

ALFOplus80 series

Product Leaflet



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2.5 Gbps E-Band Full Outdoor

Whether in mobile, fix or private networks, the E-band millimetre wave represents a new fundamental technology tool bridging the gap between fibre high capacity systems and flexible cost effective wireless transmission.

Fibre like capacity, highest deployment flexibility and homogeneous operational behaviour as traditional microwave, allow operators to fully liaise on existing knowledge and skills, minimizing the introduction costs, while modernizing the transport network.



Siena, Italy

MILLIMETER WAVE RADIO

ALFOplus80 is a Full-Outdoor, full IP Next Generation Millimeter wave radio operating in the E-Band (71-76 GHz - 81-86 GHz).
ALFOplus80 is the ideal solution for ultra high capacity wireless links in urban environment for all carrier-class applications: mobile backhaul, front haul, enterprise, ISP.



MAIN FEATURES

- Up to 2.5 Gbps Throughput
- Channel bandwidth from 250 to 1000 MHz
- BPSK/4/16/64 QAM modulation schemes
- Hitless Adaptive Coding and Modulation
- Full Carrier Ethernet protocol stack
- AES Encryption
- Power Over Ethernet
- Gigabit Ethernet and STM-1/E1 interfaces
- InBand and OutBand Management
- Layer 1,2,3,4 Header Compression (up to 200% throughput improvement)
- SM-OS based platform
- "Fibre Mode" operation for 2xGigabit
- Packet Fragmentation to minimize jitter
- Synchronous Ethernet and IEEE 1588v2 support
- CISCO Microwave Adaptive bandwidth feature interworking

LAYER 2 MAIN FUNCTIONALITIES

- MEF 2.0 Carrier Ethernet Services
- Complete VLAN management
- Per VLAN flexible ingress Policer (CIR & EIR definition)
- Color-Aware Classification
- Programmable queues length
- Jumbo Frames up to 10Kbytes
- Flexible QoS definition based on VLAN, IPv4, IPv6, MPLS exp bits
- Support for G.8032 based rings
- RMON Statistics

TYPICAL APPLICATIONS

- Any-G Mobile Backhaul for Access and aggregation
- CRAN, CPRI front haul 2.5 Gbps
- Last Mile fiber extension for business customers
- Emergency wireless links
- Complementary solution to fibre deploy

Radio Access migration towards full packet technology is boosting demand for All Outdoor microwave equipments. AGS20 enables this move by providing:

- Connectivity towards ALFOplus and ALFOplus80 series
- 2.5 Gbps optical interface
- Single Network Element concept towards NMS
- Power over Ethernet and integrated lighting protection to direct feed All Outdoor equipments
- TDM connectivity



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Product Data Sheet



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ALFOplus80

2.5 Gbps E-Band Full Outdoor

Frequency	80 GHz (71-76 GHz / 81-86 GHz)			
Supported configurations	(1+0), (1+1), (2+0)			
Modulation schemes	BPSK / 4 / 16 / 64 QAM with Hitless Adaptive Code and Modulation			
Traffic interfaces	2 x GE electrical / optical or 1 x 2.5 Gbps optical			
Output power at point C'	Channel Spacing			
		250 MHz	500 MHz	1000 MHz
	4 QAM	+18	+18	+18
	16 QAM	+15	+15	-
	64 QAM	+13	+13	-
Receiver sensitivity at BER 10 ⁻⁶ at point C (1+0 conf., 28/30 MHz RF filter losses included)	Channel Spacing			
		250 MHz	500 MHz	1000 MHz
	4 QAM	-73	-70	-64
	16 QAM	-64	-61	-
	64 QAM	-58	-55	-
Frequency stability	± 5 ppm			
ATPC	20 dB range implemented in 1 dB steps			
RTPC	Up to 20 dB in 1 dB step, software programmable			
ODU connector	RJ45 or SFP Optical Plug-in			
Management Interfaces	In-band or out-band management			
Mechanical dimensions ODU (WxHxD)	290 x 302,5 x 67,6 (mm) 11,4 x 11,9 x 2,6 (in)			
Power supply	PoE or separated power feeding			
Power consumption (per terminal)	32W to 53W in 1+0 configuration			
Environmental performance	ODU weather proofing class			
	IP65			
Environmental performance	ODU temperature range			
	-35° C to +55° C			
Ethernet characteristics	MAC address switching, ageing and learning VLAN / VLAN stacking (IEEE 802.1ad-QinQ) Ethernet QoS (IEEE 802.1p) Flow Control (IEEE 802.3x) RMON Statistics (RFC 2819) LLF (Link Loss Forwarding) ETH OAM (IEEE 802.1ag / 802.3ah / ITU-T.Y.1731) G.8261/8262/8264 SyncE / IEEE 1588 v2 Selective QinQ based on VLAN and 802.1p priority			
Compliant with	ETSI EN 302 217			

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