

# AN-100

## 802.16 Wireless Broadband Switch

### Features

- Support for 3.4 GHz – 3.8 GHz bands
- Available for point to multipoint or point to point deployments
- Flexible, dynamic quality of service settings
- High spectral efficiency, reduces carrier's costs and improves user's experience
- Optical and non line of sight technology overcomes obstacles such as trees and buildings
- Support for advanced antenna techniques improves range and capacity
- Advanced forward error correction achieves 99.999% connections



AN-100 Wireless Broadband Point to Multipoint Switch with transceiver and antenna

The AN-100 is the world's first 802.16 standards based broadband wireless switch. It is designed to fill the gap in broadband coverage of underserved markets providing new forms of broadband services not envisioned in a "wired" world.

### Benefits of the AN-100 Switch

#### Interoperate

802.16 compliance allows operators to source interoperable fixed wireless equipment from more than one supplier.

#### Multiservice Support

Flexible quality of service features and concurrent support of IP, VoIP and TDM T1/E1 interfaces allow a single link to support multiple services including voice, video and data.

#### High Performance and Spectral Efficiency

Best in class data rates and spectral efficiencies conserve valuable spectrum for applications such as backhaul and high performance access.

#### Network Performance Essentials

RedAccess NMS manages Redline's links for peak performance, offering industry leading FCAP functionality.

## AN 100 Application Areas

**Carrier Backhaul:** The high bandwidth and the dynamic quality of service settings make the AN-100 an excellent choice for carriers setting up backhaul for cellular base stations, hotspots and wireless access points.

**Broadband Wireless Access:** Quick and economical to deploy, service providers can provision services having bandwidth comparable to a wired solution in a matter of a day. Assign SLAs on a per subscriber basis and dynamically update quality of service settings within seconds of a customer's request.

## Specifications

<b>System Capability:</b>	Non line of sight operation, PMP and PTP Deployment
<b>RF Band:</b>	3.400 – 3.800 GHz (FWA Band)
<b>Center Frequency Steps:</b>	250 KHz
<b>Channel Size:</b>	3.5MHz, 7MHz and 14 MHz
<b>RF Dynamic Range:</b>	> 50 dB
<b>Spectral Efficiency:</b>	5 bps/Hz (over the air), 2.7 bps/Hz (net)
<b>Over The Air Rate:</b>	Up to 70 Mbps (Rates depend on channel size)
<b>Maximum Tx Power:</b>	SC +23 dBm, SS +15dBm (region specific)
<b>Rx Sensitivity:</b>	-88dBm (1E-09 BER for 7 Mhz Channel, QPSK 1/2)
<b>IF Cable:</b>	Maximum length up to 300m
<b>Network Attributes:</b>	Multiplexed IF, DC power, control (Tx/Rx, AGC, APC) 802.3x Ethernet flow control, 802.1Q VLAN, 802.1p network traffic prioritization, DHCP passthrough
<b>Modulation:</b>	Dynamic Adaptive Modulation (bi-directional) auto selects: BPSK, QPSK, 16 QAM, 64 QAM and coding
<b>Encryption:</b>	DES (traffic) and 3DES (key exchange)
<b>Coding Rates:</b>	1/2, 3/4 and 2/3
<b>MAC:</b>	802.16a Compliant Point to Multipoint 802.16a Packet Convergence Sub-layer Mode TDMA Access Automatic Repeat reQuest (ARQ) error correction
<b>Range (Region Specific):</b>	Over 6.5 km non line of sight Over 70 km line of sight
<b>Duplex Technique:</b>	Dynamic TDD (time division duplex), HD-FDD
<b>PHY:</b>	256 FFT OFDM (orthogonal frequency division multiplexing)
<b>Data Interfaces:</b>	10/100 Ethernet (RJ45), 4 & 8 TDM T1/E1 optional (RJ 48)
<b>System Configuration:</b>	In-band Web based management, CLI & Telnet
<b>Management System:</b>	Redline's RedAccess NMS
<b>Power Requirements:</b>	AC/DC input, single and redundant power supplies
<b>Antennas:</b>	Subscriber: 18 dBi 15° and 24 dBi 8° Sector Controller: 14 dBi 90° and 17 dBi 60°
<b>Physical Configuration:</b>	Split Architecture - Indoor terminal plus outdoor transceiver

The AN-100 features low latency for delay sensitive services such as circuit switched voice traffic or voice over IP, optimized transport for video, and prioritization of data traffic.

### About Redline Communications Inc.

Redline Communications is an innovative provider of broadband fixed wireless solutions, helping companies reduce costs, extend and enhance networks and increase customer satisfaction. Redline is a leader in using OFDM technology to provide robust high speed wireless connectivity even in partial or non line of sight conditions.

Redline's products are recognized for their unique capabilities in providing backhaul links and high speed access links to urban and rural service providers. Redline has more than 4,000 systems installed by customers in over 30 countries in industries as diverse as school boards, manufacturing, Internet providers, transportation, government, and health care facilities.