FCC Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2237-1
FCC ID	:	IHDT56AJ1
STANDARD	:	47 CFR Part 15 Subpart B
CLASSIFICATION	:	Certification
TEST DATE(S)	:	Nov. 03, 2022 ~ Nov. 11, 2022

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

Sporton International Inc. (ShenZhen)

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People's Republic of China

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC2O0909	Rev. 01	Initial issue of report	Nov. 23, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 6.73 dB at 0.17 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 3.78 dB at 30.97 MHz for Quasi-Peak

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1. General Description

1.1. Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2. Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2237-1
FCC ID	IHDT56AJ1
EUT supports Radios application	GSM/WCDMA/LTE/5G NR WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE GNSS/NFC/FM
IMEI Code	Conduction: 352182740026810/352182740026828 352182740034756/352182470034764 Radiation:352182740027156/352182740027164 352182740034756/352182740034764
HW Version	DVT2
SW Version	TTN33.40
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850MHz ~ 1910MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV : 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 17 : 704 MHz ~ 716 MHz LTE Band 26 : 814 MHz ~ 849 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 42 : 3450 MHz ~ 3550 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n78 : 3450 MHz ~ 3550 MHz 802.11b/g/n: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac:5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz
Rx Frequency	GSM850: 869 MHz ~ 894 MHz GSM1900: 1930 MHz ~ 1990 MHz WCDMA Band II: 1930 MHz ~ 1990 MHz WCDMA Band IV : 2110 MHz ~ 2155 MHz WCDMA Band V: 869 MHz ~ 894 MHz LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 12 : 729 MHz ~ 746 MHz LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 17 : 734 MHz ~ 746 MHz LTE Band 26 : 859 MHz ~ 894 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 42 : 3450 MHz ~ 3550 MHz LTE Band 66 : 2110 MHz~ 2200 MHz 5G NR n2 : 1930 MHz ~ 1990 MHz 5G NR n7 : 2620 MHz ~ 2690 MHz 5G NR n66 : 2110 MHz~ 2200 MHz 5G NR n78 : 3450 MHz ~ 3550 MHz 802.11b/g/n: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac: 5150 MHz ~ 5250 MHz;

	5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz GNSS : 1559 MHz ~ 1610 MHz, FM : 88 MHz ~ 108 MHz
Antenna Type	WWAN : PIFA Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GNSS: PIFA Antenna NFC: Loop Antenna FM : External Earphone Antenna
Type of Modulation	GSM/GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK HSPA : QPSK HSPA+ : 16QAM DC-HSDPA : 64QAM LTE: QPSK / 16QAM / 64QAM 5G NR: DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) :π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GNSS : BPSK NFC: ASK FM

1.5. Modification of EUT

No modifications are made to the EUT during all test items.

1.6. Specification of Accessory

Accessories Information				
AC Adapter 1 (US)	**Brand Name**	Motorola (Salom)	**Model Name**	MC-301
AC Adapter 1 (EU)	**Brand Name**	Motorola (Salom)	**Model Name**	MC-302
AC Adapter 1 (UK)	**Brand Name**	Motorola (Salom)	**Model Name**	MC-303
AC Adapter 1 (AU)	**Brand Name**	Motorola (Salom)	**Model Name**	MC-305
AC Adapter 1 (AR)	**Brand Name**	Motorola (Salom)	**Model Name**	MC-306
AC Adapter 1 (BR)	**Brand Name**	Motorola (Salom)	**Model Name**	MC-307
AC Adapter 2 (IN)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-304
Battery 1	**Brand Name**	Motorola (Sunwoda)	**Model Name**	PV50
Battery 2	**Brand Name**	Motorola (SCUD)	**Model Name**	PV50
Earphone	**Brand Name**	Motorola (Juwei)	**Model Name**	MH202
USB Cable 1	**Brand Name**	Motorola (Saibao)	**Model Name**	SC18D13215
USB Cable 2	**Brand Name**	Motorola (Cabletech)	**Model Name**	SC18D13216
USB Cable 3	**Brand Name**	Motorola (Luxshare)	**Model Name**	SC18D13217

1.7. Test Location

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	CN1256	421272

1.8. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b

1.9. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart B
- ANSI C63.4-2014

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest frequency or to 40 GHz, whichever is lower).

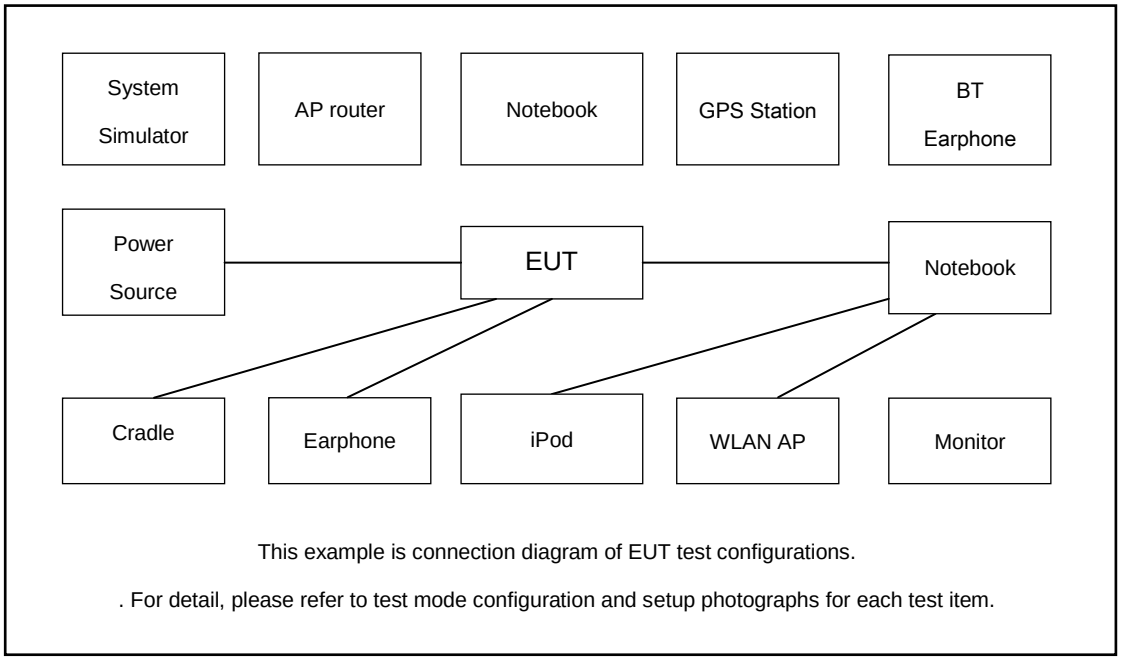
Test Items	Function Type
AC Conducted Emission	Mode 1: GSM 850 Rx(Middle)+ Bluetooth Idle+ WLAN (2.4G) Idle+ Camera(Rear)+ Earphone+ Battery 1+USB Cable1 (Charging from Adapter1)+ SIM 1 For Sample 1
	Mode 2: WCDMA 850 Rx(High)+ Bluetooth Idle+ WLAN (5G) Idle + Camera(Front)+ Earphone+ Battery 1+ USB Cable2 (Charging from Adapter2) + SIM 2 For Sample 1
	Mode 3: LTE Band 5 Rx(Low)+ Bluetooth Idle+ WLAN (2.4G) Idle + MPEG4(Run Color Bar)+ Earphone+ Battery 1+ USB Cable3(Charging from Adapter 1 + SIM 1 For Sample 1
	Mode 4: LTE Band 13 Rx(High) + Bluetooth Idle + WLAN (5G) Idle + NFC On+Earphone + Battery 1 + USB Cable 1(Data Link with Notebook)+ EUT (eMMC) USB Data Link to PC/NB + SIM 2 For Sample 1
	Mode 5: LTE Band 12 Rx(High) + Bluetooth Idle + WLAN (2.4G) Idle + FM Rx(98MHz)+ Earphone + Battery 1+ USB Cable 1(Data Link with Notebook)+ PC/NB USB Data Link to EUT (eMMC)+SIM 1 For Sample 1
	Mode 6: LTE Band 26 Rx(Low)+ Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook)+ EUT (SD) USB Data Link to PC/NB+SIM 2 For Sample 1
	Mode 7:LTE Band 17 Rx(Middle)+Bluetooth Idle+WLAN (2.4G) Idle+MPEG4(Run Color Bar)+Earphone +Battery 1+USB Cable 1(Data Link with Notebook)+PC/NB USB Data Link to EUT (SD)+SIM 2 For Sample 1
	Mode 8: LTE Band 5 Rx(Low)+Bluetooth Idle+WLAN (2.4G) Idle+MPEG4(Run Color Bar)+Earphone +Battery 1+USB Cable 2(Data Link with Notebook)+EUT (SD) USB Data Link to PC/NB+SIM 1 For Sample 1
	Mode 9: LTE Band 5 Rx(Low)+Bluetooth Idle+WLAN (2.4G) Idle+MPEG4(Run Color Bar)+Earphone +Battery 1+USB Cable 3(Data Link with Notebook)+EUT (SD) USB Data Link to PC/NB+SIM 1 For Sample 1
	Mode 10 :LTE Band 5 Rx(Low) + Bluetooth Idle + WLAN (2.4G) Idle) + Camera(Rear)+ Earphone + Battery 2 + USB Cable3(Charging from Adapter 1) For Sample 2
	Mode 11 :LTE Band 5 Rx(Low)+ (Bluetooth Idle)+ (WLAN (2.4G) Idle)+ MPEG4(Run Color Bar)+ Earphone + Battery 2+ USB Cable 1(EUT (eMMC) USB Data Link to PC/NB) For Sample 2

Radiated Emissions	Mode 1: GSM 850 Rx(Middle) + Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + USB Cable 1 (Charging from Adapter1)+ SIM 1 For Sample 1 Mode 2: WCDMA 850 Rx(High) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + USB Cable2 (Charging from Adapter2)+ SIM 2 For Sample 1 Mode 3: LTE Band 5 Rx(Low)+Bluetooth Idle+WLAN (2.4G) Idle+MPEG4(Run Color Bar)+Earphone +USB Cable3(Charging from Adapter (2))+SIM 1 For Sample 1 Mode 4: LTE Band 13 Rx(High)+ Bluetooth Idle + WLAN (5G) Idle + NFC On + Earphone + USB Cable 1(Data Link with Notebook)+ EUT (eMMC) USB Data Link to PC/NB + SIM 2 For Sample 1 Mode 5: LTE Band 12 Rx(High) + Bluetooth Idle + WLAN (2.4G) Idle + FM Rx(98MHz)+ Earphone + USB Cable 1(Data Link with Notebook)+ PC/NB USB Data Link to EUT (eMMC)+ SIM 1 For Sample 1 Mode 6: LTE Band 26 Rx(Low)+ Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Earphone + USB Cable 1(Data Link with Notebook)+ EUT (SD) USB Data Link to PC/NB+SIM 2 For Sample 1 Mode 7: LTE Band 17 Rx(Middle)+ Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar)+ Earphone + USB Cable 1(Data Link with Notebook)+ PC/NB USB Data Link to EUT (SD)+ SIM 2 For Sample 1 Mode 8: LTE Band 5 Rx(Low)+ Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar)+ Earphone + USB Cable 2(Data Link with Notebook)+ EUT (eMMC) USB Data Link to PC/NB + SIM 1 For Sample 1 Mode 9: LTE Band 5 Rx(Low)+ Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar)+ Earphone + USB Cable 3(Data Link with Notebook)+ EUT (eMMC) USB Data Link to PC/NB+SIM 1 For Sample 1 Mode 10 :LTE Band 5 Rx(Low)+ Bluetooth Idle + WLAN (2.4G) Idle + Camera(Front)+ Earphone + USB Cable3(Charging from Adapter 2 For Sample 2 Mode 11 :LTE Band 5 Rx(Low)+ Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar)+ Earphone + USB Cable 1(Data Link with Notebook)+ EUT (eMMC) USB Data Link to PC/NB For Sample 2

Remark:

1. The worst case of AC is mode 3; only the test data of this mode is reported.
2. The worst case of RE is mode 3; only the test data of this mode is reported.
3. Data Link with Notebook / PC means data application transferred mode between EUT and Notebook / PC.
4. Pre-scanned Low/Middle/High channel for GSM 850/WCDMA 850 /LTE Band 5/12/13/17/26, the worst channel was recorded in this report.

2.2. Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application

2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritus	MT8820C	N/A	N/A	N/A
2.	GPS Station	Labsat	RLLS03-2P	N/A	N/A	Unshielded,1.8m
3.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
4.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,2.7m with Core
5.	SD Card	Kingston	3300-10000-078	Fcc DoC	N/A	N/A
6.	NFC Card	N/A	N/A	N/A	N/A	N/A
7.	IPod	Apple	MC525 ZP/A	Fcc DoC	Shielded, 1.0m	N/A
8.	FM Base Station	R&S	SMB100A	Fcc DoC	N/A	Shielded, 1.5m
9.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
10.	Notebook	DELL	Inspiron 15-7570	Fcc DoC	N/A	shielded cable DC O/P 1.8m Unshielded AC I/P cable 1.8m
11.	LABS ATGPS Simulator	RACELOGIC	RLLS03-2P	Fcc DoC	N/A	Unshielded,1.8m

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA or LTE idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Data application is transferred between notebook and EUT via USB cable.
2. Turn on camera to capture images.
3. Turn on MPEG4 function.
4. Execute "H Pattern" to show H Pattern via USB Cable on the Notebook.
5. Turn on FM function to make the EUT receive continuous signals from FM station.
6. Turn on GNSS function to make the EUT receive continuous signals from GNSS station.
7. Turn on NFC function.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment 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.

<Class B Limit>

Frequency of emission (MHz)	Conducted 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.

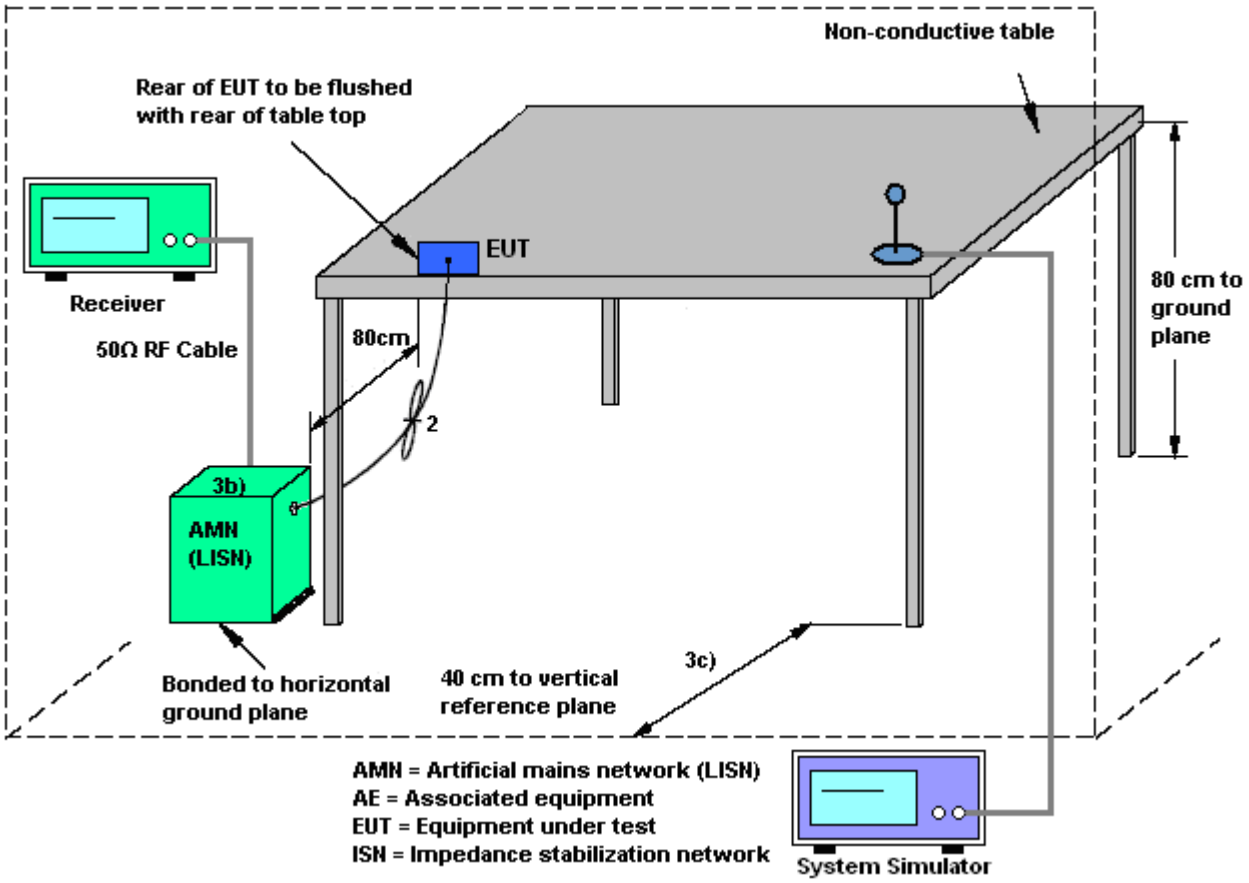
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

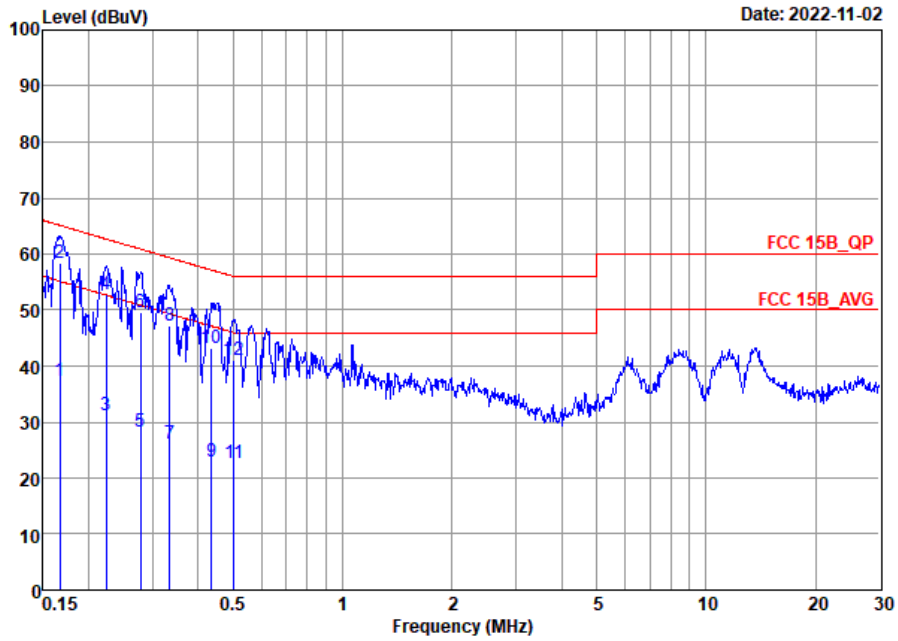
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

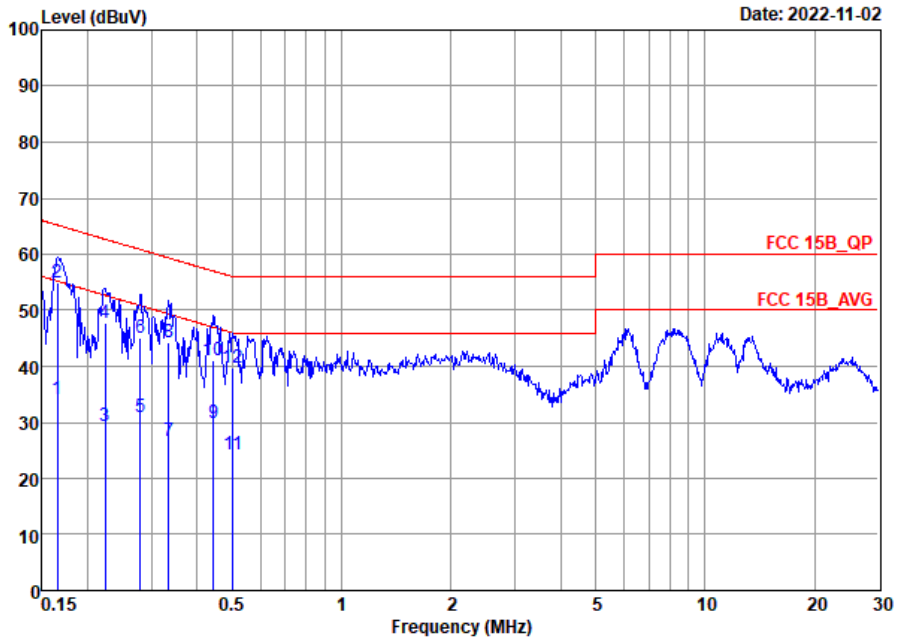
Test Engineer :	Lily Qiu	**Temperature :**	20~23℃
		Relative Humidity :	41~46%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15B QP LISN 20220811 L LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.17	37.39	-17.73	55.12	16.60	10.20	10.59	Average
2	*	0.17	58.39	-6.73	65.12	37.60	10.20	10.59	QP
3		0.22	31.25	-21.45	52.70	10.70	10.19	10.36	Average
4		0.22	52.85	-9.85	62.70	32.30	10.19	10.36	QP
5		0.28	28.24	-22.66	50.90	7.30	10.17	10.77	Average
6		0.28	49.54	-11.36	60.90	28.60	10.17	10.77	QP
7		0.33	26.01	-23.34	49.35	4.81	10.10	11.10	Average
8		0.33	47.11	-12.24	59.35	25.91	10.10	11.10	QP
9		0.44	23.01	-24.14	47.15	1.30	10.11	11.60	Average
10		0.44	43.21	-13.94	57.15	21.50	10.11	11.60	QP
11		0.50	22.76	-23.24	46.00	0.80	10.12	11.84	Average
12		0.50	40.96	-15.04	56.00	19.00	10.12	11.84	QP

Test Engineer :	Lily Qiu	**Temperature :**	20~23℃
		Relative Humidity :	41~46%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15B OP LISN 20220811 N NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.17	34.02	-21.19	55.21	13.10	10.31	10.61	Average
2	*	0.17	54.82	-10.39	65.21	33.90	10.31	10.61	QP
3		0.22	29.43	-23.27	52.70	8.80	10.27	10.36	Average
4		0.22	47.83	-14.87	62.70	27.20	10.27	10.36	QP
5		0.28	30.90	-19.95	50.85	9.90	10.23	10.77	Average
6		0.28	45.00	-15.85	60.85	24.00	10.23	10.77	QP
7		0.33	26.59	-22.76	49.35	5.31	10.18	11.10	Average
8		0.33	44.39	-14.96	59.35	23.11	10.18	11.10	QP
9		0.44	29.94	-17.04	46.98	8.10	10.19	11.65	Average
10		0.44	41.04	-15.94	56.98	19.20	10.19	11.65	QP
11		0.50	24.23	-21.77	46.00	2.20	10.19	11.84	Average
12		0.50	39.73	-16.27	56.00	17.70	10.19	11.84	QP

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

<Class B Limit>

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

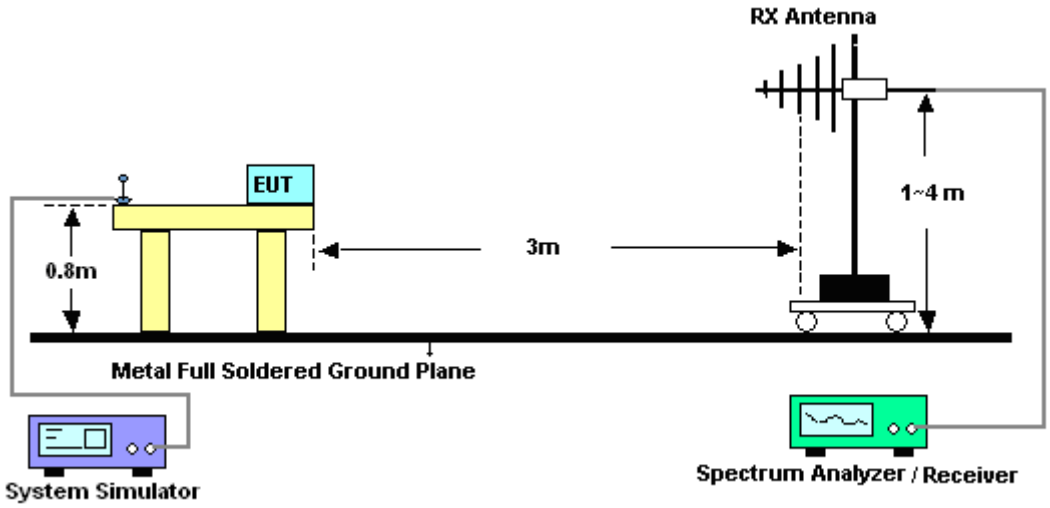
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

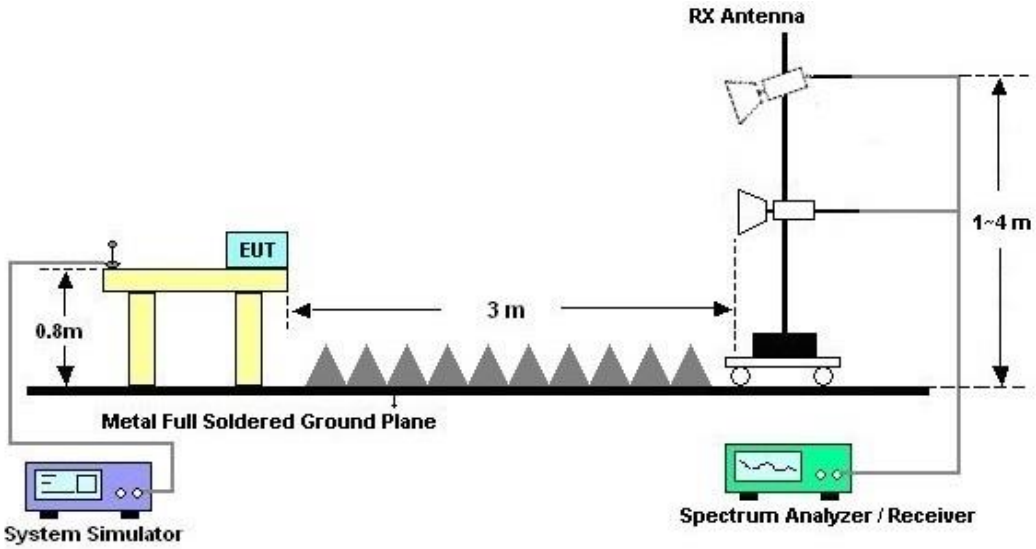
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBµV/m) = 20 log Emission level (µV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
10. Exploratory radiated emissions testing of handheld and/or body-worn devices shall include rotation of the EUT through three orthogonal axes (X/Y/Z Plane) to determine the orientation (attitude) that maximizes the emissions.

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

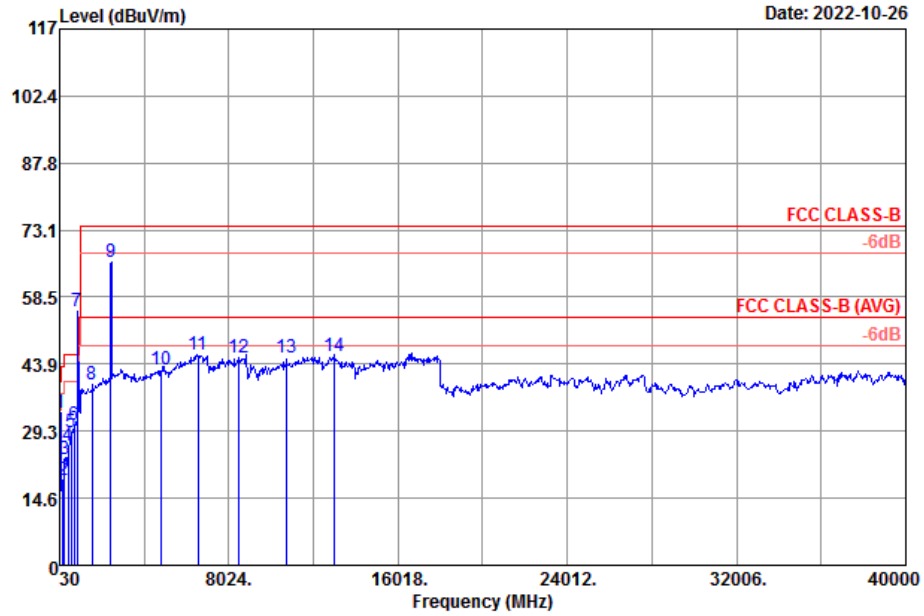


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

Test Engineer :	Zhicheng Li	**Temperature :**	24~25°C
		Relative Humidity :	48~49%
Test Distance :	3m	**Polarization :**	Horizontal
Remark :	#7 is system simulator signal which can be ignored. #9 is RF signal which comes from WLAN Access Point used to connect the EUT, and which can be ignored.		

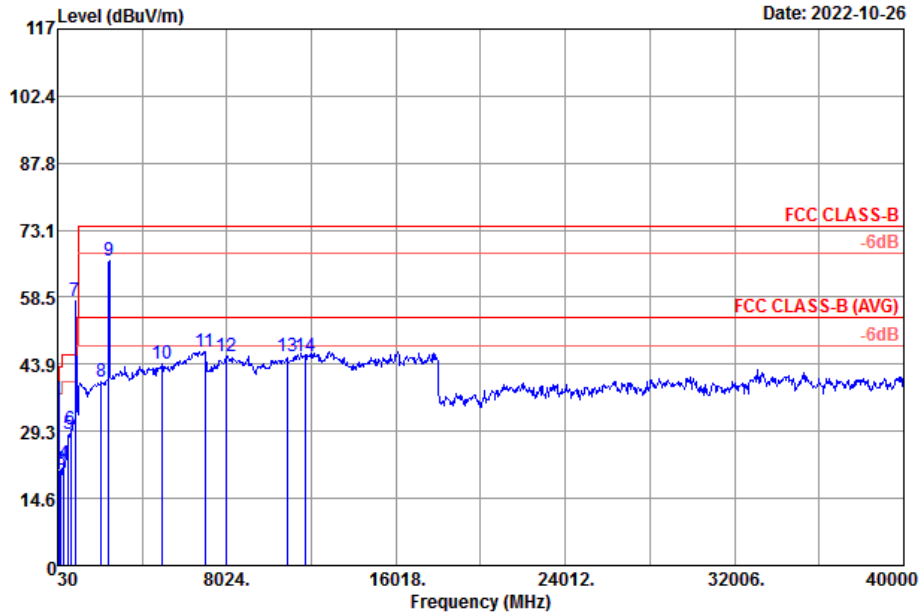


Site : 03CH04-SZ
Condition : FCC CLASS-B 3m LF ANT 41909 22 HORIZONTAL

Plane : Z with accessary

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.97	33.38	-6.62	40.00	39.95	25.29	0.54	32.40	---	---	Peak
2		179.38	18.69	-24.81	43.50	33.55	15.91	1.37	32.14	---	---	Peak
3		270.56	23.23	-22.77	46.00	34.09	19.19	1.71	31.76	---	---	Peak
4		441.28	26.22	-19.78	46.00	32.40	22.96	2.18	31.32	---	---	Peak
5		569.32	28.90	-17.10	46.00	31.10	26.12	2.50	30.82	---	---	Peak
6		726.46	30.69	-15.31	46.00	31.19	27.64	2.81	30.95	---	---	Peak
7	*	874.00	55.52			54.81	29.06	3.10	31.45	---	---	Peak
8		1578.00	39.33	-34.67	74.00	43.02	25.81	4.48	33.98	---	---	Peak
9		2437.00	66.15			66.38	27.36	5.41	33.00	---	---	Peak
10		4828.00	42.73	-31.27	74.00	35.74	31.19	8.88	33.08	---	---	Peak
11		6554.00	45.80	-28.20	74.00	34.07	34.21	10.90	33.38	---	---	Peak
12		8496.00	45.20	-28.80	74.00	31.30	37.00	10.80	33.90	---	---	Peak
13		10760.00	45.39	-28.61	74.00	25.92	40.31	12.34	33.18	---	---	Peak
14		12995.00	45.68	-28.32	74.00	27.59	39.00	13.56	34.47	---	---	Peak

Test Engineer :	Zhicheng Li	**Temperature :**	24~25°C
		Relative Humidity :	48~49%
Test Distance :	3m	**Polarization :**	Vertical
Remark :	#7 is system simulator signal which can be ignored. #9 is RF signal which comes from WLAN Access Point used to connect the EUT, and which can be ignored.		



Site : 03CH04-SZ
Condition : FCC CLASS-B 3m LF ANT 41909 22 VERTICAL

Plane : Z with accessary

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.97	36.22	-3.78	40.00	42.79	25.29	0.54	32.40	100	355	QP
2		95.96	20.93	-22.57	43.50	36.41	15.63	0.99	32.10	---	---	Peak
3		175.50	20.90	-22.60	43.50	35.64	16.06	1.35	32.15	---	---	Peak
4		316.15	22.24	-23.76	46.00	31.93	20.15	1.86	31.70	---	---	Peak
5		553.80	28.83	-17.17	46.00	31.26	25.99	2.47	30.89	---	---	Peak
6		662.44	29.76	-16.24	46.00	31.35	26.53	2.68	30.80	---	---	Peak
7	*	874.00	57.74			57.03	29.06	3.10	31.45	---	---	Peak
8		2082.00	40.04	-33.96	74.00	41.44	26.58	5.02	33.00	---	---	Peak
9		2437.00	66.57			66.80	27.36	5.41	33.00	---	---	Peak
10		4962.00	43.96	-30.04	74.00	37.21	31.43	8.41	33.09	---	---	Peak
11		6986.00	46.69	-27.31	74.00	34.99	35.07	10.23	33.60	---	---	Peak
12		8018.00	45.61	-28.39	74.00	31.06	37.48	11.07	34.00	---	---	Peak
13		10876.00	45.71	-28.29	74.00	26.02	40.45	12.43	33.19	---	---	Peak
14		11699.00	45.76	-28.24	74.00	25.89	39.98	13.02	33.13	---	---	Peak

Note:

1. Level(dBμV/m) = Read Level(dBμV) + Antenna Factor(dB/m) + Cable Loss(dB) - Preamp Factor(dB)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jul. 7, 2022	Nov. 03 2022	Jul. 6 2023	Conduction (CO01-SZ)
AC LISN	R&S	ENV216	100063	9kHz~30MHz	Sept. 15, 2022	Nov. 03 2022	Sept. 14, 2023	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 17, 2022	Nov. 03 2022	Oct. 16, 2023	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul.7, 2022	Nov. 03 2022	Jul. 6, 2023	Conduction (CO01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 19,2022	Nov. 11 2022	Oct. 18,2023	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 7. 2022	Nov. 11 2022	Jul. 6, 2023	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Apr. 27,2022	Nov. 11 2022	Apr. 27,2023	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Jul. 7. 2022	Nov. 11 2022	Jul. 6, 2023	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 7. 2022	Nov. 11 2022	Jul. 6, 2023	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19,2022	Nov. 11 2022	Oct. 18,2023	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 19,2022	Nov. 11 2022	Oct. 18,2023	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 6,2022	Nov. 11 2022	Jul. 5,2023	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY57280136	500MHz~26.5GHz	Sept. 30,2022	Nov. 11 2022	Sept. 29.2023	Radiation (03CH04-SZ)
AC Power Source	APC	AFV-S-600B	F119050019	N/A	Nov.10.2022	Nov. 11 2022	Nov.10.2023	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Nov. 11 2022	NCR	Radiation (03CH04-SZ)

NCR: No Calibration Required

5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.2dB**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.8dB**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**