FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Product Name: Indoor Air Quality Monitor Device
Brand Name: DST TECHNOLOGY
Model No.: NANO
Series Model.: N/A
FCC ID: 2ARGN-NANO
Test Report Number:
C180615R01-RPW

Issued for

Shanghai DST Technology Co.,Ltd.
17F 1313 Jiangchang Road, Jingan District, Shanghai, China

Issued by

Compliance Certification Services Inc.
Kun shan Laboratory
No.10 Weiye Rd., Innovation park, Eco&Tec,
Development Zone, Kunshan City, Jiangsu, China
TEL: 86-512-57355888
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TESTING CERT #2541.01

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	October 16, 2018	C180615R01-RPW	ALL	N/A
01	January 3, 2019	C180615R01-RPW	P5; P65-P66; P81-P84	Revise antenna gain; Add the data of below 1GHz of radiated emissions and AC powerline conducted emissions for adapter2

1. TEST RESULT CERTIFICATION

Product Name:	Indoor Air Quality Monitor Device
Trade Name:	DST TECHNOLOGY
Model Name.:	NANO
Series Model:	N/A
Applicant Discrepancy:	Initial
Device Category:	mobile unit
Date of Test:	July 7, 2018~September 13, 2018
Applicant:	**Shanghai DST Technology Co.,Ltd.** 17F 1313 Jiangchang Road, Jingan District, Shanghai, China
Manufacturer:	**Shanghai DST Technology Co.,Ltd.** 17F 1313 Jiangchang Road, Jingan District, Shanghai, China
Application Type:	Certification

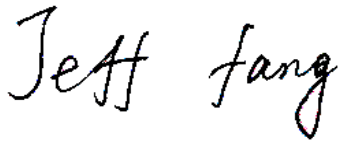
APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart C	No non-compliance noted

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 C63.10: 2013 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.

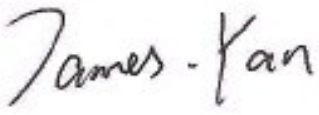
The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:



Jeff.Fang
Manager
Compliance Certification Services Inc.

Reviewed by:



James.Yan
RF Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product Name:	Indoor Air Quality Monitor Device
Brand Name:	DST TECHNOLOGY
Model Name:	NANO
Series Model:	N/A
Model Discrepancy:	N/A
EUT Power Rating:	Adapter1 Model: A241-2401000U Input: 100-240V ~50/60Hz 0.8A Output: 24V⎓1000mA Adapter2 Model: SAPC24024 US Input: 100-240V ~50/60Hz 0.6A Max Output: 24V⎓1.0A
Test Voltage	AC120V/60Hz
Frequency Range:	IEEE 802.11b/g: 2412MHz to 2462 MHz IEEE 802.11n HT20: 2412MHz to 2462 MHz
Max Peak Output Power:	IEEE 802.11b mode: 21.31dBm IEEE 802.11g mode: 24.85dBm IEEE 802.11n HT20 mode: 23.53dBm
Max Average Output Power:	IEEE 802.11b mode: 18.28dBm IEEE 802.11g mode: 14.43dBm IEEE 802.11n HT20 mode: 13.30dBm
Modulation Technique:	IEEE802.11b mode: DSSS (1,2,5.5 and 11 Mbps) IEEE802.11g mode: OFDM (6,9,12,18,24,36,48 and 54 Mbps) IEEE802.11n HT20 mode: OFDM (MCS0~MCS7)
Number of Channels:	IEEE 802.11b/g mode: 11 Channels IEEE 802.11n HT20: 11 Channels
Antenna Specification:	PCB antenna Gain: 1.82dBi

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: 2ARGN-NANO*** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.

3. SUMMARY OF THE TEST RESULT

FCC 47 CFR Part 15, Subpart C 15.247			
Part	**Rule section**	**Description of Test**	**Result**
8.1	47 CFR Part 15, Subpart C 15.247	6db Bandwidth	Compliance
8.2	47 CFR Part 15, Subpart C 15.247	Peak Power	Compliance
8.3	47 CFR Part 15, Subpart C 15.247	Peak Power Spectral Density	Compliance
8.4	47 CFR Part 15, Subpart C 15.247	Spurious Emissions	Compliance
8.5	47 CFR Part 15, Subpart C 15.247	Radiated Emissions	Compliance
8.6	47 CFR Part 15, Subpart C 15.247	Powerline Conducted Emissions	Compliance

4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10 2013 and FCC CFR 47 15.207, 15.209, 15.247 and KDB 558074.

4.1.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.

4.2.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.

4.3.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 6.2 of ANSI C63.10 2013 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

Under 1GHz

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 6.4 & 6.5 of ANSI C63.10:2013.

Above 1GHz

The EUT is placed on a turn table, which is 1.5 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 6.6 of ANSI C63.10:2013.

4.4.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.

4.5.DESCRIPTION OF TEST MODES

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 802.11n HT20 MHz Channel mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

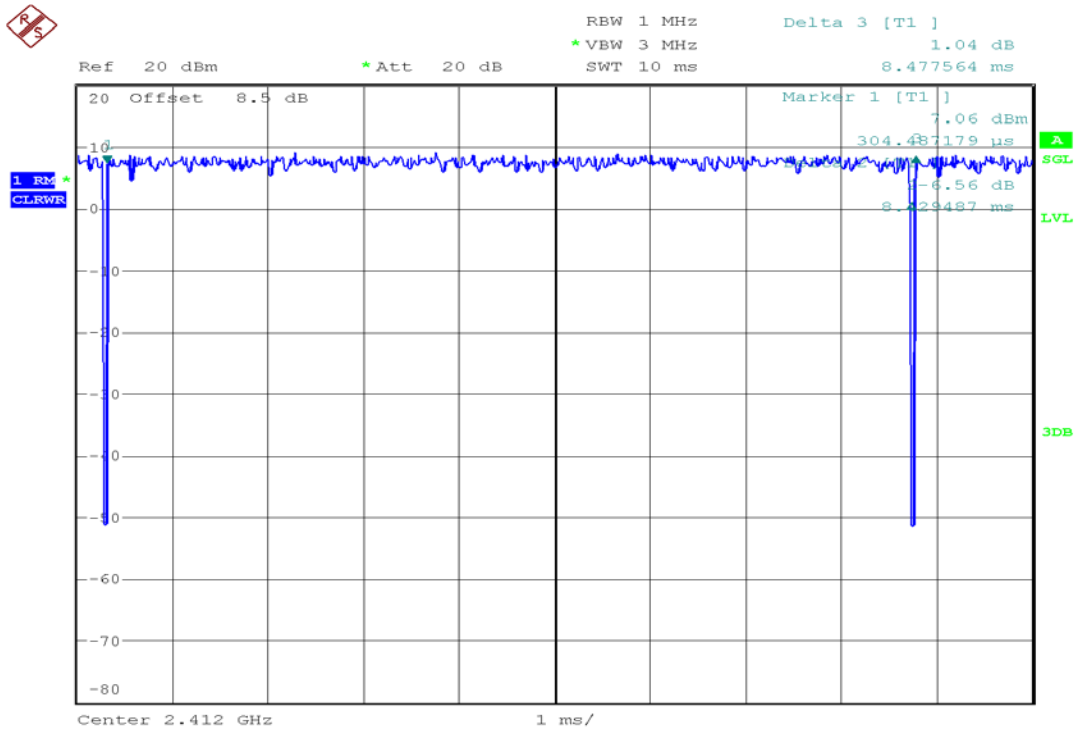
Channel High (2462MHz) with MCS0 data rate was chosen for full testing.

Note 1: After the preliminary scan the EUT with Adapter 1 was the worst mode, which mode data was recorded.

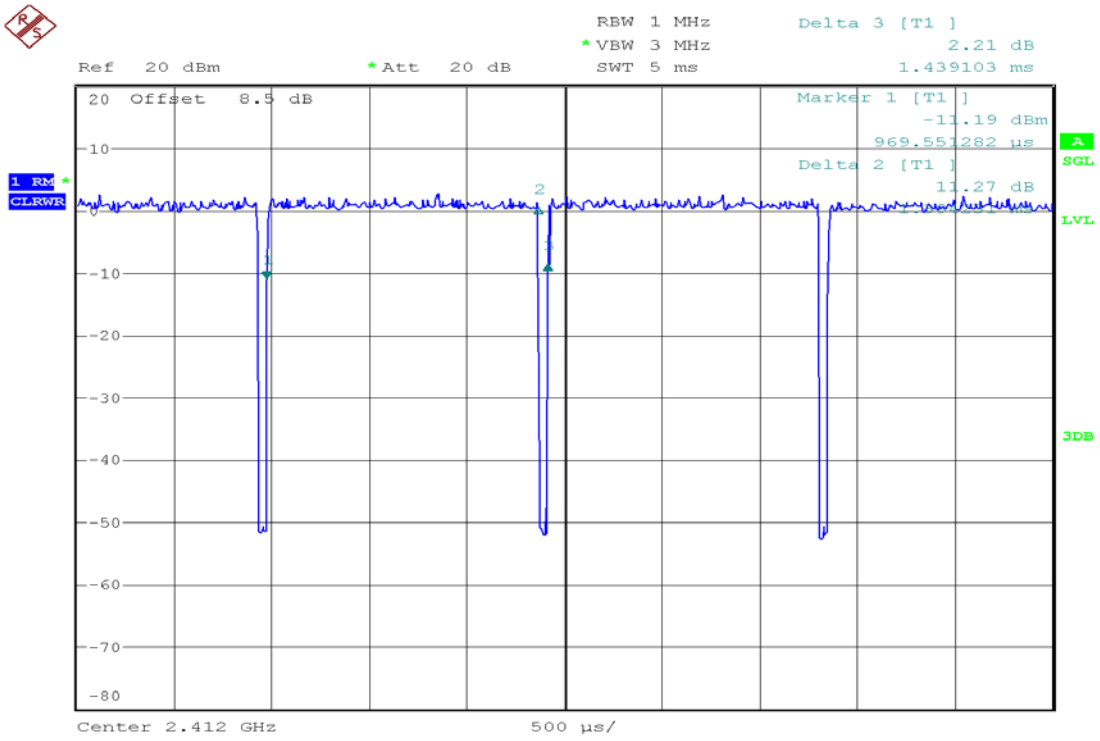
4.6.DUTY CYCLE

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
IEEE 802.11 b	99.42	-	-	10Hz
IEEE 802.11 g	96.87	1.394	0.72	1KHz
IEEE 802.11n HT20	96.67	1.306	0.77	1KHz

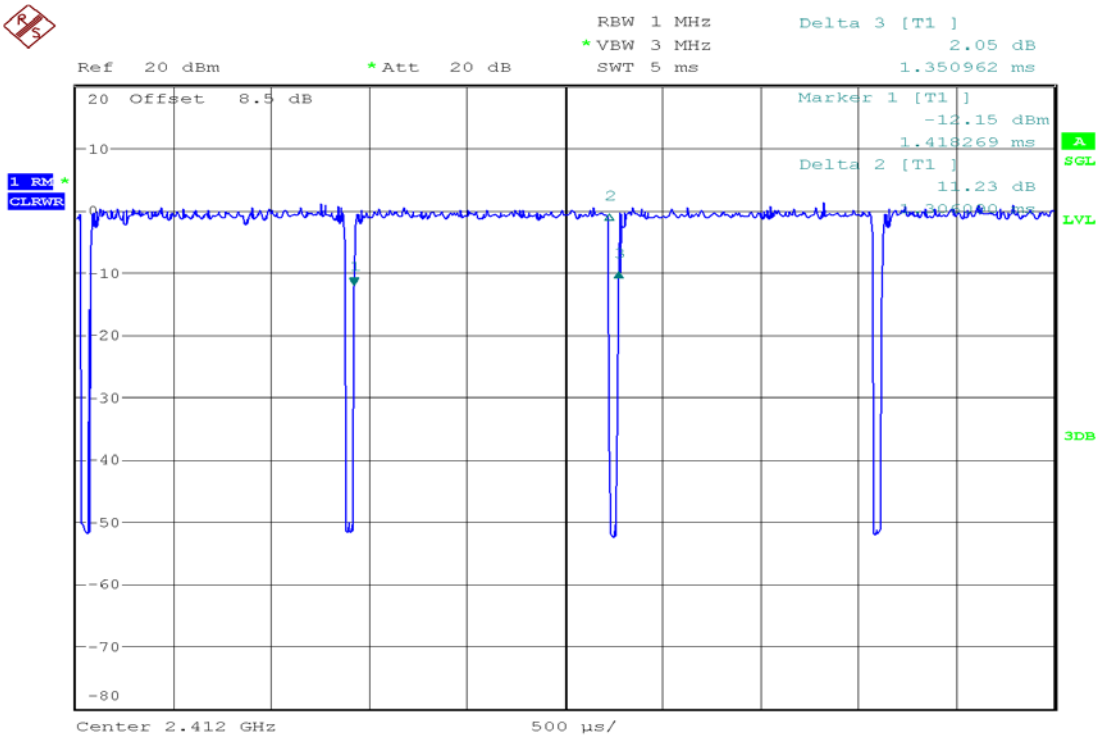
IEEE 802.11 b



IEEE 802.11 g



IEEE 802.11n HT20

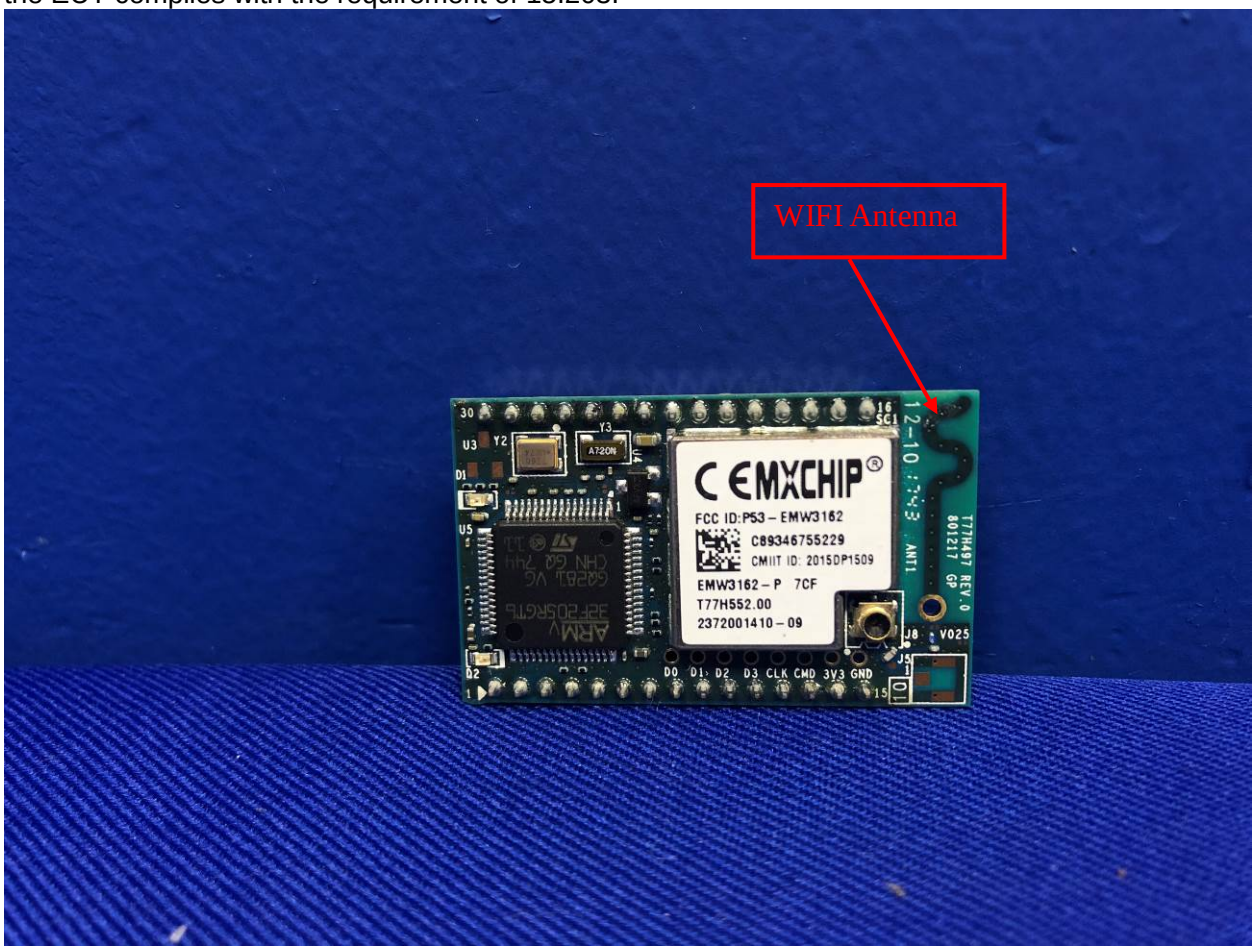


4.7.ANTENNA DESCRIPTION

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”

As the photo below, the EUT use a unique coupling to the intentional radiator attached antenna, so the EUT complies with the requirement of 15.203.



5. INSTRUMENT CALIBRATION

5.1.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 Data**	**Calibration Due**
Spectrum Analyzer	RS	FSU26	200789	2017-7-20	2018-7-19
Spectrum Analyzer	RS	FSU26	200789	2018-7-13	2019-7-12
Signal Analyzer	R&S	FSV40	101493	2017-12-18	2018-12-17
Power meter	Anritsu	ML2495A	1445010	2018-4-26	2019-4-25
Power sensor	Anritsu	MA2411B	1339220	2018-4-26	2019-4-25
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	N.C.R	N.C.R
DC Power Supply	AGILENT	E3632A	MY50340053	N.C.R	N.C.R
Cable	N/A	Cable-05	N/A	2018-4-24	2019-4-23
Cable	N/A	Cable-06	N/A	2018-4-24	2019-4-23
6dB Attenuator	N/A	N/A	N/A	2018-4-24	2019-4-23
Temp. / Humidity Gauge	Anymetre	TH603	CCS007	2017-10-24	2018-10-23

Conducted Emission					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
EMI TEST RECEIVER	R&S	ESCI	100781	2018-2-26	2019-2-25
V (V-LISN)	SCHWARZBECK	NNLK 8129	8129-143	2017-10-29	2018-10-28
TWO-LINE V-NETWORK	R&S	ENV216	101604	2017-10-29	2018-10-28
Pulse LIMITER	R&S	ESH3-Z2	100524	2017-12-27	2018-12-26
Cable	Thermax	Cable-02	14	2017-12-27	2018-12-26
Test Software			EZ-EMC ver.3A1		

977 Chamber					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Data**	**Calibration Due**
Spectrum Analyzer	RS	FSU26	200789	2017-7-20	2018-7-19
Spectrum Analyzer	RS	FSU26	200789	2018-7-13	2019-7-12
Signal Analyzer	R&S	FSV40	101493	2017-12-18	2018-12-17
EMI Test Receiver	R&S	ESCI	101378	2017-12-27	2018-12-26
Amplifier	COM-POWER	PAM-840A	461332	2017-11-29	2018-11-28
Amplifier	COM-POWER	PAM-118A	551044	2018-4-26	2019-4-25
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9170	9170-515	2018-2-27	2019-2-26
Bilog Antenna	Teseq	CBL 6112D	36996	2018-7-7	2019-7-6
Loop Antenna	COM-POWER	AL-130R	10160008	2018-5-8	2019-5-7
Horn-antenna	SCHWARZBECK	9120D	D:266	2018-2-26	2019-2-25
Horn-antenna	SCHWARZBECK	9120D	D:267	2017-11-5	2018-11-4
Turn Table	CT	CT123	4165	N.C.R	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R	N.C.R
Controller	CT	CT1OO	95637	N.C.R	N.C.R
Cable	REBES MICROWAVE	Cable-93	N/A	2017-10-29	2018-10-28
Cable	REBES MICROWAVE	Cable-94	N/A	2017-10-29	2018-10-28
Cable	REBES MICROWAVE	Cable-95	N/A	2017-10-29	2018-10-28
Cable	N/A	Cable-03	N/A	2018-4-24	2019-4-23
Cable	N/A	Cable-04	N/A	2018-4-24	2019-4-23
2.4G Filter	N/A	N/A	N/A	2018-4-24	2019-4-23
Test Software			EZ-EMC ver.3A1		

Remark: *Each piece of equipment is scheduled for calibration once a year.*

5.2.MEASUREMENT UNCERTAINTY

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR 100 028-1 [2] and shall correspond to an expansion factor (coverage factor) k = 1,96 or k = 2 (which provide confidence levels of respectively 95 % and 95,45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).
Table 6 is based on such expansion factors.

Table 6: Maximum measurement uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.129dB
Unwanted Emissions, conducted	±2.406dB
RF Power density, conducted	±2.379dB
Conducted emissions	±2.582dB
All emissions, radiated (Below 1GHz)	±4.725dB
All emissions, radiated (Above 1GHz)	± 4.818dB
Temperature	±0.3dB
Supply voltages	±0.2%

6. FACILITIES AND ACCREDITATIONS

6.1.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 C63.10 2013 and CISPR Publication 22.

6.2.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.”

6.3.LABORATORY ACCREDITATIONS AND LISTING

FCC –Designation Number: CN1172.

Compliance Certification Services Inc. Kun shan Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Designation Number: CN1172.

6.4.TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC, Part 15,Subpart B (using ANSI 63.4 :2009 and ANSI C63.4:2014);ICES-003; 47 CFR FCC, Part 18(using MP-5:1986);ICES-001;VCCI - V3; VCCI-CISPR-32(up to 6GHz);VCCI 32-1;CNS 13438(up to 6GHz); CNS 13439; CNS 13803; CISPR 11; EN 55011; CISPR 13; EN 55013; CISPR 22; EN 55022; AS/NZS CISPR 22;CISPR32;EN55032; AS/NZS CISPR 32;EN55014-1(excluding clicks);CISPR 14-1(excluding clicks);EN55015;CISPR 15; IEC 61000-3-2; EN 61000-3-2; AS/NZS 61000.3.2 IEC 61000-3-3; EN 61000-3-3; AS/NZS 61000.3.3 IEC 61000-4-2; EN 61000-4-2; AS/NZS 61000.4.2 IEC 61000-4-3; EN 61000-4-3; AS/NZS 61000.4.3 IEC 61000-4-4; EN 61000-4-4; AS/NZS 61000.4.4 IEC 61000-4-5; EN 61000-4-5; AS/NZS 61000.4.5 IEC 61000-4-6; EN 61000-4-6; AS/NZS 61000.4.6 IEC 61000-4-8; EN 61000-4-8; AS/NZS 61000.4.8 IEC 61000-4-11; EN 61000-4-11; AS/NZS 61000.4.11 EN 61000-6-1; EN 61000-6-2; EN 61000-6-3 (excluding discontinuous interference); EN 61000-6-4; IEC 61000-6-1; IEC 61000-6-2; IEC 61000-6-3 (excluding discontinuous interference); IEC 61000-6-4; AS/NZS 61000.6.1; AS/NZS 61000.6.2; AS/NZS 61000.6.3 (excluding discontinuous interference); AS/NZS 61000.6.4; EN 55024; CISPR 24; AS/NZS CISPR 24; EN 61547; IEC 61547; EN 60601-1-2; IEC 60601-1-2; EN 50130-4; EN 55014-2; CISPR 14-2; EN 62040-2; IEC 62040-2; EN 61204-3; IEC 61204-3; EN 50121-1; EN 50121-3-2; EN 50121-4; EN 50121-5; EN 50155 (clauses 5.4 and 5.5); EN 61326-1; IEC 61326-1; EN 50083-2; EN 300 386; EN 301 489-1 (excluding Section 9.6); EN 301 489-3; EN 301 489-7; EN 301 489-17; EN 301 489-19; EN 301 489-24; EN 301 489-25; EN 301 489-34 FCC Part 15, Subparts 15C, 15E (KDB 905462 D03 (v01r02))(using ANSI C63.4:2009, ANSI C63.4:2014 and ANSI C63.10:2013) FCC Parts 22E, 24E (using ANSI/TIA-603-D) RSS-132; RSS-133; RSS-210; RSS-247 (excluding DFS testing) EN 300 220-1; EN 300 220-2; EN 300 328; EN 300 330-1; EN 300 330-2; EN 300 440-1; EN 300 440-2; EN 301 893 (excluding DFS testing); EN 301 511(clauses 4.2.12 to 4.2.19, and 5.2.12 to 5.2.19); EN 301 908-1 (clauses 4.2.2, 4.2.3, 5.3.1, and 5.3.2);	

		EN 301 908-2 (clauses 4.2.4, 4.2.10, 5.3.3, and 5.3.9) AS/NZS 4268 IEEE Std 1528:2013; EN 50360; EN 50566; EN 62479; EN 50383; EN 50385; EN 62311; IEC 62209-1; EN 62209-1; IEC 62209-2; EN 62209-2; CNS 14958-1; CNS 14959; RSS-102; ACMA Radio Communications (Electromagnetic Radiation – Human Exposure) Standard 2014	
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	CN1172
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	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.*

7. SETUP OF EQUIPMENT UNDER TEST

7.1.SETUP CONFIGURATION OF EUT

See test photographs attached in Setup photo for the actual connections between EUT and support equipment.

7.2.SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID
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.*

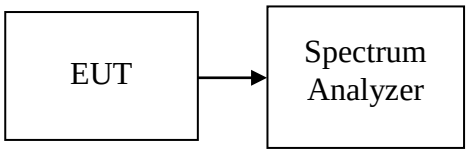
8. FCC PART 15.247 REQUIREMENTS

8.1.6DB BANDWIDTH

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 testing follows Sub-clause 11.8 of ANSI C63.10.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. Measure and record the results in the test report.

TEST RESULTS

No non-compliance noted

Test Data

IEEE 802.11b mode

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	9.551	>500	PASS
Mid	2437	9.038		PASS
High	2462	9.487		PASS

IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.538	>500	PASS
Mid	2437	16.474		PASS
High	2462	16.474		PASS

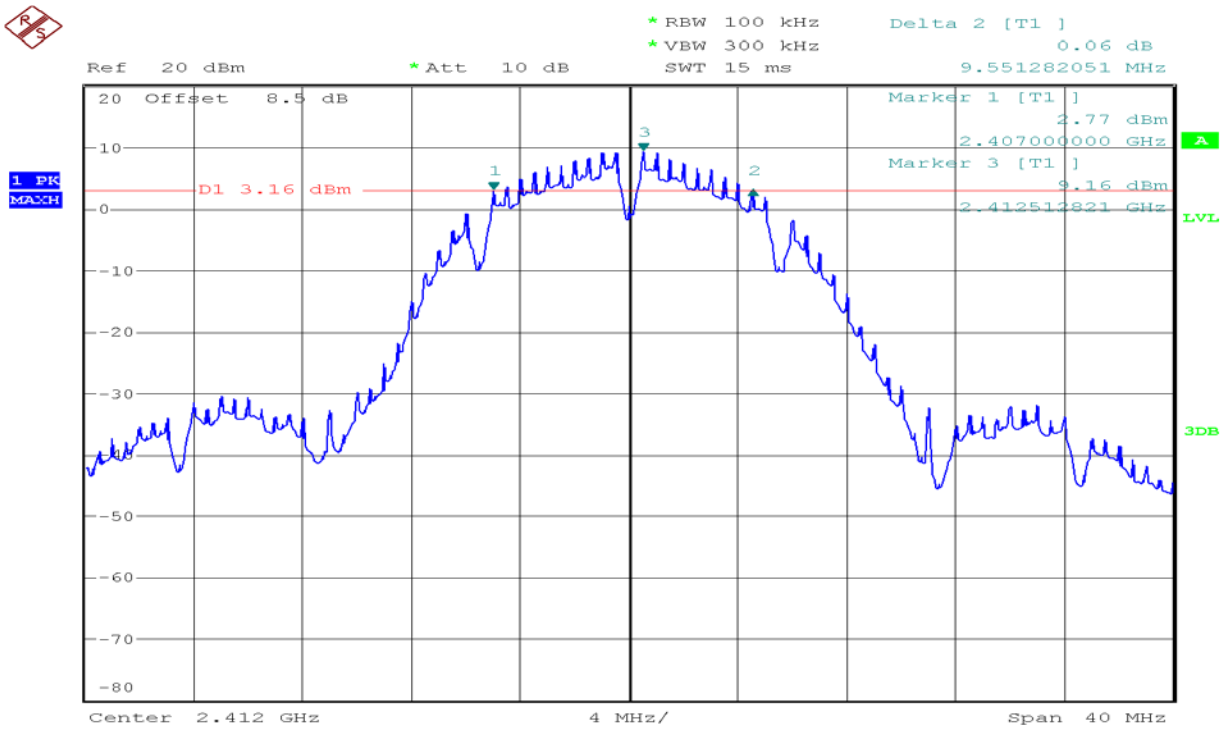
IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.692	>500	PASS
Mid	2437	17.628		PASS
High	2462	17.628		PASS

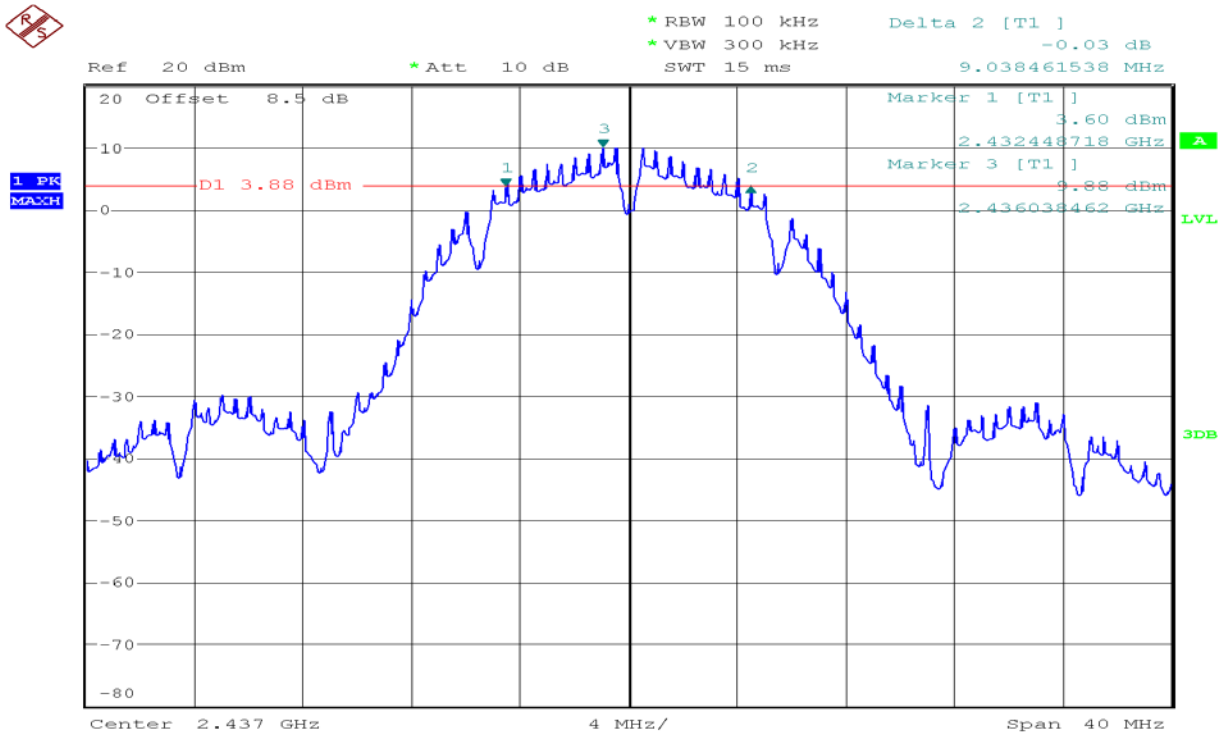
Test Plot

IEEE 802.11b MODE

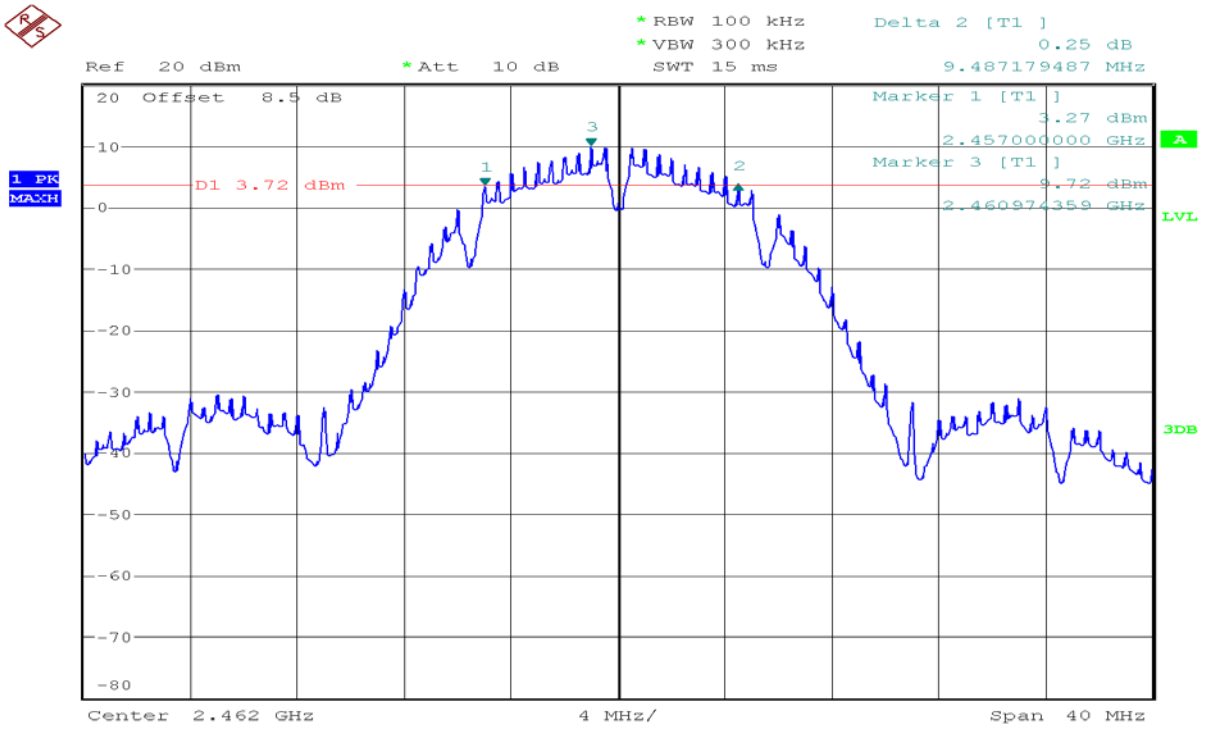
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

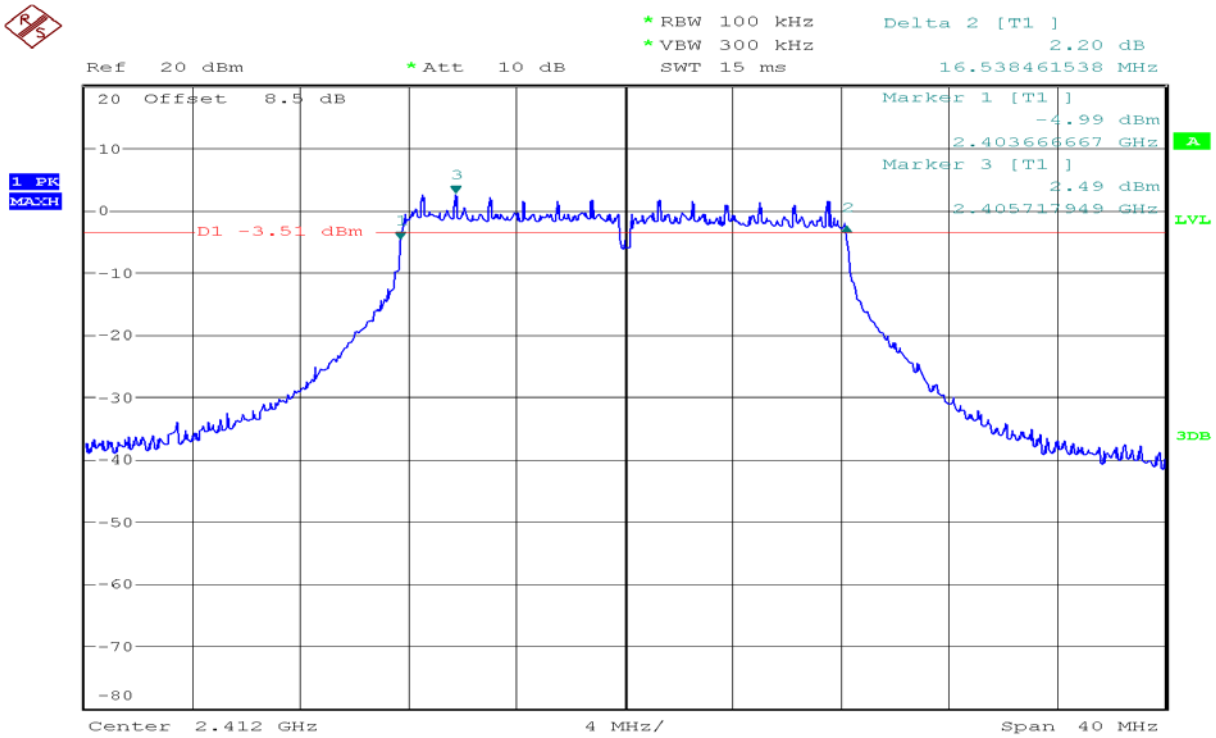


6dB Bandwidth (CH High)

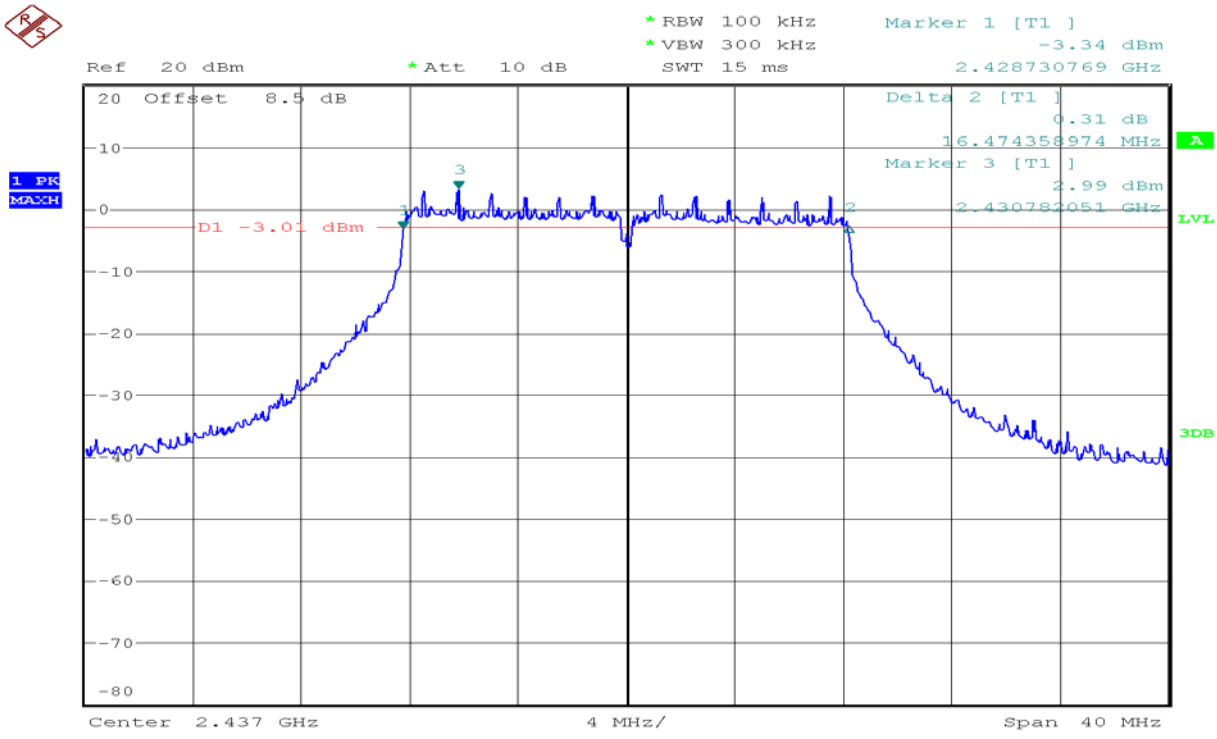


IEEE 802.11g MODE

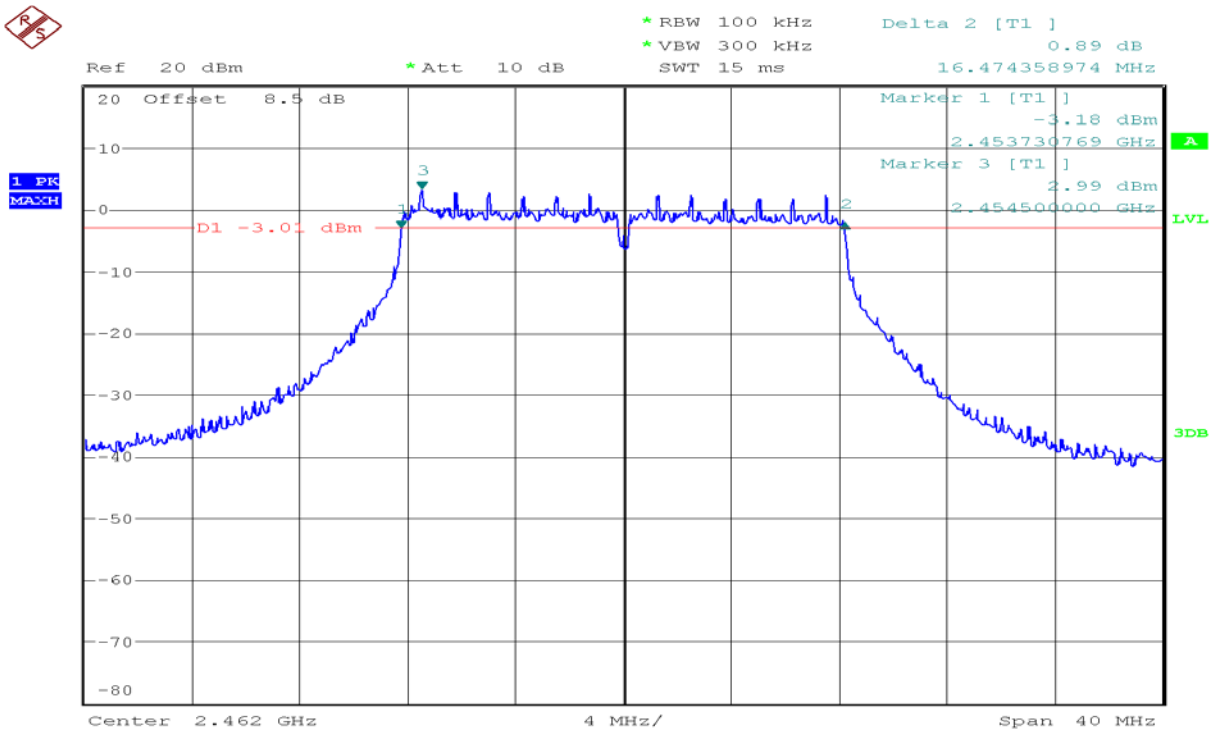
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

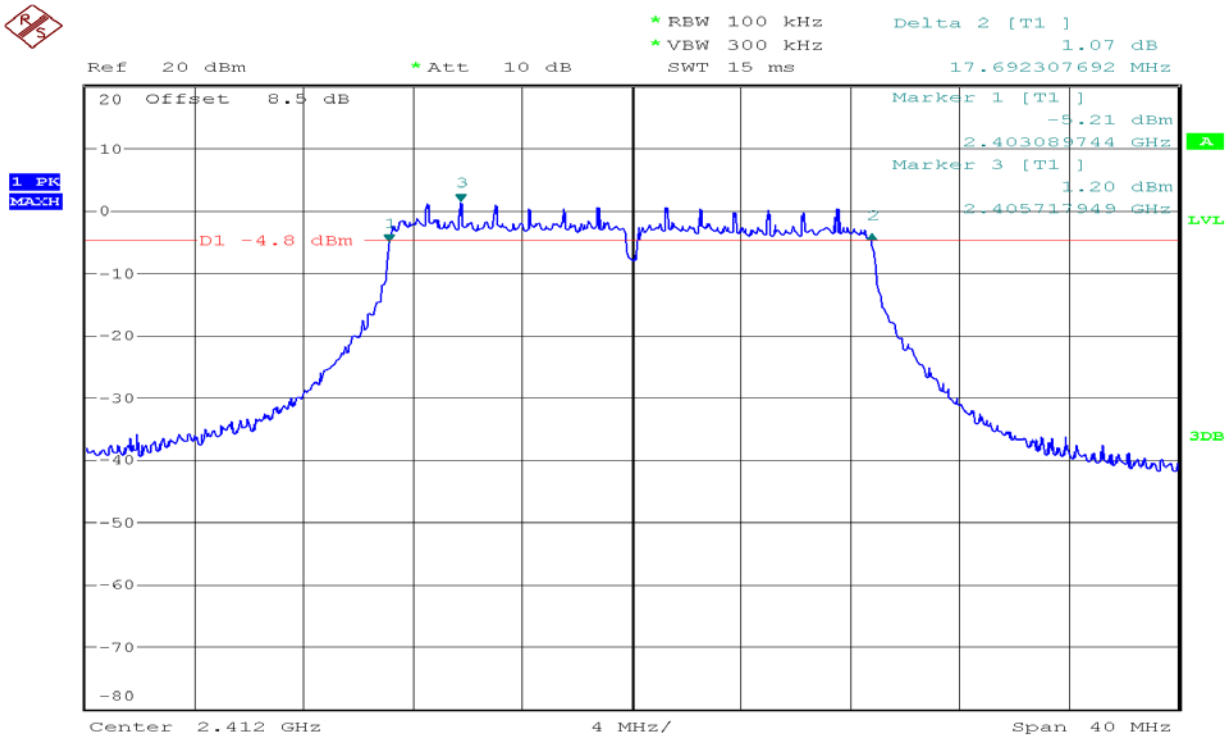


6dB Bandwidth (CH High)

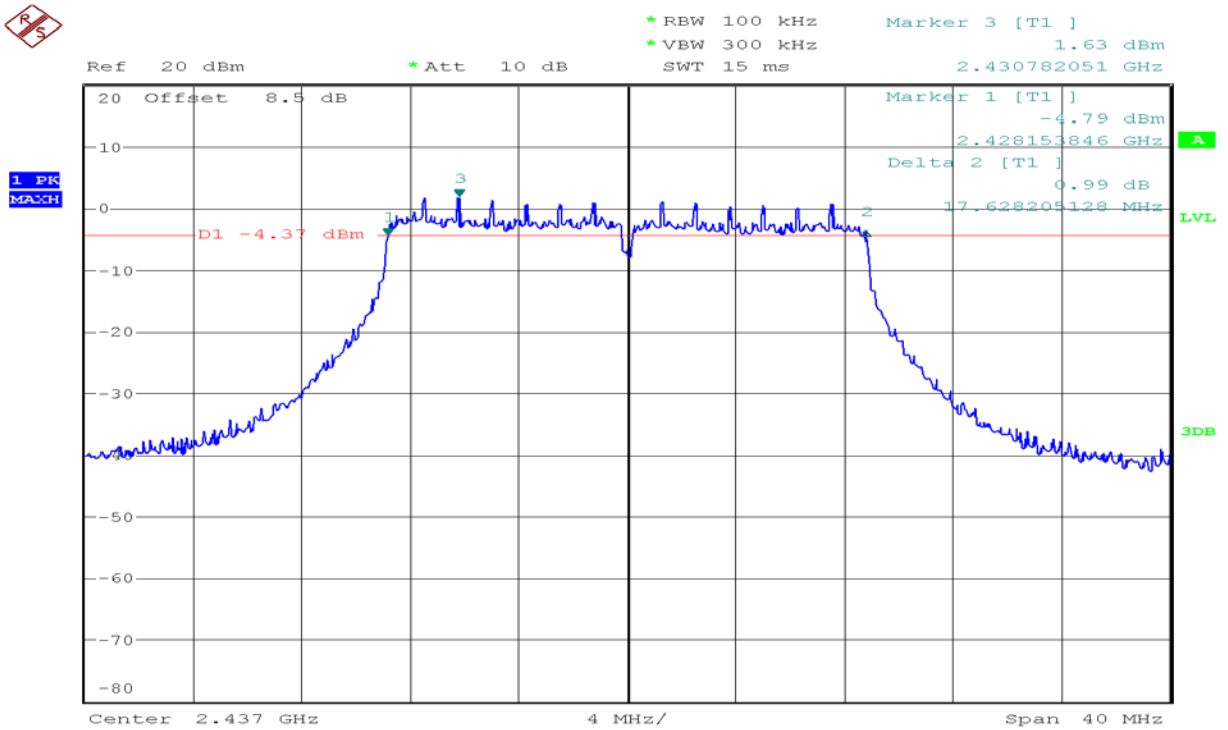


IEEE 802.11n HT20 mode

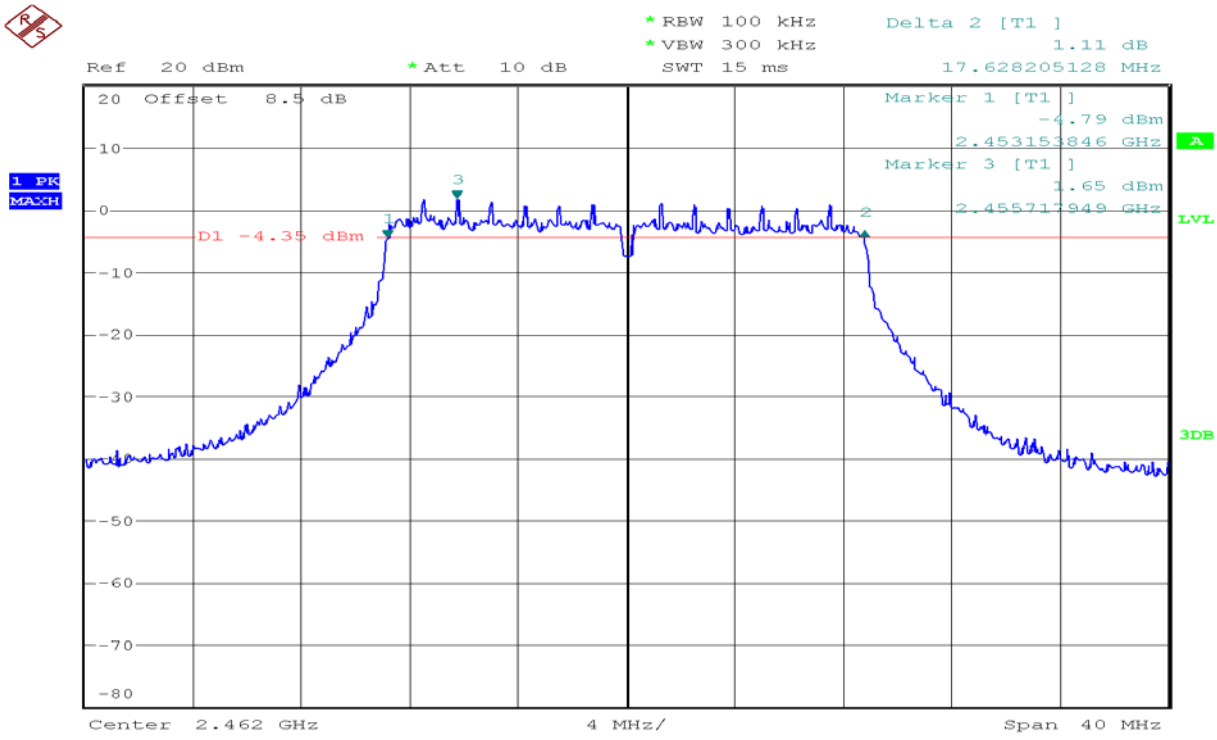
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)



8.2.PEAK POWER

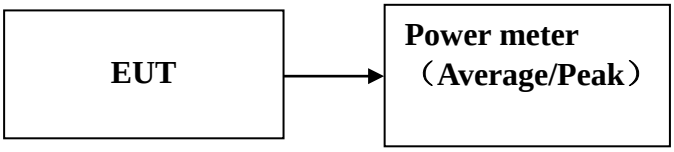
LIMIT

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 6dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6dBi 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 6dBi.

Test Configuration



TEST PROCEDURE

1. The testing follows the Measurement Procedure of Sub-clause 11.9 of ANSI C63.10.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	peak Output Power (dBm)	Limit (dBm)
Low	2412	21.24	30
Mid	2437	21.31	30
High	2462	21.15	30

Channel	Frequency (MHz)	Average Output Power (dBm)
Low	2412	18.18
Mid	2437	18.28
High	2462	18.10

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	peak Output Power (dBm)	Limit (dBm)
Low	2412	24.67	30
Mid	2437	24.85	30
High	2462	24.52	30

Channel	Frequency (MHz)	Average Output Power (dBm)
Low	2412	14.40
Mid	2437	14.43
High	2462	14.35

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	peak Output Power (dBm)	Limit (dBm)
Low	2412	23.27	30
Mid	2437	23.53	30
High	2462	23.47	30

Channel	Frequency (MHz)	Average Output Power (dBm)
Low	2412	13.10
Mid	2437	13.30
High	2462	13.25

***Remark**:1. Duty factor has been offset with cable loss*

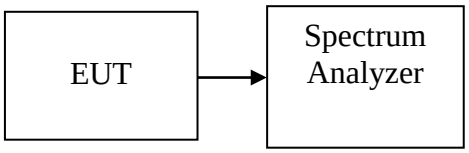
8.3.PEAK POWER SPECTRAL DENSITY

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. The testing follows Measurement Procedure of Sub-clause 11.10 of ANSI C63.10
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-4.24	8.00	PASS
Mid	2437	-4.42	8.00	PASS
High	2462	-4.46	8.00	PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.34	8.00	PASS
Mid	2437	-11.42	8.00	PASS
High	2462	-10.58	8.00	PASS

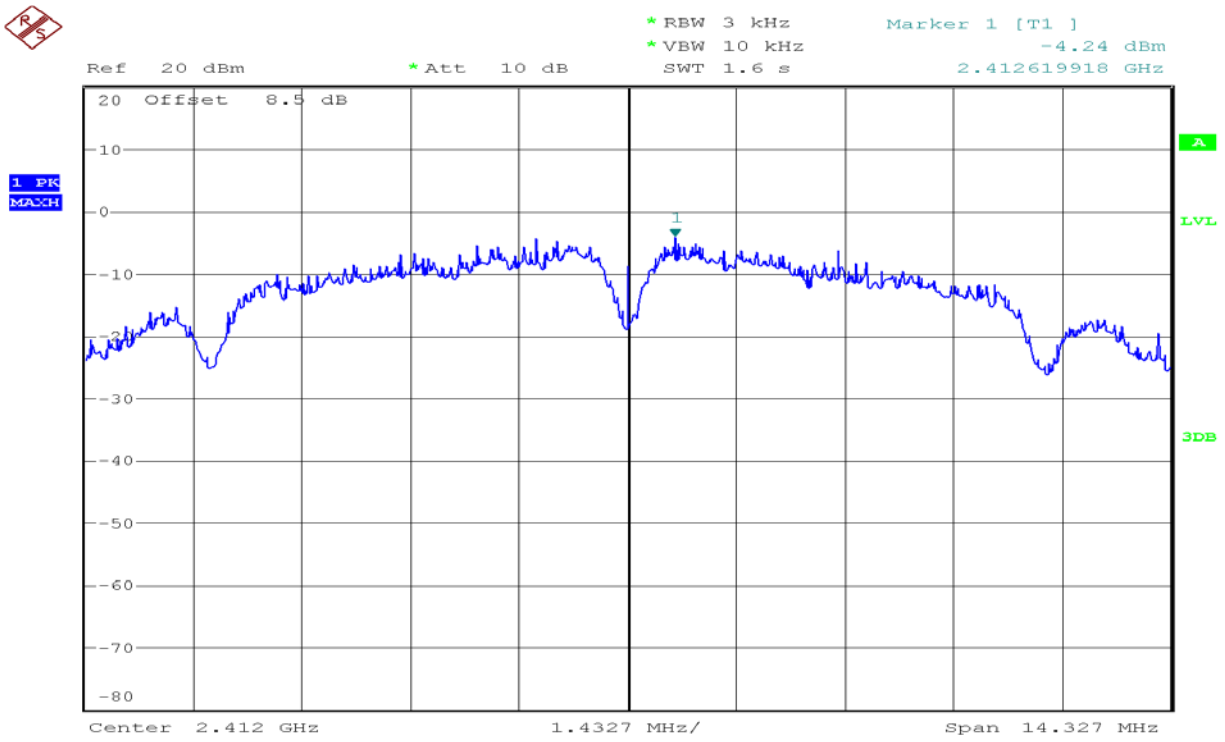
Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.80	8.00	PASS
Mid	2437	-13.28	8.00	PASS
High	2462	-12.65	8.00	PASS

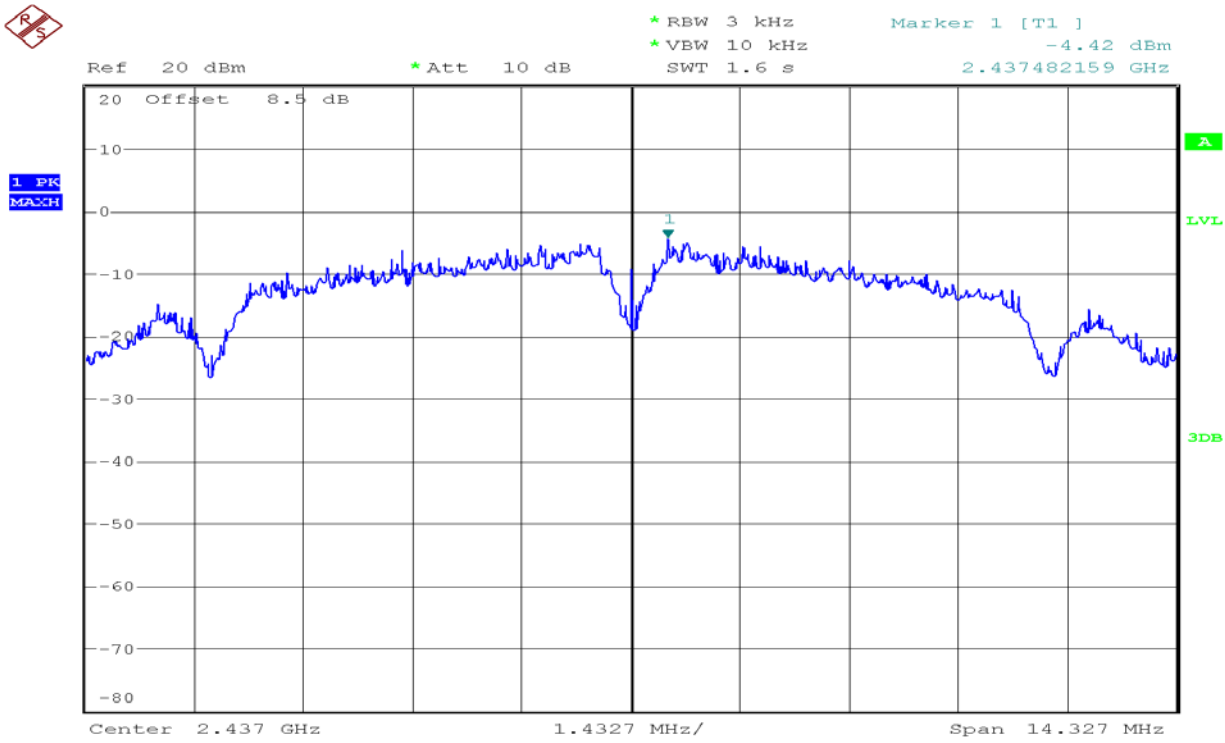
Test Plot

IEEE 802.11b mode

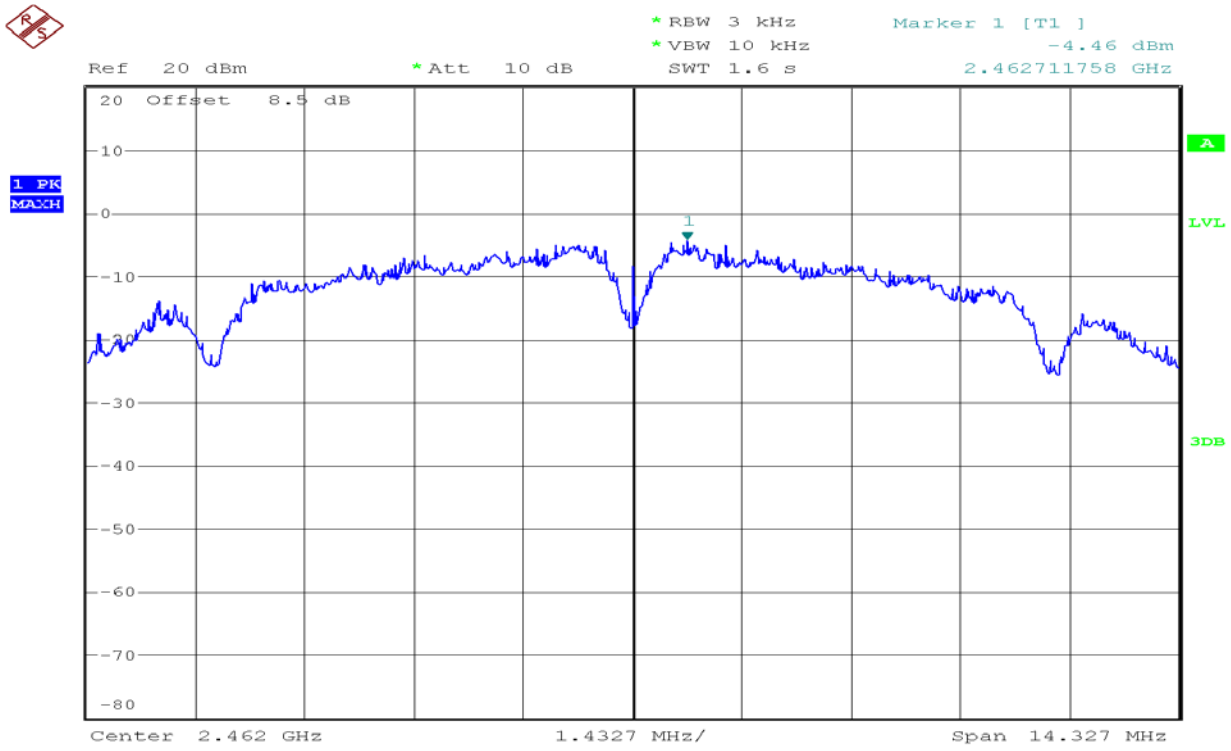
PPSD (CH Low)



PPSD(CH Mid)

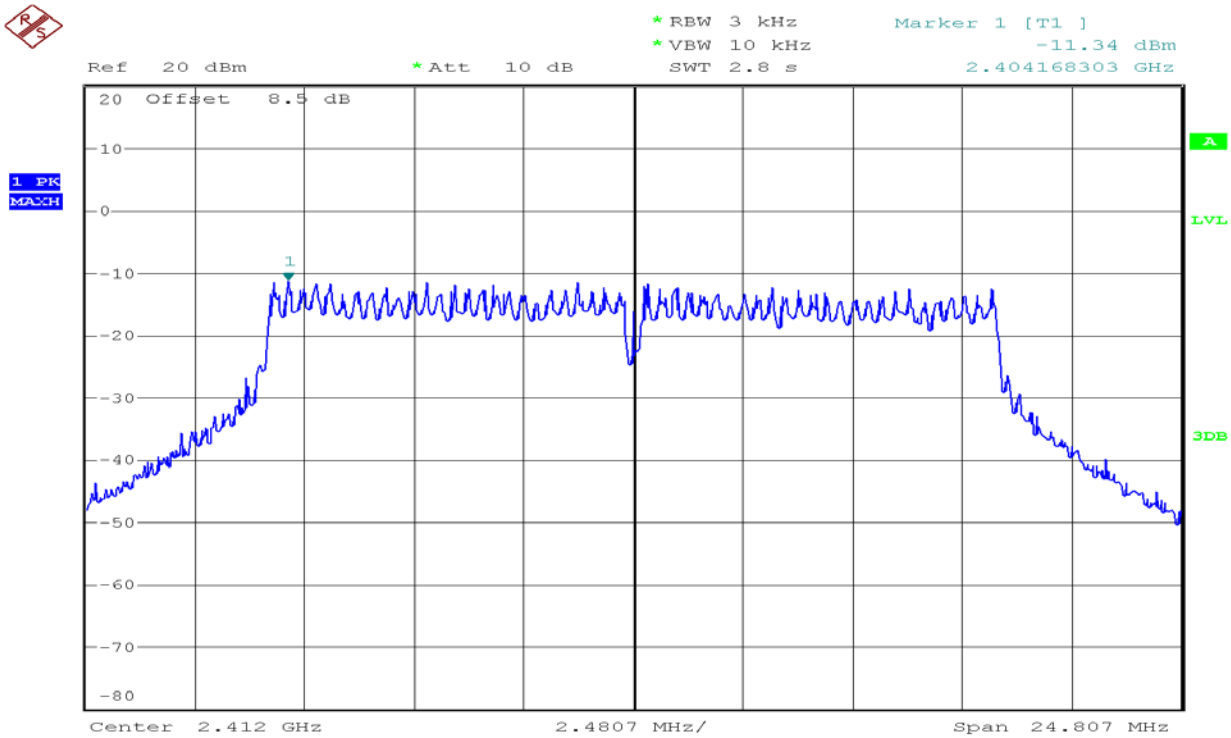


PPSD (CH High)

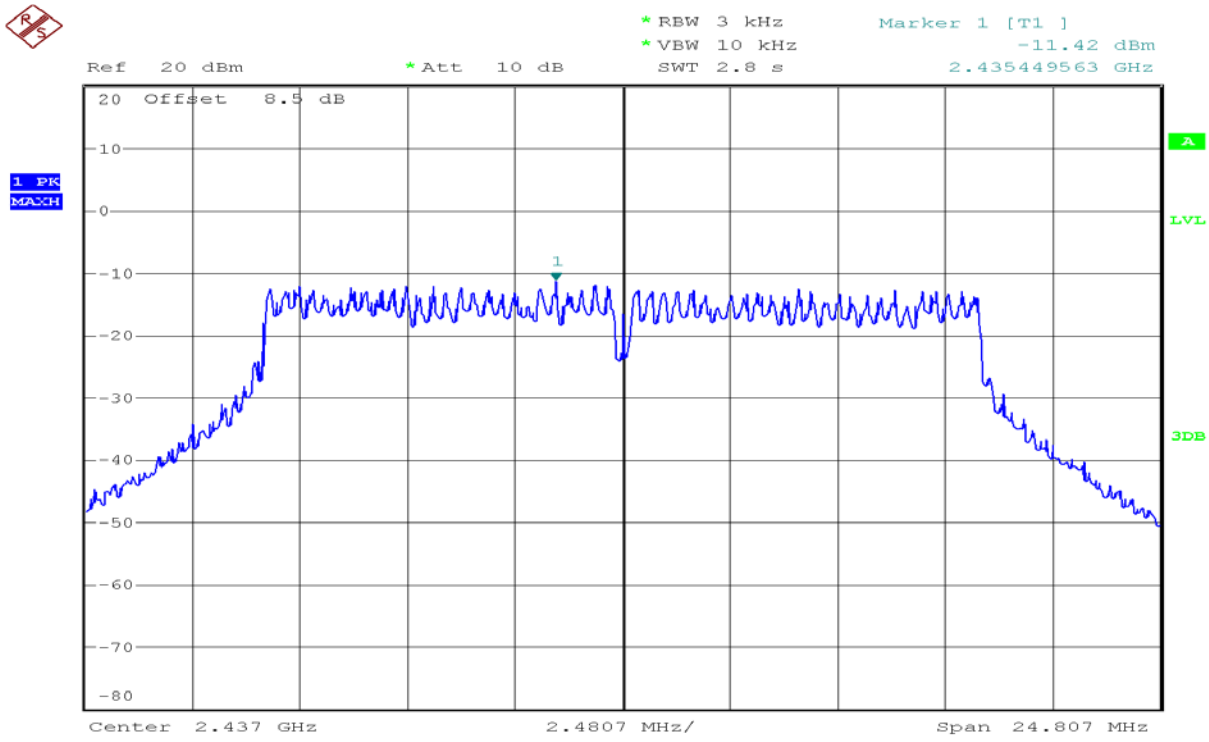


IEEE 802.11g mode

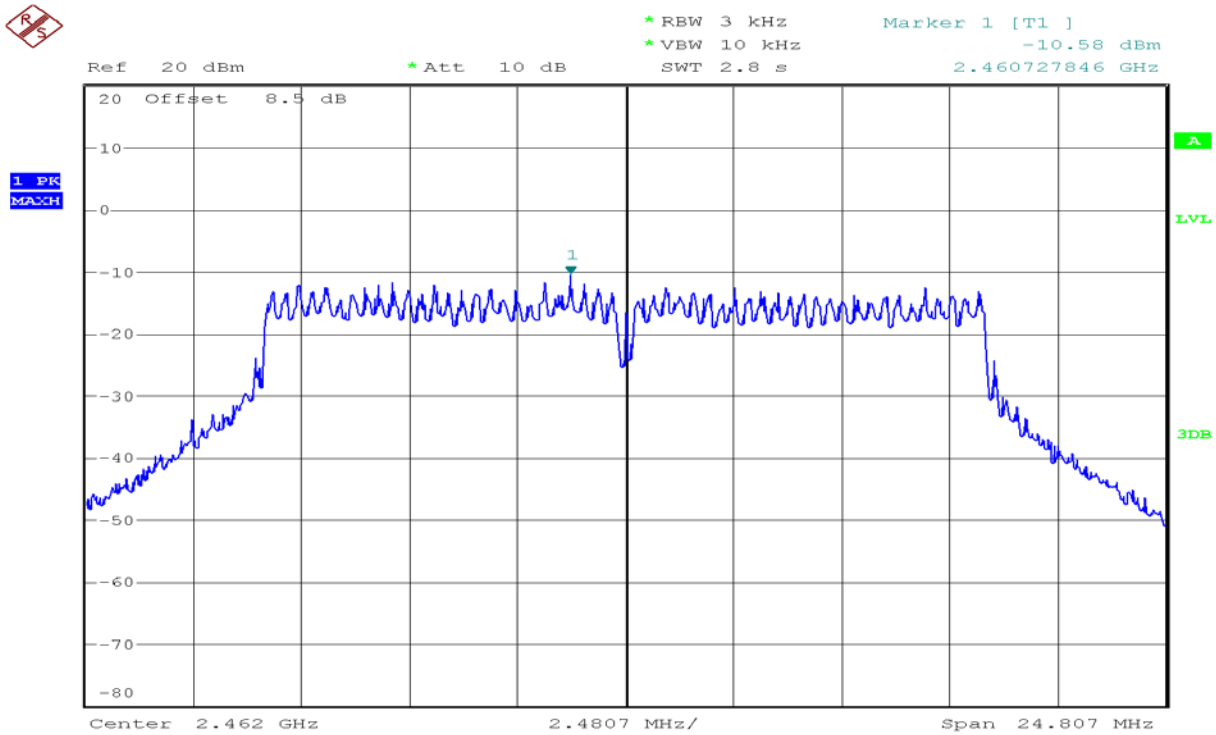
PPSD (CH Low)



PPSD (CH Mid)

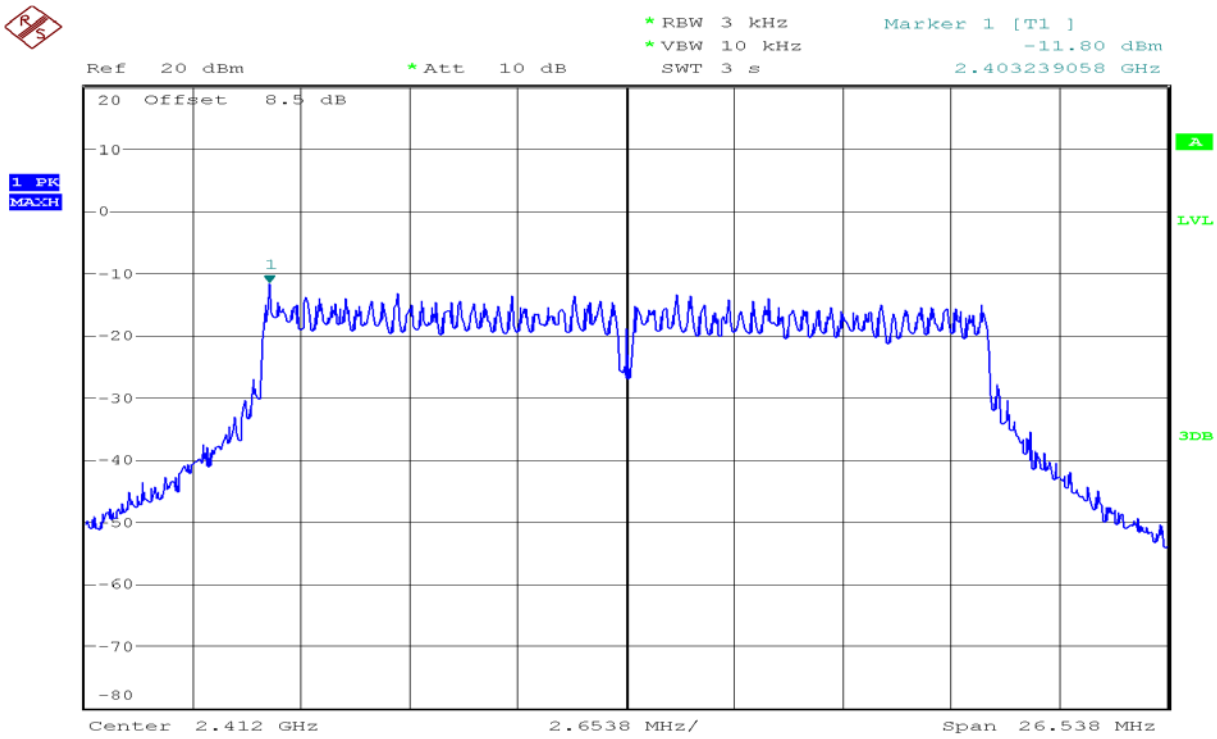


PPSD (CH High)

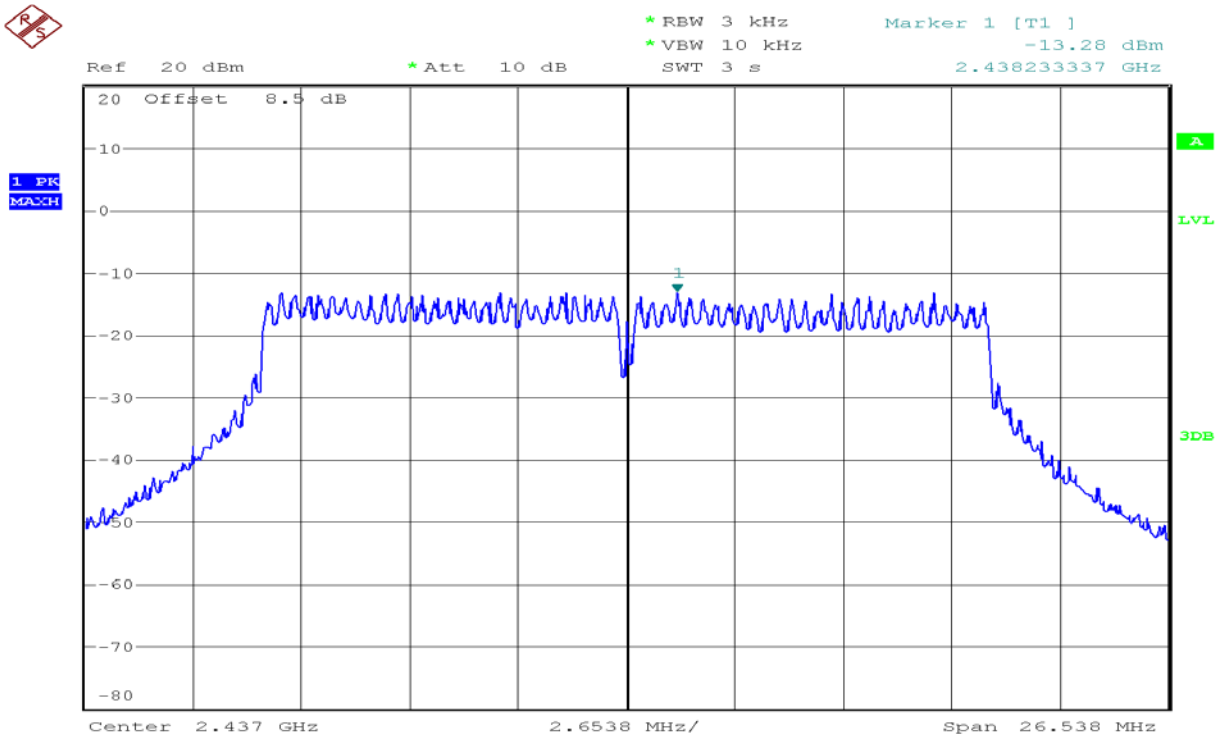


IEEE 802.11n HT20 mode

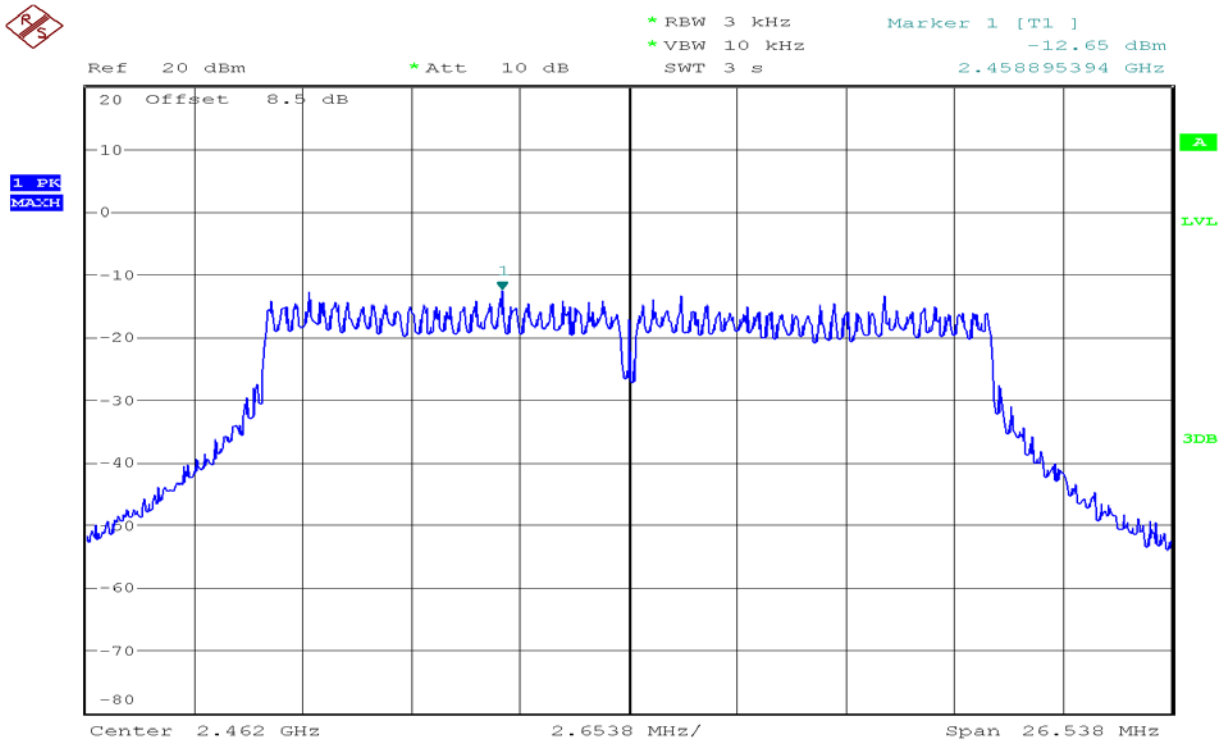
PPSD (CH Low)



PPSD (CH Mid)



PPSD (CH High)

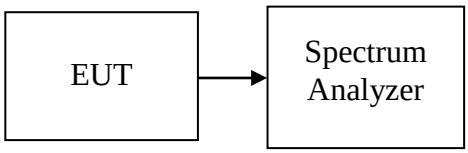

* RBW 3 kHz
* VBW 10 kHz
SWT 3 s
Marker 1 [T1]
-12.65 dBm
2.458895394 GHz
Ref 20 dBm
* Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
A
LVL
3DB
Center 2.462 GHz
2.6538 MHz/
Span 26.538 MHz

8.4.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 in 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 25GHz range with the transmitter set to the lowest, middle, and highest channels.

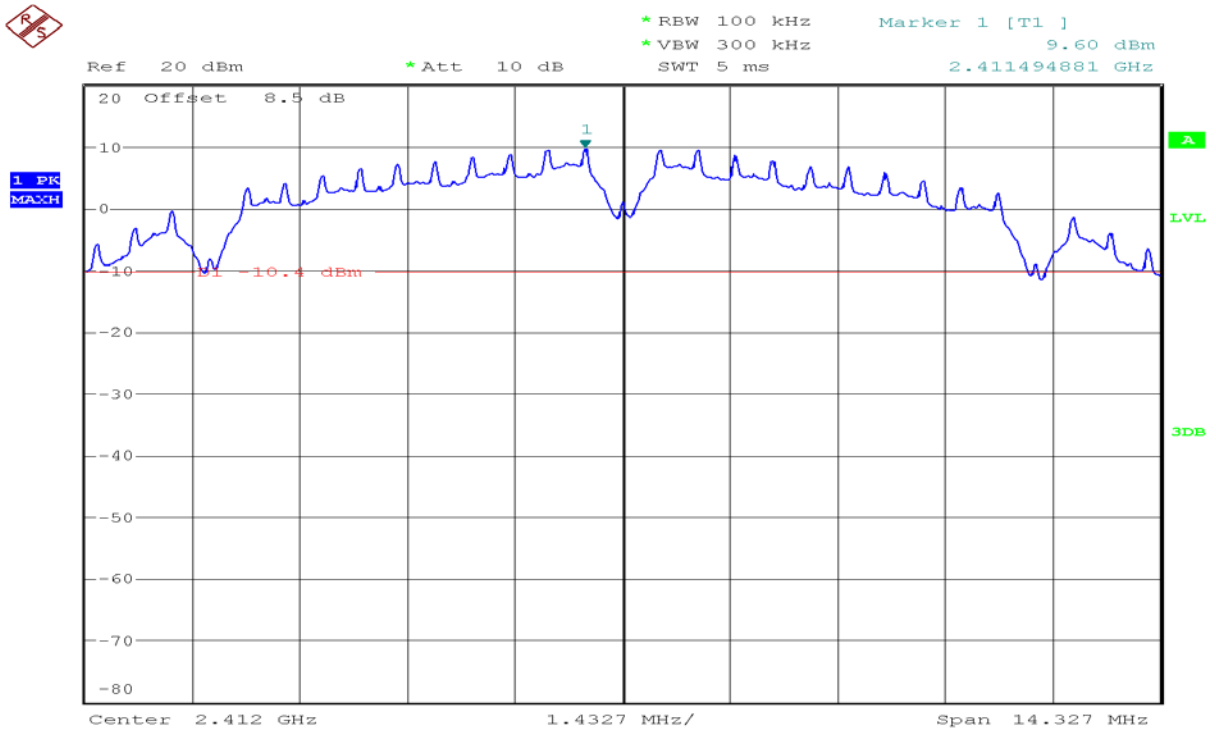
TEST RESULTS

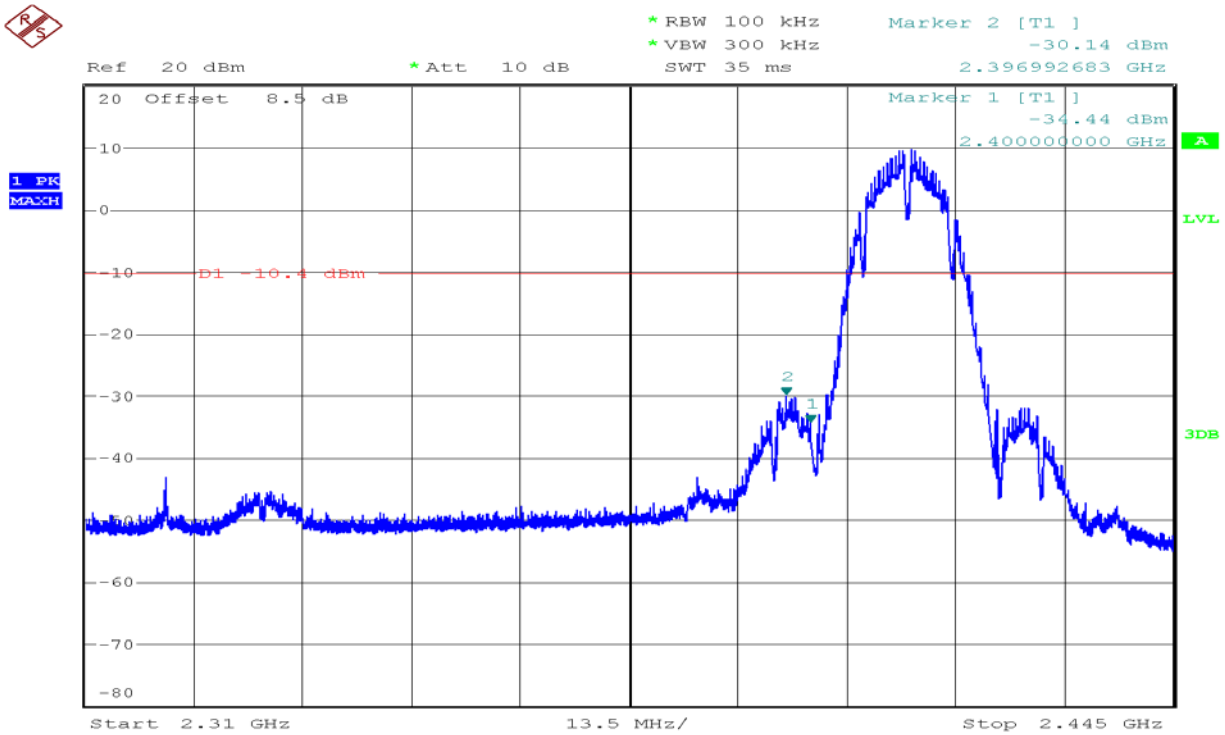
No non-compliance noted

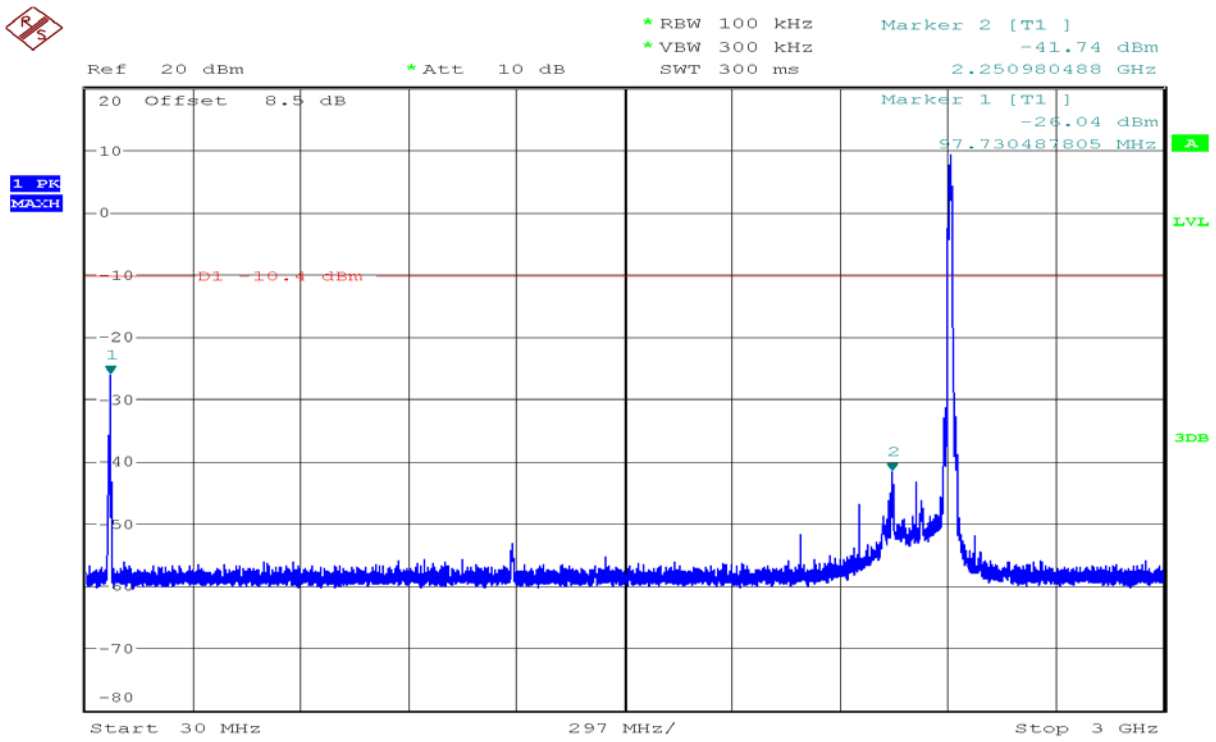
Test Plot
OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

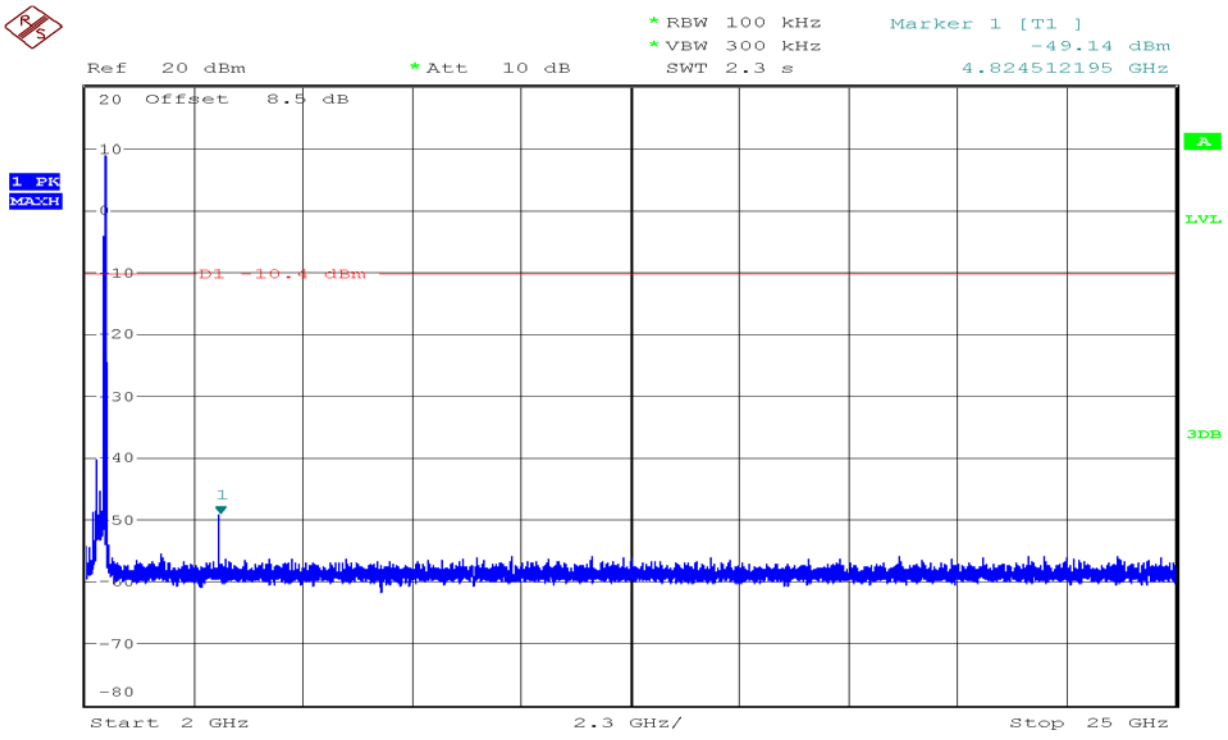
IEEE 802.11b mode

CH Low

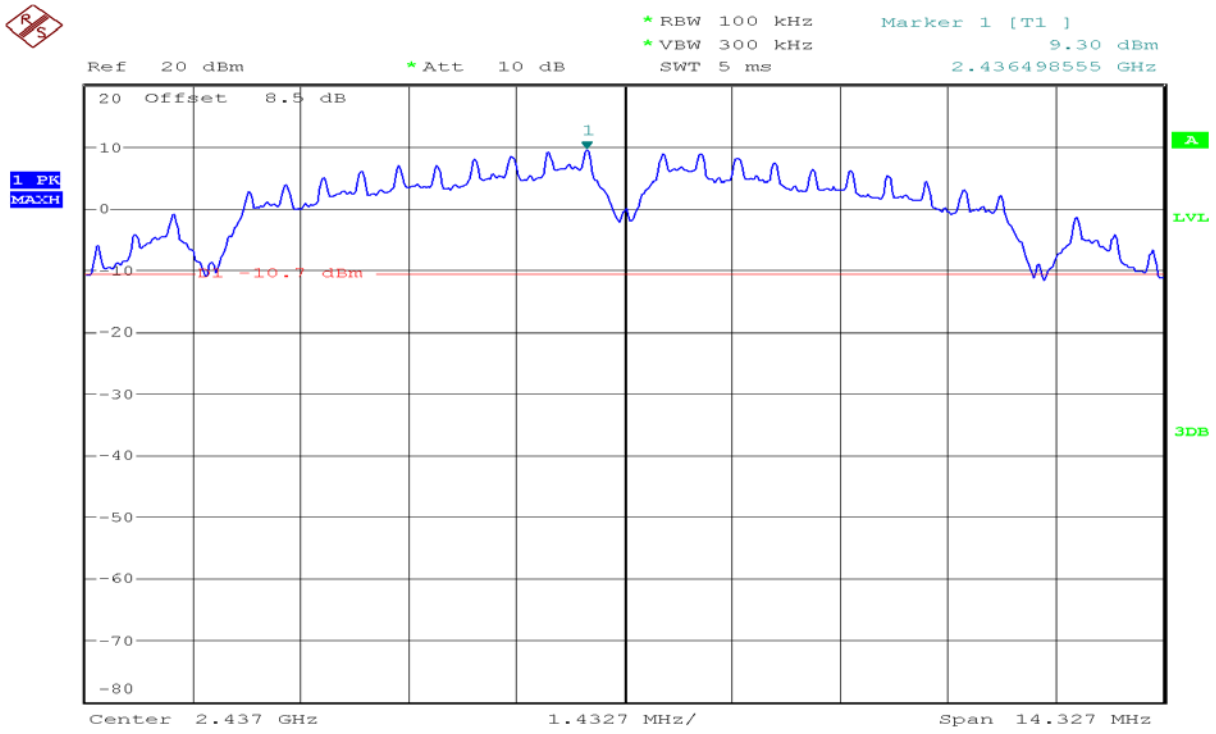


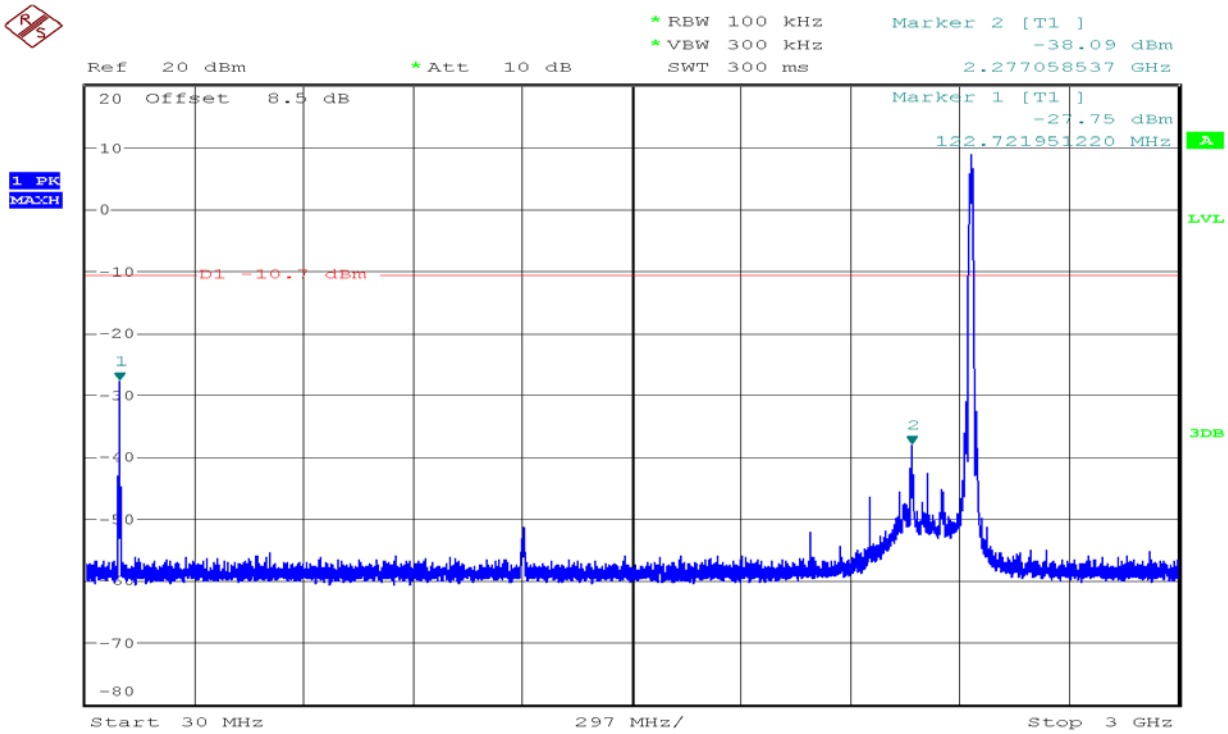


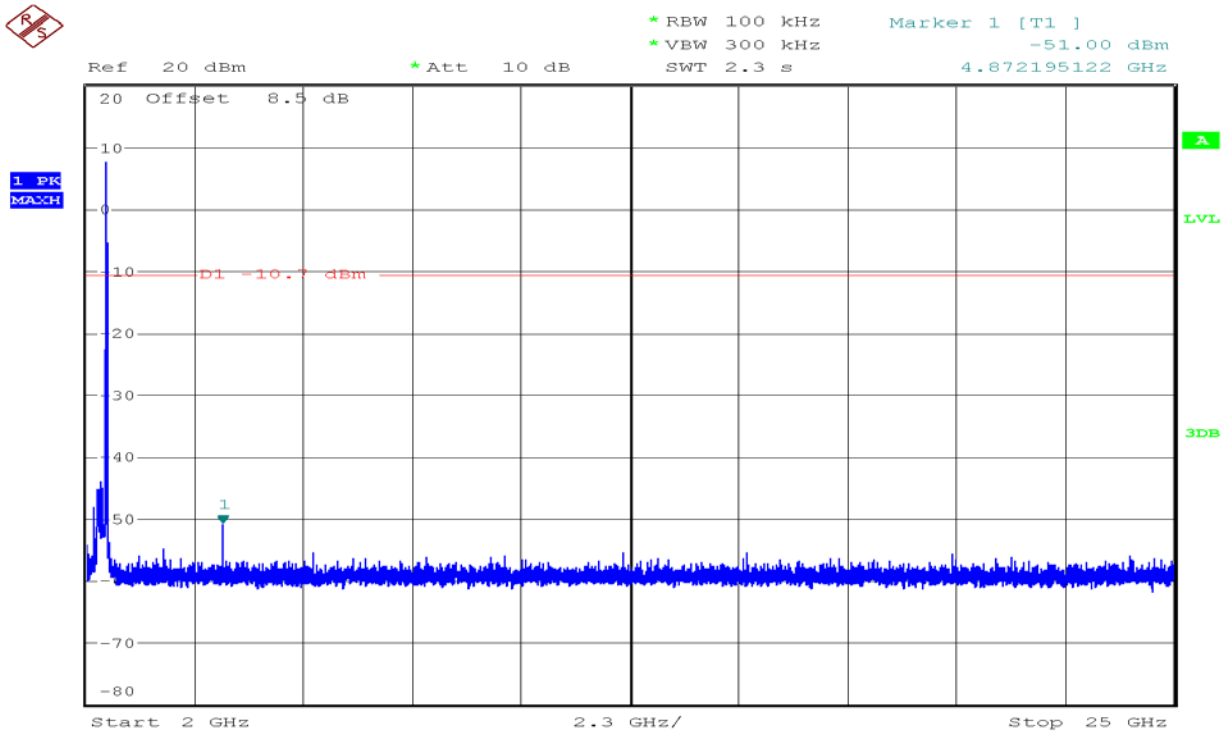

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-41.74 dBm
2.250980488 GHz
Marker 1 [T1]
-26.04 dBm
97.730487805 MHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -10.4 dBm
A
LVL
3DB
Start 30 MHz
297 MHz/
Stop 3 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-49.14 dBm
4.824512195 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -10.4 dBm
A
LVL
3DB
Start 2 GHz
2.3 GHz/
Stop 25 GHz

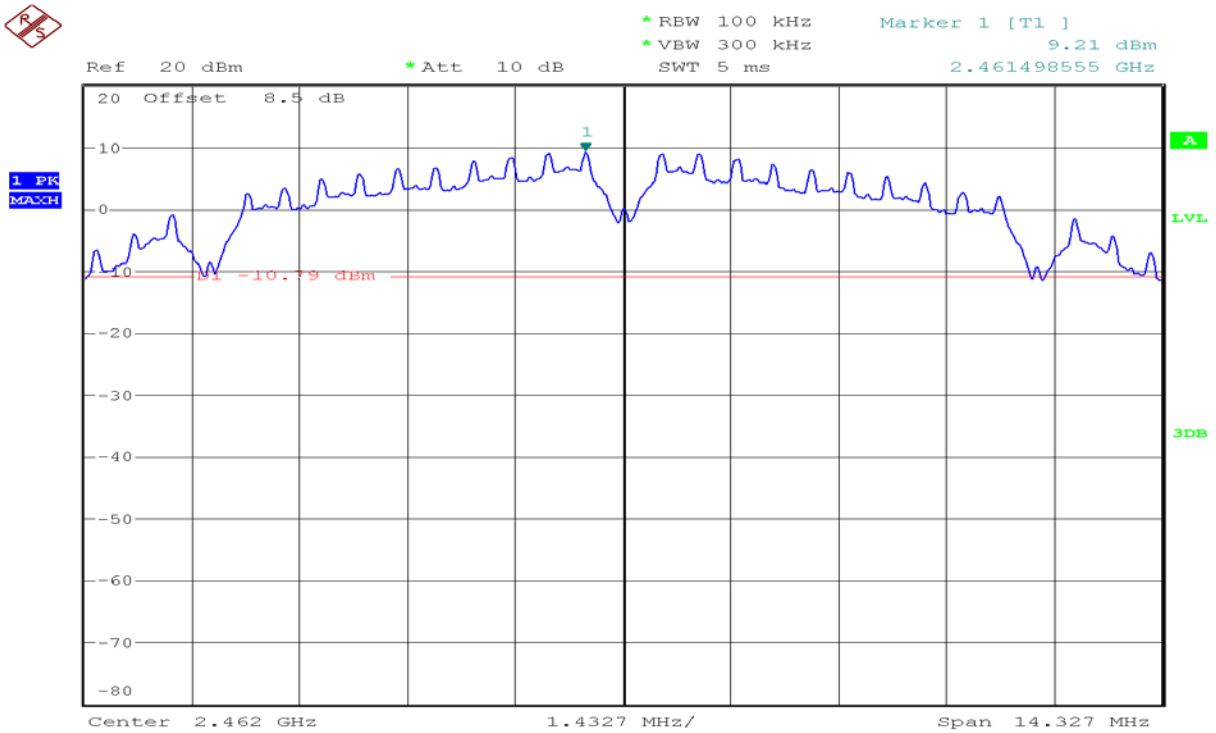
CH Mid

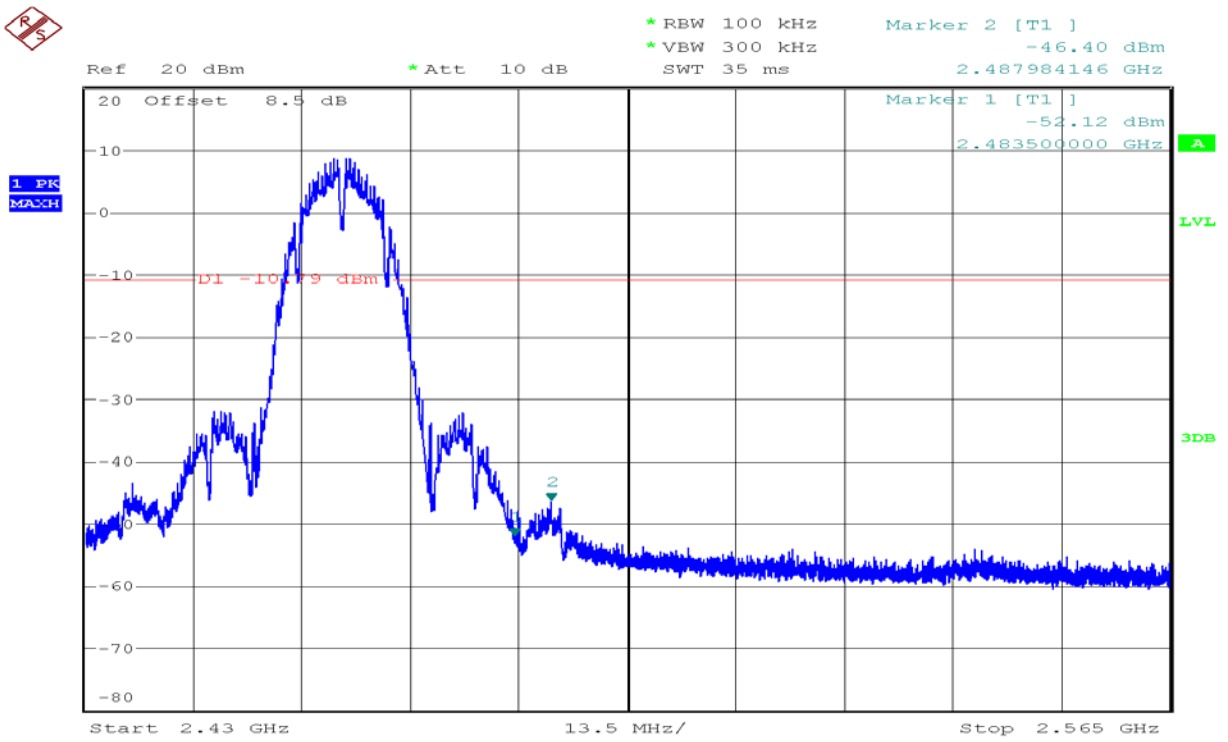

RBW 100 kHz
VBW 300 kHz
SWT 5 ms
Marker 1 [T1]
9.30 dBm
2.436498555 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
D1 -10.7 dBm
A
LVL
3DB
Center 2.437 GHz
1.4327 MHz/
Span 14.327 MHz

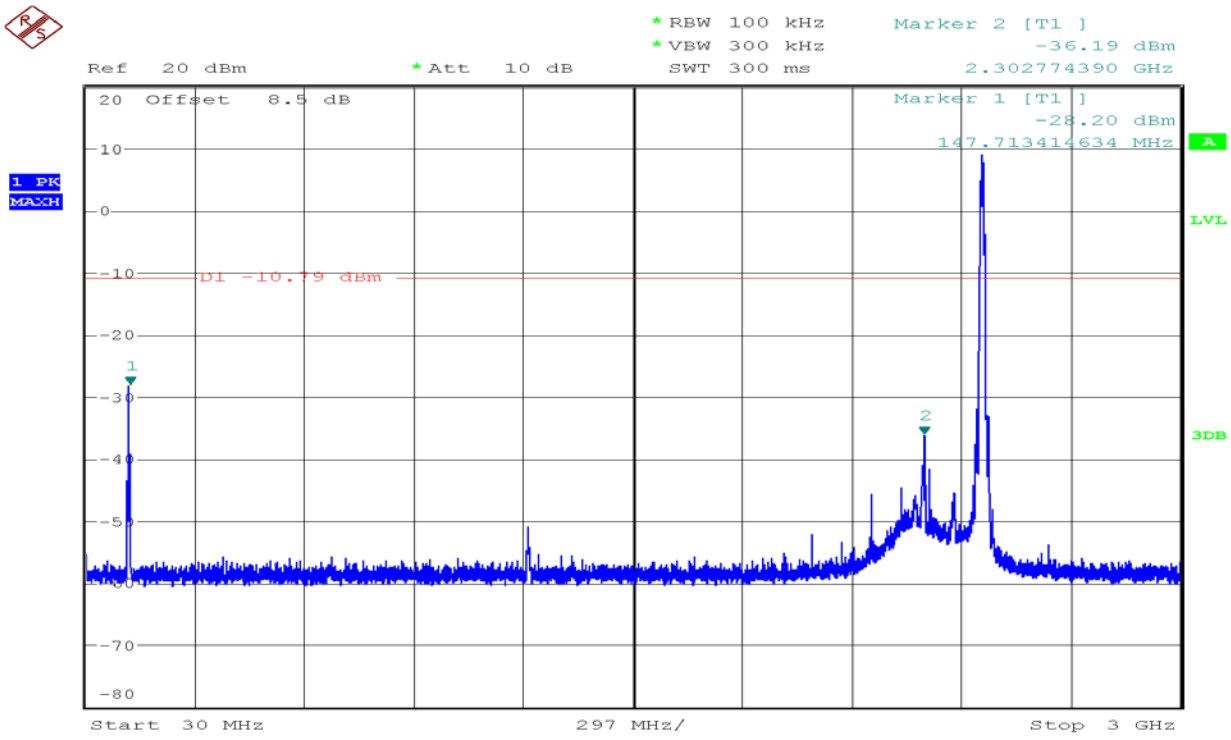

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-38.09 dBm
2.277058537 GHz
Marker 1 [T1]
-27.75 dBm
122.721951220 MHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
D1 -10.7 dBm
A
LVL
3DB
Start 30 MHz
297 MHz/
Stop 3 GHz

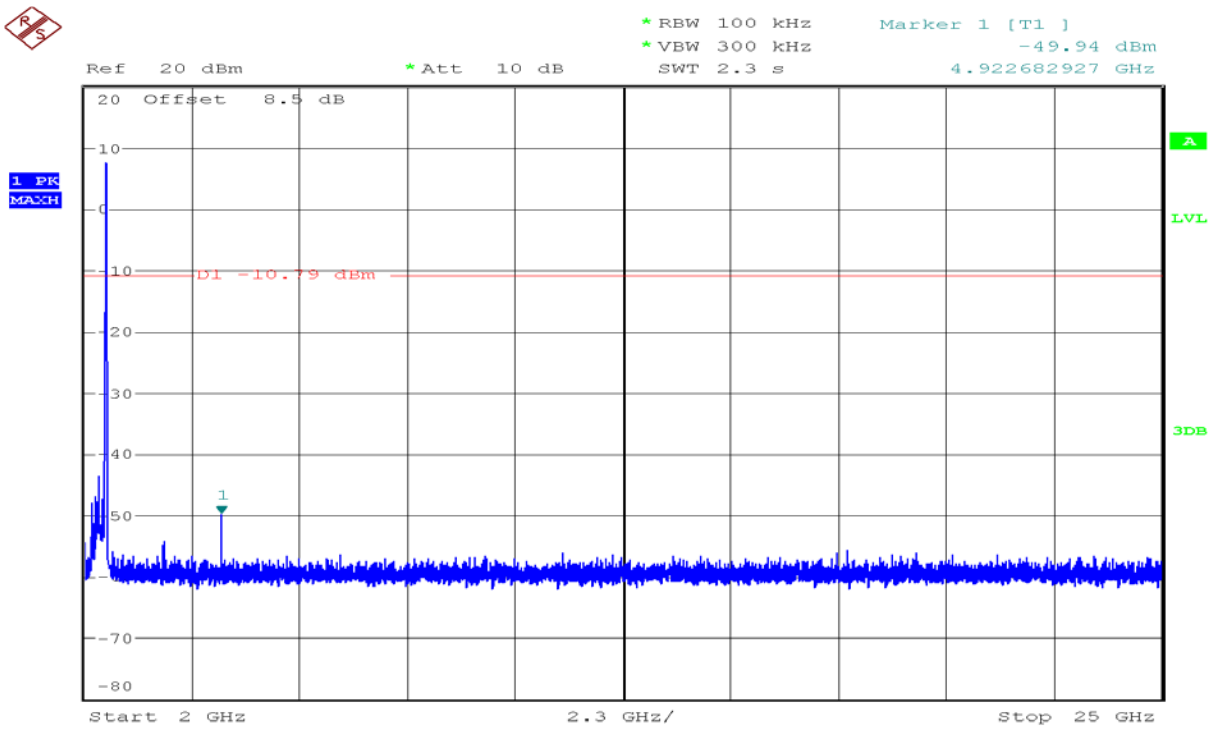

RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-51.00 dBm
4.872195122 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -10.7 dBm
A
LVL
3DB
Start 2 GHz
2.3 GHz/
Stop 25 GHz

CH High


RBW 100 kHz
VBW 300 kHz
SWT 5 ms
Marker 1 [T1]
9.21 dBm
2.461498555 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -10.79 dBm
A
LVL
3DB
Center 2.462 GHz
1.4327 MHz/
Span 14.327 MHz

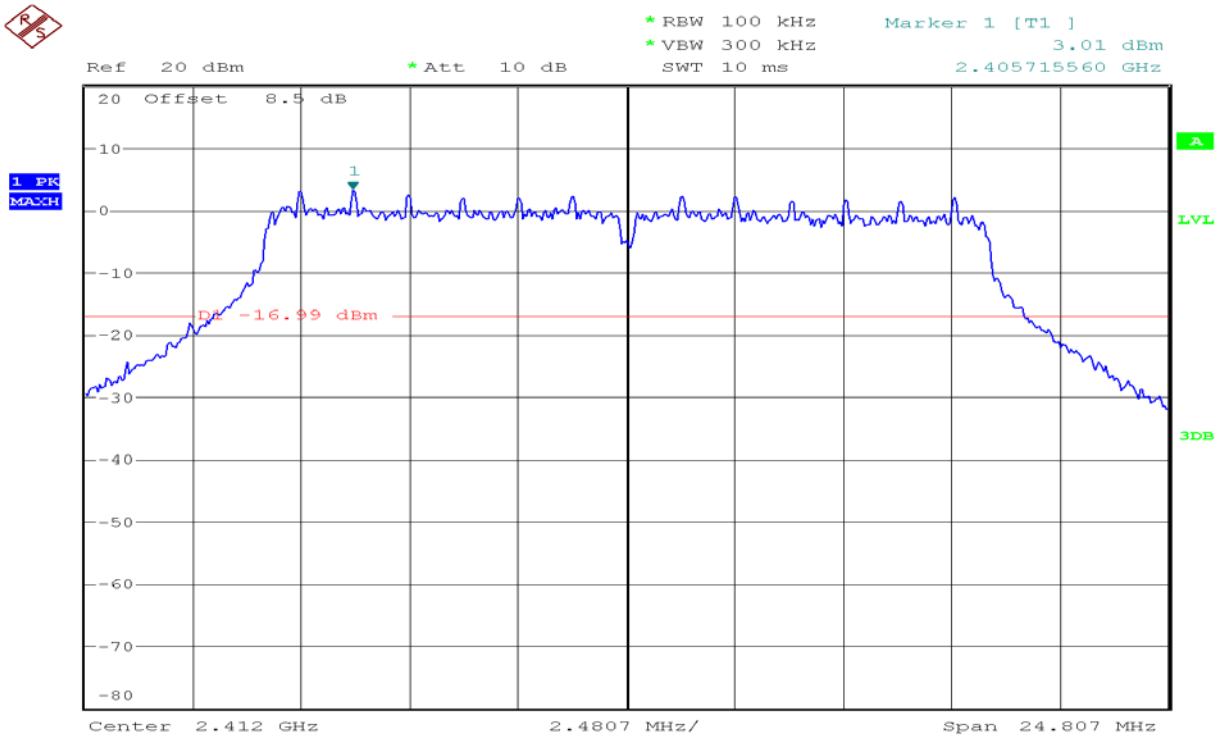

RBW 100 kHz
VBW 300 kHz
SWT 35 ms
Marker 2 [T1]
-46.40 dBm
2.487984146 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
Marker 1 [T1]
-52.12 dBm
2.483500000 GHz
1 PK
MAXH
A
LVL
3DB
D1 -10.79 dBm
Start 2.43 GHz
13.5 MHz/
Stop 2.565 GHz

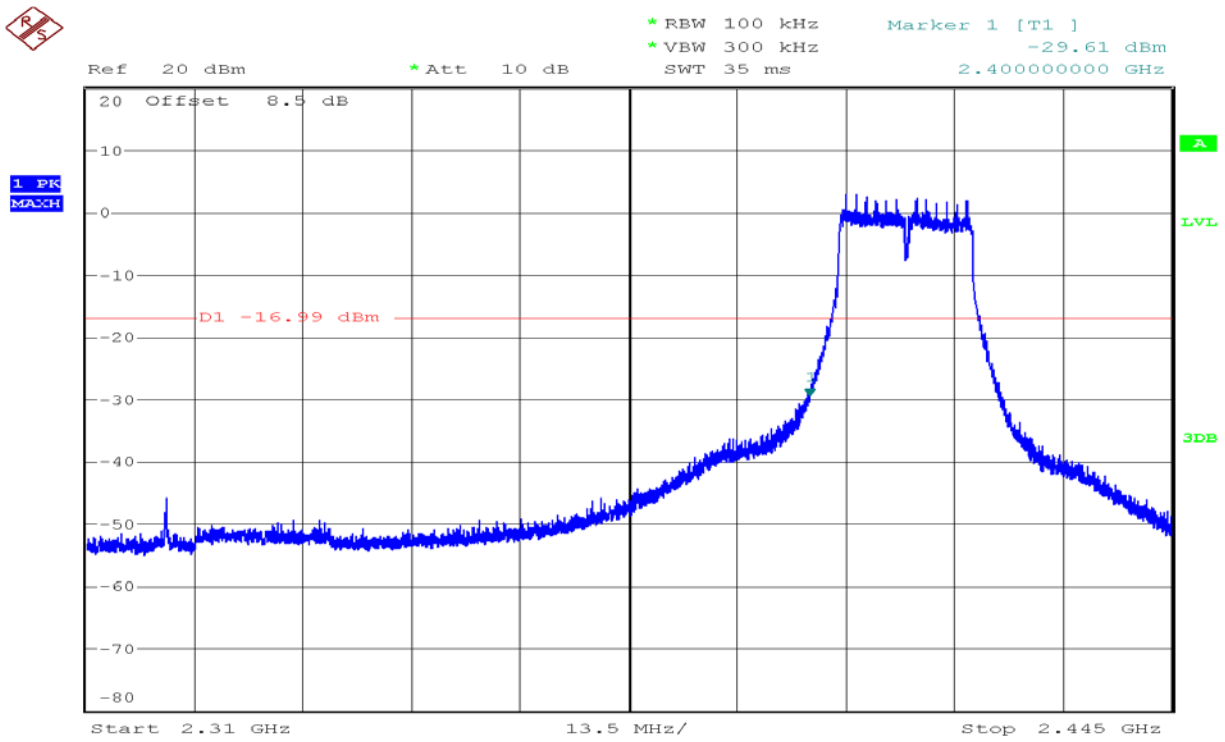

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-36.19 dBm
2.302774390 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
Marker 1 [T1]
-28.20 dBm
147.713414634 MHz
1 PK
MAXH
A
LVL
3DB
D1 -10.79 dBm
Start 30 MHz
297 MHz/
Stop 3 GHz

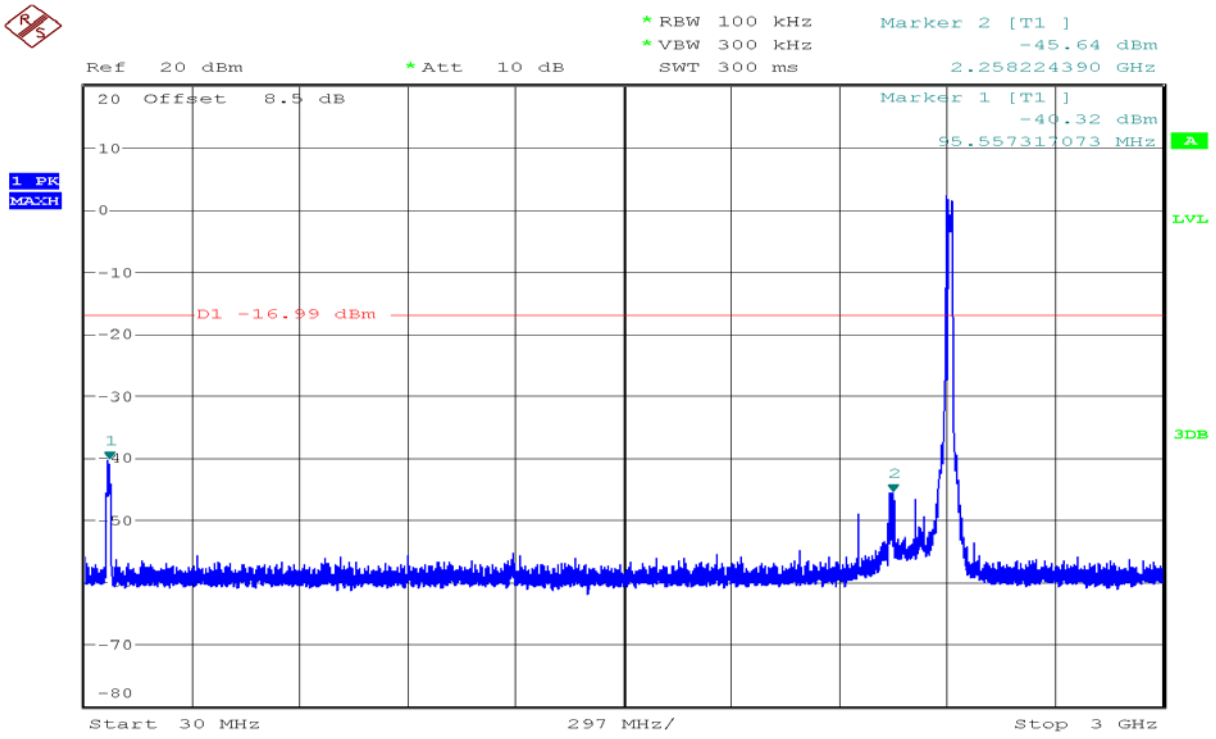


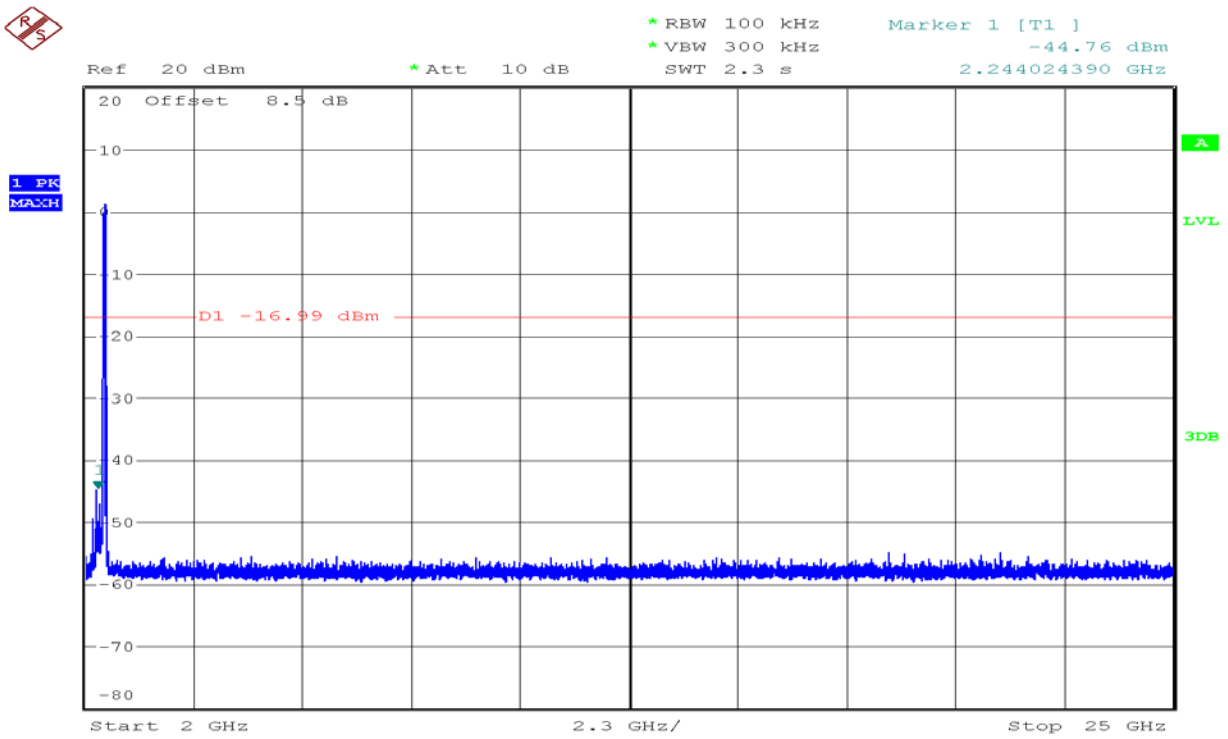
IEEE 802.11g mode

CH Low

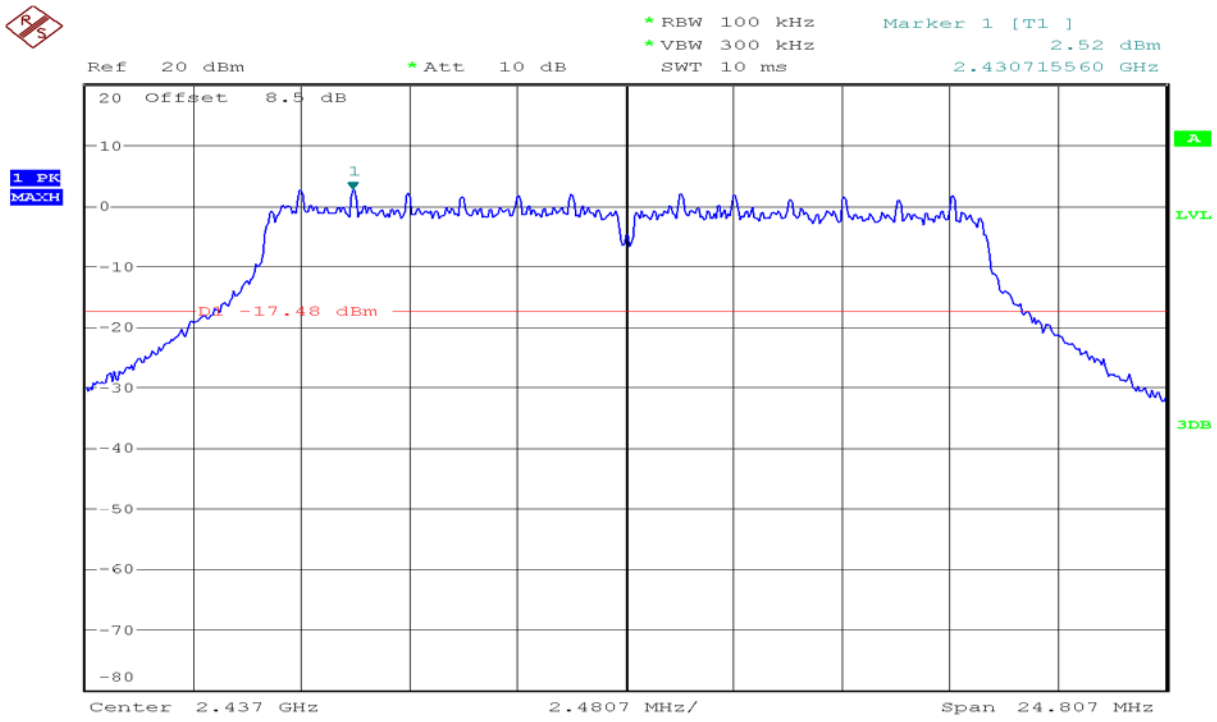


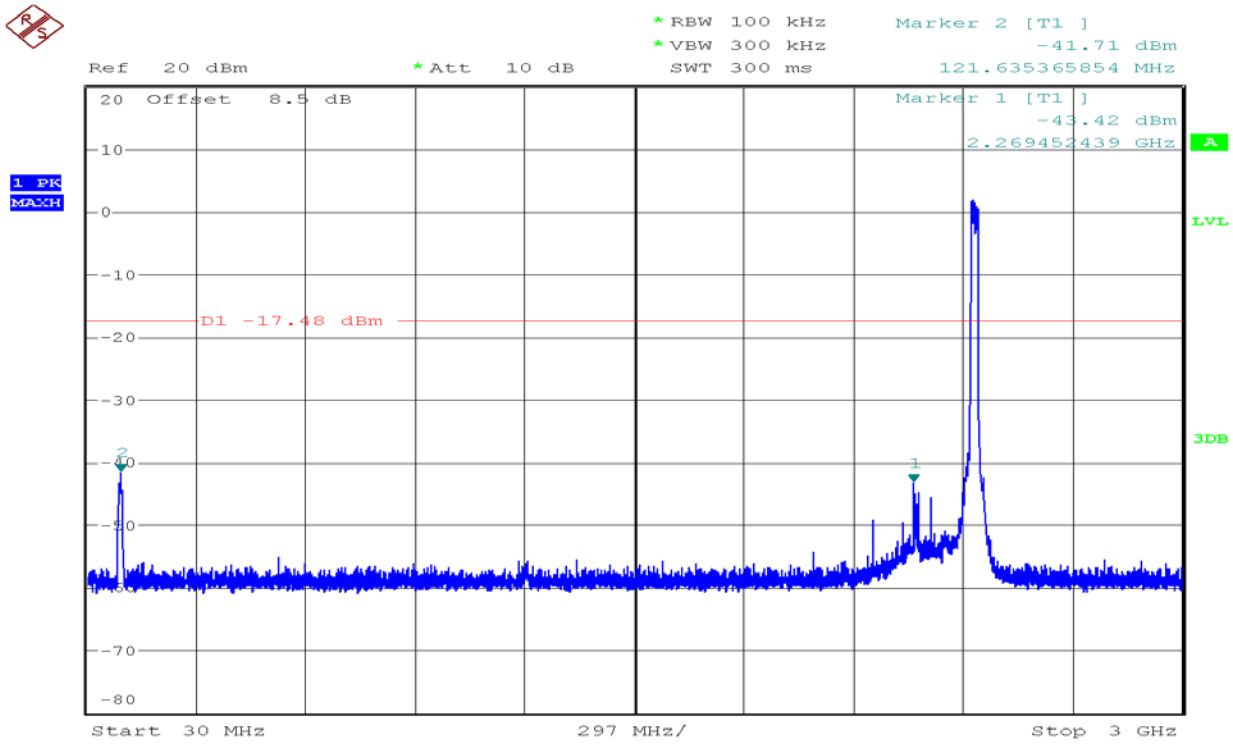

RBW 100 kHz
VBW 300 kHz
SWT 35 ms
Marker 1 [T1]
-29.61 dBm
2.400000000 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
A
LVL
3DB
D1 -16.99 dBm
Start 2.31 GHz
13.5 MHz/
Stop 2.445 GHz

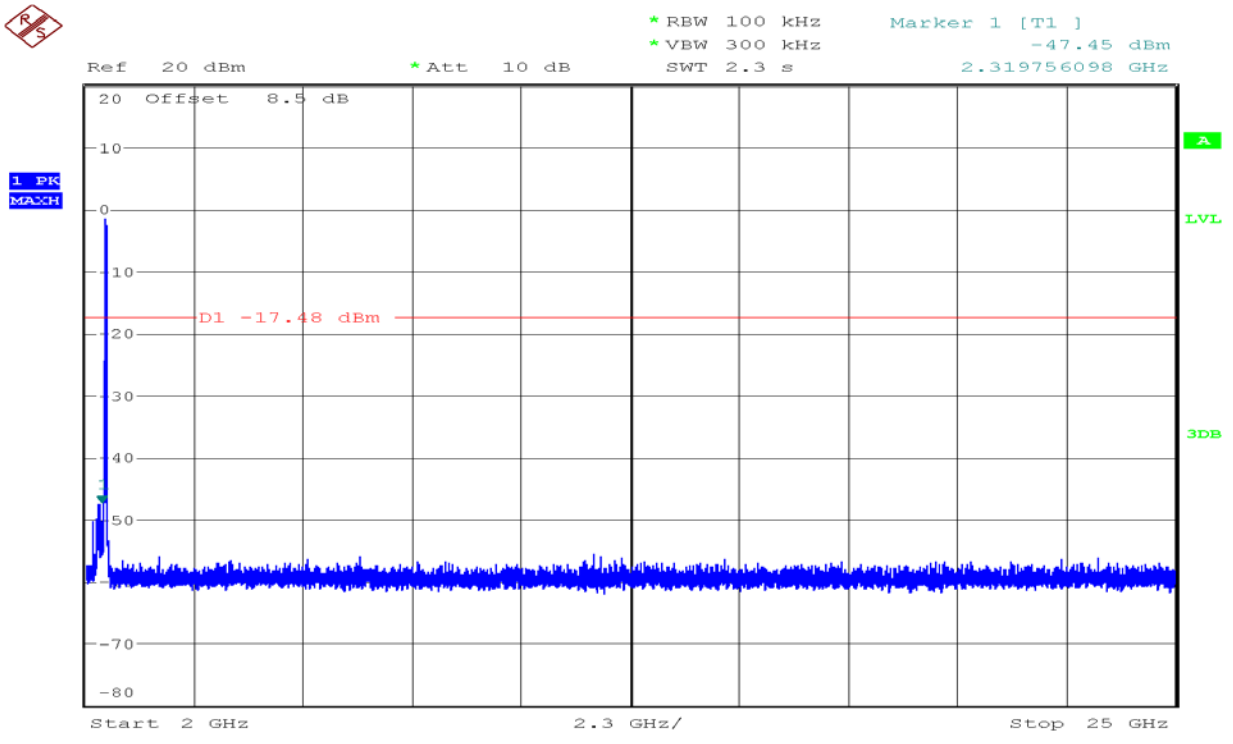

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-45.64 dBm
2.258224390 GHz
Marker 1 [T1]
-40.32 dBm
95.557317073 MHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
A
LVL
3DB
D1 -16.99 dBm
Start 30 MHz
297 MHz/
Stop 3 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-44.76 dBm
2.244024390 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -16.99 dBm
A
LVL
3DB
Start 2 GHz
2.3 GHz/
Stop 25 GHz

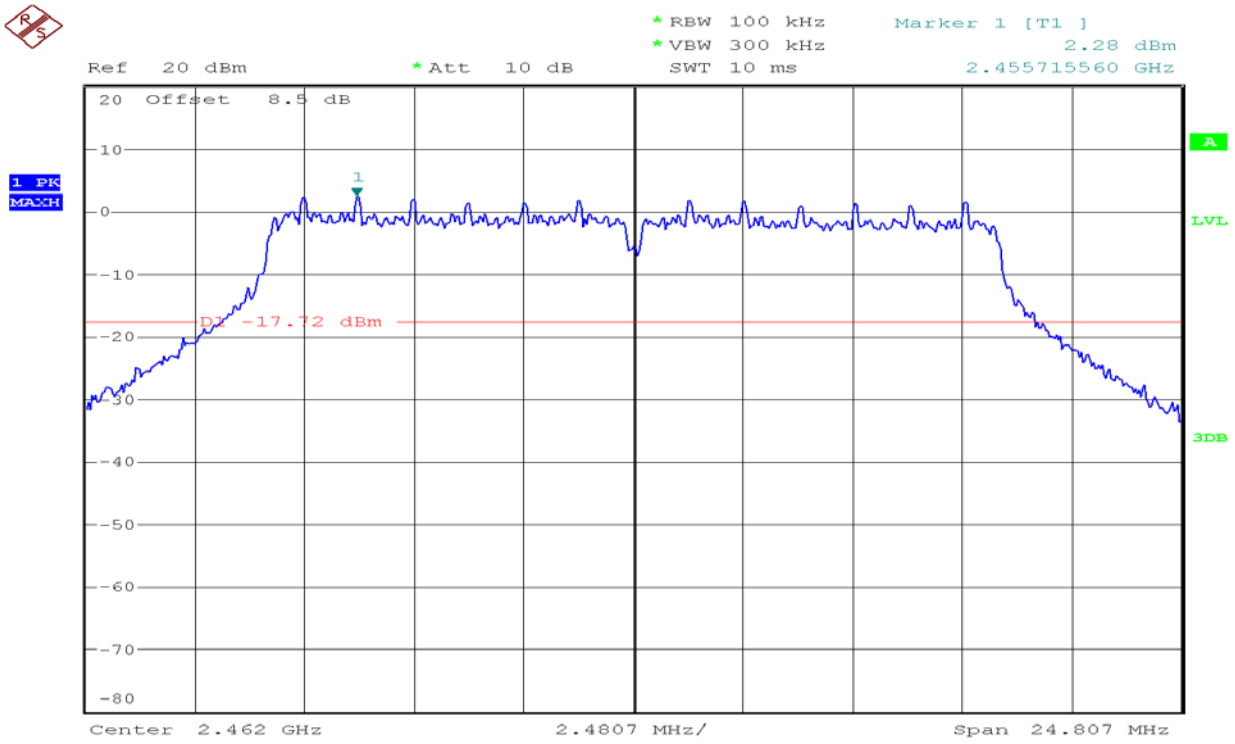
CH Mid

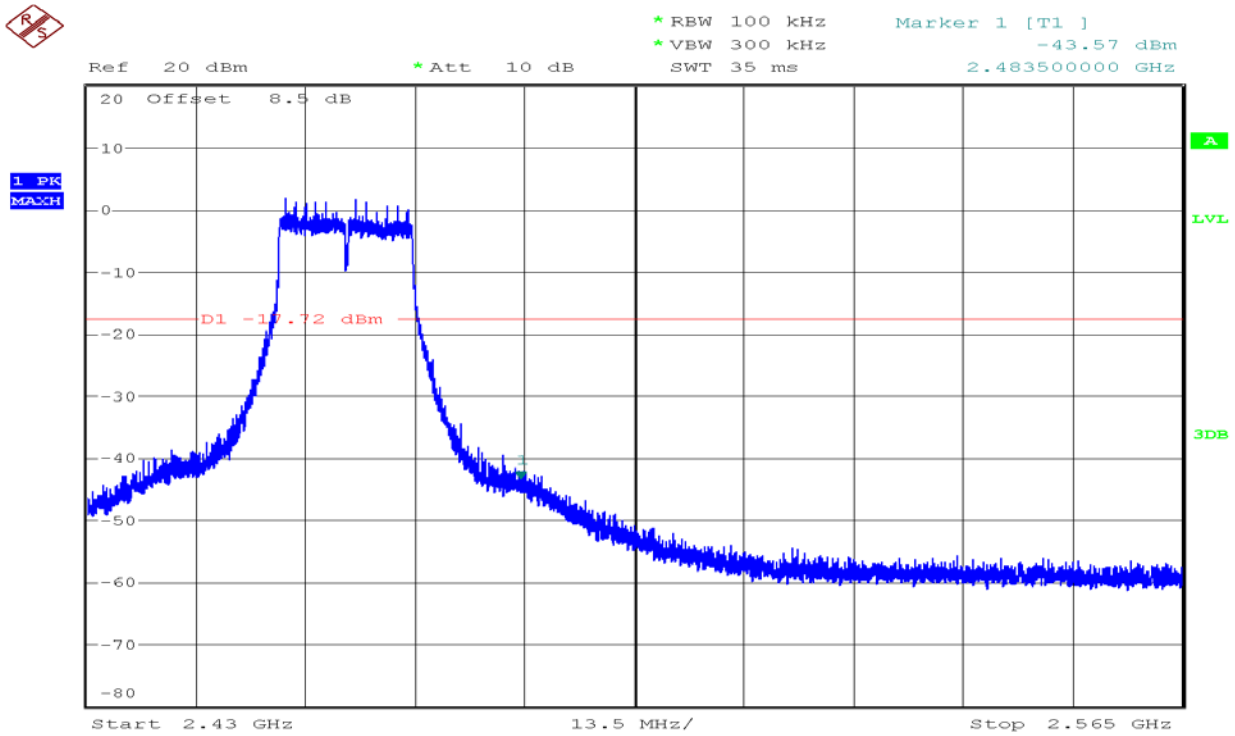

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
Marker 1 [T1]
2.52 dBm
2.430715560 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -17.48 dBm
A
LVL
3DB
Center 2.437 GHz
2.4807 MHz/
Span 24.807 MHz

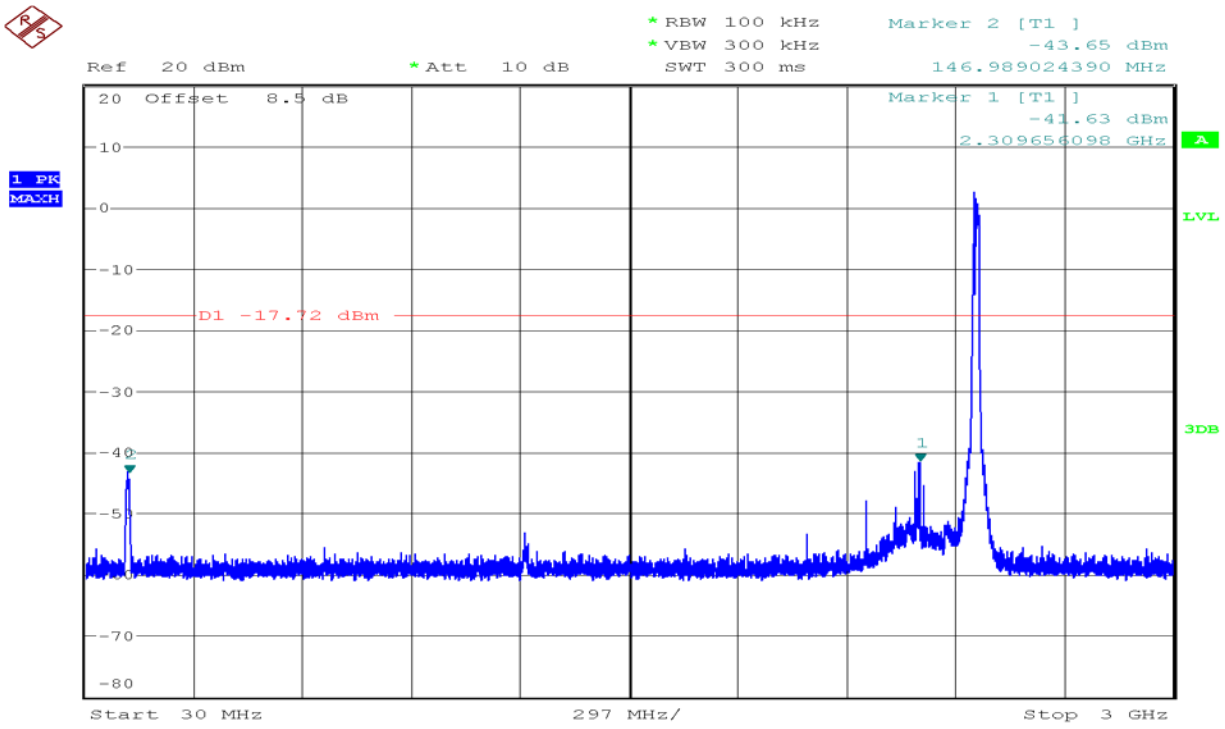

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-41.71 dBm
121.635365854 MHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
Marker 1 [T1]
-43.42 dBm
2.269452439 GHz
1 PK
MAXH
A
LVL
3DB
D1 -17.48 dBm
Start 30 MHz
297 MHz/
Stop 3 GHz

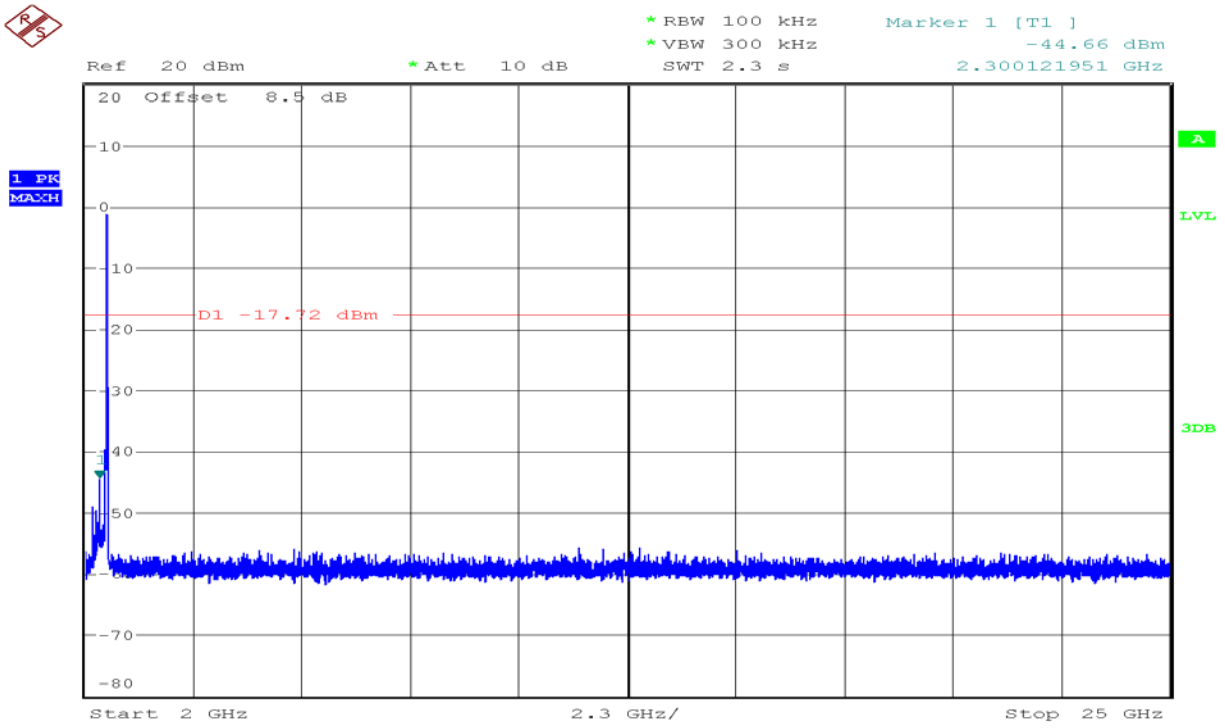

RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-47.45 dBm
2.319756098 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
A
LVL
3DB
D1 -17.48 dBm
Start 2 GHz
2.3 GHz/
Stop 25 GHz

CH High


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
Marker 1 [T1]
2.28 dBm
2.455715560 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
D1 -17.72 dBm
A
LVL
3DB
Center 2.462 GHz
2.4807 MHz/
Span 24.807 MHz

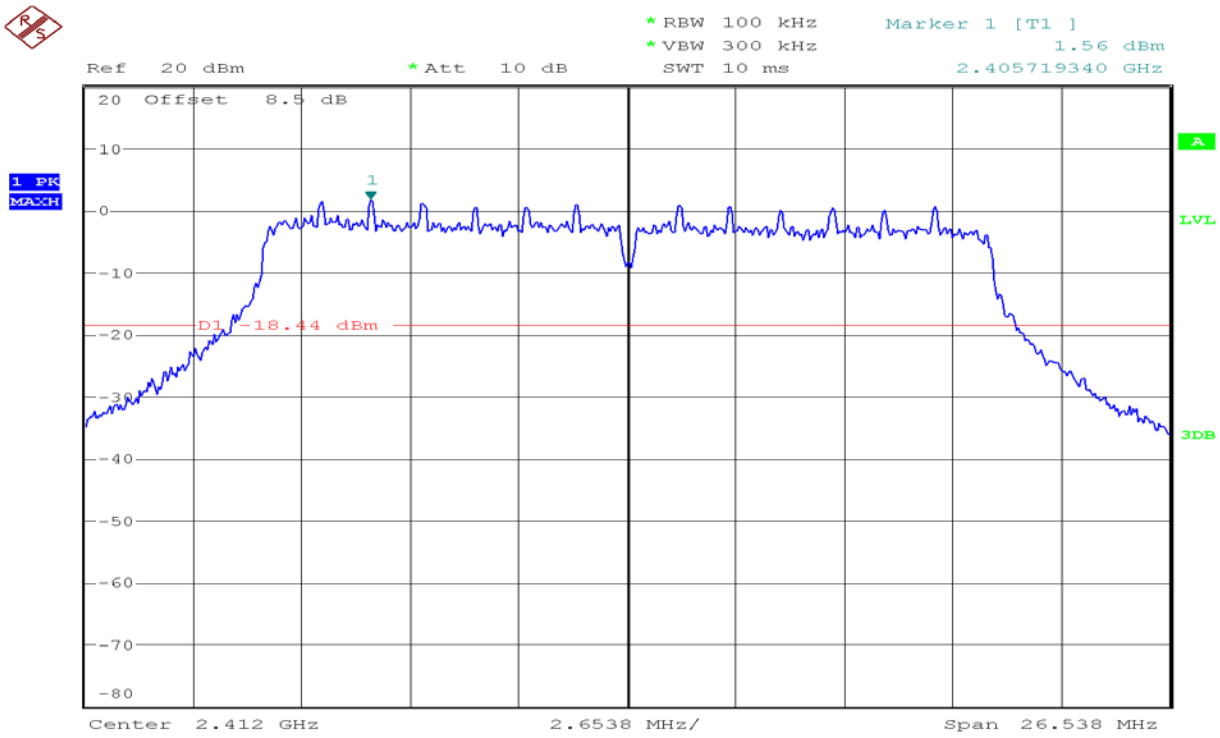

RBW 100 kHz
VBW 300 kHz
SWT 35 ms
Marker 1 [T1]
-43.57 dBm
2.483500000 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
1 PK
MAXH
D1 -17.72 dBm
A
LVL
3DB
Start 2.43 GHz
13.5 MHz/
Stop 2.565 GHz

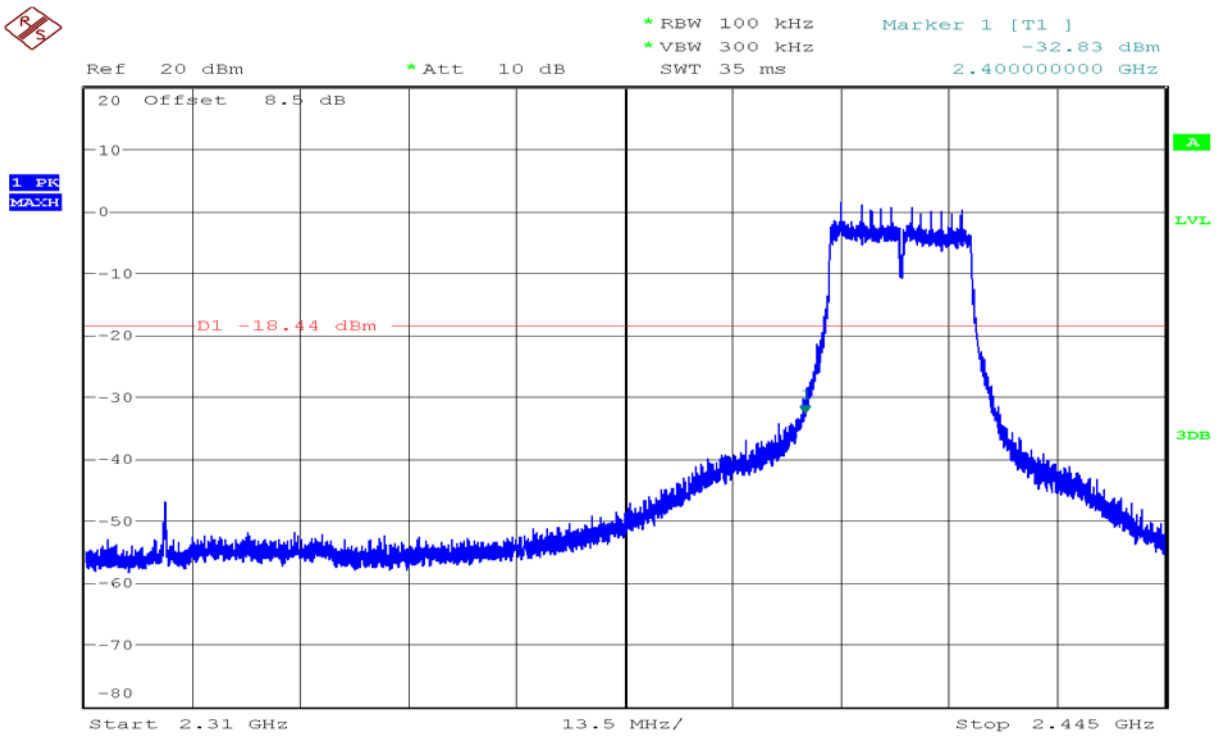

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-43.65 dBm
146.989024390 MHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
Marker 1 [T1]
-41.63 dBm
2.309656098 GHz
1 PK
MAXH
A
LVL
3DB
D1 -17.72 dBm
Start 30 MHz
297 MHz/
Stop 3 GHz

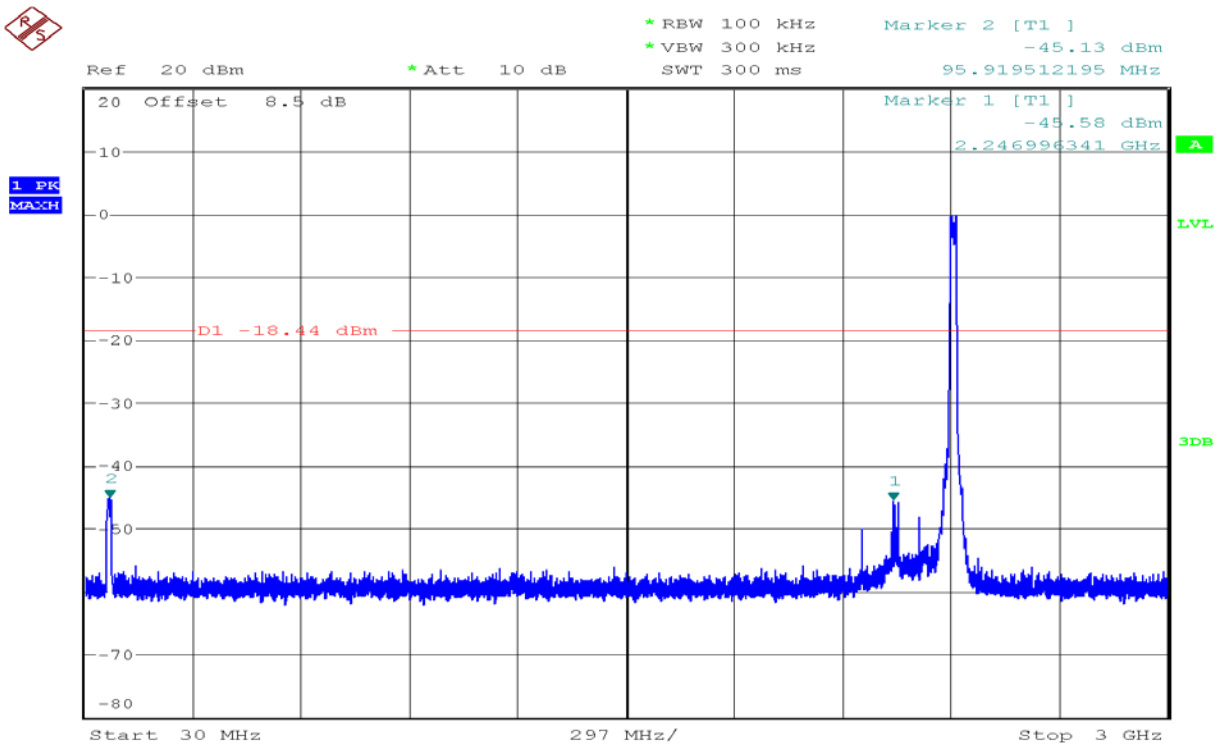

RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-44.66 dBm
2.300121951 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
A
LVL
3DB
D1 -17.72 dBm
Start 2 GHz
2.3 GHz/
Stop 25 GHz

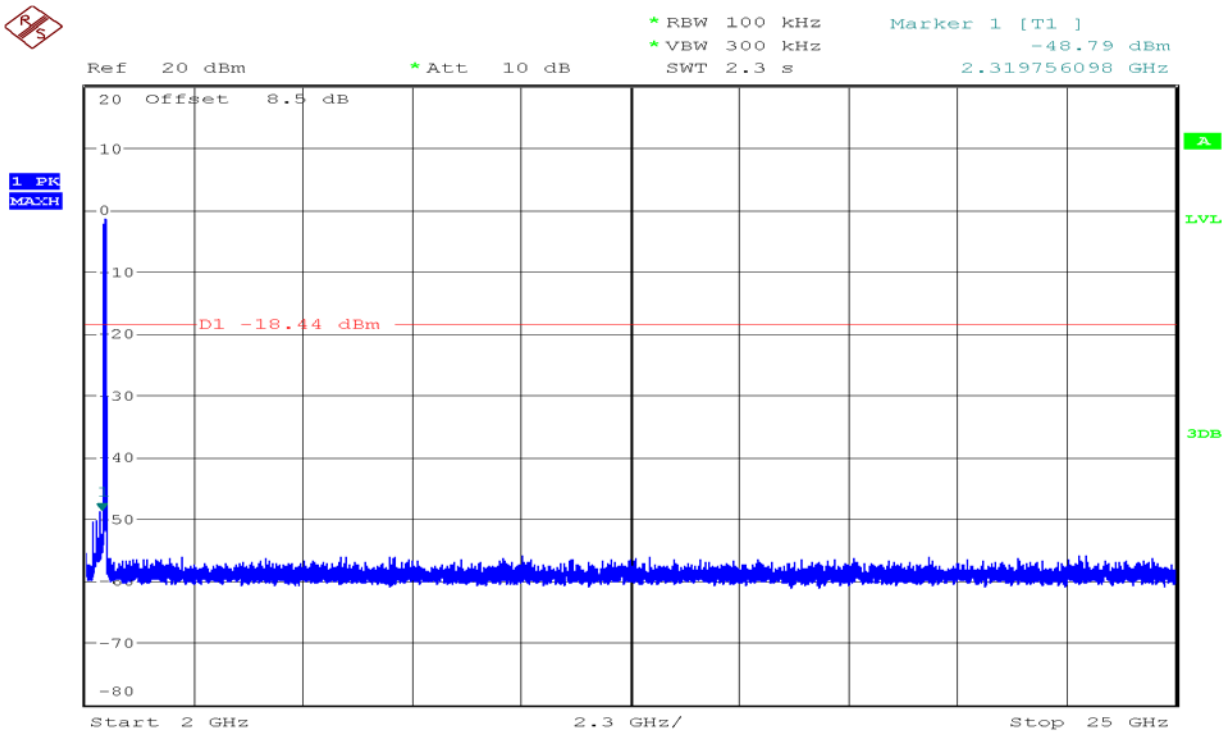
IEEE 802.11n HT20 mode

CH Low

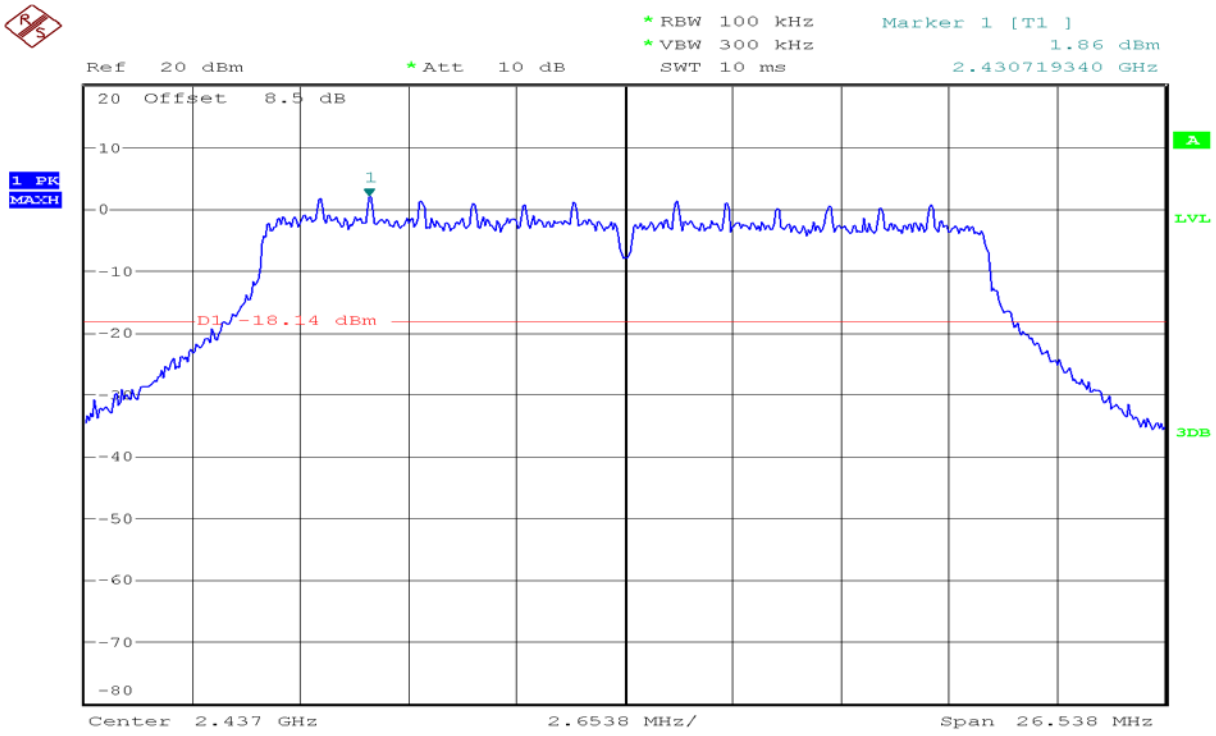


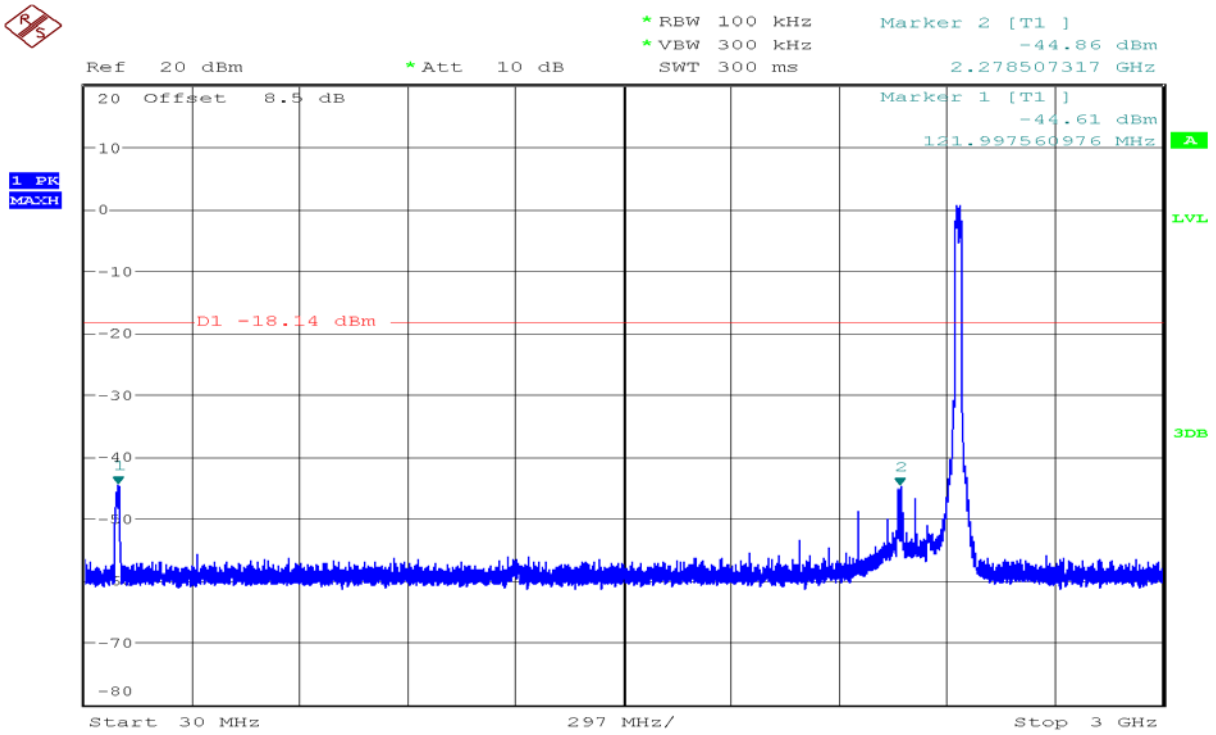


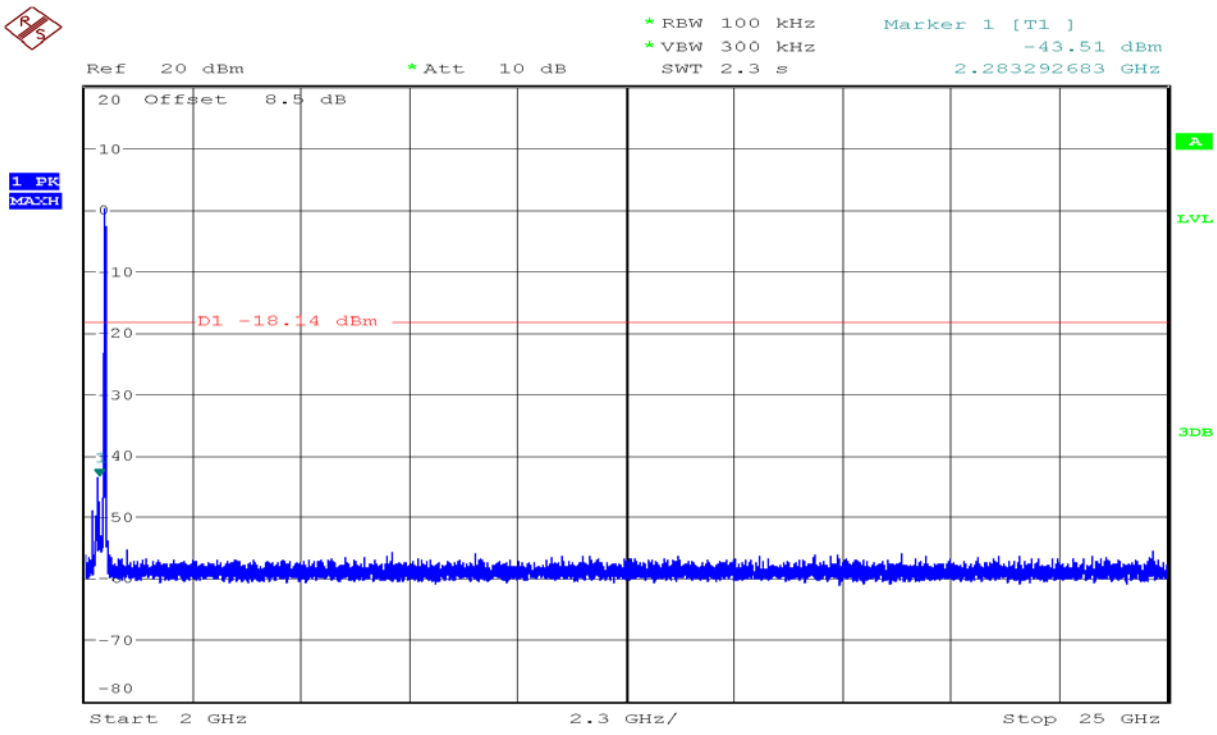

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-45.13 dBm
95.919512195 MHz
Marker 1 [T1]
-45.58 dBm
2.246996341 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
A
LVL
3DB
D1 -18.44 dBm
Start 30 MHz
297 MHz/
Stop 3 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-48.79 dBm
2.319756098 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
A
LVL
3DB
D1 -18.44 dBm
Start 2 GHz
2.3 GHz/
Stop 25 GHz

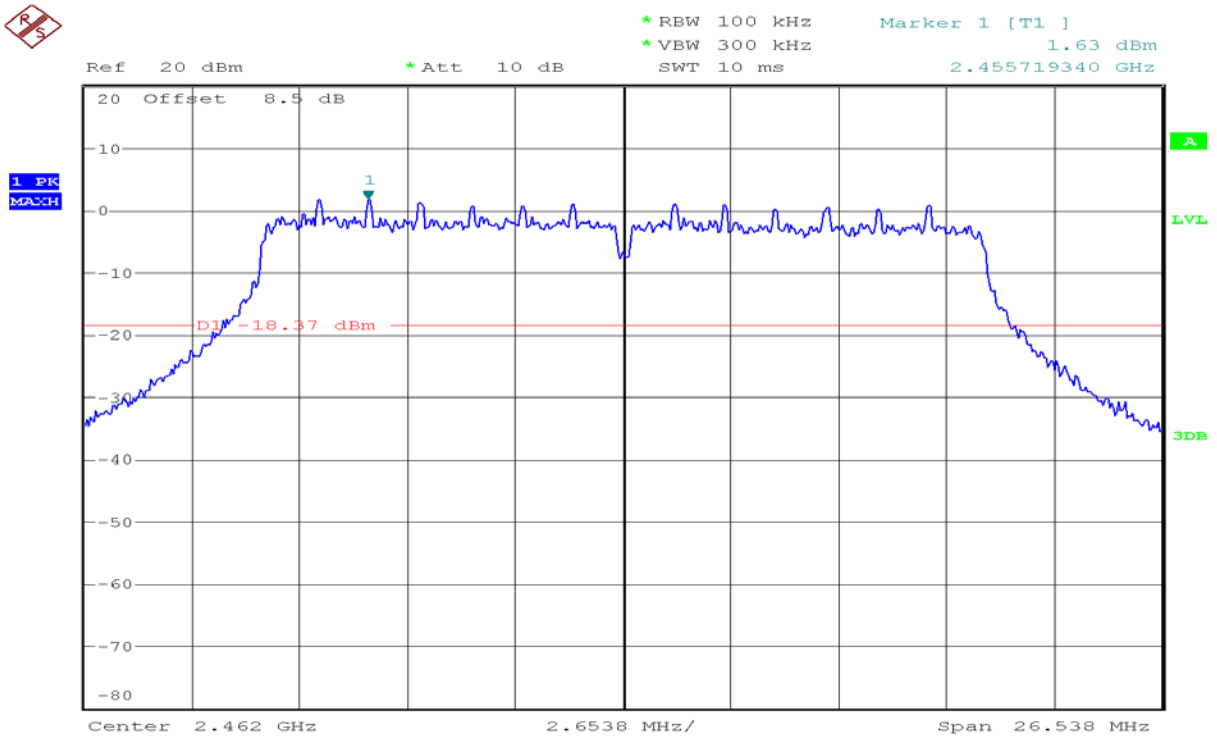
CH Mid

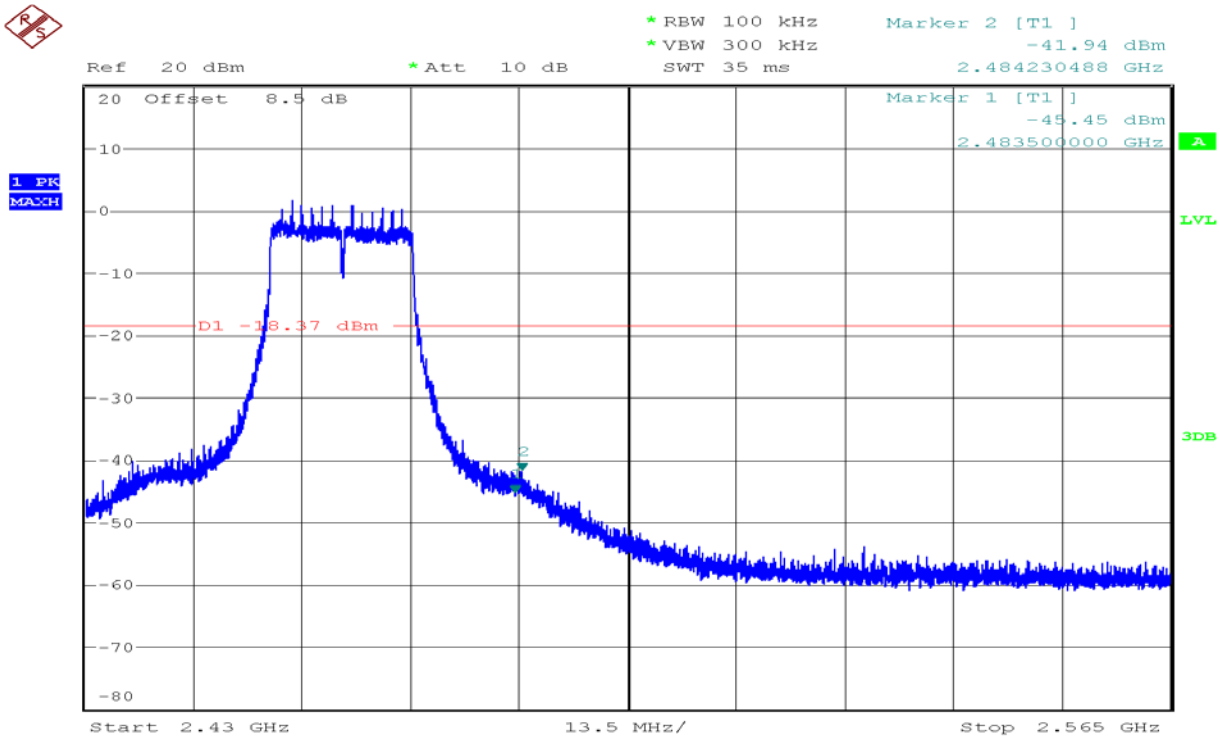

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
Marker 1 [T1]
1.86 dBm
2.430719340 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -18.14 dBm
A
LVL
3DB
Center 2.437 GHz
2.6538 MHz/
Span 26.538 MHz

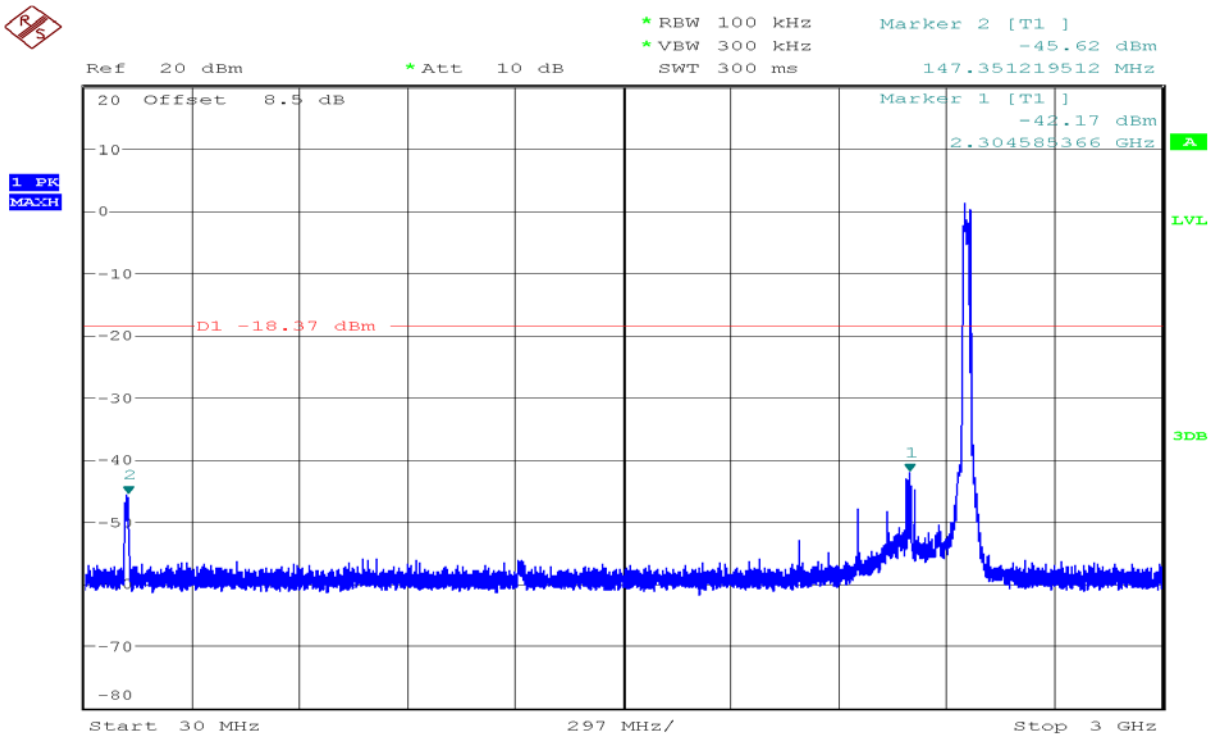

RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-44.86 dBm
2.278507317 GHz
Marker 1 [T1]
-44.61 dBm
121.997560976 MHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -18.14 dBm
A
LVL
3DB
Start 30 MHz
297 MHz/
Stop 3 GHz

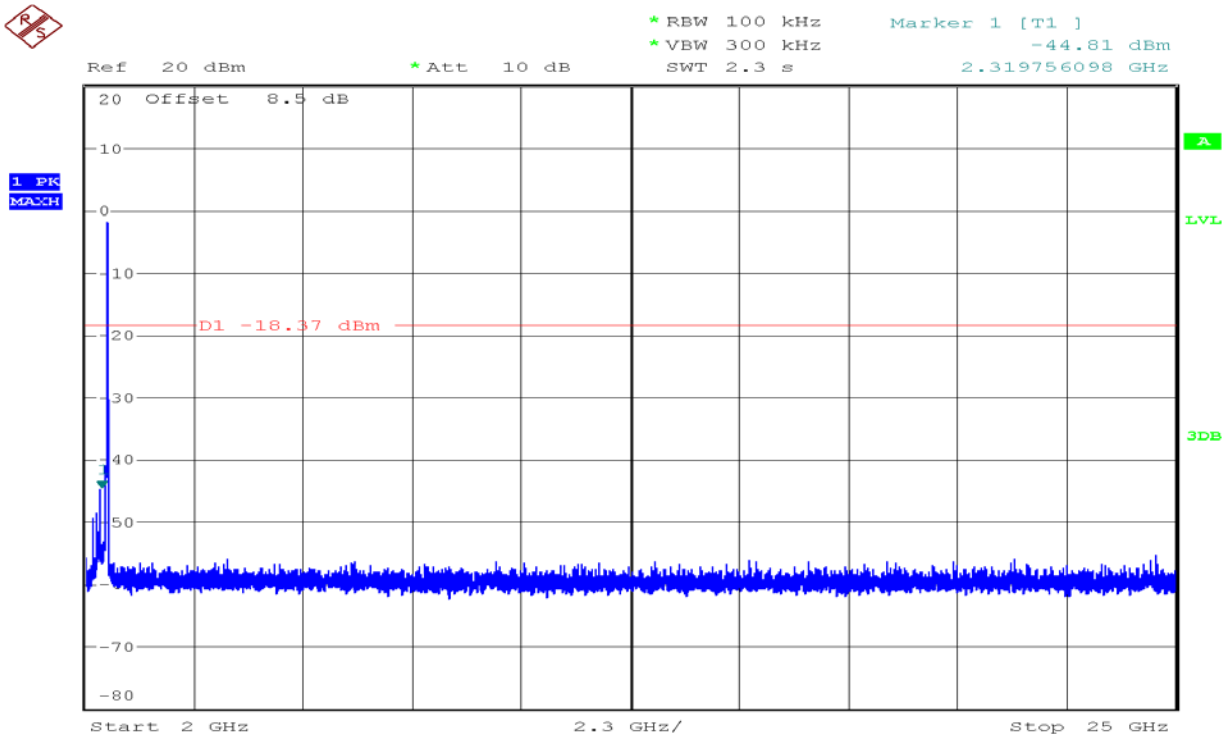

RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-43.51 dBm
2.283292683 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -18.14 dBm
A
LVL
3DB
Start 2 GHz
2.3 GHz/
Stop 25 GHz

CH High


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
Marker 1 [T1]
1.63 dBm
2.455719340 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -18.37 dBm
A
LVL
3DB
Center 2.462 GHz
2.6538 MHz/
Span 26.538 MHz


RBW 100 kHz
VBW 300 kHz
SWT 35 ms
Marker 2 [T1]
-41.94 dBm
2.484230488 GHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
Marker 1 [T1]
-45.45 dBm
2.483500000 GHz
1 PK
MAXH
A
LVL
3DB
D1 -18.37 dBm
Start 2.43 GHz
13.5 MHz/
Stop 2.565 GHz


RBW 100 kHz
VBW 300 kHz
SWT 300 ms
Marker 2 [T1]
-45.62 dBm
147.351219512 MHz
Ref 20 dBm
Att 10 dB
20 Offset 8.5 dB
Marker 1 [T1]
-42.17 dBm
2.304585366 GHz
1 PK
MAXH
A
LVL
3DB
D1 -18.37 dBm
Start 30 MHz
297 MHz/
Stop 3 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.3 s
Marker 1 [T1]
-44.81 dBm
2.319756098 GHz
Ref 20 dBm
Att 10 dB
Offset 8.5 dB
1 PK
MAXH
D1 -18.37 dBm
A
LVL
3DB
Start 2 GHz
2.3 GHz/
Stop 25 GHz

8.5. RADIATED EMISSIONS

LIMIT

Radiated emissions from 9 kHz to 25 GHz were measured according to the methods defines in ANSI C63.10-2013. The EUT was placed above the ground plane, 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz. 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

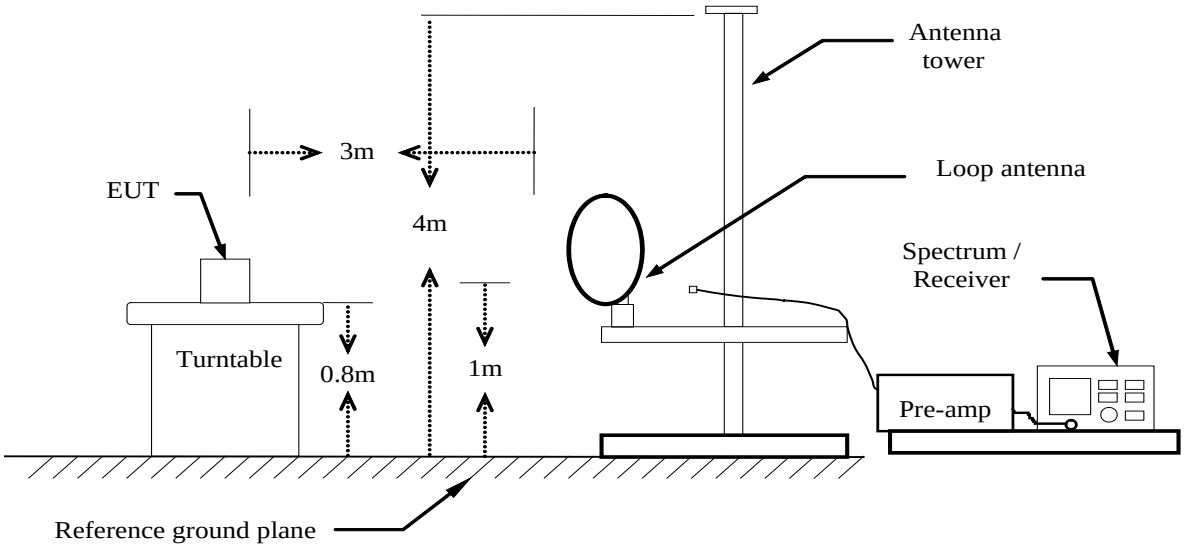
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

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

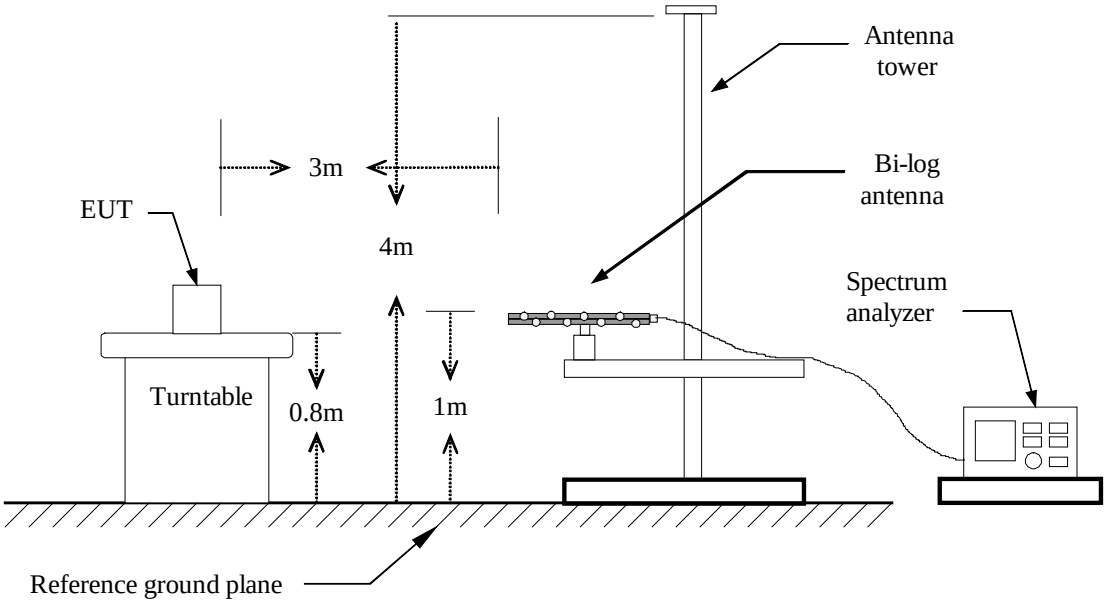
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

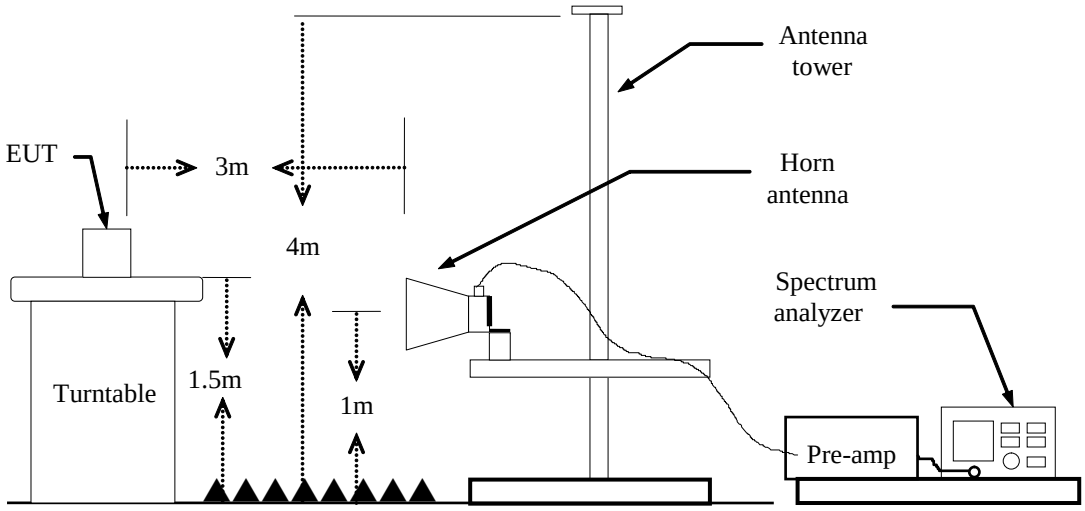
Below 30MHz



Below 1 GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable above ground plane, which is 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz.
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

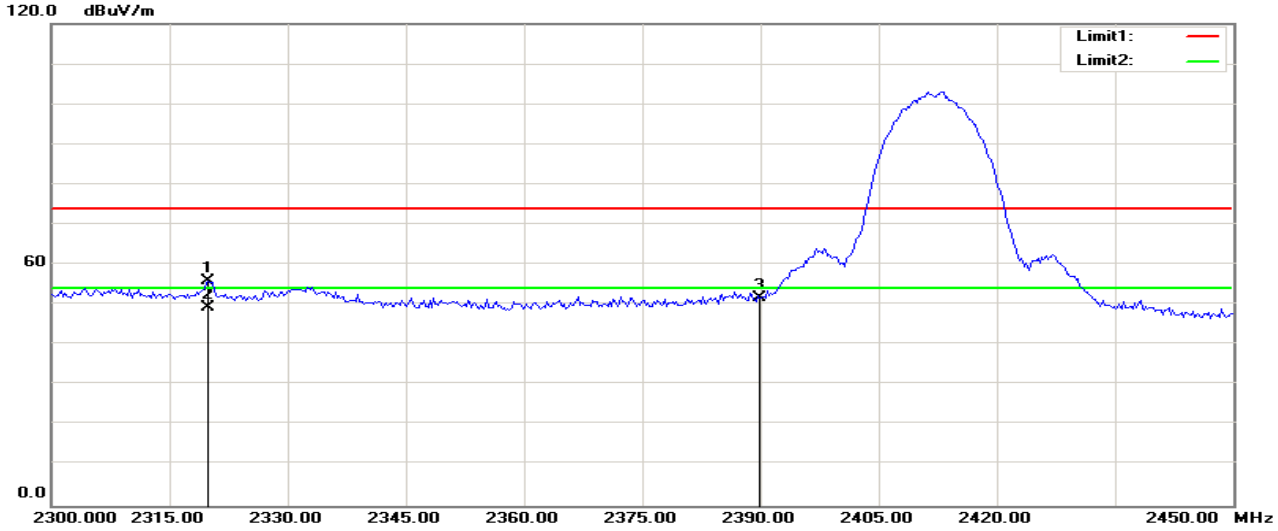
   AVERAGE: RBW=1MHz / Sweep=AUTO

   VBW=10Hz,when duty cycle is no less than 98 percent.

   VBW≧1/T,when duty cycle is less than 98 percent,where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximun power control level for the tested mode of operation.
7. Repeat above procedures until the measurements for all frequencies are complete.

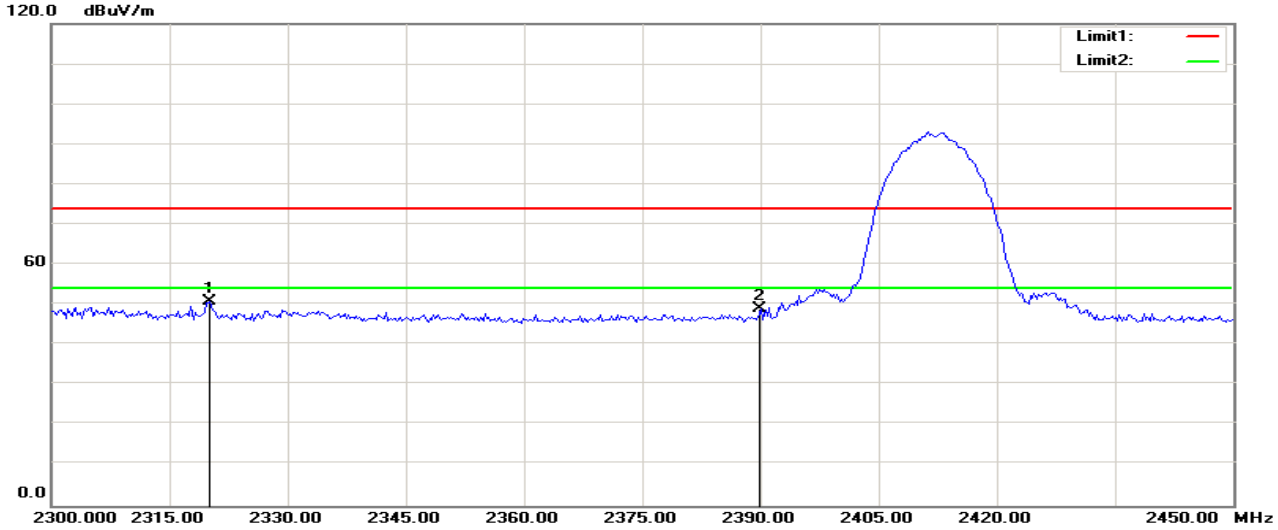
TEST RESULTS

RESTRICTED BANDEDGE (b Mode, Low Channel, Horizontal)



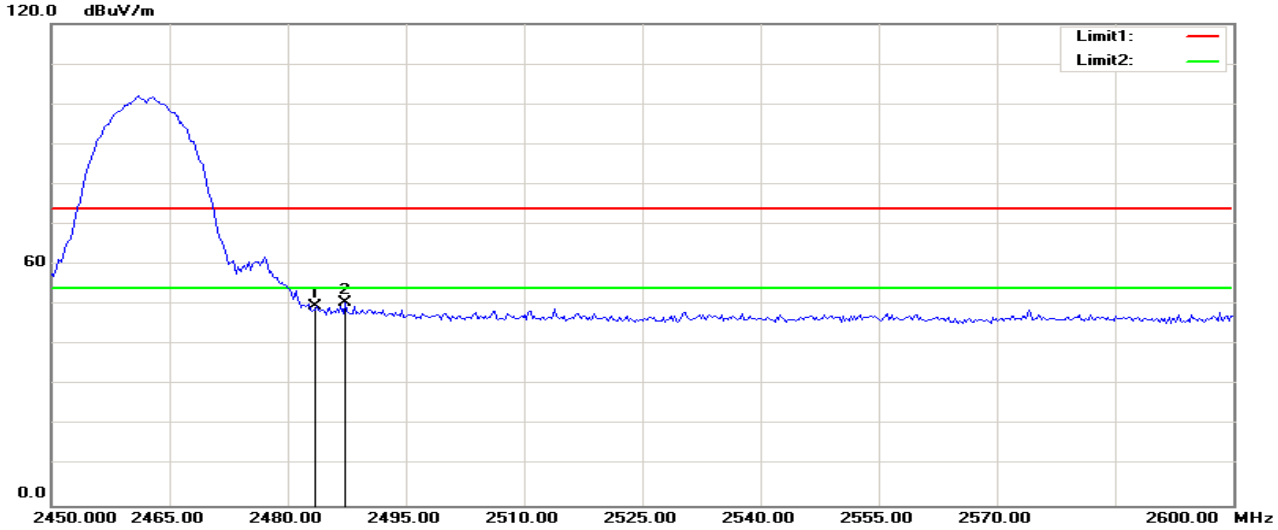
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2319.952	63.67	-7.80	55.87	74.00	-18.13	100	92	peak
2	2319.952	57.21	-7.80	49.41	54.00	-4.59	100	82	AVG
3	2390.000	59.20	-7.57	51.63	74.00	-22.37	100	168	peak

RESTRICTED BANDEDGE (b Mode, Low Channel, Vertical)



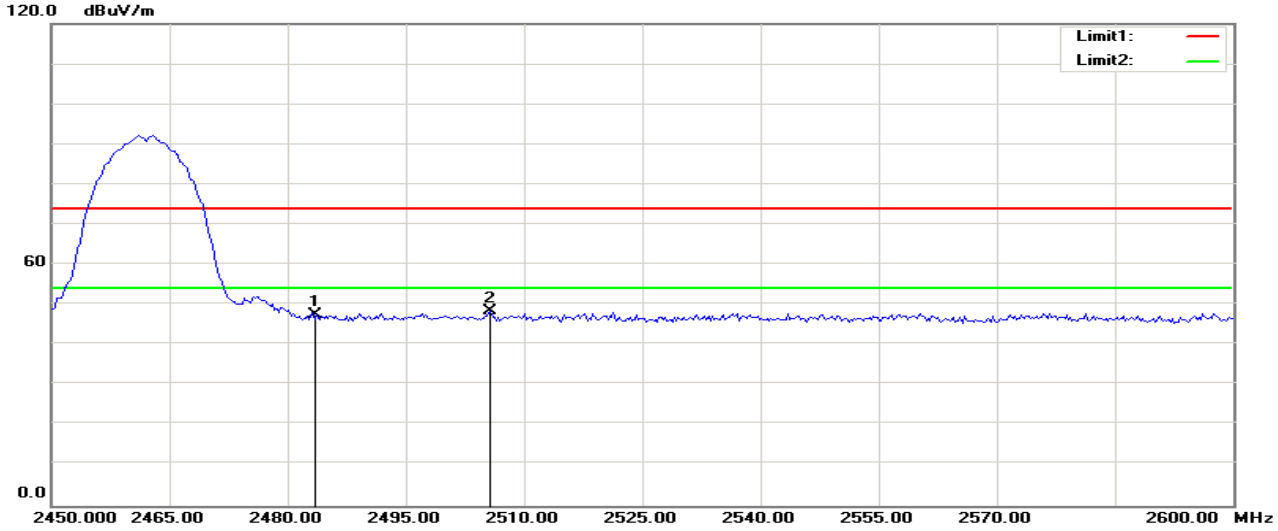
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2320.192	58.75	-7.80	50.95	74.00	-23.05	200	212	peak
2	2390.000	56.59	-7.57	49.02	74.00	-24.98	200	160	peak

RESTRICTED BANDEDGE (b Mode, High Channel, Horizontal)



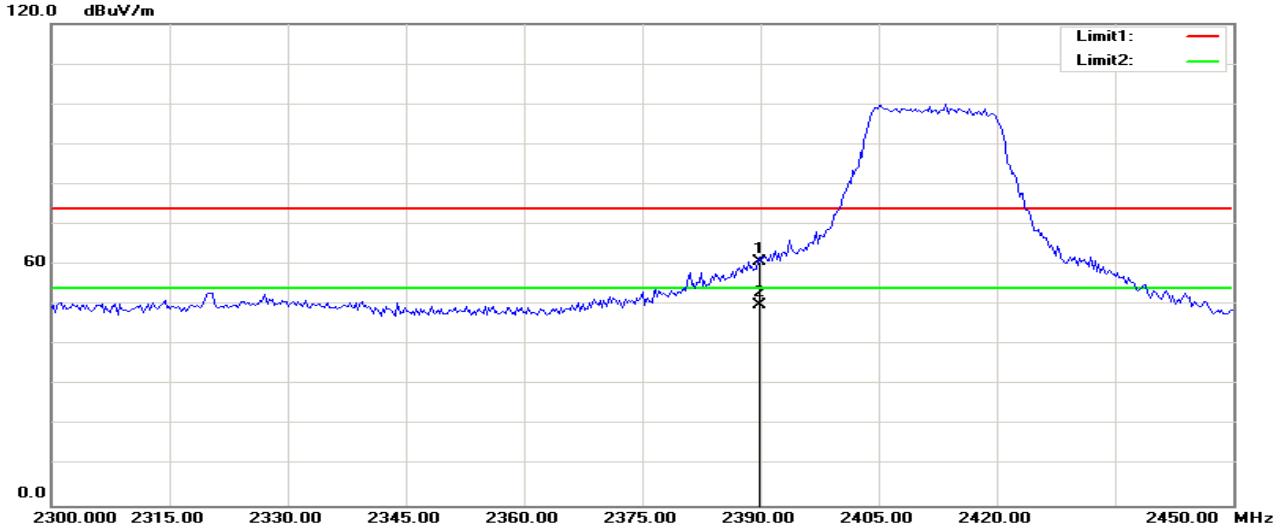
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	56.78	-7.26	49.52	74.00	-24.48	100	92	peak
2	2487.260	57.72	-7.25	50.47	74.00	-23.53	100	88	peak

RESTRICTED BANDEDGE (b Mode, High Channel, Vertical)



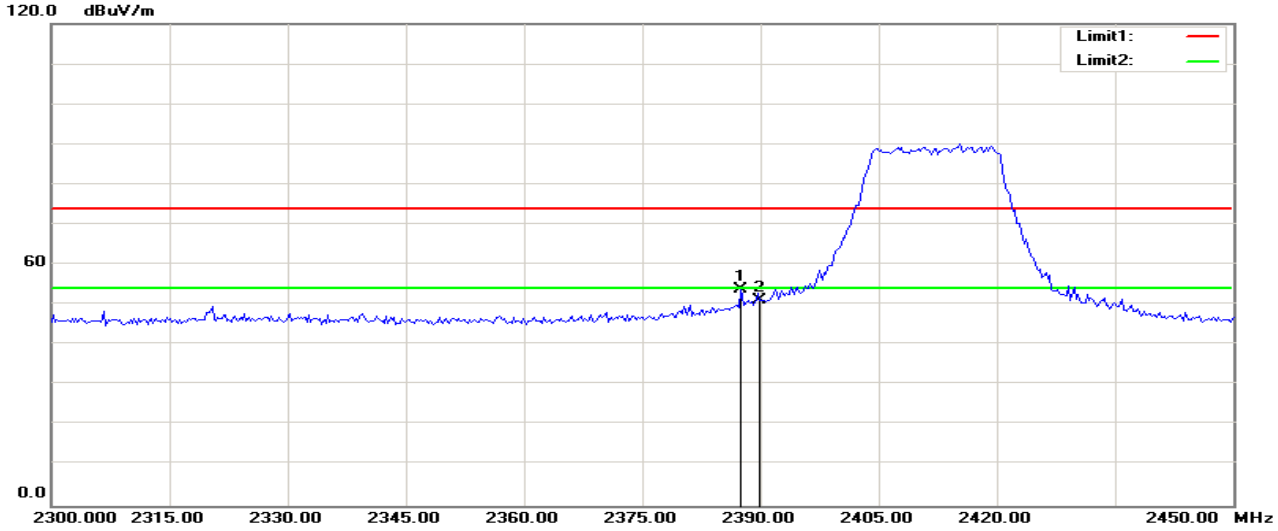
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	54.67	-7.26	47.41	74.00	-26.59	200	360	peak
2	2505.769	55.51	-7.19	48.32	74.00	-25.68	200	360	peak

RESTRICTED BANDEDGE (g Mode, Low Channel, Horizontal)



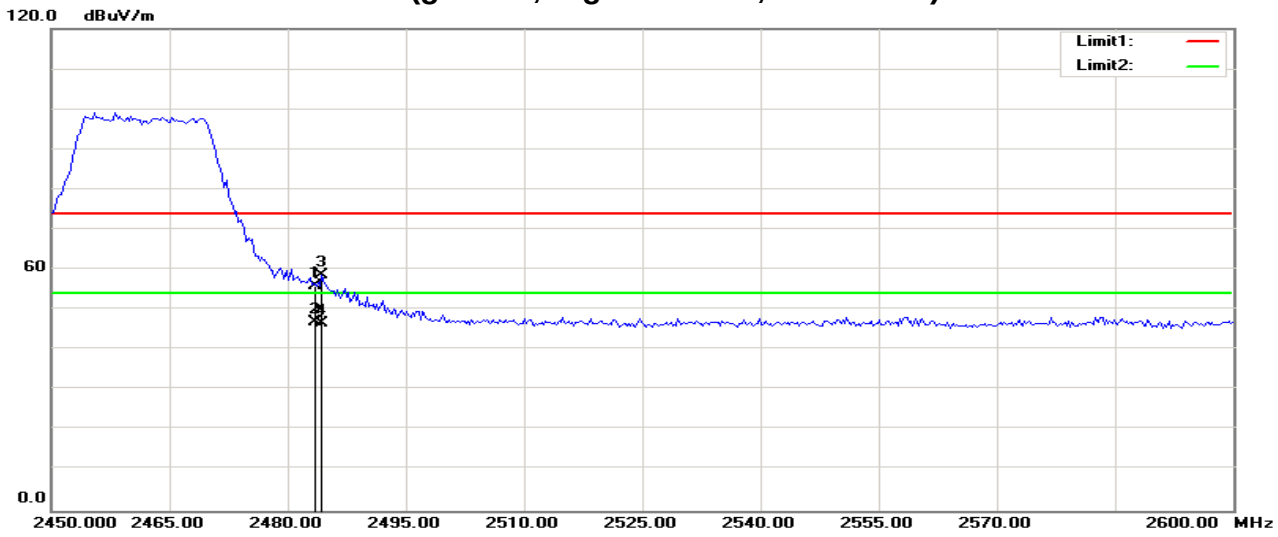
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	68.41	-7.57	60.84	74.00	-13.16	200	160	peak
2	2390.000	57.42	-7.57	49.85	54.00	-4.15	100	165	AVG

RESTRICTED BANDEDGE (g Mode, Low Channel, Vertical)



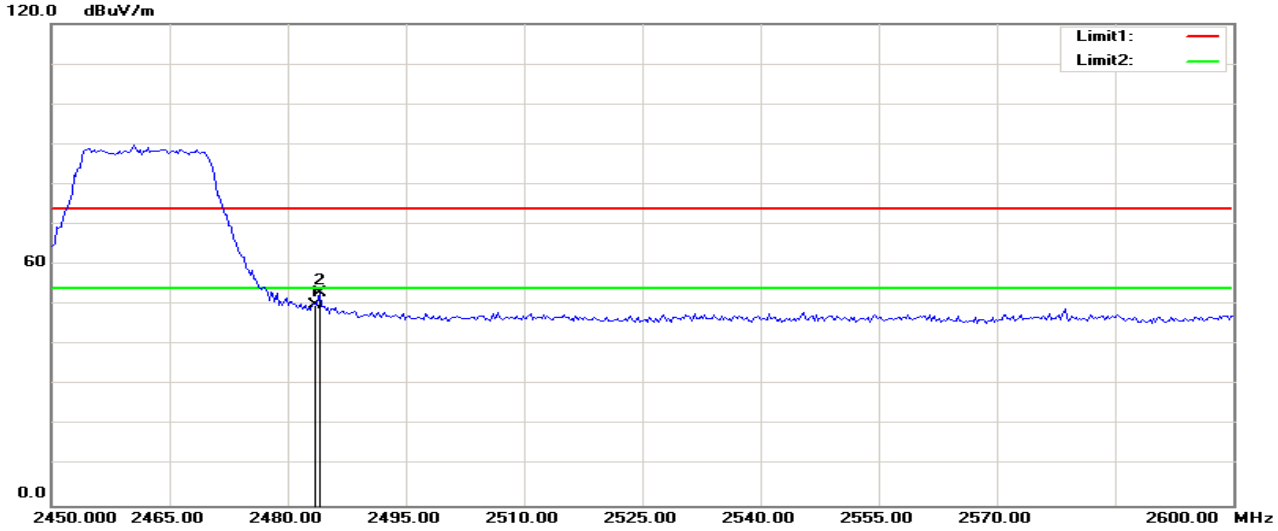
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2387.500	61.30	-7.58	53.72	74.00	-20.28	100	360	peak
2	2390.000	58.58	-7.57	51.01	74.00	-22.99	100	197	peak

RESTRICTED BANDEDGE (g Mode, High Channel, Horizontal)



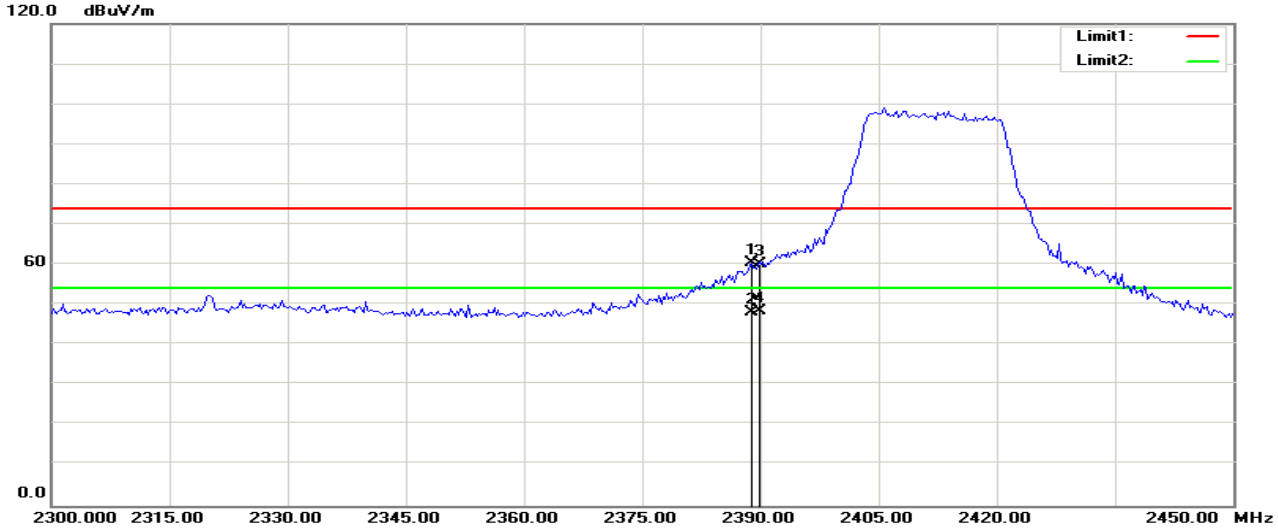
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	63.23	-7.26	55.97	74.00	-18.03	100	97	peak
2	2483.500	54.14	-7.26	46.88	54.00	-7.12	100	88	AVG
3	2484.375	65.77	-7.26	58.51	74.00	-15.49	100	96	peak
4	2484.375	53.87	-7.26	46.61	54.00	-7.39	100	88	AVG

RESTRICTED BANDEDGE (g Mode, High Channel, Vertical)



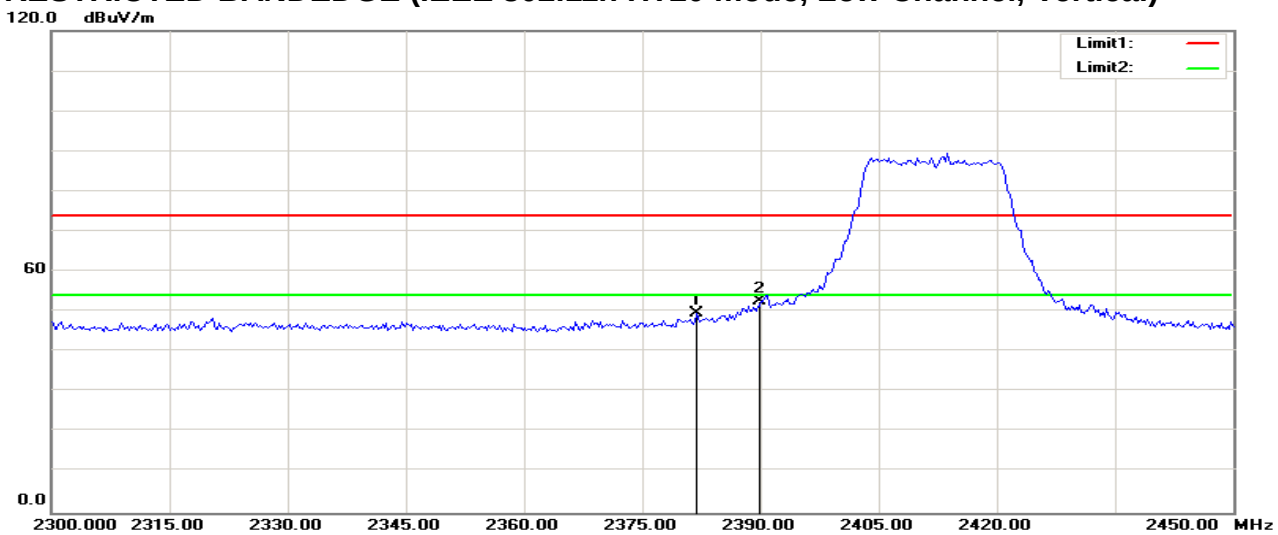
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	57.11	-7.26	49.85	74.00	-24.15	100	118	peak
2	2484.135	60.34	-7.26	53.08	74.00	-20.92	200	262	peak

RESTRICTED BANDEDGE (IEEE 802.11n HT20 mode, Low Channel, Horizontal)



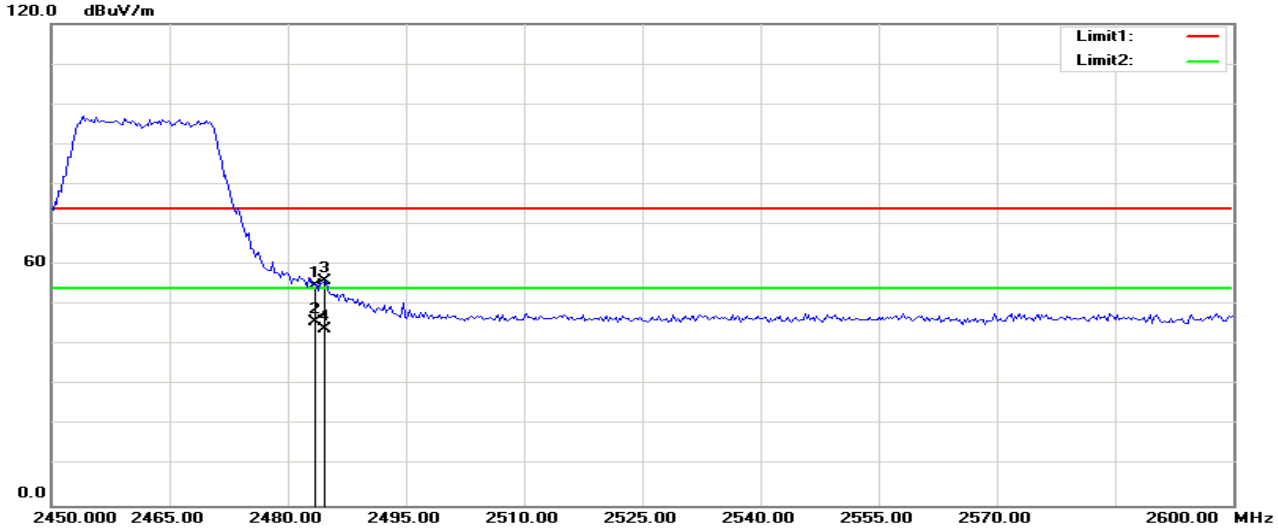
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2388.942	67.93	-7.58	60.35	74.00	-13.65	100	163	peak
2	2388.942	55.73	-7.58	48.15	54.00	-5.85	100	163	AVG
3	2390.000	67.87	-7.57	60.30	74.00	-13.70	100	159	peak
4	2390.000	56.04	-7.57	48.47	54.00	-5.53	100	160	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT20 mode, Low Channel, Vertical)



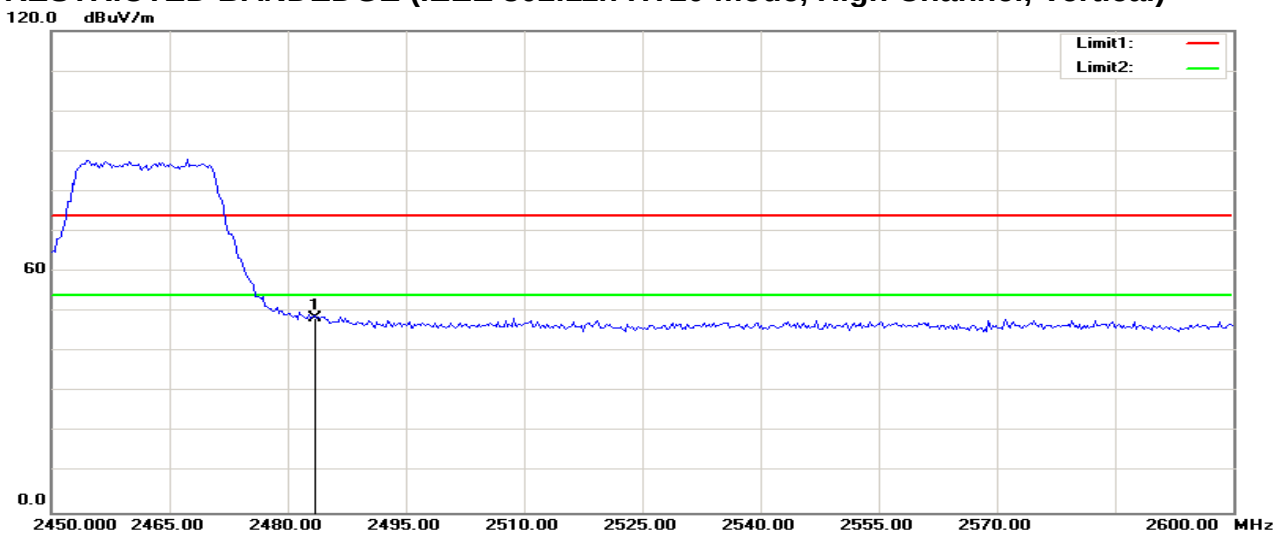
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2381.971	57.26	-7.60	49.66	74.00	-24.34	200	218	peak
2	2390.000	60.18	-7.57	52.61	74.00	-21.39	200	210	peak

RESTRICTED BANDEDGE (IEEE 802.11n HT20 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	62.05	-7.26	54.79	74.00	-19.21	100	97	peak
2	2483.500	52.98	-7.26	45.72	54.00	-8.28	100	88	AVG
3	2484.615	63.22	-7.26	55.96	74.00	-18.04	100	97	peak
4	2484.615	51.26	-7.26	44.00	54.00	-10.00	100	90	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT20 mode, High Channel, Vertical)



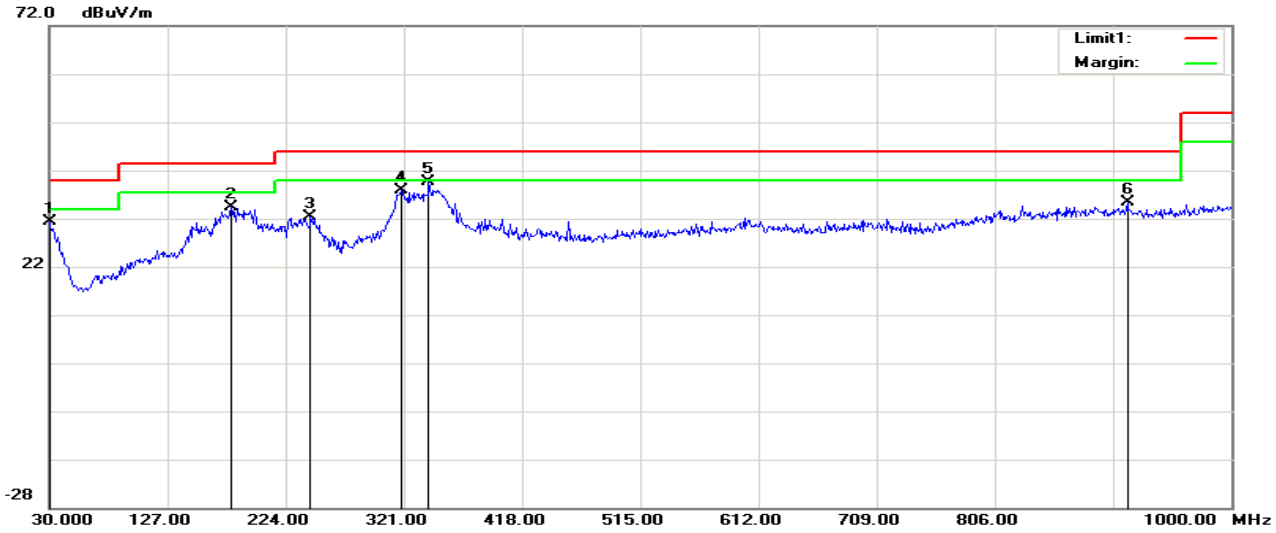
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	55.73	-7.26	48.47	74.00	-25.53	100	251	peak

Test Result of Radiated Emission

Below 30MHz and above 18GHz. The measured value have enough margin over 20dB than the limit, therefore they are not reported.

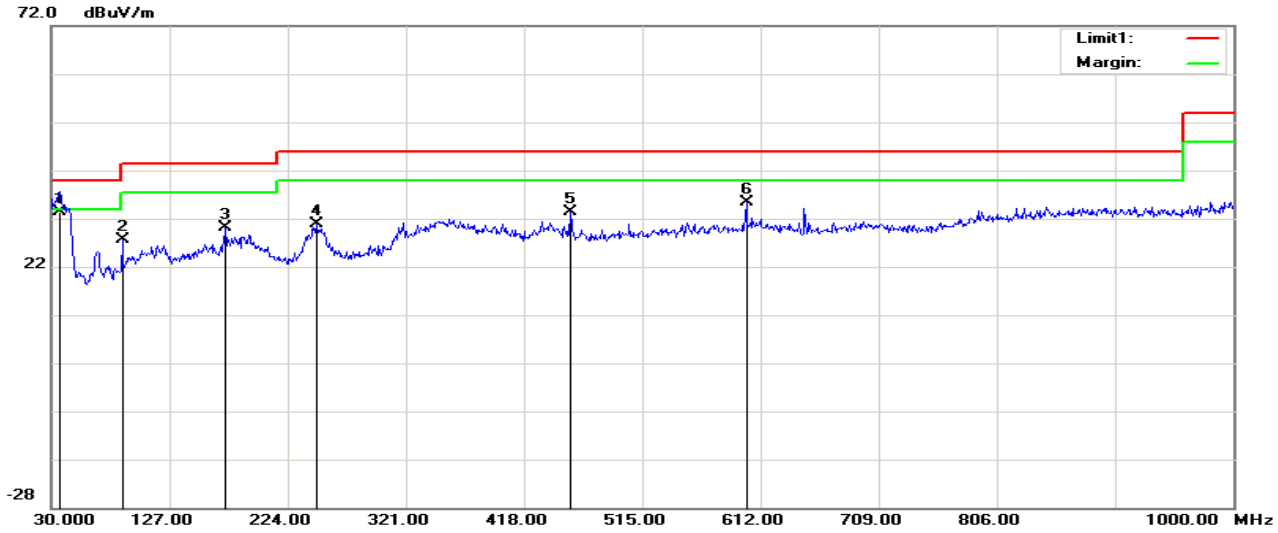
30MHz-1GHz

Operation Mode:	IEEE 802.11b mode with Adapter1	**Test Date:**	2018-9-12
Temperature:	28°C	**Tested by:**	Wendy.Wei
Humidity:	50% RH	**Polarity:**	Hor.



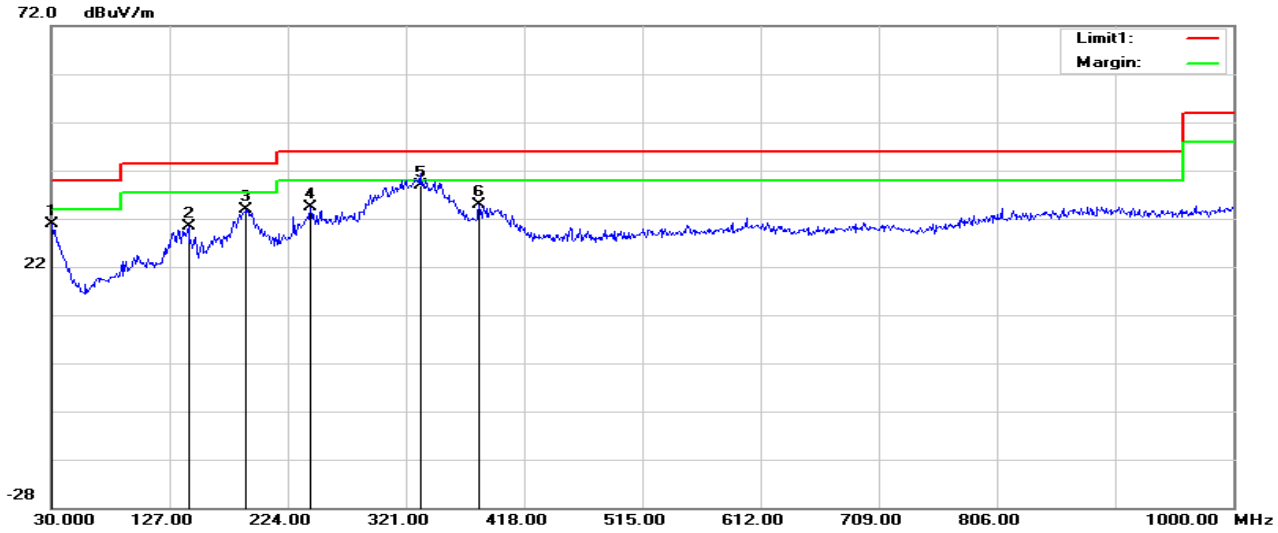
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.0000	5.57	25.76	31.33	40.00	-8.67	200	360	peak
2	179.3800	16.86	17.44	34.30	43.50	-9.20	100	0	peak
3	244.3700	13.94	18.46	32.40	46.00	-13.60	100	3	peak
4	319.0600	15.32	22.52	37.84	46.00	-8.16	100	278	peak
5	341.3700	14.48	25.25	39.73	46.00	-6.27	100	293	peak
6	914.6400	6.47	28.88	35.35	46.00	-10.65	300	184	peak

Operation Mode:	IEEE 802.11b mode with Adapter1	Test Date:	2018-9-12
Temperature:	28°C	Tested by:	Wendy.Wei
Humidity:	50% RH	Polarity:	Ver.



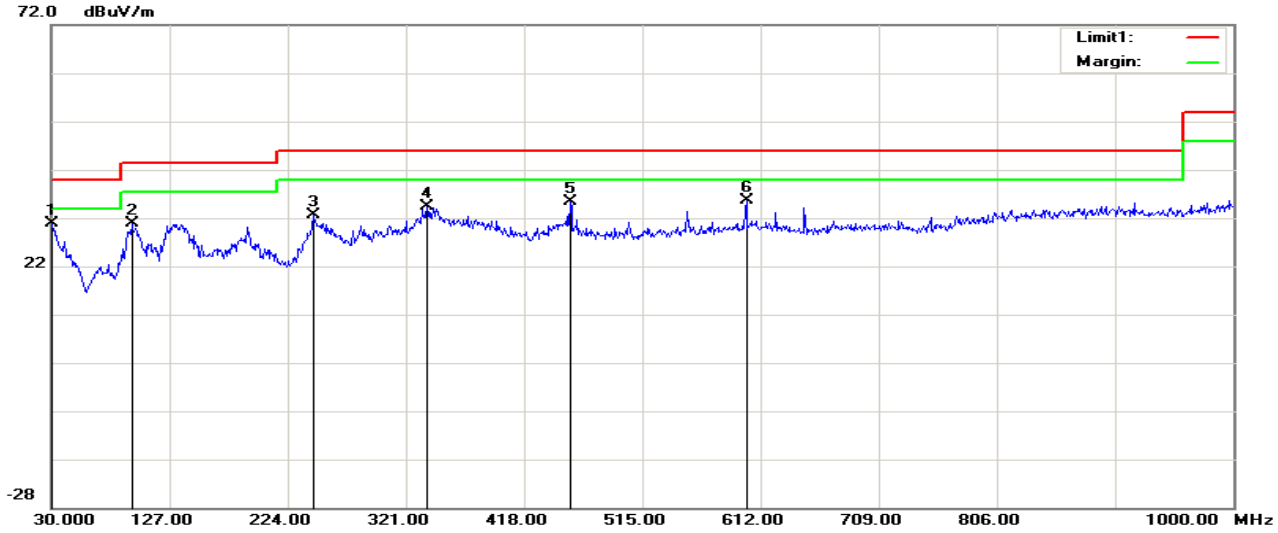
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	36.7900	12.35	21.07	33.42	40.00	-6.58	100	240	QP
2	88.2000	11.79	15.81	27.60	43.50	-15.90	300	360	peak
3	172.5900	12.63	17.53	30.16	43.50	-13.34	200	61	peak
4	247.2800	12.22	18.55	30.77	46.00	-15.23	200	70	peak
5	455.8300	9.67	23.65	33.32	46.00	-12.68	100	73	peak
6	600.3600	9.38	25.95	35.33	46.00	-10.67	100	220	peak

Operation Mode:	IEEE 802.11b mode with Adapter2	Test Date:	2018-9-12
Temperature:	28°C	Tested by:	Wendy.Wei
Humidity:	50% RH	Polarity:	Hor.



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.9700	5.88	25.09	30.97	40.00	-9.03	200	0	peak
2	142.5200	12.63	17.85	30.48	43.50	-13.02	200	12	peak
3	190.0500	16.46	17.30	33.76	43.50	-9.74	200	360	peak
4	242.4300	15.97	18.41	34.38	46.00	-11.62	100	48	peak
5	332.6400	14.67	24.18	38.85	46.00	-7.15	100	100	QP
6	381.1400	10.16	24.82	34.98	46.00	-11.02	100	289	peak

Operation Mode:	IEEE 802.11b mode with Adapter2	Test Date:	2018-9-12
Temperature:	28°C	Tested by:	Wendy.Wei
Humidity:	50% RH	Polarity:	Ver.



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.9700	5.77	25.09	30.86	40.00	-9.14	200	214	peak
2	95.9600	13.81	17.15	30.96	43.50	-12.54	100	142	peak
3	245.3400	14.22	18.49	32.71	46.00	-13.29	100	200	peak
4	338.4600	9.53	24.89	34.42	46.00	-11.58	100	306	peak
5	455.8300	11.80	23.65	35.45	46.00	-10.55	100	15	peak
6	600.3600	9.57	25.95	35.52	46.00	-10.48	100	260	peak

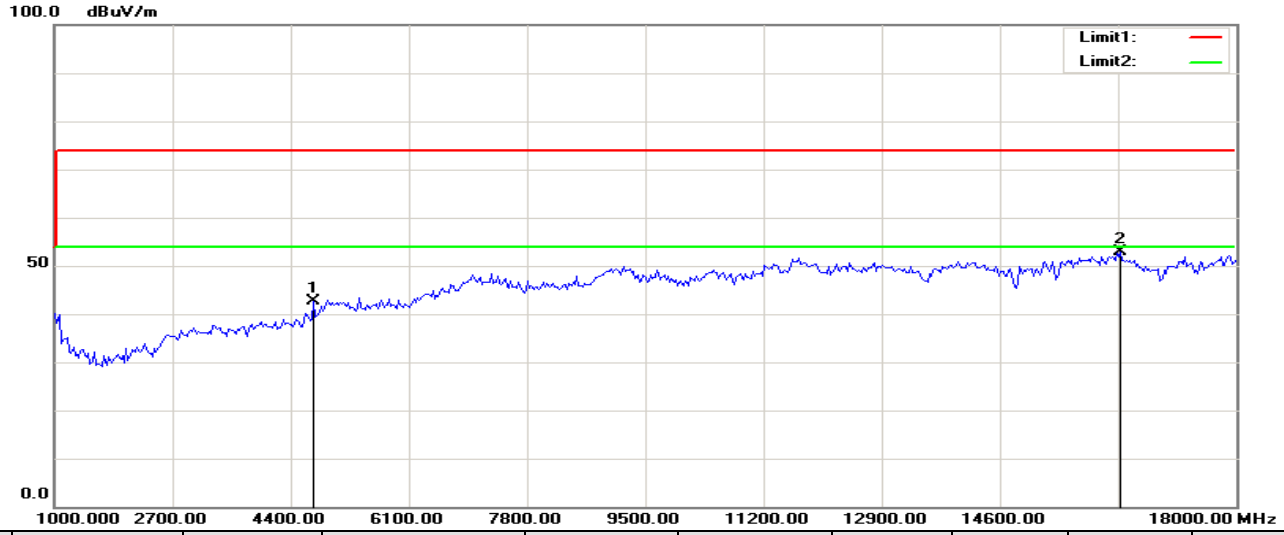
Remark:

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).*

Above 1 GHz

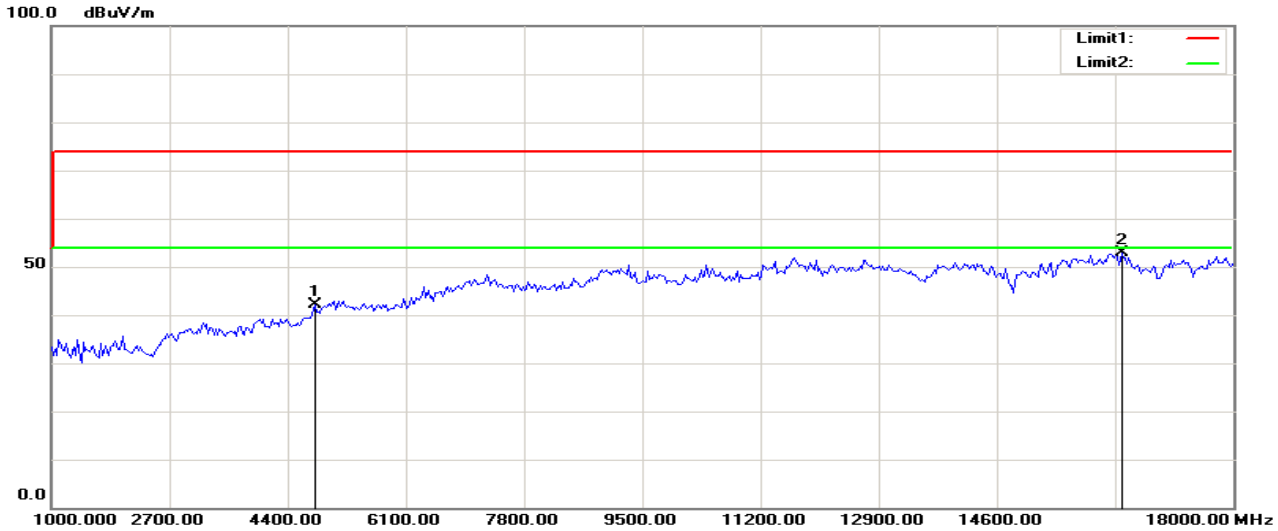
Operation Mode: TX / IEEE 802.11b / CH Low
Test Date: 2018-9-12
Temperature: 28°C
Tested by: Wendy.Wei
Humidity: 50 % RH
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4732.372	44.30	-1.60	42.70	74.00	-31.30	100	234	peak
2	16338.141	38.39	14.41	52.80	74.00	-21.20	100	38	peak

Vertical

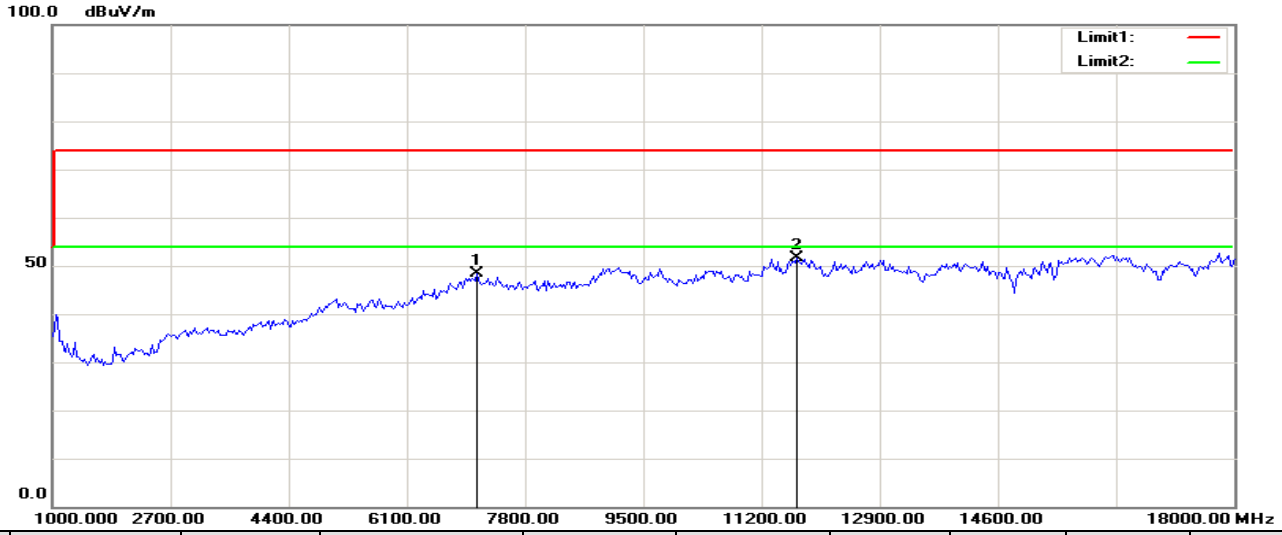


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4786.859	43.31	-1.13	42.18	74.00	-31.82	100	133	peak
2	16392.628	38.40	14.43	52.83	74.00	-21.17	100	15	peak

Operation Mode: TX / IEEE 802.11b / CH Mid
Temperature: 28°C
Humidity: 50 % RH

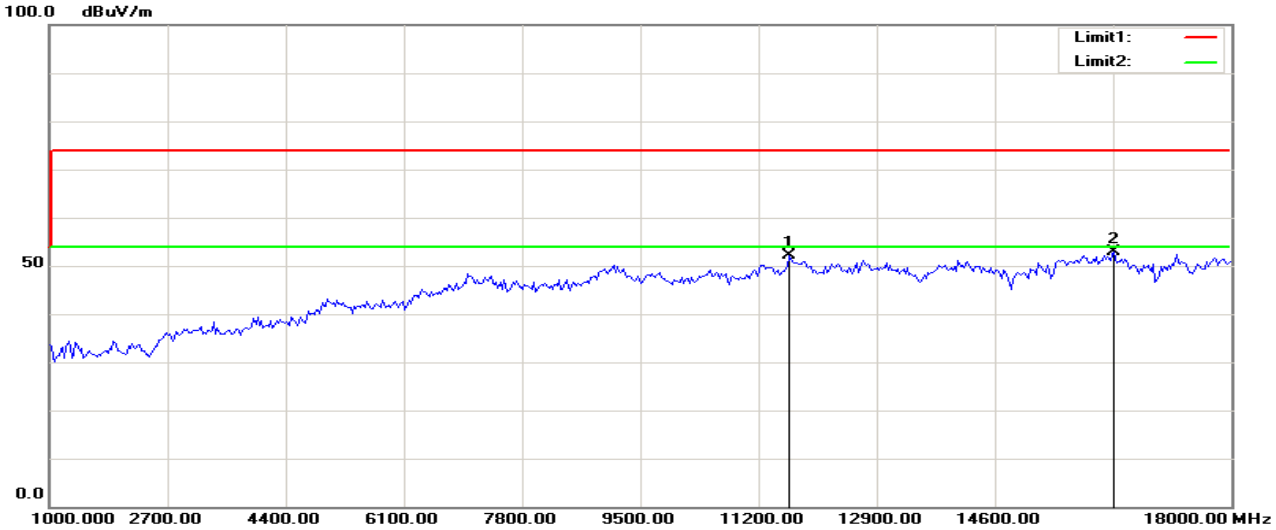
Test Date: 2018-9-12
Tested by: Wendy.Wei
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	7102.564	41.69	6.72	48.41	74.00	-25.59	100	55	peak
2	11706.731	39.98	11.64	51.62	74.00	-22.38	100	274	peak

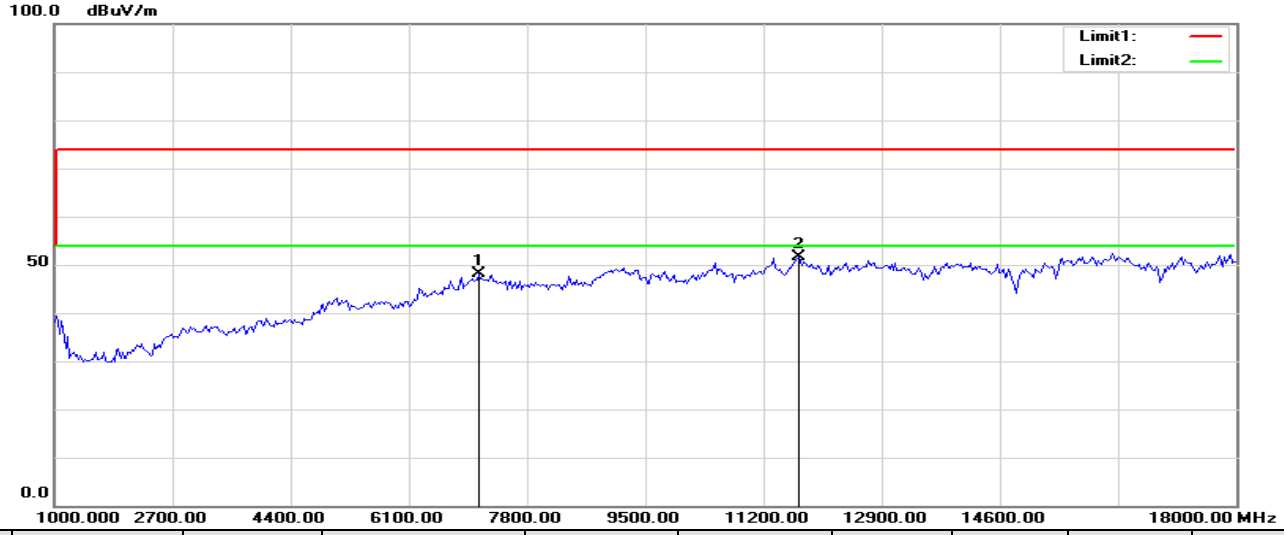
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11652.244	40.48	11.55	52.03	74.00	-21.97	100	318	peak
2	16310.897	38.46	14.41	52.87	74.00	-21.13	100	280	peak

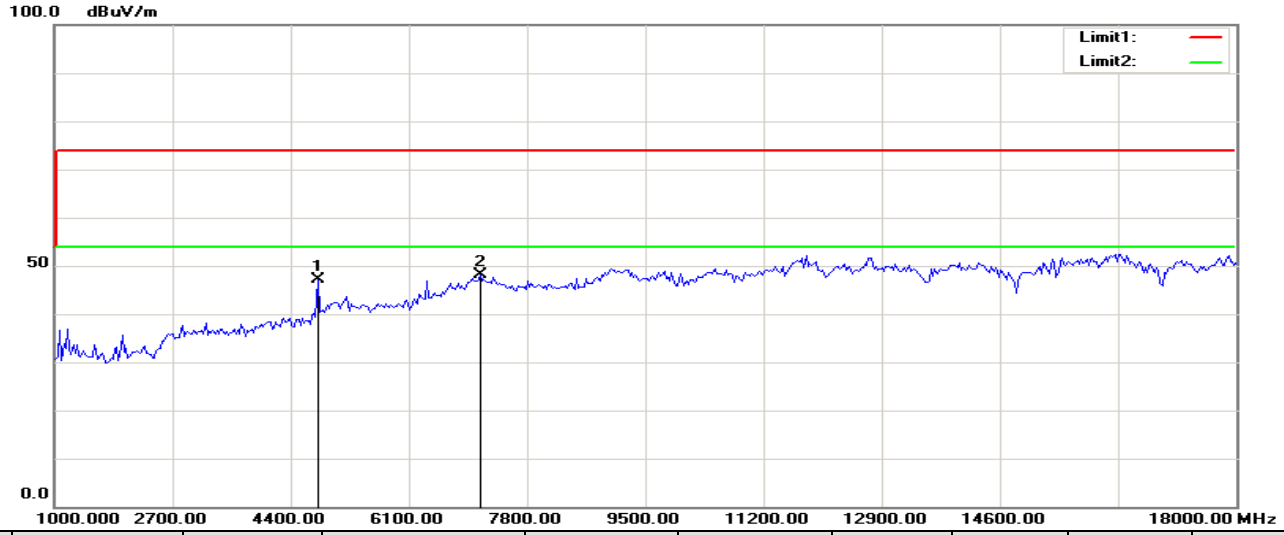
Operation Mode:	TX / IEEE 802.11b / CH High	**Test Date:**	2018-9-12
Temperature:	28°C	**Tested by:**	Wendy.Wei
Humidity:	50 % RH	**Polarity:**	Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	7102.564	41.45	6.72	48.17	74.00	-25.83	100	117	peak
2	11706.731	40.03	11.64	51.67	74.00	-22.33	100	129	peak

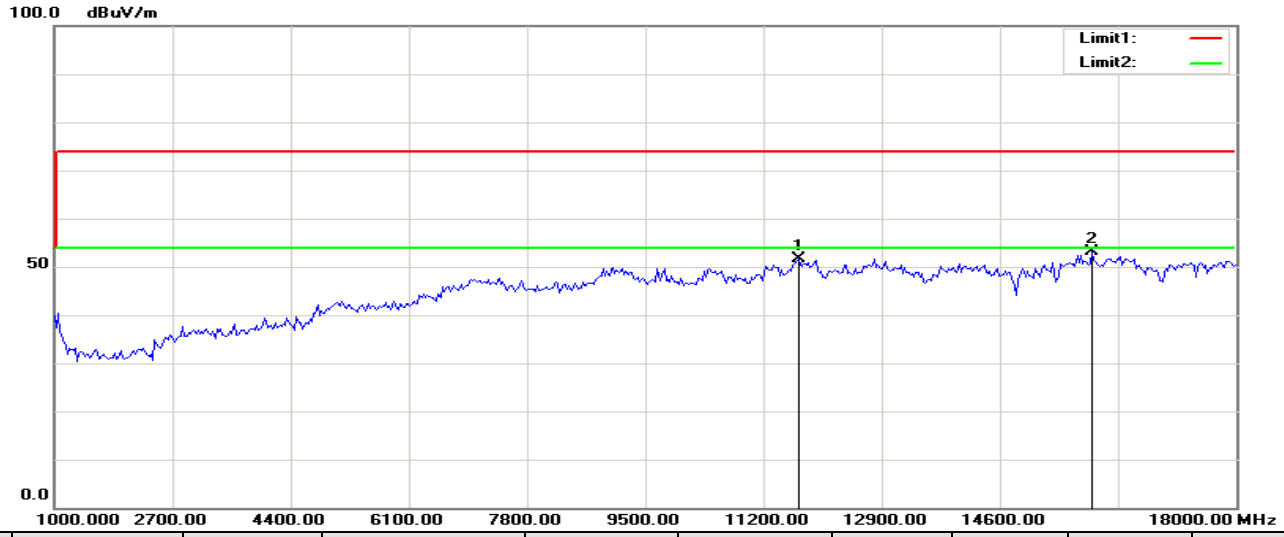
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4786.859	48.28	-1.13	47.15	74.00	-26.85	100	148	peak
2	7129.808	41.34	6.67	48.01	74.00	-25.99	100	94	peak

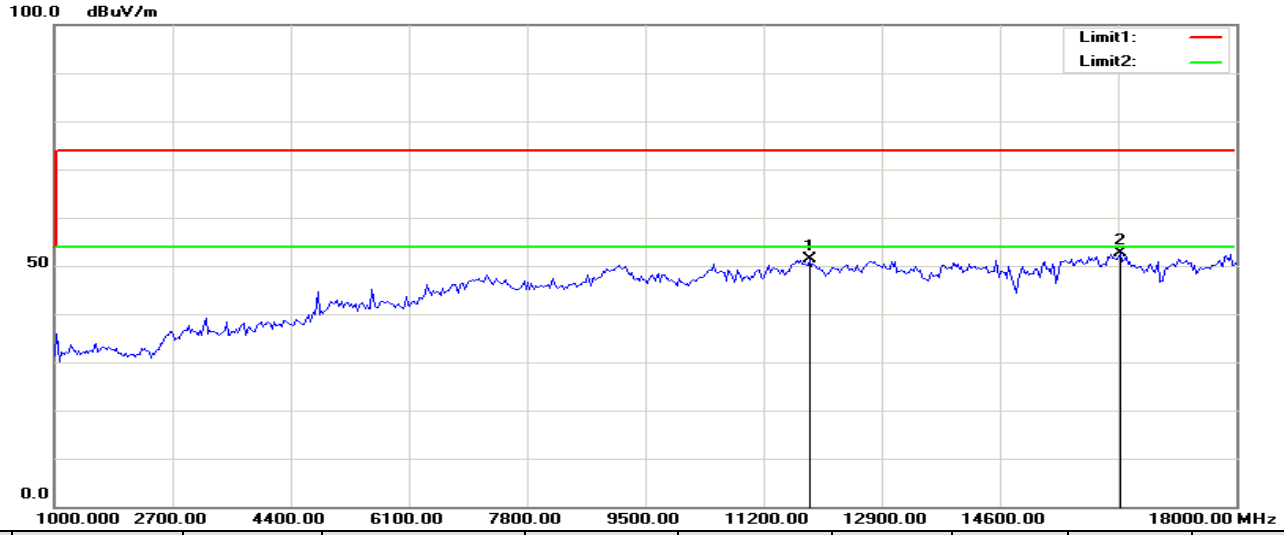
Operation Mode:	TX / IEEE 802.11g / CH Low	**Test Date:**	2018-9-12
Temperature:	28°C	**Tested by:**	Wendy.Wei
Humidity:	50 % RH	**Polarity:**	Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11706.731	39.88	11.64	51.52	74.00	-22.48	100	10	peak
2	15929.487	38.98	14.22	53.20	74.00	-20.80	100	49	peak

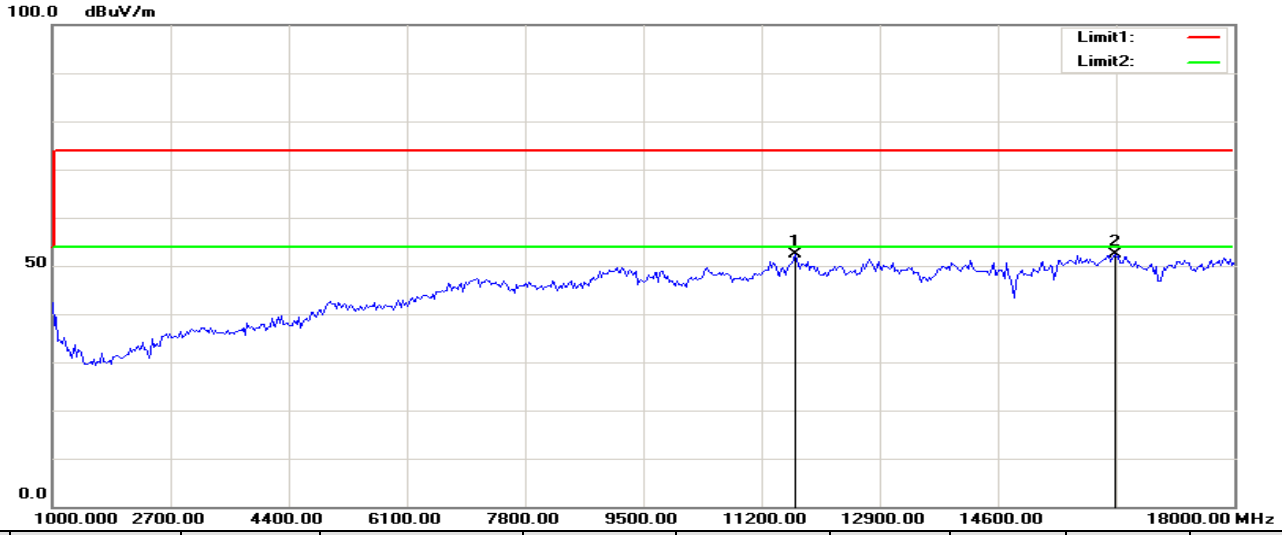
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11870.192	39.55	11.92	51.47	74.00	-22.53	100	352	peak
2	16338.141	38.31	14.41	52.72	74.00	-21.28	100	36	peak

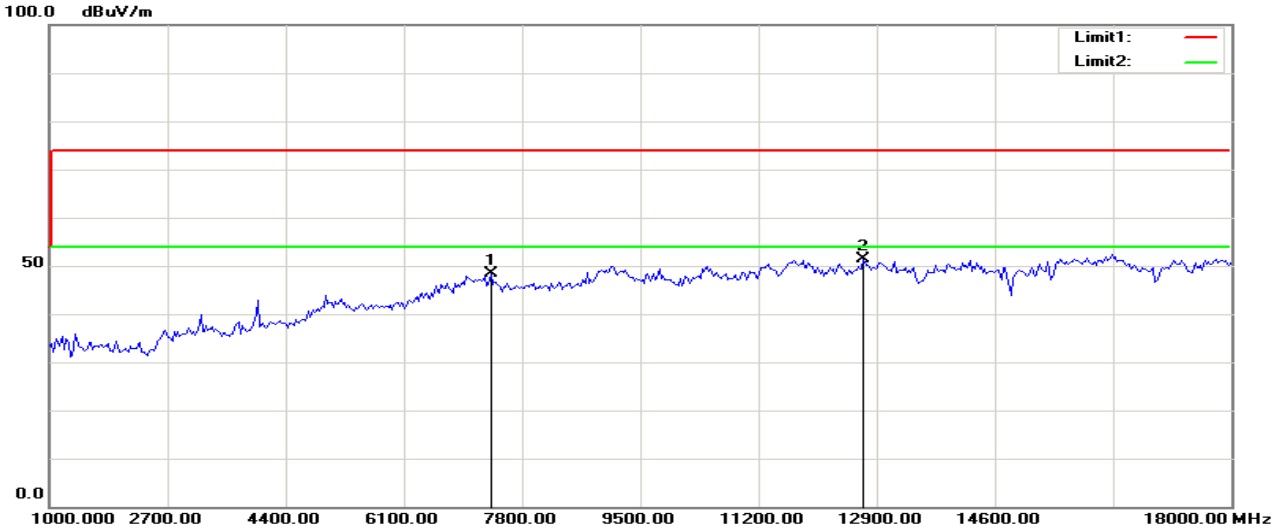
Operation Mode: TX / IEEE 802.11g / CH Mid
Test Date: 2018-9-12
Temperature: 28°C
Tested by: Wendy.Wei
Humidity: 50 % RH
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11679.487	40.76	11.60	52.36	74.00	-21.64	100	291	peak
2	16283.654	37.99	14.40	52.39	74.00	-21.61	100	316	peak

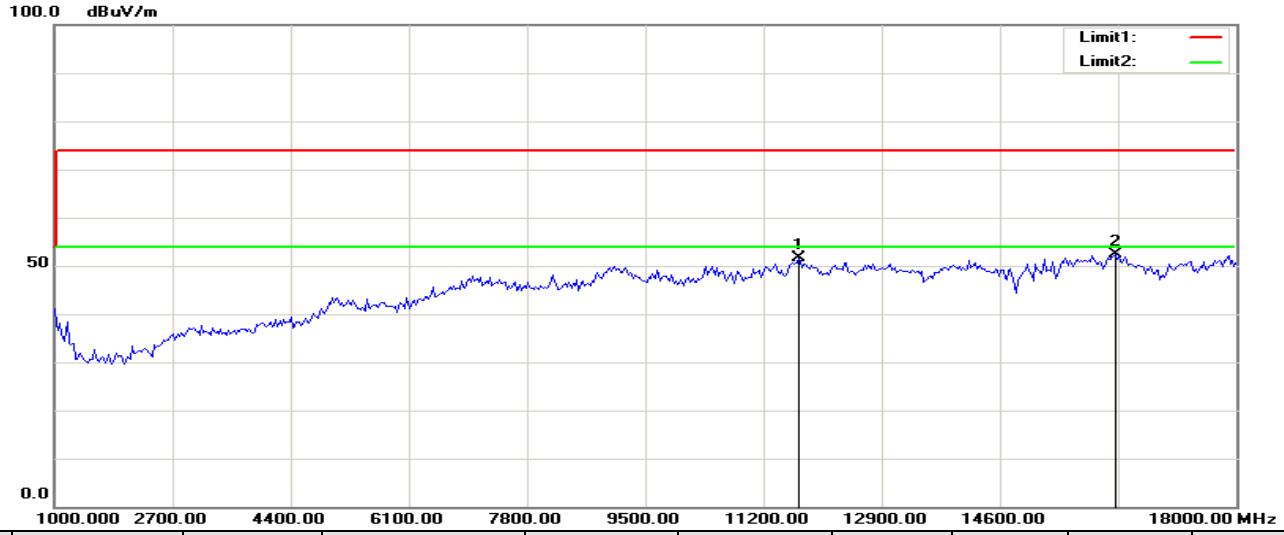
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	7347.756	42.07	6.28	48.35	74.00	-25.65	100	10	peak
2	12714.744	39.37	12.11	51.48	74.00	-22.52	100	211	peak

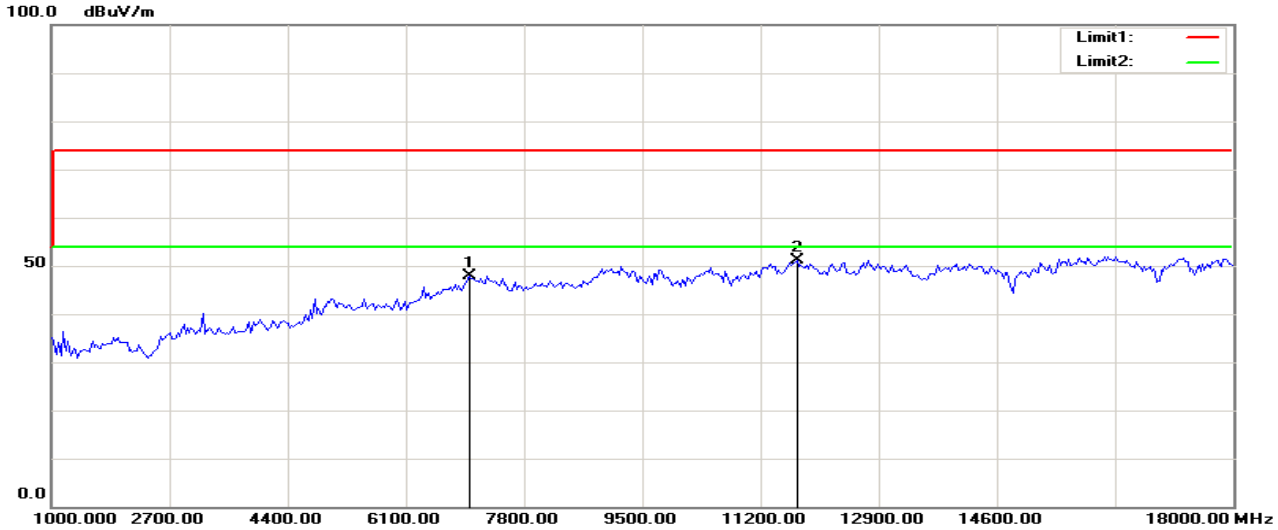
Operation Mode: TX / IEEE 802.11g / CH High
Test Date: 2018-9-12
Temperature: 28°C
Tested by: Wendy.Wei
Humidity: 50 % RH
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11706.731	40.01	11.64	51.65	74.00	-22.35	100	45	peak
2	16256.410	38.02	14.39	52.41	74.00	-21.59	100	310	peak

Vertical



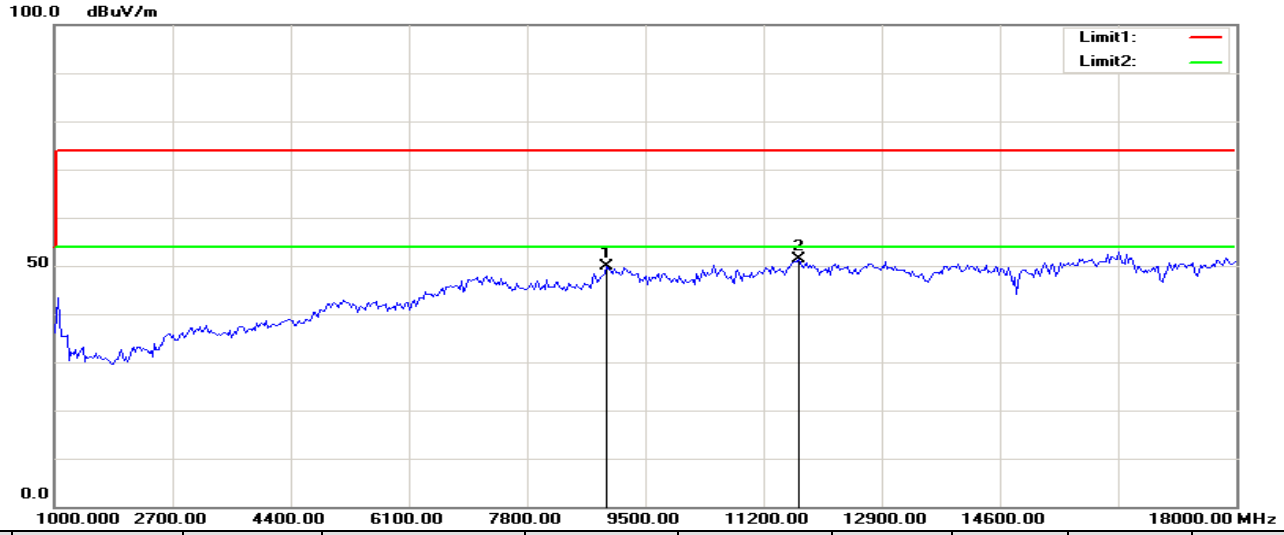
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	7020.833	41.07	6.86	47.93	74.00	-26.07	100	135	peak
2	11733.974	39.56	11.69	51.25	74.00	-22.75	100	360	peak

Operation Mode: TX / IEEE 802.11n HT20 mode / CH Low **Test Date:** 2018-9-12

Temperature: 28°C **Tested by:** Wendy.Wei

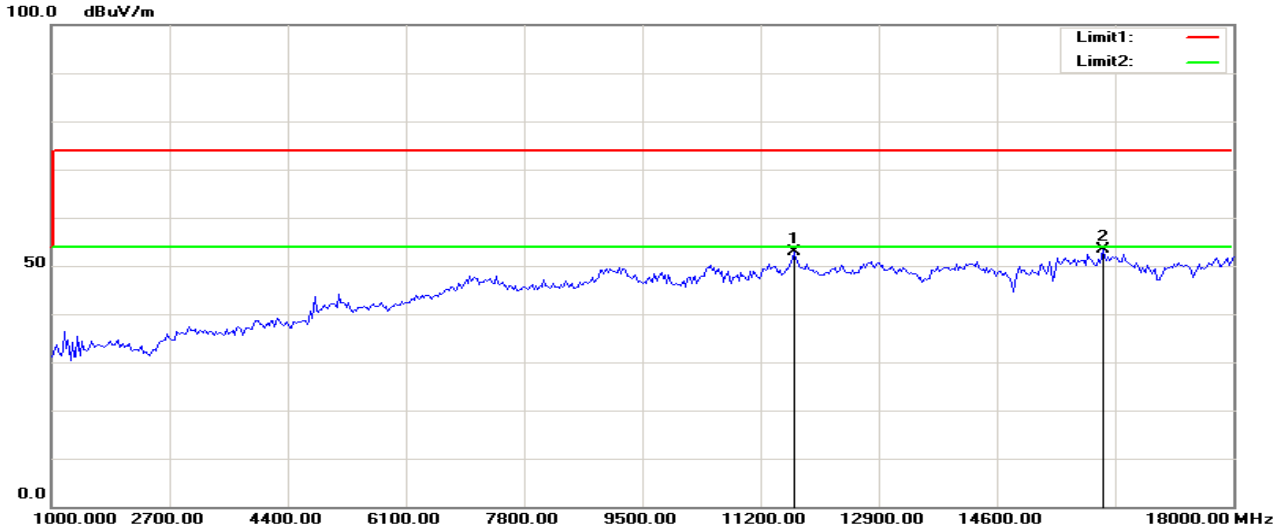
Humidity: 50 % RH **Polarity:** Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	8955.128	41.06	8.78	49.84	74.00	-24.16	100	235	peak
2	11706.731	39.62	11.64	51.26	74.00	-22.74	100	5	peak

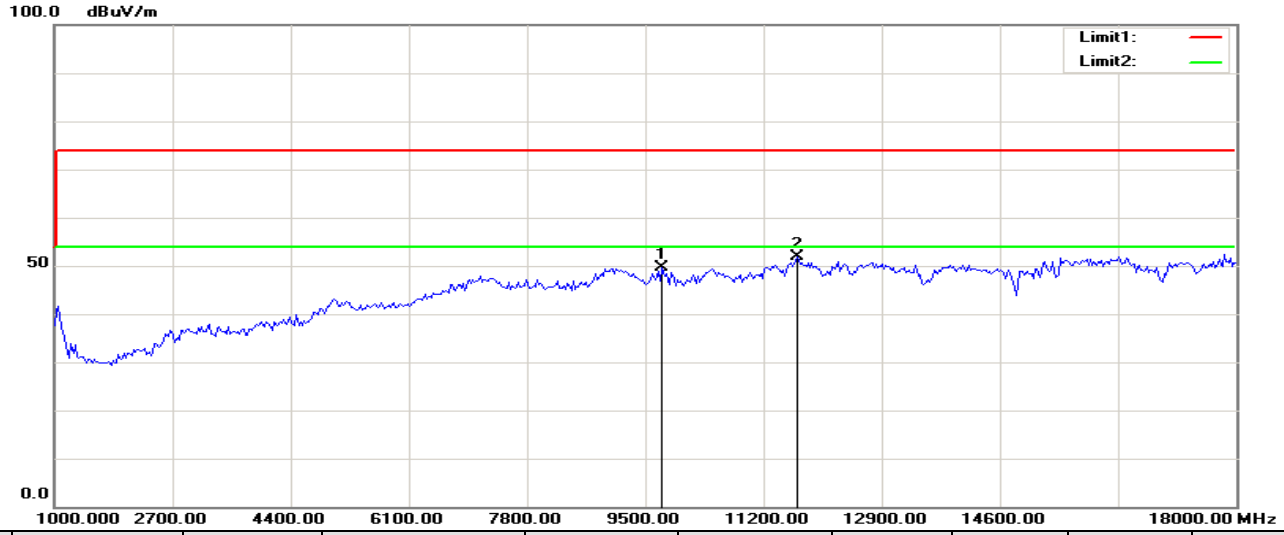
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11679.487	41.36	11.60	52.96	74.00	-21.04	100	348	peak
2	16120.192	39.00	14.34	53.34	74.00	-20.66	100	16	peak

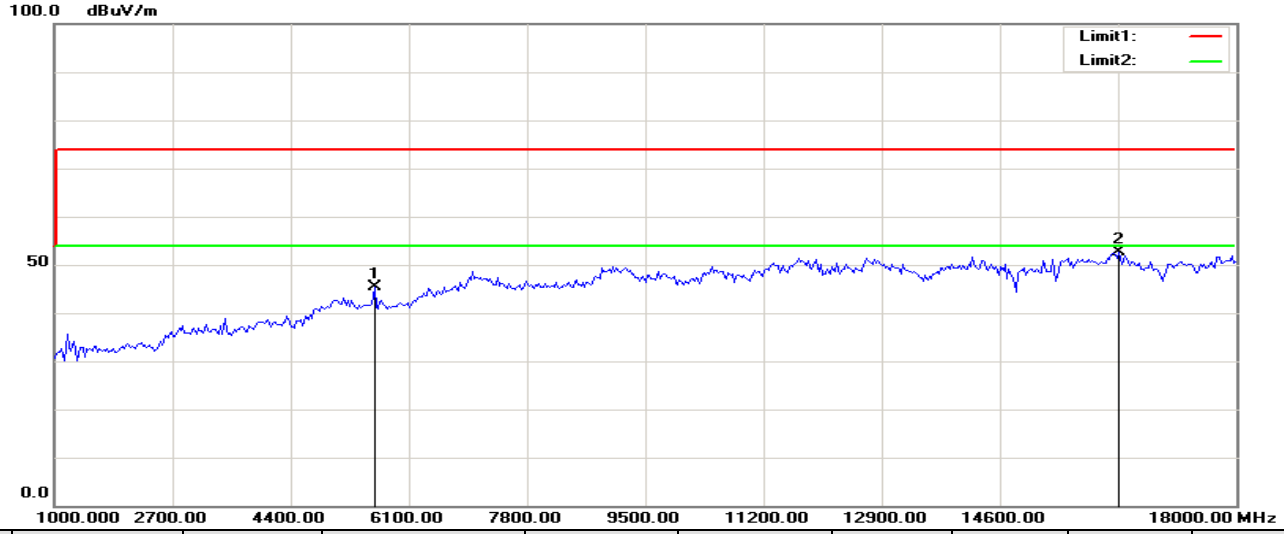
Operation Mode: TX / IEEE 802.11n HT20 mode / CH Mid
Test Date: 2018-9-12
Temperature: 28°C
Tested by: Wendy.Wei
Humidity: 50 % RH
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	9745.192	41.92	7.59	49.51	74.00	-24.49	100	290	peak
2	11679.487	40.35	11.60	51.95	74.00	-22.05	100	94	peak

Vertical



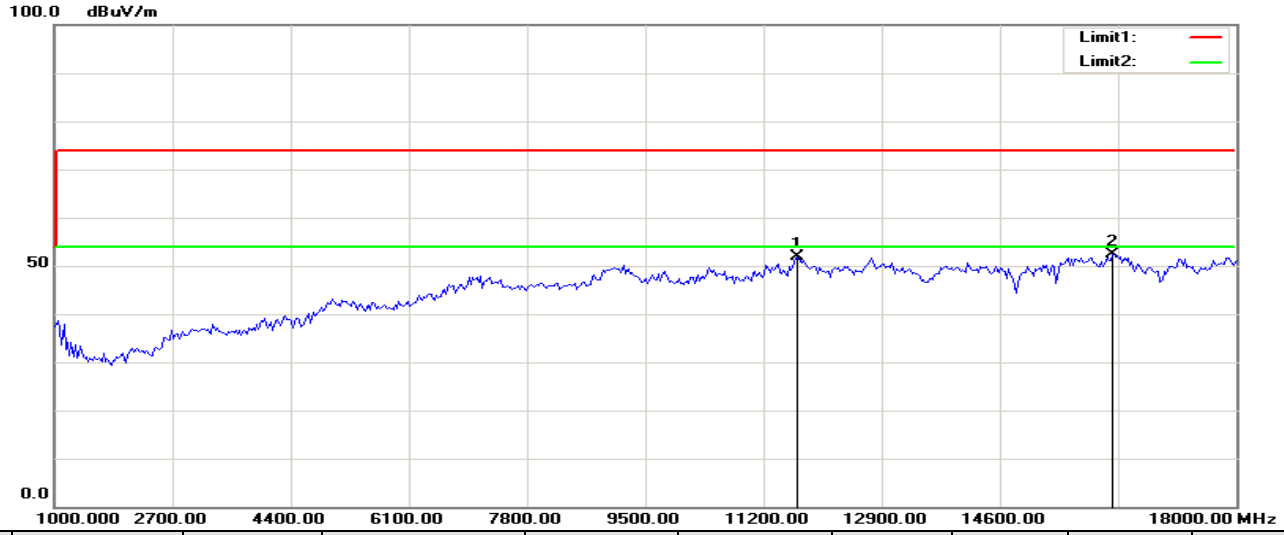
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5604.167	44.21	1.07	45.28	74.00	-28.72	100	133	peak
2	16310.897	38.10	14.41	52.51	74.00	-21.49	100	291	peak

Operation Mode: TX / IEEE 802.11n HT20 mode / CH High **Test Date:** 2018-9-12

Temperature: 28°C **Tested by:** Wendy.Wei

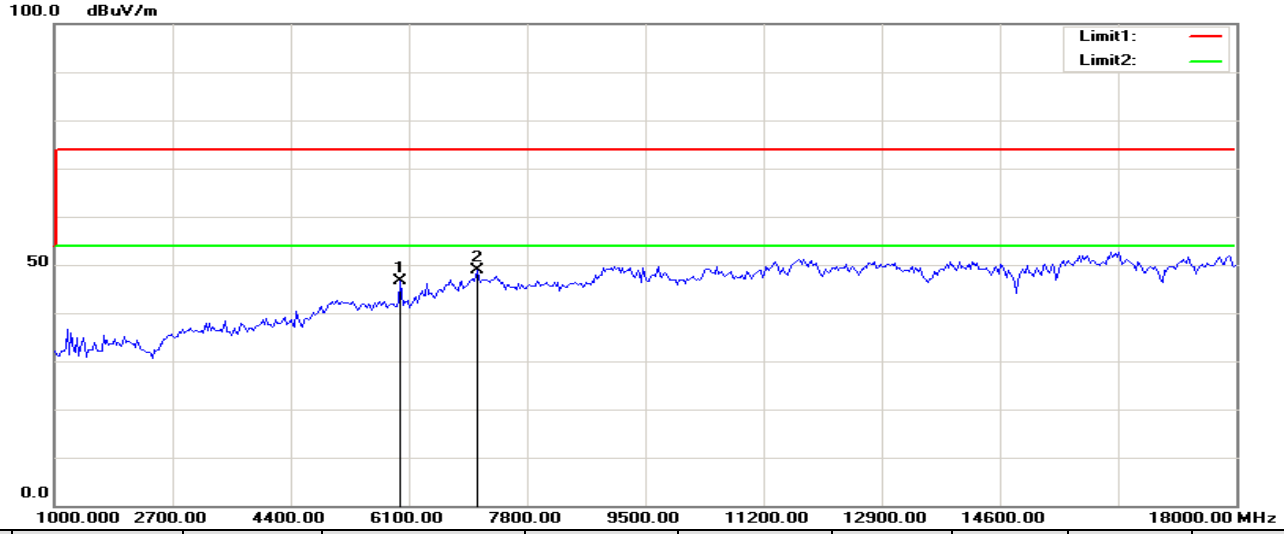
Humidity: 50 % RH **Polarity:** Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11679.487	40.21	11.60	51.81	74.00	-22.19	100	166	peak
2	16229.167	38.09	14.38	52.47	74.00	-21.53	100	275	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	5985.577	45.00	1.68	46.68	74.00	-27.32	100	125	peak
2	7075.320	42.20	6.77	48.97	74.00	-25.03	100	128	peak

8.6.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 μH/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 (dBμV)	
	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 Setup photo for the actual connections between EUT and support equipment.

TEST PROCEDURE

1.The EUT was placed on a turntable, 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.

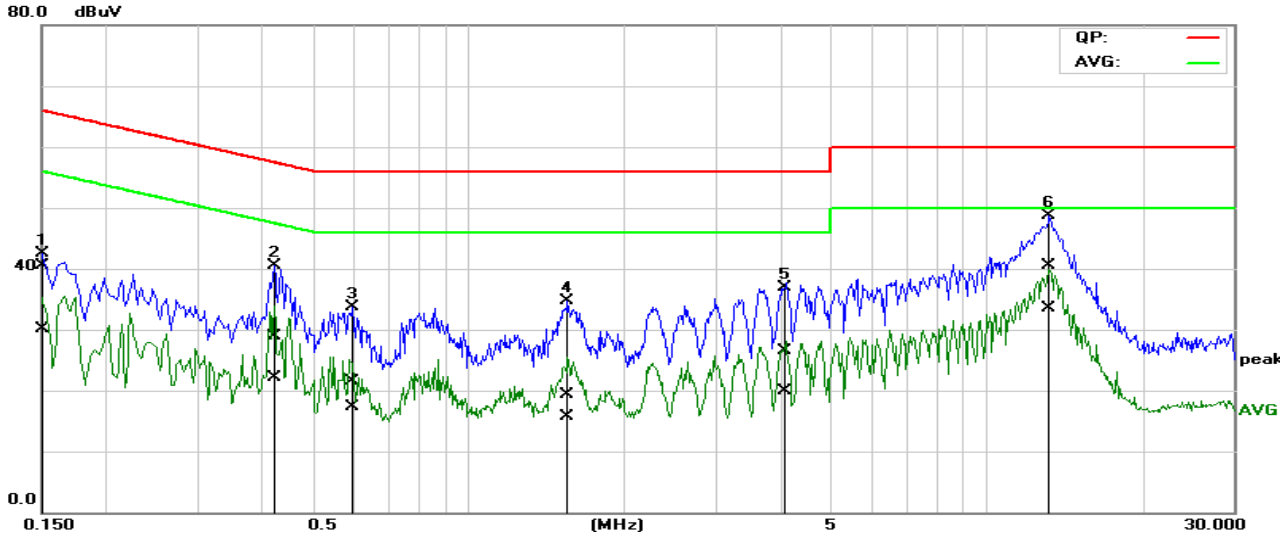
TEST RESULTS

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

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	17:28:54
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L1	Test Voltage:	AC 120V/60Hz
Model:		Description:	Adapter1

L1

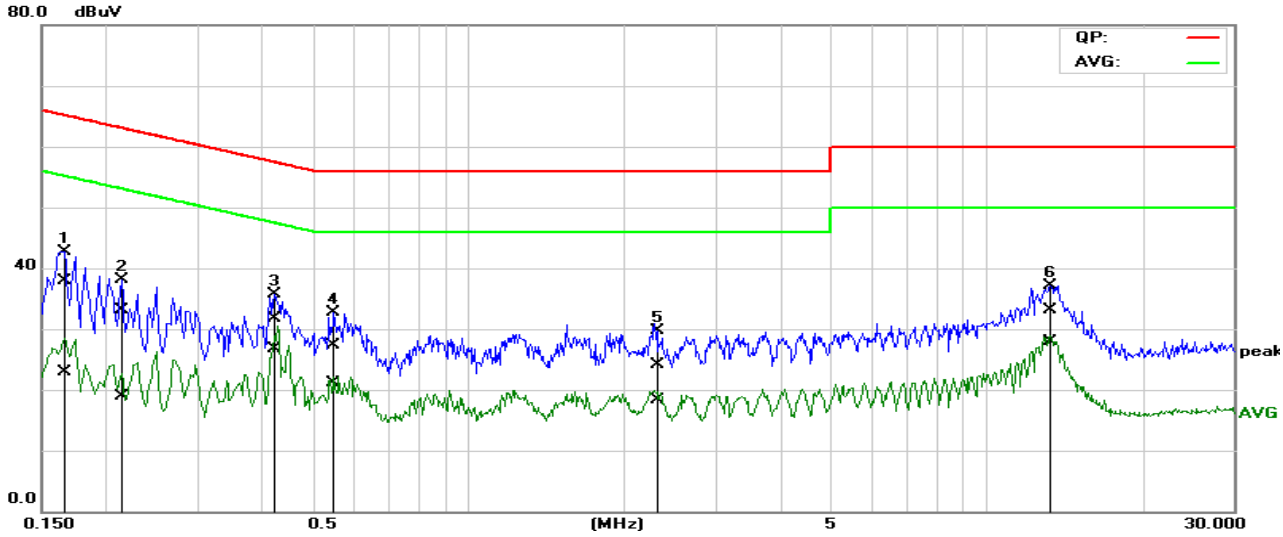


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1503	21.13	10.62	19.43	40.56	30.05	65.98	55.98	-25.42	-25.93	Pass
2	0.4247	9.35	2.64	19.49	28.84	22.13	57.36	47.36	-28.52	-25.23	Pass
3	0.5939	1.93	-2.16	19.50	21.43	17.34	56.00	46.00	-34.57	-28.66	Pass
4	1.5435	-0.35	-3.81	19.58	19.23	15.77	56.00	46.00	-36.77	-30.23	Pass
5	4.0397	6.88	0.18	19.66	26.54	19.84	56.00	46.00	-29.46	-26.16	Pass
6*	13.1976	20.58	13.57	19.99	40.57	33.56	60.00	50.00	-19.43	-16.44	Pass

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

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	17:33:46
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L2	Test Voltage:	AC 120V/60Hz
Model:		Description:	Adapter1

L2

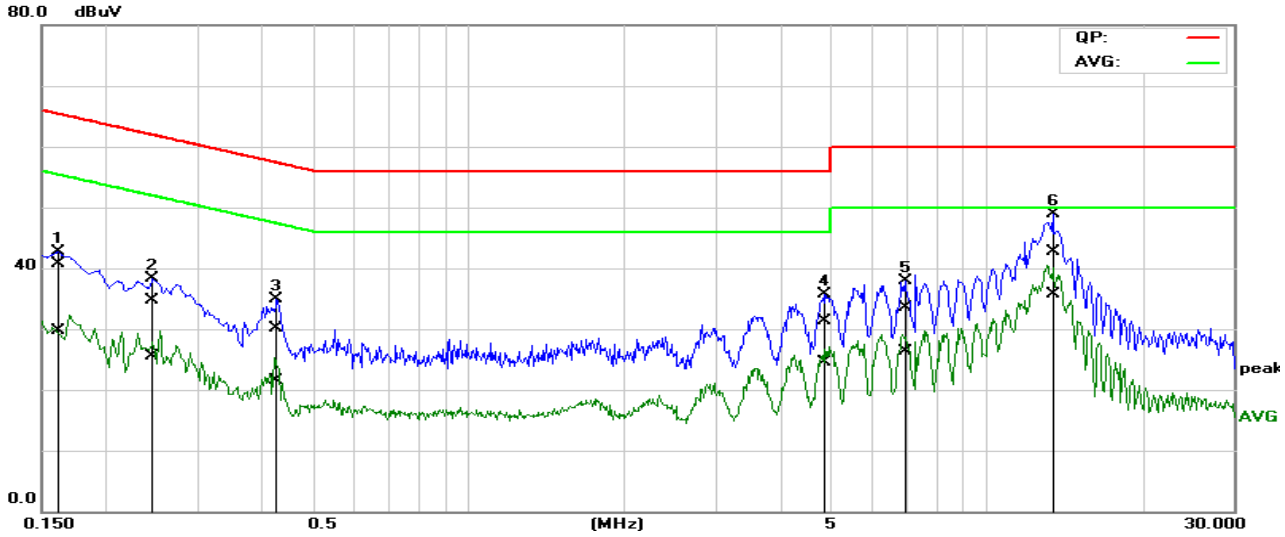


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1631	18.50	3.55	19.42	37.92	22.97	65.30	55.30	-27.38	-32.33	Pass
2	0.2138	13.70	-0.46	19.44	33.14	18.98	63.06	53.06	-29.92	-34.08	Pass
3*	0.4234	12.29	7.26	19.47	31.76	26.73	57.38	47.38	-25.62	-20.65	Pass
4	0.5502	7.87	1.53	19.49	27.36	21.02	56.00	46.00	-28.64	-24.98	Pass
5	2.3237	4.59	-1.20	19.58	24.17	18.38	56.00	46.00	-31.83	-27.62	Pass
6	13.2748	13.21	7.88	19.96	33.17	27.84	60.00	50.00	-26.83	-22.16	Pass

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

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	16:28:28
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L1	Test Voltage:	AC 240V/60Hz
Model:		Description:	Adapter1

L1

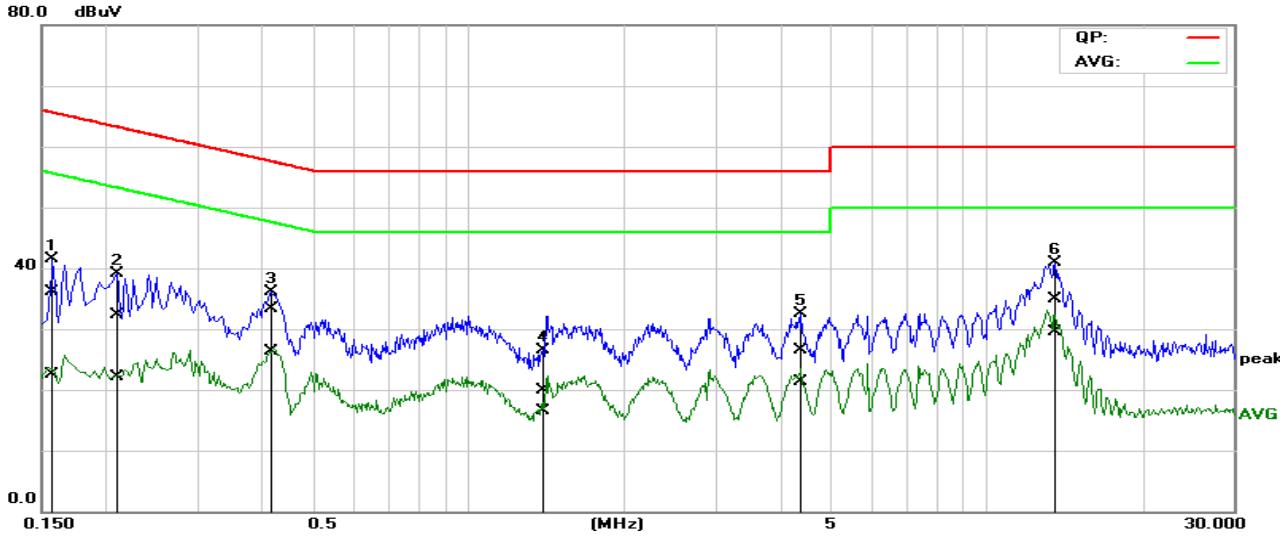


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1604	21.22	10.22	19.43	40.65	29.65	65.44	55.44	-24.79	-25.79	Pass
2	0.2461	15.31	6.02	19.46	34.77	25.48	61.89	51.89	-27.12	-26.41	Pass
3	0.4265	10.61	2.06	19.49	30.10	21.55	57.32	47.32	-27.22	-25.77	Pass
4	4.8800	11.70	4.79	19.70	31.40	24.49	56.00	46.00	-24.60	-21.51	Pass
5	6.9762	13.82	6.54	19.77	33.59	26.31	60.00	50.00	-26.41	-23.69	Pass
6*	13.4311	22.65	15.77	20.00	42.65	35.77	60.00	50.00	-17.35	-14.23	Pass

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

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	16:33:55
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L2	Test Voltage:	AC 240V/60Hz
Model:		Description:	Adapter1

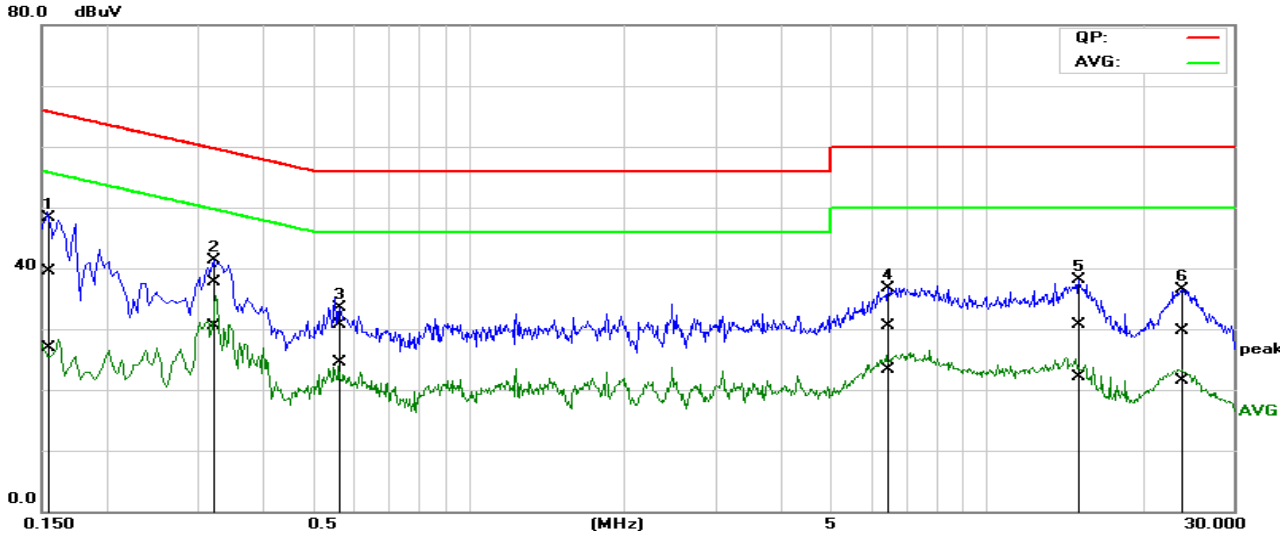
L2



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1578	16.61	3.15	19.42	36.03	22.57	65.58	55.58	-29.55	-33.01	Pass
2	0.2087	12.96	2.67	19.44	32.40	22.11	63.26	53.26	-30.86	-31.15	Pass
3	0.4208	13.77	6.90	19.47	33.24	26.37	57.43	47.43	-24.19	-21.06	Pass
4	1.3752	0.45	-3.05	19.55	20.00	16.50	56.00	46.00	-36.00	-29.50	Pass
5	4.3637	6.94	1.69	19.65	26.59	21.34	56.00	46.00	-29.41	-24.66	Pass
6*	13.5844	14.97	9.47	19.96	34.93	29.43	60.00	50.00	-25.07	-20.57	Pass

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	17:40:35
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L1	Test Voltage:	AC 120V/60Hz
Model:		Description:	Adapter2

L1

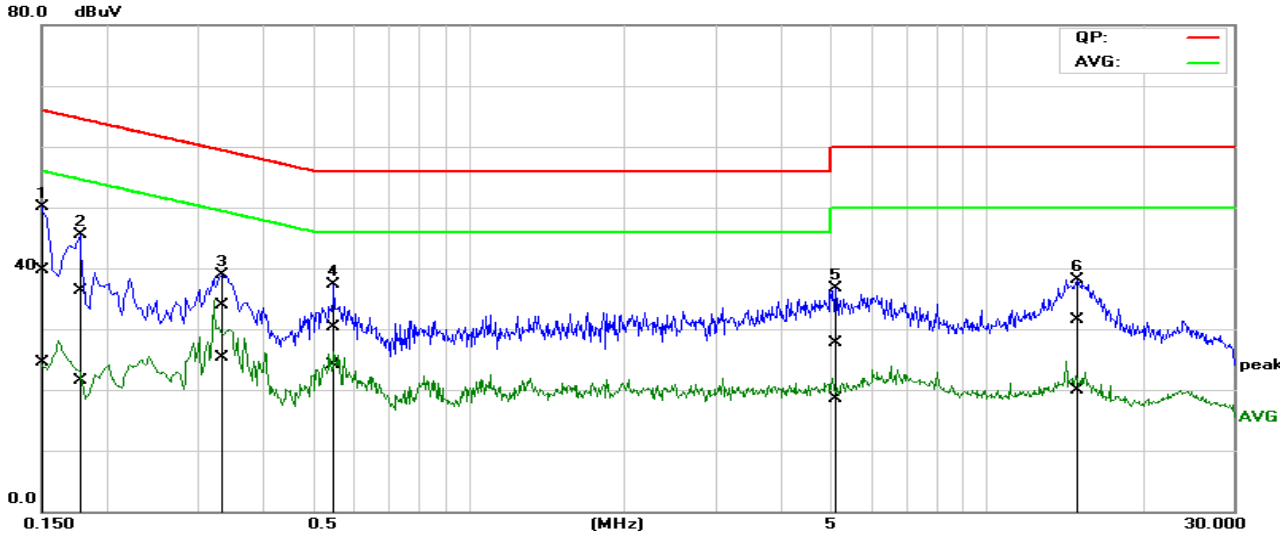


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1562	20.06	7.38	19.43	39.49	26.81	65.66	55.66	-26.17	-28.85	Pass
2*	0.3197	18.17	11.01	19.48	37.65	30.49	59.71	49.71	-22.06	-19.22	Pass
3	0.5654	11.19	5.02	19.50	30.69	24.52	56.00	46.00	-25.31	-21.48	Pass
4	6.4597	10.84	3.54	19.75	30.59	23.29	60.00	50.00	-29.41	-26.71	Pass
5	15.0612	10.59	1.95	20.06	30.65	22.01	60.00	50.00	-29.35	-27.99	Pass
6	23.7790	9.66	1.50	20.08	29.74	21.58	60.00	50.00	-30.26	-28.42	Pass

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

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	17:45:21
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L2	Test Voltage:	AC 120V/60Hz
Model:		Description:	Adapter2

L2

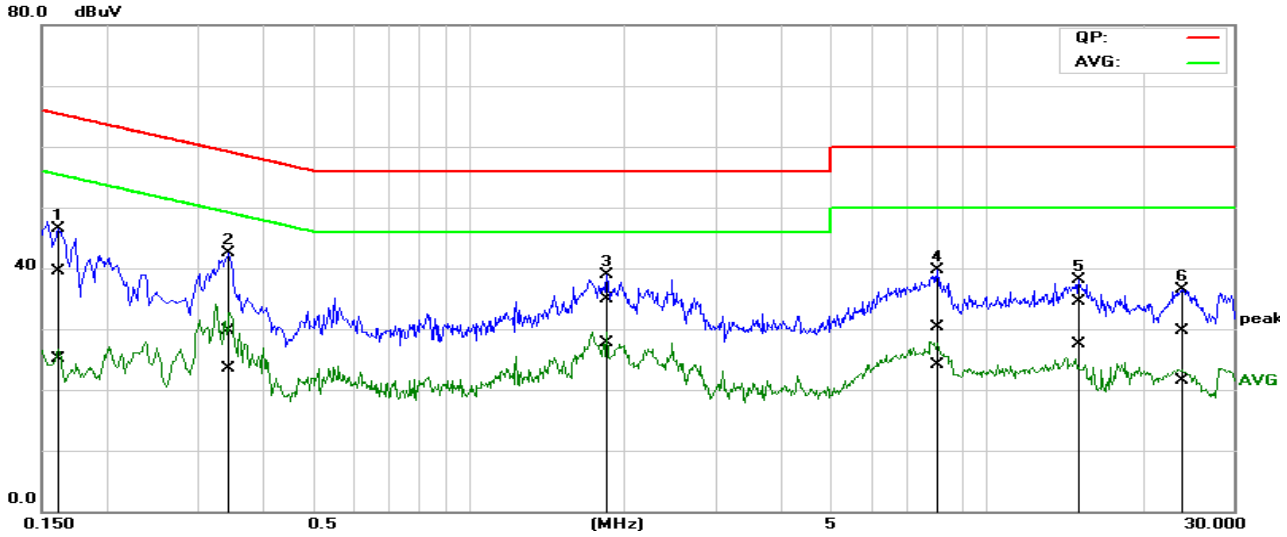


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1512	20.19	5.03	19.42	39.61	24.45	65.93	55.93	-26.32	-31.48	Pass
2	0.1770	16.80	2.01	19.43	36.23	21.44	64.62	54.63	-28.39	-33.19	Pass
3	0.3361	14.38	5.84	19.47	33.85	25.31	59.30	49.30	-25.45	-23.99	Pass
4*	0.5514	10.89	4.56	19.49	30.38	24.05	56.00	46.00	-25.62	-21.95	Pass
5	5.1010	8.02	-1.12	19.68	27.70	18.56	60.00	50.00	-32.30	-31.44	Pass
6	15.0085	11.55	-0.07	20.00	31.55	19.93	60.00	50.00	-28.45	-30.07	Pass

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

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	17:18:01
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L1	Test Voltage:	AC 240V/60Hz
Model:		Description:	Adapter2

L1

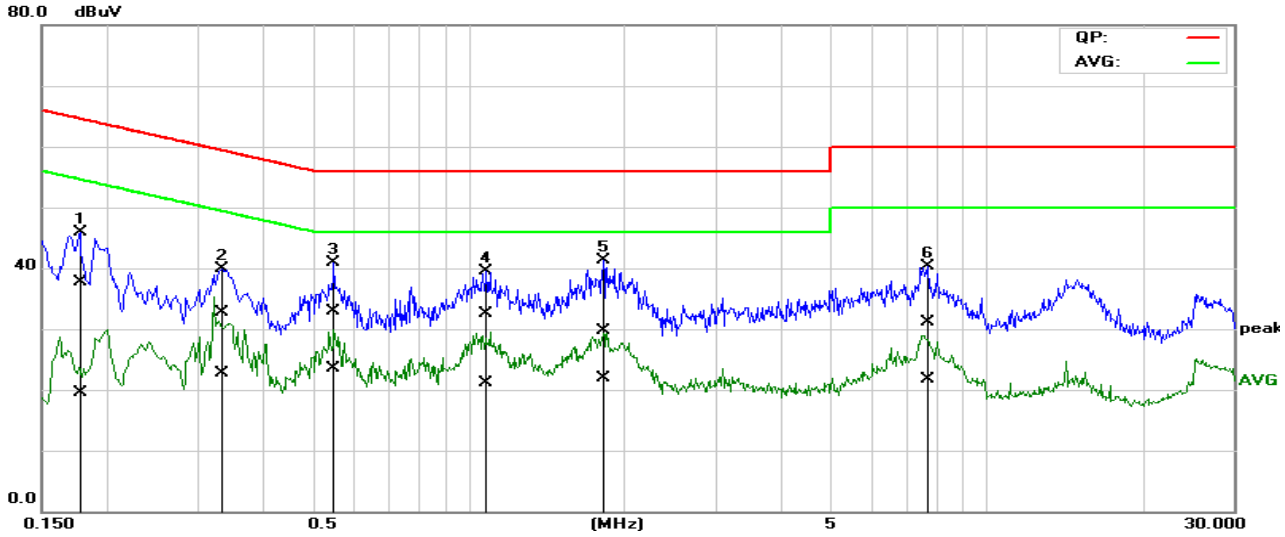


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1620	20.06	5.63	19.43	39.49	25.06	65.36	55.36	-25.87	-30.30	Pass
2	0.3460	10.25	4.02	19.48	29.73	23.50	59.06	49.06	-29.33	-25.56	Pass
3*	1.8580	15.33	8.12	19.59	34.92	27.71	56.00	46.00	-21.08	-18.29	Pass
4	8.0380	10.53	4.31	19.81	30.34	24.12	60.00	50.00	-29.66	-25.88	Pass
5	15.0612	14.40	7.54	20.06	34.46	27.60	60.00	50.00	-25.54	-22.40	Pass
6	23.7790	9.66	1.50	20.08	29.74	21.58	60.00	50.00	-30.26	-28.42	Pass

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

Job No.:	C180615R01	Date:	2018/9/13
Model No.:	NANO	Time:	17:22:59
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/41%
Test item:	Conduction test	Test By:	Wendy.Wei
Line:	L2	Test Voltage:	AC 240V/60Hz
Model:		Description:	Adapter2

L2



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1780	18.32	0.12	19.43	37.75	19.55	64.57	54.58	-26.82	-35.03	Pass
2	0.3339	13.25	3.25	19.47	32.72	22.72	59.35	49.35	-26.63	-26.63	Pass
3*	0.5500	13.42	4.11	19.49	32.91	23.60	56.00	46.00	-23.09	-22.40	Pass
4	1.0859	12.87	1.47	19.54	32.41	21.01	56.00	46.00	-23.59	-24.99	Pass
5	1.8220	10.20	2.33	19.56	29.76	21.89	56.00	46.00	-26.24	-24.11	Pass
6	7.7180	11.32	1.98	19.77	31.09	21.75	60.00	50.00	-28.91	-28.25	Pass

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

*R*emark:

1.The measuring frequencies range between 0.15 MHz and 30 MHz.

2.The emissions measured in the frequency range between 0.15 MHz and 30MHz were made with an instrument using Quasi-peak detector and Average detector.

3."---" denotes the emission level was or more than 2dB below the Average limit, and no re-check was made.

4.The IF bandwidth of SPA between 0.15MHz and 30MHz was 10KHz. The IF bandwidth of Test Receiver between 0.15MHz and 30MHz was 9kHz.

END OF REPORT