

RF Exposure evaluation

Regulation

According to § 15.247 (i), radio frequency devices operating under the provisions of this part are subject to the radio frequency radiation exposure requirements specified in §§ 1.1307(b), 1.1310, 2.1091, and 2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a “general population/uncontrolled” environment. Applications for equipment authorization of mobile or portable devices operating under this section must contain a statement confirming compliance with these requirements. Technical information showing the basis for this statement must be submitted to the Commission upon request.

Test results

MPE calculation to the FCC ID: PJMLRU4000

These equations are generally accurate in the far field of an antenna but will over predict power density in the near field, where they could be used for making a “worst case” prediction.

$$S = PG/4\pi R^2 \text{ or } S = EIRP/ (4\pi R^2)$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units e.g. mW)

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

R = distance to the centre of radiation of the antenna (appropriate units e.g. cm)

EIRP = equivalent isotropically radiated power

Calculation:

Operating Frequency	EIRP**		Power density (S) 20 cm	
			Calculated	Limit
GHz	dBm	mW	W/ m ²	
902.75	35.9	3890.5	7.7	10.0
915.25	35.8	3801.9	7.6	10.0
927.25	35.7	3715.4	7.4	10.0

EIRP is calculated taking into consideration an EUT supported external antenna ID ANT: U290/290 with a maximum gain of 6 dBi.