RF Exposure

The Equipment under Test (EUT) is a wireless adapter for the SUPER GAMEPAD FOR SNES CLASSIC model: DGUN-2960 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 adapter with AC 120V/60Hz input. 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: -13.0dBm (tolerance: +/- 3dB).
The normal conducted output power is: -13.0dBm (tolerance: +/- 3dB).
Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 83.6dBμV/m at 3m in the frequency 2405MHz
The EIRP = [(FS*D) ^2 / 30] mW = -11.63dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 80.2dBμV/m at 3m in the frequency 2475MHz
The EIRP = [(FS*D) ^2 / 30] mW = -15.03dBm
which is within the production variation.

The maximum conducted output power specified is -10.0dBm = 0.1mW
The source- based time-averaging conducted output power
= 0.1* Duty cycle mW <0.1mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.475) 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.

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 -10.0dBm = 0.1mW;
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
= 0.1/5*[sqrt (2.475)/7.5] W/kg
= 0.004W/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
= 0.004 + 0.068 W/kg
= 0.072 W/kg $\leq$ 0.4 W/kg

The SAR Exclusion Threshold Level: $\leq$ 0.4 W/kg