

## ELLIPSE

### Wireless Base Station for Redline Outdoor Wireless TCP/IP Data Terminals

The RDL-3000 Ellipse manages all security, traffic scheduling and Quality of Service (QoS) functions for Redline's extensive family of outdoor wireless TCP/IP remote data terminals. This highly configurable wireless base station features powerful processing capabilities to reliably transport any mix of wireless traffic between the base station and multiple remote sites.

#### FEATURES AND BENEFITS

- Highly reliable transport hub supports all RDL-3000 remote wireless data terminals including auto-acquire systems
- High throughput for concurrent transport of M2M telemetry and telecontrol, data, video and voice services
- Durable all-weather enclosure for reliable operation in extreme temperatures and environmental conditions
- Over-the-air monitoring, configuration and software keyed features enable upgrades without physical access
- Software-defined architecture enhances reliability and service lifetime

#### PRODUCT COMPLEMENTS

The Ellipse base station is fully compatible with all Redline RDL-3000 wireless remote terminals. Redline provides a complete selection of peripherals and professional services for all your deployment needs.

#### UNIFIED GLOBAL SOLUTIONS

Redline's patented UWT™ technology provides a truly unified wireless networking solution—across the spectrum, across your company and across the globe—enabling secure, reliable, high-speed connectivity to people and smart devices everywhere.



#### SYSTEM AT A GLANCE

Outdoor software-defined 186.6 Mbps wireless base station for PMP and PTP applications

Supports for all RDL-3000 remote terminals including auto-acquire systems

Reliable fast transport of M2M, data, HD video and voice at many remote sites

Geo-location & timing using built-in GPS

Wide selection of MIMO antennas

-40 to 75 °C operating range using dynamic and thermal dissipation (no moving parts)

High-grade cyber security features

Very low latency supports time-sensitive applications

Low power requirement suitable for solar applications

Certified for hazardous locations

## ELLIPSE SPECIFICATIONS

<b>Max Tx Power</b>	+31 dBm <sup>1</sup> (Max combined tx power, MIMO mode/frequency band specific)
<b>RF Band (MHz)</b>	470-698 <sup>1</sup> , 2000-2300 <sup>1</sup> , 2300-2700 <sup>1</sup> , 3300-3800 <sup>1</sup> , 4940-5875 <sup>1</sup>
<b>Antenna Info</b>	External MIMO sectoral or omni directional
<b>Capability</b>	LOS/OLOS/NLOS software-defined PMP Base Station <sup>1</sup> or PTP terminal <sup>1</sup>
<b>Wireless QoS</b>	Auto link distance ranging, auto channel scanning, optimal channel selection, ATPC, DFS
<b>Transmission</b>	OFDM (orthogonal frequency-division multiplexing), TDD/TDMA 2 x 2 MIMO A/B with STBC & MRRC, high-rejection Tx/Rx filtering
<b>Throughput</b>	Up to 186.6 Mbps <sup>1</sup> UBR
<b>Channel Size (MHZ)</b>	0.875/1.25/1.75/2.5/3.5/5/6/7/10/12/14/20 [software selectable <sup>1</sup> ]
<b>Modulation &amp; Coding</b>	BPSK to 256 QAM 7/8 <sup>1</sup>
<b>Spectral Efficiency</b>	9.3 bits per second per Hertz
<b>Channel Efficiency</b>	Up to 93%
<b>Max Range</b>	100 km (66 mi)
<b>Number of Remotes</b>	120
<b>Security</b>	Management Encryption: TLS v1.2, AES-256, SHA1, Device Authentication: ECDSA digital signature-based authentication or MAC-based mutual authentication, Data Encryption: AES-128/256 with ECDH secure key exchange (over-the-air, FIPS 197 compliant), NIST FIPS-140-2
<b>Network Features</b>	Transparent bridge, DHCP pass-through, 802.1Q VLAN (Q-in-Q), VLAN Whitelisting, Syslog, SNMP, spectrum analyzer
<b>Layer 2</b>	160 Mbps aggregate <sup>1</sup>
<b>Latency</b>	<10 ms
<b>Processing (PPS)</b>	>280,000
<b>MAC</b>	Per link: dynamic ARQ, dynamic adaptive modulation, dynamic and fixed frame, Fast Fusion Link Adaptation
<b>QoS</b>	802.1p, 802.3x, CIR & PIR settings, up to 8 services per terminal
<b>Management Interface</b>	Redline ClearView NMS, SNMP v2c/v3, HTTP/HTTPS (Web), Telnet/SSH (CLI), Management VLAN tagging, RADIUS User Authentication
<b>Provisioning</b>	MAC-Based; Template-based <sup>1</sup> ; Automatic using Redline ClearView NMS <sup>1</sup>
<b>Redundancy</b>	1+1 Warm Standby <sup>1</sup> , HSR, PRP or RSTP compatible
<b>Location &amp; Timing</b>	Built-in GPS <sup>1</sup>
<b>Power</b>	<17W; Standard IEEE 802.3at [PoE]; CAT5 cable 100m (330 ft) max
<b>Temperature</b>	-40 to 75 °C (-40 to 167 °F) <sup>4</sup>
<b>Connections</b>	10/100 Ethernet (RJ-45), 2xRF N(f), GPS TNC(f)
<b>Surge Protection</b>	Built-in: PoE and RF ports
<b>Enclosure</b>	IP67 (IEC 60259)
<b>Humidity</b>	100% humidity, condensing

## Compliance

Safety: IEC, EN, and UL/CSA 60950

EMC: EN 301 489-1, EN 301 489-17

5.8 GHz<sup>1</sup>: IC RSS-210, FCC Part 15, ETSI EN 302 502

5.4 GHz<sup>1</sup>: IC RSS-210, FCC Part 15, ETSI EN 301 893

5.2 GHz<sup>1</sup>: IC RSS-210, FCC Part 15

4.9 GHz<sup>1</sup>: IC RSS-111, FCC Part 90

3.65-3.70 GHz<sup>1</sup>: IC RSS-197, FCC Part 90Z

3.5 GHz<sup>1</sup>: IC RSS-192

3.3-3.8 GHz<sup>1</sup>: ETSI EN 302 326-2

2.6 GHz<sup>1</sup>: EN 302-544

2.496-2.690 GHz<sup>1</sup>: FCC Part 27

2.4 GHz<sup>1</sup>: IC RSS-210, ETSI 300-328, FCC Part 15C<sup>2</sup>

2.3 GHz<sup>1</sup>: IC RSS-195

2.1 GHz<sup>1</sup>: [2.025-2.110 GHz<sup>1</sup>, 2.200-2.290 GHz<sup>1</sup>] ITU-R F.1098

600 MHz<sup>1</sup>: IC RSS-196, FCC Part 15H

HAZ: ATEX/IECEx: Zone 2, CSA: Class 1 Div 2

Security: FIPS 140-2<sup>3</sup>, FIPS 197 Compliant



## Physical Attributes

### Dimensions

306.8 x 230 x 60.3 mm (12.079 x 9.06 x 2.375 in)

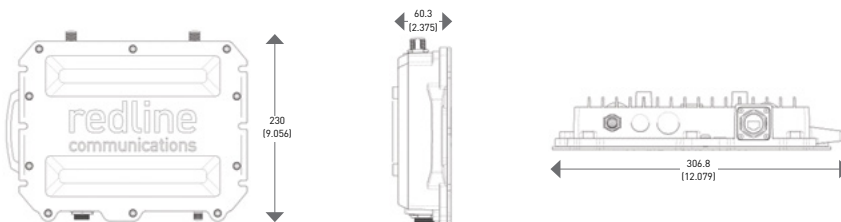
### Weight

2.7 kg (6.0 lbs) without bracket or antenna

All specifications are subject to change without notice.

1. Availability restricted by regional regulations, model type, software version and purchased product options; 2. Pending; 3. In Process; 4. UHF systems only: 60 °C (140 °F)

## DRAWINGS



Dimensions are in millimeters (inches)

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