PPC-10G 2+0

20 Gigabit Ethernet MM-wave Link

PPC-10G Series

20 Gigabit Ethernet MM-wave Link

20 GBPS CARRIER GRADE RADIO

ELVA-1 PPC-10G 10 Gbps links can be configured into 2+0 20 Gbps dual-radio link using Dual Polarized Adaptors (DPA). This brings more compact solution for carriers and ISPs desiring a “future proof” wireless backbone. Either of 10 Gbps radios in 2+0 configuration works independently, therefor overall channel availability is greatly increased.

The link is intended for point-to-point applications such as 5G/4G/LTE+ backhaul, campus and industrial park networks, 4K UHD video streaming and temporary 2x10GE connections at exhibitions and other high-traffic events.

Available in lightly licensed 70/80 GHz E-band with 1 ft or 2 ft antennas.

RAPID AND LOW COST 10 GBPS DEPLOYMENT

ELVA-1 PPC-10G 2+0 is a fully-outdoor radio, designed for temperatures -50°C (-58°F) to +60°C (140°F), and humidity up to 100%.

Delivery kit for each radio contains tuning panel to indicate RSL level for fast antenna alignment. Link installation can be done within a day.

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 requires only 2 GHz bandwidth at 70/80 GHz for 10Gpbs rate.

FEATURES

- Frequency bands: 71-76/81-86 GHz
- Up to **20 km** (**12.4 miles**) or **24 km** (**15 miles**) for HP version at clear sky
- True 2x10 Gbps Full Duplex Operation (E-band)
- Encryption AES-128 optionally
- SNMP v.1; v.2; SNMPv2-MIB; Enterprise-MIB; WEB; Telnet; CLI
- Hitless adaptive bandwidth, coding and modulation
- Tunable central frequency
- Easily installed, zero-footprint
- EMI interference free

PPC-10G 2+0 SPECIFICATION

Model	PPC-10G-E 2+0	PPC-10G-E-HP 2+0
Frequency range	71-76/81-86 GHz (E-band)	
Throughput	2x 10 Gbps Full duplex	
Channel Bandwidths Available	250/500/750/1000/1250/1500/2000 MHz	
Modulation	QAM-256 to BPSK Adaptive to weather with hitless adaptive bandwidth, coding and modulation	
MTBF	150 000 hours	
Central frequency	Tunable 71-76GHz for Hi ODU, 81-86GHz for Low ODU at 125 MHz /31.25 MHz steps	
Max Distance @10Gbps at clear sky	up to 20.0 km (12.4 miles)	Up to 24.0 km (15 miles)
Max output power	17dBm (50 mW) at QAM 128 20 dBm (100 mW) at QPSK/BPSK	24.7dBm (295 mW) at QPSK/BPSK
Link budget with 2ft antennas BPSK/QPSK modulation @ 10^{-9} BER	200 dB @250 MHz 197 dB @500 MHz 195 dB @750 MHz 194 dB @1000 MHz 193 dB @1250 MHz 192 dB @1500 MHz 191 dB @2000 MHz	206 dB @250 MHz 203 dB @500 MHz 201 dB @750 MHz 200 dB @1000 MHz 199 dB @1250 MHz 198 dB @1500 MHz 197 dB @2000 MHz

Max throughput	1330Mbps @250MHz	2660Mbps @500MHz	3750Mbps @750MHz	5200Mbps @1000MHz	7200Mbps @1250MHz	7630Mbps @1500MHz	9980Mbps @2000MHz

Management	SNMP v.1; v.2; SNMPv2-MIB and proprietary MIB; WEB GUI; Telnet; CLI
Encryption	AES 128 optionally
Ethernet Interface	2x (1x SFP/SFP+ 1x slot 1000Base-X, 10GBase-LR/SR)
Ethernet	Transparent for Ethernet services, Flow Control 802.3x PTP IEEE 1588v2 (TC) support
Management Port	100 Base-Tx (RJ – 45)
Forward Error Correction	LDPC; Reed Solomon
Polarization	Vertical / Horizontal

Antenna

Antenna Type	Cassegrain type antenna with radio-transparent radome
Antenna Gain/Beamwidth 1ft antenna - 2ft antenna	45 dB/0.7° - 51 dB/0.35°

Power / Environment

Power Supply AC	Input 88-132 / 176-264 Volts, 50/60 Hz
Transceiver Power Consumption	90 W (+120 W when heater is switched on)
DC Power	36 to 60 Volts DC
Power Connection	IP-67
Operational Temperature	-50^0C to $+60^0$C / -58^0F to 140^0F
Humidity	Up to 100%

Physical dimensions

Outdoor unit size w/o antenna	246 x 246 x 110mm
Weight (ODU w/o antenna)	8 kg
Complete set	4 radios with 2 antennas + 2 indoor power supplies

PPC-10G 2+0 Part Numbering

PPC-10G - E - X ft/2+0

1 or 2

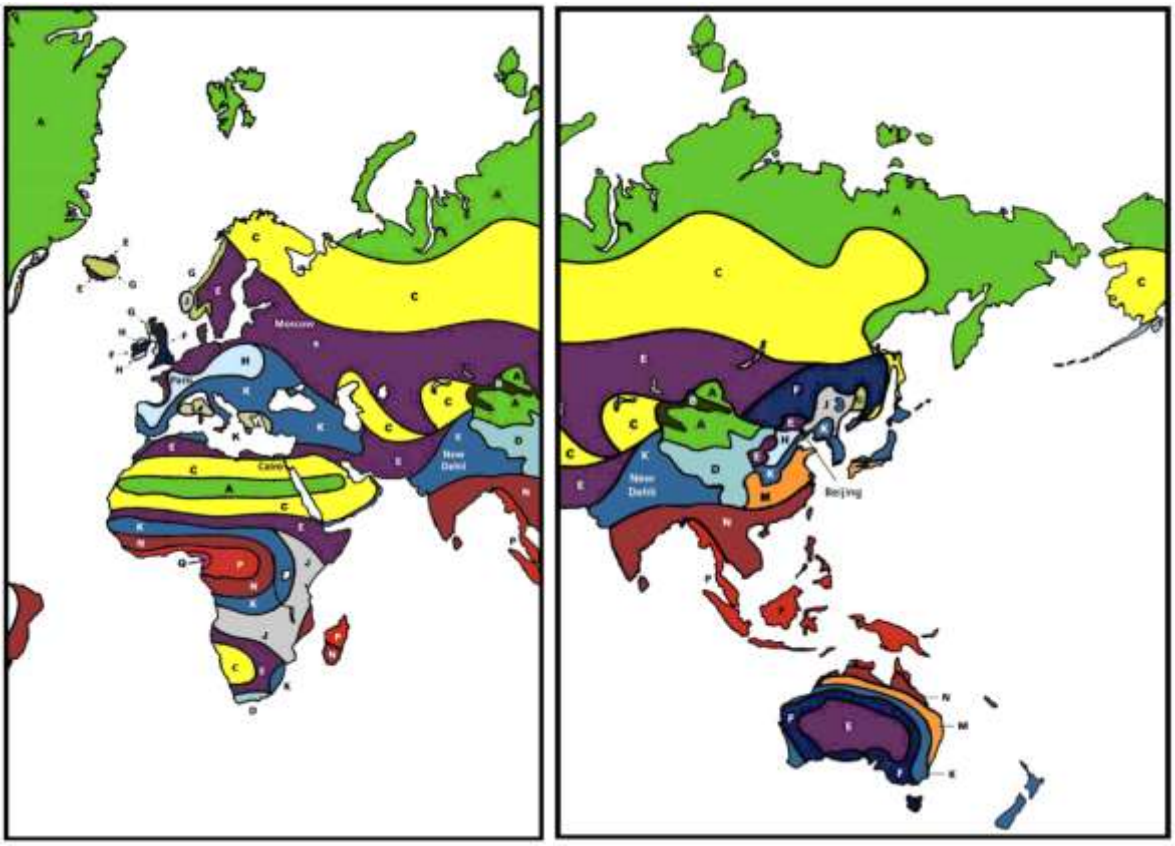
To choose the right model by its product code, please use the following encoding schema:

For example, PPC-10G 2+0 link with 2ft antennas, 71-76/81-86 GHz frequency band has product code PPC-10G-E-2ft/2+0.

PPC-10G-E-2FT/2+0 PHOTO WITH 2 FT ANTENNA

ITU RAIN RATE ZONES TO DETERMINE LINK AVAILABILITY

USE HTTP://LINKBUDGETCALC.ELVA-1.COM FOR PPC-10G RADIOS



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