FCC TEST REPORT

Report No: STS1601055F01

Issued for

BorqsBeiJing Ltd.

Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road, Chaoyang District Beijing, 100015 China

Product Name:	Dock
Brand Name:	VIZIO
Model No.:	XD6M
Series Model:	N/A
FCC ID:	2ABDK-XD6M
Test Standard:	FCC Part 15 Subpart C

Shenzhen STS Test Services Co., Ltd.
1/F, Building B, Zhuoke Science Park, Chongqing Road, Fuyong, Baoan District, Shenzhen, China
TEL: +86-755 3688 6288FAX: +86-755 3688 6277E-mail:sts@stsapp.com

TEST RESULT CERTIFICATION

Applicant's name :	BorqsBeiJing Ltd
Address :	Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road, Chaoyang District Beijing, 100015 China
Manufacture's Name :	BorqsBeiJing Ltd
Address :	Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road, Chaoyang District Beijing, 100015 China

Product description

Product name :	Dock
Brand name :	VIZIO
Model and/or type reference :	XD6M
Standards :	FCC Part 15 Subpart C
Test Procedure :	ANSI C63.10-2013

This device described above has been tested by STS, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test :	
Date of performance of tests :	10 Jan 2016 ~19 Jan 2016
Date of Issue :	20 Jan 2016
Test Result :	**Pass**

Testing Engineer : _____
(Tony Liu)

Technical Manager : _____
(Vita Li)

Authorized Signatory : _____
(Bovey Yang)

Table of Contents Page

Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	20Jan . 2016	STS1601055F01	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.209（a）	Radiated emission, Spurious Emission	PASS	
2.1049	20 dB Bandwidth	PASS	

1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.
Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong,China
CNAS Registration No.: L7649;
FCC Registration No.: 842334; IC Registration No.: 12108A-1

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ±U** , where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2** , providing a level of confidence of approximately **95** %。

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	±2.88dB
2	Conducted Emission (150KHz-30MHz)	±2.67 dB
3	All emissions,radiated(<1G) 30MHz-200MHz	±2.83dB
4	All emissions,radiated(<1G) 200MHz-1000MHz	±2.94dB
5	Temperature	±0.5°C
6	Humidity	±2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Dock
Trade Name	VIZIO
Model Name	XD6M
Series Model	N/A
Model Difference	N/A
Channel List	Please refer to the Note 2.
Equipemnt Category	Non-ISM frequency
Operating frequency	135KHz
Modulation Type	ASK
Adapter	Input: AC100-240V, 450mA,50/60Hz output: DC5V,2000mA
Hardware version number	--
Software versioning number	--
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2.

Channel List					
Channel	Frequency (KHz)	Channel	Frequency (KHz)	Channel	Frequency (KHz)
00	135				

3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	NOTE
1	VIZIO	XD6M	Coil	NA	Antenna

The EUT antenna is Coil Antenna. No antenna other than that furnished by the responsible party shall be used with the device.

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Charging+TX Mode

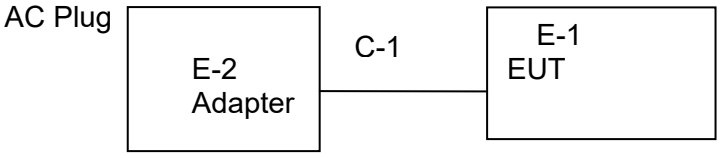
For Conducted Emission	
Final Test Mode	Description
Mode 1	Charging+TX Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	Charging+TX Mode

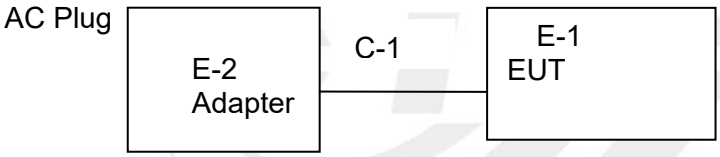
2.3BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Conducted Emission Test



Radiated EmissionTest



2.4 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.

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-1	Dock	VIZIO	XD6M	N/A	EUT
E-2	Adapter	N/A	ASUC41a-050120	N/A	EUT

Item	Shielded Type	Cable type	Ferrite Core	Length	Note
C-1	unshielded	USB	NO	102cm	N/A

Note:

(1) FCC DOC approved.

2.5EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Spectrum Analyzer	Agilent	E4407B	MY50140340	2015.10.25	2016.10.24
Test Receiver	R&S	ESCI	101427	2015.10.25	2016.10.24
Bilog Antenna	TESEQ	CBL6111D	34678	2015.11.25	2016.11.24
50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2015.06.06	2016.06.05
PreAmplifier	Agilent	8449B	60538	2015.10.25	2016.10.24
Loop Antenna	ARA	PLA-1030/B	1029	2015.06.08	2016.06.07
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2015.10.25	2016.10.24

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	102086	2015.11.20	2016.11.19
LISN	R&S	ENV216	101242	2015.10.25	2016.10.24
LISN	EMCO	3810/2NM	000-23625	2015.10.25	2016.10.24

3.CONDUCTED EMISSION TEST RESULT(SECTION 15.207)

3.1POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 15.207 limit in the table below has to be followed.

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

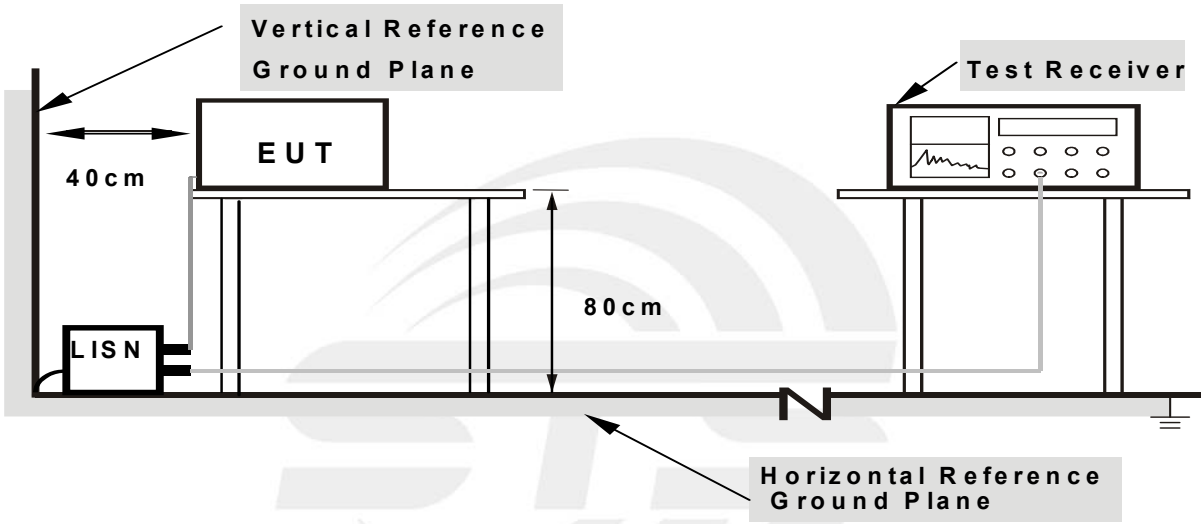
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 TEST PROCEDURE

a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 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

3.4EUT OPERATING CONDITIONS

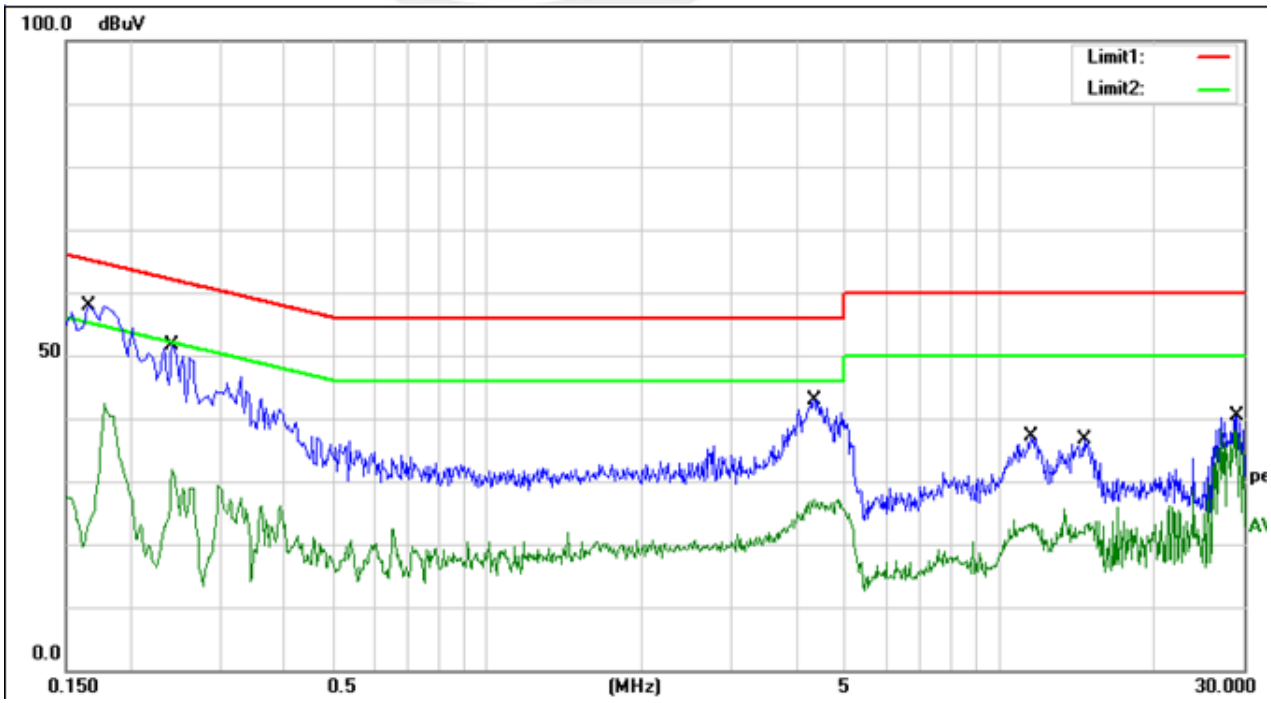
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.5TEST RESULTS

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	L
Test Voltage:	DC 5V from adapter 120V/60Hz	Test Mode:	Mode 1

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1660	38.01	10.00	48.01	65.16	-17.15	QP
2	0.1660	11.92	10.00	21.92	55.16	-33.24	AVG
3	0.2420	38.23	9.96	48.19	62.03	-13.84	QP
4	0.2420	19.56	9.96	29.52	52.03	-22.51	AVG
5	4.3580	26.54	10.20	36.74	56.00	-19.26	QP
6	4.3580	14.29	10.20	24.49	46.00	-21.51	AVG
7	11.5260	19.72	10.37	30.09	60.00	-29.91	QP
8	11.5260	11.46	10.37	21.83	50.00	-28.17	AVG
9	14.6420	19.02	10.31	29.33	60.00	-30.67	QP
10	14.6420	12.09	10.31	22.40	50.00	-27.60	AVG
11	29.1580	27.49	10.62	38.11	60.00	-21.89	QP
12	29.1580	24.60	10.62	35.22	50.00	-14.78	AVG

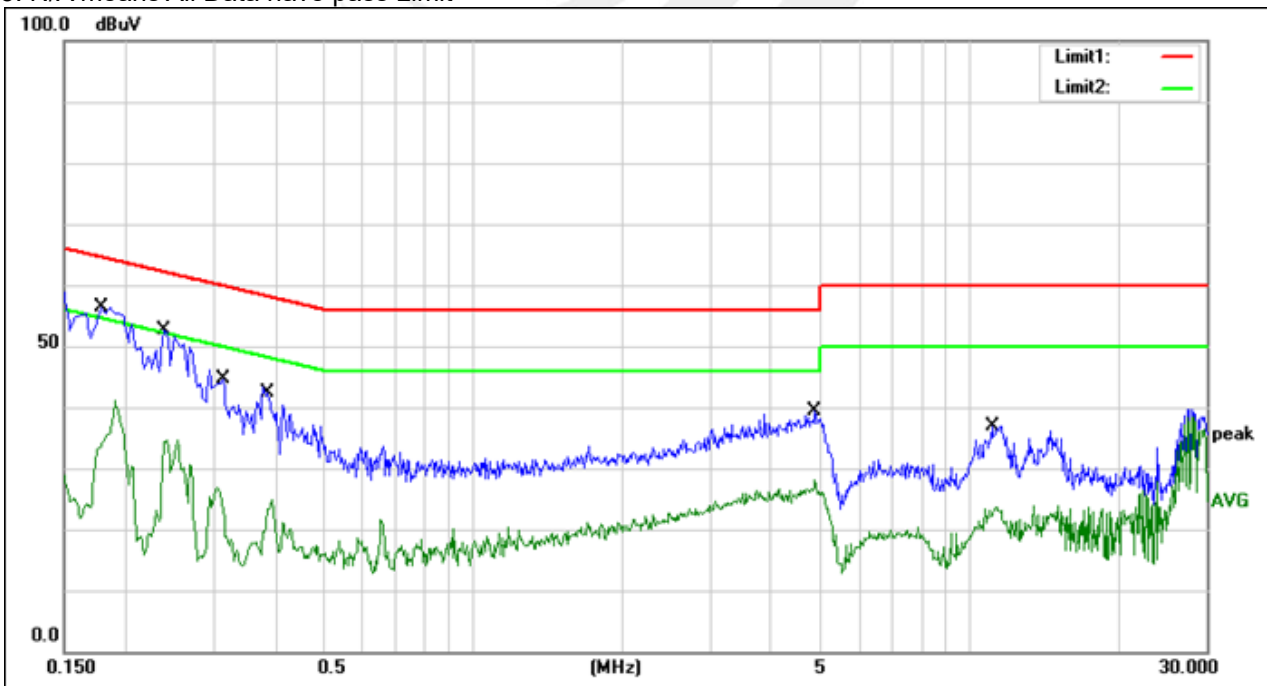
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	N
Test Voltage:	DC 5V from adapter 120V/60Hz	Test Mode:	Mode 1

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1781	44.51	10.00	54.51	64.57	-10.06	QP
2	0.1781	25.21	10.00	35.21	54.57	-19.36	AVG
3	0.2368	37.43	9.96	47.39	62.21	-14.82	QP
4	0.2368	17.48	9.96	27.44	52.21	-24.77	AVG
5	0.3150	29.98	9.92	39.90	59.84	-19.94	QP
6	0.3150	12.25	9.92	22.17	49.84	-27.67	AVG
7	0.3845	27.65	9.98	37.63	58.18	-20.55	QP
8	0.3845	8.32	9.98	18.30	48.18	-29.88	AVG
9	4.8443	20.91	10.20	31.11	56.00	-24.89	QP
10	4.8443	13.21	10.20	23.41	46.00	-22.59	AVG
11	11.0725	19.98	10.30	30.28	60.00	-29.72	QP
12	11.0725	11.88	10.30	22.18	50.00	-27.82	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit



4. RADIATED& FIELD EMISSION TEST RESULT(SECTIOU 15.209)

4.1 Limit

Frequency [MHz]	Field Strength [uV/m]	Measurement Distance [Meters]
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Sectionshall not be located in the frequency bands 54 - 72 MHz, 76 - 88 MHz, 174 - 216 MHz or 470 - 806 MHz.However,operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2 TEST PROCEDURE

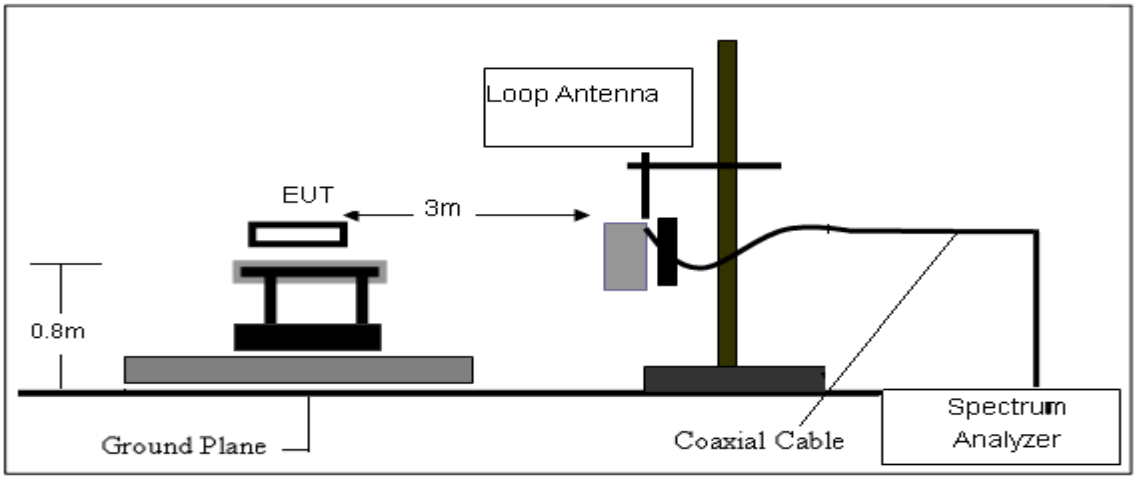
a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
d. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

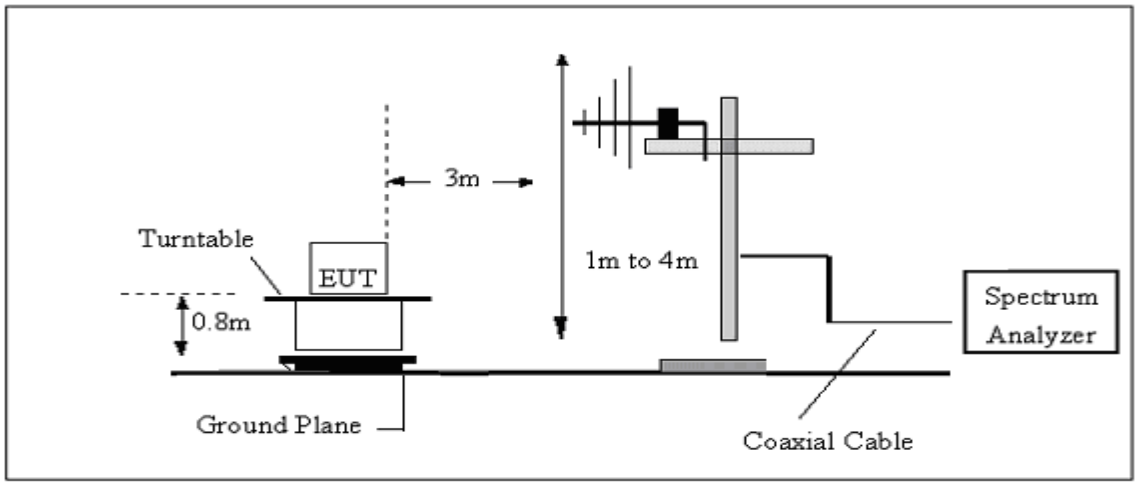
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

4.3 TEST SETUP

（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



4.4TEST RESULTS

Temperature：	25 ℃	Relative Humidity：	50%
Pressure：	1012 hPa	Test Voltage ：	DC 5V from adapter 120V/60Hz
Test Mode ：	TX Mode		

4.4.1 Spurious Radiated Emission Below 30 MHz

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
0.015	30.58	H	20.21	0.1	50.89	124.08	-73.19
0.030	36.24	H	19.01	0.1	55.35	118.06	-62.71
0.040	26.89	H	18.75	0.1	45.74	115.56	-69.82
*0.135	50.36	H	18.47	0.1	68.93	105.00	-36.07
0.503	24.36	H	18.36	0.1	42.82	73.57	-30.75
25.678	45.21	H	22.52	0.9	68.63	69.50	-0.87

1.Remark: “H” Horizontal, “V” Vertical

2. “*” Means Fundamental frequency

3. Emission Level [dBμV/m] = Reading [dBμV] + Ant. Factor [dB/m] + Cable Loss [dB]

4.Margin [dB] = Emission Level [dBμV/m] – Limit [dBμV/m]

5.Limit calculation: Limit at specified distance + 40log (300/3) = Limit + 80 dB for up to 0.49 MHz

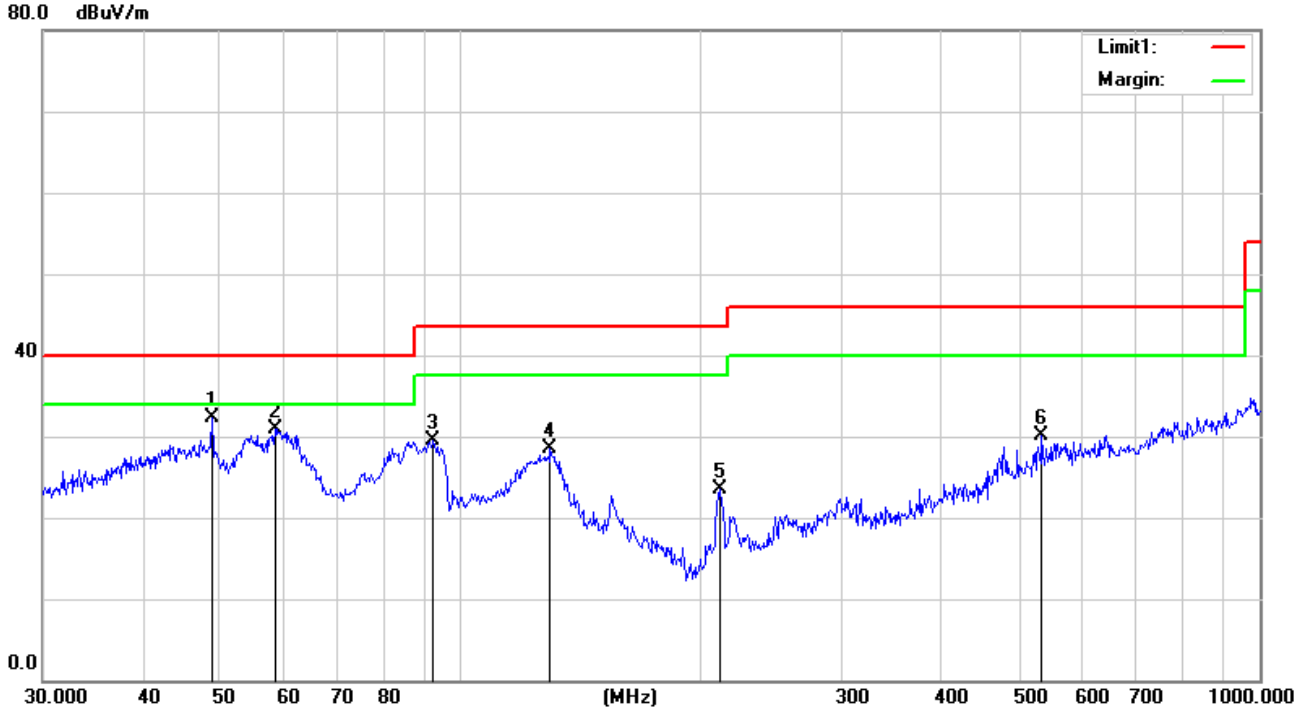
Limit at specified distance + 40log (30/3) = Limit + 40 dB for above 0.49 MHz, Below 30 MHz

4.4.2 Spurious Radiated Emission below 1 GHz

Temperature：	25 ℃	Relative Humidity：	50%
Pressure：	1012 hPa	Test Voltage ：	DC 5V from adapter 120V/60Hz
Test Mode ：	Mode 1		

The following table shows the highest levels of radiated emissions on polarizations of vertical

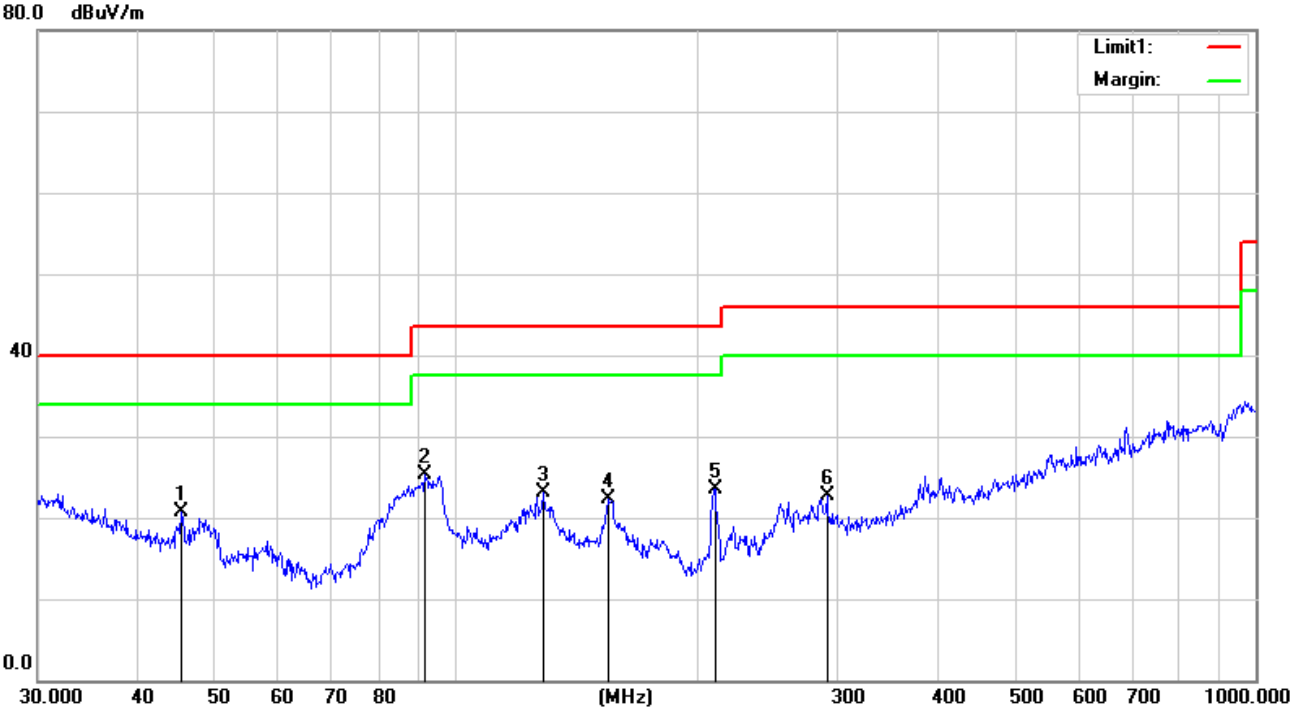
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
48.8430	23.62	8.71	32.33	40.00	-7.67	QP
58.6126	25.36	5.55	30.91	40.00	-9.09	QP
92.4624	19.78	9.81	29.59	43.50	-13.91	QP
129.4677	16.00	12.42	28.42	43.50	-15.08	QP
210.7860	13.73	9.87	23.60	43.50	-19.90	QP
533.8321	9.01	21.12	30.13	46.00	-15.87	QP



Temperature：	25 ℃	Relative Humidity：	50%
Pressure：	1012 hPa	Test Voltage ：	DC 5V from adapter 120V/60Hz
Test Mode ：	Mode 1		

The following table shows the highest levels of radiated emissions on polarizations of horizontal

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
45.3755	10.12	10.58	20.70	40.00	-19.30	QP
91.4950	15.52	9.69	25.21	43.50	-18.29	QP
128.5630	11.36	11.74	23.10	43.50	-20.40	QP
155.3644	10.50	11.82	22.32	43.50	-21.18	QP
210.7860	13.66	9.87	23.53	43.50	-19.97	QP
291.0360	8.33	14.46	22.79	46.00	-23.21	QP



5. 20 DB BANDWIDTH TEST

5.1 Limit

FCC Part 2.1049, Only applicable to report.

5.2 TEST SETUP

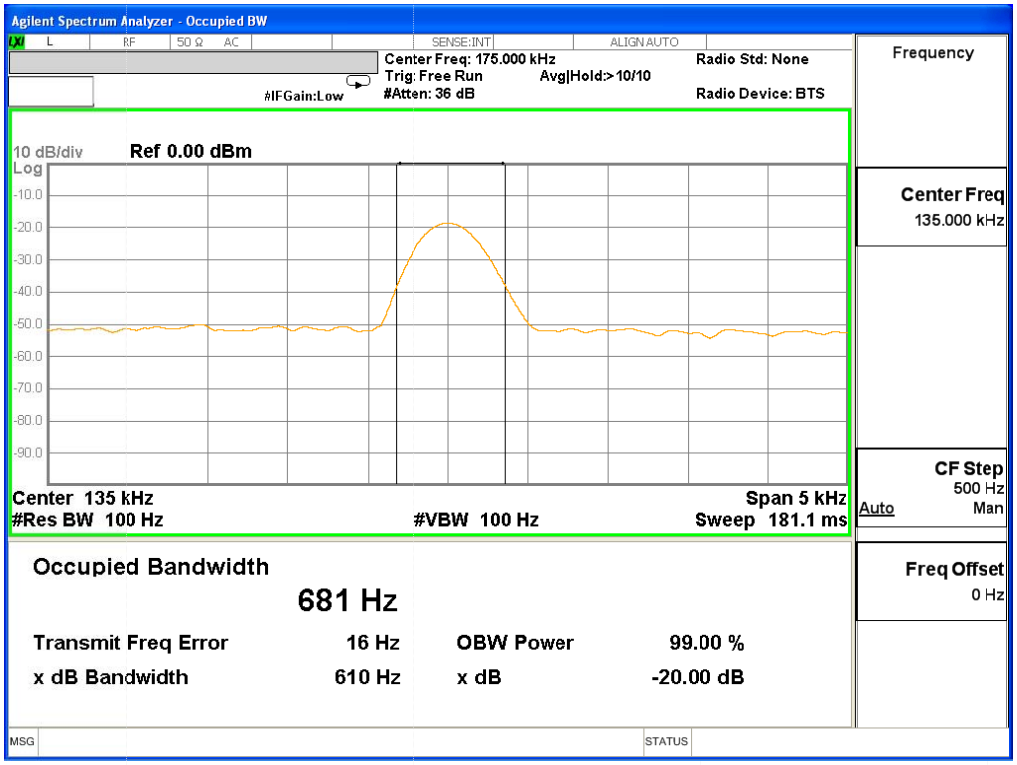
Spectrum Parameter	Setting
Span Frequency	approximately 2 to 3 times the 20 dB bandwidth
RB	greater than 1 % of the 20 dB bandwidth,
VB	equal to the RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

The test program and configuration,Refer to 4.2 and 4.3

5.3TEST RESULTS

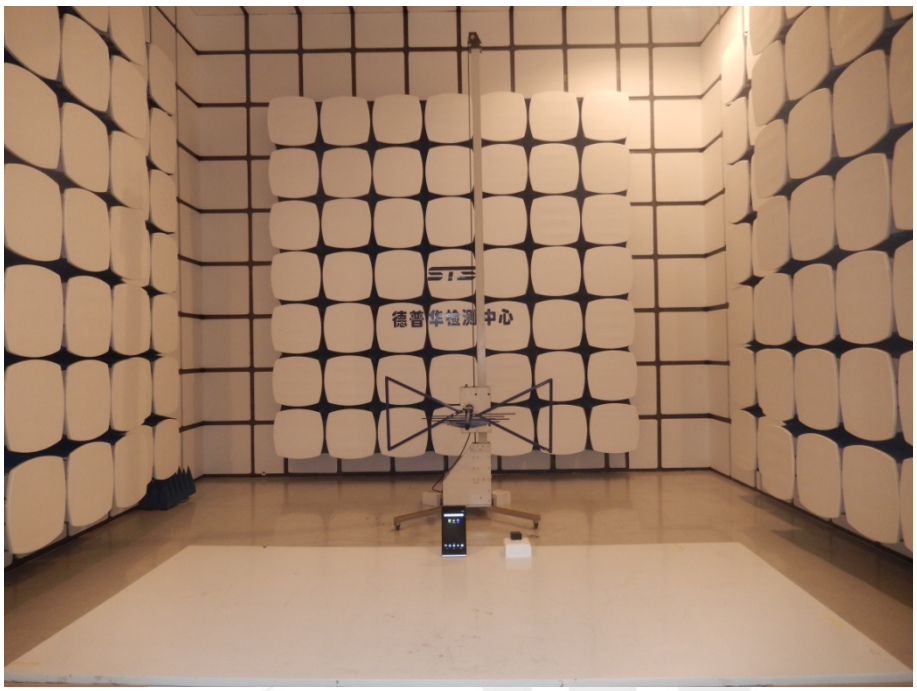
OperatingFrequency（kHz）	20 dB Bandwhidth(Hz)
135	610

CH00

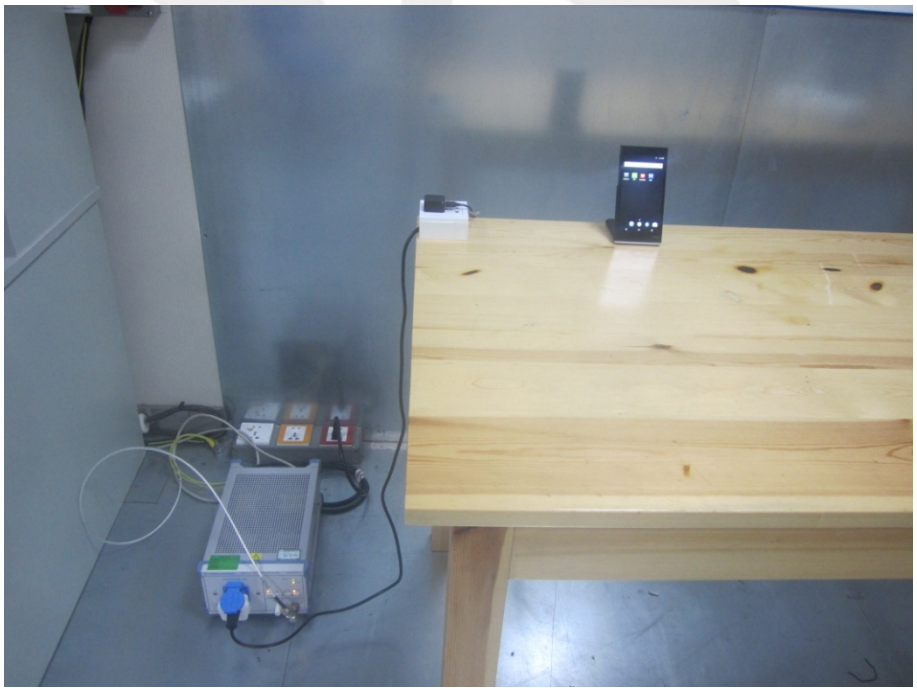


APPENDIX-PHOTOS OF TEST SETUP

Radiated emission Measurement Photos



ConductionMeasurement Photos



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APPENDIX 2-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Photo 1

Photo 2

Photo 3

Photo 4

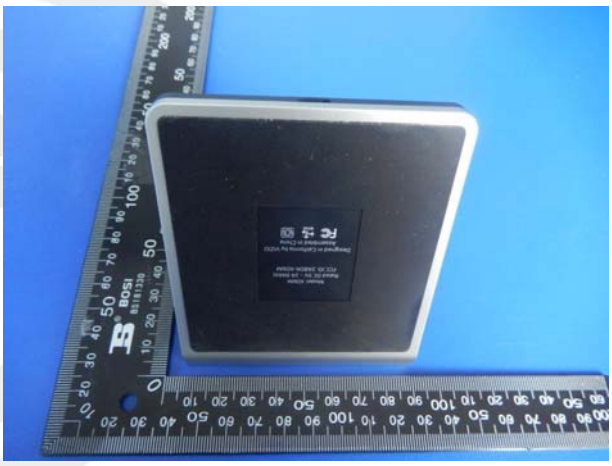


Photo 5

Photo 6

Photo 7

Photo 8

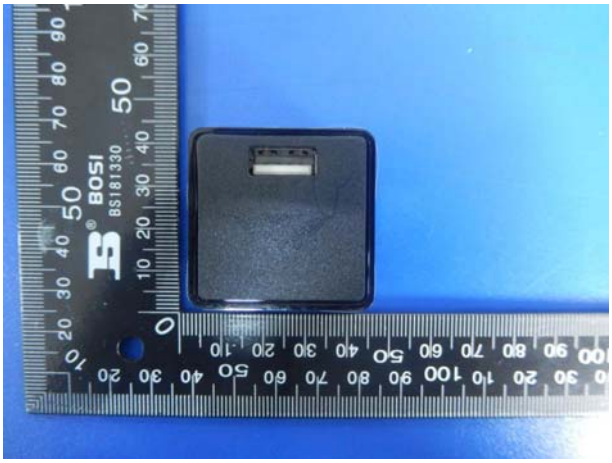


Photo 9

Photo 10

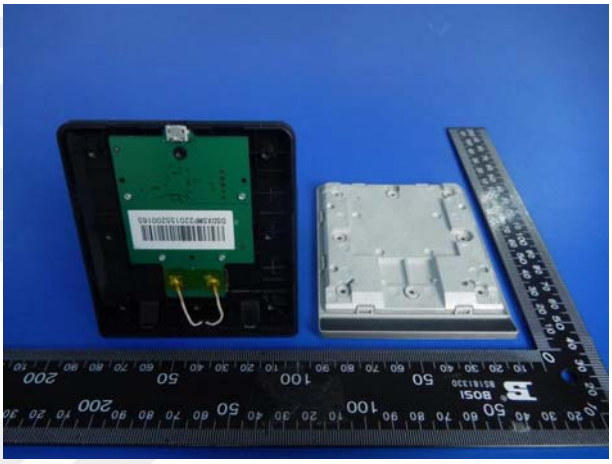


Photo 11

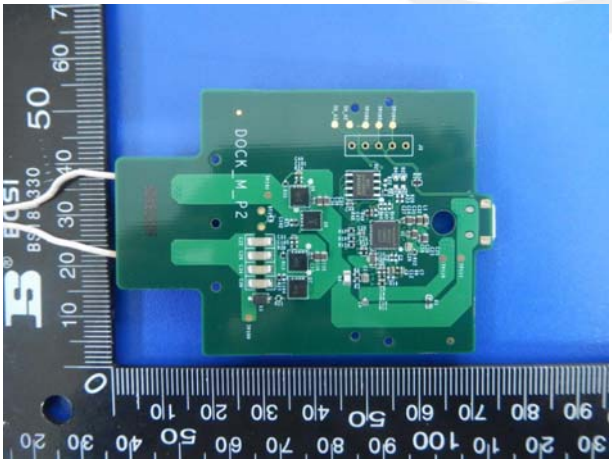
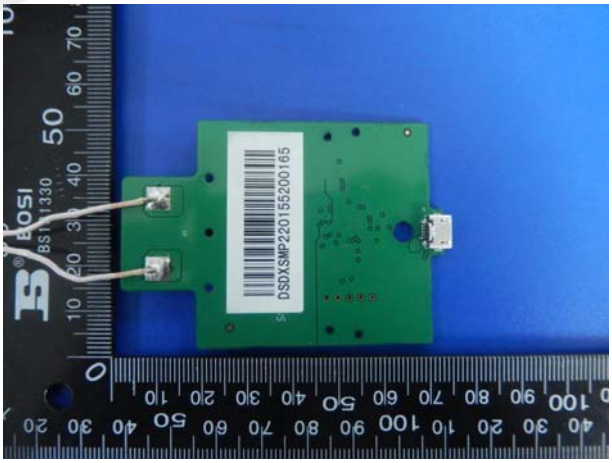


Photo 12



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