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# RF EXPOSURE REPORT

**REPORT NO.:** SA140128D01

**MODEL NO.:** DDP-A020003 XX, SOL-GW-M1-N4Z,  
EOE90010583,

**FCC ID:** H79DDP-A020003A

**RECEIVED:** Jan. 17, 2014

**TESTED:** Jan. 17 ~ Feb. 18, 2014

**ISSUED:** Mar. 28, 2014

**APPLICANT:** Delta Electronics Incorporated

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

**LAB ADDRESS:** No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist.,  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140128D01	Original release	Mar. 28, 2014



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## 1. CERTIFICATION

**PRODUCT:** DATA COLLECTOR  
**MODEL NO.:** DDP-A020003 XX, SOL-GW-M1-N4Z, EOE90010583,  
(X can be any alphanumeric character or blank)  
**APPLICANT:** Delta Electronics Incorporated  
**TESTED:** Jan. 17 ~ Feb. 18, 2014  
**TEST ITEM:** ENGINEERING SAMPLE  
**STANDARDS:** FCC Part 2 (Section 2.1091)  
FCC OET Bulletin 65, Supplement C (01-01)  
IEEE C95.1

The above equipment (model: DDP-A020003 A) 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** : Annie Chang , **DATE:** Mar. 28, 2014  
( Annie Chang / Supervisor )

**APPROVED BY** : Rex Lai , **DATE:** Mar. 28, 2014  
( Rex Lai / Assistant Manager )



## 2. RF EXPOSURE LIMIT

### 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				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

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

where

P<sub>d</sub> = power density in mW/cm<sup>2</sup>

P<sub>out</sub> = 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

## 4. 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**.



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## 5. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412 ~ 2462	20.08	3.8	20	0.0486	1.00
2480	7.58	2.0	20	0.0321	1.00

### CONCLUSION:

Both of the modules can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$$1. \text{ WLAN} + \text{ Zigbee} = 0.0486/1 + 0.0321/1 = \mathbf{0.0807}$$

Therefore, the maximum calculation of this situation is 0.0807, which is less than the "1" limit.

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