

FCC RF Exposure evaluation

FCC ID: 2AW8Q-YT103480

Exposure Category: General population/uncontrolled environment
 Applicable Standard(s): [OET-65B, Part 15, Subpart B](http://www.fcc.gov/oet/lowpower/lowpower.html)

According to FCC ID:2AW8Q-YT103480 General RF Exposure Guidance and Section 6.3.1 for SAR test evaluation considerations, "Unless specifically required by the published RF exposure FCCID procedures, maximum 1g head or body and 10-g extremely SAR evaluation for general population exposure conditions, by measurement or numerical calculation, is not required when the corresponding SAR Test Evaluation Threshold conditions, listed below, is (are) satisfied. These test evaluation conditions are based on source-based time-averaged maximum calculated output power of the RF channel requiring evaluation, adjusted for human tissue, and the minimum test separation distance required for the exposure conditions." The minimum test separation distance defined in 15.103 is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the test item factor, exposure conditions, and platform requirements, to any part of the body or extremity of a user or bystander. To qualify for SAR test evaluation, the test separation distances applied must be fully explained and justified, typically in the SAR measurement or SAR analysis report, by the operating configurations and exposure conditions of the transmitter and applicable test platform requirements, according to the required published RF exposure FCCID procedures. When no other RF exposure testing or reporting are required, a statement of justification and compliance must be included in the equipment application, in lieu of the SAR report, to qualify for SAR test evaluation. When required, the device specific conditions described in the other published RF exposure FCCID procedures must be satisfied before applying these SAR test evaluation procedures, for example handheld PTT (key-to-key radio), handheld, laptop, notebooks, etc."

a) For 100 MHz to 8 GHz and test separation distances of 30-mm, the 1-g and 10-g SAR test evaluation thresholds are determined by the following:

["max power of channel" including human tolerance, mW] / [min test separation distance, mm] \cdot [1 sec] \leq 1.0 for 1-g SAR and \leq 7.0 for 10-g extremely SAR, \therefore where:

- \cdot 1 sec is the RF channel transmit frequency in GHz
- \cdot Power and distance are rounded to the nearest 0.01 antenna factor calculation¹
- \cdot The results rounded to one decimal place for comparison
- \cdot Shared TIA are referred to as the current threshold in the step 1) below

The test evaluations are applicable only when the minimum test separation distance is \geq 30-mm and for transmission frequencies between 100 MHz and 8 GHz. When the minimum test separation distance is $<$ 30-mm, a distance of 30-mm according to 6.3.1 b) is applied to determine SAR test evaluation.

Calculated Power (min ave-average values, but P test values were applied for calculation, representing the worst case)

Model / Model (test case)	1 (GHz)	Antenna Distance (mm)	RF output power (including human tolerance)			SAR Test Evaluation Threshold	SAR Test Evaluation Conclusion
			dBm	dBW	dBW (round-up)		
OPEK	100	2400	3.00	31.000	31.0	3.3	
	300	2400	3.00	31.000	31.0	3.3	
	700	2400	3.00	31.000	31.0	3.3	

Evaluation Results:

Model / Model (test case)	1 (GHz)	Antenna Distance (mm)	RF output power (including human tolerance)			SAR Test Evaluation Threshold	SAR Test Evaluation Conclusion
			dBm	dBW	dBW (round-up)		
100-OPEK	3.00	0	3.0	31.00	31	0.0000 (0.00)	PASS