

Company: Actiontec Electronics Inc

Test of: WEB5500

To: FCC CFR 47 Part 15 RF Exposure Requirements

Report No.: ATEC11-MPE Rev A

MPE TEST REPORT



MPE TEST REPORT

FROM



Test of: Actiontec Electronics Inc. WEB5500
to
To: FCC CFR 47 Part 15 RF Exposure Requirements

Test Report Serial No.: ATEC11-MPE Rev A

This report supersedes: NONE

Applicant: Actiontec Electronics Inc
760 N Mary Avenue
Sunnyvale, California 94085
USA

Product Function: 802.11ac Wireless Network Extender

Issue Date: 15th January 2016

This Test Report is Issued Under the Authority of:

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1. MAXIMUM PERMISSABLE EXPOSURE

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP}/(4*\pi*d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10 \wedge (\text{G (dBi)}/10)$$

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is 1.0 mW/cm²

The calculations in the table below use the highest conducted power values together with the lowest antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1mW/cm ²	Calculated Power Density @ 20cm	Minimum Separation Distance (cm)
5725.0 - 5850.0	6.70	4.68	28.63	729.53	16.48	0.68	20.00
5150.0 - 5250.0	6.00	3.98	28.35	684.10	14.72	0.54	20.00
2400.0 - 2483.5	5.47	3.52	28.18	657.73	13.58	0.46	20.00

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Assessment for simultaneous operation in 2.4 GHz and 5 GHz bands

The Actiontec WEB5500 can transmit simultaneously in the 2.4 GHz and 5 GHz bands. The following assessment is based on simultaneous operation in the 2.4 GHz and 5 GHz bands.

Freq. Band (MHz)	Antenna Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1mW/cm ² Limit(cm)	Minimum Separation Distance (cm)
2400.0 - 2483.5	5.47	3.52	28.18	657.73	13.58	0.46
5725.0 - 5850.0	6.70	4.68	28.63	729.53	16.48	0.68
			EIRP Total			
			5729.4 mW		21.35	21.35



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Specification
Maximum Permissible Exposure Limits

FCC §1.1310 Limit = $1\text{mW} / \text{cm}^2$ from 1.310 Table 1

RSS-Gen §3.2 In addition to RSS-Gen, the requirements in Radio Standards Specification RSS-102 shall be met.

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