

RF Exposure

The equipment under test (EUT) is a Smart Tag with Bluetooth 5.0 BLE function operating in 2402-2480MHz. The EUT is powered by DC 3V by lithium cell. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: -3.23 dBi

Bluetooth Version: 5.0 BLE (Single Mode)

The nominal conducted output power specified: 5.0 dBm (± 1.0 dB)

The nominal radiated output power (e.i.r.p) specified 1.77 dBm (± 1.0 dB)

According to the test report 250507016SZN-001:

The minimum conducted output power for the EUT is 5.04 dBm in the frequency 2.402GHz which is within the production variation.

The maximum conducted output power for the EUT is 5.79 dBm in the frequency 2.480GHz which is within the production variation.

According to the KDB 447498 D04 v01:

The maximum conducted output power specified is 6.0dBm= 3.98mW

The maximum ERP specified is 6.0dBm -3.23dBi -2.15dB = 0.62dBm = 1.15mW

The SAR Exclusion Threshold Level:

$$\begin{aligned} P_{th}(mW) &= ERP_{20cm} * (d/20cm)^x \quad (X = -\log_{10} \left(\frac{60}{ERP_{20cm} \sqrt{f}} \right)) \\ &= 3060 * (0.5/20)^{1.9} mW \\ &= 2.72 mW \end{aligned}$$

Since max. conducted output power and effective radiated power (ERP) is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.

Note: EIRP is higher than ERP, thus EIRP is compared with the Exclusion Threshold.