**EC SYSTEM ECM-H3-A22R200**

**3.4 – 3.7 GHz**

**Description**

EC SYSTEM High-capacity 300 Mbps
Integrated 22 dBi Dual-polarization Antenna Point-to-Point Backhaul

**Performance**

300 Mbps throughput

**Distances**

30+ km

**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
- 22 dBi dual-pol integrated antenna
- 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):
  370 x 370 x 90 mm, 3.7 kg
- Indoor Unit (IDU-BS): 124 x 72 x 38 mm, 0.3 kg

**Part Number Options**

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<th>Options</th>
<th>Ant. 2x22</th>
<th>Output Power 2x200</th>
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<tr>
<td>Options</td>
<td>300M</td>
<td>Capacity 300 Mbps</td>
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**Part Number Example**

ECM-H3-A22R200-300M
Features

RADIO
- Voice/RTCP Aware Superpacketing
- to minimize jitter and latency for multimedia applications
- DFS
  - intelligent search for a cleanest channel
  - 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 1000% 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
  - 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
- Object Link private MIB
- Configurable SNMP Traps

NETWORKING
- Ethernet-over-IP tunneling
- ARP protocol support
- MAC/IP filtering
- Full flapped 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/STP support
  - IGMP Snooping with Quirker mode
  - Trunk groups support
  - RIPv2 / OSPFv2, static routing
  - Tunneling
    - Ethernet-over-IP, IP-over-IP
    - L2TP, L3 Firewall
    - NAT (multipool, H-323-aware)
  - DHCP client/server/relay

QUALITY-OF-SERVICE
With various 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 (in 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...+60°C, 100% humidity, condensing
- Indoor Unit:
  - 0...+40°C, 95% humidity, non-condensing