



FCC Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2523-11
FCC ID : IHDT56AT5
STANDARD : 47 CFR Part 15 Subpart B
CLASSIFICATION : Certification
TEST DATE(S) : May 17, 2025~ May 28, 2025

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.

Fly Liang



Approved by: Fly Liang

Sporton International Inc. (ShenZhen)

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People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC480701-15	Rev. 01	Initial issue of report	Jun. 03, 2025



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 9.41 dB at 0.16 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 3.15 dB at 52.31 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	XT2523-11
FCC ID	IHDT56AT5
EUT supports Radios application	GSM/WCDMA/LTE WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE GNSS/NFC/FM
IMEI Code	Conduction: 350191670020091/350191670020109 for Sample 1 350191670020216/350191670020224 for Sample 2 350191670020299/350191670020307 for Sample 3 350191670020372/350191670020380 for Sample 4 Radiation: 350191670020117/350191670020125 for Sample 1 350191670020216/350191670020224 for Sample 2 350191670020299/350191670020307 for Sample 3 350191670020372/350191670020380 for Sample 4
HW Version	PVT
SW Version	VVTA35.51
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 four types of EUT, the differences between them could be referred to the XT2523-11_Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, we evaluated Sample 1 to perform full test and Sample 2/3/4 are verified the worse cases of Sample 1.



1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	GSM850: 824 MHz ~ 849 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 41 : 2535 MHz ~ 2655 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 WCDMA Band V: 869 MHz ~ 894 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41 : 2535 MHz ~ 2655 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 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

Accessories Information				
AC Adapter 1(US)	Brand Name	Motorola(AOHAI)	Model Name	MC-101
AC Adapter 1(EU)	Brand Name	Motorola(AOHAI)	Model Name	MC-102
AC Adapter 1(UK)	Brand Name	Motorola(AOHAI)	Model Name	MC-103
AC Adapter 1(IN)	Brand Name	Motorola(AOHAI)	Model Name	MC-104
AC Adapter 1(AU)	Brand Name	Motorola(AOHAI)	Model Name	MC-105
AC Adapter 1(AR)	Brand Name	Motorola(AOHAI)	Model Name	MC-106
AC Adapter 2(US)	Brand Name	Motorola(CHENYANG)	Model Name	MC-101
AC Adapter 2(EU)	Brand Name	Motorola(CHENYANG)	Model Name	MC-102
AC Adapter 2(UK)	Brand Name	Motorola(CHENYANG)	Model Name	MC-103
AC Adapter 2(AU)	Brand Name	Motorola(CHENYANG)	Model Name	MC-105
AC Adapter 2(AR)	Brand Name	Motorola(CHENYANG)	Model Name	MC-106
AC Adapter 2(BR)	Brand Name	Motorola(CHENYANG)	Model Name	MC-107
AC Adapter 2(PRC)	Brand Name	Motorola(CHENYANG)	Model Name	MC-108
AC Adapter 3(CHILE)	Brand Name	Motorola(SALCOMP)	Model Name	MC-109
Battery 1	Brand Name	Motorola(ATL)	Model Name	RL52
Battery 2	Brand Name	Motorola(Jiade)	Model Name	RL52
Battery 3	Brand Name	Motorola(Sunwoda)	Model Name	RL52
USB Cable 1	Brand Name	Motorola(Yihuaxing)	Model Name	T365-020 T365-020-01 T365-020-02
USB Cable 2	Brand Name	Motorola(WASHIN)	Model Name	HX-TL-01 HX-TL-08 HX-TL-07
USB Cable 3	Brand Name	Motorola(Juwei)	Model Name	JWUB1614-T03H JWUB1705-T03H JWUB1856-T03H
USB Cable 4	Brand Name	Motorola(I-SHENG)	Model Name	SC18D38574



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	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO02-SZ ; 03CH05-SZ	CN1256	421272

1.8. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH05-SZ	AUDIX	E3	6.2009-8-24
2.	CO02-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.

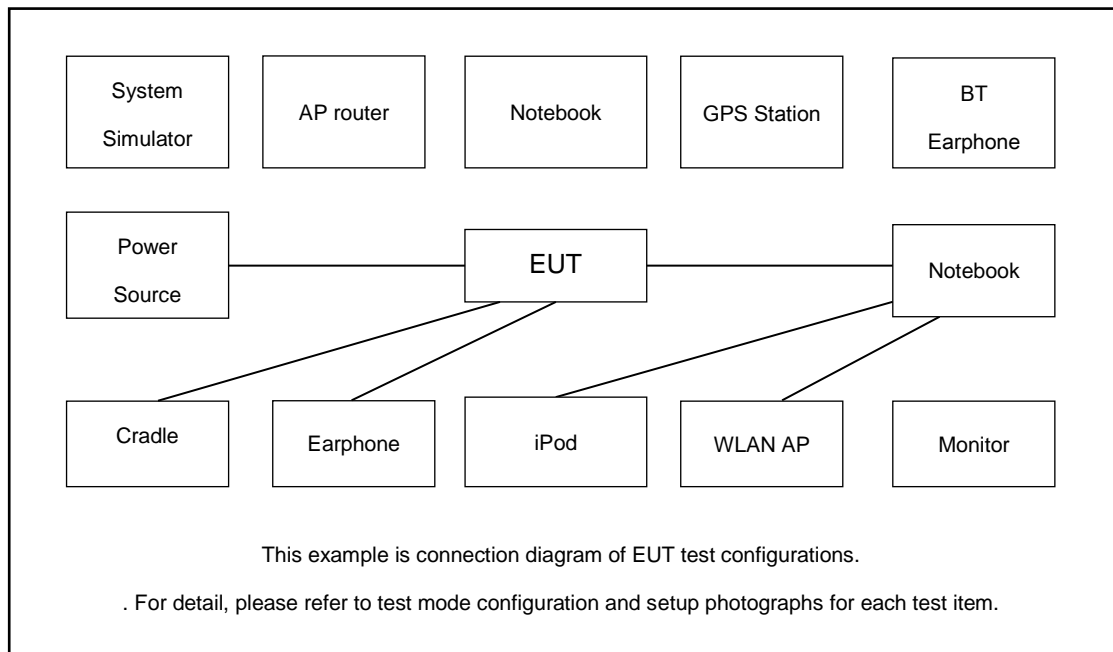
Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
AC Conducted Emission	Mode 1 : GSM 850 Idle(Middle CH) + Camera(Rear) + Earphone 1 + USB Cable 1 (Charging from Adapter 1) + Battery 1 + SIM 1 for Sample 1
	Mode 2 : WCDMA B5(Low CH) + Camera(Front) + Earphone 2 + USB Cable 2 (Charging from Adapter 2) + Battery 1 + SIM 2 for Sample 1
	Mode 3 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 3 (Charging from Adapter 3) + Battery 1 + SIM 1 for Sample 1
	Mode 4 : GSM 850 Idle(Middle CH) + GNSS RX + Earphone 2 + USB Cable 4 (Charging from Adapter (1)) + Battery 1 + SIM 1 for Sample 1
	Mode 5 : GSM 850 Idle(Middle CH) + FM RX(98M) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (eMMC) USB Data Link to Notebook + SIM 2 + Battery 1 for Sample 1
	Mode 6 : GSM 850 Idle(Middle CH) + NFC ON + Earphone 1 + USB Cable 1 (Data Link with Notebook) + Notebook USB Data Link to EUT (eMMC) + SIM 1 + Battery 1 for Sample 1
	Mode 7 : GSM 850 Idle(Middle CH) + FM RX(98M) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (SD Card) USB Data Link to Notebook + SIM 2 + Battery 1 for Sample 1
	Mode 8 : GSM 850 Idle(Middle CH) + FM RX(98M) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (SD Card) USB Data Link to Notebook + SIM 1 + Battery 1 for Sample 1
	Mode 9 : GSM 850 Idle(Middle CH) + FM RX(98M) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (eMMC) USB Data Link to Notebook + SIM 1 + Battery 2 for Sample 2
	Mode 10 : GSM 850 Idle(Middle CH) + FM RX(98M) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (eMMC) USB Data Link to Notebook + SIM 1 + Battery 3 for Sample 3
	Mode 11 : GSM 850 Idle(Middle CH) + FM RX(98M) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (eMMC) USB Data Link to Notebook + SIM 1 + Battery 1 for Sample 4



Radiated Emissions	Mode 1 : GSM 850 Idle(Middle CH) + Camera(Rear) + Earphone 1 + USB Cable 1 (Charging from Adapter 1) + Battery 1 + SIM 1 for Sample 1
	Mode 2 : WCDMA B5(Low CH) + Camera(Front) + Earphone 2 + USB Cable 2 (Charging from Adapter 2) + Battery 1 + SIM 2 for Sample 1
	Mode 3 : LTE Band 5 Idle(Middle CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 3 (Charging from Adapter 3) + Battery 1 + SIM 1 for Sample 1
	Mode 4 : LTE Band 5 Idle(High CH) + GNSS RX + Earphone 2 + USB Cable 4 (Charging from Adapter (3)) + Battery 1 + SIM 1 for Sample 1
	Mode 5 : LTE Band 5 Idle(High CH) + FM RX(98M) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (eMMC) USB Data Link to Notebook + SIM 2 + Battery 1 for Sample 1
	Mode 6 : LTE Band 5 Idle(High CH) + NFC ON + Earphone 1 + USB Cable 1 (Data Link with Notebook) + Notebook USB Data Link to EUT (eMMC) + SIM 1 + Battery 1 for Sample 1
	Mode 7 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (SD Card) USB Data Link to Notebook + Battery 1 + SIM 2 for Sample 1
	Mode 8 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 1 (Data Link with Notebook) + EUT (SD Card) USB Data Link to Notebook + Battery 1 + SIM 1 for Sample 1
	Mode 9 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 2 (Data Link with Notebook) + EUT (SD Card) USB Data Link to Notebook + Battery 1 + SIM 1 for Sample 1
	Mode 10 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 3 (Data Link with Notebook) + EUT (SD Card) USB Data Link to Notebook + Battery 1 + SIM 1 for Sample 1
	Mode 11 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 4 (Data Link with Notebook) + EUT (SD Card) USB Data Link to Notebook + Battery 1 + SIM 1 for Sample 1
	Mode 12 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 3 (Charging from Adapter 3) + Battery 2 + SIM 1 for Sample 2
	Mode 13 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 3 (Charging from Adapter 3) + Battery 3 + SIM 1 for Sample 3
	Mode 14 : LTE Band 5 Idle(High CH) + MPEG4(Run Color Bar) + Earphone 1 + USB Cable 3 (Charging from Adapter 3) + Battery 1 + SIM 1 for Sample 4
Remark:	
<ol style="list-style-type: none"> 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 3; 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 channels, 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.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	GNSS Station	T&E	GS-50	N/A	N/A	Unshielded,1.8m
3.	GNSS Station	Labsat	RLLS03-2P	N/A	N/A	Unshielded,1.8m
4.	FM Base Station	R&S	SMB100A	Fcc DoC	N/A	Shielded, 1.5m
5.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
6.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,2.7m with Core
7.	iPod	apple	MC69029/A	N/A	N/A	N/A
8.	iPod	Apple	MC525 ZP/A	Fcc DoC	Shielded, 1.0m	N/A
9.	Notebook	DELL	Latitude3400	N/A	N/A	Unshielded,1.8m
10.	Notebook	Thinkpad	Thinkpad E14	N/A	N/A	N/A
11.	SD Card	N/A	MicroSD HC	FCC DoC	N/A	N/A
12.	SD Card	Kingston	3300-10000-078	Fcc DoC	N/A	N/A
13.	Earphone1	N/A	MH202	N/A	N/A	N/A
14.	Earphone2	N/A	M191	N/A	N/A	N/A



2.4. EUT Operation Test Setup

The EUT was in GSM 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 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.

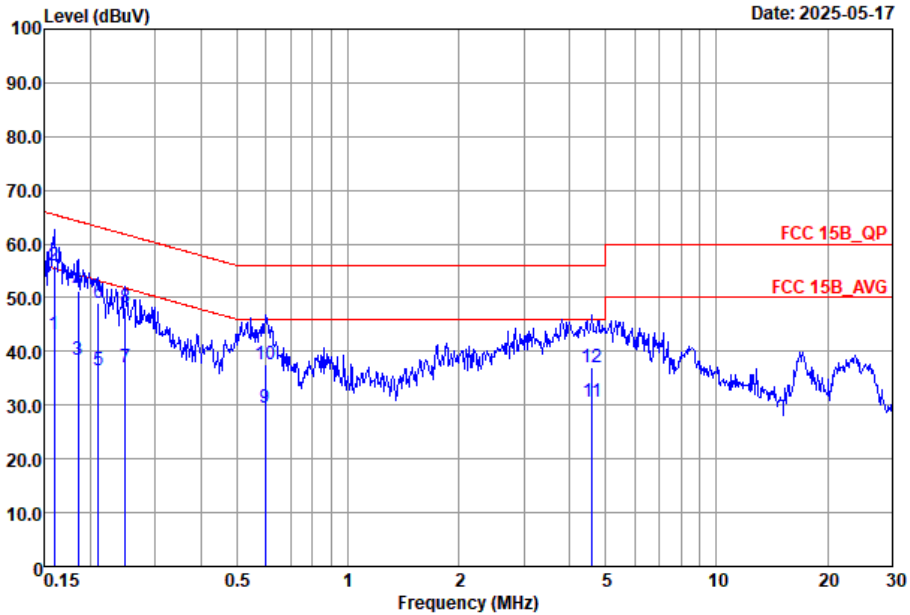
3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

Test Engineer :	Nathon	Temperature :	22~24°C
		Relative Humidity :	44~50%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

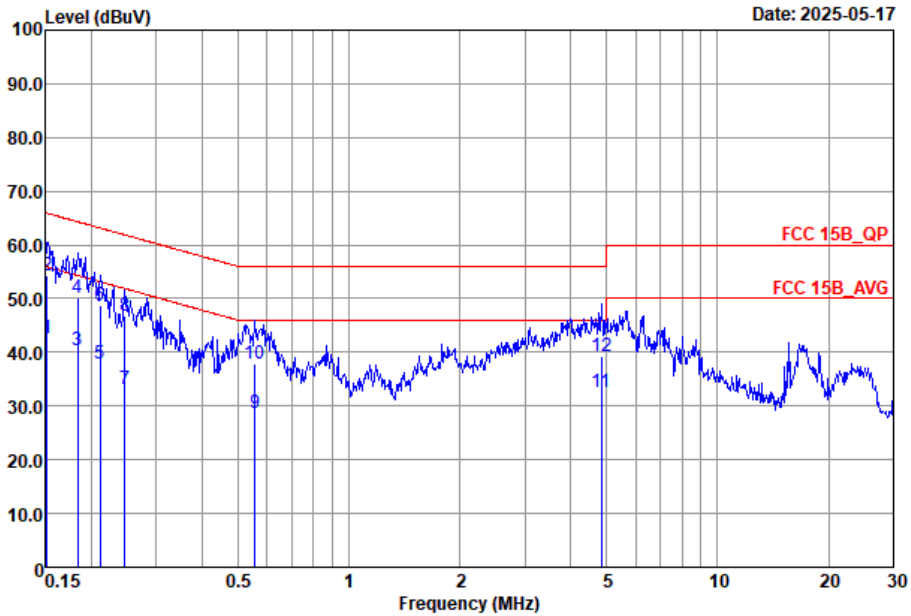


Site : CO02-SZ
 Condition : FCC 15B_QP LISN_2025-L LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.16	43.26	-12.21	55.47	23.40	9.67	10.19	Average
2 *	0.16	56.06	-9.41	65.47	36.20	9.67	10.19	QP
3	0.19	38.48	-15.76	54.24	18.60	9.70	10.18	Average
4	0.19	51.28	-12.96	64.24	31.40	9.70	10.18	QP
5	0.21	36.50	-16.68	53.18	16.61	9.71	10.18	Average
6	0.21	48.90	-14.28	63.18	29.01	9.71	10.18	QP
7	0.25	37.11	-14.67	51.78	17.20	9.72	10.19	Average
8	0.25	48.11	-13.67	61.78	28.20	9.72	10.19	QP
9	0.60	29.60	-16.40	46.00	9.70	9.66	10.24	Average
10	0.60	37.70	-18.30	56.00	17.80	9.66	10.24	QP
11	4.60	30.52	-15.48	46.00	10.59	9.66	10.27	Average
12	4.60	37.12	-18.88	56.00	17.19	9.66	10.27	QP



Test Engineer :	Nathon	Temperature :	22~24°C
		Relative Humidity :	44~50%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO02-SZ
 Condition : FCC 15B_QP LISN_2025-N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.15	42.75	-13.16	55.91	23.00	9.56	10.19	Average
2 *	0.15	54.25	-11.66	65.91	34.50	9.56	10.19	QP
3	0.18	40.39	-13.94	54.33	20.40	9.81	10.18	Average
4	0.18	50.09	-14.24	64.33	30.10	9.81	10.18	QP
5	0.21	37.86	-15.28	53.14	17.91	9.77	10.18	Average
6	0.21	48.76	-14.38	63.14	28.81	9.77	10.18	QP
7	0.25	33.04	-18.82	51.86	13.31	9.54	10.19	Average
8	0.25	46.74	-15.12	61.86	27.01	9.54	10.19	QP
9	0.56	28.67	-17.33	46.00	8.80	9.63	10.24	Average
10	0.56	37.87	-18.13	56.00	18.00	9.63	10.24	QP
11	4.85	32.67	-13.33	46.00	12.70	9.70	10.27	Average
12	4.85	39.17	-16.83	56.00	19.20	9.70	10.27	QP

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.

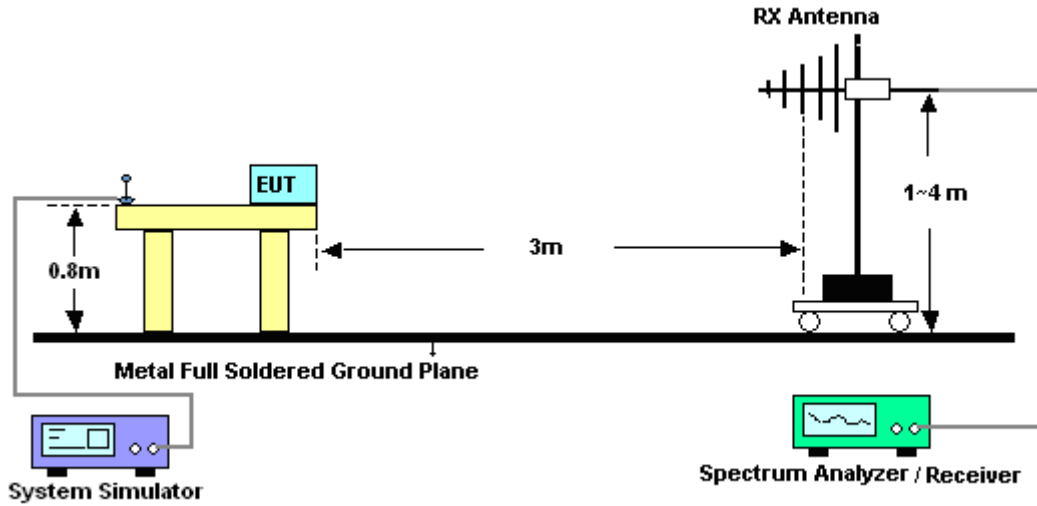


3.2.3. Test Procedures

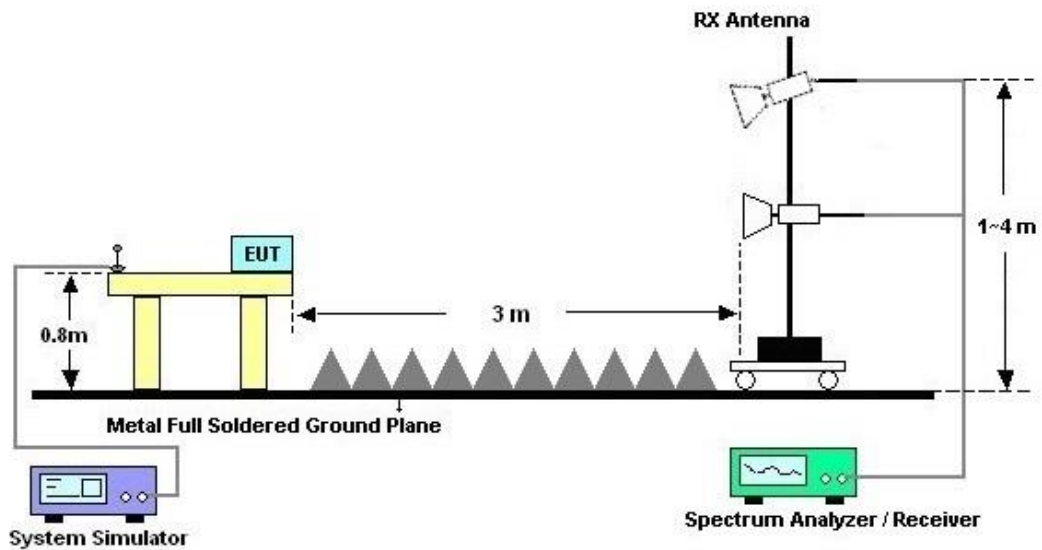
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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



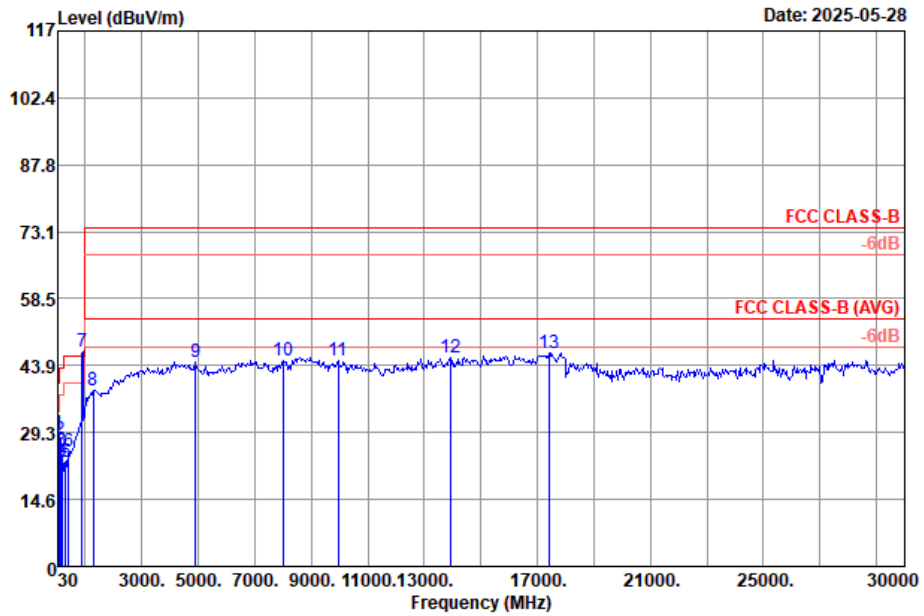
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

Test Engineer :	ZhanSheng Liu	Temperature :	24~25°C
		Relative Humidity :	48~49%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#7 is system simulator signal which can be ignored.		

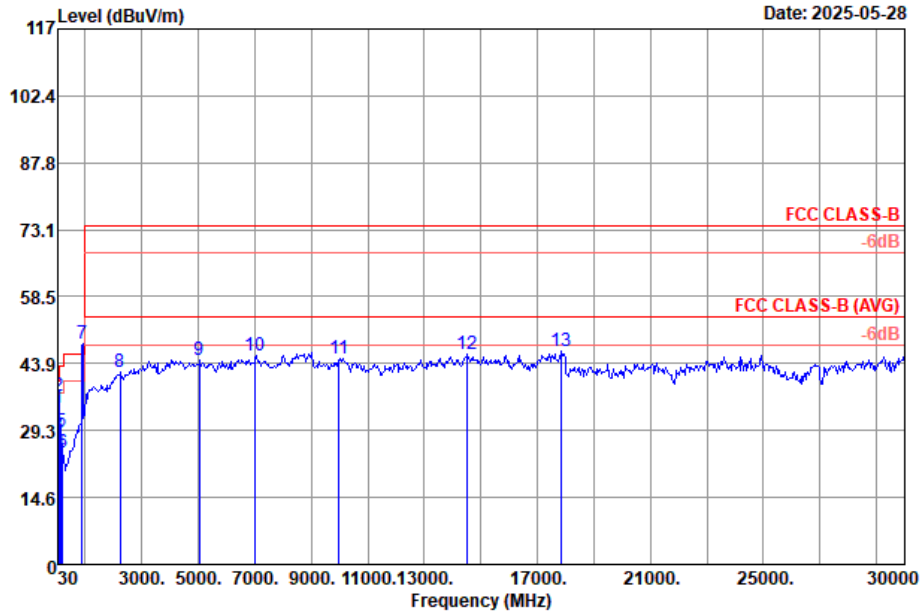


Site : 03CH05-SZ
 Condition : FCC CLASS-B 3m VULB9168-01001 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	52.31	29.07	-10.93	40.00	42.74	19.67	1.66	35.00	---	---	Peak
2	94.02	27.54	-15.96	43.50	46.11	14.29	2.04	34.90	---	---	Peak
3	138.64	25.48	-18.02	43.50	39.82	18.30	2.26	34.90	---	---	Peak
4	189.08	23.15	-20.35	43.50	38.82	16.62	2.61	34.90	---	---	Peak
5	295.78	22.90	-23.10	46.00	35.10	19.32	3.19	34.71	---	---	Peak
6	404.42	25.02	-20.98	46.00	34.64	21.75	3.32	34.69	---	---	Peak
7 *	890.39	47.08			47.59	29.09	4.41	34.01	---	---	Peak
8	1288.00	38.44	-35.56	74.00	66.42	29.82	5.46	63.26	---	---	Peak
9	4904.00	44.79	-29.21	74.00	65.13	35.12	9.44	64.90	---	---	Peak
10	8000.00	45.12	-28.88	74.00	61.97	36.60	11.55	65.00	---	---	Peak
11	9945.00	45.08	-28.92	74.00	57.91	38.10	13.38	64.31	---	---	Peak
12	13914.00	45.74	-28.26	74.00	55.48	39.71	14.53	63.98	---	---	Peak
13	17406.00	46.60	-27.40	74.00	54.22	43.01	15.26	65.89	---	---	Peak



Test Engineer :	ZhanSheng Liu	Temperature :	24~25°C
		Relative Humidity :	48~49%
Test Distance :	3m	Polarization :	Vertical
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH05-SZ
 Condition : FCC CLASS-B 3m VULB9168-01001 VERTICAL

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	A/Pos	T/Pos	Remark		
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	38.73	34.23	-5.77	40.00	48.45	19.14	1.33	34.69	---	---	Peak
2	52.31	36.85	-3.15	40.00	50.52	19.67	1.66	35.00	---	---	Peak
3	64.92	28.37	-11.63	40.00	43.25	18.26	1.81	34.95	---	---	Peak
4	94.99	24.35	-19.15	43.50	42.79	14.41	2.05	34.90	---	---	Peak
5	141.55	29.12	-14.38	43.50	43.19	18.55	2.28	34.90	---	---	Peak
6	191.02	24.41	-19.09	43.50	40.18	16.49	2.64	34.90	---	---	Peak
7 *	889.42	48.17			48.68	29.09	4.41	34.01	---	---	Peak
8	2224.00	42.10	-31.90	74.00	66.67	32.45	6.80	63.82	---	---	Peak
9	5032.00	44.75	-29.25	74.00	64.91	35.27	9.48	64.91	---	---	Peak
10	7024.00	45.59	-28.41	74.00	63.23	36.30	11.16	65.10	---	---	Peak
11	9990.00	45.10	-28.90	74.00	57.76	38.10	13.54	64.30	---	---	Peak
12	14508.00	46.07	-27.93	74.00	54.53	39.92	15.04	63.42	---	---	Peak
13	17847.00	46.71	-27.29	74.00	54.04	43.60	15.28	66.21	---	---	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 Receiver	R&S	ESR7	102297	9kHz~7GHz;	Jul. 03, 2024	May 17, 2025	Jul. 02, 2025	Conduction (CO02-SZ)
AC LISN	R&S	ENV216	101499	9kHz~30MHz	Jul. 03, 2024	May 17, 2025	Jul. 02, 2025	Conduction (CO02-SZ)
AC Power Source	CHROMA	61601	616010002470	100Vac~250Vac	Dec. 25, 2024	May 17, 2025	Dec. 24, 2025	Conduction (CO02-SZ)
EMI Test Receiver	R&S	ESR7	102261	9kHz~7GHz	Apr. 02, 2025	May 28, 2025	Apr. 01, 2026	Radiation (03CH05-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071191	10Hz~44GHz	Apr. 02, 2025	May 28, 2025	Apr. 01, 2026	Radiation (03CH05-SZ)
Log-periodic Antenna	SCHWARZBECK	VULB 9168	01001	20MHz~1.5GHz	Jul. 08, 2024	May 28, 2025	Jul. 07, 2025	Radiation (03CH05-SZ)
Amplifier	EM Electronics	EM330	060756	0.01Hz~3000MHz	Apr. 02, 2025	May 28, 2025	Apr. 01, 2026	Radiation (03CH05-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	May 28, 2025	Jul. 03, 2025	Radiation (03CH05-SZ)
HF Amplifier	EM Electronics	EM01G18GA	060779	1GHz~18GHz	Dec. 25, 2024	May 28, 2025	Dec. 24, 2025	Radiation (03CH05-SZ)
HF Amplifier	EM Electronics	EM18G40G	060778	18GHz~40GHz	Apr. 03, 2025	May 28, 2025	Apr. 02, 2026	Radiation (03CH05-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	00983	15GHz~40GHz	Apr. 03, 2025	May 28, 2025	Apr. 02, 2027	Radiation (03CH05-SZ)
AC Power Source	APC	AFV-S-600	F119050013	N/A	Oct. 14, 2024	May 28, 2025	Oct. 13, 2025	Radiation (03CH05-SZ)
Turn Table	EMEC	T-200-S-1	060925-T	0~360 degree	NCR	May 28, 2025	NCR	Radiation (03CH05-SZ)
Antenna Mast	EMEC	MBS-400-1	060927	1 m~4 m	NCR	May 28, 2025	NCR	Radiation (03CH05-SZ)

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))	2.5 dB
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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))	4.2 dB
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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))	5.1 dB
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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))	4.1 dB
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