RF Exposure Information:

The device is compliant with MPE requirements (47CFR2.1091).

Calculation for compliance with MPE requirements (47CFR2.1091) is done using a worst-case transmitter power of 250 mW, assumption of a unity gain antenna, and an exposure limit of 0.6 mW/cm^2 (f/1500 mW/cm^2 at 100 cm per 47CFR1.1310) for general applications. This device is not carried or worn by the user, typically installed in utility cabinet at least 100cm away from nearby persons. It has an extremely low duty cycle and a low rate of transmission that dramatically reduces the average power level that could pose an exposure hazard.

The averaging interval specified in Table 1(B) of 47CFR1.1310 is 30 minutes. The first release to security and to senior care customers will only have outbound messages from the EN6080 when initially configuring repeaters and when sending acknowledgements of inbound messages to repeaters. The longest outbound configuration message to a repeater will be 24 bytes + preamble. The EN6080 will transmit two rounds for each message with a period of about 50 milliseconds between rounds. It is likely that 3 unique messages will be transmitted to each repeater and these messages will only be sent once.

The acknowledgement messages are 3.8 milliseconds long, including preamble, and hopefully each acknowledgement will only have to be sent once for each message. Each repeater on layer 1 will transmit a directed inbound message maybe every second that will require an acknowledgement from the EN6080. If there are 10 repeaters that have the network coordinator as a neighbor then the total on air time for the EN6080 transmitter will be about 40 milliseconds per second.

For the purposes of this calculation, above scenario is assumed such that 10 rounds at 4 msec will be sent in a 1-second period.

The worst-case average power density at a distance of 100 cm is then,

$$250mW \times \frac{10\ rounds \times 60}{min} \times \frac{4\ ms}{rounds} \times \frac{1\ min}{60 \times 10^3\ ms} \times \frac{1}{4\pi(100\ cm)^2} = 79.6\frac{nW}{cm^2}$$

This is well below the 0.6 mW/cm^2 MPE limit.