EC SYSTEM ECM-S3T-A22R200
3.4 – 3.7 GHz

Description
**EC SYSTEM** High-capacity Integrated 22 dBi Dual-polarization Antenna Subscriber Terminal

Performance
- 8 Mbps (up to 8 Mbps net)
- 20 Mbps (up to 20 Mbps net)
- 50 Mbps (up to 50 Mbps net)
- 300 Mbps (up to 180 Mbps net)
- License upgradeable

Distances
up to 10-12 km

Radio
- 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
- Center frequency adjustment step: 125 kHz
- Channel duplex: TDD
- 22 dBi dual-pol integrated antenna

Wired Interfaces
- 2x Fast Ethernet (10/100 Base-T)
  - PoE output at the second Ethernet port
  - RJ-45 connector

Power Consumption
Consumption:
- Up to 7 Watts
Power options:
- 110-240 VAC @ 50/60 Hz
- +9..56 VDC

Form Factor and Dimensions
- Outdoor Unit (ODU):
  - 371 x 371 x 83 mm, 2.8 kg
- Indoor Unit (IDU-CPE): 85 x 76 x 36 mm, 0.15 kg

<table>
<thead>
<tr>
<th>Part Number Options</th>
<th>ECM-S3T-A22R200</th>
<th>Option</th>
<th>Output Power</th>
<th>Option</th>
<th>Capacity</th>
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<tbody>
<tr>
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<td>200</td>
<td>2x200</td>
<td>L8M</td>
<td>8 Mbps</td>
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<td>L300M</td>
<td>300 Mbps</td>
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</tbody>
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Part Number Example
ECM-S3T-A22R200-300M
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 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
  (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/STP support
  - IGMP Snooping with Querier mode
  - trunk groups support
• RIPv2 / OSPFv2 / static routing
• Tunneling
  (Ethernet-over-IP, IP-over-IP)
• L2/L3 Firewall
• NAT(multipool, & 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/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

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, iClouds)
• Automatic over-the-air firmware upgrade

STANDARD COMPLIANCE
• Radio
  - EN 301 893 v.1.3.1
  - EN 302 202 v.1.2.1
  - FCC part 15.247
• EMC
  - EN 301 480-1
  - EN 301 480-17
  - 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 Units:
  - -2...40°C, 35% humidity, non-condensing

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