# RF Exposure Report

| | |
|---|---|
| **Report No.:** | SA200330E01 |
| **FCC ID:** | H8NEAI2304P |
| **Test Model:** | EAI2304P |
| **Received Date:** | Mar. 30, 2020 |
| **Test Date:** | Apr. 24, 2020 |
| **Issued Date:** | May 18, 2020 |
| **Applicant:** | ASKEY COMPUTER CORP. |
| **Address:** | 10F, NO.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 23585, 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 |
| **Test Location:** | E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan |
| **FCC Registration / Designation Number:** | 723255 / TW2022 |

## Table of Contents

## Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| SA200330E01 | Original release. | May 18, 2020 |

## 1 Certificate of Conformity

| | |
|---|---|
| **Product:** | Indoor AP |
| **Brand:** | ASKEY, T-Mobile |
| **Test Model:** | EAI2304P |
| **Sample Status:** | ENGINEERING SAMPLE |
| **Applicant:** | ASKEY COMPUTER CORP. |
| **Test Date:** | Apr. 24, 2020 |
| **Standards:** | FCC Part 2 (Section 2.1091)<br>IEEE C95.3 -2002 |
| **References Test Guidance:** | KDB 447498 D01 General RF Exposure Guidance v06 |

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** : _____ , **Date:** May 18, 2020

Joyce Kuo / Specialist

**Approved by** : _____ , **Date:** May 18, 2020

Clark Lin / Technical 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 | | | | |
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | ($180/f^2$)* | 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 $mW/cm^2$

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 45cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

1. The antennas provided to the EUT, please refer to the following table:

| Antenna NO. | RF Chain NO. | Antenna Net Gain(dBi) | Frequency range | Antenna Type | Connector Type |
|---|---|---|---|---|---|
| WIFI_0 | chain0<br>chain3 | 4.5<br>4.54 | 2.4~2.4835GHz<br>5.15~5.85GHz | Dipole | R-SMA |
| WIFI_1 | chain1<br>chain2 | 4.5<br>4.54 | 2.4~2.4835GHz<br>5.15~5.85GHz | Dipole | R-SMA |
| WIFI_2 | chain2<br>chain1 | 4.5<br>4.54 | 2.4~2.4835GHz<br>5.15~5.85GHz | Dipole | R-SMA |
| WIFI_3 | chain3<br>chain0 | 4.5<br>4.54 | 2.4~2.4835GHz<br>5.15~5.85GHz | Dipole | R-SMA |

2.5 Calculation Result

| Operation Mode | Evaluation Frequency (MHz) | Maxn Avg. Power (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|---|
| WLAN (2.4GHz) | 2437 | 978.061 | 10.52 | 45 | 0.43324 | 1 |
| WLAN 5GHz U-NII-1 | 5230 | 714.126 | 10.56 | 45 | 0.31926 | 1 |
| WLAN 5GHz U-NII-3 | 5825 | 991.459 | 10.56 | 45 | 0.44324 | 1 |

NOTE:
1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. 2.4GHz: The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4$] = 10.52 dBi
3. 5GHz: The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4$] = 10.56 dBi

**For WWAN module < Worst Case> FCC ID: RI7LM960**

| Operation Mode | Evaluation Frequency (MHz) | Maxn Avg. Power (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|---|
| LTE B5 CA | 836.5 | 708 | 0.50 | 45 | 0.03122 | 0.5498 |

**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 + WLAN 5GHz+ LTE B5 CA =0.43324 / 1 + 0.44324 / 1 + 0.03122 / 0.5498= 0.93326

**Therefore the maximum calculations of above situations are less than the "1" limit.**

**Appendix**

**For WWAN module (Model: LM960, FCC ID: RI7LM960)**

| Operation Mode | Evaluation Frequency (MHz) | Max Avg. Power (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) | Ratio |
|---|---|---|---|---|---|---|---|
| LTE B2 | 1850.7 | 232.274 | 1.80 | 45 | 0.01382 | 1 | 0.01382 |
| LTE B4 | 1717.5 | 257.04 | 2.71 | 45 | 0.01885 | 1 | 0.01885 |
| LTE B5 | 836.5 | 254.097 | 0.50 | 45 | 0.01120 | 0.5498* | 0.02037 |
| LTE B12 | 700.5 | 220.8 | 0.40 | 45 | 0.00951 | 0.46647* | 0.02039 |
| LTE B25 | 1907.5 | 233.884 | 1.80 | 45 | 0.01391 | 1 | 0.01391 |
| LTE B26 | 841.5 | 206.063 | 0.93 | 45 | 0.01003 | 0.54313* | 0.01847 |
| LTE B41 | 2506 | 472.063 | 1.20 | 45 | 0.02445 | 1 | 0.02445 |
| LTE B66 | 1712.5 | 250.611 | 2.71 | 45 | 0.01838 | 1 | 0.01838 |
| LTE B71 | 688 | 242.103 | 0.40 | 45 | 0.01043 | 0.442* | 0.02360 |
| LTE B5 CA | 836.5 | 708 | 0.50 | 45 | 0.03122 | 0.5498* | 0.05678 |
| LTE B41 CA | 2506 | 525 | 1.20 | 45 | 0.02720 | 1 | 0.02720 |

Note: *Limit of Power Density = F/1500

**--- END ---**