

# RF Exposure Evaluation Report

FCC ID : IHDT56AE7  
EQUIPMENT : Mobile Cellular Phone  
Brand Name : Motorola  
Model Name : XT2205-1, XT2205-2  
Applicant : Motorola Mobility LLC  
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA  
Manufacturer : Motorola Mobility LLC  
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA  
STANDARD : FCC CFR 47 part 1, 1.1307(b) and 1.1310  
KDB 680106 D01v03r01

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in KDB 680106 D01v03r01 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.



Approved by: Si Zhang



**Sporton International Inc. (Kunshan)**

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## **Table of Contents**

|                                                           |          |
|-----------------------------------------------------------|----------|
| <b>1. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT) .....</b> | <b>4</b> |
| <b>2. ADMINISTRATION DATA .....</b>                       | <b>4</b> |
| <b>3. RF EXPOSURE LIMIT INTRODUCTION .....</b>            | <b>5</b> |
| <b>4. TEST MODE .....</b>                                 | <b>6</b> |
| <b>5. MEASUREMENT EQUIPMENT .....</b>                     | <b>6</b> |
| <b>6. RF EXPOSURE EVALUATION .....</b>                    | <b>6</b> |
| <b>Appendix A. Test Setup Photo</b>                       |          |



**Revision History**

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FA240834A  | Rev. 01 | Initial issue of report | Jun. 06, 2022 |
|            |         |                         |               |
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|            |         |                         |               |

## 1. Description of Equipment Under Test (EUT)

| Product Feature & Specification |                       |
|---------------------------------|-----------------------|
| EUT Type                        | Mobile Cellular Phone |
| Brand Name                      | Motorola              |
| Model Name                      | XT2205-1, XT2205-2    |
| FCC ID                          | IHDT56AE7             |
| Frequency Range                 | 110 kHz ~ 148 kHz     |
| Modulation Type                 | ASK                   |
| HW Version                      | DVT2                  |
| SW Version                      | S2ST32.48             |
| EUT Stage                       | Identical Prototype   |
| Date of Test                    | May 13, 2022          |

### Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

### Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

## 2. Administration Data

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

| Testing Laboratory |                                                                                                                                                                          |                     |                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------|
| 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 Registration No. |
|                    | ES02-KS                                                                                                                                                                  | CN1257              | 314309                         |

### 3. RF Exposure Limit Introduction

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

| Frequency range (MHz)                                   | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|---------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposure         |                               |                               |                                     |                          |
| 0.3-3.0                                                 | 614                           | 1.63                          | * 100                               | 6                        |
| 3.0-30                                                  | 1842/f                        | 4.89/f                        | * 900/f <sup>2</sup>                | 6                        |
| 30-300                                                  | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1,500                                               |                               |                               | f/300                               | 6                        |
| 1,500-100,000                                           |                               |                               | 5                                   | 6                        |
| (B) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
| 0.3-1.34                                                | 614                           | 1.63                          | * 100                               | 30                       |
| 1.34-30                                                 | 824/f                         | 2.19/f                        | * 180/f <sup>2</sup>                | 30                       |
| 30-300                                                  | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1,500                                               |                               |                               | f/1500                              | 30                       |
| 1,500-100,000                                           |                               |                               | 1.0                                 | 30                       |

f = frequency in MHz

\* = Plane-wave equivalent power density

(1) Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure. The phrase fully aware in the context of applying these exposure limits means that an exposed person has received written and/or verbal information fully explaining the potential for RF exposure resulting from his or her employment. With the exception of transient persons, this phrase also means that an exposed person has received appropriate training regarding work practices relating to controlling or mitigating his or her exposure. Such training is not required for transient persons, but they must receive written and/or verbal information and notification (for example, using signs) concerning their exposure potential and appropriate means available to mitigate their exposure. The phrase exercise control means that an exposed person is allowed to and knows how to reduce or avoid exposure by administrative or engineering controls and work practices, such as use of personal protective equipment or time averaging of exposure.

(2) General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.



#### **4. Test Mode**

This device has been tested in the following charging conditions as below:

| Test Mode | Test Setup Configuration        | Charging Current Condition |
|-----------|---------------------------------|----------------------------|
| TM1       | Test w/ Client Device installed | < 1% Battery status        |
| TM2       | Test w/ Client Device installed | 50% Battery status         |
| TM3       | Test w/ Client Device installed | Near 100% Battery status   |

#### **5. Measurement Equipment**

| Instrument                                 | Manufacturer      | Model No. | Serial No. | Freq Rang  | Last Cal.     | Due Date      |
|--------------------------------------------|-------------------|-----------|------------|------------|---------------|---------------|
| Electric and Magnetic field Probe-Analyzer | Narda S.T.S / PMM | EHP 200AC | 170WX80309 | 3KHz~30MHz | Oct ,26, 2021 | Oct ,25, 2022 |

#### **6. RF Exposure Evaluation**

1. The device support Wireless Power Consortium with a maximum power transfer to the phone of 5W. In addition, the device can be used in reverse, as a transmitter to another wireless charging receiver. In this case, up to 5W (BPP) can be transmitted to the external receiver.
2. According to 202010 TCBC workshop, for portable devices that do not physically attach to phone, desktop WPT testing guidance from FCC KDB 680106 D01v03r01 is applied.
3. There is no mechanical / magnetic connection mechanism between client and smart phone (this application) so charging is only supported for desktop/tabletop use.
4. The equipment under test was placed on a wooden desk inside of shield room. The isotropic field probe was used to measure the field strength for 6 EUT surfaces. The detailed setup photo please refer to Appendix A.
5. Per KDB 680106 D01v03r01 and 202010 TCBC workshop, RF exposure should be evaluation at 15 cm surrounding the device and 20 cm away from the surface from all coils. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 1.63 A/m and aggregate H-field strengths from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

| Position (Distance) | H-Field Measurement (A/m) |          |          |          |          |          | Limit (A/m) |
|---------------------|---------------------------|----------|----------|----------|----------|----------|-------------|
|                     | A (15cm)                  | B (15cm) | C (15cm) | D (15cm) | E (20cm) | F (20cm) |             |
| TM1                 | 0.0366                    | 0.0153   | 0.0155   | 0.0361   | 0.0175   | 0.0141   | 0.815       |
| TM2                 | 0.0347                    | 0.0222   | 0.0272   | 0.0286   | 0.0257   | 0.0212   |             |
| TM3                 | 0.0307                    | 0.0163   | 0.0203   | 0.0247   | 0.0201   | 0.0179   |             |

#### **Conclusion:**

The field strength limit refers to Part 1.1310 and the test result of exposure evaluation is compliant.

**Test Engineer** : Light Wang