

## RedMAX™ Macro Base Station (AN-100UX + HTB)



### Features:

- Operates in the 3.3–3.8 GHz Band
- 36 dBm Tx Power
- PMP base station platform
- 2<sup>nd</sup> generation 802.16 MAC
- 3<sup>rd</sup> generation OFDM PHY
- Dynamic QoS
- Can be deployed in clusters of up to six sectors
- Compliance with 802.16-2004
- Strong encryption
- High Reliability
- Hardware accelerated performance
- SNMP Manageable

The RedMAX™ Macro Base Station (AN-100UX + HTB) is an industry leading high powered broadband wireless solution, capable of extending both capacity and range in the delivery of high bandwidth voice, video and data transfer services and applications. The AN-100UX is designed in compliance to IEEE standards for WiMAX to be fully interoperable with a range of WiMAX Forum Certified® devices and meet the high standards for capacity and performance.

The RedMAX AN-100UX is easy and economical to deploy and enables the rapid provisioning of new services by service providers. Its low latency ensures reliable delivery of delay-sensitive services, including circuit-switched voice traffic, voice-over-Internet Protocol (VoIP), video and prioritized data traffic. New subscribers can be dynamically provisioned with no downtime for existing users, and existing subscribers can easily have their service level agreements adjusted.

This carrier-class base station unit provides a scalable, high-capacity solution for any WiMAX access network. Up to six RedMAX AN-100UX units can be co-located to form multi-sector cell deployments, with up to six (60 degrees) sectors. Each will support up to 511 users, for a capacity of more than 3000 subscribers per base station.

The RedMAX AN-100UX also supports synchronization via a GPS clock. This facilitates frequency reuse to make the most efficient use of available spectrum and channels, and allows deployment in areas where there are other Time Division Duplexing (TDD) radios operating in close proximity.

The RedMAX AN-100UX is fully upgradeable in the field by software download, to accommodate future enhancements such as IPv6 support, scalability, and continued development of the 802.16 standard. Adherence to stringent carrier-class Network Equipment Building System (NEBS) Level 3 design requirements, provide high reliability for mission critical deployments.

As with each of Redline's products, the RedMAX AN-100UX Base Station addresses all of the relevant access frequency bands with ease and flexibility.

## RedMAX Macro Base Station (AN-100UX + HTB) System Specifications

|                              |  |
|------------------------------|--|
| System Capability:           | LOS, Optical LOS, non LOS<br>Cellular-based point-to-multipoint  |
| RF Band:                     | 3.3-3.6 GHz, 3.6-3.8 GHz   |
| Channel Size:                | 3.5 MHz, 7 MHz   |
| Spectral Efficiency:         | Up to 5 bps/Hz (over the air)  |
| Sector Capacity:             | 22 Mbps (7 Mhz channel size); 10 Mbps (3.5 MHz channel size)<br>37,400 packets per second (tested with 64 byte packets)  |
| Latency:                     | 6-18 msec (depends on channel size, OFDM frame duration)   |
| Maximum Tx Power:            | +36 dBm (region specific with HTB transceiver)**   |
| Rx Sensitivity:              | Better than -98 dBm @ BPSK 1/2 (based on BER of 1x10e-6)   |
| IF Cable:                    | Maximum length up to (190 m) using Redline recommended high-grade IF cable   |
| Scheduling Classes:          | UGS, rtPS (for VoIP), nrtPS, Best Effort   |
| Network Attributes:          | Layer 2 bridging; 802.1Q (VLAN tagging, QinQ, VLAN filtering); wireless VPN<br>DHCP Option 82 and PPPoE PADL tagging for scaleable service activation and provisioning |
| Modulation/Coding Rates:     | Auto-select modulation: BPSK, QPSK, 16 QAM, 64 QAM<br>Auto-select coding: 1/2, 2/3, 3/4  |
| Over the Air Encryption:     | DES, 3DES, RSA   |
| Synchronization:             | Input for external 1 PPS GPS clock signal  |
| MAC:                         | 802.16-2004 compliant PMP<br>802.16-2004 packet convergence sub-layer mode TDMA Access   |
| Range:                       | LOS: PTP - Over 28 mi (45 km); PMP - 12 mi (20 km)<br>NLOS: 1-2 mi (1.7 - 3.3 km) (QPSK 3/4 @ 70% coverage)<br>0.5 - 1 mi (0.8 - 1.7 km) (16QAM 3/4 @ 90% coverage)    |
| Duplex Technique:            | TDD (time division duplex)<br>HD-FDD (half duplex frequency division duplex)*  |
| Wireless Transmission (PHY): | 256 FFT Orthogonal Frequency Division Multiplexing (OFDM)<br>(Uplink Subchannelization)  |
| Network Connections:         | Standard: 10/100 Ethernet (RJ-45); separate ethernet ports for management and data traffic   |
| System Configuration:        | HTTP (Web) interface, SNMP<br>CLI via Telnet and Local Console   |
| Network Management:          | SNMP, standard and proprietary MIBs<br>Full management by Redline Management Suite (RMS)   |
| Power Requirements:          | Optional AC (Auto-sensing 90-264VAC, 50/60 Hz) or DC (Auto-sensing 21 - 60 VDC)  |
| Redundant Power:             | Optional external AC or DC available with RPS (automatic fail-over)*   |
| Compliance:                  | EMC: EN 301 489-1, EN 301 489-4, EN 55022/CISPR 22<br>RF: EN 302 326, Industry Canada: RSS-192<br>Safety: IEC 60950-1, UL 60950-1                                      |
| Operating Temperature:       | IDU: 0 C to 40 C; ODU: -40 C to 60 C   |
| Dimensions:                  | 17 x 12 x 1.75 in (431.8 x 304.8 x 44.45 mm)   |
| Weight:                      | 6.5 lb (2.9 kg)  |
| Humidity:                    | Up to 90% non-condensing   |

\*Contact sales for availability / approvals in your region

\*\*35 dBm at 64 QAM

### About Redline Communications

Redline Communications is the leading provider of fixed and mobile standards-based wireless broadband solutions. Redline's RedMAX™ WiMAX Forum Certified™ system, RedMAX 4C Mobile WiMAX™ products, and its award-winning broadband wireless infrastructure family of products – RedCONNEX™ and RedACCESS™ – enable service providers and other network operators to cost-effectively deliver high-bandwidth services, including voice, video and data communications. Redline is committed to maintaining its wireless industry leadership with the continued development of WiMAX and other advanced wireless broadband products. With more than 75,000 installations in 80 countries, and a global network of over 140 partners, Redline's experience and expertise helps service providers, enterprises and government organizations roll out wireless broadband networks to support advanced communications.

