

J BridgeWave **SOLUTION GUIDE**

OUR RESOURCES ARE YOUR SOLUTION



CONNECTRONICS

Distributors of  Wireless and Connectivity Products

The BridgeWave Solution



BridgeWave

COMMUNICATIONS

BridgeWave Communications is the leading supplier of Point-to-Point Gigabit wireless solutions.

Since 1999, BridgeWave Communications has been delivering highly-reliable, cost-effective, high capacity wireless solutions for mobile, carrier, service provider, enterprise, and government (including municipal and military applications) networks. High performance, lower costs, ease of operation and excellent wireless network security deliver a superior alternative to fiber-based solutions.

Band	Product Name	Maximum Capacity	Product Features
80 GHz	Flex4G-5000	5350 Mbps	Adaptive Modulation, IP, SONET/SDH, CPRI, QoS, PoE, SyncE/1588V2, 256-AES, OAM, Ring Protection, Link Aggregation, Advanced Ethernet switching, 10Gbps interface, 2 x 2.5Gbps interface, 2 x 1Gbps interface
80 GHz	Flex4G-3000	3200 Mbps	Adaptive Modulation, AdaptPath™ (Roadmap), IP, TDM, CPRI, QoS, PoE, SyncE/1588V2, 256-AES, OAM, Ring Protection, Link Aggregation, Advanced Ethernet switching, 5-port switch, low-latency
80 GHz	Flex4G-LITE	3000 Mbps	Adaptive Modulation, IP, CPRI, QoS, PoE, SyncE/1588V2, OAM, Ring Protection, Advanced Ethernet switching, 2.5Gbps interface, 5 x 1Gbps interface
80 GHz	Flex4G-UHA	1000 Mbps	AdaptRate™, AdaptPath™ (Roadmap), 256-AES, OAM, PoE, SyncE, 1588V2 TC, Advanced Ethernet switching, 3-port switch, low-latency
60 GHz	BW64/BW64E	1000 Mbps	AdaptRate™, AdaptPath™ 256-AES, 2 port switch, SFP, PoE, +/- 48VDC
18, 23, 24 GHz	FlexPort μWave FP18, FP23, FP24	700 Mbps	ARM, 256-AES, Single ODU for 1 Gbps, QoS, 5 port switch, ANSI only
6 – 38 GHz	EtherFlex	314 Mbps	ARM, QOS, VLAN, 2-port switch, PoE

Flex4G-5000 70/80 GHz All-Outdoor Light Licensed GigE Backhaul

The Flex4G-5000 is an E-band (70/80GHz) millimeter wave system delivering up to 5.35Gbps Full Duplex capacity per radio, and is scalable to 10.7Gbps in a 2+0 configuration. The all outdoor Flex4G-5000 alleviates the strain of backhaul connections by combining advanced radio and modem capabilities with carrier-grade 10G Ethernet, CPRI, and SONET/SDH features at the lowest total cost of ownership.

Key features of the FL4G-5000 include:

- 5.35Gbps data rate (ANSI) per 1+0 radio, 10.7Gbps per 2+0;
- 1+0, 1+1 Hot-Standby, and 2+0 configuration support
- 1000 MHz and 1250 MHz bandwidth support
- 10Gbps Ethernet interface
- Radio link aggregation to combine capacity from multiple radios to a single Ethernet cable, simplifying operational logistics and reducing costs
- Power-over-Ethernet and Direct DC Input
- Optional 256-bit AES encryption
- Carrier Ethernet services enabled via built-in low-latency switch

**Ultra High Capacity*



FL4G-5000LITE 70/80 GHz All-Outdoor Light Licensed GigE Backhaul

The Flex4G-LITE is an ultra-low cost E-band (70/80GHz) millimeter wave system delivering up to 3Gbps Full Duplex capacity per radio. Its high capacity and availability, coupled with its long range, make it the ideal system for wireless interconnects. Lightweight and compact, the Flex4G-LITE features a single optical interface carrying 2.5 Gbps of capacity, greatly simplifying deployment and minimizing the installation and connectivity costs typically incurred with legacy systems requiring multiple fiber runs

Key features of the FL4G-LITE include:

- 3Gbps data rate per 1+0 radio with up to 6Gbps per 2+0 radio
- Adaptive Code Modulation from QPSK to 64QAM and Automatic Transmit Power Control to maximize range under different conditions
- 2.5 & 1G Ethernet interfaces along with CPRI (Mode 1-4) support for enhanced flexibilitiesM
- Power-over-Ethernet and Direct DC Input
- Extreme ranges supported with optional 30cm (43.8dBi), 60cm (51dBi), and 90cm (54dBi) external slip-fit antennas

**Ultra Low Cost*



FLG4-LITE
with 12" Antenna

Flex4G-3000 70/80 GHz All-Outdoor Light Licensed GigE Backhaul

Given the exponential growth of bandwidth-intensive Internet traffic, the Flex4G-3000 (FL4G-3000) offers 3G/4G operators a true alternative to fiber in dense urban areas, and provides public and private network operators with an ultra-high capacity backhaul system that quickly and easily scales from 1 Gbps to 6.4 Gbps (2+0 configuration) to meet future bandwidth requirements.

Key features of the Flex4G-3000 include:

- Capacity up to 3.2 Gbps Full Duplex in a 1+0 & 6.4 Gbps in a 2+0 configuration
- QPSK to 256QAM with ACM and ATPC to maximize range under different conditions
- Multi-protocol: Gigabit Ethernet, TDM, CPRI
- Advanced Ethernet carrier grade features (MPLS, Ring protection) & timing support (SyncE, 1588v2 TC/BC/OC)
- 256-AES Encryption software upgrade option supports radio's full gigabit Ethernet capacity
- Power-over-Ethernet and Direct DC Input



Flex4G-UHA 70/80 GHz All-Outdoor Light Licensed GigE Backhaul

BridgeWave's innovative Flex4G-UHA (FL4G-UHA) has been designed to alleviate the strain on backhaul connections by combining advanced radio and modem capabilities with carrier-grade Ethernet features. Implementing BPSK modulation achieves improved link budget compared to high-QAM systems. Furthermore, incorporating BridgeWave's patented AdaptRate™ technology achieves an additional 10dB link budget gain during periods of inclement weather.

Key features of the Flex4G-UHA0 include:

- Capacity up to 1 Gbps Full Duplex in 1250 MHz channel
- AdaptRate™ to maintain link operation in severe fade conditions
- 1+1 Hot-Standby and 2+0
- 256-AES Encryption software upgrade option supports radio's full gigabit Ethernet capacity
- Power-over-Ethernet and Direct DC Input

**Ultra High Availability*



FL4G-UHA
with 12" Antenna



FL4G-UHA
with 24" Antenna

BW64 and BW64E 60 GHz All-Outdoor License-Free GigE Backhaul

BridgeWave's BW64 and BW64E combine high-performance, simplicity and flexibility in an all-outdoor 60 GHz backhaul solution. With data rates that support 1000 Mbps Full Duplex and AdaptRate™ with AdaptPath™ for interference mitigation, BW64/BW64E provides the highest link budget and flexibility for any network application.

Key Features of the EtherFlex Include:

- Highest link budget of any 60 GHz GigE solution on the market
- AdaptRate™ & AdaptPath™ functionality which provide mitigation during intense rain
- SFP plug-in for flexibility in choosing between multi-mode or single-mode fiber
- Direct DC (-48V), or optional Power over Ethernet



BW64



BW64E

FlexPort μWave 18-24 GHz All-Outdoor Licensed GigE Backhaul

BridgeWave's FlexPort® μWave in the 18 GHz, 23 GHz and 24 GHz microwave radio systems have been designed specifically to meet the requirements of operators, carriers, and service providers requiring full-rate gigabit connectivity in a single, compact, all-outdoor enclosure. The FlexPort® μWave accomplishes this through an innovative approach in aggregating multiple RF channels without the need for additional hardware as with other licensed frequency band products.

Key Features of EtherFlex include:

- Capacity up to 700 Mbps
- Innovative multi-RF channel capability in a single all-outdoor enclosure
- QPSK through 256 QAM with Adaptive Modulation
- QoS per 802.1p, VLAN per 802.1q, and Jumbo Frame support



EtherFlex 6-38 GHz All-Outdoor Licensed Backhaul

Operating in the licensed 6 – 38 GHz bands with a base capacity of 100 Mbps full-duplex, EtherFlex is easily upgradeable to 314 Mbps capacity with a single software license key. Compact and lightweight, the all-outdoor design affords rapid fitting on any REMEC style antenna mount.

Key Features of EtherFlex include:

- Base capacity of 100 Mbps Full Duplex; upgradable to 314 Mbps
- 4QAM – 256QAM with Hitless Adaptive Modulation
- Native Ethernet transmission
- Internal 2-port Ethernet switch supports jumbo frames with QoS and VLAN



EtherFlex