

# **RF Exposure Report**

Report No.: SA170914E01

FCC ID: MQT-RP10

Test Model: xCL\_RP-10

Received Date: Sep. 14, 2017

Test Date: Sep. 29, 2017

- Issued Date: Oct. 12, 2017
  - 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
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| Release Control Record |                   |               |  |  |
|------------------------|-------------------|---------------|--|--|
| Issue No.              | Description       | Date Issued   |  |  |
| SA170914E01            | Original release. | Oct. 12, 2017 |  |  |
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| 1  | Certificate of Co                 | ertificate of Conformity                        |  |  |  |  |
|--|-----------------------------------|---|--|--|--|--|
|  | Product:                          | PINPAD  |  |  |  |  |
|  | Brand:                            | XAC   |  |  |  |  |
|  | Test Model: xCL_RP-10             |   |  |  |  |  |
|  | Sample Status: ENGINEERING SAMPLE |   |  |  |  |  |
|  | Applicant:                        | XAC AUTOMATION CORP.                            |  |  |  |  |
| Test Date: Sep. 29, 2017<br>Standards: FCC Part 2 (Section 2.1091) |                                   | Sep. 29, 2017                                   |  |  |  |  |
|  |                                   | 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 : | Mary Ko<br>Mary Ko / Specialist | _, Date: | Oct. 12, 2017 |
|---------------|---------------------------------|----------|---------------|
| Approved by : | May Chen / Manager              | _, Date: | Oct. 12, 2017 |
|               |                                 |          |               |
|               |                                 |          |               |



# 2 RF Exposure

## 2.1 Limits For Maximum Permissible Exposure (MPE)

| Frequency Range<br>(MHz) | Electric Field<br>Strength (V/m)                      | Magnetic Field<br>Strength (A/m) | Power Density<br>(mW/cm <sup>2</sup> ) | Average Time<br>(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

## $Pd = (Pout^{*}G) / (4^{*}pi^{*}r^{2})$

#### 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

| Brand | Model No. | Antenna Type | Antenna Connector | Antenna Net Gain(dBi) | Frequency range<br>(MHz) |
|-------|-----------|--------------|-------------------|-----------------------|--------------------------|
| XAC   | ASM T103P | Wire         | none              | 13                    | 13.56                    |



# 2.5 Calculation Result

| Channel Frequency<br>(MHz) |      |         | Limit of<br>Electric field<br>(V/m) |
|----------------------------|------|---------|-------------------------------------|
| 13.56                      | 63.4 | 0.33266 | 60.76                               |

3m

Note: Limit of Electric field=824/f

# Electric field = 63.4 dBuV/m

| $= 63.4 \text{ dBuV/m} + 20 \log(3/0.2)^2$ | 0.2m |
|--|------|
| = 110.44 dBuV/m                            | 0.2m |
| = 332660 uV/m                              | 0.2m |
| = 0.33266 V/m                              | 0.2m |

--- END ---