ALFOplus series

Product Leaflet

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High Capacity IP Ethernet Full Outdoor

ALFOplus is a Full-Outdoor, fully IP Next Generation Microwave Radio.

Its zero footprint solution allows for fast rollout of 3G and LTE IP backhaul networks. Ideal for a fast and flexible evolution towards full IP networks it offers best in class performance and the lowest power consumption for a green but performing network.

Torino, Italy

MICROWAVE RADIO

ALFOplus series

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ALFOplus combines compacteness, best in class performance and the lowest power consumption in a single efficient and cost effective fulloutdoor device. It offers up to 500 Mbps transport capacity over higher modulation schemes of 1024QAM. ALFOplus is optimized for TCP/IP transport compliant to LTE traffic needs including packet synchronization techniques.

MAIN FEATURES

- 4QAM to 1024QAM modulations
- ACM adaptive code and modulation
- MultiLayer Header Compression
- 500 Mbps throughput
- Best in Class for SystemGain
- FCC/ETSI Channels supported
- Advanced Pure IP engine
- CISCO Microwave Adaptive Bandwidth feature interworking
- Synchronous Ethernet support
- IEEE 1588 v2 support
- Extended buffer for TCP/IP efficiency in LTE networks
- 1+0 Non-Protected Configuration
- Optical or Electrical port options
- Lowest power consumption
- Integrate antennae up to 1.8 m
- Unified Network Management System - NMS5

LAYER 2 MAIN FUNCTIONALITIES

- MEF-9 and MEF-14 Compliancy
- 8 queues with flexible scheduler (Strict WFQ and mixed)
- Flexible QoS definition based on VLAN, IPv4, IPv6, MPLS exp bits
- Per queue WRED congestion avoidance
- Flow Based Ingress Policing (CIR & EIR definition)
- Flow Control IEEE 802.3x
- RMON Statistic management
- VLAN/VLAN STACKING (IEEE 802.1q with QinQ)
- Link Aggregation IEEE 802.3ad
- ETH OAM IEEE 802.1ag/ITU-T Y 1731
- Jumbo Frames up to 10 Kbytes

TYPICAL APPLICATIONS

- Any-G Mobile Backhaul for Access and aggregation
- ISP High Capacity LAN to LAN connections
- Last Mile fiber extension for business customers
- Emergency wireless links
- Complementary solution to fiber deploy
- Zero footprint applications

MEMBER OF:

COMPANY WITH QUALITY MANAGEMENT SYSTEM CERTIFIED BY DNV = ISO 9001:2008 =

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ALFOplus
Pure IP , High Capacity Full Outdoor

Frequency		11, 18 & 23 GHz		
Supported configurations		(1+0)		
Modulation schemes		4/16/32/64/128/512/1024 QAM with Hitless Adaptive Code and Modulation		
Supported Ethernet Throughput		500 Mbps		
Traffic interfaces		2 x GE electrical / optical		
Output power at point C[1]		11 GHz	18 GHz	23 GHz
	4 QAM	+28	+23	+23
	16 QAM	+25	+21	+21
	32 QAM	+24	+19	+19
	64 QAM	+24	+19	+19
	128 QAM	+24	+19	+19
	256 QAM	+24	+19	+19
	512 QAM	+24	+19	+19
	1024 QAM	+23	+18	+18
Receiver sensitivity ar BER 10^{-6} at point C (1+0 conf., 28/30 MHz RF filter losses included)		11 GHz	18 GHz	23 GHz
	4 QAM	-91	-90.5	-90.5
	16 QAM	-84	-82.5	-82.5
	32 QAM	-78.5	-79	-79
	64 QAM	-76.5	-76	-76
	128 QAM	-73.5	-73	-73
	256 QAM	-70	-69.5	-69.5
	512 QAM	-67.5	-67	-67
	1024 QAM	-63.5	-63	-63
Frequency stability		± 5 ppm		
ATPC		20 dB range implemented in 1 dB steps		
RTPC		Up to 20 dB in 1 dB step, software programmable		
Service channels		VoIP		
ODU connector		RJ45 or SFP Optical Plug-in		
Management Interfaces		In-band management		
Mechanical dimensions ODU (WxHxD)		10 x 10 x 6 (in)		
Power supply		25 ÷ 60 VDC floating		
Power consumption (per terminal)		≤ 35W in 1+0 configuration		
ODU weather proofing class		IP65		
ODU operational Temperature (standard range)		-35° C to +55 ° C		
Ethernet characteristics		MAC address switching, ageing and learning VLAN / VLAN stacking (IEE 802.1ad-QinQ) Ethernet QoS (IEEE 802.1p) Flow Control (IEEE 802.3x) RMON Statistics (RFC 2819) LLF (Link Loss Forwarding) LAG (Link Aggregation IEE 802.3ad ETH OAM (IEEE 802.1ag / ITU-T Y.1731) RSTP (Rapid Spanning Tree Protocol)		
Compliant with		FCC Part 101		

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