RF Exposure evaluation

Product Description: 2.4G Wireless Keyboard
Model Number: XCK2-1001
FCC ID: FGOXCK2-1001

According to 447498 D01 General RF Exposure Guidance v05 The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by: [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

According to the follow transmitter output power (P_t) formula :

P_t= (E x d) ^{2}/ (30 x g_t)

P_t=transmitter output power in watts

g_t=numeric gain of the transmitting antenna (unitess)

E=electric field strength in V/m

d=measurement distance in meters (m)

According to the above test data,

Emax=94.74dBuv/m=0.055V/m,d=3m,g_t=1

P_t= (E x d) ^{2}/ (30 x g_t) =$(0.055x3)^2/(30x1)$=0.0009075W=0.91mW

The result is rounded to one decimal place for comparison

Worse case is as below: [2440MHz -0.91mW output power]

(0.91mW /5mm) .[√2.440(GHz)]= 0.28<3.0 for 1-g SAR

Then SAR evaluation is not required

NOTE: For the maximum power, you can refer FCC test report.