



# FCC RF Test Report

**APPLICANT** : Motorola Mobility LLC  
**EQUIPMENT** : Mobile Cellular Phone  
**BRAND NAME** : Motorola  
**MODEL NAME** : XT2083-3  
**FCC ID** : IHDT56ZD6  
**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.

*Jason Jia*

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Reviewed by: Jason Jia / Supervisor

*James Huang*

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Approved by: James Huang / Manager



***Sporton International (Kunshan) Inc.***

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People's Republic of China***



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## REVISION HISTORY

| REPORT NO.   | VERSION | DESCRIPTION             | ISSUED DATE   |
|--------------|---------|-------------------------|---------------|
| FR042102-01A | Rev. 01 | Initial issue of report | Jun. 24, 2020 |
|              |         |                         |               |
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# 1 General Description

## 1.1 Applicant

Motorola Mobility LLC  
222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

## 1.2 Manufacturer

Motorola Mobility LLC  
222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

## 1.3 Product Feature of Equipment Under Test

| Product Feature                 |                                                                                                                                                                           |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment                       | Mobile Cellular Phone                                                                                                                                                     |
| Brand Name                      | Motorola                                                                                                                                                                  |
| Model Name                      | XT2083-3                                                                                                                                                                  |
| FCC ID                          | IHDT56ZD6                                                                                                                                                                 |
| EUT supports Radios application | GSM/WCDMA/LTE/NFC<br>WLAN 2.4GHz 802.11b/g/n HT20<br>WLAN 5GHz 802.11a/n HT20/HT40<br>WLAN 5GHz 802.11ac VHT20/VHT40/VHT80<br>Bluetooth BR/EDR/LE<br>FM Receiver and GNSS |
| HW Version                      | DVT2                                                                                                                                                                      |
| SW Version                      | QPX30.34                                                                                                                                                                  |
| EUT Stage                       | Production Unit                                                                                                                                                           |

**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 Frequency Range                   | 2402 MHz ~ 2480 MHz                                                                                     |
| Number of Channels                      | 79                                                                                                      |
| Carrier Frequency of Each Channel       | 2402+n*1 MHz; n=0~78                                                                                    |
| Antenna Type / Gain                     | PIFA Antenna type with gain -0.50 dBi                                                                   |
| Type of Modulation                      | Bluetooth BR (1Mbps) : GFSK<br>Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK<br>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<br>Jiangsu Province 215300 People's Republic of China<br>TEL : +86-512-57900158<br>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> |
|                           | 03CH06-KS                                                                                                                                                                | CN1257                     | 314309                                |

## 1.7 Test Software

| Item | Site      | Manufacture | Name | Version       |
|------|-----------|-------------|------|---------------|
| 1.   | 03CH06-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: XT2083-3, FCC ID: IHDT56ZD6) is electrically identical to the reference device (Model: XT2083-1, FCC ID: IHDT56ZD5) 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. FR042102A for the reference device Model: XT2083-1, FCC ID: IHDT56ZD5).

**1.8.3 Reference detail Section:**

| Equipment Class | Reference FCC ID | Folder Test        | Report Title/Section    |
|-----------------|------------------|--------------------|-------------------------|
| DSS (BR/EDR)    | IHDT56ZD5        | Part15C(FR042102A) | All sections applicable |
| DTS (BLE)       | IHDT56ZD5        | Part15C(FR042102B) | All sections applicable |
| DTS (WLAN)      | IHDT56ZD5        | Part15C(FR042102C) | 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: IHDT56ZD5.

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            | IHDT56ZD5<br>Worst Result | IHDT56ZD6<br>Worst Result | Difference (dB) |
|----------------------------------------------|-----------------|---------------------------|---------------------------|-----------------|
| Radiated<br>Spurious<br>Emission<br>(dBuV/m) | BT _Tx_ Ch78    | 62.12                     | 64.59                     | 2.47            |
|                                              | BLE _Tx_ Ch39   | 48.09                     | 48.53                     | 0.44            |
|                                              | 11n20 _Tx_ Ch01 | 49.92                     | 47.08                     | 2.84            |



## 2 List of Measuring Equipment

| Instrument                | Manufacturer | Model No.              | Serial No. | Characteristics      | Calibration Date | Test Date     | Due Date      | Remark                |
|---------------------------|--------------|------------------------|------------|----------------------|------------------|---------------|---------------|-----------------------|
| EMI Test Receiver         | Keysight     | N9038A                 | MY57290157 | 3Hz~8.5GHz;Max 30dBm | Jul. 18, 2019    | Jun. 05, 2020 | Jul. 17, 2020 | Radiation (03CH06-KS) |
| EXA Spectrum Analyzer     | Keysight     | N9010A                 | MY55150208 | 10Hz~44GHz           | Apr. 15, 2020    | Jun. 05, 2020 | Apr. 14, 2021 | Radiation (03CH06-KS) |
| Loop Antenna              | R&S          | HFH2-Z2                | 100321     | 9kHz~30MHz           | Nov. 10, 2019    | Jun. 05, 2020 | Nov. 09, 2020 | Radiation (03CH06-KS) |
| Bilog Antenna             | TeseQ        | CBL6111D               | 49921      | 30MHz~1GHz           | May 30, 2020     | Jun. 05, 2020 | May 29, 2021  | Radiation (03CH06-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117                   | 00218652   | 1GHz~18GHz           | Apr. 27, 2020    | Jun. 05, 2020 | Apr. 26, 2021 | Radiation (03CH06-KS) |
| SHF-EHF Horn              | Com-power    | AH-840                 | 101115     | 18GHz~40GHz          | Nov. 10, 2019    | Jun. 05, 2020 | Nov. 09, 2020 | Radiation (03CH06-KS) |
| Amplifier                 | SONOMA       | 310N                   | 187289     | 9KHz ~1GHZ           | Aug. 06, 2019    | Jun. 05, 2020 | Aug. 05, 2020 | Radiation (03CH06-KS) |
| Amplifier                 | MITEQ        | EM18G40GGA             | 060728     | 18~40GHz             | Jan. 08, 2020    | Jun. 05, 2020 | Jan. 07, 2021 | Radiation (03CH06-KS) |
| high gain Amplifier       | MITEQ        | AMF-7D-00101800-30-10P | 2025788    | 1Ghz~18Ghz           | Aug. 16, 2019    | Jun. 05, 2020 | Aug. 15, 2020 | Radiation (03CH06-KS) |
| Amplifier                 | Keysight     | 83017A                 | MY53270203 | 500MHz~26.5GHz       | Apr. 15, 2020    | Jun. 05, 2020 | Apr. 14, 2021 | Radiation (03CH06-KS) |
| AC Power Source           | Chroma       | 61601                  | F104090004 | N/A                  | NCR              | Jun. 05, 2020 | NCR           | Radiation (03CH06-KS) |
| Turn Table                | ChamPro      | EM 1000-T              | 060762-T   | 0~360 degree         | NCR              | Jun. 05, 2020 | NCR           | Radiation (03CH06-KS) |
| Antenna Mast              | ChamPro      | EM 1000-A              | 060762-A   | 1 m~4 m              | NCR              | Jun. 05, 2020 | NCR           | Radiation (03CH06-KS) |

NCR: No Calibration Required



## **Appendix B. Reference Report**

Please refer to Sporton report number FR042102A which is issued separately.