

## RF Exposure Report

**Report No.:** MFBCUN-WTW-P23110013

**FCC ID:** H8NNCM1120

**Model No.:** NCM1120D2-D323

**Received Date:** Nov. 01, 2023

**Issued Date:** Jan. 29, 2024

**Applicant:** ASKEY COMPUTER CORP.

**Address:** 10F, No. 119, Jiankang Rd., Zhonghe Dist., New Taipei City, Taiwan

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

**FCC Registration /  
Designation Number:** 788550 / TW0003



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 General Information</b> .....	<b>5</b>
2.1 General Description of EUT .....	5
<b>3 RF Exposure</b> .....	<b>6</b>
3.1 Limits for Maximum Permissible Exposure (MPE).....	6
3.2 MPE Calculation Formula .....	6
3.3 Classification .....	6
<b>4 Calculation Result of Maximum Conducted Power</b> .....	<b>7</b>

### Release Control Record

Issue No.	Description	Date Issued
MFBCUN-WTW-P23110013	Original release	Jan. 29, 2024

## 1 Certificate of Conformity

**Product:** AT&T Internet Air™ for Business 5G Gateway

**Brand:** AT&T

**Test Model:** NCM1120D2-D323

**Sample Status:** Engineering sample

**Applicant:** ASKEY COMPUTER CORP.

**FCC Rule Part:** FCC Part 2 (Section 2.1091)

**Standards:** KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :**

*Pettie Chen*

**Date:**

Jan. 29, 2024

Pettie Chen / Senior Specialist

**Approved by :**

*Jeremy Lin*

**Date:**

Jan. 29, 2024

Jeremy Lin / Project Engineer

## 2 General Information

### 2.1 General Description of EUT

Product	AT&T Internet Air™ for Business 5G Gateway		
Brand	AT&T		
Test Model	NCM1120D2-D323		
Status of EUT	Engineering sample		
Power Supply Rating	12Vdc from adapter		
Modulation Type	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT mode 1024QAM for OFDMA in 11ax mode	
	WWAN	QPSK, 16QAM, 64QAM, 256QAM	
Operating Frequency	WLAN	2.412 GHz ~ 2.462 GHz 5.18 GHz ~ 5.24 GHz 5.26 GHz ~ 5.32 GHz 5.745 GHz ~ 5.825 GHz	
	WWAN	LTE Band 2	1850-1910 MHz
		LTE Band 5	824-849 MHz
		LTE Band 12	698-716 MHz
		LTE Band 14	788-798 MHz
		LTE Band 29	717-728 MHz
		LTE Band 30	2305-2315 MHz
		LTE Band 66	1710-1780 MHz
		NR Band 2	1850-1910 MHz
		NR Band 5	824-849 MHz
		NR Band 14	788-798 MHz
		NR Band 30	2305-2310 MHz
		NR Band 66	1710-1780 MHz
NR Band 77	3300-4200 MHz		

Note:

1. The EUT uses following accessory.

Adapter	
Brand	MASS POWER
Model	S030-1C120250VU
Input Power	100-240Vac~ 50/60Hz 0.8A
Output Power	12.0Vdc, 2.5A

### 3 RF Exposure

#### 3.1 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)
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 <sup>2</sup> )*	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

#### 3.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

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

#### 3.3 Classification

The antenna of this product, under normal use condition, is at least 24cm away from the body of the user. So, this device is classified as **Mobile Device**.

#### 4 Calculation Result of Maximum Conducted Power

Operation Mode	Frequency Band (MHz)	Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
<b>Internal Antenna</b>							
LTE Band 2	1850-1910	25	1	26	24	0.055	1.00
LTE Band 4	1710-1755	25	1	26	24	0.055	1.00
LTE Band 5	824-849	25	0.9	25.9	24	0.054	0.549
LTE Band 12	698-716	25.5	0.9	26.4	24	0.060	0.465
LTE Band 14	788-798	25.5	0.9	26.4	24	0.060	0.525
LTE Band 30	2305-2315	25	1	26	24	0.055	1.00
LTE Band 66	1710-1780	25	1	26	24	0.055	1.00
NR Band 2	1850-1910	25	1	26	24	0.055	1.00
NR Band 5	824-849	25.1	0.9	26	24	0.055	0.549
NR Band 14	788-798	25.1	0.9	26	24	0.055	0.525
NR Band 30	2305-2310	-	-	23.9	24	0.034	1.00
NR Band 66	1710-1780	24.6	1	25.6	24	0.050	1.00
NR Band 77	3450-3550	-	-	27.5	24	0.078	1.00
NR Band 77	3700-3980	-	-	29.2	24	0.115	1.00
<b>External Antenna</b>							
LTE B2	1850 ~ 1910	22.5	3.5	26	24	0.055	1.00
LTE B4	1710 ~ 1755	23	3.5	26.5	24	0.062	1.00
LTE B30	2305 ~ 2315	22.5	4	26.5	24	0.062	1.00
LTE B66	1710 ~ 1780	22.6	3.5	26.1	24	0.056	1.00
NR Band 2	1850 ~ 1910	22.5	3.5	26	24	0.055	1.00
NR Band 30	2305 ~ 2315	-	-	23.1	24	0.028	1.00
NR Band 66	1710 ~ 1780	22.5	3.5	26	24	0.055	1.00
NR Band 77	3450-3550	-	-	27	24	0.069	1.00
NR Band 77	3700-3980	-	-	27	24	0.069	1.00

Operation Mode	Frequency Band (MHz)	Conducted Power (dBm)	Peak Gain (dBi)	Directional gain (dBi)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 2.4 GHz	2412-2462	29.7	5.19	7.68	37.38	24	0.756	1.00
WLAN 5 GHz	5180-5250	28.5	4.98	7.42	35.92	24	0.540	1.00
	5260-5320	24	4.81	7.18	31.18	24	0.181	1.00
	5500-5720	24	4.23	7.45	31.45	24	0.193	1.00
	5745-5825	29.8	5.16	7.83	37.63	24	0.801	1.00

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

WLAN 2412-2462 MHz: Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2] = 7.68$

WLAN 5180-5250 MHz: Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2] = 7.42$

WLAN 5260-5320 MHz: Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2] = 7.18$

WLAN 5500-5720 MHz: Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2] = 7.45$

WLAN 5745-5825 MHz: Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2] = 7.83$

Conclusion:

The formula of calculated the MPE is:

$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

Max.: WWAN + WLAN 2.4G =  $0.060/0.465 + 0.756/1 = 0.885 < 1$

Max.: WWAN + WLAN 5.0G =  $0.060/0.465 + 0.801/1 = 0.930 < 1$

---END---