RF Exposure Report

Report No.:	RF140813E03B
FCC ID:	MQT-TP72HUB2
Test Model:	TP72-HUB2
Received Date:	Dec. 23, 2015
Test Date:	Apr. 14 to June 07, 2016
Issued Date:	June 24, 2016
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 R.O.C.
Test Location (1):	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF140813E03B	Original release.	June 24, 2016

1 Certificate of Conformity

Product:	HUB
Brand:	XAC
Test Model:	TP72-HUB2
Sample Status:	ENGINEERING SAMPLE
Applicant:	XAC AUTOMATION CORP
Test Date:	Apr. 14 to June 07, 2016
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 ANSI/ IEEE C95.1-1992

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 : Wendy Wu. , **Date:** June 24, 2016

Wendy Wu / Specialist

Approved by : , **Date:** June 24, 2016

May Chen / 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				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

For WLAN					
Brand	Model No.	Antenna Type	Antenna Connector	Gain(dBi)	Frequency range (MHz to MHz)
Walsin Technology Corporation	RFANT8010080A3T	Chip	NA	2	2400~2500
For Bluetooth					
Brand	Model No.	Antenna Type	Antenna Connector	Gain(dBi)	Frequency range (MHz to MHz)
ACX	AT3216-T24PAA	Chip	NA	1.5	2400~2500

3 Calculation Result Of Maximum Conducted Power

For WLAN

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	69.183	2	20	0.02181	1

For BT-EDR

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402-2480	2.825	1.5	20	0.00079	1

For BT-LE

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402-2480	2.748	1.5	20	0.00077	1

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + BT-EDR = 0.02181 / 1 + 0.00079 / 1 = 0.0226

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

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