

# Maximum Permissible Exposure (MPE) Evaluation Report

**Report No.** : TS09050032-EME  
**Model No.** : H3C WA2620E-AGN  
**Issued Date** : Oct. 14, 2009

**Applicant:** 3Com Corporation  
350 Campus Drive Marlborough, MA 01752-3064,  
United States

**Test Method/ FCC 1.1310 and Safety Code 6  
Standard:**

**Test By:** Intertek Testing Services Taiwan Ltd.  
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**Table of Contents**

Summary of Tests ..... 3

1. Introduction ..... 4

2. RF Exposure Limit ..... 4

3. RF Exposure calculations ..... 5

4. Test results ..... 6





### Summary of Tests

**MPE Evaluation meet FCC OET No. 65: 1997, IEEE C95.1-1999 and IC Safety Code 6**

**Wireless LAN Access Point-Model: H3C WA2620E-AGN  
FCC ID : O9C-WA2620EAGN**

Test	Reference	Results
MPE Evaluation	FCC Guidelines for Human Exposure IEEE C95.1 and IC Safety Code 6	Complies



## 1. Introduction

The EUT operates in the 2.4 GHz ISM 5GHz NII band. Due to the EUT (include antenna) at its normal operation distance is at least 20 cm from the human body, the EUT was defined as a Mobile Device.

The reason to do the MPE Evaluation is to avoid the RF hazard to human body. The maximum output power and gain of the antenna were used to calculate the limited Power density (S) at 20 cm distance away from the product. The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 and Safety Cord 6 are followed.

According to 1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

## 2. RF Exposure Limit

For FCC:

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental 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)
(A) Limits for Occupational / Control Exposures				
30-300	61.4	0.163	1.0	6
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6
(B) Limits for General Population / Uncontrolled Exposure				
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30

F= Frequency in MHz



For IC:

Exposure Limits for Persons Not Classed As RF and Microwave Exposed Workers  
(Including the General Public)

Frequency Range (MHz)	Electric Field Strength; rms (V/m)	Magnetic Field Strength; rms (A/m)	Power Density (W/m <sup>2</sup> )	Average Time (minutes)
0.003-1	280	2.19	-	6
1-10	280/f	2.19/f	-	6
10-30	28	2.19/f	-	6
30-300	28	0.073	2*	30
300-1500	1.585f <sup>0.5</sup>	0.0042f <sup>0.5</sup>	F/150	30
1500-15000	61.4	0.163	10	30
15000-150000	61.4	0.163	10	616000/f <sup>1.2</sup>
150000-300000	0.158 f <sup>0.5</sup>	4.21 × 10 <sup>-4</sup> f <sup>0.5</sup>	6.67 × 10 <sup>-5</sup> f	616000/f <sup>1.2</sup>

\* Power density limit is applicable at frequencies greater than 100 MHz.

Notes: 1. Frequency, f, is in MHz.

2. A power density of 10W/m<sup>2</sup> is equivalent to 1 mW/cm<sup>2</sup>.

3. A magnetic field strength of 1 A/m corresponds to 1.257 microtesla (μT) or 12.57 milligauss (mG).

### 3. RF Exposure calculations

From §FCC 1.1310 table 1 and §Safety Code 6 table 5, the maximum permissible RF exposure for an uncontrolled environment is 1mW/(cm<sup>2</sup>) (or 10 W/m<sup>2</sup>)\*

\* 10 W/m<sup>2</sup> = 1mW/ (cm<sup>2</sup>)

Power density (S) is calculated by the following formula:

$$S = (P * G) / 4 \pi R^2$$

where, S = Power density (mW/cm<sup>2</sup>)

P = Output power to antenna (mW)

R = Distance between radiating structure and observation point (cm)

G = Gain of antenna in numeric

π = 3.1416

Example:

Assume a mobile device operates at 2412MHz and its maximum output power is 50mW, and the maximum gain of antenna is 1 (numeric) /0dBi.

then the power density (S) = (50 \* 1) / 4 \* π \* 20<sup>2</sup> = 0.00995 (mW/cm<sup>2</sup>) (or = 0.0995 W/m<sup>2</sup>)



#### 4. Test results

##### Antenna 1 : C5060-510002-A

Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11b	1	2412	1.58	302.22	0.095291444	1.0	20
	6	2437	1.58	312.12	0.098414332	1.0	20
	11	2462	1.58	316.39	0.099757897	1.0	20
802.11g	1	2412	1.58	702.63	0.221542656	1.0	20
	6	2437	1.58	693.23	0.218576991	1.0	20
	11	2462	1.58	604.61	0.190635355	1.0	20
802.11n (HT 20)	1	2412	1.58	713.27	0.224898402	1.0	20
	6	2437	1.58	702.38	0.221463450	1.0	20
	11	2462	1.58	608.80	0.191958799	1.0	20
802.11n (HT 40)	3	2422	1.58	591.97	0.186650220	1.0	20
	6	2437	1.58	592.74	0.186894156	1.0	20
	9	2452	1.58	570.12	0.179762151	1.0	20
802.11a	149	5745	2.00	595.29	0.236298573	1.0	20
	157	5785	2.00	629.50	0.249876078	1.0	20
	165	5825	2.00	488.85	0.194045027	1.0	20
802.11n (HT 20)	149	5745	2.00	587.19	0.233080503	1.0	20
	157	5785	2.00	620.27	0.246212951	1.0	20
	165	5825	2.00	656.96	0.260777070	1.0	20
802.11n (HT 40)	151	5755	2.00	618.01	0.245316412	1.0	20
	159	5795	2.00	660.31	0.262106983	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11a	36	5180	2.00	45.56	0.018084296	1.0	20
	40	5200	2.00	45.80	0.018181015	1.0	20
	48	5240	2.00	46.02	0.018265552	1.0	20
	52	5260	2.00	208.16	0.082627944	1.0	20
	60	5300	2.00	219.34	0.087067682	1.0	20
	64	5320	2.00	216.35	0.085877565	1.0	20
	100	5500	2.00	220.70	0.087604977	1.0	20
	118	5580	2.00	197.63	0.078448256	1.0	20
	140	5700	2.00	216.10	0.085779540	1.0	20
802.11n (HT 20)	36	5180	2.00	45.03	0.017872773	1.0	20
	40	5200	2.00	46.67	0.018527125	1.0	20
	48	5240	2.00	45.34	0.017995658	1.0	20
	52	5260	2.00	198.57	0.078821548	1.0	20
	60	5300	2.00	211.77	0.084061852	1.0	20
	64	5320	2.00	218.52	0.086739564	1.0	20
	100	5500	2.00	221.94	0.088098858	1.0	20
	118	5580	2.00	200.68	0.079658322	1.0	20
	140	5700	2.00	213.67	0.084816958	1.0	20
802.11n (HT 40)	38	5190	2.00	43.31	0.017190343	1.0	20
	46	5230	2.00	44.45	0.017644986	1.0	20
	54	5270	2.00	237.51	0.094279706	1.0	20
	62	5310	2.00	244.77	0.097159662	1.0	20
	102	5510	2.00	218.78	0.086845002	1.0	20
	110	5550	2.00	212.29	0.084268692	1.0	20
	134	5670	2.00	213.93	0.084917927	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



## Antenna 2 : 3CWE591

Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Cable Loss (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11b	1	2412	3.98	1.58	270.46	0.135154400	1.0	20
	6	2437	3.98	1.58	273.38	0.136615309	1.0	20
	11	2462	3.98	1.58	278.62	0.139235312	1.0	20
802.11g	1	2412	3.98	1.58	444.64	0.222196280	1.0	20
	6	2437	3.98	1.58	555.79	0.277740153	1.0	20
	11	2462	3.98	1.58	549.72	0.274709028	1.0	20
802.11n (HT 20)	1	2412	3.98	1.58	412.10	0.205935910	1.0	20
	6	2437	3.98	1.58	500.21	0.249965299	1.0	20
	11	2462	3.98	1.58	505.42	0.252571702	1.0	20
802.11n (HT 40)	3	2422	3.98	1.58	312.27	0.156050281	1.0	20
	6	2437	3.98	1.58	492.16	0.245945607	1.0	20
	9	2452	3.98	1.58	438.57	0.219163214	1.0	20
802.11a	149	5745	6.31	2.51	595.29	0.297482279	1.0	20
	157	5785	6.31	2.51	629.50	0.314575344	1.0	20
	165	5825	6.31	2.51	488.85	0.244288215	1.0	20
802.11n (HT 20)	149	5745	6.31	2.51	587.19	0.293430969	1.0	20
	157	5785	6.31	2.51	620.27	0.309963740	1.0	20
	165	5825	6.31	2.51	656.96	0.328298880	1.0	20
802.11n (HT 40)	151	5755	6.31	2.51	618.01	0.308835065	1.0	20
	159	5795	6.31	2.51	660.31	0.329973142	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Cable Loss (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11a	36	5180	6.31	2.51	28.25	0.014117783	1.0	20
	40	5200	6.31	2.51	28.38	0.014180435	1.0	20
	48	5240	6.31	2.51	30.11	0.015045428	1.0	20
	52	5260	6.31	2.51	130.49	0.065209654	1.0	20
	60	5300	6.31	2.51	136.40	0.068161360	1.0	20
	64	5320	6.31	2.51	140.01	0.069964053	1.0	20
	100	5500	6.31	2.51	138.26	0.069092076	1.0	20
	118	5580	6.31	2.51	137.56	0.068740256	1.0	20
	140	5700	6.31	2.51	142.96	0.071440038	1.0	20
802.11n (HT 20)	36	5180	6.31	2.51	28.82	0.014404046	1.0	20
	40	5200	6.31	2.51	28.11	0.014048781	1.0	20
	48	5240	6.31	2.51	29.81	0.014896423	1.0	20
	52	5260	6.31	2.51	134.72	0.067322499	1.0	20
	60	5300	6.31	2.51	140.01	0.069965090	1.0	20
	64	5320	6.31	2.51	141.52	0.070722501	1.0	20
	100	5500	6.31	2.51	136.79	0.068359351	1.0	20
	118	5580	6.31	2.51	133.10	0.066512414	1.0	20
	140	5700	6.31	2.51	141.29	0.070607725	1.0	20
802.11n (HT 40)	38	5190	6.31	2.51	26.88	0.013430726	1.0	20
	46	5230	6.31	2.51	27.84	0.013912459	1.0	20
	54	5270	6.31	2.51	135.64	0.067784557	1.0	20
	62	5310	6.31	2.51	143.05	0.071484754	1.0	20
	102	5510	6.31	2.51	127.95	0.063940337	1.0	20
	110	5550	6.31	2.51	133.18	0.066551315	1.0	20
	134	5670	6.31	2.51	131.17	0.065546440	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



### Antenna 3 : 3CWE596

Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Cable Loss (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11b	1	2412	63.10	1.58	104.37	0.206649793	1.0	40
	6	2437	63.10	1.58	107.78	0.213404090	1.0	40
	11	2462	63.10	1.58	121.64	0.240840173	1.0	40
802.11g	1	2412	63.10	1.58	117.12	0.231901760	1.0	40
	6	2437	63.10	1.58	116.20	0.230086345	1.0	40
	11	2462	63.10	1.58	124.34	0.246186881	1.0	40
802.11n (HT 20)	1	2412	63.10	1.58	116.71	0.231090840	1.0	40
	6	2437	63.10	1.58	117.52	0.232698400	1.0	40
	11	2462	63.10	1.58	124.62	0.246749986	1.0	40
802.11n (HT 40)	3	2422	63.10	1.58	88.34	0.174906360	1.0	40
	6	2437	63.10	1.58	118.03	0.233695017	1.0	40
	9	2452	63.10	1.58	112.88	0.223513647	1.0	40
802.11a	149	5745	100.00	2.51	448.07	0.887186688	1.0	40
	157	5785	100.00	2.51	458.88	0.908585288	1.0	40
	165	5825	100.00	2.51	476.00	0.942489153	1.0	40
802.11n (HT 20)	149	5745	100.00	2.51	434.95	0.861213375	1.0	40
	157	5785	100.00	2.51	457.36	0.905578565	1.0	40
	165	5825	100.00	2.51	474.52	0.939561578	1.0	40
802.11n (HT 40)	151	5755	100.00	2.51	444.70	0.880515098	1.0	40
	159	5795	100.00	2.51	471.23	0.933045165	1.0	40

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 40 cm from the device at all time.



Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Cable Loss (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11a	52	5260	100.00	2.51	9.06	0.017940702	1.0	40
	60	5300	100.00	2.51	4.67	0.009244740	1.0	40
	64	5320	100.00	2.51	7.26	0.014370637	1.0	40
	100	5500	100.00	2.51	9.01	0.017841327	1.0	40
	118	5580	100.00	2.51	8.73	0.017294287	1.0	40
	140	5700	100.00	2.51	7.92	0.015680610	1.0	40
802.11n (HT 20)	52	5260	100.00	2.51	9.04	0.017895408	1.0	40
	60	5300	100.00	2.51	4.89	0.009687762	1.0	40
	64	5320	100.00	2.51	7.30	0.014458421	1.0	40
	100	5500	100.00	2.51	8.80	0.017417744	1.0	40
	118	5580	100.00	2.51	8.71	0.017245177	1.0	40
	140	5700	100.00	2.51	7.77	0.015388647	1.0	40
802.11n (HT 40)	54	5270	100.00	2.51	9.76	0.019317866	1.0	40
	62	5310	100.00	2.51	9.77	0.019351060	1.0	40
	102	5510	100.00	2.51	9.53	0.018860752	1.0	40
	110	5550	100.00	2.51	9.75	0.019305622	1.0	40
	134	5670	100.00	2.51	9.70	0.019197071	1.0	40

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 40 cm from the device at all time.



#### Antenna 4 : 3CWE598

Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Cable Loss (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11b	1	2412	6.31	1.58	188.83	0.149555223	1.0	20
	6	2437	6.31	1.58	197.95	0.156777398	1.0	20
	11	2462	6.31	1.58	192.14	0.152175002	1.0	20
802.11g	1	2412	6.31	1.58	461.38	0.365417147	1.0	20
	6	2437	6.31	1.58	465.12	0.368379086	1.0	20
	11	2462	6.31	1.58	404.61	0.320457545	1.0	20
802.11n (HT 20)	1	2412	6.31	1.58	465.09	0.368351744	1.0	20
	6	2437	6.31	1.58	469.96	0.372210759	1.0	20
	11	2462	6.31	1.58	410.29	0.324950007	1.0	20
802.11n (HT 40)	3	2422	6.31	1.58	367.25	0.290869224	1.0	20
	6	2437	6.31	1.58	369.08	0.292316539	1.0	20
	9	2452	6.31	1.58	380.71	0.301526091	1.0	20
802.11a	149	5745	10.00	2.51	448.07	0.354874675	1.0	20
	157	5785	10.00	2.51	458.88	0.363434115	1.0	20
	165	5825	10.00	2.51	476.00	0.376995661	1.0	20
802.11n (HT 20)	149	5745	10.00	2.51	434.95	0.344485350	1.0	20
	157	5785	10.00	2.51	457.36	0.362231426	1.0	20
	165	5825	10.00	2.51	474.52	0.375824631	1.0	20
802.11n (HT 40)	151	5755	10.00	2.51	444.70	0.352206039	1.0	20
	159	5795	10.00	2.51	471.23	0.373218066	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Cable Loss (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11a	36	5180	10.00	2.51	17.46	0.013828611	1.0	20
	40	5200	10.00	2.51	16.71	0.013237180	1.0	20
	48	5240	10.00	2.51	18.02	0.014275749	1.0	20
	52	5260	10.00	2.51	96.90	0.076745833	1.0	20
	60	5300	10.00	2.51	86.10	0.068193627	1.0	20
	64	5320	10.00	2.51	88.46	0.070059967	1.0	20
	100	5500	10.00	2.51	82.99	0.065726717	1.0	20
	118	5580	10.00	2.51	81.52	0.064563305	1.0	20
	140	5700	10.00	2.51	80.59	0.063824255	1.0	20
802.11n (HT 20)	36	5180	10.00	2.51	16.83	0.013332939	1.0	20
	40	5200	10.00	2.51	15.35	0.012154687	1.0	20
	48	5240	10.00	2.51	18.26	0.014464603	1.0	20
	52	5260	10.00	2.51	95.18	0.075381944	1.0	20
	60	5300	10.00	2.51	79.60	0.063045494	1.0	20
	64	5320	10.00	2.51	84.63	0.067028643	1.0	20
	100	5500	10.00	2.51	86.06	0.068161343	1.0	20
	118	5580	10.00	2.51	83.31	0.065980011	1.0	20
	140	5700	10.00	2.51	85.49	0.067706761	1.0	20
802.11n (HT 40)	38	5190	10.00	2.51	18.09	0.014327672	1.0	20
	46	5230	10.00	2.51	17.03	0.013484468	1.0	20
	54	5270	10.00	2.51	77.17	0.061121585	1.0	20
	62	5310	10.00	2.51	81.64	0.064660529	1.0	20
	102	5510	10.00	2.51	73.66	0.058339730	1.0	20
	110	5550	10.00	2.51	79.45	0.062927825	1.0	20
	134	5670	10.00	2.51	89.28	0.070713471	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



### Antenna 5 : MCM2458PTRPSM

Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11b	1	2412	2.00	302.22	0.119964820	1.0	20
	6	2437	2.00	312.12	0.123896304	1.0	20
	11	2462	2.00	316.39	0.125587751	1.0	20
802.11g	1	2412	2.00	640.71	0.254325396	1.0	20
	6	2437	2.00	555.79	0.220616845	1.0	20
	11	2462	2.00	549.72	0.218209137	1.0	20
802.11n (HT 20)	1	2412	2.00	568.67	0.225729953	1.0	20
	6	2437	2.00	500.21	0.198554495	1.0	20
	11	2462	2.00	505.42	0.200624834	1.0	20
802.11n (HT 40)	3	2422	2.00	375.14	0.148910760	1.0	20
	6	2437	2.00	474.62	0.188396465	1.0	20
	9	2452	2.00	570.12	0.226307140	1.0	20
802.11a	149	5745	2.51	595.29	0.297482279	1.0	20
	157	5785	2.51	629.50	0.314575344	1.0	20
	165	5825	2.51	488.85	0.244288215	1.0	20
802.11n (HT 20)	149	5745	2.51	587.19	0.293430969	1.0	20
	157	5785	2.51	620.27	0.309963740	1.0	20
	165	5825	2.51	656.96	0.328298880	1.0	20
802.11n (HT 40)	151	5755	2.51	618.01	0.308835065	1.0	20
	159	5795	2.51	660.31	0.329973142	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11a	36	5180	2.51	39.50	0.019740936	1.0	20
	40	5200	2.51	40.53	0.020254134	1.0	20
	48	5240	2.51	44.24	0.022110172	1.0	20
	52	5260	2.51	208.16	0.104022419	1.0	20
	60	5300	2.51	219.34	0.109611718	1.0	20
	64	5320	2.51	216.35	0.108113449	1.0	20
	100	5500	2.51	220.70	0.110288131	1.0	20
	118	5580	2.51	200.94	0.100415334	1.0	20
	140	5700	2.51	216.10	0.107990043	1.0	20
802.11n (HT 20)	36	5180	2.51	39.60	0.019789693	1.0	20
	40	5200	2.51	40.22	0.020098756	1.0	20
	48	5240	2.51	45.65	0.022812277	1.0	20
	52	5260	2.51	198.57	0.099230450	1.0	20
	60	5300	2.51	211.77	0.105827602	1.0	20
	64	5320	2.51	218.52	0.109198642	1.0	20
	100	5500	2.51	221.94	0.110909892	1.0	20
	118	5580	2.51	200.58	0.100234414	1.0	20
	140	5700	2.51	213.67	0.106778223	1.0	20
802.11n (HT 40)	38	5190	2.51	43.99	0.021982933	1.0	20
	46	5230	2.51	46.29	0.023131731	1.0	20
	54	5270	2.51	237.51	0.118691117	1.0	20
	62	5310	2.51	244.77	0.122316768	1.0	20
	102	5510	2.51	218.78	0.109331379	1.0	20
	110	5550	2.51	209.12	0.104503279	1.0	20
	134	5670	2.51	213.93	0.106905336	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



# Antenna 6 : TQJ-24/58MICX6

Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11b	1	2412	1.78	263.32	0.093158304	1.0	20
	6	2437	1.78	239.80	0.084835930	1.0	20
	11	2462	1.78	252.73	0.089410242	1.0	20
802.11g	1	2412	1.78	444.64	0.157302919	1.0	20
	6	2437	1.78	466.83	0.165152201	1.0	20
	11	2462	1.78	426.79	0.150987756	1.0	20
802.11n (HT 20)	1	2412	1.78	398.96	0.141143483	1.0	20
	6	2437	1.78	381.23	0.134869444	1.0	20
	11	2462	1.78	357.60	0.126512005	1.0	20
802.11n (HT 40)	3	2422	1.78	375.14	0.132716854	1.0	20
	6	2437	1.78	364.96	0.129114819	1.0	20
	9	2452	1.78	374.82	0.132604072	1.0	20
802.11a	149	5745	2.82	595.29	0.333780606	1.0	20
	157	5785	2.82	629.50	0.352959342	1.0	20
	165	5825	2.82	488.85	0.274095885	1.0	20
802.11n (HT 20)	149	5745	2.82	587.19	0.329234962	1.0	20
	157	5785	2.82	620.27	0.347785037	1.0	20
	165	5825	2.82	656.96	0.368357402	1.0	20
802.11n (HT 40)	151	5755	2.82	618.01	0.346518643	1.0	20
	159	5795	2.82	660.31	0.370235954	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11a	36	5180	2.82	39.50	0.022149694	1.0	20
	40	5200	2.82	40.53	0.022725512	1.0	20
	48	5240	2.82	44.24	0.024808021	1.0	20
	52	5260	2.82	208.16	0.116715074	1.0	20
	60	5300	2.82	219.34	0.122986370	1.0	20
	64	5320	2.82	216.35	0.121305285	1.0	20
	100	5500	2.82	220.70	0.123745319	1.0	20
	118	5580	2.82	200.94	0.112667858	1.0	20
	140	5700	2.82	216.10	0.121166821	1.0	20
802.11n (HT 20)	36	5180	2.82	39.60	0.022204401	1.0	20
	40	5200	2.82	40.22	0.022551175	1.0	20
	48	5240	2.82	45.65	0.025595795	1.0	20
	52	5260	2.82	198.57	0.111338396	1.0	20
	60	5300	2.82	211.77	0.118740522	1.0	20
	64	5320	2.82	218.52	0.122522891	1.0	20
	100	5500	2.82	221.94	0.124442945	1.0	20
	118	5580	2.82	200.58	0.112464862	1.0	20
	140	5700	2.82	213.67	0.119807137	1.0	20
802.11n (HT 40)	38	5190	2.82	43.99	0.024665257	1.0	20
	46	5230	2.82	46.29	0.025954229	1.0	20
	54	5270	2.82	237.51	0.133173624	1.0	20
	62	5310	2.82	244.77	0.137241671	1.0	20
	102	5510	2.82	218.78	0.122671825	1.0	20
	110	5550	2.82	209.12	0.117254607	1.0	20
	134	5670	2.82	213.93	0.119949760	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



**Antenna 7 : TQJ-24/58MIKX3**

Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11b	1	2412	1.78	282.42	0.099912349	1.0	20
	6	2437	1.78	275.01	0.097293477	1.0	20
	11	2462	1.78	252.73	0.089410242	1.0	20
802.11g	1	2412	1.78	596.75	0.211115649	1.0	20
	6	2437	1.78	568.45	0.201105301	1.0	20
	11	2462	1.78	426.79	0.150987756	1.0	20
802.11n (HT 20)	1	2412	1.78	568.67	0.201182032	1.0	20
	6	2437	1.78	550.55	0.194773833	1.0	20
	11	2462	1.78	492.21	0.174133076	1.0	20
802.11n (HT 40)	3	2422	1.78	467.91	0.165535390	1.0	20
	6	2437	1.78	443.34	0.156845158	1.0	20
	9	2452	1.78	438.12	0.154995667	1.0	20
802.11a	149	5745	2.51	595.29	0.297482279	1.0	20
	157	5785	2.51	629.50	0.314575344	1.0	20
	165	5825	2.51	488.85	0.244288215	1.0	20
802.11n (HT 20)	149	5745	2.51	587.19	0.293430969	1.0	20
	157	5785	2.51	620.27	0.309963740	1.0	20
	165	5825	2.51	656.96	0.328298880	1.0	20
802.11n (HT 40)	151	5755	2.51	618.01	0.308835065	1.0	20
	159	5795	2.51	660.31	0.329973142	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.



Mode	Channel	Frequency (MHz)	Antenna Gain (numeric)	Output power to antenna (mW)	Power density (mW/cm <sup>2</sup> )	Limit of power density (mW/cm <sup>2</sup> )	Distance (cm)
802.11a	36	5180	2.51	39.50	0.019740936	1.0	20
	40	5200	2.51	40.53	0.020254134	1.0	20
	48	5240	2.51	44.24	0.022110172	1.0	20
	52	5260	2.51	208.16	0.104022419	1.0	20
	60	5300	2.51	219.34	0.109611718	1.0	20
	64	5320	2.51	216.35	0.108113449	1.0	20
	100	5500	2.51	220.70	0.110288131	1.0	20
	118	5580	2.51	200.94	0.100415334	1.0	20
	140	5700	2.51	216.10	0.107990043	1.0	20
802.11n (HT 20)	36	5180	2.51	39.60	0.019789693	1.0	20
	40	5200	2.51	40.22	0.020098756	1.0	20
	48	5240	2.51	45.65	0.022812277	1.0	20
	52	5260	2.51	198.57	0.099230450	1.0	20
	60	5300	2.51	211.77	0.105827602	1.0	20
	64	5320	2.51	218.52	0.109198642	1.0	20
	100	5500	2.51	221.94	0.110909892	1.0	20
	118	5580	2.51	200.58	0.100234414	1.0	20
	140	5700	2.51	213.67	0.106778223	1.0	20
802.11n (HT 40)	38	5190	2.51	43.99	0.021982933	1.0	20
	46	5230	2.51	46.29	0.023131731	1.0	20
	54	5270	2.51	237.51	0.118691117	1.0	20
	62	5310	2.51	244.77	0.122316768	1.0	20
	102	5510	2.51	218.78	0.109331379	1.0	20
	110	5550	2.51	209.12	0.104503279	1.0	20
	134	5670	2.51	213.93	0.106905336	1.0	20

The Notice in Installation Manual has been stated as below:

While installing and operating this transmitter, the radio frequency exposure limit of 1mW/ (cm<sup>2</sup>) may be exceeded at distances close to the transmitter. therefore, the user must maintain a minimum distance of 20 cm from the device at all time.