



America

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-SC448-235467

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 ²)	Averaging Time (minutes)
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. MPE Calculation Summary using a 20cm separation distance:

Mode	Output Power (dBm)	Power Density at 20 cm (mW/cm ²)	FCC Limit (mW/cm ²)
ISM Band (2440MHz)	22.1	0.21170	1



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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:	22.10	(dBm)
Maximum peak output power at antenna input terminal:	162.18	(mW)
Maximum System Gain	8.17	(dBi)
Maximum System Gain	6.561	(numeric)
Prediction distance:	20	(cm)
Source Based Time Average Duty Cycle:	100	(%)
Prediction frequency:	2440	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1.000	(mW/cm ²)
Power density at prediction frequency:	0.21170	(mW/cm ²)
Power density at prediction frequency	2.117	(W/cm ²)
ISED Margin of Compliance:	-6.74	(dB)

4. Max System Antenna Gain

The EUT use 4 Dual-Band Omni Antenna, Half Wave Dipole with 2.15 dBi of Gain

Sincerely,

A handwritten signature in blue ink, appearing to read 'Miguel Angel Rabago Garcia'.

Miguel Angel Rabago Garcia

Name

Authorized Signatory

Title: Wireless Test Engineer