

Client:	Broadcom	Job Number:	J74037
Model:	BCM943224HMS	T-Log Number:	T74077
		Account Manager:	Dean Eriksen
Contact:	Anne Liang		
Standard:	FCC 15.247 & 15.205	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: 3/11/2009

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/No
Maximum Power Density ( $mW/cm^2$ )	0.132

### 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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Run #1: MPE for 5150-5250 MHz - 802.11a Legacy

Use: General  
Antenna: 5.6 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5180	13.2	21.0	0	5.6	13.2	76.21	0.015	1.000
5200	13.2	21.0	0	5.6	13.2	76.38	0.015	1.000
5240	12.9	19.5	0	5.6	12.9	70.63	0.014	1.000

Run #2: MPE for 5250-5350 MHz - 802.11a Legacy

Use: General  
Antenna: 5.6 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5260	17.1	50.9	0	5.6	17.1	184.93	0.037	1.000
5300	17.6	57.3	0	5.6	17.6	207.97	0.041	1.000
5320	14.1	25.8	0	5.6	14.1	93.76	0.019	1.000

Run #3: MPE for 5470-5725 MHz - 802.11a Legacy

Use: General  
Antenna: 4.2 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5500	15.6	36.0	0	4.2	15.6	94.62	0.019	1.000
5600	16.4	43.5	0	4.2	16.4	114.29	0.023	1.000
5700	16.5	44.4	0	4.2	16.5	116.68	0.023	1.000

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Run #4: MPE for 5150-5250 MHz - 802.11n 20MHz CDD

Use: General  
Antenna: Effective Gain 8.6 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5180	9.7	9.3	0	8.6	9.7	67.58	0.013	1.000
5220	9.8	9.5	0	8.6	9.8	68.92	0.014	1.000
5240	10.5	11.3	0	8.6	10.5	81.68	0.016	1.000

Run #5: MPE for 5250-5350 MHz - 802.11n 20MHz CDD

Use: General  
Antenna: Effective Gain 8.6 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5260	17.3	53.4	0	8.6	17.3	386.76	0.077	1.000
5300	18.5	71.5	0	8.6	18.5	518.03	0.103	1.000
5320	16.2	42.1	0	8.6	16.2	304.63	0.061	1.000

Run #6: MPE for 5470-5725 MHz - 802.11n 20MHz CDD

Use: General  
Antenna: Effective Gain 7.2 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5500	18.6	72.5	0	7.2	18.6	380.27	0.076	1.000
5600	19.7	93.6	0	7.2	19.7	491.07	0.098	1.000
5700	19.7	93.3	0	7.2	19.7	489.42	0.097	1.000

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Run #7: MPE for 5150-5250 MHz - 802.11n 40MHz CDD

Use: General  
Antenna: Effective Gain 8.6 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5190	11.7	14.7	0	8.6	11.7	106.52	0.021	1.000
5230	14.3	26.7	0	8.6	14.3	193.27	0.038	1.000

Run #8: MPE for 5250-5350 MHz - 802.11n 40MHz CDD

Use: General  
Antenna: Effective Gain 8.6 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5270	19.5	89.3	0	8.6	19.5	646.66	0.129	1.000
5310	15.9	38.9	0	8.6	15.9	281.57	0.056	1.000

Run #9: MPE for 5470-5725 MHz - 802.11n 40MHz CDD

Use: General  
Antenna: Effective Gain 7.2 dBi

Freq. MHz	EUT Power		Cable Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm <sup>2</sup>	MPE Limit at 20 cm mW/cm <sup>2</sup>
	dBm	mW*						
5510	16.3	42.3	0	7.2	16.3	221.85	0.044	1.000
5590	21.0	126.7	0	7.2	21.0	664.68	0.132	1.000
5670	21.0	125.4	0	7.2	21.0	658.20	0.131	1.000