MPE REPORT

FCC ID: QMP-M605AC

Date of issue: Nov. 13, 2019

Report number:	MTi19091904-1E3
Sample description:	Wireless XDSL Modem Router
Model(s):	M605v AC, M605v Series
Applicant:	DQ Technology, Inc.
Address:	1343 Columbia Drive, Suite 415, Richardson, TX, 75081
Date of test:	Sept. 26, 2019 to Oct. 22, 2019

Shenzhen Microtest Co., Ltd.

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TEST RESULT CERTIFICATION	
Applicant's name:	DQ Technology, Inc.
Address:	1343 Columbia Drive, Suite 415, Richardson, TX, 75081
Manufacture's name:	DCOM Technology CO., LTD
Address:	8004,Building 51,Block 2,Shangtang Songzi Park, MinZhi St., Longhua Dist, Shenzhen, China
Product name:	Wireless XDSL Modem Router
Trademark:	VisionNet
Model and/or type reference .:	M605v AC
Serial model.....:	M605v Series
RF exposure procedures.....:	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by: Demi Mu Oct. 22, 2019

Reviewed by: Blue Zheng Nov. 13, 2019

Approved by: Smith Chen Nov. 13, 2019

RF EXPOSURE EVALUATION

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^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
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
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $Pd= (Pout*G)\ (4*pi*R^2)$

Where

Pd= Power density in mW/cm2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1415926

R= distance between observation point and center of the radiator in cm(20cm)

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

Measurement Result

2.4GWiFi:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

802.11n HT40: 2422-2452MHz,

Power density limited: 1mW/ cm^2

5GWiFi:

802.11a: 20 MHz

802.11n: 20 MHz, 40 MHz

802.11ac: 20 MHz, 40 MHz, 80MHz

Antenna Type: PIFA Antenna;
WIFI antenna gain: 3dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(3/10)=2

2.4GWiFi:

Channel Freq. (MHz)	modulation	conducted power		Tune-up power		Max				Antenna		Evaluation result at 20cm			Power density Limits
		(dBm)		(dBm)		tune-up power				Gain		Power density(mW/cm2)			(mW/cm2)
						(dBm)		(mW)		Numeric					
		Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Sum	
2412	802.11b	14.53	14.39	15±1	15±1	16	16	39.81	39.811	2	2	0.01584	0.01584	/	1
2437		15.14	15.37	15±1	15±1	16	16	39.81	39.811	2	2	0.01584	0.01584	/	1
2462		14.37	15.95	15±1	15±1	16	16	39.81	39.811	2	2	0.01584	0.01584	/	1
2412	802.11g	12.43	12.66	12±1	13±1	13	14	19.95	25.119	2	2	0.00794	0.00999	/	1
2437		12.82	13.48	12±1	13±1	13	14	19.95	25.119	2	2	0.00794	0.00999	/	1
2462		12.51	12.52	12±1	13±1	13	14	19.95	25.119	2	2	0.00794	0.00999	/	1
2412	802.11n H20	11.85	11.05	12±1	12±1	13	13	19.95	19.953	2	2	0.00794	0.00794	0.01588	1
2437		12.28	11.87	12±1	12±1	13	13	19.95	19.953	2	2	0.00794	0.00794	0.01588	1
2462		11.97	12.35	12±1	12±1	13	13	19.95	19.953	2	2	0.00794	0.00794	0.01588	1
2422	802.11n H40	11.76	10.22	11±1	11±1	12	12	15.84	15.849	2	2	0.00631	0.00631	0.01261	1
2437		11.93	10.79	11±1	11±1	12	12	15.84	15.849	2	2	0.00631	0.00631	0.01261	1
2452		11.8	11.16	11±1	11±1	12	12	15.84	15.849	2	2	0.00631	0.00631	0.01261	1

5GWiFi:

Band1

Channel Freq. (MHz)	modulation	conducted power		Tune-up power		Max				Antenna		Evaluation result at 20cm			Power density Limits
		(dBm)		(dBm)		tune-up power				Gain		Power density(mW/cm2)			(mW/cm2)
						(dBm)		(mW)		Numeric					
		Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Sum	
5180	11a	9.46	10	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	/	1
5200	11a	9.69	10.5	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	/	1
5240	11a	9.07	10.44	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	/	1
5180	11ac (HT20)	8.45	9.75	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	/	1
5200	11ac (HT20)	9.57	10.05	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	/	1
5240	11ac (HT20)	9.62	10.05	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	/	1
5190	11ac (HT40)	8.87	9.42	9±1	9±1	10	10	10	10.000	2	2	0.00398	0.00398	0.00796	1
5230	11ac (HT40)	9.16	9.5	9±1	9±1	10	10	10	10.000	2	2	0.00398	0.00398	0.00796	1
5210	11ac (HT80)	9.05	9.12	9±1	9±1	10	10	10	10.000	2	2	0.00398	0.00398	0.00796	1
5180	11n (HT20)	8.51	9.71	8±1	10±1	9	11	7.94	12.589	2	2	0.00316	0.00501	0.00817	1
5200	11n (HT20)	8.94	9.73	8±1	10±1	9	11	7.94	12.589	2	2	0.00316	0.00501	0.00817	1
5240	11n (HT20)	8.38	10.27	8±1	10±1	9	11	7.94	12.589	2	2	0.00316	0.00501	0.00817	1
5190	11n (HT40)	7.19	9	7±1	9±1	8	10	6.3	10.000	2	2	0.00251	0.00398	0.00649	1
5230	11n (HT40)	7.27	9.89	7±1	9±1	8	10	6.30	10.000	2	2	0.00251	0.00398	0.00649	1

Band3

Channel Freq. (MHz)	modulation	conducted power		Tune-up power		Max				Antenna		Evaluation result at 20cm			Power density Limits
		(dBm)		(dBm)		tune-up power				Gain		Power density(mW/cm2)			(mW/cm2)
						(dBm)		(mW)		Numeric					
		Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Sum	
5180	11a	9.96	12.53	10±1	12±1	11	13	12.58	19.953	2	2	0.00501	0.00794	/	1
5200	11a	10.27	11.82	10±1	12±1	11	13	12.58	19.953	2	2	0.00501	0.00794	/	1
5240	11a	11.34	11.77	10±1	12±1	11	13	12.58	19.953	2	2	0.00501	0.00794	/	1
5180	11ac (HT20)	9.75	12.13	9±1	12±1	10	13	10	19.953	2	2	0.00398	0.00794	/	1
5200	11ac (HT20)	9.72	11.66	9±1	12±1	10	13	10	19.953	2	2	0.00398	0.00794	/	1
5240	11ac (HT20)	9.91	11.34	9±1	12±1	10	13	10	19.953	2	2	0.00398	0.00794	/	1
5190	11ac (HT40)	8.69	10.86	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	0.00899	1
5230	11ac (HT40)	9.37	10.39	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	0.00899	1
5210	11ac (HT80)	9.3	10.43	9±1	10±1	10	11	10	12.589	2	2	0.00398	0.00501	0.00899	1
5180	11n (HT20)	9.64	12.17	9±1	12±1	10	13	10	19.953	2	2	0.00398	0.00794	0.01192	1
5200	11n (HT20)	9.77	11.53	9±1	12±1	10	13	10	19.953	2	2	0.00398	0.00794	0.01192	1
5240	11n (HT20)	9.91	11.4	9±1	12±1	10	13	10	19.953	2	2	0.00398	0.00794	0.01192	1
5190	11n (HT40)	8.92	11.03	9±1	11±1	10	12	10	15.849	2	2	0.00398	0.00631	0.01028	1
5230	11n (HT40)	8.55	9.91	9±1	11±1	10	12	10	10	2	2	0.00398	0.00398	0.00796	1

Conclusion:

For the max result: 0.01584≤ 1.0 for 1g SAR, No SAR is required.

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