FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT1920DL
FCC ID	:	IHDT56XF2
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

This is a data re-used report which is only valid together with the original test report. The product was received on Mar. 23, 2018 and testing was completed on Apr. 10, 2018. We, Sporton International (Shenzhen) 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 (Shenzhen) Inc., the test report shall not be reproduced except in full.

Eric Shih

Approved by: Eric Shih / Manager

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Sporton International (Shenzhen) Inc.
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR832306C	Rev. 01	Initial issue of report	May 09, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
-	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	1
-	-	99% Bandwidth	-	Pass	1
3.1	15.247(b)	Power Output Measurement	≤ 30dBm	Pass	-
-	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	1
-	15.247(d)	Conducted Band Edges	≤ 20dBc	Pass	1
		Conducted Spurious Emission		Pass	1
3.2	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 8.44 dB at 2483.520 MHz
3.3	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 14.90 dB at 0.590 MHz
3.4	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

Remark: 1. All conducted related test items refer to Sporton report No.FR7D1310C.

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1920DL
FCC ID	IHDT56XF2
EUT supports Radios application	CDMA/EVDO/GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/ HSPA+ (16QAM uplink is not supported) /LTE WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth v3.0 + EDR / Bluetooth v4.0 LE Bluetooth v4.1 LE/ Bluetooth v4.2 LE
IMEI/MEID Code	Conducted: NA Radiation: 35413209000676 Conduction: 354132090007199
HW Version	DVT1B
SW Version	OPP28.1
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to antenna	802.11b : 21.96 dBm (0.1570 W) 802.11g : 23.83 dBm (0.2415 W) 802.11n HT20 : 23.35 dBm (0.2163 W)
Antenna Type / Gain	IFA Antenna with gain 1.50 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola (Acbel)	**Model Name**	C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
AC Adapter 2	**Brand Name**	Motorola (Salom)	**Model Name**	SSW-2919UMTJ C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
Battery	**Brand Name**	Motorola (SCUD)	**Model Name**	BL270
	Power Rating	3.85Vdc,4000mAh	**Type**	Li-ion, ATL426580
USB Cable	**Brand Name**	Motorola (Saibao)	**Model Name**	SLQ-A077A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		

1.6 Re-use of Measured Data

1.6.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: XT1920DL, FCC ID: IHDT56XF2) is electrically identical to the reference device: (Model: XT1922-6, XT1922-7, XT1922-9, FCC ID: IHDT56XB1) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 484596 D01.

1.6.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Product Equality Declaration.

The re-used RF data includes the following bands provided in Appendix E (Sporton RF Report No. FR7D1310C for the reference device Model: XT1922-6, XT1922-7, XT1922-9, FCC ID: IHDT56XB1):

1.6.3 Spot Check Verification Data Section

For conducted test items, In order to confirm hardware similarity of the subject device with the reference device, spot check measurements were performed on the subject device for conducted power, conducted-Bandedge , the test result were consistent with FCC ID: IHDT56XB1 and RSE/Conduction to re-test.

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.

1.6.4 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test	Report Title/Section
DSS	IHDT56XB1	Part15C(FR7D1310A)	All conducted sections(except Conducted Power) applicable
DTS	IHDT56XB1	Part15C(FR7D1310B)	All conducted sections(except Conducted Power) applicable
DTS	IHDT56XB1	Part15C(FR7D1310C)	All conducted sections(except Conducted Power) applicable

1.7 Modification of EUT

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

1.8 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. are CN5018 and CN5019.

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595		
Test Site No.	**Sporton Site No.**		**FCC Test Firm Registration No.**
	TH01-SZ	CO01-SZ	251365

Test Site	Sporton International (Shenzhen) Inc.	
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China TEL: +86-755-3320-2398	
Test Site No.	**Sporton Site No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	577730

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

1.9 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

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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases(z-Plane) were recorded in this report.

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

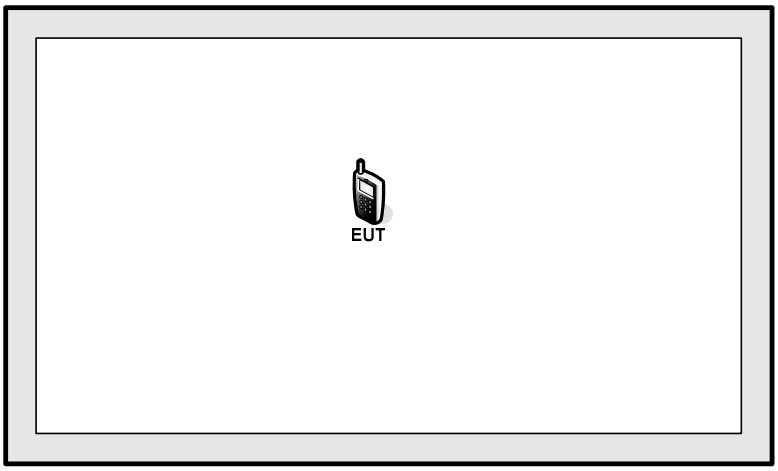
Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0

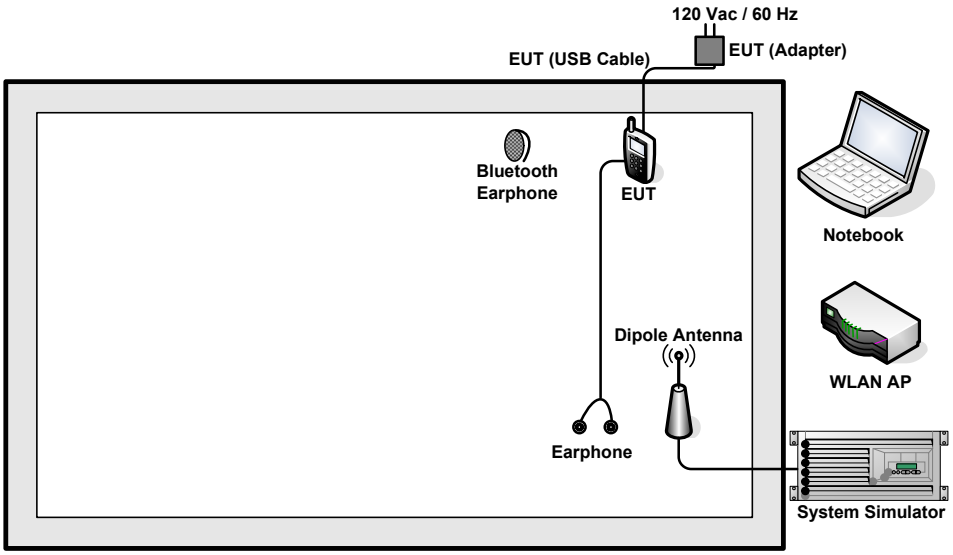
Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band II Idle + Bluetooth Link + WLAN Link (2.4G) + USB Cable (Charging from Adapter 2) + Earphone + Camera(Front) + SD card load

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission 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-820L	KA2IR820LA1	N/A	Unshielded, 1.8 m
3.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
4.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
5.	SD Card	N/A	MicroSD HC	FCC DoC	N/A	N/A
6.	Earphone	MOTO	Ashley ROW	N/A	Unshielded,1.2m	N/A

2.5 EUT Operation Test Setup

For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

3 Test Result

3.1 Output Power Measurement

3.1.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

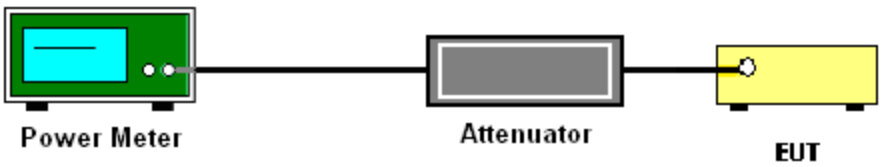
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.1.2 PKPM1 Peak power meter method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.1.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A.

3.2 Radiated Band Edges and Spurious Emission Measurement

3.2.1 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

3.2.2 Measuring Instruments

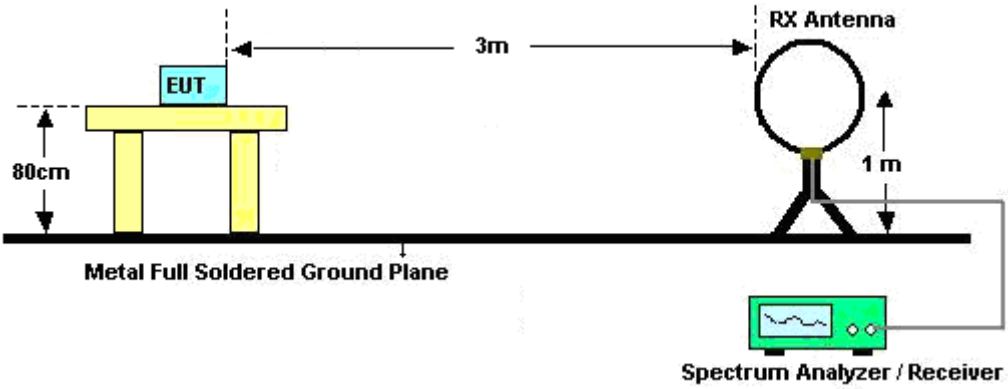
The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

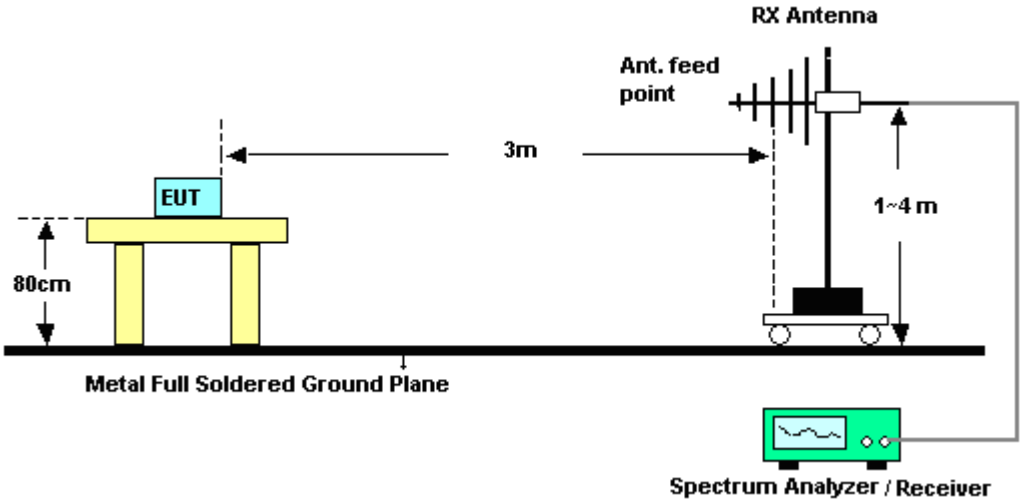
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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 measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - 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.

3.2.4 Test Setup

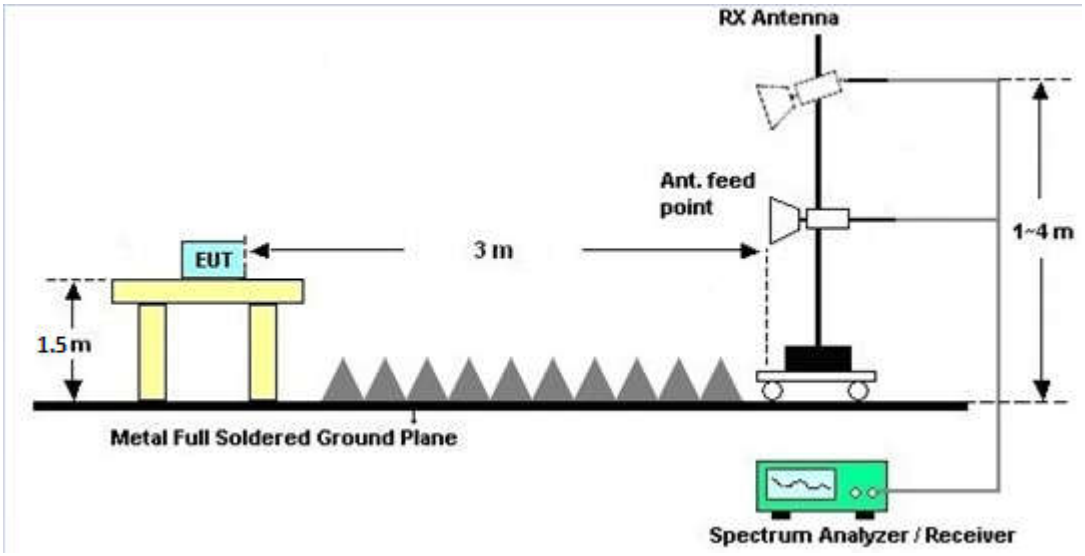
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5 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.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

3.2.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix B.

3.3 AC Conducted Emission Measurement

3.3.1 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.

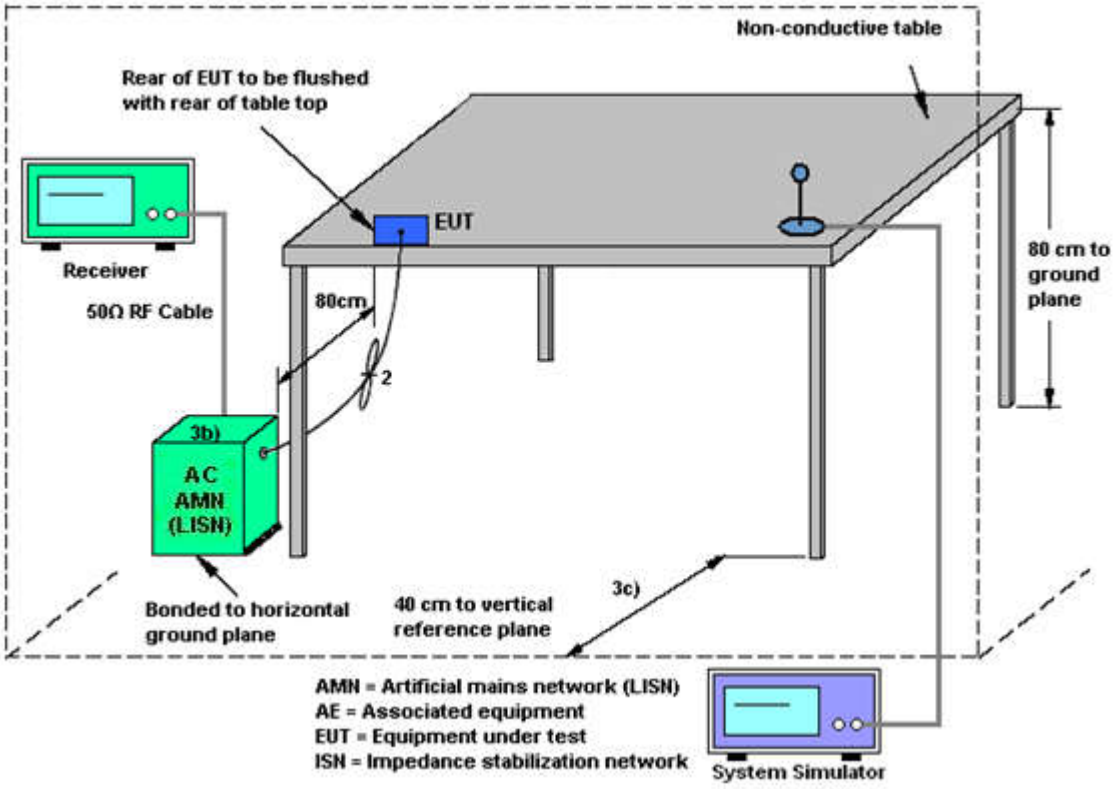
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

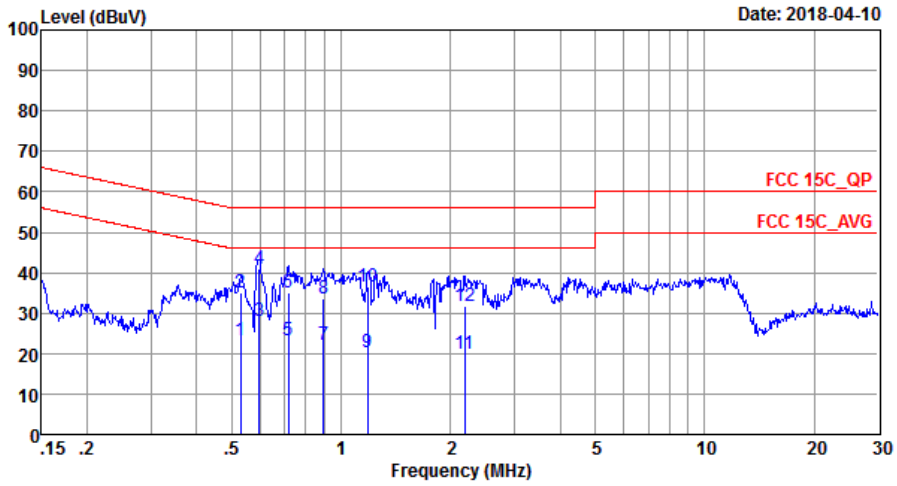
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other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

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

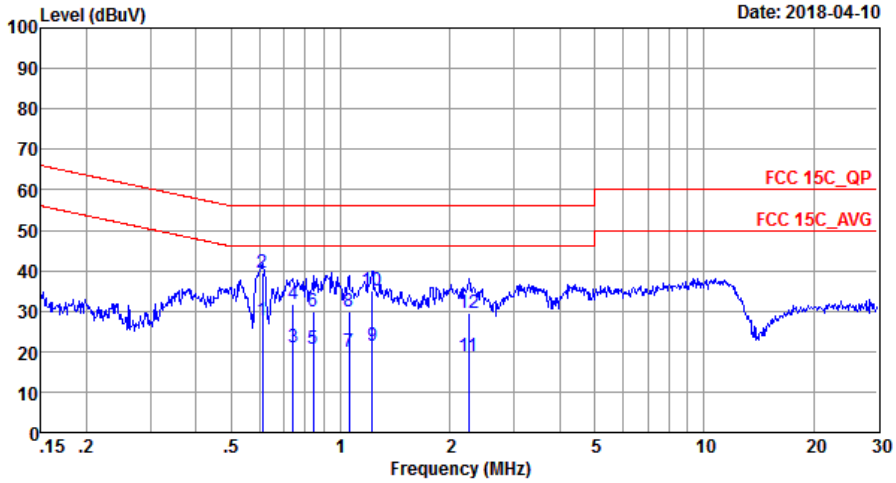
Test Mode :	Mode 1	**Temperature :**	22~25℃
Test Engineer :	Lion Gao	**Relative Humidity :**	50~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WCDMA Band II Idle + Bluetooth Link + WLAN Link (2.4G) + USB Cable (Charging from Adapter 2) + Earphone + Camera(Front) + SD card load		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_20170907_L LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.53	23.30	-22.70	46.00	13.20	0.02	10.08	Average
2		0.53	34.90	-21.10	56.00	24.80	0.02	10.08	QP
3		0.59	28.10	-17.90	46.00	18.00	0.02	10.08	Average
4	*	0.59	41.10	-14.90	56.00	31.00	0.02	10.08	QP
5		0.72	23.10	-22.90	46.00	13.00	0.02	10.08	Average
6		0.72	35.00	-21.00	56.00	24.90	0.02	10.08	QP
7		0.89	22.14	-23.86	46.00	12.00	0.05	10.09	Average
8		0.89	33.74	-22.26	56.00	23.60	0.05	10.09	QP
9		1.18	20.37	-25.63	46.00	10.20	0.08	10.09	Average
10		1.18	36.57	-19.43	56.00	26.40	0.08	10.09	QP
11		2.19	19.84	-26.16	46.00	9.60	0.12	10.12	Average
12		2.19	31.74	-24.26	56.00	21.50	0.12	10.12	QP

Test Mode :	Mode 1	Temperature :	22~25℃
Test Engineer :	Lion Gao	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Link + WLAN Link (2.4G) + USB Cable (Charging from Adapter 2) + Earphone + Camera(Front) + SD card load		



Site : CO01-SZ
Condition: FCC 15C QP LISN 20170907_N NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.61	27.50	-18.50	46.00	17.40	0.02	10.08	Average
2	*	0.61	39.30	-16.70	56.00	29.20	0.02	10.08	QP
3		0.74	21.01	-24.99	46.00	10.91	0.02	10.08	Average
4		0.74	31.71	-24.29	56.00	21.61	0.02	10.08	QP
5		0.84	20.82	-25.18	46.00	10.69	0.04	10.09	Average
6		0.84	29.82	-26.18	56.00	19.69	0.04	10.09	QP
7		1.05	19.84	-26.16	46.00	9.70	0.05	10.09	Average
8		1.05	29.84	-26.16	56.00	19.70	0.05	10.09	QP
9		1.22	21.24	-24.76	46.00	11.10	0.05	10.09	Average
10		1.22	35.14	-20.86	56.00	25.00	0.05	10.09	QP
11		2.25	18.96	-27.04	46.00	8.80	0.04	10.12	Average
12		2.25	29.66	-26.34	56.00	19.50	0.04	10.12	QP

3.4 Antenna Requirements

3.4.1 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.

3.4.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.4.3 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
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2017	Mar. 30, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2017	Mar. 30, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Apr. 20, 2017	Apr. 10, 2018	Apr. 19, 2018	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 20, 2017	Apr. 10, 2018	Apr. 19, 2018	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2017	Apr. 10, 2018	May 13, 2018	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	May 16, 2017	Apr. 10, 2018	May 15, 2018	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Apr. 10, 2018	Dec. 12, 2018	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	May 17, 2017	Apr. 10, 2018	May 16, 2018	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19, 2017	Apr. 10, 2018	Oct. 18, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1989346	1GHz~18GHz	Jul. 27, 2017	Apr. 10, 2018	Jul. 26, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1988315	18GHz~40GHz	Jul. 27, 2017	Apr. 10, 2018	Jul. 26, 2018	Radiation (03CH04-SZ
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Apr. 20, 2017	Apr. 10, 2018	Apr. 19, 2018	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Apr. 10, 2018	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 10, 2018	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 10, 2018	NCR	Radiation (03CH04-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2017	Apr. 10, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Dec. 26, 2017	Apr. 10, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Nov. 01, 2017	Apr. 10, 2018	Oct. 31, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 19, 2017	Apr. 10, 2018	Jul. 18, 2018	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.6dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1dB

Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.8dB

Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1dB

Appendix A. Conducted Test Results

Report Number : FR832306C

A1 - DTS Part

Test Engineer:	Wilson Chen	Temperature:	21~25	°C
Test Date:	2018/3/30	Relative Humidity:	51~54	%

TEST RESULTS DATA
Average Power Table
(Reporting Only)

2.4GHz Band						
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
11b	1Mbps	1	1	2412	0.09	18.87
11b	1Mbps	1	6	2437	0.09	19.17
11b	1Mbps	1	11	2462	0.09	18.77
11g	6Mbps	1	1	2412	0.58	14.73
11g	6Mbps	1	2	2417	0.58	16.93
11g	6Mbps	1	6	2437	0.58	18.73
11g	6Mbps	1	10	2457	0.58	17.28
11g	6Mbps	1	11	2462	0.58	15.04
HT20	MCS0	1	1	2412	0.62	14.40
HT20	MCS0	1	2	2417	0.62	16.73
HT20	MCS0	1	6	2437	0.62	17.55
HT20	MCS0	1	10	2457	0.62	16.04
HT20	MCS0	1	11	2462	0.62	13.71

TEST RESULTS DATA
Peak Power Table

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
11b	1Mbps	1	1	2412	21.32	30.00	1.50	22.82	36.00	Pass
11b	1Mbps	1	6	2437	21.96	30.00	1.50	23.46	36.00	Pass
11b	1Mbps	1	11	2462	21.25	30.00	1.50	22.75	36.00	Pass
11g	6Mbps	1	1	2412	18.89	30.00	1.50	20.39	36.00	Pass
11g	6Mbps	1	2	2417	21.41	30.00	1.50	22.91	36.00	Pass
11g	6Mbps	1	6	2437	23.83	30.00	1.50	25.33	36.00	Pass
11g	6Mbps	1	10	2457	21.56	30.00	1.50	23.06	36.00	Pass
11g	6Mbps	1	11	2462	19.42	30.00	1.50	20.92	36.00	Pass
HT20	MCS0	1	1	2412	18.90	30.00	1.50	20.40	36.00	Pass
HT20	MCS0	1	2	2417	21.52	30.00	1.50	23.02	36.00	Pass
HT20	MCS0	1	6	2437	23.35	30.00	1.50	24.85	36.00	Pass
HT20	MCS0	1	10	2457	21.22	30.00	1.50	22.72	36.00	Pass
HT20	MCS0	1	11	2462	18.68	30.00	1.50	20.18	36.00	Pass

Appendix B. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 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)
802.11b CH 01 2412MHz		2389.17	48.11	-25.89	74	44.11	27.7	4.78	28.48	108	315	P	H
		2389.905	37.92	-16.08	54	33.8	27.7	4.78	28.36	108	315	A	H
	*	2412	100.99	-	-	96.88	27.69	4.78	28.36	108	315	P	H
	*	2412	98.04	-	-	93.93	27.69	4.78	28.36	108	315	A	H
		2387.385	48.26	-25.74	74	44.26	27.7	4.78	28.48	128	326	P	V
		2390	38.63	-15.37	54	34.51	27.7	4.78	28.36	128	326	A	V
	*	2412	103.55	-	-	99.44	27.69	4.78	28.36	128	326	P	V
	*	2412	99.61	-	-	95.5	27.69	4.78	28.36	128	326	A	V
802.11b CH 06 2437MHz		2385.04	46.95	-27.05	74	42.93	27.72	4.78	28.48	109	317	P	H
		2389.66	36.76	-17.24	54	32.76	27.7	4.78	28.48	109	317	A	H
	*	2437	102.89	-	-	98.65	27.66	4.82	28.24	109	317	P	H
	*	2437	99.91	-	-	95.67	27.66	4.82	28.24	109	317	A	H
		2483.55	47.68	-26.32	74	43.21	27.63	4.85	28.01	109	317	P	H
		2483.55	37.09	-16.91	54	32.62	27.63	4.85	28.01	109	317	A	H
		2389.1	46.96	-27.04	74	42.96	27.7	4.78	28.48	125	324	P	V
		2389.8	37.32	-16.68	54	33.2	27.7	4.78	28.36	125	324	A	V
	*	2437	103.23	-	-	98.99	27.66	4.82	28.24	125	324	P	V
	*	2437	100.3	-	-	96.06	27.66	4.82	28.24	125	324	A	V
		2489.85	47.8	-26.2	74	43.35	27.61	4.85	28.01	125	324	P	V
		2484.46	37.51	-16.49	54	33.04	27.63	4.85	28.01	125	324	A	V

802.11b CH 11 2462MHz	*	2462	103.58	-	-	99.25	27.64	4.82	28.13	105	315	P	H
	*	2462	100.5	-	-	96.17	27.64	4.82	28.13	105	315	A	H
		2486.04	49.52	-24.48	74	45.05	27.63	4.85	28.01	105	315	P	H
		2486.52	40.15	-13.85	54	35.68	27.63	4.85	28.01	105	315	A	H
	*	2462	104.06	-	-	99.73	27.64	4.82	28.13	118	324	P	V
	*	2462	101.04	-	-	96.71	27.64	4.82	28.13	118	324	A	V
		2483.88	49.27	-24.73	74	44.8	27.63	4.85	28.01	118	324	P	V
		2487.12	40.47	-13.53	54	36	27.63	4.85	28.01	118	324	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (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)
802.11b CH 01 2412MHz		4824	39.89	-34.11	74	60.77	31.76	5.55	58.19	141	214	P	H
		4824	37.8	-36.2	74	58.95	31.49	5.55	58.19	152	260	P	V
802.11b CH 06 2437MHz		4874	39.27	-34.73	74	59.84	31.88	5.65	58.1	120	189	P	H
		7311	44.2	-29.8	74	57.98	36.88	7.26	57.92	200	352	P	H
		4874	38.57	-35.43	74	59.41	31.61	5.65	58.1	114	148	P	V
		7311	42.79	-31.21	74	57.28	36.17	7.26	57.92	189	238	P	V
802.11b CH 11 2462MHz		4924	37.01	-36.99	74	57.17	32	5.86	58.02	150	254	P	H
		7386	44.06	-29.94	74	57.3	37.21	7.2	57.65	189	65	P	H
		4924	36.22	-37.78	74	56.65	31.73	5.86	58.02	185	287	P	V
		7386	44.08	-29.92	74	58.25	36.28	7.2	57.65	189	238	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 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)
802.11g CH 01 2412MHz		2389.275	55.3	-18.7	74	51.3	27.7	4.78	28.48	158	315	P	H
		2389.8	40.59	-13.41	54	36.47	27.7	4.78	28.36	158	315	A	H
	*	2412	100.43	-	-	96.32	27.69	4.78	28.36	158	315	P	H
	*	2412	92.3	-	-	88.19	27.69	4.78	28.36	158	315	A	H
		2389.8	59.41	-14.59	74	55.29	27.7	4.78	28.36	188	313	P	V
		2389.8	42.86	-11.14	54	38.74	27.7	4.78	28.36	188	313	A	V
	*	2412	101.08	-	-	96.97	27.69	4.78	28.36	188	313	P	V
	*	2412	93.29	-	-	89.18	27.69	4.78	28.36	188	313	A	V
802.11g CH 02 2417MHz		2388.855	47.96	-26.04	74	43.96	27.7	4.78	28.48	167	133	P	H
		2389.695	38.62	-15.38	54	34.62	27.7	4.78	28.48	167	133	A	H
		2417	103.06	-	-	98.83	27.69	4.78	28.24	167	133	P	H
		2417	95.5	-	-	91.27	27.69	4.78	28.24	167	133	A	H
		2389.695	50.35	-23.65	74	46.35	27.7	4.78	28.48	117	51	P	V
		2389.695	38.21	-15.79	54	34.21	27.7	4.78	28.48	117	51	A	V
		2417	102.77	-	-	98.54	27.69	4.78	28.24	117	51	P	V
		2417	94.22	-	-	89.99	27.69	4.78	28.24	117	51	A	V
802.11g CH 06 2437MHz		2384.62	49.43	-24.57	74	45.41	27.72	4.78	28.48	158	314	P	H
		2384.62	40.88	-13.12	54	36.86	27.72	4.78	28.48	158	314	A	H
	*	2437	104.64	-	-	100.4	27.66	4.82	28.24	158	314	P	H
	*	2437	97.08	-	-	92.84	27.66	4.82	28.24	158	314	A	H
		2483.69	51.82	-22.18	74	47.35	27.63	4.85	28.01	158	314	P	H
		2488.87	39.49	-14.51	54	35.04	27.61	4.85	28.01	158	314	A	H
		2385.74	50.64	-23.36	74	46.64	27.7	4.78	28.48	180	312	P	V
		2384.62	42.94	-11.06	54	38.92	27.72	4.78	28.48	180	312	A	V
	*	2437	106.03	-	-	101.79	27.66	4.82	28.24	180	312	P	V
	*	2437	98.73	-	-	94.49	27.66	4.82	28.24	180	312	A	V
		2483.62	54.57	-19.43	74	50.1	27.63	4.85	28.01	180	312	P	V
		2489.22	41.32	-12.68	54	36.87	27.61	4.85	28.01	180	312	A	V

802.11g CH 10 2457MHz		2457	103.97	-	-	99.64	27.64	4.82	28.13	253	133	P	H
		2457	95.52	-	-	91.19	27.64	4.82	28.13	253	133	A	H
		2483.96	56.22	-17.78	74	51.75	27.63	4.85	28.01	253	133	P	H
		2483.52	43.92	-10.08	54	39.45	27.63	4.85	28.01	253	133	A	H
		2457	103.47	-	-	99.14	27.64	4.82	28.13	117	51	P	V
		2457	95.7	-	-	91.37	27.64	4.82	28.13	117	51	A	V
		2486.16	57.68	-16.32	74	53.21	27.63	4.85	28.01	117	51	P	V
		2483.84	45.14	-8.86	54	40.67	27.63	4.85	28.01	117	51	A	V
802.11g CH 11 2462MHz	*	2462	98.29	-	-	93.96	27.64	4.82	28.13	106	313	P	H
	*	2462	90.67	-	-	86.34	27.64	4.82	28.13	106	313	A	H
		2484	50.52	-23.48	74	46.05	27.63	4.85	28.01	106	313	P	H
		2483.52	39.75	-14.25	54	35.28	27.63	4.85	28.01	106	313	A	H
	*	2462	102.26	-	-	97.93	27.64	4.82	28.13	177	311	P	V
	*	2462	94.05	-	-	89.72	27.64	4.82	28.13	177	311	A	V
		2484.36	58.29	-15.71	74	53.82	27.63	4.85	28.01	177	311	P	V
		2483.52	45.56	-8.44	54	41.09	27.63	4.85	28.01	177	311	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (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)
802.11g CH 01 2412MHz		4824	38.89	-35.11	74	59.77	31.76	5.55	58.19	141	214	P	H
		4824	38.15	-35.85	74	59.3	31.49	5.55	58.19	152	260	P	V
802.11g CH 02 2417MHz		4834	37.63	-36.37	74	58.44	31.8	5.55	58.16	163	360	P	H
		7251	43.48	-30.52	74	57.57	36.68	7.32	58.09	163	360	P	H
		4834	37.58	-36.42	74	58.66	31.53	5.55	58.16	163	360	P	V
		7251	41.83	-32.17	74	56.49	36.11	7.32	58.09	163	360	P	V
802.11g CH 06 2437MHz		4874	38.41	-35.59	74	58.98	31.88	5.65	58.1	114	148	P	H
		7311	43.82	-30.18	74	57.6	36.88	7.26	57.92	189	238	P	H
		4874	37.88	-36.12	74	58.72	31.61	5.65	58.1	217	201	P	V
		7311	43.7	-30.3	74	58.19	36.17	7.26	57.92	100	140	P	V
802.11g CH 10 2457MHz		4834	37.63	-36.37	74	58.44	31.8	5.55	58.16	163	360	P	H
		7251	43.48	-30.52	74	57.57	36.68	7.32	58.09	163	360	P	H
		4834	37.58	-36.42	74	58.66	31.53	5.55	58.16	163	360	P	V
		7251	41.83	-32.17	74	56.49	36.11	7.32	58.09	163	360	P	V
802.11g CH 11 2462MHz		4924	37.66	-36.34	74	57.82	32	5.86	58.02	185	287	P	H
		7386	44.39	-29.61	74	57.63	37.21	7.2	57.65	189	238	P	H
		4924	37.06	-36.94	74	57.49	31.73	5.86	58.02	150	269	P	V
		7386	43.7	-30.3	74	57.87	36.28	7.2	57.65	189	238	P	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 (Band Edge @ 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 01 2412MHz		2389.59	54.65	-19.35	74	50.65	27.7	4.78	28.48	107	315	P	H
		2389.8	40.6	-13.4	54	36.48	27.7	4.78	28.36	107	315	A	H
	*	2412	99.05	-	-	94.94	27.69	4.78	28.36	107	315	P	H
	*	2412	91.31	-	-	87.2	27.69	4.78	28.36	107	315	A	H
		2389.8	57.96	-16.04	74	53.84	27.7	4.78	28.36	130	313	P	V
		2389.8	42.45	-11.55	54	38.33	27.7	4.78	28.36	130	313	A	V
	*	2412	100.79	-	-	96.68	27.69	4.78	28.36	130	313	P	V
	*	2412	92.82	-	-	88.71	27.69	4.78	28.36	130	313	A	V
802.11n HT20 CH 02 2417MHz		2389.8	49.75	-24.25	74	45.63	27.7	4.78	28.36	251	133	P	H
		2389.8	38.01	-15.99	54	33.89	27.7	4.78	28.36	251	133	A	H
		2417	103.11	-	-	98.88	27.69	4.78	28.24	251	133	P	H
		2417	94.84	-	-	90.61	27.69	4.78	28.24	251	133	A	H
		2388.225	49.59	-24.41	74	45.59	27.7	4.78	28.48	114	50	P	V
		2389.695	38.22	-15.78	54	34.22	27.7	4.78	28.48	114	50	A	V
		2417	102.79	-	-	98.56	27.69	4.78	28.24	114	50	P	V
		2417	94.29	-	-	90.06	27.69	4.78	28.24	114	50	A	V
802.11n HT20 CH 06 2437MHz		2385.32	50.18	-23.82	74	46.16	27.72	4.78	28.48	106	315	P	H
		2385.32	41.01	-12.99	54	36.99	27.72	4.78	28.48	106	315	A	H
	*	2437	103.71	-	-	99.47	27.66	4.82	28.24	106	315	P	H
	*	2437	96.29	-	-	92.05	27.66	4.82	28.24	106	315	A	H
		2484.39	50.91	-23.09	74	46.44	27.63	4.85	28.01	106	315	P	H
		2488.52	41.28	-12.72	54	36.83	27.61	4.85	28.01	106	315	A	H
		2385.32	51.29	-22.71	74	47.27	27.72	4.78	28.48	131	313	P	V
		2385.32	43.4	-10.6	54	39.38	27.72	4.78	28.48	131	313	A	V
	*	2437	104.99	-	-	100.75	27.66	4.82	28.24	131	313	P	V
	*	2437	97.68	-	-	93.44	27.66	4.82	28.24	131	313	A	V
		2488.24	51.6	-22.4	74	47.15	27.61	4.85	28.01	131	313	P	V
		2488.59	41.97	-12.03	54	37.52	27.61	4.85	28.01	131	313	A	V

802.11n HT20 CH 10 2457MHz		2457	102.82	-	-	98.49	27.64	4.82	28.13	252	134	P	H
		2457	94.95	-	-	90.62	27.64	4.82	28.13	252	134	A	H
		2484.24	56.89	-17.11	74	52.42	27.63	4.85	28.01	252	134	P	H
		2483.6	42.8	-11.2	54	38.33	27.63	4.85	28.01	252	134	A	H
		2457	102.33	-	-	98	27.64	4.82	28.13	123	60	P	V
		2457	94.33	-	-	90	27.64	4.82	28.13	123	60	A	V
		2485.28	57.02	-16.98	74	52.55	27.63	4.85	28.01	123	60	P	V
		2483.6	44.3	-9.7	54	39.83	27.63	4.85	28.01	123	60	A	V
802.11n HT20 CH 11 2462MHz	*	2462	99.35	-	-	95.02	27.64	4.82	28.13	107	314	P	H
	*	2462	91.82	-	-	87.49	27.64	4.82	28.13	107	314	A	H
		2483.64	57.03	-16.97	74	52.56	27.63	4.85	28.01	107	314	P	H
		2483.52	44.21	-9.79	54	39.74	27.63	4.85	28.01	107	314	A	H
	*	2462	100.07	-	-	95.74	27.64	4.82	28.13	129	313	P	V
	*	2462	92.42	-	-	88.09	27.64	4.82	28.13	129	313	A	V
		2483.76	59.31	-14.69	74	54.84	27.63	4.85	28.01	129	313	P	V
		2483.6	44.47	-9.53	54	40	27.63	4.85	28.01	129	313	A	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 01 2412MHz		4824	39.53	-34.47	74	60.41	31.76	5.55	58.19	141	214	P	H
		4824	38.41	-35.59	74	59.56	31.49	5.55	58.19	152	260	P	V
802.11n HT20 CH 02 2417MHz		4834	37.63	-36.37	74	58.44	31.8	5.55	58.16	163	360	P	H
		7251	43.48	-30.52	74	57.57	36.68	7.32	58.09	163	360	P	H
		4834	37.58	-36.42	74	58.66	31.53	5.55	58.16	163	360	P	V
		7251	41.83	-32.17	74	56.49	36.11	7.32	58.09	163	360	P	V
802.11n HT20 CH 06 2437MHz		4874	37.3	-36.7	74	57.87	31.88	5.65	58.1	114	148	P	H
		7311	43.8	-30.2	74	57.58	36.88	7.26	57.92	189	238	P	H
		4874	37.93	-36.07	74	58.77	31.61	5.65	58.1	217	201	P	V
		7311	42.75	-31.25	74	57.24	36.17	7.26	57.92	100	140	P	V
802.11n HT20 CH 10 2457MHz		4914	36.23	-37.77	74	56.55	31.96	5.76	58.04	163	360	P	H
		7371	43.35	-30.65	74	56.69	37.14	7.23	57.71	163	360	P	H
		4914	36.18	-37.82	74	56.77	31.69	5.76	58.04	163	360	P	V
		7371	43.37	-30.63	74	57.59	36.26	7.23	57.71	163	360	P	V
802.11n HT20 CH 11 2462MHz		4924	36.13	-37.87	74	56.29	32	5.86	58.02	185	287	P	H
		7386	43.97	-30.03	74	57.21	37.21	7.2	57.65	189	238	P	H
		4924	36.92	-37.08	74	57.35	31.73	5.86	58.02	150	269	P	V
		7386	44.19	-29.81	74	58.36	36.28	7.2	57.65	189	238	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

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)
2.4GHz 802.11g LF		30	23.01	-16.99	40	29.83	24.9	0.25	31.97	-	-	P	H
		137.67	17.59	-25.91	43.5	30.37	17.59	1.22	31.59	-	-	P	H
		256.01	19.53	-26.47	46	29.19	19.85	1.73	31.24	-	-	P	H
		345.25	23.17	-22.83	46	31.76	20.54	2.08	31.21	-	-	P	H
		552.83	26.04	-19.96	46	29.78	24.94	2.57	31.25	-	-	P	H
		770.11	29.95	-16.05	46	30.1	27.96	3.08	31.19	100	89	P	H
		30.97	22.66	-17.34	40	29.93	24.43	0.27	31.97	-	-	P	V
		119.24	18.37	-25.13	43.5	31.45	17.44	1.14	31.66	-	-	P	V
		264.74	20.62	-25.38	46	30.03	20.07	1.75	31.23	-	-	P	V
		400.54	23.53	-22.47	46	30.64	21.92	2.16	31.19	-	-	P	V
		616.85	28.18	-17.82	46	30.75	25.95	2.74	31.26	-	-	P	V
		786.6	30.88	-15.12	46	30.67	28.26	3.12	31.17	100	47	P	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		(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)

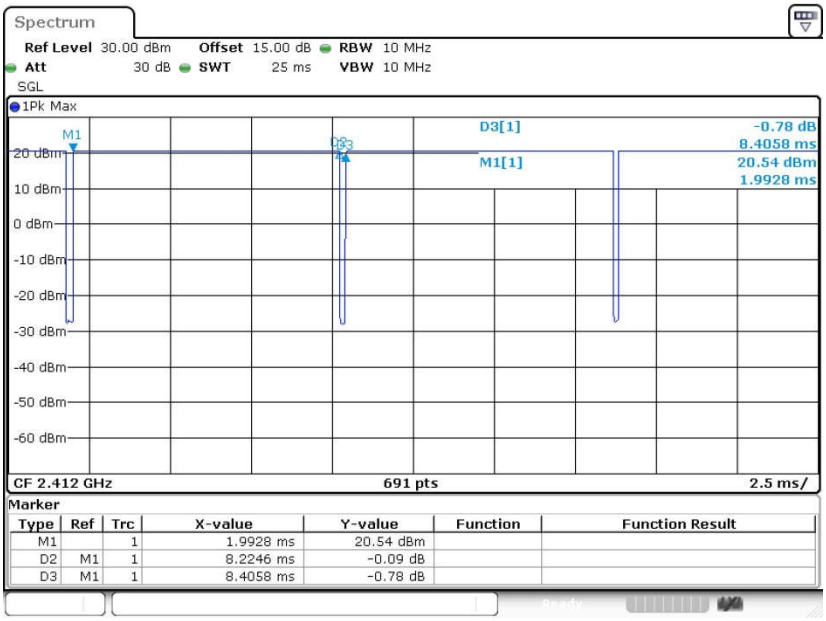
= -10.46(dB)

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

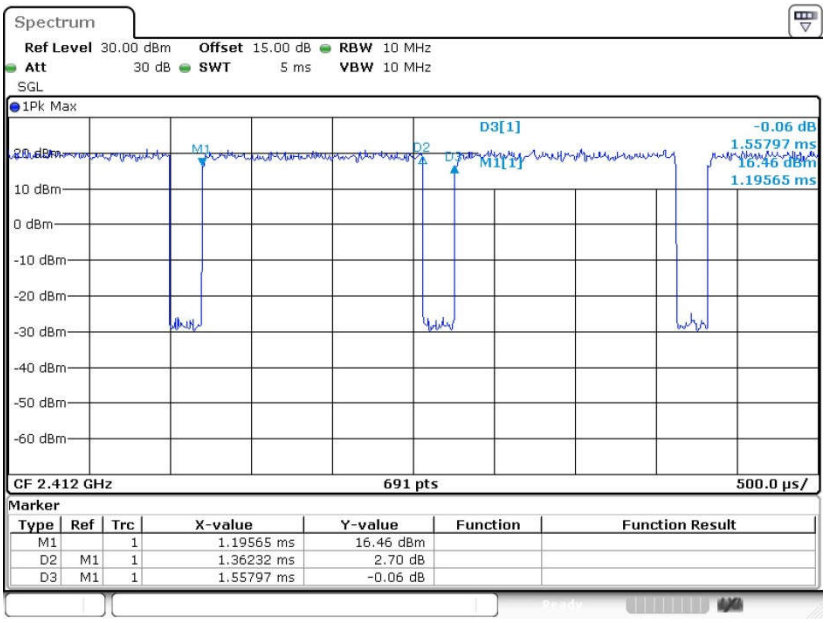
Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1	802.11b	97.84	8.225	0.122	300Hz
1	802.11g	87.44	1.362	0.734	1KHz
1	802.11n HT20	86.70	1.275	0.784	1KHz

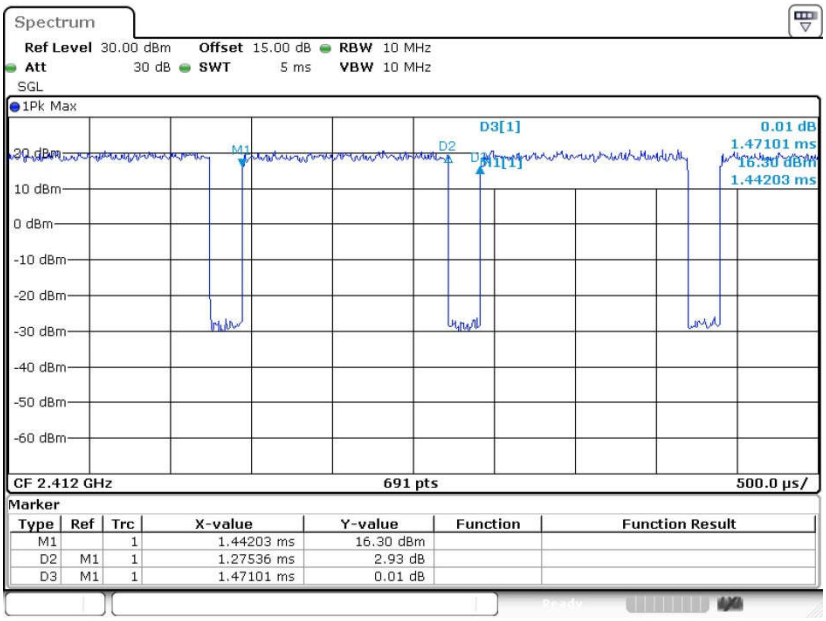
802.11b



802.11g



802.11n20


Spectrum
Ref Level 30.00 dBm Offset 15.00 dB RBW 10 MHz
Att 30 dB SWT 5 ms VBW 10 MHz
SGL
1Pk Max
D3[1]
0.01 dB
1.47101 ms
16.30 dBm
1.44203 ms
M1
D2
D1[1]
30 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 2.412 GHz
691 pts
500.0 µs/
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.44203 ms 16.30 dBm
D2 M1 1 1.27536 ms 2.93 dB
D3 M1 1 1.47101 ms 0.01 dB

Appendix E. Reference Report

Please refer to Sporton report number FR7D1310C which is issued separately.