



# FCC RF Test Report

APPLICANT : Motorola Mobility LLC  
EQUIPMENT : Mobile Cellular Phone  
BRAND NAME : Motorola  
MODEL NAME : XT2087-2  
FCC ID : IHDT56ZE2  
STANDARD : FCC Part 15 Subpart C §15.247  
CLASSIFICATION : (DSS) Spread Spectrum Transmitter

This is a data re-used report which is only valid together with the original test report. 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.

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.

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Reviewed by: Jason Jia / Supervisor

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Approved by: James Huang / Manager



**Sporton International (Kunshan) Inc.**

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People's Republic of China**



# TABLE OF CONTENTS

**REVISION HISTORY..... 3**

**1 GENERAL DESCRIPTION.....4**

1.1 Applicant.....4

1.2 Manufacturer.....4

1.3 Product Feature of Equipment Under Test.....4

1.4 Product Specification of Equipment Under Test.....4

1.5 Modification of EUT .....4

1.6 Testing Location .....5

1.7 Test Software.....5

1.8 Re-use of Measured Data .....5

**2 LIST OF MEASURING EQUIPMENT.....7**

**APPENDIX A. SETUP PHOTOGRAPHS**

**APPENDIX B. REFERENCE REPORT**





# 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	
<b>Equipment</b>	Mobile Cellular Phone
<b>Brand Name</b>	Motorola
<b>Model Name</b>	XT2087-2
<b>FCC ID</b>	IHDT56ZE2
<b>EUT supports Radios application</b>	GSM/WCDMA/LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE FM Receiver and GNSS
<b>HW Version</b>	DVT2
<b>SW Version</b>	QPA30.19
<b>EUT Stage</b>	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	
<b>Tx/Rx Frequency Range</b>	2402 MHz ~ 2480 MHz
<b>Number of Channels</b>	79
<b>Carrier Frequency of Each Channel</b>	2402+n*1 MHz; n=0~78
<b>Antenna Type / Gain</b>	PIFA Antenna with gain -4.80 dBi
<b>Type of Modulation</b>	Bluetooth BR (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK

## 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/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

<b>Test Firm</b>	Sporton International (Kunshan) Inc.		
<b>Test Site Location</b>	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People’s Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH05-KS	CN1257	314309

### 1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH05-KS	AUDIX	E3	6.2009-8-24al

### 1.8 Re-use of Measured Data

#### 1.8.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: XT2087-2, FCC ID: IHDT56ZE2) is electrically identical to the reference device (Model: XT2087-1, FCC ID: IHDT56ZE1) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 484596 D01.

#### 1.8.2 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 B (Sporton RF Report No. FR060301A for the reference device Model: XT2087-1, FCC ID: IHDT56ZE1).



1.8.3 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test	Report Title/Section
DSS (BR/EDR)	IHDT56ZE1	Part15C(FR060301A)	All sections applicable
DTS (BLE)	IHDT56ZE1	Part15C(FR060301B)	All sections applicable
DTS (WLAN)	IHDT56ZE1	Part15C(FR060301C)	All sections applicable
DXX(NFC)	IHDT56ZE1	Part15C(FR060301D)	All sections applicable

1.8.4 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 the following test items, the test result were consistent with FCC ID: IHDT56ZE1.

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.

Test Item	Mode	IHDT56ZE1 Worst Result	IHDT56ZE2 Worst Result	Difference (dB)
Radiated Spurious Emission (dBuV/m)	BTBR/DER _Tx_Ch78	57.89	55.36	2.53
	BT4.2 _Tx_Ch39	46.93	48.77	1.84
	BT5.0 _Tx_Ch39	50.67	48.12	2.55
	11G_TX_CH11	50.55	50.02	0.53
	NFC	36.29	29.74	6.55



## 2 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Keysight	N9038A	MY57290151	3Hz~8.5GHz;Max 30dBm	Jul. 17, 2020	Jul. 22, 2020	Jul. 16, 2021	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44G,MAX 30dB	Apr. 15, 2020	Jul. 22, 2020	Apr. 14, 2021	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 10, 2019	Jul. 22, 2020	Nov. 09, 2020	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz~1GHz	Jun. 08, 2020	Jul. 22, 2020	Jun. 07, 2021	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 26, 2020	Jul. 22, 2020	Apr. 25, 2021	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2019	Jul. 22, 2020	Nov. 09, 2020	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	187289	9KHz~1GHz	Aug. 06, 2019	Jul. 22, 2020	Aug. 05, 2020	Radiation (03CH05-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 08, 2020	Jul. 22, 2020	Jan. 07, 2021	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1Ghz~18Ghz	Aug. 17, 2019	Jul. 22, 2020	Aug. 16, 2020	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5G Hz	Oct. 18, 2019	Jul. 22, 2020	Oct. 17, 2020	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jul. 22, 2020	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jul. 22, 2020	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jul. 22, 2020	NCR	Radiation (03CH05-KS)

NCR: No Calibration Required



## **Appendix B. Reference Report**

Please refer to Sporton report number FR060301A which is issued separately.