

RF Exposure Report

Report No.: SABEOE-WTW-P21090470

FCC ID: MQT-XC70W

Test Model: XC70-W

Received Date: 2021/9/11

Test Date: 2021/9/16 ~ 2021/9/22

Issued Date: 2021/10/15

Applicant: XAC AUTOMATION CORP.

Address: 4F, No. 30, INDUSTRY E. RD. IX, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU, TAIWAN

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

FCC Registration / Designation Number: 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
SABEOE-WTW-P21090470	Original release.	2021/10/15

1 Certificate of Conformity

Product: Cradle

Brand: XAC, WesternUnion

Test Model: XC70-W

Sample Status: Engineering sample

Applicant: XAC AUTOMATION CORP.

Test Date: 2021/9/16 ~ 2021/9/22

Standards: FCC Part 2 (Section 2.1091)

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 EMC characteristics under the conditions specified in this report.

Prepared by : Evy Chen, **Date:** 2021/10/15

Evy Chen / Specialist

Approved by : Clark Lin, **Date:** 2021/10/15

Clark Lin / Technical Manager

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	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 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

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm²

Pout = 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

2.3 Classification

The antenna of this product, under normal use condition, is at least 20 cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
AWAN	AYP6P-100029	3.42	2.4~2.4835	PIFA	i-pex(MHF)	50

*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2.5 Calculation Result of Maximum Conducted Power

For Cradle_XC70-W:

Operation Mode	Evaluation Frequency (MHz)	Max. Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
WiFi 2.4GHz	2412-2462	70.146	3.42	20	0.03067	1	Pass

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

For Terminal_xCL_AT-170-R-18U (FCC ID: MQT-AT170R18U):

Operation Mode	Evaluation Frequency (MHz)	Max. Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
WiFi 2.4GHz	2412-2462	261.818	2.34	20	0.08927	1	Pass
WiFi 5GHz	5180-5850	60.954	4.48	20	0.03402	1	Pass
Bluetooth	2402-2480	1.799	2.34	20	0.00061	1	Pass
NFC	13.11-14.01	0.03639	0.00	20	0.00001	0.00874	Pass
LTE(Band 12) <WWAN worst>	699.7-715.3	273.527	3.44	20	0.12015	0.46647	Pass

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

EUT with Terminal_xCL_AT-170-R-18U

Cradle (WLAN 2.4GHz) + Terminal (WiFi 2.4GHz + WiFi 5GHz +Bluetooth + NFC+ LTE)

$$= 0.03067 / 1 + 0.08927 / 1 + 0.03402 / 1 + 0.00061 / 1 + 0.00001 / 0.00874 + 0.12015 / 0.46647 = 0.41329$$

Therefore the maximum calculations of above situations are less than the “1” limit.

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