

## FCC Test Report

**Report No.:** RF180821C20-4

**FCC ID:** V65E6910

**Test Model:** E6910

**Received Date:** Aug. 21, 2018

**Test Date:** Sep. 18, 2018

**Issued Date:** Sep. 25, 2018

**Applicant:** Kyocera Corporation c/o Kyocera International, Inc.

**Address:** 8611 Balboa Avenue, San Diego, CA 92123

**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.

**FCC Registration /**  
**Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
RF180821C20-4	Original Release	Sep. 25, 2018

## 1 Certificate of Conformity

**Product:** Smart Phone

**Brand:** Kyocera

**Test Model:** E6910

**Sample Status:** Identical Prototype

**Applicant:** Kyocera Corporation c/o Kyocera International, Inc.

**Test Date:** Sep. 18, 2018

**Standards:** 47 CFR FCC Part 15, Subpart C (Section 15.209)  
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 :** Ivonne Wu , **Date:** Sep. 25, 2018  
Ivonne Wu / Supervisor

**Approved by :** Dylan Chiou , **Date:** Sep. 25, 2018  
Dylan Chiou / Project Engineer

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.209)			
FCC Clause	Test Item	Result	Remarks
15.207	Conducted emission test	Pass	Meet the requirement of limit. Minimum passing margin is -14.34 dB at 0.48626 MHz.
15.209	Radiated emission test	Pass	Meet the requirement of limit. Minimum passing margin is -9.16 dB at 33.88 MHz.

### 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	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

<b>Product</b>	Smart Phone
<b>Brand</b>	Kyocera
<b>Test Model</b>	E6910
<b>Status of EUT</b>	Identical Prototype
<b>Power Supply Rating</b>	3.8 Vdc (Battery) 5 Vdc or 9 Vdc or 12 Vdc (Adapter) 5 Vdc (Host equipment)
<b>Operating Frequency</b>	150 kHz
<b>Antenna Connector</b>	N/A
<b>Accessory Device</b>	Refer to Note as below
<b>Data Cable Supplied</b>	Refer to Note as below

Note:

1. The EUT's accessories list refers to Ext. Pho.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

### 3.2 Description of Test Modes

1 channel is provided to this EUT:

Channel	Frequency (kHz)
1	150

#### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To		Description
	RE<1G	PLC	
A	√	√	Charging Mode
B	√	-	Standby Mode

Where **RE<1G**: Radiated Emission below 1 GHz

**PLC**: Power Line Conducted Emission

#### 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	Available Channel	Tested Channel
A, B	1	1

#### 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	Available Channel	Tested Channel
A	1	1

#### Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang

### 3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

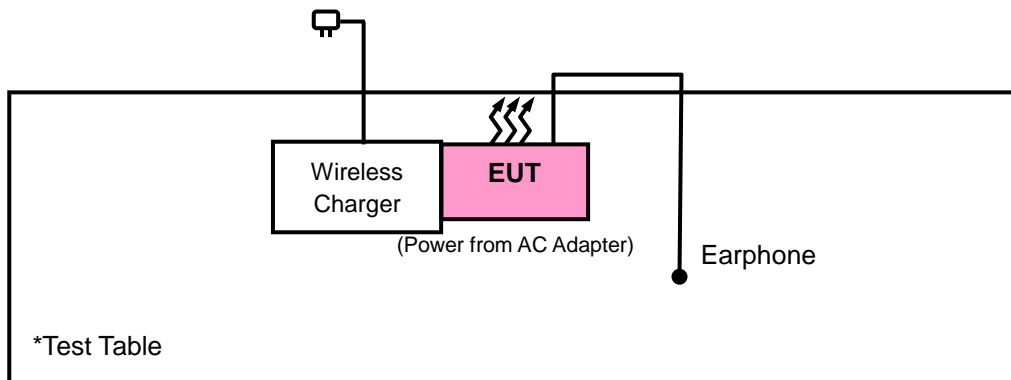
No.	Product	Brand	Model No.	Serial No.	FCC ID
A.	Earphone	Funkey	FK130102	N/A	N/A
B.	Wireless Charger PAD	LG	WCP-300	N/A	N/A

No.	Signal Cable Description Of The Above Support Units
1.	N/A
2.	N/A

Note:

1. All power cords of the above support units are non-shielded (1.8m).

#### 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 (15.209)

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

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 & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 16, 2018	Mar. 15, 2019
Spectrum Analyzer Agilent	N9010A	MY52220314	Nov. 24, 2017	Nov. 23, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Dec. 06, 2017	Dec. 05, 2018
Loop Antenna	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier EMCI	EMC001340	980201	Nov. 01, 2017	Oct. 30, 2018
Preamplifier EMCI	EMC 330H	980112	Oct. 13, 2017	Oct. 12, 2018
Power Sensor Anritsu	MA2411B	1315050	Sep. 04, 2018	Sep. 03, 2019
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 20, 2017	Oct. 19, 2018
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	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 HwaYa Chamber 10.
3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1GHz if tested.
4. The IC Site Registration No. is IC7450F-10.

#### 4.1.3 Test Procedures

##### **For Radiated Emission below 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Both Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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.

##### **Note:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

##### **For Radiated Emission above 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters 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:**

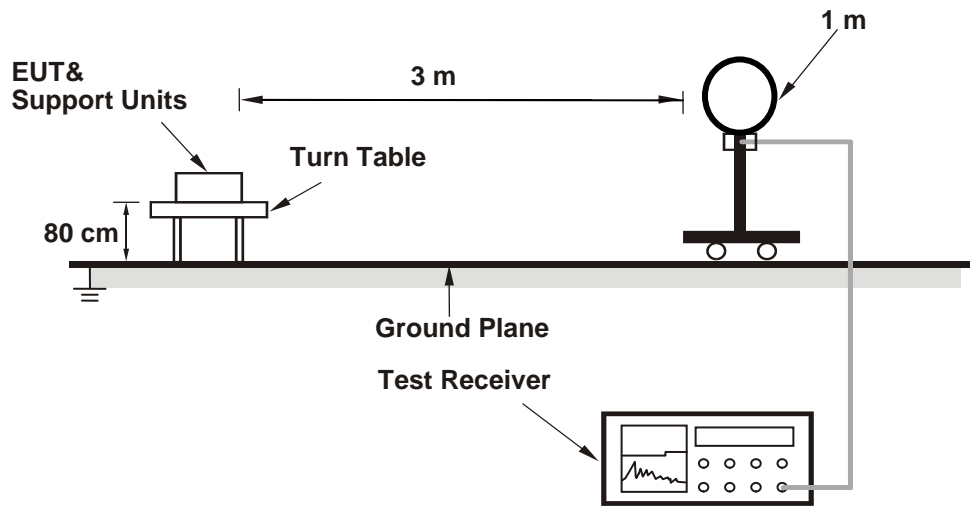
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.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

#### 4.1.4 Deviation from Test Standard

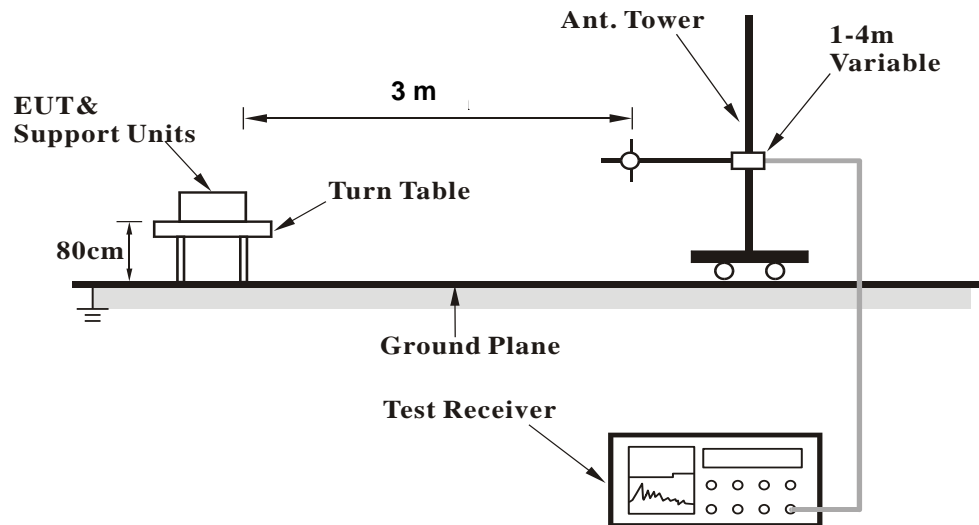
No deviation.

#### 4.1.5 Test Setup

##### <Radiated Emission below 30 MHz>



##### <Radiated Emission 30 MHz to 1 GHz>



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

#### 4.1.6 EUT Operating Conditions

Set the EUT under transmission condition continuously at specific channel frequency.

#### 4.1.7 Test Results

##### <Charging Mode>

EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60 Hz	Frequency Range	0.009 ~ 30 MHz
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Average Quasi-Peak
Tested By	Jisyoung Wang		

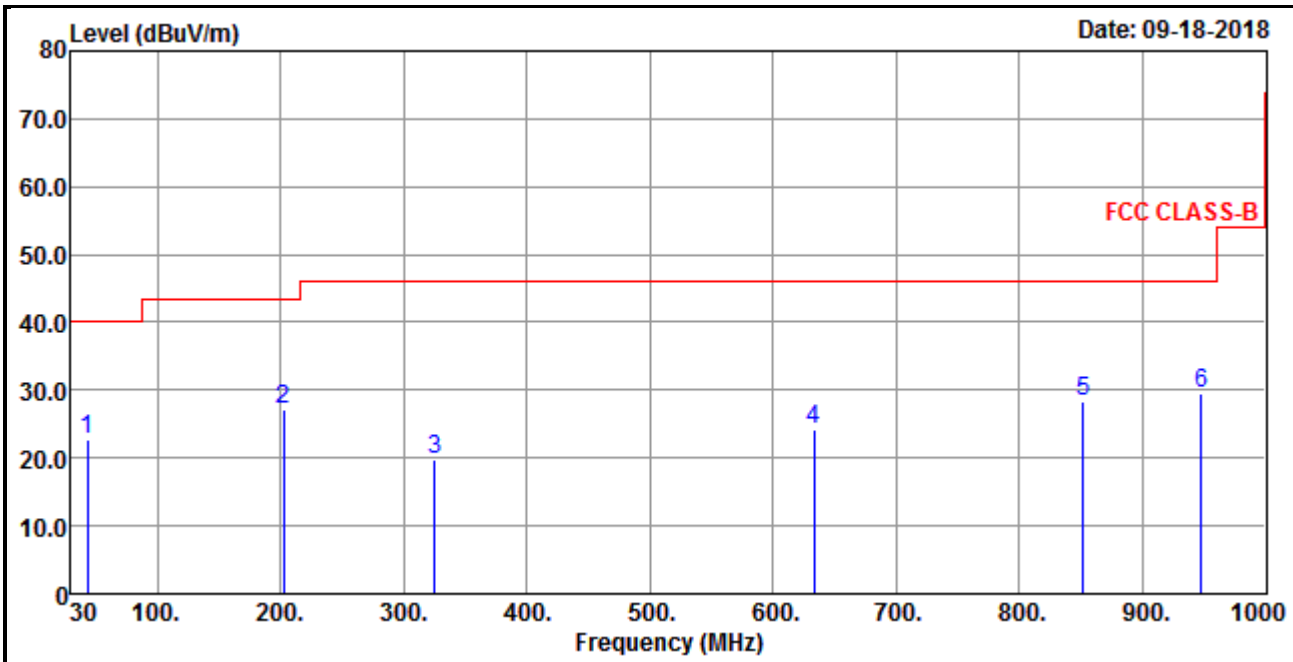
Antenna Polarity & Test Distance: Open at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
0.147	80.86	101.49	104.26	-23.4	20.31	0.02	40.96	100	360	Average
0.294	60.18	80.69	98.24	-38.06	20.27	0.02	40.8	100	360	Average
0.441	54.13	74.51	94.72	-40.59	20.26	0.05	40.69	100	360	Average
0.588	51.44	71.78	72.22	-20.78	20.25	0.08	40.67	100	360	QP
0.735	47.43	67.77	70.28	-22.85	20.26	0.1	40.7	100	360	QP
0.882	48.85	69.19	68.69	-19.84	20.27	0.12	40.73	100	360	QP
1.029	44.54	64.88	67.36	-22.82	20.27	0.13	40.74	100	360	QP
Antenna Polarity & Test Distance: Close 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
0.147	77.81	98.44	104.26	-26.45	20.31	0.02	40.96	100	0	Average
0.294	60.93	81.44	98.24	-37.31	20.27	0.02	40.8	100	0	Average
0.441	56.52	76.9	94.72	-38.2	20.26	0.05	40.69	100	0	Average
0.588	49.89	70.23	72.22	-22.33	20.25	0.08	40.67	100	0	QP
0.735	49.18	69.52	70.28	-21.1	20.26	0.1	40.7	100	0	QP
0.882	46.72	67.06	68.69	-21.97	20.27	0.12	40.73	100	0	QP
1.029	43.91	64.25	67.36	-23.45	20.27	0.13	40.74	100	0	QP
Antenna Polarity & Test Distance: Ground-parallel 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
0.147	80.48	101.11	104.26	-23.78	20.31	0.02	40.96	100	360	Average
0.294	60.35	80.86	98.24	-37.89	20.27	0.02	40.8	100	360	Average
0.441	53.77	74.15	94.72	-40.95	20.26	0.05	40.69	100	360	Average
0.588	49.54	69.88	72.22	-22.68	20.25	0.08	40.67	100	360	QP
0.735	48.77	69.11	70.28	-21.51	20.26	0.1	40.7	100	360	QP
0.882	47.88	68.22	68.69	-20.81	20.27	0.12	40.73	100	360	QP
1.029	44.62	64.96	67.36	-22.74	20.27	0.13	40.74	100	360	QP

##### Remarks:

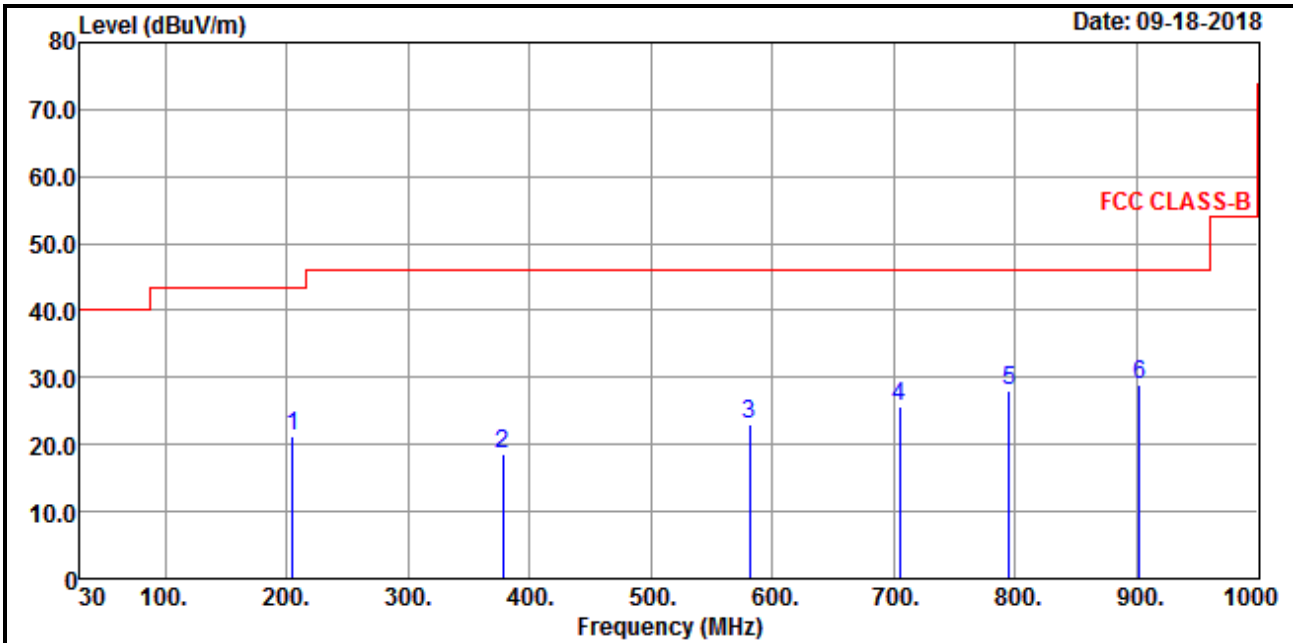
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. Above limits have been translated by the formula

EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60 Hz	Frequency Range	30 MHz ~ 1000 MHz
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Peak
Tested By	Jisyong Wang		

## Horizontal



## Vertical



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
43.58	22.64	39.66	40	-17.36	13.59	0.5	31.11	152	111	Peak
202.66	27.3	48.3	43.5	-16.2	9.48	1.24	31.72	165	231	Peak
324.88	19.78	36.32	46	-26.22	13.54	1.77	31.85	185	265	Peak
633.34	24.28	33.35	46	-21.72	20.01	3.04	32.12	111	185	Peak
851.59	28.39	33.54	46	-17.61	22.89	3.84	31.88	111	231	Peak
947.62	29.5	33.34	46	-16.5	23.78	4.22	31.84	165	285	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
204.6	21.29	42.17	43.5	-22.21	9.56	1.25	31.69	165	132	Peak
378.23	18.65	33.77	46	-27.35	14.82	2	31.94	111	195	Peak
580.96	23.05	33.18	46	-22.95	19.17	2.82	32.12	174	152	Peak
705.12	25.78	33.32	46	-20.22	20.89	3.33	31.76	165	231	Peak
795.33	27.97	33.57	46	-18.03	22.16	3.66	31.42	158	111	Peak
902.03	28.89	33.34	46	-17.11	23.52	4.05	32.02	165	132	Peak

Remarks:

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

# <Standby Mode>

EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60 Hz	Frequency Range	0.009 ~ 30 MHz
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Average Quasi-Peak
Tested By	Jisyong Wang		

Antenna Polarity & Test Distance: Open 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
0.261	66.01	86.53	99.27	-33.26	20.28	0.02	40.82	100	360	Average
0.399	65.01	85.42	95.58	-30.57	20.26	0.04	40.71	100	360	Average
0.529	50.23	70.57	73.13	-22.9	20.25	0.07	40.66	100	360	QP
0.669	61.21	81.55	71.1	-9.89	20.26	0.09	40.69	100	360	QP
0.789	48.12	68.46	69.66	-21.54	20.26	0.11	40.71	100	360	QP
0.911	52.01	72.35	68.41	-16.4	20.27	0.12	40.73	100	360	QP
Antenna Polarity & Test Distance: Close 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
0.278	63.01	83.53	98.72	-35.71	20.27	0.02	40.81	100	0	Average
0.351	62.85	83.31	96.7	-33.85	20.26	0.03	40.75	100	0	Average
0.501	50.75	71.09	73.61	-22.86	20.25	0.06	40.65	100	0	QP
0.629	57.25	77.59	71.63	-14.38	20.26	0.08	40.68	100	0	QP
0.771	45.98	66.33	69.86	-23.88	20.26	0.1	40.71	100	0	QP
0.899	48.03	68.37	68.53	-20.5	20.27	0.12	40.73	100	0	QP
Antenna Polarity & Test Distance: Ground-parallel 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
0.236	64.01	84.56	100.15	-36.14	20.28	0.02	40.85	100	360	Average
0.371	65.25	85.68	96.22	-30.97	20.26	0.04	40.73	100	360	Average
0.485	50.98	71.33	93.89	-42.91	20.25	0.06	40.66	100	360	QP
0.621	58.65	78.99	71.74	-13.09	20.26	0.08	40.68	100	360	QP
0.748	48.25	68.59	70.13	-21.88	20.26	0.1	40.7	100	360	QP
0.889	50.36	70.7	68.63	-18.27	20.27	0.12	40.73	100	360	QP

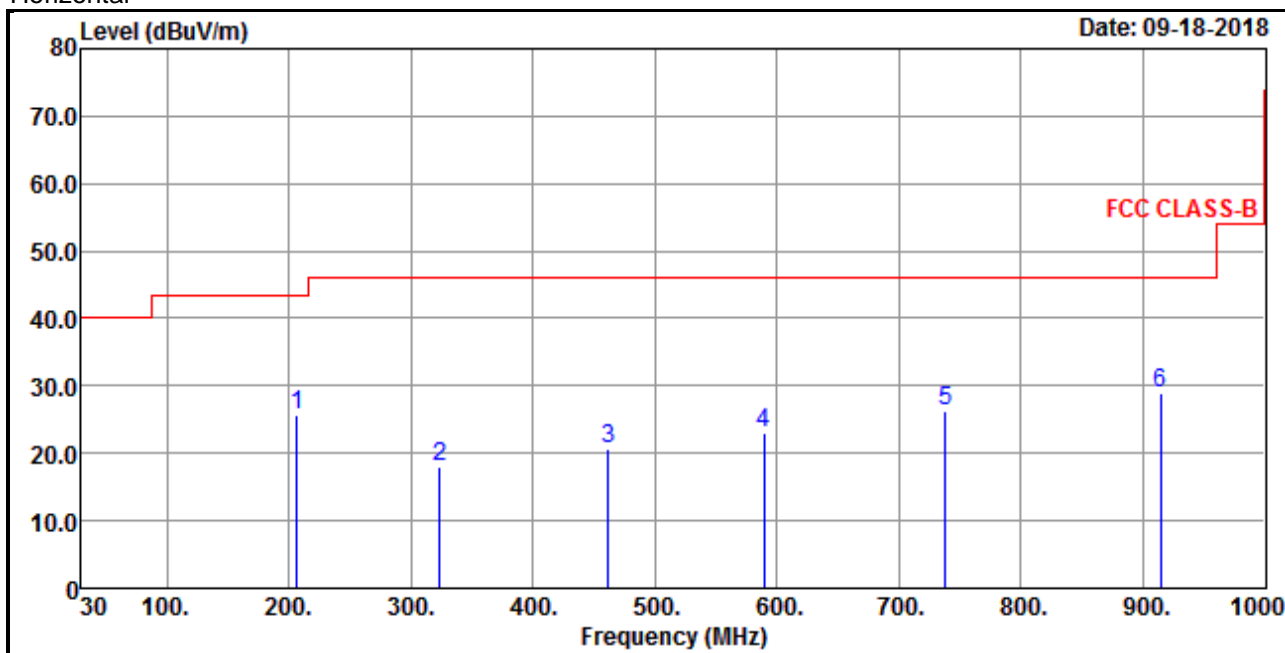
## Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. Above limits have been translated by the formula

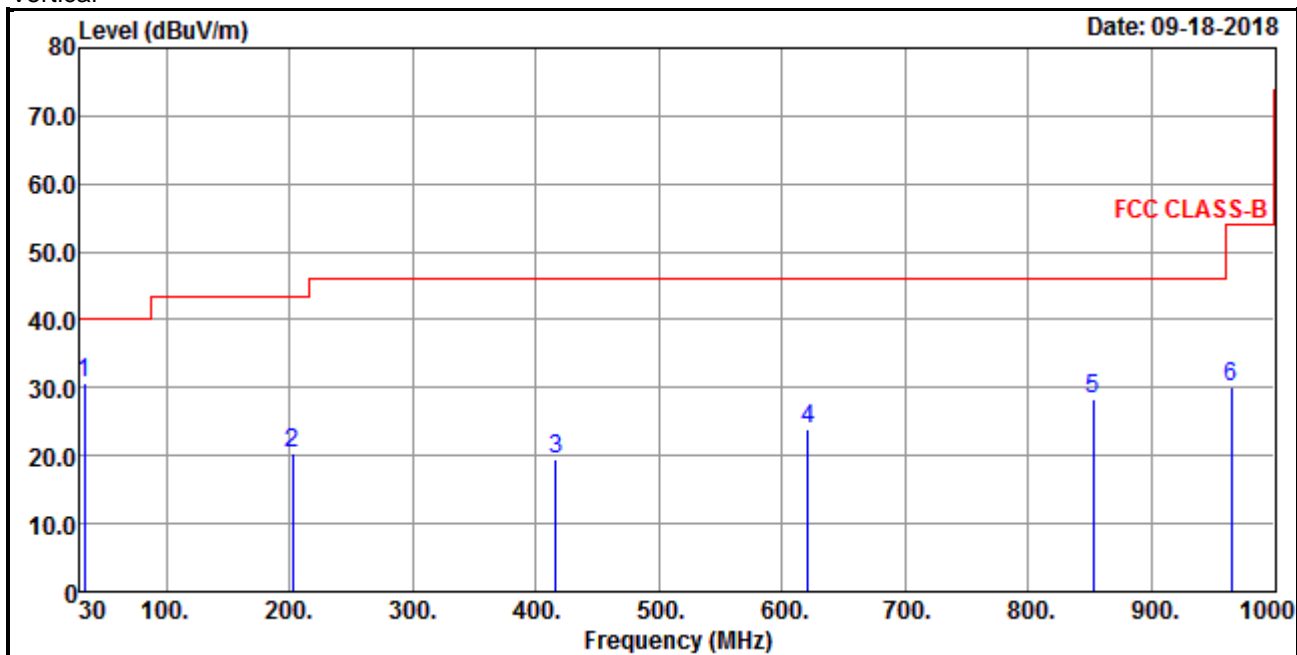


EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60 Hz	Frequency Range	30 MHz ~ 1000 MHz
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Peak
Tested By	Jisyong Wang		

Horizontal



Vertical



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
206.54	25.69	46.44	43.5	-17.81	9.65	1.26	31.66	152	213	Peak
323.91	17.9	34.47	46	-28.1	13.52	1.77	31.86	111	231	Peak
461.65	20.74	33.82	46	-25.26	16.56	2.33	31.97	165	285	Peak
589.69	23.15	33.07	46	-22.85	19.37	2.85	32.14	195	251	Peak
738.1	26.2	32.89	46	-19.8	21.35	3.46	31.5	111	165	Peak
914.64	29.07	33.4	46	-16.93	23.59	4.11	32.03	102	251	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
33.88	30.84	48.83	40	-9.16	12.63	0.46	31.08	102	251	Peak
202.66	20.42	41.42	43.5	-23.08	9.48	1.24	31.72	165	231	Peak
416.06	19.36	33.59	46	-26.64	15.66	2.14	32.03	147	185	Peak
620.73	23.85	33.17	46	-22.15	19.86	2.99	32.17	165	285	Peak
852.56	28.28	33.4	46	-17.72	22.9	3.86	31.88	165	295	Peak
965.08	30.16	33.89	54	-23.84	23.87	4.3	31.9	111	165	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
2. Margin value = Emission level – Limit value.
3. The other emission levels 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.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

### 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 Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN/AMN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
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

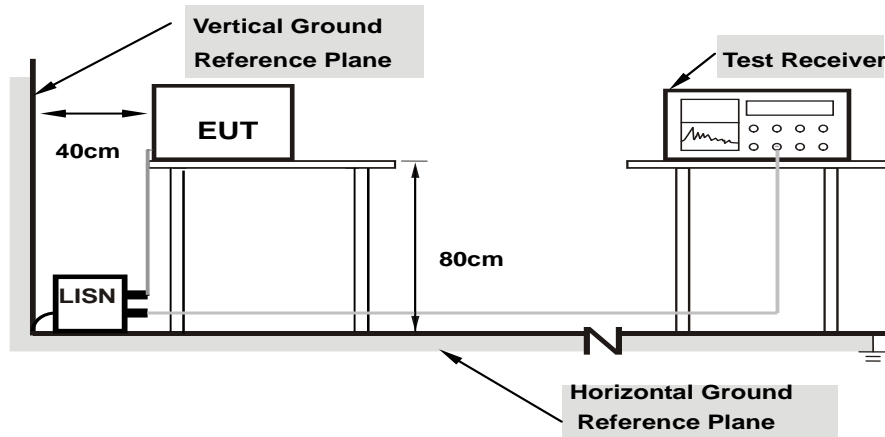
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling 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:** The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz - 30 MHz.

#### 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

Same as 4.1.6.

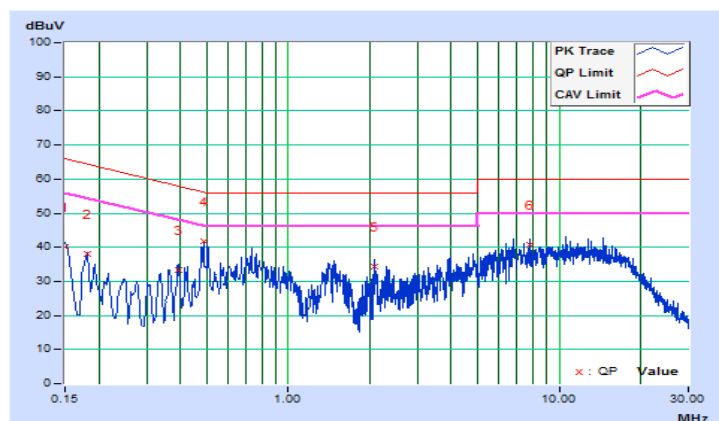
#### 4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Jisyong Wang	Test Date	2018/9/18

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	0.15000	9.67	30.53	16.62	40.20	26.29	66.00	56.00	-25.80	-29.71
2	0.18075	9.67	28.42	15.41	38.09	25.08	64.45	54.45	-26.36	-29.37
3	0.39635	9.66	23.74	10.05	33.40	19.71	57.93	47.93	-24.53	-28.22
4	0.48626	9.66	32.23	15.07	41.89	24.73	56.23	46.23	-14.34	-21.50
5	2.06981	9.68	24.76	8.59	34.44	18.27	56.00	46.00	-21.56	-27.73
6	7.84097	9.81	30.94	15.43	40.75	25.24	60.00	50.00	-19.25	-24.76

#### 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

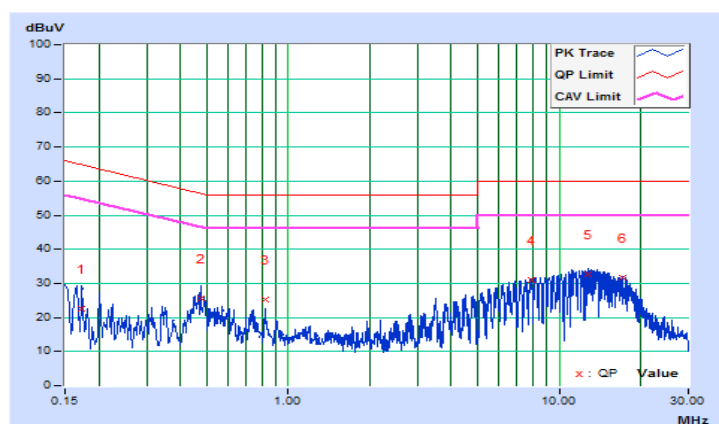


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Jisyong Wang	Test Date	2018/9/18

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	0.17283	9.68	12.93	1.33	22.61	11.01	64.82	54.82	-42.21	-43.81
2	0.47453	9.67	15.90	0.92	25.57	10.59	56.43	46.43	-30.86	-35.84
3	0.81861	9.66	15.58	2.86	25.24	12.52	56.00	46.00	-30.76	-33.48
4	7.86834	9.81	21.15	2.40	30.96	12.21	60.00	50.00	-29.04	-37.79
5	12.87314	9.91	22.87	4.70	32.78	14.61	60.00	50.00	-27.22	-35.39
6	17.17023	9.97	21.74	2.34	31.71	12.31	60.00	50.00	-28.29	-37.69

#### 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 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:

**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](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

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

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