FCC 47 CFR PART 15 SUBPART E
INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: SM-T255S

FCC ID: A3LSMT255S
IC ID: 649E-SMT255S

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD. 416, MAETAN 3-DONG, YEONGTONG-GU SUWON-CITY SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE Tablet + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC
MODEL:	SM-T255S
SERIAL NUMBER:	SP1D7293263V (Radiated) FL-117-D (Conducted)
DATE TESTED:	MARCH 7 - APRIL 17, 2014

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex 8	Pass
INDUSTRY CANADA RSS-GEN Issue 3	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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CONSUMER TECHNOLOGY DIVISION
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UL Verification Services Inc.

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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, RSS-GEN Issue 3, RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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%.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Tablet + Bluetooth, DTS/UNII a/b/g/n, ANT+ & 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	12.9	19.50
5180-5240	802.11n HT20	14.69	29.44
5190-5230	802.11n HT40	12.97	19.82
5260-5320	802.11a	13.15	20.65
5260-5320	802.11n HT20	15.19	33.04
5270-5310	802.11n HT40	13.77	23.82
5500-5700	802.11a	12.08	16.14
5500-5700	802.11n HT20	14.41	27.61
5510-5670	802.11n HT40	13.73	23.60

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of 0.98dBi for 2.4GHz and 1.95dBi for 5GHz.

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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

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	Samsung	SM-T255S	N/A	N/A
Earphone	Samsung	SM-T255S	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.

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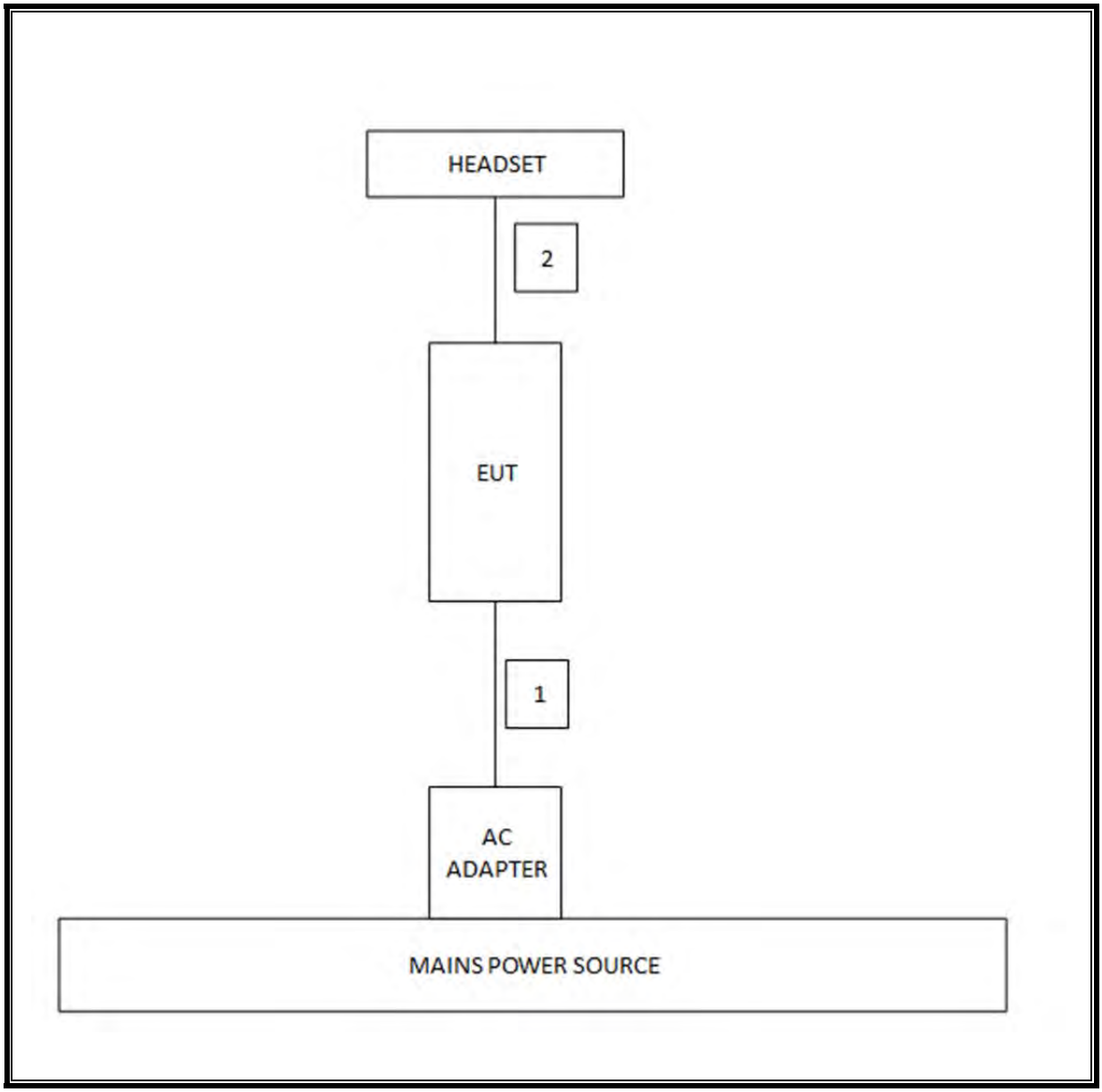
SETUP DIAGRAM FOR TESTS



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6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/14
Spectrum Analyzer,9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/14
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/15
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/14
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/14
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/14
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/14
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/14
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/14
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/14
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/14

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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	64.2 MHz
15.407 (a)(1)	TX Cond. Power 5.15-2.25	<17dBm or 4+10Log(OBW)		Pass	14.7 dBm
15.407 (a)(2)	TX Cond. Power 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	15.2 dBm
15.407 (a)(5)	PSD	<4dBm for 5.2GHz/11dBm for 5.3& 5.5GHz		Pass	4.12 dBm
15.407 (a)(6)	Peak Excursion Ratio	13dB		Pass	8.3 dB
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	51.8 dBuV
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	52.1 dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	N/A

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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	1.40	1.50	0.932	93.2%	0.31	0.717
802.11n HT20	1.30	1.39	0.931	93.1%	0.31	0.772
802.11n HT40	0.63	0.73	0.862	86.2%	0.64	1.578

8.2. DUTY CYCLE PLOTS

DUTY CYCLE 802.11a MODE

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DUTY CYCLE 802.11n HT20 MODE

DUTY CYCLE 802.11n HT40 MODE

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9. MEASUREMENT METHOD

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

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

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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	23.10
Mid	5200	23.52
High	5240	24.87
Worst		24.87

10.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	26.88
Mid	5200	29.76
High	5240	25.28
Worst		29.76

10.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	55.400
Mid	5230	48.640
Worst		55.400

10.1.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	23.40
Mid	5300	24.92
High	5320	23.68
Worst		24.92

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10.1.1. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	28.48
Mid	5300	30.25
High	5320	27.35
Worst		30.25

10.1.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	50.8
High	5310	50.4
Worst		50.8

10.1.3. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	23.400
Mid	5580	23.480
High	5700	30.960
Worst		30.960

10.1.4. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	25.960
Mid	5580	31.720
High	5700	40.740
Worst		40.740

10.1.5. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	51.4
Mid	5550	54.0
High	5670	64.2
Worst		64.2

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802.11a 5.2G 26 dB BANDWIDTH

BANDWIDTH MID CH

802.11n HT20 5.2G 26 dB BANDWIDTH

BANDWIDTH MID CH

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802.11n HT40 5.2G 26 dB BANDWIDTH

BANDWIDTH MID CH

802.11a 5.3G 26 dB BANDWIDTH

BANDWIDTH MID CH

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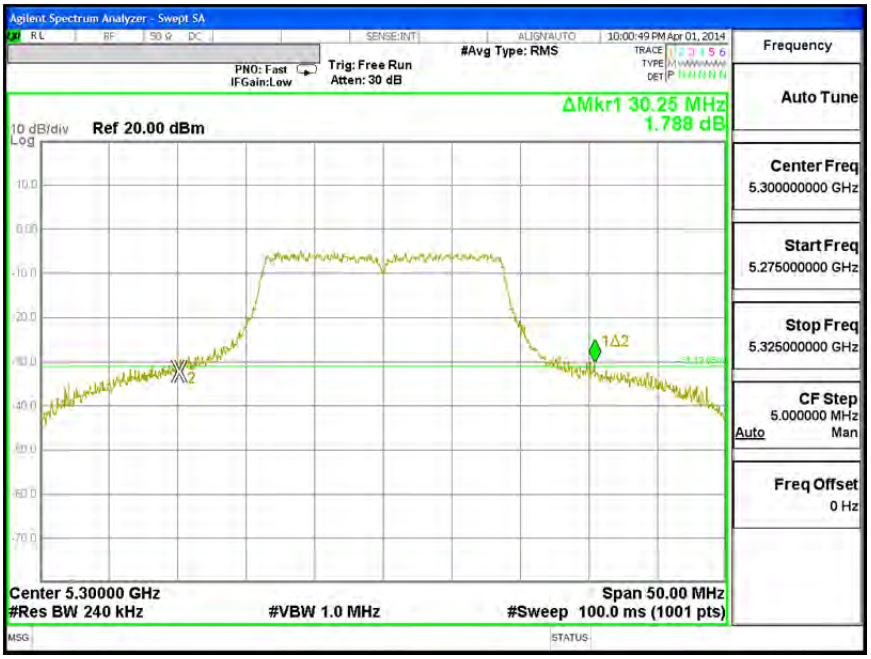
802.11n HT20 5.3G 26 dB BANDWIDTH

BANDWIDTH MID CH



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802.11n HT40 5.3G 26 dB BANDWIDTH

BANDWIDTH MID CH

802.11a 5.5G 26 dB BANDWIDTH

BANDWIDTH MID CH

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802.11n HT20 5.5G 26 dB BANDWIDTH

BANDWIDTH MID CH

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802.11n HT40 5.5G 26 dB BANDWIDTH

BANDWIDTH MID CHMID CH

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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	16.92
Mid	5200	16.71
High	5240	17.00
Worst		17.00

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.86
Mid	5200	18.00
High	5240	17.98
Worst		18.00

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	36.100
Mid	5230	36.170
Worst		36.170

10.2.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.72
Mid	5300	16.95
High	5320	16.75
Worst		16.95

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10.2.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	18.14
Mid	5300	17.95
High	5320	18.12
Worst		18.14

10.2.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.0
High	5310	36.0
Worst		36.0

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10.2.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.89
Mid	5580	16.62
High	5700	17.50
Worst		17.500

10.2.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.81
Mid	5580	17.42
High	5700	18.46
Worst		18.460

10.2.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	36.03
Mid	5550	35.92
High	5670	36.11
Worst		36.1

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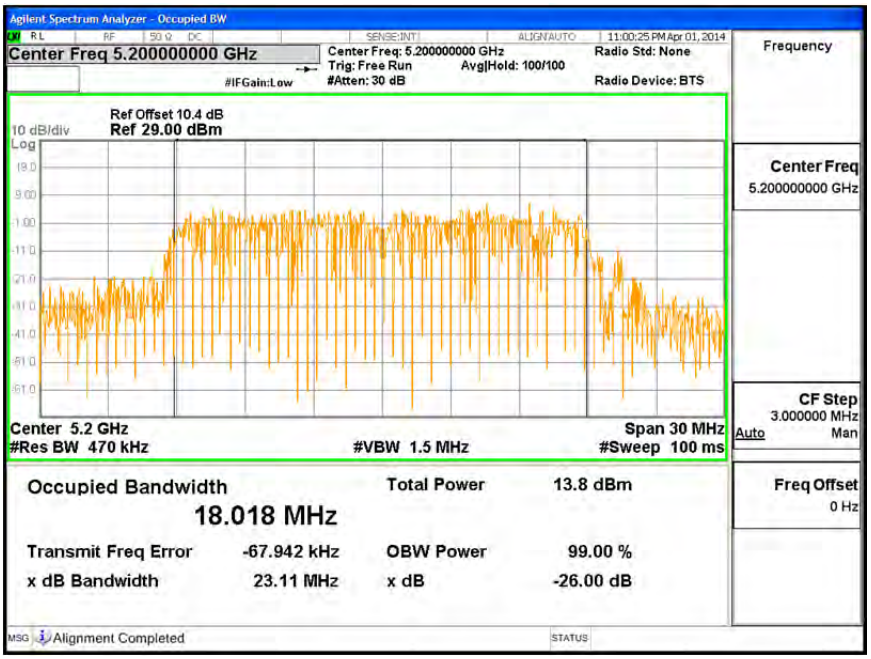
802.11a 5.2G 99% BANDWIDTH

BANDWIDTH MID CH

802.11n HT20 5.2G 99% BANDWIDTH

BANDWIDTH MID CH



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802.11n HT40 5.2G 99% BANDWIDTH

BANDWIDTH MID CH

802.11a 5.3G 99% BANDWIDTH

BANDWIDTH MID CH

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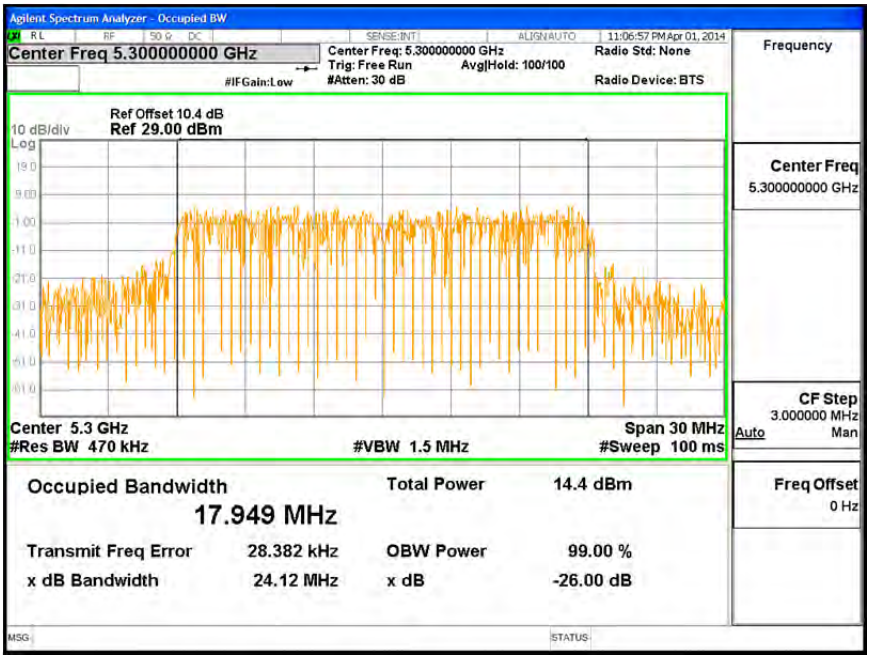
802.11n HT20 5.3G 99% BANDWIDTH

BANDWIDTH MID CH



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802.11n HT40 5.3G 99% BANDWIDTH

BANDWIDTH MID CH

802.11a 5.5G 99% BANDWIDTH

BANDWIDTH MID CH

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802.11n HT20 5.5G 99% BANDWIDTH

BANDWIDTH MID CH

802.11n HT40 5.5G 99% BANDWIDTH

BANDWIDTH MID CH

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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	11.40
Mid	5200	11.90
High	5240	12.40
Worst		12.40

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	11.70
Mid	5200	12.20
High	5240	11.60
Worst		12.20

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5190	12.500
Mid	5230	12.500
Worst		12.500

10.3.4. 802.11a MODE IN THE 5.3 GHz BAND

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Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	11.90
Mid	5300	11.90
High	5320	11.40
Worst		11.90

10.3.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

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

10.3.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5270	12.2
High	5310	12.2
Worst		12.2

10.3.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	11.6
Mid	5580	11.9
High	5700	11.2
Worst		11.900

10.3.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	11.6
Mid	5580	11.8
High	5700	11.9
Worst		11.900

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10.3.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5510	11.7
Mid	5550	11.9
High	5670	12.2
Worst		12.2

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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

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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	23.10	16.92	1.95
Mid	5200	23.52	16.71	1.95
High	5240	24.87	17.00	1.95

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	22.28	20.33	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.23	20.28	17.00	4.00	10.00	4.00
High	5240	17.00	22.30	20.35	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.31	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	11.650	11.96	17.00	-5.04
Mid	5200	12.091	12.40	17.00	-4.60
High	5240	12.592	12.90	17.00	-4.10

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-0.410	-0.10	4.00	-4.10
Mid	5200	1.470	1.78	4.00	-2.22
High	5240	1.990	2.30	4.00	-1.70

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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	26.88	17.86	1.95
Mid	5200	29.76	18.00	1.95
High	5240	25.28	17.98	1.95

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	22.52	20.57	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.55	20.60	17.00	4.00	10.00	4.00
High	5240	17.00	22.55	20.60	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.31	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	14.383	14.69	17.00	-2.31
Mid	5200	14.322	14.63	17.00	-2.37
High	5240	13.751	14.06	17.00	-2.94

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	3.480	3.79	4.00	-0.21
Mid	5200	3.240	3.55	4.00	-0.45
High	5240	2.810	3.12	4.00	-0.88

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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	55.40	36.10	1.95
Mid	5230	48.64	36.17	1.95

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	21.05	17.00	4.00	10.00	4.00
Mid	5230	17.00	23.00	21.05	17.00	4.00	10.00	4.00
Duty Cycle CF (dB)		0.64	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	12.329	12.97	17.00	-4.03
Mid	5230	12.295	12.94	17.00	-4.07

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-1.590	-0.95	4.00	-4.95
Mid	5230	-1.670	-1.03	4.00	-5.03

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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	23.40	16.72	1.95
Mid	5300	24.92	16.95	1.95
High	5320	23.68	16.75	1.95

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	23.23	29.23	23.23	11.00	11.00	11.00
Mid	5300	24.00	23.29	29.29	23.29	11.00	11.00	11.00
High	5320	24.00	23.24	29.24	23.24	11.00	11.00	11.00

Duty Cycle CF (dB)	0.31	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	12.114	12.42	23.23	-10.81
Mid	5300	12.835	13.15	23.29	-10.15
High	5320	12.307	12.62	23.24	-10.62

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	1.380	1.69	11.00	-9.31
Mid	5300	2.290	2.60	11.00	-8.40
High	5320	1.430	1.74	11.00	-9.26

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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	28.48	18.140	1.95
Mid	5300	30.25	17.950	1.95
High	5320	27.35	18.120	1.95

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.59	29.59	23.59	11.00	11.00	11.00
Mid	5300	24.00	23.54	29.54	23.54	11.00	11.00	11.00
High	5320	24.00	23.58	29.58	23.58	11.00	11.00	11.00

Duty Cycle CF (dB)	0.31	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	14.282	14.59	23.59	-8.99
Mid	5300	14.883	15.19	23.54	-8.35
High	5320	14.586	14.90	23.58	-8.69

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	3.190	3.50	11.00	-7.50
Mid	5300	3.810	4.12	11.00	-6.88
High	5320	3.750	4.06	11.00	-6.94

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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	50.80	36.00	1.95
High	5310	50.40	36.00	1.95

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)	0.64	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	12.89	13.53	24.00	-10.47
High	5310	13.13	13.77	24.00	-10.24

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-1.12	-0.48	11.00	-11.48
High	5310	-0.82	-0.18	11.00	-11.18

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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	23.40	16.89	1.95
Mid	5580	23.48	16.62	1.95
High	5700	30.96	17.50	1.95

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	23.28	29.28	23.28	11.00	11.00	11.00
Mid	5580	24.00	23.21	29.21	23.21	11.00	11.00	11.00
High	5700	24.00	23.43	29.43	23.43	11.00	11.00	11.00

Duty Cycle CF (dB)	0.31	**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	11.585	11.90	23.28	-11.38
Mid	5580	11.771	12.08	23.21	-11.13
High	5700	11.159	11.47	23.43	-11.96

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	1.010	1.32	11.00	-9.68
Mid	5580	1.380	1.69	11.00	-9.31
High	5700	0.170	0.48	11.00	-10.52

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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	25.96	17.81	1.95
Mid	5580	31.72	17.42	1.95
High	5700	40.74	18.46	1.95

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	23.51	29.51	23.51	11.00	11.00	11.00
Mid	5580	24.00	23.41	29.41	23.41	11.00	11.00	11.00
High	5700	24.00	23.66	29.66	23.66	11.00	11.00	11.00

Duty Cycle CF (dB)	0.31	**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	13.497	13.81	23.51	-9.70
Mid	5580	13.684	13.99	23.41	-9.42
High	5700	14.096	14.41	23.66	-9.26

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	2.310	2.62	11.00	-8.38
Mid	5580	2.560	2.87	11.00	-8.13
High	5700	3.270	3.58	11.00	-7.42

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10.4.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

	(MHz)	26 dB BW (MHz)	99% BW (MHz)	Gain (dBi)
Low	5510	51.38	36.03	1.95
Mid	5550	53.97	35.92	1.95
High	5670	64.24	36.11	1.95

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)	0.64	**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	12.175	12.82	24.00	-11.19
Mid	5550	12.321	12.96	24.00	-11.04
High	5670	13.086	13.73	24.00	-10.27

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-2.890	-2.25	11.00	-13.25
Mid	5550	-1.190	-0.55	11.00	-11.55
High	5670	-0.980	-0.34	11.00	-11.34

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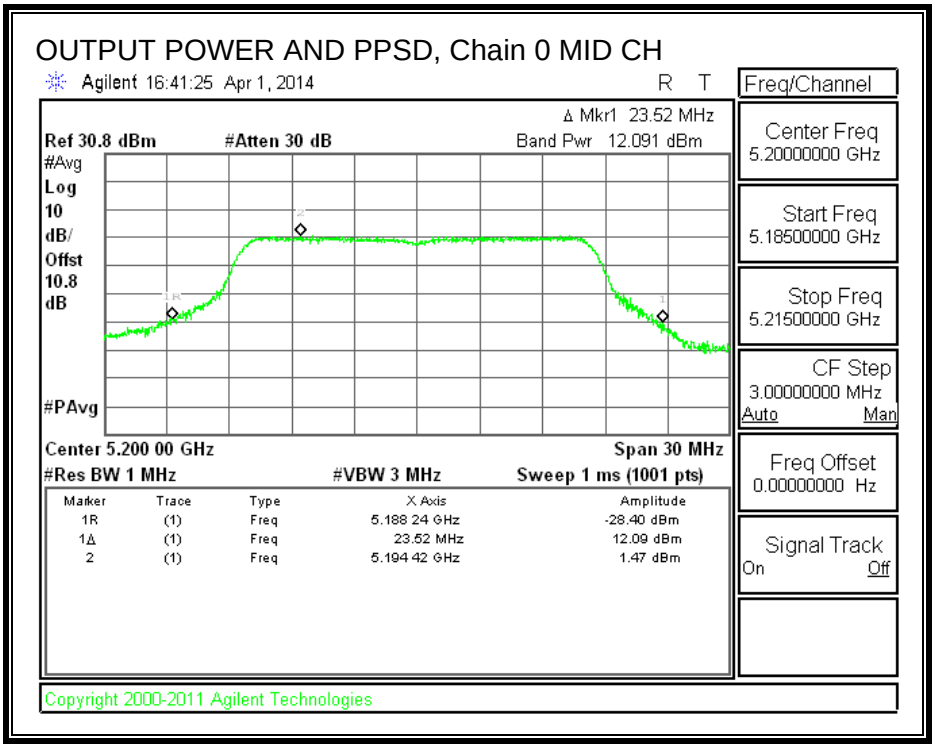
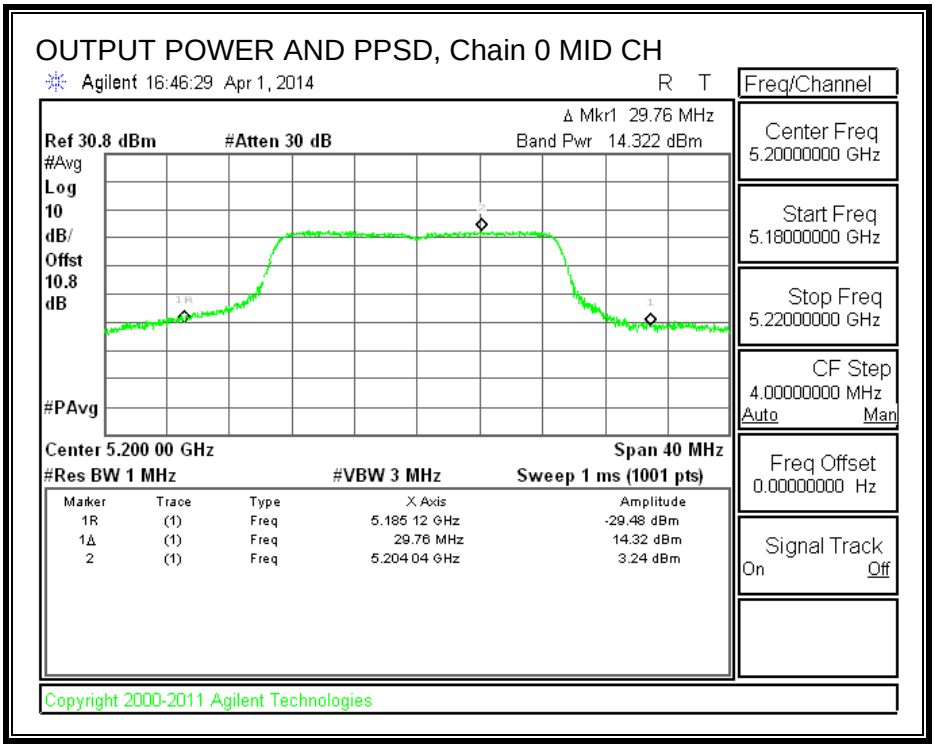
802.11a 5.2G OUTPUT POWER AND PPSD, Chain 0



802.11n HT20 5.2G OUTPUT POWER AND PPSD, Chain 0



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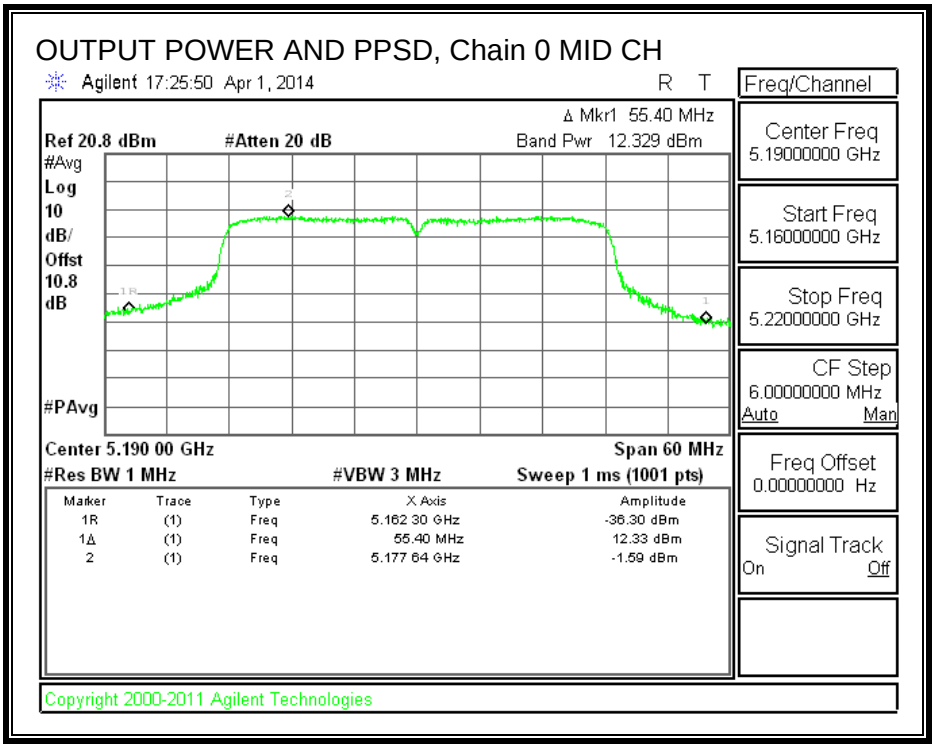
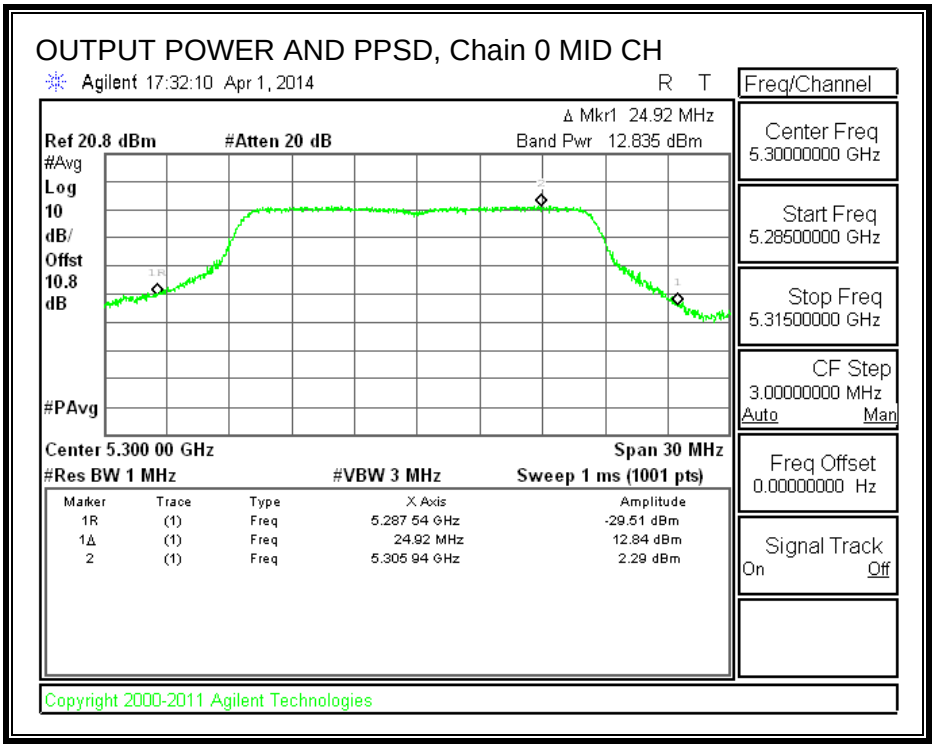
802.11n HT40 5.2G OUTPUT POWER AND PPSD, Chain 0



802.11a 5.3G OUTPUT POWER AND PPSD, Chain 0



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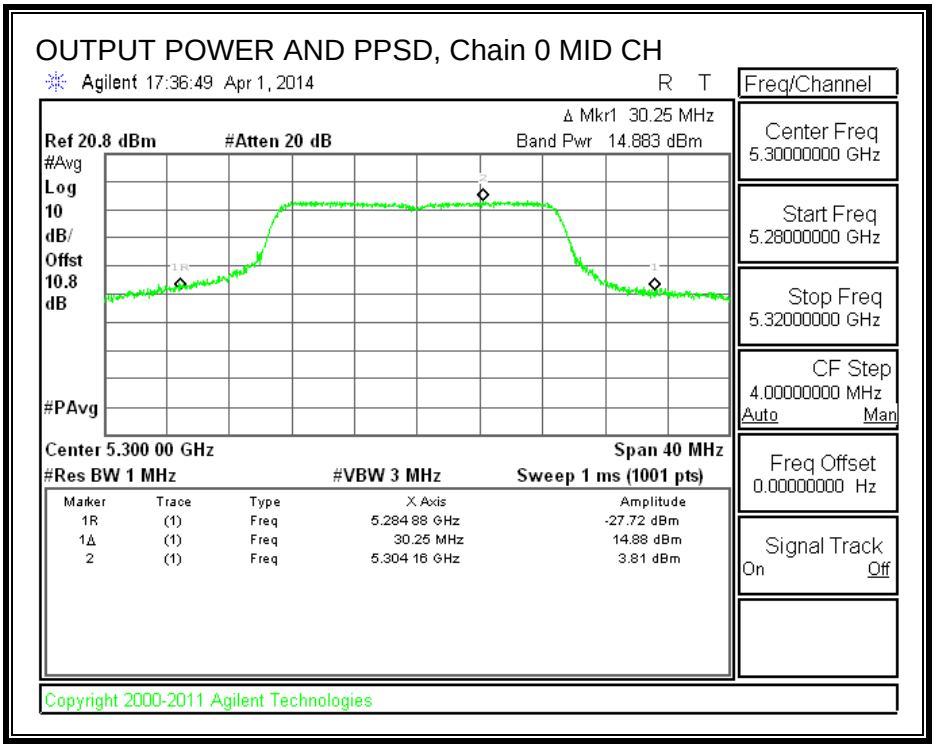
802.11n HT20 5.3G OUTPUT POWER AND PPSD, Chain 0



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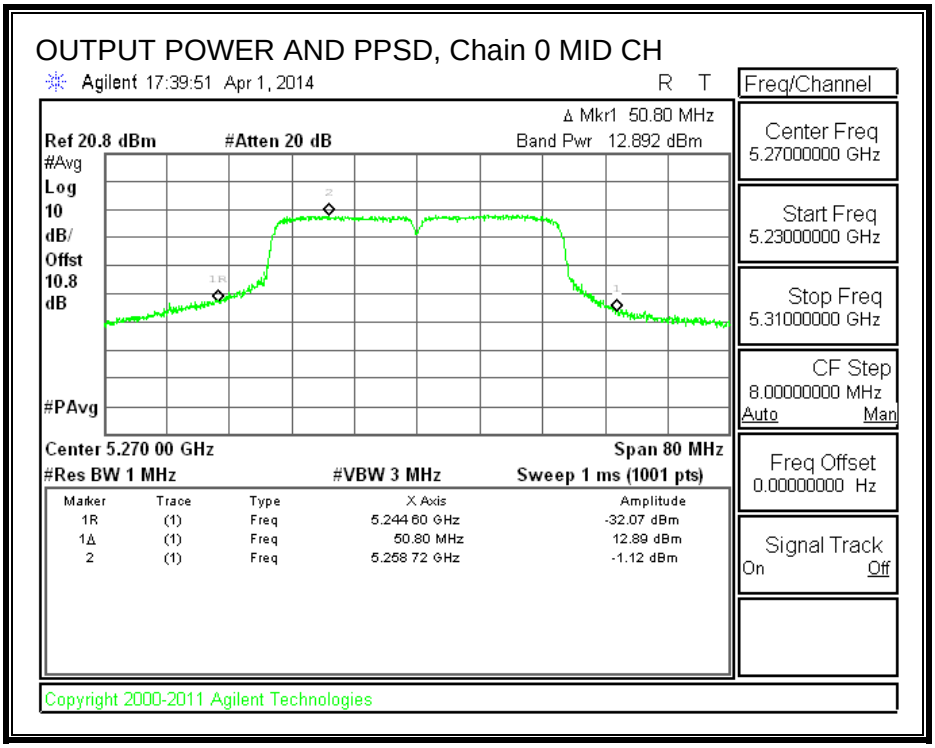
802.11n HT40 5.3G OUTPUT POWER AND PPSD, Chain 0



802.11a 5.5G OUTPUT POWER AND PPSD, Chain 0

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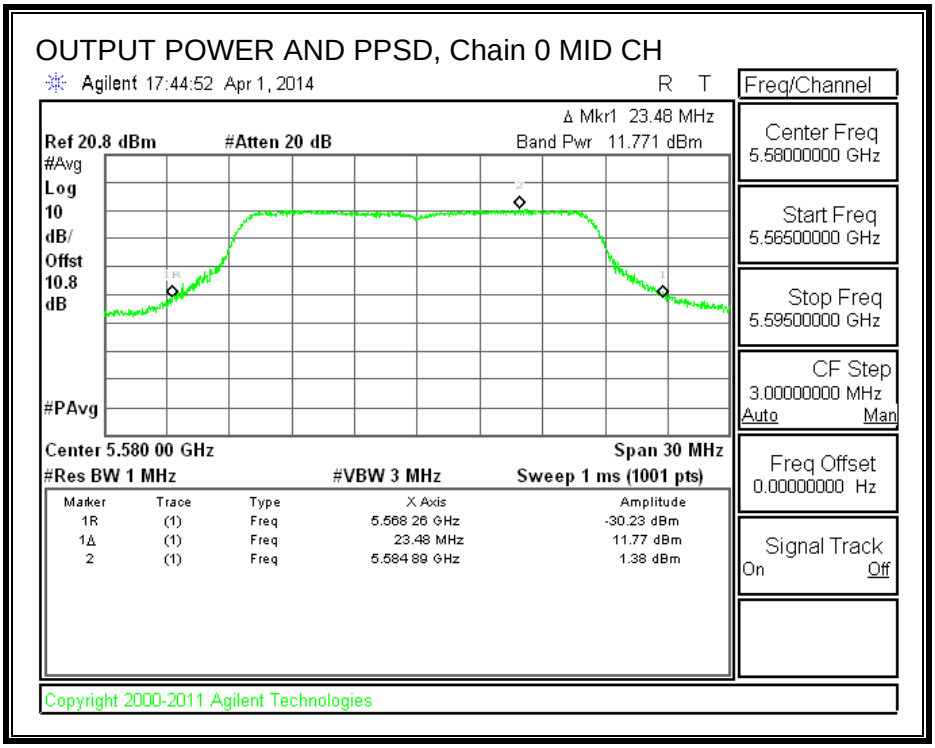
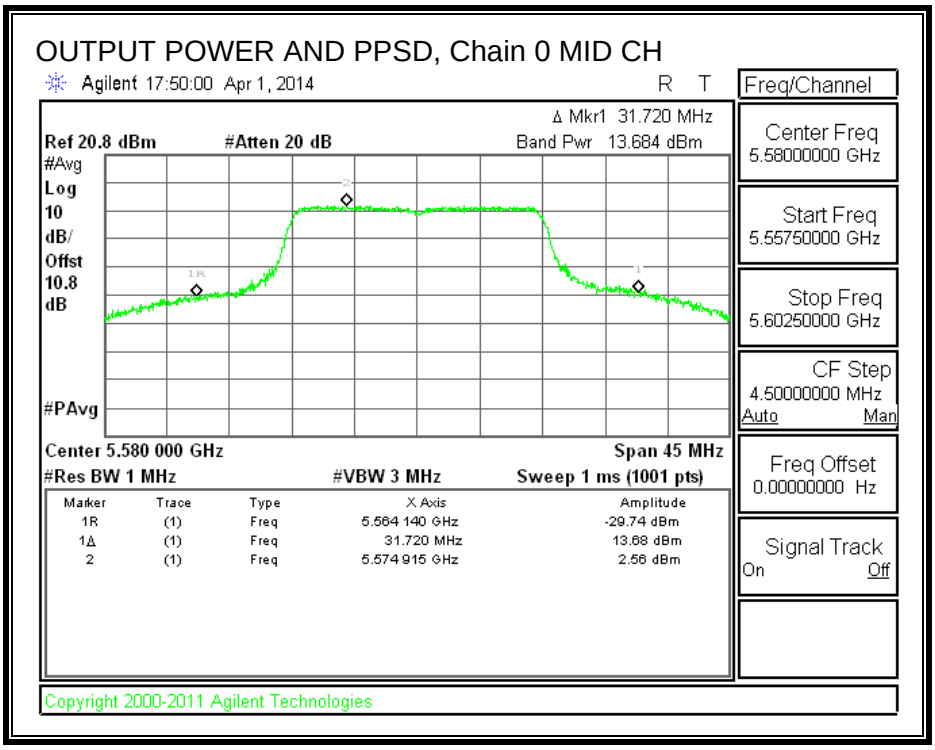


802.11n HT20 5.5G OUTPUT POWER AND PPSD, Chain 0



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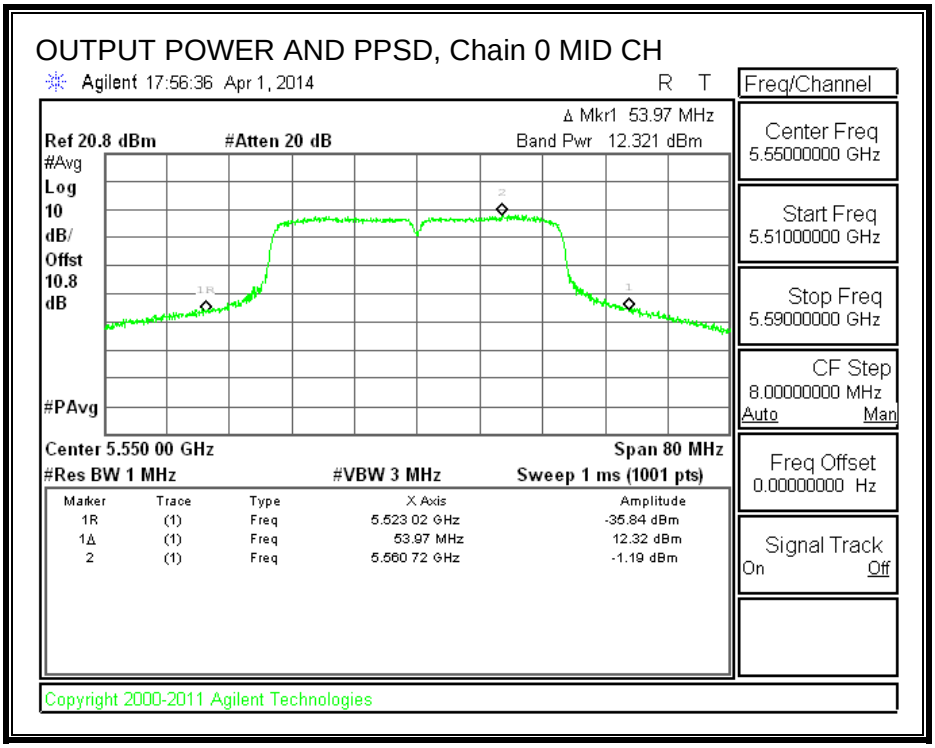
802.11n HT40 5.5G OUTPUT POWER AND PPSD, Chain 0



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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.

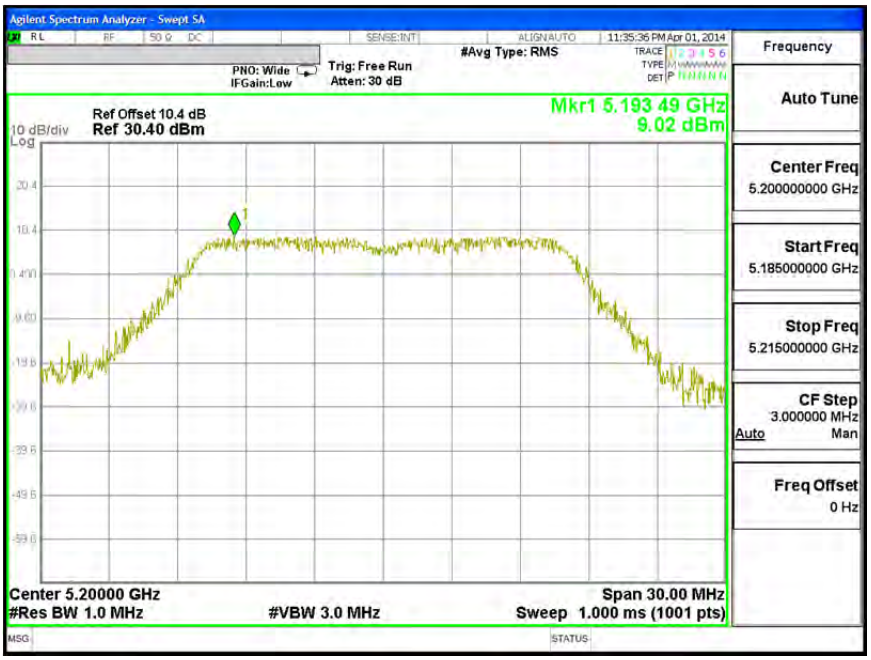
RESULTS

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	9.020	1.47	0.31	7.24	13	-5.76

PEAK EXCURSION

PEAK EXCURSION MID CH



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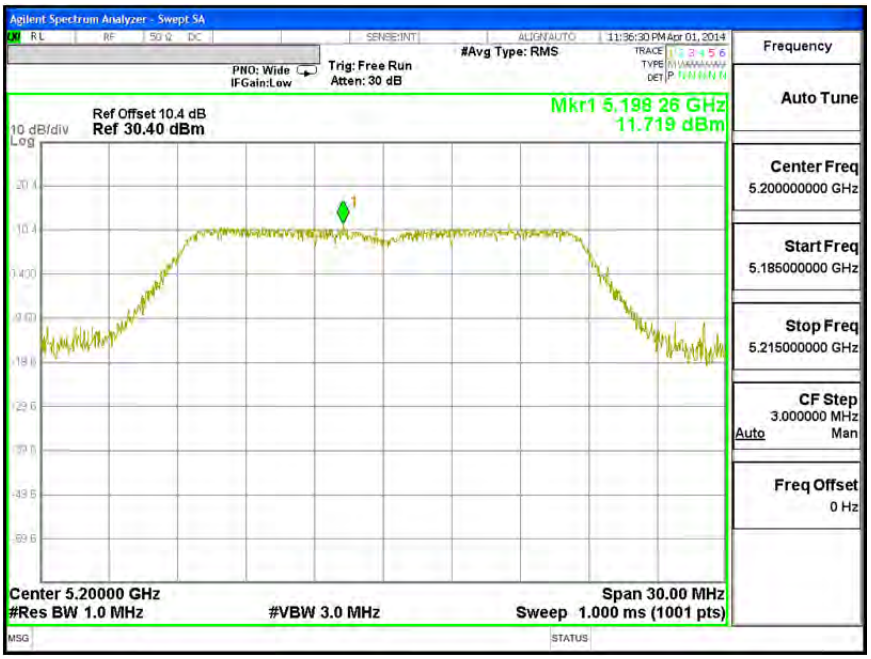
10.5.1. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	11.719	3.55	0.31	7.86	13	-5.14

PEAK EXCURSION

PEAK EXCURSION MID CH



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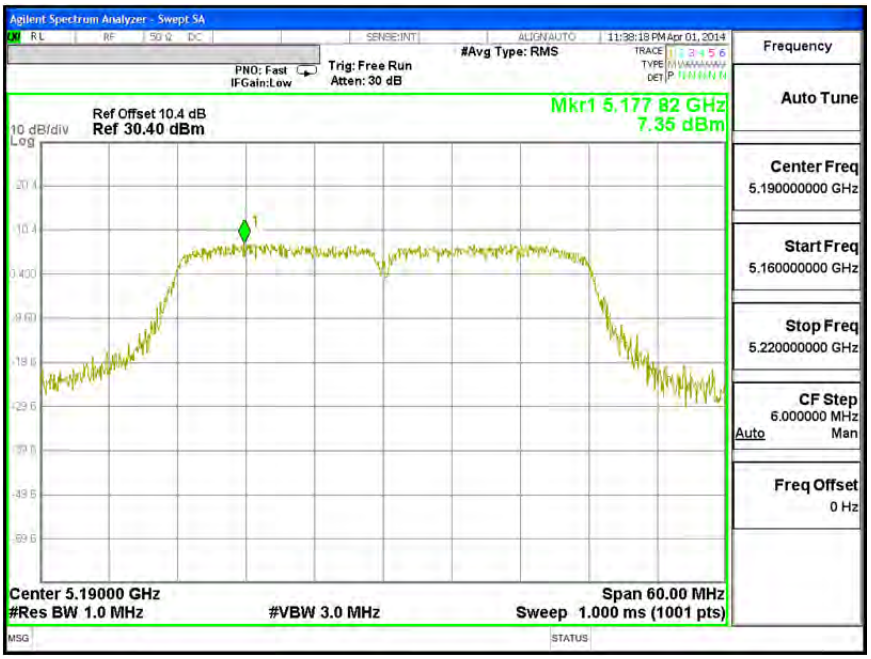
10.5.1. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5190	7.350	-1.59	0.64	8.30	13	-4.70

PEAK EXCURSION

PEAK EXCURSION MID CH



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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 VB:
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

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

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

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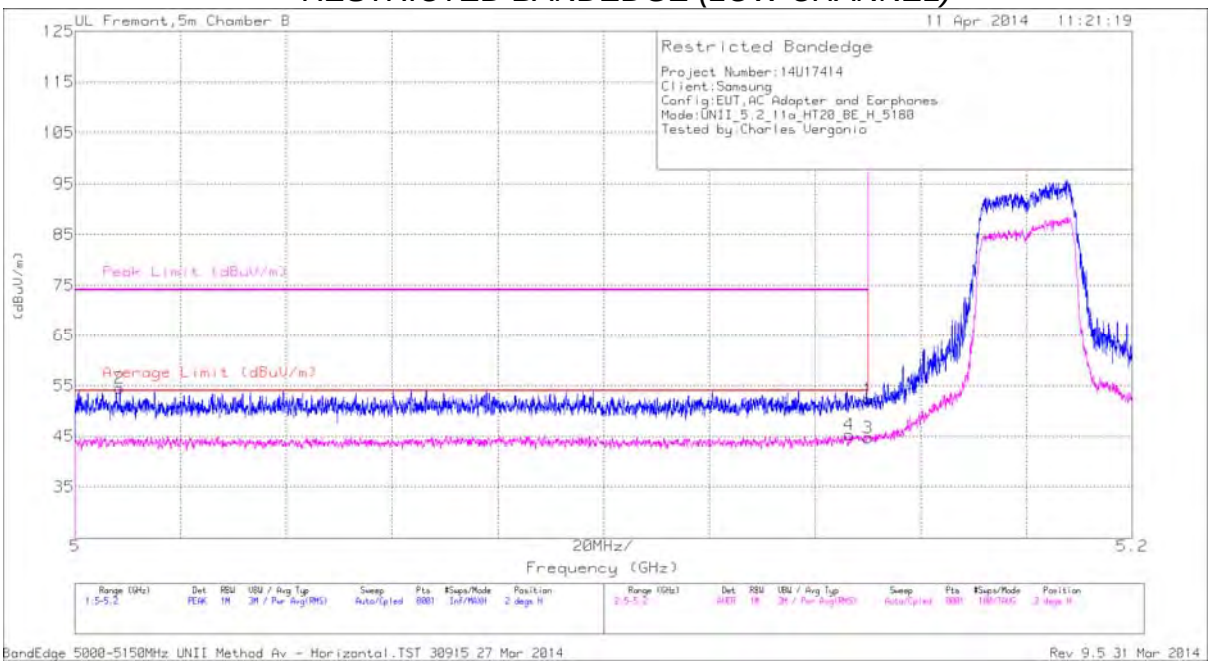
11.1. 5.2 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)



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	38.21	PK	34.3	-20.2	0	52.31	-	-	74	-21.69	2	295	H
2	* 5.008	40.47	PK	34.2	-20.2	0	54.47	-	-	74	-19.53	2	295	H
3	* 5.15	30.34	RMS	34.3	-20.2	.3	44.74	54	-9.26	-	-	2	295	H
4	* 5.146	30.97	RMS	34.3	-20.2	.3	45.37	54	-8.63	-	-	2	295	H

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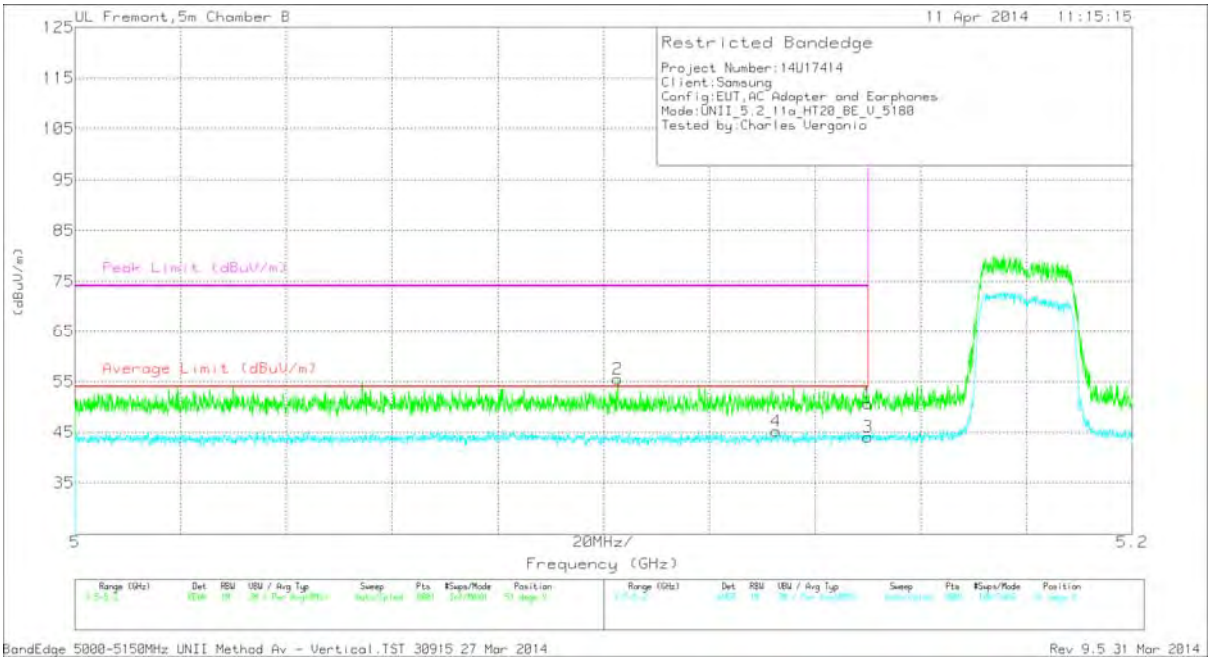

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	36.59	PK	34.3	-20.2	0	50.69	-	-	74	-23.31	51	99	V
2	* 5.103	41.31	PK	34.3	-20.1	0	55.51	-	-	74	-18.49	51	99	V
3	* 5.15	29.72	RMS	34.3	-20.2	.3	44.12	54	-9.88	-	-	51	99	V
4	* 5.133	30.81	RMS	34.3	-20.2	.3	45.21	54	-8.79	-	-	51	99	V

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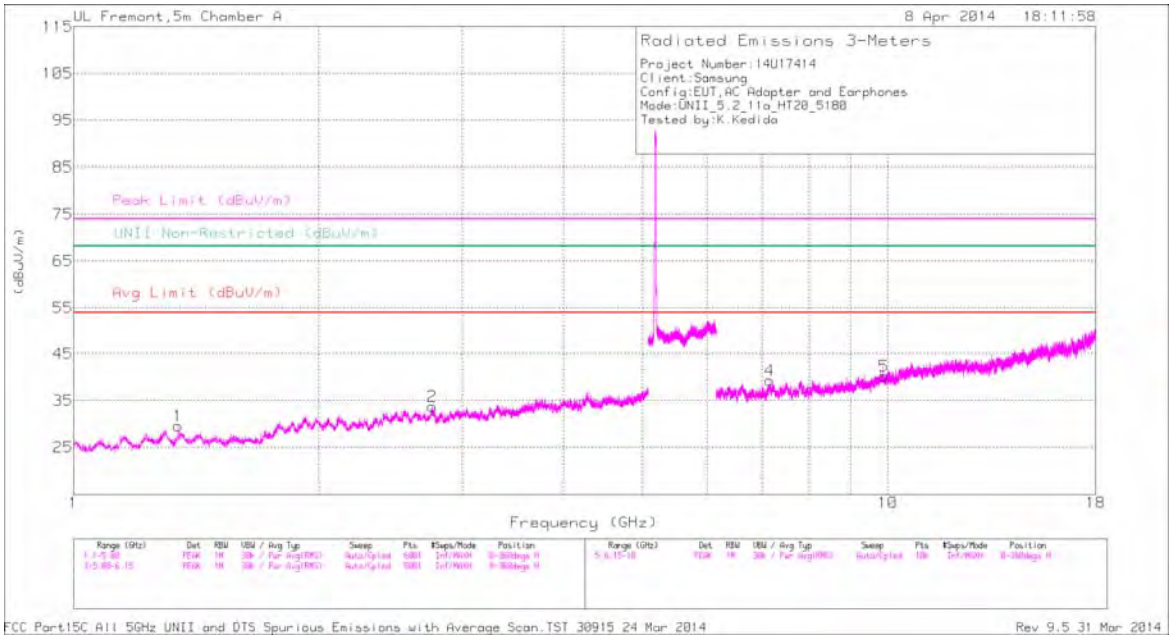
HARMONICS AND SPURIOUS EMISSIONS

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.

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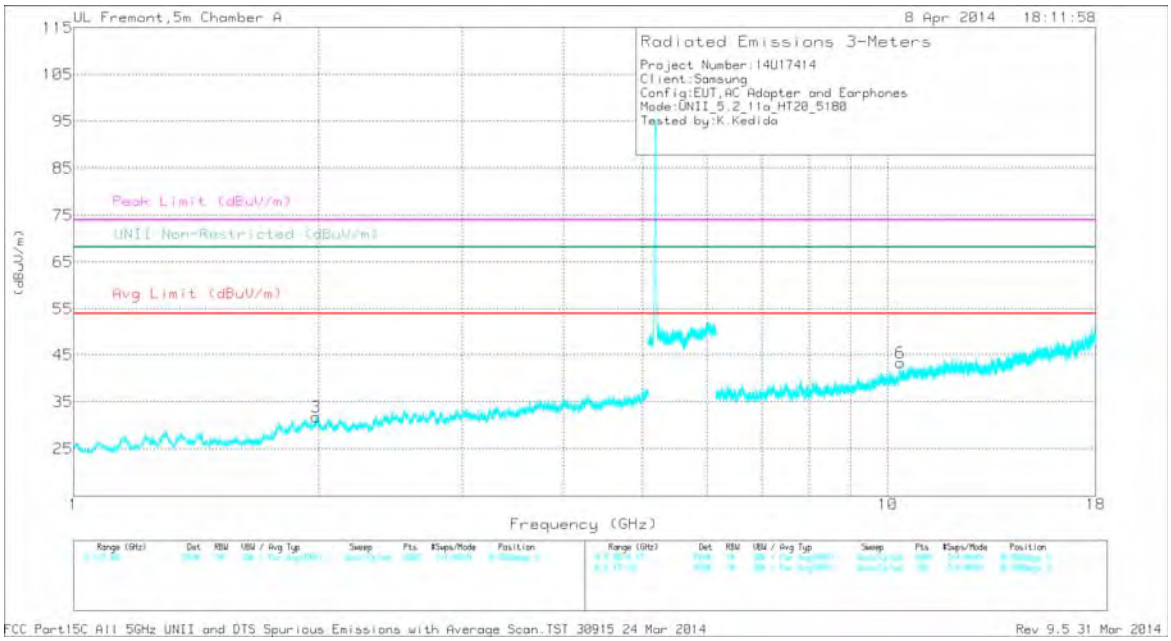
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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	* 1.345	36.09	PK	30.1	-36.6	29.59	-	-	74	-44.41	-	-	0-360	200	H
2	* 2.758	33.08	PK	32.7	-32	33.78	-	-	74	-40.22	-	-	0-360	100	H
3	1.986	34.25	PK	32	-34.5	31.75	-	-	-	-	68.2	-36.45	0-360	201	V
4	7.158	30.21	PK	35.3	-26.2	39.31	-	-	-	-	68.2	-28.89	0-360	100	H
5	9.887	26.97	PK	37	-23.7	40.27	-	-	-	-	68.2	-27.93	0-360	100	H
6	10.36	28.57	PK	37.3	-22.5	43.37	-	-	-	-	68.2	-24.83	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 T136 (dB/m)	Amp/Cbl/Flt r/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
* 1.345	42.33	PK1	30.1	-36.6	35.83	-	-	74	-38.17	-	-	1	100	H
* 2.757	41.22	PK1	32.7	-31.9	42.02	-	-	74	-31.98	-	-	1	100	H
1.986	41.64	PK1	32	-34.5	39.14	-	-	-	-	68.2	-29.06	1	100	V
7.158	38.81	PK1	35.3	-26.2	47.91	-	-	-	-	68.2	-20.29	1	100	H
9.887	35.07	PK1	37	-23.7	48.37	-	-	-	-	68.2	-19.83	1	100	H
10.36	35.44	PK1	37.3	-22.5	50.24	-	-	-	-	68.2	-17.96	1	100	V

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

PK1 - KDB789033 Method: Peak

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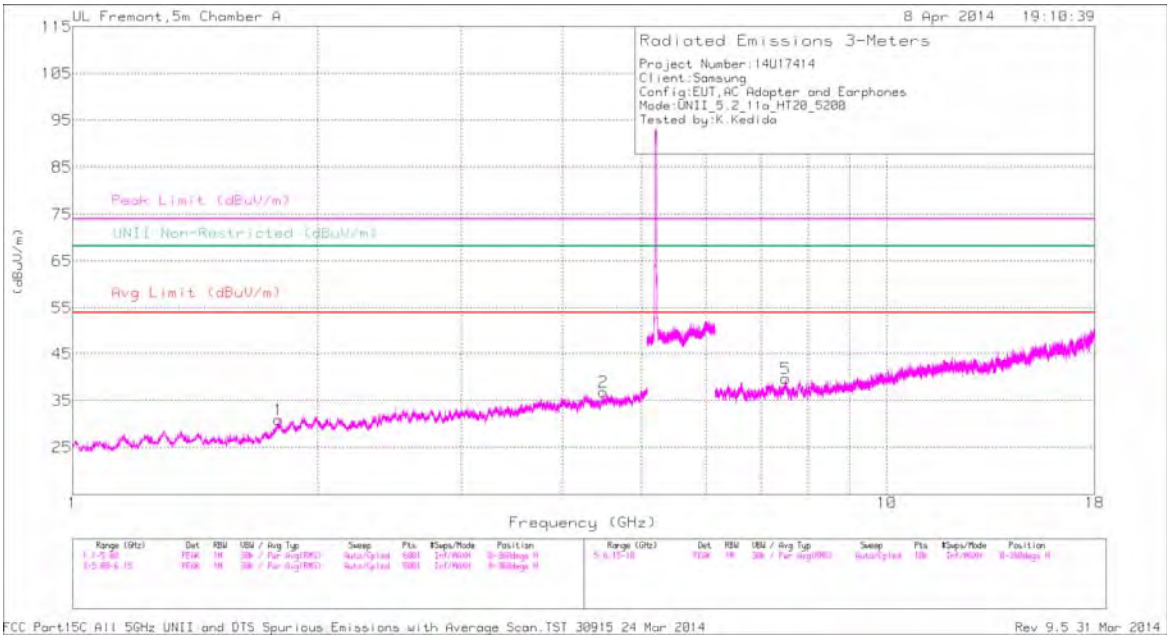
MID CHANNEL
HORIZONTAL



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

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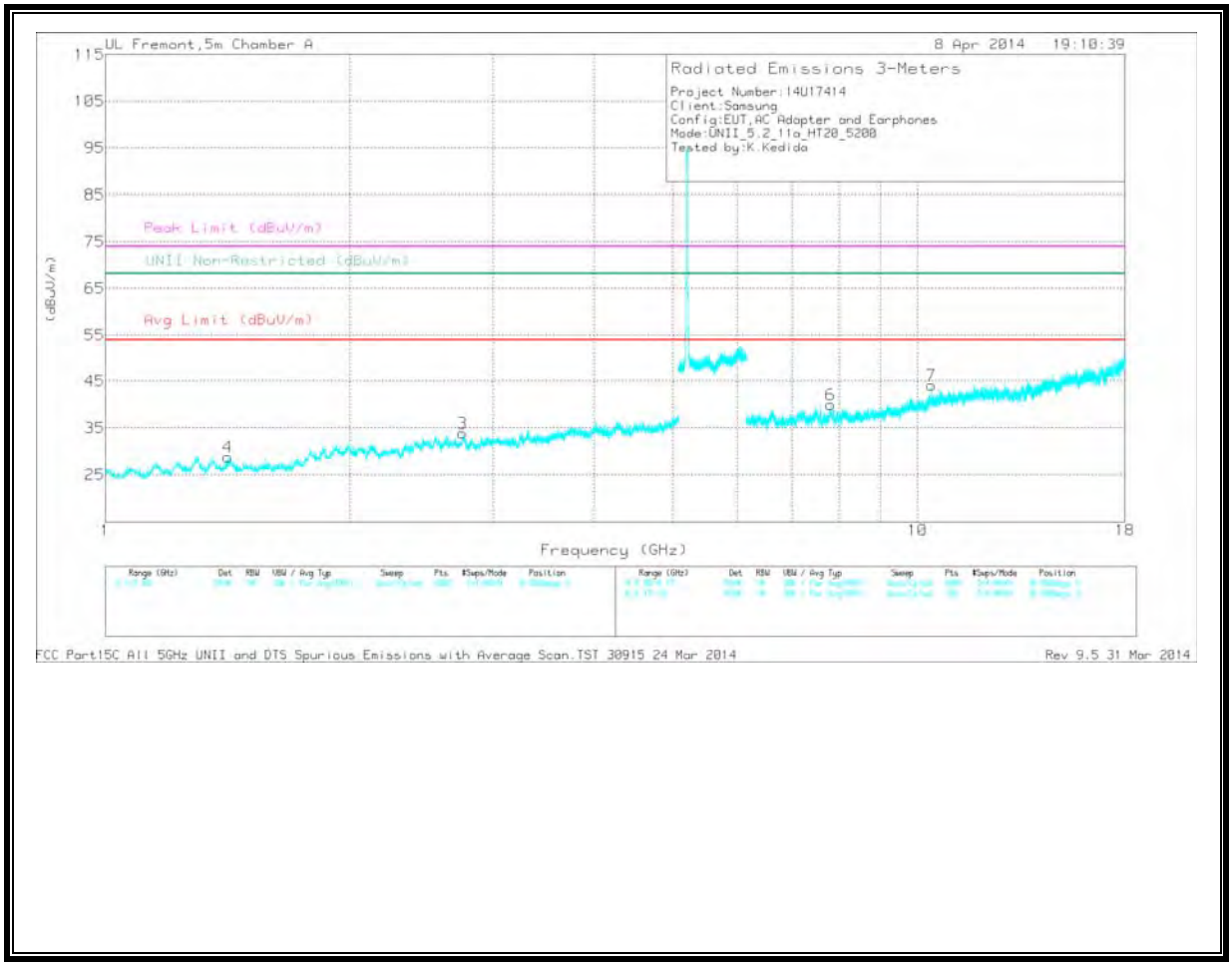
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
3	* 2.751	32.98	PK	32.7	-31.8	33.88	-	-	74	-40.12	-	-	0-360	100	V
4	* 1.414	35.69	PK	29.7	-36.6	28.79	-	-	74	-45.21	-	-	0-360	200	V
5	* 7.51	29.09	PK	35.3	-24.7	39.69	-	-	74	-34.31	-	-	0-360	200	H
1	1.789	34.79	PK	30.4	-34.3	30.89	-	-	-	-	68.2	-37.31	0-360	200	H
2	4.484	31.68	PK	33.9	-28.7	36.88	-	-	-	-	68.2	-31.32	0-360	200	H
6	7.816	28.86	PK	35.5	-24.4	39.96	-	-	-	-	68.2	-28.24	0-360	200	V
7	10.4	29.44	PK	37.3	-22.6	44.14	-	-	-	-	68.2	-24.06	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 T136 (dB/m)	Amp/Cbl/Flt r/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
* 2.751	40.16	PK1	32.7	-31.8	41.06	-	-	74	-32.94	-	-	1	100	V
* 1.415	42.8	PK1	29.7	-36.6	35.9	-	-	74	-38.1	-	-	1	100	V
* 7.51	36.37	PK1	35.3	-24.7	46.97	-	-	74	-27.03	-	-	1	100	H
1.789	42.43	PK1	30.4	-34.3	38.53	-	-	-	-	68.2	-29.67	1	100	H
4.484	38.89	PK1	33.9	-28.7	44.09	-	-	-	-	68.2	-24.11	1	100	H
7.816	22.73	PK1	35.5	-24.4	33.83	-	-	-	-	68.2	-34.37	1	100	V
10.399	35.18	PK1	37.3	-22.6	49.88	-	-	-	-	68.2	-18.32	1	100	V

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

PK1 - KDB789033 Method: Peak

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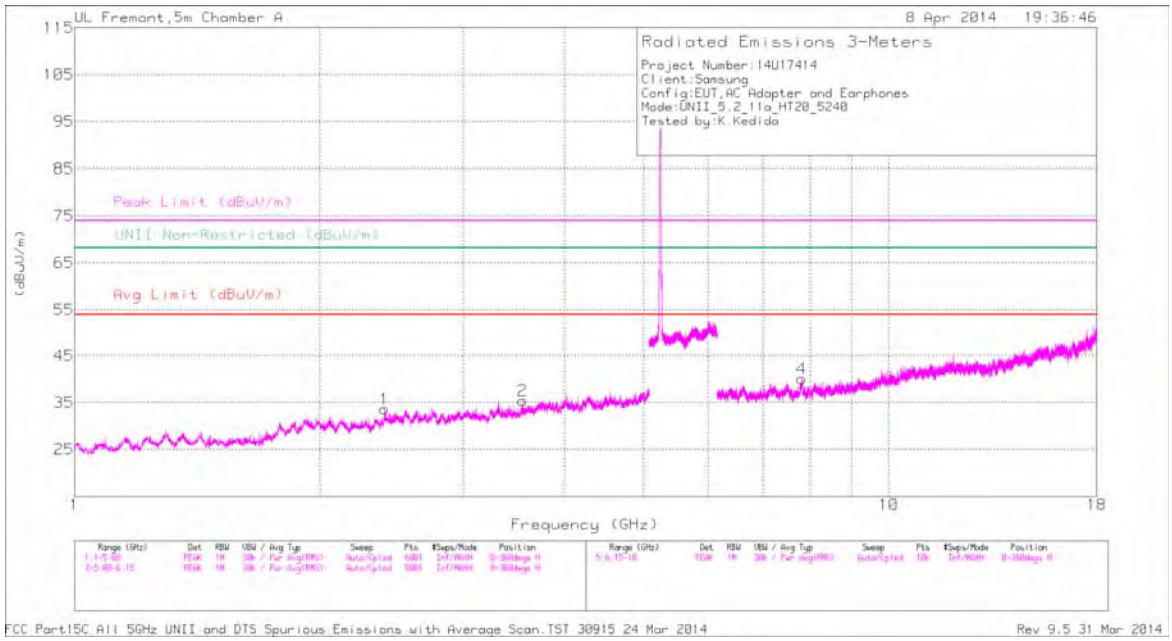
HIGH CHANNEL
HORIZONTAL



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

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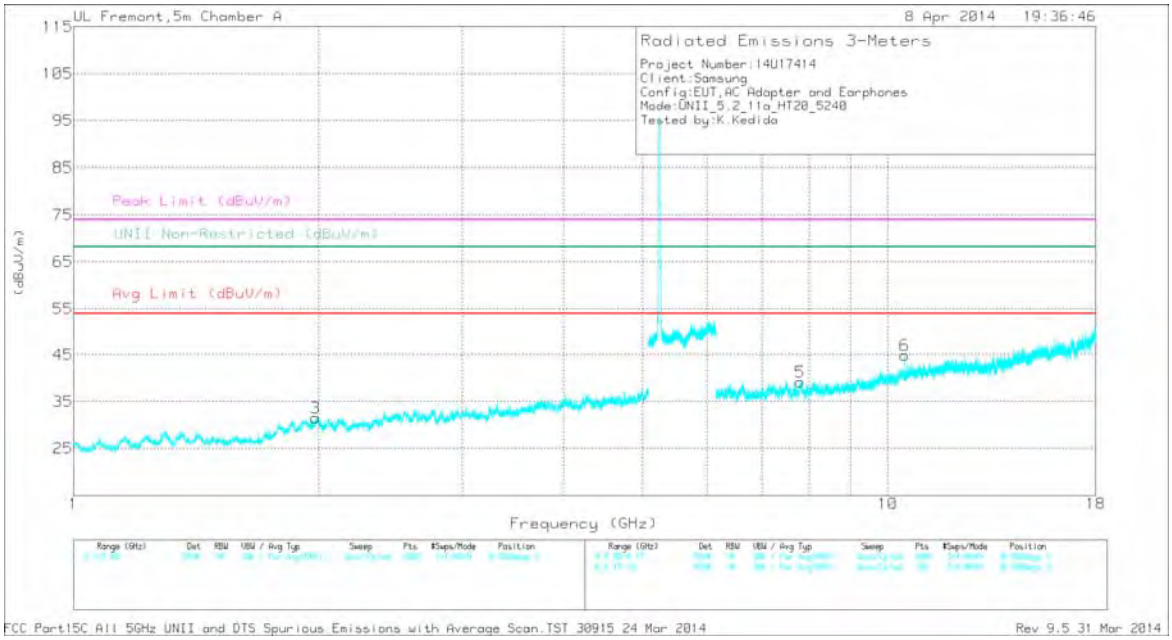
VERTICAL



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

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HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
2	* 3.548	33.51	PK	33.1	-31.2	35.41	-	-	74	-38.59	-	-	0-360	100	H
3	1.982	34.11	PK	32	-34.6	31.51	-	-	-	-	68.2	-36.69	0-360	100	V
1	2.402	34.62	PK	32.3	-33.3	33.62	-	-	-	-	68.2	-34.58	0-360	200	H
5	7.808	28.4	PK	35.5	-24.7	39.2	-	-	-	-	68.2	-29	0-360	100	V
4	7.812	29.07	PK	35.5	-24.5	40.07	-	-	-	-	68.2	-28.13	0-360	100	H
6	10.48	30.15	PK	37.4	-22.6	44.95	-	-	-	-	68.2	-23.25	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 T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.548	40.32	PK1	33.1	-31.2	42.22	-	-	74	-31.78	-	-	1	100	H
1.982	41.6	PK1	32	-34.6	39	-	-	-	-	68.2	-29.2	1	100	V
2.402	40.98	PK1	32.3	-33.3	39.98	-	-	-	-	68.2	-28.22	1	100	H
7.807	36.21	PK1	35.5	-24.7	47.01	-	-	-	-	68.2	-21.19	1	100	V
7.811	35.9	PK1	35.5	-24.5	46.9	-	-	-	-	68.2	-21.3	1	100	H
10.48	34.96	PK1	37.4	-22.6	49.76	-	-	-	-	68.2	-18.44	127	161	V

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

PK1 - KDB789033 Method: Peak

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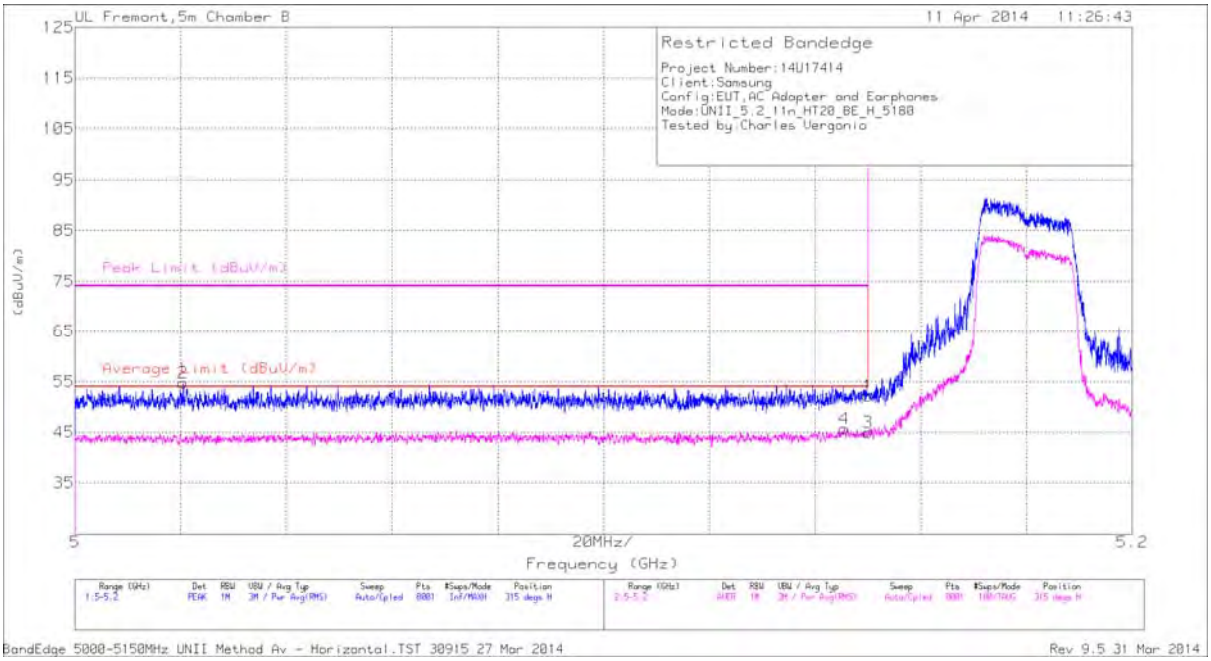
11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)



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	38.01	PK	34.3	-20.2	0	52.11	-	-	74	-21.89	315	129	H
2	* 5.021	40.82	PK	34.2	-20.3	0	54.72	-	-	74	-19.28	315	129	H
3	* 5.15	30.51	RMS	34.3	-20.2	.3	44.91	54	-9.09	-	-	315	129	H
4	* 5.146	31.3	RMS	34.3	-20.2	.3	45.7	54	-8.3	-	-	315	129	H

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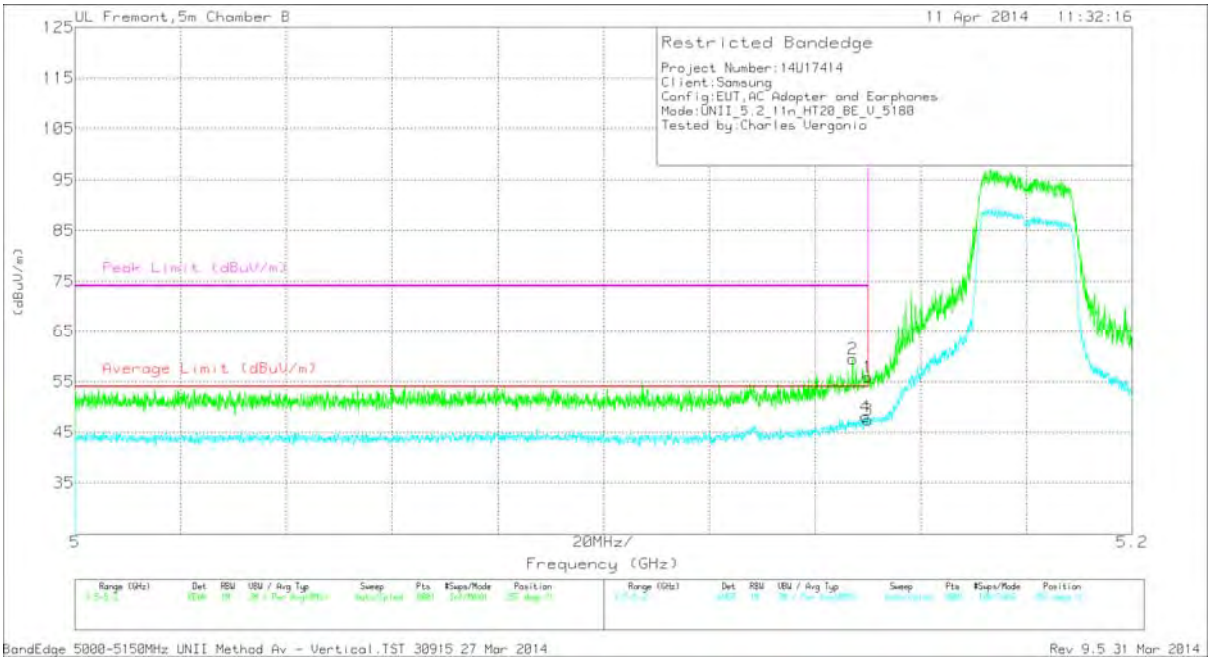

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.75	PK	34.3	-20.2	0	55.85	-	-	74	-18.15	357	343	V
2	* 5.147	45.43	PK	34.3	-20.2	0	59.53	-	-	74	-14.47	357	343	V
3	* 5.15	33.06	RMS	34.3	-20.2	.3	47.46	54	-6.54	-	-	357	343	V
4	* 5.15	33.61	RMS	34.3	-20.2	.3	48.01	54	-5.99	-	-	357	343	V

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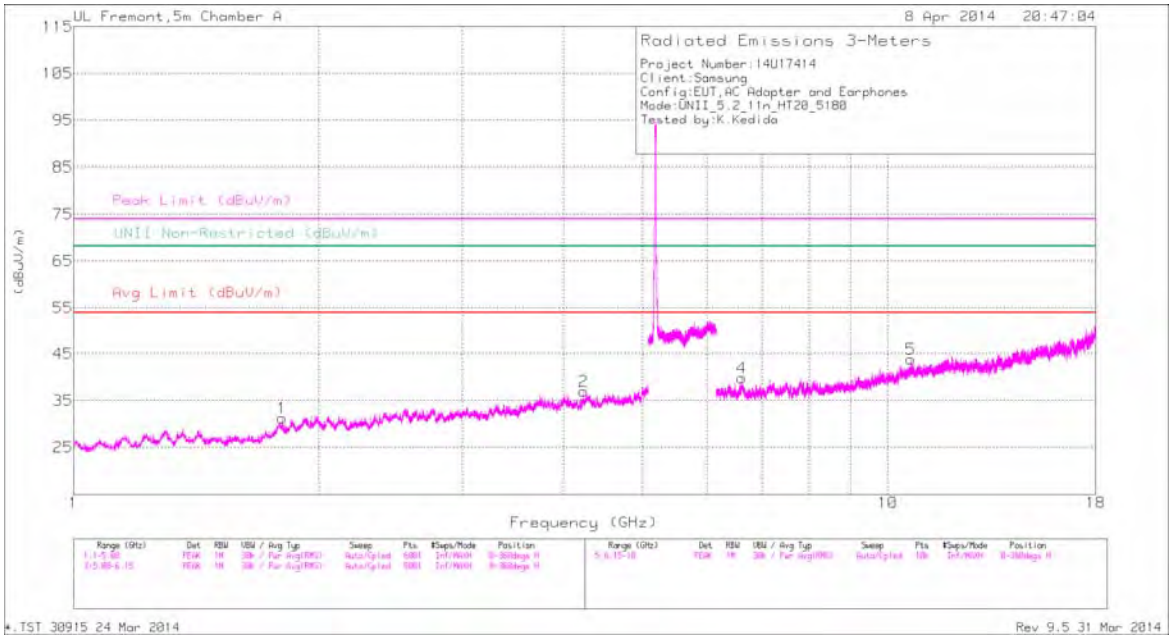
HARMONICS AND SPURIOUS EMISSIONS

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.

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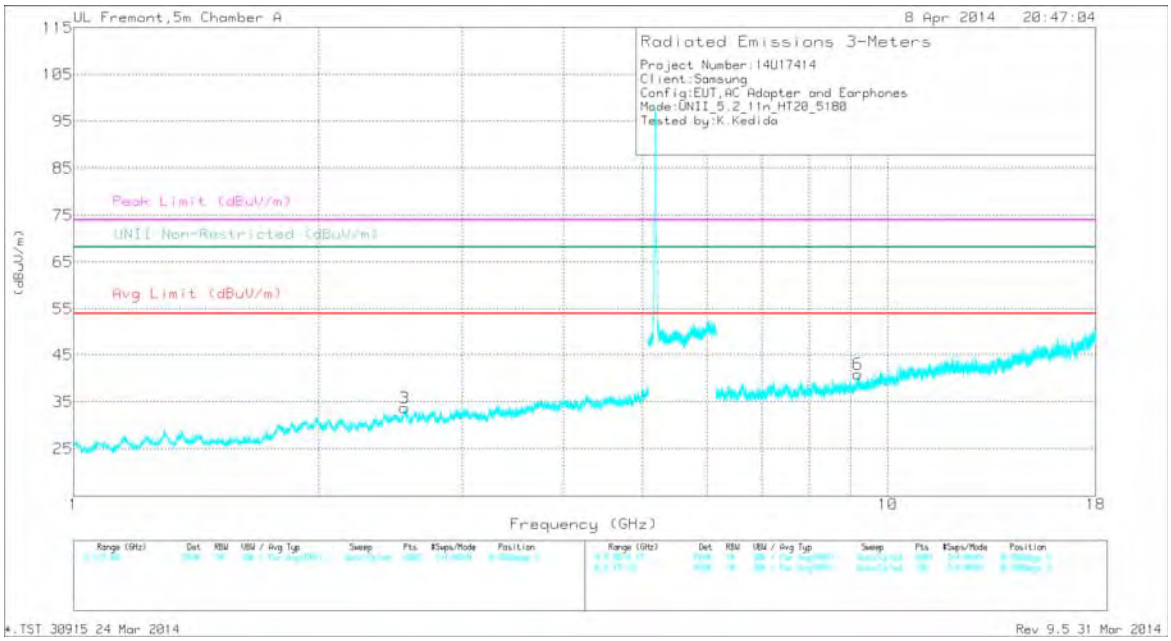
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
2	* 4.231	32.57	PK	33.9	-29.5	36.97	-	-	74	-37.03	-	-	0-360	200	H
5	* 10.669	28.03	PK	37.8	-21.9	43.93	-	-	74	-30.07	-	-	0-360	100	H
6	* 9.193	29.06	PK	36.1	-24.2	40.96	-	-	74	-33.04	-	-	0-360	201	V
1	1.804	35.12	PK	30.6	-34.4	31.32	-	-	-	-	68.2	-36.88	0-360	200	H
3	2.55	33.44	PK	32.9	-32.6	33.74	-	-	-	-	68.2	-34.46	0-360	100	V
4	6.615	30	PK	35.5	-25.7	39.8	-	-	-	-	68.2	-28.4	0-360	200	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.23	38.97	PK1	33.9	-29.4	43.47	-	-	74	-30.53	-	-	1	100	H
* 10.67	34.59	PK1	37.8	-22	50.39	-	-	74	-23.61	-	-	1	100	H
* 9.194	36.62	PK1	36.1	-24.3	48.42	-	-	74	-25.58	-	-	1	100	V
1.804	41.91	PK1	30.6	-34.4	38.11	-	-	-	-	68.2	-30.09	1	100	H
2.548	40.92	PK1	32.9	-32.6	41.22	-	-	-	-	68.2	-26.98	1	100	V
6.616	37.27	PK1	35.5	-25.7	47.07	-	-	-	-	68.2	-21.13	1	100	H

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

PK1 - KDB789033 Method: Peak

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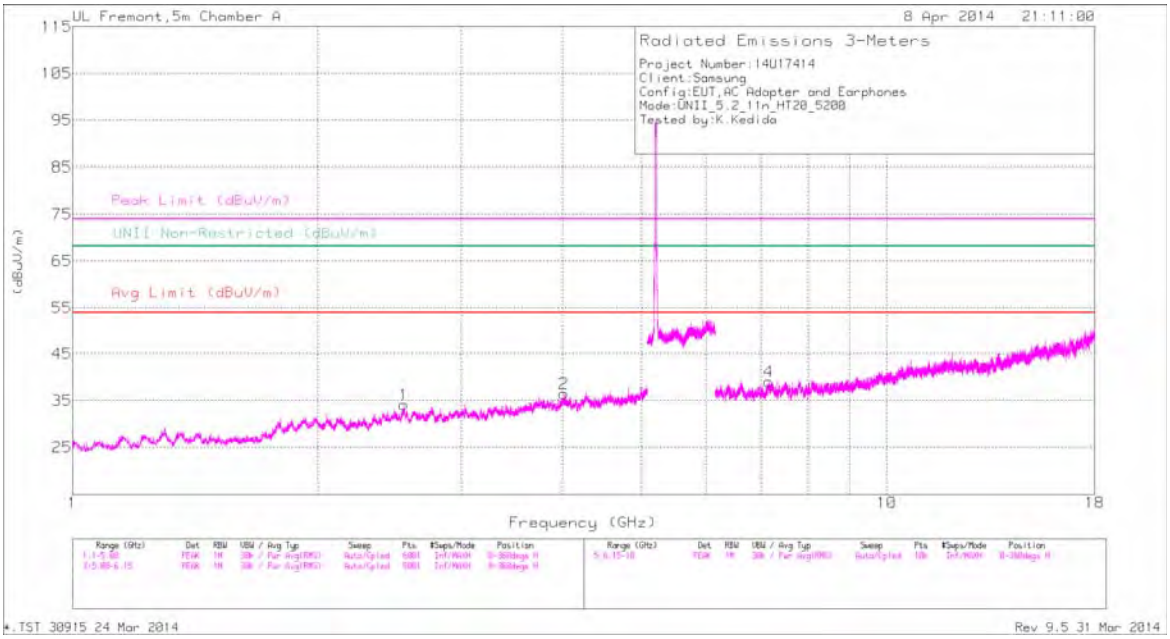
MID CHANNEL
HORIZONTAL



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

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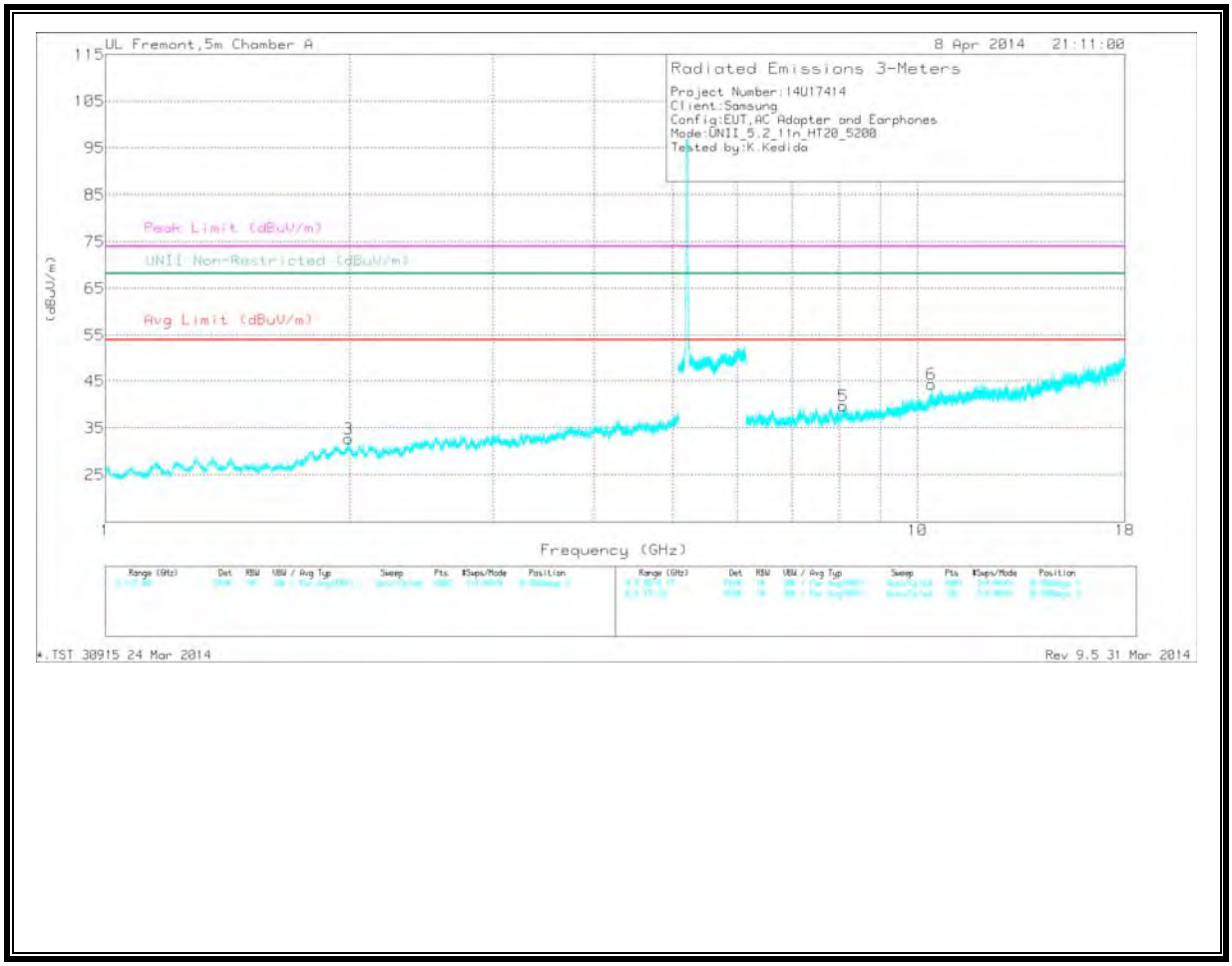
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
2	* 4.014	32.52	PK	33.7	-29.7	36.52	-	-	74	-37.48	-	-	0-360	100	H
5	* 8.108	29.14	PK	35.5	-24.9	39.74	-	-	74	-34.26	-	-	0-360	201	V
3	1.991	35.44	PK	32	-34.7	32.74	-	-	-	-	68.2	-35.46	0-360	100	V
1	2.554	34	PK	32.9	-32.8	34.1	-	-	-	-	68.2	-34.1	0-360	200	H
4	7.164	29.95	PK	35.3	-26.2	39.05	-	-	-	-	68.2	-29.15	0-360	100	H
6	10.399	29.64	PK	37.3	-22.6	44.34	-	-	-	-	68.2	-23.86	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 T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.014	39.32	PK1	33.7	-29.7	43.32	-	-	74	-30.68	-	-	1	100	H
* 8.109	37	PK1	35.5	-24.9	47.6	-	-	74	-26.4	-	-	1	100	V
1.989	43.6	PK1	32	-34.6	41	-	-	-	-	68.2	-27.2	1	100	V
2.552	40.67	PK1	32.9	-32.6	40.97	-	-	-	-	68.2	-27.23	1	100	H
7.163	37.47	PK1	35.3	-26.1	46.67	-	-	-	-	68.2	-21.53	1	100	H
10.4	32.68	PK1	37.3	-22.6	47.38	-	-	-	-	68.2	-20.82	287	334	V
10.4	29.74	AD1	37.3	-22.6	44.44	-	-	-	-	-	-	287	334	V

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

RMS - RMS detection

PK1 - KDB789033 Method: Peak

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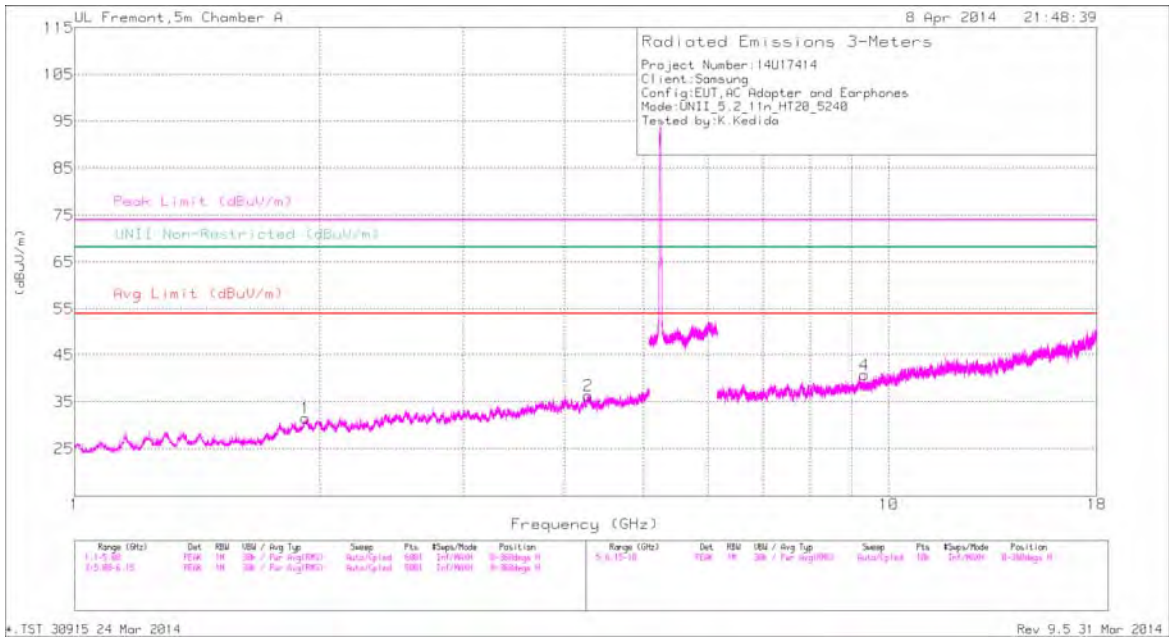
HIGH CHANNEL
HORIZONTAL



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

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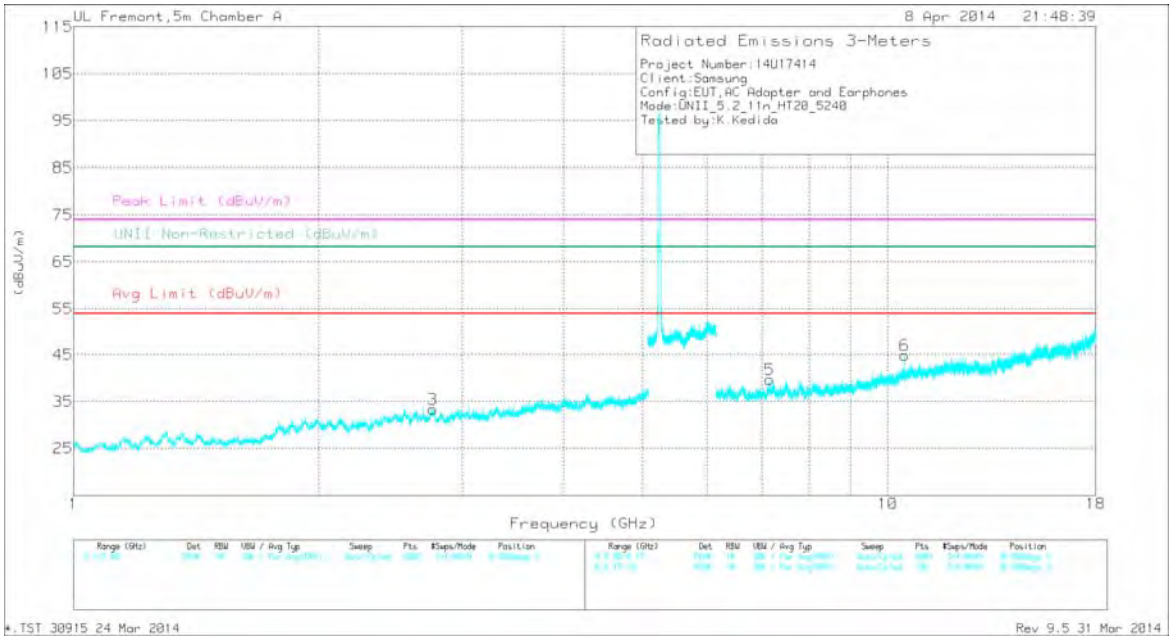
VERTICAL



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

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HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
2	* 4.272	31.04	PK	34	-28.7	36.34	-	-	74	-37.66	-	-	0-360	200	H
3	* 2.762	32.85	PK	32.7	-32.2	33.35	-	-	74	-40.65	-	-	0-360	200	V
4	* 9.323	29.42	PK	36.3	-24.9	40.82	-	-	74	-33.18	-	-	0-360	200	H
1	1.921	34.34	PK	31.7	-34.5	31.54	-	-	-	-	68.2	-36.66	0-360	100	H
5	7.162	30.48	PK	35.3	-26.1	39.68	-	-	-	-	68.2	-28.52	0-360	100	V
6	10.48	30.11	PK	37.4	-22.6	44.91	-	-	-	-	68.2	-23.29	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 T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.272	38.37	PK1	34	-28.7	43.67	-	-	74	-30.33	-	-	359	100	H
* 2.761	40.46	PK1	32.7	-32.2	40.96	-	-	74	-33.04	-	-	359	100	V
* 9.321	35.98	PK1	36.3	-24.9	47.38	-	-	74	-26.62	-	-	359	100	H
1.921	43.28	PK1	31.7	-34.5	40.48	-	-	-	-	68.2	-27.72	359	100	H
7.161	37.9	PK1	35.3	-26.1	47.1	-	-	-	-	68.2	-21.1	359	100	V
10.48	36.76	PK1	37.4	-22.6	51.56	-	-	-	-	68.2	-16.64	294	282	V
10.48	29.84	AD1	37.4	-22.6	44.64	-	-	-	-	-	-	294	282	V

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

PK1 - KDB789033 Method: Peak

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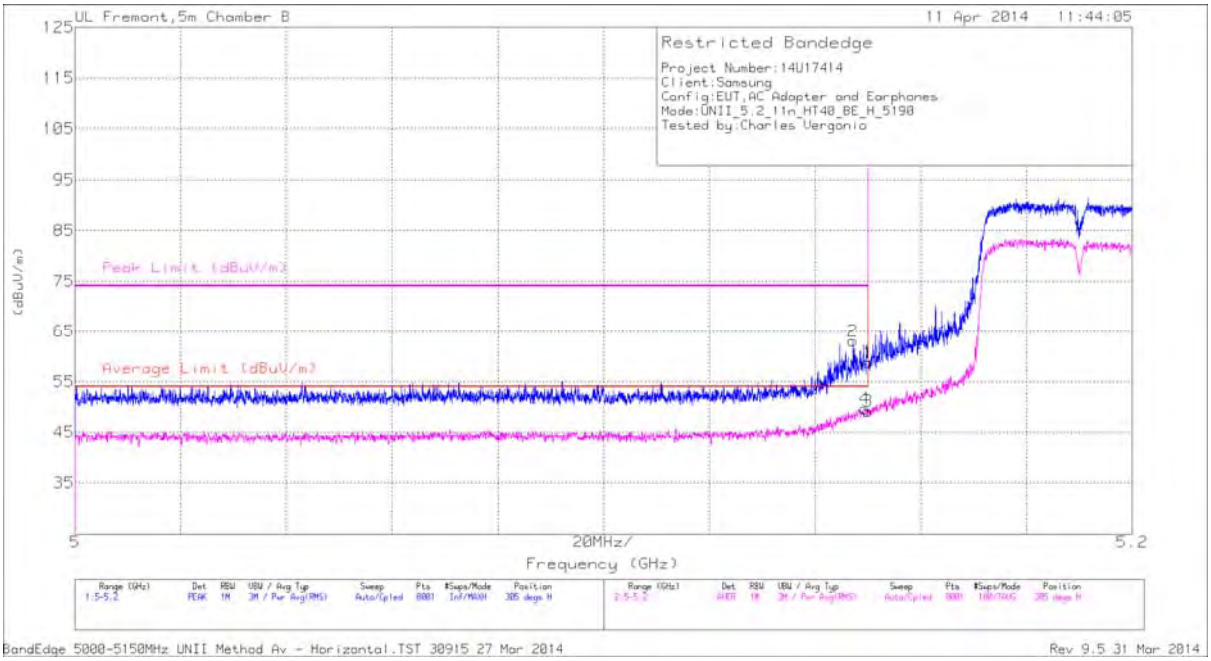
11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)



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	44.62	PK	34.3	-20.2	0	58.72	-	-	74	-15.28	305	155	H
2	* 5.147	48.96	PK	34.3	-20.2	0	63.06	-	-	74	-10.94	305	155	H
3	* 5.15	34.45	RMS	34.3	-20.2	.6	49.15	54	-4.85	-	-	305	155	H
4	* 5.149	34.97	RMS	34.3	-20.2	.6	49.67	54	-4.33	-	-	305	155	H

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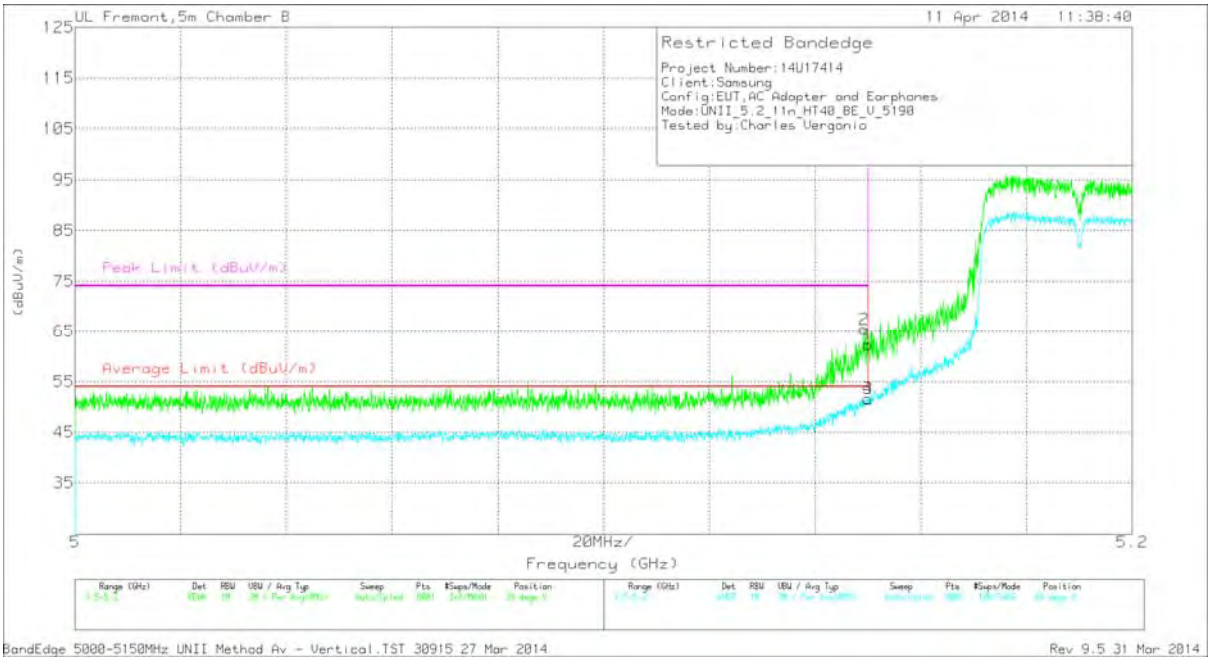

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	48.24	PK	34.3	-20.2	0	62.34	-	-	74	-11.66	39	268	V
2	* 5.149	51.33	PK	34.3	-20.2	0	65.43	-	-	74	-8.57	39	268	V
3	* 5.15	36.9	RMS	34.3	-20.2	.6	51.6	54	-2.4	-	-	39	268	V
4	* 5.15	36.98	RMS	34.3	-20.2	.6	51.68	54	-2.32	-	-	39	268	V

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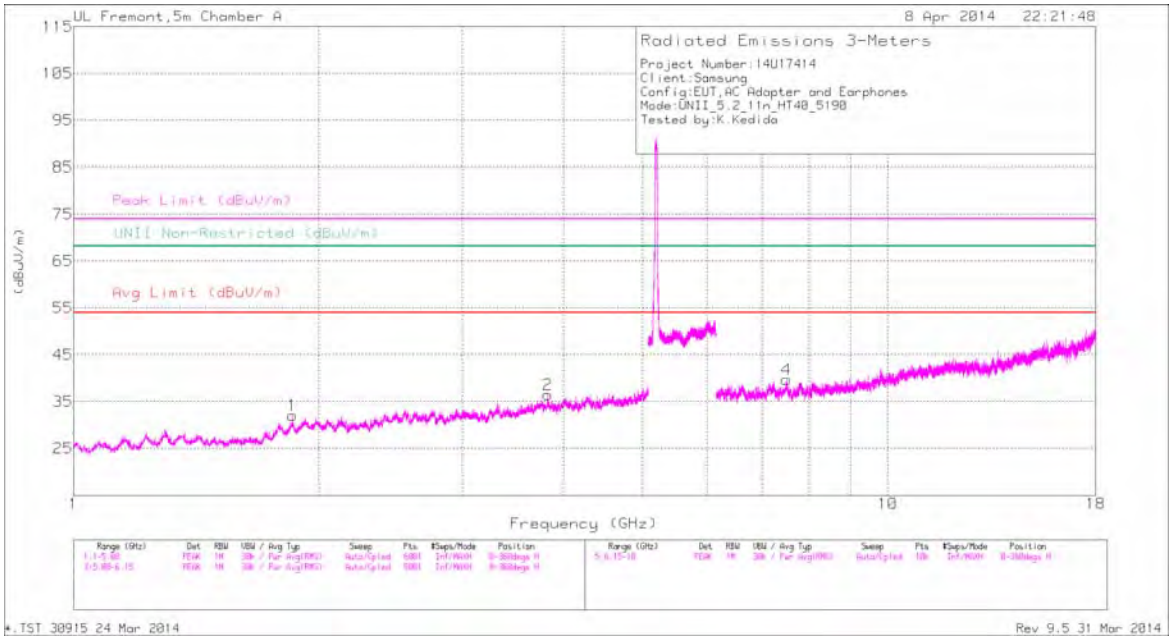
HARMONICS AND SPURIOUS EMISSIONS

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.

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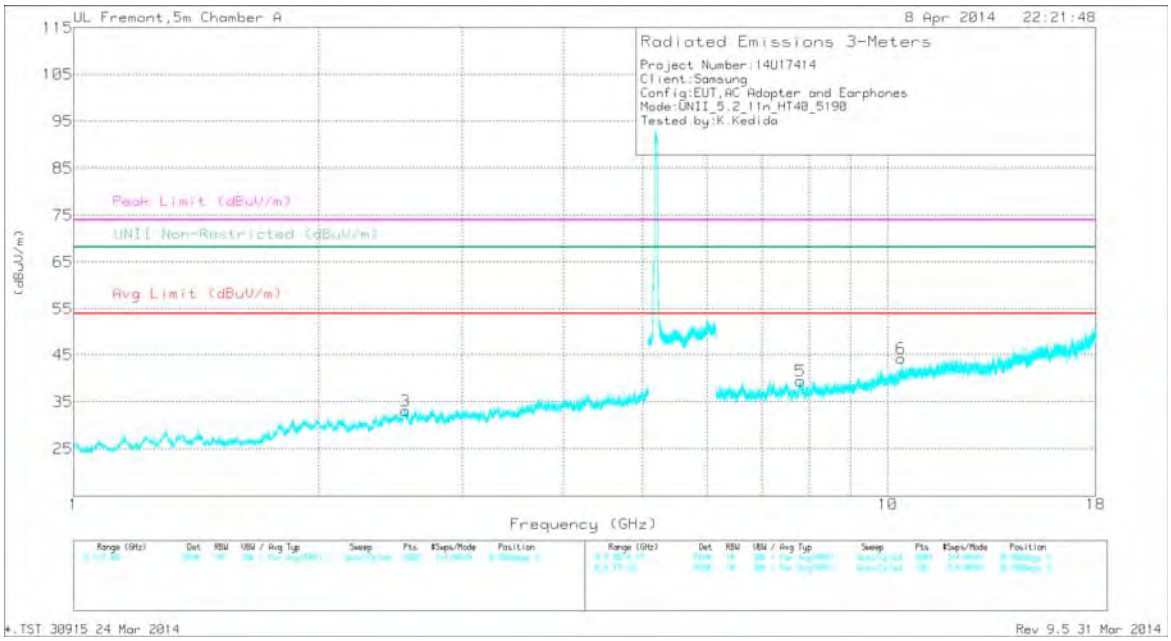
VERTICAL



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

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LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
2	* 3.822	34.04	PK	33.7	-31.3	36.44	-	-	74	-37.56	-	-	0-360	100	H
4	* 7.507	29.15	PK	35.3	-24.7	39.75	-	-	74	-34.25	-	-	0-360	200	H
1	1.857	35.51	PK	31.2	-34.7	32.01	-	-	-	-	68.2	-36.19	0-360	200	H
3	2.556	33.16	PK	32.9	-32.9	33.16	-	-	-	-	68.2	-35.04	0-360	200	V
5	7.81	28.55	PK	35.5	-24.6	39.45	-	-	-	-	68.2	-28.75	0-360	201	V
6	10.38	29.48	PK	37.3	-22.5	44.28	-	-	-	-	68.2	-23.92	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 T136 (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
* 7.506	36.47	PK1	35.3	-24.7	47.07	-	-	74	-26.93	-	-	359	100	H
1.856	42.06	PK1	31.2	-34.7	38.56	-	-	-	-	68.2	-29.64	359	100	H
2.556	41.03	PK1	32.9	-32.9	41.03	-	-	-	-	68.2	-27.17	359	100	V
7.809	36.08	PK1	35.5	-24.6	46.98	-	-	-	-	68.2	-21.22	359	100	V
10.38	36.64	PK1	37.3	-22.5	51.44	-	-	-	-	68.2	-16.76	292	288	V
10.38	29.57	AD1	37.3	-22.5	44.37	-	-	-	-	-	-	292	288	V

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

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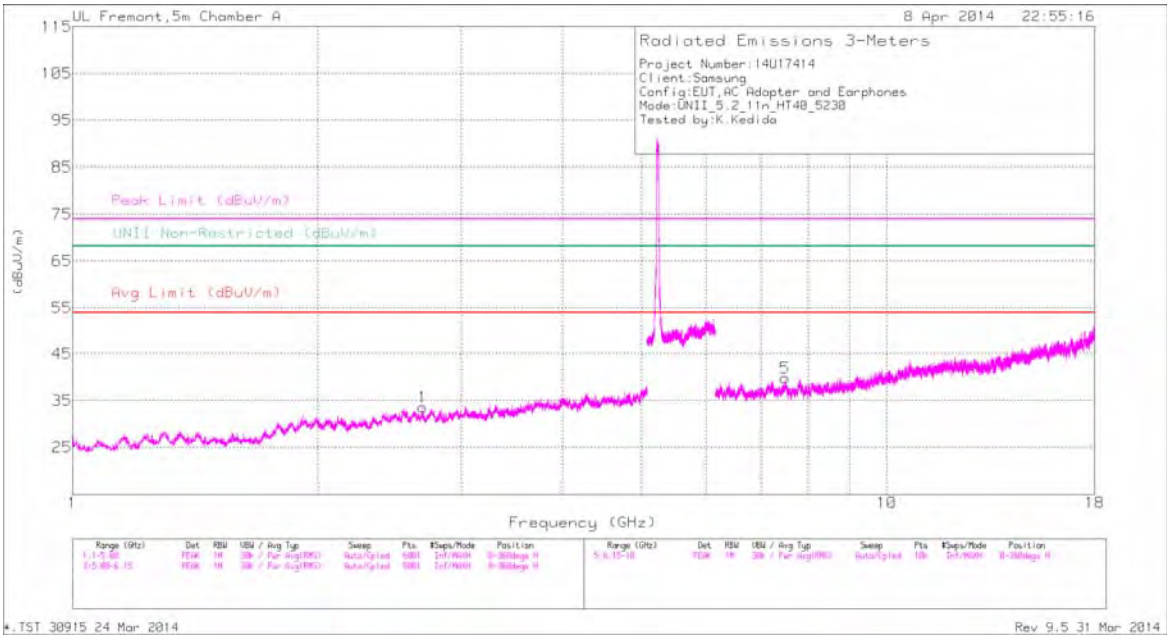
MID CHANNEL
HORIZONTAL



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

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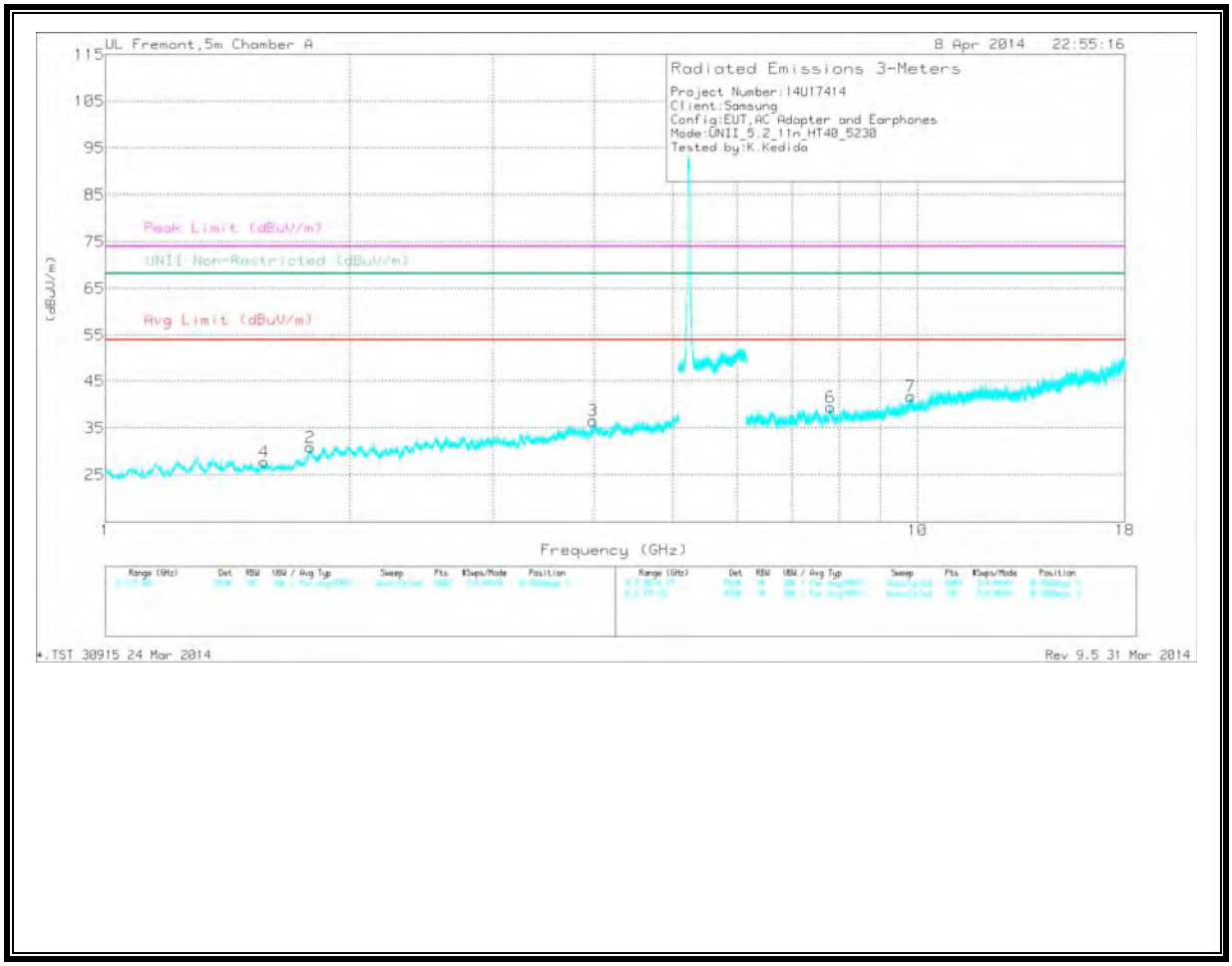
VERTICAL



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

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MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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	* 2.692	34.08	PK	32.7	-33.2	33.58	-	-	74	-40.42	-	-	0-360	100	H
3	* 3.987	33.05	PK	33.7	-30.2	36.55	-	-	74	-37.45	-	-	0-360	100	V
4	* 1.568	34.83	PK	28.8	-35.9	27.73	-	-	74	-46.27	-	-	0-360	100	V
5	* 7.501	29.34	PK	35.3	-24.8	39.84	-	-	74	-34.16	-	-	0-360	200	H
2	1.787	34.78	PK	30.4	-34.3	30.88	-	-	-	-	68.2	-37.32	0-360	100	V
6	7.821	28.24	PK	35.5	-24.3	39.44	-	-	-	-	68.2	-28.76	0-360	201	V
7	9.813	27.97	PK	36.9	-23.1	41.77	-	-	-	-	68.2	-26.43	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 T136 (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
* 2.692	41.78	PK1	32.7	-33.2	41.28	-	-	74	-32.72	-	-	359	100	H
* 1.568	29.42	PK1	28.8	-35.9	22.32	-	-	74	-51.68	-	-	359	100	V
* 7.5	36.75	PK1	35.3	-24.8	47.25	-	-	74	-26.75	-	-	359	100	H
1.785	42.7	PK1	30.3	-34.3	38.7	-	-	-	-	68.2	-29.5	359	100	V
7.82	36.27	PK1	35.5	-24.3	47.47	-	-	-	-	68.2	-20.73	359	100	V
9.812	34.43	PK1	36.9	-23.1	48.23	-	-	-	-	68.2	-19.97	359	100	V
9.812	24.85	PK1	36.9	-23.1	38.65	-	-	-	-	68.2	-29.55	359	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK1 - KDB789033 Method: Peak

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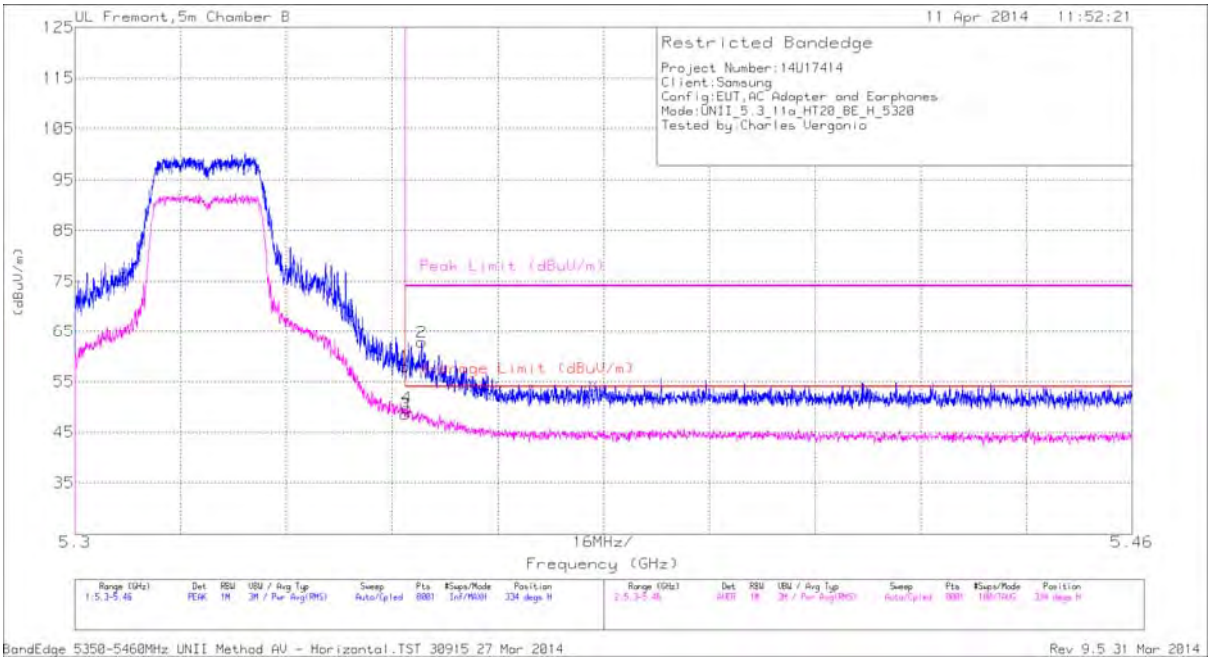
11.2. 5.3 GHz

11.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)



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	43.34	PK	34.5	-19.9	0	57.94	-	-	74	-16.06	334	400	H
2	* 5.352	48.23	PK	34.5	-19.9	0	62.83	-	-	74	-11.17	334	400	H
3	* 5.35	33.67	RMS	34.5	-19.9	.3	48.57	54	-5.43	-	-	334	400	H
4	* 5.35	34.91	RMS	34.5	-19.9	.3	49.81	54	-4.19	-	-	334	400	H

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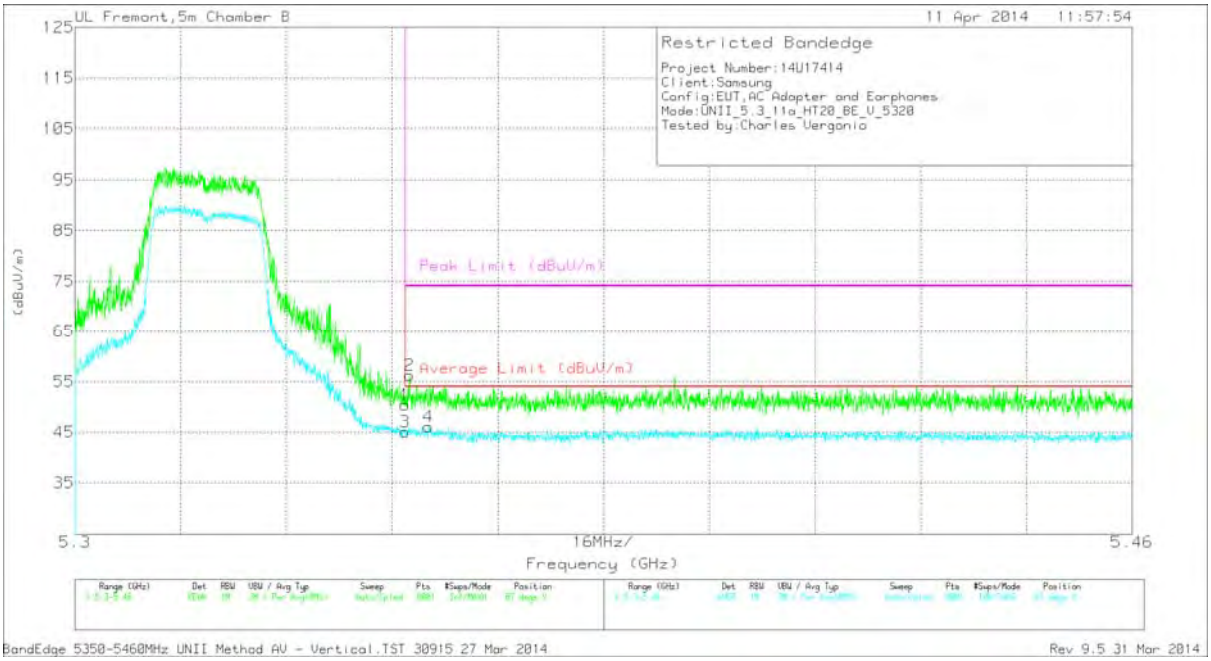

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.86	PK	34.5	-19.9	0	50.46	-	-	74	-23.54	87	384	V
2	* 5.351	41.65	PK	34.5	-19.9	0	56.25	-	-	74	-17.75	87	384	V
3	* 5.35	30.13	RMS	34.5	-19.9	.3	45.03	54	-8.97	-	-	87	384	V
4	* 5.354	31.21	RMS	34.5	-19.9	.3	46.11	54	-7.89	-	-	87	384	V

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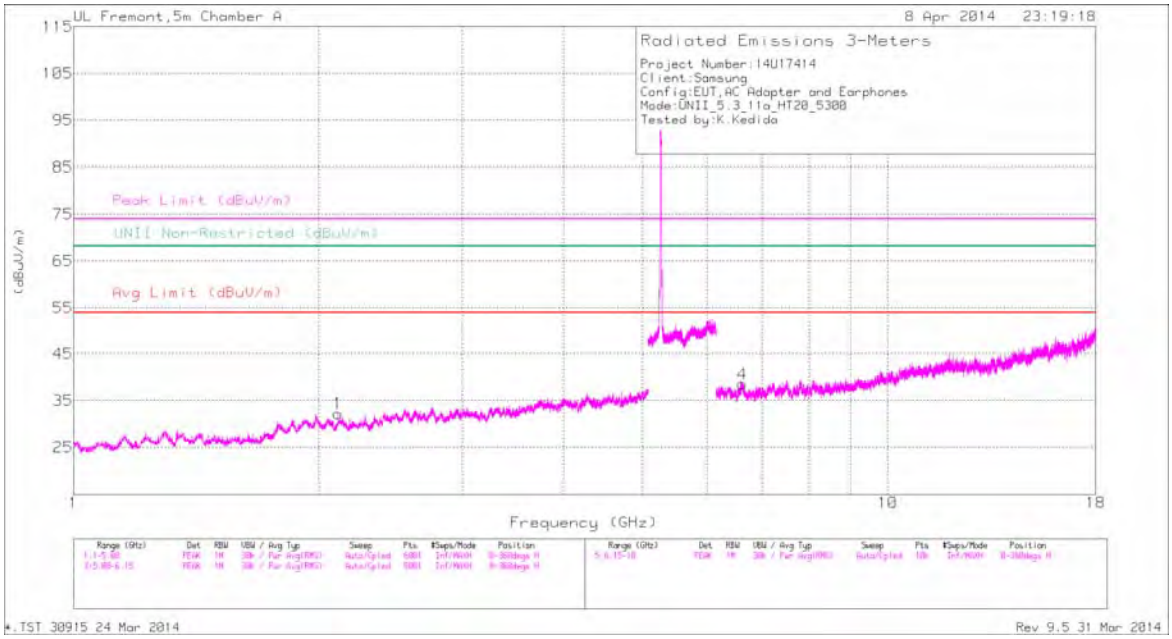
HARMONICS AND SPURIOUS EMISSIONS

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.

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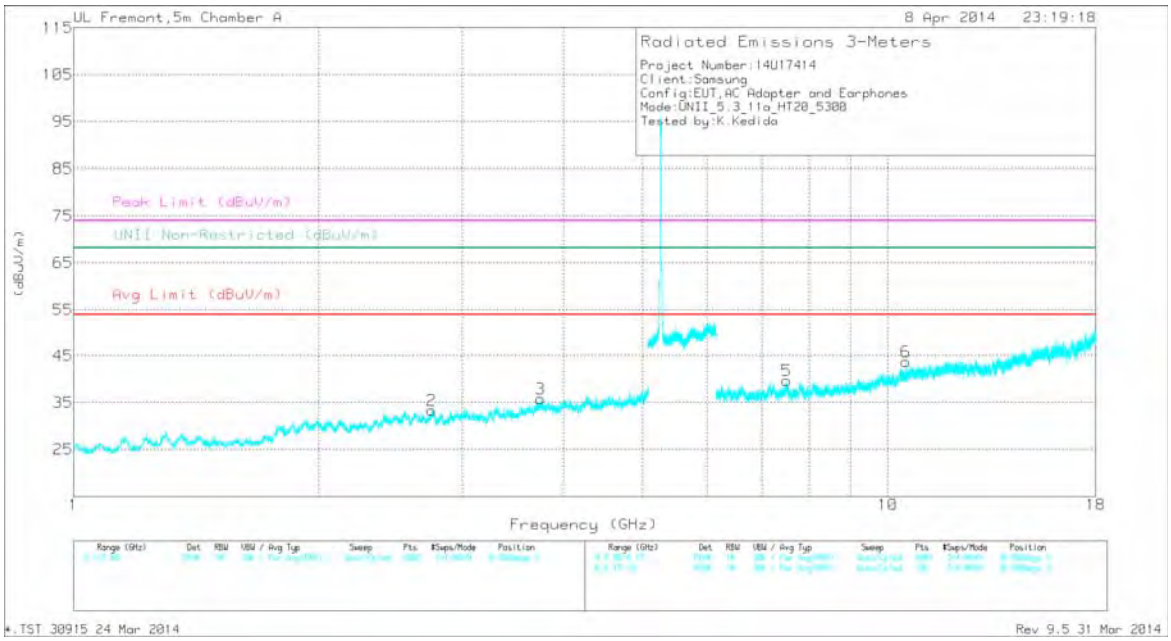
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.754	32.42	PK	32.7	-31.7	0	33.42	-	-	74	-40.58	-	-	0-360	100	V
3	* 3.742	32.1	PK	33.5	-29.8	0	35.8	-	-	74	-38.2	-	-	0-360	100	V
5	* 7.508	29.09	PK	35.3	-24.7	0	39.69	-	-	74	-34.31	-	-	0-360	100	V
1	2.112	34.76	PK	31.7	-34.2	0	32.26	-	-	-	-	68.2	-35.94	0-360	100	H
4	6.628	28.96	PK	35.4	-25.8	0	38.56	-	-	-	-	68.2	-29.64	0-360	100	H
6	10.52	29.2	PK	37.5	-23	0	43.7	-	-	-	-	68.2	-24.5	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 T136 (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
* 2.755	40.2	PK1	32.7	-31.7	0	41.2	-	-	74	-32.8	-	-	359	100	V
* 3.743	39.17	PK1	33.5	-29.8	0	42.87	-	-	74	-31.13	-	-	359	100	V
* 7.509	36.05	PK1	35.3	-24.7	0	46.65	-	-	74	-27.35	-	-	359	100	V
2.112	41.13	PK1	31.7	-34.2	0	38.63	-	-	-	-	68.2	-29.57	359	100	H
6.628	36.88	PK1	35.4	-25.8	0	46.48	-	-	-	-	68.2	-21.72	359	100	H
10.52	34.56	PK1	37.5	-23	0	49.06	-	-	-	-	68.2	-19.14	359	100	V

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

PK1 - KDB789033 Method: Peak

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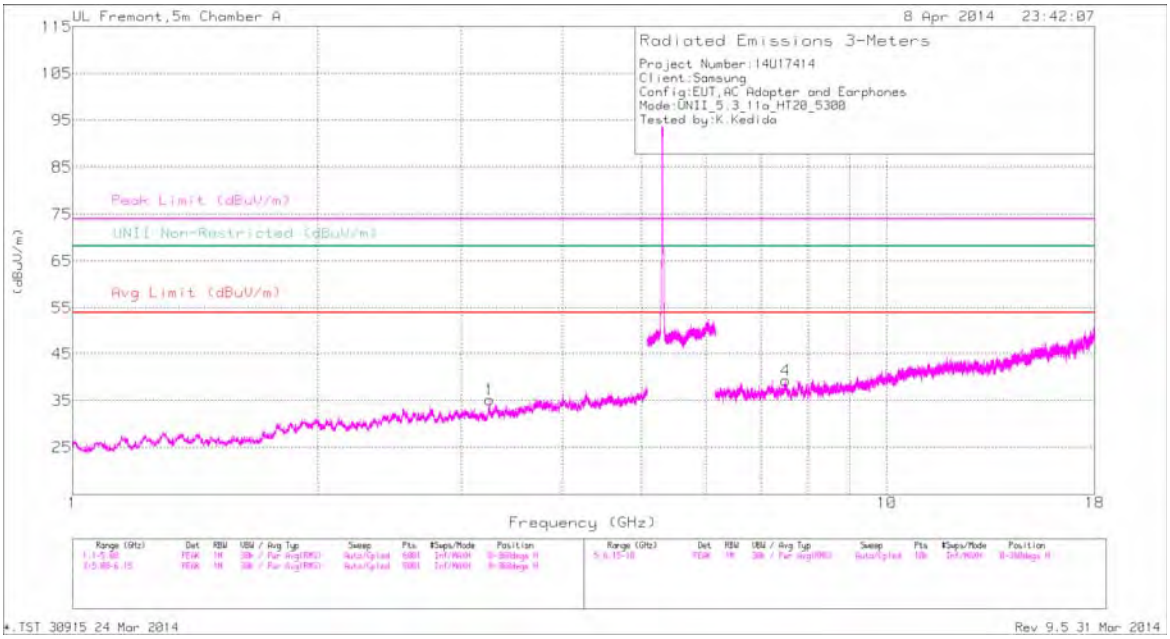
MID CHANNEL
HORIZONTAL



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

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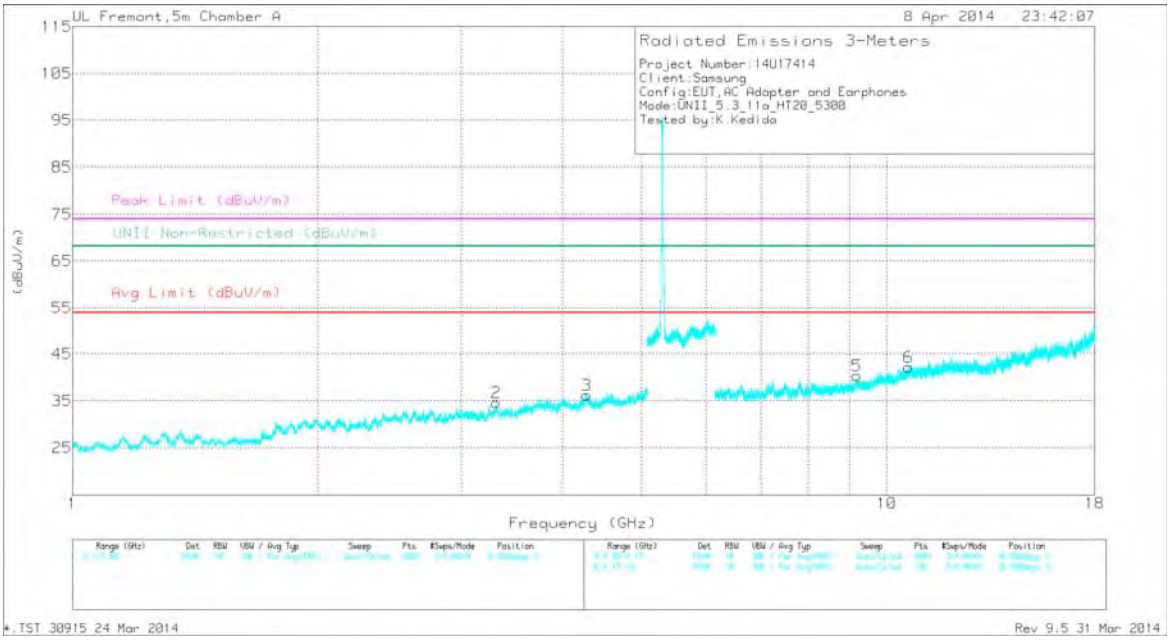
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.278	30.93	PK	34	-28.7	0	36.23	-	-	74	-37.77	-	-	0-360	200	V
4	* 7.509	28.76	PK	35.3	-24.7	0	39.36	-	-	74	-34.64	-	-	0-360	200	H
5	* 9.187	28.56	PK	36.1	-24.3	0	40.36	-	-	74	-33.64	-	-	0-360	100	V
6	* 10.626	26.34	PK	37.7	-21.8	0	42.24	-	-	74	-31.76	-	-	0-360	200	V
1	3.254	34.33	PK	32.8	-31.9	0	35.23	-	-	-	-	68.2	-32.97	0-360	100	H
2	3.313	32.72	PK	32.9	-31	0	34.62	-	-	-	-	68.2	-33.58	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 T136 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.277	38.74	PK1	34	-28.7	0	44.04	-	-	74	-29.96	-	-	359	100	V
* 7.51	37.33	PK1	35.3	-24.7	0	47.93	-	-	74	-26.07	-	-	359	100	H
* 9.188	36.23	PK1	36.1	-24.3	0	48.03	-	-	74	-25.97	-	-	359	100	V
* 10.624	34	PK1	37.7	-22.2	0	49.5	-	-	74	-24.5	-	-	134	161	V
* 10.626	23.44	AD1	37.7	-21.9	.3	39.54	54	-14.46	-	-	-	-	134	161	V
3.312	39.63	PK1	32.9	-31	0	41.53	-	-	-	-	68.2	-26.67	359	100	H
3.313	40.44	PK1	32.9	-31	0	42.34	-	-	-	-	68.2	-25.86	359	100	V

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

PK1 - KDB789033 Method: Peak

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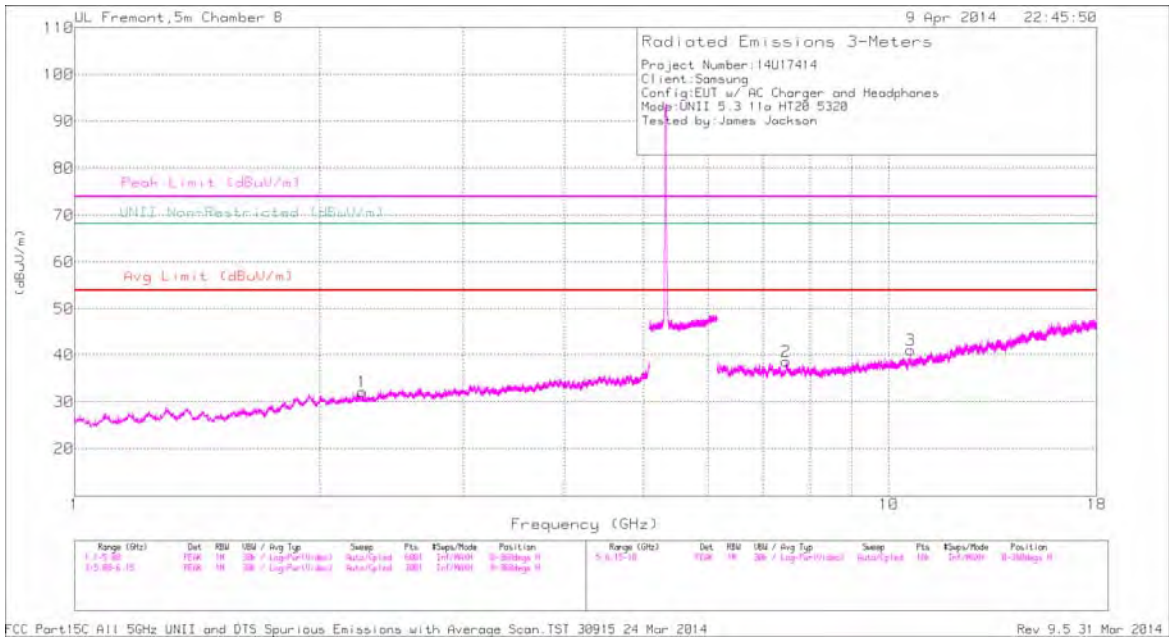
HIGH CHANNEL
HORIZONTAL



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

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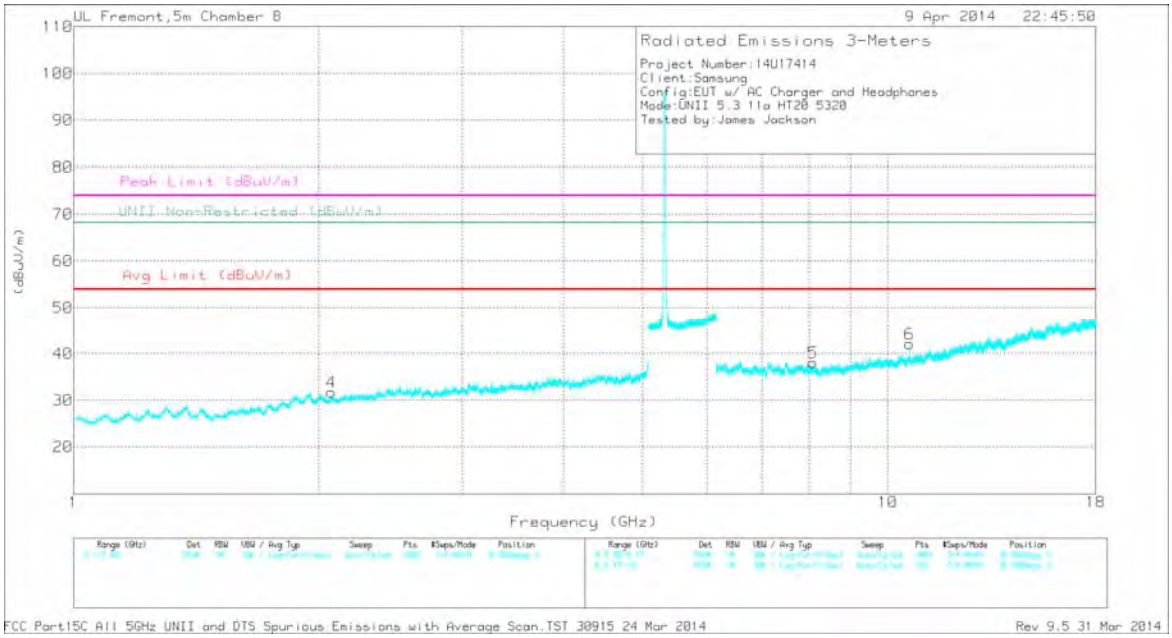
VERTICAL



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

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HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 2.255	33.28	PK	31.5	-32.6	32.18	-	-	74	-41.82	-	-	0-360	99	H
2	* 7.477	29.37	PK	35.6	-26.3	38.67	-	-	74	-35.33	-	-	0-360	202	H
3	* 10.64	26.56	PK	37.7	-23.2	41.06	-	-	74	-32.94	-	-	0-360	202	H
5	* 8.089	28.76	PK	35.7	-26.4	38.06	-	-	74	-35.94	-	-	0-360	202	V
6	* 10.64	27.65	PK	37.7	-23.2	42.15	-	-	74	-31.85	-	-	0-360	99	V
4	2.071	34.16	PK	31.3	-33.7	31.76	-	-	-	-	68.2	-36.44	0-360	99	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/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
* 2.253	41.11	PK1	31.5	-32.6	40.01	-	-	74	-33.99	-	-	359	100	H
* 7.477	37.27	PK1	35.6	-26.3	46.57	-	-	74	-27.43	-	-	359	100	H
* 10.64	34.99	PK1	37.7	-23.2	49.49	-	-	74	-24.51	-	-	163	377	H
* 10.64	27.39	AD1	37.7	-23.2	41.89	54	-12.11	-	-	-	-	163	377	H
* 8.088	36.76	PK1	35.7	-26.4	46.06	-	-	74	-27.94	-	-	359	100	V
* 10.64	35.31	PK1	37.7	-23.2	49.81	-	-	74	-24.19	-	-	76	375	V
* 10.64	24.82	AD1	37.7	-23.2	39.32	54	-14.68	-	-	-	-	76	375	V
* 10.64	14.68	RMS	37.7	-23.2	29.18	-	-	-	-	-	-	76	375	V
2.071	42.39	PK1	31.3	-33.7	39.99	-	-	-	-	68.2	-28.21	359	100	V

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

RMS - RMS detection

PK1 - KDB789033 Method: Peak

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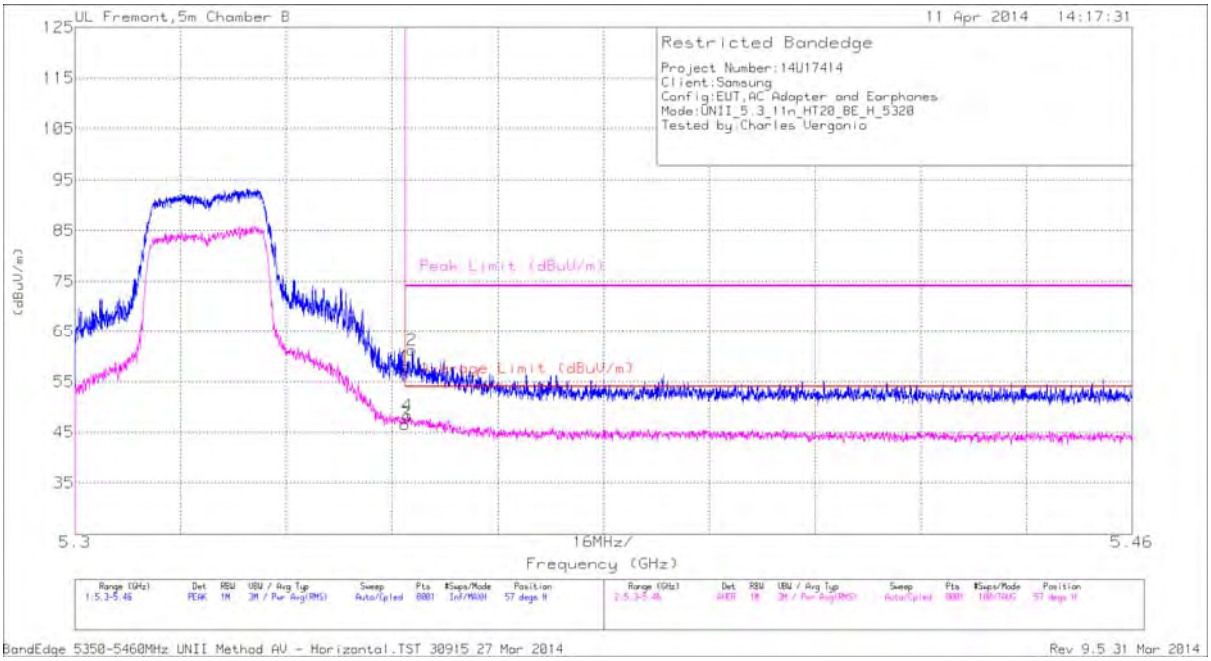
11.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)



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	43.4	PK	34.5	-19.9	0	58	-	-	74	-16	57	297	H
2	* 5.351	46.66	PK	34.5	-19.9	0	61.26	-	-	74	-12.74	57	297	H
3	* 5.35	31.73	RMS	34.5	-19.9	.3	46.63	54	-7.37	-	-	57	297	H
4	* 5.35	33.36	RMS	34.5	-19.9	.3	48.26	54	-5.74	-	-	57	297	H

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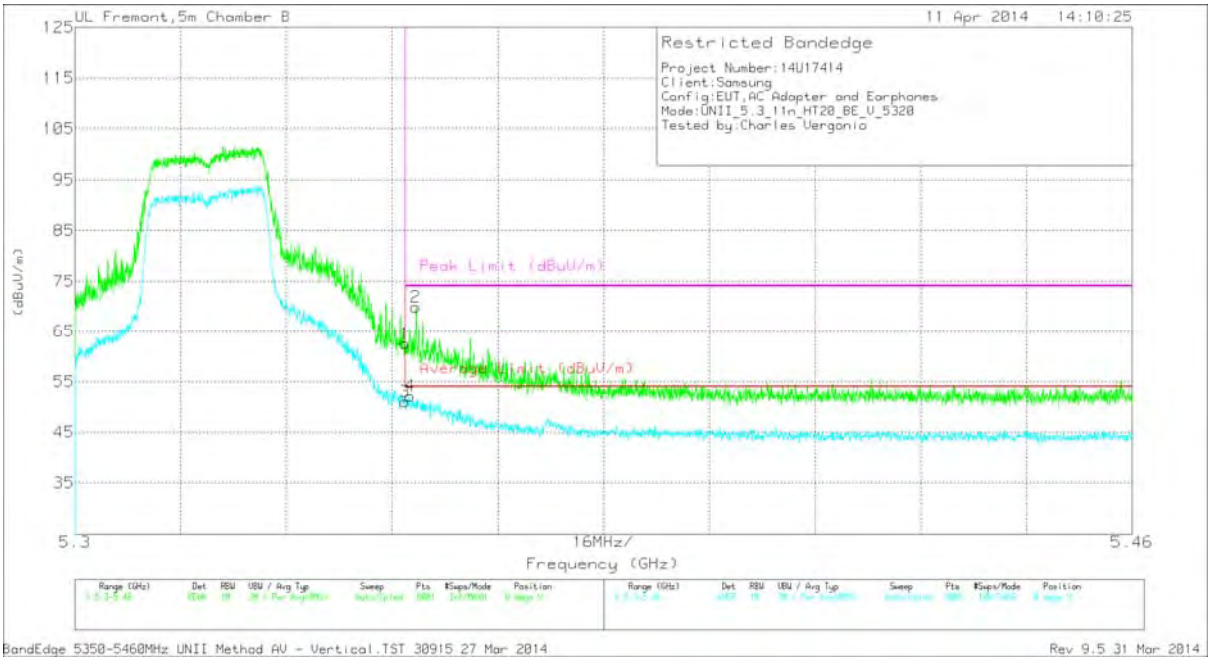

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	47.96	PK	34.5	-19.9	0	62.56	-	-	74	-11.44	0	223	V
2	* 5.352	55.35	PK	34.5	-19.9	0	69.95	-	-	74	-4.05	0	223	V
3	* 5.35	36.15	RMS	34.5	-19.9	.3	51.05	54	-2.95	-	-	0	223	V
4	* 5.351	37.26	RMS	34.5	-19.9	.3	52.16	54	-1.84	-	-	0	223	V

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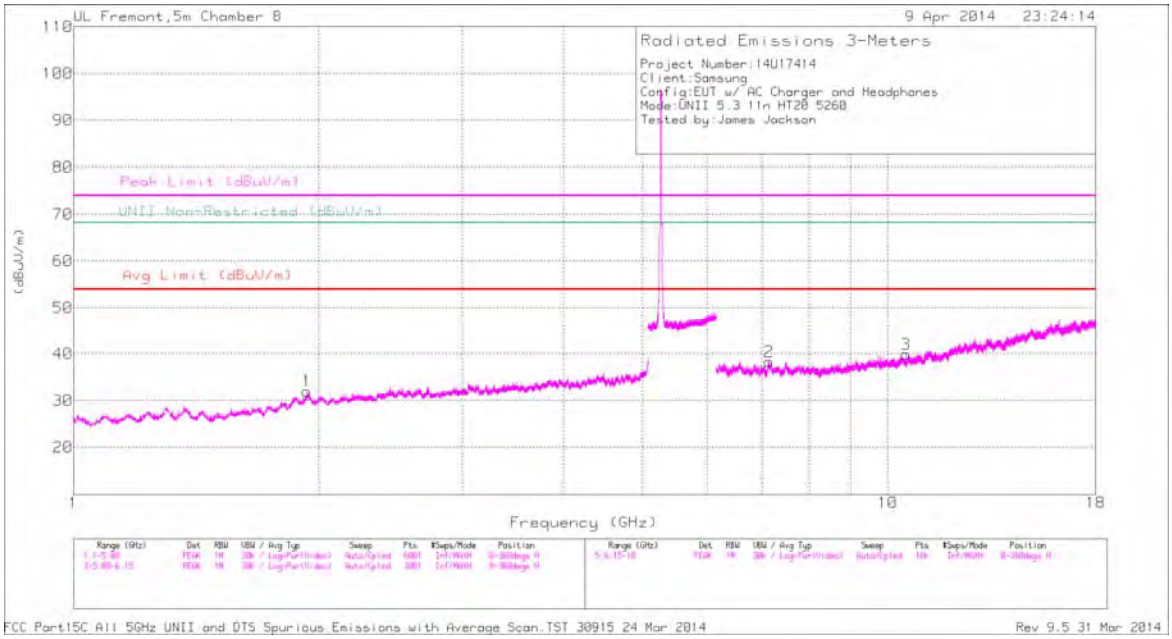
HARMONICS AND SPURIOUS EMISSIONS

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.

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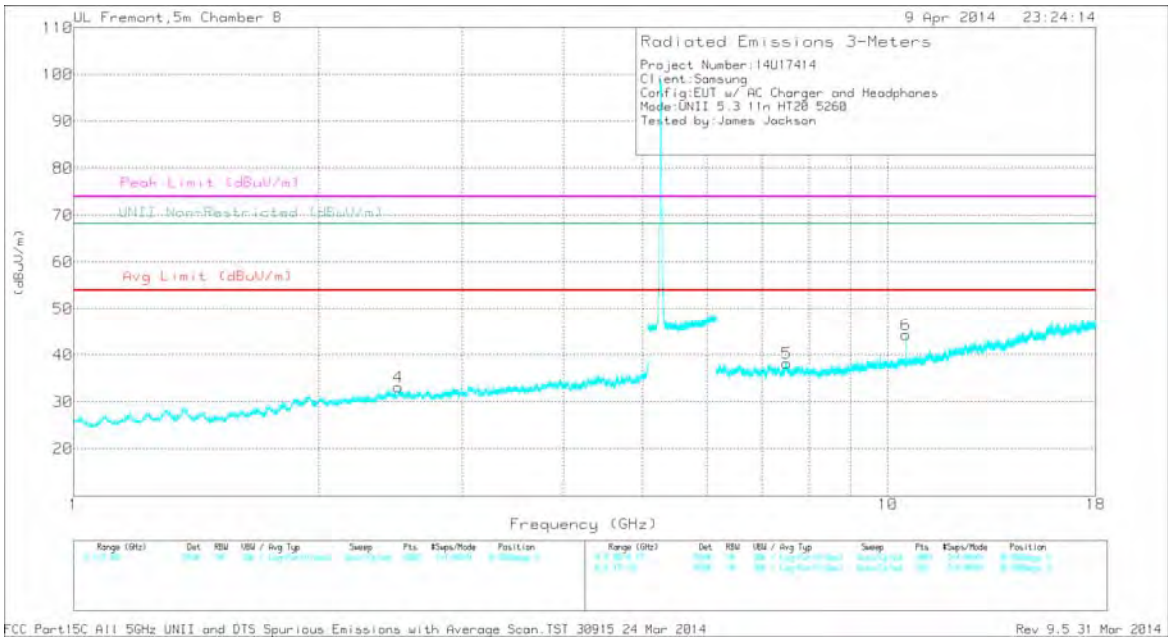
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/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
5	* 7.517	29.03	PK	35.6	-26.4	38.23	-	-	74	-35.77	-	-	0-360	202	V
1	1.934	33.43	PK	31.2	-32.6	32.03	-	-	-	-	68.2	-36.17	0-360	99	H
4	2.505	33.03	PK	32.4	-32.3	33.13	-	-	-	-	68.2	-35.07	0-360	202	V
2	7.144	30.08	PK	35.6	-27.3	38.38	-	-	-	-	68.2	-29.82	0-360	202	H
3	10.519	26.38	PK	37.5	-23.9	39.98	-	-	-	-	68.2	-28.22	0-360	202	H
6	10.519	30.76	PK	37.5	-23.9	44.36	-	-	-	-	68.2	-23.84	0-360	202	V

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

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 7.517	37.2	PK1	35.6	-26.4	46.4	-	-	74	-27.6	-	-	1	100	V
1.935	41.21	PK1	31.2	-32.6	39.81	-	-	-	-	68.2	-28.39	1	100	H
7.144	39.07	PK1	35.6	-27.3	47.37	-	-	-	-	68.2	-20.83	1	100	H
10.52	34.81	PK1	37.5	-23.8	48.51	-	-	-	-	68.2	-19.69	329	375	H
10.52	25.86	AD1	37.5	-23.8	39.56	-	-	-	-	-	-	329	375	H
10.52	36.27	PK1	37.5	-23.8	49.97	-	-	-	-	68.2	-18.23	226	101	V
10.52	29.22	AD1	37.5	-23.8	42.92	-	-	-	-	-	-	226	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK1 - KDB789033 Method: Peak

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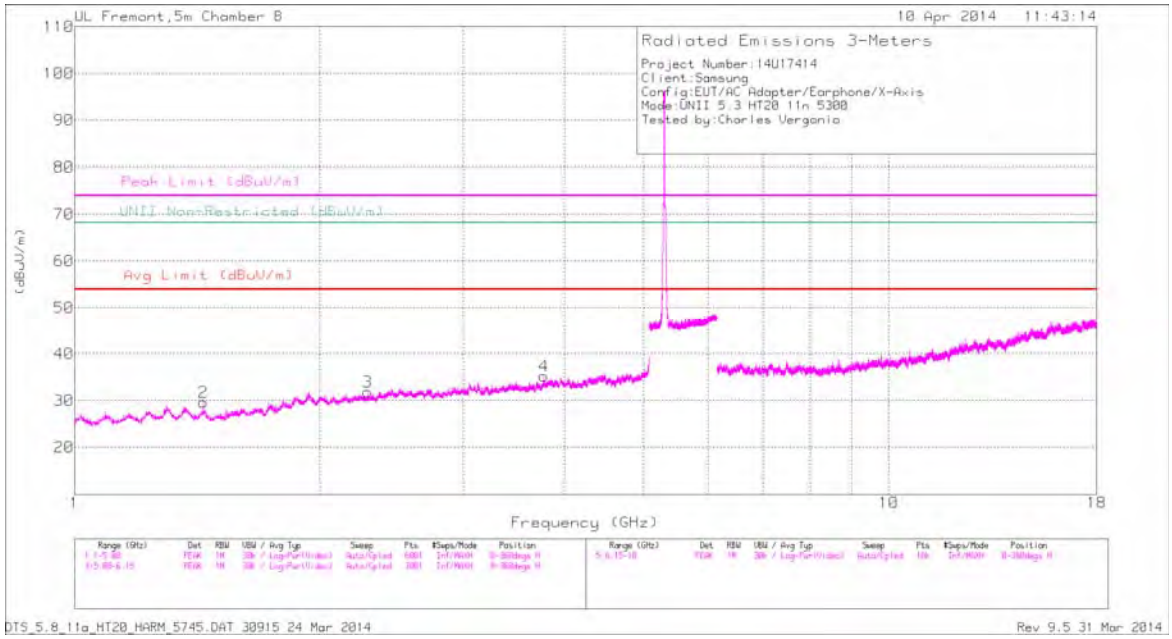
MID CHANNEL
HORIZONTAL



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

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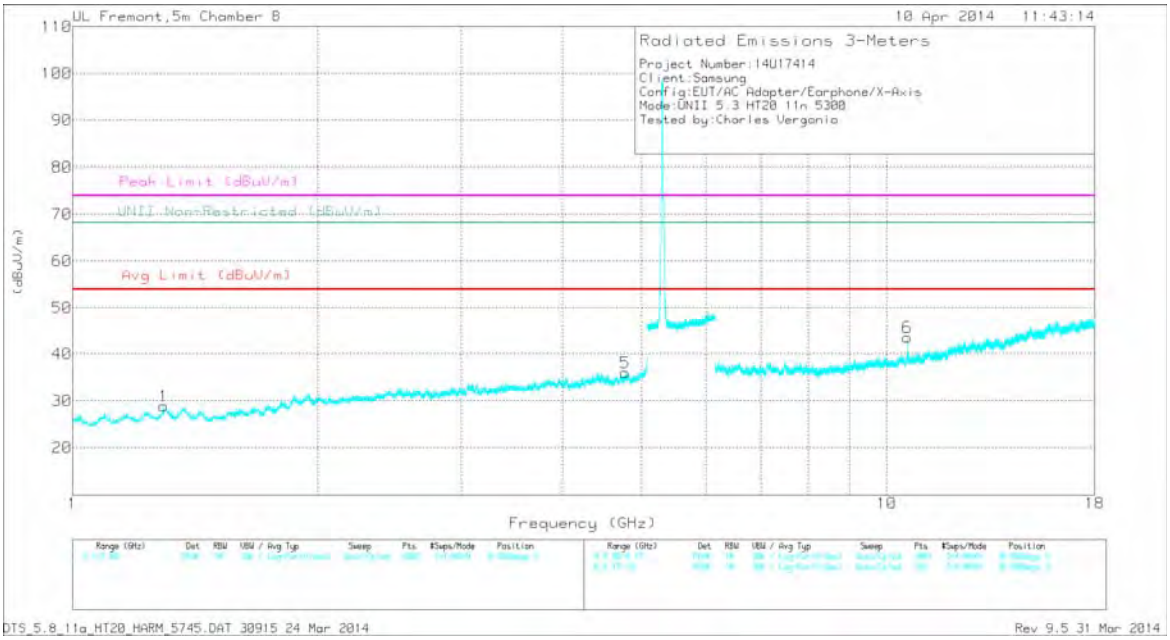
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.439	35.42	PK	28.3	-34.1	0	29.62	-	-	74	-44.38	-	-	0-360	201	H
3	* 2.291	33.23	PK	31.6	-33	0	31.83	-	-	74	-42.17	-	-	0-360	201	H
4	* 3.772	32.69	PK	33.6	-31.1	0	35.19	-	-	74	-38.81	-	-	0-360	201	H
1	* 1.294	34.41	PK	28.8	-34.3	0	28.91	-	-	74	-45.09	-	-	0-360	202	V
5	* 4.768	31.11	PK	34.2	-29.3	0	36.01	-	-	74	-37.99	-	-	0-360	202	V
6	10.599	29.02	PK	37.7	-23.2	0	43.52	-	-	-	-	68.2	-24.68	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.438	42.66	PK1	28.3	-34	0	36.96	54	-17.04	74	-37.04	-	-	359	100	H
* 2.291	41.5	PK1	31.6	-33	0	40.1	54	-13.9	74	-33.9	-	-	359	100	H
* 3.773	41.94	PK1	33.6	-31.1	0	44.44	54	-9.56	74	-29.56	-	-	359	100	H
* 1.295	43.58	PK1	28.8	-34.3	0	38.08	54	-15.92	74	-35.92	-	-	359	100	V
* 4.768	39.52	PK1	34.2	-29.3	0	44.42	54	-9.58	74	-29.58	-	-	359	100	V
10.6	39.3	PK1	37.7	-23.2	0	53.8	54	-	-	-	68.2	-14.4	280	173	V
10.6	31.15	AD1	37.7	-23.2	.3	45.95	54	- 8.05	-	-	-	-	280	173	V

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

PK1 - KDB789033 Method: Peak

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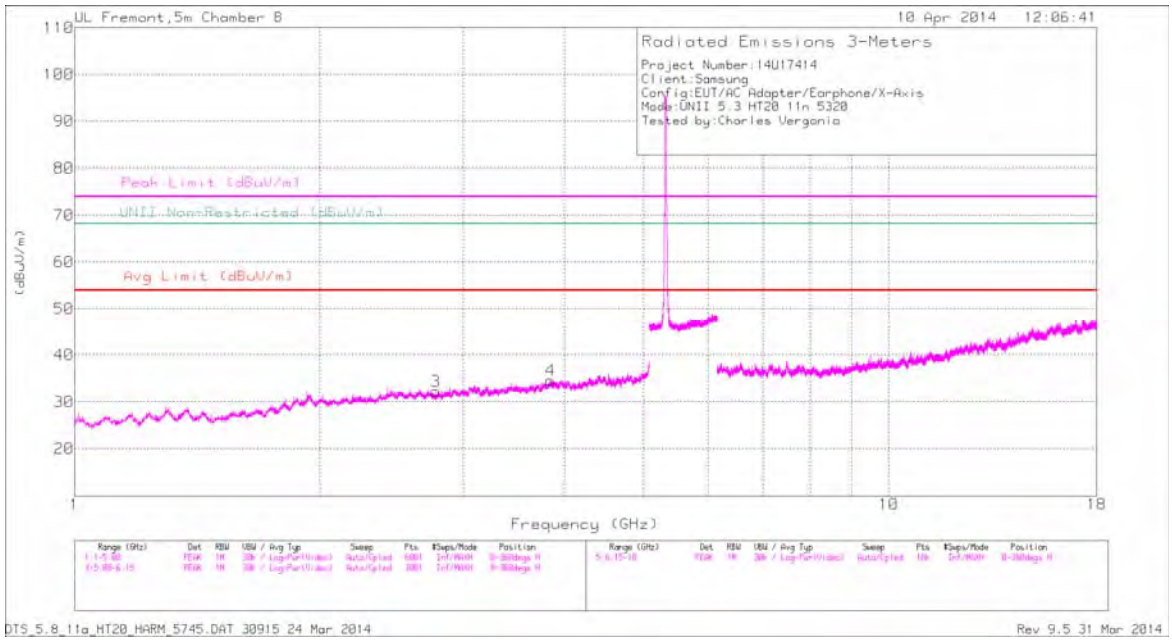
HIGH CHANNEL
HORIZONTAL



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

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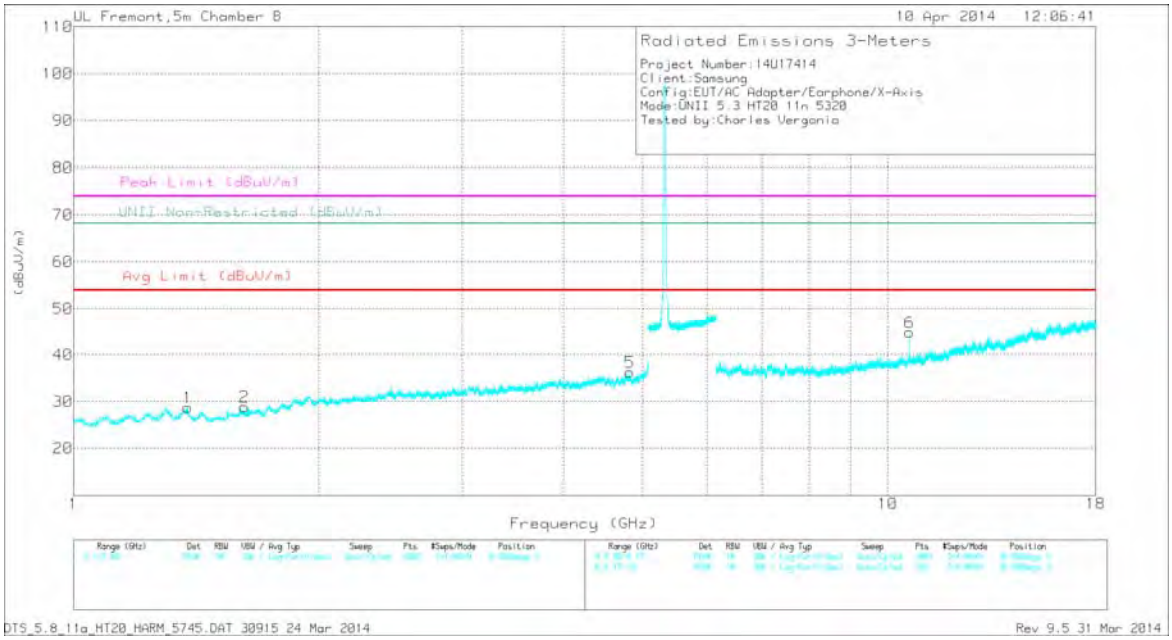
VERTICAL



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

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HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 2.775	32.56	PK	32.3	-32.6	0	32.26	-	-	74	-41.74	-	-	0-360	202	H
4	* 3.845	32.13	PK	33.7	-31.2	0	34.63	-	-	74	-39.37	-	-	0-360	202	H
1	* 1.381	33.95	PK	28.6	-33.8	0	28.75	-	-	74	-45.25	-	-	0-360	99	V
2	* 1.62	33.54	PK	28.6	-33.2	0	28.94	-	-	74	-45.06	-	-	0-360	202	V
5	* 4.82	31.66	PK	34.2	-29.6	0	36.26	-	-	74	-37.74	-	-	0-360	202	V
6	* 10.64	30.39	PK	37.7	-23.2	0	44.89	-	-	74	-29.11	-	-	0-360	202	V

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

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 2.771	41	PK1	32.3	-32.5	0	40.8	54	-13.2	74	-33.2	-	-	359	100	H
* 3.846	40.32	PK1	33.7	-31.3	0	42.72	54	-11.28	74	-31.28	-	-	359	100	H
* 1.381	42.09	PK1	28.6	-33.8	0	36.89	54	-17.11	74	-37.11	-	-	359	100	V
* 1.619	41.54	PK1	28.6	-33.2	0	36.94	54	-17.06	74	-37.06	-	-	359	100	V
* 4.82	40.81	PK1	34.2	-29.6	0	45.41	54	-8.59	74	-28.59	-	-	359	100	V
* 10.64	38.35	PK1	37.7	-23.2	0	52.85	54	-1.15	74	-21.15	-	-	285	144	V
* 10.64	30.75	AD1	37.7	-23.2	.3	45.55	54	-8.45	-	-	-	-	285	144	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK1 - KDB789033 Method: Peak

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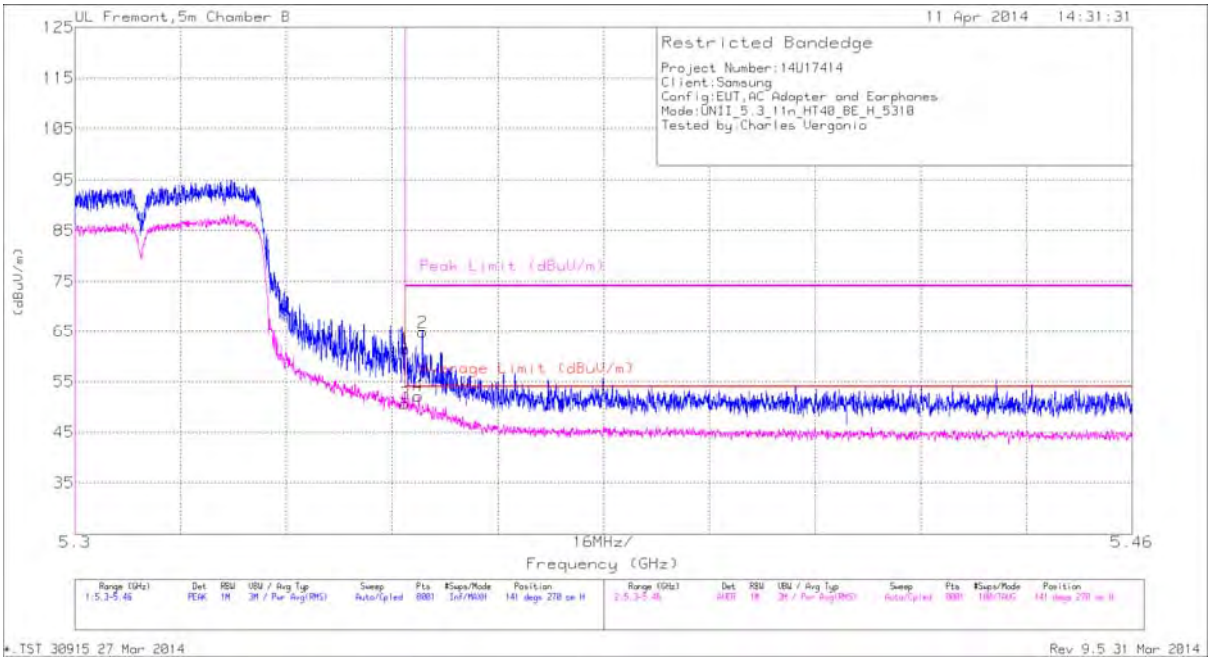
11.2.4. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)



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	46.86	PK	34.5	-19.9	0	61.46	-	-	74	-12.54	141	270	H
2	* 5.353	50.18	PK	34.5	-19.9	0	64.78	-	-	74	-9.22	141	270	H
3	* 5.35	35.52	RMS	34.5	-19.9	.64	50.72	54	-3.28	-	-	141	270	H
4	* 5.352	36.9	RMS	34.5	-19.9	.64	52.1	54	-1.9	-	-	141	270	H

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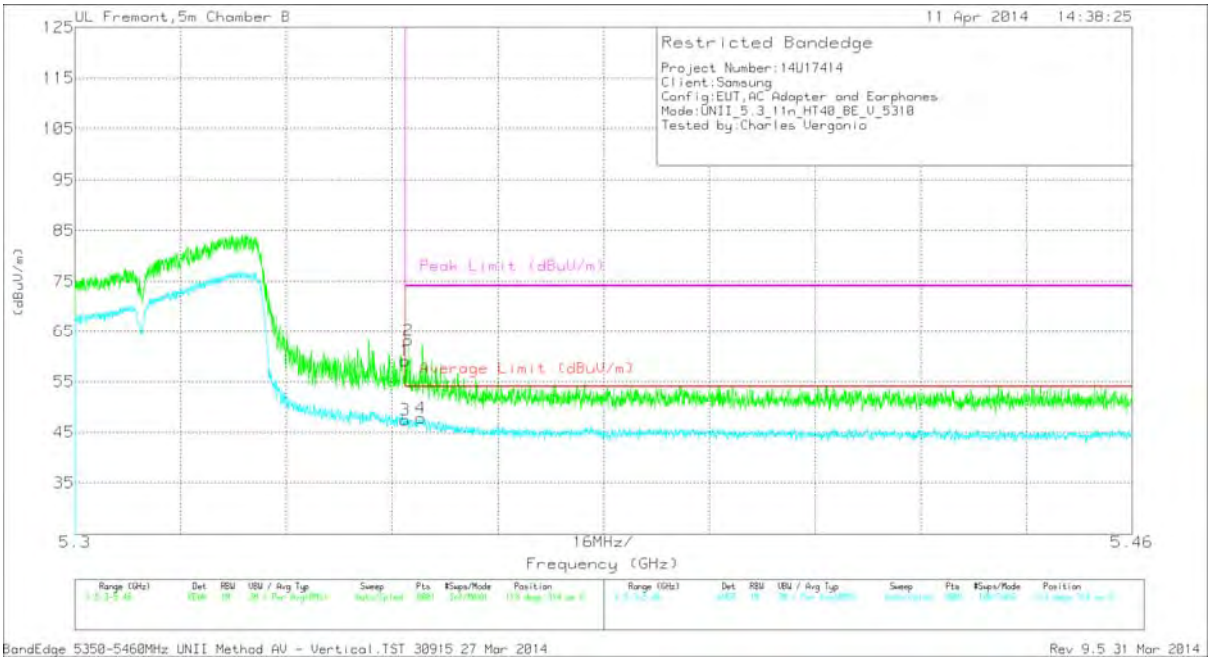

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	44.48	PK	34.5	-19.9	0	59.08	-	-	74	-14.92	113	314	V
2	* 5.35	48.57	PK	34.5	-19.9	0	63.17	-	-	74	-10.83	113	314	V
3	* 5.35	32.23	RMS	34.5	-19.9	.64	47.43	54	-6.57	-	-	113	314	V
4	* 5.352	32.63	RMS	34.5	-19.9	.64	47.83	54	-6.17	-	-	113	314	V

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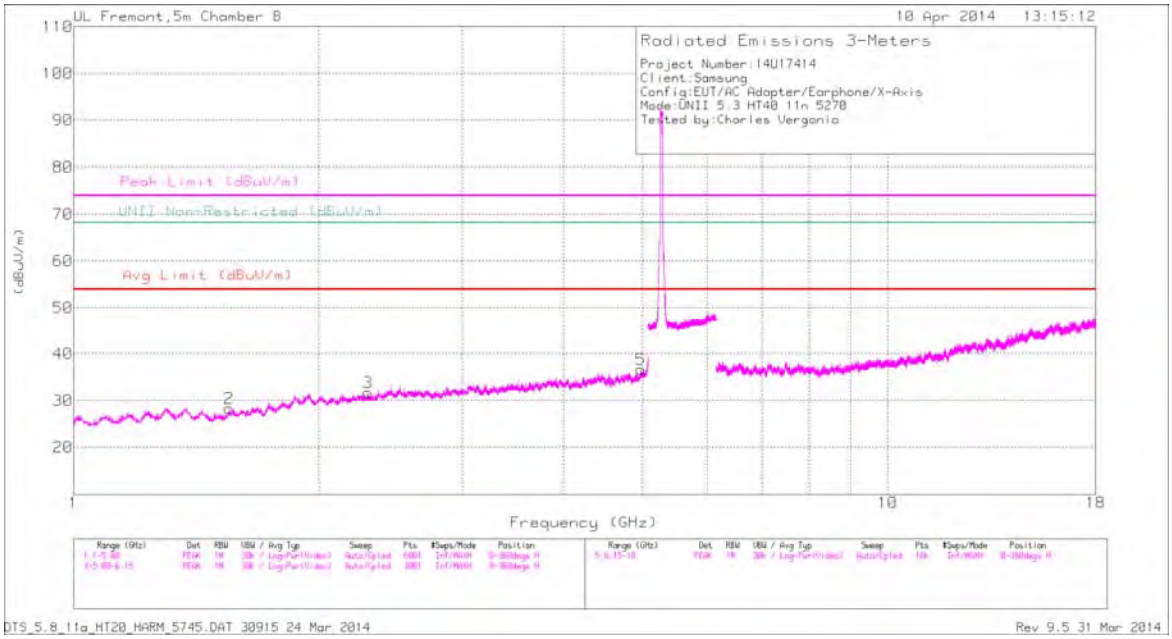
HARMONICS AND SPURIOUS EMISSIONS

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.

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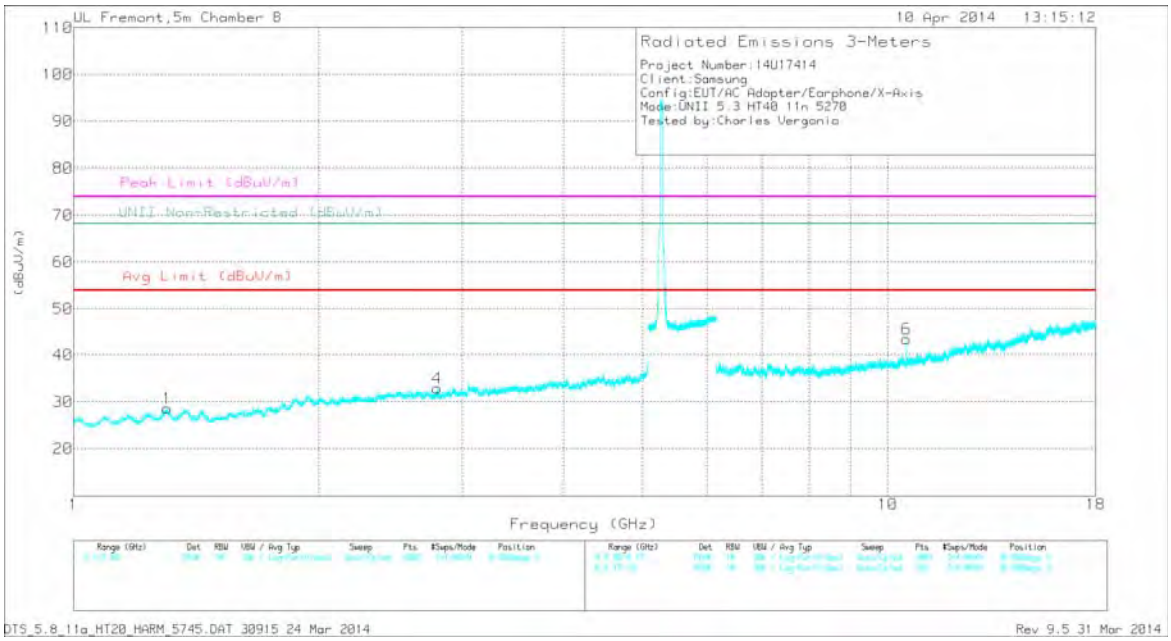
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.553	33.99	PK	28.2	-33.8	0	28.39	-	-	74	-45.61	-	-	0-360	201	H
3	* 2.299	33.18	PK	31.6	-33	0	31.78	-	-	74	-42.22	-	-	0-360	99	H
5	* 4.976	30.89	PK	34.2	-28.4	0	36.69	-	-	74	-37.31	-	-	0-360	99	H
1	* 1.304	34.07	PK	28.8	-34.2	0	28.67	-	-	74	-45.33	-	-	0-360	99	V
4	* 2.793	33.01	PK	32.3	-32.4	0	32.91	-	-	74	-41.09	-	-	0-360	202	V
6	10.539	29.68	PK	37.5	-23.8	0	43.38	-	-	-	-	68.2	-24.82	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.553	42.26	PK1	28.2	-33.8	0	36.66	54	-17.34	74	-37.34	-	-	360	100	H
* 2.299	41.03	PK1	31.6	-33	0	39.63	54	-14.37	74	-34.37	-	-	360	100	H
* 4.577	40.98	PK1	34.1	-30.4	0	44.68	54	-9.32	74	-29.32	-	-	360	100	H
* 4.975	40.37	PK1	34.2	-28.4	0	46.17	54	-7.83	74	-27.83	-	-	360	100	H
* 1.304	42.84	PK1	28.8	-34.2	0	37.44	54	-16.56	74	-36.56	-	-	360	100	V
* 2.792	40.72	PK1	32.3	-32.5	0	40.52	54	-13.48	74	-33.48	-	-	360	100	V
10.54	34.26	PK1	37.5	-23.8	0	47.96	54	-	-	-	68.2	-20.24	212	364	V
10.54	24.15	AD1	37.5	-23.8	.64	38.45	54	-15.55	-	-	-	-	212	364	V

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

PK1 - KDB789033 Method: Peak

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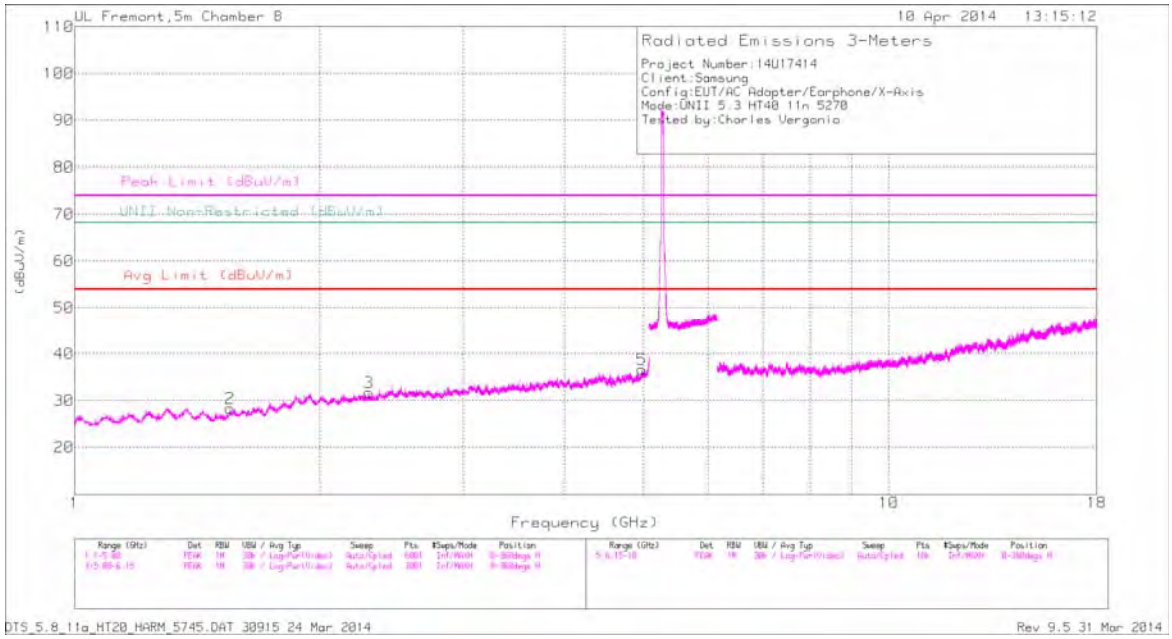
MID CHANNEL
HORIZONTAL



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

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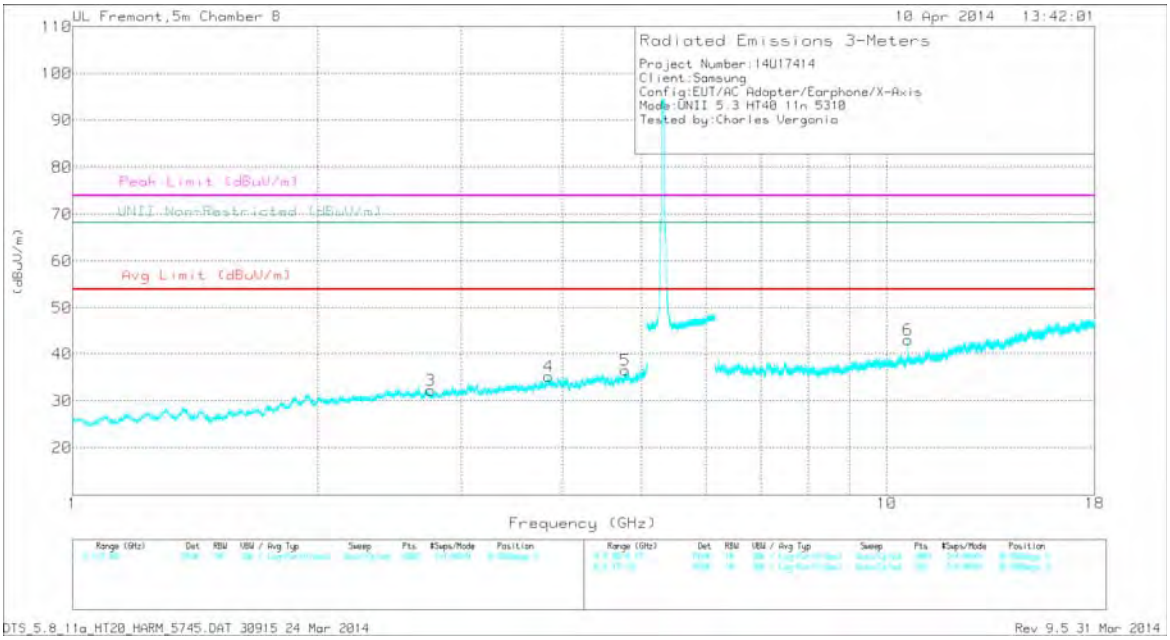
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.311	33.66	PK	28.8	-34.1	0	28.36	-	-	74	-45.64	-	-	0-360	99	H
2	* 1.679	33.36	PK	28.9	-33.4	0	28.86	-	-	74	-45.14	-	-	0-360	99	H
3	* 2.752	32.18	PK	32.3	-32.2	0	32.28	-	-	74	-41.72	-	-	0-360	99	V
4	* 3.84	32.64	PK	33.7	-31.1	0	35.24	-	-	74	-38.76	-	-	0-360	99	V
5	* 4.768	31.7	PK	34.2	-29.3	0	36.6	-	-	74	-37.4	-	-	0-360	99	V
6	* 10.62	28.49	PK	37.7	-23.1	0	43.09	-	-	74	-30.91	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.311	42.26	PK1	28.8	-34.1	0	36.96	54	-17.04	74	-37.04	-	-	359	100	H
* 1.679	41.54	PK1	28.9	-33.4	0	37.04	54	-16.96	74	-36.96	-	-	359	100	H
* 2.751	40.83	PK1	32.3	-32.2	0	40.93	54	-13.07	74	-33.07	-	-	359	100	V
* 3.839	41.11	PK1	33.7	-31.1	0	43.71	54	-10.29	74	-30.29	-	-	359	100	V
* 4.768	40.06	PK1	34.2	-29.3	0	44.96	54	-9.04	74	-29.04	-	-	359	100	V
* 10.62	36.95	PK1	37.7	-23.1	0	51.55	54	-2.45	74	-22.45	-	-	287	321	V
* 10.62	30.68	AD1	37.7	-23.1	.64	45.88	54	-8.12	-	-	-	-	287	321	V

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

RMS - RMS detection

PK1 - KDB789033 Method: Peak

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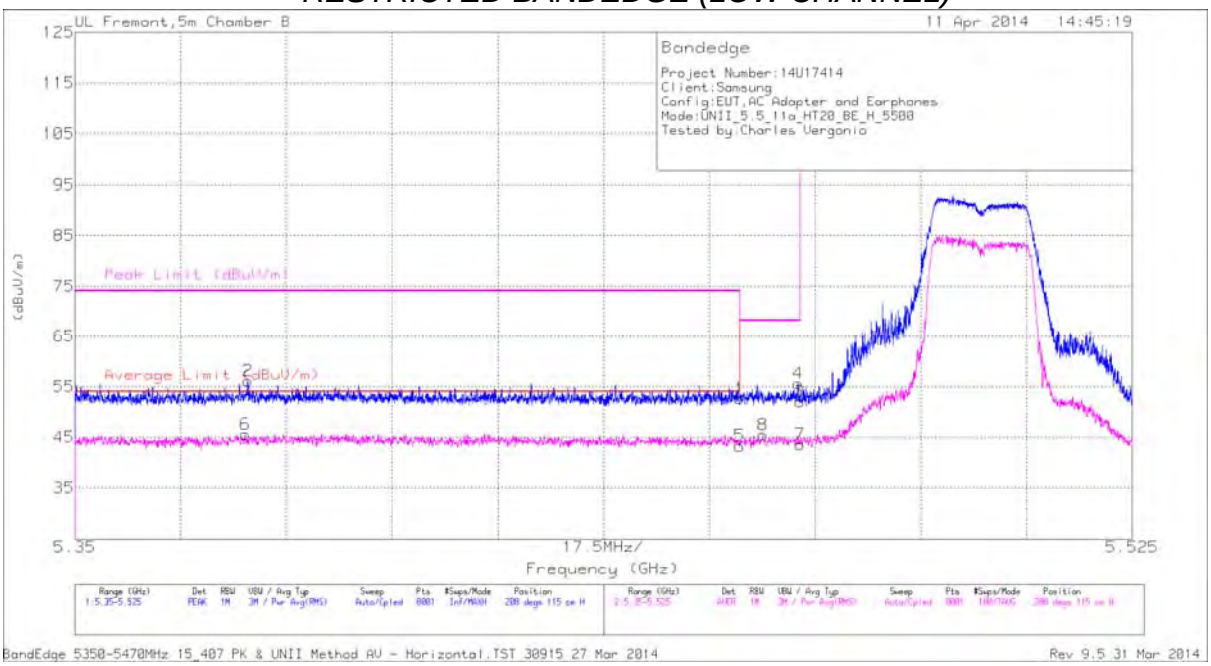
11.3. 5.5-5.6 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)



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	* 5.46	38.2	PK	34.5	-20	0	52.7	-	-	74	-21.3	208	115	H
2	* 5.379	41.38	PK	34.5	-19.8	0	56.08	-	-	74	-17.92	208	115	H
5	* 5.46	28.48	RMS	34.5	-20	.3	43.28	54	-10.72	-	-	208	115	H
6	* 5.378	30.62	RMS	34.5	-19.8	.3	45.62	54	-8.38	-	-	208	115	H
8	5.464	30.69	RMS	34.5	-20	.3	45.49	-	-	-	-	208	115	H
3	5.47	37.42	PK	34.5	-19.9	0	52.02	-	-	68.2	-16.18	208	115	H
4	5.47	40.98	PK	34.5	-19.9	0	55.58	-	-	68.2	-12.62	208	115	H
7	5.47	28.65	RMS	34.5	-19.9	.3	43.55	-	-	-	-	208	115	H

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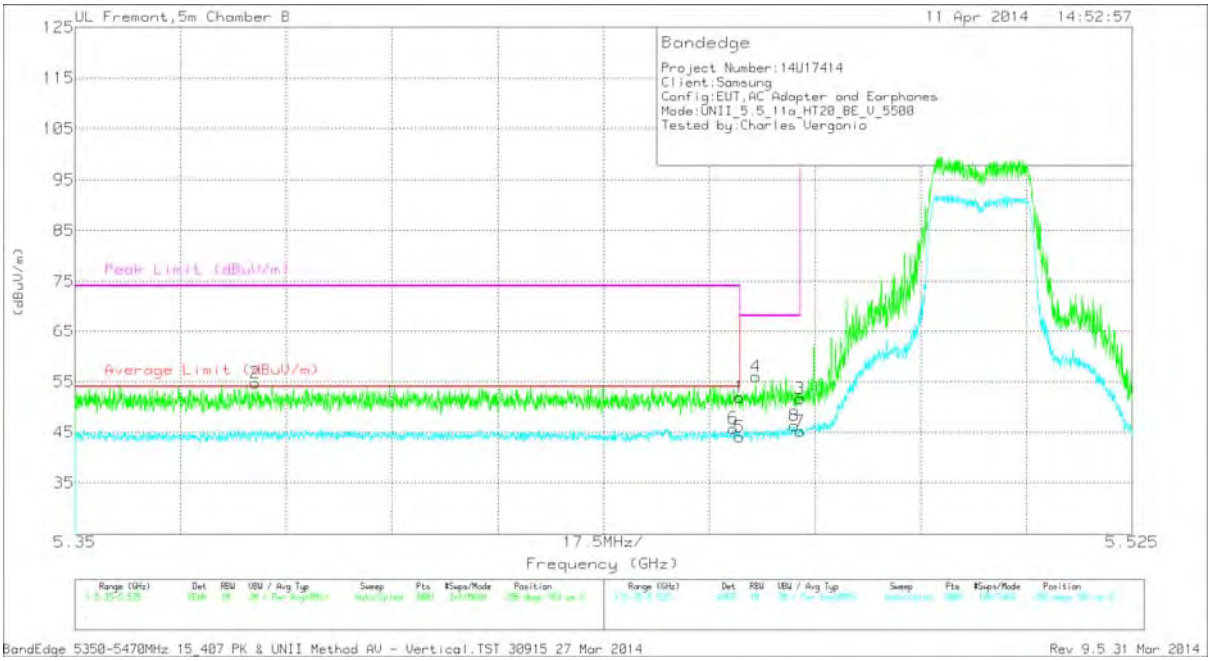

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	37.46	PK	34.5	-20	0	51.96	-	-	74	-22.04	358	183	V
2	* 5.38	39.96	PK	34.5	-19.7	0	54.76	-	-	74	-19.24	358	183	V
5	* 5.46	29.31	RMS	34.5	-20	.3	44.11	54	-9.89	-	-	358	183	V
6	* 5.459	30.96	RMS	34.5	-20	.3	45.76	54	-8.24	-	-	358	183	V
4	5.463	41.48	PK	34.5	-20	0	55.98	-	-	68.2	-12.22	358	183	V
8	5.469	31.5	RMS	34.5	-20	.3	46.3	-	-	-	-	358	183	V
3	5.47	37.04	PK	34.5	-19.9	0	51.64	-	-	68.2	-16.56	358	183	V
7	5.47	30.25	RMS	34.5	-19.9	.3	45.15	-	-	-	-	358	183	V

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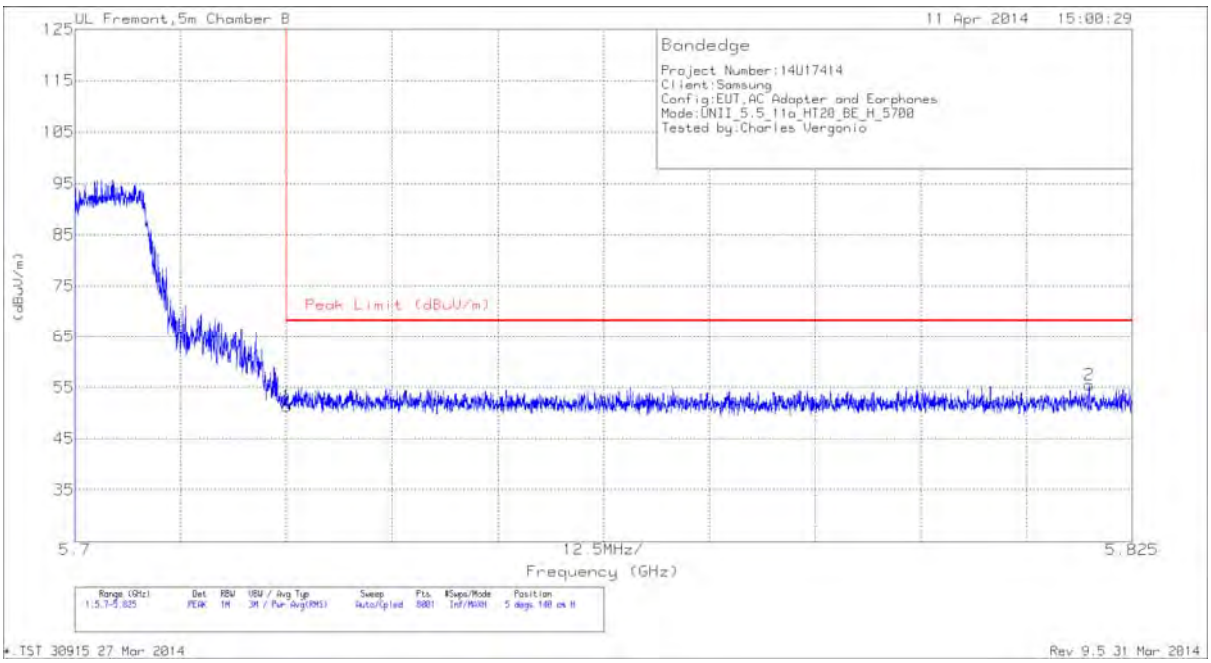
AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	36.3	PK	34.6	-19.6	51.3	68.2	-16.9	5	140	H
2	5.82	40.37	PK	34.7	-19.6	55.47	68.2	-12.73	5	140	H

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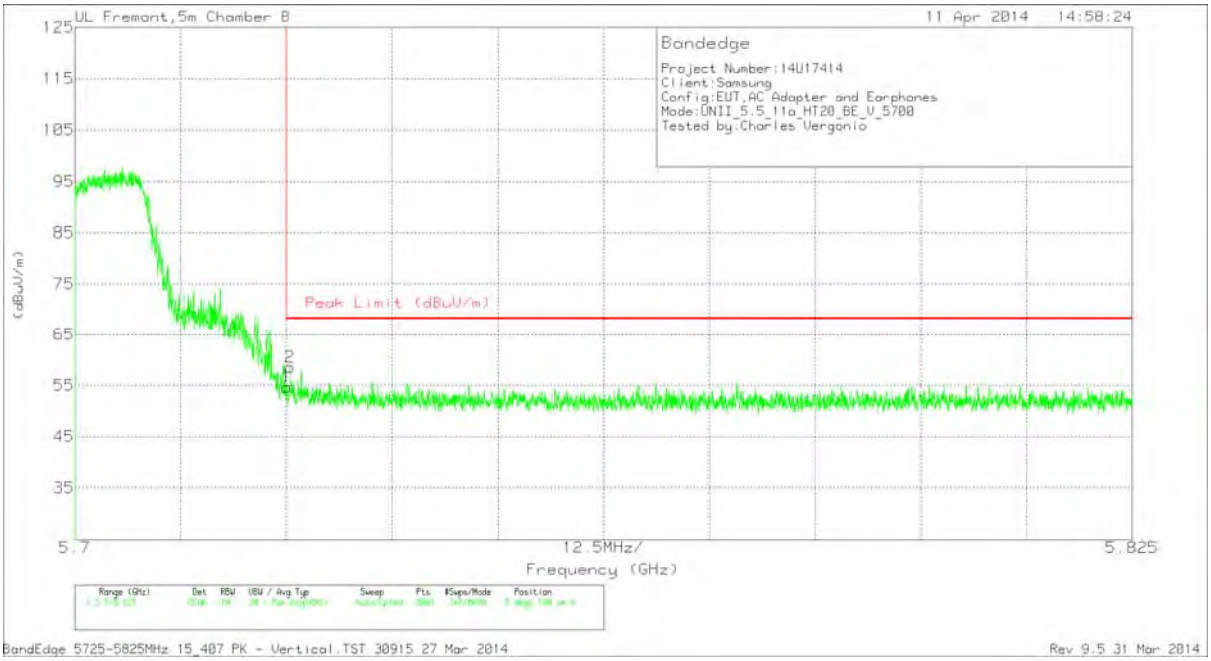

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.72	PK	34.6	-19.6	54.72	68.2	-13.48	5	140	V
2	5.725	43.54	PK	34.6	-19.6	58.54	68.2	-9.66	5	140	V

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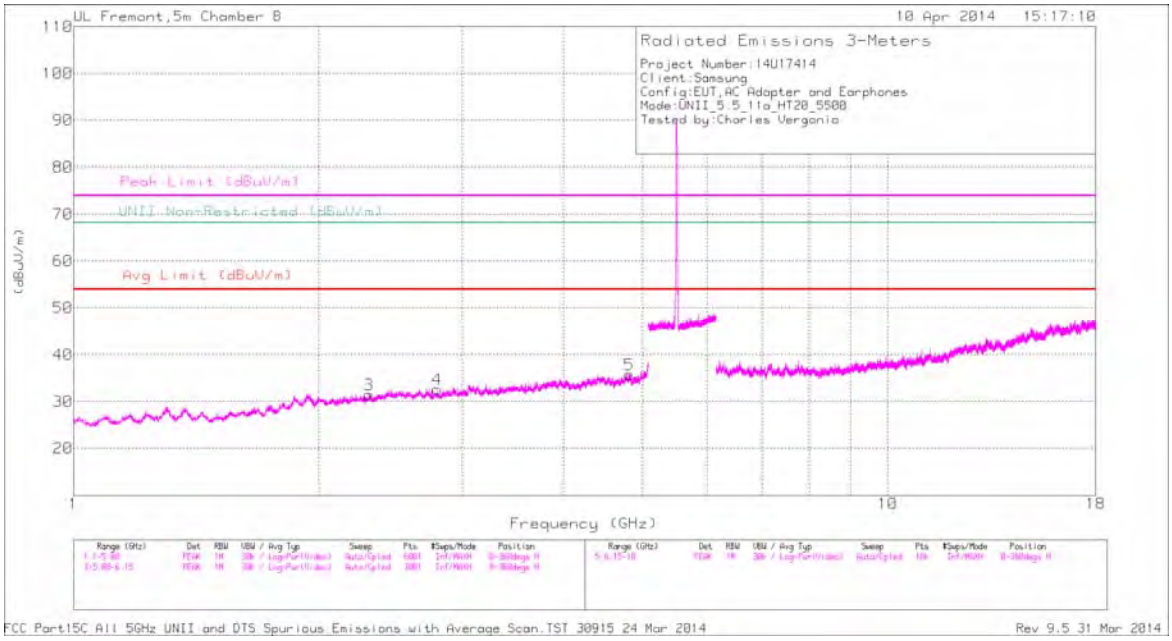
HARMONICS AND SPURIOUS EMISSIONS

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.

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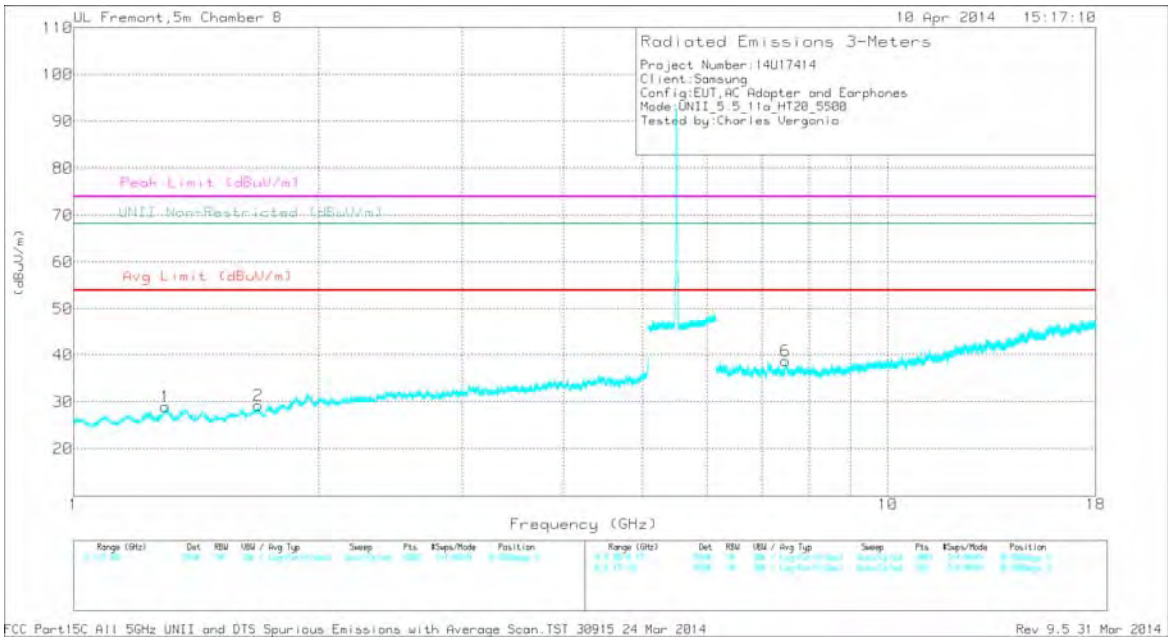
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 2.795	32.77	PK	32.3	-32.4	0	32.67	-	-	74	-41.33	-	-	0-360	201	H
5	* 4.815	31	PK	34.2	-29.4	0	35.8	-	-	74	-38.2	-	-	0-360	99	H
1	* 1.296	34.55	PK	28.8	-34.3	0	29.05	-	-	74	-44.95	-	-	0-360	202	V
2	* 1.685	33.56	PK	29	-33.3	0	29.26	-	-	74	-44.74	-	-	0-360	99	V
6	* 7.485	29.06	PK	35.6	-25.9	0	38.76	-	-	74	-35.24	-	-	0-360	202	V
3	2.306	32.76	PK	31.7	-33	0	31.46	-	-	-	-	68.2	-36.74	0-360	201	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 2.795	41.25	PK1	32.3	-32.4	0	41.15	54	-12.85	74	-32.85	-	-	2	100	H
* 4.817	39.99	PK1	34.2	-29.4	0	44.79	54	-9.21	74	-29.21	-	-	2	100	H
* 1.295	44.08	PK1	28.8	-34.3	0	38.58	54	-15.42	74	-35.42	-	-	2	100	V
* 1.686	41.8	PK1	29	-33.3	0	37.5	54	-16.5	74	-36.5	-	-	2	100	V
* 7.485	37.25	PK1	35.6	-25.9	0	46.95	54	-7.05	74	-27.05	-	-	2	100	V
2.305	41.32	PK1	31.7	-33	0	40.02	54	-	-	-	68.2	-28.18	2	100	H

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

PK1 - KDB789033 Method: Peak

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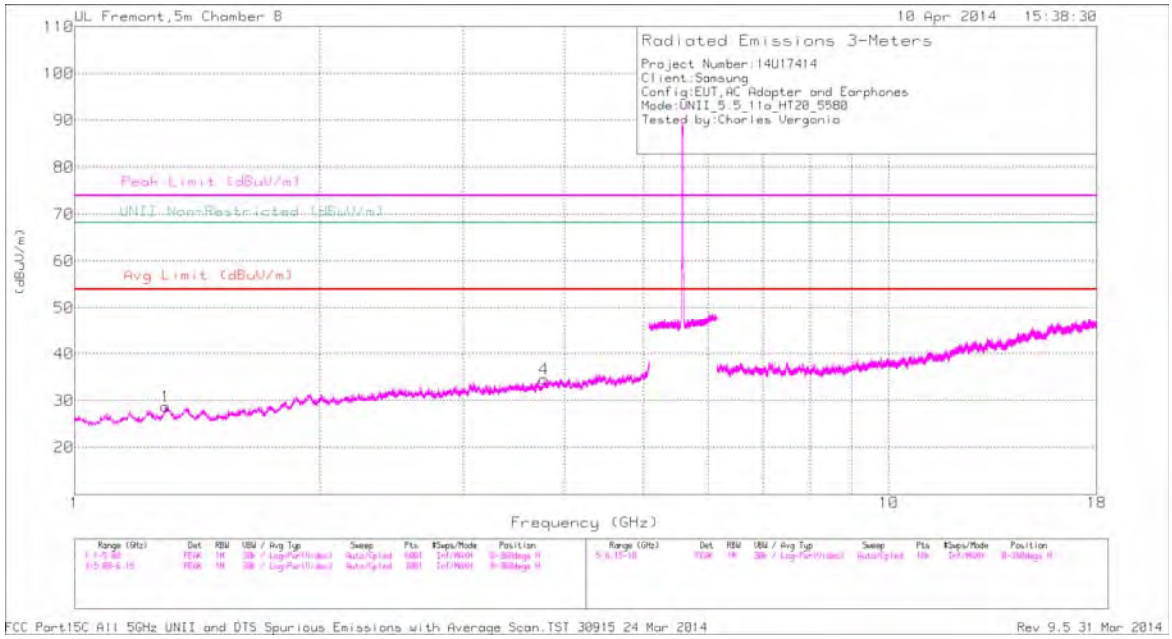
MID CHANNEL
HORIZONTAL



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

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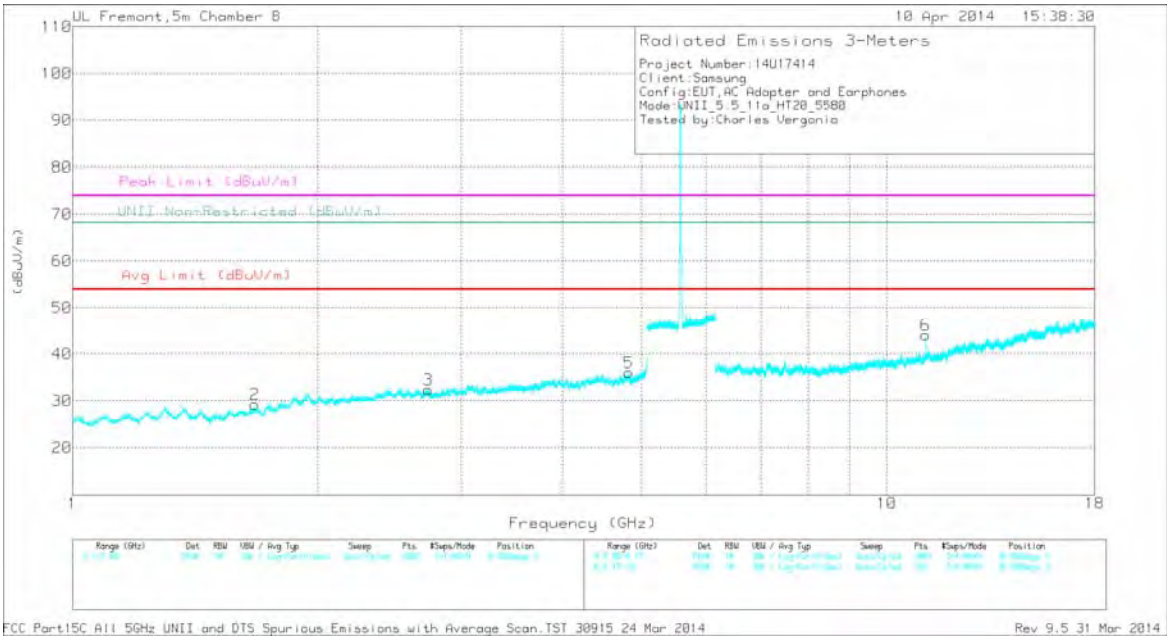
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.294	34.26	PK	28.8	-34.3	0	28.76	-	-	74	-45.24	-	-	0-360	99	H
4	* 3.77	32.33	PK	33.5	-31.2	0	34.63	-	-	74	-39.37	-	-	0-360	99	H
2	* 1.675	33.69	PK	28.9	-33.3	0	29.29	-	-	74	-44.71	-	-	0-360	202	V
3	* 2.733	32.2	PK	32.2	-32	0	32.4	-	-	74	-41.6	-	-	0-360	202	V
5	* 4.818	31.33	PK	34.2	-29.5	0	36.03	-	-	74	-37.97	-	-	0-360	202	V
6	* 11.16	29.49	PK	37.9	-23.3	0	44.09	-	-	74	-29.91	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.295	43.59	PK1	28.8	-34.3	0	38.09	54	-15.91	74	-35.91	-	-	1	100	H
* 3.768	40.76	PK1	33.5	-31.2	0	43.06	54	-10.94	74	-30.94	-	-	1	100	H
* 1.675	41.57	PK1	28.9	-33.3	0	37.17	54	-16.83	74	-36.83	-	-	0	100	V
* 2.734	41.04	PK1	32.2	-32	0	41.24	54	-12.76	74	-32.76	-	-	0	100	V
* 4.817	40.29	PK1	34.2	-29.5	0	44.99	54	-9.01	74	-29.01	-	-	0	100	V
* 11.16	36.62	PK1	37.9	-23.3	0	51.22	54	-2.78	74	-22.78	-	-	10	374	V
* 11.16	27.62	AD1	37.9	-23.3	.3	42.52	54	-11.48	-	-	-	-	10	374	V

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

PK1 - KDB789033 Method: Peak

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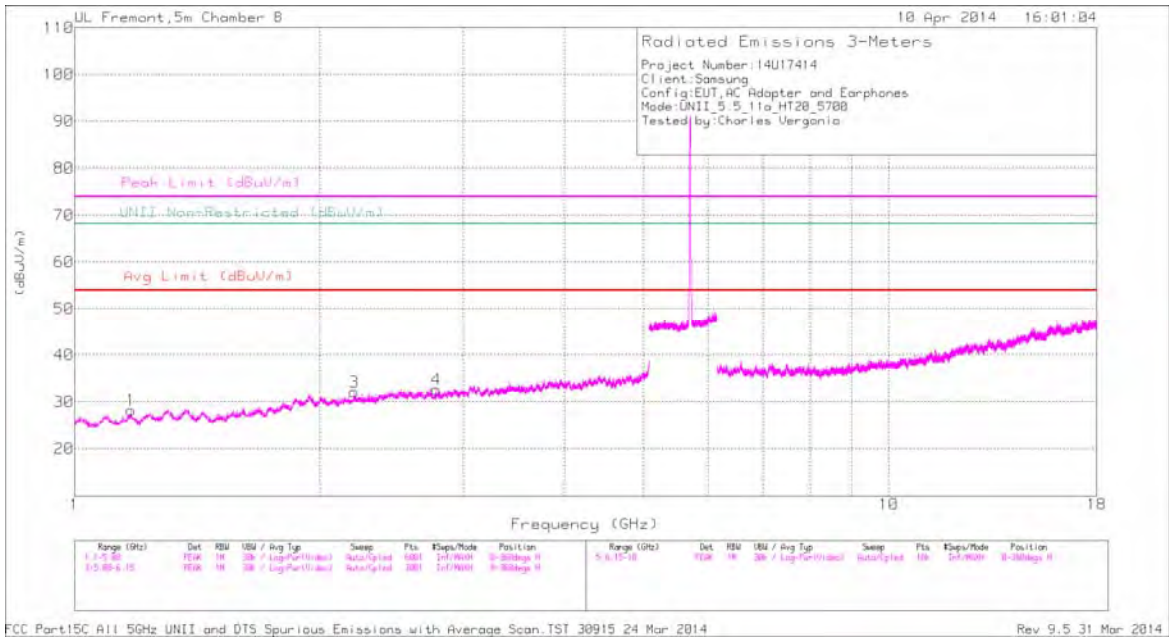
HIGH CHANNEL
HORIZONTAL



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

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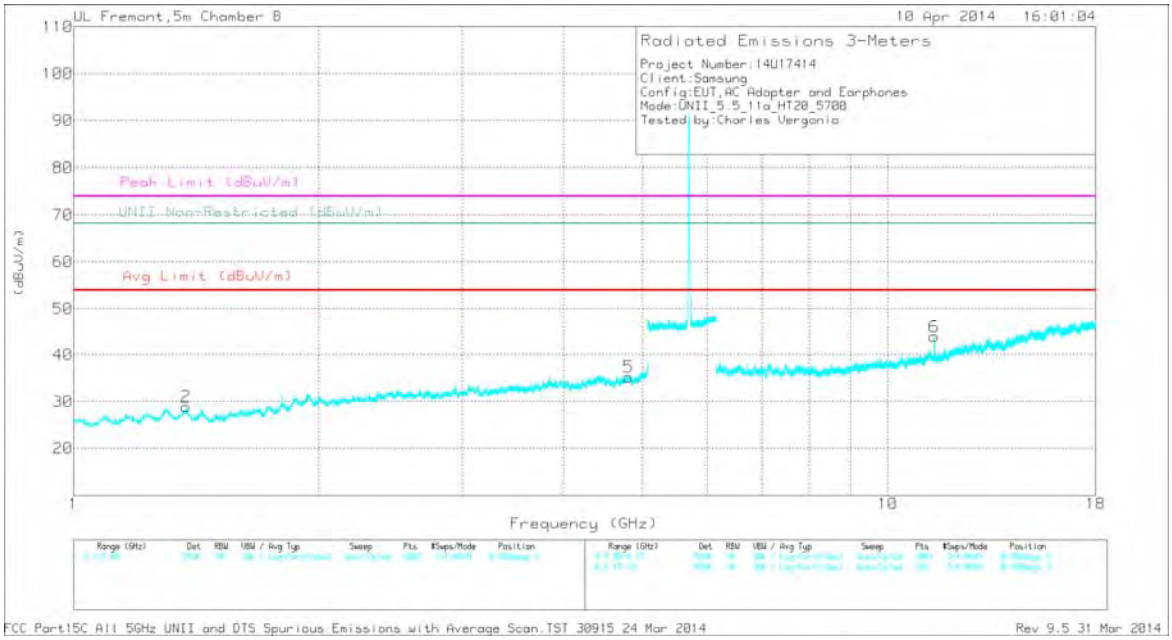
VERTICAL



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

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HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.173	34.99	PK	28	-34.7	0	28.29	-	-	74	-45.71	-	-	0-360	99	H
3	* 2.206	33.13	PK	31.3	-32.3	0	32.13	-	-	74	-41.87	-	-	0-360	202	H
4	* 2.779	32.9	PK	32.3	-32.6	0	32.6	-	-	74	-41.4	-	-	0-360	202	H
2	* 1.374	34.15	PK	28.6	-33.8	0	28.95	-	-	74	-45.05	-	-	0-360	202	V
5	* 4.805	30.31	PK	34.2	-29.2	0	35.31	-	-	74	-38.69	-	-	0-360	202	V
6	* 11.4	29.28	PK	38	-23.3	0	43.98	-	-	74	-30.02	-	-	0-360	99	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.173	42.62	PK1	28	-34.7	0	35.92	54	-18.08	74	-38.08	-	-	1	100	H
* 2.207	41.19	PK1	31.3	-32.3	0	40.19	54	-13.81	74	-33.81	-	-	1	100	H
* 2.78	40.63	PK1	32.3	-32.6	0	40.33	54	-13.67	74	-33.67	-	-	1	100	H
* 1.373	42.25	PK1	28.6	-33.8	0	37.05	54	-16.95	74	-36.95	-	-	1	100	V
* 4.805	40.17	PK1	34.2	-29.2	0	45.17	54	-8.83	74	-28.83	-	-	1	100	V
* 11.4	36.86	PK1	38	-23.3	0	51.56	54	-2.44	74	-22.44	-	-	203	136	V
* 11.4	28.89	AD1	38	-23.3	.3	43.89	54	-10.11	-	-	-	-	203	136	V

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

PK1 - KDB789033 Method: Peak

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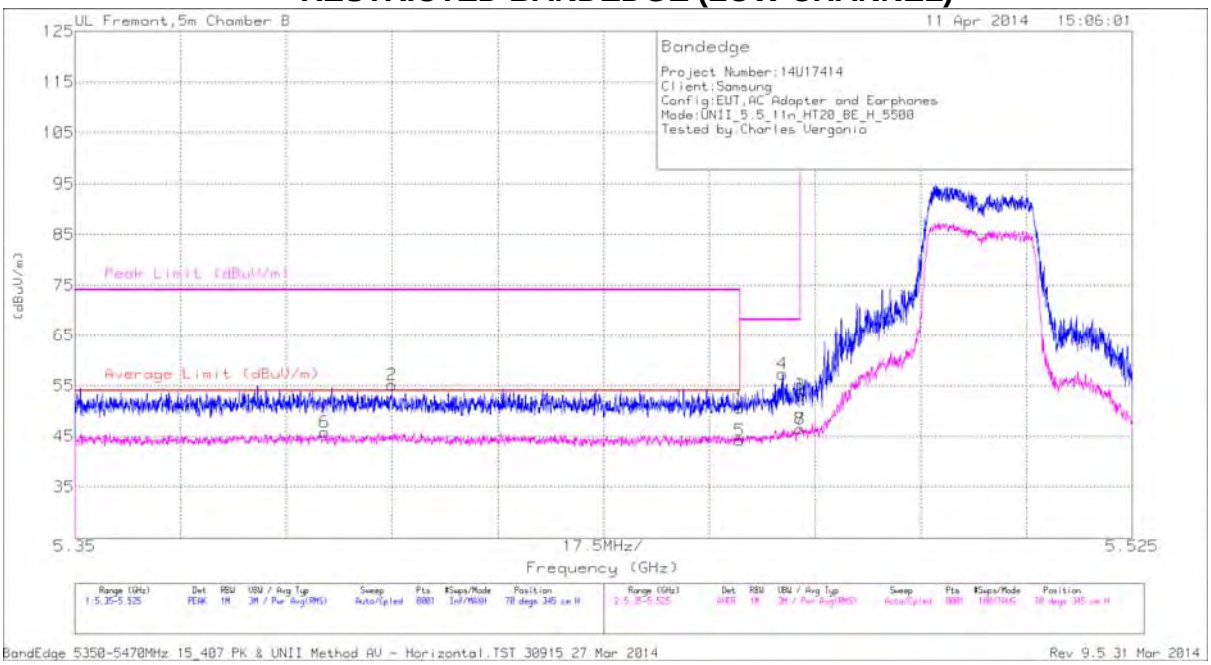
11.3.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)



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	* 5.46	36.04	PK	34.5	-20	0	50.54	-	-	74	-23.46	70	345	H
2	* 5.402	40.53	PK	34.5	-19.9	0	55.13	-	-	74	-18.87	70	345	H
5	* 5.46	29.41	RMS	34.5	-20	.3	44.21	54	-9.79	-	-	70	345	H
6	* 5.391	30.72	RMS	34.5	-19.7	.3	45.82	54	-8.18	-	-	70	345	H
4	5.467	42.81	PK	34.5	-20	0	57.31	-	-	68.2	-10.89	70	345	H
3	5.47	38.49	PK	34.5	-19.9	0	53.09	-	-	68.2	-15.11	70	345	H
7	5.47	31.52	RMS	34.5	-19.9	.3	46.42	-	-	-	-	70	345	H
8	5.47	31.52	RMS	34.5	-19.9	.3	46.42	-	-	-	-	70	345	H

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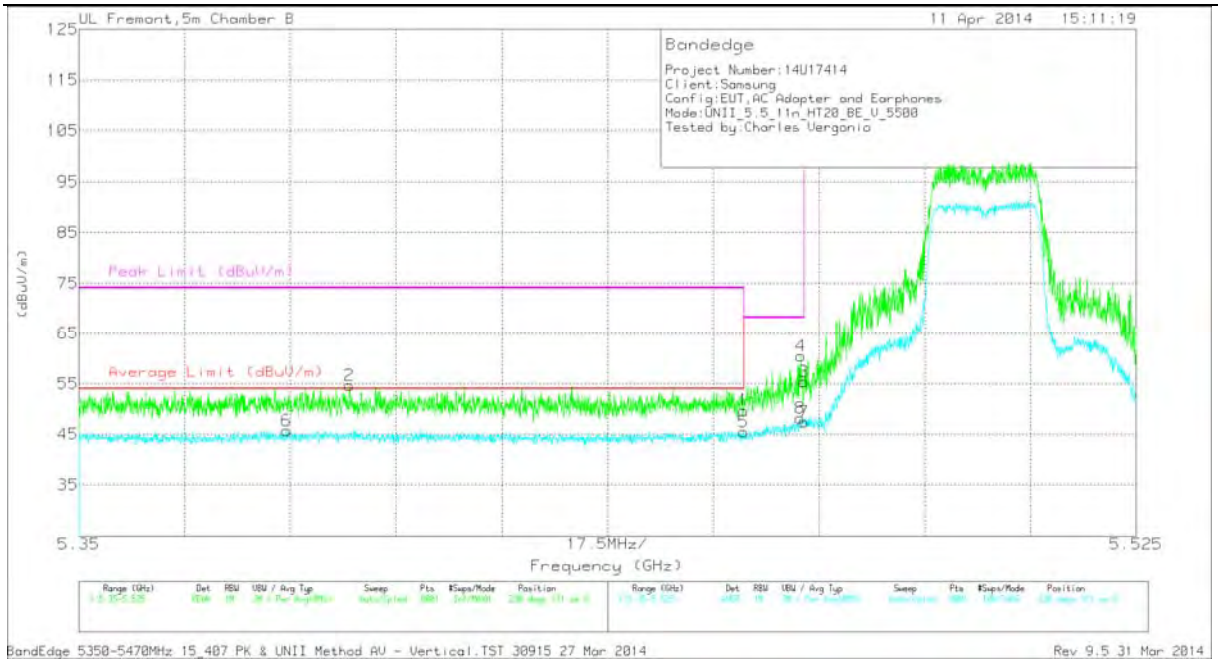

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	35.23	PK	34.5	-20	0	49.73	-	-	74	-24.27	230	171	V
2	* 5.395	39.99	PK	34.5	-19.8	0	54.69	-	-	74	-19.31	230	171	V
5	* 5.46	30.69	RMS	34.5	-20	.3	45.49	54	-8.51	-	-	230	171	V
6	* 5.384	30.64	RMS	34.5	-19.7	.3	45.74	54	-8.26	-	-	230	171	V
8	5.469	33.4	RMS	34.5	-20	.3	48.2	-	-	-	-	230	171	V
3	5.47	40.81	PK	34.5	-19.9	0	55.41	-	-	68.2	-12.79	230	171	V
4	5.47	46.01	PK	34.5	-20	0	60.51	-	-	68.2	-7.69	230	171	V
7	5.47	32.5	RMS	34.5	-19.9	.3	47.4	-	-	-	-	230	171	V

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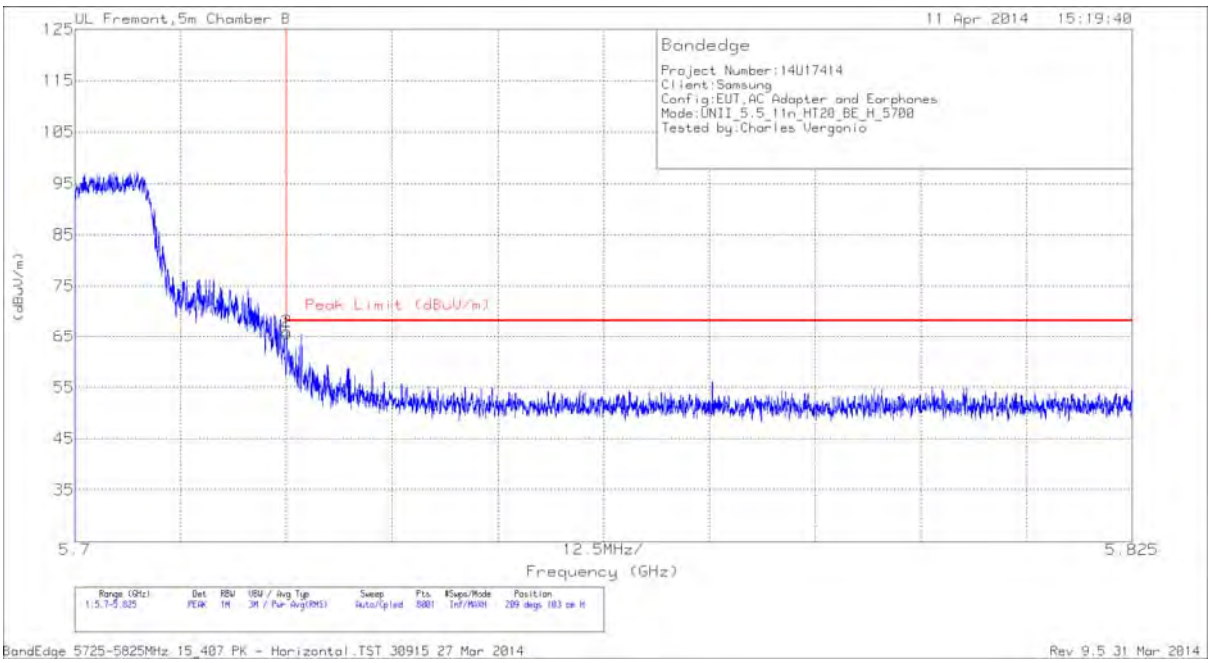
AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	50.65	PK	34.6	-19.6	65.65	68.2	-2.55	209	103	H
2	5.725	51.05	PK	34.6	-19.6	66.05	68.2	-2.15	209	103	H

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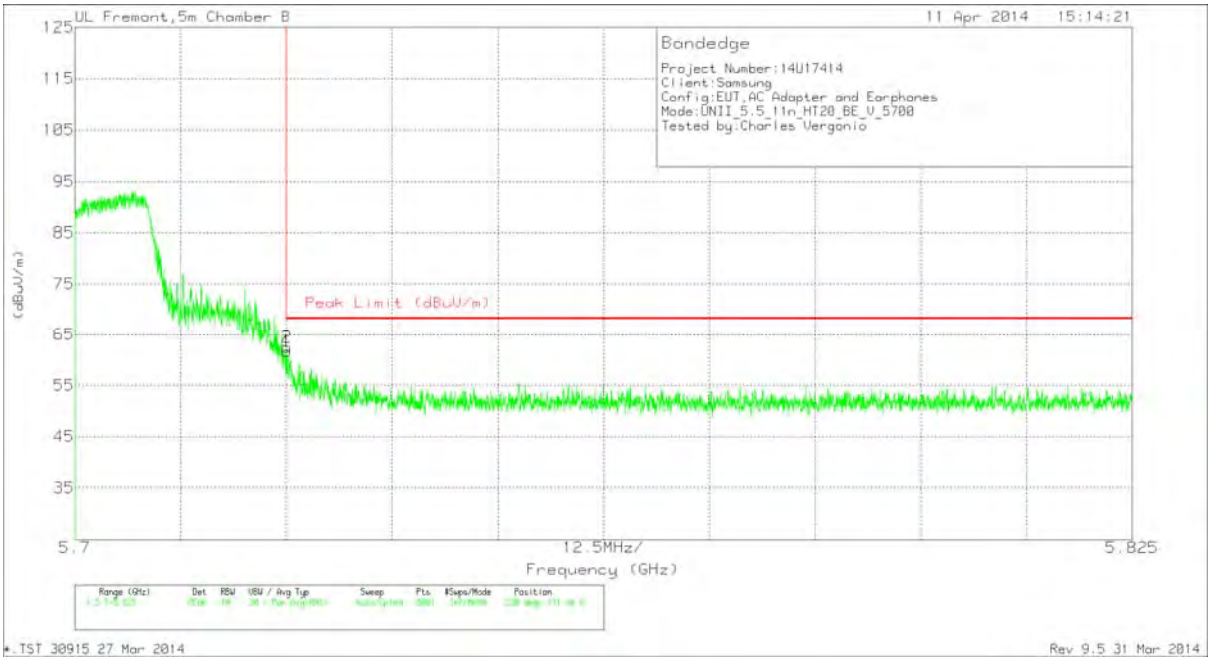

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	46.72	PK	34.6	-19.6	61.72	68.2	-6.48	230	171	V
2	5.725	47.48	PK	34.6	-19.6	62.48	68.2	-5.72	230	171	V

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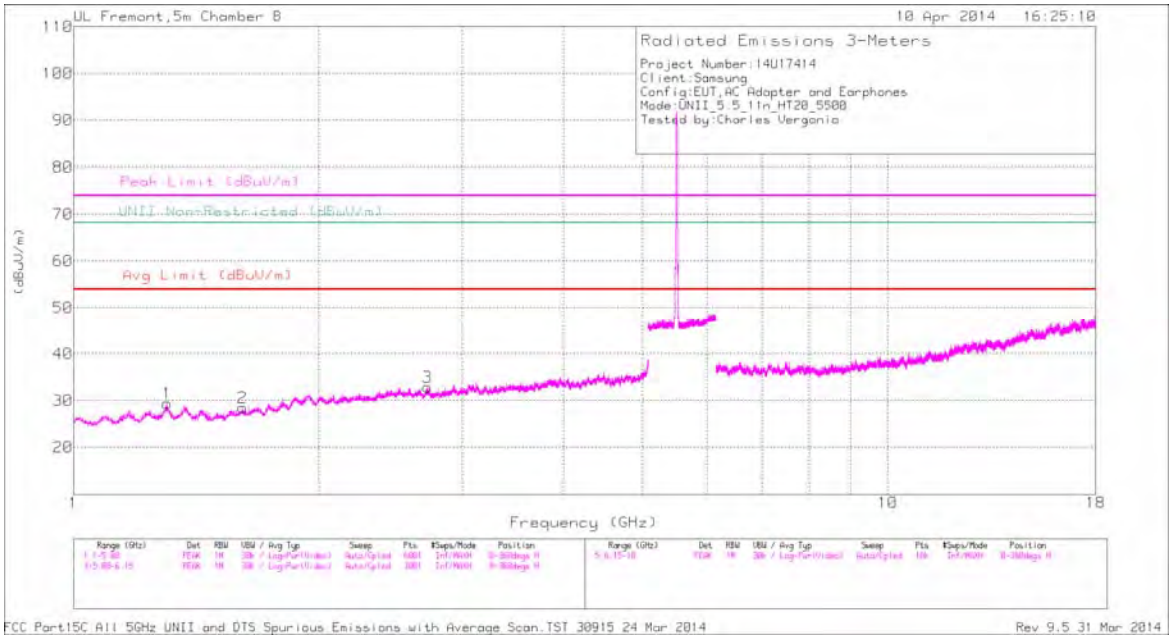
HARMONICS AND SPURIOUS EMISSIONS

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.

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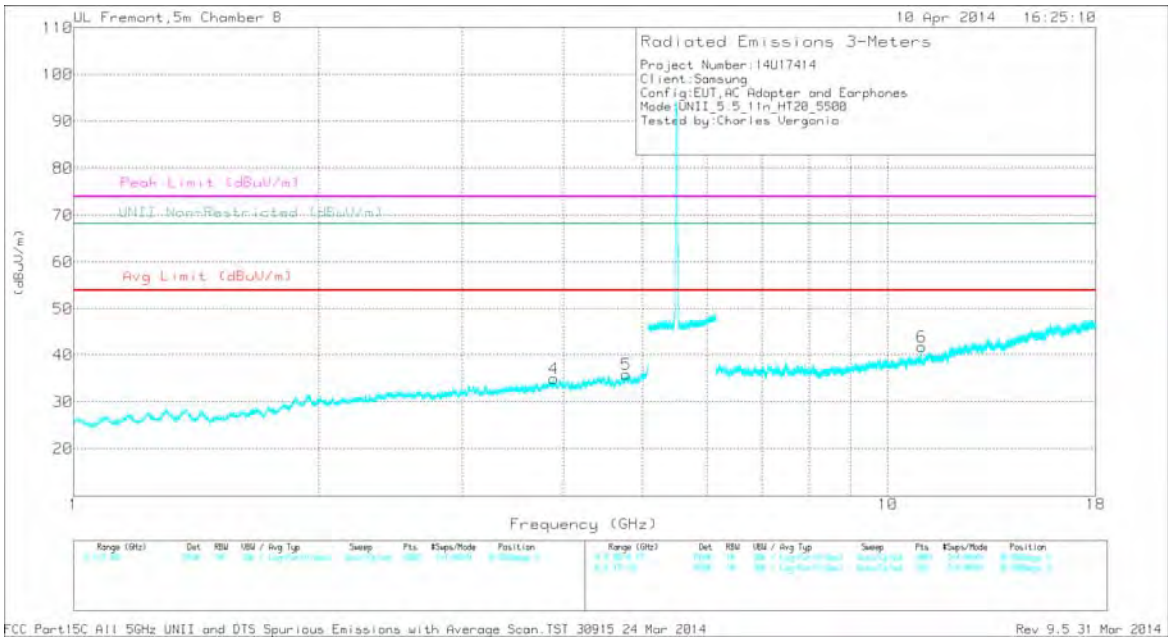
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.304	34.78	PK	28.8	-34.2	0	29.38	-	-	74	-44.62	-	-	0-360	202	H
2	* 1.612	32.98	PK	28.6	-33.1	0	28.48	-	-	74	-45.52	-	-	0-360	99	H
3	* 2.719	32.47	PK	32.2	-31.8	0	32.87	-	-	74	-41.13	-	-	0-360	99	H
4	* 3.886	32.85	PK	33.8	-31.7	0	34.95	-	-	74	-39.05	-	-	0-360	99	V
5	* 4.769	31.02	PK	34.2	-29.3	0	35.92	-	-	74	-38.08	-	-	0-360	99	V
6	* 11	27.18	PK	37.8	-23.3	0	41.68	-	-	74	-32.32	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.305	42.84	PK1	28.8	-34.2	0	37.44	54	-16.56	74	-36.56	-	-	360	100	H
* 1.612	41.54	PK1	28.6	-33.1	0	37.04	54	-16.96	74	-36.96	-	-	360	100	H
* 2.719	40.91	PK1	32.2	-31.8	0	41.31	54	-12.69	74	-32.69	-	-	360	100	H
* 3.886	41.41	PK1	33.8	-31.7	0	43.51	54	-10.49	74	-30.49	-	-	360	100	V
* 4.769	40.47	PK1	34.2	-29.3	0	45.37	54	-8.63	74	-28.63	-	-	360	100	V
* 11	33.34	PK1	37.8	-23.3	0	47.84	54	-6.16	74	-26.16	-	-	212	203	V
* 11	24.92	AD1	37.8	-23.3	.3	39.72	54	-14.28	-	-	-	-	212	203	V

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

PK1 - KDB789033 Method: Peak

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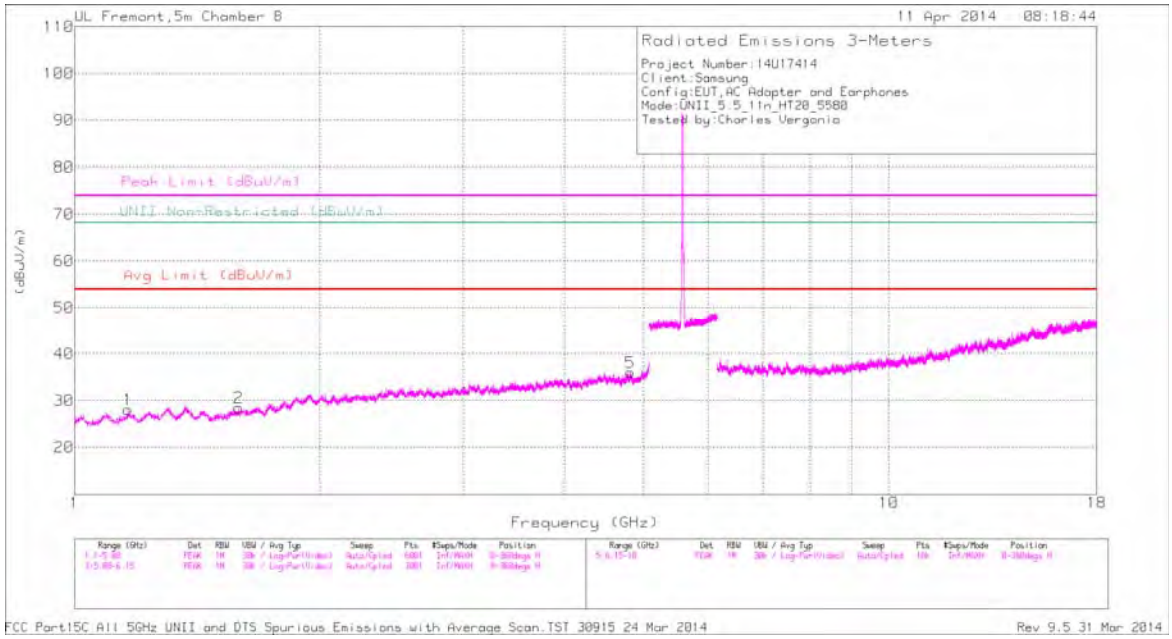
MID CHANNEL
HORIZONTAL



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

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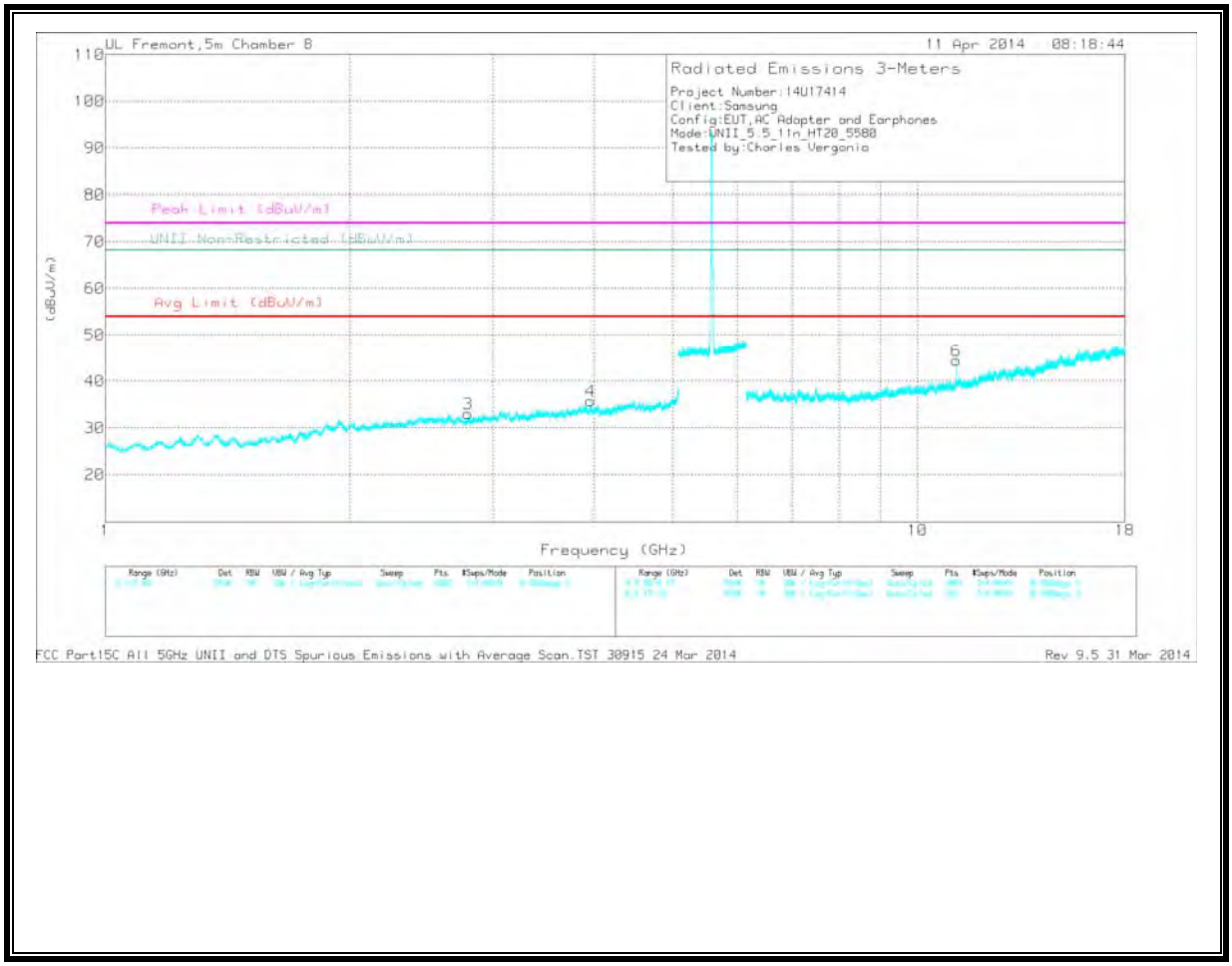
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.163	34.86	PK	27.9	-34.7	0	28.06	-	-	74	-45.94	-	-	0-360	202	H
2	* 1.59	33.48	PK	28.4	-33.4	0	28.48	-	-	74	-45.52	-	-	0-360	202	H
5	* 4.813	31.15	PK	34.2	-29.3	0	36.05	-	-	74	-37.95	-	-	0-360	202	H
3	* 2.796	33.1	PK	32.3	-32.4	0	33	-	-	74	-41	-	-	0-360	202	V
4	* 3.956	32.01	PK	33.7	-30	0	35.71	-	-	74	-38.29	-	-	0-360	99	V
6	* 11.16	29.83	PK	37.9	-23.3	0	44.43	-	-	74	-29.57	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.161	43.44	PK1	27.9	-34.7	0	36.64	54	-17.36	74	-37.36	-	-	1	100	H
* 1.589	41.3	PK1	28.4	-33.4	0	36.3	54	-17.7	74	-37.7	-	-	1	100	H
* 4.811	41.07	PK1	34.2	-29.3	0	45.97	54	-8.03	74	-28.03	-	-	1	100	H
* 2.797	41.09	PK1	32.3	-32.4	0	40.99	54	-13.01	74	-33.01	-	-	1	100	V
* 3.956	39.81	PK1	33.7	-30	0	43.51	54	-10.49	74	-30.49	-	-	1	100	V
* 11.16	36.23	PK1	37.9	-23.3	0	50.83	54	-3.17	74	-23.17	-	-	202	174	V
* 11.16	28.84	AD1	37.9	-23.3	.3	43.74	54	-10.26	-	-	-	-	202	174	V

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

PK1 - KDB789033 Method: Peak

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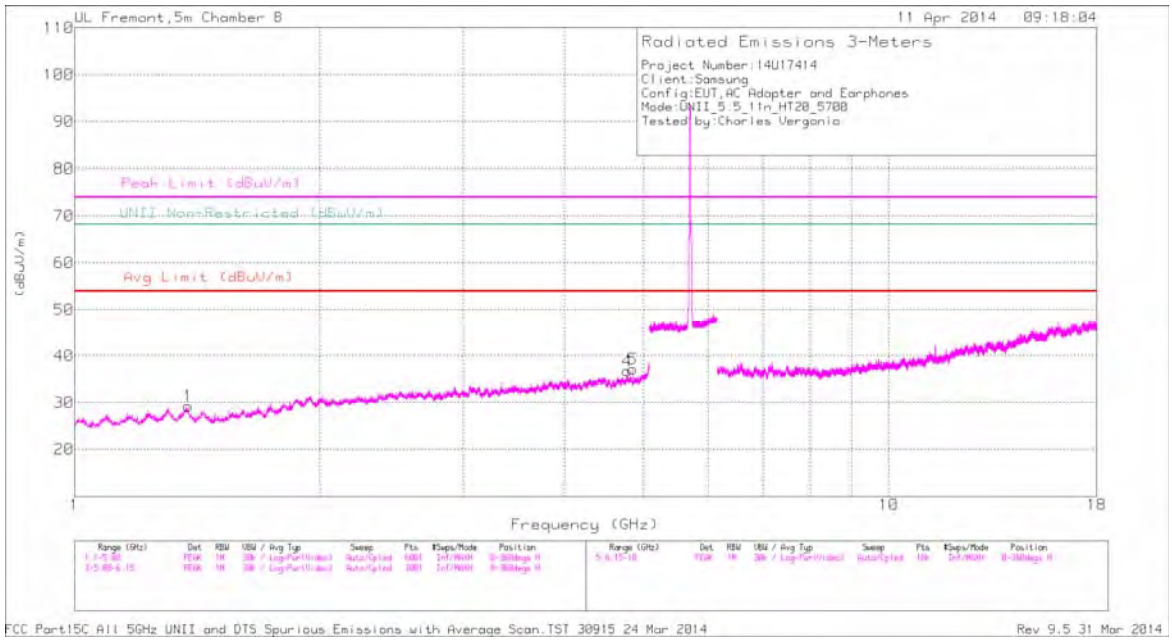
HIGH CHANNEL
HORIZONTAL



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

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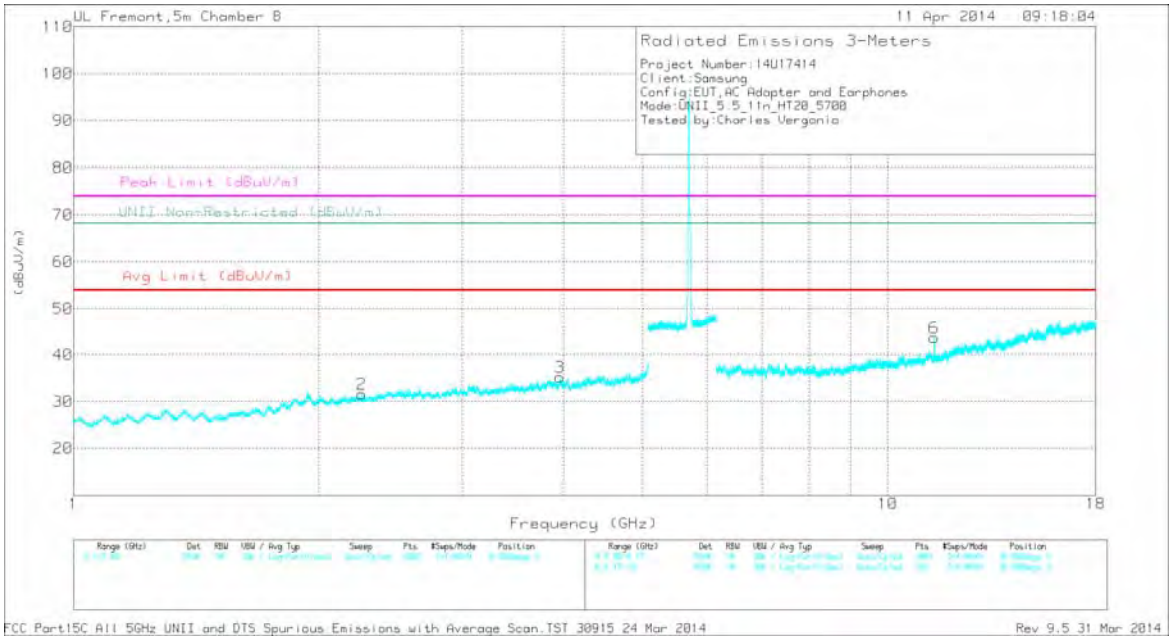
VERTICAL



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

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HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.378	34.44	PK	28.6	-33.8	0	29.24	-	-	74	-44.76	-	-	0-360	99	H
4	* 4.771	31.79	PK	34.2	-29.2	0	36.79	-	-	74	-37.21	-	-	0-360	99	H
5	* 4.844	33.33	PK	34.2	-30.3	0	37.23	-	-	74	-36.77	-	-	0-360	202	H
2	* 2.26	32.85	PK	31.5	-32.7	0	31.65	-	-	74	-42.35	-	-	0-360	202	V
3	* 3.956	31.57	PK	33.7	-30	0	35.27	-	-	74	-38.73	-	-	0-360	202	V
6	* 11.4	28.94	PK	38	-23.3	0	43.64	-	-	74	-30.36	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.377	42.93	PK1	28.6	-33.8	0	37.73	54	-16.27	74	-36.27	-	-	359	100	H
* 4.771	40.81	PK1	34.2	-29.2	0	45.81	54	-8.19	74	-28.19	-	-	359	100	H
* 4.844	40.31	PK1	34.2	-30.3	0	44.21	54	-9.79	74	-29.79	-	-	359	100	H
* 2.26	41.18	PK1	31.5	-32.7	0	39.98	54	-14.02	74	-34.02	-	-	359	100	V
* 3.955	40.05	PK1	33.7	-30	0	43.75	54	-10.25	74	-30.25	-	-	359	100	V
* 11.4	35.21	PK1	38	-23.3	0	49.91	54	-4.09	74	-24.09	-	-	77	248	V
* 11.4	26.29	AD1	38	-23.3	.3	41.29	54	-12.71	-	-	-	-	77	248	V

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

PK1 - KDB789033 Method: Peak

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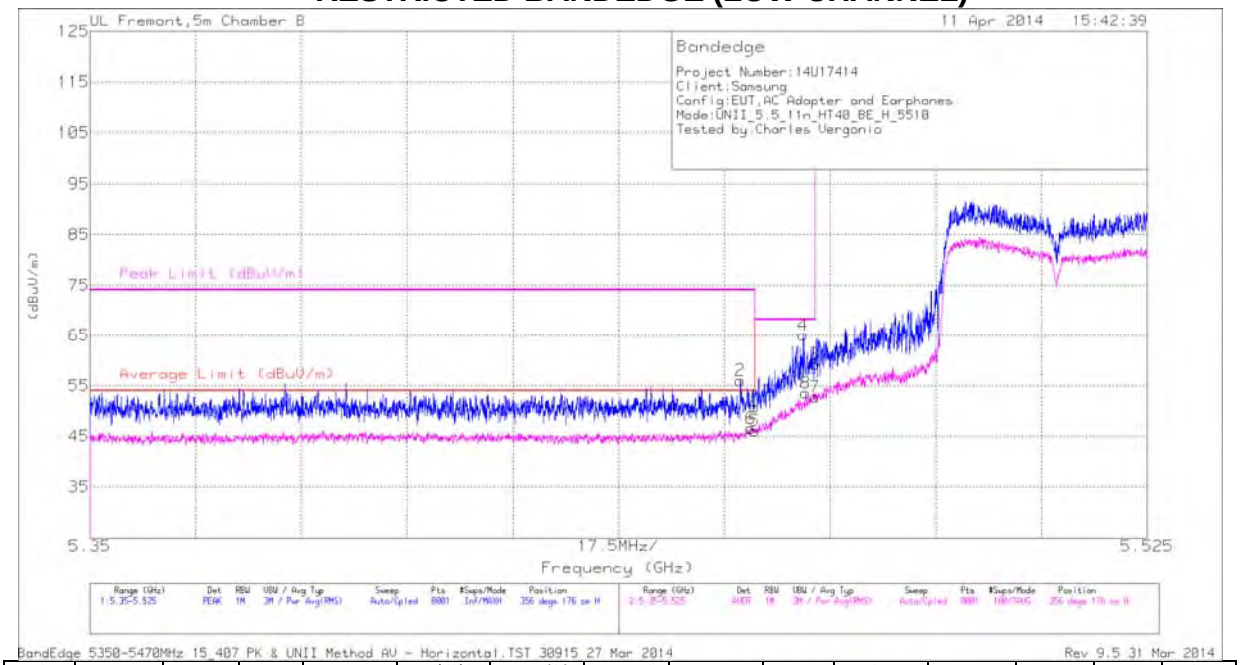
11.3.5. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)



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	* 5.46	36.26	PK	34.5	-20	0	50.76	-	-	74	-23.24	356	176	H
2	* 5.458	41.56	PK	34.5	-20	0	56.06	-	-	74	-17.94	356	176	H
5	* 5.46	30.97	RMS	34.5	-20	.6	46.07	54	-7.93	-	-	356	176	H
6	* 5.459	31.49	RMS	34.5	-20	.6	46.59	54	-7.41	-	-	356	176	H
4	5.468	50.6	PK	34.5	-20	0	65.1	-	-	68.2	-3.1	356	176	H
8	5.468	38.45	RMS	34.5	-20	.6	53.55	-	-	-	-	356	176	H
3	5.47	44.62	PK	34.5	-19.9	0	59.22	-	-	68.2	-8.98	356	176	H
7	5.47	37.63	RMS	34.5	-19.9	.6	52.83	-	-	-	-	356	176	H

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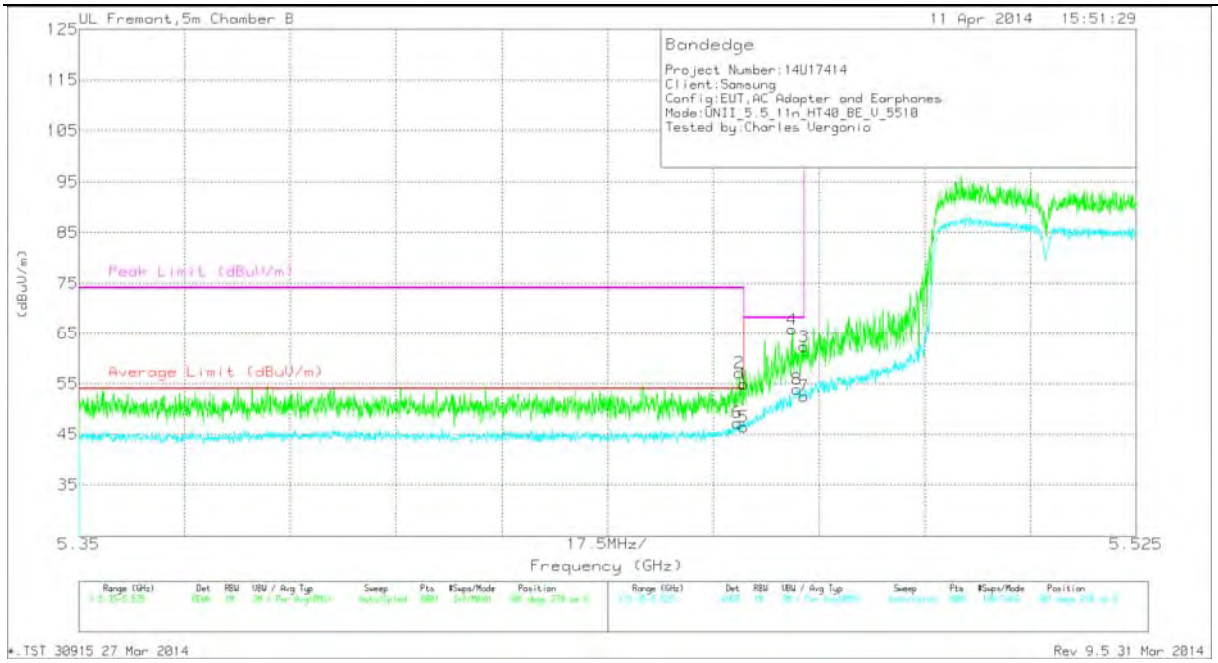

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	40.33	PK	34.5	-20	0	54.83	-	-	74	-19.17	301	278	V
2	* 5.459	42.57	PK	34.5	-20	0	57.07	-	-	74	-16.93	301	278	V
5	* 5.46	31.39	RMS	34.5	-20	.6	46.49	54	-7.51	-	-	301	278	V
6	* 5.459	32.15	RMS	34.5	-20	.6	47.25	54	-6.75	-	-	301	278	V
4	5.468	51.33	PK	34.5	-20	0	65.83	-	-	68.2	-2.37	301	278	V
8	5.469	38.8	RMS	34.5	-20	.6	53.9	-	-	-	-	301	278	V
3	5.47	47.72	PK	34.5	-19.9	0	62.32	-	-	68.2	-5.88	301	278	V
7	5.47	37.28	RMS	34.5	-19.9	.6	52.48	-	-	-	-	301	278	V

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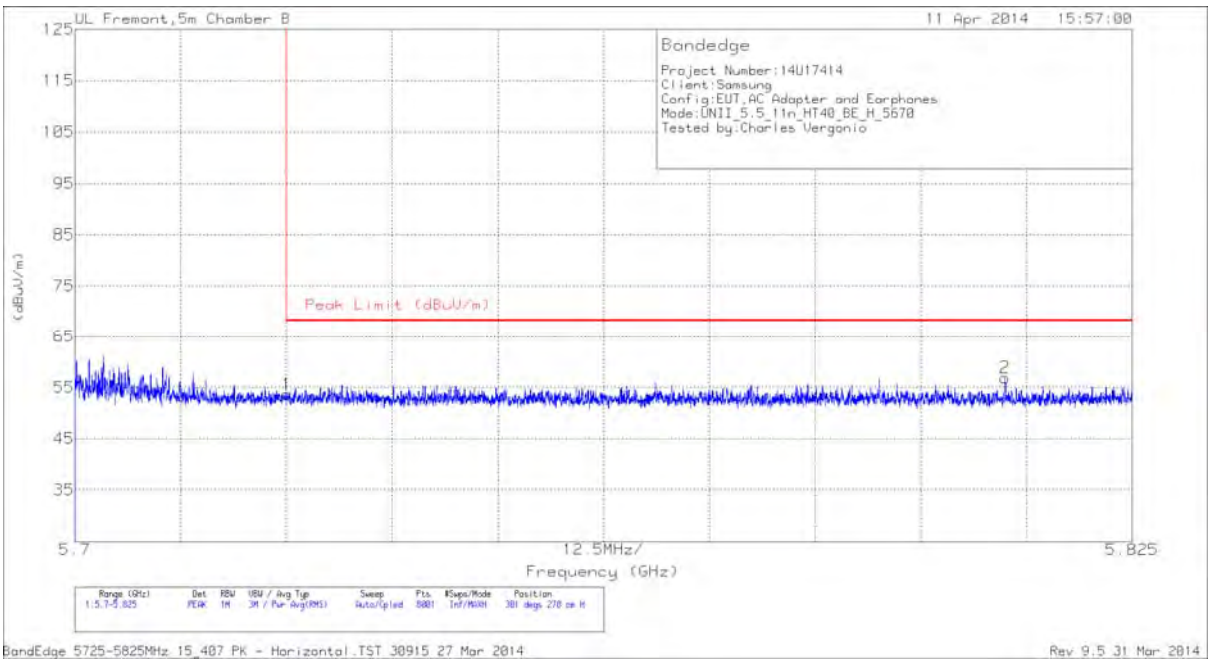
AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	38.64	PK	34.6	-19.6	53.64	68.2	-14.56	252	159	H
2	5.81	41.93	PK	34.7	-19.7	56.93	68.2	-11.27	252	159	H

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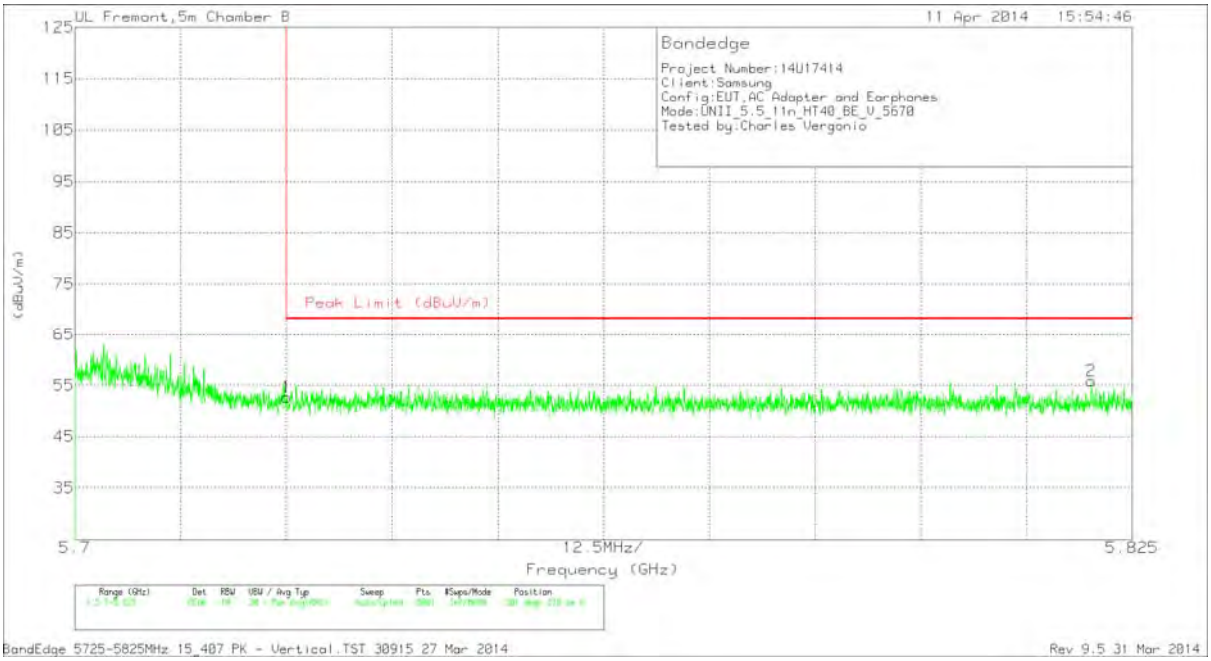

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	37.66	PK	34.6	-19.6	52.66	68.2	-15.54	201	178	V
2	5.82	40.81	PK	34.7	-19.6	55.91	68.2	-12.29	201	178	V

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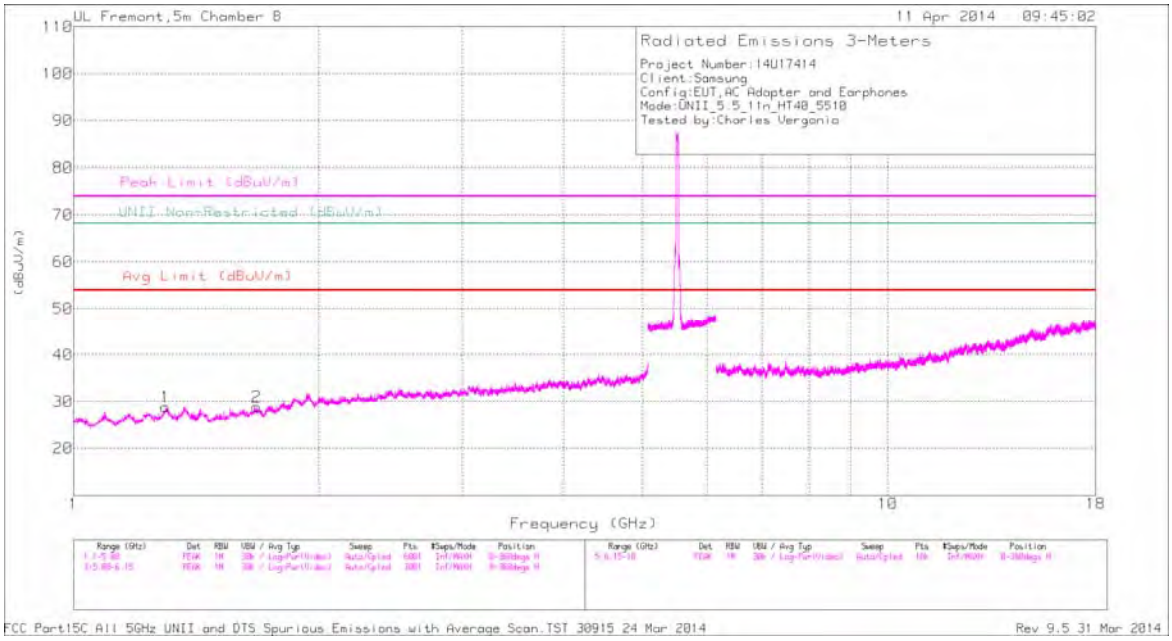
HARMONICS AND SPURIOUS EMISSIONS

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.

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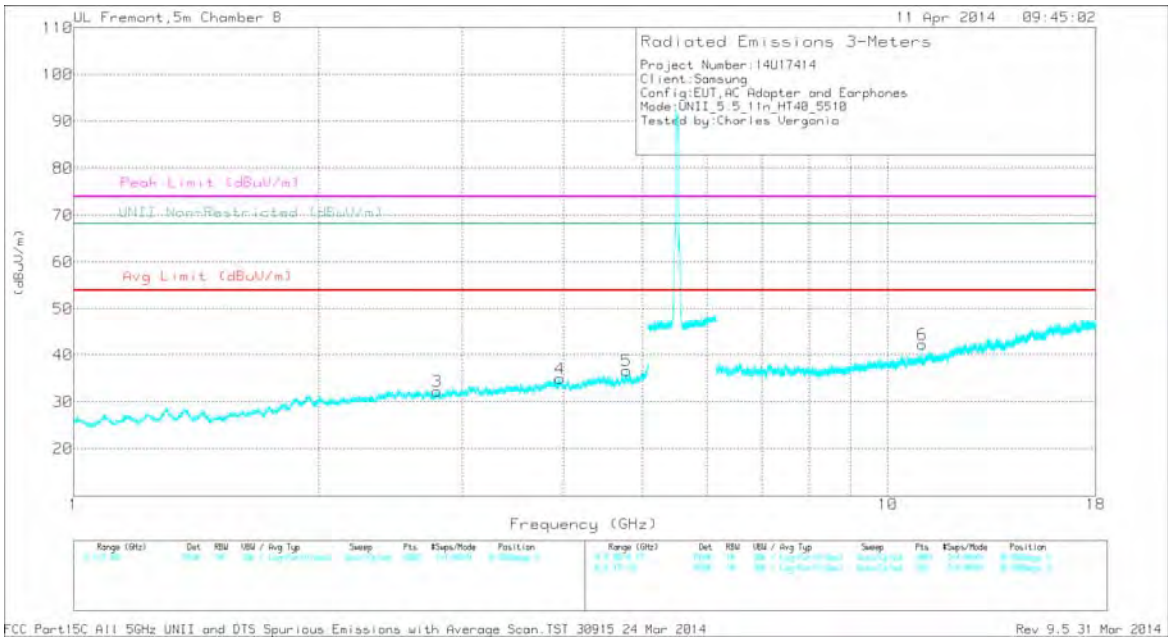
VERTICAL



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

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LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.297	34.42	PK	28.8	-34.3	0	28.92	-	-	74	-45.08	-	-	0-360	202	H
2	* 1.678	33.23	PK	28.9	-33.3	0	28.83	-	-	74	-45.17	-	-	0-360	202	H
3	* 2.795	32.37	PK	32.3	-32.4	0	32.27	-	-	74	-41.73	-	-	0-360	202	V
4	* 3.955	31.31	PK	33.7	-30	0	35.01	-	-	74	-38.99	-	-	0-360	99	V
5	* 4.776	31.56	PK	34.2	-29.1	0	36.66	-	-	74	-37.34	-	-	0-360	99	V
6	* 11.019	27.81	PK	37.8	-23.3	0	42.31	-	-	74	-31.69	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.297	42.58	PK1	28.8	-34.3	0	37.08	54	-16.92	74	-36.92	-	-	1	100	H
* 1.677	42.52	PK1	28.9	-33.3	0	38.12	54	-15.88	74	-35.88	-	-	1	100	H
* 2.796	40.97	PK1	32.3	-32.4	0	40.87	54	-13.13	74	-33.13	-	-	1	100	V
* 3.955	40.84	PK1	33.7	-30	0	44.54	54	-9.46	74	-29.46	-	-	1	100	V
* 4.776	39.9	PK1	34.2	-29.1	0	45	54	-9.0	74	-29	-	-	1	100	V
* 11.02	34.4	PK1	37.8	-23.3	0	48.9	54	-5.1	74	-25.1	-	-	180	161	V
* 11.02	24.42	AD1	37.8	-23.3	.6	39.52	54	-14.48	-	-	-	-	180	161	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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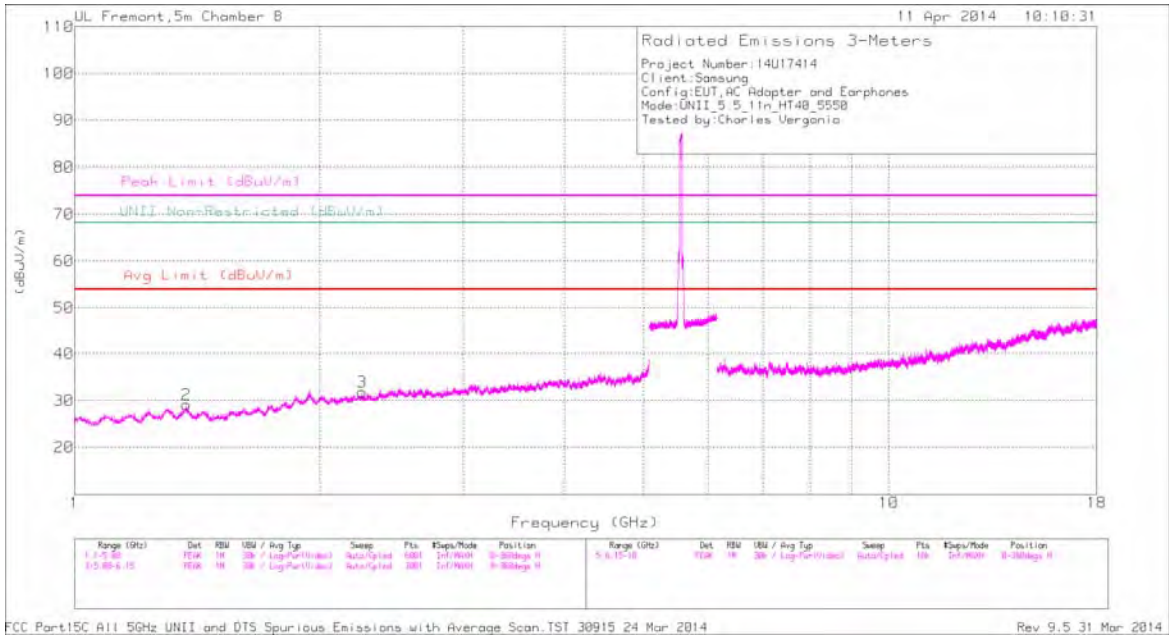
MID CHANNEL
HORIZONTAL



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

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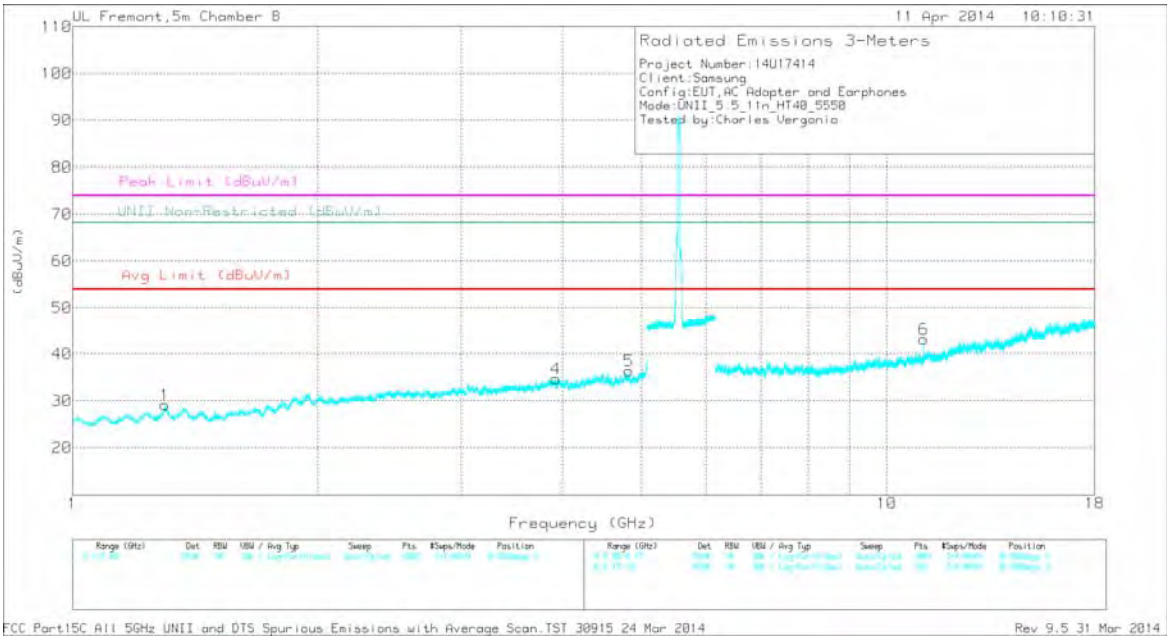
VERTICAL



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

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MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.372	34.37	PK	28.6	-33.8	0	29.17	-	-	74	-44.83	-	-	0-360	201	H
3	* 2.254	32.96	PK	31.5	-32.6	0	31.86	-	-	74	-42.14	-	-	0-360	99	H
1	* 1.299	34.5	PK	28.8	-34.2	0	29.1	-	-	74	-44.9	-	-	0-360	202	V
4	* 3.919	32.12	PK	33.8	-31.2	0	34.72	-	-	74	-39.28	-	-	0-360	202	V
5	* 4.818	31.68	PK	34.2	-29.5	0	36.38	-	-	74	-37.62	-	-	0-360	99	V
6	* 11.1	28.97	PK	37.8	-23.6	0	43.17	-	-	74	-30.83	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.373	42.68	PK1	28.6	-33.8	0	37.48	54	-16.52	74	-36.52	-	-	1	100	H
* 2.255	41.31	PK1	31.5	-32.6	0	40.21	54	-13.79	74	-33.79	-	-	1	100	H
* 1.3	42.71	PK1	28.9	-34.2	0	37.41	54	-16.59	74	-36.59	-	-	1	100	V
* 3.92	40.33	PK1	33.8	-31.1	0	43.03	54	-10.97	74	-30.97	-	-	1	100	V
* 4.819	40.56	PK1	34.2	-29.5	0	45.26	54	-8.74	74	-28.74	-	-	1	100	V
* 11.1	36	PK1	37.8	-23.6	0	50.2	54	-3.8	74	-23.8	-	-	335	183	V
* 11.1	27.26	AD1	37.8	-23.6	.6	42.06	54	-11.94	-	-	-	-	335	183	V

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

PK1 - KDB789033 Method: Peak

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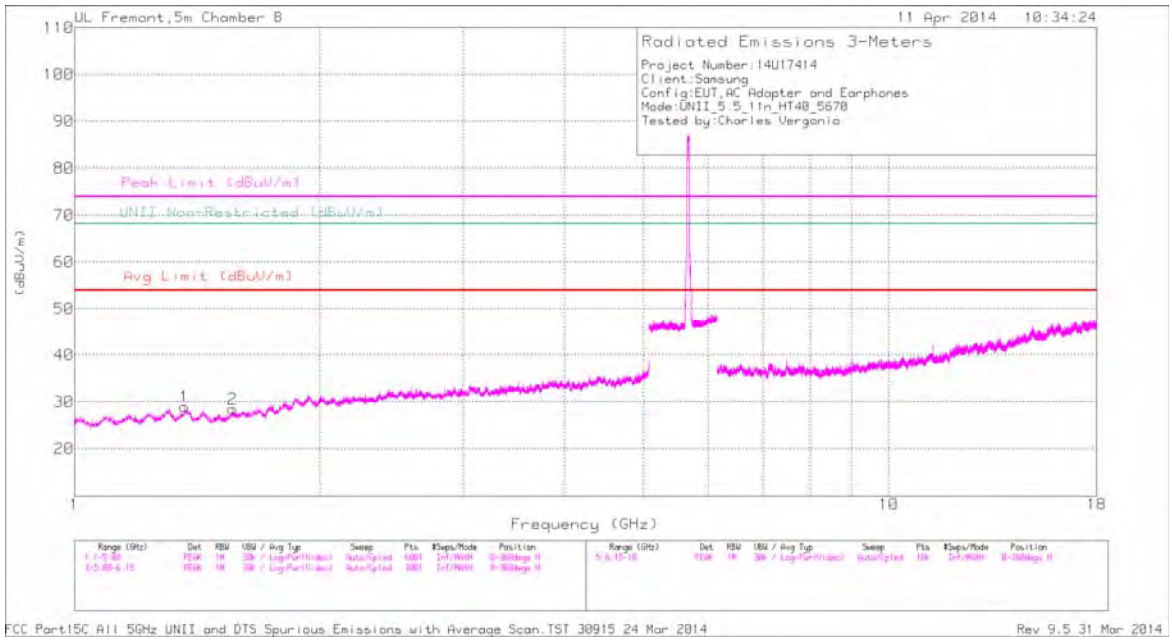
HIGH CHANNEL
HORIZONTAL



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

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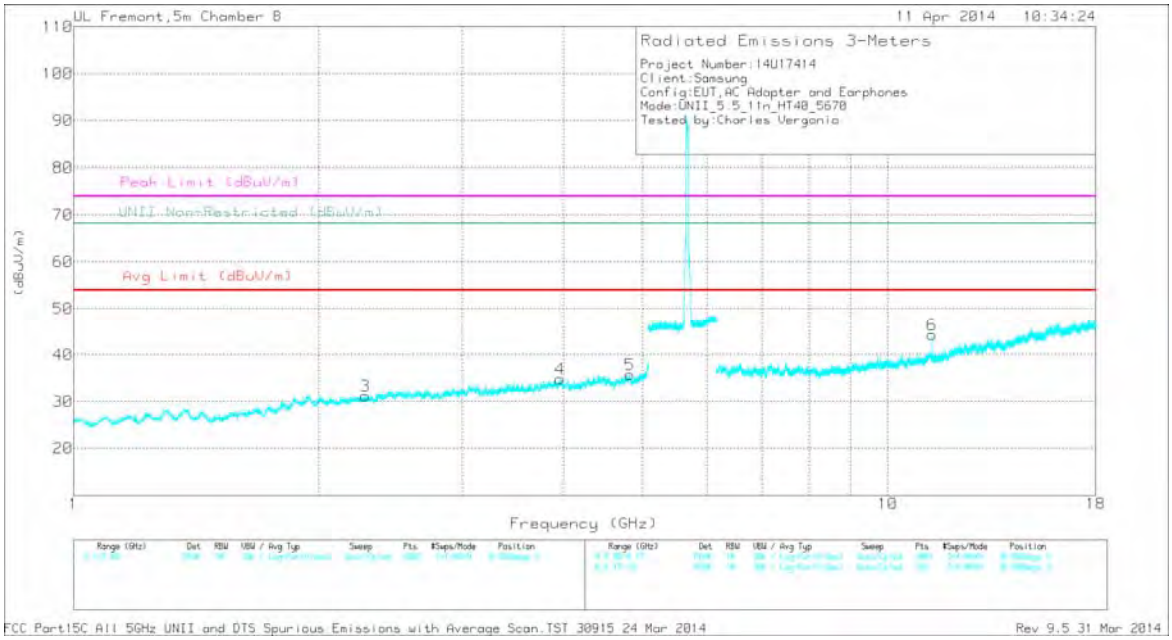
VERTICAL



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

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HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.364	34.22	PK	28.6	-33.8	0	29.02	-	-	74	-44.98	-	-	0-360	202	H
2	* 1.564	33.81	PK	28.3	-33.6	0	28.51	-	-	74	-45.49	-	-	0-360	99	H
3	* 2.282	32.56	PK	31.6	-32.9	0	31.26	-	-	74	-42.74	-	-	0-360	202	V
4	* 3.954	31.19	PK	33.7	-30	0	34.89	-	-	74	-39.11	-	-	0-360	202	V
5	* 4.818	31.08	PK	34.2	-29.5	0	35.78	-	-	74	-38.22	-	-	0-360	202	V
6	* 11.34	29.51	PK	38	-23.2	0	44.31	-	-	74	-29.69	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.365	43.36	PK1	28.6	-33.8	0	38.16	54	-15.84	74	-35.84	-	-	360	100	H
* 1.563	42.36	PK1	28.3	-33.6	0	37.06	54	-16.94	74	-36.94	-	-	360	100	H
* 2.281	25.96	Avg	31.6	-32.9	0	24.66	54	-29.34	-	-	-	-	360	100	V
* 3.953	39.95	PK1	33.7	-30	0	43.65	54	-10.35	74	-30.35	-	-	360	100	V
* 4.82	40.53	PK1	34.2	-29.6	0	45.13	54	-8.87	74	-28.87	-	-	360	100	V
* 11.34	35.53	PK1	38	-23.2	0	50.33	54	-3.67	74	-23.67	-	-	196	365	V
* 11.34	27.15	AD1	38	-23.2	.64	42.55	54	-11.45	-	-	-	-	196	365	V

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

PK1 - KDB789033 Method: Peak

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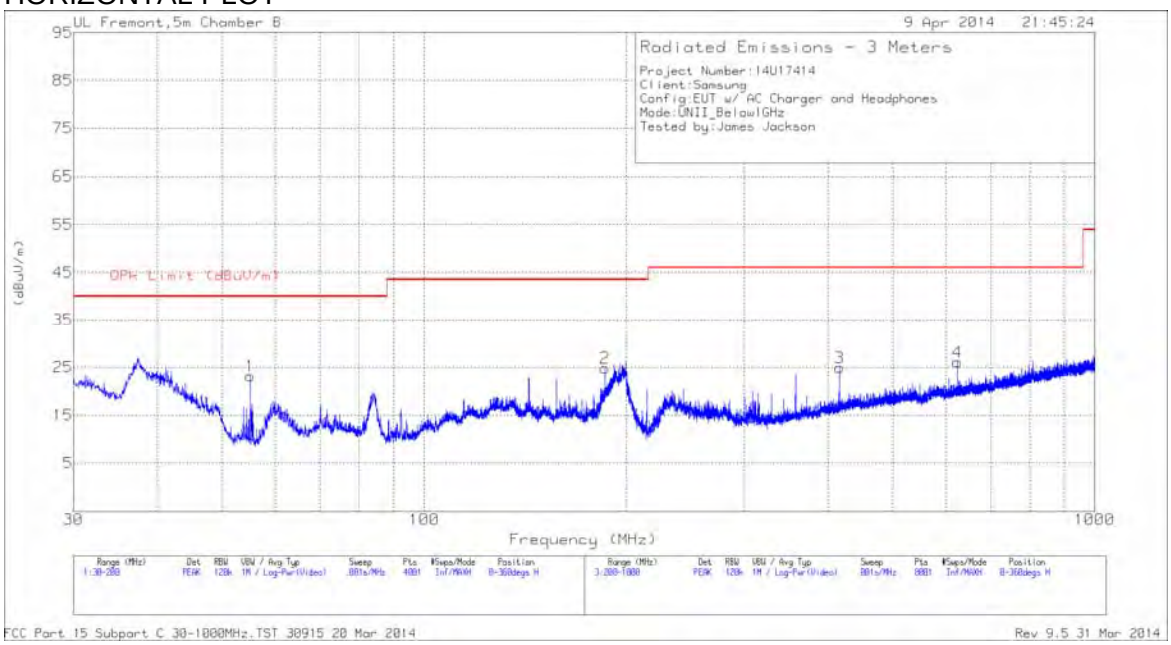
12. WORST-CASE BELOW 1 GHz (in the 5.3 GHz Band)

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

HORIZONTAL PLOT



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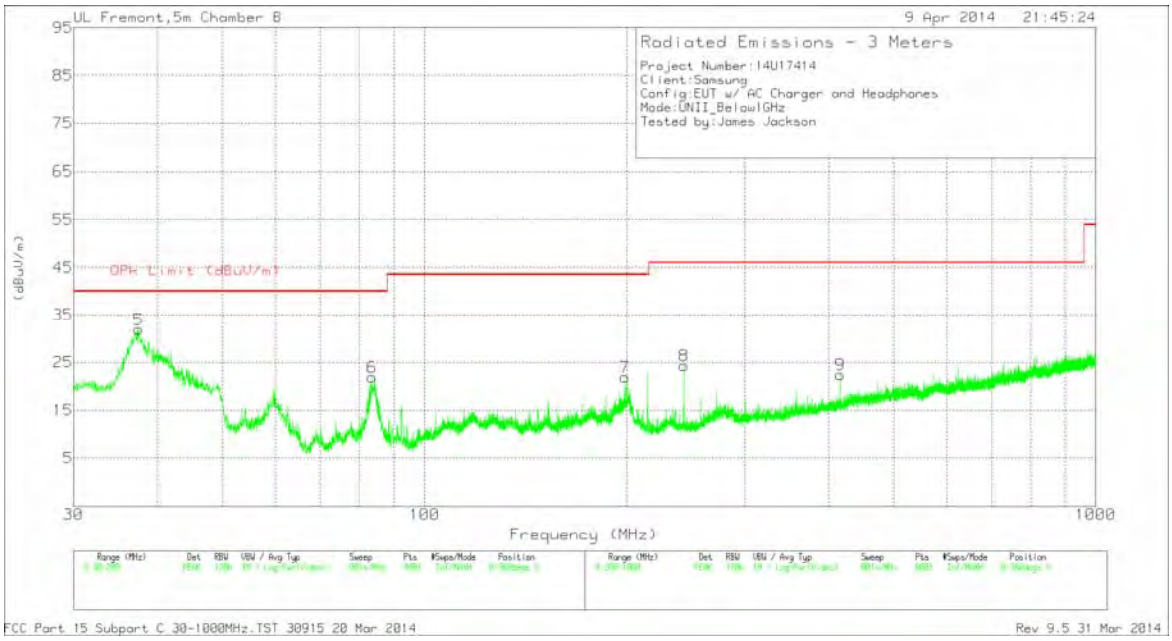
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



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Worst Case Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 37.5225	45.38	PK	15.4	-28.8	31.98	40	-8.02	0-360	101	V
8	* 243.4	39.28	PK	11.5	-26.5	24.28	46.02	-21.74	0-360	200	V
1	55.075	44.81	PK	7	-28.6	23.21	40	-16.79	0-360	300	H
6	83.55	42.83	PK	7.4	-28.3	21.93	40	-18.07	0-360	101	V
2	186.145	40.7	PK	11.3	-27.1	24.9	43.52	-18.62	0-360	100	H
7	199.065	36.59	PK	12.3	-27	21.89	43.52	-21.63	0-360	101	V
3	416	35.21	PK	15.8	-26	25.01	46.02	-21.01	0-360	101	H
9	416	32.68	PK	15.8	-26	22.48	46.02	-23.54	0-360	300	V
4	624	32.17	PK	19.1	-25.2	26.07	46.02	-19.95	0-360	300	H

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

PK - Peak detector

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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

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6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin to Limit (dB)	CFR 47 Part 15 Class B Avg	Margin to Limit (dB)
1	.366	35.99	PK	.5	0	36.49	58.6	-22.11	48.6	-12.11
2	.366	21.25	Av	.5	0	21.75	58.6	-36.85	48.6	-26.85
3	3.462	51.5	PK	.2	.1	51.8	56	-4.2		
4	3.462	34.55	Av	.2	.1	34.85	56	-21.15	46	-11.15
5	7.782	43.85	PK	.2	.1	44.15	60	-15.85	50	-5.85
6	7.782	25.62	Av	.2	.1	25.92	60	-34.08	50	-24.08
7	17.394	34.37	PK	.3	.2	34.87	60	-25.13	50	-15.13
8	17.394	16.17	Av	.3	.2	16.67	60	-43.33	50	-33.33

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin to Limit (dB)	CFR 47 Part 15 Class B Avg	Margin to Limit (dB)
9	.3615	33.39	PK	.5	0	33.89	58.7	-24.81	48.7	-14.81
10	.3615	21.26	Av	.5	0	21.76	58.7	-36.94	48.7	-26.94
11	3.6195	49.6	PK	.2	.1	49.9	56	-6.1		
12	3.6195	32.73	Av	.2	.1	33.03	56	-22.97	46	-12.97
13	7.62	40.85	PK	.2	.1	41.15	60	-18.85	50	-8.85
14	7.62	24.2	Av	.2	.1	24.5	60	-35.5	50	-25.5
17	8.043	41.98	PK	.2	.1	42.28	60	-17.72	50	-7.72
18	8.043	24.88	Av	.2	.1	25.18	60	-34.82	50	-24.82
19	16.8675	43.13	PK	.3	.2	43.63	60	-16.37	50	-6.37
20	16.8675	21.32	Av	.3	.2	21.82	60	-38.18	50	-28.18
15	16.8765	43	PK	.3	.2	43.5	60	-16.5	50	-6.5
16	16.8765	22.38	Av	.3	.2	22.88	60	-37.12	50	-27.12

PK - Peak detector
Av - average detection

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LINE 1 RESULTS

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LINE 2 RESULTS

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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".

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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.	

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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

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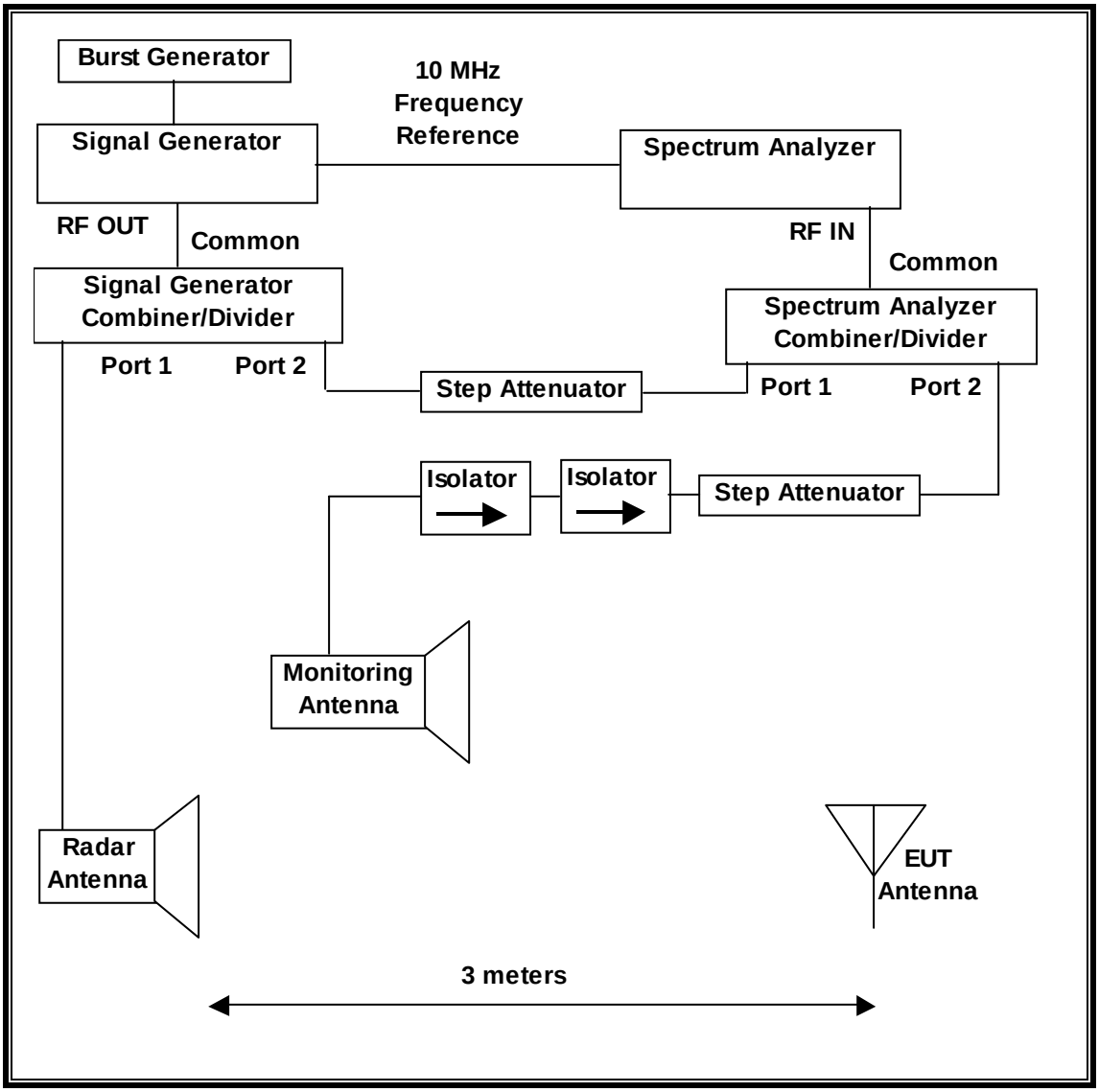
14.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



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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.

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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

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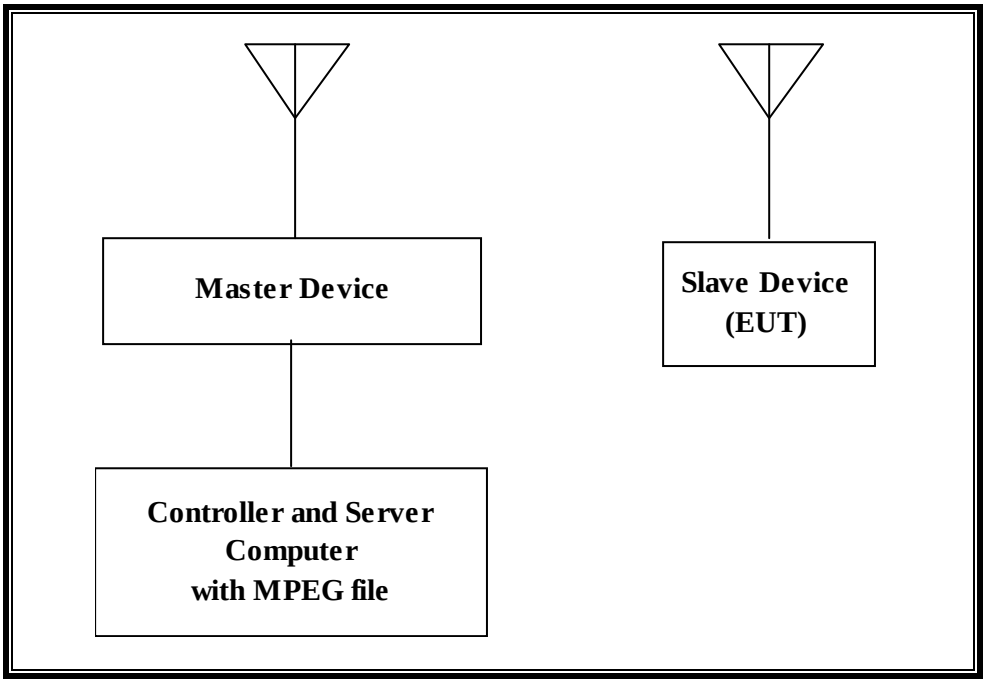
14.1.3. SETUP OF EUT

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

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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 15.19 dBm EIRP in the 5250-5350 MHz band and 14.41 dBm EIRP in the 5470-5725 MHz band.

The only antenna assembly utilized with the EUT has a gain of 0.13 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.

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

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 media player with the V2.61 Codec package.

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.

The software installed in the access point is revision T255S.001.

UNIFORM CHANNEL SPREADING

This requirement is not applicable to Slave radio devices.

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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.

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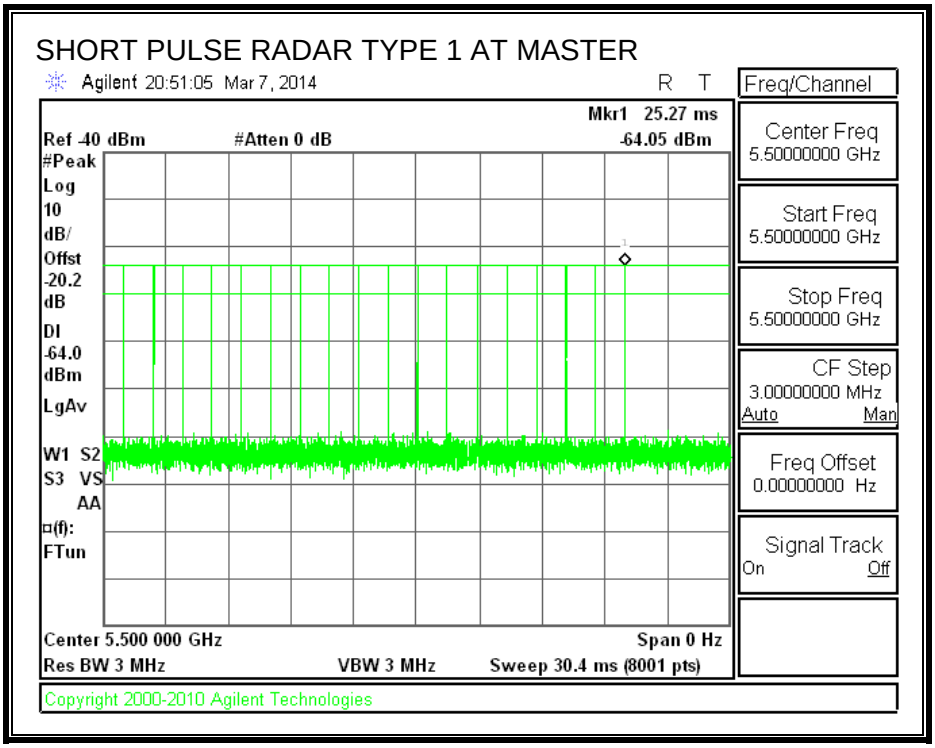
14.2. RESULTS FOR 20 MHz BANDWIDTH

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



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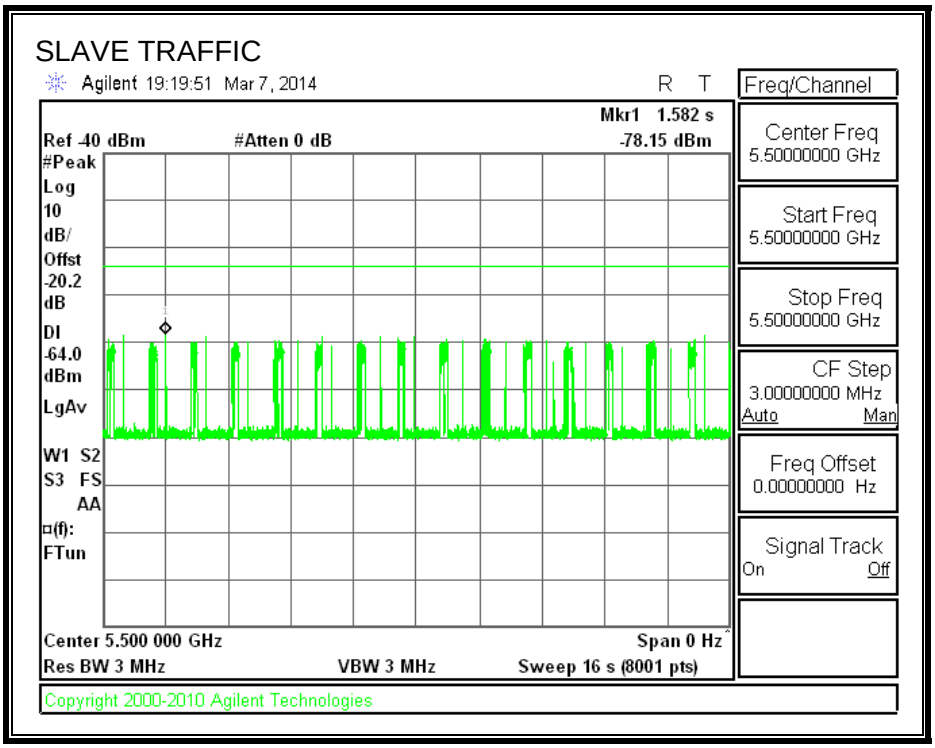
TRAFFIC



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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)
0.090	10

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

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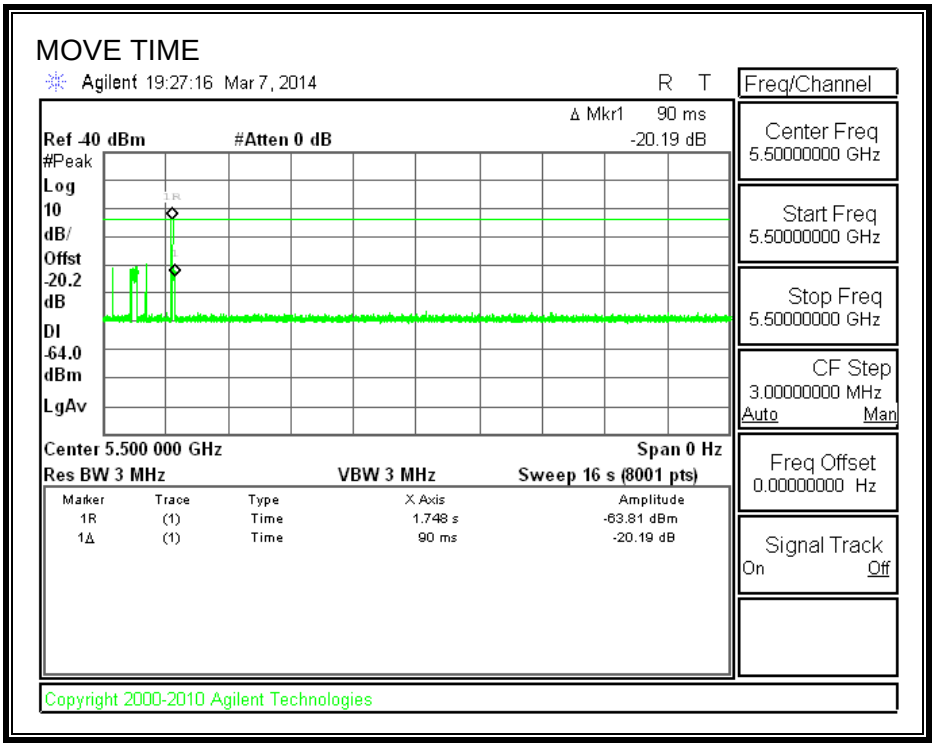
MOVE TIME



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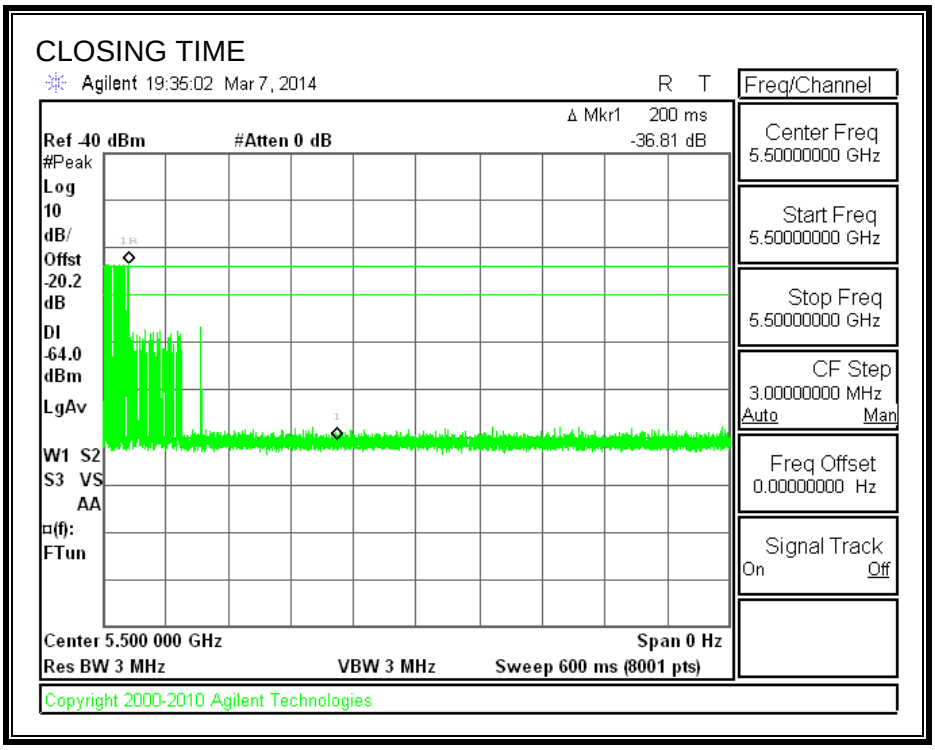
CHANNEL CLOSING TIME



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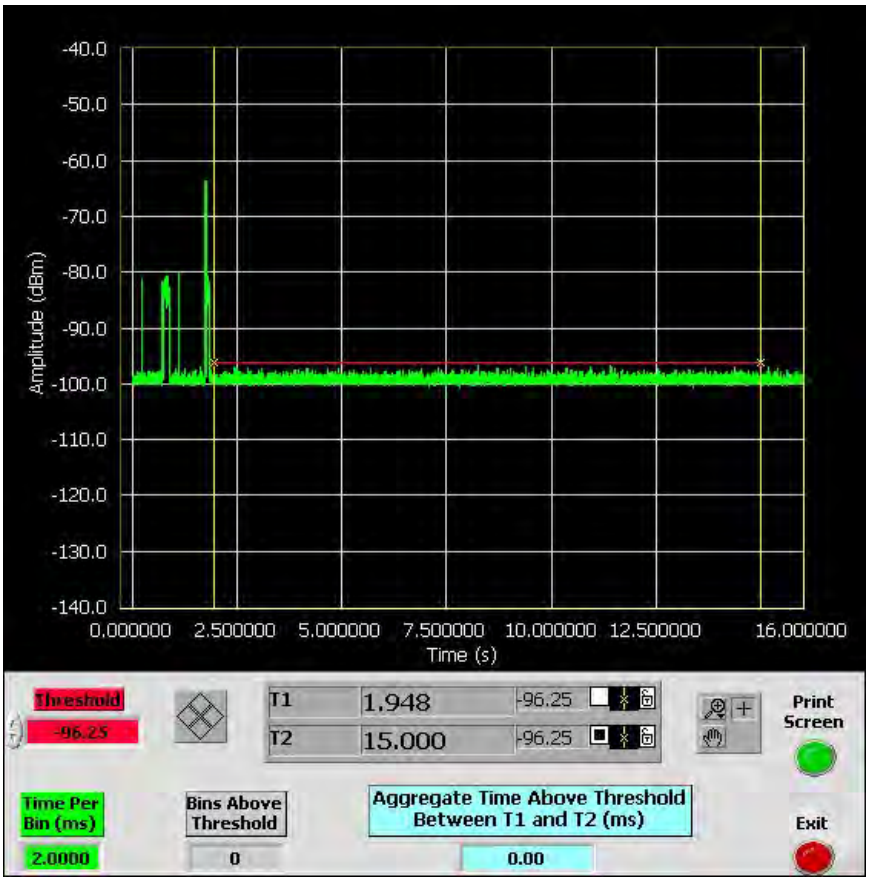
AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



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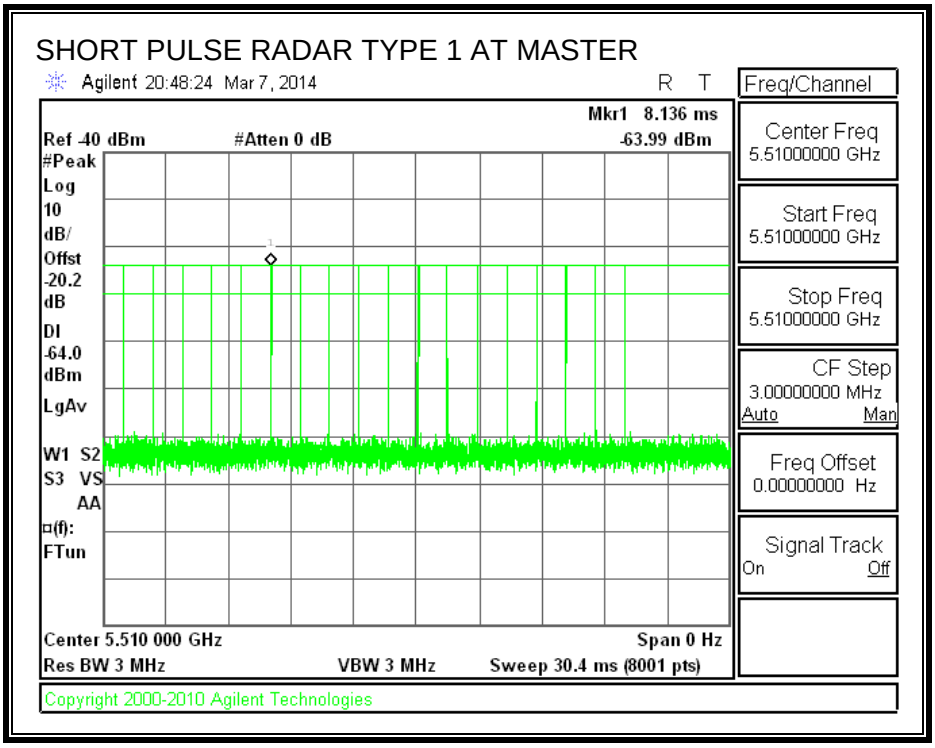
14.3. RESULTS FOR 40 MHz BANDWIDTH

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



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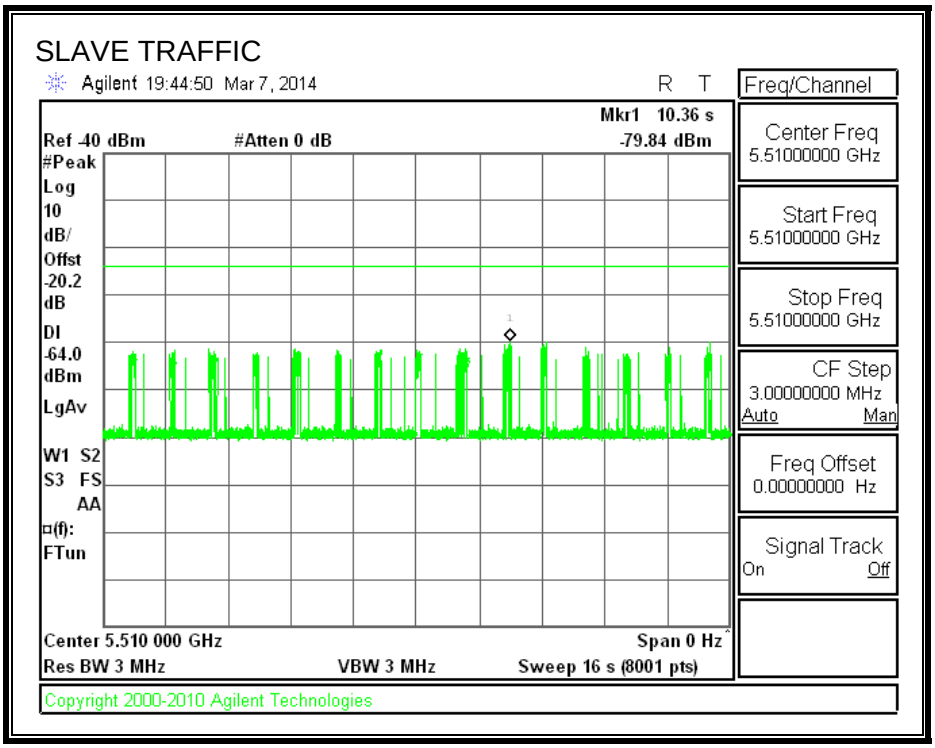
TRAFFIC



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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)
0.00	10

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

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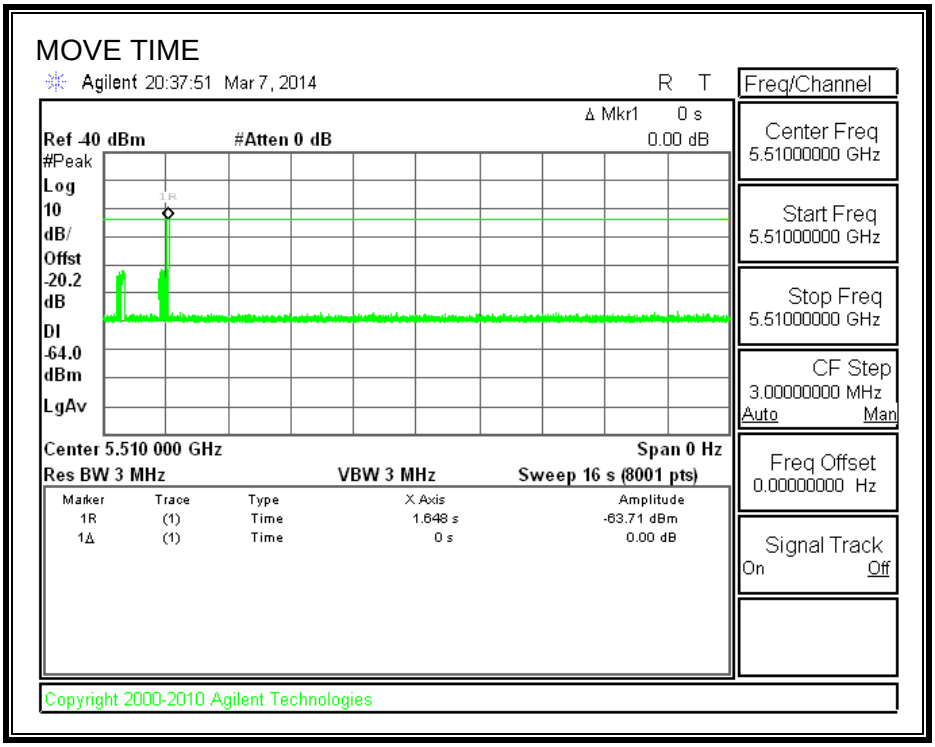
MOVE TIME



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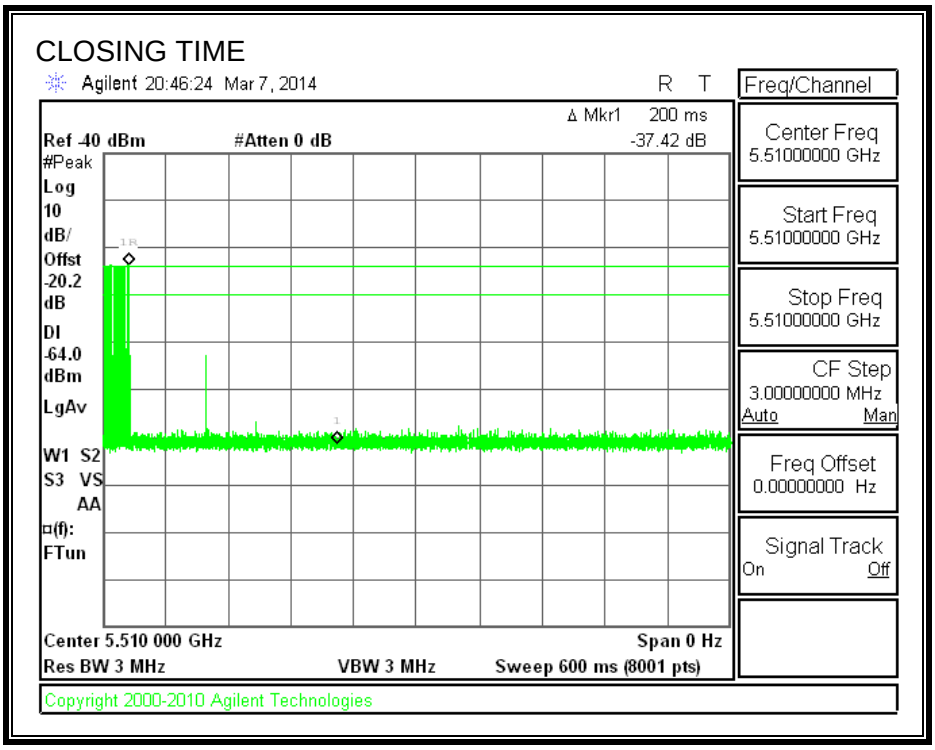
CHANNEL CLOSING TIME



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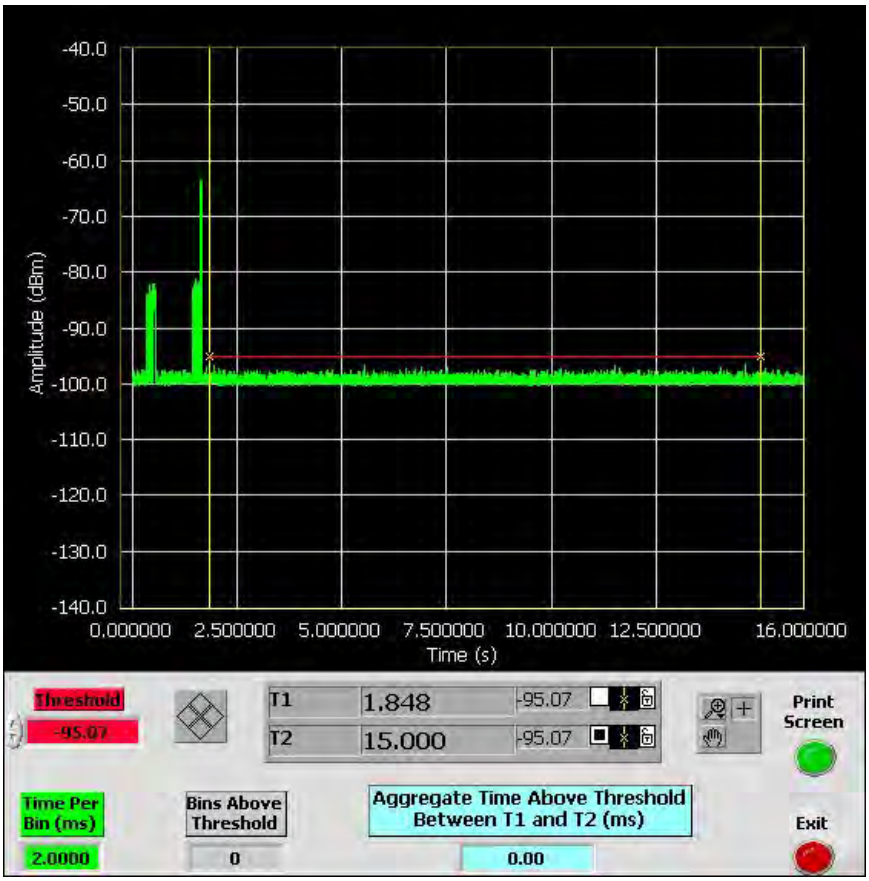
AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



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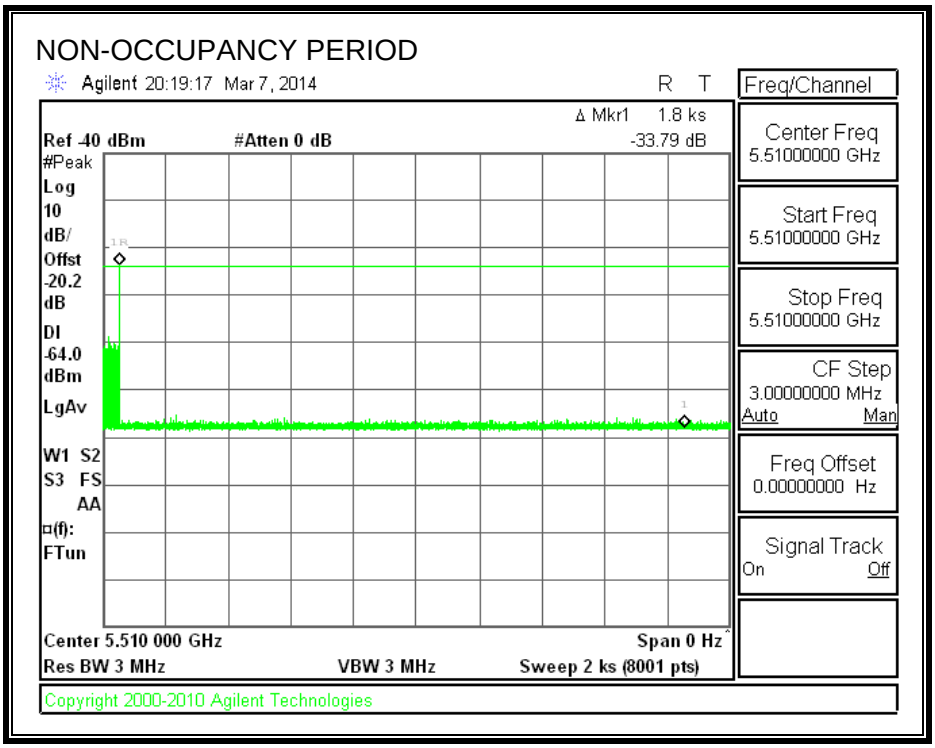
14.3.5. NON-OCCUPANCY PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 30-minute observation time.



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