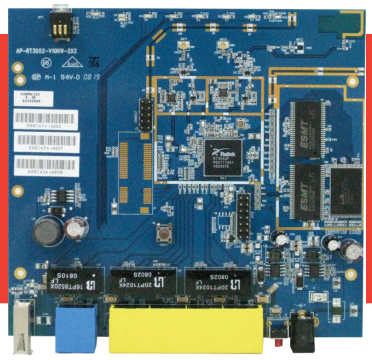
RT3052

802.11n Wireless Single Chip AP/Router SoC

Highly Integrated with MAC, BB, RF, FE Switch, and PHY



– Cost reduction to current 11n solutions

– Intelligent NIC (iNIC) offloads the 802.11n wireless operations for the host system

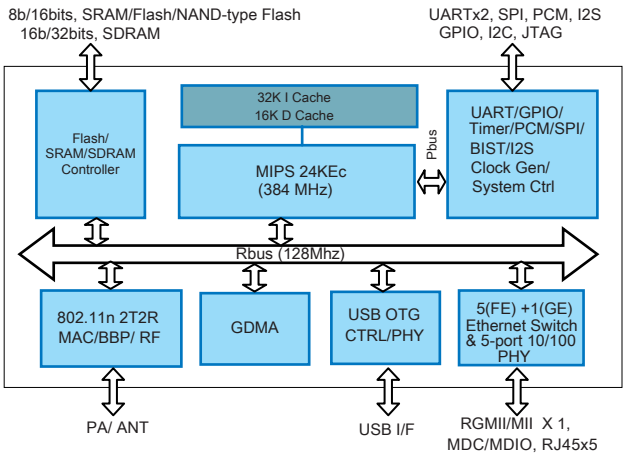
Overview

The RT3052 SoC combines Ralink's 802.11n draft compliant 2T2R MAC/BBP/RF, a high performance 384MHz MIPS24KEc CPU core, 5-port integrated 10/100 Ethernet switch/PHY, a USB OTG and a Gigabit Ethernet MAC. With the RT3052, there are very few external components required for 2.4GHz 11n wireless products. The RT3052 employs Ralink's 2nd generation 11n technologies for longer range and better throughput. The embedded high performance CPU can process advanced applications effortlessly, such as routing, security and VoIP. The USB port can be configured to access external storage for Digital Home applications. In addition, the RT3052 has rich hardware interfaces (SPI/PCM/I2S/I2C/UART/GDMA) to enable many possible applications.

Features

- 300Mbps PHY data rate
- 1T1R/1T2R/2T2R/2T3R modes
- Package: 14mmx14mm 289-ball BGA
- Embedded a 7-port Ethernet switch and a 5-port 10/100 Mbps PHY
- TX power: 14dBm
- RX sensitivity: -76dBm @ 54Mbps
- Support 5 10/100 UTP ports and one RGMII/MII port
- Support L-SIG TXOP
- MIPS 24KEc 384MHz with 32KB I cache/16KB D cache
- 20MHz/40MHz channel bandwidth
- Hardware NAT, QoS, TCP/UDP/IP checksum offloading
- Legacy and high throughput modes
- Reverse Data Grant (RDG) support
- Single frequency band: 2.4GHz~2.497GHz
- Security: WEP/TKIP/AES/WPS/WPA/WPA2
- Operating systems: Linux
- QoS - WMM, WMM Power Save
- WEP64/128, WPA, WPA2 engines
- International regulation - 802.11d
- Support boot from ROM iNIC mode
- USB2.0 OTG x 1

RT3052 Architecture



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