



FCC ID: SW8TD11000Z2  
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**IEEE C95.1 2005  
KDB 447498 D01 V06  
47 C.F.R. Part 1, Subpart I, Section 1.1310  
47 C.F.R. Part 2, Subpart J, Section 2.1091**

## **RF EXPOSURE REPORT**

**For**

**Z-Wave Roller Shutter Controller**

**Model: TD11000Z2**

**Trade Name: GOOD WAY**

*Issued to*

**GOOD WAY TECHNOLOGY CO., LTD.**  
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*Issued by*

**Compliance Certification Services Inc.**  
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**New Taipei City 24891, Taiwan. (R.O.C.)**  
**<http://www.ccsrf.com>**  
**Issued Date: August 8, 2018**

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## Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	August 8, 2018	Initial Issue	ALL	May Lin



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## 1. EUT SPECIFICATION

<b>EUT</b>	Z-Wave Roller Shutter Controller
<b>Model</b>	TD11000Z2
<b>Model Discrepancy</b>	N/A
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> 916MHz <input type="checkbox"/> Others
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure ( $S = 5\text{mW}/\text{cm}^2$ ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure ( $S=1\text{mW}/\text{cm}^2$ )
<b>Antenna Specification</b>	For Z-Wave Antenna Gain : -3.0 dBi (Numeric gain 0.50)
<b>Maximum Average output power</b>	Z-Wave 3.00 dBm (1.995 mW)
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A



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## 2. TEST RESULTS

**No non-compliance noted.**

### Calculation

Given  $E = \frac{\sqrt{30 \times P \times G}}{d}$  &  $S = \frac{E^2}{377}$

Where  $E$  = Field strength in Volts / meter

$P$  = Power in Watts

$G$  = Numeric antenna gain

$d$  = Distance in meters

$S$  = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>



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### 3. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using  $d = 20$  cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where  $P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

#### Z-Wave:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
916	1.995	0.5	20	0.0002	1