



FCC ID: T58MW5240R
Report No.: T191111D02-MF

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KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

Product Name:	Model:
3G/4G Wireless N 300Mbps Modem Router	MW5240
Wireless N 300Mbps Modem Router	W4, V4

Trade Name: netis

Issued to

NETIS SYSTEMS CO., LTD
Floor 8, Building B, TongFang Information Harbor, No.11 Langshan Road, Nanshan District, Shenzhen, China

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan. (R.O.C.)
Issue Date: March 25, 2020

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	February 26, 2020	Initial Issue	ALL	Allison Chen
01	March 25, 2020	See the following Note Rev.(01)	P.1, 6, 9	Allison Chen

Note:

Rev.(01)

1. *Modify FCC ID, antenna gain, and test data.*
2. *Add one model number: V4.*



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1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:



Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

2. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

3. EUT SPECIFICATION

EUT	1. 3G/4G Wireless N 300Mbps Modem Router 2. Wireless N 300Mbps Modem Router		
Model	1. MW5240 2. W4, V4		
Model Discrepancy	Difference of the two model numbers (list on this report) are just for marketing purpose only and please see as below:		
	Product name	Model	Discrepancy
	3G/4G Wireless N 300Mbps Modem Router	MW5240	has USB port
	Wireless N 300Mbps Modem Router	W4, V4	has no USB port.
Frequency band (Operating)	<input type="checkbox"/> Bluetooth: 2402MHz ~ 2480MHz <input checked="" type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462 MHz <input checked="" type="checkbox"/> 802.11n HT40: 2422MHz ~ 2452MHz <input type="checkbox"/> 802.11a/n HT20: 5180MHz ~ 5240MHz / 5260MHz ~ 5320MHz / 5500MHz ~ 5700MHz / 5745MHz ~ 5825MHz 802.11n HT40: 5190MHz ~ 5230MHz / 5270MHz ~ 5310MHz / 5510MHz ~ 5670MHz / 5755MHz ~ 5795MHz 802.11ac VHT80: 5210MHz / 5290MHz / 5530MHz / 5775MHz <input type="checkbox"/> Others		
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others		
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)		
Antenna Specification	Dipole Antenna For 2.4GHz Chain 0 Antenna Gain : 3.00 dBi (Numeric gain 2.00) Chain 1 Antenna Gain : 3.00 dBi (Numeric gain 2.00) MIMO Directional Gain Antenna Gain : 3.00 dBi (Numeric gain 2.00)		

Maximum average output power	WIFI 2.4GHz		
	IEEE 802.11b Mode:	21.93 dBm	(155.955 mW)
	IEEE 802.11g Mode:	21.07 dBm	(127.938 mW)
	IEEE 802.11n HT 20 Mode:	23.75 dBm	(237.137 mW)
	IEEE 802.11n HT 40 Mode:	23.89 dBm	(244.906 mW)
Maximum tune up power	IEEE 802.11b Mode:	23.80 dBm	(239.883 mW)
	IEEE 802.11g Mode:	22.90 dBm	(194.984 mW)
	IEEE 802.11n HT 20 Mode:	25.50 dBm	(354.813 mW)
	IEEE 802.11n HT 40 Mode:	25.70 dBm	(371.535 mW)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A		

4. TEST RESULTS

No non-compliance noted.

Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{377}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

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5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where $P =$ Power in mW

$G =$ Numeric antenna gain

$S =$ Power density in mW / cm²

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
1	2412	239.883	2	20	0.0955	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
1	2412	194.984	2	20	0.0776	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
1	2412	354.813	2	20	0.1412	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
3	2422	371.535	2	20	0.1479	1

--End of Report--