

Company: Actiontec Electronics Inc

MPE Evaluation of: Actiontec T3200BV

To: FCC CFR 47 Part 1.1310

Report No.: ATEC23-MPE All Bands Rev A

MPE/RF EXPOSURE TEST REPORT



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MPE Evaluation of: Actiontec Electronics Inc T3200BV

to

To: FCC CFR 47 Part 1.1310

Test Report Serial No.: ATEC23-MPE All Bands Rev A

This report supersedes: NONE

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

Product Function: Bonded VDSL2/G.fast Wireless AC
Gateway Router

Issue Date: 17th March 2017

This Test Report is Issued Under the Authority of:

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1. MAXIMUM PERMISSABLE EXPOSURE

Calculations for Maximum Permissible Exposure Levels

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

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

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

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

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 Power Density (mW/cm ²) @ 20cm	Power Density Limit (mW/cm ²)	Min Calculated safe distance for Limit (cm)	Calculated Power Density (mW/cm ²) @ Safe Distance
5150.0 - 5250.0	5.70	3.72	29.73	940.64	0.70	1.00	17	0.96
5725.0 - 5850.0	5.60	3.63	29.52	895.21	0.65	1.00	17	0.89
2400.0 - 2483.5	2.70	1.86	29.91	978.53	0.36	1.00	13	0.86
5250.0 - 5350.0	5.70	3.72	23.92	246.48	0.18	1.00	9	0.90
5470.0 - 5725.0	5.60	3.63	23.74	236.41	0.17	1.00	9	0.84

Assessment for simultaneous operation:

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance for Summation (cm)	Power Density Limit (mW/cm ²) E _{ref}	Power Density (mW/cm ²) @ New Distance E _i	Summation E _i /E _{ref}
2400.0 - 2483.5	2.70	1.86	29.91	978.53	21	1.00	0.33	0.33
5150.0 - 5250.0	5.70	3.72	29.73	940.64	21	1.00	0.63	0.63
Total Evaluation:								0.96

The Total Evaluation was calculated using the formula:

$$\sum_{i=1}^n E_i / E_{ref} \leq 1$$

Where

E_i: calculated E-field Strength for transmitter

E_{ref}: E-field strength related limit

Note: for mobile or fixed location transmitters the minimum separation distance is 21cm, even if calculations indicate the MPE distance to be less.

Specification - Maximum Permissible Exposure Limits

The Limit is defined in Table 1 of FCC §1.1310.



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