Sony Ericsson

GR47/GR48

Increased
flexibility
Simplified
application development

- Dual Band EGSM 900/1800 MHz (GR47) or GSM 850/1900 MHz (GR48)
- Data, Fax, SMS and Voice
- Tricodec (HR/FR/EFR)
- GPRS Class B (4+1) – P Channel Support
- GPS interoperability
- Access to embedded controller for hosting applications*
- Extensive range of I/Os
- Ideal for use in Telemetry and Telematics applications
- GR47 Type approved for GSM Phase 2+ standards
- GR48 FCC/PTCRB approved
- M2mpower package available

*Accessible when the GR47/GR48 is used together with M2mpower.

The new Sony Ericsson GR47/GR48 is a highly advanced radio device that comes fully-loaded with a range of GSM/GPRS voice and data features, and all in a compact unit (just 50 x 33 x 7.2 mm). Optimised for M2M communications, the GR47/GR48 features an intrinsic TCP/IP protocol stack that enables you to make effective use of GPRS. The GR47/GR48 is configurable, to enable optimum usage of the extensive range of input/output pins provided, making it easy to adapt to your M2M solution. The embedded controller is accessible for hosting applications in areas such as alarm, meter reading and vending applications (accessible when the GR47/GR48 is used together with M2mpower).

The GR47/GR48 can be used to provide a communications link for a variety of wireless applications including fleet and asset management, vending, security and alarm monitoring and other telemetry applications. And with dual band 900/1800 MHz (GR47) and 850/1900 MHz (GR48) versions available, your applications can be used all over the world.

The GR47/GR48 can be used as a stand-alone product or in conjunction with M2mpower Business Solution, using the M2mpower package. M2mpower provides a support environment that enables you to develop and embed your application directly onto the GR47/GR48. Embedding your application onto the GR47/GR48 allows you to streamline development, shorten time to market and reduce total solution costs. The M2mpower package includes developer's tools, documentation, training and support – everything required to get your M2M application to market fast!

M2M Com Product Unit of Sony Ericsson Mobile Communications is ISO-9001 Certified.

Note: Please refer to the M2mpower package datasheet for further information.

GR47/GR48

Product features

- Dual Band GSM /GPRS Radio Device (EGSM 900/1800 MHz [GR47] or GSM 850/1900 MHz [GR48])
- Compliant with 3GPP GSM Phase 2+ (GCF-CC v3.8.1 [GR47]/NAPRD v2.7.0 [GR48] standard) (Small MS)
- Output power:
  - Class 5 (0.8W) @ 850 MHz
  - Class 4 (2W) @ 900 MHz
  - Class 1 (1W) @ 1800/1900 MHz
- Power supply:
  - 3.4 - 4 VDC
  - 250mA average current in voice communication (CS, average)
  - 350mA average current in data communication (GPRS 4+1)
  - <5mA average current in idle mode
- Overall dimensions (excluding connectors): 50 x 33 x 7.2mm
- Temperature range:
  - -30°C to +75°C (operational temperature)
  - -40°C to +85°C (reduced spec)
  - -40°C to +85°C (storage temperature)
- Weight: 18.5g (including shielding)

Interfaces

- Single antenna interface (50 Ω MMCX)
- Single 60 pins board-to-board connector including:
  - Power supply connection
  - 3/5V SIM interface with SIM detection
  - 2 x microphone inputs and 2 x speaker outputs
  - Up to 9 x General Purpose I/Os, 4 x Digital Outputs, 1 x Digital Input*
  - RS232 serial link (2.7V) supporting:*
    - Remote control by AT commands (GSM 07.07 and 07.05)
    - Serial baud rate from 1200 to 460,800 bits/s
  - 2 x other General Purpose Serial Interfaces (in addition to serial link used for AT commands)
  - Up to 5 x Analogue to Digital Converter*
  - 1 x Digital to Analogue Converter
  - 1 x buzzer output
  - Keypad supporting matrix of up to 5 x 4 (N.B. external driver transistors required)*
  - I²C support*

Data features

- CSD asynchronous – non transparent up to 9.6 kbps
- Fax Group 3, Class 1 & 2
- HSCSD (2+1), up to 28.8 kbps
- GPRS Class B (4+1), up to 85.6 kbps
- P Channel Support
- Coding schemes CS1-CS4
- GSM 07.10 Multiplexing Protocol

*See GR47/GR48 Technical Description for pin-out details.

Short Message Service (SMS) features

- Text and PDU
- Point to point (MT/MO)
- Cell Broadcast
- Concatenation – up to 6 SMS

Voice features

- Telephony
- Emergency calls
- Full Rate, Enhanced Full Rate and Half Rate (FR/EFR/HR)
- Dual Tone Multi Frequency function (DTMF)

Embedded Applications

Runs one script at a time (sufficient memory to hold 2 x scripts)

- Intrinsic functions: to support applications such as metering, vending, security, telematics, fixed cellular terminal
- Extended/configurable I/O
- E-Maintenance

TCP/IP

- Allows more effective use of GPRS

Controller Mode

- Allows you to run simple applications, developed in conjunction with M2mpower, with the radio communications disabled

GSM Supplementary Services

- Call forwarding
- Call hold, waiting and multiparty
- Calling/called number identification
- Advice of charge
- USSD
- Alternate line service
- Customer service profile
- Preferred networks
- Operator selection
- Network registration
- Call barring
- Call transfer

Other features

- ME + SIM phone book management – read/write/find, call screening, groups, personal rings, settings
- SIM Application Toolkit Class 2
- Real Time Clock
- Alarm management
- Software upgradeable
- Audio control
- Fixed dialing number
- UCS2 16 bit data supported

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