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SkyWay 4000 Professional Series PtMP

4.9 GHz Broadband Wireless

Short and Medium Range Subscriber Unit

Long Range Subscriber Unit

SkyWay 4800 Professional Series Base Station

Solectek Standard Antenna Options

- 9dBi Omni
- 15dBi 90 x 10 deg. Sector

Applications (PtMP)

- Efficient multicasting of video using the SkyWay-Videocast™ feature
- Video monitoring and surveillance
- Large bandwidth file and video transfer
- Inter-agency communication
- Temporary emergency link for voice and data
- Backhaul of monitoring data
- Any application using Ethernet data transport.

Technology Summary

Operating in the 4.940 – 4.990 GHz frequency band, the Solectek Skyway 4000 Series allows US public safety agencies to build a secure, interference-free wireless communications infrastructure with best-in-class features and performance.

A SkyWay 4000 network can be quickly built and brought on-line for a variety public safety applications including short and long distance point-to-point and fixed multipoint configurations. Whether the end-use is file transfer, internet access, voice, or video transport, the SkyWay 4000 Series has been designed to work seamlessly in your network.

The SkyWay 4000 is also available in foreign countries where the 4.9 GHz spectrum is available for licensed operation.

Features

Orthogonal Frequency Division Multiplexing (OFDM) – High spectral efficiency supports class leading data rates. OFDM is also capable of robust operation in near or non-line-of-sight (NLOS) link conditions, relaxing the stringent installation requirements associated with more traditional fixed wireless systems.

Power and Throughput – Delivering up to 400mW of RF power, SkyWay 4000's sophisticated radio allows long distance networks at data rates to 54 Mbps. Such capability allows end-users to download large data files, high resolution images and video clips within a matter of seconds. Streaming video and multiple VoIP connections can now be delivered or backhauled seamlessly.

Quality of Service (QoS) – features within the SkyWay 4000 architecture allow tagged voice and video traffic to take priority over general data packet transfer, providing reliable, real-time capability even under congested link conditions. Priority privileges for marked frames are maintained from port to port: Ethernet through RF.

Security – The SkyWay 4000 delivers 128 bit AES encryption / decryption at full line speed. The AES algorithm was selected to be the standard encryption method of the US Government by the National Institute of Standards and Technology (NIST).

Ease of Installation – The SkyWay 4000 Series is fully integrated. The network engine, digital baseband, radio and antenna are all combined into a single, weatherized outdoor chassis (-30C to 60C operation), complete with Power over Ethernet (PoE) support. To further assist installation, an integrated spectrum analyzer and audible antenna alignment function are provided as standard features.

Specifications

SkyWay 4000 Professional Series CPE

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Multipoint Performance	SkyWay 4100	SkyWay 4300	SkyWay 4500	SkyWay 4802
Link Distance[1]				
Using 4800 Sectoral Base	1.2 Miles	3 Miles	6 Miles	Antenna Dependent
Using 4800 Omni Base	0.6 Miles	1.6 Miles	3 Miles	Antenna Dependent
Radio Power[2]	50 mW	400 mW	400 mW	400 mW
Radio				
Frequency Range	4.940 – 4.990 GHz[2], US public safety			
Channel Bandwidth	5, 10, 20 or 40 MHz[3]			
Channel Centers (US)	**5 MHz:** 4945, 4950, 4955, 4960, 4965, 4970, 4975, 4980, 4985			
	10 MHz: 4945, 4950, 4955, 4960, 4965, 4970, 4975, 4980, 4985			
	20 MHz: 4950, 4955, 4960, 4965, 4970, 4975, 4980			
	40 MHz: 4960, 4965, 4970			
Modulation	OFDM - BPSK, QPSK, 16QAM, 64QAM			
Data Rates[2]	1.5 – 108 Mbps depending on Channel Bandwidth and Modulation selection			
Media Access	Prioritized CSMA/CA			
DC Power	+48Vdc / 0.8A, via Power-over-Ethernet, indoor DC injector (included)			
Networking				
Ethernet	10/100Base-T, Auto-negotiating, Full/Half duplex, up to 100m separation between radio and network closet			
QoS	Line speed packet inspection of 802.1p, IP ToS, IP DiffServ tags			
	4 queue prioritization engine			
	RF MAC prioritization			
Frame Aggregation	Dynamic, User enable/disable			
Protocol Support	Transparent MAC layer bridging, IP Static Routing, RIP v1/v2 Transparent VLAN (802.1q)			
Management	HTTP Web Server, FTP, VLAN, SNMP v1/v2 with trap support and custom MIB, custom Event Log			
Security				
Encryption	Hardware accelerated, line speed 128-bit AES & 64, 128, 152-bit WEP			
Authentication	MAC address-based access control			

Mechanical – SkyWay 4800 Base Station				
Configuration	Outdoor, Type-N Connector			
Size	10.25" x 10" x 3"			
Weight	4.5 lbs.			
Pole Mount Adapter	2-Axis Adjustment, Accommodates 1-3" pole diameter			
Mechanical (Subscriber Units)	**SkyWay 4100**	**SkyWay 4300**	**SkyWay 4500**	**SkyWay 4802**
Configuration	Outdoor, Integrated Unit	Outdoor, Integrated Unit	Outdoor, Integrated Unit	Outdoor, Type-N Connector
Size	13" x 13" x 2.5"	13" x 13" x 2.5"	18" x 18" x 3.5"	10.25" x 10" x 3"
Weight	7.5 lbs	8.0 lbs.	14 lbs.	4.5 lbs.
Pole Mount Adapter	2-Axis Adjustment, Accommodates 1-3" pole diameter			
Environmental				
Temperature	-40° to +60° C			
Humidity	0-100% condensing			
Water/Dust protection	Meets IP67 requirements			
Lightning Suppression	Integrated, IEC 61000-4-5 Class 5 compliant			
Wind	125 MPH survivability, 110 MPH operation			
Wind Load @ 125 MPH	83 lbs.	83 lbs.	128 lbs.	83 lbs.
Regulatory				
Radio Compliance	FCC Part 90			

(1) Link distances are for 36 Mbps data rate setting and a channel bandwidth of 20 MHz. Other combinations of bandwidth and data rate will yield different link distance results. Throughput and link distances may be lower under NLOS conditions.

(2) Other frequency ranges are available for deployment in countries allowing radio operation between 4.90 and 5.35 GHz. Installers are urged to check with their country's regulations authority prior to equipment purchase and deployment. Radio Power and data rate settings are subject to changes according to the country of installation.

(3) For US operation, 40 MHz bandwidth is allowable only for installations which have been granted an "experimental" license by the FCC.

Solectek Corporation
6370 Nancy Ridge Dr. STE 109
San Diego, CA 92121
main: 858.450.1220
fax: 858.457.2681
info@solectek.com
www.solectek.com