

Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78133
Contact:		Account Manager:	Dean Eriksen
Standard:	FCC 15.E	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: 6/9/2010

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):	0.595

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: Legacy Mode, Single channel operation

Use: General

Antenna: 4.53dBi for 5.25-5.35GHz, 5.55dBi for 5.5-5.7GHz

Freq. MHz	EUT Power		Cable Loss	Ant Gain	Power at Ant	EIRP	Power Density (S) at 20 cm	MPE Limit at 20 cm
	dBm	mW*	dB	dBi	dBm	mW	mW/cm ²	mW/cm ²
5260	17.3	53.7	0	4.53	17.3	152.41	0.030	1.000
5300	17.4	55.0	0	4.53	17.4	155.96	0.031	1.000
5320	16.1	40.7	0	4.53	16.1	115.61	0.023	1.000
5500	16.4	43.7	0	5.55	16.4	156.68	0.031	1.000
5580	16.5	44.7	0	5.55	16.5	160.32	0.032	1.000
5700	16.9	49.0	0	5.55	16.9	175.79	0.035	1.000

Run #2: HT20 Mode, Single Channel Operation

Use: General

Antenna: Effective: 7.53dBi for 5.25-5.35GHz, 8.55dBi for 5.5-5.7GHz

Freq. MHz	EUT Power		Cable Loss	Ant Gain	Power at Ant	EIRP	Power Density (S) at 20 cm	MPE Limit at 20 cm
	dBm	mW*	dB	dBi	dBm	mW	mW/cm ²	mW/cm ²
5260	18.1	64.1	0	7.53	18.1	362.87	0.072	1.000
5300	18.0	63.3	0	7.53	18.0	358.50	0.071	1.000
5320	17.1	51.5	0	7.53	17.1	291.79	0.058	1.000
5500	17.4	54.5	0	8.55	17.4	390.62	0.078	1.000
5580	18.2	65.6	0	8.55	18.2	469.62	0.093	1.000
5700	18.2	65.6	0	8.55	18.2	469.62	0.093	1.000

Run #3: HT40 Mode, Single Channel Operation

Use: General

Antenna: Effective: 7.53dBi for 5.25-5.35GHz, 8.55dBi for 5.5-5.7GHz

Freq. MHz	EUT Power		Cable Loss	Ant Gain	Power at Ant	EIRP	Power Density (S) at 20 cm	MPE Limit at 20 cm
	dBm	mW*	dB	dBi	dBm	mW	mW/cm ²	mW/cm ²
5270	18.9	78.4	0	7.53	18.9	444.16	0.088	1.000
5310	13.7	23.5	0	7.53	13.7	133.09	0.026	1.000
5510	15.6	36.0	0	8.55	15.6	257.67	0.051	1.000
5550	17.9	61.8	0	8.55	17.9	442.74	0.088	1.000
5670	18.3	67.6	0	8.55	18.3	484.17	0.096	1.000

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Run #4: Two channel operation, one 2.4GHz and 5GHz channel, worse case

Use: General Use

2.4GHz - 5.41dBi/5.15-5.25GHz - 5.91dBi/5.7-5.8GHz - 5.09dBi

Antenna: Effective Gain for Mimo: 8.41dBi/8.91dBi/8.09 dBi

The system allows for one radio to operate in the 2.4GHz band and one radio to operate in the 5GHz bands simultaneously. It prevents both radios operating in the same band at the same time. Below calculations include worse case from original filing and this C2PC.

Maximum eirp is calculated as follows:

Uses the average power for each channel (where given), otherwise uses the peak power

Used for Multiple Transmitters

One 2.4GHz and one 5.25-5.35GHz operation

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
2400 - 2483.5	OFDM	25.6	-	8.4	34.0	2.518	11	1	2.518	34.01
2401 - 2483.5	CCK	-	18.8	5.4	24.2	0.264				
5150 - 5250	OFDM	-	13.5	8.9	22.4	0.174	4	0	-	-
5250-5350	OFDM	-	18.9	7.5	26.4	0.440	4	1	0.440	26.43
5470-5725	OFDM	-	18.2	8.6	26.8	0.473	4	0	-	-
5725 - 5850	OFDM	22.3	-	8.1	30.4	1.094	5	0	-	-
Totals:								2	2.957	34.71

One 2.4GHz and one 5.4-5.7GHz operation

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
2400 - 2483.5	OFDM	25.6	-	8.4	34.0	2.518	11	1	2.518	34.01
2401 - 2483.5	CCK	-	18.8	5.4	24.2	0.264				
5150 - 5250	OFDM	-	13.5	8.9	22.4	0.174	4	0	-	-
5250-5350	OFDM	-	18.9	7.5	26.4	0.440	4	0	-	-
5470-5725	OFDM	-	18.2	8.6	26.8	0.473	4	1	0.473	26.75
5725 - 5850	OFDM	22.3	-	8.5	30.8	1.208	5	0	-	-
Totals:								2	2.991	34.76

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Worse Case Condition

EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
2991.00	0.595	1.000