

FCC ID: Q2Q-OPN2006

Report No.: E2/2014/40023 **Issue Date: May 22, 2014** 

## 15. RF Exposure

# 15.1. Standard Applicable:

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in the manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Portable device with its physical nature to be used nearby, the distance between radiating structure and human is less than 20cm.

As per KDB 447498 D01 \$4.3.1.1, The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm, and  $\leq 5$ m (not to exceed) are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·  $[\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and  $\le 7.5$  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 operational distance is 5mm with the verification of KDB inquiry, OPN-2006, that KDB941225 D07 can be referred and used to evaluate the most proper way how RF exposure concern shall be met.

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15.2. Measurement Result: (Worst: BR mode)

### BR mode (GFSK):

Frequency (MHz)	Output Power (dBm)	<b>Duty Cycle</b>	Output Power (mW)
2402.00	1.92	0.771	1.19965
2441.00	4.04	0.768	1.94698
2480.00	6.60	0.771	3.52415

## Step 1: (<=5mm)

This is a portable device and the Max output power is (3.52mW) lower than the threshold given and derived as formula given above, where

### Bluetooth:

Mode	Frequency	Power (avg in dBm)	Power (avg mw)	Distance (mm)	Threshold (<5mm)
GFSK	2480	6.60	4.570881896	5	1.439646402

### Conclusion:

As the result of calculation result indicates, the RF exposure generating from given transmitter (transmitter employed digital modulation) can be excluded from SAR measurement, (<0.3), and therefore is deemed compliant with RF exposure as per KDB 447498 D01, FCC.

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