FCC Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2055-2
FCC ID	:	IHDT56YT1
STANDARD	:	47 CFR Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was received on Dec. 10, 2019 and testing was completed on Dec. 29, 2019. 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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APPENDIX A. SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC9D1003-01	Rev. 01	Initial issue of report	Jan. 14, 2020
FC9D1003-01	Rev. 02	Updated Accessory	Jan. 17, 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 6.65 dB at 0.151 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 7.61 dB at 42.610 MHz for peak

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1. General Description

1.1. Applicant

Motorola Mobility LLC
222 W, Merchandise Mart Plaza,Chicago,IL60654 USA

1.2. Manufacturer

Motorola Mobility LLC
222 W, Merchandise Mart Plaza,Chicago,IL60654 USA

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Motorola
Model Name	XT2055-2
FCC ID	IHDT56YT1
EUT supports Radios application	GSM/WCDMA/LTE WLAN 2.4GHz 802.11b/g/n HT20 Bluetooth BR/EDR/LE GNSS/FM Receiver
IMEI Code	Conduction: 351621110012315/351621110020813 for sample 1 351621110022926/351621110047923 for sample 2 Radiation: 351621110011374/351621110019872 for sample 1 351621110022934/351621110047931 for sample 2
HW Version	DVT2
SW Version	POD29.236
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 types of samples, sample 1 is 1st source with dual SIM card, sample 2 is 2nd source with dual SIM card, sample 3 is 1st source with single SIM card. According to the difference, we choose sample 1 to perform full test, sample 2 to verify the worst cases.

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 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 66 : 1710.7 MHz ~ 1779.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 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 7 : 2622.5 MHz ~ 2687.5 MHz LTE Band 66 : 2110.7 MHz~ 2179.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GNSS : 1559 MHz ~ 1610 MHz FM: 88 MHz ~ 108 MHz
Antenna Type	WWAN : Fixed Internal Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GNSS: PIFA Antenna FM: External Earphone Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK (Uplink) HSDPA/DC-HSDPA : QPSK (Uplink) HSUPA : QPSK (Uplink) HSPA+ : 16QAM (Uplink) DC-HSDPA : 64QAM LTE: QPSK / 16QAM / 64QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GNSS : BPSK FM

Note: GNSS Rx = GLONASS + GPS

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 (Acbel)	**Model Name**	SC-41
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5Vdc, 2000mA		
AC Adapter 1(EU)	**Brand Name**	Motorola (Acbel)	**Model Name**	SC-42
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5Vdc, 2000mA		
AC Adapter 1(AR)	**Brand Name**	Motorola (Acbel)	**Model Name**	SC-46
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5Vdc, 2000mA		
AC Adapter 2(US)	**Brand Name**	Motorola (Chenyang)	**Model Name**	SC-41
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5Vdc, 2000mA		
AC Adapter 2(EU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	SC-42
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5Vdc, 2000mA		
AC Adapter 2(AR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	SC-46
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5Vdc, 2000mA		
AC Adapter 3(Chile)	**Brand Name**	Motorola (Salom)	**Model Name**	SC-42
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5Vdc, 2000mA		
AC Adapter 4(BR)	**Brand Name**	Motorola (Salom/Flex)	**Model Name**	SC-47
	Power Rating	I/P: 100-240 Vac, 130mA, O/P: 5Vdc, 2000mA		
AC Adapter 5(BR)	**Brand Name**	Motorola (Cliptech/Tenpao)	**Model Name**	SC-47
	Power Rating	I/P: 100-240 Vac, 130mA, O/P: 5Vdc, 2000mA		
Battery 1	**Brand Name**	Motorola(SCUD)	**Model Name**	JK50
	Power Rating	4.4Vdc, 5000mAh	**Type**	Li-ion polymer
Battery 2	**Brand Name**	Motorola(ATL)	**Model Name**	JK50
	Power Rating	4.4Vdc, 5000mAh	**Type**	Li-ion polymer
Earphone 1	**Brand Name**	Motorola (New Leader)	**Model Name**	NLD-EM303H-13SF
	Signal Line Type	1.2 meter, non-shielded cable, without ferrite core		
Earphone 2	**Brand Name**	Motorola (Ju wei)	**Model Name**	JWEP1141-ZN01
	Signal Line Type	1.2 meter, non-shielded cable, without ferrite core		
USB Cable 1	**Brand Name**	Motorola (SaiBao)	**Model Name**	SZN-A007A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		
USB Cable 2	**Brand Name**	Motorola (Ju wei)	**Model Name**	JWUB1451-ZN01
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		
USB Cable 3	**Brand Name**	Motorola (I SHENG)	**Model Name**	SKN6472A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		

1.7. Test Location

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

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

1.8. Test Software

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

1.9. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart B
- ANSI C63.4-2014

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

2.1. Test Mode

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

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

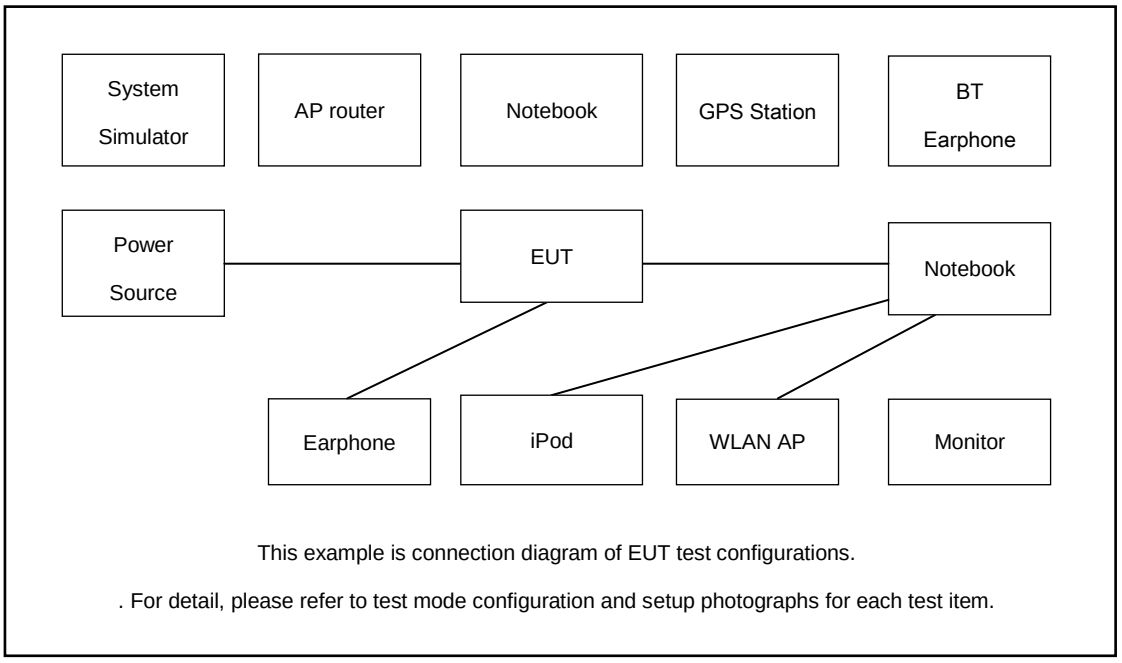
Test Items	Function Type
AC Conducted Emission	Mode 1 : GSM850 Rx (Middle) + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 1 + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 2 : WCDMA Band II Rx + Bluetooth Idle + WLAN (2.4G) + Camera(Front) + Earphone 2 + Battery 1 + USB Cable 2 (Charging from Adapter 2) for Sample 1 Mode 3 : WCDMA Band V Rx(Low) + Bluetooth Idle + WLAN (2.4G) + MP4 + Earphone 1 + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 4 : LTE Band 5 Rx(High) + Bluetooth Idle + WLAN (2.4G) + FM Rx(98 MHz) + Earphone 1 + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 5 : LTE Band 4 Rx + Bluetooth Idle + WLAN (2.4G) + GNSS Rx + Earphone 1 + Battery 1 + USB Cable 1 (Data Link with Notebook) for Sample 1 Mode 6 : LTE Band 7 Rx + Bluetooth Idle + WLAN (2.4G) + GNSS Rx + Earphone 1 + Battery 1 + USB Cable 2 (Data Link with Notebook) for Sample 1 Mode 7 : GSM850 Rx (Middle) + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 1 + Battery 1 + USB Cable 1 (Charging from Adapter 3) for Sample 1 Mode 8 : GSM850 Rx (Middle) + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 1 + Battery 1 + USB Cable 1 (Charging from Adapter 4) for Sample 1 Mode 9 : GSM850 Rx (Middle) + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 1 + Battery 1 + USB Cable 1 (Charging from Adapter 5) for Sample 1 Mode 10 : GSM850 Rx (Middle) + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 1 + Battery 2 + USB Cable 1 (Charging from Adapter 5) for Sample 2 Mode 11 : LTE Band 7 Rx + Bluetooth Idle + WLAN (2.4G) + GNSS Rx + Earphone 1 + Battery 2 + USB Cable 2 (Data Link with Notebook) for Sample 2 Mode 12 : GSM850 Rx (Middle) + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 1 + Battery 1 + USB Cable 3 (Charging from Adapter 5) for Sample 1

Radiated Emissions	Mode 1: GSM850 Rx (Middle) + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 1 + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 2: WCDMA Band II Rx + Bluetooth Idle + WLAN (2.4G) + Camera(Front) + Earphone 2 + Battery 1 + USB Cable 2 (Charging from Adapter 2) for Sample 1 Mode 3: WCDMA Band V Rx(Low) + Bluetooth Idle + WLAN (2.4G) + MP4 + Earphone 2 + Battery 1 + USB Cable 2(Charging from Adapter 2) for Sample 1 Mode 4: LTE Band 5 Rx(High) + Bluetooth Idle + WLAN (2.4G) + FM Rx(88 MHz) + Earphone 2 + Battery 1 + USB Cable 2 (Charging from Adapter 2) for Sample 1 Mode 5: LTE Band 4 Rx + Bluetooth Idle + WLAN (2.4G) + GNSS Rx + Earphone 2 + Battery 1 + USB Cable 1 (Data Link with Notebook) for Sample 1 Mode 6: LTE Band 7 Rx + Bluetooth Idle + WLAN (2.4G) + GNSS Rx + Earphone 2 + Battery 1 + USB Cable 2 (Data Link with Notebook) for Sample 1 Mode 7: WCDMA Band II Rx + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 2 + Battery 1 + USB Cable 2 (Charging from Adapter 3) for Sample 1 Mode 8: WCDMA Band II Rx + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 2 + Battery 1 + USB Cable 2 (Charging from Adapter 4) for Sample 1 Mode 9: WCDMA Band II Rx + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 2 + Battery 1 + USB Cable 2 (Charging from Adapter 5) for Sample 1 Mode 10 : WCDMA Band II Rx + Bluetooth Idle + WLAN (2.4G) + Camera(Rear) + Earphone 2 + Battery 2 + USB Cable 2 (Charging from Adapter 5) for Sample 2 Mode 11 : LTE Band 4 Rx + Bluetooth Idle + WLAN (2.4G) + GNSS Rx + Earphone 2 + Battery 2 + USB Cable 1 (Data Link with Notebook) for Sample 2 Mode 12 : LTE Band 4 Rx + Bluetooth Idle + WLAN (2.4G) + GNSS Rx + Earphone 2 + Battery 2 + USB Cable 3 (Data Link with Notebook) for Sample 2

Remark:

1. The worst case of AC is mode 9; only the test data of this mode is reported.
2. The worst case of RE is mode 11; 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 5, 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.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
3.	Vector Signal Generator	R&S	SMBV100A	258305	N/A	N/A
4.	WLAN AP	TP-Link	TL-WDR5600	N/A	N/A	Unshielded, 1.8m
5.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded, 1.8m
6.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A
7.	Bluetooth Earphone	Xiaomi	LYEJ02LM	N/A	N/A	N/A
8.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
9.	Notebook	Lenovo	V130-141KB001	N/A	N/A	Unshielded, 1.8m
10.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A
11.	SD Card	Kingston	8GB	N/A	N/A	N/A
12.	SD Card	SanDisk	Uitra	N/A	N/A	N/A

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 GNSS function to make the EUT receive continuous signals from GNSS station.
3. Turn on camera to capture images.
4. Turn on MPEG4 function.
5. Turn on FM receiver 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.

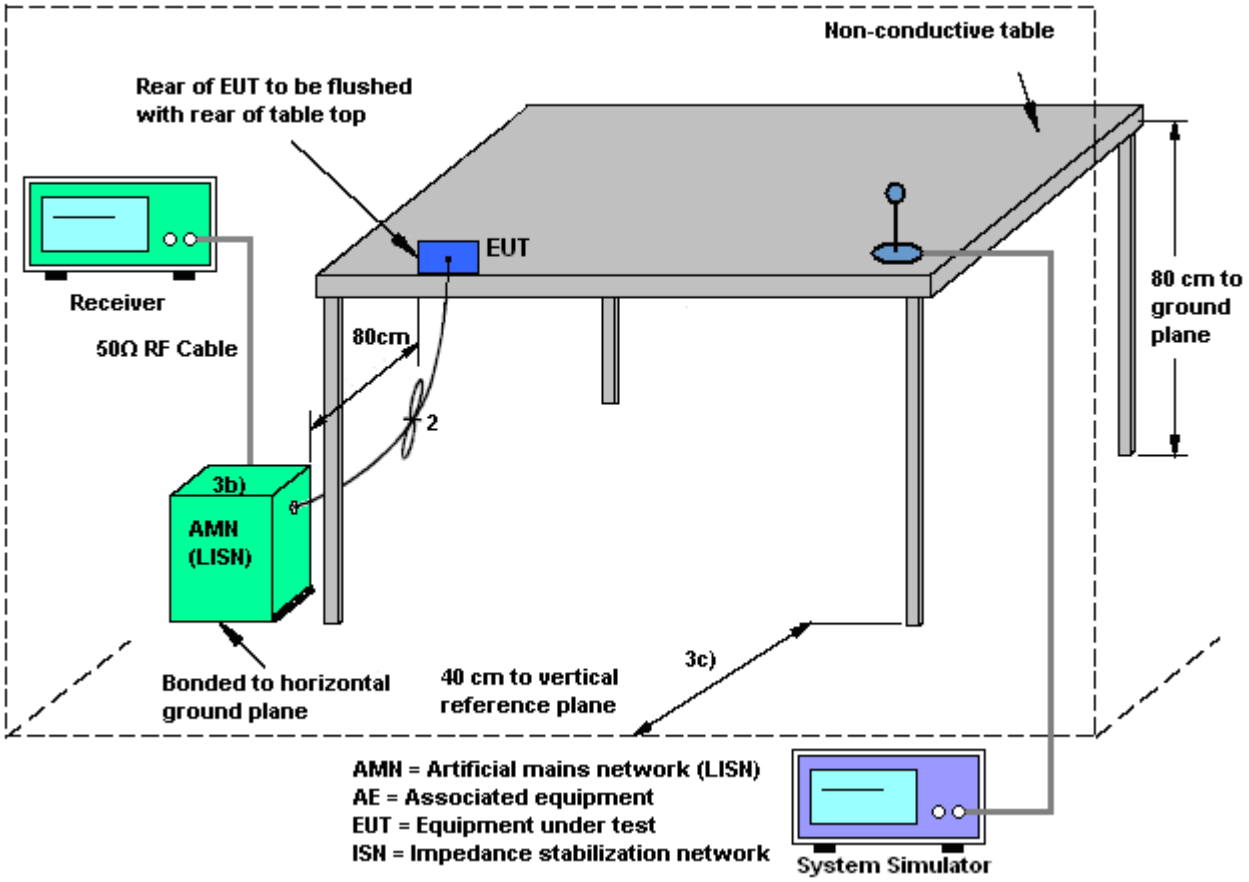
3.1.2 Measuring Instruments

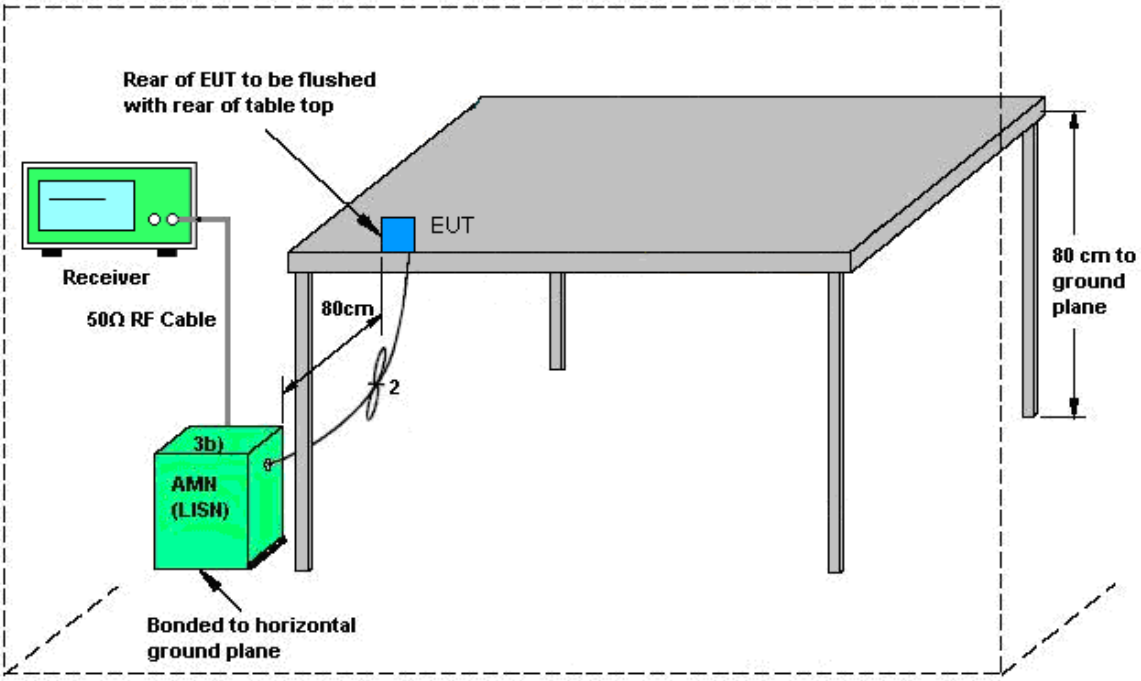
The measuring equipment is listed in the section 4 of this test report.

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

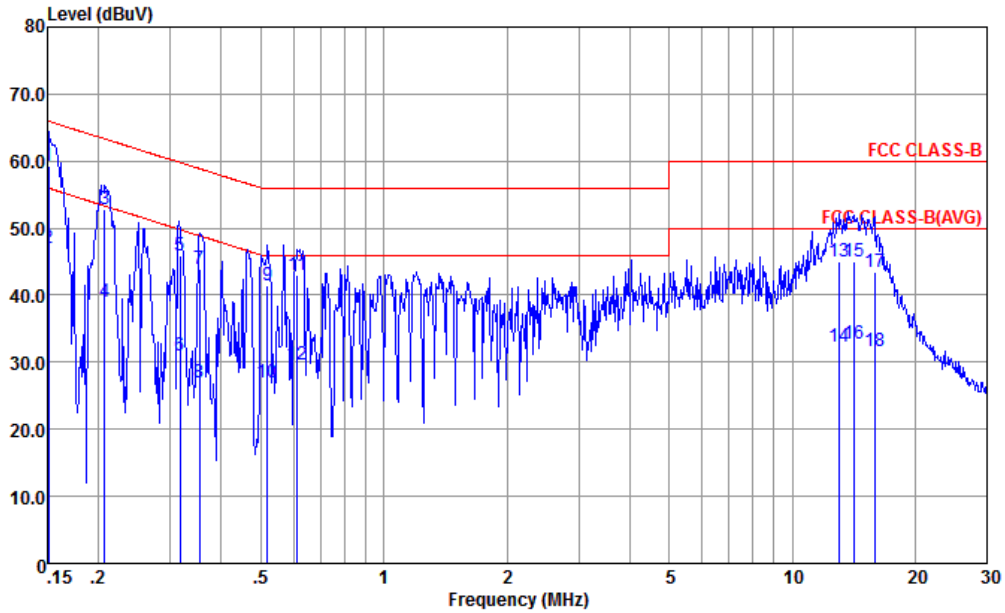




AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.1.5 Test Result of AC Conducted Emission

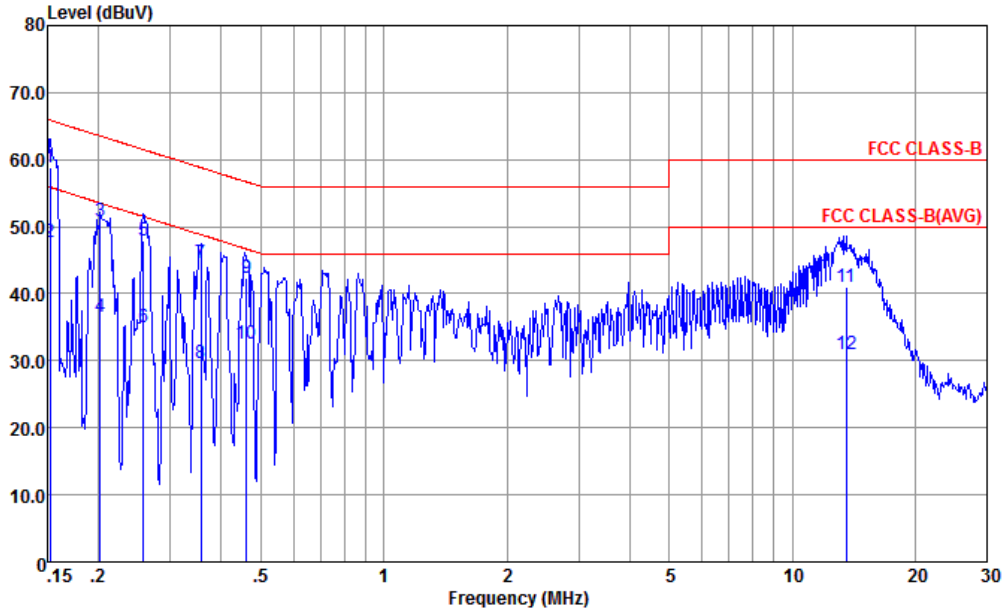
Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-191028-060105 LINE

		Freq MHz	Level dBuV	Over Limit dB	Limit Line dBuV	Read Level dBuV	LISN Factor dB	Cable Loss dB	Remark
1	*	0.151	59.31	-6.65	65.96	48.80	0.03	10.48	QP
2		0.151	47.11	-8.85	55.96	36.60	0.03	10.48	Average
3		0.207	52.90	-10.42	63.32	42.50	0.04	10.36	QP
4		0.207	39.00	-14.32	53.32	28.60	0.04	10.36	Average
5		0.317	45.85	-13.95	59.80	35.50	0.05	10.30	QP
6		0.317	30.95	-18.85	49.80	20.60	0.05	10.30	Average
7		0.354	43.94	-14.93	58.87	33.61	0.05	10.28	QP
8		0.354	26.94	-21.93	48.87	16.61	0.05	10.28	Average
9		0.518	41.50	-14.50	56.00	31.20	0.06	10.24	QP
10		0.518	26.90	-19.10	46.00	16.60	0.06	10.24	Average
11		0.614	42.90	-13.10	56.00	32.59	0.07	10.24	QP
12		0.614	29.60	-16.40	46.00	19.29	0.07	10.24	Average
13		13.057	44.91	-15.09	60.00	34.20	0.33	10.38	QP
14		13.057	32.31	-17.69	50.00	21.60	0.33	10.38	Average
15		14.213	44.95	-15.05	60.00	34.20	0.36	10.39	QP
16		14.213	32.85	-17.15	50.00	22.10	0.36	10.39	Average
17		15.885	43.45	-16.55	60.00	32.60	0.43	10.42	QP
18		15.885	31.75	-18.25	50.00	20.90	0.43	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-191028-060105 NEUTRAL

	Freq MHz	Level dBuV	Over Limit dB	Limit Line dBuV	Read Level dBuV	LISN Factor dB	Cable Loss dB	Remark
1 *	0.152	58.85	-7.02	65.87	48.30	0.08	10.47	QP
2	0.152	47.65	-8.22	55.87	37.10	0.08	10.47	Average
3	0.202	50.74	-12.80	63.54	40.30	0.08	10.36	QP
4	0.202	36.64	-16.90	53.54	26.20	0.08	10.36	Average
5	0.258	47.91	-13.60	61.51	37.49	0.09	10.33	QP
6	0.258	35.01	-16.50	51.51	24.59	0.09	10.33	Average
7	0.356	44.48	-14.35	58.83	34.11	0.09	10.28	QP
8	0.356	29.68	-19.15	48.83	19.31	0.09	10.28	Average
9	0.461	42.24	-14.43	56.67	31.89	0.10	10.25	QP
10	0.461	32.44	-14.23	46.67	22.09	0.10	10.25	Average
11	13.551	40.93	-19.07	60.00	30.20	0.35	10.38	QP
12	13.551	31.03	-18.97	50.00	20.30	0.35	10.38	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

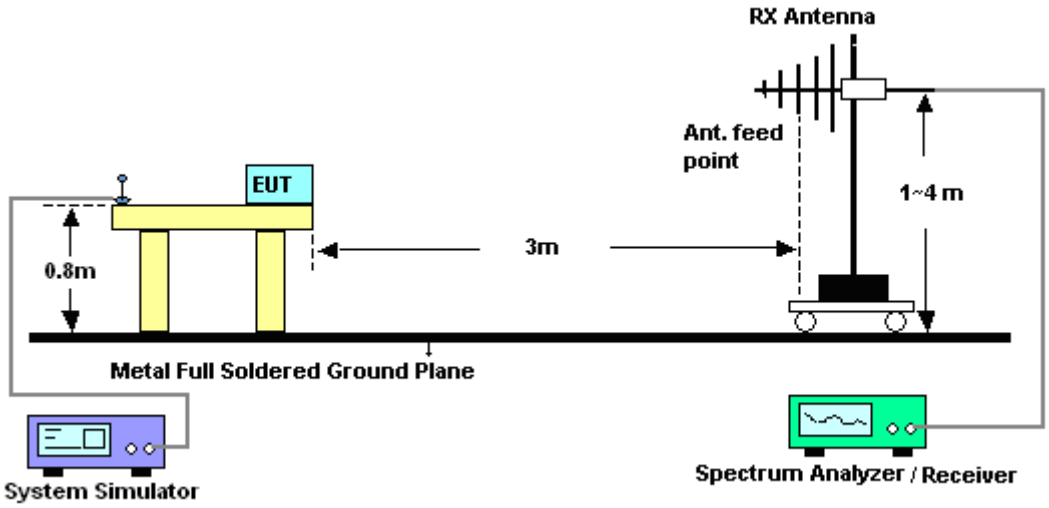
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

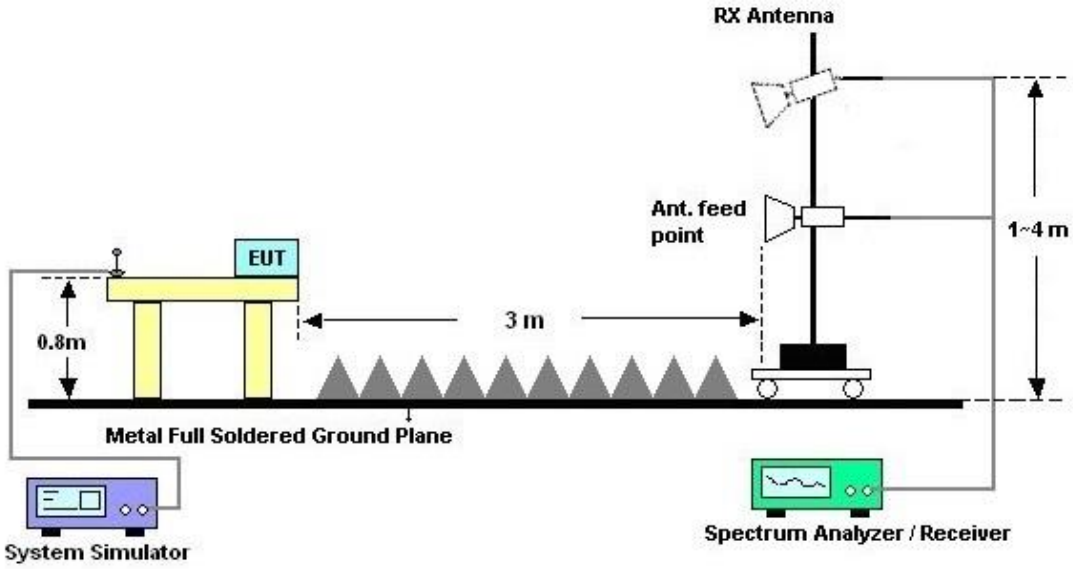
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

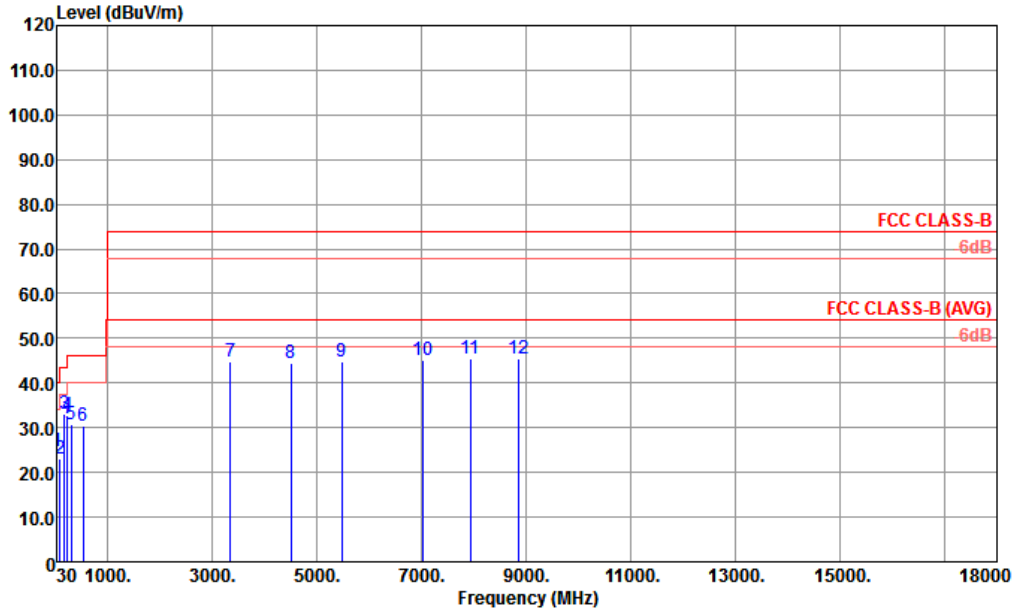


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

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

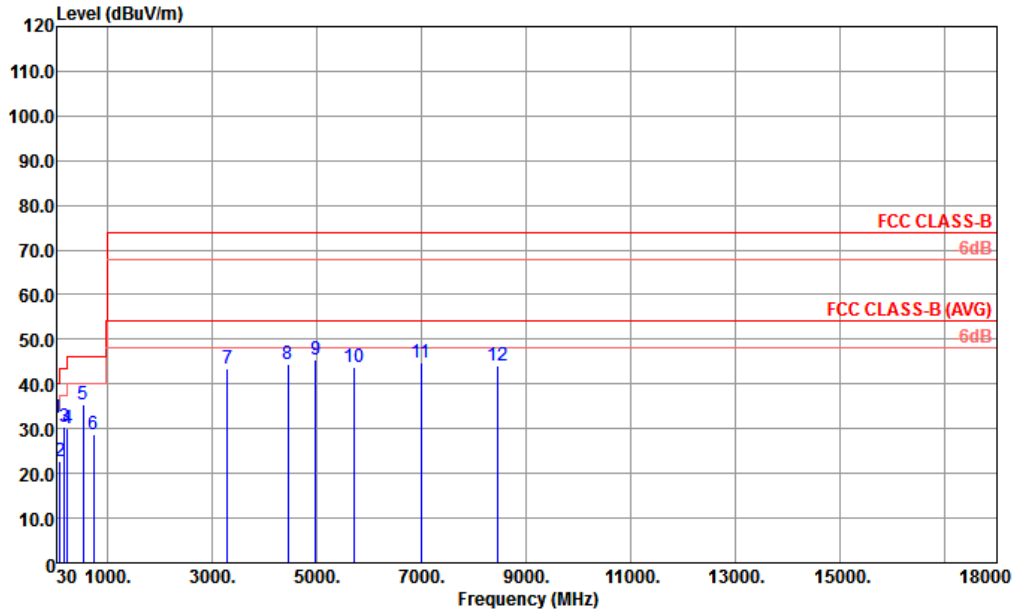


Site : 03CH02-KS
Condition : FCC CLASS-B 3m LF 49922-3M HORIZONTAL

Mode : 11
IMEI : 351621110022934/47931#27

	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	42.610	24.61	-15.39	40.00	37.74	18.08	0.74	31.95	---	---	Peak
2	88.200	22.97	-20.53	43.50	39.04	14.76	1.09	31.92	---	---	Peak
3	182.290	32.94	-10.56	43.50	47.46	15.84	1.55	31.91	100	0	Peak
4	242.430	32.71	-13.29	46.00	44.68	18.15	1.83	31.95	---	---	Peak
5	312.270	30.67	-15.33	46.00	41.06	19.62	2.01	32.02	---	---	Peak
6	531.490	30.42	-15.58	46.00	35.21	24.92	2.60	32.31	---	---	Peak
7	3352.000	44.66	-29.34	74.00	41.92	33.00	6.77	37.03	---	---	Peak
8	4504.000	44.62	-29.38	74.00	38.64	34.70	7.93	36.65	---	---	Peak
9	5480.000	44.65	-29.35	74.00	37.05	35.23	8.79	36.42	---	---	Peak
10	7016.000	45.05	-28.95	74.00	36.67	35.11	9.97	36.70	---	---	Peak
11	7936.000	45.61	-28.39	74.00	36.04	35.75	10.94	37.12	---	---	Peak
12	8872.000	45.34	-28.66	74.00	34.86	35.97	11.60	37.09	---	---	Peak

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



Site : 03CH02-KS
Condition : FCC CLASS-B 3m LF 49922-3M VERTICAL

Mode : 11
IMEI : 351621110022934/47931#27

	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	42.610	32.39	-7.61	40.00	45.52	18.08	0.74	31.95	100	0	Peak
2	89.170	22.79	-20.71	43.50	38.73	14.88	1.10	31.92	---	---	Peak
3	184.230	30.25	-13.25	43.50	44.84	15.76	1.56	31.91	---	---	Peak
4	240.490	30.21	-15.79	46.00	42.33	18.01	1.82	31.95	---	---	Peak
5	532.460	35.35	-10.65	46.00	40.11	24.94	2.61	32.31	---	---	Peak
6	736.160	28.67	-17.33	46.00	29.83	28.01	3.11	32.28	---	---	Peak
7	3288.000	43.46	-30.54	74.00	41.07	32.73	6.72	37.06	---	---	Peak
8	4456.000	44.48	-29.52	74.00	38.54	34.65	7.91	36.62	---	---	Peak
9	4984.000	45.39	-28.61	74.00	38.59	34.98	8.36	36.54	---	---	Peak
10	5728.000	43.74	-30.26	74.00	35.98	35.22	8.97	36.43	---	---	Peak
11	7000.000	44.85	-29.15	74.00	36.49	35.10	9.96	36.70	---	---	Peak
12	8448.000	44.10	-29.90	74.00	34.01	35.89	11.14	36.94	---	---	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. 16, 2019	Dec. 24, 2019	Apr. 15, 2020	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 11, 2019	Dec. 24, 2019	Oct. 10, 2020	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 28, 2019	Dec. 24, 2019	Oct. 27, 2020	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 11, 2019	Dec. 24, 2019	Oct. 10, 2020	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Aug. 06, 2019	Dec. 29, 2019	Aug. 05, 2020	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44G,MAX 30dB	Apr. 15, 2019	Dec. 29, 2019	Apr. 16, 2020	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2019	Dec. 29, 2019	May 29, 2020	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 27, 2019	Dec. 29, 2019	Jan. 26, 2020	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Aug. 06, 2019	Dec. 29, 2019	Aug. 05, 2020	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Apr. 15, 2019	Dec. 29, 2019	Apr. 14, 2020	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Dec. 29, 2019	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Dec. 29, 2019	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Dec. 29, 2019	NCR	Radiation (03CH02-KS)

NCR: No Calibration Required.

5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.9dB**

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

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

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

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