# THE TELIT GE863-PRO³ AND WE865-DUAL COMPANION MODULE

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>> **Telit's Long and Short Range Connection**

**GE863-PRO³ Dual CPU Product**

The GE863-PRO³ is the first product resulting from Telit's new dual core (CPU) strategy and features an integrated ATMEL ARM9 processor with the GSM/GPRS engine. This combination allows the integration of a very powerful application inside the ARM9 application processor, which is completely dedicated to the customer application.

The low-end solution includes 4 MB of FLASH and 8 MB of RAM, which can be extended up to 128 MB of FLASH & 64 MB of RAM. The module has a complete software and hardware (EVK) development environment allowing users to quickly and easily create their applications.

**Software Development Kit**

The GE863-PRO³ is provided in two software configurations: without an operating system (OS) and with Linux OS, the preferred embedded operating system by many wireless-enabled product manufacturers. Telit offers a Linux Software Development Kit (SDK) that provides its customers an easy and cost effective development environment and provides an Application Programming Interface (API) with sample applications, firmware download, debug utility, and supporting documents. Additionally, an extensive number of drivers are provided with the SDK and are available on Telit's website.

Different libraries and drivers are provided allowing full control of the GE863-PRO³ interfaces. The main library and drivers provided are GSM (for controlling GSM/GPRS), Wi-Fi (for controlling the WE865-DUAL companion module), Blue-tooth (HS/SAP profiles), and other drivers such as CMUX, SPI, SDIO, GPIO, UART, and USB interfaces.

Download and Debug

The system is completely modular and can be customized to specific needs, and the different modules can be loaded and unloaded dynamically. Using the GE863-PRO³ and its software libraries allows Telit's customers to build their own applications, control the most common connectivity interfaces for access to long range (GSM/GPRS) and short range (Wi-Fi, Bluetooth, ZigBee, 802.15.4) wireless technologies.

**WE865-DUAL Wi-Fi Module**

The WE865-DUAL is a WLAN 802.11 b + g short range wireless companion product to the GE863-PRO³. It has a complete set of certifications including the Wi-Fi Alliance certification. The Wi-Fi companion product is a cost effective solution as it shares the computing resources of the GE863-PRO³.

At only 22 mm square and no more than 3.5 mm high, the diminutive dimensions also provide for a highly compact integrated customer solution. The unique Ball Grid Array (BGA) package based on solder balls placed on the underside of the module allow for direct mounting to the application circuit board without the need for plugs, cables, or connectors. The WE865-DUAL can be assembled using an automated pick-and-place assembly as with standard SMD components. This not only reduces material costs, but also installation time and assembly costs. The board-to-board BGA mounting is extremely stable and reliable. Together, the compact shape and reduced assembly costs are crucial advantages for use in cost-sensitive applications, such as those for the consumer market.





In order to quickly start development activities, the module is available with an interface board that allows the customer to connect it to the GE863-PRO³ evaluation board; therefore enabling the rapid development of a prototype.

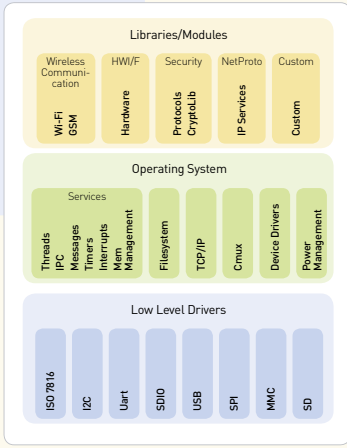
The module includes the full RF and power supply components, power amplifier (PA), low noise amplifier, filter to protect against cellular frequency harmonics, and only one external voltage is required. All the RF parameters are already stored in the internal EEPROM including the MAC address.

The Wi-Fi package provided with the GE863-PRO³ allows users to control the Wi-Fi functionalities ranging from basic functionality to the most complex features such as personal (ex. WEP) and enterprise (ex. WPA/WPA2) security.


**WE865-DUAL Features**

The WE865-DUAL feature provides the functionality needed to access a Wi-Fi network and enables standard configuration and security capabilities. Some of the main features of WE865-DUAL are:

- Dual-mode IEEE 802.11 b and g
- 9 different regulatory domain configurations supported
- Only one external voltage required
- Full RF and power supply components included
- Onboard power amplifier (PA)
- Onboard low noise amplifier (LNA)
- Onboard filter to protect against cellular frequency harmonics
- Onboard crystal
- Onboard EEPROM for internal use (RF parameters stored inside)
- Onboard switching DC/DC and LDO
- Low power consumption mode supported
- Automatic power saving mode supported
- Shut down for a very low current consumption
- SDIO interface standard
- Hardware support for multi-mode encryption (WEP 40/64, WEP 104/128, AES, TKIP)
- Full software package
- Linux driver
- Wi-Fi configuration and management library
- Wi-Fi authentication and security library
- Package and form factor
- Telit unified form factor
- 63 Ball Grid Array
- - 20° C up to + 85° C
- RoHS compliant


**GE863-PRO³ and WE865-DUAL**

The Telit GE863-PRO³ together with the WE865-DUAL is an excellent solution for connecting a GSM/GPRS network with Wi-Fi, and thanks to the hardware and software features together with the development environment this capability can be quickly and easily achieved. Additionally, Telit supports customers throughout the entire design process ensuring that the resulting product will meet the highest level of technical, marketing, development, and design specifications. <<