



# FCC Test Report

APPLICANT : Motorola Mobility LLC  
EQUIPMENT : Mobile Cellular Phone  
BRAND NAME : Motorola  
MODEL NAME : XT2343-1  
FCC ID : IHDT56AM4  
STANDARD : 47 CFR Part 15 Subpart B  
CLASSIFICATION : Certification  
TEST DATE(S) : Jun. 26, 2023 ~ Jul. 06, 2023

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

Jason Jia

Approved by: Jason Jia



**Sporton International Inc. (Kunshan)**

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300  
People's Republic of China**



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### 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 7.63 dB at 0.152 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 3.22 dB at 54.25 MHz

Conformity Assessment Condition:
The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. Please refer to each test results in the section "Measurement Uncertainty".
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



# 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	XT2343-1
FCC ID	IHDT56AM4
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: 352326290031734 for sample 1 359679320010257/359679320010265 for sample 2 Radiation: 352326290030371 for sample 1 359679320010331/359679320010349 for sample 2 352326290034191 for sample 3
HW Version	DVT2
SW Version	TTD33.32
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 three samples under test: Sample 1 is P-SIM + E-SIM + Battery 1, Sample 2 is dual P-SIM + Battery 2, Sample 3 is P-SIM + E-SIM + Battery 2. According to the differences, Sample 1 perform full test and Sample 2/3 verify the worst case.



### 1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx Frequency</b>	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 ~ 3550 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n26 : 814 MHz ~ 849 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
<b>Rx Frequency</b>	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 ~ 3550 MHz LTE Band 66 : 2110 MHz~ 2200 MHz 5G NR n2 : 1930 MHz ~ 1990 MHz 5G NR n5 : 869 MHz ~ 894 MHz 5G NR n7 : 2620 MHz ~ 2690 MHz 5G NR n26 : 859 MHz ~ 894 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
<b>Antenna Type</b>	WWAN: PIFA Antenna Bluetooth/WLAN/GNSS: IFA Antenna NFC: FPC + Ferrite Antenna FM : External Earphone Antenna
<b>Type of Modulation</b>	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: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : $\pi/4$ -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

Specification of Accessory				
AC Adapter 1 (US)	Brand Name	Motorola(Salcomp)	Model Name	MC-201L
AC Adapter 1 (EU)	Brand Name	Motorola(Salcomp)	Model Name	MC-202L
AC Adapter 1 (AR)	Brand Name	Motorola(Salcomp)	Model Name	MC-206L
AC Adapter 1 (BR)	Brand Name	Motorola(Salcomp)	Model Name	MC-207L
AC Adapter 1 (CHILE)	Brand Name	Motorola(Salcomp)	Model Name	MC-209L
AC Adapter 2 (US)	Brand Name	Motorola(AOHAI)	Model Name	MC-201L
AC Adapter 2 (EU)	Brand Name	Motorola(AOHAI)	Model Name	MC-202L
AC Adapter 2 (AR)	Brand Name	Motorola(AOHAI)	Model Name	MC-206L
AC Adapter 3 (BR)	Brand Name	Motorola(Cliptech)	Model Name	MC-207L
AC Adapter 4 (BR)	Brand Name	Motorola(Chenyang)	Model Name	MC-207L
Battery 1	Brand Name	Motorola(ATL)	Model Name	PC50
Battery 2	Brand Name	Motorola (SCUD)	Model Name	PC50
USB Cable 1	Brand Name	Motorola (WASHIN)	Model Name	S928D92375
USB Cable 2	Brand Name	Motorola (Saibao)	Model Name	S928D95755
USB Cable 3	Brand Name	Motorola (ISHENG)	Model Name	SC18D38574

### 1.7. Test Location

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

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-KS 03CH04-KS	CN1257	314309

### 1.8. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a1
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) + Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) + SIM for Sample 1
	Mode 2: WCDMA Band V Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 2 (Charging from Adapter 2) + E-SIM for Sample 1
	Mode 3: LTE Band 17 Rx(Middle CH) + Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar) + Earphone + Battery 1 + USB Cable3 (Charging from Adapter 3) + E-SIM for Sample 1
	Mode 4: LTE Band 12 Rx(Low CH) + Bluetooth Idle + WLAN (5G) Idle + NFC On + Earphone + Battery 1 + USB Cable 2 (Charging from Adapter 4) + E-SIM for Sample 1
	Mode 5: LTE Band 26 Rx(High CH) + Bluetooth Idle + WLAN (2.4G) Idle + FM Rx(98) + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 EUT (eMMC) USB Data Link to PC/NB
	Mode 6: LTE Band 13 Rx(High CH) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (eMMC)
	Mode 7: 5G N5 Rx(Low CH) + Camera(Front) + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 EUT (SD) USB Data Link to PC/NB
	Mode 8: LTE Band 26 Rx(High CH ) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (SD)
	Mode 9: LTE Band 26 Rx(High CH ) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 2(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (SD)
	Mode 10 : LTE Band 26 Rx(High CH ) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 3(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (SD)
	Mode 11 : LTE Band 26 Rx(High CH ) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 2 + E-SIM for Sample 2 USB Cable 2 (Charging from Adapter 2)
	Mode 12 : LTE Band 26 Rx(High CH ) + Bluetooth Idle + WLAN (2.4G) Idle + FM Rx(98) + Earphone + Battery 2 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 2 EUT (eMMC) USB Data Link to PC/NB

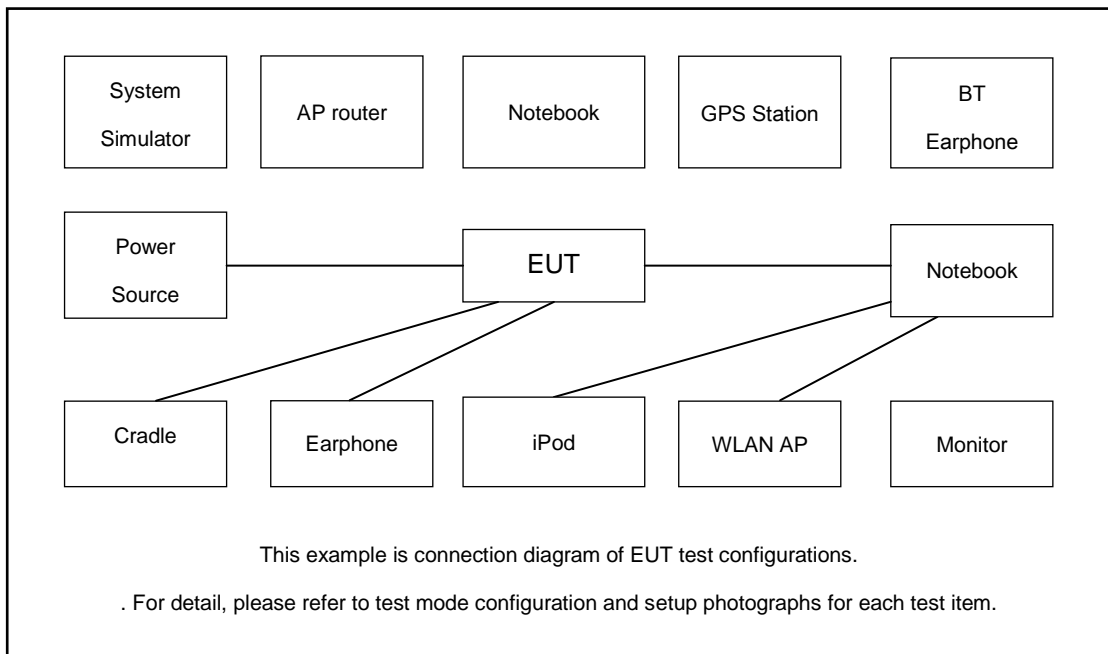


Radiated Emissions	<p>Mode 1: GSM 850 Rx(Middle CH) + Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) + SIM for Sample 1</p> <p>Mode 2: WCDMA Band V Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 2 (Charging from Adapter 2) + E-SIM for Sample 1</p> <p>Mode 3: LTE Band 17 Rx(Middle CH) + Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar) + Earphone + Battery 1 + USB Cable3 (Charging from Adapter 3) + E-SIM for Sample 1</p> <p>Mode 4: LTE Band 12 Rx(Low CH) + Bluetooth Idle + WLAN (5G) Idle + NFC On + Earphone + Battery 1 + USB Cable 2 (Charging from Adapter 4) + E-SIM for Sample 1</p> <p>Mode 5: LTE Band 26 Rx(High CH) + Bluetooth Idle + WLAN (2.4G) Idle + FM Rx(88) + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 EUT (eMMC) USB Data Link to PC/NB</p> <p>Mode 6: LTE Band 13 Rx(High CH) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (eMMC)</p> <p>Mode 7: 5G N5 Rx(Low CH) + Camera(Front) + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 EUT (SD) USB Data Link to PC/NB</p> <p>Mode 8: WCDMA Band 5 Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 1(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (SD)</p> <p>Mode 9: WCDMA Band 5 Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 2(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (SD)</p> <p>Mode 10: WCDMA Band 5 Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 1 + USB Cable 3(Data Link with Notebook) + E-SIM for Sample 1 PC/NB USB Data Link to EUT (SD)</p> <p>Mode 11: WCDMA Band 5 Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 2 + E-SIM for Sample 2 PC/NB USB Data Link to EUT (SD)</p> <p>Mode 12: WCDMA Band 5 Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Battery 1 + USB Cable 3 (Data Link with Notebook) + E-SIM for Sample 2 PC/NB USB Data Link to EUT (SD)</p> <p>Mode 13: WCDMA Band 5 Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + Battery 1 + USB Cable 3 (Data Link with Notebook) for Sample 3 PC/NB USB Data Link to EUT (SD)</p>
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**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 10; only the test data of this mode is reported.
3. Data Link with Notebook means data application transferred mode between EUT and Notebook.
4. Pre-scanned Low/Middle/High channel for GSM 850/WCDMA Band V/LTE Band 12/13 and FM Rx, the worst channel was recorded in this report.

## 2.2. Connection Diagram of Test System



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	MT8821C	N/A	N/A	Unshielded, 1.8m
2.	5G NR Base Station	Anritus	MT8000A	N/A	N/A	Unshielded, 1.8m
3.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded, 1.8m
4.	Bluetooth Earphone	Lenovo	thinkplus-BH3	N/A	N/A	N/A
5.	Notebook	Lenovo	V130-15IKB005	N/A	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
6.	Vector Signal Generator	R&S	SMBV100A	258305	N/A	N/A
7.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A
8.	SD Card	Kingston	8GB	N/A	N/A	N/A
9.	Earphone	Motorola	N/A	N/A	Unshielded, 1.2m	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 FM function to make the EUT receive continuous signals from FM station.
5. Turn on GNSS function to make the EUT receive continuous signals from GNSS station.
6. 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.

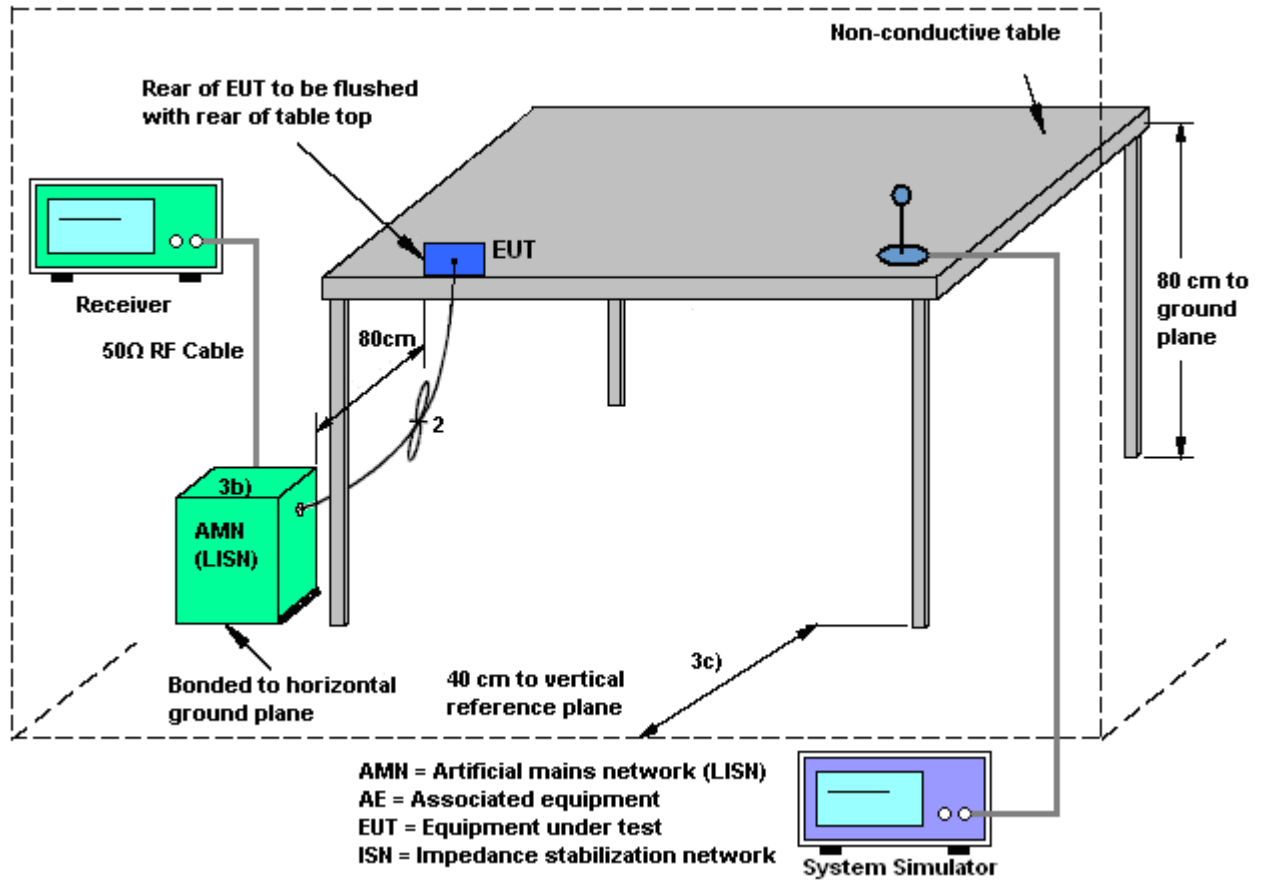
##### 3.1.2 Measuring Instruments

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.

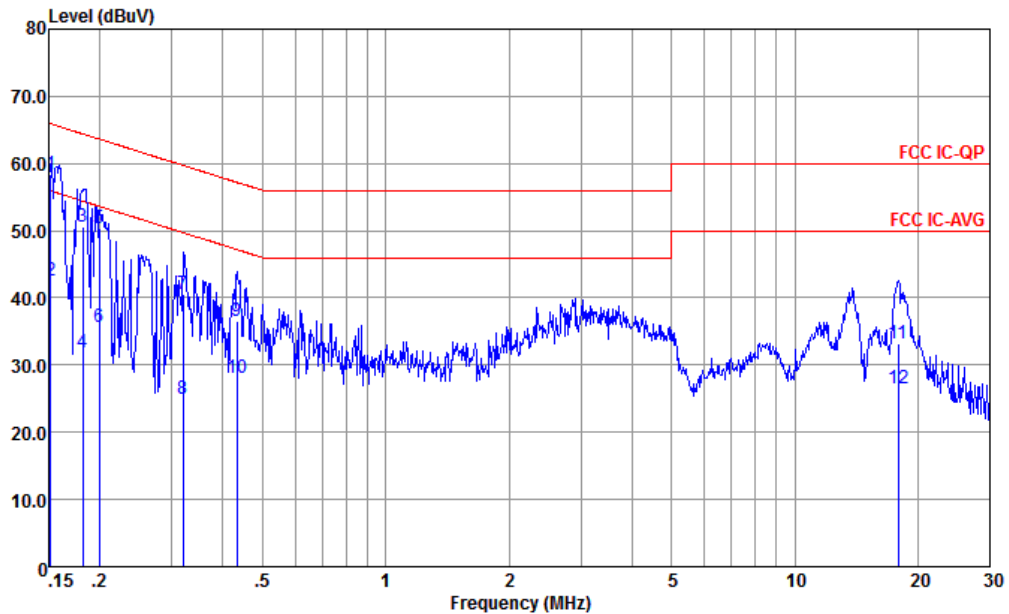
### 3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

Test Engineer :	Amos Zhang	Temperature :	25.3~26.2°C
		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.		



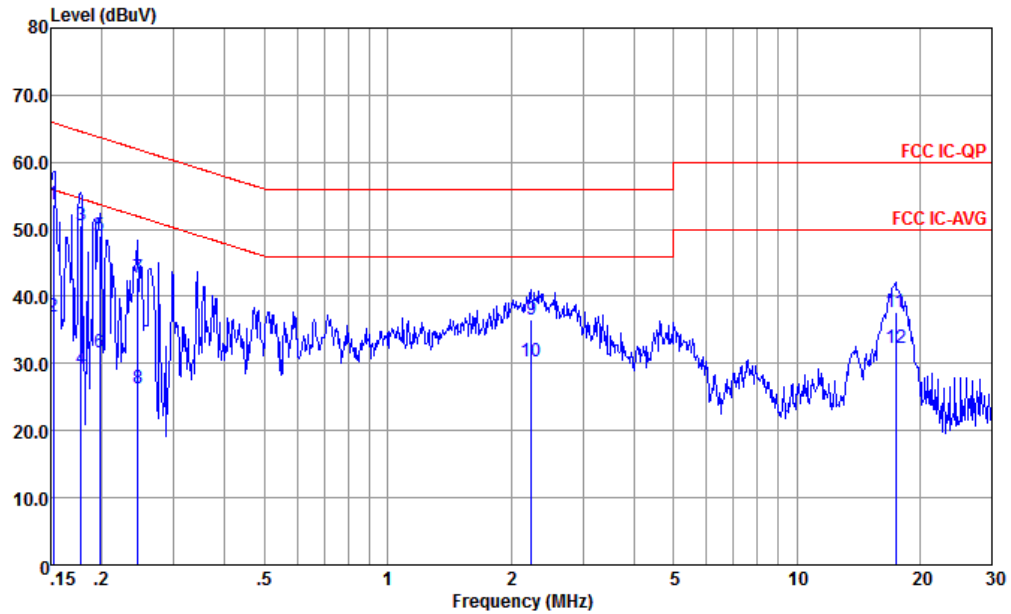
Site : CO01-KS  
 Condition : FCC IC-QP LISN-060105-L 2023 LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.152	58.28	-7.63	65.91	47.80	0.05	10.43	QP
2	0.152	42.58	-13.33	55.91	32.10	0.05	10.43	Average
3	0.182	50.66	-13.76	64.42	40.20	0.04	10.42	QP
4	0.182	31.96	-22.46	54.42	21.50	0.04	10.42	Average
5	0.200	50.35	-13.27	63.62	39.90	0.03	10.42	QP
6	0.200	35.65	-17.97	53.62	25.20	0.03	10.42	Average
7	0.320	40.57	-19.14	59.71	30.20	0.03	10.34	QP
8	0.320	24.87	-24.84	49.71	14.50	0.03	10.34	Average
9	0.433	36.56	-20.64	57.20	26.30	-0.01	10.27	QP
10	0.433	28.06	-19.14	47.20	17.80	-0.01	10.27	Average
11	17.944	33.21	-26.79	60.00	22.20	-0.28	11.29	QP
12	17.944	26.51	-23.49	50.00	15.50	-0.28	11.29	Average





Test Engineer :	Amos Zhang	Temperature :	25.3~26.2°C
		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 IC-QP LISN-060105-N 2023 NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.152	53.77	-12.10	65.87	43.30	0.04	10.43	QP
2	0.152	37.07	-18.80	55.87	26.60	0.04	10.43	Average
3	0.178	50.67	-13.92	64.59	40.20	0.05	10.42	QP
4	0.178	29.27	-25.32	54.59	18.80	0.05	10.42	Average
5	0.198	49.07	-14.64	63.71	38.60	0.05	10.42	QP
6	0.198	31.67	-22.04	53.71	21.20	0.05	10.42	Average
7	0.246	42.89	-19.02	61.91	32.51	0.00	10.38	QP
8	0.246	26.29	-25.62	51.91	15.91	0.00	10.38	Average
9	2.249	36.54	-19.46	56.00	26.60	-0.12	10.06	QP
10	2.249	30.24	-15.76	46.00	20.30	-0.12	10.06	Average
11	17.475	37.70	-22.30	60.00	26.61	-0.19	11.28	QP
12	17.475	32.30	-17.70	50.00	21.21	-0.19	11.28	Average

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- 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.

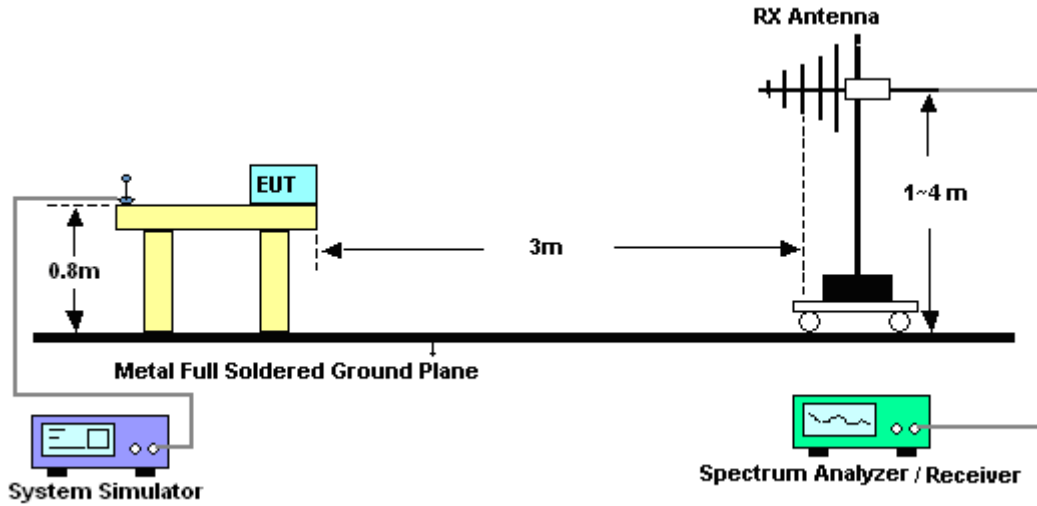


### **3.2.3. Test Procedures**

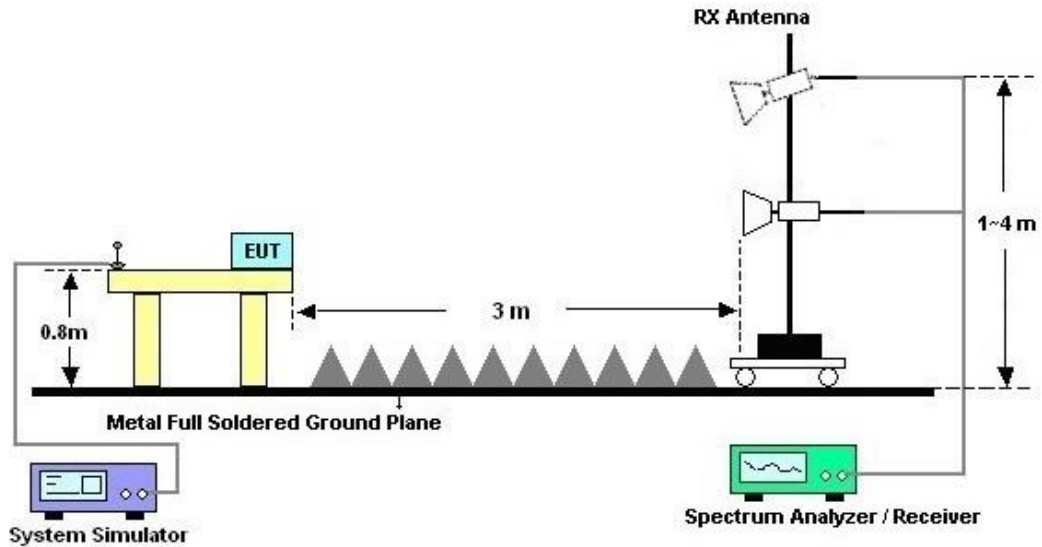
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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 (dB $\mu$ V/m) = 20 log Emission level ( $\mu$ V/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



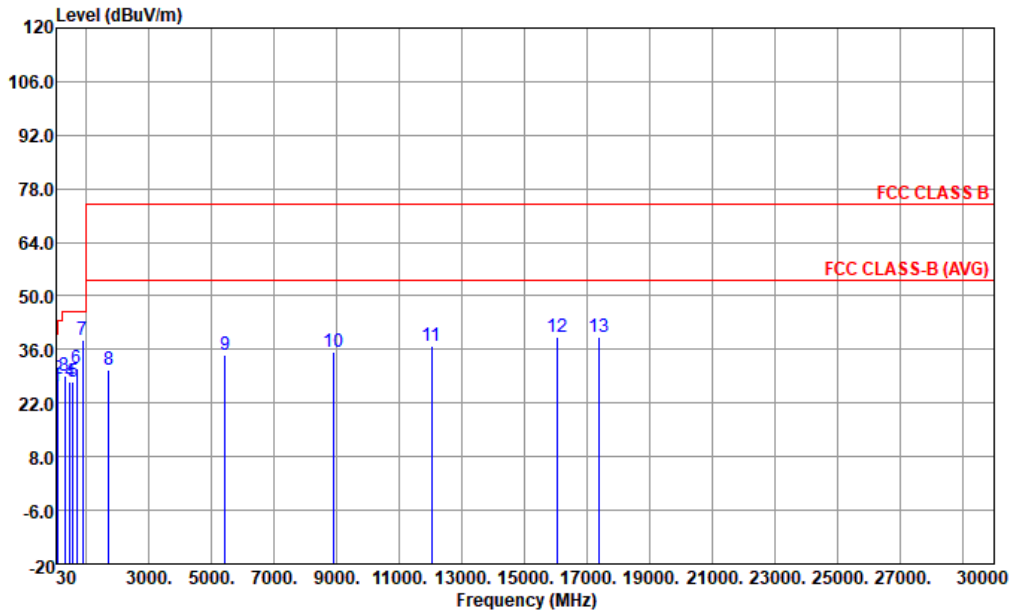
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

Test Engineer :	chen hui	Temperature :	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#7 is system simulator signal which can be ignored.		

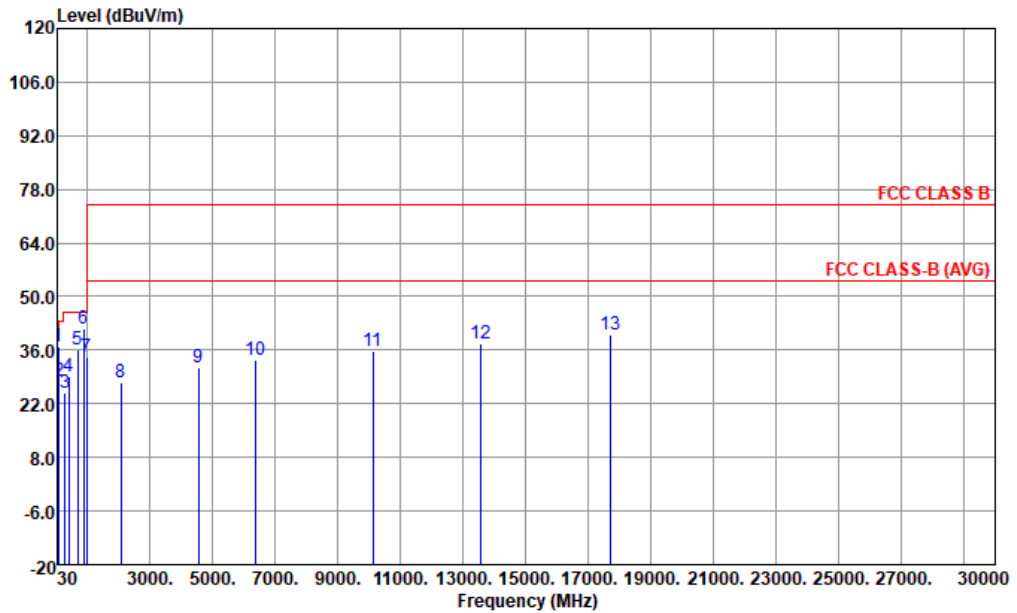


Site : 03CH04-KS  
 Condition : FCC CLASS B 3m 3117 7860 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	53.28	26.53	-13.47	40.00	45.22	13.19	1.04	32.92	---	---	Peak
2	90.14	28.17	-15.33	43.50	44.86	14.79	1.37	32.85	---	---	Peak
3	303.54	29.05	-16.95	46.00	39.76	19.56	2.56	32.83	---	---	Peak
4	480.08	27.41	-18.59	46.00	33.47	23.70	3.22	32.98	---	---	Peak
5	557.68	27.71	-18.29	46.00	30.76	26.58	3.48	33.11	---	---	Peak
6	675.05	30.99	-15.01	46.00	33.14	27.03	3.83	33.01	---	---	Peak
7	881.66	38.54			37.30	28.92	4.34	32.02	---	---	Peak
8	1714.00	30.55	-43.45	74.00	58.78	28.98	6.09	63.30	---	---	Peak
9	5420.00	34.75	-39.25	74.00	52.55	35.29	11.07	64.16	---	---	Peak
10	8905.00	35.32	-38.68	74.00	47.58	37.36	14.12	63.74	---	---	Peak
11	12033.00	36.81	-37.19	74.00	43.29	38.83	16.57	61.88	---	---	Peak
12	16062.00	39.41	-34.59	74.00	43.60	41.78	19.13	65.10	---	---	Peak
13	17388.00	39.20	-34.80	74.00	42.62	42.05	19.98	65.45	---	---	Peak



Test Engineer :	chen hui	Temperature :	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH04-KS  
 Condition : FCC CLASS B 3m 3117 7860 VERTICAL

	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	54.25	36.78	-3.22	40.00	55.78	12.87	1.05	32.92	180	98	Peak
2	96.93	27.80	-15.70	43.50	43.57	15.64	1.46	32.87	---	---	Peak
3	290.93	25.02	-20.98	46.00	36.02	19.31	2.50	32.81	---	---	Peak
4	399.57	28.97	-17.03	46.00	37.07	21.80	2.93	32.83	---	---	Peak
5	675.05	36.30	-9.70	46.00	38.45	27.03	3.83	33.01	---	---	Peak
6	881.66	41.54	---	---	40.30	28.92	4.34	32.02	---	---	Peak
7	960.23	34.21	-19.79	54.00	29.76	31.42	4.53	31.50	---	---	Peak
8	2071.00	27.74	-46.26	74.00	54.39	30.10	6.65	63.40	---	---	Peak
9	4553.00	31.66	-42.34	74.00	51.79	34.09	9.95	64.17	---	---	Peak
10	6372.00	33.43	-40.57	74.00	49.97	35.61	11.83	63.98	---	---	Peak
11	10112.00	35.65	-38.35	74.00	44.93	38.23	15.41	62.92	---	---	Peak
12	13580.00	37.78	-36.22	74.00	43.97	40.03	17.65	63.87	---	---	Peak
13	17728.00	40.20	-33.80	74.00	43.01	42.52	20.13	65.46	---	---	Peak

Note:

- Level(dBμV/m) = Read Level(dBμV) + Antenna Factor(dB/m) + Cable Loss(dB) - Preamp Factor(dB)
- 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 Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 13, 2022	Jun. 27, 2023 ~Jul. 06, 2023	Oct. 12, 2023	Radiation (03CH04-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 12, 2022	Jun. 27, 2023 ~Jul. 06, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	Jun. 27, 2023 ~Jul. 06, 2023	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 16, 2022	Jun. 27, 2023 ~Jul. 06, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 08, 2023	Jun. 27, 2023 ~Jul. 06, 2023	Jan. 07, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2023	Jun. 27, 2023 ~Jul. 06, 2023	Jan. 04, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul 11, 2022	Jun. 27, 2023 ~Jul. 06, 2023	Jul 10, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 12, 2022	Jun. 27, 2023 ~Jul. 06, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jun. 27, 2023 ~Jul. 06, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jun. 27, 2023 ~Jul. 06, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jun. 27, 2023 ~Jul. 06, 2023	NCR	Radiation (03CH04-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 16, 2023	Jun. 26, 2023 ~Jul. 04, 2023	May 15, 2024	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2022	Jun. 26, 2023 ~Jul. 04, 2023	Oct. 12, 2023	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	May 16, 2023	Jun. 26, 2023 ~Jul. 04, 2023	May 15, 2024	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	AC 0V~300V, 45Hz~1000Hz	Oct. 12, 2022	Jun. 26, 2023 ~Jul. 04, 2023	Oct. 11, 2023	Conduction (CO01-KS)

NCR: No Calibration Required



## 5. Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.94dB
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	6.3dB
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.9dB
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### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.3dB
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