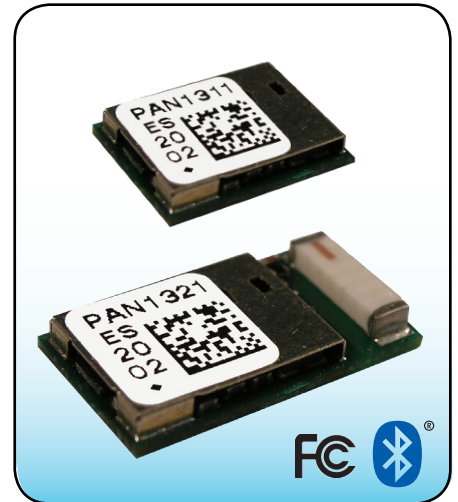# NEW! PAN1311/1321 BLUETOOTH® RF MODULES

Wireless Bluetooth® Connectivity Featuring Serial Port Profile (SPP)

Rely on Panasonic for the latest breakthrough technologies in Bluetooth RF Module based wireless networking! Introducing the **New PAN1311/1321 Series**.   This newest Series of Bluetooth RF Modules is a highly integrated, cost engineered solution for Bluetooth applications using Serial Port Profile (SPP).   The **PAN1311/1321** Series is a full Bluetooth system solution, with an integrated controller and antenna, Bluetooth transceiver, SPP Profile, FCC and Bluetooth product certifications. Using Panasonic's exclusive "tiny footprint" technology, incorporating a Surface Mount Device (SMD) Land Grid Array (LGA) package, the **PAN1311/1321** Series is just 15.6 mm by 8.7 mm! A fully shielded case protects the transceiver from nearby RF emitters, simplifying PCB layout. The **PAN1311/1321** is qualified to the Bluetooth 2.0 standard.

PAN1311/1321 is perfect for all applications migrating from USB or RS232 to wireless. The integrated Bluetooth SPP is easily accessed using a simple AT command set. Evaluation and Development Kits are available. These modules are FCC and Bluetooth certified and comply with the national and international regulations, such as ETSI EN300328 and IC.

Product Performance:

- Supported Profiles: RFCOMM, SPP device A and B
- Complete Bluetooth 2.0 + EDR solution
- Dimensions PAN1311: 11.6 x 8.7 x 1.8 mm^3
- Dimensions PAN1321: 15.6 x 8.7 x 2.8 mm^3
- Ultra low power design
- Certifications: Bluetooth and FCC
- No external components needed
- Operating Temperature Range: -40ºC to +85ºC

- On-module voltage regulator. External supply 2.7-3.6V
- Integrates ARM7TDMI, RAM and patchable 256k EEPROM (for device configuration data and application)
- Based upon Infineon's PMB8753/2
- Reference clock included
- Low power clock from internal oscillator or external low power clock

PAN1311 Part Numbers:

Part Numbers	Description
ENW-89810K5CF	PAN1311, Bluetooth Module v 2.0, EDR, SPP
EVAL_PAN1311	PAN1311 Evaluation kit

PAN1321 Part Numbers:

Part Numbers	Description
ENW-89811K4CF	PAN1321, Bluetooth Module v 2.0, EDR, SPP, with antenna
EVAL_PAN1321	PAN1321 Evaluation kit

Panasonic ideas for life

www.panasonic.com/rfmodules
piccomponentsmarketing@us.panasonic.com
1-800-344-2112

Interfaces:

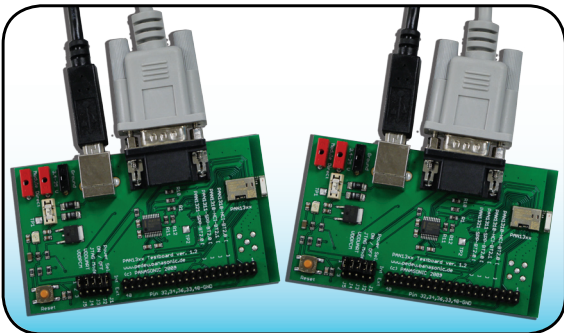The PAN1311/PAN1321 Serial Port Profile Interface supports:
- 3.25 MBuad UART
- General purpose I/Os with interrupt and wake-up capabilities
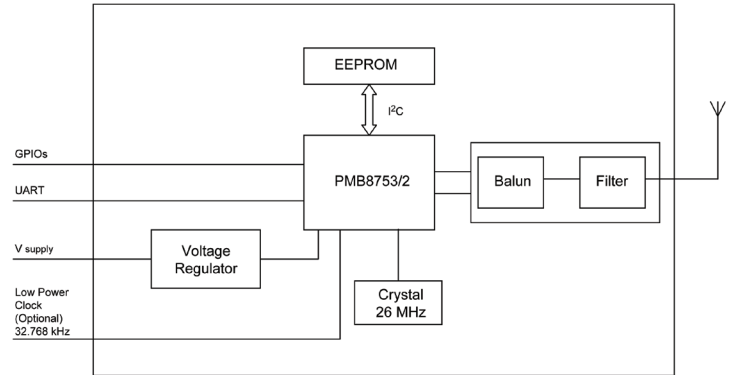- JTAG for boundary scan and debug

Applications:

All Wireless Applications
- Printer Adapter and Scanners
- Printers
- Access Points
- Wireless Sensors
- Cable Replacement
- Personal Digital Assistants (PDAs)
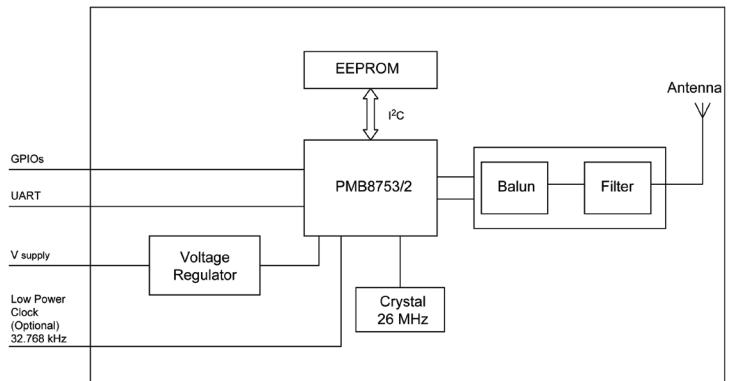- PC Motherboards & Peripherals
- Industrial Applications

Also Available! Evaluation Kits

Block Diagram PAN1311:

Block Diagram PAN1321:

Technical Specifications for PAN1311 and PAN1321:

Parameter	Value	Condition / Notes
Receiver Sensitivity (BER=10^{-3})	-86 dBm	Ideal signal
Output Power	+3 dBm	@ 50 Ohm antenna pin
Power Supply	2.7 - 3.6 V	Single operation voltage
Ultra Low Power Scan	80 μA	T = 25°C
ACL (Transmit 3-DH1)	40 mA	Enhanced Data Rate, 531.2 kb/s [1]
ACL (Receive 3-DH1)	37 mA	Enhanced Data Rate, 531.2 kb/s [1]
Operating Temperature Range	-40°C to + 85°C	

(1) Figure indicates maximum possible data rate with this packet type. Total throughput depends on application and interface setting.

Panasonic ideas for life