



FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Smart Home Gateway

Model: NA301-ZWxxxxxxxx; G150xxxxxxxx; Edgexxxxxxxxx (The “x” in model name can be 0 to 9, A to Z, blank or “-“ , for marking purpose)

Trade Name: Sercomm; MiOS Limited; Vera Control, Ltd.

Issued to

Sercomm Corporation

8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc.

No.81-1, Lane 210, Bade 2nd Rd., LujhuTownship,

TaoyuanCounty 33841, Taiwan, R.O.C.

TEL: 886-3-324-0332

FAX: 886-3-324-5235

<http://www.ccsrf.com>

service@ccsrf.com



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Revision History

Rev.	Issue Date		Revisions	Effect Page	Revised By
00	August 18, 2014		Initial Issue	ALL	Landy Huang



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1. TEST RESULT CERTIFICATION

Applicant: Sercomm Corporation
8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan,
R.O.C.

Manufacturer: Sercomm Corporation
8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan,
R.O.C.

Equipment Under Test: Smart Home Gateway

Trade Name: Sercomm; MiOS Limited; Vera Control, Ltd.

Model: NA301-ZWxxxxxxxx; G150xxxxxxxx; Edgexxxxxxxxx (The
"x" in model name can be 0 to 9, A to Z, blank or "-", for
marking purpose)

Date of Test: July 24 ~ August 11, 2014

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart C	No non-compliance noted

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

Approved *by*:

Bill Cheng
Section Manager

Reviewed *by*:

Angel Hu
Section Manager



2. EUT DESCRIPTION

Product	Smart Home Gateway		
Trade Name	Sercomm; MiOS Limited; Vera Control, Ltd.		
Model Number	NA301-ZWxxxxxxxx; G150xxxxxxxx; Edgexxxxxxxxx (The “x” in model name can be 0 to 9, A to Z, blank or “-” , for marking purpose)		
Model Discrepancy	1. All the model numbers (list on this report) are identical, just formarketing purpose only except Brand.		
	Model Number		Brand
	NA301-ZWxxxxxxxx (The “x” in model name can be 0 to 9, A to Z, blank or “-” , for marking purpose)		Sercomm
	G150xxxxxxxx (The “x” in model name can be 0 to 9, A to Z, blank or “-” , for marking purpose)		MiOS Limited
	Edgexxxxxxxxx (The “x” in model name can be 0 to 9, A to Z, blank or “-” , for marking purpose)		Vera Control, Ltd.
	2. The means of “x” (The “x” in model name can be 0 to 9, A to Z, blank or “-” , for marking purpose) on model number are identical, just for marketing purpose only. 3. Client consigns only one model sample (Model number: NA301-ZW-US) to test. Therefore testing Lab. just guarantees the units, which have been tested.		
EUT Power Rating	12VDC, 1.0A		
Power Adapter	Asia power Device Inc.	Model	WA-12M12FU
	Sunny	Model	SYS-1381-1212-W2
Power Adapter Rating	I/P: 100-240VAC, 50/60HZ, 0.5A O/P: 12VDC, 1.0A		
RF Module Manufacturer	MEDIATEK	Model	MT7620A
Operating Frequency Range	IEEE 802.11 b/g/HT20 mode: 2412 ~ 2462 MHz IEEE 802.11 HT40 mode: 2422 ~ 2452 MHz		
Transmit Power	IEEE 802.11b mode: 20.49dBm (0.01119W) IEEE 802.11g mode: 22.73dBm (0.1875W) IEEE 802.11n HT20 mode: 24.97dBm(0.3137W) IEEE 802.11n HT40 mode: 25.00dBm (0.3164W)		
Modulation Technique	IEEE 802.11b mode: DSSS (11, 5.5, 2, 1 Mbps) IEEE 802.11g mode: OFDM (54, 48, 36, 24, 18, 12, 11, 9, 6 Mbps) IEEE 802.11n HT20 mode: OFDM (6.5, 13, 19.5, 26, 39, 52, 58.5, 65, 78, 104, 117, 130 Mbps) IEEE 802.11n HT40 mode: OFDM (13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 162, 216, 243, 270 Mbps)		
Antenna Specification	Chain 0: Monopole Antenna / Gain: 3.62dBi (For IEEE 802.11b/g) Chain 1: PCB Antenna / Gain: 4.99dBi(For IEEE 802.11b/g) MIMO: 10log[(10 ^{3.62/20} +10 ^{4.99/20}) ² /2]=7.34) (For IEEE 802.11n)		

Remark:

1. The sample selected for test was production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for FCC ID: **P27NA301ZW** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.



3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 Part 2, Part 15.207, 15.209 and 15.247.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4.



3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

- (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	(²)
13.36 - 13.41	322 - 335.4		

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

- (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.



3.5 DESCRIPTION OF TEST MODES

The EUT is a 2Tx2R MIMO transmitter.

The EUT (model: NA301-ZW-US) had been tested under operating condition and had been reported as worst case on this test report.

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode.

WA-12M12FU & SYS-1381-1212-W2 have been pre-scanned during the test, and the model WA-12M12FU was selected as the worst case for final test.

IEEE 802.11b:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 1Mbps data rate was chosen for full testing.

IEEE 802.11g:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6Mbps data rate was chosen for full testing.

IEEE 802.11n HT20:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT40:

Channel Low (2422MHz), Channel Mid (2437MHz) and Channel High (2452MHz) with 13.5Mbps data rate were chosen for full testing.



4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY48250064	01/01/2015
Spectrum Analyzer	Agilent	N9010A	MY52220817	03/20/2015
Spectrum Analyzer	R&S	FSL	100837	11/11/2014
Power meter	Anritsu	ML2495A	1033009	09/29/2014
Power Sensor	Anritsu	MA2411B	0917221	09/29/2014

3MSemi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY48250064	01/01/2015
Spectrum Analyzer	R&S	FSL	100837	11/11/2014
Pre-Amplifier	HP	8447D	2944A06530	05/02/2015
Pre-Amplifier	EMEC	EM01M26G	060570	07/28/2015
Pre-Amplifier	MITEQ	AMF-6F-260400-4 0-8P	985646	06/12/2015
Pre-Amplifier	Agilent	8449B	3008A01738	08/11/2015
EMI Test Receiver	SCHAFFNER	SCR 3501	430	03/30/2015
Loop Antenna	EMCO	6502	8905-2356	08/20/2014
Bilog Antenna	TESEQ	CBL 6112D	35378	09/11/2014
Horn Antenna	EMCO	3115	00022250	08/05/2015
Horn Antenna	EMCO	3116	00026370	12/29/2014
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Test S/W	EZ-EMC			

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. N.C.R = No Calibration Request.



Powerline Conducted Emissions Test Site#3				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI	101300	09/06/2014
LISN	R&S	ENV216	100069	06/09/2015
LISN	FCC	FCC-LISN-50/250-16-2-07	06013	11/20/2014
ISN	TESEQ	ISN-T8	30842	07/30/2015
Current Probe	FCC	F-35	506	07/13/2015
ISN	FCC	FCC-TLISN-T2-02	20587	07/28/2015
Test S/W	EZ-EMC			

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. N.C.R = No Calibration Request.

4.3 MEASUREMENT UNCERTAINTY

Parameter	Uncertainty
Powerline Conducted Emission #3	± 2.1876
3M Semi Anechoic Chamber / 30MHz ~ 200MHz	± 3.5921
3M Semi Anechoic Chamber / 200MHz ~ 1GHz	± 3.5657
3M Semi Anechoic Chamber / 1 ~ 8GHz	± 2.5873
3M Semi Anechoic Chamber / 8 ~ 18GHz	± 2.6646
3M Semi Anechoic Chamber / 18 ~ 26GHz	± 2.9617
3M Semi Anechoic Chamber / 26 ~ 40GHz	± 3.4250

Remark: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☐ No. 163-1, Jhongsheng Rd., Sindien District, Taipei City 23151, Taiwan

☐ No 11, Wugong 6th Rd, Wugu District, New Taipei City 24891, Taiwan (R.O.C)

Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☒ No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, Taiwan, R.O.C.

Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."



5.3 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	CFR 47, FCC Part15/18, CISPR 22, EN 55022, ICES-003, AS/NZS CISPR 22, VCCI V-3, EN 55011, CISPR 11, IEC/EN 61000-4-2/3/4/5/6/8/11, EN 61000-6-1/2/3/4, EN 55024, CISPR 24, AS/NZS CISPR 24, AS/NZS 61000.6.2, EN 55014-1/-2, ETSI EN 300 386 v1.3.2/v1.3.3, IEC/EN 61000-3-2, AS/NZS 61000.3.2, IEC/EN 61000-3-3, AS/NZS 61000.3.3	 TESTING CERT #0824.01
USA	FCC MRA	3 meter Open Area Test Sites to perform FCC Part 15/18 measurements	 TW1026
Japan	VCCI	3/10 meter Open Area Test Sites and conducted test sites to perform radiated/conducted measurements	VCCI R-2882/2541/2798/725/1868 C-402/747/912 T-1930/1646
Taiwan	TAF	EN 55014-1, CISPR 14, CNS 13781-1, EN 55013, CISPR 13, CNS 13439, EN 55011, CISPR 11, CNS 13803, PLMN09, IS2045-0, LP0002 FCC Part 27/90, Part 15B/C/D/E, RSS-192/193/210/310 ETSI EN 300 328/ 300 220-1/ 300 220-2/ 301 893/ 301 489-01/ 301 489-03/ 301 489-07 / 301 489-17/ 300 440-1/ 300 440-2 AS/NZS 4268, AS/NZS 4771 CISPR 22, EN 55022, CNS 13438, AS/NZS CISPR 22, VCCI, IEC/EN 61000-4-2/3/4/5/6/8/11, CNS 14676-2/3/4/5/6/8, CNS 14934-2/3, CNS 13783-1, CNS 13439, CNS 13803	 Testing Laboratory 0363
Taiwan	BSMI	CNS 13438, CNS 13783-1, CNS 13439, CNS 14115	SL2-IS-E-0014 / IN-E-0014 /A1-E-0014 /R1-E-0014 /R2-E-0014 /L1-E-0014
Canada	Industry Canada	RSS-Gen Issue 3	 IC 2324C-5

Note:No part of this report may be used to claim or imply product endorsement by A2LA, TAF or other government agency.



6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

For Radiated Emission (Below 1GHz) and Power line conducted emission measurement:							
No.	Device Type	Model	Series No.	FCC ID	Brand	Data Cable	Power Cord
1.	Traveling Disk	LuxMini 720	N/A	FCC DoC	SILICON POWER	Shielded, 1.8m	N/A
2.	Notebook PC (Remote)	1706-A78	LV-L1870 06/09	FCC DOC	IBM	LAN Cable: Unshielded, 10m	AC I/P: Unshielded, 1.8m DC O/P: Shielded, 1.8m
3.	Notebook PC (Remote)	ThinkPad T430u	PB-VZLGG 12/09	FCC DOC	LENOVO	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core

For Radiated Emission (Above 1GHz) measurement:							
No.	Device Type	Model	Series No.	FCC ID	Brand	Data Cable	Power Cord
	N/A						

For Conducted emission measurement:							
No.	Device Type	Model	Series No.	FCC ID	Brand	Data Cable	Power Cord
1.	Notebook PC	D400	0932RY	E2K24GBRL	DELL	LAN Cable: Unshielded, 10m	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core

Remark: Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



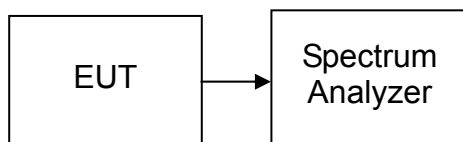
7. FCC PART 15.247 REQUIREMENTS

7.1 6dB BANDWIDTH

LIMIT

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST CONFIGURATION



TEST PROCEDURE

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 100kHz, VBW = 300kHz, Span = 30MHz or 50MHz, Sweep = auto.
4. Mark the peak frequency and -6dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

TEST RESULTS

No non-compliance noted

**TEST DATA****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	Bandwidth(MHz)	Limit (kHz)	Result
Low	2412	10.17	>500	PASS
Mid	2437	10.17		PASS
High	2462	10.17		PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth(MHz)	Limit (kHz)	Result
Low	2412	16.65	>500	PASS
Mid	2437	16.62		PASS
High	2462	16.65		PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Bandwidth(MHz)		Limit (kHz)	Result
		Chain 0	Chain 1		
Low	2412	17.82	17.82	>500	PASS
Mid	2437	17.82	17.76		PASS
High	2462	17.85	17.79		PASS

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Bandwidth(MHz)		Limit (kHz)	Result
		Chain 0	Chain 1		
Low	2422	36.60	36.60	>500	PASS
Mid	2437	36.60	36.55		PASS
High	2452	36.60	36.60		PASS



Test Plot

IEEE 802.11b mode

6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)



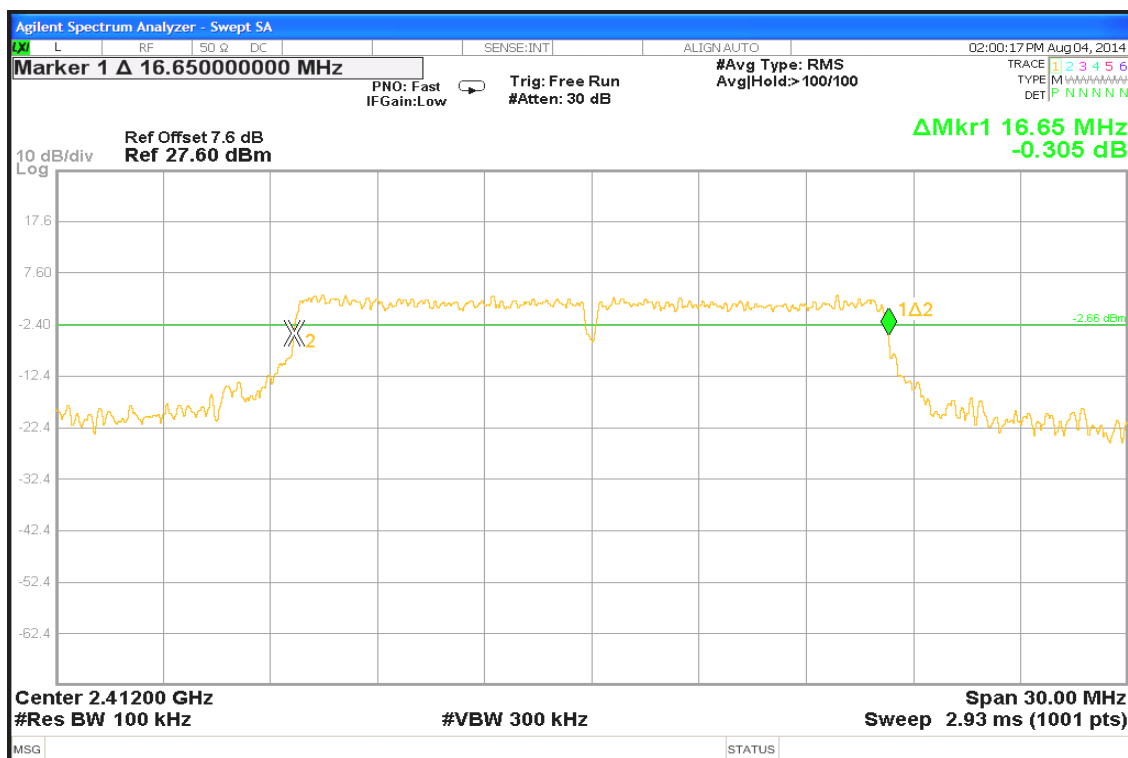


6dB Bandwidth (CH High)



IEEE 802.11g mode

6dB Bandwidth (CH Low)





6dB Bandwidth (CH Mid)

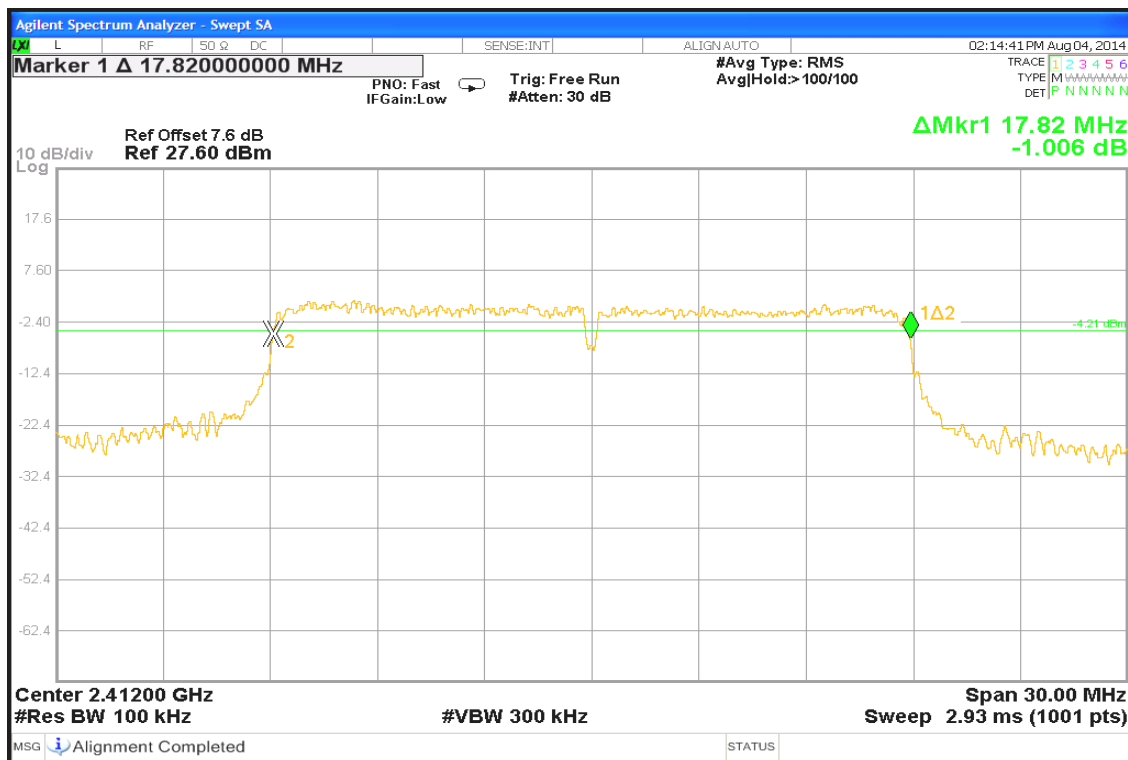


6dB Bandwidth (CH High)



IEEE 802.11n HT20 mode / Chain 0

6dB Bandwidth (CH Low)

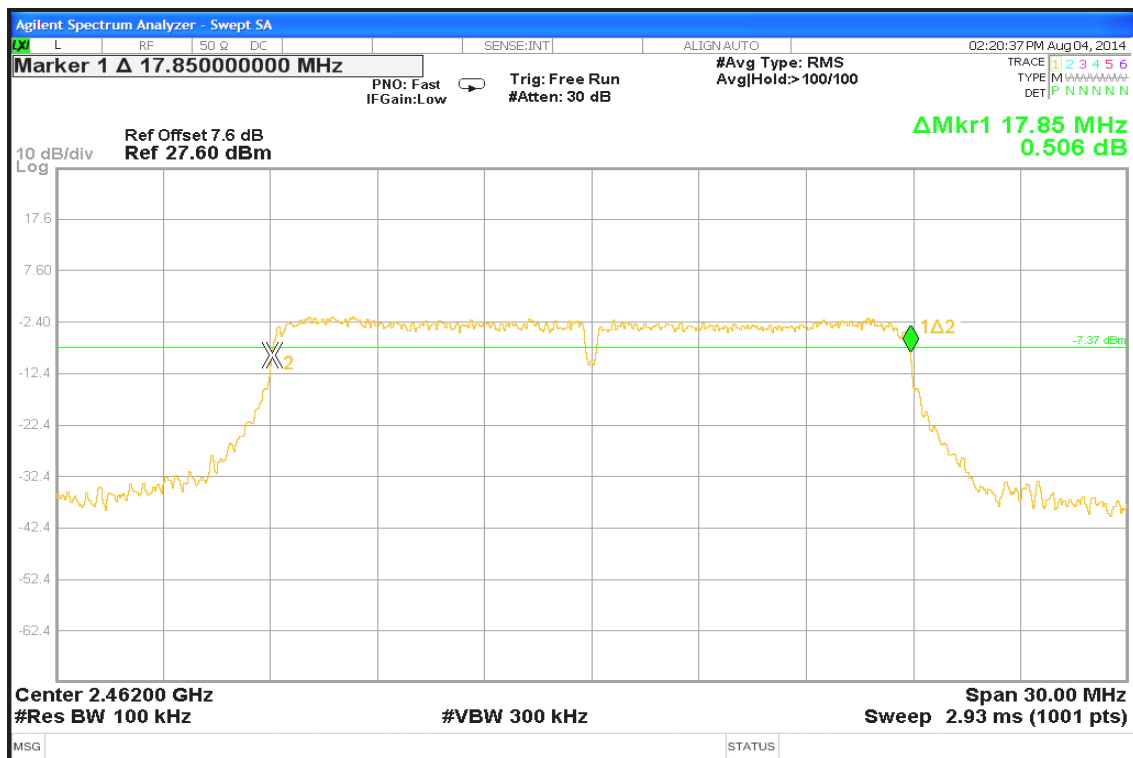


6dB Bandwidth (CH Mid)



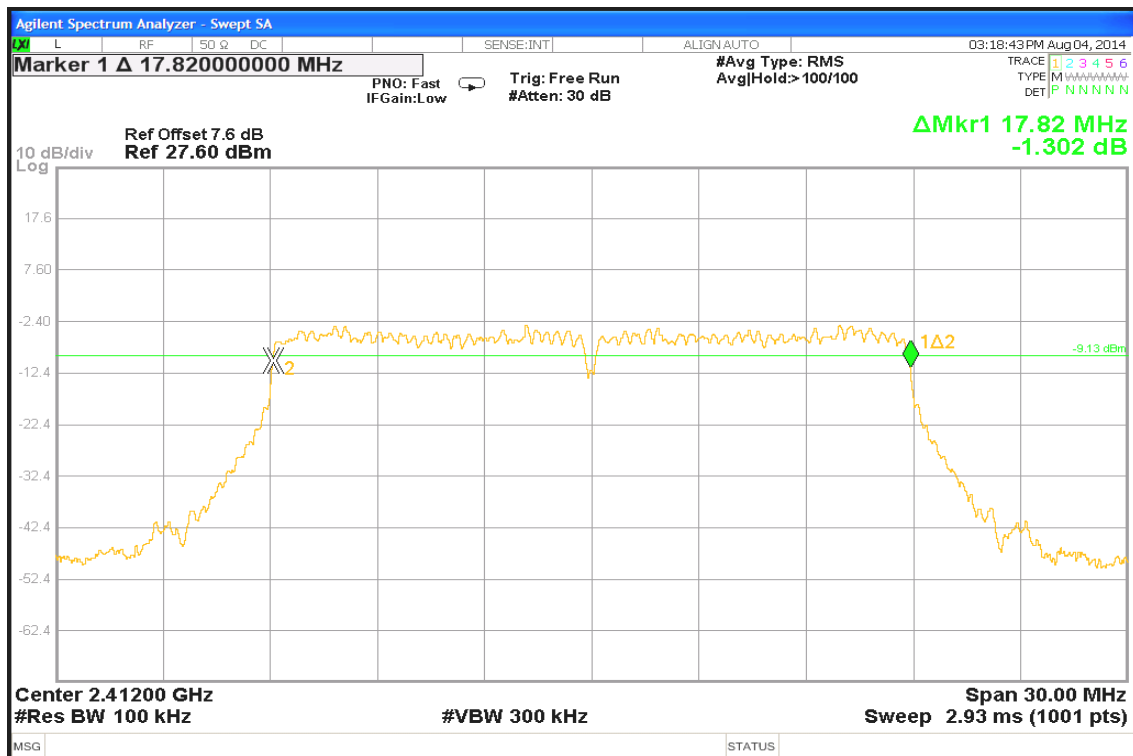


6dB Bandwidth (CH High)



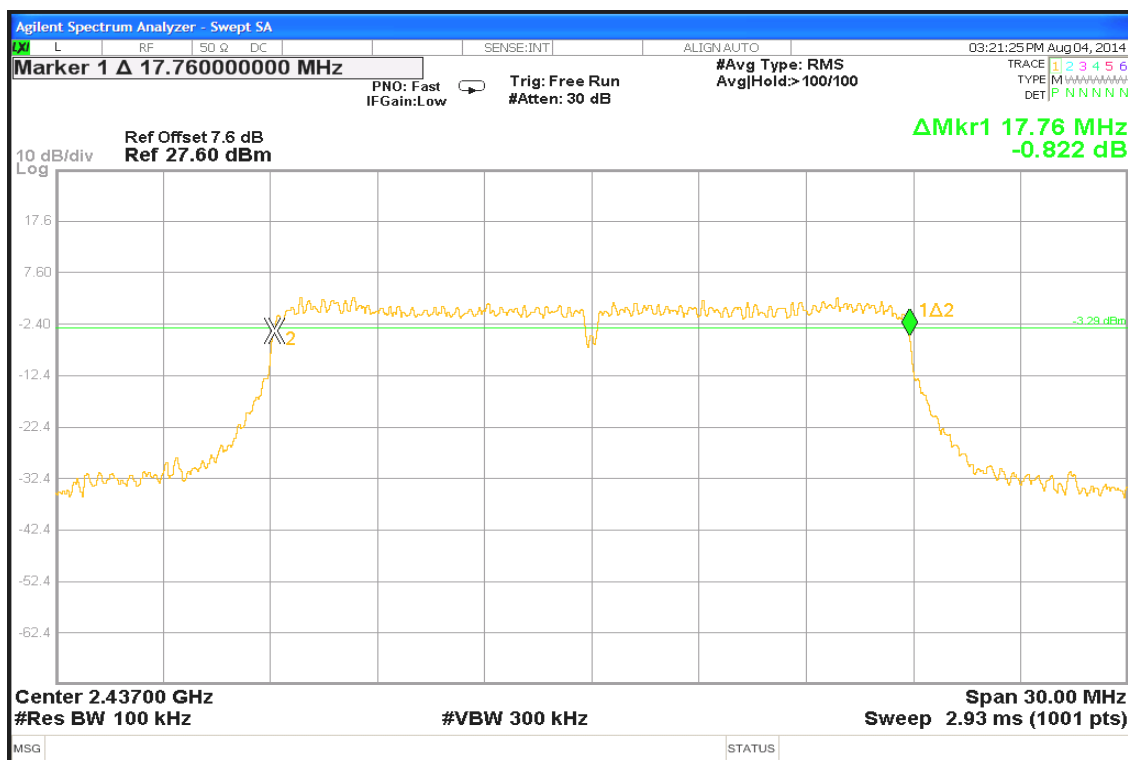
IEEE 802.11n HT20 mode / Chain 1

6dB Bandwidth (CH Low)

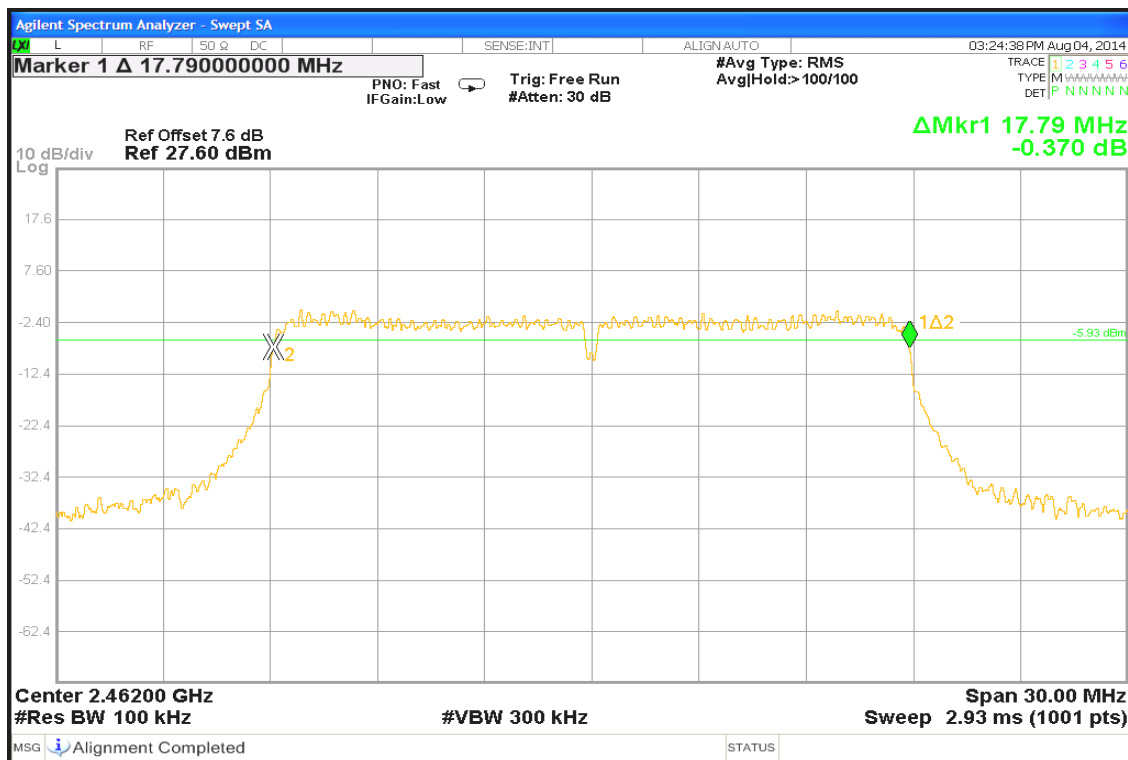




6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)





IEEE 802.11n HT40 mode / Chain 0

6dB Bandwidth (CH Low)

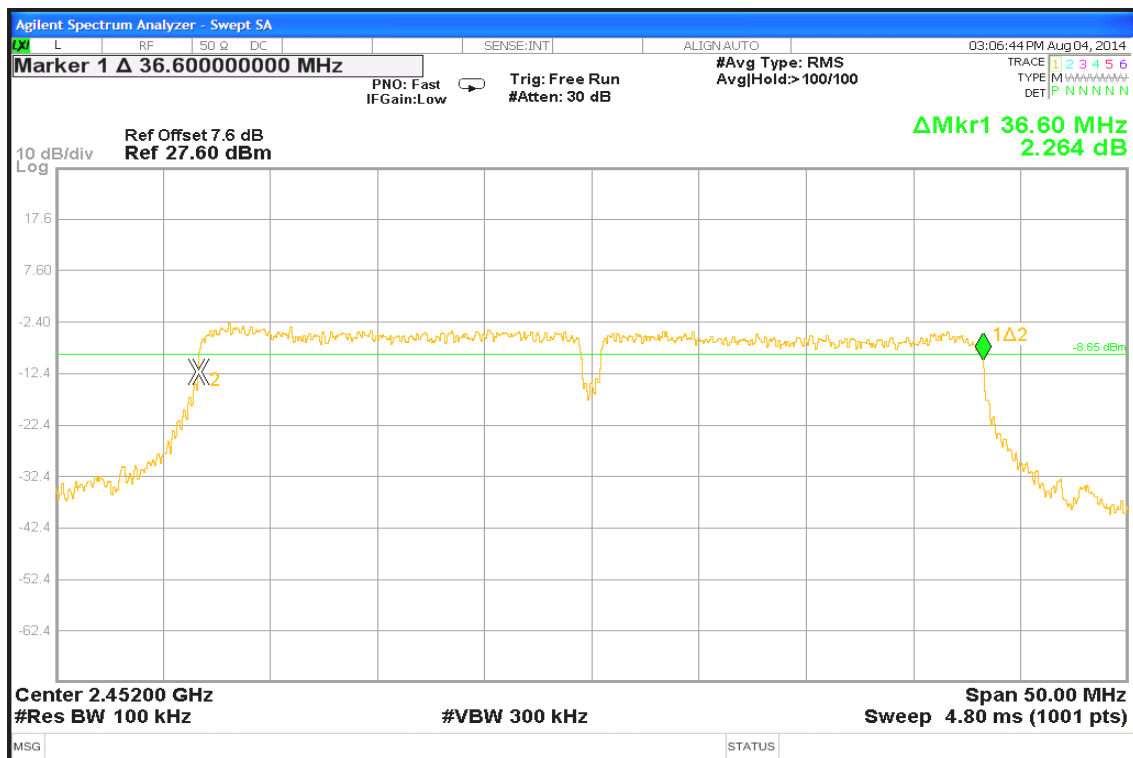


6dB Bandwidth (CH Mid)





6dB Bandwidth (CH High)



IEEE 802.11n HT40 mode / Chain 1

6dB Bandwidth (CH Low)

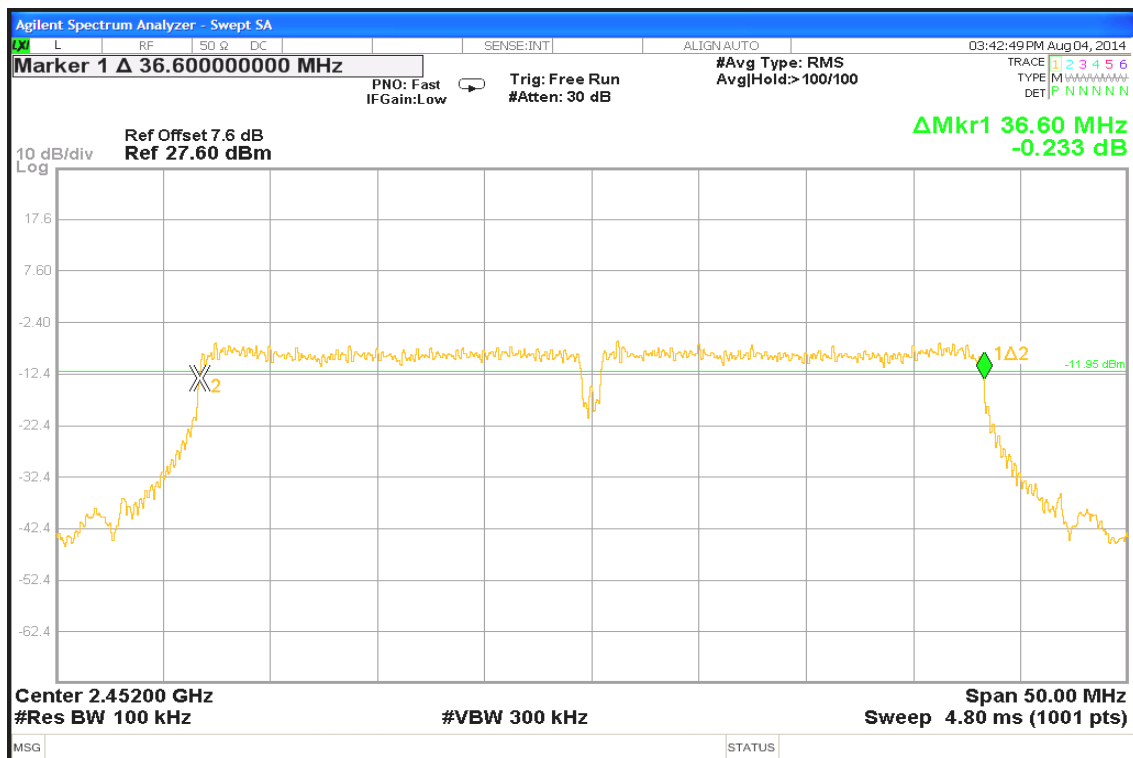




6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)





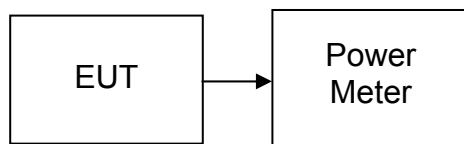
7.2 PEAK POWER

LIMIT

The maximum peak output power of the intentional radiator shall not exceed the following:

1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.
2. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST CONFIGURATION



TEST PROCEDURE

Per KDB 558074v03r01

The transmitter output is connected to the Power Meter. The Power Meter is set to the peak power detection.

TEST RESULTS

No non-compliance noted

**TEST DATA****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Test Result
Low	2412	20.49	0.1119	1	PASS
Mid	2437	20.28	0.1067		PASS
High	2462	20.32	0.1076		PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Test Result
Low	2412	22.48	0.1770	1	PASS
Mid	2437	22.73	0.1875		PASS
High	2462	19.58	0.0908		PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Output Power (dBm)			Output Power (W)			Limit (W)	Result
		Chain 0	Chain 1	Total	Chain 0	Chain 1	Total		
Low	2412	21.59	20.26	23.99	0.1442	0.1062	0.2504	0.7345	PASS
Mid	2437	21.04	22.71	24.97	0.1271	0.1866	0.3137		PASS
High	2462	20.58	20.32	23.46	0.1143	0.1076	0.2219		PASS

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Output Power (dBm)			Output Power (W)			Limit (W)	Result
		Chain 0	Chain 1	Total	Chain 0	Chain 1	Total		
Low	2422	21.07	20.85	23.97	0.1279	0.1216	0.2496	0.7345	PASS
Mid	2437	21.43	22.49	25.00	0.1390	0.1774	0.3164		PASS
High	2452	20.09	17.02	21.83	0.1021	0.0504	0.1524		PASS

Remark:

1. Total Output Power (w) = Chain 0 ($10^{(\text{Output Power}/10)/1000}$) + Chain 1 ($10^{(\text{Output Power}/10)/1000}$)
2. The maximum antenna gain is 7.34dBi; therefore the reduction due to antenna gain is 1.34dBi, so the limit is 28.66dBm(0.7345W).

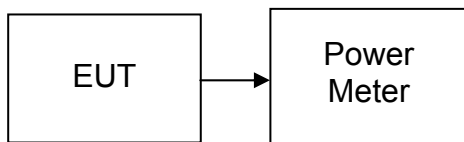


7.3 AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST CONFIGURATION



TEST PROCEDURE

Per KDB 558074 v03r01

The transmitter output is connected to the Power Meter. The Power Meter is set to the **average** power detection.

TEST RESULTS

No non-compliance noted

**TEST DATA****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)
Low	2412	17.99	0.0630
Mid	2437	17.49	0.0561
High	2462	17.14	0.0518

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)
Low	2412	16.64	0.0461
Mid	2437	16.28	0.0425
High	2462	12.35	0.0172

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Output Power (dBm)			Output Power (W)		
		Chain 0	Chain 1	Total	Chain 0	Chain 1	Total
Low	2412	13.89	13.08	16.51	0.0245	0.0203	0.0448
Mid	2437	13.49	14.91	17.27	0.0223	0.0310	0.0533
High	2462	12.28	12.89	15.61	0.0169	0.0195	0.0364

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Output Power (dBm)			Output Power (W)		
		Chain 0	Chain 1	Total	Chain 0	Chain 1	Total
Low	2412	14.36	13.61	17.01	0.0273	0.0230	0.0503
Mid	2437	11.79	14.25	16.20	0.0151	0.0266	0.0417
High	2462	11.69	9.56	13.76	0.0148	0.0090	0.0238

Remark: Total Output Power (w) = Chain 0 ($10^{(\text{Output Power} / 10) / 1000}$) + Chain 1 ($10^{(\text{Output Power} / 10) / 1000}$)

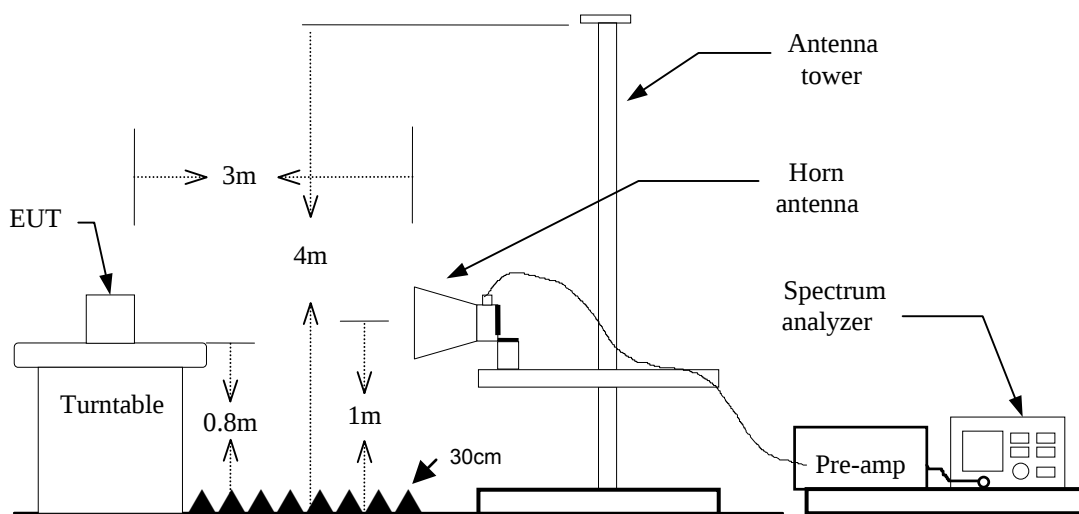


7.4 BAND EDGES MEASUREMENT

LIMIT

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see Section 15.205(c)).

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - (a) PEAK: RBW=1MHz / VBW=3MHz / Sweep=100ms
 - (b) AVERAGE: RBW=1MHz / VBW=300Hz / Sweep=AUTO
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

TEST RESULTS

Refer to attach spectrum analyzer data chart.

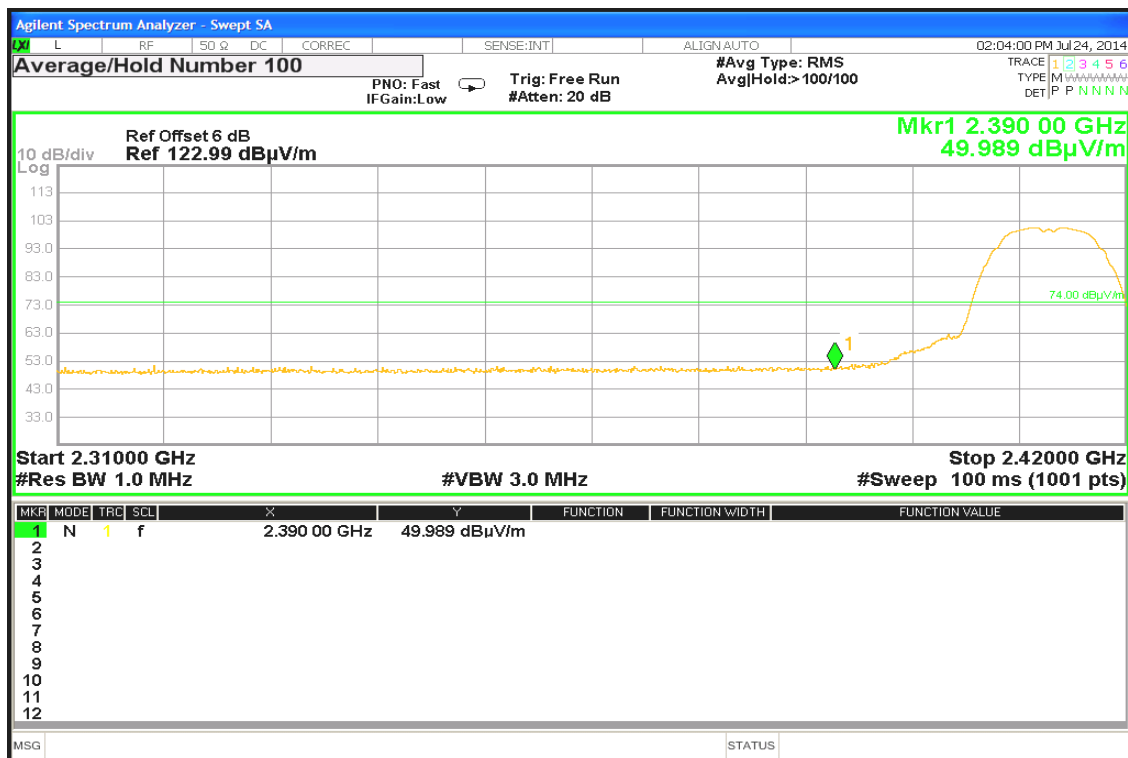


Test Plot

Band Edges (IEEE 802.11b mode/ CH Low)

Detector mode: Peak

Polarity: Vertical



Detector mode: Average

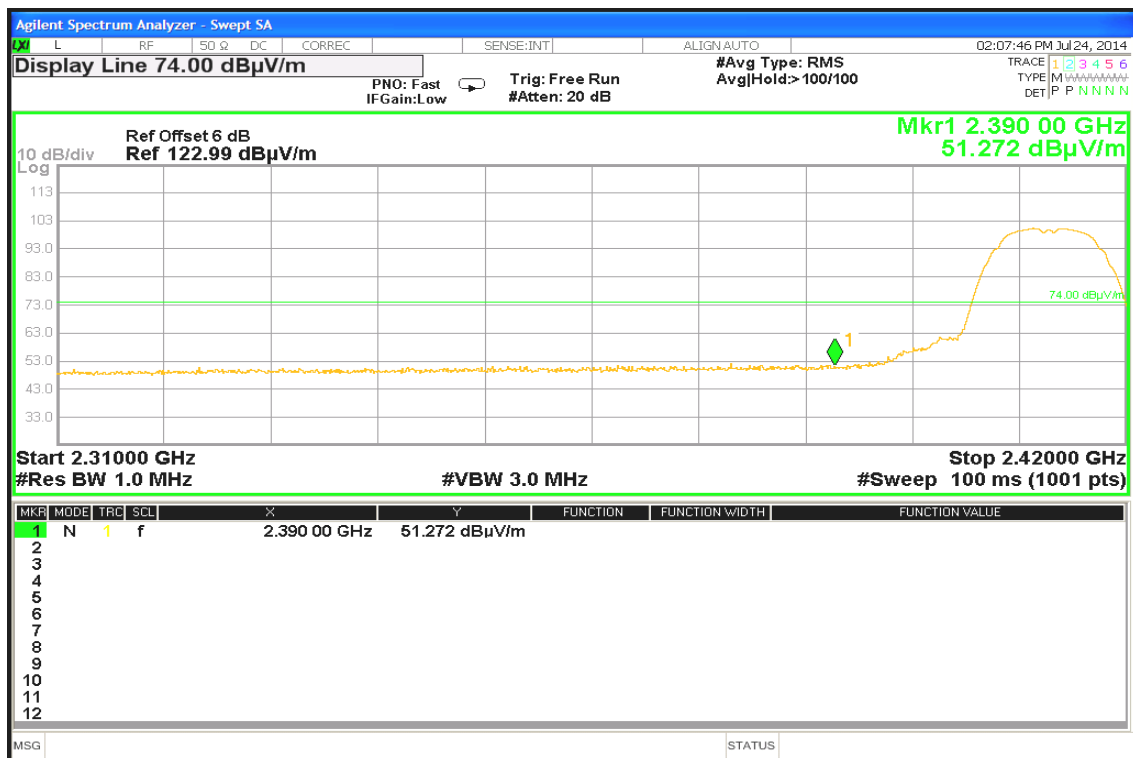
Polarity: Vertical





Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

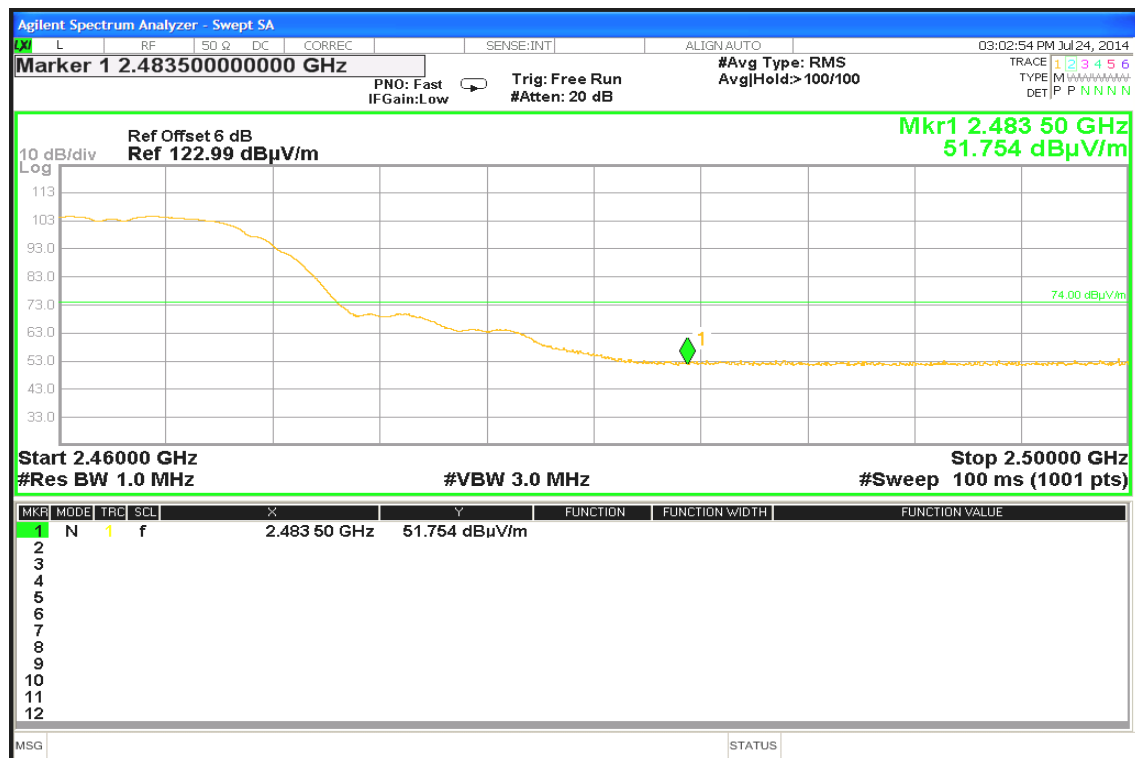
Polarity: Horizontal



Band Edges (IEEE 802.11b mode / CH High)

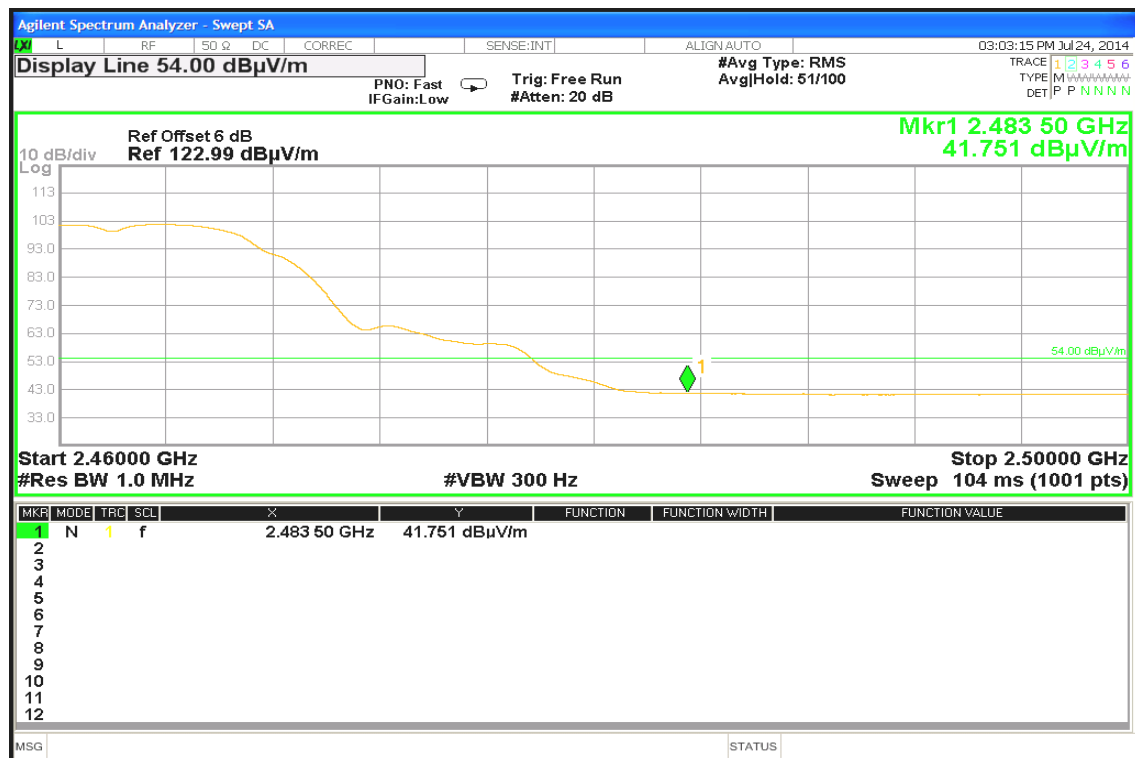
Detector mode: Peak

Polarity: Vertical



Detector mode: Average

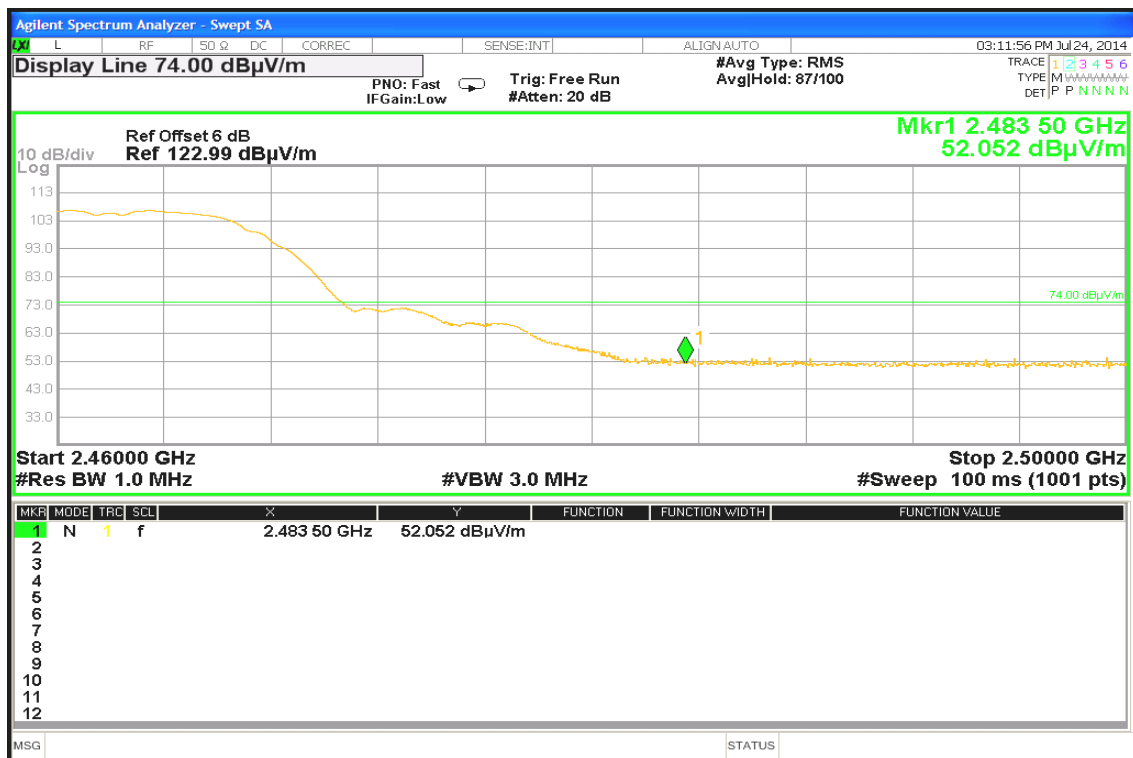
Polarity: Vertical





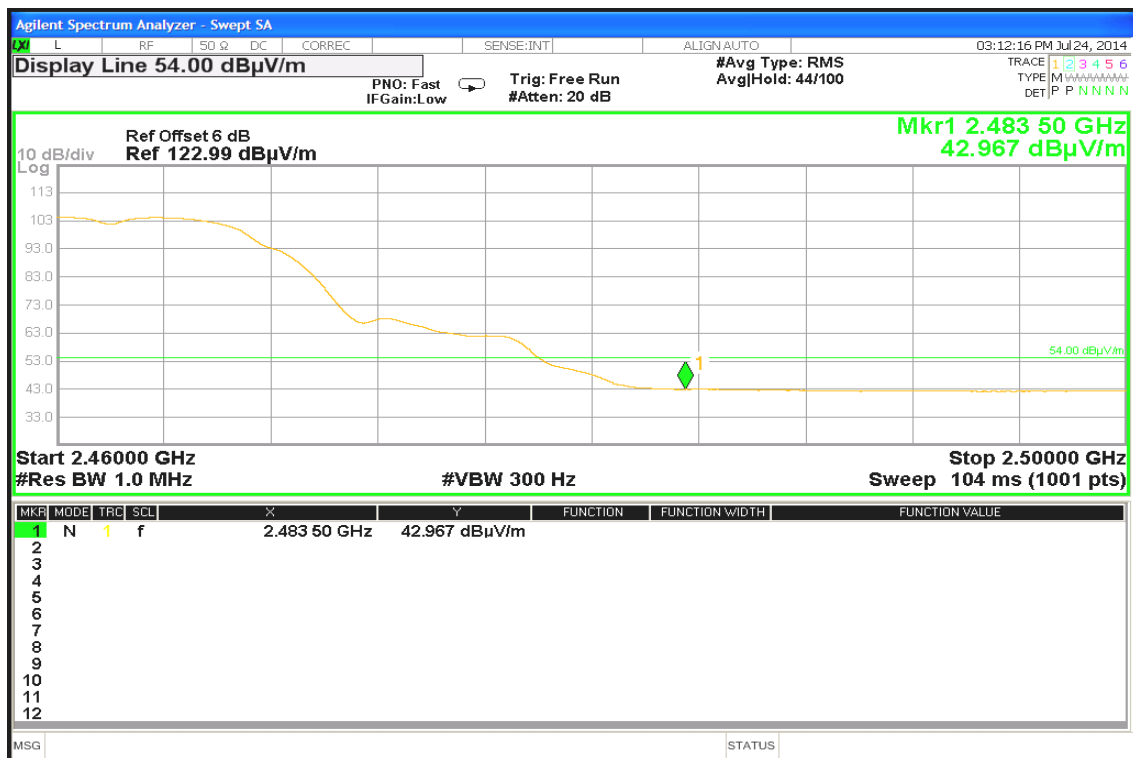
Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

Polarity: Horizontal

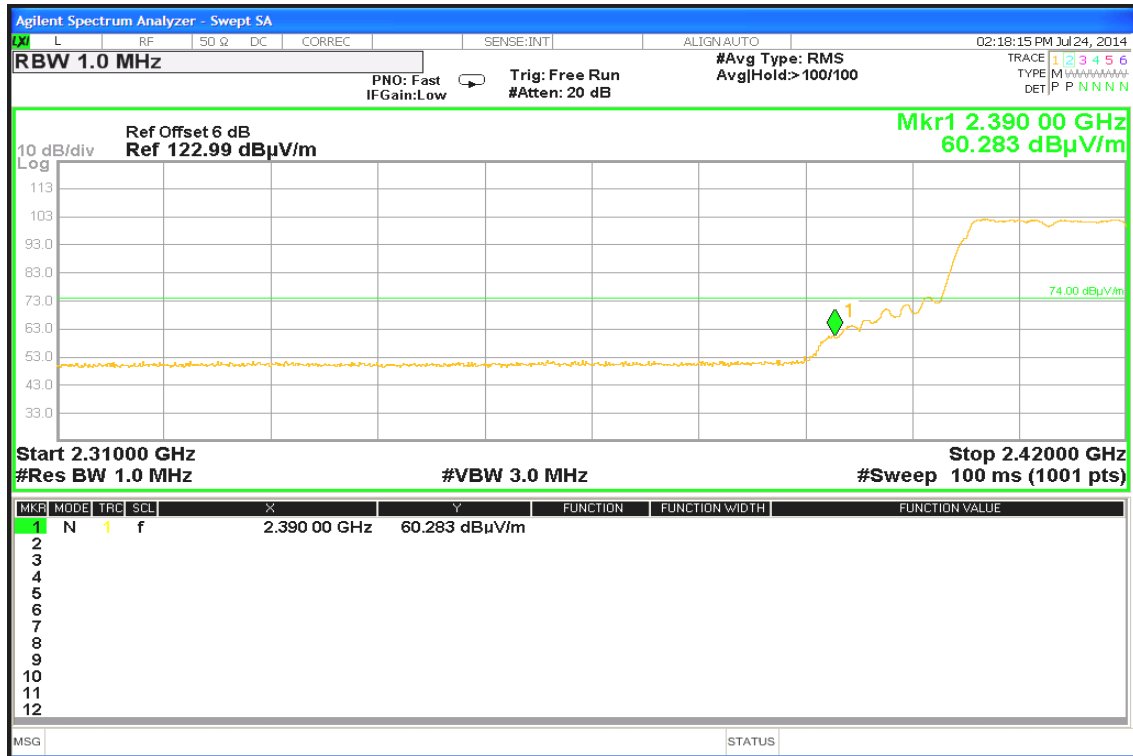




Band Edges (IEEE 802.11g mode / CH Low)

Detector mode: Peak

Polarity: Vertical



Detector mode: Average

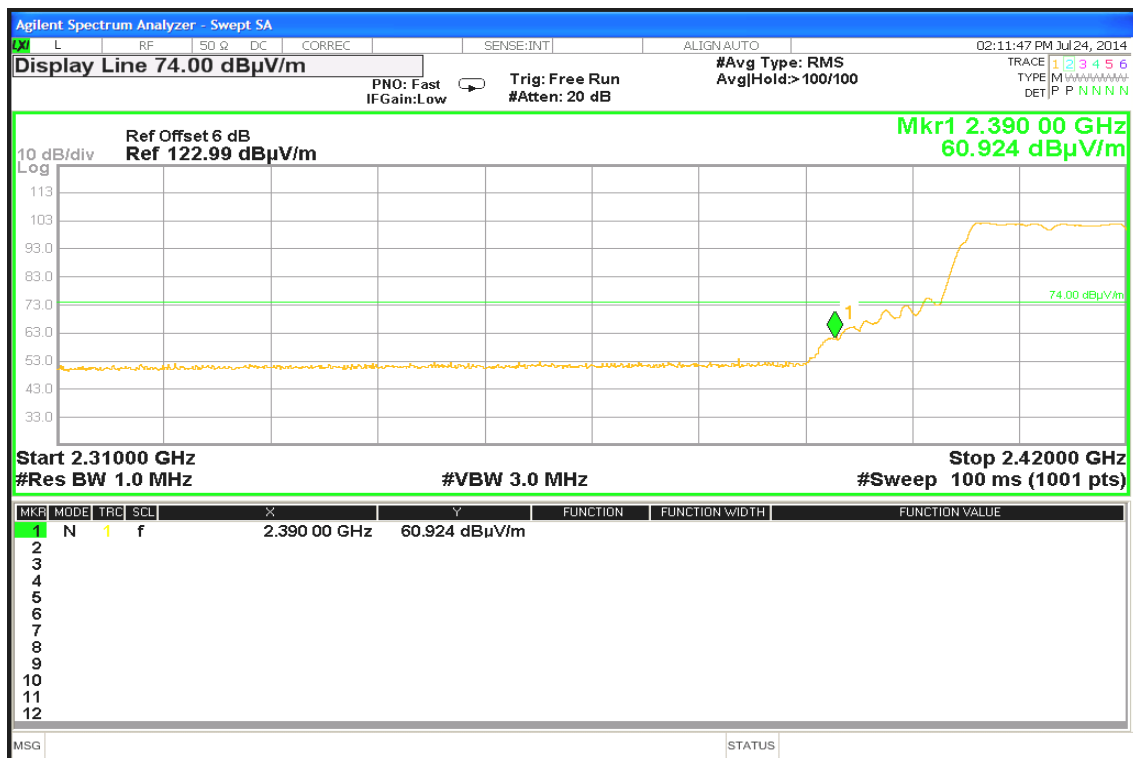
Polarity: Vertical





Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

Polarity: Horizontal

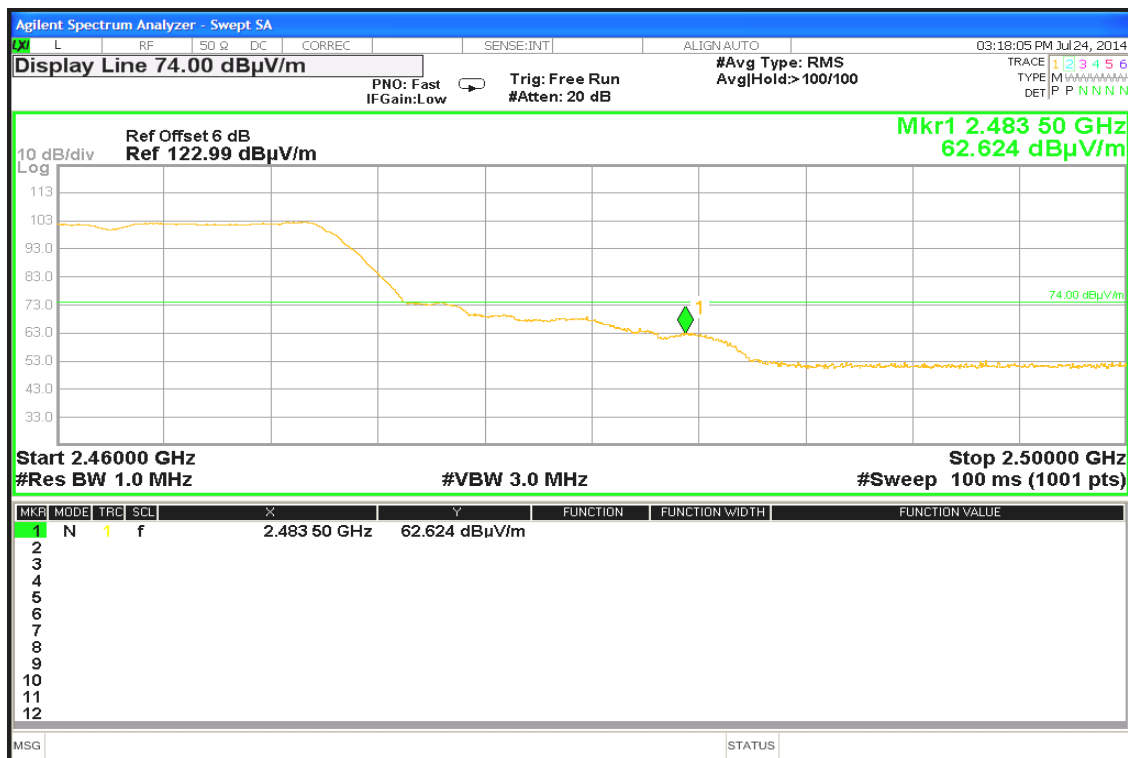




Band Edges (IEEE 802.11g mode / CH High)

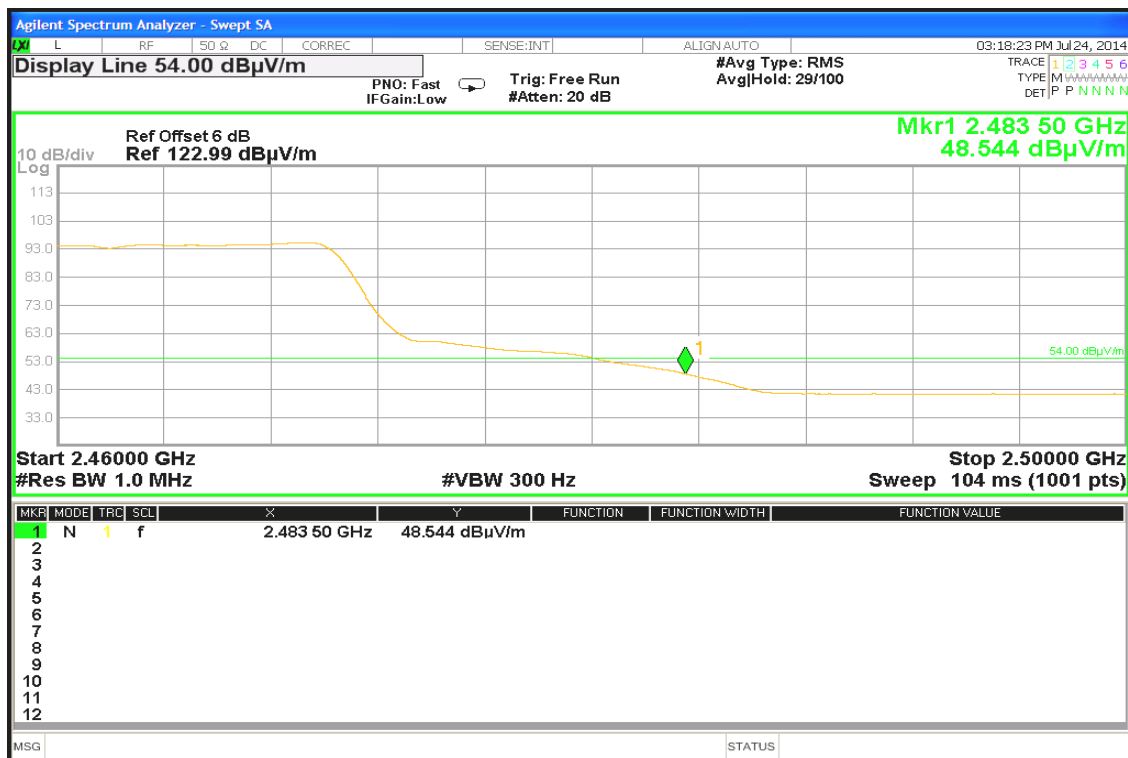
Detector mode: Peak

Polarity: Vertical



Detector mode: Average

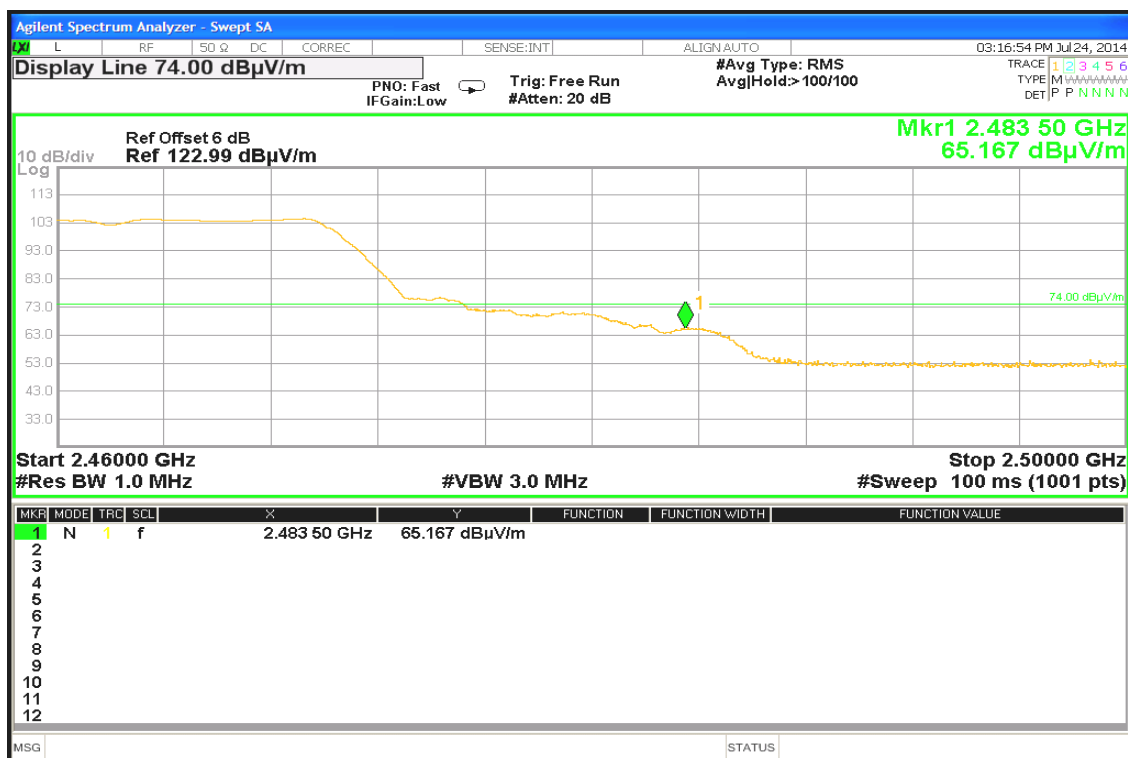
Polarity: Vertical





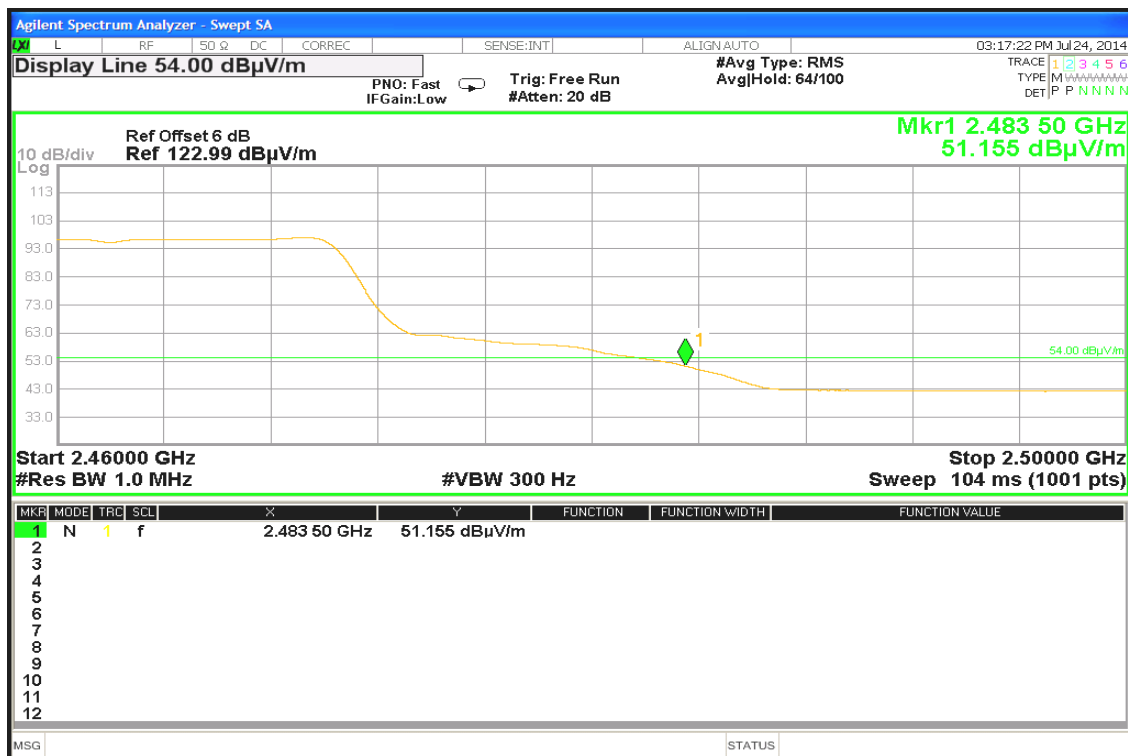
Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

Polarity: Horizontal

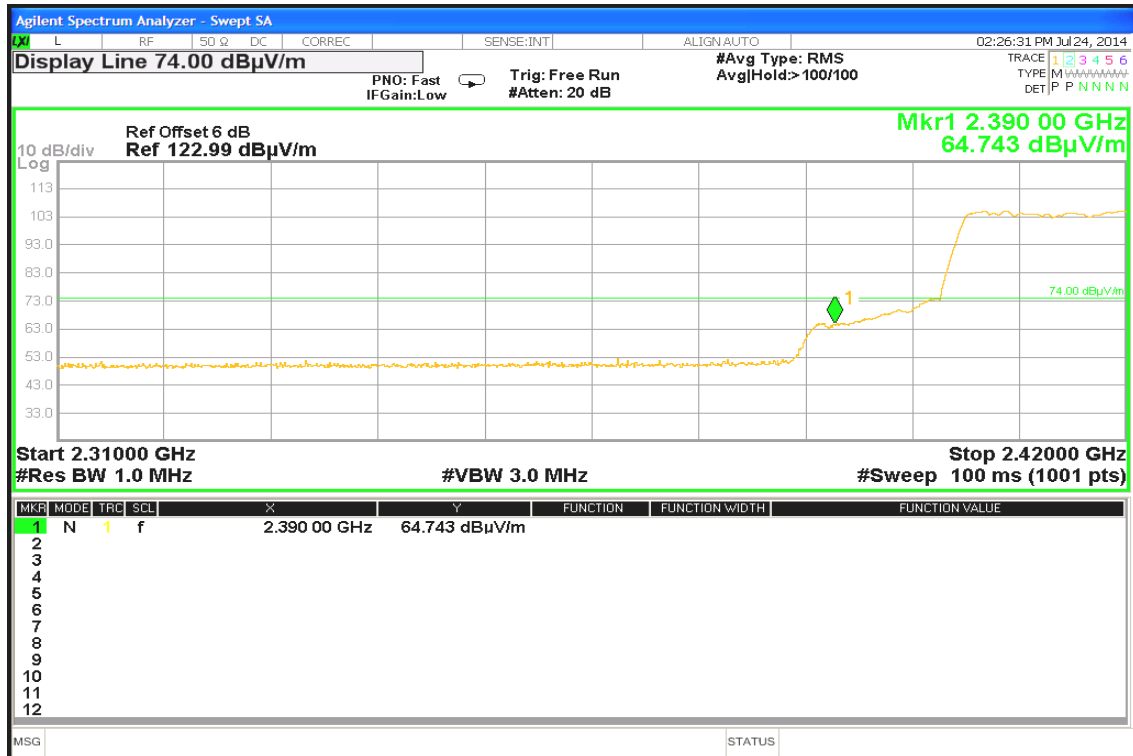




Band Edges (IEEE 802.11n HT20 mode / CH Low)

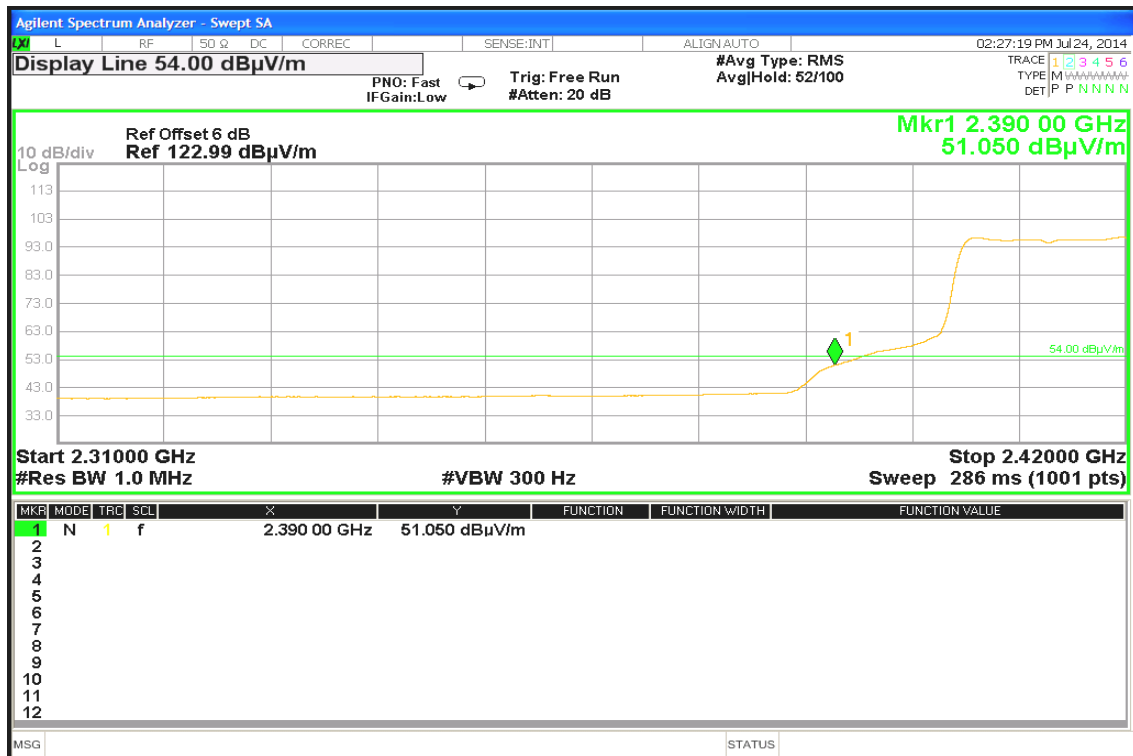
Detector mode: Peak

Polarity: Vertical



Detector mode: Average

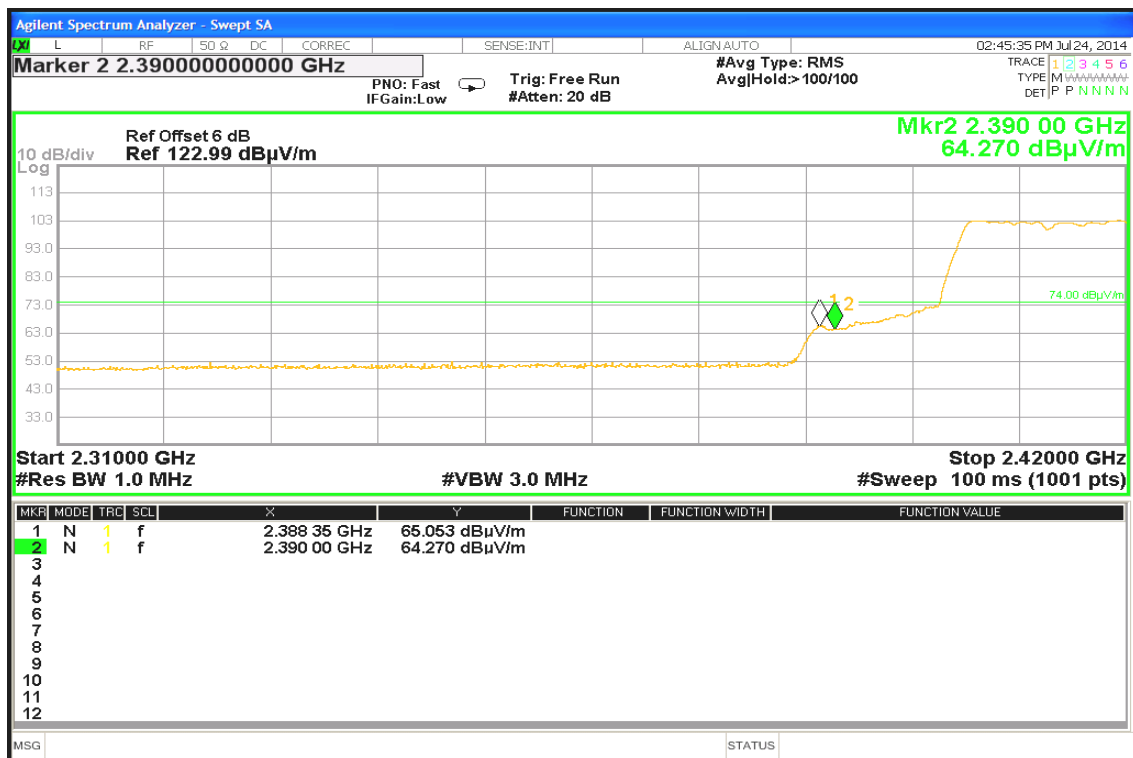
Polarity: Vertical





Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

Polarity: Horizontal

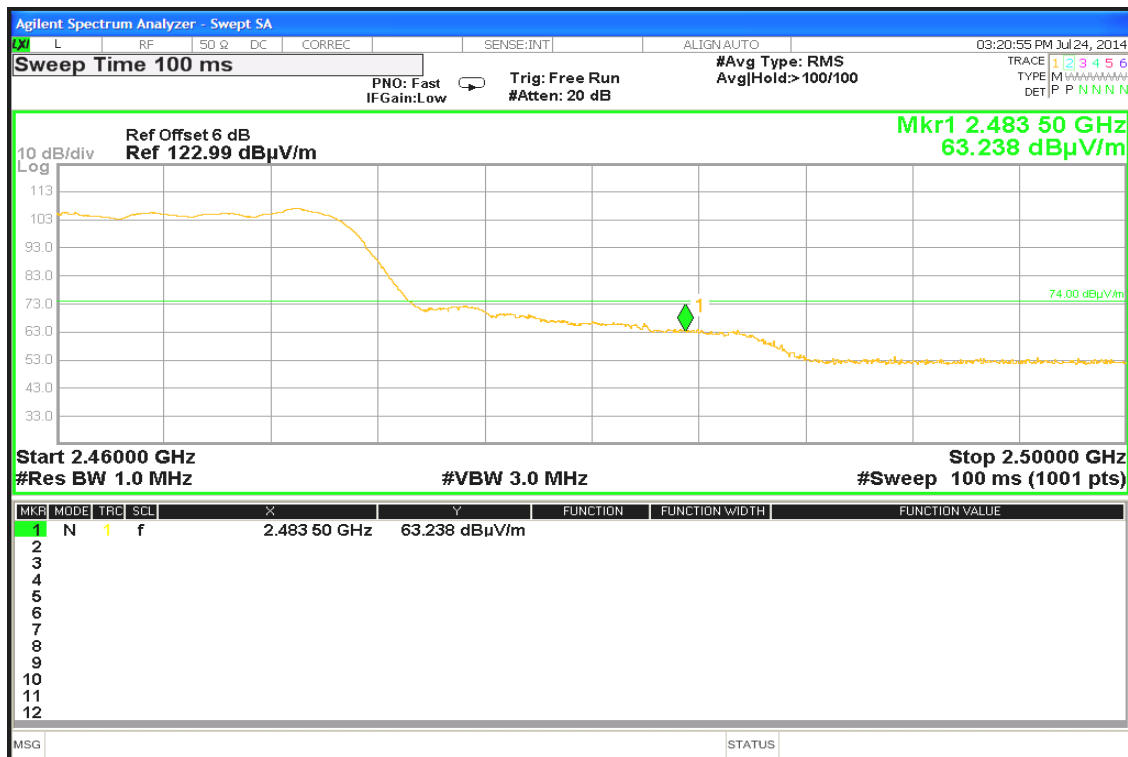




Band Edges (IEEE 802.11n HT20 mode / CH High)

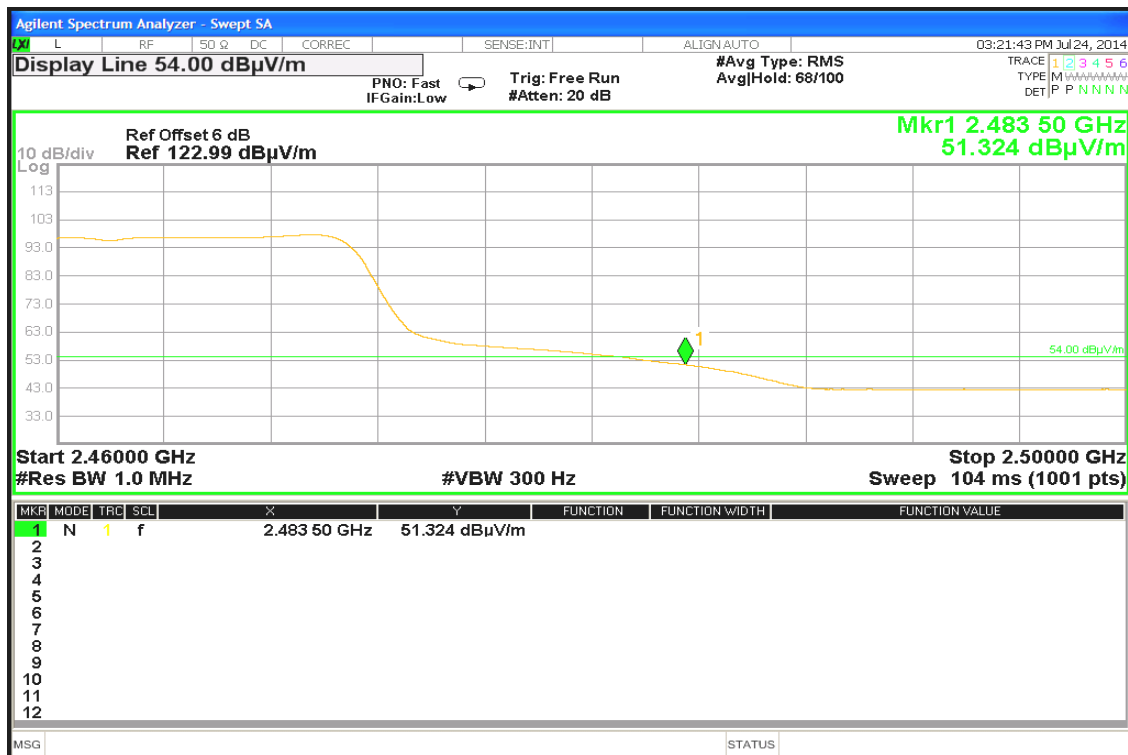
Detector mode: Peak

Polarity: Vertical



Detector mode: Average

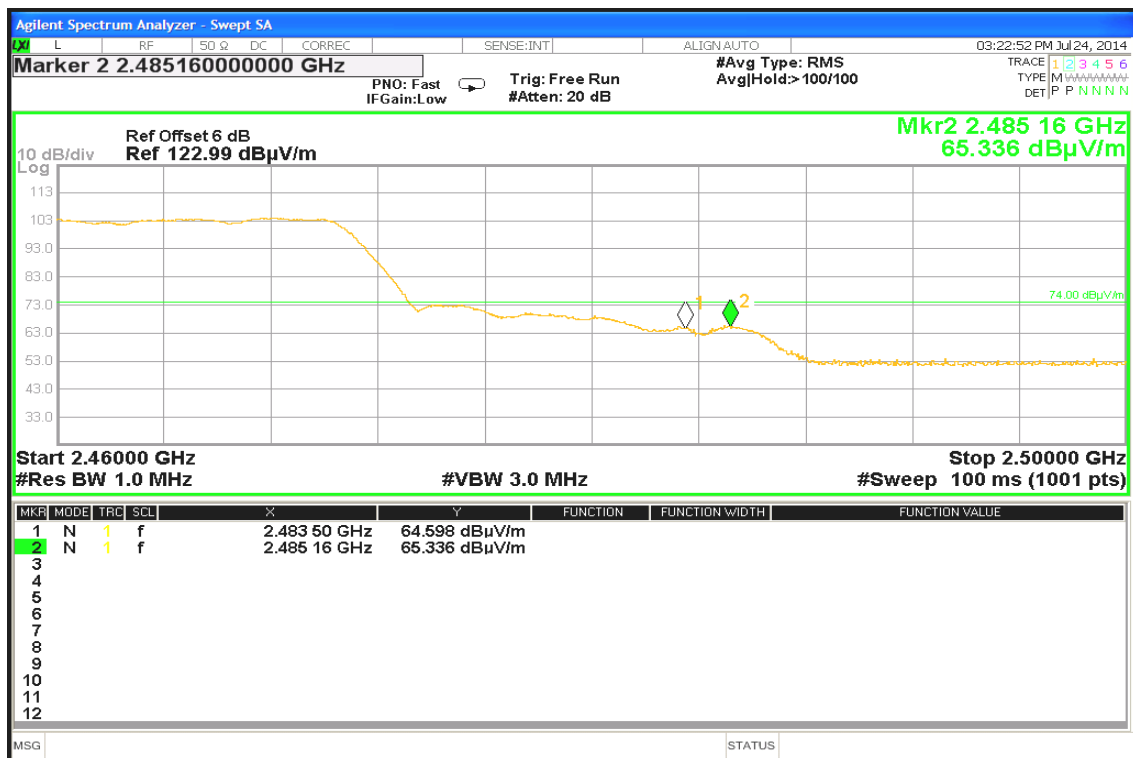
Polarity: Vertical





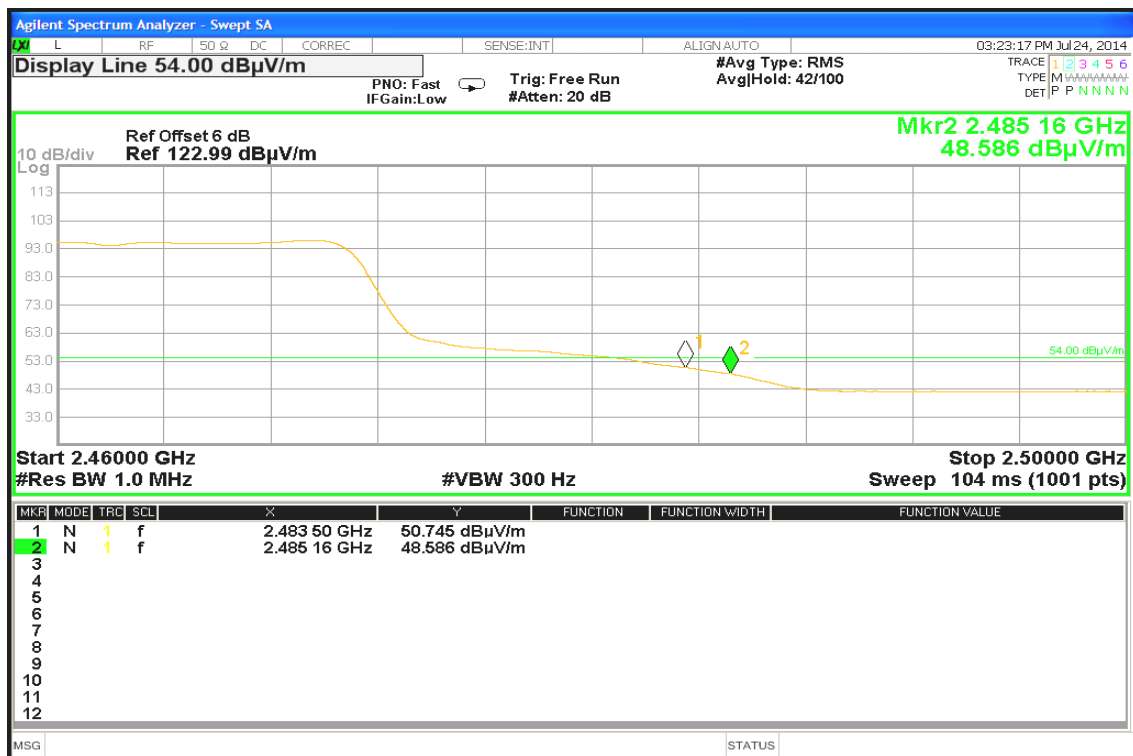
Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

Polarity: Horizontal

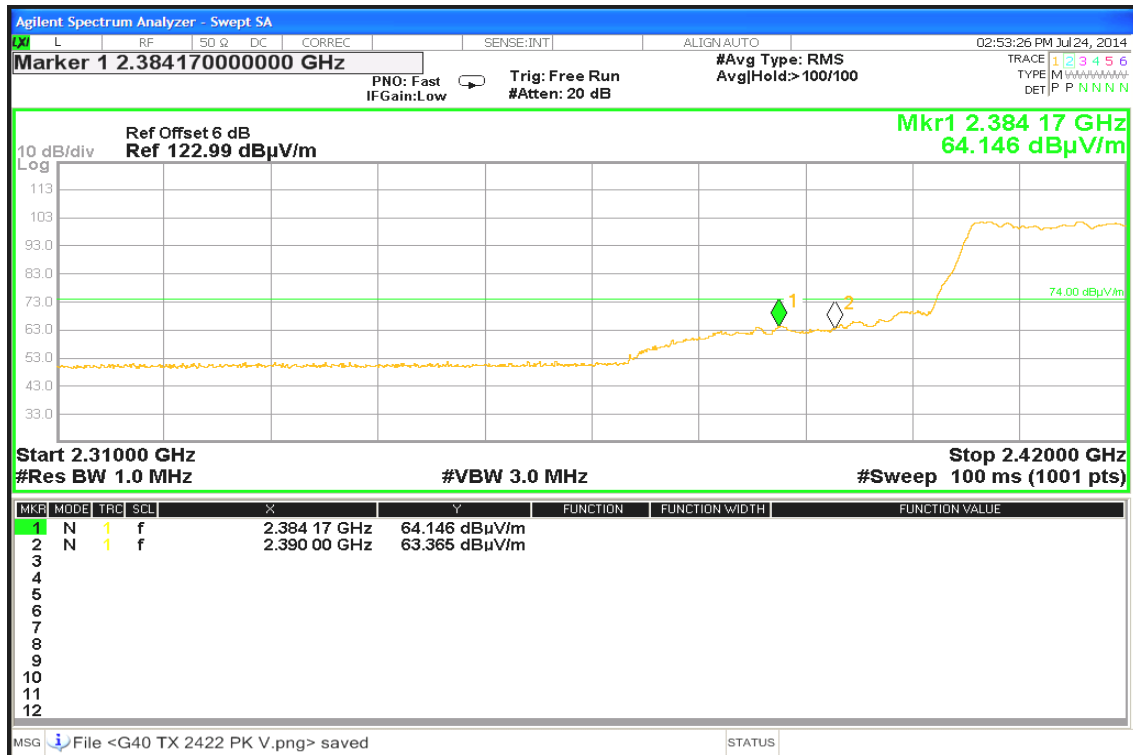




Band Edges (IEEE 802.11n HT40 mode / CH Low)

Detector mode: Peak

Polarity: Vertical



Detector mode: Average

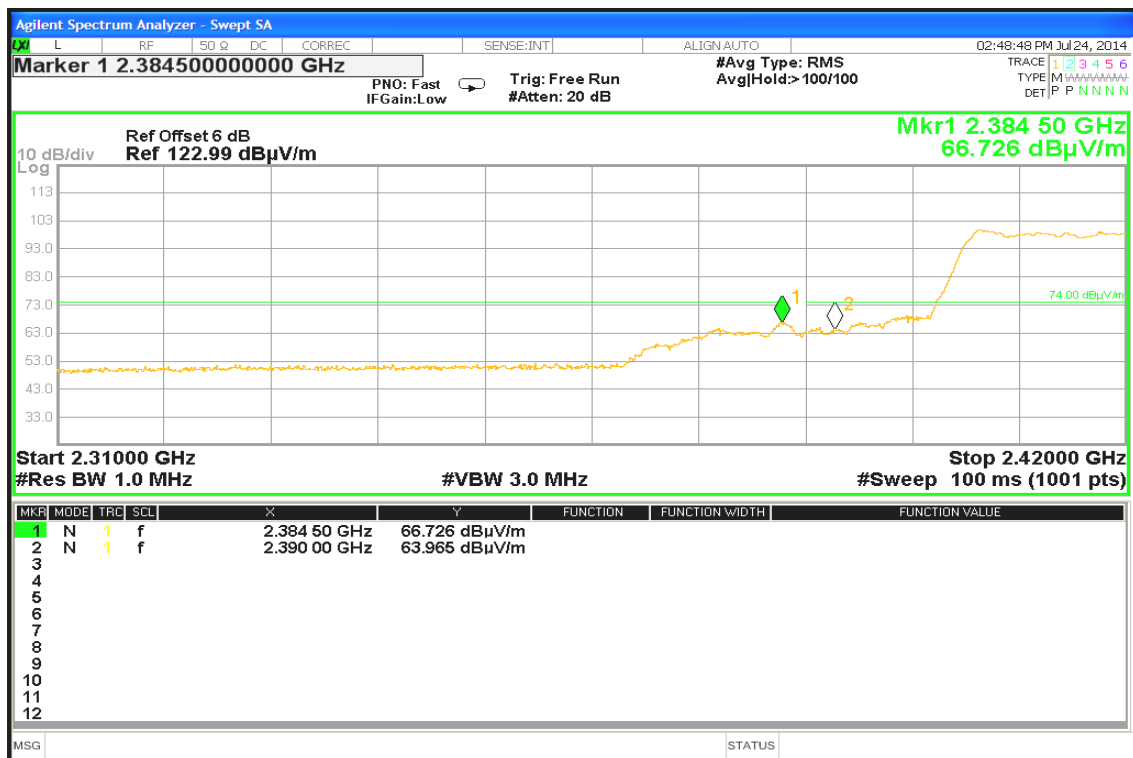
Polarity: Vertical





Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

Polarity: Horizontal

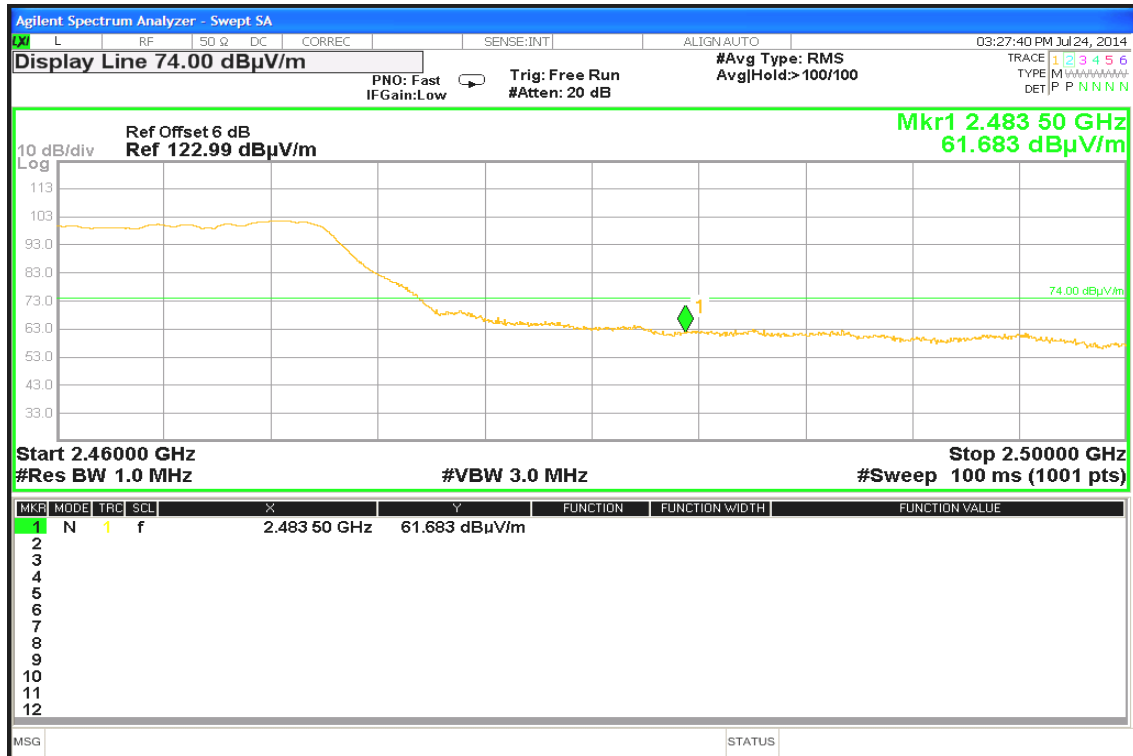




Band Edges (IEEE 802.11n HT40 mode / CH High)

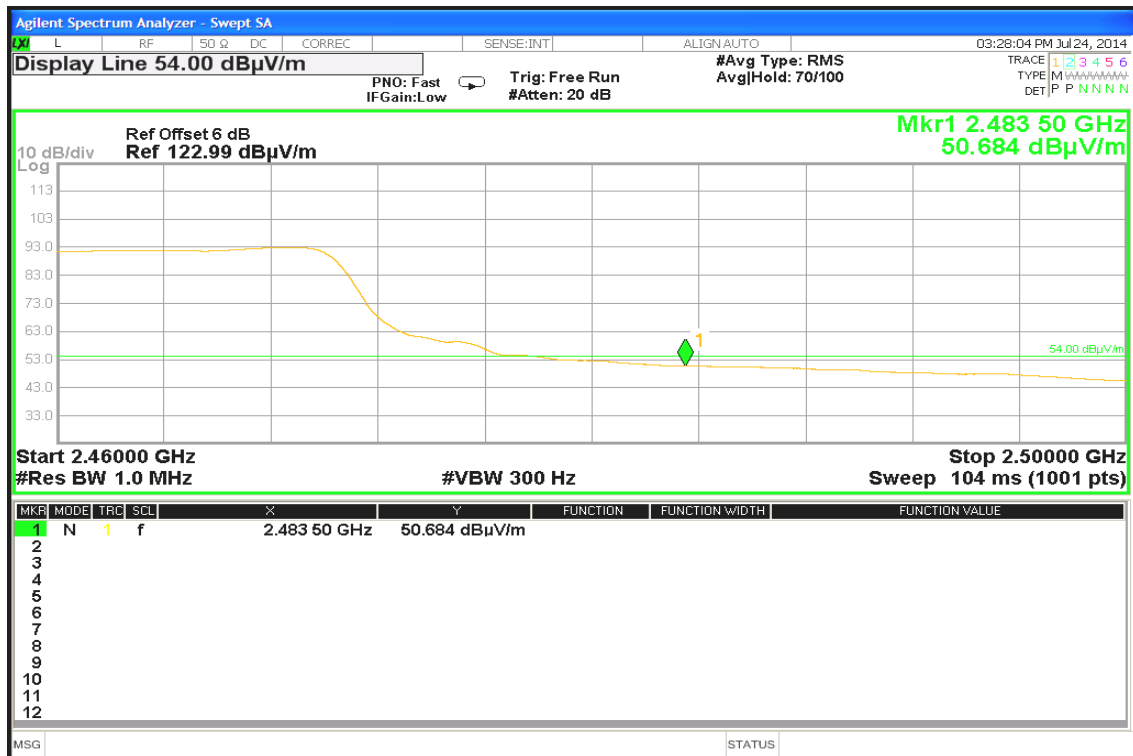
Detector mode: Peak

Polarity: Vertical



Detector mode: Average

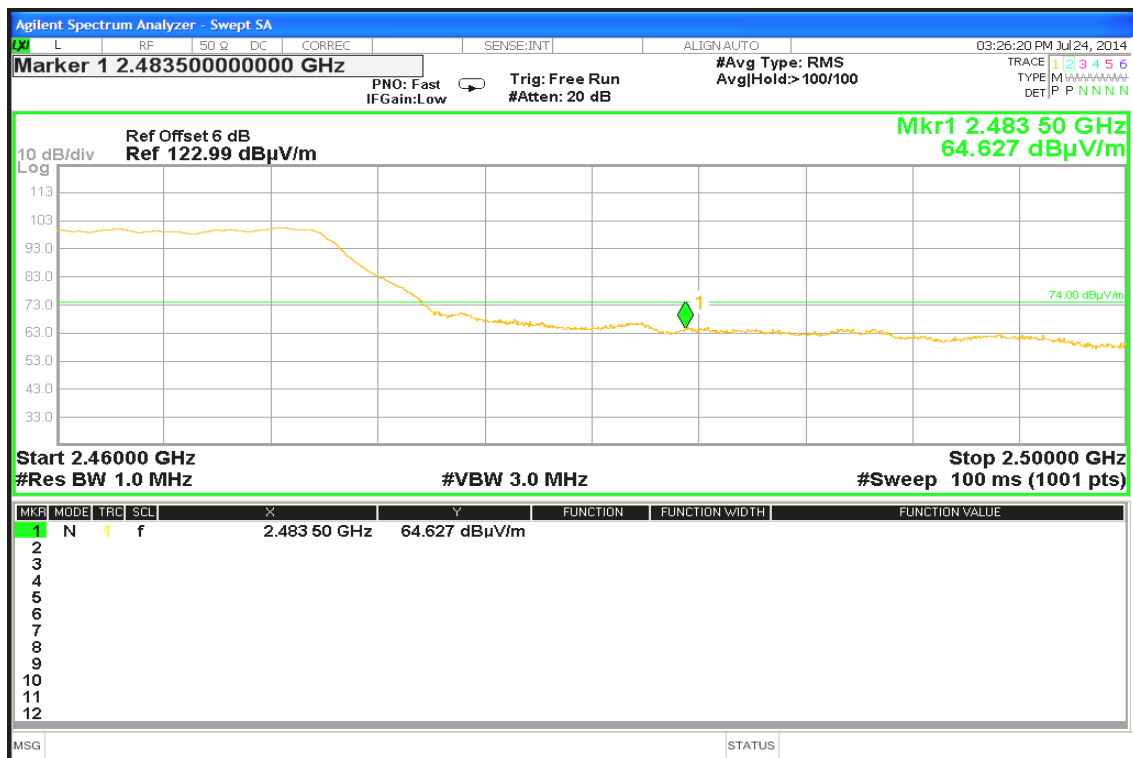
Polarity: Vertical





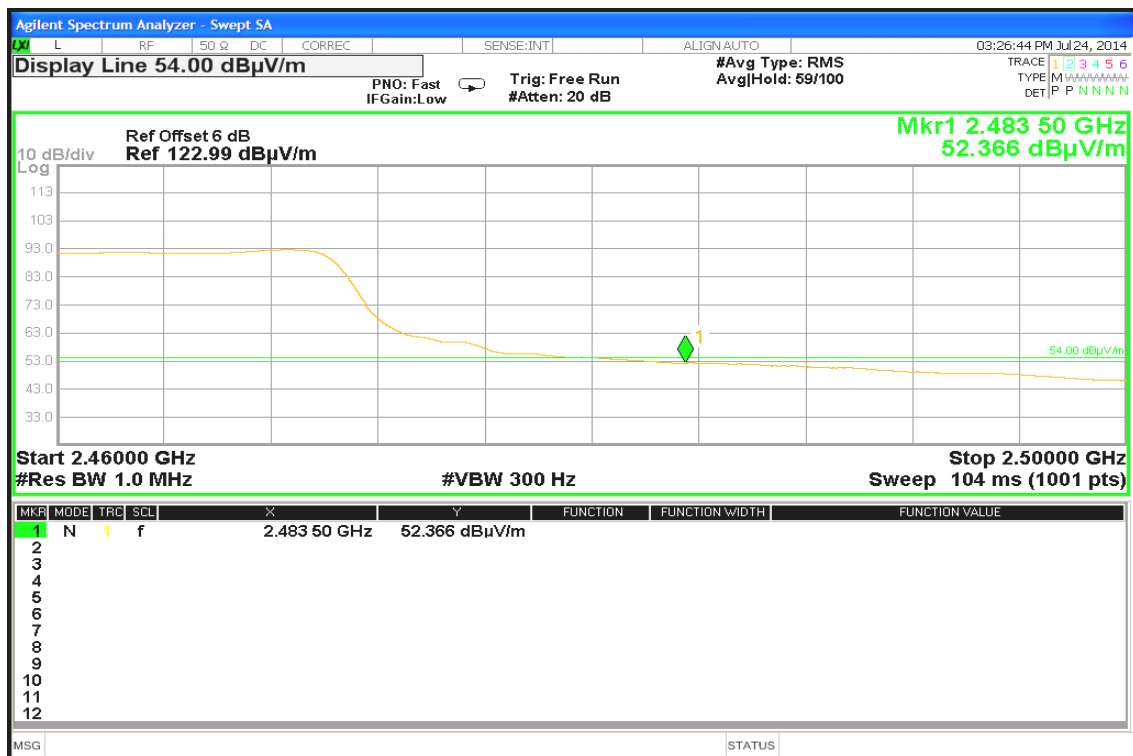
Detector mode: Peak

Polarity: Horizontal



Detector mode: Average

Polarity: Horizontal



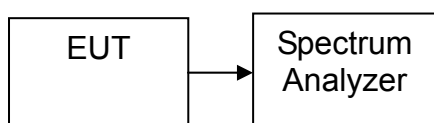


7.5 PEAK POWER SPECTRAL DENSITY

LIMIT

1. According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
2. According to §15.247(f), the digital modulation operation of the hybrid system, with the frequency hopping turned off, shall comply with the power density requirements of paragraph (d) of this section.

TEST CONFIGURATION



TEST PROCEDURE

Per KDB 558074 v03r01

This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW ≥ 3 kHz.
4. Set the VBW $\geq 3 \times$ RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat

TEST RESULTS

No non-compliance noted

**TEST DATA****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-0.54	8.00	PASS
Mid	2437	-1.95		
High	2462	-8.60		

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.30	8.00	PASS
Mid	2437	-11.82		
High	2462	-12.87		

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	PPSD(dBm)			Limit (dBm)	Result
		Chain 0	Chain 1	Total		
Low	2412	-12.83	-13.10	-9.95	6.66	PASS
Mid	2437	-13.72	-12.66	-10.15		PASS
High	2462	-13.52	-12.92	-10.20		PASS

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	PPSD(dBm)			Limit (dBm)	Result
		Chain 0	Chain 1	Total		
Low	2422	-18.37	-17.55	-14.93	6.66	PASS
Mid	2437	-18.36	-18.00	-15.17		PASS
High	2452	-18.75	-16.86	-14.69		PASS

Remark:

1. Total PPSSD (dBm) = $10 \cdot \text{LOG}(10^{(\text{Chain 0 PPSSD} / 10)} + 10^{(\text{Chain 1 PPSSD} / 10)})$
2. The maximum antenna gain is 7.34dBi; therefore the reduction due to antenna gain is 1.34dBi, so the limit is 6.66dBm



Test Plot

IEEE 802.11b mode

PPSD (CH Low)



PPSD (CH Mid)



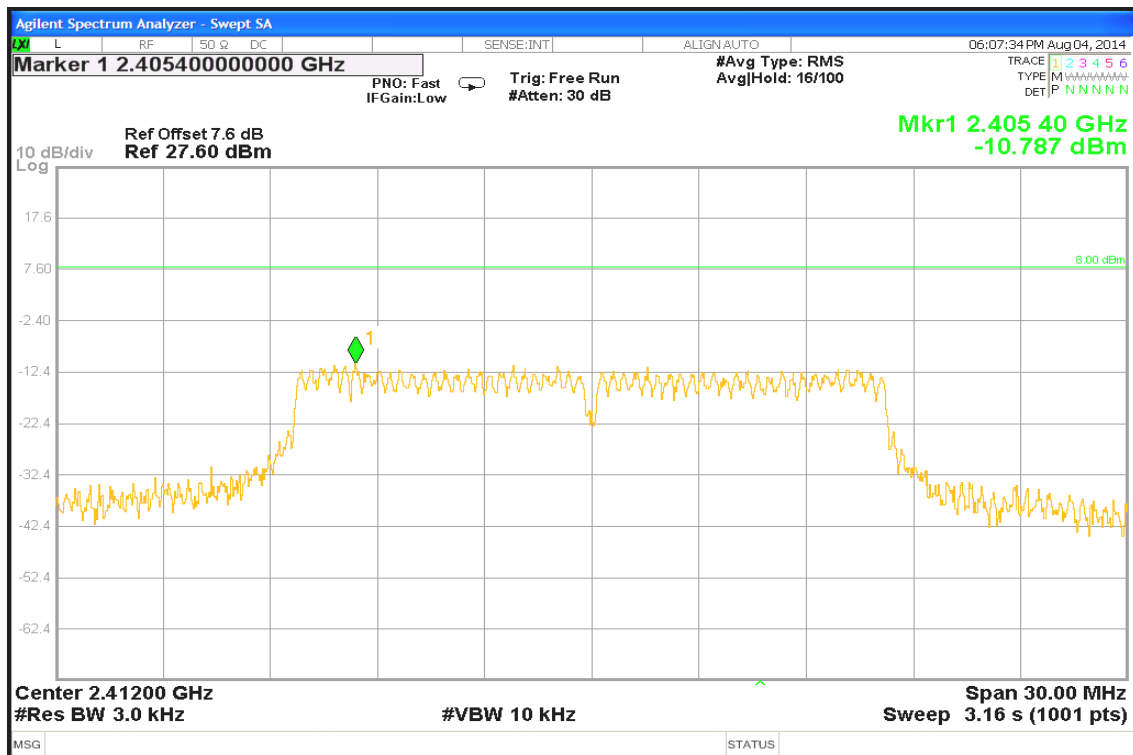


PPSD (CH High)



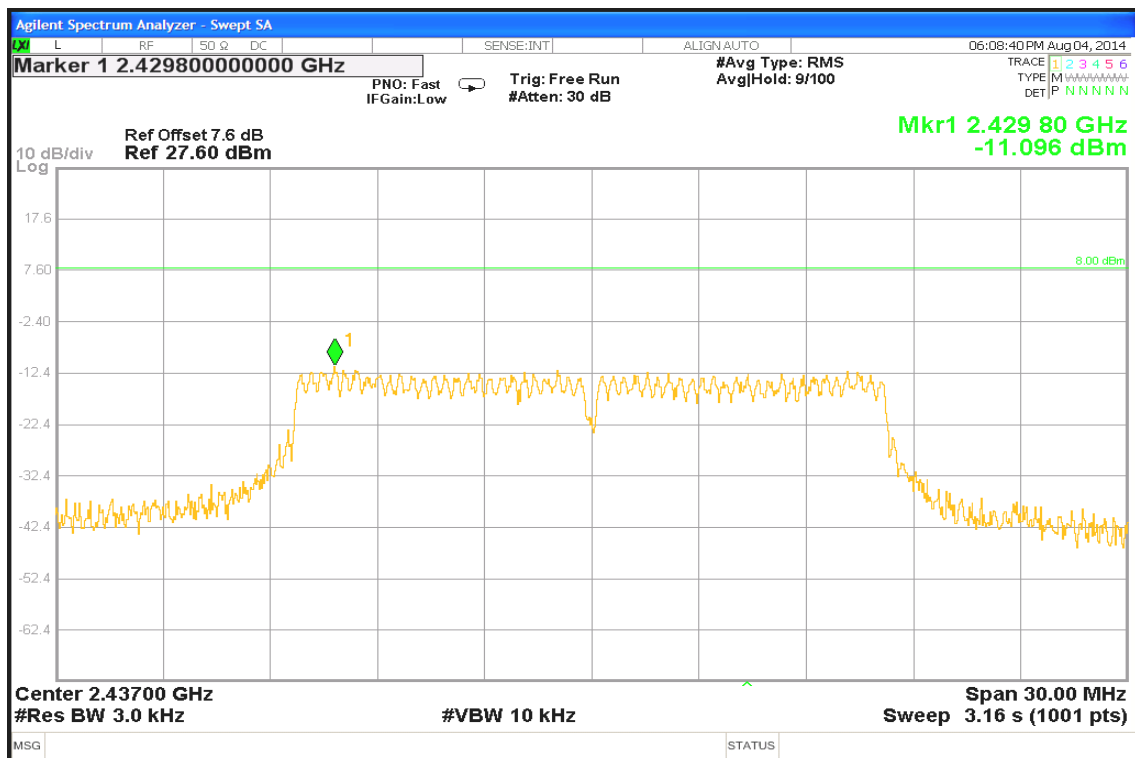
IEEE 802.11g mode

PPSD (CH Low)

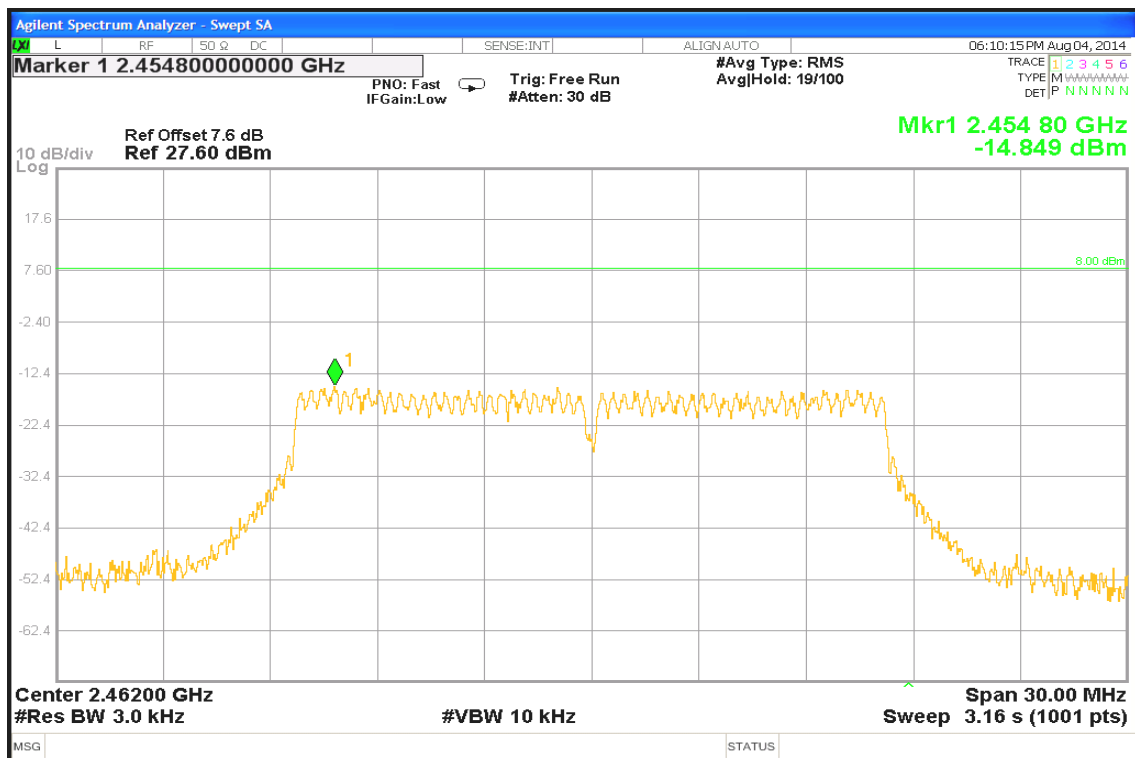




PPSD (CH Mid)



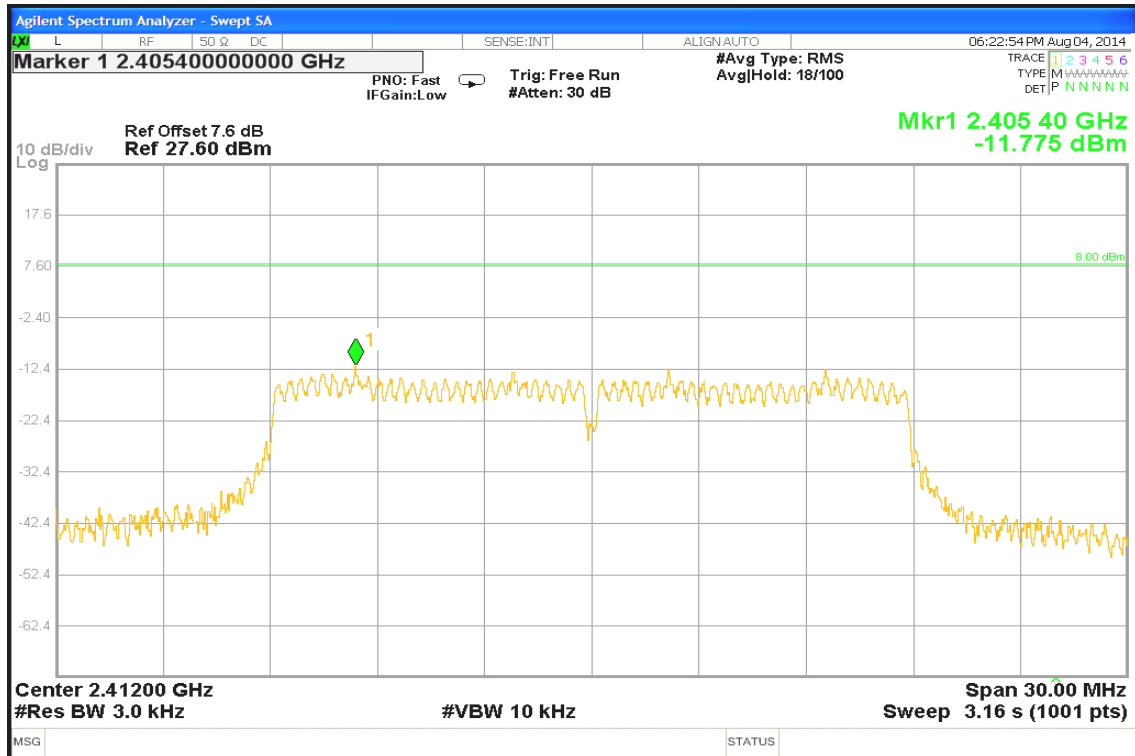
PPSD (CH High)



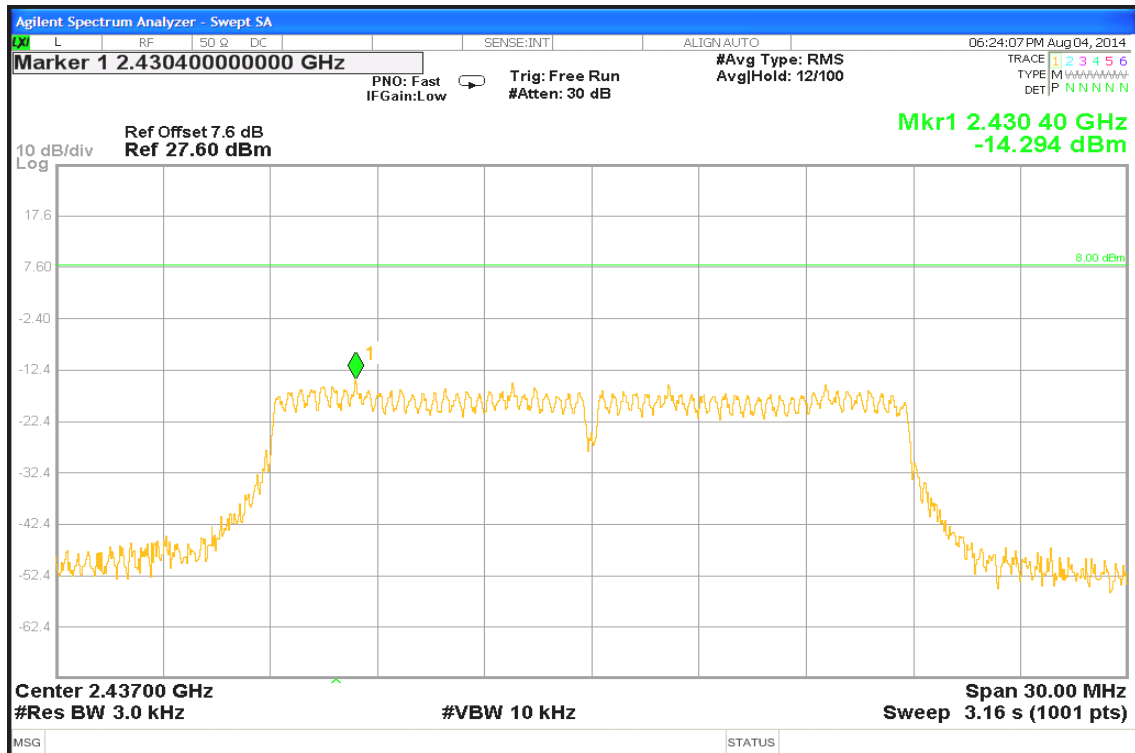


IEEE 802.11n HT20 mode / Chain 0

PPSD (CH Low)

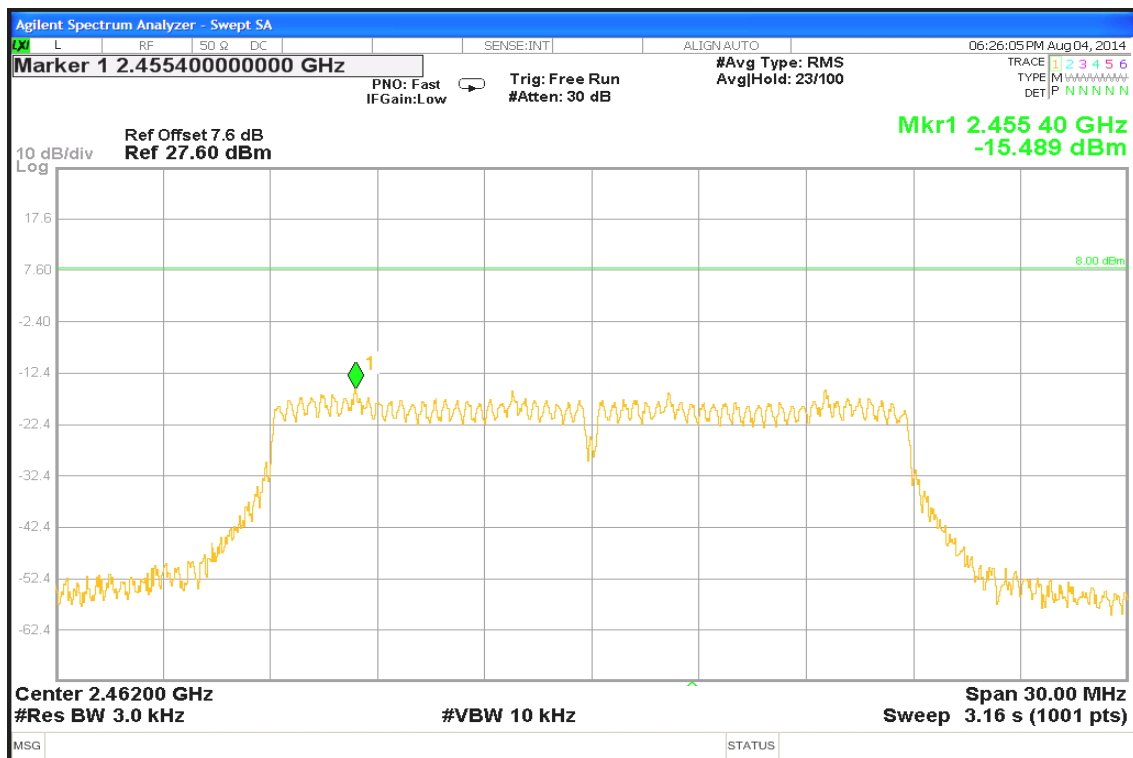


PPSD (CH Mid)



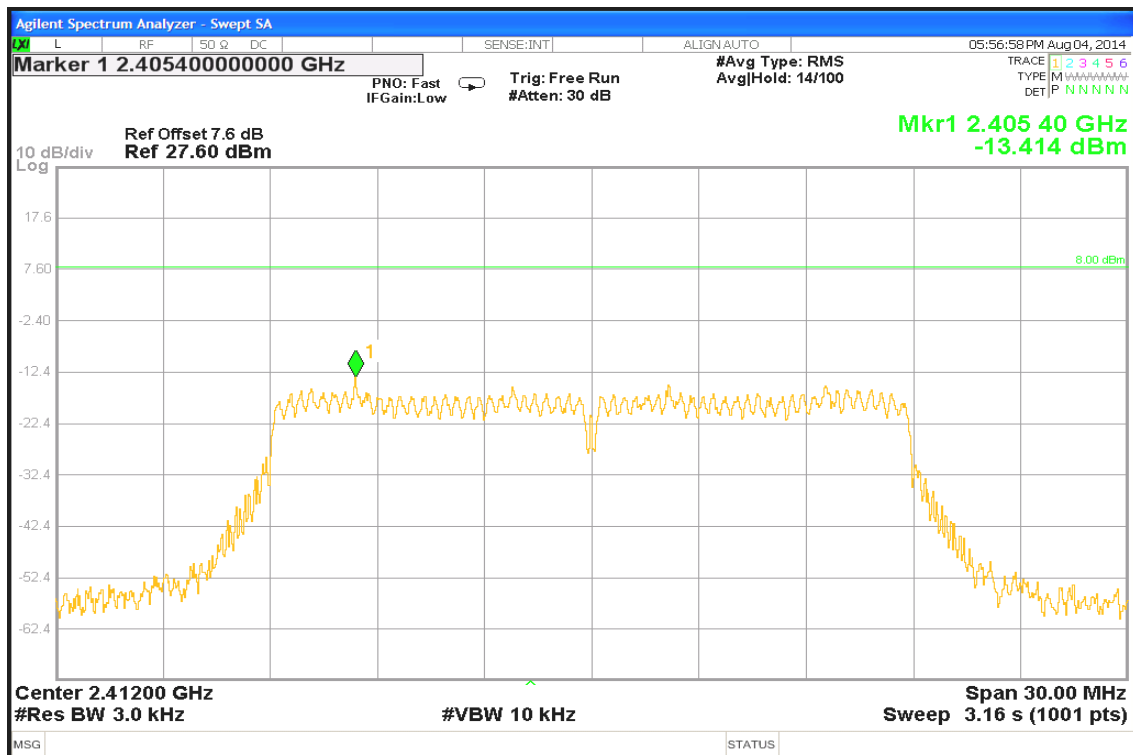


PPSD (CH High)



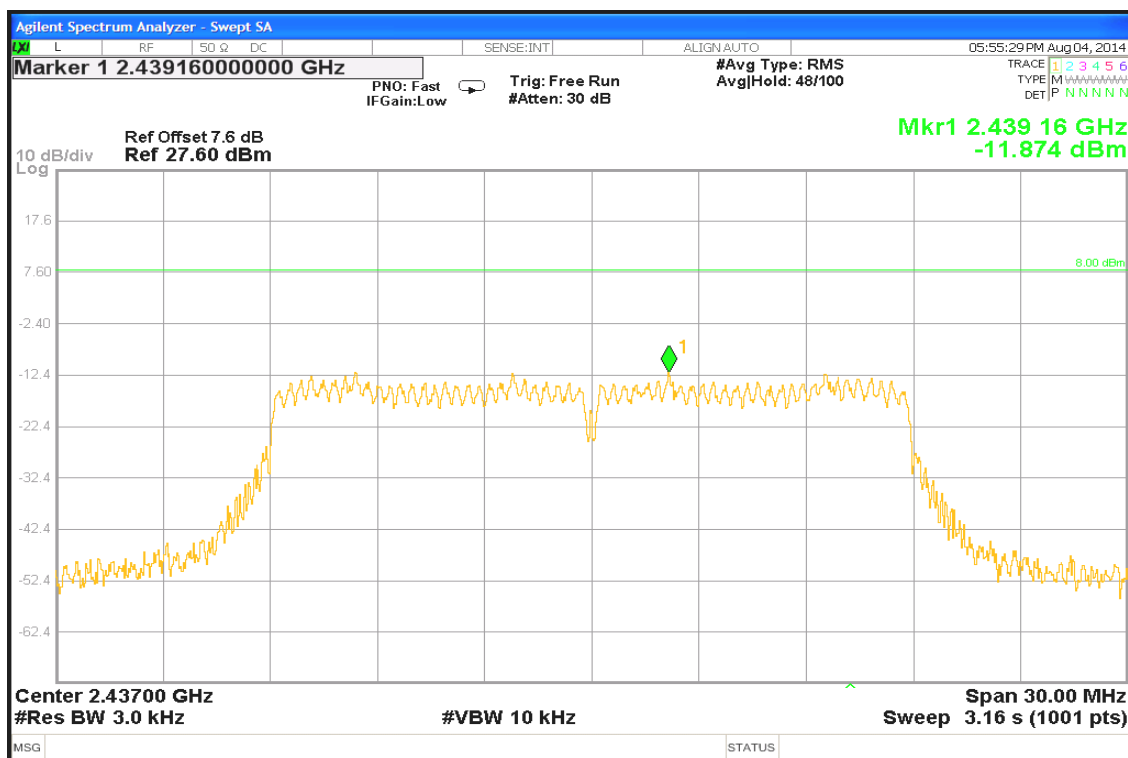
IEEE 802.11n HT20 mode / Chain 1

PPSD (CH Low)

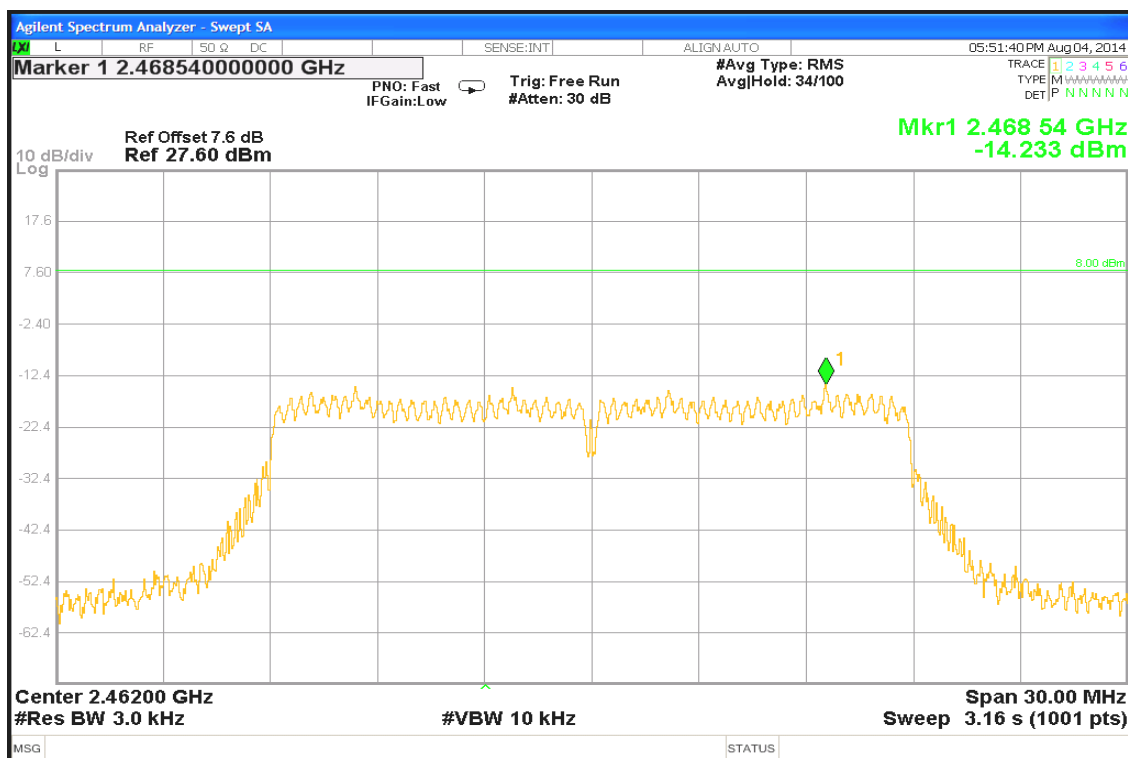




PPSD (CH Mid)



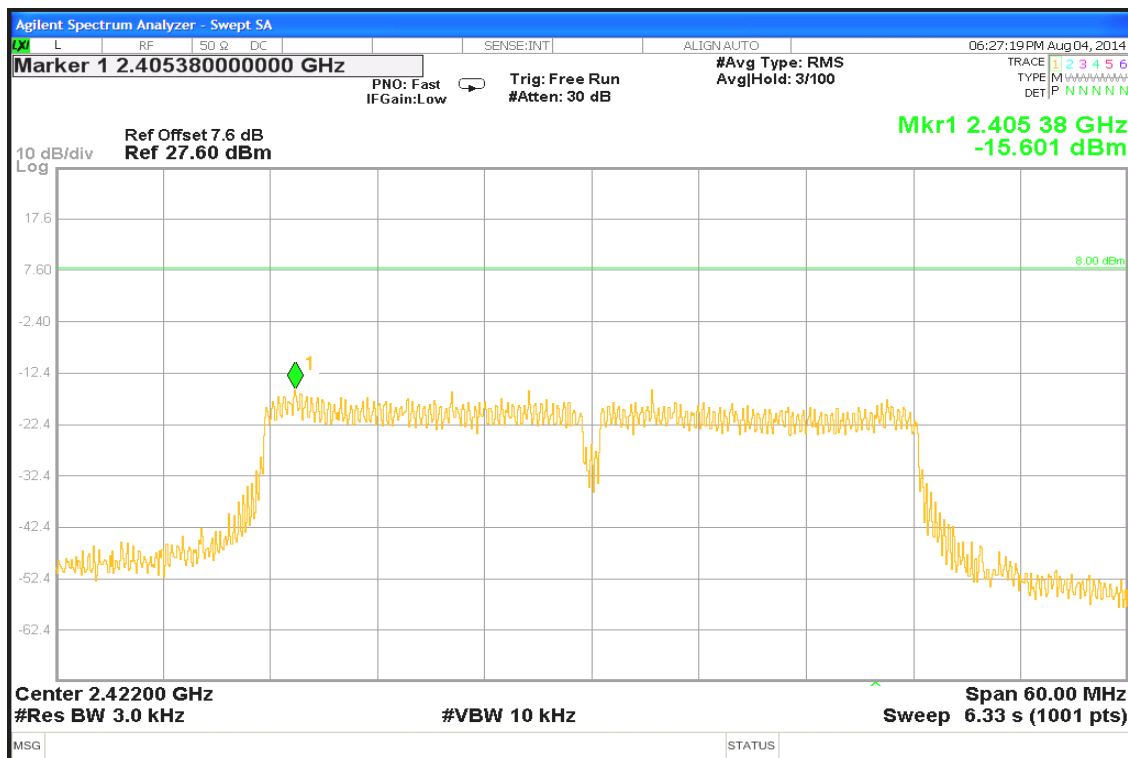
PPSD (CH High)



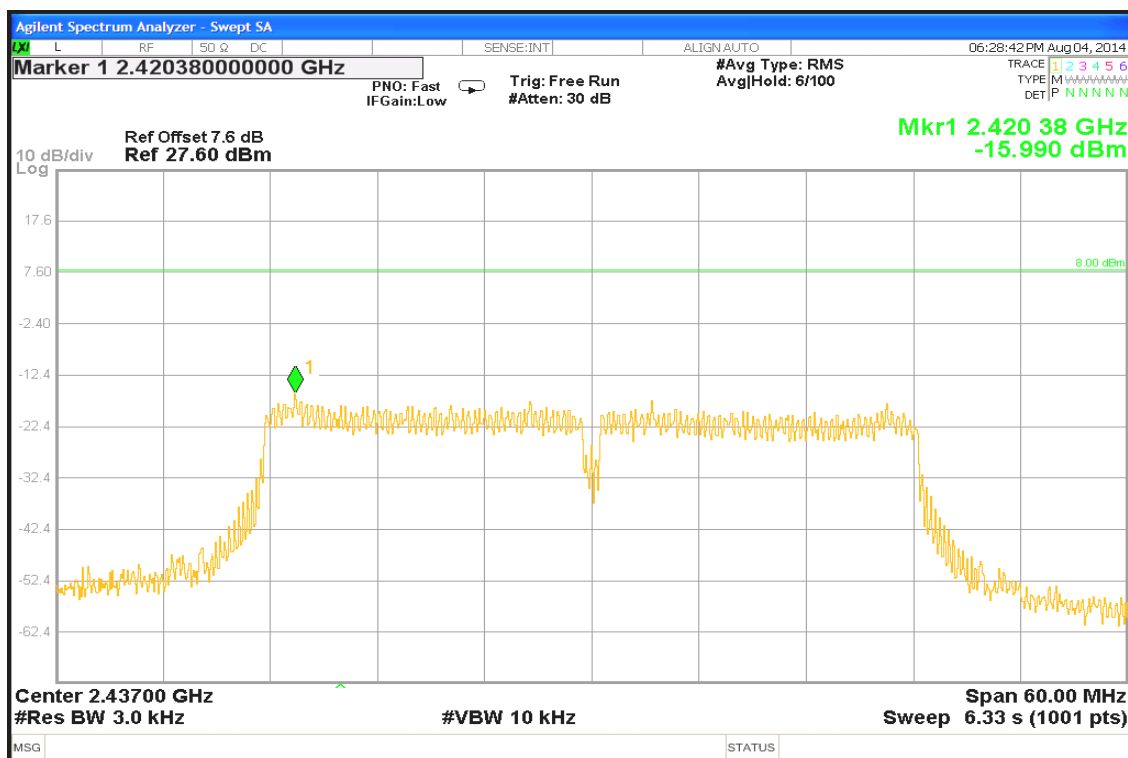


IEEE 802.11n HT40 mode / Chain 0

PPSD (CH Low)

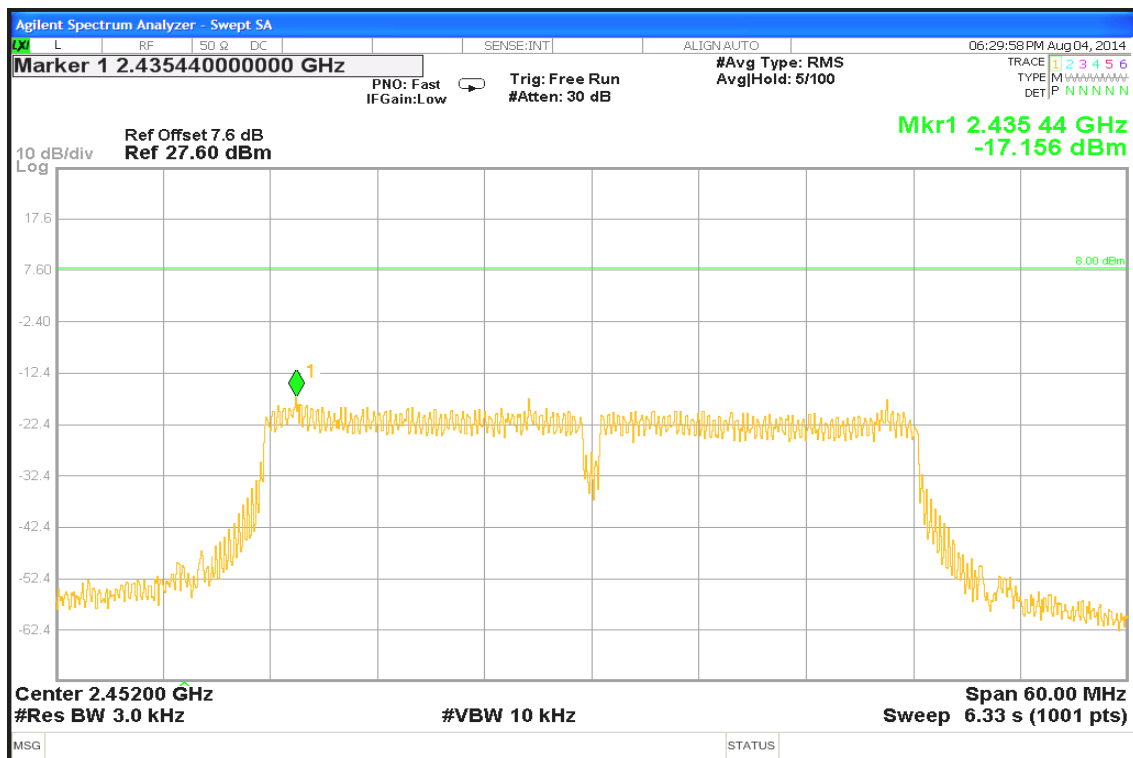


PPSD (CH Mid)



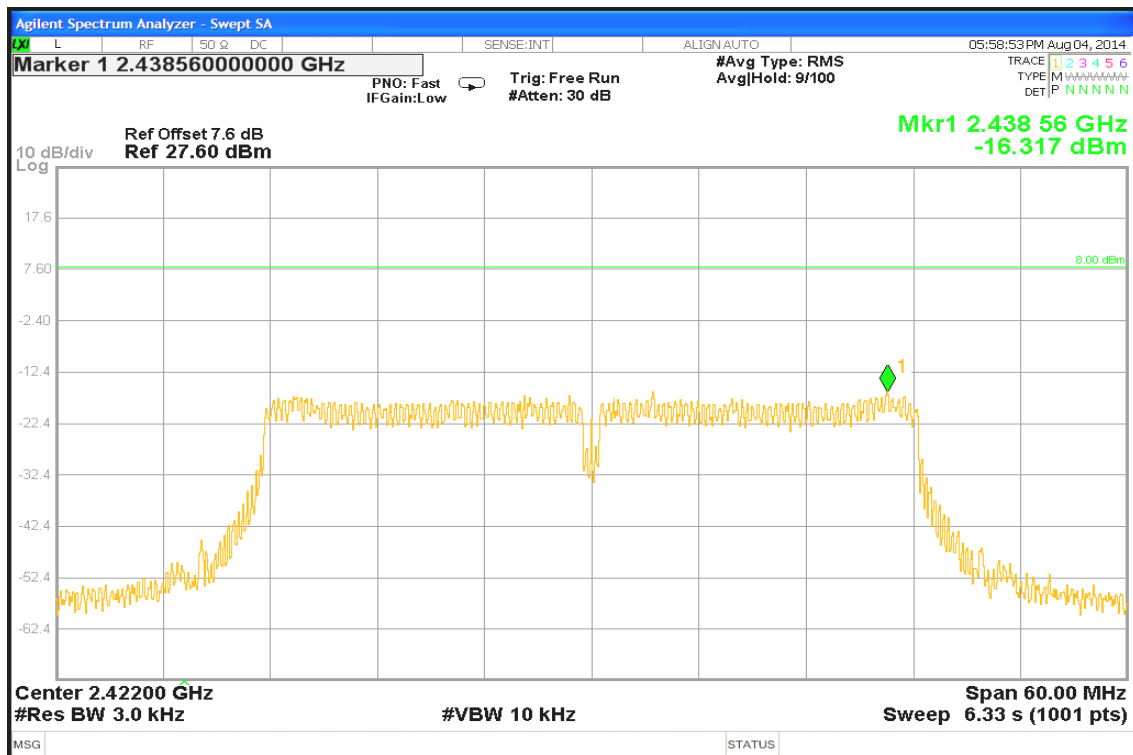


PPSD (CH High)



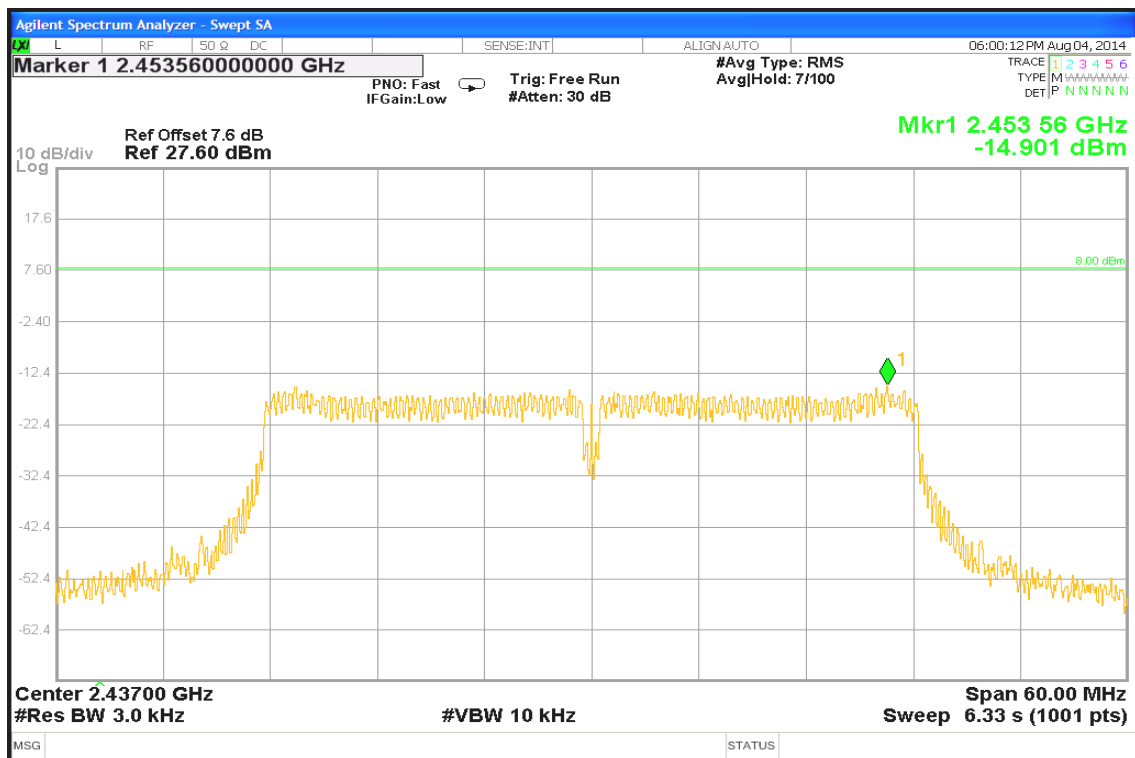
IEEE 802.11n HT40 mode / Chain 1

PPSD (CH Low)

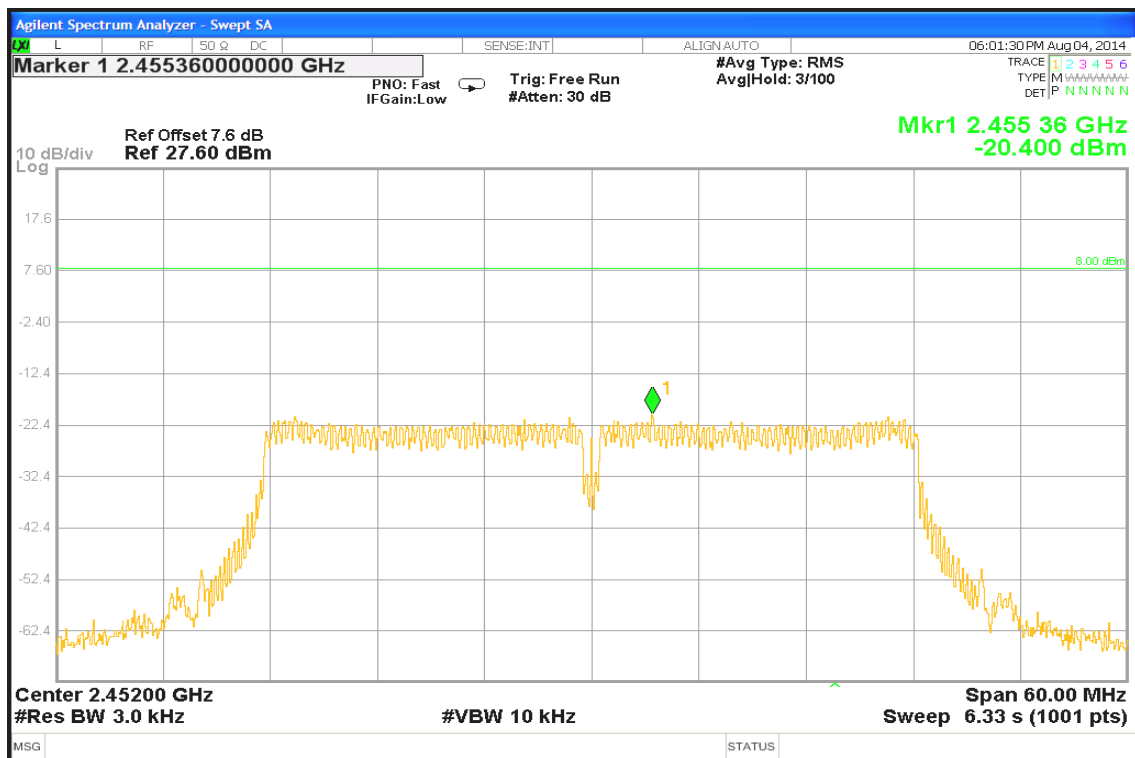




PPSD (CH Mid)



PPSD (CH High)





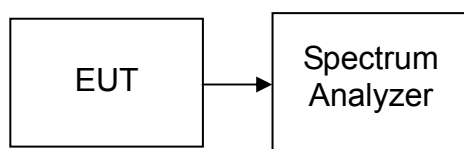
7.6 SPURIOUS EMISSIONS

7.6.1 CONDUCTED MEASUREMENT

LIMIT

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see Section 15.205(c)).

TEST CONFIGURATION



TEST PROCEDURE

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

The transmitter output is connected to the spectrum analyzer. Set the spectrum analyzer in the following setting as:

Below 1GHz: RBW=100kHz / VBW=100kHz

Above 1GHz: RBW=1MHz / VBW=1MHz

Measurements are made over the 30MHz to 26GHz range with the transmitter set to the lowest, middle, and highest channels.

TEST RESULTS

No non-compliance noted.

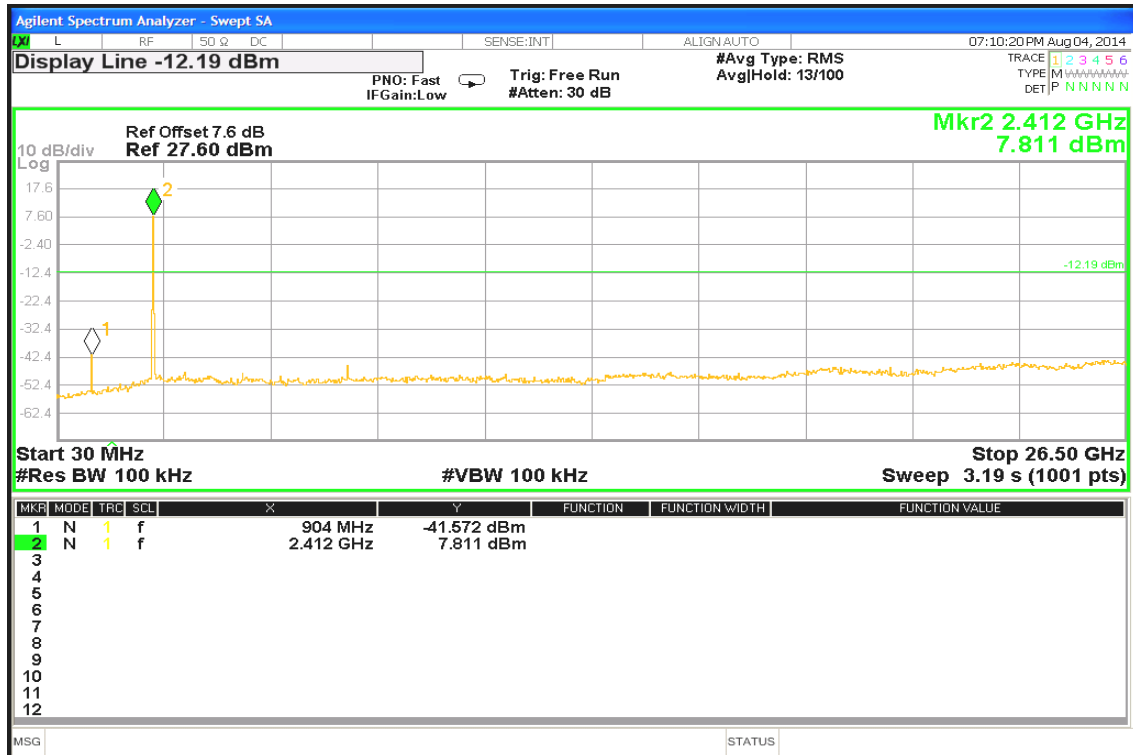


Test Plot

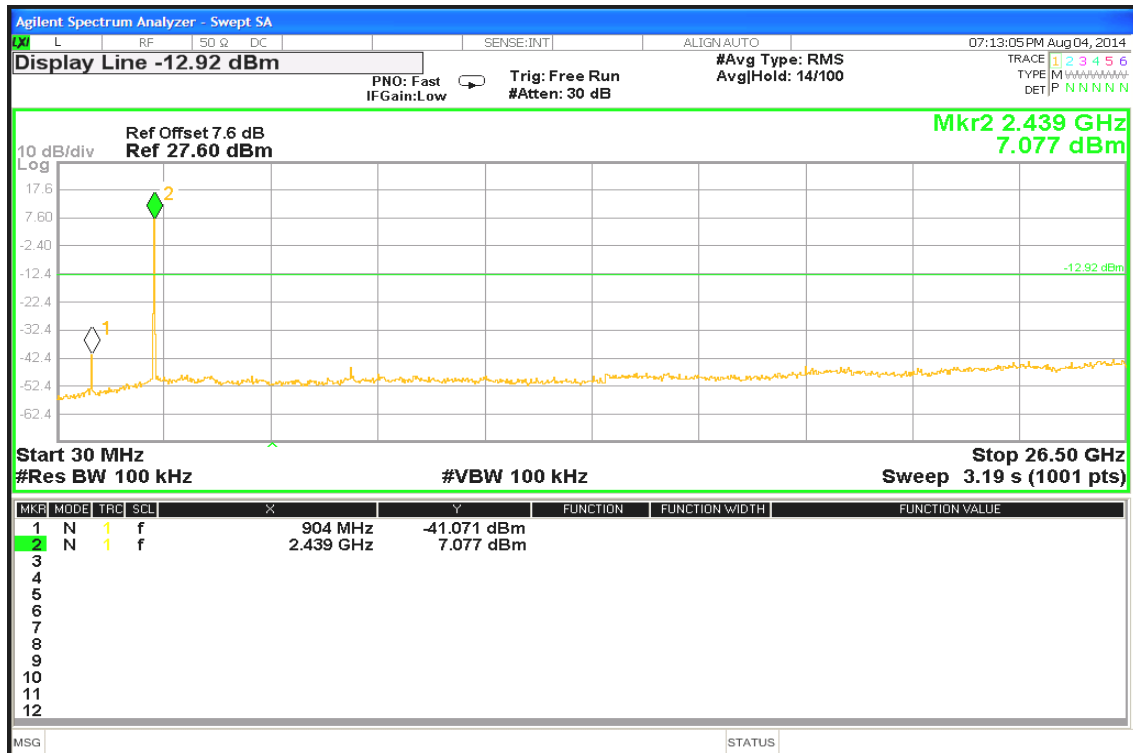
Spurious Emissions

IEEE 802.11b mode

CH Low

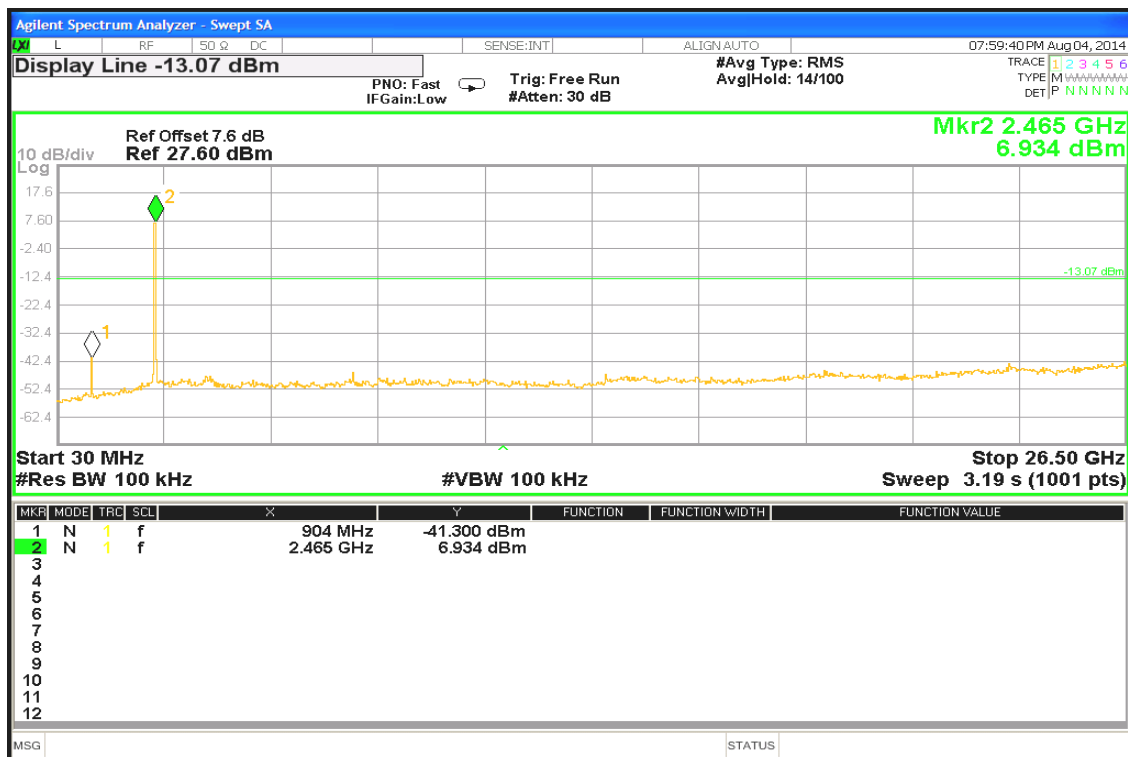


CH Mid



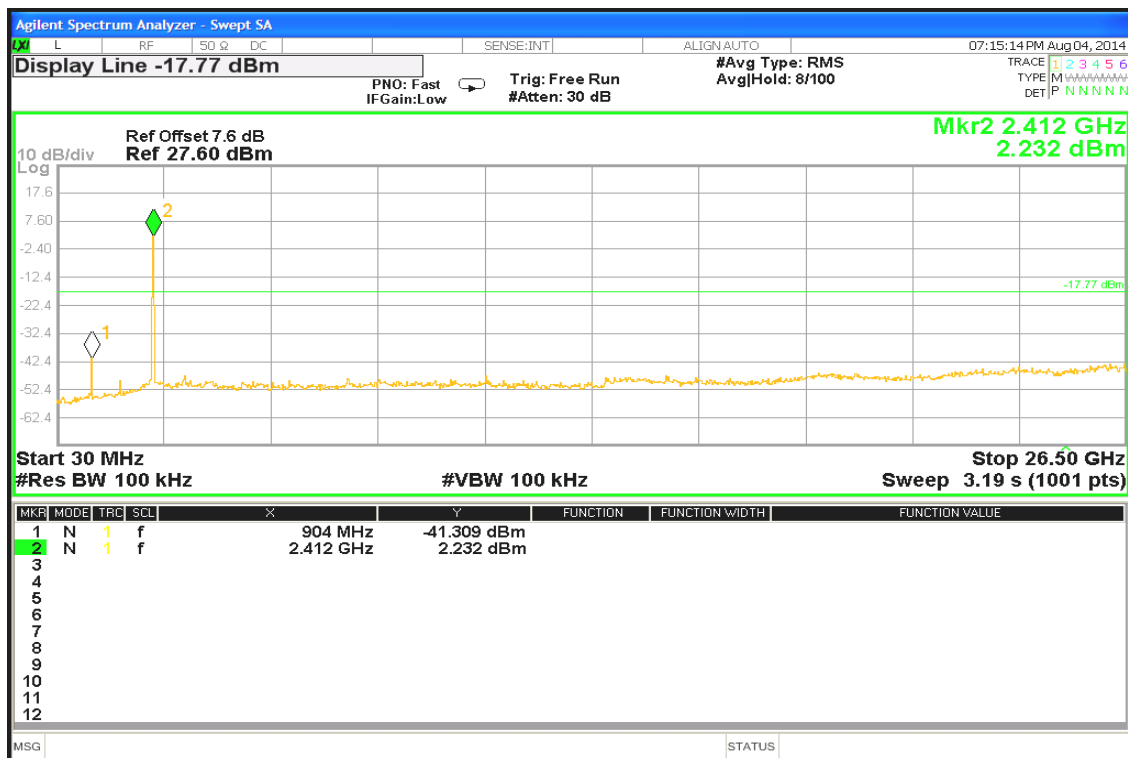


CH High

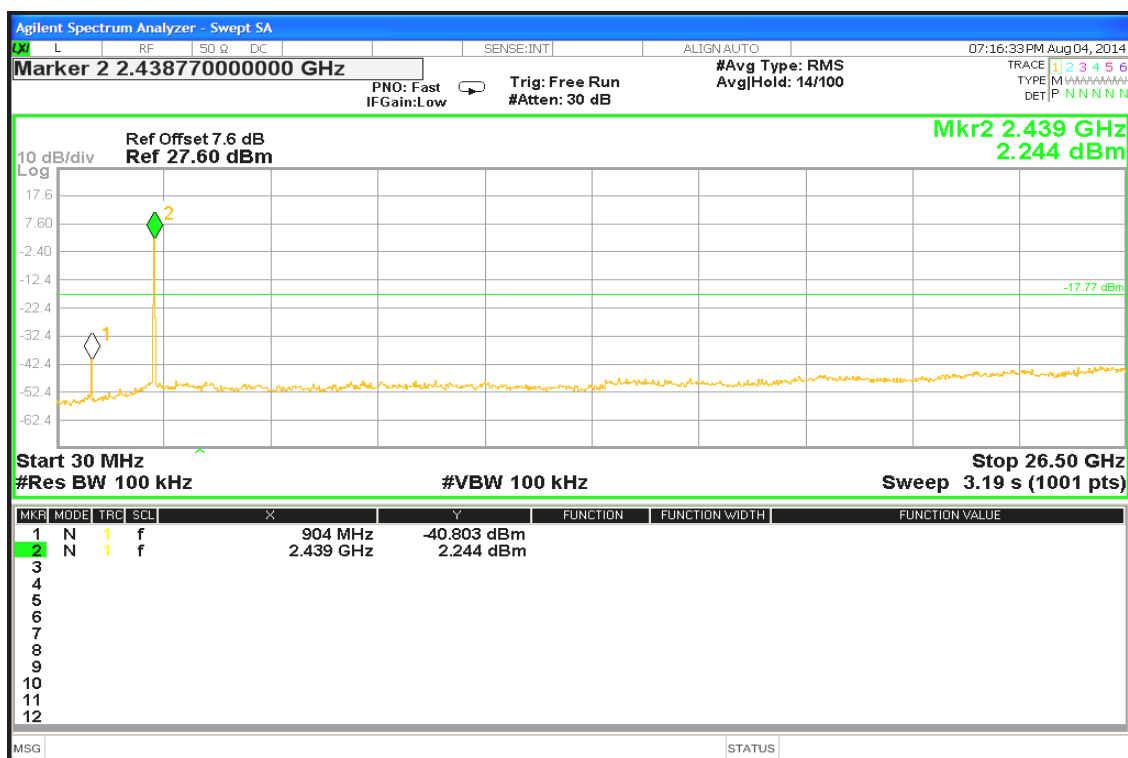


IEEE 802.11g mode

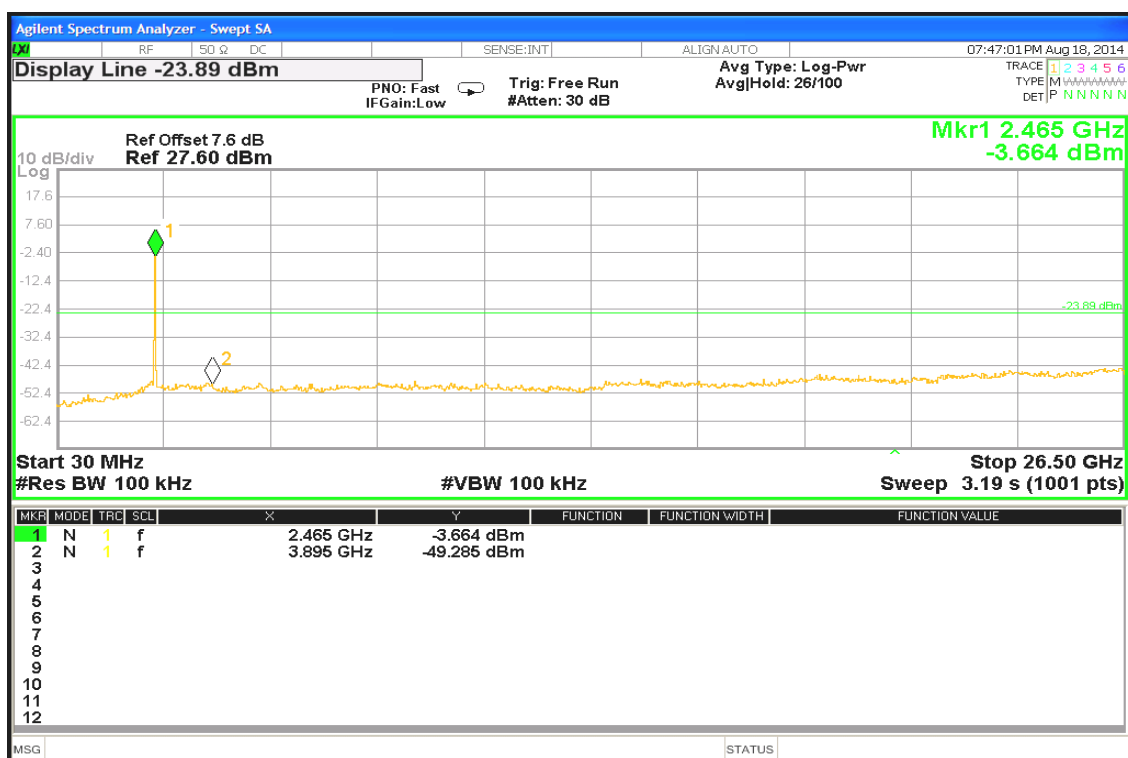
CH Low



CH Mid



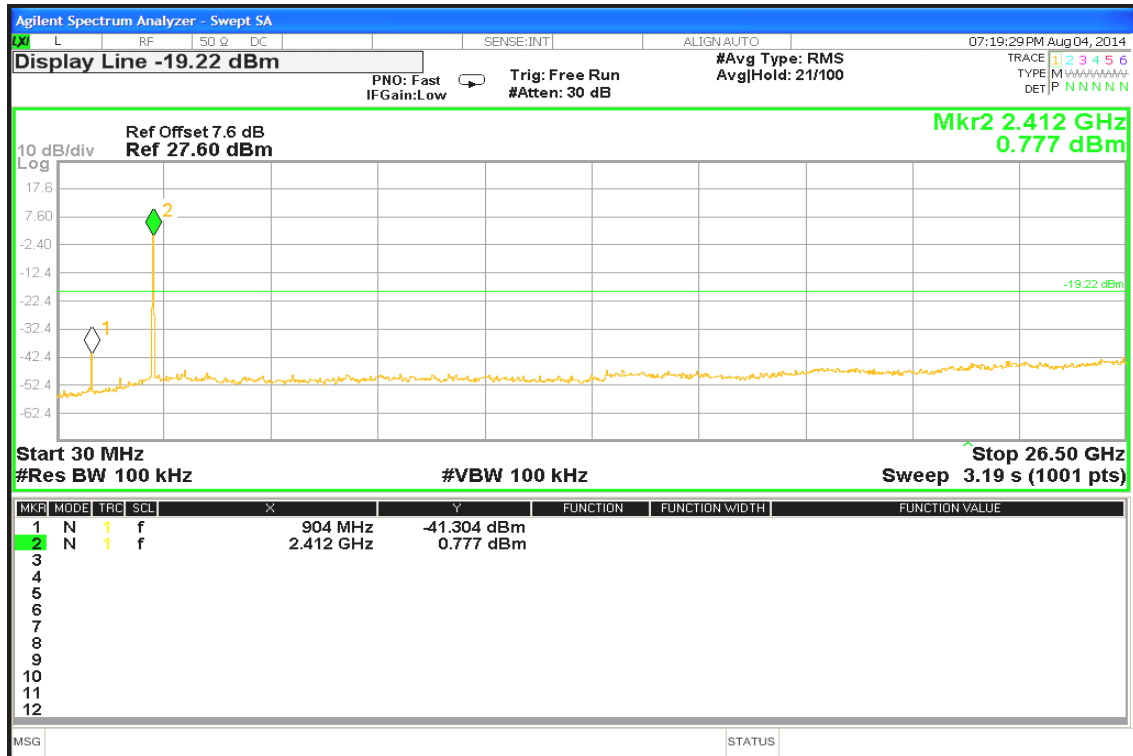
CH High



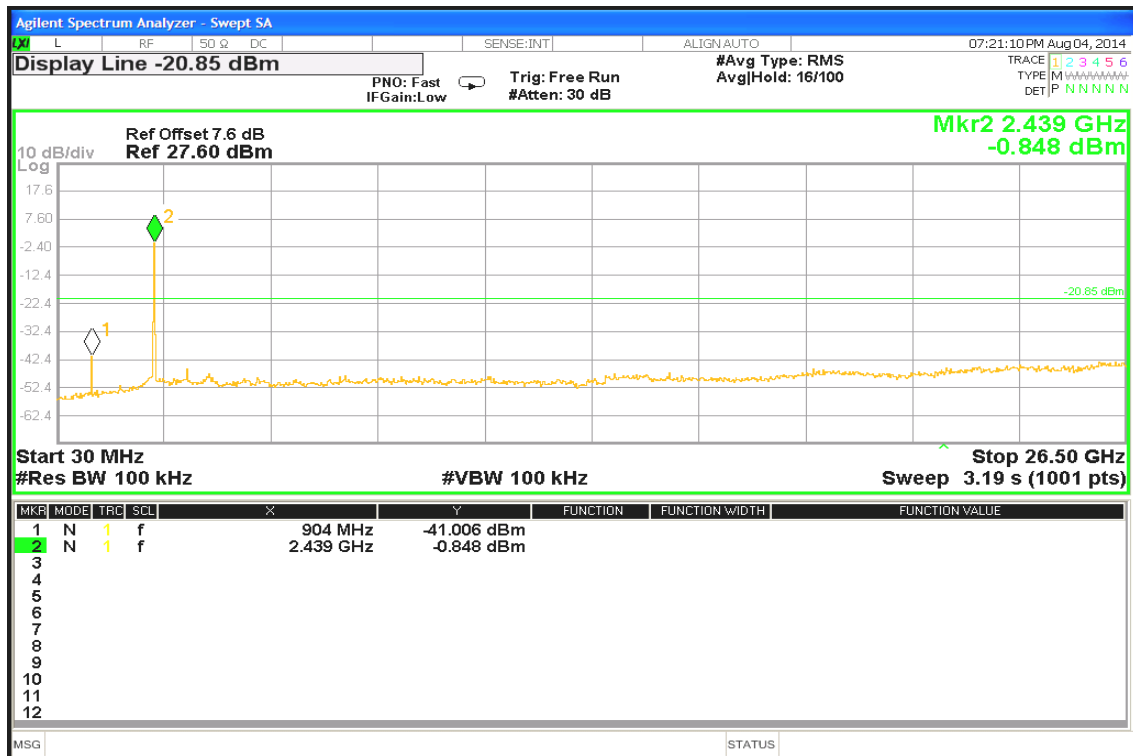


IEEE 802.11n HT20 mode / Chain 0

CH Low

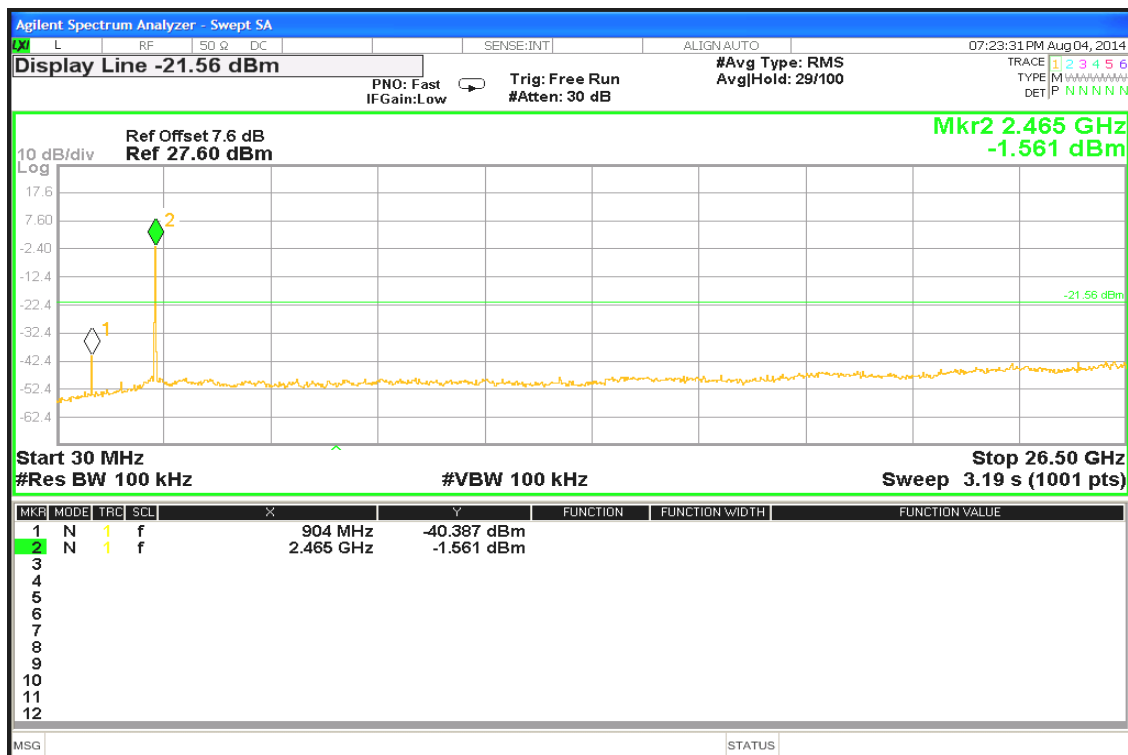


CH Mid



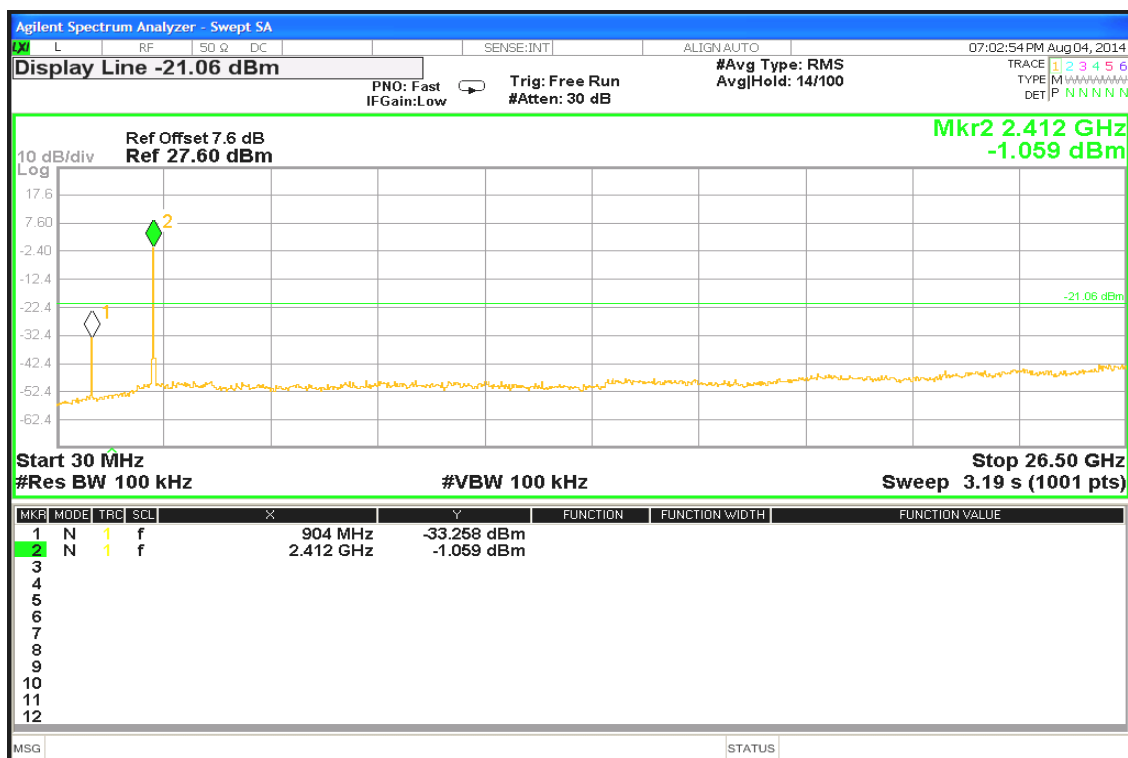


CH High



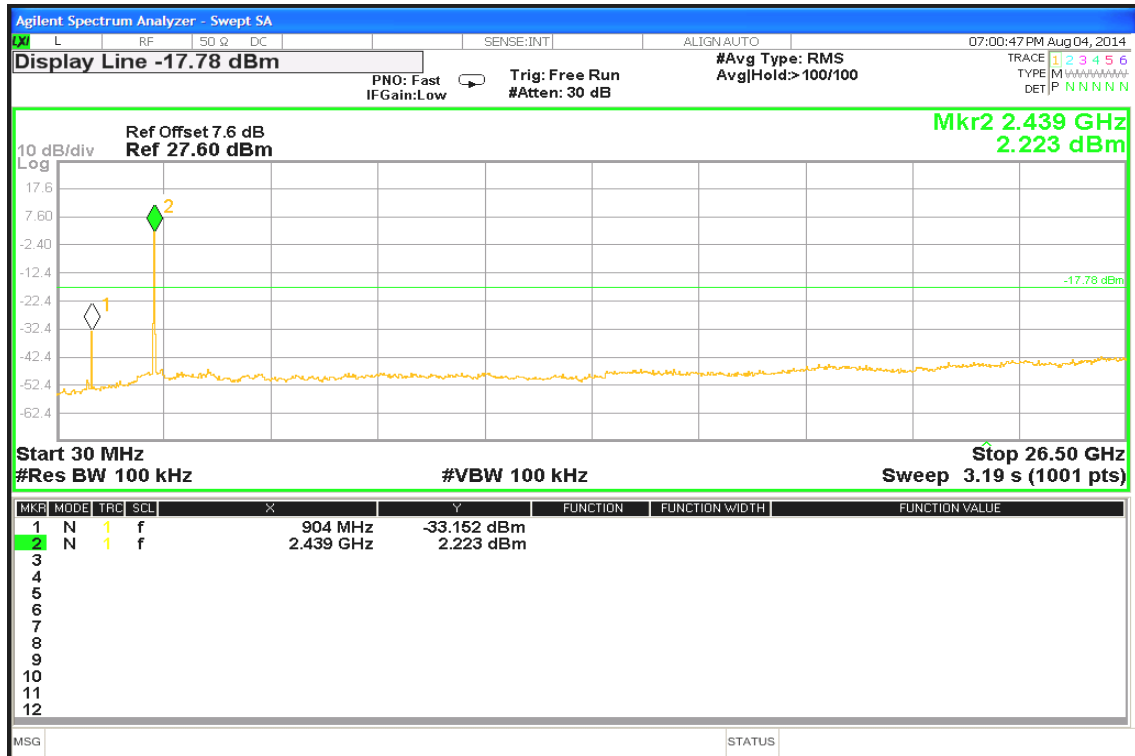
IEEE 802.11n HT20 mode / Chain 1

CH Low

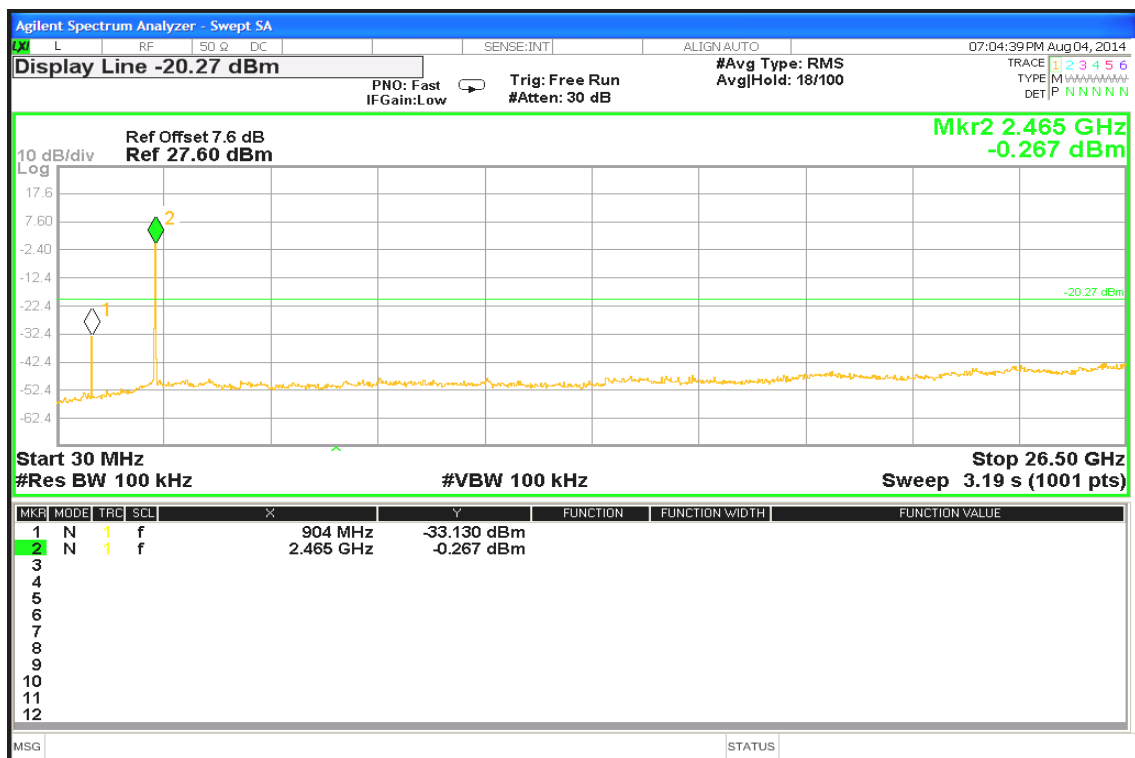




CH Mid



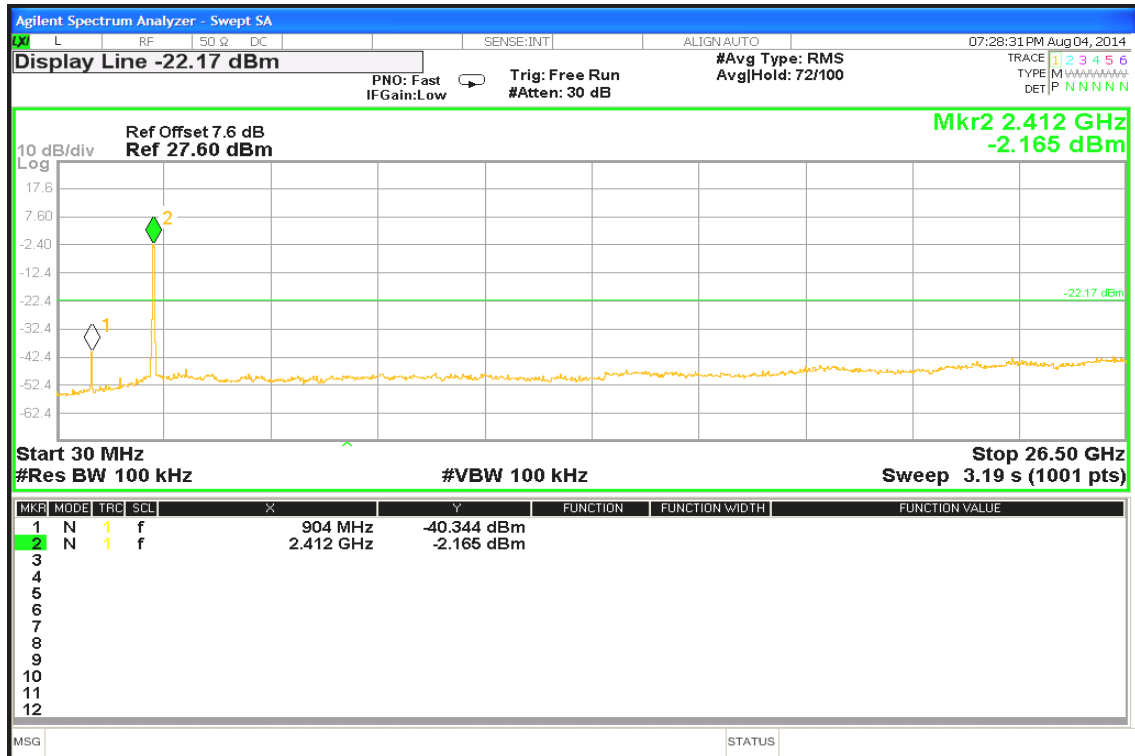
CH High



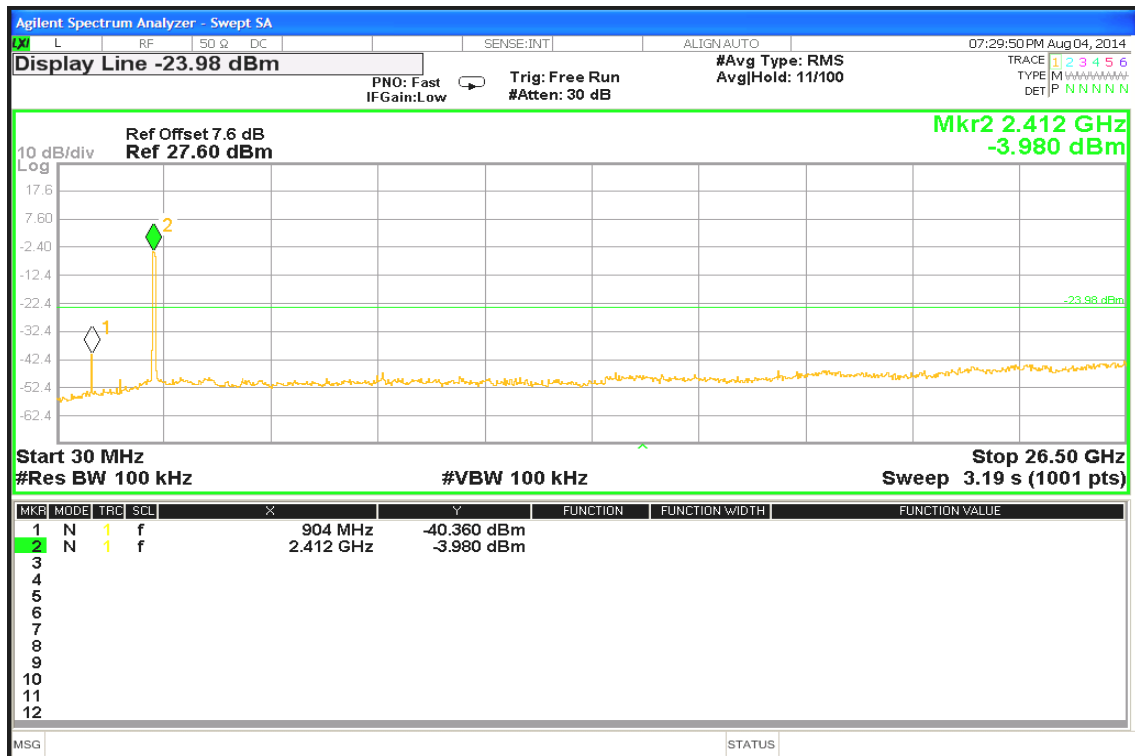


IEEE 802.11n HT40 mode / Chain 0

CH Low

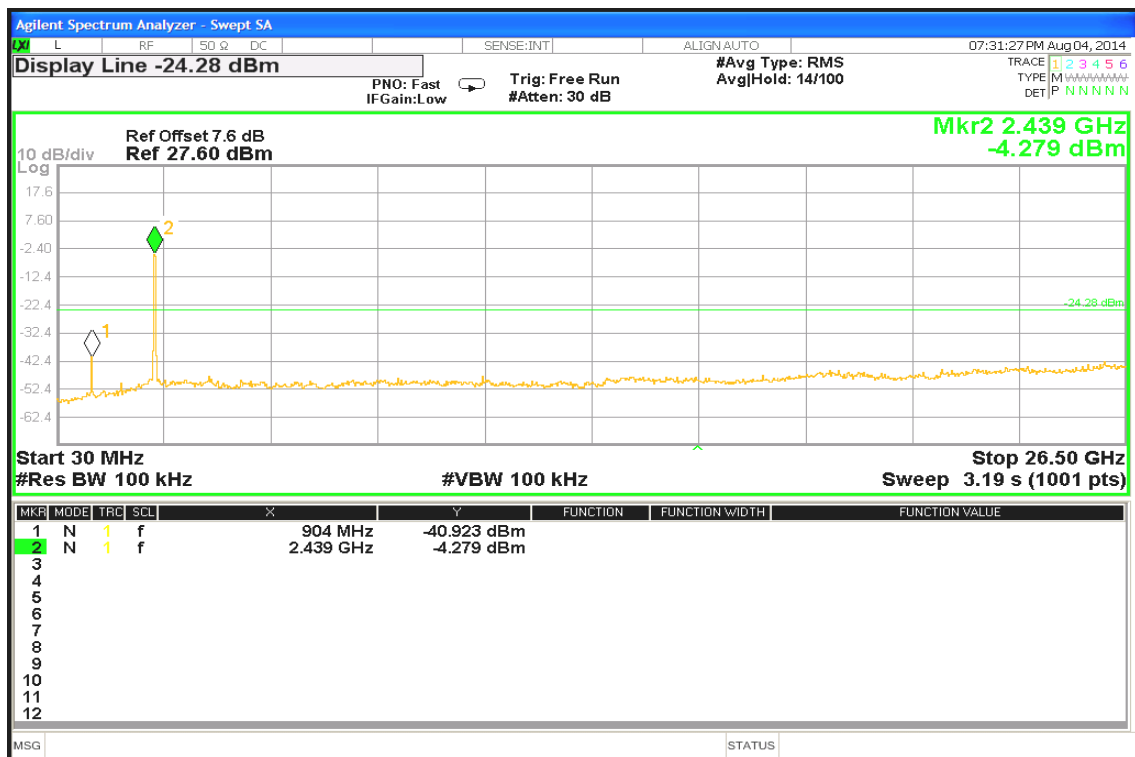


CH Mid



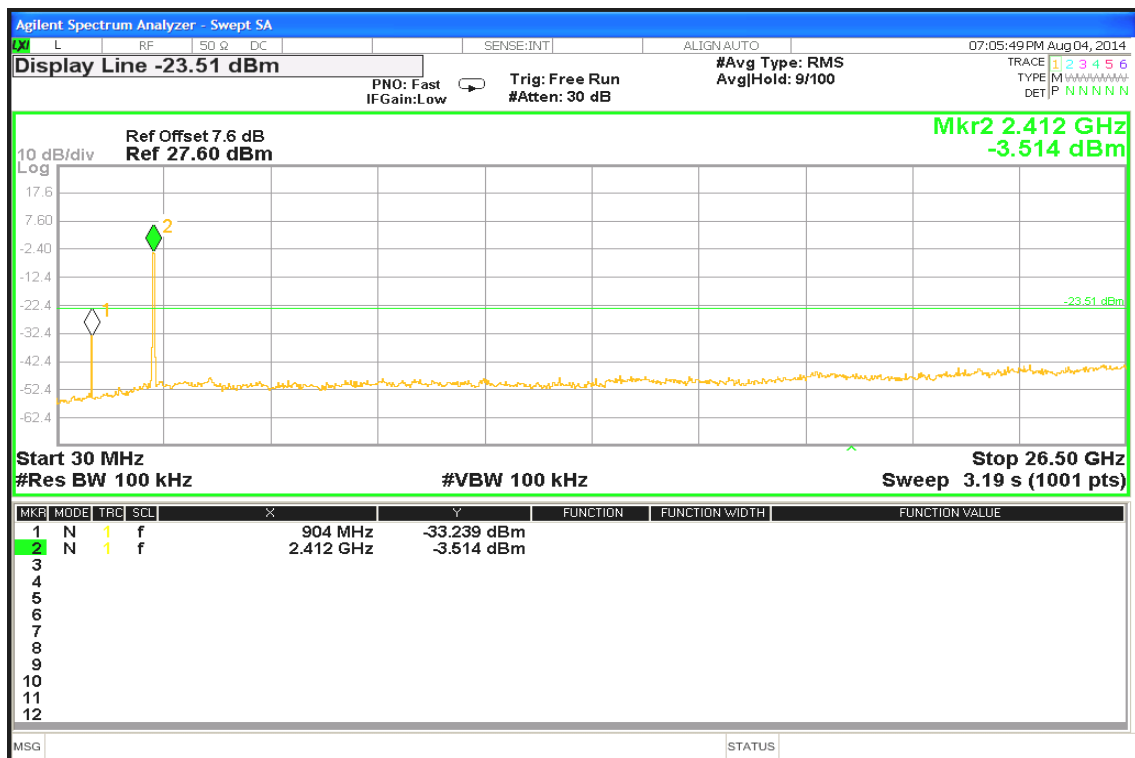


CH High



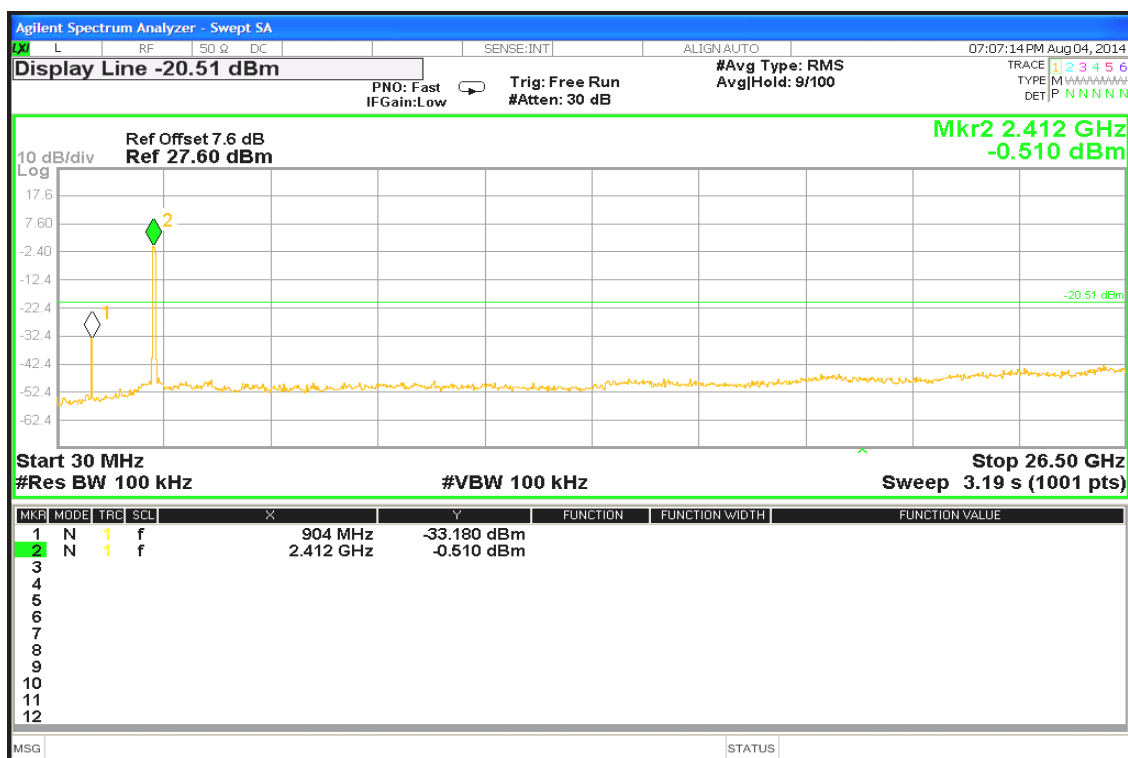
IEEE 802.11n HT40 mode / Chain 1

CH Low

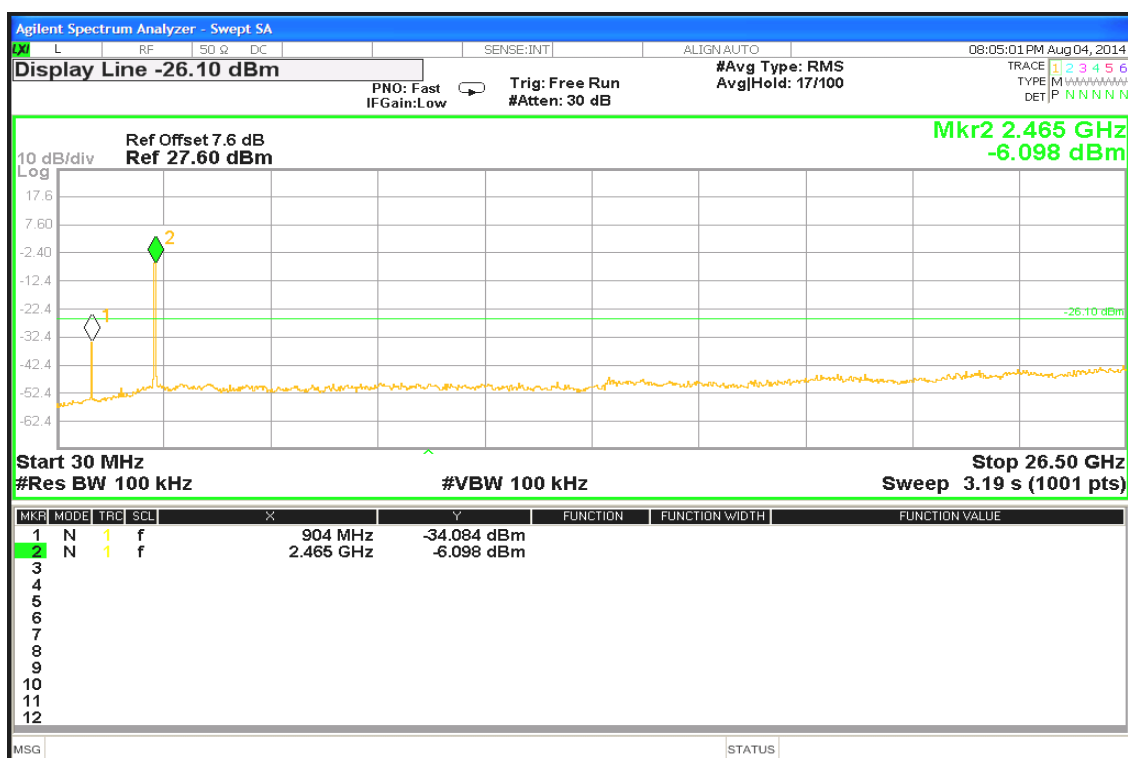




CH Mid



CH High

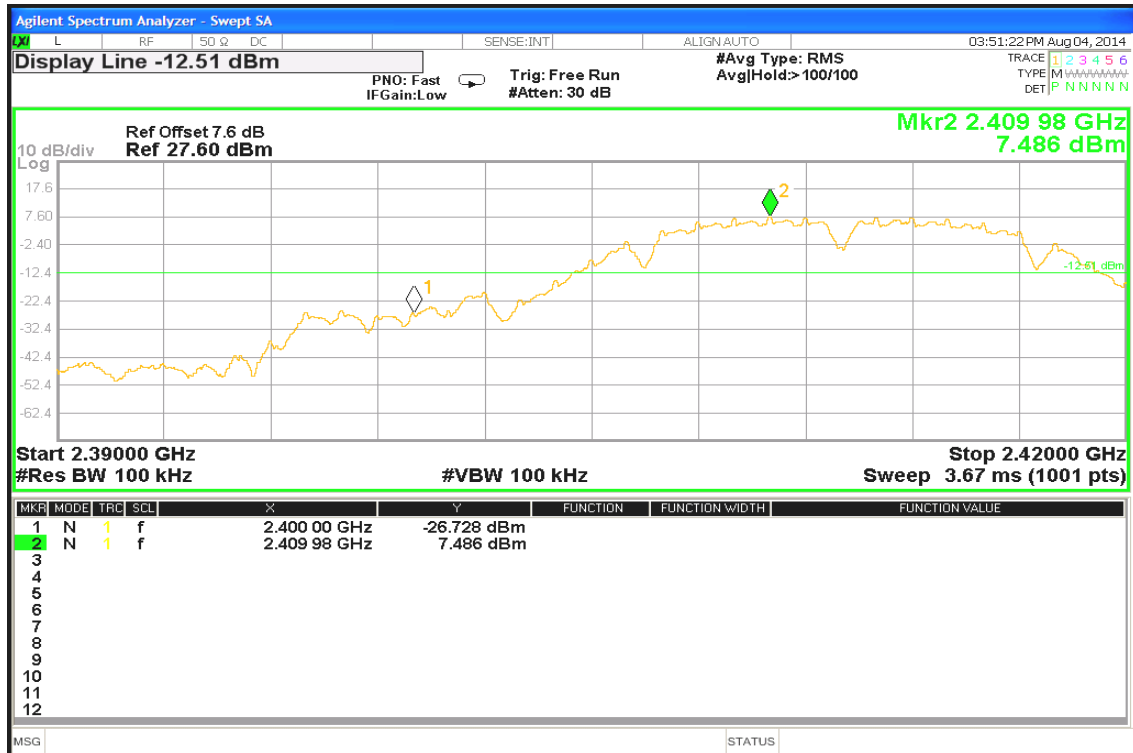




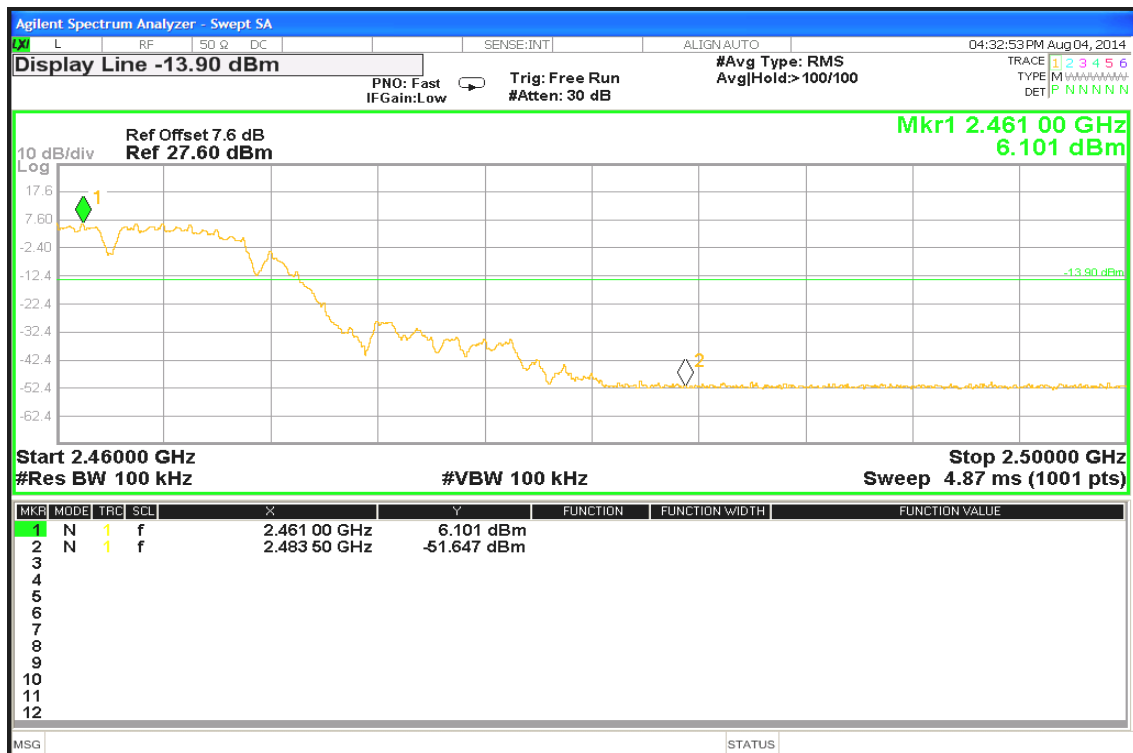
Conducted band-edge

IEEE 802.11b mode

CH Low



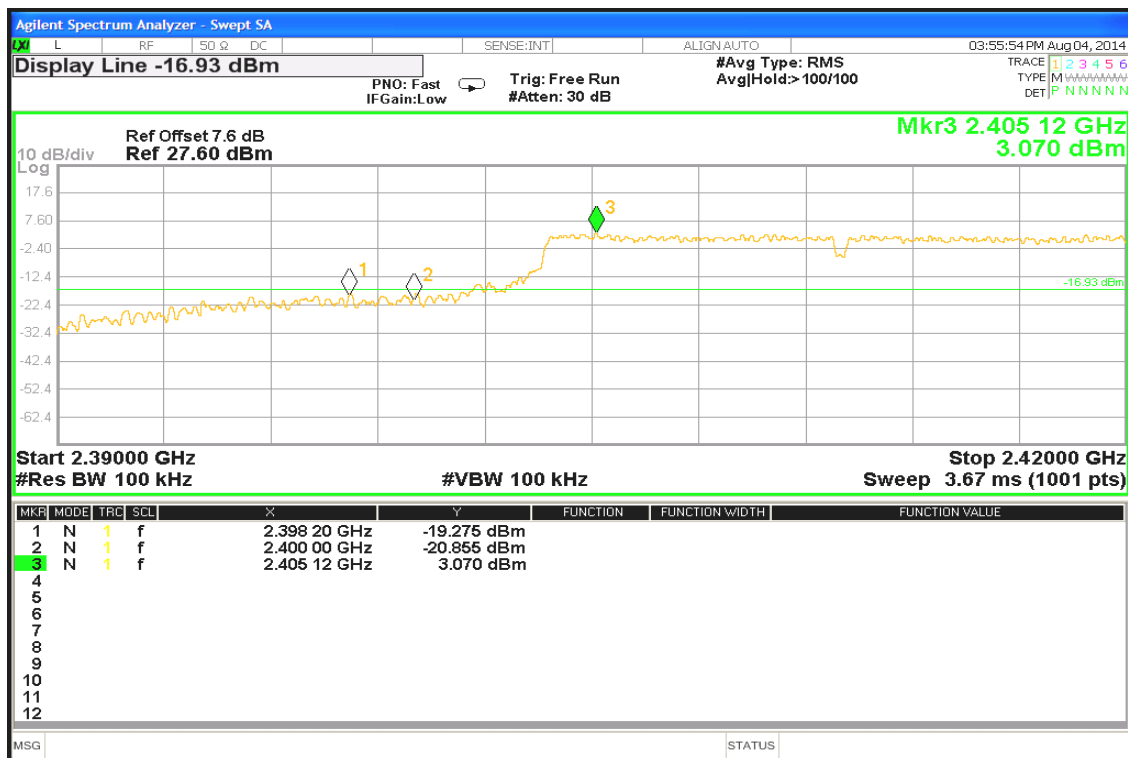
CH High



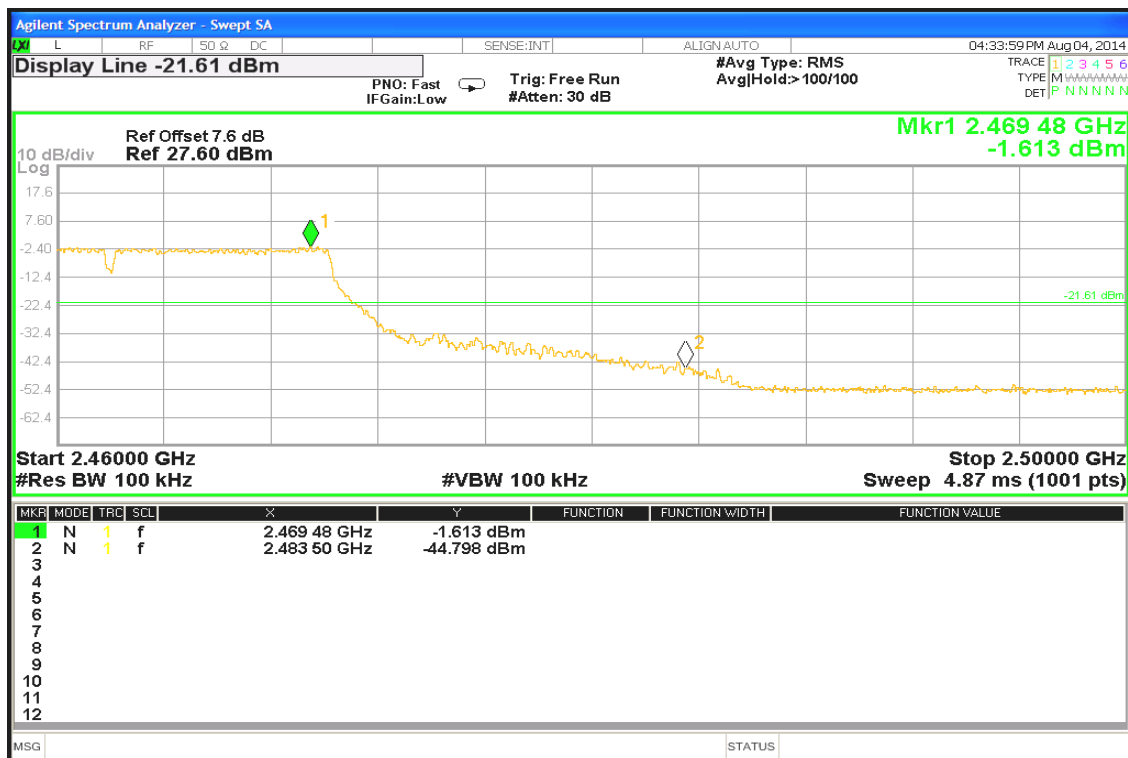


IEEE 802.11g mode

CH Low



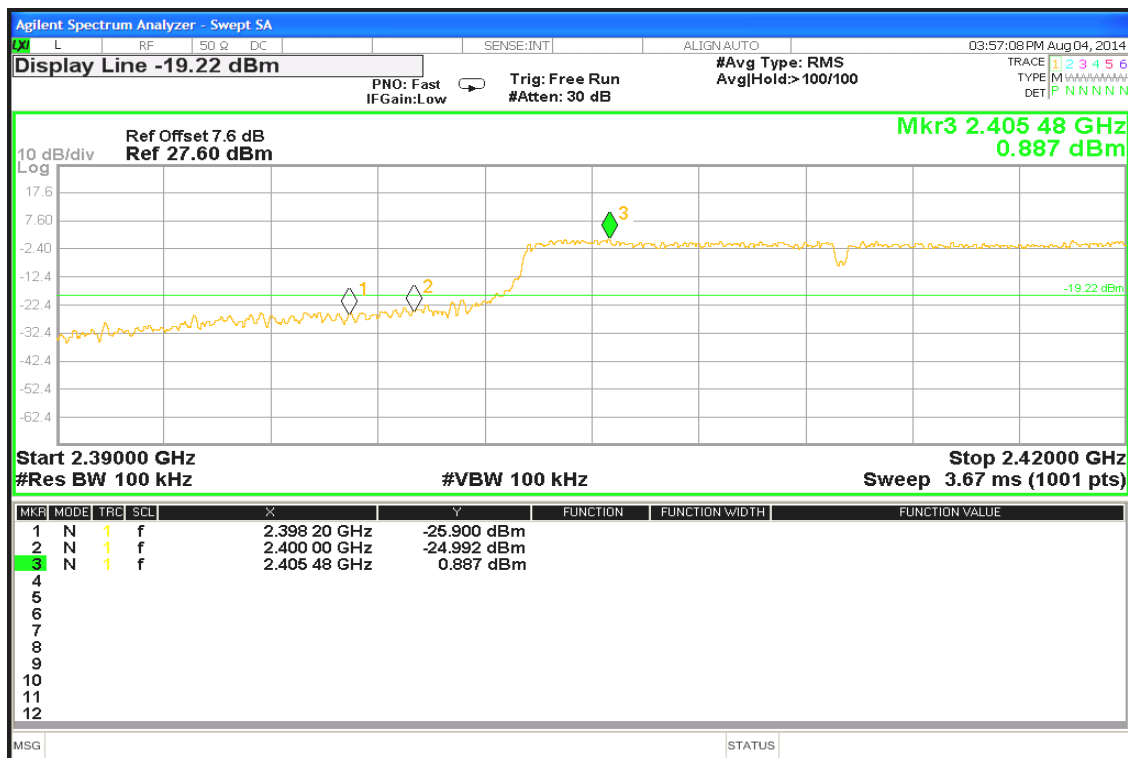
CH High



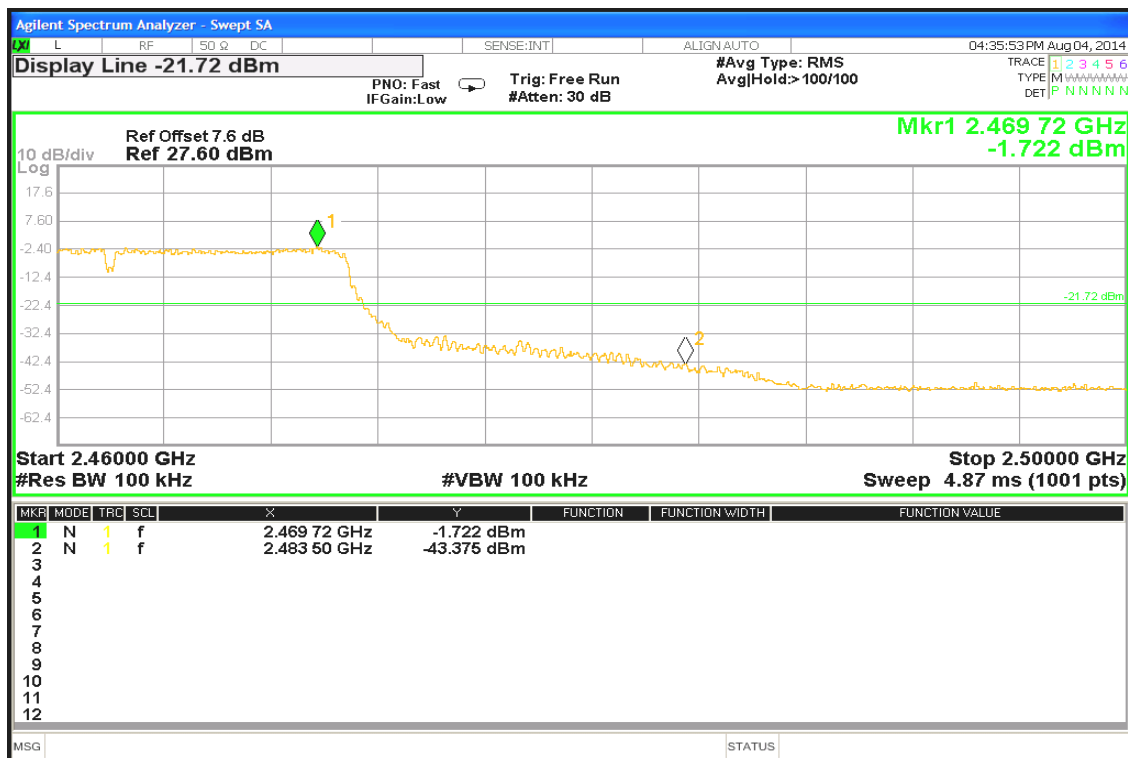


IEEE 802.11n HT20 mode / Chain 0

CH Low



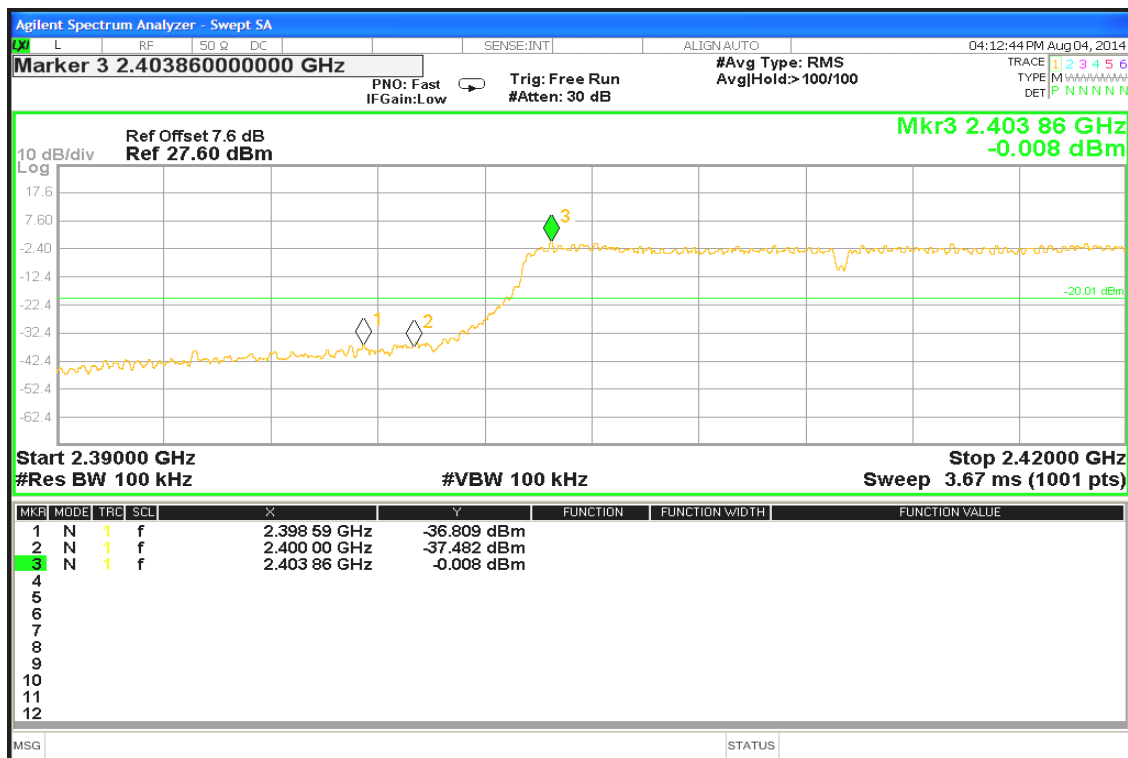
CH High



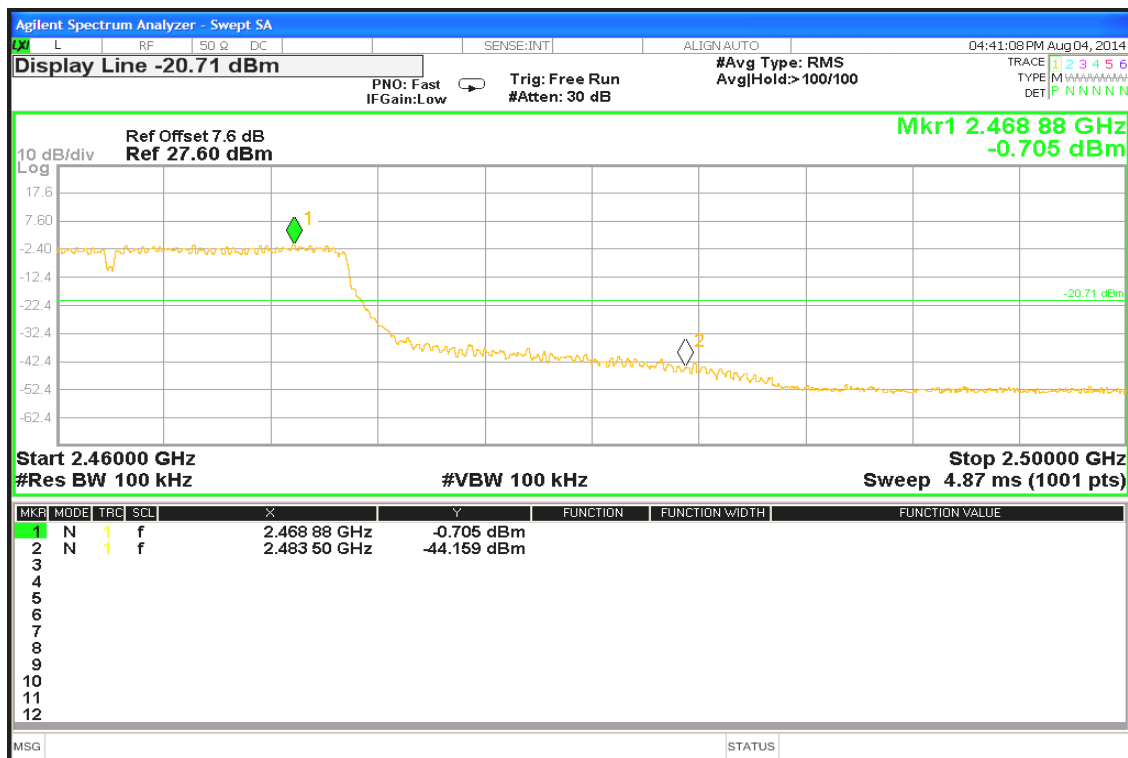


IEEE 802.11n HT20 mode / Chain 1

CH Low



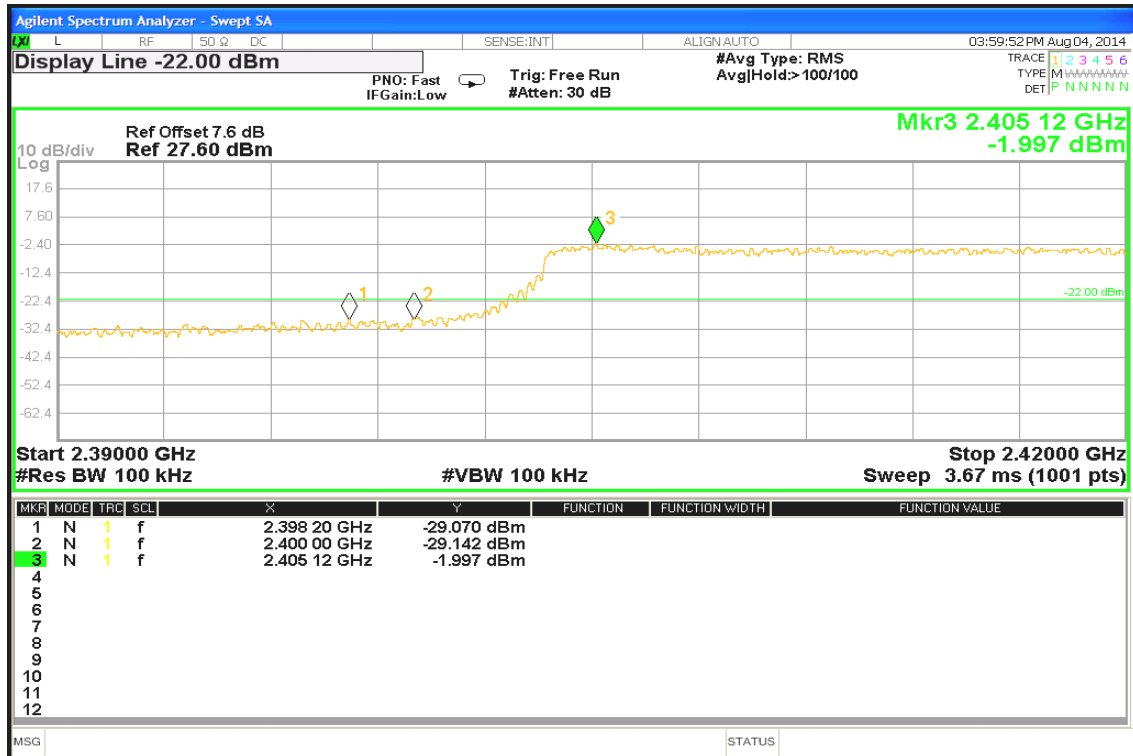
CH High



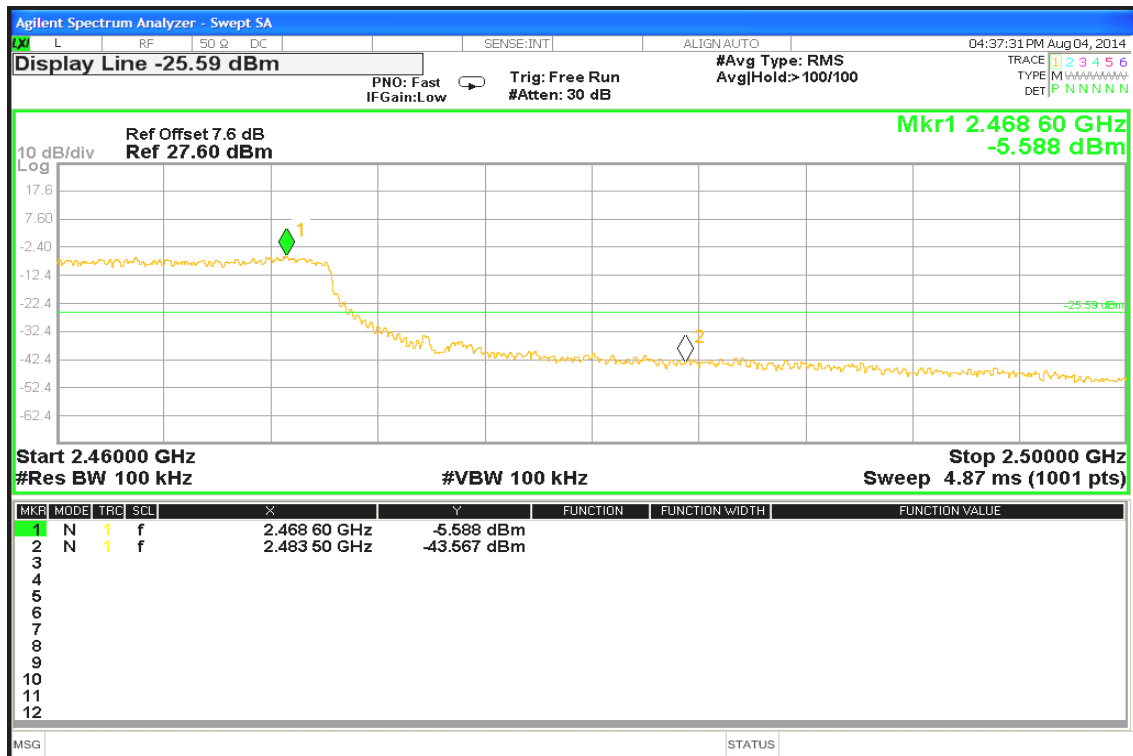


IEEE 802.11n HT40 mode / Chain 0

CH Low



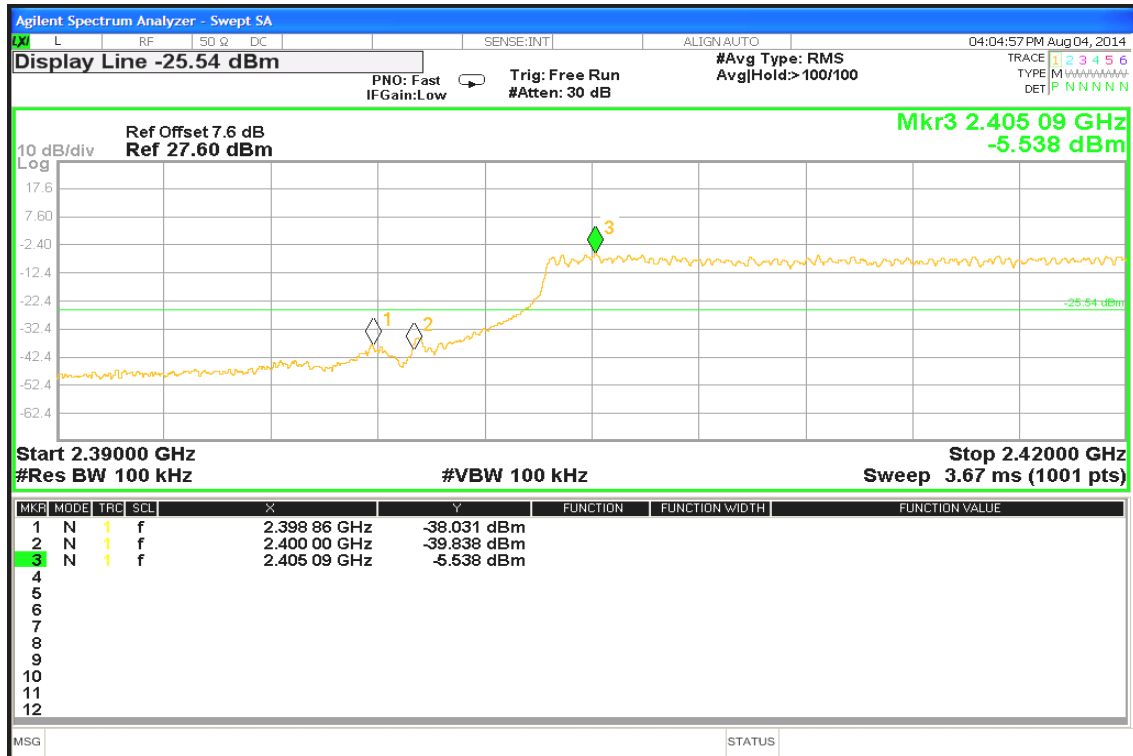
CH High



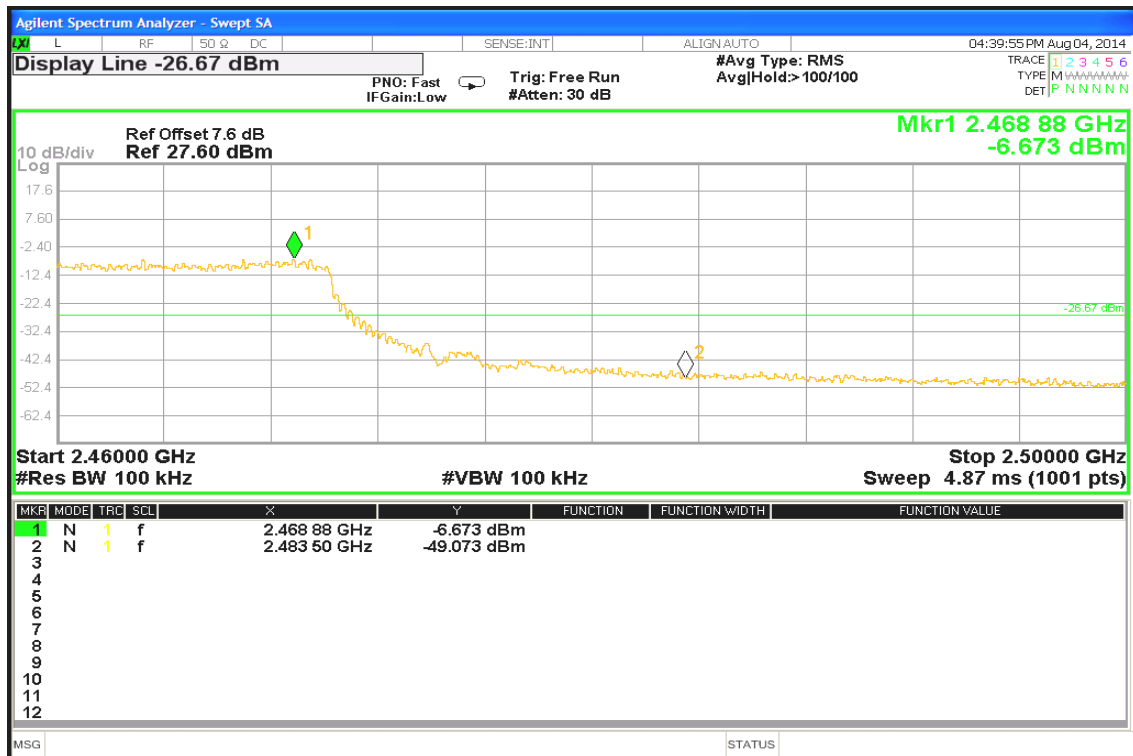


IEEE 802.11n HT40 mode / Chain 1

CH Low



CH High





7.6.2 RADIATED EMISSIONS

LIMIT

1. According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

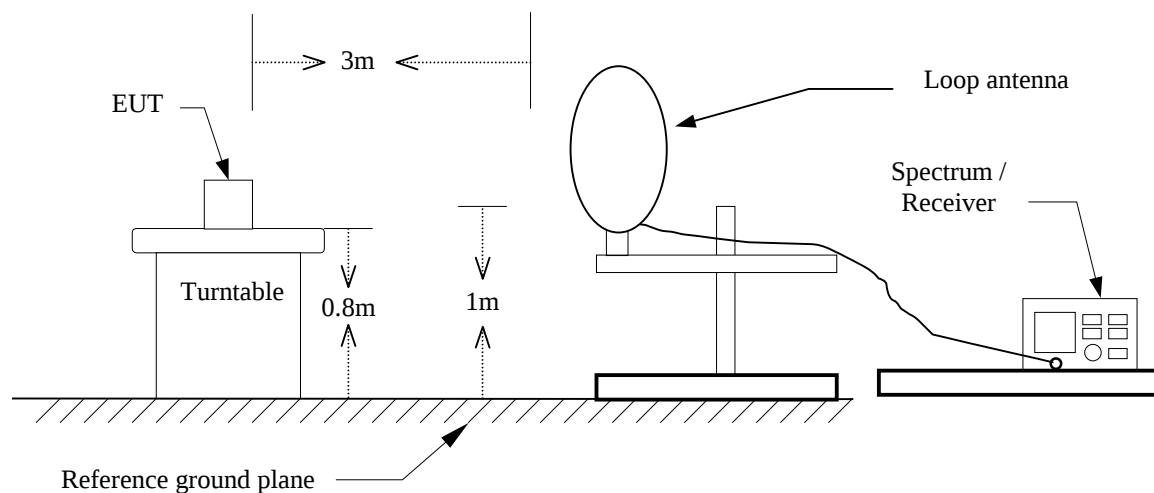
2. In the above emission table, the tighter limit applies at the band edges.

Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
0.009 - 0.490	2400/F(kHz) +80	20LOG((2400/F(kHz))+80)
0.490 - 1.705	24000/F(kHz) +40	20LOG((24000/F(kHz))+40)
1.705 – 30.0	30	69.54
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

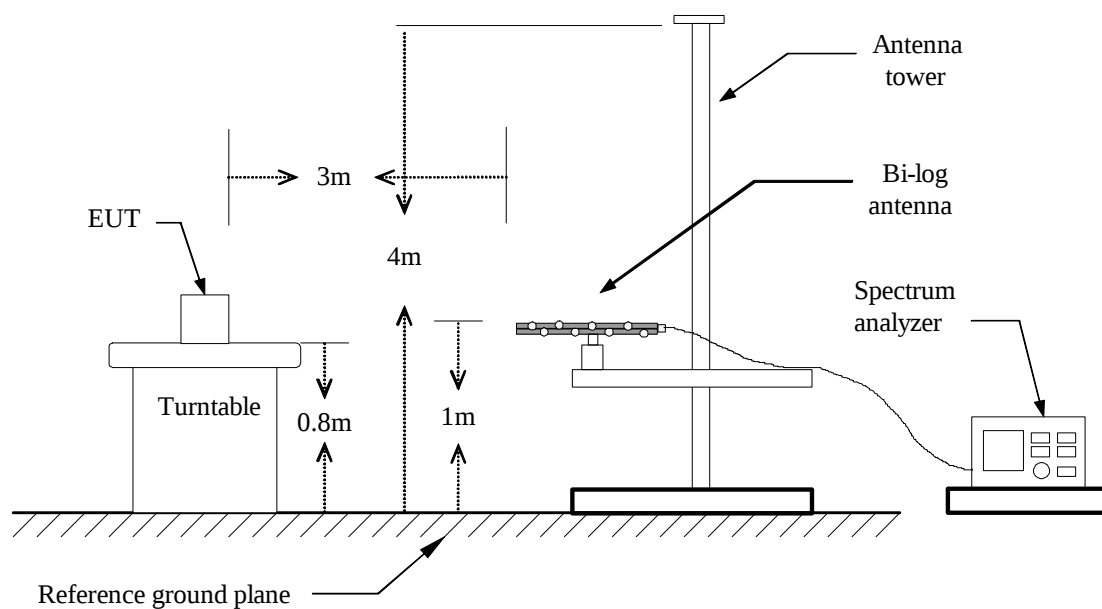


TEST CONFIGURATION

9kHz ~ 30MHz

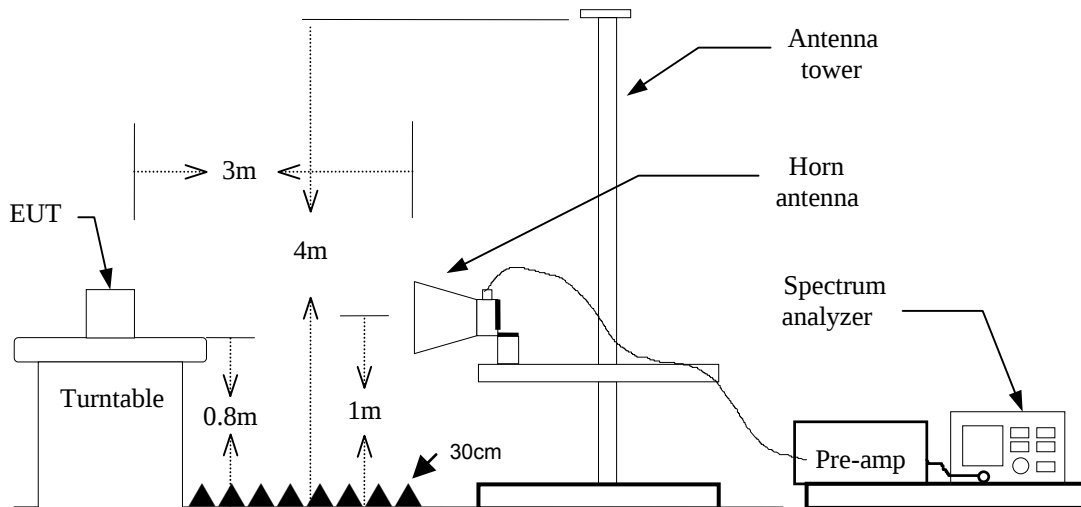


30MHz ~ 1GHz





Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

Below 30MHz

RBW=10kHz / VBW=30kHz / Sweep=AUTO

30 ~ 1000MHz:

RBW=100kHz / VBW=300KHz / Sweep=AUTO

Above 1GHz:

- a) PEAK: RBW=1MHz / VBW=3MHz / Sweep=AUTO
- b) AVERAGE: RBW=1MHz / VBW=300Hz / Sweep=AUTO

7. Repeat above procedures until the measurements for all frequencies are complete.

TEST RESULTS

No non-compliance noted.

**TEST DATA****Below 1GHz****Operation Mode:** Normal Link**Test Date:** 2014/8/5**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol. (H/V)	Remark
58.1300	55.04	-20.97	34.07	40.00	-5.93	V	QP
200.7199	40.91	-16.55	24.36	43.50	-19.14	V	QP
579.9900	37.98	-8.06	29.92	46.00	-16.08	V	QP
749.7400	31.29	-6.02	25.27	46.00	-20.73	V	QP
813.7599	30.96	-5.40	25.56	46.00	-20.44	V	QP
897.1799	29.75	-3.98	25.77	46.00	-20.23	V	QP
60.0700	40.86	-21.33	19.53	40.00	-20.47	H	QP
200.7200	39.09	-16.55	22.54	43.50	-20.96	H	QP
593.5700	35.67	-7.96	27.71	46.00	-18.29	H	QP
749.7400	33.18	-6.02	27.16	46.00	-18.84	H	QP
814.7300	33.87	-5.38	28.49	46.00	-17.51	H	QP
897.1800	31.06	-3.98	27.08	46.00	-18.92	H	QP

Remark:

1. No emission found between lowest internal used / generated frequency to 30 MHz. (9kHz ~ 30MHz)
2. Measuring frequencies from 9 kHz to the 1GHz.
3. Radiated emissions measured in the measured frequency range were made with an instrument using peak detector or quasi-peak detector mode.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.

**Above 1 GHz****Operation Mode:** TX / IEEE 802.11b / CH Low **Test Date:** 2014/7/24**Temperature:** 26°C **Tested by:** Francis Lee**Humidity:** 56 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1576.000	53.80	-4.90	48.90	74.00	-25.10	V	peak
1998.000	53.41	-1.33	52.08	74.00	-21.92	V	peak
1998.000	40.24	-1.33	38.91	54.00	-15.09	V	AVG
2274.000	54.72	-1.49	53.23	74.00	-20.77	V	peak
2274.000	40.46	-1.49	38.97	54.00	-15.03	V	AVG
2636.000	54.59	-1.92	52.67	74.00	-21.33	V	peak
2636.000	40.53	-1.92	38.61	54.00	-15.39	V	AVG
3740.000	40.57	2.96	43.53	74.00	-30.47	V	peak
4825.000	42.54	2.68	45.22	74.00	-28.78	V	peak
7595.000	39.80	11.89	51.69	74.00	-22.31	V	peak
1394.000	53.83	-7.05	46.78	74.00	-27.22	H	peak
2206.000	53.91	-3.73	50.18	74.00	-23.82	H	peak
2632.000	55.18	-3.36	51.82	74.00	-22.18	H	peak
4315.000	40.00	7.55	47.55	74.00	-26.45	H	peak
5145.000	40.62	6.63	47.25	74.00	-26.75	H	peak
7270.000	39.17	11.42	50.59	74.00	-23.41	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11b / CH Mid**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1522.000	54.85	-5.16	49.69	74.00	-24.31	V	peak
1982.000	53.98	-1.58	52.40	74.00	-21.60	V	peak
1982.000	40.18	-1.58	38.60	54.00	-15.40	V	AVG
2276.000	55.07	-1.50	53.57	74.00	-20.43	V	peak
2276.000	41.36	-1.50	39.86	54.00	-14.14	V	AVG
2802.000	55.10	-2.07	53.03	74.00	-20.97	V	peak
2802.000	40.41	-2.07	38.34	54.00	-15.66	V	AVG
3800.000	40.87	3.69	44.56	74.00	-29.44	V	peak
4875.000	43.64	3.81	47.45	74.00	-26.55	V	peak
7450.000	38.71	11.42	50.13	74.00	-23.87	V	peak
1378.000	54.47	-7.47	47.00	74.00	-27.00	H	peak
2198.000	54.13	-3.56	50.57	74.00	-23.43	H	peak
2546.000	56.06	-3.60	52.46	74.00	-21.54	H	peak
2546.000	40.17	-3.60	36.57	54.00	-17.43	H	AVG
2886.000	53.93	-1.83	52.10	74.00	-21.90	H	peak
2886.000	41.63	-1.83	39.80	54.00	-14.20	H	AVG
3800.000	40.87	3.69	44.56	74.00	-29.44	H	peak
4875.000	45.64	3.81	49.45	74.00	-24.55	H	peak
7450.000	38.71	11.42	50.13	74.00	-23.87	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11b / CH High**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1518.000	53.53	-5.18	48.35	74.00	-25.65	V	peak
1972.000	54.28	-1.74	52.54	74.00	-21.46	V	peak
1972.000	40.22	-1.74	38.48	54.00	-15.52	V	AVG
2270.000	54.41	-1.48	52.93	74.00	-21.07	V	peak
2270.000	41.06	-1.48	39.58	54.00	-14.42	V	AVG
2882.000	55.01	-0.92	54.09	74.00	-19.91	V	peak
2882.000	40.36	-0.92	39.44	54.00	-14.56	V	AVG
3800.000	40.43	3.69	44.12	74.00	-29.88	V	peak
4925.000	42.44	4.61	47.05	74.00	-26.95	V	peak
7590.000	39.65	11.87	51.52	74.00	-22.48	V	peak
1400.000	53.38	-6.90	46.48	74.00	-27.52	H	peak
2168.000	53.85	-3.63	50.22	74.00	-23.78	H	peak
2758.000	54.00	-2.85	51.15	74.00	-22.85	H	peak
3635.000	41.59	4.02	45.61	74.00	-28.39	H	peak
4925.000	39.64	7.26	46.90	74.00	-27.10	H	peak
7235.000	40.11	10.96	51.07	74.00	-22.93	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11g / CH Low**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1608.000	51.95	-4.86	47.09	74.00	-26.91	V	peak
1998.000	51.59	-1.33	50.26	74.00	-23.74	V	peak
2200.000	53.42	-1.33	52.09	74.00	-21.91	V	peak
2200.000	40.91	-1.33	39.58	54.00	-14.42	V	AVG
2872.000	51.96	-1.06	50.90	74.00	-23.10	V	peak
3610.000	41.17	2.88	44.05	74.00	-29.95	V	peak
5850.000	40.28	5.70	45.98	74.00	-28.02	V	peak
7510.000	38.54	11.58	50.12	74.00	-23.88	V	peak
1420.000	52.21	-7.32	44.89	74.00	-29.11	H	peak
2208.000	52.84	-3.78	49.06	74.00	-24.94	H	peak
2904.000	52.03	-1.69	50.34	74.00	-23.66	H	peak
3215.000	44.31	1.11	45.42	74.00	-28.58	H	peak
6075.000	39.20	8.72	47.92	74.00	-26.08	H	peak
7240.000	40.43	11.02	51.45	74.00	-22.55	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11g / CH Mid**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1546.000	51.91	-5.04	46.87	74.00	-27.13	V	peak
1996.000	52.25	-1.36	50.89	74.00	-23.11	V	peak
2338.000	55.02	-1.60	53.42	74.00	-20.58	V	peak
2338.000	42.97	-1.60	41.37	54.00	-12.63	V	AVG
2694.000	53.04	-1.51	51.53	74.00	-22.47	V	peak
3760.000	40.79	3.20	43.99	74.00	-30.01	V	peak
5500.000	39.11	6.23	45.34	74.00	-28.66	V	peak
7310.000	40.70	10.56	51.26	74.00	-22.74	V	peak
1390.000	52.16	-7.16	45.00	74.00	-29.00	H	peak
2196.000	53.01	-3.57	49.44	74.00	-24.56	H	peak
2630.000	53.98	-3.36	50.62	74.00	-23.38	H	peak
3250.000	42.95	1.18	44.13	74.00	-29.87	H	peak
5590.000	39.41	9.17	48.58	74.00	-25.42	H	peak
7300.000	39.49	11.82	51.31	74.00	-22.69	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11g / CH High**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1540.000	51.92	-5.07	46.85	74.00	-27.15	V	peak
1984.000	51.56	-1.55	50.01	74.00	-23.99	V	peak
2312.000	55.35	-1.56	53.79	74.00	-20.21	V	peak
2312.000	42.54	-1.56	40.98	54.00	-13.02	V	AVG
2702.000	52.26	-1.48	50.78	74.00	-23.22	V	peak
3775.000	40.29	3.38	43.67	74.00	-30.33	V	peak
5400.000	39.50	6.39	45.89	74.00	-28.11	V	peak
7600.000	38.97	11.91	50.88	74.00	-23.12	V	peak
1408.000	52.54	-7.07	45.47	74.00	-28.53	H	peak
2202.000	52.87	-3.62	49.25	74.00	-24.75	H	peak
2838.000	53.65	-2.19	51.46	74.00	-22.54	H	peak
3790.000	40.55	4.97	45.52	74.00	-28.48	H	peak
5975.000	39.86	8.93	48.79	74.00	-25.21	H	peak
7305.000	39.28	11.79	51.07	74.00	-22.93	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11n HT20 mode
/ CH Low**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 55 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1478.000	51.84	-5.56	46.28	74.00	-27.72	V	peak
2006.000	51.64	-1.44	50.20	74.00	-23.80	V	peak
2228.000	55.00	-1.39	53.61	74.00	-20.39	V	peak
2228.000	41.19	-1.39	39.80	54.00	-14.20	V	AVG
2506.000	55.30	-1.00	54.30	74.00	-19.70	V	peak
2506.000	41.53	-1.00	40.53	54.00	-13.47	V	AVG
2888.000	52.46	-0.83	51.63	74.00	-22.37	V	peak
3655.000	40.88	2.68	43.56	74.00	-30.44	V	peak
5370.000	39.28	6.04	45.32	74.00	-28.68	V	peak
7550.000	38.61	11.72	50.33	74.00	-23.67	V	peak
1420.000	51.82	-7.32	44.50	74.00	-29.50	H	peak
2174.000	52.95	-3.62	49.33	74.00	-24.67	H	peak
2704.000	53.11	-3.33	49.78	74.00	-24.22	H	peak
3215.000	43.96	1.11	45.07	74.00	-28.93	H	peak
5630.000	39.15	8.87	48.02	74.00	-25.98	H	peak
7415.000	39.07	11.25	50.32	74.00	-23.68	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11n HT20 mode
/ CH Mid**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1500.000	53.14	-5.26	47.88	74.00	-26.12	V	peak
1996.000	52.78	-1.36	51.42	74.00	-22.58	V	peak
2206.000	57.41	-1.34	56.07	74.00	-17.93	V	peak
2206.000	43.12	-1.34	41.78	54.00	-12.22	V	AVG
2542.000	57.35	-1.45	55.90	74.00	-18.10	V	peak
2542.000	43.13	-1.45	41.68	54.00	-12.32	V	AVG
3250.000	43.35	-0.01	43.34	74.00	-30.66	V	peak
4875.000	42.05	3.81	45.86	74.00	-28.14	V	peak
7315.000	39.74	10.60	50.34	74.00	-23.66	V	peak
1400.000	51.57	-6.90	44.67	74.00	-29.33	H	peak
2216.000	55.89	-4.01	51.88	74.00	-22.12	H	peak
2572.000	54.41	-3.49	50.92	74.00	-23.08	H	peak
2964.000	52.51	-1.05	51.46	74.00	-22.54	H	peak
3775.000	41.37	4.77	46.14	74.00	-27.86	H	peak
4875.000	47.19	6.73	53.92	74.00	-20.08	H	peak
4875.000	34.40	6.73	41.13	54.00	-12.87	H	AVG
7320.000	39.43	11.72	51.15	74.00	-22.85	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11n HT20 mode
/ CH High**Temperature:** 26°C**Humidity:** 56 % RH**Test Date:** 2014/7/24**Tested by:** Francis Lee**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1582.000	51.79	-4.87	46.92	74.00	-27.08	V	peak
1990.000	52.05	-1.46	50.59	74.00	-23.41	V	peak
2302.000	54.82	-1.55	53.27	74.00	-20.73	V	peak
2302.000	41.80	-1.55	40.25	54.00	-13.75	V	AVG
2688.000	53.06	-1.55	51.51	74.00	-22.49	V	peak
3575.000	41.09	2.75	43.84	74.00	-30.16	V	peak
4930.000	40.91	4.66	45.57	74.00	-28.43	V	peak
7495.000	38.94	11.53	50.47	74.00	-23.53	V	peak
1418.000	52.29	-7.28	45.01	74.00	-28.99	H	peak
2150.000	53.57	-3.67	49.90	74.00	-24.10	H	peak
2764.000	53.15	-2.80	50.35	74.00	-23.65	H	peak
3605.000	42.17	4.14	46.31	74.00	-27.69	H	peak
4930.000	41.84	7.28	49.12	74.00	-24.88	H	peak
7390.000	39.74	11.36	51.10	74.00	-22.90	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11n HT40 mode
/ CH Low**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1538.000	52.72	-5.08	47.64	74.00	-26.36	V	peak
1992.000	52.00	-1.43	50.57	74.00	-23.43	V	peak
2202.000	54.09	-1.33	52.76	74.00	-21.24	V	peak
2202.000	43.37	-1.33	42.04	54.00	-11.96	V	AVG
2676.000	53.35	-1.64	51.71	74.00	-22.29	V	peak
3605.000	40.59	2.91	43.50	74.00	-30.50	V	peak
5925.000	40.21	6.00	46.21	74.00	-27.79	V	peak
7450.000	40.51	11.42	51.93	74.00	-22.07	V	peak
1414.000	52.24	-7.19	45.05	74.00	-28.95	H	peak
2198.000	53.28	-3.56	49.72	74.00	-24.28	H	peak
2844.000	52.40	-2.15	50.25	74.00	-23.75	H	peak
4340.000	40.07	7.36	47.43	74.00	-26.57	H	peak
5655.000	37.81	8.59	46.40	74.00	-27.60	H	peak
7360.000	40.09	11.51	51.60	74.00	-22.40	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11n HT40 mode
/ CH Mid**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1536.000	52.71	-5.09	47.62	74.00	-26.38	V	peak
2012.000	52.62	-1.57	51.05	74.00	-22.95	V	peak
2216.000	56.52	-1.37	55.15	74.00	-18.85	V	peak
2216.000	46.72	-1.37	45.35	54.00	-8.65	V	AVG
2842.000	52.95	-1.50	51.45	74.00	-22.55	V	peak
4000.000	40.16	3.49	43.65	74.00	-30.35	V	peak
5840.000	39.17	5.58	44.75	74.00	-29.25	V	peak
7325.000	39.88	10.69	50.57	74.00	-23.43	V	peak
1420.000	52.11	-7.32	44.79	74.00	-29.21	H	peak
2202.000	54.55	-3.62	50.93	74.00	-23.07	H	peak
2650.000	53.54	-3.36	50.18	74.00	-23.82	H	peak
4885.000	41.30	6.90	48.20	74.00	-25.80	H	peak
5910.000	38.98	9.18	48.16	74.00	-25.84	H	peak
7295.000	39.39	11.75	51.14	74.00	-22.86	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

**Operation Mode:** TX / IEEE 802.11n HT40 mode
/ CH High**Test Date:** 2014/7/24**Temperature:** 26°C**Tested by:** Francis Lee**Humidity:** 56 % RH**Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol H/V	Remark
1970.000	52.99	-1.77	51.22	74.00	-22.78	V	peak
2222.000	54.45	-1.38	53.07	74.00	-20.93	V	peak
2222.000	41.53	-1.38	40.15	54.00	-13.85	V	AVG
2868.000	52.04	-1.12	50.92	74.00	-23.08	V	peak
3810.000	39.73	3.47	43.20	74.00	-30.80	V	peak
5155.000	40.24	5.01	45.25	74.00	-28.75	V	peak
7425.000	38.86	11.36	50.22	74.00	-23.78	V	peak
1406.000	51.80	-7.03	44.77	74.00	-29.23	H	peak
2192.000	52.42	-3.58	48.84	74.00	-25.16	H	peak
2880.000	52.44	-1.88	50.56	74.00	-23.44	H	peak
4310.000	38.70	7.59	46.29	74.00	-27.71	H	peak
5655.000	39.82	8.59	48.41	74.00	-25.59	H	peak
7280.000	39.34	11.55	50.89	74.00	-23.11	H	peak

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



7.7 POWERLINE CONDUCTED EMISSIONS

LIMIT

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

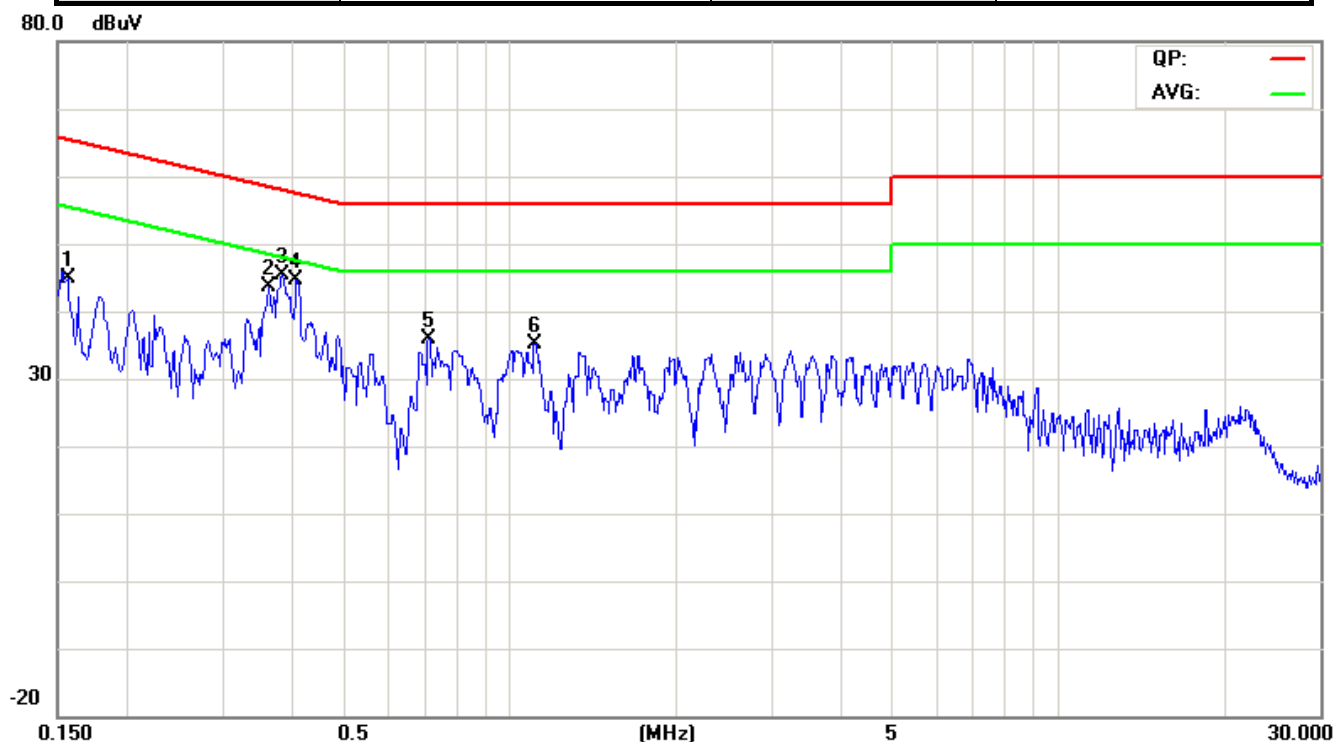
TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.



TEST DATA

Test Mode	Normal Link	6dBBandwidth	9 kHz
Environmental Conditions	25°C, 57% RH	Test Date:	2014/8/11
Tested By	Johnny Chen	Line	L1

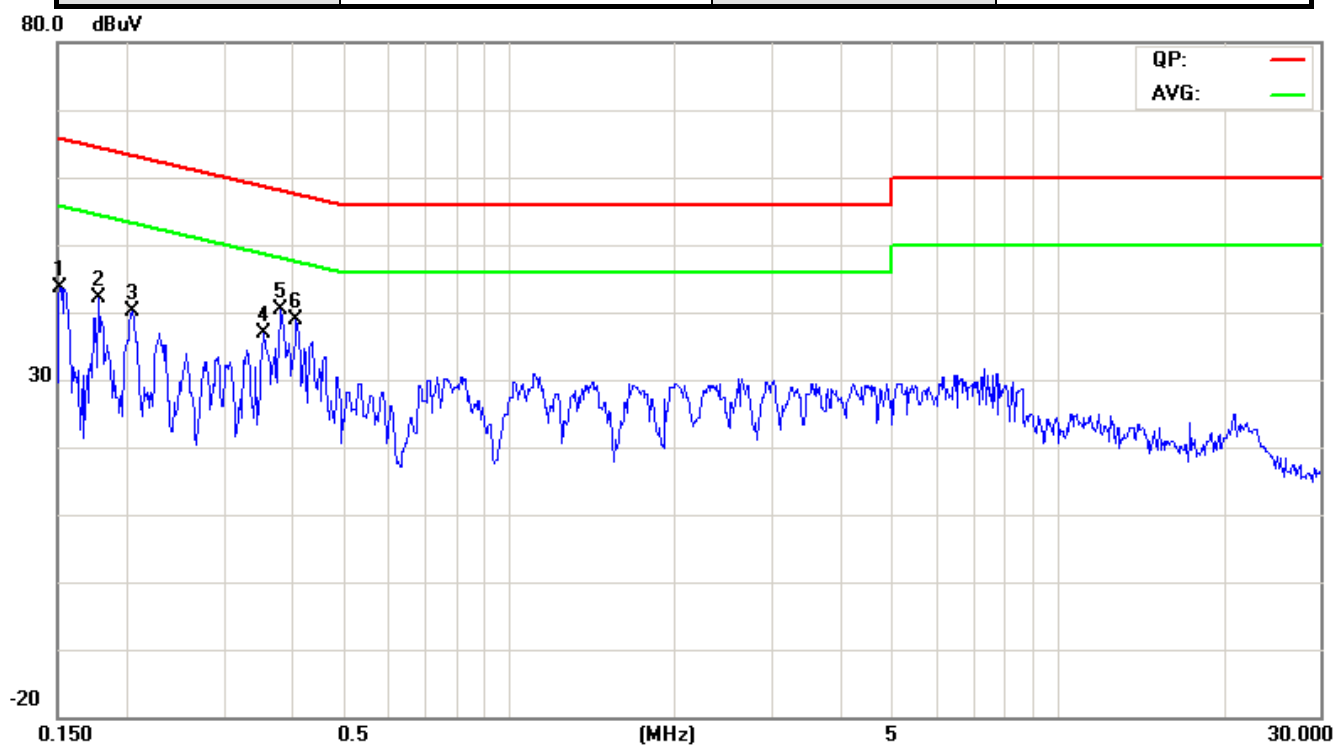


NO.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	(Pass/Fail)
1	0.1549	31.91	23.05	9.79	41.70	32.84	65.73	55.73	-24.03	-22.89	Pass
2	0.3664	25.67	16.03	9.74	35.41	25.77	58.58	48.58	-23.17	-22.81	Pass
3*	0.3848	32.08	29.48	9.75	41.83	39.23	58.18	48.18	-16.35	-8.95	Pass
4	0.4075	31.58	28.74	9.75	41.33	38.49	57.70	47.70	-16.37	-9.21	Pass
5	0.7140	24.71	21.16	9.74	34.45	30.90	56.00	46.00	-21.55	-15.10	Pass
6	1.1115	24.00	19.05	9.73	33.73	28.78	56.00	46.00	-22.27	-17.22	Pass

REMARKS: L1 = Line One (Live Line)



Test Mode	Normal Link	6dBBandwidth	9 kHz
Environmental Conditions	25°C, 57% RH	Test Date:	2014/8/11
Tested By	Johnny Chen	Line	L2



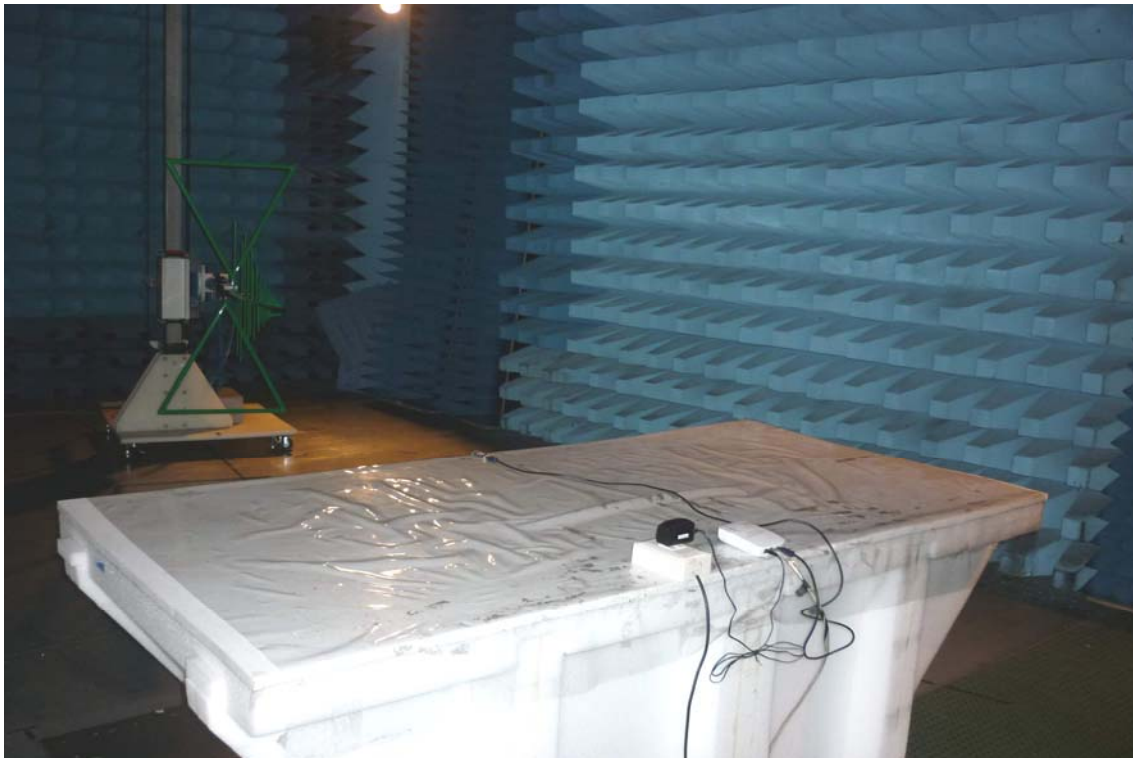
NO.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	(Pass/Fail)
1	0.1517	31.88	20.14	9.77	41.65	29.91	65.91	55.91	-24.26	-26.00	Pass
2	0.1780	30.88	21.08	9.74	40.62	30.82	64.58	54.58	-23.96	-23.76	Pass
3	0.2041	29.07	21.31	9.72	38.79	31.03	63.44	53.44	-24.65	-22.41	Pass
4	0.3569	27.27	22.49	9.72	36.99	32.21	58.80	48.80	-21.81	-16.59	Pass
5*	0.3814	28.55	24.94	9.73	38.28	34.67	58.25	48.25	-19.97	-13.58	Pass
6	0.4077	27.35	23.83	9.73	37.08	33.56	57.70	47.70	-20.62	-14.14	Pass

REMARKS: L2 = Line Two (Neutral Line)



8. APPENDIX IPHOTOGRAPHS OF TEST SETUP

Radiated Emission Set up Photos Below 1GHz



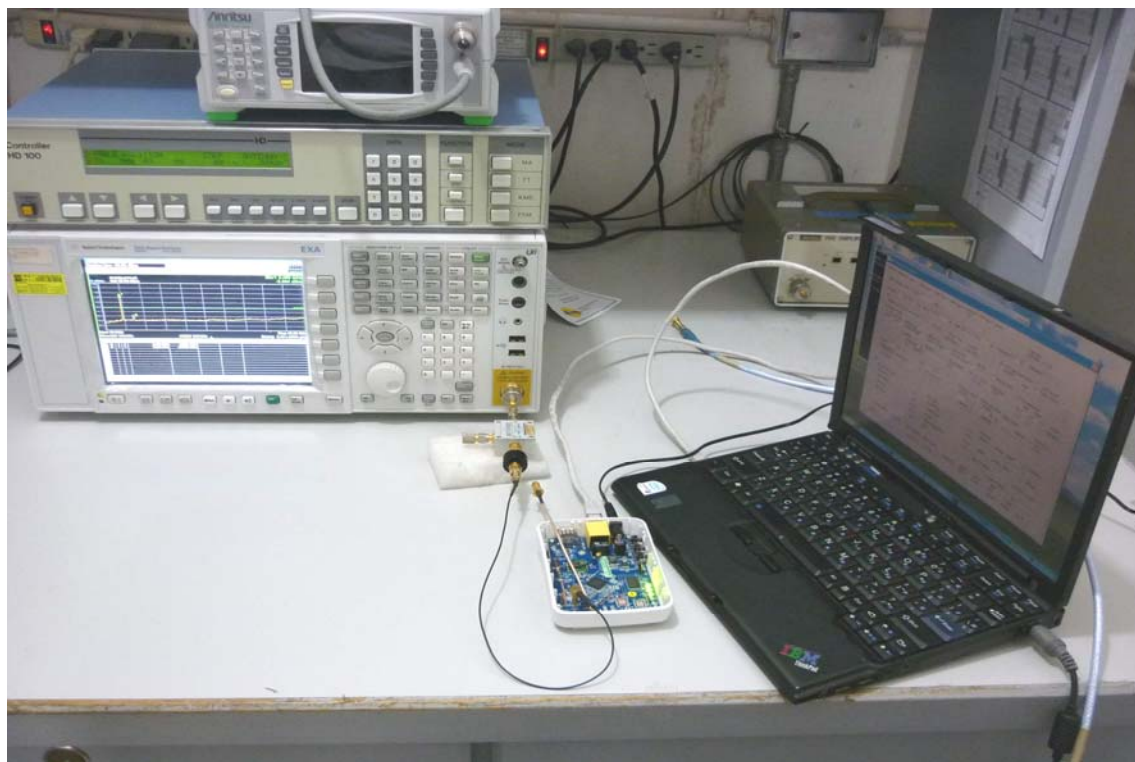


Above 1GHz





Conducted Emission Setup Photos





Powerline Conducted Emissions Setup Photos





APPENDIX 1: PHOTOGRAPHS OF EUT

Refer to T140708D15 Photographs.