

Maximum Permissible Exposure

Digi International Inc.

HBtemp, HCtemp

FCC ID: MCQ-HBTEMPV01

IC ID: 1846A-HBTEMPV01

Purpose

The purpose of this test is to ensure that the RF energy intentionally transmitted, in terms of power density emitted from the EUT at a stated operating distance does not exceed the limits listed below as defined in the applicable test standard, as calculated based upon readings obtained during testing. This helps protect human exposure to excessive RF fields.

Limit(s) and Method

The limits, as defined in FCC 1.1310 Table 1 (B) limits for general public exposure was applied. The limit for the frequency range of 1.5 GHz to 100 GHz is 1.0 mW/cm².

Therefore, the limits for this device are as follows:

MPE Limits	
Frequency	Limit
2.4 – 2.4835 GHz	1.0 mW/cm ²

The distance used for calculations was 20cm, as this is the minimum distance a user will be from the EUT during normal operation.

Prediction methods from OET Bulletin 65, Edition 97-01 are applied.

Radiated data was measured at a distance of 3m.

Results

The EUT passed the requirements. The calculated power densities of all transmitters are under limits, and meet the MPE test exclusion requirement.

Calculations

$$P_d = (\text{EIRP} / (4 * \pi * R^2))$$

Where:

$$\text{EIRP} = \text{Equivalent Isotropic Radiated Power} = \text{E(dBuV)} - 95.2$$

$$\text{E(dBuV)} = 97.9 \text{ dBuV}$$

$$\text{EIRP} = 97.9 \text{ dBuV} - 95.2 = 2.7 \text{ dBm} = 1.8621 \text{ mW}$$

$$R = 20\text{cm}$$

$$P_d = (1.8621 \text{ mW}) / (4 * \pi * 20^2 \text{ cm}^2)$$

$$P_d = 0.0003705 \text{ mW/cm}^2$$

$$P_d < 1.0 \text{ mW/cm}^2$$

MPE limits are met.