TEST REPORT

Product Name:	Wi-Fi / BLE Wireless Cooking Thermometer
Trade Mark:	N/A
Model No. / HVIN:	Weber Connect
Add. Model No. / HVIN:	3201,3202,3203,3204
Report Number:	190812016RFC-5
Test Standards:	FCC 47 CFR Part 15 Subpart C RSS-247 Issue 2 RSS-Gen Issue 5
FCC ID:	2AHSR-CONNECT1
IC:	21267-CONNECT1
Test Result:	PASS
Date of Issue:	November 19, 2019

Prepared for:

Weber-Stephen Products LLC
1415 S. Roselle Road, Palatine, IL 60067, USA

Prepared by:

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Version

Version No.	Date	Description
V1.0	November 19, 2019	Original

CONTENTS

1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Weber-Stephen Products LLC
Address of Applicant:	1415 S. Roselle Road, Palatine, IL 60067, USA
Manufacturer:	Weber-Stephen Products LLC
Address of Manufacturer:	1415 S. Roselle Road, Palatine, IL 60067, USA

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Wi-Fi / BLE Wireless Cooking Thermometer	
Model No. / HVIN:	Weber Connect	
Add. Model No. / HVIN:	3201,3201,3202,3203,3204	
Trade Mark:	N/A	
DUT Stage:	Production Unit	
EUT Supports Function:	2.4 GHz ISM Band:	IEEE 802.11b/g/n
		Bluetooth V4.0
Software Version:	936	
Hardware Version:	P3	
Sample Received Date:	August 12, 2019	
Sample Tested Date:	August 12, 2019 to September 27, 2019	
Note: The additional model 3201,3202,3203,3204 is identical with the test model Weber Connect except the model number for marketing purpose.		

1.2.2 Description of Accessories

Battery	
Model No.:	GB1S1PMH1V2
Battery Type:	Lithium-ion Rechargeable Battery
Rated Voltage:	3.7 Vdc
Limited Charge Voltage:	4.2 Vdc
Rated Capacity:	3200 mAh

Cable	
Description:	USB Micro-B Plug Cable
Cable Type:	Unshielded without ferrite
Length:	1.20 Meter

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Frequency Band:	2400 MHz to 2483.5 MHz
Frequency Range:	2412 MHz to 2462 MHz
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20
Type of Modulation:	IEEE 802.11b: DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM(64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n-HT20: OFDM(64-QAM, 16-QAM, QPSK, BPSK)
Data Rate:	IEEE 802.11b: Up to 11 Mbps IEEE 802.11g: Up to 54 Mbps IEEE 802.11n-HT20: Up to MCS7(64 Mbps)
Number of Channels:	IEEE 802.11b: 11

	IEEE 802.11g: 11 IEEE 802.11n-HT20: 11
Channel Separation:	5 MHz
Antenna Type:	Integral Antenna
Antenna Gain:	2.6 dBi
Normal Test Voltage:	3.7 Vdc

1.4 OTHER INFORMATION

Operation Frequency Each of Channel	
IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20	**f = 2407 + 5k MHz, k = 1,…,11**
Note: **f** is the operating frequency (MHz); **k** is the operating channel.	

1.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
Notebook	Lenovo	E450	SL10G10780	UnionTrust

2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.30 Meter	UnionTrust

1.6 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China 518109
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

1.7 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069
The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01
Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements

for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories
CAB identifier: CN0032

FCC Accredited Lab.
Designation Number: CN1194
Test Firm Registration Number: 259480

1.8 DEVIATION FROM STANDARDS

None.

1.9 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.10 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.11 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted emission 9KHz-150KHz	±3.8 dB
2	Conducted emission 150KHz-30MHz	±3.4 dB
3	Radiated emission 9KHz-30MHz	±4.9 dB
4	Radiated emission 30MHz-1GHz	±4.7 dB
5	Radiated emission 1GHz-18GHz	±5.1 dB
6	Radiated emission 18GHz-26GHz	±5.2 dB
7	Radiated emission 26GHz-40GHz	±5.2 dB

2. TEST SUMMARY

FCC 47 CFR Part 15 Subpart C Test Cases			
Test Item	**Test Requirement**	**Test Method**	**Result**
Antenna Requirement	FCC 47 CFR Part 15 Subpart C Section 15.203/15.247 (c) RSS-Gen Issue 5, Section 6.8	N/A	Verified (Note1)
AC Power Line Conducted Emission	FCC 47 CFR Part 15 Subpart C Section 15.207 RSS-Gen Issue 5, Section 8.8	ANSI C63.10-2013 Clause 6.2	PASS
Conducted Peak Output Power	FCC 47 CFR Part 15 Subpart C Section 15.247 (b)(3) RSS-247 Issue 2, Section 5.4(d)	ANSI C63.10-2013 Clause 11.9.1.3	Verified (Note1)
6dB Bandwidth	FCC 47 CFR Part 15 Subpart C Section 15.247 (a)(2) RSS-247 Issue 2, Section 5.2(a)	ANSI C63.10-2013 Clause 11.8.1	Verified (Note1)
Power Spectral Density	RSS-Gen Issue 5, Section 6.7	RSS-Gen Issue 5, Section 6.7	Verified (Note1)
Conducted Out of Band Emission	FCC 47 CFR Part 15 Subpart C Section 15.247 (e) RSS-247 Issue 2, Section 5.2(b)	ANSI C63.10-2013 Clause 11.10.2	Verified (Note1)
Radiated Spurious Emissions	FCC 47 CFR Part 15 Subpart C Section 15.247(d) RSS-247 Issue 2, Section 5.5	ANSI C63.10-2013 Clause 11.11	PASS
Band Edge Measurements (Radiated)	FCC 47 CFR Part 15 Subpart C Section 15.205/15.209 RSS-Gen Issue 5, Section 6.13/8.9/8.10	ANSI C63.10-2013 Clause 11.11 & Clause 11.12	Verified (Note1)

Note:

1) The Wi-Fi / BLE Wireless Cooking Thermometer equips with FCC/IC tested 2.4 WLAN and BLE Radio module. After evaluation, the certification is C2PC, Please refer to the report number: R12761322-E1, dated June. 13, 2019

3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☒	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	N/A	Dec. 03, 2018	Dec. 03, 2021
☒	Receiver	R&S	ESIB26	100114	Nov. 24, 2018	Nov. 24, 2019
☒	Loop Antenna	ETS-LINDGREN	6502	00202525	Dec. 03, 2018	Dec. 03, 2019
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	Dec. 08, 2018	Dec. 08, 2019
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	Dec. 08, 2018	Dec. 08, 2019
☒	Preamplifier	HP	8447F	2805A02960	Nov. 24, 2018	Nov. 24, 2019
☐	Broadband Antenna (Pre-amplifier)	ETS-LINDGREN	3142E-PA	00201891	May 19, 2018	May 18, 2020
☐	6dB Attenuator	Talent	RA6A5-N-18	18103002	Nov. 24, 2018	Nov. 24, 2019
☐	Horn Antenna	ETS-LINDGREN	3117	00164202	Dec. 08, 2018	Dec. 08, 2019
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	May 22, 2018	May 18, 2020
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	Jan. 05, 2019	Jan. 05, 2020
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Band Rejection Filter (2400MHz~2500MHz)	Micro-Tronics	BRM50702	G248	Jun. 06, 2019	Jun. 06, 2020
☒	Test Software	Audix	e3	Software Version: 9.160333		

Conducted Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☒	Receiver	R&S	ESR7	1316.3003K07 -101181-K3	Nov. 24, 2018	Nov. 24, 2019
☒	Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	Nov. 24, 2018	Nov. 24, 2019
☒	LISN	R&S	ESH2-Z5	860014/024	Nov. 24, 2018	Nov. 24, 2019
☐	LISN	ETS-Lindgren	3816/2SH	00201088	Nov. 24, 2018	Nov. 24, 2019
☒	Test Software	Audix	e3	Software Version: 9.160323		

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

4.1.1 Normal or Extreme Test Conditions

Environment Parameter	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
NT/NV	+15 to +35	3.7	20 to 75
Remark: 1) NV: Normal Voltage; NT: Normal Temperature			

4.1.2 Record of Normal Environment

Test Item	Temperature (°C)	Relative Humidity (%)	Pressure (kPa)	Tested by
AC Power Line Conducted Emission	24.2	44	100.2	Bert Xiong
Radiated Spurious Emissions	25.2	52	100.02	Fire Huo

4.2 TEST CHANNELS

Mode	Tx/Rx Frequency	Test RF Channel Lists		
		Lowest(L)	Middle(M)	Highest(H)
IEEE 802.11b	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz
IEEE 802.11g	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz
IEEE 802.11n-HT20	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz

4.3 EUT TEST STATUS

Mode	Tx Function	Description
IEEE 802.11b IEEE 802.11g IEEE 802.11n-HT20	1Tx	1. Keep the EUT in continuously transmitting with modulation test single.

Test Software
Test software name: CMD command ;

4.4 TEST SETUP

4.4.1 For Radiated Emissions test setup

Figure 1. Below 30MHz

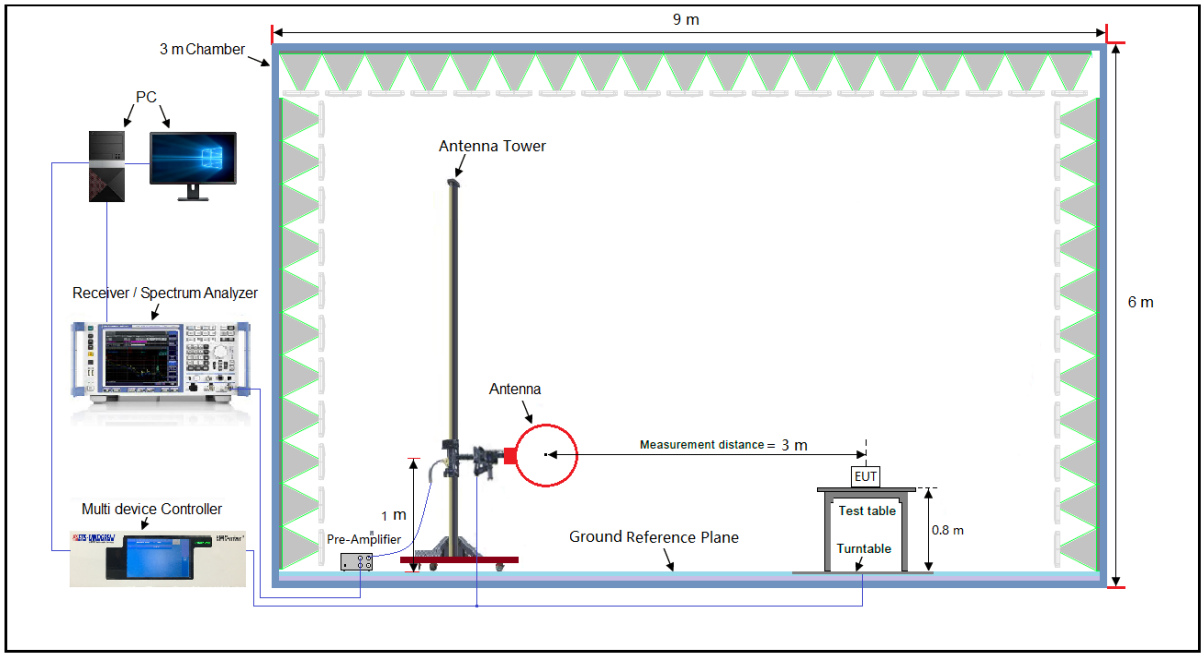


Figure 2. 30MHz to 1GHz

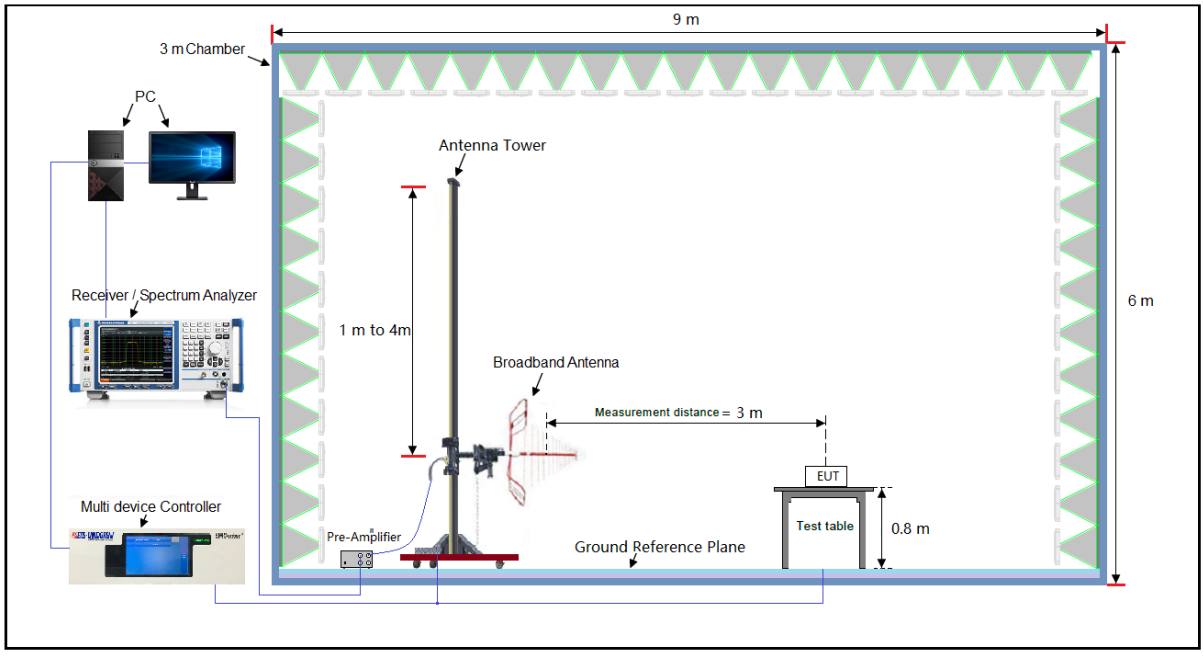
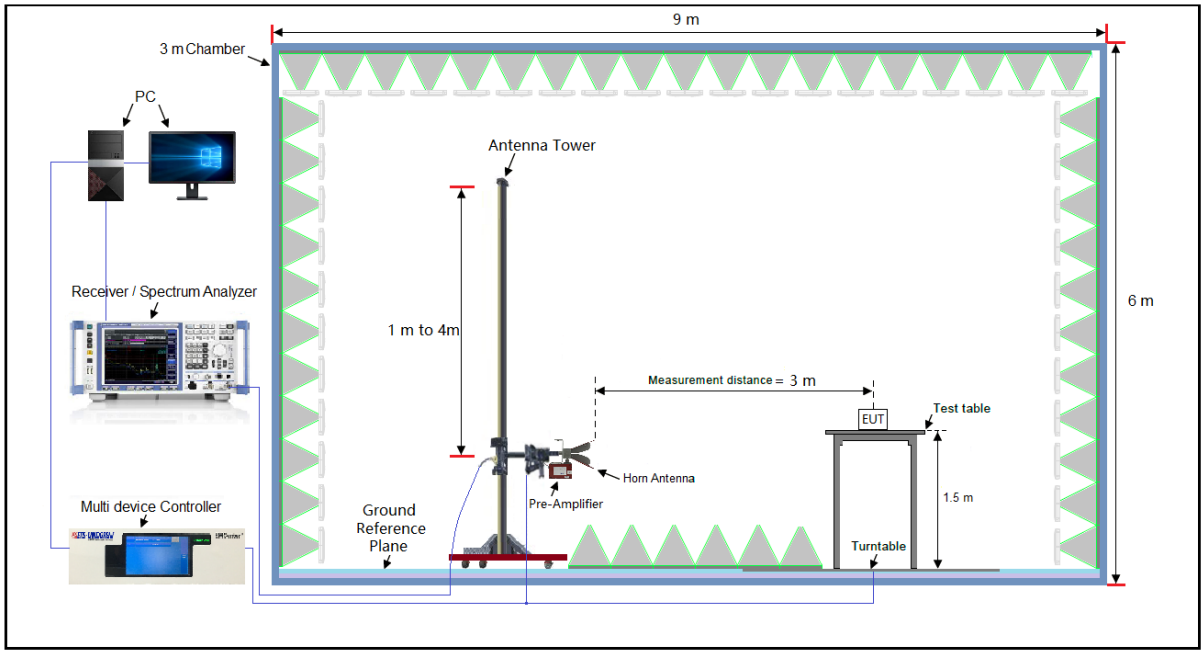
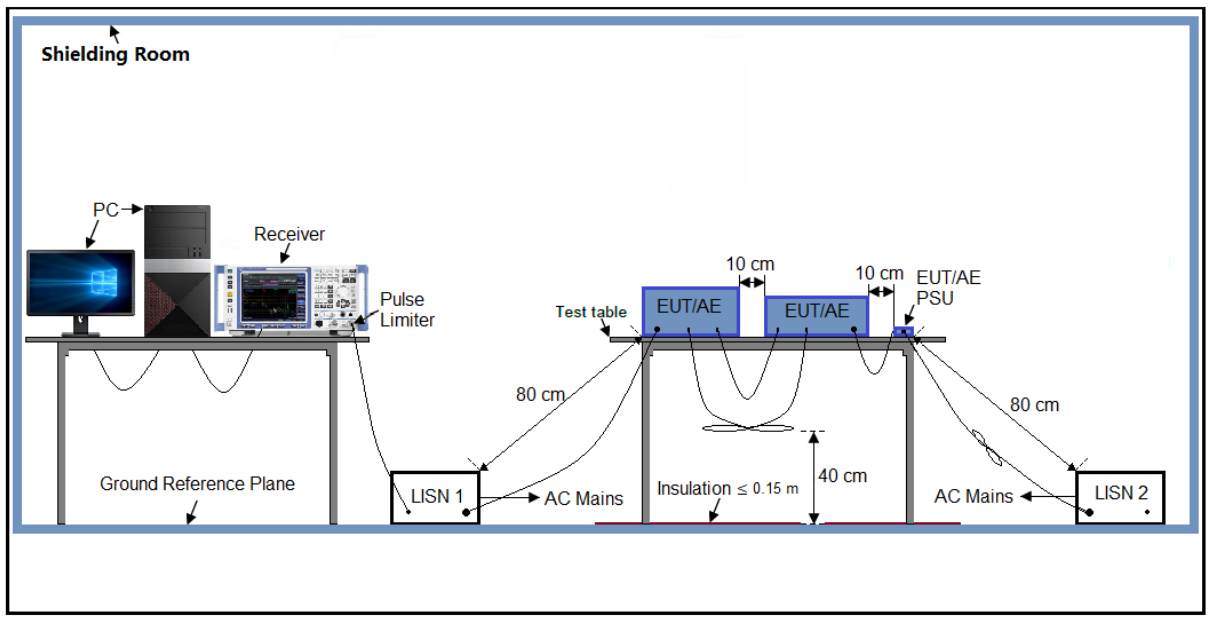


Figure 3. Above 1GHz



4.4.2 For Conducted Emissions test setup



4.5 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. It was powered by a 3.7V battery. Only the worst case data were recorded in this test report.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. Therefore, all final radiated testing was performed with the EUT in (see table below) orientation.

Frequency	Mode	Antenna Port	Worst-case axis positioning
Above 1GHz	1TX	Chain 0	Z axis

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 15	Radio Frequency Devices
3	RSS-247 Issue 2	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
4	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
5	ANSI C63.10-2013	American National Standard for Testing Unlicesed Wireless Devices
6	KDB 558074 D01 15.247 Meas Guidance v05r02	Guidance for compliance measurements on Digital Transmission Systems, Frequency Hopping Spread Spectrum system, and Hybrid system devices operating under Section 15.247 of the FCC rules

5.2 RADIATED SPURIOUS EMISSIONS

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.205/15.209
RSS-Gen Issue 5, Section 6.13/8.9/8.10

Test Method: ANSI C63.10-2013 Clause 11.11 & Clause 11.12

Receiver Setup:

Frequency	RBW
0.009 MHz-0.150 MHz	200/300 kHz
0.150 MHz -30 MHz	9/10 kHz
30 MHz-1 GHz	100/120 kHz
Above 1 GHz	1 MHz

Limits:

Spurious Emissions

Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009 MHz-0.490 MHz	2400/F(kHz)	--	--	300
0.490 MHz-1.705 MHz	24000/F(kHz)	--	--	30
1.705 MHz-30 MHz	30	--	--	30
30 MHz-88 MHz	100	40.0	Quasi-peak	3
88 MHz-216 MHz	150	43.5	Quasi-peak	3
216 MHz-960 MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1 GHz	500	54.0	Average	3

Remark:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Test Setup: Refer to section 4.5.1 for details.

Test Procedures:

1. From 30 MHz to 1GHz test procedure as below:

1) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3) The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rota table table was turned from 0 degrees to 360 degrees to find the maximum reading.
5) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

2. Above 1GHz test procedure as below:

1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table

is 1.5 meter).

2) Test the EUT in the lowest channel ,middle channel, the Highest channel
3) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the Z axis positioning which it is worse case.
4) Repeat above procedures until all frequencies measured was complete.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

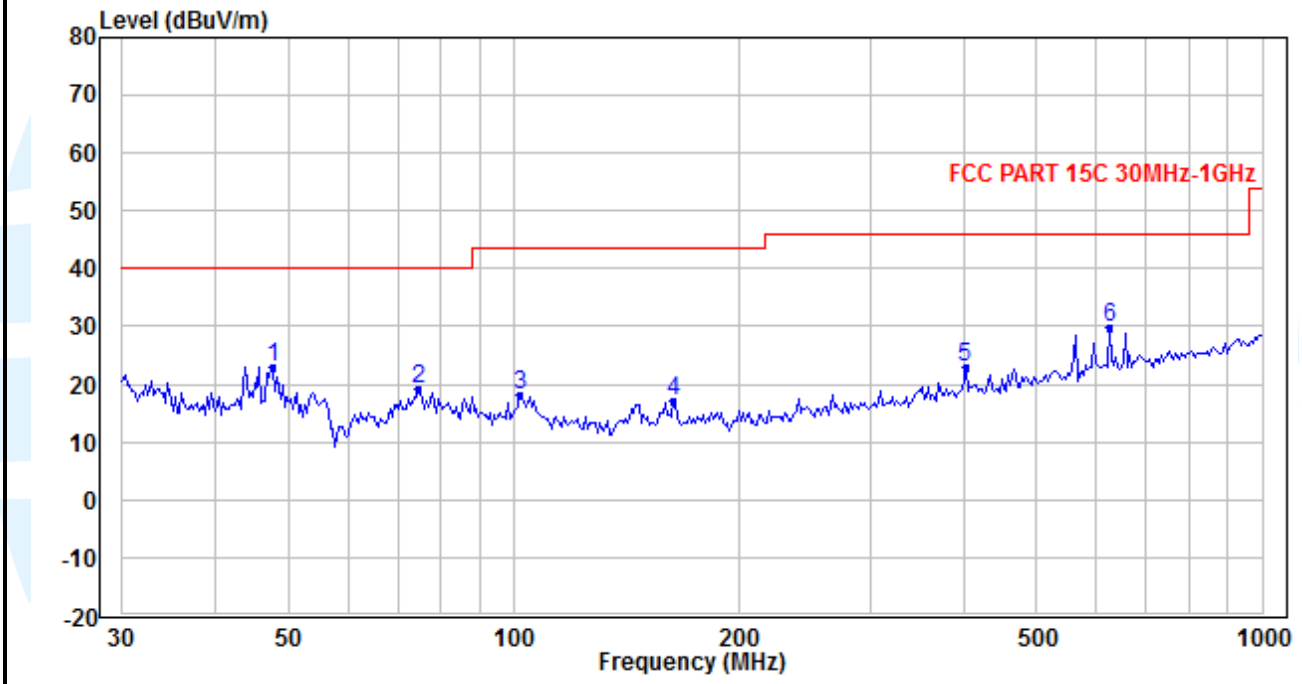
The measurement data as follows:

Radiated Emission Test Data (9 KHz ~ 30 MHz):
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

Radiated Emission Test Data (30 MHz ~ 1 GHz):

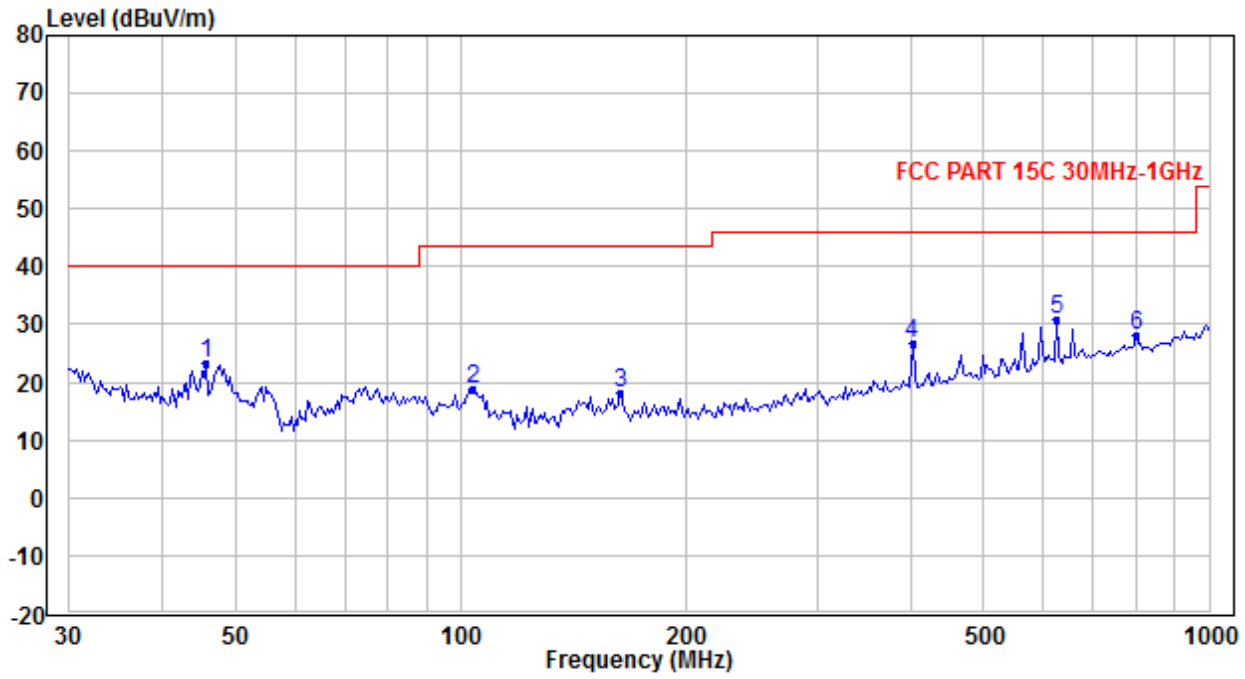
Worst-Case Configuration

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.703	36.20	-13.08	23.12	40.00	-16.88	QP
2	74.793	32.56	-13.33	19.23	40.00	-20.77	QP
3	101.893	29.95	-11.77	18.18	43.50	-25.32	QP
4	163.162	27.55	-10.49	17.06	43.50	-26.44	QP
5	401.105	27.96	-4.95	23.01	46.00	-22.99	QP
6	624.490	30.62	-0.86	29.76	46.00	-16.24	QP

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	45.733	36.02	-12.66	23.36	40.00	-16.64	QP
2	104.064	30.84	-11.98	18.86	43.50	-24.64	QP
3	163.162	28.79	-10.49	18.30	43.50	-25.20	QP
4	401.105	31.68	-4.95	26.73	46.00	-19.27	QP
5	624.490	31.68	-0.86	30.82	46.00	-15.18	QP
6	798.620	26.43	1.57	28.00	46.00	-18.00	QP

Radiated Emission Test Data (Above 1GHz):

IEEE 802.11b_ Channel 1:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4824.00	39.07	3.95	43.02	74.00	-30.98	Peak	Horizontal
2	4824.00	28.30	3.95	32.25	54.00	-21.75	Average	Horizontal
3	7236.00	42.83	6.82	49.65	74.00	-24.35	Peak	Horizontal
4	7236.00	30.61	6.82	37.43	54.00	-16.57	Average	Horizontal
5	4824.00	40.65	4.95	45.60	74.00	-28.40	Peak	Vertical
6	4824.00	29.55	4.95	34.50	54.00	-19.50	Average	Vertical
7	7236.00	41.79	6.38	48.17	74.00	-25.83	Peak	Vertical
8	7236.00	31.06	6.38	37.44	54.00	-16.56	Average	Vertical

IEEE 802.11b_ Channel 6:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4874.00	38.79	3.99	42.78	74.00	-31.22	Peak	Horizontal
2	4874.00	28.17	3.99	32.16	54.00	-21.84	Average	Horizontal
3	7311.00	44.23	6.96	51.19	74.00	-22.81	Peak	Horizontal
4	7311.00	31.09	6.96	38.05	54.00	-15.95	Average	Horizontal
5	4874.00	39.22	4.99	44.21	74.00	-29.79	Peak	Vertical
6	4874.00	28.83	4.99	33.82	54.00	-20.18	Average	Vertical
7	7311.00	42.95	6.47	49.42	74.00	-24.58	Peak	Vertical
8	7311.00	31.02	6.47	37.49	54.00	-16.51	Average	Vertical

IEEE 802.11b_ Channel 11:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4924.00	39.36	4.03	43.39	74.00	-30.61	Peak	Horizontal
2	4924.00	27.60	4.03	31.63	54.00	-22.37	Average	Horizontal
3	7386.00	41.47	7.09	48.56	74.00	-25.44	Peak	Horizontal
4	7386.00	29.38	7.09	36.47	54.00	-17.53	Average	Horizontal
5	4924.00	38.71	5.03	43.74	74.00	-30.26	Peak	Vertical
6	4924.00	28.01	5.03	33.04	54.00	-20.96	Average	Vertical
7	7386.00	40.11	6.56	46.67	74.00	-27.33	Peak	Vertical
8	7386.00	30.18	6.56	36.74	54.00	-17.26	Average	Vertical

IEEE 802.11g_ Channel 1:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4824.00	39.64	3.95	43.59	74.00	-30.41	Peak	Horizontal
2	4824.00	28.14	3.95	32.09	54.00	-21.91	Average	Horizontal
3	7236.00	41.90	6.82	48.72	74.00	-25.28	Peak	Horizontal
4	7236.00	30.61	6.82	37.43	54.00	-16.57	Average	Horizontal
5	4824.00	39.86	4.95	44.81	74.00	-29.19	Peak	Vertical
6	4824.00	29.30	4.95	34.25	54.00	-19.75	Average	Vertical
7	7236.00	41.99	6.38	48.37	74.00	-25.63	Peak	Vertical
8	7236.00	30.85	6.38	37.23	54.00	-16.77	Average	Vertical

IEEE 802.11g_ Channel 6:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4874.00	38.39	3.99	42.38	74.00	-31.62	Peak	Horizontal
2	4874.00	28.45	3.99	32.44	54.00	-21.56	Average	Horizontal
3	7311.00	42.26	6.96	49.22	74.00	-24.78	Peak	Horizontal
4	7311.00	30.68	6.96	37.64	54.00	-16.36	Average	Horizontal
5	4874.00	40.30	4.99	45.29	74.00	-28.71	Peak	Vertical
6	4874.00	29.03	4.99	34.02	54.00	-19.98	Average	Vertical
7	7311.00	43.17	6.47	49.64	74.00	-24.36	Peak	Vertical
8	7311.00	30.69	6.47	37.16	54.00	-16.84	Average	Vertical

IEEE 802.11g_ Channel 11:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4924.00	39.42	4.03	43.45	74.00	-30.55	Peak	Horizontal
2	4924.00	27.72	4.03	31.75	54.00	-22.25	Average	Horizontal
3	7386.00	41.70	7.09	48.79	74.00	-25.21	Peak	Horizontal
4	7386.00	29.43	7.09	36.52	54.00	-17.48	Average	Horizontal
5	4924.00	39.42	5.03	44.45	74.00	-29.55	Peak	Vertical
6	4924.00	27.66	5.03	32.69	54.00	-21.31	Average	Vertical
7	7386.00	40.08	6.56	46.64	74.00	-27.36	Peak	Vertical
8	7386.00	29.24	6.56	35.80	54.00	-18.20	Average	Vertical

IEEE 802.11n-HT20_ Channel 1:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4824.00	39.64	3.95	43.59	74.00	-30.41	Peak	Horizontal
2	4824.00	28.19	3.95	32.14	54.00	-21.86	Average	Horizontal
3	7236.00	42.29	6.82	49.11	74.00	-24.89	Peak	Horizontal
4	7236.00	30.44	6.82	37.26	54.00	-16.74	Average	Horizontal
5	4824.00	41.42	4.95	46.37	74.00	-27.63	Peak	Vertical
6	4824.00	29.15	4.95	34.10	54.00	-19.90	Average	Vertical
7	7236.00	42.51	6.38	48.89	74.00	-25.11	Peak	Vertical
8	7236.00	30.94	6.38	37.32	54.00	-16.68	Average	Vertical

IEEE 802.11n-HT20_ Channel 6:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4874.00	41.06	3.99	45.05	74.00	-28.95	Peak	Horizontal
2	4874.00	28.40	3.99	32.39	54.00	-21.61	Average	Horizontal
3	7311.00	42.30	6.96	49.26	74.00	-24.74	Peak	Horizontal
4	7311.00	31.67	6.96	38.63	54.00	-15.37	Average	Horizontal
5	4874.00	40.13	4.99	45.12	74.00	-28.88	Peak	Vertical
6	4874.00	29.28	4.99	34.27	54.00	-19.73	Average	Vertical
7	7311.00	41.50	6.47	47.97	74.00	-26.03	Peak	Vertical
8	7311.00	31.10	6.47	37.57	54.00	-16.43	Average	Vertical

IEEE 802.11n-HT20_ Channel 11:

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4924.00	38.39	4.03	42.42	74.00	-31.58	Peak	Horizontal
2	4924.00	27.29	4.03	31.32	54.00	-22.68	Average	Horizontal
3	7386.00	40.92	7.09	48.01	74.00	-25.99	Peak	Horizontal
4	7386.00	28.67	7.09	35.76	54.00	-18.24	Average	Horizontal
5	4924.00	38.56	5.03	43.59	74.00	-30.41	Peak	Vertical
6	4924.00	27.66	5.03	32.69	54.00	-21.31	Average	Vertical
7	7386.00	40.79	6.56	47.35	74.00	-26.65	Peak	Vertical
8	7386.00	29.58	6.56	36.14	54.00	-17.86	Average	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

5.3 CONDUCTED EMISSION

Test Requirement: 47 CFR Part 15C Section 15.207
RSS-Gen Issue 5, Section 8.8

Test Method: ANSI C63.10-2013 Section 6.2

Limits:

Frequency range (MHz)	Limits (dB(μV))	
	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

Remark:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

Test Setup: Refer to section 4.5.2 for details.

Test Procedures:

Test frequency range :150KHz-30MHz

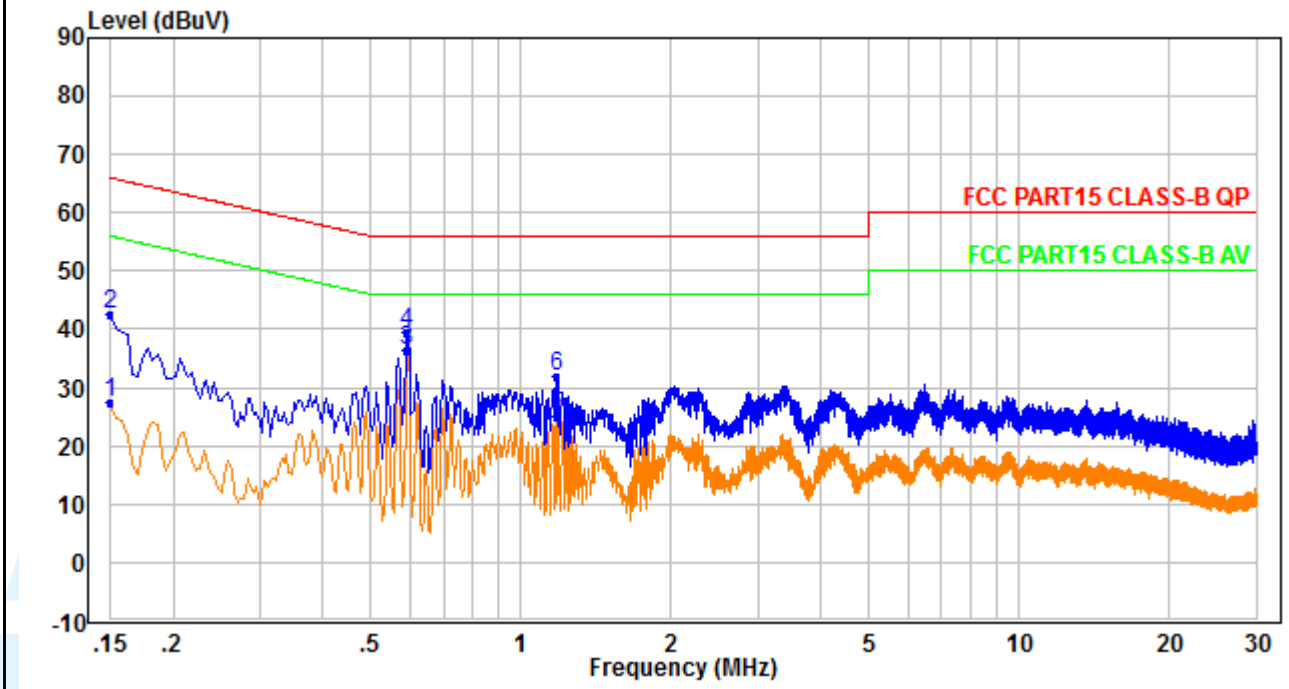
1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

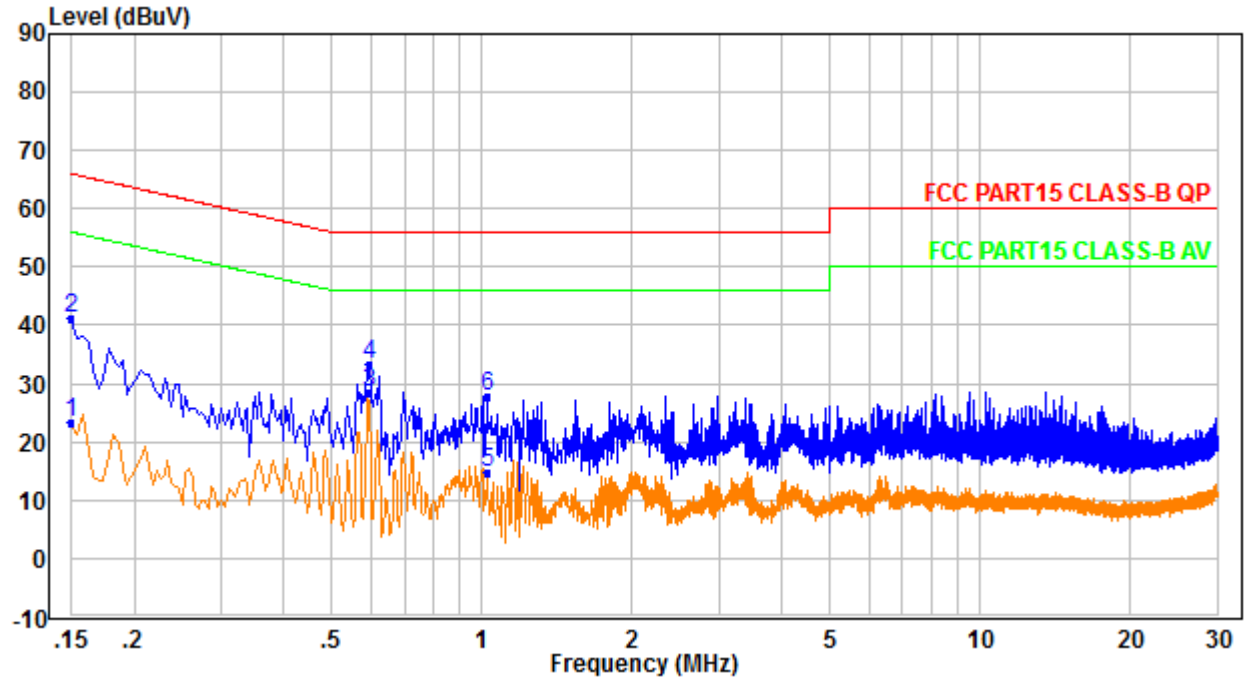
The measurement data as follows:
Quasi Peak and Average:
Mode: WIFI Link

Live Line



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.150	17.56	10.04	27.60	56.00	-28.40	Average
2	0.150	32.56	10.04	42.60	66.00	-23.40	QP
3	0.590	26.48	10.00	36.48	46.00	-9.52	Average
4	0.590	29.48	10.00	39.48	56.00	-16.52	QP
5	1.182	14.81	10.11	24.92	46.00	-21.08	Average
6	1.182	21.81	10.11	31.92	56.00	-24.08	QP

Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.150	13.34	10.01	23.35	56.00	-32.65	Average
2	0.150	31.34	10.01	41.35	66.00	-24.65	QP
3	0.594	18.39	9.98	28.37	46.00	-17.63	Average
4	0.594	23.39	9.98	33.37	56.00	-22.63	QP
5	1.026	4.77	10.07	14.84	46.00	-31.16	Average
6	1.026	17.77	10.07	27.84	56.00	-28.16	QP

Remark:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result - Limit
4. An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***