

Output Power EMC vs. SAR Test Reports

Reference: FCC Knowledge Database (KDB) Publication Number: 291699

Per the reference document:

“Grantees must coordinate with Test labs to ensure all samples for EMC, HAC and SAR are tested at maximum output conditions as required by the applicable test procedures. The output power measured for EMC and SAR may vary due to differences in test procedures and requirements. The measured values may not be directly comparable unless the same identical procedures are applied; for example, peak, average, bandwidth, modulation, operating modes, data rates and frame/bit patterns etc. It is the grantee s responsibility to ensure all test samples are operating within tune-up requirements (accepted for the filing) and test results will support compliance for all production units. Although the measured output power may vary with the equipment and setup used, it is the responsibility of grantee and test labs to ensure that the devices selected for testing are in accordance with 2.907.”

The following page summarizes the average power that was measured by the EMC lab on the test sample that was sent to the SAR lab. The SAR lab measured nearly identical average power levels (as reported in the SAR Evaluation Report). Every effort was made between the two labs to use identical procedures and test equipment. This data shows that the test samples used for EMC and SAR testing were operated at their maximum output power conditions.

Test: SAR preparation Output Power (dBm)
Meter: Giga-tronics 8651A Power Meter, 80701A Power Sensor
Sensor Mode: Modulated Sensor (MAP)
OFFSET: 0.7 dB added as an offset to compensate for the adapter cable lead loss
EUT S/N: DROP 8047

802.11 Radio		Main Antenna (Ant 1) Channel			Aux Antenna (Ant 2) Channel						
		Ch 1	Ch 6	ch 11	Ch 16	Ch 21	Ch 26				
802.11(b)	1 mb	19.3	19.4	19.6	18.6	18.5	18.4	Main antenna has highest output power. Lowest data rate has highest output power : 1 Mbps for 802.11(b)(g) and 6 Mbps for 802.11(a)			
802.11(b)	11 mb	16.0	16.5	16.5	15.5	15.4	15.3				
802.11(g)	6 mb	13.6	13.9	14.0	12.9	12.7	12.6				
802.11(g)	36 mb	6.6	6.8	6.7	5.9	5.8	5.7				
802.11(g)	54 mb	4.9	5.1	5.0	4.1	3.8	3.6				
		Main Antenna (Ant 1) Channel									
		Ch 36	Ch 48	Ch 52	Ch 64	Ch 100	Ch 120	Ch 140	Ch 149	Ch 157	Ch 165
802.11(a)	6 mb	12.5	12.9	13.1	13.2	13.6	13.4	15.5	14.9	14.6	14.5
802.11(a)	36 mb							8.2	7.8		
802.11(a)	54 mb							5.9	5.6		
		Aux Antenna (Ant 2) Channel									
		Ch 36	Ch 48	Ch 52	Ch 64	Ch 100	Ch 120	Ch 140	Ch 149	Ch 157	Ch 165
	802.11(a) 6 mb	9.3	10.3	10.7	11.0	10.5	11.2	13.9	13.7	13.8	13.9
	802.11(a) 36 mb										
	802.11(a) 54 mb										

Bluetooth Radio		Channel		
		Ch 2	Ch 39	ch 79
GFSK	DH5	1.45	1.81	1.89
QPSK	2-DH5	-1.12	-0.79	-0.67
8DPSK	3-DH5	-2.68	-2.31	-2.23