

Analysis Report

The EUT is a transmitter of Wireless Stereo Headphones – Docking Station operating on 26 channels (2403MHz to 2478MHz with 3MHz channel spacing) in the 2.4GHz ISM band (2400MHz to 2483.5MHz). The device scans through the 26 channels constantly to monitor the real-time RSSI values. Two channels will be selected according to the instantaneous lowest RSSI channels. The selected 2 channels are transmitting alternatively during normal operation. If the 2 working channels are interfered, the device would select another 2 channels with lowest RSSI values. The EUT accepts stereo analog line-input and optical digital input. The audio signal is sent to the corresponding receiver via this 2.4GHz radio. The EUT has a charging port for charging the corresponding receiver (headphone).

The EUT is powered by a supplied AC/DC adaptor (Input: 120-240VAC; Output: 5VDC).

Antenna Type: internal and integral

Antenna Gain: 2.3dBi

Nominal peak conducted power: 19dBm

Maximum allowed field strength of production tolerance: +/- 4dBm

Modulation type: GFSK

According to FCC Part 2.1091, this unlicensed transmitting device is categorically excluded from routine environment evaluation for RF exposure prior to equipment authorization or use.

According to the KDB 447498 and OET 65, the calculation as below:

For Maximum Permissible Exposure (MPE) evaluation of the Wireless Stereo Headphones – Docking Station of tested model of 3301089, 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.

The maximum EIRP = $19 + 2.3 + 4 = 25.3\text{dBm} = 338\text{mW}$

The source-based maximum radiated power = 338mW

The power density at 20 cm from the antenna

$$\begin{aligned} &= \text{EIRP} / 4\pi R^2 \\ &= 0.067 \text{ mW cm}^{-2} \end{aligned}$$

In the frequency range of 1,500 - 100,000MHz, the MPE limit is 1.0 mW cm^{-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: This transmitter must be installed to provide a separation distance at least 20cm from nearby person.”