WinLink™ 1000

Carrier-Class Sub-6GHz Radio Systems

Price & Performance Leadership in Wireless Broadband

Product Highlights

- High data rate, up to 48 Mbps
- Long range, up to 80 km/50 miles
- TDM and Ethernet over a single wireless link
- Available in various sub-6GHz frequencies
- OFDM technology enables operation in nLOS
- Available in PtP and MPtP architectures
- Full local and remote management capabilities

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

WinLink™ 1000 solutions pack legacy TDM and Ethernet services over the 2.3 - 2.7GHz and 4.9 - 6.020GHz spectrum bands, and comply with worldwide standards and regulations including FCC, ETSI, IC Canada, WPC India and MII China.

RADWIN The Wireless Choice

WinLink™ 1000

Carrier-Class Sub-6GHz Radio Systems

Key Benefits

- Industry proven solution; thousands of systems installed at leading carriers globally
- Extremely simple to install and maintain
- Available in license exempt frequencies, eliminating regulatory overhead and reducing network ramp-up time
- Significantly reduces CAPEX and OPEX

WinLink™ 1000 is ideally suited to meet the connectivity needs of cellular operators, service providers, enterprises and private networks, providing high capacity connectivity of up to 48 Mbps at ranges of up to 80 km/50 miles. Available in multiple frequency bands and configurations, the cost-effective solutions are extremely simple to install and maintain, and are typically up and running in less than an hour.

RADWIN's WinLink™ 1000 solutions can also be installed in a unique Multiple-Point-to-Point architecture; multiple units are deployed in one hub site location, from where they provide a dedicated high-capacity connection to each remote site.

The Multiple-Point-to-Point concept builds on RADWIN's unique Hub Site Synchronization (HSS) feature, which synchronizes the transmission of collocated WinLink™ 1000 radios thus removing potential interference commonly experienced with collocated TDD radios.

Typical Applications

Backhaul

WinLink™ 1000 systems power a range of backhaul applications, including:

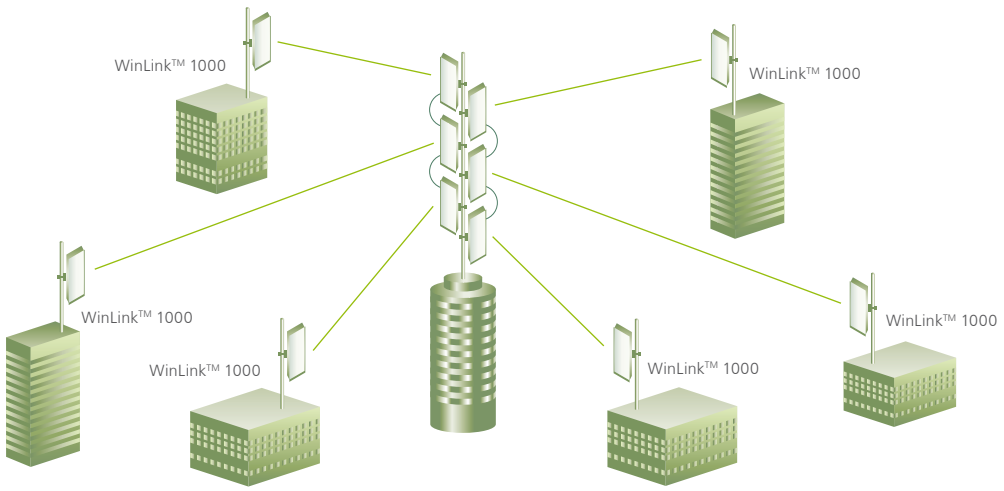
- Cellular backhaul
- Backhaul to access points (for metro WiFi deployments)
- Backhaul from points of presence (PoPs) of wireless ISPs to backbone network

Broadband Access

WinLink™ 1000 provides a broadband access solution, offering Ethernet and E1s/T1s services to end-users.

Remote Sites Connectivity

For enterprises and organizations with multiple sites, WinLink™ 1000 offers cost-effective and transparent connectivity for LAN and PBX systems.



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	2.3 - 2.7 GHz 4.9 - 6.020 GHz
Data Rate	Configurable up to 48 Mbps (bi-directional)
Channel Bandwidth	5/10/20 MHz*
Duplex Technique	TDD
Modulation	OFDM – BPSK/QPSK/16QAM/64QAM
Max Tx Power	23 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 802.3/U
Bridging	Self-learning up to 2047 MAC addresses IEEE 802.1Q
Traffic Handling	MAC layer bridging, self-learning
Data Latency	3 msec (typical)
Max Frame Size	1800 Bytes*
Line Impedance	100Ω
VLAN ID for Management	Supported*
Connector	RJ-45
E1/T1 Interface	
Framing	Unframed (transparent)
Number of E1/T1 Ports	1, 2, 4
Standard Compliance	ITU-T G.703, G.826
Timing	Independent Tx and Rx timing
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
Management	
Protocol	SNMP based; Telnet
Network Management	Kit for SNMPc and HPOV
Software Upgrade	Local and remote
Diagnostics	Local and remote loopback testing
Dimensions	
ODU	With 1ft integrated antenna: 30.5cm(W) x 5.8cm(D) x 30.5cm(H) Weight: 1.5kg/3.3lbs Without antenna: 13.5cm(W) x 4.0cm(D) x 24.5cm(H) Weight: 1.0kg/2.2lbs
IDU-E	23.5cm(W) x 16.5cm(D) x 4.5cm(H) Weight: 0.5kg/1.1lbs
IDU-C	43cm(W) x 29cm(D) x 4.5cm(H) 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	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: Up to 100% non-condensing IDU: Up to 90% non-condensing

Antennas			
	Gain	Beam Width	Polarization
Inegrated Antenna 1ft*	Up to 22dBi	20° or 9°	Linear
External Antenna 2ft	Up to 28dBi	4.5°	Linear
Additional antennas are available upon request			

Regulation	
Frequency Bands	2.300-2.690GHz; 4.940-4.990 GHz; 5.140-6.020 GHz
Radio Regulations	
FCC 47CFR	part 15 subparts B&C and E, part 27 and part 90
IC	RSS-210
ETSI	EN 300 328, EN 301 893, EN 302 502
UK	VNS 2107
Australia	AS/NZS 4771
India	WPC
China	MII
Environmental Regulations	
Safety	EN 60950, IEC 60950, UL 60950, CAN-CSA C22.2 60950
EMC	EN 300 386, EN 301 489, EN 55022, EN 61000, EN 55024, 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

* Values may differ in specific products

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