

## RF EXPOSURE ANALYSIS

<u>Product</u>	<u>FCC ID</u>	<u>IC Number</u>
BLE113 Bluetooth Smart Module	QOQBLE113	5123A-BGTBLE113

### Analysis for FCC, portable use

Standalone SAR test exclusion considerations are defined in the KDB 447498 Chapter 4.3.1. 1-g head or body SAR exclusion threshold is defined with formula

$$[(\text{max. power of channel, including tun-up tolerance, mW}) / (\text{min. separation distance, mm.})] * (\sqrt{f(\text{GHz})}) \leq 3$$

For BLE113 the maximum TX power including tolerances is 1.5 mW and maximum TX frequency is 2.48 GHz. Using separation distance of 5 mm with the formula above results

$$\left( \frac{1.5\text{mW}}{5\text{mm}} \right) * \sqrt{2.48} = 0.47 < 3$$

Thus for portable use the SAR exclusion condition is fulfilled and SAR evaluation is not required for separation distance of 5 mm or more.

### Analysis for FCC, mobile use

$$S = \frac{E.I.R.P}{4\pi R^2} = \frac{8\text{mW}}{4\pi * (20\text{cm})^2} = 0.0003\text{mW} / \text{cm}^2$$

E.I.R.P (mW)	Evaluation distance R (cm)	Power density S at prediction frequency (mW/cm <sup>2</sup> )	MPE limit for uncontrolled exposure at prediction frequency (mW/cm <sup>2</sup> )	Verdict
8	20	0.0003	1	PASS



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