



RF Exposure Evaluation Report

Application No.: DNT2511280821R13838-15954
Applicant: Guangzhou Jumei Keji You Xian Gong Si
Address of Applicant: 1124 Bldg. 1, Xiajiao Commercial Bldg, No. 35 Xiajiao South Road, Panyu Dist, Guangzhou, China
EUT Description: networking router
Model No.: RM520N
Additional Model(s): /
FCC ID: 2BTF4-RM520N
Power supply DC 12V
Trade Mark: SquareWiz
Standards: 47 CFR Part 2.1091
FCC KDB 447498 D01 v06
Date of Receipt: 2025/11/28
Date of Test: 2025/11/28 to 2025/12/08
Date of Issue: 2025/12/08
Test Result: **PASS**

Prepared By: Wayne Lin (Testing Engineer)

Reviewed By: Pengfei Chen (Project Engineer)

Approved By: Heise Shen (Manager)



Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec.8, 2025	Valid	Original Report



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1 General Information

1.1 Test Location

Company:	Dongguan DN Testing Co., Ltd
Address:	No. 1, West Fourth Street, South Xinfu Road, Wusha Liwu, Chang ' an Town, Dongguan City, Guangdong P.R.China
Test engineer:	Wayne Lin

1.2 General Description of EUT

Manufacturer:	Guangzhou Jumei Keji You Xian Gong Si
Address of Manufacturer:	1124 Bldg. 1,Xiajiao Commercial Bldg,No. 35 Xiajiao South Road,Panyu Dist,Guangzhou,China
Factory:	SHENZHEN MANUNITED ELECTRONICS CO..LTD
Address of Factory:	Floor2, Bldg.8,Rundongsheng Industry Park,Xixiang Street,Xixiang Dist,Shenzhen
EUT Description:	networking router
Model No.:	RM520N
Additional Model(s):	/
Power Supply:	DC 12V
Trade Mark:	SquareWiz
Hardware Version:	V1.0
Software Version:	V1.0
Chip Type:	B15F0B
Serial number	PR2511280821R13838
Sample Type:	☐ Portable Device, ☐ Module, ☒ Mobile Device
Antenna Type:	☒ External, ☐ Integrated
Antenna Ports:	☒ Ant 1, ☒ Ant 2, ☒ Ant 3, ☒ Ant 4, ☒ Ant 5
Antenna Gain:	☒ Provided by applicant
	2.4G: Ant 1: 2.94dBi, Ant 2: 2.94dBi
	5G: Ant 1: 3.37dBi, Ant 2: 3.37dBi, Ant 3: 3.37dBi
Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, DNT is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.	



2 RF Exposure Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Limits

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 Exposures				
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
(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
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30
F=frequency in MHz *=Plane-wave equivalent power density RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).				

Friis Formula

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

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is the limit of MPE, 1 mW/cm². 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.



2.1.2 Test Procedure

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

2.1.3 EUT RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.0 / 2.0 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

This confirmed that the device comply with MPE limit.

Test Mode	Antenna	Frequency [MHz]	Result [dBm]
11B	Ant1	2412	10.51
	Ant2	2412	11.58
	Ant1	2437	12.43
	Ant2	2437	12.73
	Ant1	2462	11.79
	Ant2	2462	12.78
11G	Ant1	2412	10.25
	Ant2	2412	11.13
	Ant1	2437	12.05
	Ant2	2437	12.23
	Ant1	2462	11.34
	Ant2	2462	11.87
11N20MIMO	Ant1	2412	10.31
	Ant2	2412	10.71
	total	2412	13.52
	Ant1	2437	11.57
	Ant2	2437	11.28
	total	2437	14.44
	Ant1	2462	10.93
	Ant2	2462	11.90
	total	2462	14.45
11N40MIMO	Ant1	2422	10.07
	Ant2	2422	10.63
	total	2422	13.37
	Ant1	2437	11.29



	Ant2	2437	11.92
	total	2437	14.63
	Ant1	2452	9.79
	Ant2	2452	10.87
	total	2452	13.37

Test Mode	Antenna	Freq(MHz)	Result [dBm]
11A	Ant1	5180	10.32
	Ant2	5180	11.58
	Ant3	5180	11.10
	Ant1	5200	10.46
	Ant2	5200	11.67
	Ant3	5200	11.60
	Ant1	5240	10.53
	Ant2	5240	12.12
	Ant3	5240	12.09
	Ant1	5745	10.51
	Ant2	5745	11.51
	Ant3	5745	10.16
	Ant1	5785	11.48
	Ant2	5785	12.07
	Ant3	5785	11.18
	Ant1	5825	10.89
	Ant2	5825	11.16
	Ant3	5825	10.23
11N20MI MO	Ant1	5180	11.00
	Ant2	5180	10.04
	Ant3	5180	10.97
	total	5180	15.46
	Ant1	5200	10.48
	Ant2	5200	11.86
	Ant3	5200	12.07
	total	5200	16.30
	Ant1	5240	11.76
	Ant2	5240	11.16
	Ant3	5240	11.41
	total	5240	16.22
	Ant1	5745	11.09
	Ant2	5745	12.51
	Ant3	5745	11.22
	total	5745	16.43
	Ant1	5785	11.46
	Ant2	5785	11.18
	Ant3	5785	10.89
	total	5785	15.95
	Ant1	5825	11.37
	Ant2	5825	11.29
	Ant3	5825	11.98
	total	5825	15.86
11N40MI MO	Ant1	5190	10.17
	Ant2	5190	12.04
	Ant3	5190	12.28
	total	5190	16.36



	Ant1	5230	11.51
	Ant2	5230	12.38
	Ant3	5230	10.73
	total	5230	16.36
	Ant1	5755	12.34
	Ant2	5755	11.79
	Ant3	5755	10.96
	total	5755	16.50
	Ant1	5795	12.00
	Ant2	5795	12.18
	Ant3	5795	10.49
	total	5795	16.39
11AC20 MIMO	Ant1	5180	12.29
	Ant2	5180	11.89
	Ant3	5180	11.52
	total	5180	16.68
	Ant1	5200	10.56
	Ant2	5200	11.88
	Ant3	5200	11.12
	total	5200	15.99
	Ant1	5240	11.30
	Ant2	5240	11.94
	Ant3	5240	11.58
	total	5240	16.39
	Ant1	5745	10.29
	Ant2	5745	12.23
	Ant3	5745	12.10
	total	5745	16.40
	Ant1	5785	11.63
	Ant2	5785	10.91
	Ant3	5785	11.36
	total	5785	16.08
	Ant1	5825	10.45
	Ant2	5825	11.19
	Ant3	5825	10.13
	total	5825	15.38
11AC40 MIMO	Ant1	5190	10.74
	Ant2	5190	11.20
	Ant3	5190	10.71
	total	5190	15.66
	Ant1	5230	10.52
	Ant2	5230	11.34
	Ant3	5230	12.24
	total	5230	16.19
	Ant1	5755	10.13
	Ant2	5755	11.61
	Ant3	5755	10.64
	total	5755	15.61
	Ant1	5795	10.10
	Ant2	5795	11.20
	Ant3	5795	11.37
	total	5795	15.70
11AC80 MIMO	Ant1	5210	10.01
	Ant2	5210	12.32
	Ant3	5210	11.16
	total	5210	16.04
	Ant1	5775	10.95
	Ant2	5775	11.75
	Ant3	5775	10.19



	total	5775	15.78
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The Worst Mode	Antenna	AVG output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW /cm²)	Limited of Power Density (S) (mW /cm²)	Test Result	Distance (cm)
					(dBi)	(Linear)				
2.4G Band										
11N40MIMO	Ant1	11.29	11±1	12	2.94	1.968	0.0062	1	Complies	20
	Ant2	11.92	12±1	13	2.94	1.968	0.0078	1	Complies	20
5G Band										
11AC20MIMO	Ant 1	12.29	12±1	13	3.37	2.173	0.0086	1	Complies	20
	Ant 2	11.89	12±1	13	3.37	2.173	0.0086	1	Complies	20
	Ant 3	11.52	12±1	13	3.37	2.173	0.0086	1	Complies	20

Total Radio=0.0062+0.0078+0.0086*3=0.0398, The result less than 1, so complies.

The End Report