



RADIO EXPOSURE TEST REPORT

FCC ID : NKR-ATTCGW453
Equipment : Enterprise product
Brand Name : AT&T
Model Name : CGW453-400
Applicant : WNC Corporation
20 Park Avenue II, Hsinchu Science Park, Hsinchu
308, Taiwan, R.O.C
Manufacturer : Neweb Vietnam Co., Ltd.
Land Lot CN01, Dong Van III Industrial Zone,
Dong Van Ward, Ninh Binh Province, Vietnam
Standard : 47 CFR Part 2.1091

The product was received on May 26, 2026, and testing was started from May 26, 2026 and completed on Aug. 12, 2026. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 EUT General Information	5
1.2 Antenna Information	6
1.3 Table for Certified WWAN Module Information	8
1.4 Accessories	8
1.5 Testing Location	8
2 Maximum Permissible Exposure	9
2.1 Limit of Maximum Permissible Exposure	9
2.2 MPE Calculation Method	9
2.3 Calculated Result and Limit.....	10

Photographs of EUT v01



History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A1_1 Ver1.1

Page Number : 3 of 10
Issued Date : Aug. 14, 2026
Report Version : 01



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

1. The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.
2. The presented declaration output power of WWAN for EUT in the report are provided by the manufacturer, and We, Sporton International Inc. Hsinchu Laboratory does not guarantee its accuracy.

Reviewed by: Sam Chen**Report Producer: Muse Chan**

1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5250 5250-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
6GHz WLAN	5925-7125	5955-7115	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)

Evaluation Mode		Uplink Frequency Range (MHz)	Downlink Frequency Range (MHz)	Modulation Type
4G Band (LTE)	Band 2	1850~1910	1930~1990	QPSK, 16QAM, 64QAM, 256QAM
	Band 5	824~849	869~894	
	Band 12	698~716	729~746	
	Band 14	788~798	758~768	
	Band 30	2305~2315	2350~2360	
	Band 66	1710~1780	2110~2200	
Evaluation Mode		Uplink Frequency Range (MHz)	Downlink Frequency Range (MHz)	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM)
5G Band (NR)	n2	1850~1910	1930~1990	
	n5	824~849	869~894	
	n12	698~716	729~746	
	n30	2305~2315	2350~2360	
	n66	1710~1780	2110~2200	
	n77	3450~3550	3450~3550	
		3700~3980	3700~3980	



1.2 Antenna Information

<Internal Antenna>

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Modes of Operation
	2.4GHz	5GHz	6GHz					
1	1	1	-	WNC	48XKAC42	Dipole	I-PEX	WLAN 2.4GHz, 5GHz UNII 1~3
2	2	2	-	WNC	48XKAC3F	Dipole	I-PEX	
3	3	3	-	WNC	48XKAC45	Dipole	I-PEX	
4	4	4	-	WNC	48XKAC46	Dipole	I-PEX	
5	-	-	1	WNC	48XKAC3G	Dipole	I-PEX	WLAN 6GHz
6	-	-	2	WNC	48XKAC3G	Dipole	I-PEX	
7	-	-	3	WNC	48XKAC3G	Dipole	I-PEX	
8	-	-	4	WNC	48XKAC3N	Dipole	I-PEX	
9	-	5	-	WNC	48XKAC3H	Dipole	I-PEX	WLAN 5GHz UNII 2C
10	-	-	-	WNC	48XKAC3L	Dipole	I-PEX	WWAN full band
11	-	-	-	WNC	48XKAC3P	Dipole	I-PEX	
12	-	-	-	WNC	48XKAC3R	Dipole	I-PEX	WWAN dual band
13	-	-	-	WNC	48XKAC3X	Dipole	I-PEX	
14	-	-	-	WNC	48XKAC3J	Dipole	I-PEX	
15	-	-	-	WNC	48XKAC3K	Dipole	I-PEX	WWAN single band
16	-	-	-	WNC	48XKAC3Y	Dipole	I-PEX	
17	-	-	-	WNC	48XKAC3Z	Dipole	I-PEX	

<External Antenna>

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Modes of Operation
	2.4GHz	5GHz	6GHz					
18	-	-	-	WNC	48XKAC3R	Dipole	SMA	WWAN dual band
19	-	-	-	WNC	48XKAC3X	Dipole	SMA	
20	-	-	-	WNC	48XKAC3P	Dipole	SMA	WWAN full band
21	-	-	-	WNC	48XKAC3L	Dipole	SMA	



Note 1:

<WLAN Antenna Gain>

Ant.	Antenna Gain (dBi)								
	2.4GHz	5GHz UNII 1	5GHz UNII 2A	5GHz UNII 2C	5GHz UNII 3	6GHz UNII 5	6GHz UNII 6	6GHz UNII 7	6GHz UNII 8
1	4.15	3.97	3.5	2.45	1.73	-	-	-	-
2	3.63	4.38	4.15	5.28	5.28	-	-	-	-
3	4.02	4.04	4.04	4.54	3.38	-	-	-	-
4	3.18	3.03	3.11	3.65	2.73	-	-	-	-
5	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-
9	-	-	-	4.54	-	-	-	-	-

<Directional Gain>

Directional Gain (dBi)					
Item	2.4GHz	5GHz UNII 1	5GHz UNII 2A	5GHz UNII 2C	5GHz UNII 3
4T1S	5.87	6.04	6.04	5.71	5.75

<WWAN Antenna Gain>

Antenna Gain (dBi)									
Freq.	700 MHz	780 MHz	850 MHz	1800 MHz	2100 MHz	2300 MHz	3300 MHz	4200 MHz	
10	1.7	2.1	3.8	2.8	2.6	5.6	5.0	2.2	
11	2.2	2.8	0.9	3.9	2.4	3.9	4.5	3.4	
Freq.	1800 MHz		2100 MHz		2300 MHz		3300 MHz		4200 MHz
12	4.1		3.2		3.3		2.8		3.1
13	3.3		4.1		4.2		3.6		3.5
14	2.8		3.6		2.7		5.2		4.5
Freq.	3300 MHz					4200 MHz			
15	4.2					3.6			
16	4.2					3.7			
17	3.0					3.0			
Freq.	1800 MHz		2100 MHz		2300 MHz		3300 MHz		4200 MHz
18	4.1		3.2		3.3		2.8		3.1
19	3.3		4.1		4.2		3.6		3.5
Freq.	700 MHz	780 MHz	850 MHz	1800 MHz	2100 MHz	2300 MHz	3300 MHz	4200 MHz	
20	2.2	2.8	0.9	3.9	2.4	3.9	4.5	3.4	
21	1.7	2.1	3.8	2.8	2.6	5.6	5.0	2.2	

Note 2: The above information was declared by manufacturer.

Note 3: For WLAN 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For WLAN 5GHz function:

For IEEE 802.11a/n/ac/ax (4TX/5RX that it includes 1RX for UNII 2C):



Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.
Port 1, Port 2, Port 3, Port 4 and Port 5 could transmit/receive simultaneously.

For WLAN 6GHz function:

For IEEE 802.11ax (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3, Port 4 could transmit/receive simultaneously.

1.3 Table for Certified WWAN Module Information

Brand Name	Model Name	FCC ID	Bands
WNC	IMQC	NKRIMQC	4G Band (LTE): B2/B5/B12/B14/B30/B66 5G Band (NR): n2/n5/n12/n30/n66/n77(3450~3550MHz)/n77(3700~3980MHz)

Note: The above information was declared by manufacturer.

1.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter	AT&T	EPS72R0-16	Input: 120 V~1.8 A, 60 Hz Output: 12 V, 6 A, 72W

1.5 Testing Location

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
Test site Designation No. TW3787 with FCC.	
Conformity Assessment Body Identifier (CABID) TW3787 with ISED.	



2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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

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

2.2 MPE Calculation Method

The MPE was calculated at 45 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

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



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;D1D	5.87	29.82	35.69	0.30	35.99	45	0.15609	1.00000	0.15609
5.2G;D1D	6.04	29.91	35.95	0.04	35.99	45	0.15609	1.00000	0.15609
5.3G;D1D	6.04	23.92	29.96	0.01	29.97	45	0.03903	1.00000	0.03903
5.6G;D1D	5.71	23.96	29.67	0.30	29.97	45	0.03903	1.00000	0.03903
5.8G;D1D	5.75	29.95	35.70	0.29	35.99	45	0.15609	1.00000	0.15609
6.2G;D1D	-	-	27.99	0.50	28.49	45	0.02776	1.00000	0.02776
6.4G;D1D	-	-	24.07	0.50	24.57	45	0.01126	1.00000	0.01126
6.7G;D1D	-	-	28.97	0.50	29.47	45	0.03478	1.00000	0.03478
7.0G;D1D	-	-	26.87	0.50	27.37	45	0.02145	1.00000	0.02145
Band 5;G1D	3.80	35.30	39.10	0.50	39.60	45	0.35840	0.54980	0.65187

Simultaneous Transmission Analysis Mode:

Mode 1: WLAN 2.4GHz + WLAN 5GHz + WLAN 6GHz + WWAN (Antenna 10~17)

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;D1D	5.87	29.82	35.69	0.30	35.99	45	0.15609	1.00000	0.15609
5.8G;D1D	5.75	29.95	35.70	0.29	35.99	45	0.15609	1.00000	0.15609
6.7G;D1D	-	-	28.97	0.50	29.47	45	0.03478	1.00000	0.03478
Band 5;G1D	3.80	35.30	39.10	0.50	39.60	45	0.35840	0.54980	0.65187
Sum S/Limit Ratio	0.99883								
Ratio Limit	1								

Mode 2: WLAN 2.4GHz + WLAN 5GHz + WLAN 6GHz + WWAN (Antenna 10~13 and 18~21)

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;D1D	5.87	29.82	35.69	0.30	35.99	45	0.15609	1.00000	0.15609
5.8G;D1D	5.75	29.95	35.70	0.29	35.99	45	0.15609	1.00000	0.15609
6.7G;D1D	-	-	28.97	0.50	29.47	45	0.03478	1.00000	0.03478
Band 5;G1D	3.80	35.30	39.10	0.50	39.60	45	0.35840	0.54980	0.65187
Sum S/Limit Ratio	0.99883								
Ratio Limit	1								

—THE END—