

# PAN1321i Series

## Make your product Powered by Panasonic

### Overview



Introducing the **NEW PAN1321i Series** Bluetooth RF Module compatible with Apple devices such as the iPod®, iPhone® and iPad®. The **PAN1321i Series** interfaces with the Apple authentication coprocessor and supports iPod Accessory Protocol (iAP) to enable Bluetooth Serial Port data communication<sup>1</sup> with Bluetooth enabled Apple devices. The **PAN1321i Series** wireless Bluetooth connectivity also includes compatibility with Android, smart phones and most Bluetooth enabled devices<sup>2</sup>.

This New Series of Bluetooth RF Modules is a highly integrated, cost engineered solution for Bluetooth applications using Serial Port Profile (SPP). The **PAN1321i Series** is a comprehensive Bluetooth system solution, with an integrated controller, GPIO, AT Command Set Application Program Interface (API), antenna, Bluetooth transceiver, SPP Profile, FCC and IC certifications and Bluetooth end product listing. Using Panasonic's exclusive "tiny footprint" technology, incorporating a Surface Mount Device (SMD) Land Grid Array (LGA) package, the **PAN1321i Series** is just 15.6 mm by 8.7 mm! A fully shielded case

### Applications

- Most Wireless Applications
- Smart Phones
- Proximity
- Find Me
- Heart Rate Monitor
- Generic I/O
- HVAC
- Battery Monitor

### Product Performance

- Supports iPod Accessory Protocol (iAP)
- Supported Profiles: RFCOMM, SPP device A and B
- Complete Bluetooth 2.0 + EDR solution
- Dimensions: 15.6 x 8.7 x 2.8 mm<sup>3</sup>
- Ultra low power design
- Certifications: Bluetooth, FCC, CE and IC
- No external components needed
- Operating Temperature Range: -40°C to +85°C
- 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

protects the transceiver from nearby RF emitters, simplifying PCB layout. The **PAN1321i** is qualified to the Bluetooth 2.0 standard.

The **NEW PAN1321i** is ideal 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.

1. Apple authentication coprocessor and MFI certification is required.
2. Connectivity requires that devices support Bluetooth Serial Port Profile. Apple, iPod, iPhone and iPad are registered trademarks of Apple Inc. Android is trademark of Google Inc. The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Panasonic Corporation of North America is under license. Other trademarks and trade names are those of their respective owners.

<b>PAN1321i Part Numbers:</b>		
<b>Part Number</b>	<b>Description</b>	
ENW-89811A6KF	PAN1321i, Bluetooth Module v 2.0, EDR, SPP, with antenna	
EVAL_PAN1321i	PAN1321i Evaluation Kit	
<b>Specifications for PAN1321i:</b>		
<b>Parameter</b>	<b>Value</b>	<b>Condition / Notes</b>
Receiver Sensitivity (BER=10 <sup>-3</sup> )	-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 uA	T = 25°C
ACL (Transmit 3-DH1)	40 mA	Enhanced Data Rate, 531.2 kb/s <sup>(1)</sup>
ACL (Receive 3-DH1)	37 mA	Enhanced Data Rate, 531.2 kb/s <sup>(1)</sup>
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.

### Block Diagram PAN1321i:

#### Apple Authentication Coprocessor

