



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

CERTIFICATION TEST REPORT

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

MODEL NUMBER: SM-G850S; SM-G850K; SM-G850L

**FCC ID: A3LSMG850KOR
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END OF REPORT 302

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

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

MODEL: SM-G850S; SM-G850K; SM-G850L

SERIAL NUMBER: 1883968 (Conducted), 1883967(Radiated)

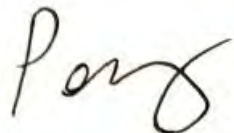
DATE TESTED: MAY 27 – JULY 24, 2014

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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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 C63.10-2009, RSS-GEN Issue 3, RSS-210 Issue 8.

644545 D01 Guidance for IEEE 802.11ac v01r01; 644545 D02 Alternative Guidance for 802.11ac v01

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☒ Chamber A	☐ Chamber D
☒ Chamber B	☐ Chamber E
☒ Chamber C	☐ Chamber F

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 40000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

SM-G850S, SM-G850K, SM-G850L are same hardware but for different carrier.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted output power as follows:

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Total Output Power (mW)
5180 - 5240	802.11a	15.42	34.83
5180 - 5240	802.11n HT20	15.44	34.99
5190 - 5230	802.11n HT40	16.17	41.40
5210 - 5210	802.11ac HT80	14.85	30.55
5260 - 5320	802.11a	15.35	34.28
5260 - 5320	802.11n HT20	15.47	35.24
5270 - 5310	802.11n HT40	16.33	42.95
5290 - 5290	802.11ac HT80	14.7	29.51
5500 - 5700	802.11a	15.48	35.32
5500 - 5700	802.11n HT20	15.79	37.93
5510 - 5670	802.11n HT40	16.01	39.90
5530 - 5690	802.11ac HT80	14.73	29.72
5745 - 5825	802.11a	15.53	35.73
5745 - 5825	802.11n HT20	15.71	37.24
5755 - 5795	802.11n HT40	15.88	38.73
5775 - 5775	802.11ac HT80	14.68	29.38

The transmitter has average conducted output power as follows:

Band (GHz)	Mode	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Avg Pwr (dBm)	
						Chain 0	Chain 1
5.2 (UNII)	802.11a	6 Mbps	1 Tx	36	5180	12.3	
				40	5200	12.1	
				44	5220	12.1	
				48	5240	12.1	
			1 Tx	36	5180		12.4
				40	5200		12.4
				44	5220		12.2
				48	5240		12.3
			2 Tx	36	5180	12.2	12.3
				40	5200	12.3	12.4
				44	5220	12.2	12.1
				48	5240	12.2	12.4
	802.11n (HT20)	MCS0	1 Tx	36	5180	12.4	
				40	5200	12.1	
				44	5220	12.0	
				48	5240	12.2	
			1 Tx	36	5180		12.4
				40	5200		12.3
				44	5220		12.3
				48	5240		12.3
			2 Tx	36	5180	12.4	12.4
				40	5200	12.1	12.3
				44	5220	12.0	12.3
				48	5240	12.2	12.3
	802.11n (HT40)	MCS0	1 Tx	38	5190	11.7	
				46	5230	11.7	
			1 Tx	38	5190		11.8
				46	5230		11.7
			2 Tx	38	5190	11.7	11.8
				46	5230	11.8	11.7
	802.11ac (80MHz)	MCS0	1 Tx	42	5210	10.1	
			1 Tx	42	5210		10.1
			2 Tx	42	5210	10.0	10.1
5.3 (UNII)	802.11a	6 Mbps	1 Tx	52	5260	12.3	
				56	5280	12.3	

				60	5300	12.4	
				64	5320	12.4	
			1 Tx	52	5260		12.4
				56	5280		12.5
				60	5300		12.4
				64	5320		12.4
			2 Tx	52	5260	12.2	12.5
				56	5280	12.2	12.5
				60	5300	12.2	12.4
				64	5320	12.4	12.3
	802.11n (HT20)	MCS0	1 Tx	52	5260	12.4	
				56	5280	12.4	
				60	5300	12.4	
				64	5320	12.2	
			1 Tx	52	5260		12.5
				56	5280		12.5
				60	5300		12.5
				64	5320		12.4
			2 Tx	52	5260	12.4	12.5
				56	5280	12.4	12.5
				60	5300	12.4	12.5
				64	5320	12.2	12.4
	802.11n (HT40)	MCS0	1 Tx	54	5270	11.9	
				62	5310	11.9	
			1 Tx	54	5270		12.1
				62	5310		12.1
			2 Tx	54	5270	11.9	12.2
				62	5310	11.9	12.1
	802.11ac (80MHz)	MCS0	1 Tx	58	5290	10.1	
			1 Tx	58	5290		10.3
			2 Tx	58	5290	10.2	10.4
5.5 (UNII)	802.11a	6 Mbps	1 Tx	100	5500	12.5	
				104	5520	12.5	
				108	5540	12.4	
				112	5560	12.4	
				116	5580	12.4	
				136	5680	12.4	
				140	5700	12.4	
			1 Tx	100	5500		12.1

				104	5520		11.8
				108	5540		11.8
				112	5560		11.8
				116	5580		11.9
				136	5680		11.6
				140	5700		11.7
			2 Tx	100	5500	12.5	12.1
				104	5520	12.5	11.9
				108	5540	12.4	11.8
				112	5560	12.4	11.9
				116	5580	12.4	11.8
				136	5680	12.4	11.8
				140	5700	12.4	11.8
	802.11n (HT20)	MCS0	1 Tx	100	5500	11.3	
				104	5520	11.5	
				108	5540	11.4	
				112	5560	11.3	
				116	5580	11.3	
				136	5680	11.4	
				140	5700	11.4	
			1 Tx	100	5500		11.8
				104	5520		11.8
				108	5540		11.7
				112	5560		11.8
				116	5580		11.8
				136	5680		11.6
				140	5700		11.6
		MCS8	2 Tx	100	5500	11.3	11.8
				104	5520	11.5	11.8
				108	5540	11.4	11.8
				112	5560	11.3	11.7
				116	5580	11.3	11.8
				136	5680	11.4	11.6
				140	5700	11.4	11.7
	802.11n (HT40)	MCS0	1 Tx	102	5510	11.9	
				110	5550	11.9	
				134	5670	11.8	
			1 Tx	102	5510		12.4
				110	5550		12.3
				134	5670		12.3
			2 Tx	102	5510	11.9	12.4
				110	5550	11.9	12.3
				134	5670	11.8	12.3

5.8 (UNII)	802.11ac (80MHz)	MCS0	1 Tx	106	5530	9.4	
			1 Tx	106	5530		9.8
			2 Tx	106	5530	9.4	9.9
	802.11a	6 Mbps	1 Tx	149	5745	12.1	
				153	5765	12.2	
				157	5785	12.0	
				161	5805	12.2	
				165	5825	12.3	
			1 Tx	149	5745		12.3
				153	5765		12.4
				157	5785		12.3
				161	5805		12.3
				165	5825		12.5
			2 Tx	149	5745	12.2	12.5
				153	5765	12.3	12.5
				157	5785	12.2	12.4
				161	5805	12.2	12.4
				165	5825	12.3	12.4
	802.11n (HT20)	MCS0	1 Tx	149	5745	12.0	
				153	5765	12.1	
				157	5785	12.0	
				161	5805	12.2	
				165	5825	12.1	
			1 Tx	149	5745		12.2
				153	5765		12.3
				157	5785		12.3
				161	5805		12.2
				165	5825		12.3
	802.11n (HT40)	MCS0	1 Tx	149	5745	12.0	12.3
				153	5765	12.0	12.2
			2 Tx	157	5785	12.2	12.3
				161	5805	12.0	12.3
				165	5825	12.1	12.3
			1 Tx	151	5755	11.5	
				159	5795	11.6	
			1 Tx	151	5755		11.8
				159	5795		11.6
			2 Tx	151	5755	11.5	11.8

				159	5795	11.6	11.8
	802.11ac (80MHz)	MCS0	1 Tx	155	5775	9.8	
			1 Tx	155	5775		10.0
			2 Tx	155	5775	10.0	10.0

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two FPCB antenna

	1	2	3	4	5	6	7	8	9	10	11	12	13
Frequency [MHz]	2400	2425	2450	2470	2485	5150	5250	5350	5470	5600	5725	5785	5850
Efficiency [dB]	-9.63	-8.47	-7.38	-6.78	-6.74	-6.97	-7.78	-5.25	-5.35	-4.05	-5.25	-4.68	-4.47
Efficiency [%]	10.90	14.23	18.30	21.01	21.17	20.08	16.66	29.83	29.18	39.33	29.83	34.04	35.74
TRG [dB]	-9.63	-8.47	-7.38	-6.78	-6.74	-6.97	-7.78	-5.25	-5.35	-4.05	-5.25	-4.68	-4.47
TRG _g [dB]	-11.97	-10.72	-9.57	-8.88	-8.87	-8.26	-8.96	-6.53	-6.67	-5.38	-6.38	-5.74	-5.58
Gain _{g Peak} [dB]	-8.19	-6.92	-5.75	-5.02	-4.86	-2.45	-3.28	-0.46	-0.48	0.67	-0.72	0.11	0.60
Gain _{g Min} [dB]	-28.85	-28.38	-27.67	-27.01	-27.09	-28.26	-27.77	-23.00	-26.76	-23.86	-36.14	-23.75	-27.14
TRG _g [dB]	-13.42	-12.40	-11.39	-10.93	-10.87	-12.88	-14.04	-11.20	-11.17	-9.86	-11.66	-11.33	-10.93
Gain _{g Peak} [dB]	-8.74	-7.60	-6.67	-6.15	-6.10	-7.09	-7.78	-4.90	-4.79	-4.46	-5.84	-5.90	-5.01
Gain _{g Min} [dB]	-39.73	-36.83	-38.62	-32.05	-28.72	-31.01	-38.66	-28.79	-25.11	-26.13	-21.60	-29.26	-22.09
UHRG [dB]	-13.08	-11.88	-10.73	-10.07	-10.01	-10.86	-11.59	-9.10	-9.18	-7.50	-8.36	-7.81	-7.62
UHRG/TRG [%]	45.21	45.58	46.21	46.89	47.16	40.88	41.61	41.22	41.36	45.25	48.93	48.67	48.38
H-Plane	-11.36	-10.13	-9.03	-8.37	-8.42	-7.75	-7.98	-5.33	-5.68	-4.20	-5.23	-4.27	-4.01
E1-Plane, AVG [dB]	-13.34	-12.12	-11.00	-10.31	-10.22	-7.81	-9.26	-6.92	-6.93	-5.54	-6.77	-5.90	-5.75
E2-Plane, AVG [dB]	-11.30	-10.04	-8.97	-8.38	-8.42	-8.81	-9.70	-7.43	-7.98	-7.10	-8.14	-7.62	-7.20
Peak Gain [dB]	-6.25	-5.07	-4.14	-3.69	-3.64	-1.66	-3.03	-0.39	-0.42	0.92	-0.68	0.48	1.02
Directivity [dB]	3.38	3.39	3.24	3.09	3.11	5.31	4.75	4.86	4.93	4.97	4.57	5.16	5.49
Minimum Gain [dB]	-14.44	-13.06	-11.67	-11.13	-10.96	-21.18	-20.74	-18.74	-17.74	-12.36	-17.53	-15.15	-12.31
Test Condition	FS												
Antenna Type													
FS=Free Space, BHR=Beside Head Right Side, BHL=Beside Head Left Side, HR=Hand Right, HL=Hand Left, BHRH=Beside Head and Hand													
Average Efficiency	-6.08 dB, 24.64 %												

Antenna2 Gain

Frequency	Eff. (%)	Ave. Gain (dBi)	Peak Gain (dBi)	Directivity (dBi)
2400 MHz	7	-11.60	-7.89	3.71
2444 MHz	5	-12.60	-9.17	3.43
2447 MHz	6	-12.30	-8.86	3.44
2475 MHz	6	-12.50	-8.60	3.90
2485 MHz	7	-11.80	-7.84	3.96
2500 MHz	6	-12.20	-8.27	3.93
5150 MHz	1	-18.90	-13.90	5.00
5290 MHz	2	-17.50	-14.00	3.50
5430 MHz	2	-17.90	-13.40	4.50
5570 MHz	3	-15.50	-10.60	4.90
5710 MHz	6	-12.40	-6.09	6.31
5850 MHz	6	-12.00	-5.56	6.44

List of test reduction and modes covering other modes:

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
5180 - 5240	802.11a legacy 1TX	802.11a 2TX CDD
5180 - 5240	802.11HT20 1TX	802.11n HT20 2TX CDD
5180 - 5240	802.11HT20 2TX STBC	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 2TX STBC	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 2TX CDD	802.11n HT20 2TX CDD
5190 - 5230	802.11n HT40 1TX	802.11n HT40 2TX CDD
5190 - 5230	802.11n HT40 2TX STBC	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 2TX STBC	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 2TX CDD	802.11n HT40 2TX CDD
5210	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5210	802.11ac VHT80 2TX STBC	802.11ac VHT80 2TX CDD

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
5260 - 5320	802.11a legacy 1TX	802.11a 2TX CDD
5260 - 5320	802.11HT20 1TX	802.11n HT20 2TX CDD
5260 - 5320	802.11HT20 2TX STBC	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 2TX STBC	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 2TX CDD	802.11n HT20 2TX CDD
5270 - 5310	802.11n HT40 1TX	802.11n HT40 2TX CDD
5270 - 5310	802.11n HT40 2TX STBC	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 2TX STBC	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 2TX CDD	802.11n HT40 2TX CDD
5290	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5290	802.11ac VHT80 2TX STBC	802.11ac VHT80 2TX CDD

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
5500 - 5720	802.11a legacy 1TX	802.11a 2TX CDD
5500 - 5720	802.11HT20 1TX	802.11n HT20 2TX CDD
5500 - 5720	802.11HT20 2TX STBC	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 2TX STBC	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 2TX CDD	802.11n HT20 2TX CDD
5510 - 5710	802.11n HT40 1TX	802.11n HT40 2TX CDD
5510 - 5710	802.11n HT40 2TX STBC	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 2TX STBC	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 2TX CDD	802.11n HT40 2TX CDD
5530-5690	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5530-5690	802.11ac VHT80 2TX STBC	802.11ac VHT80 2TX CDD

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
5745 - 5825	802.11a legacy 1TX	802.11a 2TX CDD
5745 - 5825	802.11HT20 1TX	802.11n HT20 2TX CDD
5745 - 5825	802.11HT20 2TX STBC	802.11n HT20 2TX CDD
5745 - 5825	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5745 - 5825	802.11ac VHT20 2TX STBC	802.11n HT20 2TX CDD
5745 - 5825	802.11ac VHT20 2TX CDD	802.11n HT20 2TX CDD
5755 - 5795	802.11n HT40 1TX	802.11n HT40 2TX CDD
5755 - 5795	802.11n HT40 2TX STBC	802.11n HT40 2TX CDD
5755 - 5795	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5755 - 5795	802.11ac VHT40 2TX STBC	802.11n HT40 2TX CDD
5755 - 5795	802.11ac VHT40 2TX CDD	802.11n HT40 2TX CDD
5775	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5775	802.11ac VHT80 2TX STBC	802.11ac VHT80 2TX CDD

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

802.11ac VHT80mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SAMSUNG	EP-TA11KWK	N/A	N/A
Earphone	SAMSUNG	N/A	N/A	N/A

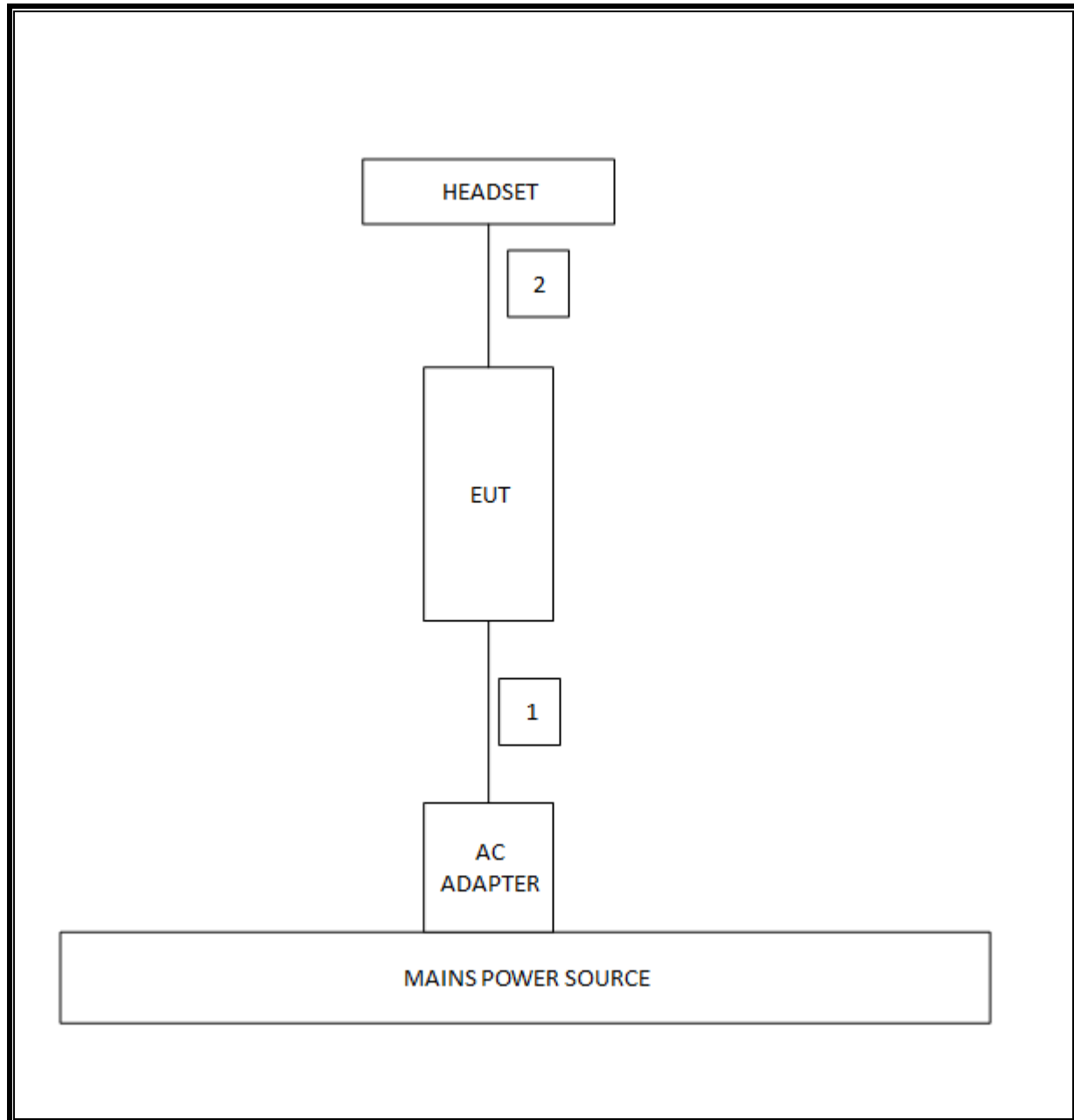
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.0m	N/A

TEST SETUP

The EUT is setup as a stand-alone device.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

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

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.407 (a)	Occupied Band width (26dB)	N/A	Conducted	Pass	82.6MHz
15.407 (a)(1)	TX Cond. Power 5.15-2.25,	<17dBm or 4+10Log(OBW)		Pass	16.17dBm
15.407 (a)(2)	TX Cond. Power 5.25-5.35 & 5.47-5.725; 5.745 - 5.825	<24dBm or 11+10Log(OBW)		Pass	16.33dBm
15.407 (a)(5)	PSD	<4dBm for 5.2 and <11dBm for 5.3;5.5;5.8		Pass	4.14dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	37.23dBuV
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	53.89dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Conducted	Pass	N/A

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

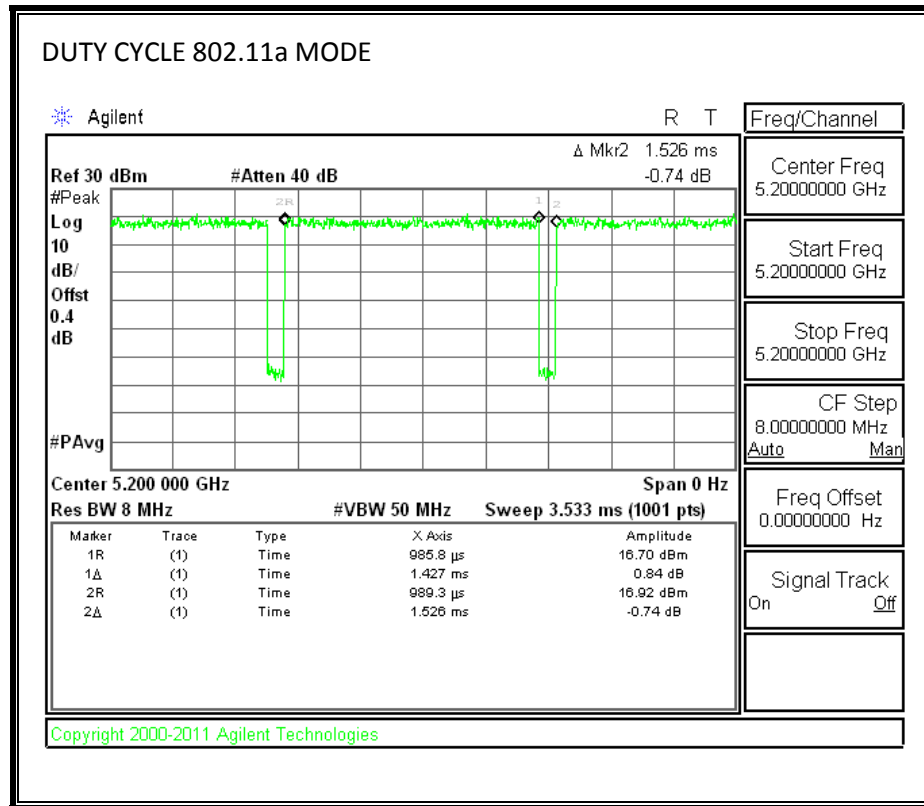
PROCEDURE

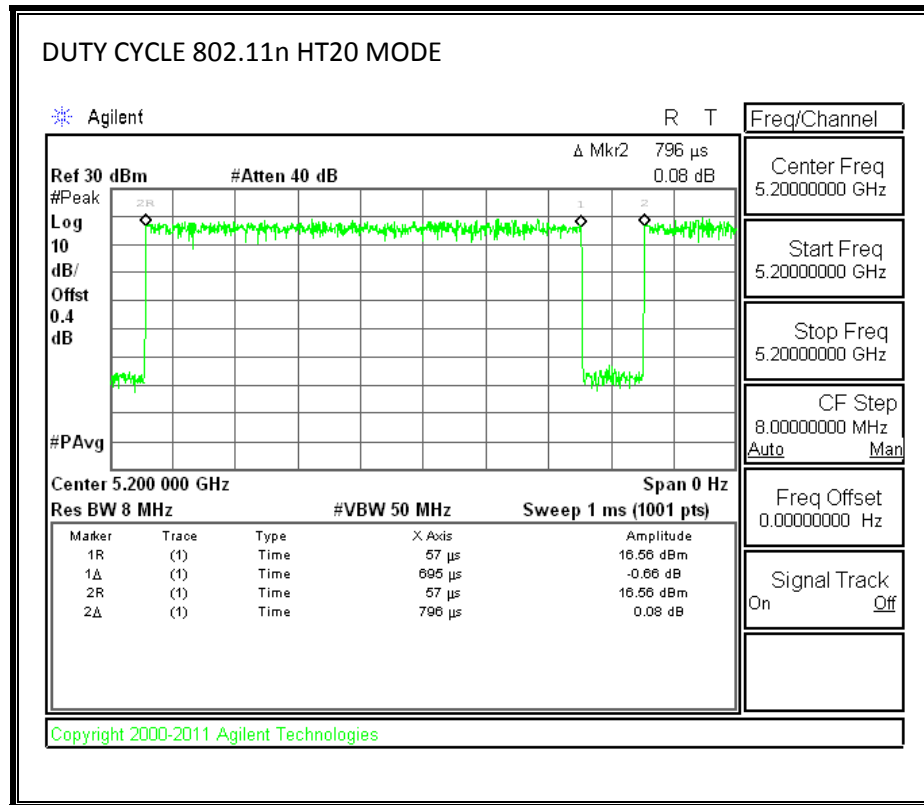
KDB 789033 Zero-Span Spectrum Analyzer Method.

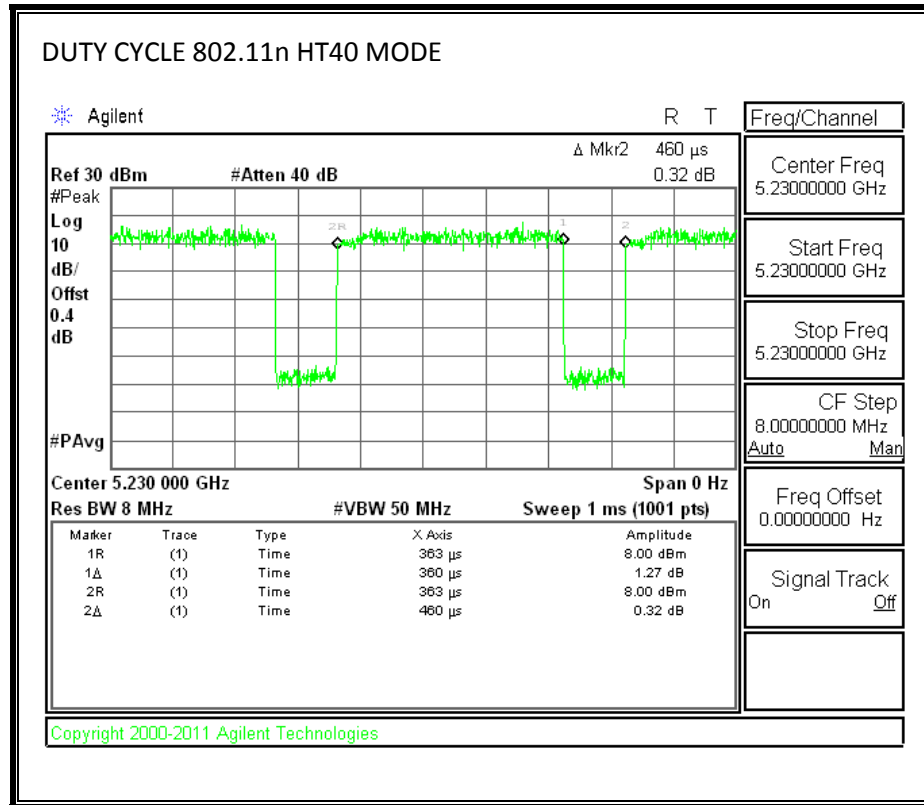
8.1. ON TIME AND DUTY CYCLE RESULTS

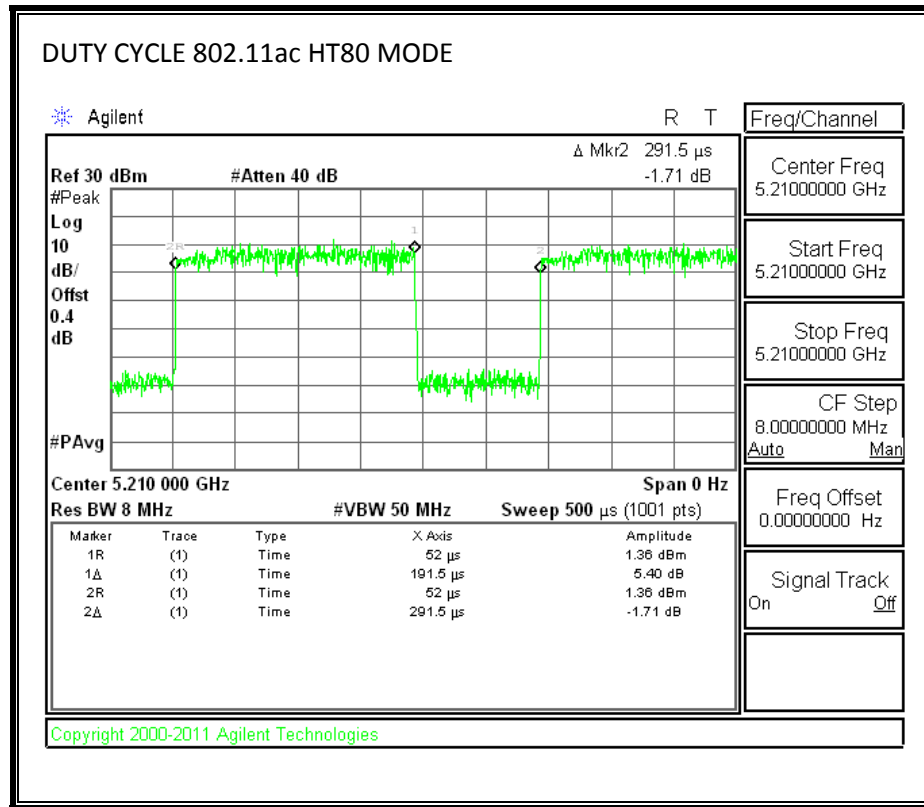
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	1.427	1.526	0.935	93.5%	0.29	0.701
802.11n HT20	0.695	0.796	0.873	87.3%	0.59	1.439
802.11n HT40	0.360	0.460	0.783	78.3%	1.06	2.778
802.11ac HT80	0.191	0.292	0.655	65.5%	1.84	5.236

8.2. DUTY CYCLE PLOTS









9. MEASUREMENT METHOD

789033 D02 General UNII Test Procedures New Rules v01

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

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

10. ANTENNA PORT TEST RESULTS

10.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.1.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	21.5	21.9
Mid	5200	21.5	22.0
High	5240	18.7	18.9

10.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	22.0	22.1
Mid	5200	22.0	22.1
High	5240	19.3	19.1

10.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5190	40.6	40.0
High	5230	40.9	40.2

10.1.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5210	82.4	82.4

10.1.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	18.7	19.0
Mid	5300	21.9	22.0
High	5320	22.0	21.9

10.1.1. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	19.0	19.1
Mid	5300	22.0	22.0
High	5320	22.0	22.1

10.1.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	40.3	40.1
High	5310	40.4	40.2

10.1.3. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5290	82.4	82.2

10.1.4. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	21.9	21.6
Mid	5580	18.9	18.9
High	5700	21.8	21.6

10.1.5. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	22.1	21.9
Mid	5580	19.2	19.0
High	5700	22.0	22.1

10.1.6. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5510	40.6	40.1
Mid	5550	40.6	40.1
High	5670	40.4	40.2

10.1.7. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5530	82.2	82.0

10.1.8. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1(MHz)
Low	5745	21.8	21.6
Mid	5785	21.8	21.6
High	5825	21.8	21.6

10.1.9. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1(MHz)
Low	5745	22.1	21.9
Mid	5785	22.1	22.0
High	5825	22.0	22.0

10.1.10. 802.11n HT40 MODE IN THE 5.8 GHz BAND

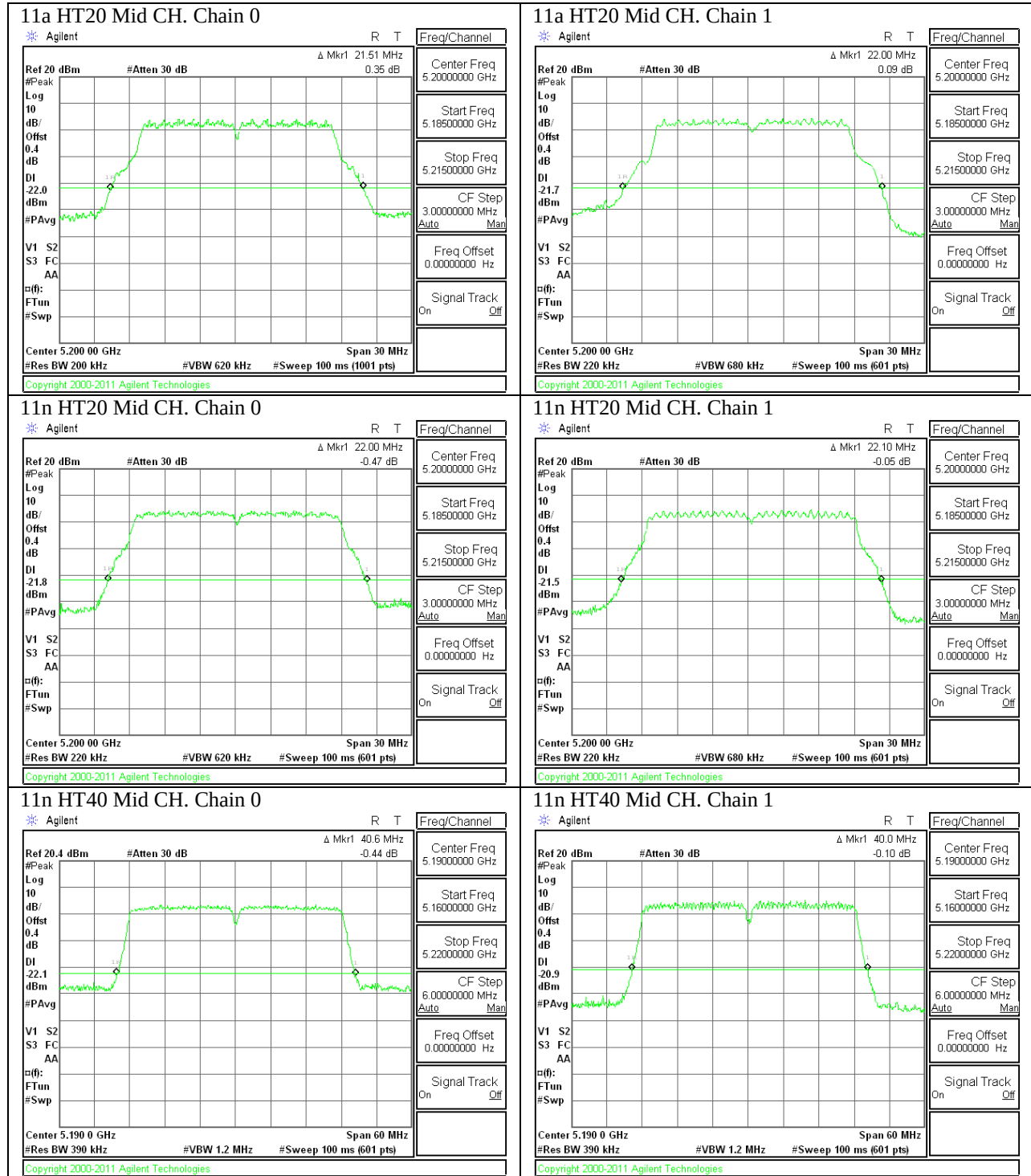
Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
5755	40.8	40.0
5795	40.8	40.0

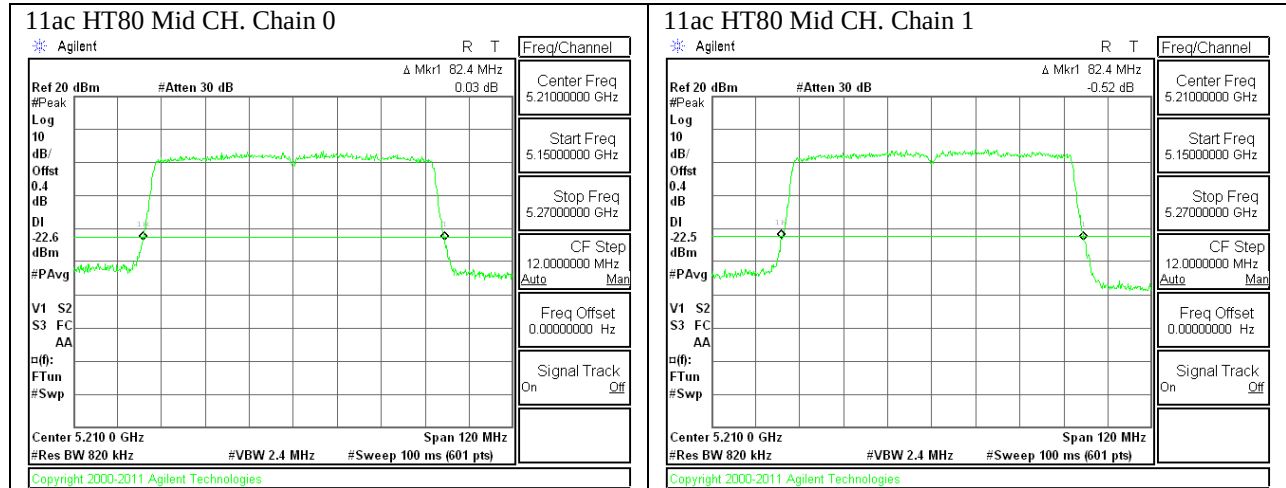
10.1.11. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5775	82.6	82.2

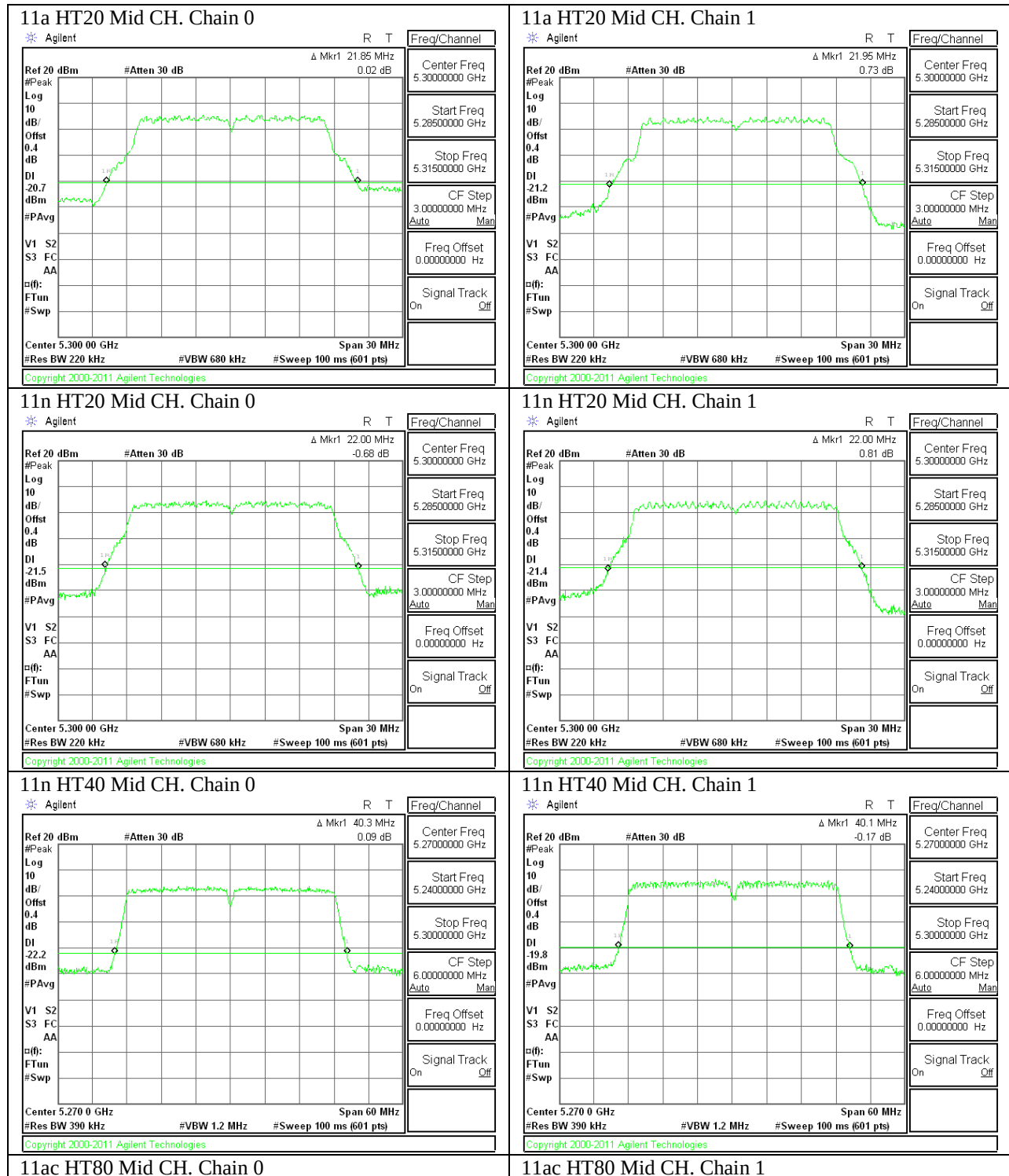
10.1.1. 26 dB BANDWIDTH PLOTS

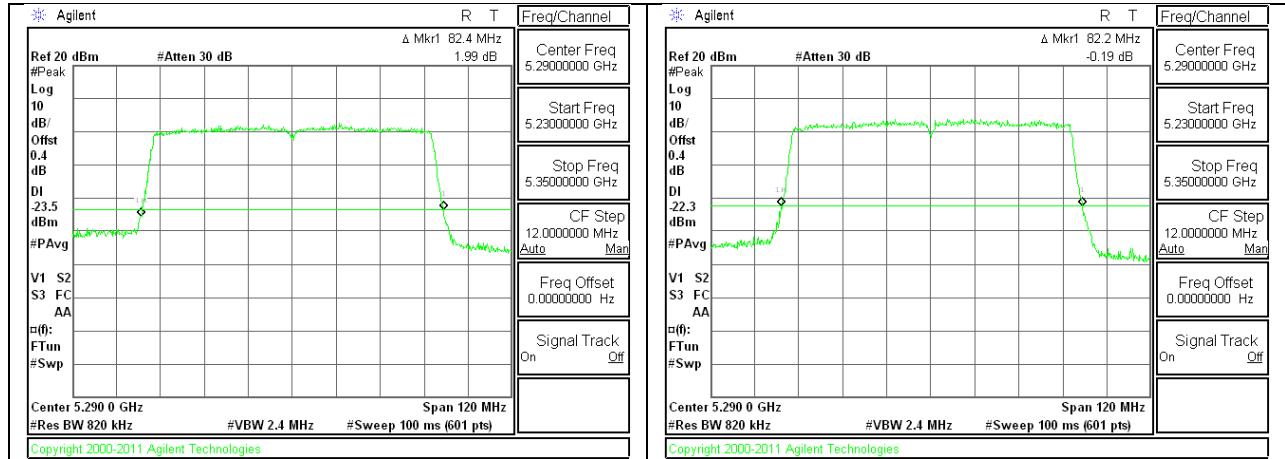
UNII 5.2 GHz



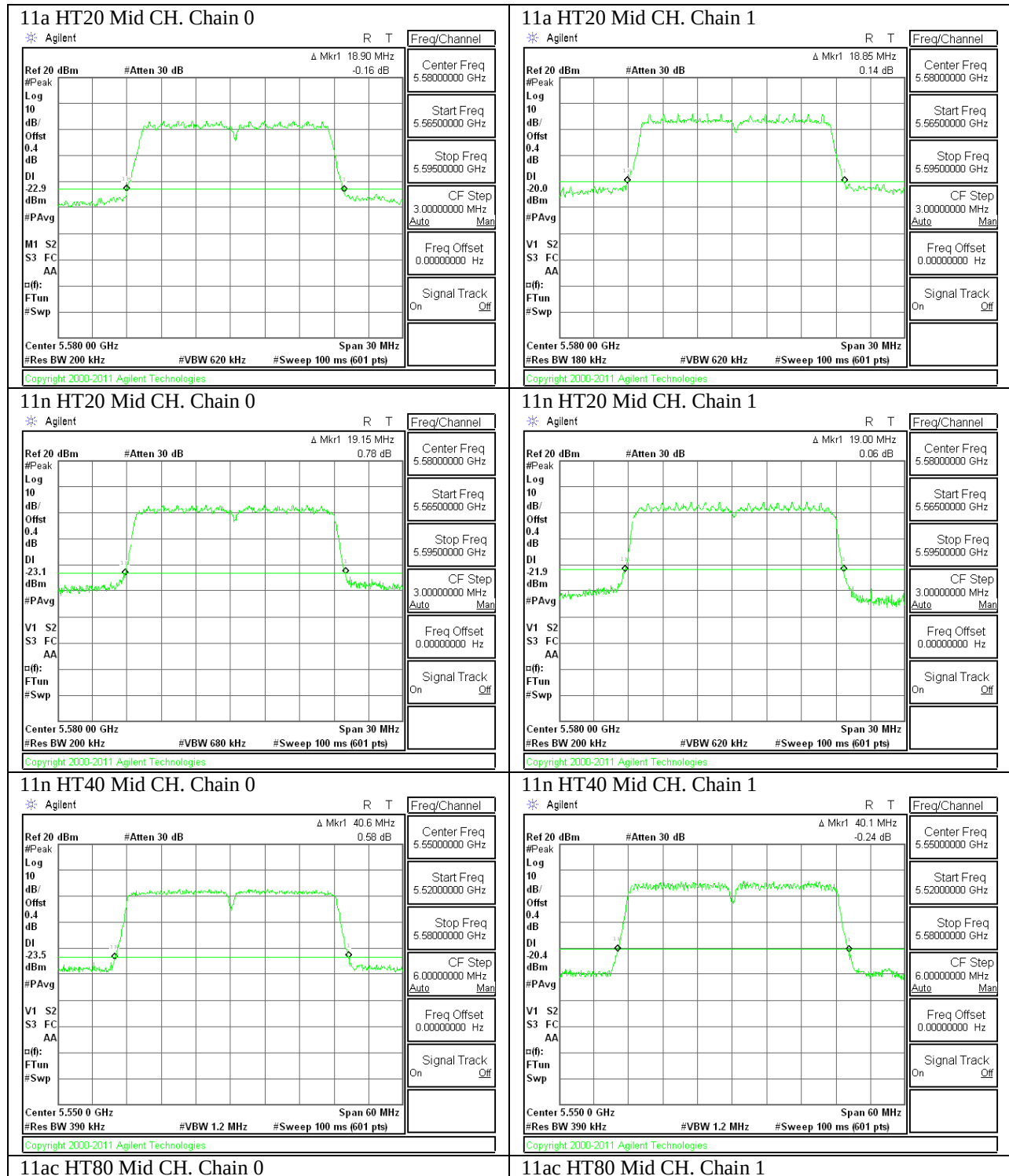


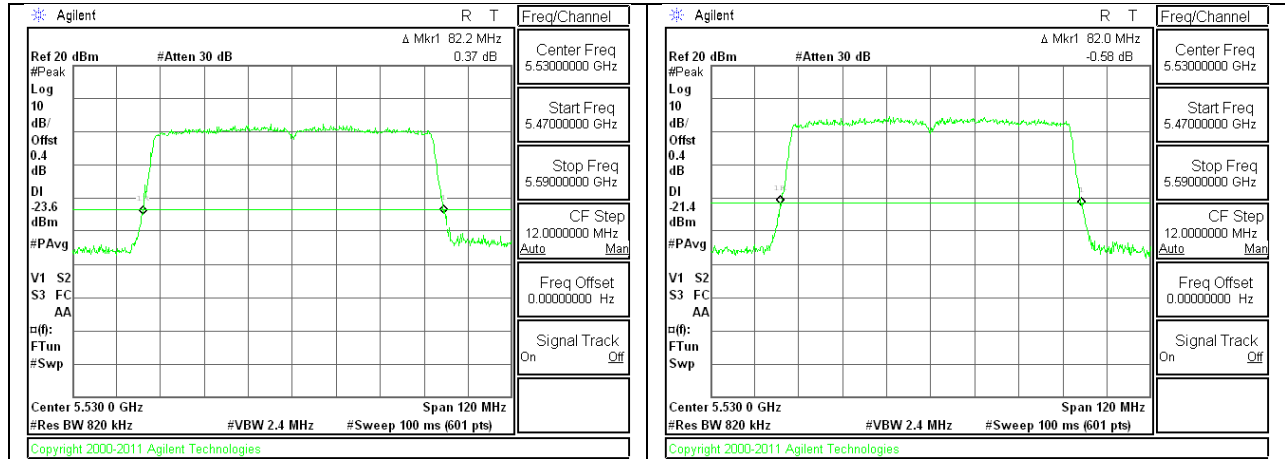
UNII 5.3GHz



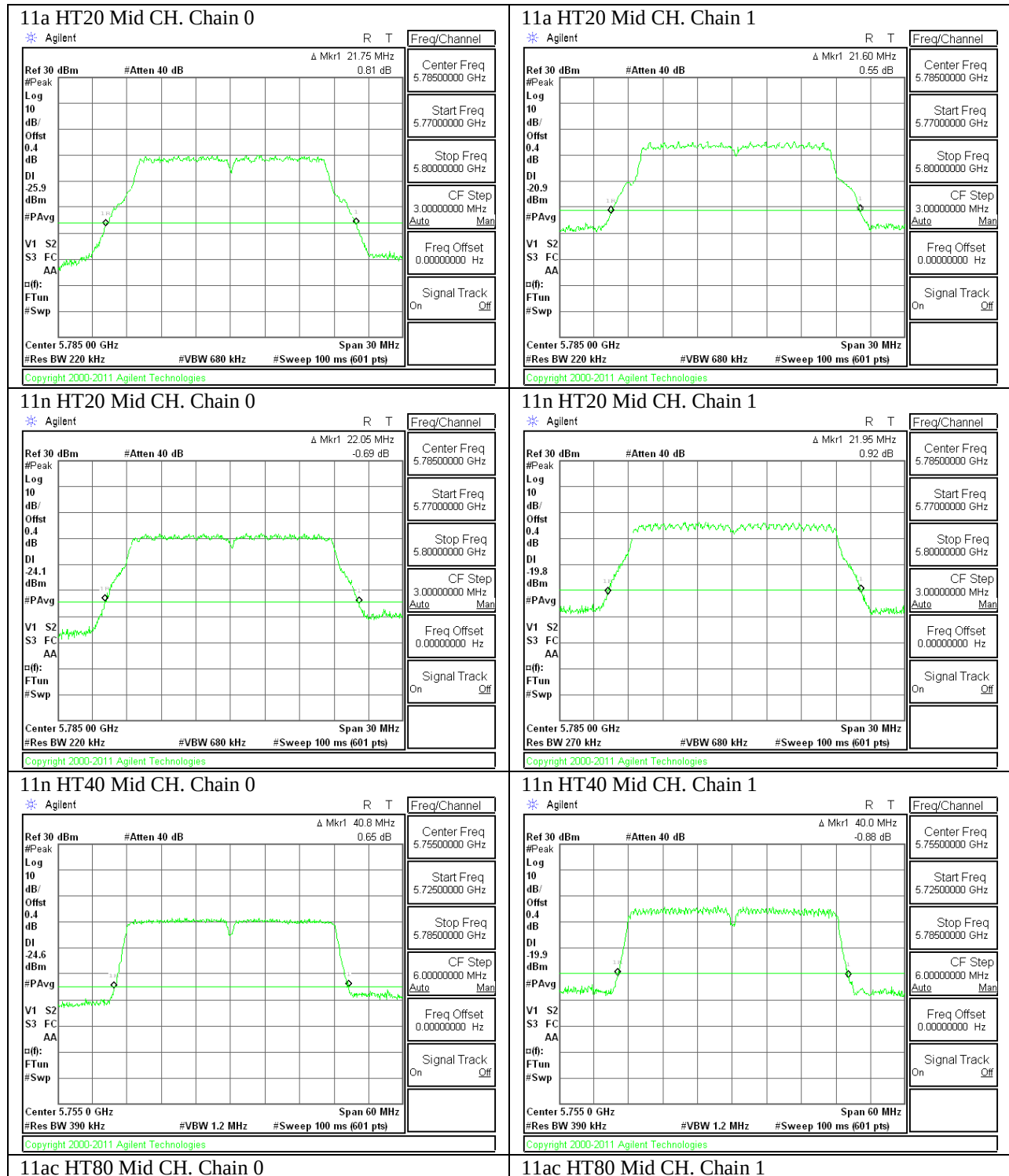


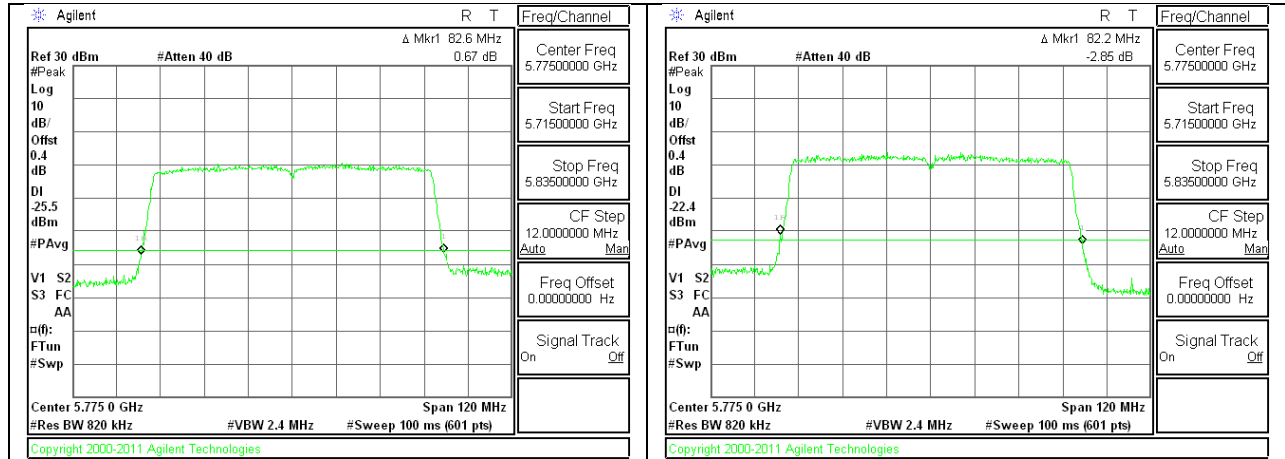
UNII 5.5GHz





UNII 5.8GHz





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% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	16.6	16.6
Mid	5200	16.6	16.5
High	5240	16.5	16.5

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	17.7	17.7
Mid	5200	17.7	17.7
High	5240	17.4	17.4

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5190	36.1	36.2
High	5230	36.2	36.2

10.2.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5210	75.5	75.5

10.2.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	17.5	16.5
Mid	5300	17.8	16.5
High	5320	17.7	16.6

10.2.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	17.5	17.5
Mid	5300	17.7	17.7
High	5320	17.7	17.7

10.2.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	36.2	36.2
High	5310	36.2	36.2

10.2.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5290	75.6	75.6

10.2.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	16.6	16.6
Mid	5580	16.5	16.5
High	5700	16.6	16.6

10.2.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	17.7	17.7
Mid	5580	17.5	17.4
High	5700	17.7	17.7

10.2.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5510	36.2	36.2
Mid	5550	36.2	36.2
High	5670	36.2	36.2

10.2.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5530	75.5	75.5
High	5690	75.6	75.5

10.2.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1(MHz)
Low	5745	16.6	16.6
Mid	5785	16.6	16.6
High	5825	16.6	16.6

10.2.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1(MHz)
Low	5745	17.7	17.7
Mid	5785	17.7	17.7
High	5825	17.7	17.7

10.2.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

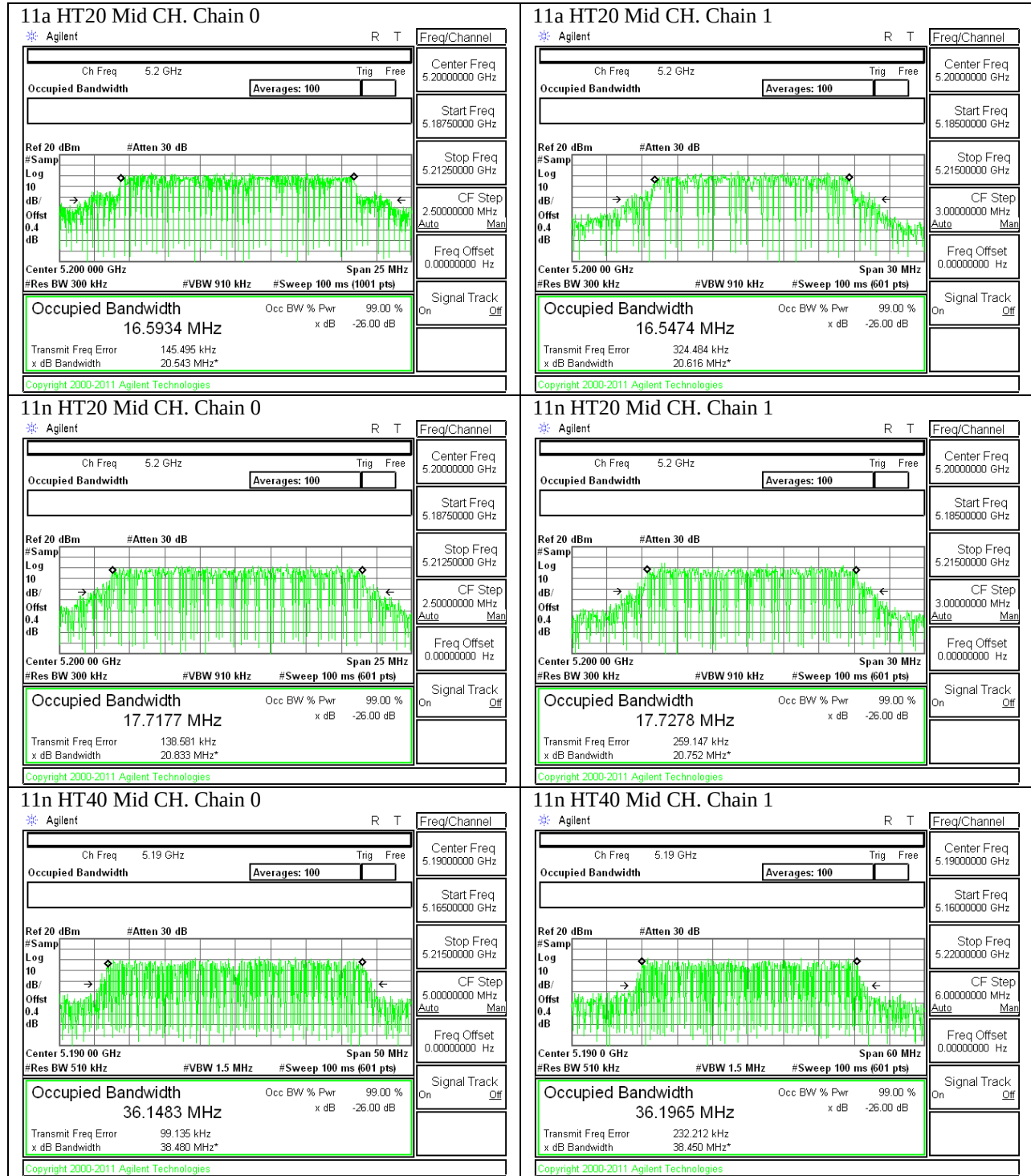
Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1(MHz)
5755	36.2	36.1
5795	36.2	36.2

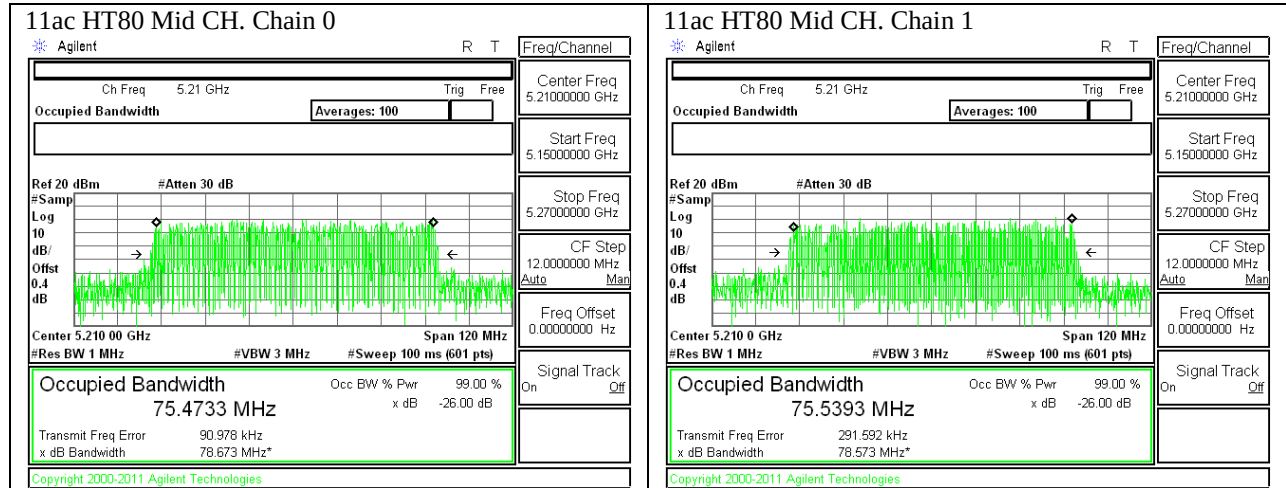
10.2.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1(MHz)
Low	5775	75.6	75.6

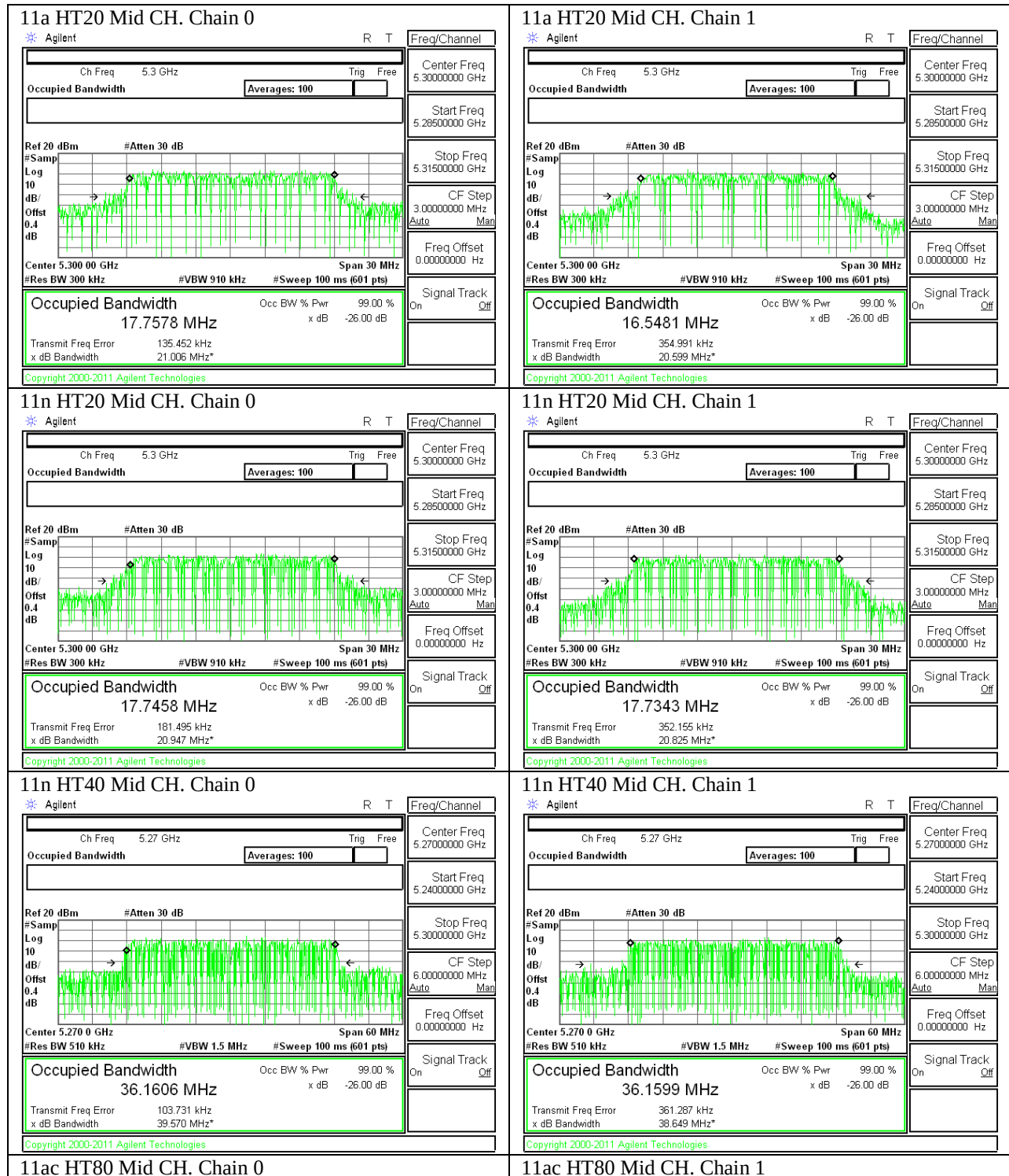
10.2.1. 99% BANDWIDTH PLOTS

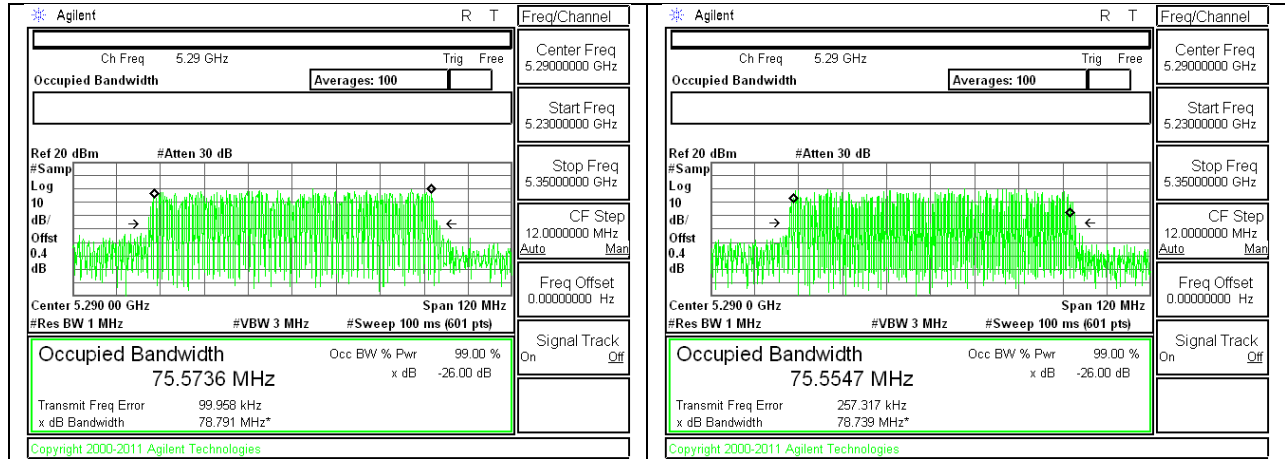
UNII 5.2GHz



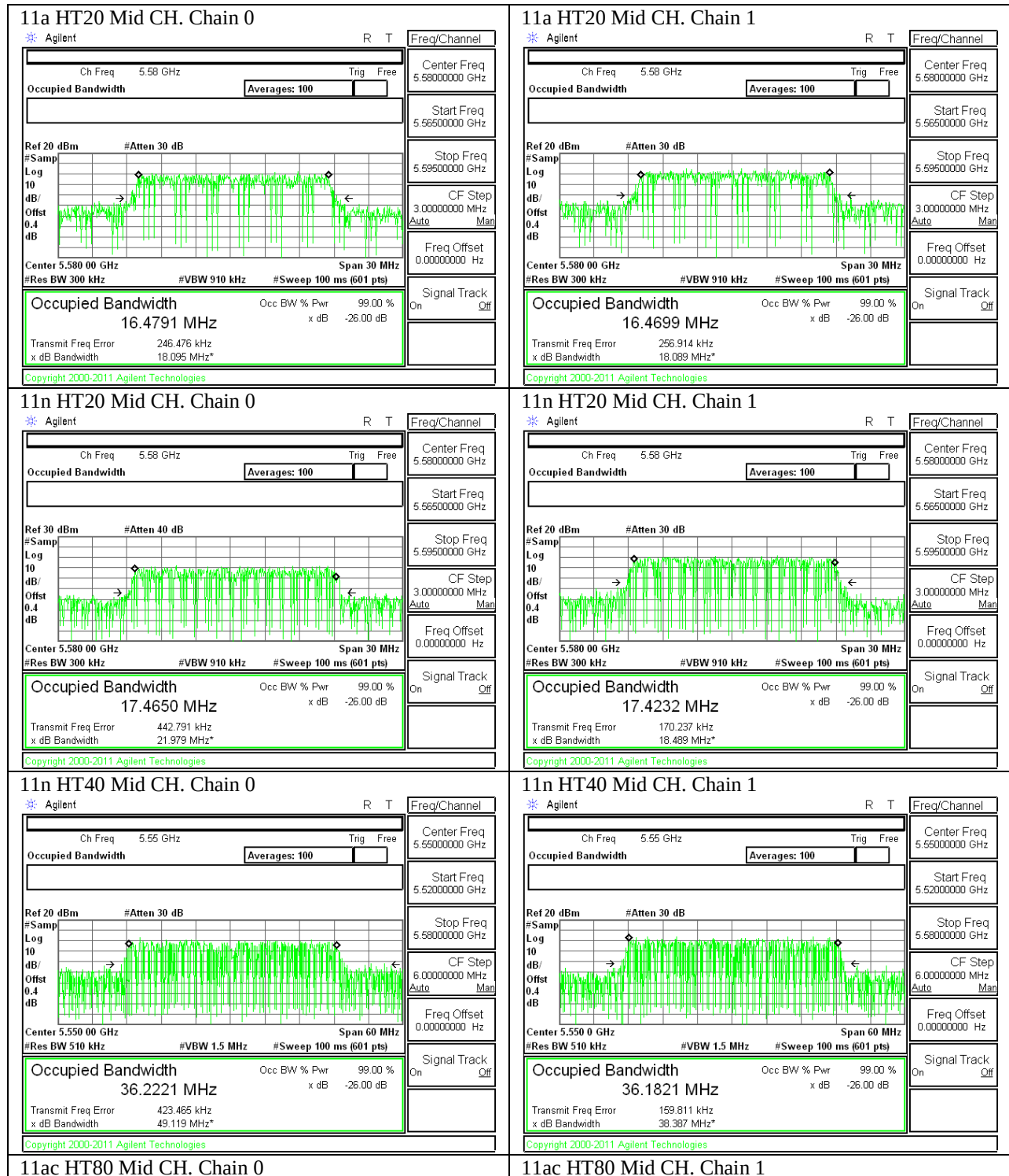


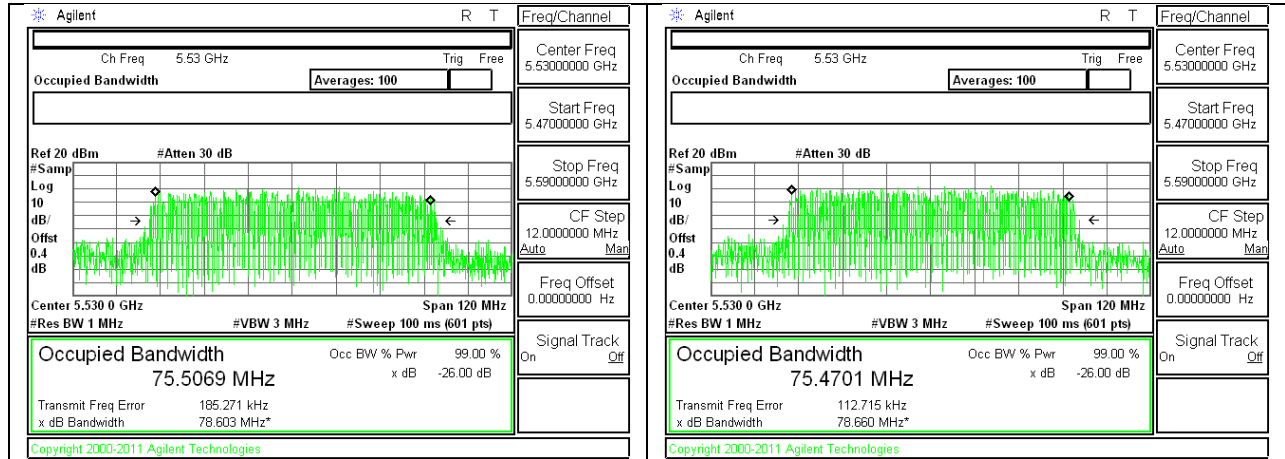
UNII 5.3GHz



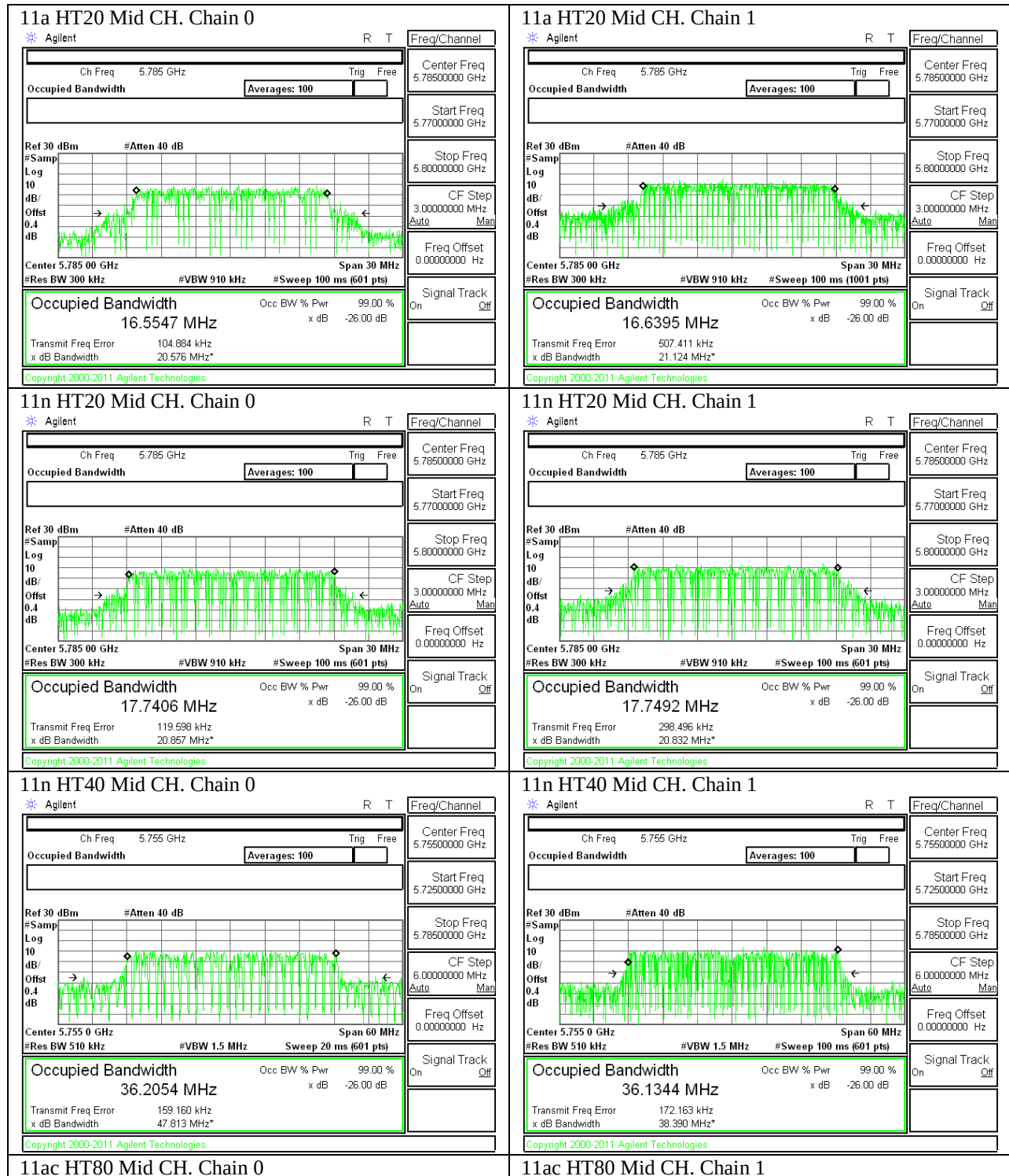


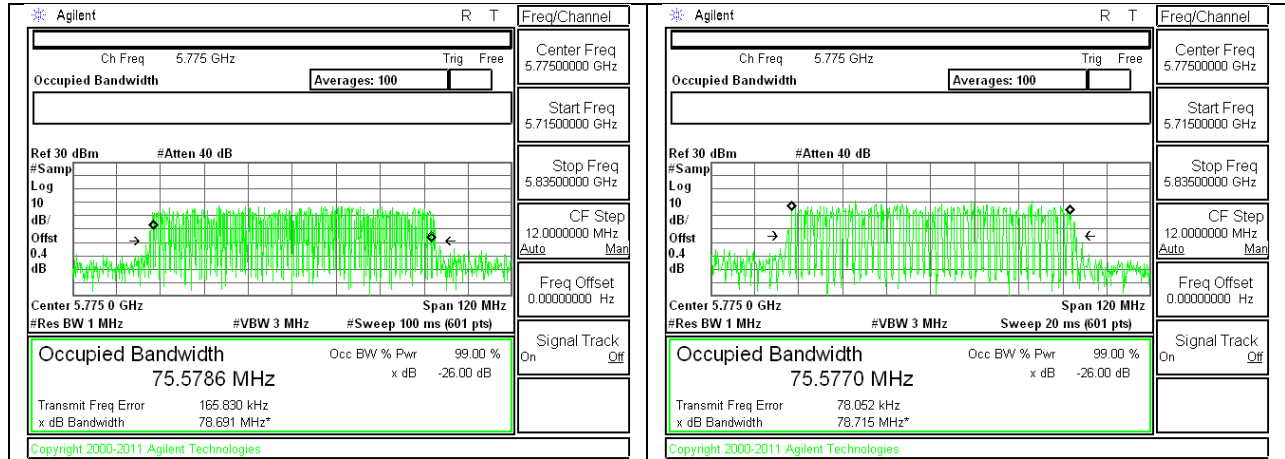
UNII 5.5GHz





UNII 5.8GHz





10.3. 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 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 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 $10 + 10 \log_{10} B$, 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

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for uncorrelated chains and unequal antenna gain

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
1.02	-5.56	-1.13

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for correlated chains and unequal antenna gain

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
1.02	-5.56	1.35

Test Methodology

RESULTS

10.3.1. 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	21.5	16.6	-1.13	1.35
Mid	5200	21.5	16.5	-1.13	1.35
High	5240	18.7	16.5	-1.13	1.35

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	22.20	23.33	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.17	23.30	17.00	4.00	10.00	4.00
High	5240	17.00	22.17	23.30	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.29	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.42	11.69	15.37	17.00	-1.63
Mid	5200	12.01	11.50	15.06	17.00	-1.94
High	5240	12.55	11.65	15.42	17.00	-1.58

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	0.72	-0.07	3.64	4.00	-0.36
Mid	5200	0.14	-0.32	3.22	4.00	-0.78
High	5240	1.25	-0.04	3.95	4.00	-0.05

10.3.2. 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	22.0	17.7	-1.13	1.35
Mid	5200	22.0	17.7	-1.13	1.35
High	5240	19.3	17.4	-1.13	1.35

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	22.48	23.61	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.48	23.61	17.00	4.00	10.00	4.00
High	5240	17.00	22.48	23.61	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.59	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	11.44	11.66	15.15	17.00	-1.85
Mid	5200	11.91	11.77	15.44	17.00	-1.56
High	5240	12.29	11.29	15.42	17.00	-1.58

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-0.82	0.15	3.29	4.00	-0.71
Mid	5200	0.28	0.13	3.81	4.00	-0.19
High	5240	-0.04	0.04	3.60	4.00	-0.40

10.3.3. 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5190	40.0	36.1	-1.13	1.35
High	5230	40.2	36.2	-1.13	1.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5190	17.00	23.00	24.13	17.00	4.00	10.00	4.00
High	5230	17.00	23.00	24.13	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	1.06	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	12.38	11.80	16.17	17.00	-0.83
High	5230	12.30	11.88	16.16	17.00	-0.84

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-2.49	-3.45	1.13	4.00	-2.87
High	5230	-2.32	-3.45	1.22	4.00	-2.78

10.3.4. 802.11ac HT80 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5210	82.4	75.5	-1.13	1.35

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	5210	17.00	23.00	24.13	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	1.84	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5210	10.09	9.91	14.85	17.00	-2.15

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5210	-7.70	-8.63	-3.29	4.00	-7.29

10.3.5. 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	18.7	16.5	-1.13	1.35
Mid	5300	21.9	16.5	-1.13	1.35
High	5320	21.9	16.6	-1.13	1.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.17	29.17	23.17	11.00	11.00	11.00
Mid	5300	24.00	23.17	29.17	23.17	11.00	11.00	11.00
High	5320	24.00	23.20	29.20	23.20	11.00	11.00	11.00

Duty Cycle CF (dB)	0.29	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.33	11.74	15.35	23.17	-7.83
Mid	5300	11.34	11.82	14.89	23.17	-8.29
High	5320	11.36	11.72	14.85	23.20	-8.36

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	0.51	-0.25	3.45	11.00	-7.55
Mid	5300	-0.82	0.32	3.09	11.00	-7.91
High	5320	0.08	0.48	3.58	11.00	-7.42

10.3.6. 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	13.0	17.5	-1.13	1.35
Mid	5300	22.0	17.7	-1.13	1.35
High	5320	22.0	17.7	-1.13	1.35

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	23.43	29.43	23.43	11.00	11.00	11.00
Mid	5300	24.00	23.48	29.48	23.48	11.00	11.00	11.00
High	5320	24.00	23.48	29.48	23.48	11.00	11.00	11.00

Duty Cycle CF (dB)	0.59	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	11.40	12.04	15.33	23.43	-8.10
Mid	5300	11.24	11.02	14.73	23.48	-8.75
High	5320	11.30	12.37	15.47	23.48	-8.01

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-0.81	1.19	3.90	11.00	-7.10
Mid	5300	-1.02	-0.82	2.68	11.00	-8.32
High	5320	-0.24	1.20	4.14	11.00	-6.86

10.3.7. 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 for Power (dBi)	Directional Gain for PPSP (dBi)
Low	5270	40.1	36.2	-1.13	1.35
High	5310	40.2	36.2	-1.13	1.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSP Limit (dBm)	IC PSD Limit (dBm)	PPSP 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)	1.06	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.39	12.13	16.33	24.00	-7.67
High	5310	12.15	12.09	16.19	24.00	-7.81

PPSP Results

Channel	Frequency (MHz)	Chain 0 Meas PPSP (dBm)	Chain 1 Meas PPSP (dBm)	Total Corr'd PPSP (dBm)	PPSP Limit (dBm)	PPSP Margin (dB)
Low	5270	-1.45	-2.92	1.95	11.00	-9.05
High	5310	-2.14	-2.42	1.79	11.00	-9.21

10.3.8. 802.11ac HT80 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5290	82.2	75.6	-1.13	1.35

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	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	1.84	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5290	10.07	9.61	14.70	24.00	-9.30

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5290	-7.56	-7.83	-2.84	11.00	-13.84

10.3.9. 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5500	21.6	16.6	-1.13	1.35
Mid	5580	18.9	16.5	-1.13	1.35
High	5700	21.6	16.6	-1.13	1.35

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	23.20	29.20	23.20	11.00	11.00	11.00
Mid	5580	24.00	23.17	29.17	23.17	11.00	11.00	11.00
High	5700	24.00	23.20	29.20	23.20	11.00	11.00	11.00

Duty Cycle CF (dB)	0.29	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	12.17	11.84	15.31	23.20	-7.89
Mid	5580	11.69	12.58	15.46	23.17	-7.72
High	5700	12.47	11.86	15.48	23.20	-7.72

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.99	-0.20	3.74	11.00	-7.26
Mid	5580	-0.27	0.65	3.51	11.00	-7.49
High	5700	0.86	0.81	4.14	11.00	-6.86

10.3.10. 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 for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5500	21.9	17.7	-1.13	1.35
Mid	5580	19.0	17.4	-1.13	1.35
High	5700	22.0	17.7	-1.13	1.35

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	23.48	29.48	23.48	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	23.48	29.48	23.48	11.00	11.00	11.00

Duty Cycle CF (dB)	0.59	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	12.30	12.09	15.79	23.48	-7.69
Mid	5580	11.86	11.53	15.30	23.41	-8.11
High	5700	11.64	12.22	15.54	23.48	-7.94

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.00	0.28	3.74	11.00	-7.26
Mid	5580	-0.20	-1.07	2.99	11.00	-8.01
High	5700	-0.96	-0.18	3.05	11.00	-7.95

10.3.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5510	40.1	36.2	-1.13	1.35
Mid	5550	40.5	36.2	-1.13	1.35
High	5670	40.2	36.2	-1.13	1.35

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)	1.06	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	12.11	11.59	15.93	24.00	-8.07
Mid	5550	12.36	11.36	15.96	24.00	-8.04
High	5670	11.76	12.11	16.01	24.00	-7.99

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-2.77	-3.15	1.11	11.00	-9.89
Mid	5550	-2.64	-4.02	0.79	11.00	-10.21
High	5670	-2.57	-2.99	1.30	11.00	-9.70

10.3.12. 802.11ac HT80 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 for Power (dBi)	Directional Gain for PPSP (dBi)
Low	5530	82.0	75.5	-1.13	1.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSP Limit (dBm)	IC PSD Limit (dBm)	PPSP Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Duty Cycle CF (dB)		1.84	Included in Calculations of Corr'd Power & PPSP					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	9.76	10.00	14.73	24.00	-9.27

PPSP Results

Channel	Frequency (MHz)	Chain 0 Meas PPSP (dBm)	Chain 1 Meas PPSP (dBm)	Total Corr'd PPSP (dBm)	PPSP Limit (dBm)	PPSP Margin (dB)
Low	5530	-8.32	-7.29	-2.92	11.00	-13.92

10.3.13. 802.11a MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5745	21.60	16.60	-1.13	1.35
Mid	5785	21.60	16.60	-1.13	1.35
High	5825	21.60	16.60	-1.13	1.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5745	24.00	29.20	35.20	24.00	11.00	17.00	11.00
Mid	5785	24.00	29.20	35.20	24.00	11.00	17.00	11.00
High	5825	24.00	29.20	35.20	24.00	11.00	17.00	11.00

Duty Cycle CF (dB)	0.29	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	12.23	12.23	15.53	24.00	-8.47
Mid	5785	11.69	12.07	15.18	24.00	-8.82
High	5825	11.67	11.73	15.00	24.00	-9.00

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	0.74	0.37	3.86	11.00	-7.14
Mid	5785	0.25	0.60	3.73	11.00	-7.27
High	5825	0.21	0.50	3.66	11.00	-7.34

10.3.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSP (dBi)
Low	5745	21.90	17.70	-1.13	1.35
Mid	5785	22.00	17.70	-1.13	1.35
High	5825	22.00	17.70	-1.13	1.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSP Limit (dBm)	IC PSD Limit (dBm)	PPSP Limit (dBm)
Low	5745	24.00	29.48	35.48	24.00	11.00	17.00	11.00
Mid	5785	24.00	29.48	35.48	24.00	11.00	17.00	11.00
High	5825	24.00	29.48	35.48	24.00	11.00	17.00	11.00

Duty Cycle CF (dB)	0.59	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	11.83	12.38	15.71	24.00	-8.29
Mid	5785	11.21	11.76	15.10	24.00	-8.90
High	5825	11.28	11.72	15.11	24.00	-8.89

PPSP Results

Channel	Frequency (MHz)	Chain 0 Meas PPSP (dBm)	Chain 1 Meas PPSP (dBm)	Total Corr'd PPSP (dBm)	PPSP Limit (dBm)	PPSP Margin (dB)
Low	5745	0.05	0.00	3.63	11.00	-7.37
Mid	5785	-0.50	-0.33	3.19	11.00	-7.81
High	5825	-0.57	-0.41	3.11	11.00	-7.89

10.3.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5755	40.0	36.2	-1.13	1.35
High	5795	40.0	36.2	-1.13	1.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5755	24.00	30.00	36.00	24.00	11.00	17.00	11.00
High	5795	24.00	30.00	36.00	24.00	11.00	17.00	11.00

Duty Cycle CF (dB)	1.06	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	11.94	11.68	15.88	24.00	-8.12
High	5795	11.61	11.45	15.60	24.00	-8.40

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5755	-2.53	-2.88	1.37	11.00	-9.63
High	5795	-2.57	-3.16	1.22	11.00	-9.78

10.3.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5775	82.20	75.60	-1.13	1.35

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	5775	24.00	30.00	36.00	24.00	11.00	17.00	11.00

Duty Cycle CF (dB)	1.84	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

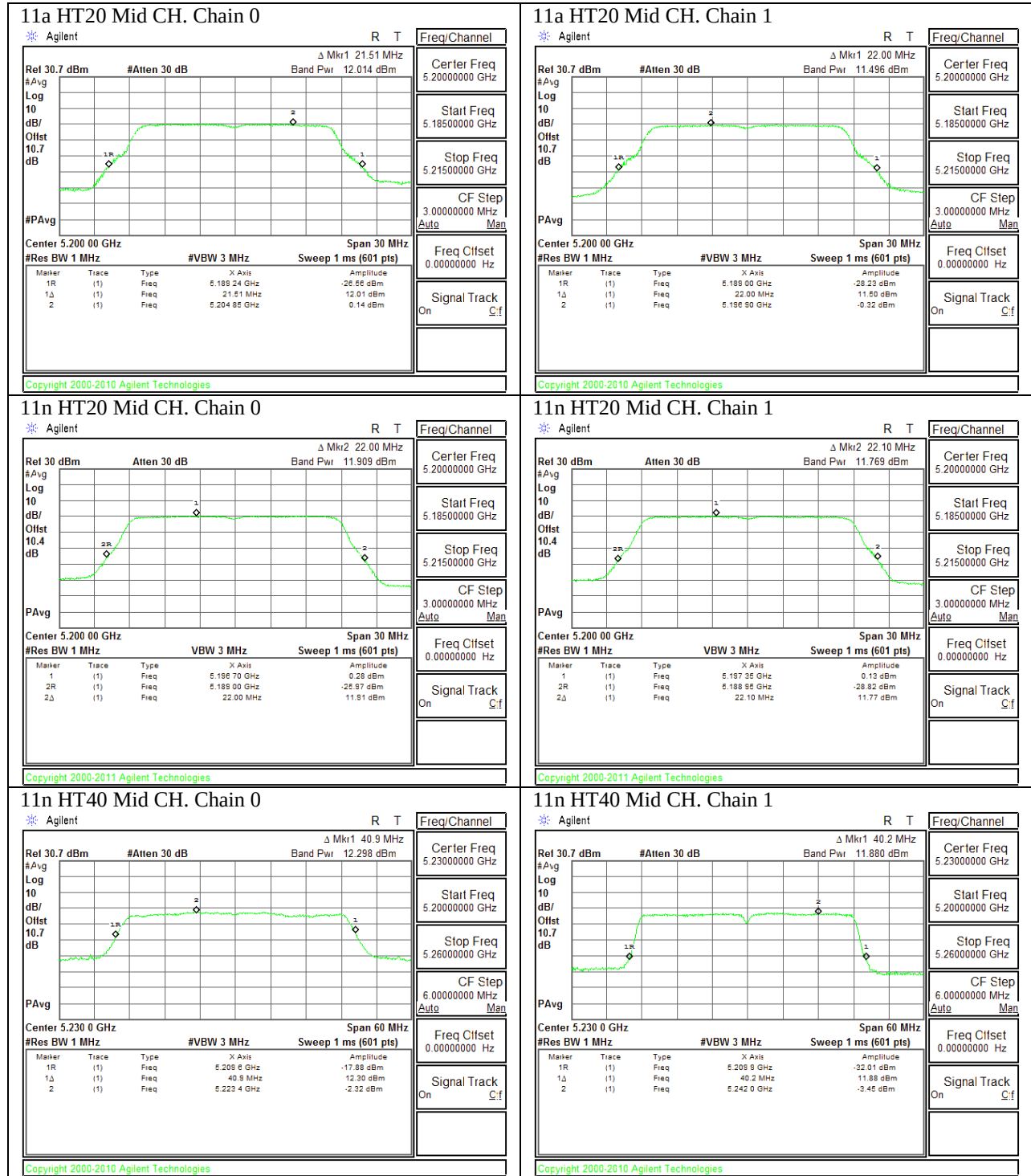
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5775	9.12	10.45	14.68	24.00	-9.32

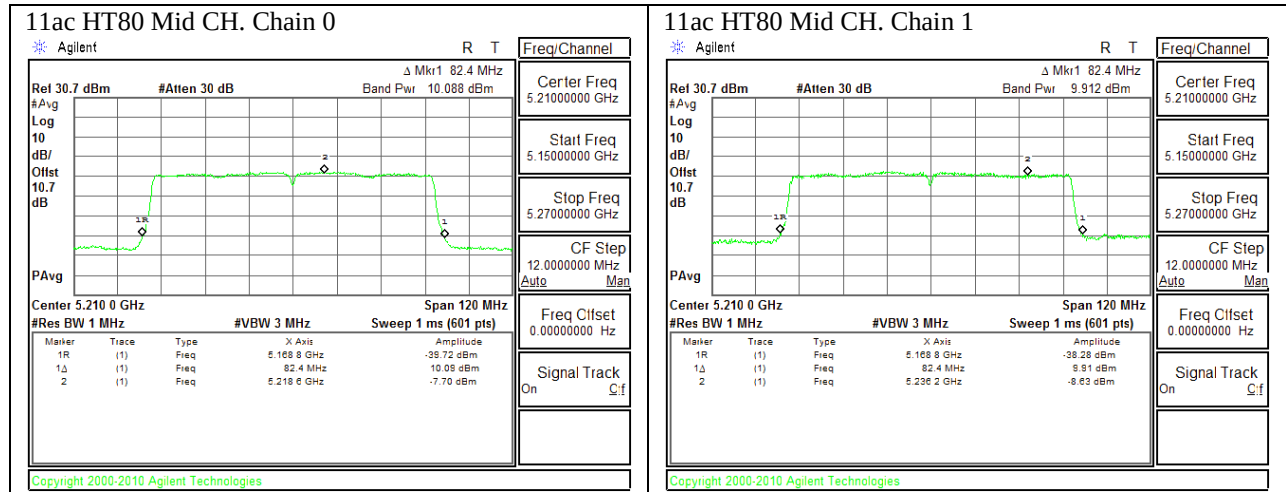
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5775	-8.25	-6.65	-2.53	11.00	-13.53

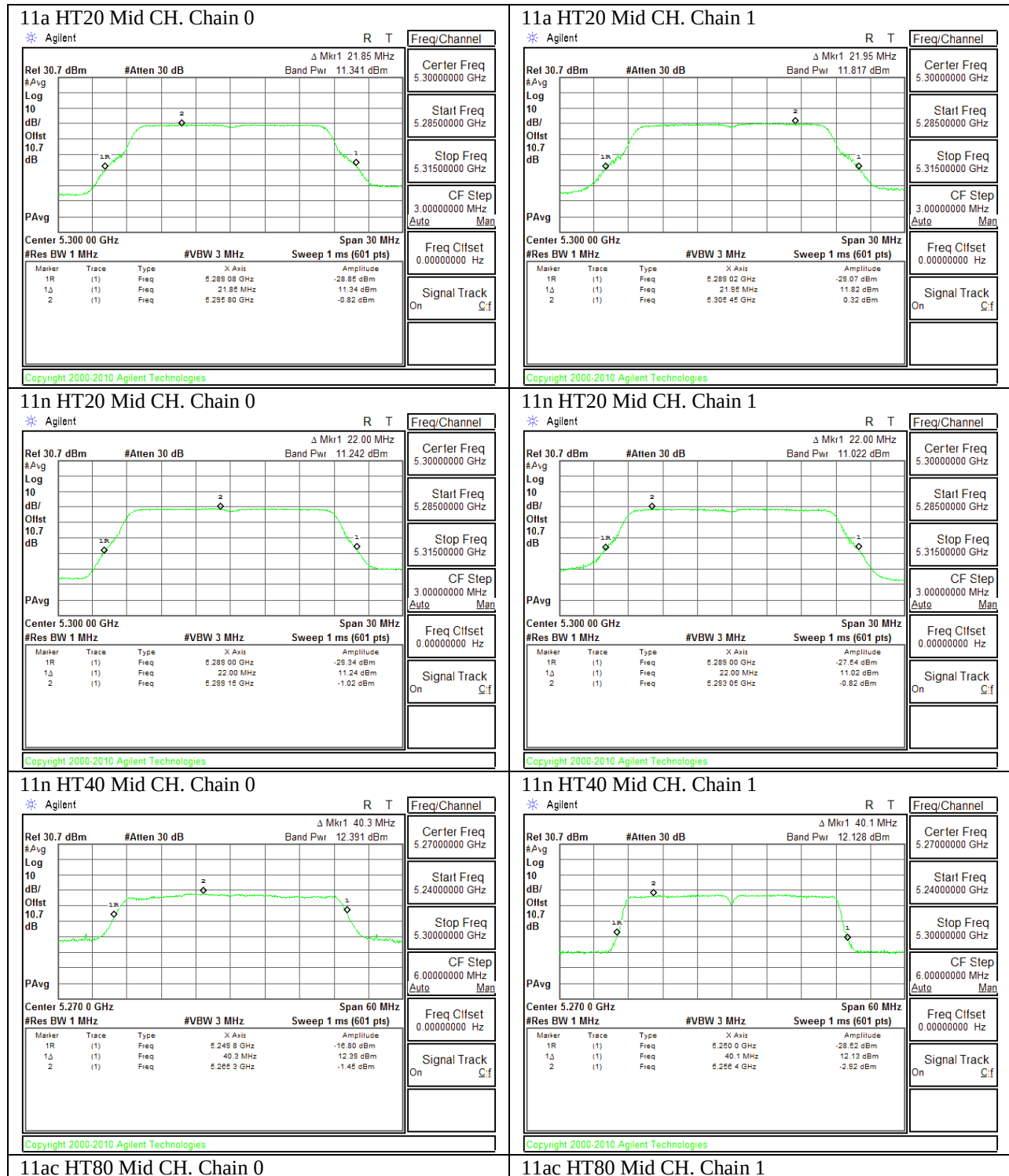
10.3.1. OUTPUT POWER AND PPSD PLOTS

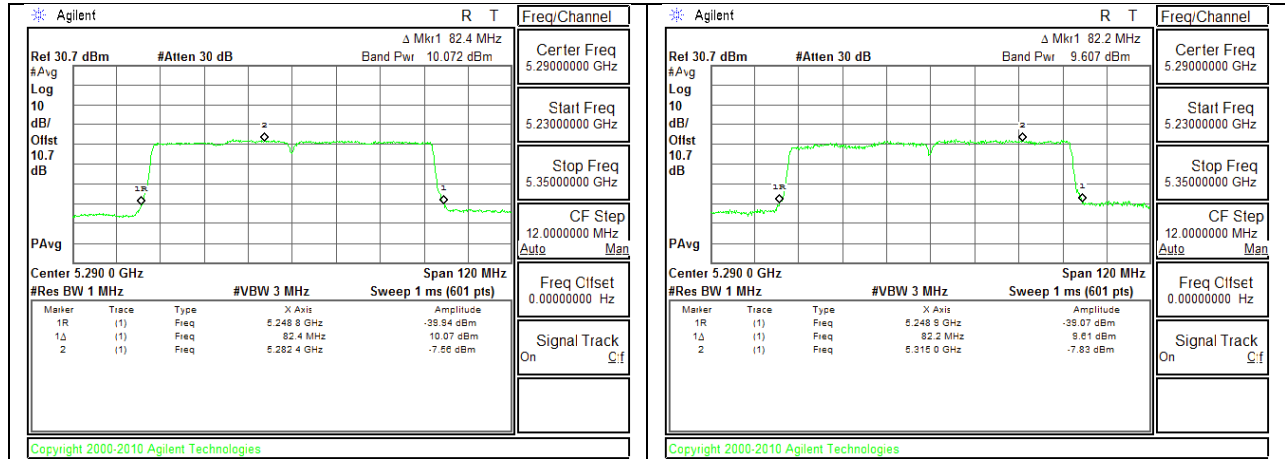
UNII 5.2GHz



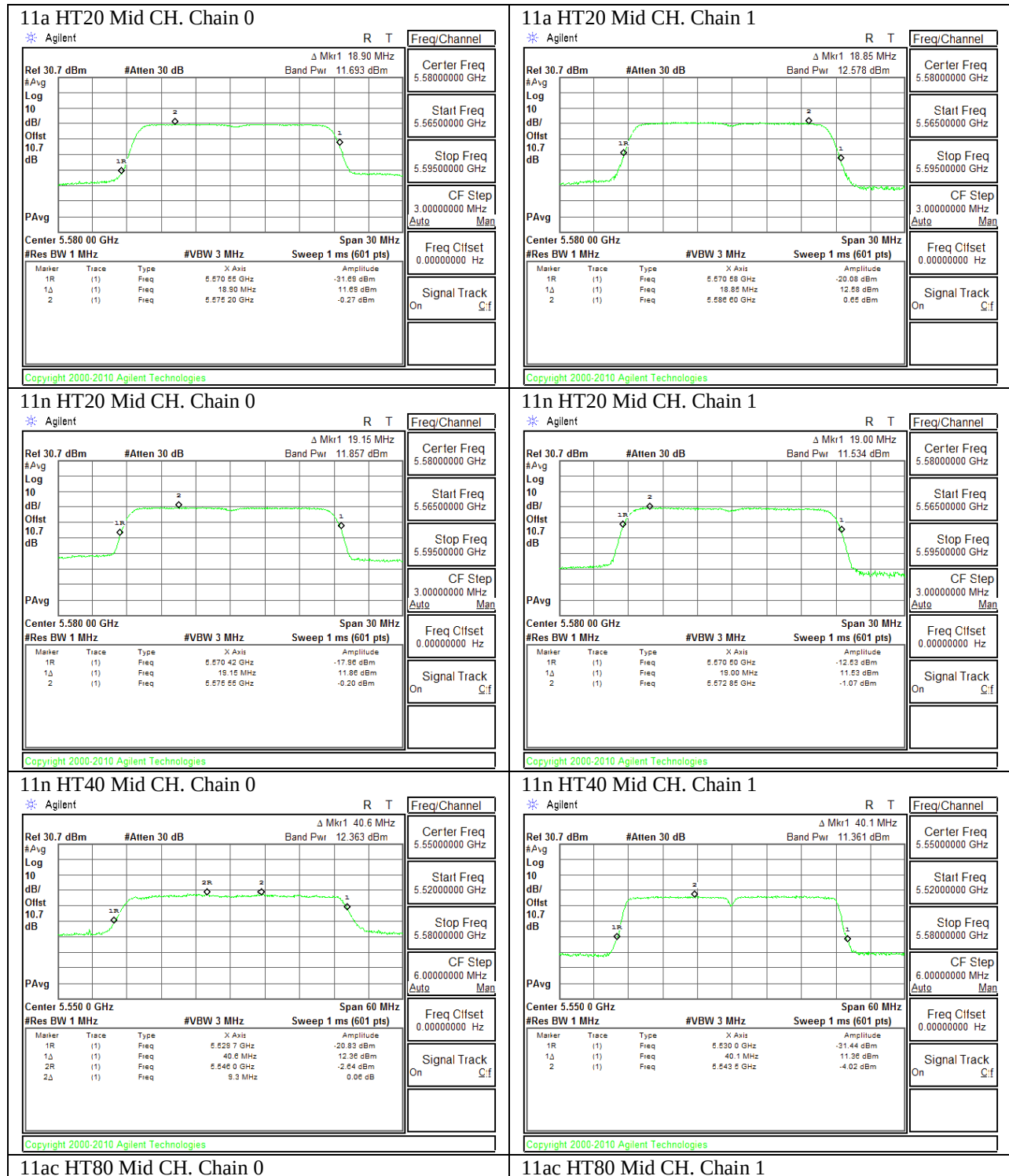


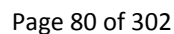
UNII 5.3GHz



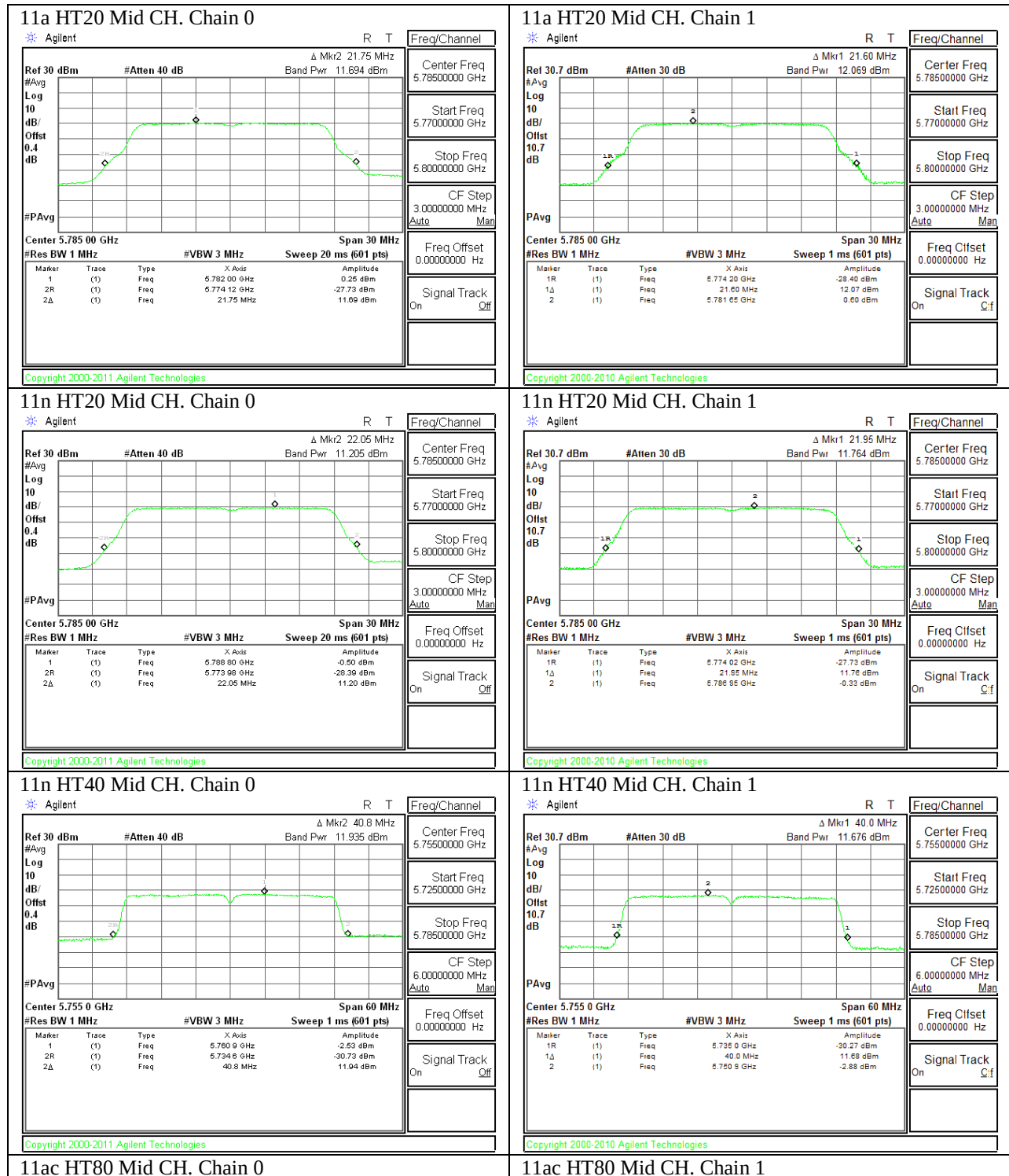


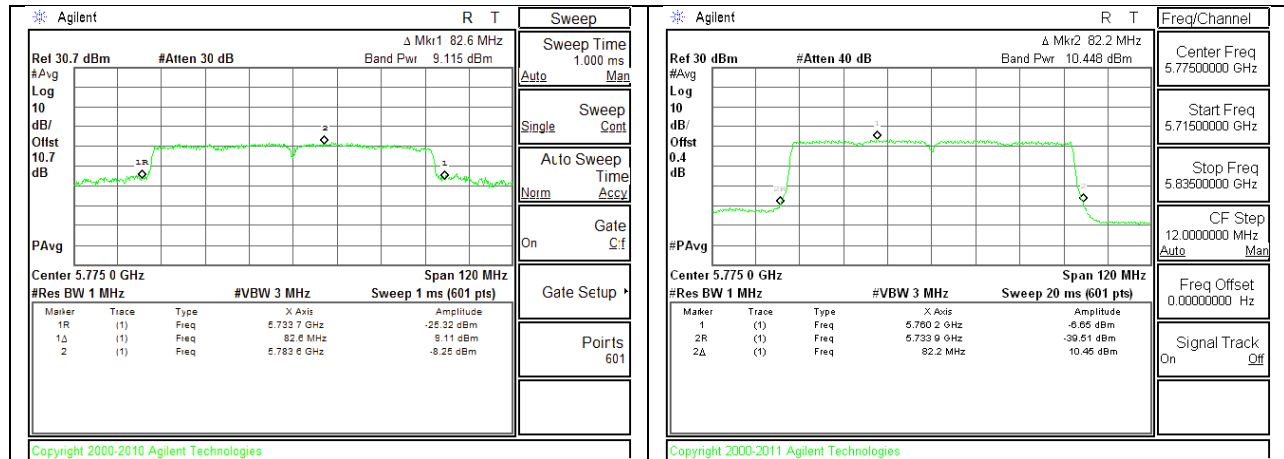
UNII 5.5GHz





UNII 5.8GHz





10.1. 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

10.1.1. 802.11a MODE IN THE 5.2 GHz BAND

Chain 0

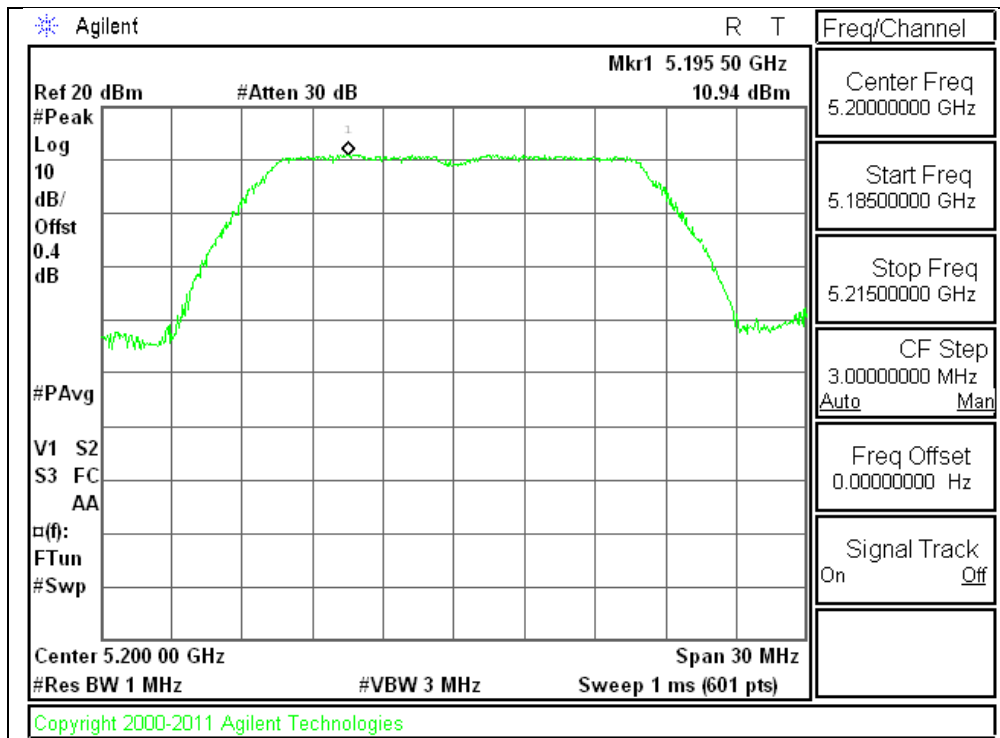
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	10.94	0.14	0.29	10.51	13	-2.49

Chain 1

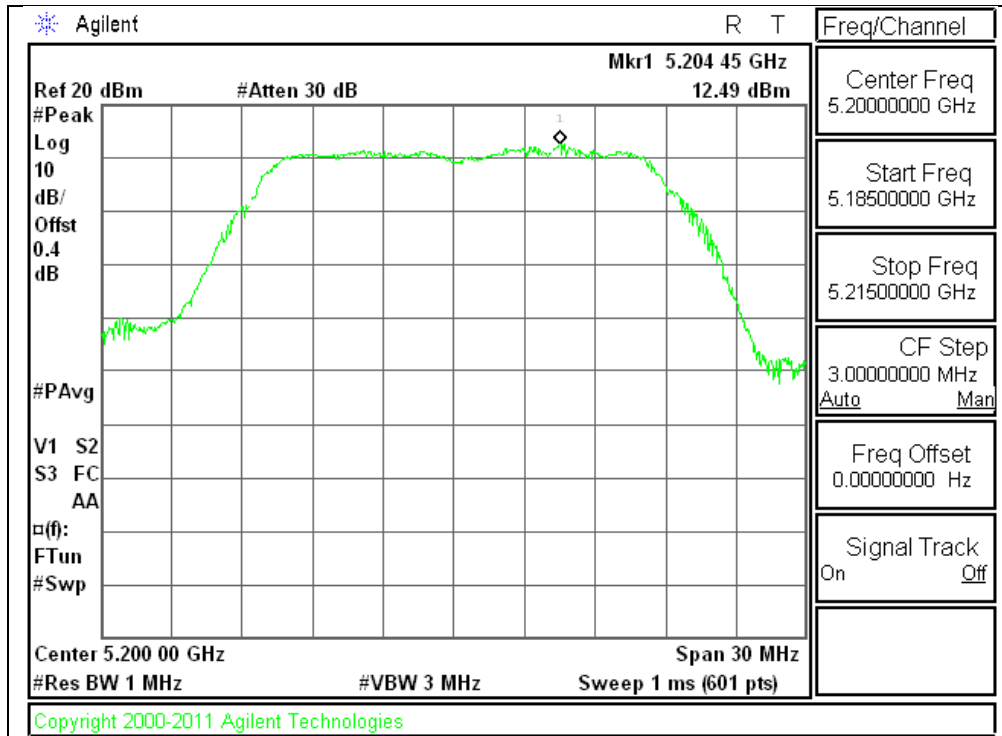
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	12.49	-0.32	0.29	12.52	13	-0.48

PEAK EXCURSION

Chain 0



Chain 1



10.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Chain 0

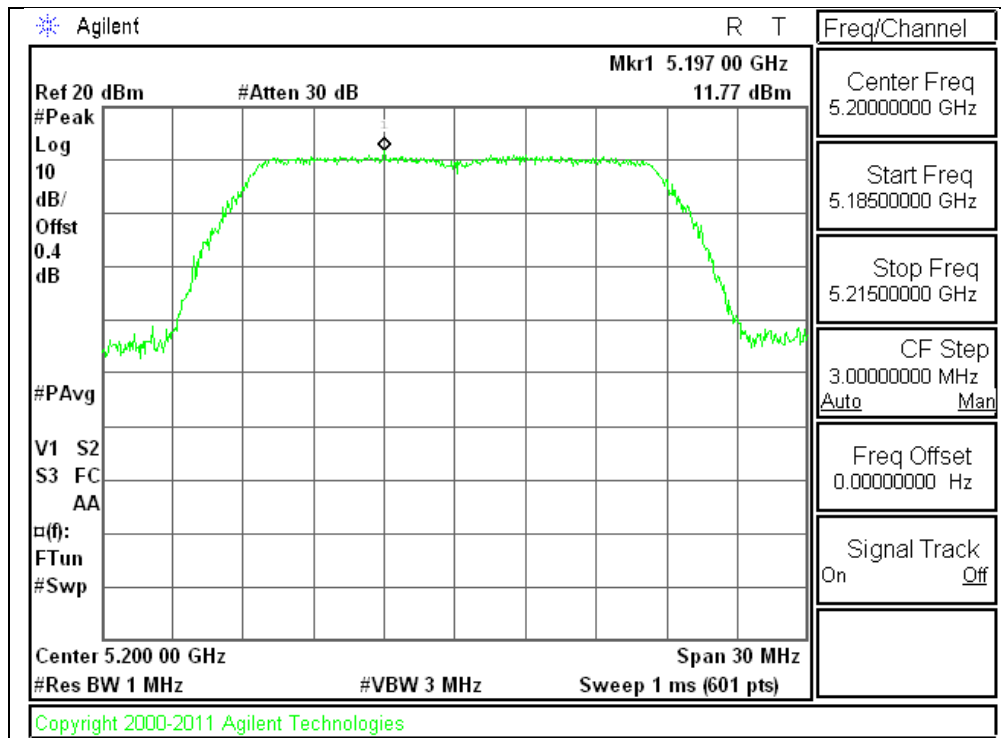
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	11.77	0.28	0.59	10.90	13	-2.10

Chain 1

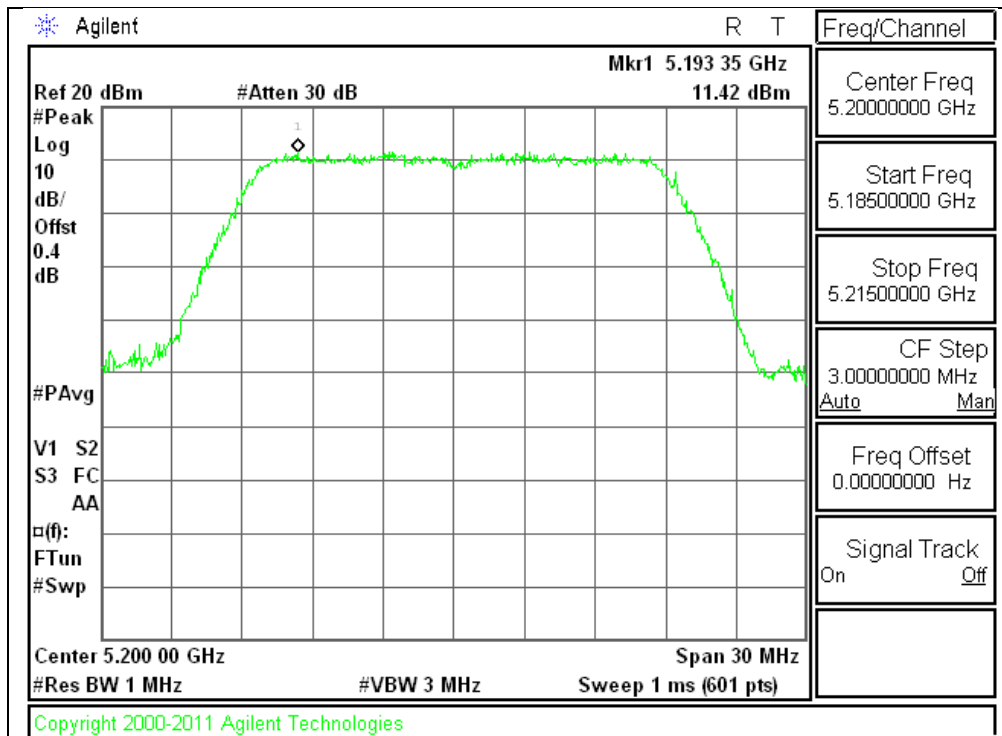
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	11.42	0.13	0.59	10.70	13	-2.30

PEAK EXCURSION

Chain 0



Chain 1



10.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Chain 0

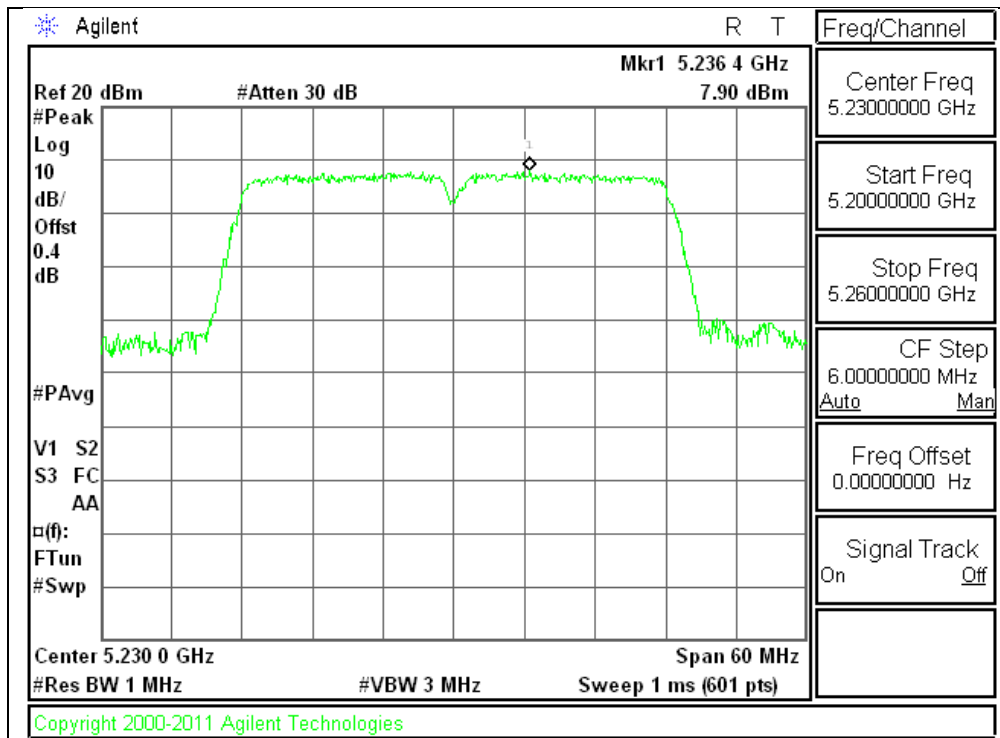
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5230	7.900	-2.32	1.06	9.16	13	-3.84

Chain 1

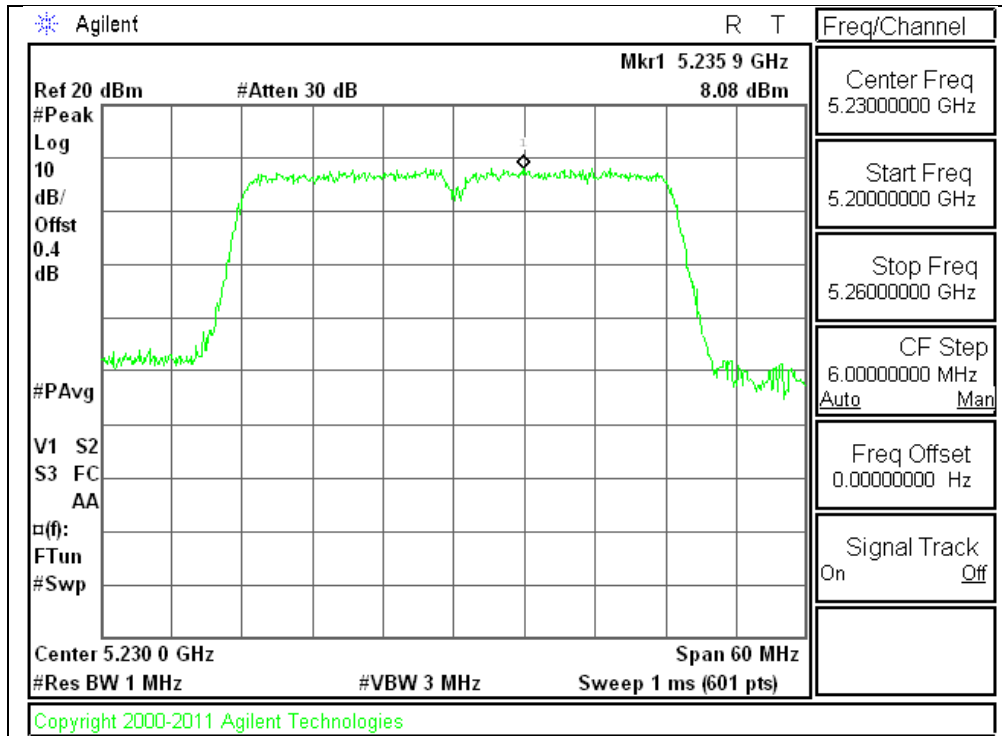
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5230	8.080	-3.45	1.06	10.47	13	-2.53

PEAK EXCURSION

Chain 0



Chain 1



10.1.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Chain 0

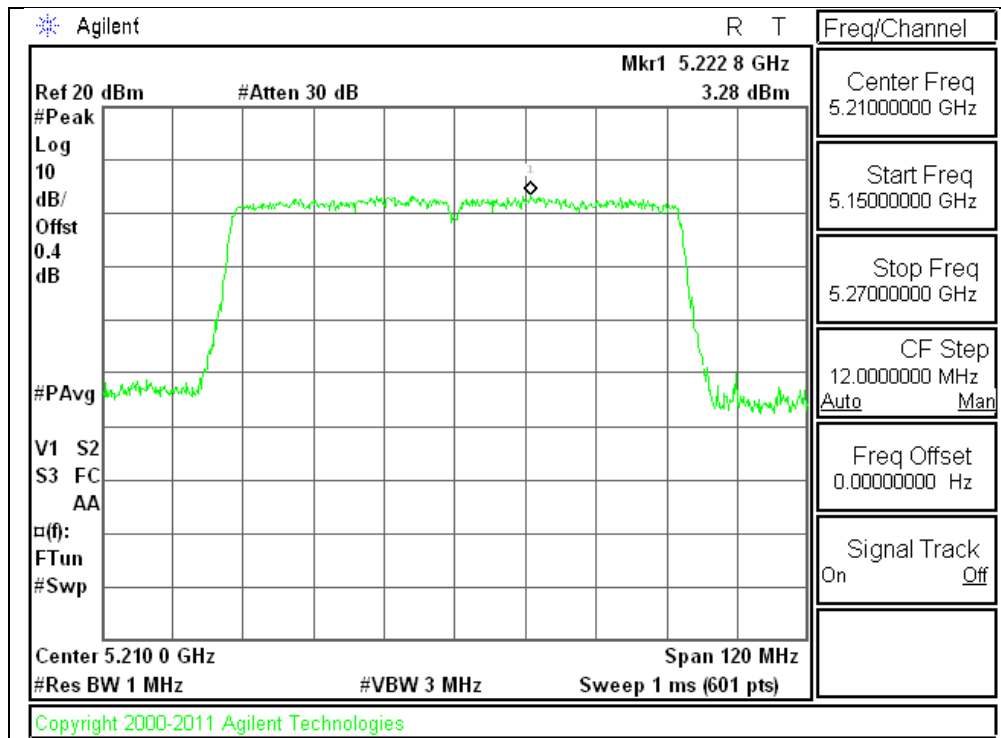
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5210	3.280	-7.70	1.84	9.14	13	-3.86

Chain 1

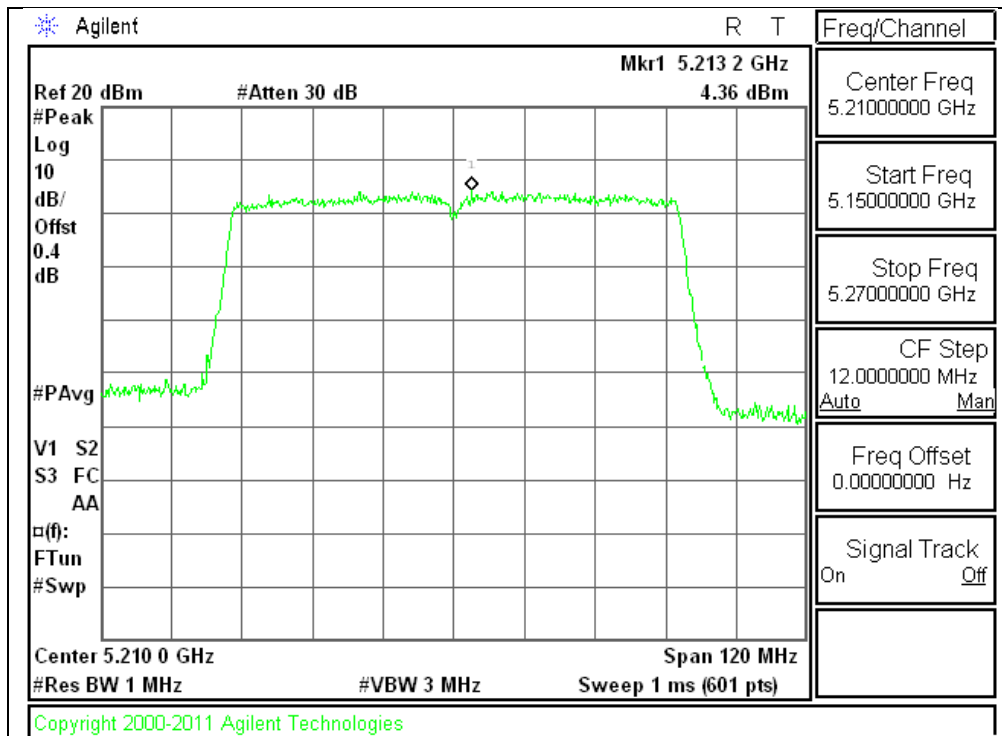
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5210	4.360	-8.63	1.84	11.15	13	-1.85

PEAK EXCURSION

Chain 0



Chain 1



11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit ($\mu\text{V/m}$) at 3 m	Field Strength Limit (dB $\mu\text{V/m}$) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

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

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

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

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

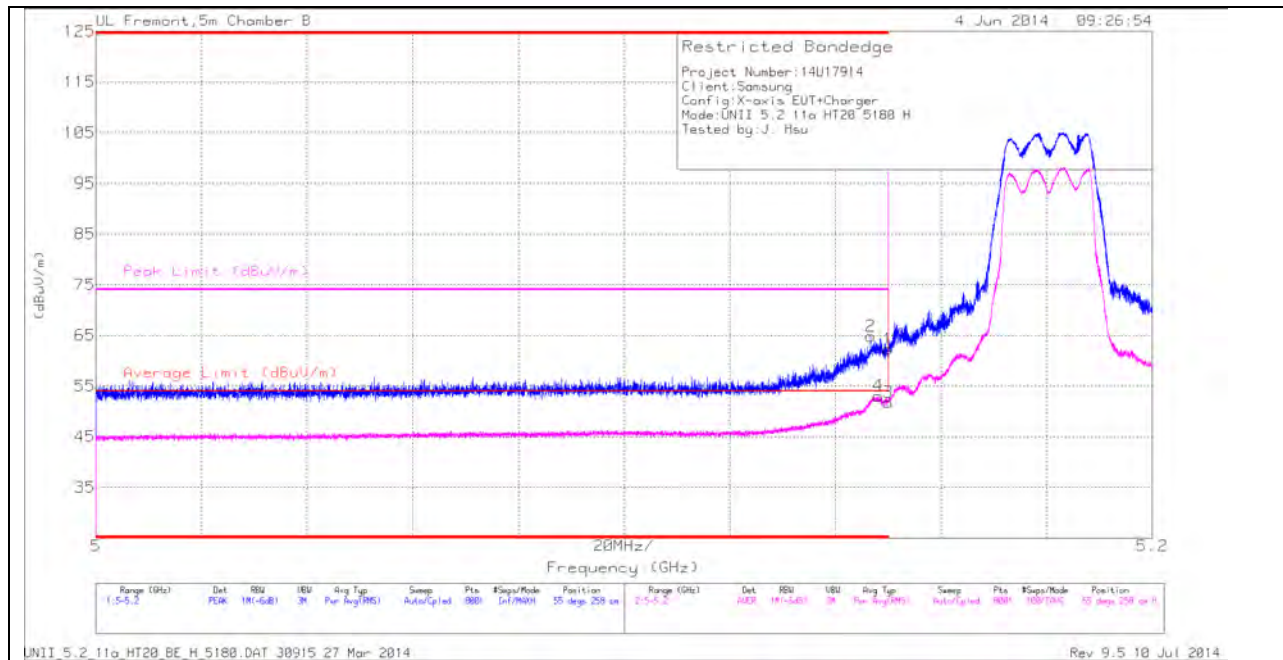
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

11.1. 5.2 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

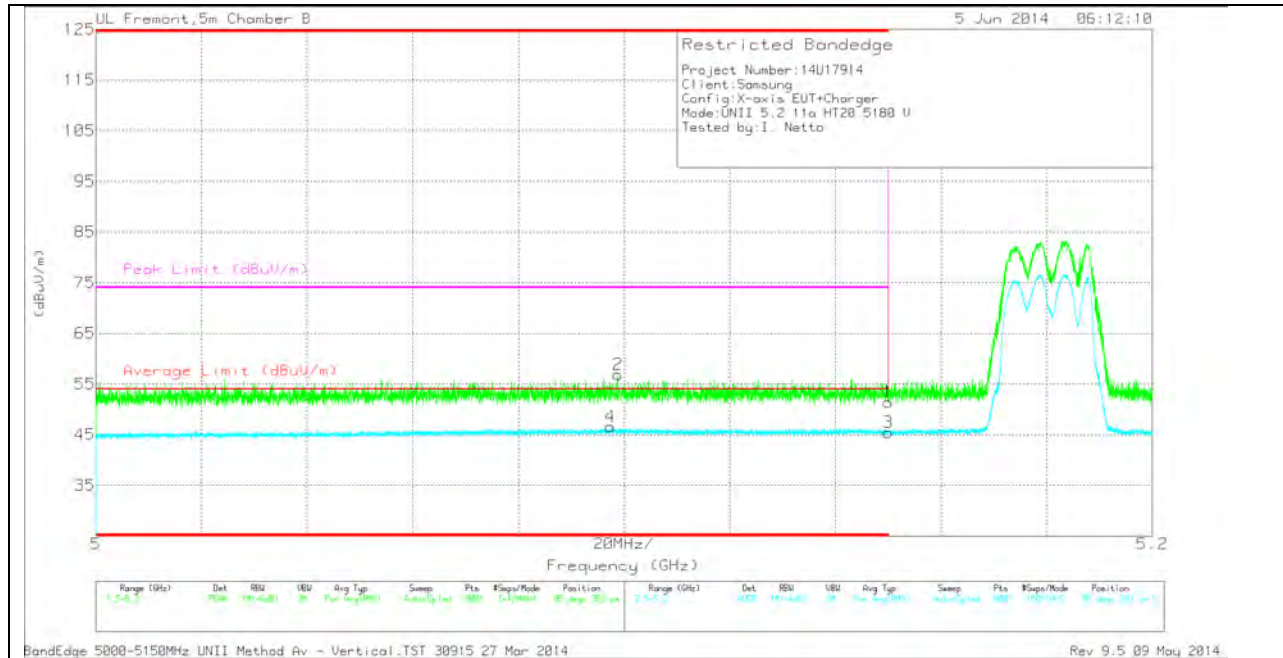
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	48.33	PK	34.3	-20.3	0	62.33	-	-	74	-11.67	55	258	H
2	* 5.147	50.78	PK	34.3	-20.3	0	64.78	-	-	74	-9.22	55	258	H
3	* 5.15	37.47	RMS	34.3	-20.3	.29	51.76	54	-2.24	-	-	55	258	H
4	* 5.148	38.78	RMS	34.3	-20.3	.29	53.07	54	-.93	-	-	55	258	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

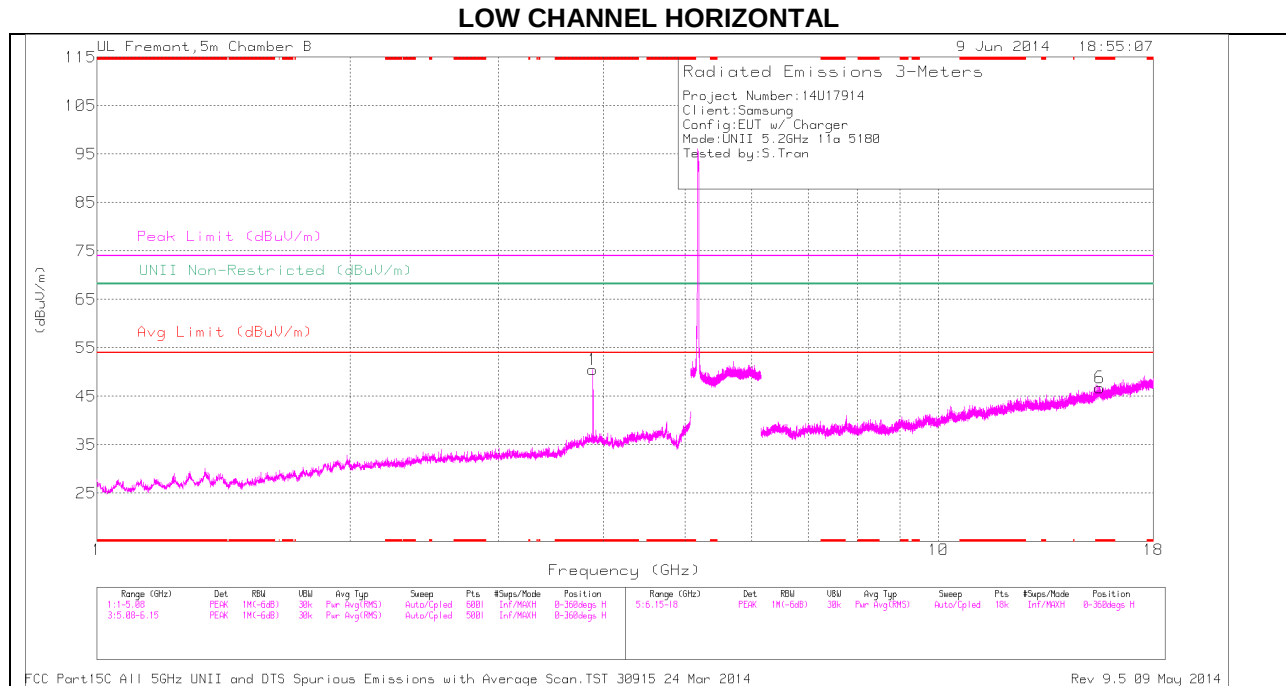
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.44	PK	34.3	-20.3	0	51.44	-	-	74	-22.56	85	383	V
2	* 5.099	42.69	PK	34.2	-20	0	56.89	-	-	74	-17.11	85	383	V
3	* 5.15	31.16	RMS	34.3	-20.3	.3	45.46	54	-8.54	-	-	85	383	V
4	* 5.097	32.02	RMS	34.2	-20	.3	46.52	54	-7.48	-	-	85	383	V

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

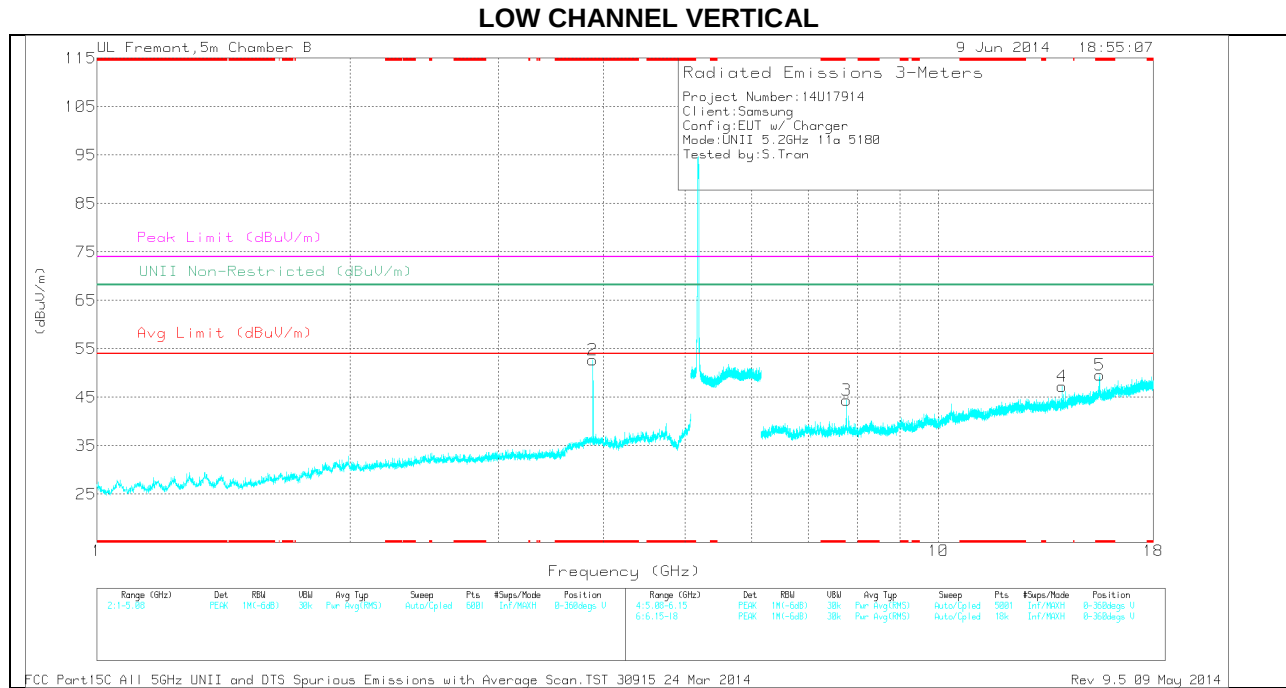
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Chl/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.885	48.15	PK	33.8	-31.4	0	50.55	-	-	74	-23.45	-	-	0-360	201	H
2	* 3.885	50.28	PK	33.8	-31.4	0	52.68	-	-	74	-21.32	-	-	0-360	201	V
6	* 15.541	25.7	PK	40.5	-19.4	0	46.8	-	-	74	-27.2	-	-	0-360	101	H
5	* 15.541	28.52	PK	40.5	-19.4	0	49.62	-	-	74	-24.38	-	-	0-360	201	V
3	7.77	34.99	PK	35.7	-26.3	0	44.39	-	-	-	-	68.2	-23.81	0-360	201	V
4	14.025	29.69	PK	38.6	-21	0	47.29	-	-	-	-	68.2	-20.91	0-360	201	V

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

PK - Peak detector

Radiated Emissions

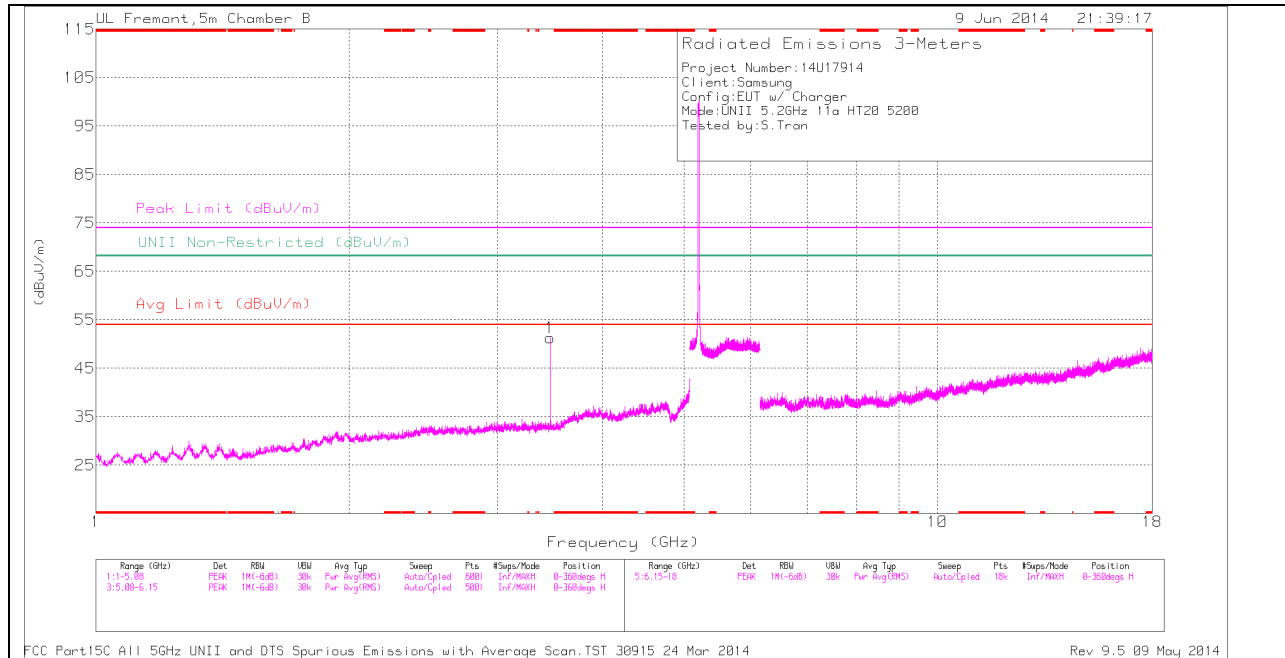
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Chl/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.885	53.3	PK1	33.8	-31.4	0	55.7	-	-	74	-18.3	-	-	338	239	H
* 3.885	51.19	AD1	33.8	-31.4	.3	53.89	54	-11	-	-	-	-	338	239	H
* 3.885	52.68	PK1	33.8	-31.4	0	55.08	-	-	74	-18.92	-	-	321	271	V
* 3.885	50.3	AD1	33.8	-31.4	.3	53	54	-1	-	-	-	-	321	271	V
* 15.541	34.15	PK1	40.5	-19.4	0	55.25	-	-	74	-18.75	-	-	95	102	H
* 15.541	22.13	AD1	40.5	-19.4	.3	43.53	54	-10.47	-	-	-	-	95	102	H
* 15.542	39.39	PK1	40.5	-19.4	0	60.49	-	-	74	-13.51	-	-	9	202	V
* 15.541	27.3	AD1	40.5	-19.4	.3	48.7	54	-5.3	-	-	-	-	9	202	V

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

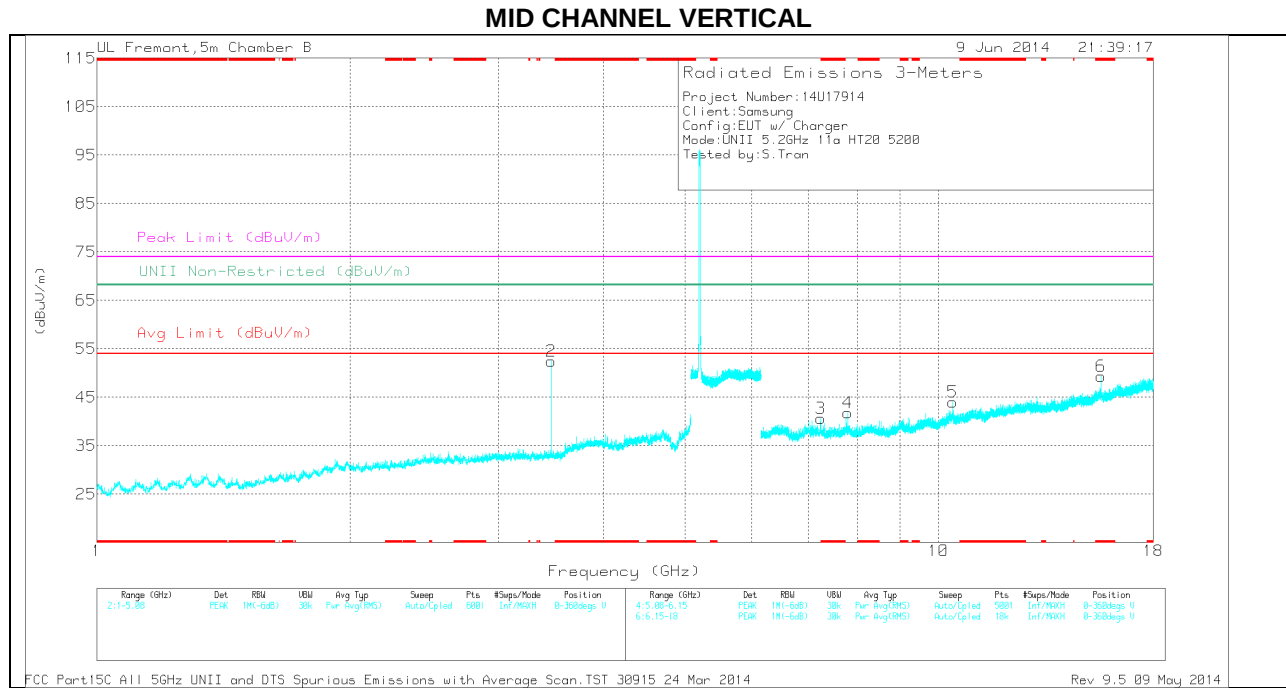
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



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



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

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 15.597	28.54	PK	40.6	-19.8	0	49.34	-	-	74	-24.66	-	-	0-360	201	V
1	3.467	49.76	PK	32.8	-31.3	0	51.26	-	-	-	-	68.2	-16.94	0-360	201	H
2	3.467	50.99	PK	32.8	-31.3	0	52.49	-	-	-	-	68.2	-15.71	0-360	201	V
3	7.241	31.35	PK	35.6	-26.3	0	40.65	-	-	-	-	68.2	-27.55	0-360	201	V
4	7.8	32.57	PK	35.7	-26.5	0	41.77	-	-	-	-	68.2	-26.43	0-360	201	V
5	10.399	29.66	PK	37.3	-23	0	43.96	-	-	-	-	68.2	-24.24	0-360	100	V

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

PK - Peak detector

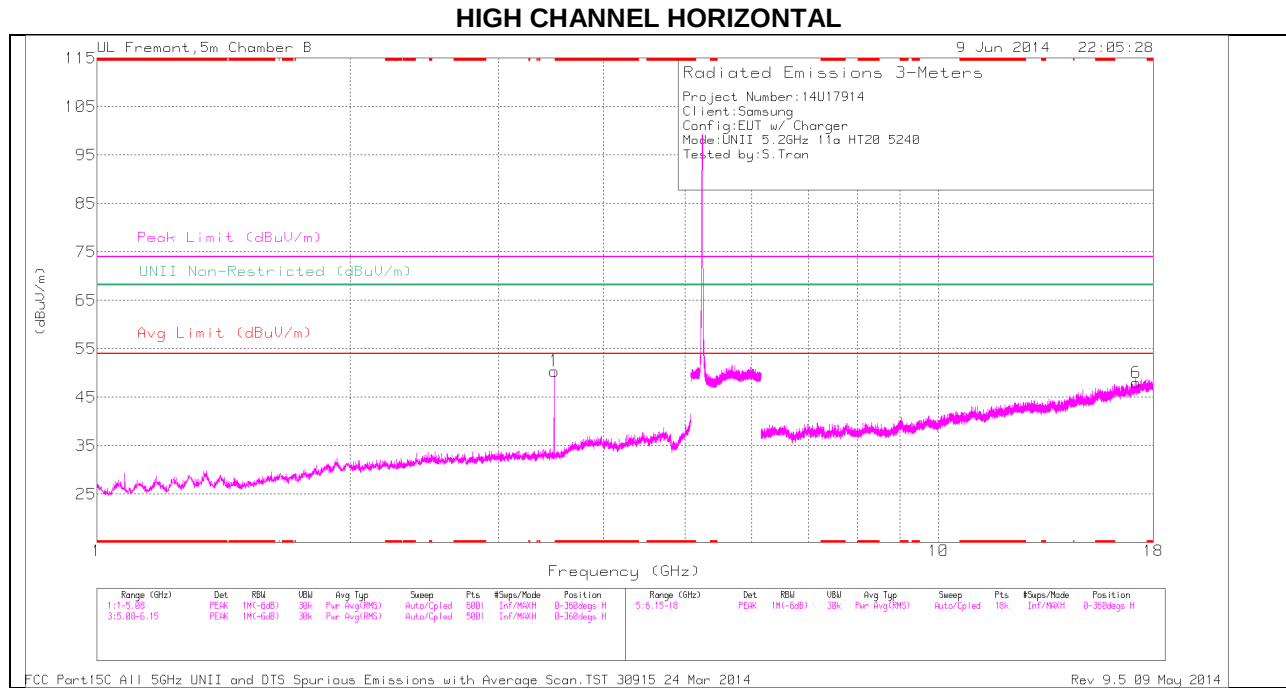
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 15.597	25.39	Avg	40.6	-19.9	0	46.09	54	-7.91	-	-	-	-	118	202	V
* 15.596	38.87	PK1	40.6	-19.8	0	59.67	-	-	74	-14.33	-	-	118	202	V
* 15.596	26.8	AD1	40.6	-19.8	.3	47.9	54	-6.1	-	-	-	-	118	202	V
3.467	46.11	PK1	32.8	-31.3	0	47.61	-	-	-	-	68.2	-20.59	1	202	V
3.467	40.85	AD1	32.8	-31.3	.3	42.65	-	-	-	-	-	-	1	202	V

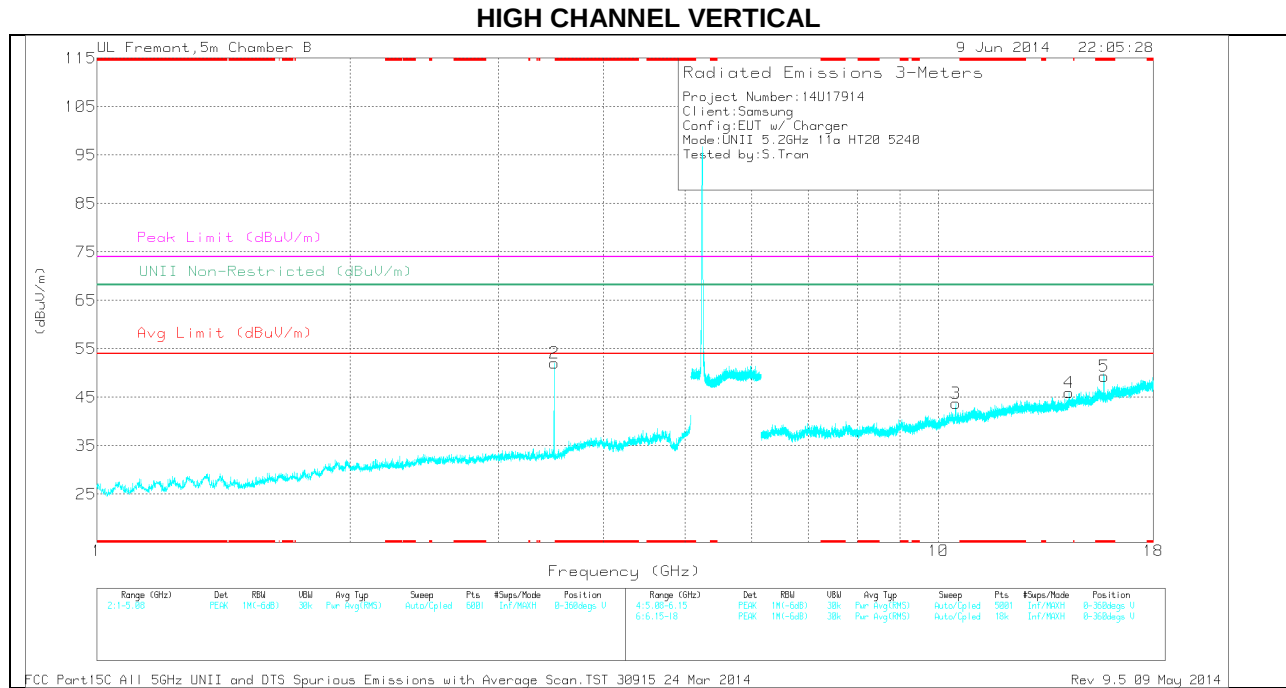
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average



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



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

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 15.726	29.17	PK	40.7	-20.5	0	49.37	-	-	74	-24.63	-	-	0-360	201	V
1	3.494	49.24	PK	32.8	-31.6	0	50.44	-	-	-	-	68.2	-17.76	0-360	200	H
2	3.494	50.87	PK	32.8	-31.6	0	52.07	-	-	-	-	68.2	-16.13	0-360	201	V
3	10.48	29.64	PK	37.4	-23.3	0	43.74	-	-	-	-	68.2	-24.46	0-360	101	V
4	14.298	26.83	PK	39	-19.9	0	45.93	-	-	-	-	68.2	-22.27	0-360	201	V
6	17.167	25.89	PK	41.5	-19.3	0	48.09	-	-	-	-	68.2	-20.11	0-360	101	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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 15.727	39.57	PK1	40.7	-20.5	0	59.77	-	-	74	-14.23	-	-	112	202	V
* 15.726	27.79	AD1	40.7	-20.5	.3	48.29	54	-5.71	-	-	-	-	112	202	V
3.493	44.71	PK1	32.8	-31.6	0	45.91	-	-	-	-	68.2	-22.29	1	202	V
3.493	38.13	AD1	32.8	-31.6	.3	39.63	-	-	-	-	-	-	1	202	V

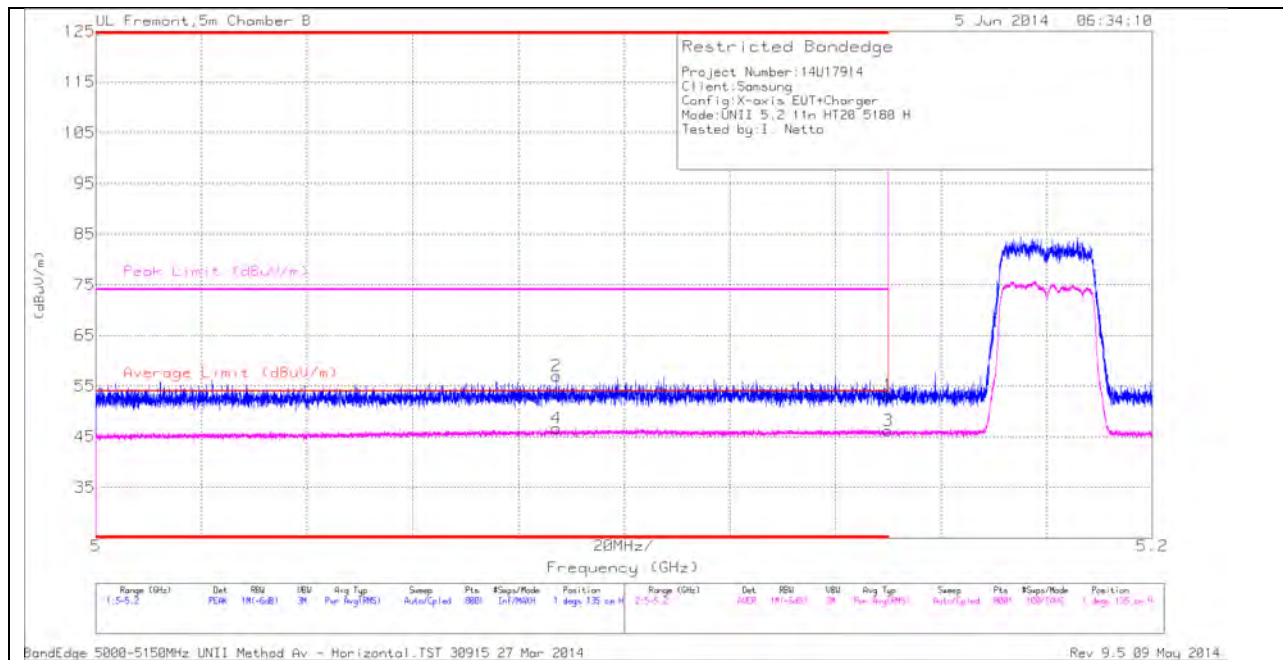
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

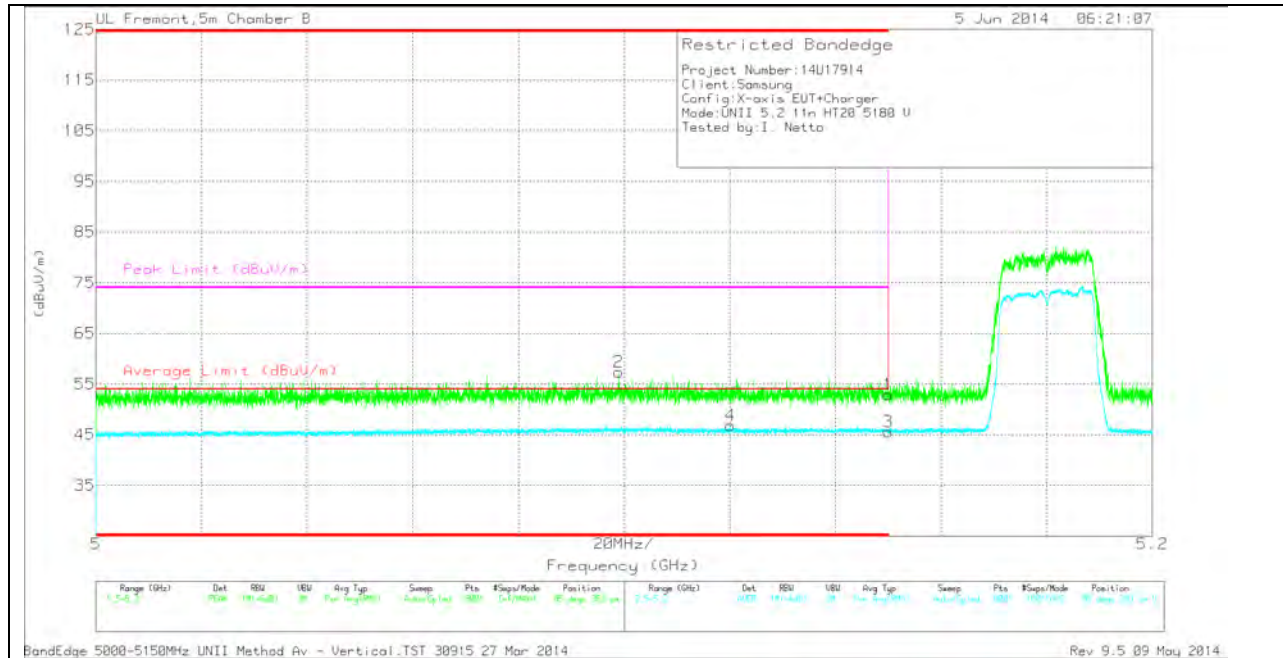
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.24	PK	34.3	-20.3	0	53.24	-	-	74	-20.76	1	135	H
2	* 5.087	42.92	PK	34.2	-20.1	0	57.02	-	-	74	-16.98	1	135	H
3	* 5.15	31.59	RMS	34.3	-20.3	.6	46.19	54	-7.81	-	-	1	135	H
4	* 5.087	31.98	RMS	34.2	-20.1	.6	46.68	54	-7.32	-	-	1	135	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

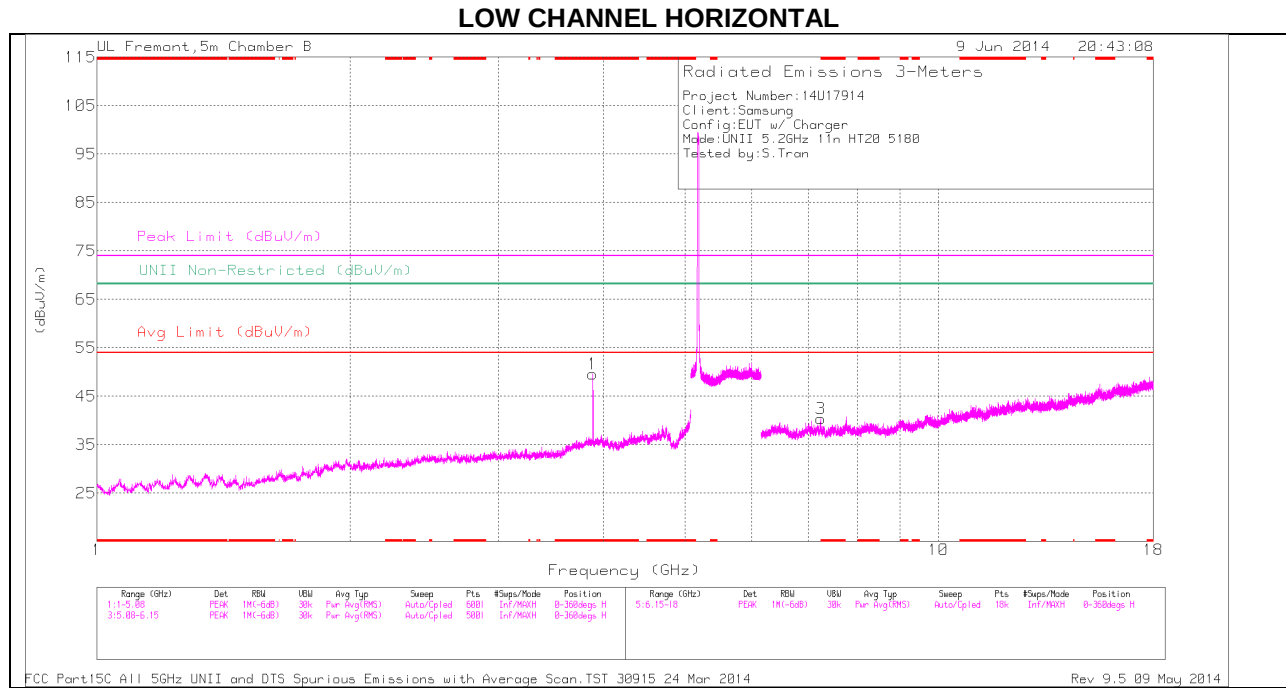
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.95	PK	34.3	-20.3	0	52.95	-	-	74	-21.05	85	383	V
2	* 5.099	43.13	PK	34.2	-20	0	57.33	-	-	74	-16.67	85	383	V
3	* 5.15	31.02	RMS	34.3	-20.3	.6	45.62	54	-8.38	-	-	85	383	V
4	* 5.12	32.15	RMS	34.3	-20.2	.6	46.85	54	-7.15	-	-	85	383	V

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

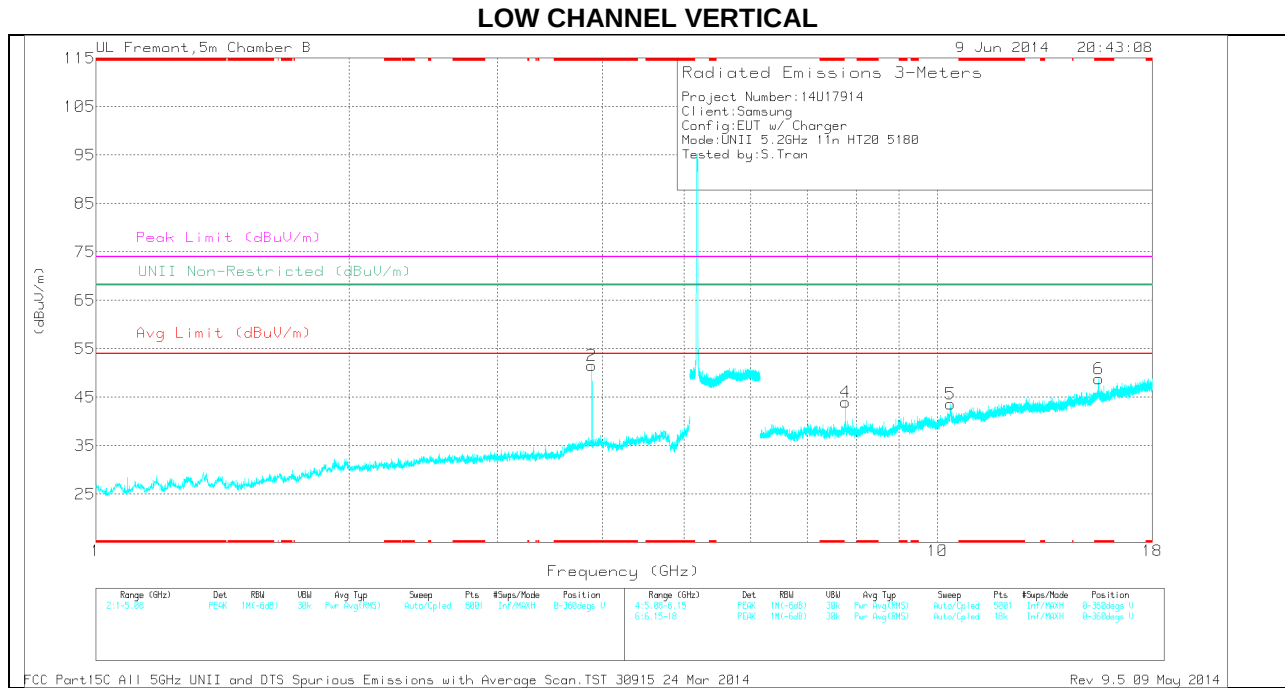
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.885	47.24	PK	33.8	-31.4	0	49.64	-	-	74	-24.36	-	-	0-360	200	H
2	* 3.885	49.11	PK	33.8	-31.4	0	51.51	-	-	74	-22.49	-	-	0-360	201	V
6	* 15.543	27.74	PK	40.5	-19.4	0	48.84	-	-	74	-25.16	-	-	0-360	201	V
3	7.243	31.14	PK	35.6	-26.4	0	40.34	-	-	-	-	68.2	-27.86	0-360	100	H
4	7.77	34.67	PK	35.7	-26.3	0	44.07	-	-	-	-	68.2	-24.13	0-360	201	V
5	10.354	29.17	PK	37.2	-22.8	0	43.57	-	-	-	-	68.2	-24.63	0-360	101	V

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

PK - Peak detector

Radiated Emissions

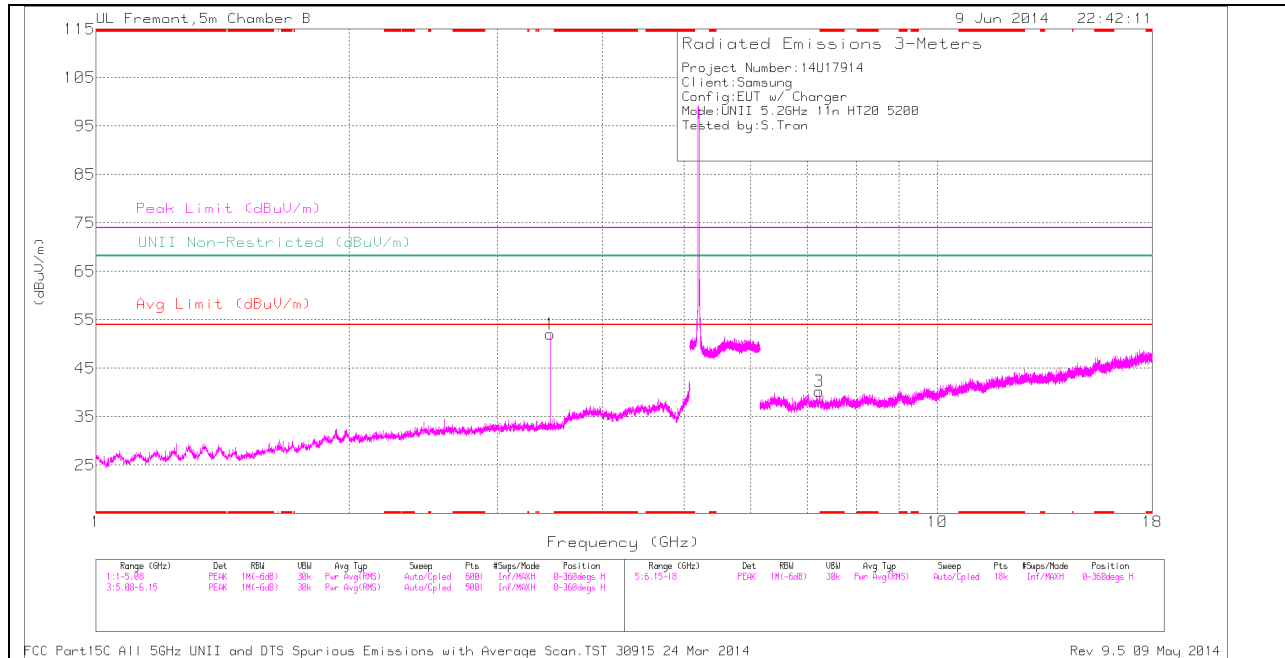
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.885	51.99	PK1	33.8	-31.4	0	54.39	-	-	74	-19.61	-	-	337	277	H
* 3.885	49.49	AD1	33.8	-31.4	.6	52.49	54	-1.51	-	-	-	-	337	277	H
* 3.885	50.79	PK1	33.8	-31.4	0	53.19	-	-	74	-20.81	-	-	322	270	V
* 3.885	48.16	AD1	33.8	-31.4	.6	51.16	54	-2.84	-	-	-	-	322	270	V
* 15.544	35.36	PK1	40.5	-19.4	0	56.46	-	-	74	-17.54	-	-	322	201	V
* 15.541	24.69	AD1	40.5	-19.4	.6	46.39	54	-7.61	-	-	-	-	322	201	V

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

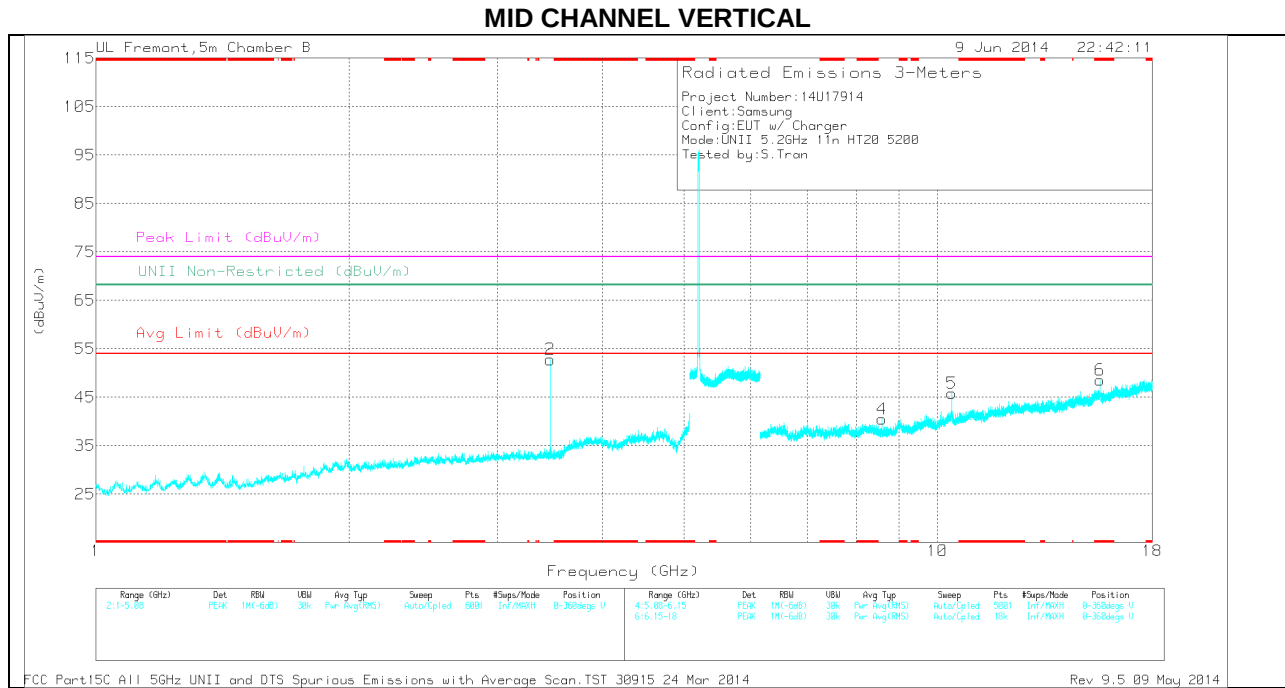
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



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



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

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 15.597	27.7	PK	40.6	-19.8	0	48.5	-	-	74	-25.5	-	-	0-360	201	V
1	3.467	50.57	PK	32.8	-31.3	0	52.07	-	-	-	-	68.2	-16.13	0-360	200	H
2	3.467	51.28	PK	32.8	-31.3	0	52.78	-	-	-	-	68.2	-15.42	0-360	201	V
3	7.236	30.69	PK	35.6	-26.1	0	40.19	-	-	-	-	68.2	-28.01	0-360	100	H
4	8.59	30.59	PK	35.8	-25.9	0	40.49	-	-	-	-	68.2	-27.71	0-360	201	V
5	10.399	31.57	PK	37.3	-23	0	45.87	-	-	-	-	68.2	-22.33	0-360	100	V

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

PK - Peak detector

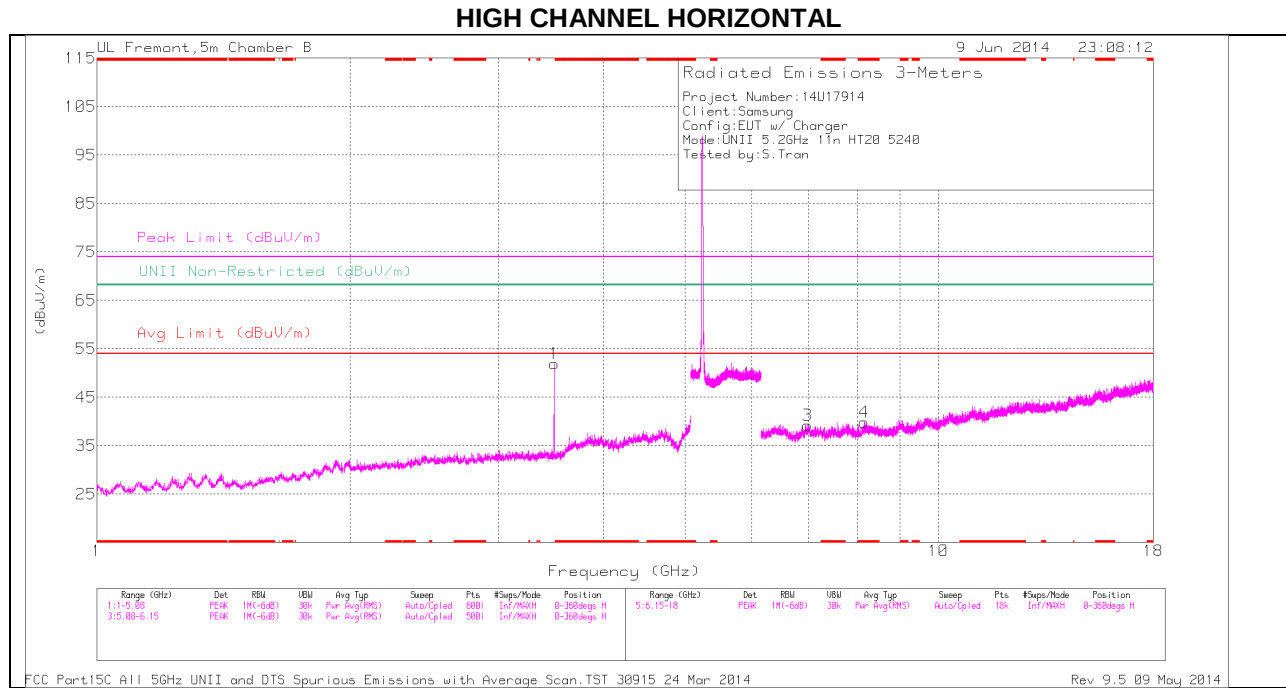
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 15.598	36.49	PK1	40.6	-19.9	0	57.19	-	-	74	-16.81	-	-	0	202	V
* 15.598	24.9	AD1	40.6	-19.9	.6	46.2	54	-7.8	-	-	-	-	0	202	V
3.467	53.44	PK1	32.8	-31.3	0	54.94	-	-	-	-	68.2	-13.26	262	202	V
3.467	51.62	AD1	32.8	-31.3	.6	53.72	-	-	-	-	-	-	262	202	V

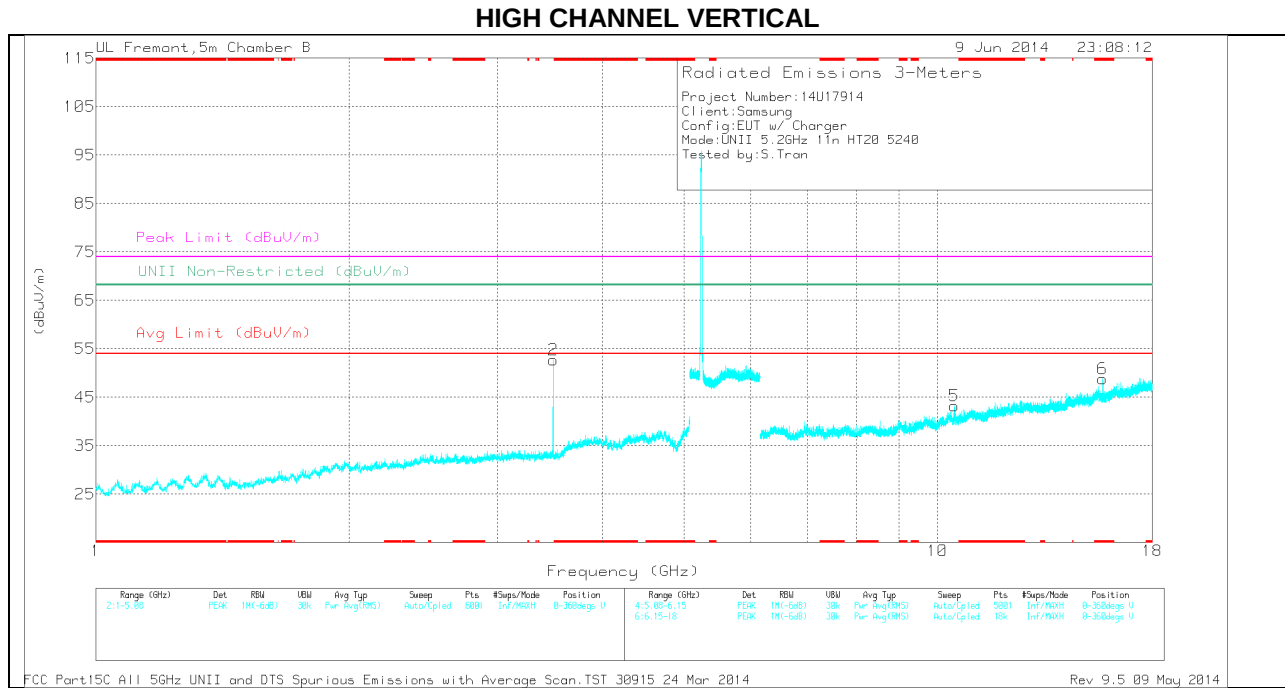
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average



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



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

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Chl/ Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 8.16	30.54	PK	35.7	-26.4	0	39.84	-	-	74	-34.16	-	-	0-360	200	H
6	* 15.716	28.77	PK	40.7	-20.6	0	48.87	-	-	74	-25.13	-	-	0-360	201	V
1	3.494	50.68	PK	32.8	-31.6	0	51.88	-	-	-	-	68.2	-16.32	0-360	200	H
2	3.494	51.54	PK	32.8	-31.6	0	52.74	-	-	-	-	68.2	-15.46	0-360	201	V
3	6.987	30.82	PK	35.6	-27.2	0	39.22	-	-	-	-	68.2	-28.98	0-360	100	H
5	10.474	29.19	PK	37.4	-23.4	0	43.19	-	-	-	-	68.2	-25.01	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 T345 (dB/m)	Amp/Chl/FI 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
* 8.161	37.79	PK1	35.7	-26.4	0	47.09	-	-	74	-26.91	-	-	1	202	H
* 8.161	26.63	AD1	35.7	-26.4	.6	36.53	54	-17.47	-	-	-	-	1	202	H
* 15.715	25.33	Avg	40.7	-20.6	0	45.43	54	-8.57	-	-	-	-	113	202	V
* 15.714	38.18	PK1	40.7	-20.6	0	58.28	-	-	74	-15.72	-	-	113	202	V
* 15.716	26.8	AD1	40.7	-20.6	.6	47.5	54	-6.5	-	-	-	-	113	202	V
3.493	38.47	AD1	32.8	-31.6	.6	40.27	-	-	-	-	-	-	1	202	V
3.494	44.94	PK1	32.8	-31.6	0	46.14	-	-	-	-	68.2	-22.06	1	202	V

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

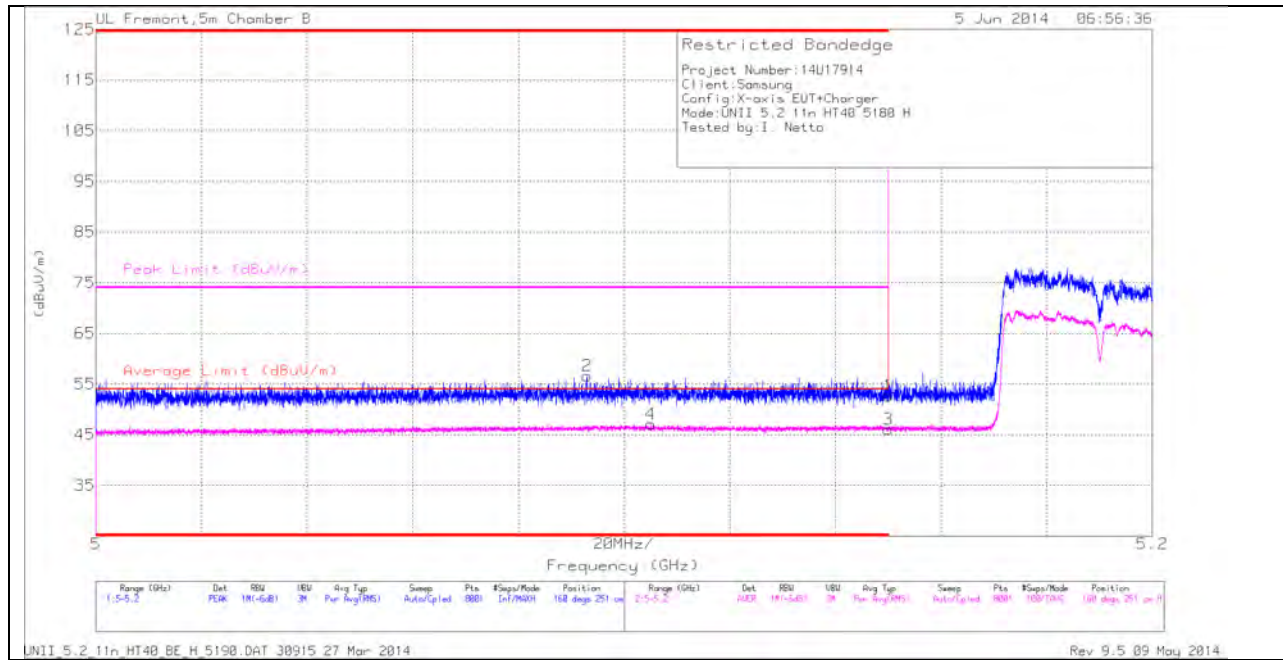
Avg - Video bandwidth < Resolution bandwidth

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

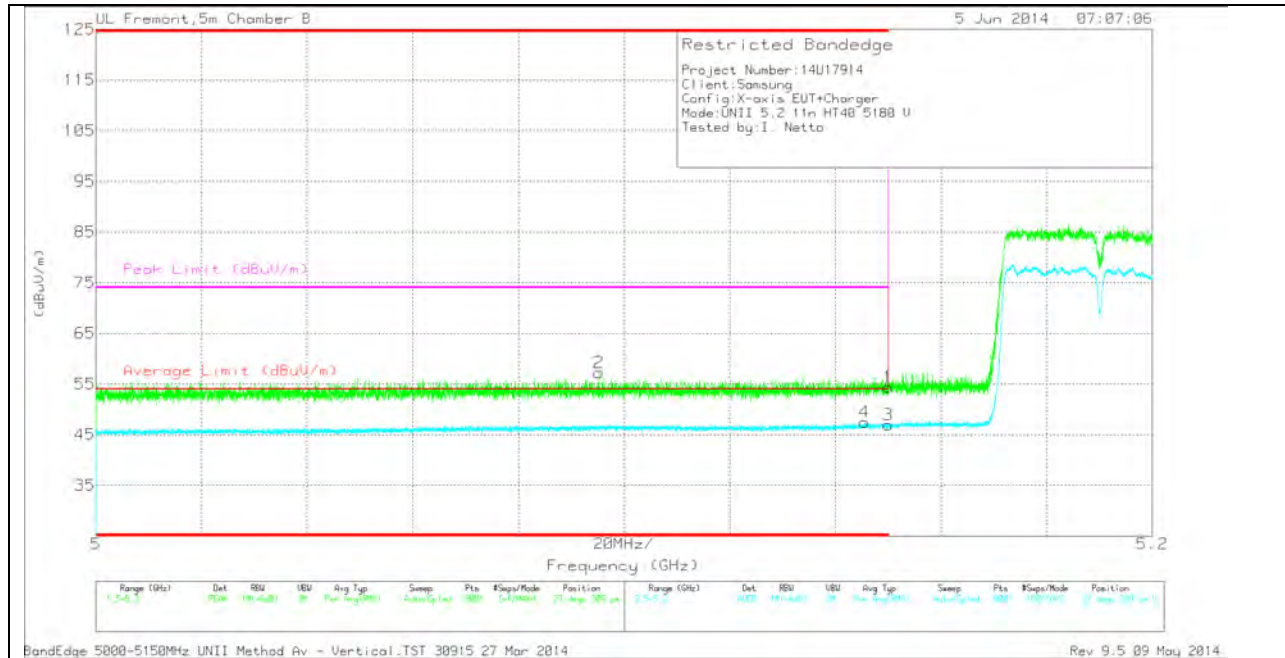
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.66	PK	34.3	-20.3	0	52.66	-	-	74	-21.34	160	251	H
2	* 5.093	42.49	PK	34.2	-20.1	0	56.59	-	-	74	-17.41	160	251	H
3	* 5.15	30.93	RMS	34.3	-20.3	1.1	46.03	54	-7.97	-	-	160	251	H
4	* 5.105	31.73	RMS	34.3	-20.1	1.1	47.03	54	-6.97	-	-	160	251	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

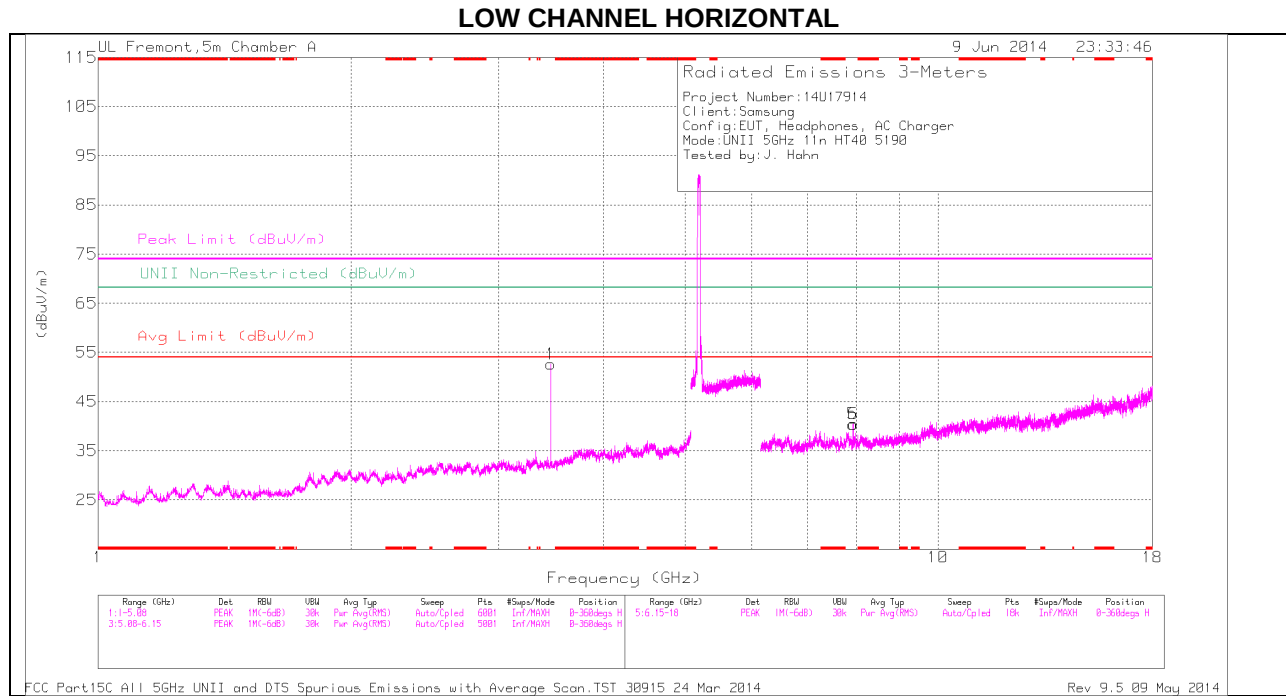
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.36	PK	34.3	-20.3	0	54.36	-	-	74	-19.64	27	309	V
2	* 5.095	43.12	PK	34.2	-20.1	0	57.22	-	-	74	-16.78	27	309	V
3	* 5.15	31.87	RMS	34.3	-20.3	1.1	46.97	54	-7.03	-	-	27	309	V
4	* 5.146	32.21	RMS	34.3	-20.2	1.1	47.41	54	-6.59	-	-	27	309	V

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

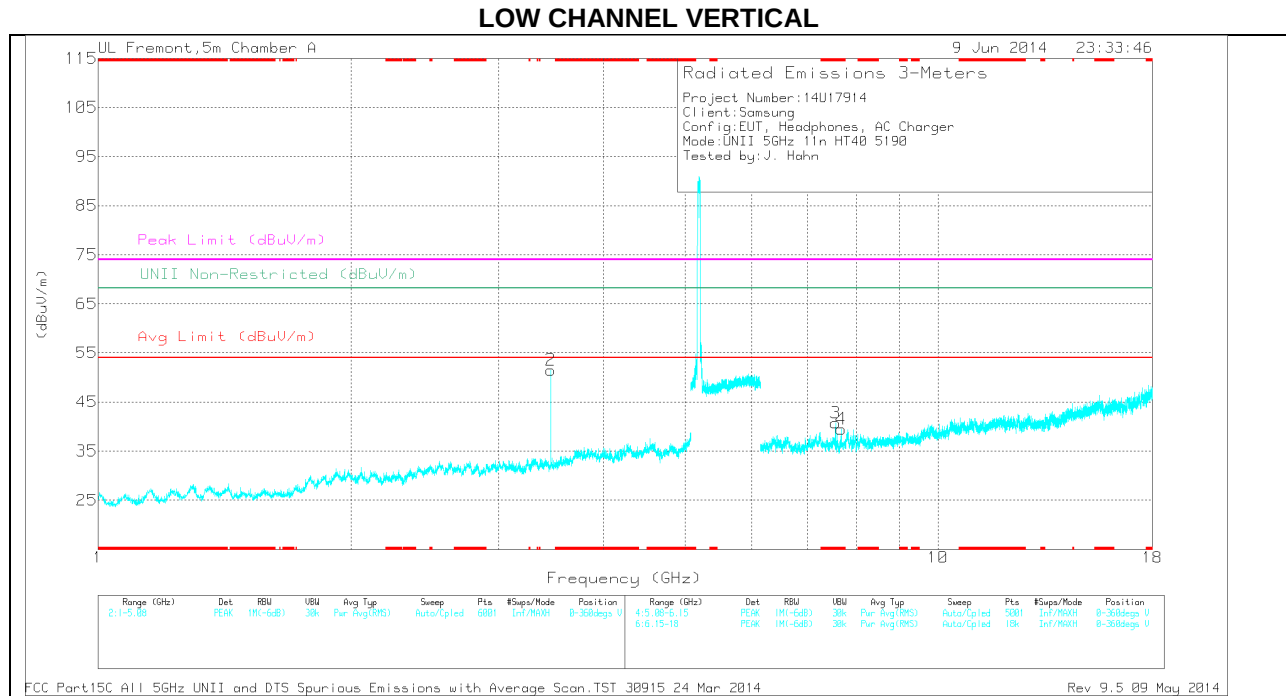
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 7.553	30.84	PK	35.3	-25.4	0	40.74	-	-	74	-33.26	-	-	0-360	201	V
4	* 7.67	30.8	PK	35.4	-26.7	0	39.5	-	-	74	-34.5	-	-	0-360	201	V
1	3.46	50.99	PK	33	-31.4	0	52.59	-	-	-	-	68.2	-15.61	0-360	200	H
2	3.46	49.91	PK	33	-31.4	0	51.51	-	-	-	-	68.2	-16.69	0-360	201	V
5	7.917	31.72	PK	35.5	-26.8	0	40.42	-	-	-	-	68.2	-27.78	0-360	100	H
6	7.936	31.95	PK	35.5	-27	0	40.45	-	-	-	-	68.2	-27.75	0-360	200	H

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

PK - Peak detector

Radiated Emissions

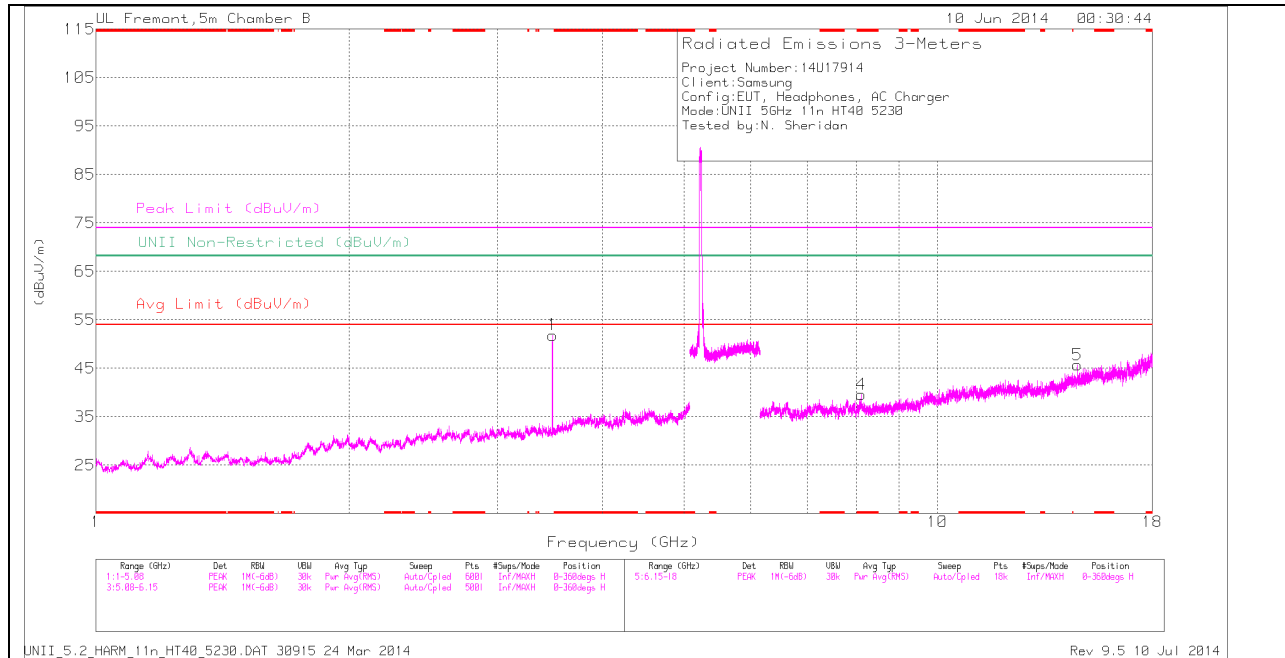
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.553	35.56	PK1	35.3	-25.5	0	45.36	-	-	74	-28.64	-	-	335	205	V
* 7.553	23.92	AD1	35.3	-25.4	1	34.82	54	-19.18	-	-	-	-	335	205	V
* 7.669	36.56	PK1	35.4	-26.7	0	45.26	-	-	74	-28.74	-	-	50	269	V
3.04	40.71	PK1	32.8	-31.4	0	42.11	-	-	-	-	68.2	-26.09	240	100	V
3.041	28.28	AD1	32.8	-31.5	1	30.58	-	-	-	-	-	-	240	100	V
3.46	54.02	PK1	33	-31.4	0	55.62	-	-	-	-	68.2	-12.58	300	264	H
3.46	51.26	AD1	33	-31.4	1	53.86	-	-	-	-	-	-	300	264	H

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

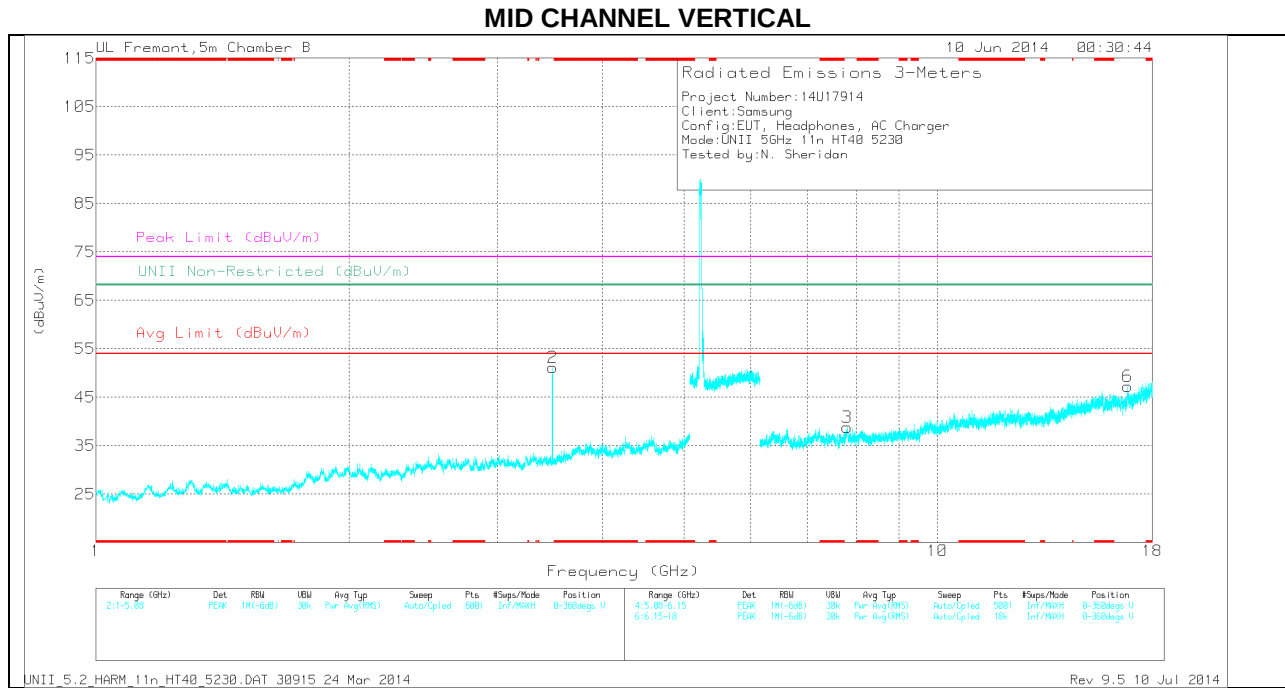
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



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



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

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 8.112	29.05	PK	35.5	-24.9	0	39.65	-	-	74	-34.35	-	-	0-360	100	H
1	3.487	50.57	PK	33	-31.7	0	51.87	-	-	-	-	68.2	-16.33	0-360	100	H
2	3.487	49.8	PK	33	-31.7	0	51.1	-	-	-	-	68.2	-17.1	0-360	201	V
3	7.81	27.91	PK	35.5	-24.6	0	38.81	-	-	-	-	68.2	-29.39	0-360	201	V
5	14.664	27.3	PK	40	-21.6	0	45.7	-	-	-	-	68.2	-22.5	0-360	100	H
6	16.824	25.73	PK	40.4	-18.9	0	47.23	-	-	-	-	68.2	-20.97	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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.487	52.88	PK1	33	-31.7	0	54.18	-	-	-	-	68.2	-14.02	294	191	H
3.487	50.76	AD1	33	-31.7	.97	53.03	-	-	-	-	-	-	294	191	H
3.487	50.48	RMS	33	-31.7	.97	52.75	-	-	-	-	-	-	294	191	H
3.487	50.56	RMS	33	-31.7	.97	52.83	-	-	-	-	-	-	294	191	H
3.487	53.15	PK1	33	-31.7	0	54.45	-	-	-	-	68.2	-13.75	178	320	V
3.487	51.3	AD1	33	-31.7	.97	53.57	-	-	-	-	-	-	178	320	V

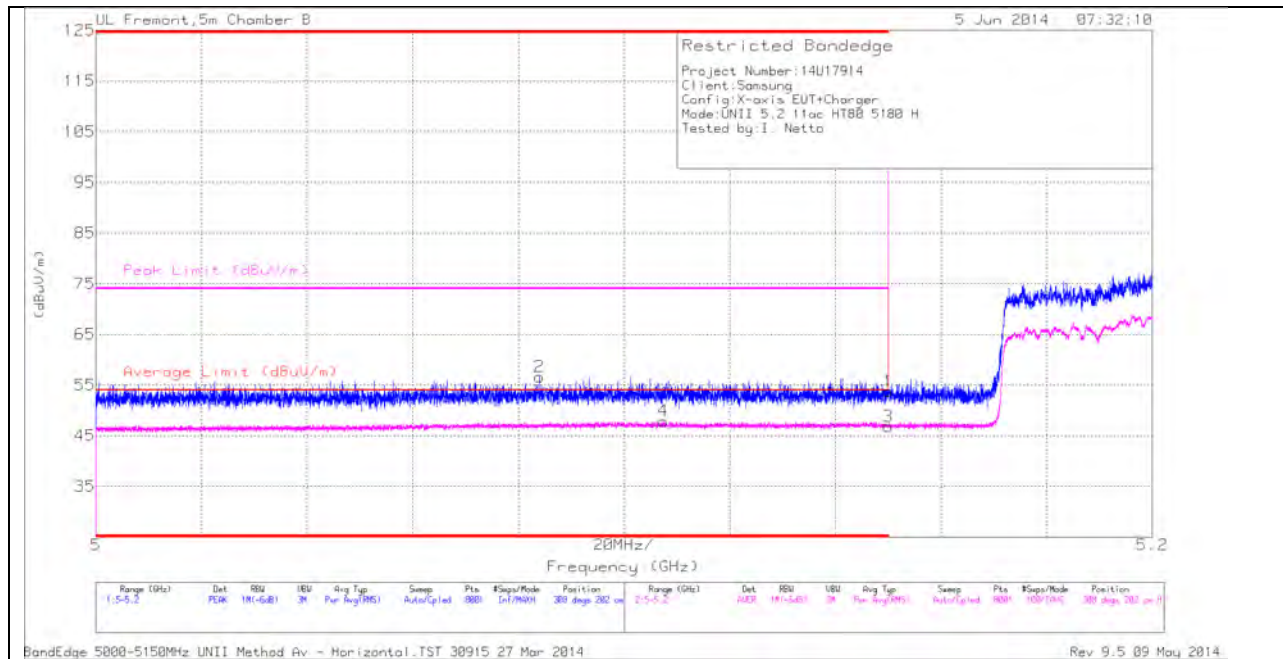
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

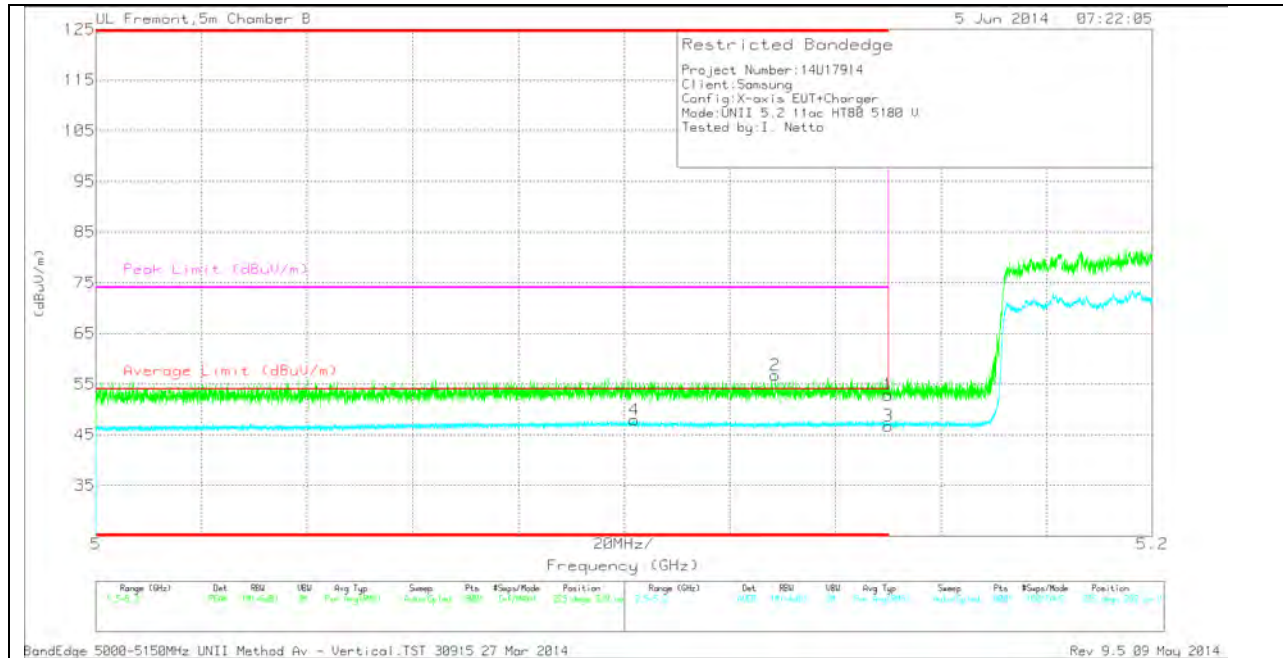
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Chl/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.76	PK	34.3	-20.3	0	53.76	-	-	74	-20.24	308	202	H
2	* 5.084	42.6	PK	34.2	-20.2	0	56.6	-	-	74	-17.4	308	202	H
3	* 5.15	30.99	RMS	34.3	-20.3	1.8	46.79	54	-7.21	-	-	308	202	H
4	* 5.107	31.87	RMS	34.3	-20.1	1.8	47.87	54	-6.13	-	-	308	202	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

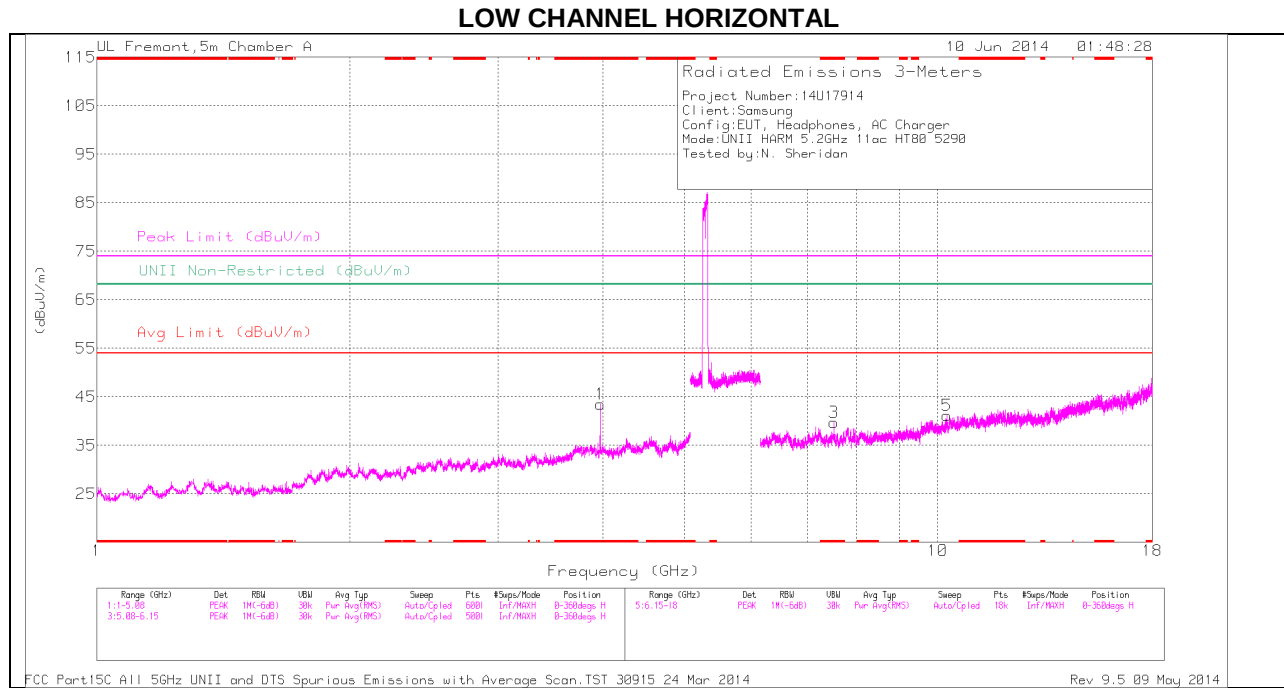
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.84	PK	34.3	-20.3	0	52.84	-	-	74	-21.16	225	239	V
2	* 5.129	42.62	PK	34.3	-20.2	0	56.72	-	-	74	-17.28	225	239	V
3	* 5.15	30.95	RMS	34.3	-20.3	1.8	46.75	54	-7.25	-	-	225	239	V
4	* 5.102	31.85	RMS	34.3	-20	1.8	47.95	54	-6.05	-	-	225	239	V

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

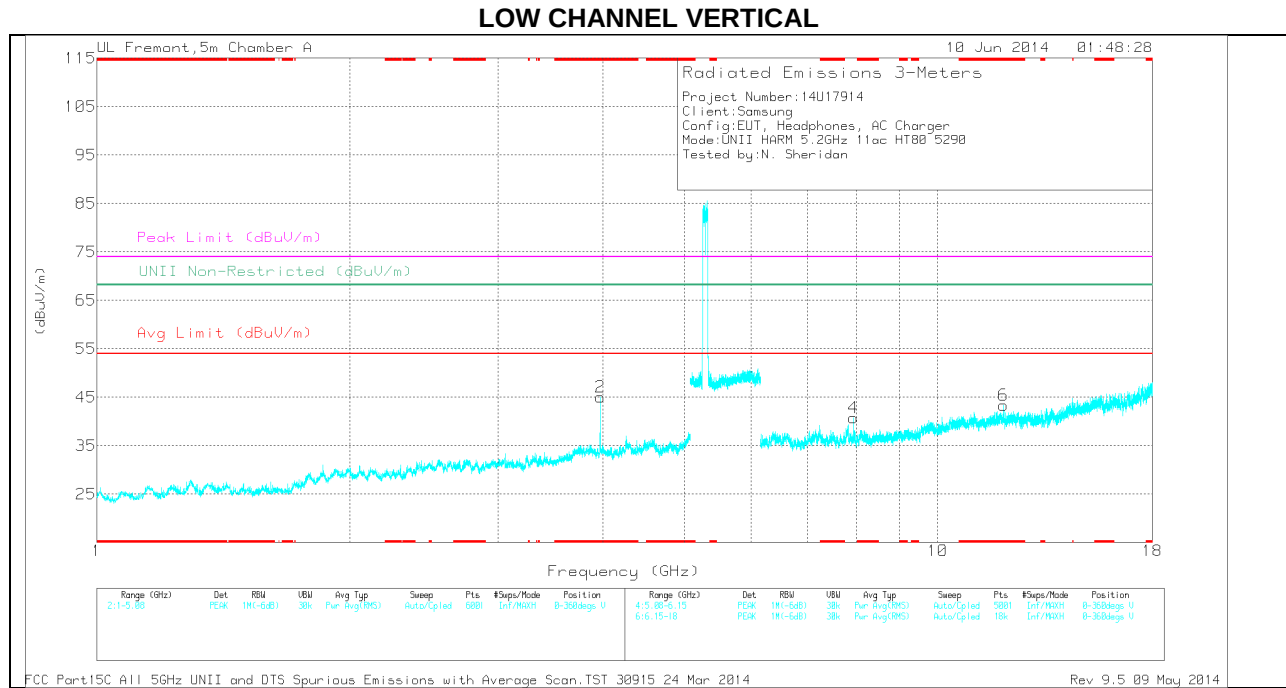
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Chl/ Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.968	40.17	PK	33.7	-30.4	0	43.47	-	-	74	-30.53	-	-	0-360	100	H
2	* 3.968	41.76	PK	33.7	-30.4	0	45.06	-	-	74	-28.94	-	-	0-360	200	V
3	* 7.526	29.69	PK	35.3	-25.3	0	39.69	-	-	74	-34.31	-	-	0-360	100	H
6	* 11.965	26.32	PK	38.9	-21.8	0	43.42	-	-	74	-30.58	-	-	0-360	200	V
4	7.935	32.24	PK	35.5	-27	0	40.74	-	-	-	-	68.2	-27.46	0-360	100	V
5	10.251	27.07	PK	37.2	-23.1	0	41.17	-	-	-	-	68.2	-27.03	0-360	100	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Chl/ Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.967	46.2	PK1	33.7	-30.4	0	49.5	-	-	74	-24.5	-	-	224	316	H
* 3.968	42.21	AD1	33.7	-30.4	1.8	47.31	54	-6.69	-	-	-	-	224	316	H
* 3.968	42.66	RMS	33.7	-30.4	1.8	47.76	-	-	-	-	-	-	224	316	H
* 3.968	42.22	RMS	33.7	-30.4	1.8	47.32	-	-	-	-	-	-	224	316	H
* 3.968	41.25	PK1	33.7	-30.4	0	44.55	-	-	74	-29.45	-	-	224	199	V
* 3.968	31.99	AD1	33.7	-30.4	1.8	37.09	54	-16.91	-	-	-	-	224	199	V
* 3.968	27.89	RMS	33.7	-30.4	1.8	32.99	-	-	-	-	-	-	224	199	V

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

RMS - RMS detection

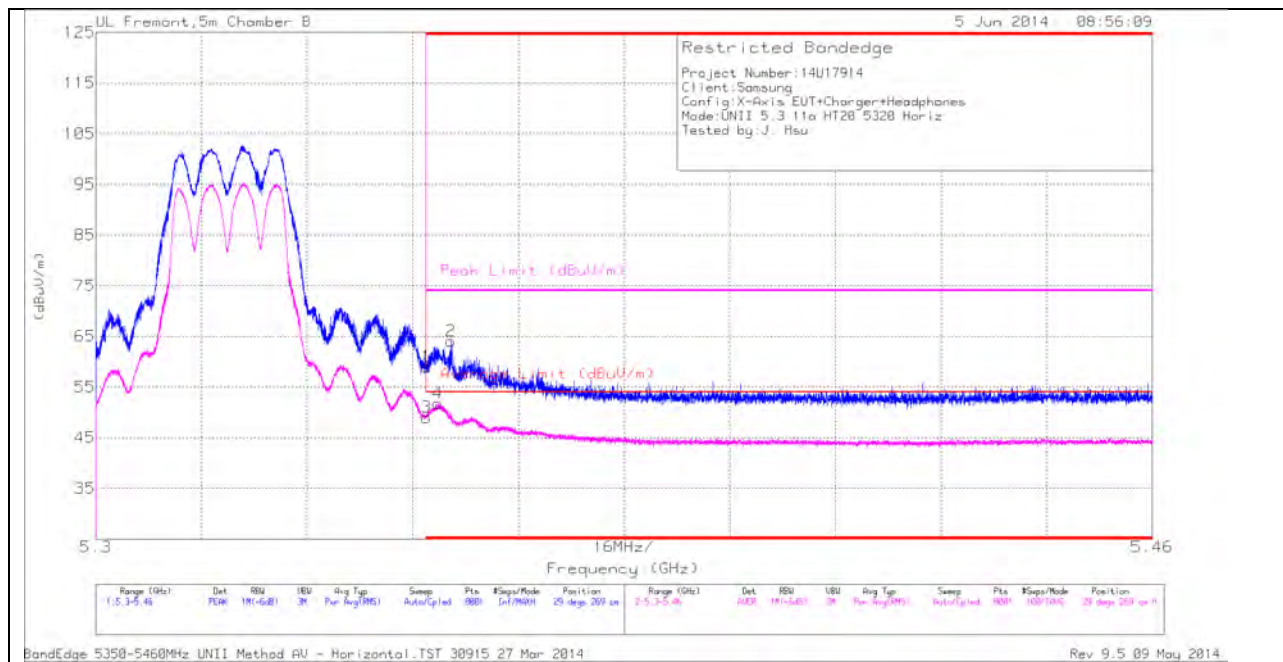
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2. 5.3 GHz

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

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

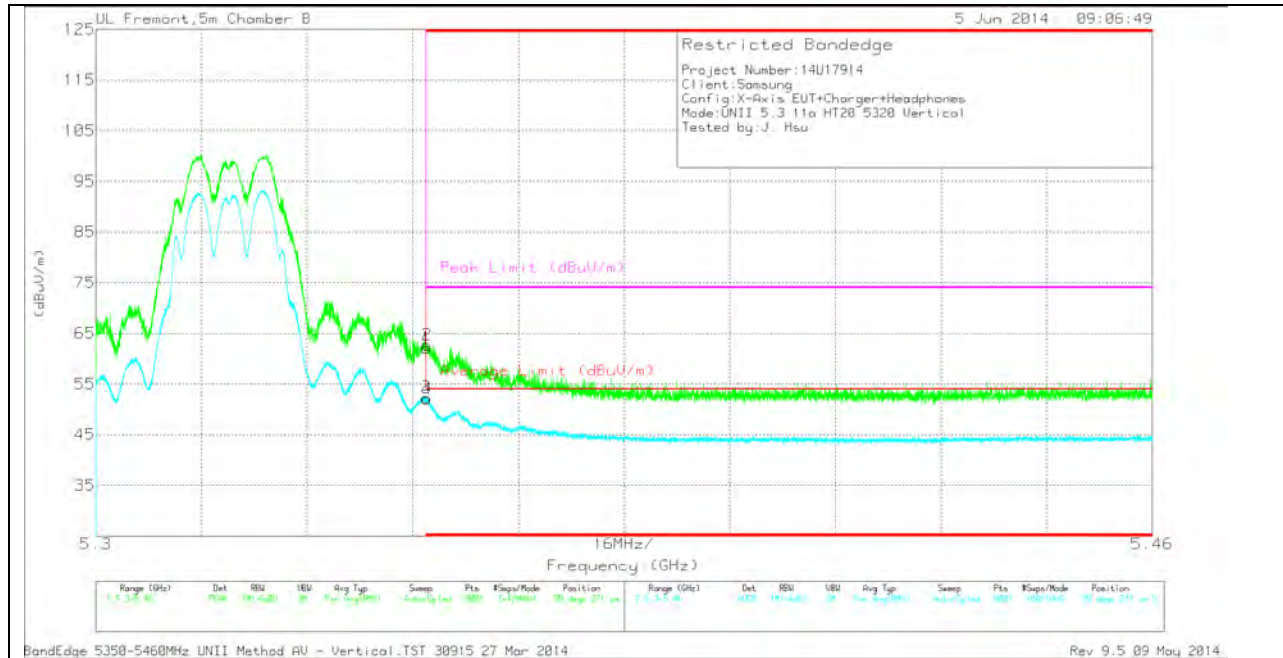
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	44.4	PK	34.5	-19.9	0	59	-	-	74	-15	29	269	H
2	* 5.354	49.55	PK	34.5	-20	0	64.05	-	-	74	-9.95	29	269	H
3	* 5.35	34.09	RMS	34.5	-19.9	.3	48.99	54	-5.01	-	-	29	269	H
4	* 5.352	36.95	RMS	34.5	-20	.3	51.75	54	-2.25	-	-	29	269	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

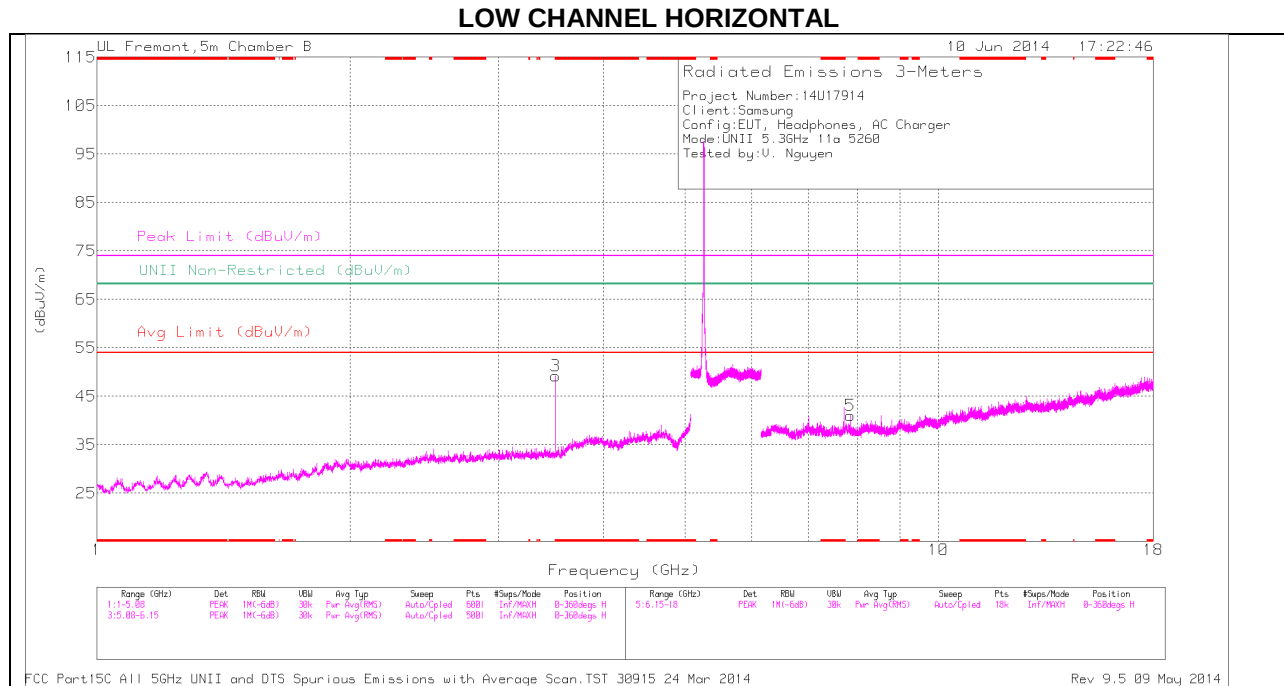
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	47.47	PK	34.5	-19.9	0	62.07	-	-	74	-11.93	99	271	V
2	* 5.35	48.07	PK	34.5	-19.9	0	62.67	-	-	74	-11.33	99	271	V
3	* 5.35	37.44	RMS	34.5	-19.9	.3	52.34	54	-1.66	-	-	99	271	V
4	* 5.35	37.09	RMS	34.5	-19.9	.3	51.99	54	-2.01	-	-	99	271	V

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

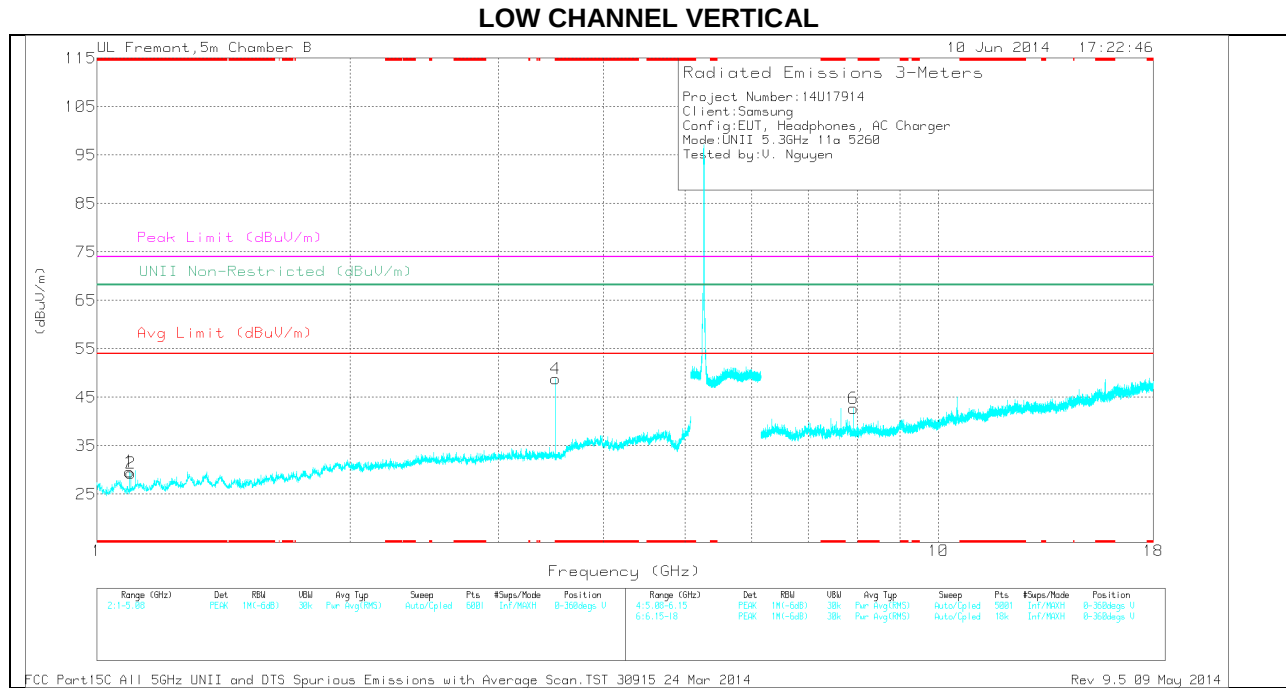
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.506	48.15	PK	32.8	-31.7	0	49.25	-	-	74	-24.75	-	-	0-360	201	H
1	* 1.093	36.76	PK	27.4	-34.5	0	29.66	-	-	74	-44.34	-	-	0-360	201	V
2	* 1.097	36.45	PK	27.4	-34.5	0	29.35	-	-	74	-44.65	-	-	0-360	201	V
4	* 3.506	47.7	PK	32.8	-31.7	0	48.8	-	-	74	-25.2	-	-	0-360	201	V
5	7.857	31.86	PK	35.7	-26.5	0	41.06	-	-	-	-	68.2	-27.14	0-360	101	H
6	7.926	34.1	PK	35.7	-27.1	0	42.7	-	-	-	-	68.2	-25.5	0-360	101	V

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

PK - Peak detector

Radiated Emissions

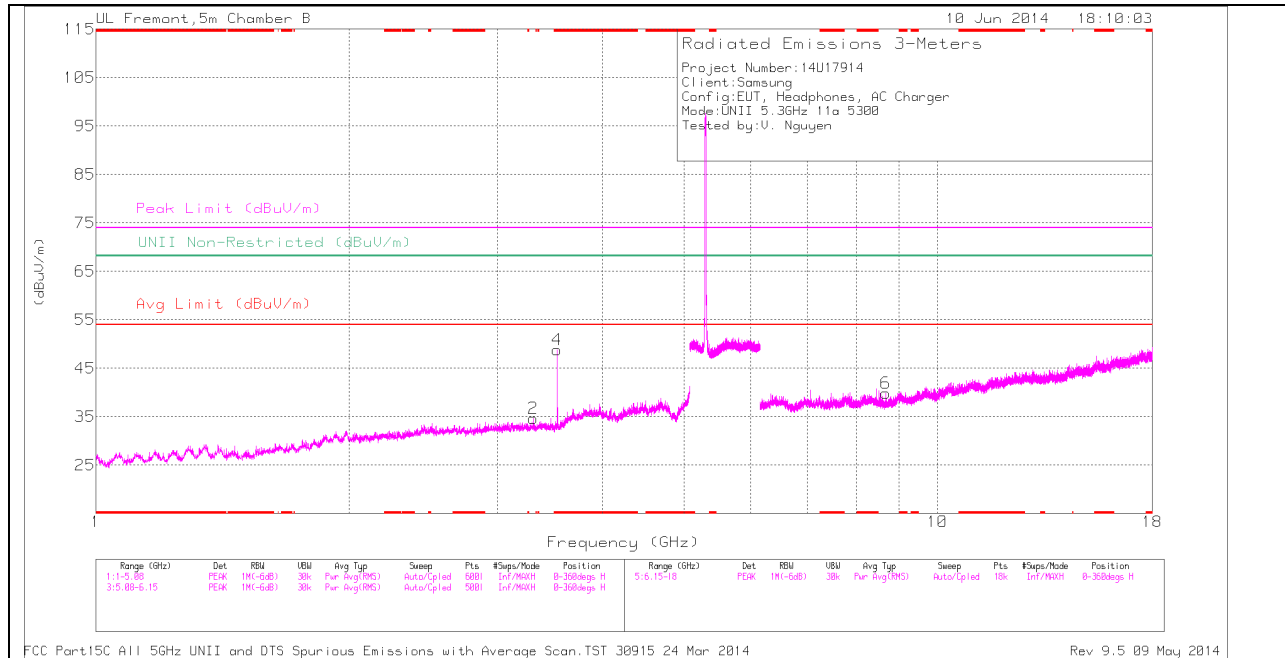
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.507	51.51	PK1	32.8	-31.7	0	52.61	-	-	74	-21.39	-	-	330	260	H
* 3.507	48.93	AD1	32.8	-31.7	.3	50.33	54	-3.67	-	-	-	-	330	260	H
* 3.507	50.8	PK1	32.8	-31.7	0	51.9	-	-	74	-22.1	-	-	89	237	V
* 3.507	48.16	AD1	32.8	-31.7	.3	49.56	54	-4.44	-	-	-	-	89	237	V
* 1.092	42.64	PK1	27.3	-34.5	0	35.44	-	-	74	-38.56	-	-	356	234	V
* 1.095	30.13	AD1	27.4	-34.5	.3	23.33	54	-30.67	-	-	-	-	356	234	V

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

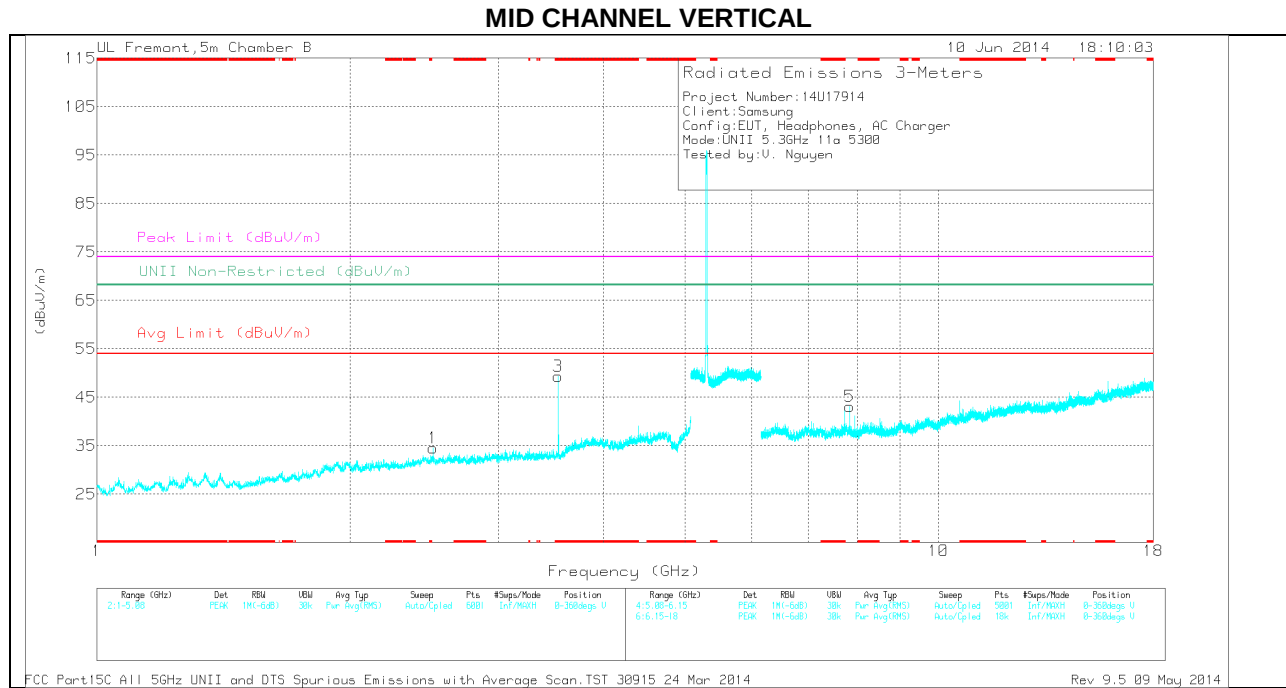
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



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



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

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.534	47.83	PK	32.9	-31.9	0	48.83	-	-	74	-25.17	-	-	0-360	200	H
3	* 3.534	48.33	PK	32.9	-31.9	0	49.33	-	-	74	-24.67	-	-	0-360	201	V
1	2.51	34.48	PK	32.4	-32.4	0	34.48	-	-	-	-	68.2	-33.72	0-360	201	V
2	3.307	33.44	PK	32.8	-31.6	0	34.64	-	-	-	-	68.2	-33.56	0-360	101	H
5	7.843	33.85	PK	35.7	-26.4	0	43.15	-	-	-	-	68.2	-25.05	0-360	201	V
6	8.68	29.5	PK	35.9	-25.6	0	39.8	-	-	-	-	68.2	-28.4	0-360	201	H

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

PK - Peak detector

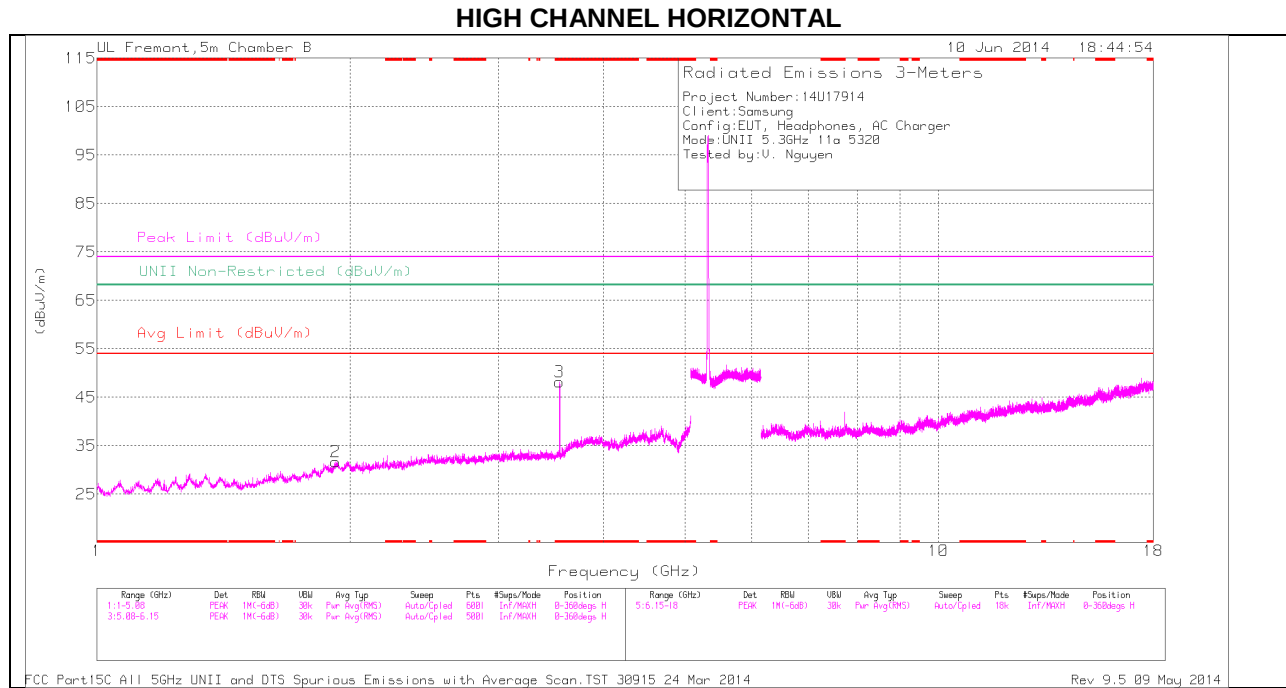
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.533	53.16	PK1	32.9	-31.9	0	54.16	-	-	74	-19.84	-	-	332	222	H
* 3.533	50.74	AD1	32.9	-31.9	.3	52.04	54	-1.96	-	-	-	-	332	222	H
* 3.533	52.47	PK1	32.9	-31.9	0	53.47	-	-	74	-20.53	-	-	116	319	V
* 3.533	49.57	AD1	32.9	-31.9	.3	50.87	54	-3.13	-	-	-	-	116	319	V

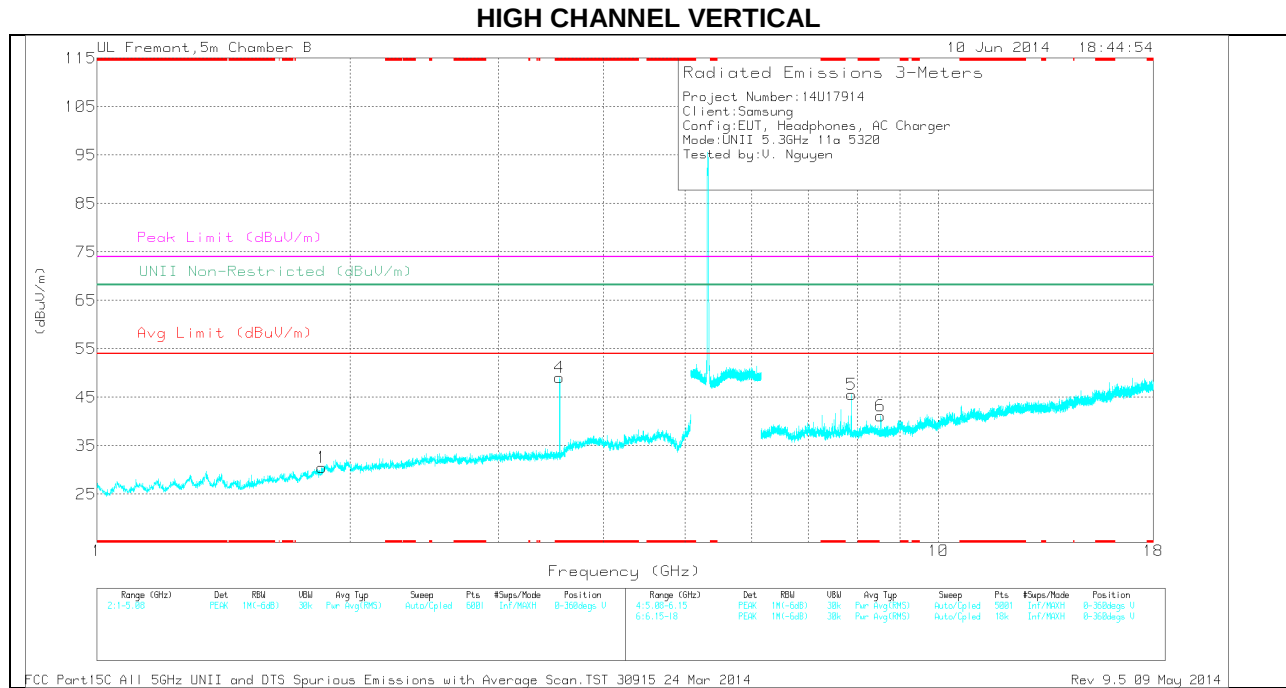
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average



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



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

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.547	47.12	PK	33	-31.9	0	48.22	-	-	74	-25.78	-	-	0-360	100	H
4	* 3.547	47.97	PK	33	-31.9	0	49.07	-	-	74	-24.93	-	-	0-360	201	V
1	1.851	33.36	PK	30.6	-33.5	0	30.46	-	-	-	-	68.2	-37.74	0-360	101	V
2	1.922	33.45	PK	31.1	-32.9	0	31.65	-	-	-	-	68.2	-36.55	0-360	100	H
5	7.879	36.74	PK	35.7	-26.9	0	45.54	-	-	-	-	68.2	-22.66	0-360	101	V
6	8.531	31.52	PK	35.8	-26.2	0	41.12	-	-	-	-	68.2	-27.08	0-360	101	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.547	52.73	PK1	33	-31.9	0	53.83	-	-	74	-20.17	-	-	333	224	H
* 3.547	50.62	AD1	33	-31.9	.3	52.02	54	-1.98	-	-	-	-	333	224	H
* 3.547	51.62	PK1	33	-31.9	0	52.72	-	-	74	-21.28	-	-	115	369	V
* 3.547	49.43	AD1	33	-31.9	.3	50.83	54	-3.17	-	-	-	-	115	369	V

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

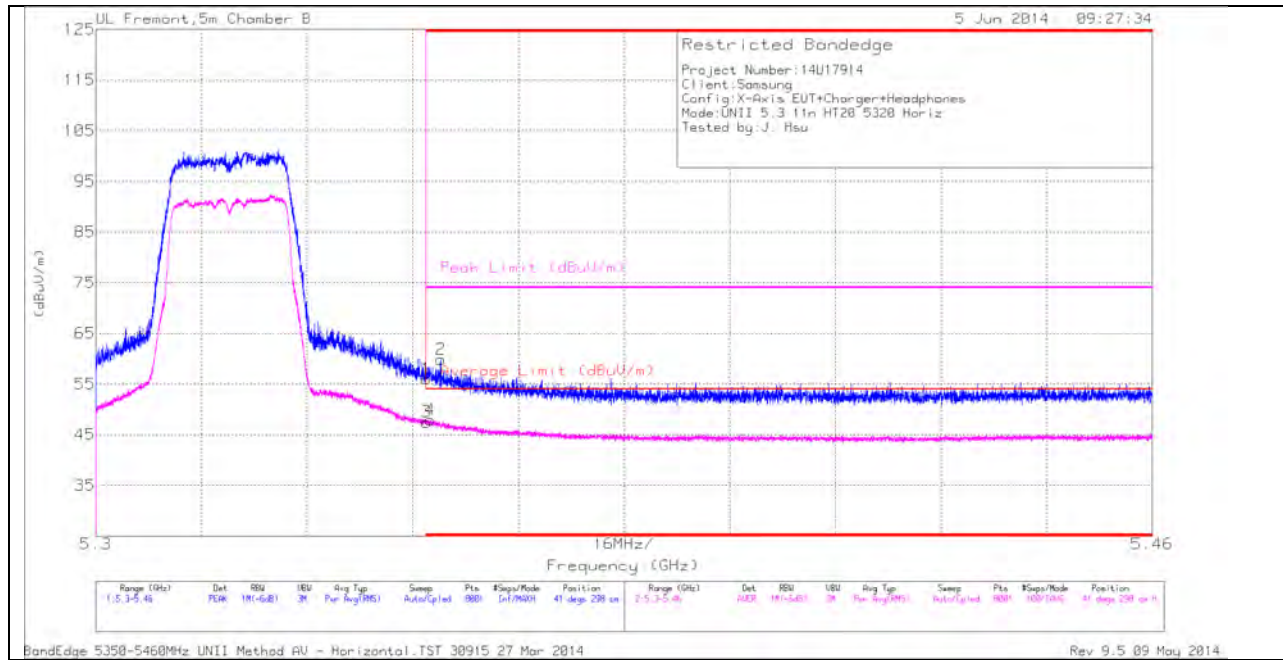
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

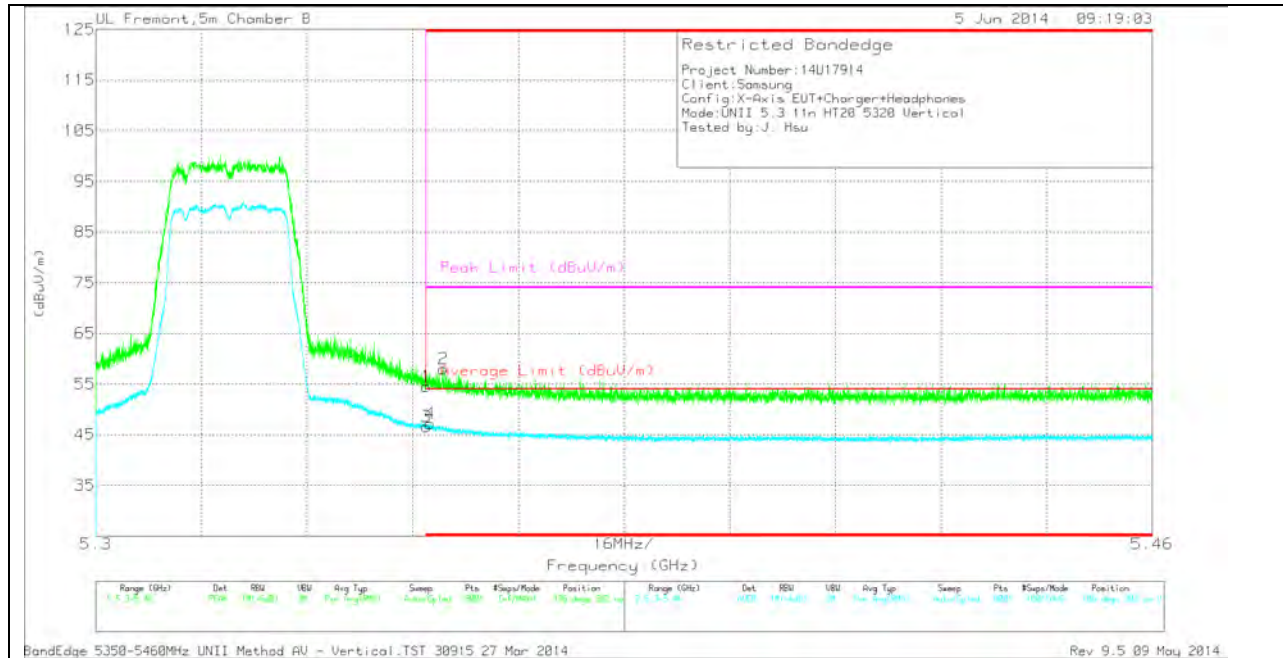
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	41.38	PK	34.5	-19.9	0	55.98	-	-	74	-18.02	41	298	H
2	* 5.352	45.34	PK	34.5	-20	0	59.84	-	-	74	-14.16	41	298	H
3	* 5.35	32.3	RMS	34.5	-19.9	.6	47.5	54	-6.5	-	-	41	298	H
4	* 5.351	32.86	RMS	34.5	-20	.6	47.96	54	-6.04	-	-	41	298	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

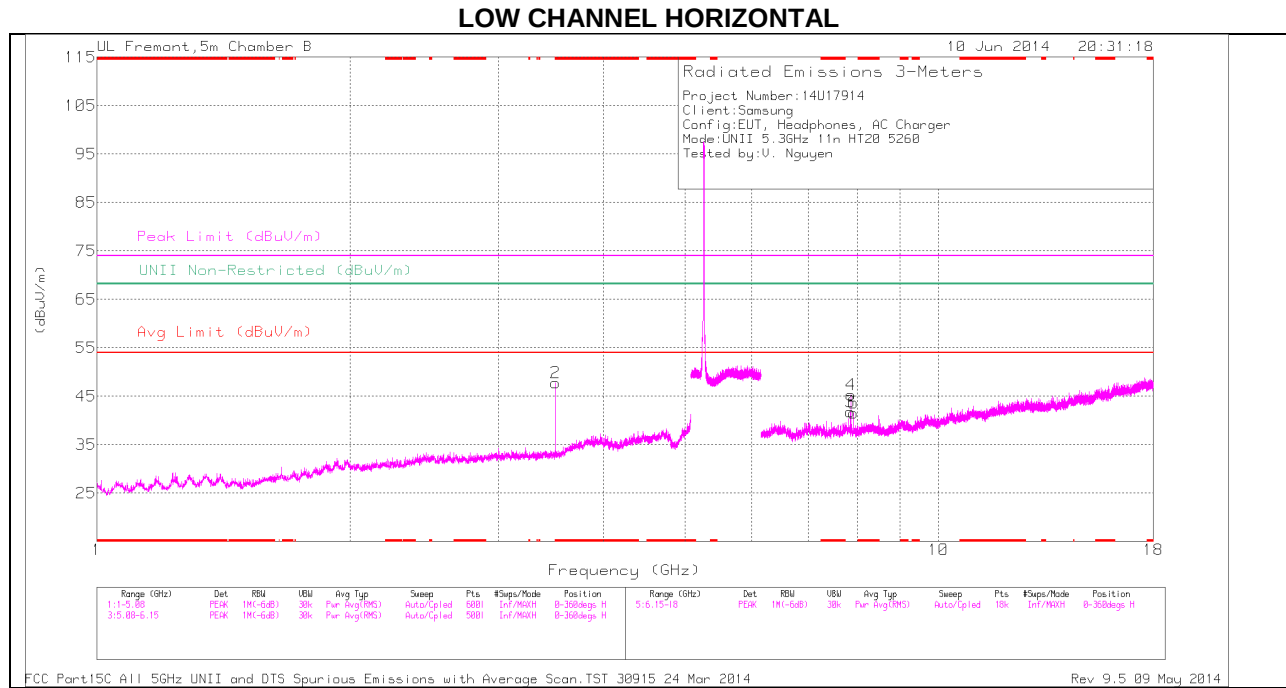
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.94	PK	34.5	-19.9	0	54.54	-	-	74	-19.46	106	302	V
2	* 5.353	43.49	PK	34.5	-20	0	57.99	-	-	74	-16.01	106	302	V
3	* 5.35	31.4	RMS	34.5	-19.9	.6	46.6	54	-7.4	-	-	106	302	V
4	* 5.351	32.13	RMS	34.5	-20	.6	47.23	54	-6.77	-	-	106	302	V

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

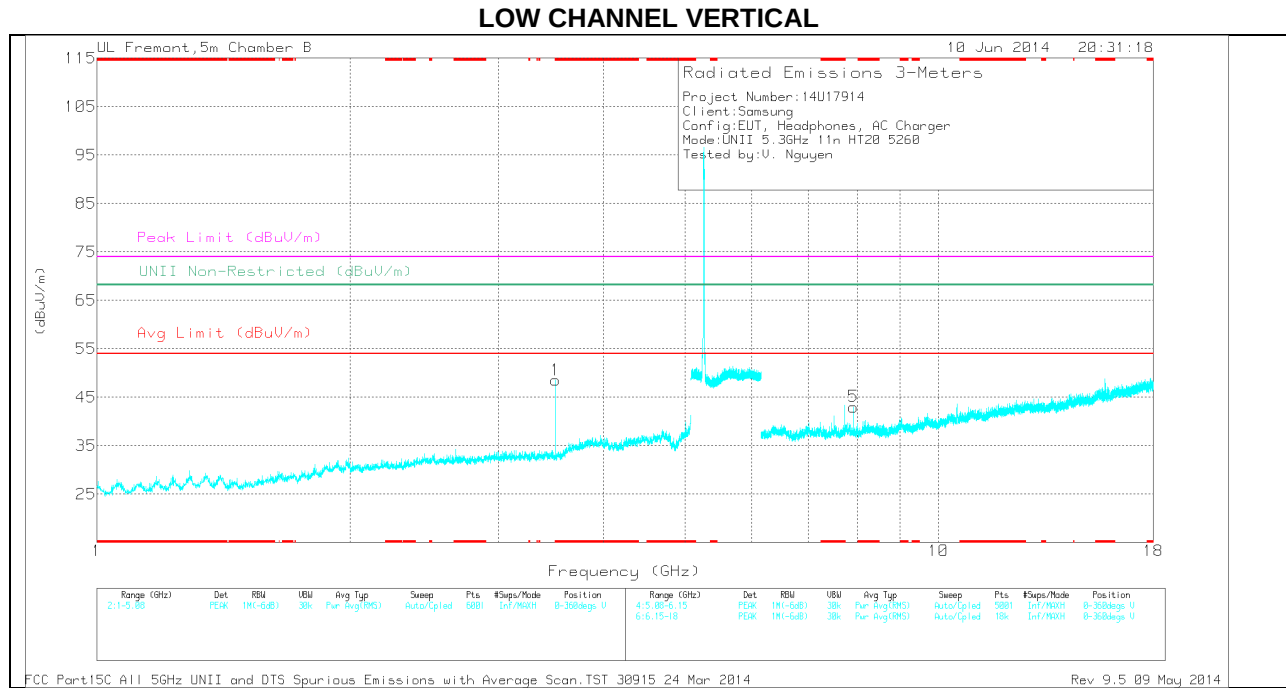
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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