



July 19, 2024

TUV SUD America CB  
10 Centennial Drive FL2  
Peabody, MA 01960

Attention: Director of Certification

**RE: Analysis of RF Exposure for Mobile and Portable Device per KDB 447498 D01 General RF Exposure Guidance v06**

FCC ID: N2S-SC42A8-235467

**1. Limits**

Limits for General Population/Uncontrolled Exposure (Title 47 Subpart J §2.1091 and KDB 447498 D01 referring to limits under §1.1310)

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Electric Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------------|--------------------------|
| 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. MPE Calculation Summary using a 20cm separation distance:**

| Mode               | Output Power (dBm) | Power Density at 20 cm (mW/cm <sup>2</sup> ) | FCC Limit (mW/cm <sup>2</sup> ) |
|--------------------|--------------------|----------------------------------------------|---------------------------------|
| ISM Band (2440MHz) | 22.4               | 0.11343                                      | 1                               |



### 3. Mobile MPE Calculation using a 20cm separation distance:

Using Power Density formula:

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to isotropic

R = distance to the center of radiation of the antenna

#### **LTE Band 2 Downlink at 20 cm Separation Distance:**

|                                                              |                |                       |
|--------------------------------------------------------------|----------------|-----------------------|
| Maximum peak output power at antenna input terminal:         | <b>22.40</b>   | (dBm)                 |
| Maximum peak output power at antenna input terminal:         | <b>173.78</b>  | (mW)                  |
| Maximum System Gain                                          | <b>5.16</b>    | (dBi)                 |
| Maximum System Gain                                          | <b>3.281</b>   | (numeric)             |
| Prediction distance:                                         | <b>20</b>      | (cm)                  |
| Source Based Time Average Duty Cycle:                        | <b>100</b>     | (%)                   |
| Prediction frequency:                                        | <b>2440</b>    | (MHz)                 |
| MPE limit for uncontrolled exposure at prediction frequency: | <b>1.000</b>   | (mW/cm <sup>2</sup> ) |
| Power density at prediction frequency:                       | <b>0.11343</b> | (mW/cm <sup>2</sup> ) |
| Poer density at prediction frequency                         | <b>1.134</b>   | (W/cm <sup>2</sup> )  |
| ISED Margin of Compliance:                                   | <b>-9.45</b>   | (dB)                  |

### 4. Max System Antenna Gain

The EUT use 2 Dual-Band Omni Antenna, Half Wave Dipole with 2.15 dBi of Gain

Sincerely,

  
Miguel Angel Rabago Garcia

Name

Authorized Signatory

Title: Wireless Test Engineer