



FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Product Name: Mini BHS ADSL2+

Brand Name: DareGlobal

Model No.: TA04G-TF1DJ

Series Model: N/A

FCC ID: RS3TA04GTF1

**Test Report Number:
C131228R01-RPW**

Issued for

Shanghai DareGlobalTechnologies Co.,Ltd.

22F,Building A,No.1555,Kongjiang Road,Shanghai

Issued by

Compliance Certification Services Inc.

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TESTING CERT #2541.01

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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass
3.2	15.247(b)	Peak Output Power	$\leq 30\text{dBm}$	Pass
3.5	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass
3.4	15.247(d)	Conducted Band Edges and Spurious Emission	$\leq 20\text{dBc}$	Pass
3.5	15.247(d)	Radiated Band Edges and Spurious Emission	15.209(a) & 15.247(d)	Pass
3.6	15.207	AC Conducted Emission	15.207(a)	Pass
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass



1. TEST RESULT CERTIFICATION

Product Name:	Mini BHS ADSL2+
Trade Name:	DareGlobal
Model Name.:	TA04G-TF1DJ
Series Model:	N/A
Applicant Discrepancy:	Initial
Device Category:	Mobile unit
Date of Test:	December 30, 2013
Applicant:	Shanghai DareGlobalTechnologies Co.,Ltd. 22F, Building A, No.1555, Kongjiang Road, Shanghai
Manufacturer:	Shanghai DareGlobal Technologies Co.,Ltd. 22F, Building A, No.1555, Kongjiang Road, Shanghai
Application Type:	Certification

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

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

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

Approved by:

Jeff.Fang
RF Manager
Compliance Certification Service Inc.

Tested by:

Blent.Wang
Test Engineer
Compliance Certification Service Inc.



2. EUT DESCRIPTION

Product Name:	Mini BHS ADSL2+
Brand Name:	DareGlobal
Model Name:	TA04G-TF1DJ
Series Model:	N/A
Model Discrepancy:	N/A
Power Rating :	Power supply: Model:TS-A006-120005A3 / TS-A006-120005ED INPUT: 100-240V 50/60Hz 0.2A Output: DC 12V 0.5A
Frequency Range:	IEEE 802.11b/g:2412 MHz~ 2462 MHz IEEE 802.11n HT20:2412 MHz~ 2462 MHz IEEE 802.11n HT40:2422 MHz~ 2452 MHz
Transmit Power:	IEEE 802.11b: 18.19dBm (65.917mW) IEEE 802.11g: 14.15dBm (26.002mW) draft 802.11n Standard-20 MHz Channel mode:16.06dBm (40.365mW) draft 802.11n Wide-40 MHz Channel mode:15.64dBm (36.644mW)
Modulation Technique:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: DSSS /OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20/40:OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	IEEE 802.11b /g :11 Channels IEEE 802.11n HT20 :11 Channels IEEE 802.11n HT40: 9 Channels
Antenna Specification:	Dipole antenna(external antenna):3.0 dBi gain (Max) PIFA antenna(internal antenna): 3.5 dBi gain (Max)

Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for **FCC ID: RS3TA04GTF1** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.



3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 2003 and FCC CFR 47 15.207, 15.209 and 15.247.

3.1 EUT CONFIGURATION

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

3.2 EUT EXERCISE

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

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

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 2009 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4 2009.



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 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

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 transmitting and receiving with one (chain 0) antenna working at b/g mode, so one antenna working configuration was used for b/g mode testing in this report.

The EUT transmitting and receiving with two antennas simultaneously working at n mode, so two configuration was used for n(HT20 and HT40) Mode testing in this report.

The test data rates:

IEEE802.11b mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with MCS3 data rate was chosen for full testing.

IEEE802.11g mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with MCS7 data rate was chosen for full testing.

IEEE802.11n HT20 mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with MCS7 data rate was chosen for full testing.

IEEE802.11n HT40 mode:

Channel Low (2422MHz)

Channel Mid (2437MHz)

Channel High (2452MHz) with MCS7 data rate was 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.

Equipment Used for Emissions Measurement

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	2014-5-12
DETECTOR NEGATIVE	Agilent	8473B	MY42240176	2014-5-12
OSCILLOSCOPE	Agilent	DSO6104A	MY44002585	2014-3-24
Peak and Avg Power Sensor	Agilent	E9327A	US40441788	2014-3-24
EPM-P Series Power Meter	Agilent	E4416A	GB41292714	2014-5-12
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	2014-5-12
DC POWER SUPPLY	GW instek	GPS-3303C	E903131	2014-5-12
Temp. / Humidity Chamber	Kingson	THS-M1	242	2014-3-12
Test Software	EZ-EMC			

977 Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	2014-5-12
EMI Test Receiver	R&S	ESPI3	101026	2014-3-15
Pre-Amplifier	MINI	ZFL-1000VH2	d041703	2014-5-12
Pre-Amplifier	Miteq	NSP4000-NF	870629	2014-5-12
Bilog Antenna	Sunol	JB1	A110204-2	2014-5-12
Horn-antenna	SCHWARZBECK	BBHA9120D	D:266	2014-6-7
Turn Table	CT	CT123	4165	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R
Controller	CT	CT100	95637	N.C.R
Test Software	EZ-EMC			



Conducted Emission				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI TEST RECEIVER	R&S	ESCI3	100781	2014-3-15
V (V-LISN)	Schwarzbeck	NNLK 8129	8129-143	2014-3-15
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	SN:05012	2014-3-15
TRANSIENT LIMITER	SCHAFFNER	CFL9206	1710	2014-4-7
Test Software	EZ-EMC			

Remark: The measurement uncertainty is less than +/- 2.81dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

Expanded Uncertainty (95% CONFIDENCE INTERVAL): K=2



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at CCS China Kunshan Lab at 10#Weiye Rd, Innovation Park Eco. & Tec. Development Zone Kunshan city JiangSu, (215300), CHINA.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 2009 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: 200581-0 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, IC5743 for 10m chamber 10m, IC5743 for 10m chamber 3m.



5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC Part 15/18 (using ANSI C63.4 :2003); VCCI V3; CNS 13438; CNS 13439; CNS 13803; CISPR 11; EN 55011; CISPR 13; EN 55013; CISPR 22:2005; CISPR 22:1997 +A1 :2000+A2 :2002; EN 55022:2006; EN55022 :1998 +A1 :2001+A2 :2003; EN 61000-6-3 (excluding discontinuous interference); EN 61000-6-4; AS/NZS CISPR 22; CAN/CSA-CEI/IEC CISPR 22; EN 61000-3-2; EN 61000-3-3; EN550024; EN 61000-4-2; EN 61000-4-3; EN61000-4-4; EN 61000-4-5; EN 61000-4-6; IEC 61000-4-8; EN 61000-4-11; IEC61000-3-2; IEC61000-3-3; IEC 61000-4-2; IEC 61000-4-3; IEC 61000-4-4; IEC 61000-4-5; IEC 61000-4-6; IEC 61000-4-8; IEC 61000-4-11; EN 300 220-3; EN 300 328; EN 300 330-2; EN 300 440-1; EN 300-440-2; EN 300 893; EN 301 489-01; EN 301 489-3; EN 301 489-07; EN 301 489-17; 47 CFR FCC Part 15, 22, 24	
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	

* 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 1 for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID
1.	Notebook	DELL	E5430	CN8YYW1	N/A

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



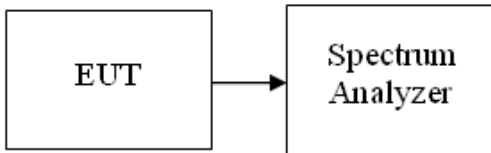
7. FCC PART 15.247 REQUIREMENTS

7.1 6 DB EMISSION BANDWIDTH

LIMIT

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

Test Configuration



TEST PROCEDURE

KDB 558074 D01 DTS Measurement Guidance v03r01 dated 04-09-2013.

TEST RESULTS

No non-compliance noted

**Test Data****IEEE 802.11b mode**

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	11.524	>500	PASS
Mid	2437	11.535		PASS
High	2462	11.529		PASS

IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.460	>500	PASS
Mid	2437	16.472		PASS
High	2462	16.467		PASS

802.11n Standard-20 MHz Channel mode / Chain 0

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	19.249	>500	PASS
Mid	2437	19.341		PASS
High	2462	19.143		PASS

802.11n Standard-40 MHz Channel mode / Chain 0

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2422	38.436	>500	PASS
Mid	2437	40.305		PASS
High	2452	40.031		PASS

802.11n Standard-20 MHz Channel mode / Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	19.316	>500	PASS
Mid	2437	19.199		PASS
High	2462	19.353		PASS

802.11n Standard-40 MHz Channel mode / Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2422	38.174	>500	PASS
Mid	2437	40.269		PASS
High	2452	38.420		PASS



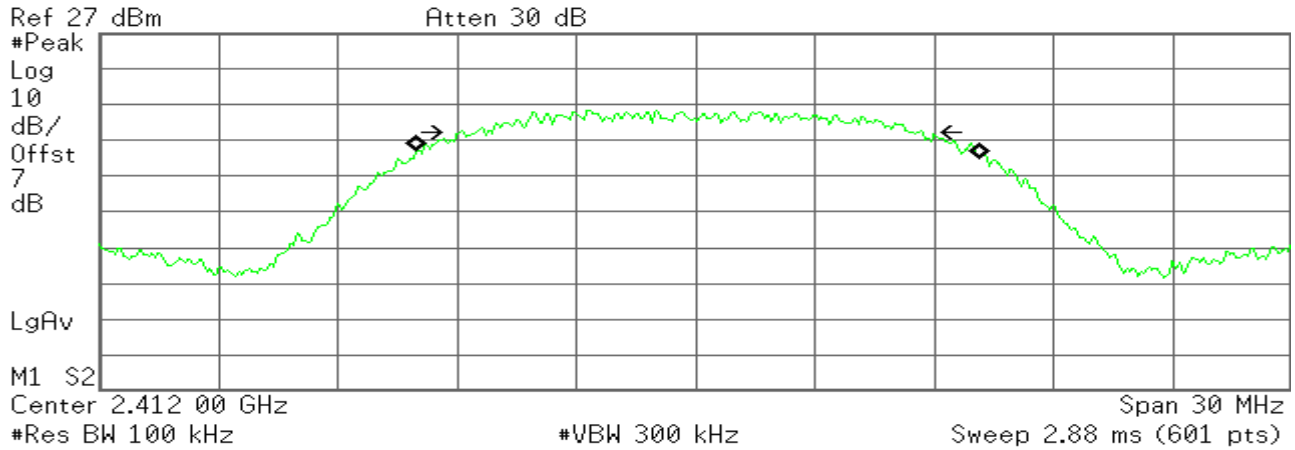
Test Plot

IEEE 802.11b Mode

CH Low

Agilent

R T



Occupied Bandwidth
14.2127 MHz

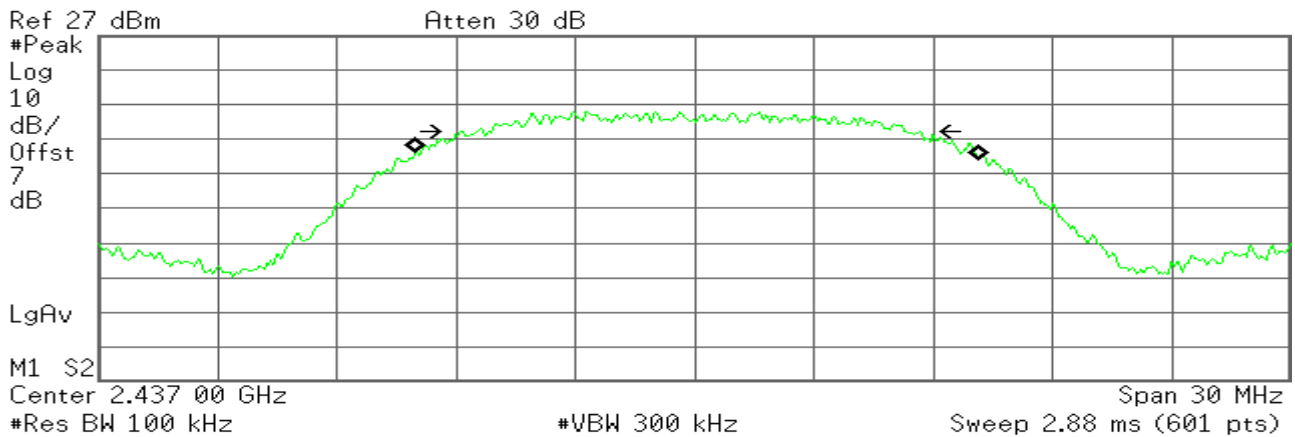
Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 59.134 kHz
x dB Bandwidth 11.524 MHz

CH Mid

Agilent

R T



Occupied Bandwidth
14.1978 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

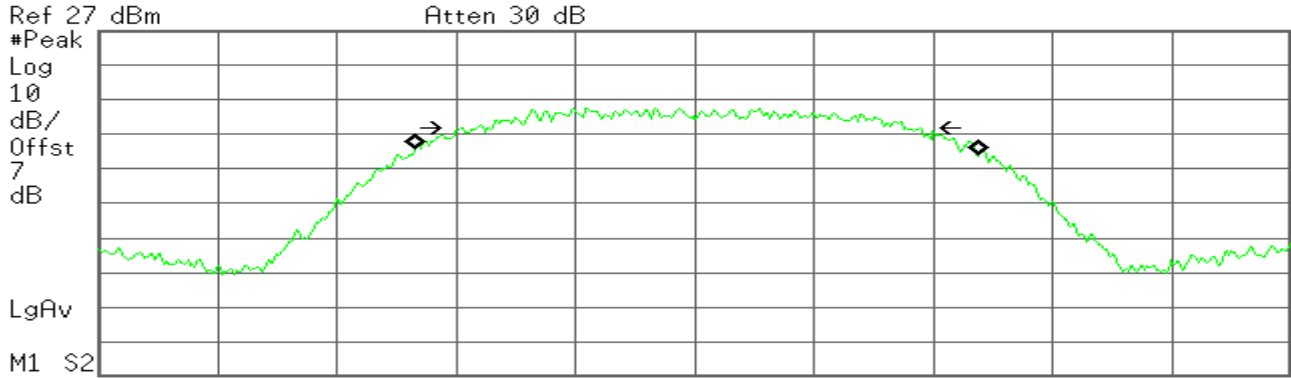
Transmit Freq Error 46.468 kHz
x dB Bandwidth 11.535 MHz



CH High

Agilent

R T



Ref 27 dBm Atten 30 dB
 #Peak Log 10 dB/ Offst 7 dB
 LgAv
 M1 S2
 Center 2.462 00 GHz Span 30 MHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 2.88 ms (601 pts)

Occupied Bandwidth
14.1793 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

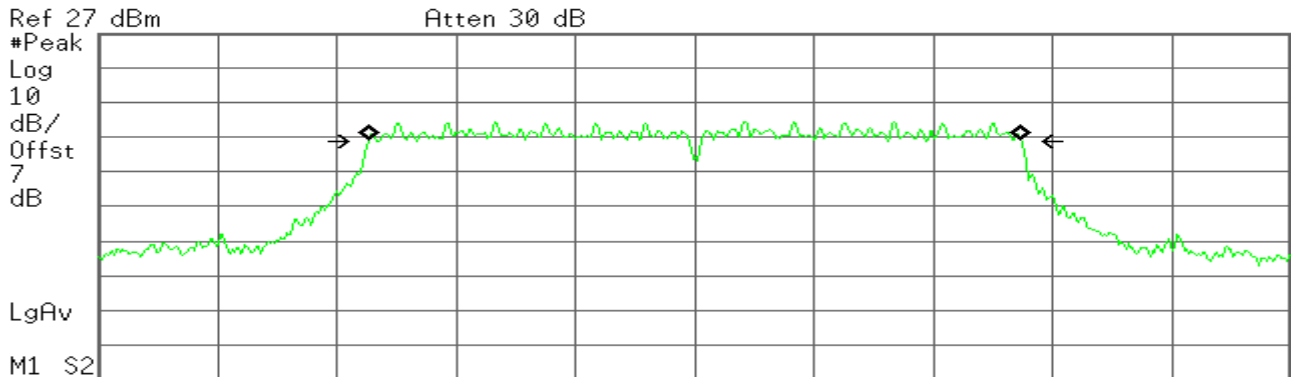
Transmit Freq Error 38.444 kHz
x dB Bandwidth 11.529 MHz

IEEE 802.11g Mode

CH Low

Agilent

R T



Ref 27 dBm Atten 30 dB
 #Peak Log 10 dB/ Offst 7 dB
 LgAv
 M1 S2
 Start 2.397 00 GHz Stop 2.427 00 GHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 2.88 ms (601 pts)

Occupied Bandwidth
16.3957 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

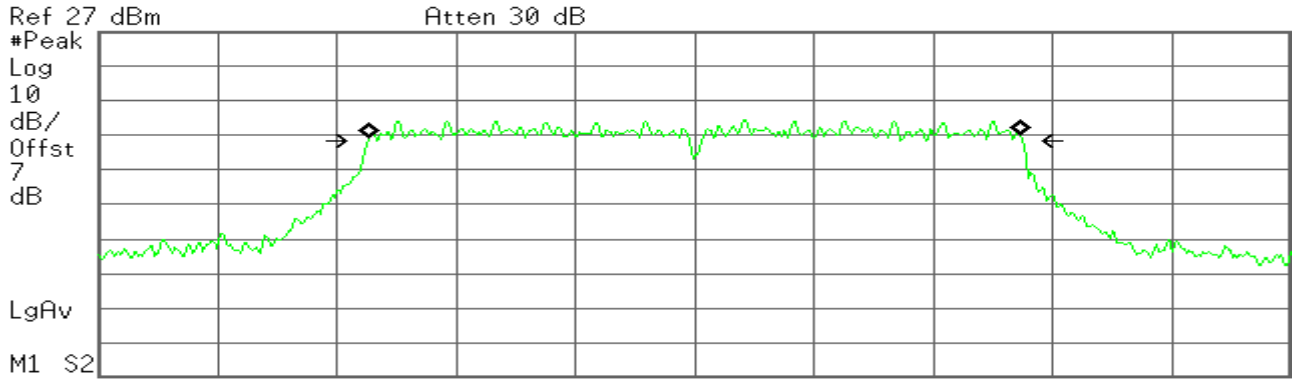
Transmit Freq Error -559.040 Hz
x dB Bandwidth 16.460 MHz



CH Mid

Agilent

R T



Atten 30 dB

Center 2.437 00 GHz

Span 30 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.88 ms (601 pts)

Occupied Bandwidth
16.4073 MHz

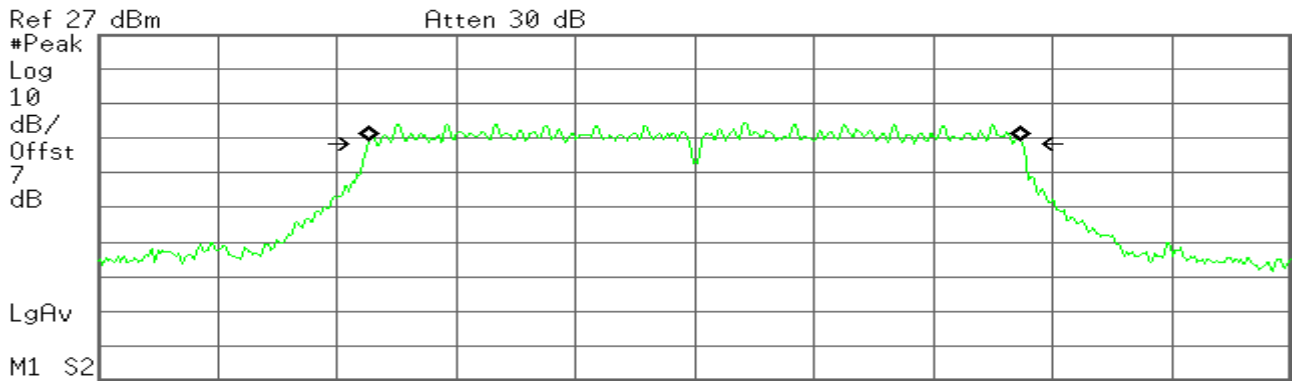
Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 1.580 kHz
x dB Bandwidth 16.472 MHz

CH High

Agilent

R T



Atten 30 dB

Center 2.462 00 GHz

Span 30 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.88 ms (601 pts)

Occupied Bandwidth
16.4037 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 2.594 kHz
x dB Bandwidth 16.467 MHz



802.11n Standard-20 MHz Channel mode / Chain 0

CH Low

* Agilent

R T

Ref 27 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

7

dB

LgAv

M1 S2

Center 2.412 00 GHz

#Res BW 100 kHz

#VBW 300 kHz

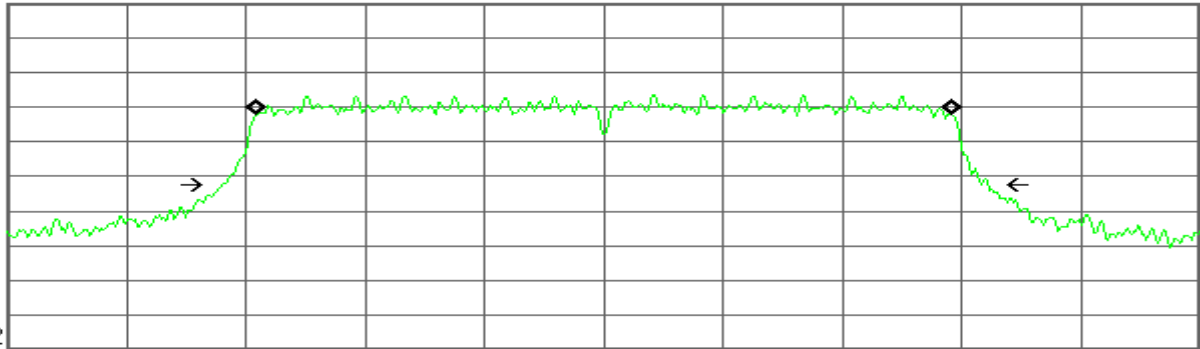
Span 30 MHz

Sweep 2.88 ms (601 pts)

Occupied Bandwidth
17.5030 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 17.592 kHz
x dB Bandwidth 19.249 MHz



CH Mid

* Agilent

R T

Ref 27 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

7

dB

LgAv

M1 S2

Center 2.437 00 GHz

#Res BW 100 kHz

#VBW 300 kHz

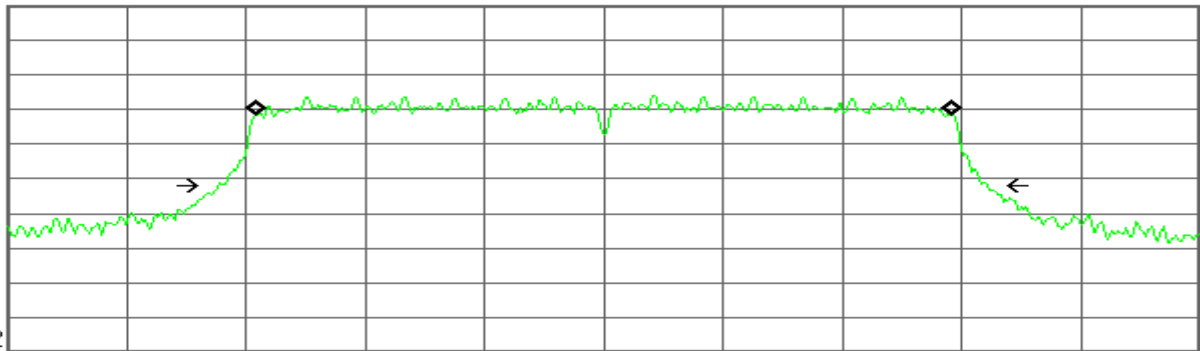
Span 30 MHz

Sweep 2.88 ms (601 pts)

Occupied Bandwidth
17.5072 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 12.927 kHz
x dB Bandwidth 19.341 MHz

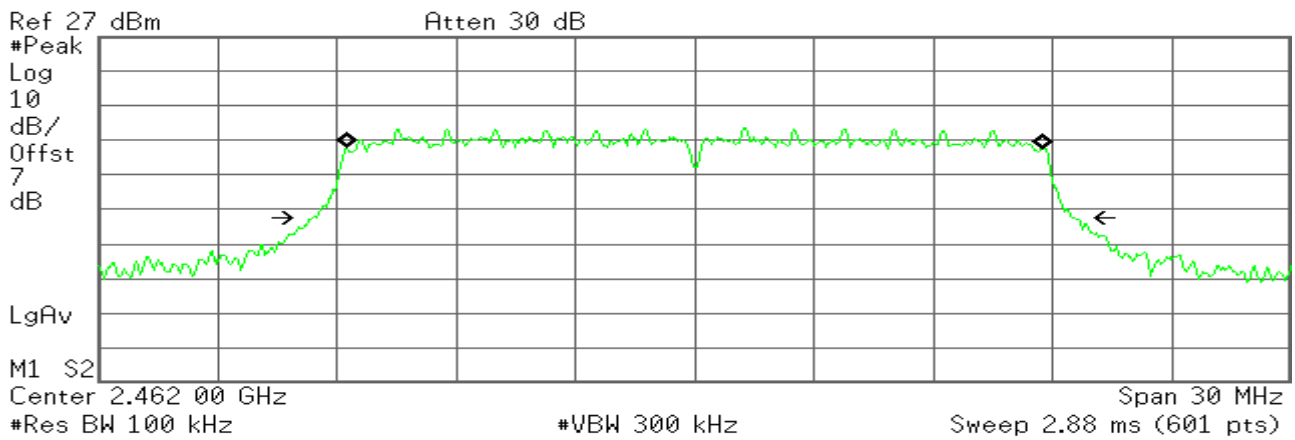




CH High

Agilent

R T



Occupied Bandwidth
17.5162 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

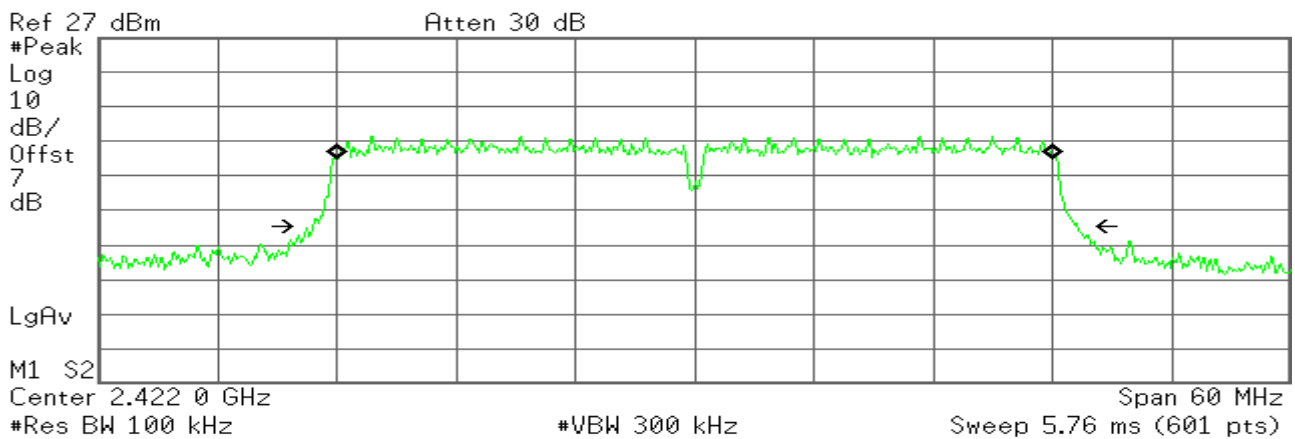
Transmit Freq Error 14.990 kHz
x dB Bandwidth 19.143 MHz

802.11n Standard-40 MHz Channel mode / Chain 0

CH Low

Agilent

R T



Occupied Bandwidth
35.9392 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

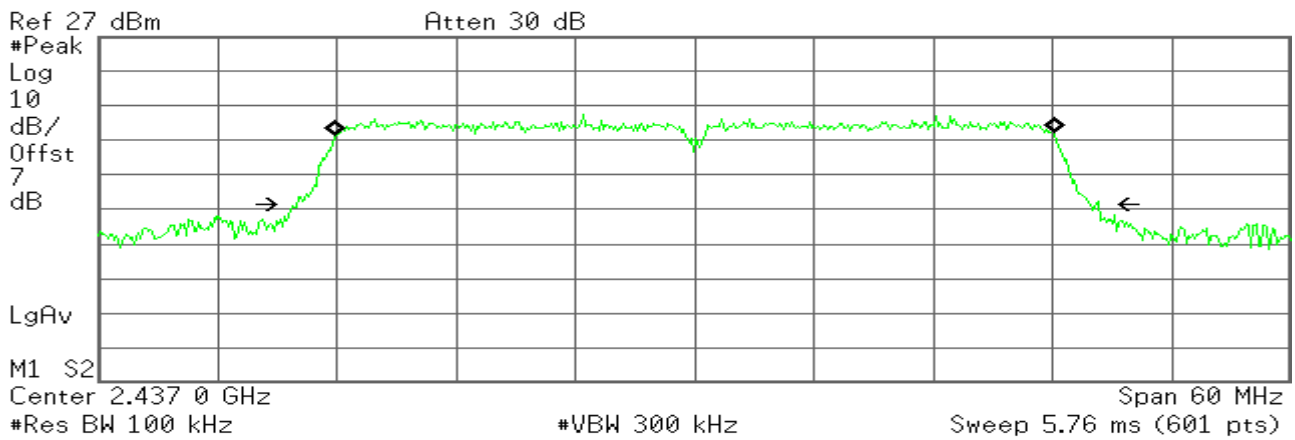
Transmit Freq Error 18.797 kHz
x dB Bandwidth 38.436 MHz



CH Mid

Agilent

R T



Occupied Bandwidth
36.1310 MHz

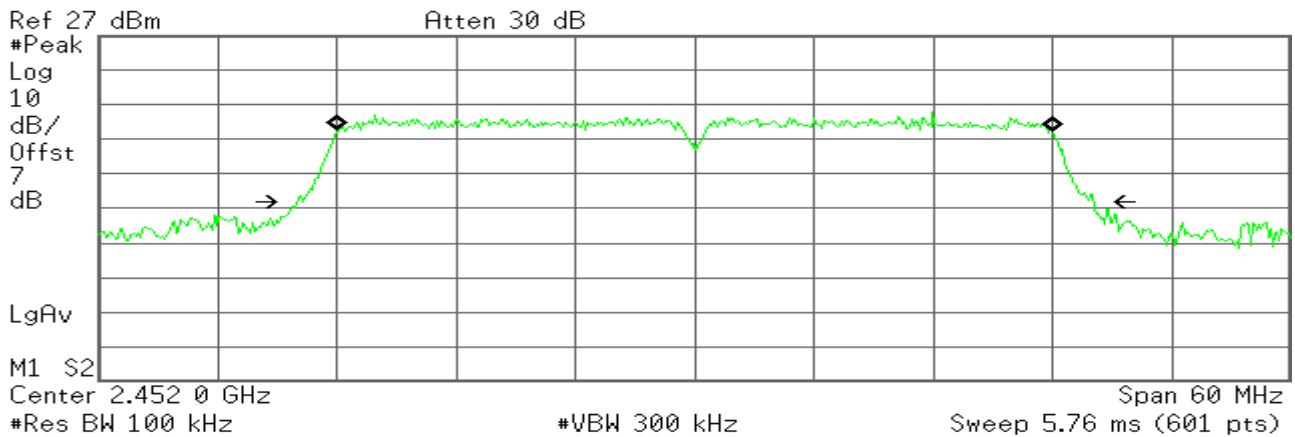
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 3.358 kHz
x dB Bandwidth 40.305 MHz

CH High

Agilent

R T



Occupied Bandwidth
36.0281 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 7.476 kHz
x dB Bandwidth 40.031 MHz

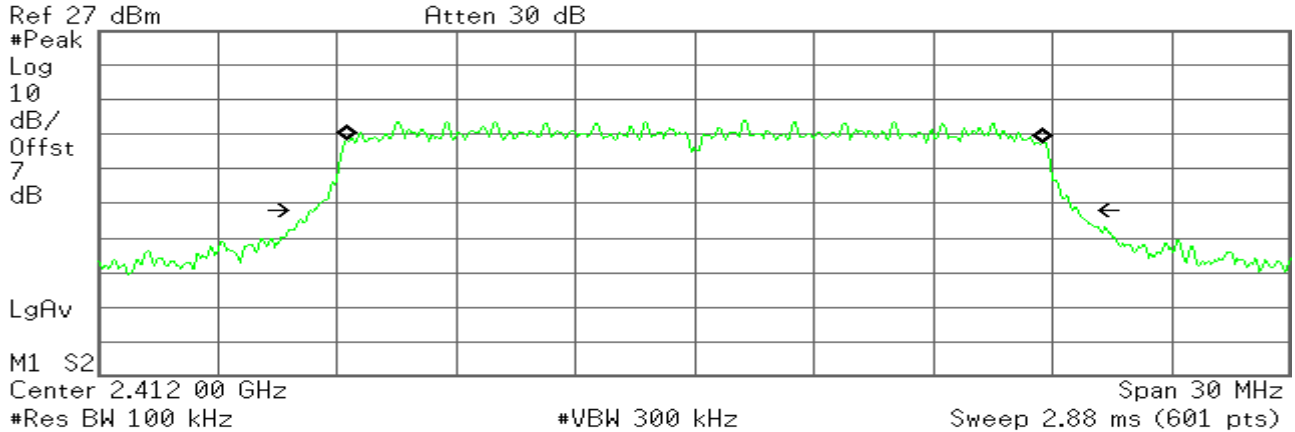


802.11n Standard-20 MHz Channel mode / Chain 1

CH Low

Agilent

R T



Occupied Bandwidth
17.5022 MHz

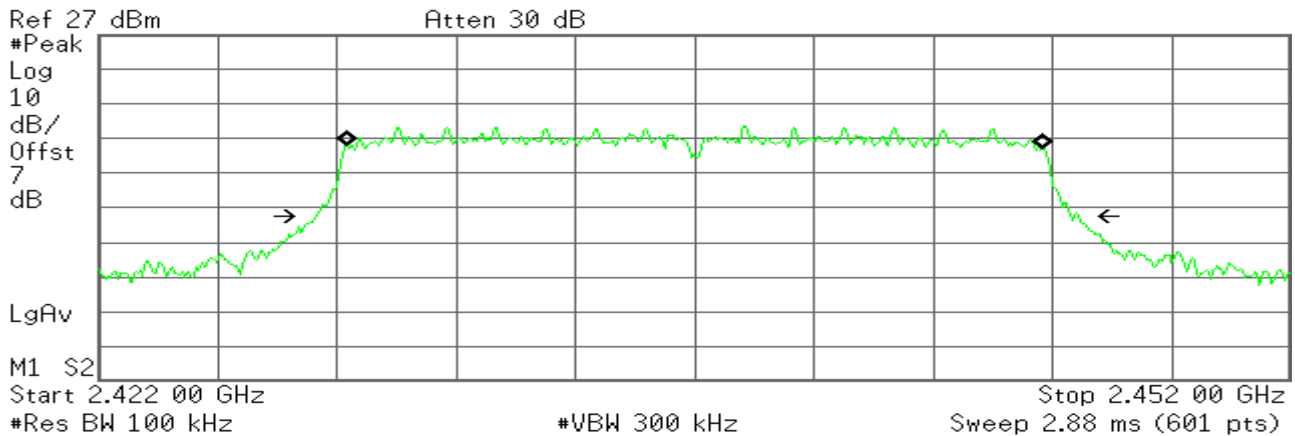
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 7.453 kHz
x dB Bandwidth 19.316 MHz

CH Mid

Agilent

R T



Occupied Bandwidth
17.4934 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

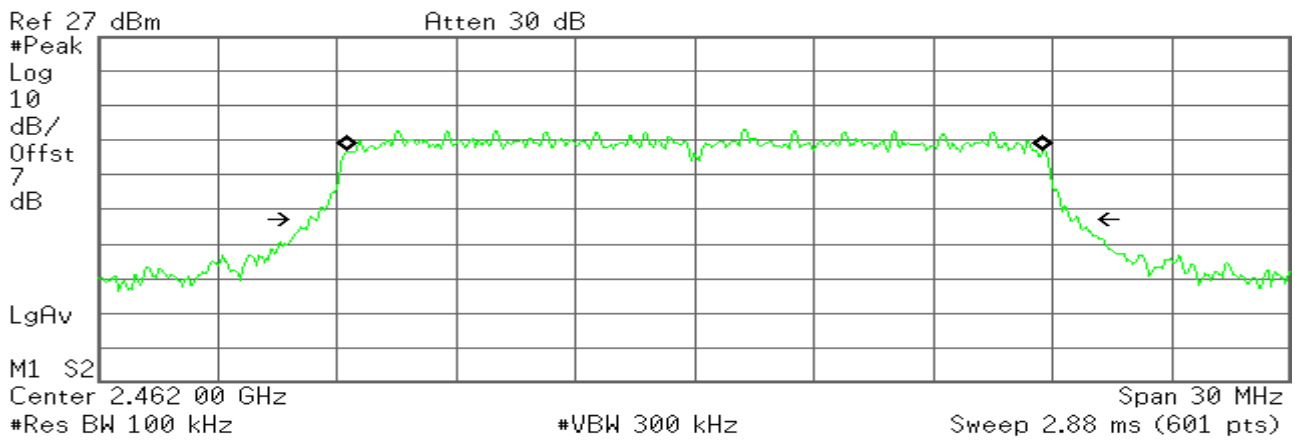
Transmit Freq Error -1.168 kHz
x dB Bandwidth 19.199 MHz



CH High

* Agilent

R T



Occupied Bandwidth
17.5006 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

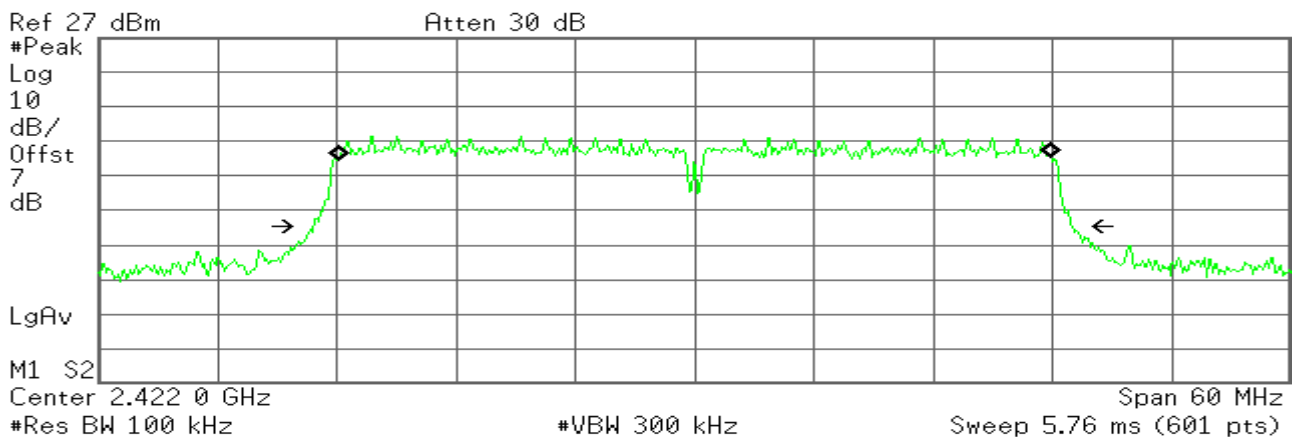
Transmit Freq Error 14.617 kHz
x dB Bandwidth 19.353 MHz

802.11n Standard-40 MHz Channel mode / Chain 1

CH Low

* Agilent

R T



Occupied Bandwidth
35.8695 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

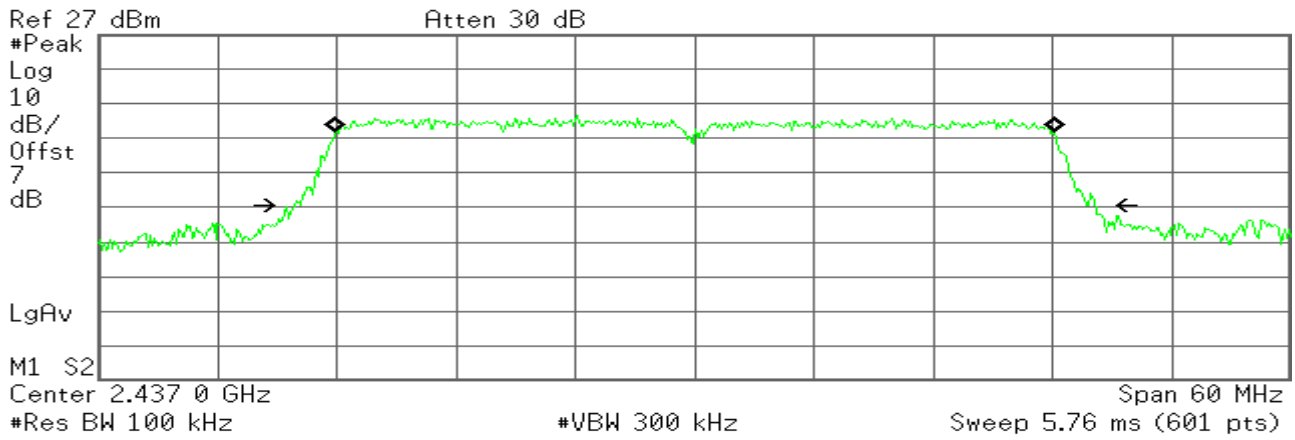
Transmit Freq Error -716.792 Hz
x dB Bandwidth 38.174 MHz



CH Mid

Agilent

R T



Occupied Bandwidth
36.1402 MHz

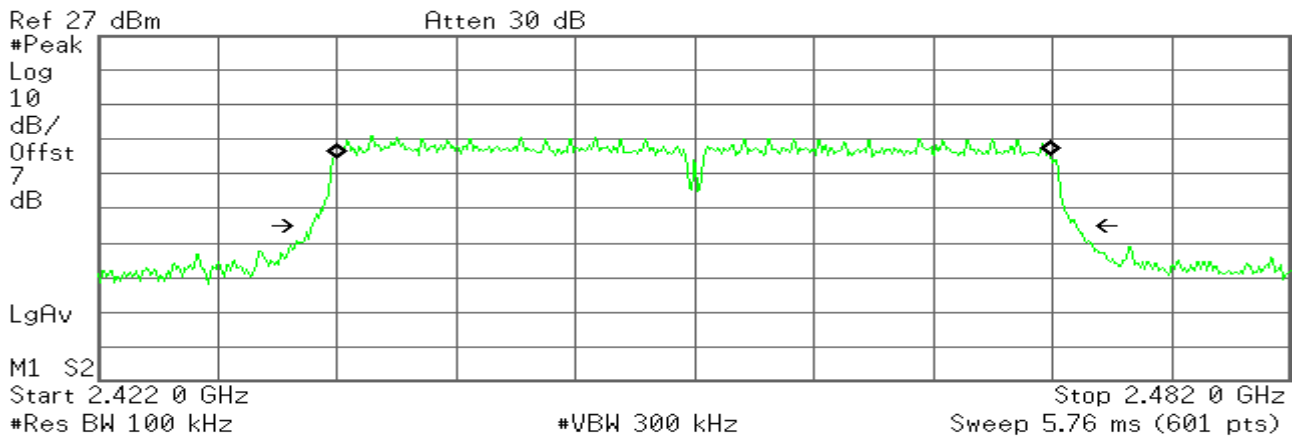
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -16.003 kHz
x dB Bandwidth 40.269 MHz

CH High

Agilent

R T



Occupied Bandwidth
35.8829 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -29.684 kHz
x dB Bandwidth 38.420 MHz



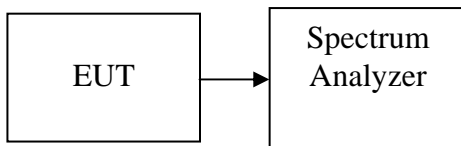
7.2 POWER OUTPUT

LIMIT

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

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

Test Configuration



TEST PROCEDURE

KDB 558074 D01 DTS Measurement Guidance v03r01 dated 04-09-2013..

TEST RESULTS

No non-compliance noted



Test Data

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2412	18.19	65.917	30.00	PASS
Mid	2437	16.48	44.463	30.00	PASS
High	2462	17.41	55.081	30.00	PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2412	14.15	26.002	30.00	PASS
Mid	2437	13.95	24.831	30.00	PASS
High	2462	13.76	23.768	30.00	PASS

Test mode: 802.11n Standard-20 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2412	12.89	13.21	16.06	40.365	30.00	PASS
Mid	2437	13.33	12.55	15.97	39.537	30.00	PASS
High	2462	12.67	12.49	15.59	36.224	30.00	PASS

Total maximum conducted power Chain 0+Chain 1:

Maximum Conducted Output Power(dBm)=10log(10^{^(chain0outputpower/10)}+ 10^{^(chain1outputpower/10)})

Test mode: 802.11n Wide-40 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
Low	2422	12.81	12.44	15.64	36.644	30.00	PASS
Mid	2437	12.45	12.66	15.57	36.058	30.00	PASS
High	2452	12.95	11.89	15.46	35.156	30.00	PASS

Total maximum conducted power Chain 0+Chain 1:

Maximum Conducted Output Power(dBm)=10log(10^{^(chain0outputpower/10)}+ 10^{^(chain1outputpower/10)})



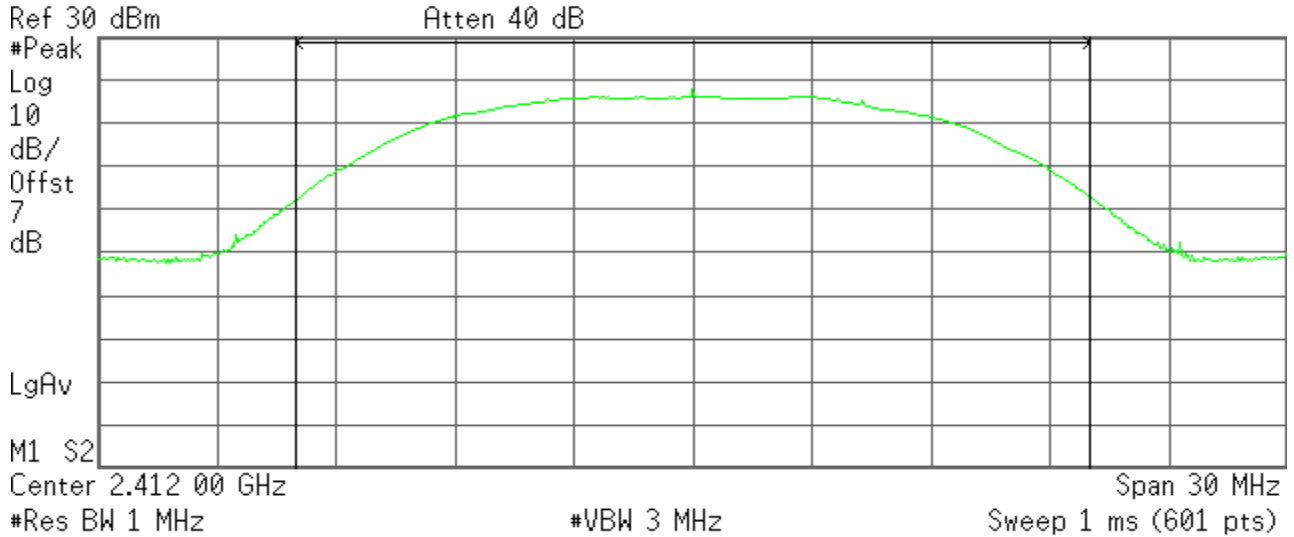
Test Plot

IEEE 802.11b mode

Peak Power (CH Low)

Agilent

R T



Channel Power

18.19 dBm /20.0000 MHz

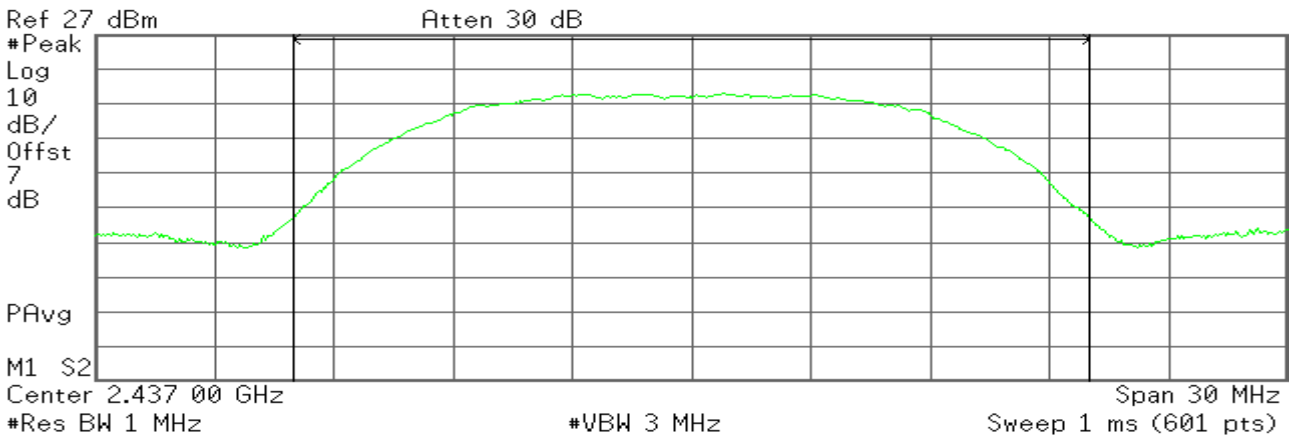
Power Spectral Density

5.18 dBm/MHz

Peak Power (CH Mid)

Agilent

R T



Channel Power

16.48 dBm /20.0000 MHz

Power Spectral Density

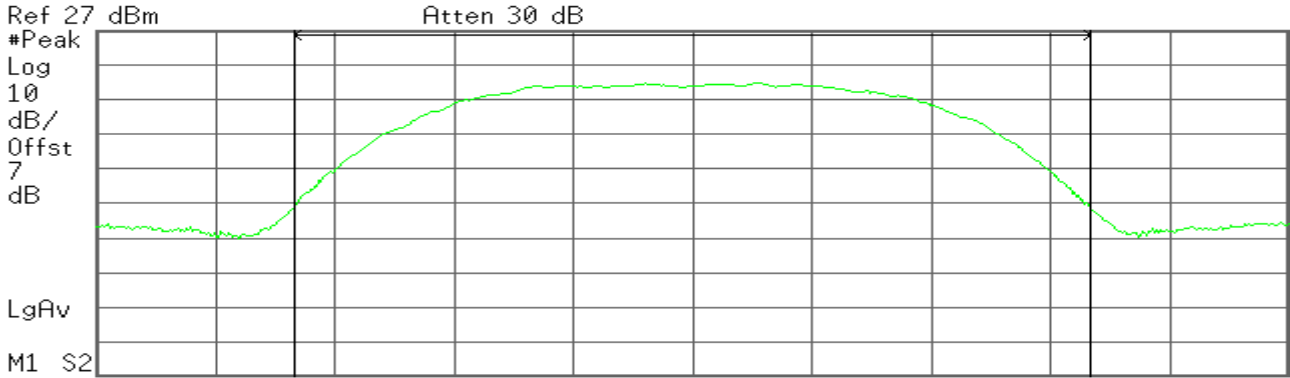
1.95 dBm/MHz



Peak Power (CH High)

Agilent

R T



Center 2.462 00 GHz

Span 30 MHz

#Res BW 1 MHz

#VBW 3 MHz

Sweep 1 ms (601 pts)

Channel Power

17.41 dBm /20.0000 MHz

Power Spectral Density

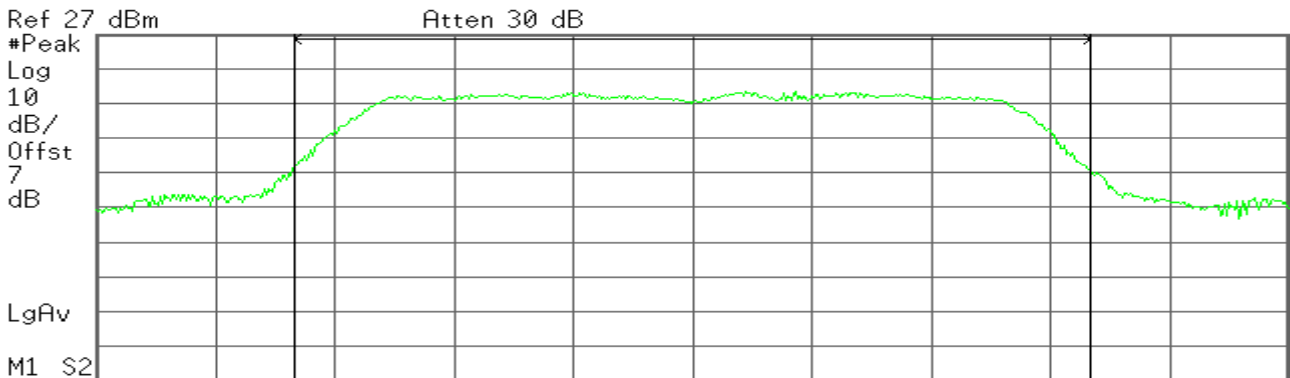
4.40 dBm/MHz

IEEE 802.11g mode

Peak Power (CH Low)

Agilent

R T



Start 2.397 00 GHz

Stop 2.427 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

Sweep 1 ms (601 pts)

Channel Power

14.15 dBm /20.0000 MHz

Power Spectral Density

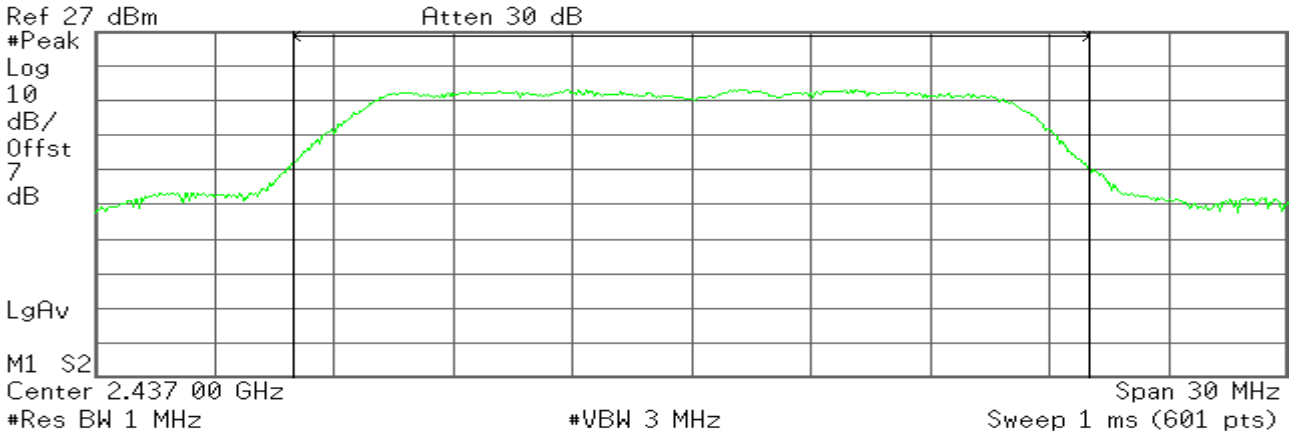
1.14 dBm/MHz



Peak Power (CH Mid)

Agilent

R T



Channel Power

13.95 dBm /20.0000 MHz

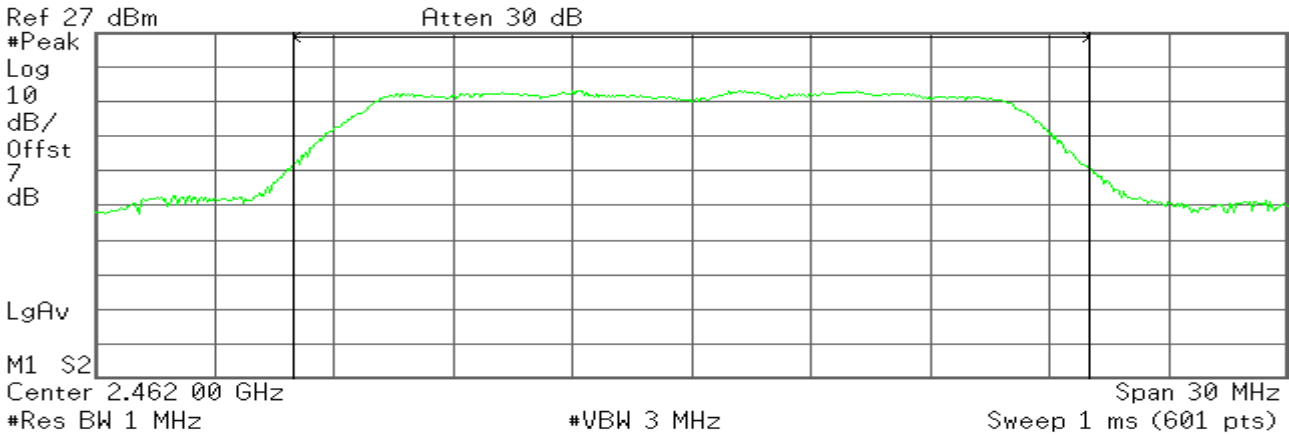
Power Spectral Density

0.94 dBm/MHz

Peak Power (CH High)

Agilent

R T



Channel Power

13.76 dBm /20.0000 MHz

Power Spectral Density

0.75 dBm/MHz

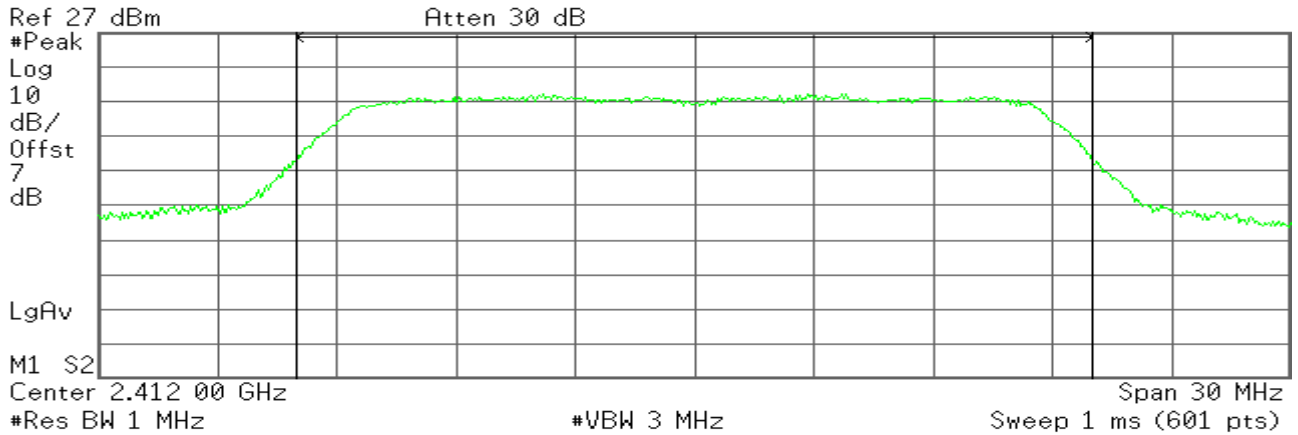


802.11n Standard-20 MHz Channel mode / Chain 0

Peak Power (CH Low)

Agilent

R T



Channel Power

12.89 dBm /20.0000 MHz

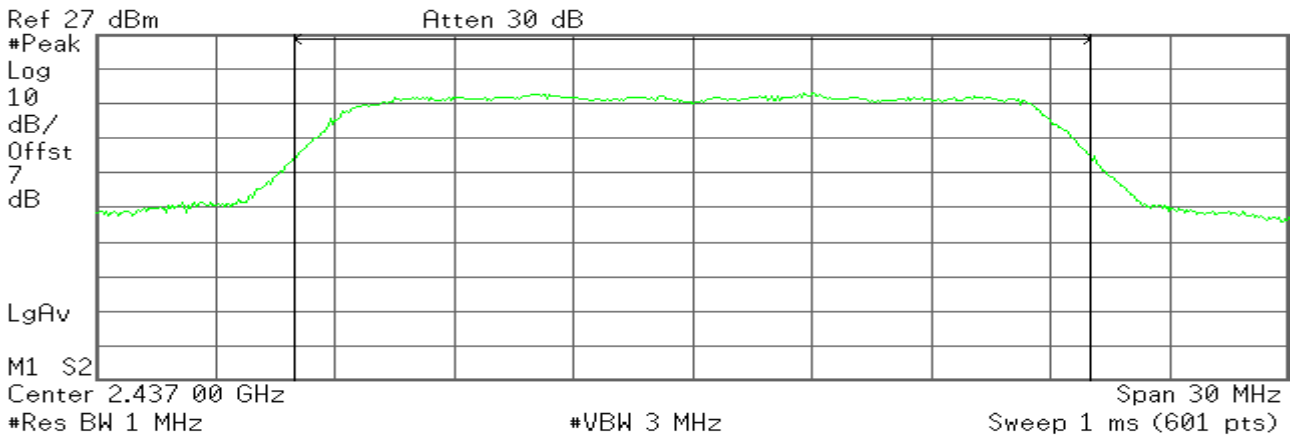
Power Spectral Density

-0.12 dBm/MHz

Peak Power (CH Mid)

Agilent 05:41:50 Dec 22, 2013

R T



Channel Power

13.33 dBm /20.0000 MHz

Power Spectral Density

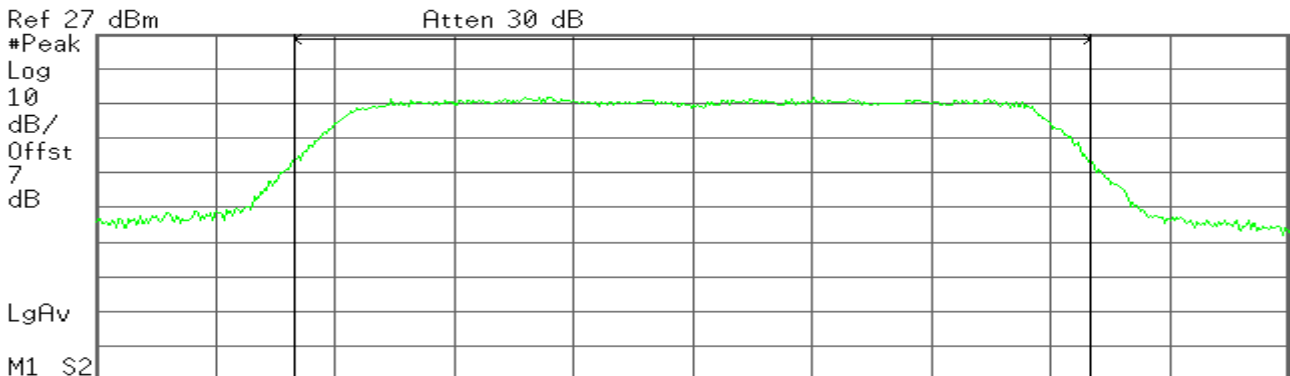
-59.68 dBm/Hz



Peak Power (CH High)

Agilent

R T



Channel Power

12.67 dBm /20.0000 MHz

Power Spectral Density

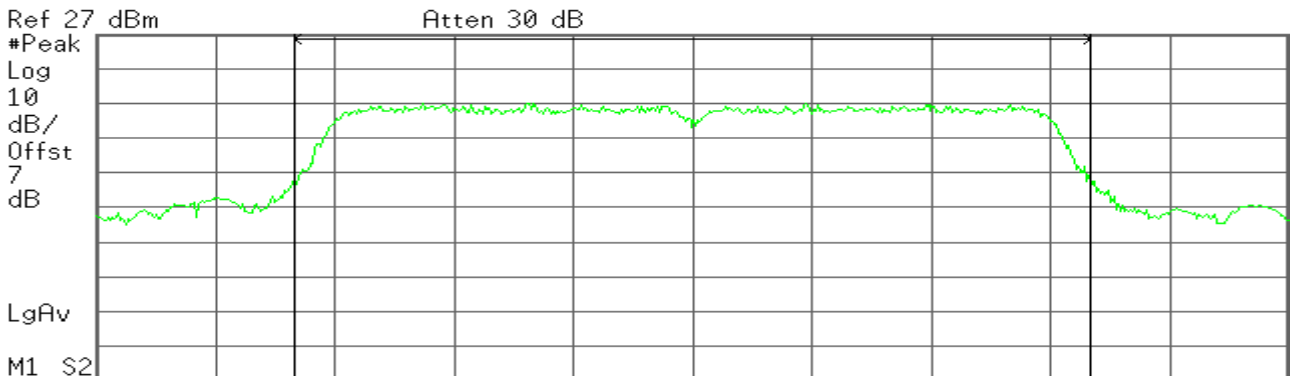
-0.34 dBm/MHz

802.11n Standard-40 MHz Channel mode / Chain 0

Peak Power (CH Low)

Agilent

R T



Channel Power

12.81 dBm /40.0000 MHz

Power Spectral Density

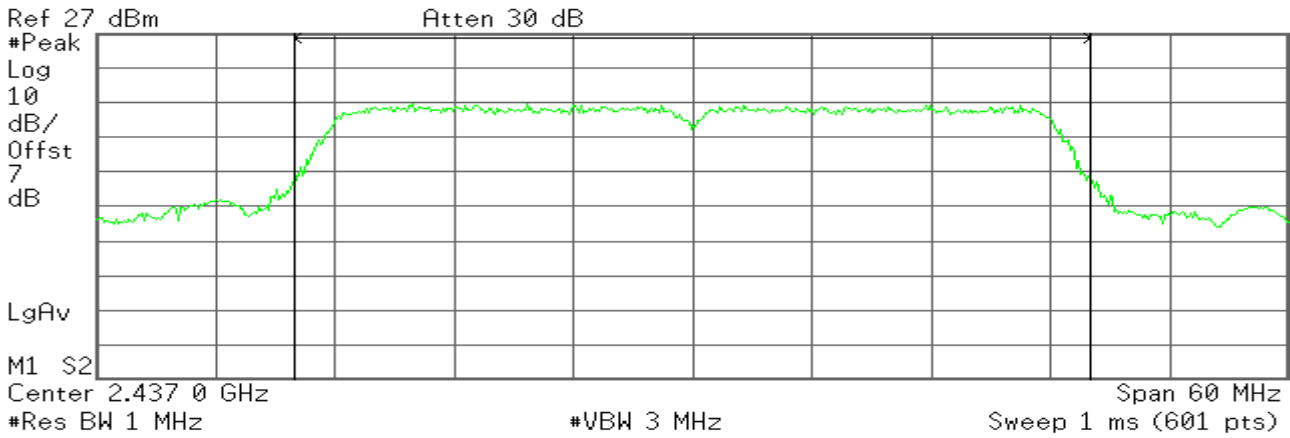
-3.21 dBm/MHz



Peak Power (CH Mid)

Agilent

R T



Channel Power

12.45 dBm /40.0000 MHz

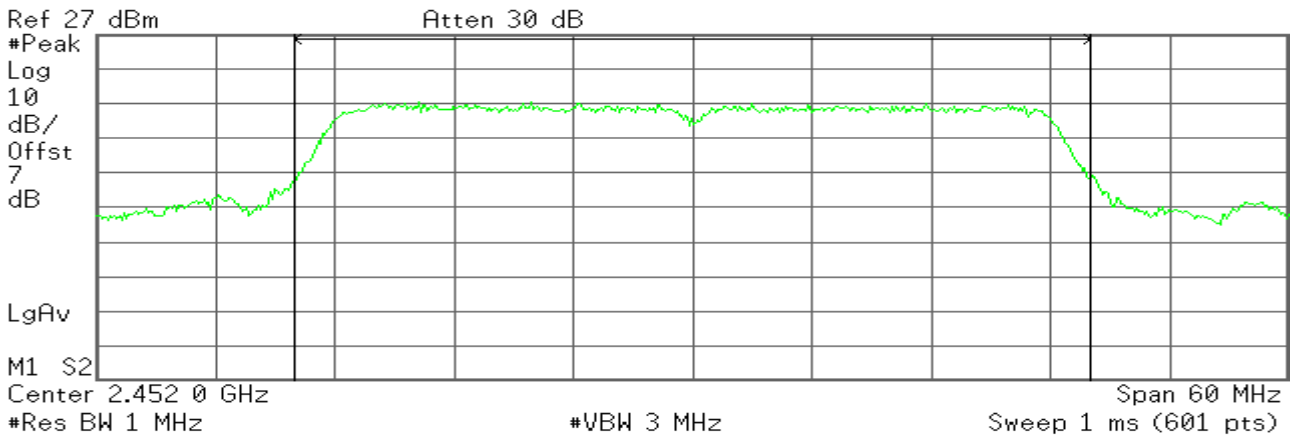
Power Spectral Density

-3.57 dBm/MHz

Peak Power (CH High)

Agilent

R T



Channel Power

12.95 dBm /40.0000 MHz

Power Spectral Density

-3.07 dBm/MHz

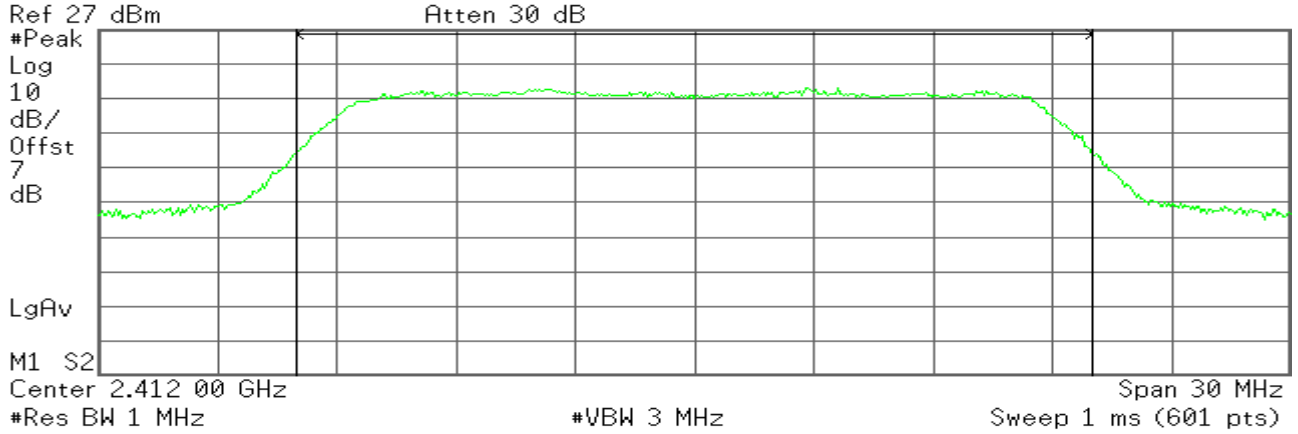


802.11n Standard-20 MHz Channel mode / Chain 1

Peak Power (CH Low)

Agilent

R T



Channel Power

13.21 dBm /20.0000 MHz

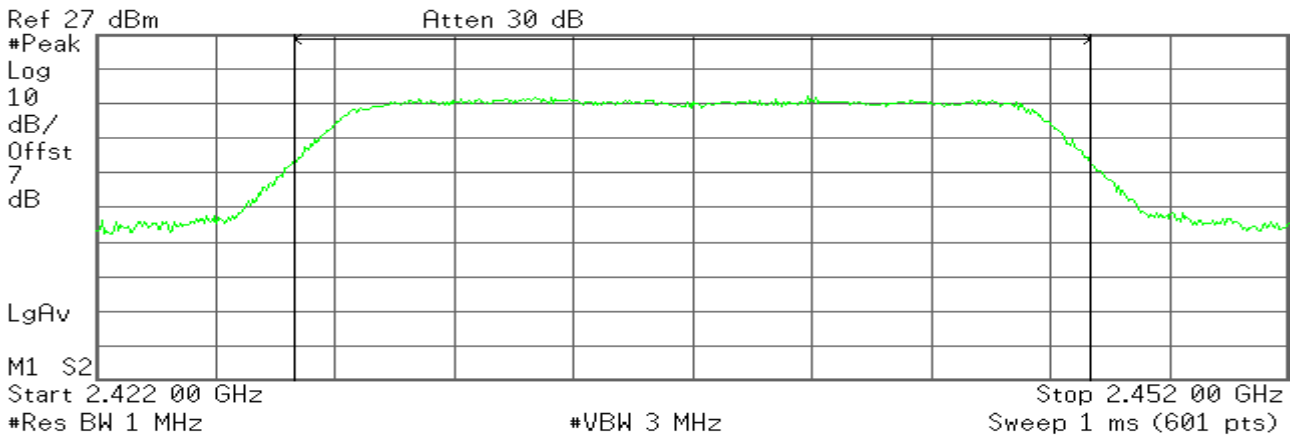
Power Spectral Density

0.20 dBm/MHz

Peak Power (CH Mid)

Agilent

R T



Channel Power

12.55 dBm /20.0000 MHz

Power Spectral Density

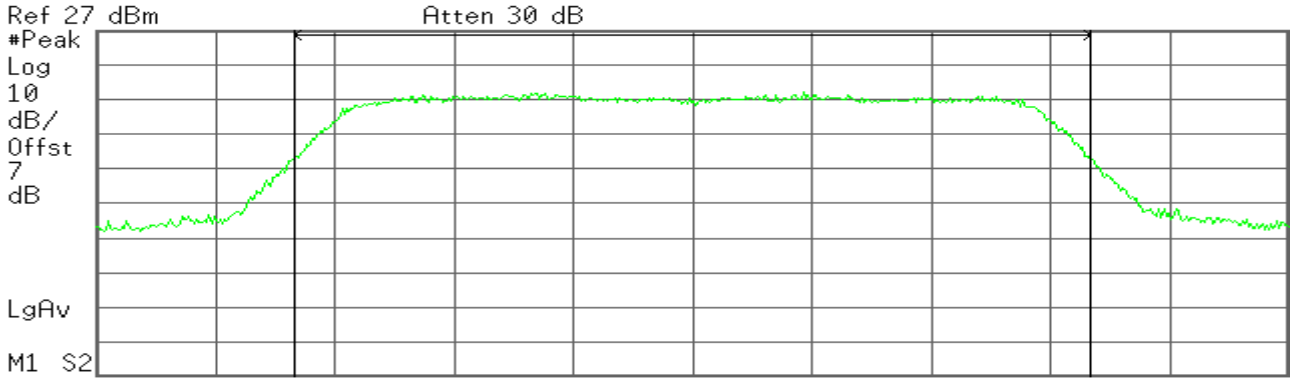
-60.46 dBm/Hz



Peak Power (CH High)

Agilent

R T



Center 2.462 00 GHz

Atten 30 dB

Span 30 MHz

#Res BW 1 MHz

#VBW 3 MHz

Sweep 1 ms (601 pts)

Channel Power

12.49 dBm /20.0000 MHz

Power Spectral Density

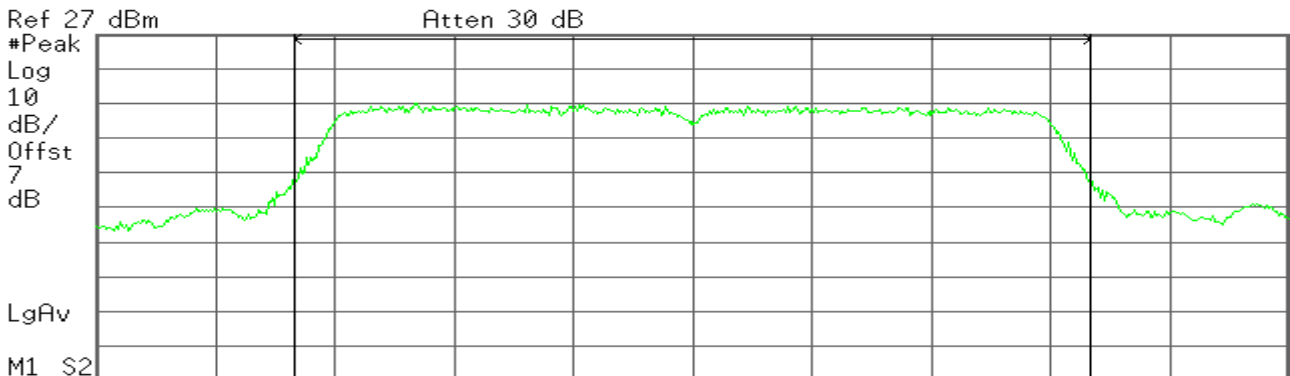
-0.52 dBm/MHz

802.11n Standard-40 MHz Channel mode / Chain 1

Peak Power (CH Low)

Agilent

R T



Center 2.422 0 GHz

Atten 30 dB

Span 60 MHz

#Res BW 1 MHz

#VBW 3 MHz

Sweep 1 ms (601 pts)

Channel Power

12.44 dBm /40.0000 MHz

Power Spectral Density

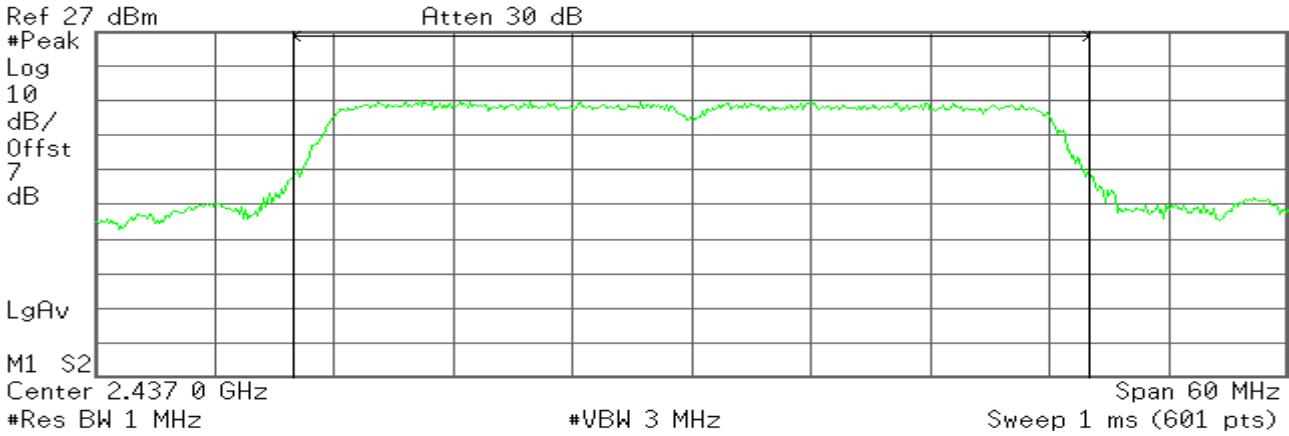
-3.59 dBm/MHz



Peak Power (CH Mid)

Agilent

R T



Channel Power

12.66 dBm /40.0000 MHz

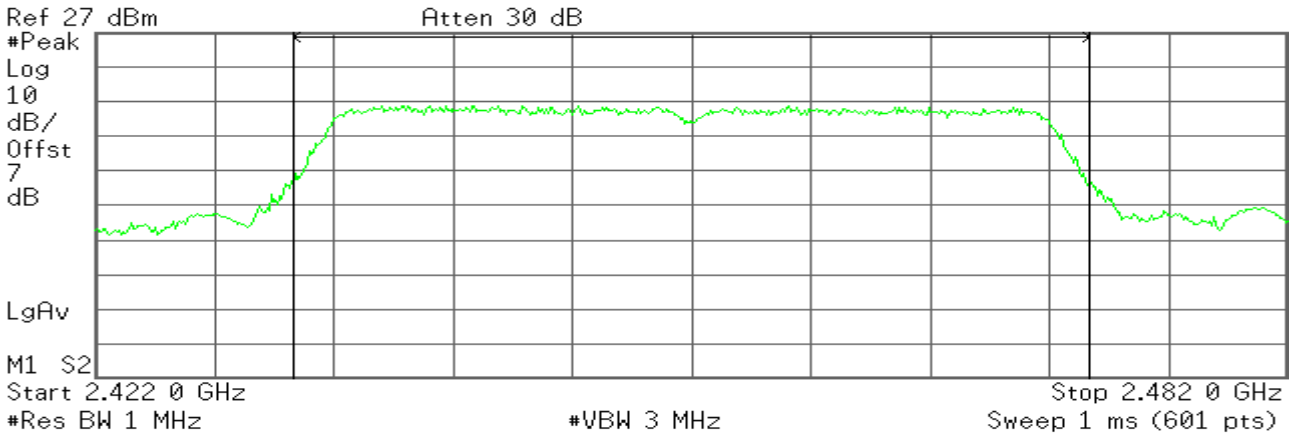
Power Spectral Density

-3.36 dBm/MHz

Peak Power (CH High)

Agilent

R T



Channel Power

11.89 dBm /40.0000 MHz

Power Spectral Density

-4.13 dBm/MHz

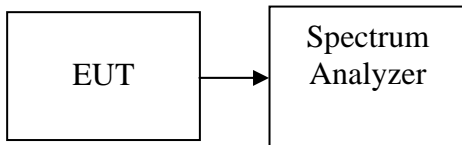


7.3 PEAK POWER SPECTRAL DENSITY

LIMIT

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

Test Configuration



TEST PROCEDURE

KDB 558074 D01 DTS Measurement Guidance v03r01 dated 04-09-2013..

TEST RESULTS

No non-compliance noted



Test Data

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-7.86	8.00	PASS
Mid	2437	-8.84	8.00	PASS
High	2462	-8.73	8.00	PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-14.65	8.00	PASS
Mid	2437	-14.33	8.00	PASS
High	2462	-14.93	8.00	PASS

Test mode: 802.11n Standard-20 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2412	-15.18	-13.36	-11.17	8.00	PASS
Mid	2437	-15.57	-14.52	-12.00	8.00	PASS
High	2462	-13.72	-13.72	-10.71	8.00	PASS

Total PPSD Chain 0+Chain 1:

Total PPSD(dBm)=10log(10^(chain0PPSD/10)+ 10^(chain1PPSD/10))

Test mode: 802.11n Wide-40 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2422	-17.42	-16.88	-14.13	8.00	PASS
Mid	2437	-16.00	-16.12	-13.05	8.00	PASS
High	2452	-17.33	-18.31	-14.78	8.00	PASS

Total PPSD Chain 0+Chain 1:

Total PPSD(dBm)=10log(10^(chain0PPSD/10)+ 10^(chain1PPSD/10))



Test Plot

IEEE 802.11b mode

PPSD (CH Low)

Agilent

R T

Mkr1 2.412 946 GHz
-7.86 dBm

Ref 34 dBm

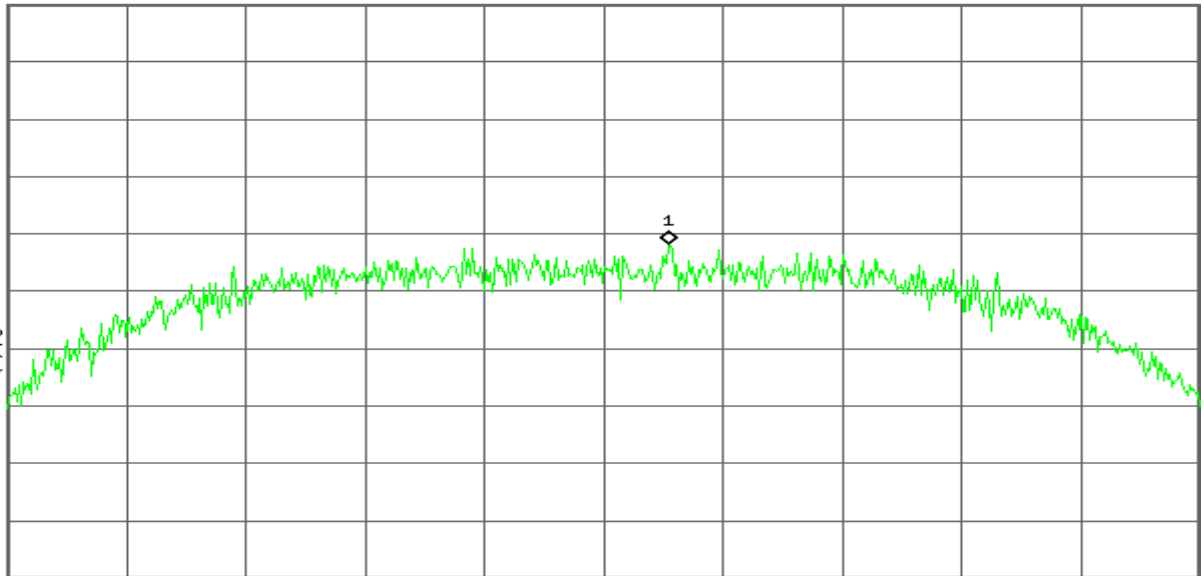
Atten 40 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

$\mathcal{E}(f)$:
FTun
Swp



Center 2.412 000 GHz

#Res BW 3 kHz

#VBW 10 kHz

Span 17.2 MHz

Sweep 1.814 s (601 pts)

PPSD (CH Mid)

Agilent

R T

Mkr1 2.434 993 GHz
-8.84 dBm

Ref 34 dBm

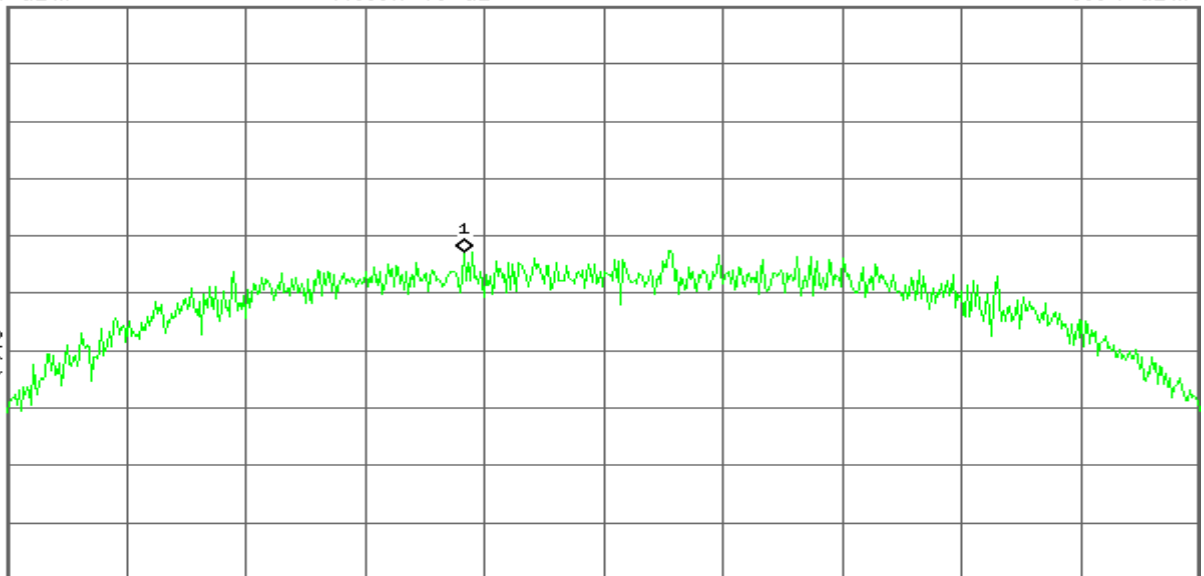
Atten 40 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

$\mathcal{E}(f)$:
FTun
Swp



Center 2.437 000 GHz

#Res BW 3 kHz

#VBW 10 kHz

Span 17.2 MHz

Sweep 1.814 s (601 pts)



PPSD (CH High)

Agilent

R T

Mkr1 2.462 946 GHz
-8.73 dBm

Ref 34 dBm

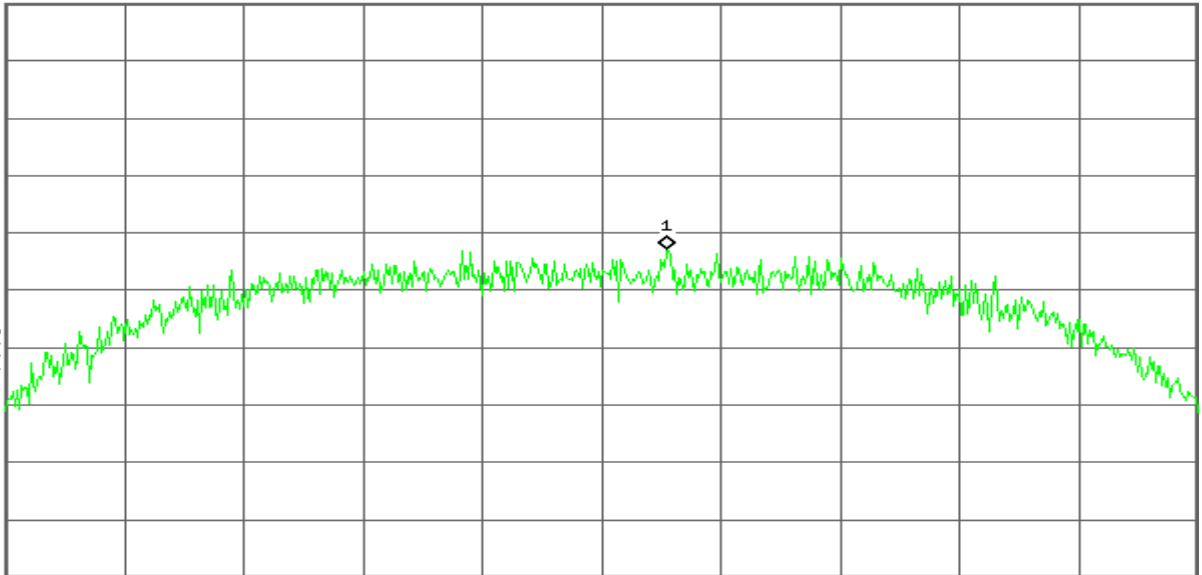
Atten 40 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

£(f):
FTun
Swp



Center 2.462 000 GHz

Span 17.2 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 1.814 s (601 pts)

IEEE 802.11g mode

PPSD (CH Low)

Agilent

R T

Mkr1 2.418 29 GHz
-14.65 dBm

Ref 27 dBm

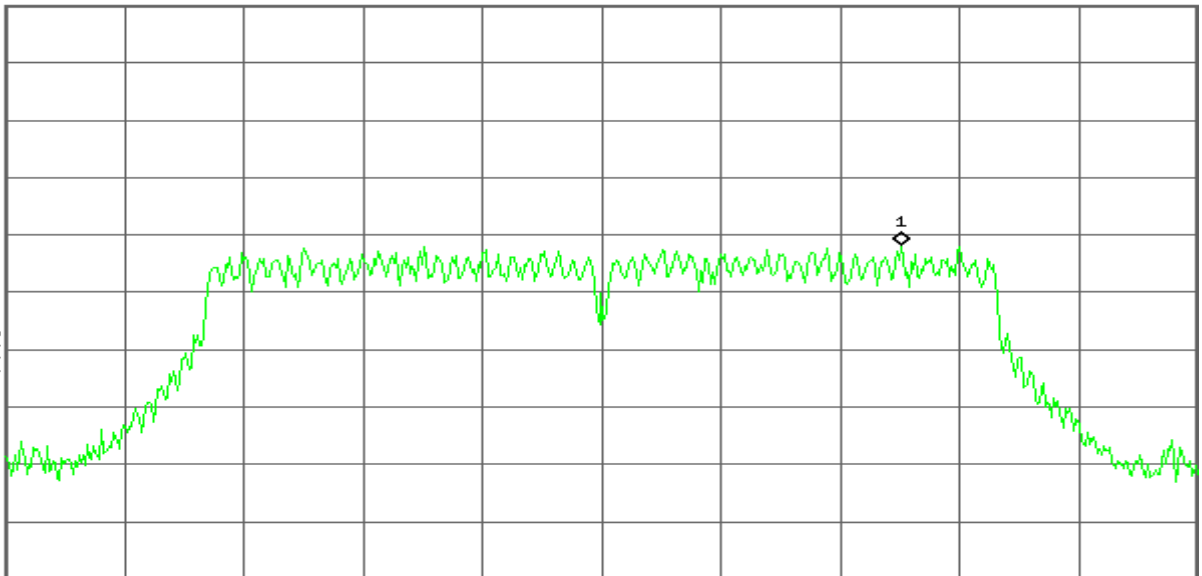
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

£(f):
FTun
Swp



Center 2.412 00 GHz

Span 25 MHz

#Res BW 3 kHz

#VBW 10 kHz

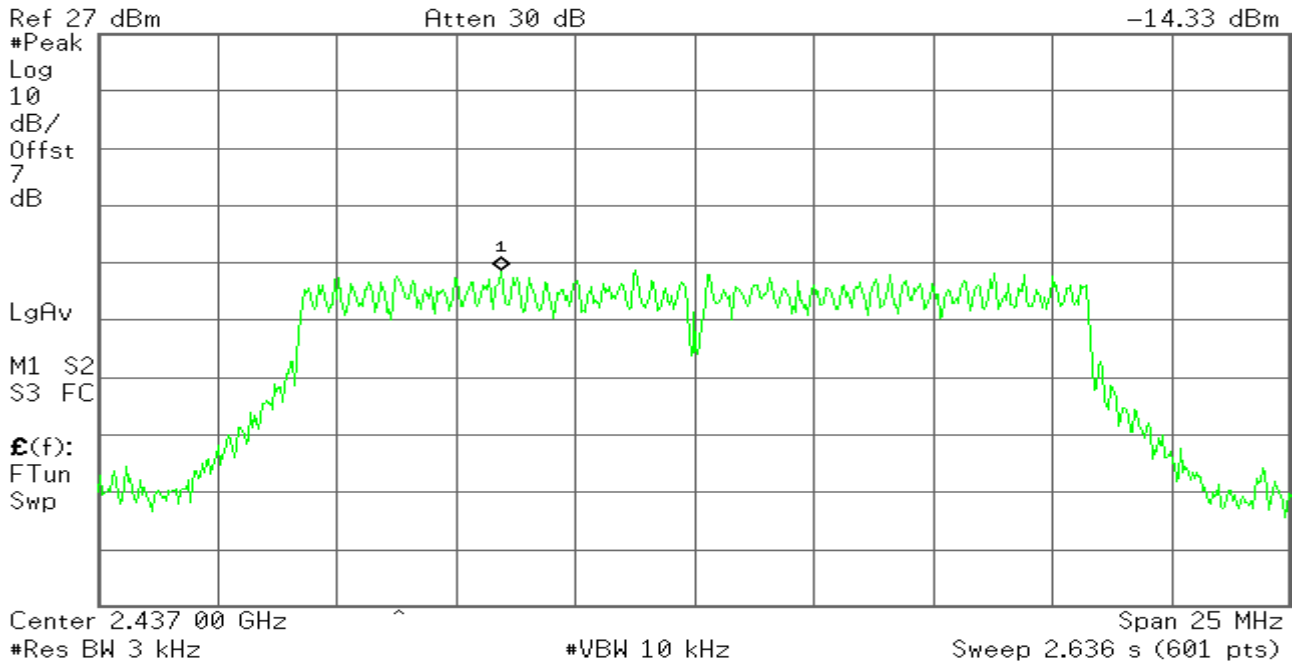
Sweep 2.636 s (601 pts)



PPSD (CH Mid)

Agilent

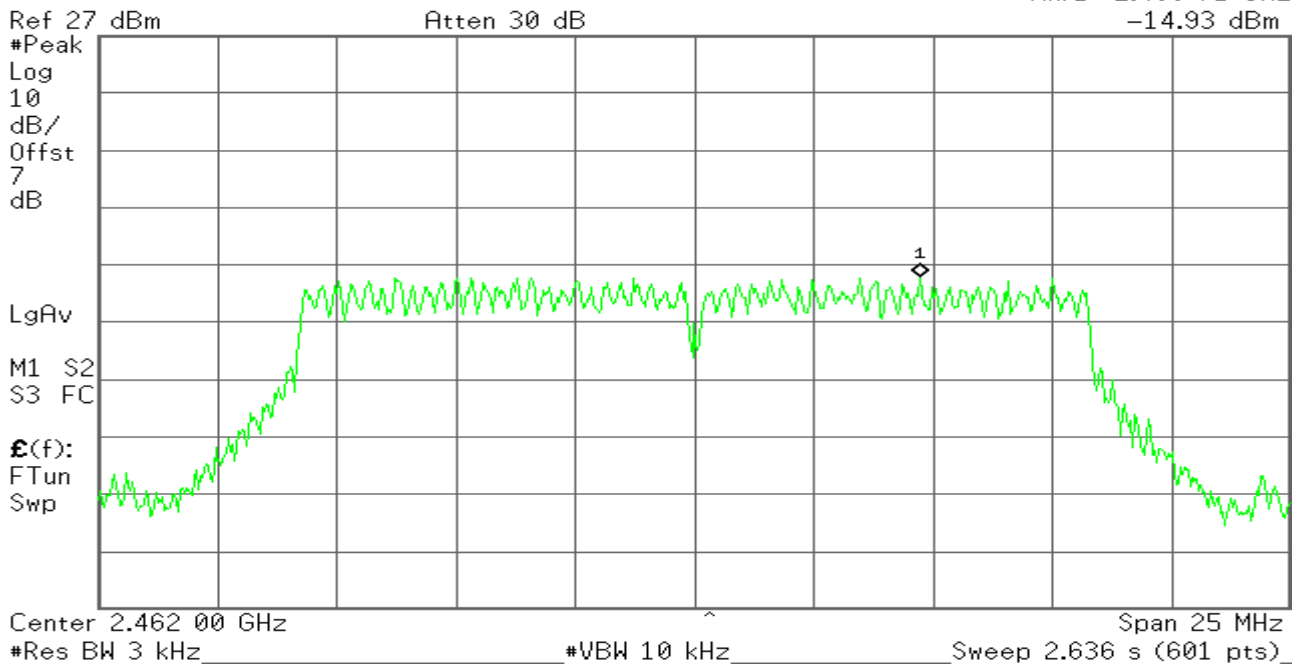
R T



PPSD (CH High)

Agilent

R T





802.11n Standard-20 MHz Channel mode / Chain 0

PPSD (CH Low)

Agilent

R T

Mkr1 2.410 76 GHz
-15.18 dBm

Ref 27 dBm

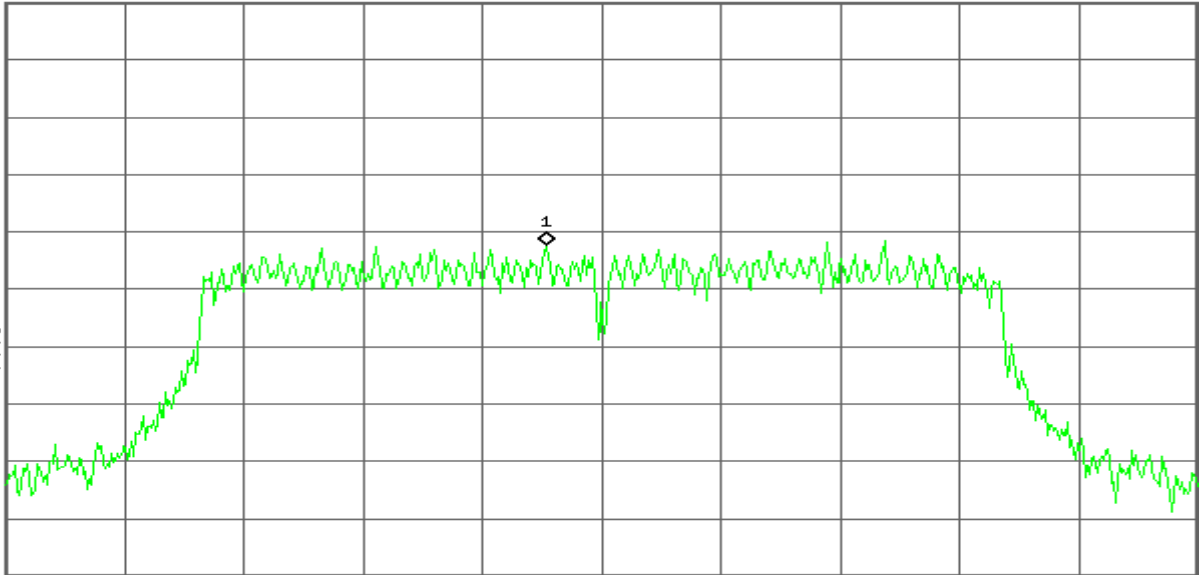
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

£(f):
FTun
Swp



Center 2.412 00 GHz

#VBW 10 kHz

Span 26.5 MHz
Sweep 2.794 s (601 pts)

PPSD (CH Mid)

Agilent

R T

Mkr1 2.441 99 GHz
-15.57 dBm

Ref 27 dBm

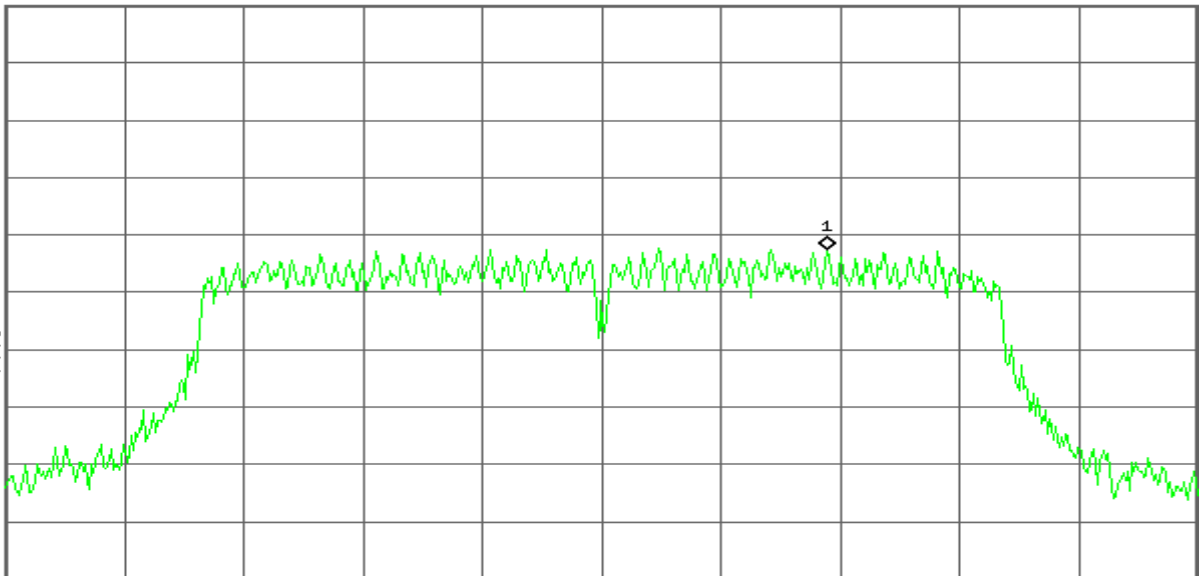
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

£(f):
FTun
Swp



Center 2.437 00 GHz

#VBW 10 kHz

Span 26.5 MHz
Sweep 2.794 s (601 pts)

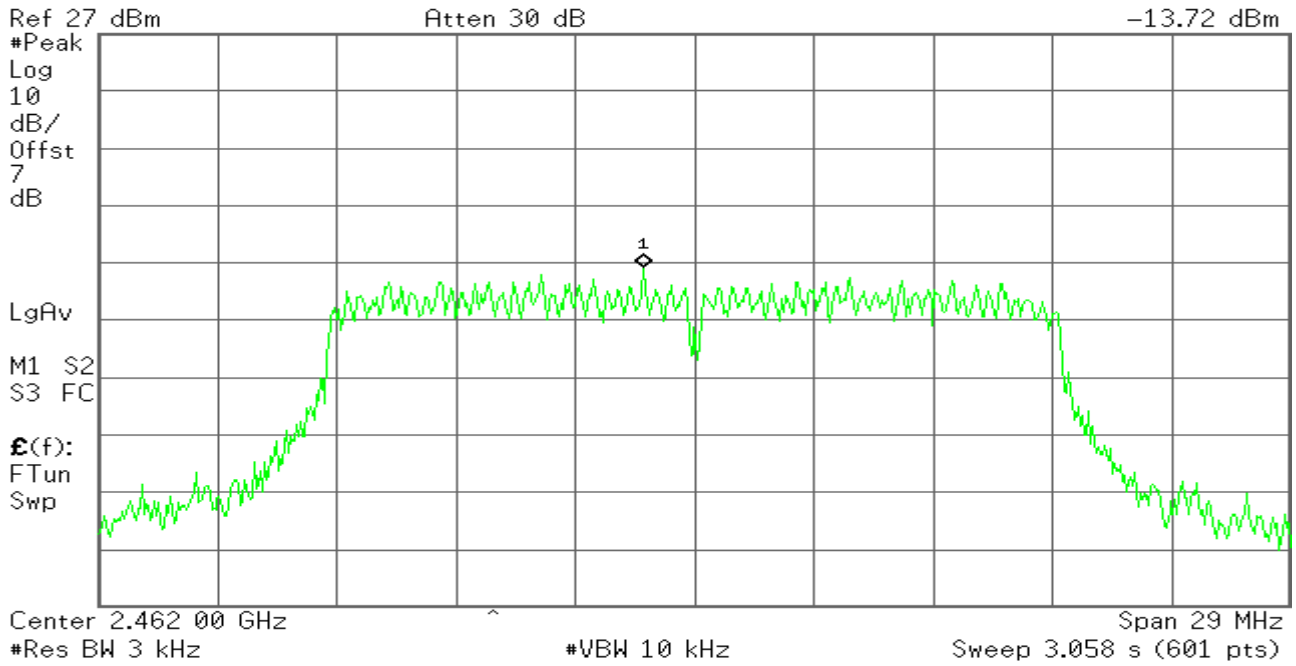


PPSD (CH High)

Agilent

R T

Mkr1 2.460 74 GHz
-13.72 dBm



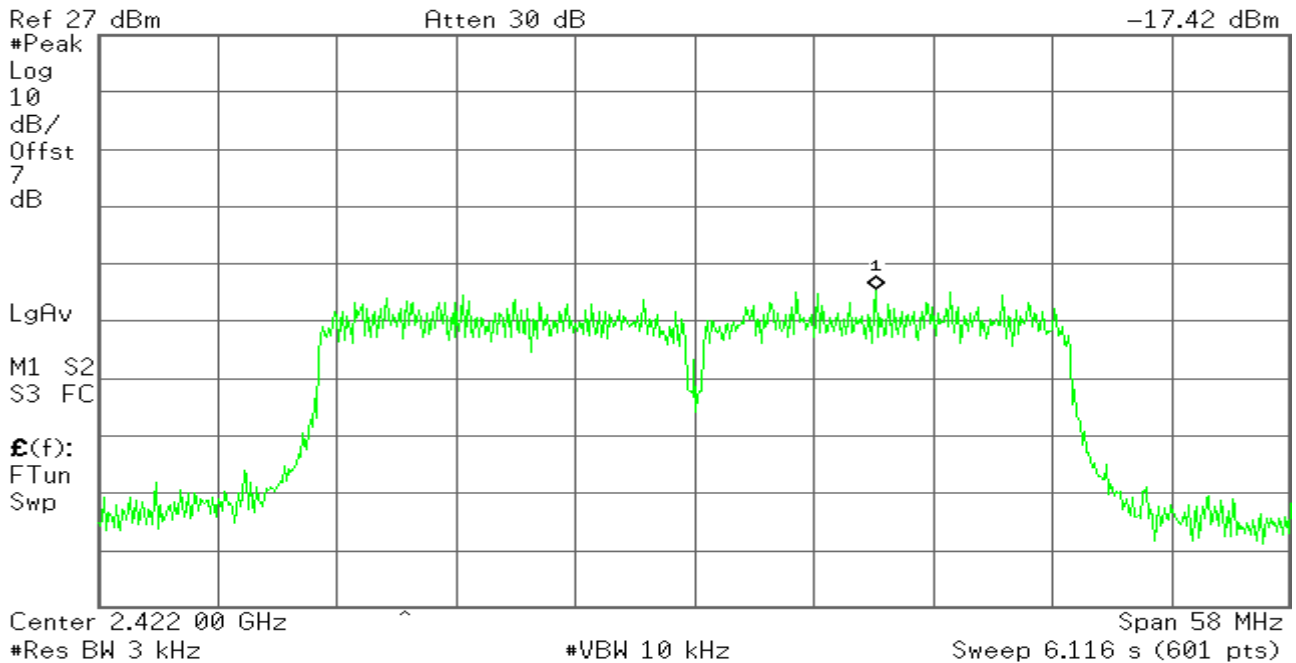
802.11n Wide-40 MHz Channel mode / Chain 0

PPSD (CH Low)

Agilent

R T

Mkr1 2.430 80 GHz
-17.42 dBm





PPSD (CH Mid)

Agilent

R T

Mkr1 2.425 71 GHz
-16.00 dBm

Ref 27 dBm

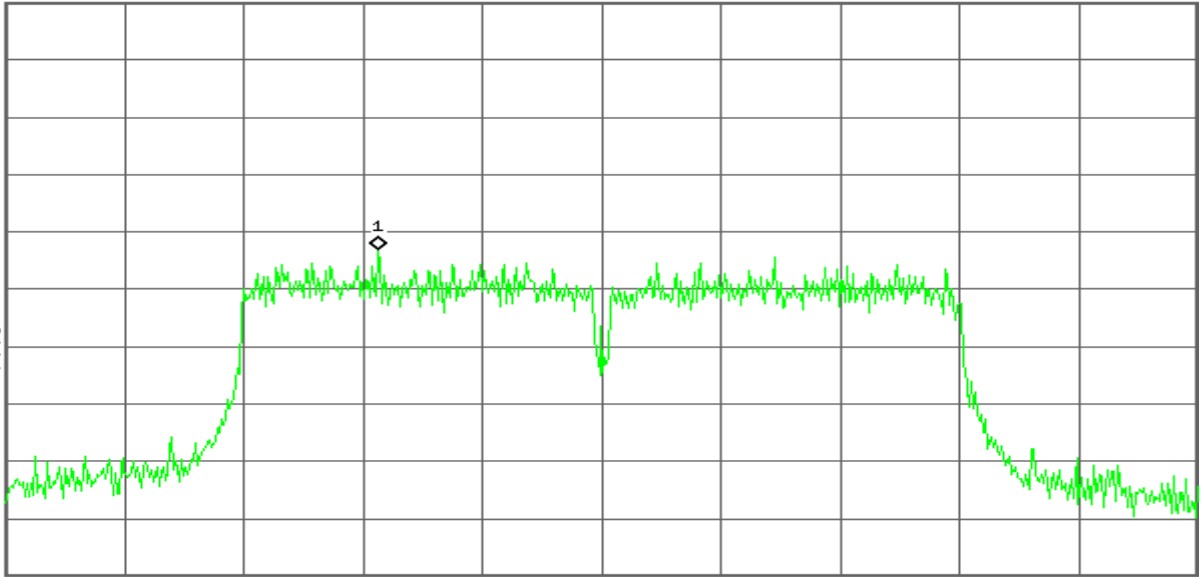
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

$\mathcal{E}(f)$:
FTun
Swp



Center 2.437 00 GHz

Span 60.5 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 6.379 s (601 pts)

PPSD (CH High)

Agilent

R T

Mkr1 2.467 1 GHz
-17.33 dBm

Ref 27 dBm

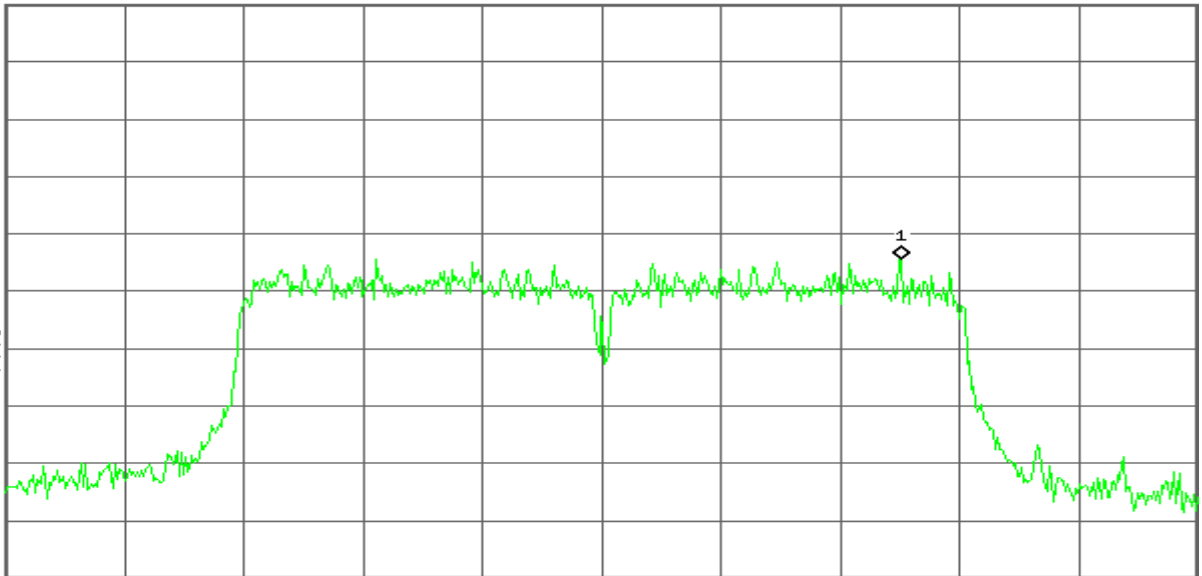
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

$\mathcal{E}(f)$:
FTun
Swp



Center 2.452 0 GHz

Span 60 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 6.326 s (601 pts)



802.11n Standard-20 MHz Channel mode / Chain 1

PPSD (CH Low)

Agilent

R T

Mkr1 2.412 00 GHz
-13.36 dBm

Ref 27 dBm

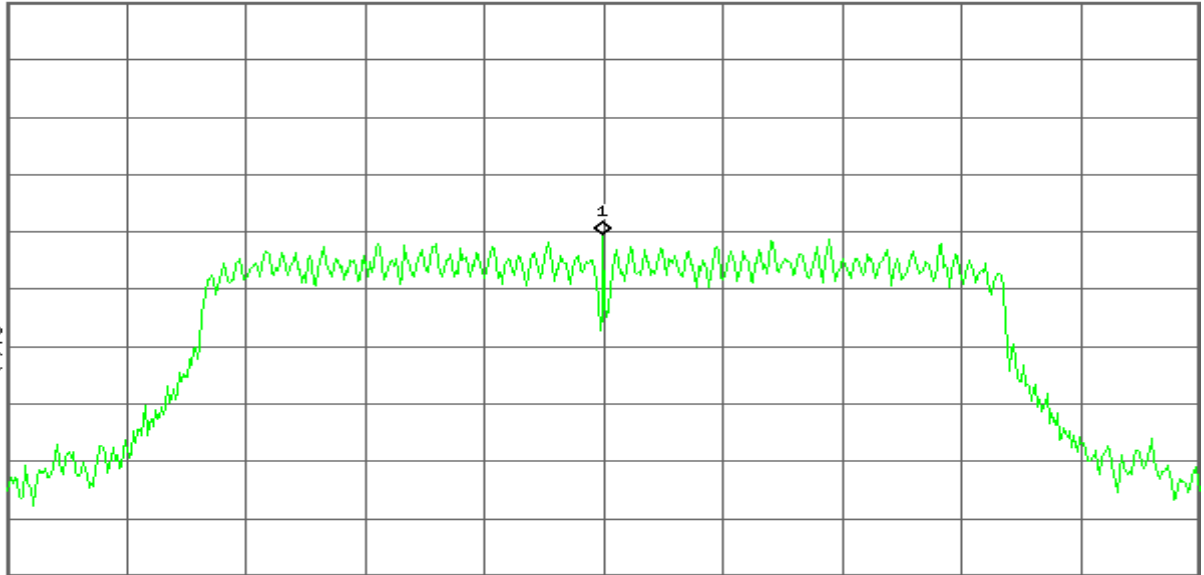
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

£(f):
FTun
Swp



Start 2.398 75 GHz

#VBW 10 kHz

Stop 2.425 25 GHz

Sweep 2.794 s (601 pts)

PPSD (CH Mid)

Agilent

R T

Mkr1 2.437 00 GHz
-14.52 dBm

Ref 27 dBm

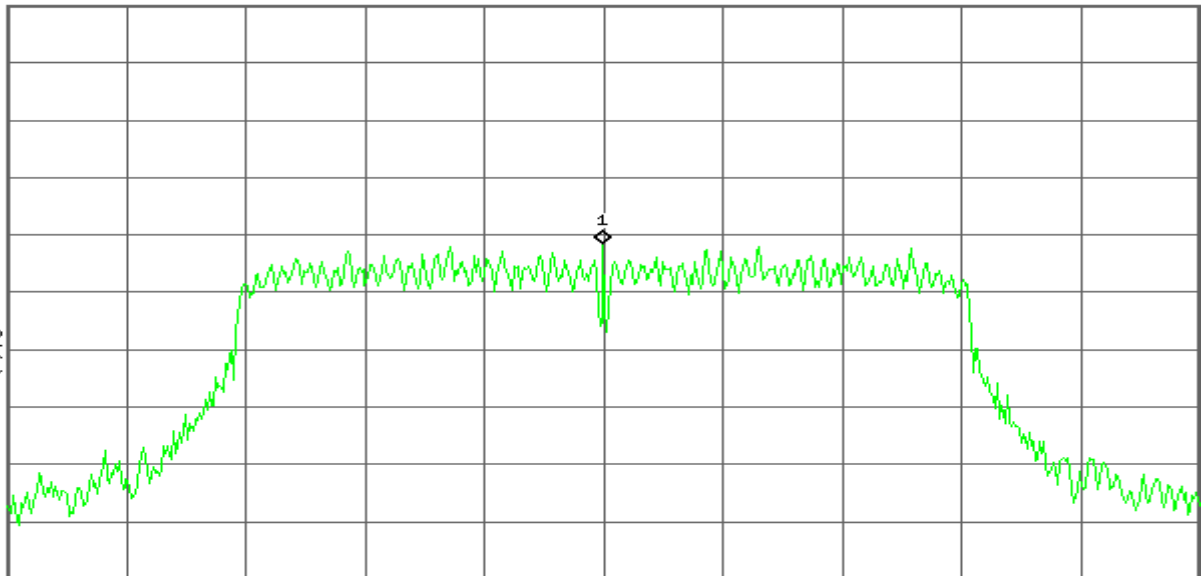
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

£(f):
FTun
Swp



Center 2.437 00 GHz

#VBW 10 kHz

Span 29 MHz

Sweep 3.058 s (601 pts)



PPSD (CH High)

Agilent

R T

Mkr1 2.460 74 GHz
-13.72 dBm

Ref 27 dBm

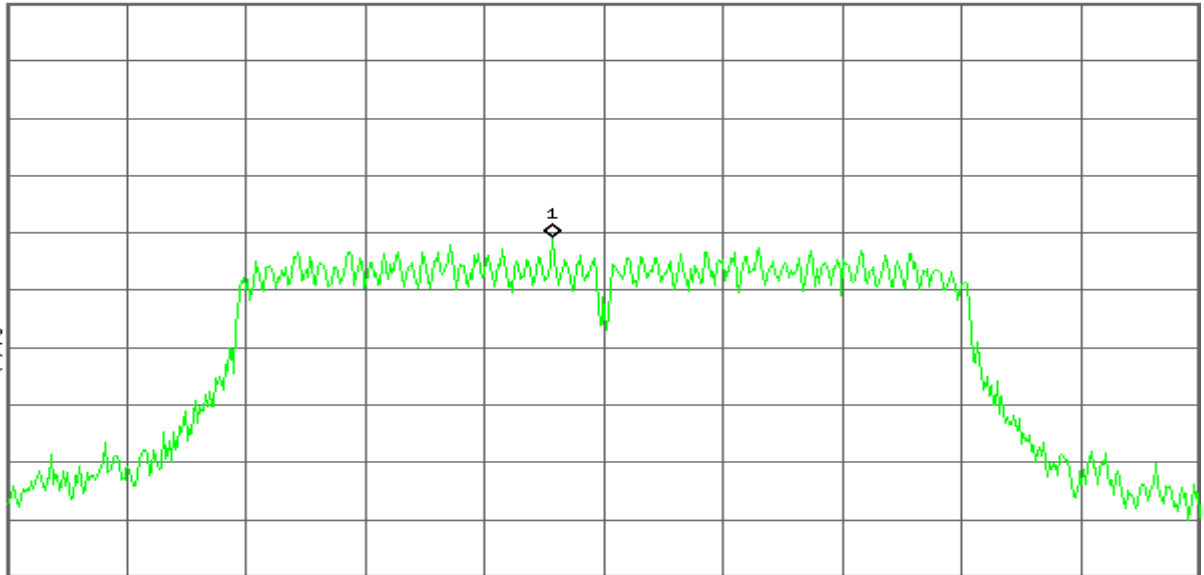
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgRv

M1 S2
S3 FC

£(f):
FTun
Swp



Center 2.462 00 GHz

#VBW 10 kHz

Span 29 MHz
Sweep 3.058 s (601 pts)

#Res BW 3 kHz

802.11n Wide-40 MHz Channel mode / Chain 1

PPSD (CH Low)

Agilent

R T

Mkr1 2.422 00 GHz
-16.88 dBm

Ref 27 dBm

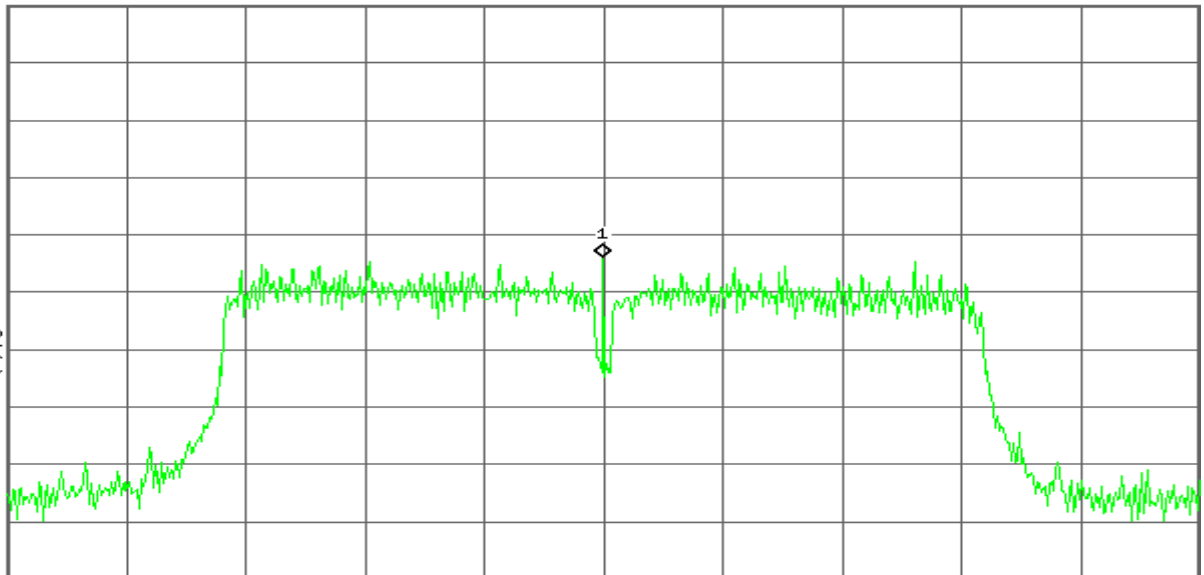
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgRv

M1 S2
S3 FC

£(f):
FTun
Swp



Center 2.422 00 GHz

#VBW 10 kHz

Span 57.5 MHz
Sweep 6.063 s (601 pts)

#Res BW 3 kHz



PPSD (CH Mid)

Agilent

R T

Mkr1 2.425 71 GHz
-16.12 dBm

Ref 27 dBm

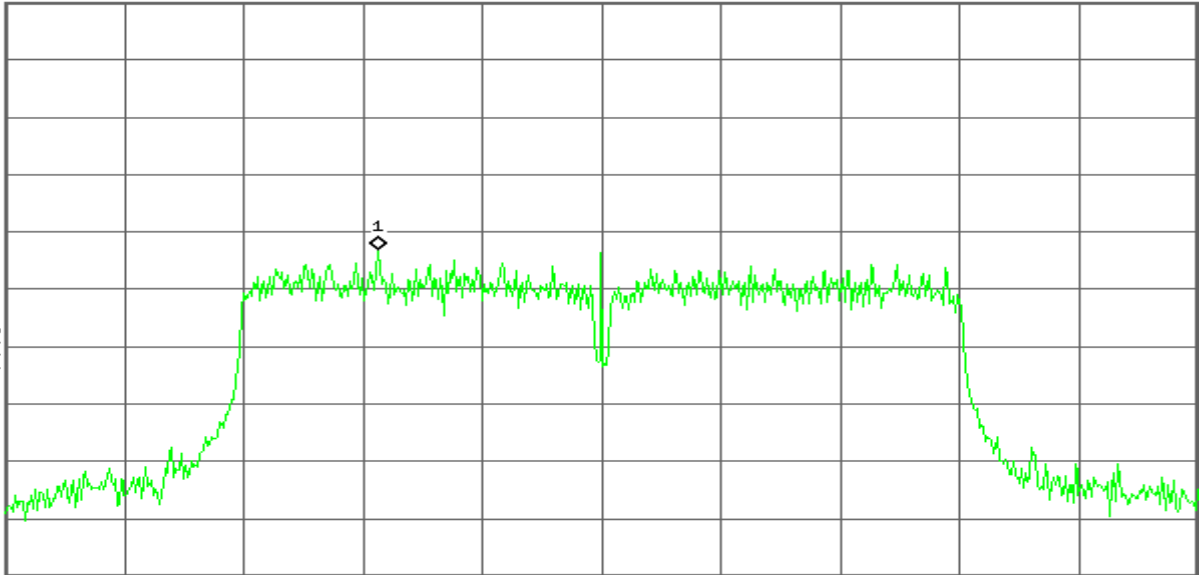
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

$\mathcal{E}(f)$:
FTun
Swp



Center 2.437 00 GHz

Span 60.5 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 6.379 s (601 pts)

PPSD (CH High)

Agilent

R T

Mkr1 2.460 80 GHz
-18.31 dBm

Ref 27 dBm

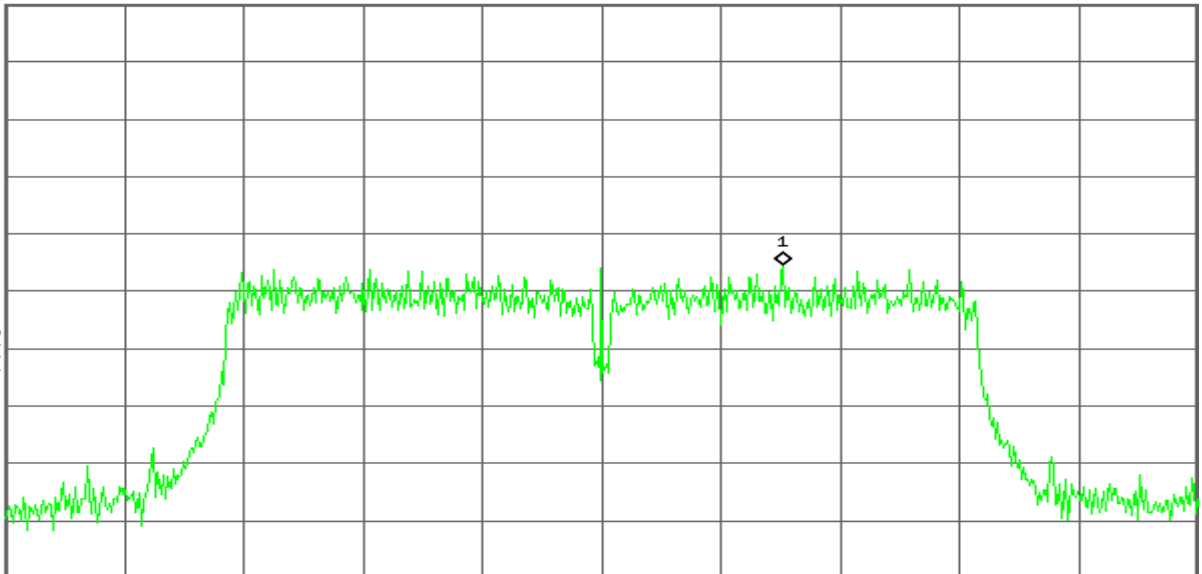
Atten 30 dB

#Peak
Log
10
dB/
Offst
7
dB

LgAv

M1 S2
S3 FC

$\mathcal{E}(f)$:
FTun
Swp



Center 2.452 00 GHz

Span 58 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 6.116 s (601 pts)



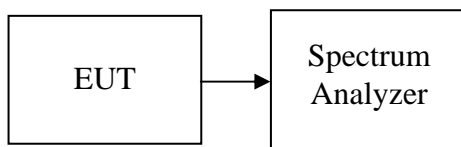
7.4 SPURIOUS EMISSIONS Conducted Measurement

LIMIT

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

Conducted power was measured based on the use of RMS averaging over a time interval, therefore the required attenuation is 30 dB.

Test Configuration



TEST PROCEDURE

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

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 1 MHz. The video bandwidth is set to 1 MHz.

Measurements are made over the 30MHz to 40GHz range with the transmitter set to the lowest, middle, and highest channels.

TEST RESULTS

No non-compliance noted



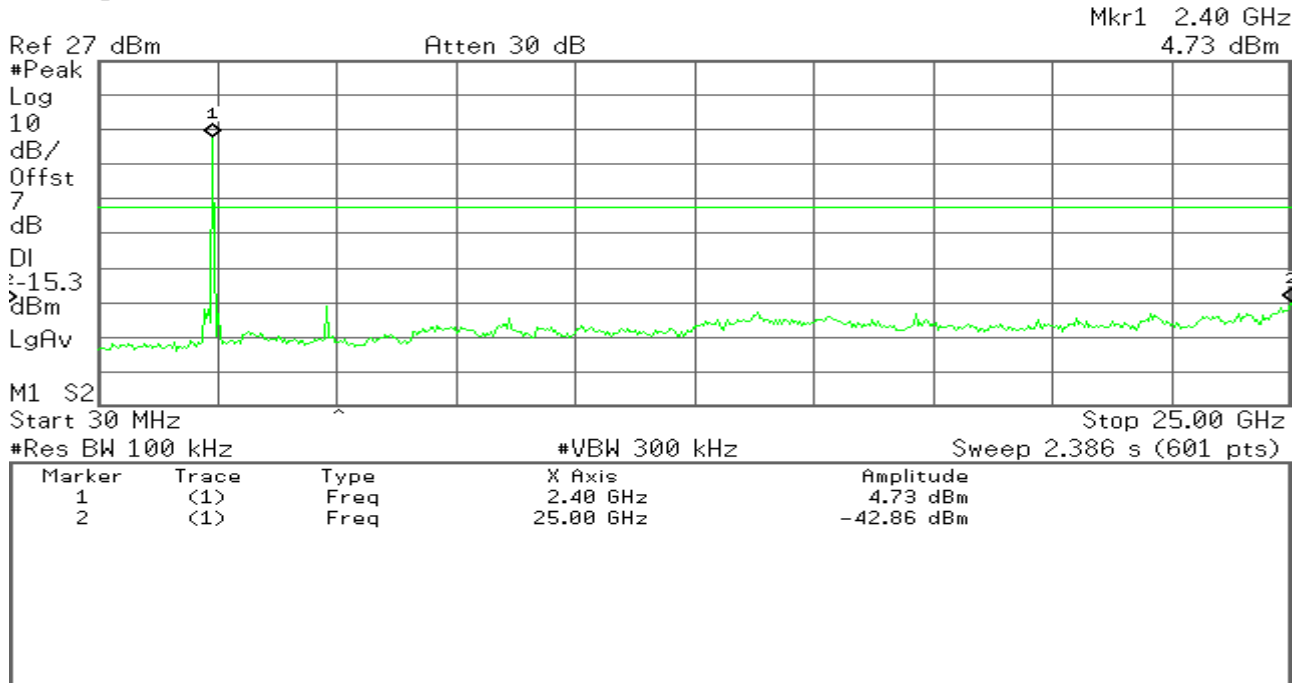
Test Plot

IEEE 802.11b mode

CH Low

Agilent

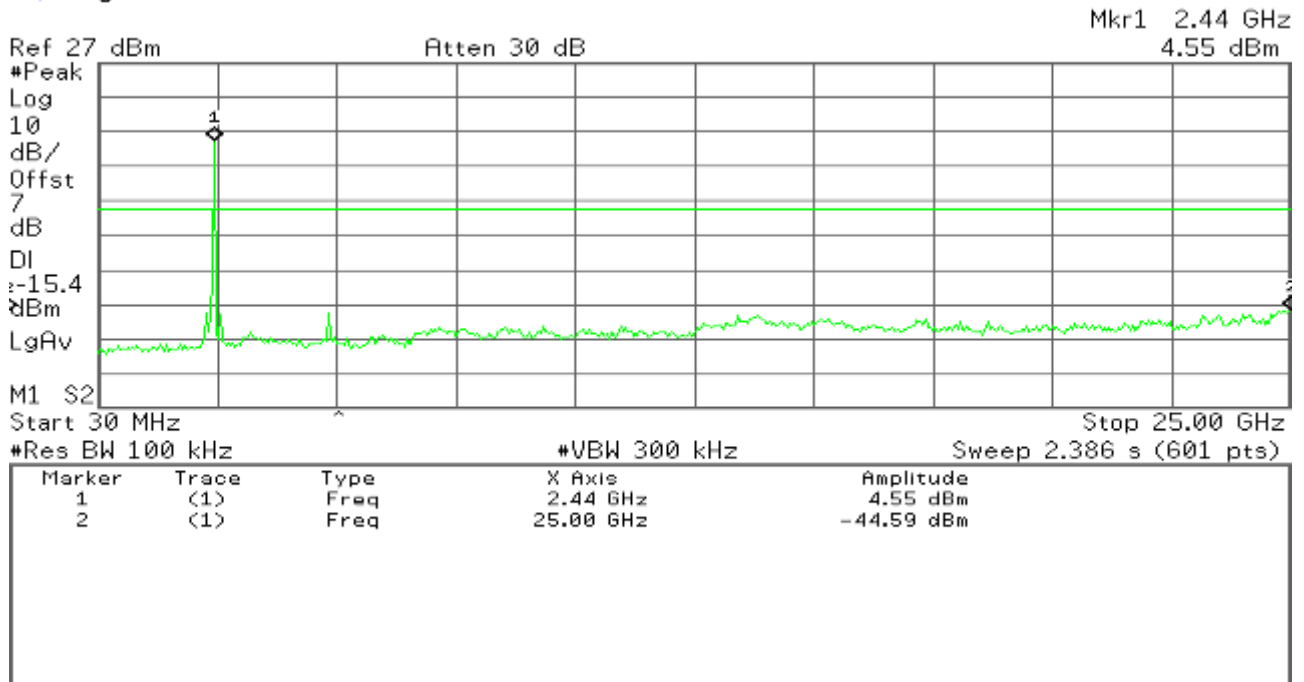
R T



CH Mid

Agilent

R T



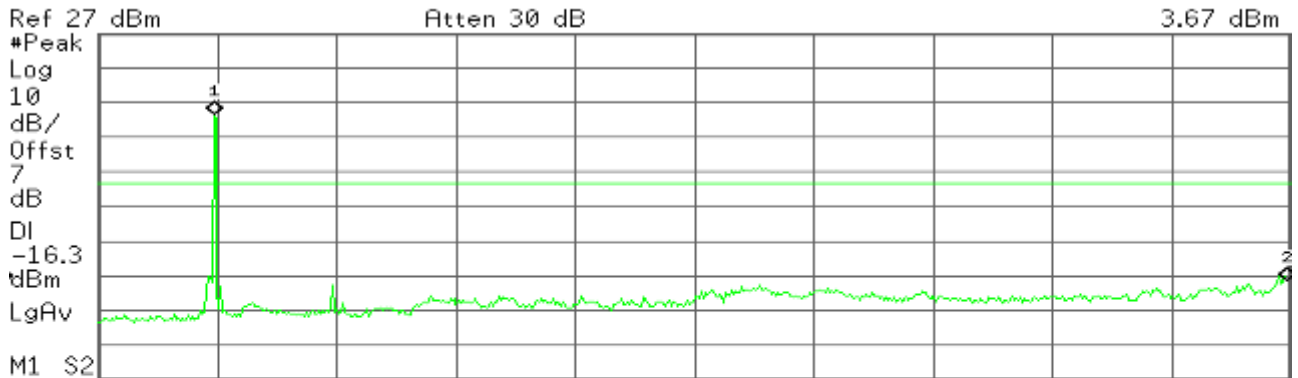


CH High

Agilent

R T

Mkr1 2.44 GHz
3.67 dBm



Start 30 MHz^ Stop 25.00 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.44 GHz	3.67 dBm
2	(1)	Freq	24.92 GHz	-44.45 dBm

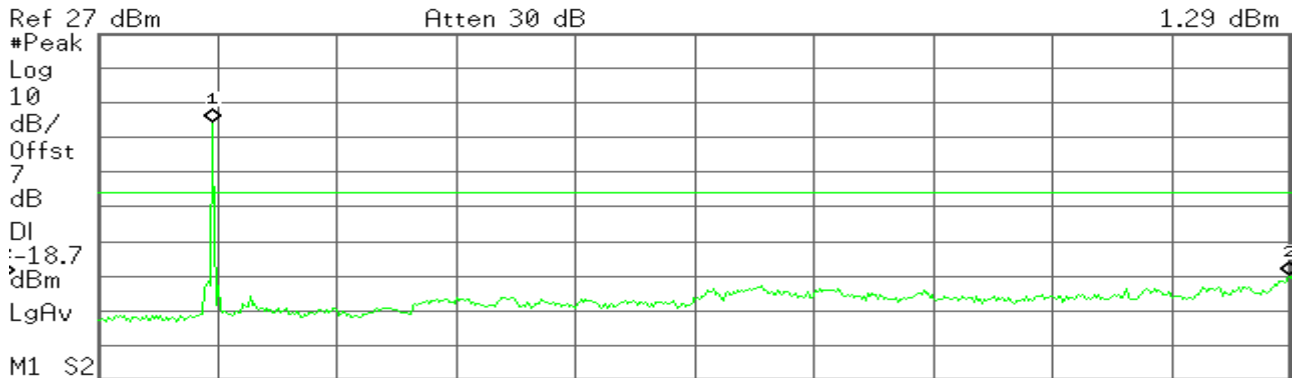
IEEE 802.11g mode

CH Low

Agilent

R T

Mkr1 2.40 GHz
1.29 dBm



Start 30 MHz Stop 25.00 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.40 GHz	1.29 dBm
2	(1)	Freq	24.96 GHz	-42.68 dBm



CH Mid

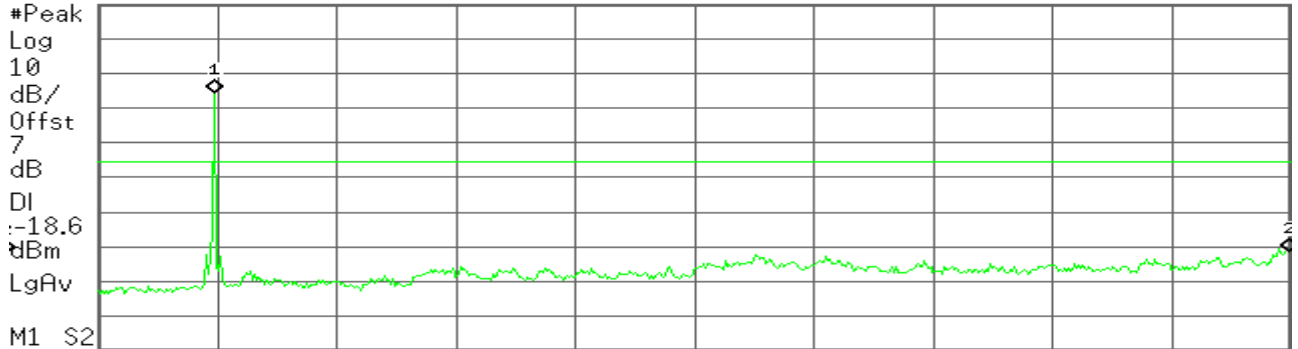
Agilent

R T

Ref 27 dBm

Atten 30 dB

Mkr1 2.44 GHz
1.41 dBm



#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.44 GHz	1.41 dBm
2	(1)	Freq	24.96 GHz	-44.58 dBm

CH High

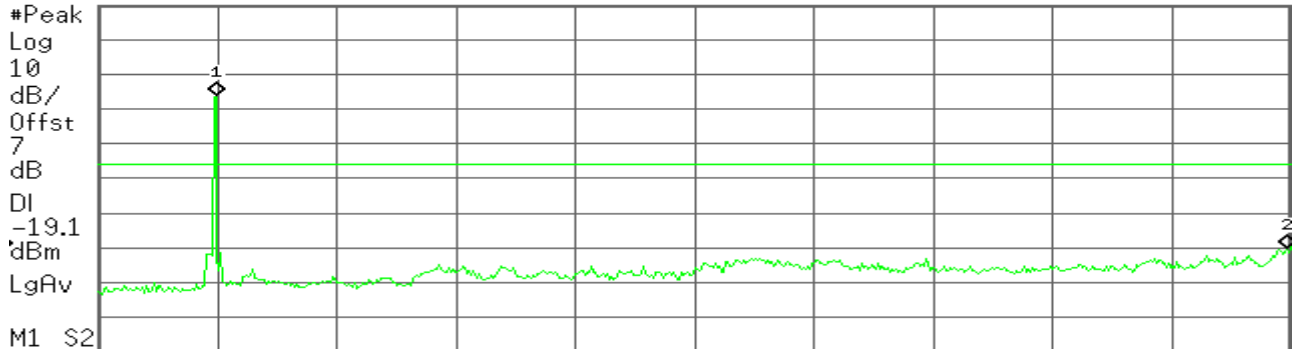
Agilent

R T

Ref 27 dBm

Atten 30 dB

Mkr1 2.49 GHz
0.94 dBm



#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.49 GHz	0.94 dBm
2	(1)	Freq	24.92 GHz	-43.32 dBm

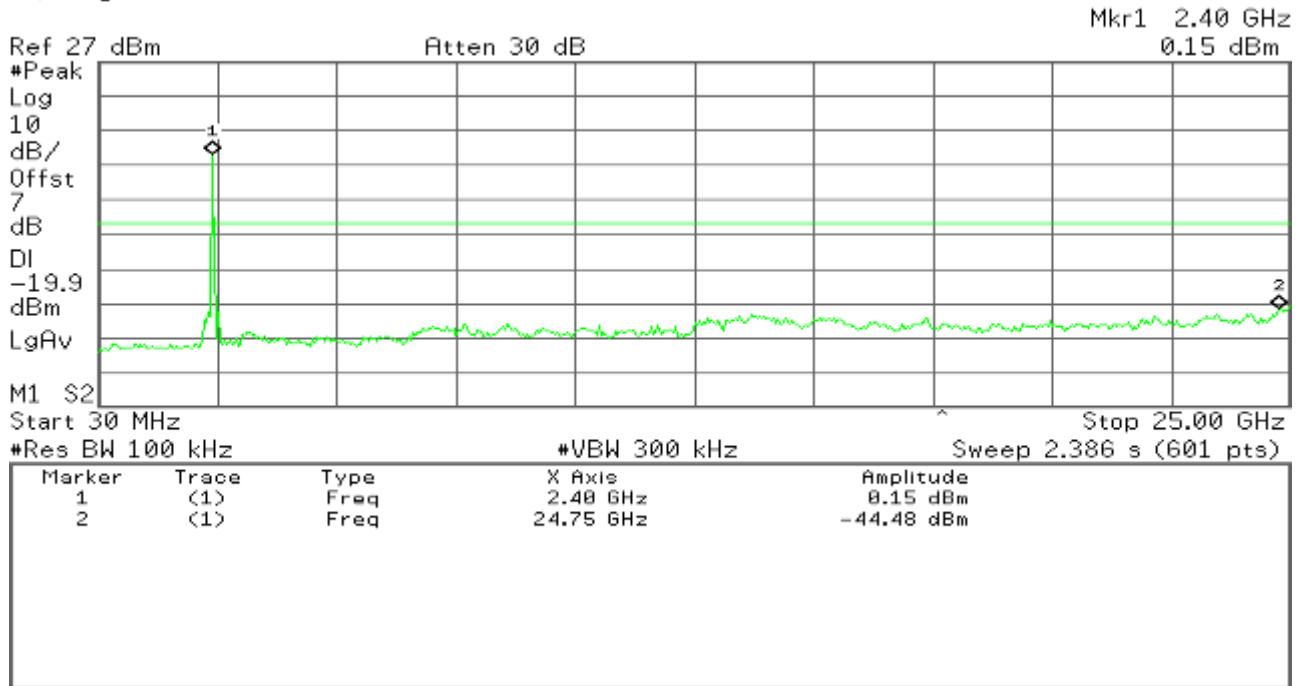


802.11n Standard-20 MHz Channel mode / Chain 0

CH Low

* Agilent

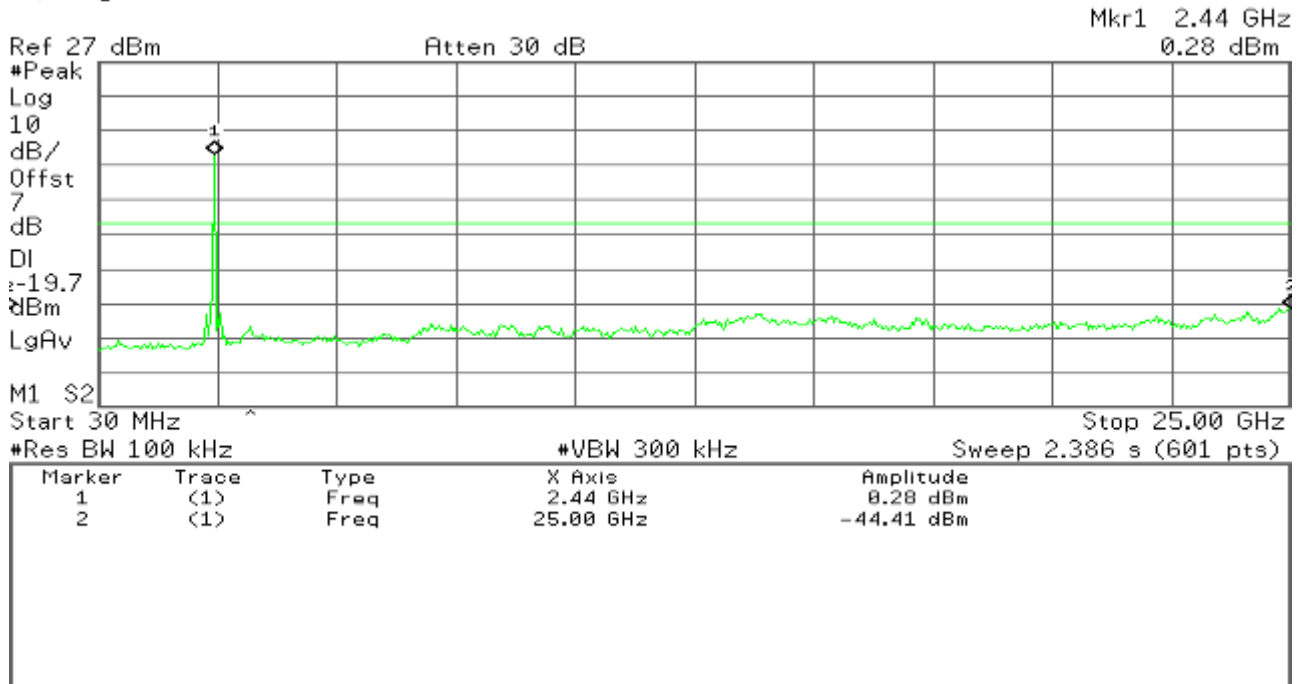
R T



CH Mid

* Agilent

R T



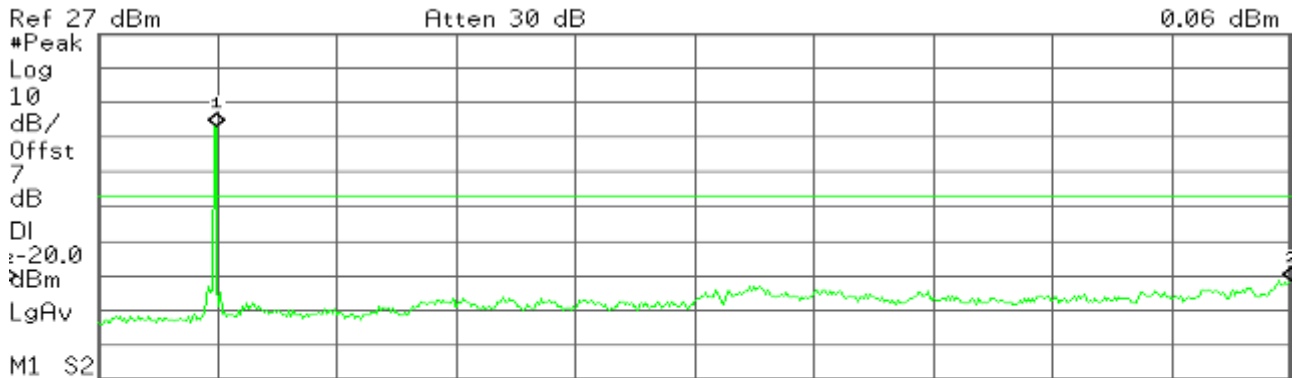


CH High

Agilent

R T

Mkr1 2.49 GHz
0.06 dBm



Start 30 MHz Stop 25.00 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.49 GHz	0.06 dBm
2	(1)	Freq	25.00 GHz	-44.47 dBm

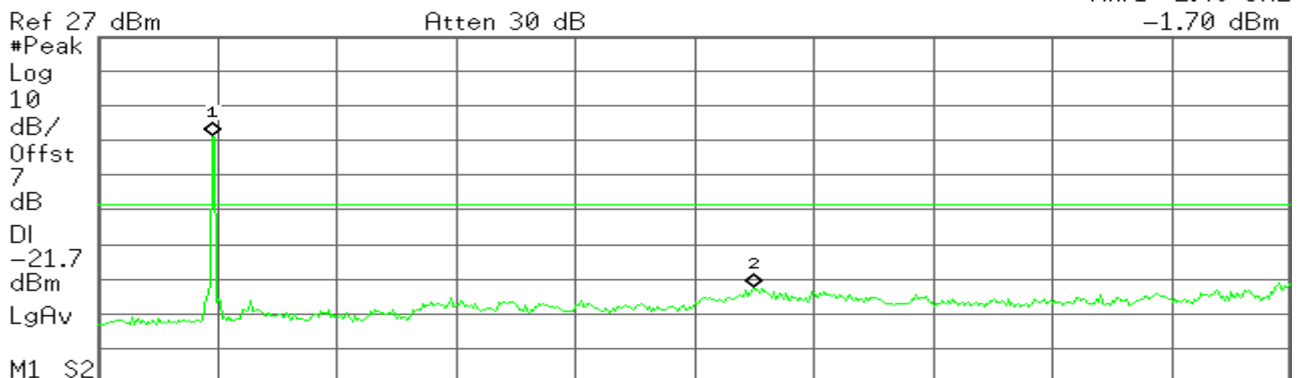
802.11n Wide-40 MHz Channel mode / Chain 0

CH Low

Agilent

R T

Mkr1 2.40 GHz
-1.70 dBm



Start 30 MHz Stop 25.00 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.40 GHz	-1.70 dBm
2	(1)	Freq	13.76 GHz	-45.15 dBm



CH Mid

* Agilent

R T

Ref 27 dBm

Atten 30 dB

Mkr1 2.44 GHz
-2.05 dBm

#Peak

Log

10

dB/

Offst

7

dB

DI

-22.0

dBm

LgAv

M1 S2

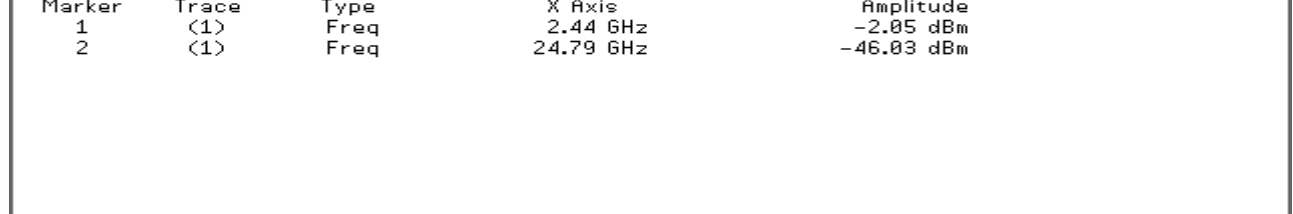
Center 12.52 GHz

Span 24.97 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.386 s (601 pts)



CH High

* Agilent

R T

Ref 27 dBm

Atten 30 dB

Mkr1 2.44 GHz
-1.65 dBm

#Peak

Log

10

dB/

Offst

7

dB

DI

-21.6

dBm

LgAv

M1 S2

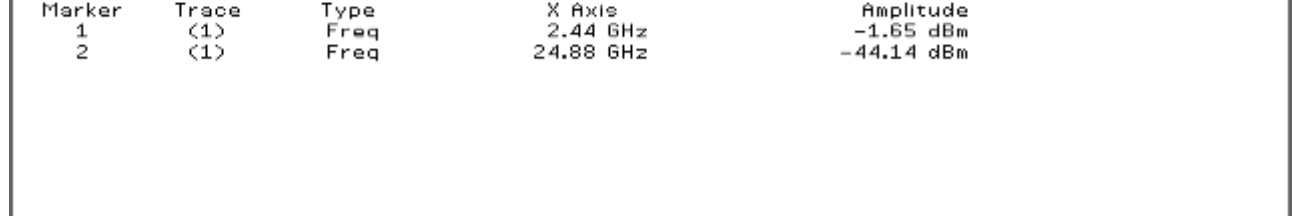
Start 30 MHz

Stop 25.00 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.386 s (601 pts)



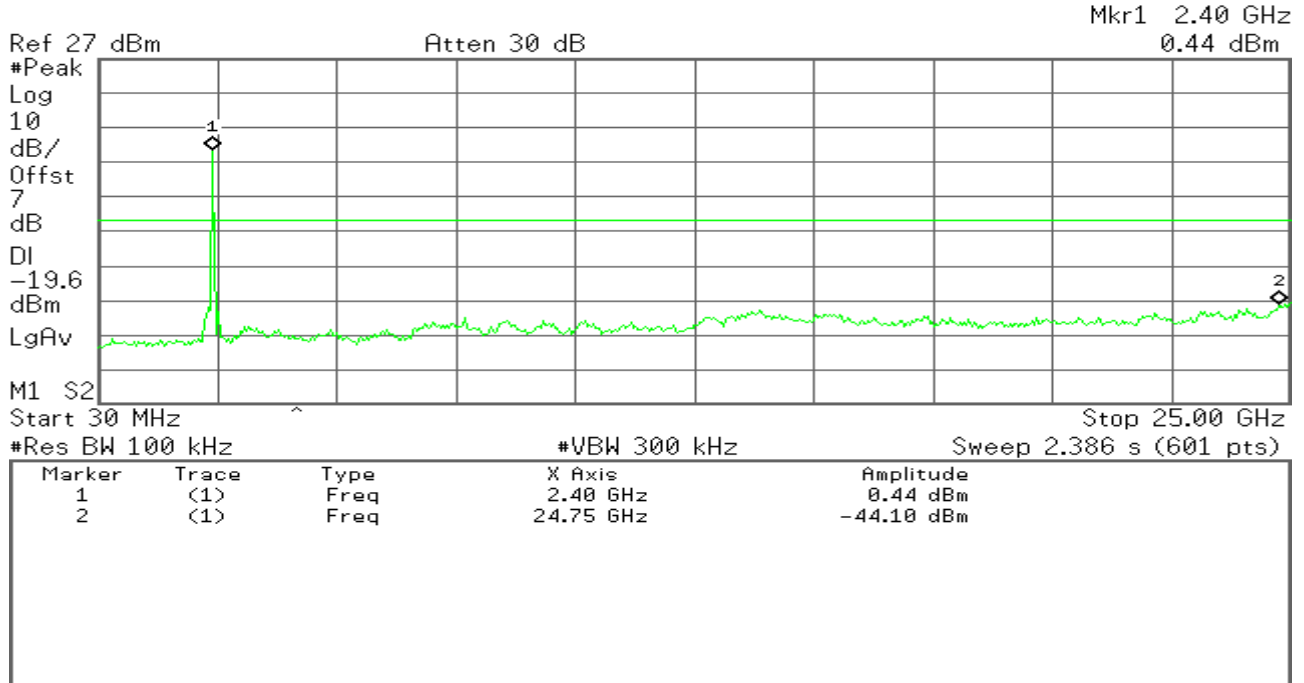


802.11n Standard-20 MHz Channel mode / Chain 1

CH Low

Agilent

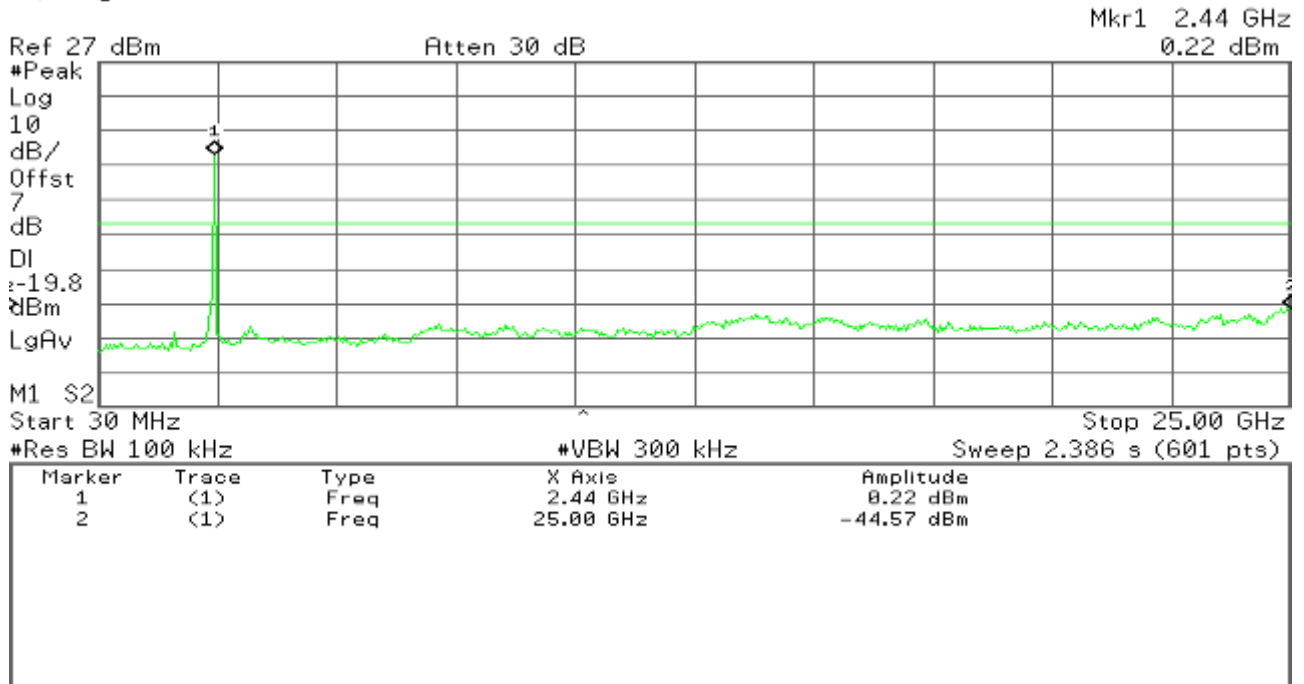
R T



CH Mid

Agilent

R T



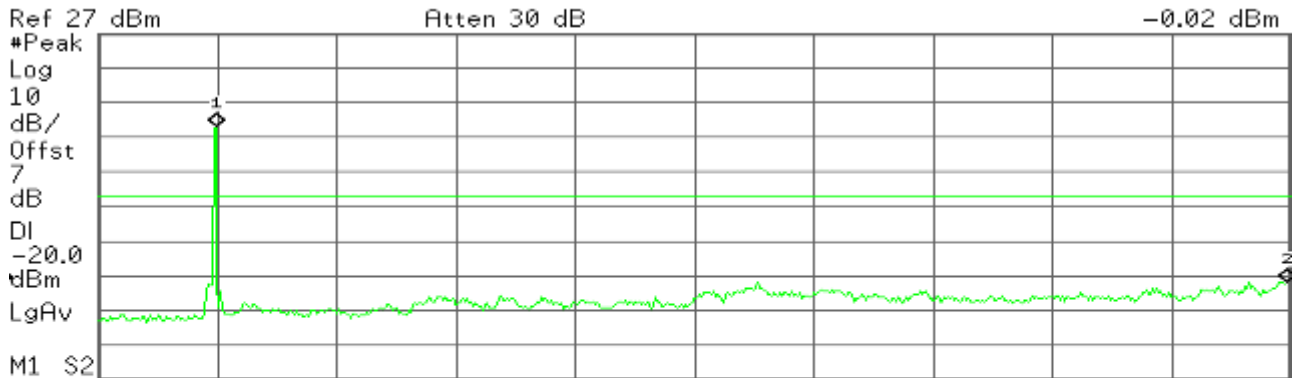


CH High

Agilent

R T

Mkr1 2.49 GHz
-0.02 dBm



Ref 27 dBm Atten 30 dB Stop 25.00 GHz
 #Peak Log 10 dB/Offst 7 dB DI -20.0 dBm LgAv
 M1 S2
 Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.49 GHz	-0.02 dBm
2	(1)	Freq	24.92 GHz	-44.69 dBm

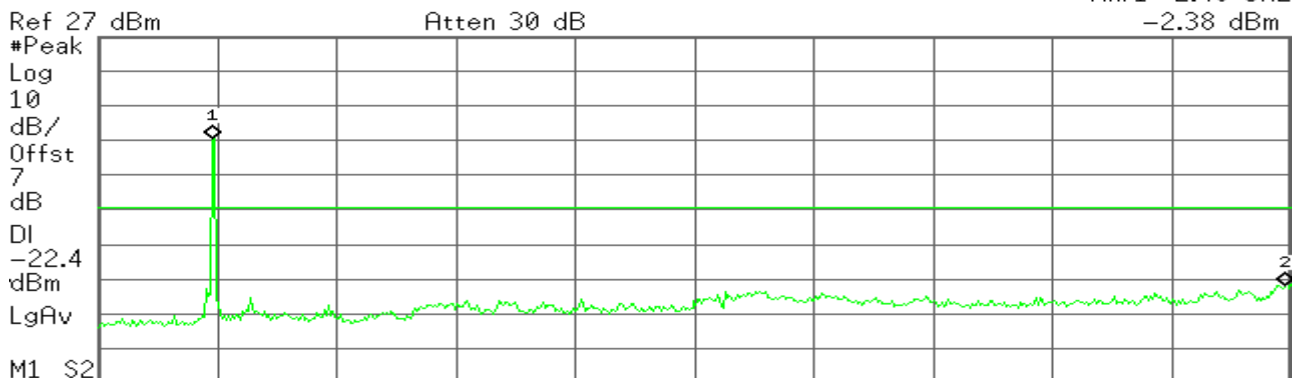
802.11n Wide-40 MHz Channel mode / Chain 1

CH Low

Agilent

R T

Mkr1 2.40 GHz
-2.38 dBm



Ref 27 dBm Atten 30 dB Stop 25.00 GHz
 #Peak Log 10 dB/Offst 7 dB DI -22.4 dBm LgAv
 M1 S2
 Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

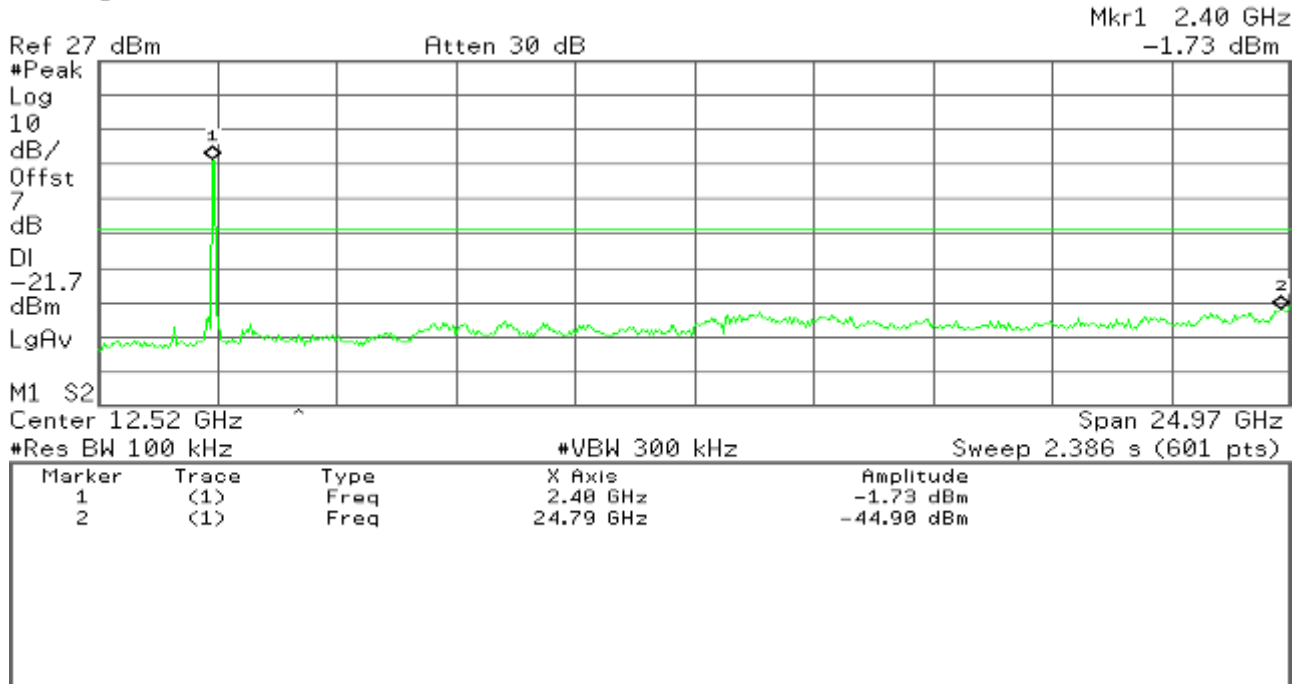
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.40 GHz	-2.38 dBm
2	(1)	Freq	24.88 GHz	-44.90 dBm



CH Mid

* Agilent

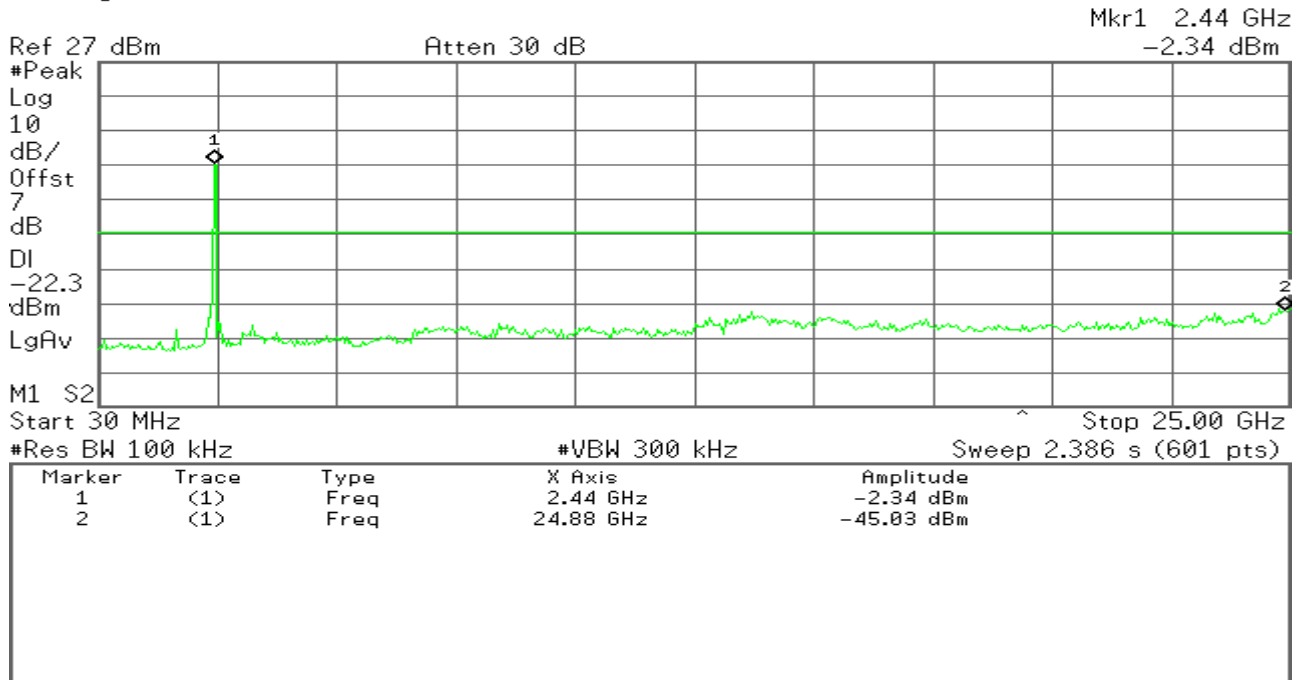
R T



CH High

* Agilent

R T





7.5 RADIATED EMISSIONS

LIMIT

Radiated emissions from 9 kHz to 25 GHz were measured according to the methods defines in ANSI C63.4-2009. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

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:

FREQUENCIES(MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE(meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

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

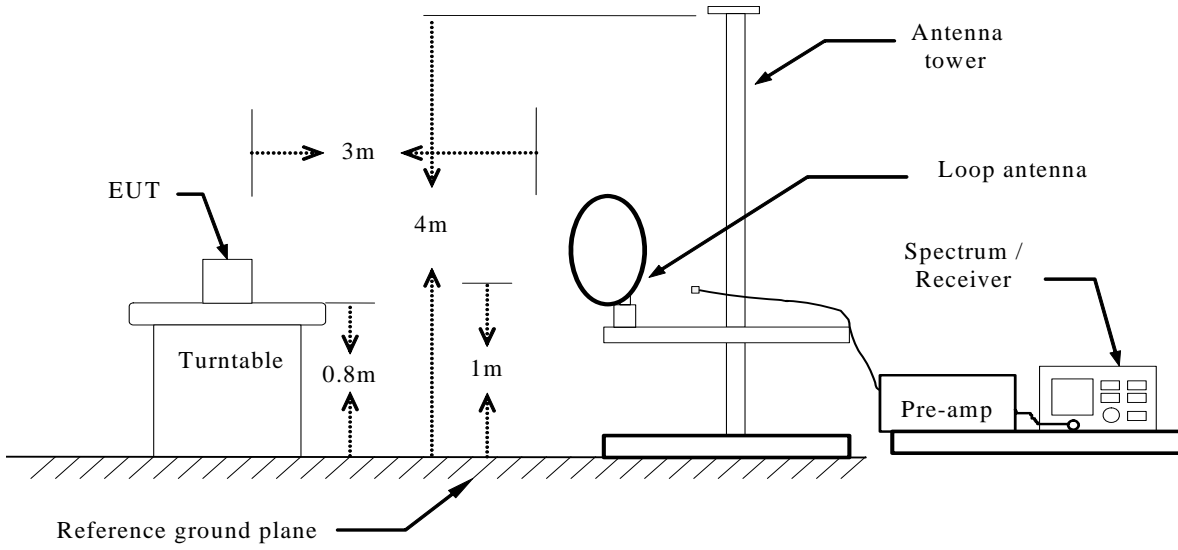
2. In the emission table above, the tighter limit applies at the band edges.

Frequency (MHz)	Field Strength (μ V/m at 3-meter)	Field Strength (dB μ V/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

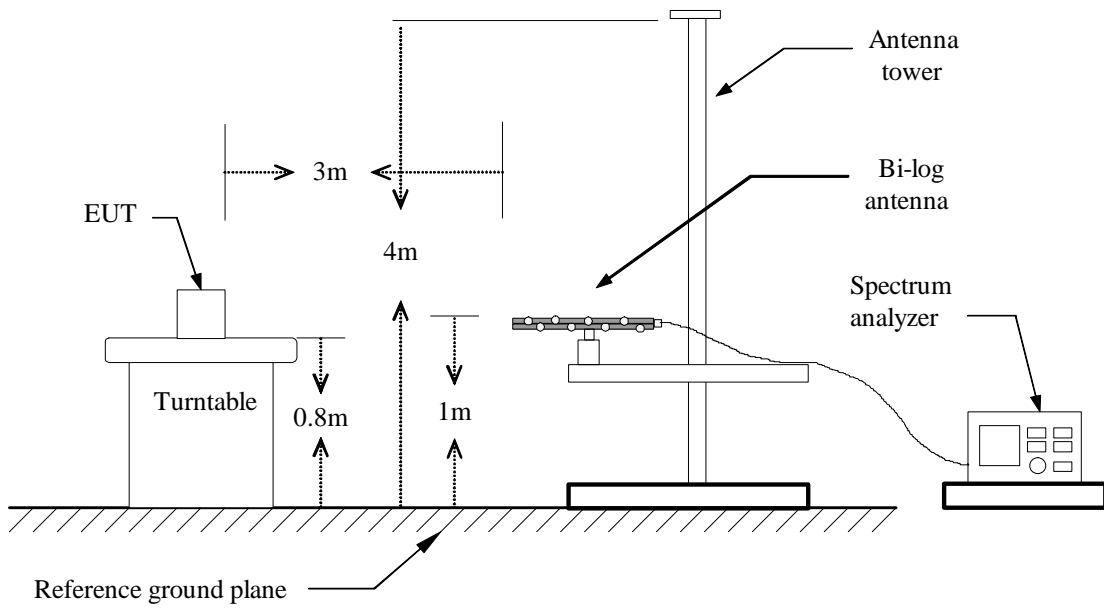
Test Configuration



Below 30MHz

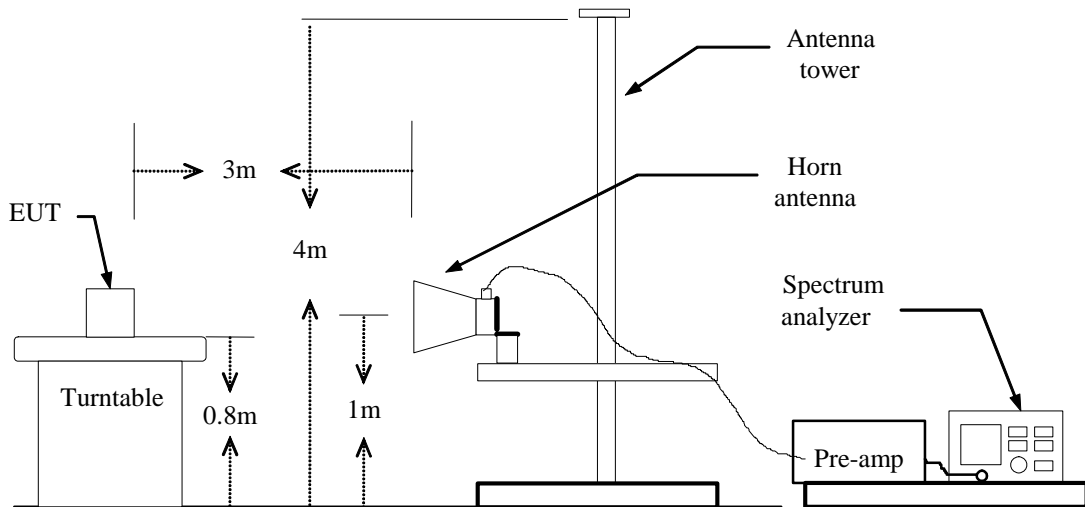


Below 1 GHz





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 1GHz:

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

Above 1GHz:

(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

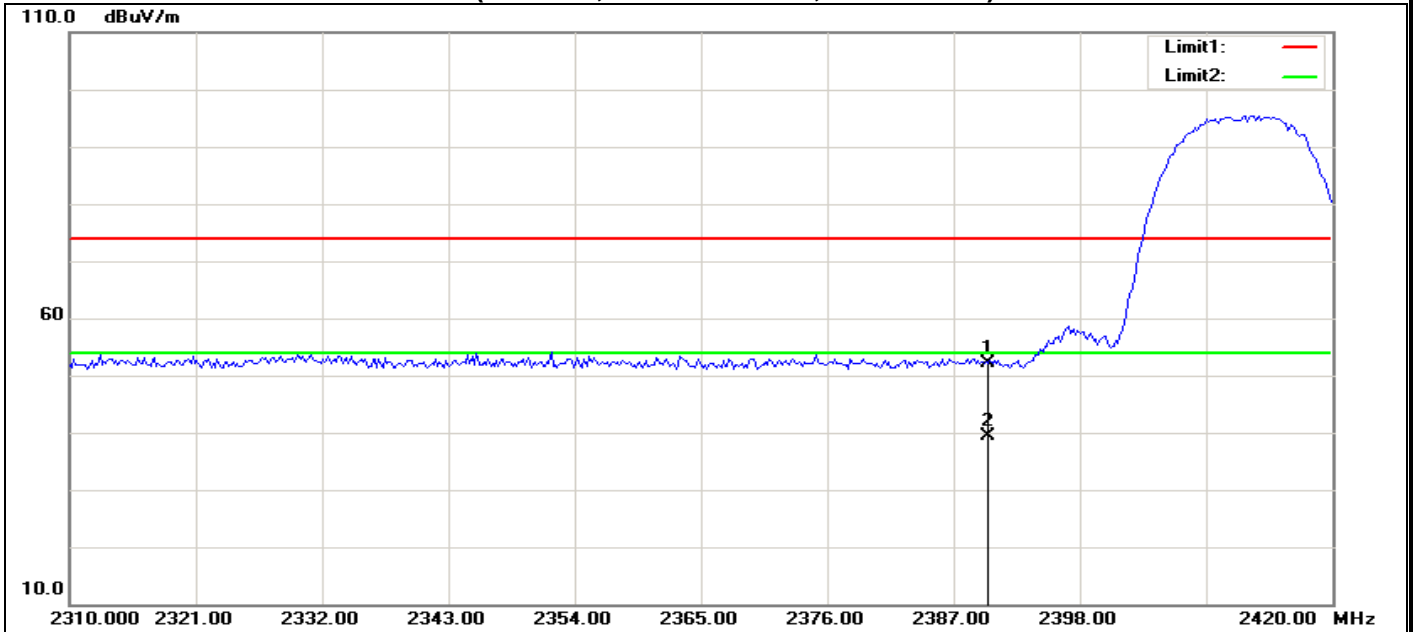
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

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

TEST RESULTS

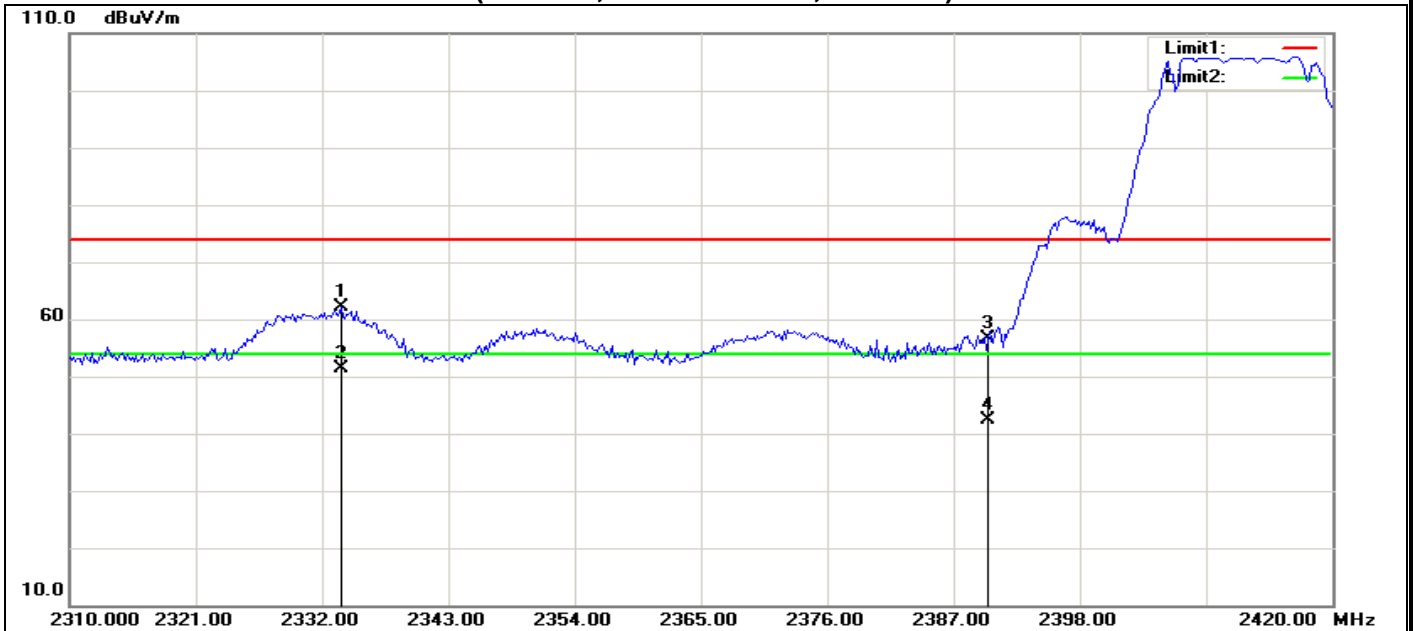


RESTRICTED BANDEDGE (b Mode, Low Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	66.37	-14.28	52.09	74.00	-21.91	100	0	peak
2	2390.000	53.75	-14.28	39.47	54.00	-14.53	100	359	AVG

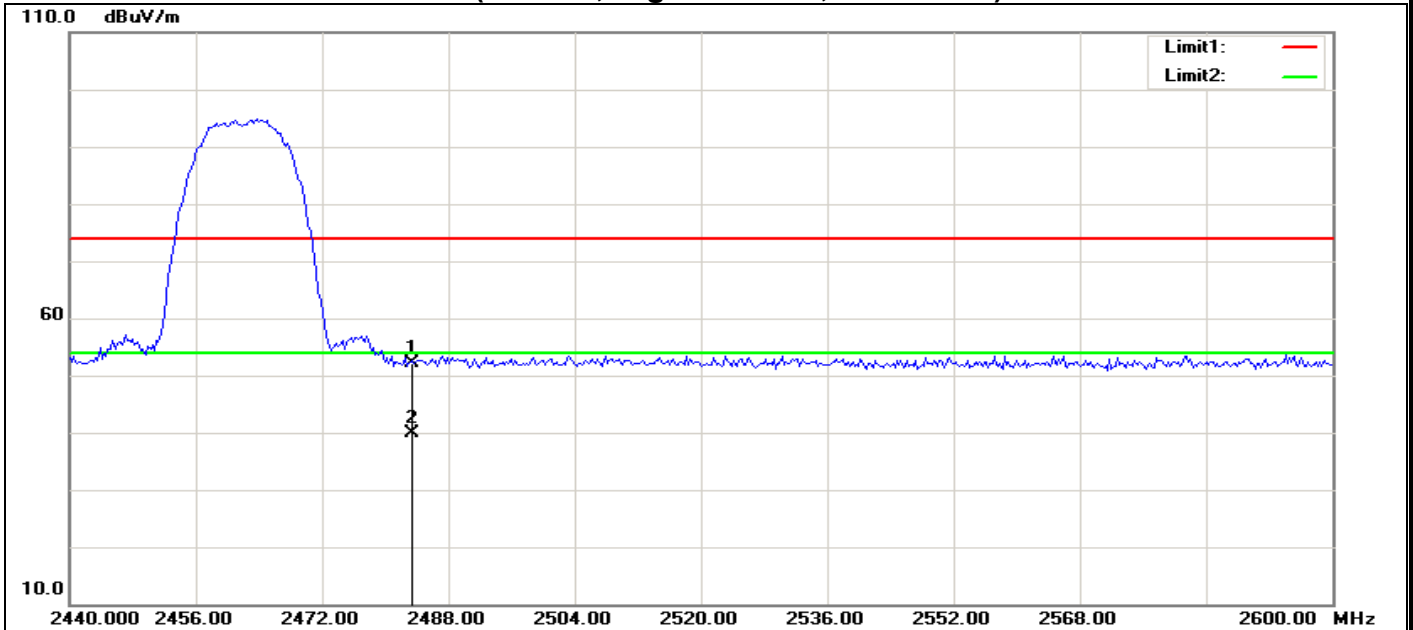
RESTRICTED BANDEDGE (b Mode, Low Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2333.622	76.36	-14.26	62.10	74.00	-11.90	100	23	peak
2	2333.622	65.75	-14.26	51.49	54.00	-2.51	100	28	AVG
3	2390.000	70.97	-14.28	56.69	74.00	-17.31	100	169	peak
4	2390.000	56.72	-14.28	42.44	54.00	-11.56	100	169	AVG

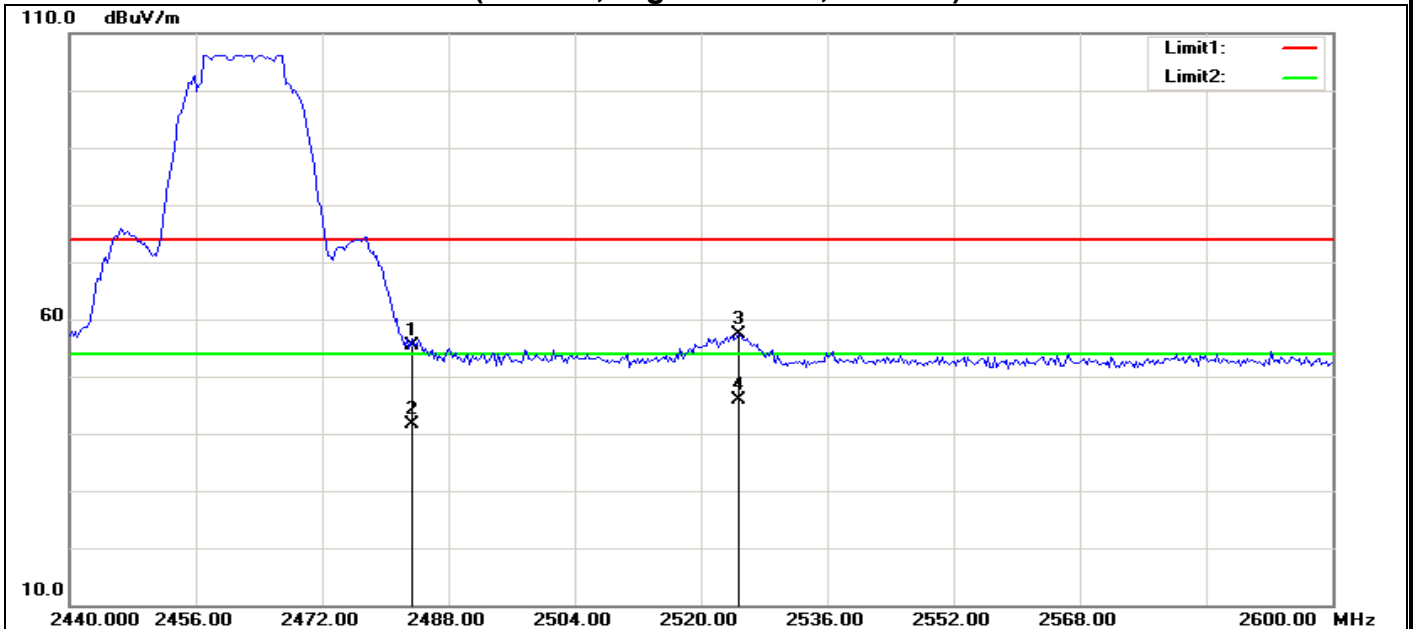


RESTRICTED BANDEDGE (b Mode, High Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	65.67	-13.65	52.02	74.00	-21.98	100	144	peak
2	2483.500	53.41	-13.65	39.76	54.00	-14.24	100	144	AVG

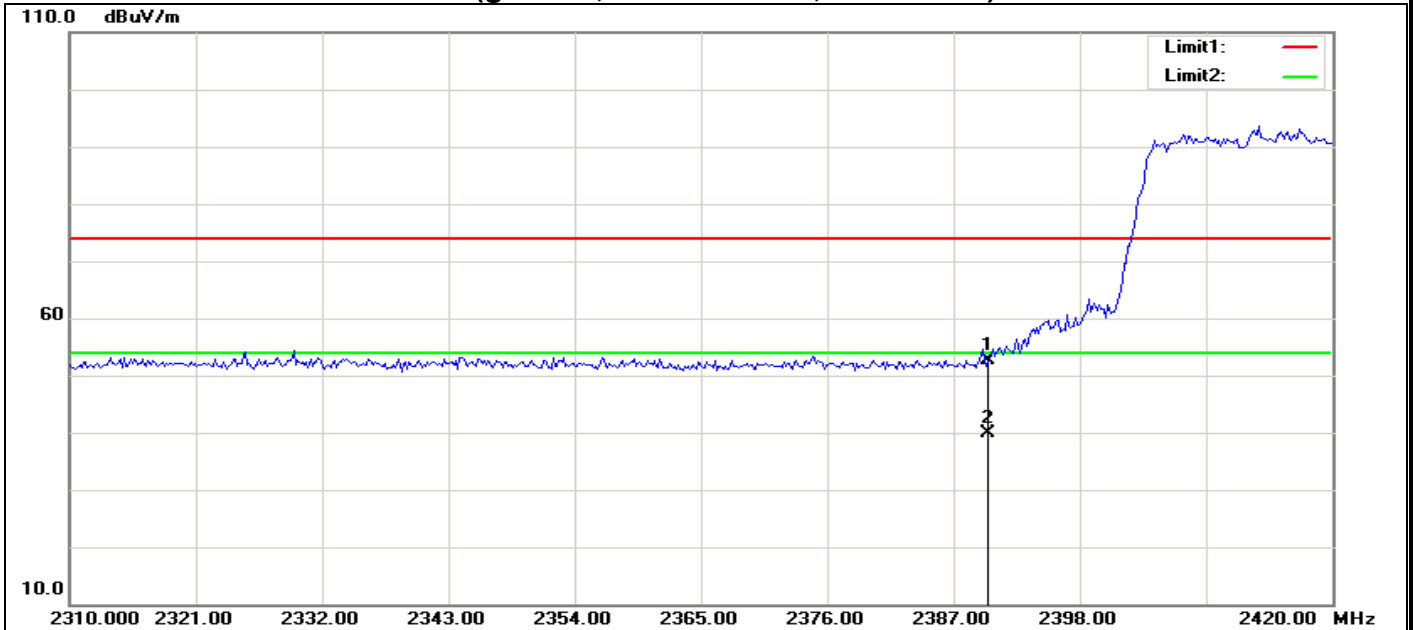
RESTRICTED BANDEDGE (b Mode, High Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	68.92	-13.65	55.27	74.00	-18.73	100	175	peak
2	2483.500	55.34	-13.65	41.69	54.00	-12.31	100	171	AVG
3	2524.872	70.77	-13.49	57.28	74.00	-16.72	100	208	peak
4	2524.872	59.49	-13.49	46.00	54.00	-8.00	100	201	AVG

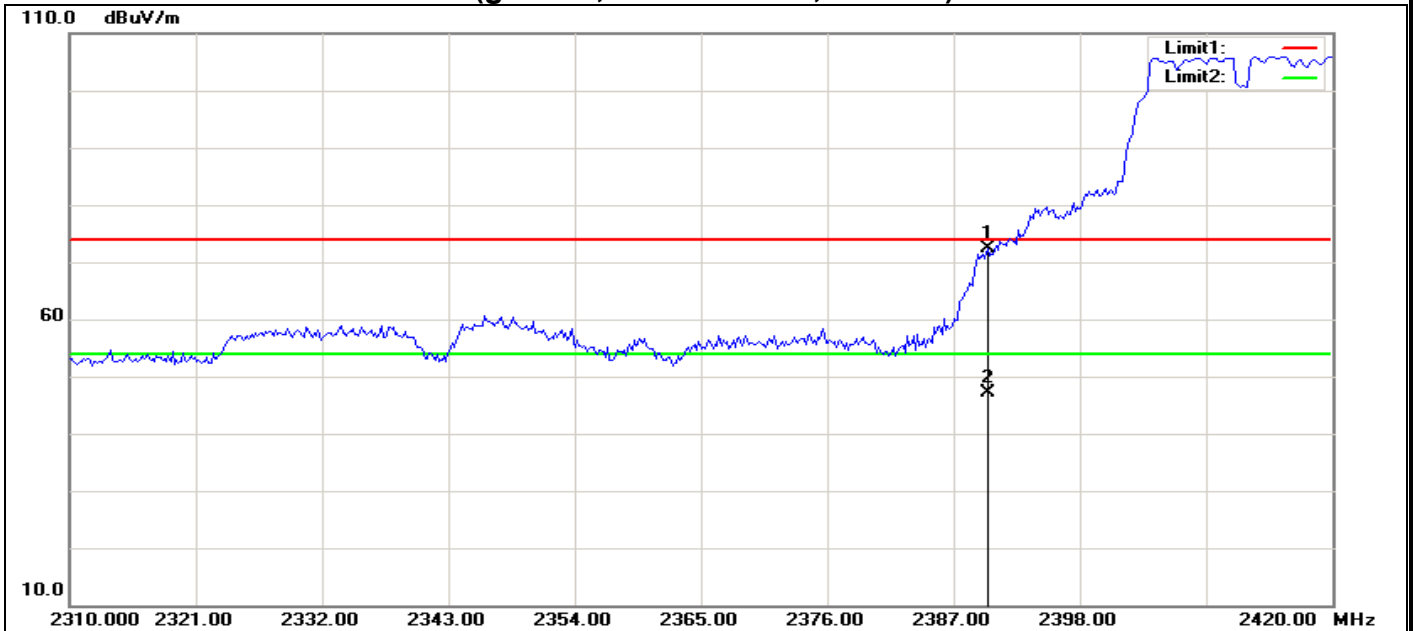


RESTRICTED BANDEDGE (g Mode, Low Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	66.86	-14.28	52.58	74.00	-21.42	100	249	peak
2	2390.000	54.06	-14.28	39.78	54.00	-14.22	100	249	AVG

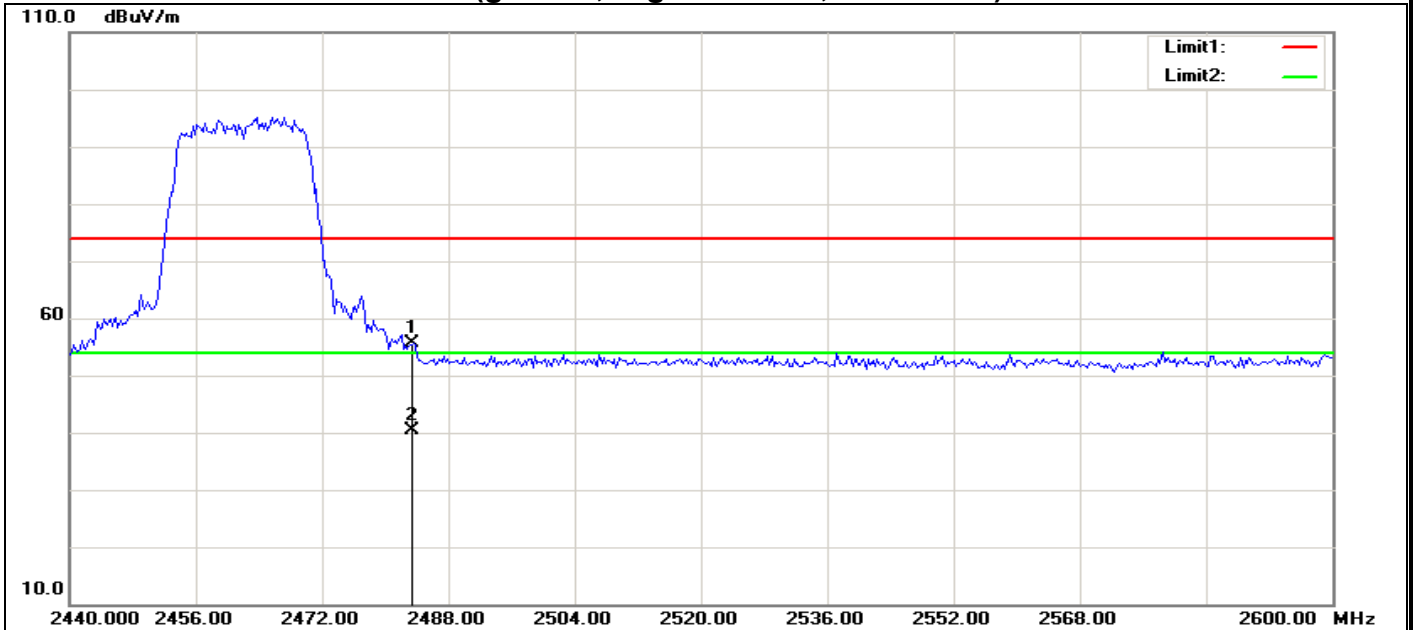
RESTRICTED BANDEDGE (g Mode, Low Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	86.64	-14.28	72.36	74.00	-1.64	100	354	peak
2	2390.000	61.37	-14.28	47.09	54.00	-6.91	100	354	AVG

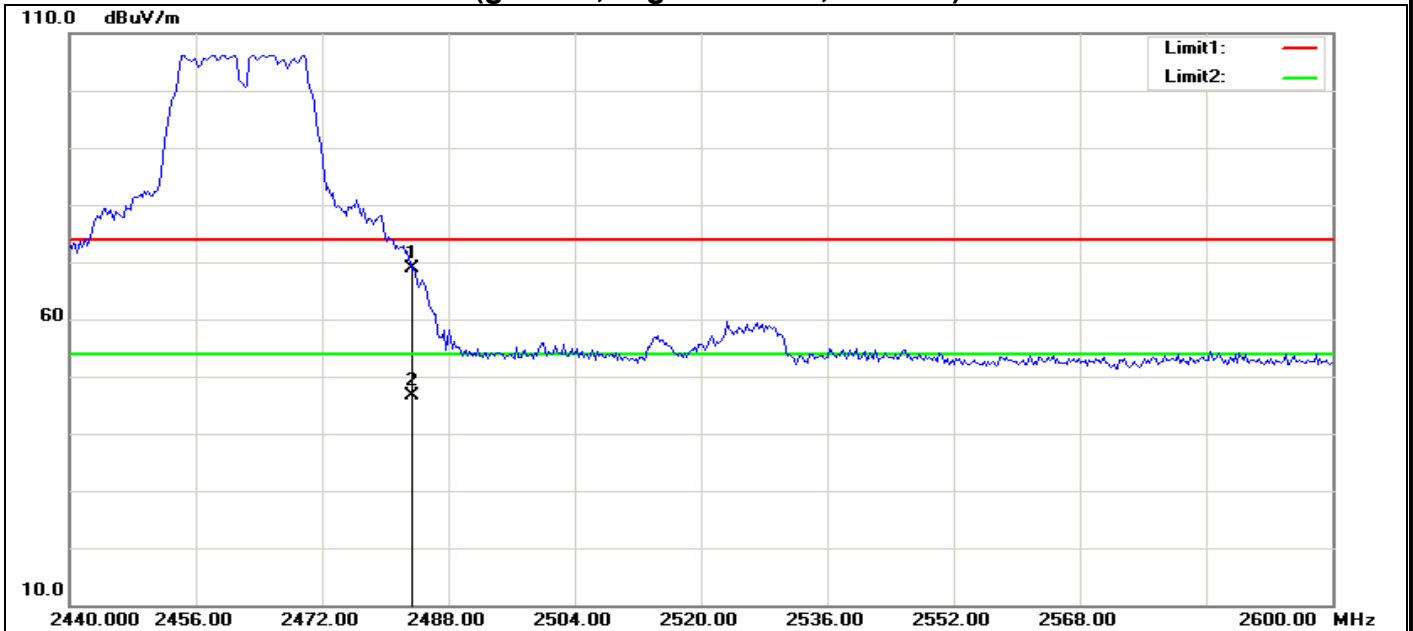


RESTRICTED BANDEDGE (g Mode, High Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	69.23	-13.65	55.58	74.00	-18.42	100	304	peak
2	2483.500	53.96	-13.65	40.31	54.00	-13.69	100	303	AVG

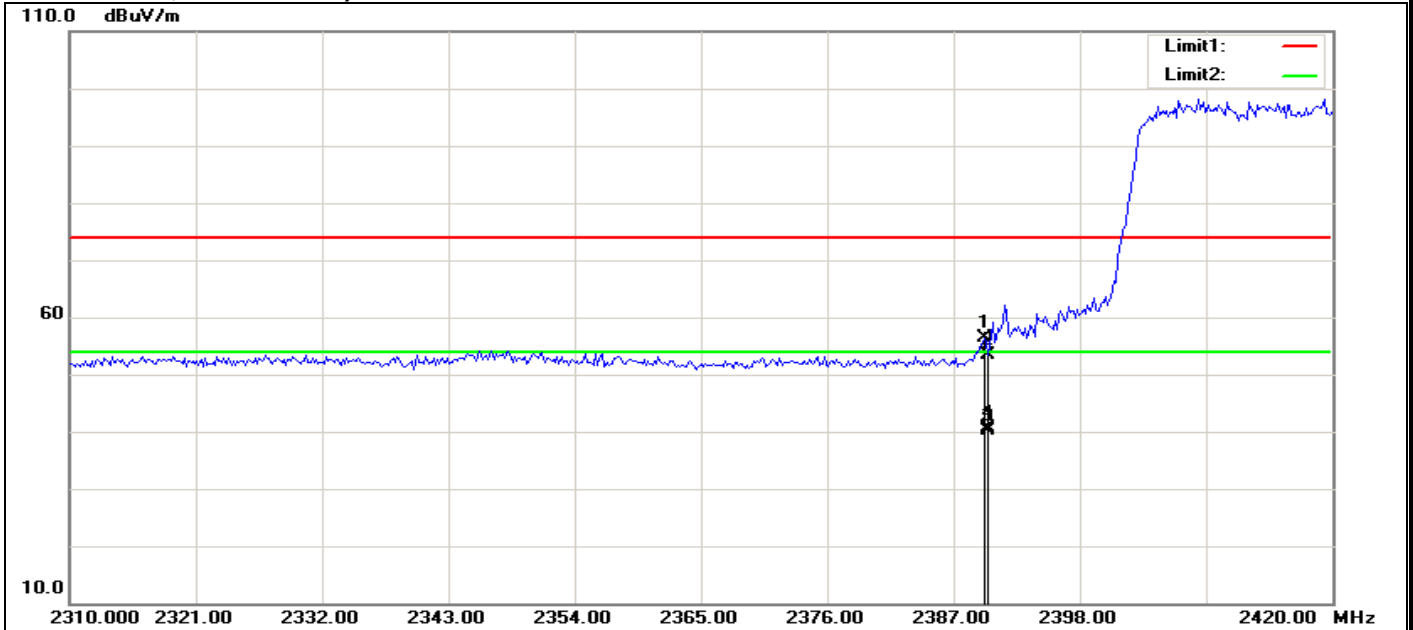
RESTRICTED BANDEDGE (g Mode, High Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	82.62	-13.65	68.97	74.00	-5.03	100	357	peak
2	2483.500	60.38	-13.65	46.73	54.00	-7.27	100	357	AVG

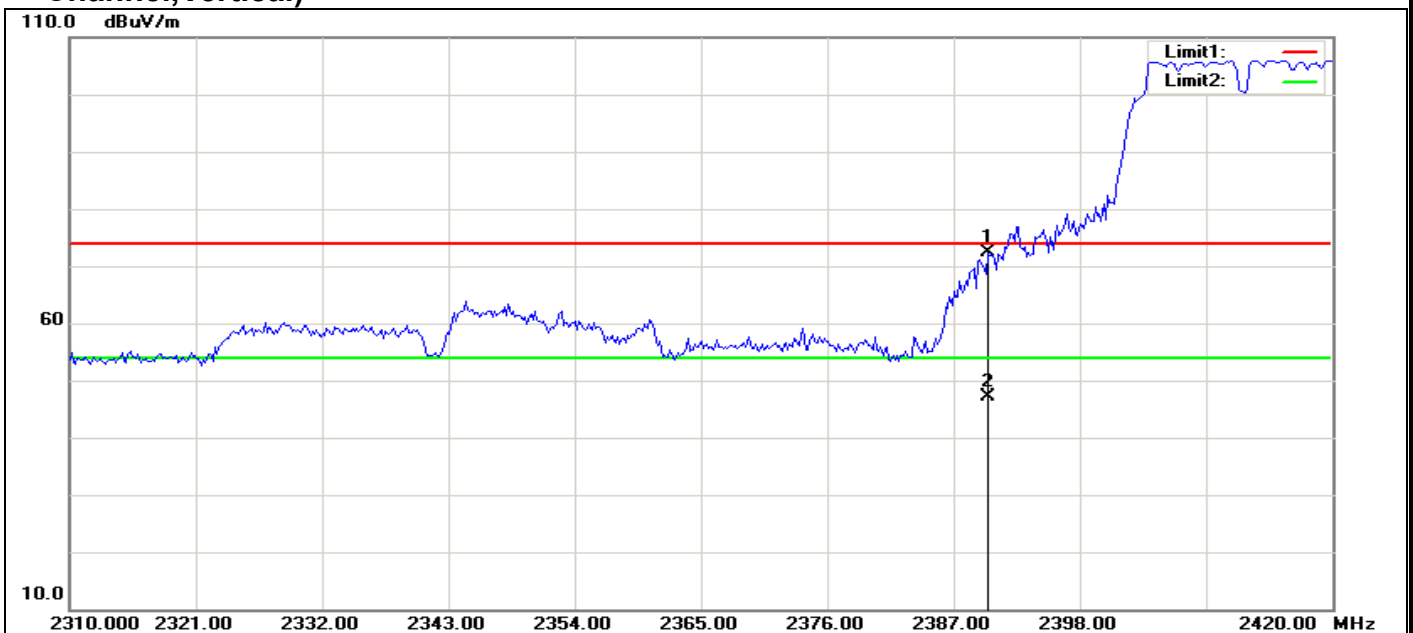


RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, Low Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2389.680	70.76	-14.28	56.48	74.00	-17.52	100	309	peak
2	2390.000	67.57	-14.28	53.29	74.00	-20.71	100	249	peak
3	2390.000	54.40	-14.28	40.12	54.00	-13.88	100	249	AVG
4	2390.000	54.80	-14.28	40.52	54.00	-13.48	100	309	AVG

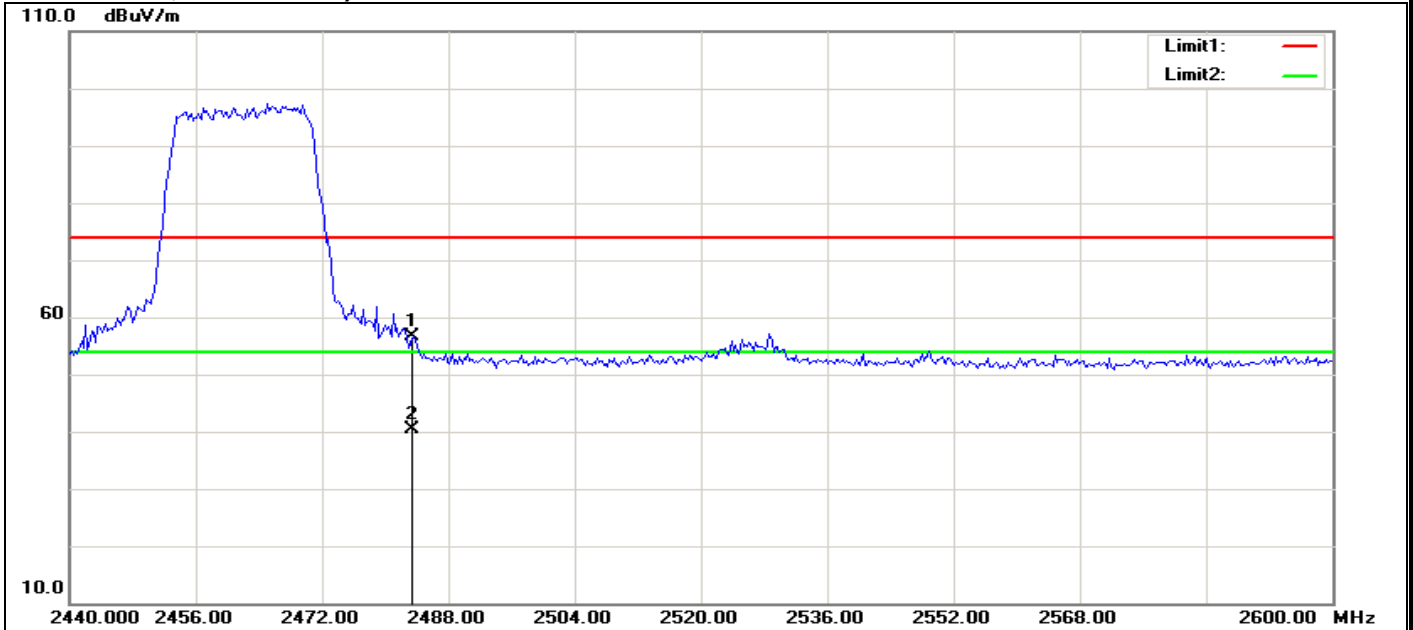
RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, Low Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	86.77	-14.28	72.49	74.00	-1.51	100	174	peak
2	2390.000	61.32	-14.28	47.04	54.00	-6.96	100	175	AVG

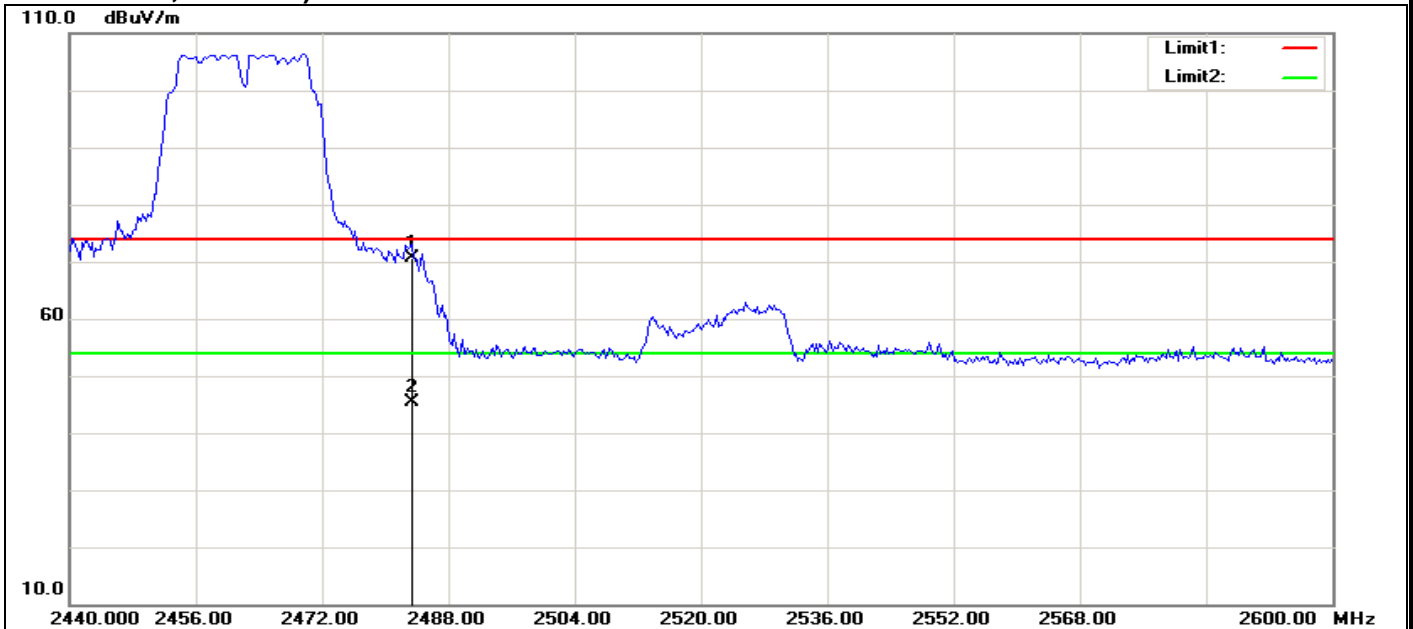


RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, High Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	70.27	-13.65	56.62	74.00	-17.38	100	297	peak
2	2483.500	54.06	-13.65	40.41	54.00	-13.59	100	298	AVG

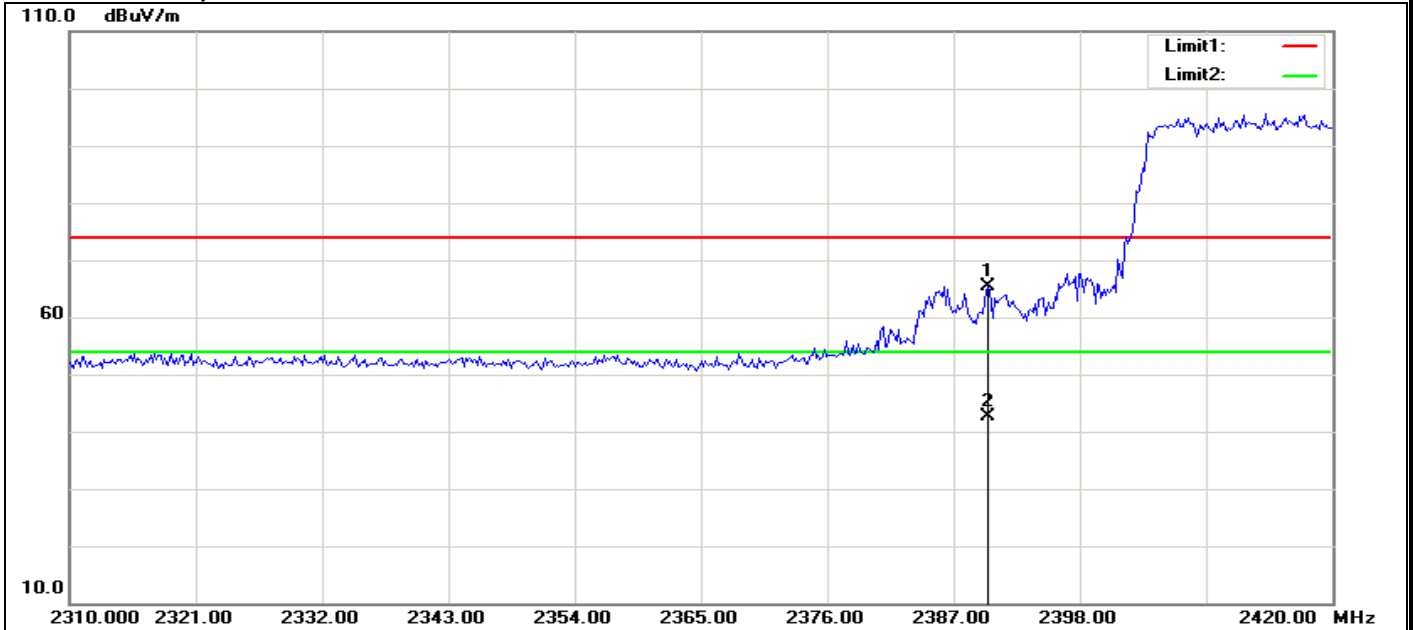
RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, High Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	84.18	-13.65	70.53	74.00	-3.47	100	360	peak
2	2483.500	59.04	-13.65	45.39	54.00	-8.61	100	360	AVG

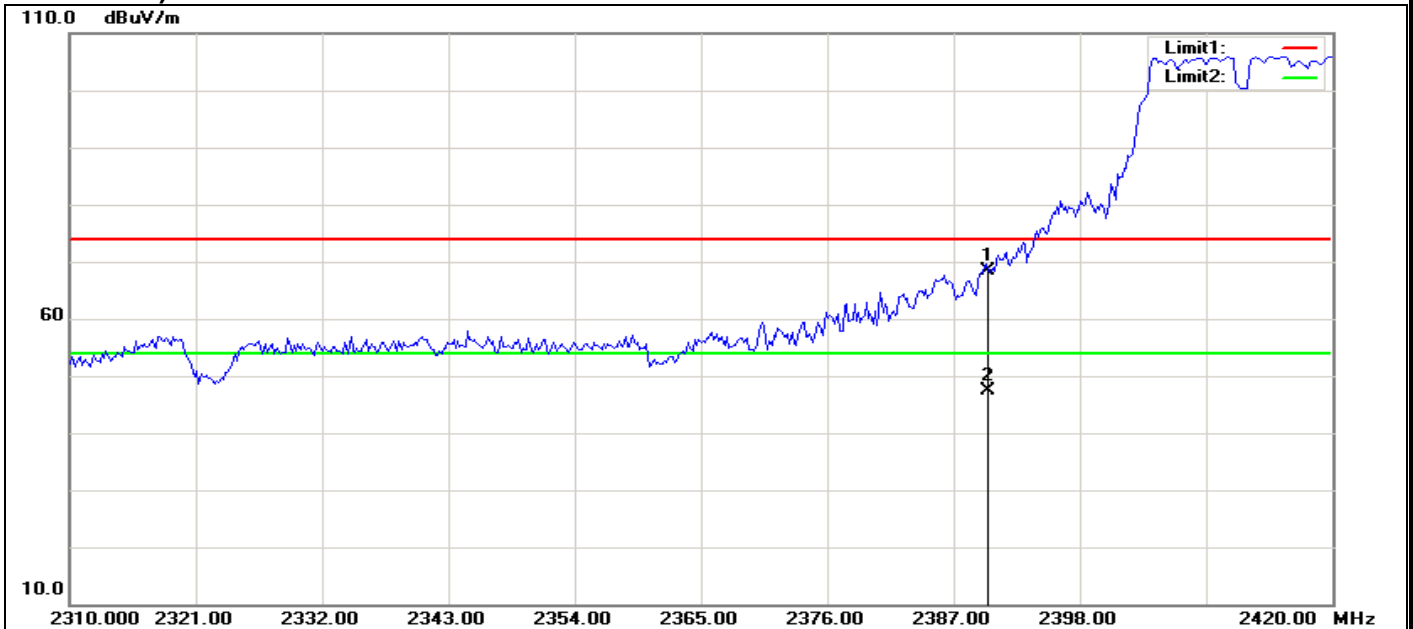


RESTRICTED BANDEDGE (draft 802.11n Wide-20 MHz Channel mode, Low Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	79.62	-14.28	65.34	74.00	-8.66	100	307	peak
2	2390.000	56.97	-14.28	42.69	54.00	-11.31	100	306	AVG

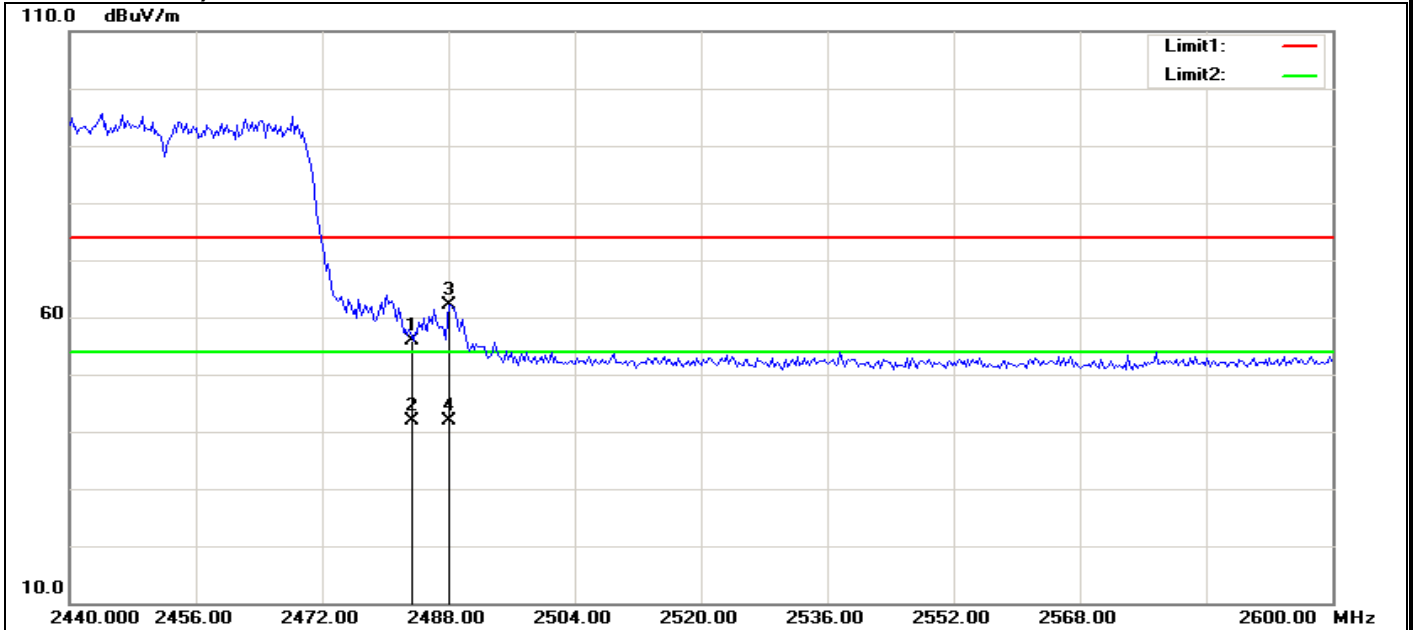
RESTRICTED BANDEDGE (draft 802.11n Wide-20 MHz Channel mode,Low Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	82.65	-14.28	68.37	74.00	-5.63	100	160	peak
2	2390.000	61.63	-14.28	47.35	54.00	-6.65	99	160	AVG



RESTRICTED BANDEDGE (draft 802.11n Wide-20 MHz Channel mode, High Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	69.59	-13.65	55.94	74.00	-18.06	100	283	peak
2	2483.500	55.49	-13.65	41.84	54.00	-12.16	99	283	AVG
3	2488.205	75.81	-13.62	62.19	74.00	-11.81	100	304	peak
4	2488.205	55.50	-13.62	41.88	54.00	-12.12	102	304	AVG

RESTRICTED BANDEDGE (n HT40 Mode, High Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	84.04	-13.65	70.39	74.00	-3.61	100	354	peak
2	2483.500	63.16	-13.65	49.51	54.00	-4.49	99	353	AVG



Compliance Certification Services Inc.

Report No: C131228R01-RPW

FCC ID: RS3TA04GTF1

Date of Issue :January 13, 2014

Below 1GHz

Operation Mode: Normal Link **Test Date:** 2014-1-09
Temperature: 22°C **Tested by:** Blent.Wang
Humidity: 48% RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
159.9800	H	16.34	13.44	29.78	43.50	-13.72	peak
212.3600	H	17.18	13.18	30.36	43.50	-13.14	peak
282.2000	H	19.89	15.20	35.09	46.00	-10.91	peak
408.3000	H	15.49	18.36	33.85	46.00	-12.15	peak
457.7700	H	17.27	19.21	36.48	46.00	-9.52	peak
834.1300	H	14.21	24.88	39.09	46.00	-6.91	peak
30.0000	V	13.10	22.71	35.81	40.00	-4.19	peak
58.1300	V	25.51	8.09	33.60	40.00	-6.40	peak
70.7400	V	20.29	9.55	29.84	40.00	-10.16	peak
79.4700	V	19.84	10.00	29.84	40.00	-10.16	peak
458.7400	V	14.87	19.21	34.08	46.00	-11.92	peak
833.1600	V	14.26	24.86	39.12	46.00	-6.88	peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz (No emission found between lowest internal used/generated frequency to 30 MHz).
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. 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.
4. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).



Compliance Certification Services Inc.

Report No: C131228R01-RPW

FCC ID: RS3TA04GTF1

Date of Issue :January 13, 2014

Above 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low

Test Date: 2014-1-09

Temperature: 22°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	59.27	-8.00	51.27	74.00	-22.73	100	123	peak
2	7511.218	47.32	-0.26	47.06	74.00	-26.94	100	146	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	65.13	-8.00	57.13	74.00	-16.87	100	142	peak
2	7511.218	45.72	-0.26	45.46	74.00	-28.54	100	187	peak

Operation Mode: TX / IEEE 802.11b / CH Mid

Test Date: 2014-1-09

Temperature: 22°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.590	58.43	-7.72	50.71	74.00	-23.29	100	128	peak
2	7483.974	46.48	-0.34	46.14	74.00	-27.86	100	145	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.590	64.67	-7.72	56.95	74.00	-17.05	100	157	peak
2	7483.974	46.89	-0.34	46.55	74.00	-27.45	100	156	peak

Operation Mode: TX / IEEE 802.11b / CH High

Test Date: 2014-1-09

Temperature: 22°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4923.077	53.39	-7.57	45.82	74.00	-28.18	100	129	peak
2	7483.974	46.75	-0.34	46.41	74.00	-27.59	100	136	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4923.077	57.97	-7.57	50.40	74.00	-23.60	100	136	peak
2	7266.026	45.90	-0.77	45.13	74.00	-28.87	100	241	peak



Compliance Certification Services Inc.

Report No: C131228R01-RPW

FCC ID: RS3TA04GTF1

Date of Issue :January 13, 2014

Operation Mode: TX / IEEE 802.11g / CH Low

Test Date: 2014-1-09

Temperature: 24°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	59.46	-8.00	51.46	74.00	-22.54	100	125	peak
2	7483.974	46.66	-0.34	46.32	74.00	-27.68	100	283	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	65.36	-8.00	57.36	74.00	-16.64	100	167	peak
2	7483.974	46.18	-0.34	45.84	74.00	-28.16	100	157	peak

Operation Mode: TX / IEEE 802.11g / CH Mid

Test Date: 2014-1-09

Temperature: 24°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.590	56.75	-7.72	49.03	74.00	-24.97	100	300	peak
2	7701.923	46.60	0.67	47.27	74.00	-26.73	100	264	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.833	56.21	-7.72	48.49	74.00	-25.51	100	139	peak
2	7266.026	45.42	-0.77	44.65	74.00	-29.35	100	351	peak

Operation Mode: TX / IEEE 802.11g / CH High

Test Date: 2014-1-09

Temperature: 24°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4895.833	50.71	-7.58	43.13	74.00	-30.87	100	130	peak
2	7483.974	46.60	-0.34	46.26	74.00	-27.74	100	189	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4923.077	56.84	-7.57	49.27	74.00	-24.73	100	155	peak
2	7347.756	45.89	-0.77	45.12	74.00	-28.88	100	270	peak



Compliance Certification Services Inc.

Report No: C131228R01-RPW

FCC ID: RS3TA04GTF1

Date of Issue :January 13, 2014

Operation Mode: TX / draft 802.11gn Standard-20 MHz Channel mode (Chain 0 + Chain 1) / CH Low

Test Date: 2014-1-09

Temperature: 22°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	51.66	-8.00	43.66	74.00	-30.34	100	103	peak
2	7483.974	47.24	-0.34	46.90	74.00	-27.10	100	184	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	56.84	-8.00	48.84	74.00	-25.16	100	271	peak
2	7347.756	46.63	-0.77	45.86	74.00	-28.14	100	174	peak

Operation Mode: TX / draft 802.11gn Standard-20 MHz Channel mode (Chain 0 + Chain 1) / CH Mid

Test Date: 2014-1-09

Temperature: 22°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.103	52.62	-7.72	44.90	74.00	-29.10	100	159	peak
2	7483.974	46.44	-0.34	46.10	74.00	-27.90	100	281	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.103	58.38	-7.72	50.66	74.00	-23.34	100	165	peak
2	7048.077	46.72	-1.16	45.56	74.00	-28.44	187	0	peak

Operation Mode: TX / draft 802.11gn Standard-20 MHz Channel mode (Chain 0 + Chain 1) / CH High

Test Date: 2014-1-09

Temperature: 22°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	49.46	-7.60	41.86	74.00	-32.14	117	0	peak
2	7483.974	45.73	-0.34	45.39	74.00	-28.61	100	141	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.590	57.79	-7.72	50.07	74.00	-23.93	100	170	peak
2	7511.218	45.66	-0.26	45.40	74.00	-28.60	200	361	peak



Compliance Certification Services Inc.

Report No: C131228R01-RPW

FCC ID: RS3TA04GTF1

Date of Issue :January 13, 2014

Operation Mode: TX / draft 802.11gn Wide-40 MHz Channel mode (Chain 0 + Chain 1) / CH Low

Test Date: 2014-1-09

Temperature: 24°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	50.96	-7.60	43.36	74.00	-30.64	100	172	peak
2	7483.974	46.56	-0.34	46.22	74.00	-27.78	100	130	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4841.346	56.32	-7.86	48.46	74.00	-25.54	100	100	peak
2	7211.538	46.09	-0.59	45.50	74.00	-28.50	100	220	peak

Operation Mode: TX / draft 802.11gn Wide-40 MHz Channel mode (Chain 0 + Chain 1) / CH Mid

Test Date: 2014-1-09

Temperature: 24°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.590	50.46	-7.72	42.74	74.00	-31.26	100	360	peak
2	7483.974	46.84	-0.34	46.50	74.00	-27.50	100	133	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4868.590	55.43	-7.72	47.71	74.00	-26.29	100	172	peak
2	7402.244	46.71	-0.66	46.05	74.00	-27.95	100	106	peak

Operation Mode: TX / draft 802.11gn Wide-40 MHz Channel mode (Chain 0 + Chain 1) / CH High

Test Date: 2014-1-09

Temperature: 24°C

Tested by: Blent.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4895.833	50.61	-7.58	43.03	74.00	-30.97	100	295	peak
2	7238.782	46.47	-0.68	45.79	74.00	-28.21	100	92	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4895.833	56.12	-7.58	48.54	74.00	-25.46	100	0	peak
2	7266.026	46.31	-0.77	45.54	74.00	-28.46	100	360	peak



7.6 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 1 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



Compliance Certification Services Inc.

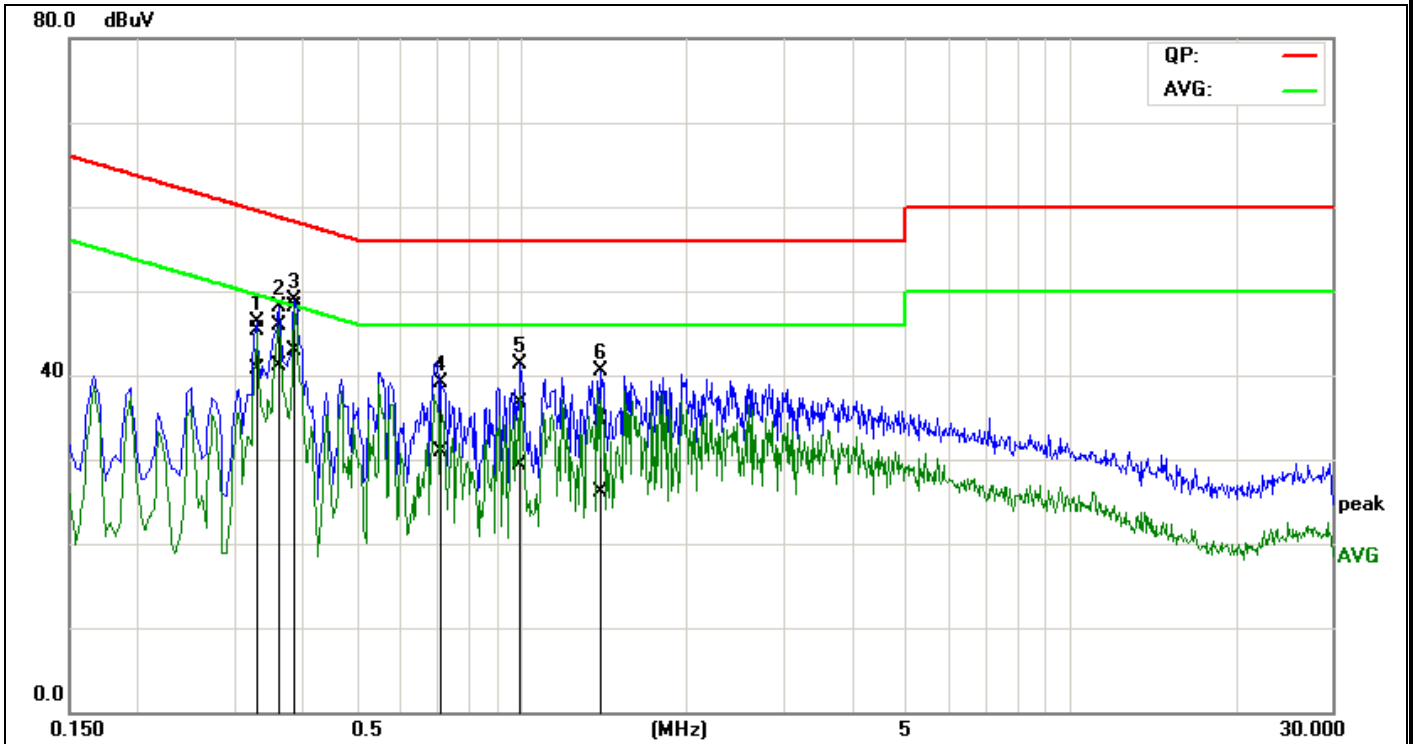
Report No: C131228R01-RPW

FCC ID: RS3TA04GTF1

Date of Issue :January 13, 2014

Job No.:	C131228R01-RPW	Date:	2013-12-30
Standard:	FCC Class B	Time:	15:32:29
Test item:	Conduction test	Temp.(C)/Hum.(%):	22(C)/48%
Line:	L1	Test By:	Blent.Wang
Model:	TA04G-TF1DJ	Test Voltage:	AC 120V/60Hz

L1



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.3319	25.55	21.07	19.70	45.25	40.77	59.40	49.40	-14.15	-8.63	Pass
2	0.3611	26.27	21.37	19.72	45.99	41.09	58.70	48.70	-12.71	-7.61	Pass
3*	0.3847	28.46	23.23	19.74	48.20	42.97	58.18	48.18	-9.98	-5.21	Pass
4	0.7145	19.34	11.15	19.83	39.17	30.98	56.00	46.00	-16.83	-15.02	Pass
5	0.9989	16.81	9.38	19.84	36.65	29.22	56.00	46.00	-19.35	-16.78	Pass
6	1.4070	14.88	6.17	19.88	34.76	26.05	56.00	46.00	-21.24	-19.95	Pass

Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).



Compliance Certification Services Inc.

Report No: C131228R01-RPW

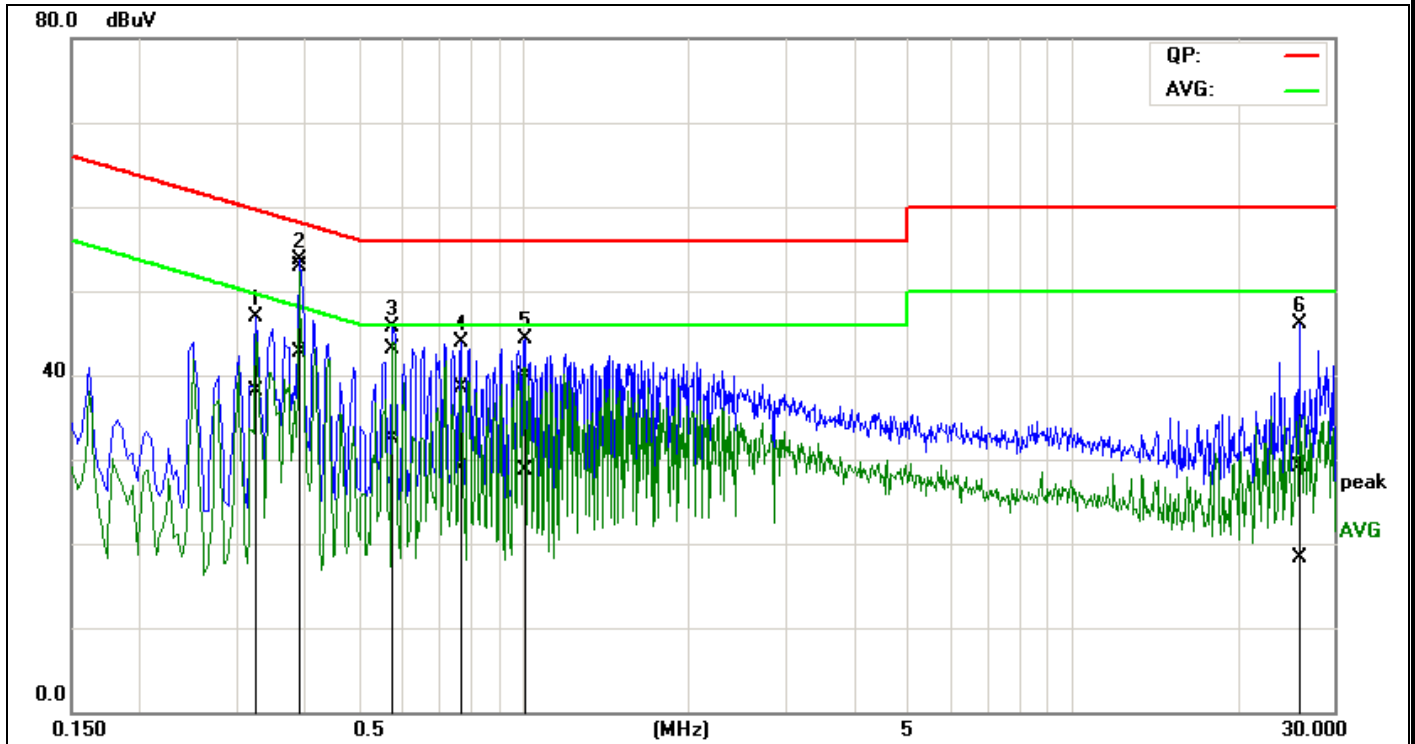
FCC ID: RS3TA04GTF1

Date of Issue :January 13, 2014

Job No.: C131228R01-RPW
 Standard: FCC Class B
 Test item: Conduction test
 Line: L2
 Model: TA04G-TF1DJ

Date: 2013-12-30
 Time: 15:36:59
 Temp.(C)/Hum.(%): 22(C)/48%
 Test By: Blent.Wang
 Test Voltage: AC 120V/60Hz

L2



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.3260	27.20	18.33	19.73	46.93	38.06	59.55	49.55	-12.62	-11.49	Pass
2*	0.3896	33.15	23.01	19.77	52.92	42.78	58.07	48.07	-5.15	-5.29	Pass
3	0.5783	23.34	12.68	19.85	43.19	32.53	56.00	46.00	-12.81	-13.47	Pass
4	0.7551	18.73	9.07	19.83	38.56	28.90	56.00	46.00	-17.44	-17.10	Pass
5	0.9917	20.02	8.94	19.82	39.84	28.76	56.00	46.00	-16.16	-17.24	Pass
6	25.8311	78.88	-2.97	21.24	29.12	18.27	60.00	50.00	-30.88	-31.73	Pass

Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

END OF REPORT