

INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a Emoji speaker with Bluetooth function operating in 2402-2480MHz. The EUT is powered by rechargeable battery (DC 3.7V, 500mAh) which can be charged by USB port (DC 5V). The USB port only use for charging purpose. For more detail information pls. refer to the user manual.

Bluetooth Version: 4.0 without BLE

Modulation Type: GFSK, $\pi/4$ DQPSK, 8DPSK

Antenna Type: Integral antenna (Gain: 0 dBi)

The nominal conducted output power specified: -12.0dBm (Tolerance: +/-5dB)

The nominal radiated output power (e.i.r.p) specified: -12.0dBm (Tolerance: +/-5dB)

According to the KDB 447498:

The maximum radiated emission for the EUT is $83.9 \text{ dB}\mu\text{V/m}$ at 3m in the frequency 2.402GHz = $[(FS^*D)^2 / 30] \text{ mW}$
= -11.3 dBm which is within the production variation

The minimum radiated emission for the EUT is $81.4 \text{ dB}\mu\text{V/m}$ for at 3m in the frequency 2.441GHz = $[(FS^*D)^2 / 30] \text{ mW}$
= -13.8 dBm which is within the production variation

The maximum conducted output power specified is -7dBm = 0.20mW

The source- based time-averaging conducted output power
= $0.20 * \text{Duty cycle mW} \leq 0.20 \text{ mW}$ (Duty Cycle $\leq 100\%$)

The SAR Exclusion Threshold Level:

= $3.0 * (\text{min. test separation distance, mm}) / \text{sqrt(freq. in GHz)}$
= $3.0 * 5 / \text{sqrt}(2.480) \text{ mW}$
= 9.53 mW

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.