

MPE Analysis Report

The Equipment Under Test (EUT) is a KONOzw Smart Hub Thermostat, which equipped with a Z-wave module (two channel: 908.4MHz, 916MHz). After connecting the EUT to the Z-wave home control system, user can control the home heater/cooler system. The EUT is powered by 4X size "AA" batteries or 24VAC.

Antenna Type: Internal, Integral

Antenna Gain: 0dBi

Nominal conducted power: -3dBm

Maximum allowed production tolerance: + 1dB / - 4dB

Operating channel

908.4MHz	FSK
916MHz	GFSK

For Maximum Permissible Exposure (MPE) evaluation of the KONOzw Smart Hub Thermostat, the maximum power density at 20 cm from this mobile transmitter shall be less than the General Population / Uncontrolled MPE limit in OET Bulletin 65.

For Z-wave portion, maximum conducted power -2dBm (0.63mW). The antenna gain is 0 dBi = 1 (num gain) and the maximum source-based time-averaging duty factor is 100%. From these data, the exposed power density at a distance (R) of 20cm from the center of radiation of the antenna can be calculated according to OET Bulletin 65 as follow:

The radiated (EIRP) source-based time-averaging output power
= $(0.63 * 1)$ mW
= 0.63 mW

The power density at 20 cm from the antenna
= $EIRP / 4\pi R^2$
= 0.000125 mW cm⁻²

In the frequency range of 1,500 - 100,000MHz, the MPE limit is 1.0 mWcm⁻² for general population and uncontrolled exposure. As the measured power density at 20cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structures and body of the user or nearby persons.

The following RF exposure statement is proposed to be included in the user manual:

“ FCC RF Radiation Exposure Statement

Caution: To maintain compliance with the FCC's RF exposure guidelines, place the product at least 20cm from nearby persons.”