

SAR / Health Hazard

Requirement:

According to CFR 15 §1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

SAR Testing Exclusion for Included Modular Radio(s)

Per FCC 447498 General RF Exposure Guidance v05, Section 4.3.1, the 10-g (hand-held) SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances 50 mm are determined by the following formula

$$SAR = \frac{P_c}{d} \sqrt{f_{GHz}}$$

where d = minimum test distance in millimeters and P_c is the source-based time-averaged maximum conducted output power in milliwatts (or EIRP in milliwatts for a device without a removable antenna).

The SAR threshold at a minimum test distance of 8 mm (e.g. distance from either module to the exterior surface of the EUT, as shown below) is thus computed to be:

SAR Threshold for Mutually Exclusive Modular Radio Use

Radio Module	EIRP (dBm)	EIRP (mW)	dmin (mm)	Computed SAR Threshold Value	10-g SAR Threshold (Avg)
Bluetooth	3.5*	2.24	8	0.44	7.5
WLAN	14.39**	27.48	8	5.41	7.5

* As reported in Report No.: EF/2005/C0012, FCC ID: QOQWT12

** As reported in Report No.: 31051809.001, FCC ID: YOPGS1011MIP

Thus the EUT meets the test exclusion thresholds for 10-g SAR evaluation and complies with the regulations as a hand-held device.

