



Features

- Embedded JAVA™ Platform
- Fast ready-to-use API development
- ARM9 processor architecture
- Remote link stability monitoring
- Advanced temperature management
- Internal Memory
- Multi-SIM interface

Specifications

GX-7			
Physical Characteristics			
Unit Size	68.0 x 58.0 x 26.5 mm (L x W x H) ±0.5mm		
Weight(Mass)	60g (±3 g)		
Environmental Characteristics			
Operational Temperature	-20 ~ +60°C		
Storage Temperature (Not exposed to air)	-40 ~ +85°C		
Electrical Characteristics			
Input Voltage	7VDC~24VDC, Ripple <= 300mVp-p		
Power Consumption (Transmitter state)	7V	12V	24V
	<= 0.23A	<=0.16A	<= 0.08A

CINTERION GSM MODULE SPECIFICATIONS	
General Features	
Frequency Bands	Quad band : GSM 850/900/1800/1900 MHz
GSM Class	Small MS
Output Power (According to Release 99)	Class 4 (+33dBm ± 2dB) for EGSM 850 Class 4 (+33dBm ± 2dB) for EGSM 900 Class 1 (+30dBm ± 2dB) for GSM 1800 Class 1 (+30dBm ± 2dB) for GSM 1900 The values stated above are maximum limits. According to Release 99, the maximum output power in a multi-slot configuration may be lower. The nominal reduction of maximum output power varies with the number of uplink timeslots used and amounts to 3.0dB for 2Tx, 4.8dB for 3Tx and 6.0dB for 4Tx.
Protocol	TCP, UDP, HTTP, FTP, SMTP, POP3
Secure Data Transmission	HTTPS, SSL, PKI
RoHS	All hardware components fully compliant with EU RoHS Directive
Memory Backup	Flash 2M bytes or EEPROM 512K bytes
GSM / GPRS Features	
Data Transfer	GPRS : <ul style="list-style-type: none"> • Multi-slot Class 12 • Full PBCCH support • Mobile Station Class B • Coding Scheme 1- 4

	<p>CSD :</p> <ul style="list-style-type: none"> • V.110, RLP, non-transparent • 2.4, 4.8, 9.6, 14.4kbps • USSD <p>PPP-stack for GPRS data transfer</p>
SMS	<p>Point-to-point MT and MO Cell broadcast Text and PDU mode Storage : SIM card plus 25 SMS locations in mobile equipment Transmission of SMS alternatively over CSD or GPRS. Preferred mode can be user defined.</p>
Fax	Group 3; Class 1
Software	
AT Commands	Hayes 3GPP TS 27.007 and TS 27.005
Java Profile	IMP-NG & CLDC 1.1 HI with multi-threading programming and program execution.
Java Platform	<p>Java Virtual Machine with APIs for AT Parser, Serial Interface, Flash File-systems and TCP/IP stack. Major benefits : seamless integration into Java application, ease of programming, no need for application microcontroller, extremely cost-efficient hardware and software design – ideal platform for industrial GSM applications. The Memory space available for Java programs is around 1.7 MB in the flash file system and around 400k RAM. Application code and data share the space in the flash file system and in RAM.</p>
SIM application Toolkit	SAT Release 99
TCP/IP Stack	Access by AT commands
Remote SIM Access	<p>GX-7 supports Remote SIM Access. RSA enables GX-7 to use a remote SIM card via its serial interface and an external application. In addition to the SIM card locally attached to the dedicated lines of the application intercard can be a blue tooth wireless link or a serial link. The necessary protocols and procedures are implemented according to the “SIM Access Profile Interoperability Specification of the Bluetooth Special interests Group.</p>
Firmware Update	<p>Generic update from host application over ASC0, ASC1 or USB. Over the as (OTA) firmware update is possible via SPI interface.</p>
Interface	
Module Interface	<p>S1 : GPIO I/O Interface S2 : Volts Input, 1 UART, 1 DAC, 1 ADC</p>
USB	Supports a USB 2.0 full Speed (12Mbit/s) slave interface for Java coding
Audio	1 standard audio jack
SIM Interface	Supported SIM cards : 3V, 1.8V
Antenna	50 Ohms
Power ON/OFF, Reset	
Power ON/OFF	Power watchdog
Reset	<p>Orderly shutdown and reset by AT command Emergency reset by hardware signal EMERG_OFF and IGT.</p>
Special Features	
Real Time Clock	Timer functions via AT commands
GPIO	<ul style="list-style-type: none"> • 2 Inputs • 4 Outputs • 2 Analog-to-Digital Converter
ADC Inputs	Analog-to-Digital Converter with two balanced analog inputs for measuring external voltages.
DAC Output	Digital-to-Analog Converter which can provide a PWM signal.
Phonebook	SIM and phone

U-BLOX GPS MODULE SPECIFICATIONS**Receiver Performance Data**

Receiver Type	<ul style="list-style-type: none">• Channels : 50• Frequency : L1• Signals : GPS C/A Code
Configuration	<ul style="list-style-type: none">• Time Pulse : $f = 0.25 \dots 999$ Hz ($T_p = 1/f - 1$ ms)• Navigation Update Rate : up to 4Hz

Acquisition

Cold Start (Autonomous)	36s
Warm Start (Autonomous)	36s
Hot Start (Autonomous)	< 1s
Aided Starts	4s

Sensitivity

Tracking & Navigation	-159dBm
Reacquisition	-159dBm
Cold Start (Autonomous)	-141dBm

Accuracy

Horizontal Position	< 2.5 m Autonomous < 2.0 m SBAS
Timepulse Signal	30 ns RMS < 60 ns 99%
Velocity	0.1 m/s
Heading	0.5 degrees

Limitations

Acceleration	≤ 4 g
Altitude	50000 m
Velocity	500 m/s