FCC MPE Calculation

Doc. No. 20121022RFX001

EUT Description: GWK5Nx 2.4GHz Wireless Audio Transmitter / Receiver
Company: Gigawit Electronics Limited
Model: GWK5NO V3.0
FCC ID: QEC-GWNO

Frequency: 2404-2479MHz (16 channels)
Modulation: FSK
Mid-Channel: 2.444GHz (channel 8)
Mid-Channel Peak Power, Conducted: 4.33 dBm == 2.71 mW
Antenna Gain: G = 2.0 dBi

Calculation:

Limit = 60/f = 60/2.444 = 24.55 mW

$P_{radiated,\ max} = P_{conducted,\ dBm} + G_{dBi}$ = 4.33 dBm + 2.0 dBi == 6.33 dBm = 4.3 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 parson'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.)