FCC Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2201-1
FCC ID	:	IHDT56AB1
STANDARD	:	47 CFR Part 15 Subpart B
CLASSIFICATION	:	Certification
TEST DATE(S)	:	Nov. 30, 2021 ~ Dec. 03, 2021

We, Sporton International (Kunshan) Inc., 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC192317	Rev. 01	Initial issue of report	Dec. 10, 2021

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 4.50 dB at 3.224 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 5.14 dB at 62.010 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	XT2201-1
FCC ID	IHDT56AB1
EUT supports Radios application	GSM/WCDMA/LTE/5GNR WLAN 2.4GHz 802.11b/g/n (HT20/HT40) WLAN 2.4GHz 802.11ax (HE20/HE40) WLAN 5GHz 802.11a/n (HT20/HT40) WLAN 5GHz 802.11ac (VHT20/VHT40/VHT80/VHT160) WLAN 5GHz 802.11ax (HE20/ HE40/ HE80/ HE160) WLAN 6GHz 802.11a/ax (HE20/ HE40/ HE80/ HE160) Bluetooth BR/EDR/LE GNSS/NFC/WPT
IMEI Code	Conduction: 355871980015197/355871980019205 Radiation: 355871980014752/355871980014760
HW Version	DVT2
SW Version	SSH32.79
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two types of EUT: sample 1 is dual card and sample 2 is single card. The sample 2 is verified worse case for the sample 1.

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 25 : 1850 MHz ~ 1915 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 ~ 3600 MHz LTE Band 43 : 3600 MHz ~ 3700 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz; 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz; 3700 MHz ~ 3800 MHz 802.11b/g/n/ax: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac/ax: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz 802.11a/ax: 5925 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz WPT: 110kHz~ 148.5 kHz
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 25 : 1930 MHz ~ 1995 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 ~ 3600 MHz LTE Band 43 : 3600 MHz ~ 3700 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz LTE Band 66 : 2110 MHz~ 2200 MHz 5G NR n5 : 869 MHz ~ 894 MHz 5G NR n7 : 2620 MHz ~ 2690 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n66 : 2110 MHz~ 2200 MHz 5G NR n77: 3450 MHz ~ 3550 MHz; 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz; 3700 MHz ~ 3800 MHz 802.11b/g/n/ax: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac/ax: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz 802.11a/ax: 5925 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz GNSS : 1559 MHz ~ 1610 MHz, 1164 MHz ~ 1215 MHz WPT: 110kHz~ 148.5 kHz
Antenna Type	WWAN : PIFA Antenna WLAN 2.4GHz/Bluetooth Ant. 1 : IFA Antenna WLAN 2.4GHz/Bluetooth Ant. 2 : PIFA Antenna WLAN 5GHz/6GHz : PIFA Antenna GNSS 1559 MHz ~ 1610 MHz : IFA Antenna GNSS 1164 MHz ~ 1215 MHz : PIFA Antenna NFC: Loop Antenna WPT: Coil Antenna
Type of Modulation	GSM/GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK HSPA : QPSK HSPA+ : 16QAM (uplink is not supported) DC-HSDPA : 64QAM LTE: QPSK / 16QAM / 64QAM / 256QAM 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: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11ax: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM / 4096QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) :π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GNSS : BPSK NFC: ASK WPT: ASK

1.5. Modification of EUT

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

1.6. Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	**Brand Name**	Motorola(Salom)	**Model Name**	MC-681
AC Adapter 1(EU)	**Brand Name**	Motorola(Salom)	**Model Name**	MC-682
AC Adapter 1(UK)	**Brand Name**	Motorola(Salom)	**Model Name**	MC-683
AC Adapter 1(AR)	**Brand Name**	Motorola(Salom)	**Model Name**	MC-686
AC Adapter 1(BR)	**Brand Name**	Motorola(Salom)	**Model Name**	MC-687
AC Adapter 1(Chile)	**Brand Name**	Motorola(Salom)	**Model Name**	MC-689
AC Adapter 2(AU)	**Brand Name**	Motorola(Salom)	**Model Name**	MC-305
AC Adapter 3(AU)	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-305
Battery	**Brand Name**	Motorola(ATL)	**Model Name**	NA50
Earphone	**Brand Name**	Motorola (Lyand)	**Model Name**	MD211(SH38D20195)
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
USB Cable 4	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D24968
Type C to HDMI Cable /USBC Cable	**Brand Name**	Motorola(Linxee)	**Model Name**	SC18D02146
Stylus	**Brand Name**	Motorola smart stylus	**Model Name**	XT2201-S
Smart Folio	**Brand Name**	Motorola (Techson)	**Model Name**	SS68D36907,SS68D36906
Wireless Dongle	**Brand Name**	Motorola	**Model Name**	MD-02
HDMI Cable	**Brand Name**	Motorola	**Model Name**	HC-01
USB Cable(Type A/C)	**Brand Name**	Motorola	**Model Name**	SC18C24367

1.7. Test Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-KS 03CH02-KS	CN1257	314309

1.8. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-KS	AUDIX	E3	6.2009-8-24a
2.	CO01-KS	AUDIX	E3	6.2009-8-24

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).

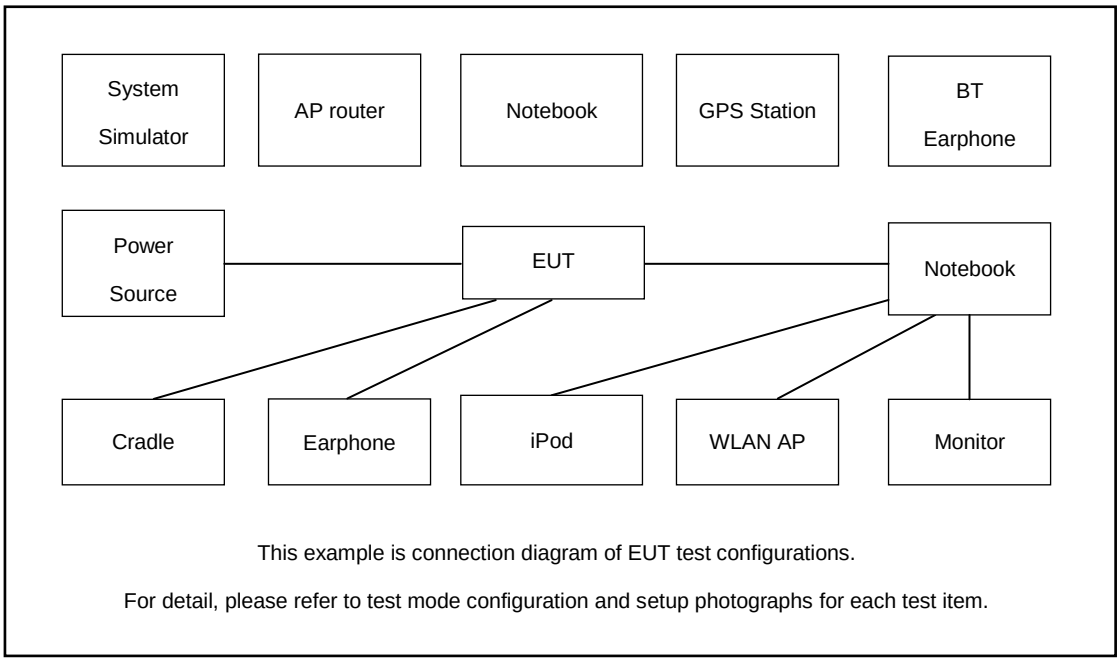
Test Items	Function Type
AC Conducted Emission	Mode 1 : GSM 850 Rx(Middle CH) + USB Cable 4(Charging from Adapter 1) + Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Battery + SIM 1 for Sample 1 Mode 2 : WCDMA 1900 Rx + USB Cable 1(Charging from Adapter 2) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + protective case With Stylus + Battery + SIM 2 + Sample 1 Mode 3 : LTE Band 13 Rx(High CH) + USB Cable 2(Charging from Adapter3) + WLAN (WIFI 6E) Idle + MPEG4(Run Color Bar) + Bluetooth Idle + Battery + SIM 1 + Sample 1 Mode 4 : LTE Band 17 Rx(HighCH) + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable 3(Charging from Adapter2) + NFC On + Battery + SIM 2 + Sample 1 Mode 5 : LTE Band 26 Rx(Low CH) + Adapter(1) Connect to Wireless charger + USB Cable 4(EUT Charging from Wireless charger) + Bluetooth Idle + WLAN (WIFI 6E) Idle + GNSS Rx + Earphone + Battery + SIM 2 + Sample 1 Mode 6 : LTE Band 12 Rx(Middle CH) + USB Cable 4(EUT Charging from Adapter1) + (EUT Charge the other phones) Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Battery + SIM 1 + Sample 1 Mode 7 :LTE Band 41 Rx + USB Cable1 (Data Link with Notebook) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Battery + SIM 2 + Sample 1 Mode 8 : 5G N5 Rx(Middle CH) + USB Cable 2(Data Link with Notebook) + Bluetooth Idle + WLAN (WIFI 6E) Idle + GNSS Rx + Battery + SIM 1 + Sample 1 Mode 9 : 5G N77 Rx + USB Cable 3(Data Link with Notebook) + Bluetooth Idle + WLAN (2.4G) Idle + GNSS Rx + Battery + SIM 2 + Sample 1 Mode 10 : 5G N78 Rx + USB Cable 4(Data Link with Notebook) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Battery + SIM 1 + Idle + Sample 1 Mode 11 : LTE Band 26 Rx(Low CH) + USB Cable 4(Charging from Adapter1) + C to HDMI Cable With phone and monitor + Bluetooth Idle + WLAN (WIFI 6E) Idle + MPEG4(Run Color Bar) + Battery + Sample 1 Mode 12 : LTE Band 26 Rx(Low CH) + Wireless Dongle+ Standard HDMI Cable+ USB A/C Cable+Adaptor + Bluetooth Idle + WLAN (WIFI 6E) Idle + Sample 1 Mode 13 : LTE Band 26 Rx(Low CH) + USB Cable 4(EUT Charging from Wireless charger) + Bluetooth Idle + WLAN (WIFI 6E) Idle + GNSS Rx + Earphone + Battery + Sample 2

Radiated Emissions	Mode 1 : GSM 850 Rx(Middle CH) + USB Cable4 (Charging from Adapter1) + Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Battery + SIM 1 + Sample 1 Mode 2 : WCDMA 1900 Rx + USB Cable1 (Charging from Adapter2) + protective case With Stylus + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Battery + SIM 2 + Sample 1 Mode 3 : LTE Band 13 Rx(High CH) + USB Cable 2(Charging from Adapter3) + Bluetooth Idle + WLAN (WIFI 6E) Idle + MPEG4(Run Color Bar) + Camera(Rear) + Battery + SIM 1 + Sample 1 Mode 4 : LTE Band 17 Rx(High CH) + USB Cable 3(Charging from Adapter3) + Bluetooth Idle + WLAN (2.4G) Idle + NFC On + Camera(Rear) + Battery + SIM 2 + Sample 1 Mode 5 : LTE Band 26 Rx(Low CH) + Bluetooth Idle + WLAN (5G) Idle MPEG4(Run Color Bar) + Earphone + Camera(Rear) + Battery + SIM 1 + Sample 1 Mode 6 : LTE Band 12 Rx(Middle CH) + USB Cable3 (EUT Charging from Wireless charger) + Adapter3 Connect to Wireless charger + Bluetooth Idle + WLAN (WIFI 6E) Idle + GNSS Rx + Earphone + Camera(Rear) + Battery + SIM 2 + Sample 1 Mode 7 : LTE Band 41 Rx + USB Cable3 (EUT Charging from Adapter3 + EUT Charge the other phones + Bluetooth Idle + WLAN (2.4G) Idle + NFC On + Camera(Rear) + Battery + SIM 1 + Sample 1 Mode 8 : LTE Band 42 Rx + USB Cable1 (Data Link with Notebook) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Camera(Rear) + Battery + SIM 2 + Sample 1 Mode 9 : 5G N5 Rx(Middle CH) + USB Cable 2(Data Link with Notebook) + Bluetooth Idle + WLAN (WIFI 6E) Idle + GNSS Rx + Camera(Rear) + Battery + SIM 1 + Sample 1 Mode 10 : 5G N77 Rx + USB Cable 3(Data Link with Notebook) + Bluetooth Idle + WLAN (2.4G) Idle + GNSS Rx + Camera(Rear) + Battery + SIM 2 + Sample 1 Mode 11 : 5G N78 Rx + USB Cable 4(Data Link with Notebook) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Camera(Rear) + Battery + SIM 1 + Sample 1 Mode 12 : LTE Band 41 Rx + USB Cable3(Charging from Adapter3 + C to HDMI Cable With phone and monitor + Bluetooth Idle + WLAN (WIFI 6E) Idle + MPEG4(Run Color Bar) + Camera(Rear) + Battery + Sample 1 Mode 13 : LTE Band 41 Rx + Bluetooth Idle + WLAN (2.4G) Idle + Wireless Dongle + Standard HDMI Cable + USB A/C Cable + Adaptor + Camera(Rear) + Sample 1 Mode 14 : 5G N5 Rx(Middle CH) + USB Cable 2(Data Link with Notebook) + Bluetooth Idle + WLAN (WIFI 6E) Idle + GNSS Rx + Camera(Rear) + Battery + Sample 2

Remark:

1. The worst case of AC is mode 5; only the test data of this mode is reported.
2. The worst case of RE is mode 9; only the test data of this mode is reported.
3. Data Link with Notebook means data application transferred mode between EUT and Notebook
4. HDMI Cable means media application transferred between EUT and external display.
5. Pre-scanned Low/Middle/High channel, 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.	Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded,1.8m
2.	Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded,1.8m
3.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A
4.	Bluetooth Earphone	Lenovo	LBH505	N/A	N/A	N/A
5.	Notebook	Lenovo	V130-15IKB005	N/A	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	Notebook	Lenovo	G410	N/A	N/A	AC I/P: Unshielded, 0.9 m DC O/P: Shielded, 1.8 m
7.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
8.	WLAN AP	D-link	DIR-815	KA21R815A1	N/A	Unshielded, 1.8m
9.	Vector Signal Generator	R&S	SMBV100A	N/A	N/A	Unshielded,1.8m
10.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A
11.	Monitor	Lenovo	LS2033wA	Fcc DoC	N/A	Unshielded, 1.8m
12.	Monitor	Lenovo	Thinkvision	N/A	N/A	Unshielded, 1.8m
13.	Wireless Charger	HUAWEI	CP61	N/A	N/A	N/A
14.	Phone	MOTO	N/A	N/A	N/A	N/A

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA or LTE or 5G NR 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. Turn on GNSS function to make the EUT receive continuous signals from GNSS station.
5. Turn on NFC function
6. Turn on WPT 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.

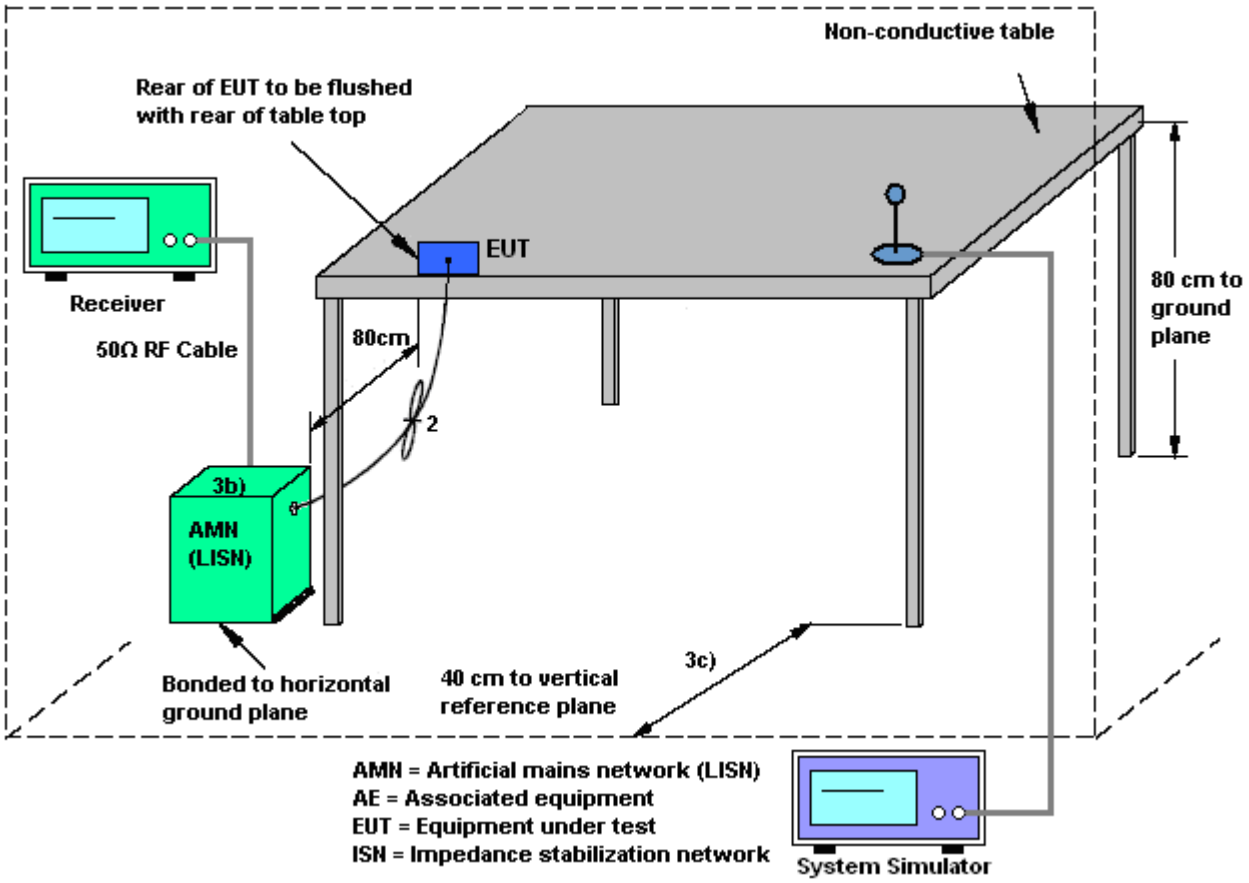
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

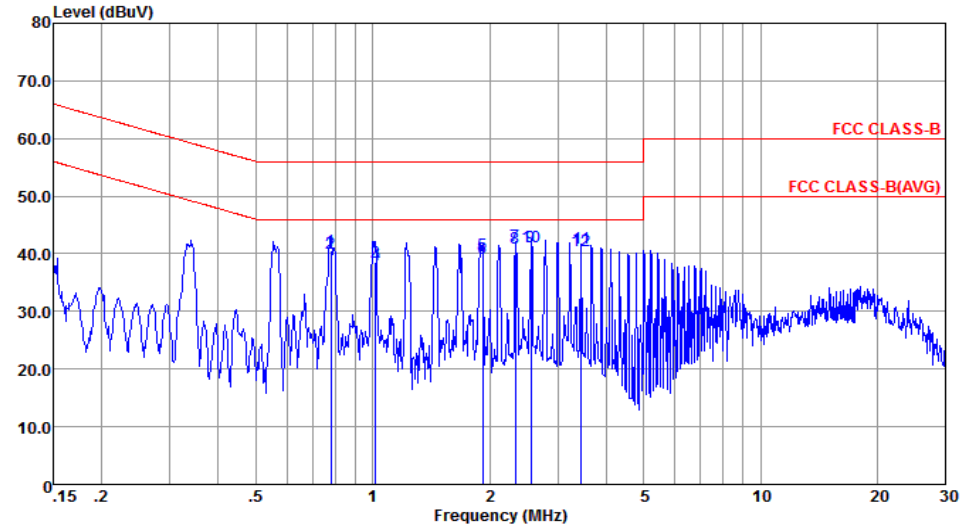
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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

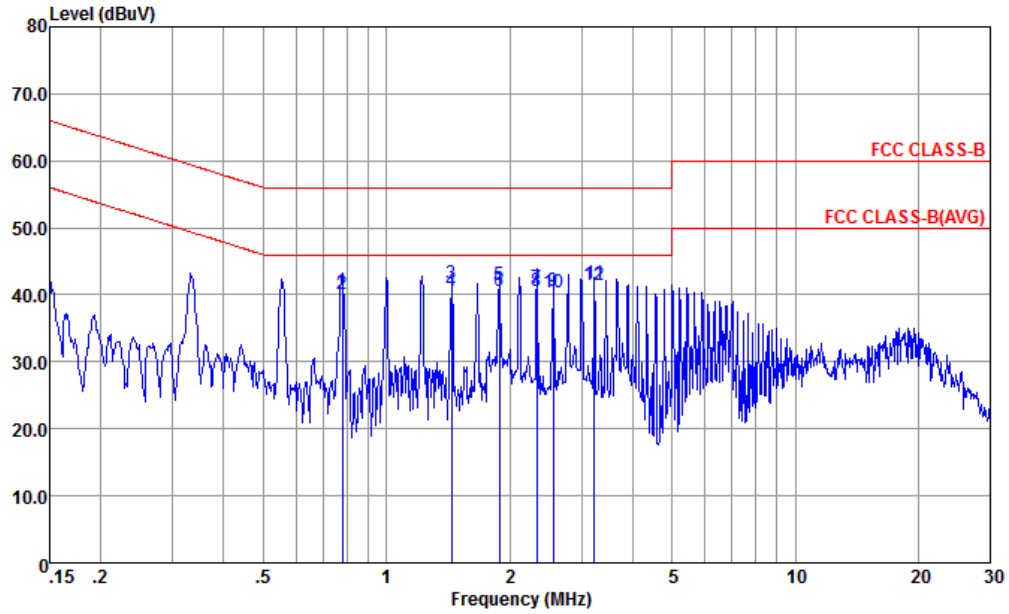
Test Engineer :	Amos Wang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC CLASS-B LISN-060105-L LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.779	40.45	-15.55	56.00	30.09	0.12	10.24	QP
2		0.779	40.15	-5.85	46.00	29.79	0.12	10.24	Average
3		1.016	38.56	-17.44	56.00	28.20	0.13	10.23	QP
4		1.016	38.16	-7.84	46.00	27.80	0.13	10.23	Average
5		1.918	39.97	-16.03	56.00	29.60	0.14	10.23	QP
6		1.918	39.17	-6.83	46.00	28.80	0.14	10.23	Average
7		2.334	41.48	-14.52	56.00	31.11	0.14	10.23	QP
8		2.334	40.98	-5.02	46.00	30.61	0.14	10.23	Average
9		2.554	41.28	-14.72	56.00	30.89	0.15	10.24	QP
10	*	2.554	41.28	-4.72	46.00	30.89	0.15	10.24	Average
11		3.454	41.01	-14.99	56.00	30.60	0.16	10.25	QP
12		3.454	40.61	-5.39	46.00	30.20	0.16	10.25	Average

Test Engineer :	Amos Wang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC CLASS-B LISN-060105-N NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.779	40.65	-15.35	56.00	30.30	0.11	10.24	QP
2	0.779	40.15	-5.85	46.00	29.80	0.11	10.24	Average
3	1.441	41.56	-14.44	56.00	31.20	0.13	10.23	QP
4	1.441	40.66	-5.34	46.00	30.30	0.13	10.23	Average
5	1.888	41.47	-14.53	56.00	31.10	0.14	10.23	QP
6	1.888	40.57	-5.43	46.00	30.20	0.14	10.23	Average
7	2.334	40.98	-15.02	56.00	30.61	0.14	10.23	QP
8	2.334	40.58	-5.42	46.00	30.21	0.14	10.23	Average
9	2.554	40.58	-15.42	56.00	30.19	0.15	10.24	QP
10	2.554	40.28	-5.72	46.00	29.89	0.15	10.24	Average
11	3.224	41.70	-14.30	56.00	31.31	0.15	10.24	QP
12 *	3.224	41.50	-4.50	46.00	31.11	0.15	10.24	Average

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.

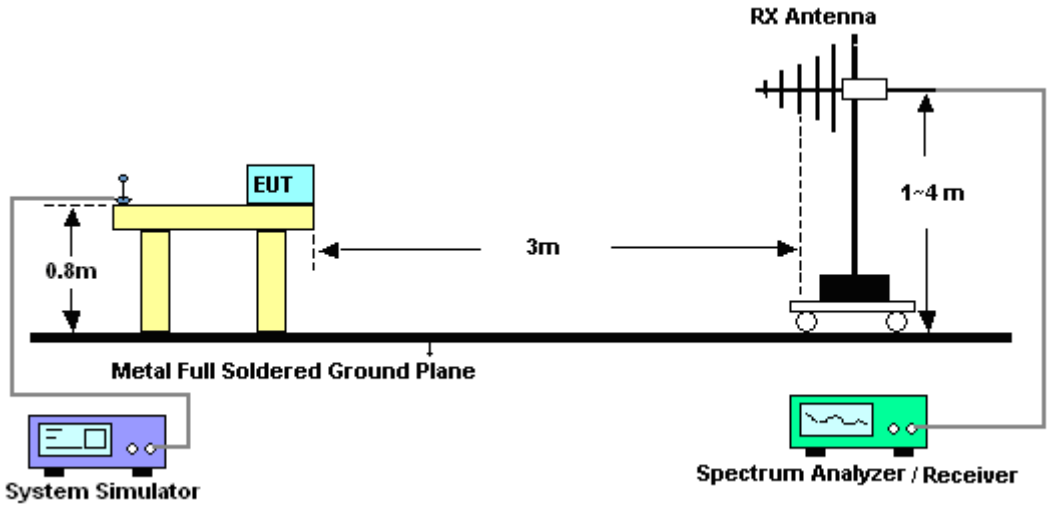
3.2.3. Test Procedures

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

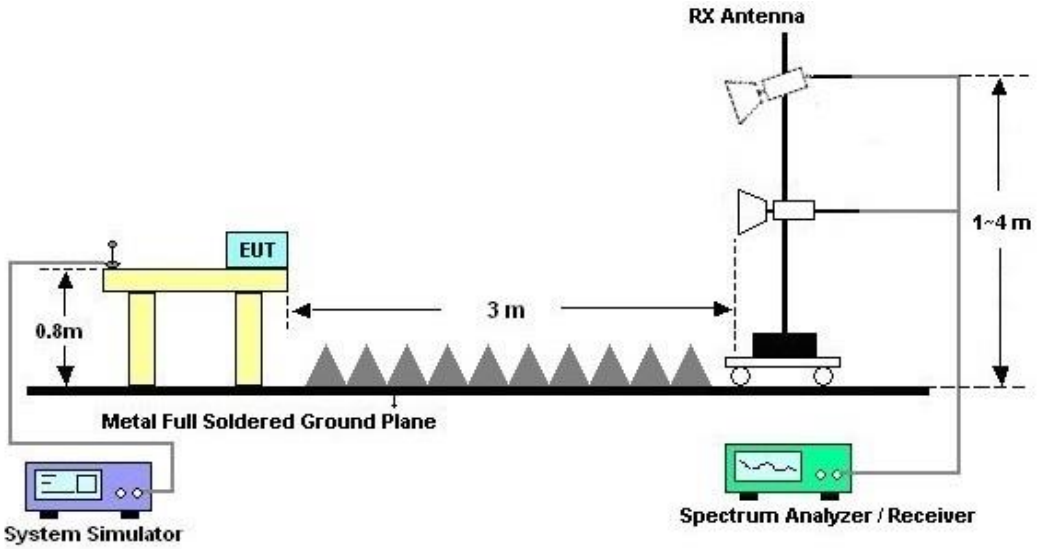
10. Exploratory radiated emissions testing of handheld and/or body-worn devices shall include rotation of the EUT through three orthogonal axes (X/Y/Z Plane) to determine the orientation (attitude) that maximizes the emissions.

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

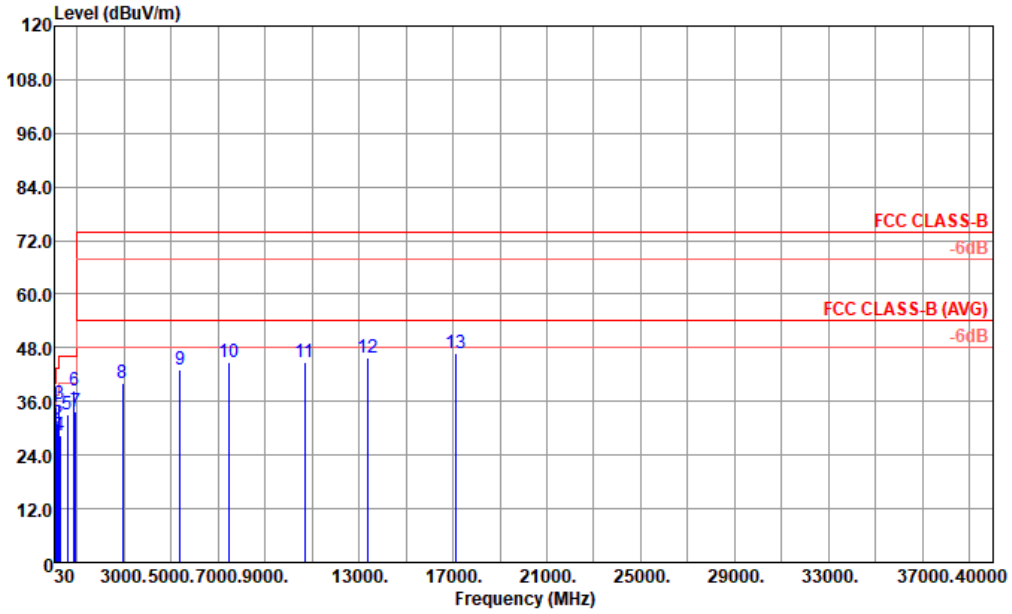


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

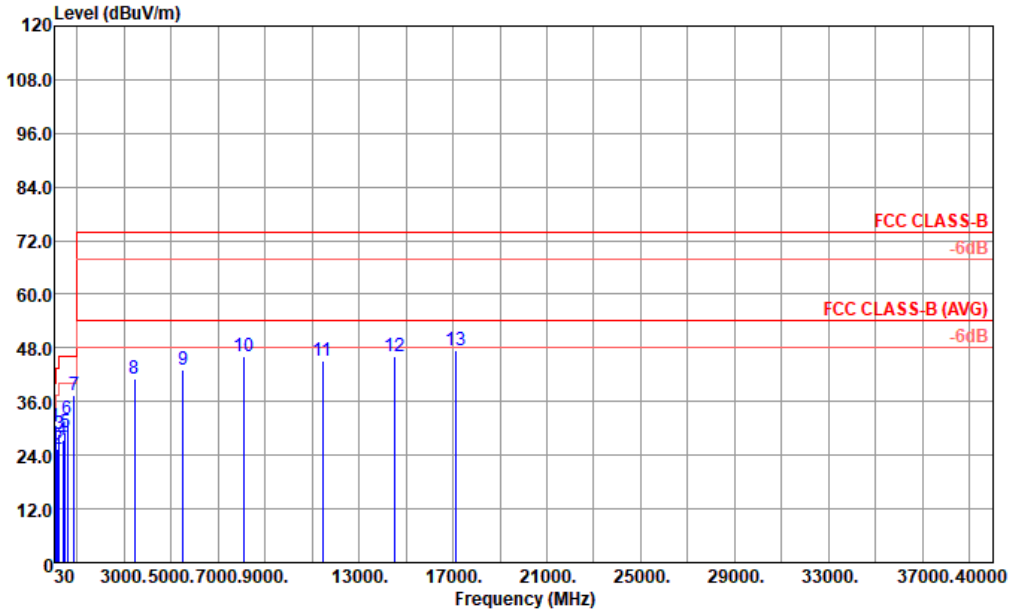
Test Engineer :	Yoke Si	**Temperature :**	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	**Polarization :**	Horizontal
Remark :	#9 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m LF 6111D SN44483 HORIZONTAL

	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	62.010	34.86	-5.14	40.00	53.84	12.02	1.10	32.10	100	56	QP
2	177.440	30.94	-12.56	43.50	45.84	15.26	1.94	32.10	---	---	Peak
3	239.520	35.41	-10.59	46.00	48.00	17.50	2.09	32.18	---	---	Peak
4	263.770	28.55	-17.45	46.00	38.37	20.13	2.22	32.17	---	---	Peak
5	580.960	33.00			36.18	25.65	3.47	32.30	---	---	Peak
6	881.660	38.32	-7.68	46.00	37.02	29.17	4.40	32.27	---	---	Peak
7	928.220	33.65	-12.35	46.00	31.13	30.18	4.54	32.20	---	---	Peak
8	2944.000	40.20	-33.80	74.00	58.88	32.93	8.26	59.87	---	---	Peak
9	5384.000	43.13	-30.87	74.00	56.58	35.16	11.48	60.09	---	---	Peak
10	7496.000	44.92	-29.08	74.00	55.35	36.50	13.62	60.55	---	---	Peak
11	10674.000	44.90	-29.10	74.00	51.12	37.99	16.40	60.61	---	---	Peak
12	13365.000	45.76	-28.24	74.00	48.93	38.47	18.47	60.11	---	---	Peak
13	17118.000	46.80	-27.20	74.00	43.35	40.44	21.07	58.06	---	---	Peak

Test Engineer :	Yoke Si	**Temperature :**	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	**Polarization :**	Vertical
Remark :	#9 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m LF 6111D SN44483 VERTICAL

	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	62.010	30.34	-9.66	40.00	49.32	12.02	1.10	32.10	---	---	Peak
2	168.710	25.31	-18.19	43.50	39.74	15.78	1.89	32.10	---	---	Peak
3	223.030	28.78	-17.22	46.00	43.21	15.63	2.09	32.15	---	---	Peak
4	399.570	27.44	-18.56	46.00	34.84	21.90	3.00	32.30	---	---	Peak
5	480.080	29.13	-16.87	46.00	34.67	23.64	3.14	32.32	---	---	Peak
6	580.960	32.04	-13.96	46.00	35.22	25.65	3.47	32.30	---	---	Peak
7	881.660	37.57			36.27	29.17	4.40	32.27	---	---	Peak
8	3440.000	41.01	-32.99	74.00	58.51	33.48	8.97	59.95	---	---	Peak
9	5520.000	42.98	-31.02	74.00	56.34	35.29	11.47	60.12	---	---	Peak
10	8088.000	46.03	-27.97	74.00	56.19	36.73	13.80	60.69	---	---	Peak
11	11439.000	44.96	-29.04	74.00	49.81	38.55	17.04	60.44	---	---	Peak
12	14517.000	46.08	-27.92	74.00	47.95	38.91	19.25	60.03	---	---	Peak
13	17127.000	47.36	-26.64	74.00	43.86	40.46	21.07	58.03	---	---	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	ESCI7	100768	9kHz~7GHz;	Apr. 21, 2021	Nov. 30, 2021	Apr. 20, 2022	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 14, 2021	Nov. 30, 2021	Oct. 13, 2022	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 13, 2021	Nov. 30, 2021	Apr. 12, 2022	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 14, 2021	Nov. 30, 2021	Oct. 13, 2022	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Oct. 16, 2021	Dec. 03, 2021	Oct. 15, 2022	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 16, 2021	Dec. 03, 2021	Oct. 15, 2022	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Jan. 26, 2021	Dec. 03, 2021	Jan. 25, 2022	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 30, 2021	Dec. 03, 2021	Oct. 29, 2022	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 05, 2021	Dec. 03, 2021	Nov. 04, 2022	Radiation (03CH02-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 06, 2021	Dec. 03, 2021	Jan. 05, 2022	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 06, 2021	Dec. 03, 2021	Jan. 05, 2022	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 16, 2021	Dec. 03, 2021	Oct. 15, 2022	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Dec. 03, 2021	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Dec. 03, 2021	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Dec. 03, 2021	NCR	Radiation (03CH02-KS)

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))	**2.9dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.9dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0dB**

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

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