

# INTERTEK TESTING SERVICES

---

## Analysis Report

The equipment under test (EUT) is a Bluetooth speaker. The EUT was powered by 3.7 VDC fully charged rechargeable battery charged by an USB Power Adapter with AC 120V, 60Hz input or PC during the test. For more detail information pls. refer to the user manual.

Modulation Type: GFSK,  $\pi/4$ DQPSK, 8DPSK for BT 2.1 with EDR and GFSK for BT 4.0

Bluetooth Version: 2.1 with EDR and 4.0

Antenna Type: Integral antenna

Antenna Gain: 0dBi

The nominal radiated output power (e.i.r.p) specified: 4dBm (Tolerance: +/- 3dB)

The nominal conducted output power specified: 4dBm (Tolerance: +/- 3dB)

According to the KDB 447498:

The maximum radiated emission for the EUT is 101.4dB $\mu$ V/m for BT 2.1 with EDR at 3m in the frequency 2.441GHz  
=  $[(FS \cdot D)^2 / 30]$  mW  
= 6.2dBm which is within the production variation.

The minimum radiated emission for the EUT is 98.9dB $\mu$ V/m for BT 4.0 at 3m in the frequency 2.440GHz  
=  $[(FS \cdot D)^2 / 30]$  mW  
= 3.7dBm which is within the production variation.

The maximum conducted output power specified is 7dBm = 5.0mW

The source- based time-averaging conducted output power  
= 5.0 \* Duty cycle mW  $\leq$  5.0 mW (Duty Cycle  $\leq$  100%)

The SAR Exclusion Threshold Level:

=  $3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$   
=  $3.0 * 5 / \sqrt{2.480}$  mW  
= 9.5 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.