FCC Test Report

Report No.:	RF161108C06
FCC ID:	TX2-RTL8822BE
Test Model:	RTL8822BE
Received Date:	Nov. 08, 2016
Test Date:	Nov. 14, 2016 ~ Nov. 23, 2016
Issued Date:	Dec. 14, 2016
Applicant:	Realtek Semiconductor Corp.
Address:	No. 2, Innivation Road II, Hsinchu Science Park, Hsinchu 300,Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location (1):	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.
Test Location (2):	No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF161108C06	Original Release	Dec. 14, 2016

1 Certificate of Conformity

Product:	802.11a/b/g/n/ac/ RTL8822BE Combo module
Brand:	REALTEK
Test Model:	RTL8822BE
Sample Status:	Production Unit
Applicant:	Realtek Semiconductor Corp.
Test Date:	Nov. 14, 2016 ~ Nov. 23, 2016
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Vera Huang , **Date:** Dec. 14, 2016

Vera Huang / Specialist

Approved by : Stanley Wu , **Date:** Dec. 14, 2016

Stanley Wu / Assistant Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -13.43 dB at 0.18910 MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -5.32 dB at 799.1 MHz.
15.247(d)	Antenna Port Emission	N/A	Refer to Note
15.247(a)(2)	6 dB Bandwidth	N/A	Refer to Note
15.247(b)	Conducted power	N/A	Refer to Note
15.247(e)	Power Spectral Density	N/A	Refer to Note
15.203	Antenna Requirement	N/A	Refer to Note

Note: Only test item of conducted and radiated emissions were performed for this report. Other testing data is referring to SPORTON module report (Test Report No.: FR651715AA, Issue Date: Aug. 19, 2016).

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:
The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	**Frequency**	**Expended Uncertainty (k=2) (±)**
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11a/b/g/n/ac/ RTL8822BE Combo module
Brand	REALTEK
Test Model	RTL8822BE
Status of EUT	Production Unit
Power Supply Rating	20.0 Vdc (adapter) 15.2 Vdc (Li-ion battery)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to MCS7
Operating Frequency	2412 ~ 2462 MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT is installed in Tablet computer (Brand: Lenovo, Model: TP00078B).
2. The antenna information is listed as below.

Ant. Type	Manufacture	Parts Number	Antenna Gain			
			WLAN 2.4GHz	WLAN 5.15~5.35GHz	WLAN 5.47~5.725GHz	WLAN 5.725~5.85GHz
PIFA	HUA CHENG TECHNOLOGY Co., Ltd.	WLAN Main Antenna: DC33001WO00 WLAN Aux. Antenna: DC33001WO10	Main: -2.87 Aux.: -3.67	Main: -0.41 Aux.: -0.33	Main: -0.77 Aux.: -0.30	Main: -1.04 Aux.: -0.36
PIFA	Pulse electronics (Singapore) Pte Ltd Taiwan Branch	WLAN Main Antenna: DC330020100 WLAN Aux Antenna: DC330020110	Main: -3.29 Aux.: -3.31	Main: -0.65 Aux.: -3.14	Main: -1.4 Aux.: -1.99	Main: -1.52 Aux.: -1.74

3. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	Lenovo	ADLX65NDC3A	I/P: 100-240 Vac, 50-60 Hz, 1.5 A O/P: 20 Vdc, 3.25 A
Battery	Lenovo	SB10K97590	15.28 Vdc, 3.34 Ah

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437		

7 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	7	2442
4	2427	8	2447
5	2432	9	2452
6	2437		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To			Description
	RE≥1G	RE<1G	PLC	
A	√	-	√	SISO
B	√	√	√	MIMO

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission

NOTE: "-"means no effect.

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
B	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	802.11n (HT40)	3 to 09	9	OFDM	BPSK	MCS0

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	802.11n (HT40)	1 to 11	9	OFDM	BPSK	MCS0

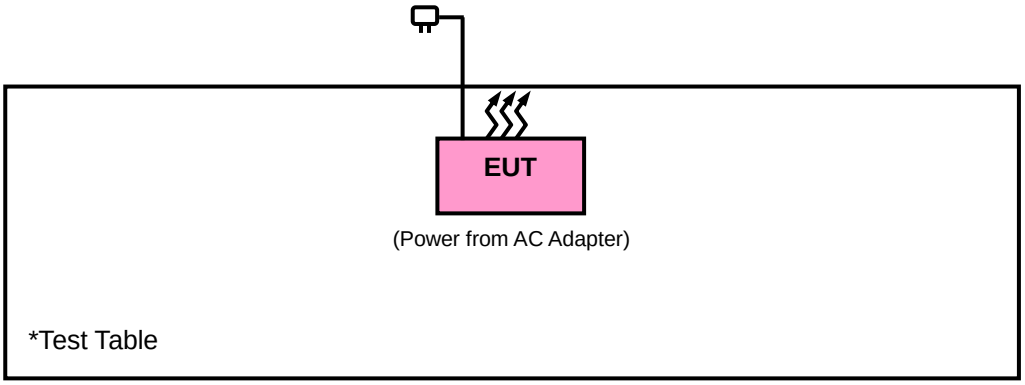
Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Toby Tian

3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)
558074 D01 DTS Meas Guidance v03r05
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

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

NOTE:

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.

4.1.2 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Jun. 21, 2016	Jun. 20, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2015	Dec. 16, 2016
HORN Antenna ETS-Lindgren	3117	00143293	Jan. 04, 2016	Jan. 03, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Jan. 04, 2016	Jan. 03, 2017
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017
Bluetooth Tester	CBT	100980	Apr. 27, 2015	Apr. 26, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier Agilent	310N	187226	Jun. 24, 2016	Jun. 23, 2017
Preamplifier Agilent	83017A	MY39501357	Jun. 24, 2016	Jun. 23, 2017
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 24, 2016	Jun. 23, 2017
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 24, 2016	Jun. 23, 2017
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HsinTien Chamber 1.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The FCC Site Registration No. is 149147.
5. The IC Site Registration No. is IC7450I-1.

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The height of antenna 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.
d. 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

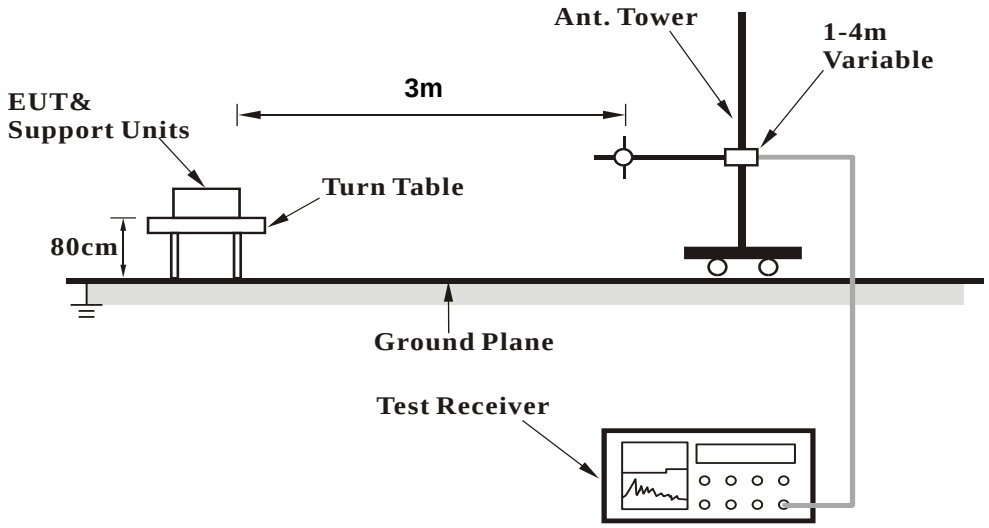
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 KHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for RMS Average (Duty cycle < 98 %) for Peak detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

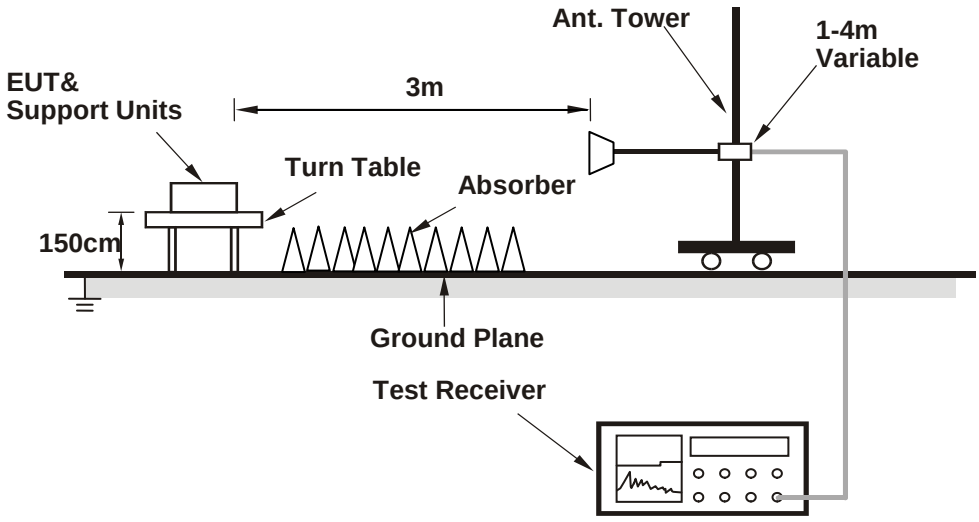
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1 GHz Data：

Mode A

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2349.15	53.8	52.23	74	-20.2	31.74	5.33	35.5	100	212	Peak
2387.04	43.47	41.76	54	-10.53	31.8	5.4	35.49	100	212	Average
2412	101.39	99.62			31.81	5.43	35.47	100	212	Average
2412	104.98	103.21			31.81	5.43	35.47	100	212	Peak
4824	41.43	33.3	54	-12.57	33.97	8.26	34.1	145	254	Average
4824	47.43	39.3	74	-26.57	33.97	8.26	34.1	145	254	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2386.5	44.24	42.53	54	-9.76	31.8	5.4	35.49	115	264	Average
2387.04	54.1	52.39	74	-19.9	31.8	5.4	35.49	115	264	Peak
2412	100.56	98.79			31.81	5.43	35.47	115	264	Average
2412	103.4	101.63			31.81	5.43	35.47	115	264	Peak
4824	41.52	33.39	54	-12.48	33.97	8.26	34.1	179	310	Average
4824	47.3	39.17	74	-26.7	33.97	8.26	34.1	179	310	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2359.86	52.25	50.62	74	-21.75	31.76	5.37	35.5	100	212	Peak
2364.9	41.35	39.71	54	-12.65	31.76	5.37	35.49	100	212	Average
2437	101.48	99.63			31.85	5.46	35.46	100	212	Average
2437	104	102.15			31.85	5.46	35.46	100	212	Peak
2491.4	53.01	51	74	-20.99	31.9	5.53	35.42	100	212	Peak
2497.48	41.05	39.03	54	-12.95	31.9	5.53	35.41	100	212	Average
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2383.89	53.36	51.67	74	-20.64	31.78	5.4	35.49	115	264	Peak
2389.47	42.03	40.32	54	-11.97	31.8	5.4	35.49	115	264	Average
2437	100.59	98.74			31.85	5.46	35.46	115	264	Average
2437	103.17	101.32			31.85	5.46	35.46	115	264	Peak
2483.92	41.13	39.17	54	-12.87	31.88	5.5	35.42	115	264	Average
2486.84	52.93	50.94	74	-21.07	31.88	5.53	35.42	115	264	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	101.41	99.48			31.87	5.5	35.44	156	195	Average
2462	104.19	102.26			31.87	5.5	35.44	156	195	Peak
2486.72	41.4	39.41	54	-12.6	31.88	5.53	35.42	156	195	Average
2499.44	52.71	50.69	74	-21.29	31.9	5.53	35.41	156	195	Peak
4924	41.72	33.47	54	-12.28	33.99	8.28	34.02	101	66	Average
4924	47.34	39.09	74	-26.66	33.99	8.28	34.02	101	66	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	100.11	98.18			31.87	5.5	35.44	115	264	Average
2462	103.42	101.49			31.87	5.5	35.44	115	264	Peak
2492.32	52.02	50	74	-21.98	31.9	5.53	35.41	115	264	Peak
2496.36	41.25	39.23	54	-12.75	31.9	5.53	35.41	115	264	Average
4924	41.49	33.24	54	-12.51	33.99	8.28	34.02	165	109	Average
4924	47.47	39.22	74	-26.53	33.99	8.28	34.02	165	109	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.

Mode B

802.11g

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2388.3	53.47	51.76	74	-20.53	31.8	5.4	35.49	101	144	Peak
2389.29	42.49	40.78	54	-11.51	31.8	5.4	35.49	101	144	Average
2412	96.95	95.18			31.81	5.43	35.47	101	144	Average
2412	103.94	102.17			31.81	5.43	35.47	101	144	Peak
4824	40.42	32.29	54	-13.58	33.97	8.26	34.1	105	147	Average
4824	48.91	40.78	74	-25.09	33.97	8.26	34.1	105	147	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.29	53.77	52.06	74	-20.23	31.8	5.4	35.49	101	266	Peak
2389.74	42.51	40.8	54	-11.49	31.8	5.4	35.49	101	266	Average
2412	95.69	93.92			31.81	5.43	35.47	101	266	Average
2412	102.56	100.79			31.81	5.43	35.47	101	266	Peak
4824	40.62	32.49	54	-13.38	33.97	8.26	34.1	148	99	Average
4824	48.08	39.95	74	-25.92	33.97	8.26	34.1	148	99	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2336.73	52.43	50.88	74	-21.57	31.74	5.33	35.52	101	144	Peak
2359.77	41.54	39.91	54	-12.46	31.76	5.37	35.5	101	144	Average
2437	97.59	95.74			31.85	5.46	35.46	101	144	Average
2437	104.27	102.42			31.85	5.46	35.46	101	144	Peak
2484.28	52.59	50.6	74	-21.41	31.88	5.53	35.42	101	144	Peak
2488.8	41.08	39.07	54	-12.92	31.9	5.53	35.42	101	144	Average
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2357.16	52.25	50.62	74	-21.75	31.76	5.37	35.5	101	266	Peak
2389.74	41.37	39.66	54	-12.63	31.8	5.4	35.49	101	266	Average
2437	96.45	94.6			31.85	5.46	35.46	101	266	Average
2437	103.69	101.84			31.85	5.46	35.46	101	266	Peak
2484.8	52.49	50.5	74	-21.51	31.88	5.53	35.42	101	266	Peak
2489.8	41.19	39.18	54	-12.81	31.9	5.53	35.42	101	266	Average

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	96.47	94.54			31.87	5.5	35.44	101	144	Average
2462	103.86	101.93			31.87	5.5	35.44	101	144	Peak
2483.56	42.46	40.5	54	-11.54	31.88	5.5	35.42	166	144	Average
2484.12	54.32	52.36	74	-19.68	31.88	5.5	35.42	166	144	Peak
4924	41.24	32.99	54	-12.76	33.99	8.28	34.02	130	335	Average
4924	47.53	39.28	74	-26.47	33.99	8.28	34.02	130	335	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	95.25	93.32			31.87	5.5	35.44	101	266	Average
2462	102.43	100.5			31.87	5.5	35.44	101	266	Peak
2483.68	41.98	40.02	54	-12.02	31.88	5.5	35.42	101	266	Average
2483.96	54.16	52.2	74	-19.84	31.88	5.5	35.42	101	266	Peak
4924	41.1	32.85	54	-12.9	33.99	8.28	34.02	154	118	Average
4924	47.75	39.5	74	-26.25	33.99	8.28	34.02	154	118	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.65	53.49	51.78	74	-20.51	31.8	5.4	35.49	101	144	Peak
2389.92	42.57	40.84	54	-11.43	31.8	5.4	35.47	101	144	Average
2412	95.5	93.73			31.81	5.43	35.47	101	144	Average
2412	102.47	100.7			31.81	5.43	35.47	101	144	Peak
4824	40.3	32.17	54	-13.7	33.97	8.26	34.1	155	339	Average
4824	47.83	39.7	74	-26.17	33.97	8.26	34.1	155	339	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2380.47	52.33	50.64	74	-21.67	31.78	5.4	35.49	130	269	Peak
2389.92	41.31	39.58	54	-12.69	31.8	5.4	35.47	130	269	Average
2412	93.4	91.63			31.81	5.43	35.47	130	269	Average
2412	101.6	99.83			31.81	5.43	35.47	130	269	Peak
4824	40.43	32.3	54	-13.57	33.97	8.26	34.1	105	155	Average
4824	47.76	39.63	74	-26.24	33.97	8.26	34.1	105	155	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2384.34	41.49	39.8	54	-12.51	31.78	5.4	35.49	100	144	Average
2384.97	52.95	51.26	74	-21.05	31.78	5.4	35.49	100	144	Peak
2437	96.45	94.6			31.85	5.46	35.46	100	144	Average
2437	103.58	101.73			31.85	5.46	35.46	100	144	Peak
2486.52	41.34	39.35	54	-12.66	31.88	5.53	35.42	100	144	Average
2496.44	52.83	50.81	74	-21.17	31.9	5.53	35.41	100	144	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2361.03	52.8	51.17	74	-21.2	31.76	5.37	35.5	101	266	Peak
2386.32	41.34	39.63	54	-12.66	31.8	5.4	35.49	101	266	Average
2437	95.67	93.82			31.85	5.46	35.46	101	266	Average
2437	102.8	100.95			31.85	5.46	35.46	101	266	Peak
2486.72	52.1	50.11	74	-21.9	31.88	5.53	35.42	101	266	Peak
2497.64	41.2	39.18	54	-12.8	31.9	5.53	35.41	101	266	Average

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	95.26	93.33			31.87	5.5	35.44	100	124	Average
2462	102.96	101.03			31.87	5.5	35.44	100	124	Peak
2483.64	53.11	51.15	74	-20.89	31.88	5.5	35.42	100	124	Peak
2483.8	42.47	40.51	54	-11.53	31.88	5.5	35.42	100	124	Average
4924	40.39	32.14	54	-13.61	33.99	8.28	34.02	147	111	Average
4924	47.44	39.19	74	-26.56	33.99	8.28	34.02	147	111	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	94.01	92.08			31.87	5.5	35.44	101	266	Average
2462	101.58	99.65			31.87	5.5	35.44	101	266	Peak
2483.56	41.79	39.83	54	-12.21	31.88	5.5	35.42	101	266	Average
2496.48	52.3	50.28	74	-21.7	31.9	5.53	35.41	101	266	Peak
4924	40.82	32.57	54	-13.18	33.99	8.28	34.02	103	349	Average
4924	47	38.75	74	-27	33.99	8.28	34.02	103	349	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 3	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2388.57	53.66	51.95	74	-20.34	31.8	5.4	35.49	101	124	Peak
2389.92	44.18	42.45	54	-9.82	31.8	5.4	35.47	101	124	Average
2422	93.41	91.61			31.83	5.43	35.46	101	153	Average
2422	100.86	99.06			31.83	5.43	35.46	101	153	Peak
2487.64	52.13	50.12	74	-21.87	31.9	5.53	35.42	101	153	Peak
2497.04	41.4	39.38	54	-12.6	31.9	5.53	35.41	101	153	Average
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.29	52.75	51.04	74	-21.25	31.8	5.4	35.49	130	269	Peak
2389.92	41.98	40.25	54	-12.02	31.8	5.4	35.47	130	269	Average
2422	92.74	90.94			31.83	5.43	35.46	130	269	Average
2422	99.17	97.37			31.83	5.43	35.46	130	269	Peak
2484.48	53.25	51.26	74	-20.75	31.88	5.53	35.42	130	269	Peak
2498.68	41.17	39.15	54	-12.83	31.9	5.53	35.41	130	269	Average

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2422 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.2	54.26	52.55	74	-19.74	31.8	5.4	35.49	101	144	Peak
2389.29	42.22	40.51	54	-11.78	31.8	5.4	35.49	101	144	Average
2437	94.97	93.12			31.85	5.46	35.46	101	144	Average
2437	101.5	99.65			31.85	5.46	35.46	101	144	Peak
2483.52	42.92	40.96	54	-11.08	31.88	5.5	35.42	101	144	Average
2483.8	54.43	52.47	74	-19.57	31.88	5.5	35.42	101	144	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2386.23	53.06	51.35	74	-20.94	31.8	5.4	35.49	101	266	Peak
2389.92	42.07	40.34	54	-11.93	31.8	5.4	35.47	101	266	Average
2437	93.47	91.62			31.85	5.46	35.46	101	266	Average
2437	100.07	98.22			31.85	5.46	35.46	101	266	Peak
2484.2	41.46	39.47	54	-12.54	31.88	5.53	35.42	101	266	Average
2487.2	53.1	51.11	74	-20.9	31.88	5.53	35.42	101	266	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 9	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.74	52.17	50.46	74	-21.83	31.8	5.4	35.49	100	124	Peak
2389.92	41.12	39.39	54	-12.88	31.8	5.4	35.47	100	124	Average
2452	93.86	91.99			31.85	5.46	35.44	100	124	Average
2452	100.55	98.68			31.85	5.46	35.44	100	124	Peak
2483.72	47.38	45.42	54	-6.62	31.88	5.5	35.42	112	135	Average
2487.76	58.22	56.21	74	-15.78	31.9	5.53	35.42	112	135	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2352.84	51.66	50.07	74	-22.34	31.76	5.33	35.5	101	266	Peak
2388.39	41.27	39.56	54	-12.73	31.8	5.4	35.49	101	266	Average
2452	92	90.13			31.85	5.46	35.44	101	266	Average
2452	99.16	97.29			31.85	5.46	35.44	101	266	Peak
2485.6	41.3	39.31	54	-12.7	31.88	5.53	35.42	101	266	Average
2489.2	52.49	50.48	74	-21.51	31.9	5.53	35.42	101	266	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2452 MHz: Fundamental frequency.

9 kHz ~ 30 MHz DATA:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz WORST-CASE DATA:

Mode B

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 9	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
142.32	22.25	43.66	43.5	-21.25	9.48	1.38	32.27	125	55	Peak
168.24	22.53	43.1	43.5	-20.97	10.15	1.52	32.24	113	329	Peak
238.98	22.14	39.89	46	-23.86	12.54	1.85	32.14	178	177	Peak
531	35.09	43.94	46	-10.91	20.61	2.7	32.16	108	88	Peak
799.1	**40.68**	**44.82**	**46**	**-5.32**	**24.6**	**3.32**	**32.06**	**140**	**136**	**Peak**
895.7	39.55	42.61	46	-6.45	24.96	3.49	31.51	187	25	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
30.81	28.54	42.87	40	-11.46	17.19	0.74	32.26	128	248	Peak
129.36	25.41	47.09	43.5	-18.09	9.17	1.38	32.23	129	336	Peak
169.86	21.48	42.2	43.5	-22.02	10	1.52	32.24	152	24	Peak
531	39.64	48.49	46	-6.36	20.61	2.7	32.16	150	306	Peak
666.1	32.13	38.3	46	-13.87	22.97	2.99	32.13	128	172	Peak
797.7	35.33	39.65	46	-10.67	24.42	3.32	32.06	179	330	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1.The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.2.2 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 24, 2016	Oct. 23, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

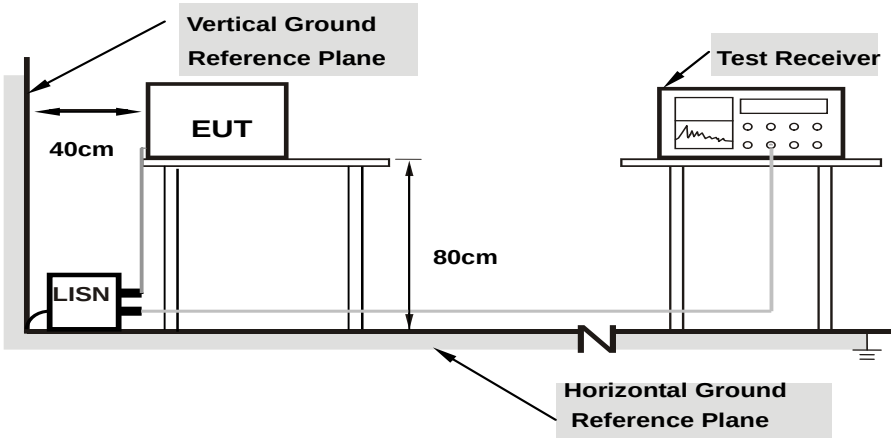
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.2.7 Test Results

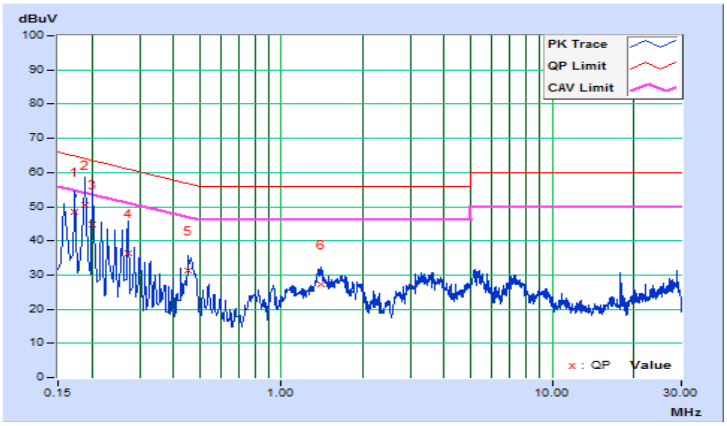
Mode B

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/11/14

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17346	10.02	38.57	22.45	48.59	32.47	64.79	54.79	-16.20	-22.32
2	**0.18910**	**10.03**	**40.62**	**21.76**	**50.65**	**31.79**	**64.08**	**54.08**	**-13.43**	**-22.29**
3	0.20031	10.03	34.60	18.96	44.63	28.99	63.60	53.60	-18.97	-24.61
4	0.27120	10.06	26.41	13.63	36.47	23.69	61.08	51.08	-24.61	-27.39
5	0.45498	10.13	21.04	15.42	31.17	25.55	56.78	46.78	-25.61	-21.23
6	1.40902	10.23	17.12	10.78	27.35	21.01	56.00	46.00	-28.65	-24.99

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

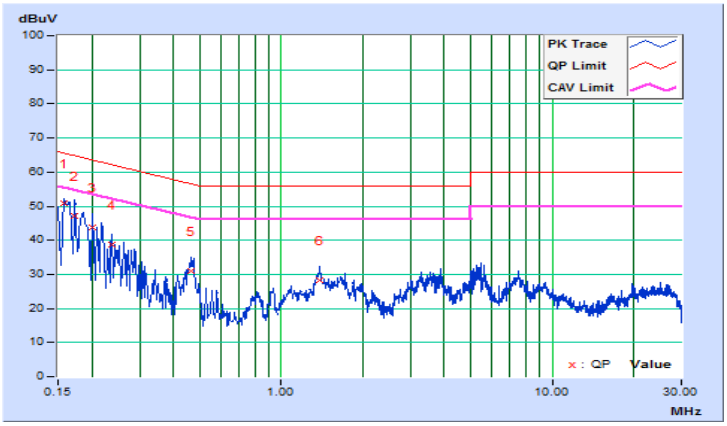


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/11/14

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15802	10.03	40.67	24.74	50.70	34.77	65.57	55.57	-14.87	-20.80
2	0.17346	10.03	37.20	21.31	47.23	31.34	64.79	54.79	-17.56	-23.45
3	0.20084	10.04	33.66	18.20	43.70	28.24	63.58	53.58	-19.88	-25.34
4	0.23602	10.06	28.66	15.42	38.72	25.48	62.24	52.24	-23.52	-26.76
5	0.46669	10.14	20.73	15.02	30.87	25.16	56.57	46.57	-25.70	-21.41
6	1.38947	10.24	18.18	12.61	28.42	22.85	56.00	46.00	-27.58	-23.15

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

--- END ---