



# FCC Test Report

**APPLICANT** : Motorola Mobility LLC  
**EQUIPMENT** : Mobile Cellular Phone  
**BRAND NAME** : Motorola  
**MODEL NAME** : XT2403-1, XT2403-2  
**FCC ID** : IHDT56AQ5  
**STANDARD** : 47 CFR Part 15 Subpart B  
**CLASSIFICATION** : Certification  
**TEST DATE(S)** : Jan. 09, 2024 ~ Jan. 11, 2024

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**



# TABLE OF CONTENTS

**REVISION HISTORY.....3**

**SUMMARY OF TEST RESULT .....4**

**1. GENERAL DESCRIPTION.....5**

1.1. Applicant.....5

1.2. Manufacturer .....5

1.3. Product Feature of Equipment Under Test .....5

1.4. Product Specification of Equipment Under Test .....6

1.5. Modification of EUT.....7

1.6. Specification of Accessory .....8

1.7. Test Location.....9

1.8. Test Software .....9

1.9. Applicable Standards .....9

**2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST.....10**

2.1. Test Mode .....10

2.2. Connection Diagram of Test System .....12

2.3. Support Unit used in test configuration and system.....12

2.4. EUT Operation Test Setup.....13

**3. TEST RESULT.....14**

3.1. Test of AC Conducted Emission Measurement .....14

3.2. Test of Radiated Emission Measurement .....18

**4. LIST OF MEASURING EQUIPMENT .....23**

**5. MEASUREMENT UNCERTAINTY .....24**

**APPENDIX A. SETUP PHOTOGRAPHS**



### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC3D1818	Rev. 01	Initial issue of report	Jan. 26, 2024



## 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 7.44 dB at 0.150 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 3.38 dB at 553.80 MHz for Quasi-Peak

**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	XT2403-1, XT2403-2
FCC ID	IHDT56AQ5
EUT supports Radios application	GSM/WCDMA/LTE/5G NR 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: 354958440030899/354958440030907 Radiation: 354958440022375/354958440022383
HW Version	DVT2
SW Version	U2UM34.9
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 models: XT2403-1 is pSIM+pSIM sample, XT2403-2 is pSIM + eSIM sample, no other difference, full test with the model XT2403-2.





	<p>LTE Band 43 : 3600 MHz ~ 3700 MHz          LTE Band 48 : 3550 MHz ~ 3700 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 n38: 2570 MHz ~ 2620 MHz          5G NR n41 : 2496 MHz ~ 2690 MHz          5G NR n66 : 2110 MHz~ 2200 MHz          5G NR n77 : 3700 MHz ~ 3980 MHz          5G NR n78 : 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: 110 kHz ~ 148 kHz          GNSS : 1559 MHz ~ 1610 MHz, 1164 MHz ~ 1215 MHz</p>
<b>Antenna Type</b>	<p>WWAN : PIFA Antenna          Bluetooth/WLAN/GNSS : Metal Antenna          NFC: Coil Antenna          WPT: Coil Antenna</p>
<b>Type of Modulation</b>	<p>GSM/GPRS: GMSK          EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK          WCDMA : BPSK          HSPA : QPSK          HSPA+ : 16QAM (Downlink only)          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)          Bluetooth LE : GFSK          Bluetooth (1Mbps) : GFSK          Bluetooth (2Mbps) :π/4-DQPSK          Bluetooth (3Mbps) : 8-DPSK          GNSS : BPSK          NFC: ASK          WPT: ASK</p>

### 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(Chenyang)	Model Name	MC-1251
AC Adapter 1(EU)	Brand Name	Motorola(Chenyang)	Model Name	MC-1252
AC Adapter 1(UK)	Brand Name	Motorola(Chenyang)	Model Name	MC-1253
AC Adapter 1(AU)	Brand Name	Motorola(Chenyang)	Model Name	MC-1255
AC Adapter 1(AR)	Brand Name	Motorola(Chenyang)	Model Name	MC-1256
AC Adapter 1(BR)	Brand Name	Motorola(Chenyang)	Model Name	MC-1257
AC Adapter 2(US)	Brand Name	Motorola(AOHAI)	Model Name	MC-1251
AC Adapter 2(EU)	Brand Name	Motorola(AOHAI)	Model Name	MC-1252
AC Adapter 2(UK)	Brand Name	Motorola(AOHAI)	Model Name	MC-1253
AC Adapter 2(AU)	Brand Name	Motorola(AOHAI)	Model Name	MC-1255
AC Adapter 2(AR)	Brand Name	Motorola(AOHAI)	Model Name	MC-1256
AC Adapter 2(BR)	Brand Name	Motorola(AOHAI)	Model Name	MC-1257
AC Adapter 2(CHILE)	Brand Name	Motorola(AOHAI)	Model Name	MC-1259
AC Adapter 2(IN)	Brand Name	Motorola(AOHAI)	Model Name	MC-1254
AC Adapter 3(IN)	Brand Name	Motorola(Acbel)	Model Name	MC-684N
Battery	Brand Name	Motorola (ATL)	Model Name	QM45
USB Cable 1	Brand Name	Saibao	Model Name	SC18D71644
USB Cable 2	Brand Name	Luxshare	Model Name	SC18E08104
Wireless Earphone	Brand Name	Motorola	Model Name	XT2441-1
Wireless Charging dock	Marketing Name	Turbo Power 50W Wireless Charging Stand	Model Name	MW-02





### 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.

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

### 1.8. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-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

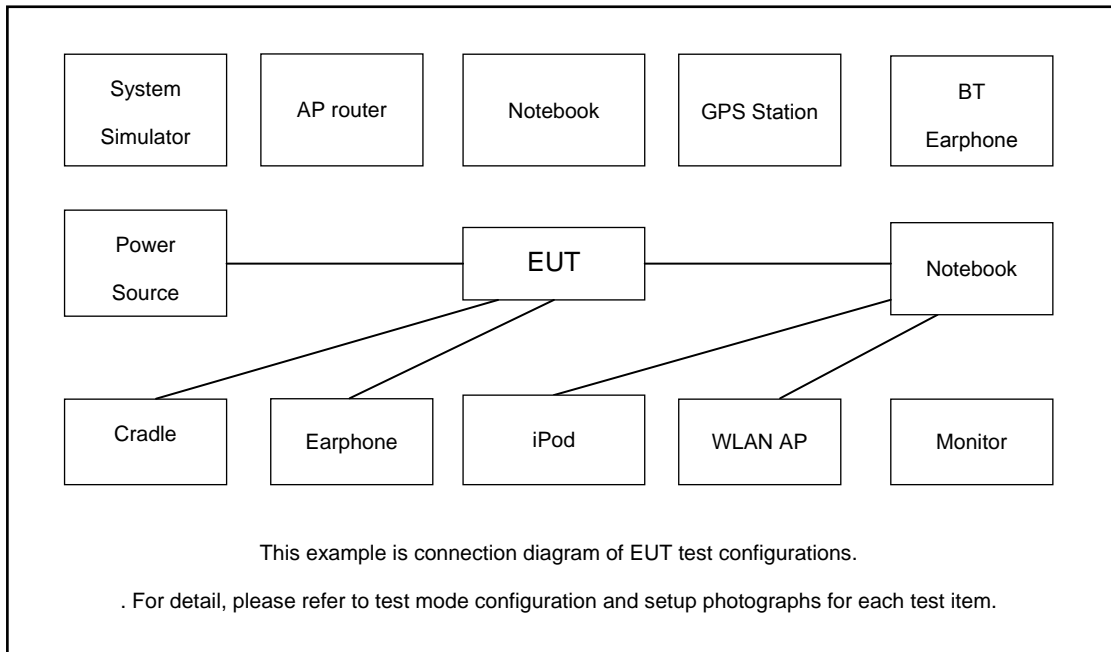
The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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) + Bluetooth Idle with Earphone 1 + WLAN (2.4G) Idle + NFC On + Battery 1 + USB Cable 1 (Charging from Adapter 1 ) + SIM 1
	Mode 2: WCDMA 1900 Rx + Bluetooth Idle with Earphone 1 + WLAN (5G) Idle + Camera(Rear) + Battery 1 + USB Cable 2 (Charging from Adapter 2 ) + SIM 2
	Mode 3: LTE Band 13 Rx(High) + Bluetooth Idle with Earphone 1 + WLAN (WIFI 6E) Idle + Camera(Front) + Battery 1 + USB Cable 1 (Charging from Adapter 3 ) + SIM 1
	Mode 4: LTE Band 17 Rx(High) + Bluetooth Idle with Earphone 1 + WLAN (2.4G) Idle + MPEG4(Run Color Bar) + Battery 1 + USB Cable 1 (EUT Charging from Wireless charger ) + SIM 1 + Adapter 1 Connect to Wireless charger
	Mode 5: LTE Band 26 Rx(Low) + Bluetooth Idle with Earphone 1 + WLAN (5G) Idle + GNSS Rx + Battery 1 + USB Cable 1 (EUT Charging from Adapter 1) + SIM 1 + EUT Wireless Charge for the other phone
	Mode 6: LTE Band 12 Rx(Middle) + Bluetooth Idle with Earphone 1 + WLAN (WIFI 6E) Idle + NFC On + Battery 1 + USB Cable 1 (Data Link with Notebook) + SIM 1 + EUT (eMMC) USB Data Link to Notebook
	Mode 7: 5G N5 Rx(Middle) Idle + Bluetooth Idle with Earphone 1 + WLAN (2.4G) Idle + NFC On + Battery 1 + USB Cable 1 (Data Link with Notebook) + SIM 1 + Notebook USB Data Link to EUT (eMMC)
	Mode 8: 5G N5 Rx(Middle) Idle + Bluetooth Idle with Earphone 1 + WLAN (2.4G) Idle + NFC On + Earphone 2 + Battery 1 + USB Cable 1 + EUT(widthways) Charging from Wireless charger + SIM 1 + Adapter 1 Connect to Wireless charger

Radiated Emissions	<p>Mode 1: GSM 850 Rx(Middle) + Bluetooth Idle with Earphone 1 + WLAN (2.4G) Idle + NFC On + Battery 1 + USB Cable 1 (Charging from Adapter 1 ) + SIM 1</p> <p>Mode 2: WCDMA 1900 Rx + Bluetooth Idle with Earphone 1 + WLAN (5G) Idle + Camera(Rear) + Battery 1 + USB Cable 2 (Charging from Adapter 2 ) + SIM 2</p> <p>Mode 3: LTE Band 13 Rx(High) + Bluetooth Idle with Earphone 1 + WLAN (WIFI 6E) Idle + Camera(Front) + Battery 1 + USB Cable 2 (Charging from Adapter 3 ) + SIM 2</p> <p>Mode 4: LTE Band 17 Rx(High) + Bluetooth Idle with Earphone 1 + WLAN (2.4G) Idle + MPEG4(Run Color Bar) + Earphone 2 + Battery 1 + SIM 2</p> <p>Mode 5: LTE Band 26 Rx(Low) + Bluetooth Idle with Earphone 1 + WLAN (5G) Idle + GNSS Rx + Battery 1 + DP Cable with Monitor + SIM 2</p> <p>Mode 6: LTE Band 12 Rx(Middle) + Bluetooth Idle with Earphone 1 + WLAN (WIFI 6E) Idle + Camera(Rear) + Battery 1 + USB Cable 2 (EUT Charging from Wireless charger ) + SIM 2 + Adapter 2 Connect to Wireless charger</p> <p>Mode 7: 5G N5 Rx(Middle) Idle + Bluetooth Idle with Earphone 1 + WLAN (2.4G) Idle + Camera(Rear) + Battery 1 + USB Cable 2 (EUT Charging from Adapter 2 ) + SIM 2 + (EUT Wireless Charge for the other phone )</p> <p>Mode 8: WCDMA 1900 Rx + Bluetooth Idle with Earphone 1 + WLAN (5G) Idle + Camera(Rear) + Battery 1 + USB Cable 2 (Data Link with Notebook) + SIM 2 + EUT (eMMC) USB Data Link to Notebook</p> <p>Mode 9: WCDMA 1900 Rx + Bluetooth Idle with Earphone 1 + WLAN (5G) Idle + Camera(Rear) + Battery 1 + USB Cable 2 (Data Link with Notebook) + SIM 2 + Notebook USB Data Link to EUT (eMMC)</p> <p>Mode 10 : WCDMA 1900 Rx + Bluetooth Idle with Earphone 1 + WLAN (5G) Idle + Camera(Rear) + Earphone 2 + Battery 1 + USB Cable 2 + EUT(widthways) Charging from Wireless charger + SIM 2 + Adapter 2 Connect to Wireless charger</p>
<p><b>Remark:</b></p> <ol style="list-style-type: none"> <li>1. The worst case of AC is mode 6; only the test data of this mode is reported.</li> <li>2. The worst case of RE is mode 2; only the test data of this mode is reported.</li> <li>3. Data Link with Notebook means data application transferred mode between EUT and Notebook.</li> <li>4. Pre-scanned Low/Middle/High channel, the worst channel was recorded in this report.</li> </ol>	

## 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.	Base Station	Anritus	MT8000A	N/A	N/A	N/A
2.	LTE Base Station	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m
3.	5GNR Base Station	Anritus	MT8000A	N/A	N/A	Unshielded,1.8m
4.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
5.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
6.	WLAN AP	TP-Link	TL-WDR5600	N/A	N/A	N/A
7.	Vector Signal Generator	R&S	SMBV100A	258305	N/A	N/A
8.	Bluetooth Earphone	XIAO MI	LYEJ02LM	N/A	N/A	N/A
9.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A
10.	SD Card	Kingston	8GB	N/A	N/A	N/A
11.	DP Cable	Lenovo	N/A	N/A	N/A	N/A
12.	Display Monitor	Lenovo	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. Turn on camera to capture images.
2. Turn on MPEG4 function.
3. Display output to the monitor with DP function.
4. Turn on NFC function.
5. Wireless charge from the WPT charging dock.
6. Wireless charge for the other phone.
7. Turn on GNSS function to make the EUT receive continuous signals from GNSS station.



### 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.

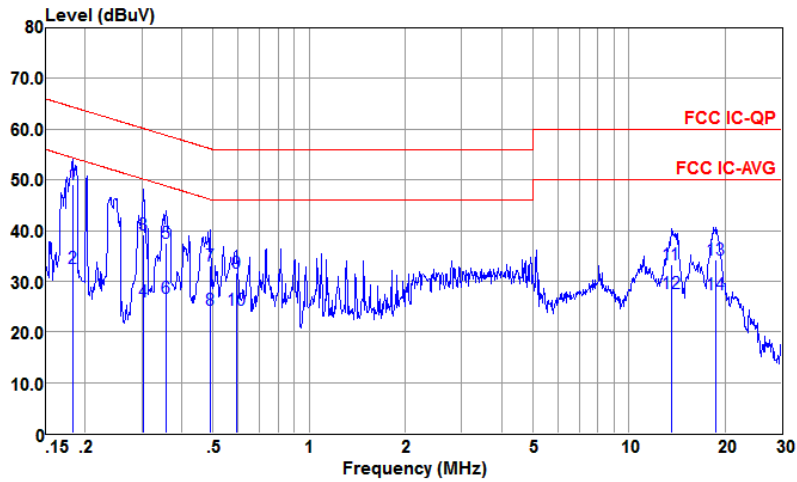
### 3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

Test Engineer :	Amos	Temperature :	25.3~26.2°C
		Relative Humidity :	37~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



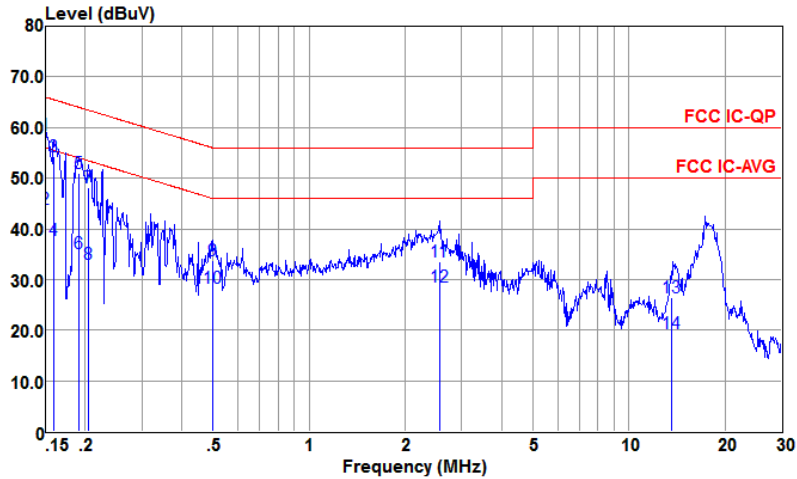
Site : CO01-KS  
 Condition : FCC IC-QP LISN-060105-L 2023 LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.183	49.05	-15.28	64.33	38.60	0.04	10.41	QP
2	0.183	32.55	-21.78	54.33	22.10	0.04	10.41	Average
3	0.303	39.17	-20.98	60.15	28.80	0.04	10.33	QP
4	0.303	25.97	-24.18	50.15	15.60	0.04	10.33	Average
5	0.358	37.52	-21.26	58.78	27.20	0.02	10.30	QP
6	0.358	26.62	-22.16	48.78	16.30	0.02	10.30	Average
7	0.491	33.00	-23.14	56.14	22.81	-0.03	10.22	QP
8	0.491	24.40	-21.74	46.14	14.21	-0.03	10.22	Average
9	0.592	31.63	-24.37	56.00	21.50	-0.05	10.18	QP
10	0.592	24.33	-21.67	46.00	14.20	-0.05	10.18	Average
11	13.560	33.18	-26.82	60.00	22.20	-0.13	11.11	QP
12	13.560	27.58	-22.42	50.00	16.60	-0.13	11.11	Average
13	18.622	34.20	-25.80	60.00	23.20	-0.31	11.31	QP
14	18.622	27.30	-22.70	50.00	16.30	-0.31	11.31	Average





Test Engineer :	Amos	Temperature :	25.3~26.2°C
		Relative Humidity :	37~40%
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	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
		dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.150	58.56	-7.44	66.00	48.10	0.04	10.42	QP
2	0.150	43.96	-12.04	56.00	33.50	0.04	10.42	Average
3	0.160	54.36	-11.11	65.47	43.90	0.04	10.42	QP
4	0.160	37.76	-17.71	55.47	27.30	0.04	10.42	Average
5	0.190	50.96	-13.06	64.02	40.50	0.05	10.41	QP
6	0.190	35.26	-18.76	54.02	24.80	0.05	10.41	Average
7	0.205	48.25	-15.15	63.40	37.80	0.04	10.41	QP
8	0.205	33.05	-20.35	53.40	22.60	0.04	10.41	Average
9	0.499	33.65	-22.36	56.01	23.50	-0.07	10.22	QP
10	0.499	28.35	-17.66	46.01	18.20	-0.07	10.22	Average
11	2.554	33.55	-22.45	56.00	23.61	-0.13	10.07	QP
12	2.554	28.45	-17.55	46.00	18.51	-0.13	10.07	Average
13	13.560	26.48	-33.52	60.00	15.50	-0.13	11.11	QP
14	13.560	19.28	-30.72	50.00	8.30	-0.13	11.11	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.

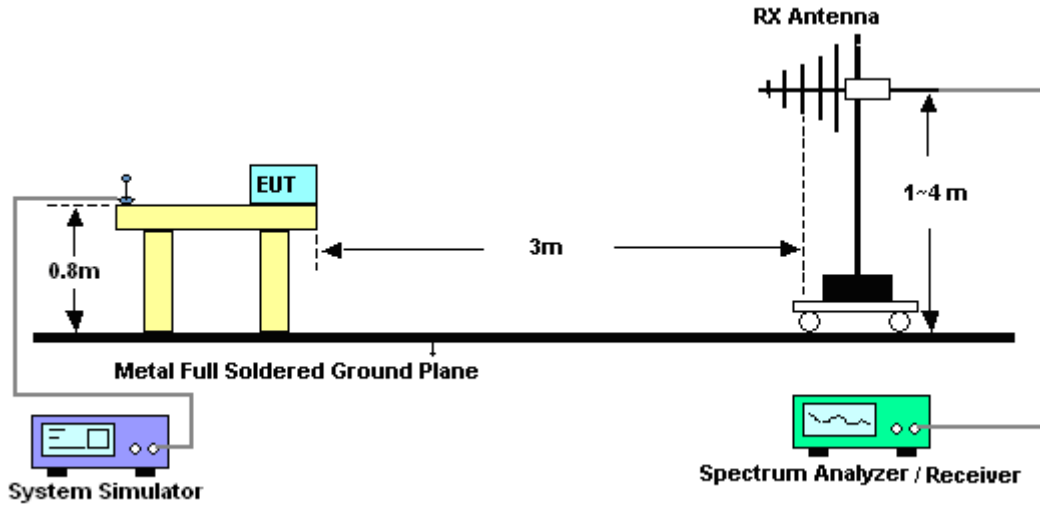


### **3.2.3. Test Procedures**

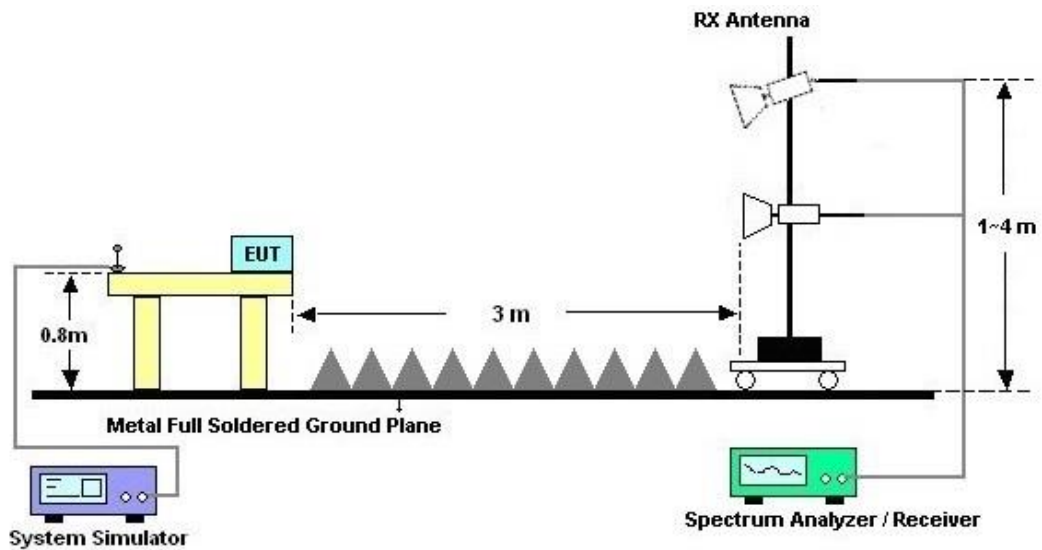
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest radiation.
5. 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.
6. 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.
7. 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).
8. 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.
9. Emission level (dB $\mu$ V/m) = 20 log Emission level ( $\mu$ V/m)
10. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
11. 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



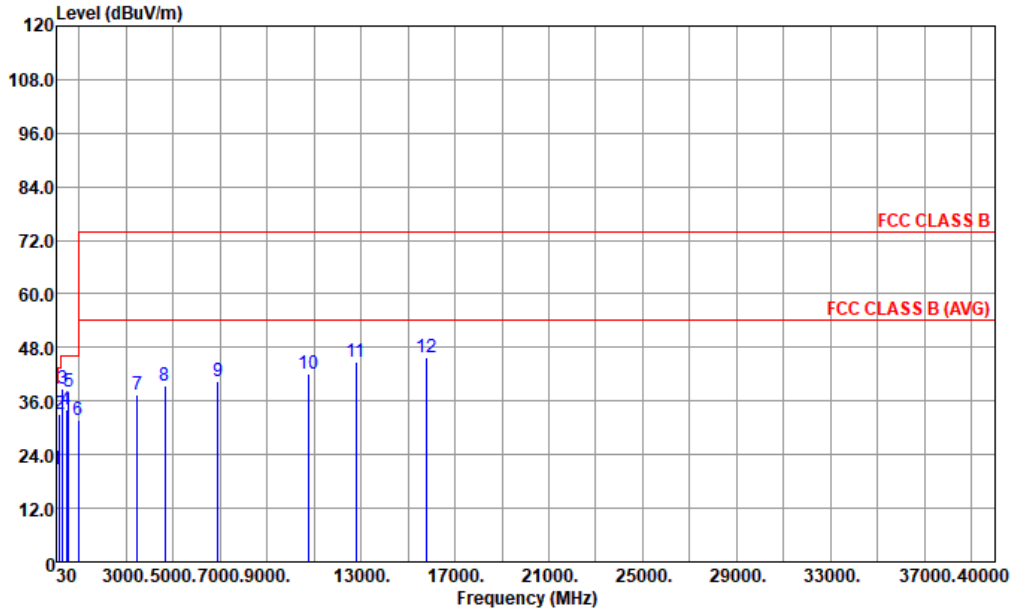
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

Test Engineer :	jiang	Temperature :	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Horizontal

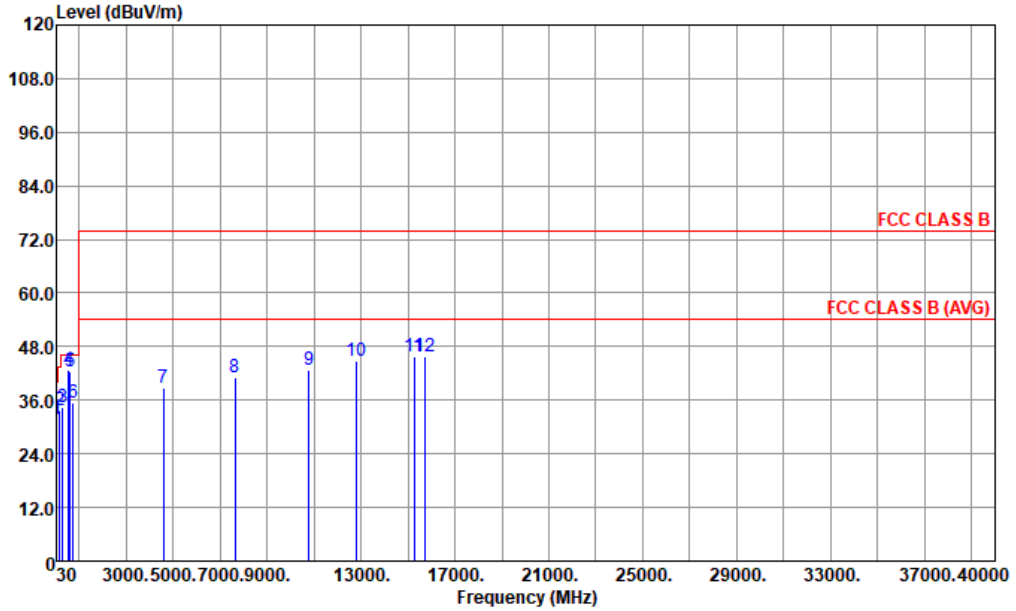


Site : 03CH02-KS  
 Condition : FCC CLASS B 3m 59913 HORIZONTAL

	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	30.97	20.74	-19.26	40.00	27.98	24.20	0.76	32.20	---	---	Peak
2	183.26	33.26	-10.24	43.50	48.88	14.74	1.98	32.34	---	---	Peak
3	287.05	38.79	-7.21	46.00	49.90	18.86	2.44	32.41	---	---	Peak
4	448.07	34.21	-11.79	46.00	40.85	22.80	3.13	32.57	---	---	Peak
5	559.62	37.97	-8.03	46.00	41.15	26.10	3.28	32.56	---	---	Peak
6	963.14	31.71	-22.29	54.00	26.97	31.03	4.61	30.90	---	---	Peak
7	3465.00	37.47	-36.53	74.00	59.11	32.77	8.99	63.40	---	---	Peak
8	4638.00	39.48	-34.52	74.00	58.86	34.33	10.40	64.11	---	---	Peak
9	6899.00	40.41	-33.59	74.00	55.57	36.00	12.96	64.12	---	---	Peak
10	10775.00	42.07	-31.93	74.00	49.67	37.80	16.46	61.86	---	---	Peak
11	12781.00	44.75	-29.25	74.00	48.93	39.40	18.03	61.61	---	---	Peak
12	15773.00	45.76	-28.24	74.00	47.13	41.17	20.15	62.69	---	---	Peak



Test Engineer :	jiang	Temperature :	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical



Site : 03CH02-KS  
 Condition : FCC CLASS B 3m 59913 VERTICAL

	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	45.52	31.68	-8.32	40.00	46.66	16.28	0.96	32.22	---	---	Peak
2	182.29	33.82	-9.68	43.50	49.43	14.76	1.97	32.34	---	---	Peak
3	285.11	34.34	-11.66	46.00	45.53	18.80	2.42	32.41	---	---	Peak
4 q	553.80	42.62	-3.38	46.00	46.09	25.87	3.22	32.56	100	1	QP
5 p	606.18	42.43	-3.57	46.00	45.78	25.62	3.65	32.62	---	---	Peak
6	746.83	35.40	-10.60	46.00	35.57	28.17	4.06	32.40	---	---	Peak
7	4604.00	38.87	-35.13	74.00	58.43	34.20	10.31	64.07	---	---	Peak
8	7630.00	41.08	-32.92	74.00	55.09	36.07	13.78	63.86	---	---	Peak
9	10792.00	42.90	-31.10	74.00	50.49	37.80	16.47	61.86	---	---	Peak
10	12832.00	44.71	-29.29	74.00	48.92	39.40	18.06	61.67	---	---	Peak
11	15280.00	45.83	-28.17	74.00	48.45	40.27	19.70	62.59	---	---	Peak
12	15739.00	45.94	-28.06	74.00	47.37	41.13	20.12	62.68	---	---	Peak

Note:

- Level(dBuV/m) = Read Level(dBuV) + Antenna Factor(dB/m) + Cable Loss(dB) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBuV/m) – Limit Line(dBuV/m)



### 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 10, 2023	Jan. 09, 2024	Oct. 09, 2024	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 10, 2023	Jan. 09, 2024	Oct. 09, 2024	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 21, 2023	Jan. 09, 2024	Dec. 20, 2024	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 23, 2024	Jan. 09, 2024	Nov. 22, 2024	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Jan. 09, 2024	Jan. 04, 2025	Radiation (03CH02-KS)
Amplifier	EM	EM18G40GGA	060852	18~40GHz	Jan. 05, 2024	Jan. 09, 2024	Jan. 04, 2025	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	380826	9kHz-1GHz	Jul 06, 2023	Jan. 09, 2024	Jul 05, 2024	Radiation (03CH02-KS)
Amplifier	EM	EM01G18G	060806	1GHz~18GHz	Oct. 10, 2023	Jan. 09, 2024	Oct. 09, 2024	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Jan. 09, 2024	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Jan. 09, 2024	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Jan. 09, 2024	NCR	Radiation (03CH02-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 16, 2023	Jan. 11, 2024	May 15, 2024	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 11, 2023	Jan. 11, 2024	Oct. 10, 2024	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	May 16, 2023	Jan. 11, 2024	May 15, 2024	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 11, 2023	Jan. 11, 2024	Oct. 10, 2024	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))	2.94 dB
---	---------

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.0 dB
---	--------

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

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

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

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

----- THE END -----