

RF Exposure Report

Report No.: SA160325C20

FCC ID: 2AH7L-NX2TO7

Model: Micrologic X

Test Internal Model: Micrologic 7.0X

Internal Model: Micrologic 2.0X, Micrologic 5.0X, Micrologic 6.0X and Micrologic 7.0X

Received Date: Mar. 21, 2016

Test Date: Mar. 21 ~ Oct. 25, 2016

Issued Date: Oct. 25, 2016

Applicant: Schneider Electric Industries SAS

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Grenoble cedex 9

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Release Control Record

Issue No.	Description	Date Issued
SA160325C20	Original release	Oct. 25, 2016

1 Certificate of Conformity

Product: Control Units

Brand: Schneider Electric

Model: Micrologic X

Test Internal Model: Micrologic 7.0X

Internal Model: Micrologic 2.0X, Micrologic 5.0X, Micrologic 6.0X and Micrologic 7.0X

Sample Status: Engineering sample

Applicant: Schneider Electric Industries SAS

Test Date: Mar. 21 ~ Oct. 25, 2016

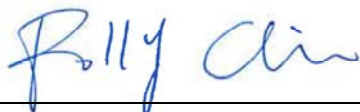
Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 (October 23, 2015)

IEEE C95.1

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 :



Polly Chien / Specialist

Date:

Oct. 25, 2016

Approved by :



Ken Liu / Senior Manager

Date:

Oct. 25, 2016

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

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

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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**.

3 Calculation Result Of Maximum Conducted Power

Frequency Band	Conducted power (mW)	Conducted power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Bluetooth LE (2402 ~ 2480MHz)	1.435	1.57	3	20	0.0006	1
Zigbee (2405 ~ 2480MHz)	1.837	2.64	3	20	0.0007	1

* Zigbee and BT can transmit at the same time.

CONCLUSION:

Zigbee can transmit simultaneously with BT, the formula of the calculated MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

Conducted power:

BT LE + Zigbee = $1.435 + 1.991 = 3.426(\text{mW}) = 5.35(\text{dBm}) < 30(\text{dBm})$

Power density:

BT LE + Zigbee = $0.0006 + 0.0007 = 0.0013$

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

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