ArcheOS licensed band point-to-multipoint (PTMP) and point-to-point (PTP) radios provide reliable, around-the-clock wireless connectivity to remote endpoints at low to medium speeds. Every ArcheOS radio can serve as a master, a repeater or a remote endpoint.

ArcheOS 4000 series radios are dual band 406-430 MHz and 450-470 MHz software defined radios. Multiple complex modulation schemes allow for data transfer rates from 9 kbps to 102 kbps using 12.5/25 kHz channel widths. ArcheOS 4000 series radios support conducted output power of up to 10 W.
### Receiver sensitivity - ETSI

<table>
<thead>
<tr>
<th>Channel width (kHz)</th>
<th>Modulation</th>
<th>Data rate (kbps)</th>
<th>Sensitivity (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5</td>
<td>BPSK</td>
<td>9</td>
<td>-114</td>
</tr>
<tr>
<td></td>
<td>MSK</td>
<td>10</td>
<td>-118</td>
</tr>
<tr>
<td></td>
<td>QPSK</td>
<td>17</td>
<td>-110</td>
</tr>
<tr>
<td></td>
<td>8-PSK</td>
<td>26</td>
<td>-105</td>
</tr>
<tr>
<td></td>
<td>16-QAM</td>
<td>40</td>
<td>-101</td>
</tr>
<tr>
<td></td>
<td>32-QAM</td>
<td>44</td>
<td>-98</td>
</tr>
<tr>
<td></td>
<td>64-QAM</td>
<td>52</td>
<td>-95</td>
</tr>
<tr>
<td>25</td>
<td>BPSK</td>
<td>16</td>
<td>-111</td>
</tr>
<tr>
<td></td>
<td>MSK</td>
<td>19</td>
<td>-113</td>
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<tr>
<td></td>
<td>QPSK</td>
<td>33</td>
<td>-109</td>
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<tr>
<td></td>
<td>8-PSK</td>
<td>51</td>
<td>-104</td>
</tr>
<tr>
<td></td>
<td>16-QAM</td>
<td>68</td>
<td>-100</td>
</tr>
<tr>
<td></td>
<td>32-QAM</td>
<td>85</td>
<td>-97</td>
</tr>
<tr>
<td></td>
<td>64-QAM</td>
<td>102</td>
<td>-91</td>
</tr>
</tbody>
</table>

### Data transmission

- **Error Detection**: Up to 32-bit CRC, retransmit on error
- **Data Encryption**: AES 128/256
- **Data Interfaces**: 2 x 10/100 Ethernet, 2 x RS232/422/485 Serial
- **Data Connector**: 4 x RJ-45
- **Serial Interface Speed**: Up to 230.4 kbps

### Automation protocols on COM

- Modbus RTU, Modbus TCP, DNP3

### Power/Physical

- **Operating Voltage**: 10 – 32 VDC +/- 10%
- **Transmit Current (1W/8W)**: Average mA @12 VDC
  - Single radio: 562/945 mA
  - Dual radio: 611/1145 mA
- **RF Connector**: TNC
- **Dimensions (L x W x H)**: 6.625" (168 mm) x 3.45" (88 mm) x 1.835"(47 mm)
- **Weight**:
  - Single radio: 1.54 lbs (700 grams)
  - Dual radio: 1.61 lbs (730 grams)

### Unique capabilities

- **High Speed**: 9.6 kbps to 102 kbps over-the-air throughput. ArcheOS’s DSM technology offers the industry’s highest throughput in a 12.5 kHz channel at 57 kbps.
- **Dual Band**: 406 – 430 MHz/450 – 470 MHz frequency band support with a single radio.
- **Dual Radio**: Support for optional second RF module in a single enclosure (ArcheOS 4222) provides enhanced repeater functionality, higher throughput rates and multiband/multi-frequency operation
- **Ethernet Switch**: Two independent Ethernet ports, each with full VLAN support and configurable as access ports, trunks, or mixed.
- **Serial Bridge**: Seamless integration for hybrid networks utilizing both Ethernet and legacy serial devices.

### Wireless approvals

- FCC, ETSI
- Radio Equipment Directive (RED) compliant

### Environmental specifications

- **Operating temperature range**: -40°C to +75°C
- **Humidity**: 95% operating humidity @ 40°C non-condensing
- **Location**: UL Class I, Division 2, Groups A, B, C and D; T3C

### Security

- AES 128/256-bit encryption
- Password authentication
- VLAN network segregation

### Management

- SNMP V3
- SuprOS carrier-class NMS support

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