

INTERTEK TESTING SERVICES

RF Exposure

The Equipment under Test (EUT) is a dongle unit for GAMEPAD COMBO KIT (INCLUDES GAMEPAD CLASSIC & 10 FOOT EXTENDER CABLE) model: DGUN-2930 operating at 2.4GHz band. It is powered by DC 3.3V (Uii port) via NES Classic Edition Host Unit which can be powered by AC 120/60Hz. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

The normal radiated output power (e.i.r.p) is: 1.0dBm (tolerance: +/- 3dB).

The normal conducted output power is: 1.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 95.3dBμV/m at 3m in the frequency 2440MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 0.07dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 94.2dBμV/m at 3m in the frequency 2475MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -1.03dBm

which is within the production variation.

The maximum conducted output power specified is 4.0dBm = 2.5mW

The source- based time-averaging conducted output power

= $2.5 \cdot \text{Duty Cycle}$ mW < 2.5mW (Duty Cycle<100%)

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.475}$ mW

= 9.53mW

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.

Simultaneous SAR Considerations:

Since the Equipment under Test (EUT) can be operated with the transmitter of Wii™ Classic controller, Simultaneous transmission need to be estimated.

According to the KDB 447498:

The maximum conducted power for EUT is 4.0dBm = 2.5mW;

The maximum conducted power for Wii™ Classic controller is 1.63mW. (Basing on FCC ID:POO-WC45)

In the simultaneous transmissions, the EUT estimated SAR value:

= (max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm) * [sqrt(freq. in GHz)/7.5] W/kg

= 2.5/5*[sqrt (2.475)/7.5] W/kg

= 0.105W/kg

In the simultaneous transmissions, the Wii™ Classic controller estimated SAR value:

= (max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm) * [sqrt(freq. in GHz)/7.5] W/kg

= 1.63/5*[sqrt (2.475)/7.5] W/kg

= 0.068W/kg

Sum of 1-g SAR of all simultaneously transmission operating mode:

The EUT estimated SAR + transmitter of Wii™ Classic controller estimated SAR

= 0.105 + 0.068 W/kg

= 0.173 W/kg ≤ 0.4 W/kg

The SAR Exclusion Threshold Level: ≤ 0.4 W/kg