


Client	Visonic Ltd	
Product	MCA-370 SMA	
Standard(s)	RSS 247 Issue 1:2015 / FCC Part 15 Subpart 15.247:2016	

RF Exposure

Purpose

The purpose of this test is to ensure that the RF energy intentionally transmitted, in terms of power density emitted from the EUT at a stated operating distance does not exceed the limits listed below as defined in the applicable test standard, as calculated based upon readings obtained during testing. This helps protect human exposure to excessive RF fields.

Limit(s) and Method

The limits, as defined FCC 1.1310 Table 1 (B) limits for general public exposure was applied. The limits for the frequency ranges 300 MHz to 1.5 GHz and 1.5 GHz to 100 GHz was applied. The limits are $f/1500 \text{ mW/cm}^2$ and 1.0 mW/cm^2 respectively. The distance used for calculations was 20 cm, as this is the minimum distance an operator will be from the EUT during normal operation, as stated by the manufacturer.

As per FCC KDB 447498, Clause 4.3.1 b), the 1-g SAR exclusion threshold for 200 mm test distance is 1597 mW.

Results

The EUT passed the requirements. The worst case calculated power density was 0.027 mW/cm^2 , this is significantly under the 1.0 mW/cm^2 requirement.

The Maximum peak conducted power of the EUT is 119 mW and is significantly less than the SAR exclusion threshold. Therefore SAR is not applicable to the EUT.

Calculations

Method 1 (conducted power)

$$P_d = (P_t * G) / (4 * \pi * R^2)$$

Where $P_t = 20.75 \text{ dBm}$ or 118.85 mW as per Peak power conducted output

Where $G = 0.5 \text{ dBi}$, or numerically 1.12

Where $R = 20 \text{ cm}$

$$P_d = (118.85 \text{ mW} * 1.12) / (4 * \pi * 20\text{cm}^2)$$

$$P_d = 0.027 \text{ mW/cm}^2$$