Silicon & Modules

Multiprotocol Controller **UE878**

Remote Control Multiprotocol Communications Controller

The Universal Electronics UE878 is a System-on-Chip Zigbee rf4ce[1] and Bluetooth® Low Energy[2] communications controller designed for use in RF Remote Control applications. It is optimized for low cost while providing superior performance.

Connectivity

- BLE 4.2, 2Mbps, Data Length Extension
- IEEE 802.15.4 MAC for zigbee 3.0, RF4CE
- Concurrent support for BLE and RF4CE in a time slotted fashion
- Integrated high current IR drive

Hardware

- 64MHz ARM Cortext M4 Processor
- 512kB Flash (running at full system clock)
- Up to 64kB SRAM
- Integrated Baluns and RF Filters

Security

- Advanced security features, including hardware accelerated AES & CCM encryption

Interface

- UART, SPI, I2C, up to 31 GPIO

Layout

- QFN40 6x6mm package

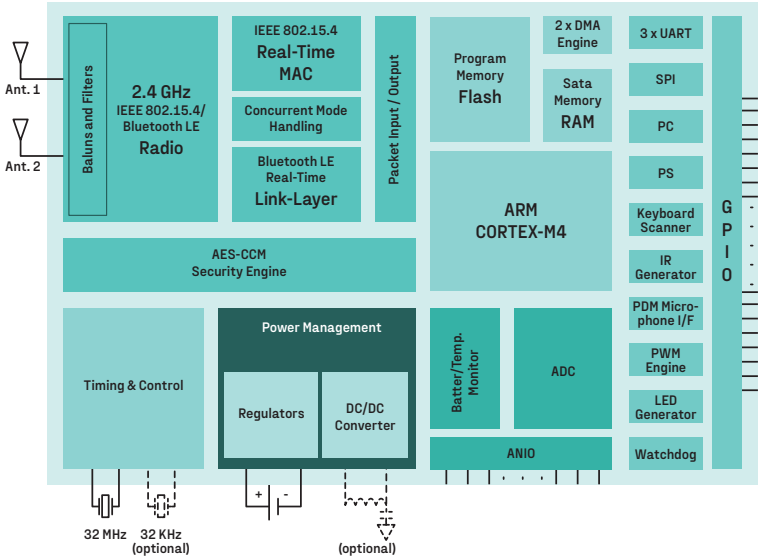
[1] For a high-level overview of rf4ce please refer to the "Understanding rf4ce" White Paper on the Zigbee website www.zigbee.org
[2] For Bluetooth Low Energy, please refer to the Bluetooth Special Interest Group website www.bluetooth.org

Product USPs

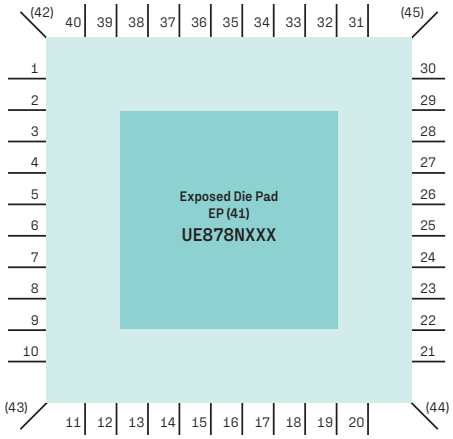
- Compatible with QuickSet
- Powerful
- Secure

Features

Block diagram



Package Layout (QFN40)



RF Regulation

- ETSI EN 300 328 (Europe)
- FCC CFR47 Part 15 (US)
- ARIB STD-T-66 (Japan)
- RoHS complaint

Product Models

Product Code	Flash	RAM
UE878NKDG	256 KB[1]	32 KB
UE878NKEG	256 KB[1]	64 KB
UE878NMDG	512 KB	32 KB
UE878NMEG	512 KB	64 KB
UE878NKDH	256 KB[1]	32 KB
UE878NKEH	256 KB[1]	64 KB
UE878NMDH	512 KB	32 KB
UE878NMEH	512 KB	64 KB

[1] Products ordered with 256 KB Flash are shipped with 320 KB Flash to allow the RT (real-time) system to be programmed into and executed from Flash

UNIVERSAL ELECTRONICS

Visit our website:
www.uei.com

RDN1261120

Specifications

Connectivity

- 2.4-GHz RF Transceiver compliant with: IEEE 802.15.4 and Bluetooth Low Energy
- IEEE 802.15.4 MAC for Zigbee 3.0, RF4CE
- Integrated high current IR drive

Multi-Protocol Support

- Concurrent IEEE 802.15.4 and Bluetooth Low Energy Communications
  1. Bluetooth LE controller will automatically free-up airtime in the connection when rf4ce has data packets queued, or
  2. Bluetooth LE controller will reserve a portion of the connection for rf4ce communication.

Hardware

- Arm® Cortex®-M4 processor with DSP functionality
- Up to 64 MHz clock speed 512kB Flash (running at full system clock)
- 32 or 64 Kbyte Low Leakage Retention RAM
- 256 or 512 Kbyte Flash Program memory
- Two DMA Engines

Security

- CCM and CCM* encryption and authentication with 128-bit keys

Interface

- UART, SPI, I2C, up to 31 GPIO

Power Management

- Operating voltage range: 1.8 ... 3.6V
- Integrated Regulators
- Integrated DC/DC Buck Converter

Layout

- QFN40 6x6mm package