# RF Exposure Report

**Report No.:** SA160421D16

**FCC ID:** RFHIKARPC07AA9

**Test Model:** IKARPC-07A-A9

**Received Date:** Apr. 21, 2016

**Test Date:** May 11 ~ 30, 2016

**Issued Date:** Jun. 14, 2016

**Applicant:** IEI Integration Corp.

**Address:** No.29, Zhongxing Rd., Xizhi Dist., New Taipei City 221,Taiwan, R.O.C.

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

## Table of Contents

## Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| SA160421D16 | Original release. | Jun. 14, 2016 |

## 1 Certificate of Conformity

| | |
|---|---|
| **Product:** | Panel PC |
| **Brand:** | iEi |
| **Test Model:** | IKARPC-07A-A9 |
| **Sample Status:** | Engineering sample |
| **Applicant:** | IEI Integration Corp. |
| **Test Date:** | May 11 ~ 30, 2016 |
| **Standards:** | FCC Part 2 (Section 2.1091)<br>KDB 447498 D03<br>KDB 447498 D01<br>IEEE C95.1 |

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 :** Annie Chang , **Date:** Jun. 14, 2016

Annie Chang / Senior Specialist

**Approved by :** Rex. Lai , **Date:** Jun. 14, 2016

Rex Lai / Assistant 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 ($mW/cm^2$) | Average Time (minutes) |
|---|---|---|---|---|
| Limits For General Population / Uncontrolled Exposure | | | | |
| 300-1500 | … | … | F/1500 | 30 |
| 1500-100,000 | … | … | 1.0 | 30 |

F = Frequency in MHz

### 2.2 MPE Calculation Formula

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

where

Pd = power density in $mW/cm^2$

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 30cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 3 Calculation Result Of Maximum Conducted Power

**For 2.4GHz:**

| Frequency Band (MHz) | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|
| 2412 ~ 2462 | 20.11 | 1.28 | 20 | 0.0274 | 1.00 |
| 2402 ~ 2480 | -0.03 | 1.28 | 20 | 0.0003 | 1.00 |

**For 3.75G:**

| Frequency Band (MHz) | ERP (dBm) | EIRP (dBm) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|
| GPRS (824.2 ~ 848.8) | 28.68 | 30.83 | 20 | 0.2408 | 0.55 |
| WCDMA (826.4 ~ 846.6) | 21.50 | 23.65 | 20 | 0.0461 | 0.55 |

Note: EIRP = ERP + 2.15

| Frequency Band (MHz) | EIRP (dBm) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|
| GPRS (1850.2 ~ 1909.8) | 25.71 | 20 | 0.0741 | 1.00 |
| WCDMA (1852.4 ~ 1907.6) | 20.83 | 20 | 0.0241 | 1.00 |

**NOTE:** 2.4GHz, 3.75G can transmit simultaneously.

**Conclusion:**

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN (2.4GHz) + GPRS (824.2 ~ 848.8)

= 0.0274/1 + 0.2408/0.55= 0.4652

**Therefore the maximum calculation of this situation is 0.4652, which is less than the "1" limit.**

**--- END ---**