



FCC Radio Test Report

For

Product Name: Tablet

Brand Name: PCD

Model No.: Q PAD

Series Model:N/A

FCC ID: ZTP-QPAD

**Test Report Number:
C141224R01-RPW**

Issued for

Technology Brokers, INC

7412 SW 48ST Suite B, Miami, FL, 33133

Issued by

Compliance Certification Services Inc.

Kun shan Laboratory

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TESTING CERT #2541.01

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	December 25, 2014	C141224R01-RPW	ALL	N/A



TABLE OF CONTENTS

1.	TEST RESULT CERTIFICATION.....	4
2.	EUT DESCRIPTION.....	5
3.	TEST METHODOLOGY	6
3.1.	EUT CONFIGURATION	6
3.2.	EUT EXERCISE	6
3.3.	GENERAL TEST PROCEDURES.....	6
3.4.	FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS.....	7
3.5.	DESCRIPTION OF TEST MODES.....	8
3.6.	ANTENNA DESCRIPTION	9
4.	INSTRUMENT CALIBRATION.....	9
4.1.	MEASURING INSTRUMENT CALIBRATION	9
5.	FACILITIES AND ACCREDITATIONS	11
5.1.	FACILITIES	11
5.2.	EQUIPMENT.....	11
5.3.	LABORATORY ACCREDITATIONS AND LISTING	11
5.4.	TABLE OF ACCREDITATIONS AND LISTINGS	12
6.	SETUP OF EQUIPMENT UNDER TEST.....	13
6.1.	SETUP CONFIGURATION OF EUT.....	13
6.2.	SUPPORT EQUIPMENT.....	13
7.	FCC PART 15.247 REQUIREMENTS.....	14
7.1.	6DB BANDWIDTH MEASUREMENT.....	14
7.2.	PEAK POWER	22
7.3.	PEAK POWER SPECTRAL DENSITY	24
7.4.	SPURIOUS EMISSIONS	32
7.5.	RADIATED EMISSIONS.....	55
7.6.	POWERLINE CONDUCTED EMISSIONS	73



1. TEST RESULT CERTIFICATION

Product Name:	Tablet
Trade Name:	PCD
Model Name.:	Q PAD
Series Model:	N/A
Applicant Discrepancy:	Initial
Device Category:	Mobile unit
Date of Test:	December 24, 2014
Applicant:	Technology Brokers, INC 7412 SW 48ST Suite B, Miami, FL, 33133
Manufacturer:	Technology Brokers, INC 7412 SW 48ST Suite B, Miami, FL, 33133
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:

James.Yan
Test Engineer
Compliance Certification Service Inc.



2. EUT DESCRIPTION

Product Name:	Tablet
Brand Name:	PCD
Model Name:	Q PAD
Series Model:	N/A
Model Discrepancy:	N/A
Hardware Version	KT837701
Software Version	M6502W_01_V006
Power Adapter Power Rating :	Power supply and ADP (rating) : Model : RYH60US0500100A Input: 100-240VAC 50/60HZ 0.2A Output: DC5.0V 1A Battery (rating) : Capacitance: 3500mAh 3.7V
Frequency Range:	IEEE 802.11b/g: 2412MHz to 2462 MHz IEEE 802.11n HT20: 2412MHz to 2462 MHz IEEE 802.11n HT40: 2422MHz to 2452 MHz
Transmit Power:	IEEE 802.11b mode: 16.92 dBm IEEE 802.11g mode: 13.68 dBm IEEE 802.11n HT20 mode: 13.65 dBm IEEE 802.11n HT40 mode: 11.75 dBm
Modulation Technique:	802.11b mode: DSSS (1,2,5.5 and 11 Mbps) 802.11g mode: DSSS /OFDM (6,9,12,18,24,36,48 and 54 Mbps) 802.11n HT20 mode: OFDM (MCS0~MCS7) 802.11n HT40 mode: OFDM (MCS0~MCS7)
Number of Channels:	IEEE 802.11b/g/n HT20 mode: 11 Channels IEEE 802.11n HT40 mode: 7 Channels
Antenna Specification:	PIFA Antenna for 2.4GHz Gain 1 dBi

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: ZTP-QPAD** 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 2009 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

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

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.DESRIPTION OF TEST MODES

The EUT transmitting and receiving with one antenna simultaneously working at b/g/n mode, so 1x1 configuration was used for all testing in this report.

The worst-case data rates are determined to be as follows for each mode based on investigation by measuring the average power, peak power and PPSD across all data rates, bandwidths, and modulations.

The worst-case data rates:

IEEE802.11b mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 1Mbps data rate was chosen for full testing.

IEEE802.11g mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 6Mbps data rate was chosen for full testing.

IEEE 802.11 HT20 Channel mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with MCS0 data rate was chosen for full testing.

IEEE 802.11 HT40 Channel mode:

Channel Low (2422MHz)

Channel Mid (2437MHz)

Channel High (2452MHz) with MCS0 data rate was chosen for full testing.



3.6.ANTENNA DESCRIPTION

According to FCC 47 CFR 15.203

“an intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached or an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section”

- * the antenna of this EUT is a unique(PIFA Antenna).
- * the EUT complies with the requirement of 15.203.



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	2015-4-9
DETECTOR NEGATIVE	Agilent	8473B	MY42240176	2015-5-11
OSCILLOSCOPE	Agilent	DSO6104A	MY44002585	2015-3-16
MIMO Power Measurement Test Set	Agilent	U2021XA	MY53120005	2015-7-3
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	N.C.R
DC Power Supply	AGILENT	E3632A	MY50340053	N.C.R
Temp. / Humidity Chamber	TERCHY	MHK-120AK	X30109	2015-1-22
Test Software	EZ-EMC			

977 Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-4-9
EMI Test Receiver	R&S	ESCI	101378	2015-1-22
Pre-Amplifier	MINI	ZFL-1000VH2	d041703	2015-1-22
Pre-Amplifier	Miteq	JS41-00101800-32-10P	1675713	2015-1-22
Bilog Antenna	Sunol	JB1	A062604	2015-3-6
Horn-antenna	SCHWARZBECK	BBHA9120D	D:266	2015-3-7
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	ESCI	100781	2015-3-16
V (V-LISN)	SCHWARZBECK	NNLK 8129	8129-143	N.C.R
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	05012	2015-3-16
Pulse LIMITER	R&S	ESH3-Z2	100524	2015-9-24
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 :2009); 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	 TESTING CERT #2541.01
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	 93105, 90471
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	VCCI R-1600 C-1707 G-216

* 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 DOC
1.	N/A				

Remark:

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



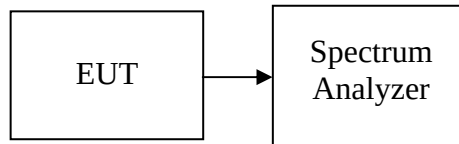
7. FCC PART 15.247 REQUIREMENTS

7.1. 6DB BANDWIDTH MEASUREMENT

LIMIT

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

Test Configuration



TEST PROCEDURE

1. The transmitter output is connected to the spectrum analyzer. Set RBW = 100 kHz. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Sweep = auto couple.



TEST RESULTS

No non-compliance noted

Test Data

IEEE 802.11b mode

Channel	Frequency (MHz)	Bandwidth(B) (MHz)	6dB Bandwidth Min. Limit(MHz)
Low	2412	10.095	0.5
Mid	2437	9.599	0.5
High	2462	9.996	0.5

IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth(B) (MHz)	6dB Bandwidth Min. Limit(MHz)
Low	2412	15.226	0.5
Mid	2437	14.898	0.5
High	2462	15.227	0.5

IEEE 802.11 HT20 Channel mode

Channel	Frequency (MHz)	Bandwidth(B) (MHz)	6dB Bandwidth Min. Limit(MHz)
Low	2412	15.177	0.5
Mid	2437	15.205	0.5
High	2462	15.256	0.5

IEEE 802.11 HT40 Channel mode

Channel	Frequency (MHz)	Bandwidth(B) (MHz)	6dB Bandwidth Min. Limit(MHz)
Low	2422	35.350	0.5
Mid	2437	35.346	0.5
High	2452	35.176	0.5



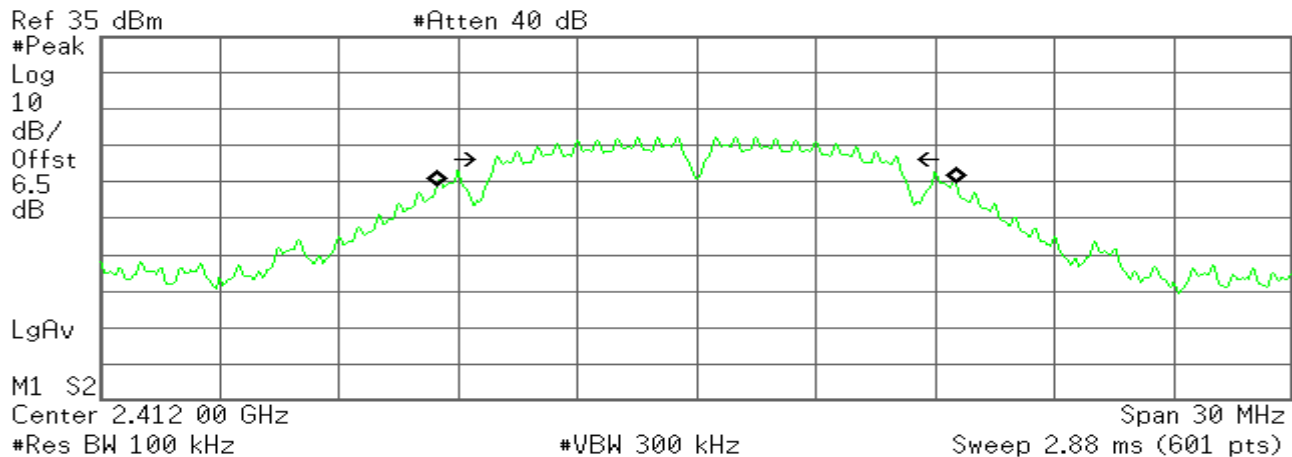
Test Plot

IEEE 802.11b MODE

6dB Bandwidth (CH Low)

* Agilent

R T



Occupied Bandwidth
13.1215 MHz

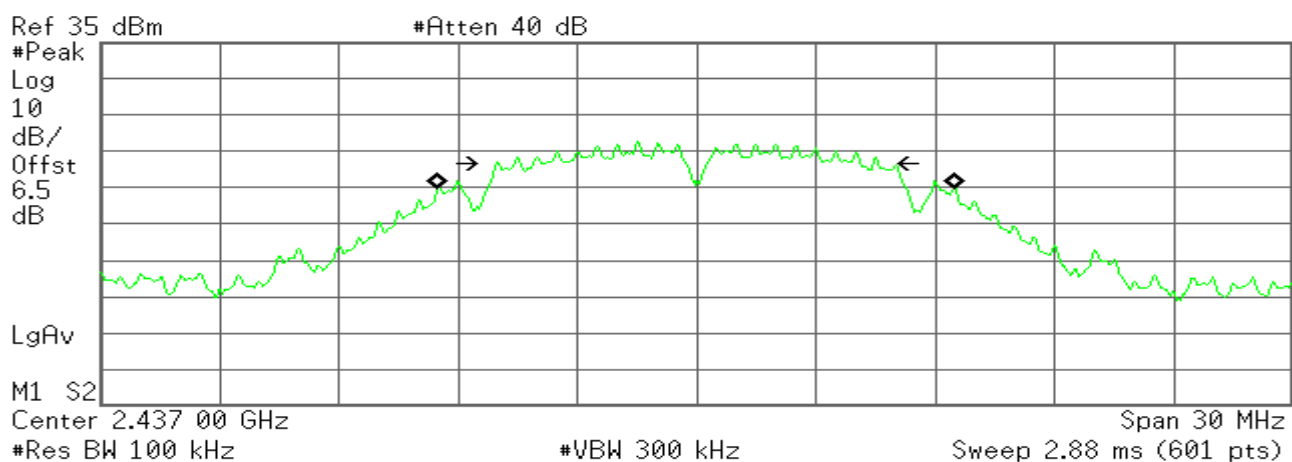
Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error -8.508 kHz
x dB Bandwidth 10.095 MHz

6dB Bandwidth (CH Mid)

* Agilent

R T



Occupied Bandwidth
13.0612 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error -16.278 kHz
x dB Bandwidth 9.599 MHz



6dB Bandwidth (CH High)

* Agilent

R T

Ref 35 dBm

#Atten 40 dB

#Peak

Log

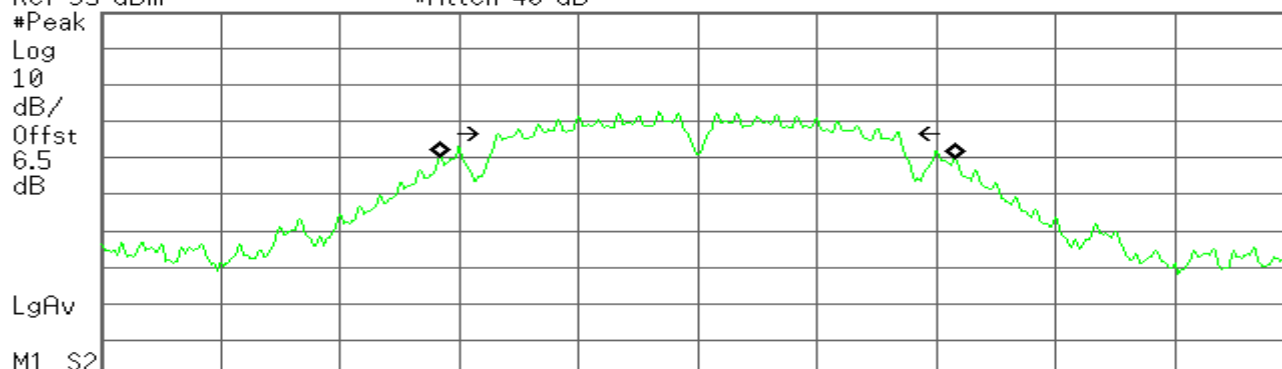
10

dB/

Offst

6.5

dB



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**13.0073 MHz****Occ BW % Pwr** 99.00 %
x dB -6.00 dB**Transmit Freq Error**

-10.026 kHz

x dB Bandwidth

9.996 MHz

IEEE 802.11g MODE

6dB Bandwidth (CH Low)

* Agilent

R T

Ref 35 dBm

#Atten 40 dB

#Peak

Log

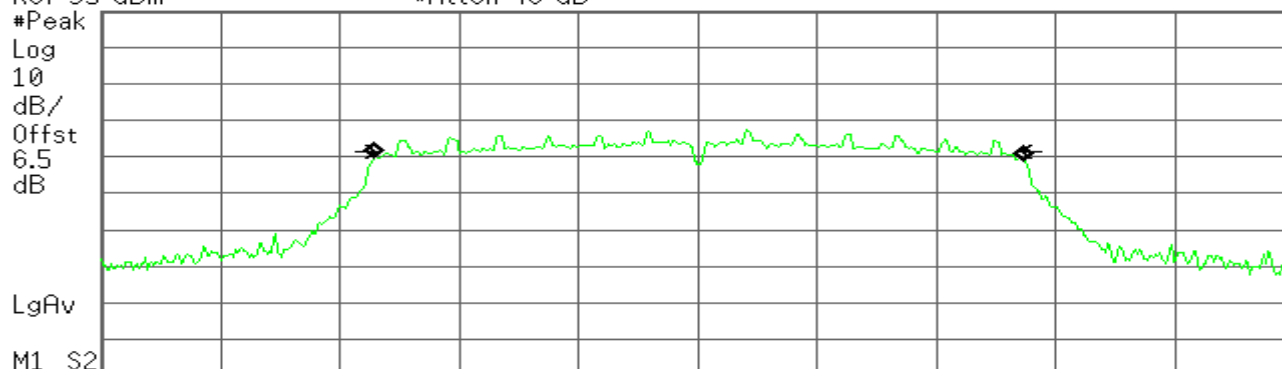
10

dB/

Offst

6.5

dB



M1 S2

Center 2.412 00 GHz

Span 30 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.88 ms (601 pts)

Occupied Bandwidth**16.3685 MHz****Occ BW % Pwr** 99.00 %
x dB -6.00 dB**Transmit Freq Error**

21.166 kHz

x dB Bandwidth

15.226 MHz



6dB Bandwidth (CH Mid)

Agilent

R T

Ref 35 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
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**
16.3962 MHz**Occ BW % Pwr** 99.00 %
x dB -6.00 dB**Transmit Freq Error** 1.746 kHz
x dB Bandwidth 14.898 MHz

6dB Bandwidth (CH High)

Agilent

R T

Ref 35 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB

LgAv

M1 S2

Center 2.462 00 GHz

#Res BW 100 kHz

#VBW 300 kHz

Span 30 MHz
Sweep 2.88 ms (601 pts)**Occupied Bandwidth**
16.3704 MHz**Occ BW % Pwr** 99.00 %
x dB -6.00 dB**Transmit Freq Error** -6.126 kHz
x dB Bandwidth 15.227 MHz

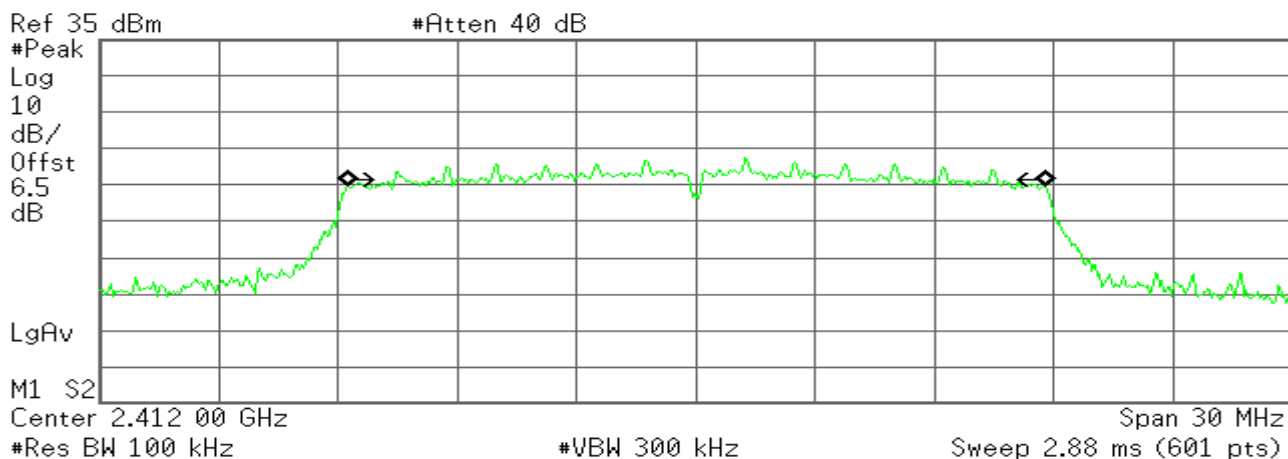


802.11n HT20 MHz Channel mode

6dB Bandwidth (CH Low)

Agilent

R T



Occupied Bandwidth
17.5443 MHz

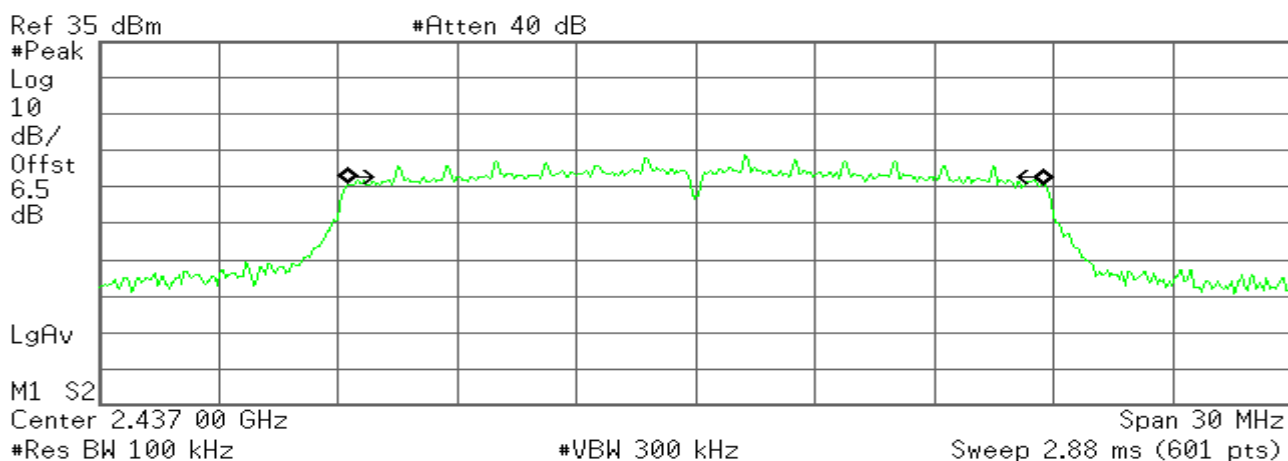
Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 3.854 kHz
x dB Bandwidth 15.177 MHz

6dB Bandwidth (CH Mid)

Agilent

R T



Occupied Bandwidth
17.5361 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 1.430 kHz
x dB Bandwidth 15.205 MHz



6dB Bandwidth (CH High)

Agilent

R T

Ref 35 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB

LgAv

M1 S2

Center 2.462 00 GHz

#Res BW 100 kHz

#VBW 300 kHz

Span 30 MHz
Sweep 2.88 ms (601 pts)**Occupied Bandwidth**
17.5232 MHz**Occ BW % Pwr** 99.00 %
x dB -6.00 dB**Transmit Freq Error** -1.153 kHz
x dB Bandwidth 15.256 MHz

802.11n HT40 MHz Channel mode

6dB Bandwidth (CH Low)

Agilent

R T

Ref 35 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB

LgAv

M1 S2

Center 2.422 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

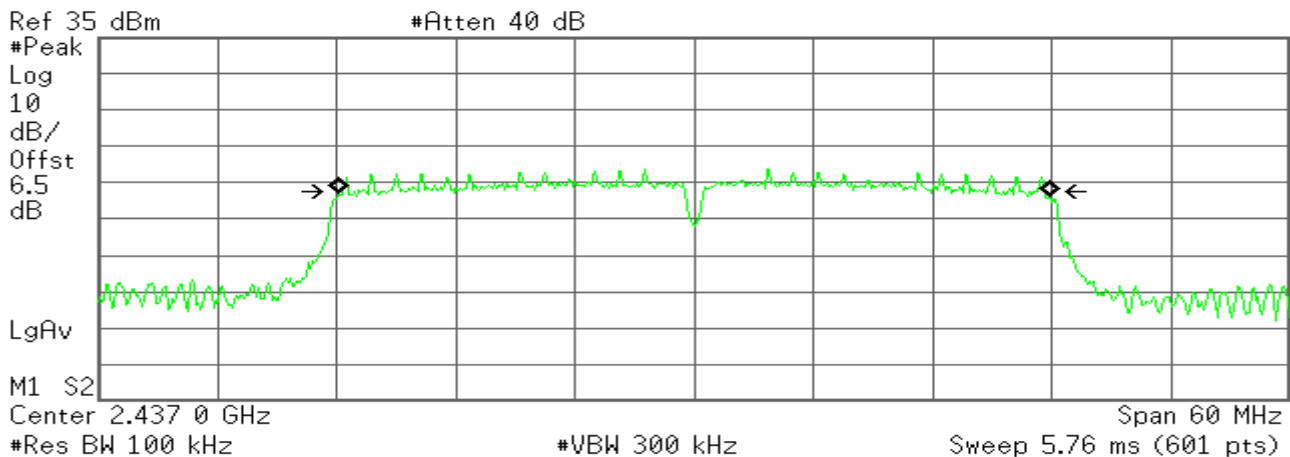
Span 60 MHz
Sweep 5.76 ms (601 pts)**Occupied Bandwidth**
35.7390 MHz**Occ BW % Pwr** 99.00 %
x dB -6.00 dB**Transmit Freq Error** -2.828 kHz
x dB Bandwidth 35.350 MHz



6dB Bandwidth (CH Mid)

Agilent

R T



Occupied Bandwidth
35.7908 MHz

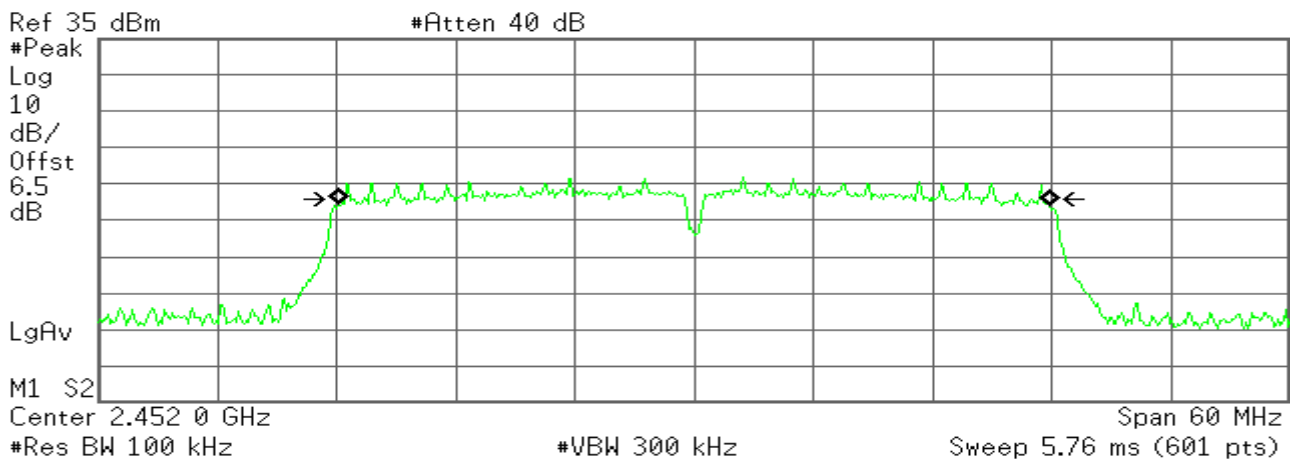
Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error -4.148 kHz
x dB Bandwidth 35.346 MHz

6dB Bandwidth (CH High)

Agilent

R T



Occupied Bandwidth
35.7863 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error -19.992 kHz
x dB Bandwidth 35.176 MHz



7.2. PEAK POWER

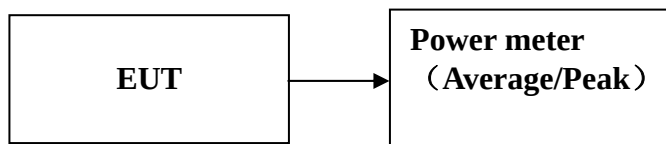
LIMIT

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

1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, and 2400-2483.5 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

1. The EUT transmitter output is connected to the Power meter.
The Power meter is set to the peak power detection.
2. The testing follows the Measurement Procedure FCC KDB No. 558074 D01 DTS Meas. Guidance v03r02. 9.1.2 PKPM1 Peak power meter method.

TEST RESULTS

No non-compliance noted



Test Data

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)
Low	2412	16.60	30
Mid	2437	16.39	30
High	2462	16.92	30

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)
Low	2412	12.32	30
Mid	2437	13.68	30
High	2462	12.53	30

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)
Low	2412	12.29	30
Mid	2437	13.65	30
High	2462	12.56	30

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)
Low	2422	9.53	30
Mid	2437	11.75	30
High	2452	9.74	30

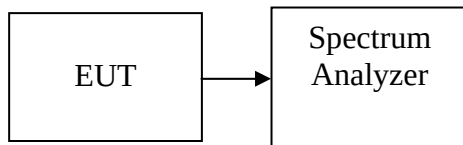


7.3. PEAK POWER SPECTRAL DENSITY

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

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 = 3 kHz, VBW = 10 kHz, Span = 1.5 times the DTS bandwidth, 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 802.11b mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-5.52	8.00	PASS
Mid	2437	-6.33	8.00	PASS
High	2462	-7.45	8.00	PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-12.61	8.00	PASS
Mid	2437	-11.81	8.00	PASS
High	2462	-11.73	8.00	PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-12.41	8.00	PASS
Mid	2437	-12.20	8.00	PASS
High	2462	-12.01	8.00	PASS

Test mode: IEEE 802.11n HT40 mode

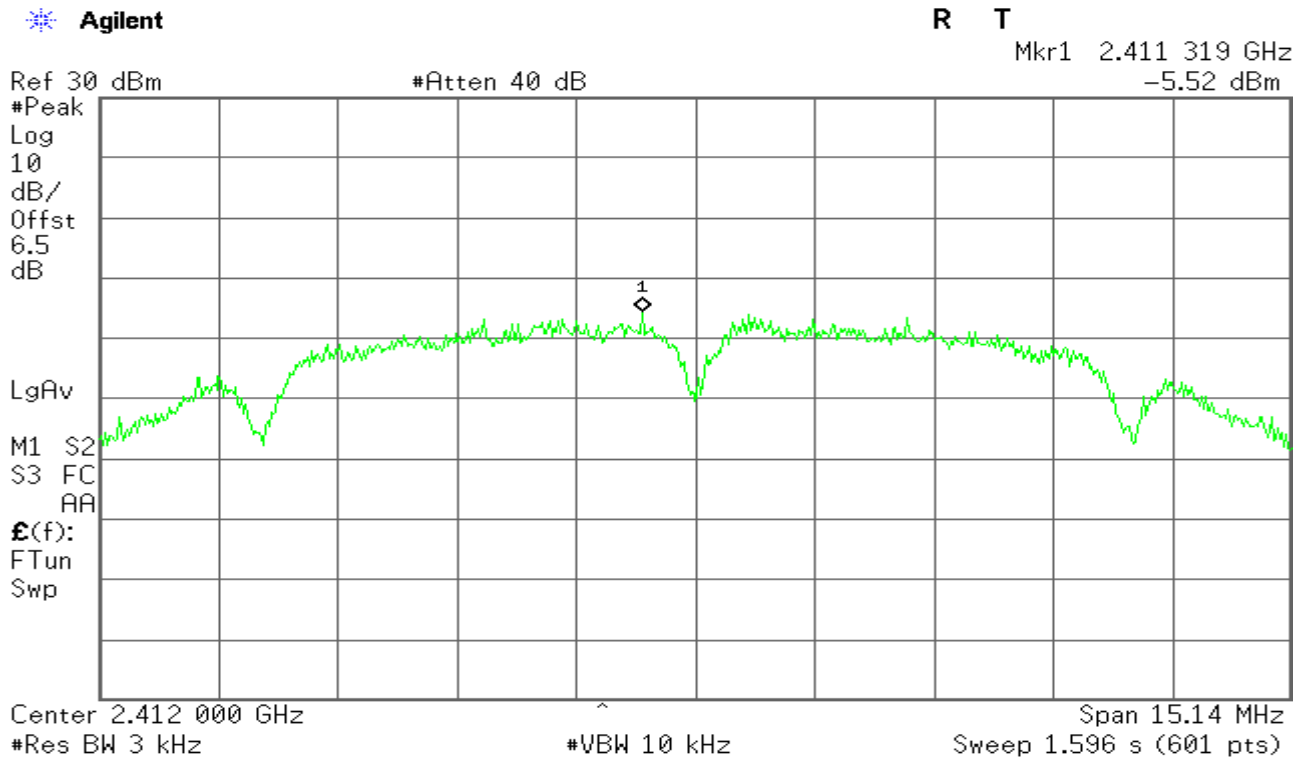
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2422	-18.22	8.00	PASS
Mid	2437	-16.90	8.00	PASS
High	2452	-18.28	8.00	PASS



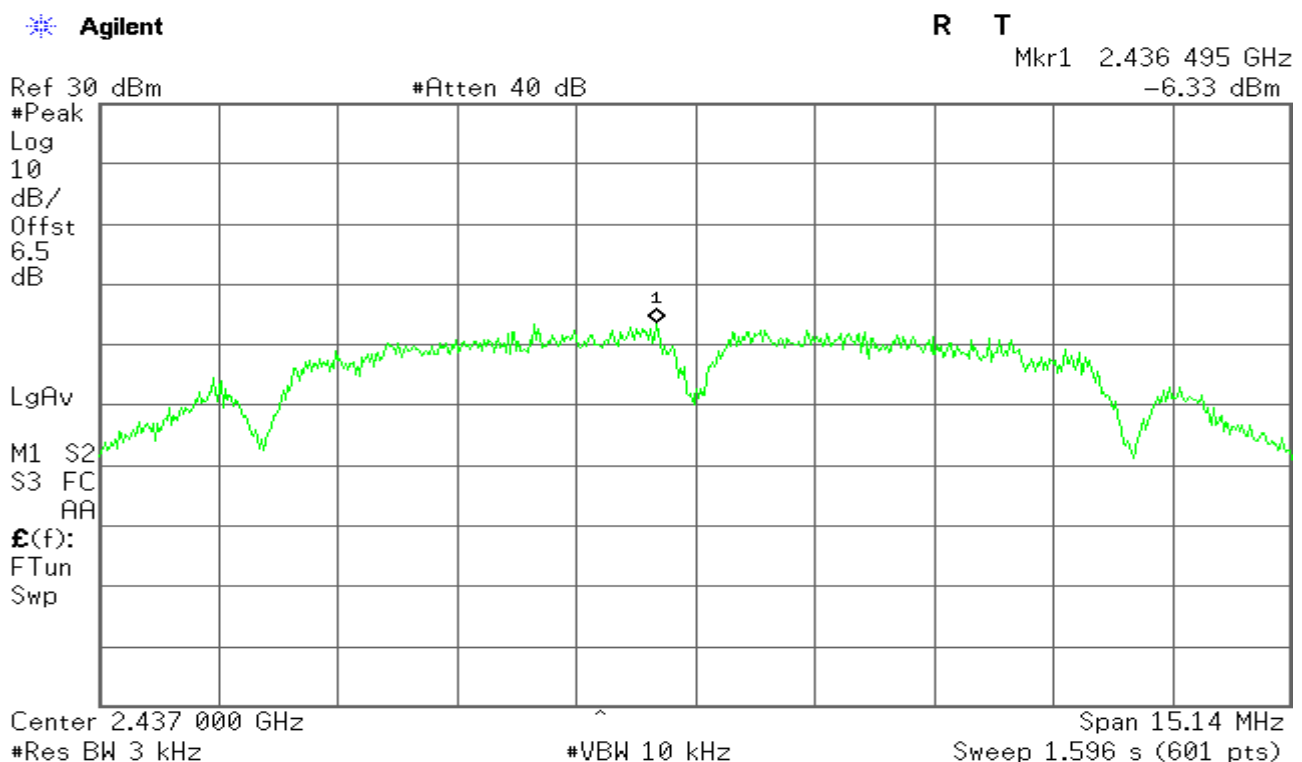
Test Plot

IEEE 802.11b mode

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent

R T

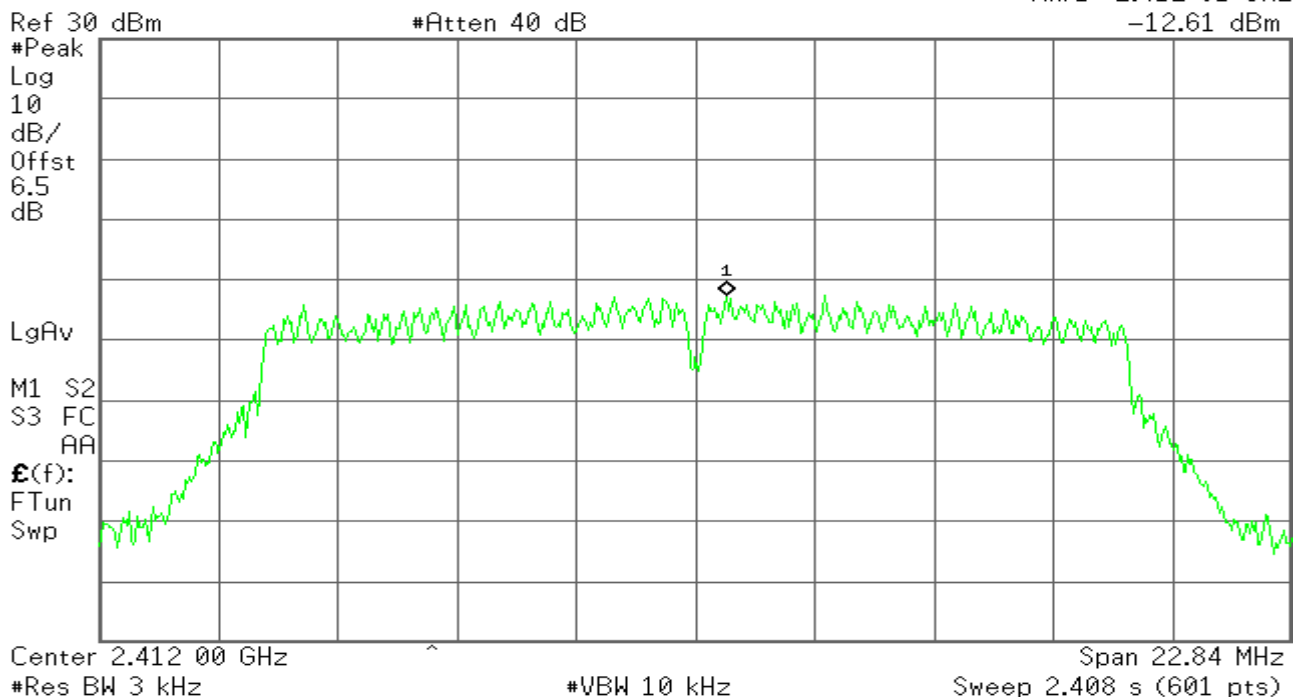
Mkr1 2.459 376 GHz
-7.45 dBm

IEEE 802.11g mode

PPSD (CH Low)

Agilent

R T

Mkr1 2.412 61 GHz
-12.61 dBm



PPSD (CH Mid)

Agilent

R T

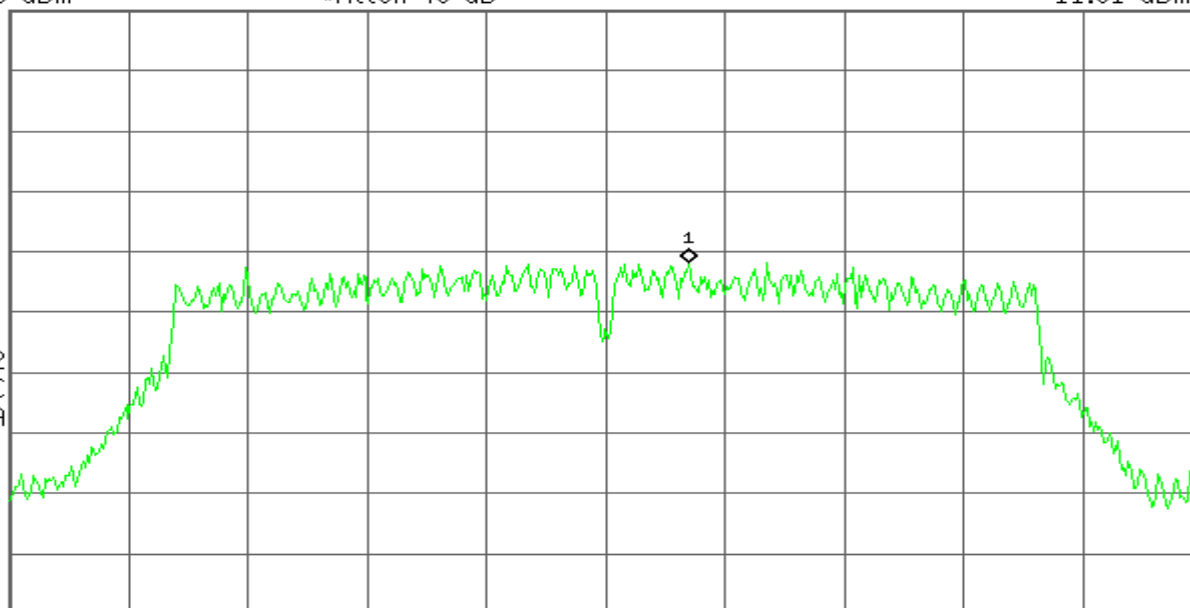
Mkr1 2.438 60 GHz
-11.81 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB

LgAv

M1 S2
S3 FC
AAE(f):
FTun
Swp

Center 2.437 00 GHz

#Res BW 3 kHz

#VBW 10 kHz

Span 22.84 MHz
Sweep 2.408 s (601 pts)

PPSD (CH High)

Agilent

R T

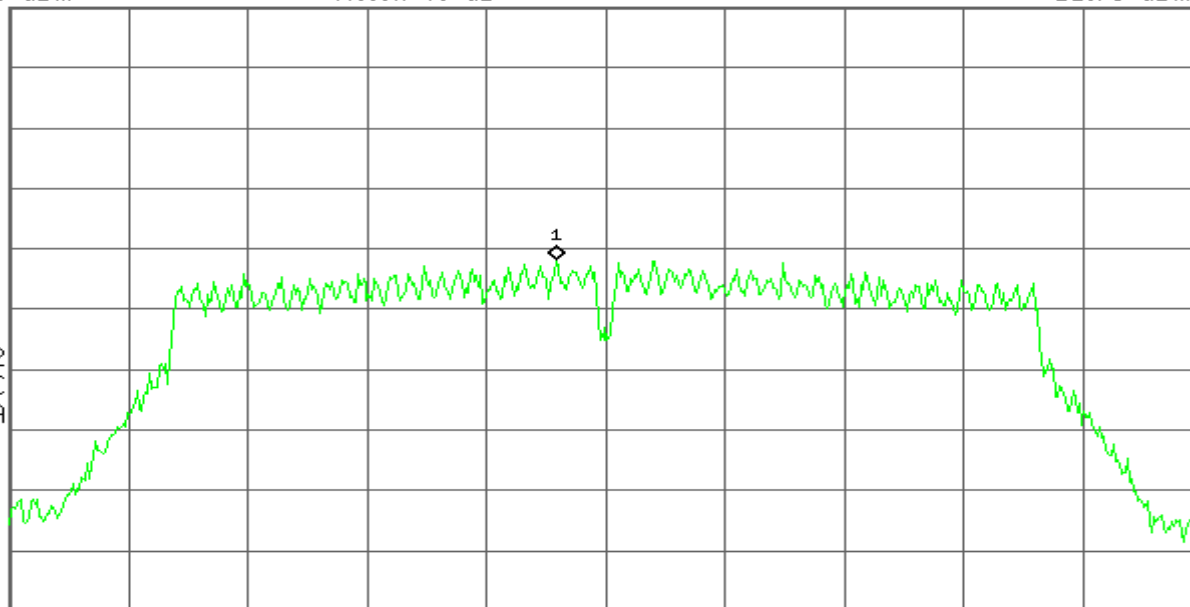
Mkr1 2.461 05 GHz
-11.73 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB

LgAv

M1 S2
S3 FC
AAE(f):
FTun
Swp

Center 2.462 00 GHz

#Res BW 3 kHz

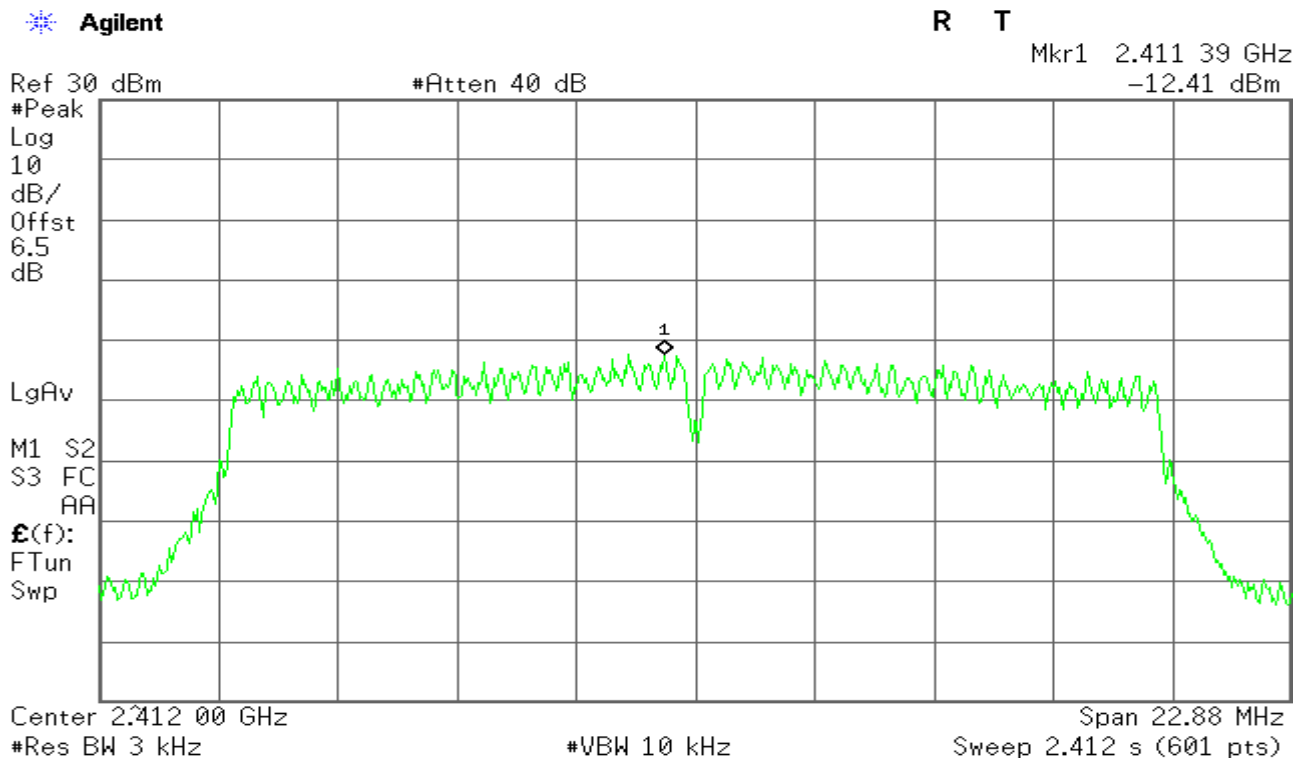
#VBW 10 kHz

Span 22.84 MHz
Sweep 2.408 s (601 pts)

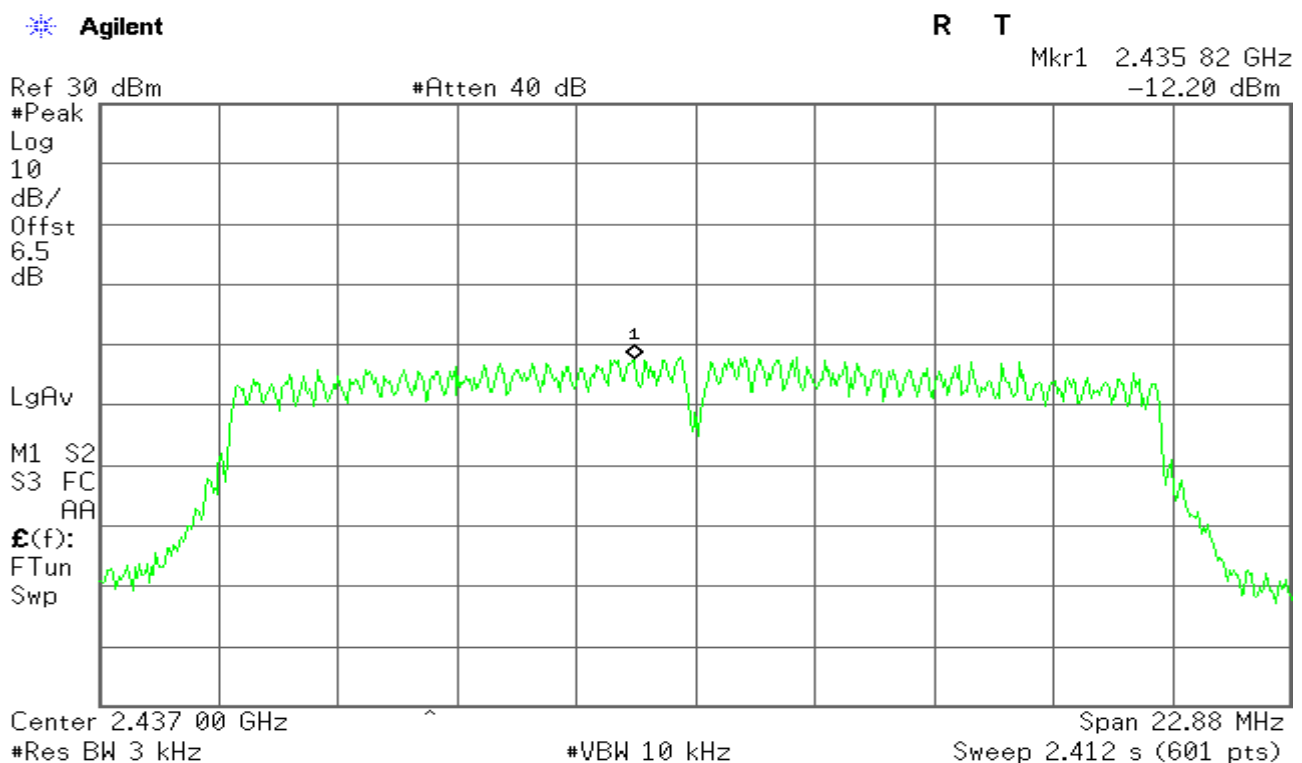


IEEE 802.11n HT20 mode

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent

R T

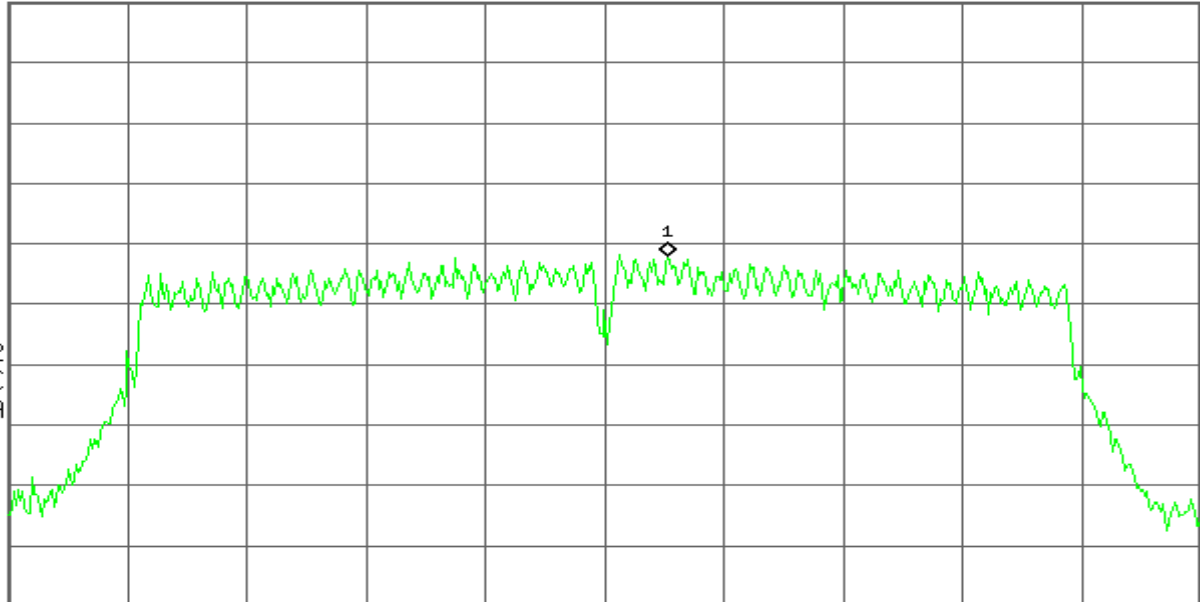
Mkr1 2.463 22 GHz
-12.01 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB

LgAv

M1 S2
S3 FC
AAE(f):
FTun
Swp

Center 2.462 00 GHz

Span 22.88 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 2.412 s (601 pts)

IEEE 802.11n HT40 mode

PPSD (CH Low)

Agilent

R T

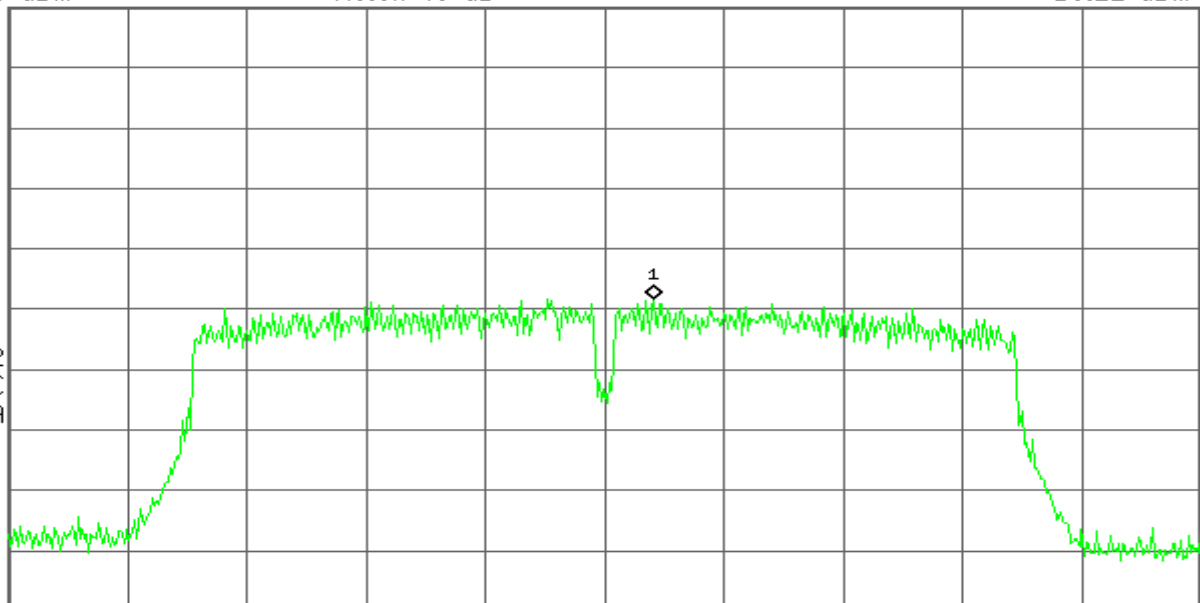
Mkr1 2.424 21 GHz
-18.22 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB

LgAv

M1 S2
S3 FC
AAE(f):
FTun
Swp

Center 2.422 00 GHz

Span 53.03 MHz

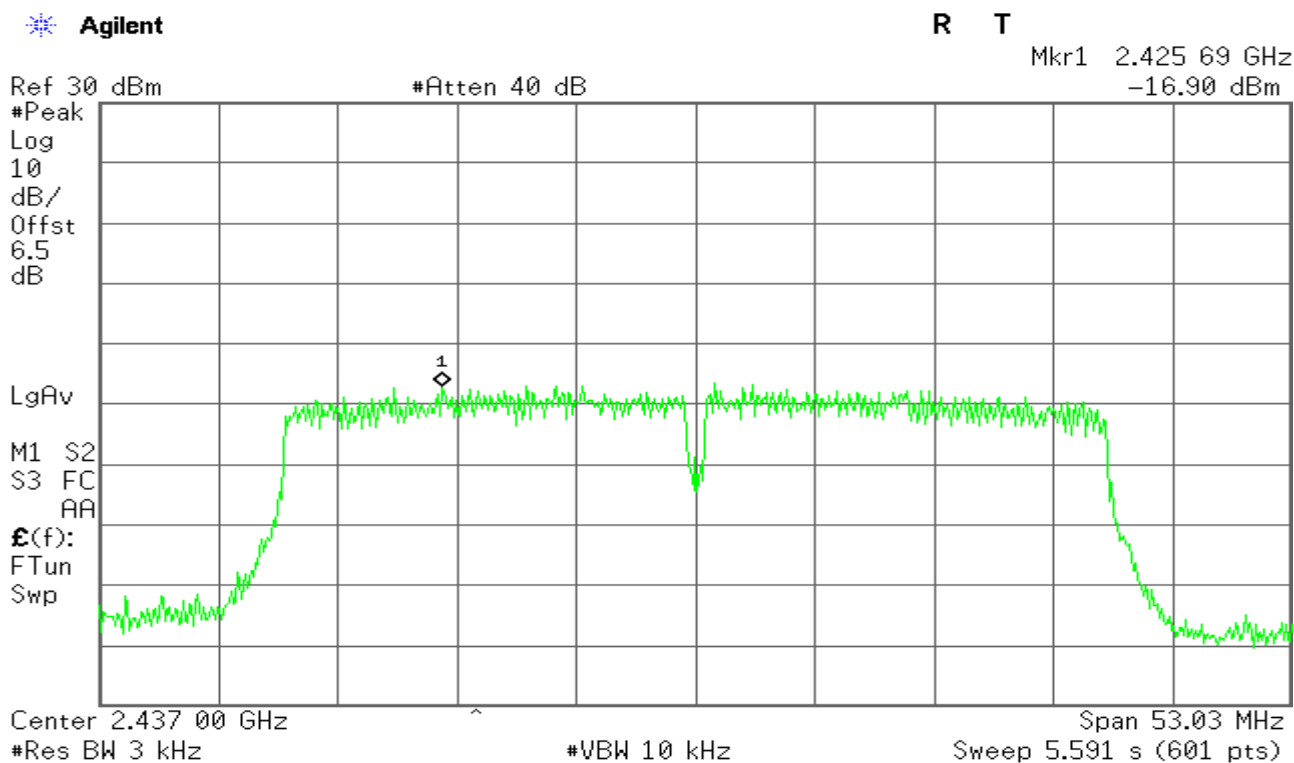
#Res BW 3 kHz

#VBW 10 kHz

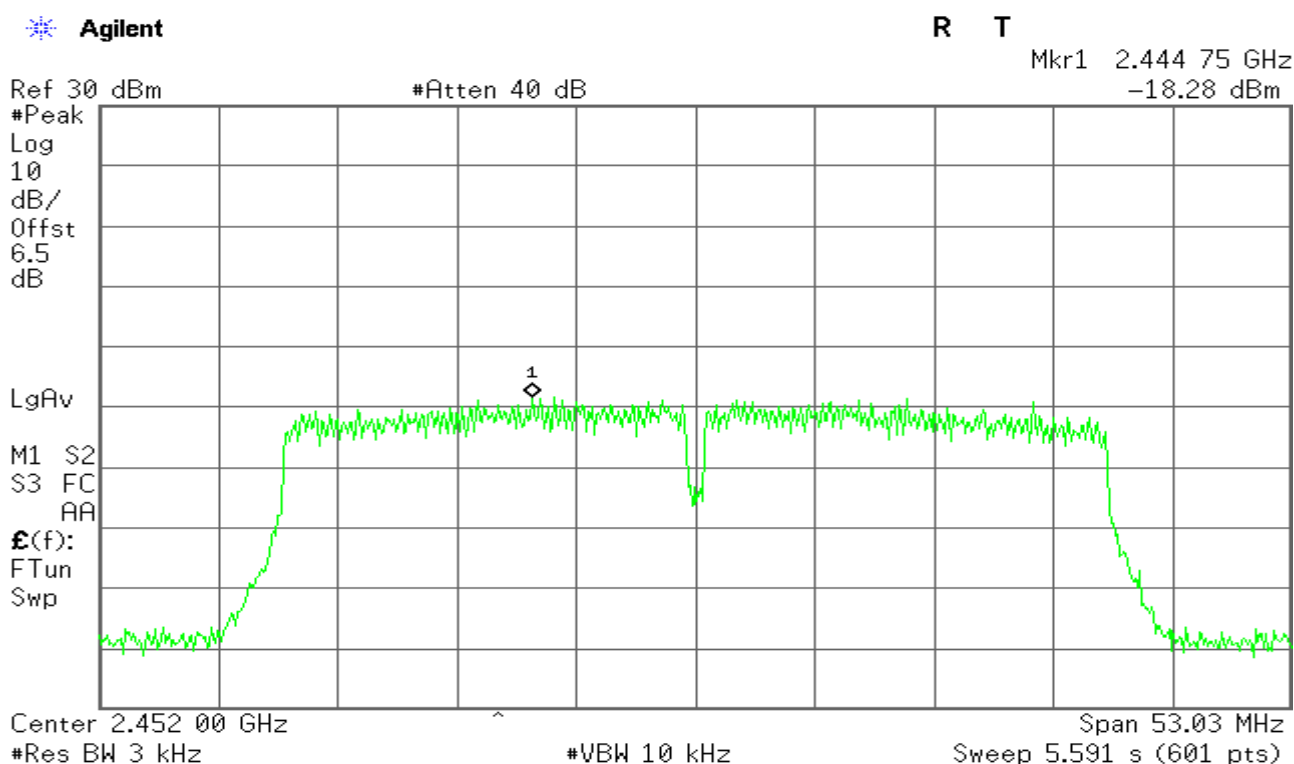
Sweep 5.591 s (601 pts)



PPSD (CH Mid)



PPSD (CH High)





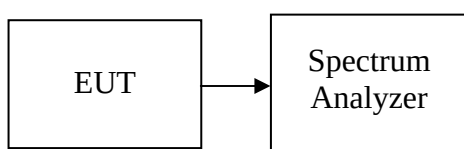
7.4.SPURIOUS EMISSIONS

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)).

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 100 kHz. The video bandwidth is set to 300 kHz.

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

OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

IEEE 802.11b mode

CH Low

Agilent

R T

Mkr1 2.413 009 GHz
7.16 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.8

dBm

LgAv

M1 S2

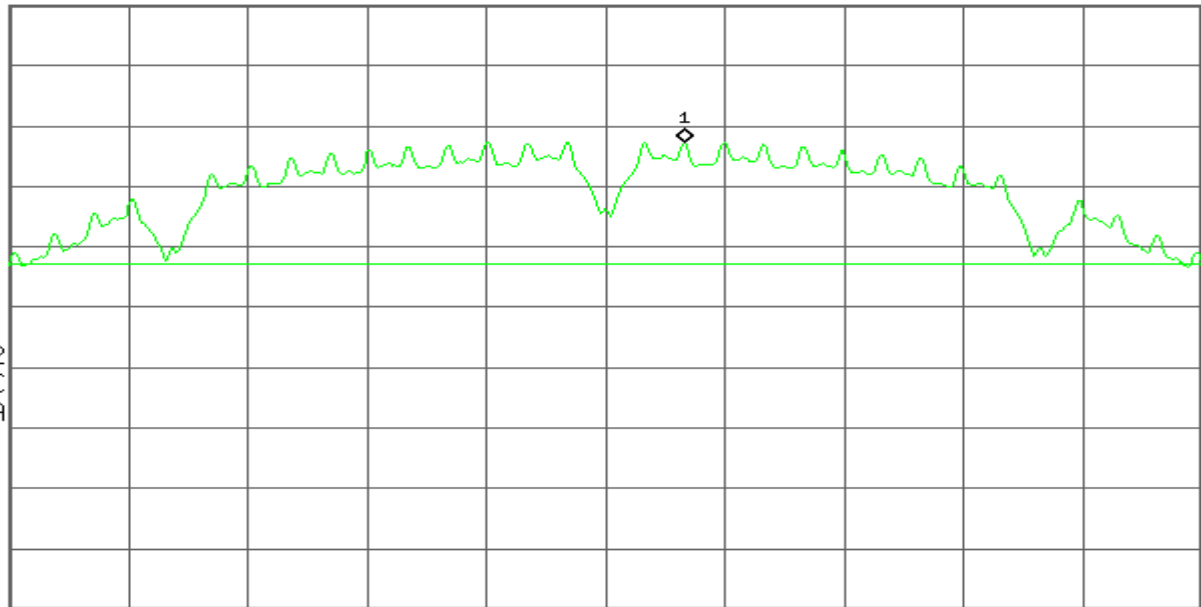
S3 FC

AA

E(f):

FTun

Swp



Center 2.412 000 GHz

Span 15.14 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 1.48 ms (601 pts)

Agilent

R T

Mkr1 2.398 006 GHz
-26.23 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

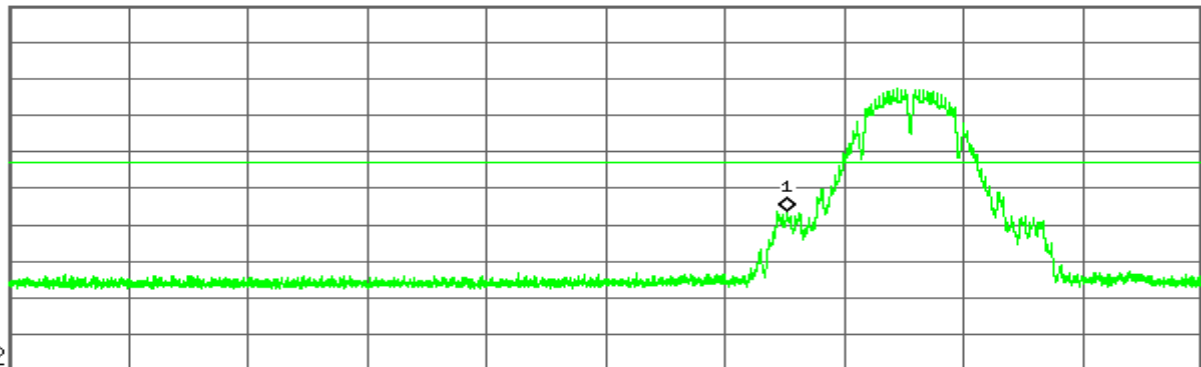
DI

-12.8

dBm

LgAv

M1 S2



Center 2.377 500 GHz

Span 135 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 13.11 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.398 006 GHz	-26.23 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 465.1 MHz
-44.39 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.8

dBm

LgAv

M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	465.1 MHz	-44.39 dBm

Agilent

R T

Mkr1 24.053 7 GHz
-36.43 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.8

dBm

LgAv

M1 S2

Start 2.000 0 GHz

Stop 25.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	24.053 7 GHz	-36.43 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

CH Mid

Agilent

R T

Mkr1 2.436 495 GHz
7.61 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.4

dBm

LgAv

M1 S2

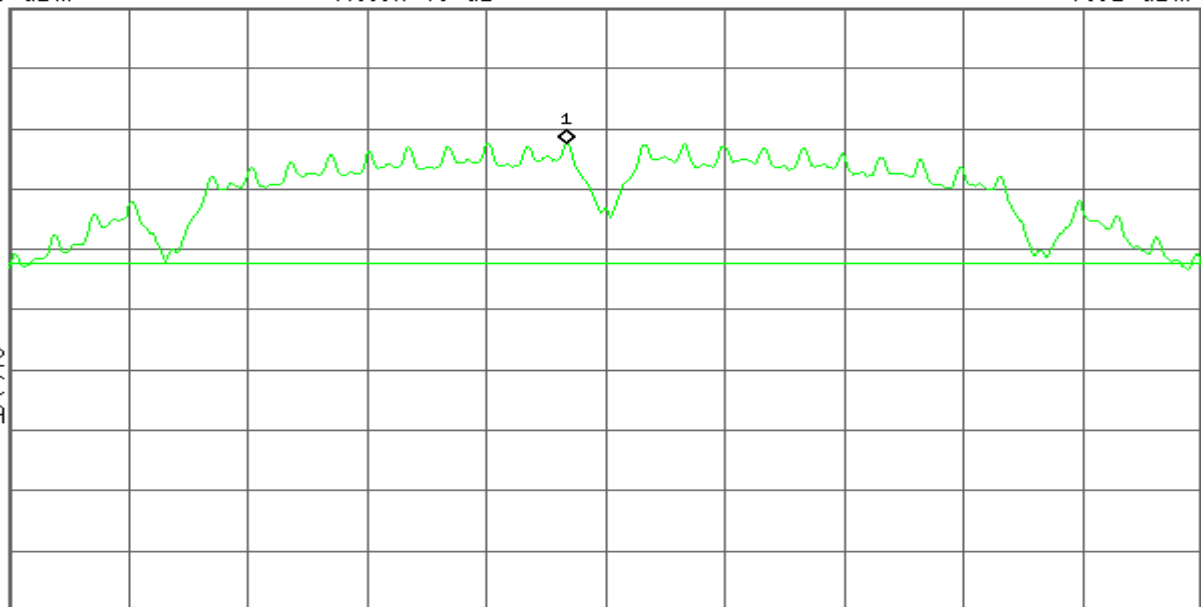
S3 FC

AA

£(f):

FTun

Swp



Center 2.437 000 GHz

Span 15.14 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 1.48 ms (601 pts)

Agilent

R T

Mkr1 1.680 9 GHz
-44.80 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.4

dBm

LgAv

M1 S2

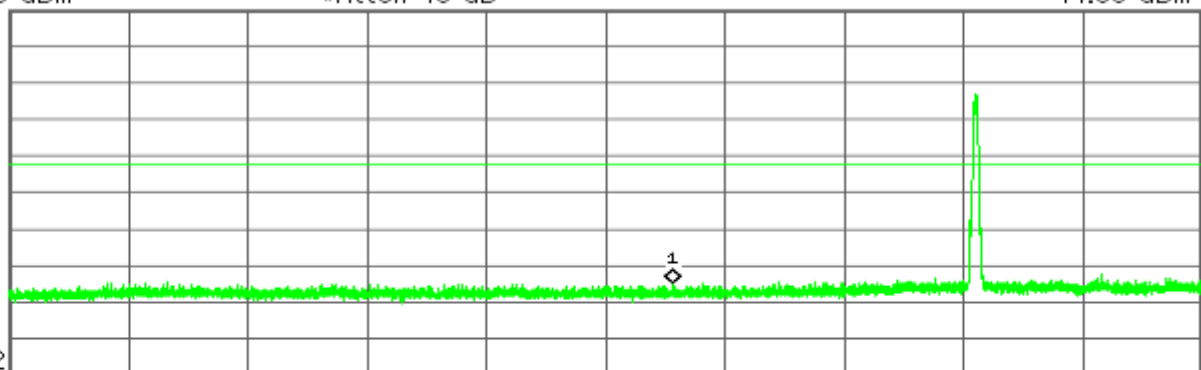
Start 30.0 MHz

Stop 3.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.680 9 GHz	-44.80 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 15.219 9 GHz
-36.73 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.4

dBm

LgAv

M1 S2

Start 2.000 0 GHz

Stop 25.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	15.219 9 GHz	-36.73 dBm

CH High

Agilent

R T

Mkr1 2.463 514 GHz
7.67 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.3

dBm

LgAv

M1 S2

S3 FC

RA

£(f):

FTun

Swp

Center 2.462 000 GHz

Span 15.14 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 1.48 ms (601 pts)



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

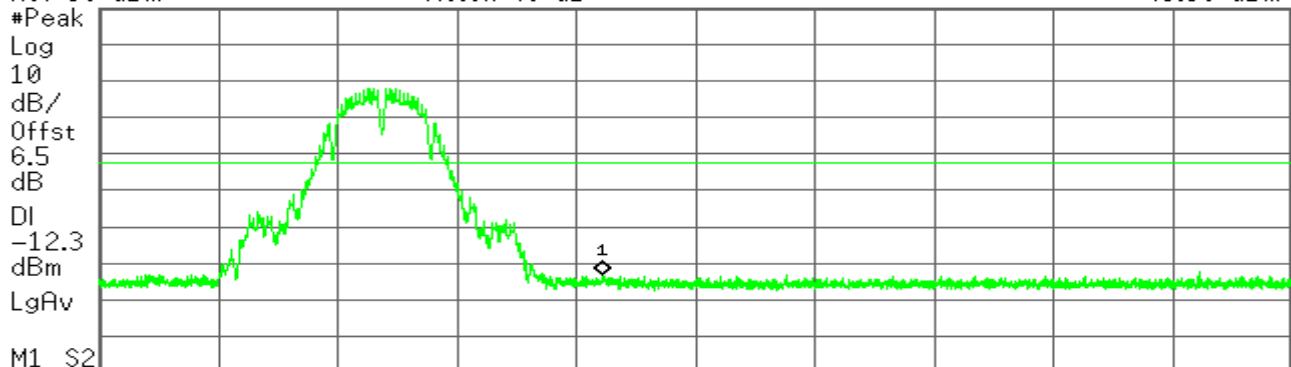
Date of Issue :December 25, 2014

Agilent

R T

Mkr1 2.486 978 GHz
-43.30 dBm

Ref 30 dBm #Atten 40 dB



M1 S2
Start 2.430 000 GHz

Stop 2.565 000 GHz

*Res BW 100 kHz

*VBW 300 kHz

Sweep 13.11 ms (8192 pts)

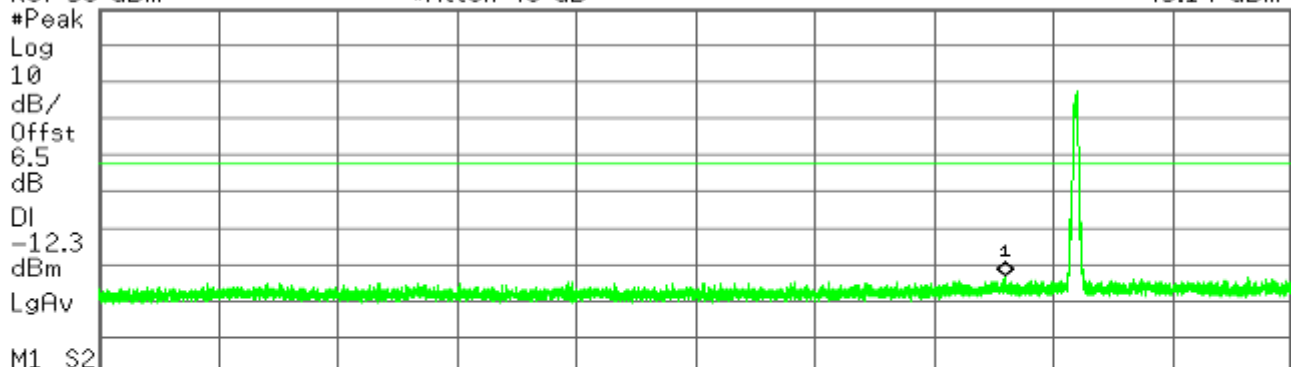
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.486 978 GHz	-43.30 dBm

Agilent

R T

Mkr1 2.284 2 GHz
-43.14 dBm

Ref 30 dBm #Atten 40 dB



M1 S2
Start 30.0 MHz

Stop 3.000 0 GHz

*Res BW 100 kHz

*VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.284 2 GHz	-43.14 dBm



Agilent

R T

Mkr1 24.056 5 GHz
-36.60 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-12.3

dBm

LgAv

M1 S2

Start 2.000 0 GHz

Stop 25.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	24.056 5 GHz	-36.60 dBm

IEEE 802.11g mode

CH Low

Agilent

R T

Mkr1 2.413 26 GHz
2.49 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.5

dBm

LgAv

M1 S2

S3 FC

AA

E(f):

FTun

Swp

Center 2.412 00 GHz

Span 22.84 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.2 ms (601 pts)



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 2.399 126 GHz
-32.15 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.5

dBm

LgAv

M1 S2

Start 2.310 000 GHz

Stop 2.445 000 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 13.11 ms (8192 pts)

Marker
1

Trace
(1)

Type
Freq

X Axis
2.399 126 GHz

Amplitude
-32.15 dBm

Agilent

R T

Mkr1 2.209 5 GHz
-43.06 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.5

dBm

LgAv

M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker
1

Trace
(1)

Type
Freq

X Axis
2.209 5 GHz

Amplitude
-43.06 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

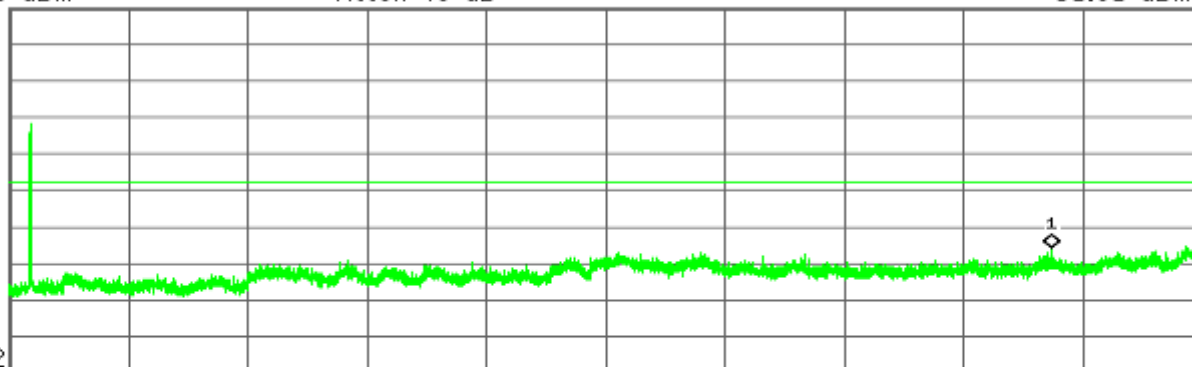
R T

Mkr1 22.102 2 GHz
-35.85 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB
DI
-17.5
dBm
LgAv



M1 S2
Start 2.000 0 GHz

Stop 25.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	22.102 2 GHz	-35.85 dBm

CH Mid

Agilent

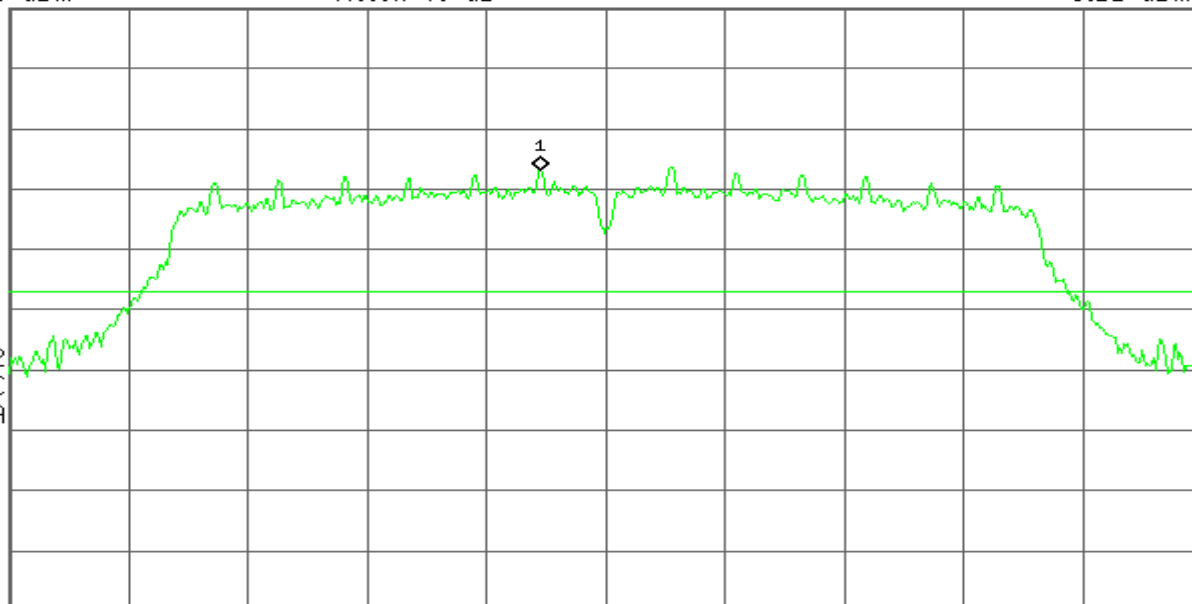
R T

Mkr1 2.435 74 GHz
3.11 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB
DI
-16.9
dBm
LgAv
M1 S2
S3 FC
AA
E(f):
FTun
Swp



Center 2.437 00 GHz

Span 22.84 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.2 ms (601 pts)



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

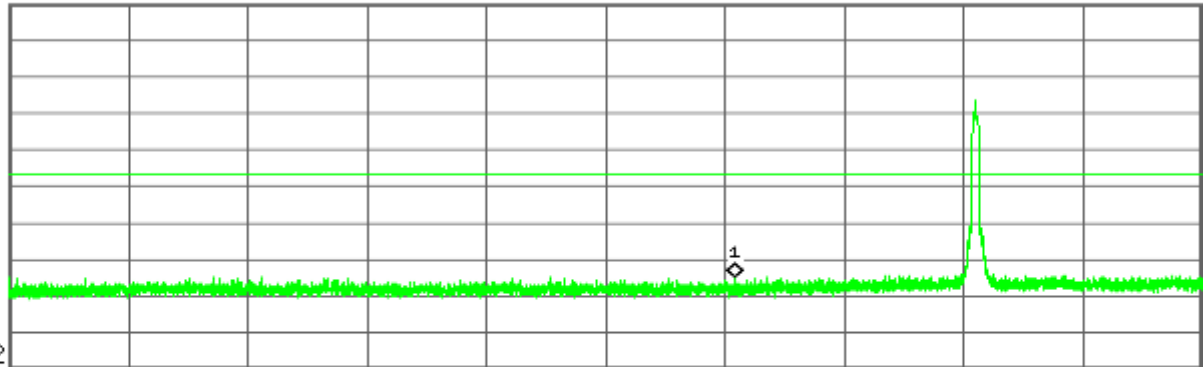
R T

Mkr1 1.835 7 GHz
-44.93 dBm

Ref 30 dBm

#Atten 40 dB

*Peak
Log
10
dB/
Offst
6.5
dB
DI
-16.9
dBm
LgAv



M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.835 7 GHz	-44.93 dBm

Agilent

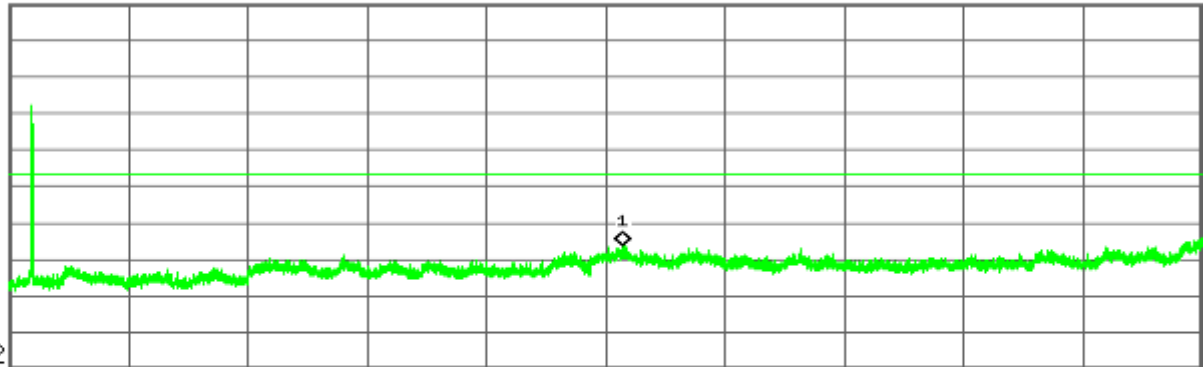
R T

Mkr1 13.824 3 GHz
-36.36 dBm

Ref 30 dBm

#Atten 40 dB

*Peak
Log
10
dB/
Offst
6.5
dB
DI
-16.9
dBm
LgAv



M1 S2

Start 2.000 0 GHz

Stop 25.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	13.824 3 GHz	-36.36 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

CH High

Agilent

R T

Mkr1 2.463 26 GHz
2.85 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.2

dBm

LgAv

M1 S2

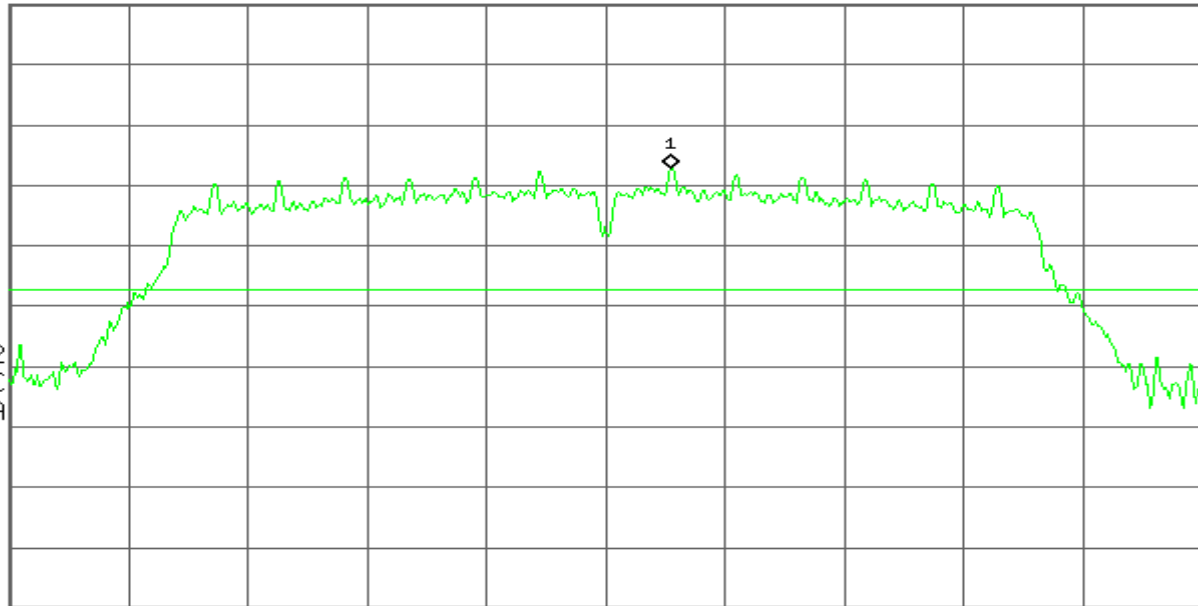
S3 FC

AA

£(f):

FTun

Swp



Center 2.462 00 GHz

#VBW 300 kHz

Span 22.84 MHz
Sweep 2.2 ms (601 pts)

#Res BW 100 kHz

Agilent

R T

Mkr1 2.484 505 GHz
-40.08 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.2

dBm

LgAv

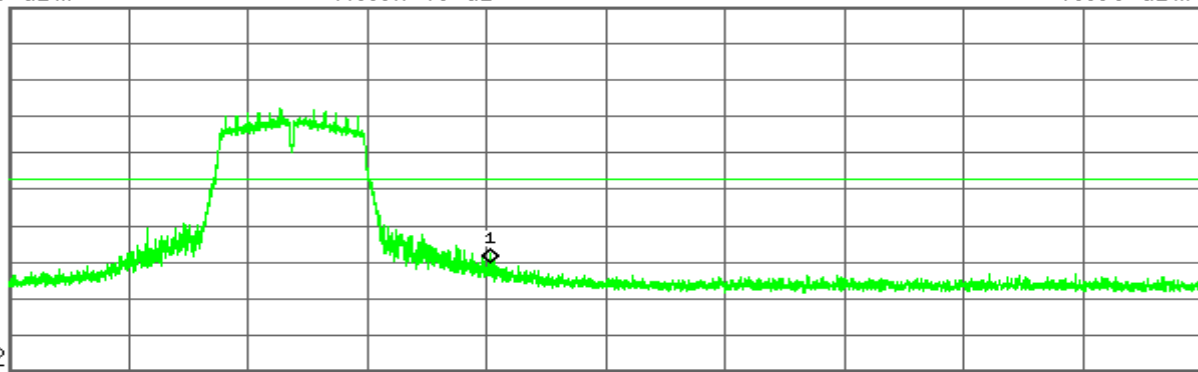
M1 S2

Start 2.430 000 GHz

#Res BW 100 kHz

#VBW 300 kHz

Stop 2.565 000 GHz
Sweep 13.11 ms (8192 pts)



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.484 505 GHz	-40.08 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

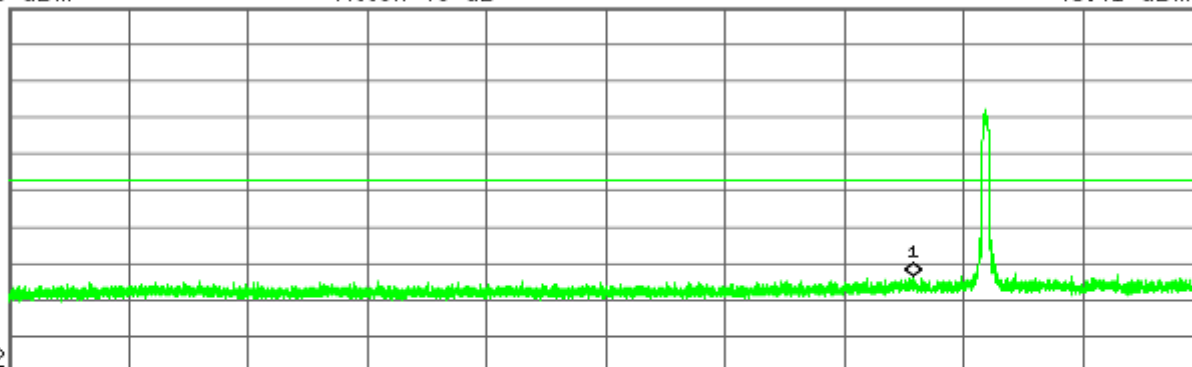
R T

Mkr1 2.279 2 GHz
-43.41 dBm

Ref 30 dBm

#Atten 40 dB

*Peak
Log
10
dB/
Offst
6.5
dB
DI
-17.2
dBm
LgAv



M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.279 2 GHz	-43.41 dBm

Agilent 10:00:07 Sep 24, 2014

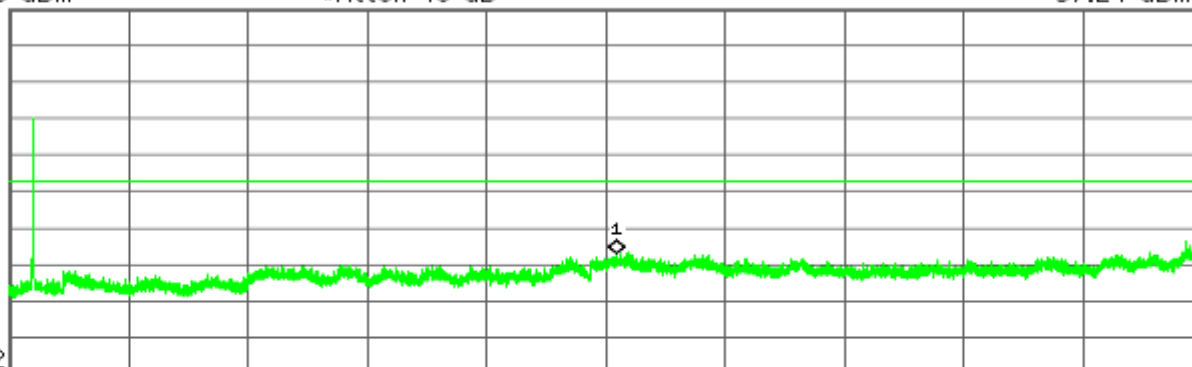
R T

Mkr1 13.712 0 GHz
-37.24 dBm

Ref 30 dBm

#Atten 40 dB

*Peak
Log
10
dB/
Offst
6.5
dB
DI
-17.2
dBm
LgAv



M1 S2

Start 2.000 0 GHz

Stop 25.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	13.712 0 GHz	-37.24 dBm



IEEE 802.11n HT20 mode

CH Low

* Agilent 09:23:24 Sep 24, 2014

R T

Mkr1 2.413 26 GHz
2.55 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.5

dBm

LgAv

M1 S2

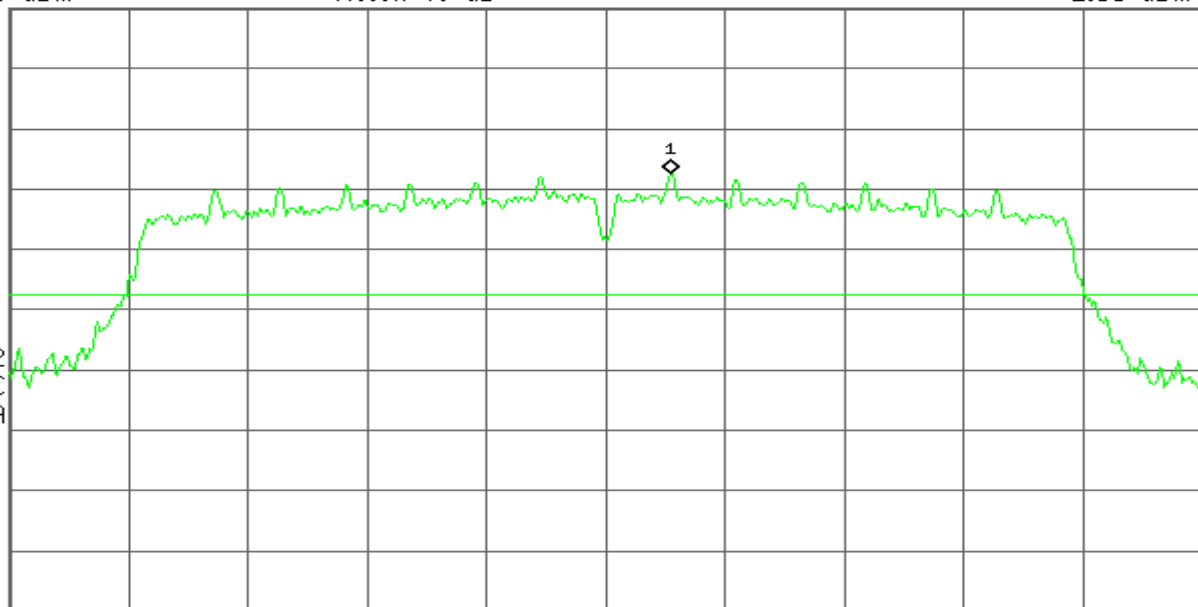
S3 FC

AA

E(f):

FTun

Swp



Center 2.412 00 GHz

Span 22.88 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.2 ms (601 pts)

* Agilent

R T

Mkr1 2.399 621 GHz
-32.26 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.5

dBm

LgAv

M1 S2

Start 2.310 000 GHz

Stop 2.445 000 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 13.11 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.399 621 GHz	-32.26 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 468.4 MHz
-44.71 dBm

Ref 30 dBm

#Atten 40 dB

*Peak
Log
10
dB/
Offst
6.5
dB
DI
-17.5
dBm
LgAv



M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	468.4 MHz	-44.71 dBm

Agilent

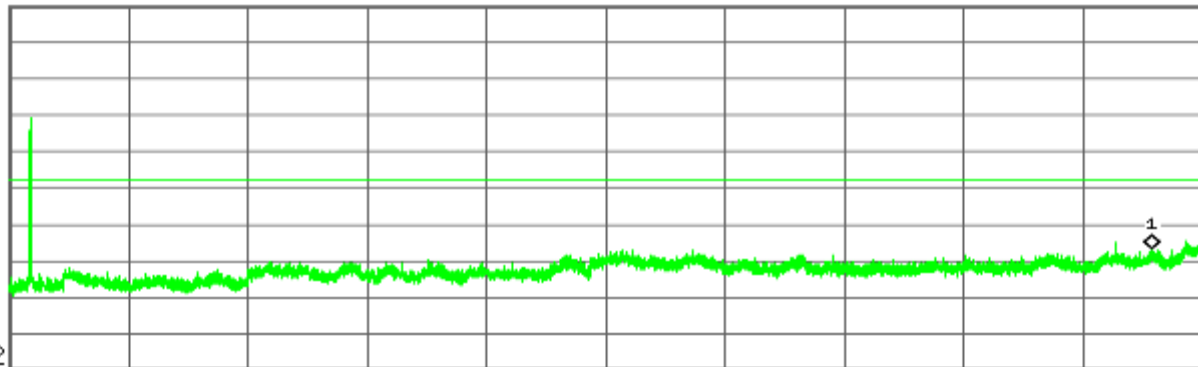
R T

Mkr1 24.020 0 GHz
-36.61 dBm

Ref 30 dBm

#Atten 40 dB

*Peak
Log
10
dB/
Offst
6.5
dB
DI
-17.5
dBm
LgAv



M1 S2

Start 2.000 0 GHz

Stop 25.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	24.020 0 GHz	-36.61 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

CH Mid

Agilent

R T

Mkr1 2.438 22 GHz
3.000 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.0

dBm

LgAv

M1 S2

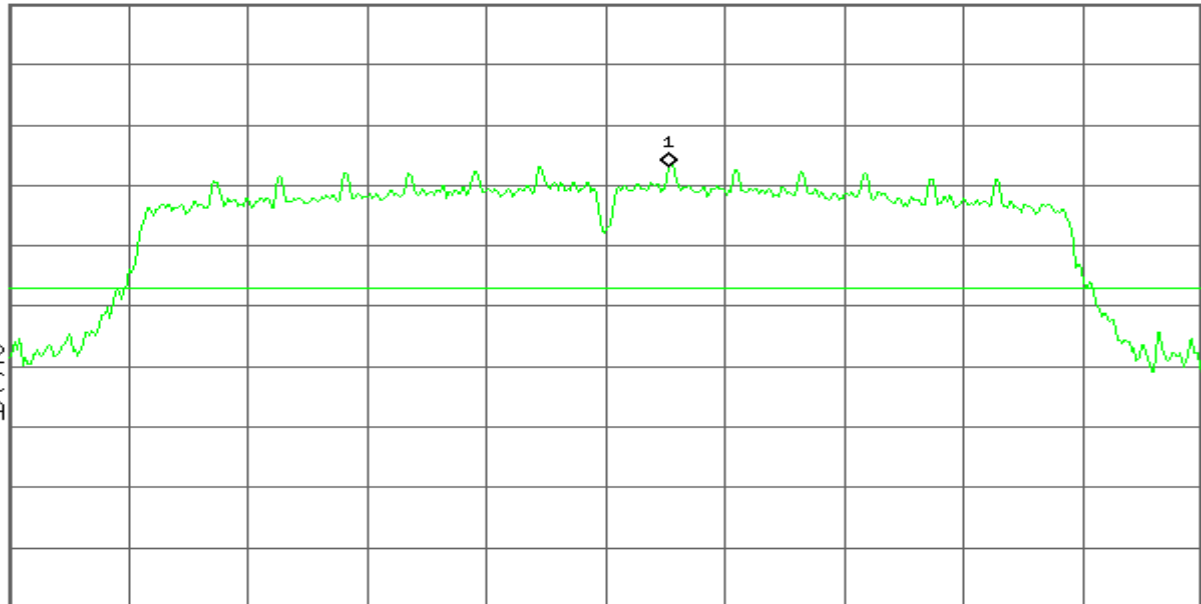
S3 FC

AA

£(f):

FTun

Swp



Center 2.437 00 GHz

#Res BW 100 kHz

#VBW 300 kHz

Span 22.88 MHz
Sweep 2.2 ms (601 pts)

Agilent

R T

Mkr1 1.712 4 GHz
-44.15 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.0

dBm

LgAv

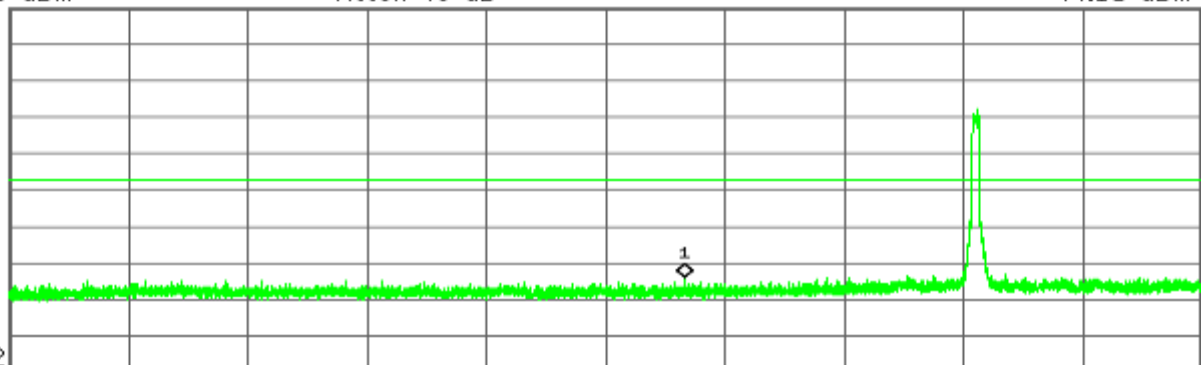
M1 S2

Start 30.0 MHz

#Res BW 100 kHz

#VBW 300 kHz

Stop 3.000 0 GHz
Sweep 284 ms (8192 pts)



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.712 4 GHz	-44.15 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 24.101 5 GHz
-36.80 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.0

dBm

LgAv

M1 S2

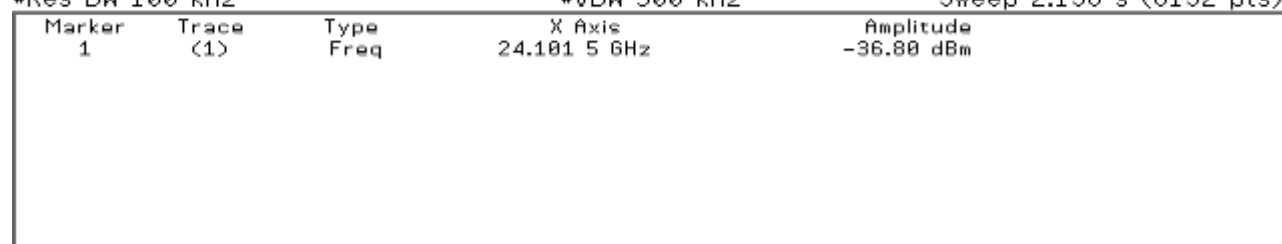
Start 2.000 0 GHz

Stop 25.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)



CH High

Agilent

R T

Mkr1 2.463 26 GHz
2.94 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-17.1

dBm

LgAv

M1 S2

S3 FC

AA

£(f):

FTun

Swp

Center 2.462 00 GHz

Span 22.88 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.2 ms (601 pts)





Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

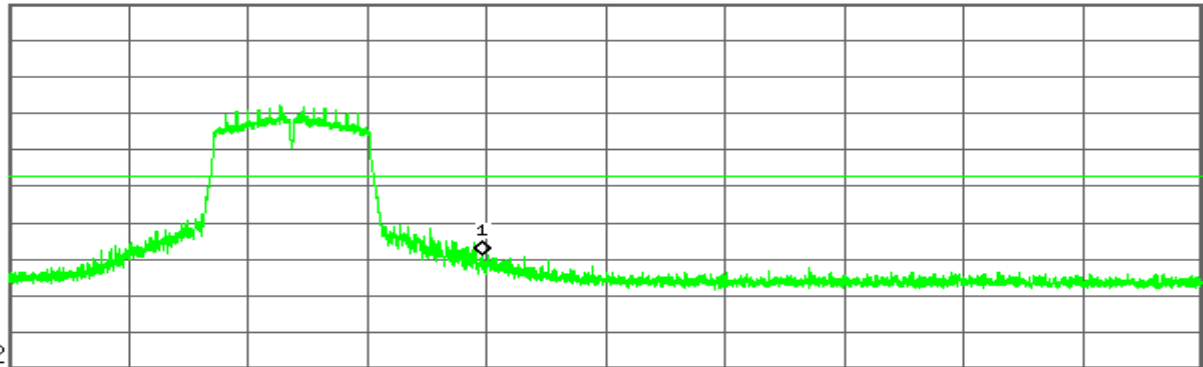
R T

Mkr1 2.483 582 GHz
-38.75 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB
DI
-17.1
dBm
LgAv



M1 S2
Start 2.430 000 GHz

Stop 2.565 000 GHz

*Res BW 100 kHz

*VBW 300 kHz

Sweep 13.11 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.483 582 GHz	-38.75 dBm

Agilent

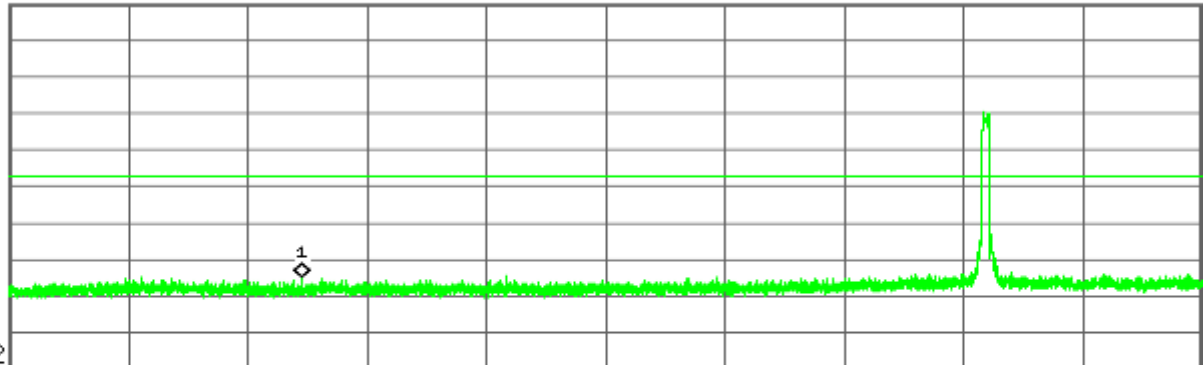
R T

Mkr1 760.3 MHz
-44.98 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB
DI
-17.1
dBm
LgAv



M1 S2
Start 30.0 MHz

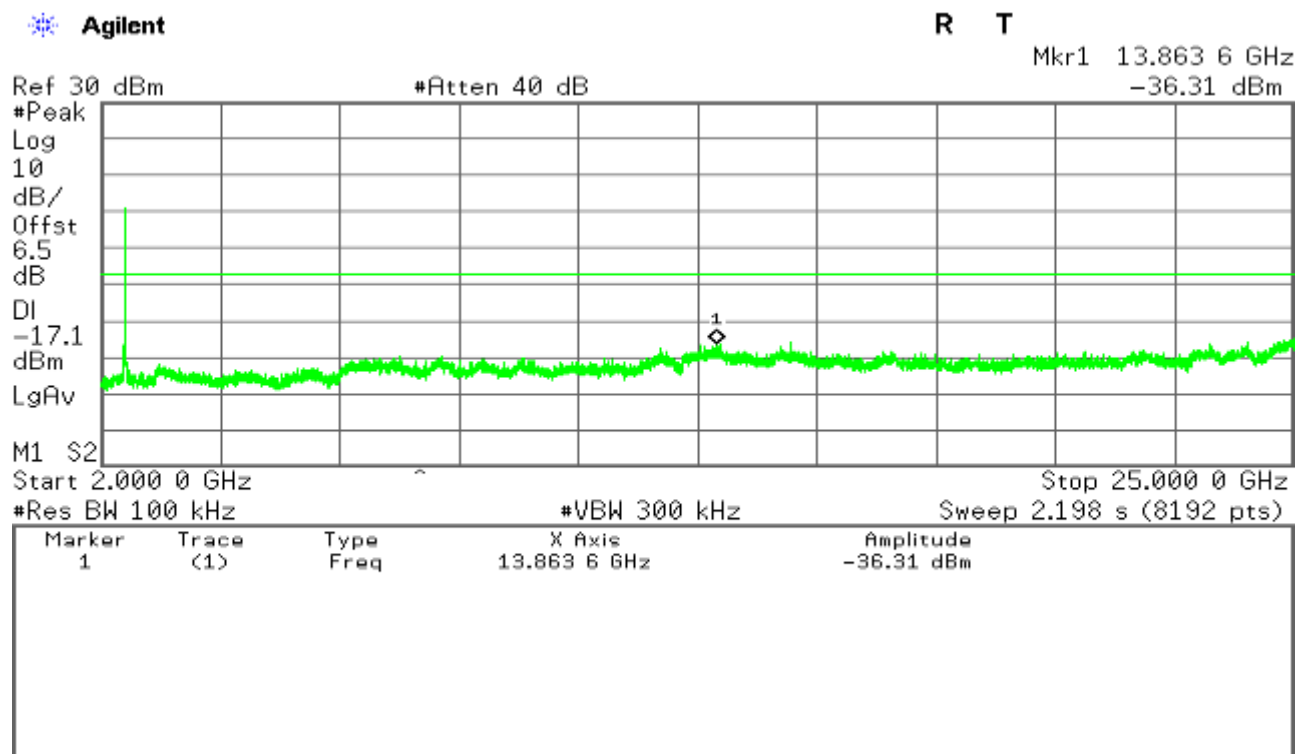
Stop 3.000 0 GHz

*Res BW 100 kHz

*VBW 300 kHz

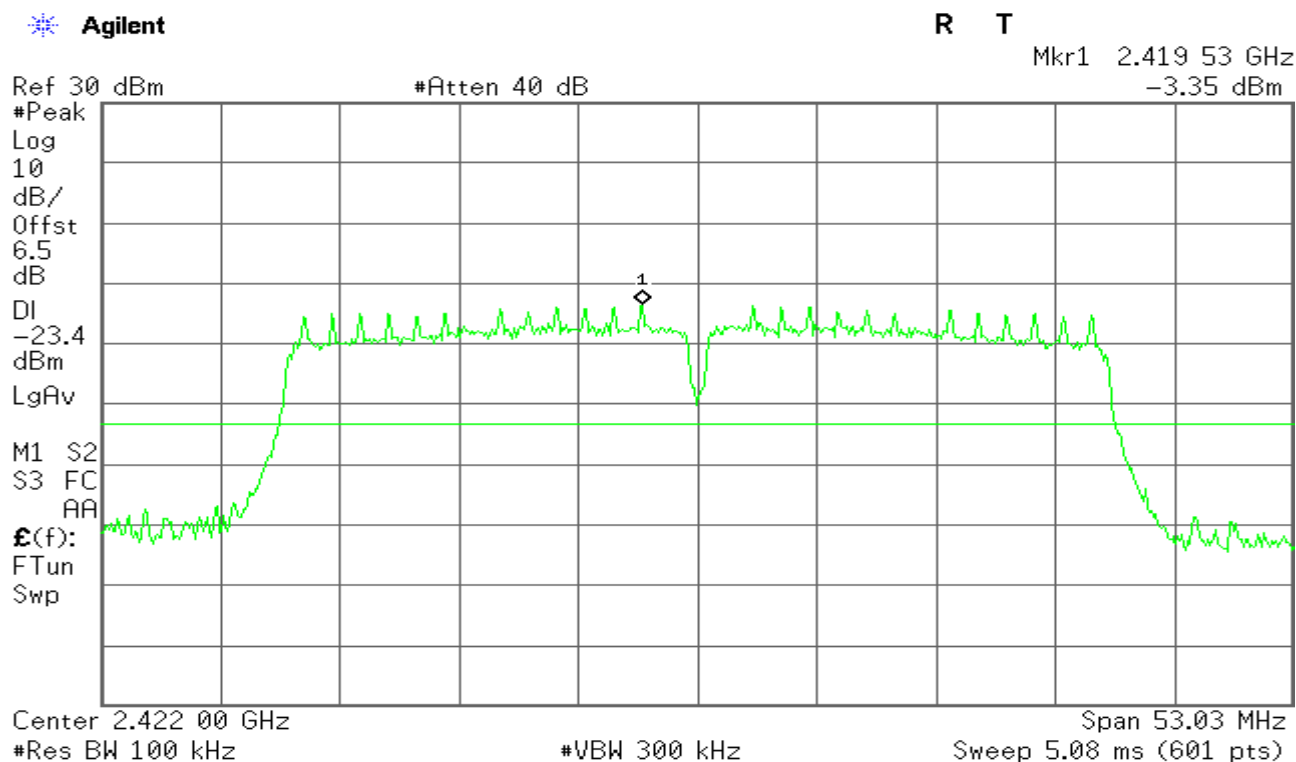
Sweep 284 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	760.3 MHz	-44.98 dBm



IEEE 802.11n HT40 mode

CH Low





Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 2.396 671 GHz
-36.42 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-23.4

dBm

LgAv

M1 S2

Start 2.310 000 GHz

Stop 2.445 000 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 13.11 ms (8192 pts)

Marker
1

Trace
(1)

Type
Freq

X Axis
2.396 671 GHz

Amplitude
-36.42 dBm

Agilent

R T

Mkr1 825.9 MHz
-44.97 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-23.4

dBm

LgAv

M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker
1

Trace
(1)

Type
Freq

X Axis
825.9 MHz

Amplitude
-44.97 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

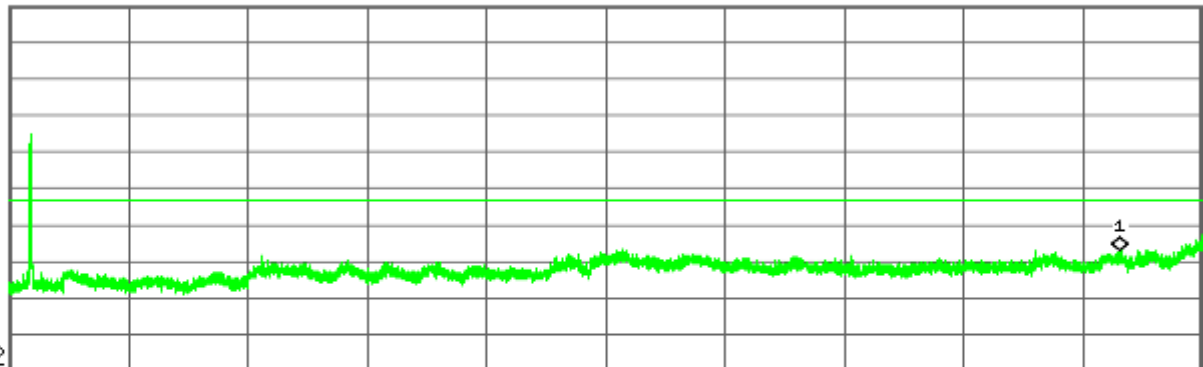
R T

Mkr1 23.427 5 GHz
-37.05 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB
DI
-23.4
dBm
LgAv



M1 S2
Start 2.000 0 GHz

Stop 25.000 0 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	23.427 5 GHz	-37.05 dBm

CH Mid

Agilent

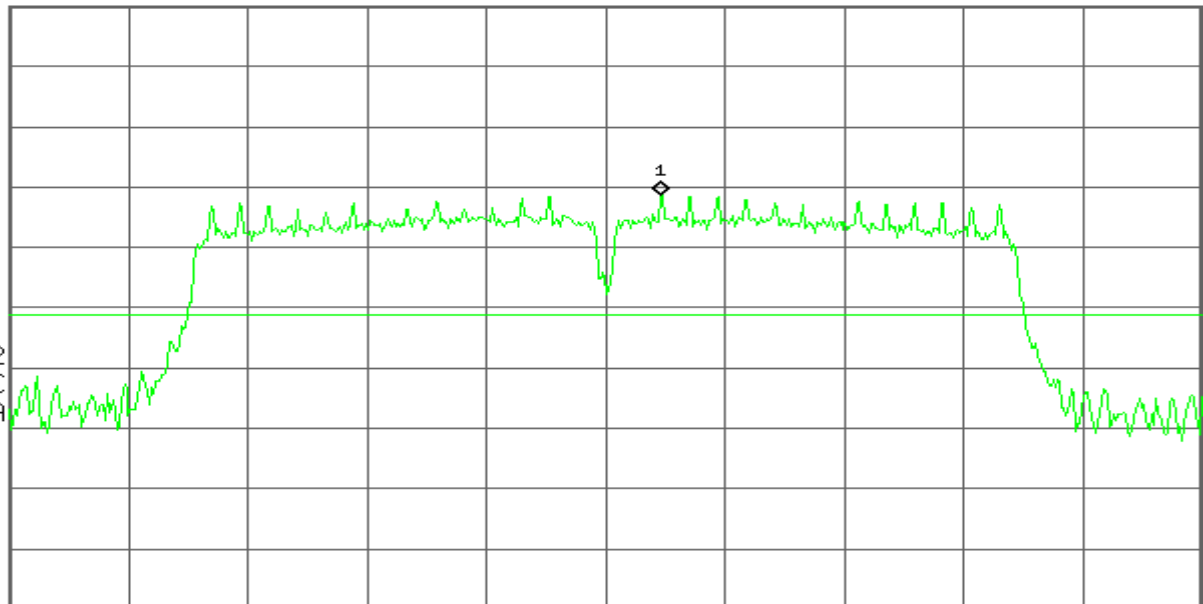
R T

Mkr1 2.439 47 GHz
-1.23 dBm

Ref 30 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6.5
dB
DI
-21.2
dBm
LgAv



M1 S2

S3 FC

RA

E(f):

FTun

Swp

Center 2.437 00 GHz

Span 53.03 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 5.08 ms (601 pts)



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 1.289 3 GHz
-44.57 dBm

Ref 30 dBm

#Atten 40 dB

*Peak

Log

10

dB/

Offst

6.5

dB

DI

-21.2

dBm

LgAv

M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

*Res BW 100 kHz

*VBW 300 kHz

Sweep 284 ms (8192 pts)



Agilent

R T

Mkr1 13.782 2 GHz
-36.44 dBm

Ref 30 dBm

#Atten 40 dB

*Peak

Log

10

dB/

Offst

6.5

dB

DI

-21.2

dBm

LgAv

M1 S2

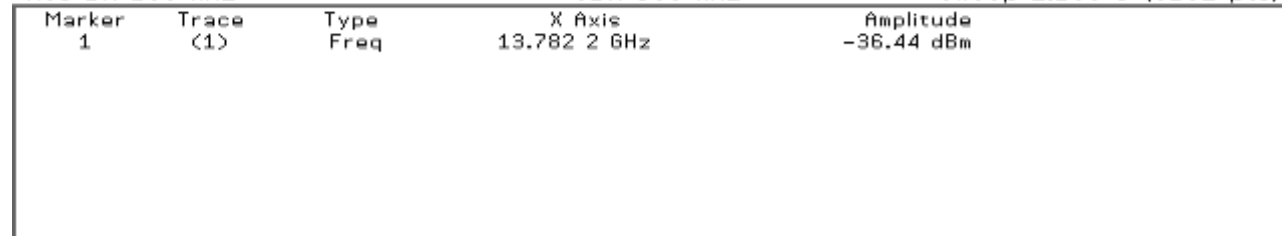
Start 2.000 0 GHz

Stop 25.000 0 GHz

*Res BW 100 kHz

*VBW 300 kHz

Sweep 2.198 s (8192 pts)





Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

CH High

Agilent

R T

Mkr1 2.454 56 GHz
-3.15 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

DI

-23.1

dBm

LgAv

M1 S2

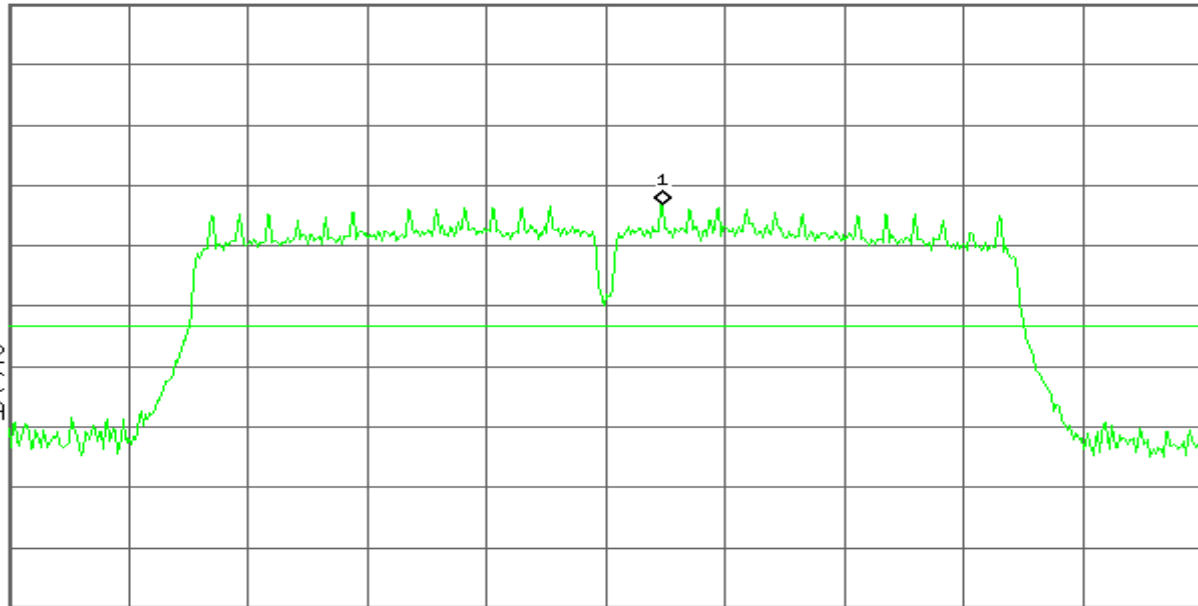
S3 FC

AA

£(f):

FTun

Swp



Center 2.452 00 GHz

Span 53.03 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 5.08 ms (601 pts)

Agilent

R T

Mkr1 2.483 830 GHz
-40.52 dBm

Ref 30 dBm

#Atten 40 dB

#Peak

Log

10

dB/

Offst

6.5

dB

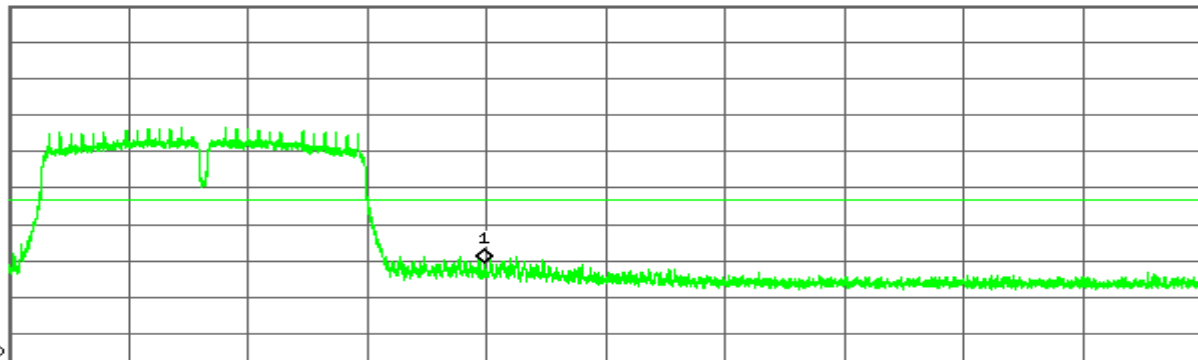
DI

-23.1

dBm

LgAv

M1 S2



Start 2.430 000 GHz

Stop 2.565 000 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 13.11 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.483 830 GHz	-40.52 dBm



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Agilent

R T

Mkr1 2.074 3 GHz
-43.80 dBm

Ref 30 dBm

#Atten 40 dB

*Peak

Log

10

dB/

Offst

6.5

dB

DI

-23.1

dBm

LgAv

M1 S2

Start 30.0 MHz

Stop 3.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 284 ms (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.074 3 GHz	-43.80 dBm

Agilent

R T

Mkr1 13.754 1 GHz
-36.75 dBm

Ref 30 dBm

#Atten 40 dB

*Peak

Log

10

dB/

Offst

6.5

dB

DI

-23.1

dBm

LgAv

M1 S2

Start 2.000 0 GHz

Stop 25.000 0 GHz

*Res BW 100 kHz

#VBW 300 kHz

Sweep 2.198 s (8192 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	13.754 1 GHz	-36.75 dBm



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.

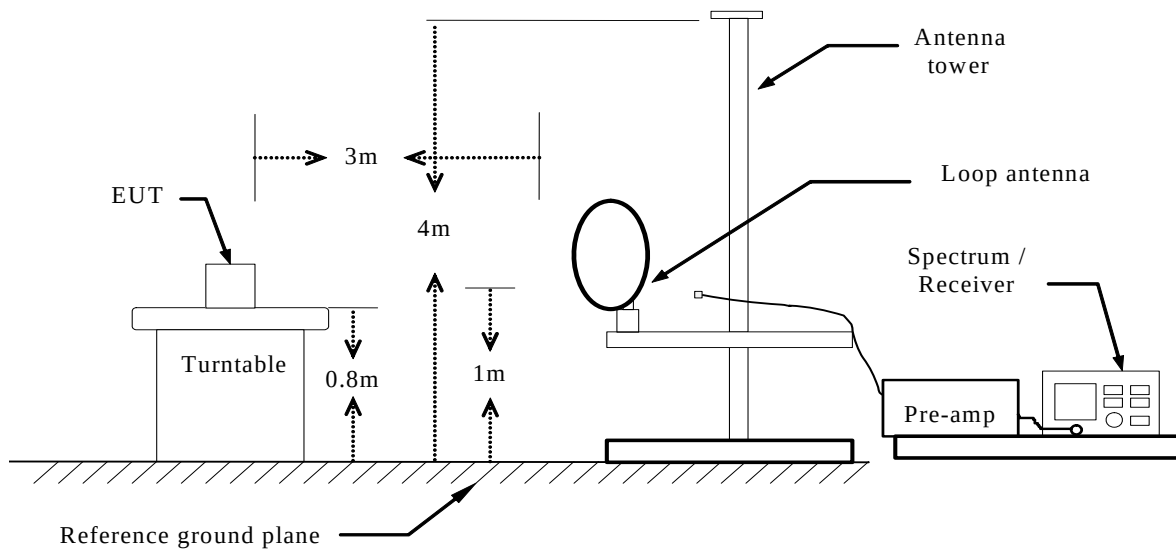
2. In the emission table above, the tighter limit applies at the band edges.

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

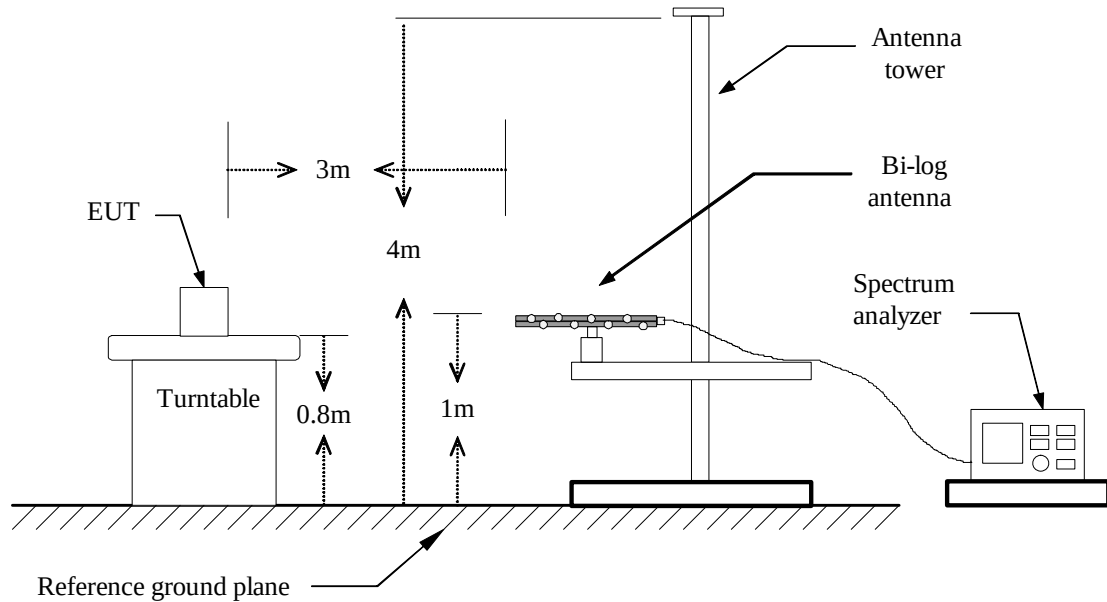
Test Configuration



Below 30MHz

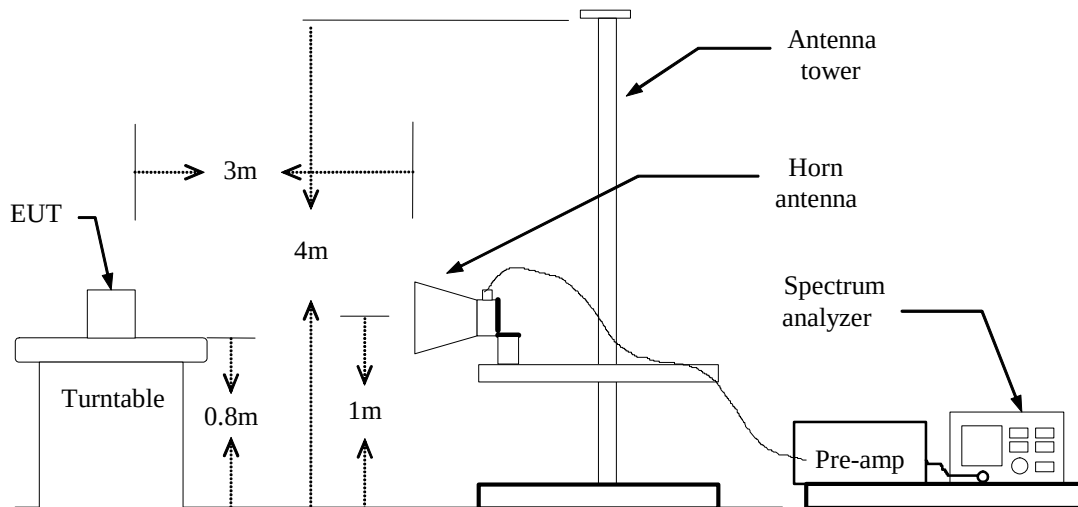


Below 1 GHz





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:

PEAK: RBW=VBW=1MHz / Sweep=AUTO, PEAK DETECTOR

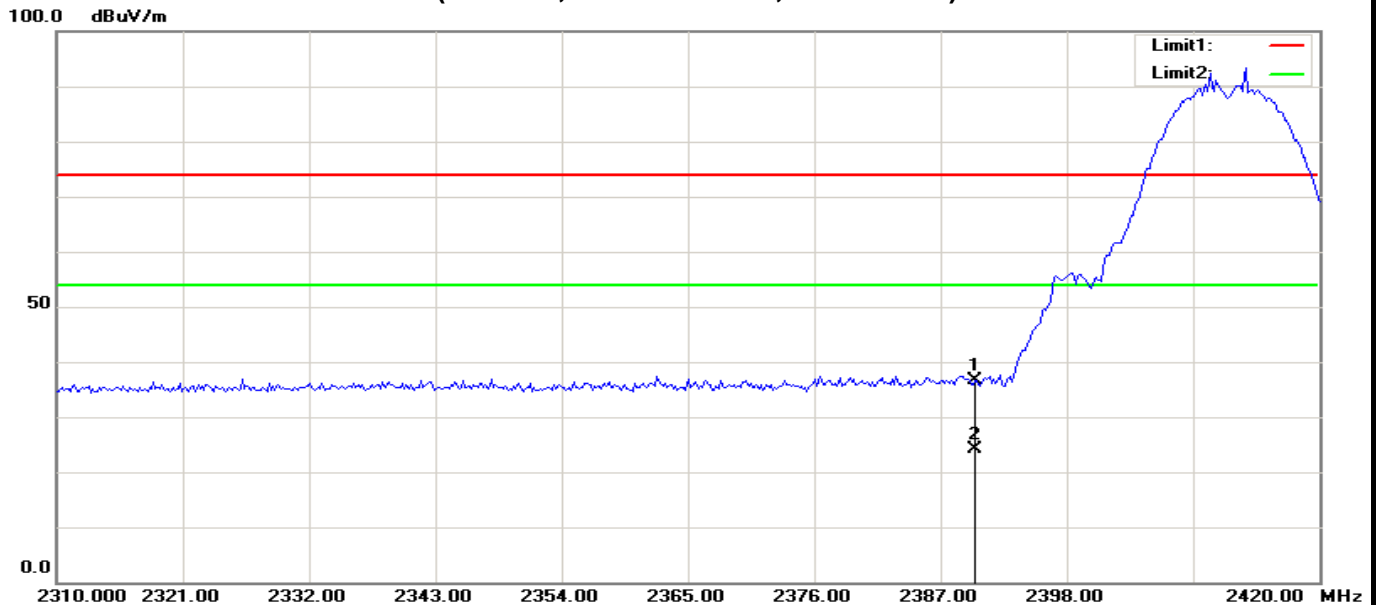
AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO, PEAK DETECTOR

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

TEST RESULTS

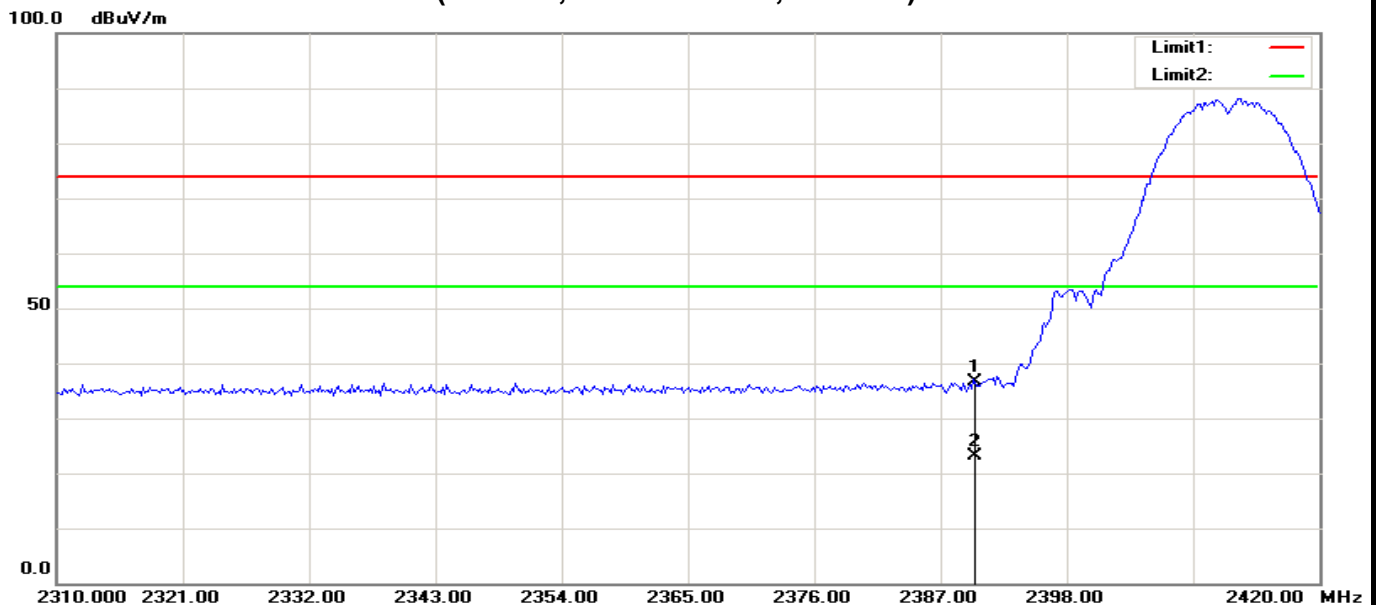


RESTRICTED BANDEDGE (b Mode, Low Channel, Horizontal)



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	49.25	-12.69	36.56	74.00	-37.44	100	307	peak
2	2390.000	36.70	-12.69	24.01	54.00	-29.99	100	307	AVG

RESTRICTED BANDEDGE (b Mode, Low Channel, Vertical)

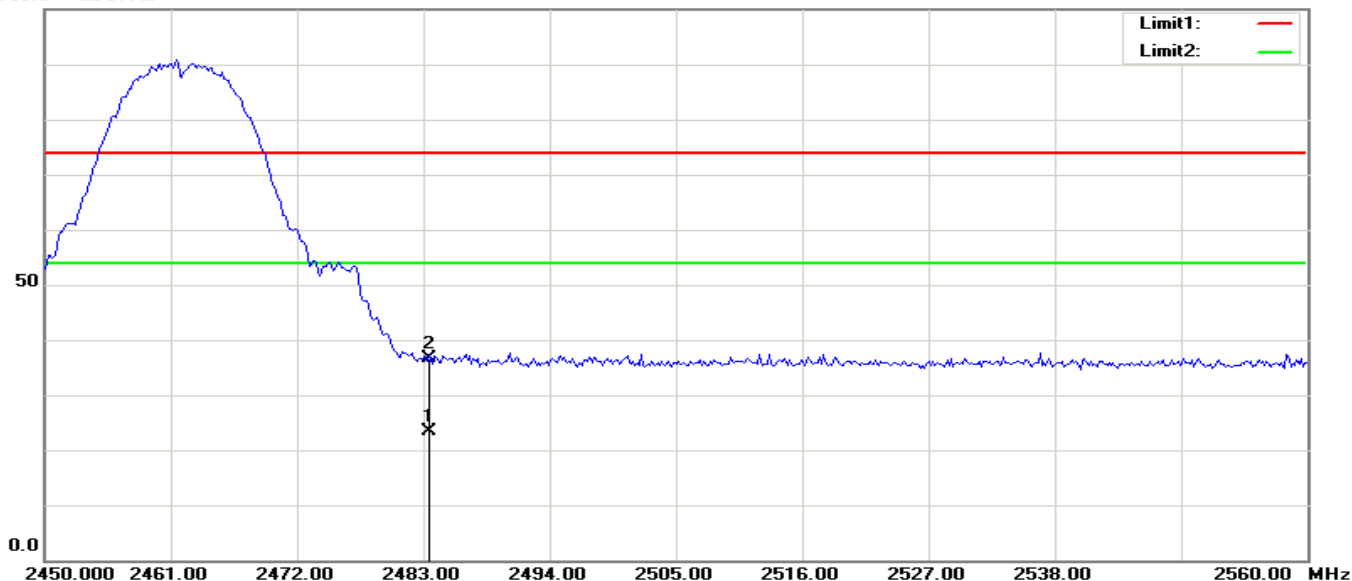


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	49.20	-12.69	36.51	74.00	-37.49	100	31	peak
2	2390.000	35.93	-12.69	23.24	54.00	-30.76	100	30	AVG



RESTRICTED BANDEDGE (b Mode, High Channel, Horizontal)

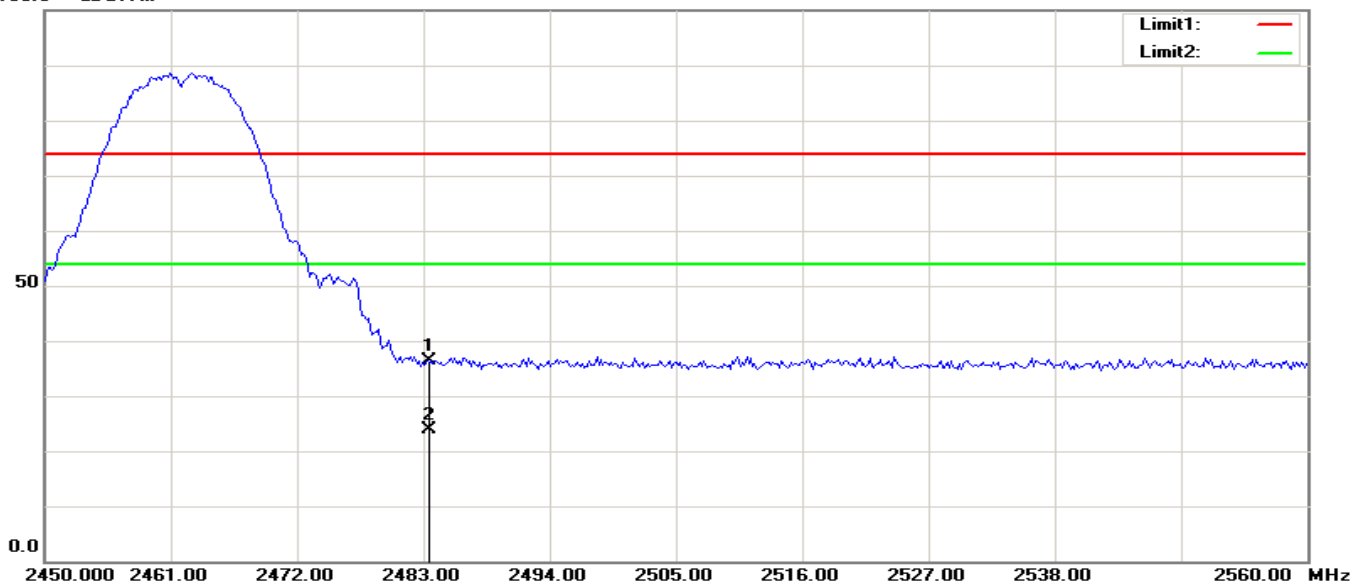
100.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.499	35.74	-12.27	23.47	54.00	-30.53	100	294	AVG
2	2483.500	49.01	-12.27	36.74	74.00	-37.26	100	295	peak

RESTRICTED BANDEDGE (b Mode, High Channel, Vertical)

100.0 dBuV/m

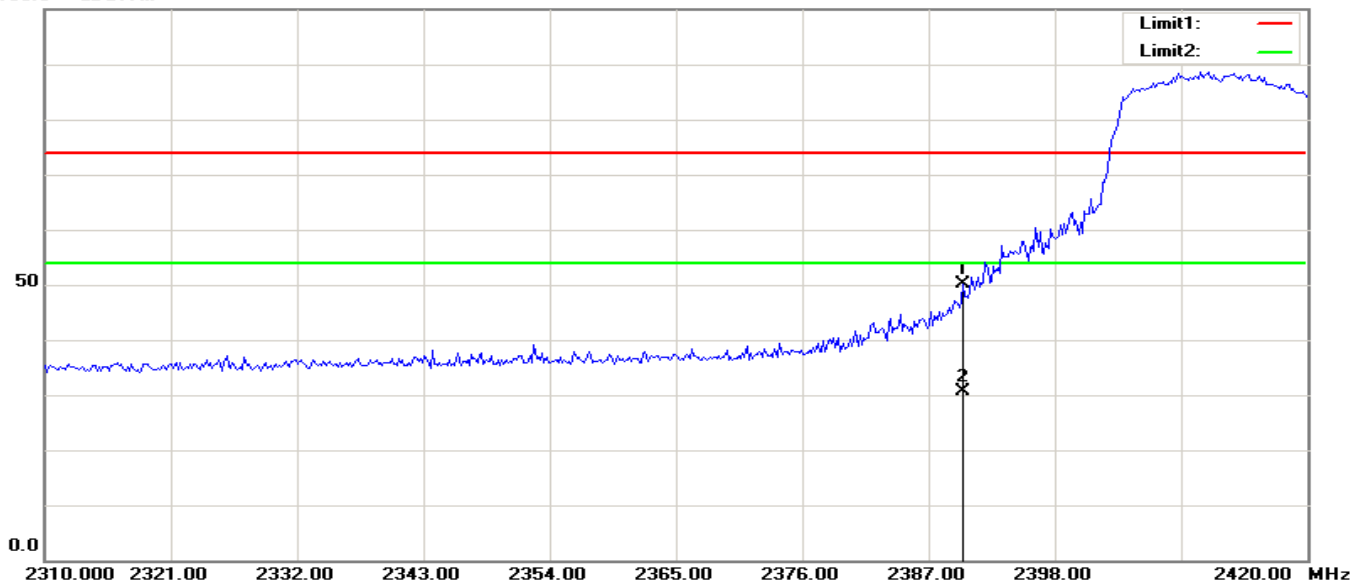


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	48.76	-12.27	36.49	74.00	-37.51	100	11	peak
2	2483.500	36.16	-12.27	23.89	54.00	-30.11	100	0	AVG



RESTRICTED BANDEDGE (g Mode, Low Channel, Horizontal)

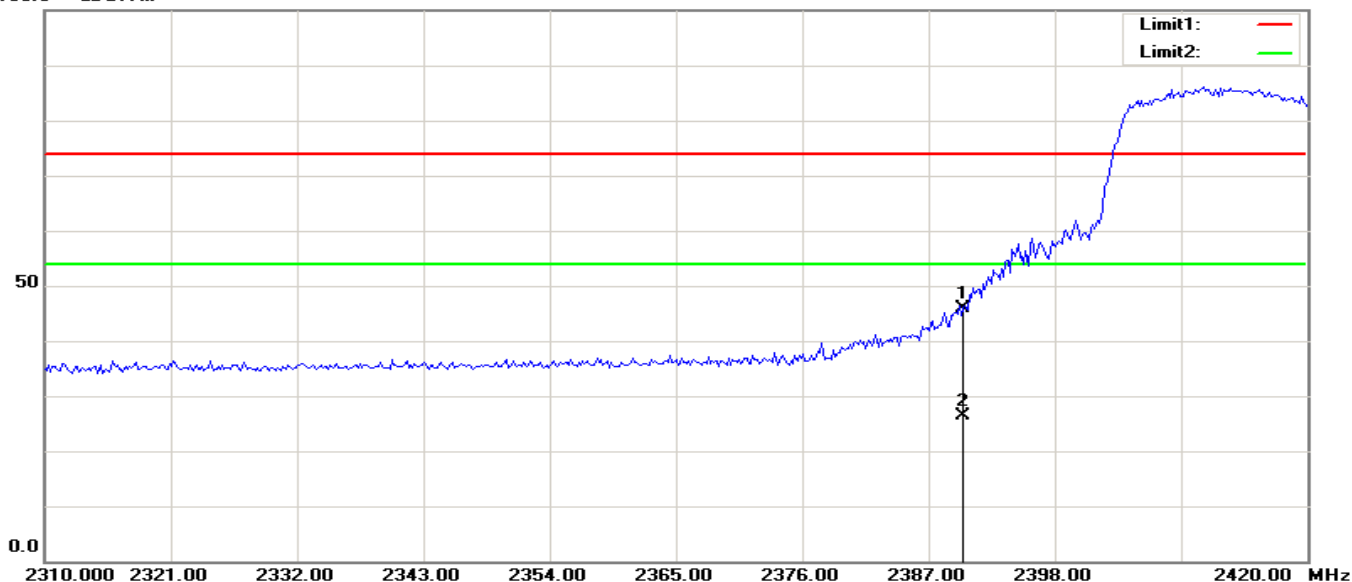
100.0 dBuV/m



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	62.87	-12.69	50.18	74.00	-23.82	100	245	peak
2	2390.000	43.28	-12.69	30.59	54.00	-23.41	100	360	AVG

RESTRICTED BANDEDGE (g Mode, Low Channel, Vertical)

100.0 dBuV/m

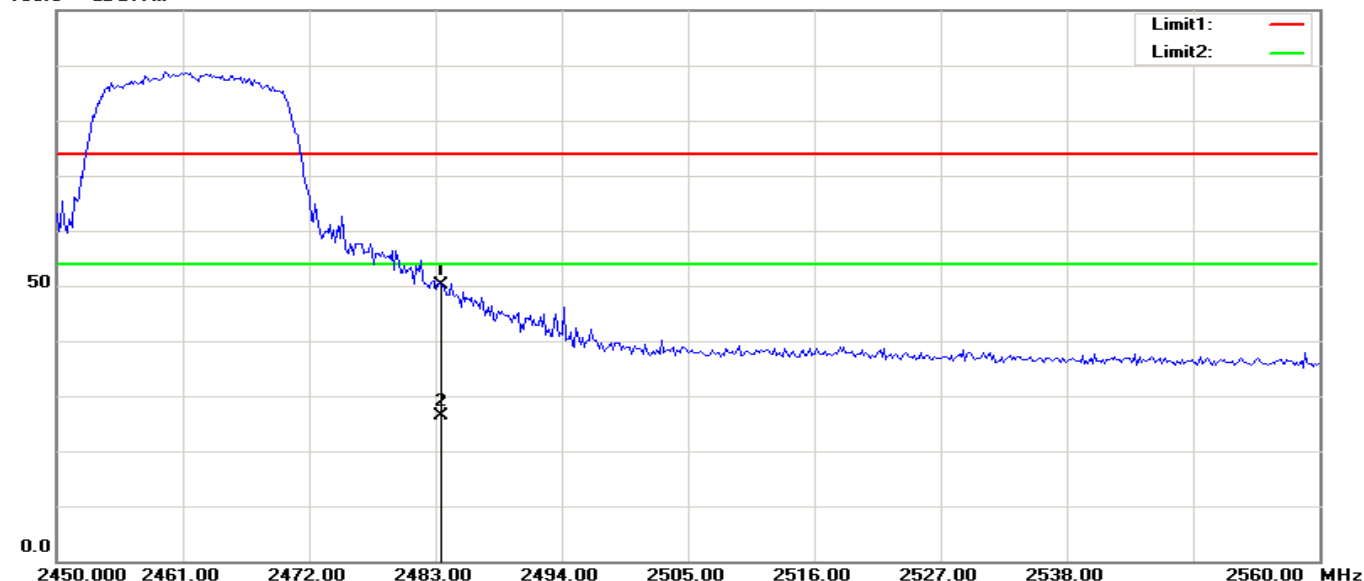


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	58.48	-12.69	45.79	74.00	-28.21	100	360	peak
2	2390.000	38.96	-12.69	26.27	54.00	-27.73	100	359	AVG



RESTRICTED BANDEDGE (g Mode, High Channel, Horizontal)

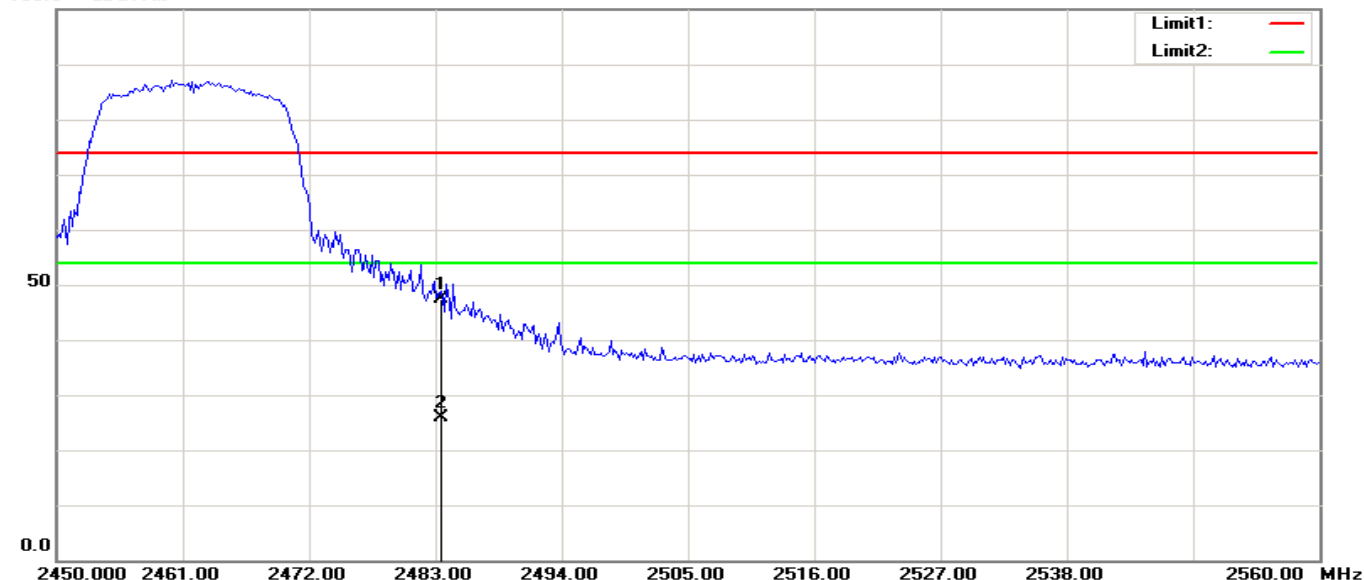
100.0 dBuV/m



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	62.42	-12.27	50.15	74.00	-23.85	100	0	peak
2	2483.500	38.56	-12.27	26.29	54.00	-27.71	100	360	AVG

RESTRICTED BANDEDGE (g Mode, High Channel, Vertical)

100.0 dBuV/m



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	59.71	-12.27	47.44	74.00	-26.56	100	25	peak
2	2483.500	38.06	-12.27	25.79	54.00	-28.21	100	26	AVG



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

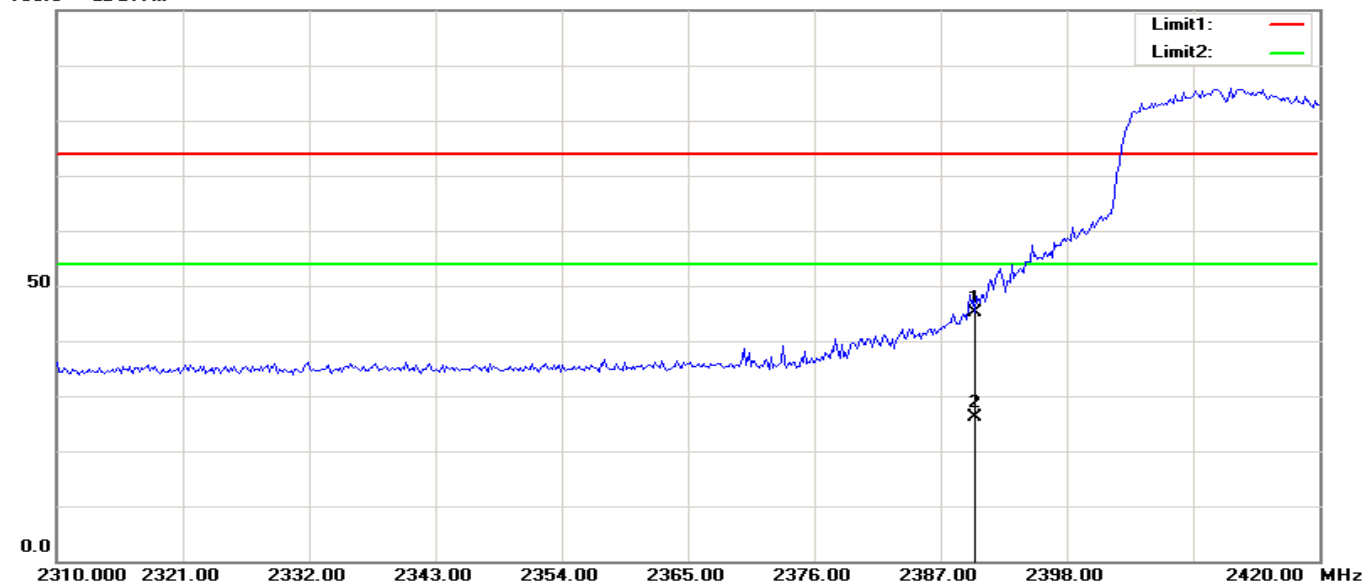
100.0 dBuV/m



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	65.26	-12.69	52.57	74.00	-21.43	100	278	peak
2	2390.000	44.10	-12.69	31.41	54.00	-22.59	100	279	AVG

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

100.0 dBuV/m

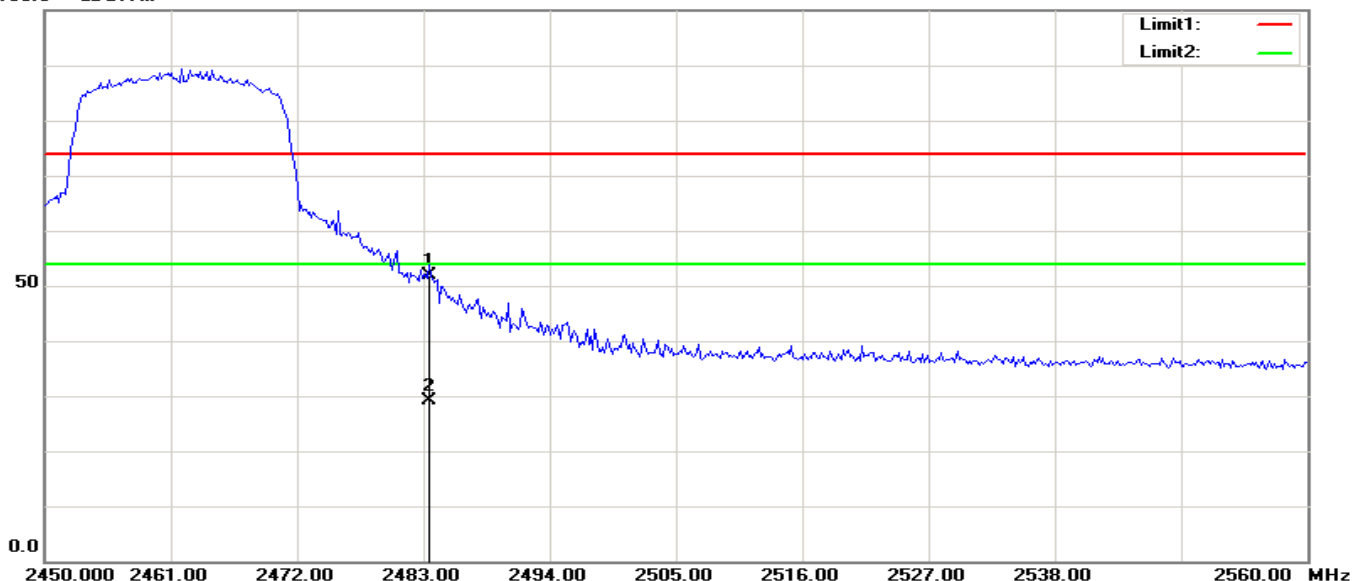


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	57.76	-12.69	45.07	74.00	-28.93	100	49	peak
2	2390.000	38.80	-12.69	26.11	54.00	-27.89	100	49	AVG



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

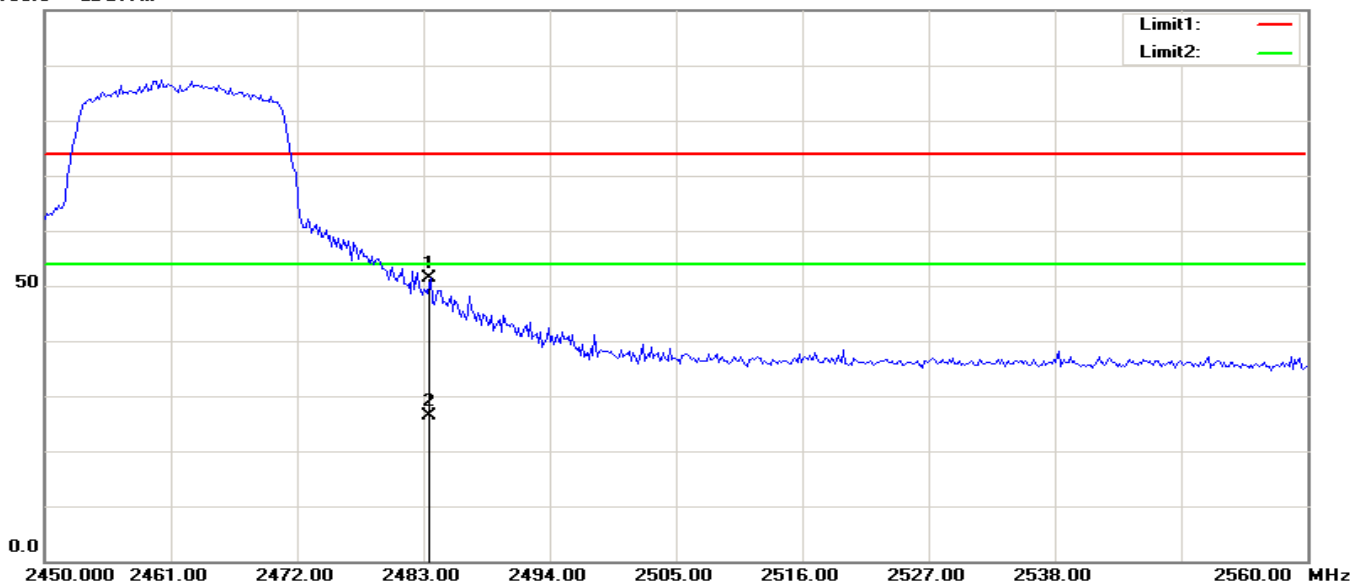
100.0 dBuV/m



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	64.18	-12.27	51.91	74.00	-22.09	100	306	peak
2	2483.500	41.40	-12.27	29.13	54.00	-24.87	100	307	AVG

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

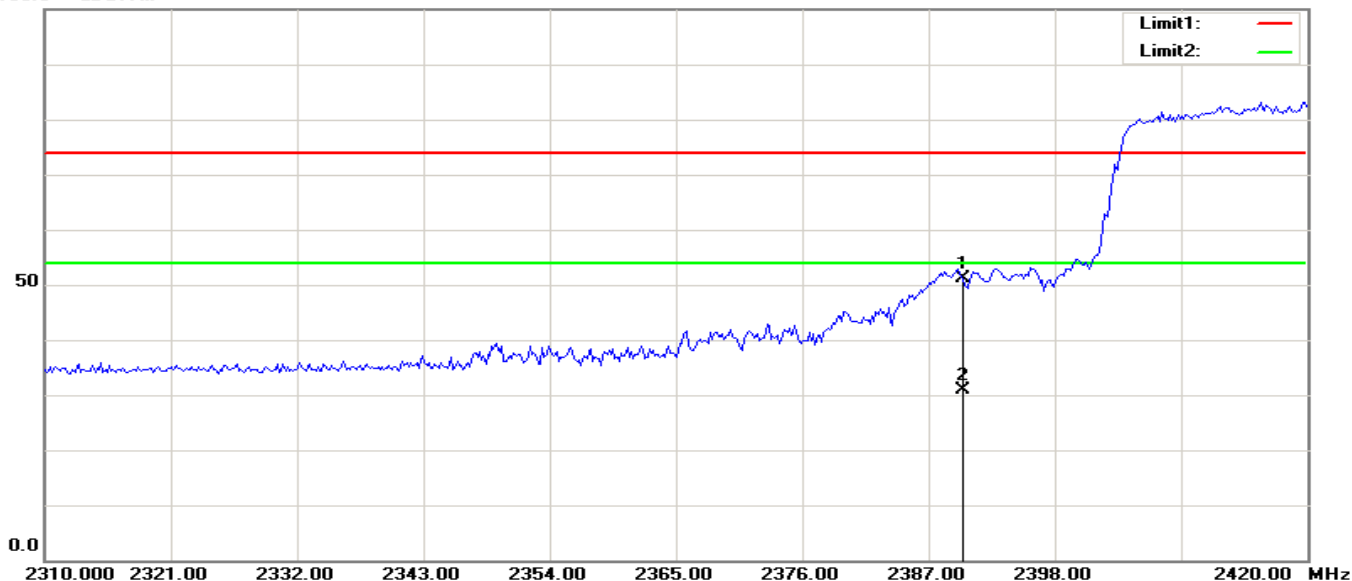
100.0 dBuV/m



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	63.59	-12.27	51.32	74.00	-22.68	100	10	peak
2	2483.500	38.70	-12.27	26.43	54.00	-27.57	100	11	AVG

**RESTRICTED BANDEDGE (n Wide -40 MHz Channel mode, Low Channel, Horizontal)**

100.0 dBuV/m



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	63.79	-12.69	51.10	74.00	-22.90	100	310	peak
2	2390.000	43.49	-12.69	30.80	54.00	-23.20	100	310	AVG

RESTRICTED BANDEDGE (n Wide -40 MHz Channel mode, Low Channel, Vertical)

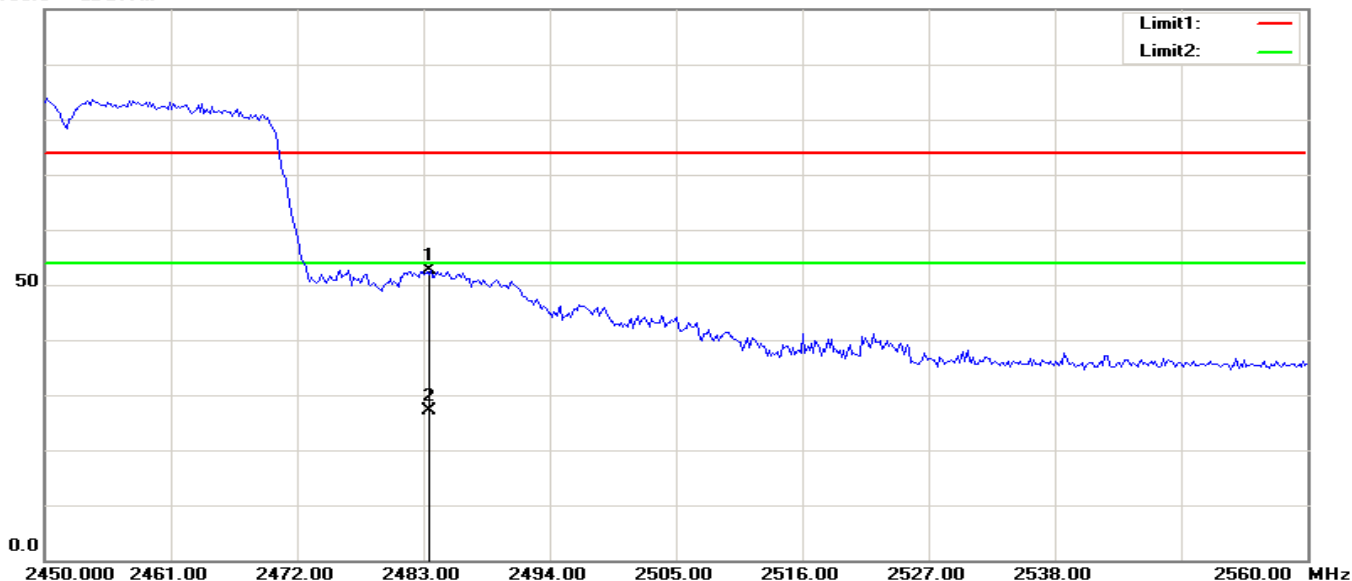
100.0 dBuV/m



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	60.82	-12.69	48.13	74.00	-25.87	100	14	peak
2	2390.000	41.66	-12.69	28.97	54.00	-25.03	100	14	AVG

**RESTRICTED BANDEDGE (n Wide -40 MHz Channel mode, High Channel, Horizontal)**

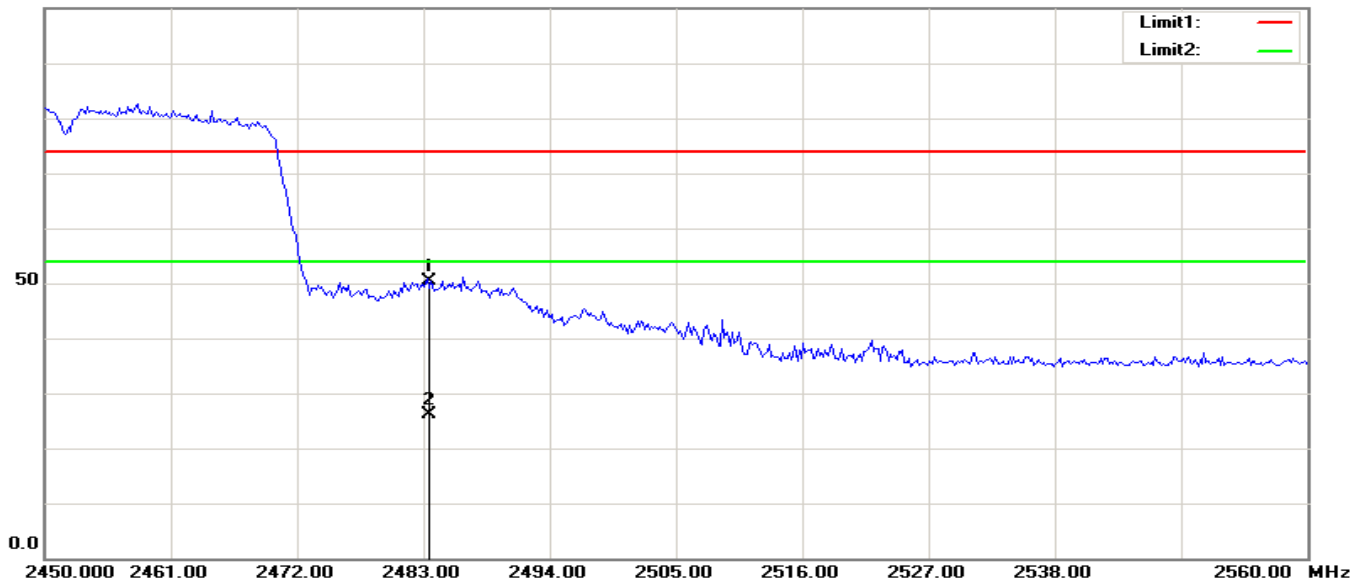
100.0 dBuV/m



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	64.88	-12.27	52.61	74.00	-21.39	100	314	peak
2	2483.500	39.35	-12.27	27.08	54.00	-26.92	100	313	AVG

RESTRICTED BANDEDGE (n Wide -40 MHz Channel mode, High Channel, Vertical)

100.0 dBuV/m



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	62.76	-12.27	50.49	74.00	-23.51	100	13	peak
2	2483.500	38.41	-12.27	26.14	54.00	-27.86	100	360	AVG



Below 1GHz

Operation Mode: Keeping TX

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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
119.2400	V	17.82	13.87	31.69	43.50	-11.81	Peak
212.3600	V	18.87	12.17	31.04	43.50	-12.46	Peak
470.3800	V	13.94	19.16	33.10	46.00	-12.90	Peak
720.6400	V	13.11	22.25	35.36	46.00	-10.64	Peak
895.2400	V	13.99	24.21	38.20	46.00	-7.80	Peak
956.3500	V	13.07	25.35	38.42	46.00	-7.58	Peak
32.9100	H	18.53	15.09	33.62	40.00	-6.38	Peak
119.2400	H	16.49	13.87	30.36	43.50	-13.14	Peak
145.4300	H	15.50	14.71	30.21	43.50	-13.29	Peak
209.4500	H	20.29	12.35	32.64	43.50	-10.86	Peak
385.0200	H	17.17	17.59	34.76	46.00	-11.24	Peak
901.0600	H	14.08	24.33	38.41	46.00	-7.59	Peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz (No emission found between lowest internal used/generated frequency to 30 MH).
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. $\text{Margin (dB)} = \text{Result (dBuV/m)} - \text{Limit (dBuV/m)}$.



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Above 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	52.50	-7.20	45.30	74.00	-28.70	100	216	peak
2	11107.372	43.44	8.57	52.01	74.00	-21.99	100	160	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4786.859	46.48	-7.30	39.18	74.00	-34.82	100	26	peak
2	9636.218	46.17	3.42	49.59	74.00	-24.41	100	351	peak
N/A									

Operation Mode: TX / IEEE 802.11b / CH Mid

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	50.58	-7.00	43.58	74.00	-30.42	100	214	peak
2	10698.718	43.78	7.81	51.59	74.00	-22.41	100	152	peak
N/A									

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	53.19	-7.00	46.19	74.00	-27.81	100	26	peak
2	9745.192	46.90	3.88	50.78	74.00	-23.22	100	256	peak
N/A									



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Operation Mode: TX / IEEE 802.11b / CH High**Test Date:** 2014-12-24**Temperature:** 24°C**Tested by:** James.Yan**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	51.01	-6.80	44.21	74.00	-29.79	100	214	peak
2	11597.756	44.28	8.10	52.38	74.00	-21.62	100	262	peak
N/A									

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	52.68	-6.80	45.88	74.00	-28.12	100	23	peak
2	9854.167	47.21	4.35	51.56	74.00	-22.44	100	262	peak
N/A									

Operation Mode: TX / IEEE 802.11g / CH Low**Test Date:** 2014-12-24**Temperature:** 24°C**Tested by:** James.Yan**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	4841.346	45.62	-7.10	38.52	74.00	-35.48	100	75	peak
2	9472.756	43.88	2.78	46.66	74.00	-27.34	100	136	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4786.859	46.48	-7.30	39.18	74.00	-34.82	100	51	peak
2	9636.218	46.17	3.42	49.59	74.00	-24.41	100	222	peak
N/A									



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Operation Mode: TX / IEEE 802.11g / CH Mid

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	5168.269	47.01	-5.98	41.03	74.00	-32.97	100	56	peak
2	12333.333	44.07	8.53	52.60	74.00	-21.40	100	92	peak
N/A									

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	46.34	-6.80	39.54	74.00	-34.46	100	315	peak
2	10916.667	42.30	8.43	50.73	74.00	-23.27	100	61	peak
N/A									

Operation Mode: TX / IEEE 802.11g / CH High

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	5168.269	47.24	-5.98	41.26	74.00	-32.74	100	222	peak
2	11979.167	42.97	7.52	50.49	74.00	-23.51	100	147	peak
N/A									

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	45.77	-6.90	38.87	74.00	-35.13	100	326	peak
2	9935.897	43.12	4.70	47.82	74.00	-26.18	100	295	peak
N/A									



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Operation Mode: TX / IEEE 802.11n HT20 mode / CH Low

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	4841.346	53.12	-7.10	46.02	74.00	-27.98	100	45	peak
2	9500.000	47.78	2.83	50.61	74.00	-23.39	100	168	peak
N/A									

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	55.29	-6.90	48.39	74.00	-25.61	100	296	peak
2	9745.192	48.79	3.88	52.67	74.00	-21.33	100	335	peak
N/A									

Operation Mode: TX / IEEE 802.11n HT20 mode / CH Mid

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	7020.833	46.41	0.14	46.55	74.00	-27.45	100	49	peak
2	11570.513	45.29	8.14	53.43	74.00	-20.57	100	154	peak
N/A									

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	55.04	-6.90	48.14	74.00	-25.86	100	227	peak
2	10508.013	46.44	7.27	53.71	74.00	-20.29	100	165	peak
N/A									



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Operation Mode: TX / IEEE 802.11n HT20 mode / CH High **Test Date:** 2014-12-24**Temperature:** 24°C**Tested by:** James.Yan**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	5059.295	45.79	-6.33	39.46	74.00	-34.54	100	337	peak
2	12251.603	42.44	8.28	50.72	74.00	-23.28	100	325	peak
N/A									

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	46.17	-7.00	39.17	74.00	-34.83	100	123	peak
2	10017.628	43.58	5.06	48.64	74.00	-25.36	100	322	peak
N/A									

Operation Mode: TX / IEEE 802.11n HT40 mode / CH Low **Test Date:** 2014-12-24**Temperature:** 24°C**Tested by:** James.Yan**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	4841.346	58.91	-7.10	51.81	74.00	-22.19	100	310	peak
2	7266.026	55.08	0.20	55.28	74.00	-18.72	100	244	peak
3	7266.026	35.82	0.20	36.02	54.00	-17.98	100	243	AVG
N/A									

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	56.53	-7.10	49.43	74.00	-24.57	100	2	peak
2	12360.577	44.19	8.62	52.81	74.00	-21.19	100	93	peak
N/A									



Compliance Certification Services Inc.

Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue :December 25, 2014

Operation Mode: TX / IEEE 802.11n HT40 mode / CH Mid

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	63.87	-7.00	56.87	74.00	-17.13	100	312	peak
2	7320.513	57.80	0.22	58.02	74.00	-15.98	100	312	peak
3	7320.513	42.22	0.22	42.44	54.00	-11.56	100	311	AVG
N/A									

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	60.84	-7.00	53.84	74.00	-20.16	100	16	peak
2	7293.269	52.84	0.21	53.05	74.00	-20.95	100	1	peak
N/A									

Operation Mode: TX / IEEE 802.11n HT40 mode / CH High

Test Date: 2014-12-24

Temperature: 24°C

Tested by: James.Yan

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	60.20	-6.90	53.30	74.00	-20.70	100	309	peak
2	7375.000	57.65	0.24	57.89	74.00	-16.11	100	311	peak
3	7375.000	36.68	0.24	36.92	54.00	-17.08	100	310	AVG
N/A									

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	57.07	-6.90	50.17	74.00	-23.83	100	2	peak
2	7347.756	52.50	0.23	52.73	74.00	-21.27	100	0	peak
N/A									



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.

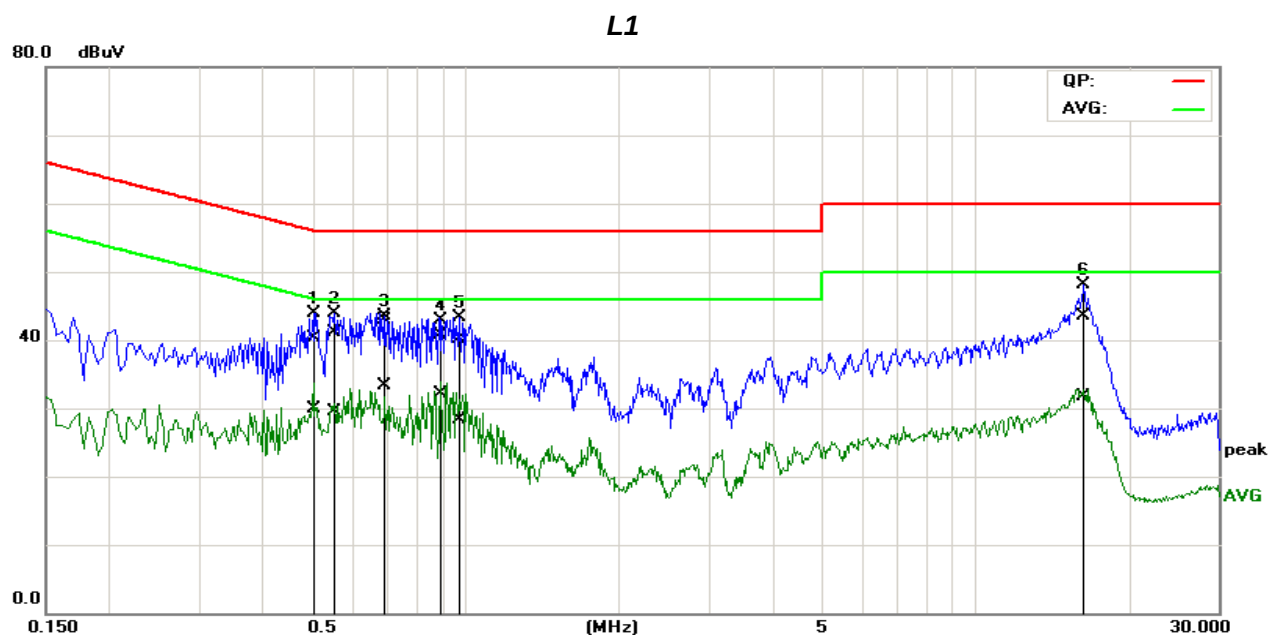
Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue : December 25, 2014

Job No.: C141224R01-RPW
Model: Q PAD
Standard: FCC Class B
Test item: Conduction test
Line: L1
Model:

Date: 2014-12-24
Time: 9:32:29
Temp.(C)/Hum.(%): 22(C)/48%
Test By: James.Yan
Test Voltage: AC 120V/60Hz
Description:



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	0.5012	20.50	10.05	19.83	40.33	29.88	56.00	46.00	-15.67	-16.12	Pass
2	0.5486	21.22	9.77	19.83	41.05	29.60	56.00	46.00	-14.95	-16.40	Pass
3*	0.6928	23.15	13.55	19.83	42.98	33.38	56.00	46.00	-13.02	-12.62	Pass
4	0.8947	20.92	12.21	19.84	40.76	32.05	56.00	46.00	-15.24	-13.95	Pass
5	0.9654	20.26	8.52	19.84	40.10	28.36	56.00	46.00	-15.90	-17.64	Pass
6	16.4239	22.60	10.87	20.92	43.52	31.79	60.00	50.00	-16.48	-18.21	Pass

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



Compliance Certification Services Inc.

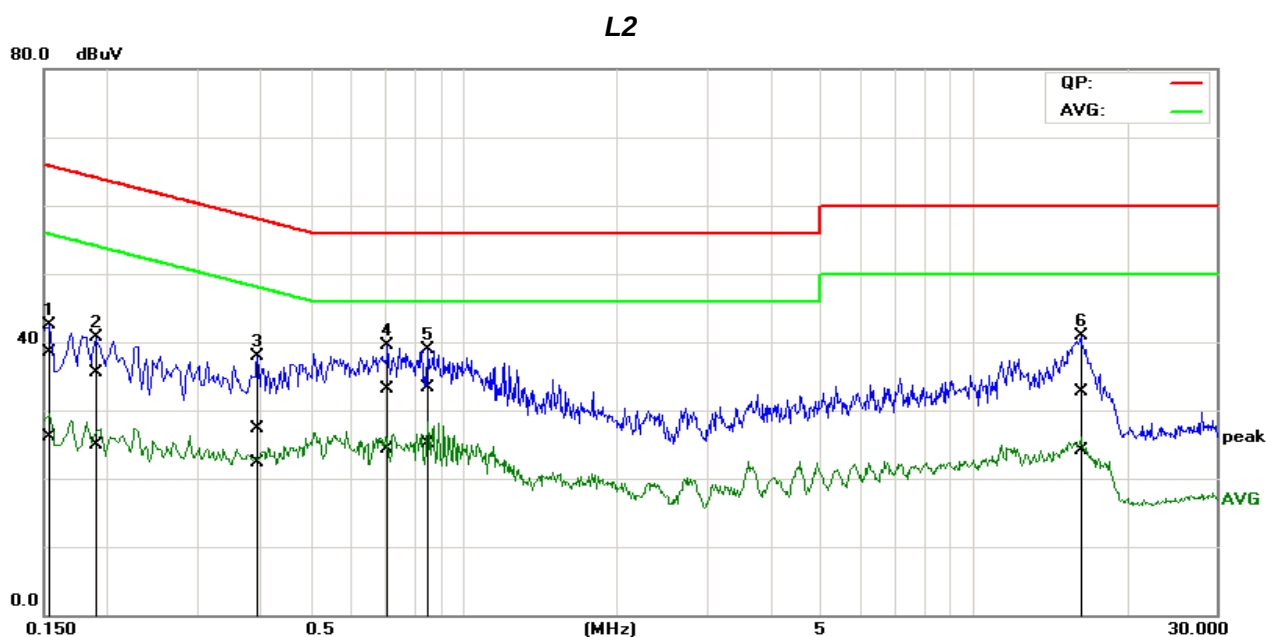
Report No: C141224R01-RPW

FCC ID: ZTP-QPAD

Date of Issue : December 25, 2014

Job No.: C141224R01-RPW
Model: Q PAD
Standard: FCC Class B
Test item: Conduction test
Line: L2
Model:

Date: 2014-12-24
Time: 9:36:59
Temp.(C)/Hum.(%): 22(C)/48%
Test By: James.Yan
Test Voltage: AC 120V/60Hz
Description:



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	0.1524	18.84	6.33	19.73	38.57	26.06	65.87	55.87	-27.30	-29.81	Pass
2	0.1865	15.92	5.17	19.66	35.58	24.83	64.19	54.19	-28.61	-29.36	Pass
3	0.3946	7.62	2.57	19.78	27.40	22.35	57.97	47.97	-30.57	-25.62	Pass
4	0.7028	13.23	4.39	19.84	33.07	24.23	56.00	46.00	-22.93	-21.77	Pass
5*	0.8354	13.57	5.19	19.83	33.40	25.02	56.00	46.00	-22.60	-20.98	Pass
6	16.2493	11.94	3.28	20.78	32.72	24.06	60.00	50.00	-27.28	-25.94	Pass

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