



# Spot Check Evaluation

APPLICANT : Motorola Mobility LLC  
EQUIPMENT : Mobile Cellular Phone  
BRAND NAME : Motorola  
MODEL NAME : XT2255-1  
FCC ID : IHDT56AF7  
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(M), 90(S)  
47 CFR Part 15 Subpart C §15.225  
47 CFR Part 15 Subpart C §15.247  
47 CFR Part 15 Subpart E §15.407

We, Sporton International Inc. (Kunshan), 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 Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



**Sporton International Inc. (Kunshan)**

No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300  
People's Republic of China



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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| 253103     | Rev. 01 | Initial issue of report | Aug. 03, 2022 |
|            |         |                         |               |
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# 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      | XT2255-1              |
| FCC ID          | IHDT56AF7             |
| HW Version      | DVT2                  |
| SW Version      | S3SV32.14             |
| 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 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

|                    |                                                                                                                                                                          |                     |                                   |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------|
| Test Firm          | Sporton International Inc. (Kunshan)                                                                                                                                     |                     |                                   |
| Test Site Location | 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 |                     |                                   |
| Test Site No.      | Sporton Site No.                                                                                                                                                         | FCC Designation No. | FCC Test Firm<br>Registration No. |
|                    | TH01-KS<br>03CH04-KS                                                                                                                                                     | CN1257              | 314309                            |



## 1.5 Test Software

| Item | Site      | Manufacture | Name | Version      |
|------|-----------|-------------|------|--------------|
| 1.   | 03CH04-KS | AUDIX       | E3   | 6.2009-8-24a |

## 1.6 Specification of Accessory

| Specification of Accessory |            |                      |            |               |
|----------------------------|------------|----------------------|------------|---------------|
| AC Adapter 1(US)           | Brand Name | Motorola (Salcomp)   | Model Name | MC-331        |
| AC Adapter 1(EU)           | Brand Name | Motorola (Salcomp)   | Model Name | MC-332        |
| AC Adapter 1(UK)           | Brand Name | Motorola (Salcomp)   | Model Name | MC-333        |
| AC Adapter 1(IN)           | Brand Name | Motorola (Salcomp)   | Model Name | MC-334        |
| AC Adapter 1(AR)           | Brand Name | Motorola (Salcomp)   | Model Name | MC-336        |
| AC Adapter 2(US)           | Brand Name | Motorola (Acbel)     | Model Name | MC-331        |
| AC Adapter 2(EU)           | Brand Name | Motorola (Acbel)     | Model Name | MC-332        |
| AC Adapter 2(UK)           | Brand Name | Motorola (Acbel)     | Model Name | MC-333        |
| AC Adapter 3(US)           | Brand Name | Motorola (Chenyang)  | Model Name | MC-331        |
| AC Adapter 3(EU)           | Brand Name | Motorola (Chenyang)  | Model Name | MC-332        |
| AC Adapter 3(AR)           | Brand Name | Motorola (Chenyang)  | Model Name | MC-336        |
| Battery 1                  | Brand Name | Motorola (ATL)       | Model Name | NE50          |
| Battery 2                  | Brand Name | Motorola (Sunwoda)   | Model Name | NE50          |
| Earphone 1                 | Brand Name | Motorola (NLD)       | Model Name | MH202         |
| Earphone 2                 | Brand Name | Motorola (Lyand)     | Model Name | MH202         |
| USB Cable 1                | Brand Name | Motorola (Saibao)    | Model Name | SHQ-A110A     |
| USB Cable 2                | Brand Name | Motorola (KINGPOWER) | Model Name | K235-07990-H0 |



## **2 Re-use of Measured Data**

### **2.1 Introduction Section**

This application re-uses data collected on a similar device. The subject device of this application (Model: XT2255-1, FCC ID: IHDT56AF7) is electrically identical to the reference device (Model: XT2255-3, FCC ID: IHDT56AF8) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 15C (equipment class: DTS, DSS, DXX) and FCC Part 15E (equipment class: NII) and FCC Part 22, 24, 27, 90 (equipment class: PCE) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56AF7 .

### **2.2 Model Difference Information**

The **main** difference between FCC ID: IHDT56AF8 and FCC ID: IHDT56AF7 is as below:

- Remove WCDMA Band IV and LTE Band 4/12/13/66.
- Add WCDMA Band VI/ XIX and LTE Band 18/19/20.

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2255-1\_Operational Description of Product Equality Declaration).



## 2.3 Reference detail Section:

| Rule Part        | Equipment Class | Frequency Band (MHz)   | Reference FCC ID (Parent) | Type Grant/ Permissive Change | Reference Title              | FCC ID Filling (Variant) | Report Title/Section    |
|------------------|-----------------|------------------------|---------------------------|-------------------------------|------------------------------|--------------------------|-------------------------|
| 15C              | DSS (BR/EDR)    | 2400~2483.5            | IHDT56AF8                 | Original Grant                | FR253103-01A                 | IHDT56AF7                | All sections applicable |
|                  | DTS (BLE)       | 2400~2483.5            | IHDT56AF8                 | Original Grant                | FR253103-01B                 | IHDT56AF7                | All sections applicable |
|                  | DTS (WLAN)      | 2400~2483.5            | IHDT56AF8                 | Original Grant                | FR253103-01C                 | IHDT56AF7                | All sections applicable |
|                  | DXX (NFC)       | 13.56                  | IHDT56AF8                 | Original Grant                | FR253103-01D                 | IHDT56AF7                | All sections applicable |
| 15E              | U-NII-1         | 5180~5240              | IHDT56AF8                 | Original Grant                | FR253103-01E                 | IHDT56AF7                | All sections applicable |
|                  | U-NII-2A        | 5260~5320              | IHDT56AF8                 | Original Grant                | FR253103-01E                 | IHDT56AF7                | All sections applicable |
|                  | U-NII-2C        | 5500~5720              | IHDT56AF8                 | Original Grant                | FR253103-01E                 | IHDT56AF7                | All sections applicable |
|                  | U-NII-3         | 5745~5825              | IHDT56AF8                 | Original Grant                | FR253103-01E                 | IHDT56AF7                | All sections applicable |
|                  | DFS             | 5260~5320<br>5500~5720 | IHDT56AF8                 | Original Grant                | FZ253103-01                  | IHDT56AF7                | All sections applicable |
| 22,<br>24,<br>27 | PCE (GSM)       | GSM850/1900            | IHDT56AF8                 | Original Grant                | FG253103-01A                 | IHDT56AF7                | All sections applicable |
|                  | PCE (WCDMA)     | Band II/V              | IHDT56AF8                 | Original Grant                | FG253103-01A                 | IHDT56AF7                | All sections applicable |
|                  | PCE (LTE)       | Band 2/5/7/26/38/41    | IHDT56AF8                 | Original Grant                | FG253103-01B<br>FG253103-01C | IHDT56AF7                | All sections applicable |
| 90               | PCE (LTE)       | Band 26                | IHDT56AF8                 | Original Grant                | FG253103-01D                 | IHDT56AF7                | All sections applicable |



## 2.4 Spot Check Verification Data Section

Conducted power test and radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model

Summary for power and RSE spot check for each rule entry and technology is listed as below:

| Test Item                | Mode                 | IHDT56AF8<br>Parent<br>Worst Result | IHDT56AF7<br>Variant<br>Check Result | Difference (dB) |
|--------------------------|----------------------|-------------------------------------|--------------------------------------|-----------------|
| Conducted Power<br>(dBm) | BT BR/EDR            | 13.92                               | 13.54                                | 0.38            |
|                          | BLE 1Mbps            | 3.32                                | 3.21                                 | 0.11            |
|                          | BLE 2Mbps            | 3.31                                | 3.09                                 | 0.22            |
|                          | 11b, 2.4GHz          | 20.71                               | 20.42                                | 0.29            |
|                          | 11g, 2.4GHz          | 24.95                               | 24.72                                | 0.23            |
|                          | 11n HT20, 2.4GHz     | 25.00                               | 24.81                                | 0.19            |
|                          | 11n HT40, 2.4GHz     | 23.78                               | 23.72                                | 0.06            |
|                          | 11a, 5.2GHz          | 17.97                               | 17.96                                | 0.01            |
|                          | 11a, 5.3GHz          | 17.90                               | 17.85                                | 0.05            |
|                          | 11a, 5.5GHz          | 17.89                               | 17.88                                | 0.01            |
|                          | 11a, 5.8GHz          | 17.88                               | 17.73                                | 0.15            |
|                          | 11n HT20, 5.2GHz     | 17.76                               | 17.74                                | 0.02            |
|                          | 11n HT20, 5.3GHz     | 17.73                               | 17.70                                | 0.03            |
|                          | 11n HT20, 5.5GHz     | 17.70                               | 17.68                                | 0.02            |
|                          | 11n HT20, 5.8GHz     | 17.73                               | 17.65                                | 0.08            |
|                          | 11n HT40, 5.2GHz     | 16.84                               | 16.83                                | 0.01            |
|                          | 11n HT40, 5.3GHz     | 16.80                               | 16.77                                | 0.03            |
|                          | 11n HT40, 5.5GHz     | 16.78                               | 16.75                                | 0.03            |
|                          | 11n HT40, 5.8GHz     | 16.78                               | 16.77                                | 0.01            |
|                          | 11ac VHT20, 5.2GHz   | 17.79                               | 17.75                                | 0.04            |
|                          | 11ac VHT20, 5.3GHz   | 17.80                               | 17.77                                | 0.03            |
|                          | 11ac VHT20, 5.5GHz   | 17.76                               | 17.73                                | 0.03            |
|                          | 11ac VHT20, 5.8GHz   | 17.77                               | 17.74                                | 0.03            |
|                          | 11ac VHT40, 5.2GHz   | 16.87                               | 16.85                                | 0.02            |
|                          | 11ac VHT40, 5.3GHz   | 16.89                               | 16.86                                | 0.03            |
|                          | 11ac VHT40, 5.5GHz   | 16.83                               | 16.78                                | 0.05            |
|                          | 11ac VHT40, 5.8GHz   | 16.81                               | 16.79                                | 0.02            |
|                          | 11ac VHT80, 5.2GHz   | 14.31                               | 14.23                                | 0.08            |
|                          | 11ac VHT80, 5.3GHz   | 13.25                               | 13.21                                | 0.04            |
|                          | 11ac VHT80, 5.5GHz   | 16.45                               | 16.24                                | 0.21            |
|                          | 11ac VHT80, 5.8GHz   | 16.38                               | 16.32                                | 0.06            |
|                          | GSM 850              | 32.42                               | 32.35                                | 0.07            |
|                          | GSM 1900             | 29.36                               | 29.35                                | 0.01            |
|                          | WCDMA II             | 22.96                               | 22.75                                | 0.21            |
|                          | WCDMA V              | 22.64                               | 22.63                                | 0.01            |
|                          | LTE Band 2           | 22.52                               | 22.35                                | 0.17            |
|                          | LTE Band 5           | 22.72                               | 22.53                                | 0.19            |
|                          | LTE Band 7           | 22.61                               | 22.42                                | 0.19            |
|                          | LTE Band 26          | 22.76                               | 22.61                                | 0.15            |
|                          | LTE Band 38          | 22.85                               | 22.61                                | 0.24            |
|                          | LTE Band 41          | 22.88                               | 22.66                                | 0.22            |
|                          | LTE Band 26_Part 90S | 22.70                               | 22.55                                | 0.15            |





| Test Item                           | Mode          | IHDT56AF8<br>Parent<br>Worst Result | IHDT56AF7<br>Variant<br>Check Result | Difference (dB) |
|-------------------------------------|---------------|-------------------------------------|--------------------------------------|-----------------|
| Field Strength<br>(dBuV/m) @ 3m     | NFC 13.56MHz  | 56.34                               | 55.11                                | 1.23            |
| Radiated Spurious<br>Emission (dBm) | GSM850        | -16.85                              | -31.48                               | 14.63           |
|                                     | WCDMA Band II | -32.89                              | -38.71                               | 5.82            |
|                                     | LTE Band 7    | -23.81                              | -36.34                               | 12.53           |

**Conclusion:**

Conducted Power and Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result, the test data from the original model is representative for the variant model. The power level and RSE spot check are shown within expected level compliant to limit line.

We are using power and ERP/EIRP measurements from the original parent model reports to list on the grant.

The same WIFI Chipset and antenna is used in the variant. Hence, there is no spot check data for DFS. We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 has been followed and the test data as referenced from the parent model report represents compliance with new FCC ID.



### 3 List of Measuring Equipment

| Instrument                | Manufacturer | Model No.  | Serial No. | Characteristics    | Calibration Date | Test Date     | Due Date      | Remark                |
|---------------------------|--------------|------------|------------|--------------------|------------------|---------------|---------------|-----------------------|
| Spectrum Analyzer         | R&S          | FSV40      | 101040     | 10Hz~40GHz         | Oct. 14, 2021    | Jul. 25, 2022 | Oct. 13, 2022 | Conducted (TH01-KS)   |
| Power Meter               | Anritsu      | ML2495A    | 1005002    | 50MHz Bandwidth    | Jan. 05, 2022    | Jul. 25, 2022 | Jan. 04, 2023 | Conducted (TH01-KS)   |
| Pulse Power Sensor        | Anritsu      | MA2411B    | 0917070    | 300MHz~40GHz       | Jan. 05, 2022    | Jul. 25, 2022 | Jan. 04, 2023 | Conducted (TH01-KS)   |
| Power divider             | STI          | STI08-0055 | -          | 0.5~40GHz          | Aug. 26, 2021    | Jul. 25, 2022 | Aug. 25, 2022 | Conducted (TH01-KS)   |
| EXA Spectrum Analyzer     | Keysight     | N9010B     | MY57541079 | 10Hz~44G, MAX 30dB | Oct. 14, 2021    | Aug. 03, 2022 | Oct. 13, 2022 | Radiation (03CH04-KS) |
| Loop Antenna              | R&S          | HFH2-Z2    | 100321     | 9kHz~30MHz         | Oct. 30, 2021    | Aug. 03, 2022 | Oct. 29, 2022 | Radiation (03CH04-KS) |
| Bilog Antenna             | TeseQ        | CBL6111D   | 49922      | 30MHz~1GHz         | May 24, 2022     | Aug. 03, 2022 | May 23, 2023  | Radiation (03CH04-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117       | 75957      | 1GHz~18GHz         | Nov. 08, 2021    | Aug. 03, 2022 | Nov. 07, 2022 | Radiation (03CH04-KS) |
| SHF-EHF Horn              | Com-power    | AH-840     | 101070     | 18GHz~40GHz        | Jan. 05, 2022    | Aug. 03, 2022 | Jan. 04, 2023 | Radiation (03CH04-KS) |
| Amplifier                 | SONOMA       | 310N       | 187289     | 9KHz~1GHz          | Jan. 05, 2022    | Aug. 03, 2022 | Jan. 04, 2023 | Radiation (03CH04-KS) |
| Amplifier                 | MITEQ        | EM18G40GGA | 060728     | 18~40GHz           | Jan. 05, 2022    | Aug. 03, 2022 | Jan. 04, 2023 | Radiation (03CH04-KS) |
| high gain Amplifier       | EM           | EM01G18GA  | 060839     | 1Ghz~18Ghz         | Oct. 14, 2021    | Aug. 03, 2022 | Oct. 13, 2022 | Radiation (03CH04-KS) |
| Amplifier                 | Keysight     | 83017A     | MY57280106 | 500MHz~26.5GHz     | Oct. 13, 2021    | Aug. 03, 2022 | Oct. 12, 2022 | Radiation (03CH04-KS) |
| AC Power Source           | Chroma       | 61601      | F104090004 | N/A                | NCR              | Aug. 03, 2022 | NCR           | Radiation (03CH04-KS) |
| Turn Table                | ChamPro      | EM 1000-T  | 060762-T   | 0~360 degree       | NCR              | Aug. 03, 2022 | NCR           | Radiation (03CH04-KS) |
| Antenna Mast              | ChamPro      | EM 1000-A  | 060762-A   | 1 m~4 m            | NCR              | Aug. 03, 2022 | NCR           | Radiation (03CH04-KS) |

NCR: No Calibration Required.

———— THE END ————