FCC Report

Applicant:	Autel Intelligent Tech. Corp., Ltd.
Address of Applicant:	6th - 10th Floor, Bldg. B1, Zhiyuan, Xueyuan Rd., Xili, Nanshan, Shenzhen, China
Manufacturer:	Autel Intelligent Tech. Corp., Ltd.
Address of Manufacturer:	6th - 10th Floor, Bldg. B1, Zhiyuan, Xueyuan Rd., Xili, Nanshan, Shenzhen, China

Equipment Under Test (EUT)

Product Name:	Professional scan tool
Model No.:	MaxiCheck MX808IM, MaxiCheck MX808, MaxiDAS DS808
Trade Mark:	AUTEL
FCC ID:	WQ8-1610MX808
Applicable standards:	FCC CFR Title 47 Part 15 Subpart B:2016
Date of sample receipt:	December 29, 2016
Date of Test:	December 29, 2016 – January 04, 2017
Date of report issue:	January 05, 2017
Test Result :	PASS *

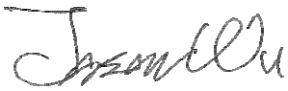
* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

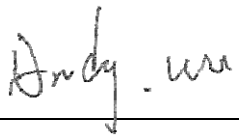
Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*January 05, 2017*	*Original*

Prepared By:  ***Date:*** *January 05, 2017*

Project Engineer

Check By:  ***Date:*** *January 05, 2017*

Reviewer

3 Contents

4 Test Summary

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

PASS: The EUT complies with the essential requirements in the standard.

Remark: Test according to ANSI C63.4:2014

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	Professional scan tool
Model No.:	MaxiCheck MX808IM, MaxiCheck MX808, MaxiDAS DS808
Test Model No.:	MaxiCheck MX808IM
Remark:	*All above models are identical in the same PCB layout, interior structure and electrical circuits. The only difference is model name for commercial purpose.*
Power supply:	Adapter Model No.:QME10C-050200FUu Input: AC 100-240V, 50-60Hz, 0.2A Output: DC 5V, 2A Or DC 3.7V 5000mAh Li-ion Battery

5.2 Test mode

Play with TF card mode	Keep the EUT in playing with TF card mode
Play with USB disk mode	Keep the EUT in playing with USB disk mode
Play with Int.memory mode	Keep the EUT in playing with Int.memory mode
Operation mode	Keep the EUT in operation mode
OTG mode	Keep the EUT in OTG mode
PC mode	Keep the EUT in PC status.

5.3 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 fuly 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.

5.4 Test Location

All tests were 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

5.5 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC Approval
Apple	PC	A1278	C1MN99ERDTY3	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
Kingston	TF card	SD-C01G	N/A	DoC
Kingston	USB disk	4GB	N/A	DoC
MEILI	DC POWER SUPPLY	MCH-305A	011121168	N/A
Supplied by client	ECU	N/A	N/A	N/A

5.6 Deviation from Standards

Biconical, log.per. antenna and horn antenna were used instead of dipole antenna.
Semi-anechoic Chamber was used as alternation of open air test sites, and all test suites were performed with radiated method in it.

5.7 Abnormalities from Standard Conditions

None.

5.8 Other Information Requested by the Customer

None.

6 Test Instruments list

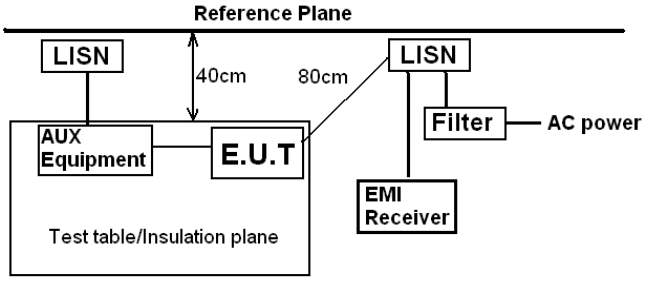
Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	July. 03 2015	July 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	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 waveguide horn	SCHWARZBECK	9120D	GTS208	June 29 2016	June 28 2017
6	RF Amplifier	HP	8347A	GTS204	June 29 2016	June 28 2017
7	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	June 29 2016	June 28 2017
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial cable	GTS	N/A	GTS210	June 29 2016	June 28 2017
10	Coaxial Cable	GTS	N/A	GTS211	June 29 2016	June 28 2017
11	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	High voltage probe	SCHWARZBECK	TK9420	GTS537	June. 29 2016	June 28 2017
6	ISN	SCHWARZBECK	NTFM 8158	GTS565	June. 29 2016	June 28 2017
7	Coaxial Cable	GTS	N/A	GTS227	June. 29 2016	June 28 2017
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Thermo meter	KTJ	TA328	GTS233	June. 29 2016	June 28 2017
10	10dB Pulse Limiter	Rohde & Schwarz	N/A	GTS224	June. 29 2016	June 28 2017

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

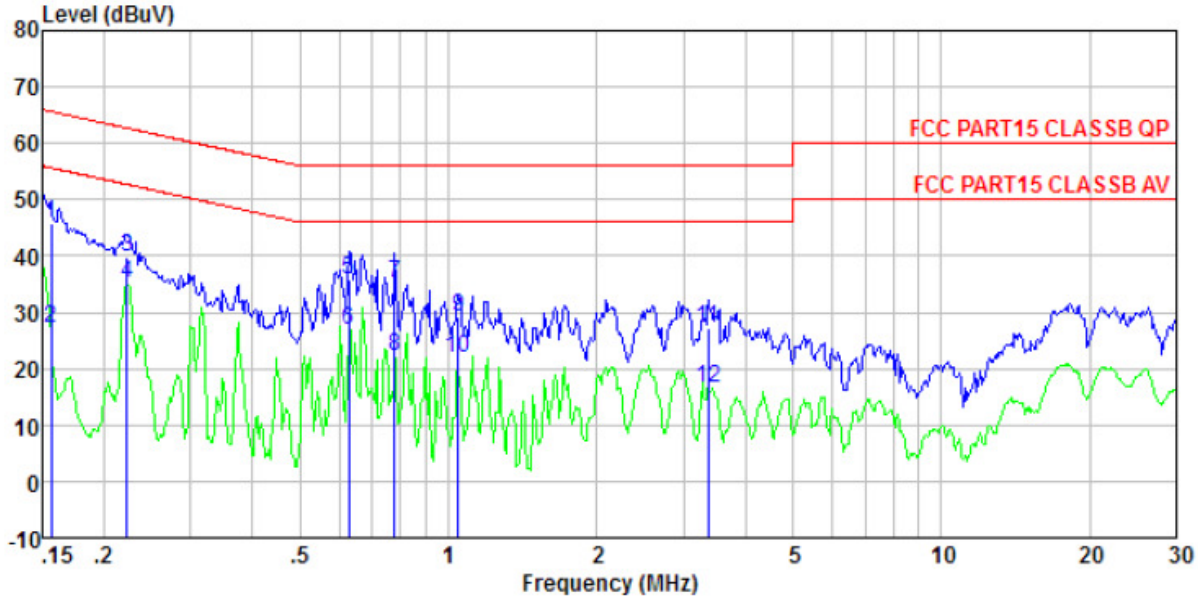
7 Test Results and Measurement Data

7.1 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, Sweep time=auto
Test mode:	Keep EUT working with all mode to find the worst case, the worst case is PC mode, test the PC mode.
Limit:	Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. 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.
Test Instruments:	Refer to section 6 for details
Test mode:	Pre-scan all modes in section 5.2, only the data of worst mode was show on the test report.
Test results:	Pass

Measurement Data

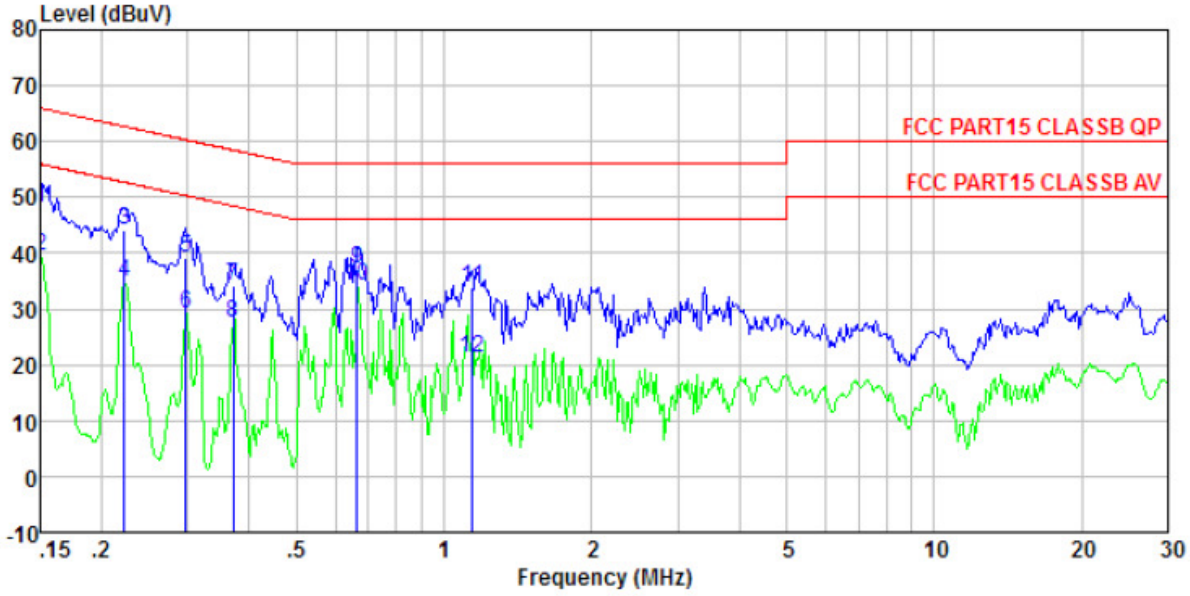
Line:



Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2013 LINE
Job No. : GTS201612000085
Test mode : PC mode
Test Engineer: Boy

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.156	45.62	0.15	0.12	45.89	65.65	-19.76	QP
2	0.156	26.97	0.15	0.12	27.24	55.65	-28.41	Average
3	0.223	39.66	0.12	0.12	39.90	62.70	-22.80	QP
4	0.223	35.08	0.12	0.12	35.32	52.70	-17.38	Average
5	0.627	35.49	0.13	0.12	35.74	56.00	-20.26	QP
6	0.627	26.68	0.13	0.12	26.93	46.00	-19.07	Average
7	0.779	35.05	0.14	0.13	35.32	56.00	-20.68	QP
8	0.779	22.01	0.14	0.13	22.28	46.00	-23.72	Average
9	1.049	29.04	0.14	0.13	29.31	56.00	-26.69	QP
10	1.049	21.72	0.14	0.13	21.99	46.00	-24.01	Average
11	3.364	26.73	0.18	0.15	27.06	56.00	-28.94	QP
12	3.364	16.08	0.18	0.15	16.41	46.00	-29.59	Average

Neutral:



Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2013 NEUTRAL
Job No. : GTS201612000085
Test mode : PC mode
Test Engineer: Boy

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	47.92	0.07	0.12	48.11	66.00	-17.89	QP
2	0.150	39.25	0.07	0.12	39.44	56.00	-16.56	Average
3	0.223	44.06	0.06	0.12	44.24	62.70	-18.46	QP
4	0.223	34.74	0.06	0.12	34.92	52.70	-17.78	Average
5	0.297	39.15	0.06	0.10	39.31	60.32	-21.01	QP
6	0.297	28.93	0.06	0.10	29.09	50.32	-21.23	Average
7	0.371	34.02	0.06	0.10	34.18	58.47	-24.29	QP
8	0.371	27.22	0.06	0.10	27.38	48.47	-21.09	Average
9	0.665	37.02	0.07	0.13	37.22	56.00	-18.78	QP
10	0.665	33.92	0.07	0.13	34.12	46.00	-11.88	Average
11	1.141	33.68	0.08	0.13	33.89	56.00	-22.11	QP
12	1.141	21.03	0.08	0.13	21.24	46.00	-24.76	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level =Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

7.2 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109
Test Method:	ANSI C63.4:2014
Test Frequency Range:	30MHz to 6GHz
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Test mode:	Keep EUT working with all mode to find the worst case, the worst case is PC mode, test the PC mode.
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

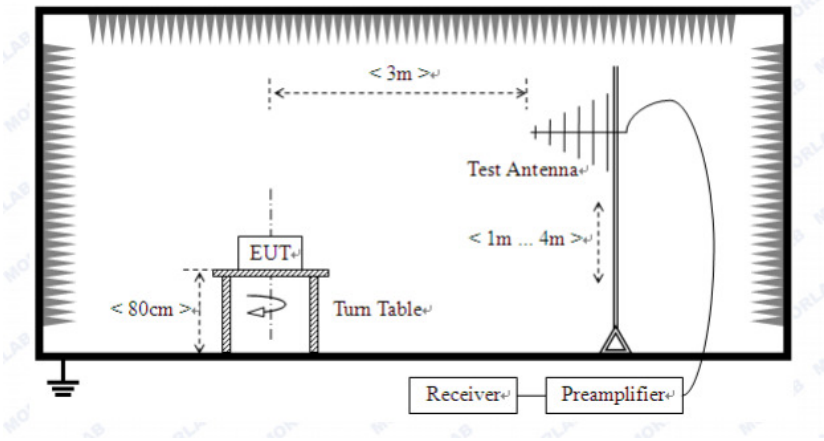
Limit:

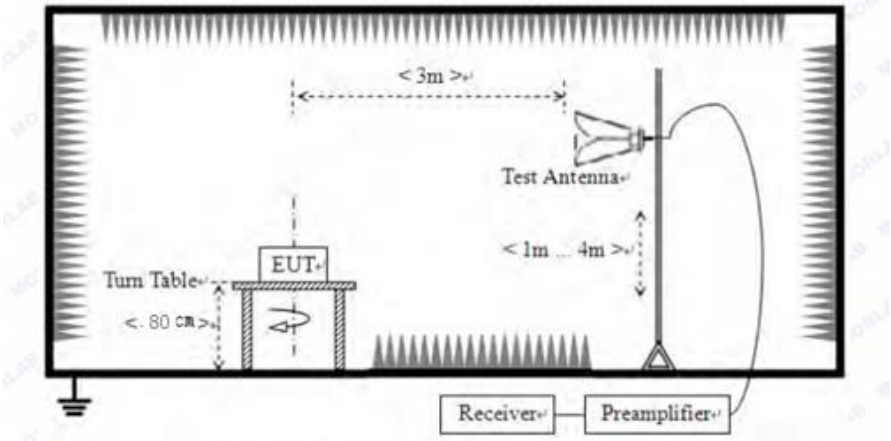
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. 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 rota 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 setup: Below 1GHz

<table>
<tr><td></td><td> 

Above 1GHz

</td></tr>
<tr><td>Test environment:</td><td>Temp.: 25 °C Humid.: 52% Press.: 1 012mbar</td></tr>
<tr><td>Measurement Record:</td><td>Uncertainty: ± 4.5dB</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 6 for details</td></tr>
<tr><td>Test mode:</td><td>Pre-scan all modes in section 5.2, only the data of worst mode was show on the test report.</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

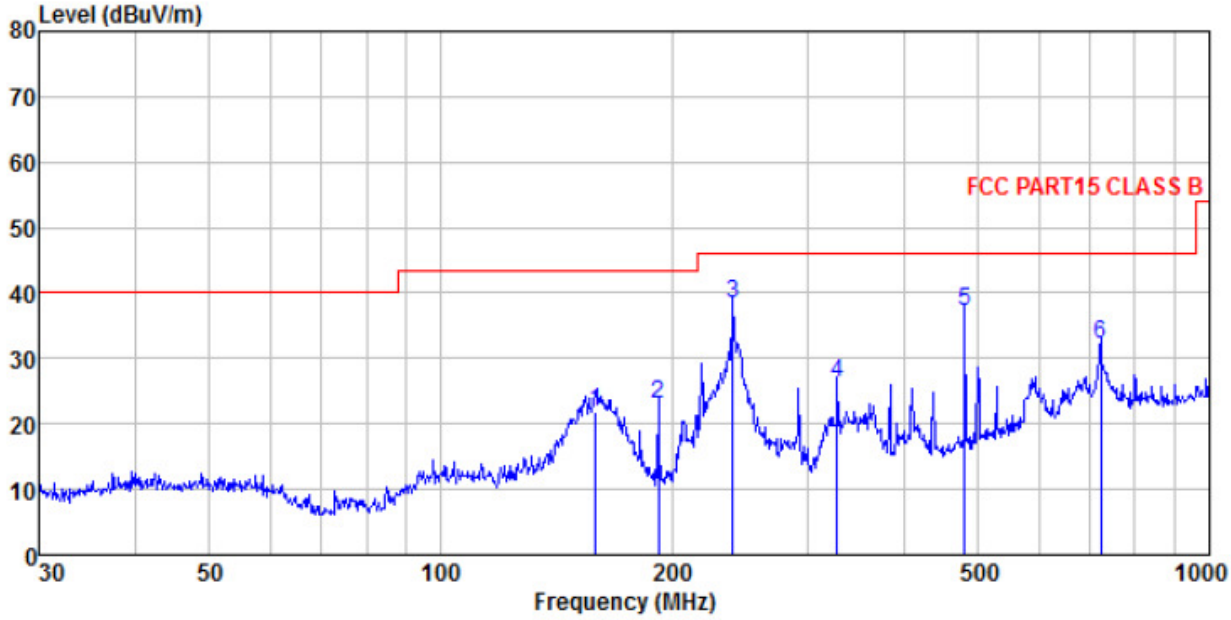
Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

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

Measurement Data

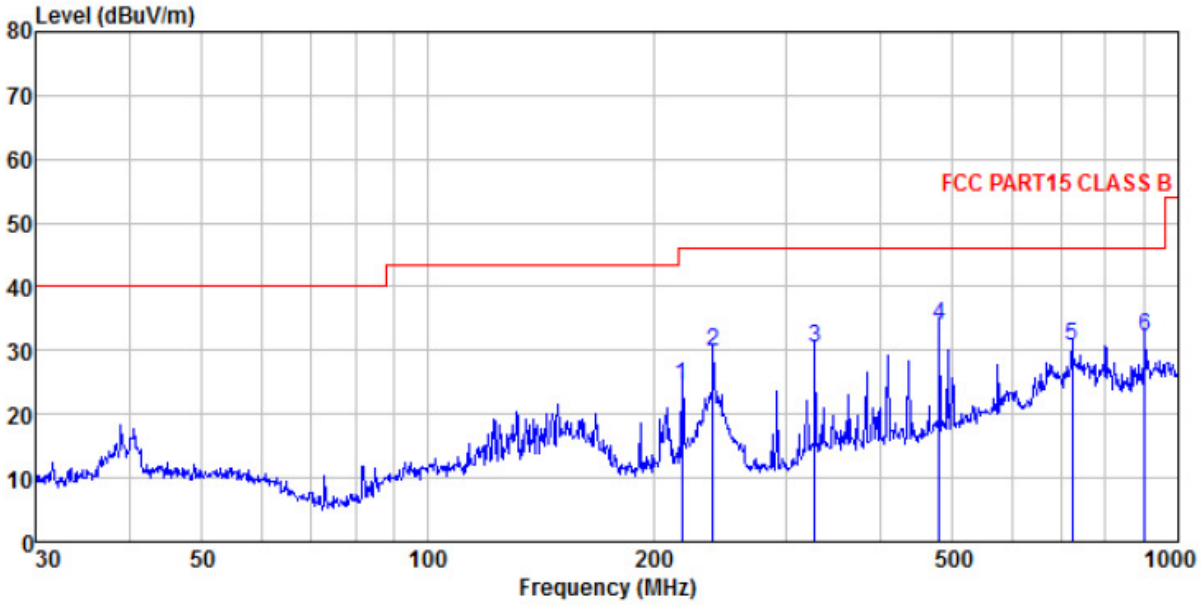
Below 1GHz

Horizontal:



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
159.225	38.87	10.64	1.62	29.37	21.76	43.50	-21.74	QP
191.745	37.83	12.56	1.80	29.23	22.96	43.50	-20.54	QP
239.987	51.90	14.09	2.07	29.56	38.50	46.00	-7.50	QP
327.887	37.82	15.66	2.51	29.84	26.15	46.00	-19.85	QP
480.528	45.23	18.07	3.22	29.34	37.18	46.00	-8.82	QP
721.726	36.08	21.10	4.17	29.20	32.15	46.00	-13.85	QP

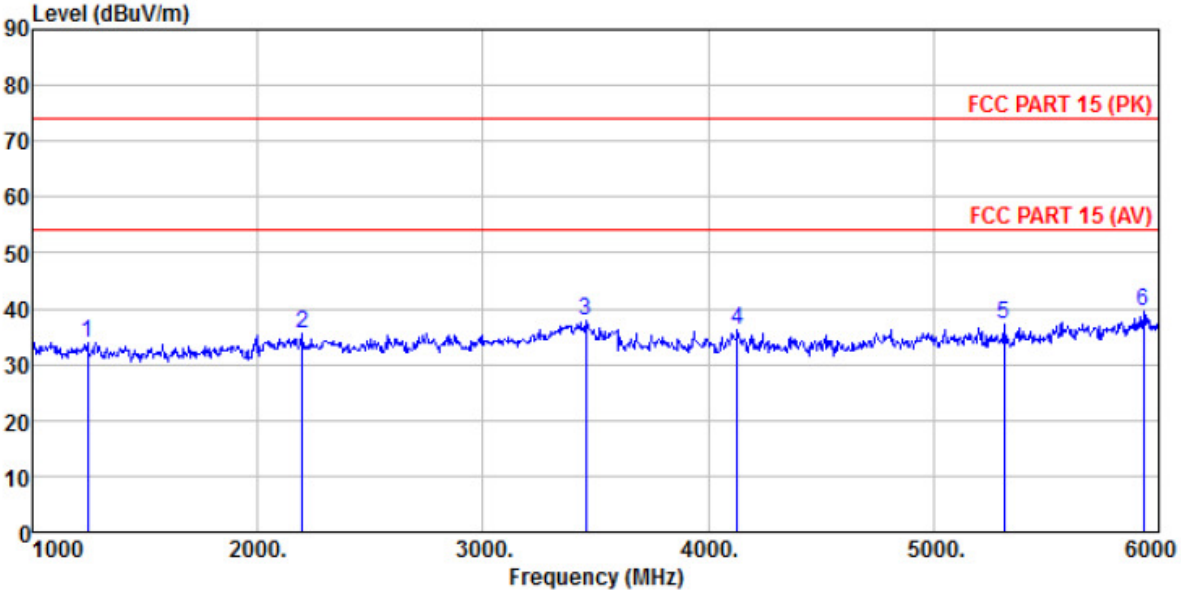
Vertical:



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
218.309	38.81	13.13	1.95	29.38	24.51	46.00	-21.49	QP
239.987	43.09	14.09	2.07	29.56	29.69	46.00	-16.31	QP
327.887	42.09	15.66	2.51	29.84	30.42	46.00	-15.58	QP
480.528	42.07	18.07	3.22	29.34	34.02	46.00	-11.98	QP
721.726	34.73	21.10	4.17	29.20	30.80	46.00	-15.20	QP
903.309	33.33	23.12	4.87	29.10	32.22	46.00	-13.78	QP

Above 1GHz

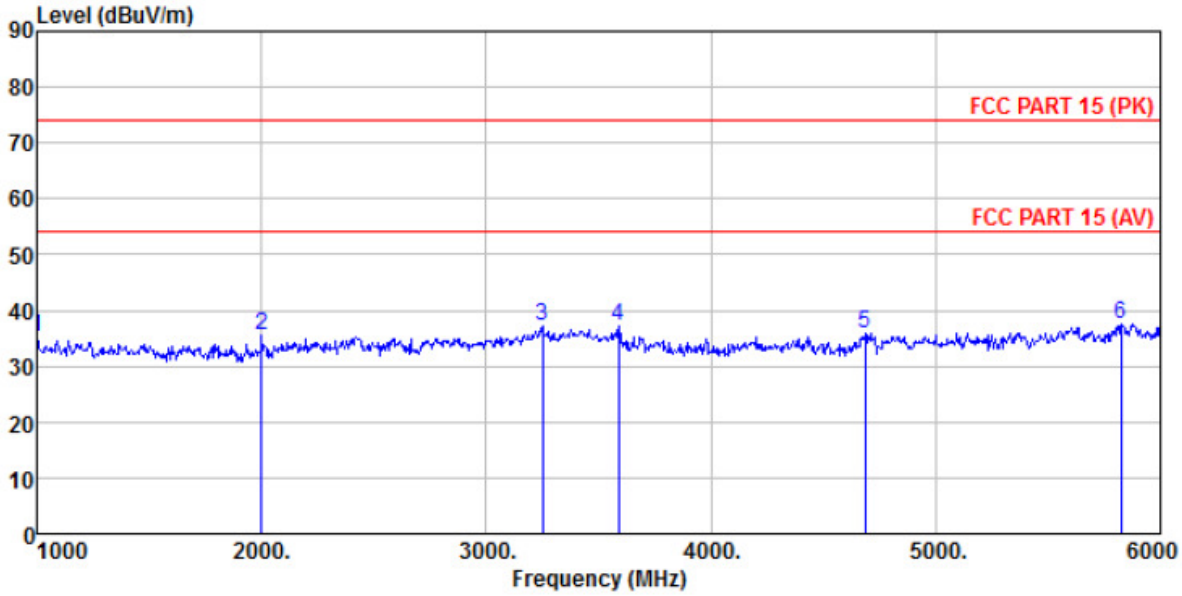
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m HORIZONTAL
Job No. : GTS201612000085
Test mode : PC mode
Test Engineer: Sky

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1245.000	37.02	25.51	4.50	33.16	33.87	74.00	-40.13	Peak
2	2200.000	36.58	27.95	5.19	34.23	35.49	74.00	-38.51	Peak
3	3455.000	34.79	28.84	6.88	32.81	37.70	74.00	-36.30	Peak
4	4130.000	30.08	29.99	8.00	32.03	36.04	74.00	-37.96	Peak
5	5315.000	28.58	31.71	9.24	32.34	37.19	74.00	-36.81	Peak
6	5930.000	28.66	32.80	10.11	32.17	39.40	74.00	-34.60	Peak

Vertical:

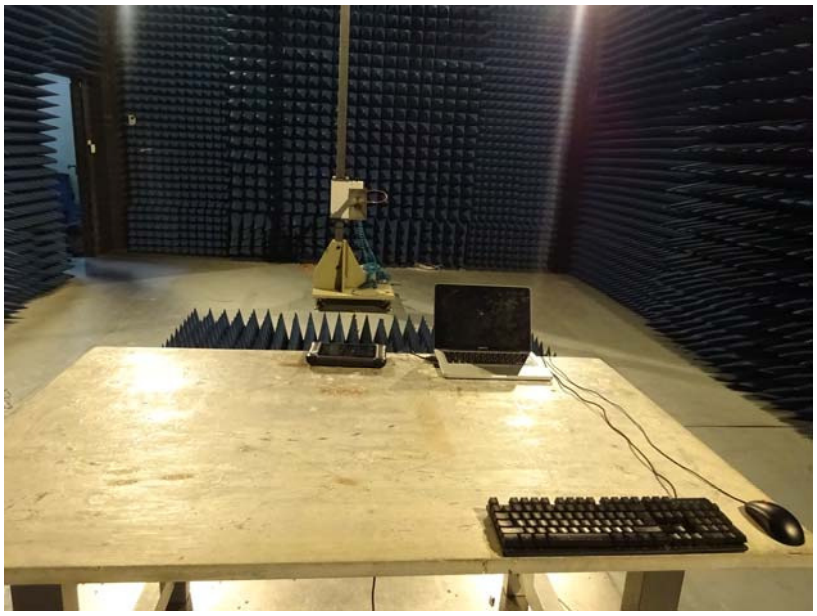


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m VERTICAL
Job No. : GTS201612000085
Test mode : PC mode
Test Engineer: Sky

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1000.000	39.07	24.52	4.29	32.75	35.13	74.00	-38.87	Peak
2	2000.000	38.92	26.13	4.96	34.46	35.55	74.00	-38.45	Peak
3	3250.000	35.31	28.54	6.47	33.04	37.28	74.00	-36.72	Peak
4	3590.000	33.49	29.12	7.13	32.66	37.08	74.00	-36.92	Peak
5	4685.000	27.88	31.63	8.49	32.03	35.97	74.00	-38.03	Peak
6	5825.000	27.14	32.68	9.97	32.23	37.56	74.00	-36.44	Peak

8 Test Setup Photo

Radiated Emission



Conducted Emission

9 EUT Constructional Details

Reference to the test report No. GTS201612000085F01

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