

## MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1093 RF exposure is calculated.

### Limits for Maximum Permissive Exposure (MPE)

| Frequency Range (MHz)                               | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minute) |
|---|-------------------------------|-------------------------------|-------------------------------------|-------------------------|
| 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 <sup>2</sup> )              | 30                      |
| 30-300  | 27.5                          | 0.073                         | 0.2                                 | 30                      |
| 300-1500  | /                             | /                             | F/1500                              | 30                      |
| 1500-15000  | /                             | /                             | 1.0                                 | 30                      |

F = frequency in MHz

\* = Plane-wave equipment power density

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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**Measurement Result:**

| CH | Freq. (MHz) | Avg. Output Power (dBm) | Avg. Output Power (mW) | Limit              | RESULT |
|----|-------------|-------------------------|------------------------|--------------------|--------|
| 1  | 923         | 6.87                    | 4.86                   | 1 Watt = 30.00 dBm | PASS   |

**MPE Prediction**

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

|   |           |                       |
|---|-----------|-----------------------|
| Max. output power including tune-up tolerancel:   | 6.87      | (dBm)                 |
| Max. output power including tune-up tolerancel:   | 4.8640721 | (mW)                  |
| Duty cycle:                                       | 100       | (%)                   |
| Maximum Pav :                                     | 4.8640721 | (mW)                  |
| Peak Antenna gain (Maximum):                      | -2        | (dBi)                 |
| Peak Antenna gain (linear):                       | 0.6309573 | (numeric)             |
| Prediction distance:                              | 20        | (cm)                  |
| Prediction frequency:                             | 923       | (MHz)                 |
| MPE limit for uncontrolled exposure at prediction | 0.6153333 | (mW/cm <sup>2</sup> ) |
| Power density at predication frequency at 20 (cm) | 0.001     | (mW/cm <sup>2</sup> ) |

**Measurement Result**

The predicted power density level at 20 cm is 0.001 mW/cm<sup>2</sup>.

This is below the uncontrolled exposure limit of 0.60183 mW/cm<sup>2</sup> at 923MHz.

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