



RF EXPOSURE ANALYSIS

<u>Product</u>	<u>FCC ID</u>
BGM121 / BGM123 Bluetooth Module	QOQBGM12LMA

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

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

For BGM121 / BGM123 the absolute maximum TXP including tolerances 11.2 mW and maximum TX frequency is 2.48 GHz. Using separation distance of 6 mm with the formula above results

$$\left(\frac{11.22\text{mW}}{6\text{mm}} \right) * \sqrt{2.48} = 2.95 < 3$$

Thus BGM121 / BGM123 meets the SAR exclusion criteria with 6 mm separation. If the separation distance to human body is 6mm or more then SAR evaluation is not needed.

Analysis for FCC, mobile use

$$S = \frac{E.I.R.P}{4\pi R^2} = \frac{11.22\text{mW}}{4\pi * (20\text{cm})^2} = 0.00189\text{mW} / \text{cm}^2$$

E.I.R.P (mW)	Evaluation distance R (cm)	Power density S at prediction frequency (mW/cm ²)	MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	Verdict
11.22	20	0.00223	1	PASS