FCC RF Test Report

APPLICANT	:	**Motorola Mobility, LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola**
MODEL NAME	:	**6576**
FCC ID	:	**IHDT56VB4**
STANDARD	:	**FCC Part 15 Subpart E §15.407**
CLASSIFICATION	:	**(NII) Unlicensed National Information Infrastructure**

The product was received on Jul. 28, 2016 and testing was completed on Aug. 03, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures 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.

Reviewed by: Joseph Lin / Supervisor

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.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR632103-09D	Rev. 01	This is a variant report. All the test cases were performed base on the worst case identified in the original report. The test purpose is to verify the influence caused by additional accessory applied, hence only RSE and AC conducted emission need to be considered. Please referred to appendix D for the original report.(Sporton Report Number FR632103D)	Aug. 09, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 1.03 dB at 5467.120 MHz
3.2	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 2.30 dB at 0.246 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	6576
FCC ID	IHDT56VB4
IMEI Code	Radiation 354110070101190 Conduction 358180070002314
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC 2.4GHz WLAN 11b/g/n HT20 WLAN 11ac VHT20 5GHz WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v3.0 EDR Bluetooth v4.2 LE
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	Brand Name : Motorola
	Model Name : SPN5913A
USB Cable	Brand Name : Motorola
	Model Name : SKN6473A
WPC Cover	Brand Name : INCIPIO
	Model Name : MT-043-CASE

1.4 Product Specification of Equipment Under Test

<table>
<tr><th colspan="2">Standards-related Product Specification</th></tr>
<tr><td>Tx/Rx Frequency Range</td><td>5180 MHz ~ 5240 MHz
5260 MHz ~ 5320 MHz
5500 MHz ~ 5580 MHz
5660 MHz ~ 5700 MHz</td></tr>
<tr><td>Antenna Type</td><td>ILA Antenna
(The antenna peak gain of EUT is less than 6 dBi)</td></tr>
<tr><td>Type of Modulation</td><td>802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)</td></tr>
<tr><td>Antenna Function Description</td><td>
<table>
<tr><td></td><td>Ant.1</td><td>Ant.2</td></tr>
<tr><td>802.11 a/a/n/ac SISO</td><td>V</td><td>V</td></tr>
<tr><td>802.11 a/n/ac MIMO</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

1.5 Modification of EUT

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

1.6 Testing 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

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH11-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

1.7 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38	**5190**	**46**	**5230**
	40	5200	48	5240

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54	**5270**	**62**	**5310**
	56	5280	64	5320

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5600 MHz and 5650-5725 MHz Band 3 (U-NII-2C)	100	5500	116	5580
	102	**5510**	132	5660
	104	5520	**134**	**5670**
	108	5540	136	5680
	110	**5550**	140	5700
	112	5560		

Note: The above Frequency and Channel in boldface were 802.11n HT40.

2.2 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

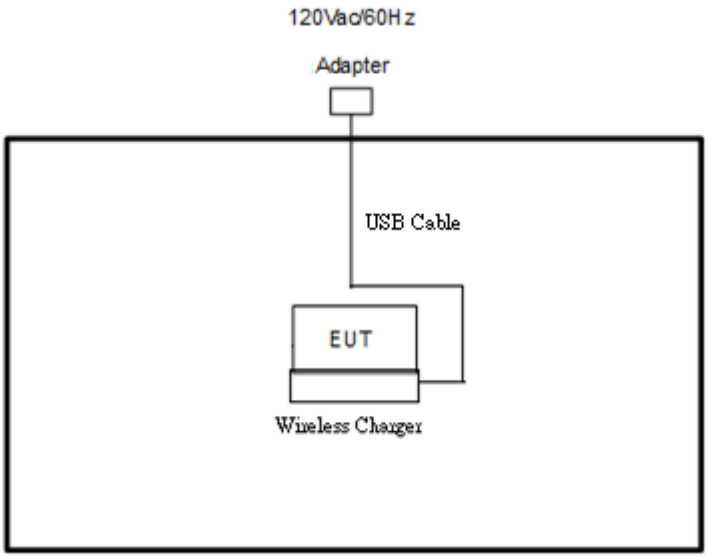
Modulation	Data Rate
802.11n HT20	MCS0

AC Conducted Emission	Mode 1 : GSM1900 Idle + Bluetooth Link + WLAN (5GHz) Link + Camera + WPC Back Cover + WPC Charging Pad + USB Cable (Charging from Adapter) + Battery Mode 2 : WCDMA Band V Idle + Bluetooth Link + WLAN (5GHz) Link + MPEG4 + WPC Back Cover + PMA Charging Pad + Adapter + Battery

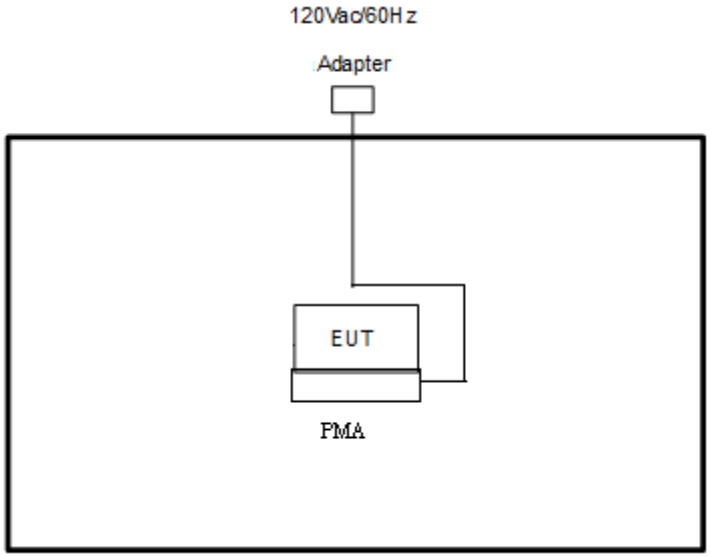
Ch. #		Band III：5470-5600 MHz and 5650-5725MHz
		802.11ac VHT20
L	Low	100
M	Middle	-
H	High	-
Straddle		-

2.3 Connection Diagram of Test System

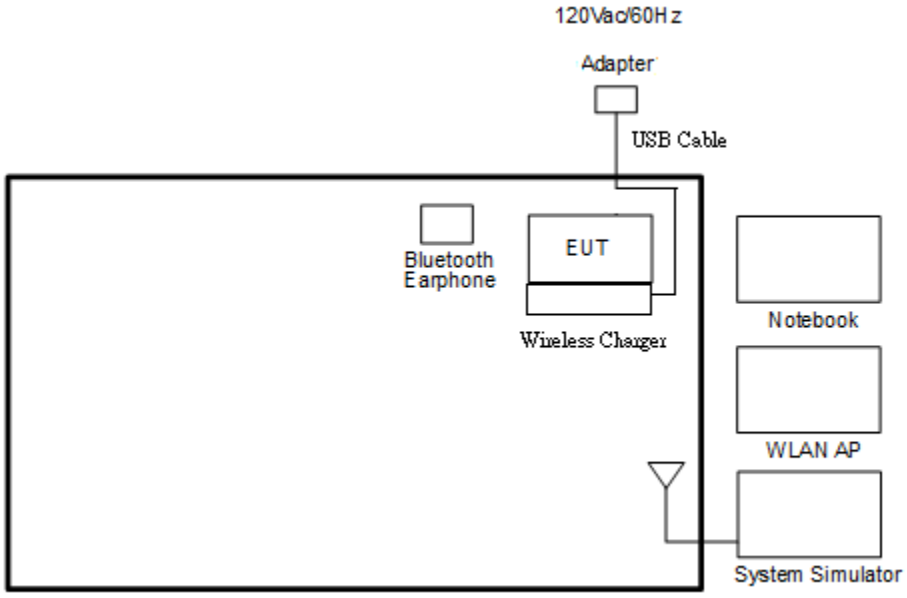
<WLAN Tx with WPC Charging Mode>



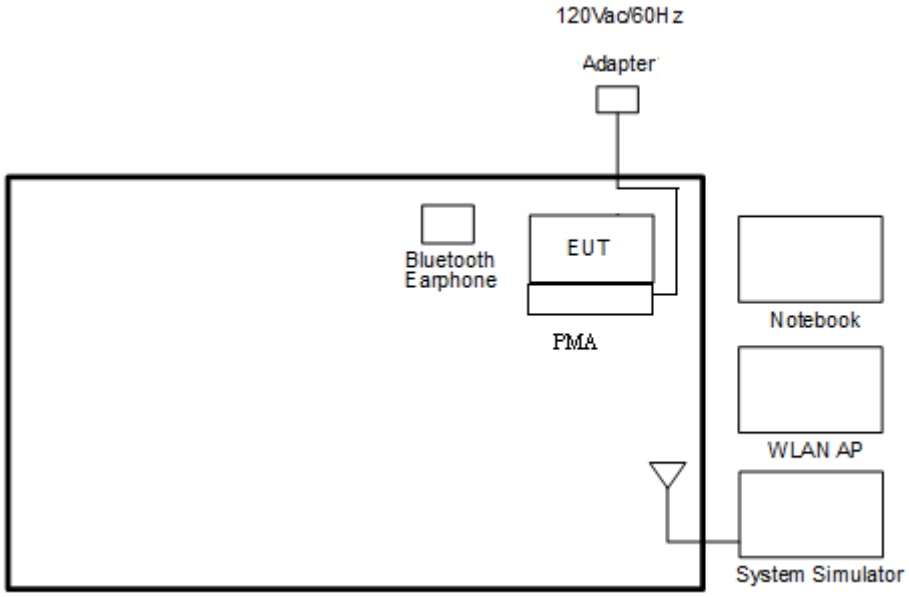
<WLAN Tx with PMA Charging Mode>



<AC Conducted Emission with WPC Charging Mode>



<AC Conducted Emission with PMA Charging Mode>



2.4 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.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
6.	Wireless Charger	LG	WCD-100	FCC DoC	N/A	N/A
7.	PMA	DURACELL	M-018B-518A	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

For WLAN function, programmed RF utility, “QRCT” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

3 Test Result

3.1 Unwanted Radiated Emission Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.1.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Note: The following formula is used to convert the EIRP to field strength.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

(3) KDB789033 D01 v01r02 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

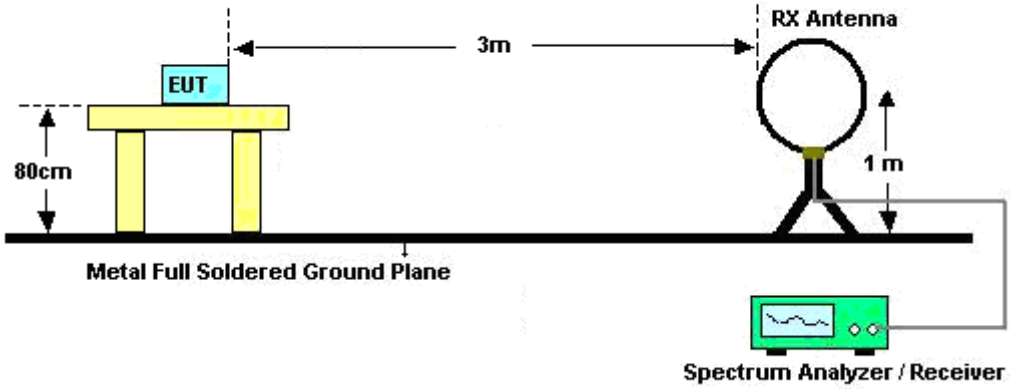
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

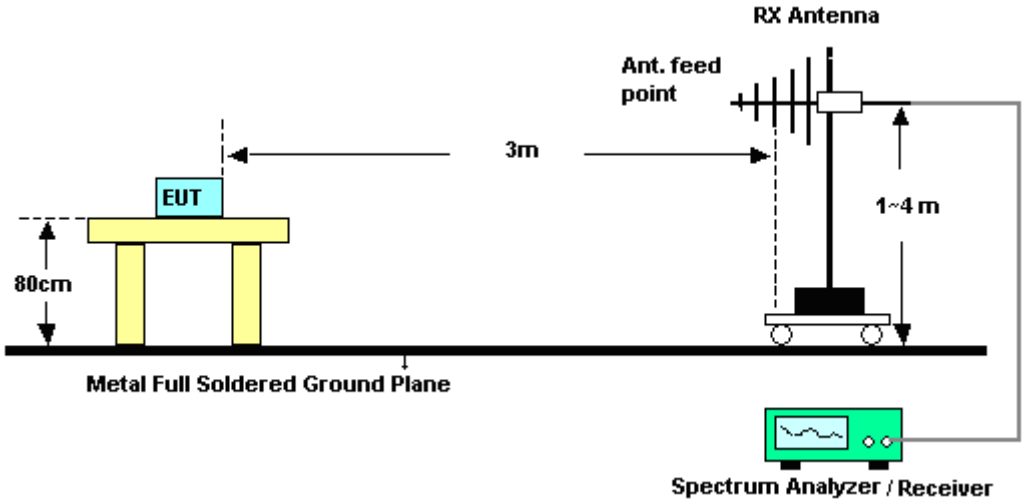
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and 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 adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.1.4 Test Setup

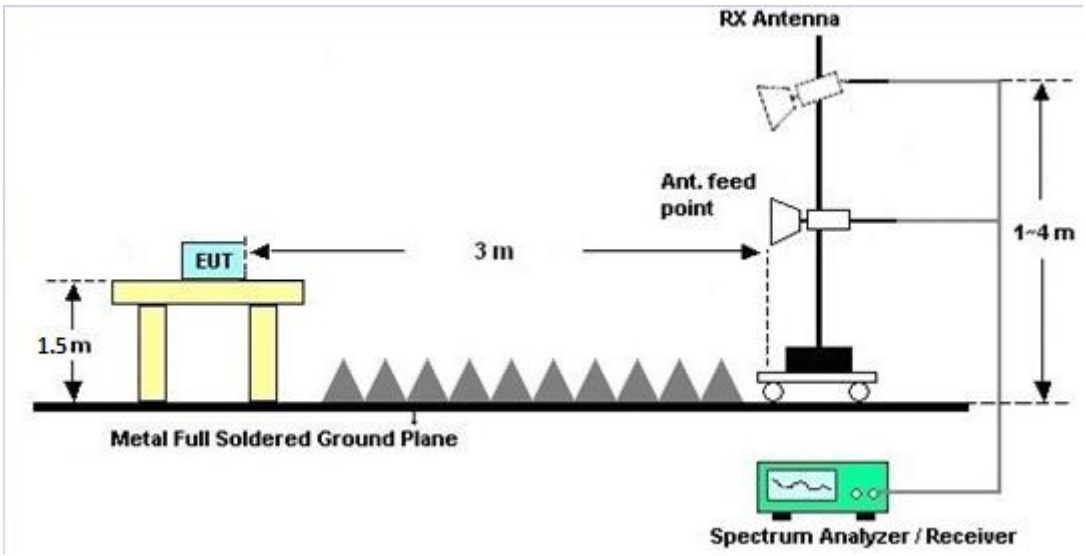
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.1.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.1.6 Test Result of Radiated Band Edges

Please refer to Appendix A and B.

3.1.7 Duty Cycle

Please refer to Appendix C.

3.1.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix A and B.

3.2 AC Conducted Emission Measurement

3.2.1 Limit 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 (dBμV)	
	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.

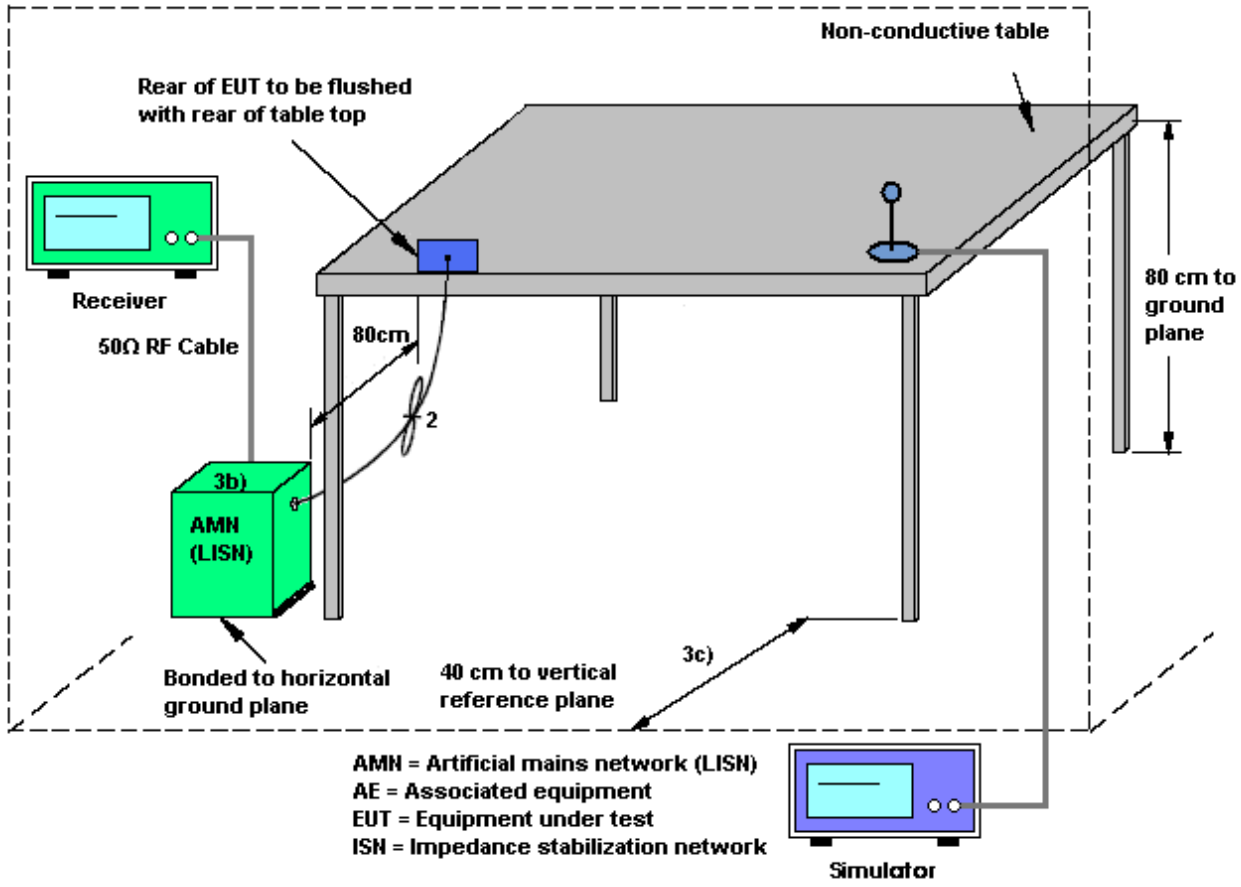
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

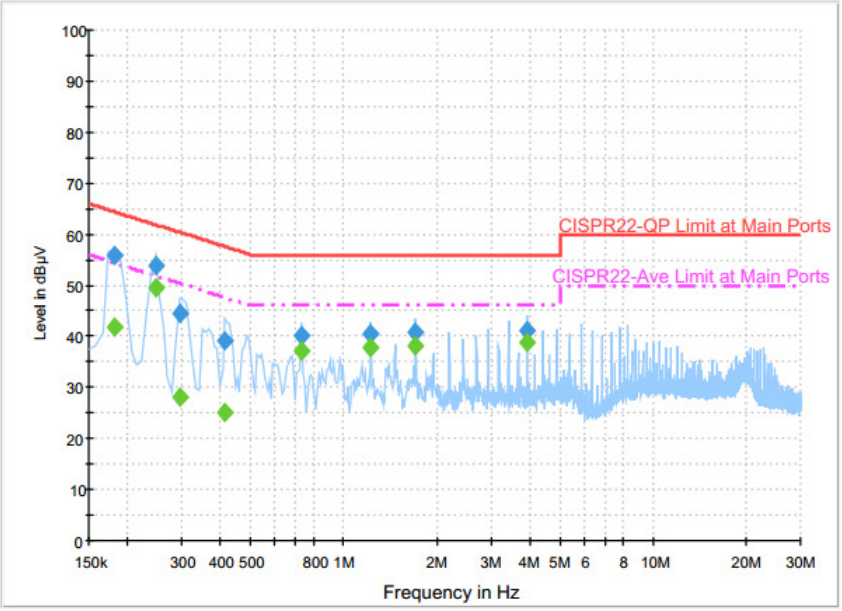
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

3.2.4 Test Setup



3.2.5 Test Result of AC Conducted Emission

Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	51~52%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band V Idle + Bluetooth Link + WLAN (5GHz) Link + MPEG4 + WPC Back Cover + PMA Charging Pad + Adapter + Battery		



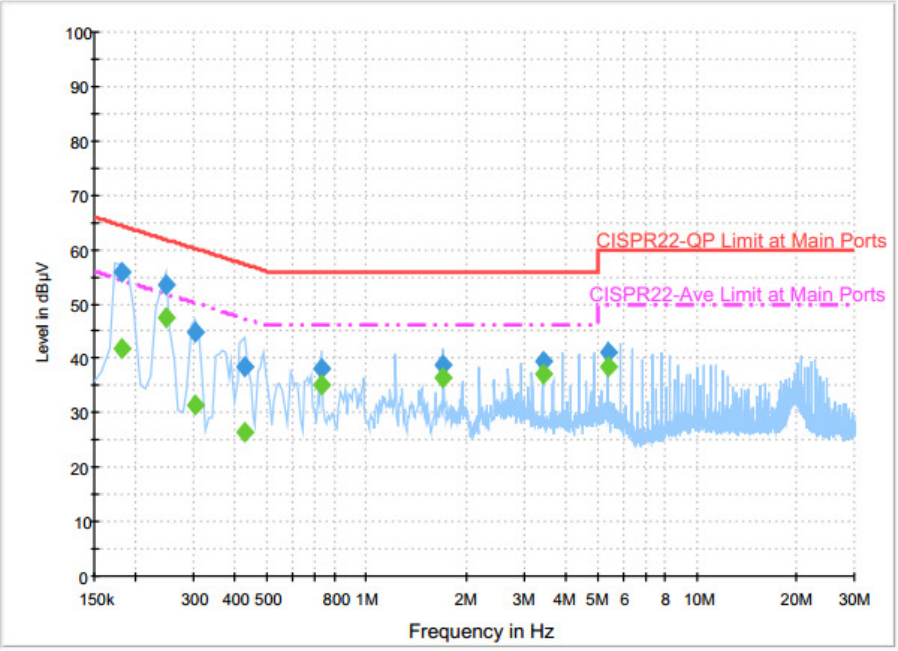
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	55.7	Off	L1	19.6	8.7	64.4
0.246000	54.0	Off	L1	19.6	7.9	61.9
0.294000	44.4	Off	L1	19.6	16.0	60.4
0.414000	39.0	Off	L1	19.6	18.6	57.6
0.734000	40.0	Off	L1	19.6	16.0	56.0
1.222000	40.6	Off	L1	19.7	15.4	56.0
1.710000	41.0	Off	L1	19.7	15.0	56.0
3.910000	41.3	Off	L1	19.8	14.7	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	41.9	Off	L1	19.6	12.5	54.4
0.246000	49.6	Off	L1	19.6	2.3	51.9
0.294000	28.1	Off	L1	19.6	22.3	50.4
0.414000	24.9	Off	L1	19.6	22.7	47.6
0.734000	37.0	Off	L1	19.6	9.0	46.0
1.222000	37.8	Off	L1	19.7	8.2	46.0
1.710000	38.2	Off	L1	19.7	7.8	46.0
3.910000	38.7	Off	L1	19.8	7.3	46.0

Test Mode :	Mode 2	Temperature :	22~23℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	51~52%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN (5GHz) Link + Camera + WPC Back Cover + WPC Charging Pad + USB Cable (Charging from Adapter) + Battery		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	55.9	Off	N	19.6	8.5	64.4
0.246000	53.4	Off	N	19.6	8.5	61.9
0.302000	44.9	Off	N	19.6	15.3	60.2
0.430000	38.4	Off	N	19.6	18.9	57.3
0.734000	38.0	Off	N	19.6	18.0	56.0
1.710000	38.8	Off	N	19.7	17.2	56.0
3.422000	39.6	Off	N	19.7	16.4	56.0
5.374000	41.0	Off	N	19.9	19.0	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	41.8	Off	N	19.6	12.6	54.4
0.246000	47.5	Off	N	19.6	4.4	51.9
0.302000	31.3	Off	N	19.6	18.9	50.2
0.430000	26.6	Off	N	19.6	20.7	47.3
0.734000	35.1	Off	N	19.6	10.9	46.0
1.710000	36.4	Off	N	19.7	9.6	46.0
3.422000	37.0	Off	N	19.7	9.0	46.0
5.374000	38.3	Off	N	19.9	11.7	50.0

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Aug. 03, 2016	Sep. 01, 2016	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Aug. 03, 2016	Nov. 19, 2016	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz~1GHz	Nov. 17, 2015	Aug. 03, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 08, 2015	Aug. 03, 2016	Oct. 07, 2016	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 19, 2015	Aug. 03, 2016	Nov. 18, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1902247	1GHz~18GHz	Jul. 22, 2016	Aug. 03, 2016	Jun. 21, 2017	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Sep. 24, 2015	Aug. 03, 2016	Sep. 23, 2016	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Aug. 03, 2016	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Aug. 03, 2016	N/A	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Aug. 03, 2016	Nov. 01, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Aug. 03, 2016	Feb. 14, 2017	Radiation (03CH11-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 29, 2016 ~ Jul. 30, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Jul. 29, 2016 ~ Jul. 30, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Jul. 29, 2016 ~ Jul. 30, 2016	Dec. 01, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 14, 2015	Jul. 29, 2016 ~ Jul. 30, 2016	Dec. 13, 2016	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

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))	**4.9**

Appendix A. Radiated Spurious Emission

Test Engineer :	J.C. Liang, Jacky Su, and Ken Wu	Temperature :	20~23°C
		Relative Humidity :	50~54%

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

<WPC Back cover + LG Charging Pad>

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac(20) CH 100 5500MHz		5458.64	60.76	-13.24	74	51.46	31.94	10.84	33.48	201	115	P	H
		5467.12	67.17	-1.03	68.2	57.88	31.96	10.81	33.48	201	115	A	H
	*	5460	52.24	-1.76	54	42.94	31.94	10.84	33.48	201	115	P	H
	*	5500	106.11	-	-	96.78	32	10.81	33.48	201	115	A	H
		5500	96	-	-	86.67	32	10.81	33.48	201	115	P	H
													H
		5459.6	61.13	-12.87	74	51.83	31.94	10.84	33.48	205	96	P	V
		5469.04	65.34	-2.86	68.2	56.05	31.96	10.81	33.48	205	96	A	V
	*	5459.92	51.51	-2.49	54	42.21	31.94	10.84	33.48	205	96	P	V
	*	5500	105.43	-	-	96.1	32	10.81	33.48	205	96	A	V
		5500	95.82	-	-	86.49	32	10.81	33.48	205	96	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a*c* VHT20 (Harmonic @ 3m)

<WPC Back cover + LG Charging Pad>

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac(20) CH 100 5500MHz		11000	43.21	-30.79	74	38.67	40.3	15.27	51.03	100	0	P	H
		16500	44.74	-29.26	74	39.42	38.9	18.29	51.87	100	0	P	H
													H
													H
		11000	42.02	-31.98	74	37.48	40.3	15.27	51.03	100	0	P	V
		16500	39.98	-34.02	74	34.66	38.9	18.29	51.87	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

Emission below 1GHz

WIFI 802.11ac VHT20 (LF @ 3m)

<WPC Back cover + LG Charging Pad>

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac(20) LF		95.07	32.62	-10.88	43.5	47.73	15.5	1.17	31.78			P	H
		213.87	34.57	-8.93	43.5	48.41	16.2	1.74	31.78	128	255	P	H
		283.8	26.72	-19.28	46	37.03	19.32	2.13	31.76			P	H
		331.5	32.18	-13.82	46	41.13	20.59	2.23	31.77			P	H
		927.2	32.96	-13.04	46	30.35	29.97	3.86	31.22			P	H
		942.6	33.32	-12.68	46	30.11	30.41	3.89	31.09			P	H
													H
													H
													H
													H
													H
													H
		42.15	32.59	-7.41	40	44.85	18.62	0.93	31.81	322	169	P	V
		209.82	30.48	-13.02	43.5	44.34	16.18	1.74	31.78			P	V
		245.46	27.6	-18.4	46	39.14	18.25	1.98	31.77			P	V
		324.5	29.93	-16.07	46	39.07	20.4	2.23	31.77			P	V
		814.5	30.81	-15.19	46	30.48	28.48	3.7	31.85			P	V
		953.1	33.89	-12.11	46	30.42	30.59	3.89	31.01			P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

Appendix B. Radiated Spurious Emission

Test Engineer :	J.C. Liang, Jacky Su, and Ken Wu	**Temperature :**	20~23°C
		Relative Humidity :	50~54%

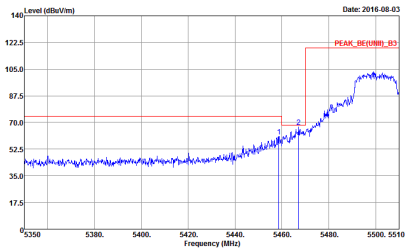
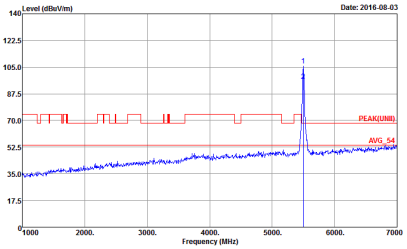
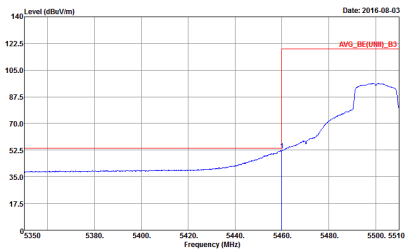
Note symbol

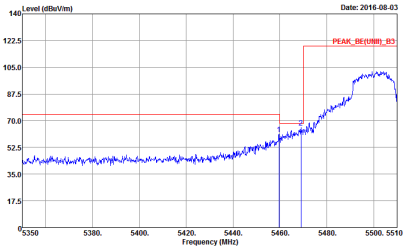
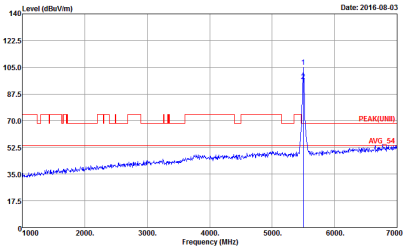
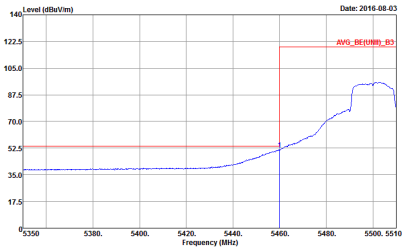
-L	**Low channel location**
-R	**High channel location**

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

<WPC Back cover + LG Charging Pad>

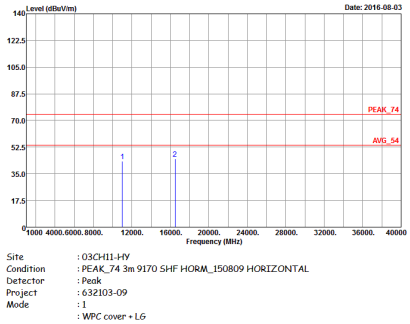
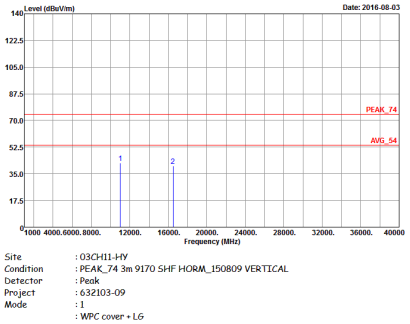
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac(20) CH100 5500MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632103-09 Mode : 1 : WPC cover + LG : 68.3	 Site : 03CH11-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632103-09 Mode : 1 : WPC cover + LG : 68.3
Avg.	 Site : 03CH11-HY Condition : AVG_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 632103-09 Mode : 1 : WPC cover + LG : 68.3	

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac(20) CH100 5500MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632103-09 Mode : 1 : WPC cover + LG : 68.3	 Site : 03CH11-HY Condition : PEAK(UNII) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632103-09 Mode : 1 : WPC cover + LG : 68.3
Avg.	 Site : 03CH11-HY Condition : AVG_BE(UNII)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 632103-09 Mode : 1 : WPC cover + LG : 68.3	

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

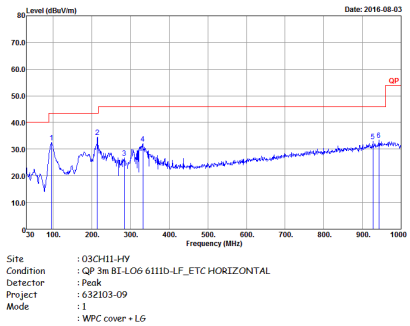
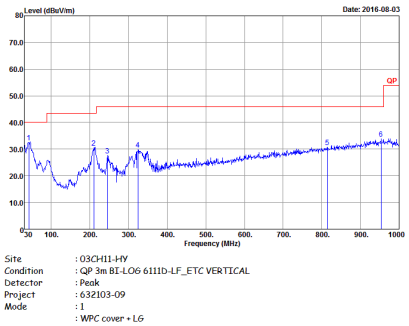
<WPC Back cover + LG Charging Pad>

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac(20) CH100 5500MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

5GHz WIFI 802.11ac VHT20 (LF)

<WPC Back cover + LG Charging Pad>

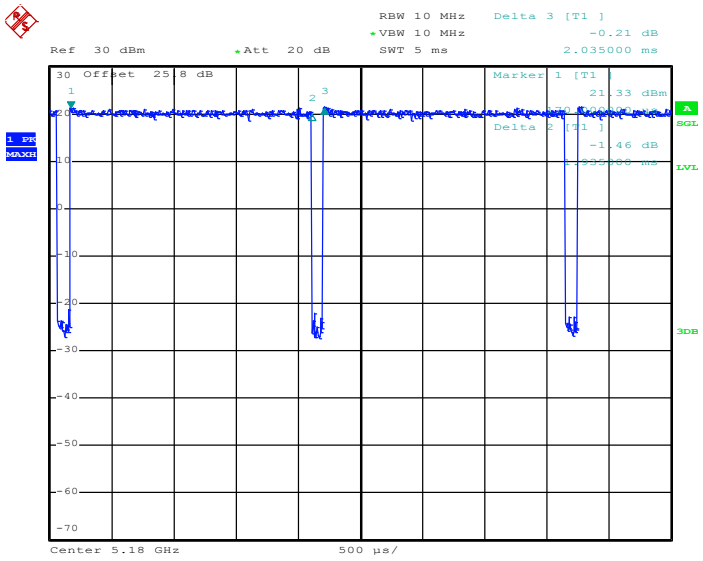
WIFI	5GHz WIFI	
ANT	802.11ac(20) LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	5GHz 802.11ac VHT20 for Ant 1	95.09	1935	0.516795866	1kHz
1+2	5GHz 802.11ac VHT20 for Ant 2	94.63	1940	0.515463918	1kHz

MIMO <Ant. 1+2(1)>

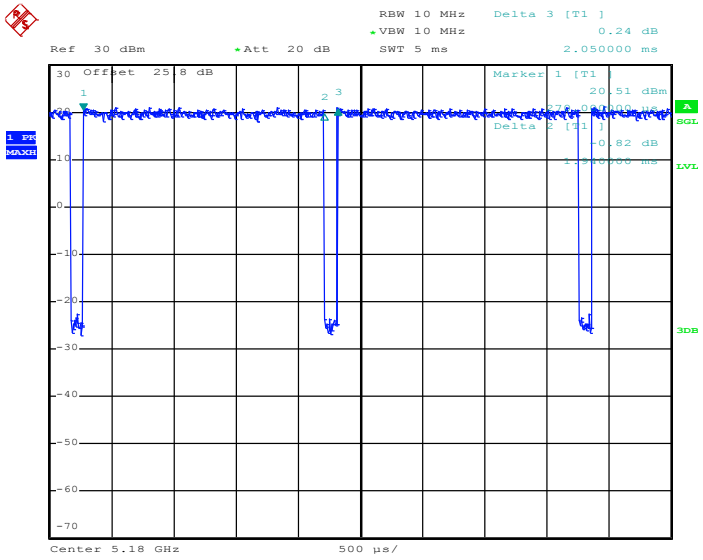
802.11ac VHT20



Date: 7.APR.2016 21:20:54

MIMO <Ant. 1+2(2)>

802.11ac VHT20



Date: 7.APR.2016 21:21:51

Appendix D. Original Report

Please refer to Sporton report number FR632103D as below.

FCC RF Test Report

APPLICANT	:	Motorola Mobility, LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	6576
FCC ID	:	IHDT56VB4
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

This is a variant report which is only valid together with the original test report. The product was received on Mar. 21, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures 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.

Reviewed by: Joseph Lin / Supervisor

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
FR632103D	Rev. 01	The WLAN circuitry of this variant model (6576) is identical to that of the parent product (4237), based on the product equality declaration by the manufacturer.	Jun. 16, 2016

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	6576
FCC ID	IHDT56VB4
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC 2.4GHz: WLAN 11b/g/n HT20; WLAN 11ac VHT20 5GHz: WLAN 11a/n HT20/HT40; WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v3.0 EDR Bluetooth v4.2 LE
HW Version	DVT2
EUT Stage	Identical Prototype

1.4 Re-use of Measured Data

1.4.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model 6576, FCC ID IHDT56VB4) is electrically identical to the reference device (Model 4237, FCC ID IHDT56VB1) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 178919 D01.

1.4.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Operational Description.

The re-used RF data includes the following bands provided in Appendix A (Sporton RF Report No. FR631828D for the reference device Model 4237, FCC ID IHDT56VB1):
-5GHz WLAN

1.4.3 Spot Check Verification Data Section

In order to confirm hardware similarity of the subject device with the reference device, spot check measurements were performed on the subject device for radiated spurious emission, the test result were consistent with FCC ID IHDT56VB1.

Assertions concerning the similarity of these devices are based on representations by the applicant. The applicant accepts full responsibility for the validity of the similarity claim, and for the determination that verification test data are sufficient to support it.

1.4.4 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test/RF Exposure	Report Title/Section
NII	IHDT56VB1	Part15E (FR631828D)	All sections applicable

1.5 Modification of EUT

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

Appendix A. Original Report

Please refer to Sporton report number FR631828D.