HIGH CAPACITY IP LINK
SALINAS IP LINK-2400

The Salinas IPLINK-2400 is a full duplex point-to-point radio link designed for very high capacity IP applications.

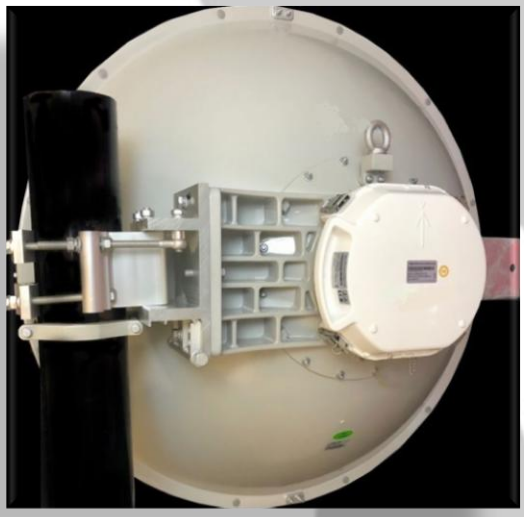
The system supports all standard licensed microwave bands of 4.5-42GHz, with up to 2400Mbps capacity in two 80MHz channel using XPIC with 4+0 configuration.

The radios can also be mounted in a standard 1+1 Protection configuration with hitless protection established by one of the two IDUs. The radios feature QPSK through 1024QAM modulation and Adaptive Coding & Modulation (ACM).

The system supports both fiber and copper Gigabit Ethernet interfaces with in-band and out-of-band management, and can be powered directly or over Ethernet using a PoE injector.

Each transceiver terminal consists of an Indoor Unit connected by cable to an Outdoor Unit, which is mechanically integrated with a high-directivity antenna.

Installation is easy thanks to a built-in-LED alignment tool and easy to install mounting brackets designed to facilitate antenna pointing and alignment.



MAIN ADVANTAGES

- Up to 2400Mbps capacity full duplex in two 80MHz channels.
- Cross polarization interference cancellation (XPIC).
- Hitless and errorless adaptive coding and modulation (ACM).
- AES 128-256 encryption.
- Header compression.
- Remotely configurable.
- Support RADIUS server authentication.
- Split mount (IDU/ODU).

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PRODUCT SPECIFICATIONS

GENERAL PARAMETERS		
MODEL NUMER	IPLINK-2400	
FREQUENCY BANDS	4.5-42GHz, Frequency Division Duplex (FDD)	
ITEM	**PARAMETER**	**VALUE**
MODULATION	Modulation of schemes	QPSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, 512QAM and 1024QAM
	ACM	Hitless Adaptive Modulation
	Co-channel transmission	XPIC supported for dual-polarization transmission
	Forward error correction	Reed Solomon with Weak/Medium/Strong modes
DATA TRANSMISSION	Capacity allocation	Priority Based Packet System (PBPS) gen.3
	Path configuration	2+0 FD/XPIC aggregation 1+1 FD/HSB/SD/XPIC protection Split 1+1 FD/HSB/SD protection
	Compression function	Online Ethernet L1 header compression
	Max. Real Data Throughput	Up to 630 Mbps in 1+0 and 1+1 modes at 80MHz channel Up to 1.26 Gbps in 2+0 mode at 80MHz channel
	Data Security	AES-128/256 Encryption

PORTS		
ITEM	**PARAMETER**	**VALUE**
WIRED ETHERNET	Number of Ports	3x 10/100/1000ETH (RJ-45)
	Basic function	Ethernet Traffic Interface / Management Access
OPTICAL INTERFACE	Number of Ports	4x 1000BASE-X (SFP)
	Basic function	Ethernet Traffics Interface/Management Access EMM card connection IDU interconnection in Split 1+1/2+2 mode
INTERFACE EXTENSION	Number of Ports	Up to 4 EMM cards over one SFP port Up to 64 E1/T1 ports Up to 16 ASI ports
	Basic function	EMM - 16E1T1 - up to 16E1 or 16T1 ports EMM - ASI - up to 4 ASI (DVB-T) ports in Tx or Rx mode

ETHERNET SWITCH		
ITEM	**PARAMETER**	**VALUE**
INTERFACES	Number of Ports	3x 10/100/1000ETH (RJ-45) 2x WAN OverAir Interface 1x SFP Interface (shared with one WAN Interface) 1x MNG CPU
FUNCTION	Purpose	Traffic / Management switching
	Maximum Frame Size	Up to 2048 / 10240 bytes
	MAC table	Up to 8192 addresses
	VLAN	Up to 4096 VLANs, IEEE 802.1 q
	QoS	Source Port, IEEE 802.1p, IPv4 TOS/DSCP, IPv6 TC, VLAN VID, SA/DA
	SyncE	Not supported (can be implemented on request)
	PTP 1588	Fixed latency PTP 1588 (LPDV)

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NETWORK MANAGEMENT SYSTEM		
ITEM	**PARAMETER**	**VALUE**
PORTS	Default NMS ports Additional NMS ports	ETH port LAN 3 USB-B in IP mode
NMS FORM	Protocols – Network Protocols – Local In-band management Out-of-band management	HTTPS, HTTP, SNMP v.1/v.2c/v.3, TELNET, SSH Serial console over USB-B Via VLAN 115kbps
IP ADDRESS	Addresses type Additional function	Primary IP/ Secondary IP/RFI/USB Static Routes, NAT, Ping, Telnet
GUI	Type	WEB based
CLI	Type	athOS

ANTENNA	
SUPPORTED TYPES	High performance dish antenna 2, 3, 4 & 6 foot options
INTERFACE	Direct slip-fit mount or remote mount using standard waveguide

POWER	
POWER INPUT	-45 to -72 VDC direct or using PoE
POWER CONSUMPTION	48-72W, depending on sub-band
POWER PROTECTION	Reverse polarity and transient clamping to 100V

MECHANICAL AND ENVIRONMENTAL	
IDU	
DIMENSIONS	W220 x H44 x L240mm
WEIGHT	2.2Kg
TEMPERATURE	-5 °C to +45 °C / +23°F to +113°F
HUMIDITY	0 to 95%, without condensation
ALTITUDE	4.500 metres
ODU	
DIMENSIONS	W277 x 239 x L92mm
WEIGHT	9.5Kg
TEMPERATURE	-33 to +55ºC (ETS 300 019-2-4 Class 4M5)

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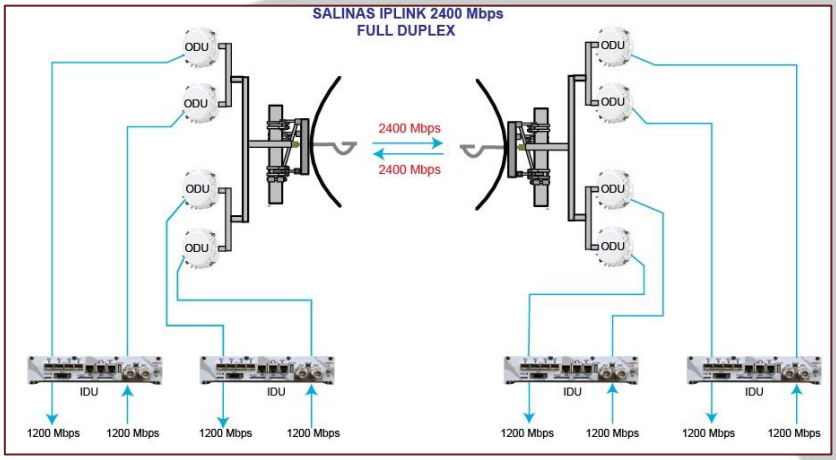

ONE-WAY FULL DUPLEX CAPACITY TABLES IN MBPS

Capacity Range 1518-64 Byte Packets (Mbps)

	1518	64	1518	64	1518	64	1518	64	1518	64	1518	64	1518	64	1518	64
Channel bandwidth (MHz)	**QPSK**		**16QAM**		**32QAM**		**64 QAM**		**128AQM**		**256QAM**		**512QAM**		**1024QAM**	
7	46.0	57.5	92.0	115.0	114.8	143.5	138.0	172.5	160.8	201.0						
10	66.0	82.5	132.4	165.5	165.2	206.5	198.4	248.0	231.6	289.5						
14	92.0	115.0	184.0	230.0	230.0	287.5	276.0	345.0	322.0	402.5	368	460.0				
20	132.4	165.5	264.4	330.5	330.8	413.5	396.8	496.0	462.8	578.5	529.2	661.5	595.2	744.0	661.2	826.5
25	161.2	201.5	322.0	402.5	402.4	503.0	483.2	604.0	563.6	704.5	644.0	805.0	724.4	905.5	805.2	1006.5
28	186.8	233.5	373.6	467.0	467.2	584.0	560.8	701.0	654.0	817.5	747.6	934.5	840.8	1051.0	934.4	1168.0
30	198.4	248.0	396.8	496.0	496.0	620.0	595.2	744.0	694.4	868.0	793.6	992.0	892.0	1116.0	992.0	1240.0
40	264.4	330.5	529.2	661.5	661.2	826.5	793.6	992.0	925.6	1157.0	1058.0	1322.5	1190.4	1488.0	1322.4	1653.0
50	327.6	409.5	655.6	819.5	819.2	1024.0	983.2	1229.0	1147.2	1434.0	1311.2	1639.0	1474.8	1843.5	1638.8	2048.5
56	376.8	471.0	753.2	941.5	941.6	1177.0	1130.0	1412.5	1318.4	1648.0	1506.4	1883.0	1694.8	2118.5	1883.2	2354.0
60	391.2	489.0	782.0	977.5	977.6	1222.0	1173.2	1466.5	1368.4	1710.5	1564.0	1955.0	1759.6	2199.5	1955.2	2444.0
80	480.0	600.0	960.4	1200.5	1200.4	1500.5	1440.4	1800.5	1680.4	2100.5	1920.4	2400.5	2160.8	2701.0	2400.8	3001.0

TRANSMITTER POWER FOR DIFFERENT FREQUENCY BANDS

FQ band	**U4**	**L/U6**	**7**	**8**	**10**	**10.5**	**11**	**13**	**15**	**18**	**23**	**26**	**28**	**32**	**38**	**42**
FQ range (GHz)	4.4 to 5	5.85 to 7.125	6.875 to 7.897	7.731 to 8.496	10.15 to 10.65	10.5 to 10.68	10.7 to 11.745	12.7 to 13.248	14.4 to 15.358	17.7 to 19.7	21.2 to 23.618	24.549 to 26.453	27.52 to 29.481	31.815 to 33.383	37.044 to 39.452	40.522 to 43.464
T/R spacing (MHz)	300	160 170 252.04 300 340 350	150 154 160 161 168 196 245	119 126 266 311.32	350	91	490 500 530	225 266	315 322 420 490 644 728	1092.5 1010 1008	1008 1200 1232	1008	1008	812	1260	1500
TX power (dBm)																
QPSK	30	30	30	30	26.5	24	28	26	26	25.5	25	25	25	23	23	21
32QAM	28	28	28	28	22.5	20.5	25	24	24	23	23	22	22	21	20	19.5
64QAM	25	25	25	25	20.5	18	22	20	20	19	19	19	19	18	17	15.5
128QAM	25	25	25	25	20.5	18	22	20	20	19	19	19	19	18	17	15.5
256QAM	23	23	23	23	18.5	16	20	18	18	17	17	17	17	16	15	14.5
512QAM	21	21	21	21	16.5	14	18	16	16	15	15	15	15	14	13	12.5
1024QAM	20	20	20	20	15.5	13	17	15	15	14	14	14	14	13	12	11.5

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RECEIVER SENSITIVITY (dBm) FOR FREQUENCIES UP TO 28GHz									RECEIVER SENSITIVITY (dBm) FOR FREQUENCIES ABOVE 28GHz							
Channel width (MHz)	QPSK	16 QAM	32 QAM	64 QAM	128 QAM	256 QAM	512 QAM	1024 QAM	QPSK	16 QAM	32 QAM	64 QAM	128 QAM	256 QAM	512 QAM	1024 QAM
7	-90.9	-84.7	-80.7	-75.2	-75.2	-72.2	-68.4	-64.9	-90.9	-84.7	-80.7	-78.3	-75.2	-72.2	-68.4	-64.9
10	-89.2	-83	-79	-76.6	-73.5	-70.5	-67.1	-63.6	-89.2	83.0	-79.0	-76.6	-73.5	-70.5	-67.1	-63.6
14	-87.5	-81.3	-77.3	-74.9	-71.8	-68.8	-65.4	-61.9	-87.5	-81.3	-77.3	-74.9	-71.8	-68.8	-65.4	-61.9
20	-86	-79.8	-75.8	-73.4	-70.3	-67.3	-63.9	-60.4	-86.0	-79.8	-75.8	-73.4	-70.3	-67.3	-63.9	-60.4
25	-85.1	-79	-75	-72.4	-69.3	-66.3	-62.9	-59.4	-85.1	-79.0	-75.0	-72.4	-69.3	-66.3	-62.9	-59.4
28	-84.4	-78.1	-74.1	-71.7	-68.6	-65.6	-62.2	-58.7	-84.4	-78.1	-74.1	-71.7	-68.6	-65.6	-62.2	-58.7
30	-84.2	-77.9	-73.9	-71.5	-68.4	-65.4	-62	-58.5	-84.4	-78.1	-74.1	-71.7	-68.6	-65.6	-62.2	-58.7
40	-83	-76.8	-72.8	-70.4	-67.3	-64.3	-60.9	-57.4	-83.0	-76.8	-72.8	-70.4	-67.3	-64.3	-60.9	-57.4
50	-82.1	-75.9	-71.9	-69.5	-66.4	-63.4	-60	-56.5	-82.1	-75.9	-71.9	-69.5	-66.4	-63.4	-60.0	-56.5
56	-81.6	-75.4	-71.4	-69	-65.9	-62.9	-59.5	-56	-81.5	-75.3	-71.3	-68.9	-65.8	-62.8	-59.4	-55.9
60	-81.3	-75.1	-71.1	-68.7	-65.6	-62.6	-59.2	-55.7	-81.2	-75.0	-71.0	-68.6	-65.5	-62.5	-59.1	-55.6
80	-80.1	-73.9	-69.9	-67.5	-64.4	-61.4	-58	-54.5	-80.0	-73.8	-69.8	-67.4	-64.3	-61.3	-57.9	-54.4

** The images and/or technical specifications are subject to change without previous notice.*

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