The TropOS 6430-T outdoor mesh router concurrently delivers broadband mesh and narrowband point-to-point (PTP) and point-to-multipoint (PTMP) functionality. It provides superior reliability by using its mesh routing, automatic interference avoidance and dynamic channel modulation capabilities. The TropOS 6430-T uses the 802.11a/b/g/n wireless standards to deliver 600 Mbps total wireless data rate plus up to 3.5 Mbps via the 900 MHz ISM band. Integration of a TropOS mesh router and TeleOS narrowband access point simplifies installation and enhances reliability and manageability.

Wireless
- IEEE 802.11a/n radio
  - Modulation: 802.11a/n - OFDM (64-QAM, 16-QAM, QPSK, BPSK)
  - Media access protocol: CSMA/CA with ACK
  - TX power (dBm EIRP)

<table>
<thead>
<tr>
<th>Band (MHz)</th>
<th>FCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>5150-5250</td>
<td>21-36</td>
</tr>
<tr>
<td>5250-5350</td>
<td>15-30</td>
</tr>
<tr>
<td>5470-5725</td>
<td>15-30</td>
</tr>
<tr>
<td>5725-5850</td>
<td>21-36</td>
</tr>
</tbody>
</table>

- 2x2 MIMO-antenna system: 2-TX x 2-RX
- 8 dBi removable omnidirectional antennas
- RX sensitivity
  -95 dBm @ 6 Mbps
- 900 MHz ISM-FHSS & DTS radio
  - Modulation: MSK, 2-FSK, BPSK, QPSK, 8-PSK, 16-PSK, 16-QAM, 32-QAM
  - TX power (dBm EIRP)

<table>
<thead>
<tr>
<th>Band (MHz)</th>
<th>FCC</th>
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<tbody>
<tr>
<td>902-928</td>
<td>15-31</td>
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</table>

- RX sensitivity (dBm)

<table>
<thead>
<tr>
<th>Channel Width (kHz)</th>
<th>Modulation</th>
<th>Data Rate (kbps)</th>
<th>Sensitivity (dBm)</th>
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</thead>
<tbody>
<tr>
<td>FHSS</td>
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<tr>
<td>76.45</td>
<td>MSK</td>
<td>57</td>
<td>-110</td>
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<tr>
<td>154.29</td>
<td>MSK</td>
<td>114</td>
<td>-107</td>
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<tr>
<td>207.11</td>
<td>MSK</td>
<td>153</td>
<td>-106</td>
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<tr>
<td>309.97</td>
<td>MSK</td>
<td>229</td>
<td>-103</td>
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<tr>
<td>600</td>
<td>BPSK</td>
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<td>-99</td>
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<tr>
<td>900</td>
<td>2FSK</td>
<td>663</td>
<td>-96</td>
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<tr>
<td>1200</td>
<td>BPSK</td>
<td>884</td>
<td>-95</td>
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<tr>
<td>1200</td>
<td>QPSK</td>
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<td>1200</td>
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</tr>
<tr>
<td>1200</td>
<td>16QAM</td>
<td>1768</td>
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<td>1200</td>
<td>16QAM</td>
<td>2121</td>
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<td>8PSK</td>
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<td>32QAM</td>
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<td>-86</td>
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<tr>
<td>1200</td>
<td>16PSK</td>
<td>3535</td>
<td>-83</td>
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<tr>
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<td>32QAM</td>
<td>4419</td>
<td>-81</td>
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- DTS

<table>
<thead>
<tr>
<th>Band (MHz)</th>
<th>FCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2400 - 2473</td>
<td>21-36</td>
</tr>
<tr>
<td>2400 - 2483</td>
<td>NA</td>
</tr>
</tbody>
</table>

- 2x2 MIMO-antenna system: 2-TX x 2-RX
- 7.4 dBi removable omnidirectional antennas
- RX Sensitivity:
  -99 dBm @ 1 Mbps
  -99 dBm @ 6 Mbps

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Power and productivity for a better world™
Interfaces
- 802.11a/b/g/n wireless, 802.11a, 802.11n client compatibility
- One IEEE 802.3u autosensing 10/100BASE-T Ethernet port
- One 10/100/1000BASE-T Ethernet port
- Protocols: DNP3, Modbus (RTU), Modbus (ASCII), raw (serial pass-through) support
- Integrated GPS receiver
- IPv4; IPv6-ready
- BGP
- 802.1q VLAN support (ESSID and IP based tagging)
- Support for static and dynamic addressing for wireless and wired clients
- Session-persistent mobility across subnets
- IP multicast forwarding, IGMPv3; IGMP Proxy
- Automatic rate, power, channel and band control
- IEC 61850 GOOSE messaging
- Reliable broadcast
- ABB System 800xA RNRP

Quality of service
- 802.11e WMM
- 802.1p/q with 4 queues per VLAN and ESSID
- 802.1p and DSCP

Management
- Local and remote management tools via HTTPS
- Identity-based authentication (4 levels)
- Configuration save and restore
- Over the air software upgrades
- SNMP (standard MIBs)
- Wireless, network and client monitoring and statistics
- Infrared (IR) port
- Wireless rescue
- SuprOS carrier class NMS support

Security
- IPsec VPNs with tunnels to wired client interfaces using AES
- Authentication: WPA, WPA2, 802.11i, RADIUS, 802.1x (includes EAP-TLS, EAP-TTLS, EAP-SIM, PEAP)
- Encryption: open, WEP, TKIP, AES-CCM
- AES encryption of mesh and control traffic
- Technical controls required to achieve NERC CIP v5 compliance
- Multiple BSSIDs & ESSIDs (ESSID suppression)
- Integrated firewall
  - Packet filtering on TCP/UDP port, protocol, SA, DA
  - Peer-to-peer blocking
  - Client access control lists
  - Evil twin detection and reporting
  - Denial of service (DoS) attack detection and reporting

Power
- 802.3at on the 10/100/1000BASE-T port
- 48 VDC on the 100/100BASE-T port
- 120/240 VAC with optional, external accessory (optional external battery backup available)
- Power consumption: 4 W typical
- Power-on and network status LEDs

Physical
- Dimensions
  - w/o mounting brackets, w/o antennas: 9.25” W (23.5 cm) x 7.5” D (19.1 cm) x 3.75” H (9.5 cm)
  - w/o mounting brackets, with antennas: 21.25” H (54 cm) - 2.4 GHZ antenna 16.63 H (42.2 cm) - 5 GHz antenna
  - Weight: 7 lbs (3.2 kg) without mounting brackets, with antennas

Wireless approvals
- FCC CFR 47 Part 15
- Industry Canada RSS 247

Safety approvals
- EN 60950
- IEC 950
- UL 60950-1
- CSA 22.2 No. 60950-1
- IEC 60529 IP67 rated for outdoor use
- UL 1449/IEC 60664-1
- IEEE 1613

Hazardous environment certification (pending)
- Class I Division 2 Groups A, B C and D (US, Canada)

Protection
- Antenna protection integrated
- Electrical protection: EN61000-4-4 Level 2 electrical fast transient burst immunity
- EN61000-4-3 Level 2 EMC field immunity
- EN61000-4-2 Level 2 (contact), Level 3 (air) ESD immunity

Warranty
- Five year hardware warranty
- Software and hardware maintenance plans available

For more information please contact:

ABB Wireless
3055 Orchard Drive
San Jose, CA 94135
Phone: +1 408.331.6800
E-Mail: wireless.sales@nam.abb.com
www.abb.com/unwired

Environmental specifications
- Operating temperature range: -40°C to 75°C
- Storage temperature range: -40°C to 85°C
- Weather rating: IP67 UL579/IEC 60529 IP67
- Wind survivability: >165 mph
- Wind loading (165 mph): <210 Newtons
- ASTM B117 salt fog rust resistance compliant
- Transportation: ISTA 2A