



Spectrum-Efficient 1Gbps Links

The BridgeWave **Flex4G-1000 (ETSI)** is an all outdoor, IP radio system operating in the 71-86GHz frequency band with capacities up to 1Gbps. Supporting both POE and direct DC feed, this compact radio system features carrier-grade Ethernet switch functionality, hitless adaptive rate modulation, and low power consumption.

BridgeWave **Flex4G-1000 (ETSI)** is available with an ultra-compact integrated 20cm antenna or with externally mounted 30cm, 60cm, or 90cm antennas for ultra long range.

The BridgeWave **Flex4G-1000 (ETSI)** enables network operators to meet exponentially-increasing backhaul requirements and is field-proven with thousands of links already in use worldwide.

Performance

- Spectrum efficient using 64QAM in 250, 500, and 750MHz wide channels
- Full-duplex providing up to 1Gbps upstream and downstream
- Hitless adaptive rate and modulation
- QPSK/8PSK/16/32/64QAM modulation support
- Highest system gain
- Internal carrier grade L2 switch
- SyncE and IEEE1588v2 compliant
- Power over Ethernet
- Compact integrated 20cm antenna available (38 dBi) for ETSI deployments
- Extreme ranges supported with optional 30cm (43.8dBi), 60cm (51dBi), and 90cm (54dBi) external slip-fit antennas
- Small form factor and lightweight
- Quick and simple deployment

Security:

- Highly secure narrow beamwidth antennas
- FIPS-197 compliant AES Encryption provides the ultimate in data protection at full line rate gigabit speeds with minimal latency



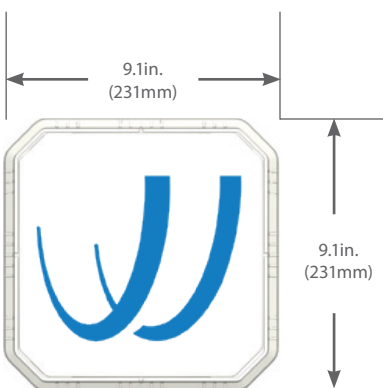
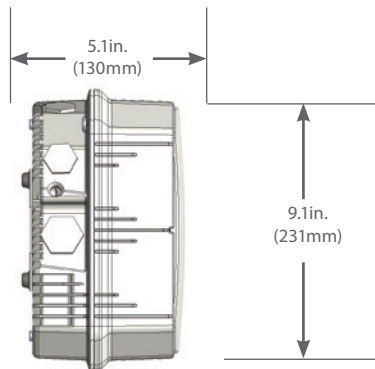
Applications

- 4G/LTE backhaul for access and aggregation
- Last-mile fiber extension for enterprises
- Temporary high capacity links for disaster recovery
- LAN extensions

Flex4G-1000 (ETSI) SPECIFICATIONS

Dimensions

Flex4G-1000 (ETSI) with
Integrated 20cm Antenna



Data Throughput Rate	Up to 1000Mbps per 1+0 terminal, Up to 2000Mbps per 2+0 terminal							
Configurations	1+0 Non-Protected; 2+0 Dual Path Transmission utilizing Orthogonal Mode Transducer, OMT							
Frequency Range	71-76GHz / 81-86GHz							
Air Interface	Full Duplex FDD							
RF Channel Tuning	Frequency Agile in 125MHz steps							
Channel Bandwidths	250, 500, and 750MHz							
Management	In-Band							
Latency	<50µs @ 64QAM with 1024byte packets							
Modulation	QPSK/8PSK/32QAM/64QAM Hitless Adaptive Code and Modulation							
Modulation	QPSK-4	QPSK-3	QPSK-2	QPSK-1	8PSK	16QAM	32QAM	64QAM
RF Channel Bandwidth	750 MHz	500/750 MHz	250/500/750 MHz	250/500/750 MHz	250/500 MHz	250MHz	250MHz	250MHz
User Data Rate (Mbps)	166	166/333	166/333/666	333/666/1000	500/1000	666	833	1000
Link Budget (10E⁻⁶ BER)								
	<ul style="list-style-type: none"> Up to 203dB with 90cm/36inch antenna Up to 197dB with 60cm/24inch antenna Up to 182.6dB with 30cm/12inch antenna 							
Interfaces								
	Ethernet: 2 x 1GbE SFPs + 4 x RJ45 10/100/1000Base-T							
Ethernet								
Max Packet Size	9600 bytes (Jumbo Frame Compatible)							
Ethernet Timing and Synchronization	SyncE (G.8261), IEEE 1588v2 (Transparent Clock)							
Features	<ul style="list-style-type: none"> IPv6, IPv4 L2- 8192 MAC Address 4096 VLAN (IEEE 802.1Q) 				<ul style="list-style-type: none"> VLAN tag translation on ingress or egress Provider Bridging (IEEE 802.1ad, Q-in-Q) RSTP / MSTP 			
Ethernet QoS								
Classification	<ul style="list-style-type: none"> 8 QoS queues per port with SP or DWRR scheduling TCAM classification and remarking DSCP translation, ingress and egress 				<ul style="list-style-type: none"> Per Queues and Per Port policing and shaping Full Duplex Flow control 			
Protection	ITU-T G.8032 Ring							
OAM	ITU-T Y.1731							
Security								
	Inherently secure ultra-narrow beamwidth antennas for low probability of detection and interception							
	Option: FIPS-197 compliant 256-bit AES Encryption (export controlled)							
Antennas								
	<ul style="list-style-type: none"> Integrated 20 cm, 38 dBi gain, 0.8° beamwidth External 30 cm, 43.8dBi gain, 0.9° beamwidth External 60 cm, 51 dBi gain, 0.4° beamwidth External 90 cm, 54 dBi gain, 0.3° beamwidth 							
Mechanical and Environmental								
Input Power Requirements	-48VDC, PoE, 30W typical (32W Max) power consumption							
Weight	2.9kg / 6.4lb (with integrated antenna)							
Temperature Range	-50°C to +60°C (-58° to +140° F)							
Weather	IP67 / All Weather							
Safety	IEC 60950-1, -22							
Regulatory RF Certification	US FCC Part 101, FCC Part 15B; ETSI EN 302 217-3							

Note: Specifications are typical and subject to change without notice.

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