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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

#### **Tablet**

Model: MP22-ARGON2X-C

Trade Name: ICON/iFit

Issued to

Compal Electronics Inc
No.581 & 581-1, Ruiguang Rd., Neihu District, Taipei city, 11492 Taiwan

Issued by

# Compliance Certification Services Inc. Wugu Laboratory

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan. (R.O.C.) Issue Date: September 27, 2021

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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	September 27, 2021	Initial Issue	ALL	Allison Chen



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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 res not taking into account measurement in							

Approved by:

Kevin Tsai

**Deputy Manager** 

Compliance Certification Services Inc.

Konil Tson



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### 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.

§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), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of the chapter.

TABLE 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> )	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 <sup>2</sup>	6				
30-300	61.4	0.163	1.0	6				
300-1,500			f/300	6				
1,500-100,000			5	6				
(E	3) Limits for Gene	ral Population/Und	controlled Exposu	re				
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				
300-1,500			f/1500	30				
1,500-100,000			1.0	30				

f = frequency in MHz

Note 1 to Table 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

<sup>\* =</sup> Plane-wave equivalent power density



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# 3. EUT SPECIFICATION

EUT	Tablet					
Model	MP22-ARGON2X-C					
Model Discrepancy	N/A					
Frequency band (Operating)	☑ Bluetooth: 2402MHz-2480MHz         ☑ 802.11b/g/n HT20: 2412MHz ~ 2462 MHz         ☑ 802.11n HT40: 2422MHz ~ 2452MHz         ☑ 802.11a/n HT20: 5180MHz ~ 5240MHz / 5260 ~ 5320MHz         5500 ~ 5700MHz / 5745MHz ~ 5825MHz         802.11n HT40: 5190MHz ~ 5230MHz / 5270 ~ 5310MHZ         5510 ~ 5670MHz / 5755MHz ~ 5795MHz         ☑ 802.11ac VHT80: 5210MHz / 5290MHz /         5530 MHz~5610MHz / 5775MHz         ☑ Others					
Device category	☐ Portable (<20cm separation) ☐ Mobile (>20cm separation) ☐ Others					
Exposure classification	<ul> <li>☐ Occupational/Controlled exposure (S = 5mW/cm²)</li> <li>☐ General Population/Uncontrolled exposure (S=1mW/cm²)</li> </ul>					
Antenna Specification	PIFA Antenna  BT & WIFI 2.4GHz: 1.37 dBi  WIFI 5GHz:  Band Gain (dBi) Band 1 0.15 Band 2a 0.15 Band 2c 0.19 Band 3 -0.86  BT: Directional Gain: 1.37 dBi (Numeric gain: 1.37) Worst 2.4GHz: Directional Gain: 1.37 dBi (Numeric gain: 1.37) Worst 5GHz: Directional Gain: 0.19 dBi (Numeric gain: 1.04) Worst					



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	BT	3.28 dBm	(2.128 mW)
	2.4GHz		
	IEEE 802.11b Mode:	18.13 dBm	(65.013 mW)
Maximum	IEEE 802.11g Mode:	15.89 dBm	(38.815 mW)
Measurement	IEEE 802.11n HT 20 Mode:	17.65 dBm	(58.210 mW)
Average Power	IEEE 802.11n HT 40 Mode:	18.20 dBm	(66.069 mW)
	5GHz		
	IEEE 802.11a Mode:	16.33 dBm	(42.954 mW)
	IEEE 802.11n HT 20 Mode:	16.20 dBm	(41.687 mW)
	IEEE 802.11n HT 40 Mode:	16.24 dBm	(42.073 mW)
	BT	4.50 dBm	(2.818 mW)
	2.4GHz		
	IEEE 802.11b Mode:	19.00 dBm	(79.433 mW)
Maximum	IEEE 802.11g Mode:	17.00 dBm	(50.119 mW)
	IEEE 802.11n HT 20 Mode:	18.50 dBm	(70.795 mW)
tune up power	IEEE 802.11n HT 40 Mode:	19.50 dBm	(89.125 mW)
	5GHz		
	IEEE 802.11a Mode:	17.00 dBm	(50.119 mW)
	IEEE 802.11n HT 20 Mode:	17.50 dBm	(56.234 mW)
	IEEE 802.11n HT 40 Mode:	17.50 dBm	(56.234 mW)
Evaluation applied	<ul><li></li></ul>		

#### Remark:

- 1. For more details, please refer to the User's manual of the EUT.
- 2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
- 3. The tune up power referred the AVG power of the test report T200908W02 (FCC ID: GKR421914) for RF Exposure assessment purpose.



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# 4. TEST RESULTS

No non-compliance noted.

#### **Calculation**

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

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:

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

$$d(cm) = d(m) / 100$$

**Yields** 

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm<sup>2</sup>



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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

 $S = Power density in mW / cm^2$ 

#### BT:

ĺ	Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
ĺ	39	2441	2.818	1.37	20	0.0008	1

#### **IEEE 802.11b mode:**

	Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
I	6	2437	79.433	1.37	20	0.0217	1

#### **IEEE 802.11g mode:**

	Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
Ī	6	2437	50.119	1.37	20	0.0137	1

#### **IEEE 802.11n HT20 mode:**

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
11	2462	70.795	1.37	20	0.0193	1

#### IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
6	2437	89.125	1.37	20	0.0243	1

#### **IEEE 802.11a mode:**

ĺ	Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
	48	5240	50.119	1.04	20	0.0104	1

#### IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
36	5180	56.234	1.04	20	0.0116	1

# IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
46	5230	56.234	1.04	20	0.0116	1

# -- End of Report--