

## 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 :**

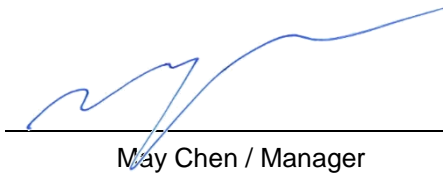


**Date:**

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 <sup>2</sup> )	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 <sup>2</sup> )*	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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
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

<b>Electric field</b> = 48.18 dBuV/m	3m
= 48.18 dBuV/m+20log(3/0.2) <sup>2</sup>	0.2m
= 95.22365 dBuV/m	0.2m
= 57677 uV/m	0.2m
= 0.057677 V/m	0.2m

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