

FCC MPE Calculation

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FCC ID: PQA-HD50SB

Frequency: 2402-2480 MHz (79 channels)

Modulation: FHSS (GFSK, $\pi/4$ DQPSK, 8DPSK)

Mid-Channel: 2.441 GHz (channel 39)

Mid-Channel Peak Power, Conducted: -7.33 dBm == 0.185 mW

Antenna Gain: G = 2 dBi

Calculation:

$$\text{Limit} = 60/2.441 = \underline{24.58 \text{ mW}}$$

$$P_{\text{radiated, max}} = P_{\text{conducted, dBm}} + G_{\text{dBi}} = -7.33 \text{ dBm} + 2 \text{ dBi} == -5.33 \text{ dBm} = \underline{0.3 \text{ mW}}$$

Conclusion:

The emitted power appears to be (far) below the required limit, so PASS.

Note 1: f shall be the mid-band frequency expressed in GHz; the limit calculated with this mid-band frequency applies to all channels. For PTT with body-worn or face-held modes, d is the distance from the device case to a person's body; for modules with antennas inside laptops, d is the distance from the antenna to the person's body.

Note 2: Average Power levels are always equal or below the measured Peak Power levels, which means that calculating the EIRP using the Peak power can be considered as worst case.)