## Product Description

**EC SYSTEM ECM-P5-A23R500-500M**

### Description

**EC SYSTEM** Profi high-capacity Integrated 23 dBi Dual-polarization Antenna Point-to-Point backhaul

### Performance

- **Distances**: 30 km
- **Up to 480 Mbps**

### Radio

- **Radio technology**: MIMO 2x2 (Cyclic single carrier)
- **Modulation types**: from QPSK to QAM256, as well as QAM1024
- **Transmit power**: up to 27 dBm
- **Receiver sensitivity**: down to -94 dBm
- **Frequency bands**: 4.9-6.0 GHz
- **Channel bandwidth**: 10, 20, 40 MHz

### Wired Interfaces

- **2x 10/100/1000 Base-T copper ports, RJ-45**
- **SFP port**

### Power Consumption

- **Consumption**: up to 30 Watts
- **Power options**: 90-240 VAC ~ @ 50/60 Hz, 43..56 VDC

### Form Factor and Dimensions

- **371 x 371 x 83 mm, 3.1 kg**

### Part Number Options

- **ECM-P5-A23R500-500M**
Features

**RADIO**
- Voice/RTP Aware Superpacketing
- to minimize jitter and latency for multimedia applications
- DFS
- intelligent search for a clearest channel and interference avoidance
- - radar detection (depending on regulatory domain)
- - continuous background spectrum monitoring (for instant DFS enabled units only)
- - seamless channel change in case of congestion or radar detection (for instant DFS enabled units only)
- Automatic Bitrate Control
- to ensure a 100% stable link irrelevant of changes in external conditions
- Automatic Transmit Power Control
- to track and keep optimal input signal level to maximize performance for each link and reduce overall interference within a given transmit power and EIRP limitations
- Automatic Distance Learning
- to optimize performance for any link distances from dozens of meters to 100 km and above
- Channel Time Adjustment
- to improve performance on heavily loaded links
- Spectrum Analyzer mode
- interference detection
- - non-invasive spectrum analysis (for instant DFS enabled units only)
- Channel testing tools
- channel performance measurement
- - advanced diagnostics

**MANAGEMENT FEATURES**
- Web-interface
  - basic settings
  - channel diagnostics: spectrum analysis, antenna alignment, channel throughput measurement
  - - unit and RF links monitoring
  - - maintenance: firmware upgrade, license and configuration import/export
  - - tech support diagnostic reports generation
  - - command-line access
- Command-line interface for in-depth configuration and diagnostics accessible via:
  - - secure shell (SSH)
  - - telnet
  - - serial port
  - - remote shell
  - - SNMPv1 / SNMPv2 support
    - (MIB II, private MIB)
  - - Configurable SNMP Traps

**NETWORKING**
- Ethernet-over-IP tunneling
- ARP protocol support
- MAC/IP filtering
- Full-fledged 2nd layer switch:
  - - Transparent transport for any type of Ethernet traffic including MPLS, stacked VLANs, etc.
  - - Multiple switching groups
    - - Full VLAN support including Q-in-Q (IEEE 802.1q and 802.1ad)
    - - STP / RSTP support
    - - IGMP Snooping with Querier mode
    - - Trunk groups support
  - - RIPv2 / OSPFv2/static routing
  - - Tunneling
    - (Ethernet-over-IP, IP-over-IP)
  - - L2/L3 Firewall
  - - NAT (multicast, H.323-aware)
  - - DHCP client/server/relay

**QUALITY-OF-SERVICE**
With many QoS permutations, QoS implementation works transparently in the network based on IEEE802.1p standard as well as ToS/Diffserv, guaranteeing optimal performance under any load conditions and lowest jitter/delay for priority traffic.

- Quality-of-Service Features:
  - 16 priority queues
  - IEEE 802.1p support
  - IP ToS / Diffserv support
  - Full voice support
  - Traffic limiting
    - (absolute, relative, mixed)
  - Traffic redirection

**MAC**
- Dynamic adaptive Polling
  - - Centralized marker grant mode
  - - Dynamically takes into account channel activity
  - - Permanent channel testing
- Pseudo-radio Interface
- - unique Wireless feature to join Wireless networks via 3rd party equipment (Wired Ethernet segments, IP clouds)
- Automatic over-the-air firmware upgrade

**STANDARD COMPLIANCE**
- Radio
  - EN 301 893 v1.5.1
  - EN 302 502 v1.2.1
  - FCC part 15.247
- EMC
  - EN 301 489-1
  - EN 301 489-17
  - FCC Part 15 Class B
- Safety
  - EN 60 950-1:2006
- RoHS
  - Directive 2002/95/EC

**SECURITY FEATURES**
- Storm / flood protection
- Password protection
- Protocol messages encryption
- Secure command line access via SSH protocol

**ENVIRONMENTAL**
- Outdoor Units:
  - 40-+60C, 100% humidity, condensing
- Indoor Unit:
  - 0-+40C, 95% humidity, non-condensing

© 2014 Eurocontracts s.r.o. All rights reserved.
The content herein is subject to change without further notice.