

INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a SOUND BAR HOME THEATER SYSTEM HT-SB31D with Bluetooth function operating at 2402-2480MHz. The NFC tag is passive. The EUT is powered by AC 100-240V, 50/60Hz. For more detail information pls. refer to the user manual.

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

Bluetooth Version: 2.1 with EDR

Antenna Type: Integral antenna (Gain: 0 dBi)

The nominal radiated output power (e.i.r.p) specified: 0dBm (Tolerance: +/-3dB)

The nominal conducted output power specified: 0dBm (Tolerance: +/-3dB)

The maximum radiated emission for the EUT is 93.3dB μ V/m at 3m in the frequency

$$2.402\text{GHz} = [(FS \cdot D)^2 / 30] \text{ mW}$$

= -1.93dBm which is within the production variation

The minimum radiated emission for the EUT is 92.3dB μ V/m at 3m in the frequency

$$2.480\text{GHz} = [(FS \cdot D)^2 / 30] \text{ mW}$$

= -2.93dBm which is within the production variation.

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

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

The maximum conducted output power specified is 3.0dBm = 2.0mW

The source- based time-averaging conducted output power

$$= 2.0 \cdot \text{Duty factor mW (where Duty Factor} \leq 1)$$

$$\leq 2.0 \text{ mW}$$

The SAR Exclusion Threshold Level:

$$= 3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$$

$$= 3.0 \cdot 5 / \sqrt{2.480} \text{ mW}$$

$$= 9.53 \text{ mW}$$

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.