

# FCC 47 CFR PART 15 SUBPART B TEST REPORT

For

10" Tablet Computer

**MODEL: QTAXIA1**

Test Report Number:

T170104L01-D

Issued for

**Quanta Computer Inc.**

No.188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C.)

Issued By:

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**Issued Date: January 16, 2017**



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**Revision History**

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		January 16, 2017		Initial Issue	ALL	May Lin

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## 1 TEST RESULT CERTIFICATION

<b>Product:</b>	10" Tablet Computer
<b>Model:</b>	QTAXIA1
<b>Applicant:</b>	<b>Quanta Computer Inc.</b> No.188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C.)
<b>Manufacturer:</b>	<b>Quanta Computer Inc.</b> No.188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C.)
<b>Tested:</b>	January 11, 2017
<b>Test Voltage:</b>	120Vac, 60Hz

EMISSION			
Standard	Item	Result	Remarks
FCC 47 CFR Part 15 Subpart B, ICES-003 Issue 6-2016 ANSI C63.4-2014	Conducted (Power Port)	PASS	Meet Class B limit
	Radiated	PASS	Meet Class B limit

*Note:* 1. The statements of test result on the above are decided by the request of test standard only; the measurement uncertainties are not factored into this compliance determination.  
2. The information of measurement uncertainty is available upon the customer's request.

Deviation from Applicable Standard
None

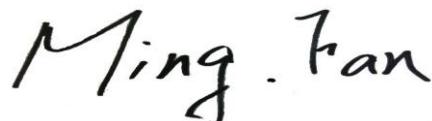
The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

**Approved by:**



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Tony Hsu  
Asst. Manager

**Tested by :**



\_\_\_\_\_  
Ming Fan  
Engineer

## 2 EUT DESCRIPTION

<b>Product</b>	10" Tablet Computer		
<b>Model</b>	QTAXIA1		
<b>Applicant</b>	Quanta Computer Inc.		
<b>Housing material</b>	Plastic		
<b>Identify Number</b>	T170104L01		
<b>Received Date</b>	January 4, 2017		
<b>EUT Power Rating</b>	1. 5.0Vdc, 2.0A from Adaptor 2. Powered from Battery		
<b>Power Adaptor Manufacturer</b>	PI ELECTRONICS	<b>Model</b>	AD2062320006LF
<b>Power Adaptor Rating</b>	<b>PI ELECTRONICS / AD2062320006LF</b> I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5.0Vdc, 2.0A		
<b>AC Power Cord Type</b>	N/A		
<b>DC Power Cord Type</b>	N/A		
<b>CPU</b>	Mediatek	<b>Model</b>	MT-8785 (1.95GHz)
<b>System Memory</b>	3GB		
<b>10" LCD Panel</b>	AUO	<b>Model</b>	B101UAN07.5
<b>Touch Screen</b>	TGT	<b>Model</b>	TG-101A-1019AT
<b>Storage</b>	Samsung	<b>Model</b>	KMRX1000BM_B614 (32GB)
	Hynix	<b>Model</b>	H9TQ26ADFTBCUR-KUM (32GB)
<b>Battery</b>	McNair	<b>Model</b>	MLP2678135-2P
<b>WLAN+BT</b>	Mediatek	<b>Model</b>	MT6630
<b>GPS</b>	Mediatek	<b>Model</b>	MT6630
<b>Modem Connection</b>	Mediatek	<b>Model</b>	MT6630
<b>Front Camera</b>	Omni	<b>Model</b>	OV5695 (5M) FF
<b>Rear Camera</b>	Omni	<b>Model</b>	OV8865 (8M) AF

**Remark:**

1. Client consigns only one sample to test (model number: QTAXIA1). Therefore, the testing Lab. just guarantees the unit, which has been tested.
2. Difference of the model numbers (list on this report) is just for marketing purpose only.

**I/O Port**

<b>I/O PORT TYPES</b>	<b>Q'TY</b>	<b>TESTED WITH</b>
1).Micro USB Port	1	1
2).Audio Port	1	1

### 3 TEST METHODOLOGY

#### 3.1. DECISION OF FINAL TEST MODE

1. The following test modes were scanned during the preliminary test:

Mode	CPU	System Memory	10" LCD Panel	Touch Screen	Storage	Modem Connection	WLAN+BT	GPS	Front Camera	Rear Camera	Battery	AC Power Adapter
1	Mediatek MT-8785 (1.95GHz)	Samsung KMRX1000BM_B614	AUO B101UAN07.5	TGT TG-101A-1019AT	Samsung KMRX1000BM_B614 (32GB)	Mediatek MT6630	Mediatek MT6630	Mediatek MT6630	Quanta OV5695 (5M) FF	Quanta OV8865 (8M) AF	McNair MLP2678135-2P	PI ELECTRONICS AD2062320006LF
2	Mediatek MT-8785 (1.95GHz)	Hynix H9TQ26ADFT BCUR-KUM	AUO B101UAN07.5	TGT TG-101A-1019AT	H9TQ26ADFTBCUR-KUM (32GB)	Mediatek MT6630	Mediatek MT6630	Mediatek MT6630	Quanta OV5695 (5M) FF	Quanta OV8865 (8M) AF	McNair MLP2678135-2P	PI ELECTRONICS AD2062320006LF

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

Final Test Mode		
Emission	Conducted Emission	Mode 1 (Android 7.0,APP (H_pattem_V2) + ADP, Full system)
	Radiated Emission	Mode 1 (Android 7.0,APP (H_pattem_V2) + ADP, Full system)

Then, the above highest emission mode of the configuration of the EUT and cable was chosen for all final test items.

#### 3.2. EUT SYSTEM OPERATION

1. Setup the EUT and simulators as shown on 4.2.
2. Turn on the power of all equipment.
3. The EUT communicates with Wireless AP by WIFI radio.
4. The EUT communicates with Notebook PC by Bluetooth radio.
5. EUT execute the H-pattem-V2 software to send "H" Pattern to display on the screen.
6. Executed Camera software to turn-on the CCD.
7. Setup the condition for test mode, and begin the test.

**Note:** Test program is self-repeating throughout the test.

## 4 SETUP OF EQUIPMENT UNDER TEST

### 4.1. 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.

#### Peripherals Devices:

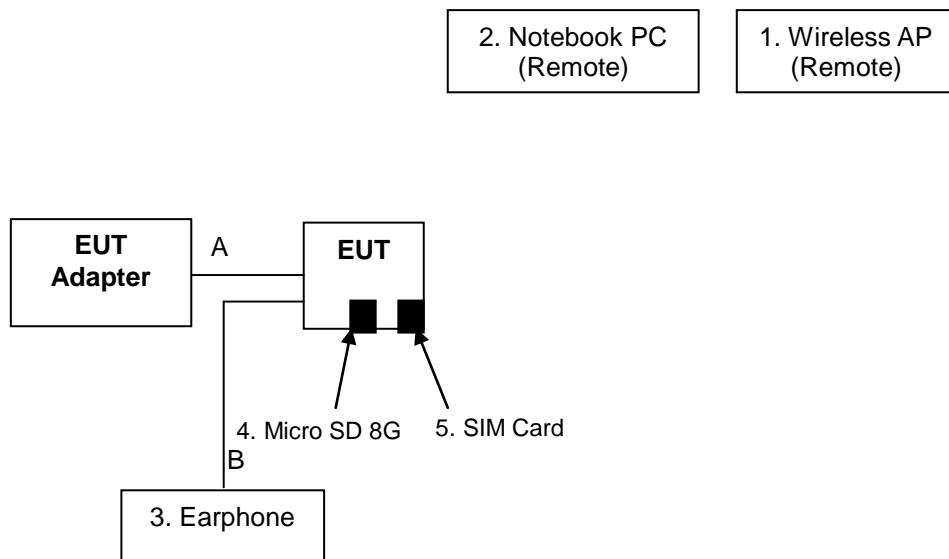
No.	Equipment	Trade Name	Model No.	Serial No.	FCC ID / BSMI ID	Power Cord
1	Wireless AP (Remote)	D-Link	DI-524	DY0Z161000633	KA2-DI5 24	Non-shielded, 1.5m
2	Notebook PC (Remote)	HP	Pavilion dv6	CNF9491GLJ	R33022	Non-shielded, 2.0m
3	Earphone	APPLE	N/A	N/A	N/A	N/A
4	Micro SD 8G	Transcend	N/A	N/A	N/A	N/A
5	SIM Card	NA	N/A	N/A	N/A	N/A

No.	Cable Name	Unit	Shielded	Length	With Core
(A)	USB Cable	1	<input checked="" type="checkbox"/> Shielded, <input type="checkbox"/> Non	1m	<input type="checkbox"/> With Core <input checked="" type="checkbox"/> Non
(B)	Earphone Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	1.8m	<input type="checkbox"/> With Core <input checked="" type="checkbox"/> Non

#### Note:

- 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

## 4.2. CONFIGURATION OF SYSTEM UNDER TEST



## 5 FACILITIES AND ACCREDITATIONS

### 5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at:

- No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
- No.139, Wugong Rd., Wugu Dist., New Taipei City 24886, Taiwan (R.O.C.)
- No.163-1, Jhongsheng Rd., Sindian City, Taipei County 23151, Taiwan.

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4, CISPR 16-1-5.

### 5.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

<b>Taiwan</b>	TAF (TAF 1309)
<b>USA</b>	A2LA (0824.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

<b>Canada</b>	Industry Canada (3M Semi Anechoic Chamber: IC 2324G-1 / IC 2324G-2 / 2324J-1 / 2324J-2 to perform)
<b>Norway</b>	Nemko
<b>Japan</b>	VCCI Radiated emissions: 30 MHz -1000 MHz: R-4343 / Above 1GHz: G-945 Conducted Emission B: C-3700 / T-1839
<b>USA</b>	FCC (3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.ccsrf.com>

### 5.3. 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	Uncertainty
Conducted emissions #B	0.15MHz ~ 30MHz	±1.59 dB
Radiated emissions (10M Chamber)	30MHz~200MHz	±4.4627 dB
	200MHz~1000MHz	±5.1678 dB
	1GHz~8GHz	±5.4371 dB
	8GHz ~18GHz	±5.4371 dB
	18GHz ~ 26GHz	±3.7511 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Consistent with industry standard (e.g. CISPR 22:2016, clause 11, Measurement Uncertainty) determining compliance with the limits shall be base on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this be a compliant test or passing test.

The acceptable measurement uncertainty value without requiring revision of the compliance statement is base on conducted and radiated emissions being less than  $U_{CISPR}$  which is 2.1dB and 5.4dB respectively. CCS values (called  $U_{Lab}$  in CISPR 16-4-2) is less than  $U_{CISPR}$  as shown in the table above. Therefore, MU need not be considered for compliance.

## 6 CONDUCTED EMISSION MEASUREMENT

### 6.1. LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	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 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.

### 6.2. TEST INSTRUMENTS

Conducted Emission Room #B					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
EMI Test Receiver	R&S	ESCI	101073	08/20/2016	08/19/2017
LISN	R&S	ENV216	101054	05/11/2016	05/10/2017
LISN	Schwarzbeck	NSLK8128	5012	04/15/2016	04/14/2017
Capacitive Voltage Probe	FCC	F-CVP-1	100185	03/09/2016	03/08/2017
Software	CCS-3A1-CE				

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### **6.3. TEST PROCEDURES** (please refer to measurement standard or CCS SOP PA-031)

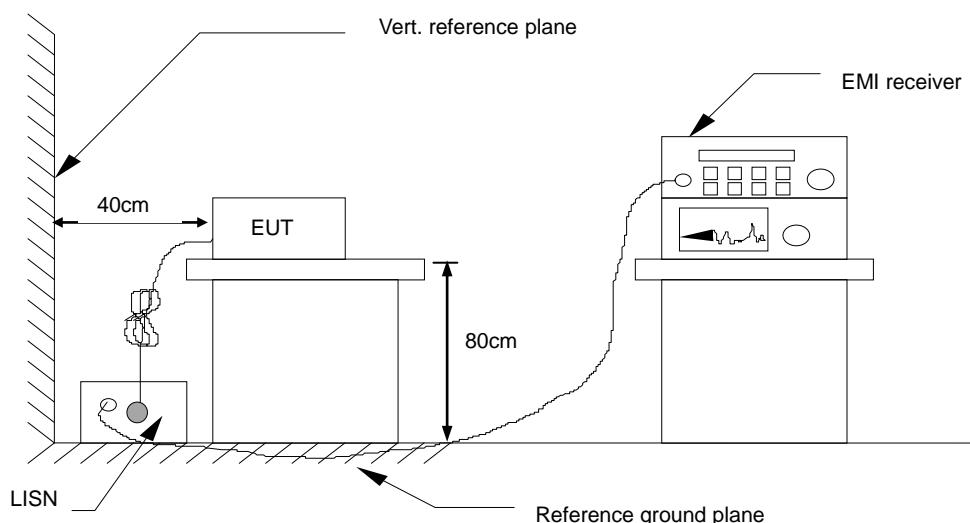
#### **Procedure of Preliminary Test**

- The EUT and support equipment, if needed, were set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- The test equipment EUT installed by AC 120VAC/60Hz main power, through a Line Impedance Stabilization Network (LISN), which was supplied power source and was grounded to the ground plane.
- All support equipment power by from a second LISN.
- The test program of the EUT was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.
- The Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

#### **Procedure of Final Test**

- EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.
- The test data of the worst-case condition(s) was recorded.

## 6.4. TEST SETUP



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

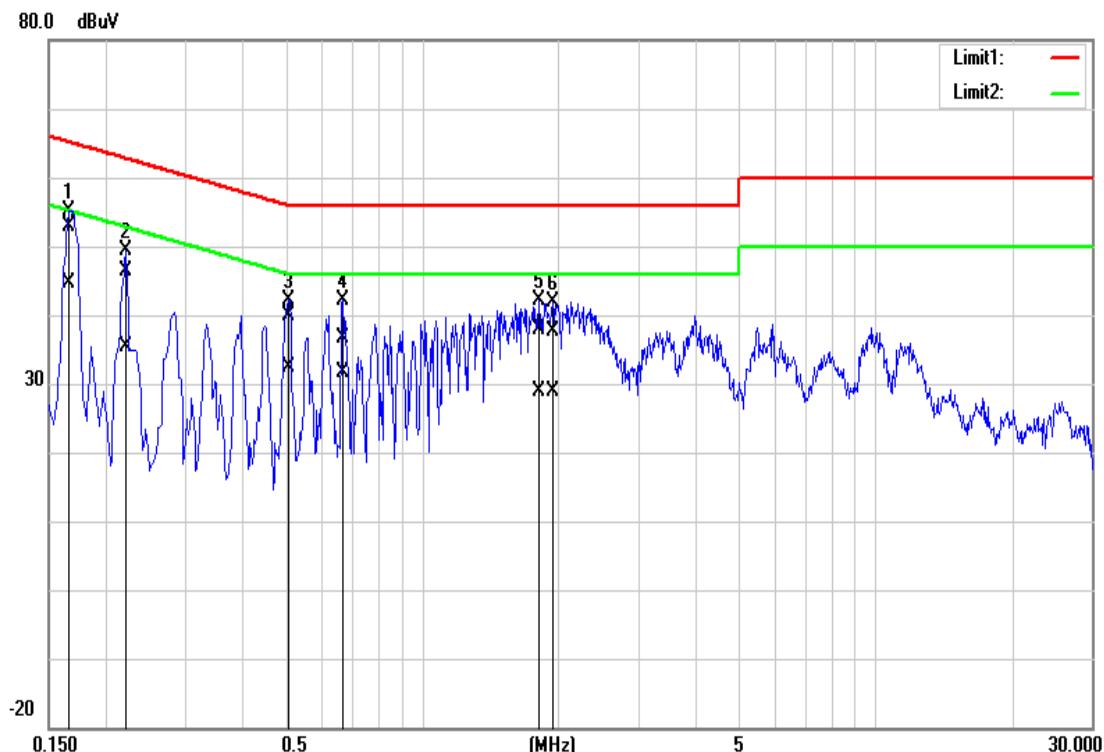
## 6.5. DATA SAMPLE:

Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
x.xx	43.95	33.00	10.00	53.95	43.00	56.00	46.00	-2.05	-3.00	Pass

Frequency (MHz) = Emission frequency in MHz  
 Reading (dBuV) = Uncorrected Analyzer/Receiver reading + Insertion loss of LISN, if it > 0.5 dB  
 Correction Factor (dB) = LISN Factor + Cable Loss  
 Result (dBuV) = Raw reading converted to dBuV and CF added  
 Limit (dBuV) = Limit stated in standard  
 Margin (dB) = Result (dBuV) – Limit (dBuV)

## 6.6. TEST RESULTS

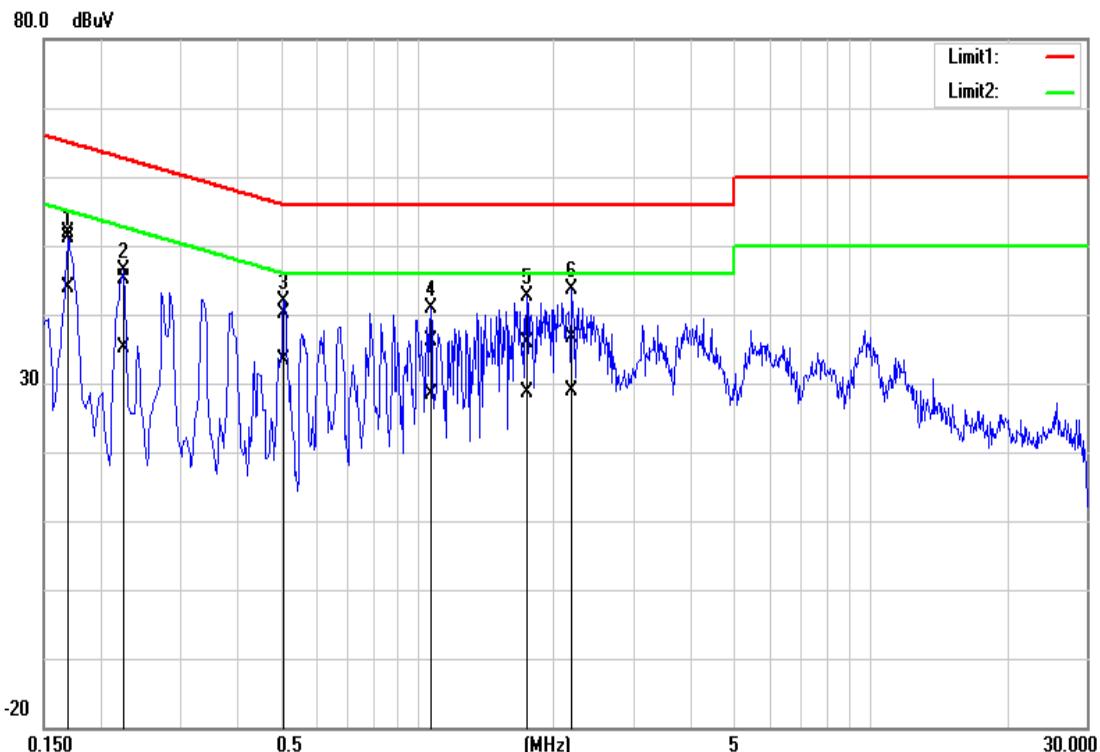
<b>Model No.</b>	QTAXIA1	<b>Line:</b>	L1
<b>Environmental Conditions</b>	24(°C)/50%	<b>Test Date</b>	2017/1/11
<b>Tested by</b>	Ming Fan	<b>Test Mode</b>	Mode1



NO.	Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
1*	0.1660	43.13	34.94	9.70	52.83	44.64	65.15	55.16	-12.32	-10.52	Pass
2	0.2220	36.63	25.62	9.69	46.32	35.31	62.74	52.74	-16.42	-17.43	Pass
3	0.5100	30.09	22.68	9.68	39.77	32.36	56.00	46.00	-16.23	-13.64	Pass
4	0.6700	26.90	21.85	9.68	36.58	31.53	56.00	46.00	-19.42	-14.47	Pass
5	1.8100	28.28	19.20	9.70	37.98	28.90	56.00	46.00	-18.02	-17.10	Pass
6	1.9460	28.04	19.30	9.70	37.74	29.00	56.00	46.00	-18.26	-17.00	Pass

**REMARKS:** L1 = Line One (Live Line)

<b>Model No.</b>	QTAXIA1	<b>Line:</b>	N
<b>Environmental Conditions</b>	24(°C)/50%	<b>Test Date</b>	2017/1/11
<b>Tested by</b>	Ming Fan	<b>Test Mode</b>	Mode1



NO.	Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dB)	Quasi Peak margin (dB)	Average margin (dB)	Remark
1*	0.1700	42.06	34.19	9.71	51.77	43.90	64.96	54.96	-13.19	-11.06	Pass
2	0.2260	35.32	25.55	9.70	45.02	35.25	62.59	52.60	-17.57	-17.35	Pass
3	0.5100	30.38	23.58	9.69	40.07	33.27	56.00	46.00	-15.93	-12.73	Pass
4	1.0740	26.46	18.68	9.69	36.15	28.37	56.00	46.00	-19.85	-17.63	Pass
5	1.7500	26.30	18.97	9.70	36.00	28.67	56.00	46.00	-20.00	-17.33	Pass
6	2.1900	27.03	19.28	9.70	36.73	28.98	56.00	46.00	-19.27	-17.02	Pass

**REMARKS:** L2 = Line Two (Neutral Line)

## 7 RADIATED EMISSION MEASUREMENT

### 7.1. LIMITS OF RADIATED EMISSION MEASUREMENT

According to FCC Part 15.33 (b), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.75	30
1.75-108	1000
108-500	2000
500-1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40GHz, whichever is lower

#### Below 1GHz (for digital device)

FREQUENCY (MHz)	dBuV/m (At 10m)	
	Class A	Class B
30 ~ 230	40	30
230 ~ 1000	47	37

#### Limit tables for digital device:

##### Class A Radiated Emission limit at 10m (for others)

Frequency (MHz)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	90	39
88 - 216	150	43.5
216 – 960	210	46.4
Above 960	300	49.5

##### Class B Radiated Emission limit at 3m (for others)

Frequency (MHz)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	100	40
88 - 216	150	43.5
216 – 960	200	46
Above 960	500	54

**Above 1GHz (for all device)**

Frequency (MHz)	Class A (dBuV/m) (At 10m)		Class B (dBuV/m) (At 3m)	
	Average	Peak	Average	Peak
Above 1000	49.5	69.5	54	74

**NOTE:** (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

(3) The measurement above 1GHz is at close-in distances 3m, and determine the limit  $L_2$  corresponding to the close-in distance  $d_2$  by applying the following relation:  $L_2 = L_1 (d_1/d_2)$ , where  $L_1$  is the specified limit in microvolts per metre ( $\mu\text{V}/\text{m}$ ) at the distance  $d_1$  (10m),  $L_2$  is the new limit for distance  $d_2$  (3m).

So the new Class A limit above 1GHz at 3m is as following table:

Frequency (MHz)	Class A (dBuV/m) (At 3m)	
	Average	Peak
Above 1000	60	80

## 7.2. TEST INSTRUMENTS

Wugu 10M Chamber					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Bilog Antenna	TESEQ	CBL 6112D	31674	03/21/2016	03/20/2017
Bilog Antenna	TESEQ	CBL 6112D	31675	03/21/2016	03/20/2017
Coaxial Cable	Huber+Suhner	104	330026	05/03/2016	05/02/2017
Coaxial Cable	Huber+Suhner	SUCOFLEX 104PEA	330028	05/03/2016	05/02/2017
Coaxial Cable	Huber+Suhner	SUCOFLEX 104PEA	329383	05/03/2016	05/02/2017
Coaxial Cable	Huber+Suhner	104PEA	33948/4PEA	05/03/2016	05/02/2017
Coaxial Cable	Huber+Suhner	104PEA	33949/4PEA	05/03/2016	05/02/2017
EMI Test Receiver	R&S	ESCI	100961	08/04/2016	08/03/2017
EMI Test Receiver	R&S	ESCI	100962	08/13/2016	08/12/2017
Horn Antenna	EMCO	3117	55167	01/18/2016	01/17/2017
Horn Antenna	EMCO	3116	26370	01/15/2016	01/14/2017
Pre-Amplifier	HP	8447D	2944A07754	05/03/2016	05/02/2017
Pre-Amplifier	HP	8447D	2944A08150	05/03/2016	05/02/2017
Pre-Amplifier	EMC	EMC051845	980040	05/03/2016	05/02/2017
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	01/14/2016	01/13/2017
Spectrum Analyzer	Agilent	E4446A	MY48250297	09/09/2016	09/08/2017
Thermo-Hygro Meter	ROTRONIC	M800	0GYJ	11/15/2016	11/14/2017
AC POWER SOURCE	APE	AFC-130	991259	N.C.R	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Antenna Tower	Sunol Sciences	TLT2	031010-5	N.C.R	N.C.R
Coaxial Cable	Huber+Suhner	104	330029/4	N.C.R	N.C.R
Coaxial Cable	Huber+Suhner	SF104PEA	33946	N.C.R	N.C.R
Coaxial Cable	Huber+Suhner	SF104PEA	33947	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	031010-1	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	EZ-EMC (CCS-3A1RE)				

**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. N.C.R. = No Calibration Required.

### **7.3. TEST PROCEDURES** (please refer to measurement standard or CCS SOP PA-031)

The basic test procedure was in accordance with ANSI C63.4: 2014 and ICES-003-2016.

#### **Frequency range 30MHz ~ 1GHz**

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position.
2. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The height of antenna is varied form one meter to four meter above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was turned to heights for 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.

NOTE: The resolution bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1GHz.

#### **Frequency range above 1GHz**

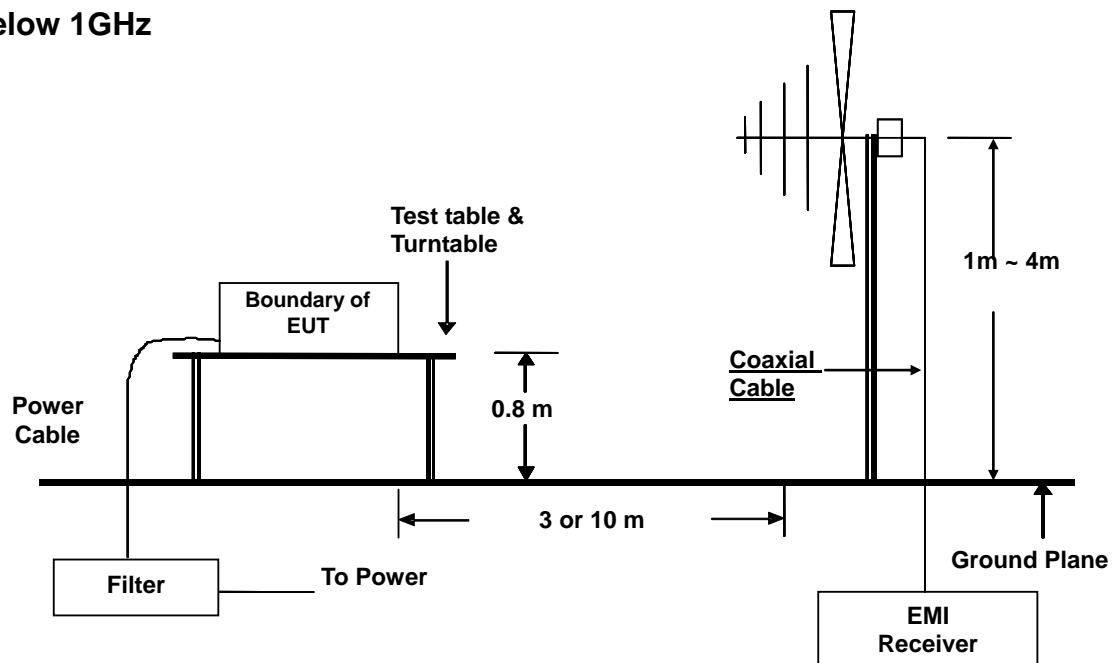
1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position.
2. The EUT was set 3 meters away from the directional antenna, which was pointed towards the source of the emission within the EUT. This could be done by either pointing the antenna at an angle towards the source of the emission, or by rotating the EUT, in both height and polarization, to maximize the measured emission.
3. The height of antenna can be varied form one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3 dB beam width both, to detect the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was turned to heights and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.

#### **NOTE:**

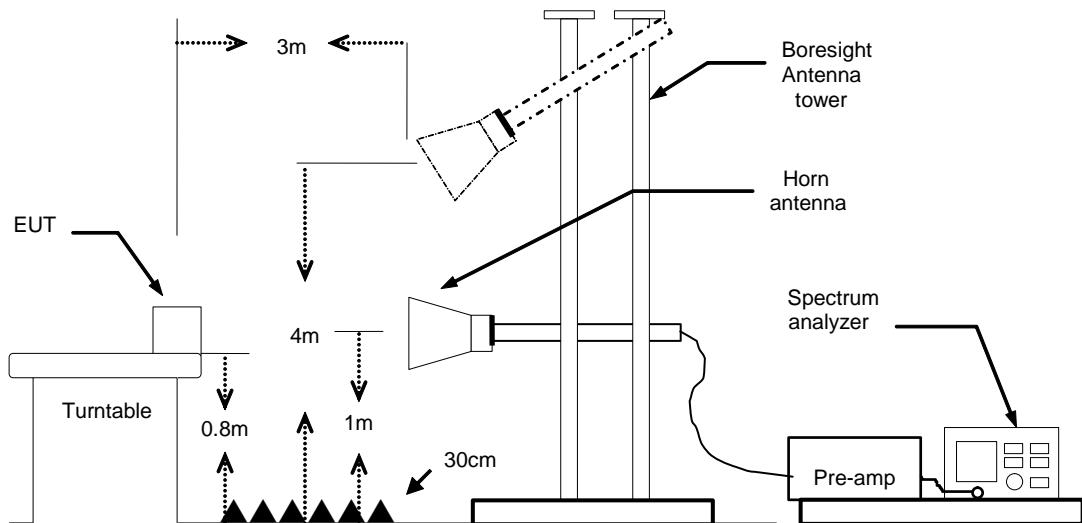
1. The resolution bandwidth is 1MHz and video bandwidth of test spectrum analyzer is 1 MHz for peak detection at above 1GHz. The resolution bandwidth is 1MHz and video bandwidth of test spectrum analyzer is 100Hz for average detection at frequency above 1 GHz.
2. For measurement of frequency above 1GHz, the EUT was set 3 meters away from the directional antenna.

## 7.4. TEST SETUP

### Below 1GHz



### Above 1GHz



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

## 7.5. DATA SAMPLE:

### Below 1GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
xx.xx	16.49	9.86	26.35	30.00	-3.65	116.00	101.00	QP

### Above 1GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
xx.xx	60.80	-14.59	46.21	74.00	-27.79	200	351	peak
xx.xx	52.05	-13.17	38.88	54.00	-15.12	200	135	AVG

Frequency (MHz)

= Emission frequency in MHz

Reading (dBuV)

= Uncorrected Analyzer / Receiver reading

Correction Factor (dB/m)

= Antenna factor + Cable loss – Amplifier gain

Result (dBuV/m)

= Reading (dBuV) + Corr. Factor (dB/m)

Limit (dBuV/m)

= Limit stated in standard

Margin (dB)

= Result (dBuV/m) – Limit (dBuV/m)

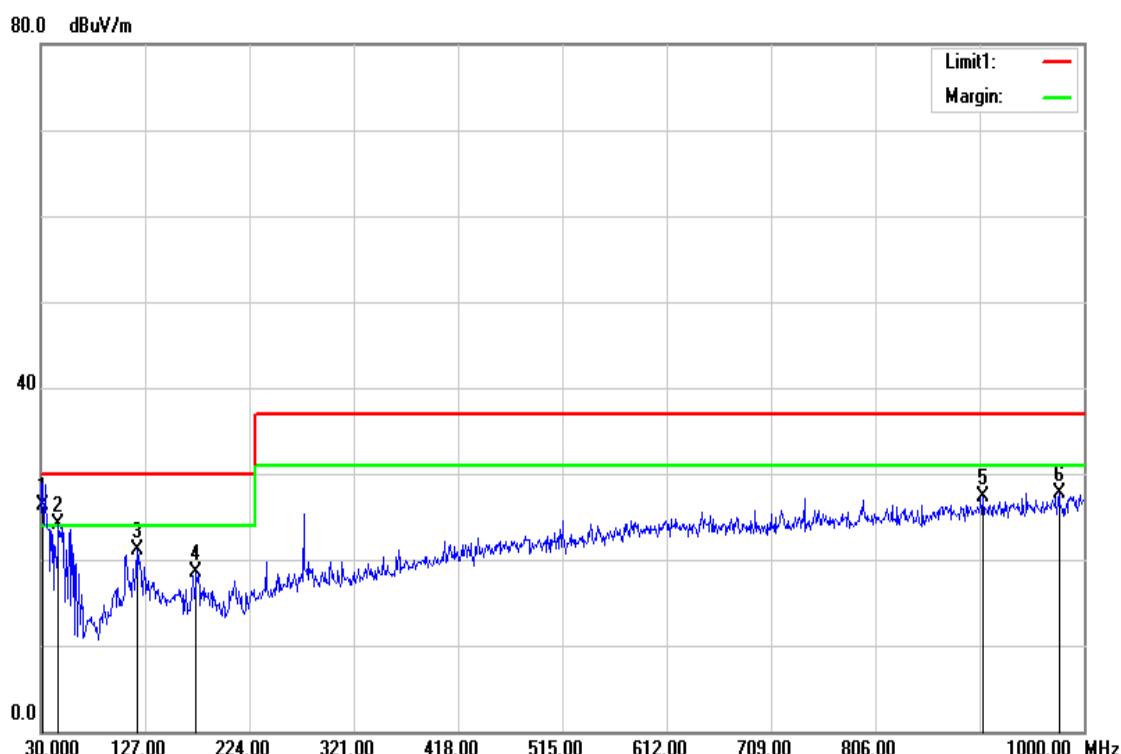
Q.P.

= Quasi-Peak

## 7.6. TEST RESULTS

### Below 1000MHz

<b>Model No.</b>	QTAXIA1	<b>Test Mode</b>	Mode1
<b>Environmental Conditions</b>	26(°C)/60%RH	<b>Test Date</b>	2017/1/11
<b>Antenna Pole</b>	Vertical	<b>Antenna Distance</b>	10m
<b>Detector Function</b>	Quasi-peak	<b>Tested by</b>	Ming Fan

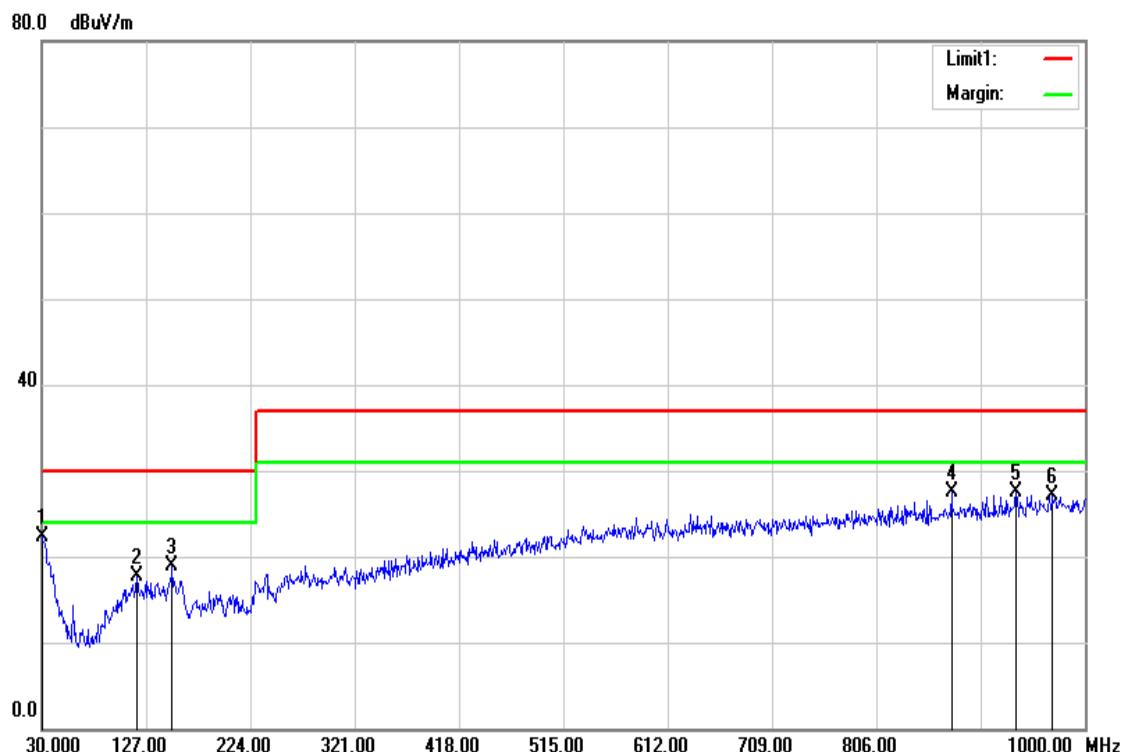


No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	31.9400	30.16	-3.86	26.30	30.00	-3.70	102	82	QP
2	46.4900	35.14	-10.95	24.19	30.00	-5.81	100	6	peak
3	119.2400	28.87	-7.72	21.15	30.00	-8.85	332	57	peak
4	174.5300	27.98	-9.57	18.41	30.00	-11.59	187	344	peak
5	905.9100	23.14	4.09	27.23	37.00	-9.77	100	31	peak
6	976.7200	22.72	5.03	27.75	37.00	-9.25	256	0	peak

#### REMARKS:

1. The other emission levels were very low against the limit.
2. 30MHz to 1000MHz test is Applicable CISPR 22 standard.

<b>Model No.</b>	QTAXIA1	<b>Test Mode</b>	Mode1
<b>Environmental Conditions</b>	26(°C)/60%RH	<b>Test Date</b>	2017/1/11
<b>Antenna Pole</b>	Horizontal	<b>Antenna Distance</b>	10m
<b>Detector Function</b>	Quasi-peak	<b>Tested by</b>	Ming Fan



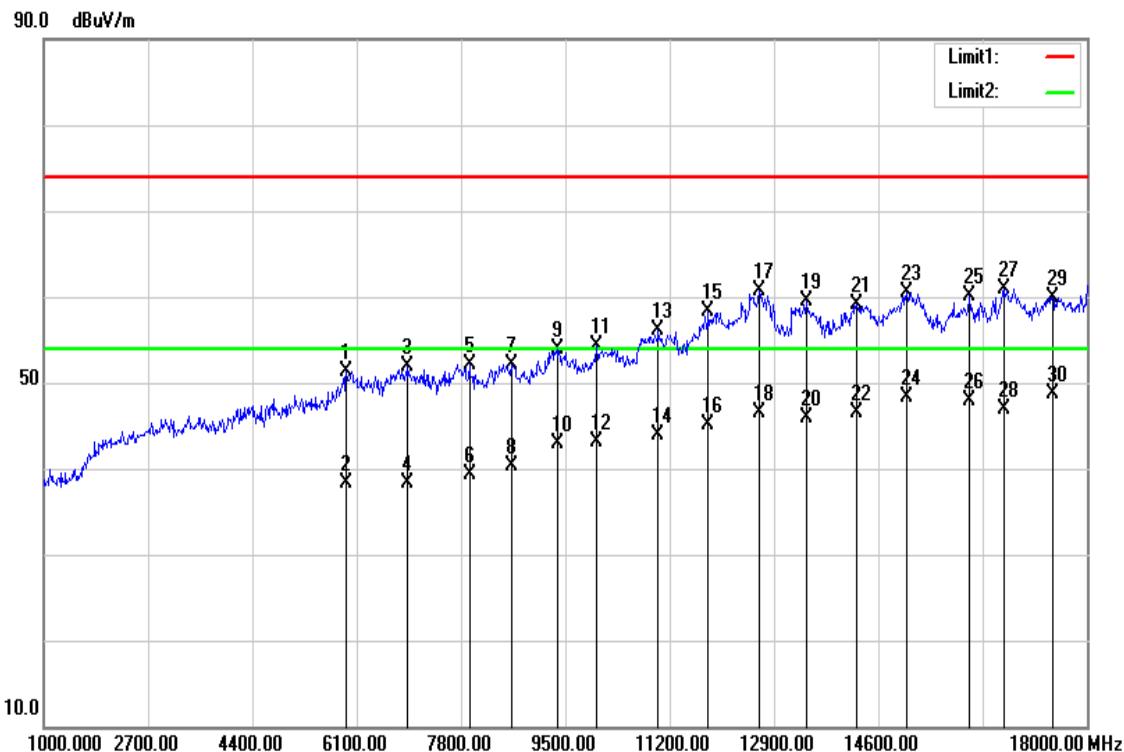
No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	30.0000	26.10	-3.85	22.25	30.00	-7.75	400	300	peak
2	118.2700	26.63	-8.95	17.68	30.00	-12.32	266	239	peak
3	151.2500	28.90	-10.02	18.88	30.00	-11.12	102	359	peak
4	875.8400	25.42	2.13	27.55	37.00	-9.45	400	359	peak
5	935.9800	24.60	2.89	27.49	37.00	-9.51	330	40	peak
6	969.9300	23.76	3.33	27.09	37.00	-9.91	115	40	peak

**REMARKS:**

1. The other emission levels were very low against the limit.
2. 30MHz to 1000MHz test is Applicable CISPR 22 standard.

## Above 1GHz

Model No.	QTAXIA1	Test Mode	Mode1
Environmental Conditions	26(°C)/60%RH	Test Date	2017/1/11
Antenna Pole	Vertical	Antenna Distance	3m
Highest frequency generated or used	1.95GHz	Upper frequency	9.75GHz
Detector Function	Peak & Average	Tested by	Ming Fan



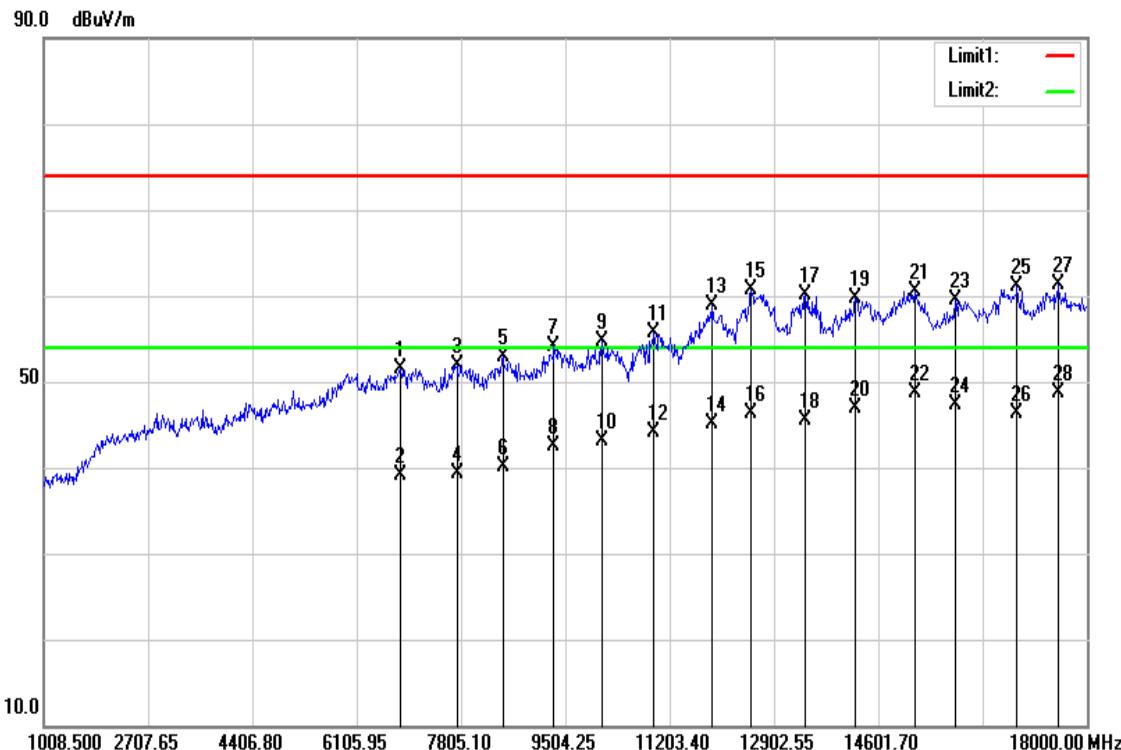
No.	Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5938.500	55.73	-4.44	51.29	74.00	-22.71	220	0	peak
2	5938.500	42.76	-4.44	38.32	54.00	-15.68	220	0	AVG
3	6933.000	55.28	-3.47	51.81	74.00	-22.19	400	257	peak
4	6933.000	41.84	-3.47	38.37	54.00	-15.63	400	257	AVG
5	7944.500	55.30	-3.17	52.13	74.00	-21.87	100	249	peak
6	7944.500	42.40	-3.17	39.23	54.00	-14.77	100	249	AVG
7	8624.500	54.43	-2.36	52.07	74.00	-21.93	388	348	peak
8	8624.500	42.71	-2.36	40.35	54.00	-13.65	388	348	AVG
9	9381.000	54.13	-0.25	53.88	74.00	-20.12	112	242	peak
10	9381.000	43.11	-0.25	42.86	54.00	-11.14	112	242	AVG
11	10010.000	53.03	1.22	54.25	74.00	-19.75	100	242	peak
12	10010.000	41.93	1.22	43.15	54.00	-10.85	100	242	AVG

13	11013.000	52.85	3.23	56.08	74.00	-17.92	247	29	peak
14	11013.000	40.63	3.23	43.86	54.00	-10.14	247	29	AVG
15	11829.000	52.14	6.18	58.32	74.00	-15.68	120	0	peak
16	11829.000	38.94	6.18	45.12	54.00	-8.88	120	0	AVG
17	12670.500	52.86	7.89	60.75	74.00	-13.25	100	3	peak
18	12670.500	38.68	7.89	46.57	54.00	-7.43	100	3	AVG
19	13427.000	53.33	6.21	59.54	74.00	-14.46	336	196	peak
20	13427.000	39.62	6.21	45.83	54.00	-8.17	336	196	AVG
21	14243.000	52.72	6.46	59.18	74.00	-14.82	400	257	peak
22	14243.000	40.11	6.46	46.57	54.00	-7.43	400	257	AVG
23	15067.500	52.85	7.67	60.52	74.00	-13.48	100	45	peak
24	15067.500	40.55	7.67	48.22	54.00	-5.78	100	45	AVG
25	16087.500	53.30	6.75	60.05	74.00	-13.95	206	0	peak
26	16087.500	41.20	6.75	47.95	54.00	-6.05	206	0	AVG
27	16640.000	52.69	8.18	60.87	74.00	-13.13	117	204	peak
28	16640.000	38.68	8.18	46.86	54.00	-7.14	117	204	AVG
29	17439.000	51.99	7.98	59.97	74.00	-14.03	100	227	peak
30	17439.000	40.75	7.98	48.73	54.00	-5.27	100	227	AVG

**REMARKS:**

1. The other emission levels were very low against the limit.
2. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)

<b>Model No.</b>	QTAXIA1	<b>Test Mode</b>	Mode1
<b>Environmental Conditions</b>	26(°C)/60%RH	<b>Test Date</b>	2017/1/11
<b>Antenna Pole</b>	Horizontal	<b>Antenna Distance</b>	3m
<b>Highest frequency generated or used</b>	1.95GHz	<b>Upper frequency</b>	9.75GHz
<b>Detector Function</b>	Peak & Average	<b>Tested by</b>	Ming Fan



No.	Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	6814.000	55.03	-3.58	51.45	74.00	-22.55	211	109	peak
2	6814.000	42.70	-3.58	39.12	54.00	-14.88	211	109	AVG
3	7740.500	55.21	-3.26	51.95	74.00	-22.05	302	117	peak
4	7740.500	42.61	-3.26	39.35	54.00	-14.65	302	117	AVG
5	8480.000	55.77	-2.80	52.97	74.00	-21.03	118	42	peak
6	8480.000	42.92	-2.80	40.12	54.00	-13.88	118	42	AVG
7	9321.500	54.41	-0.38	54.03	74.00	-19.97	100	117	peak
8	9321.500	42.81	-0.38	42.43	54.00	-11.57	100	117	AVG
9	10095.000	53.24	1.38	54.62	74.00	-19.38	400	163	peak
10	10095.000	41.77	1.38	43.15	54.00	-10.85	400	163	AVG
11	10953.500	52.59	3.07	55.66	74.00	-18.34	220	338	peak
12	10953.500	41.05	3.07	44.12	54.00	-9.88	220	338	AVG

13	11897.000	52.51	6.36	58.87	74.00	-15.13	186	87	peak
14	11897.000	38.72	6.36	45.08	54.00	-8.92	186	87	AVG
15	12526.000	52.42	8.22	60.64	74.00	-13.36	100	360	peak
16	12526.000	38.11	8.22	46.33	54.00	-7.67	100	360	AVG
17	13418.500	53.82	6.23	60.05	74.00	-13.95	352	285	peak
18	13418.500	39.20	6.23	45.43	54.00	-8.57	352	285	AVG
19	14234.500	53.27	6.44	59.71	74.00	-14.29	399	133	peak
20	14234.500	40.54	6.44	46.98	54.00	-7.02	399	133	AVG
21	15203.500	53.13	7.41	60.54	74.00	-13.46	100	1	peak
22	15203.500	41.26	7.41	48.67	54.00	-5.33	100	1	AVG
23	15866.500	52.98	6.54	59.52	74.00	-14.48	288	345	peak
24	15866.500	40.81	6.54	47.35	54.00	-6.65	288	345	AVG
25	16861.000	53.06	8.01	61.07	74.00	-12.93	100	125	peak
26	16861.000	38.37	8.01	46.38	54.00	-7.62	100	125	AVG
27	17532.500	53.12	8.10	61.22	74.00	-12.78	400	80	peak
28	17532.500	40.62	8.10	48.72	54.00	-5.28	400	80	AVG

**REMARKS:**

1. The other emission levels were very low against the limit.
2. Margin (dB) = Result (dB<sub>AV</sub>/m) – Limit (dB<sub>AV</sub>/m)