MINI-LINK™ PT 2010 ETSI

ALL OUTDOOR MICROWAVE OPTIMIZED FOR PACKET NETWORKS

MINI-LINK PT 2010 is an all-outdoor MINI-LINK product optimized for packet networks. It provides easy installation and commissioning, e.g. you can connect MINI-LINK PT directly to an RBS without any indoor Microwave unit.

ericsson.com

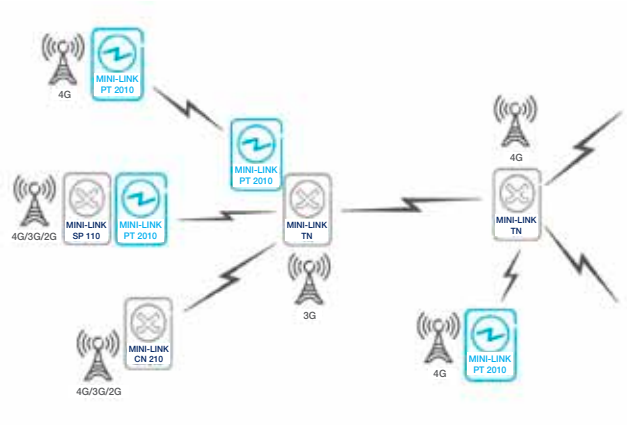
MINI-LINK PT 2010

COST EFFICIENT PACKET ACCESS SITE

MINI-LINK PT 2010 is the new outdoor Packet Terminal for the existing MINI-LINK indoor units. MINI-LINK PT 2010 is a carrier grade all outdoor solution that will save Network Cost since it is compact and easy to install. The all-outdoor solution speeds up and facilitates roll out even further with no need for a site building.

MINI-LINK PT 2010 is perfect for new all-IP end sites, both for new networks and expansion of existing networks. You can connect new all-IP end sites with MINI-LINK PT 2010 and keep existing MINI-LINK TN aggregation sites. This is possible since MINI-LINK PT 2010 and MINI-LINK TN are hop compatible. You can also expand already fully equipped MINI-LINK TN nodes with MINI-LINK PT 2010, i.e. add 2 more hops to “full” AMM 2p or AMM 6p.

Together with MINI-LINK TN and MINI-LINK SP 110, the MINI-LINK PT product can be very well suited in node applications. MINI-LINK TN or MINI-LINK SP 110 provides additional functions, e.g. more interfaces and L2 switching. If TDM traffic is required this can be achieved with TDM over CES (Circuit Emulation Service) via MINI-LINK SP 110. TDM over CES will also be available via MINI-LINK TN in a future release.



Ericsson has over 40 years of microwave experience with more than 2 million radio units delivered to over 150 countries. Ericsson is the market leader in microwave transmission. Microwave is the most competitive choice for capacities up to 1 Gbps

MINI-LINK PT 2010 can be used in a number of different scenarios:

- **All IP Mobile backhaul networks at access or aggregation sites;**
  MINI-LINK PT 2010 is a perfect fit for new all packet access sites and for expansion of existing aggregation sites with MINI-LINK TN or MINI-LINK SP 110.

- Fixed Broadband and Enterprise over Microwave – Fiber extension;
  MINI-LINK PT 2010 offers Cost effective & Short implementation time for
  * DSLAM backhaul
  * No right-of-way
  * Closing Fiber rings
  * Extending network from a fiber POP
  * Private Communication networks

Network Synchronization
MINI-LINK PT 2010 supports transport of synchronization signal across the hop.
The synchronization signal is carried over the radio hop without occupying any bandwidth allocated for payload traffic. The input/output interface is Optical GbitE supporting Synch E.

Low Delay
The delay performance is typically as low as 100 µs per radio link.

Radio Link
Native Ethernet is supported over the microwave radio link. The maximum Line interface rate over one radio is 500 Mbps.

Adaptive Modulation
The radio link supports hitless adaptive modulation for 4-512 QAM over 7 – 56 MHz channels.

TECHNICAL SPECIFICATIONS

ANTENNAS
- 0.2/0.3/0.6/0.9/1.2/1.8/2.4/3.0/3.7 m single polarized antennas for integrated installation

FREQUENCIES
6, 7, 8, 10, 11, 13, 15, 18, 23, 26, 28, 32, 38 & 42 GHz

POWER SUPPLY
-48 V DC

POWER CONSUMPTION
Typical value 37 W (23 GHz radio)

WEIGHTS AND DIMENSIONS (D×W×H):
Typical Weight: 5.4 kg (23 GHz)
Nominal Dimensions 117.3×260×321 mm

TRAFFIC INTERFACES
10/100/1000 BASE-T IEEE802.3
Optical GbitE via 1000 BASE-SX/LX IEEE802.3

MAINTENANCE INTERFACE
10/100 BASE-T IEEE802.3

DIAGNOSTIC FUNCTIONS
Line and RF loops

STANDARDS AND RECOMMENDATIONS
ETSI, ECC, IEEE, IETF, ITU

OPERATIONAL TEMPERATURE
-33°C to + 55°C (outdoor, full functionality)

DATA COMMUNICATION NETWORK
- IP based DCN for transport of O&M data
  - Numbered PPP
  - Static Routing
- DCN over traffic interface via VLAN

MINI-LINK IS THE WORLD'S MOST WIDELY DEPLOYED MULTI-SERVICE MICROWAVE SYSTEM!

TECHNICAL DATA

Frequency (GHz)		6L 6U	7 8	10	11	13 15	18	23	26	28	32	38	42
Max. RF output power (dBm)													
512 QAM		+25	+25	+24	+24	+20	+17	+17	+19	+18	+16	+16	+13
256 QAM		+25	+25	+24	+24	+20	+17	+17	+19	+18	+16	+16	+13
128 QAM		+26	+26	+25	+25	+21	+18	+18	+20	+19	+17	+17	+14
64 QAM		+26	+26	+25	+25	+21	+18	+18	+20	+19	+17	+17	+14
16 QAM		+27	+27	+26	+26	+22	+19	+19	+21	+20	+18	+18	+15
4 QAM		+29	+29	+28	+28	+24	+21	+21	+23	+22	+20	+20	+17
Min. RF output power (dBm)													
All modulation schemes		-5	-5	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10
Receiver threshold BER 10-6 (dBm)													
Frequency (GHz)		6L	7	10	11	13	18	23	26	28	32	38	42
Net Throughput		6U	8			15							
Ethernet [Mbps]													
Air (Line Interface**)													
10 (10.1 - 12.4)	4QAM/7 MHz			-92				-91		-90		-89	-88
21 (21.2 – 26)	16QAM/7MHz			-85				-84		-83		-82	-81
31 (31.3 - 38.3)	64QAM/7 MHz			-78				-77		-76		-75	-74
35 (35.4 - 43.2)	128QAM/7 MHz			-75				-74		-73		-72	-71
41(41.4- 50.6)	256QAM/7 MHz			-72				-71		-70		-69	-68
21 (21.2 – 26)	4QAM/14 MHz			-89				-88		-87		-86	-85
42 (42.5 - 51.9)	16QAM/14 MHz			-82				-81		-80		-79	-78
63 (63.7 - 77.8)	64QAM/14 MHz			-76				-75		-74		-73	-72
72 (72.8 – 89)	128QAM/14 MHz			-73				-72		-71		-70	-69
81 (81.9 - 100)	256QAM/14MHz			-69				-68		-67		-66	-65
46 (46.5 - 56.8)	4QAM/28 MHz			-85				-84		-83		-82	-81
94 (95 – 116.1)	16QAM/28 MHz			-79				-78		-77		-76	-75
115 (116.2 - 142)	32QAM/28 MHz			-76				-75		-74		-73	-72
139 (140.5 – 170.7)	64QAM/28 MHz			-72				-71		-70		-69	-68
160 (161.7 – 197.6)	128QAM/28 MHz			-69				-68		-67		-66	-65
180 (181.9 – 222.4)	256QAM/28 MHz			-65				-65		-64		-63	-62
200 (202.1 – 247.1)	512QAM/28 MHz			-62				-61		-60		-59	-58
65 (65.7 - 80.3)	4QAM/40MHz			-83				-82		-81		-80	-79
133 (134.4 - 164.3)	16QAM/40 MHz			-77				-76		-75		-74	-73
167 (168.8 - 206.3)	32QAM/40 MHz			-74				-73		-72		-72	-71
197 (199.1 - 243.4)	64QAM/40 MHz			-70				-69		-68		-67	-66
229 (231.4 - 282.9)	128QAM/40 MHz			-67				-66		-65		-64	-63
257 (259.7 - 317.5)	256QAM/40 MHz			-64				-63		-62		-61	-60
286 (289 - 353.3)	512QAM/40 MHz			-61				-60		-59		-58	-57
94 (95 – 116.1)	4QAM/56MHz			-82				-81		-80		-79	-78
189 (191 - 233.5)	16QAM/56 MHz			-76				-75		-74		-73	-72
237 (239.5 - 292.8)	32QAM/56 MHz			-73				-72		-71		-70	-69
285 (288 - 352.1)	64QAM/56 MHz			-69				-68		-67		-66	-65
327 (330.4 - 403.9)	128QAM/56 MHz			-66				-65		-64		-63	-62
369 (372.9 - 455.8)	256QAM/56 MHz			-63				-62		-61		-60	-59
406 (410.3 - 501.5)	512QAM/56 MHz			-60				-59		-58		-57	-56

** Dependant on packet size

ATPC	Available in all frequencies
Frequency stability	± 10 ppm

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