WinLink™ 1000

Carrier-Class Sub-6 GHz Radio Systems
Price & Performance Leadership in Wireless Broadband

RADWIN's WinLink 1000 wireless broadband solutions deliver carrier-class performance at the most competitive price in the market.

Packing native TDM and Ethernet in one platform over the 2.3 - 2.9 GHz and 4.9 - 6.0 GHz spectrum bands, the WinLink 1000 solutions provide high capacity connectivity of up to 18 Mbps and long range of up to 80 Km/50 miles. The solutions meet the connectivity needs of cellular carriers, service providers, enterprises and private networks, and are deployed by Tier-1 operators and ISPs around the globe.

Product Highlights

- Native TDM and Ethernet over a single wireless link
- Up to 18 Mbps full-duplex net throughput
- Operational range of up to 80 Km/50 miles
- Extremely simple to install and maintain
- Supporting a variety of frequencies: 2.3 - 2.9 GHz and 4.9 - 6.0 GHz
- Available in PtP and Multiple Point-to-Point architectures
- Local and remote network management
- Monitored Hot Standby 1+1 support

RADWIN The Wireless Choice

WinLink 1000

Carrier-Class Sub-6 GHz Radio Systems

Key Benefits

- Extend network reach rapidly and affordably
- Multi-band radio supports multiple frequencies for maximum transmission resiliency
- License-free solutions eliminate recurring leased line charges and regulatory delays
- Robust solutions that operate in extreme temperatures and challenging topographies
- OFDM technology enables operation in non line-of-sight
- Significantly reduce operators' CAPEX and OPEX

Typical Applications

Broadband Access

WinLink 1000 systems enable operators to deliver high-capacity, dedicated bandwidth to end-users. The carrier-class solutions meet high performance and quality standards set out in SLAs.

Cellular & IP Backhaul

WinLink 1000 solutions present a cost-effective alternative for backhauling voice and data traffic, significantly reducing operators' backhaul expenses. Providing a flexible combination of native TDM and Ethernet over a single wireless link, WinLink 1000 enable the seamless migration from TDM to all-IP networks.

Private Network Connectivity

Enterprises and private networks can quickly and cost-effectively connect multiple sites and own and control their network connectivity.

Video Surveillance Transmission

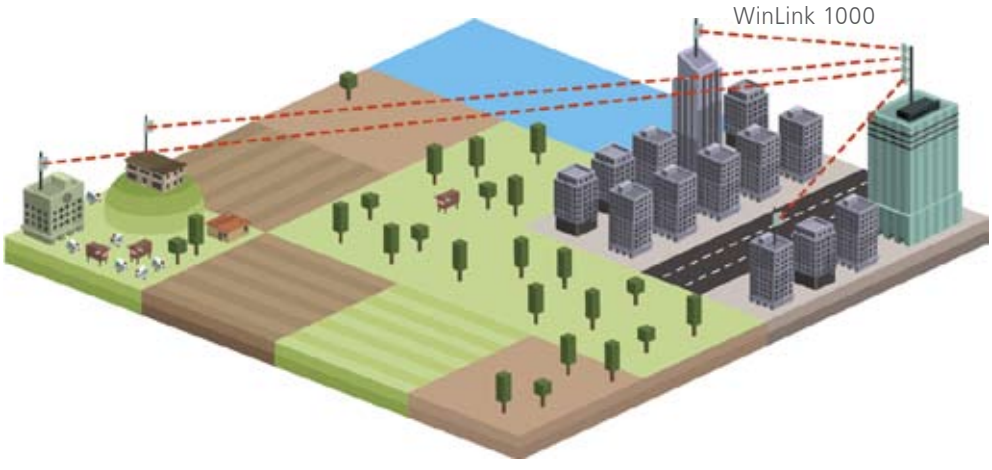
WinLink 1000 systems transmit high quality video from megapixel video cameras in real-time from any point.

Multiple Point-to-Point Deployments

RADWIN's WinLink 1000 solutions can be deployed in a Multiple-Point-to-Point configuration; multiple radios are deployed in one location, from where they deliver high capacity dedicated bandwidth to as many as 16 remote sites.

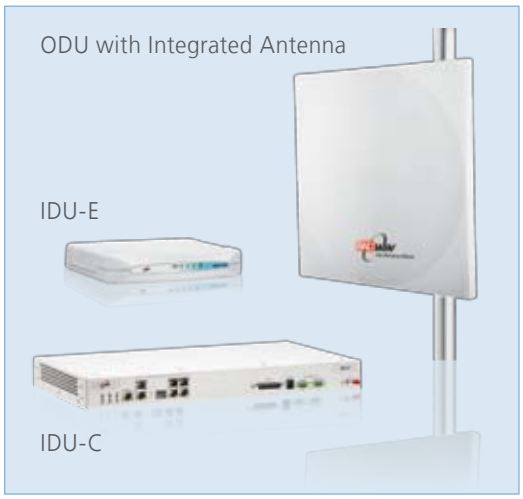
Monitored Hot Standby 1+1

Built for carrier-grade networks, WinLink 1000 is available with Monitored Hot Standby 1+1. In this mode, a secondary link is used to back up the primary link in case of an equipment failure or loss of air interface, thus ensuring maximum service availability.



Multiple Point-to-Point Deployment

WinLink 1000 Specifications



Configuration	
Architecture	Indoor Unit: IDU-E (1/2x19"; 1U) IDU-C (19", 1U) Outdoor Unit: ODU with integrated antenna ODU for connection to external antenna
IDU to ODU Interface	Outdoor CAT-5e cable; Maximum cable length: 100m
Radio	
Frequency Bands	2.310 - 2.900 GHz 4.940 - 6.030 GHz
Capacity	18 Mbps full-duplex net throughput (22 Mbps in some products)
Channel Bandwidth	5/10/20 MHz*
Duplex Technique	TDD
Modulation	OFDM – BPSK/QPSK/16QAM/64QAM
Max Tx Power	27 dBm*; Configurable
Received Dynamic Range	>60 dB
Error Correction	FEC; k=1/2,2/3,3/4
Encryption	AES 128
Ethernet Interface	
Type	10/100BaseT Interface with Auto-negotiation (IEEE 802.3)
Number of Ethernet Ports	1, 2
Framing/Coding	IEEE 802.3u
Bridging	Self-learning up to 2047 MAC addresses IEEE 802.1q, Hub/Bridge mode configurable
Traffic Handling	MAC layer bridging, self-learning
Data Latency	3 msec (typical)
Max Frame Size	1800 Bytes*
Impedance	100Ω
SFP Port	Supported in IDU-C (type FE)
VLAN ID for Management	Supported
Connector	RJ-45
TDM Interface	
Framing	Unframed (transparent)
Number of E1/T1 Ports	0, 1, 2, 4
Standard Compliance	ITU-T G.703, G.826
Timing	Independent Tx and Rx timing (independent per port in IDU-C)
Line Code	E1: HDB3 @ 2.048 Mbps T1: B8ZS/AMI @ 1.544 Mbps
Latency	5-20 msec (user configurable); default: 8 msec
Impedance	E1: 120Ω, balanced T1: 100Ω, balanced
Connector	RJ-45
Jitter & Wander	According to ITU-T G.823, G.824
Monitored Hot Standby 1+1	Supported
Management	
Link Management Application	RADWIN Manager
Protocol	SNMP and Telnet
NMS Application	RNMS (RADWIN NMS)
Dimensions	
ODU	With 1ft integrated antenna: 30.5cm(w) x 30.5cm(h) x 5.8cm(d) Weight: 1.5kg / 3.3lbs Without antenna: 13.5cm(w) x 24.5cm(h) x 4.0cm(d) Weight: 1.0kg / 2.2lbs
IDU-E	23.5cm(w) x 4.5cm(h) x 16.5cm(d) Weight: 0.5kg / 1.1lbs
IDU-C	43.6cm(w) x 4.4cm(h) x 21cm(d) Weight: 1.5kg / 3.3lbs

* Values may differ in specific products

WinLink 1000 Specifications

Power and Mounting	
Power Feeding	100-240 VAC, 50/60 Hz; -20 to -60 VDC
Power Consumption	IDU-E with ODU: 10W max IDU-C with ODU: 14W max
Mounting	Pole or Wall
Environmental	
Outdoor Unit Enclosure	Metal enclosure for all weather cases; IP67 compliant
ODU Operating Temperatures	-35°C to 60°C / -31°F to 140°F
IDU Operating Temperatures	-5°C to 45°C / 23°F to 113°F
Humidity	ODU: 100% condensing, IP67 (totally protected against dust and against immersion) IDU: Up to 90% non-condensing

Antennas			
	Gain	Beam Width	Form Factor
Inegrated or External Antenna 1ft	Up to 22dBi	20° or 9°	Flat panel
External Antenna 2ft	Up to 28dBi	4.5°	Dish/Grid/Flat panel
Additional antennas available in RADWIN catalogue			

Regulations	
Radio Regulations	
FCC	47CFR part 15 subparts B&C and E, part 27 and part 90
IC	RSS-210, RSS-111
ETSI	EN 300 328, EN 301 893, EN 302 502
UK	VNS 2107
Australia	AS/NZS 4771
India	WPC, GSR-38
China	MII
Environmental Regulations	
Safety	EN/IEC 60950-1, EN/IEC 60950-22, TUV - UL 60950-1, UL 60950-22, CAN/CSA-22.2 No. 60950-1, CAN/CSA-22.2 No. 60950-22
EMC	EN 300 386, EN 301 489, AS/NZS CISPR 22, CAN/CSA-CEI/IEC CISPR 22-02, FCC 47CFR class B part 15 sub-part B
Environmental	IEC 60721 class 4M5; IP67

PO 1000-06/09.09

Corporate Headquarters

T. +972.3.766.2917
E. sales@radwin.com

www.radwin.com

RADWIN The Wireless Choice