Bluetooth low energy - Module
PAN1720

OUTLINES
This Bluetooth low energy single-mode module has been specially developed for applications which communicate with dual or single mode Bluetooth low energy devices like mobile phones, PDAs, Laptops etc. So it is very easy to expand your personal area network with this module, using existing gateways. The included Bluetooth low energy stack is currently supporting the proximity and battery profile. The user specific application can be written on top of the Bluetooth Stack. The communication between stack and application is handled via vendor specific HCI-Commands. The PAN1720-Module is manufactured in a very small 15.6 x 8.7 x 1.9 mm³ SMD package with shielded case and will be qualified, according to the Bluetooth 4.0 standard.

FEATURES

General
- Complete Bluetooth low energy solution (Bluetooth 4.0)
- Supported Profiles: Proximity and Battery profiles
- Low power 8051 µC included
- Up to 256k Flash and 8k RAM
- Data rates up to 1 Mbps
- IR Generation Circuitry
- AES Security Coprocessor
- Temperature Range from -40°C to +85°C
- Supply Voltage Range from 2.0V to 3.6V, typ. 3.0V
- Dimension only 15.6 x 8.7 x 1.9 mm³
- Dimension and Footprint compatible to PAN1320/21

Interfaces
- Two powerful USARTs with support for several serial protocols
- Full speed USB 2.0 interface
- 19 general-purpose I/O pins (17x 4mA, 2x20 mA)
- 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
- Remote control for computers, MP3 players
- Consumer Electronics
- USB dongles
- Health Care and Medical

BLOCK DIAGRAM

TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Condition / Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver Sensitivity (1% PER)</td>
<td>-94 dBm</td>
<td>@ 500 kbps / MSK (high-gain mode)</td>
</tr>
<tr>
<td>Output Power</td>
<td>+3 dBm typ.</td>
<td>Maximum setting</td>
</tr>
<tr>
<td>Power Supply</td>
<td>2.0 - 3.6 V</td>
<td>Single operation voltage</td>
</tr>
<tr>
<td>Sleep Mode</td>
<td>0.5μA</td>
<td>Power mode 3 (lowest)</td>
</tr>
<tr>
<td>Transmit Mode</td>
<td>28mA</td>
<td>@ 0dBm (peak current)</td>
</tr>
<tr>
<td>Receive Mode</td>
<td>18mA</td>
<td>Standard mode</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40°C to +85°C</td>
<td>Industrial Range</td>
</tr>
</tbody>
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