



BridgeWave

FP18 & FP23

18 GHz and 23 GHz Full-Rate Gigabit Capacity Wireless Links

HIGH CAPACITY GIGE WIRELESS LINKS FOR HIGH BANDWIDTH APPLICATIONS

The FlexPort® family of high capacity millimeter wave radios offers carriers, service providers, government and enterprise users the ultimate flexibility in an access and aggregation/backhaul solution for today's networks.

The FP18 and FP23 microwave radio systems have been designed specifically to meet the requirements of operators, carriers, and service providers wanting full-rate gigabit connectivity in a single, compact, all-outdoor enclosure. FP18 and FP23 accomplish this through an innovative approach in aggregating multiple RF channels without the need for additional hardware as with other lower licensed frequency band products. This helps ease installation and maintenance costs on the network by offering only one device to install and manage, providing the end customer with a highly-reliable, fully integrated backhaul solution.

BridgeWave is the market leader in providing highly reliable gigabit wireless solutions. The FlexPort family of products leverages our expertise in designing and bringing to market carrier-class millimeter wave and microwave solutions that have been accepted and used in thousands of installations worldwide.



FP23-1



FP18-2

WIRELESS VIRTUAL FIBER SOLUTIONS FOR:



Enterprise

Server centralization, remote data storage and backup, leased line replacement.



Healthcare

Secure, HIPAA-compliant connectivity, medical office, lab network access, real-time imaging & records, application connectivity.



Education

High-performance campus connectivity, Wi-Fi and security camera backbone.



Government/Municipalities

Video surveillance systems, traffic control and monitoring, Wi-Fi/4.9GHz backhaul.



Service Provider

High-capacity business services, fiber extensions, cellular/Wi-Fi/WiMAX backhaul, redundant fiber overlays, mesh.



Mobile Backhaul

Future-proof full-rate gigabit backhaul for next generation 4G/LTE/WiMAX backhaul.

FEATURES

Performance:

- Full-rate, full-duplex gigabit Ethernet transmission
- Efficient spectrum utilization using 256-QAM modulation
- Low latency for fiber-equivalent performance
- Forward Error Correction for maximum link range
- 18 GHz and 23 GHz frequency bands operation in accordance with FCC Part 101 channel plans

Ease of Use:

- All-outdoor design
- Ethernet SFPs available with multi-mode, single mode, or copper interfaces
- Web based & SNMP management

Proven Reliability:

- Based on proven design – thousands of full-rate GigE millimeter wave terminals installed
- Rigorous HALT/HASS testing
- Up to 99.999% carrier-grade availability

Security:

- Optional built-in FIPS certified 256-bit AES encryption
- RADIUS Authentication
- HTTP/HTTPS web management

Backhaul Evolved

Specifications

	FP18	FP23
Frequency Range T/R Spacing	17.70 – 19.70 GHz 1,560 MHz	21.20 – 23.60 GHz 1,200 MHz
Data Rates & Modulation	50/100/150 MHz RF Channel Bandwidth: QPSK 82/165/250 16QAM 164/330/500 32QAM 205/410/625 64QAM 250/500/750 128QAM 290/580/875 256QAM 330/665/1000	50/100/150 MHz RF Channel Bandwidth: 82/165/250 164/330/500 205/410/625 250/500/750 290/580/875 330/665/1000
Transmitter Power Output	QPSK +26 dBm 16QAM +23 dBm 32QAM +23 dBm 64QAM +19 dBm 128QAM +19 dBm 256QAM +19 dBm	+25 dBm +23 dBm +23 dBm +19 dBm +19 dBm +19 dBm
Receiver Sensitivity for 10 ⁻⁶ B.E.R.	50/100/150 MHz RF Channel Bandwidth: QPSK -79/-76/-75 dBm 16QAM -70/-67/-66 dBm 32QAM -68/-65/-64 dBm 64QAM -64/-61/-60 dBm 128QAM -60/-57/-57 dBm 256QAM -56/-53/-52 dBm	50/100/150 MHz RF Channel Bandwidth: -79/-76/-75 dBm -70/-67/-66 dBm -68/-65/-64 dBm -64/-61/-60 dBm -60/-57/-57 dBm -56/-53/-52 dBm
Ethernet Interface	Up to 4 field pluggable SFPs supporting multimode (-SX), single mode (-LX) or copper (-T) interfaces. Maximum Ethernet Frame Length: 10,000 bytes	
Latency	As low as 65 µSec	
Management	Web-based (HTML) embedded management agent, HTTPS secure management option	
	SNMP Support: MIB-II And BridgeWave enterprise MIB	
	SysLog (RFC 3164, RFC 3195) event support, RADIUS client support	
Power	-48 VDC input, -37.5v to -70v range, 60 watts power consumption. Supports redundant "A" and "B" power feeds	
Size & Weight	11.5" w x 11.5" h x 5" d (29.2 cm x 29.2 cm x 12.7 cm); 14 lbs (6.3 kg)	
Environmental	Operating Temperature: -33°C to +55°C (-27°F to +131°F) per EN 300 019 Class 4.1	
	Operating Altitude: 4,500m (14,764 ft)	
	Water Ingress: IP66	
Antenna Gain, 3dB Beamwidth	12" (30cm) 34.0 dBi / 3.0° ETSI EN 302 217 Class 3 Rated 24" (60cm) 38.6 dBi / 2.0° FCC Category A Rated 36" (90cm) 42.0 dBi / 1.3° FCC Category A Rated 48" (120cm) 44.5 dBi / 1.0° FCC Category A Rated	34.4 dBi / 2.9° FCC Category A Rated 40.2 dBi / 1.7° FCC Category A Rated 43.7 dBi / 1.1° FCC Category A Rated 46.2 dBi / 0.8° FCC Category A Rated