

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a MUSICAL MICROPHONE BLUETOOTH VINTAGE with Bluetooth function. The EUT was powered by the fully-charged DC 3.7V, 2000mAh new rechargeable battery which was charged by USB port (DC 5V). For more detail information pls. refer to the user manual.

Modulation Type: GFSK for BT 4.2 BLE and GFSK, $\pi/4$ DQPSK, 8DPSK for BT 2.1+EDR.

Bluetooth Version: 4.2 and 2.1 with EDR

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

The nominal conducted output power specified: 6.0dBm (+/-3dB).

The nominal radiated output power (e.i.r.p) specified: 6.0dBm (+/- 3dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 103.3dB μ V/m at 3m in the frequency 2480MHz of BT 4.2 BLE

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 8.07dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 101.6dB μ V/m at 3m in the frequency 2480MHz of BT 2.1+EDR

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 6.37dBm
which is within the production variation.

The maximum conducted output power specified is 9.0dBm = 7.94mW

The source- based time-averaging conducted output power
= 7.94 * Duty factor mW (where Duty Factor ≤ 1)
= 7.94 mW

The SAR Exclusion Threshold Level:

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