

# FCC RF Exposure Report

**FCC ID** : MXF-WSMS-140  
**Equipment** : Telemetry Unit  
**Model No.** : WSMS-140\_C  
(Refer to item 1.1 for more details.)  
**Brand Name** : Gemtek/Linde  
**Applicant** : Gemtek Technology Co., Ltd.  
**Address** : No. 15-1 Zhonghua Road, Hsinchu Industrial  
Park, Hukou, Hsinchu, Taiwan, 30352.  
**Standard** : 47 CFR FCC Part 2.1091  
**Received Date** : Jul. 09, 2018  
**Tested Date** : Jul. 25 ~ Aug. 03, 2018

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

  
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Along Chen / Assistant Manager

Approved by:

  
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Gary Chang / Manager



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## Release Record

Report No.	Version	Description	Issued Date
FA870901	Rev. 01	Initial issue	Aug. 21, 2018

# 1 INFORMATION

## 1.1 PRODUCT DETAILS

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
Gemtek/Linde	WSMS-140_C	Telemetry Unit	4-20mA current sense
	WSMS-140_B		Modbus RS-485 communication
	WSMS-140_G		Hall sensor for magnet sense

## 2 MPE EVALUATION OF MOBILE DEVICES

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 20 cm or more from persons.

### 2.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
300~1500	F/1500	30
1500~100000	1.0	30

### 2.2 MPE EVALUATION FORMULA

$$Pd = \frac{Pt}{4 * Pi * R^2}$$

Where

Pd= Power density in mW/cm<sup>2</sup>

Pt= EIRP in mW

Pi= 3.1416

R= Measurement distance

### 2.3 MPE EVALUATION RESULTS

#### MPE Evaluation of Single Transmission

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2402 ~ 2480	0.59	1.00	3.5	20	0.001	1
902.3 ~ 914.9	18.94	19.00	0	20	0.016	0.602

#### MPE Evaluation of Simultaneous Transmission

MPE Evaluation = Maximum MPE of BT LE + Maximum MPE of LoRa = 0.001 / 1 + 0.016 / 0.602 = 0.028 < 1

#### Conclusion

MPE evaluations of single and simultaneous transmission meet the requirement of standard.

### 3 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

#### **Linkou**

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Kou District, New Taipei City,  
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#### **Kwei Shan**

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St.,  
Kwei Shan District, Tao Yuan City  
333, Taiwan, R.O.C.

#### **Kwei Shan Site II**

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City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

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