POWERFUL. VERSATILE. RELIABLE.

RDL-3000

Datasheet

RDL-3000 Broadband Radio Platform

The RDL-3000 is Redline's next-generation radio platform. The RDL-3000 incorporates 2 X 2 multiple-in, multiple-out (MIMO) and enhanced IEEE 802.16 radio technology to deliver industry-leading throughput and range along with Redline's leading low latency making it ideal for next generation 3G and 4G / LTE networks. Chosen for its ability to be configured by software to provide point-to-point (PTP) or point-to-multipoint (PMP) links, the RDL-3000 is ideal for ultra high-capacity, extreme-range specialized wireless applications. Telecom service providers, local and state governments, the oil and gas industry and military organizations throughout the world use the RDL-3000.

Operating in the 4.9 GHz public safety band, 5.2 GHz to 5.8 GHz band and 3.3 GHz to 3.8 GHz band, the RDL-3000 is configured via software options and speed keys allowing you to purchase the features and throughput performance you need today and upgrade later without having to replace any hardware. With a simple software download, the RDL-3000 can be configured as PTP or PMP or can run specialized applications, from video surveillance to data acquisition, from high performance to ultra-high performance. This common radio platform approach simplifies network design and logistics while providing a high level of future-proofing.

Powered by Redline's innovative fourth-generation orthogonal frequency-division multiplexing (OFDM) technology, the RDL-3000 radio uses powerful hardware accelerators and MIMO technology that achieves the highest throughput, the lowest latency and the greatest line-of-sight (LOS) and non-line-of-sight (NLOS) ranges in the industry.

The RDL-3000 is fully compatible with Redline's AN-80i, allowing existing AN-80i networks to easily upgrade to higher capacity and range by replacing sector controllers.

In the PTP configuration, the RDL-3000 has excellent range — over 120 kilometers — and delivers up to 100 Mbps Ethernet data rate, which is more than double the nearest competitor, making it the ideal choice for high-capacity backhaul applications. In the PMP configuration, the RDL-3000 delivers up to 100 Mbps Ethernet data rate, the highest in its class, and it supports a full range of quality of service (QoS) controls to enable premium access services for voice, data and video. Its industry-leading capacity also supports the maximum number of video cameras with the highest video

AT A GLANCE

- Optimized for 4G / LTE networks
- Software configured common radio platform — one platform for PTP and PMP applications
- Industry leading 120 Mbps UBR with up to 100 Mbps Ethernet throughput using 2 x 2 MIMO
- Fully backwards compatible with the AN-80i
- Exceptional long-range capabilities
- Highest capacity system in the industry
- Lowest end-to-end latency
- Flexible software controlled speed and channel size selection
- QoS controls to differentiate and prioritize traffic groups
- Per-link dynamic TDD, ARQ & adaptive modulation/coding
- All outdoor configuration with IEEE 802.3at PoE
- Synchronization option for collocated units (internal or GPS)

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quality. With either configuration, you are assured of the ultra-low latency — as low as one millisecond, which is as much as 10 times lower than the competition.

The RDL-3000 delivers unparalleled security with AES-128 and AES-256 encryption options, and X.509 certificate-based authentication. Its design is FIPS 140-2 compliant.

Available with a wide variety of antennas, the RDL-3000 is easy to install and manageable over-the-air (OTA) via Redline's powerful ClearView NMS management software. Designed to meet stringent carrier-class requirements and IP67 rated for outdoor deployment, the powerful, versatile and reliable RDL-3000 is ideal for specialized point-to-point and point-to-multipoint wireless applications where high capacity, extreme range, security and reliability are paramount.

REDCARE SUPPORT

Redline's products are backed by RedCARE, one of best support programs in the industry, providing responsive customer and solution support everywhere that Redline's products are available. RedCARE ensures consistent, broadband wireless connectivity for our customers.

ABOUT REDLINE COMMUNICATIONS

Redline Communications (www.rdlcom.com) is a leading provider of specialized broadband wireless systems used to cost-effectively deploy distributed applications and services. Redline systems are used by local and state governments to quickly and easily deploy or extend their public safety networks; by oil and gas companies to connect their digital oil fields; by service providers and enterprises to bring dedicated Internet access to business users; and by the military to rapidly deploy secure networks. For more than 10 years, Redline has been delivering powerful, versatile and reliable wireless solutions through certified partners in the Americas, the Middle East, and Africa.

TECHNICAL SPECIFICATIONS

System Capability	LOS, optical-LOS, and non-LOS
Wireless Transmission	OFDM (orthogonal frequency-division multiplexing), 2 x 2 MIMO
RF Band	4.940 – 5.850 GHz TDD Band[1], 3.300 – 3.800 GHz TDD Band[1]
Channel Size	5, 10, 20, MHz[1] /3.5, 7, 14 MHz[2] (software selectable)
Data Rate **PTP & PMP**	Up to 120 Mbps UBR[2] Up to 100 Mbps Ethernet rate[2]
Processing Speed	220,000 PPS
Max Range	120+ km (75+ mi)
Max Tx Power	+25 dBm (region specific)
Rx Sensitivity	-98 dBm
PoE Cable	Up to 91m (300 ft)
Network Attributes	Transparent bridge, automatic link distance ranging, DHCP pass-through, 802.1Q VLAN, CIR, PIR support
Modulation	BPSK to 64 QAM
MAC	TDMA, Dynamic ARQ (per-link), Dynamic adaptive modulation (per-link), Dynamic and fixed TDD (per link)
QoS	Multiple service flows per subscriber
Over the Air Encryption	AES-128 and AES-256
Network Connection	10/100 Ethernet (RJ-45)
Management	HTTP (Web) interface, SNMP v2 / v3, Telnet, HTTPS (SSL), SSH, ClearView NMS
Operating Temp	-40 °C to 60 °C (-40 °F to 140 °F)
Humidity	100% humidity, condensing
Power Consumption	Standard IEEE 802.3at
Compliance[2]	**Safety:** IEC, EN, and UL/CSA 60950 **EMC:** EN 301 489-1, EN 301 489-17 **5.8 GHz:** IC RSS-210, FCC Part 15, ETSI EN 302 502 **5.4 GHz:** IC RSS-210, FCC Part 15, ETSI EN 301 893 **4.9 GHz:** IC RSS-111, FCC Part 90 **3.3-3.8 GHz:** ETSI EN 302 326-2[2] **3.65 GHz:** IC RSS-192/197, FCC Part 15/90[2]
Dimensions	290.7 mm x 268.4 mm x 63.5 mm (11.45 in x 10.57 in x 2.50 in)
Weight	2.7 Kg (6 lbs) without bracket or antenna

[1] Availability restricted by regional regulations
[2] Pending

302 Town Centre Blvd., Markham, ON L3R 0E8 Canada
+1.905.479.8344 email info@rdlcom.com www.rdlcom.com

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