

## **G4N02DON rev.1 Command Unit – ISM 2.4Ghz / GSM**

**G4N02DON is the core of the entire GPS4NET solution. This device provides the control and command functions for management of the GPS units and the slave peripherals. G4N02DON provides an embedded communication stack working in ISM 2.4 GHz frequency spectrum which offers a unique level of application interaction currently available on the international market.**



### **Product overview**

Due to the high level of interaction, G4N02DON is a major step made on the GPS AVL market. The ISM 2.4 GHz stack integrates dedicated functions for configuration, testing and maintenance for fleets over 4096 GPS units, plus the slave peripherals.

Unlike the other public Wireless communication standards, G4NISM provides a fast and optimized communication up to 2 Mbps in 300 m range. The protocol is remarkable through the build-in functions for addressing, broadcasting, scan and ping which provides physical data package processing without the necessity of taking the frames to a higher processing level. Thus the PC application is only processing the returned messages without a more complex information analysis.

For the remote control of the GPS units and slave peripherals, G4N02DON has an embedded GSM module able to send and receive SMS messages. A dedicated command set is available for simple reading and sending data over the USB port. More complex functions like reports listing, GPS data processing should be handled by PC applications. Therefore G4N02DON is just an interface between the PC application and GPS mobile units.

G4N02DON has the following features:

- § Direct GSM interfacing with GPS mobile units
- § Fast and simple service with a fleet of GPS units and slave peripherals
- § Embedded functions for GSM and ISM communication

## Base characteristics

- § G4NISM – dedicated radio communication in 300 m range over the ISM 2.4 GHz spectrum.
- § GSM Quad Band communication - 850/900/1800/1900 MHz.
- § Provides fast installation for GPS units and immediate status control.
- § Over 20 embedded functions designed for USB communication which provides a flexible and simple interaction with any AVL software.

## Technical Specifications

Communication	
GSM-GPRS-SMS	Quadband 850 / 900 / 1800 / 1900 MHz
Standard GPRS	Class 10, max. 85.6 Kbps
SMS	Standard Text - 128 chars
Antenna	External Triband right-angle; 5dB gain
G4NISM	Standard RF ISM 2.4 GHz ~ 250 mW ~ 300m
Protocol	Proprietary. All rights reserved for GPS4NET
Embedded Function	Ping, Broadcasting
Addressing	65450 parallel ISM addressable networks 4096 GPS units / fleet 15 classes peripheral devices / GPS unit
Advantages	<ul style="list-style-type: none"> <li>§ Data download from GPS units</li> <li>§ Remote service in 300 m range</li> </ul>
Antenna	External 2.4 Ghz ; 5dB gain
USB	1.1 ~ 500Kbps
Drivers	Win NT/XP/2k, Linux 2.4 – 2.6

System Characteristics	
Maximum current	< 100 mA
Power feed	Power over USB
Power consumption	Maxim 500mW
Environment	Working Temperature: -25C ~ +85C Storage Temperature: -40C ~ +90C
EMI	Full shielded GPS & GSM, CE & FCC compliant
Case	ABS, IP 3.3, 110x55x25 mm
Microcontroller	DW8051 Synopsys Core

## Embedded Functions

GSM commands	<ul style="list-style-type: none"><li>§ Send SMS</li><li>§ Read &amp; Delete SMS</li><li>§ Voice Call</li></ul> <p>SMS should be no longer than 128 characters according to GSM 03.40/GSM 03.41 standard.</p>
G4NISM commands	<p>Main Commands:</p> <ul style="list-style-type: none"><li>§ Identify GPS unit or peripheral device</li><li>§ Status GPS unit &amp; peripheral device</li><li>§ Write on SIM phonebook installed on GPS</li><li>§ GPRS configuration against GPS unit</li><li>§ Lock / Prepare programming on GPS unit</li><li>§ Transfer Firmware into GPS unit</li><li>§ Configure GSM favorite networks on GPS unit</li><li>§ Reset GPS unit &amp; peripheral device</li><li>§ Download stored data from GPS FlashRAM</li></ul>
Management	<ul style="list-style-type: none"><li>§ Initialize GSM module</li><li>§ Internal status</li><li>§ Reset hardware</li><li>§ Upgrade Firmware</li><li>§ Configure network address</li></ul>