HIGH-POWER RADIO APPLICATIONS

New PPC-10G-HP 10 Gigabit Ethernet radio with higher output power is intended to cover longer distance, primary at regions with rare rains. This include Arctic and desert areas of Middle East or similar regions. PPC-10G-HP model provides output power of 26.5 dBm and 3 dB noise figure to ensure high availability.

Main point-to-point applications of PPC-10G-HP link are 5G/4G/LTE+ backhaul, industry area networks, car-based TV studios which provide wireless 4K UHD video streaming to TV Center and temporary 10 Gbps connections at exhibitions and other high-traffic events.

RAPID AND LOW COST 10 Gbps DEPLOYMENT

ELVA-1 PPC-10G-HP is a fully-outdoor radio, designed for temperatures from -50°C to +60°C (-58°F to +140°F) and humidity up to 100%. Delivery kit for each radio contains tuning panel to indicate received signal level (RSL) for fast antenna alignment.

The PPC-10G platform is based on state-of-the-art MMIC chips, which support Quadrature Amplitude Modulation in digital data radio communications. Using QAM 128, PPC-10G-HP requires only 2 GHz bandwidth at 70/80 GHz for 10Gbps rate. For Q-band, ELVA-1 has pioneered the implementation of QAM 256 technology to achieve the best spectrum efficiency in the industry.

FEATURES

- Frequency bands: 71-76/81-86 GHz or 40.5-43.5 GHz
- Up to 24 km (15 miles) at clear sky
- True 10 Gbps Full Duplex Operation (E-band)
- High output power: 26.5 dBm
- Noise Figure: 3 dB
- Encryption AES-128 and PoE optionally
- SNMP v.1; v.2; SNMPv2-MIB; Enterprise-MIB; WEB; Telnet; CLI
- Hitless adaptive bandwidth, coding and modulation
- Solid reliability with Fiber-like Performance
- Easily installed, zero-footprint
- EMI interference free

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## PPC-10G-HP SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>PPC-10G-E-HP</th>
<th>PPC-10G-Q-HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency range</td>
<td>71-76/81-86 GHz (E-band)</td>
<td>40.5-43.5 GHz (Q-band)</td>
</tr>
<tr>
<td>Throughput</td>
<td>Up to 10 Gbps Full duplex</td>
<td>Up to 7.2 Gbps Full duplex</td>
</tr>
<tr>
<td>Channel Bandwidths Available</td>
<td>250/ 500/ 750 /1000 /1250 /1500* /2000* MHz (*for E-band only)</td>
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<tr>
<td>Central frequency steps</td>
<td>Tunable into band with step 125MHz (31.25MHz micro step)</td>
<td></td>
</tr>
<tr>
<td>Modulation</td>
<td>QAM-256 to BPSK Adaptive to weather with hitless adaptive bandwidth, coding and modulation</td>
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<tr>
<td>MTBF</td>
<td>150 000 hours</td>
<td></td>
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<tr>
<td>Link budget with 2ft antennas, BPSK modulation @ 10⁻⁸ BER</td>
<td>208 dB @250 MHz 203 dB @750 MHz 201 dB @1250 MHz 200 dB @1500 MHz 199 dB @2000 MHz</td>
<td>190 dB @250 MHz 187 dB @500 MHz 185 dB @750 MHz 184 dB @1000 MHz 183 dB @1250 MHz</td>
</tr>
<tr>
<td>Max throughput</td>
<td>1330Mbps @250MHz 2660Mbps @500MHz 3750Mbps @750MHz 5200Mbps @1000MHz 7200Mbps @1250MHz 7630Mbps @1500MHz 9980Mbps @2000MHz</td>
<td>Max output power 19 dBm at QAM 128 / 26.5 dBm at QPSK</td>
</tr>
<tr>
<td>Management</td>
<td>SNMP v.1; v.2; SNMPv2-MIB and proprietary MIB; WEB GUI; Telnet; CLI</td>
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</tr>
<tr>
<td>Encryption</td>
<td>AES 128 optionally</td>
<td></td>
</tr>
<tr>
<td>Ethernet Interface</td>
<td>1 x SFP/SFP+ slot (1000Base-X, 10GBase-LR/SR)</td>
<td></td>
</tr>
<tr>
<td>Ethernet</td>
<td>Transparent for Ethernet services, Flow Control 802.3x PTP IEEE 1588v2 (TC) support</td>
<td></td>
</tr>
<tr>
<td>Management Port</td>
<td>100 Base-Tx (RJ - 45)</td>
<td></td>
</tr>
<tr>
<td>Forward Error Correction</td>
<td>LDPC; Reed Solomon</td>
<td></td>
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<tr>
<td>Polarization</td>
<td>Vertical / Horizontal</td>
<td></td>
</tr>
</tbody>
</table>

### Antenna

- **Antenna Type**: Cassegrain type antenna with radio-transparent radome
- **Antenna Gain/Beamwidth 1ft or 2ft or 3 ft antenna**: 45 dB/0.7° || 51 dB/0.35° || N/A 38 dB/1.5° || 44 dB/0.7° || 47 dB/0.4°

### Power / Environment

- **Power Supply AC**: Input 88-132 / 176-264 Volts, 50/60 Hz
- **Transceiver Power Consumption**: 45 W (+60 W when heater is switched ON)
- **DC Power**: 90W max PoE power delivered by PSE management port (optionally)
- **Operational Temperature**: -50°C to +60°C / -58°F to 140°F
- **Power Connection**: IP67
- **Humidity**: Up to 100%

### Physical dimensions

- **Outdoor unit size w/o antenna**: 246 x 246 x 110 mm
- **Weight (ODU w/o antenna)**: 4 kg max
- **Delivery set**: 2 radios with antennas + 2 indoor power supplies
PPC-10G-HP Part Numbering

To choose the right model by its product code, please use the following encoding schema:

For example, PPC-10G-HP link with 2 ft antennas, 71-76/81-86 GHz band has code PPC-10G-HP-E-2ft. To have L2+ switch option please add “L2” to code.

Attention: radio central frequency is fabric preset (not tunable by user), please advise its value at order time.

PPC-10G-HP DIMENSIONS WITH 1 ft OR 2 ft ANTENNA
ITU RAIN RATE ZONES TO DETERMINE LINK AVAILABILITY

USE [HTTP://LINKBUDGETCALC.ELVA-1.COM](http://LINKBUDGETCALC.ELVA-1.COM) FOR PPC-10G RADIOS