

# Maximum Permissible Exposure(MPE) Report

## 1. Applicable Standard

FCC Part §1.1310

## 2. Requirements

| 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) |
| 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                         | 0.0173                       | 0.2                                 | 30                       |
| 300-1,500                                     |                              |                              | f/1500                              | 30                       |
| 1,500-100,000                                 |                              |                              | 1.0                                 | 30                       |

## 3. MPE Calculation

Predication of MPE limit at a given distance

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

S = Power density (In appropriate units, e.g., mW/cm<sup>2</sup>)

P = Power input to the antenna ( In appropriate units, e.g., mW)

G = Power gain og the antenna in the direction of interest relative to an isotropic radiator, the power gain factor,

Is normally numeric gain

R =Distance tp the center of radiation of the antenna(In appropriate units, e.g., cm

#### 4. Test Result

| Operation Bands | Frequency(MHz) | Max. Output power(dBm) | Cable loss (dB) | Power to Antenna(mW) | Antenna gain |         |
|-----------------|----------------|------------------------|-----------------|----------------------|--------------|---------|
|                 |                |                        |                 |                      | Isotropic    | Numeric |
| UL776-787       | 785.38         | 20.96                  | 3.8             | 52.00                | 8            | 6.31    |
| DL746-757       | 749.42         | 11.73                  | 1.4             | 10.79                | 6            | 3.98    |

| Operation Bands | Power (mW) | Antenna gain(G) | Measure Distance(cm) | Power density (mW/cm <sup>2</sup> ) | MPE limit (mW/cm <sup>2</sup> ) |
|-----------------|------------|-----------------|----------------------|-------------------------------------|---------------------------------|
| UL776-787       | 52.00      | 6.31            | 20                   | 0.0653                              | 0.524                           |
| DL746-757       | 10.79      | 3.98            | 20                   | 0.0085                              | 0.500                           |

**Results: PASS**