FCC Test Report

APPLICANT	:	Motorola Mobility, LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	7524
FCC ID	:	IHDT56VC2
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Verification

The product was received on Jul. 28, 2016 and testing was completed on Aug. 01, 2016. We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.

Louis Wu

Reviewed by: Louis Wu / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FV651612-16	Rev. 01	This is a variant report. All the test cases were performed base on the original report. Please refer to Sporton Report Number FV651612-02 in appendix A for the original report.	Aug. 04, 2016

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 2.90 dB at 0.270 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 7.87 dB at 41.880 MHz

1. General Description

1.1. Applicant

Motorola Mobility, LLC
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.2. Manufacturer

Motorola Mobility, LLC
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.3. Product Feature of Equipment Under Test

Product Feature		
Equipment	Mobile Cellular Phone	
Brand Name	Motorola	
Model Name	7524	
FCC ID	IHDT56VC2	
IMEI Code	Radiated	IMEI 1: 354131070011411 IMEI 2: 354131070011429
	Conducted	IMEI 1: 354131070017822 IMEI 2: 354131070017814
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth v3.0 EDR Bluetooth v4.0 LE	
HW Version	DVT2	
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.

Accessory List	
WPC Cover	Brand Name : INCIPIO
	Model Name : MT-043-CASE

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 II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV : 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 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 : 698.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz LTE Band 38 : 2572.5 MHz ~ 2617.5 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz WCDMA Band IV : 2112.4 MHz ~ 2152.6 MHz WCDMA Band V: 871.4 MHz ~ 891.6 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 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz LTE Band 38 : 2572.5 MHz ~ 2617.5 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz NFC : 13.56 MHz
Antenna Type	WWAN : Coupling type (LDS) Antenna WLAN Ant. 1: Loop Antenna WLAN Ant. 2: ILA Antenna Bluetooth : Loop Antenna GPS : Fixed Internal Antenna NFC: Coil / embeded Antenna

Standards-related Product Specification	
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: QPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink) LTE: QPSK / 16QAM / 64QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GPS/Glonass : BPSK NFC: ASK

1.5. Modification of EUT

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

1.6. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	CO05-HY	03CH06-HY

1.7. Applicable Standards

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

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

Remark:

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

2. For FCC 15 Subpart B - Unintentional Radiators, receivers contained within a transceiver shall be authorized under the verification procedure per the Section 15.101 (b).

3. For other Unintentional Radiators features of this EUT, test reports are be issued separately.
Per the Note of the Section 15.101, when device supports features (USB, FM Radio, digital devices…etc) more than one category of authorization, type of authorization shall be appropriately chosen for FCC 15B compliance rule, and the Section 15.101 (b), only those receivers that operate (tune) within the frequency range of 30-960 MHz, CB receivers and radar detectors are subject to the authorizations shown in paragraph (a) of the Section 15.101. However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of which is subject to certification, shall be authorized under the verification procedure.

4. Receivers operating above 960 MHz or below 30 MHz, except for radar detectors and CB receivers, are exempt from complying with the technical provisions of this part but are subject to § 15.5.

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

The following tables are showing the test modes as the worst cases and recorded in this report.

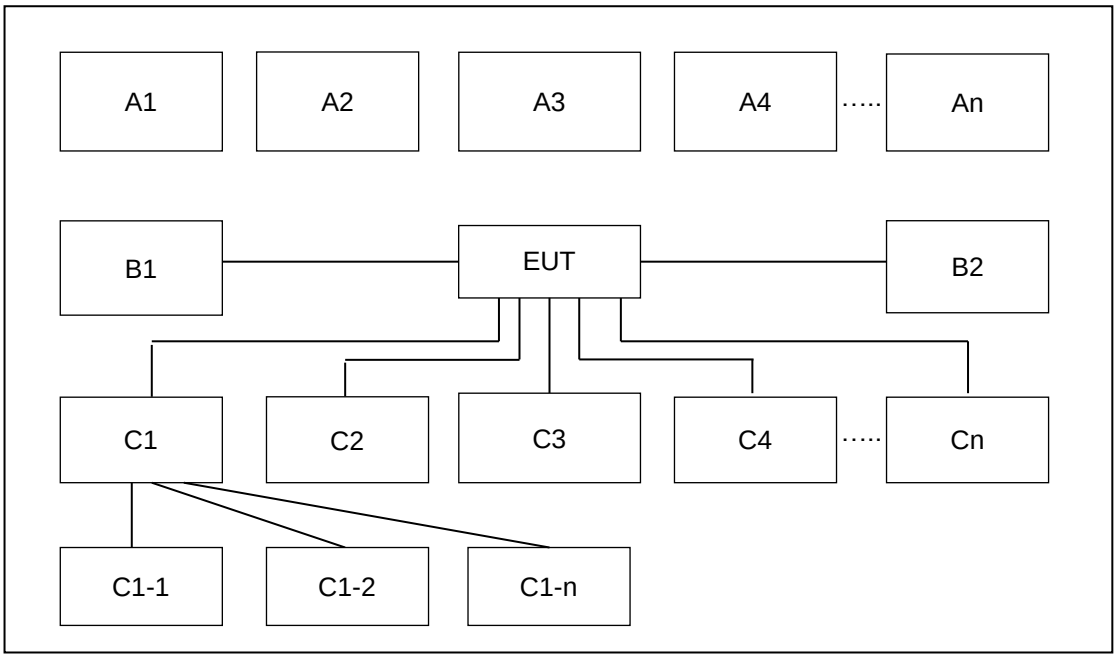
Item	EUT Configuration	Test Condition		
		EMI AC	EMI RE<1G	EMI RE≥1G
1.	Charging Mode (EUT with adapter)	☒	☒	☒

Abbreviations:

- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1	Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + Camera + WPC Back Cover + LG Charging Pad + USB Cable (Charging from Adapter) Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC on + WPC Back Cover + PMA Charging Pad + Adapter
Radiated Emissions < 1GHz	1	Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + Camera + WPC Back Cover + LG Charging Pad + USB Cable (Charging from Adapter) Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC on + WPC Back Cover + PMA Charging Pad + Adapter
Radiated Emissions ≥ 1GHz	1	Mode 1: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC on + WPC Back Cover + PMA Charging Pad + Adapter
Remark: **1.** The worst case of AC is mode 2; only the test data of this mode was reported. **2.** The worst case of RE < 1G is mode 2; only the test data of this mode was reported.		

2.2. Connection Diagram of Test System



Conduction & Radiation Test Setup										
No.	**Wireless Station**	**Connection Type**	**Test Mode**							
			1	**2**	**-**	**-**	**-**	**-**	**-**
A1	Bluetooth Earphone	Bluetooth	X	X					
A2	System Simulator	GSM/UMTS/CDMA/ WCDMA/LTE	X	X					
A3	AP router	WiFi	X	X					
A4	WPC pad	WPC	X						
A5	PMA pad	PMA		X					
No.	**Power Source**	**Connection Type**	**1**	**2**	**-**	**-**	**-**	**-**	**-**
A4-1	AC : 120V/60Hz	AC Power Cable	X						
A5-1	AC : 120V/60Hz	AC Power Cable		X					
No.	**Setup Peripherals**	**Connection Type**	**1**	**2**	**-**	**-**	**-**	**-**	**-**
C1	SD card	SD I/O interface without Cable	X	X					

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, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
4.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
5.	Wireless Charger	LG	WCD-100	FCC DoC	N/A	N/A
6.	PMA	DURACELL	M-018B-518A	FCC DoC	N/A	N/A
7.	USB Cable	Motorola	SKN6473A	N/A	Unshielded, 1.0 m	N/A
8.	Adapter	Motorola	SPN5917A	N/A	N/A	N/A

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA 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.

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 the 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.

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.

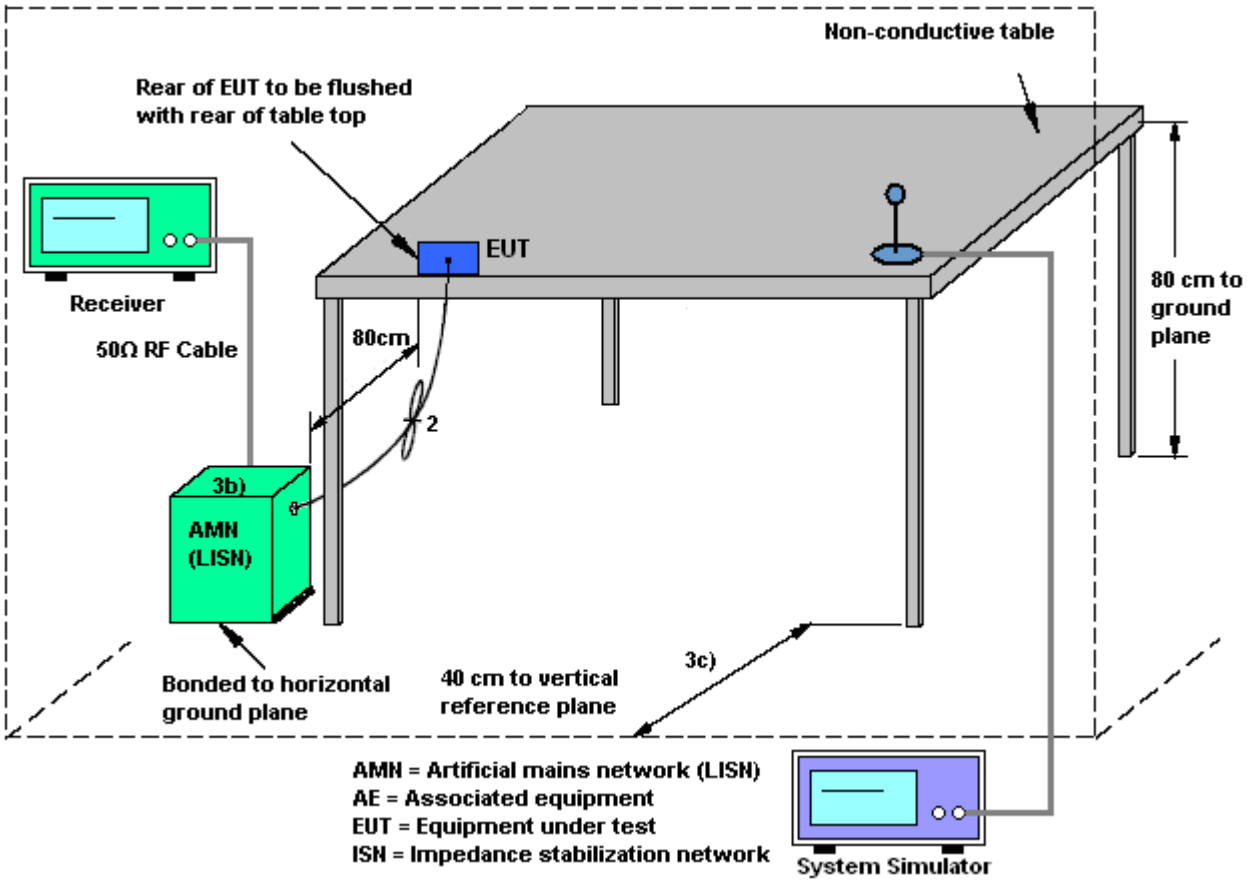
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

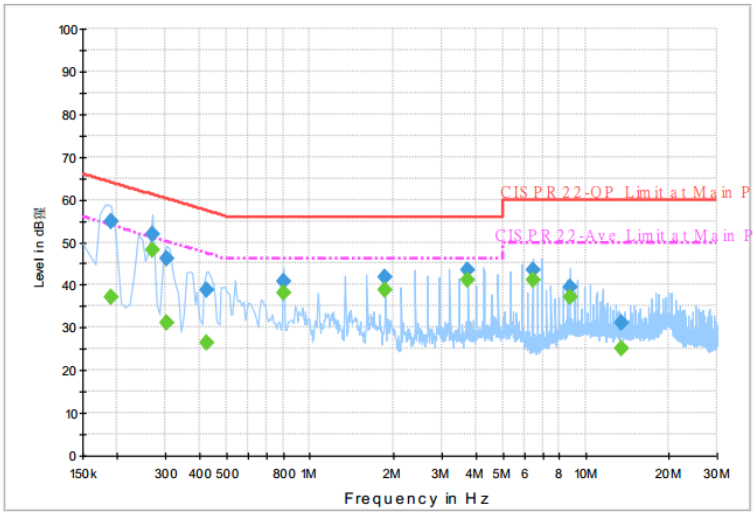
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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 Mode :	Mode 2	**Temperature :**	24~25℃
Test Engineer :	Kai-Chun Chu	**Relative Humidity :**	51~52%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC on + WPC Back Cover + PMA Charging Pad + Adapter		



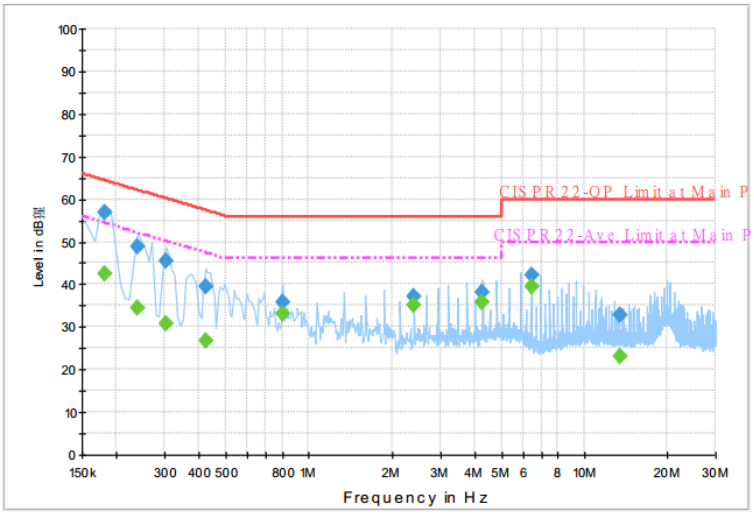
Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	55.0	Off	L1	19.6	9.0	64.0
0.270000	51.8	Off	L1	19.6	9.3	61.1
0.302000	46.1	Off	L1	19.6	14.1	60.2
0.422000	38.8	Off	L1	19.6	18.6	57.4
0.806000	40.9	Off	L1	19.6	15.1	56.0
1.870000	41.8	Off	L1	19.7	14.2	56.0
3.750000	43.6	Off	L1	19.8	12.4	56.0
6.422000	43.5	Off	L1	19.9	16.5	60.0
8.830000	39.4	Off	L1	20.1	20.6	60.0
13.558000	31.0	Off	L1	20.3	29.0	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	37.3	Off	L1	19.6	16.7	54.0
0.270000	48.2	Off	L1	19.6	2.9	51.1
0.302000	31.0	Off	L1	19.6	19.2	50.2
0.422000	26.3	Off	L1	19.6	21.1	47.4
0.806000	38.1	Off	L1	19.6	7.9	46.0
1.870000	38.8	Off	L1	19.7	7.2	46.0
3.750000	41.0	Off	L1	19.8	5.0	46.0
6.422000	41.1	Off	L1	19.9	8.9	50.0
8.830000	37.1	Off	L1	20.1	12.9	50.0
13.558000	25.0	Off	L1	20.3	25.0	50.0

Test Mode :	Mode 2	Temperature :	24~25℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	51~52%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC on + WPC Back Cover + PMA Charging Pad + Adapter		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	56.9	Off	N	19.6	7.5	64.4
0.238000	49.0	Off	N	19.6	13.2	62.2
0.302000	45.5	Off	N	19.6	14.7	60.2
0.422000	39.5	Off	N	19.6	17.9	57.4
0.806000	35.9	Off	N	19.6	20.1	56.0
2.406000	37.1	Off	N	18.9	18.9	56.0
4.278000	38.0	Off	N	19.8	18.0	56.0
6.422000	42.0	Off	N	19.9	18.0	60.0
13.558000	32.7	Off	N	20.4	27.3	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	42.4	Off	N	19.6	12.0	54.4
0.238000	34.4	Off	N	19.6	17.8	52.2
0.302000	30.7	Off	N	19.6	19.5	50.2
0.422000	26.7	Off	N	19.6	20.7	47.4
0.806000	33.0	Off	N	19.6	13.0	46.0
2.406000	35.0	Off	N	18.9	11.0	46.0
4.278000	35.9	Off	N	19.8	10.1	46.0
6.422000	39.5	Off	N	19.9	10.5	50.0
13.558000	23.0	Off	N	20.4	27.0	50.0

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:

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

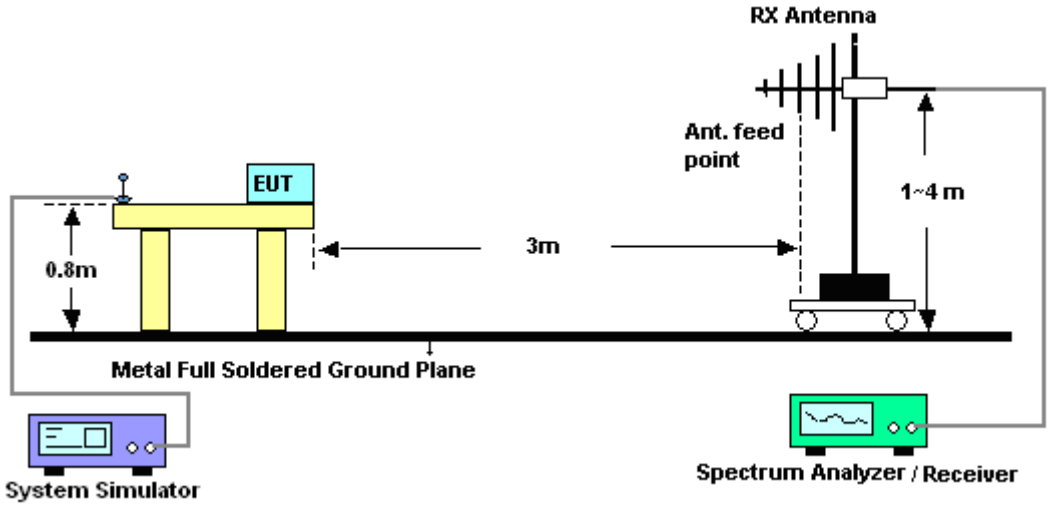
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

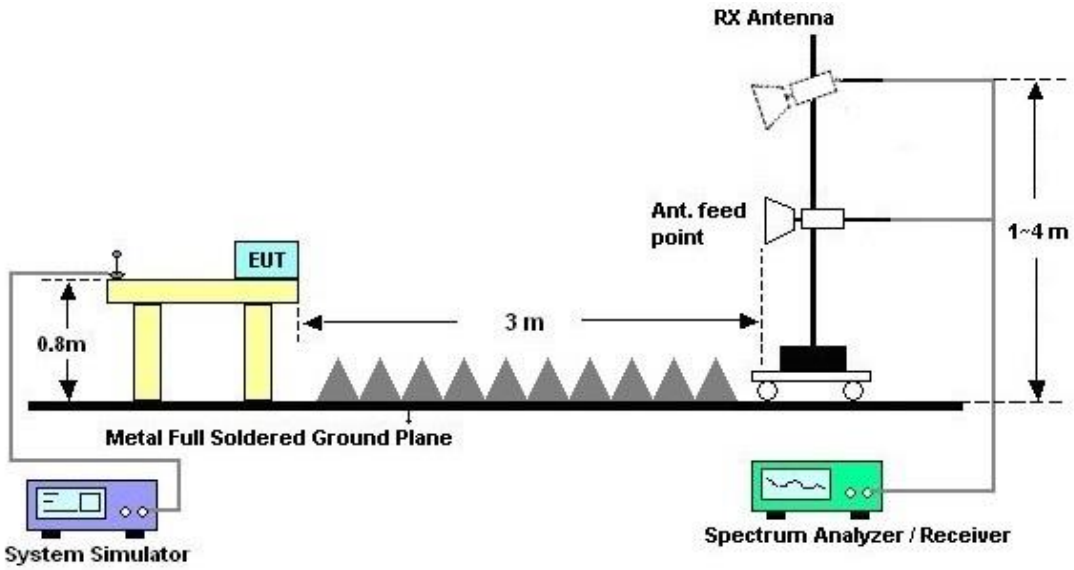
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

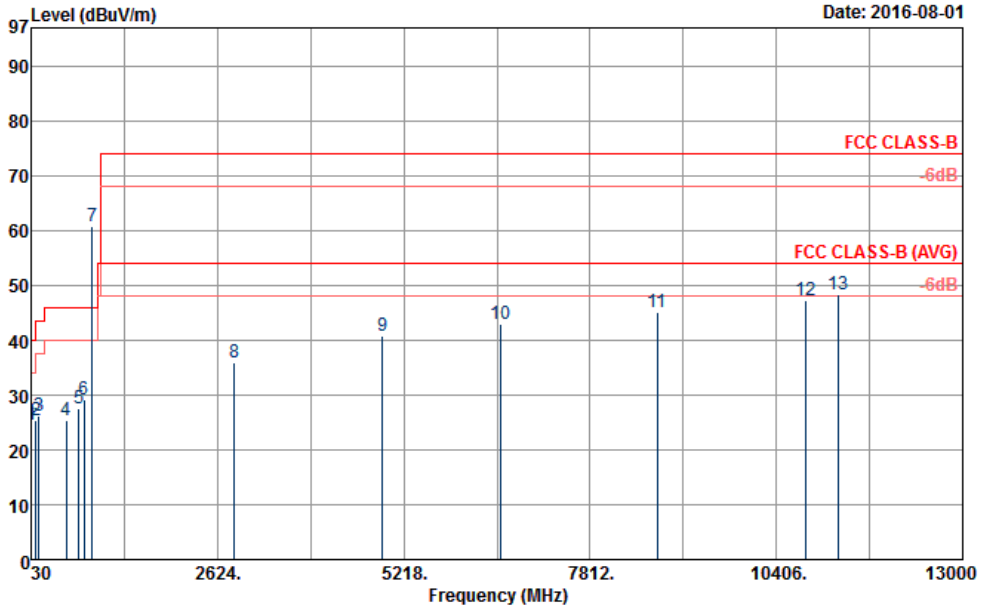


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

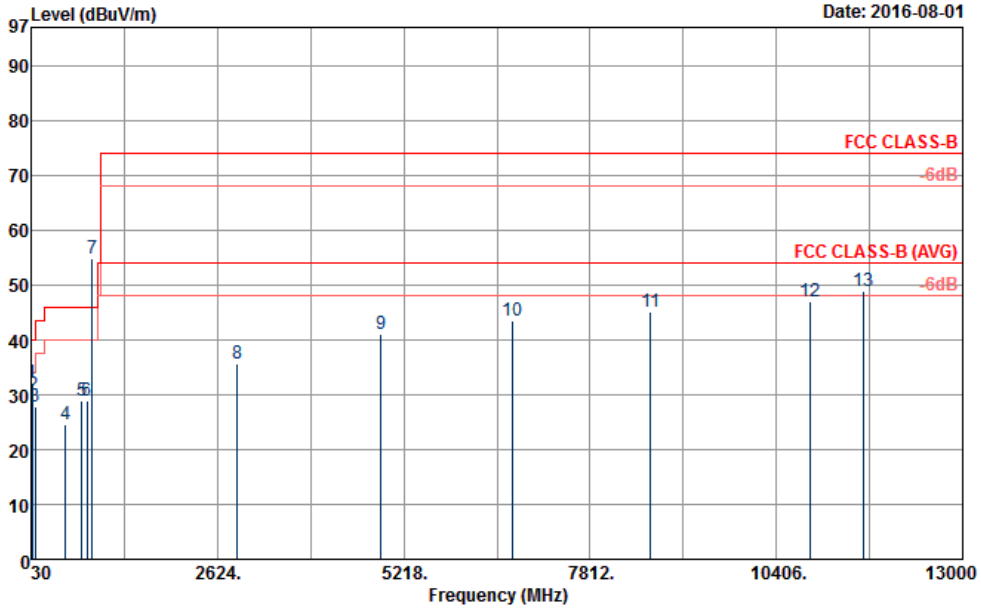
Test Mode :	Mode 2	**Temperature :**	24~25°C
Test Engineer :	Donny Tang	**Relative Humidity :**	51~52%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC on + WPC Back Cover + PMA Charging Pad + Adapter		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL
Project : 651612-16
Power : 120Vac/60Hz
Memo : Mode 2

		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		30.54	24.68	-15.32	40.00	29.44	25.14	1.90	31.80	100	222	Peak
2		101.82	25.33	-18.17	43.50	38.79	16.24	2.01	31.71	---	---	Peak
3		143.13	26.12	-17.38	43.50	37.99	17.72	2.12	31.71	---	---	Peak
4		517.70	25.37	-20.63	46.00	29.86	24.42	3.00	31.91	---	---	Peak
5		694.10	27.56	-18.44	46.00	29.59	26.63	3.43	32.09	---	---	Peak
6		762.70	29.14	-16.86	46.00	29.84	27.90	3.39	31.99	---	---	Peak
7	*	881.40	60.87			59.83	29.29	3.36	31.61	---	---	Peak
8		2858.00	36.06	-37.94	74.00	60.98	28.17	7.59	60.68	---	---	Peak
9		4920.00	40.86	-33.14	74.00	58.22	31.39	11.17	59.92	---	---	Peak
10		6558.00	42.83	-31.17	74.00	56.20	34.22	12.34	59.93	---	---	Peak
11		8748.00	45.09	-28.91	74.00	52.86	37.30	14.48	59.55	---	---	Peak
12		10810.00	47.33	-26.67	74.00	51.37	40.35	14.80	59.19	---	---	Peak
13		11272.00	48.38	-25.62	74.00	50.83	40.34	15.54	58.33	100	313	Peak

Test Mode :	Mode 2	**Temperature :**	24~25°C
Test Engineer :	Donny Tang	**Relative Humidity :**	51~52%
Test Distance :	3m	**Polarization :**	Vertical
Function Type :	WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC on + WPC Back Cover + PMA Charging Pad + Adapter		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156_150827 VERTICAL
Project : 651612-16
Power : 120Vac/60Hz
Memo : Mode 2

		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		41.88	32.13	-7.87	40.00	43.28	18.88	1.75	31.78	100	139	Peak
2		55.11	30.04	-9.96	40.00	46.27	13.30	2.23	31.76	---	---	Peak
3		84.81	27.89	-12.11	40.00	43.63	14.10	1.89	31.73	---	---	Peak
4		507.90	24.62	-21.38	46.00	29.34	24.24	2.94	31.90	---	---	Peak
5		738.90	28.78	-17.22	46.00	29.84	27.56	3.41	32.03	---	---	Peak
6		803.30	28.85	-17.15	46.00	29.16	28.25	3.36	31.92	---	---	Peak
7	*	881.40	54.88			53.84	29.29	3.36	31.61	---	---	Peak
8		2906.00	35.55	-38.45	74.00	60.36	28.28	7.63	60.72	---	---	Peak
9		4900.00	40.98	-33.02	74.00	58.57	31.33	11.11	60.03	---	---	Peak
10		6738.00	43.37	-30.63	74.00	56.74	34.68	11.99	60.04	---	---	Peak
11		8654.00	45.20	-28.80	74.00	53.39	37.14	14.08	59.41	---	---	Peak
12		10884.00	47.12	-26.88	74.00	50.86	40.40	14.87	59.01	---	---	Peak
13		11618.00	48.93	-25.07	74.00	50.97	39.91	16.15	58.10	100	315	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 29, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Jul. 29, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Jul. 29, 2016	Dec. 01, 2016	Conduction (CO05-HY)
Bilog Antenna	Schaffner	CBL6111C	2725	30MHz~1GHz	Nov. 17, 2015	Jul. 29, 2016 ~ Aug. 01, 2016	Nov. 16, 2016	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Jan. 07, 2016	Jul. 29, 2016 ~ Aug. 01, 2016	Jan. 06, 2017	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Aug. 21, 2015	Jul. 29, 2016 ~ Aug. 01, 2016	Aug. 20, 2016	Radiation (03CH06-HY)
Preamplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 19, 2016	Jul. 29, 2016 ~ Aug. 01, 2016	Apr. 18, 2017	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1850117	1GHz ~ 18GHz	Jun. 22, 2016	Jul. 29, 2016 ~ Aug. 01, 2016	Jun. 21, 2017	Radiation (03CH06-HY)
Controller	INN-CO	EM1000	060782	Control Turn table & Ant Mast	N/A	Jul. 29, 2016 ~ Aug. 01, 2016	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	Jul. 29, 2016 ~ Aug. 01, 2016	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	Jul. 29, 2016 ~ Aug. 01, 2016	N/A	Radiation (03CH06-HY)

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))	**2.26**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.90**

Appendix A. Original Report

Please refer to Sporton report number FV652612-02 as below.

FCC Test Report

APPLICANT	:	Motorola Mobility LLC.
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	7524
FCC ID	:	IHDT56VC2
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Verification

The product was received on May 16, 2016 and testing was completed on Jun. 11, 2016. We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.

Louis Wu

Reviewed by: Louis Wu / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FV651612-02	Rev. 01	Initial issue of report	Jun. 30, 2016

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 10.20 dB at 0.486 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 5.24 dB at 34.590 MHz

1. General Description

1.1. Applicant

Motorola Mobility LLC.
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.2. Manufacturer

Motorola Mobility LLC.
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	7524
FCC ID	IHDT56VC2
IMEI Code	IMEI 1 : 354131070011411 IMEI 2 : 354131070011429
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth v3.0 EDR Bluetooth v4.0 LE
HW Version	DVT2
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.

Accessory List	
AC Adapter 1	Brand Name : Motorola
	Model Name : SPN5915A
AC Adapter 2	Brand Name : Motorola
	Model Name : SPN5916A
AC Adapter 3	Brand Name : Motorola
	Model Name : SPN5917A
AC Adapter 4	Brand Name : Motorola
	Model Name : SPN5918A
AC Adapter 5	Brand Name : Motorola
	Model Name : SPN5919A
AC Adapter 6	Brand Name : Motorola
	Model Name : SPN5923A
Battery 1	Brand Name : Motorola
	Model Name : SNN5974A
Battery 2	Brand Name : Motorola
	Model Name : SNN5975A
Earphone 1	Brand Name : Motorola
	Model Name : SJYN1181B
Earphone 2	Brand Name : Motorola
	Model Name : SJYN1298A
USB Cable	Brand Name : Motorola
	Model Name : SKN6473A

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 II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV : 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 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 : 698.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz LTE Band 38 : 2572.5 MHz ~ 2617.5 MHz LTE Band 40 : 2302.5 MHz ~ 2397.5 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz WCDMA Band IV : 2112.4 MHz ~ 2152.6 MHz WCDMA Band V: 871.4 MHz ~ 891.6 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 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz LTE Band 38 : 2572.5 MHz ~ 2617.5 MHz LTE Band 40 : 2302.5 MHz ~ 2397.5 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz NFC : 13.56 MHz
Antenna Type	WWAN : Coupling type (LDS) Antenna WLAN Ant. 1: Loop Antenna WLAN Ant. 2: ILA Antenna Bluetooth : Loop Antenna GPS : Fixed Internal Antenna NFC: Coil / embeded Antenna

Standards-related Product Specification	
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: QPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink) LTE: QPSK / 16QAM / 64QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GPS/Glonass : BPSK NFC: ASK

1.5. Modification of EUT

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

1.6. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	CO05-HY	03CH06-HY

1.7. Applicable Standards

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

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

Remark:

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

2. For FCC 15 Subpart B - Unintentional Radiators, receivers contained within a transceiver shall be authorized under the verification procedure per the Section 15.101 (b).

3. For other Unintentional Radiators features of this EUT, test reports are be issued separately.
Per the Note of the Section 15.101, when device supports features (USB, FM Radio, digital devices…etc) more than one category of authorization, type of authorization shall be appropriately chosen for FCC 15B compliance rule, and the Section 15.101 (b), only those receivers that operate (tune) within the frequency range of 30-960 MHz, CB receivers and radar detectors are subject to the authorizations shown in paragraph (a) of the Section 15.101. However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of which is subject to certification, shall be authorized under the verification procedure.

4. Receivers operating above 960 MHz or below 30 MHz, except for radar detectors and CB receivers, are exempt from complying with the technical provisions of this part but are subject to § 15.5.

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

The following tables are showing the test modes as the worst cases and recorded in this report.

Item	EUT Configuration	Test Condition		
		EMI AC	EMI RE<1G	EMI RE≥1G
1.	Charging Mode (EUT with adapter)	☒	☒	☒

Abbreviations:

- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

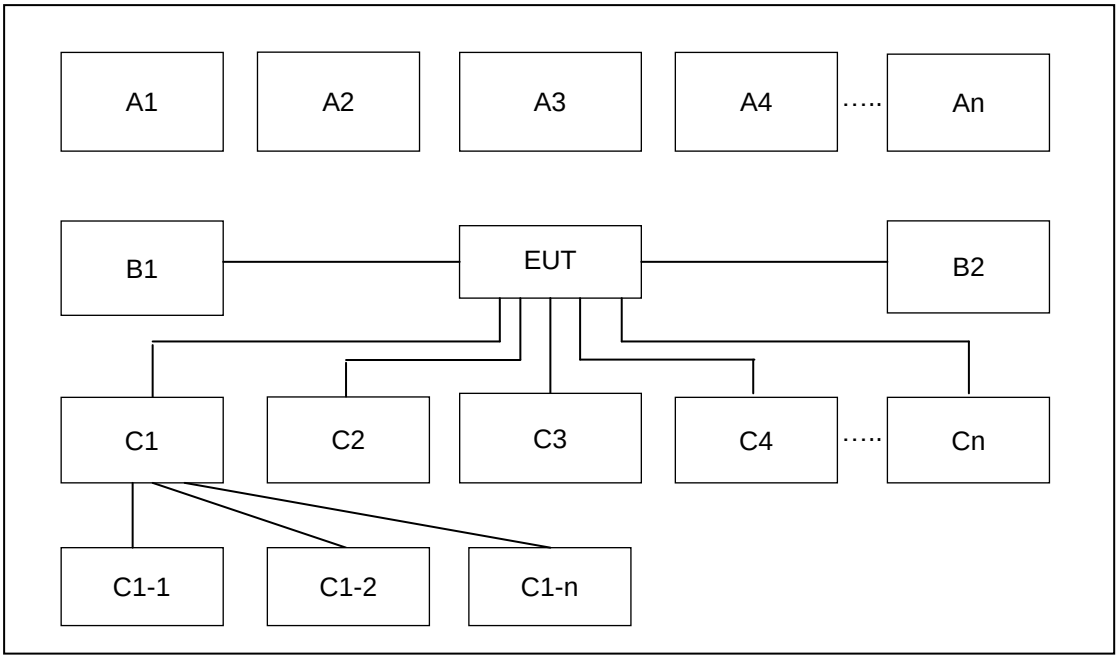
Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + NFC On + Earphone 1 + Battery + Adapter + SIM 1 Mode 2 : WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2
Radiated Emissions < 1GHz	1	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + NFC On + Earphone 1 + Battery + Adapter + SIM 1 Mode 2 : WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2
Radiated Emissions ≥ 1GHz	1	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + NFC On + Earphone 1 + Battery + Adapter + SIM 1

Remark:

1. The worst case of AC is mode 2; only the test data of this mode was reported.

2. The worst case of RE < 1G is mode 1; only the test data of this mode was reported.

2.2. Connection Diagram of Test System



Conduction & Radiation Test Setup										
No.	**Wireless Station**	**Connection Type**	**Test Mode**							
			1	**2**	**-**	**-**	**-**	**-**	**-**
A1	BT Earphone	Bluetooth	X	X					
A2	System Simulator	GSM/WCDMA	X	X					
A3	AP router	WiFi	X	X					
No.	**Power Source**	**Connection Type**	**1**	**2**	**-**	**-**	**-**	**-**	**-**
B1	AC : 120V/60Hz	AC Power Cable	X	X					
No.	**Setup Peripherals**	**Connection Type**	**1**	**2**	**-**	**-**	**-**	**-**	**-**
C1	Earphone	Earphone jack	X	X					
C2	SD card	SD I/O interface without Cable	X	X					

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	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
3.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
4.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
5.	SD Card	SanDisk	16G	FCC DoC	N/A	N/A

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA 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.

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. Execute "Music Player" to play MP3 file.
2. Turn on camera to capture images.
3. Turn on the 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.

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.

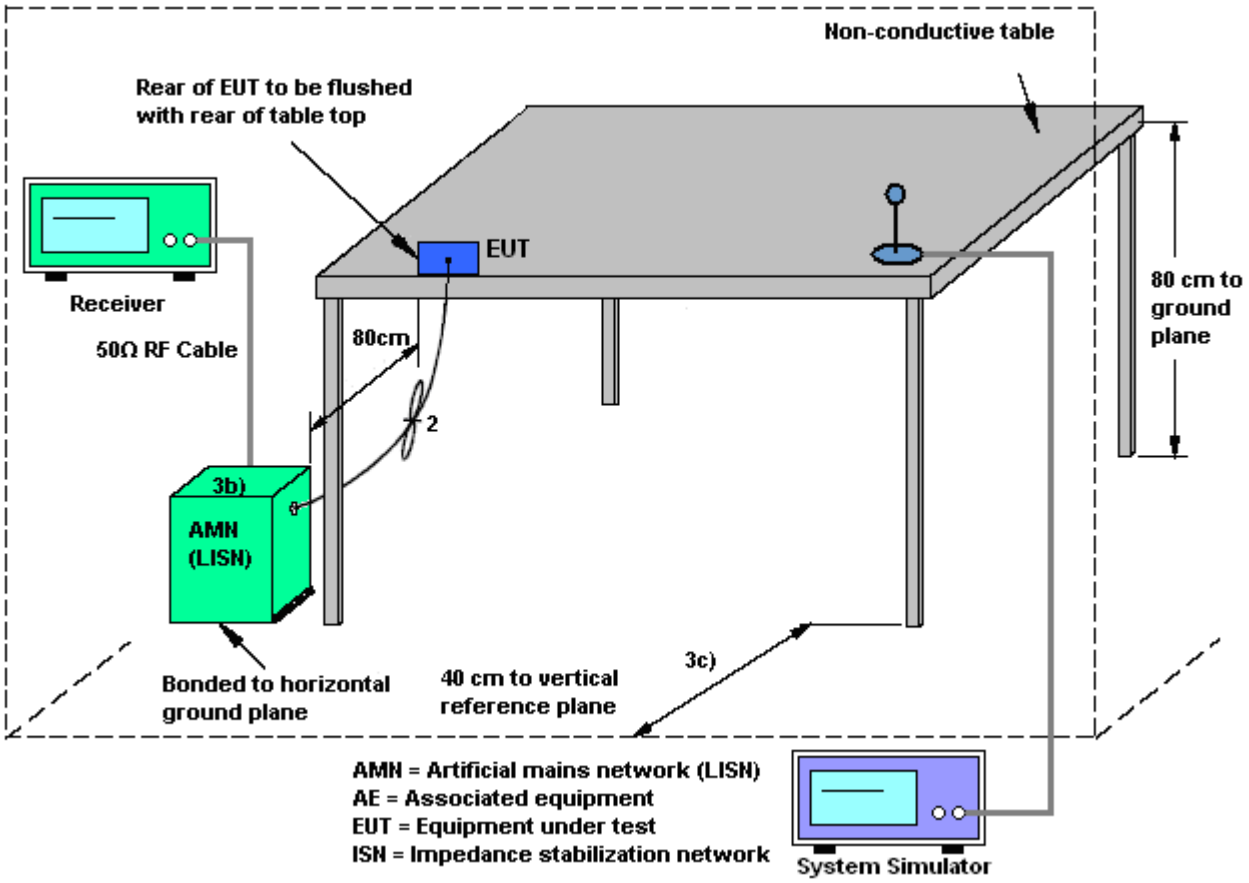
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

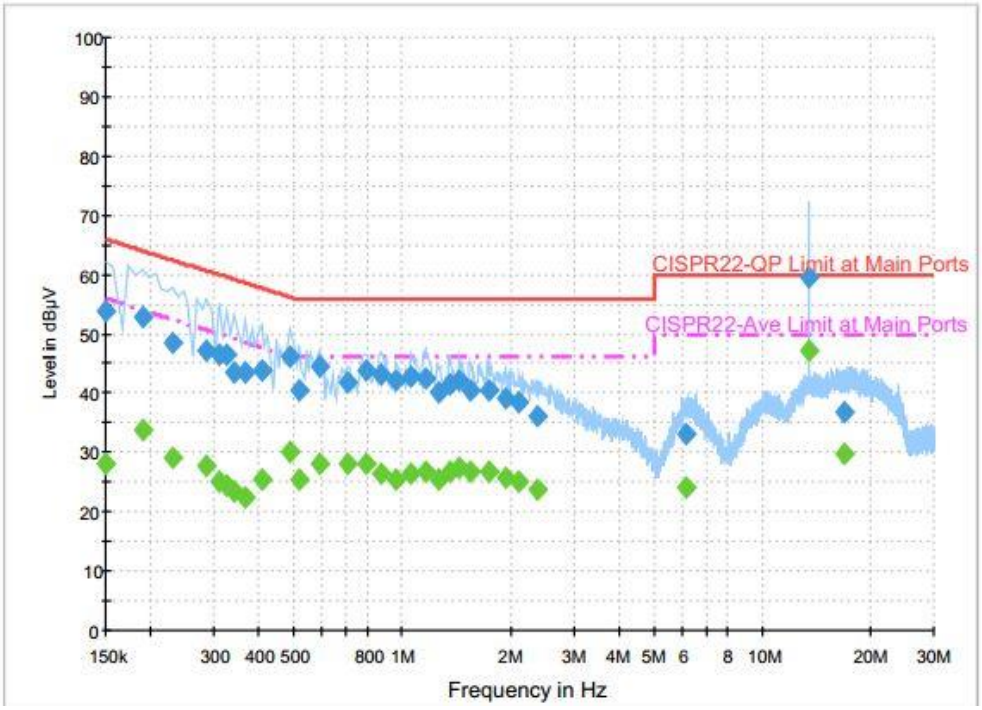
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

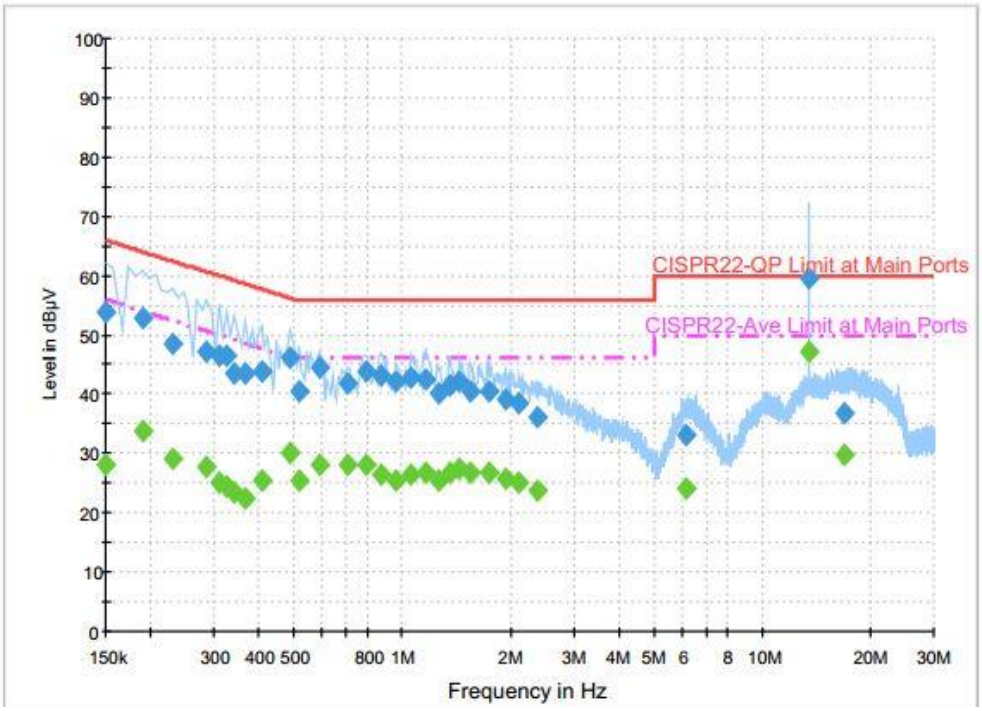
Test Mode :	Mode 2	**Temperature :**	22~23℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	50~51%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	53.7	Off	L1	19.6	12.3	66.0
0.190000	53.0	Off	L1	19.6	11.0	64.0
0.230000	48.4	Off	L1	19.6	14.0	62.4
0.286000	47.3	Off	L1	19.6	13.3	60.6
0.310000	46.6	Off	L1	19.6	13.4	60.0
0.326000	46.4	Off	L1	19.6	13.2	59.6
0.342000	43.6	Off	L1	19.6	15.6	59.2
0.366000	43.6	Off	L1	19.6	15.0	58.6
0.406000	43.7	Off	L1	19.6	14.0	57.7
0.486000	46.0	Off	L1	19.6	10.2	56.2
0.518000	40.3	Off	L1	19.6	15.7	56.0
0.590000	44.4	Off	L1	19.6	11.6	56.0
0.702000	41.9	Off	L1	19.6	14.1	56.0
0.798000	43.8	Off	L1	19.6	12.2	56.0
0.870000	43.2	Off	L1	19.6	12.8	56.0
0.966000	42.1	Off	L1	19.6	13.9	56.0

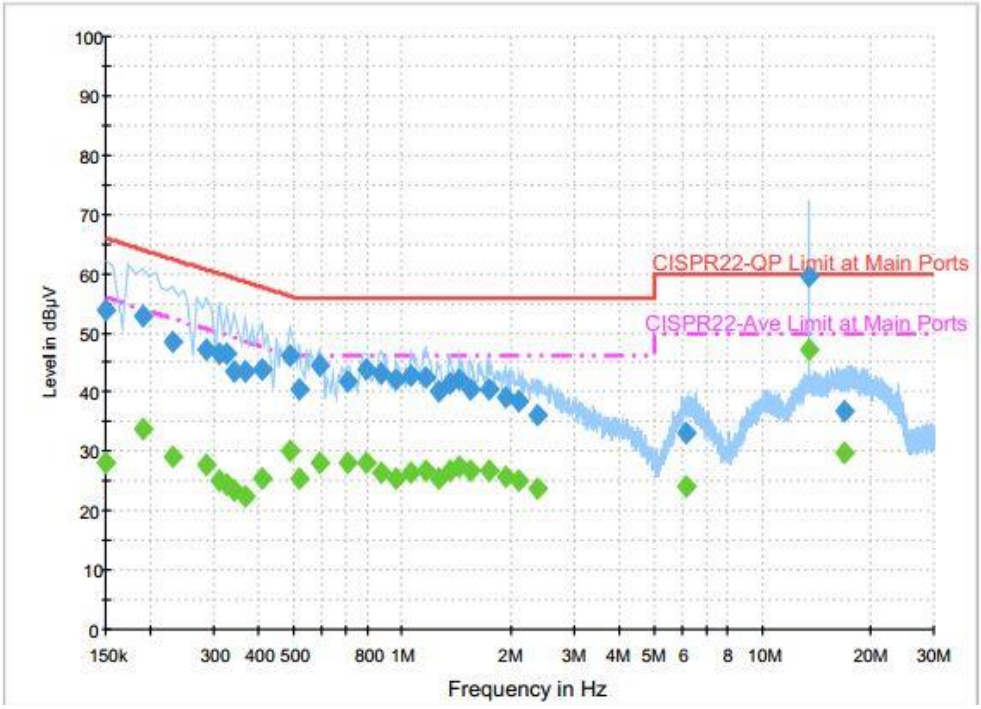
Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Quasi-Peak

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.062000	42.9	Off	L1	19.6	13.1	56.0
1.158000	42.5	Off	L1	19.6	13.5	56.0
1.262000	40.3	Off	L1	19.6	15.7	56.0
1.350000	41.6	Off	L1	19.6	14.4	56.0
1.438000	42.1	Off	L1	19.6	13.9	56.0
1.550000	40.4	Off	L1	19.6	15.6	56.0
1.742000	40.5	Off	L1	19.6	15.5	56.0
1.934000	39.0	Off	L1	19.6	17.0	56.0
2.118000	38.3	Off	L1	19.5	17.7	56.0
2.382000	36.2	Off	L1	19.6	19.8	56.0
6.174000	33.1	Off	L1	19.8	26.9	60.0
13.558000	59.6	Off	L1	20.2	0.4	60.0
17.014000	36.8	Off	L1	20.4	23.2	60.0

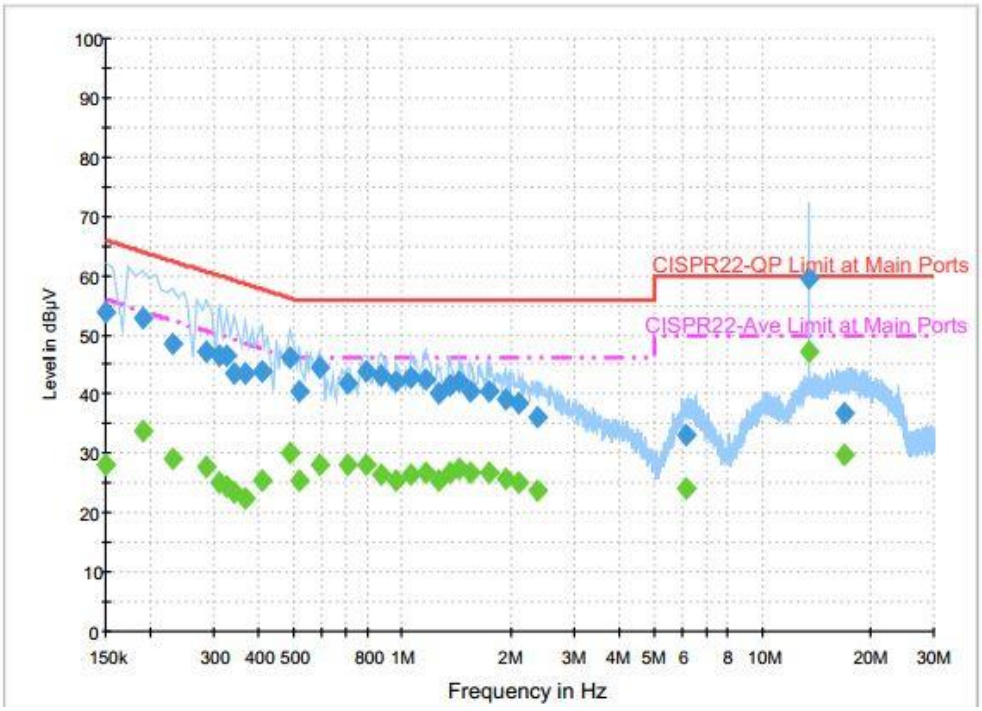
Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	28.2	Off	L1	19.6	27.8	56.0
0.190000	33.9	Off	L1	19.6	20.1	54.0
0.230000	29.0	Off	L1	19.6	23.4	52.4
0.286000	27.9	Off	L1	19.6	22.7	50.6
0.310000	24.9	Off	L1	19.6	25.1	50.0
0.326000	24.4	Off	L1	19.6	25.2	49.6
0.342000	23.4	Off	L1	19.6	25.8	49.2
0.366000	22.5	Off	L1	19.6	26.1	48.6
0.406000	25.4	Off	L1	19.6	22.3	47.7
0.486000	29.9	Off	L1	19.6	16.3	46.2
0.518000	25.5	Off	L1	19.6	20.5	46.0
0.590000	28.2	Off	L1	19.6	17.8	46.0
0.702000	28.0	Off	L1	19.6	18.0	46.0
0.798000	28.1	Off	L1	19.6	17.9	46.0
0.870000	26.4	Off	L1	19.6	19.6	46.0
0.966000	25.3	Off	L1	19.6	20.7	46.0

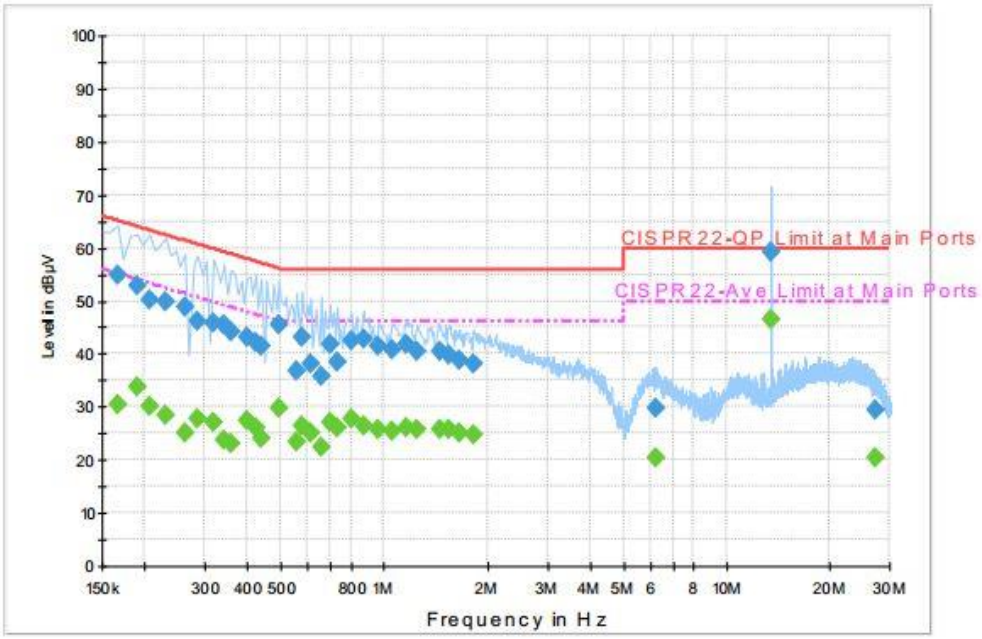
Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.062000	26.5	Off	L1	19.6	19.5	46.0
1.158000	26.9	Off	L1	19.6	19.1	46.0
1.262000	25.4	Off	L1	19.6	20.6	46.0
1.350000	26.9	Off	L1	19.6	19.1	46.0
1.438000	27.5	Off	L1	19.6	18.5	46.0
1.550000	26.6	Off	L1	19.6	19.4	46.0
1.742000	26.8	Off	L1	19.6	19.2	46.0
1.934000	25.9	Off	L1	19.6	20.1	46.0
2.118000	25.1	Off	L1	19.5	20.9	46.0
2.382000	23.8	Off	L1	19.6	22.2	46.0
6.174000	24.1	Off	L1	19.8	25.9	50.0
13.558000	47.2	Off	L1	20.2	2.8	50.0
17.014000	29.8	Off	L1	20.4	20.2	50.0

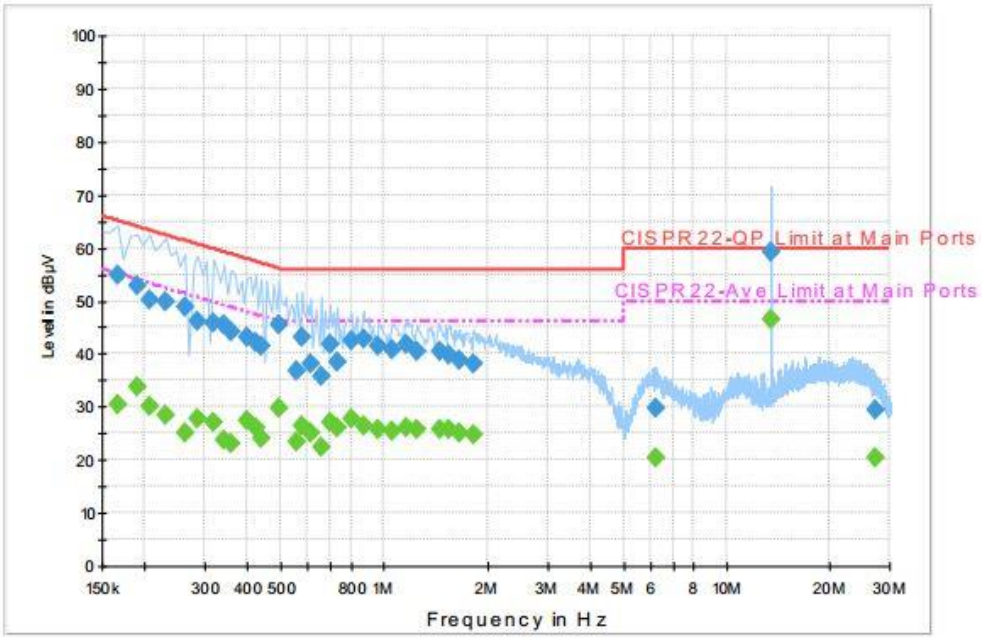
Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	54.9	Off	N	19.6	10.3	65.2
0.190000	52.7	Off	N	19.6	11.3	64.0
0.206000	50.3	Off	N	19.6	13.1	63.4
0.230000	49.7	Off	N	19.6	12.7	62.4
0.262000	48.8	Off	N	19.6	12.6	61.4
0.286000	46.2	Off	N	19.6	14.4	60.6
0.318000	46.0	Off	N	19.6	13.8	59.8
0.342000	45.4	Off	N	19.6	13.8	59.2
0.358000	44.2	Off	N	19.6	14.6	58.8
0.398000	43.2	Off	N	19.6	14.7	57.9
0.422000	42.1	Off	N	19.6	15.3	57.4
0.438000	41.3	Off	N	19.6	15.8	57.1
0.494000	45.5	Off	N	19.6	10.6	56.1
0.558000	36.9	Off	N	19.6	19.1	56.0
0.574000	43.1	Off	N	19.6	12.9	56.0
0.614000	38.1	Off	N	19.6	17.9	56.0
0.654000	35.8	Off	N	19.6	20.2	56.0
0.694000	42.0	Off	N	19.6	14.0	56.0

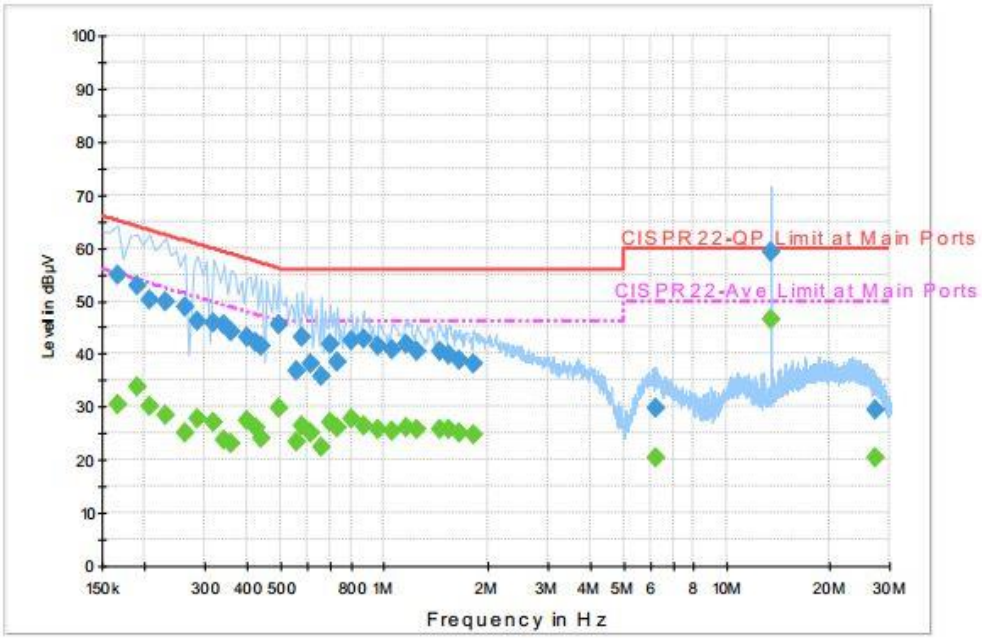
Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Quasi-Peak

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.734000	38.5	Off	N	19.6	17.5	56.0
0.806000	42.6	Off	N	19.6	13.4	56.0
0.870000	42.8	Off	N	19.6	13.2	56.0
0.966000	41.3	Off	N	19.6	14.7	56.0
1.054000	40.9	Off	N	19.6	15.1	56.0
1.158000	41.9	Off	N	19.6	14.1	56.0
1.254000	40.6	Off	N	19.6	15.4	56.0
1.454000	40.6	Off	N	19.6	15.4	56.0
1.550000	39.7	Off	N	19.6	16.3	56.0
1.662000	38.8	Off	N	19.6	17.2	56.0
1.822000	38.2	Off	N	19.6	17.8	56.0
6.230000	29.7	Off	N	19.7	30.3	60.0
13.558000	59.1	Off	N	19.8	0.9	60.0
27.118000	29.4	Off	N	20.1	30.6	60.0

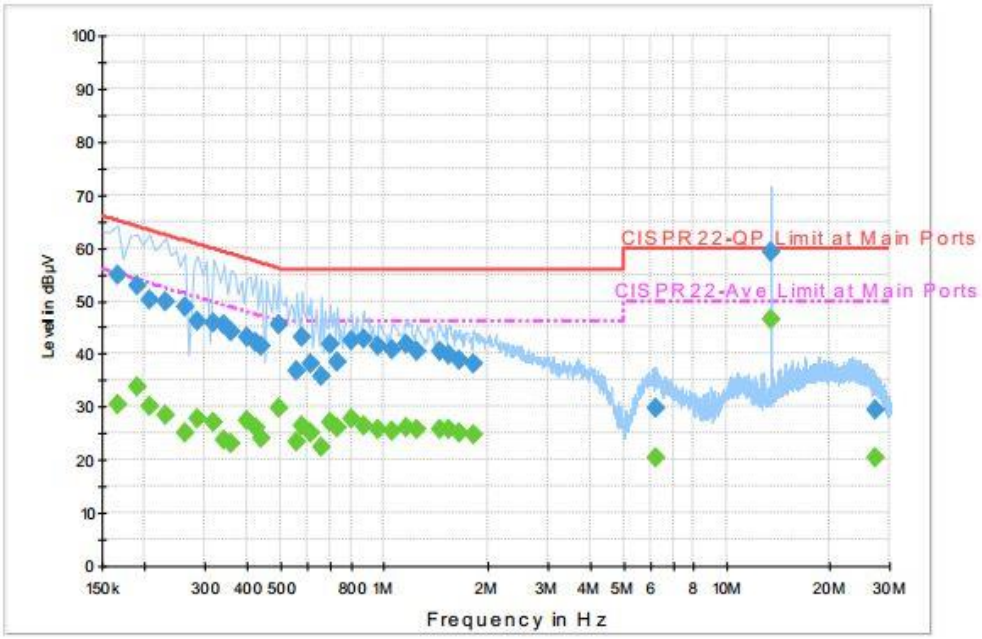
Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	30.4	Off	N	19.6	24.8	55.2
0.190000	33.8	Off	N	19.6	20.2	54.0
0.206000	30.2	Off	N	19.6	23.2	53.4
0.230000	28.4	Off	N	19.6	24.0	52.4
0.262000	25.1	Off	N	19.6	26.3	51.4
0.286000	27.7	Off	N	19.6	22.9	50.6
0.318000	27.2	Off	N	19.6	22.6	49.8
0.342000	23.9	Off	N	19.6	25.3	49.2
0.358000	23.1	Off	N	19.6	25.7	48.8
0.398000	27.4	Off	N	19.6	20.5	47.9
0.422000	26.2	Off	N	19.6	21.2	47.4
0.438000	24.2	Off	N	19.6	22.9	47.1
0.494000	29.8	Off	N	19.6	16.3	46.1
0.558000	23.5	Off	N	19.6	22.5	46.0
0.574000	26.3	Off	N	19.6	19.7	46.0
0.614000	24.9	Off	N	19.6	21.1	46.0
0.654000	22.4	Off	N	19.6	23.6	46.0
0.694000	27.2	Off	N	19.6	18.8	46.0

Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + NFC On + Earphone 2 + Battery + Adapter + SIM 2		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.734000	25.9	Off	N	19.6	20.1	46.0
0.806000	27.7	Off	N	19.6	18.3	46.0
0.870000	26.5	Off	N	19.6	19.5	46.0
0.966000	25.7	Off	N	19.6	20.3	46.0
1.054000	25.5	Off	N	19.6	20.5	46.0
1.158000	26.0	Off	N	19.6	20.0	46.0
1.254000	25.7	Off	N	19.6	20.3	46.0
1.454000	25.8	Off	N	19.6	20.2	46.0
1.550000	25.6	Off	N	19.6	20.4	46.0
1.662000	25.0	Off	N	19.6	21.0	46.0
1.822000	24.7	Off	N	19.6	21.3	46.0
6.230000	20.4	Off	N	19.7	29.6	50.0
13.558000	46.5	Off	N	19.8	3.5	50.0
27.118000	20.4	Off	N	20.1	29.6	50.0

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:

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

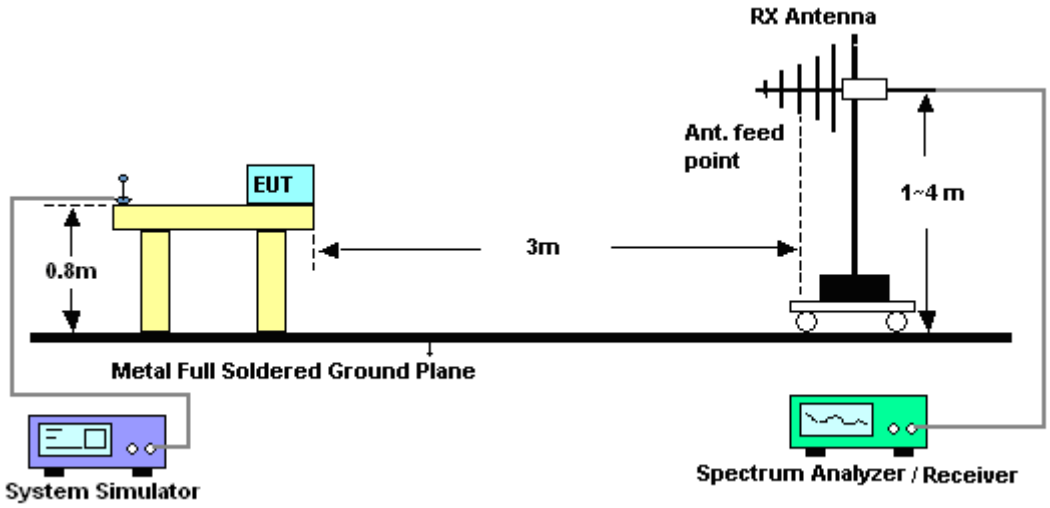
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

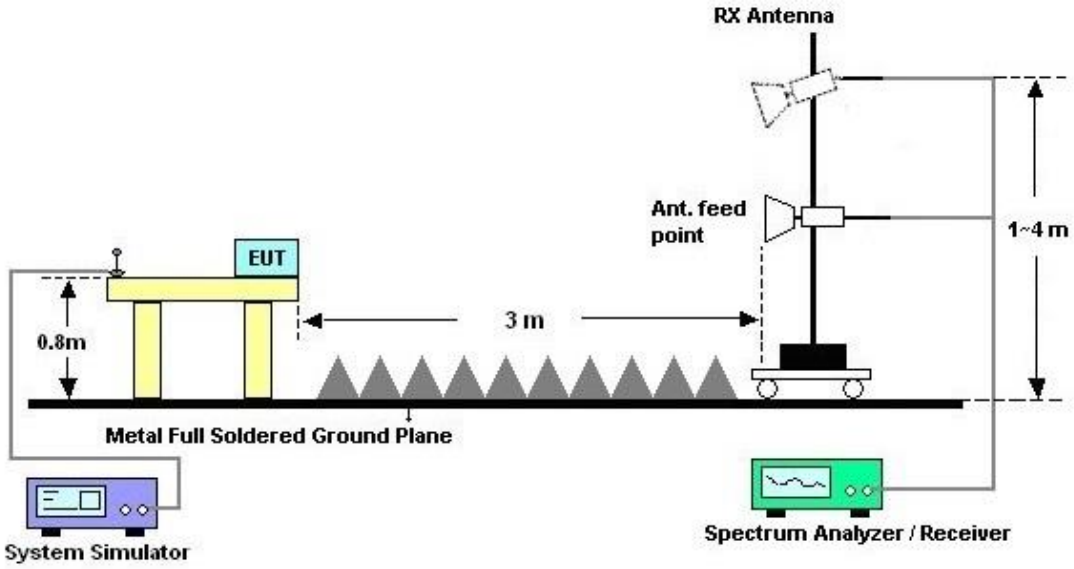
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

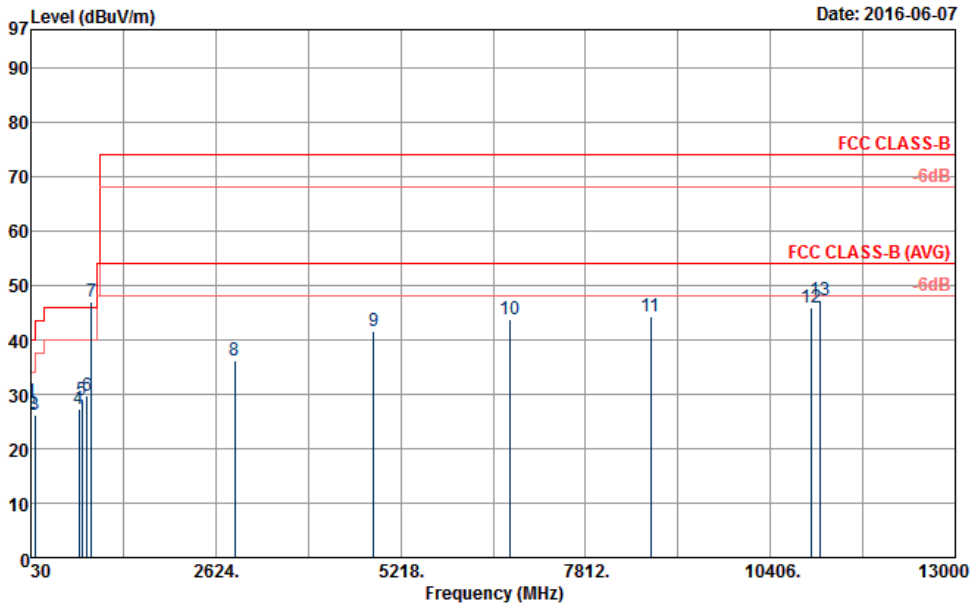


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

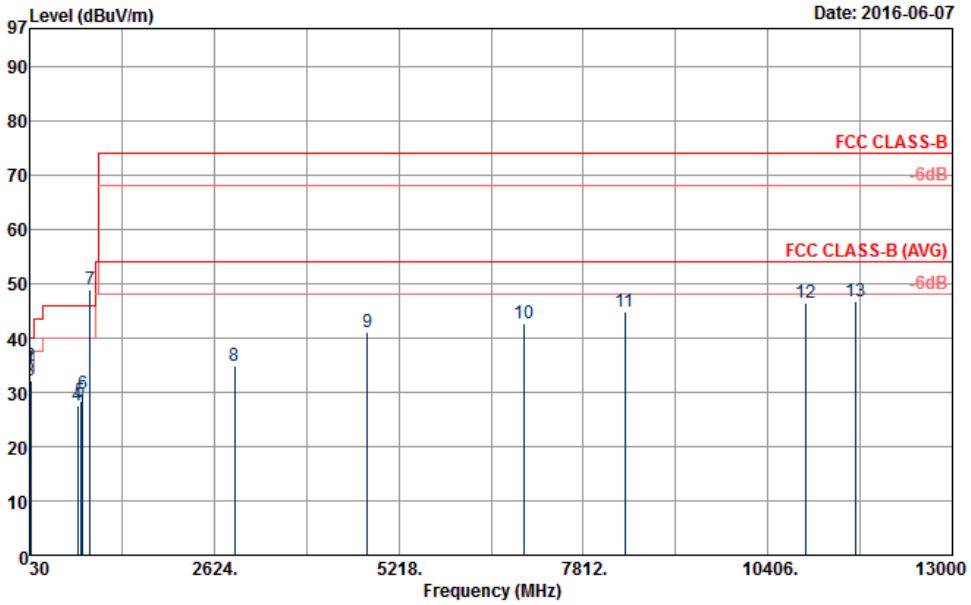
Test Mode :	Mode 1	**Temperature :**	20~23℃
Test Engineer :	Hayden Wu and Donny Tang	**Relative Humidity :**	50~53%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + NFC On + Earphone 1 + Battery + Adapter + SIM 1		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156_150827 HORIZONTAL
Project : 651612-04
Power : 120Vac/60Hz
Memo : Mode 1

		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		30.54	28.54	-11.46	40.00	33.30	25.14	1.90	31.80	100	221	Peak
2		34.59	26.38	-13.62	40.00	33.35	22.90	1.92	31.79	---	---	Peak
3		85.89	26.11	-13.89	40.00	41.72	14.22	1.90	31.73	---	---	Peak
4		706.00	27.42	-18.58	46.00	29.24	26.83	3.44	32.09	---	---	Peak
5		743.80	29.04	-16.96	46.00	29.99	27.67	3.41	32.03	---	---	Peak
6		822.90	29.85	-16.15	46.00	29.74	28.61	3.34	31.84	---	---	Peak
7	*	881.40	47.09			46.04	29.29	3.36	31.60	---	---	Peak
8		2892.00	36.08	-37.92	74.00	61.02	28.24	7.63	60.81	---	---	Peak
9		4836.00	41.53	-32.47	74.00	58.88	31.25	11.01	59.61	---	---	Peak
10		6760.00	43.64	-30.36	74.00	57.41	34.72	11.86	60.35	---	---	Peak
11		8728.00	44.39	-29.61	74.00	52.59	37.27	14.35	59.82	---	---	Peak
12		10980.00	46.01	-27.99	74.00	49.60	40.49	15.07	59.15	---	---	Peak
13		11100.00	47.35	-26.65	74.00	50.60	40.44	15.27	58.96	100	126	Peak

Test Mode :	Mode 1	**Temperature :**	20~23°C
Test Engineer :	Hayden Wu and Donny Tang	**Relative Humidity :**	50~53%
Test Distance :	3m	**Polarization :**	Vertical
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + NFC On + Earphone 1 + Battery + Adapter + SIM 1		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156_150827 VERTICAL
Project : 651612-04
Power : 120Vac/60Hz
Memo : Mode 1

		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		30.27	34.41	-5.59	40.00	38.61	25.70	1.90	31.80	---	---	Peak
2		34.59	34.76	-5.24	40.00	41.73	22.90	1.92	31.79	100	102	Peak
3		40.53	32.10	-7.90	40.00	42.67	19.44	1.77	31.78	---	---	Peak
4		706.70	27.66	-18.34	46.00	29.46	26.85	3.44	32.09	---	---	Peak
5		741.70	28.29	-17.71	46.00	29.28	27.63	3.41	32.03	---	---	Peak
6		781.60	29.82	-16.18	46.00	30.36	28.05	3.37	31.96	---	---	Peak
7	*	881.40	49.01			47.96	29.29	3.36	31.60	---	---	Peak
8		2912.00	34.72	-39.28	74.00	59.63	28.28	7.63	60.82	---	---	Peak
9		4780.00	41.15	-32.85	74.00	58.99	31.14	10.95	59.93	---	---	Peak
10		6982.00	42.57	-31.43	74.00	55.81	35.26	11.80	60.30	---	---	Peak
11		8394.00	44.84	-29.16	74.00	53.43	36.96	13.89	59.44	---	---	Peak
12		10928.00	46.52	-27.48	74.00	50.39	40.44	15.00	59.31	---	---	Peak
13		11644.00	46.82	-27.18	74.00	49.21	39.87	16.22	58.48	100	171	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 11, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Jun. 11, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Jun. 11, 2016	Dec. 01, 2016	Conduction (CO05-HY)
Bilog Antenna	Schaffner	CBL6111C	2725	30MHz~1GHz	Nov. 17, 2015	Jun. 07, 2016	Nov. 16, 2016	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Jan. 07, 2016	Jun. 07, 2016	Jan. 06, 2017	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Aug. 21, 2015	Jun. 07, 2016	Aug. 20, 2016	Radiation (03CH06-HY)
Preamplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 19, 2016	Jun. 07, 2016	Apr. 18, 2017	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1850117	1GHz ~ 18GHz	Jul. 01, 2015	Jun. 07, 2016	Jun. 30, 2016	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	Jun. 07, 2016	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	Jun. 07, 2016	N/A	Radiation (03CH06-HY)

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))	**2.26**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.00**