



MINI-LINK™ TN

Ericsson's market leading microwave transmission node

Ericsson has over 40 years of microwave experience with more than 3 million radio units delivered to over 170 countries. Ericsson is the market leader in microwave transmission, which is the most competitive choice for capacities up to 1 Gbps.

From access sites to advanced hub sites

MINI-LINK TN is the market leading microwave transmission node, handling access sites, as well as advanced hub sites for large networks. The Hybrid Radio Link transports both Native Ethernet and Native TDM simultaneously and has integrated traffic routing of TDM traffic as well as Ethernet switching of the packet traffic. MINI-LINK TN is produced in the world's largest microwave production facility and has market leading reliability.

Used in a number of different scenarios:

- **New roll-out of mobile backhaul networks;** MINI-LINK TN fully supports all-IP RAN over Ethernet with Ethernet quality of service and packet synchronization.
- **Evolution of mobile backhaul networks;** MINI-LINK TN supports several ways to easily increase capacity and efficient migration to packets.
- **Fixed Broadband over Microwave;** MINI-LINK TN is a cost efficient product that utilizes the integrated solutions for both Carrier and best effort Ethernet.
- **Our Enterprise;** Broadcasting and National security customers successfully deploy both single hops, and complete backhaul networks.

MINI-LINKTN is a high performance radio link with high capacities and high availability. Our best-in-class radio output power provides longer hops with smaller antennas. MINI-LINKTN is able to send twice the capacity in one frequency channel using XPIC. With the Gigabit Ethernet link, MINI-LINKTN is ready for the all-IP over Ethernet network.



Ethernet Switching

Integrated non-blocking Gigabit Ethernet switch and Provider Bridge (IEEE 802.1D, 802.1Q, 802.1ad compliant). Switching capacity up to 24Gbit/s full duplex. QoS with 8 priority queues using SPQ and WFQ. MSTP and RSTP functionality. Policing according to MEF. LAG (IEEE 802.1AX). WRED. Link OAM (IEEE 802.3ah). LLF (Link Loss Forwarding) for error detection. Jumbo frames. IGMP Snooping.

Network Synchronization

The Network Synchronization provides selection of clock source for the node and squelches on the outgoing interfaces when network synchronization is enabled. Sync output via TDM traffic, dedicated 2 MHz sync port, Sync E, NTP transparent, 1588v2 are supported. 1588v2 includes frequency and time phase synchronization, OC, BC, TC.

Adaptive Modulation

The Radio Link supports hitless adaptive modulation for 4-1024 QAM over 7-56 MHz channels.

Extensive protection for carrier class equipment

Network, line, equipment and propagation protection are all supported by the MINI-LINKTN equipment.

¹ Including node processor, power filtering and fan (AMM 6p)

TECHNICAL SPECIFICATIONS MINI-LINK™ TN, R5

Radio link	<ul style="list-style-type: none"> • 570 Mbps over 56 MHz using 1024 QAM (ETSI). 510 Mbps over 50 MHz using 1024 QAM (ANSI). 1.1 Gbps using XPIC • TX power: -10 to +30 dBm • TRX Receiver threshold (10⁻⁶ BER): -60 to -92 dBm • 1+0 to 4+0 and 1+1 working and hot standby
Antennas	<ul style="list-style-type: none"> • High performance and super high performance • Single and dual polarized • Integrated and separate installation • 0.2/0.3/0.6/0.9/1.2/1.8/2.4/3.0/3.7 m 8 in. 1/2/3/4/6/8/10/12 ft
Frequencies	5, 6, 7, 8, 10, 11, 13, 15, 18, 23, 26, 28, 32, 38 & 42 GHz (ETSI) 6, 7, 8, 10, 11, 13, 15, 18, 23, 24, 28, 38 GHz (ANSI) 60 and 80 GHz are supported by attaching MINI-LINK PT
Integrated Power Splitters	Available in symmetrical and asymmetrical versions
Protection	1+1 Radio equipment and propagation protection, MSP 1+1 Equipment protection, ELP Protection, EEP Protection, SNCP Network protection
Power Supply	-48 V DC and +24 V DC
Power Consumption	Radio terminal: 30-110 W (depending on configuration) Basic Node: AMM 2p/6p/20p 11W ¹ / 27W ¹ / 37W ¹
Traffic Interfaces	E1, STM-1 Electrical ITU-T G.703 STM-1 Optical S-1.1 ITU-T G.957 Partially filled STM-1 10/100/1000 BASE-T IEEE802.3 Optical GbE via 1000 BASE-SX/LX/ZX/CWDM IEEE802.3
Synchronization	Sync E, 1588v2, NTP transparent, STM-1, E1 and 2MHz
Standards and Recommendations	CEN/GENELEC, ETSI, ITU, IEC, IEEE, IETF
Operational Temperature	-45°C to +60°C / -49F to +140F -25°C to +60°C / -13F to +140F
Data Communication Network	<ul style="list-style-type: none"> • IP DCN and Site LAN service • DCN interfaces via 10/100 BASE-T, E1, E0 • In-band transport over STM-1 and Microwave
Network Management	Supported by IP transport NMS, ServiceON, Craft and CLI SNMP v3, SSH, RADIUS, TACACS+