ECR6600 Product Brief

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ECR6600 is an SoC designed for IoT terminal devices, supporting Wi-Fi 802.11b/g/n/ax and BLE 5.0 protocols, with a built-in power management module, power amplifier, low noise amplifier, and transceiver switch.

ECR6600 adopts RISC processor architecture, equipped with sufficient storage space, abundant peripheral interfaces, a strong encryption mechanism, FullMAC architecture, and a wider operating temperature range.

Highlights

- Using OFDMA technology, multiple IoT devices share bandwidth. Compared to Wi-Fi 4, the number of connections is increased by 4 to 8 times
- With the OFDMA technology, IoT devices can quickly access the idle RU frequency domain resources to ensure real-time communication
- TWT technology reduces the wake-up time of the IoT terminals. With TWT, the standby power consumption of devices is reduced by 30-50%, and the standby time is increased
- Using DCM technology to improve the coverage capacity by 3dB and increase the coverage by 100% through redundantly transmitting signals on two subcarriers
- Using WPA3 technology, AAA authentication server, AES encryption algorithm, and 256-bit key length to get the same security level as 5G
- With ER technology, IoT devices use 2MHz bandwidth, which increases the uplink SNR by 10dB and the data rate by two times. The power consumption is reduced
- Adaptive temperature correction technology is used to ensure excellent performance in the temperature range of -40~+105℃, which meets the high-temperature requirements of smart lighting
- FullMAC technology is adopted to realize UMAC and LMAC functions in the chip, which does not occupy extra CPU resources and improves the startup speed of the chip
- Using OFDMA technology, IoT devices can choose RU frequency domain resources with better channel quality to resist the interference
- Support Long Symbol technology with 0.8/1.6/3.2 μs GIs, improve the resistance of IoT devices to multipath impacts

Features

- 2.4G, 802.11b/g/n/ax, 1T1R, DCM, HE20, MCS7, TX=+17dBm, Soft AP/Station/Direct mode
- BLE 5.0, AFH, TX=+10dBm
- RF, Built-in PA, LNA, Switch, and Balun
- Processor, Andes D10 @160MHz, FPU
- Memory, 512KB SRAM, 48KB ROM, 32KB Cache, 2MB/4MB Flash, XIP
- Peripherals, GPIOs, HS-UART, QSPI, PWM, I^2C, I^2S, SDIO, ADC(1MSPS), IR
- Security, TRNG, Secure Boot, AES256, HASH, WPA/WPA2/WPA3, WPS, WEP
- Operating temperature, -40~+105℃

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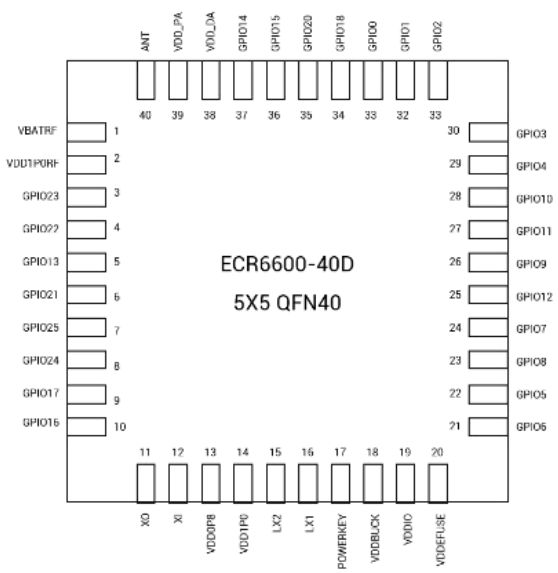

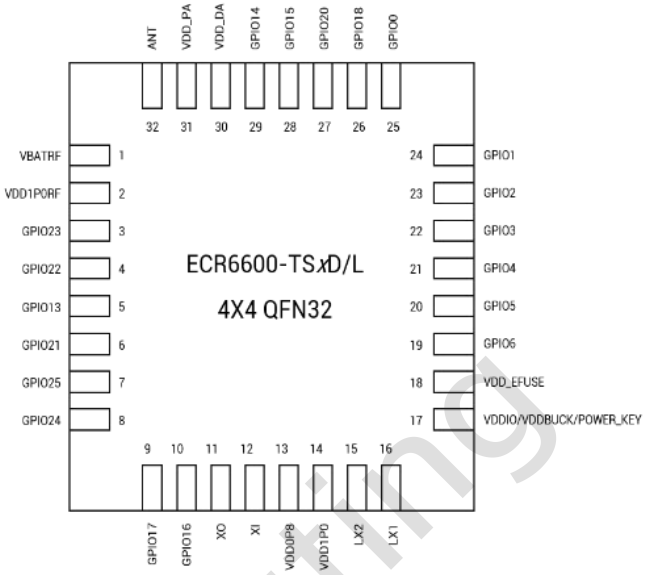

Variant	Packaging
ECR6600-40D	QFN40 5x5
ECR6600-TS2D	QFN32 4x4
ECR6600-TS2L	QFN32 4x4
ECR6600-TS4D	QFN32 4x4
ECR6600-TS4L	QFN32 4x4

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