



## Setting The Standard for ADVANCED BROADBAND WIRELESS



### High Performance and Spectral Efficiency

Best-in-class data rates and spectral efficiencies conserve valuable spectrum and reduce the costs of providing high-performance access.

### Multi-Service Support

Flexible Quality of Service (QoS) features and circuit switched voice traffic, voice-over-IP (VoIP), video, and prioritized data traffic over a single subscriber link.

### Network Performance Essentials

Use the RedAccess NMS industry-leading FCAPS functionality to manage Redline's wireless links and achieve peak performance of your broadband wireless network.

## AN-100U



Redline's AN-100U is a WiMAX ready 802.16-2004 compliant multi-services broadband wireless base station. The fully WiMAX ready design ensures AN-100U interoperability with an industry-wide base of compatible equipment.

The AN-100U system is easy and economical to deploy, allowing service providers to quickly provision new services. The very low latency ensures reliable delivery of delay sensitive services including circuit switched voice traffic, voice-over-IP (VoIP), video, and prioritized data traffic. Individual QoS settings can be set dynamically according to the assigned service level agreement.

Designed for complete WiMAX Forum Certified™ interoperability, this carrier-class PMP base station provides a scalable solution for any WiMAX access network. The AN-100U can be deployed in clusters of up to six (60 degree) sectors, supporting up to 4000 unique user data flows. The GPS time synchronization feature ensures efficient use of available spectrum and channels, providing scalable and reliable cell deployment when operating Time Division Duplexing (TDD) radios in close proximity.

The AN-100U firmware is fully field upgradeable by software download for future enhancements including IPv6 support, scalability, additional classifiers, alternative encryption standards, and continued development of the 802.16 standard (i.e., 802.16e for mobility). Adherence to stringent carrier-class NEBS Level 3 specifications provide high-reliability for mission critical deployments. The frequency agnostic indoor unit has a selection of radios for operation in licensed and unlicensed bands using the 802.16-2004 specified 3.5 MHz and 7 MHz channel profiles.

Redline's AN-100 family of products provide a complete range of 802.16 broadband wireless backhaul and access solutions. WiMAX ensured compatibility, ease of installation, and Redline's industry-wide reputation for quality make the AN-100U your most advanced choice to deploy wireless broadband base stations for business and residential access.

### Features

- WiMAX Forum Certified™ design
- Compliance with 802.16-2004 (802.16e ready)
- Strong encryption using AES
- Field-upgradeable firmware
- PMP base station platform
- Broadcast and multicast services



Leading the  
WiMAX  
Revolution



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### Superior Wireless Technology

Redline products deliver an unmatched combination of range, capacity, security, and reliability, even in very challenging environments.

Our technology advantage includes several patents necessary for building the OFDM-based wireless broadband systems that deliver our characteristic robust, long distance, high bandwidth performance.

With built-in security encryption, and many other advantages, Redline products provide the reliability you need to grow your systems into the future.

### About Redline Communications

Redline Communications is a leader in the design and manufacture of standards-based broadband wireless access solutions. Ideal for a variety of access, backhaul and private network applications, Redline products are meeting the needs of carriers, service providers and enterprises worldwide. Redline has over 10,000 installations in 75 countries across six continents through a global distribution network of over 80 partners.

### WS-100U System Specifications (preliminary)

System Capability:	LOS, Optical LOS, non LOS Cell-based point-to-multipoint
RF Band:	3.4-3.8 GHz (FWA band) 5.4-5.8 GHz (License exempt bands)
Center Frequency Steps:	250 KHz
Channel Size:	3.5 MHz, 5 MHz, 7 MHz, 10 MHz
RF Dynamic Range:	> 45 dB
Spectral Efficiency:	Up to 5 bps/Hz (over the air)
Over The Air Rate:	Up to 35 Mbps (7 MHz channel) Up to 50 Mbps (10 MHz channel) Up to 19 Mbps (7 MHz channel) Up to 27 Mbps (10 MHz channel)
Average Ethernet Rate:	
Latency:	6-18 msec (depends on channel size, OFDM frame duration)
Maximum Tx Power:	+23 dBm across all modulation/coding levels (region specific)
Rx Sensitivity:	-93 dBm @ BPSK 1/2 (based on BER of 1x10e-6)
IF Cable:	Maximum length up to 984 ft (300 m) using Redline recommended high-grade IF cable
Network Attributes:	Transparent bridge 802.1Q VLAN 802.1p network traffic prioritization DHCP, client pass-through
Modulation/Coding Rates:	Dynamic adaptive modulation (bi-directional) Auto-select modulation: BPSK, QPSK, 16 QAM, 64 QAM Auto-select coding: 1/2, 2/3, 3/4
Over the Air Encryption:	DES and AES
MAC:	Cell-based PMP deployment 802.16-2004 compliant PMP 802.16-2004 packet convergence sub-layer mode TDMA Access
Range:	Automatic repeat request (ARQ) error correction Over 28 mi (45 km) LOS Over 2 mi (3 km) non LOS
Duplex Technique:	Dynamic TDD (time division duplex) HD-FDD (half duplex frequency division duplex)
Wireless Transmission (PHY):	256 FFT OFDM (Orthogonal Frequency Division Multiplexing)
Network Connections:	TDM (RJ-48c), 10/100 Ethernet (RJ-45)
System Configuration:	HTTP (Web) interface, SNMP CLI via Telnet and Local Console
Network Management:	SNMP, standard and proprietary MIBs Full management by RedAccess NMS
Power Requirements:	Auto-sensing 110/220/240 VAC 50/60 Hz Auto-sensing 18-72 VDC, 75 W maximum
Redundant Power:	Optional dual AC or dual DC power supply (dual cord) with automatic fail-over
Compliance:	FCC part 15 subpart B, EN 301 021, EN 301 489, UL 950, IEC 60950
Operating Temperature:	IDU: 0 C to 40 C IDU Short-term: 0 C to 55 C for up to 5 hours ODU: -40 C to 65 C
Dimensions:	17 x 12 x 1.75 in (431.8 x 304.8 x 44.45 mm)
Weight:	5.5 lb (2.5 kg)
Humidity:	Up to 90% non-condensing

Specifications subject to change without notice.

Redline Communications Inc.  
302 Town Centre Blvd., Suite 100  
Markham, ON Canada L3R 0E8  
Tel: 905.479.8344 · Fax: 905.479.7432

North American Inquiries: [nainfo@redlinecommunications.com](mailto:nainfo@redlinecommunications.com)  
International Inquiries: [intlinfo@redlinecommunications.com](mailto:intlinfo@redlinecommunications.com)  
1.866.633.6669 · [www.redlinecommunications.com](http://www.redlinecommunications.com)  
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