

Rapidly bring innovative WLAN Solutions to Market

AMD's new 802.11b WLAN reference design kit optimized to enable the rapid development of next-generation wireless solutions.

Overview

The AMD Alchemy™ Solutions WLAN Mini PCI Reference Design Kit (RDK) is part of AMD's next generation of wireless LAN solutions, leveraging the innovative design of the AMD Alchemy Solutions wireless chipset.

Optimized to help developers and designers rapidly bring innovative WLAN solutions to market, the Mini PCI RDK uses auto-calibrating technology and a small form factor to produce a low power consumption solution that can help reduce both manufacturing cost and testing time. This highly integrated CMOS RF-solution, which is compliant with IEEE's security and 802.11b standards, fits neatly on approximately 65% of a single-sided, four-layer PCB board within a Type IIIb Mini PCI card form factor.

The WLAN Mini PCI RDK is the result of AMD's continued focus on the unique needs of our design and development partners. As the first building block in our long-term wireless strategy, the Mini PCI RDK positions AMD to become the leading supplier of innovative wireless LAN solutions.

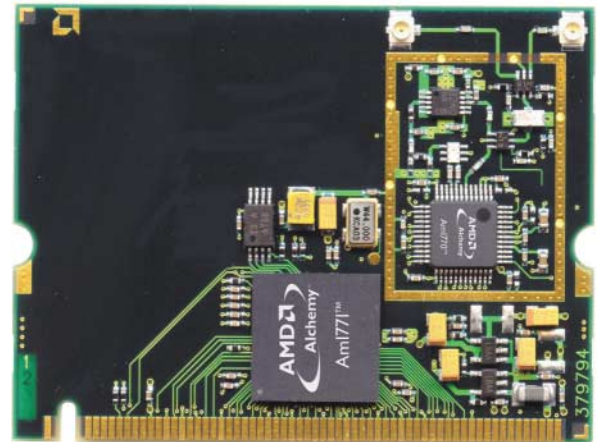
Highlights

The AMD Alchemy Solutions WLAN Mini PCI RDK offers designers and developers:

The ability to lower manufacturing costs

By using a direct conversion RF transceiver with AGC and integrated Rx/Tx filter, the WLAN Mini PCI RDK eliminates the need for costly and time-consuming system calibration during the manufacturing process.

The WLAN Mini PCI RDK also incorporates a unique two-chip design that eliminates the need for nearly 20% of common WLAN discrete components. The AMD Alchemy transceiver does not require external VCOs, loop filters, SAW filters or external tank circuitry. The AMD Alchemy™ Solutions Aml771™ single-chip DMA-based baseband/MAC eliminates the need for external SRAM and Flash memory. The result is a flexible solution that can help lower manufacturing costs.



Greater design flexibility

The WLAN Mini PCI RDK offers an extremely efficient form factor, fitting the complete solution on a single side of a Type IIIb Mini PCI card. This flexible, two-chip design allows other connectivity technologies to be combined on the same card. AMD's descriptor-based DMA architecture is designed to provide an easy path for host CPU software enhancements to support future security and quality of service requirements.

At a Glance

- Descriptor-based DMA host interface
- Digital radio interface to Aml771 BB/MAC
- Self-calibrating design
- Supports antenna diversity
- Supports ad-hoc and infrastructure modes
- Sample end-user's manual
- RDK artwork included
- Microsoft® Windows® drivers
- Future revisions to support common embedded OS support
- Manufacturing utility, user utility and drivers

AMD's innovative, two-chip design offers

- Compact, efficient design for layout flexibility
- Low power consumption for longer battery life
- Low part count by eliminating the need for SRAM, Flash and external radio circuits
- The ability to reduce test times and manufacturing costs
- The ability to reduce BOM, making it suitable for combination connectivity technologies
- Leading-edge receiver sensitivity
- Seamless interoperability with Wi-Fi™ certified devices

Specifications

IEEE Standard Support	802.11b compliant
Variable Data Rates	1, 2, 5.5 and 11 Mbps (long and short header modes)
Frequency Bands	ISM-band (2400MHz – 2484MHz)
Operating Channels	I – II FCC (US) I – I3 ETSI 10 – I3 (France) 10 – II (Spain) I – I4 (Japan, MKK)
Modulation	DSSS (CCK, DQPSK, DBPSK)
Receive Sensitivity (8% PER)	-87dBm (@11Mbps) -90dBm (@5.5Mbps) -92dBm (@2.0Mbps) -95dBm (@1.0Mbps)
Coverage Range (8% PER)	Up to 240m (@11Mbps) Up to 350m (@5.5Mbps) Up to 550m (@2.0Mbps) Up to 1100m (@1.0Mbps)

Host Interface	Type IIIb Mini PCI, Single Sided*
Operating Temperature	0°C to 60°C
Storage Conditions	-20°C to 70°C
Maximum Humidity	≤95%
Output Power	17.5dBm at antenna connector
System Current Consumption	Tx mode: 232mA Rx mode: 134mA Listen mode: 106mA Sleep mode: 18mA
Power Supply	3.3V from Mini PCI bus
Security Support	WEP 40- and 128-bit, TKIP + WPA**
OS Support	Windows XP, Windows 2000, Windows 98 SE, Windows ME, Windows NT®, Linux
Compliance Certifications	Wi-Fi, FCC, TELEC

*Future reference design kits planned for PC CardBus and access points.

**Future software enhancement planned

System Documentation

- User guide
- Data sheets
- Application notes
- Drivers and user applications
- Development, manufacturing, and user utilities

About AMD

AMD is a global supplier of integrated circuits for the personal and networked computer and communications markets with manufacturing facilities in the United States, Europe, Japan, and Asia.

AMD, a Fortune 500 and Standard & Poor's 500 company, produces micro-processors, flash memory devices, and support circuitry for communications and networking applications.

Founded in 1969 and based in Sunnyvale, California, AMD had revenues of \$3.9 billion in 2001. (NYSE: AMD)

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