



FCC 47 CFR PART 15 SUBPART E

TEST REPORT

For

Wireless AC Day/Night Camera with Color Night Vision

Model: DCS-2136L

Trade Name: D-Link

Issued to

**D-Link Corporation
17595 Mt. Herrmann, Fountain Valley, California 92708, United States**

Issued by

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Testing Laboratory
1309

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	September 17, 2013	Initial Issue	All	Landy Huang



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1. TEST RESULT CERTIFICATION

Applicant: **D-Link Corporation**
17595 Mt. Herrmann, Fountain Valley, California 92708, United States

Manufacturer: **Appro Technology Inc.**
13F, No. 66, Zhongzheng Rd., Xinzhuang District, New Taipei City, Taiwan, R.O.C.

Equipment Under Test: Wireless AC Day/Night Camera with Color Night Vision

Trade Name: D-Link

Model: DCS-2136L

Date of Test: August 14 ~ September 10, 2013

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15 SUBPART E	No non-compliance noted

We hereby certify that:

Compliance Certification Services Inc. tested the above equipment. 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: 2009** and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.407.

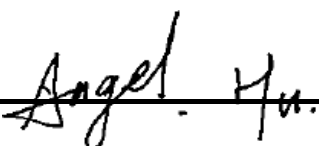
The test results of this report relate only to the tested sample identified in this report.

Approved by:



Stan Lin
Section Manager

Reviewed by:



Angel Hu
Section Manager



2. EUT DESCRIPTION

Product	Wireless AC Day/Night Camera with Color Night Vision				
Trade Name	D-Link				
Model Number	DCS-2136L				
Model Discrepancy	N/A				
EUT Power Rating	5VDC, 1.2A				
Received Date	July 30, 2013				
Power Adapter	D-Link	Model	AMS1-0501200FU		
Power Adapter Power Rating	I/P: 100-240VAC, 50/60HZ, 0.2A O/P: 5VDC, 1.2A				
RF Module Manufacturer	Realtek	Model	RTL8811AU		
Operating Frequency Range & Number of Channels	UNII Band I	Mode	Frequency Range (MHz)	Number of Channels	
		IEEE 802.11a	5150-5250	4 Channels	
		IEEE 802.11n HT20	5150-5250	4 Channels	
		IEEE 802.11n HT40	5150-5250	4 Channels	
	UNII Band II	IEEE 802.11ac HT80	5150-5250	1 Channels	
		IEEE 802.11a	5250-5350	4 Channels	
		IEEE 802.11n HT20	5250-5350	4 Channels	
		IEEE 802.11n HT40	5250-5350	3 Channels	
	UNII Band III	IEEE 802.11ac HT80	5250-5350	1 Channels	
		IEEE 802.11a	5470-5725	8 Channels	
		IEEE 802.11n HT20	5470-5725	8 Channels	
		IEEE 802.11n HT40	5470-5725	6 Channels	
			IEEE 802.11ac HT80	5470-5725	1 Channels
Transmit Power	UNII Band I	Mode	Frequency Range (MHz)	Output Power (dBm)	Output Power (W)
		IEEE 802.11a	5150-5250	5.71	0.0037
		IEEE 802.11n HT20	5150-5250	5.36	0.0034
		IEEE 802.11n HT40	5150-5250	8.69	0.0074
	UNII Band II	IEEE 802.11ac HT80	5150-5250	10.38	0.0109
		IEEE 802.11a	5250-5350	10.71	0.0118
		IEEE 802.11n HT20	5250-5350	12.36	0.0172
		IEEE 802.11n HT40	5250-5350	13.15	0.0207
	UNII Band III	IEEE 802.11ac HT80	5250-5350	8.69	0.0074
		IEEE 802.11a	5470-5725	10.51	0.0112
		IEEE 802.11n HT20	5470-5725	12.15	0.0164
		IEEE 802.11n HT40	5470-5725	12.82	0.0191
			IEEE 802.11ac HT80	5470-5725	11.01
Modulation Technique	OFDM (QPSK, BPSK, 16-QAM, 64-QAM)				
Transmit Data Rate	IEEE 802.11a mode: 54, 48, 36, 24, 18, 12, 9, 6 Mbps IEEE 802.11n HT20: OFDM (6.5, 7.2, 13, 14.4, 14.44, 19.5, 21.7, 26, 28.89, 28.9, 39, 43.3, 43.33 52, 57.78, 57.8, 58.5, 65.0, 72.2, 78, 86.67, 104, 115.56, 117, 130, 144.44 Mbps) IEEE 802.11n HT40: OFDM (13.5, 15, 27, 30, 40.5, 45, 54, 60, 81, 90, 108, 120, 121.5, 135, 150, 162, 180, 216, 240, 243, 270, 300 Mbps) IEEE 802.11ac HT80: OFDM (390, 351, 292.5, 263.3, 234, 175.5 ,117, 87.8, 58.5, 29.3 Mbps)				
Antenna Specification	PIFA Antenna / Gain: 4.7 dBi				



Operation Frequency:

UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII)	
CHANNEL	MHz
36	5180
38	5190
40	5200
42	5210
44	5220
46	5230
48	5240
52	5260
54	5270
56	5280
58	5290
60	5300
62	5310
64	5320
100	5500
102	5510
104	5520
106	5530
108	5540
110	5550
112	5560
116	5580
118	5590
120	5600
124	5620
126	5630
128	5640
132	5660
134	5670
136	5680
140	5700

Remark: 1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This report is compliance with the KDB 848637 UNII DFS Report Client without Radar Detection and 644545 D01 Guidance for IEEE 802 11ac v01r02 Requirement.



3. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2009 Radiated testing was performed at an antenna to EUT distance 3 meters.

The tests documented in this report were performed in accordance with ANSI C63.4: 2009 and FCC CFR 47 Part 15.207, 15.209 and 15.407.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed for RF field strength measurement to meet the Commissions requirement, and is operated in a manner intended to generate the maximum emission in a continuous normal application.

3.2 EUT EXERCISE

The EUT is operated in the engineering mode to fix the Tx frequency for the purposes of measurement.

According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is positioned at 0.8 m above the ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4, the conducted emission from the EUT is measured in the frequency range between 0.15 MHz and 30MHz, using the CISPR Quasi-Peak detector mode.

Radiated Emissions

The EUT is placed on the turntable, which is 0.8 m above the ground plane. The turntable is then rotated for 360 degrees to determine the proper orientation for the maximum emission level. The EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission level. And, each emission is to be maximized by changing the horizontal and vertical polarization of the receiving antenna. 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: 2003.



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 (model: DCS-2136L) had been tested under operating condition.

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

The worst case data rate is determined as the data rate with highest output power.

After verification, all tests carried out are with the worst-case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions, which worst case was in Data Link mode and receiving radiated spurious emission above 1GHz, which worst case was in CH Mid mode only.

Data Link Mode: Setup the EUT as setup photo of Below 1GHz / Powerline Conducted Emissions. Turn on the power of support equipment and link to EUT.

UNII Band I:

IEEE 802.11a for 5150 ~ 5250MHz:

Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT20 for 5150 ~ 5250MHz:

Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT40 Channel for 5150 ~ 5250MHz:

Channel Low (5190MHz) and Channel High (5230MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11ac HT80 Channel for 5150 ~ 5250MHz:

Channel (5210MHz) with 13.5Mbps data rate were chosen for full testing.

UNII Band II:

IEEE 802.11a for 5250 ~ 5350MHz:

Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT20 for 5250 ~ 5350MHz:

Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT40 for 5250 ~ 5350MHz:

Channel Low (5270MHz) and Channel High (5310MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11ac HT80 Channel for 5250 ~ 5350MHz:

Channel (5290MHz) with 13.5Mbps data rate were chosen for full testing.



UNII Band III:

IEEE 802.11a for 5470 ~ 5725MHz:

Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT20 for 5470 ~ 5725MHz:

Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT40 for 5470 ~ 5725MHz:

Channel Low (5510MHz), Channel Mid (5550MHz) and Channel High (5670MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11ac HT80 Channel for 5470 ~ 5725MHz:

Channel (5530MHz) 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	01/13/2014
Spectrum Analyzer	Agilent	N9010A	MY52220817	02/22/2014
Power meter	Anritsu	ML2495A	1033009	09/19/2013
Power Sensor	Anritsu	MA2411B	0917221	09/19/2013

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY48250064	01/13/2014
Pre-Amplifier	HP	8447D	2944A06530	04/23/2014
Pre-Amplifier	EMEC	EM01M26G	060570	07/25/2014
Pre-Amplifier	MITEQ	AMF-6F-26040 0-40-8P	985646	08/08/2014
Pre-Amplifier	Agilent	8449B	3008A01738	04/23/2014
EMI Test Receiver	SCHAFFNER	SCR 3501	430	03/24/2014
Loop Antenna	EMCO	6502	2356	06/12/2014
Bilog Antenna	TESEQ	CBL 6112D	35378	08/05/2014
Horn Antenna	EMCO	3115	00022250	08/04/2014
Horn Antenna	EMCO	3116	00026370	01/07/2014
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	06/16/2014
LISN	FCC	FCC-LISN-50/2 50-16-2-07	06013	12/04/2013
ISN	TESEQ	ISN-T8	30842	08/09/2014
Current Probe	FCC	F-35	506	07/19/2014
ISN	FCC	FCC-TLISN-T4- 02	20396	06/28/2014
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	±0.9898
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
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029
- 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
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 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.



5.4 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	
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

* No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.



6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

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

6.2 SUPPORT EQUIPMENT

For Powerline Conducted Emission							
No.	Device Type	Model	Series No.	FCC ID	Brand	Data Cable	Power Cord
1	Notebook PC	D400	0932RY	E2K24GBRL	DELL	LAN Cable: Unshielded, 1.8m	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2	Dummy Load	N/A	N/A	N/A	N/A	Unshielded, 3.0m	N/A

For Radiated Emissions(Below 1GHz)							
No.	Device Type	Model	Series No.	FCC ID	Brand	Data Cable	Power Cord
1	Notebook PC (Remote)	D400	0932RY	E2K24GBRL	DELL	LAN Cable: Unshielded, 10m	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2	Dummy Load	N/A	N/A	N/A	N/A	Unshielded, 3.0m	N/A

For Radiated Emissions(Above 1GHz)							
No.	Device Type	Model	Series No.	FCC ID	Brand	Data Cable	Power Cord
1	Notebook PC (Remote)	D400	0932RY	E2K24GBRL	DELL	LAN Cable: Unshielded, 10m	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core

For Conducted Emission							
No.	Device Type	Model	Series No.	FCC ID	Brand	Data Cable	Power Cord
1	Notebook PC	D400	0932RY	E2K24GBRL	DELL	LAN Cable: Unshielded, 1.8m	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.



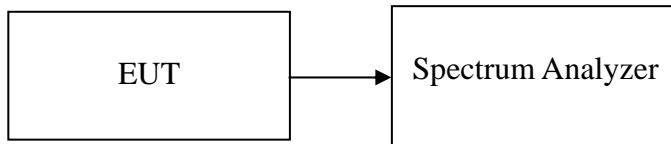
7. FCC PART 15 REQUIREMENTS

7.1 26 dB EMISSION BANDWIDTH

LIMIT

According to §15.403(c), for purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Compliance with the emissions limits is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

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 > 1%EBW, VBW > RBW, Span >26dB bandwidth, and Sweep = auto.
4. Mark the peak frequency and -26dB (upper and lower) frequency.
5. Repeat until all the rest channels were investigated.

TEST RESULTS

No non-compliance noted



Test Data

Test mode: IEEE 802.11a mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5180	25.10
Mid	5220	28.06
High	5240	24.91

Test mode: IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5180	25.92
Mid	5220	29.87
High	5240	29.81

Test mode: IEEE 802.11n HT40 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5190	46.76
High	5230	49.75

Test mode: IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz

Frequency (MHz)	Bandwidth (MHz)
5210	87.35



Test mode: IEEE 802.11a mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5260	28.60
Mid	5280	29.13
High	5320	29.90

Test mode: IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5260	30.00
Mid	5280	29.93
High	5320	29.96

Test mode: IEEE 802.11n HT40 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5270	50.00
High	5310	48.97

Test mode: IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz

Frequency (MHz)	Bandwidth (MHz)
5290	87.39



Test mode: IEEE 802.11a mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5500	21.17
Mid	5580	22.78
High	5700	21.10

Test mode: IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5500	21.40
Mid	5580	21.46
High	5700	21.55

Test mode: IEEE 802.11n HT40 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	5510	43.15
Mid	5550	42.51
High	5670	42.89

Test mode: IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz

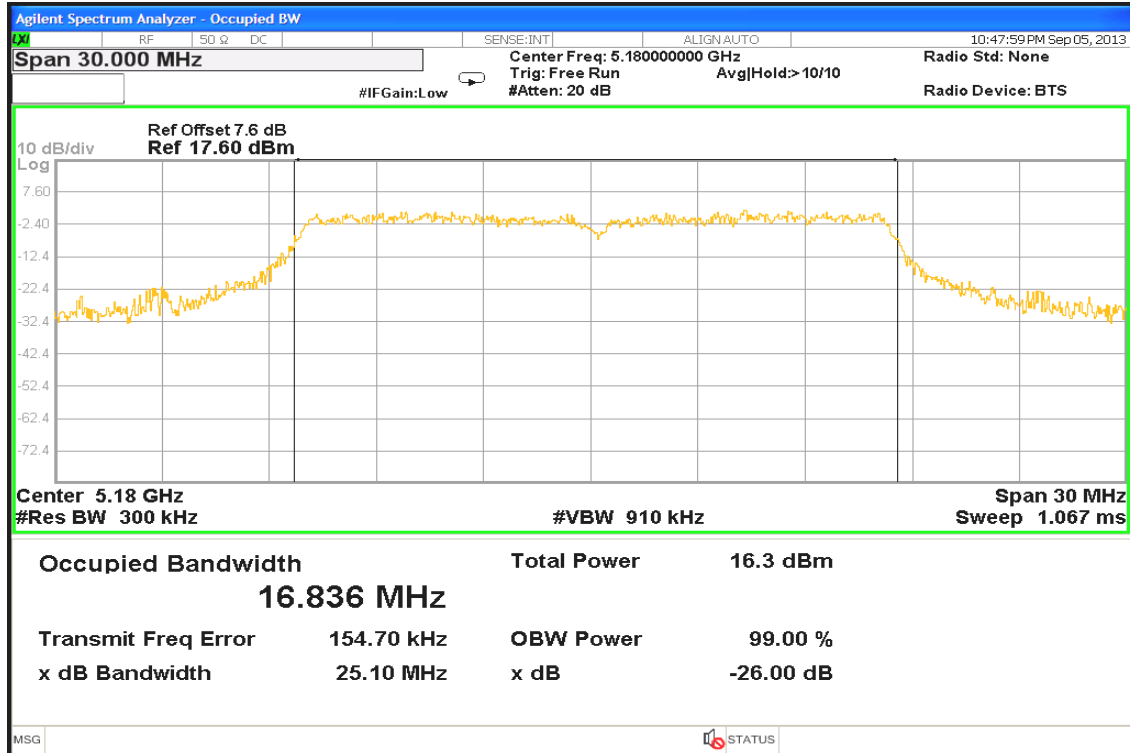
Frequency (MHz)	Bandwidth (MHz)
5530	83.20



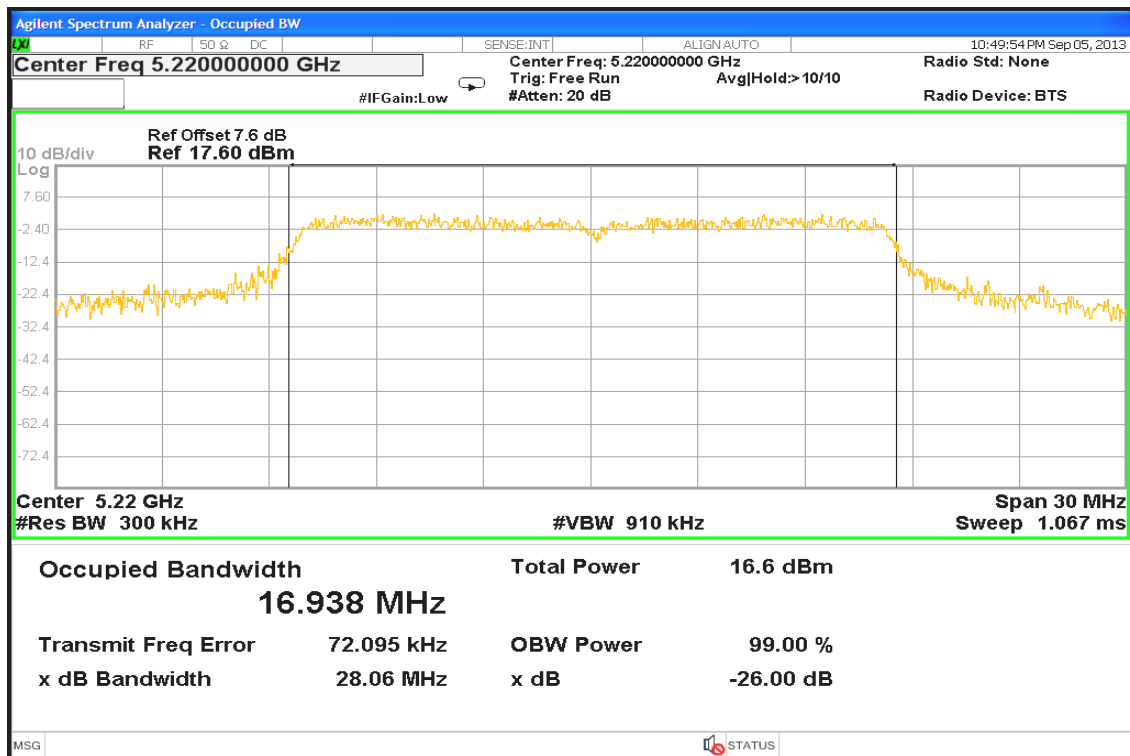
Test Plot

IEEE 802.11a mode / 5150 ~ 5250MHz

CH Low

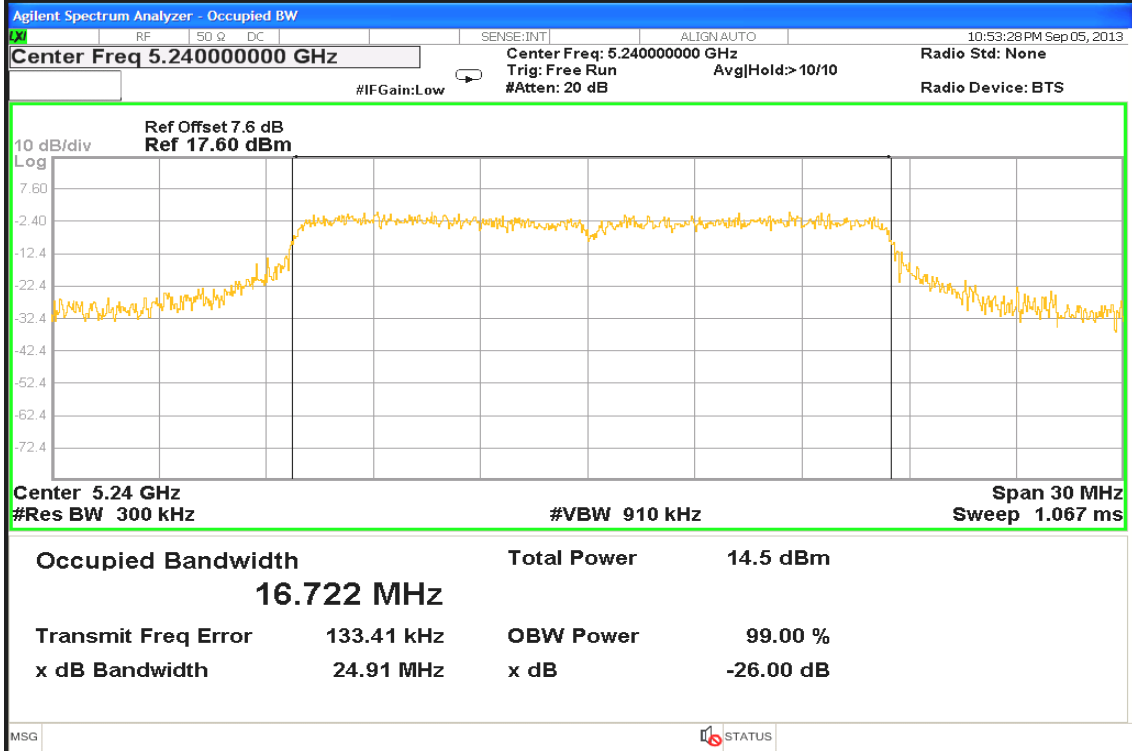


CH Mid



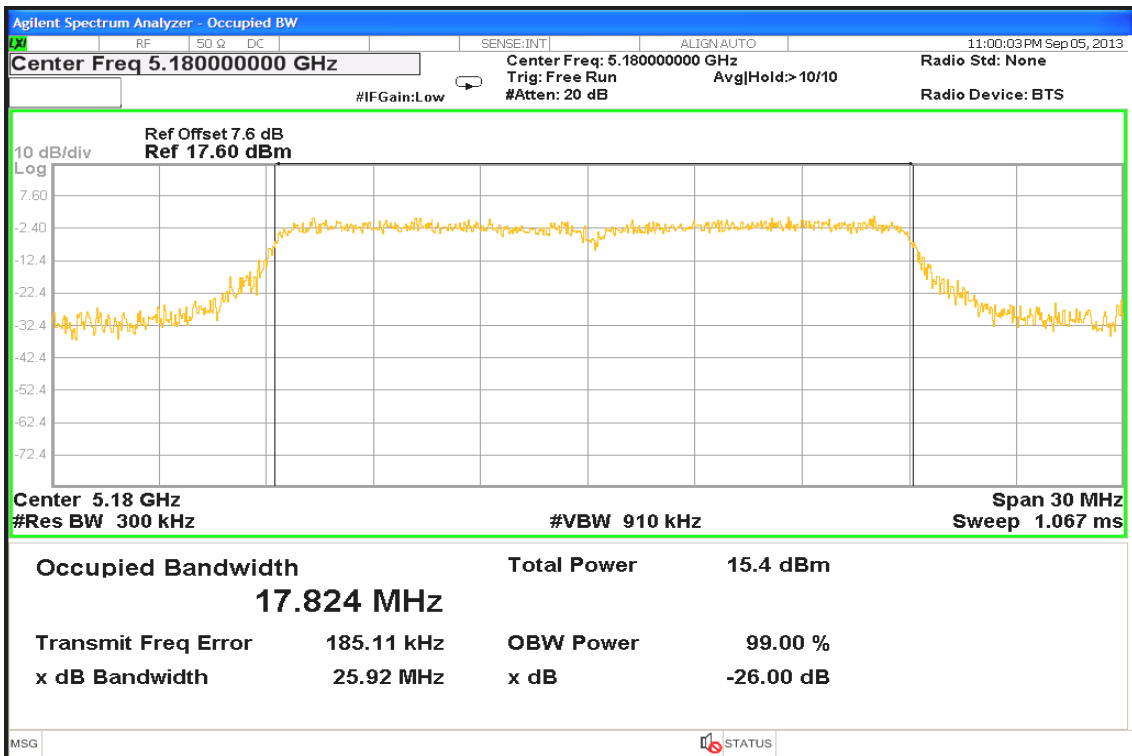


CH High



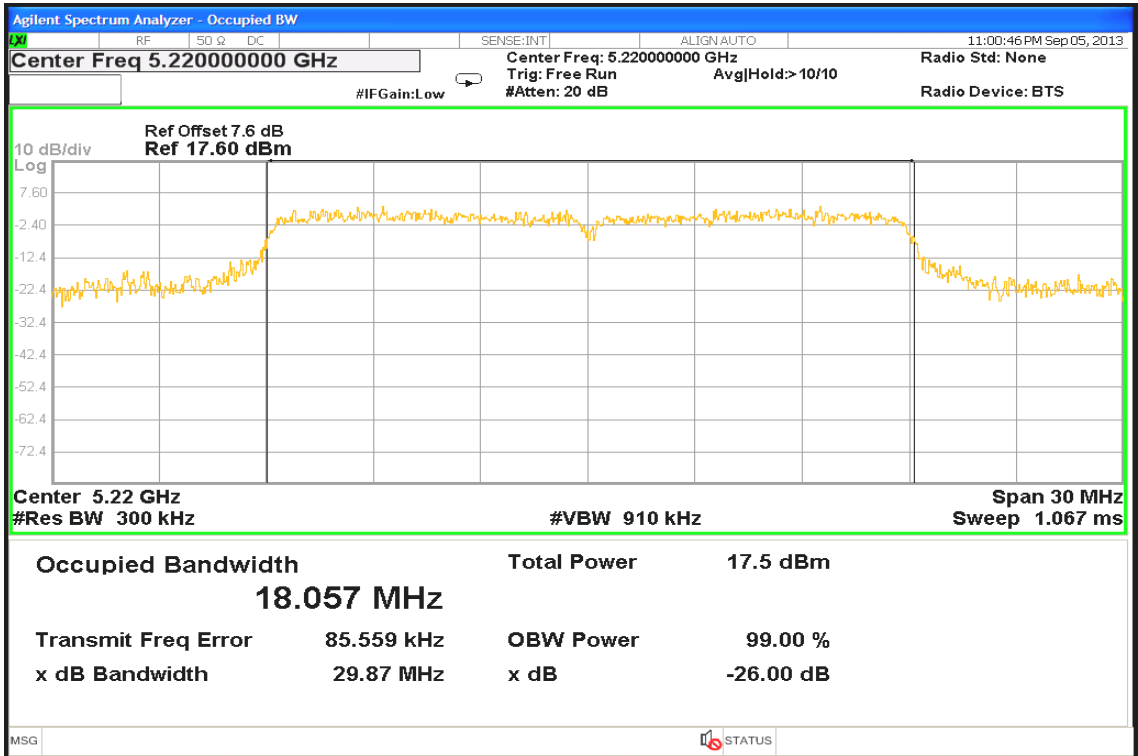
IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

CH Low

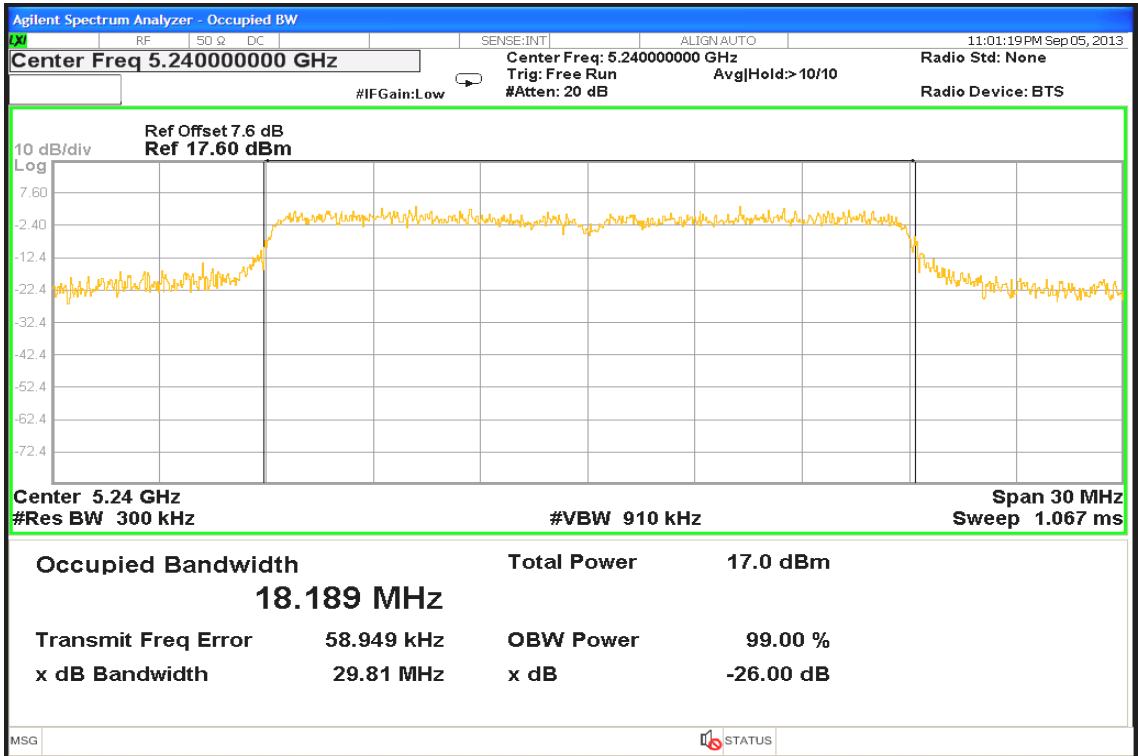




CH Mid



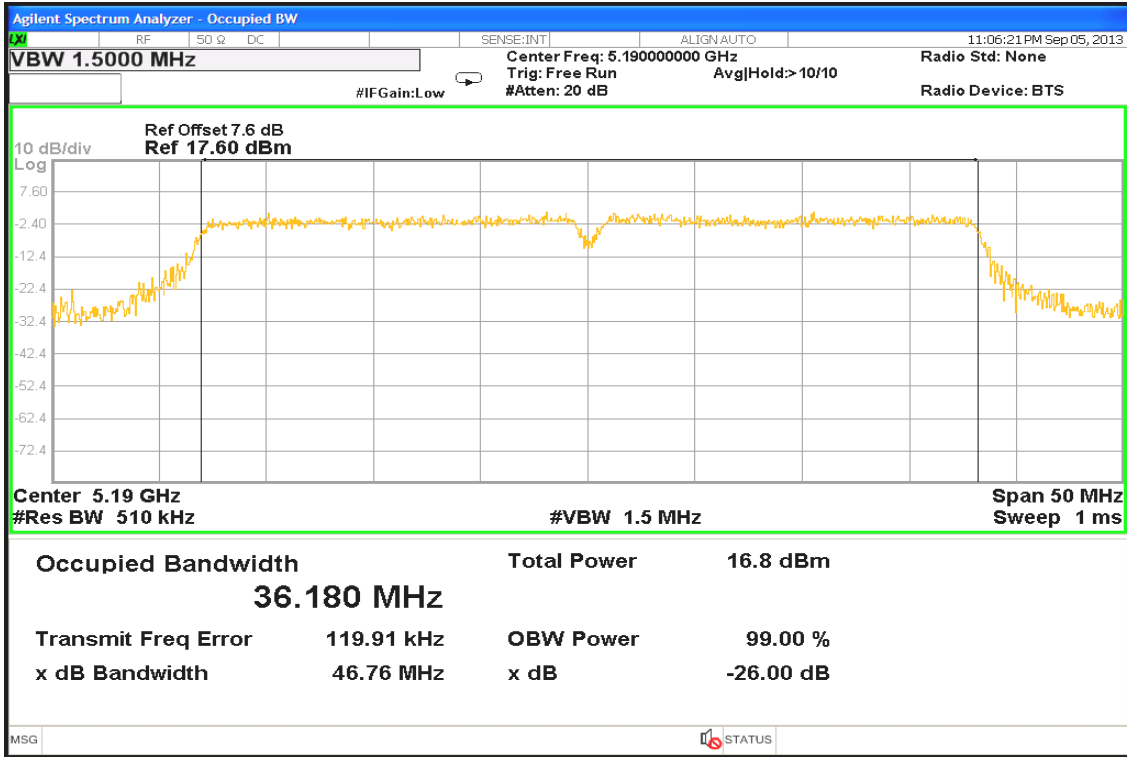
CH High



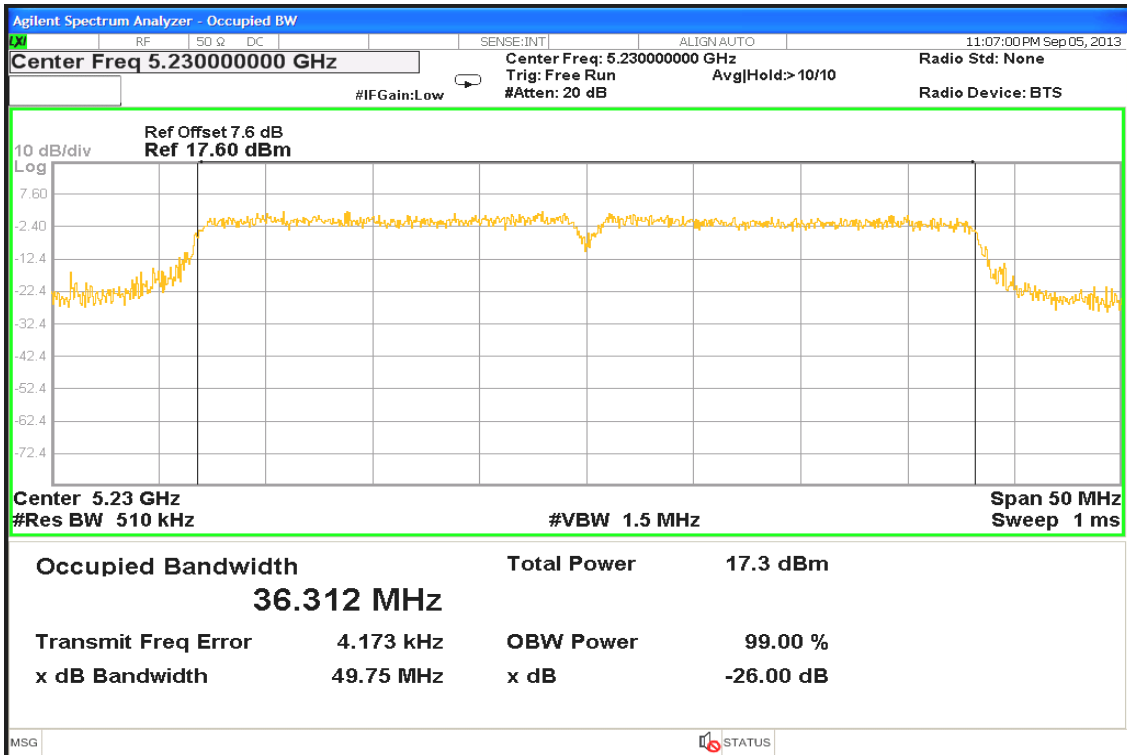


IEEE 802.11n HT40 mode / 5150 ~ 5250MHz

CH Low

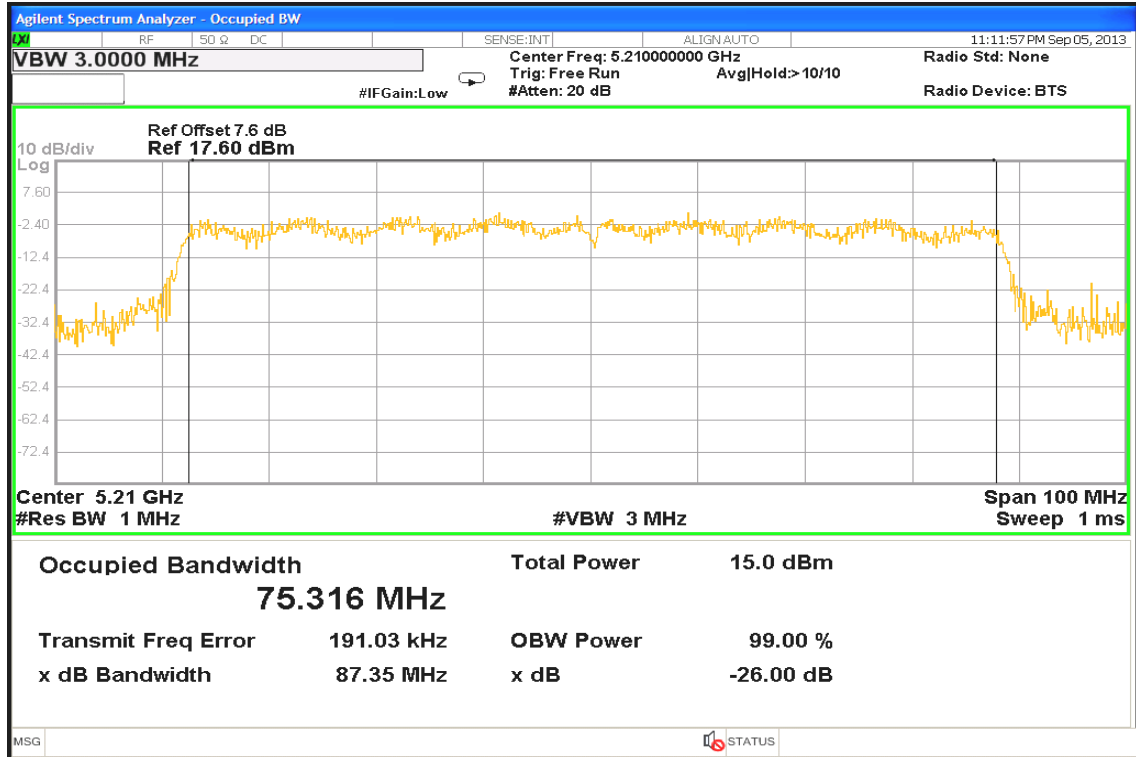


CH High





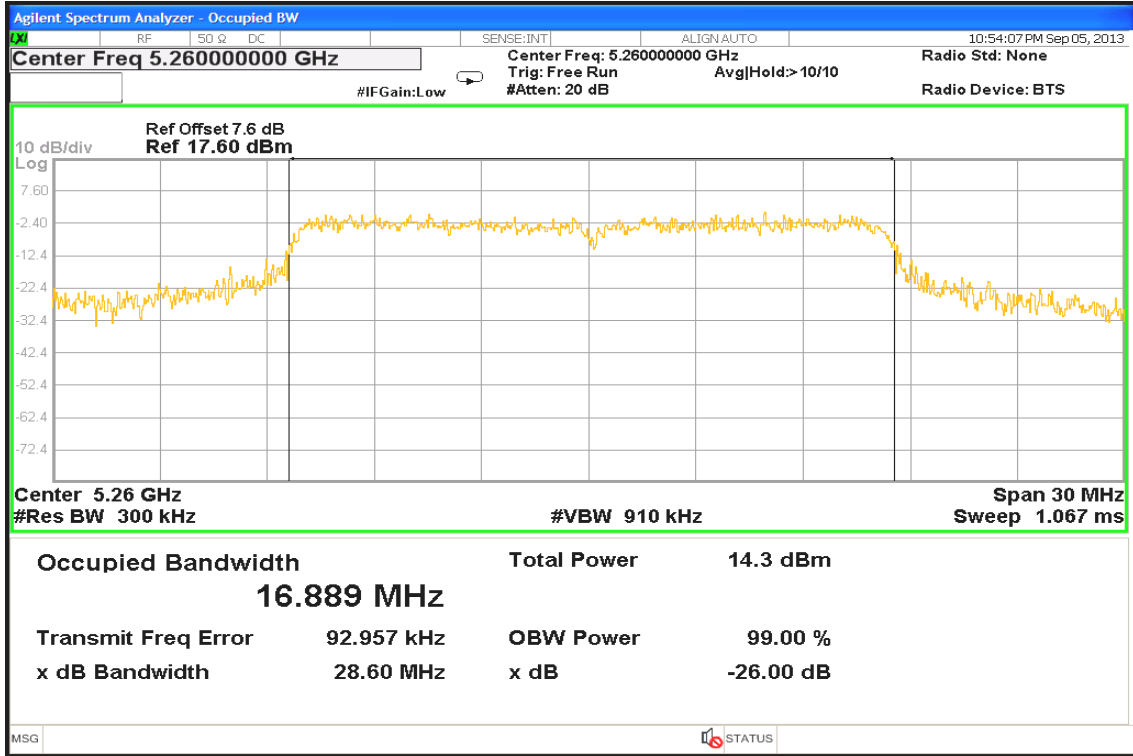
IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz



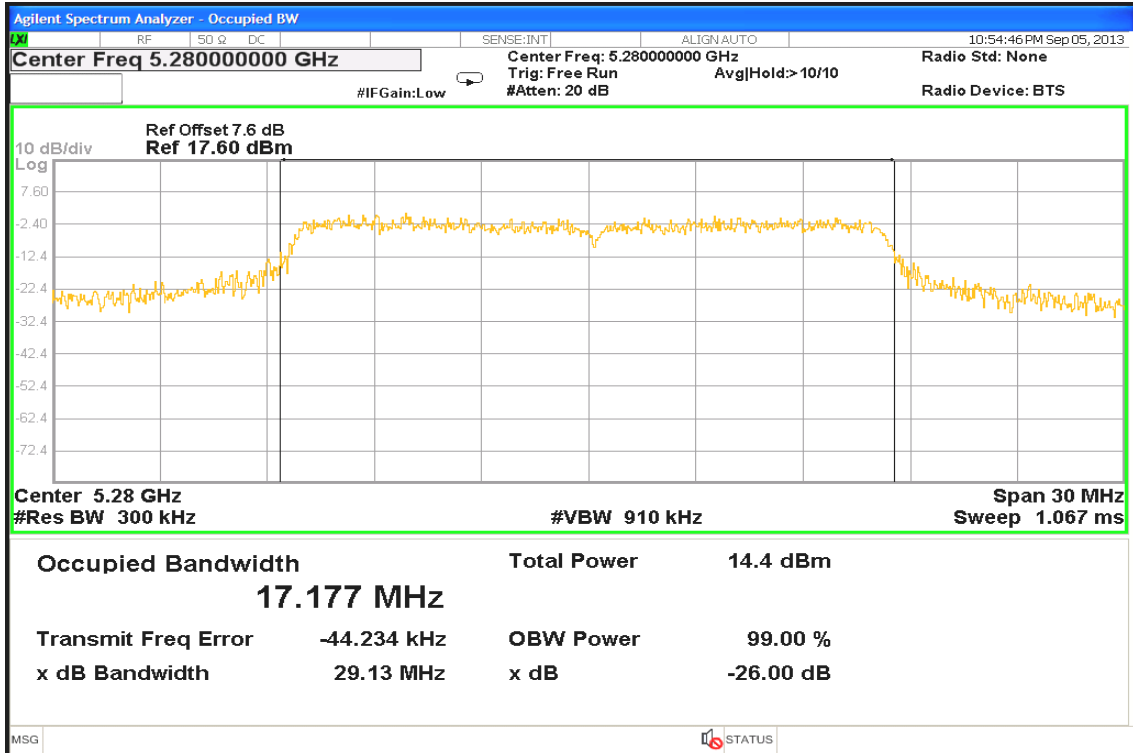


IEEE 802.11a mode / 5250 ~ 5350MHz

CH Low

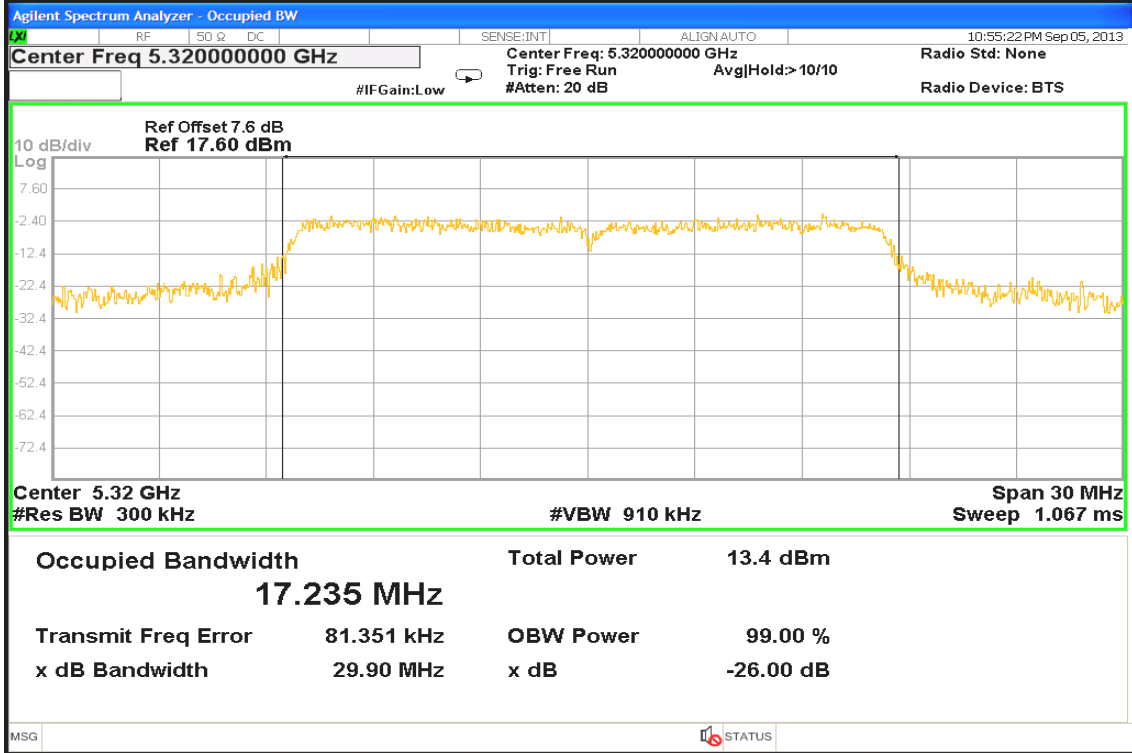


CH Mid



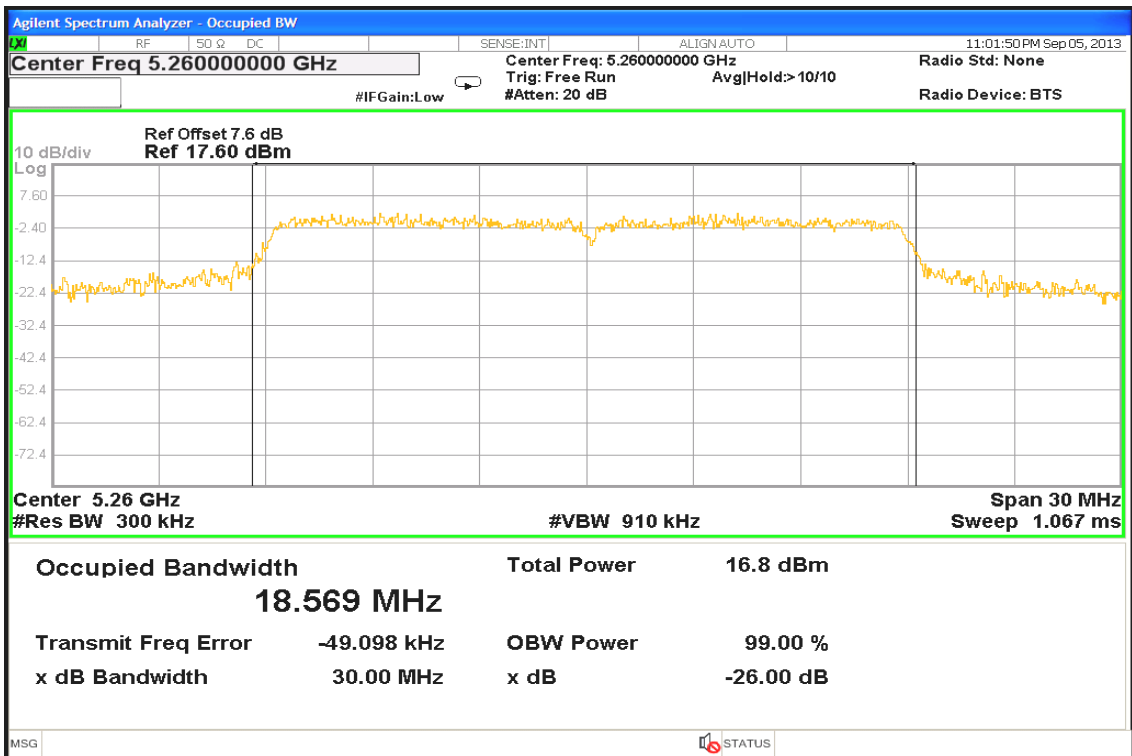


CH High



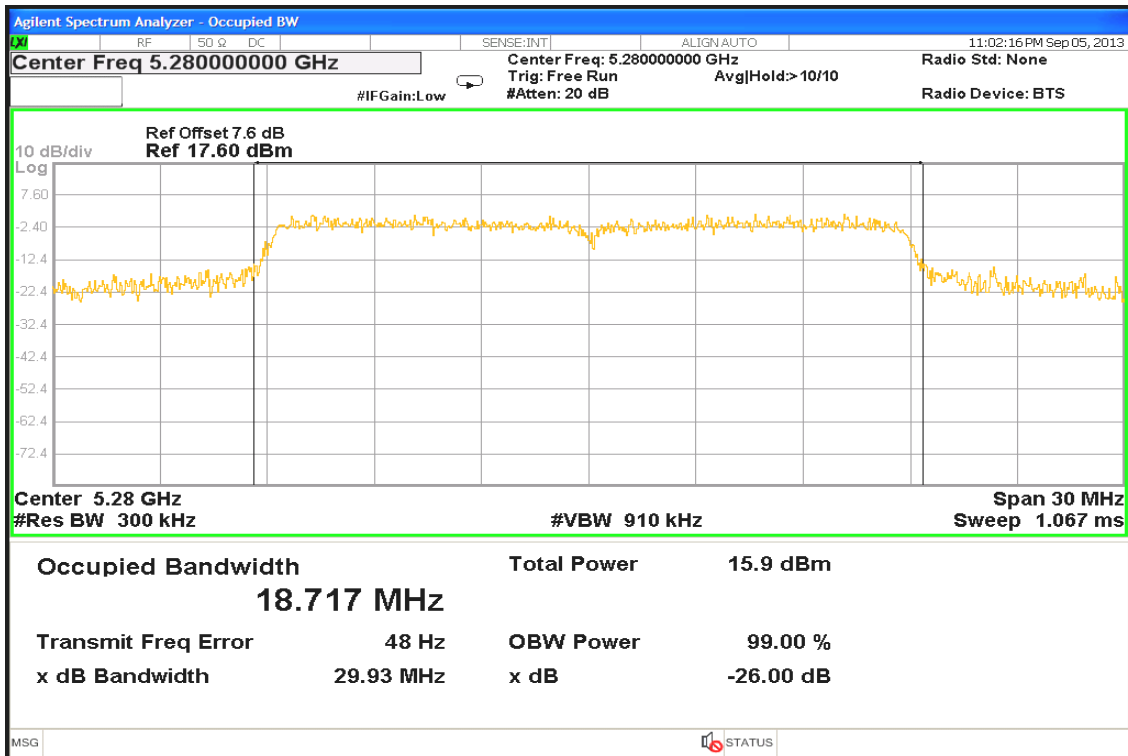
IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

CH Low

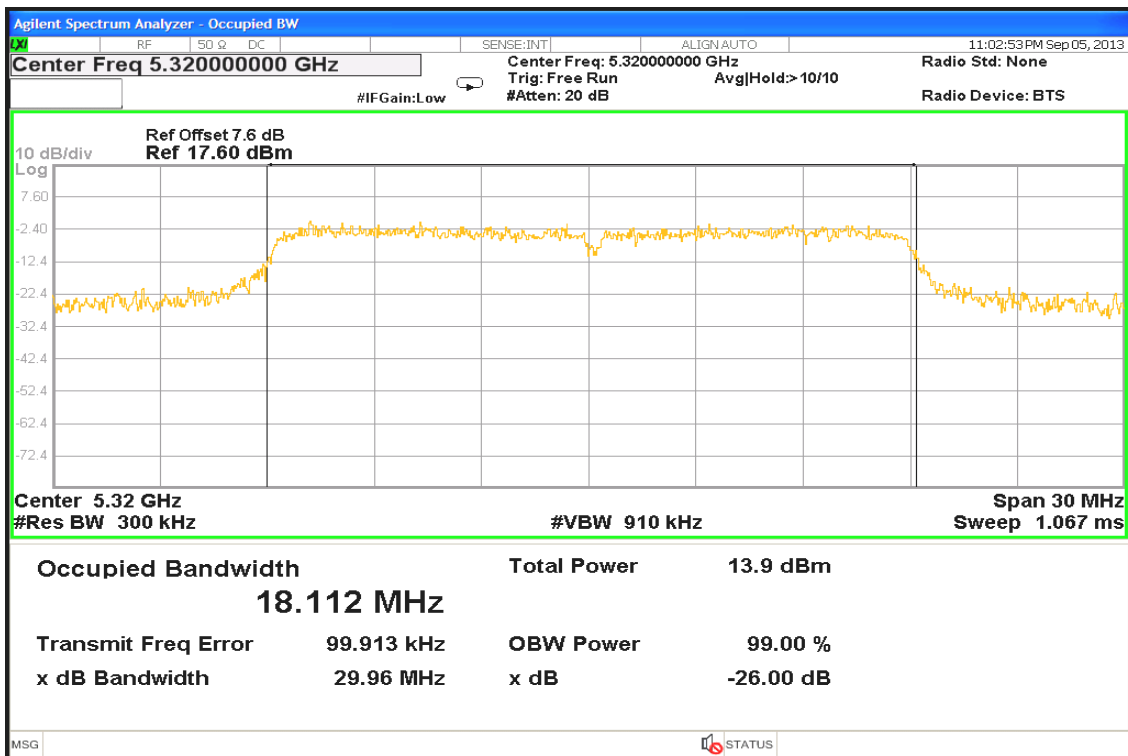




CH Mid



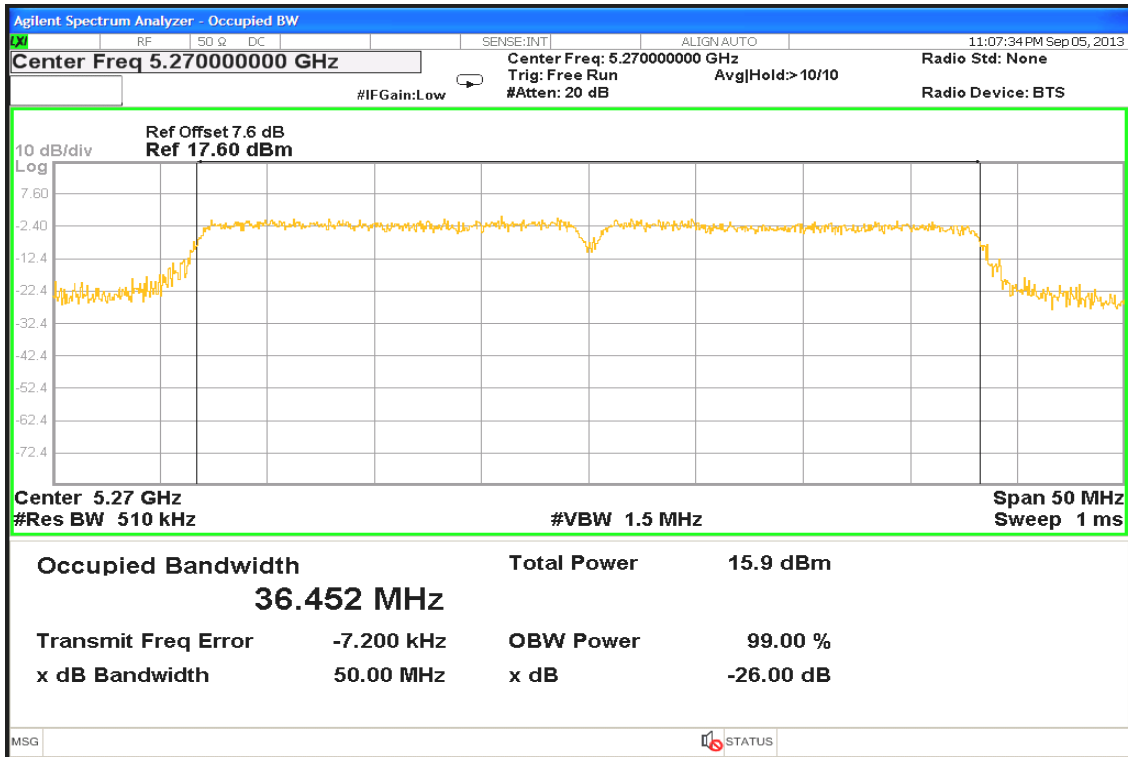
CH High



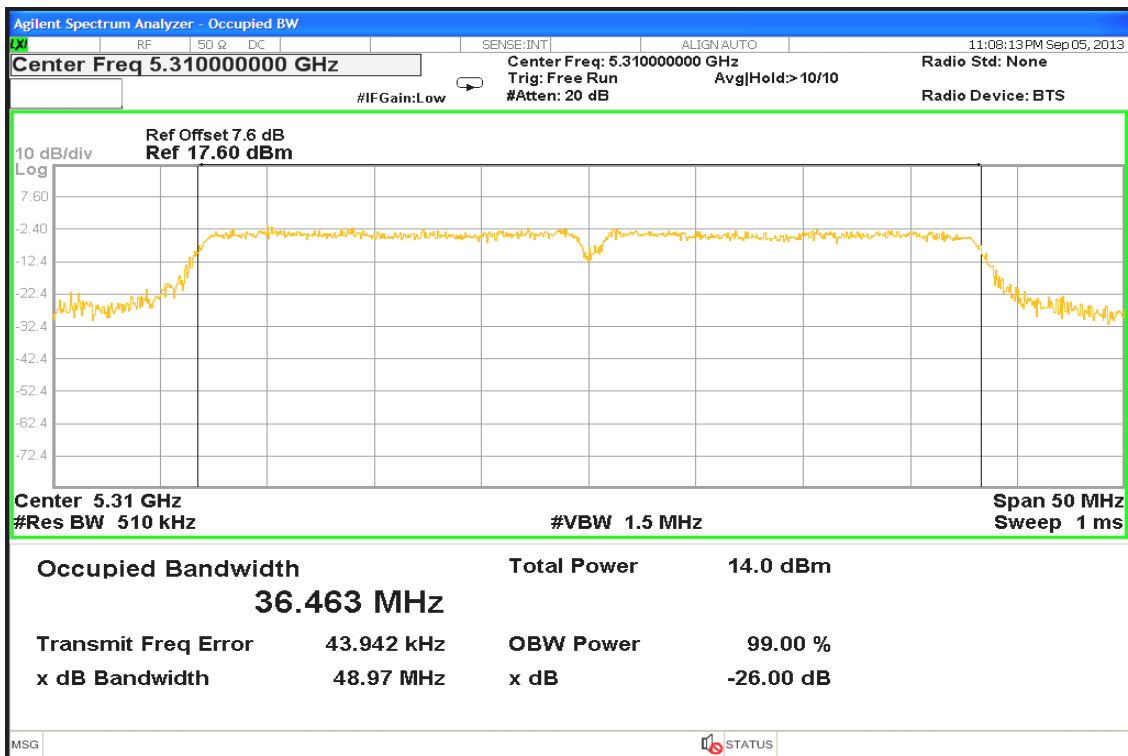


IEEE 802.11n HT40 mode / 5250 ~ 5350MHz

CH Low

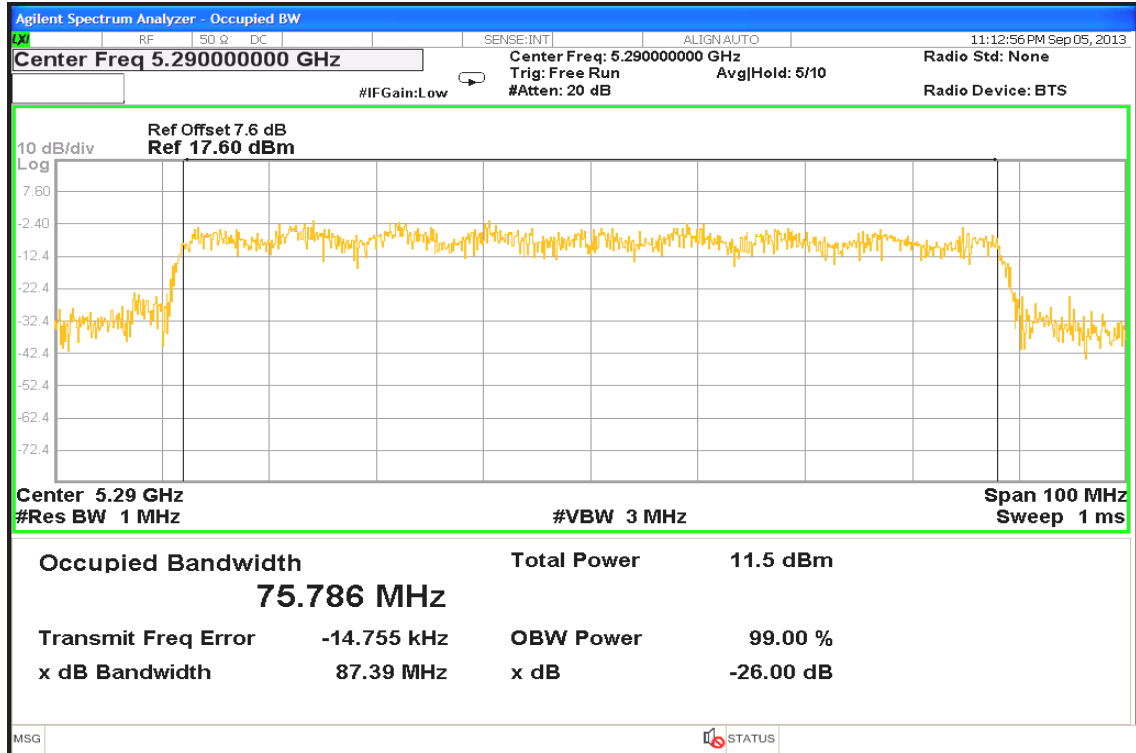


CH High





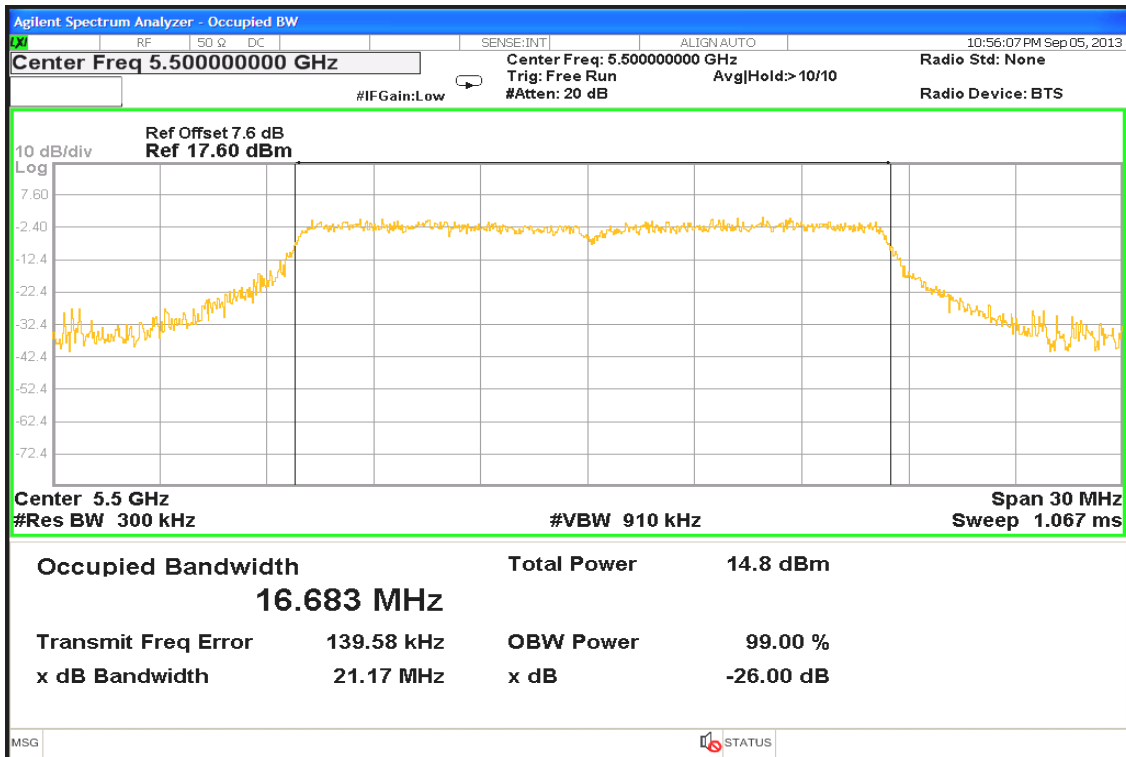
IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz



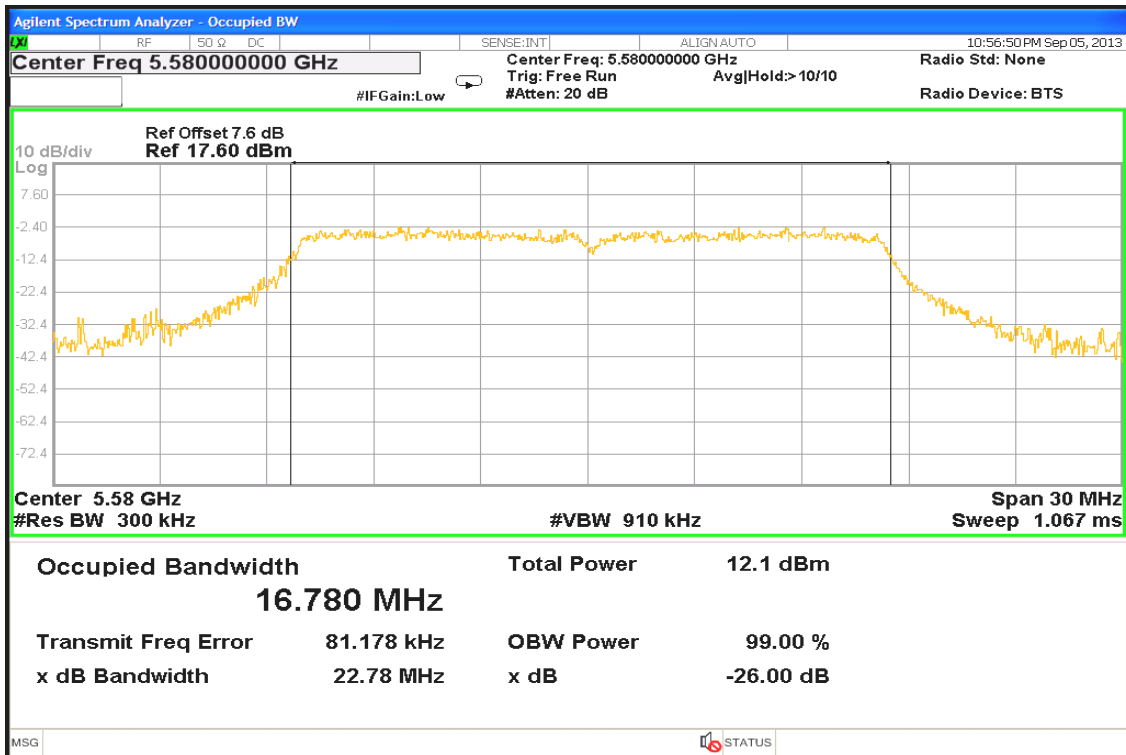


IEEE 802.11a mode / 5470 ~ 5725MHz

CH Low

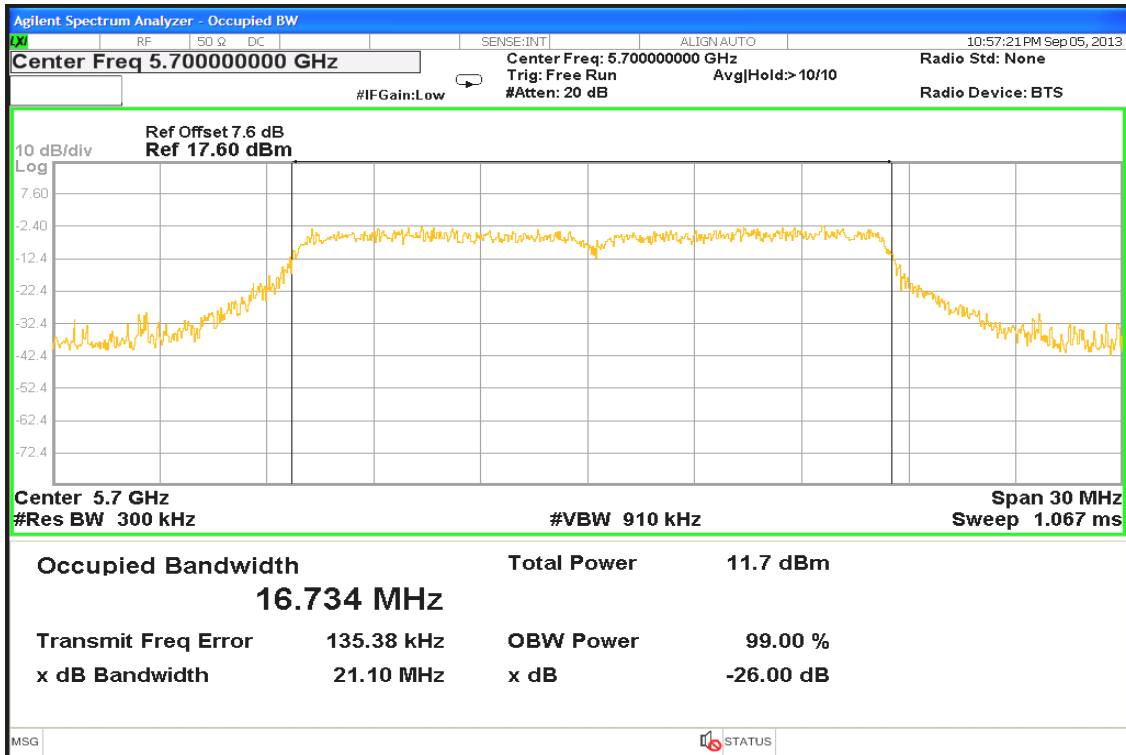


CH Mid



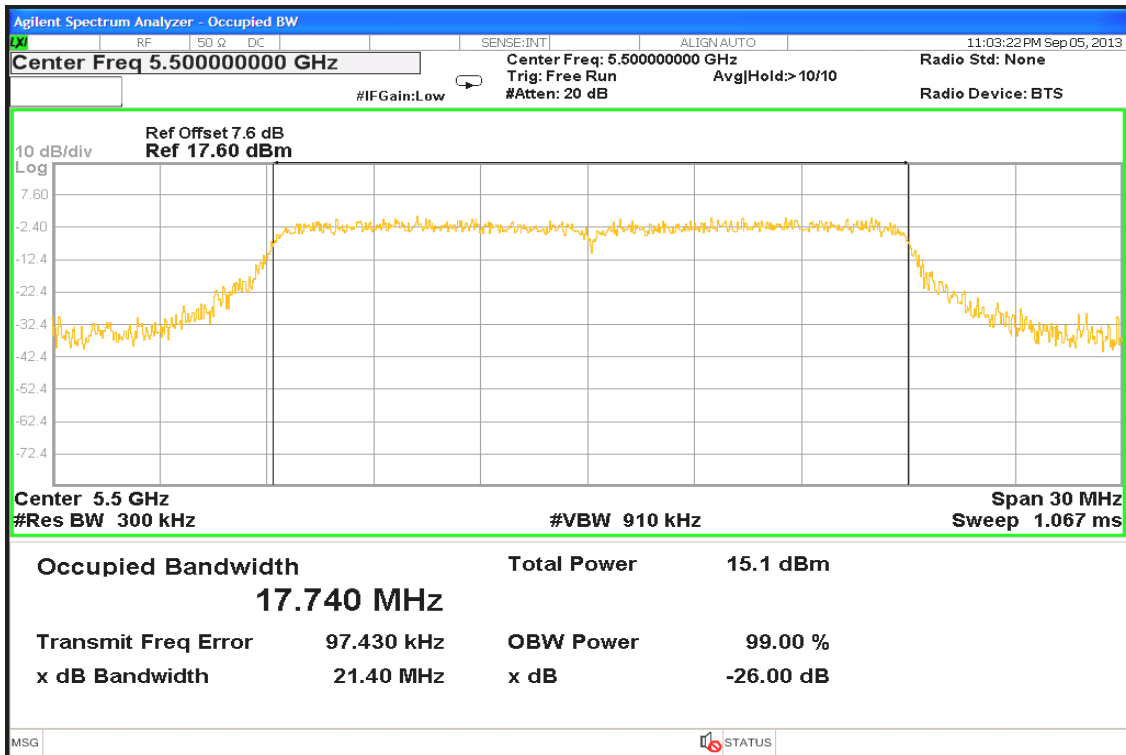


CH High



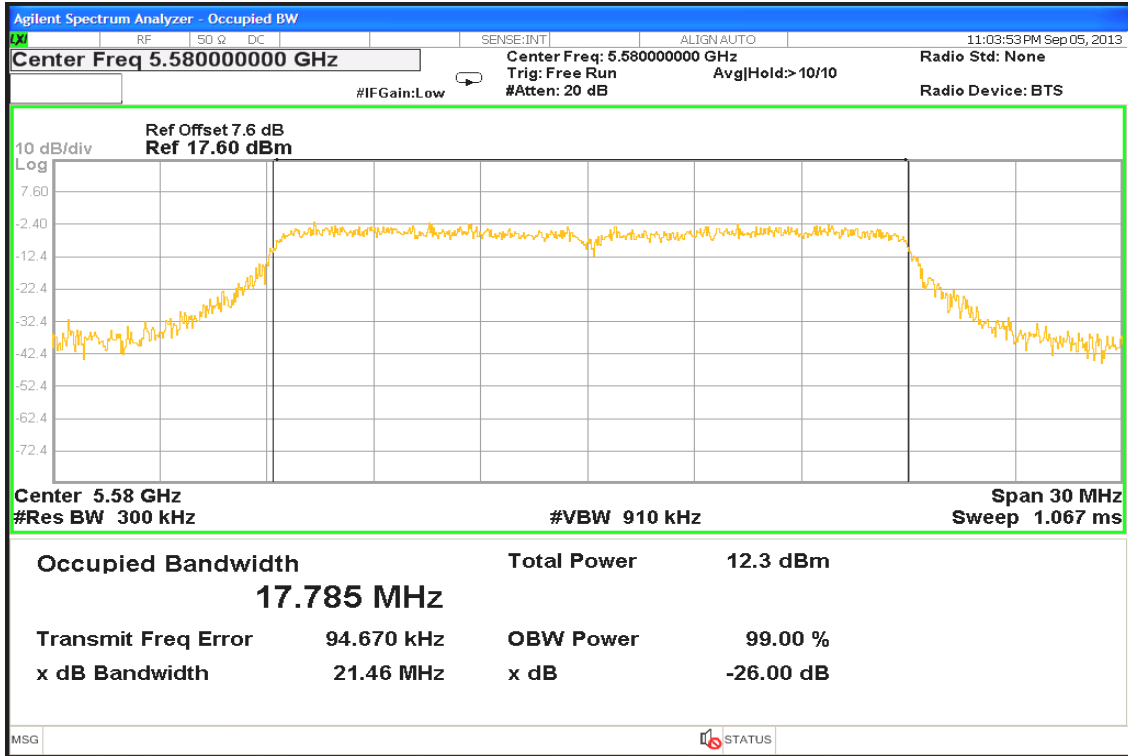
IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

CH Low

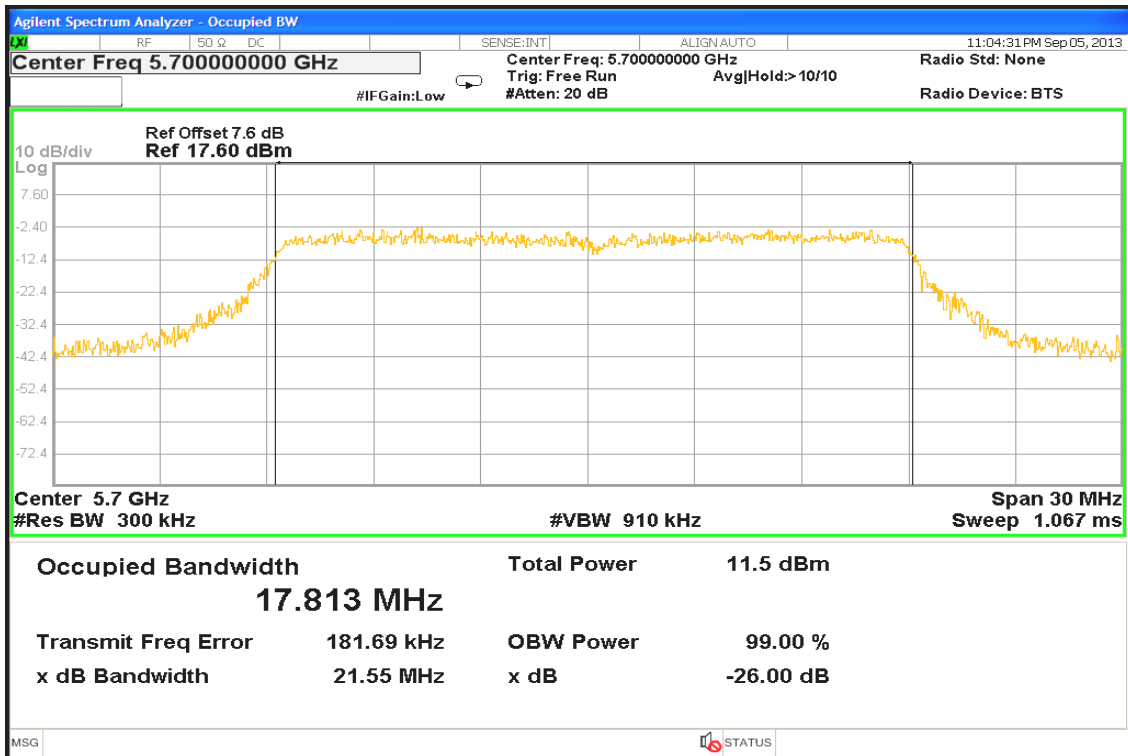




CH Mid



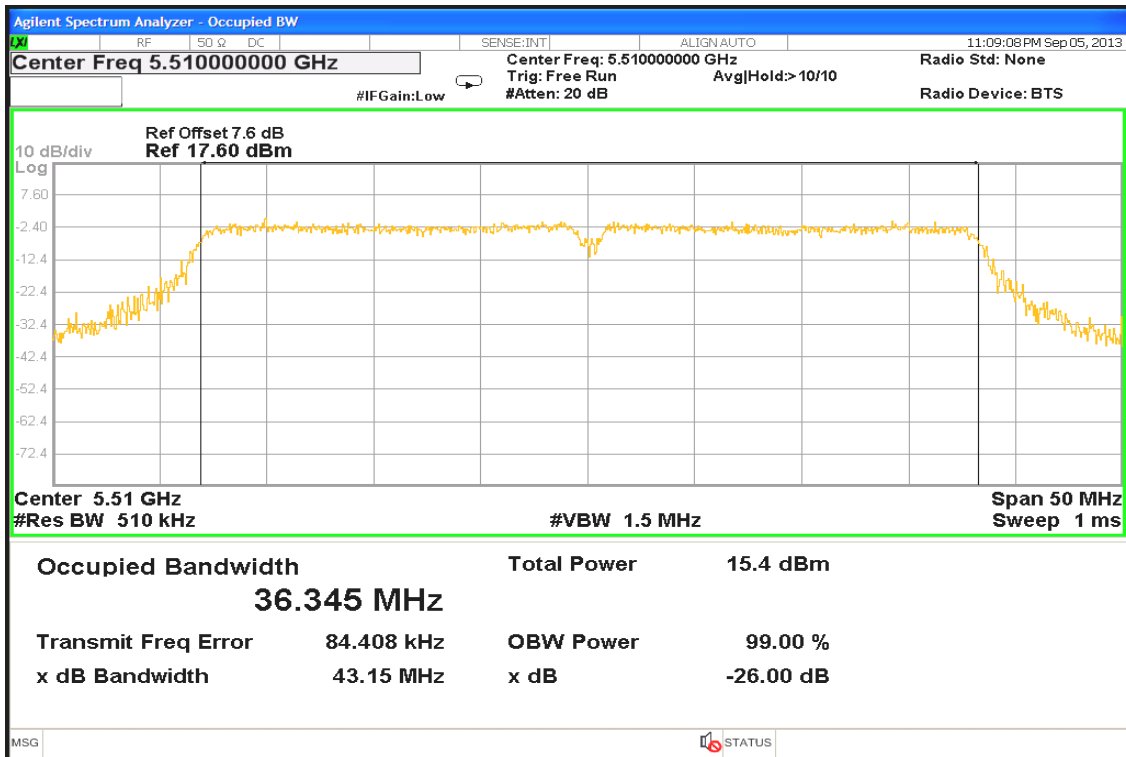
CH High



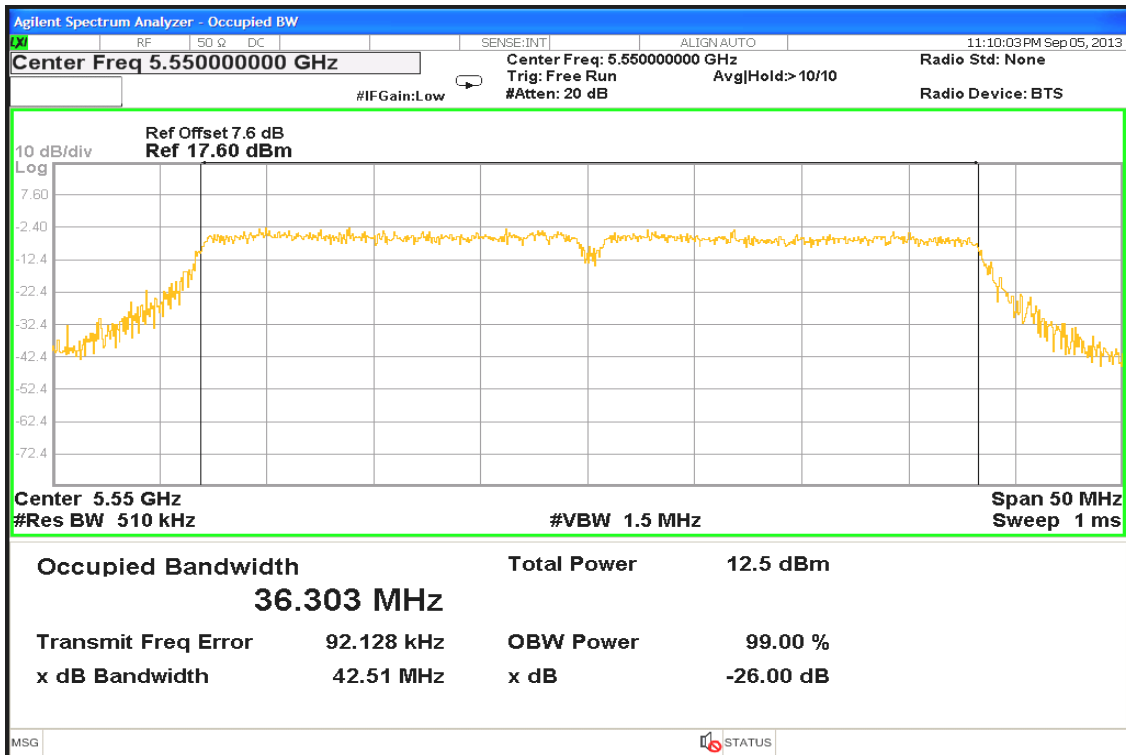


IEEE 802.11n HT40 mode / 5470 ~ 5725MHz

CH Low

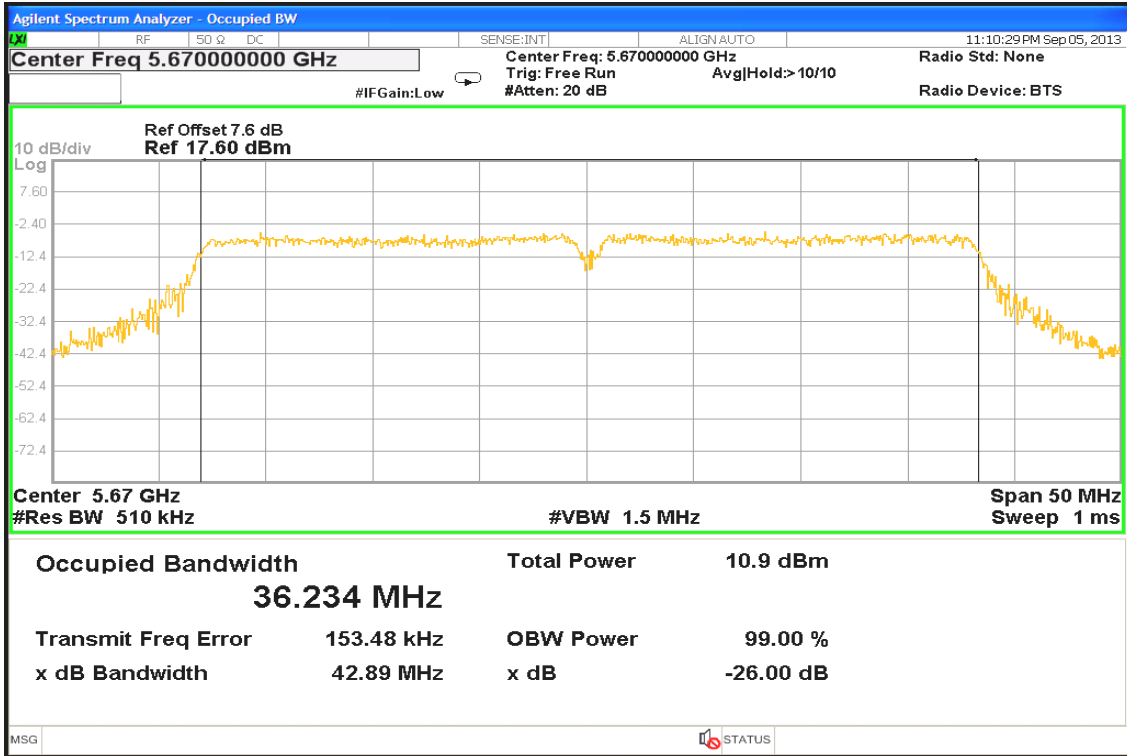


CH Mid

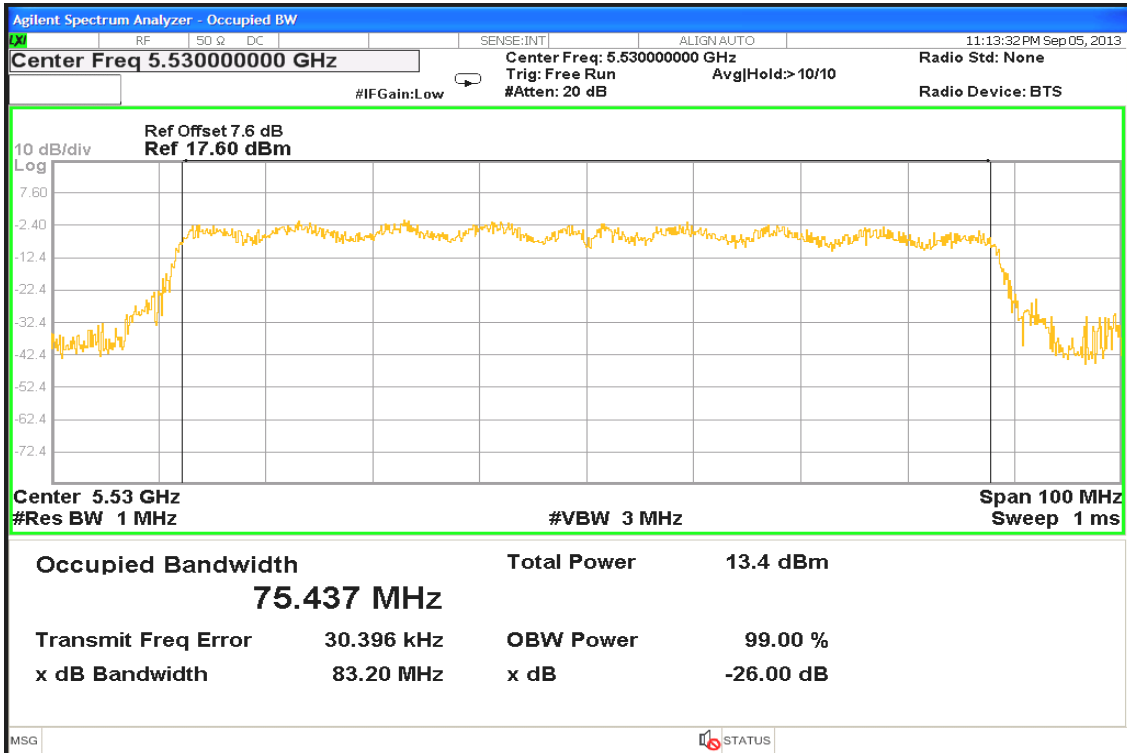




CH High



IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz





7.2 MAXIMUM CONDUCTED OUTPUT POWER

LIMIT

According to §15.407(a),

- (1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz.
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands 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.

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.



Specified Limit of the Output Power

Test mode: IEEE 802.11a mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	4 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5180	25.10	14.00	18.00	17.00
Mid	5220	28.06	14.48	18.48	17.00
High	5240	24.91	13.96	17.96	17.00

Test mode: IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	4 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5180	25.92	14.14	18.14	17.00
Mid	5220	29.87	14.75	18.75	17.00
High	5240	29.81	14.74	18.74	17.00

Test mode: IEEE 802.11n HT40 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	4 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5190	46.76	16.70	20.70	17.00
High	5230	49.75	16.97	20.97	17.00

Test mode: IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz

Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	4 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
5210	87.35	19.41	23.41	17.00



Test mode: IEEE 802.11a mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	11 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5260	28.60	14.56	25.56	24.00
Mid	5280	29.13	14.64	25.64	24.00
High	5320	29.90	14.76	25.76	24.00

Test mode: IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	11 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5260	30.00	14.77	25.77	24.00
Mid	5280	29.93	14.76	25.76	24.00
High	5320	29.96	14.77	25.77	24.00

Test mode: IEEE 802.11n HT40 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	11 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5190	50.00	16.99	27.99	24.00
High	5230	48.97	16.90	27.90	24.00

Test mode: IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz

Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	11 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
5290	87.39	19.41	30.41	24.00



Test mode: IEEE 802.11a mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	17 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5500	21.17	13.26	30.26	24.00
Mid	5580	22.78	13.58	30.58	24.00
High	5700	21.10	13.24	30.24	24.00

Test mode: IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	17 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5500	21.40	13.30	30.30	24.00
Mid	5580	21.46	13.32	30.32	24.00
High	5700	21.55	13.33	30.33	24.00

Test mode: IEEE 802.11n HT40 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	17 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
Low	5510	43.15	16.35	33.35	24.00
Mid	5550	42.51	16.28	33.28	24.00
High	5670	42.89	16.32	33.32	24.00

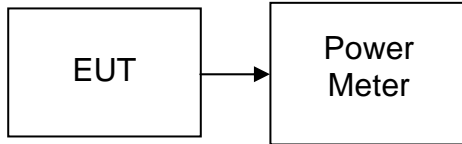
Test mode: IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz

Frequency (MHz)	26 dB Bandwidth (B) (MHz)	10 Log B (dB)	17 + 10 Log B (dBm)	Maximum Conducted Output Power Limit
5530	83.20	19.20	36.20	24.00



Test Configuration

The EUT was connected to a spectrum analyzer through a 50 Ω RF cable.



TEST PROCEDURE

Set span to encompass the entire emission bandwidth (EBW) of the signal.

Set RBW = 1 MHz / Set VBW = 3 MHz.

Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to "free run". Trace average 100 traces in power averaging mode. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

TEST RESULTS

No non-compliance noted



Test Data

Test mode: IEEE 802.11a mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	5.37	17.00
Mid	5220	5.71	17.00
High	5240	5.07	17.00

Test mode: IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	5.36	17.00
Mid	5220	4.95	17.00
High	5240	4.98	17.00

Test mode: IEEE 802.11n HT40 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5190	8.69	17.00
High	5230	8.67	17.00

Test mode: IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz

Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
5210	10.38	17.00



Test mode: IEEE 802.11a mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5260	10.71	24.00
Mid	5280	10.18	24.00
High	5320	10.17	24.00

Test mode: IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5260	12.36	24.00
Mid	5280	11.85	24.00
High	5320	12.11	24.00

Test mode: IEEE 802.11n HT40 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5270	13.15	24.00
High	5310	12.30	24.00

Test mode: IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz

Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
5290	8.69	24.00



Test mode: IEEE 802.11a mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5500	10.51	24.00
Mid	5580	8.89	24.00
High	5700	8.44	24.00

Test mode: IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5500	12.15	24.00
Mid	5580	11.51	24.00
High	5700	11.04	24.00

Test mode: IEEE 802.11n HT40 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5510	11.75	24.00
Mid	5550	12.82	24.00
High	5670	10.72	24.00

Test mode: IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz

Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
5530	11.01	24.00



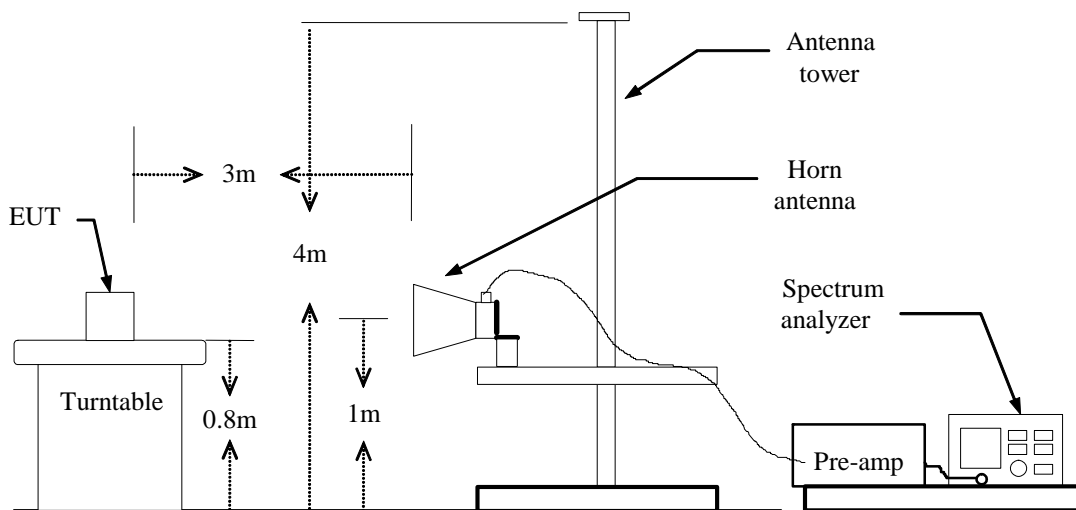
7.3 BAND EDGES MEASUREMENT

LIMIT

According to §15.407(b)

- (1) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.
- (2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

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=VBW=1MHz / Sweep=AUTO
 - (b) AVERAGE: RBW=1MHz / VBW=10Hz / 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.



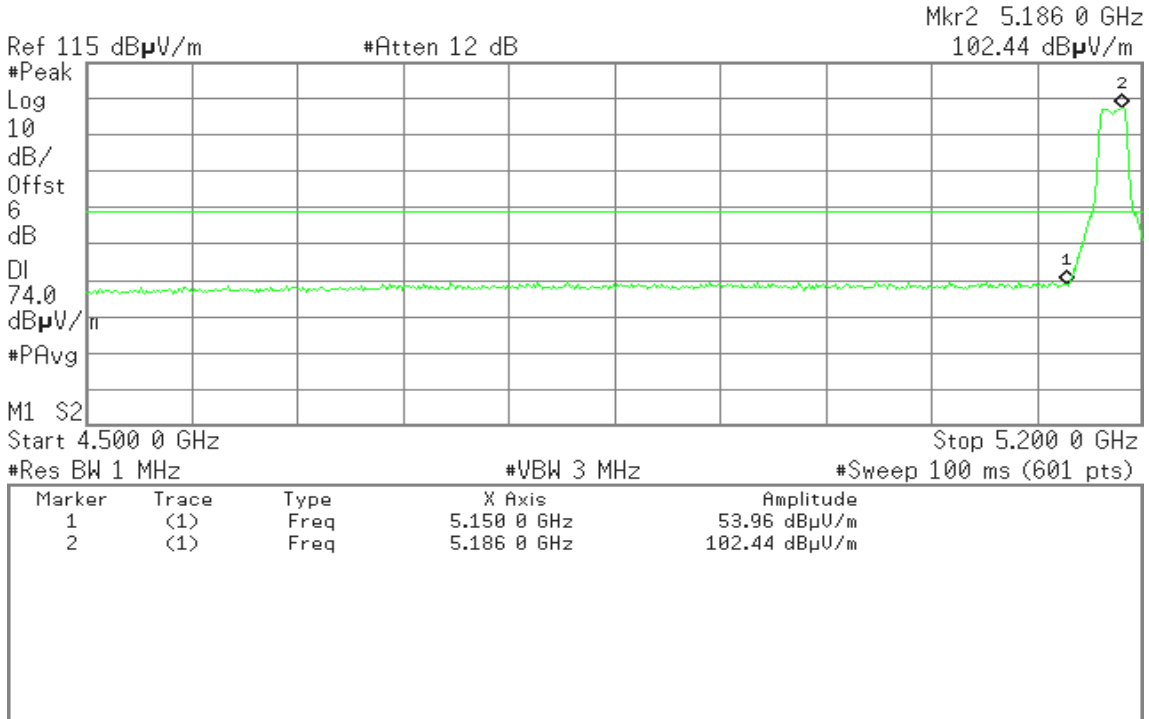
IEEE 802.11a mode / 5150 ~ 5250MHz / CH Low

Detector mode: Peak

Polarity: Vertical

Agilent

R L

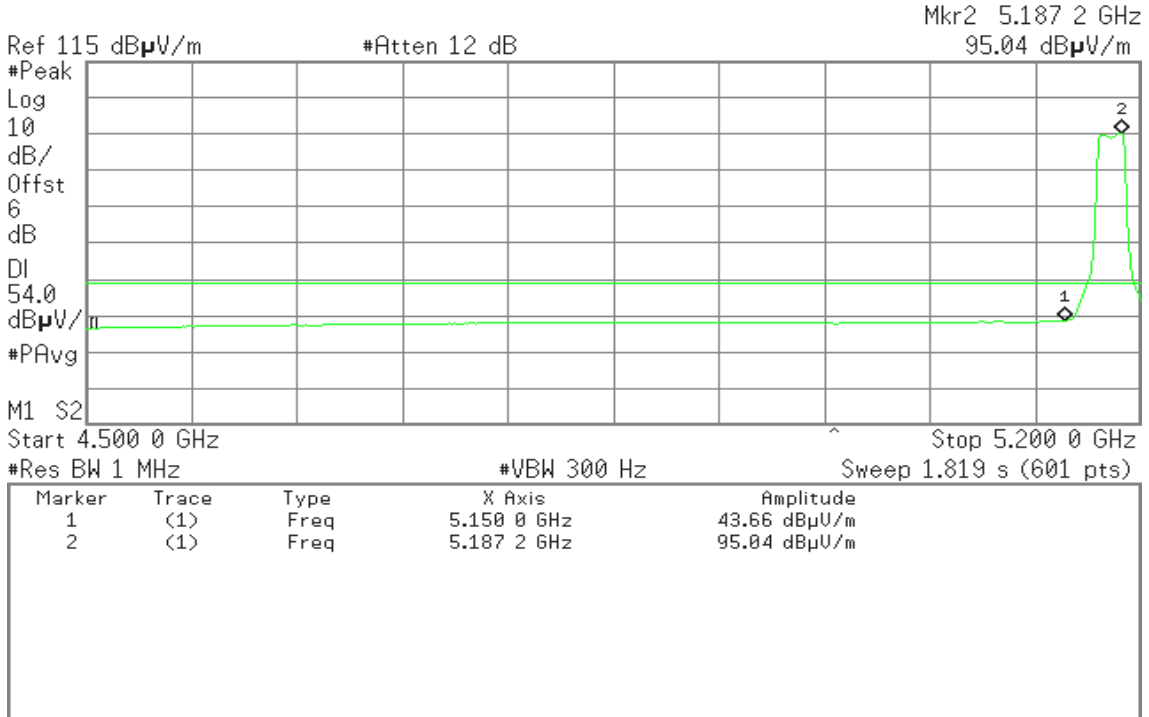


Detector mode: Average

Polarity: Vertical

Agilent

R L





Detector mode: Peak

Polarity: Horizontal

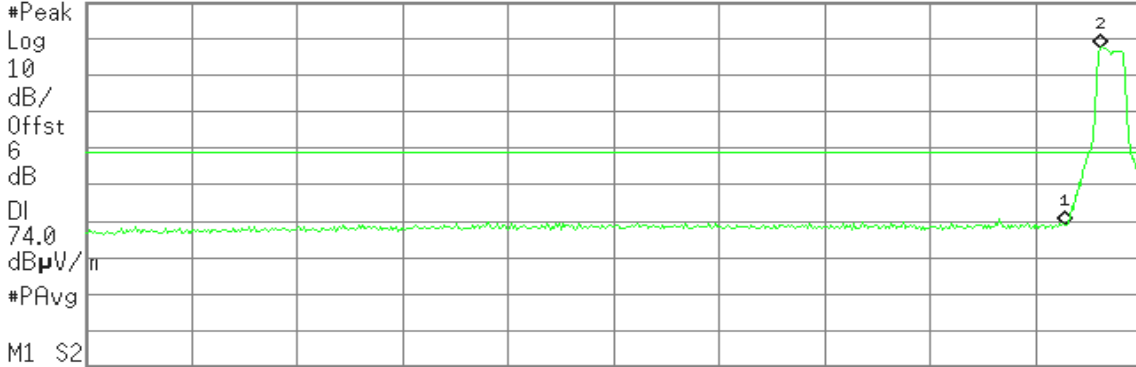
Agilent

R L

Mkr2 5.173 2 GHz
102.64 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2

Start 4.500 0 GHz

Stop 5.200 0 GHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	53.99 dBµV/m
2	(1)	Freq	5.173 2 GHz	102.64 dBµV/m

Detector mode: Average

Polarity: Horizontal

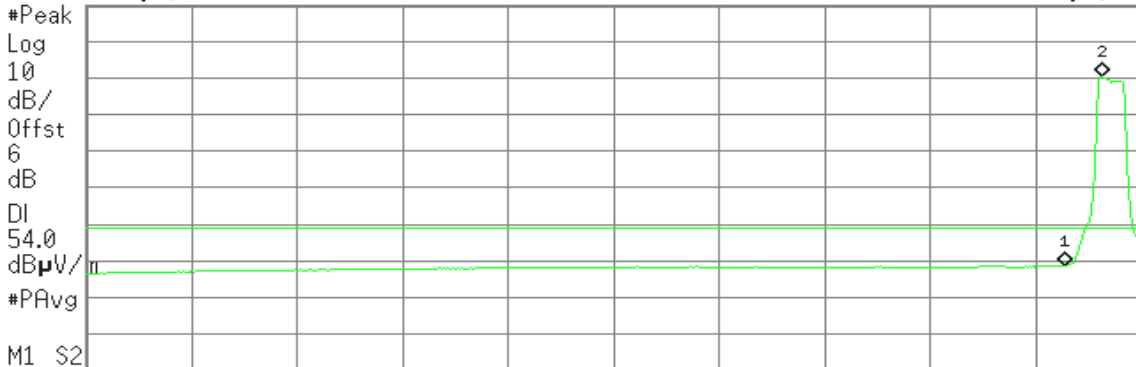
Agilent

R L

Mkr2 5.174 3 GHz
95.32 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2

Start 4.500 0 GHz

Stop 5.200 0 GHz

#Res BW 1 MHz

#VBW 300 Hz

Sweep 1.819 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	43.70 dBµV/m
2	(1)	Freq	5.174 3 GHz	95.32 dBµV/m



IEEE 802.11n HT20 mode / 5150 ~ 5250MHz / CH Low

Detector mode: Peak

Polarity: Vertical

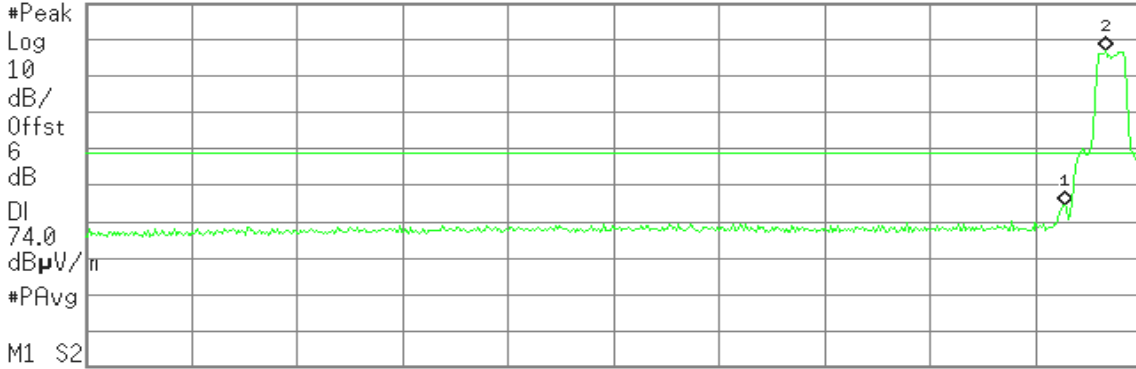
Agilent

R L

Mkr2 5.176 7 GHz
102.08 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2 Start 4.500 0 GHz Stop 5.200 0 GHz
#Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	59.66 dBµV/m
2	(1)	Freq	5.176 7 GHz	102.08 dBµV/m

Detector mode: Average

Polarity: Vertical

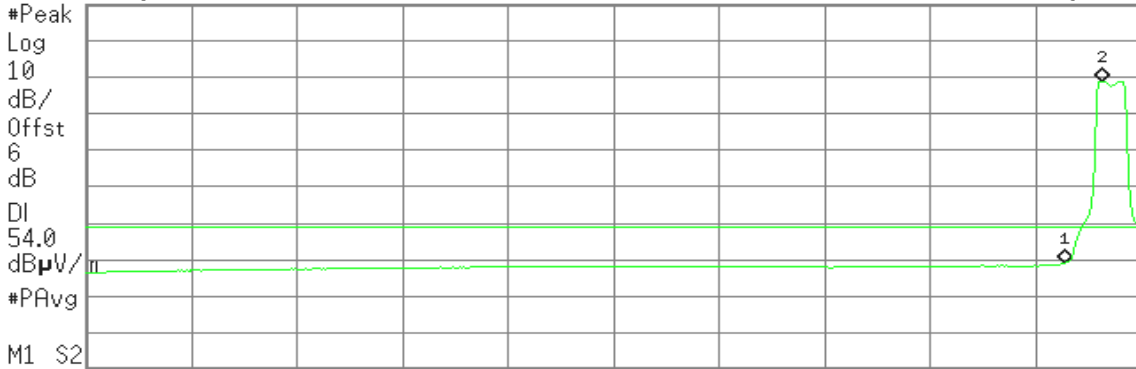
Agilent

R L

Mkr2 5.174 3 GHz
93.88 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2 Start 4.500 0 GHz Stop 5.200 0 GHz
#Res BW 1 MHz #VBW 300 Hz Sweep 1.819 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	44.18 dBµV/m
2	(1)	Freq	5.174 3 GHz	93.88 dBµV/m



Detector mode: Peak

Polarity: Horizontal

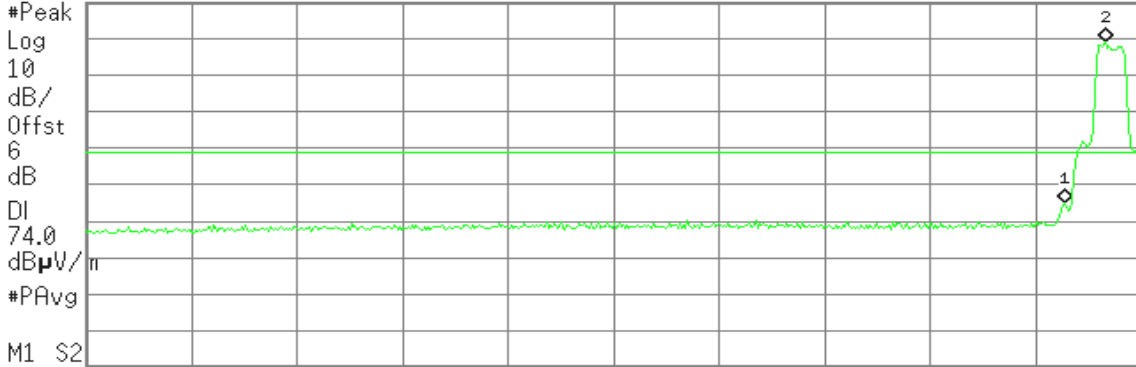
Agilent

R L

Mkr2 5.176 7 GHz
104.30 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



Start 4.500 0 GHz

Stop 5.200 0 GHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	60.02 dBµV/m
2	(1)	Freq	5.176 7 GHz	104.30 dBµV/m

Detector mode: Average

Polarity: Horizontal

Agilent

R L

Mkr2 5.174 3 GHz
95.28 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



Start 4.500 0 GHz ^

Stop 5.200 0 GHz

#Res BW 1 MHz

#VBW 300 Hz

Sweep 1.819 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	44.13 dBµV/m
2	(1)	Freq	5.174 3 GHz	95.28 dBµV/m



IEEE 802.11n HT40 mode / 5150 ~ 5250MHz / CH Low

Detector mode: Peak

Polarity: Vertical

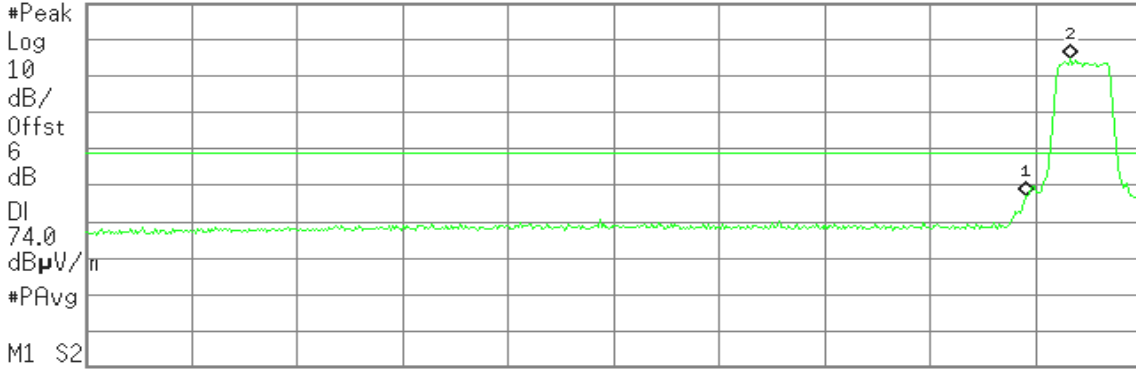
Agilent

R L

Mkr2 5.181 3 GHz
99.64 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 4.500 0 GHz Stop 5.230 0 GHz
#Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	62.05 dBµV/m
2	(1)	Freq	5.181 3 GHz	99.64 dBµV/m

Detector mode: Average

Polarity: Vertical

Agilent

R L

Mkr2 5.205 7 GHz
91.451 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 4.500 0 GHz Stop 5.230 0 GHz
#Res BW 1 MHz #VBW 300 Hz Sweep 1.897 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	46.96 dBµV/m
2	(1)	Freq	5.205 7 GHz	91.45 dBµV/m



Detector mode: Peak

Polarity: Horizontal

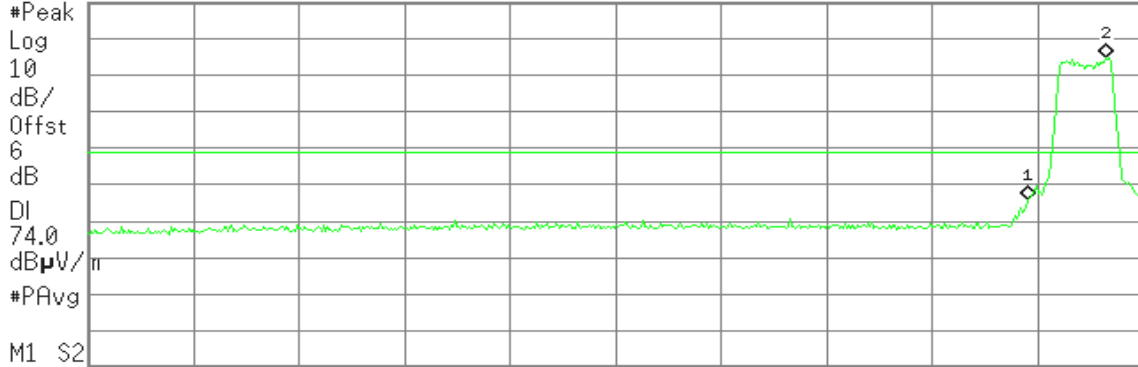
Agilent

R L

Mkr2 5.204 4 GHz
99.74 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 4.500 0 GHz

Stop 5.230 0 GHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	60.83 dBµV/m
2	(1)	Freq	5.204 4 GHz	99.74 dBµV/m

Detector mode: Average

Polarity: Horizontal

Agilent

R L

Mkr2 5.205 7 GHz
91.451 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 4.500 0 GHz

Stop 5.230 0 GHz

#Res BW 1 MHz

#VBW 300 Hz

Sweep 1.897 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.150 0 GHz	46.96 dBµV/m
2	(1)	Freq	5.205 7 GHz	91.45 dBµV/m



IEEE 802.11a mode / 5250 ~ 5350MHz / CH High

Detector mode: Peak

Polarity: Vertical

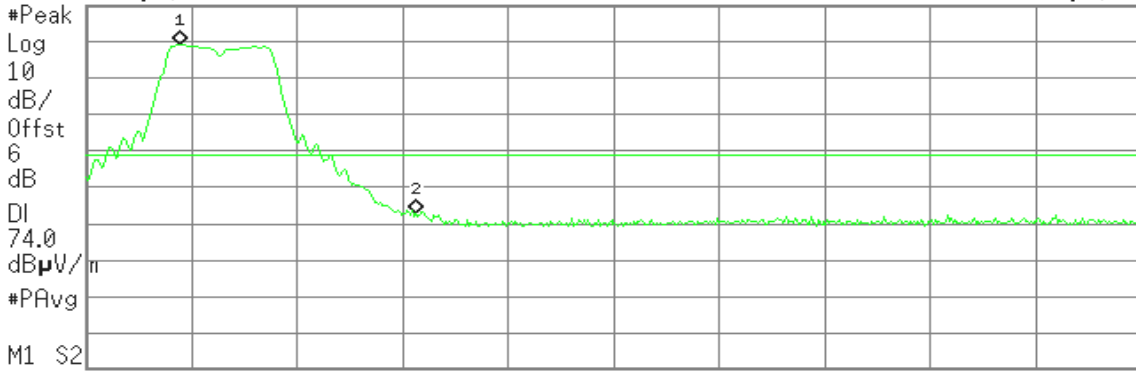
Agilent

R L

Mkr1 5.314 13 GHz
104.23 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 5.300 00 GHz Stop 5.460 00 GHz
#Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.314 13 GHz	104.23 dBµV/m
2	(1)	Freq	5.350 00 GHz	57.67 dBµV/m

Detector mode: Average

Polarity: Vertical

Agilent

R L

Mkr1 5.313 87 GHz
96.86 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 5.300 00 GHz Stop 5.460 00 GHz
#Res BW 1 MHz #VBW 300 Hz Sweep 415.9 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.313 87 GHz	96.86 dBµV/m
2	(1)	Freq	5.350 00 GHz	45.85 dBµV/m



Detector mode: Peak

Polarity: Horizontal

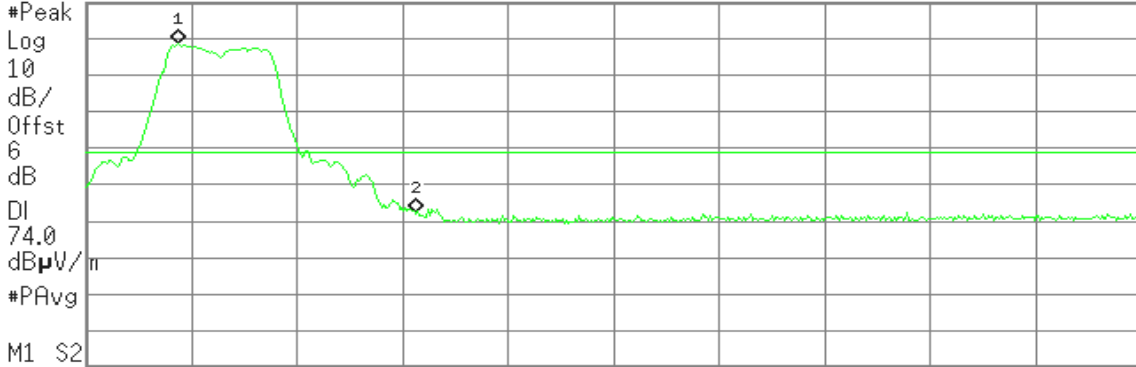
Agilent

R T

Mkr1 5.313 87 GHz
103.66 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 5.300 00 GHz

Stop 5.460 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.313 87 GHz	103.66 dBµV/m
2	(1)	Freq	5.350 00 GHz	57.20 dBµV/m

Detector mode: Average

Polarity: Horizontal

Agilent

R L

Mkr1 5.313 60 GHz
95.82 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 5.300 00 GHz

Stop 5.460 00 GHz

#Res BW 1 MHz

#VBW 300 Hz

Sweep 415.9 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.313 60 GHz	95.82 dBµV/m
2	(1)	Freq	5.350 00 GHz	45.59 dBµV/m



IEEE 802.11n HT20 mode / 5250 ~ 5350MHz / CH High

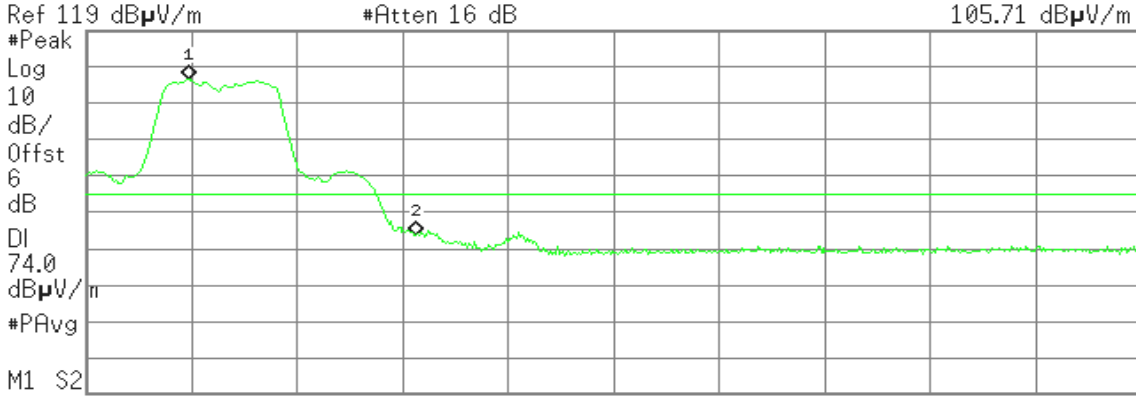
Detector mode: Peak

Polarity: Vertical

Agilent

R L

Mkr1 5.315 47 GHz
105.71 dBµV/m



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.315 47 GHz	105.71 dBµV/m
2	(1)	Freq	5.350 00 GHz	62.65 dBµV/m

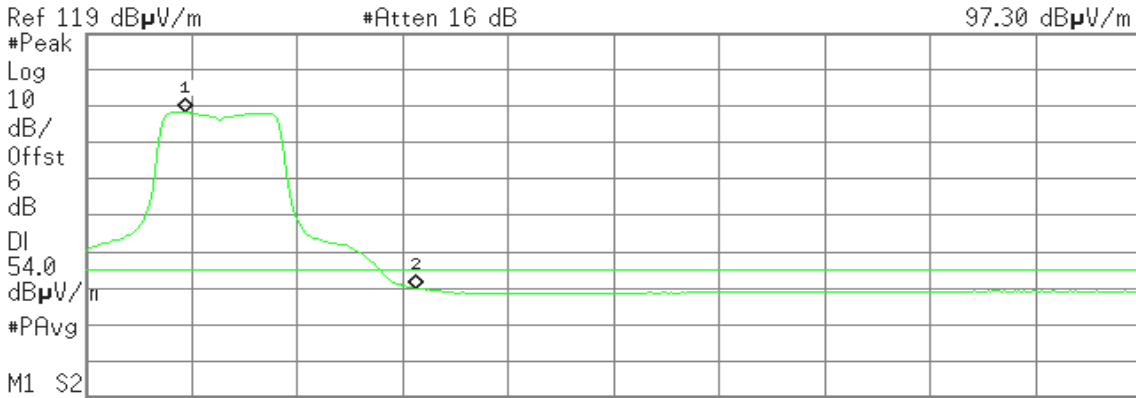
Detector mode: Average

Polarity: Vertical

Agilent

R T

Mkr1 5.314 93 GHz
97.30 dBµV/m



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.314 93 GHz	97.30 dBµV/m
2	(1)	Freq	5.350 00 GHz	48.99 dBµV/m



Detector mode: Peak

Polarity: Horizontal

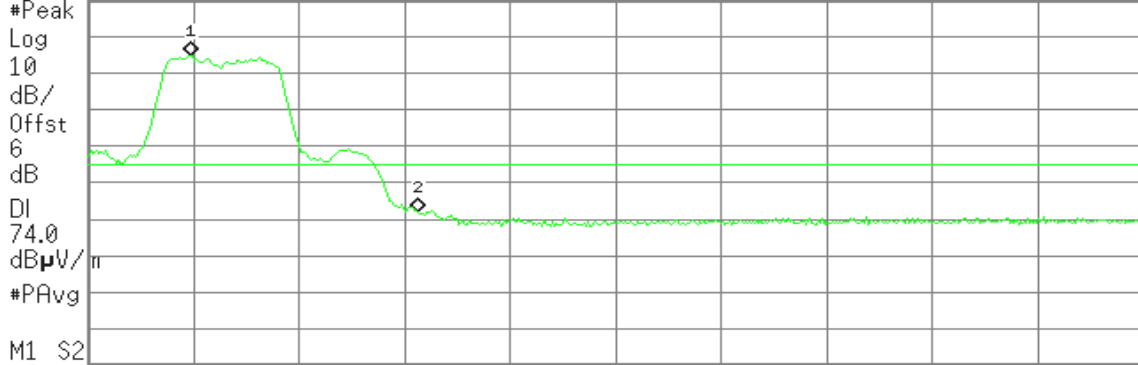
Agilent

R L

Mkr1 5.315 47 GHz
103.90 dBµV/m

Ref 119 dBµV/m

#Atten 16 dB



Start 5.300 00 GHz

Stop 5.460 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.315 47 GHz	103.90 dBµV/m
2	(1)	Freq	5.350 00 GHz	61.12 dBµV/m

Detector mode: Average

Polarity: Horizontal

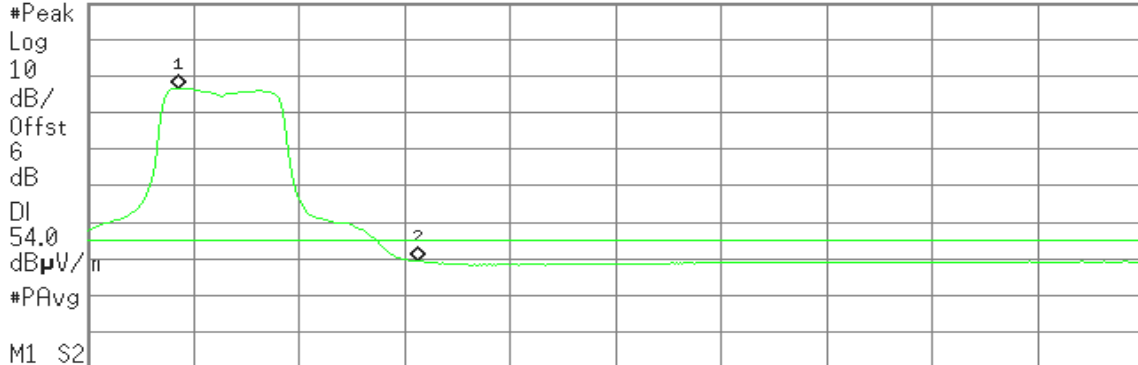
Agilent

R L

Mkr1 5.313 60 GHz
95.75 dBµV/m

Ref 119 dBµV/m

#Atten 16 dB



Start 5.300 00 GHz

Stop 5.460 00 GHz

#Res BW 1 MHz

#VBW 300 Hz

Sweep 415.9 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.313 60 GHz	95.75 dBµV/m
2	(1)	Freq	5.350 00 GHz	48.36 dBµV/m



IEEE 802.11n HT40 mode / 5250 ~ 5350MHz / CH High

Detector mode: Peak

Polarity: Vertical

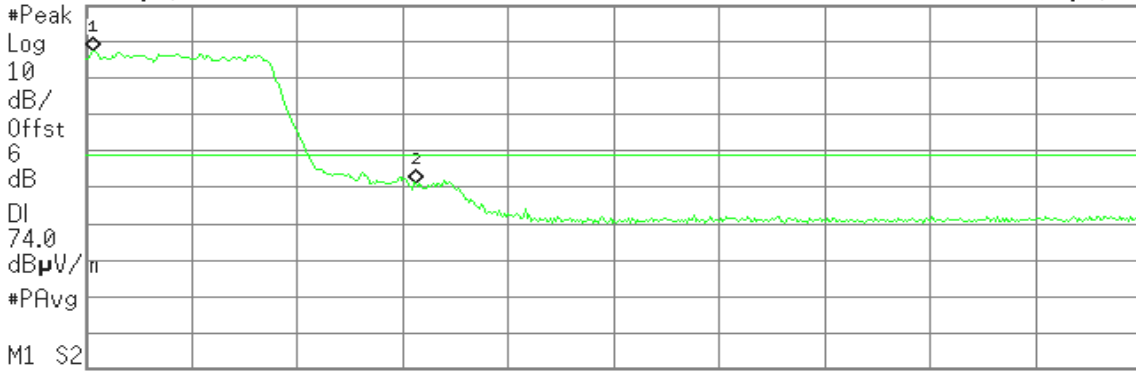
Agilent

R L

Mkr1 5.301 07 GHz
102.26 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.301 07 GHz	102.26 dBµV/m
2	(1)	Freq	5.350 00 GHz	65.88 dBµV/m

Detector mode: Average

Polarity: Vertical

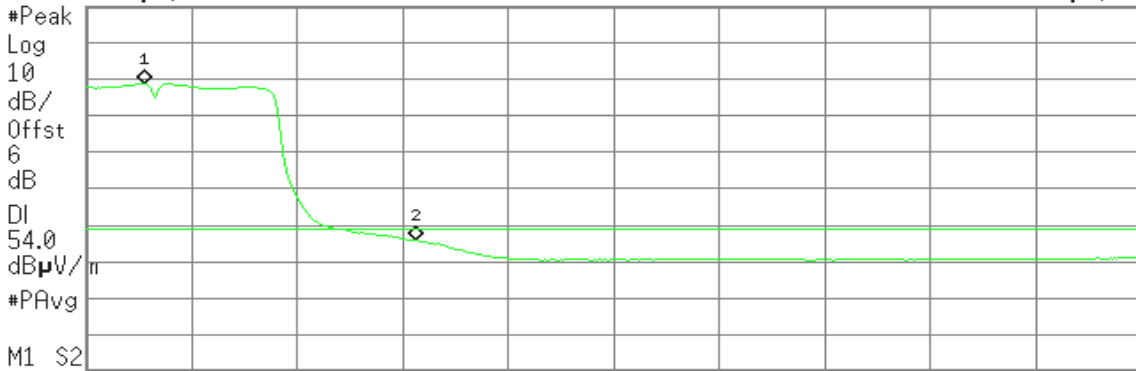
Agilent

R L

Mkr1 5.308 80 GHz
93.66 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.308 80 GHz	93.66 dBµV/m
2	(1)	Freq	5.350 00 GHz	50.77 dBµV/m



Detector mode: Peak

Polarity: Horizontal

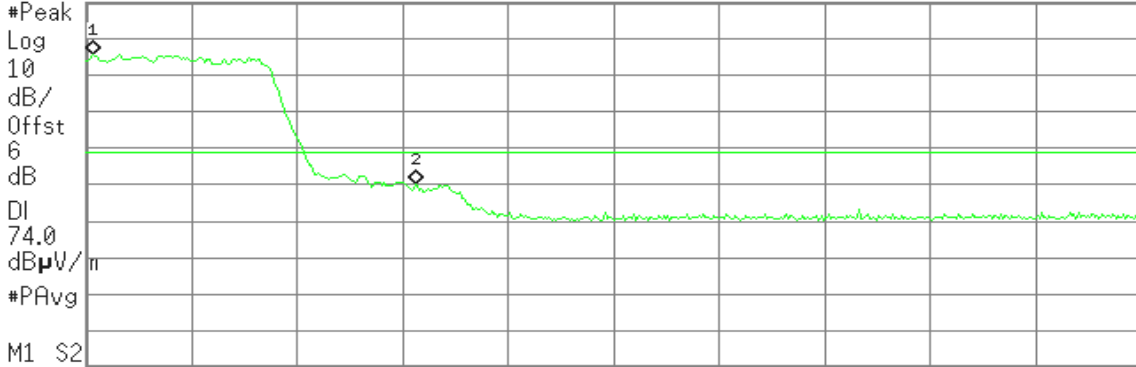
Agilent

R L

Mkr1 5.301 07 GHz
100.67 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 5.300 00 GHz

Stop 5.460 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 100 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.301 07 GHz	100.67 dBµV/m
2	(1)	Freq	5.350 00 GHz	65.26 dBµV/m

Detector mode: Average

Polarity: Horizontal

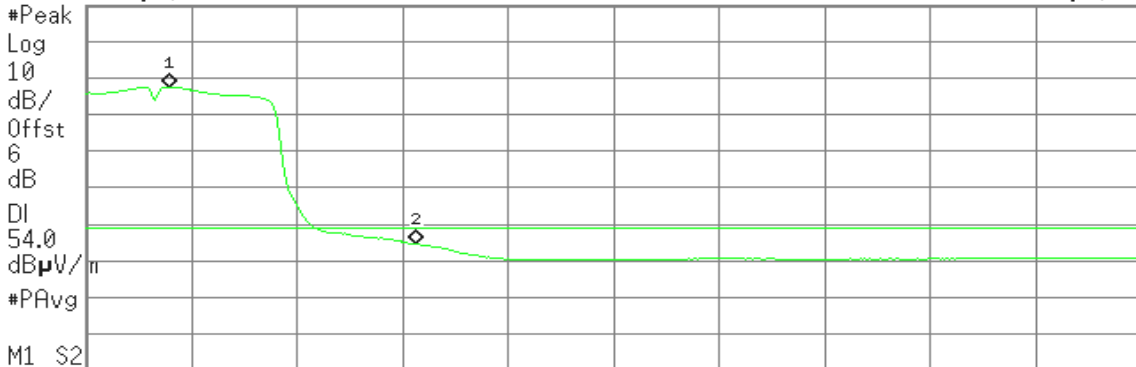
Agilent

R L

Mkr1 5.312 53 GHz
92.68 dBµV/m

Ref 115 dBµV/m

#Atten 12 dB



M1 S2
Start 5.300 00 GHz

Stop 5.460 00 GHz

#Res BW 1 MHz

#VBW 300 Hz

Sweep 415.9 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.312 53 GHz	92.68 dBµV/m
2	(1)	Freq	5.350 00 GHz	49.52 dBµV/m



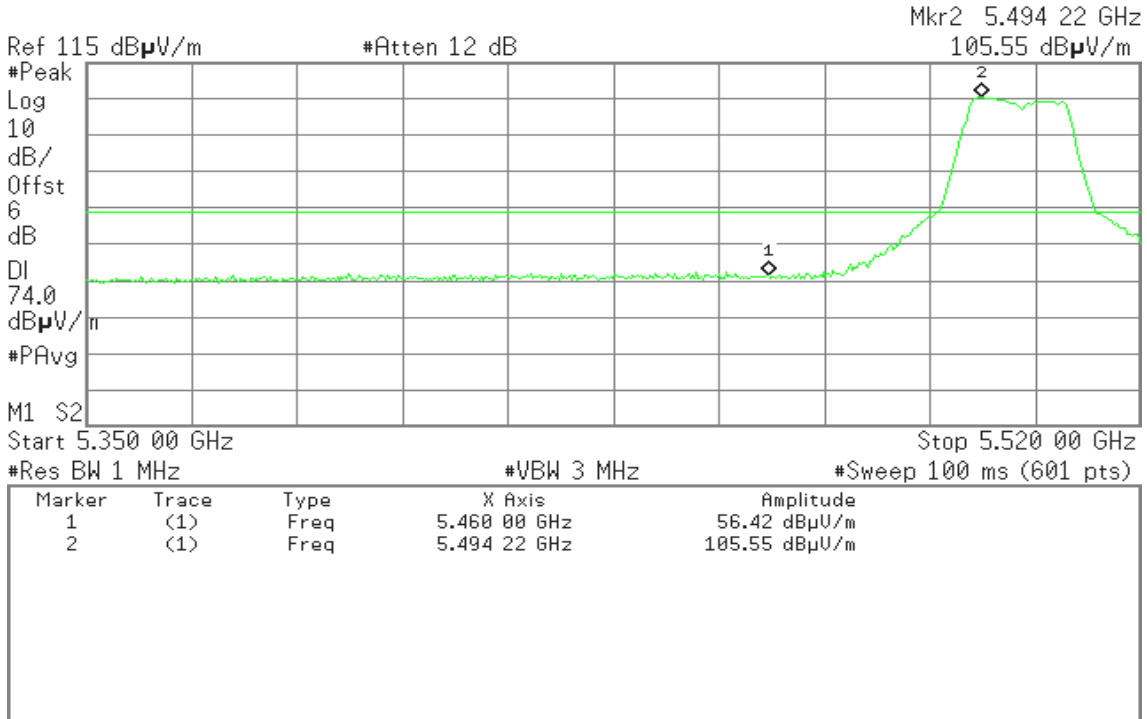
IEEE 802.11a mode / 5470 ~ 5725MHz / CH Low

Detector mode: Peak

Polarity: Vertical

Agilent

R L

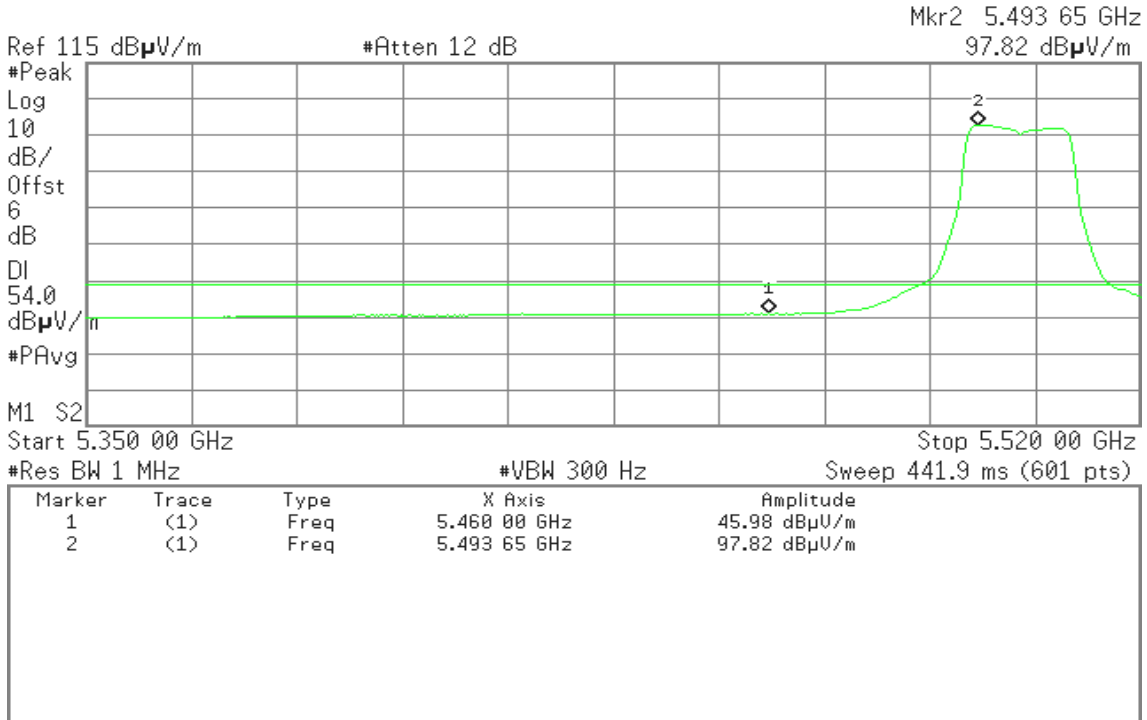


Detector mode: Average

Polarity: Vertical

Agilent

R L



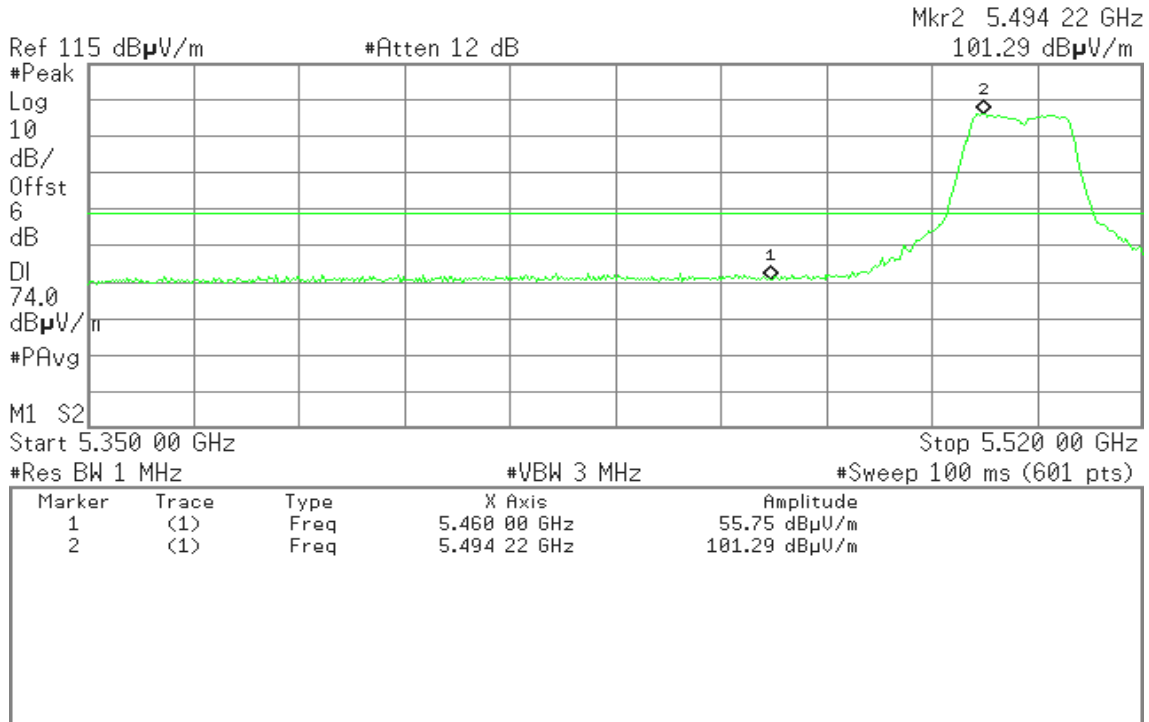


Detector mode: Peak

Polarity: Horizontal

Agilent

R L

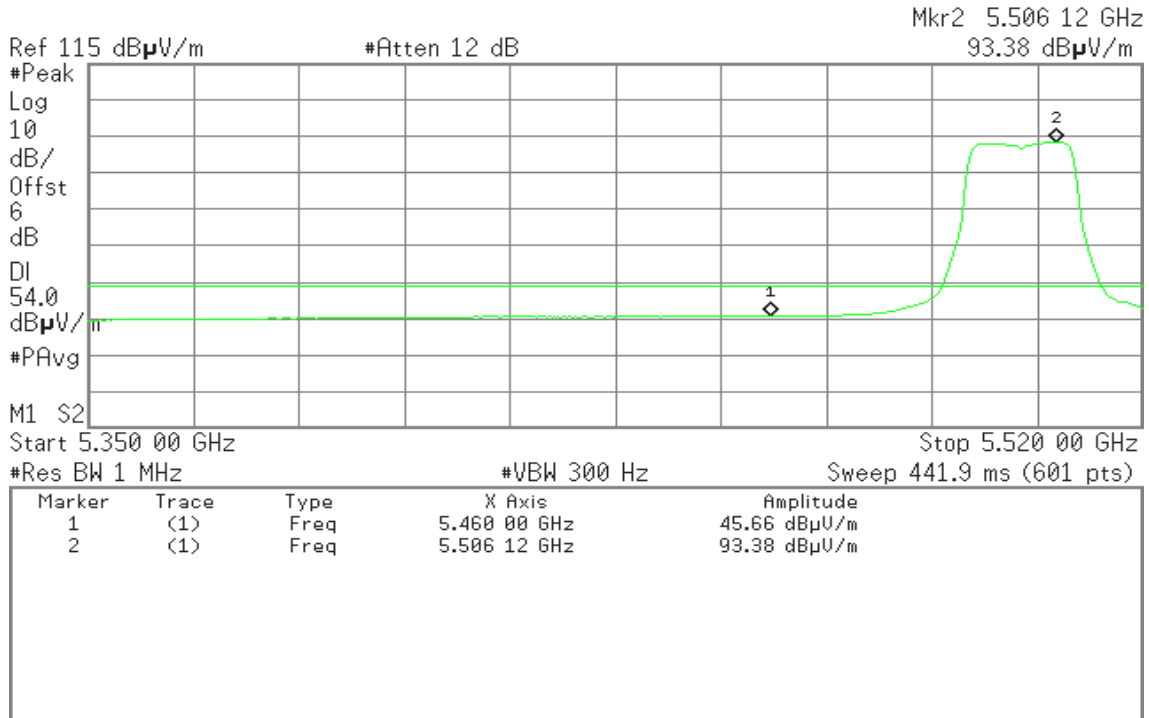


Detector mode: Average

Polarity: Horizontal

Agilent

R L





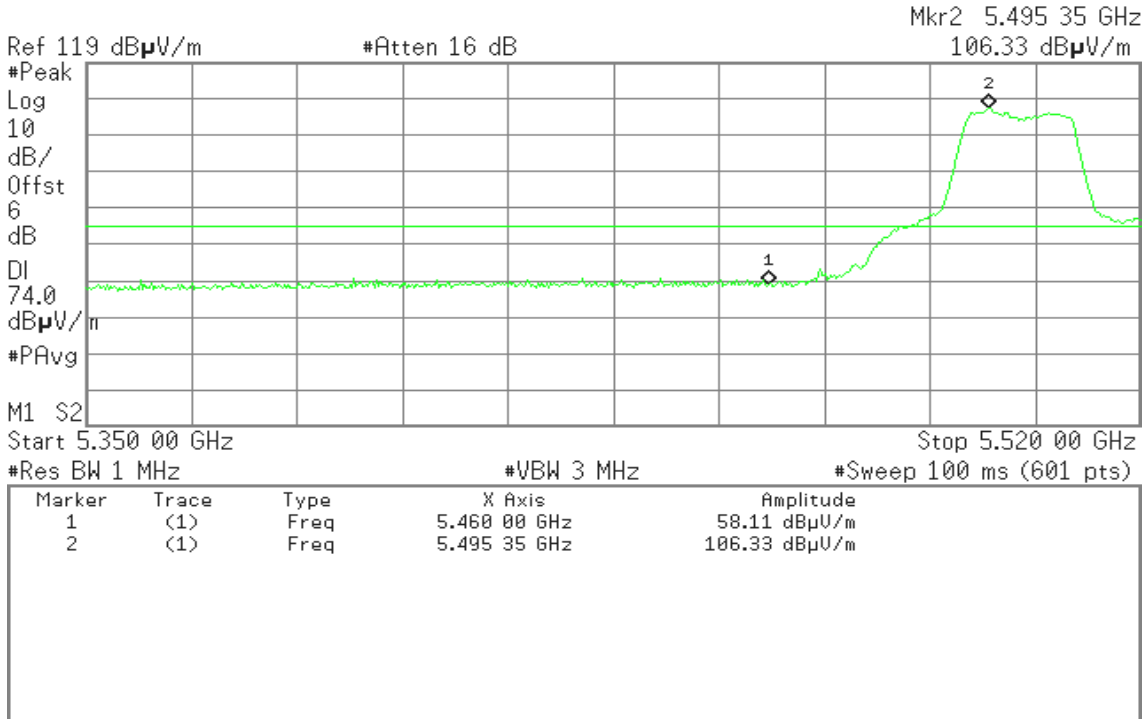
IEEE 802.11n HT20 mode / 5470 ~ 5725MHz / CH Low

Detector mode: Peak

Polarity: Vertical

Agilent

R L

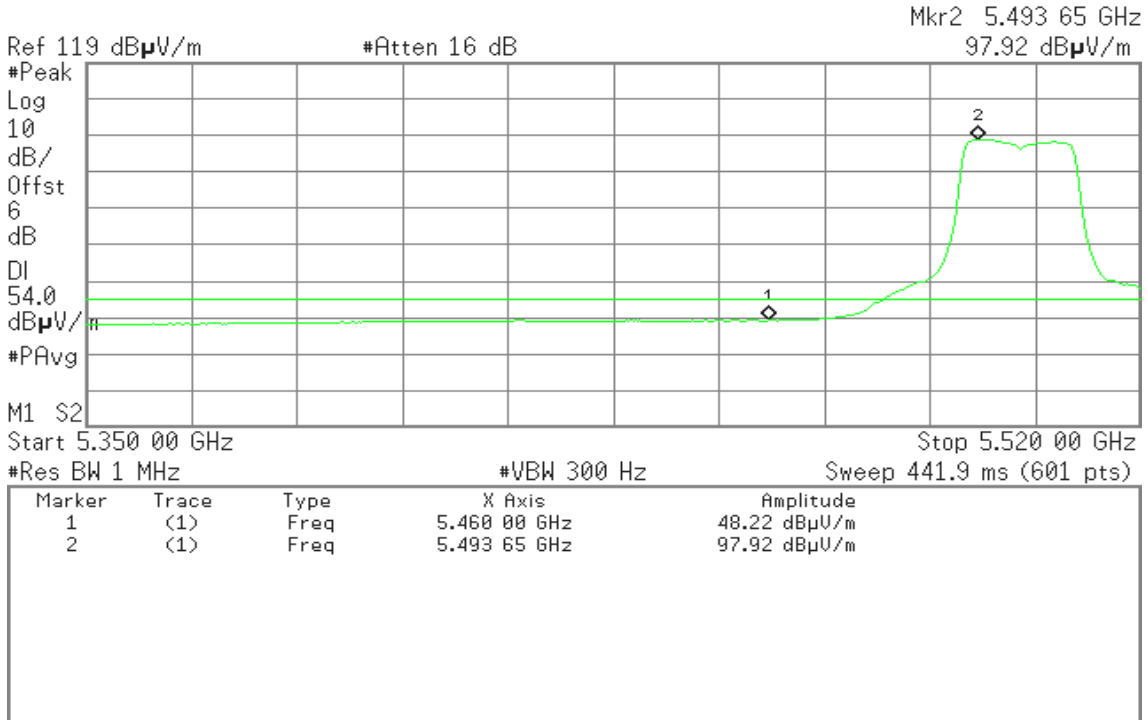


Detector mode: Average

Polarity: Vertical

Agilent

R T



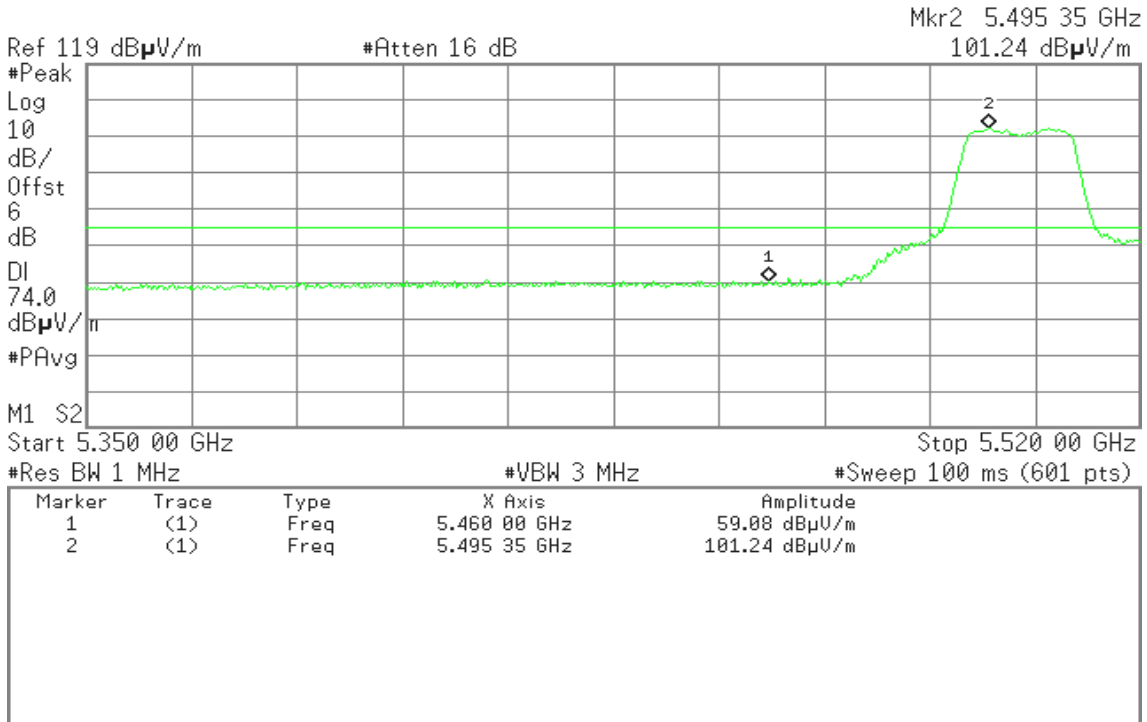


Detector mode: Peak

Polarity: Horizontal

Agilent

R L

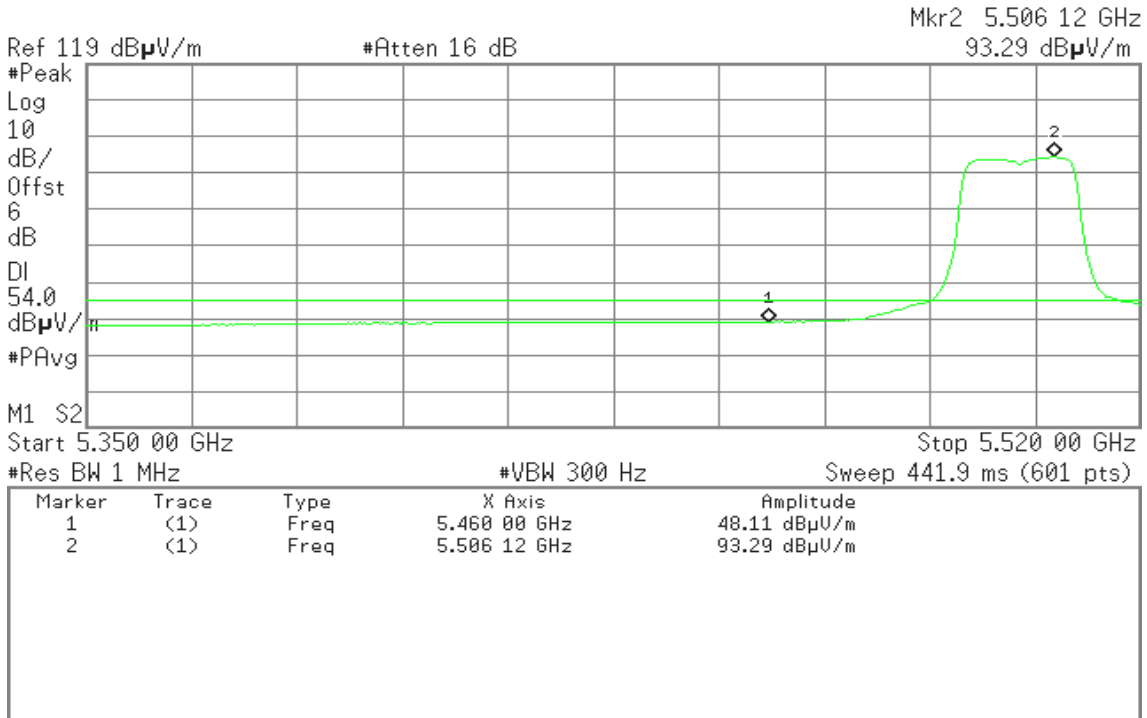


Detector mode: Average

Polarity: Horizontal

Agilent

R L





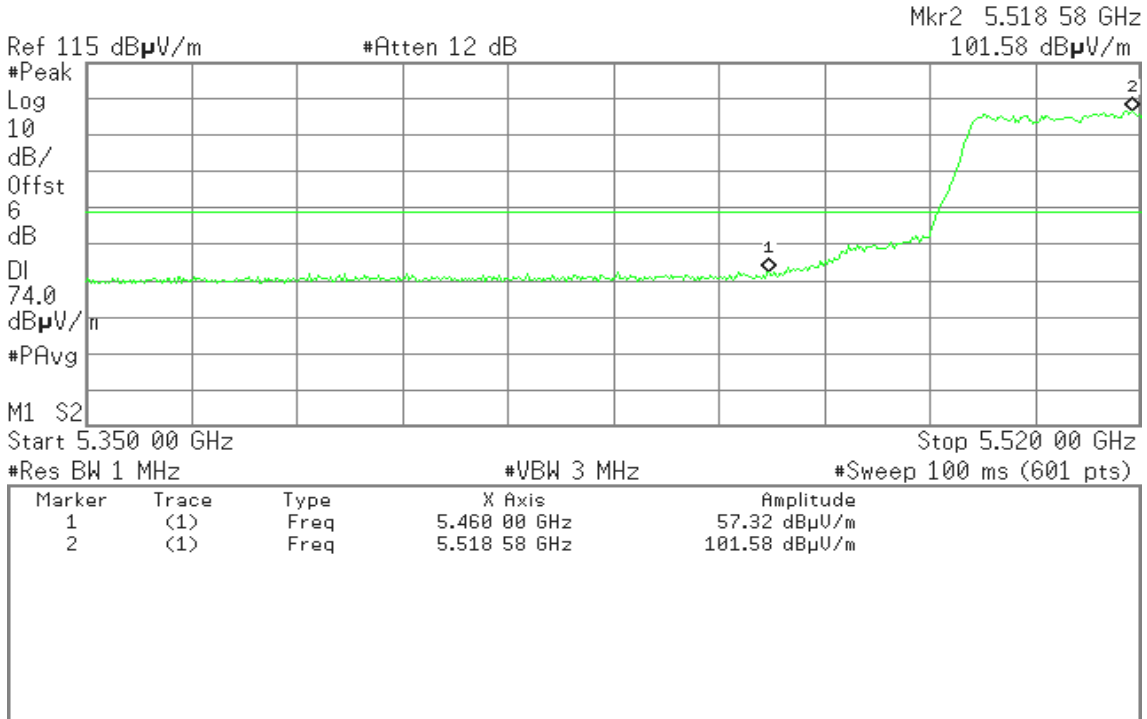
IEEE 802.11n HT40 mode / 5470 ~ 5725MHz / CH Low

Detector mode: Peak

Polarity: Vertical

Agilent

R L

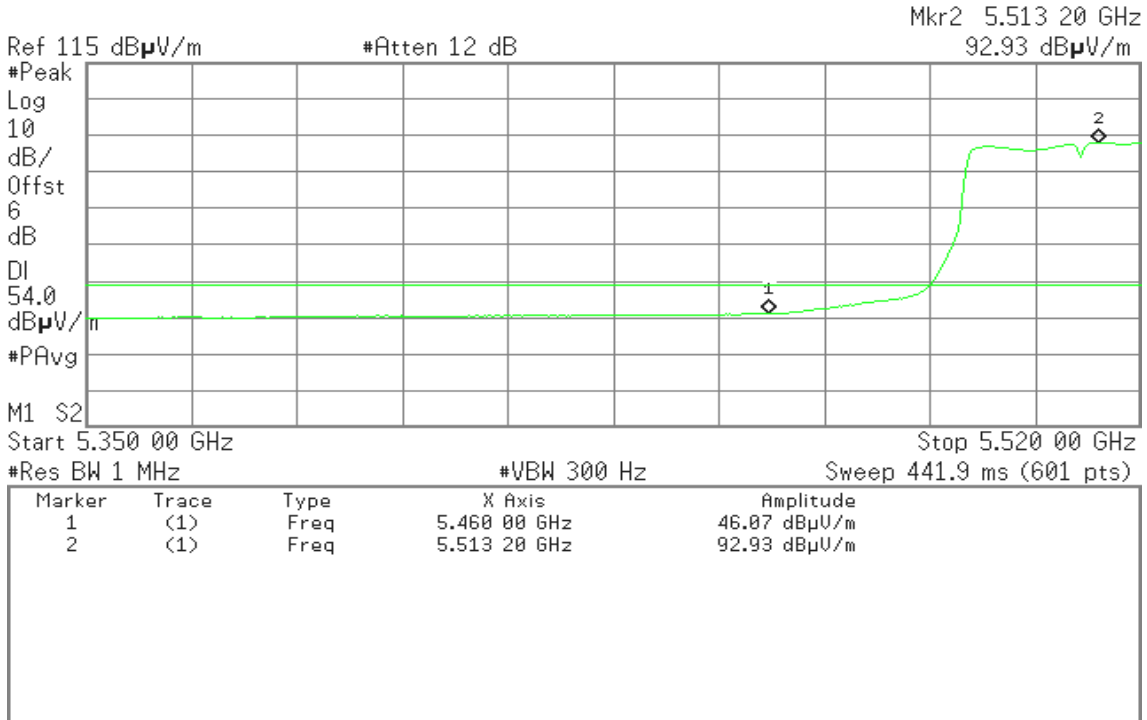


Detector mode: Average

Polarity: Vertical

Agilent

R L



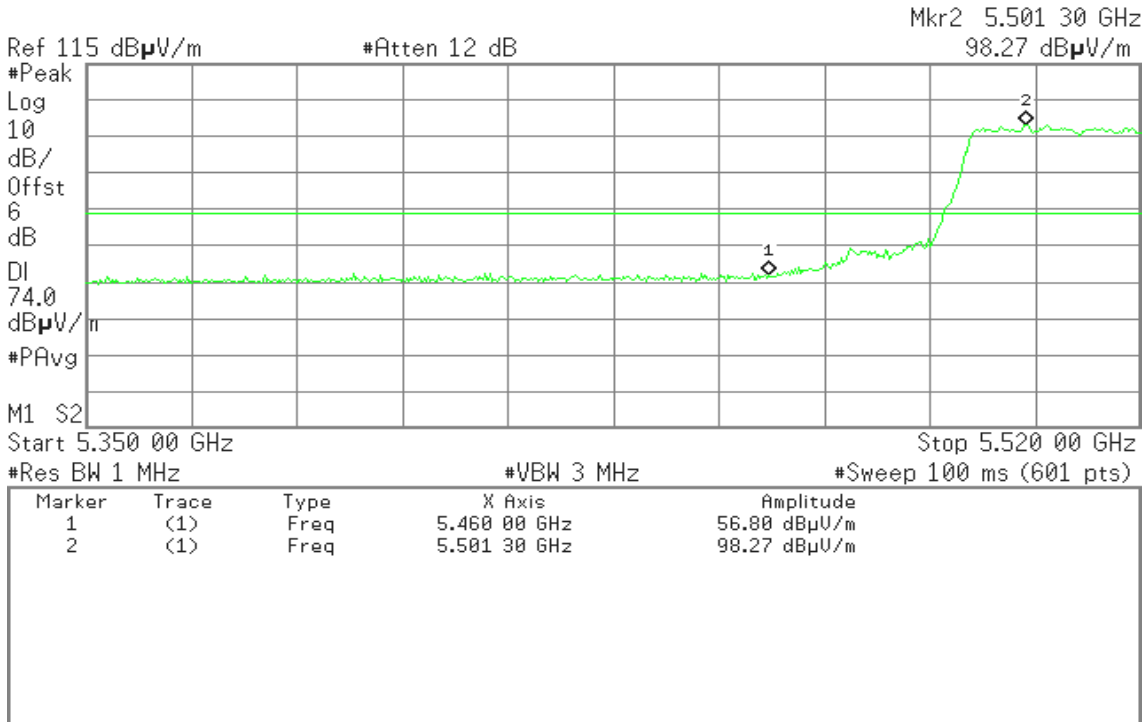


Detector mode: Peak

Polarity: Horizontal

Agilent

R L

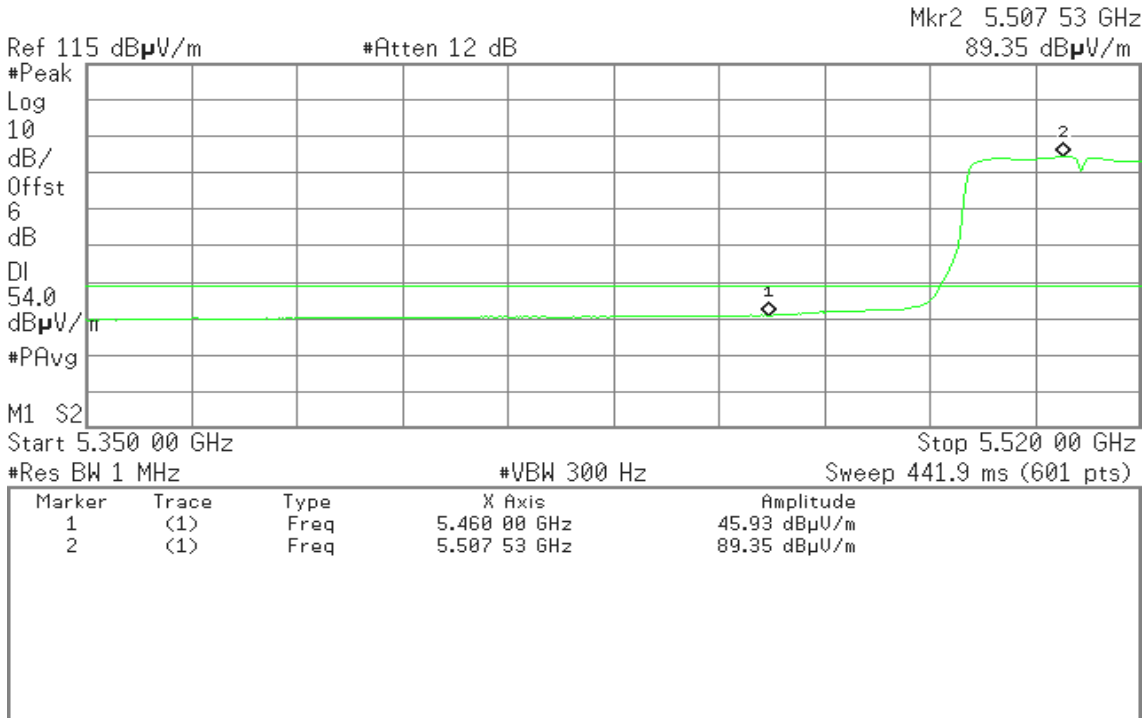


Detector mode: Average

Polarity: Horizontal

Agilent

R L





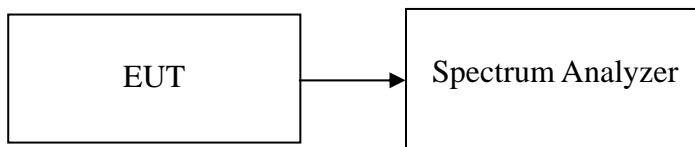
7.4 PEAK POWER SPECTRAL DENSITY

LIMIT

According to §15.407(a)

- (1) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4dBm in any 1MHz band.
- (2) For the band 5.25-5.35 GHz and 5.47-5.725GHz, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as RBW = 1MHz, VBW = 3MHz, Span = Sweep= AUTO
3. Record the max. reading.
4. Repeat the above procedure until the measurements for all frequencies are completed

TEST RESULTS

No non-compliance noted



Test Data

Test mode: IEEE 802.11a mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5180	3.1477	4.00	-0.85	PASS
Mid	5220	3.3983	4.00	-0.60	PASS
High	5240	2.7490	4.00	-1.25	PASS

Test mode: IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5180	3.3738	4.00	-0.63	PASS
Mid	5220	3.0229	4.00	-0.98	PASS
High	5240	3.8568	4.00	-0.14	PASS

Test mode: IEEE 802.11n HT40 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5190	3.3665	4.00	-0.63	PASS
High	5230	3.0758	4.00	-0.92	PASS

Test mode: IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz

Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
5210	3.3362	4.00	-0.66	PASS



Test mode: IEEE 802.11a mode/ 5250 ~ 5350MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5260	10.4520	11.00	-0.55	PASS
Mid	5280	9.6150	11.00	-1.39	PASS
High	5320	7.9450	11.00	-3.06	PASS

Test mode: IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5260	10.4630	11.00	-0.54	PASS
Mid	5280	8.6602	11.00	-2.34	PASS
High	5320	7.6314	11.00	-3.37	PASS

Test mode: IEEE 802.11n HT40 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5270	5.2857	11.00	-5.71	PASS
High	5310	4.0213	11.00	-6.98	PASS

Test mode: IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz

Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
5290	4.2388	11.00	-6.76	PASS



Test mode: IEEE 802.11a mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5500	9.1729	11.00	-1.83	PASS
Mid	5580	8.4727	11.00	-2.53	PASS
High	5700	8.6404	11.00	-2.36	PASS

Test mode: IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5500	10.3870	11.00	-0.61	PASS
Mid	5580	8.5345	11.00	-2.47	PASS
High	5700	8.0906	11.00	-2.91	PASS

Test mode: IEEE 802.11n HT40 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
Low	5500	5.0593	11.00	-5.94	PASS
Mid	5580	4.9771	11.00	-6.02	PASS
High	5700	4.2526	11.00	-6.75	PASS

Test mode: IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz

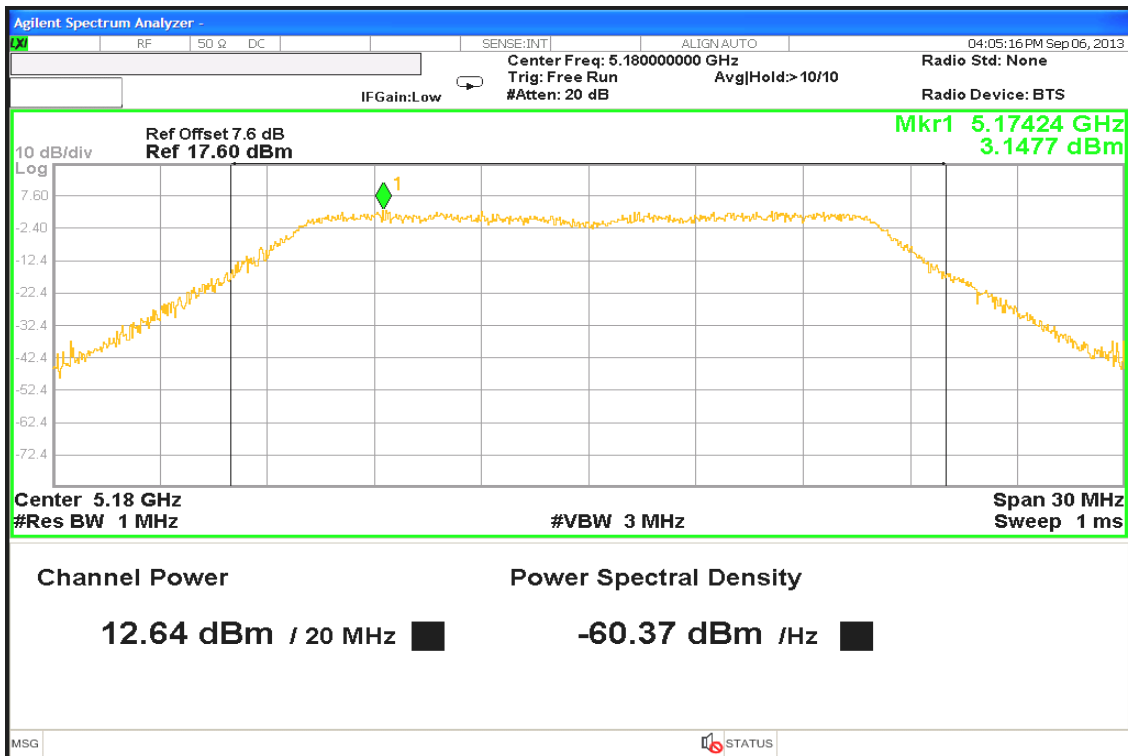
Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
5530	4.6841	11.00	-6.32	PASS



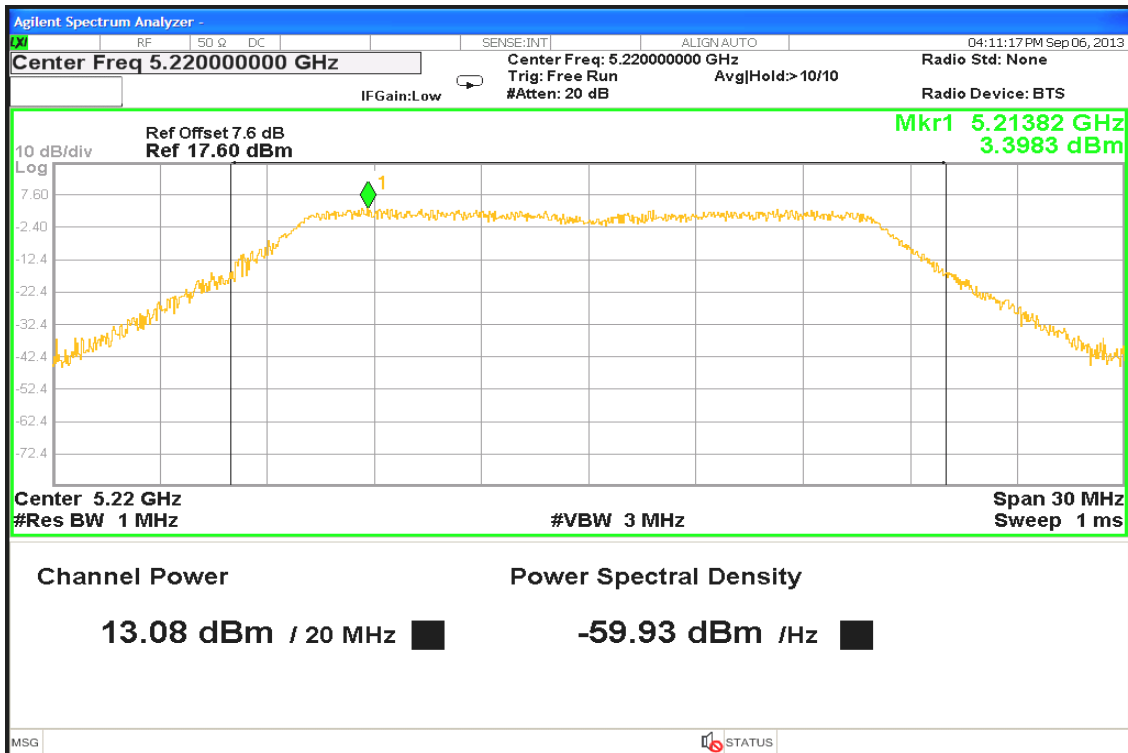
Test Plot

IEEE 802.11a mode / 5150 ~ 5250MHz

CH Low

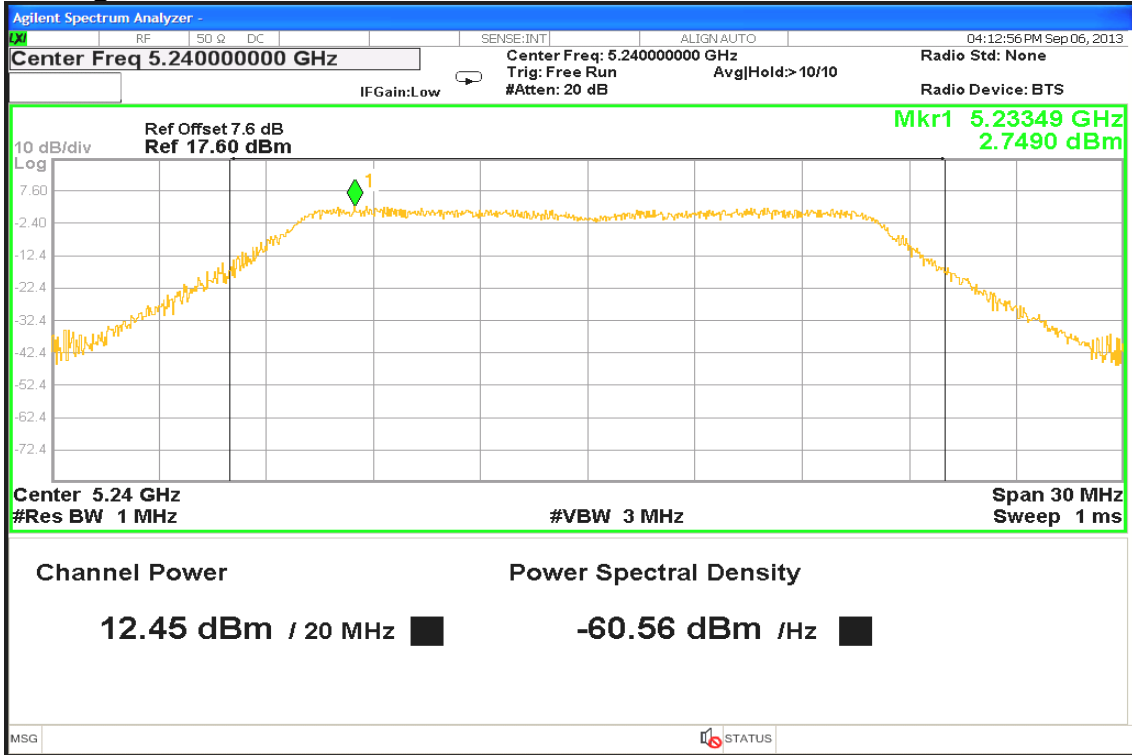


CH Mid



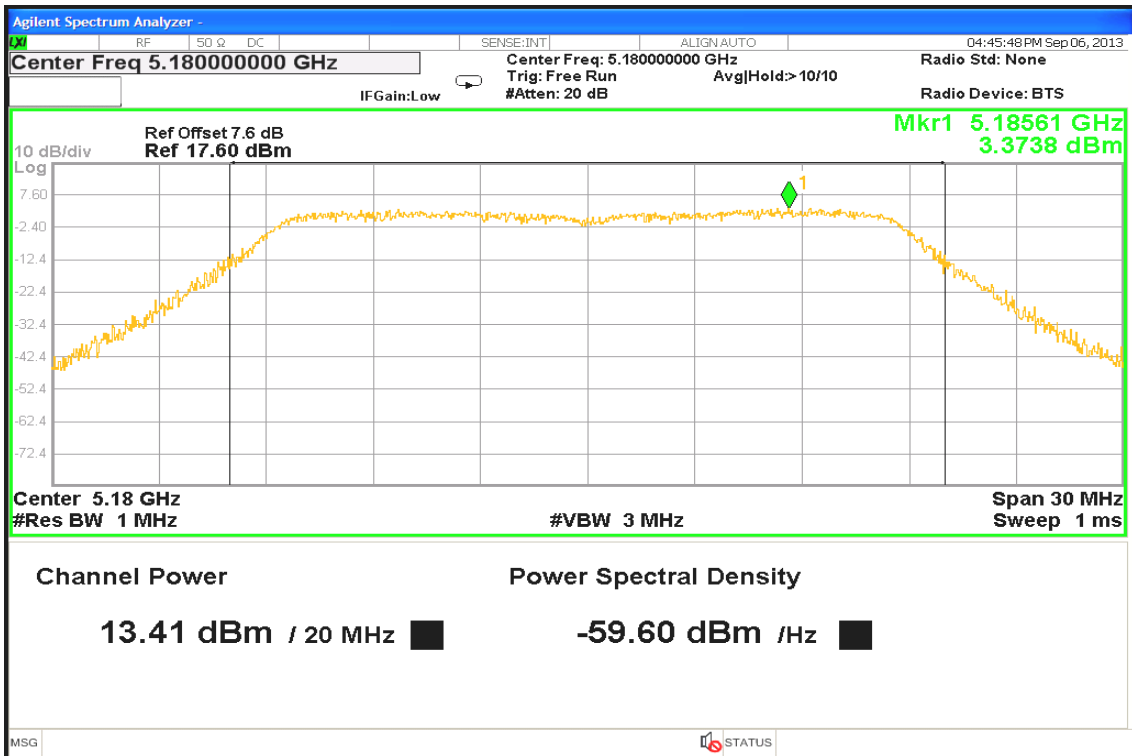


CH High



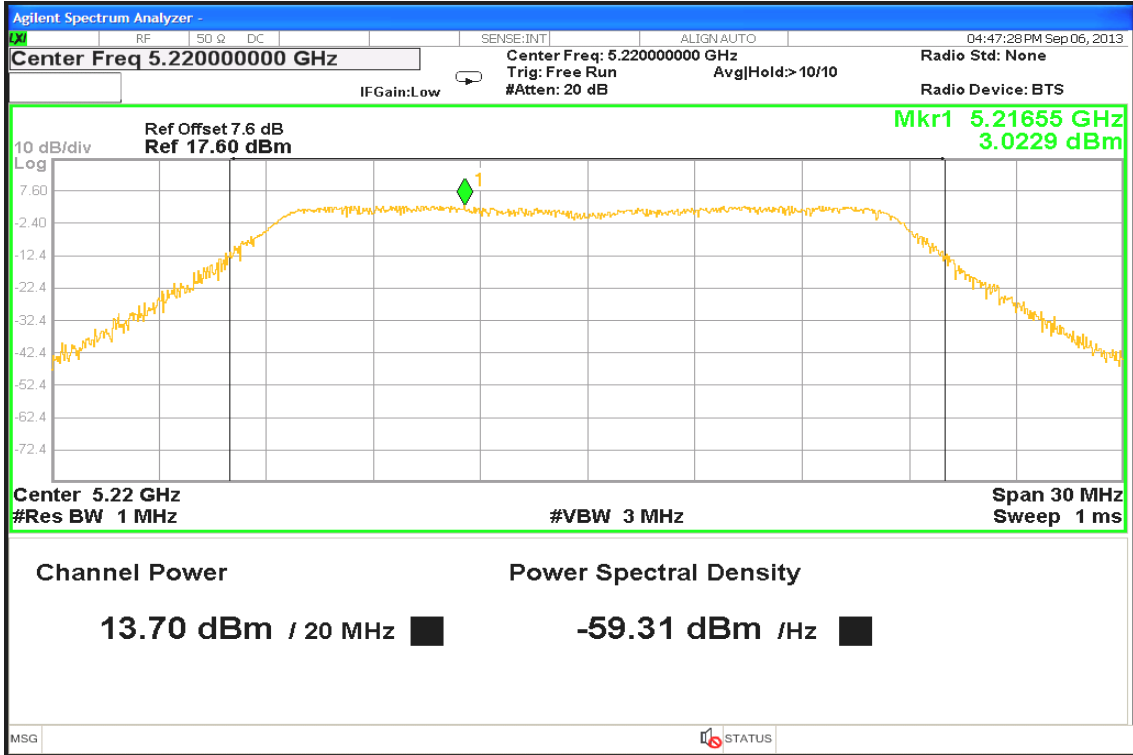
IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

CH Low

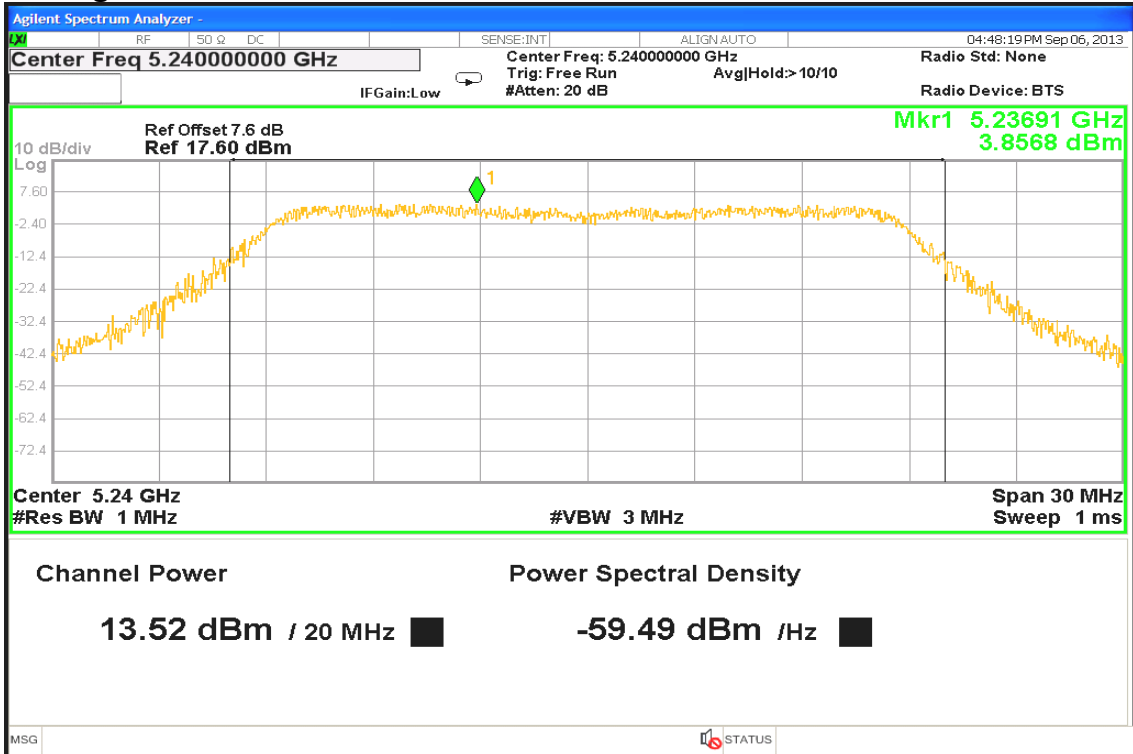




CH Mid

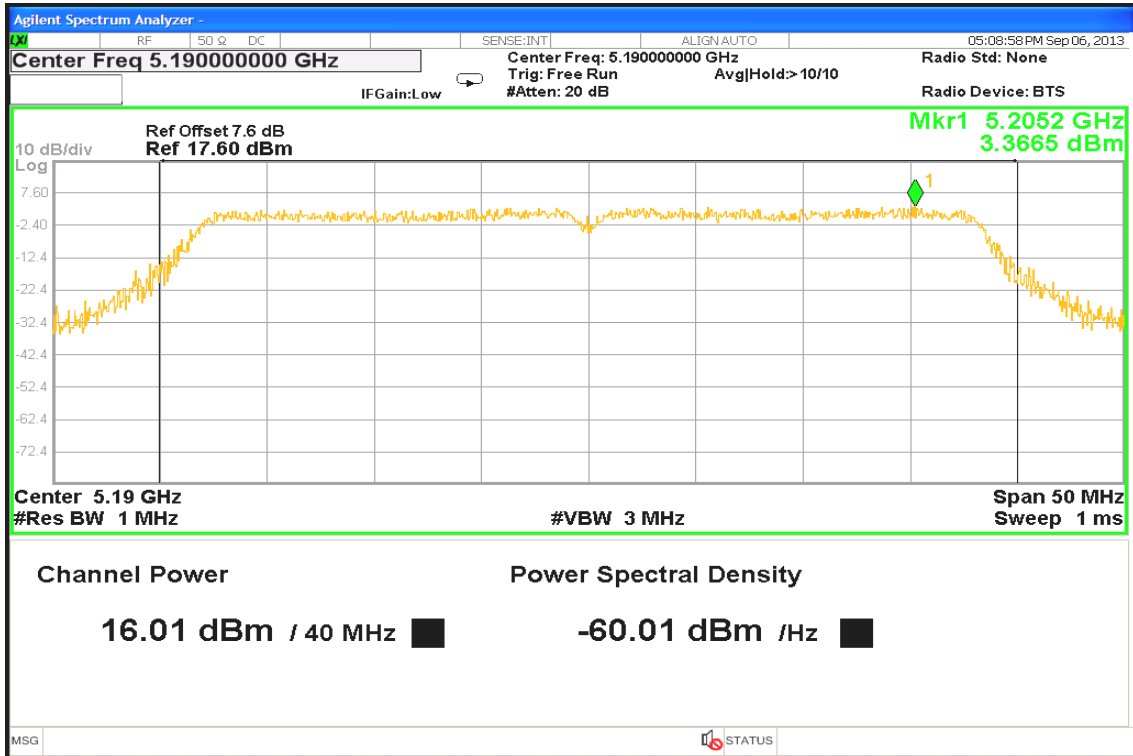


CH High

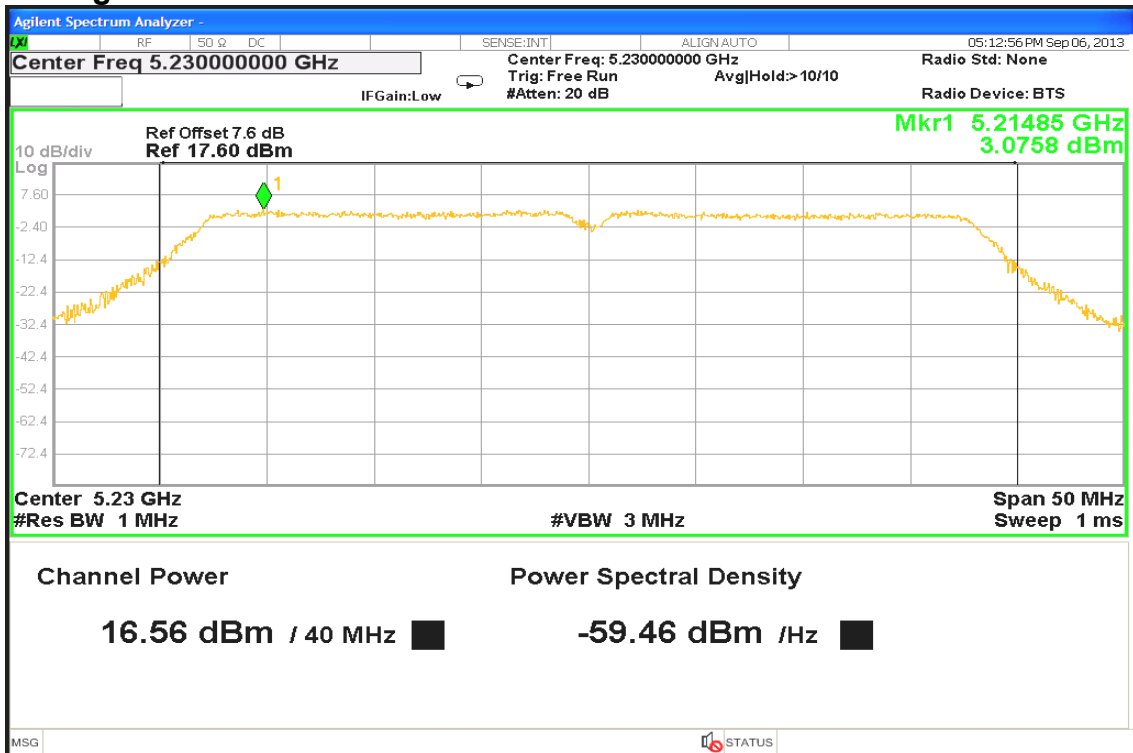




IEEE 802.11n HT40 mode / 5150 ~ 5250MHz CH Low

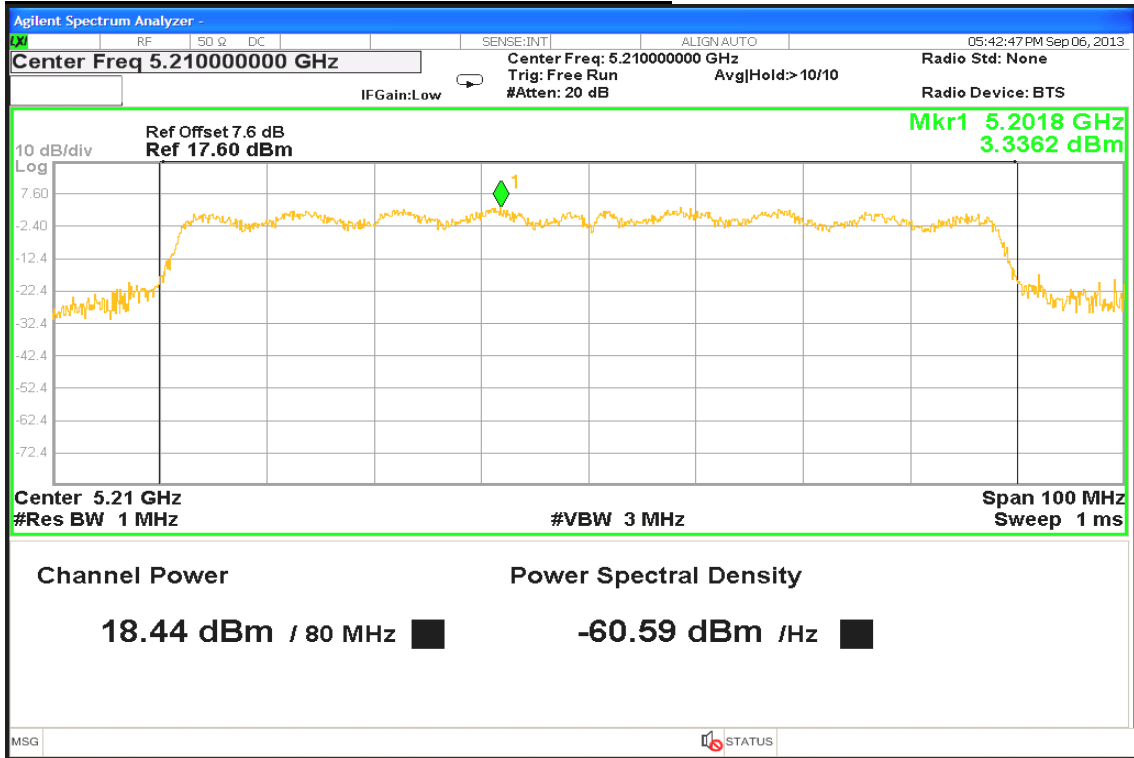


CH High



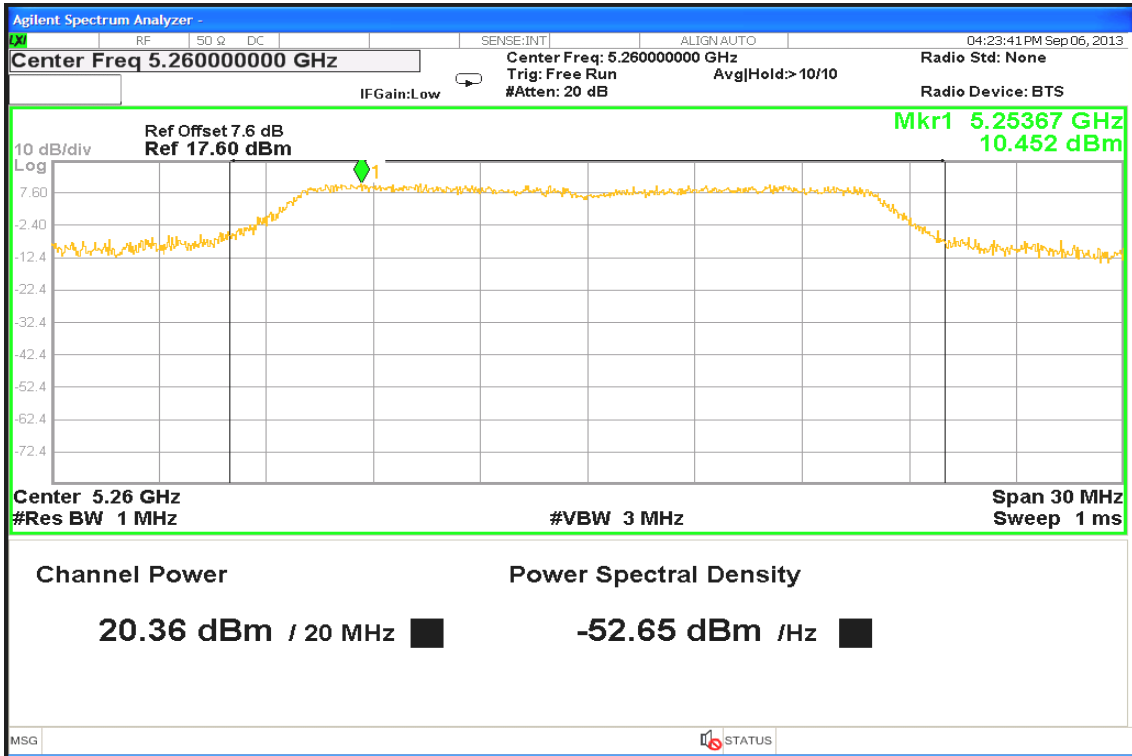


IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz

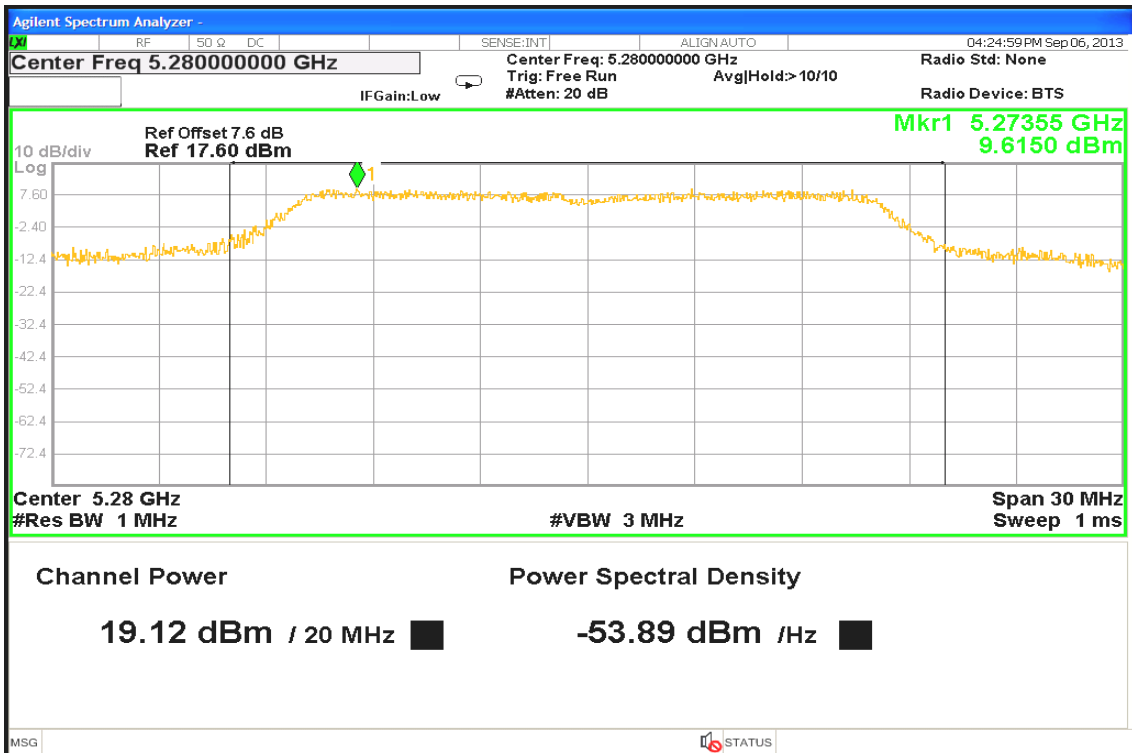




IEEE 802.11a mode / 5250 ~ 5350MHz
CH Low

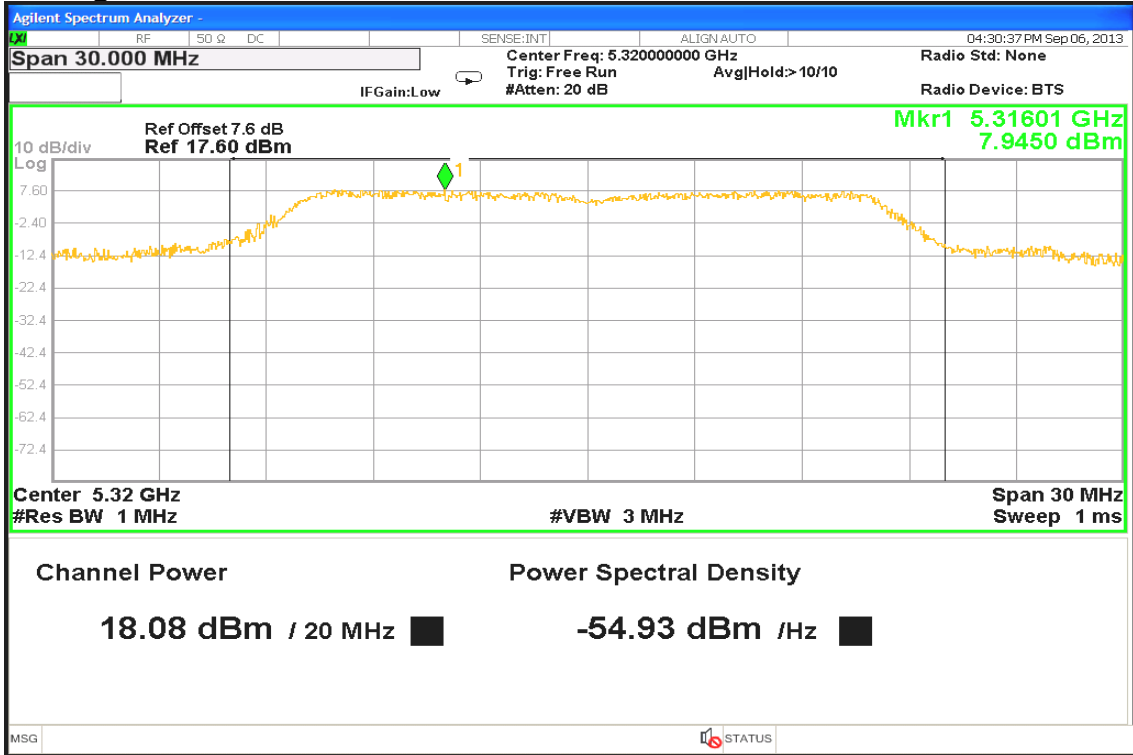


CH Mid



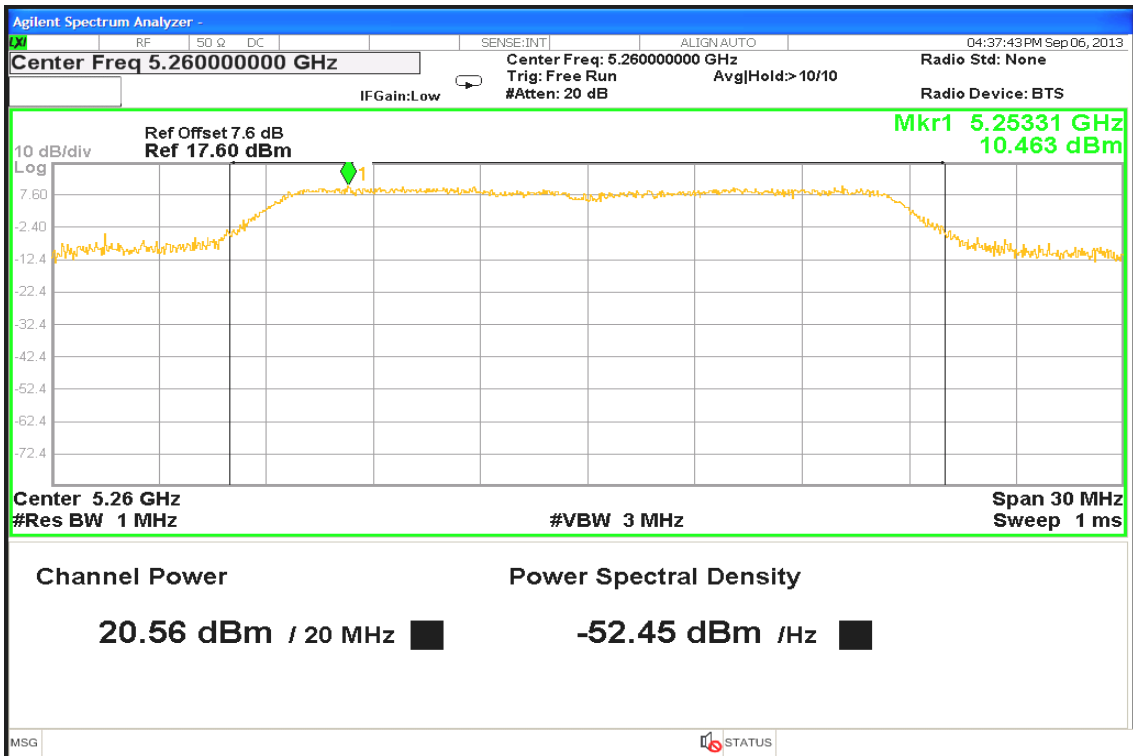


CH High



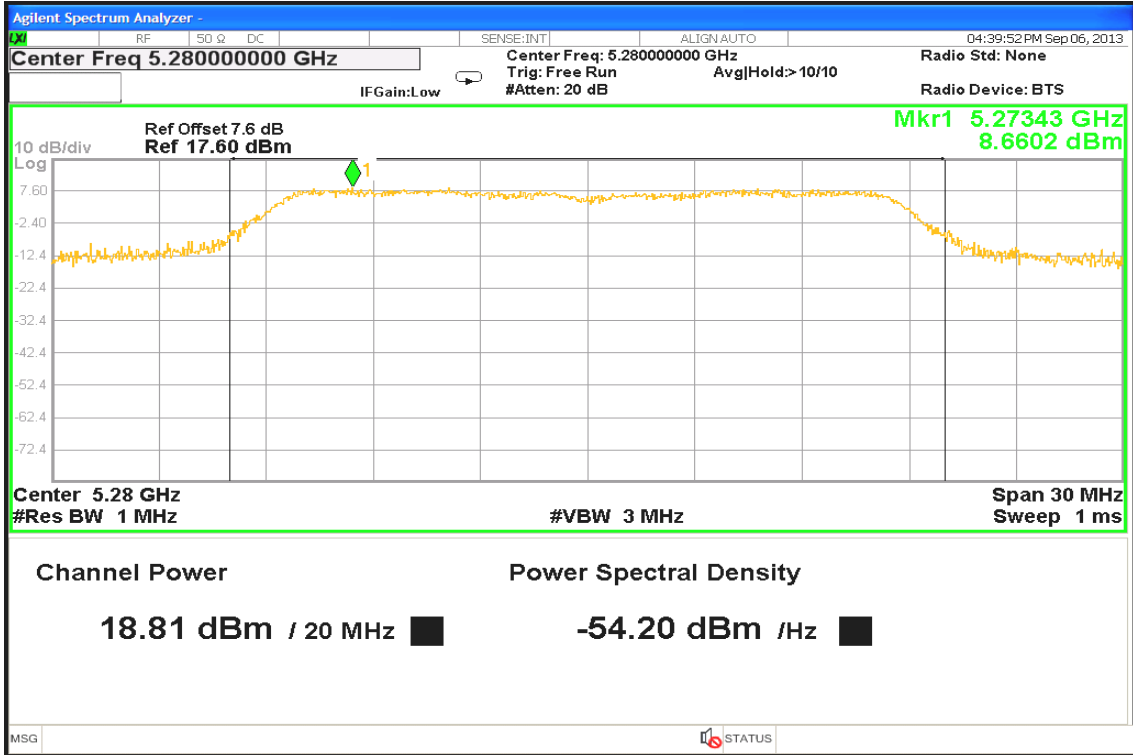
IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

CH Low

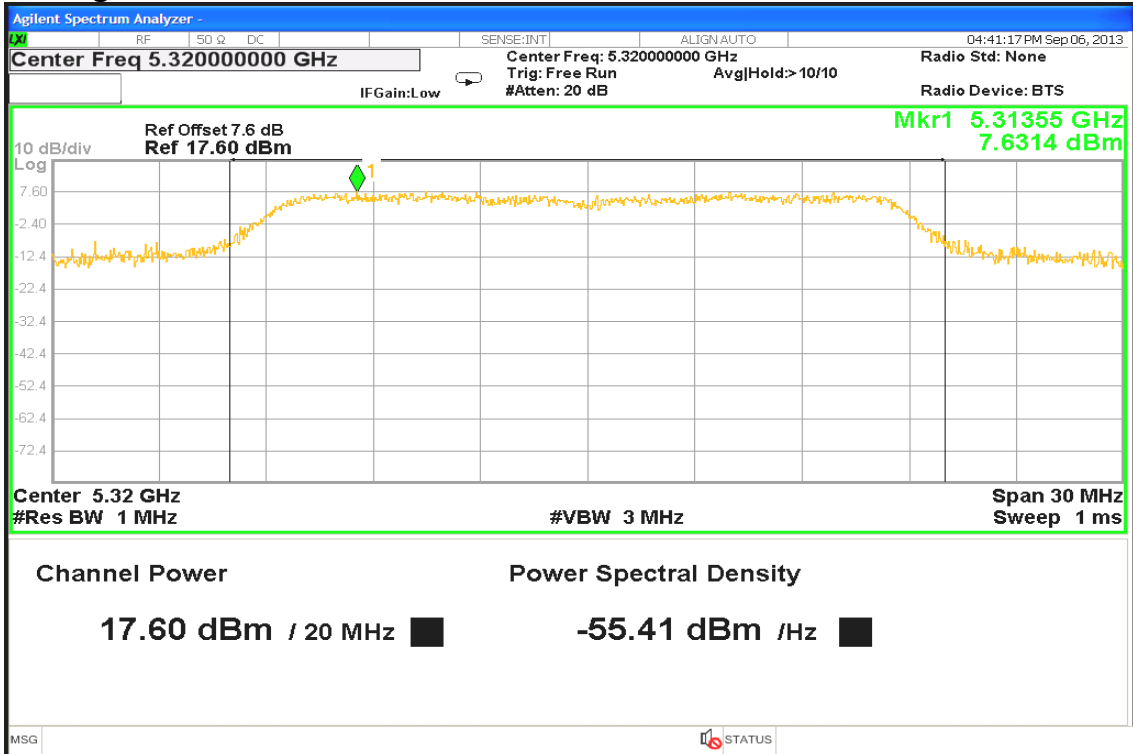




CH Mid

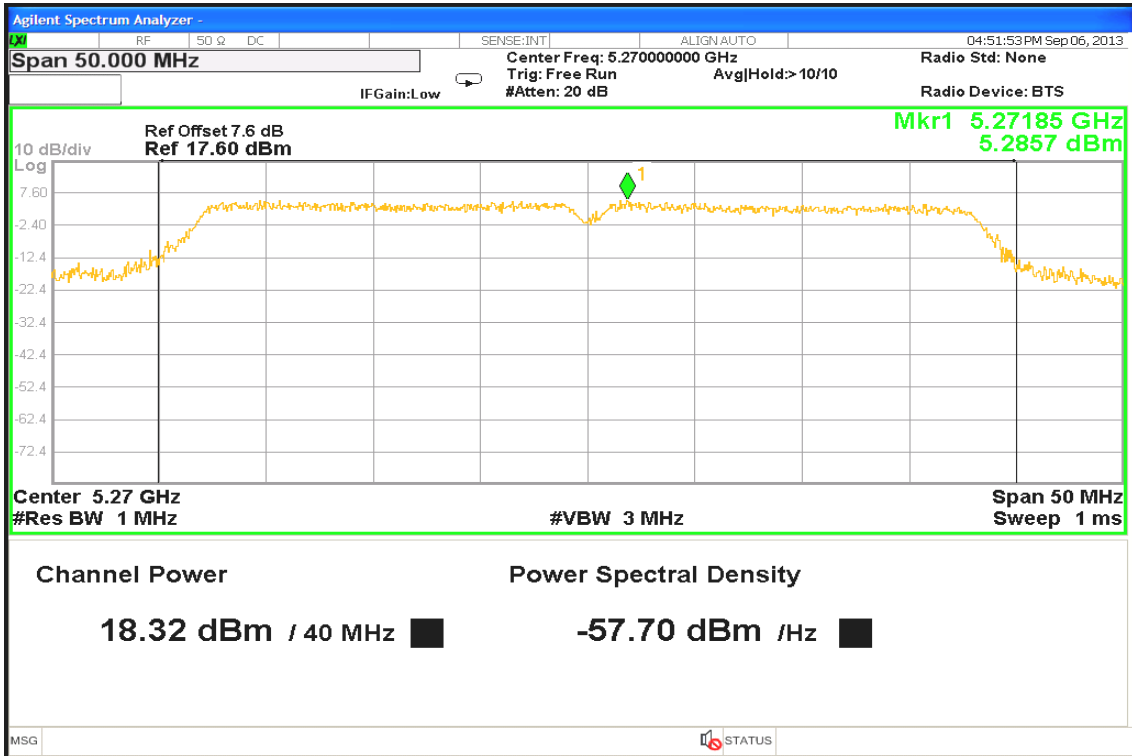


CH High

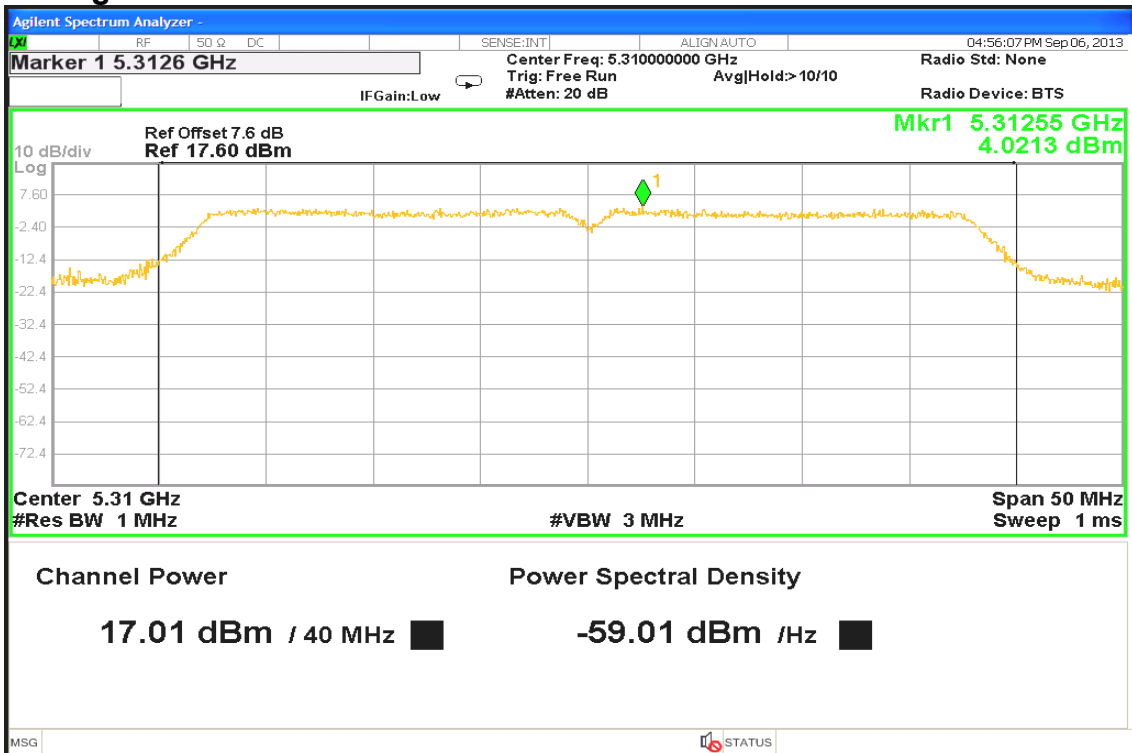




IEEE 802.11n HT40 mode / 5250 ~ 5350MHz CH Low

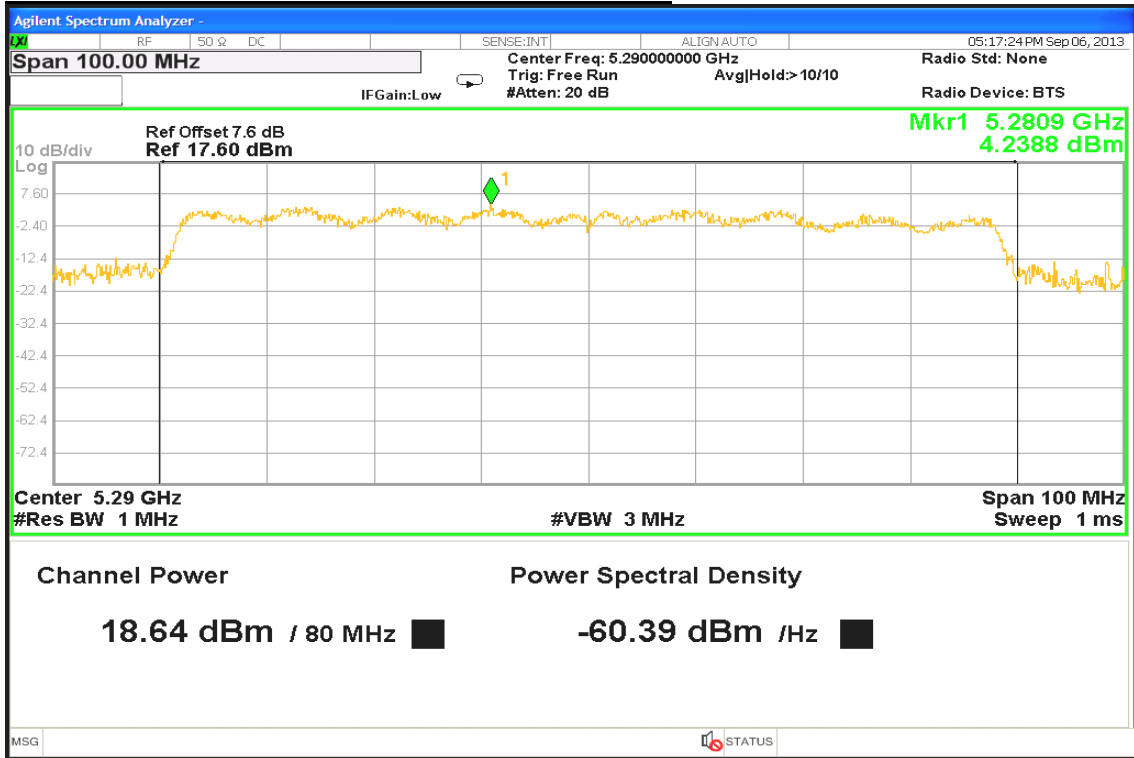


CH High





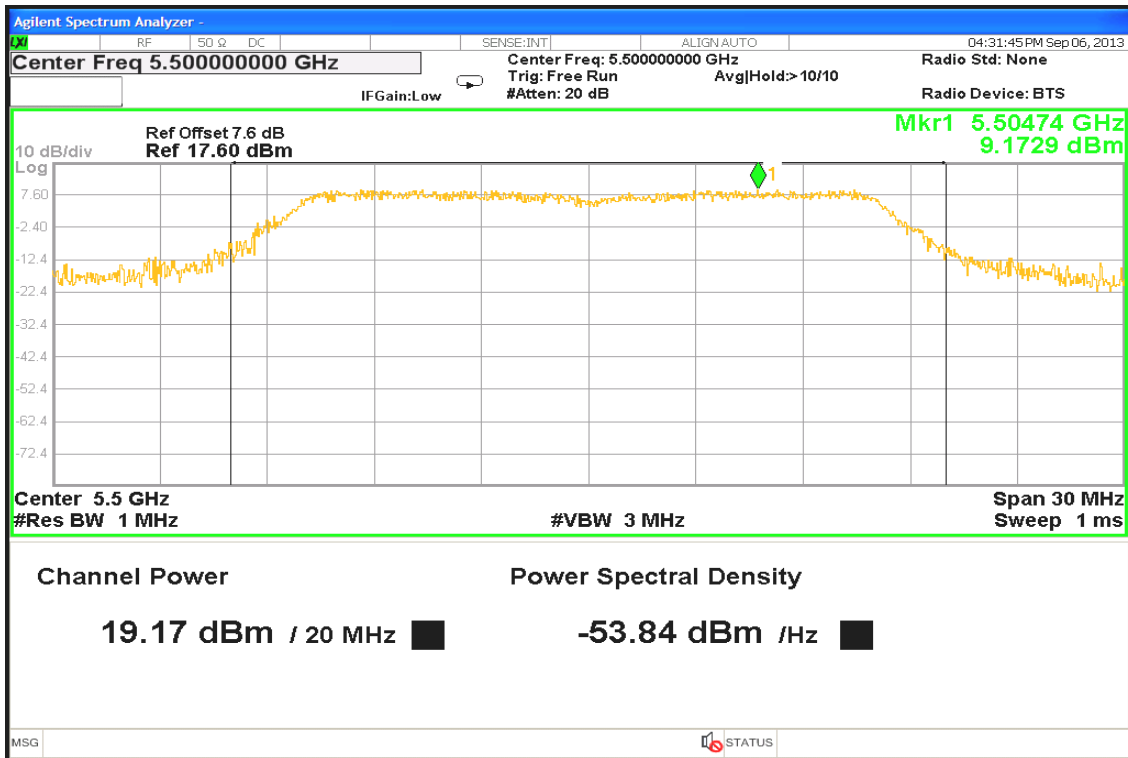
IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz



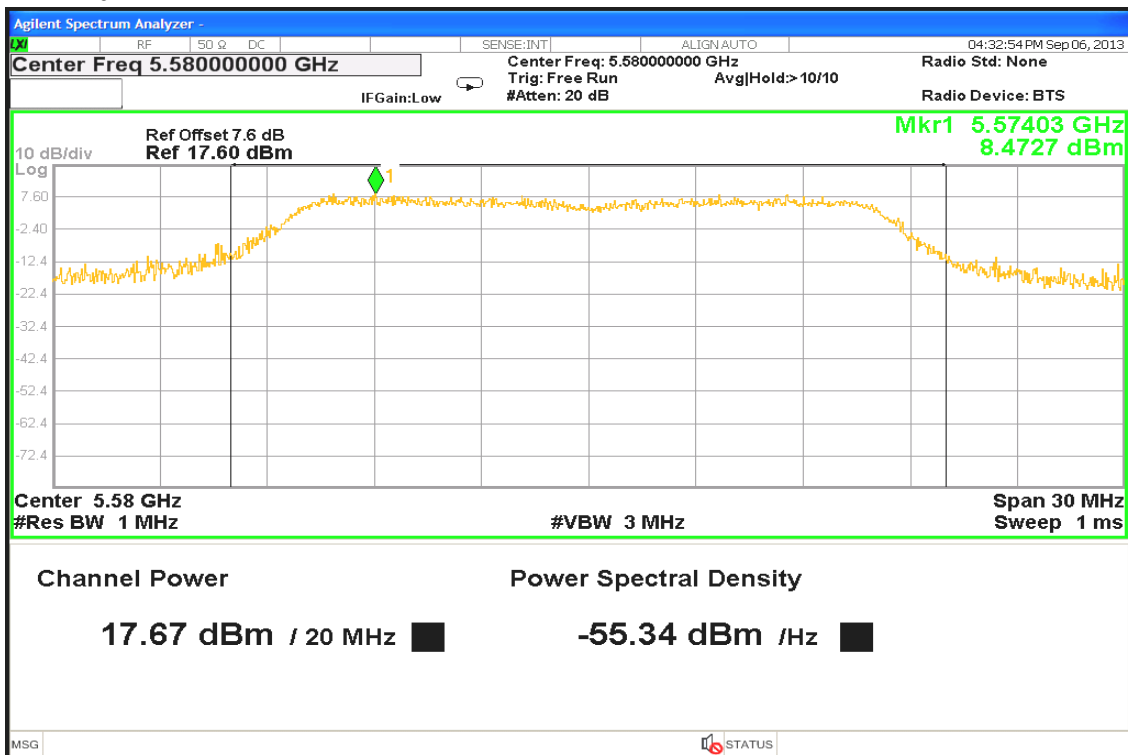


IEEE 802.11a mode / 5470 ~ 5725MHz

CH Low

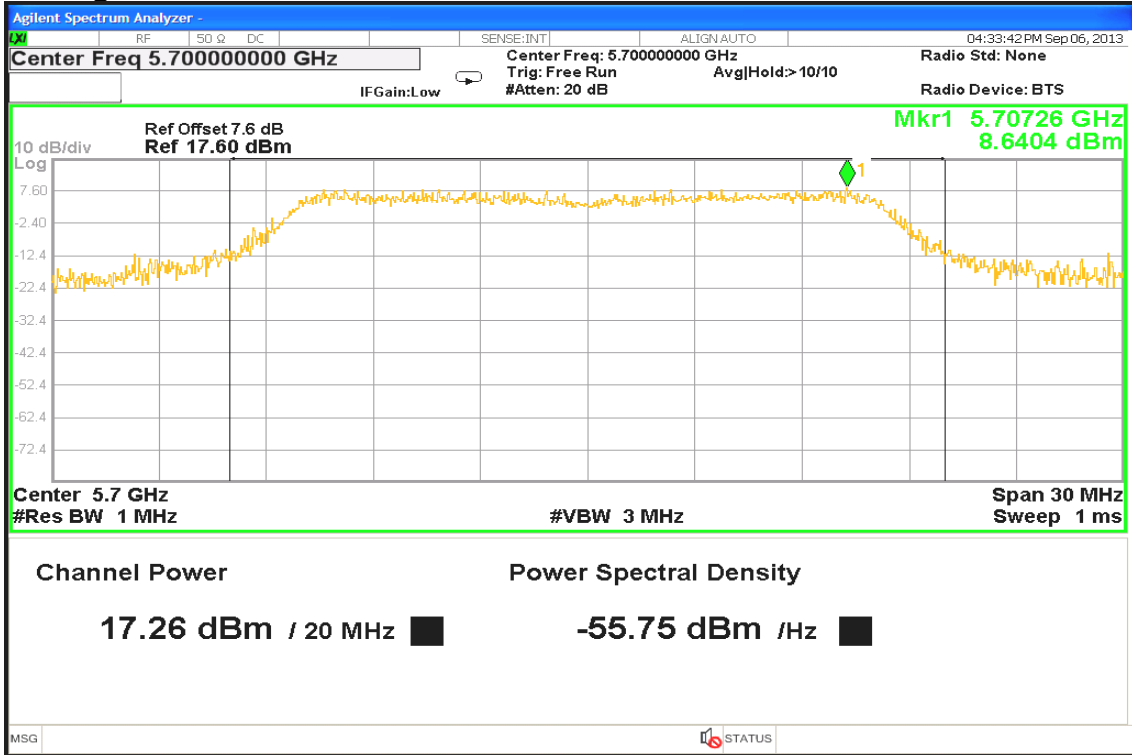


CH Mid



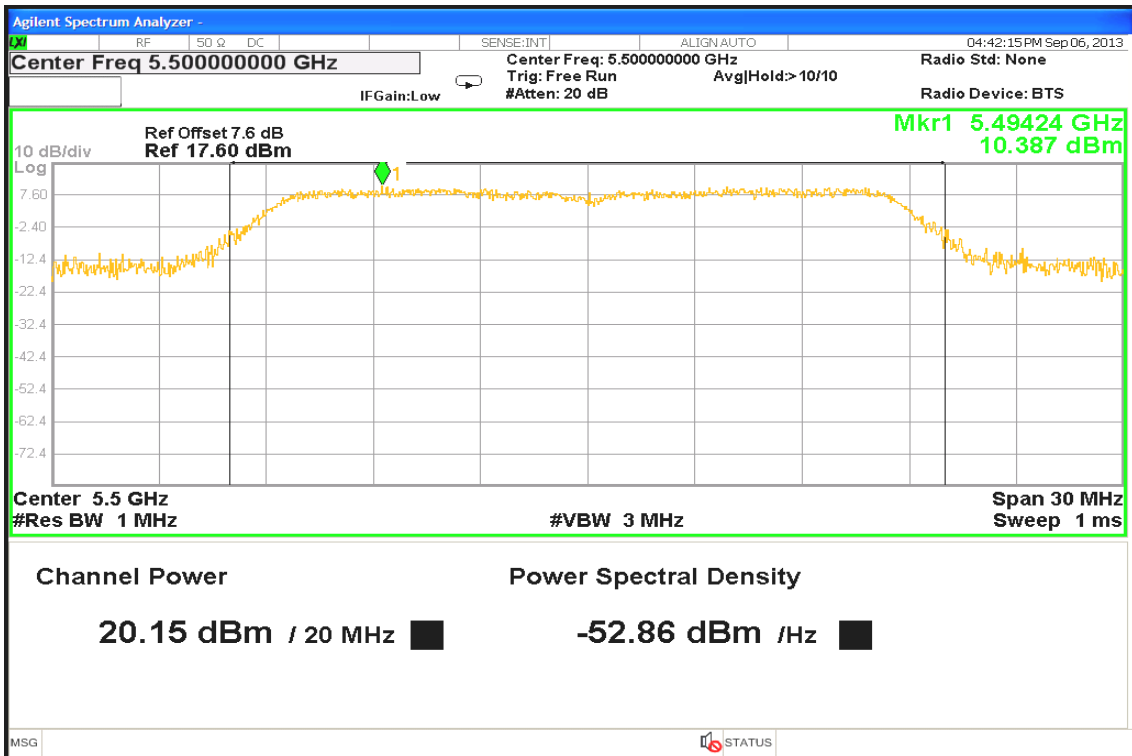


CH High



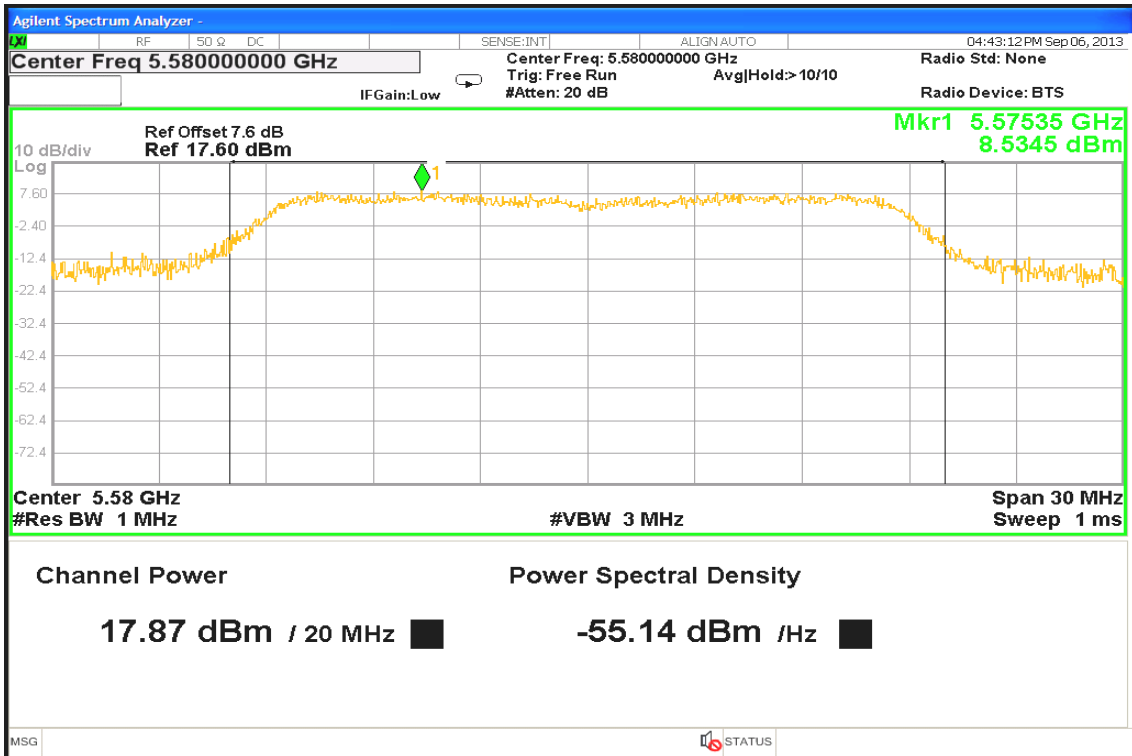
IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

CH Low

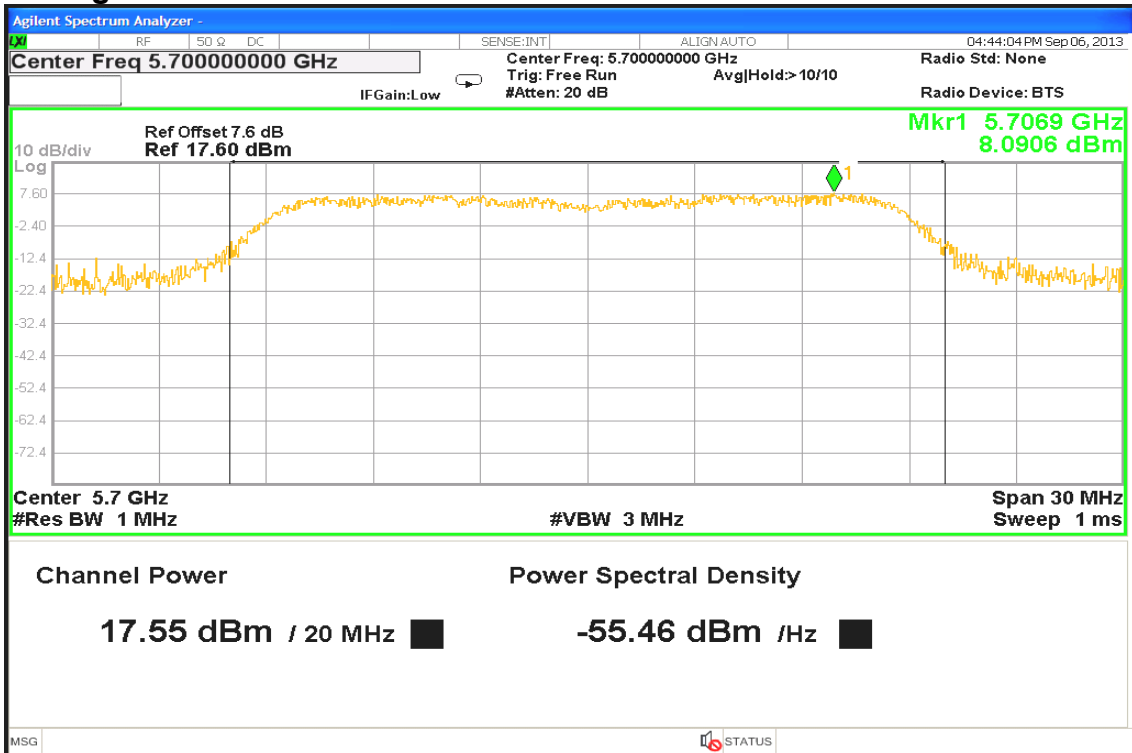




CH Mid

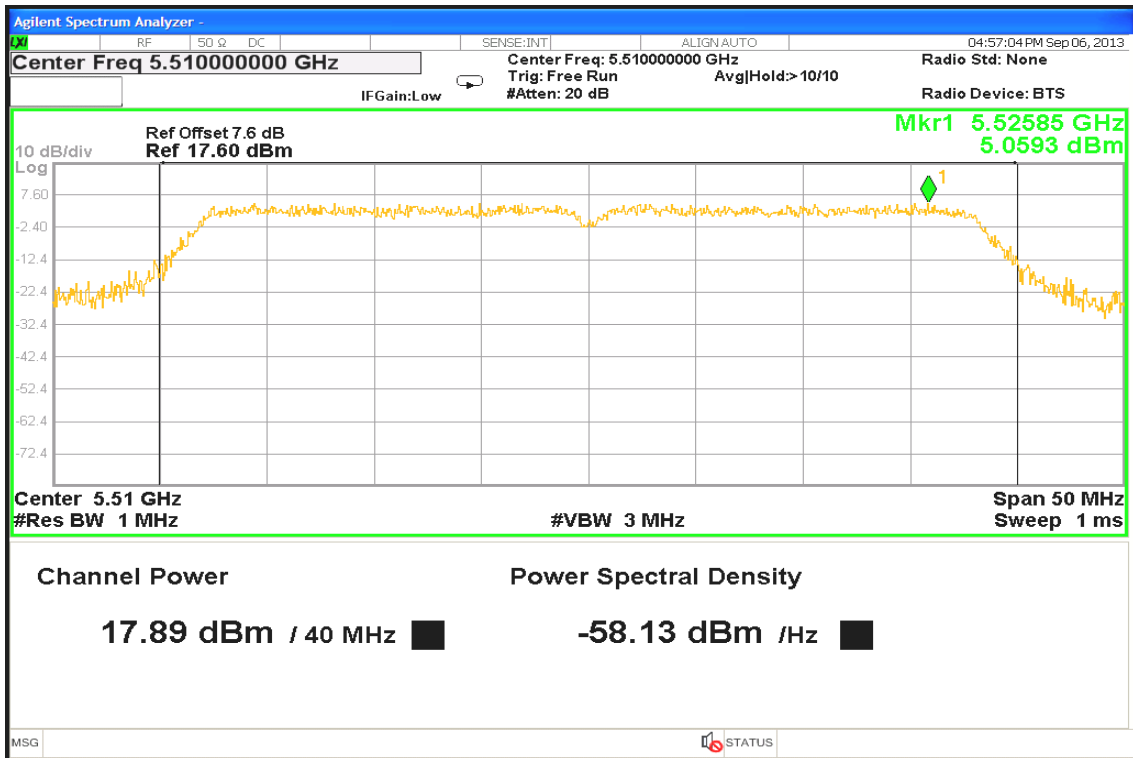


CH High

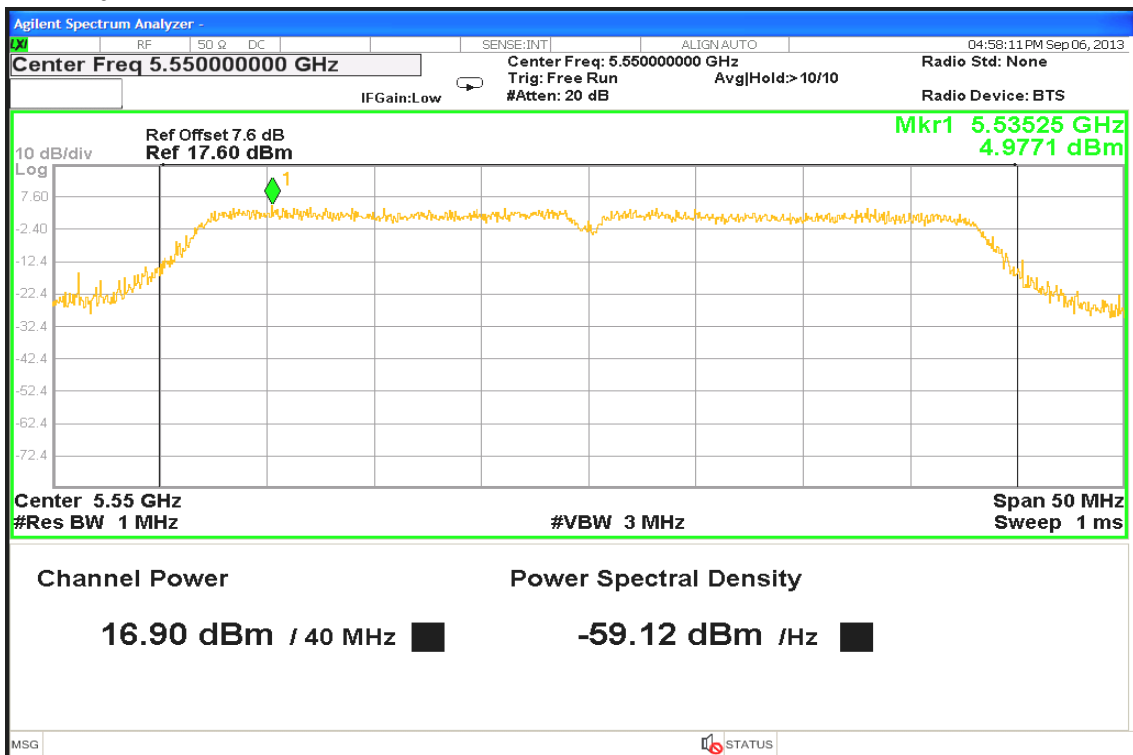




IEEE 802.11n HT40 mode / 5470 ~ 5725MHz CH Low

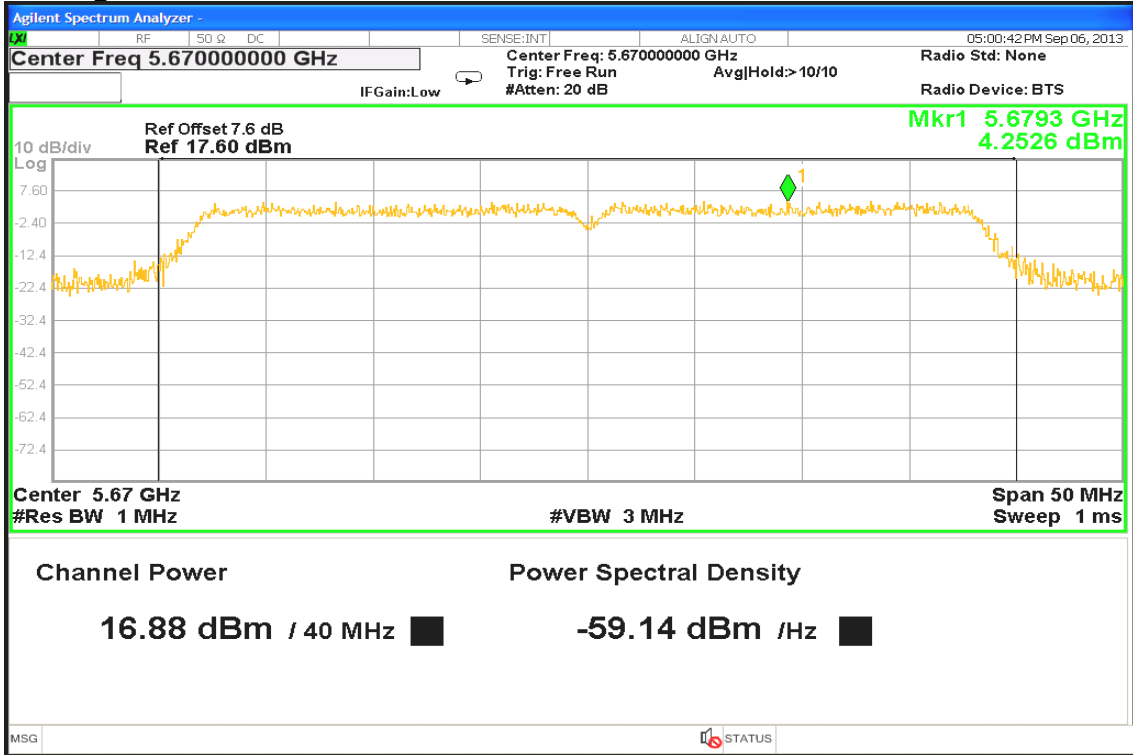


CH Mid

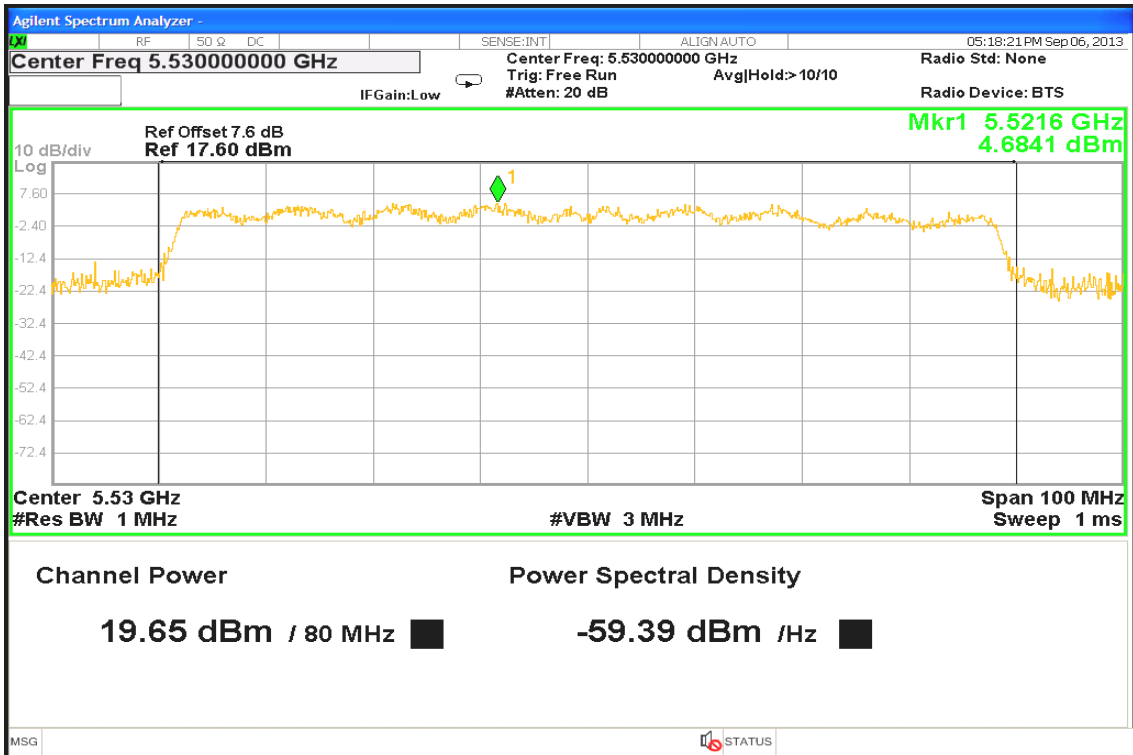




CH High



IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz



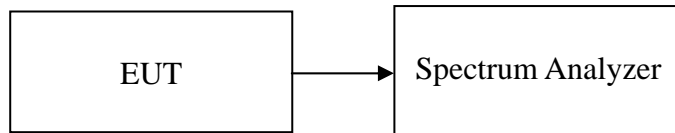


7.5 PEAK EXCURSION

LIMIT

According to §15.407(a)(6), the ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Test Configuration



TEST PROCEDURE

The test is performed in accordance with <FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices> – Part 15, Subpart E, August 2002.

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to spectrum.
3. Trace A, Set RBW =1MHz, VBW = 3MHz, Span >26dB bandwidth, Max. hold.
4. Delta Mark trace A Maximum frequency and trace B same frequency.
5. Repeat the above procedure until measurements for all frequencies were complete.

TEST RESULTS

No non-compliance noted



Test Data

Test mode: IEEE 802.11a mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5180	3.72	13.00	-9.28	PASS
Mid	5220	2.67	13.00	-10.33	PASS
High	5240	2.92	13.00	-10.08	PASS

Test mode: IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5180	3.51	13.00	-9.49	PASS
Mid	5220	4.19	13.00	-8.81	PASS
High	5240	2.78	13.00	-10.22	PASS

Test mode: IEEE 802.11n HT40 mode / 5150 ~ 5250MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5190	4.18	13.00	-8.82	PASS
High	5230	3.62	13.00	-9.38	PASS

Test mode: IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz

Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
5210	2.18	13.00	-10.82	PASS



Test mode: IEEE 802.11a mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5260	2.25	13.00	-10.75	PASS
Mid	5280	1.73	13.00	-11.27	PASS
High	5320	2.61	13.00	-10.39	PASS

Test mode: IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5260	3.01	13.00	-9.99	PASS
Mid	5280	3.25	13.00	-9.75	PASS
High	5320	2.63	13.00	-10.37	PASS

Test mode: IEEE 802.11n HT40 mode / 5250 ~ 5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5270	2.53	13.00	-10.47	PASS
High	5310	3.48	13.00	-9.52	PASS

Test mode: IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz

Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
5290	3.70	13.00	-9.30	PASS



Test mode: IEEE 802.11a mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5500	2.22	13.00	-10.78	PASS
Mid	5580	2.19	13.00	-10.81	PASS
High	5700	2.63	13.00	-10.37	PASS

Test mode: IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5500	2.46	13.00	-10.54	PASS
Mid	5580	3.19	13.00	-9.81	PASS
High	5700	2.74	13.00	-10.26	PASS

Test mode: IEEE 802.11n HT40 mode / 5470 ~ 5725MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5510	3.72	13.00	-9.28	PASS
Mid	5550	3.45	13.00	-9.55	PASS
High	5670	3.23	13.00	-9.77	PASS

Test mode: IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz

Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
5530	2.92	13.00	-10.08	PASS



Test Plot

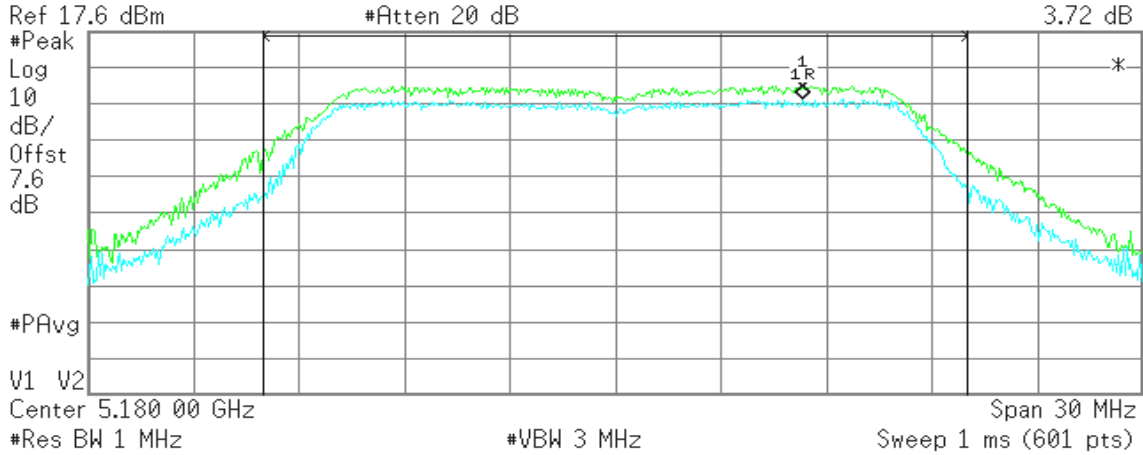
IEEE 802.11a mode / 5150 ~ 5250MHz

CH Low

Agilent

R T

Mkr1 0 Hz
3.72 dB



Channel Power

9.58 dBm /20.0000 MHz

Power Spectral Density

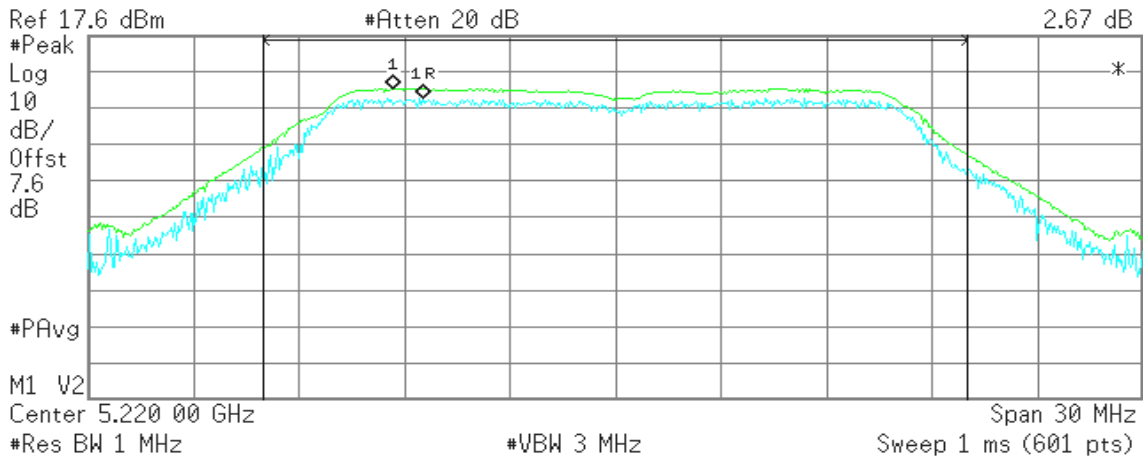
-63.43 dBm/Hz

CH Mid

Agilent

R T

Mkr1 -900 kHz
2.67 dB



Channel Power

9.87 dBm /20.0000 MHz

Power Spectral Density

-63.14 dBm/Hz

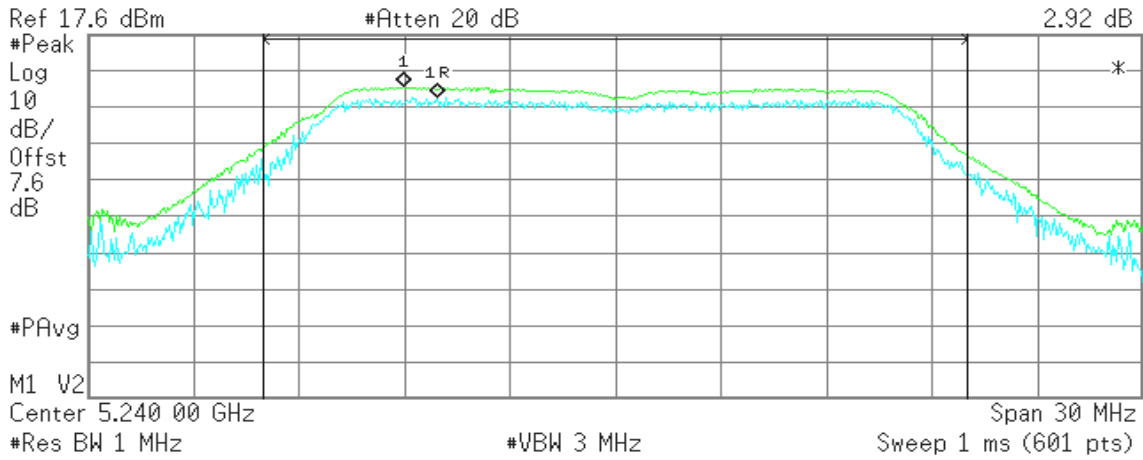


CH High

Agilent

R T

Mkr1 -950 kHz
2.92 dB



Channel Power

9.76 dBm /20.0000 MHz

Power Spectral Density

-63.25 dBm/Hz

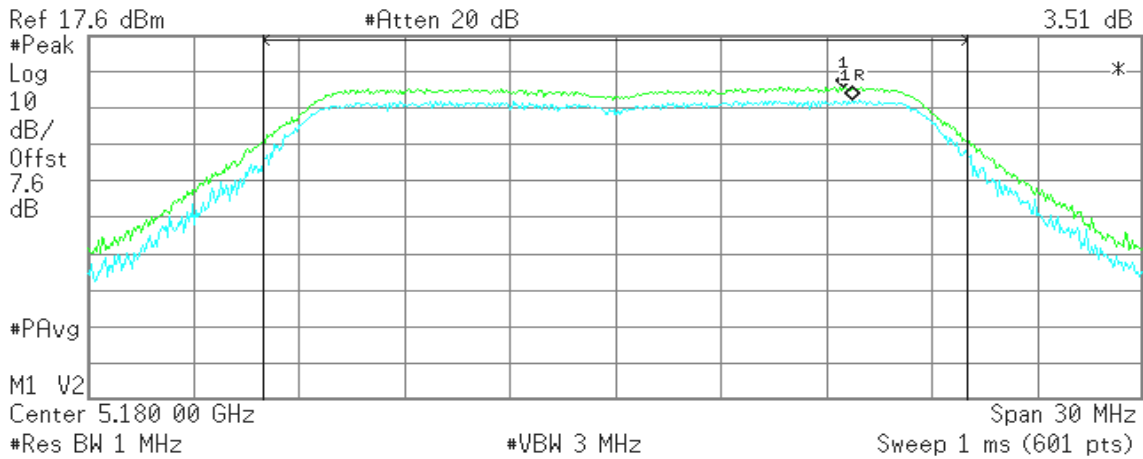
IEEE 802.11n HT20 mode / 5150 ~ 5250MHz

CH Low

Agilent

R T

Mkr1 -250 kHz
3.51 dB



Channel Power

9.38 dBm /20.0000 MHz

Power Spectral Density

-63.63 dBm/Hz

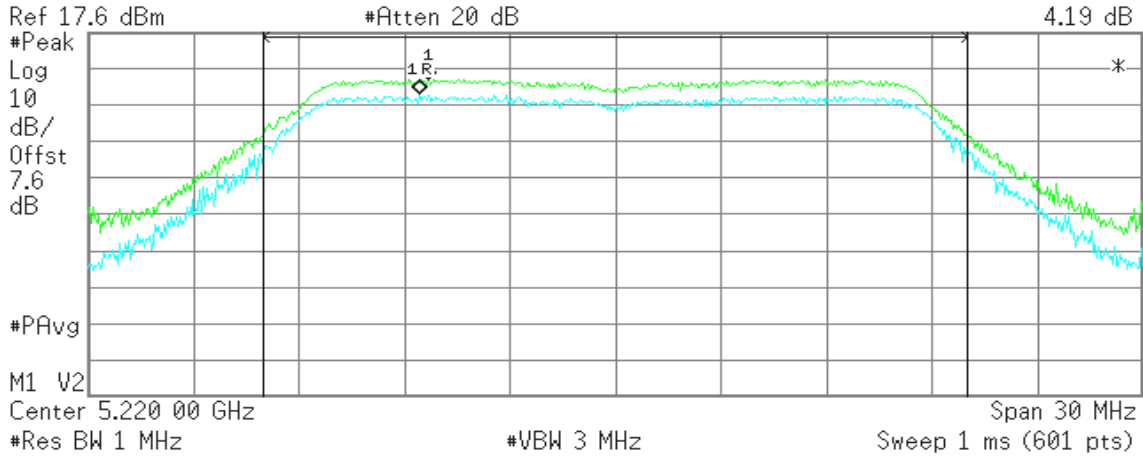


CH Mid

Agilent

R T

Mkr1 250 kHz
4.19 dB



Channel Power

10.11 dBm /20.0000 MHz

Power Spectral Density

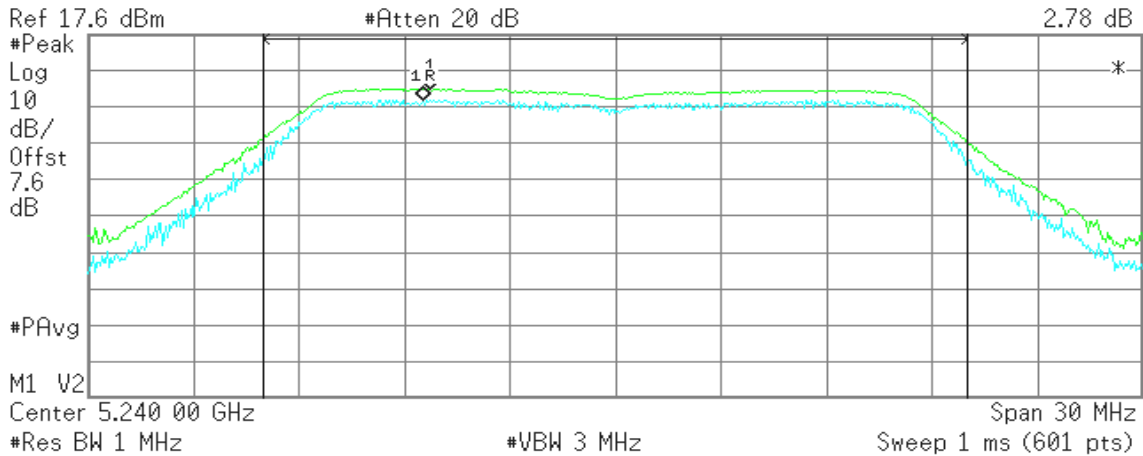
-62.90 dBm/Hz

CH High

Agilent

R T

Mkr1 200 kHz
2.78 dB



Channel Power

9.57 dBm /20.0000 MHz

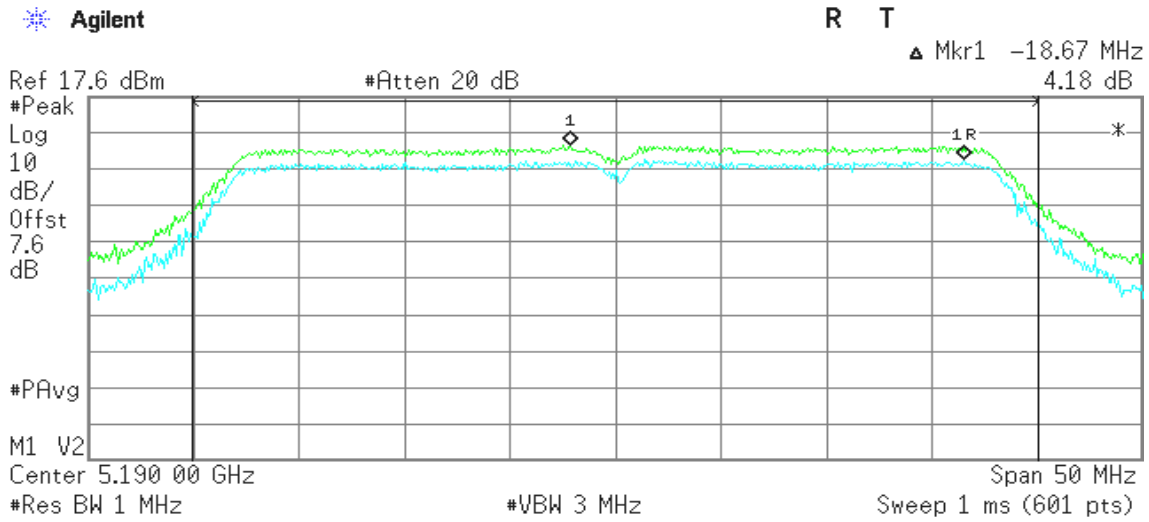
Power Spectral Density

-63.44 dBm/Hz



IEEE 802.11n HT40 mode / 5150 ~ 5250MHz

CH Low



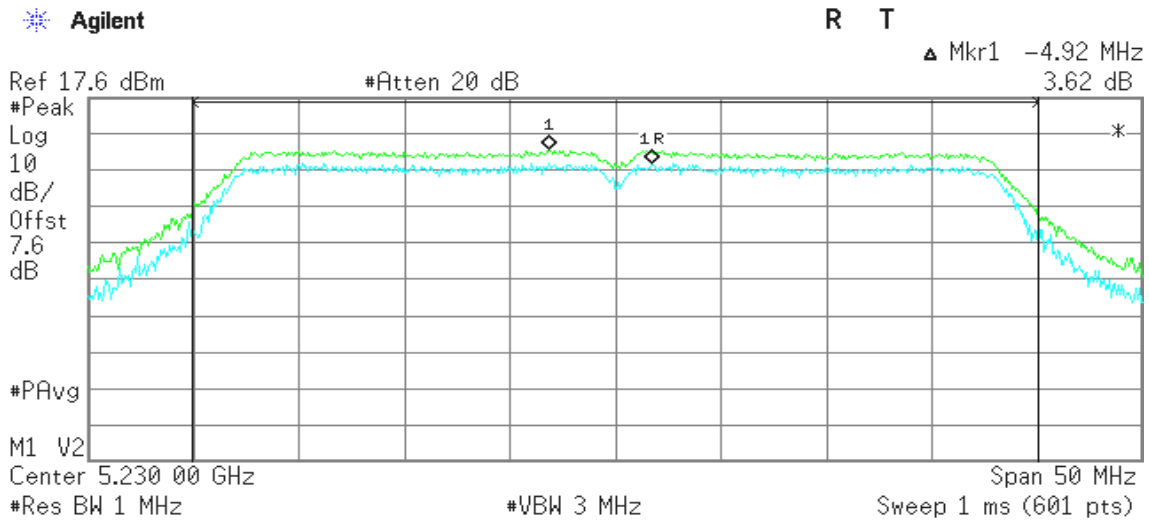
Channel Power

12.48 dBm /40.00000 MHz

Power Spectral Density

-63.54 dBm/Hz

CH High



Channel Power

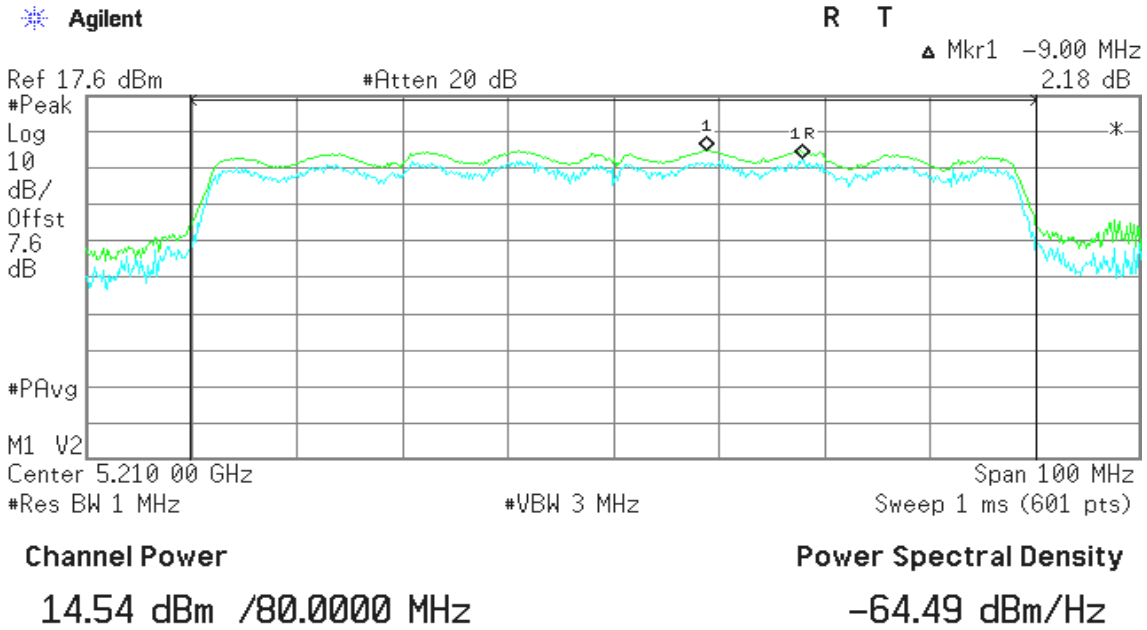
12.33 dBm /40.00000 MHz

Power Spectral Density

-63.69 dBm/Hz

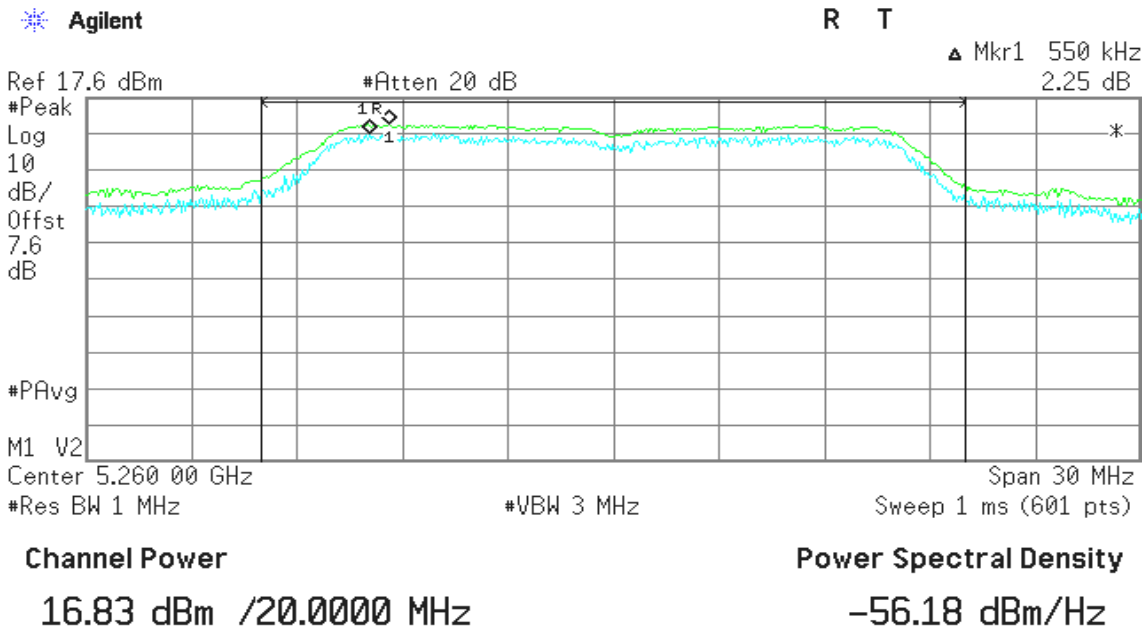


IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz



IEEE 802.11a mode / 5250 ~ 5350MHz

CH Low



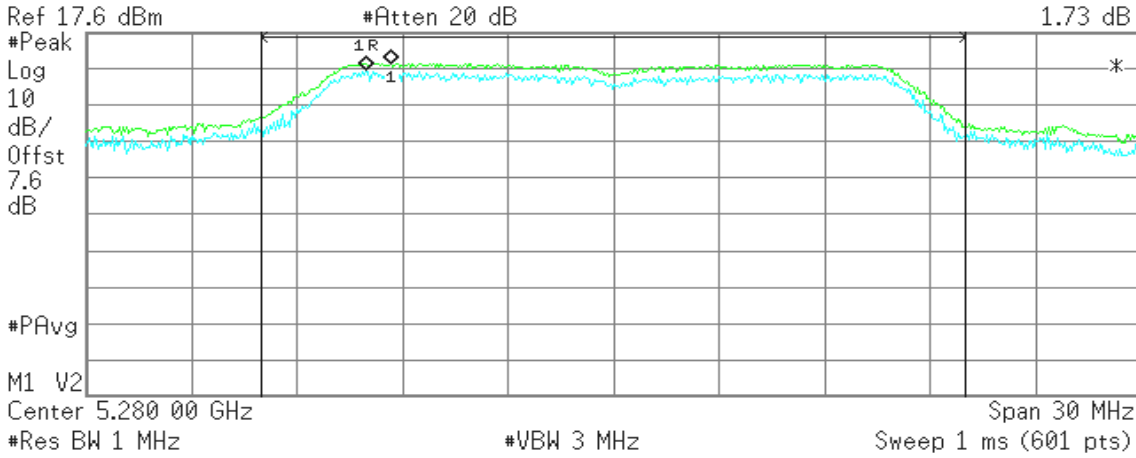


CH Mid

Agilent

R T

Mkr1 700 kHz
1.73 dB



Channel Power

-30.45 dBm /20.0000 MHz

Power Spectral Density

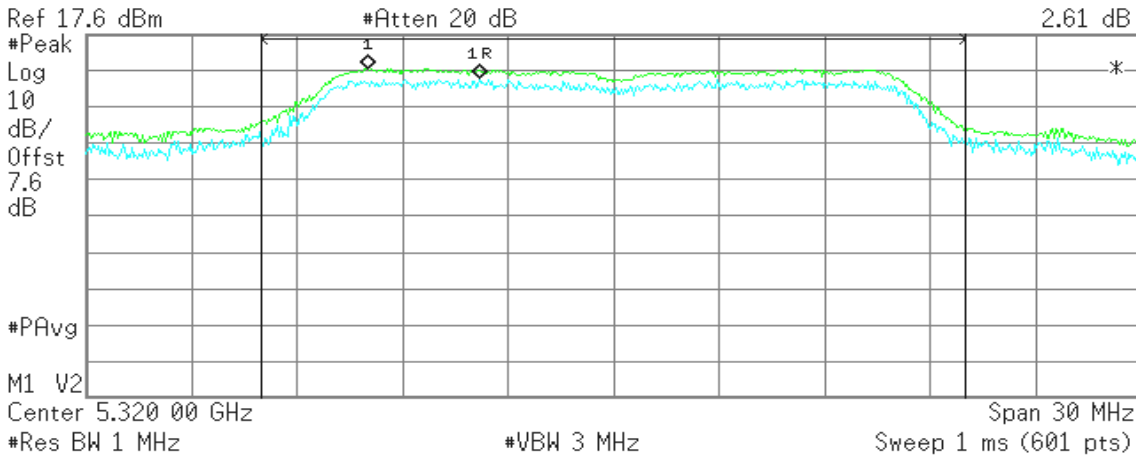
-103.46 dBm/Hz

CH High

Agilent

R T

Mkr1 -3.20 MHz
2.61 dB



Channel Power

-46.66 dBm /20.0000 MHz

Power Spectral Density

-119.67 dBm/Hz



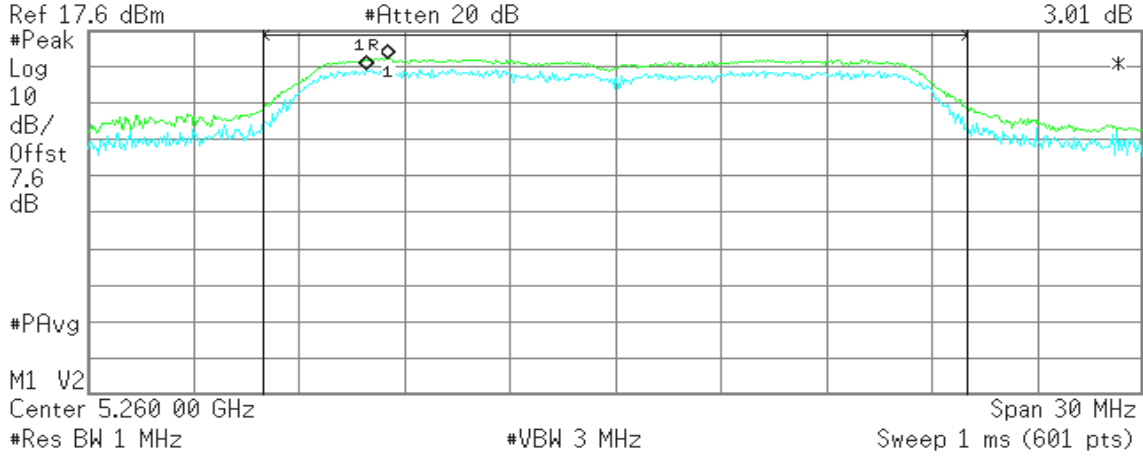
IEEE 802.11n HT20 mode / 5250 ~ 5350MHz

CH Low

Agilent

R T

Mkr1 600 kHz
3.01 dB



Channel Power

16.49 dBm /20.00000 MHz

Power Spectral Density

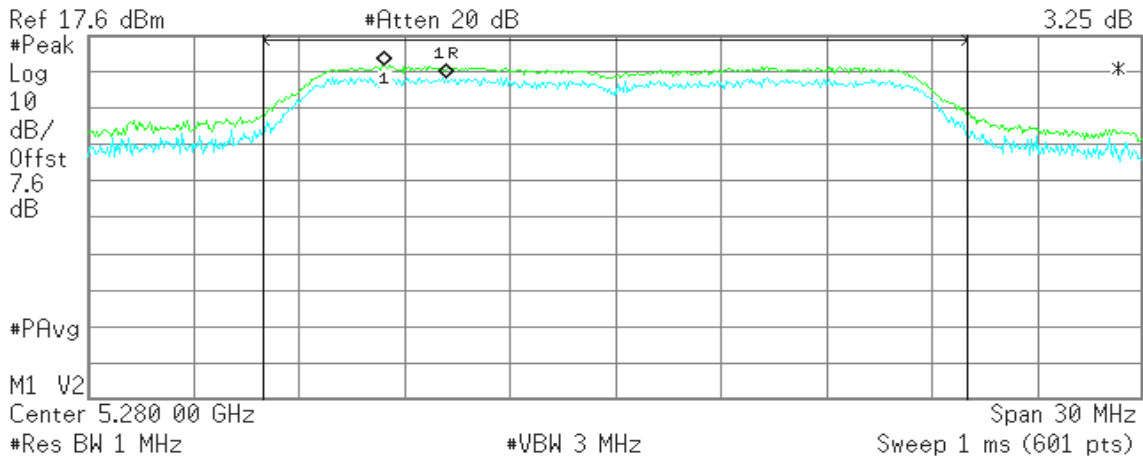
-56.52 dBm/Hz

CH Mid

Agilent

R T

Mkr1 -1.80 MHz
3.25 dB



Channel Power

15.88 dBm /20.00000 MHz

Power Spectral Density

-57.14 dBm/Hz

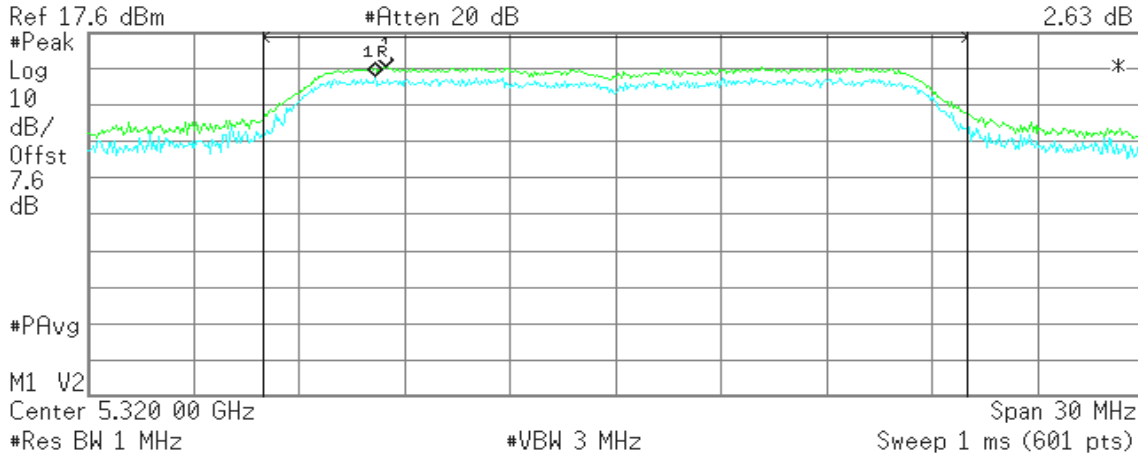


CH High

Agilent

R T

Mkr1 300 kHz
2.63 dB



Channel Power

14.47 dBm /20.0000 MHz

Power Spectral Density

-58.54 dBm/Hz

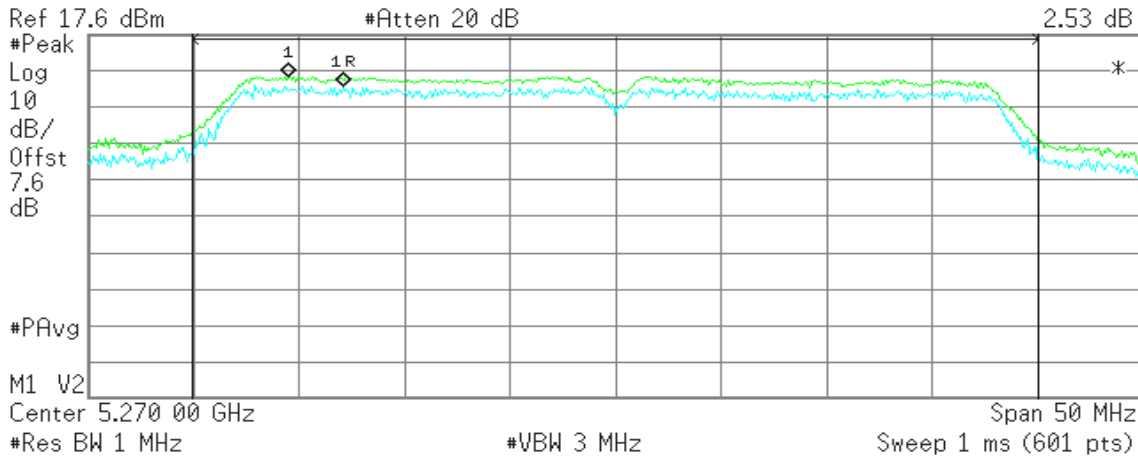
IEEE 802.11n HT40 mode / 5250 ~ 5350MHz

CH Low

Agilent

R T

Mkr1 -2.58 MHz
2.53 dB



Channel Power

15.53 dBm /40.0000 MHz

Power Spectral Density

-60.49 dBm/Hz

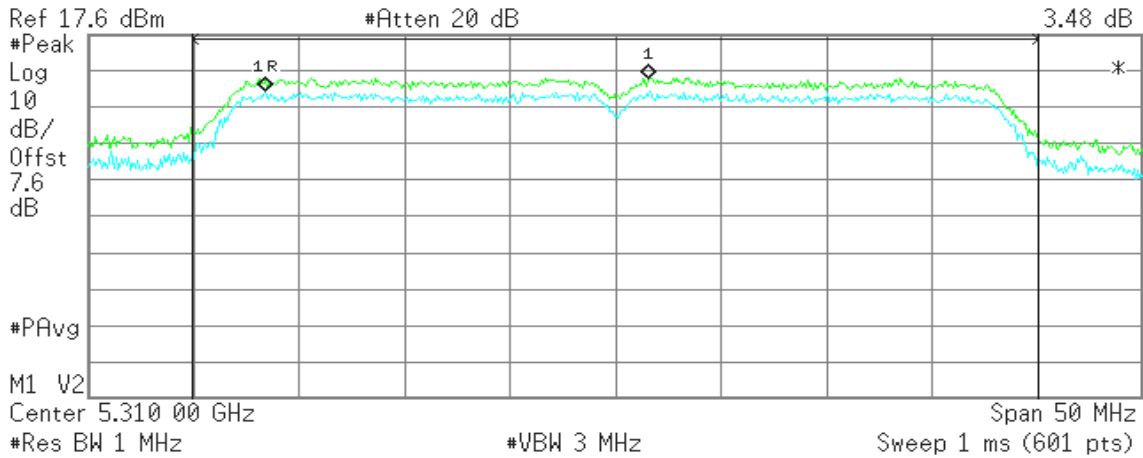


CH High

Agilent

R T

Mkr1 18.17 MHz
3.48 dB



Channel Power

14.03 dBm /40.0000 MHz

Power Spectral Density

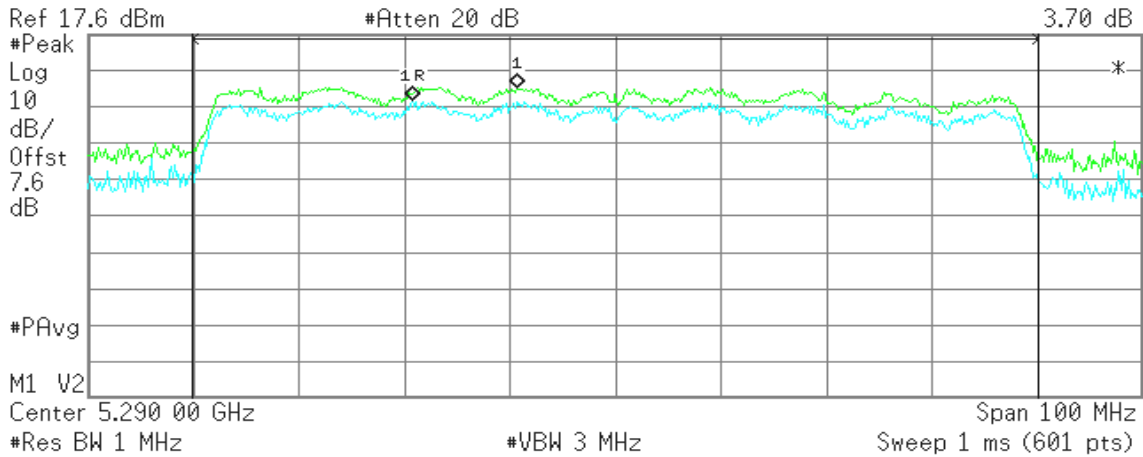
-61.99 dBm/Hz

IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz

Agilent

R T

Mkr1 9.83 MHz
3.70 dB



Channel Power

13.74 dBm /80.0000 MHz

Power Spectral Density

-65.29 dBm/Hz



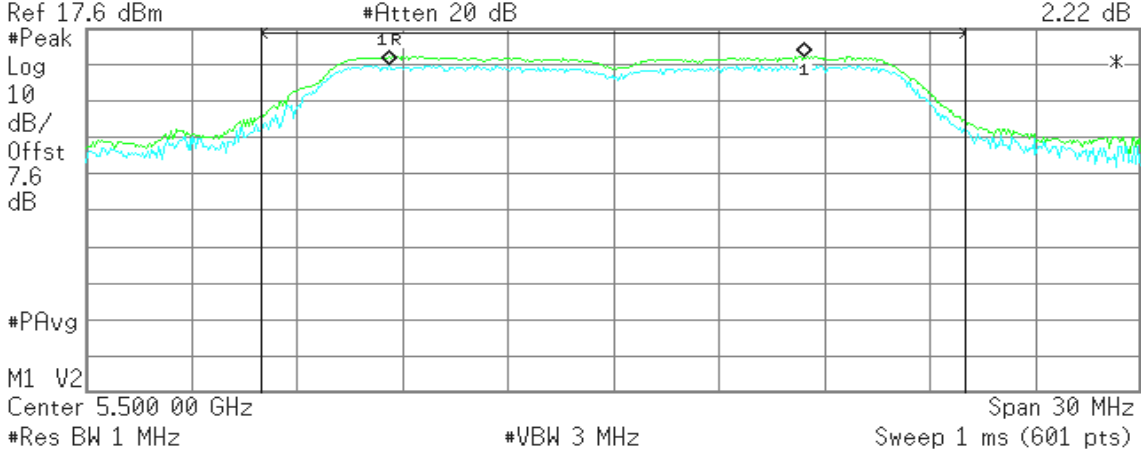
IEEE 802.11a mode / 5470 ~ 5725MHz

CH Low

Agilent

R T

Mkr1 11.80 MHz
2.22 dB



Channel Power

-42.40 dBm /20.0000 MHz

Power Spectral Density

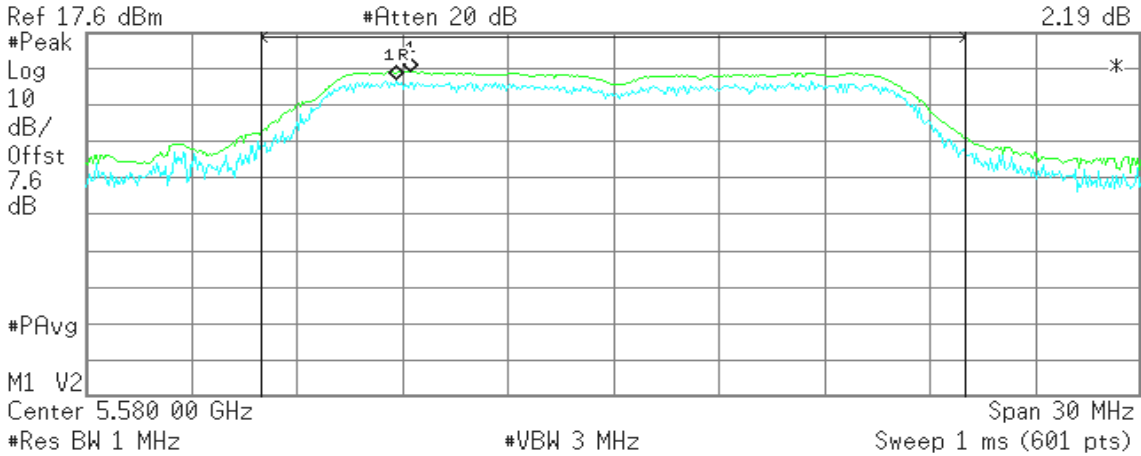
-115.41 dBm/Hz

CH Mid

Agilent

R T

Mkr1 450 kHz
2.19 dB



Channel Power

13.53 dBm /20.0000 MHz

Power Spectral Density

-59.48 dBm/Hz

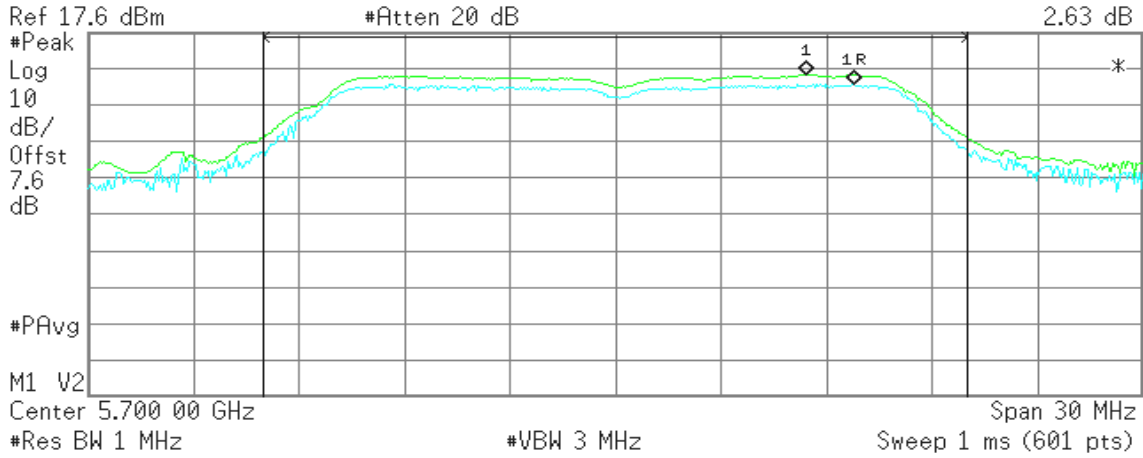


CH High

Agilent

R T

Mkr1 -1.40 MHz
2.63 dB



Channel Power

12.74 dBm /20.0000 MHz

Power Spectral Density

-60.27 dBm/Hz

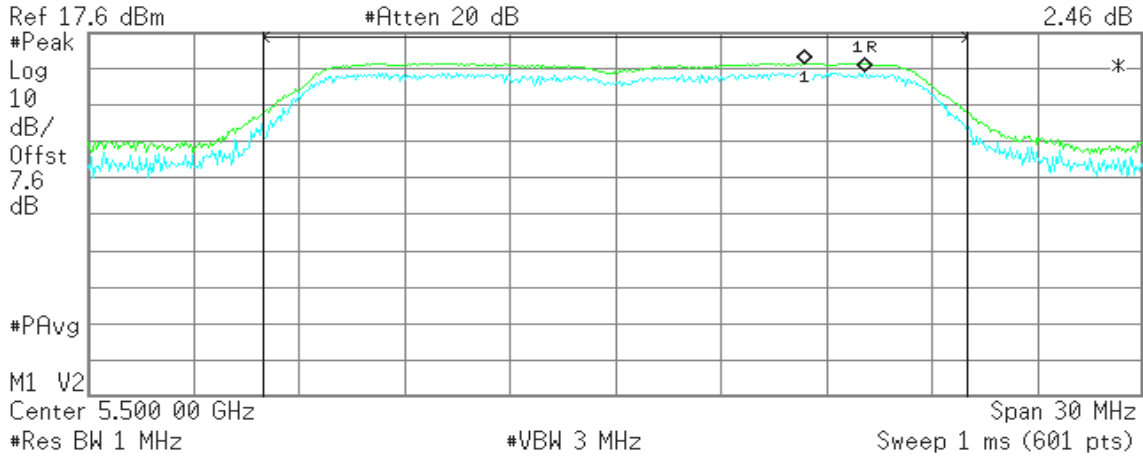
IEEE 802.11n HT20 mode / 5470 ~ 5725MHz

CH Low

Agilent

R T

Mkr1 -1.75 MHz
2.46 dB



Channel Power

16.32 dBm /20.0000 MHz

Power Spectral Density

-56.69 dBm/Hz

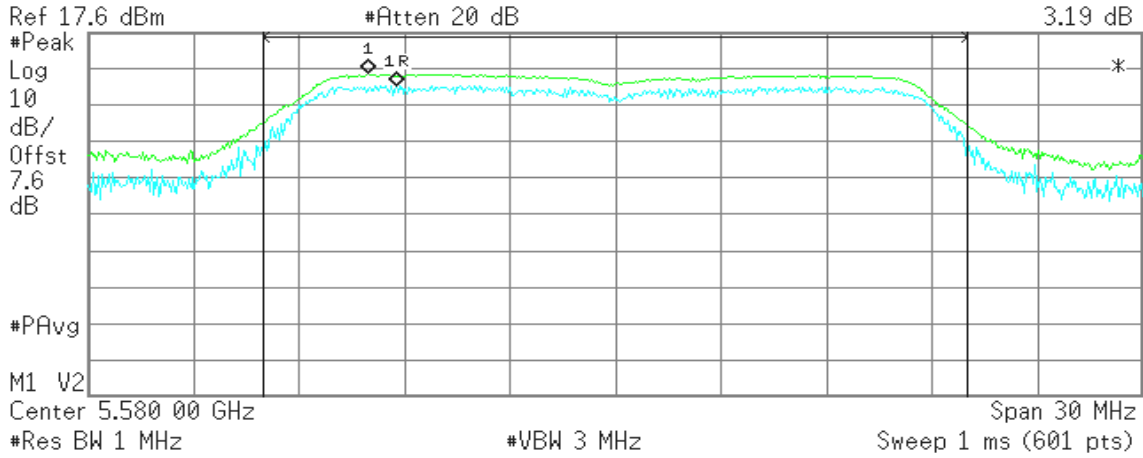


CH Mid

Agilent

R T

Mkr1 -800 kHz
3.19 dB



Channel Power

12.84 dBm /20.0000 MHz

Power Spectral Density

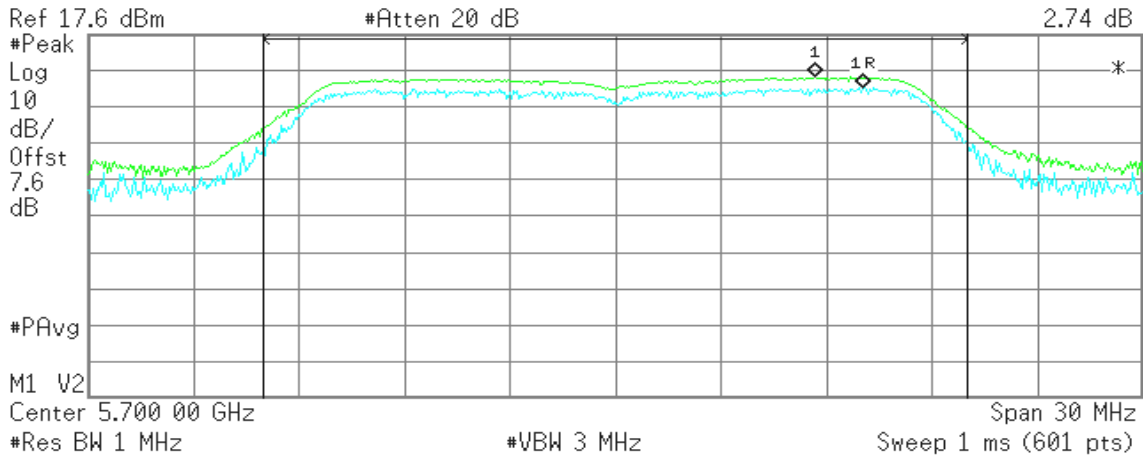
-60.17 dBm/Hz

CH High

Agilent

R T

Mkr1 -1.40 MHz
2.74 dB



Channel Power

12.43 dBm /20.0000 MHz

Power Spectral Density

-60.58 dBm/Hz



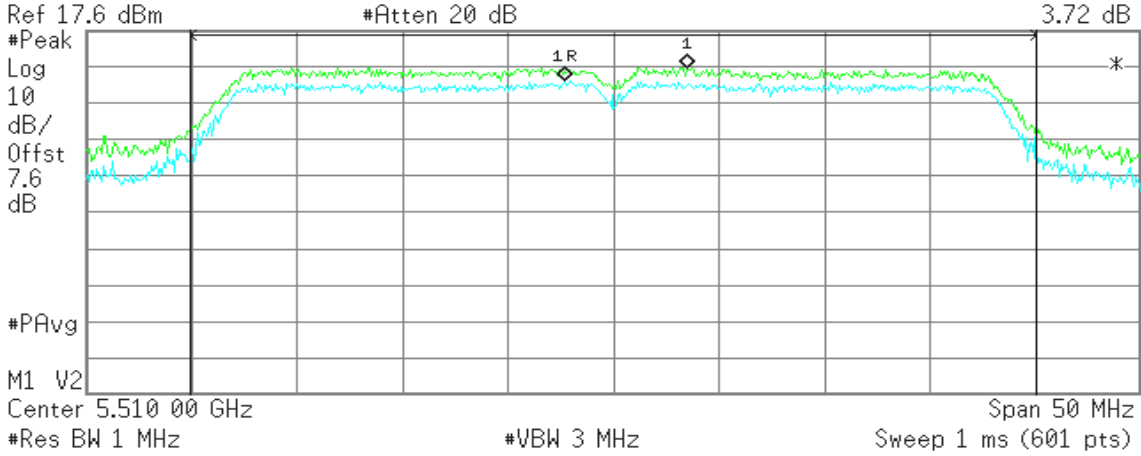
IEEE 802.11n HT40 mode / 5470 ~ 5725MHz

CH Low

Agilent

R T

Mkr1 5.83 MHz
3.72 dB



Channel Power

15.67 dBm /40.0000 MHz

Power Spectral Density

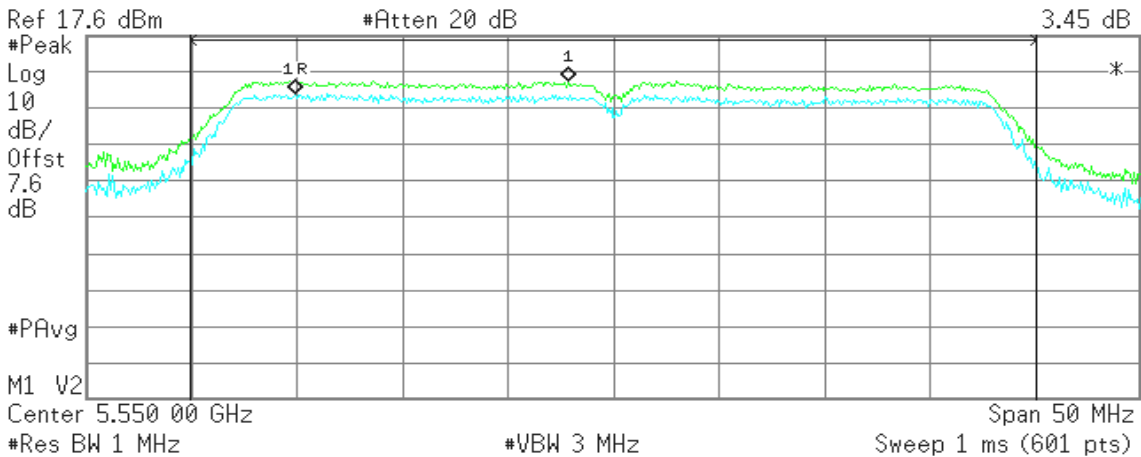
-60.36 dBm/Hz

CH Mid

Agilent

R T

Mkr1 12.92 MHz
3.45 dB



Channel Power

13.81 dBm /40.0000 MHz

Power Spectral Density

-62.21 dBm/Hz

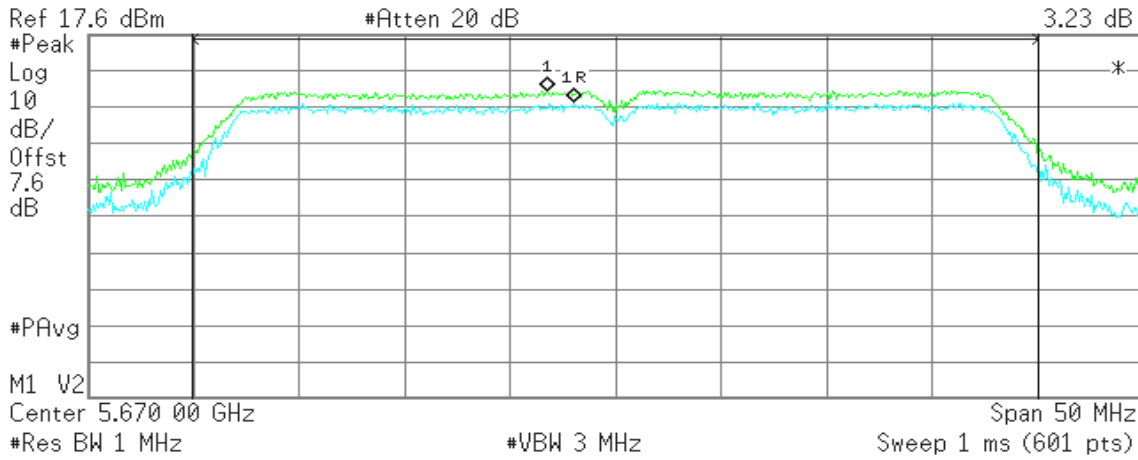


CH High

Agilent

R T

Mkr1 -1.25 MHz
3.23 dB



Channel Power

11.08 dBm /40.0000 MHz

Power Spectral Density

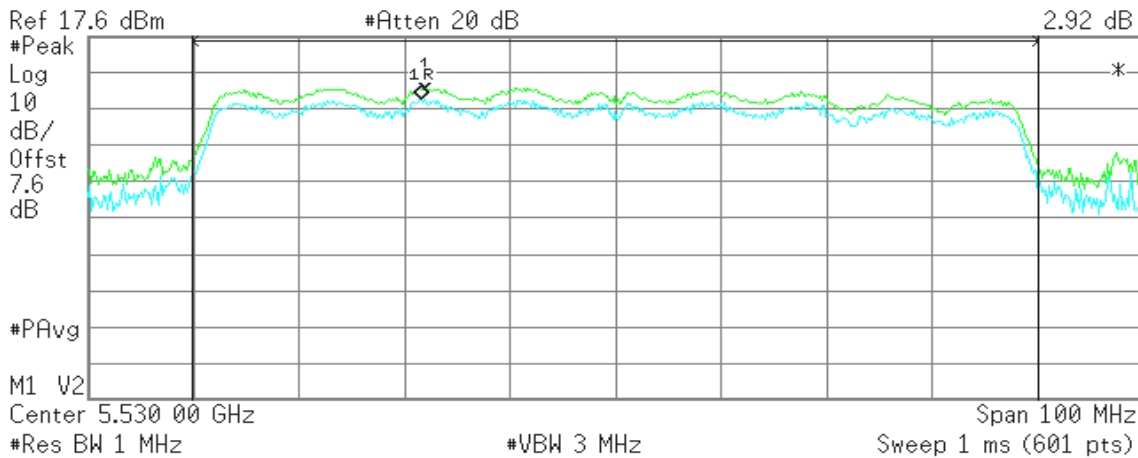
-64.94 dBm/Hz

IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz

Agilent

R T

Mkr1 330 kHz
2.92 dB



Channel Power

14.67 dBm /80.0000 MHz

Power Spectral Density

-64.36 dBm/Hz



7.6 RADIATED UNDESIRABLE EMISSION

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 ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
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.

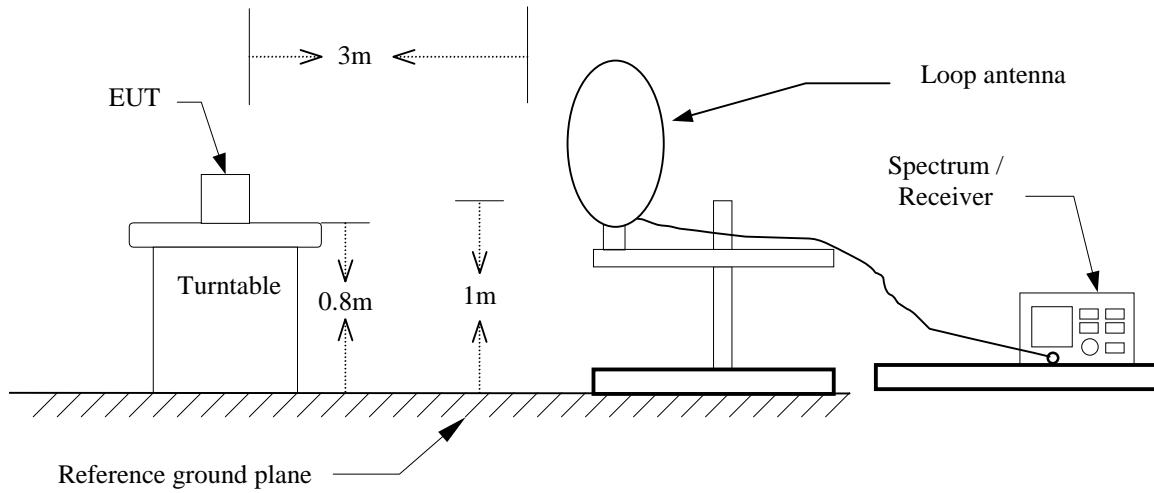
2. In the emission table above, the tighter limit applies at the band edges.

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

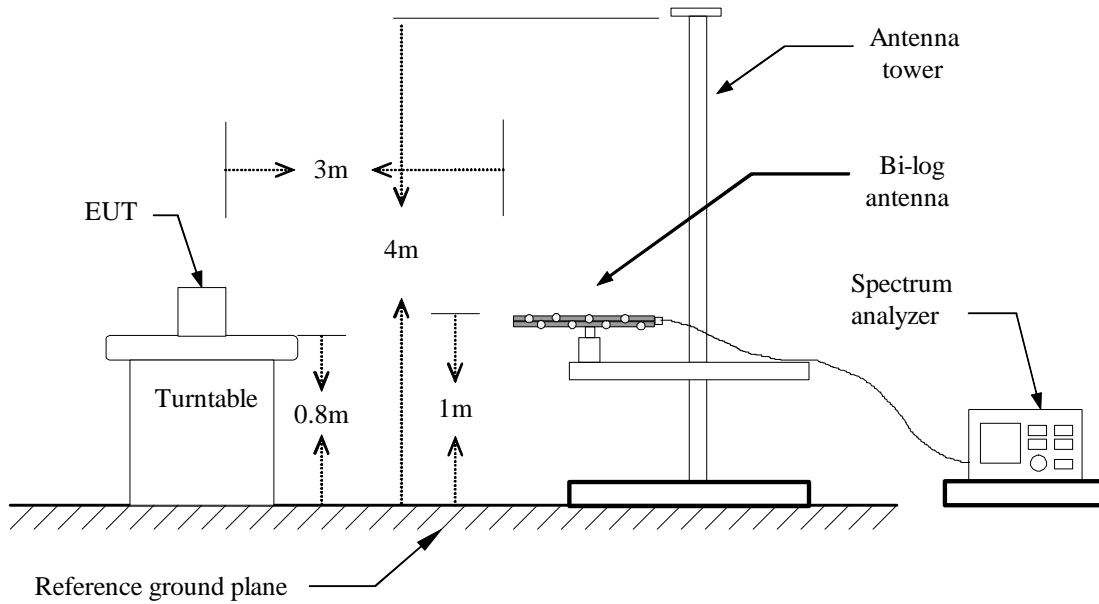


Test Configuration

9kHz ~ 30MHz

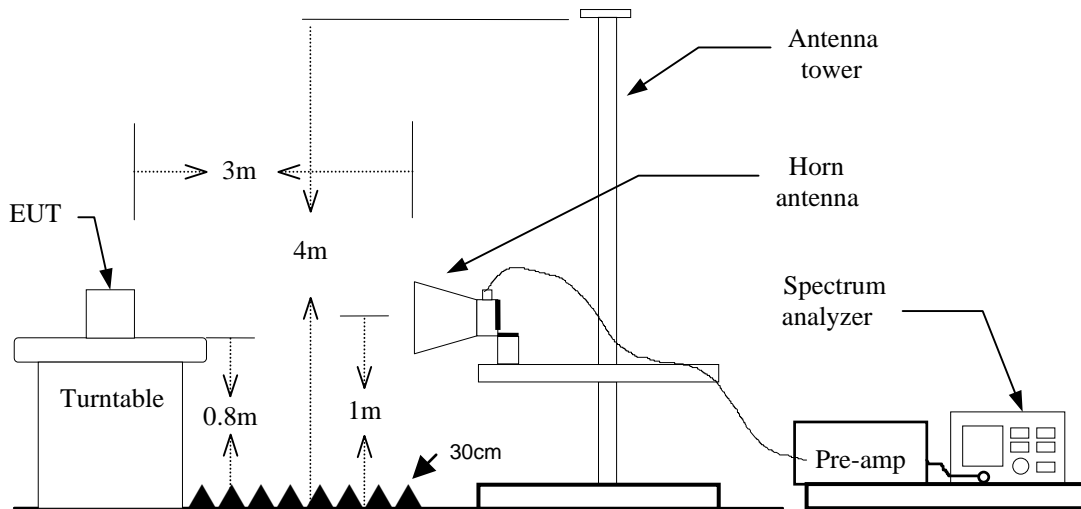


30MHz ~ 1GHz





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=VBW=1MHz / Sweep=AUTO
 - b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.



DATA SAMPLE

Below 1 GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol. (H/V)	Remark
x.xx	43.20	-20.71	22.49	40.00	-17.51	V	QP

Frequency (MHz) = Emission frequency in MHz
 Reading (dBuV) = Uncorrected Analyzer / Receiver reading
 Correction Factor (dB/m) = Antenna factor – Amplifier gain + Cable loss
 Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)
 Limit (dBuV/m) = Limit stated in standard
 Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)
 Q.P. = Quasi-Peak

Above 1 GHz

Freq. (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant. Pol. H/V	Remark
x.xx	45.25	6.91	52.16	74.00	-21.84	H	peak
x.xx	32.33	6.91	39.24	54.00	-14.76	H	AVG

Frequency (MHz) = Emission frequency in MHz
 Reading (dBuV) = Uncorrected Analyzer / Receiver reading
 Correction Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain
 Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)
 Limit (dBuV/m) = Limit stated in standard
 Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)



Below 1 GHz

Operation Mode: Data Link

Test Date: 2013/8/14

Temperature: 26°C

Tested by: Louis Shen

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
53.9900	43.20	-20.71	22.49	40.00	-17.51	V	QP
59.6300	40.50	-22.19	18.31	40.00	-21.69	V	QP
107.9900	35.50	-16.19	19.31	43.50	-24.19	V	QP
126.0000	29.80	-15.75	14.05	43.50	-29.45	V	QP
161.9900	39.60	-17.05	22.55	43.50	-20.95	V	QP
236.4000	29.96	-16.10	13.86	46.00	-32.14	V	QP
680.0091	30.00	-8.64	21.36	46.00	-24.64	V	QP
53.9900	33.50	-20.71	12.79	40.00	-27.21	H	QP
58.7400	29.60	-21.97	7.63	40.00	-32.37	H	QP
107.9900	41.10	-16.19	24.91	43.50	-18.59	H	QP
144.0000	28.30	-16.48	11.82	43.50	-31.68	H	QP
161.9600	28.70	-17.05	11.65	43.50	-31.85	H	QP
275.0000	23.40	-13.66	9.74	46.00	-36.26	H	QP

Remark:

1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
4. 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.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).



Above 1 GHz

Operation Mode: TX / IEEE 802.11a mode / 5150 ~ 5250MHz / Low **Test Date:** 2013/8/31~9/2

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
2195.000	48.70	-1.44	47.26	74.00	-26.74	V	peak
3510.000	47.58	2.30	49.88	74.00	-24.12	V	peak
4015.000	45.43	3.43	48.86	74.00	-25.14	V	peak
N/A							
2155.000	48.40	-3.66	44.74	74.00	-29.26	H	peak
3150.000	47.87	1.21	49.08	74.00	-24.92	H	peak
4405.000	45.25	6.91	52.16	74.00	-21.84	H	peak
4405.000	32.33	6.91	39.24	54.00	-14.76	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5150 ~ 5250MHz / Mid **Test Date:** 2013/8/31~9/2

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
2265.000	48.98	-1.47	47.51	74.00	-26.49	V	peak
3775.000	46.11	3.38	49.49	74.00	-24.51	V	peak
4675.000	45.25	2.48	47.73	74.00	-26.27	V	peak
2175.000	48.15	-3.61	44.54	74.00	-29.46	H	peak
3170.000	47.45	1.16	48.61	74.00	-25.39	H	peak
4300.000	44.74	7.66	52.40	74.00	-21.60	H	peak
4300.000	32.29	7.66	39.95	54.00	-14.05	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5150 ~ 5250MHz / High **Test Date:** 2013/8/31~9/2
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
2280.000	48.68	-1.51	47.17	74.00	-26.83	V	peak
3775.000	46.55	3.38	49.93	74.00	-24.07	V	peak
4945.000	45.11	4.80	49.91	74.00	-24.09	V	peak
N/A							
2205.000	48.51	-3.70	44.81	74.00	-29.19	H	peak
3920.000	47.10	5.15	52.25	74.00	-21.75	H	peak
3920.000	32.19	5.15	37.34	54.00	-16.66	H	AVG
4325.000	45.19	7.47	52.66	74.00	-21.34	H	peak
4325.000	32.38	7.47	39.85	54.00	-14.15	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5150 ~ 5250MHz / Low **Test Date:** 2013/8/31~9/2
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
2020.000	48.96	-1.75	47.21	74.00	-26.79	V	peak
3735.000	46.46	2.90	49.36	74.00	-24.64	V	peak
4930.000	45.57	4.66	50.23	74.00	-23.77	V	peak
N/A							
2165.000	48.42	-3.64	44.78	74.00	-29.22	H	peak
3105.000	47.10	1.32	48.42	74.00	-25.58	H	peak
4410.000	46.47	6.89	53.36	74.00	-20.64	H	peak
4410.000	32.16	6.89	39.05	54.00	-14.95	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5150 ~ 5250MHz / Mid **Test Date:** 2013/8/31~9/2
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
2005.000	48.15	-1.41	46.74	74.00	-27.26	V	peak
3095.000	47.91	0.36	48.27	74.00	-25.73	V	peak
4080.000	46.47	3.19	49.66	74.00	-24.34	V	peak
N/A							
2135.000	49.90	-3.70	46.20	74.00	-27.80	H	peak
3105.000	46.94	1.32	48.26	74.00	-25.74	H	peak
4695.000	45.95	7.24	53.19	74.00	-20.81	H	peak
4695.000	32.37	7.24	39.61	54.00	-14.39	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5150 ~ 5250MHz / High **Test Date:** 2013/8/31~9/2

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
1990.000	48.50	-1.46	47.04	74.00	-26.96	V	peak
3750.000	46.47	3.08	49.55	74.00	-24.45	V	peak
4695.000	46.08	2.74	48.82	74.00	-25.18	V	peak
N/A							
2130.000	49.40	-3.71	45.69	74.00	-28.31	H	peak
3075.000	47.56	0.83	48.39	74.00	-25.61	H	peak
4695.000	45.08	7.24	52.32	74.00	-21.68	H	peak
4695.000	32.36	7.24	39.60	54.00	-14.40	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / 5150 ~ 5250MHz / Low **Test Date:** 2013/9/2
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
2000.000	48.11	-1.30	46.81	74.00	-27.19	V	peak
3095.000	47.34	0.36	47.70	74.00	-26.30	V	peak
4100.000	46.42	3.12	49.54	74.00	-24.46	V	peak
N/A							
3080.000	47.31	0.93	48.24	74.00	-25.76	H	peak
3935.000	46.55	5.09	51.64	74.00	-22.36	H	peak
3935.000	32.28	5.09	37.37	54.00	-16.63	H	AVG
4715.000	45.62	7.03	52.65	74.00	-21.35	H	peak
4715.000	32.33	7.03	39.36	54.00	-14.64	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / 5150 ~ 5250MHz / High **Test Date:** 2013/9/2
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
2240.000	48.64	-1.42	47.22	74.00	-26.78	V	peak
3120.000	48.12	0.18	48.30	74.00	-25.70	V	peak
4135.000	47.05	2.90	49.95	74.00	-24.05	V	peak
N/A							
2135.000	49.12	-3.70	45.42	74.00	-28.58	H	peak
3780.000	46.71	4.83	51.54	74.00	-22.46	H	peak
3780.000	32.41	4.83	37.24	54.00	-16.76	H	AVG
4650.000	45.76	6.62	52.38	74.00	-21.62	H	peak
4650.000	32.34	6.62	38.96	54.00	-15.04	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11ac HT80 mode / 5150 ~ 5250MHz

Test Date: 2013/9/2

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
2205.000	48.53	-1.34	47.19	74.00	-26.81	V	peak
3115.000	47.49	0.25	47.74	74.00	-26.26	V	peak
4005.000	45.88	3.47	49.35	74.00	-24.65	V	peak
N/A							
2130.000	49.36	-3.71	45.65	74.00	-28.35	H	peak
3590.000	46.37	3.93	50.30	74.00	-23.70	H	peak
4300.000	45.60	7.66	53.26	74.00	-20.74	H	peak
4300.000	32.36	7.66	40.02	54.00	-13.98	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5250 ~ 5350MHz / Low **Test Date:** 2013/8/31~9/2
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
2040.000	48.93	-2.21	46.72	74.00	-27.28	V	peak
3820.000	47.28	3.24	50.52	74.00	-23.48	V	peak
4940.000	46.21	4.75	50.96	74.00	-23.04	V	peak
N/A							
2165.000	48.32	-3.64	44.68	74.00	-29.32	H	peak
3105.000	47.51	1.32	48.83	74.00	-25.17	H	peak
4735.000	45.89	6.66	52.55	74.00	-21.45	H	peak
4735.000	32.34	6.66	39.00	54.00	-15.00	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5250 ~ 5350MHz / Mid

Test Date: 2013/8/31~9/2

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
2195.000	48.68	-1.44	47.24	74.00	-26.76	V	peak
3965.000	47.02	2.78	49.80	74.00	-24.20	V	peak
5015.000	45.49	5.18	50.67	74.00	-23.33	V	peak
N/A							
2105.000	48.40	-3.77	44.63	74.00	-29.37	H	peak
3070.000	47.90	0.73	48.63	74.00	-25.37	H	peak
4670.000	45.56	6.89	52.45	74.00	-21.55	H	peak
4670.000	32.21	6.89	39.10	54.00	-14.90	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5250 ~ 5350MHz / High **Test Date:** 2013/8/31~9/2

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
2370.000	49.18	-1.63	47.55	74.00	-26.45	V	peak
4065.000	46.63	3.25	49.88	74.00	-24.12	V	peak
4980.000	45.42	5.13	50.55	74.00	-23.45	V	peak
N/A							
2105.000	49.02	-3.77	45.25	74.00	-28.75	H	peak
3890.000	46.19	5.21	51.40	74.00	-22.60	H	peak
3890.000	32.16	5.21	37.37	54.00	-16.63	H	AVG
4680.000	45.43	7.03	52.46	74.00	-21.54	H	peak
4680.000	32.37	7.03	39.40	54.00	-14.60	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5250 ~ 5350MHz / Low **Test Date:** 2013/8/31~9/2
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
1960.000	49.44	-1.93	47.51	74.00	-26.49	V	peak
4010.000	46.99	3.45	50.44	74.00	-23.56	V	peak
4990.000	45.57	5.23	50.80	74.00	-23.20	V	peak
N/A							
2130.000	48.91	-3.71	45.20	74.00	-28.80	H	peak
3070.000	47.65	0.73	48.38	74.00	-25.62	H	peak
4695.000	45.57	7.24	52.81	74.00	-21.19	H	peak
4695.000	32.61	7.24	39.85	54.00	-14.15	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5250 ~ 5350MHz / Mid **Test Date:** 2013/8/31~9/2

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
2010.000	48.02	-1.53	46.49	74.00	-27.51	V	peak
4100.000	47.11	3.12	50.23	74.00	-23.77	V	peak
5005.000	45.50	5.27	50.77	74.00	-23.23	V	peak
N/A							
2145.000	48.57	-3.68	44.89	74.00	-29.11	H	peak
3805.000	46.35	5.11	51.46	74.00	-22.54	H	peak
4690.000	45.88	7.17	53.05	74.00	-20.95	H	peak
4690.000	32.33	7.17	39.50	54.00	-14.50	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5250 ~ 5350MHz / High **Test Date:** 2013/8/31~9/2
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
1980.000	48.68	-1.62	47.06	74.00	-26.94	V	peak
4000.000	46.43	3.49	49.92	74.00	-24.08	V	peak
4970.000	45.28	5.04	50.32	74.00	-23.68	V	peak
N/A							
3115.000	48.06	1.29	49.35	74.00	-24.65	H	peak
3840.000	46.18	5.15	51.33	74.00	-22.67	H	peak
3840.000	31.95	5.15	37.10	54.00	-16.90	H	AVG
4935.000	45.84	7.30	53.14	74.00	-20.86	H	peak
4935.000	32.37	7.30	39.67	54.00	-14.33	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / 5250 ~ 5350MHz / Low **Test Date:** 2013/9/2
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
2495.000	47.91	-0.97	46.94	74.00	-27.06	V	peak
4015.000	46.05	3.43	49.48	74.00	-24.52	V	peak
4910.000	46.12	4.46	50.58	74.00	-23.42	V	peak
N/A							
2130.000	49.78	-3.71	46.07	74.00	-27.93	H	peak
3065.000	48.18	0.63	48.81	74.00	-25.19	H	peak
4265.000	46.16	7.07	53.23	74.00	-20.77	H	peak
4265.000	32.36	7.07	39.43	54.00	-14.57	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / 5250 ~ 5350MHz / High **Test Date:** 2013/9/2

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
2545.000	48.91	-1.49	47.42	74.00	-26.58	V	peak
3835.000	46.42	2.91	49.33	74.00	-24.67	V	peak
4970.000	45.33	5.04	50.37	74.00	-23.63	V	peak
N/A							
2115.000	48.65	-3.75	44.90	74.00	-29.10	H	peak
3775.000	46.09	4.77	50.86	74.00	-23.14	H	peak
4295.000	44.83	7.58	52.41	74.00	-21.59	H	peak
4295.000	32.32	7.58	39.90	54.00	-14.10	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11ac HT80 mode / 5250 ~ 5350MHz **Test Date:** 2013/9/2
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
2195.000	48.93	-1.44	47.49	74.00	-26.51	V	peak
3110.000	48.07	0.32	48.39	74.00	-25.61	V	peak
3770.000	46.14	3.32	49.46	74.00	-24.54	V	peak
N/A							
2175.000	48.65	-3.61	45.04	74.00	-28.96	H	peak
3105.000	46.93	1.32	48.25	74.00	-25.75	H	peak
4240.000	46.28	6.65	52.93	74.00	-21.07	H	peak
4240.000	32.37	6.65	39.02	54.00	-14.98	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5470 ~ 5725MHz / Low **Test Date:** 2013/8/31~9/2

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
2280.000	49.72	-1.51	48.21	74.00	-25.79	V	peak
3055.000	48.70	-0.33	48.37	74.00	-25.63	V	peak
4040.000	46.10	3.34	49.44	74.00	-24.56	V	peak
N/A							
2130.000	48.43	-3.71	44.72	74.00	-29.28	H	peak
3595.000	47.06	4.05	51.11	74.00	-22.89	H	peak
3595.000	33.27	4.05	37.32	54.00	-16.68	H	AVG
4665.000	45.76	6.82	52.58	74.00	-21.42	H	peak
4665.000	32.35	6.82	39.17	54.00	-14.83	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5470 ~ 5725MHz / Mid **Test Date:** 2013/8/31~9/2

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
2010.000	48.61	-1.53	47.08	74.00	-26.92	V	peak
4045.000	46.17	3.32	49.49	74.00	-24.51	V	peak
5005.000	44.86	5.27	50.13	74.00	-23.87	V	peak
N/A							
2200.000	48.58	-3.56	45.02	74.00	-28.98	H	peak
3630.000	46.71	4.04	50.75	74.00	-23.25	H	peak
4970.000	45.21	7.46	52.67	74.00	-21.33	H	peak
4970.000	32.34	7.46	39.80	54.00	-14.20	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11a mode / 5470 ~ 5725MHz / High **Test Date:** 2013/8/31~9/2

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
3085.000	47.78	0.19	47.97	74.00	-26.03	V	peak
4015.000	47.16	3.43	50.59	74.00	-23.41	V	peak
5055.000	45.58	4.80	50.38	74.00	-23.62	V	peak
N/A							
2130.000	48.74	-3.71	45.03	74.00	-28.97	H	peak
3565.000	47.53	3.37	50.90	74.00	-23.10	H	peak
4745.000	46.12	6.47	52.59	74.00	-21.41	H	peak
4745.000	32.39	6.47	38.86	54.00	-15.14	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5470 ~ 5725MHz / Low **Test Date:** 2013/9/2
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	48.64	-1.77	46.87	74.00	-27.13	V	peak
4110.000	46.18	3.06	49.24	74.00	-24.76	V	peak
4915.000	45.73	4.51	50.24	74.00	-23.76	V	peak
N/A							
2130.000	48.30	-3.71	44.59	74.00	-29.41	H	peak
3840.000	46.42	5.15	51.57	74.00	-22.43	H	peak
3840.000	32.36	5.15	37.51	54.00	-16.49	H	AVG
4390.000	45.55	6.99	52.54	74.00	-21.46	H	peak
4390.000	32.32	6.99	39.31	54.00	-14.69	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5470 ~ 5725MHz / Mid **Test Date:** 2013/9/2

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
1990.000	48.17	-1.46	46.71	74.00	-27.29	V	peak
4065.000	46.68	3.25	49.93	74.00	-24.07	V	peak
4985.000	45.64	5.18	50.82	74.00	-23.18	V	peak
N/A							
2130.000	48.70	-3.71	44.99	74.00	-29.01	H	peak
3120.000	47.71	1.28	48.99	74.00	-25.01	H	peak
4975.000	45.54	7.48	53.02	74.00	-20.98	H	peak
4975.000	32.38	7.48	39.86	54.00	-14.14	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / 5470 ~ 5725MHz / High **Test Date:** 2013/9/2

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
2005.000	48.82	-1.41	47.41	74.00	-26.59	V	peak
4000.000	46.47	3.49	49.96	74.00	-24.04	V	peak
4975.000	45.25	5.08	50.33	74.00	-23.67	V	peak
N/A							
2160.000	49.06	-3.65	45.41	74.00	-28.59	H	peak
3630.000	46.24	4.04	50.28	74.00	-23.72	H	peak
4970.000	45.30	7.46	52.76	74.00	-21.24	H	peak
4970.000	32.35	7.46	39.81	54.00	-14.19	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / 5470 ~ 5725MHz / Low **Test Date:** 2013/9/2

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
2205.000	48.65	-1.34	47.31	74.00	-26.69	V	peak
3785.000	46.20	3.51	49.71	74.00	-24.29	V	peak
5015.000	44.87	5.18	50.05	74.00	-23.95	V	peak
N/A							
2130.000	49.24	-3.71	45.53	74.00	-28.47	H	peak
3800.000	46.17	5.10	51.27	74.00	-22.73	H	peak
3800.000	32.18	5.10	37.28	54.00	-16.72	H	AVG
4965.000	45.32	7.44	52.76	74.00	-21.24	H	peak
4965.000	32.32	7.44	39.76	54.00	-14.24	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / 5470 ~ 5725MHz / Mid **Test Date:** 2013/9/2

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
1965.000	48.91	-1.85	47.06	74.00	-26.94	V	peak
3985.000	46.60	3.19	49.79	74.00	-24.21	V	peak
4905.000	45.53	4.42	49.95	74.00	-24.05	V	peak
N/A							
1400.000	51.53	-6.90	44.63	74.00	-29.37	H	peak
3610.000	47.41	4.12	51.53	74.00	-22.47	H	peak
3610.000	32.27	4.12	36.39	54.00	-17.61	H	AVG
4685.000	45.84	7.10	52.94	74.00	-21.06	H	peak
4685.000	32.31	7.10	39.41	54.00	-14.59	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / 5470 ~ 5725MHz / High **Test Date:** 2013/9/2
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
1950.000	49.19	-2.09	47.10	74.00	-26.90	V	peak
3625.000	47.17	2.82	49.99	74.00	-24.01	V	peak
5040.000	45.75	4.94	50.69	74.00	-23.31	V	
N/A							
2130.000	48.97	-3.71	45.26	74.00	-28.74	H	peak
3105.000	46.98	1.32	48.30	74.00	-25.70	H	peak
4630.000	46.35	6.34	52.69	74.00	-21.31	H	peak
4630.000	32.36	6.34	38.70	54.00	-15.30	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11ac HT80 mode / 5470 ~ 5725MHz **Test Date:** 2013/9/2
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
2015.000	49.08	-1.64	47.44	74.00	-26.56	V	peak
4010.000	46.38	3.45	49.83	74.00	-24.17	V	peak
5025.000	45.38	5.08	50.46	74.00	-23.54	V	peak
N/A							
2200.000	48.38	-3.56	44.82	74.00	-29.18	H	peak
3085.000	48.62	1.03	49.65	74.00	-24.35	H	peak
4570.000	46.40	6.13	52.53	74.00	-21.47	H	peak
4570.000	32.35	6.13	38.48	54.00	-15.52	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: RX / 5150 ~ 5250MHz

Test Date: 2013/9/2

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
2190.000	48.83	-1.55	47.28	74.00	-26.72	V	peak
3790.000	47.06	3.57	50.63	74.00	-23.37	V	peak
5445.000	44.28	6.32	50.60	74.00	-23.40	V	peak
N/A							
2135.000	48.18	-3.70	44.48	74.00	-29.52	H	peak
3880.000	46.25	5.20	51.45	74.00	-22.55	H	peak
3880.000	32.30	5.20	37.50	54.00	-16.50	H	AVG
4970.000	45.25	7.46	52.71	74.00	-21.29	H	peak
4970.000	32.33	7.46	39.79	54.00	-14.21	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: RX / 5250 ~ 5350MHz

Test Date: 2013/9/2

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
2195.000	48.11	-1.44	46.67	74.00	-27.33	V	peak
3780.000	45.84	3.45	49.29	74.00	-24.71	V	peak
5005.000	44.90	5.27	50.17	74.00	-23.83	V	peak
N/A							
2130.000	49.84	-3.71	46.13	74.00	-27.87	H	peak
3220.000	48.17	1.12	49.29	74.00	-24.71	H	peak
4685.000	45.34	7.10	52.44	74.00	-21.56	H	peak
4685.000	32.35	7.10	39.45	54.00	-14.55	H	AVG
N/A							

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: RX / 5470 ~ 5725MHz

Test Date: 2013/9/2

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
2470.000	48.30	-1.15	47.15	74.00	-26.85	V	peak
3750.000	46.26	3.08	49.34	74.00	-24.66	V	peak
4060.000	46.19	3.27	49.46	74.00	-24.54	V	peak
N/A							
2130.000	49.04	-3.71	45.33	74.00	-28.67	H	peak
3755.000	45.92	4.50	50.42	74.00	-23.58	H	peak
4690.000	45.60	7.17	52.77	74.00	-21.23	H	peak
4690.000	32.35	7.17	39.52	54.00	-14.48	H	AVG

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.
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.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



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 30 MHz 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

Operation Mode:	Data Link	Test Date:	2013/8/14
Temperature:	25°C	Tested by:	Louis Shen
Humidity:	57% RH		

Freq. (MHz)	QP Reading	AV Reading	Corr. factor	QP Result	AV Result	QP Limit	AV Limit	QP Margin	AV Margin	Note
0.4460	26.94	10.05	9.69	36.63	19.74	56.95	46.95	-20.32	-27.21	L1
0.4780	27.53	14.76	9.70	37.23	24.46	56.37	46.37	-19.14	-21.91	L1
1.0140	20.93	8.05	9.71	30.64	17.76	56.00	46.00	-25.36	-28.24	L1
1.3860	20.80	4.99	9.72	30.52	14.71	56.00	46.00	-25.48	-31.29	L1
2.6540	20.29	6.83	9.76	30.05	16.59	56.00	46.00	-25.95	-29.41	L1
8.9980	18.71	1.22	9.91	28.62	11.13	60.00	50.00	-31.38	-38.87	L1
0.2620	22.68	14.96	9.66	32.34	24.62	61.36	51.37	-29.02	-26.75	L2
0.4660	24.38	7.92	9.67	34.05	17.59	56.58	46.58	-22.53	-28.99	L2
1.0300	18.43	-0.06	9.69	28.12	9.63	56.00	46.00	-27.88	-36.37	L2
1.7340	17.98	1.30	9.71	27.69	11.01	56.00	46.00	-28.31	-34.99	L2
1.8700	17.70	2.59	9.72	27.42	12.31	56.00	46.00	-28.58	-33.69	L2
3.0460	19.74	3.67	9.75	29.49	13.42	56.00	46.00	-26.51	-32.58	L2

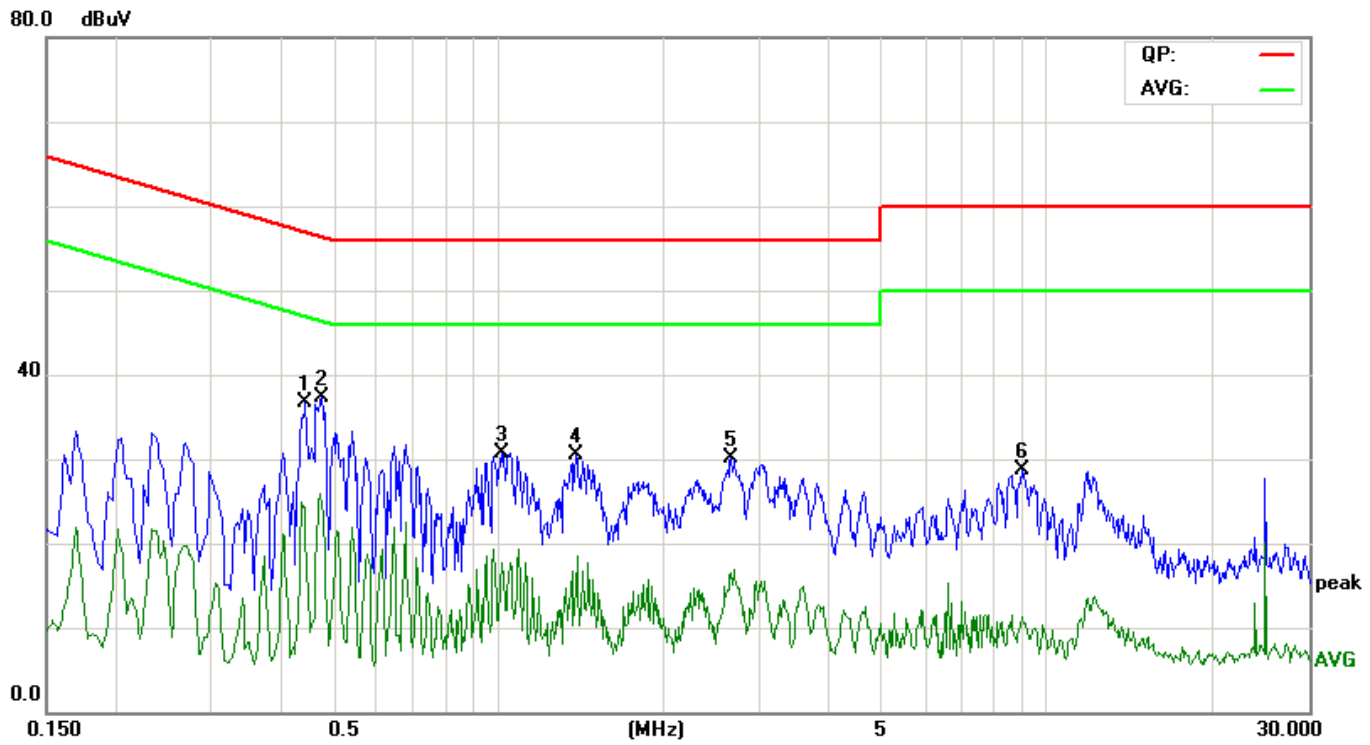
Remark:

1. *Measuring frequencies from 0.15 MHz to 30MHz.*
2. *The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.*
3. *The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;*
4. *L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)*

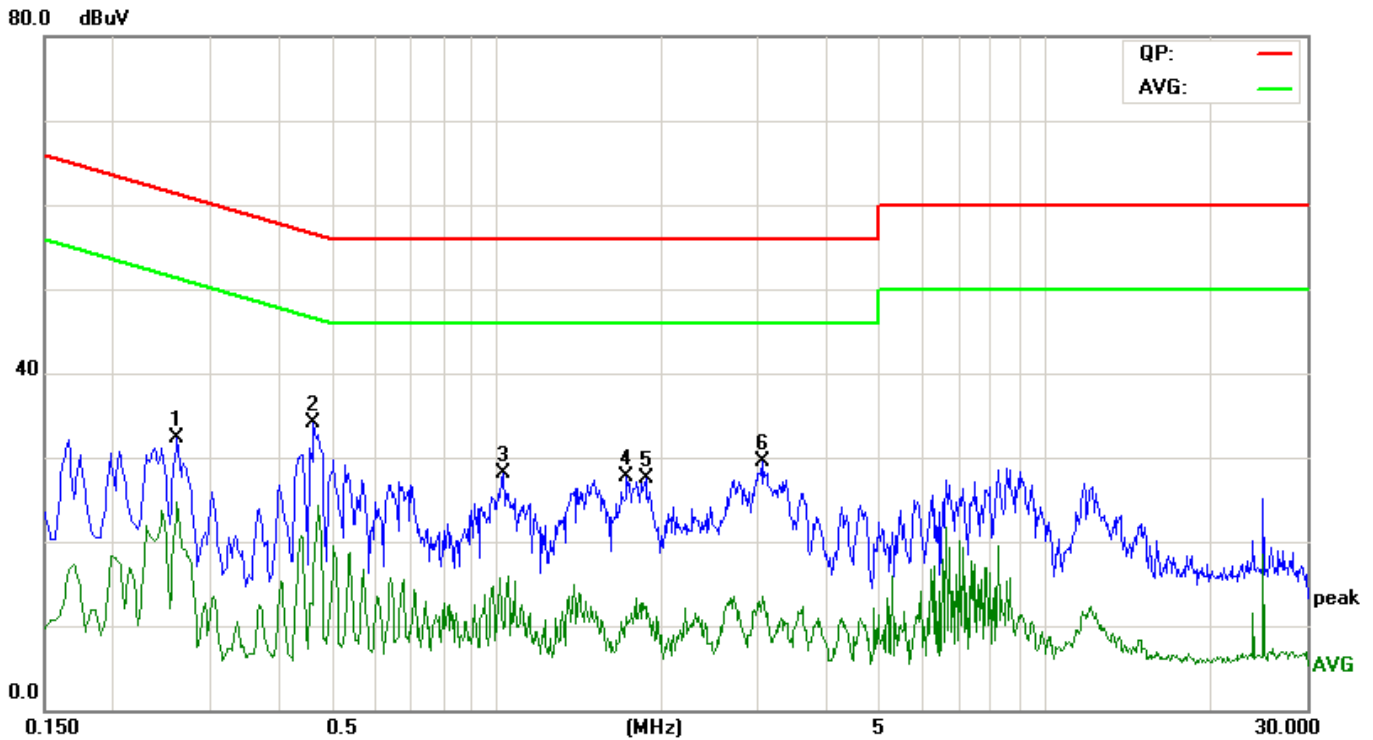


Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)



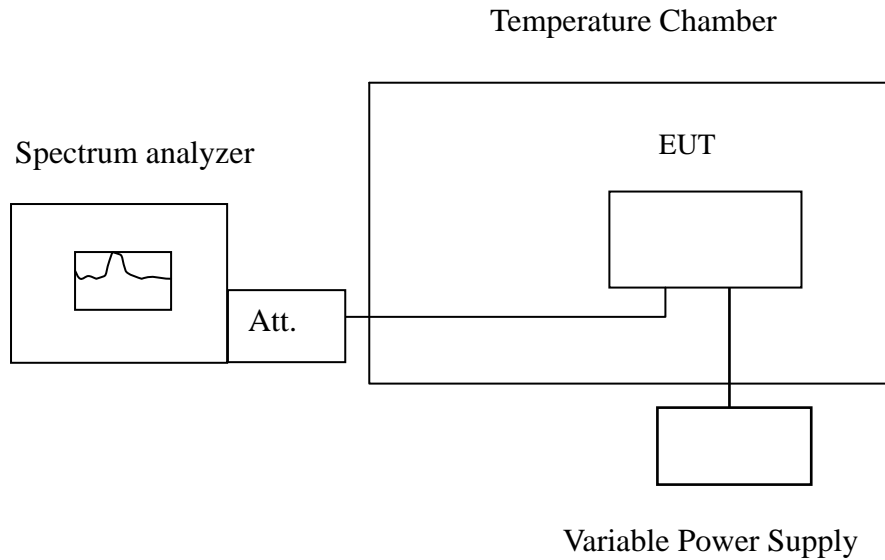


7.8 FREQUENCY STABILITY

LIMIT

According to §15.407(g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

Test Configuration



Remark: Measurement setup for testing on Antenna connector



TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST RESULTS

No non-compliance noted.



IEEE 802.11a mode / 5180 ~ 5240 MHz:

CH Low

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5179.974775	5150~5250	Pass
-10	120	5179.970470	5150~5250	Pass
0	120	5179.985622	5150~5250	Pass
10	120	5179.971836	5150~5250	Pass
20	120	5180.004624	5150~5250	Pass
30	120	5180.003635	5150~5250	Pass
40	120	5180.019302	5150~5250	Pass
50	120	5180.006920	5150~5250	Pass

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5179.971836	5150~5250	Pass
	120	5179.995376	5150~5250	Pass
	132	5180.003635	5150~5250	Pass



CH High

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5239.925678	5150~5250	Pass
-10	120	5239.942853	5150~5250	Pass
0	120	5239.963183	5150~5250	Pass
10	120	5239.996322	5150~5250	Pass
20	120	5240.003737	5150~5250	Pass
30	120	5240.023912	5150~5250	Pass
40	120	5240.028557	5150~5250	Pass
50	120	5240.010343	5150~5250	Pass

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5239.996322	5150~5250	Pass
	120	5239.996263	5150~5250	Pass
	132	5240.023912	5150~5250	Pass



IEEE 802.11n HT20 mode / 5180 ~ 5240 MHz:

CH Low

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5179.962242	5150~5250	Pass
-10	120	5179.964923	5150~5250	Pass
0	120	5179.987948	5150~5250	Pass
10	120	5179.961953	5150~5250	Pass
20	120	5180.003504	5150~5250	Pass
30	120	5180.007884	5150~5250	Pass
40	120	5180.018532	5150~5250	Pass
50	120	5180.032961	5150~5250	Pass

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5179.96898	5150~5250	Pass
	120	5179.985074	5150~5250	Pass
	132	5180.007061	5150~5250	Pass



CH High

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5239.996290	5150~5250	Pass
-10	120	5239.948839	5150~5250	Pass
0	120	5239.954223	5150~5250	Pass
10	120	5239.993248	5150~5250	Pass
20	120	5240.019587	5150~5250	Pass
30	120	5240.013987	5150~5250	Pass
40	120	5240.019264	5150~5250	Pass
50	120	5240.005367	5150~5250	Pass

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5239.972494	5150~5250	Pass
	120	5239.998995	5150~5250	Pass
	132	5240.027565	5150~5250	Pass



IEEE 802.11n HT40 mode / 5190 ~ 5230 MHz:

CH Low

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5189.936039	5150~5250	Pass
-10	120	5189.954721	5150~5250	Pass
0	120	5189.989525	5150~5250	Pass
10	120	5189.993648	5150~5250	Pass
20	120	5190.013033	5150~5250	Pass
30	120	5190.027396	5150~5250	Pass
40	120	5190.027521	5150~5250	Pass
50	120	5190.033920	5150~5250	Pass

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5189.980102	5150~5250	Pass
	120	5189.988738	5150~5250	Pass
	132	5190.028180	5150~5250	Pass



CH High

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5229.956819	5150~5250	Pass
-10	120	5229.942250	5150~5250	Pass
0	120	5229.970957	5150~5250	Pass
10	120	5229.960826	5150~5250	Pass
20	120	5230.015644	5150~5250	Pass
30	120	5230.010067	5150~5250	Pass
40	120	5230.003618	5150~5250	Pass
50	120	5230.017599	5150~5250	Pass

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5229.968706	5150~5250	Pass
	120	5229.990945	5150~5250	Pass
	132	5230.018705	5150~5250	Pass



IEEE 802.11a mode / 5260 ~ 5320 MHz:

CH Low

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5259.998951	5250~5350	Pass
-10	120	5259.974805	5250~5350	Pass
0	120	5259.955823	5250~5350	Pass
10	120	5259.975065	5250~5350	Pass
20	120	5260.008356	5250~5350	Pass
30	120	5260.002405	5250~5350	Pass
40	120	5260.001278	5250~5350	Pass
50	120	5260.020511	5250~5350	Pass

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5259.975065	5250~5350	Pass
	120	5259.991644	5250~5350	Pass
	132	5260.002405	5250~5350	Pass



CH High

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5319.948009	5250~5350	Pass
-10	120	5319.979355	5250~5350	Pass
0	120	5319.954663	5250~5350	Pass
10	120	5319.962495	5250~5350	Pass
20	120	5320.009418	5250~5350	Pass
30	120	5320.000331	5250~5350	Pass
40	120	5320.023271	5250~5350	Pass
50	120	5320.027346	5250~5350	Pass

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5319.962495	5250~5350	Pass
	120	5319.990582	5250~5350	Pass
	132	5320.000331	5250~5350	Pass



IEEE 802.11n HT20 mode / 5260 ~ 5320 MHz:

CH Low

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5259.996300	5250~5350	Pass
-10	120	5259.944363	5250~5350	Pass
0	120	5259.978991	5250~5350	Pass
10	120	5259.977909	5250~5350	Pass
20	120	5260.015349	5250~5350	Pass
30	120	5260.003389	5250~5350	Pass
40	120	5260.018700	5250~5350	Pass
50	120	5260.003331	5250~5350	Pass

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5259.988782	5250~5350	Pass
	120	5259.986586	5250~5350	Pass
	132	5260.022517	5250~5350	Pass



CH High

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5319.943764	5250~5350	Pass
-10	120	5319.961087	5250~5350	Pass
0	120	5319.977297	5250~5350	Pass
10	120	5319.99907	5250~5350	Pass
20	120	5320.002967	5250~5350	Pass
30	120	5320.002098	5250~5350	Pass
40	120	5320.008876	5250~5350	Pass
50	120	5320.030308	5250~5350	Pass

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5319.980009	5250~5350	Pass
	120	5319.984374	5250~5350	Pass
	132	5320.000142	5250~5350	Pass



IEEE 802.11n HT40 mode / 5270 ~ 5310 MHz:

CH Low

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5269.965343	5250~5350	Pass
-10	120	5269.962743	5250~5350	Pass
0	120	5269.952717	5250~5350	Pass
10	120	5269.969634	5250~5350	Pass
20	120	5270.007263	5250~5350	Pass
30	120	5270.026497	5250~5350	Pass
40	120	5270.003090	5250~5350	Pass
50	120	5270.040504	5250~5350	Pass

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5269.988489	5250~5350	Pass
	120	5269.989775	5250~5350	Pass
	132	5270.026042	5250~5350	Pass



CH High

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5309.928474	5250~5350	Pass
-10	120	5309.952696	5250~5350	Pass
0	120	5309.954198	5250~5350	Pass
10	120	5309.962217	5250~5350	Pass
20	120	5310.006614	5250~5350	Pass
30	120	5310.011458	5250~5350	Pass
40	120	5310.030513	5250~5350	Pass
50	120	5310.045711	5250~5350	Pass

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5309.994385	5250~5350	Pass
	120	5309.992471	5250~5350	Pass
	132	5310.006272	5250~5350	Pass



IEEE 802.11a mode / 5500 ~ 5700 MHz:

CH Low

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5499.935355	5470~5725	Pass
-10	120	5499.94738	5470~5725	Pass
0	120	5499.971859	5470~5725	Pass
10	120	5499.987581	5470~5725	Pass
20	120	5500.007386	5470~5725	Pass
30	120	5500.021673	5470~5725	Pass
40	120	5500.011108	5470~5725	Pass
50	120	5500.021047	5470~5725	Pass

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5499.987581	5470~5725	Pass
	120	5499.992614	5470~5725	Pass
	132	5500.021673	5470~5725	Pass



CH High

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5699.971653	5470~5725	Pass
-10	120	5699.990149	5470~5725	Pass
0	120	5699.994919	5470~5725	Pass
10	120	5699.964315	5470~5725	Pass
20	120	5700.009080	5470~5725	Pass
30	120	5700.016065	5470~5725	Pass
40	120	5700.007673	5470~5725	Pass
50	120	5700.043758	5470~5725	Pass

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5699.964315	5470~5725	Pass
	120	5699.990920	5470~5725	Pass
	132	5700.016065	5470~5725	Pass



IEEE 802.11n HT20 mode / 5500 ~ 5700 MHz:

CH Low

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5499.987371	5470~5725	Pass
-10	120	5499.961903	5470~5725	Pass
0	120	5499.991343	5470~5725	Pass
10	120	5499.960969	5470~5725	Pass
20	120	5500.010601	5470~5725	Pass
30	120	5500.013197	5470~5725	Pass
40	120	5500.022287	5470~5725	Pass
50	120	5500.018406	5470~5725	Pass

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5499.976162	5470~5725	Pass
	120	5499.990194	5470~5725	Pass
	132	5500.002866	5470~5725	Pass



CH High

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5699.962696	5470~5725	Pass
-10	120	5699.940618	5470~5725	Pass
0	120	5699.961951	5470~5725	Pass
10	120	5699.996776	5470~5725	Pass
20	120	5700.000668	5470~5725	Pass
30	120	5700.008644	5470~5725	Pass
40	120	5700.031983	5470~5725	Pass
50	120	5700.042010	5470~5725	Pass

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5699.962893	5470~5725	Pass
	120	5699.993003	5470~5725	Pass
	132	5700.001824	5470~5725	Pass



IEEE 802.11n HT40 mode / 5510 ~ 5670 MHz:

CH Low

Operating Frequency: 5510 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5509.932170	5470~5725	Pass
-10	120	5509.990551	5470~5725	Pass
0	120	5509.984422	5470~5725	Pass
10	120	5509.969875	5470~5725	Pass
20	120	5510.009326	5470~5725	Pass
30	120	5510.021860	5470~5725	Pass
40	120	5510.017510	5470~5725	Pass
50	120	5510.036983	5470~5725	Pass

Operating Frequency: 5510 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5509.985399	5470~5725	Pass
	120	5509.993860	5470~5725	Pass
	132	5510.002407	5470~5725	Pass



CH High

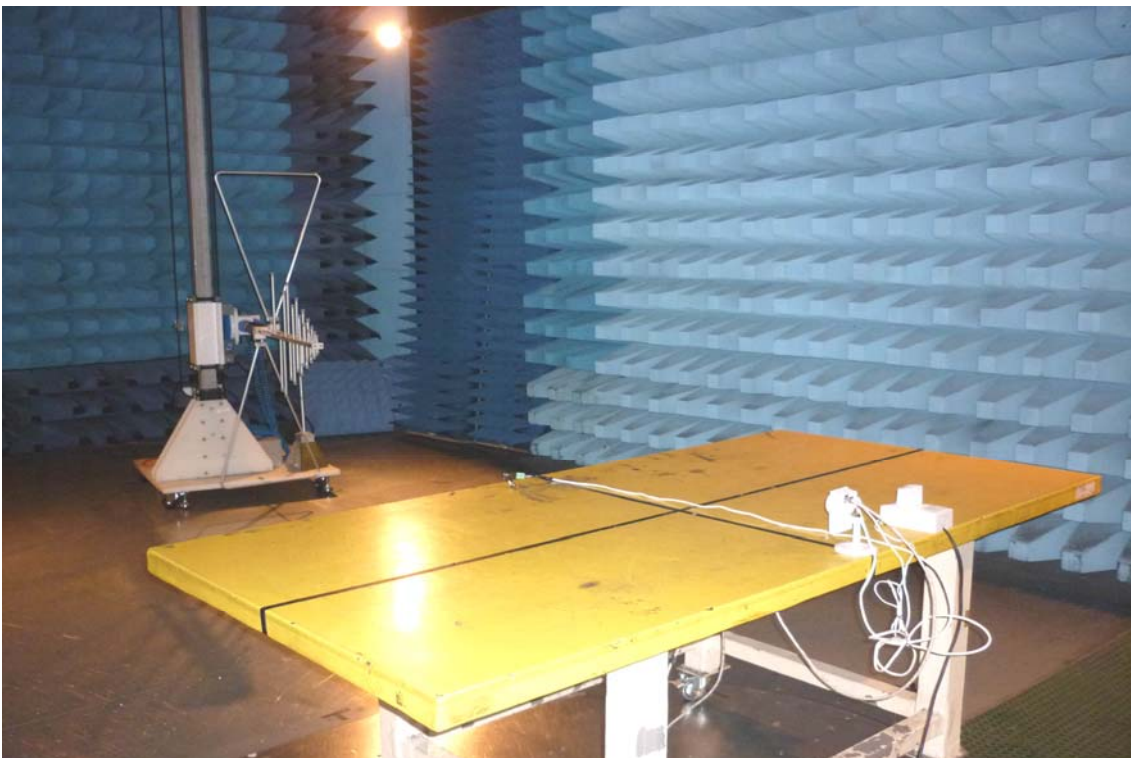
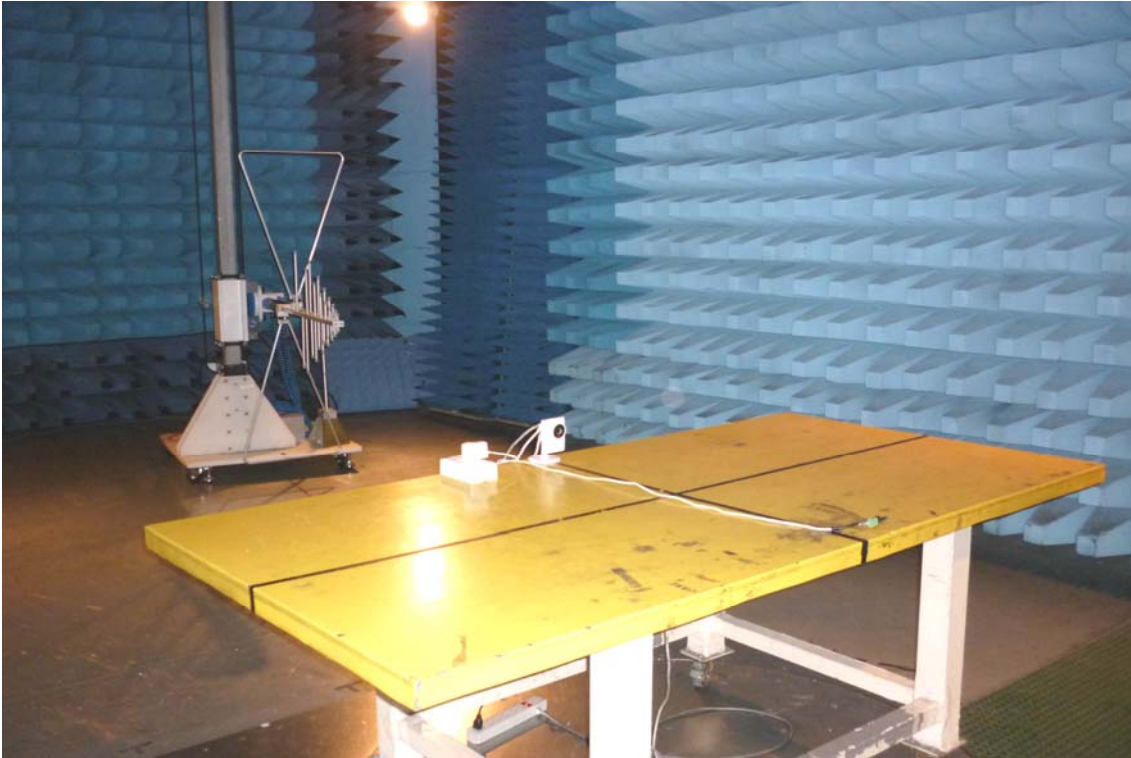
Operating Frequency: 5670 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
-20	120	5669.950908	5470~5725	Pass
-10	120	5669.954038	5470~5725	Pass
0	120	5669.995126	5470~5725	Pass
10	120	5669.977950	5470~5725	Pass
20	120	5670.005743	5470~5725	Pass
30	120	5670.013261	5470~5725	Pass
40	120	5670.023382	5470~5725	Pass
50	120	5670.000430	5470~5725	Pass

Operating Frequency: 5670 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	108	5669.995648	5470~5725	Pass
	120	5669.988604	5470~5725	Pass
	132	5670.021671	5470~5725	Pass



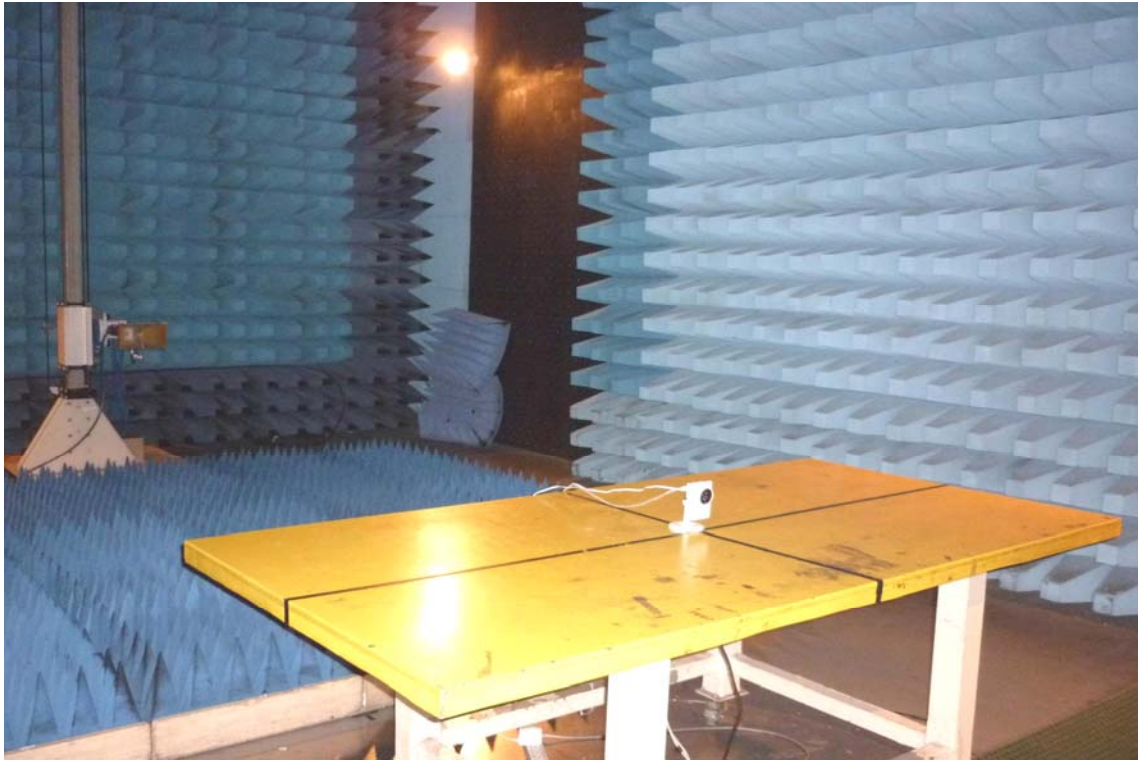
8. APPENDIX I PHOTOGRAPHS OF TEST SETUP

Radiated Emissions Setup Photos Below 1GHz



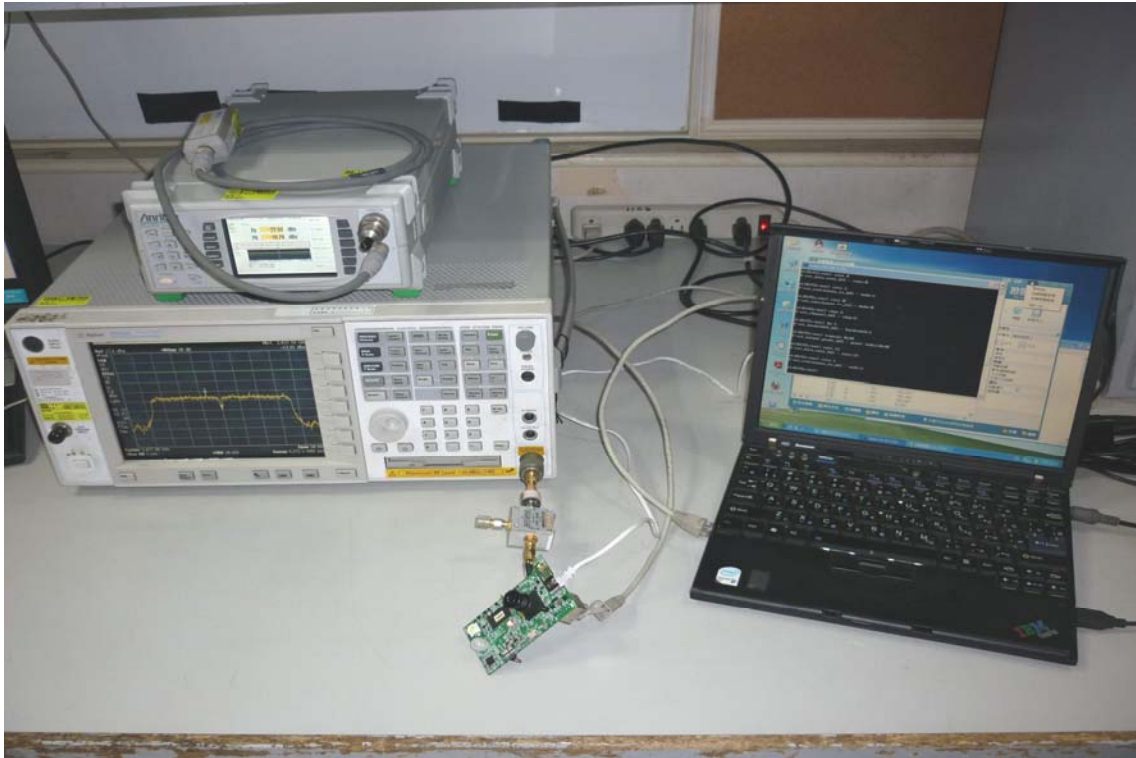


Above 1GHz





Conducted Emissions Setup Photo





Powerline Conducted Emissions Setup Photos





9. APPENDIX II: PHOTOGRAPHS OF EUT

Refer to T130730J01 External Photographs.