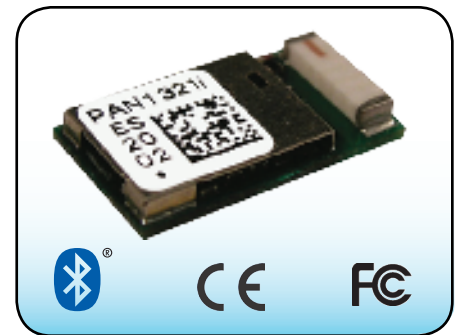


## **NEW! PAN1321i SERIES BLUETOOTH® RF MODULE**

### **Wireless Bluetooth Connectivity Compatible with Apple® and Android™ Devices**

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 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.

### **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

### **PAN1321i Part Number:**

Part Numbers	Description
ENW-89811A6KF	PAN1321i, <i>Bluetooth</i> Module v 2.0, EDR, SPP, with antenna
EVAL_PAN1321i	PAN1321i Evaluation Kit

1. Apple authentication coprocessor and MFI certification is required.  
2. Connectivity requires that devices support Bluetooth Serial Port Profile.

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Android is trademark of Google Inc.

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**Interfaces:**

The PAN1321i Serial Port Profile Interface supports:

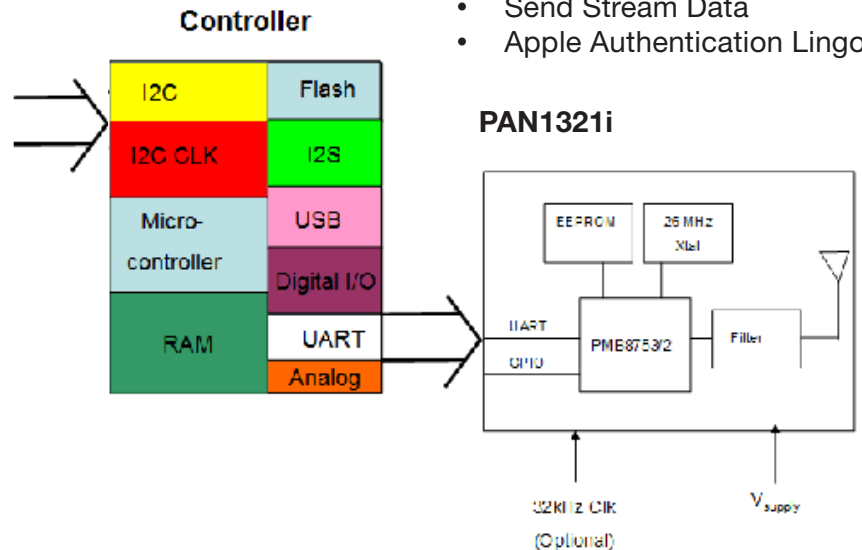
- 3.25 MBuad UART
- General purpose I/Os with interrupt and wake-up capabilities
- JTAG for boundary scan and debug

**Applications:**

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

**Block Diagram PAN1321i:**

**Apple Authentication Coprocessor**



**PAN1321i Init Commands**

- Make Discoverable
- Register Local Service
- Auto Accept Requests
- Connect Request
- Send Stream Data
- Apple Authentication Lingo

**Compatibility Comparison:**

Bluetooth RF Module Series	Compatibility with Apple devices	Compatibility with Android devices
PAN1321i	•	•
PAN1321		•

**Technical Specifications for PAN1321i:**

Parameter	Value	Condition / Notes
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.

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