RF Exposure Report

Report No.:	SA200527E06
FCC ID:	MQT-XC60E
Test Model:	XC60-E
Received Date:	May 27, 2020
Test Date:	June 16, 2020
Issued Date:	June 22, 2020
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
SA200527E06	Original release.	June 22, 2020

1 Certificate of Conformity

Product:	Cradle
Brand:	XAC
Test Model:	XC60-E
Sample Status:	ENGINEERING SAMPLE
Applicant:	XAC AUTOMATION CORP.
Test Date:	June 16, 2020
Standards:	FCC Part 2 (Section 2.1091) IEEE C95.3 -2002
References Test Guidance:	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 : _____ , **Date:** June 22, 2020

Claire Kuan / Specialist

Approved by : _____ , **Date:** June 22, 2020

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/cm^2

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 Gain including cable loss (dBi)	Frequency range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
AWAN	AYP6P-100015	0.97	2.4~2.5	PIFA	i-pex(MHF)	50

2.5 Calculation Result of Maximum Conducted Power

For Cradle_ XC60-E:

Operation Mode	Evaluation Frequency (MHz)	Max. Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN (2.4GHz)	2412~2462	154.17	0.97	20	0.03835	1

Note:

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

For Terminal_ xCL_AT-150-R3-18U: (FCC ID: MQT-AT150R3):

Operation Mode	Evaluation Frequency (MHz)	Max. Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
Bluetooth	2402-2480	15.346	-2.70	20	0.00164	1
LTE B12	699.7-715.3	218.776	2.87	20	0.08428	0.46647*

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. *Limit of Power Density = F/1500

For Terminal_ xCL_AT-100-R3-18U: (FCC ID: MQT-AT100R3):

Operation Mode	Evaluation Frequency (MHz)	Max. Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
Bluetooth	2402-2480	15.959	2.31	20	0.00540	1
LTE B12	699.7-715.3	216.272	0.82	20	0.05197	0.46647*

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. *Limit of Power Density = F/1500

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

EUT with Terminal_ xCL_AT-150-R3-18U:

Cradle (WLAN 2.4GHz) + Terminal (Bluetooth + LTE)

= 0.03835 / 1 + 0.00164 / 1 + 0.08428 / 0.46647 = 0.22067

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

EUT with Terminal_ xCL_AT-100-R3-18U:

Cradle (WLAN 2.4GHz) + Terminal (Bluetooth + LTE)

= 0.03835 / 1 + 0.00540 / 1 + 0.05197 / 0.46647 = 0.15516

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

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