

## §2.1091- RF EXPOSURE

### Applicable Standard

According to subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

According to KDB 447498 D04 Interim General RF Exposure Guidance

MPE-Based Exemption:

General frequency and separation-distance dependent MPE-based effective radiated power(ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

| RF Source frequency (MHz) | Threshold ERP (watts) |
|---------------------------|-----------------------|
| 0.3-1.34                  | $1,920 R^2$ .         |
| 1.34-30                   | $3,450 R^2/f^2$ .     |
| 30-300                    | $3.83 R^2$ .          |
| 300-1,500                 | $0.0128 R^2f$ .       |
| 1,500-100,000             | $19.2R^2$ .           |

R is the minimum separation distance in meters

f = frequency in MHz

### Result

| Frequency (MHz) | Antenna Gain |       | Tune up conducted power |       | ERP   |       | Evaluation Distance (m) | ERP Limit (W) |
|-----------------|--------------|-------|-------------------------|-------|-------|-------|-------------------------|---------------|
|                 | (dBi)        | (dBd) | (dBm)                   | (W)   | (dBm) | (W)   |                         |               |
| 1850-1910       | 2.2          | 0.05  | 23.0                    | 0.200 | 23.05 | 0.202 | 0.2                     | 0.768         |
| 1710-1755       | 2.6          | 0.45  | 23.0                    | 0.200 | 23.45 | 0.221 | 0.2                     | 0.768         |
| 824-849         | 1.5          | -0.65 | 24.0                    | 0.251 | 23.35 | 0.216 | 0.2                     | 0.422         |
| 699-716         | -0.9         | -3.05 | 24.0                    | 0.251 | 20.95 | 0.124 | 0.2                     | 0.358         |
| 777-787         | 0.6          | -1.55 | 24.0                    | 0.251 | 22.45 | 0.176 | 0.2                     | 0.398         |
| 788-798         | 1.0          | -1.15 | 24.0                    | 0.251 | 22.85 | 0.193 | 0.2                     | 0.403         |
| 1710-1780       | 2.6          | 0.45  | 23.0                    | 0.200 | 23.45 | 0.221 | 0.2                     | 0.768         |
| 663-698         | -1.4         | -3.55 | 24.0                    | 0.251 | 20.45 | 0.111 | 0.2                     | 0.339         |

Note: The tune up conducted power and antenna gain was declared by the applicant.

Note: To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

**Result: Compliance**