

**RADWIN**  
*The Wireless  
Alternative*

Product Overview



ODU  
IDU  
WINLINK  
BROADBAND  
WIRELESS



**WinLink™ 1000 Family**

High Capacity Carrier Class Radio Systems

**Price and Performance Leadership in Broadband Wireless**

# WinLink™ 1000 Family

## High Capacity Carrier Class Radio Systems

WinLink 1000 family of products is a carrier-class, high capacity and extremely competitive Point to Point broadband wireless transmission solution. It packs Legacy TDM and Ethernet services over 2.4GHz, 4.9-5.9 GHz spectrum bands and is suitable for deployment in FCC and ETSI regulated countries.

WinLink 1000 provides high capacity connectivity of up to 48 Mbps and allows for rapid deployment of EIs/TIs and Ethernet links at a fraction of alternatives' cost.

WinLink 1000 efficiently addresses service providers and enterprises requiring immediate deployment of affordable carrier-class, long range and high capacity connectivity solutions. Available at multiple frequency bands and at various configurations, all WinLink 1000 products are highly robust, simple to install and extremely competitive.



### Highlights

- High data rate, up to 48 Mbps
- Long Range, up to 80 Km
- Integrated solution for nxEI/TI and Fast Ethernet
- Carrier-Class in various spectrum bands:
  - 5.725 – 5.850 GHz
  - 5.470 – 5.725 GHz
  - 5.250 – 5.350 GHz
  - 4.940 – 4.990 GHz
  - 2.400 – 2.4835 GHz
  - 2.300 – 2.400 GHz
- Compliant with FCC, IC and ETSI regulations
- Complete SNMP based local and remote management, integrated with SNMPc and HPOV

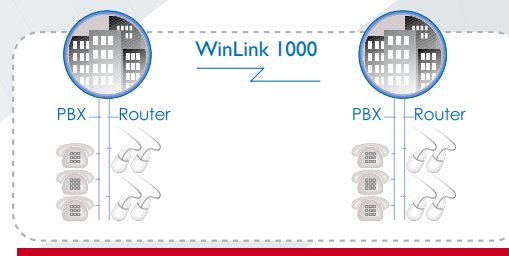
### Key Benefits

- Short time to service
- License exempt frequencies remove regulatory overhead and delays
- Wireless connectivity instead of private line leasing from service providers, reducing costs
- Compact integrated solution that is simple to install and operate

### Typical Applications

#### Remote Sites Connectivity

WinLink 1000 is offered to enterprises with multiple sites that require a cost effective and transparent connection of their LAN and PBX systems across their various campuses.



#### Broadband Access

WinLink 1000 provides a broadband access solution, offering broadband Ethernet and Leased Line services to Small and Medium Enterprises (SMEs).

#### Backhauling

WinLink 1000 backhauls traffic from cellular base stations, Hotspots (WiFi) or points of presence (POPs) of wireless ISPs to the backbone network.

## Configuration

Architecture	Indoor Unit: IDU-E (Enterprise form-factor), IDU-C (Carrier form-factor) Outdoor Unit: ODU
IDU to ODU Interface	Outdoor CAT-5 cable; Maximum cable length: 100m

## Radio

Frequency Bands	2.300 – 2.400 GHz 2.400 – 2.4835 GHz 4.940 – 4.990 GHz 5.250 – 5.350 GHz 5.470 – 5.725 GHz (includes DFS/TPC) 5.725 – 5.850 GHz
Data Rate	Configurable up to 48Mbps (bi-directional)
Channel Bandwidth	20 MHz (resolution: 5 MHz)
Duplex Technique	TDD
Modulation	OFDM – BPSK/QPSK/16QAM/64QAM
Transmit Power	Configurable, 18dBm max
Received Dynamic Range	>60dB
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	3msec max
Line Impedance	100Ω
VLAN Support	Transparent
Connector	RJ-45

## EI/TI Interface

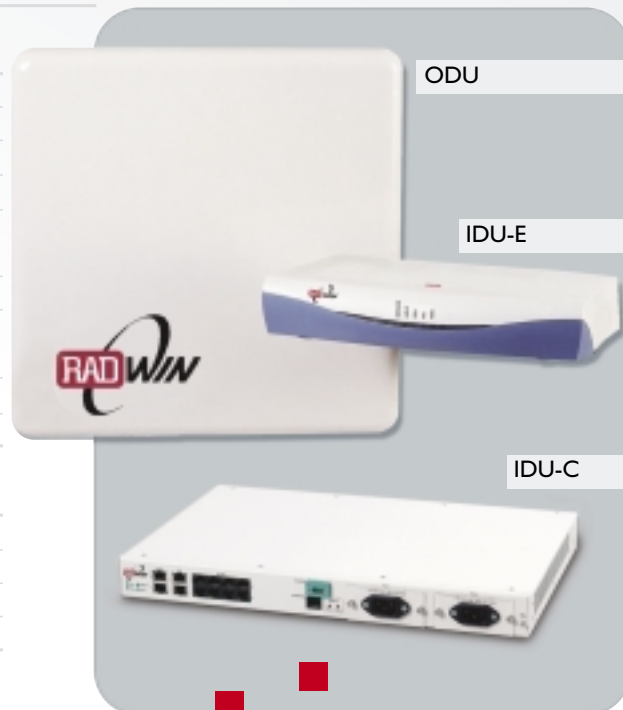
Framing	Unframed (transparent)
Number of EI/TI Ports	0, 1, 2, 4
Standard Compliance	G.703, G.826
Timing	Independent Tx and Rx timing
Line Code	EI: HDB3 @ 2.048 Mbps TI: B8ZS/AMI @ 1.544 Mbps
Latency	8msec
Impedance	EI-120 Ω, balanced TI-100 Ω, balanced
Connector	RJ-45
Jitter & Wander	According to G.823, G.824

## Management

Protocol	SNMP based
Network Management	Supports SNMPc and HPOV
Upgrade Capabilities	Local and remote software upgrade
Diagnostics	Local and remote loopback testing

## Mechanics

ODU Dimensions (includes 1ft flat integrated antenna)	30.5cm(H) x 30.5cm(W) x 5.8cm(D) Weight: 1.5kg/3.3lb
ODU Dimensions (integrated antenna not included)	24.5cm(H) x 13.5cm(W) x 4.0cm(D) Weight: 1.0kg/2.2lb
IDU-E Dimensions	16.5cm(H) x 23.5cm(W) x 4.5cm(D) Weight: 0.5kg/1.1lb
IDU-C Dimensions	43cm(H) x 29cm(W) x 4.5cm(D) Weight: 1.5kg/3.3lb



## Power and Mounting

Power Feeding	110/220VAC, -48VDC, 50/60Hz
Power Consumption	ODU with IDU-E, 10W max ODU with IDU-C, 14W max
Mounting	Pole and Wall

## Environmental

Outdoor Unit Enclosure	All weather cases
ODU Operating Temperatures	-35°C - 60°C / -31°F - 140°F
IDU Operating Temperatures	-5°C - 45°C / 23°F - 113°F
Humidity	Up to 90% non-condensing

## Antennas

	2.300-2.4835 GHz	4.940-4.990 GHz	5.250-5.350 GHz	5.470-5.725 GHz	5.725-5.850 GHz
<b>1ft Integrated Antenna</b>					
Gain	17dBi - external		22dBi	22dBi	22dBi
Beam Width	20°		9°	9°	9°
Polarization	Linear		Linear	Linear	Linear
<b>2ft External Antenna</b>					
Gain	24dBi	21/27dBi	28dBi	28dBi	28dBi
Beam Width	8°	4.5°	4.5°	4.5°	4.5°
Polarization	Linear	Linear	Linear	Linear	Linear

\* Higher gain antennas are available upon request

## Regulation

	2.400-2.4835 GHz	4.940-4.990 GHz	5.250-5.350 GHz	5.470-5.725 GHz	5.725-5.850 GHz
<b>Radio</b>					
FCC: 47CFR	Part 15, Subpart C	Part 90	Part 15, Subpart E		Part 15, Subparts C&B
IC	RSS-210		RSS-210		RSS-210
ETSI	EN 300 328			EN 300 216 V1.2.1	
Dynamic Frequency Selection and Transmission Power Control (DFS/TPC)	supported	supported	supported	supported complies with EN 301 893 V1.2.2	supported
<b>Safety</b>					
TUV			60950, According to UL 60950		
CAN-USA			C22.2 No.60950		
<b>EMC</b>					
FCC			CFR Part 15, Subpart B		EN 300 440 V1.3.1
CAN-ETSI			EN 301 489-1		
<b>Environmental</b>					
ETSI			IEC 60721-3-4 Class 4M5 IP67		



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