

# User manual of ION 1 Module

Model No: IONML1G2

## 1. Appearance of module

- Weight (in g): 6g (typical)
- Power supply: External input : 3.4V to 4.2V
- Temperature range: Normal range: -10°C to +70°C (full compliant)
- Physical dimension: 36 .0 x 31.8 x 2.40 mm



## 2. Overview

This design is based mainly on GSM/GPRS wireless module, which build in the GPS module. The module provides GSM mobile communication capability and suitable for embedding in some wireless products, such as wireless modem, PDAs and other devices. In addition, The module has an embedded Powerful TCP/IP protocol stack, and it allows you access to the Internet easier and convenient. The build in GPS module allows you receive GPS signal for pathfinding, and so on.

## 3. Technical Specifications

### 3.1 Power

❖ VIN:

- 6.0 – 15.0VDC (Main)
- 2.8 – 4.2VDC (Expansion)

❖ Main:

- Shutdown: < 50µA
- Standby: < 800µA (GSM Idle)
- GPS acquisition: < 8.0mA (GSM Idle)
- GPS tracking: < 6.0mA (GSM Idle)
- GSM dedicated: < 92.0mA (GPS Off)
- GPRS max power: < 183.0mA (GPS Off)
- Peak instantaneous: < 740mA

❖ Exp: 2.45 x Main

### 3.2 Environment

❖ Temperature:

- -40 to 85° C Operation
- -50 to +100° C Storage

❖ Humidity:

- 20% to 90% Operation
- 10% to 95% Storage

❖ ESD: 15KV immune on all user accessible surfaces and ports

❖ Altitude: -500 to +18,000m

❖ Shock: TBD

❖ Vibration: TBD

#### **4. Declaration**

- Change the device without permission is strictly prohibited.
- This user manual is just for the integrators reference.

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FCC RF Exposure requirements:

**RF exposure information:** To maintain compliance with FCC RF exposure requirements, use handset that maintain a 20cm separation distance between the user's body and the host.

MPE limit for RF exposure at prediction frequency is  $0.558\text{mW/cm}^2$  for GSM850MHz and  $1\text{mW/cm}^2$  for GSM1900MHz. The MPE for GSM850MHz is  $0.512\text{ mW/cm}^2$  and  $0.244\text{mW/cm}^2$  for GSM1900MHz. It satisfy RF exposure compliance.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.