• information
• technology
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Router Radio 56GXi
Outdoor Wireless Ethernet Bridge

Interface	
Ethernet Interface	100 base-T Ethernet
Wired LAN Protocol	IEEE 802.3 (CSMA/CD)
Wireless Interface	OFDM, TDD
Wireless LAN Protocol	IEEE 802.11a, Atheros 802.11a Turbo, WPM (Wireless Polling MAC)

The RouterRadio 56GXi is a high performance 5GHz outdoor wireless client bridge designed to provide secure and reliable point to multipoint operation for Carriers, Internet Service Providers, Business Enterprises and Government organisations.

The RouterRadio 56GXi is capable of operating as wireless router or multi-mac bridge to BackStation 56G and standard 802.11a Access Points, supporting up to 25 Mbps Net Throughput over its air interface. The Router Radio 56GXi leverages both robust outdoor technologies and Orthogonal Frequency Division Multiplexing (OFDM) modulation in the same product - with features such as Forward Error Correction coding, used to combat multi-path and noisy environments, the product operates seamlessly and efficiently in challenging environments with stable throughput.

The system also features advanced algorithms for automatic selection of modulation schemes to maximize the data rate and improve spectral efficiency using latest technology based on Atheros® AR5006XS Radio Modules. These inherent advantages of the Router Radio 56GXi enable service providers to provide an effective PtMP solution to a significantly higher subscriber base that would otherwise be inaccessible.

Using Features such as Packet Aggregation two Router Radio 56GXi devices operating as PtP bridges can handle up to 10000 packets per second. Combining high frequency reuse, selectable channel width with advanced interference management and immunity techniques, the Router Radio 56GXi bridges conserve valuable spectrum by allowing service provider to cover an extensive geographical area with a minimum number of channels.
While operating with BASESTATIO 56G the Router Radio 56GXi device can be configured to utilize proprietary polling protocol that overrides shortages of the standard 802.11a mode. OSB Base Station proprietary WPM (Wireless Polling MAC) is a full featured TDMA/TDD protocol implementation on top of Atheros® AR5006XS hardware, using Packet Aggregation, Adaptive Polling Algorithm and disabling of the CSMA Backoff Mechanism. WPM also provides link adaptation technology and improves bandwidth, robustness, and overall performance for each subscriber.

Router Radio 56GXi software features such as bridging, routing, NAT routing, CPE and PtP Bridge modes, SNMP, web management, advanced QOS, DHCP client/server, firewall, PPPoE client, high grade encryption, port forwarding, remote syslog and built in troubleshot utilities make the Router Radio 56GXi the most flexible and cost effective broadband wireless CPE platform available today.

All Router Radio 56GXi products are robust outdoor units, that are built to perform in difficult climatic environments and withstand even the harshest weather conditions. Built in passive Power over Ethernet system allows only one ethernet cable to be used for both data and power transmission for up to 200 feet.

Router Radio 56GXi Specifications

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Wired LAN Protocol	IEEE 802.3 (CSMA/CD)
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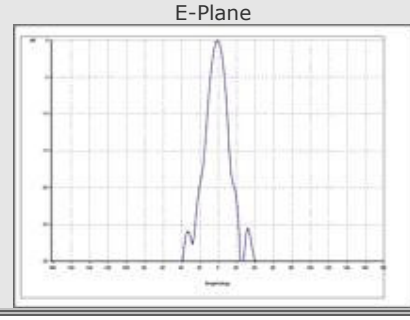
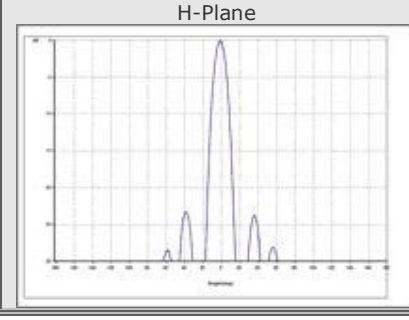
Radio								
Supported Frequencies	Europe (ETSI): 5500-5700 MHz (11 channels) with DFS (Dynamic Frequency Selection), USA (FCC): 5180-5320 MHz (8 channels), 5745-5825 MHz (5 channels), UK (OFCOM FWA): 5735-5835 MHz (4 channels) with DFS (Dynamic Frequency Selection), Africa&Asia (OTHER): 4920-6100 MHz (236 channels, 5MHz step)							
Modulation Technique	BPSK, QPSK, 16QAM, 64QAM							
Channel Width	User Selectable - 802.11a: 20 MHz, 10 MHz or 5 MHz, 802.11a Turbo: 40 MHz							
Output Power	ETSI: < 30 dBm EIRP OFCOM: < 33 dBm EIRP FCC, Africa: < 40 dBm EIRP							
Bit Data Rate (Mbps)	54	48	36	24	18	12	9	6
Receive Threshold (including built-in antenna)	-95dBm	-98dBm	-103dBm	-106dBm	-110dBm	-111dBm	-112dBm	-114dBm

System	
Processor	175MHz MIPS 4Kc Processor with Embedded Cache
Memory	2MB NOR FLASH, 16MB SDRAM
RF Module	Atheros AR5006XS with XR Technology

Software	
Security	Association Protocol - ESSID, WEP 40/128, AES
Features	Bridge, Router, NAT Router, PPPoE Client, Packet Filtering, QOS, DHCP Server/Client, Port Forwarding

Physical	
Dimensions	320 mm X 320 mm X 100 mm
Operating / Storage Temp.	-40°C - +70°C / -40°C - +85°C
Enclosure	IP65 Rated, UV Protected, Outdoor Mountable, Weather Protected
Power Adapter	12V / 1.2A DC, Active Ethernet (PoE Injector included)
LEDs	3 - Power, Ethernet LAN Activity, Wireless Activity
Mounting	Adjustable Mast Mounting

Antenna		
Type	23dBi Flat Panel Antenna	
Built-in Antenna Patterns	E-Plane 	H-Plane 

Operational Distance								
Bit Data Rate (Mbps)	54	48	36	24	18	12	9	6
Operational Distance (m.)	3200	4300	5900	7200	9100	11200	16000	19500

Regulatory Compliance	
	CE mark, ETSI EN 301 893 Compliant, FCC Part 15 Compliant