

TEST REPORT

Report No.: 8225EU012303W6

Applicant: SHENZHEN ELECTRON TECHNOLOGY CO.,LTD.

Address: Bld.2,Yingfeng Industrial Zone,Tantou Community,
Songgang Street, Baoan, Shenzhen, China

Product Name: Android Tablet

Model No.: WA1383T (refer to clause 2.4)

Trademark: N/A

FCC ID: 2ABC5-E0053

Test Standard(s): 47 CFR Part 15 Subpart C

Date of Receipt: Jan. 22, 2024

Test Date: Jan. 22, 2024 – Feb. 02, 2024

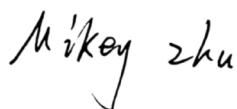
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ISSUED BY:

SHENZHEN EU TESTING LABORATORY LIMITED



Prepared by:



Mikey Zhu/ Engineer

Reviewed and Approved by:



Sally Zhang/ Manager

Revision Record

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2 General Information

2.1 Applicant Information

Applicant	SHENZHEN ELECTRON TECHNOLOGY CO.,LTD.
Address	Bld.2,Yingfeng Industrial Zone,Tantou Community, Songgang Street, Baoan, Shenzhen, China

2.2 Manufacturer Information

Manufacturer	SHENZHEN ELECTRON TECHNOLOGY CO.,LTD.
Address	Bld.2,Yingfeng Industrial Zone,Tantou Community, Songgang Street, Baoan, Shenzhen, China

2.3 Factory Information

Factory	SHENZHEN ELECTRON TECHNOLOGY CO., LTD.
Address	Bld.2, Yingfeng Industrial Zone, TantouCommunity, Songgang Street, Bao'an, Shenzhen, China.

2.4 General Description of E.U.T.

Product Name	Android Tablet
Model No. Under Test	WA1383T
List Model No.	WA1033T, WA1583T
Description of Model differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name and appearance size. (this information provided by the customer)
Rating(s)	Input: 12V $\overline{\sim}$ 2.0A (Adapter Input: 100-240V~, 50/60Hz, 0.6A Max.; Output: 12V $\overline{\sim}$ 2.0A) 3VDC(Power Supplied by CR2032*1)
Product Type	☒ Mobile ☐ Portable ☐ Fix Location
Test Sample No.	-1/1(Normal Sample)
Hardware Version	R70-V2.1A
Software Version	N/A
Remark	For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.5 Technical Information of E.U.T.

Technology Used	Bluetooth (BDR+EDR+BLE) WiFi 2.4G: 802.11b, 802.11g, 802.11n(HT20) WiFi 5G: 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) U-NII-1/3, NFC, RFID
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The requirement for the following technical information of the EUT was tested in this report:

Technology	RFID
Operating Frequency	125KHz
Modulation Type	ASK
Antenna Type	Inductive Loop Antenna
Antenna Gain(Peak)	0 dBi

3 Test Summary

3.1 Test Standard

The tests were performed according to following standards:

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Intentional radiators of radio frequency equipment
2	ANSI C63.10-2020	American National Standard for Testing Unlicensed Wireless Devices

Remark:

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

3.2 Test Verdict

No.	Description	FCC Part No.	Verdict	Remark
1	Antenna Requirement	15.203	Pass	--
2	Conducted Emission at AC Power Line	15.207	Pass	--
3	Radiated Emissions	15.209	Pass	--

3.3 Test Laboratory

Test Laboratory	Shenzhen EU Testing Laboratory Limited
Address	101, Bldg. B1, Fuqiao Fourth Area, Qiaotou Community, Fuhai Subdistrict, Baoan District, Shenzhen, Guangdong, China
Designation Number	CN1368
Test Firm Registration Number	952583

4 Test Configuration

4.1 Test Environment

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	30% to 60%	
Atmospheric Pressure	86 kPa to 106 kPa	
Temperature	NT (Normal Temperature)	+15°C to +35°C
Working Voltage of the EUT	NV (Normal Voltage)	AC 120V, 60Hz for adapter

4.2 Test Equipment

Conducted Emission at AC power line					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	EE-004	2024/01/09	2025/01/08
EMI Test Receiver	Rohde & Schwarz	ESCI	EE-005	2024/01/09	2025/01/08
Test Software	Farad	EZ-EMC	EE-014	N.C.R	N.C.R

Radiated Emission and RF Test					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESPI	EE-006	2024/01/09	2025/01/08
Bilog Broadband Antenna	SCHWARZBECK	VULB 9163	EE-007	2024/01/09	2025/01/08
Double Ridged Horn Antenna	A-INFOMW	LB-10180-NF	EE-008	2023/01/14	2026/01/13
Pre-amplifier	Agilent	8447D	EE-009	2023/01/12	2026/01/11
Pre-amplifier	Agilent	8449B	EE-010	2024/01/09	2025/01/08
MXA Signal Analyzer	Agilent	N9020A	EE-011	2024/01/09	2025/01/08
MXG RF Vector Signal Generator	Agilent	N5182A	EE-012	2024/01/09	2025/01/08
Test Software	Farad	EZ-EMC	EE-015	N.C.R	N.C.R
MIMO Power Measurement Module	TSTPASS	TSPS 2023R	EE-016	2023/05/17	2024/05/16
RF Test Software	TSTPASS	TS32893 V2.0	EE-017	N.C.R	N.C.R
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	EE-402	2023/02/16	2024/02/15
Loop Antenna	TESEQ	HLA6121	EE-403	2023/02/16	2024/02/15
MXG RF Analog Signal Generator	Agilent	N5181A	EE-406	2023/02/16	2024/02/15
Constant Temperature Humidity Chamber	Guangxin	GXP-401	ES-002	2023/07/31	2024/07/30

4.3 Description of Support Unit

No.	Title	Manufacturer	Model No.	Serial No.
1	Adapter	SHENZHEN FUJIAAPPLIANCE CO., LTD	FJ-SW126G1202000U	--
2	Notebook	ASUS	N/A	--

4.4 Test Mode

No.	Test Modes	Description
TM1	TX-125KHz-ASK	Keep the EUT connect to AC power line and works in continuously 125KHz transmitting in ASK modulation mode.

4.5 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test Item	Measurement Uncertainty
Conducted Emission	2.64 dB
Occupied Channel Bandwidth	2.8 %
RF output power, conducted	0.68 dB
Power Spectral Density, conducted	1.37 dB
Unwanted Emissions, conducted	1.84 dB
Radiated Emission (30MHz- 1GHz)	Ur = 2.70 dB (Horizontal)
	Ur = 2.70 dB (Vertical)
Radiated Emission (1GHz- 18GHz)	Ur = 3.50 dB (Horizontal)
	Ur = 3.50 dB (Vertical)
Radiated Emission (18GHz- 40GHz)	Ur = 5.15 dB (Horizontal)
	Ur = 5.24 dB (Vertical)
Temperature	0.8°C
Humidity	4%

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Condition

None.

5 Test Items

5.1 Antenna requirement

5.1.1 Test Requirement

Test Requirement	According to FCC §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded. If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.
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5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product.	The EUT has a permanently and irreplaceable inductive loop antenna.

5.1.3 Antenna Gain

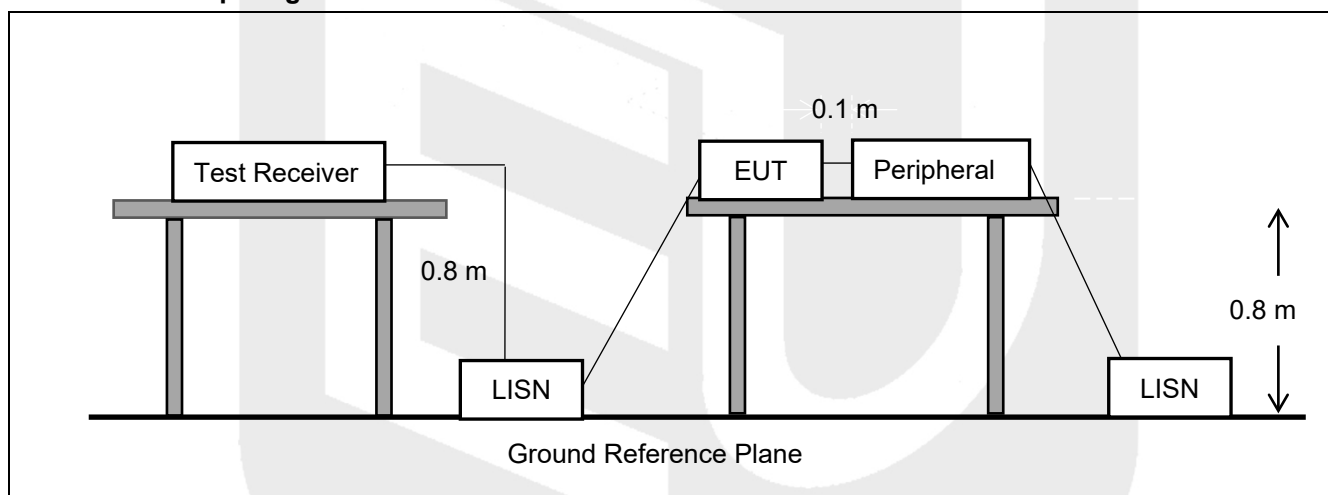
The antenna peak gain of EUT is less than 6 dBi.

5.2 Conducted Emission at AC Power Line

5.2.1 Test Requirement

Test Requirement:	Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test Limit	Frequency of emission (MHz)	Conducted limit (dB μ V)	
		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 Method	Refer to ANSI C63.10-2020 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices.		

5.2.2 Test Setup Diagram



5.2.3 Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipment. Both sides of AC line are investigated to find out the maximum conducted emission according to the test standard regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCI) is set at 9kHz in 150kHz~30MHz.

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

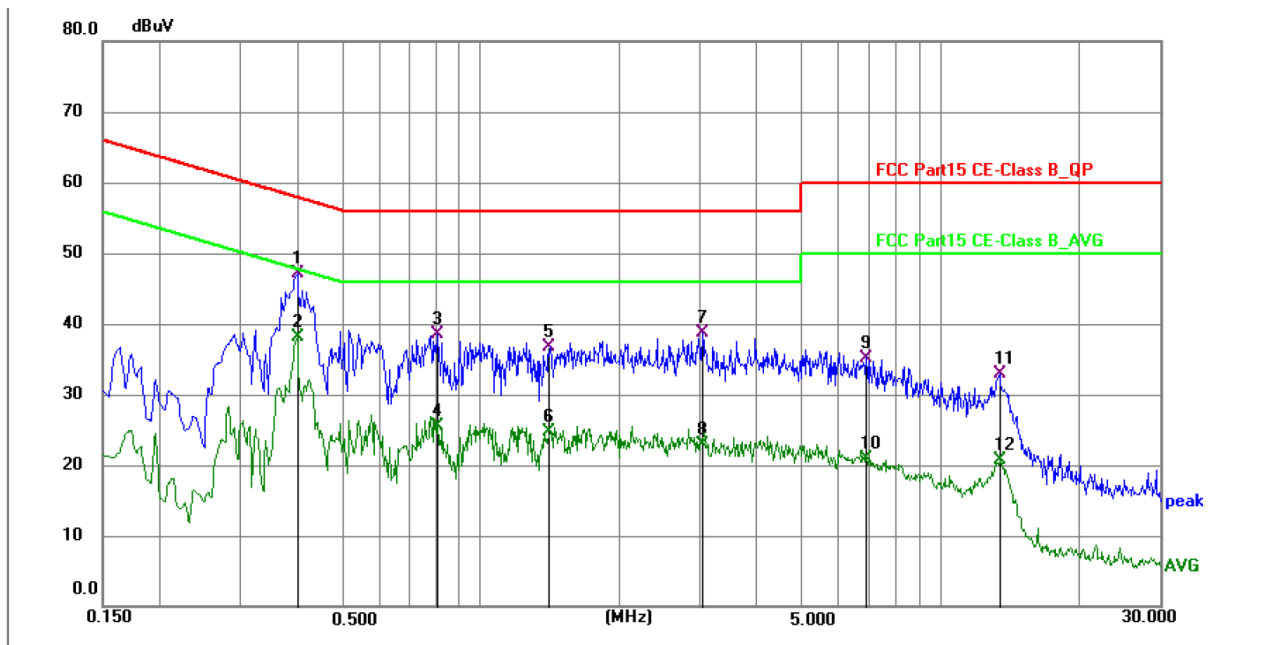
5.2.4 Test Data

PASS.

Only the worst case data was showed in the report, please to see the following pages.

Conducted Emission Test Data

Test Site: Shielded Room #1
 Test Mode: TM1
 Comments: Live Line



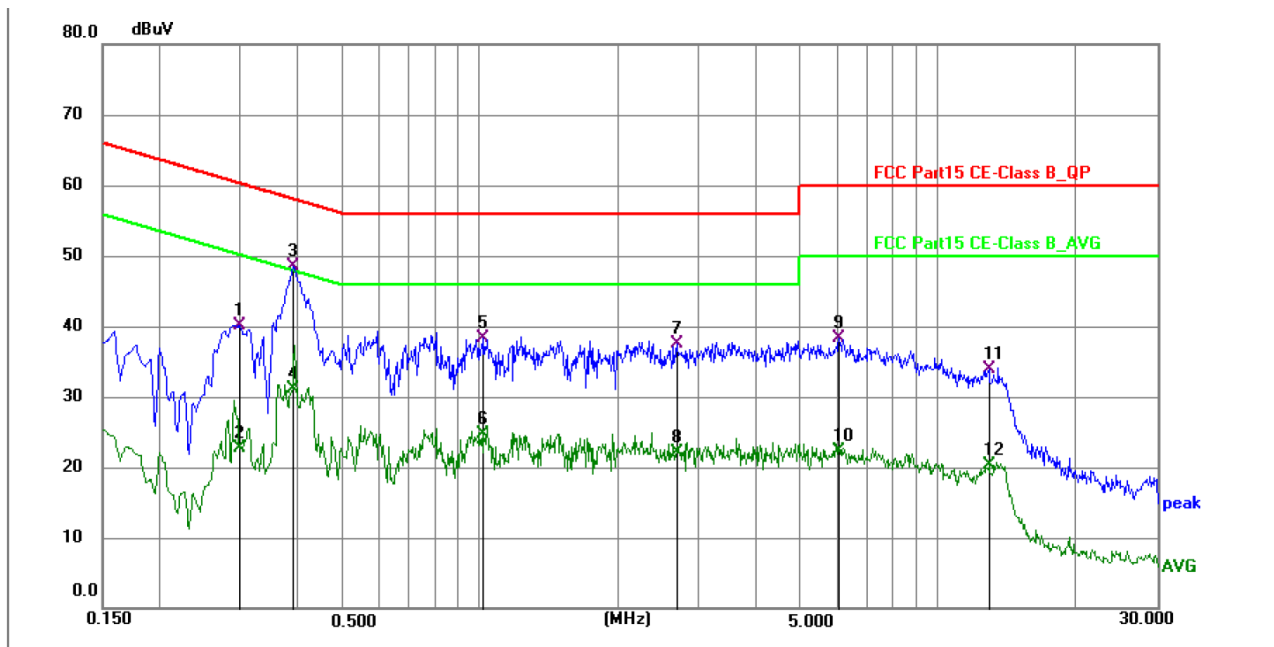
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.3975	37.11	9.96	47.07	57.91	-10.84	QP	P	
2 *	0.3975	28.09	9.96	38.05	47.91	-9.86	AVG	P	
3	0.8025	28.48	9.99	38.47	56.00	-17.53	QP	P	
4	0.8025	15.44	9.99	25.43	46.00	-20.57	AVG	P	
5	1.4144	26.78	10.00	36.78	56.00	-19.22	QP	P	
6	1.4144	14.69	10.00	24.69	46.00	-21.31	AVG	P	
7	3.0300	28.60	10.02	38.62	56.00	-17.38	QP	P	
8	3.0300	12.98	10.02	23.00	46.00	-23.00	AVG	P	
9	6.8955	25.20	10.00	35.20	60.00	-24.80	QP	P	
10	6.8955	11.00	10.00	21.00	50.00	-29.00	AVG	P	
11	13.4520	22.83	10.02	32.85	60.00	-27.15	QP	P	
12	13.4520	10.61	10.02	20.63	50.00	-29.37	AVG	P	

Note: Level = Reading + Factor

Margin = Level – Limit

Conducted Emission Test Data

Test Site: Shielded Room #1
 Test Mode: TM1
 Comments: Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2985	30.18	9.96	40.14	60.28	-20.14	QP	P	
2	0.2985	12.76	9.96	22.72	50.28	-27.56	AVG	P	
3 *	0.3885	38.48	9.98	48.46	58.10	-9.64	QP	P	
4	0.3885	21.21	9.98	31.19	48.10	-16.91	AVG	P	
5	1.0184	28.26	10.03	38.29	56.00	-17.71	QP	P	
6	1.0184	14.65	10.03	24.68	46.00	-21.32	AVG	P	
7	2.6835	27.54	10.02	37.56	56.00	-18.44	QP	P	
8	2.6835	12.08	10.02	22.10	46.00	-23.90	AVG	P	
9	6.0585	28.34	10.02	38.36	60.00	-21.64	QP	P	
10	6.0585	12.25	10.02	22.27	50.00	-27.73	AVG	P	
11	12.8625	23.92	10.05	33.97	60.00	-26.03	QP	P	
12	12.8625	10.24	10.05	20.29	50.00	-29.71	AVG	P	

Note: Level = Reading + Factor

Margin = Level – Limit

5.3 Radiated Emission

5.3.1 Test Requirement

Test Requirement	FCC §15.205; FCC §15.209		
Test Limit	According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:		
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall 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.		
NOTE:			
1. Field Strength (dBµV/m) = 20*log[Field Strength (µV/m)].			
2. In the emission tables above, the tighter limit applies at the band edges.			
Test Method	ANSI C63.10-2020 section 6.6.4 Radiated emissions tests		

5.3.2 Test Setup Diagram

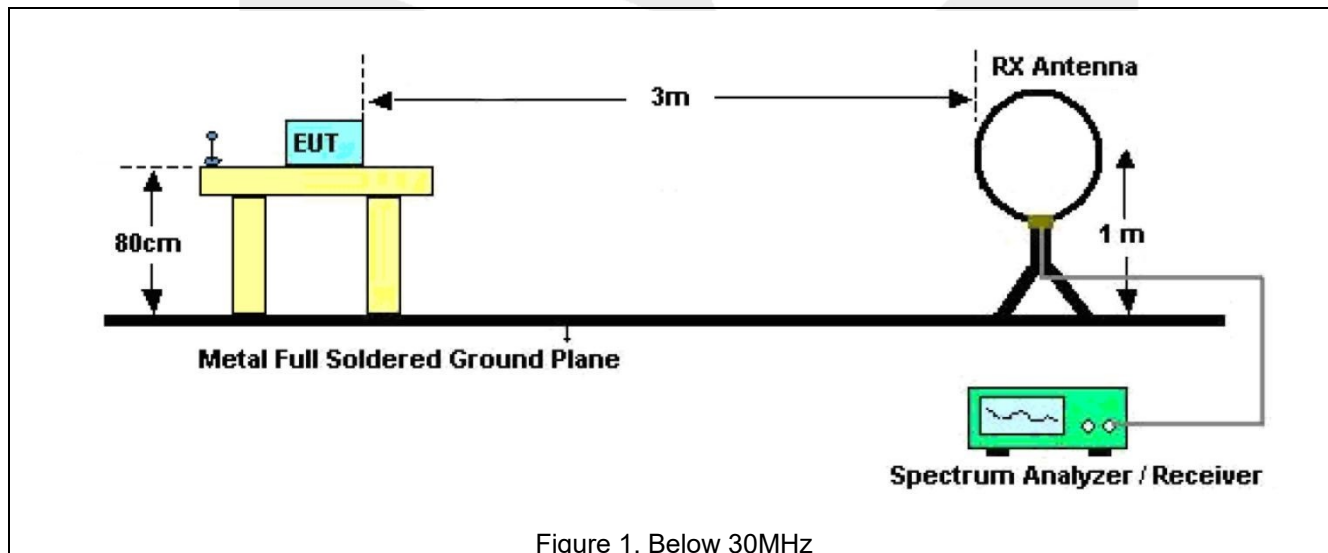
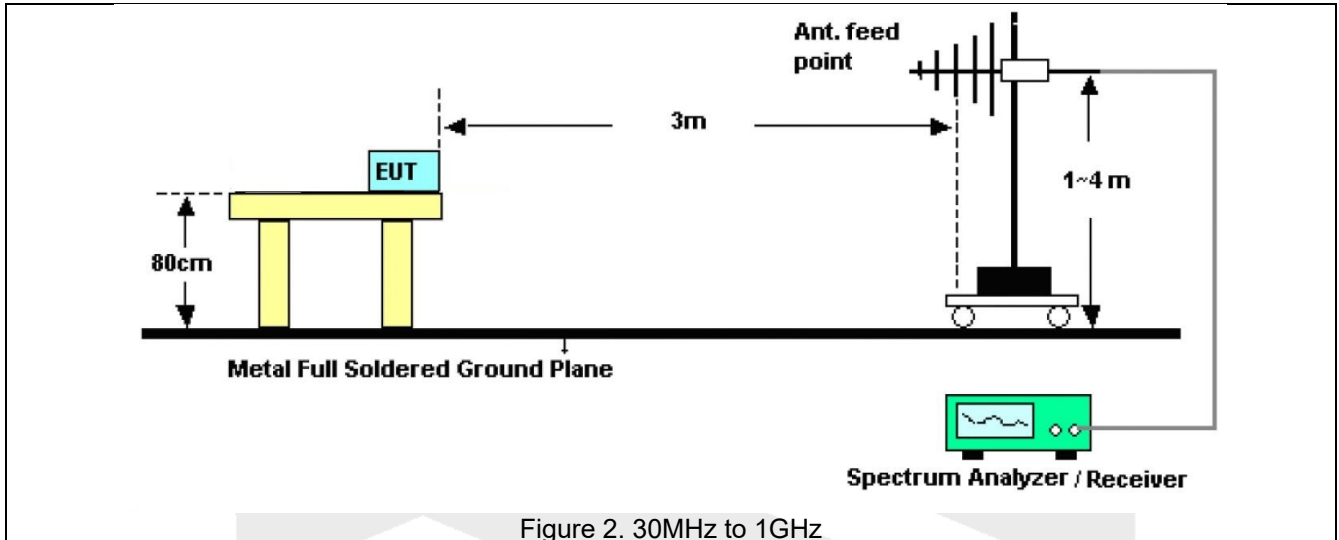


Figure 1. Below 30MHz



5.3.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW = 1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9kHz, VBW = 30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW = 300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW = 1MHz, VBW = 1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW = 1MHz, VBW = 10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

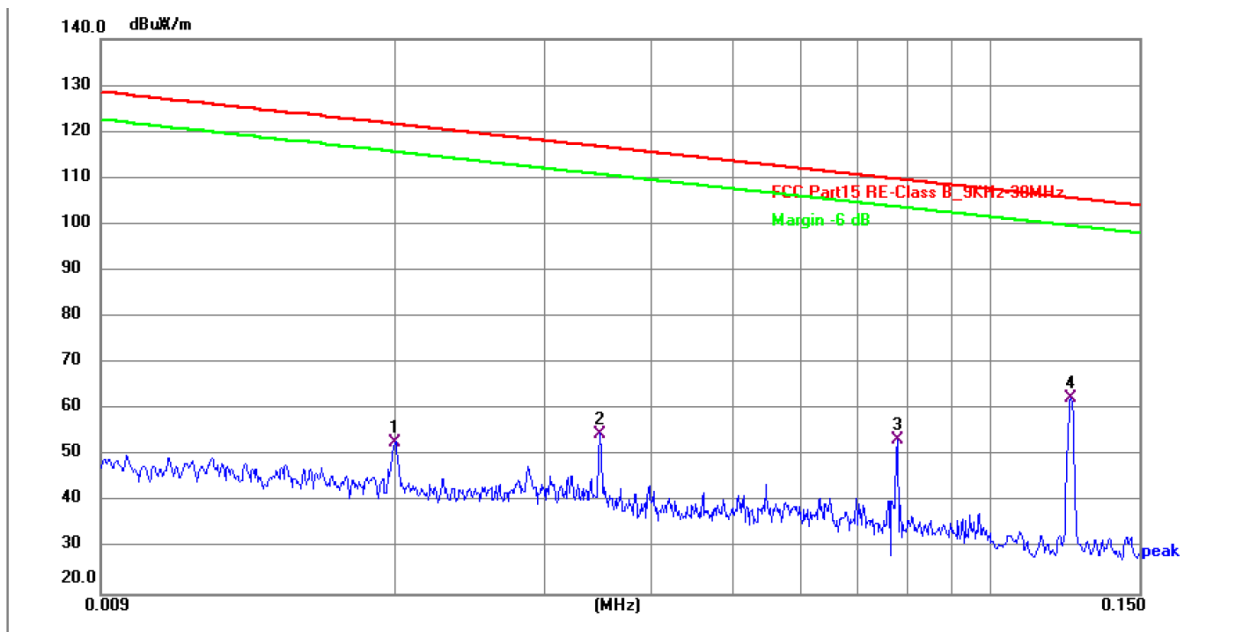
5.3.4 Test Data

PASS.

During the test, pre-scan the all test, only the worst case is recorded in the report.

Radiated Emission Test Data (9kHz - 150kHz)

Test item:	966 Chamber #1	Polarization:	Parallel
Distance:	3m	Test Mode:	TM1

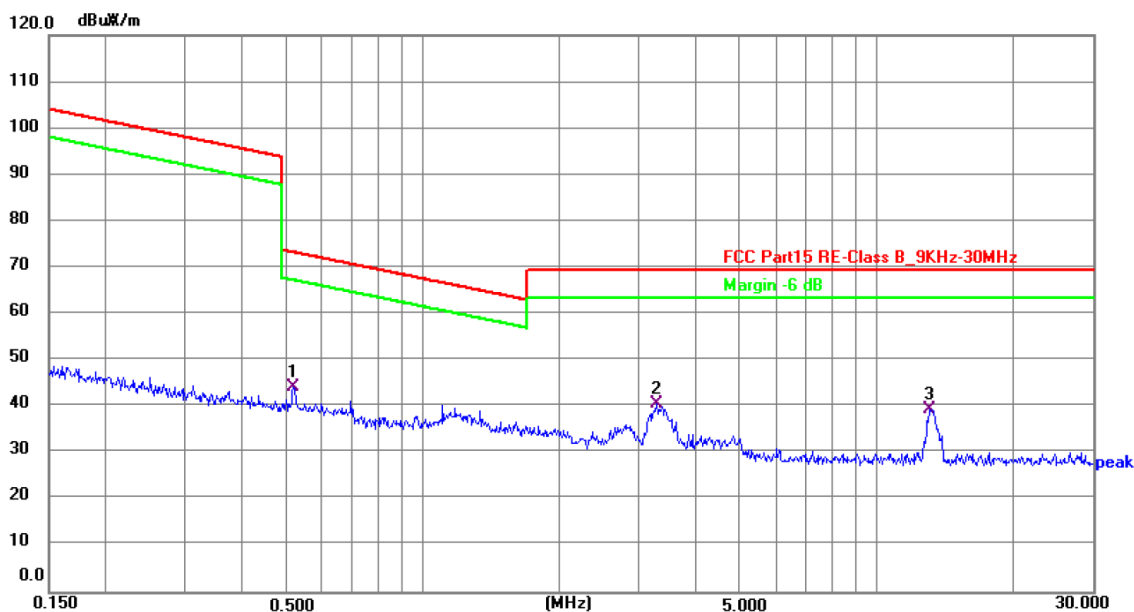


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0200	33.09	19.71	52.80	121.58	-68.78	QP	P	
2	0.0347	34.93	19.85	54.78	116.80	-62.02	QP	P	
3	0.0777	33.61	19.94	53.55	109.80	-56.25	QP	P	
4 *	0.1243	42.40	19.98	62.38	105.71	-43.33	QP	P	

Note: Level = Reading + Factor Margin = Level - Limit

Radiated Emission Test Data (150kHz - 30 MHz)

Test item:	966 Chamber #1	Polarization:	Parallel
Distance:	3m	Test Mode:	TM1

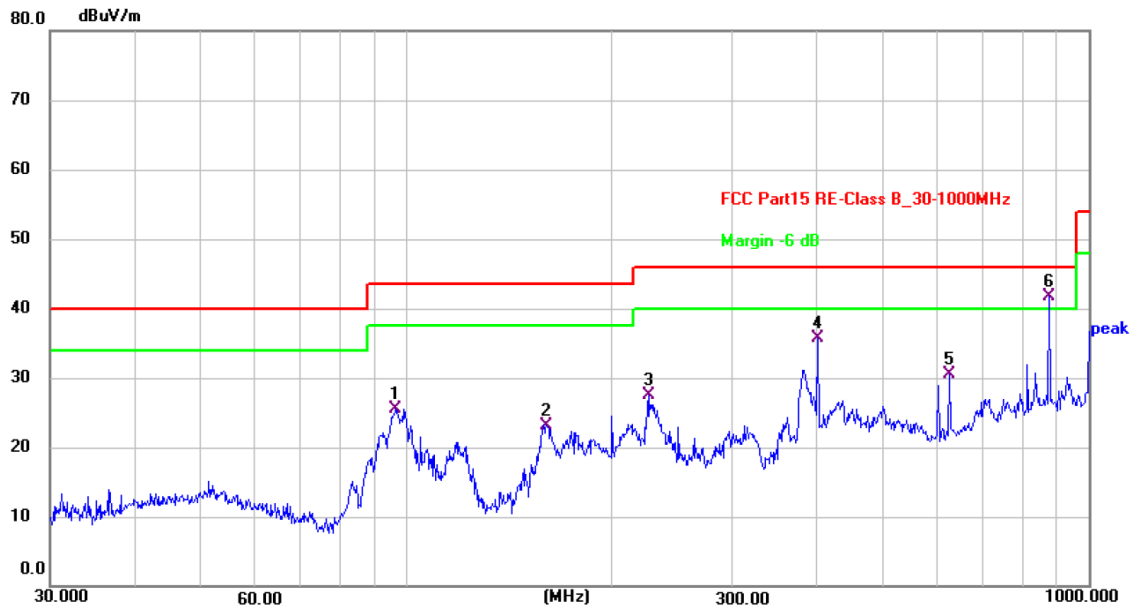


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	0.5181	24.24	20.08	44.32	73.32	-29.00	QP	P	
2	3.2756	20.43	20.08	40.51	69.54	-29.03	QP	P	
3	15.0672	19.96	19.58	39.54	69.54	-30.00	QP	P	

Note: **Level = Reading + Factor** **Margin = Level - Limit**

Radiated Emission Test Data (30-1000MHz)

Test item:	966 Chamber #1	Polarization:	Horizontal
Distance:	3m	Test Mode:	TM1



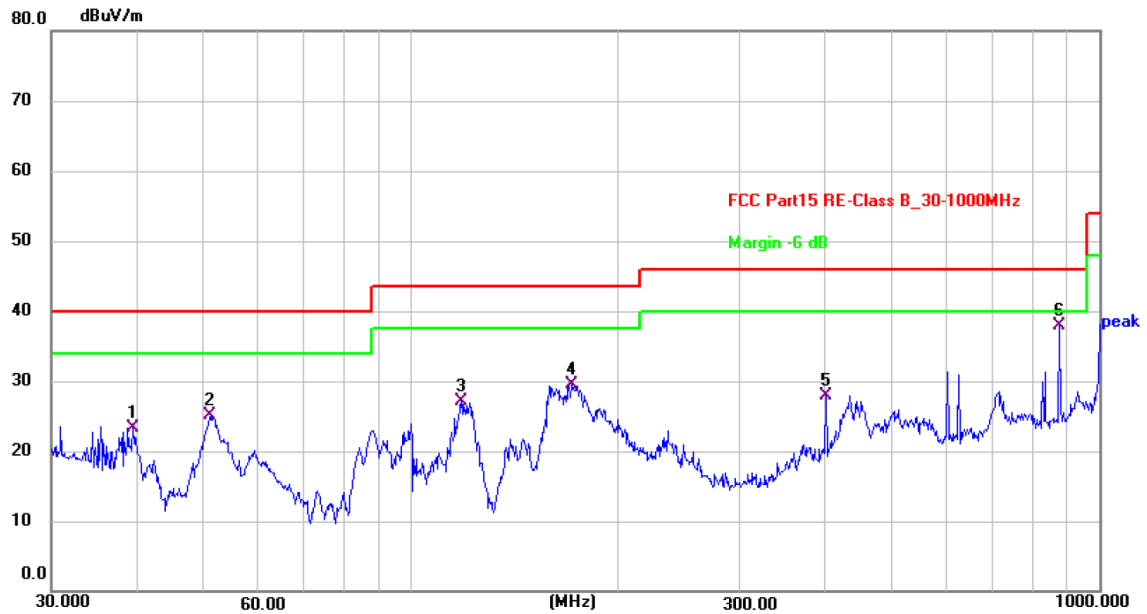
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	96.4362	41.61	-16.10	25.51	43.50	-17.99	QP	P	
2	160.3456	40.83	-17.67	23.16	43.50	-20.34	QP	P	
3	226.0994	41.44	-14.00	27.44	46.00	-18.56	QP	P	
4	400.4319	45.79	-10.08	35.71	46.00	-10.29	QP	P	
5	625.0780	36.69	-6.12	30.57	46.00	-15.43	QP	P	
6 *	875.2470	44.23	-2.44	41.79	46.00	-4.21	QP	P	

Note: Level = Reading + Factor

Margin = Level - Limit

Radiated Emission Test Data (30-1000MHz)

Test item:	966 Chamber #1	Polarization:	Vertical
Distance:	3m	Test Mode:	TM1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	39.4371	38.75	-15.36	23.39	40.00	-16.61	QP	P	
2	51.1209	39.35	-14.20	25.15	40.00	-14.85	QP	P	
3	118.1862	43.62	-16.46	27.16	43.50	-16.34	QP	P	
4	170.7926	46.40	-16.93	29.47	43.50	-14.03	QP	P	
5	400.4319	37.99	-10.08	27.91	46.00	-18.09	QP	P	
6 *	875.2470	40.49	-2.65	37.84	46.00	-8.16	QP	P	

Note: Level = Reading + Factor Margin = Level - Limit

ANNEX A TEST SETUP PHOTOS

Please refer to the document “8225EU012303W-AA.PDF”

ANNEX B EXTERNAL PHOTOS

Please refer to the document “8225EU012303W-AB.PDF”

ANNEX C INTERNAL PHOTOS

Please refer to the document “8225EU012303W-AC.PDF”



Statement

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