



Utilising proprietary LPRS 'easyRadio' technology operating in the 434MHz or 868/915MHz Industrial Scientific & Medical (ISM) bands a pair of eRIC USB 'dongles' can provide a simple 'wireless bridge' between any host devices that support USB serial communications such as a PC or Raspberry Pi™ or BeagleBone Black etc.

These devices provide considerably greater range and less power consumption than similar WiFi or Bluetooth dongles operating in the overcrowded 2.4GHz bands.

Frequency, bandwidth, power output and data rate can (optionally) be configured to allow multiple devices to communicate free from interference from each other and any other RF devices.

Features	Benefits
LPRS easyRadio RF Transceiver technology	Bi-directional link, no RF protocol software required
USB Connection	'Plug & Play' operation, appears as a 'Com' port
Low current consumption	Can be powered directly from USB port
Integral SMA Antenna connector	Allows use of extension for optimal antenna position
FTDI FT232 USB IC	Linux & Windows drivers available (see below)
Transmit & Receive LEDs	Diagnostics
Configurable RF parameters (optional)	Fine tune for optimum performance
Up to 250 Bytes per packet	Ideal for 'Sense & Control' applications
Built-in Temperature Sensor	Usable by host program

Host devices can send and receive (half duplex) up to 250 Bytes of data per packet that will be seamlessly delivered and presented to other hosts within range. There is no need for any complicated 'bit balancing' or elaborate coding schemes.

Easy: Data In and Data Out !

### Specifications

Supply: +5V  $\pm$  5%, Temperature 20°C

Parameter	Min	Typical /Default	Max	Units	Notes
Supply Voltage		5V		Volts	Powered by USB connection
Supply Current		25		mA	Receive (Idle state)
		35		mA	Transmit
USB Host Data Rate	2.4	19.2	115.2	Kbps	Configurable - See Note 1 below
Packet Size	1		250	Bytes	Auto detect end of packet
Frequency (Default)		434		MHz	Configurable
		868		MHz	Europe
		915		MHz	US
Receive Sensitivity		-107	-117	dBm	Configurable
RF Output Power	-5	+9	+10	dBm	Configurable
Antenna		50		$\Omega$	Via SMA Connector
Range		200		m	Dependant on conditions/terrain
Operating Temperature	-40	20	85	°C	
<b>Mechanical</b>					
Size	80 x 22 x 10			mm	Including connectors, excluding antenna
Weight	11			g	Without antenna
USB Connector	USB Type A Plug				Cable not supplied

### Notes

- Parameters can be configured using 'easyRadio Companion' software available from: [www.lprs.co.uk](http://www.lprs.co.uk)
- Please read this datasheet in conjunction with the eRIC Radio Transceiver datasheet available from [www.lprs.co.uk](http://www.lprs.co.uk)
- The board is supplied with either an eRIC4 or eRIC9 module fitted together with a matching 434MHz 868/915 MHz antenna.

The dongle uses an FTDI FT232 USB to serial device. FTDI offers royalty-free virtual com port drivers for the following operating systems:

Windows 98, 98SE, ME, 2000, Server 2003, XP and Server 2008  
 Windows 7 32,64-bit  
 Windows XP and XP 64-bit  
 Windows Vista and Vista 64-bit  
 Windows XP Embedded Windows CE 4.2, 5.0 and 6.0  
 Mac OS 8/9, OS-X  
 Linux 2.4 and greater

### Acknowledgements

Raspberry Pi is a Trademark of the Raspberry Pi Foundation.  
 The design is 'Open Hardware' designed and published by Rick Winscot. Details: [www.quilix.com](http://www.quilix.com)

### Product Order Codes

Name	Description	Frequency	Order Code
eRIC400 USB Dongle	UK/European Version (Can Marked '4')	433MHz	eRIC4-USB
eRIC900 USB Dongle	Europe/US Version (Can Marked '9')	868/915MHz	eRIC9-USB
Antenna	UK & Europe	433MHz	ANTSR433
Antenna	Europe & USA	868/915MHz	ANTST900

### Document History

Issue	Date	Notes/Comments
VI.0	May 2015	This document internal draft

### Copyright

The information contained in this data sheet is the property of Low Power Radio Solutions Ltd and copyright is vested in them with all rights reserved. Under copyright law this documentation may not be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine readable form in whole or in part without the written consent of Low Power Radio Solutions Ltd. The circuitry and design of the modules are also protected by copyright law.

### Disclaimer

Low Power Radio Solutions Ltd has an on-going policy to improve the performance and reliability of their products; we therefore reserve the right to make changes without notice. The information contained in this data sheet is believed to be accurate however we do not assume any responsibility for errors or any liability arising from the application or use of any product or circuit described herein. This data sheet neither states nor implies warranty of any kind, including fitness for any particular application.

easyRadio modules are a component part of an end system product and should be treated as such. Testing to fitness is the sole responsibility of the manufacturer of the device into which easyRadio products are fitted, and is expected BEFORE deployment into the field.

Any liability from defect or malfunction is limited to the replacement of product ONLY, and does not include labour or other incurred corrective expenses.

Using or continuing to use these devices hereby binds the user to these te



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.