

Circuit Description

The RTL8196EU is an integrated System-on-a-Chip (SoC) Application Specific Integrated Circuit (ASIC). An RLX4181 CPU is embedded and the clock rate can be up to 400MHz. To improve computational performance, a 16-Kbyte I-Cache, 8-Kbyte D-Cache, 16-K I-MEM, and 8-Kbyte D-MEM are provided. The RTL8196EU provides one port, integrated with one physical layer transceiver for 10Base-T and 100Base-TX. The RTL8196EU supports flexible IEEE 802.3x full-duplex flow control and optional half-duplex backpressure control. For full-duplex, standard IEEE 802.3x flow control will enable pause ability only when both sides of UTP have auto-negotiation ability and have enabled pause ability. The RTL8196EU also provides optional forced mode IEEE 802.3x full-duplex flow control. Based on optimized packet memory management, the RTL8196EU is capable of Head-Of-Line blocking prevention.

The Realtek RTL8188ER is a highly integrated single-chip 802.11n Wireless LAN (WLAN) network PCIe interface (PCIe 1.0/1.0a/1.1 compliant) controller. It combines a WLAN MAC, a 1T1R capable WLAN baseband, and WLAN RF in a single chip. The RTL8188ER provides a complete solution for a high throughput performance integrated wireless LAN device. The RTL8188ER WLAN baseband implements Orthogonal Frequency Division Multiplexing (OFDM) with 1 transmit and 1 receive path and is compatible with the IEEE 802.11n specification. Features include one spatial stream transmission, short guard interval (GI) of 400ns, spatial spreading, and transmission over 20MHz and 40MHz bandwidth.

The RT8064 is a high efficiency synchronous, Step-down DC/DC converter. Its input voltage range is from 2.7V to 5.5V and provides an adjustable regulated output voltage from 0.8V to 5V while delivering up to 2A of output current.