FCC Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2093-1, XT2093-7
FCC ID	:	IHDT56ZD3
STANDARD	:	47 CFR Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was received on Aug. 07, 2020 and testing was completed on Sep. 04, 2020. 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

James Huang

Approved by: James Huang / 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
FC080709-01	Rev. 01	Initial issue of report	Sep. 24, 2020

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 4.91 dB at 0.651 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 8.67 dB at 55.220 MHz

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	XT2093-1, XT2093-7
FCC ID	IHDT56ZD3
EUT supports Radios application	GSM/WCDMA/LTE 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 FM Receiver and GNSS
IMEI Code	Conduction: 355565110012302 Radiation: 355565110012377
HW Version	DVT2
SW Version	QZA30.32
EUT Stage	Identical Prototype

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

1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV : 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 14 : 790.5 MHz ~ 795.5 MHz LTE Band 30 : 2307.5 MHz ~ 2312.5 MHz LTE Band 66 : 1710.7 MHz ~ 1779.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5700 MHz 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band IV : 2112.4 MHz ~ 2152.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 14 : 760.5 MHz ~ 765.5 MHz LTE Band 30 : 2352.5 MHz ~ 2357.5 MHz LTE Band 66 : 2110.7 MHz~ 2179.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5700 MHz 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz GNSS : 1559 MHz ~ 1610 MHz FM : 88 MHz ~ 108 MHz
Antenna Type	WWAN : PIFA Antenna WLAN2.4G : Loop Antenna WLAN5G : PIFA Antenna Bluetooth : Loop Antenna GNSS: Loop Antenna FM : External Handset Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK HSDPA/DC-HSDPA : QPSK HSUPA : QPSK

	HSPA+ : 16QAM DC-HSDPA : 64QAM LTE: QPSK / 16QAM / 64QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac : OFDM (BPSK / QPSK / 16QAM / 64QAM /256QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) :π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GNSS : BPSK FM

1.5. Modification of EUT

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

1.6. 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

1.7. Test Software

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

1.8. 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 fundamental frequency or to 40 GHz, whichever is lower).

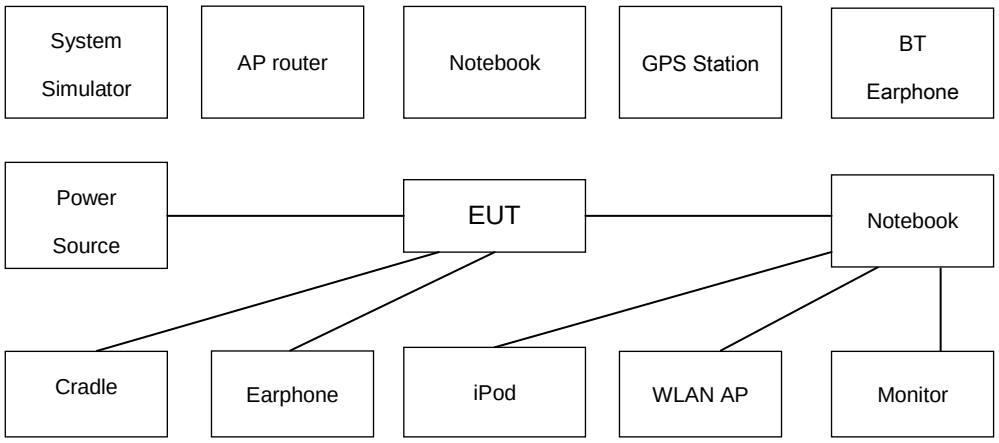
The EUT uses a USB interface and microprocessor operating 800MHz which is the maximum frequency used.

Test Items	Function Type
AC Conducted Emission	Mode 1: GSM 850 Rx(Middle) + Earphone + BT Idle + WLAN Idle(2.4G) + Camera(Rear) + USB Cable1(Charging from Adapter1) Mode 2: WCDMA 1900 Rx + Earphone + BT Idle + WLAN Idle(5G) + Camera(Front) + USB Cable2(Charging from Adapter2) Mode 3: LTE Band 12 Rx(Middle) + Earphone + BT Idle + WLAN Idle(2.4G) + MPEG4 + USB Cable2(Charging from Adapter2) Mode 4: LTE Band 14 Rx(High) + Earphone + BT Idle + WLAN Idle(5G) + FM Rx(98MHZ) + USB Cable2(Charging from Adapter2) Mode 5: LTE Band 5 Rx(High) + Earphone + BT Idle + WLAN Idle(2.4G) + GNSS Rx + USB Cable1(Data Link with Notebook) Mode 6: LTE Band 4 Rx(High) + Earphone + BT Idle + WLAN Idle(5G) + GNSS Rx + USB Cable2(Data Link with Notebook)
Radiated Emissions	Mode 1: GSM 850 Rx(Middle) + Earphone + BT Idle + WLAN Idle(2.4G) + Camera(Rear) + USB Cable1(Charging from Adapter1) Mode 2: WCDMA 1900 Rx + Earphone + BT Idle + WLAN Idle(5G) + Camera(Front) + USB Cable2(Charging from Adapter2) Mode 3: LTE Band 12 Rx(Middle) + Earphone + BT Idle + WLAN Idle(2.4G) + MPEG4 + USB Cable2(Charging from Adapter2) Mode 4: LTE Band 14 Rx(High) + Earphone + BT Idle + WLAN Idle(5G) + FM Rx(98MHZ) + USB Cable2(Charging from Adapter2) Mode 5: LTE Band 5 Rx(High) + Earphone + BT Idle + WLAN Idle(2.4G) + GNSS Rx + USB Cable1(Data Link with Notebook) Mode 6: LTE Band 4 Rx(High) + Earphone + BT Idle + WLAN Idle(5G) + GNSS Rx + USB Cable2(Data Link with Notebook)

Remark:

1. The worst case of AC is mode 2; only the test data of this mode is reported.
2. The worst case of RE is mode 5; only the test data of this mode is reported.
3. Data Link with Notebook / PC means data application transferred mode between EUT and Notebook / PC.
4. Pre-scanned Low/Middle/High channel for below 1G frequency band, the worst channel was recorded in this report.

2.2. Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

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

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

2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m
2.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A
3.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
4.	Base Station	R&S	CMU 200	N/A	N/A	Unshielded,1.8m
5.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
6.	Router	TP-Link	TL-WDR5600	N/A	N/A	Unshielded,1.8m
7.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A
8.	SD Card	Kingston	8GB	N/A	N/A	N/A
9.	Notebook	Dell	Latitude3440	N/A	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
10.	SD Card	SanDisk	Uitra	N/A	N/A	N/A
11.	Bluetooth Earphone	Xiaomi	LYEJ02LM	N/A	N/A	N/A
12.	Hard disk	KINGSHARE	KSP6120G	Fcc DoC	Shielded, 1.2m	N/A
13.	Signal Generator	R&S	SMBV100A	N/A	N/A	Unshielded,1.8m
14.	LTE Base Station	Anritus	MT8820C	N/A	N/A	Unshielded,1.8m
15.	phone	N/A	N/A	N/A	N/A	N/A
16.	Base Station	Anritus	MT8000A	N/A	N/A	Unshielded,1.8m

2.4. EUT Operation Test Setup

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

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

1. Data application is transferred between notebook and EUT via USB cable.
2. Turn on camera to capture images.
3. Turn on MPEG4 function.
4. Turn on GNSS function to make the EUT receive continuous signals from GNSS station.
5. Turn on FM function to make the EUT receive continuous signals from FM 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.

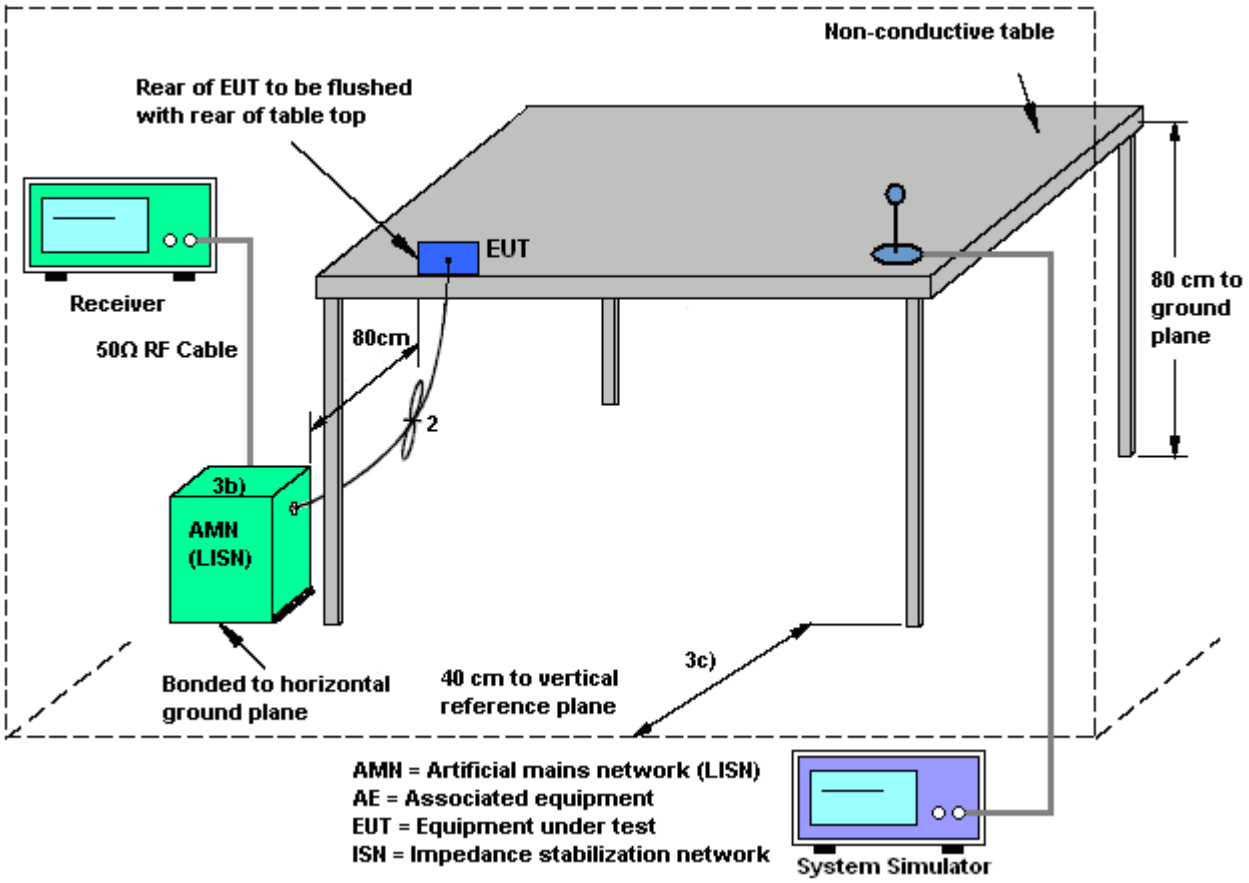
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

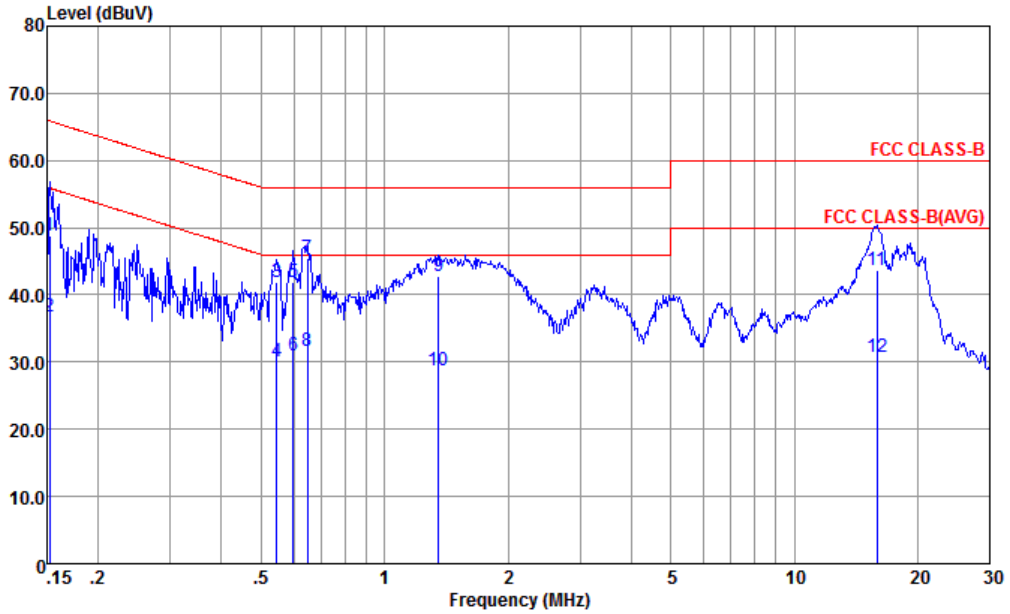
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

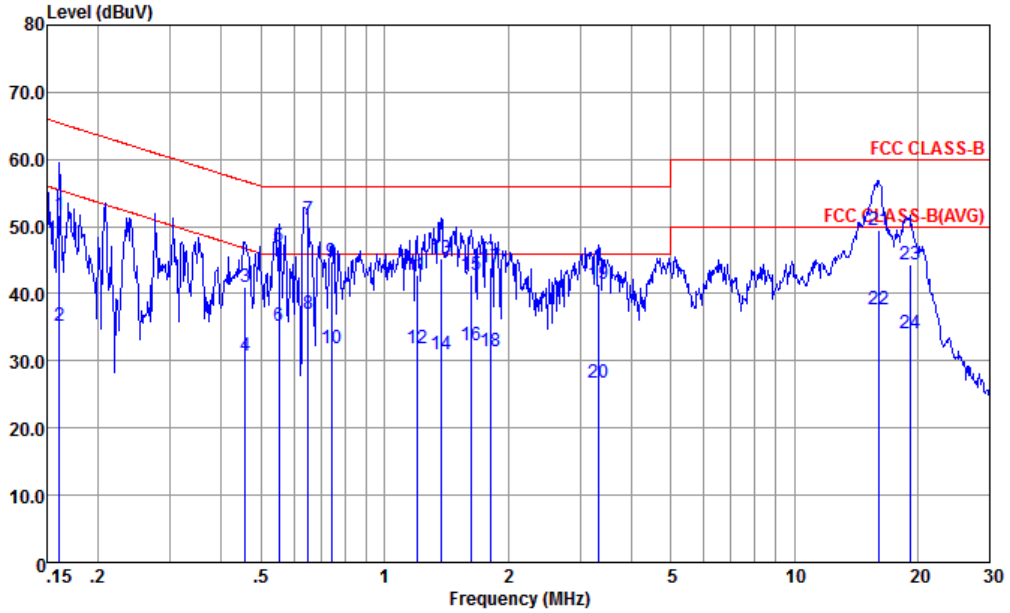
Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-191028-CN02 LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.152	48.74	-17.13	65.87	38.20	0.07	10.47	QP
2		0.152	36.84	-19.03	55.87	26.30	0.07	10.47	Average
3		0.546	41.97	-14.03	56.00	31.59	0.14	10.24	QP
4		0.546	29.97	-16.03	46.00	19.59	0.14	10.24	Average
5		0.598	41.88	-14.12	56.00	31.50	0.14	10.24	QP
6		0.598	30.98	-15.02	46.00	20.60	0.14	10.24	Average
7	*	0.647	45.49	-10.51	56.00	35.10	0.15	10.24	QP
8		0.647	31.59	-14.41	46.00	21.20	0.15	10.24	Average
9		1.352	42.70	-13.30	56.00	32.20	0.27	10.23	QP
10		1.352	28.70	-17.30	46.00	18.20	0.27	10.23	Average
11		15.885	43.69	-16.31	60.00	31.59	1.68	10.42	QP
12		15.885	30.69	-19.31	50.00	18.59	1.68	10.42	Average

Test Engineer :	Amos Zhang	**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-N-191028-CN02 NEUTRAL

	Freq MHz	Level dBuV	Over Limit dB	Limit Line dBuV	Read Level dBuV	LISN Factor dB	Cable Loss dB	Remark
1	0.161	51.81	-13.62	65.43	41.21	0.15	10.45	QP
2	0.161	35.21	-20.22	55.43	24.61	0.15	10.45	Average
3	0.456	41.07	-15.69	56.76	30.60	0.22	10.25	QP
4	0.456	30.77	-15.99	46.76	20.30	0.22	10.25	Average
5	0.552	47.07	-8.93	56.00	36.59	0.24	10.24	QP
6	0.552	35.27	-10.73	46.00	24.79	0.24	10.24	Average
7 *	0.651	51.09	-4.91	56.00	40.60	0.25	10.24	QP
8	0.651	37.09	-8.91	46.00	26.60	0.25	10.24	Average
9	0.743	44.80	-11.20	56.00	34.30	0.26	10.24	QP
10	0.743	31.80	-14.20	46.00	21.30	0.26	10.24	Average
11	1.197	42.78	-13.22	56.00	32.20	0.35	10.23	QP
12	1.197	31.78	-14.22	46.00	21.20	0.35	10.23	Average
13	1.374	45.23	-10.77	56.00	34.60	0.40	10.23	QP
14	1.374	30.93	-15.07	46.00	20.30	0.40	10.23	Average
15	1.628	42.88	-13.12	56.00	32.20	0.45	10.23	QP
16	1.628	32.28	-13.72	46.00	21.60	0.45	10.23	Average
17	1.819	43.92	-12.08	56.00	33.20	0.49	10.23	QP
18	1.819	31.32	-14.68	46.00	20.60	0.49	10.23	Average
19	3.328	41.44	-14.56	56.00	30.50	0.69	10.25	QP
20	3.328	26.74	-19.26	46.00	15.80	0.69	10.25	Average
21	16.055	49.45	-10.55	60.00	36.90	2.13	10.42	QP
22	16.055	37.65	-12.35	50.00	25.10	2.13	10.42	Average
23	19.122	44.31	-15.69	60.00	31.19	2.64	10.48	QP
24	19.122	34.01	-15.99	50.00	20.89	2.64	10.48	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

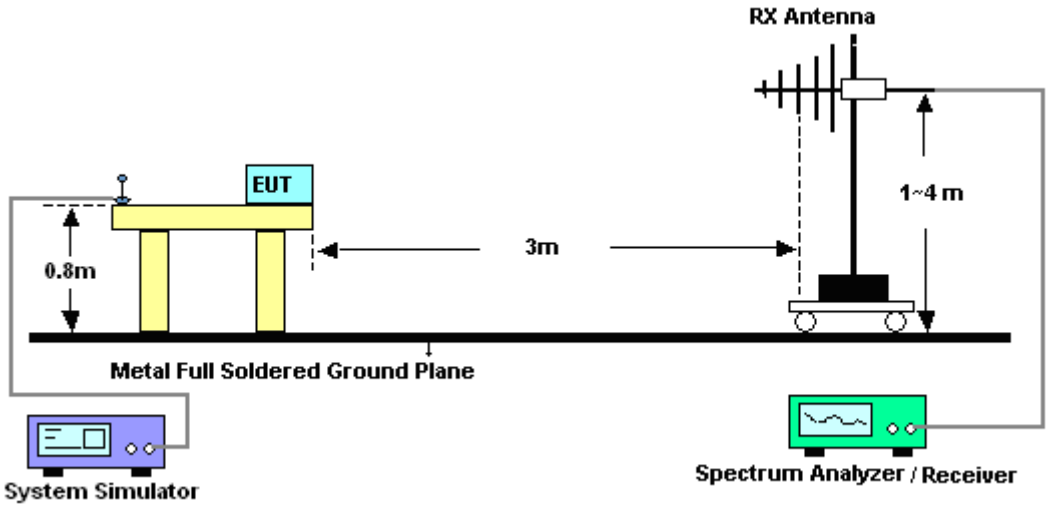
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

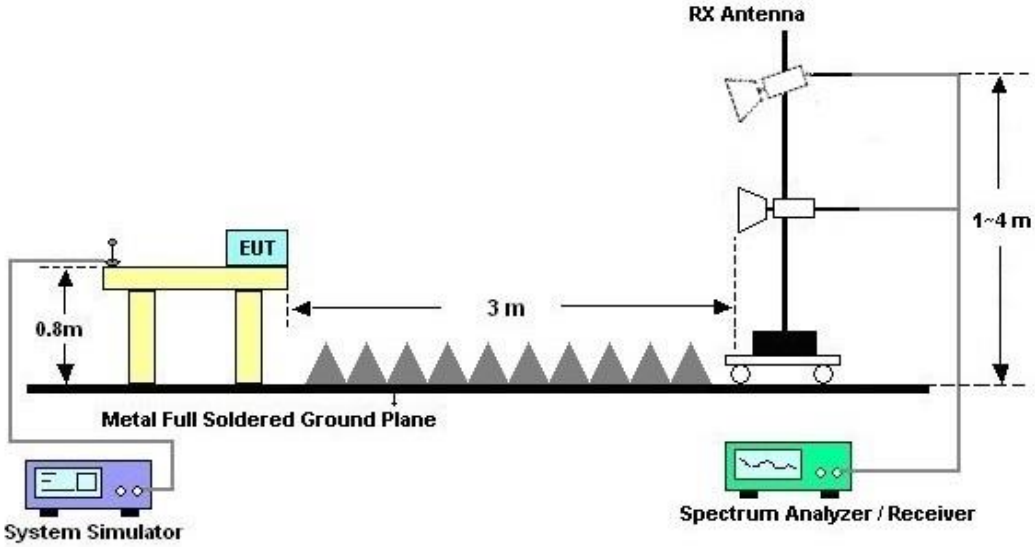
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

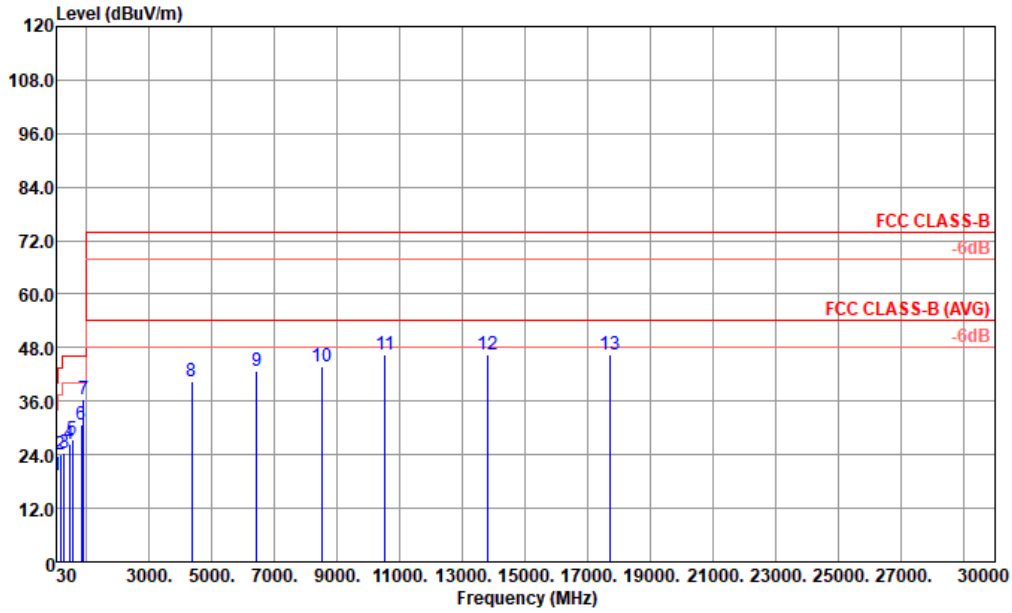


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

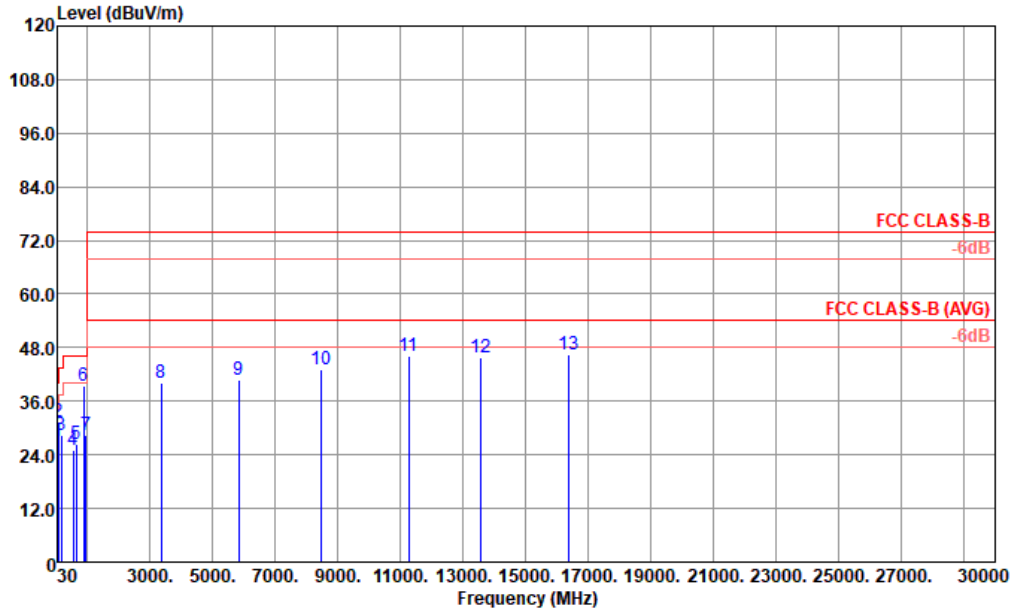
Test Engineer :	Winter Zhang	**Temperature :**	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	**Polarization :**	Horizontal
Remark :	#7 is system simulator signal which can be ignored.		



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	47.46	19.25	-20.75	40.00	35.03	15.87	1.55	33.20	---	---	Peak
2	158.04	24.18	-19.32	43.50	37.92	16.62	2.84	33.20	---	---	Peak
3	270.56	24.32	-21.68	46.00	34.08	19.67	3.71	33.14	---	---	Peak
4	455.83	26.49	-19.51	46.00	31.37	23.20	4.81	32.89	---	---	Peak
5	532.46	27.25	-18.75	46.00	29.95	24.91	5.19	32.80	---	---	Peak
6	833.16	30.84	-15.16	46.00	27.65	28.93	6.49	32.23	100	0	Peak
7	891.36	36.53			32.81	29.13	6.71	32.12	---	---	Peak
8	4360.00	40.46	-33.54	74.00	25.00	33.57	14.95	33.06	---	---	Peak
9	6432.00	42.80	-31.20	74.00	22.49	35.18	18.30	33.17	---	---	Peak
10	8504.00	43.95	-30.05	74.00	20.79	36.50	21.17	34.51	---	---	Peak
11	10521.00	46.34	-27.66	74.00	20.19	37.11	23.72	34.68	---	---	Peak
12	13788.00	46.35	-27.65	74.00	15.89	38.67	27.28	35.49	---	---	Peak
13	17685.00	46.50	-27.50	74.00	9.39	40.94	31.51	35.34	---	---	Peak

Test Engineer :	Winter Zhang	**Temperature :**	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	**Polarization :**	Vertical
Remark :	#6 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	34.85	26.91	-13.09	40.00	36.32	22.45	1.34	33.20	---	---	Peak
2	55.22	31.33	-8.67	40.00	49.60	13.15	1.68	33.10	100	0	Peak
3	153.19	28.51	-14.99	43.50	42.00	16.92	2.79	33.20	---	---	Peak
4	531.49	25.12	-20.88	46.00	27.85	24.88	5.19	32.80	---	---	Peak
5	645.95	26.46	-19.54	46.00	26.89	26.45	5.72	32.60	---	---	Peak
6	886.51	39.43			35.72	29.15	6.69	32.13	---	---	Peak
7	949.56	28.47	-17.53	46.00	22.55	31.00	6.92	32.00	---	---	Peak
8	3344.00	40.00	-34.00	74.00	28.20	32.40	13.05	33.65	---	---	Peak
9	5824.00	40.87	-33.13	74.00	21.44	34.87	17.36	32.80	---	---	Peak
10	8472.00	43.25	-30.75	74.00	20.13	36.49	21.15	34.52	---	---	Peak
11	11259.00	46.15	-27.85	74.00	18.91	37.55	24.54	34.85	---	---	Peak
12	13545.00	45.68	-28.32	74.00	15.47	38.53	27.05	35.37	---	---	Peak
13	16380.00	46.34	-27.66	74.00	10.66	41.03	30.11	35.46	---	---	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. 14, 2020	Sep. 04, 2020	Apr. 13, 2021	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 18, 2019	Sep. 04, 2020	Oct. 17, 2020	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Oct. 28, 2019	Sep. 04, 2020	Oct. 27, 2020	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 18, 2019	Sep. 04, 2020	Oct. 17, 2020	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct, 18, 2019	Sep. 01, 2020	Oct, 17, 2020	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct.18, 2019	Sep. 01, 2020	Oct, 17, 2020	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 30, 2019	Sep. 01, 2020	Dec. 29, 2020	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 10, 2019	Sep. 01, 2020	Nov. 09, 2020	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2019	Sep. 01, 2020	Nov. 09, 2020	Radiation (03CH02-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 08, 2020	Sep. 01, 2020	Jan. 07, 2021	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 03, 2020	Sep. 01, 2020	Jan. 02, 2021	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct, 18, 2019	Sep. 01, 2020	Oct, 17, 2020	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Sep. 01, 2020	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Sep. 01, 2020	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Sep. 01, 2020	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))	2.94dB

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