-	-	0-360	200	H
5	2.301	32.16	PK	31.8	-32.6	0	31.36	-	-	-	-	68.2	-36.84	0-360	100	H
6	3.653	32.93	PK	33.1	-31	0	35.03	-	-	74	-38.97	-	-	0-360	200	V
3	8.004	30.57	PK	35.7	-28.1	0	38.17	-	-	-	-	68.2	-30.03	0-360	100	H
2	8.815	28.93	PK	36	-25.5	0	39.43	-	-	-	-	68.2	-28.77	0-360	200	V
1	11.59	31.94	PK	38.4	-25.9	0	44.44	-	-	74	-29.56	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

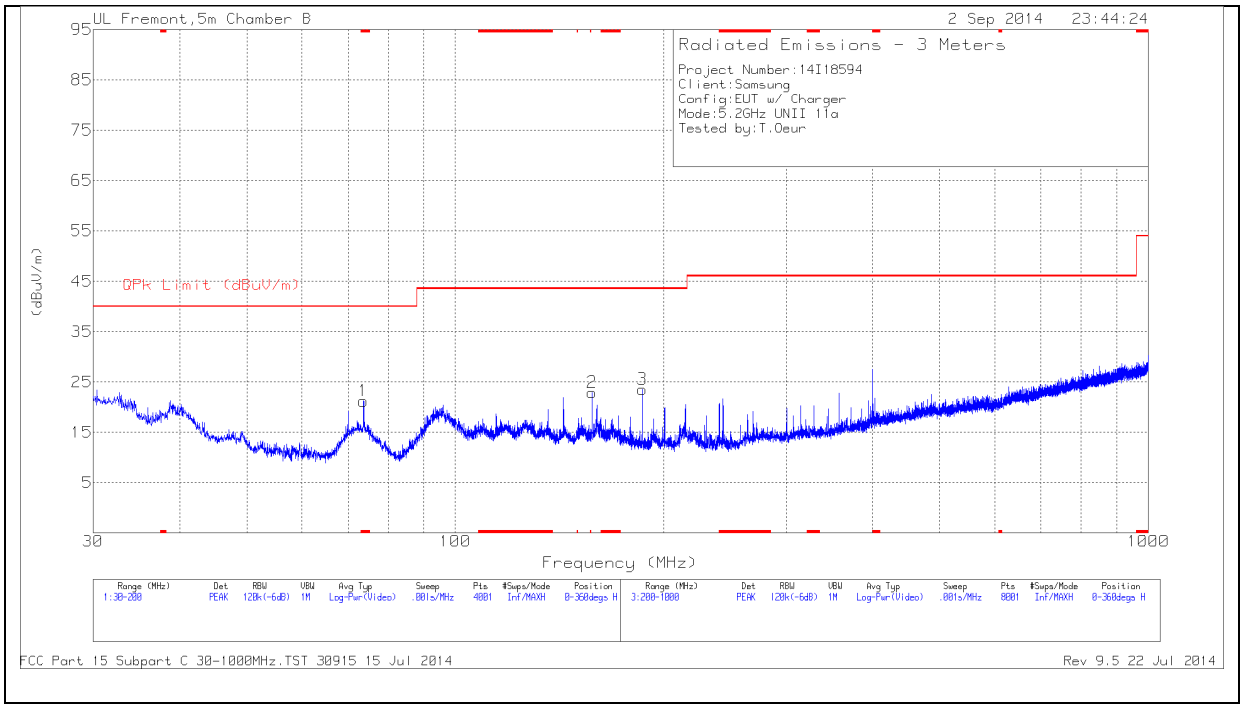
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11.59	39.66	PK1	38.4	-25.9	0	52.16	-	-	74	-21.84	-	-	236	192	V
11.59	31.12	AD1	38.4	-25.9	.69	44.21	54	-9.69	-	-	-	-	236	192	V

PK1 - KDB789033 Method: Peak

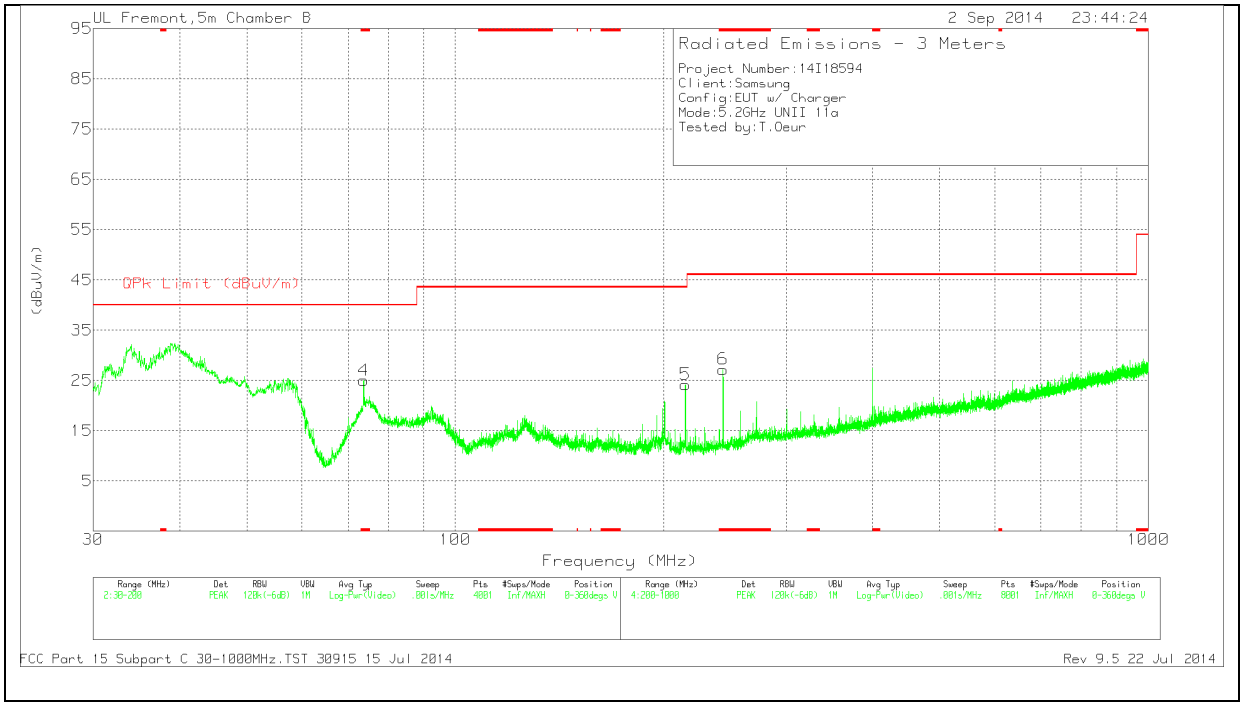
AD1 - KDB789033 Method: AD Primary Power Average

12. WORST-CASE BELOW 1 GHz (in the 5.3 GHz Band)

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 73.69	41.43	PK	8.1	-28.3	21.23	40	-18.77	0-360	100	H
4	* 73.7325	45.24	PK	8.1	-28.3	25.04	40	-14.96	0-360	101	V
6	* 243.4	41.91	PK	11.7	-26.4	27.21	46.02	-18.81	0-360	200	V
2	157.4575	38.12	PK	12.2	-27.4	22.92	43.52	-20.6	0-360	100	H
3	186.145	39.66	PK	10.9	-27	23.56	43.52	-19.96	0-360	400	H
5	214.8	40.38	PK	10.6	-26.8	24.18	43.52	-19.34	0-360	200	V

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

PK - Peak detector

13. 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.

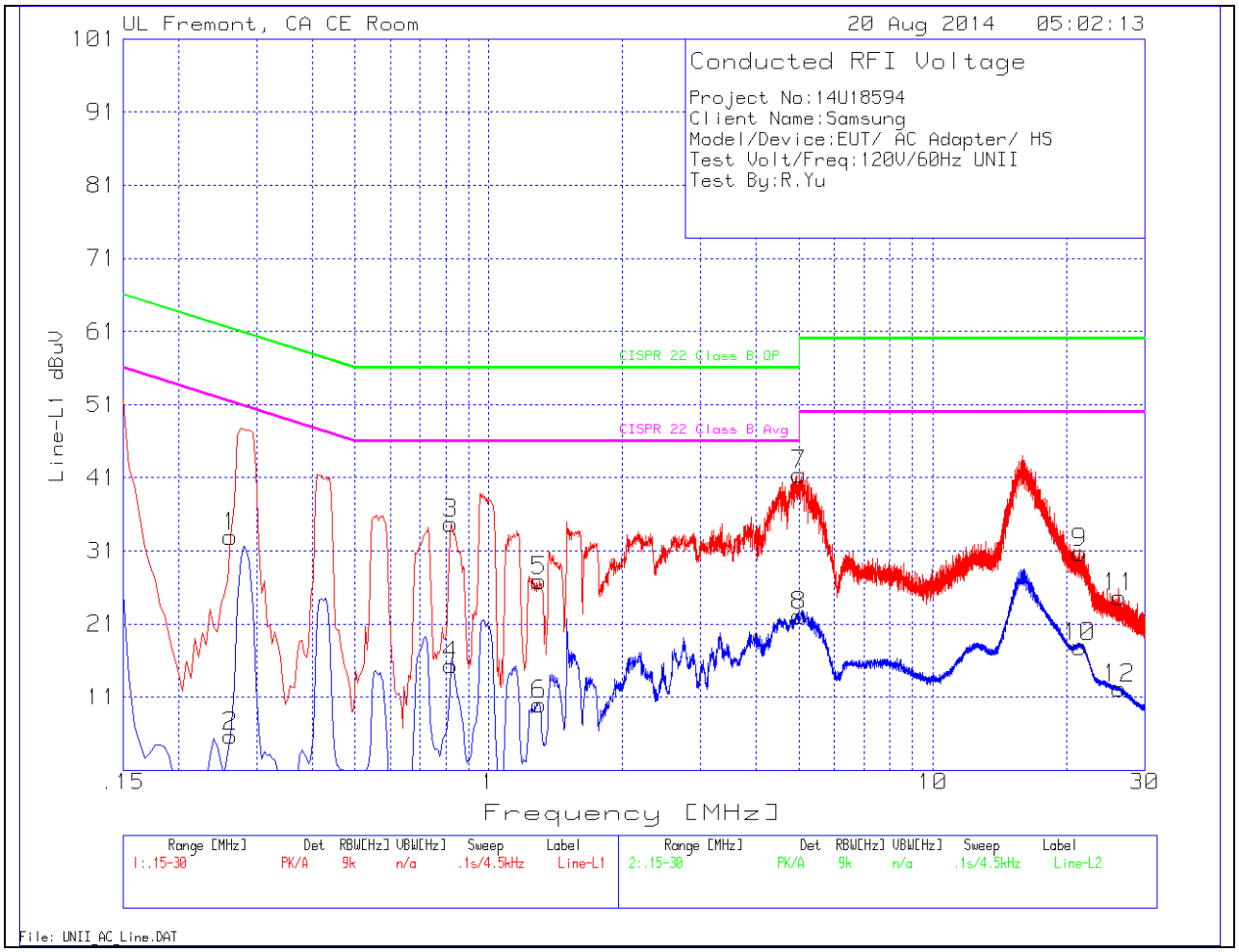
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT

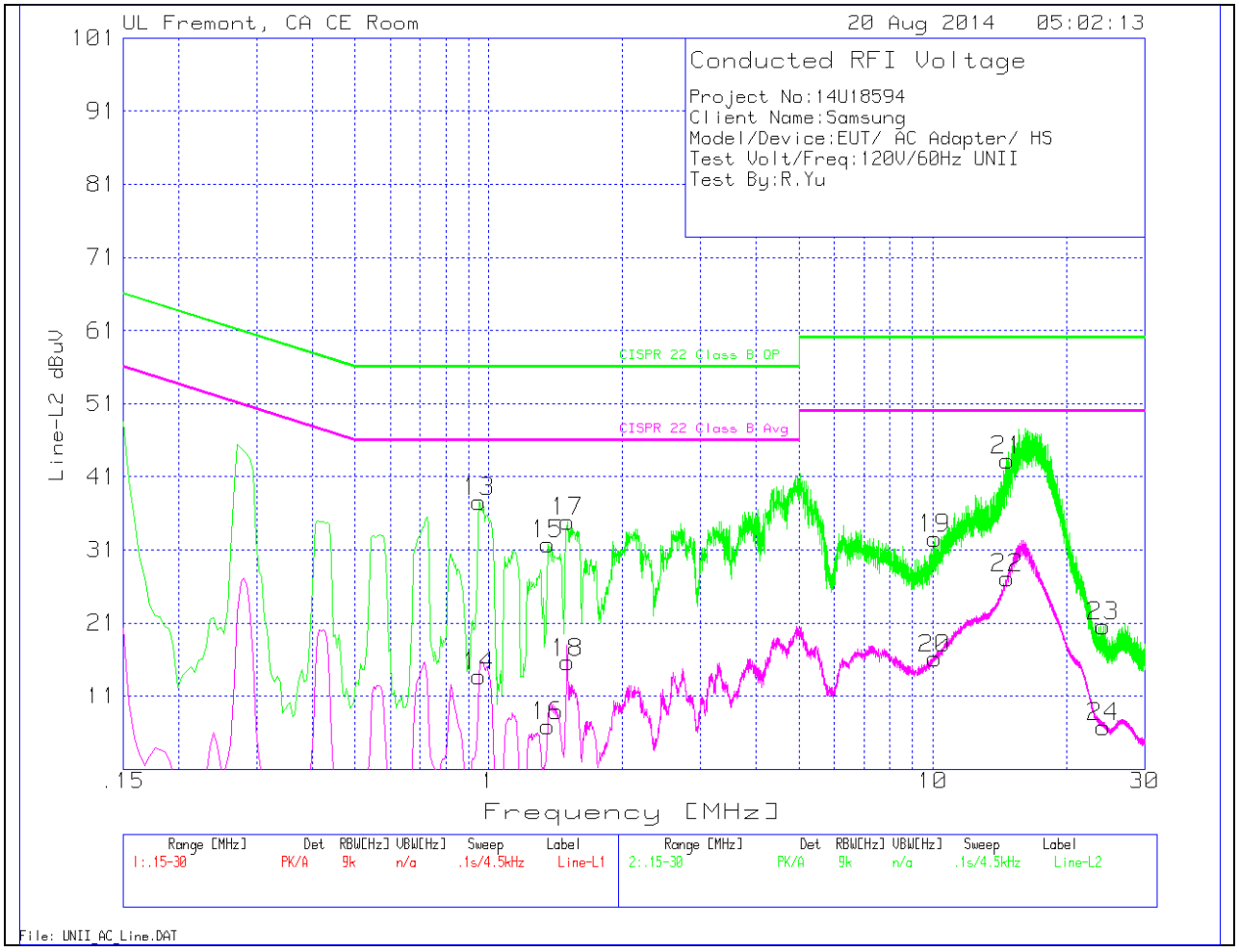


LINE 1 RESULTS

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.2625	32.25	PK	.7	0	32.95	61.4	-28.45	-	-
2	.2625	4.96	Av	.7	0	5.66	-	-	51.4	-45.74
3	.8205	34.49	PK	.3	0	34.79	56	-21.21	-	-
4	.8205	15.03	Av	.3	0	15.33	-	-	46	-30.67
5	1.302	26.55	PK	.2	.1	26.85	56	-29.15	-	-
6	1.302	9.73	Av	.2	.1	10.03	-	-	46	-35.97
7	5.01	41.18	PK	.2	.1	41.48	60	-18.52	-	-
8	5.01	21.81	Av	.2	.1	22.11	-	-	50	-27.89
9	21.4125	30.21	PK	.3	.2	30.71	60	-29.29	-	-
10	21.4125	17.39	Av	.3	.2	17.89	-	-	50	-32.11
11	26.3265	24.11	PK	.3	.3	24.71	60	-35.29	-	-
12	26.3265	11.57	Av	.3	.3	12.17	-	-	50	-37.83

LINE 2 PLOT



LINE 2 RESULTS

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)
13	.951	37.23	PK	.3	0	37.53	56	-18.47	-	-
14	.951	13.39	Av	.3	0	13.69	-	-	46	-32.31
15	1.356	31.44	PK	.2	.1	31.74	56	-24.26	-	-
16	1.356	6.62	Av	.2	.1	6.92	-	-	46	-39.08
17	1.5045	34.61	PK	.2	.1	34.91	56	-21.09	-	-
18	1.5045	15.29	Av	.2	.1	15.59	-	-	46	-30.41
19	10.122	32.13	PK	.2	.2	32.53	60	-27.47	-	-
20	10.122	15.71	Av	.2	.2	16.11	-	-	50	-33.89
21	14.7345	42.75	PK	.3	.2	43.25	60	-16.75	-	-
22	14.7345	26.68	Av	.3	.2	27.18	-	-	50	-22.82
23	24.2025	19.91	PK	.3	.3	20.51	60	-39.49	-	-
24	24.2025	6.15	Av	.3	.3	6.75	-	-	50	-43.25

14. DYNAMIC FREQUENCY SELECTION

14.1. OVERVIEW

14.1.1. LIMITS

INDUSTRY CANADA

IC RSS-210 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-210 Issue 7 A9.4 (b) (ii) **Channel Availability Check Time:** …

Additional requirements for the band 5600-5650 MHz: Until further notice, devices subject to this Section shall not be capable of transmitting in the band 5600-5650 MHz, so that Environment Canada weather radars operating in this band are protected.

FCC

§15.407 (h) and FCC 06-96 APPENDIX “COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION”.

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Master	Client (without radar detection)	Client (with radar detection)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client **(without DFS)**	Client **(with DFS)**
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.		

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period
The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows: For the Short pulse radar Test Signals this instant is the end of the *Burst*. For the Frequency Hopping radar Test Signal, this instant is the end of the last radar burst generated. For the Long Pulse radar Test Signal this instant is the end of the 12-second period defining the radar transmission. The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate channel changes (an aggregate of approximately 60 milliseconds) during the remainder of the 10-second period. The aggregate duration of control signals will not count quiet periods in between transmissions.	

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (Microseconds)	PRI (Microseconds)	Pulses	Minimum Percentage of Successful Detection	Minimum Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Table 6 – Long Pulse Radar Test Signal

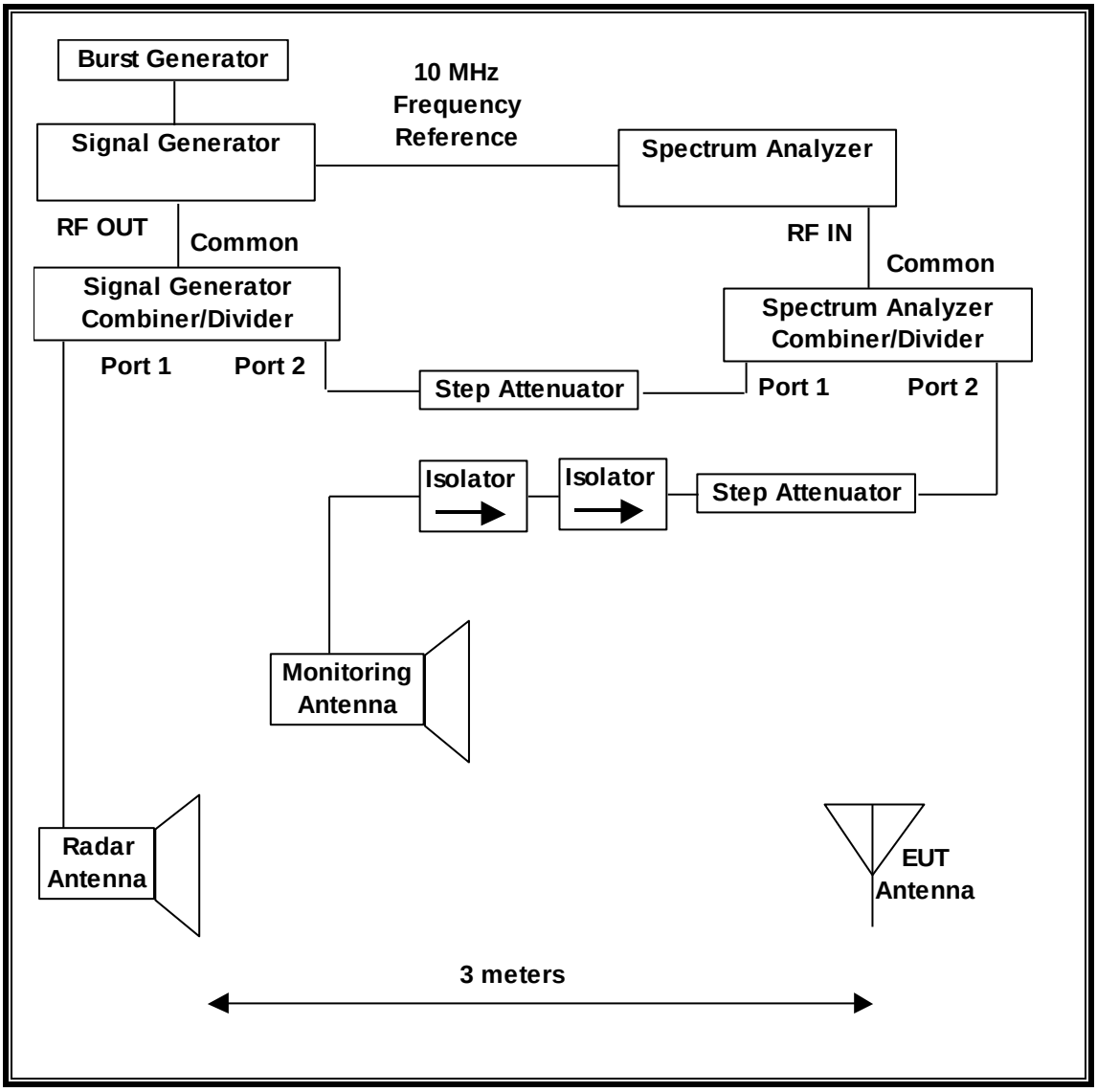
Radar Waveform	Bursts	Pulses per Burst	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Minimum Percentage of Successful Detection	Minimum Trials
5	8-20	1-3	50-100	5-20	1000-2000	80%	30

Table 7 – Frequency Hopping Radar Test Signal

Radar Waveform	Pulse Width (µsec)	PRI (µsec)	Burst Length (ms)	Pulses per Hop	Hopping Rate (kHz)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	300	9	.333	70%	30

14.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

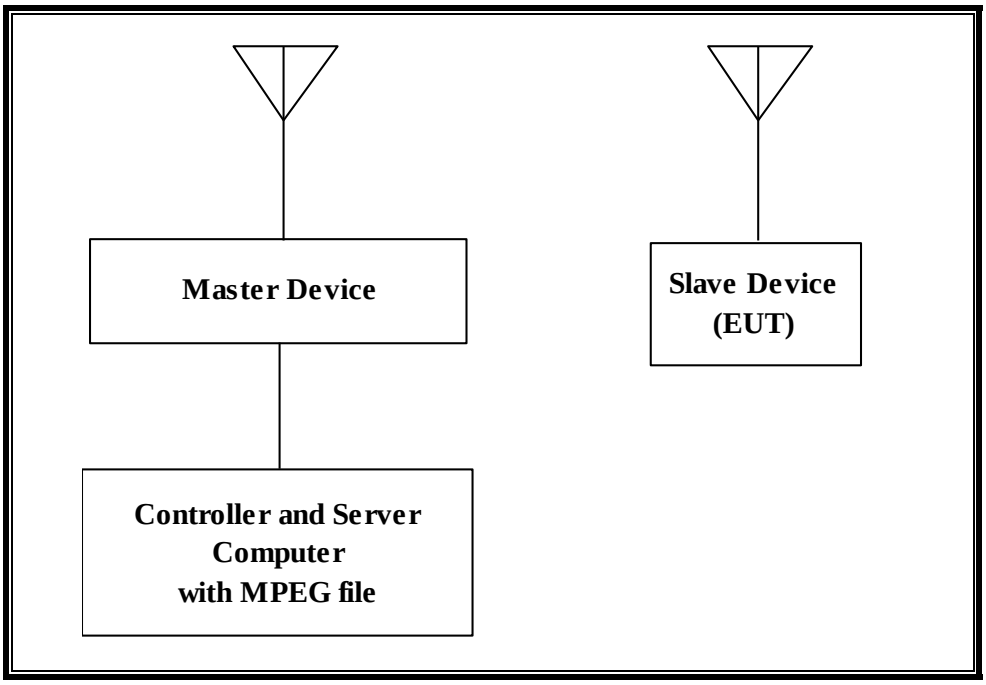
TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset Number**	**Cal Due**
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	09/10/14
Vector Signal Generator, 20GHz	Agilent / HP	E8267C	C01066	09/12/14

14.1.3. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Wireless Access Point	Cisco	AIR-AP1252AG-A-K9	FTX120690N2	LDK102061
AC Adapter (AP)	Delta Electronics	EADP-45BB B	DTH112490BD	DoC
Notebook PC (Controller/Server)	Dell	PP18L	10657517725	DoC
AC Adapter (Controller/Server PC)	Dell	LA65SN0-00	CN-ODF263-71615-6AU-1019	DoC

14.1.4. DESCRIPTION OF EUT

The EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges excluding the 5600-5650 MHz range.

The EUT is a Slave Device without Radar Detection.

The highest power level within these bands is 14 dBm EIRP in the 5250-5350 MHz band and 13.39 dBm EIRP in the 5470-5725 MHz band.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

The EUT uses one transmitter/receiver chain connected to an antenna to perform radiated tests.

WLAN traffic is generated by streaming the video file TestFile.mp2 “6 ½ Magic Hours” from the Master to the Slave in full motion video mode using the ES File explorer player.

TPC is not required since the maximum EIRP is less than 500 mW (27 dBm).

The EUT utilizes the 802.11a/n architecture. Two nominal channel bandwidths are implemented: 20 MHz and 40 MHz.

UNIFORM CHANNEL SPREADING

This requirement is not applicable to Slave radio devices.

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is a Cisco Access Point, FCC ID: LDK102061. The minimum antenna gain for the Master Device is 3.5 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

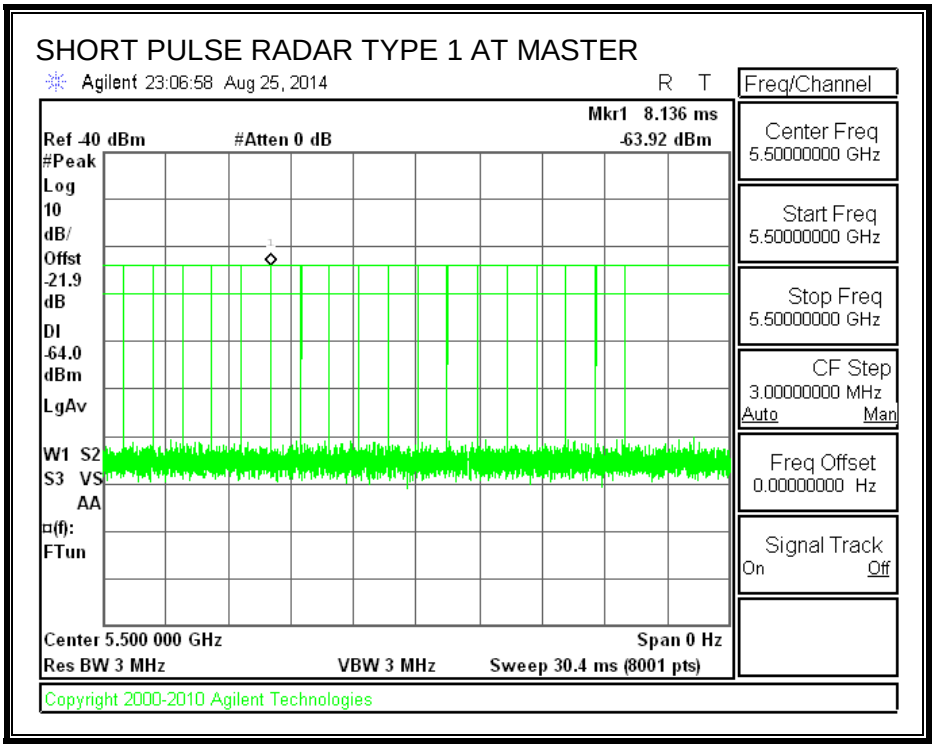
14.2. RESULTS FOR 20 MHz BANDWIDTH

14.2.1. TEST CHANNEL

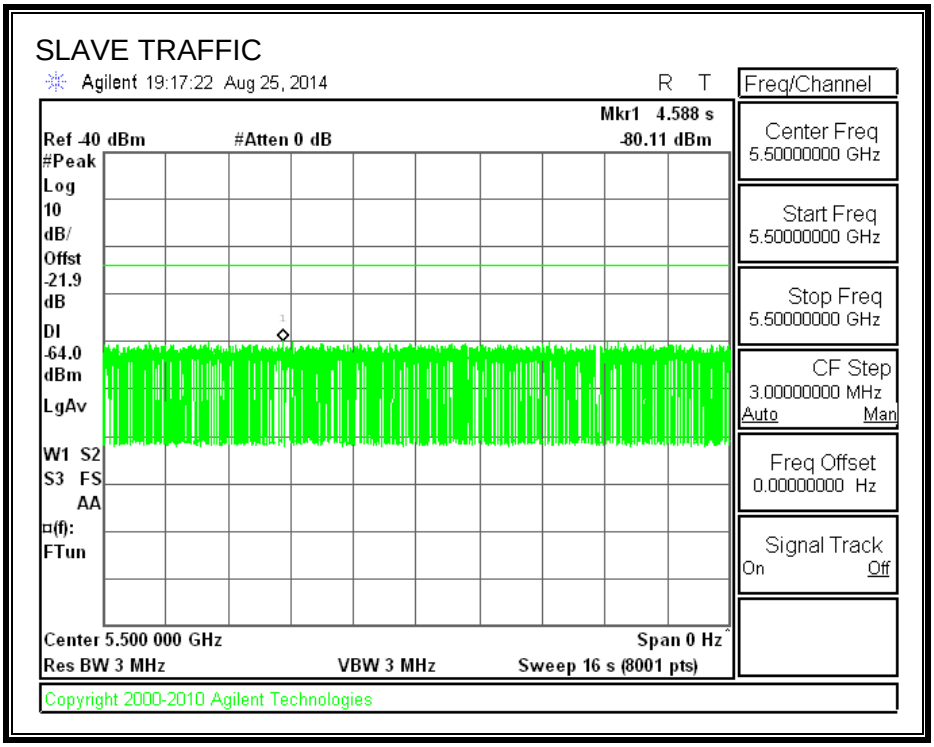
All tests were performed at a channel center frequency of 5500 MHz.

14.2.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



14.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.2.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

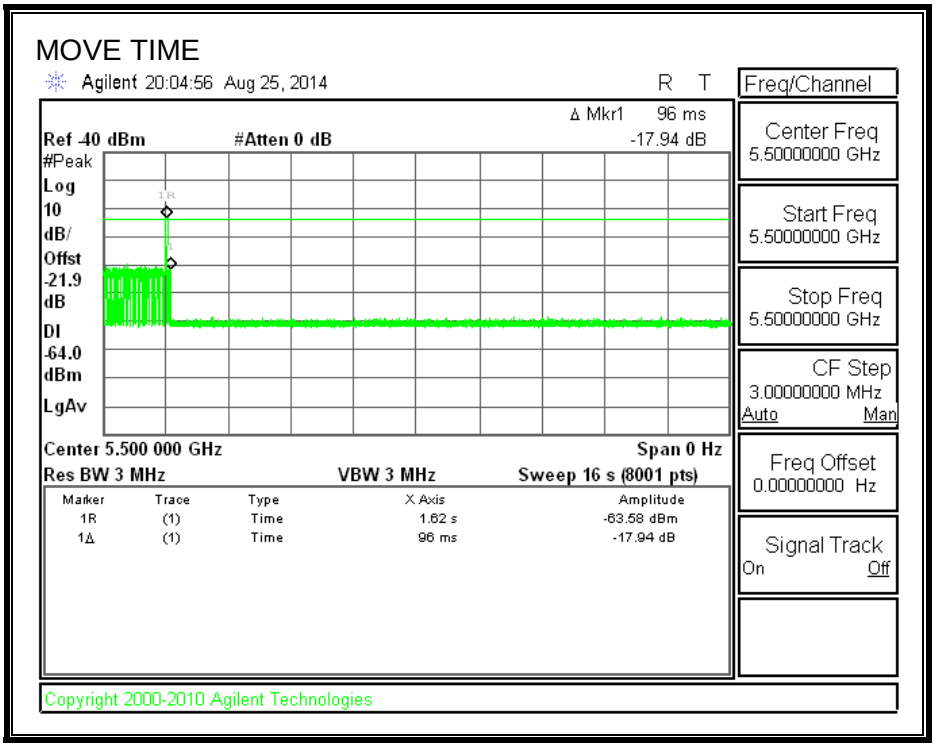
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

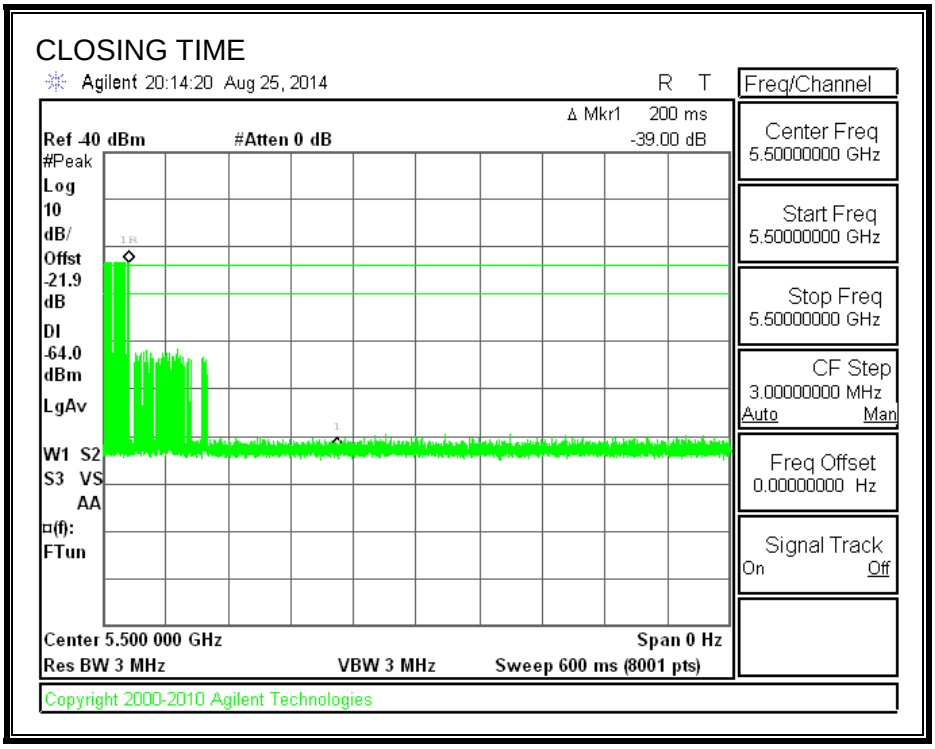
Channel Move Time (sec)	Limit (sec)
0.096	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME



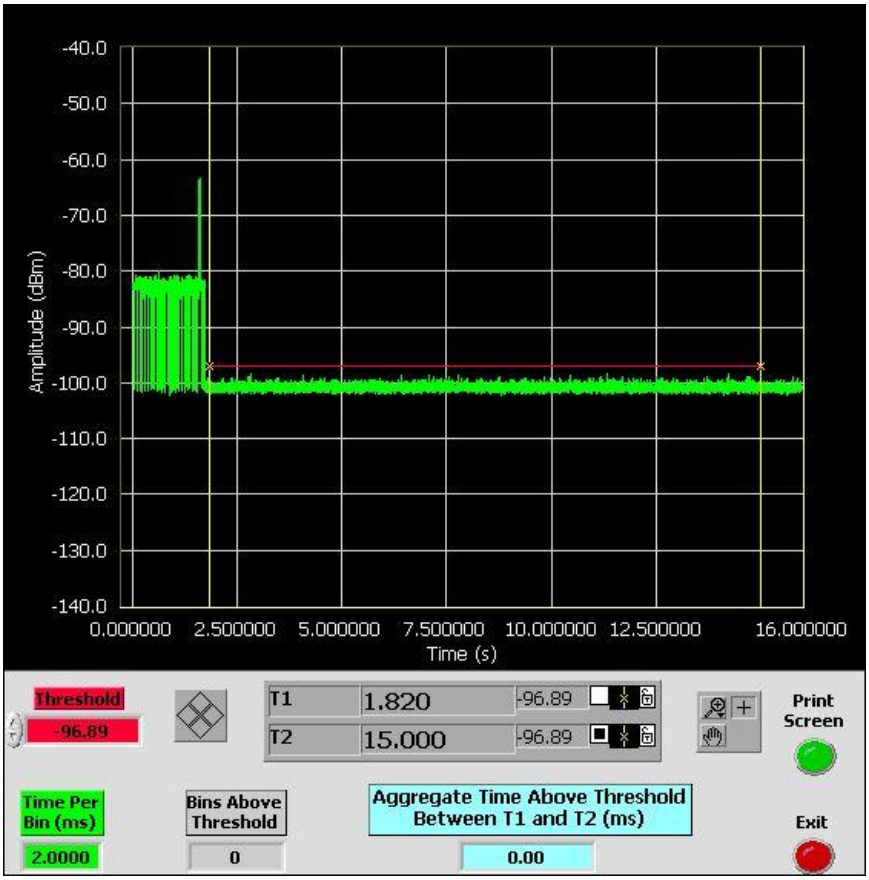
CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



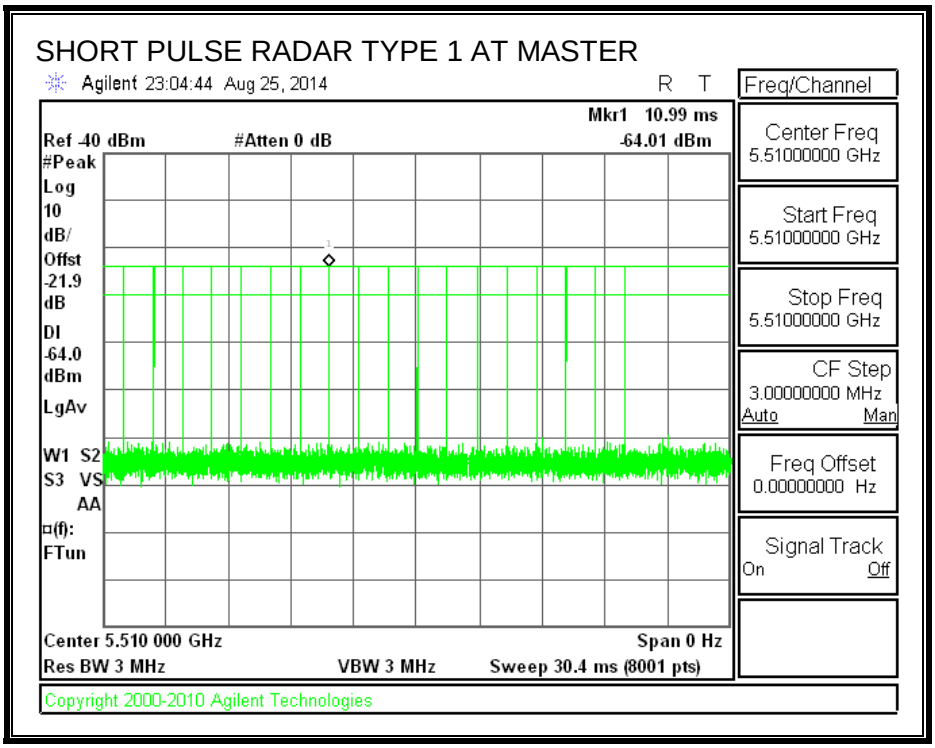
14.3. RESULTS FOR 40 MHz BANDWIDTH

14.3.1. TEST CHANNEL

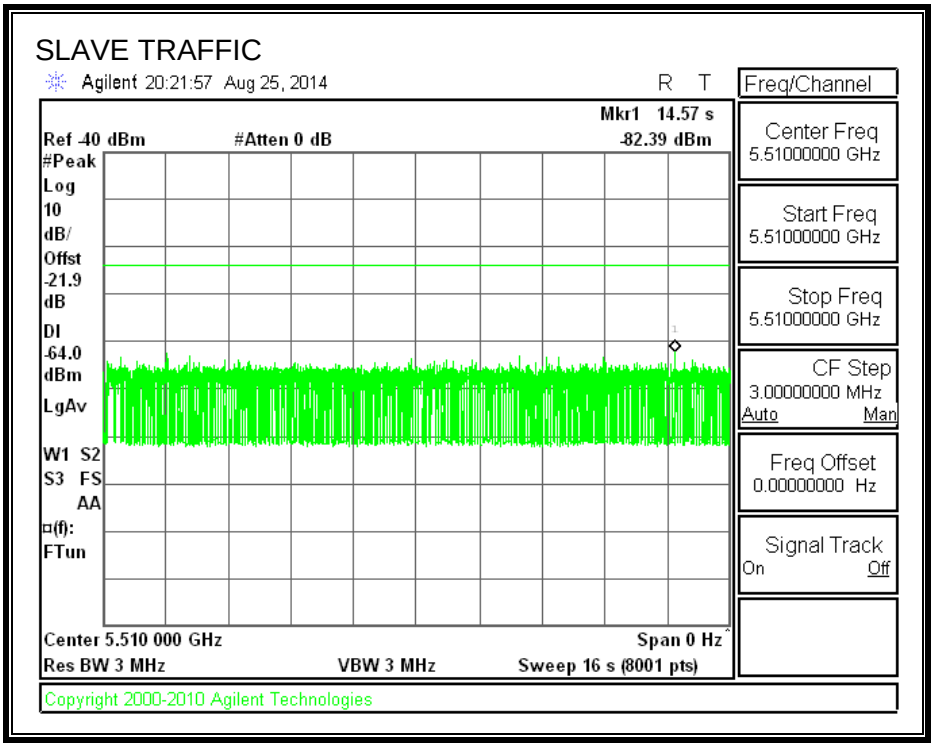
All tests were performed at a channel center frequency of 5510 MHz.

14.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



14.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.3.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

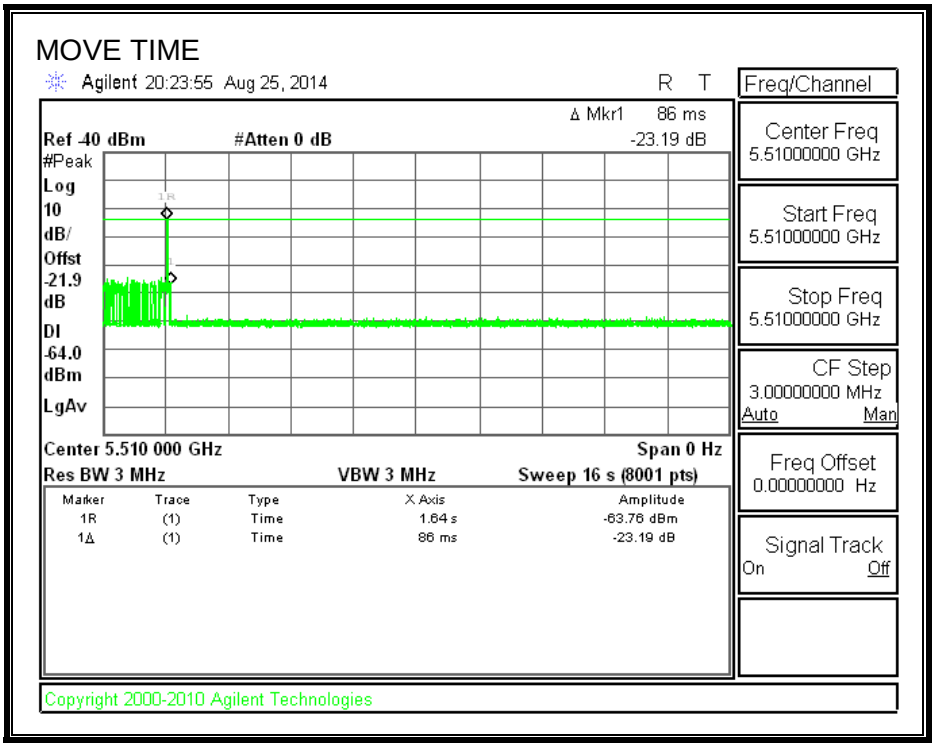
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

Channel Move Time (sec)	Limit (sec)
0.086	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME



CHANNEL CLOSING TIME