



# **A Test Lab Techno Corp.**

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## **SAR Exclusion Evaluation Report**



|                       |                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Test Report No.       | : 1601FS12                                                                                                                              |
| Applicant             | : Mobile Action Technology Inc.                                                                                                         |
| Product Type          | : Bluetooth 4.0 Low Energy Wristband                                                                                                    |
| Trade Name            | : Q-Watch                                                                                                                               |
| Model Number          | : Q-77HR, Q-77HRx, Q-77HRa, Q-77HRc, Q-77HRe, Q-77HRg                                                                                   |
| Dates of Received     | : Aug. 25, 2015                                                                                                                         |
| Dates of Test         | : Aug. 26, 2015                                                                                                                         |
| Dates of Issued       | : Jan. 12, 2016                                                                                                                         |
| Test Specification    | : ANSI/IEEE C95.1-1992 / IEEE Std. 1528-2013<br>47 CFR § 2.1093<br>KDB 447498 D01 v06<br>KDB 865664 D01 v01r04<br>KDB 865664 D02 v01r02 |
| Location of Test Lab. | : Chang-an Lab.                                                                                                                         |

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
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Approved By : Bill Hu  
(Bill Hu)

Tested By : Sky Chou  
(Sky Chou)



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

|                                     |                                                                                                                     |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Applicant                           | Mobile Action Technology Inc.<br>5F., No.205-3, Sec.3, Beishin Rd., Shindian City Taipei Taiwan 231                 |
| Manufacturer                        | Heisei Technology Co., Ltd.<br>2F.,No.5,Aly.8,Ln.45.,Baoxing Rd.,Xindian Dist.,New Taipei City<br>231,Taiwan,R.O.C. |
| Product Type                        | Bluetooth 4.0 Low Energy Wristband                                                                                  |
| Trade Name                          | Q-Watch                                                                                                             |
| Model Number                        | Q-77HR, Q-77HRx, Q-77HRa, Q-77HRc, Q-77HRe, Q-77HRg                                                                 |
| Model Different Description         | Those model numbers differ from each other in selling region.                                                       |
| FCC ID                              | Q7Z-16H77R1                                                                                                         |
| Frequency Range                     | 2402 - 2480 MHz : Bluetooth LE                                                                                      |
| Transmit Power<br>(conducted power) | 0.005 W / 7.10 dBm                                                                                                  |
| Antenna Type                        | FPC Antenna                                                                                                         |
| Antenna Max. Gain                   | -1.14 dBi                                                                                                           |

The above equipment was tested by A Test Lab Techno Corp. For compliance with the requirements set forth in 47 CFR § 2.1093. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.



## 2. SAR Test Exclusion

As RF exposure evaluation of portable device, SAR test is not required when the evaluation results . According to KDB 447498 4.3.1, unless excluded by specific FCC test procedures, portable devices shall include SAR data for equipment approval. SAR test necessity will be based on the exclusion result.

The test exclusion refers KDB 447498 as below:

**≤50mm:**

$$\left[ \frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot [\sqrt{f}(\text{GHz})]$$
  
≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR

**>50mm and <200mm:**

- a)  $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)] \text{ mW}$ , at 100 MHz to 1500 MHz
- b)  $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10]$  mW at > 1500 MHz and ≤ 6 GHz

## 2.1 Conducted Power

| Band         | Frequency (MHz) | Average Power (dBm) |
|--------------|-----------------|---------------------|
| Bluetooth LE | 2402.0          | 5.84                |
|              | 2440.0          | 6.58                |
|              | 2480.0          | 7.10                |

## 2.2 Evaluation Results

The evaluation of SAR test reduction according to KDB447498

SAR test is not required when the results showed "SAR is not required".

Extremity SAR:

| Limbs SAR test reduction |         |                 |             |            |               |                            |
|--------------------------|---------|-----------------|-------------|------------|---------------|----------------------------|
| Band                     | Channel | Frequency (GHz) | Power (dBm) | Power (mW) | distance (mm) | Calculated Threshold Value |
| Bluetooth LE             | 39      | 2.48            | 7.5         | 6.0        | 5.0           | 1.9                        |
|                          |         |                 |             |            |               | EXEMPT                     |

Note1 : Transmitters that are built-in within a wrist watch, no speaker mode for voice communication not have positioned next to the mouth mode.

Note 2 : The test reduction for distance less

Note 3 : For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 10-g SAR test exclusion thresholds are determined by the following:

According to KDB 447498, if the calculated threshold value is  $>7.5$  then Limbs SAR testing are required.