

# FCC SAR Test Report

APPLICANT : Motorola Mobility LLC  
EQUIPMENT : Mobile Cellular Phone  
BRAND NAME : Motorola  
MODEL NAME : 9843  
FCC ID : IHDT56VE5  
STANDARD : FCC 47 CFR Part 2 (2.1093)  
ANSI/IEEE C95.1-1992  
IEEE 1528-2013

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 procedures and had 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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## Revision History

SPORTON INTERNATIONAL (KUNSHAN) INC.

Issued Date : Nov. 09, 2016  
Form version. : 160427

## 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, 9843** are as follows.

| Equipment Class  | Frequency Band |             | Highest SAR Summary      |                                |                              | Highest Simultaneous Transmission<br>1g SAR (W/kg) |
|------------------|----------------|-------------|--------------------------|--------------------------------|------------------------------|----------------------------------------------------|
|                  |                |             | Head<br>(Separation 0mm) | Body-worn<br>(Separation 10mm) | Hotspot<br>(Separation 10mm) |                                                    |
|                  |                |             | 1g SAR (W/kg)            |                                |                              |                                                    |
| Licensed         | GSM            | GSM850      | 0.27                     | 0.35                           | 0.41                         | 1.31                                               |
|                  |                | GSM1900     | 0.16                     | 0.65                           | 0.86                         |                                                    |
|                  | WCDMA          | Band V      | 0.39                     | 0.42                           | 0.57                         |                                                    |
|                  | LTE            | Band 5      | 0.39                     | 0.33                           | 0.50                         |                                                    |
| DTS              | WLAN           | 2.4GHz WLAN | 0.91                     | 0.15                           | 0.15                         | 1.31                                               |
| NII              |                | 5GHz WLAN   | 0.10                     | <0.10                          | 0.11                         | 0.86                                               |
| DSS              | 2.4GHz Band    | Bluetooth   |                          | <0.10                          |                              | 0.69                                               |
| Date of Testing: |                |             | 2016/11/04 ~ 2016/11/05  |                                |                              |                                                    |

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

## **2. Administration Data**

| Testing Site       |                                                                                                                  |
|--------------------|------------------------------------------------------------------------------------------------------------------|
| Test Site          | SPORTON INTERNATIONAL (KUNSHAN) INC.                                                                             |
| Test Site Location | No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.<br>TEL: +86-0512-5790-0158<br>FAX: +86-0512-5790-0958 |

| Applicant    |                                                     |
|--------------|-----------------------------------------------------|
| Company Name | Motorola Mobility LLC                               |
| Address      | 222 W, Merchandise Mart Plaza, Chicago IL 60654 USA |

| Manufacturer |                                                     |
|--------------|-----------------------------------------------------|
| Company Name | Motorola Mobility LLC                               |
| Address      | 222 W, Merchandise Mart Plaza, Chicago IL 60654 USA |

## **3. Guidance Applied**

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

#### **4. Equipment Under Test (EUT) Information**

##### **4.1 General Information**

| <b>Product Feature &amp; Specification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Equipment Name</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mobile Cellular Phone                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Brand Name</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Motorola                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Model Name</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9843                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>FCC ID</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IHDT56VE5                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>IMEI Code</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 358958060021711/358958060021729                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Wireless Technology and Frequency Range</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | GSM850: 824.2 MHz ~ 848.8 MHz<br>GSM1900: 1850.2 MHz ~ 1909.8 MHz<br>WCDMA Band V: 826.4 MHz ~ 846.6 MHz<br>LTE Band 5: 824 MHz ~ 849 MHz<br>WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz<br>WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz<br>WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz<br>WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz<br>WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz<br>NFC : 13.56 MHz |
| <b>Mode</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>· GSM/GPRS/EGPRS</li> <li>· RMC/AMR 12.2Kbps</li> <li>· HSDPA</li> <li>· HSUPA</li> <li>· DC-HSDPA</li> <li>· HSPA+(16QAM uplink is not supported)</li> <li>· LTE: QPSK, 16QAM</li> <li>· 802.11b/g/n HT20</li> <li>· 802.11a/n HT20/HT40</li> <li>· Bluetooth v3.0 + EDR, Bluetooth v4.0 LE, Bluetooth v4.2 LE</li> <li>· NFC:ASK</li> </ul>                        |
| <b>HW Version</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DVT2                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>SW Version</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | NPN25.94_1198                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>GSM / (E)GPRS Transfer mode</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.                                                                                                                                                                                                                                          |
| <b>EUT Stage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Identical Prototype                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Remark:</b> <ol style="list-style-type: none"> <li>1. 802.11n-HT40 is not supported in 2.4GHz WLAN.</li> <li>2. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.</li> <li>3. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).</li> <li>4. This device does not support DTM operation.</li> <li>5. This device supports GRPS/EGRPS mode up to multi-slot class 12.</li> <li>6. When the phone is in talking mode, receiver worked, all WWAN power are full power.</li> <li>7. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. when front or back body worn condition is detected, GSM1900 reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)</li> <li>8. When WLAN hotspot worked, WWAN GSM1900 reduced power will be active.</li> <li>9. This device hotspot reduced power and P-sensor reduced power level are the same. So only show one reduced power level for hotspot reduced power and P-sensor reduced power for this application.</li> <li>10. This device has 2 SIM slots and supports dual SIM dual Standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active).</li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                             |

## 4.2 General LTE SAR Test and Reporting Considerations

| Summarized necessary items addressed in KDB 941225 D05 v02r05 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|--------|--------|--------|----------|------------|-------------------------------------------------|--|--|--|--|--|----------|---------|---------|-------|--------|--------|--------|------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|
| FCC ID                                                        | IHDT56VE5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| Equipment Name                                                | Mobile Cellular Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| Operating Frequency Range of each LTE transmission band       | LTE Band 5: 824 MHz ~ 849 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| Channel Bandwidth                                             | LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| uplink modulations used                                       | QPSK, and 16QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| LTE Voice / Data requirements                                 | Voice and Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| LTE MPR permanently built-in by design                        | <table border="1"> <caption>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3</caption> <thead> <tr> <th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr> <tr> <th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr> </thead> <tbody> <tr> <td>QPSK</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 1</td></tr> <tr> <td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr> <tr> <td>16 QAM</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 2</td></tr> </tbody> </table> |         |       |        |        |        |          | Modulation | Channel bandwidth / Transmission bandwidth (RB) |  |  |  |  |  | MPR (dB) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 | 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 | 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 |
| Modulation                                                    | Channel bandwidth / Transmission bandwidth (RB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |       |        |        |        | MPR (dB) |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
|                                                               | 1.4 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| QPSK                                                          | > 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| 16 QAM                                                        | ≤ 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| 16 QAM                                                        | > 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| LTE A-MPR                                                     | In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| Spectrum plots for RB configuration                           | A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| Power reduction applied to satisfy SAR compliance             | Yes, when operating in hotspot mode and P-sensor, GSM1900 power reduction is applied to satisfy SAR compliance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |
| LTE Release Version                                           | R10, Cat 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |       |        |        |        |          |            |                                                 |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |

| Transmission (H, M, L) channel numbers and frequencies in each LTE band |                   |             |                 |             |                 |             |                  |             |
|-------------------------------------------------------------------------|-------------------|-------------|-----------------|-------------|-----------------|-------------|------------------|-------------|
| LTE Band 5                                                              |                   |             |                 |             |                 |             |                  |             |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz |             | Bandwidth 5 MHz |             | Bandwidth 10 MHz |             |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L                                                                       | 20407             | 824.7       | 20415           | 825.5       | 20425           | 826.5       | 20450            | 829         |
| M                                                                       | 20525             | 836.5       | 20525           | 836.5       | 20525           | 836.5       | 20525            | 836.5       |
| H                                                                       | 20643             | 848.3       | 20635           | 847.5       | 20625           | 846.5       | 20600            | 844         |



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

#### **4.4.1 Introduction Section**

This application re-uses data collected on a similar device. The subject device of this application (Model: 9843, FCC ID: IHDT56VE5) is electrically identical to the reference device (Model: 9840, 9841, FCC ID: IHDT56VE4) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 178919 D01.

#### **4.4.2 Difference Section**

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Operational Description.

The re-used RF data includes the following bands provided in Appendix A (Sporton RF Report No. FA6O1212-06 for the reference device Model: 9840,9841, FCC ID: IHDT56VE4):

- GSM850/1900
- WCDMA Band V
- LTE Band 5
- 2.4G/5GHz WLAN
- Bluetooth

Spot check for WWAN and WLAN are performed for ensure that SAR measurement for both device are the same. So, the original SAR value can represent this application.



**4.4.3 Spot Check Verification Data Section**

| Band        | BW (MHz) | Modulation | RB Size | RB offset | Mode                | Test Position | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Original model (FCC ID: IHDT56VE1) |                     |                        |                        | Spot check model (FCC ID: IHDT56VE5) |                     |                        |                        | Deviation |
|-------------|----------|------------|---------|-----------|---------------------|---------------|----------|-----------------|-------|-------------|------------------------------------|---------------------|------------------------|------------------------|--------------------------------------|---------------------|------------------------|------------------------|-----------|
|             |          |            |         |           |                     |               |          |                 |       |             | Average Power (dBm)                | Tune-Up Limit (dBm) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) | Average Power (dBm)                  | Tune-Up Limit (dBm) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |           |
| WLAN 2.4GHz | -        | -          | -       | -         | 802.11b 1Mbps       | Left Cheek    | 10mm     | off             | 1     | 2412        | 16.39                              | 16.50               | 0.869                  | 0.914                  | 16.25                                | 16.5                | 0.676                  | 0.734                  | -19.69%   |
| WLAN 5GHz   | -        | -          | -       | -         | Band4 802.11a 6Mbps | Left Cheek    | 0mm      | off             | 165   | 5825        | 14.64                              | 16                  | 0.065                  | 0.103                  | 14.64                                | 16                  | 0.058                  | 0.092                  | -10.68%   |
| GSM 850     | -        | -          | -       | -         | GSM 1 Tx slot       | Left Side     | 10mm     | off             | 189   | 836.4       | 33.21                              | 33.50               | 0.383                  | 0.409                  | 32.87                                | 33.50               | 0.347                  | 0.401                  | -1.96%    |
| GSM1900     | -        | -          | -       | -         | GPRS 1 Tx slot      | Bottom Side   | 10mm     | on              | 512   | 1850.2      | 27.04                              | 28.00               | 0.791                  | 0.987                  | 27.59                                | 28.00               | 0.844                  | 0.928                  | -5.98%    |
| WCDMA V     | -        | -          | -       | -         | RMC 12.2Kbps        | Left Side     | 10mm     | off             | 4132  | 826.4       | 22.94                              | 24.00               | 0.449                  | 0.573                  | 23.04                                | 24.00               | 0.401                  | 0.500                  | -12.74%   |
| LTE Band 5  | 10M      | QPSK       | 1RB     | 25Offset  | -                   | Left Side     | 10mm     | off             | 20525 | 836.5       | 23.16                              | 24.00               | 0.408                  | 0.495                  | 23.50                                | 24.00               | 0.484                  | 0.543                  | 9.70%     |
| WLAN 5.2GHz | -        | -          | -       | -         | 802.11a 6Mbps       | Back          | 10mm     | off             | 40    | 5200        | 13.78                              | 15                  | 0.072                  | 0.110                  | 14.99                                | 15                  | 0.091                  | 0.106                  | -3.64%    |
| WLAN 5.3GHz | -        | -          | -       | -         | 802.11a 6Mbps       | Back          | 10mm     | off             | 56    | 5280        | 13.8                               | 15                  | 0.051                  | 0.078                  | 14.15                                | 15                  | 0.053                  | 0.074                  | -5.13%    |
| WLAN 5.5GHz | -        | -          | -       | -         | 802.11a 6Mbps       | Back          | 10mm     | off             | 100   | 5500        | 14.92                              | 16                  | 0.036                  | 0.053                  | 15.08                                | 16                  | 0.041                  | 0.059                  | 11.32%    |
| Bluetooth   | -        | -          | -       | -         | 1Mbps               | Front         | 10mm     | off             | 39    | 2441        | 11.12                              | 11.5                | 0.028                  | 0.033                  | 11.21                                | 11.5                | 0.029                  | 0.033                  | 0.00%     |

**Note:** In the table above, all the deviation of SAR test results are compliant with uncertainty budget.

**4.4.4 Reference detail Section**

| Equipment Class   | Reference FCC ID | Folder Test/RF Exposure  | Report Title/Section    |
|-------------------|------------------|--------------------------|-------------------------|
| PCE               | IHDT56VE4        | RF Exposure(FA6O1212-06) | All sections applicable |
| DSS               | IHDT56VE4        | RF Exposure(FA6O1212-06) | All sections applicable |
| DTS (BLE)         | IHDT56VE4        | RF Exposure(FA6O1212-06) | All sections applicable |
| DTS (WLAN 2.4GHz) | IHDT56VE4        | RF Exposure(FA6O1212-06) | All sections applicable |
| NIII (WLAN 5GHz)  | IHDT56VE4        | RF Exposure(FA6O1212-06) | All sections applicable |

### 5. Simultaneous Transmission Analysis

| NO. | Simultaneous Transmission Configurations | Portable Handset |           |         | Note      |
|-----|------------------------------------------|------------------|-----------|---------|-----------|
|     |                                          | Head             | Body-worn | Hotspot |           |
| 1.  | GSM Voice + WLAN2.4GHz                   | Yes              | Yes       |         |           |
| 2.  | GPRS/EDGE + WLAN2.4GHz                   | Yes              | Yes       | Yes     | Hotspot   |
| 3.  | WCDMA + WLAN2.4GHz                       | Yes              | Yes       | Yes     | Hotspot   |
| 4.  | LTE + WLAN2.4GHz                         | Yes              | Yes       | Yes     | Hotspot   |
| 5.  | GSM Voice + WLAN5.3/5.5GHz               | Yes              | Yes       |         |           |
| 6.  | GPRS/EDGE + WLAN5.3/5.5GHz               | Yes              | Yes       |         | WWAN VoIP |
| 7.  | WCDMA + WLAN5.3/5.5GHz                   | Yes              | Yes       |         | WWAN VoIP |
| 8.  | LTE + WLAN5.3/5.5GHz                     | Yes              | Yes       |         | WWAN VoIP |
| 9.  | GSM Voice + WLAN5.2/5.8GHz               | Yes              | Yes       | Yes     |           |
| 10. | GPRS/EDGE + WLAN5.2/5.8GHz               | Yes              | Yes       | Yes     | WWAN VoIP |
| 11. | WCDMA + WLAN5.2/5.8GHz                   | Yes              | Yes       | Yes     | WWAN VoIP |
| 12. | LTE + WLAN5.2/5.8GHz                     | Yes              | Yes       | Yes     | WWAN VoIP |
| 13. | GSM Voice + WLAN5GHz+Bluetooth           |                  | Yes       |         |           |
| 14. | GPRS/EDGE + WLAN5GHz+Bluetooth           |                  | Yes       |         | WWAN VoIP |
| 15. | WCDMA + WLAN5GHz+Bluetooth               |                  | Yes       |         | WWAN VoIP |
| 16. | LTE + WLAN5GHz+Bluetooth                 |                  | Yes       |         | WWAN VoIP |

**5.1 Head Exposure Conditions**

| WWAN Band |         | Exposure Position | 1                | 2                | 3                | 1+2<br>Summed<br>1g SAR<br>(W/kg) | 1+3<br>Summed<br>1g SAR<br>(W/kg) | SPLSR | Case No |
|-----------|---------|-------------------|------------------|------------------|------------------|-----------------------------------|-----------------------------------|-------|---------|
|           |         |                   | WWAN             | 2.4GHz<br>WLAN   | 5GHz<br>WLAN     |                                   |                                   |       |         |
|           |         |                   | 1g SAR<br>(W/kg) | 1g SAR<br>(W/kg) | 1g SAR<br>(W/kg) |                                   |                                   |       |         |
| GSM       | GSM850  | Right Cheek       | 0.196            | 0.386            | 0.102            | 0.58                              | 0.30                              |       |         |
|           |         | Right Tilted      | 0.176            | 0.914            | 0.102            | 1.09                              | 0.28                              |       |         |
|           |         | Left Cheek        | 0.267            | 0.914            | 0.102            | 1.18                              | 0.37                              |       |         |
|           |         | Left Tilted       | 0.162            | 0.516            | 0.045            | 0.68                              | 0.21                              |       |         |
|           | GSM1900 | Right Cheek       | 0.164            | 0.386            | 0.102            | 0.55                              | 0.27                              |       |         |
|           |         | Right Tilted      | 0.072            | 0.914            | 0.102            | 0.99                              | 0.17                              |       |         |
|           |         | Left Cheek        | 0.106            | 0.914            | 0.102            | 1.02                              | 0.21                              |       |         |
|           |         | Left Tilted       | 0.039            | 0.516            | 0.045            | 0.56                              | 0.08                              |       |         |
| WCDMA     | Band V  | Right Cheek       | 0.278            | 0.386            | 0.102            | 0.66                              | 0.38                              |       |         |
|           |         | Right Tilted      | 0.253            | 0.914            | 0.102            | 1.17                              | 0.36                              |       |         |
|           |         | Left Cheek        | 0.392            | 0.914            | 0.102            | 1.31                              | 0.49                              |       |         |
|           |         | Left Tilted       | 0.223            | 0.516            | 0.045            | 0.74                              | 0.27                              |       |         |
| LTE       | Band 5  | Right Cheek       | 0.250            | 0.386            | 0.102            | 0.64                              | 0.35                              |       |         |
|           |         | Right Tilted      | 0.164            | 0.914            | 0.102            | 1.08                              | 0.27                              |       |         |
|           |         | Left Cheek        | 0.388            | 0.914            | 0.102            | 1.30                              | 0.49                              |       |         |
|           |         | Left Tilted       | 0.218            | 0.516            | 0.045            | 0.73                              | 0.26                              |       |         |

**5.2 Hotspot Exposure Conditions**

| WWAN Band |         | Exposure Position | 1                | 2                | 3                | 1+2<br>Summed<br>1g SAR<br>(W/kg) | 1+3<br>Summed<br>1g SAR<br>(W/kg) | SPLSR | Case No |
|-----------|---------|-------------------|------------------|------------------|------------------|-----------------------------------|-----------------------------------|-------|---------|
|           |         |                   | WWAN             | 2.4GHz<br>WLAN   | 5GHz<br>WLAN     |                                   |                                   |       |         |
|           |         |                   | 1g SAR<br>(W/kg) | 1g SAR<br>(W/kg) | 1g SAR<br>(W/kg) |                                   |                                   |       |         |
| GSM       | GSM850  | Front             | 0.346            | 0.146            | 0.109            | 0.49                              | 0.46                              |       |         |
|           |         | Back              | 0.315            | 0.146            | 0.109            | 0.46                              | 0.42                              |       |         |
|           |         | Left side         | 0.409            |                  |                  | 0.41                              | 0.41                              |       |         |
|           |         | Right side        | 0.222            | 0.146            | 0.109            | 0.37                              | 0.33                              |       |         |
|           |         | Top side          |                  | 0.146            | 0.109            | 0.15                              | 0.11                              |       |         |
|           |         | Bottom side       | 0.212            |                  |                  | 0.21                              | 0.21                              |       |         |
|           | GSM1900 | Front             | 0.652            | 0.146            | 0.109            | 0.80                              | 0.76                              |       |         |
|           |         | Back              | 0.427            | 0.146            | 0.109            | 0.57                              | 0.54                              |       |         |
|           |         | Left side         | 0.066            |                  |                  | 0.07                              | 0.07                              |       |         |
|           |         | Right side        | 0.046            | 0.146            | 0.109            | 0.19                              | 0.16                              |       |         |
|           |         | Top side          |                  | 0.146            | 0.109            | 0.15                              | 0.11                              |       |         |
|           |         | Bottom side       | 0.856            |                  |                  | 0.86                              | 0.86                              |       |         |
| WCDMA     | Band V  | Front             | 0.417            | 0.146            | 0.109            | 0.56                              | 0.53                              |       |         |
|           |         | Back              | 0.424            | 0.146            | 0.109            | 0.57                              | 0.53                              |       |         |
|           |         | Left side         | 0.573            |                  |                  | 0.57                              | 0.57                              |       |         |
|           |         | Right side        | 0.378            | 0.146            | 0.109            | 0.52                              | 0.49                              |       |         |
|           |         | Top side          |                  | 0.146            | 0.109            | 0.15                              | 0.11                              |       |         |
|           |         | Bottom side       | 0.250            |                  |                  | 0.25                              | 0.25                              |       |         |
| LTE       | Band 5  | Front             | 0.326            | 0.146            | 0.109            | 0.47                              | 0.44                              |       |         |
|           |         | Back              | 0.324            | 0.146            | 0.109            | 0.47                              | 0.43                              |       |         |
|           |         | Left side         | 0.495            |                  |                  | 0.50                              | 0.50                              |       |         |
|           |         | Right side        | 0.254            | 0.146            | 0.109            | 0.40                              | 0.36                              |       |         |
|           |         | Top side          |                  | 0.146            | 0.109            | 0.15                              | 0.11                              |       |         |
|           |         | Bottom side       | 0.245            |                  |                  | 0.25                              | 0.25                              |       |         |

**5.3 Body-Worn Accessory Exposure Conditions**

| WWAN Band |         | Exposure Position | 1                   | 2                   | 3                   | 4                             | 1+2<br>Summed<br>1g SAR<br>(W/kg) | 1+3<br>Summed<br>1g SAR<br>(W/kg) | 1+4<br>Summed<br>1g SAR<br>(W/kg) | 1+3+4<br>Summed<br>1g SAR<br>(W/kg) | SPLSR | Case No |
|-----------|---------|-------------------|---------------------|---------------------|---------------------|-------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|-------|---------|
|           |         |                   | WWAN                | 2.4GHz<br>WLAN      | 5GHz<br>WLAN        | Bluetooth                     |                                   |                                   |                                   |                                     |       |         |
|           |         |                   | 1g<br>SAR<br>(W/kg) | 1g<br>SAR<br>(W/kg) | 1g<br>SAR<br>(W/kg) | Bluetooth<br>1g SAR<br>(W/kg) |                                   |                                   |                                   |                                     |       |         |
| GSM       | GSM850  | Front             | 0.346               | 0.146               | 0.077               | 0.033                         | 0.49                              | 0.42                              | 0.38                              | 0.46                                |       |         |
|           |         | Back              | 0.315               | 0.146               | 0.077               | 0.026                         | 0.46                              | 0.39                              | 0.34                              | 0.42                                |       |         |
|           | GSM1900 | Front             | 0.652               | 0.146               | 0.077               | 0.033                         | 0.80                              | 0.73                              | 0.69                              | 0.76                                |       |         |
|           |         | Back              | 0.427               | 0.146               | 0.077               | 0.026                         | 0.57                              | 0.50                              | 0.45                              | 0.53                                |       |         |
| WCDMA     | Band V  | Front             | 0.417               | 0.146               | 0.077               | 0.033                         | 0.56                              | 0.49                              | 0.45                              | 0.53                                |       |         |
|           |         | Back              | 0.424               | 0.146               | 0.077               | 0.026                         | 0.57                              | 0.50                              | 0.45                              | 0.53                                |       |         |
| LTE       | Band 5  | Front             | 0.326               | 0.146               | 0.077               | 0.033                         | 0.47                              | 0.40                              | 0.36                              | 0.44                                |       |         |
|           |         | Back              | 0.324               | 0.146               | 0.077               | 0.026                         | 0.47                              | 0.40                              | 0.35                              | 0.43                                |       |         |

**Test Engineer:** Nick Hu

## **6. References**

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [8] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [9] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [10] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
- [11] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [12] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.



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**Appendix A. Original Report**

Please refer to Sporton report number FA6O1212-06 which is issued separately.