**Description**

**EC SYSTEM** High-capacity 300 Mbps
External Antenna Point-to-Point Backhaul

**Performance**

280 Mbps throughput

**Distances**

Ultra-long range (up to 80 km with external high-gain antennas)

**Radio**

- Radio technology: MIMO 2x2 with OFDM 64/128
- Modulation types: BPSK ½ to QAM64 5/6
- Transmit power: up to 23 dBm
- Receiver sensitivity: -67..-97 dBm
- Frequency bands: 3.4-3.7 GHz
- Channel bandwidth: 3.5/5/7/10/14/15/20/28/30/40 MHz
- 2 x N-type (Female) connectors
- Center frequency adjustment step: 125 kHz
- Channel duplex: TDD

**Wired Interfaces**

- Gigabit Ethernet port (10/100/1000 Base-T) RJ-45 connector
- Serial port (RS-232)

**Power Consumption**

Consumption:
- Up to 12 Watts

Power options:
- 110-240 VAC @ 50/60 Hz
- ±43..56 VDC

**Form Factor and Dimensions**

- Outdoor Unit (ODU):
  - 240 x 240 x 51 mm, 2.3 kg
- Indoor Unit (IDU-BS): 124 x 72 x 38 mm, 0.3 kg

**Part Number Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Capacity</th>
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<tbody>
<tr>
<td>300M</td>
<td>280 Mbps</td>
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</table>

**Part Number Example**

ECM-H3-CR200-300M
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 ERP 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
- 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
  - IPv4 (private) MB
  - 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 O-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
    - L2/L3 Firewall
    - NAT/multiprotocol (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 giant 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, P2P/AdHoc
- Automatic over-the-air firmware upgrade

STANDARD COMPLIANCE
- Radio
  - EN 301 489 v1.3.1
  - EN 302 006 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 to 60°C, 100% humidity, condensing
- Indoor Unit:
  - 0 to 40°C, 95% humidity, non-condensing

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