

FCC – Simultaneous SAR Exclusion

Per QOQ-WGM110: portable use.

Maximum TX power = 40mW

Maximum TX frequency = 2480 MHz

RFID module

Maximum TX power = 0.0000456mW

TX frequency = 13.56MHz

Assuming worst case power addition:

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

$\text{min. separation distance} \geq (40.0000456 \text{ mW} / 3) * \sqrt{2.48}$
 $\geq 21 \text{ mm}$

IC – Simultaneous SAR Exclusion

Per 5123A-WGM110

Maximum TX power = 40mW

Maximum TX frequency = 2480 MHz

RFID module

Maximum TX power = 0.0000456mW

TX frequency = 13.56MHz

Per RSS-102 Table 1, for a separation distance of 25 mm:

@2450MHz, exclusion limit is 52mW

@3500MHz, exclusion limit is 55mW

Linear interpolation to find limit @ 2480MHz

$= 52 \text{ mW} + (2480\text{MHz} - 2450 \text{ MHz}) * (55\text{mW} - 52\text{mW}) / (3500\text{MHz} - 2450\text{MHz})$
 $= 52.09 \text{ mW}$

Assuming worst case power addition

Max TX power = 40.0000456 mW

$40.0000456 < 52.09$; device meets SAR exemption criteria