

Client:	Aruba Networks	Job Number:	JD99613
Model:	APINH205	T-Log Number:	T101553
Contact:	Rob Hastings	Project Manager:	Christine Krebill
Standard:	FCC 15.407 / RSS-210	Project Coordinator:	-
		Class:	N/A

Maximum Permissible Exposure / SAR Exclusion

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: 5/13/2016

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
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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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FCC MPE Calculation

Use: General
 Antenna: 4dBi @ 2.4GHz, 6dBi @ 5GHz

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
2400 - 2483.5	OFDM	-	21.5	4.0	25.5	0.355	11	1	0.447	25.50
2401 - 2483.5	CCK	-	22.5	4.0	26.5	0.447				
5150 - 5250	OFDM	-	19.2	6.0	25.2	0.331	4	0	0.000	-
5250 - 5350	OFDM	-	18.9	6.0	24.9	0.309	4	0	0.000	-
5470 - 5725	OFDM	-	19.5	6.0	25.5	0.355	4	1	0.355	25.50
5725 - 5850	OFDM	-	19.5	6.0	25.5	0.355	5	0	0.000	-
Worse case totals for simultaneous transmission:								2	0.801	29.04

Worse case condition:

EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
801	0.159	1.000

Note: Manufacturer stated the output power reported is the maximum output power, including manufacturing tolerances/tune-up.

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IC MPE Calculation

Use: General
 Antenna: 4dBi @ 2.4GHz, 6dBi @ 5GHz

Freq. MHz	EUT Power		Cable Loss	Ant Gain	Power at Ant	EIRP	Power Density (S)	MPE Limit
	dBm	mW*	Loss dB	dBi	dBm	mW	at 20 cm mW/cm^2	at 20 cm mW/cm^2
2462	22.5	177.8	0	4	22.5	446.7	0.089	0.544

Freq. MHz	EUT Power		Cable Loss	Ant Gain	Power at Ant	EIRP	Power Density (S)	MPE Limit
	dBm	mW*	Loss dB	dBi	dBm	mW	at 20 cm mW/cm^2	at 20 cm mW/cm^2
5180	15.1	32.0	0	6	15.1	127.4	0.025	0.905
5260	18.9	77.6	0	6	18.9	309.0	0.061	0.914
5500	19.5	89.1	0	6	19.5	354.8	0.071	0.943
5745	19.5	89.1	0	6	19.5	354.8	0.071	0.971

Simultaneous transmission

Transmitter	MPE @ 20cm mW/cm^2	% of limit
2.4G	0.089	16.33%
5G	0.071	7.49%
Total:		23.82%

Using worse case band for simultaneous transmissions

Section 2.5.2 Exemption Calculation

At or above 300MHz and below 6GHz, the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834} \text{ W}$

Freq (MHz)	Threshold (W)	Threshold (dBm)	Total EIRP (dBm)
2412	2.684	34.29	27.59

Note - used the worse case frequency for the calculation

Note: Manufacturer stated the output power reported is the maximum output power, including manufacturing tolerances/tune-up.