FCC Test Report

Report No.:	RF180103C04-1
FCC ID:	2AO3Y-PWR100154
Test Model:	PWR-100154
Received Date:	Jan. 03, 2018
Test Date:	Mar. 07, 2018 ~ Apr. 19, 2018
Issued Date:	Oct. 17, 2018
Applicant:	PowerChord Limited
Address:	1 Blythe road, London W14 0HG, United Kingdom
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:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan, R.O.C.
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RF180103C04-1	Original Release	Oct. 17, 2018

1 Certificate of Conformity

Product:	PEEX tX Transmitter
Brand:	PEEX
Test Model:	PWR-100154
Sample Status:	Identical Prototype
Applicant:	PowerChord Limited
Test Date:	Mar. 07, 2018 ~ Apr. 19, 2018
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) 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 RF characteristics under the conditions specified in this report.

Prepared by : Rona Chen , **Date:** Oct. 17, 2018

Rona Chen / Specialist

Approved by : , **Date:** Oct. 17, 2018

Dylan Chiou / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -20.75 dB at 0.34600 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.1 dB at 5725 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	-	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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	PEEX tX Transmitter
Brand	PEEX
Test Model	PWR-100154
Status of EUT	Identical Prototype
Power Supply Rating	120Vac, 60Hz
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	up to 72.2 Mbps
Operating Frequency	5260 ~ 5320 MHz, 5500 ~ 5700 MHz
Number of Channel	5260 ~ 5320 MHz: 4 for HT20 5500 ~ 5700 MHz: 11 for HT20
Output Power	13.964 mW for 5260 ~ 5320 MHz 13.964 mW for 5500 ~ 5700 MHz
Antenna Type	PCB antenna with 6 dBi gain (5260 ~ 5320 MHz) PCB antenna with 6 dBi gain (5500 ~ 5700 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT provides 1 completed transmitter.

Modulation Mode	Tx Function	Remark
HT20	1TX	Radio 1
	1TX	Radio 2

2. This device supports two Radios. And Radio 1 was found as worse case, and only this case was for final test.
3. 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

For 5260 ~ 5320 MHz

4 channels are provided for HT20:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
56	5280	64	5320

For 5500 ~ 5700 MHz

11 channels are provided for HT20:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	124	5620
104	5520	128	5640
108	5540	132	5660
112	5560	136	5680
116	5580	140	5700
120	5600		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	HT20	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	5500-5700	HT20	100 to 140	100, 116, 140	OFDM	BPSK	6.5

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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5500-5700	HT20	100 to 140	140	OFDM	BPSK	6.5

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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5500-5700	HT20	100 to 140	140	OFDM	BPSK	6.5

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	HT20	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	5500-5700	HT20	100 to 140	100, 116, 140	OFDM	BPSK	6.5

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu

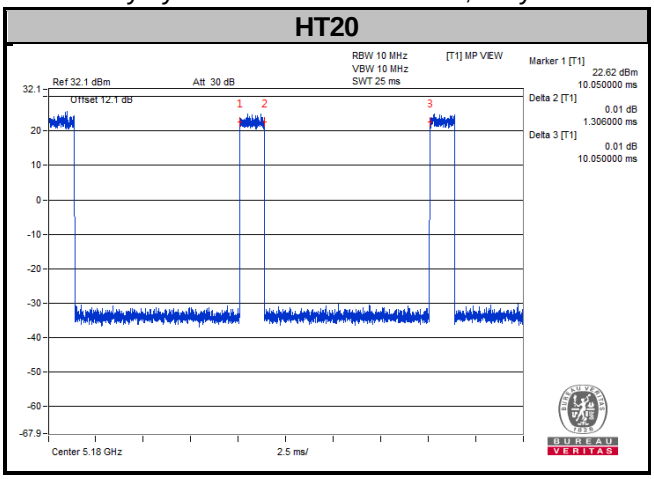
3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

Duty cycle of test signal is < 98 %, duty factor is required.

HT20: Duty cycle = 1.306/10.05 = 0.13, Duty factor = 10 * log(1/0.13) = 8.86

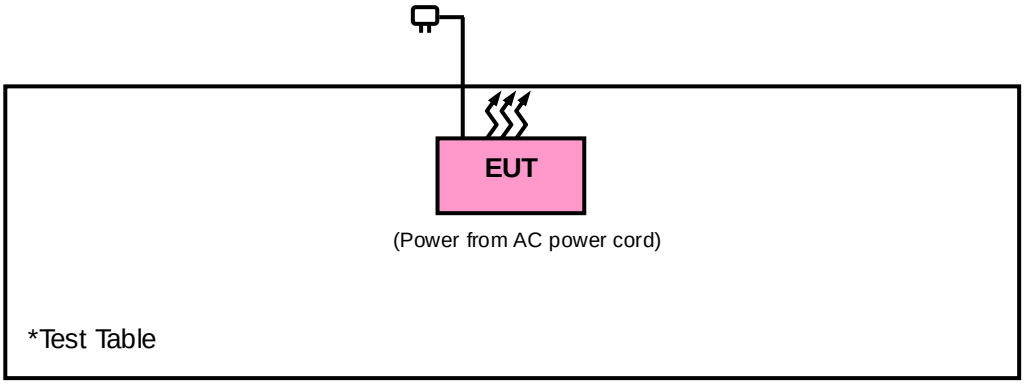
HT20



3.4 Description of Support Units

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

3.4.1 Configuration of System under Test



3.5 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 E (15.407)
789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10-2013

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

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.

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 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY52260177	Jul. 05, 2017	Jul. 04, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Nov. 24, 2017	Nov. 23, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
Horn Antenna SCHWARZBECK	BBHA 9170	148	Dec. 13, 2017	Dec. 12, 2018
HORN Antenna Schwarzbeck	BBHA 9120D	9120D-969	Dec. 12, 2017	Dec. 11, 2018
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Dec. 06, 2017	Dec. 05, 2018
Fixed Attenuator Mini-Circuits	BW-N10W5+	1301	Aug. 14, 2017	Aug. 13, 2018
Loop Antenna	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier EMCI	EMC001340	980201	Nov. 01, 2017	Oct. 30, 2018
Preamplifier EMCI	EMC 012645	980115	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 184045	980116	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 330H	980112	Oct. 13, 2017	Oct. 12, 2018
Power Meter Anritsu	ML2495A	1012010	Aug. 15, 2017	Aug. 14, 2018
Power Sensor Anritsu	MA2411B	1315050	Aug. 15, 2017	Aug. 14, 2018
RF Coaxial Cable HUBER+SUHNNER	EMC104-SM-SM-8000&3000	140811+170717	Oct. 20, 2017	Oct. 19, 2018
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 20, 2017	Oct. 19, 2018
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 20, 2017	Oct. 19, 2018
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
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 08, 2017	Sep. 07, 2018
DC Power Supply Topward	33010D	807748	Oct. 25, 2016	Oct. 24, 2018

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 Chamber 10.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The FCC Site Registration No. is 690701.
5. The IC Site Registration No. is IC7450F-10.

4.1.4 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:

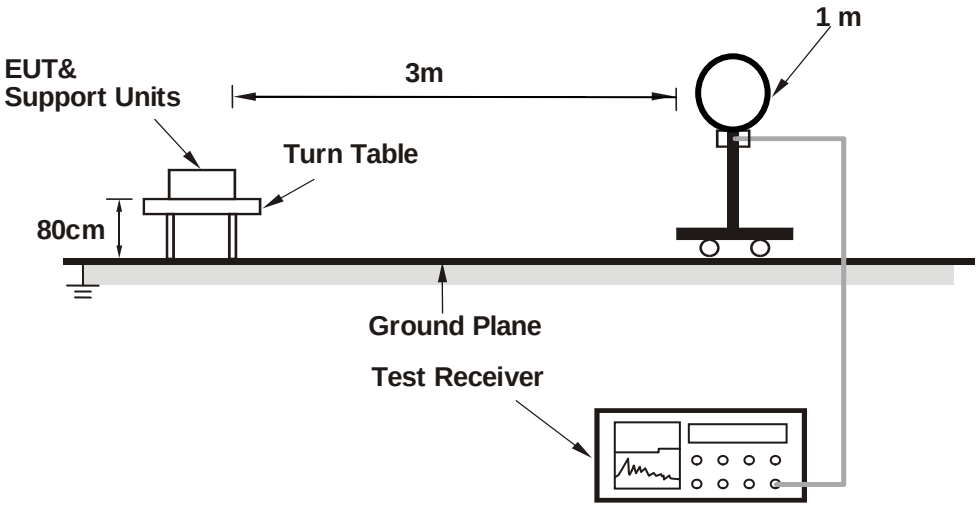
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz. (11n (HT20): RBW = 1 MHz, VBW = 3 kHz)
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.

4.1.5 Deviation from Test Standard

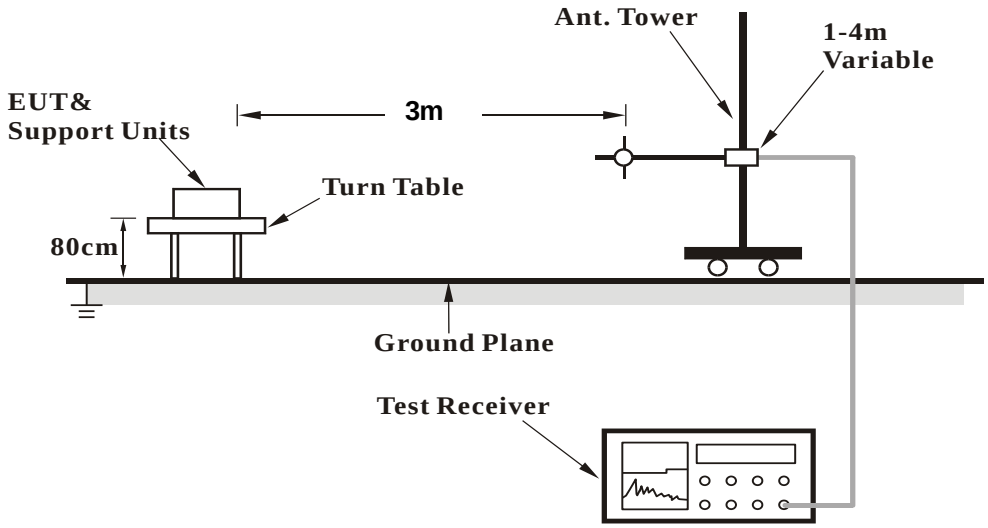
No deviation.

4.1.6 Test Set Up

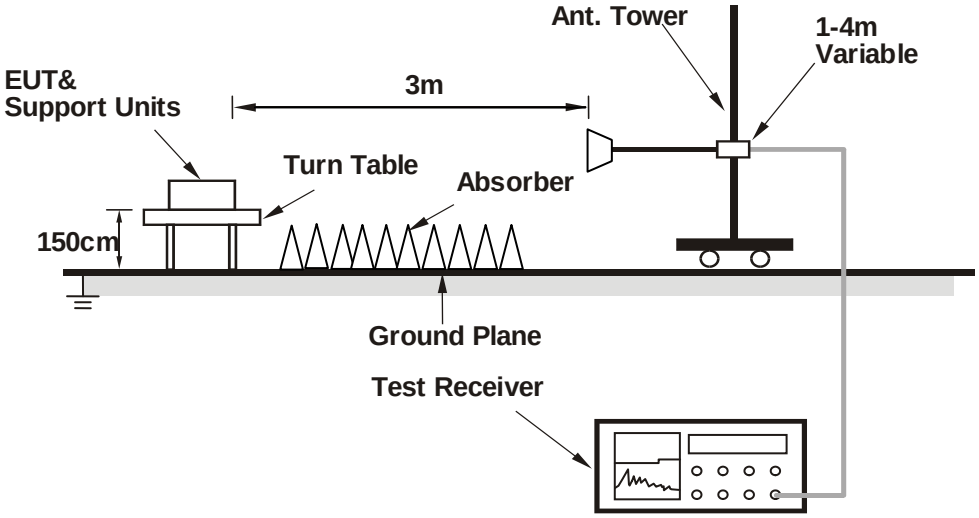
<Radiated emission below 30 MHz>



<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 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.

4.1.8 Test Results

Above 1 GHz Data :

HT20

EUT Test Condition		Measurement Detail	
Channel	Channel 52	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Jisyong Wang

Antenna 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
5135.54	38.95	38.61	54	-15.05	31.31	6.33	37.3	200	94	Average
5135.54	50.89	50.55	74	-23.11	31.31	6.33	37.3	200	94	Peak
5260	96.31	95.5			31.65	6.43	37.27	200	94	Average
5260	105.79	104.98			31.65	6.43	37.27	200	94	Peak
5427.22	39.52	38.63	54	-14.48	31.53	6.49	37.13	200	94	Average
5427.22	51.11	50.22	74	-22.89	31.53	6.49	37.13	200	94	Peak
*10520	54.37	57.17	68.2	-13.83	39.66	10.27	52.73	127	88	Peak
Antenna 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
5139.68	38.31	37.96	54	-15.69	31.32	6.33	37.3	127	67	Average
5139.68	50.45	50.1	74	-23.55	31.32	6.33	37.3	127	67	Peak
5260	83.7	83.13			31.41	6.43	37.27	127	67	Average
5260	92.39	91.82			31.41	6.43	37.27	127	67	Peak
5451.2	38.66	37.67	54	-15.34	31.56	6.51	37.08	127	67	Average
5451.2	51.25	50.26	74	-22.75	31.56	6.51	37.08	127	67	Peak
*10520	53.32	56.12	68.2	-14.88	39.66	10.27	52.73	122	255	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 60	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Jisyong Wang

Antenna 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**
5138.42	39.15	38.81	54	-14.85	31.31	6.33	37.3	209	92	Average
5138.42	50.86	50.52	74	-23.14	31.31	6.33	37.3	209	92	Peak
5300	96.52	95.81			31.44	6.46	37.19	209	92	Average
5300	105.48	104.77			31.44	6.46	37.19	209	92	Peak
5385.86	41.57	40.77	54	-12.43	31.51	6.47	37.18	209	92	Average
5385.86	51.76	50.96	74	-22.24	31.51	6.47	37.18	209	92	Peak
10600	45.28	48.11	54	-8.72	39.85	10.43	53.11	122	87	Average
10600	54.95	57.78	74	-19.05	39.85	10.43	53.11	122	87	Peak
Antenna 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**
5112.5	38.35	38.04	54	-15.65	31.29	6.3	37.28	102	64	Average
5112.5	50.79	50.48	74	-23.21	31.29	6.3	37.28	102	64	Peak
5300	80.42	79.71			31.44	6.46	37.19	102	64	Average
5300	89.6	88.89			31.44	6.46	37.19	102	64	Peak
5411.71	38.53	37.7	54	-15.47	31.53	6.48	37.18	102	64	Average
5411.71	50.88	50.05	74	-23.12	31.53	6.48	37.18	102	64	Peak
10600	45.49	48.32	54	-8.51	39.85	10.43	53.11	139	256	Average
10600	54.35	57.18	74	-19.65	39.85	10.43	53.11	139	256	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Jisyong Wang

Antenna 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**
5320	95.44	94.72			31.45	6.46	37.19	216	104	Average
5320	104.27	103.55			31.45	6.46	37.19	216	104	Peak
5352.64	42.32	41.55	54	-11.68	31.48	6.47	37.18	216	104	Average
5352.64	52.99	52.22	74	-21.01	31.48	6.47	37.18	216	104	Peak
10640	45.23	48.01	54	-8.77	39.93	10.36	53.07	128	75	Average
10640	55.09	57.87	74	-18.91	39.93	10.36	53.07	128	75	Peak
Antenna 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**
5320	81.44	80.72			31.45	6.46	37.19	102	67	Average
5320	90.88	90.16			31.45	6.46	37.19	102	67	Peak
5426.01	38.76	37.87	54	-15.24	31.53	6.49	37.13	102	67	Average
5426.01	51.02	50.13	74	-22.98	31.53	6.49	37.13	102	67	Peak
10640	45.43	48.21	54	-8.57	39.93	10.36	53.07	128	259	Average
10640	55.71	58.49	74	-18.29	39.93	10.36	53.07	128	259	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 100	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Jisyong Wang

Antenna 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**
5451.44	39.8	38.81	54	-14.2	31.56	6.51	37.08	142	115	Average
5451.44	51.01	50.02	74	-22.99	31.56	6.51	37.08	142	115	Peak
*5470	51.63	50.62	68.2	-16.57	31.57	6.52	37.08	142	115	Peak
5500	92.66	91.55			31.6	6.54	37.03	142	115	Average
5500	101.57	100.46			31.6	6.54	37.03	142	115	Peak
*5725	50.36	49.07	68.2	-17.84	31.96	6.76	37.43	142	115	Peak
11000	46.25	48.15	54	-7.75	40.73	10.4	53.03	127	84	Average
11000	55.8	57.7	74	-18.2	40.73	10.4	53.03	127	84	Peak
Antenna 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**
5419.92	38.68	37.85	54	-15.32	31.53	6.48	37.18	122	82	Average
5419.92	50.84	50.01	74	-23.16	31.53	6.48	37.18	122	82	Peak
*5470	50.21	49.2	68.2	-17.99	31.57	6.52	37.08	122	82	Peak
5500	84.87	83.55			31.81	6.54	37.03	122	82	Average
5500	93.37	92.05			31.81	6.54	37.03	122	82	Peak
*5725	50.67	49.38	68.2	-17.53	31.96	6.76	37.43	122	82	Peak
11000	46.36	48.26	54	-7.64	40.73	10.4	53.03	135	249	Average
11000	56.33	58.23	74	-17.67	40.73	10.4	53.03	135	249	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 116	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Jisyong Wang

Antenna 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**
5401.68	39.24	38.43	54	-14.76	31.52	6.47	37.18	108	117	Average
5401.68	51.47	50.66	74	-22.53	31.52	6.47	37.18	108	117	Peak
*5470	50.28	49.27	68.2	-17.92	31.57	6.52	37.08	108	117	Peak
5580	95.88	94.68			31.71	6.65	37.16	108	117	Average
5580	104.37	103.17			31.71	6.65	37.16	108	117	Peak
*5725	50.53	49.24	68.2	-17.67	31.96	6.76	37.43	108	117	Peak
11160	46.43	48.13	54	-7.57	40.56	10.52	52.78	127	84	Average
11160	55.59	57.29	74	-18.41	40.56	10.52	52.78	127	84	Peak
Antenna 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**
5386.48	38.61	37.81	54	-15.39	31.51	6.47	37.18	140	136	Average
5386.48	50.93	50.13	74	-23.07	31.51	6.47	37.18	140	136	Peak
*5470	50.97	49.97	68.2	-17.23	31.57	6.51	37.08	140	136	Peak
5580	84.88	83.68			31.71	6.65	37.16	140	136	Average
5580	94.28	93.08			31.71	6.65	37.16	140	136	Peak
*5725	50.51	49.22	68.2	-17.69	31.96	6.76	37.43	140	136	Peak
11160	46.47	48.17	54	-7.53	40.56	10.52	52.78	139	258	Average
11160	56.06	57.76	74	-17.94	40.56	10.52	52.78	139	258	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Jisyong Wang

Antenna 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**
5408.4	39	38.18	54	-15	31.52	6.48	37.18	152	85	Average
5408.4	50.99	50.17	74	-23.01	31.52	6.48	37.18	152	85	Peak
*5470	51.06	50.05	68.2	-17.14	31.57	6.52	37.08	152	85	Peak
5700	96.21	94.98			31.9	6.73	37.4	152	85	Average
5700	105.57	104.34			31.9	6.73	37.4	152	85	Peak
***5725**	**67.1**	**65.81**	**68.2**	**-1.1**	**31.96**	**6.76**	**37.43**	**152**	**85**	**Peak**
11140	46.43	48.11	54	-7.57	40.6	10.5	52.78	122	71	Average
11140	56.35	58.03	74	-17.65	40.6	10.5	52.78	122	71	Peak
Antenna 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**
5418.32	38.68	37.85	54	-15.32	31.53	6.48	37.18	122	139	Average
5418.32	50.74	49.91	74	-23.26	31.53	6.48	37.18	122	139	Peak
*5470	49.9	48.91	68.2	-18.3	31.56	6.51	37.08	122	139	Peak
5700	84.48	83.25			31.9	6.73	37.4	122	139	Average
5700	92.92	91.69			31.9	6.73	37.4	122	139	Peak
*5725	60.38	59.09	68.2	-7.82	31.96	6.76	37.43	122	139	Peak
11140	46.47	48.15	54	-7.53	40.6	10.5	52.78	129	253	Average
11140	56.61	58.29	74	-17.39	40.6	10.5	52.78	129	253	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit.

9 kHz ~ 30 MHz Data:

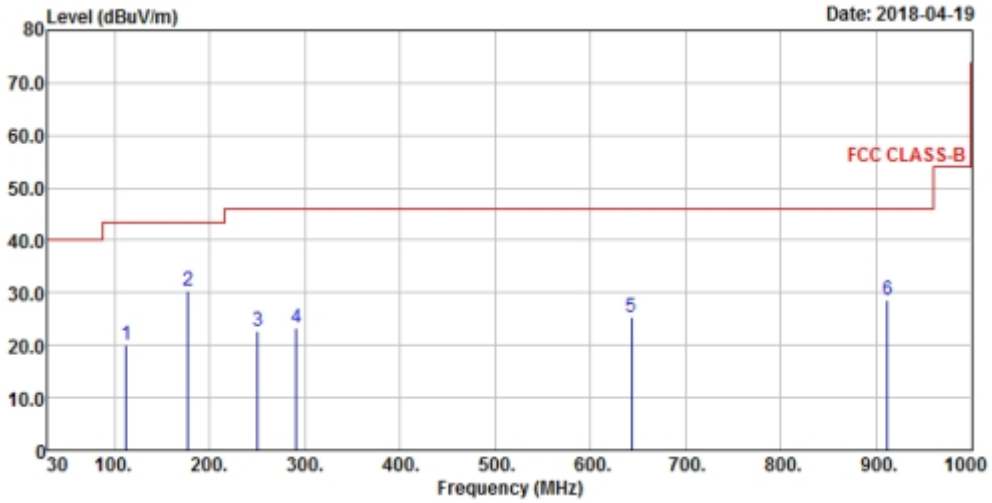
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

HT20

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Harry Hsueh

<Horizontal>



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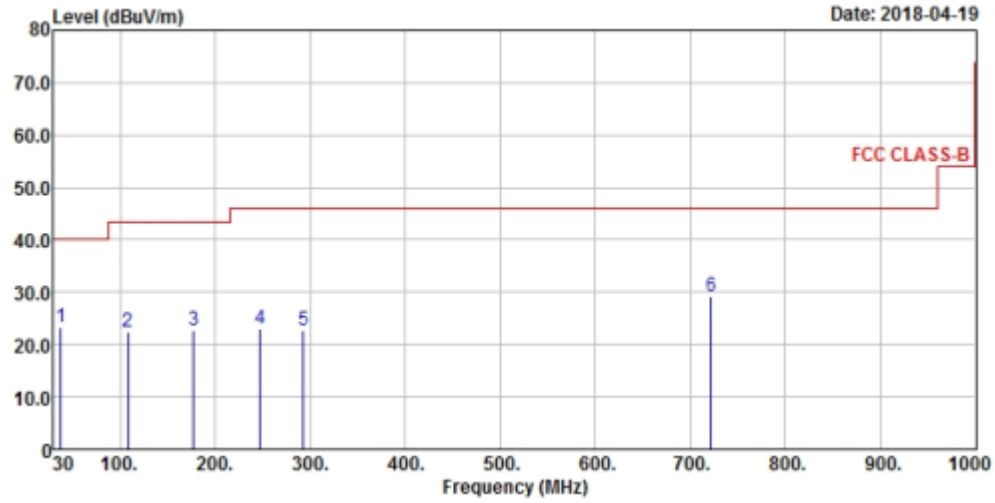


Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
112.45	20.03	40.82	43.5	-23.47	10.27	0.8	31.86	111	152	Peak
177.44	30.34	50.03	43.5	-13.16	11.01	1.11	31.81	102	261	Peak
250.19	22.62	41.61	46	-23.38	11.48	1.47	31.94	111	165	Peak
290.93	23.38	40.77	46	-22.62	12.68	1.62	31.69	174	185	Peak
643.04	25.46	34.32	46	-20.54	20.13	3.08	32.07	196	256	Peak
911.73	28.54	32.9	46	-17.46	23.58	4.1	32.04	165	232	Peak
Antenna 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
37.76	23.46	40.76	40	-16.54	13.24	0.48	31.02	111	132	Peak
108.57	22.36	43.53	43.5	-21.14	9.9	0.78	31.85	165	258	Peak
177.44	22.81	42.5	43.5	-20.69	11.01	1.11	31.81	174	198	Peak
247.28	23.01	42.09	46	-22.99	11.36	1.46	31.9	102	232	Peak
292.87	22.68	40.03	46	-23.32	12.74	1.63	31.72	145	251	Peak
721.61	29.16	36.28	46	-16.84	21.12	3.41	31.65	165	258	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
2. Margin value = Emission level – Limit value
3. The emission levels of other frequencies were very low against the limit.

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 & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 23, 2017	Nov. 22, 2018
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
Software ADT	BV ADT_Cond_ V7.3.7.4	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

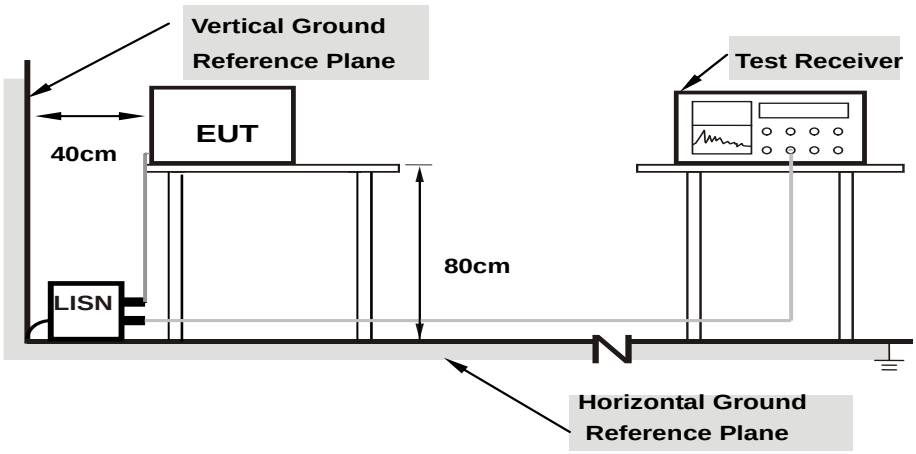
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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.

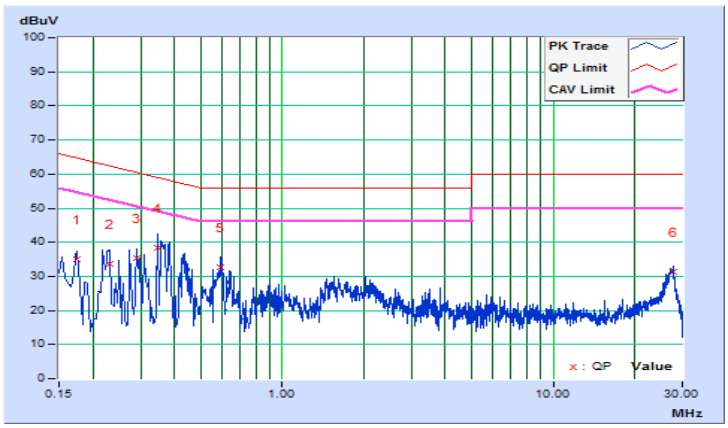
4.2.7 Test Results

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	Getaz Yang	Test Date	2018/3/7

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	0.17400	10.10	24.94	10.08	35.04	20.18	64.77	54.77	-29.73	-34.59
2	0.22985	10.11	23.53	6.69	33.64	16.80	62.46	52.46	-28.82	-35.66
3	0.29000	10.11	25.13	10.42	35.24	20.53	60.52	50.52	-25.28	-29.99
4	**0.34600**	**10.11**	**28.20**	**10.12**	**38.31**	**20.23**	**59.06**	**49.06**	**-20.75**	**-28.83**
5	0.59400	10.12	22.41	11.01	32.53	21.13	56.00	46.00	-23.47	-24.87
6	27.63400	11.35	19.94	8.21	31.29	19.56	60.00	50.00	-28.71	-30.44

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

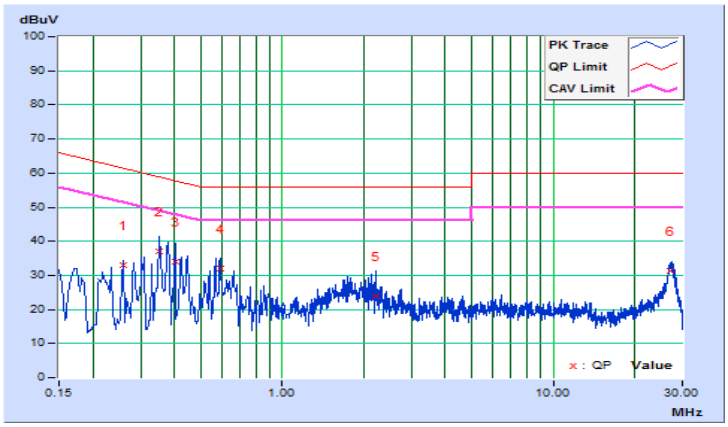


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2018/3/7

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	0.25800	10.11	23.03	5.89	33.14	16.00	61.50	51.50	-28.36	-35.50
2	0.35000	10.11	26.77	9.96	36.88	20.07	58.96	48.96	-22.08	-28.89
3	0.40200	10.12	24.00	0.78	34.12	10.90	57.81	47.81	-23.69	-36.91
4	0.59000	10.12	21.86	9.14	31.98	19.26	56.00	46.00	-24.02	-26.74
5	2.21000	10.18	13.60	1.95	23.78	12.13	56.00	46.00	-32.22	-33.87
6	27.17000	11.04	20.32	9.46	31.36	20.50	60.00	50.00	-28.64	-29.50

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



4.3 Transmit Power Measurment

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
	-	Indoor Access Point	1 Watt (30 dBm)
		Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	√		250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	√		250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-3	-		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

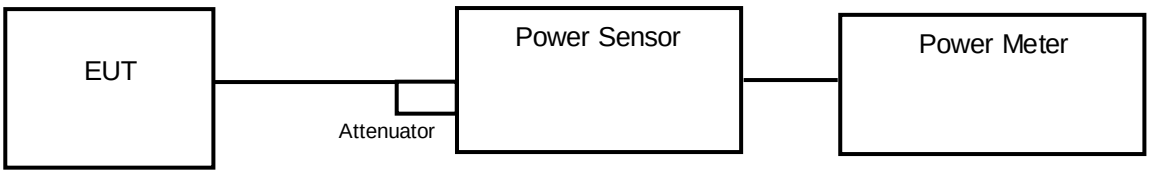
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20 MHz channel widths with $N_{ANT} \geq 5$.

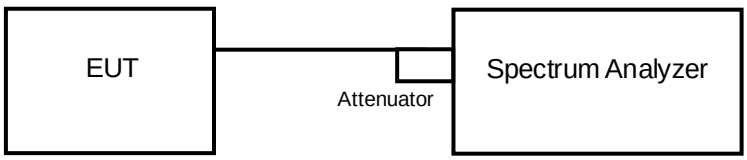
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

26 dB Bandwidth

1) Set RBW = approximately 1 % of the emission bandwidth.
2) Set the VBW > RBW.
3) Detector = Peak.
4) Trace mode = max hold.
5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

Power Output:

HT20

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
52	5260	13.964	11.45	24	Pass
60	5300	13.032	11.15	24	Pass
64	5320	13.002	11.14	24	Pass
100	5500	12.735	11.05	24	Pass
116	5580	13.964	11.45	24	Pass
140	5700	13.274	11.23	24	Pass

Note:

For U-NII-2A, U-NII-2C Band:

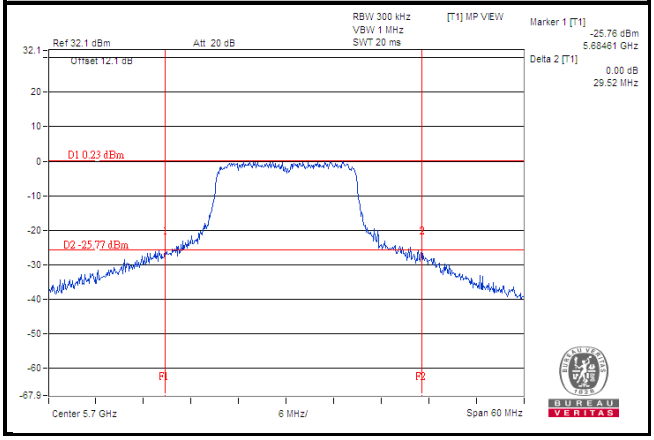
1. 11 dBm + 10log (21.72) = 24.37 dBm > 24 dBm.
2. 11 dBm + 10log (21.64) = 24.35 dBm > 24 dBm.
3. 11 dBm + 10log (21.54) = 24.33 dBm > 24 dBm.
4. 11 dBm + 10log (24.17) = 24.83 dBm > 24 dBm.
5. 11 dBm + 10log (27.62) = 25.41 dBm > 24 dBm.
6. 11 dBm + 10log (29.52) = 25.70 dBm > 24 dBm.

26 dB Bandwidth:

HT20

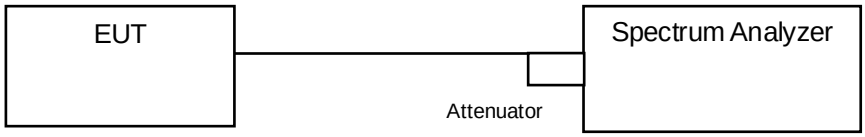
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
52	5260	21.72
60	5300	21.64
64	5320	21.54
100	5500	24.17
116	5580	27.62
140	5700	29.52

Spectrum Plot of Worst Value
HT20



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

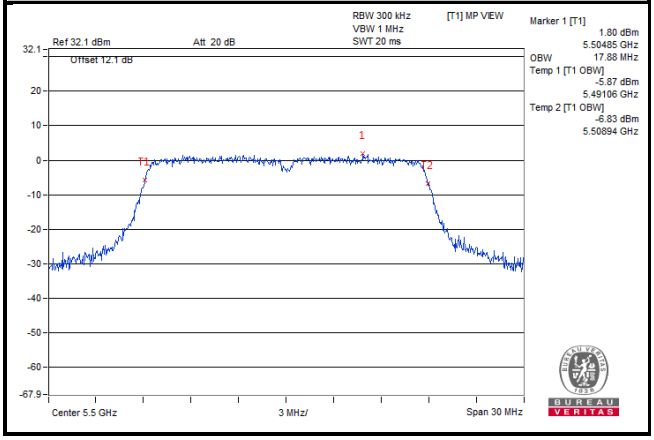
4.4.4 Test Results

HT20

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	17.74
60	5300	17.78
64	5320	17.83
100	5500	17.88
116	5580	17.84
140	5700	17.79

Spectrum Plot of Worst Value

HT20

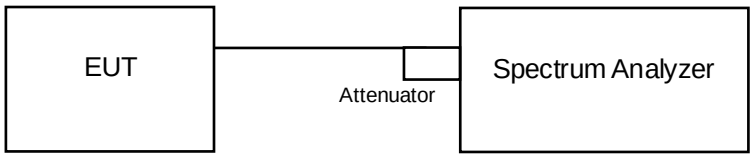


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	17 dBm/MHz
		Fixed point-to-point Access Point	
	-	Indoor Access Point	
		Mobile and Portable client device	11 dBm/MHz
U-NII-2A	√		11 dBm/MHz
U-NII-2C	√		11 dBm/MHz
U-NII-3	-		30 dBm/500 kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedures

Using method SA-3

1. Set span to encompass the entire EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace mode = max hold.
5. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
6. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

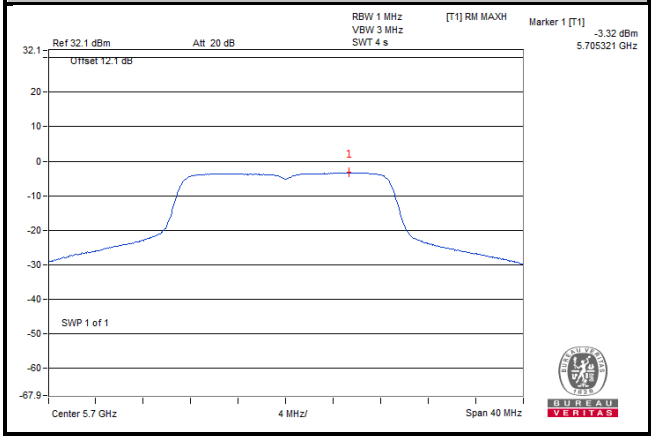
4.5.7 Test Results

HT20

Channel	Frequency (MHz)	PSD With Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
52	5260	-3.70	11	Pass
60	5300	-4.24	11	Pass
64	5320	-4.36	11	Pass
100	5500	-4.13	11	Pass
116	5580	-3.34	11	Pass
140	5700	-3.32	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value
HT20

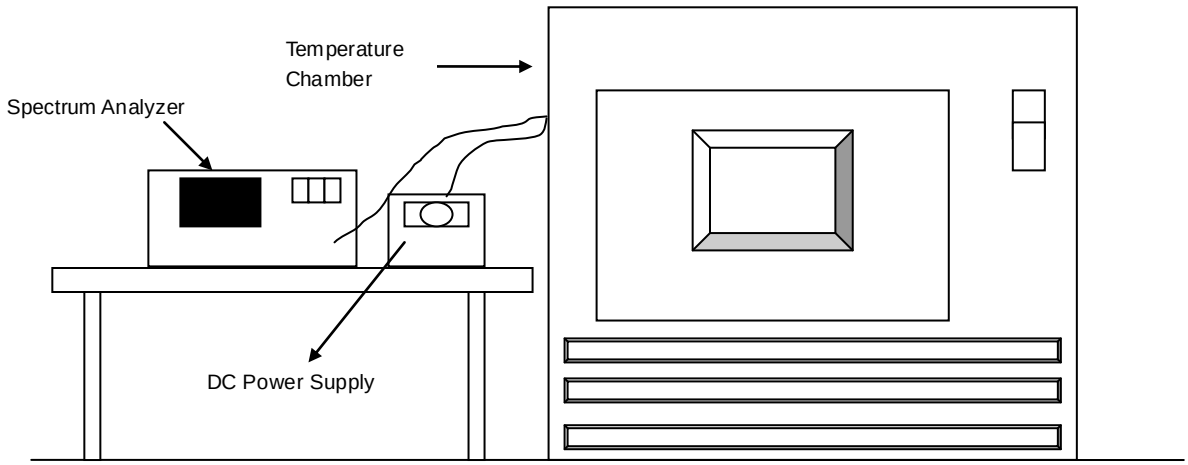


4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5259.9783	-0.00041	5259.9766	-0.00044	5259.9767	-0.00044	5259.9793	-0.00039
40	120	5259.9897	-0.00020	5259.987	-0.00025	5259.9886	-0.00022	5259.9877	-0.00023
30	120	5260.015	0.00029	5260.0112	0.00021	5260.012	0.00023	5260.011	0.00021
20	120	5259.9882	-0.00022	5259.9886	-0.00022	5259.9894	-0.00020	5259.9883	-0.00022
10	120	5260.0098	0.00019	5260.0112	0.00021	5260.0099	0.00019	5260.0082	0.00016
0	120	5259.9954	-0.00009	5259.9944	-0.00011	5259.9927	-0.00014	5259.9954	-0.00009
-10	120	5260.0188	0.00036	5260.0169	0.00032	5260.0194	0.00037	5260.0173	0.00033
-20	120	5260.019	0.00036	5260.0194	0.00037	5260.0186	0.00035	5260.0224	0.00043
-30	120	5260.0099	0.00019	5260.0077	0.00015	5260.0067	0.00013	5260.0099	0.00019

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5259.9891	-0.00021	5259.9896	-0.00020	5259.9901	-0.00019	5259.9887	-0.00021
	120	5259.9882	-0.00022	5259.9886	-0.00022	5259.9894	-0.00020	5259.9883	-0.00022
	102	5259.9879	-0.00023	5259.9876	-0.00024	5259.9903	-0.00018	5259.9892	-0.00021

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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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

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