Energous EN4100 – Transmitter SoC

Compact, Integrated, and Ready to Power the Future

The EN4100 is the core IC driving Energous' RF-based wireless power transmitters, offering a fully integrated System-on-Chip (SoC) solution designed for low-power, battery-free IoT applications. Built for maximum flexibility and minimal footprint, it combines RF transmission, power management, and digital control in a single package—enabling seamless deployment of wireless power networks (WPNs).

The EN4100 is ideal for developers building smart sensors, wearables, asset trackers, and other devices requiring reliable wireless power delivery.

Whether used in fixed-position transmitters or mobile charging hubs, the EN4100 simplifies integration and reduces system complexity—no coils, no connectors, no charging contacts. Just clean, efficient, over-the-air power delivery.

Key Benefits

- **RF-based power transmission** – smaller footprint than coil-based systems
- **Orientation & spatial freedom** – no need for precise alignment
- **Eliminates mechanical connectors** – ideal for sealed, waterproof designs
- I**ntegrated power managemen**t – fewer external components required
- **Secure communication** – supports 2-way authentication with 128-bit encryption
- **Simplified design architecture** – requires only an external crystal and PA

Product Highlights

- **ARM Cortex® M0+ MCU**
- **Embedded RAM and ROM**
- **Integrated DC-DC converter and LDOs**
- **RF converter and variable gain amplifier (VGA)**
- **Clock generation: crystal oscillator, PLL, LPO, clock divider**
- **Power detectors (input/output)**
- **I²C, UART, SPI interfaces**
- **General-purpose I/Os, ADCs, DACs**
- **Operates from a single 3.3V supply**

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Device Overview

Category	Specification
Core	ARM Cortex M0+, embedded firmware support
Supply Voltage	3.3V
Interfaces	SPI, UART, I²C, GPIOs
RF Architecture	Integrated RF transmitter with VGA, PLL, PD
Security	Embedded 128-bit encryption
Clocking	Integrated crystal oscillator, PLL, LPO
Temperature Range	Chip Level: -40C to 85C System level: -20C to 60C
Form Factor	7X7 Dual-Row QFN, 84pin

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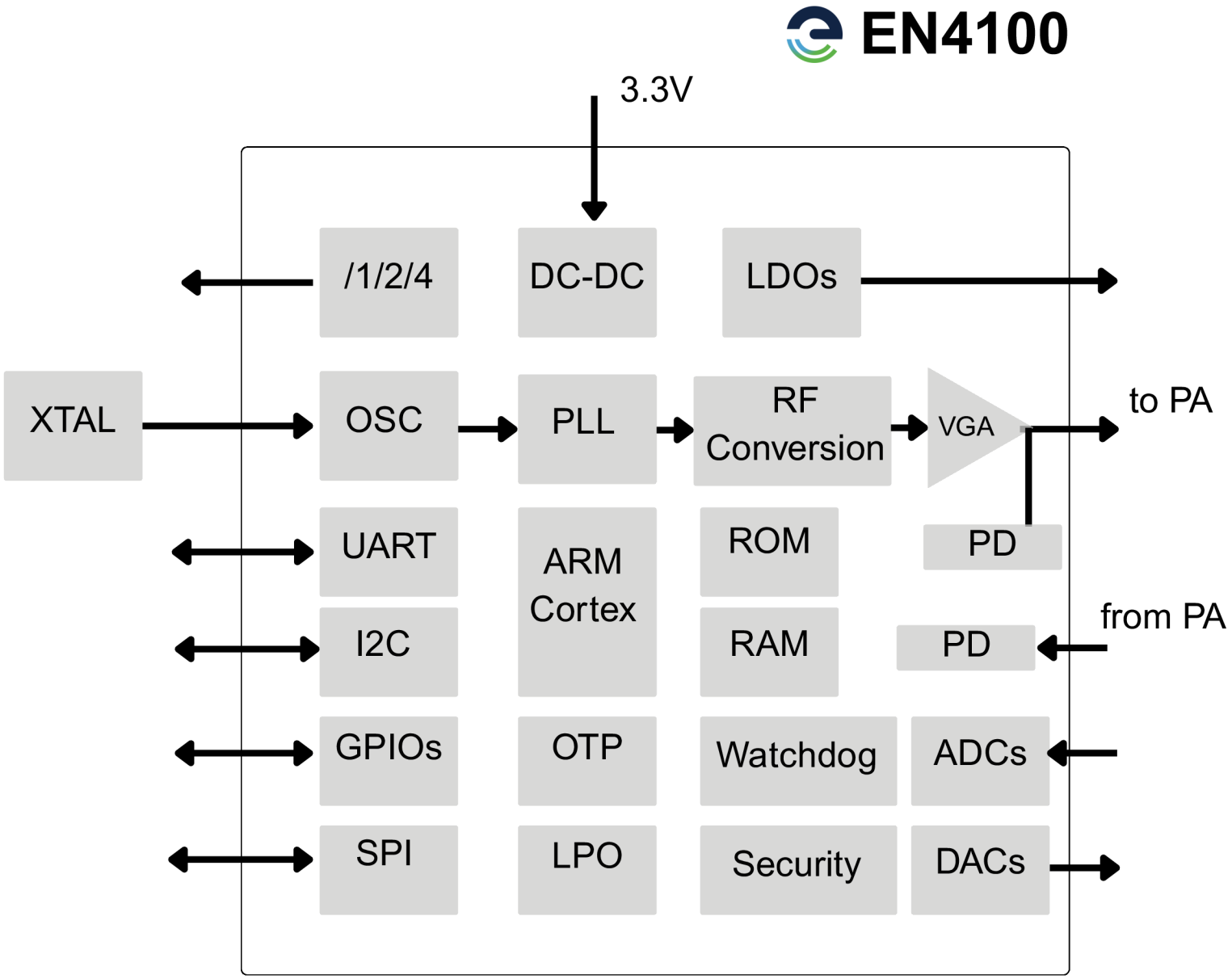

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