

TEST REPORT

Applicant: Lightcomm Technology Co., Ltd.

Address of Applicant: RM 1808 18/F FO TAN INDUSTRIAL CENTRE NOS. 26-28
AU PUI WAN STREET FO TAN SHATIN NEW TERRITORIES
HONG KONG

Manufacturer: Huizhou Hengdu Electronics Co., Ltd.

Address of Manufacturer: DIP South Area, Huiao Highway, Huizhou, Guangdong, China

Equipment Under Test (EUT)

Product Name: 10.1" Tablet With DVD Player

Model No.: MDT1001, DL1001, VMD1001, MDT1002, MDT1003,
MDT1004, DL1002, DL1003, DL1004, VMD1002,
VMD1003, VMD1004

FCC ID: XMF-MDT1001

Applicable standards: FCC CFR Title 47 Part 15 Subpart B: 2016

Date of sample receipt: June 16, 2017

Date of Test: June 16-23, 2017

Date of report issued: June 23, 2017

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

A circular stamp for GTS Global United Technology Services Co., Ltd. with the text 'GLOBAL TESTING' and 'V8019' inside. A handwritten signature is written over the stamp.

Robinson Lo

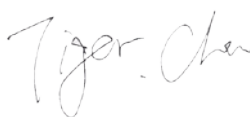
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	June 23, 2017	Original

Prepared by:

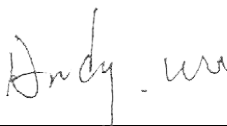


Date:

June 23, 2017

Project Engineer

Reviewed by:



Date:

June 23, 2017

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part15.107	Pass
Radiated Emissions	Part15.109	Pass

Pass: The EUT comply with the essential requirements in the standard.

5 General Information

5.1 General Description of EUT

Product Name:	10.1" Tablet With DVD Player
Model No.:	MDT1001, DL1001, VMD1001, MDT1002, MDT1003, MDT1004, DL1002, DL1003, DL1004, VMD1002, VMD1003, VMD1004
Test model:	MDT1001
<i>Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The only difference is the model name for commercial purpose.</i>	
Power supply:	AC ADAPTER: Model: TEKA012-0502000UK Input: AC 100-240V 50/60Hz 0.35A MAX Output: DC 5V 2A Or Input: DC12V Output: DC 5V/2A Or DC 3.7V 14.8Wh 4000mAh Polymer Li-ion Battery

5.2 Test mode and Test voltage

Test mode:	
DVD mode	Keep the EUT in DVD playing mode.
TF card playing mode	Keep the EUT in TF card playing mode.
HDMI output mode	Keep the EUT in HDMI output mode.
PC mode	Keep the EUT in data exchange with PC
Test voltage:	
AC 120V/60Hz	

5.3 Description of Support Units

Manufacturer	Description	Model	FCC approval
Kingston	TF card	SD-C01G	FCC DOC
DELL	KEYBOARD	SK-8115	FCC DOC
DELL	MOUSE	N/A	FCC DOC
Lenovo	PC Host	M6900	FCC DOC

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 22, 2016.

- **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016

5.7 Test Location

The test was performed at:

Global United Technology Services Co., Ltd.

Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

6 Test Instruments list

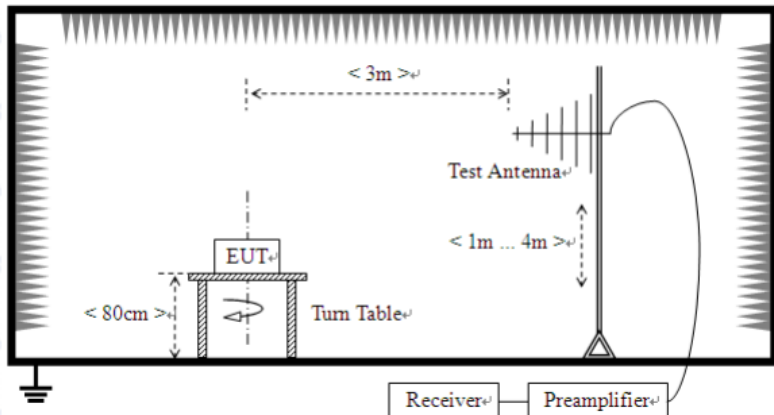
Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	ESU EMI Test Receiver	R&S	ESU26	GTS203	June.29 2016	June.28 2017
4	BiConiLog Antenna	SCHWARZBECK	VULB9163	GTS214	June.29 2016	June.28 2017
5	Double-ridged horn antenna	SCHWARZBECK	9120D	GTS208	June.29 2016	June.28 2017
6	Horn Antenna	ETS-LINDGREN	3160-09	GTS218	June.29 2016	June.28 2017
7	RF Amplifier	HP	8347A	GTS204	June.29 2016	June.28 2017
8	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	June.29 2016	June.28 2017
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
10	Coaxial Cable	GTS	N/A	GTS211	June.29 2016	June.28 2017
11	Coaxial Cable	GTS	N/A	GTS210	June.29 2016	June.28 2017
12	Coaxial Cable	GTS	N/A	GTS212	June.29 2016	June.28 2017
13	Thermo meter	N/A	N/A	GTS256	June.29 2016	June.28 2017

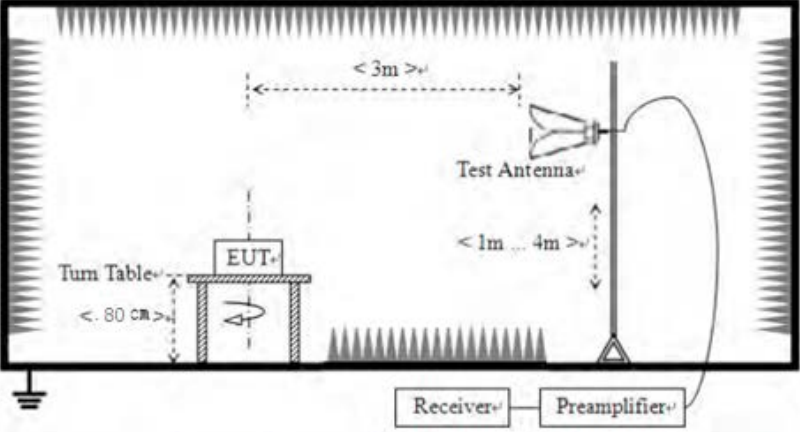
Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2014	May.15 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 29 2016	June. 28 2017
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 29 2016	June. 28 2017
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 29 2016	June. 28 2017
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 29 2016	June. 28 2017

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Barometer	ChangChun	DYM3	GTS257	June. 29 2016	June. 28 2017

7 Test Results and Measurement Data

7.1 Radiated Emission

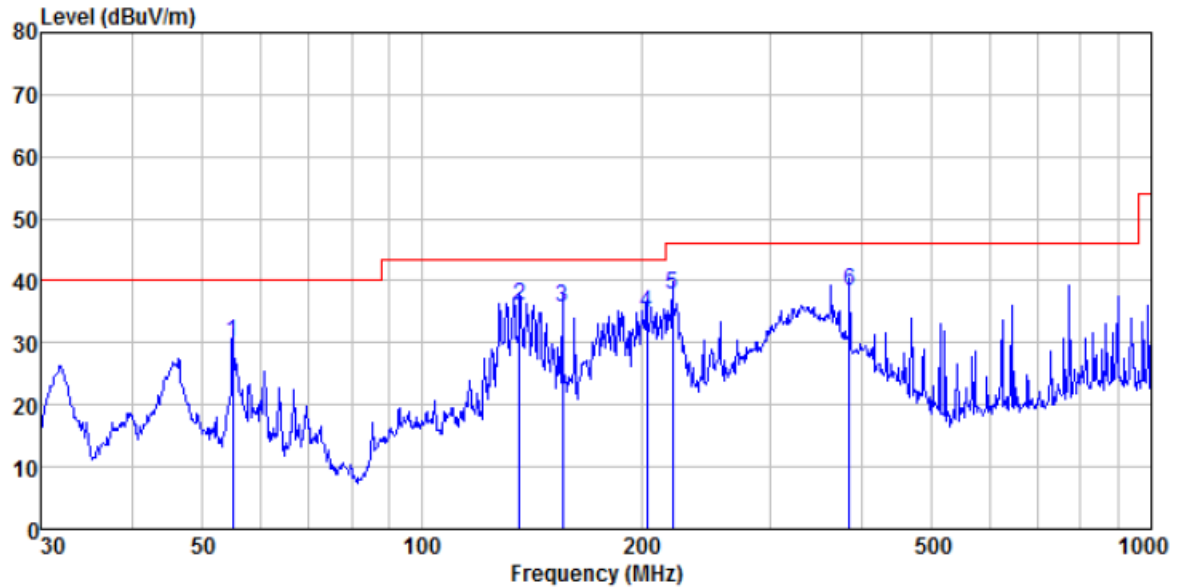
Test Requirement:	FCC Part15 B Section 15.109				
Test Method:	ANSI C63.4:2014				
Test Frequency Range:	30MHz to 25GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.00		Quasi-peak Value
	88MHz-216MHz		43.50		Quasi-peak Value
	216MHz-960MHz		46.00		Quasi-peak Value
	960MHz-1GHz		54.00		Quasi-peak Value
	Above 1GHz		54.00		Average Value
			74.00		Peak Value
Test setup:	Below 1GHz				
	<div></div>				
	Above 1GHz				

	
Test Procedure:	<ol style="list-style-type: none"> 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. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height 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. 4. 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. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1 012mbar
Measurement Record:	Uncertainty: $\pm 4.50\text{dB}$
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details, only show the worst case.
Test results:	Pass

Measurement Data

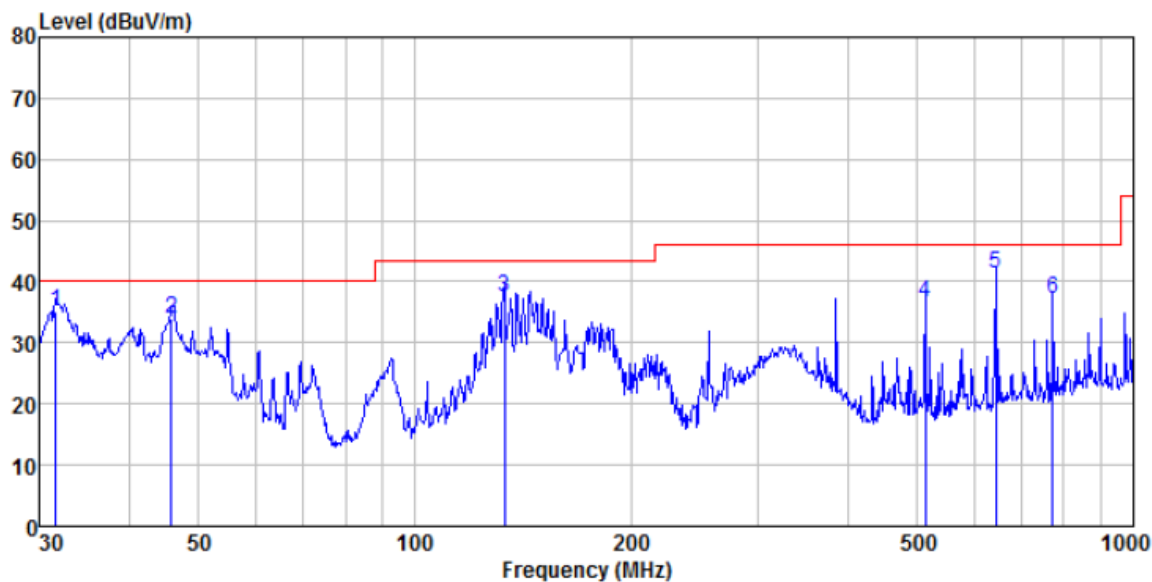
Below 1GHz

Test mode:	PC mode	Antenna Polarity:	Horizontal
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
55.027	47.37	11.93	0.82	29.96	30.16	40.00	-9.84	QP
135.982	56.39	7.57	1.48	29.48	35.96	43.50	-7.54	QP
155.910	55.66	7.85	1.60	29.38	35.73	43.50	-7.77	QP
203.523	51.94	10.30	1.86	29.23	34.87	43.50	-8.63	QP
220.617	54.28	10.88	1.96	29.39	37.73	46.00	-8.27	QP
385.281	49.99	15.21	2.79	29.57	38.42	46.00	-7.58	QP

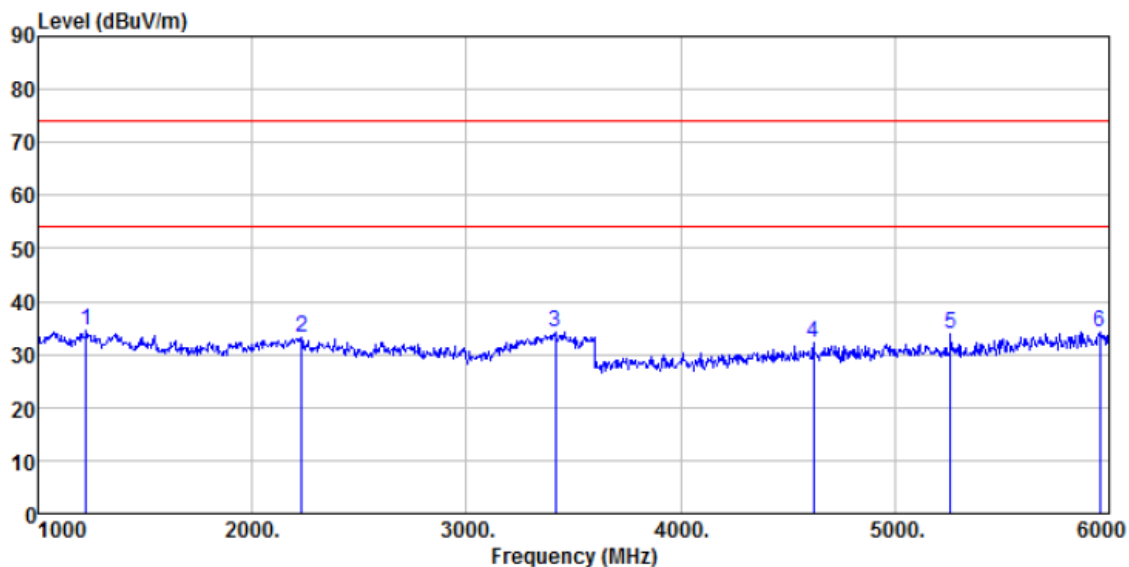
Test mode:	PC mode	Antenna Polarity:	Vertical
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
31.620	53.36	11.25	0.57	30.09	35.09	40.00	-4.91	QP
45.855	51.13	12.25	0.73	30.02	34.09	40.00	-5.91	QP
133.151	57.79	7.83	1.46	29.49	37.59	43.50	-5.91	QP
513.633	44.72	17.76	3.36	29.30	36.54	46.00	-9.46	QP
642.861	47.22	19.51	3.88	29.26	41.35	46.00	-4.65	QP
771.449	41.28	20.89	4.36	29.20	37.33	46.00	-8.67	QP

Above 1GHz

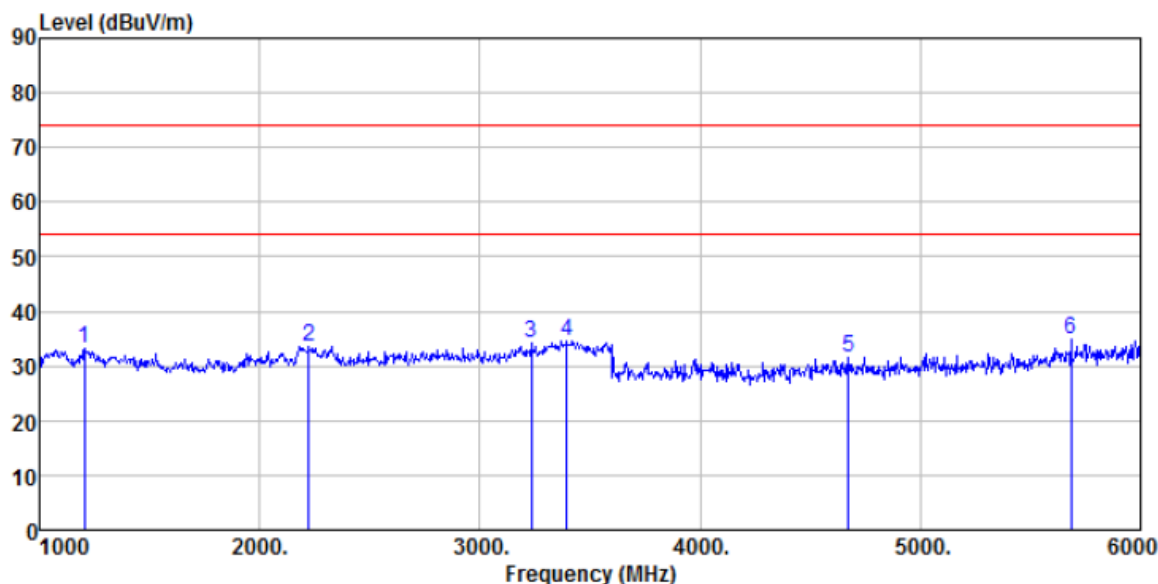
Test mode:	PC mode	Antenna Polarity:	Horizontal
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
1225.000	40.38	25.45	4.49	35.93	34.39	74.00	-39.61	Peak
2230.000	36.68	27.99	5.21	36.58	33.30	74.00	-40.70	Peak
3415.000	36.12	28.67	6.80	37.32	34.27	74.00	-39.73	Peak
4620.000	29.75	31.55	8.44	37.63	32.11	74.00	-41.89	Peak
5260.000	30.26	31.79	9.15	37.32	33.88	74.00	-40.12	Peak
5955.000	27.50	32.84	10.13	36.37	34.10	74.00	-39.90	Peak

Note: For above 6GHz, no emission found , only worse case 30MHz to 6GHz is reported

Test mode:	PC mode	Antenna Polarity:	Vertical
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
1205.000	39.26	25.37	4.47	35.92	33.18	74.00	-40.82	Peak
2225.000	36.79	27.99	5.21	36.58	33.41	74.00	-40.59	Peak
3235.000	36.55	28.62	6.43	37.27	34.33	74.00	-39.67	Peak
3395.000	36.56	28.60	6.76	37.32	34.60	74.00	-39.40	Peak
4675.000	29.01	31.63	8.49	37.64	31.49	74.00	-42.51	Peak
5685.000	29.23	32.47	9.77	36.73	34.74	74.00	-39.26	Peak

Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

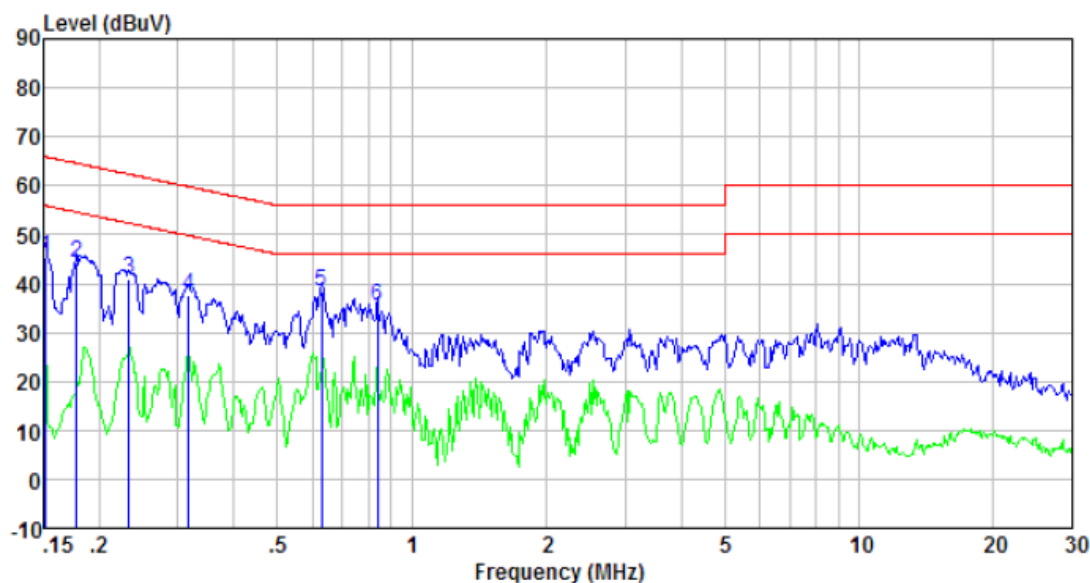
Note: For above 6GHz, no emission found, only worse case 30MHz to 6GHz is reported

7.2 Conducted Emissions

Test Requirement:	FCC Part15 B Section 15.107																		
Test Method:	ANSI C63.4:2014																		
Test Frequency Range:	150kHz to 30MHz																		
Class / Severity:	Class B																		
Receiver setup:	RBW=9kHz, VBW=30kHz																		
Limit:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>0.5-30</td><td>60</td><td>50</td></tr></table>					Frequency range (MHz)	Limit (dBμV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	0.5-30	60	50
Frequency range (MHz)	Limit (dBμV)																		
	Quasi-peak	Average																	
0.15-0.5	66 to 56*	56 to 46*																	
0.5-5	56	46																	
0.5-30	60	50																	
Test setup:	<div><p style="text-align: center;">Reference Plane</p><p style="text-align: center;">Test table/Insulation plane</p><p><i>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</i></p></div>																		
Test procedure	<div><div>1.</div><div>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment.</div></div> <div><div>2.</div><div>The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs).</div></div> <div><div>3.</div><div>Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.</div></div>																		
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1 012mbar													
Test Instruments:	Refer to section 6 for details																		
Test mode:	Refer to section 5.2 for details,only show the worst case.																		
Test results:	Pass																		

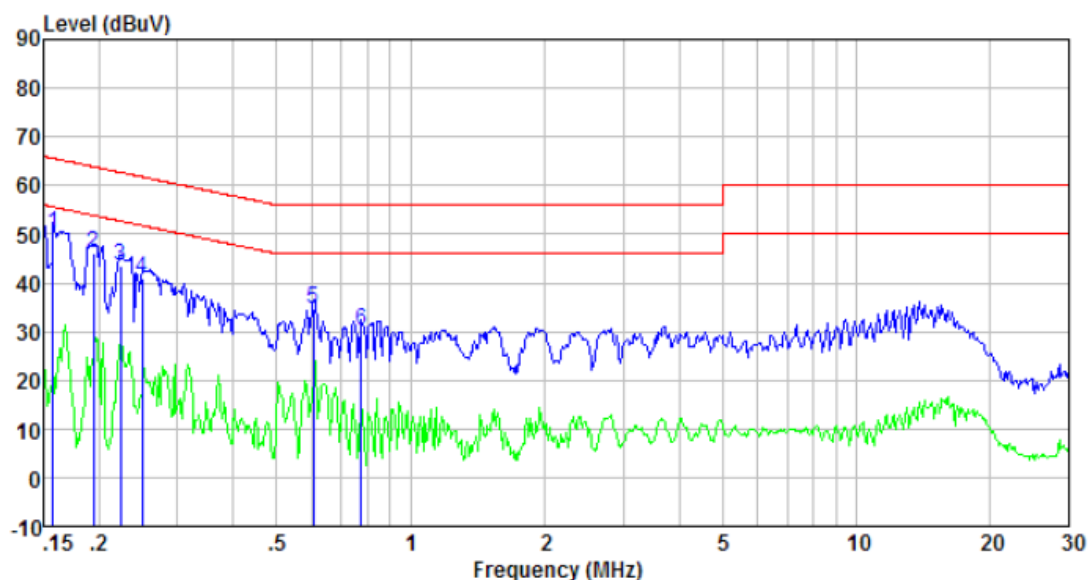
Measurement Data

Test mode:	PC mode	Phase Polarity:	Line
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Freq MHz	Reading level dBuV	LIISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.152	44.83	0.42	0.12	45.37	65.91	-20.54	QP
0.178	43.69	0.42	0.13	44.24	64.59	-20.35	QP
0.233	40.29	0.43	0.12	40.84	62.35	-21.51	QP
0.317	37.24	0.44	0.10	37.78	59.80	-22.02	QP
0.627	37.85	0.30	0.12	38.27	56.00	-17.73	QP
0.839	34.90	0.26	0.13	35.29	56.00	-20.71	QP

Test mode:	PC mode	Phase Polarity:	Neutral
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Freq MHz	Reading level dBuV	LISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.157	49.67	0.41	0.12	50.20	65.60	-15.40	QP
0.194	45.39	0.41	0.13	45.93	63.84	-17.91	QP
0.223	43.11	0.42	0.12	43.65	62.70	-19.05	QP
0.249	40.25	0.42	0.11	40.78	61.78	-21.00	QP
0.604	34.27	0.27	0.12	34.66	56.00	-21.34	QP
0.775	29.97	0.23	0.13	30.33	56.00	-25.67	QP

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.

8 Test Setup Photo

Radiated Emission:



Conducted Emission



9 EUT Constructional Details

Reference to the test report No. GTS201706000193F01

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