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Report No.: 2102RSU047-U5 Report Version: V01 Issue Date: 07-08-2021

RF Exposure Evaluation Declaration

FCC ID: LNQWEB7200

Applicant: Actiontec Electronics, Inc.

Application Type: Certification

Product: WiFi 6 Extender

Model No.: WEB7200

Brand Name: Actiontec

FCC Classification: Digital Transmission System (DTS)

Unlicensed National Information Infrastructure (NII)

Test Procedure(s): FCC part 2.1091

Reviewed By:

Sunny Sun

Approved By:

Robin Wu





The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date	Note
2102RSU047-U5	Rev. 01	Initial Report	07-08-2021	Valid



CONTENTS

	scriptio		Page
1.	Gene	ral Information	4
	1.1.	Applicant	4
	1.2.	Manufacturer	4
	1.3.	Testing Facility	4
		Product Information	
	1.5.	Description of Available Antennas	5
2.	RF E	xposure Evaluation	6
	2.1.	Limit of Maximum Permissible Exposure	6
	2.2.	Calculated Results	7
Αp	pendix	A - EUT Photograph	8



1. General Information

1.1. Applicant

Actiontec Electronics, Inc. 3301 Olcott St, Santa Clara, CA 95054, United States

1.2. Manufacturer

Actiontec Electronics, Inc.

3301 Olcott St, Santa Clara, CA 95054, United States

1.3. Testing Facility

\boxtimes	Test Site – MRT Suzhou Laboratory					
	Laboratory Location (Suzhou - Wuzhong)					
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China Laboratory Location (Suzhou - SIP)					
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, C					
Laboratory Accreditations						
	A2LA: 3628.01 CNAS: L10551					
	FCC: CN1166	ISED: CN0001				
	VCCI: R-20025, G-20034, C-2002	0, T-20020				
	Test Site – MRT Suzhou Laboratory					
	Laboratory Location (Suzhou)					
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Suzhou, China					
	Laboratory Accreditations					
	A2LA: 3628.02	3628.02 CNAS: L10551				
	FCC: CN1284	ISED: CN0105				
	Test Site – MRT Taiwan Laboratory					
	Laboratory Location (Taiwan)					
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)					
	Laboratory Accreditations					
	TAF: L3261-190725					
	FCC: 291082, TW3261 ISED: TW3261					



1.4. Product Information

Product Name	WiFi 6 Extender	
Model No.	WEB7200	
Brand Name	Actiontec	
Operating Temperature	0 ~ 40°C	
Wi-Fi Specification	802.11a/b/g/n/ac/ax	
Antenna Information	Refer to section 1.6	
Accessories		
AC/DC Adapter 1#	Model: MS-V1500R120-018H0-US	
	Input: 100-240V ~ 50/60Hz, 0.6A MAX	
	Output: 12V, 1.5A	
AC/DC Adapter 2#	Model: RD1201500-C55-153MG	
	Input: 100-240V ~ 50-60Hz 0.6A	
	Output: 12V, 1.5A	
AC/DC Adapter 3#	Model: ADS024T-W 120150	
	Input: 100-240V ~ 50-60Hz 0.6A	
	Output: 12V, 1.5A	

1.5. Description of Available Antennas

Antenna Type	Ant	Frequency	T _X	Antenna Gain	Directional Gain (dBi)	
	Port	Band (GHz)	Paths	(dBi)	For Power	For PSD
PCB Antenna	DB1	2.4 ~ 2.5	2	4.56	4.56	7.57
	DB2	5.1 ~ 5.85		4.32	4.32	7.33
Onboard Metal	DE0	5.4. 5.05	N1/A	4.00		
DFS Antenna	DFS	5.1 ~ 5.85	N/A	4.32		

Remark:

- 1. The EUT supports Cyclic Delay Diversity (CDD) mode.
- 2. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.
- 3. Onboard Metal DFS Antenna only for receive to detect radar signals.



2. RF Exposure Evaluation

2.1. Limit of Maximum Permissible Exposure

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range	Electric Field	Magnetic Field	Power Density	Average Time			
(MHz)	Strength (V/m)	Strength (A/m)	ngth (A/m) (mW/cm²)				
	(A) Limits for Occupational/ Control Exposures						
300-1500			f/300	6			
1500-100,000			5	6			
(B) Limits for General Population/ Uncontrolled Exposures							
300-1500			f/1500	6			
1500-100,000			1 30				

f= Frequency in MHz

Calculation Formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

r = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.





2.2. Calculated Results

Product	WiFi 6 Extender
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Power Density at R = 20 cm (mW/cm ²)	
	2412 ~ 2462	30.28	0.2122	1
Wi-Fi	5150 ~ 5350			
VVI-FI	5470 ~ 5725	28.26	0.1333	1
	5725 ~ 5850			

CONCLUSION:

Therefore, the Max Power Density at R (20 cm) = $0.2122 \text{ mW/cm}^2 + 0.1333 \text{ mW/cm}^2 = 0.3455 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$.

So the safety distance is 20cm for WiFi 6 Extender installed without any other radio equipment.



Appendix A - EUT Photograph

Refer to "2102RSU047-UE" file.