

PRODUCT DATASHEET



EC SYSTEM ECM-P5-A28R500-500M

EC SYSTEM

4.9 - 6.0 GHz

Description	EC SYSTEM high-capacity Integrated 28 dBi Dual-polarization Antenna Point-to-Point backhaul
Performance	Up to 480 Mbps
Distances	60 km
Radio	<ul style="list-style-type: none">• Radio technology: MIMO 2x2 (Cyclic single carrier)• Modulation types: from QPSK to QAM256, as well as QAM1024• Transmit power: up to 27 dBm (average, per Tx chain) @ QPSK to QAM256. Up to 24 dBm @ QAM1024• Receiver sensitivity: -94 dBm @ 10 MHz, QPSK• Frequency bands: 4.9-6.0 GHz• Channel bandwidth: 10, 20, 40 MHz
Wired Interfaces	<ul style="list-style-type: none">• 2x 10/100/1000 Base-T metallic ports, RJ-45• SFP port
Power Consumption	Consumption: <ul style="list-style-type: none">• up to 30 Watts Power options: <ul style="list-style-type: none">• 90-240 VAC~ @ 50/60 Hz• 43..56 VDC

Form Factor and Dimensions



600 x 600 x 75 mm, 6.2 kg

Part Number	ECM-P5-A28R500-500M
Options	



EC SYSTEM

Features

RADIO

- **Voice/RTP Aware Superpacketing**
 - to minimize jitter and latency for multimedia applications
- **DFS**
 - intelligent search for a cleanest 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

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**

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 / SNMPv3 support** (MIB II, private MIB)
- **Configurable SNMP Traps**

STANDARD COMPLIANCE

- **Radio**
 - EN 301 893 v.1.5.1
 - EN 302 502 v.1.2.1
 - 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

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 Querrier mode
 - Trunk groups support
- **RIPv2 / OSPFv2 /static routing**
- **Tunneling** (Ethernet-over-IP, IP-over-IP)
- **L2/L3 Firewall**
- **NAT**(multipool, H.323-aware)
- **DHCP client/server/relay**

SECURITY FEATURES

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

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/delays 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**

ENVIRONMENTAL

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