

Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

Report No: C160630R03-RPW

FCC 47 CFR PART 15 SUBPART C TEST REPORT

For

Product Name: 17.3inch Tablet

Brand Name: LYNX Model No.: 850-035453

Series Model.: 850-035488, 850-035489, 850-035484, 850-035490

FCC ID: 2ABMA-888-700-215 Test Report Number: C160630R03-RPW

Issued for

Lynx Innovation Limited
Unit 8A, 331 Rosedale Road, Albany 0632, North Shore City , New Zealand

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

FAX: 86-512-57370818



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Revision History

Rev. Issue Date		Issue Date Report NO. Effect Page		Contents
00 July 18, 2016		C160630R03-RPW	ALL	N/A



FCC ID: 2ABMA-888-700-215

1. TEST RESULT CERTIFICATION

Product Name: 17.3inch Tablet	
Trade Name:	LYNX
Model Name.:	850-035453
Series Model:	850-035488, 850-035489, 850-035484, 850-035490
Applicant Discrepancy:	Initial
Device Category:	Mobile unit
Date of Test:	July 4, 2016 ~ July 14, 2016
Applicant:	Lynx Innovation Limited Unit 8A, 331 Rosedale Road, Albany 0632, North Shore City, New Zealand
Manufacturer:	Jiaxing Lynx Displays Limited 1F,Bldg#7,No.3288,Zhongshan Xi Road,Xiuzhou Industrial Park,Jiaxing, Zhejiang,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 RF Manager

Compliance Certification Service Inc.

Tested by:

Lily.Wang Test Engineer

Compliance Certification Service Inc.



2. EUT DESCRIPTION

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Product Name:	17.3inch Tablet	
Brand Name:	LYNX	
Model Name: 850-035453		
Series Model:	850-035488, 850-035489, 850-035484, 850-035490	
Model Discrepancy:	Only for market segment	
Power Adapter:	DC 12V	
Frequency Range: IEEE 802.11b/g: 2412MHz to 2462 MHz IEEE 802.11n HT20: 2412MHz to 2462 MHz		
Transmit Power: IEEE 802.11b mode: 18.72dBm IEEE 802.11g mode: 21.96 dBm IEEE 802.11n HT20 mode: 21.46 dBm		
Modulation Technique:	IEEE802.11b mode: DSSS (1,2,5.5 and 11 Mbps) IEEE802.11g mode: DSSS /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:	Dipole Antenna Gain: 2.0 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: 2ABMA-888-700-215 filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.



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3. 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 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 C63.10 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 13.1.4.1 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 13.1.4.1 of ANSI C63.10:2013.



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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.

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.

² Above 38.6



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3.5.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)

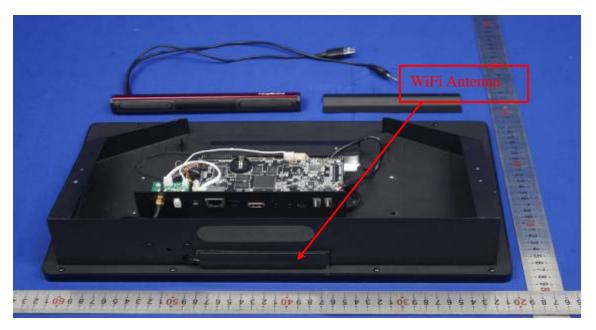
Channel Mid (2437MHz)

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

3.6.ANTENNA DESCRIPTION

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(Dipole Antenna for WiFi and Bluetooth).
- * the EUT complies with the requirement of 15.203.





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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 Date	Calibration Due		
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-9-11	2016-9-10		
Spectrum Analyzer	RS	FSU26	200789	2015-8-10	2016-8-9		
OSCILLOSCOPE	Agilent	DSO6104A	MY44002585	2016-3-2	2017-3-1		
Power meter	Anritsu	ML2495A	1445010	2016-5-16	2017-5-15		
Power sensor	Anritsu	MA2411B	1339220	2016-5-16	2017-5-15		
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		
Temp. / Humidity Gauge	Anymetre	TH603	CCS007	2015-11-4	2016-11-3		
Te		EZ-EMC					

977 Chamber						
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-9-11	2016-9-10	
Spectrum Analyzer	RS	FSU26	200789	2015-8-10	2016-8-9	
EMI Test Receiver	R&S	ESCI	101378	2016-1-6	2017-1-5	
Pre-Amplfier	MINI	ZFL-1000VH2	070306	2016-1-13	2017-1-12	
Pre-Amplfier	Miteq	JS41-00101800-32-10P	1675713	2015-8-10	2016-8-9	
Bilog Antenna	Sunol	JB1	A062604	2016-5-29	2017-5-28	
Bilog Antenna	Sunol	JB1	A110204-1	2016-5-29	2017-5-28	
Loop Antenna	SCHWARZBECK	HXYZ9170	9170-108	2016-4-7	2017-4-6	
Horn-antenna	SCHWARZBECK	9120D	D:266	2016-3-6	2017-3-5	
Horn-antenna	SCHWARZBECK	9120D	D:267	2015-11-10	2016-11-9	
Turn Table	СТ	CT123	4165	N.C.R	N.C.R	
Antenna Tower	СТ	CTERG23	3256	N.C.R	N.C.R	
Controller	СТ	CT100	95637	N.C.R	N.C.R	
Test Software EZ-EMC						



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Conducted Emission							
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due		
EMI TEST RECEIVER	R&S	ESCI	100781	2016-3-2	2017-3-1		
V (V-LISN)	SCHWARZBECK	NNLK 8129	8129-143	2015-11-2	2016-11-1		
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	05012	2015-9-16	2016-9-15		
Pulse LIMITER	R&S	ESH3-Z2	100524	2016-1-6	2017-1-5		
	Test Softwa		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



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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 C63.10 2013 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, 2324E-1 for 10m chamber 10m, 2324E-2 for 10m chamber 3m; the test facilities are listed with USA, Certification and Engineering Bureau, 424105 for 10m chamber 10m, 238958 for 10m chamber 3m.



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5.4.TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC Part 15/18 (using ANSI C63.10 :2013); 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 61000-4-5; IEC 61000-4-6; IEC 61000-4-8; IEC 61000-4-1; EN 300 220-3; EN 300 328; EN 300 330-2; EN 300 440-1; EN 300-440-2; EN 300 893; EN 301 489-01; EN 301 489-3; EN 301 489-07; EN 301 489-17; 47 CFR FCC Part 15, 22, 24	
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	FC 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.



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6. SETUP OF EQUIPMENT UNDER TEST

6.1.SETUP CONFIGURATION OF EUT

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

6.2.SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID
1.	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.



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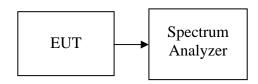
7. FCC PART 15.247 REQUIREMENTS

7.1.6DB BANDWIDTH

LIMIT

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

Test Configuration



TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the selected span. The VBW is set to 3 times the RBW. The sweep time is occupied.

TEST RESULTS

No non-compliance noted

Test Data

IEEE 802.11b mode

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	8.107		PASS
Mid	2437	8.070	>500	PASS
High	2462	8.102		PASS

IEEE 802.11a mode

ILLE 002.11g mode					
Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result	
Low	2412	16.405		PASS	
Mid	2437	16.369	>500	PASS	
High	2462	16.403		PASS	

IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.641	(1112)	PASS
Mid	2437	17.640	>500	PASS
High	2462	17.643		PASS



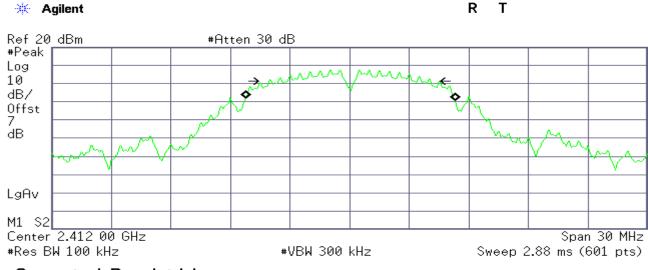
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Test Plot

<u>IEEE 802.11b MODE</u>

6dB Bandwidth (CH Low)

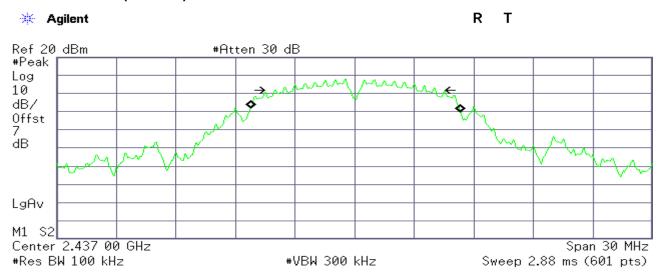


Occupied Bandwidth 10.4971 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB

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Transmit Freq Error 37.838 kHz x dB Bandwidth 8.107 MHz

6dB Bandwidth (CH Mid)



Occupied Bandwidth 10.5346 MHz 0cc BW % Pwr 99.00 % x dB -6.00 dB

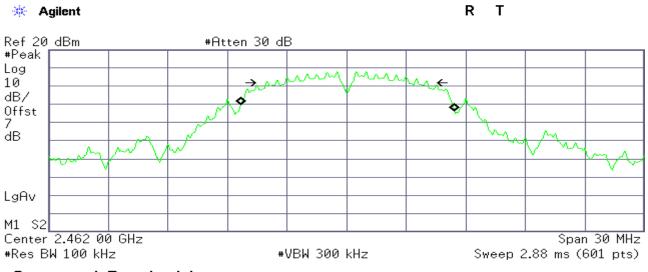
Transmit Freq Error 52.775 kHz x dB Bandwidth 8.070 MHz



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6dB Bandwidth (CH High)



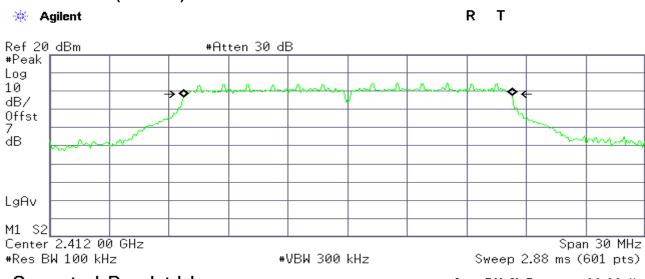
Occupied Bandwidth 10.7295 MHz Occ BW % Pwr 99.00 % × dB -6.00 dB

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Transmit Freq Error 55.351 kHz x dB Bandwidth 8.102 MHz

IEEE 802.11g MODE

6dB Bandwidth (CH Low)



Occupied Bandwidth 16.5410 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB

Transmit Freq Error 10.979 kHz x dB Bandwidth 16.405 MHz

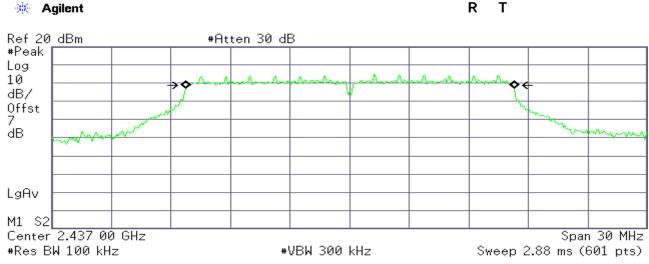


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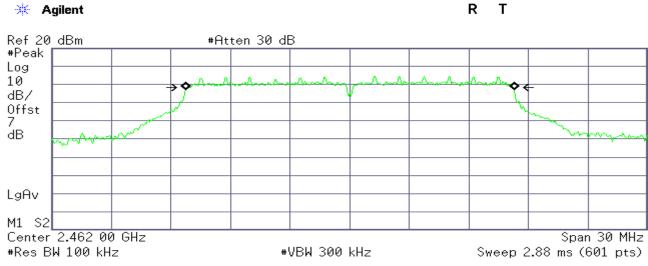
6dB Bandwidth (CH Mid)



Occupied Bandwidth 16.5405 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB

Transmit Freq Error 13.737 kHz x dB Bandwidth 16.369 MHz

6dB Bandwidth (CH High)



Occupied Bandwidth 16.5300 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB

Transmit Freq Error 10.272 kHz x dB Bandwidth 16.403 MHz



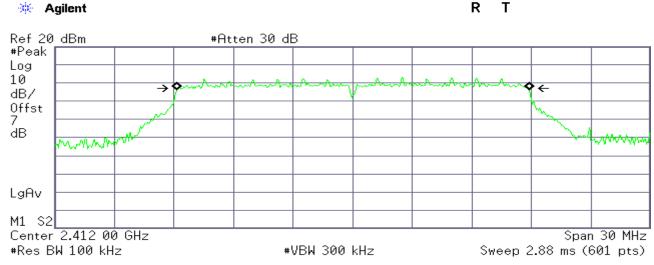
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IEEE 802.11n HT20 mode

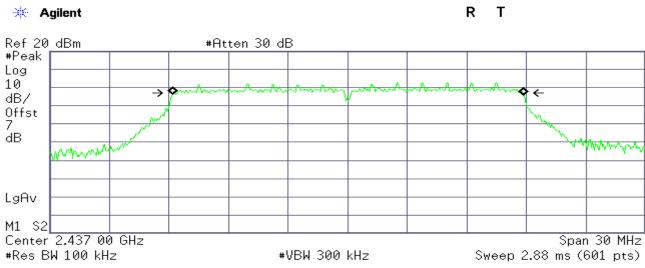
6dB Bandwidth (CH Low)



Occupied Bandwidth 17.7072 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB

Transmit Freq Error 26.167 kHz x dB Bandwidth 17.641 MHz

6dB Bandwidth (CH Mid)



Occupied Bandwidth 17.6942 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB

Transmit Freq Error 25.701 kHz x dB Bandwidth 17.640 MHz

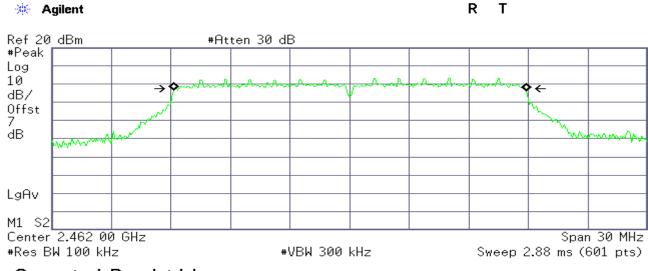


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6dB Bandwidth (CH High)



Occupied Bandwidth 17.7214 MHz 0cc BW % Pwr 99.00 % x dB -6.00 dB

Transmit Freq Error 31.053 kHz x dB Bandwidth 17.643 MHz



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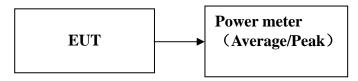
7.2.PEAK POWER

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.
- 3. Guidance v03r05. 9.1.2 PKPM1 Peak power meter method.

TEST RESULTS

No non-compliance noted



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Test Data

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	2412	18.34	30.00
Mid	2437	18.61	30.00
High	2462	18.72	30.00

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	
Low	2412	21.75	30.00	
Mid	2437	21.89	30.00	
High	2462	21.96	30.00	

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	2412	21.25	30.00
Mid	2437	21.33	30.00
High	2462	21.46	30.00



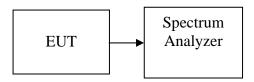
Date of Issue :July 18, 2016 FCC ID: 2ABMA-888-700-215 Report No: C160630R03-RPW

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



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Test Data

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-6.58	8.00	PASS
Mid	2437	-5.74	8.00	PASS
High	2462	-6.32	8.00	PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-8.89	8.00	PASS
Mid	2437	-9.61	8.00	PASS
High	2462	-8.61	8.00	PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.59	8.00	PASS
Mid	2437	-11.55	8.00	PASS
High	2462	-11.59	8.00	PASS



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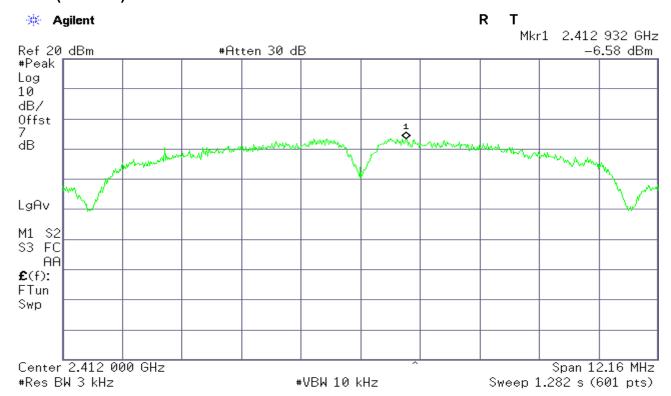
FCC ID: 2ABMA-888-700-215

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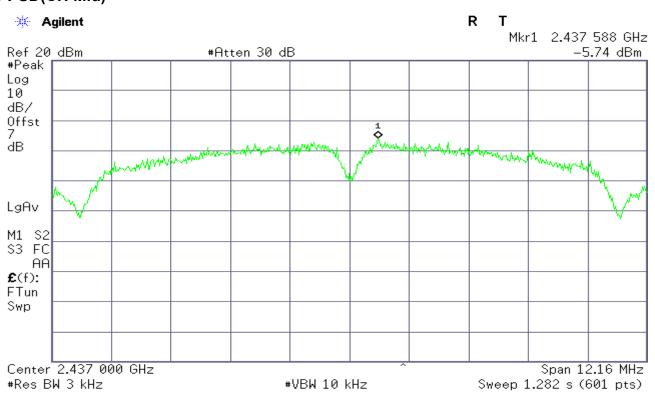
Test Plot

IEEE 802.11b mode

PPSD (CH Low)



PPSD(CH Mid)



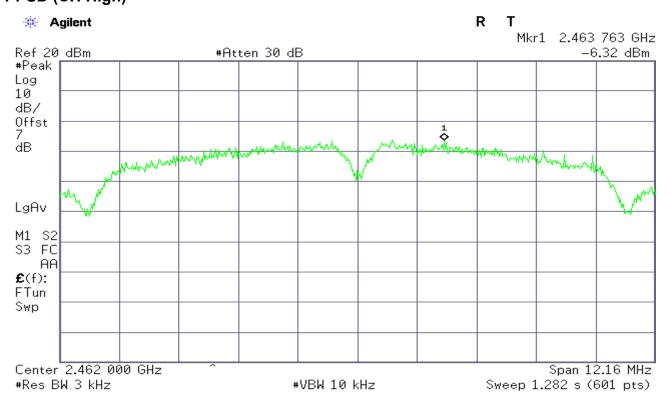


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PPSD (CH High)



IEEE 802.11g mode

PPSD (CH Low)



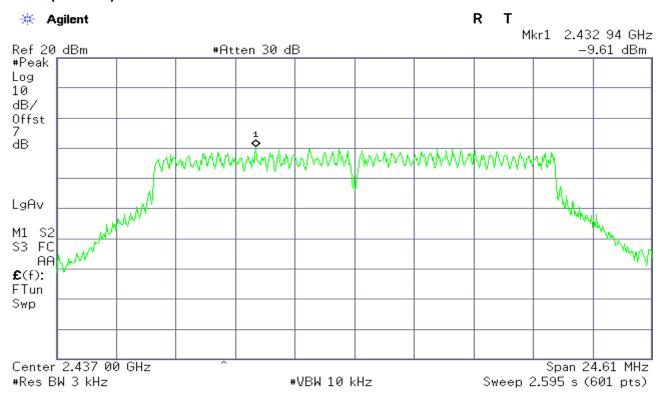


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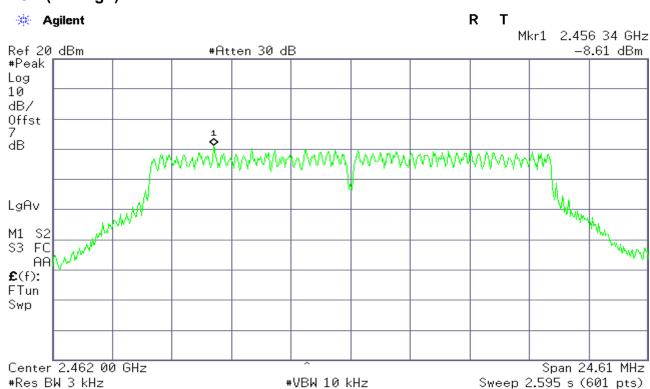
FCC ID: 2ABMA-888-700-215

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PPSD (CH Mid)



PPSD (CH High)





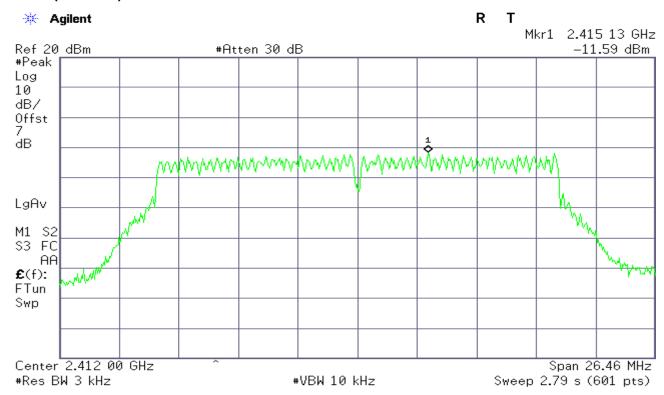
Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

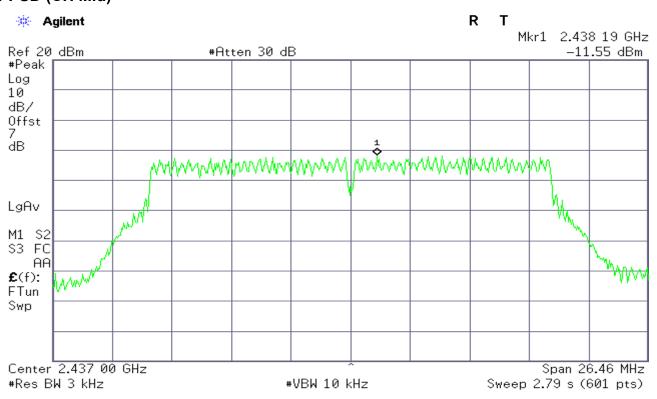
Report No: C160630R03-RPW

IEEE 802.11n HT20 mode

PPSD (CH Low)



PPSD (CH Mid)



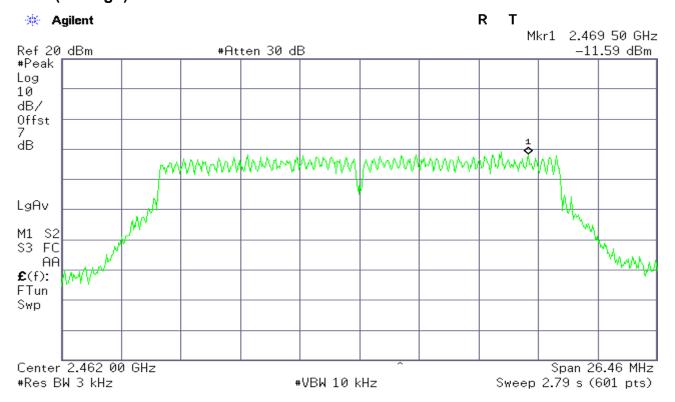


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PPSD (CH High)





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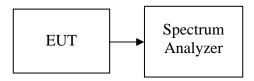
7.4.SPURIOUS EMISSIONS

Conducted Measurement

LIMIT

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator 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 40GHz range with the transmitter set to the lowest, middle, and highest channels.

TEST RESULTS

No non-compliance noted



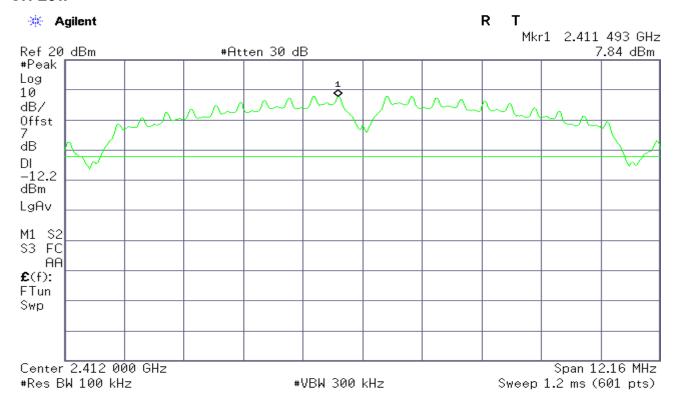
Compliance Certification Services Inc. Date of Issue :July 18, 2016 Report No: C160630R03-RPW

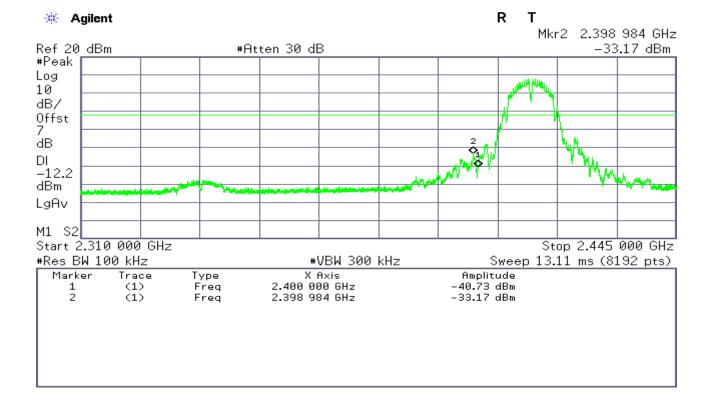
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OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

IEEE 802.11b mode

CH Low

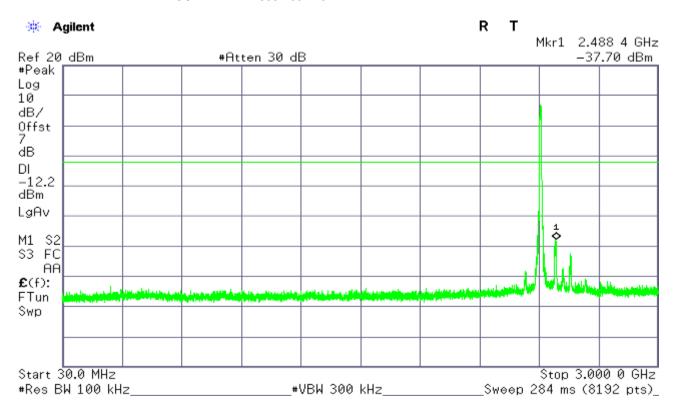


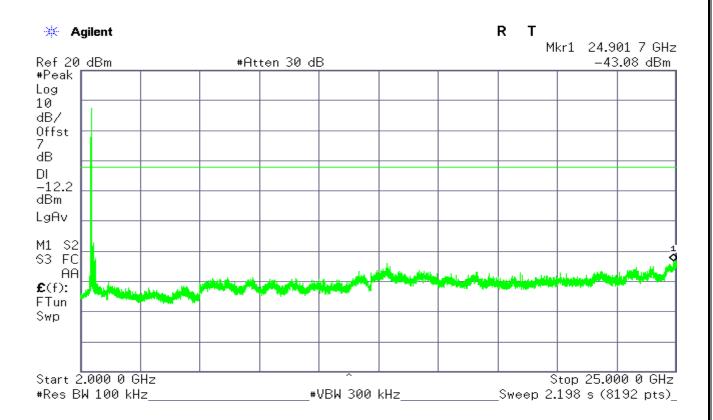




FCC ID: 2ABMA-888-700-215

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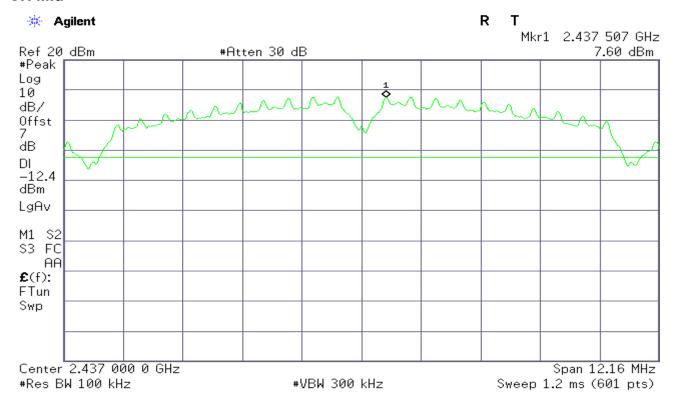


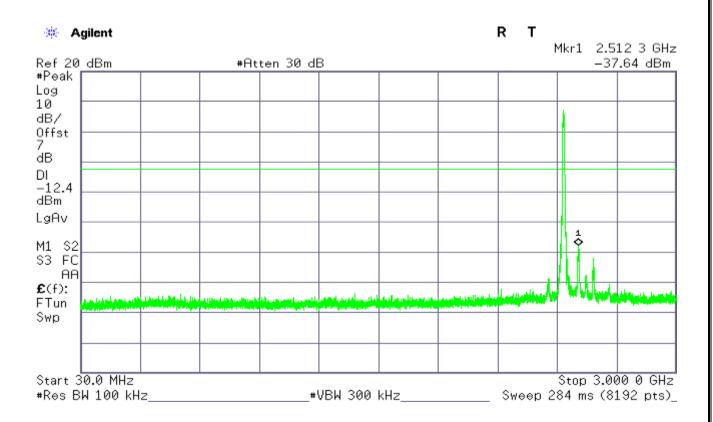


FCC ID: 2ABMA-888-700-215

Report No: C160630R03-RPW

CH Mid



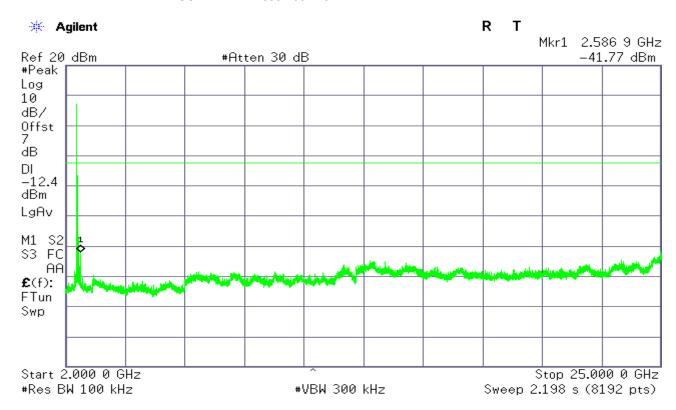




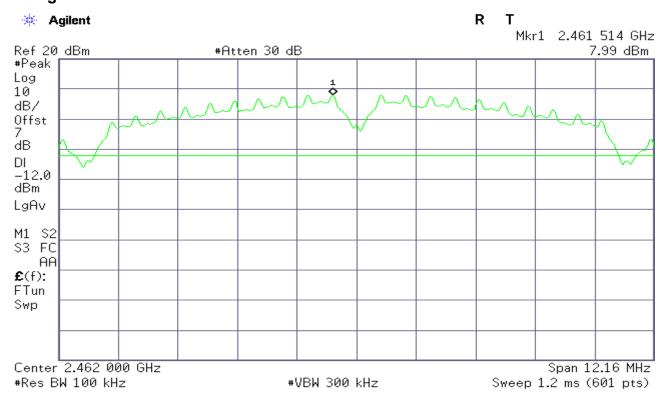
Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

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CH High

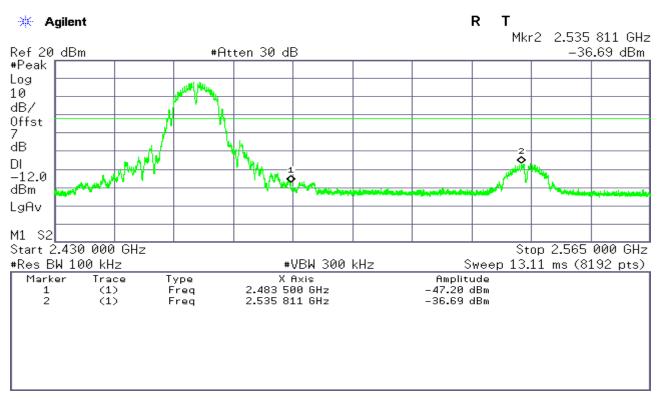


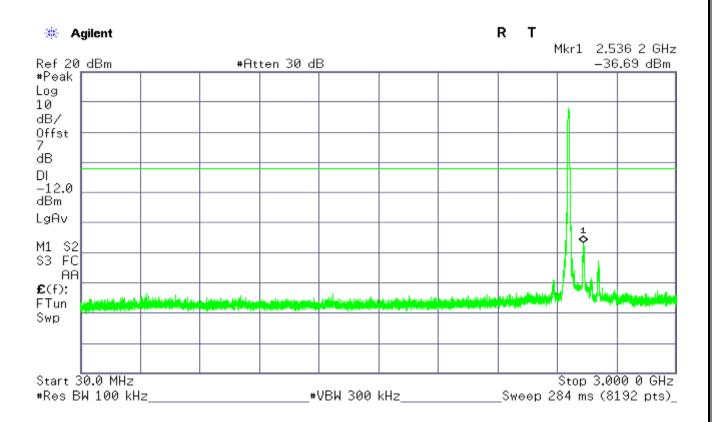


Date of Issue :July 18, 2016

Report No: C160630R03-RPW





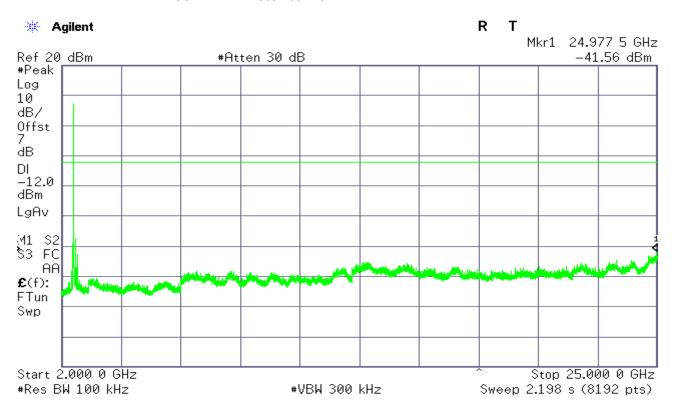




Date of Issue :July 18, 2016

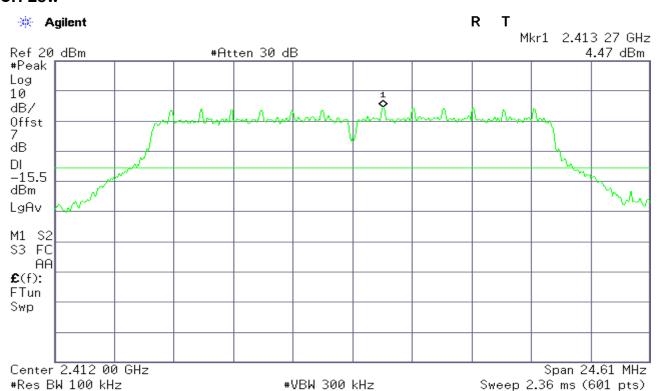
FCC ID: 2ABMA-888-700-215

Report No: C160630R03-RPW



IEEE 802.11g mode

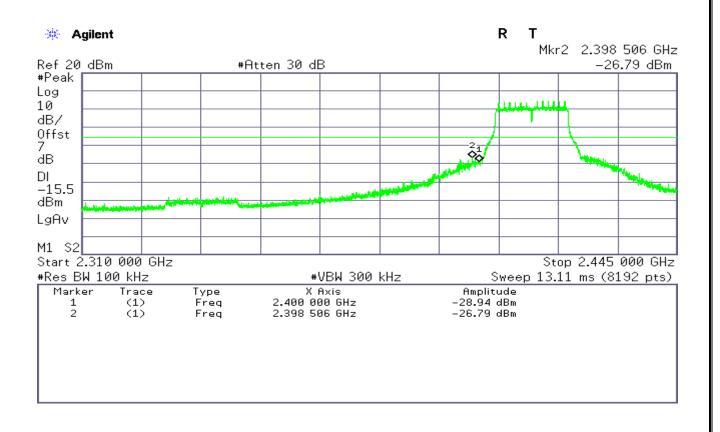
CH Low

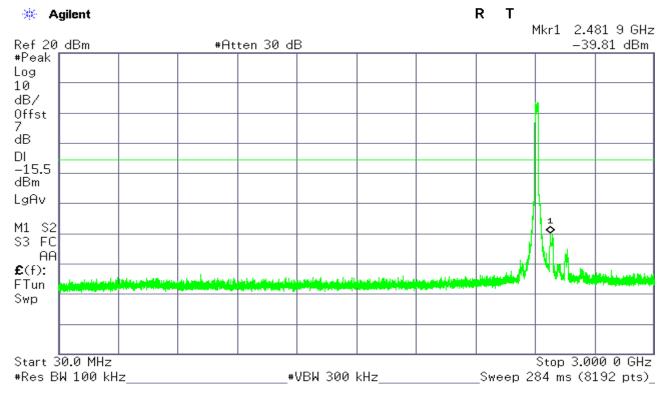




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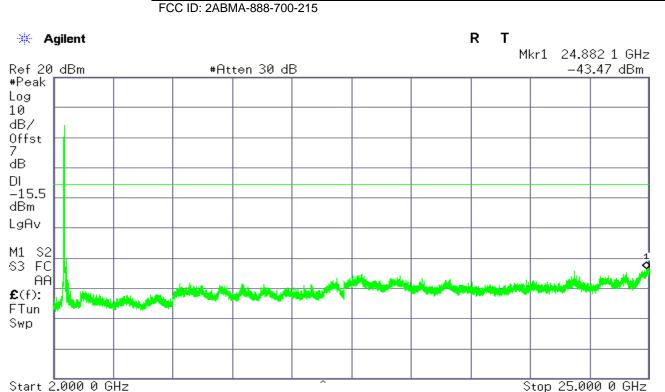
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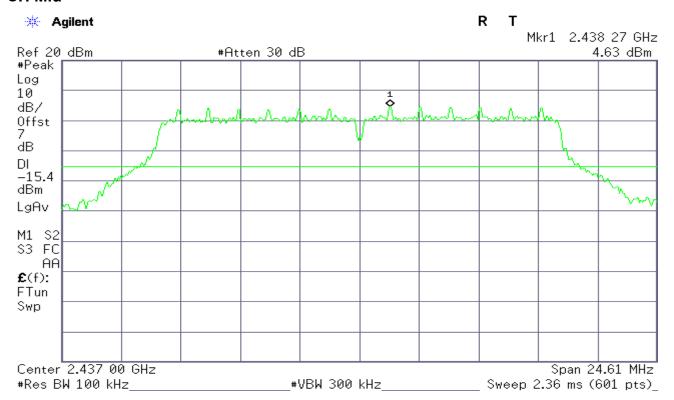
Report No: C160630R03-RPW



#VBW 300 kHz

CH Mid

#Res BW 100 kHz

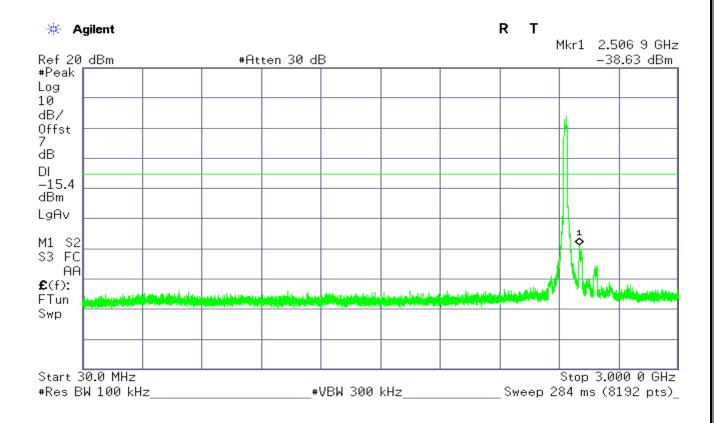


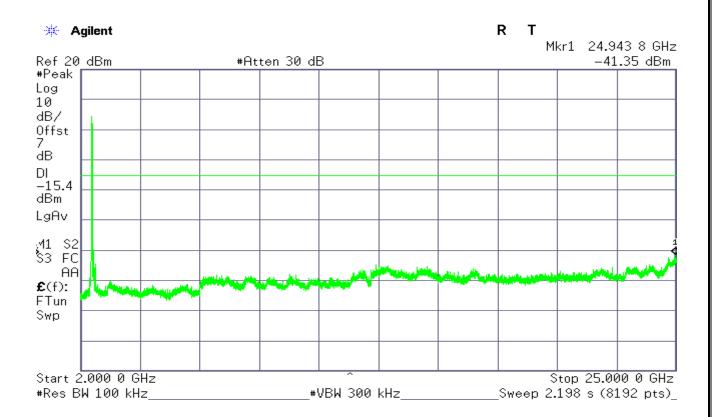
Sweep 2.198 s (8192 pts)



FCC ID: 2ABMA-888-700-215

Report No: C160630R03-RPW



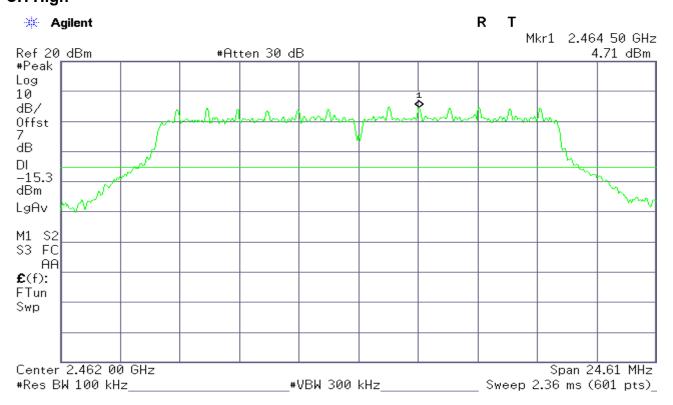


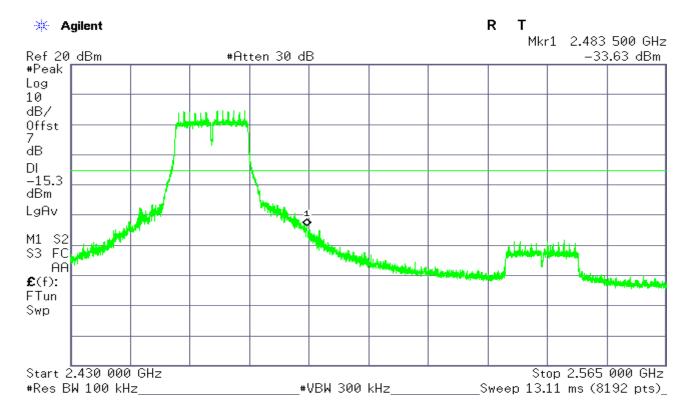


FCC ID: 2ABMA-888-700-215

Report No: C160630R03-RPW

CH High

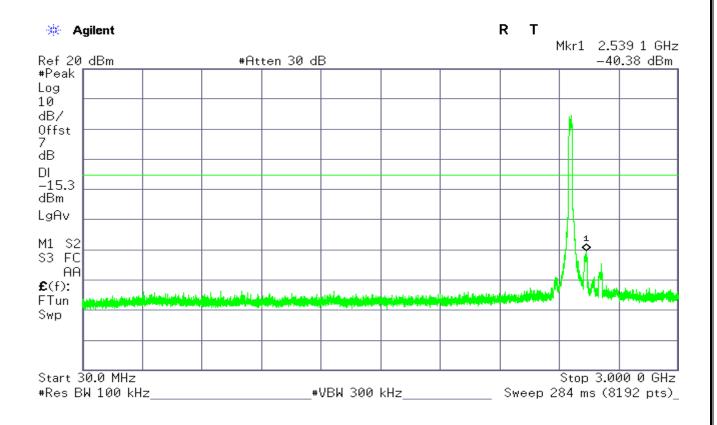


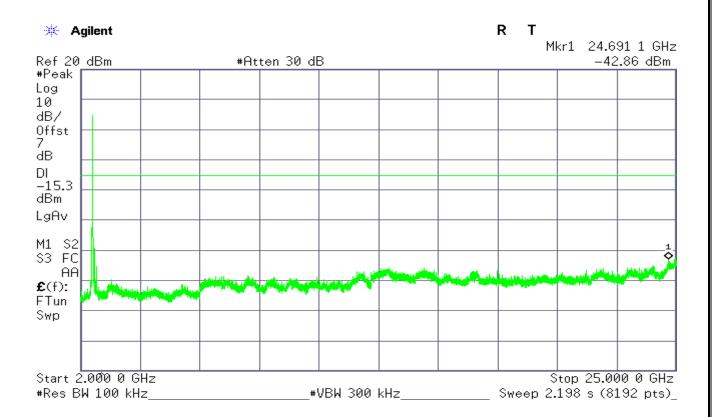




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Report No: C160630R03-RPW







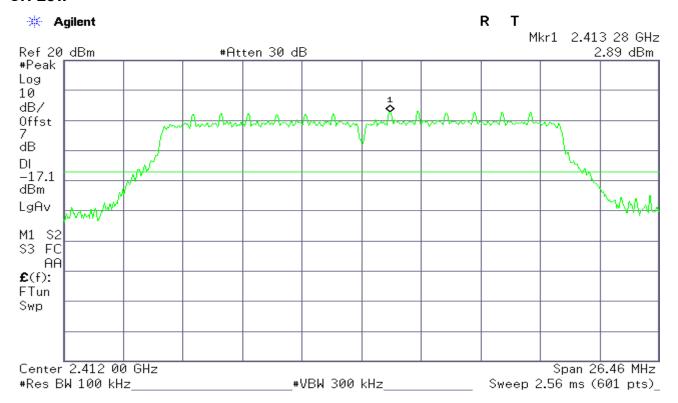
Date of Issue :July 18, 2016

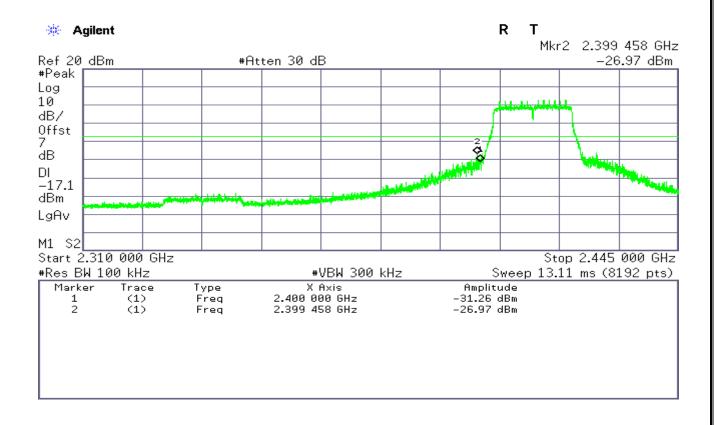
FCC ID: 2ABMA-888-700-215

Report No: C160630R03-RPW

IEEE 802.11n HT20 mode

CH Low



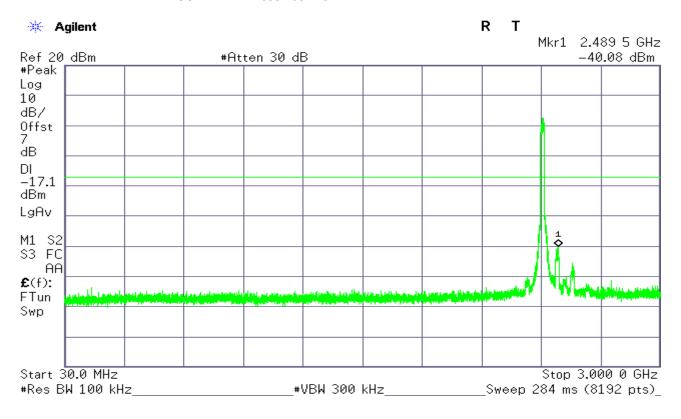


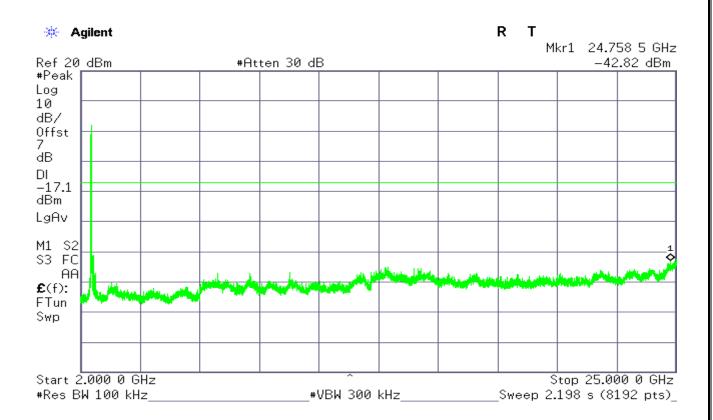


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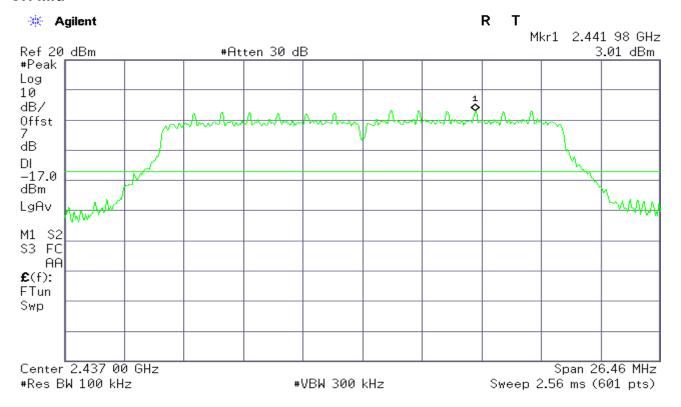


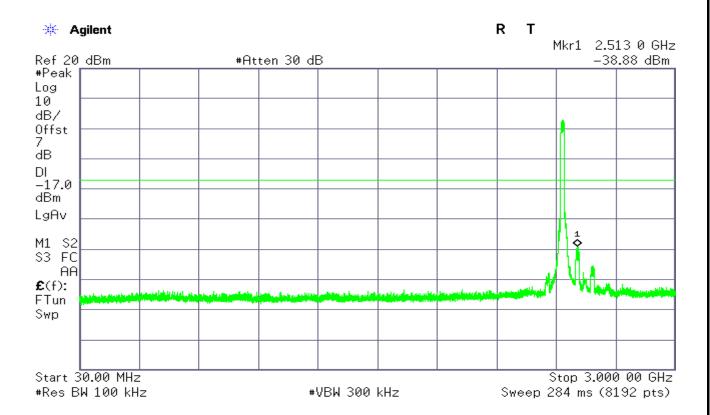
Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

Report No: C160630R03-RPW

CH Mid



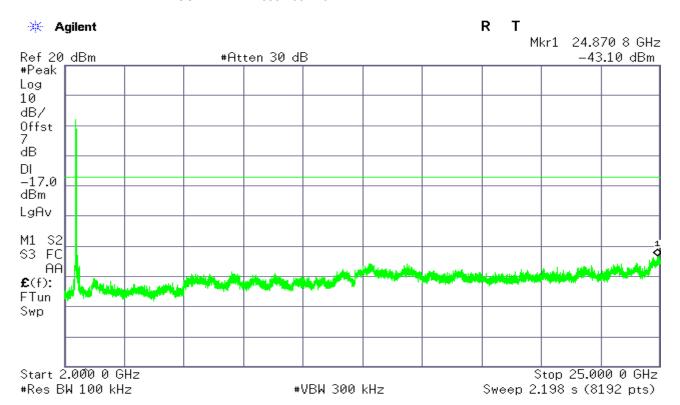




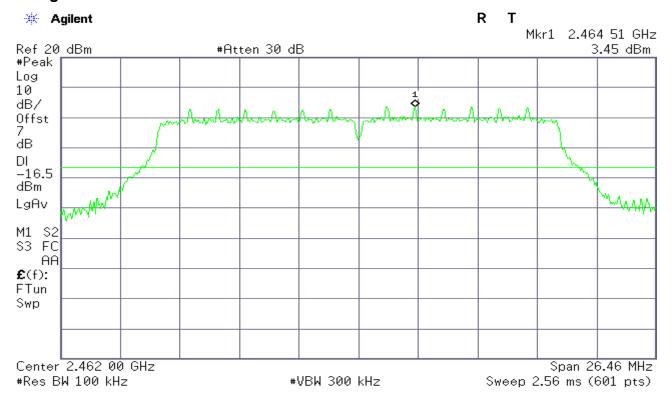
Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

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CH High

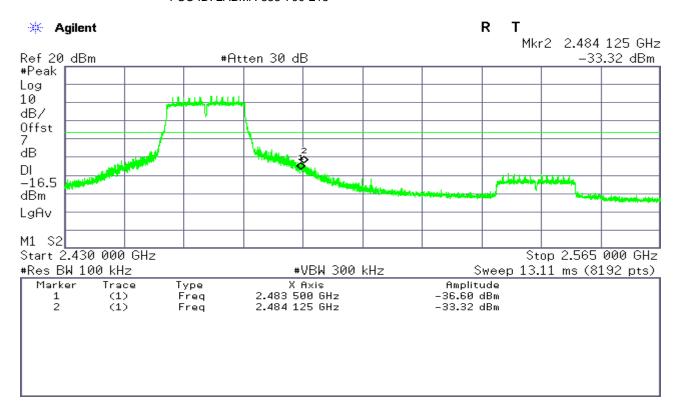


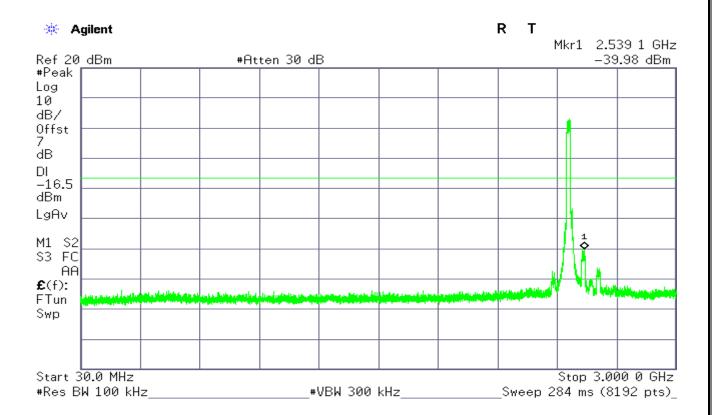


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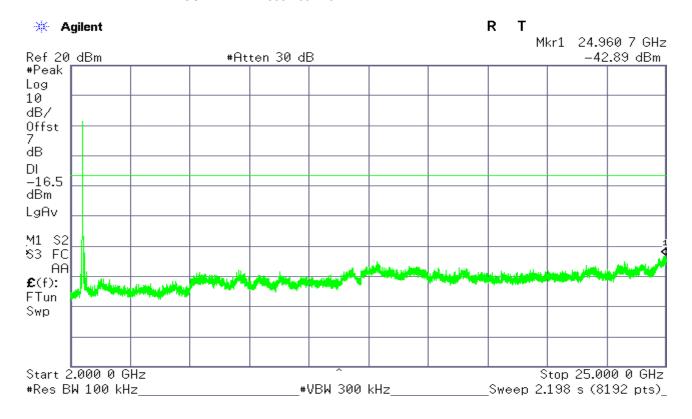




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7.5. RADIATED EMISSIONS

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

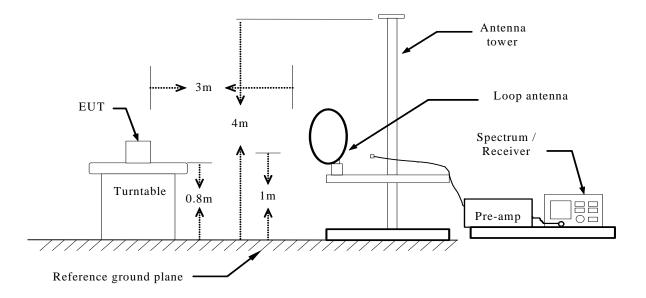
Test Configuration



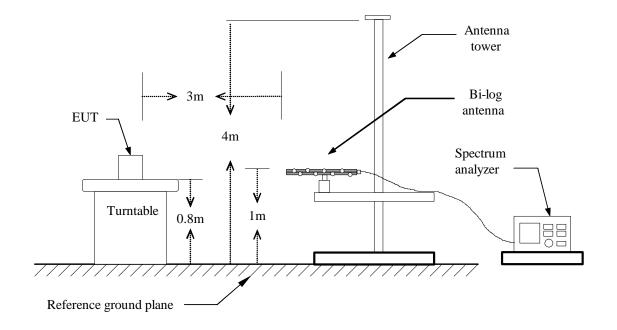
Date of Issue :July 18, 2016 FCC ID: 2ABMA-888-700-215

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Below 30MHz



Below 1 GHz

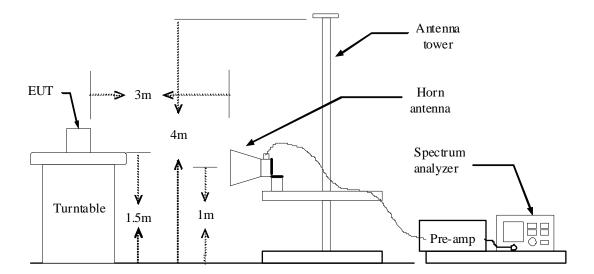




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Above 1 GHz



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 / VBW=10Hz / Sweep=AUTO

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

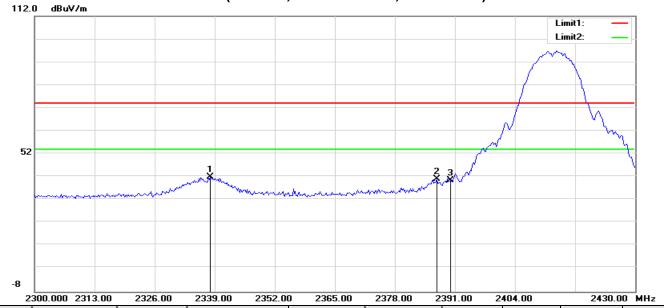
TEST RESULTS



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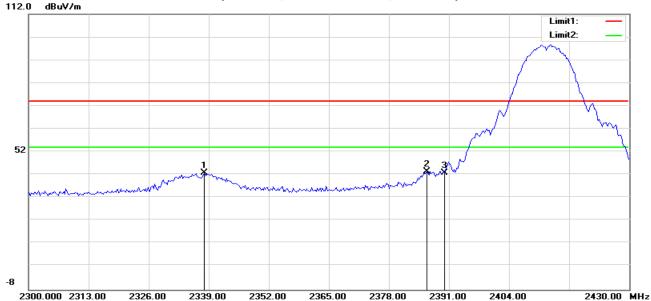
FCC ID: 2ABMA-888-700-215

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	2338.125	50.58	-8.59	41.99	74.00	-32.01	100	214	peak
2	2387.083	49.52	-8.48	41.04	74.00	-32.96	100	220	peak
2	2390.000	49.07	-8.47	40.60	74.00	-33.40	100	297	peak

BANDEDGE (b Mode, Low Channel, Vertical) RESTRICTED



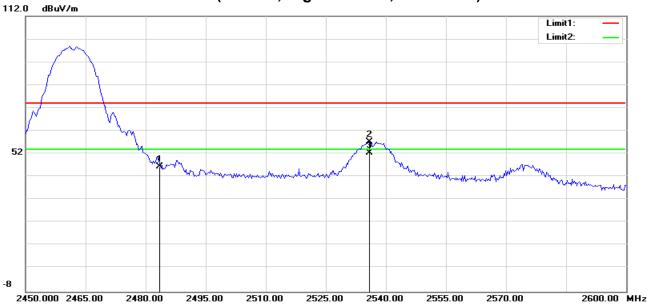
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2338.125	51.36	-8.59	42.77	74.00	-31.23	100	8	peak
2	2386.250	52.00	-8.48	43.52	74.00	-30.48	100	3	peak
3	2390.000	51.23	-8.47	42.76	74.00	-31.24	100	296	peak



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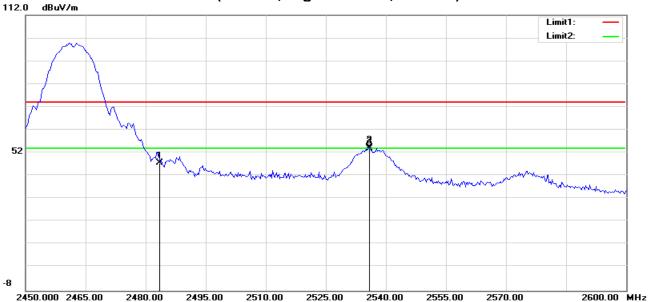
FCC ID: 2ABMA-888-700-215

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	54.70	-8.26	46.44	74.00	-27.56	100	285	peak
2	2535.817	65.36	-8.14	57.22	74.00	-16.78	100	212	peak
3	2535.817	60.58	-8.14	52.44	54.00	-1.56	100	150	AVG

BANDEDGE (b Mode, High Channel, Vertical) RESTRICTED



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	55.95	-8.26	47.69	74.00	-26.31	100	287	peak
2	2535.817	62.57	-8.14	54.43	74.00	-19.57	100	354	peak
3	2535.817	62.01	-8.14	53.87	54.00	-0.13	100	354	AVG



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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	66.46	-8.47	57.99	74.00	-16.01	100	223	peak
2	2390.000	51.25	-8.47	42.78	54.00	-11.22	100	223	AVG

RESTRICTED BANDEDGE (g Mode, Low Channel, Vertical)



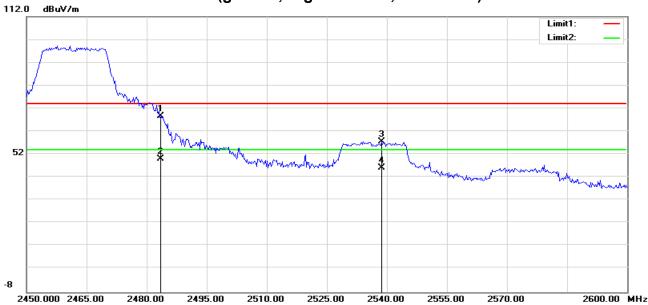
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2388.125	73.03	-8.47	64.56	74.00	-9.44	100	4	peak
2	2388.125	53.68	-8.47	45.21	54.00	-8.79	100	4	AVG
3	2390.000	71.54	-8.47	63.07	74.00	-10.93	100	1	peak
4	2390.000	57.10	-8.47	48.63	54.00	-5.37	100	1	AVG



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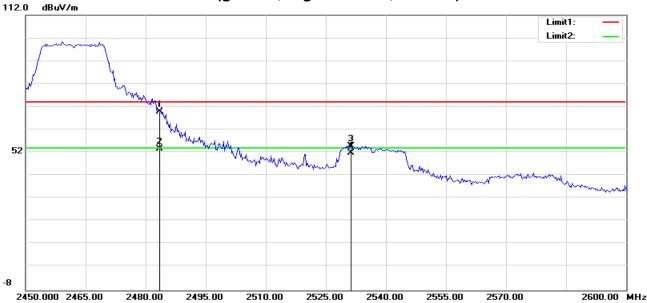
FCC ID: 2ABMA-888-700-215

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	76.88	-8.26	68.62	74.00	-5.38	100	233	peak
2	2483.500	58.34	-8.26	50.08	54.00	-3.92	100	233	AVG
3	2538.702	65.80	-8.13	57.67	74.00	-16.33	100	211	peak
4	2538.702	54.38	-8.13	46.25	54.00	-7.75	100	211	AVG

RESTRICTED BANDEDGE (g Mode, High Channel, Vertical)

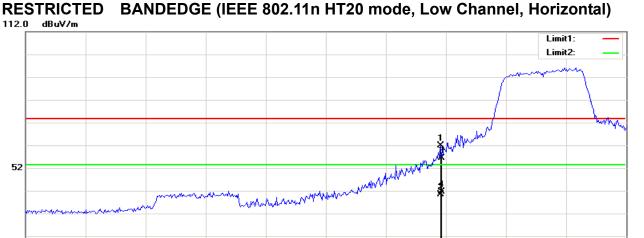


	L100.000 L100.00	2100.00	E100.00 E010.0	D LOLO.OO	E010.00 E	000.00 E	0.0.00	2000.0	O 1-1112
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	78.01	-8.26	69.75	74.00	-4.25	100	0	peak
2	2483.500	61.99	-8.26	53.73	54.00	-0.27	100	0	AVG
3	2531.250	63.00	-8.15	54.85	74.00	-19.15	100	27	peak
4	2531.250	60.13	-8.15	51.98	54.00	-2.02	100	27	AVG



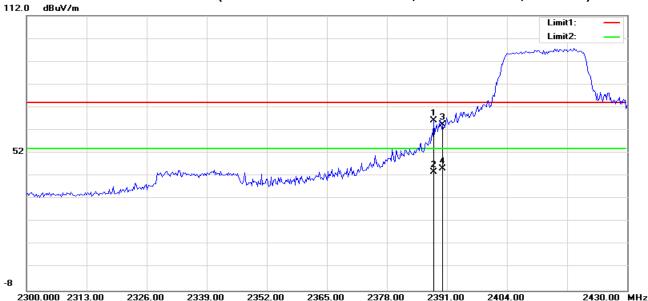
Date of Issue :July 18, 2016

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2391.00 2300.000 2313.00 2326.00 2339.00 2352.00 2365.00 2378.00 2404.00 2430.00 MHz No. **Frequency** Reading Correct Result Limit Margin Height Degree Remark (MHz) (dBuV) Factor(dB/m) (dBuV/m) (dBuV/m) (dB) (cm) (deg.) 2389.792 62.23 199 70.70 -8.47 74.00 -11.77 100 peak 2 2389.792 49.38 -8.47 40.91 54.00 -13.09 100 199 **AVG** 74.00 3 2390.000 65.53 -8.47 57.06 -16.94 100 199 peak 2390.000 54.00 -11.82 100 199 4 50.65 -8.47 42.18 AVG

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



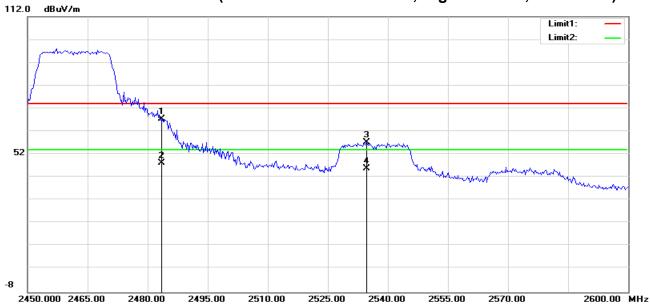
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2388.125	74.71	-8.47	66.24	74.00	-7.76	100	2	peak
2	2388.125	52.35	-8.47	43.88	54.00	-10.12	100	2	AVG
3	2390.000	73.03	-8.47	64.56	74.00	-9.44	100	360	peak
4	2390.000	53.87	-8.47	45.40	54.00	-8.60	100	360	AVG



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RESTRICTED BANDEDGE (IEEE 802.11n HT20 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	75.71	-8.26	67.45	74.00	-6.55	100	247	peak
2	2483.500	56.48	-8.26	48.22	54.00	-5.78	100	245	AVG
3	2534.615	65.44	-8.14	57.30	74.00	-16.70	100	214	peak
4	2534.615	53.88	-8.14	45.74	54.00	-8.26	100	212	AVG

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



		1		1	1				
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	75.95	-8.26	67.69	74.00	-6.31	100	360	peak
2	2483.500	56.56	-8.26	48.30	54.00	-5.70	100	360	AVG
3	2484.856	79.52	-8.25	71.27	74.00	-2.73	100	17	peak
4	2484.856	59.62	-8.25	51.37	54.00	-2.63	100	15	AVG
5	2541.586	62.61	-8.13	54.48	74.00	-19.52	100	26	peak
6	2541.586	49.65	-8.13	41.52	54.00	-12.48	100	26	AVG



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Test Result of Radiated Emission

Below 30MHz

The interference of the frequency value is lower than the limit below 20 db, measured as the background noise values and will not be recorded.

30MHz-1GHz

Operation Mode:	Normal Link	Test Date:	2016-7-11
Temperature:	25°C	Tested by:	Lily.Wang
Humidity:	48% RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
35.9800	V	18.99	17.55	36.54	40.00	-3.46	QP
500.4500	V	22.49	18.87	41.36	46.00	-4.64	peak
625.5800	V	20.23	20.50	40.73	46.00	-5.27	peak
806.9700	V	16.71	22.93	39.64	46.00	-6.36	peak
875.0080	V	20.54	23.55	44.09	46.00	-1.91	QP
960.0480	V	27.38	24.92	52.30	54.00	-1.70	QP
276.3800	Н	23.04	14.05	37.09	46.00	-8.91	peak
375.3200	Н	22.29	16.35	38.64	46.00	-7.36	peak
500.4500	Н	23.81	18.87	42.68	46.00	-3.32	peak
806.9700	Н	19.81	22.93	42.74	46.00	-3.26	peak
876.1320	Н	6.20	23.56	29.76	46.00	-16.24	QP
960.2300	Н	22.65	24.92	47.57	54.00	-6.43	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).



Report No: C160630R03-RPW

Date of Issue :July 18, 2016

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Above 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low **Test Date:** 2016-7-10

Temperature: 24°C **Tested by:** Lily.Wang

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4786.859	41.36	-3.45	37.91	74.00	-36.09	100	344	peak
2	7783.654	42.07	3.48	45.55	74.00	-28.45	100	295	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4732.372	41.78	-3.58	38.20	74.00	-35.80	100	58	peak
2	7347.756	41.35	1.43	42.78	74.00	-31.22	100	346	peak
N/A									

Operation Mode: TX / IEEE 802.11b / CH Mid **Test Date:** 2016-7-10

Temperature: 24°C **Tested by:** Lily.Wang

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4759.615	41.50	-3.51	37.99	74.00	-36.01	100	187	peak
2	7375.000	41.12	1.56	42.68	74.00	-31.32	100	342	peak
N/A									

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4677.885	40.99	-3.70	37.29	74.00	-36.71	100	169	peak
2	7293.269	41.67	1.18	42.85	74.00	-31.15	100	193	peak
N/A									



Report No: C160630R03-RPW

Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

Operation Mode: TX / IEEE 802.11b / CH High Test Date: 2016-7-10

Temperature: 24°CTested by:Lily.WangHumidity: 48 % RHPolarity: Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4732.372	41.18	-3.58	37.60	74.00	-36.40	100	248	peak
2	7756.410	41.89	3.35	45.24	74.00	-28.76	100	1	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4759.615	42.08	-3.51	38.57	74.00	-35.43	100	279	peak
2	7293.269	41.47	1.18	42.65	74.00	-31.35	100	292	peak
N/A									

Operation Mode: TX / IEEE 802.11g / CH Low Test Date: 2016-7-10

Temperature: 24°C Tested by:Lily.Wang

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4977.564	40.32	-3.00	37.32	74.00	-36.68	100	276	peak
2	7429.487	40.22	1.81	42.03	74.00	-31.97	100	74	peak
N/A									

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4759.615	42.20	-3.51	38.69	74.00	-35.31	100	6	peak
2	7266.026	40.15	1.05	41.20	74.00	-32.80	100	69	peak
N/A									



Report No: C160630R03-RPW

Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

Operation Mode: TX / IEEE 802.11g / CH Mid Test Date: 2016-7-10

Temperature: 24°C Tested by: Lily. Wang

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4786.859	42.30	-3.45	38.85	74.00	-35.15	100	239	peak
2	7320.513	42.24	1.30	43.54	74.00	-30.46	100	28	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4841.346	41.52	-3.32	38.20	74.00	-35.80	100	18	peak
2	7456.731	41.04	1.94	42.98	74.00	-31.02	100	78	peak
N/A									

Operation Mode: TX / IEEE 802.11g / CH High Test Date: 2016-7-10

Temperature: 24°C Tested by: Lily. Wang

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5059.295	40.54	-2.87	37.67	74.00	-36.33	100	67	peak
2	7620.192	39.44	2.71	42.15	74.00	-31.85	100	336	peak
N/A									

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4705.128	41.83	-3.64	38.19	74.00	-35.81	100	1	peak
2	7375.000	40.96	1.56	42.52	74.00	-31.48	100	180	peak
N/A									



Date of Issue :July 18, 2016

FCC ID: 2ABMA-888-700-215

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

Test Date: 2016-7-10

Report No: C160630R03-RPW

Temperature: 24°C

Tested by: Lily.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4705.128	41.33	-3.64	37.69	74.00	-36.31	100	350	peak
2	7429.487	41.74	1.81	43.55	74.00	-30.45	100	11	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4786.859	41.92	-3.45	38.47	74.00	-35.53	100	182	peak
2	7511.218	40.17	2.20	42.37	74.00	-31.63	100	6	peak
N/A									

Operation Mode: TX / IEEE 802.11n HT20 mode / CH Mid Test Date: 2016-7-10

Temperature: 24°C

Tested by: Lily.Wang

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4814.103	41.93	-3.38	38.55	74.00	-35.45	100	291	peak
2	7347.756	41.26	1.43	42.69	74.00	-31.31	100	145	peak
N/A									

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4759.615	41.41	-3.51	37.90	74.00	-36.10	100	109	peak
2	7293.269	42.42	1.18	43.60	74.00	-30.40	100	91	peak
N/A									



Compliance Certification Services Inc. Date of Issue :July 18, 2016 Report No: C160630R03-RPW FCC ID: 2ABMA-888-700-215

Operation Mode: TX / IEEE 802.11n HT20 mode / CH High Test Date: 2016-7-10

Temperature: 24°C Tested by:Lily.Wang

Humidity: 48 % RH Polarity: Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4732.372	42.12	-3.58	38.54	74.00	-35.46	100	304	peak
2	7674.680	40.41	2.96	43.37	74.00	-30.63	100	35	peak
N/A									

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5059.295	40.14	-2.87	37.27	74.00	-36.73	100	358	peak
2	7783.654	41.87	3.48	45.35	74.00	-28.65	100	140	peak
N/A	<u> </u>								
	<u> </u>								
	<u> </u>								
	<u> </u>								



Date of Issue :July 18, 2016 FCC ID: 2ABMA-888-700-215

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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)	Lim (dB _k	
(WITZ)	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

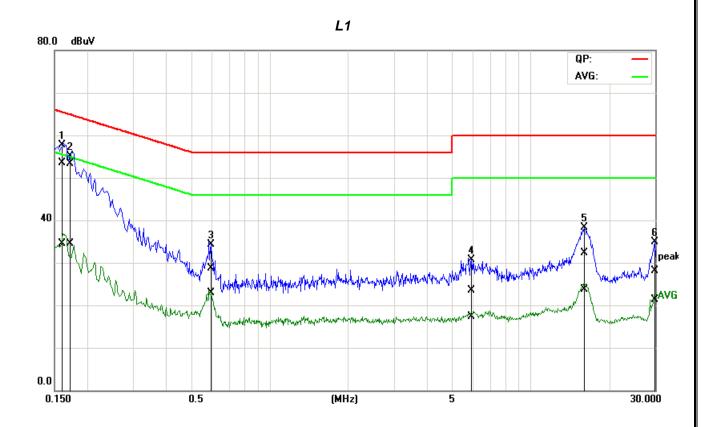
The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

TEST DATA



Compliance Certification Services Inc. Date of Issue :July 18 2016 Report No: C160630R03RPW FCC ID: 2ABMA-888-700-215

Job No.:	C160630R03	Date:	2016-7-8
Model No.:	850-035453	Time:	PM 04:32:43
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L1	Test Voltage:	AC 120V/60Hz
Model:		Description:	



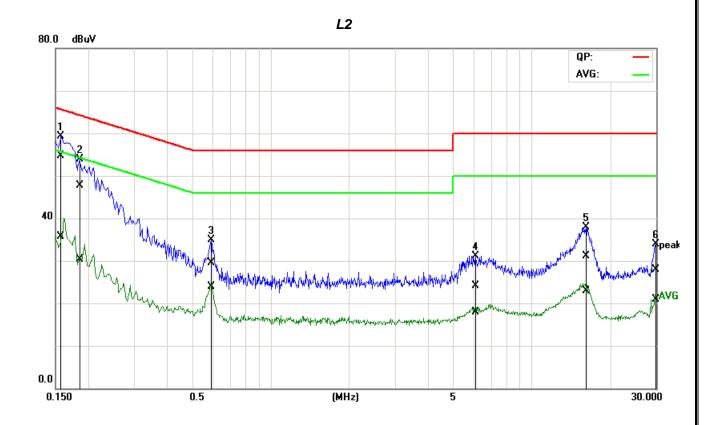
No.	Frequency	QuasiPeak	Average	Correction	QuasiPeak	Average	QuasiPeak	Average	QuasiPeak	Average	Remark
		reading	reading	factor	result	result	limit	limit	margin	margin	
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1590	33.62	14.67	19.79	53.41	34.46	65.51	55.52	-12.10	-21.06	Pass
2*	0.1699	33.43	14.74	19.79	53.22	34.53	64.96	54.97	-11.74	-20.44	Pass
3	0.5958	8.98	3.08	19.81	28.79	22.89	56.00	46.00	-27.21	-23.11	Pass
4	5.8482	3.58	-2.64	19.93	23.51	17.29	60.00	50.00	-36.49	-32.71	Pass
5	16.1270	12.35	3.70	20.05	32.40	23.75	60.00	50.00	-27.60	-26.25	Pass
6	29.7843	7.82	1.06	20.28	28.10	21.34	60.00	50.00	-31.90	-28.66	Pass

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



Compliance Certification Services Inc. Date of Issue :July 18 2016 Report No: C160630R03RPW FCC ID: 2ABMA-888-700-215

Job No.:	C160630R03	Date:	2016-7-8
Model No.:	850-035453	Time:	PM 04:37:24
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L2	Test Voltage:	AC 120V/60Hz
Model:		Description:	



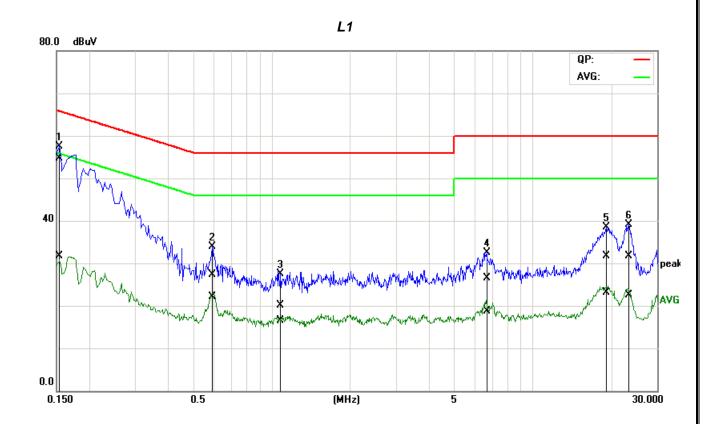
No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1559	35.01	15.89	19.74	54.75	35.63	65.67	55.68	-10.92	-20.05	Pass
2	0.1844	27.89	10.47	19.74	47.63	30.21	64.28	54.29	-16.65	-24.08	Pass
3	0.5905	9.85	4.18	19.75	29.60	23.93	56.00	46.00	-26.40	-22.07	Pass
4	6.0852	4.16	-2.05	19.86	24.02	17.81	60.00	50.00	-35.98	-32.19	Pass
5	16.1638	10.78	2.47	20.34	31.12	22.81	60.00	50.00	-28.88	-27.19	Pass
6	29.8976	7.38	0.36	20.57	27.95	20.93	60.00	50.00	-32.05	-29.07	Pass

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



Compliance Certification Services Inc. Date of Issue :July 18 2016 Report No: C160630R03RPW FCC ID: 2ABMA-888-700-215

Job No.:	C160630R03	Date:	2016-7-8
Model No.:	850-035453	Time:	PM 04:42:46
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L1	Test Voltage:	AC 240V/60Hz
Model:		Description:	



No.	Frequency	QuasiPeak	Average	Correction	QuasiPeak	Average	QuasiPeak	Average	QuasiPeak	Average	Remark
		reading	reading	factor	result	result	limit	limit	margin	margin	
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1500	35.01	11.90	19.79	54.80	31.69	65.99	56.00	-11.19	-24.31	Pass
2	0.5876	7.43	2.34	19.81	27.24	22.15	56.00	46.00	-28.76	-23.85	Pass
3	1.0933	0.31	-3.22	19.79	20.10	16.57	56.00	46.00	-35.90	-29.43	Pass
4	6.6711	6.52	-1.13	19.92	26.44	18.79	60.00	50.00	-33.56	-31.21	Pass
5	19.2180	11.52	2.97	20.10	31.62	23.07	60.00	50.00	-28.38	-26.93	Pass
6	23.5064	11.53	2.40	20.17	31.70	22.57	60.00	50.00	-28.30	-27.43	Pass

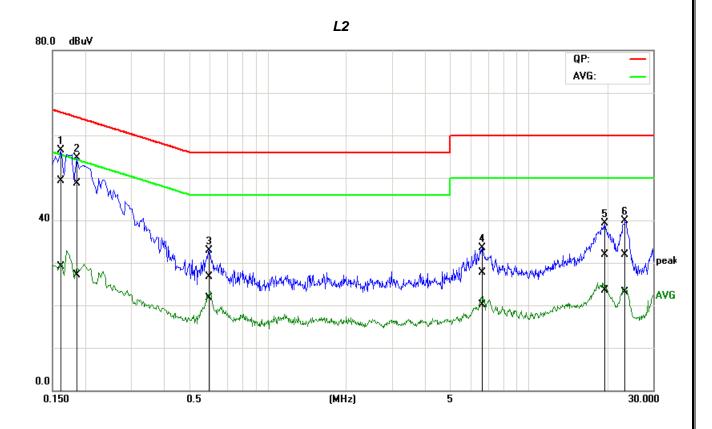
Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).



Date of Issue :July 18 2016

FCC ID: 2ABMA-888-700-215

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Job No.:	C160630R03	Date:	2016-7-8
Model No.:	850-035453	Time:	PM 04:47:18
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L2	Test Voltage:	AC 240V/60Hz
Model:		Description:	



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	0.1627	29.64	9.36	19.74	49.38	29.10	65.32	55.32	-15.94	-26.22	Pass
2*	0.1828	29.05	7.34	19.74	48.79	27.08	64.35	54.36	-15.56	-27.28	Pass
3	0.5873	6.98	2.00	19.75	26.73	21.75	56.00	46.00	-29.27	-24.25	Pass
4	6.6853	7.89	0.27	19.87	27.76	20.14	60.00	50.00	-32.24	-29.86	Pass
5	19.5858	11.48	3.17	20.38	31.86	23.55	60.00	50.00	-28.14	-26.45	Pass
6	23.4588	11.53	2.66	20.45	31.98	23.11	60.00	50.00	-28.02	-26.89	Pass

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

Remark:

- 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