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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# PAN1761 Embedded *Bluetooth*<sup>®</sup> Low Energy and NFC Combination Single Mode RF Module



## Create Highly Secure BLE Connections and Extend Battery Life Using NFC

Introducing Panasonic's Embedded Bluetooth Low Energy and NFC Combination RF Module, the PAN1761 Series!

**PAN1761** supports both Bluetooth Low Energy (LE) 4.1 and NFC – NFC Forum Type 3 compliant tag – based on leading edge Toshiba SOC. The unique configuration of the PAN1761 allows NFC to wake up BLE from standby using an NFC field and automatically initiate a Bluetooth connection. Highly secure Bluetooth connections are created using NFC to exchange link keys. Bluetooth LE applications with extended battery life are possible as a result of zero power consumption in standby mode. A remote device may independently create a wake up signal with neither host control nor local battery consumption. Embedded microcontroller access and 32KB EEPROM is available for autonomous stand-alone operation.

### Main Features:

- Unique Combination of Bluetooth LE and NFC
  - NFC Wakeup For Products With Zero Standby Power Consumption
  - Added Security With BT Pairing Via NFC “Out-of-Band Pairing”
  - Android APK Available For NFC Pairing
  - Select Bluetooth Nodes Individually Via NFC
  - Start Mobile Apps Automatically

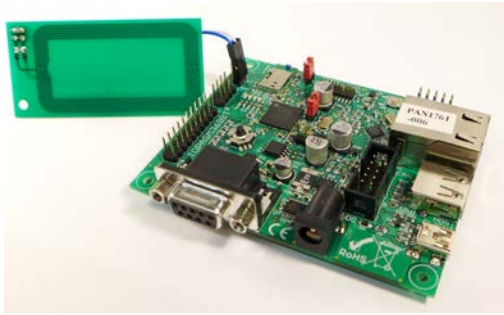
### General Features:

- Small 15.6 x 8.7 x 1.8 mm<sup>3</sup> SMD Package
- Same Form Factor and Footprint As PAN1026 and PAN1760
- Integrated 2.4GHz Antenna, NFC Antenna External (Antenna Pin)

- Compliant With NFC Forum Tag Type 3 For Easy Pairing Initialization And Transfer of Small Amounts Of Data (ISO/IEC18092)
- Bluetooth 4.1 (LE) Embedded GATT Profile With High-Level API Commands, Compatible To Toshiba Reference BLE Profiles
- Operation As Host-less, Stand Alone With 32KB Available For Applications
- Standard SIG BLE and “SPP Over BLE” Profiles Available
- Plug-in For Bluetooth Developer Studio Available

## Bluetooth 4.1

- Support For Over the Air Update (OTA) And Scatternet
- GAP Central And Peripheral Support For LE



## Evaluation Kits

- PAN1761 EMK Starter Kit with NFC Antenna Available
- SDK Demo Project with NFC Example
- SDK Library For “Out-of-Band Pairing”
- Android App As Example Application And Source Code

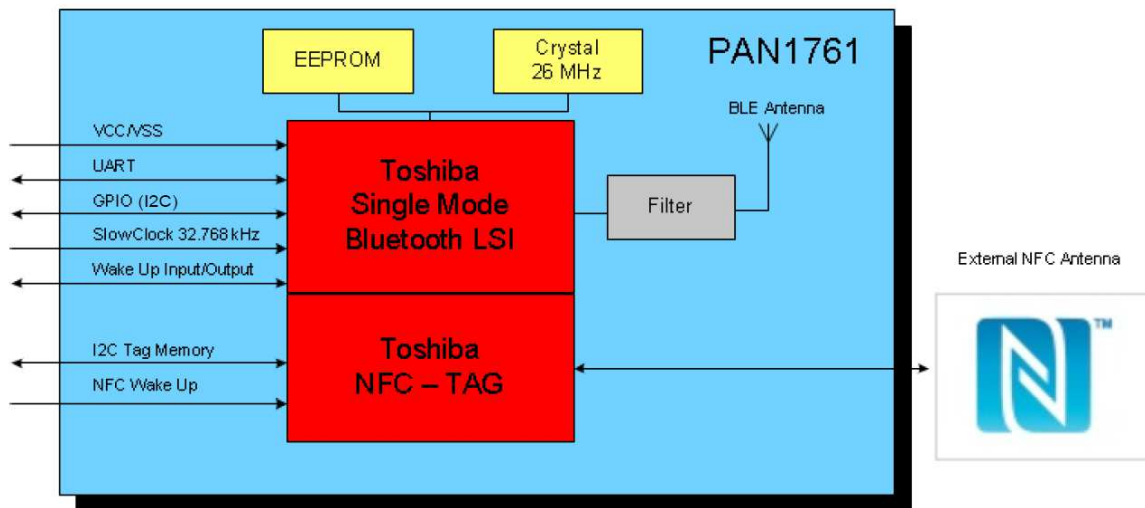
## Applications:

- Diagnostic And Maintenance Systems With Requirement For Zero Standby Power Consumption
- Healthcare And Medical Diagnostic Systems Without Human Control Interface
- Bluetooth Low Energy Sensor Applications, Which Need To Send Data On Request
- Automotive Aftermarket Products
- Industrial Sensors And Measurement Devices

## Part Number Information:

Part Number	Description	Series Number
ENW-89848A1KF	PAN1761, BLE with NFC, Embedded Processor With Antenna	PAN1761
ENW-89848AVKF	PAN1761 Experimenter Kit	EVAL_PAN1761EMK
ENW-89848AYKF	PAN1761 Demonstration Kit	EVAL_PAN1761ETU

## Block Diagram:



## Technical Characteristics:

Parameter                      0,1%BER                      Value  
Condition/Note

<b>Receiver Sensitivity (30.8% PER)</b>	<b>-90 dBm</b>	<b>@ 500 kpbs / MSK (high-gain mode)</b>
<b>Output Power</b>	<b>0 dBm</b>	<b>Maximum Setting</b>
<b>Power Supply</b>	<b>1.8V - 3.6V</b>	<b>Single Operation Voltage</b>
<b>Transmit and Receive Mode</b>	<b>5,5 mA</b>	<b>typ. Bluetooth Tx mode</b>
<b>Low Power Mode</b>	<b>&lt;1 <math>\mu</math>A</b>	
<b>Operating Temperature Range</b>	<b>-40°C / +85°C</b>	<b>Industrial Range</b>