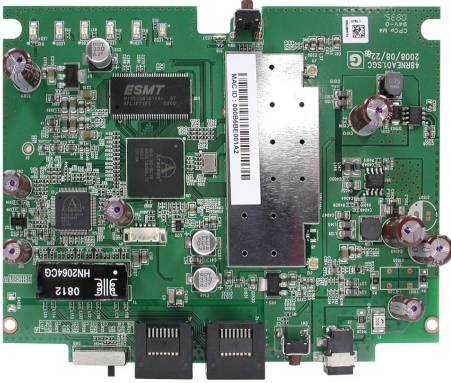




802.11n Draft 2.0 a/b/g multi-function Router/AP/Client/Repeater, AP83/AR9001AP-2NX

Model: RNEA-83



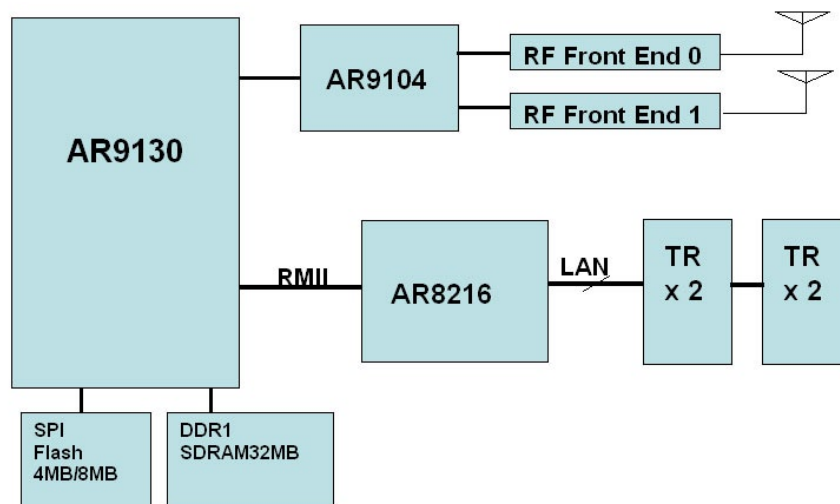
RNEA-83 is the first high-speed 802.11n Draft 2.0 a/b/g 2x2 multi-function device that can operate as router, access point, client, and repeater modes. Completely plug-and-play with virtually no configuration reduces end user support burden. GUI and firmware custom service enable Operators to quickly and easily bring competitive price/performance WLAN products to market and ensure best end user experience possible.

Equipped with latest 802.11n Draft 2.0 technology, RNEA-83 is designed specifically for offices, homes, and hotspots looking to deploy 2.4 and 5GHz frequency that delivers up to 300Mbps wireless link data rate and very effectively sustains the 802.11n radio signal to optimizes for higher throughputs over range. Setting new standards in throughput, range, reliability, and security, RNEA-83 delivers the ultimate wireless triple play experience of video, voice, and data transmission for office, homes, and public hotspot users.

Key Features:

- Two 10/100Mbps LAN port or one 10/100Mbps WAN + one 10/100LAN port design provide highest application flexibility.
- 802.11n 2x2 MIMO technology improves effective throughput and range over existing 802.11 a/b/g products.
- 802.11n draft 2.0 compliance effectively interoperates with other chipsets.
- Enables bandwidth up to 300Mbps link rate, six times the throughput of 802.11a and 802.11g.
- Supports IEEE 802.11a/802.11b/802.11g backward compatibility allowing inter-operability among multiple wifi networks.
- Supports multiple operation modes of Router, Access Point, Client (Ethernet Adapter) and Repeater.
- Supports Static IP and DHCP client address assignment for WAN.
- NAT supports ALGs, software DMZ, virtual server, IP filtering, and special AOEII/WarCraft3 applications.
- Supports advanced security of WEP 64/128/152 encryption, 802.1x authentication, WPA/WPA2 pre-shared key/TKIP/AES, MAC based Access Control List for wireless interface, privacy separator, and hidden SSID.
- Supports web-based management tool, UPnP, upload and download test-based configuration file via HTTP browser, firmware upgrade via HTTP browser, and remote management control.
- Supports settable transmit power levels to adjust coverage cell size
- RoHS 2002/95/EC compliance meets environment-friendly requirement.

Hardware Block Diagram



Hardware Specifications:																
Main Chipset	<ul style="list-style-type: none"> Atheros AR9130 and AR9104 Ethernet Switch Controller: AR8216 															
DDR1	16M x 16bits (32MB)															
Flash	4M x 8bits(4MB) or 8MB (for router inside)															
Standard Conformance	802.11n draft 2.0, 802.11a/b/g, 802.11i WPA2, 802.3 10Base-T, 802.3u 100Base-TX, 802.3x Flow Control, Auto MDI/MDI-X.															
Frequency Range	<ul style="list-style-type: none"> USA: 2.400 – 2.462GHz, 5.15 – 5.35GHz, 5.725 – 5.825GHz Europe: 2.400 – 2.472GHz, 5.15 – 5.35GHz, 5.47 – 5.725GHz Japan: 2.400 – 2.484GHz, 5.15 – 5.35GHz, 5.47-5.725GHz 															
Interface	<ul style="list-style-type: none"> WiFi: 802.11n draft 2.0, 802.11a/b/g two 10/100Mbps LAN or one 10/100Mbps WAN + one 10/100Mbps LAN 															
Modulation Technique	<ul style="list-style-type: none"> DSSS with CCK, DQPSK, DBPSK OFDM with BPSK, QPSK, 16QAM, 64QAM 															
Data Rate	<ul style="list-style-type: none"> 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11b: 1, 2, 5.5 and 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: <ul style="list-style-type: none"> 20MHz channel: <ul style="list-style-type: none"> 1Nss: 65Mbps @ 800GI, 72.2Mbps @ 400GI (Max.) 2Nss: 130Mbps @ 800GI, 144.4Mbps @ 400GI (Max.) 40MHz channel: <ul style="list-style-type: none"> 1Nss: 135Mbps @ 800GI, 150Mbps @ 400GI (Max.) 2Nss: 270Mbps @ 800GI, 300Mbps @ 400GI (Max.) 															
Operating Channels	<ul style="list-style-type: none"> 802.11 b/g/n <ul style="list-style-type: none"> HT20: <ul style="list-style-type: none"> USA/Canada: 11 (1~11) Major Europe Countries: 13 (1~13) France: 4 (10~13) Japan: 14 for 802.11b (1~13 or 14th), 13 for 802.11g (1~13) China: 13 (1~13) HT40: <ul style="list-style-type: none"> CH3 ~ CH9 802.11 a/n <ul style="list-style-type: none"> HT20: <ul style="list-style-type: none"> USA/Canada: 5.150 ~ 5.350GHz and 5.725 ~ 5.850GHz Major Europe Countries: 5.150 ~ 5.725GHz Japan: 5.150 ~ 5.725GHz HT40: <ul style="list-style-type: none"> USA/Canada: 5.190, 5.230, 5.270, 5.310, 5.755, 5.795GHz Major Europe Countries: 5.190, 5.230, 5.270, 5.310, 5.550, 5.590, 5.630, 5.670GHz Japan: 5.190, 5.230, 5.270, 5.310, 5.550, 5.590, 5.630, 5.670GHz 															
Operation Distance	<table border="1"> <thead> <tr> <th></th> <th>Outdoor</th> <th>Indoor</th> </tr> </thead> <tbody> <tr> <td>802.11a</td> <td>50m @ 54Mbps 300m @ 6Mbps</td> <td>30m @ 54Mbps 100m @ 6Mbps</td> </tr> <tr> <td>802.11b</td> <td>150m @ 11Mbps 300m @ 1Mbps</td> <td>30m @ 11Mbps 100m @ 1Mbps</td> </tr> <tr> <td>802.11g</td> <td>50m @ 54Mbps 300m @ 6Mbps</td> <td>30m @ 54Mbps 100m @ 6Mbps</td> </tr> <tr> <td>802.11n</td> <td>30m @ 300Mbps 30m @ 130Mbps 250m @ 6.5Mbps</td> <td>20m @ 300Mbps 20m @ 130Mbps 100m @ 6.5Mbps</td> </tr> </tbody> </table>		Outdoor	Indoor	802.11a	50m @ 54Mbps 300m @ 6Mbps	30m @ 54Mbps 100m @ 6Mbps	802.11b	150m @ 11Mbps 300m @ 1Mbps	30m @ 11Mbps 100m @ 1Mbps	802.11g	50m @ 54Mbps 300m @ 6Mbps	30m @ 54Mbps 100m @ 6Mbps	802.11n	30m @ 300Mbps 30m @ 130Mbps 250m @ 6.5Mbps	20m @ 300Mbps 20m @ 130Mbps 100m @ 6.5Mbps
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MAC Protocol	CSMA/CA with ACK architecture 32-bit MAC															
Wi-Fi Compliance	Wi-Fi 2.4/5GHz by request															
Operation Temperature Range	0°C ~ +50°C															
Storage Temperature Range	-10°C ~ +70°C															
Operating Humidity	10% - 90%, non-condensing															
Storage Humidity	max. 90%, non-condensing															
EMC Certificate	FCC part 15C, IC RSS210, CE ETSI EN301893 EN60950, Telec, VCCI Class B by request															
Environment-Friendly Compliance	RoHS															

Hardware Specifications:	
Antenna	two dual-band internal antenna
RJ-45 Port	two 10/100Mbps LAN or one 10/100Mbps WAN + one 10/100Mbps LAN
WPS button	support WPS function
Function Switch	function switch between router, AP, client (Ethernet adapter), repeater
Reset Button	software and hardware restore to factory default
Power Supply	external power adapter with 5V/2A input
Installation	desktop & wall mountable
PCB Dimension	125 x 97.6 mm

Software Specifications:	
RTOS	Linux 2.6 kernel
Security	<ul style="list-style-type: none"> ▪ WEP: 64/128/152 WEP encryption ▪ 802.1x authentication supports EAP-TLS, PEAP, EAP-TTLS ▪ WPA/WPA2 pre-shared key, TKIP, AES ▪ MAC-based access control list for wireless interface(64 entries) ▪ Privacy separator (Port Isolation) ▪ Hidden SSID (no broadcast SSID function)
Management	<ul style="list-style-type: none"> ▪ web-based management tool(web GUI) ▪ upload & download text-based configuration file via HTTP browser ▪ firmware upgrade via HTTP browser ▪ software & hardware restore to factory default ▪ watch dog timer to warm bootup system ▪ web GUI survey the channel quality and available AP
Log Support	<ul style="list-style-type: none"> ▪ system log ▪ syslog support ▪ security log ▪ associated wireless client table
SNMP/MIBs Support	<ul style="list-style-type: none"> ▪ SNMP v1 & v2 ▪ MIB II (RFC-1213) ▪ Ether-like MIB (RFC-2665) updated from RFC 1650 ▪ IF-MIB (RFC-2233)
Networking Application	<ul style="list-style-type: none"> ▪ UPnP ▪ DHCP client ▪ ZeroConf: allocate addresses without a DHCP server
Network Protocol	TCP/IP support
NAT & Firewall	<ul style="list-style-type: none"> ▪ support ALGs including PPTP, FTP ▪ default private receiver (software DMZ) ▪ virtual server ▪ special applications support – AOEII and WarCraft3 ▪ IP filtering
Advanced Wireless	<ul style="list-style-type: none"> ▪ support adjustable output power from GUI(100%, 75%, 50%, 25%) ▪ Wireless Distributed System (WDS) mode ▪ Repeater mode ▪ Primary and secondary Radius server support ▪ Multi-SSID(fixed 4 sets) ▪ User limitation (n users) ▪ QoS(highest, high, normal, low)
IP Routing	<ul style="list-style-type: none"> ▪ RIP v1 & v2 ▪ static and default route
DNS	<ul style="list-style-type: none"> ▪ DNS relay ▪ dynamic DNS
WAN Encapsulation	<ul style="list-style-type: none"> ▪ static IP ▪ DHCP client
Basic Wireless	<ul style="list-style-type: none"> ▪ 802.11n draft 2.0 a/b/g ▪ 802.1d spanning tree protocol (STP) ▪ bridging between Ethernet and wireless LAN
Advanced Wireless	<ul style="list-style-type: none"> ▪ Router ▪ Access Point ▪ Client (Ethernet Adapter) ▪ Repeater

Orderign Information:

RNEA-83

802.11n Draft 2.0 a/b/g multi-function Router/AP/Client/Repeater, AP83/AR9001AP-2NX



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