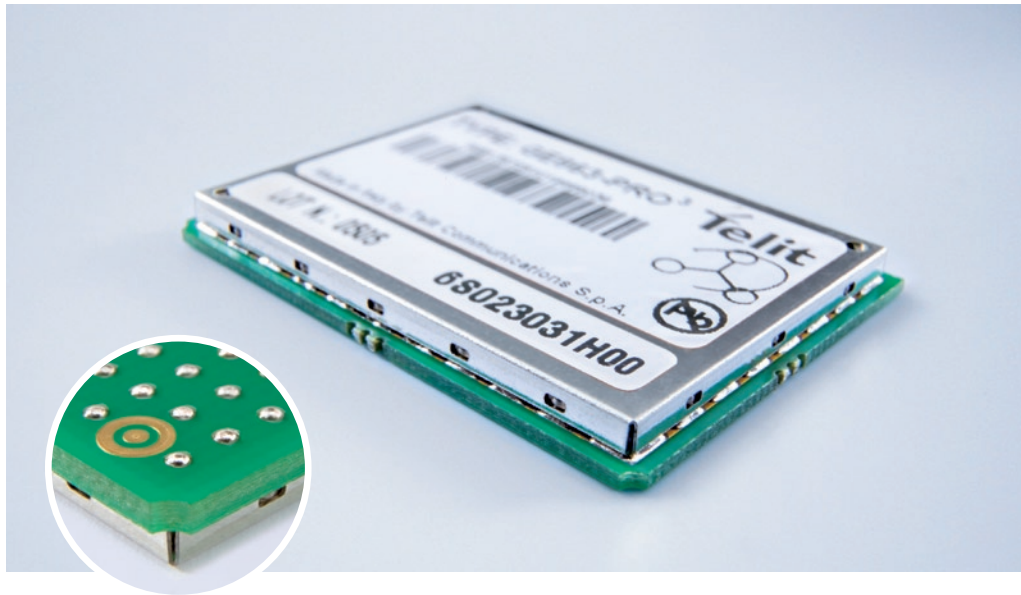


## GSM | GPRS

# GE863-PRO<sup>3</sup>

Embedded



0101 Telit Unified  
0101 AT Command Set

BGA Package

4 GPRS Quad Band GPRS

GPRS Class 10

RoHS Compliant

SIM SIM Access Profile

PYTHON\* Script Interpreter

C++ PYTHON/C++

ARM9 ARM9 220 MIPS Embedded

Linux

Embedded FTP and SMTP Client

Extended Temperature Range

Extended RF Sensitivity

Serial Port Multiplexer (GSM 27.010)

Embedded TCP/IP Stack

The GE863-PRO<sup>3</sup> is an innovation to the quad-band, RoHS compliant GE863 product family which includes a powerful ARM9™ processor core exclusively dedicated to customer applications. The concept of colocating a powerful processor core with the GSM/GPRS engine allows developers to host their application directly. The PRO<sup>3</sup> incorporates much of the necessary hardware for communicating microcontroller solutions, including the critical element of memory, significant simplification of the bill of material, vendor management, and logistics effort are achieved.

Additionally, this packaging of powerful components virtually eliminates the need for regulatory re-certifications typically required when key components such as memory are changed.

The PRO<sup>3</sup> is offered in a Ball-Grid-Array (BGA) package enabling very low profile and small product size required for the design of extremely compact applications. Since connectors are eliminated, the solution cost is significantly reduced compared to conventional mounting concepts. With its low profile design, dedicated 8 MB SDRAM, 4 MB serial flash, and its extended programming capabilities in C++ and Python™, the Telit GE863-PRO<sup>3</sup> is the ideal hardware platform for complete and compact customer solutions.

The GE863-PRO<sup>3</sup> was designed to simplify connectivity through the availability of interfaces such as SPI, IIC, SD/MMC and USB (Host/Device). Telit offers a vast collection of reference designs enabling use of the PRO<sup>3</sup> with external peripherals such as camera, keyboard, display, Wi-Fi®, Bluetooth®, SmartCard, SD Card, Ethernet, ZigBee® and GPS.

Application development is accomplished easily given Telit's continued commitment to open systems. With the use of LINUX (optional), developers have access to an extensive library of drivers for different peripherals and to complete development environments.

As a part of Telit's corporate policy of environmental protection, all products comply with the RoHS (Restriction of Hazardous Substances) directive of the European Union (EU Directive 2002/95/EG).

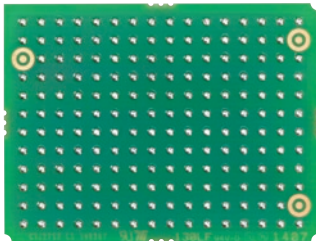
### Product features

- Quad-band EGSM 850 / 900 / 1800 / 1900 MHz
- Output power
  - Class 4 (2W) @ 850 / 900 MHz
  - Class 1 (1W) @ 1800 / 1900 MHz
- Control via AT commands according to GSM 27.05, 27.07 plus Telit enhancements
- Wide supply voltage tolerant: 3.3 – 4.5 V DC
- Operating supply voltage: 3.4 – 4.2 V DC (3.8 V DC recommended)
- ARM9™ core 220 MIPS
- Serial port multiplexer GSM 27.010
- SIM access profile
- Sensitivity:
  - 107 dBm (typ.) @ 850 / 900 MHz
  - 106 dBm (typ.) @ 1800 / 1900 MHz
- Dimensions: 41.4 x 31.4 x 3.6 mm
- Weight: 9 grams
- Extended temperature range
  - 30°C to +80°C (operational)
  - 40°C to +90°C (storage temperature)
- RoHS compliant
- Embedded SSL encryption
- TCP/IP stack supporting UDP, FTP, SMTP, PPP via AT commands and Python\* accessible



# GE863-PRO<sup>3</sup>

Embedded



actual size



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www.telit.com

Distributed by:

## Interfaces

- 90+9 GPIO
- 2 analog audio (balanced and unbalanced)
- 4 A/D with A/D trigger and 6 PWM D/A converters
- Buzzer output
- 1 USB device and 2 USB host
- 2 clock output pins
- 2 SPI buses each with up to 7 slave devices
- 1 IIC interface
- 1 SSC (I2S) digital audio interface
- 1 SD/MMC card and SAM/SmartCard ISO7816 interface
- 1 image sensor interface ITU-B 601/656
- 6 USARTs and 1 UART
- 1 debug trace serial ports (1ARM)
- ARM JTAG debug
- Serial flash

## Audio

- Telephony, emergency call, DTMF, handset & hands-free operations
- Half rate, full rate, enhanced full rate and adaptive multi rate voice codecs (HR, FR, EFR, AMR)
- Echo cancellation & noise reduction

## SMS

- Point-to-point mobile originated and mobile terminated SMS
- Concatenated SMS support
- SMS cell broadcast
- Text and PDU mode

## Circuit switched data transmission

- Asynchronous transparent circuit switched data (CSD) up to 14.4 kbps
- Asynchronous non-transparent CSD up to 9.6 kbps
- V.110

## GPRS data

- GPRS class 10
- Mobile station class B
- Coding scheme 1 to 4
- PBCCH support

## Fax

- Group 3, class 1

## GSM supplementary

- Call forwarding
- Call barring
- Call waiting & call hold
- Advice of charge
- Calling line identification presentation (CLIP)
- Calling line identification restriction (CLIR)
- Unstructured supplementary services mobile originated data (USSD)
- Closed user group

## Additional features

- SIM phonebook
- Fixed dialing number (FDN)
- Real-time clock
- Alarm management
- Battery management
- Network LED support
- IRA character set
- Jamming detection & report
- Embedded TCP/IP stack, including TCP, IP, UDP, SMTP and FTP protocols

## ARM processor

- ARM9™ core 220 MIPS
- Independent from GSM engine custom processor
- 8 MB RAM standard
- 32 MB to 64 MB expansion (custom design)
- Linux operating system (optional)

## Python\* application resources

- Python\* script interpreter
  - Python core version 2.4
- ARM core
  - Real-time OS
  - Multitasking/interrupt
  - SSL
  - Cross compilation on PC
  - 220 MIPS
  - 8 MB SDRAM plus 4 MB serial flash
- Over-the-air application software update and GSM/GPRS firmware over-the-air
- IIC Bus and SPI Bus controlled through Python\*



## Telit's EASY features

- EASY SCAN<sup>®</sup> automatic scan over GSM frequencies (without SIM card)

## Order-No.

GE863-PRO<sup>3</sup> 3 990 250 691

GE863-PRO<sup>3</sup> 3 990 250 698 with Linux OS

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