

### NEW! PAN1721 SERIES **BLUETOOTH**<sup>®</sup> LOW ENERGY

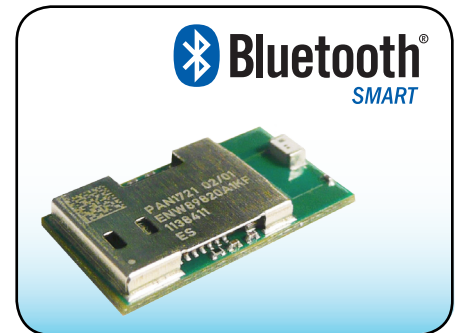
#### Ultra Low Power, *Bluetooth* Low Energy Module

Introducing the **PAN1721**, a complete power optimized *Bluetooth* v4.0 Low Energy (BLE) solution, this module includes an embedded processor, antenna and BLE stack. The **PAN1721** is engineered for ultra low power consumption applications.

The **PAN1721** is a cost-effective, ultra low-power, system-on-chip (SoC) for *Bluetooth* Low Energy applications. The module includes an eight channel, twelve bit analog-to-digital converter, 19 GPIOs plus battery and temperature sensors. A single device for both BLE master or slave nodes. The **PAN1721** combines an excellent RF transceiver with a high performance low power 8051 microcontroller, in-system programmable flash memory, 8-KB RAM, and many other powerful supporting features and peripherals.

The **PAN1721** is an ideal choice for applications where battery life is a critical application requirement, using only 500 nA in sleep mode. Short transition times between operating modes—3 uS Wake-Up – and power efficient hardware further reduce current consumption.

Panasonic offers *Bluetooth* Low Energy protocol stacks and applications from Texas Instruments and *BlueRadios*<sup>™</sup>. The *BlueRadios* stack enables rapid and low cost development using an AT command set without the need for a compiler. Additional advantages include UART programming, over-the-air-updates, easy integration “C” library framework, serial streaming of data, and smart phone libraries and applications.



#### Product Performance:

- *Bluetooth* 4.0 Compliant and *Bluetooth* Low Energy
- Dimensions: 14.5x 8.2 x 3 mm
- Supports User Developed Applications
- Texas Instruments' Stack or Optional *BlueRadios* Stack
- 256K Flash, 8K RAM
- Supports 1 Mbps Data Rate
- Temperature Range -40°C to +85°C
- Eight Channel 12-Bit ADC
- 19 GPIOs
- Battery Monitor and Temperature Sensor

#### PAN1721/1711 Part Numbers:

| Part Numbers   | Description  |
|----------------|--|
| ENW-89835A1KF  | PAN1721, CC2541 <i>Bluetooth</i> Low Energy with 8051 Controller, Texas Instruments Stack                      |
| ENW-89835A3KF  | PAN1721, CC2541 <i>Bluetooth</i> Low Energy with 8051 Controller, <i>BlueRadios</i> Stack                      |
| ENW-89835C1KF  | PAN1711, CC2541 <i>Bluetooth</i> Low Energy with 8051 Controller, Texas Instruments Stack                      |
| ENW-89835C3KF  | PAN1711, CC2541 <i>Bluetooth</i> Low Energy with 8051 Controller, <i>BlueRadios</i> Stack                      |
| EVAL_PAN1721   | <i>Bluetooth</i> , PAN1721, Evaluation Kit, Includes Two PAN1721 USB Development Modules                       |
| EVAL_PAN1721BR | <i>Bluetooth</i> , PAN1721, Evaluation Kit, Includes Two PAN1721 USB Development Modules, <i>BlueRadios</i> FW |

#### Alternative Low Energy Device:

| Part Numbers  | Description  |
|---------------|--|
| ENW-89823A2JF | PAN1326, CC2564, <i>Bluetooth</i> & <i>Bluetooth</i> Low Energy, HCI Module, Antenna |

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### Interfaces:

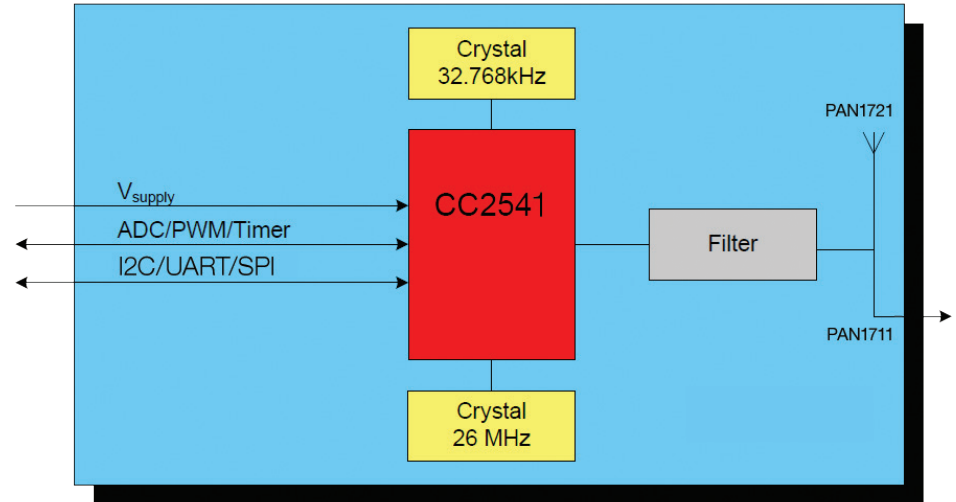
The PAN1721 Interface supports:

- Two Powerful USARTs with Support for Several Serial Protocols
- I2C Interface
- 19 General-Purpose I/O Pins (17x4mA, 2x20mA)
- 12-Bit ADC with Eight Channels and Configurable Resolution

### Applications:

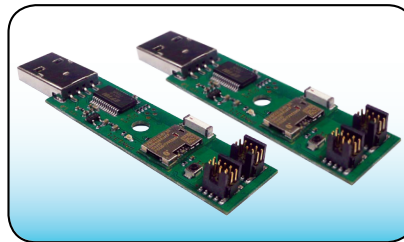
- 2.4 GHz *Bluetooth* Low Energy Systems
- Proprietary 2.4 GHz Systems
- Human Interface Devices
- Sports and Leisure Equipment
- Mobile Phone Accessories
- Consumer Electronics
- USB Dongles
- Health Care and Medical

### Block Diagram PAN1721/PAN1711:



### Evaluation Kits:

#### EVAL\_PAN1721



#### EVAL\_PAN1721BR



### Technical Specifications for PAN1721:

| Parameter                     | Value          | Condition / Notes                 |
|-------------------------------|----------------|-----------------------------------|
| Receiver Sensitivity (1% PER) | -96 dBm        | @ 500 kbps / MSK (High-Gain Mode) |
| Output Power                  | 0 dBm typ.     | Maximum Setting                   |
| Power Supply                  | 2.0 - 3.6 V    | Single Operation Voltage          |
| Sleep Mode                    | 0.5 $\mu$ A    | Power Mode 3 (Lowest)             |
| Transmit Mode                 | 14 mA          | @ 0dBm (Peak Current)             |
| Receive Mode                  | 14.7 mA        | Standard Mode                     |
| Operating Temperature Range   | -40°C to +85°C | Industrial Range                  |

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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

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