

Equipment : TITAN-High Power AC1900 Wi-Fi Router

Brand Name : Amped Wireless

Model No. : RTA1900

FCC ID : ZTT-RTA1900

Standard : ANSI/IEEE C95.1

Applicant : Amped Wireless

13089 Peyton Dr. #C307 Chino Hills CA 91709

Manufacturer : EDIMAX TECHNOLOGY CO., LTD.

No.3, Wu-Chuan 3rd Road, Wu-Ku Industrial Park,

Report No.: FA552736

New Taipei City, Taiwan

The product sample received on May 26, 2015 and completely tested on Jul. 17, 2015. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI/IEEE C95.1 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Vic Hsiao / Supervisor

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Revision History

Report No.	Version	Description	Issued Date
FA552736	Rev. 01	Initial issue of report	Aug. 17, 2015

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Human Exposure Assessment

Maximum Permissible Exposure 1.1

1.1.1 **Limit of Maximum Permissible Exposure**

	Limits for Occupational / Controlled Exposure									
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time E ², H ² or S (minutes)						
0.3-3.0	614	1.63	(100)*	6						
3.0-30	1842 / f	4.89 / f	(900 / f ²)*	6						
30-300	61.4	0.163	1.0	6						
300-1500	-	-	F/300	6						
1500-100,000	-	-	5	6						
	Limits for General Population / Uncontrolled Exposure									

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	<u> </u>		Averaging Time E ², H ² or S (minutes)	
0.3-1.34	614	1.63	(100)*	30	
1.34-30	824/f	2.19/f	(180/f ²)*	30	
30-300	27.5	0.073	0.2	30	
300-1500	-	-	F/1500	30	
1500-100,000	-	-	1.0	30	

Note 1: f = frequency in MHz; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310

1.1.2 MPE Calculation Method

$$E (V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$

E = Electric field (V/m)

G = EUT Antenna numeric gain (numeric)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

Power Density: Pd (W/m²) = $\frac{E^2}{377}$

P = RF output power (W)

d = Separation distance between radiator and human body (m)

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1.1.3 Result of Maximum Permissible Exposure (2.4G)

RF General Information										
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N _{TX})	RF Output Power (dBm)					
2400-2483.5	b	2412-2462	1-11 [11]	1	26.93					
2400-2483.5	g	2412-2462	1-11 [11]	1	24.77					
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	3	24.74					
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	3	24.96					
Note 1: RF output	Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.									

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Worst Maximum RF Output Power Result									
Exposure Environme	nt	General Population /	Uncontrolled Exposu	ıre					
Separation Distance (cm)	20							
Condition		RF Output Power (dBm)							
Modulation Mode	N _{TX}	RF Output Power (dBm)	DG (dBi)	EIRP Power	PD (S) (mW/cm²)				
b	1	26.93	5.03	31.96	0.312572				
Maximum Permissible Exposure Limit (mW/cm²) 1									
Note 1: N_{TX} = Number of	Trans	mit Chains			•				

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1.1.4 Result of Maximum Permissible Exposure (5.2G)

RF General Information									
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	802.11 Cn. Frequency Channel Number		Number of Transmit Chains (N _{TX})	RF Output Power (dBm)				
5150-5250	а	5180-5240	36-48 [4]	1	27.53				
5150-5250	n (HT20)	5180-5240	36-48 [4]	3	24.42				
5150-5250	n (HT40)	5190-5230	38-46 [2]	3	27.35				
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	3	24.46				
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	3	27.39				
5150-5250	ac (VHT80)	5210	48 [1]	3	24.71				
Note 1. DE autout	t nower enecifies t	hat Maximum Can	dusted (Average)	Output Dower					

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Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

Worst Maximum RF Output Power Result							
Exposure Environme	nt	General Population /	Uncontrolled Exposu	re			
Separation Distance (c	m)	20					
Condition		RF Output Power (dBm)					
Modulation Mode	N _{TX}	RF Output Power (dBm)	DG (dBi)	EIRP Power	PD (S) (mW/cm²)		
а	1	27.53	5.01	32.54	0.357232		
Maximum Permissible Exposure Limit (mW/cm²) 1							
Note 1: N _{TX} = Number of	Note 1: N _{TX} = Number of Transmit Chains						

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1.1.5 Result of Maximum Permissible Exposure (5.8G)

	RF General Information										
Frequency Range (MHz)	· · × × × × × × × × × × × × × × × × × ×		2.11 Cn. Frequency Channel (MHz) Number		RF Output Power (dBm) Co-location						
5725-5850	а	5745-5825	149-165 [5]	1	26.53						
5725-5850	n (HT20)	5745-5825	149-165 [5]	3	28.91						
5725-5850	n (HT40)	5755-5795	151-159 [2]	3	29.73						
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	3	29.80						
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	3	29.72						
5725-5850	ac (VHT80)	5775	155 [1]	3	27.76						
Note 1: DE output	t navvar apacifica t	hat Maximum Can	dusted (Augrega)	Output Dower							

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Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

Worst Maximum RF Output Power Result								
Exposure Environme	nt	General P	opulation /	Uncontroll	ed Exposu	ire		
Separation Distance (cm)		20						
Condition			RF Output Power (dBm)					
Modulation Mode	N _{TX}	Chain- Port 1	Chain- Port 2	Chain- Port 3	Sum Chain	DG (dBi)	EIRP Power	PD (S) (mW/cm²)
ac (VHT20)	3	23.72	25.12	25.96	29.80	5.01	34.81	0.602491
Maximum Permissible Exposure Limit (mW/cm²) 1								1
Note 1: N _{TX} = Number of	Trans	mit Chains						

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Worst Maximum RF Output Power Result								
Exposure Environme	General	Populatio	n / Uncont	rolled Exp	osure			
Separation Distance (cm)	20						
Condition				RF	Output F	ower (dE	3m)	
Modulation Mode	N _{TX}	Chain- Port 1	Chain- Port 2	Chain- Port 3	Sum Chain	DG (dBi)	EIRP Power	PD (S) (mW/cm²)
b	1	26.93	-	-	26.93	5.03	31.96	0.312572
ac (VHT20)	3	23.72	25.12	25.96	29.80	5.01	34.81	0.602491
Co-location Total								0.915063
Maximum Permissible Exposure Limit (mW/cm²)								1
Note 1: N _{TX} = Number of	Trans	mit Chains	<u> </u>					

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