



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT1922-6, XT1922-7, XT1922-9
FCC ID : IHDT56XB1
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Mar. 20, 2018 and testing was completed on May 17, 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.

Approved by: Eric Shih / Manager



Sporton International (Shenzhen) Inc.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR832002C	Rev. 01	Initial issue of report	May 31, 2018



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.2	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 11.14 dB at 885.540 MHz
3.3	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
Model Name	XT1922-6, XT1922-7, XT1922-9
FCC ID	IHDT56XB1
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 Code	Conducted: N/A Radiation: 351864090040753
HW Version	DVT2
SW Version	jeter_oem_userdebug_8.0.0_OPP27.34_970_intcfg-test-keys_oem
EUT Stage	Identical Prototype

Remark:

1. For XT1922-6, XT1922-7, XT1922-9, they are the same product except model name different for market segment.
2. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
3. This is a variant report for XT1922-6, XT1922-7, XT1922-9. The product equality declaration could be referred to Appendix E. Based on the similarity between current and previous project, only the power and test cases of Radiated Emission from original test report (Sporton Report Number FR7D1310C) were verified for the differences with the sample 1.

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 : 20.02 dBm (0.1005 W) 802.11g : 23.52 dBm (0.2249 W) 802.11n HT20 : 23.20 dBm (0.2089 W)
Antenna Type / Gain	IFA Antenna with gain 1.0 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(sample 1/3)	Brand Name	Lenovo (SCUD)	Model Name	BL270
	Power Rating	3.85/4.4Vdc, 4000mAh	Type	Li-ion
Battery(sample 2/4)	Brand Name	Lenovo (ATL)	Model Name	BL270
	Power Rating	3.85/4.4Vdc, 4000mAh	Type	Li-ion
USB Cable 1	Brand Name	Motorola (Saibao)	Model Name	SLQ-A077A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		
USB Cable 2	Brand Name	Motorola (Saibao)	Model Name	SLQ-A077A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		

1.6 Modification of EUT

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

1.7 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	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.
	03CH03-SZ	577730

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

1.8 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 (X-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	-	-



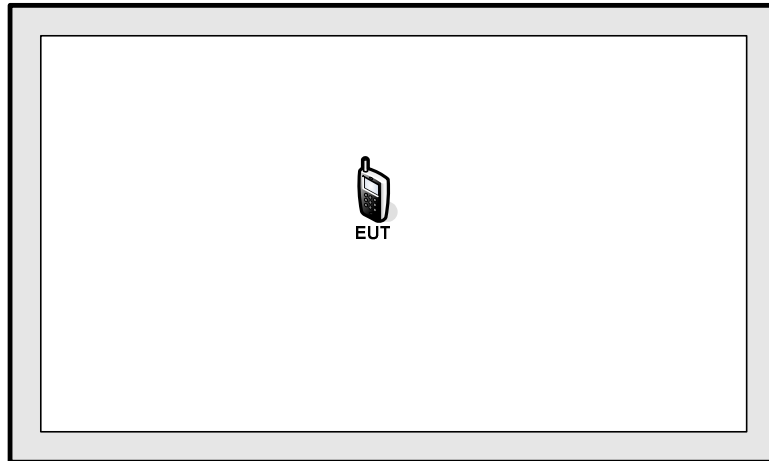
2.2 Test Mode

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

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



2.4 EUT Operation Test Setup

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

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.

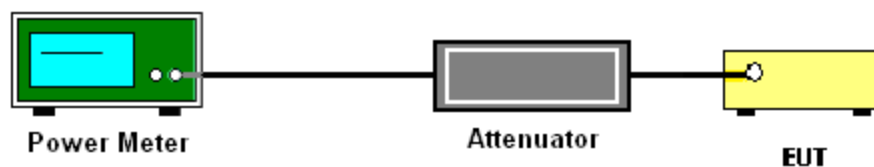
3.1.2 Measuring Instruments

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.

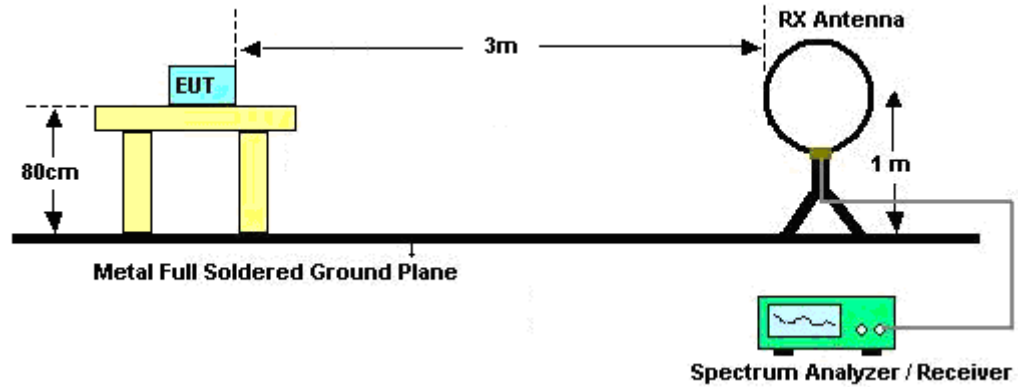


3.2.3 Test Procedures

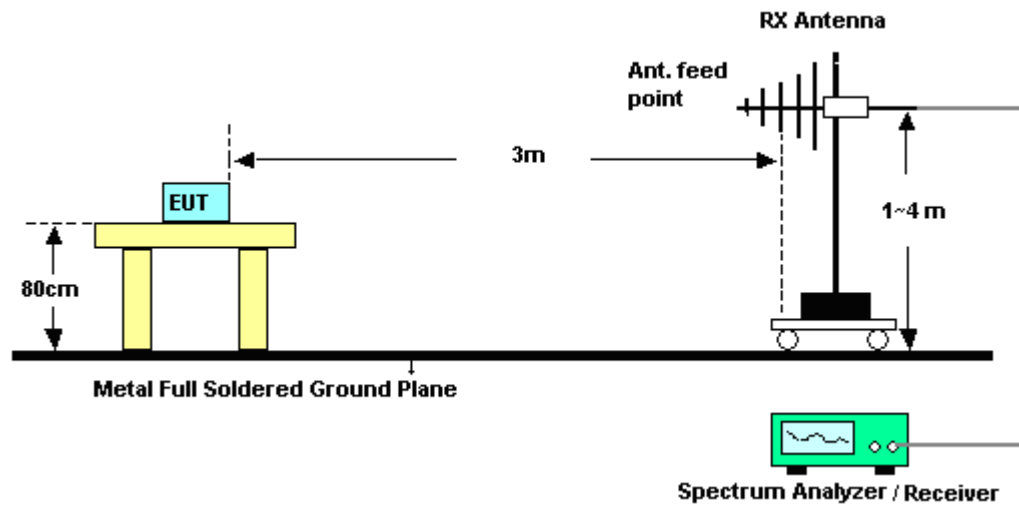
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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 $\geq$ 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.

3.2.4 Test Setup

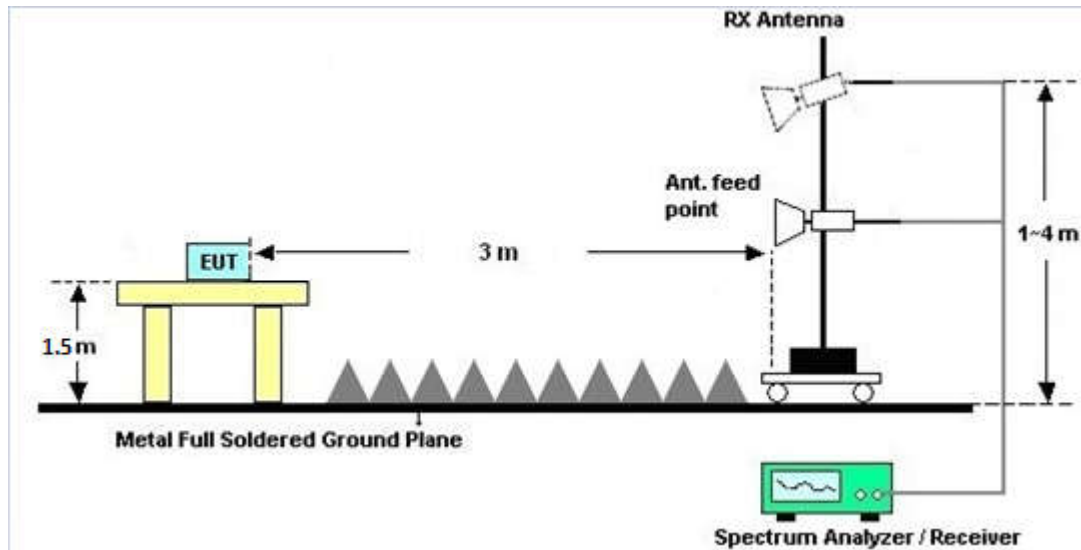
For radiated emissions below 30MHz



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 Antenna Requirements

3.3.1 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.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.3.3 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 Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2017	May 17, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2017	May 17, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 19, 2018	Apr. 27, 2018	Apr. 18, 2019	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 19, 2018	Apr. 27, 2018	Apr. 18, 2019	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2017	Apr. 27, 2018	May 13, 2018	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Apr. 19, 2018	Apr. 27, 2018	Apr. 18, 2019	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Jul. 09, 2017	Apr. 27, 2018	Jul. 08, 2018	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 18, 2017	Apr. 27, 2018	Jul. 17, 2018	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz-40GHz	Jun. 16, 2017	Apr. 27, 2018	Jun. 15, 2018	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz ~3000MHz	Oct. 19, 2017	Apr. 27, 2018	Oct. 18, 2018	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 19, 2017	Apr. 27, 2018	Oct. 18, 2018	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 27, 2017	Apr. 27, 2018	Dec. 26, 2018	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Apr. 27, 2018	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 27, 2018	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 27, 2018	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.8dB
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Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.6dB
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Appendix A. Conducted Test Results

A1 - DTS Part

Test Engineer:	Sam Zheng	Temperature:	24~26	°C
Test Date:	2018/5/17	Relative Humidity:	50~53	%

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	0.11	17.45
11b	1Mbps	1	6	2437	0.11	17.17
11b	1Mbps	1	11	2462	0.11	17.22
11g	6Mbps	1	1	2412	0.58	14.66
11g	6Mbps	1	2	2417	0.58	16.63
11g	6Mbps	1	6	2437	0.58	17.00
11g	6Mbps	1	10	2457	0.58	16.81
11g	6Mbps	1	11	2462	0.58	14.99
HT20	MCS0	1	1	2412	0.62	14.36
HT20	MCS0	1	2	2417	0.62	16.66
HT20	MCS0	1	6	2437	0.62	17.07
HT20	MCS0	1	10	2457	0.62	16.02
HT20	MCS0	1	11	2462	0.62	13.70

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	20.02	30.00	1.00	21.02	36.00	Pass
11b	1Mbps	1	6	2437	19.74	30.00	1.00	20.74	36.00	Pass
11b	1Mbps	1	11	2462	19.77	30.00	1.00	20.77	36.00	Pass
11g	6Mbps	1	1	2412	18.90	30.00	1.00	19.90	36.00	Pass
11g	6Mbps	1	2	2417	21.45	30.00	1.00	22.45	36.00	Pass
11g	6Mbps	1	6	2437	23.52	30.00	1.00	24.52	36.00	Pass
11g	6Mbps	1	10	2457	21.65	30.00	1.00	22.65	36.00	Pass
11g	6Mbps	1	11	2462	19.33	30.00	1.00	20.33	36.00	Pass
HT20	MCS0	1	1	2412	18.78	30.00	1.00	19.78	36.00	Pass
HT20	MCS0	1	2	2417	21.70	30.00	1.00	22.70	36.00	Pass
HT20	MCS0	1	6	2437	23.20	30.00	1.00	24.20	36.00	Pass
HT20	MCS0	1	10	2457	21.32	30.00	1.00	22.32	36.00	Pass
HT20	MCS0	1	11	2462	18.60	30.00	1.00	19.60	36.00	Pass



Appendix B. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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		2378.04	47.91	-26.09	74	51.56	25.55	5.02	34.22	152	310	P	H
		2389.905	38.09	-15.91	54	41.63	25.6	5.06	34.2	152	310	A	H
	*	2412	102.24	-	-	105.59	25.79	5.06	34.2	152	310	P	H
	*	2412	98.7	-	-	102.05	25.79	5.06	34.2	152	310	A	H
		2381.4	47.92	-26.08	74	51.57	25.55	5.02	34.22	171	212	P	V
		2389.275	37.11	-16.89	54	40.67	25.6	5.06	34.22	171	212	A	V
	*	2412	94.67	-	-	98.02	25.79	5.06	34.2	171	212	P	V
	*	2412	91.24	-	-	94.59	25.79	5.06	34.2	171	212	A	V
802.11b CH 06 2437MHz		2351.16	47.95	-26.05	74	51.73	25.44	5.02	34.24	176	41	P	H
		2389.24	37.42	-16.58	54	40.98	25.6	5.06	34.22	176	41	A	H
	*	2437	102.28	-	-	105.18	26.16	5.12	34.18	176	41	P	H
	*	2437	99.12	-	-	102.02	26.16	5.12	34.18	176	41	A	H
		2490.76	49.11	-24.89	74	51.34	26.71	5.19	34.13	176	41	P	H
		2485.44	38.43	-15.57	54	40.84	26.53	5.19	34.13	176	41	A	H
		2388.26	47.75	-26.25	74	51.31	25.6	5.06	34.22	110	233	P	V
		2382.8	37.02	-16.98	54	40.67	25.55	5.02	34.22	110	233	A	V
	*	2437	95.96	-	-	98.86	26.16	5.12	34.18	110	233	P	V
	*	2437	92.55	-	-	95.45	26.16	5.12	34.18	110	233	A	V
		2493.98	48.96	-25.04	74	51.17	26.71	5.19	34.11	110	233	P	V
		2498.04	38.25	-15.75	54	40.46	26.71	5.19	34.11	110	233	A	V



802.11b CH 11 2462MHz	*	2462	103.02	-	-	105.71	26.34	5.12	34.15	143	192	P	H
	*	2462	99.86	-	-	102.55	26.34	5.12	34.15	143	192	A	H
		2483.56	49.5	-24.5	74	51.91	26.53	5.19	34.13	143	192	P	H
		2483.76	39.69	-14.31	54	42.1	26.53	5.19	34.13	143	192	A	H
	*	2462	94.27	-	-	96.96	26.34	5.12	34.15	202	210	P	V
	*	2462	90.98	-	-	93.67	26.34	5.12	34.15	202	210	A	V
		2487.88	48.85	-25.15	74	51.08	26.71	5.19	34.13	202	210	P	V
		2486.4	38.34	-15.66	54	40.75	26.53	5.19	34.13	202	210	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	38.14	-35.86	74	56.97	30.92	8.59	58.34	123	144	P	H
		4824	38.81	-35.19	74	57.64	30.92	8.59	58.34	165	20	P	V
802.11b CH 06 2437MHz		4874	38.24	-35.76	74	56.92	31.05	8.6	58.33	145	210	P	H
		7311	44.27	-29.73	74	57.91	35.52	10.24	59.4	174	100	P	H
		4874	38.67	-35.33	74	57.35	31.05	8.6	58.33	165	320	P	V
		7311	46.45	-27.55	74	60.09	35.52	10.24	59.4	185	90	P	V
802.11b CH 11 2462MHz		4924	39.5	-34.5	74	58.01	31.18	8.64	58.33	169	230	P	H
		7386	43.76	-30.24	74	57.31	35.69	10.2	59.44	145	170	P	H
		4924	39.5	-34.5	74	58.01	31.18	8.64	58.33	100	70	P	V
		7386	43.45	-30.55	74	57	35.69	10.2	59.44	185	49	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 802.11b (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 802.11b LF		30	25.62	-14.38	40	32.44	24.9	0.25	31.97	-	-	P	H
		156.1	22.07	-21.43	43.5	35.67	16.63	1.29	31.52	-	-	P	H
		258.92	26.22	-19.78	46	35.47	20.26	1.73	31.24	-	-	P	H
		448.07	27.2	-18.8	46	33.29	22.91	2.29	31.29	-	-	P	H
		604.24	30.63	-15.37	46	33.36	25.83	2.71	31.27	-	-	P	H
		776.9	33.88	-12.12	46	33.88	28.08	3.1	31.18	100	0	P	H
		41.64	27.09	-12.91	40	39.46	19.16	0.44	31.97	-	-	P	V
		99.84	23.64	-19.86	43.5	38	16.3	1.06	31.72	-	-	P	V
		360.77	25.51	-20.49	46	33.68	20.93	2.11	31.21	-	-	P	V
		481.05	29.09	-16.91	46	34.36	23.6	2.38	31.25	-	-	P	V
		617.82	30.15	-15.85	46	32.71	25.96	2.74	31.26	-	-	P	V
		885.54	34.86	-11.14	46	33.5	29.18	3.35	31.17	100	0	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	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.	
1		(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)

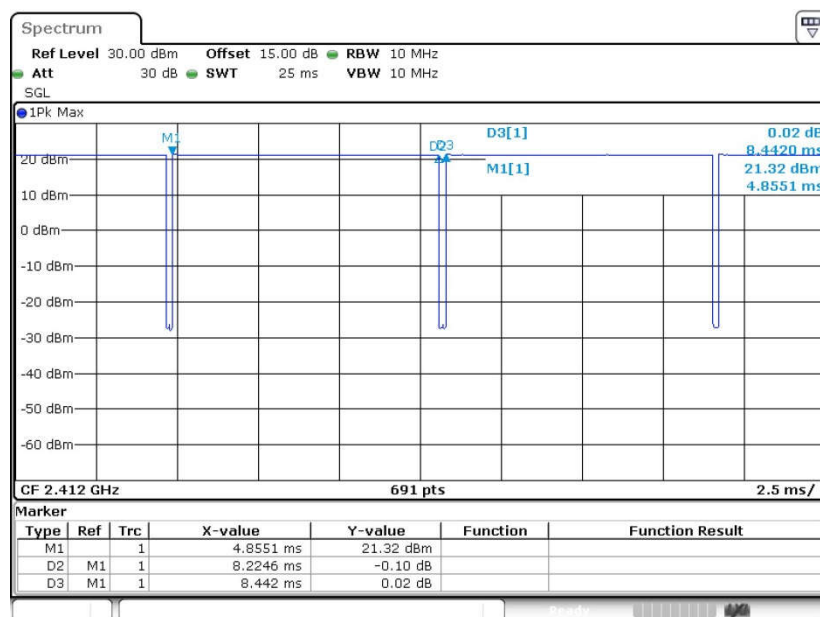
= -10.46(dB)

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

Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	97.42	8.22	0.12	300Hz

802.11b





Appendix E. Product Equality Declaration

Motorola Mobility LLC.

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

Product Equality Declaration

We, Motorola Mobility LLC. declare on our sole responsibility for the product of XT1922-6/XT1922-7/XT1922-9.

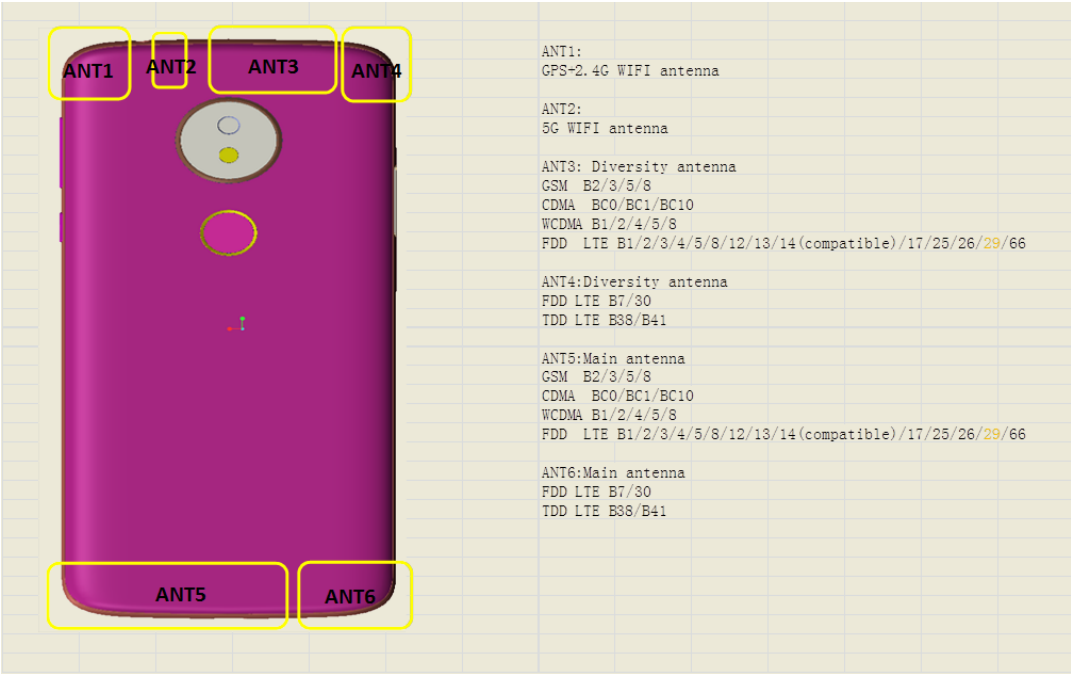
The detail differences between variant and original as below:

◆ Add 2nd source suppliers component

component	Original Sample	Variant Sample 1	Variant Sample 2	Variant Sample 3	Variant Sample 4
CPU	Qualcomm MSM-8920-9-720BNSP- TR-00-0-AA	Qualcomm MSM-8953-2-857NSP-T R-01-0-AB	Qualcomm MSM-8953-2-857NSP-T R-01-0-AB	Qualcomm MSM-8953-2-857NSP-T R-01-0-AB	Qualcomm MSM-8953-2-857NSP-TR -01-0-AB
Front Camera	Kingcome 06B5-L3100FF	Kingcome 06B5-L3100FF	Holitech PLQ8816M	Kingcome 06B5-L3100FF	Holitech PLQ8816M
Rear Camera	Truly CMC958-B13BA-E	Truly CMC958-B13BA-E	Holitech TLQ8817M	Truly CMC958-B13BA-E	Holitech TLQ8817M
Memory	Samsung KMGX6001BM-B514	Samsung KMGX6001BM-B514	Hynix H9TQ26ADFTBCUR-KUM	Samsung KMQE60013M-B318	Micron MT29TZZZ5D6DKFRL-10 7W.9A6
Battery	SCUD BL270 3.85V 4000mAh	SCUD BL270 3.85V 4000mAh	ATL BL270 3.85V 4000mAh	SCUD BL270 3.85V 4000mAh	ATL BL270 3.85V 4000mAh
PCB	EEK LLDM311B6-5	EEK LLDM311B6-5	MEIKO LLDM311B6-5	EEK LLDM311B6-5	MEIKO LLDM311B6-5
LCM	Tianma TM057JVSS12-00	Tianma TM057JVSS12-00	DJN 98-03057-6483B-H	Tianma TM057JVSS12-00	DJN 98-03057-6483B-H
Motor	AWA FS-3032	AWA FS-3032	DMEGC CHENJI DM-YX416-2	AWA FS-3032	DMEGC CHENJI DM-YX416-2
FPS	O-film ETW-0898-03	O-film ETW-0898-03	Kerr 9111-040006201	O-film ETW-0898-03	Kerr 9111-040006201

◆ Antenna difference

Sample 1 and 3 in the variant 4 Sample files are different from 5G WiFi Pattern, but others are the same as the original ones.



Except listings above, the others are all the same.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,

Dai Lihua

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