

Client:	Broadcom Corporation	Job Number:	J83157
Model:	BCM943227HMB 802.11bgn WLAN + Bluetooth Mini Card	T-Log Number:	T83268
		Account Manager:	Sheareen Washington
Contact:	Anne Liang		
Standard:	FCC 15.247/RSS-210	Class:	N/A

Maximum Permissible Exposure

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 8/11/2011

Test Engineer: Mark Hill

General Test Configuration

Calculation uses the free space transmission formula:

$$S = (PG)/(4 \pi d^2)$$

Where: S is power density (W/m^2), P is output power (W), G is antenna gain relative to isotropic, d is separation distance from the transmitting antenna (m).

Summary of Results

Device complies with Power Density requirements at 20cm separation:	Yes
Power Density at 20cm (mW/cm^2)	0.035

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

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Use: General
Antenna: 3.9dBi for legacy, 6.9dBi for MIMO

802.11b

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
2412	17.7	58.9	0	3.9	17.7	144.54	0.029	1.000
2437	17.7	58.9	0	3.9	17.7	144.54	0.029	1.000
2462	16.3	42.7	0	3.9	16.3	104.71	0.021	1.000

802.11g

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
2412	11.5	14.1	0	3.9	11.5	34.67	0.007	1.000
2437	17.4	55.0	0	3.9	17.4	134.90	0.027	1.000
2462	11.2	13.2	0	3.9	11.2	32.36	0.006	1.000

802.11n20

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
2412	14.8	30.2	0	6.9	14.8	147.91	0.029	1.000
2437	15.6	36.3	0	6.9	15.6	177.83	0.035	1.000
2462	14.6	28.8	0	6.9	14.6	141.25	0.028	1.000

802.11n40

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
2422	14.5	28.2	0	6.9	14.5	138.04	0.027	1.000
2437	14.9	30.9	0	6.9	14.9	151.36	0.030	1.000
2452	15.3	33.9	0	6.9	15.3	165.96	0.033	1.000

The device is capable of transmitting an single chain WiFi (802.11b or 802.11g) and a Bluetooth (Basic, EDR, or BLE) simulatenously. Below shows the calculation for worse case single chain WiFi and BT transmission.

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
2400 - 2483.5	CCK	-	17.7	3.9	21.6	0.145	11	1	0.145	21.60
2400- 2483.5	BT BLE	-	2.7	3.9	6.6	0.005	79	1	0.005	6.60
Totals:								2	0.149	21.74