FCC TEST REPORT

FCC ID: 2AI63Z11

Product	:	Bluetooth speakers
Model Name	:	Z11
Brand	:	N/A
Report No.	:	PTC801483160708E-FC02

Prepared for

Shenzhen tietou Industrial Co., Ltd.

3/F, Building B, Lisongyin Battery Road, Gongming Sub-District,Shenzhen, China

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name	:	Shenzhen tietou Industrial Co., Ltd.
Address	:	3/F, Building B, Lisongyin Battery Road, Gongming Sub-District,Shenzhen, China
Manufacture's name	:	Shenzhen tietou Industrial Co., Ltd.
Address	:	3/F, Building B, Lisongyin Battery Road, Gongming Sub-District,Shenzhen, China
Product name	:	Bluetooth speakers
Model name	:	Z11
Standards	:	FCC CFR47 Part 15 Section B
Test procedure	:	ANSI C63.4:2014
Test Date	:	Sep.06, 2016 ~Sep.08, 2016
Date of Issue	:	Sep.08, 2016
Test Result	:	Pass

This device described above has been tested by PTS, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable onlyto the tested sample identified in the report.

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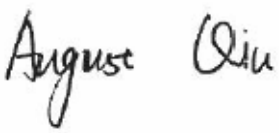
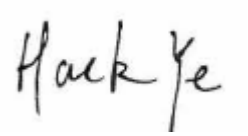
Testing Engineer

August Qiu



TechnicalManager

Hack Ye



AuthorizedSignatory

Chris Du

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2 Test Summary

Test Item	Test Requirement	Class	Test Method	Test Result
Power Line Conducted Emission (150kHz to 30MHz)	FCC PART 15, SUBPART B	Class B	ANSI C63.4: 2014	PASS
Radiated Emission (30MHz to 1GHz)	FCC PART 15, SUBPART B	Class B	ANSI C63.4: 2014	PASS
Radiated Emission (Above 1GHz)	FCC PART 15, SUBPART B	Class B	ANSI C63.4: 2014	PASS

Remark:

N/A: Not Applicable

3 General Information

3.1 General Description of E.U.T.

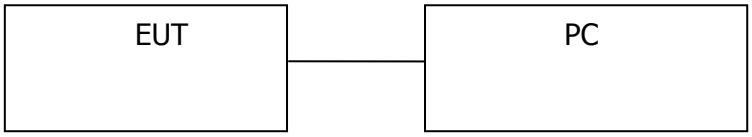
Product Name	:	Bluetooth speakers
Model Name	:	Z11
Model Description	:	N/A
Power supply	:	DC 3.7V 1200mAh Power by battery, DC 5V charging by USB port

3.2 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectivelyby performing full tests,the worst data were recorded and reported.

Test Item	Test Mode
Conduction Emission	Transfer data with PC
Radiated Emission	Transfer data with PC

3.3 Configuration of System



4 Equipment During Test

4.1 Equipments List

Radiated Emissions							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	EMI Test Receiver	Rohde&Schwarz	ESCI	101417	July 15, 2016	July 14, 2017	1 year
2	EMC Analyzer (9k~26.5GHz)	Agilent	E4407B	MY45109572	Aug.04, 2016	Aug.03, 2017	1 year
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3355	July 15, 2016	July 14, 2017	1 year
4	Amplifier	EM	EM-30180	060538	July 15, 2016	July 14, 2017	1 year
5	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1246	July 15, 2016	July 14, 2017	1 year
6	Coaxial Cable(below 1GHz)	LARGE	CALB1	-	July 15, 2016	July 14, 2017	1 year
7	Coaxial Cable(above 1GHz)	LARGE	CALB2	-	July 15, 2016	July 14, 2017	1 year
Conducted Emissions							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	EMI Test Receiver	R&S	ESCI	101155	July 15, 2016	July 14, 2017	1 year
2	LISN	SCHWARZBECK	NSLK 8128	8128-289	July 15, 2016	July 14, 2017	1 year
3	Coaxial Cable	LARGE	RF300	-	July 15, 2016	July 14, 2017	1 year

4.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
Note Book	Sony	PCG-51111T	X16-96081

4.3 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10^{-6}
Bandwidth	± 1.5 x 10^{-6}
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB

5 Conducted Emission

Test Requirement:	:	FCC CFR 47 Part 15 Section 15.107
Test Method:	:	ANSI C63.4:2014
Frequency Range:	:	150kHz to 30MHz
Class/Severity:	:	Class B
Limit:	:	66-56 dBμV between 0.15MHz & 0.5MHz
	:	56 dBμV between 0.5MHz & 5MHz
	:	60 dBμV between 5MHz & 30MHz
Detector:	:	Peak for pre-scan(9kHz Resolution Bandwidth)

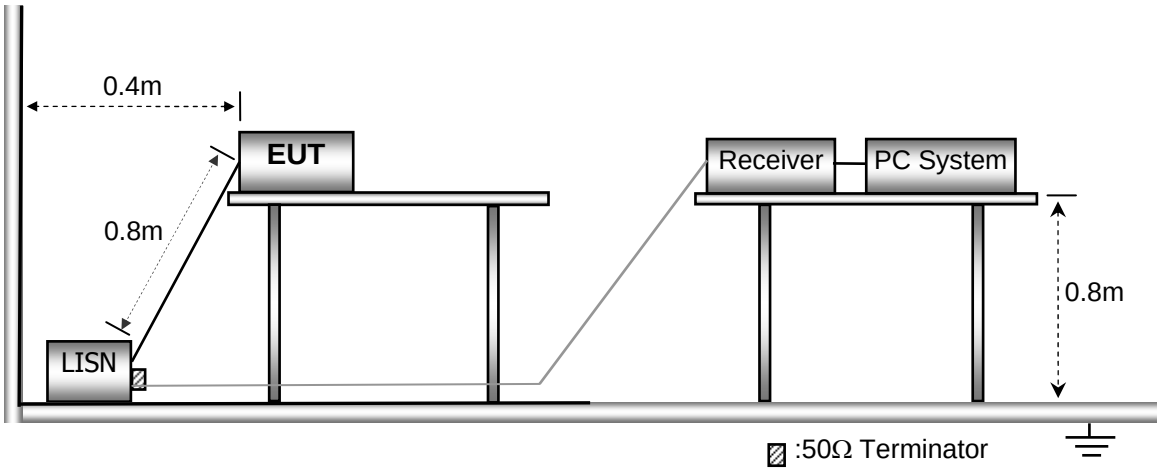
5.1 E.U.T. Operation

Operating Environment**:**

Temperature:	:	25.5 °C
Humidity:	:	51 % RH
Atmospheric Pressure:	:	101.2kPa
EUT Operation**:**	:	Refer to section 3.2

5.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.4:2014.

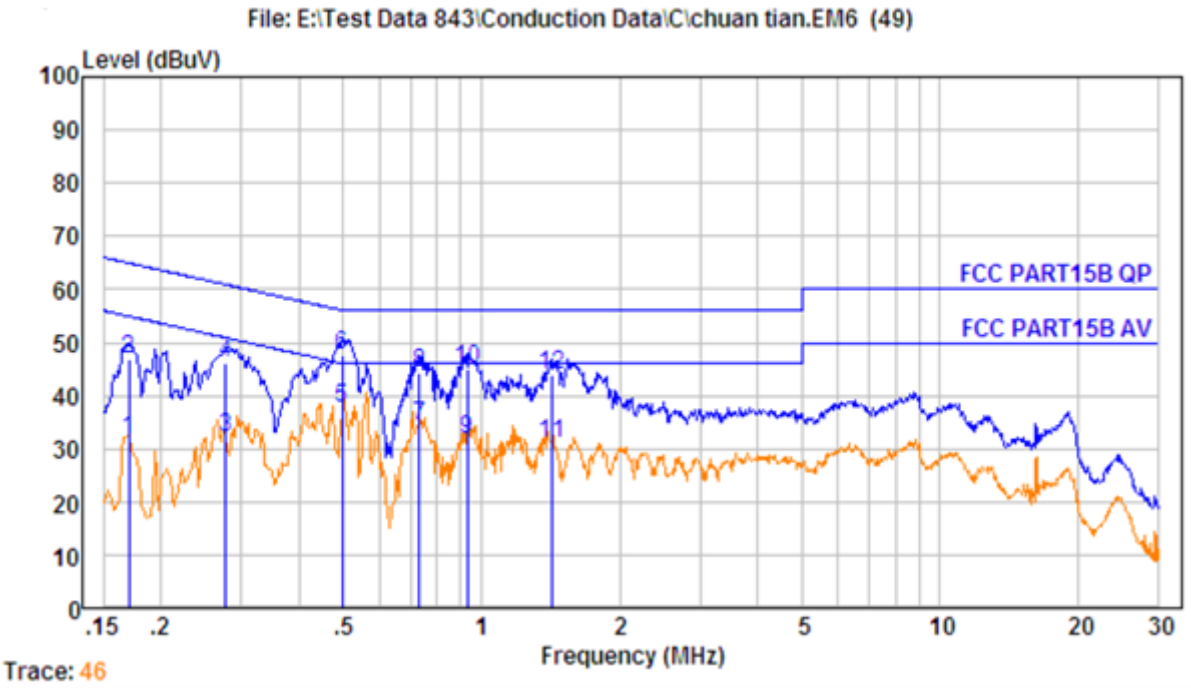


5.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

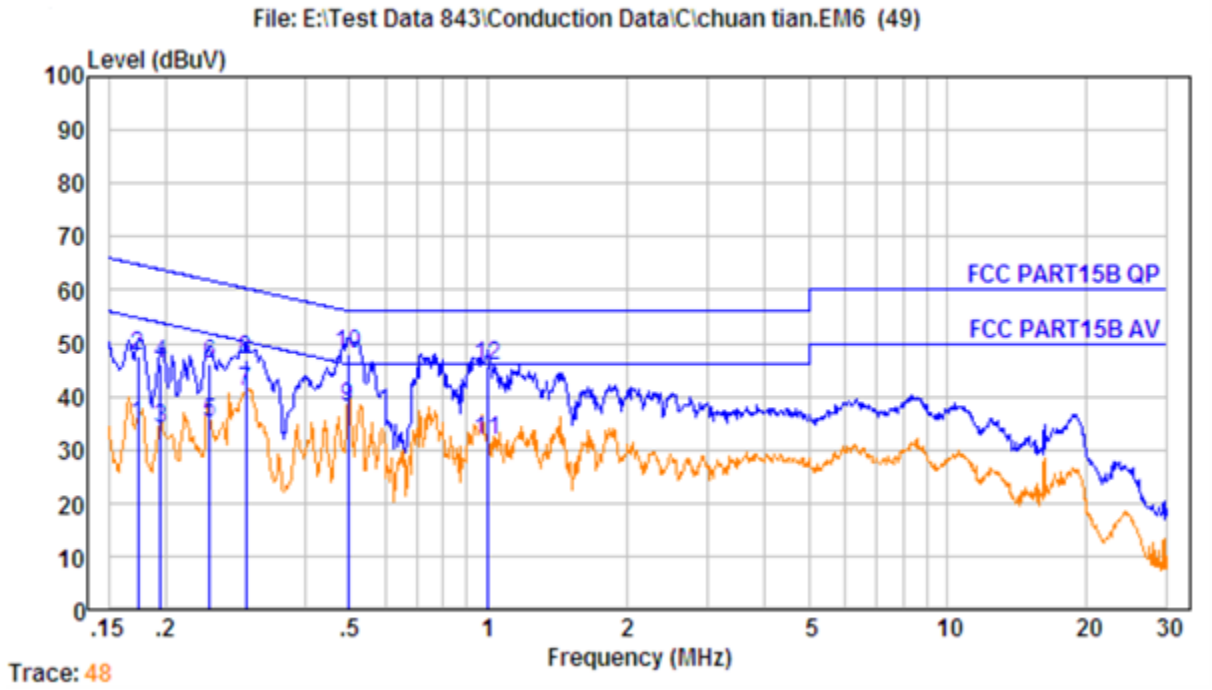
5.4 Conducted Emission Test Result

Live line:



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuV	Emission Level dBuV	Limit dBuV	Over Limit dB	Remark
1.	0.170	10.60	0.60	20.57	31.77	54.94	-23.17	Average
2.	0.170	10.60	0.60	35.57	46.77	64.94	-18.17	QP
3.	0.277	10.62	0.60	20.83	32.05	50.90	-18.85	Average
4.	0.277	10.62	0.60	34.83	46.05	60.90	-14.85	QP
5.	0.497	10.65	0.60	26.22	37.47	46.05	-8.58	Average
6.	0.497	10.65	0.60	36.22	47.47	56.05	-8.58	QP
7.	0.731	10.66	0.60	23.19	34.45	46.00	-11.55	Average
8.	0.731	10.66	0.60	33.19	44.45	56.00	-11.55	QP
9.	0.933	10.67	0.60	20.58	31.85	46.00	-14.15	Average
10.	0.933	10.67	0.60	33.58	44.85	56.00	-11.15	QP
11.	1.418	10.68	0.60	19.65	30.93	46.00	-15.07	Average
12.	1.418	10.68	0.60	32.65	43.93	56.00	-12.07	QP

Neutral line:



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuV	Emission Level dBuV	Limit dBuV	Over Limit dB	Remark
1.	0.174	10.60	0.60	23.57	34.77	54.77	-20.00	Average
2.	0.174	10.60	0.60	36.57	47.77	64.77	-17.00	QP
3.	0.194	10.61	0.60	22.82	34.03	53.84	-19.81	Average
4.	0.194	10.61	0.60	34.82	46.03	63.84	-17.81	QP
5.	0.248	10.62	0.60	23.78	35.00	51.82	-16.82	Average
6.	0.248	10.62	0.60	34.78	46.00	61.82	-15.82	QP
7.	0.299	10.63	0.60	29.63	40.86	50.28	-9.42	Average
8.	0.299	10.63	0.60	35.63	46.86	60.28	-13.42	QP
9.	0.497	10.65	0.60	26.76	38.01	46.05	-8.04	Average
10.	0.497	10.65	0.60	36.76	48.01	56.05	-8.04	QP
11.	1.005	10.67	0.60	20.38	31.65	46.00	-14.35	Average
12.	1.005	10.67	0.60	34.38	45.65	56.00	-10.35	QP

6 Radiated Spurious Emissions

Test Requirement: : FCC CFR47 Part 15 Section 15.109

Test Method: : ANSI C63.4:2014

Measurement Distance: : 3m

Limit: : See the follow table

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

6.1 EUT Operation

Operating Environment :

Temperature: : 23.5 °C

Humidity: : 51.1 % RH

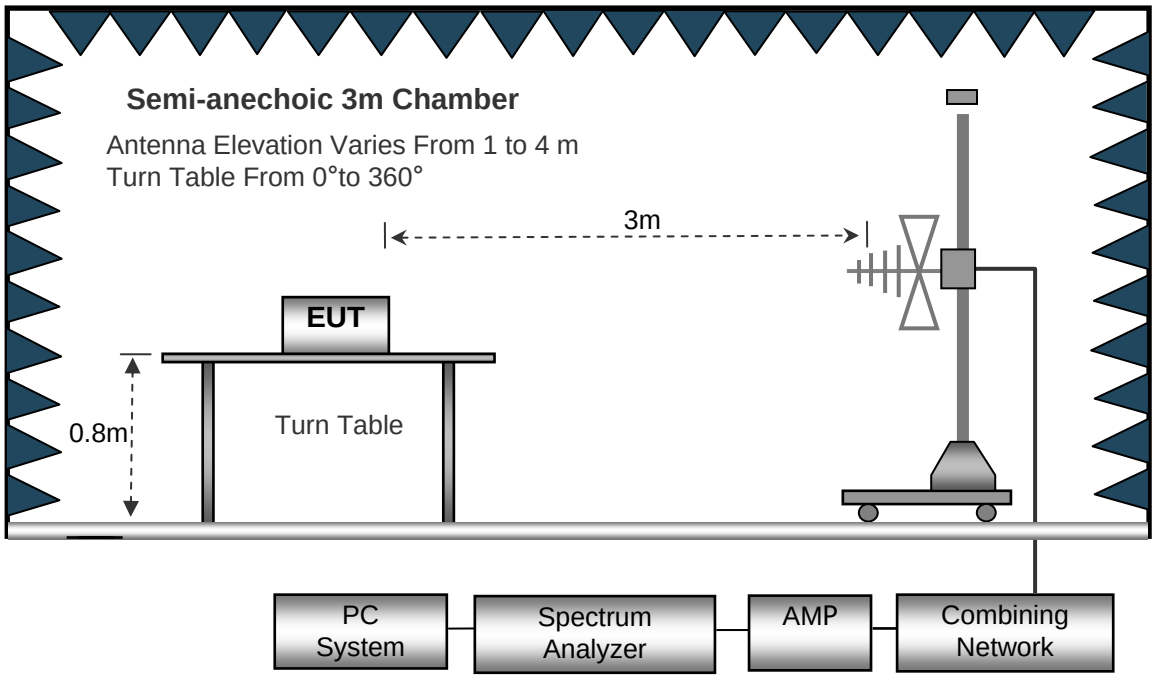
Atmospheric Pressure: : 101.2kPa

EUT Operation : : Refer to section 3.2

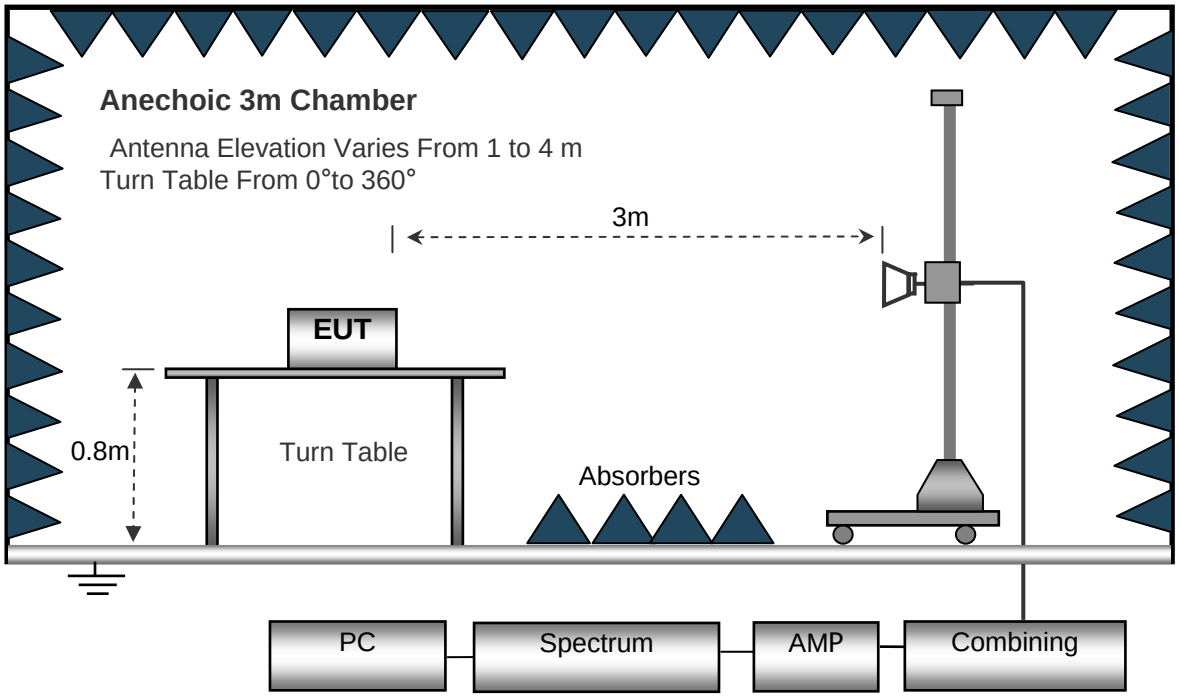
6.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber testsite

The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



6.3 Spectrum Analyzer Setup

30MHz ~ 1GHz

Sweep Speed	:	Auto
Detector	:	PK
Resolution Bandwidth	:	100kHz
Video Bandwidth	:	300kHz
Detector	:	QP
Resolution Bandwidth	:	120kHz
Video Bandwidth	:	300kHz

Above 1GHz

Sweep Speed	:	Auto
Detector	:	PK
Resolution Bandwidth	:	1MHz
Video Bandwidth	:	3MHz
Detector	:	AV
Resolution Bandwidth	:	1MHz
Video Bandwidth	:	10Hz

6.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane.

2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level

3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up tothe tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

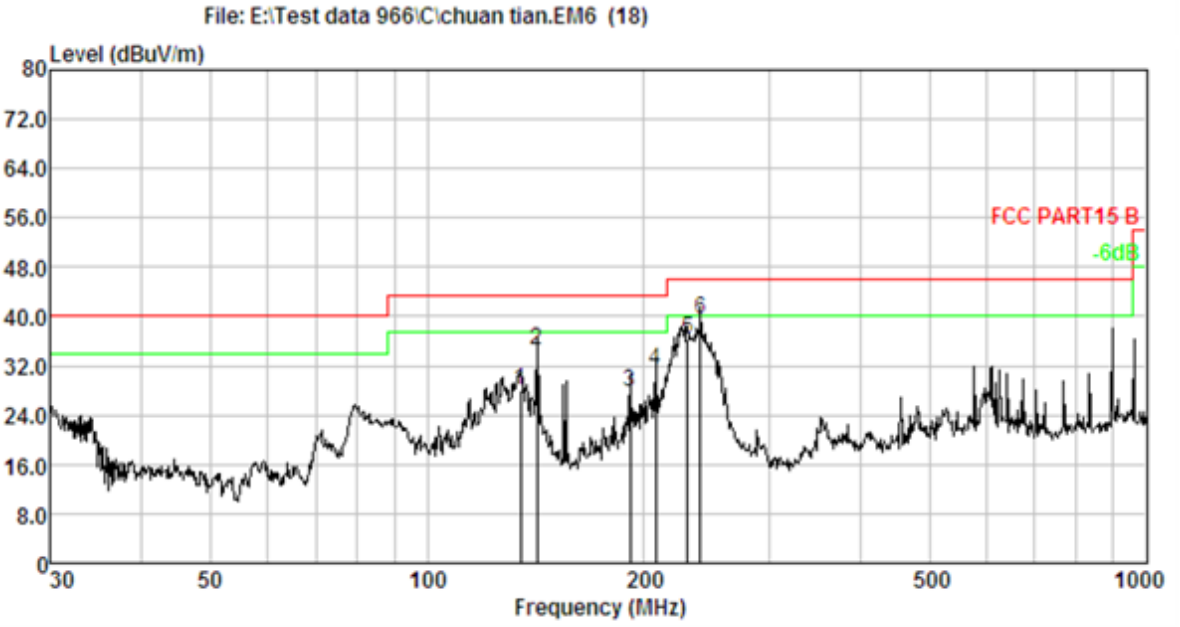
6. Repeat above procedures until the measurements for all frequencies are complete.

7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.

6.5 Summary of Test Results

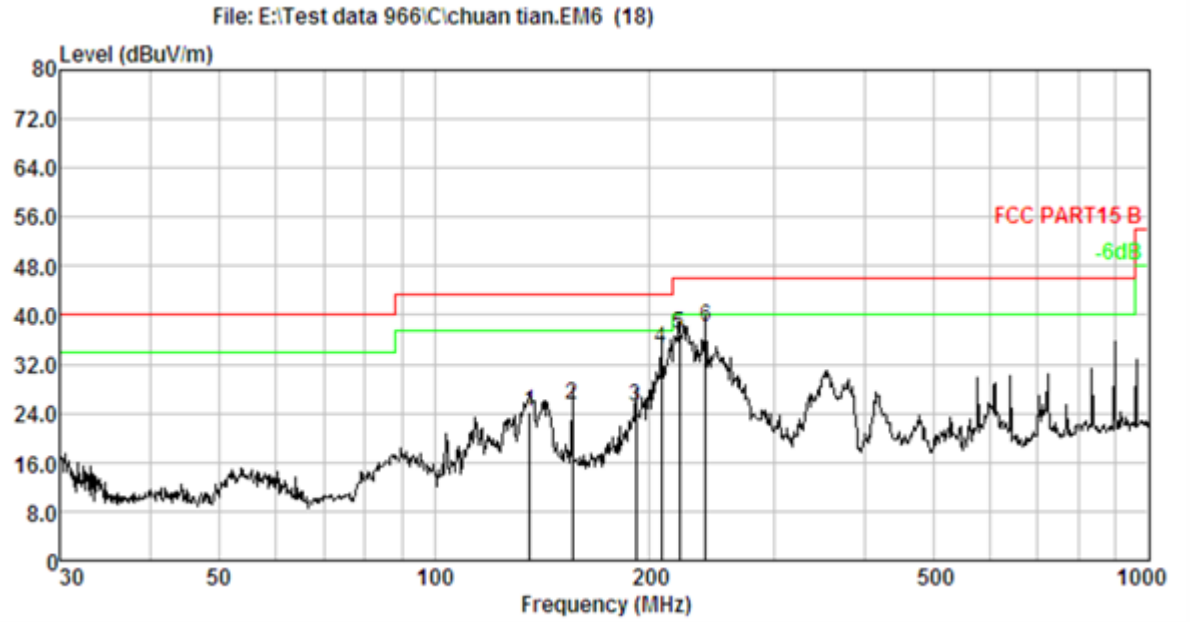
Test Frequency: 30MHz ~ 1GHz

Antenna Polarization: Vertical



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	135.032	2.42	13.00	43.15	30.49	28.08	43.50	-15.42	QP
2.	142.324	2.46	13.49	49.22	30.51	34.66	43.50	-8.84	QP
3.	191.745	2.73	10.97	44.72	30.62	27.80	43.50	-15.70	QP
4.	207.850	2.81	10.53	48.68	30.64	31.38	43.50	-12.12	QP
5.	230.099	2.90	11.25	52.96	30.68	36.43	46.00	-9.57	QP
6.	239.987	2.94	11.71	55.56	30.69	39.52	46.00	-6.48	QP

Antenna Polarization: Horizontal



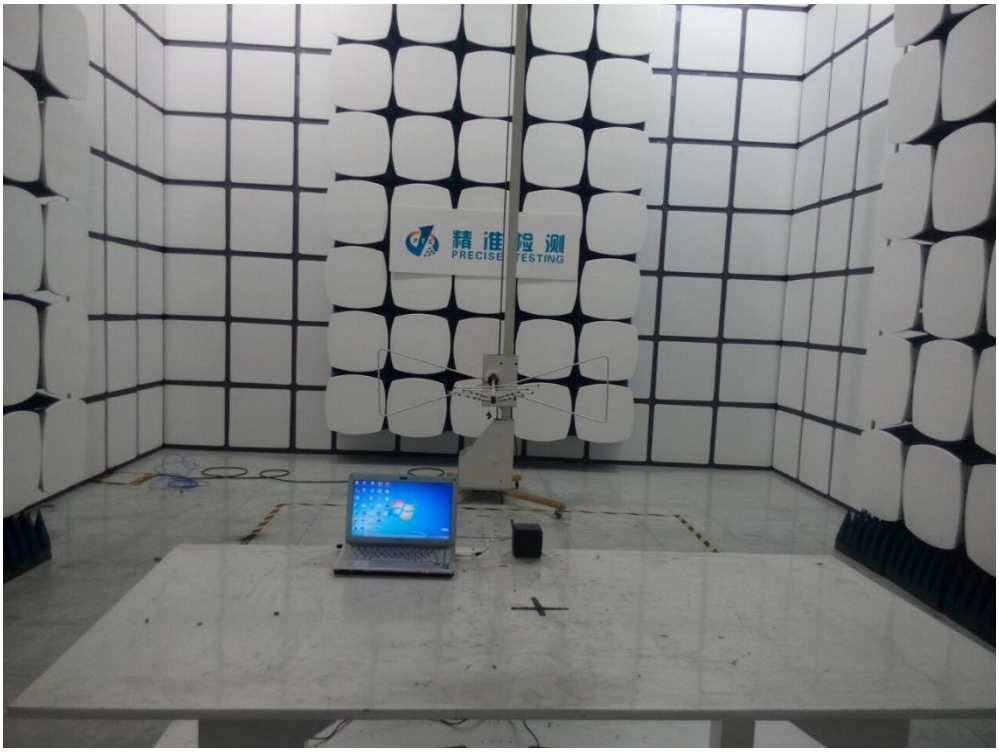
No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	135.982	2.42	13.07	39.32	30.50	24.31	43.50	-19.19	QP
2.	155.910	2.55	13.89	39.58	30.54	25.48	43.50	-18.02	QP
3.	191.745	2.73	10.97	41.93	30.62	25.01	43.50	-18.49	QP
4.	207.850	2.81	10.53	51.97	30.64	34.67	43.50	-8.83	QP
5.	220.617	2.86	10.79	53.97	30.66	36.96	46.00	-9.04	QP
6.	239.987	2.94	11.71	54.14	30.69	38.10	46.00	-7.90	QP

Test Frequency: Above 1GHz

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	Type	
1128.95	66.06	-19.14	46.92	74.00	-27.08	peak	Vertical
1128.95	58.75	-19.14	39.61	54.00	-14.39	AV	Vertical
1598.64	59.14	-16.43	42.71	74.00	-31.29	peak	Vertical
1598.64	50.54	-16.43	34.11	54.00	-19.89	AV	Vertical
3043.88	59.92	-11.63	48.29	74.00	-25.71	peak	Vertical
3043.88	51.62	-11.63	39.99	54.00	-14.01	AV	Vertical
4808.12	54.33	-3.64	50.69	74.00	-23.31	peak	Vertical
4808.12	46.85	-3.64	43.21	54.00	-10.79	AV	Vertical
1130.49	70.47	-19.14	51.33	74.00	-22.67	peak	Horizontal
1130.49	62.19	-19.14	43.05	54.00	-10.95	AV	Horizontal
1595.60	65.31	-16.43	48.88	74.00	-25.12	peak	Horizontal
1595.60	56.23	-16.43	39.80	54.00	-14.20	AV	Horizontal
3044.83	57.98	-11.63	46.35	74.00	-27.65	peak	Horizontal
3044.83	50.18	-11.63	38.55	54.00	-15.45	AV	Horizontal
4804.75	49.89	-3.64	46.25	74.00	-27.75	peak	Horizontal
4804.75	41.28	-3.64	37.64	54.00	-16.36	AV	Horizontal

7 Test Setup

Radiated Emission
From 30MHz-1000MHz



Above 1GHz

Conducted Emissions

********THE END REPORT********