

## RF Exposure Report

**Report No.:** SA150203E03F

**FCC ID:** MAD-RU00-M03

**Test Model:** RU00-M03

**Series Model:** RU00-M04, RU00-M03-XXXX, RU00-M04-XXXX (X= 0~9 , A~Z ,  
Configuration Code)

**Received Date:** July 13, 2018

**Test Date:** Aug. 06, 2018

**Issued Date:** Sep. 26, 2018

**Applicant:** Microelectronics Technology Inc.

**Address:** 1, Innovation Road II, Hsinchu Science-based Industrial Park, Hsinchu,  
Taiwan, R.O.C.

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**FCC Registration /  
Designation Number:** 723255 / TW2022

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.

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### Release Control Record

| Issue No.    | Description       | Date Issued   |
|--------------|-------------------|---------------|
| SA150203E03F | Original release. | Sep. 26, 2018 |

## 1 Certificate of Conformity

**Product:** RFID HP-SIP Module

**Brand:** MTI

**Test Model:** RU00-M03

**Series Model:** RU00-M04, RU00-M03-XXXX, RU00-M04-XXXX (X= 0~9 , A~Z , Configuration Code)

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Microelectronics Technology Inc.

**Test Date:** Aug. 06, 2018

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :** Mary Ko , **Date:** Sep. 26, 2018  
Mary Ko / Specialist

**Approved by :** May Chen , **Date:** Sep. 26, 2018  
May Chen / Manager

## 2 RF Exposure

### 2.1 Limits For Maximum Permissible Exposure (MPE)

| Frequency Range (MHz)                                 | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Average Time (minutes) |
|-------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| 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                     |
| 300-1500                                              | ...                           | ...                           | f/1500                              | 30                     |
| 1500-100,000                                          | ...                           | ...                           | 1.0                                 | 30                     |

f = Frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 21cm away from the body of the user.  
So, this device is classified as **Mobile Device**.

## 2.4 Antenna Gain

### Original

| Ant. No. | Antenna Type | Gain(dBi) (Include cable loss) | Antenna Connector | Cable Loss(dB) | Frequency range (MHz to MHz) |
|----------|--------------|--------------------------------|-------------------|----------------|------------------------------|
| 1        | Patch        | 5.25                           | SMA Female        | 0.75           | 902~928                      |

### Newly

| Ant. No. | Brand                   | Model  | Antenna Type          | Gain(dBi) (Include cable loss) | Antenna Connector | Cable Loss(dB) | Frequency range (MHz to MHz) |
|----------|-------------------------|--------|-----------------------|--------------------------------|-------------------|----------------|------------------------------|
| 2        | Broadradio              | BRA-07 | Circular Polarization | 0                              | SMA               | 0              | 860~960                      |
| 3        | AMERICAN RFID SOLUTIONS | HD 500 | Circular              | 5.25                           | N type female     | 0.75           | 902~928                      |

## 2.5 Calculation Result Of Maximum Conducted Power

| Frequency Band (MHz) | Max Power (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------------|----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 902.75 ~ 927.25      | 931.108        | 5.25               | 21            | 0.56280                             | 0.60183                     |

Note: Limit of Power Density= f/1500

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