



4.9GHz Broadband Radios



The AirStream high-powered bridge/router is equipped with a 400mW OFDM radio that provides a distinct advantage in distance and coverage over typically 4.9GHz radios.

Wireless Solutions AirStream maximizes the potential of wireless, offering an enterprise-class solution with superior range, throughput and operational ease.



Product Summary

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

An AirStream 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 used for file transfer, internet access, voice, or video transport, the AirStream has been designed to work seamlessly in your network.

The AirStream 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, AirStream'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 AirStream 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 AirStream 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 AirStream 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.

AirStream Specifications – 4.9GHz Broadband Radios

Point to Point Performance			
	PTP-49-SR	PTP-49-MR	PTP-49-LR
Link Distance ⁽¹⁾	2 Miles	6 Miles	22 Miles
Radio Power	50mW	400mW	400mW
Multipoint Performance			
	MP-CU49-SR	MP-CU49-MR	MP-CU49-LR
Link Distance ⁽¹⁾			
With omni base station	0.6 Mile	1.6 Miles	3 Miles
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 Rate	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			
Configuration	Outdoor, Integrated Unit	Outdoor, Integrated Unit	Outdoor, Integrated Unit
Size	13" x 13" x 2.5"	13" x 13" x 2.5"	18" x 18" x 3.5"
Weight	7.5 lbs.	8.0 lbs.	14 lbs.
Pole Mount Adapter	2-Axis Adjustment, Accommodates 1-3" pole diameter		
Environmental			
Temperature	-30C to +60C		
Humidity	0-100% condensing		
Water/Dust	Meets IP67 requirements		
Lightning Suppression	Integrated, IEC 6100-4-5 Class 5 compliant		
Wind	125 MPH survivability, 110 MPH operation		
Wind Load @ 125 MPH	83 lbs.	83lbs.	128lbs.
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.

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