

RF EXPOSURE ANALYSIS

<u>Product</u>	<u>FCC ID</u>
MGM12P2 802.15.4. Module	QOQMGM12P2

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 MGM12P2 the maximum TX power including tolerances is 12.6 mW and maximum TX frequency is 2.48 GHz. Using separation distance of 6.7 mm with the formula above results

$$\left(\frac{12.6 \text{ mW}}{6.7 \text{ mm}} \right) * \sqrt{2.48} = 2.96 < 3$$

Thus MGM12P2 meets the SAR exclusion criteria with 6.7 mm separation and SAR evaluation is not needed.

Analysis for FCC, mobile use

$$S = \frac{E.I.R.P}{4\pi R^2} = \frac{20.6 \text{ mW}}{4\pi * (20 \text{ cm})^2} = 0.004098 \text{ mW/cm}^2$$

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
20.6	20	0.004098	1	PASS