



# RF Exposure Evaluation Declaration

Product Name : Wireless Access Point  
Model No. : AP305C, AP305CX  
FCC ID : QXO-AP305C

Applicant : Extreme Networks, Inc  
Address : 6480 Via Del Oro, San Jose, CA 95119

Date of Receipt : Jun. 27, 2019  
Issued Date : Aug. 23, 2019  
Report No. : 1962097R-RF-US-P20V01  
Report Version : V1.0

The test results presented in this report relate only to the object tested.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements

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# Test Report Certification

Issued Date: Aug. 23, 2019  
Report No.: 1962097R-RF-US-P20V01



Product Name : Wireless Access Point  
Applicant : Extreme Networks, Inc  
Address : 6480 Via Del Oro, San Jose, CA 95119  
Manufacturer : Extreme Networks, Inc  
Address : 6480 Via Del Oro, San Jose, CA 95119  
Model No. : AP305C, AP305CX  
Brand : Extreme Networks  
FCC ID : QXO-AP305C  
EUT Voltage : PoE 48V  
Applicable Standard : KDB 447498D01V06  
FCC Part1.1310  
Test Result : Complied  
Performed Location : DEKRA Testing and Certification (Suzhou) Co., Ltd.  
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,  
215006, Jiangsu, China  
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098  
FCC Designation Number: CN1199

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Approved By : Jack Zhang  
( Engineer Supervisor: Jack Zhang )

## 1. RF Exposure Evaluation

### 1.1.Limits

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 (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
<b>(A) Limits for Occupational/ Control Exposures</b>				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
<b>(B) Limits for General Population/ Uncontrolled Exposures</b>				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. 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.

**1.2. Test Procedure**

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

**1.3. Test Result of RF Exposure Evaluation**

Product	:	Wireless Access Point
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

**Antenna Information:**

**BLE:**

**AP305C:**

Antenna Model No.	N/A					
Antenna Manufacturer	N/A					
Antenna Delivery	<input checked="" type="checkbox"/>	1*TX+1*RX	<input type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/>	3*TX+3*RX
Antenna Technology	<input checked="" type="checkbox"/>	SISO				
	<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic methodology		
			<input type="checkbox"/>	Sectorized antenna systems		
			<input type="checkbox"/>	Cross-polarized antennas		
			<input type="checkbox"/>	Unequal antenna gains, with equal transmit powers		
			<input type="checkbox"/>	Spatial Multiplexing		
<input type="checkbox"/>	Cyclic Delay Diversity (CDD)					
Antenna Type	PIFA					
Antenna Gain	2.4dBi					

**AP305CX:**

Antenna Model No.	N/A					
Antenna Manufacturer	N/A					
Antenna Delivery	<input checked="" type="checkbox"/>	1*TX+1*RX	<input type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/>	3*TX+3*RX
Antenna Technology	<input checked="" type="checkbox"/>	SISO				
	<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic methodology		
			<input type="checkbox"/>	Sectorized antenna systems		
			<input type="checkbox"/>	Cross-polarized antennas		
			<input type="checkbox"/>	Unequal antenna gains, with equal transmit powers		
			<input type="checkbox"/>	Spatial Multiplexing		
<input type="checkbox"/>	Cyclic Delay Diversity (CDD)					
Antenna Type	Dipole					
Antenna Gain	3.12dBi					

**2.4G:**

**AP305C:**

Antenna Model No.		N/A	
Antenna Manufacturer		N/A	
Antenna Delivery		<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX <input type="checkbox"/> 3*TX+3*RX
Antenna Technology		<input checked="" type="checkbox"/> SISO	
		<input checked="" type="checkbox"/> MIMO	<input type="checkbox"/> Basic methodology
			<input type="checkbox"/> Sectorized antenna systems
			<input type="checkbox"/> Cross-polarized antennas
			<input type="checkbox"/> Unequal antenna gains, with equal transmit powers
			<input checked="" type="checkbox"/> Spatial Multiplexing
	<input checked="" type="checkbox"/> Cyclic Delay Diversity (CDD)		
Antenna Type		PIFA	
Antenna Gain			
Antenna Technology		Ant Gain(eth1) (dBi)	
<input checked="" type="checkbox"/> SISO	<input checked="" type="checkbox"/> Ant1	2.67	
	<input checked="" type="checkbox"/> Ant2	2.37	
<input checked="" type="checkbox"/> CDD		2.67dBi for Power; 5.67dBi for PSD	
<input checked="" type="checkbox"/> Beam-forming		5.67dBi for Power; 5.67dBi for PSD	

**AP305CX:**

Antenna Model No.		N/A	
Antenna Manufacturer		N/A	
Antenna Delivery		<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX <input type="checkbox"/> 3*TX+3*RX
Antenna Technology		<input checked="" type="checkbox"/> SISO	
		<input checked="" type="checkbox"/> MIMO	<input type="checkbox"/> Basic methodology
			<input type="checkbox"/> Sectorized antenna systems
			<input type="checkbox"/> Cross-polarized antennas
			<input type="checkbox"/> Unequal antenna gains, with equal transmit powers
			<input checked="" type="checkbox"/> Spatial Multiplexing
<input checked="" type="checkbox"/> Cyclic Delay Diversity (CDD)			
Antenna Type		Dipole	
Antenna Gain			
Antenna Technology		Ant Gain(eth1) (dBi)	
<input checked="" type="checkbox"/> SISO	<input checked="" type="checkbox"/> Ant1	2.63	
	<input checked="" type="checkbox"/> Ant2	2.02	
<input checked="" type="checkbox"/> CDD		2.63dBi for Power; 5.63dBi for PSD	
<input checked="" type="checkbox"/> Beam-forming		5.63dBi for Power; 5.63dBi for PSD	

**5G:**

**AP305C:**

Antenna Model No.	N/A		
Antenna Manufacturer	N/A		
Antenna Delivery	<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX
Antenna Technology	<input checked="" type="checkbox"/> SISO		
	<input checked="" type="checkbox"/> MIMO	<input type="checkbox"/> Basic methodology	
		<input type="checkbox"/> Sectorized antenna systems	
		<input type="checkbox"/> Cross-polarized antennas	
		<input type="checkbox"/> Unequal antenna gains, with equal transmit powers	
		<input checked="" type="checkbox"/> Spatial Multiplexing	
		<input checked="" type="checkbox"/> Cyclic Delay Diversity (CDD)	
Antenna Type	PIFA		
Antenna Gain			
Antenna Technology	Ant Gain(eth1) (dBi)		
<input checked="" type="checkbox"/> SISO	<input checked="" type="checkbox"/> Ant1	3.97	
	<input checked="" type="checkbox"/> Ant2	3.45	
<input checked="" type="checkbox"/> CDD	3.97dBi for Power; 6.97dBi for PSD		
<input checked="" type="checkbox"/> Beam-forming	6.97dBi for Power; 6.97dBi for PSD		
Antenna Technology	Ant Gain(eth2) (dBi)		
<input checked="" type="checkbox"/> SISO	<input checked="" type="checkbox"/> Ant3	3.75	
	<input checked="" type="checkbox"/> Ant4	2.95	
<input checked="" type="checkbox"/> CDD	3.75dBi for Power; 6.75dBi for PSD		
<input checked="" type="checkbox"/> Beam-forming	6.75dBi for Power; 6.75dBi for PSD		

**AP305CX:**

Antenna Model No.	N/A		
Antenna Manufacturer	N/A		
Antenna Delivery	<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX
Antenna Technology	<input checked="" type="checkbox"/> SISO		
	<input checked="" type="checkbox"/> MIMO	<input type="checkbox"/> Basic methodology	
		<input type="checkbox"/> Sectorized antenna systems	
		<input type="checkbox"/> Cross-polarized antennas	
		<input type="checkbox"/> Unequal antenna gains, with equal transmit powers	
		<input checked="" type="checkbox"/> Spatial Multiplexing	
	<input checked="" type="checkbox"/> Cyclic Delay Diversity (CDD)		
Antenna Type	Dipole		
Antenna Gain			
Antenna Technology		Ant Gain(eth1) (dBi)	
<input checked="" type="checkbox"/> SISO	<input checked="" type="checkbox"/> Ant1	2.51	
	<input checked="" type="checkbox"/> Ant2	2.67	
<input checked="" type="checkbox"/> CDD		2.67dBi for Power; 5.67dBi for PSD	
<input checked="" type="checkbox"/> Beam-forming		5.67dBi for Power; 5.67dBi for PSD	
Antenna Technology		Ant Gain(eth2) (dBi)	
<input checked="" type="checkbox"/> SISO	<input checked="" type="checkbox"/> Ant3	4.00	
	<input checked="" type="checkbox"/> Ant4	4.37	
<input checked="" type="checkbox"/> CDD		4.37dBi for Power; 7.37dBi for PSD	
<input checked="" type="checkbox"/> Beam-forming		7.37dBi for Power; 7.37dBi for PSD	

## Power Density

### Standalone modes:

#### AP305C:

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Power Density at R = 20cm (mW/cm <sup>2</sup> )	Power Density Limit at R = 20 cm (mW/cm <sup>2</sup> )
802.11b/g/n/ac/ax	2400 ~ 2483.5	28.23	0.132	1.0
802.11a/n/ac/ax(Eth1)	5150 ~ 5250	29.40	0.173	1.0
802.11a/n/ac/ax(Eth2)	5150 ~ 5250 5725 ~ 5850	29.86	0.193	1.0
BLE	2400 ~ 2483.5	7.27	0.001	1.0

#### AP305CX:

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Power Density at R = 20cm (mW/cm <sup>2</sup> )	Power Density Limit at R = 20 cm (mW/cm <sup>2</sup> )
802.11b/g/n/ac/ax	2400 ~ 2483.5	28.19	0.131	1.0
802.11a/n/ac/ax(Eth1)	5150 ~ 5250	28.10	0.128	1.0
802.11a/n/ac/ax(Eth2)	5150 ~ 5250 5725 ~ 5850	30.48	0.222	1.0
BLE	2400 ~ 2483.5	7.99	0.001	1.0

**Simultaneous transmission:****AP305C:**

Wireless Configure	Frequency Range (MHz)	Maximum EIRP (dBm)	Limit of Power Density S(mW/cm <sup>2</sup> )	Power Density S at R = 20 cm (mW/cm <sup>2</sup> )	Rate	Limit
WIFI(Eth1)	5150 ~ 5250	29.40	1.0	0.173	0.366	1
WIFI(Eth2)	5470 ~ 5850	29.86	1.0	0.193		

The EUT support simultaneously transmit with WIFI 2.4G+5G, WIFI 5G+BLE, WIFI 5G+WIFI 5G. The worst combination should be shown in the report. The simultaneously safety distance is 20cm for installed for Wireless Access Point without any other radio equipment.

**AP305CX:**

Wireless Configure	Frequency Range (MHz)	Maximum EIRP (dBm)	Limit of Power Density S(mW/cm <sup>2</sup> )	Power Density S at R = 20 cm (mW/cm <sup>2</sup> )	Rate	Limit
WIFI(Eth1)	5150 ~ 5250	28.10	1.0	0.128	0.35	1
WIFI(Eth2)	5470 ~ 5850	30.48	1.0	0.222		

The EUT support simultaneously transmit with WIFI 2.4G+5G, WIFI 5G+BLE, WIFI 5G+WIFI 5G. The worst combination should be shown in the report. The simultaneously safety distance is 20cm for installed for Wireless Access Point without any other radio equipment.

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