

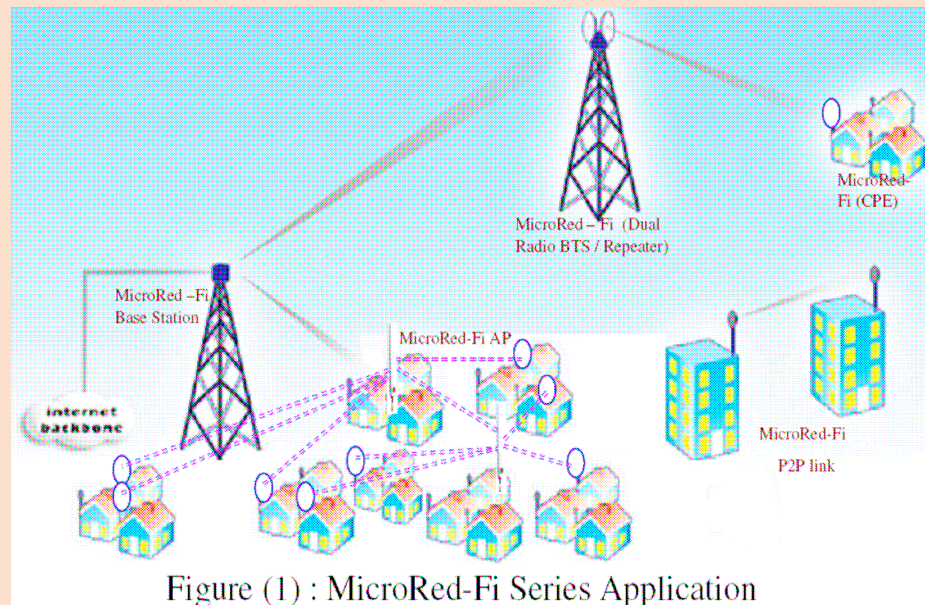


## BROADBAND WIRELESS ACCESS SYSTEM

# MicroRed-Fi

The MicroRed-Fi Ethernet product family uniquely combines Point-to-Point and Point-to-Multipoint, outdoor AP with WDS applications in the same product family. PointRed's open standard architecture addresses the critical heterogeneous product interoperable issues to provide excellent coverage and investment protection. PointRed's experience in system level design and capabilities of the MicroRed-Fi platform enable ISP to confidently deploy broadband wireless networks today, securing profitable investments for the Operators, as their demands for capacity and services increases.

This MicroRed-Fi system is based on PointRed Telecom advanced single chipset radio architecture. These systems operate on IEEE 802.11a, 802.11b & 802.11g and interoperable with products of same standards. MicroRed-Fi has single radio base station, dual radio base station, subscriber stations & out door access points with WDS support. The links can be set up easily using country code selection with respective country allocated frequency range in license free and public safety bands. The features supports DHCP, NAT, routing, bridging





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## Product Highlights

- Pay as you grow: MicroRed-Fi architecture makes small, lower-cost Base stations that can be installed to expand coverage as demand increases.
- Unique MicroRed-Fi feature allows routing around obstacles and shadow areas to increase potential subscriber coverage significantly in many cells.
- MicroRed-Fi technology eliminates expensive repeaters and high-maintenance network infrastructure.
- Operates in unlicensed and public safety bands.
- Fast packet-based data transmission and toll quality for delay and jitter sensitive telephony which is required for VoIP.
- Quality of Service featuring Voice Priority, supporting H323 or SIP. Dynamic Bandwidth allocation on a packet-to packet basis.
- Standard Configuration based on country code.
- Packet switching technology optimized for IP-based applications and always on connectivity.
- Single platform combines all communication technologies including IP & Ethernet.
- Transparent VLAN support & DHCP
- SNMP-based Embedded Network Management System.
- Security: 64/ 128/ 154-bit WEP Encryption.  
802.1x authentication, IPSEC  
AES-CCM & TKIP Encryption.
- FCC Security band support
- Compliant with FCC, ETSI, and IC regulations

PointRed's **MicroRed-Fi™** are a Point-to-Multipoint, Point-to-Point and outdoor AP Radios with a standard Ethernet interface capable of 35Mbps over the air transmission. Utilizing intelligent bridging and optimized Multipoint algorithms, MicroRed-Fi offers very high user-available bandwidth.

The system consists of a Base Station Modem, Customer Premises Equipment (CPE) Modem sets associated with accessories.

### Base Station:

The Base station modem is the wide area network interface to the wireless system. Base Station provides Ethernet Connectivity for multiple applications such as Data, Voice and Video. The main functions of Base Station are Routing, Bridging, 4096 VLAN, allocating specified bandwidth to each CPE based on the QoS, monitoring the LOS status of each CPE in the sector, synchronizing each CPE in the sector by periodically polling the units with control packets, provides diagnostic information through the NMS.

### CPE Station:

The CPE features are: ease of installation, small in size, QoS, packetized Voice Traffic Priority, transparent VLAN, Bandwidth Management and IP Forwarding.

### Access Point:

The AP features are: ease of installation, WDS support, Adhoc mode, AP mode, QoS, DHCP, MBSSID, Secure client mode with WEP, WPA, WPA2 PSK and enterprise (dynamic key) with 802.1x supplicant

### MicroView – NMS

The MicroView Network Management System (MNMS) enables service operators to provision and maintain the overall network remotely as well as locally.

The MicroView architecture allows multiple modes of operation:

- Windows-based GUI
- SNMP
- CLI via RS-232
- Telnet

The MicroRed-Fi product line is designed with an embedded SNMP MIB capable of interfacing with any open SNMP platform. The MicroView architecture also enables local maintenance and provisioning via a CLI using physical RS-232 interface. The MicroView NMS provides fully integrated FCAPS for better management.

The system uses multiple security levels for operators to assign different levels to personal for overall maintenance and administration.



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## Specifications

### Models

- Access Point with mounting hardware & accessories
- Base Station Modem with mounting hardware & accessories
- Subscriber Modem with mounting hardware & accessories

<b>RF Bands</b>	2.4 GHz 5.8 GHz Public Safety bands
<b>Antenna Option</b>	Omni Antenna, Sector Antennas Panel Antenna 11, 16dBi Reflector Antenna 19, 21 & 24dBi etc.,
<b>Antenna Interface</b>	N-Connector 50 Ohm Female
<b>Data Rate</b>	30, 40 & 50 Mbps
<b>Radio access method</b>	TDMA/ TDD
<b>Media Access Control</b>	CSMA/ CA with ACK architecture 32-bit MAC
<b>VLAN Support</b>	Transparent VLAN
<b>Framing/ Coding</b>	IEEE 802.3/U
<b>Bridge</b>	Transparent bridging between LAN devices Auto discovery of MAC addresses Spanning Tree Protocol
<b>Routing</b>	Static Routing Routing Mode to forward packets without broadcast and more secure Point-to-Multipoint implementation
<b>Output Power</b>	26dBm
<b>Power Control</b>	≥ 20dB
<b>Receiver Sensitivity</b>	-85dBm @ 10 <sup>-6</sup> BER
<b>Range</b>	12 to 15Kms in LOS conditions (P2MP) 20 to 40Kms in LOS conditions (P2P) Upto 55Kms with High-gain Antennas
<b>Management</b>	
Protocol	SNMP based
Firmware Upgrade	Local and Remote Software upgrades Unattended remote software upgrade from remote server
<b>Security</b>	64/ 128/ 154-bit WEP Encryption 802.1x Authentication AES-CCM & TKIP Encryption
<b>Power Supply</b>	PoE with 24V 1A
<b>Dimensions</b>	
250X250X75mm for the Base Station	250X250X75mm for the CPE
<b>Environmental</b>	-10°C to +50°C, 95% humidity
<b>Regulation</b>	
<b>EMC</b> FCC part 15 (USA) Telec (Japan) ETSI, EN301893, EN60950 (Europe)	<b>Environmental</b> ETSI IEC 60721-3-4 Class 4M5 IP67

### PointRed Telecom (P) Ltd.,

#### USA

#10, Allison Street,  
East Windsor,  
New Jersey - 08520

#### INDIA

#32/1, 1<sup>st</sup> B, Vasishtha Paradise,  
Between 10<sup>th</sup> & 11<sup>th</sup> Cross,  
1<sup>st</sup> Temple Road, Malleswaram,  
Bangalore – 560 003.  
Tel: +91-80-23567452/ 53/ 54

#### TAIWAN

2<sup>nd</sup> FL., No. 506,  
Changchun Rd., Taipei  
Tel: +886-2-87128295  
Fax: +886-2-87128922

### For further details contact:

sales@pointredtech.com

www.pointredtech.com

