



TEST REPORT

Applicant: ZHONGSHAN JIUZAN INTELLIGENT TECHNOLOGY CO., LTD.
Address of Applicant: Floor 5, Building A, No.5 Jiuzhou Avenue, Health Base, Torch Development Zone, Zhongshan City
Manufacturer/Factory: ZHONGSHAN JIUZAN INTELLIGENT TECHNOLOGY CO., LTD.
Address of Manufacturer/Factory: Floor 5, Building A, No.5 Jiuzhou Avenue, Health Base, Torch Development Zone, Zhongshan City
Product Name: Temperature Control Coffee Mug
Model No.: F1
Trade Mark: N/A
FCC ID: 2A95B-F11
Applicable standards: FCC CFR Title 47 Part 18
Date of Test: Jan.06, 2023- Jan.29, 2023
Date of report issued: Feb.20, 2023
Test Result : PASS

Remark:

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

The 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

Prepared By

Shenzhen ETR Standard Technology Co., Ltd.

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Authorized Signature



Report Revision History		
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1 Test Summary

Test Item	Section in CFR 47	Result	Test by
AC Power Line Conducted Emission	18.307(b)	Pass	Qiao Li
Radiated Emission	18.305(b)	Pass	Qiao Li

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to FCC MP-5

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz-30MHz	± 3.98 dB	(1)
Radiated Emission	30MHz-1000MHz	± 4.30 dB	(1)
Radiated Emission	1GHz-18GHz	± 4.35 dB	(1)
Radiated Emission	18GHz-40GHz	± 4.59 dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.02 dB	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

2 General Information

2.1 General Description of EUT

Product Name:	Temperature Control Coffee Mug
Model No.:	F1
Model of difference:	N/A
Test model:	F1
Sample(s) Status:	Engineer sample
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	115~205KHz
Modulation type:	ASK
Antenna Type:	Induction coil Antenna
Power supply:	Input: DC 12V from adapter Output: wireless10W/7.5W/5W

2.2 Test mode

Test mode	Description	Remark
Mode 1	AC/DC Adapter + load (5W)	Pre-tested
Mode 2	AC/DC Adapter + load (7.5W)	Pre-tested
Mode 3	AC/DC Adapter + load (10W)	Record
Mode 4	/	/

Note: All test modes were pre-tested, but we only recorded the worst case in this report.

2.3 Description of Support Units

Equipment	Model	S/N	Manufacturer
Load	/	/	/
/	/	/	/

2.4 Deviation from Standards

None.

2.5 Abnormalities from Standard Conditions

None.

2.6 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration Number:	L11864
A2LA Certificate Number:	6640.01
FCC Designation Number:	CN1326
FCC Test Firm Registration:	183064

2.7 Test Location

All tests were performed at:	
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	+86 755 85259392
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3 Test Instruments list

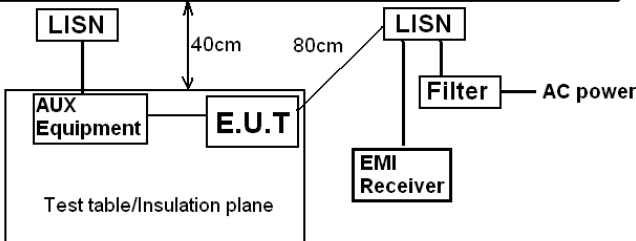
Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESPI7	100605	2022.3.09	2023.3.08
2	EMI Test Receiver	Rohde&schwarz	ESCI3	102696	2022.3.09	2023.3.08
3	Broadband antenna	schwarabeck	VULB9168	1064	2022.3.11	2024.3.10
4	amplifier	EMtrace	RP01A	50117	2022.3.09	2023.3.08
5	Artificial power network	schwarabeck	NSLK8127	8127483	2022.3.09	2023.3.08
6	Artificial power network	ETS	3186/2NM	1132	2022.3.09	2023.3.08
7	10dB attenuator	HUBER+SUHNER	10dB	/	2022.3.09	2023.3.08
8	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2022.3.09	2023.3.08
9	loop antenna	schwarabeck	FMZB 1519 B	FMZB 1519 B	2022.3.11	2024.3.10

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

Software Name	Manufacturer	Model	Version
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

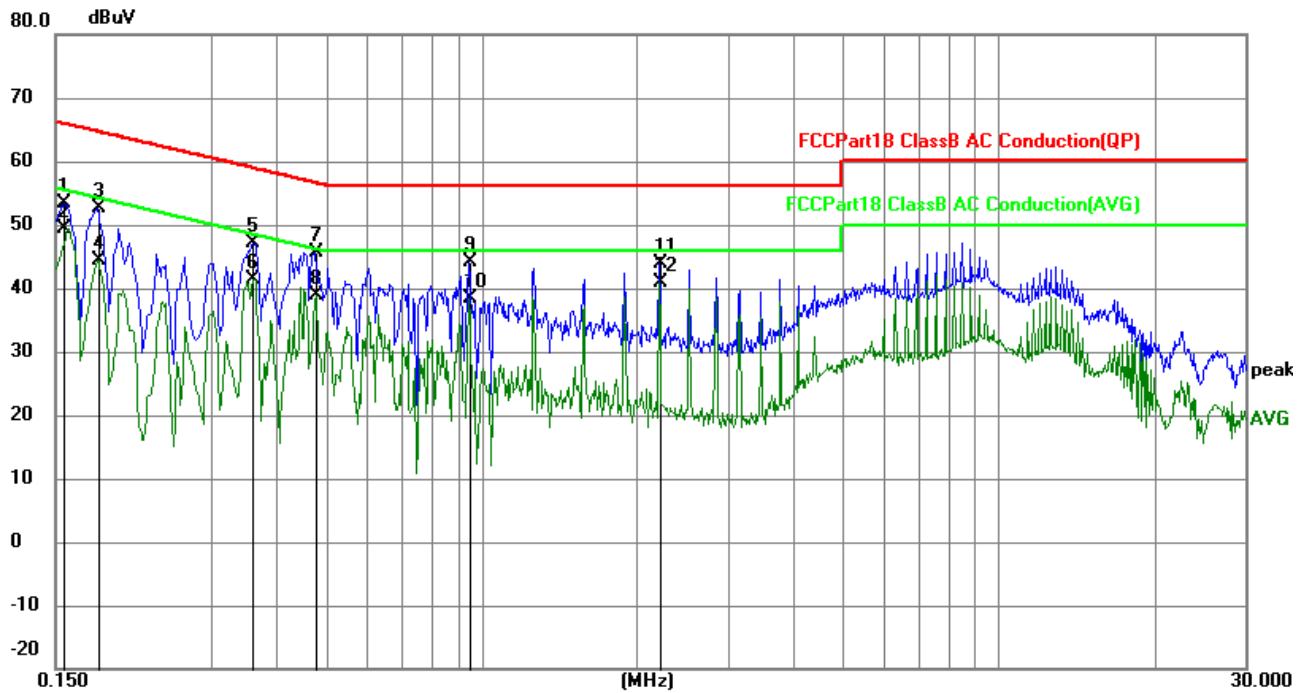
4 Test results and Measurement Data

4.1 Conducted Emissions

Test Requirement:	FCC Part18.307(b)					
Test Method:	FCC MP-5					
Test Frequency Range:	150KHz to 30MHz					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
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:	Reference Plane  Test table/Insulation plane <i>Remark:</i> E.U.T: Equipment Under Test LISN: Line Impedance 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 C63.10:2013 on conducted measurement.					
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	19.8°C	Humid.:	34%	Press.:	1012mbar
Test voltage:	DC 12V from adapter with AC 120V/60Hz					

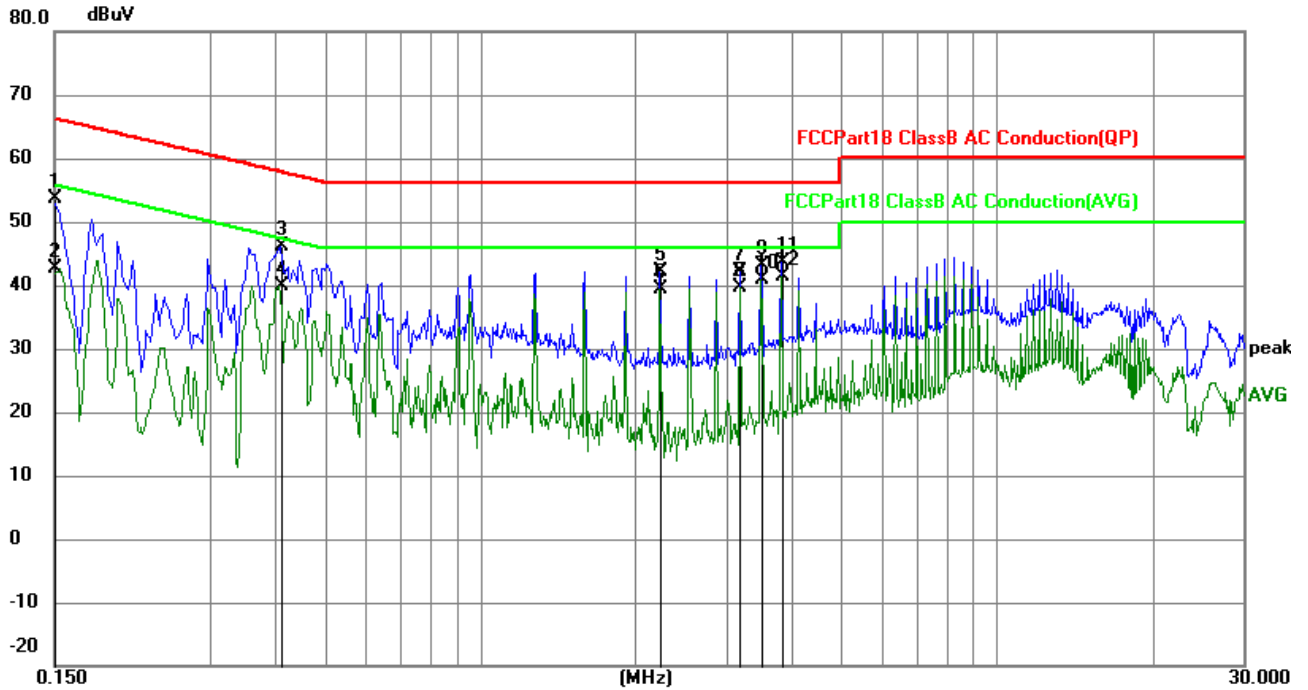
Measurement data

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1555	42.81	10.49	53.30	65.70	-12.40	QP
2	0.1555	38.99	10.49	49.48	55.70	-6.22	AVG
3	0.1814	42.15	10.47	52.62	64.42	-11.80	QP
4	0.1814	34.00	10.47	44.47	54.42	-9.95	AVG
5	0.3614	36.70	10.38	47.08	58.70	-11.62	QP
6	0.3614	31.08	10.38	41.46	48.70	-7.24	AVG
7	0.4784	35.18	10.36	45.54	56.37	-10.83	QP
8	0.4784	28.56	10.36	38.92	46.37	-7.45	AVG
9	0.9464	33.74	10.30	44.04	56.00	-11.96	QP
10	0.9464	28.12	10.30	38.42	46.00	-7.58	AVG
11	2.2109	33.54	10.30	43.84	56.00	-12.16	QP
12	2.2109	30.61	10.30	40.91	46.00	-5.09	AVG

Neutral:

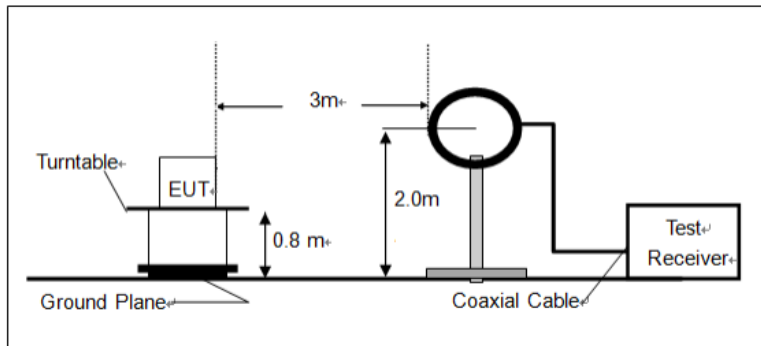
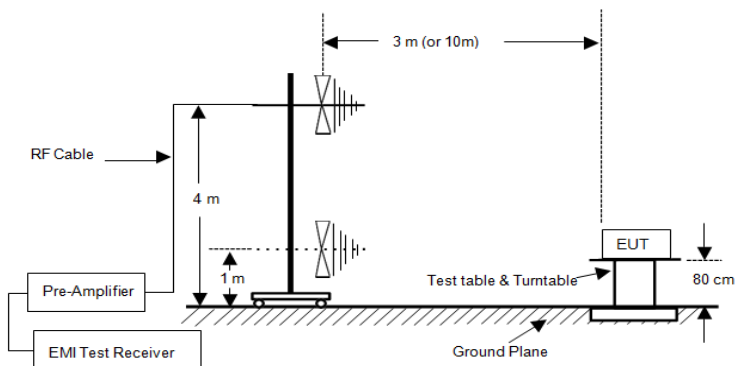


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	43.11	10.49	53.60	66.00	-12.40	QP
2	0.1500	32.14	10.49	42.63	56.00	-13.37	AVG
3	0.4110	35.77	10.37	46.14	57.63	-11.49	QP
4	0.4110	29.60	10.37	39.97	47.63	-7.66	AVG
5	2.2334	31.94	10.30	42.24	56.00	-13.76	QP
6	2.2334	29.07	10.30	39.37	46.00	-6.63	AVG
7	3.1875	31.72	10.32	42.04	56.00	-13.96	QP
8	3.1875	29.30	10.32	39.62	46.00	-6.38	AVG
9	3.5070	32.77	10.32	43.09	56.00	-12.91	QP
10	3.5070	30.54	10.32	40.86	46.00	-5.14	AVG
11	3.8265	33.41	10.32	43.73	56.00	-12.27	QP
12	3.8265	31.17	10.32	41.49	46.00	-4.51	AVG

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.

4.2 Radiated Emission measurement

Test Requirement:	FCC Part18.305 (b)				
Test Method:	FCC MP-5				
Test Frequency Range:	9kHz to 1000MHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	10kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
Limit:	Frequency		Limit (uV/m)		Remark
	0.009MHz-1000MHz		15@300m		Quasi-peak Value
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
Test setup:	For radiated emissions from 30MHz to1GHz				
					
Test Procedure:	Sequence of testing 9 kHz to 30 MHz Setup: --- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer. --- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used. --- If the EUT is a floor standing device, it is placed on the ground. --- Auxiliary equipment and cables were positioned to simulate normal operation conditions. --- The AC power port of the EUT (if available) is connected to a power				

	outlet below the turntable. --- The measurement distance is 3 meter. --- The EUT was set into operation. Premeasurement: --- The turntable rotates from 0° to 315° using 45° steps. --- The antenna height is 2.0 meter. --- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions Final measurement: --- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°). --- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector. --- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored Sequence of testing 30 MHz to 1 GHz Setup: --- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer. --- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane. --- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both. --- Auxiliary equipment and cables were positioned to simulate normal operation conditions --- The AC power port of the EUT (if available) is connected to a power outlet below the turntable. --- The measurement distance is 3 meter. --- The EUT was set into operation. Premeasurement: --- The turntable rotates from 0° to 315° using 45° steps. --- The antenna is polarized vertical and horizontal. --- The antenna height changes from 1 to 4 meter. --- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions. Final measurement: --- The final measurement will be performed with minimum the six highest peaks. --- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ($\pm 45^\circ$) and antenna movement between 1 and 4 meter. --- The final measurement will be done with QP detector with an EMI receiver. --- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored					
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	22.8°C	Humid.:	48%	Press.:	1012mbar
Test voltage:	DC 12 V from adapter with AC 120V/60Hz					
Test results:	Pass					

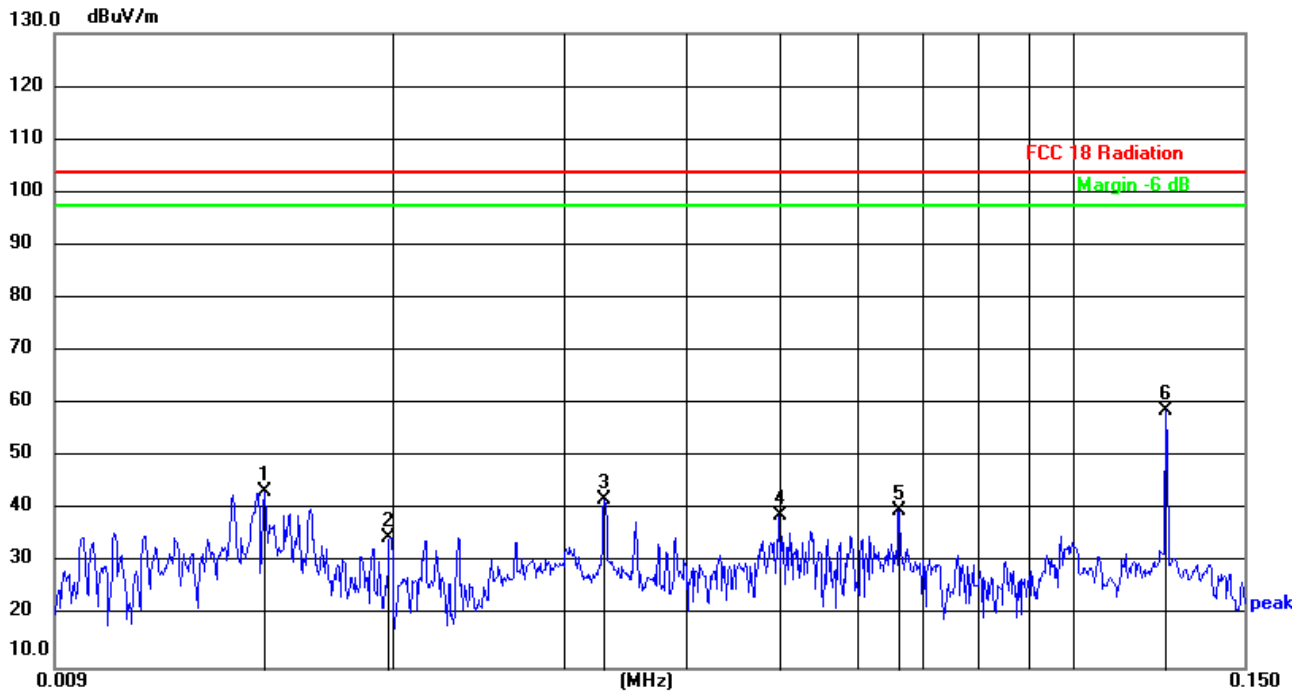
■ **Measurement data:**

Note:

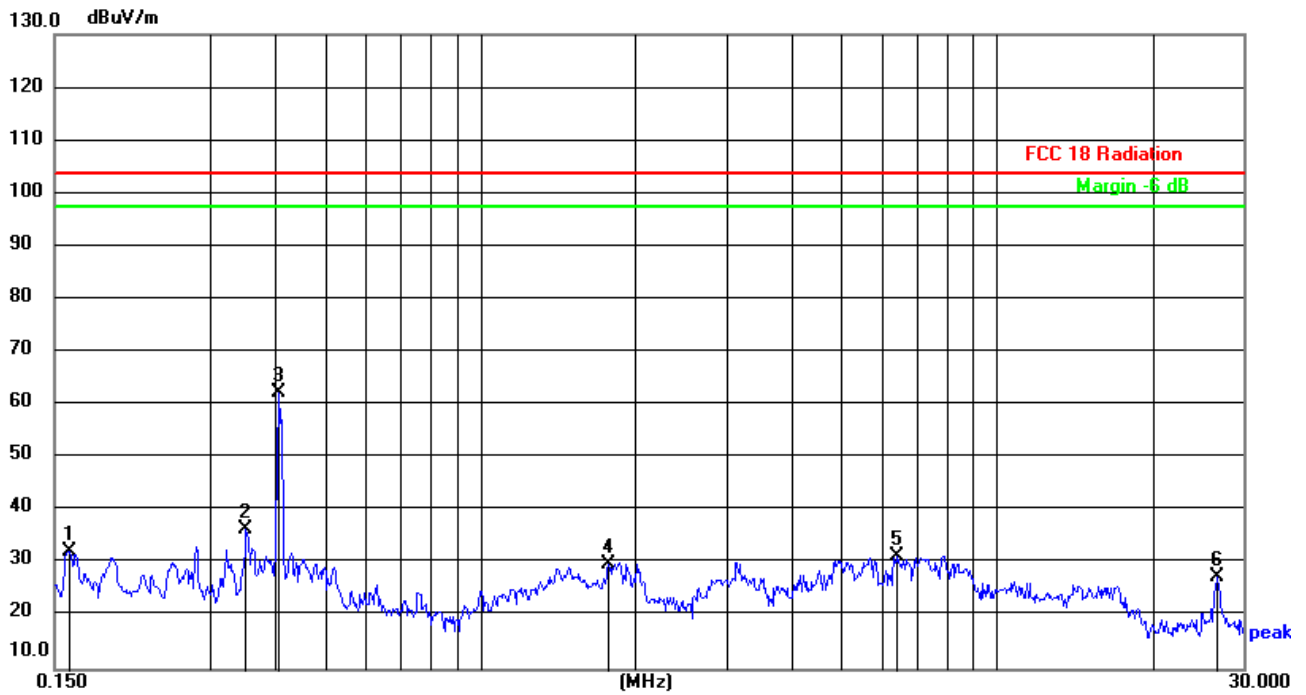
Emission level dBuV/m for 0.009~30MHz = $20\log(15) + 40\log(300/3)$

Emission level dBuV/m for 30~1000MHz = $20\log(15) + 20\log(300/3)$

Below 30MHz



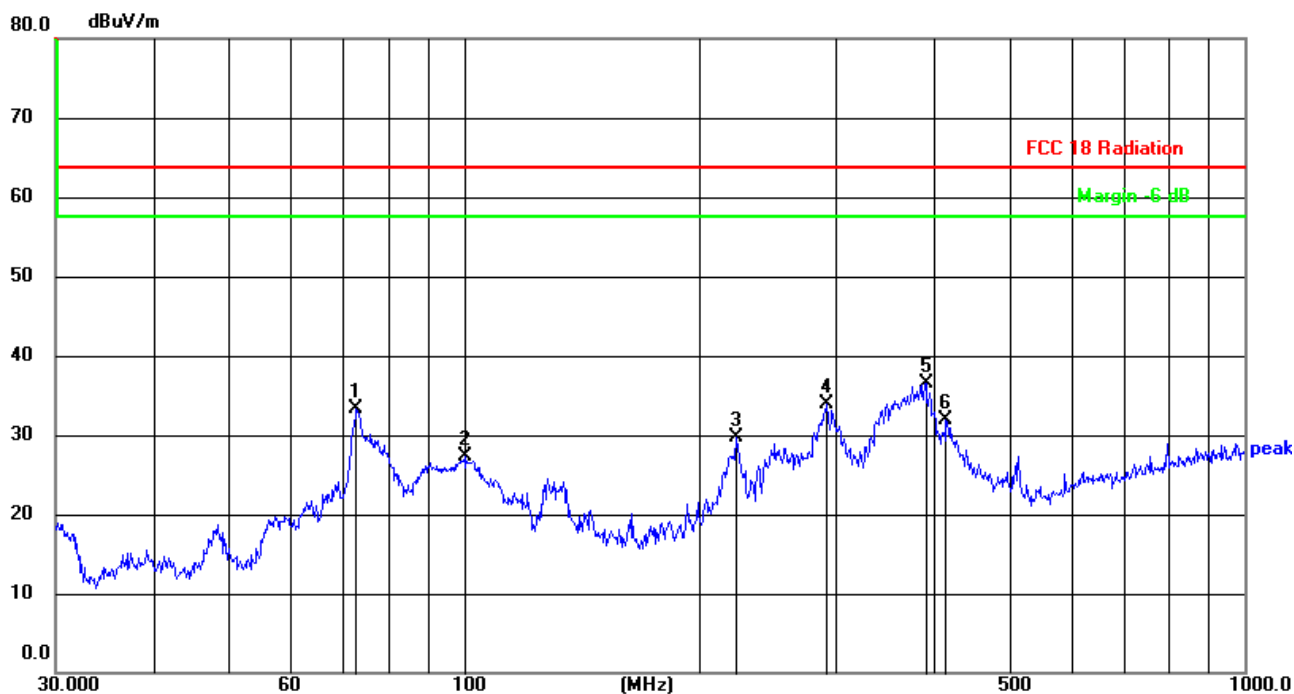
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0148	69.34	-25.88	43.46	103.50	-60.04	peak
2	0.0198	60.73	-25.88	34.85	103.50	-68.65	peak
3	0.0330	67.72	-25.88	41.84	103.50	-61.66	peak
4	0.0500	64.97	-25.88	39.09	103.50	-64.41	peak
5	0.0662	65.78	-25.88	39.90	103.50	-63.60	peak
6	0.1244	84.72	-25.90	58.82	103.50	-44.68	peak



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1597	58.40	-25.94	32.46	103.50	-71.04	peak
2	0.3519	62.69	-26.18	36.51	103.50	-66.99	peak
3	0.4082	88.59	-26.24	62.35	103.50	-41.15	peak
4	1.7716	57.19	-27.16	30.03	103.50	-73.47	peak
5	6.4198	59.79	-28.40	31.39	103.50	-72.11	peak
6	26.6992	61.55	-33.86	27.69	103.50	-75.81	peak

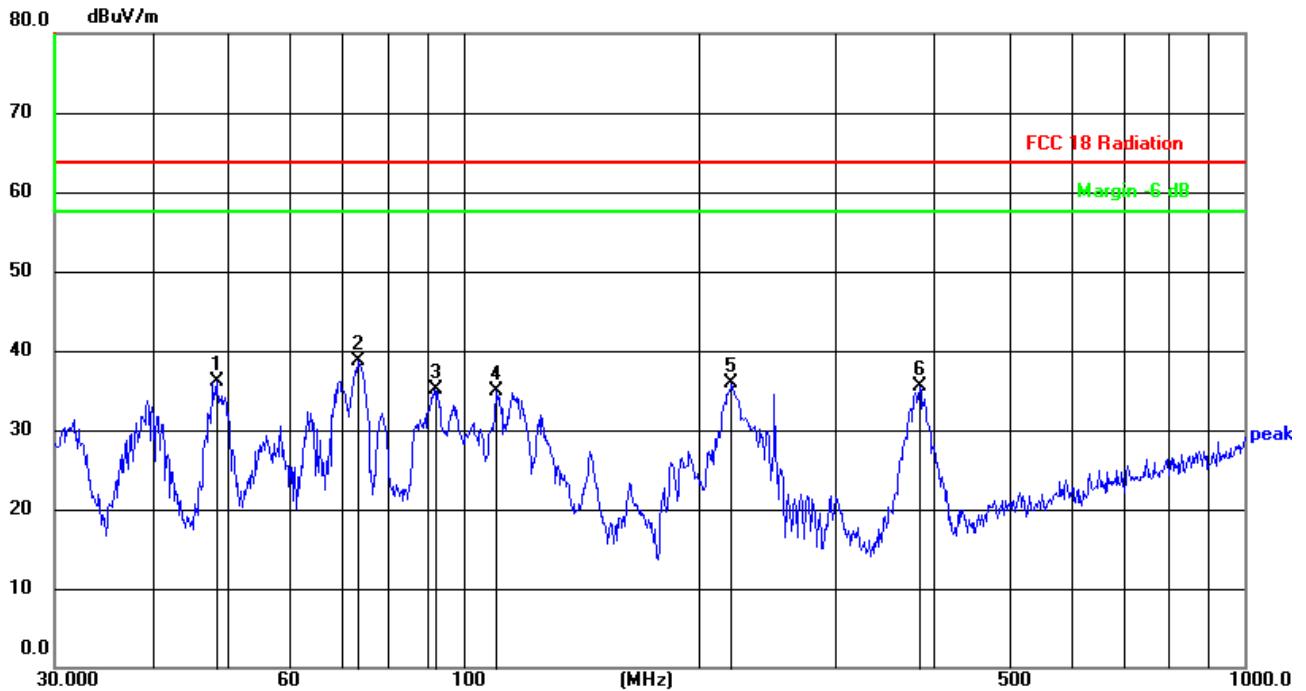
Below 1GHz

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	72.8466	53.86	-20.58	33.28	63.50	-30.22	QP
2	100.2286	47.33	-20.07	27.26	63.50	-36.24	QP
3	222.9502	48.09	-18.45	29.64	63.50	-33.86	QP
4	292.0583	52.44	-18.48	33.96	63.50	-29.54	QP
5	389.3549	53.19	-16.68	36.51	63.50	-26.99	QP
6	414.7223	47.75	-15.91	31.84	63.50	-31.66	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	48.3318	57.12	-20.99	36.13	63.50	-27.37	QP
2	73.3593	59.08	-20.46	38.62	63.50	-24.88	QP
3	91.8163	55.10	-20.04	35.06	63.50	-28.44	QP
4	110.1816	54.79	-19.82	34.97	63.50	-28.53	QP
5	220.6171	54.13	-18.18	35.95	63.50	-27.55	QP
6	383.9318	52.26	-16.80	35.46	63.50	-28.04	QP

Remark:

1. Final Level = Receiver Read level + Correction Factor (Antenna Factor + Cable Loss – Preamplifier Factor)
2. The emission levels of other frequencies are more than 20 dB below the limit and not show in test report.
3. “*”, means this data is the too weak instrument of signal is unable to test.

5 Test Setup Photo

Reference to the **appendix I** for details.

6 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----