FCC RF EXPOSURE REPORT

FCC ID: YZKECW100

Project No. : **1807T018**
Equipment : **In-Wall Access Point**
Test Model : **ECW100**
Serial Model : **N/A**
Applicant : **Edgecore Networks Corporation**
Address : **No.1 Creation Rd. III, Hsinchu Science Park, Hsinchu 30077, Taiwan, R.O.C.**

According: : **FCC Guidelines for Human Exposure IEEE C95.1**

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Testing Laboratory
0659

MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:
S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Table for Filed Antenna
2.4G Band:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	IPEX	2.08
2	N/A	N/A	PIFA	IPEX	1.94

Note:
(1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R).
(2) Directional gain = 10 log(((10^(Ant 1/20)+10^(Ant 2/20))^2)/2) = 5.02 dBi.
Reduced value = 0 dB. (5.02 dBi < 6 dBi)

5G Band:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
					5150-5250 MHz	5725-5850 MHz
1	N/A	N/A	PIFA	IPEX	2.80	3.21
2	N/A	N/A	PIFA	IPEX	2.46	2.27

Note:
(1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R).
(2) Directional gain = 10 log(((10^(Ant 1/20)+10^(Ant 2/20))^2)/2)
5150-5250MHz: Directional gain = 5.64 dBi.
Reduced value = 0 dB. (5.64 dBi < 6 dBi)
5725-5850MHz: Directional gain = 5.76 dBi.
Reduced value = 0 dB. (5.76 dBi < 6 dBi)

CACULATION:

2.4G:

Test Mode :	TX B Mode Total / CH01, CH06, CH11

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2412	5.02	3.1769	21.39	137.7209	0.087086	1	Complies
2437	5.02	3.1769	22.84	192.3092	0.121605	1	Complies
2462	5.02	3.1769	21.32	135.5189	0.085694	1	Complies

Test Mode :	TX G Mode Total / CH01, CH06, CH11

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2412	5.02	3.1769	24.84	304.7895	0.192730	1	Complies
2437	5.02	3.1769	25.85	384.5918	0.243193	1	Complies
2462	5.02	3.1769	25.09	322.8494	0.204150	1	Complies

Test Mode :	TX N-20M Mode Total / CH01, CH06, CH11

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2412	5.02	3.1769	24.08	255.8586	0.161790	1	Complies
2437	5.02	3.1769	25.77	377.5722	0.238754	1	Complies
2462	5.02	3.1769	23.93	247.1724	0.156297	1	Complies

Test Mode :	TX N-40M Mode Total / CH03, CH06, CH09

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2422	5.02	3.1769	22.6	181.9701	0.115067	1	Complies
2437	5.02	3.1769	24.97	314.0509	0.198587	1	Complies
2452	5.02	3.1769	23.5	223.8721	0.141563	1	Complies

Note: the calculated distance is 20 cm.

5G:

Test Mode :	UNII-1/TX A Mode Total /CH36, CH40, CH48

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5180	5.64	3.6644	15.41	34.7536	0.025348	1	Complies
5200	5.64	3.6644	15.36	34.3558	0.025058	1	Complies
5240	5.64	3.6644	15.37	34.4350	0.025116	1	Complies

Test Mode :	UNII-1/TX N20 Mode Total /CH36, CH40, CH48

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5180	5.64	3.6644	15.53	35.7273	0.026059	1	Complies
5200	5.64	3.6644	15.32	34.0408	0.024828	1	Complies
5240	5.64	3.6644	15.54	35.8096	0.026119	1	Complies

Test Mode :	UNII-1/TX N40 Mode Total / CH38, CH46

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5190	5.64	3.6644	16.21	41.7830	0.030475	1	Complies
5230	5.64	3.6644	16.13	41.0204	0.029919	1	Complies

Test Mode :	UNII-1/TX AC80 Mode Total / CH42

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5210	5.64	3.6644	13.61	22.9615	0.016748	1	Complies

Note: the calculated distance is 20 cm.

Test Mode :	UNII-3/TX A Mode Total / CH149, CH157, CH165

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5745	5.76	3.7670	15.65	36.7282	0.027539	1	Complies
5785	5.76	3.7670	15.52	35.6451	0.026727	1	Complies
5825	5.76	3.7670	15.75	37.5837	0.028181	1	Complies

Test Mode :	UNII-1/TX N20 Mode Total / CH149, CH157, CH165

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5745	5.76	3.7670	15.31	33.9625	0.025465	1	Complies
5785	5.76	3.7670	15.47	35.2371	0.026421	1	Complies
5825	5.76	3.7670	15.39	34.5939	0.025939	1	Complies

Test Mode :	UNII-1/TX N40 Mode Total / CH151, CH159

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5755	5.76	3.7670	15.93	39.1742	0.029373	1	Complies
5795	5.76	3.7670	16.00	39.8107	0.029850	1	Complies

Test Mode :	UNII-3/TX AC80 Mode Total / CH155

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5210	5.76	3.7670	14.42	27.6694	0.020747	1	Complies

Note: the calculated distance is 20 cm.

COLLOCATED POWER DENSITY CACULATIONS

So for 2.4G+5G simultaneous transmission:

$$0.243193/1+0.030475/1=0.273668<1$$