

# RF Exposure Evaluation Report

**Product** : Rais2.1 Base Station  
**Trade mark** : N/A  
**Model/Type reference** : Rais2.1  
**Serial Number** : N/A  
**Report Number** : EED32N80400102  
**FCC ID** : 2AVOR-BASE  
**Date of Issue** : Jun. 24, 2021  
**Test Standards** : 47 CFR Part 1.1307  
47 CFR Part 2.1091  
KDB447498D01v06  
**Test result** : PASS

Prepared for:

**Retail Aware, Inc**  
**808 Conagra Dr ; Ste 401 ; Omaha, Ne 68102**

Prepared by:

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Date:

**Jun. 24, 2021**

Check No.: 8807260521

## 2 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | Jun. 24, 2021 | Original    |
|             |               |             |
|             |               |             |

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**GENERAL INFORMATION****3.1 Client Information**

|                          |                                            |
|--------------------------|--------------------------------------------|
| Applicant:               | Retail Aware, Inc                          |
| Address of Applicant:    | 808 Conagra Dr ; Ste 401 ; Omaha, Ne 68102 |
| Manufacturer:            | Retail Aware, Inc                          |
| Address of Manufacturer: | 808 Conagra Dr ; Ste 401 ; Omaha, Ne 68102 |
| Factory:                 | Retail Aware, Inc                          |
| Factory of Manufacturer: | 808 Conagra Dr ; Ste 401 ; Omaha, Ne 68102 |

**3.2 General Description of EUT**

|                       |                                                                                                                    |
|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| Product Name:         | Rais2.1 Base Station                                                                                               |
| Mode No.(EUT):        | Rais2.1                                                                                                            |
| Trade mark:           | N/A                                                                                                                |
| Product Type:         | <input type="checkbox"/> Mobile <input type="checkbox"/> Portable <input checked="" type="checkbox"/> Fix Location |
| Operation Frequency:  | 902 MHz~928MHz                                                                                                     |
| Device Type:          | DTS                                                                                                                |
| Number of Channel:    | 1                                                                                                                  |
| Antenna Type:         | External antenna                                                                                                   |
| Antenna Gain:         | 5dBi                                                                                                               |
| Power Supply:         | AC 100-240V~50/60Hz 0.25A                                                                                          |
| Sample Received Date: | Jun. 10, 2021                                                                                                      |
| Sample tested Date:   | Jun. 10, 2021 to Jun. 18, 2021                                                                                     |

### 3.3 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

### 3.4 Deviation from Standards

None.

### 3.5 Abnormalities from Standard Conditions

None.

### 3.6 Other Information Requested by the Customer

None.

## 4 RF Exposure Evaluation

### 4.1 RF Exposure Compliance Requirement

Maximum exposure limits from CFR 47, FCC Part 1.1310:

Table 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> ) | Averaging time (minutes) |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| <b>(A) Limits for Occupational/Controlled Exposure</b>         |                               |                               |                                     |                          |
| 0.3-3.0                                                        | 614                           | 1.63                          | *100                                | 6                        |
| 3.0-30                                                         | 1842/f                        | 4.89/f                        | *900/f <sup>2</sup>                 | 6                        |
| 30-300                                                         | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1,500                                                      |                               |                               | f/300                               | 6                        |
| 1,500-100,000                                                  |                               |                               | 5                                   | 6                        |
| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                               |                               |                                     |                          |
| 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                       |
| 300-1,500                                                      |                               |                               | f/1500                              | 30                       |
| 1,500-100,000                                                  |                               |                               | 1.0                                 | 30                       |

The power density is calculated as shown below:

$$S = (P \times G) / (4 \times \pi \times d^2) - \text{used to calculate exposure at 20 cm}$$

$$d = \sqrt{(S / (P \times G) \times 4 \times \pi)} - \text{used to calculate minimum distance to meet limits}$$

S= power density

P = transmitter conducted power (in mW)

G = antenna numeric gain

d = distance to radiation center

Table 2 – Power Density Calculations

| Frequency<br>(MHz) | Output<br>power<br>(dBm) | Output<br>power<br>(mW) | Antenna<br>Gain<br>(dBi) | Antenna<br>Gain<br>(numeric) | Distance<br>(cm) | Power<br>Density<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) |
|--------------------|--------------------------|-------------------------|--------------------------|------------------------------|------------------|-------------------------------------------|--------------------------------|
| 914.88             | 10.6                     | 11.482                  | 5                        | 3.16                         | 20               | 0.0072                                    | 0.6099                         |
| 2412~2472          | 23.5                     | 223.872                 | 1.58                     | 1.44                         | 20               | 0.0641                                    | 1.0000                         |

Total percent of limit = 1.19% + 6.41% = 7.6%, compliant with MPE limit.

914.88 MHz Antenna gain set to 3.16 because all power measurements were performed as radiated/EIRP.

Note: This equipment is not intended to be operated by hand. It is expected that a 20cm separation will be maintained at all times.

Values for 2AC7Z-ESPWROOM02 taken from RF exposure exhibit from the application documents for the grant dated 4/17/2015.

2.4 GHz Antenna = 1.58 dBi = 1.44 numeric

Power = 23.5 dBm (80.11mW(20m) is the highest) = 224 mW

## PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32N80400101 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

\*\*\* End of Report \*\*\*