

### 13. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

#### 13.1 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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### 13.2 Measurement Result:

| CH | Freq. (MHz) | Avg. Output Power (dBm) | Avg. Output Power (mW) | Limit              | RESULT |
|----|-------------|-------------------------|------------------------|--------------------|--------|
| 1  | 923         | 6.08                    | 4.06                   | 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:              | 6.08       | (dBm)                 |
| Max. output power including tune-up tolerancel:              | 4.05508535 | (mW)                  |
| Duty cycle:                                                  | 89.92      | (%)                   |
| Maximum Pav :                                                | 3.64633275 | (mW)                  |
| Peak Antenna gain (Maximum):                                 | 0          | (dBi)                 |
| Peak Antenna gain (linear):                                  | 1          | (numeric)             |
| Prediction distance:                                         | 20         | (cm)                  |
| Prediction frequency:                                        | 923        | (MHz)                 |
| MPE limit for uncontrolled exposure at prediction frequency: | 0.61533333 | (mW/cm <sup>2</sup> ) |
| Power density at predication frequency at 20 (cm) distance   | 0.0007     | (mW/cm <sup>2</sup> ) |

#### Measurement Result

The predicted power density level at 20 cm is 0.0007 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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