



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
FCC ID : IHDT56XE1
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

This is partial report. The product was received on Mar. 07, 2018 and testing was completed on Apr. 04, 2018. We, Sporton International (Kunshan) 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.

This report contains data that were produced under subcontract by Laboratory SPORTON INTERNATIONAL INC.

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.

James Huang



Approved by: James Huang / Manager

Sporton International (Kunshan) Inc.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR811821-09E	Rev. 01	Initial issue of report	Apr. 23, 2018



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.21 dB at 2483.620 MHz
3.2	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
FCC ID	IHDT56XE1
IMEI Code	351886090021889
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/GNSS/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	DVT2
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. This is a variant report by adding WPC Back Cover. All the test cases were performed on original report which can be referred to Sporton Report Number FR811821E. Based on the original report, only worst case was verified.

Accessory List	
WPC Cover	Brand Name : Motorola
	Model Name : MD100W



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Antenna Type / Gain	Loop Antenna with gain -5.00 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

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



1.6 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

Test Site	Sporton International (Kunshan) Inc.	
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	Sporton Site No.	FCC Test Firm Registration No.
	03CH03-KS	630927

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 C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
- ♦ 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

- a. 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: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

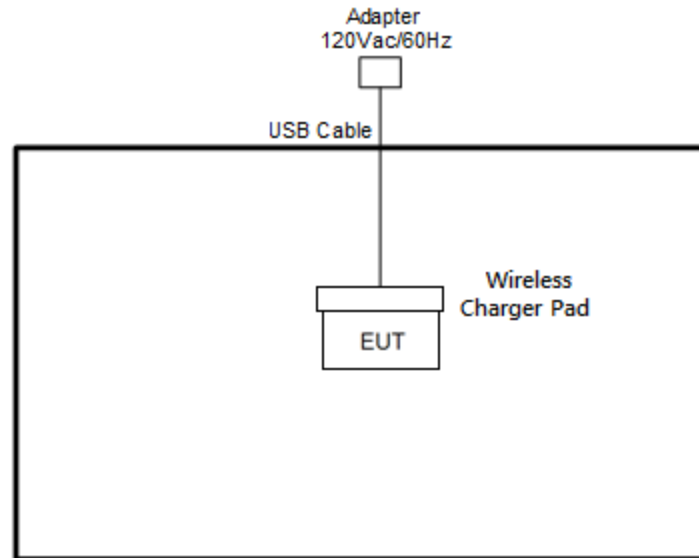
2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

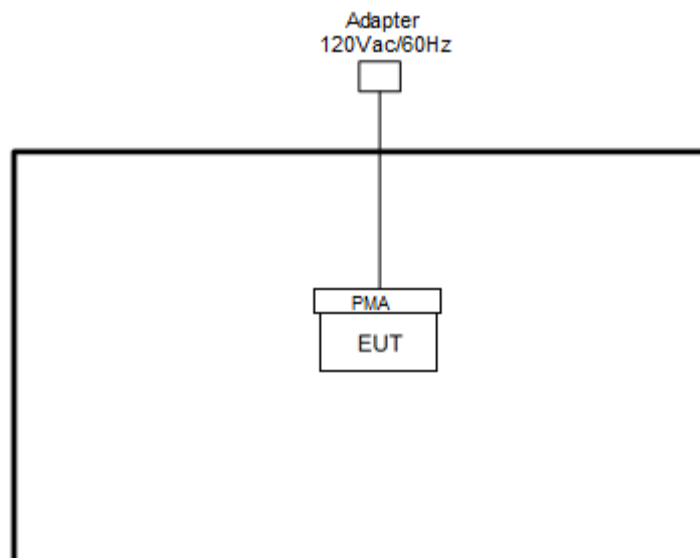
Modulation	Data Rate
802.11n HT20	MCS0

2.3 Connection Diagram of Test System

<WLAN Tx with WPC Charging Mode>



<WLAN Tx 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.	LG Charging pad	LG	WCD-110	FCC DoC	N/A	N/A
2.	PMA Charging pad	Moto	kinxie	FCC DoC	N/A	N/A
3.	USB Cable	N/A	N/A	N/A	N/A	N/A
4.	Adapter	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.



3 Test Result

3.1 Radiated Band Edges and Spurious Emission Measurement

3.1.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

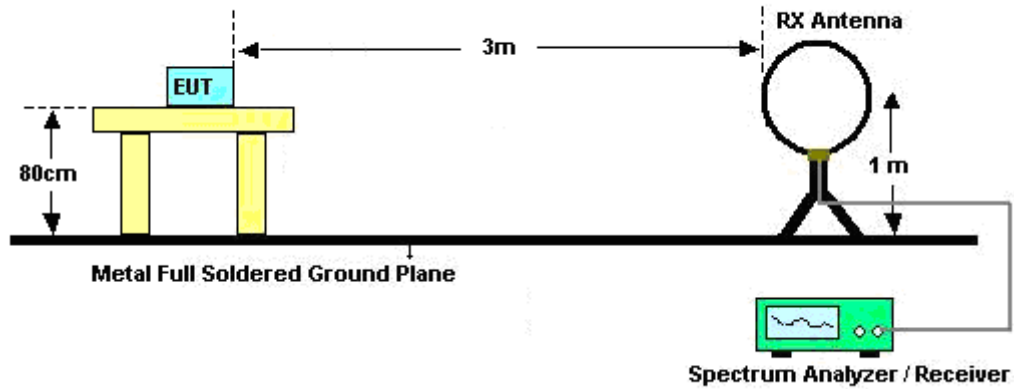
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. 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.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
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.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

For average measurement:

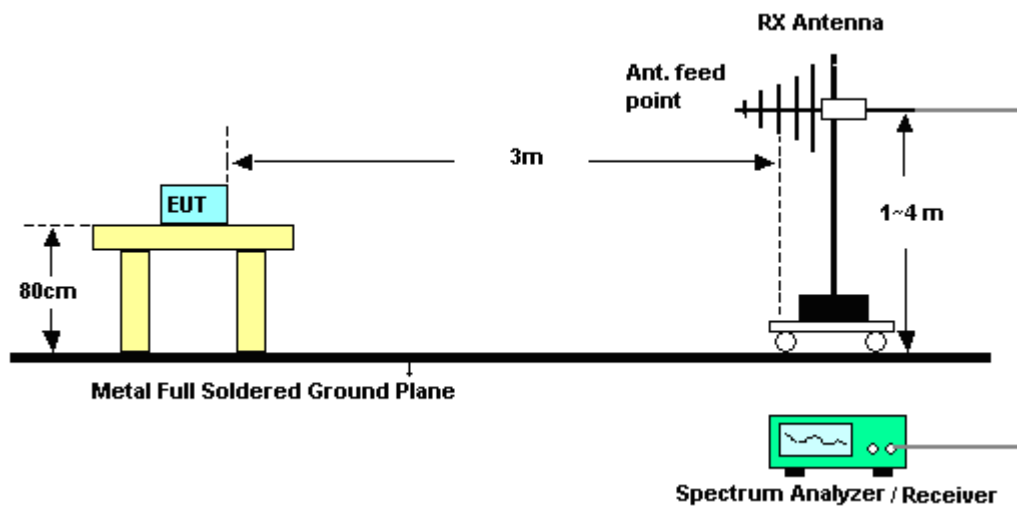
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.1.4 Test Setup

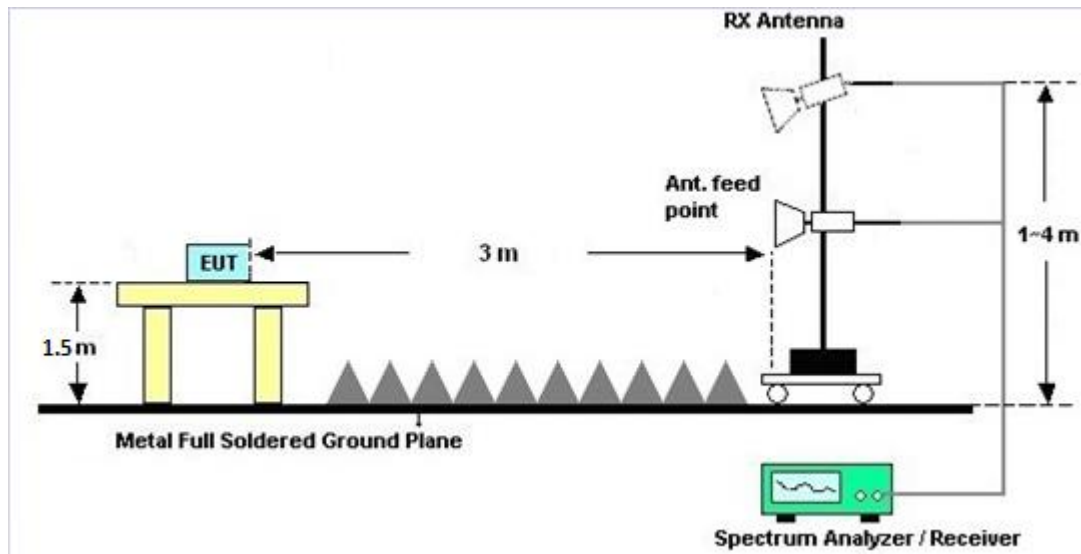
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.1.6 Test Result of Radiated Spurious at 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 Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix A and B.



3.2 Antenna Requirements

3.2.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.2.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.2.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44GHz	Apr. 18, 2017	Apr. 04, 2018	Apr. 17, 2018	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz-2GHz	Apr. 22, 2017	Apr. 04, 2018	Apr. 21, 2018	Radiation (03CH03-KS)
Double Ridge horn Antenna	ETS-lindgren	3117	75959	1GHz~18GHz	Jan. 21, 2018	Apr. 04, 2018	Jan. 20, 2019	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz ~1000MHz / 32 dB	Apr. 18, 2017	Apr. 04, 2018	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	com-power	MITEQ	2025788	100MHz ~1800MHz /	Apr. 18, 2017	Apr. 04, 2018	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 12, 2017	Apr. 04, 2018	Oct. 11, 2018	Radiation (03CH03-KS)
RF Cable	HUBER+SUHNER	SUCOFLEX104	03CH01KS003	30Mhz-18Ghz	Jun. 20, 2017	Apr. 04, 2018	Jun. 19, 2018	Radiation (03CH04-KS)
RF Cable	HUBER+SUHNER	SUCOFLEX104	03CH01KS004	30Mhz-18Ghz	Jun. 20, 2017	Apr. 04, 2018	Jun. 19, 2018	Radiation (03CH04-KS)
High Pass Filter	Wainwright Instruments GmbH	WHKX12-2805-3000-18000-40ST	2	3G High Pass	Jun. 22, 2017	Apr. 04, 2018	Jun. 22, 2018	Radiation (03CH04-KS)
Low Pass Filter	Wainwright Instruments GmbH	WLK4-1000-1530-8000-40SS	2	1G Low Pass	Jun. 22, 2017	Apr. 04, 2018	Jun. 22, 2018	Radiation (03CH04-KS)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.60
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.50
--	------

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.50
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Appendix A. Radiated Spurious Emission

Test Engineer :	Genry Long	Temperature :	21~23°C
		Relative Humidity :	41~43%

<LG Charging Mode>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 11 2462MHz	*	2464	111.57	-	-	108.52	32.03	7.69	36.67	189	31	P	H
	*	2462	102.68	-	-	99.63	32.03	7.69	36.67	189	31	A	H
		2487.4	62.43	-11.57	74	59.3	32.09	7.72	36.68	189	31	P	H
	!	2483.62	50.79	-3.21	54	47.66	32.09	7.72	36.68	189	31	A	H
													H
													H
	*	2462	111.52	-	-	108.47	32.03	7.69	36.67	368	113	P	V
	*	2460	103.47	-	-	100.42	32.03	7.69	36.67	368	113	A	V
		2485.48	61.09	-12.91	74	57.96	32.09	7.72	36.68	368	113	P	V
	!	2483.51	50.26	-3.74	54	47.13	32.09	7.72	36.68	368	113	A	V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												

**2.4GHz 2400~2483.5MHz****WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1	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)
802.11n HT20 CH 11 2462MHz		4926	41.36	-32.64	74	60.04	34.38	11.62	64.68	200	360	P	H
		7386	47.48	-26.52	74	62.72	35.84	13.97	65.05	200	360	P	H
													H
													H
		4926	43.21	-30.79	74	61.89	34.38	11.62	64.68	100	360	P	V
		7386	42.73	-31.27	74	57.97	35.84	13.97	65.05	100	360	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		32.91	20.29	-19.71	40	26.49	25.23	0.61	32.04	-	-	P	H
		44.55	17.71	-22.29	40	28.59	20.57	0.66	32.11	-	-	P	H
		107.6	16.4	-27.1	43.5	29.42	17.85	1.05	31.92	-	-	P	H
		263.77	21.2	-24.8	46	33.58	17.26	1.79	31.43	-	-	P	H
		359.8	23.17	-22.83	46	31.16	20.93	1.94	30.86	-	-	P	H
		408.3	29.23	-16.77	46	32.3	25.52	2.09	30.68	100	252	P	H
													H
													H
													H
													H
													H
													H
		44.55	30.86	-9.14	40	41.74	20.57	0.66	32.11	100	21	P	V
		56.19	30.38	-9.62	40	47.63	14.1	0.77	32.12	-	-	P	V
		99.84	27.62	-15.88	43.5	40.84	17.7	1.01	31.93	-	-	P	V
		404.42	22.99	-23.01	46	25.99	25.61	2.08	30.69	-	-	P	V
		696.39	25.78	-20.22	46	25.62	26.32	2.75	28.91	-	-	P	V
		920.46	27.12	-18.88	46	23.44	27.9	3.14	27.36	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



<PMA Charging Mode>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 11 2462MHz	*	2462	110.4	-	-	107.35	32.03	7.69	36.67	138	37	P	H
	*	2464	102.15	-	-	99.1	32.03	7.69	36.67	138	37	A	H
		2488.24	60.72	-13.28	74	57.52	32.14	7.74	36.68	138	37	P	H
	!	2483.62	49.85	-4.15	54	46.72	32.09	7.72	36.68	138	37	A	H
													H
													H
	*	2460	110.56	-	-	107.51	32.03	7.69	36.67	331	119	P	V
	*	2464	103.13	-	-	100.08	32.03	7.69	36.67	331	119	A	V
		2483.86	60.4	-13.6	74	57.27	32.09	7.72	36.68	331	119	P	V
	!	2483.74	49.54	-4.46	54	46.41	32.09	7.72	36.68	331	119	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**2.4GHz 2400~2483.5MHz****WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1	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)
802.11n HT20 CH 11 2462MHz		4926	42.46	-31.54	74	61.14	34.38	11.62	64.68	100	360	P	H
		7386	42.7	-31.3	74	57.94	35.84	13.97	65.05	100	360	P	H
													H
													H
		4926	40.77	-33.23	74	59.45	34.38	11.62	64.68	100	360	P	V
		7386	42.64	-31.36	74	57.88	35.84	13.97	65.05	100	360	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		35.82	20.61	-19.39	40	27.51	24.5	0.64	32.04	100	31	P	H
		42.61	16.81	-23.19	40	26.91	21.33	0.65	32.08	-	-	P	H
		78.5	15.27	-24.73	40	31.52	14.9	0.91	32.06	-	-	P	H
		445.16	23.69	-22.31	46	27.39	24.69	2.17	30.56	-	-	P	H
		804.06	25.46	-20.54	46	24.53	26.55	2.67	28.29	-	-	P	H
		972.84	28.73	-25.27	54	23.55	28.98	3.22	27.02	-	-	P	H
													H
													H
													H
													H
													H
													H
		44.55	28.8	-11.2	40	39.68	20.57	0.66	32.11	-	-	P	V
		53.28	25.39	-14.61	40	42.15	14.6	0.75	32.11	-	-	P	V
		82.38	29	-11	40	44.68	15.43	0.94	32.05	100	258	P	V
		166.77	19.71	-23.79	43.5	33.21	16.96	1.32	31.78	-	-	P	V
		400.54	22.84	-23.16	46	25.77	25.7	2.08	30.71	-	-	P	V
		928.22	28.63	-17.37	46	24.71	28.06	3.16	27.3	-	-	P	V
													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	Peak or Average
H/V	Horizontal or Vertical



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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		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 Plots

Test Engineer :	Genry Long	Temperature :	21~23°C
		Relative Humidity :	41~43%

Note symbol

-L	Low channel location
-R	High channel location



<LG Charging Mode>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	Site : 03C003-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL RBW:1000.000Hz VBW:3000.000Hz SFT:Auto	Site : 03C003-ES Condition : FCC PART 15C 3m 96601- HF ANT 180125 HORIZONTAL RBW:1000.000Hz VBW:3000.000Hz SFT:Auto
Avg.	Site : 03C003-ES Condition : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL RBW:1000.000Hz VBW:1.000Hz SFT:Auto	Site : 03C003-ES Condition : FCC PART 15C (AVG) 3m 96601- HF ANT 180125 HORIZONTAL RBW:1000.000Hz VBW:1.000Hz SFT:Auto



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	Site : 03C803-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000Hz YBR:3000.000Hz SFT:Auto	Site : 03C803-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000Hz YBR:3000.000Hz SFT:Auto
Avg.	Site : 03C803-ES Condition : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000Hz YBR:1.000Hz SFT:Auto	Site : 03C803-ES Condition : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000Hz YBR:1.000Hz SFT:Auto



2.4GHz 2400~2483.5MHz

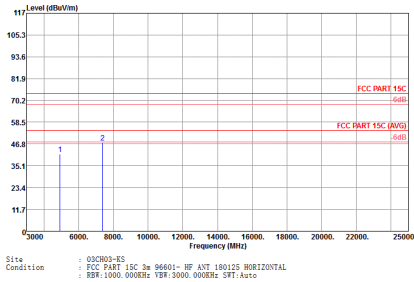
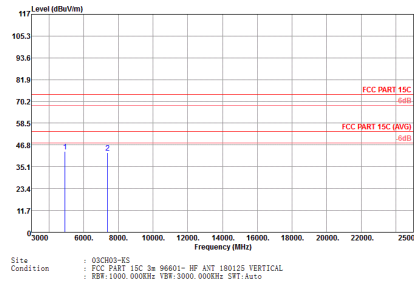
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CM03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL : RBW:1000.000MHz VBW:3000.000MHz SFT:Auto	Site : 03CM03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL : RBW:1000.000MHz VBW:3000.000MHz SFT:Auto



Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak		



<PMA Charging Mode>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	Site : 03CR03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL SFR: 1000.0000Hz TBF: 2000.0000Hz SFT: Auto	Site : 03CR03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL SFR: 1000.0000Hz TBF: 2000.0000Hz SFT: Auto
Avg.	Site : 03CR03-ES Condition : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 HORIZONTAL SFR: 1000.0000Hz TBF: 1.0000Hz SFT: Auto	Site : 03CR03-ES Condition : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 HORIZONTAL SFR: 1000.0000Hz TBF: 1.0000Hz SFT: Auto



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	Site : 03CR03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SFT:Auto	Site : 03CR03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SFT:Auto
Avg.	Site : 03CR03-ES Condition : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000KHz VBW:1.000KHz SFT:Auto	Site : 03CR03-ES Condition : FCC PART 15C (AVG) 3m 96601- RF ANT 180125 VERTICAL RBW:1000.000KHz VBW:1.000KHz SFT:Auto



2.4GHz 2400~2483.5MHz

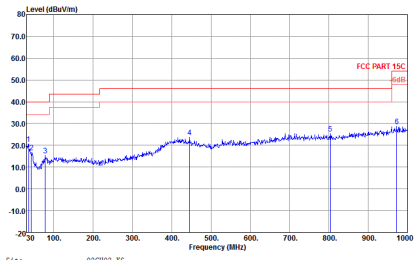
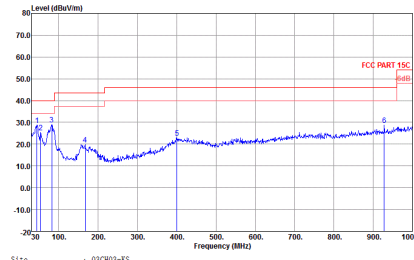
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CM03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 HORIZONTAL RBP: 1000.000MHz YBW: 3000.000MHz SFT: Auto	Site : 03CM03-ES Condition : FCC PART 15C 3m 96601- RF ANT 180125 VERTICAL RBP: 1000.000MHz YBW: 3000.000MHz SFT: Auto



Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak	 Site : 03CM03-ES Condition : FCC PART 15C 3m 02 LF ANT HORIZONTAL RDP:100.000Hz YBW:300.000Hz SFT:Auto	 Site : 03CM03-ES Condition : FCC PART 15C 3m 02 LF ANT VERTICAL RDP:100.000Hz YBW:300.000Hz SFT:Auto



Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
2.4GHz 802.11n HT20	94.33	1.915	0.52	1KHz	0.18

2.4GHz 802.11n HT20

