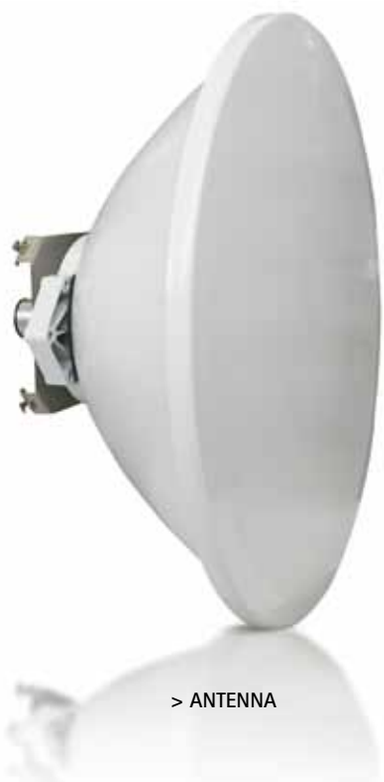
HS/FI All-in-One

High Speed/Full Indoor (IP native)

> HS-LINK/FI



> ANTENNA

Main Features

- Up to 310Mbps data throughput, full duplex.
- Available modulation schemes:
  - Programmable QPSK/6QAM/32QAM/64QAM/128QAM/256QAM.
- Available channel bandwidth:
  - ETSI standards : 7/14/28/40 and 56 MHz
  - ANSI standards : 10/20/30/40 and 50 MHz.
- Customer network data interface:
  - 1 x Gigabit Ethernet (100/1000Base-T)
  - 1.1 x 10/100BaseTX for data or management

Options

- 2 or 4 x ASI (BNC input/output) OPTION
- 1-2 x E1 / T1 plug-in extension module OPTION
- 1 x E3 / DS3 plug-in extension module OPTION

Default

155 Mbps @ 128 QAM
28 MHz Ch BW

Option

310Mbps @ 256QAM
56Mhz Ch BW

Hardware Available configurations

Full Duplex

Half Duplex
TX or RX

TX Power
Very HI PW
Ultra HI PW

System Available configurations

1 + 0

2+0

The SKYLINKS High Speed/Full Indoor All-in-One MW Radio System provides a cost-effective solution to high capacity data transmission requirements. Operating in the licensed bands from 4 to 11GHz (lower frequencies down to 1,4GHz and higher up to 14GHz available upon request), it is fitted into a 2RU chassis where both modem and RF units are included. The result is a brand new equipment specifically designed for application where room saving is a constraint.
It has enhanced features that include line interface, alarms and diagnostics and network management interfaces.
The ASI interface is a PLUS that enhance this complete radio terminal into the broadcasting market as a top level, brilliant star.

Easy-to-install, All-in-One provides user accessibility functions including Transmit Power, Receive Signal Level (RSL), and operating frequency.
Additionally, All-in-One features enhanced software allowing capacity/configuration upgrade, downloadable field upgrades and an optional embedded SNMP agent for advanced network management capabilities, making it the ideal solution for networks operated by mobile service providers, internet service providers (ISP), utilities, public telephone operators, local governments, TV networks and corporate users.
These SKYLINKS Digital Radios represent a new microwave architecture designed to address universal applications for GE platforms and thanks to the ASI interface to meet the most evolved broadcasters. The advanced technology is designed to provide flexibility to customers for their current and future networking needs.

It supports links for high speed wireless Ethernet networking, through the optional sw upgrade that delivers up to 310Mbps in a 56MHz ch BW (for this option a specific license has to be acquired).
It is spectrum and data rate scalable from 4 to 310Mbps, giving opportunity to service providers and companies to trade-off system gain with spectral efficiency and channel availability for optimal network connectivity.
SKYLINKS All-in-One enables broadcasters and network operators (mobile and private), private, defense and utilities, to provide a portfolio of secure, scalable wireless applications for data, video, and voice over IP (VoIP).

System Features

- Complete Digital Microvwave System placed into a 2RU 19" std.
- QPSK, 16-256 QAM Modulation
- FEC – Forward Error Correction with Reed-Solomon Coding
- Built-in Adaptive Modulation system with dynamic capacity allocation and priority data transmission (PBPS – Packet Based Priority System)
- Asymmetrical data rates – different modulation setup for upstream and downstream
- On-line Ethernet packet compression with reduced length of frames allowing throughput efficiency increase up to 25%
- Two USB ports for connecting USB-flash disk or PC
- "In-Band"/"Out-of-Band" Management
- NAT, Proxy ARP support for effective IP management setup
- Large range of System and Ethernet Counters
- Adaptive Power Control ATCP
- Built-in Network Management System (NMS) – Web, SNMP, TELNET
- Built-in Bit Error Rate (BER) Tester + Built-in Spectrum analyzer

HS/F1 All-in-One

SYSTEM PARAMETERS

Frequency	4 GHz	6/7/8 GHz	10/11 GHz
Standards	ETSI/FCC	ETSI	ETSI/FCC
Operating Frequency (GHz)	3.8 to 4.2, 4.40 to 5.00 5.90 to 7.10	7.10 to 8.50	10.70 to 11.70
Channel BW 28 MHz **Channel BW 56 MHz**	128 QAM 157 Mbps 32 QAM 157 Mbps / 128 QAM 310 Mbps		
Tx Power (dBm) **QPSK** **16, 32, 64QAM** **128, 256QAM**	VHP / UHP +35/+40 +32/+37 +30/+35		VHP / UHP +34/+39 +31/+35 +29/+33
Rx Sensitivity (dBm) @ 10-6 BER **28 MHz, 157 Mbps** **56 MHz, 157 / 310 Mbps**	 -70 -72 /-66		 -69 -71 /-65
Frequency Stability	0.0010%		
Background BER	< 10-12		
Standards Compliance	Radio ETSI EN 302 217, EN 301 216, EN 301 128, EN 300 198		
	Power Supply ETSI EN 300 132-2		
	EMC / Safety ETSI EN 301 489 / IEC EN 60950		

PAYLOAD INTERFACE PARAMENTERS

Gigabit Ethernet	Line Rate	Full-Duplex, scalable up to 310 Mbps
	Interfaces	1 x 10/100/1000 Base-T (RJ45) 1 x 10/100 base-T (Rj45)
	Maximum packet lenght	1632 Bytes
E1 / E3	Line Rate	1-2 x 2.048 / 1 x 34.368 Mbps
	Interfaces	G703 RJ45 / BNC
	Test Utility	Loopback, Internal BER tester
ASI	Half-Duplex-TX	4 X AS TX
	Half-Duplex-RX	4 X ASI RX
	Full-Duplex	2X ASI TX + 2X ASI RX

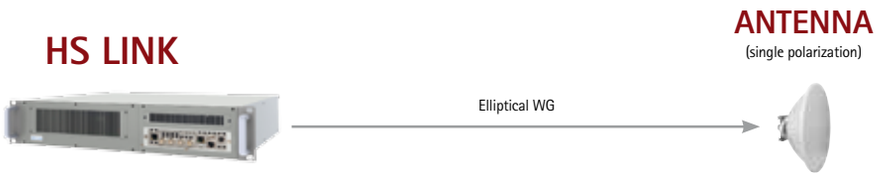
MECHANICAL/ENVIROMENTAL

Dimensions	standard rack (2U), 210 x 88 x201mm
Weight	Kg: 9,8 Kg
Operating Temperature	-5° to +45°C
Altitude	Up to 4500 meters
Humidity	IDU: 95% non condensing
Power Input	-48V DC (-36V to -60V DC)
Power Consumption	< 140 Watts
Cooling	Air Force Cooled
Standards Compliance	ETSI ETS 300 019, Part 1-3 Class 3.2

Antenna Interface	4 GHz	6GHz	7/8 GHz	11 GHZ
	UDR48/N-Type	UDR70 (CPR137)	UDR84	UDR100/120

HS/F1 All-in-One 1+0

1+0 Basic Configuration



HS/F1 All-in-One 2+0

2+0 Capacity Doubler Configuration