

**NEW! PAN1323ETU BLUETOOTH® Development Module**

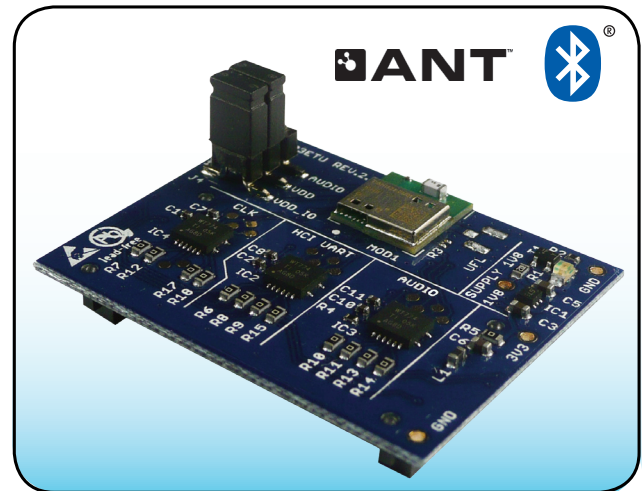
**PAN1323ETU Triple Mode Simplifies the Development Environment**

One development module, three standards: Bluetooth Classic, Bluetooth Low Energy and ANT™.

This unique triple mode ETU – that’s ETU for “Easy-To-Use” – module plugs directly into Panasonic development kits, Texas Instruments MSP430 and Stellaris experimenter boards with the added benefit of header connectors that simplify prototype wiring and field trials.

The **PAN1323ETU** is the development environment for the PAN13xx family\*. This family is based upon Texas Instrument’s CC256x integrated circuits and uses a host controlled interface (HCI), a cost effective and flexible means to implement a Bluetooth network. HCI reduces BOM cost by eliminating redundant processing capacity and giving designers the flexibility to work with a controller of their choosing, as the Bluetooth stack resides and executes on the application’s host processor.

Bluetooth Low Energy and ANT are ultra-low power network standards. The foundations of Bluetooth Low Energy power consumption are short messages and establishing very fast connections (few ms). Using these techniques, energy consumption is reduced to a tenth of a Classic Bluetooth network. ANT is a wireless sensor network protocol operating in the 2.4 GHz spectrum, designed for ease of use, efficiency and scalability, ANT supports peer-to-peer, star, tree and fixed mesh topologies.



**Product Performance:**

- The PAN1323ETU is the development tool for Panasonic’s entire PAN13xx product line.\*
- A single development module for three standards: Bluetooth Classic, Bluetooth Low Energy and ANT.
  - Bluetooth version 4.0
  - ANT is a wireless sensor network protocol designed for ultra-low power applications
  - Bluetooth Low Energy average power consumption is about 1 uA.
- Cost effective and flexible HCI interface
- Easily integrates to Texas Instruments’ MSP430 and Stellaris ARM7 controllers
- Extraordinary range with 10 dbm of Tx power

**PAN1323ETU Triple Mode Compatibility:**

Series	Antenna	Bluetooth	LE	ANT	Compatibility
<b>PAN1323ETU</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	-
PAN1315		X			100%
PAN1316		X	X		
PAN1317		X		X	
PAN1325	X	X			100%
PAN1326	X	X	X		
PAN1327	X	X		X	

**PAN1323ETU Part Numbers:**

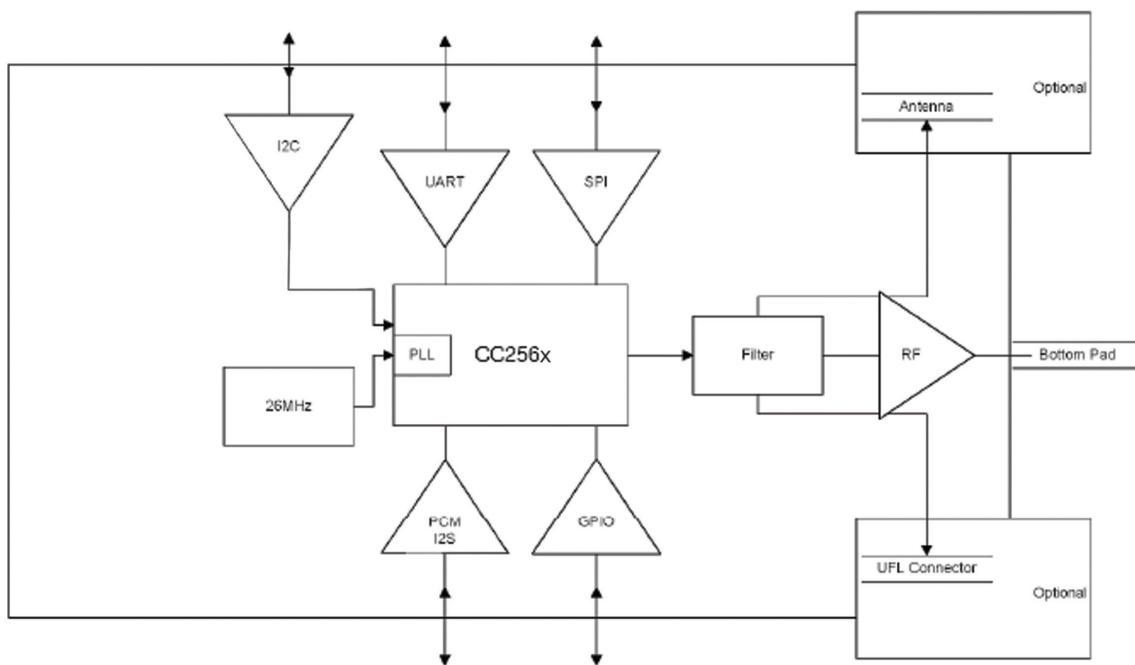
Part Numbers	Description
ENW-89825A2JF	PAN1323ETU, Evaluation Module

\* References in this document are restricted to TI CC256x based modules and do not include the PAN1321

**Applications:**

- Sports and Fitness
  - Heart Rate Monitor
  - Blood Pressure Sensor
  - Blood Glucose Meter
  - Thermometer
- Assisted Living
  - Flood Alarm
  - Heating Control
  - Automatic Key Control
  - Thermometer
- Industrial Sensors
  - Toys
  - Entertainment Devices
  - Mobile Accessories
  - All Bluetooth Wireless Applications

**Block Diagram PAN1323ETU:**



**Technical Specifications for PAN1323ETU:**

Parameter	Value	Condition / Notes
Receiver Sensitivity (BER=10 <sup>-3</sup> )	-93 dBm	GFSK, Typical, Dirty TX On
Output Power	10 dBm	VDD_In = VBAT
Power Supply	1.7 - 4.8 V	Battery or DC/DC
Ultra Low Power Scan	135 uA	1.28s Interval
GFSK DH1\DH5	33 mA	Full Throughput
Operating Temperature Range	-20°C to + 70°C	-40°C to + 85°C Optional

**Panasonic ideas for life**