RF Exposure Report

Report No.:	SA190111E01
FCC ID:	MQT-FD150
Test Model:	FD150
Series Model:	xCL_WT-50
Received Date:	Jan. 11, 2019
Test Date:	Feb. 15, 2019
Issued Date:	Feb. 23, 2019
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:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA190111E01	Original release.	Feb. 23, 2019

1 Certificate of Conformity

Product:	Terminal
Brand:	XAC,First Data
Test Model:	FD150
Series Model:	xCL_WT-50
Sample Status:	ENGINEERING SAMPLE
Applicant:	XAC AUTOMATION CORP.
Test Date:	Feb. 15, 2019
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 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 : _____ , **Date:** Feb. 23, 2019

Cindy Hsin / Specialist

Approved by : _____ , **Date:** Feb. 23, 2019

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

2.4 Antenna Gain

WLAN					
Brand	Model	Antenna Net Gain (dBi)	Frequency range (MHz)	Antenna Type	Connector Type
ACX	AT3216	1.5	2400~2500	Chip	none
NFC					
Brand	Model	Antenna Net Gain (dBi)	Frequency range (MHz)	Antenna Type	Connector Type
XAC	FD100GT	13	13.56	Wire	none

2.5 Calculation Result of Maximum Conducted Power

For WLAN

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2.4GHz	2412	159.588	1.5	20	0.04485	1

For NFC

Channel Frequency (MHz)	Electric field (dBuV/m) @3m	Electric field (V/m)	Limit of Electric field (V/m)
13.56	48.18	0.057677	60.76

Note: Limit of Electric field=824/f

Electric field = 48.18 dBuV/m 3m

= 48.18 dBuV/m+20log(3/0.2)^2 0.2m

= 95.22365 dBuV/m 0.2m

= 57677 uV/m 0.2m

= 0.057677 V/m 0.2m

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