RF Exposure Evaluation

Product Description: Bluetooth speaker

Model Number: BSK52

FCC ID: ZG8BSK52

According to 447498 D0**1** 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

The transmitter output power (P_t) formula was showed as the follow:

$P_t = (E \times d)^2 / (30 \times g_t)$

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 formula described above:

Emax=<u>100.28</u>dBuv/m=<u>0.103</u>V/m, d=3m, g_t=1

$P_t = (E \times d)^2 / (30 \times g_t) = (0.103 \times 3)^2 / (30 \times 1) = 0.00318W = 3.18mW$

  The result is rounded to one decimal place for comparison

  Worse case is as below: [2402MHz -3.18mW output power]

  (3.18mW / 5mm) .[√2.402(GHz)]   =   <u>0.986</u> < 3.0 for 1 - g SAR

  Then SAR evaluation is not required

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