MINI-LINK™ E ETSI

Low and medium capacity microwave solution

Ericsson's point-to-point microwave solution, MINI-LINK E, fits any application where flexible, reliable and rapidly installed transmission is required, for instance fixed and mobile telecom networks. Other applications in need for cost-efficient wireless connections are first and second mile broadband access as well as private communication networks for example oil and energy companies and municipalities.

Key benefits

- High reliability and low cost of ownership
- Fast network roll-out, easy-to-install and configure
- Efficient usage of spectrum

System overview

The system comprises an indoor unit (IDU) and an outdoor unit (ODU). The units are connected by a single coaxial cable carrying traffic and DC supply. The IDU holds traffic, modem, service and switching functions while the ODU, which comprises a radio unit and antenna, transmits and receives radio signals.

A wide range of antennas allows optimal efficiency for each link, combining high performance with minimum outdoor visibility. Terminals can be configured as unprotected

(1+0) or protected (1+1), employing space and frequency diversity. The integrated power splitter for protected configurations makes it possible to install two radio units directly to one antenna, without using separate wave guides.

Ericsson can provide one common radio unit for the complete MINI-LINK point-to-point portfolio that supports all capacity and modulation needs.

High spectrum utilization

For optimal utilization of available resources, MINI-LINK E radio terminals are available with two different modulation schemes, C-QPSK and 16 QAM. This flexibility makes it possible to use spectrum and power efficiently throughout the network.

All outdoor solutions

The Ericsson all outdoor solutions are compact, easy-to-install and have low visual impact. Unlike traditional all-outdoor solutions, they use the same radio and modem units as other MINI-LINK E products. The extensive range of frequencies and capacities and the efficient logistics become attractive from an operators perspective. MINI-LINK E All outdoor solutions are available for end sites as well as hub site configurations.

ERICSSON ⚌

Data communication networks (DCN)

The use of IP as a standardized, scalable and easy-to-use protocol has set a new standard for how data communication networks should be built to allow low operational costs today and in the future. All MINI-LINK products provide IP DCN functionality, also MINI-LINK E. The Service Access Unit IP (SAU IP) unit fits in an existing indoor magazine and enables legacy networks to be upgraded to modern IP infrastructure.

Network management

MINI-LINK Manager is a powerful network element manager for centralized operation and maintenance of all microwave radio equipment supplied by Ericsson. It can be used as a stand-alone system, or integrated in a higher level network management environment using standard protocols.

Technical data

Frequency (GHz)	7	8	13	15	18	23	26	28	32	38
C-QPSK										
RF output power (dBm)	+21/28	+20/26	+18/23	+18/25	+17/24	+20/23	+10/18	+17	+17	+17
Receiver threshold (dBm), BER 10^{-3}										
2x2 Mbit/s	-95	-94	-94	-94	-95	-94	-94	-93	-92	-92
4x2 Mbit/s	-92	-91	-91	-91	-92	-91	-91	-90	-89	-89
2x8 and 8x2 Mbit/s	-89	-88	-88	-88	-89	-88	-88	-87	-86	-86
34+2 and 17x2 Mbit/s	-86	-85	-85	-85	-86	-85	-85	-84	-83	-83
16 QAM										
RF output power (dBm)	+26	+22	+18	+18	+17	+18	+17	+17	+17	+14
Receiver threshold (dBm), BER 10^{-3}										
2x8 and 8x2 Mbit/s	-87	-87	-86	-86	-86	-86	-86	-85	-84	-83
34+2 and 17x2 Mbit/s	-84	-84	-83	-83	-83	-83	-83	-82	-81	-80

ATPC	Available in all frequency bands			
Channel spacing	2x2	4x2	2x8 and 8x2	34+2 and 17x2
C-QPSK	3.5 MHz	7 MHz	14 MHz	28 MHz
16 QAM	-	-	7 MHz	14 MHz

Frequency stability	± 10 ppm
Antennas	0.2/0.3/0.6/1.2/1.8 m compact antennas for integrated and separate installation 2.4/3.0/3.7 m antennas for separate installation
Integrated power splitters	Available in symmetrical and asymmetrical versions
Traffic interfaces	ITU-T Rec G.703 balanced or unbalanced, Ethernet 10/100BaseT(x)
Power supply	24-60 V DC nominal
Power consumption	30-110 W (depending on configuration)
Weights and dimensions (HxWxD)	
Radio unit 7/8/18 GHz	7 kg/411x326x144 mm
Radio unit 13/15/23/26/28/32/38 GHz	4 kg/321x260x97 mm
Access module (fully equipped)	
1U/2U/4U (19")	3.7/9.4/16.3 kg, 43x483x280/88x483x280/176x483x280 mm
Operational temperature	-50°C to +60°C (outdoor, full functionality) -20°C to +60°C (indoor, full functionality)
Standards and recommendations	CEN/CENELEC, ETSI, ITU, IEC, IEEE