

HIGH CAPACITY IP LINK SALINAS IP LINK-600

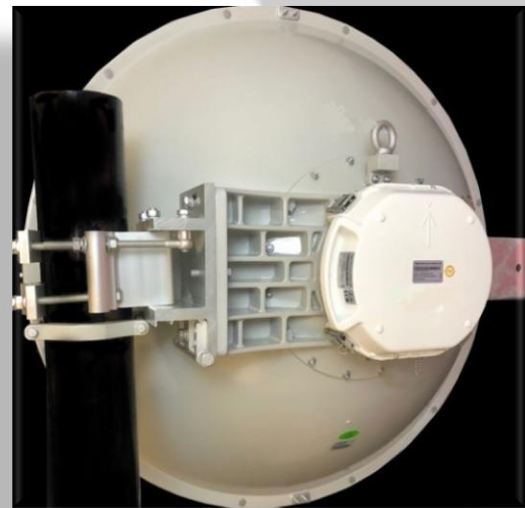
The Salinas IPLINK-600 is a high performance point-to-point microwave link available at all standard licensed frequency bands 4.5-42GHz. The link offers throughput of up to 600Mbps full duplex in a single polarization channel (750Mbps with header compression).

The radio offers hitless Advanced Adaptive Coding & Modulation (AACM) to provide link reliability in de-graded channel conditions with standard modulation levels up to 1024QAM.

It also features Adaptive Power Control to implement automatic transmit power level increase on modulation downshift for improved system gain during fading. Other outstanding features include comprehensive management and monitoring capability and the best system gain available.

The system includes both fiber and copper Gigabit Ethernet interfaces with in-band and

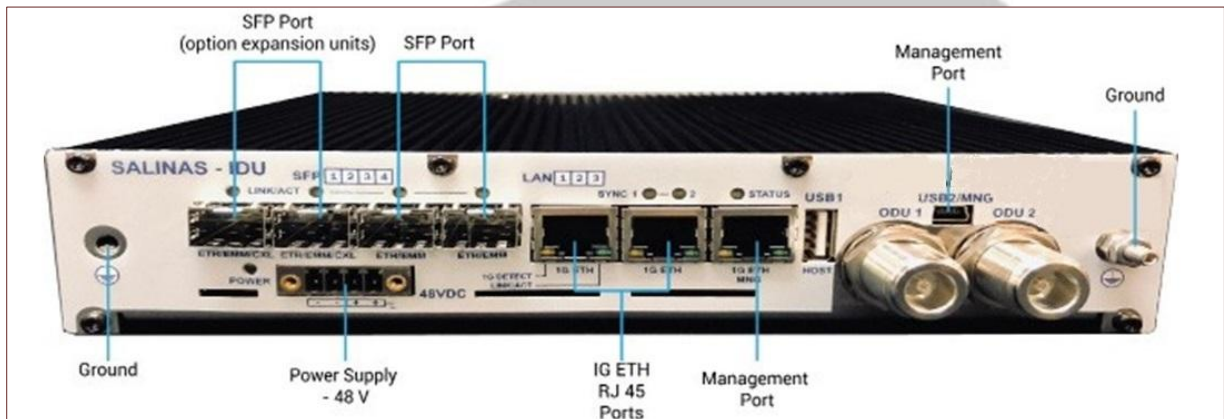
out-of-band management and can be powered directly or over Ethernet using a PoE injector. Dual input power supply support (redundant) -48V power is available. The radios are FCC and ETSI compliant and they meet have operational capability up to +65°C (149°F).



MAIN ADVANTAGES

- 600Mbps full duplex in 80MHz channel bandwidth.
- Available in all licensed frequency bands from 4.5 to 42GHz.
- Ultra-low latency & jitter in all ACM modes.
- Advanced Adaptive Coding & Modulation (AACM).
- Adaptive Power Control.
- Secure management via browser and SSH and SNMP.
- AES-256 Encryption.
- 7GigE Interfaces (3 copper RJ-45, 4 SFP/fiber).

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PRODUCT SPECIFICATIONS

GENERAL PARAMETERS	
MODEL NUMER	IPLINK-600
FREQUENCY BANDS	4.5-42GHz, Frequency Division Duplex (FDD)
CHANNEL SIZE	7, 10, 14, 20, 25, 28, 30, 40, 50, 56, 60, 80MHz
MODULATION FORMAT	Selectable: QPSK, 8PSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, 512QAM, 1024QAM
MAX. UNCOMPRESSED CAPACITY	600Mbps full duplex (varies by modulation, bandwidth and packet mix)
PAYLOAD LATENCY	200µs typical
PAYLOAD TYPES	Ethernet (IPv4 and IPv6 compatible)
REGULATORY COMPLIANCE	ETSI EN 300 019, Part 1-3, Class 3.2, Part 1-1 Class 1.2 and Part 1-20 Class 2.3 EN 300 132-2 and EN 300 217-2-2 EN 301 489-1 and EN 301 489-3 IEC 60950-1/EN 60950-1 FCC CFR47 Part 101 FCC/ANSI: FCC Part 15 Class A Unintentional Radiator RoHS
SAFETY	EN60950-1 ?
DATA TRANSMISSION	Capacity allocation: Priority Based Packet System (PBPS) gen.3
MTBF	>18 years

ETHERNET PARAMETERS	
PACKET SIZE	64-9200 bytes
QUALITY OF SERVICES (QoS)	Source Port, IEEE 802.1p, IPv4 TOS/DSCP, IPv6 TC, VLAN VID, SA/DA
DATA SECURITY	AES-128/256 Encryption

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NETWORK MANAGEMENT SYSTEM		
ITEM	PARAMETER	VALUE
PORTS	Default NMS ports	ETH port LAN 3
	Additional NMS ports	USB-B in IP mode
NMS FORM	Protocols – Network	HTTPS, HTTP, SNMP v.1/v.2c/v.3, TELNET, SSH
	Protocols – Local	Serial console over USB-B
	In-band management	Via VLAN
	Out-of-band management	115kbps
IP ADDRESS	Addresses type	Primary IP/ Secondary IP/RFI/USB
	Additional function	Static Routes, NAT, Ping, Telnet
GUI	Type	WEB based
CLI	Type	athOS
SNMP	Version	SNMP v.1, SNMP v.2c, SNMP v.3
	Read access	Complete MIB
	Write access	Subset of link parameter
SECURITY	Licenses	Permanent / Time limited licenses
	Access levels	Guest/User/Admin with password security
	HTTPS certificates	Client and server certificates

INTERFACES	
ETHERNET TRAFIC/ MANAGEMENT ACCESS	3x 10/100/1000ETH (RJ-45)
OPTICAL	4x 1000BASE-X (SFP)
OPTIONAL INTERFACE EXTENSION	Up to 4 EMM cards over one SFP port Up to 64 E1/T1 ports Up to 16 ASI ports EMM-16E1T1 - up to 16E1 or 16T1 ports EMM-ASI - up to 4 ASI (DVB-T) ports in Tx or Rx mode

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

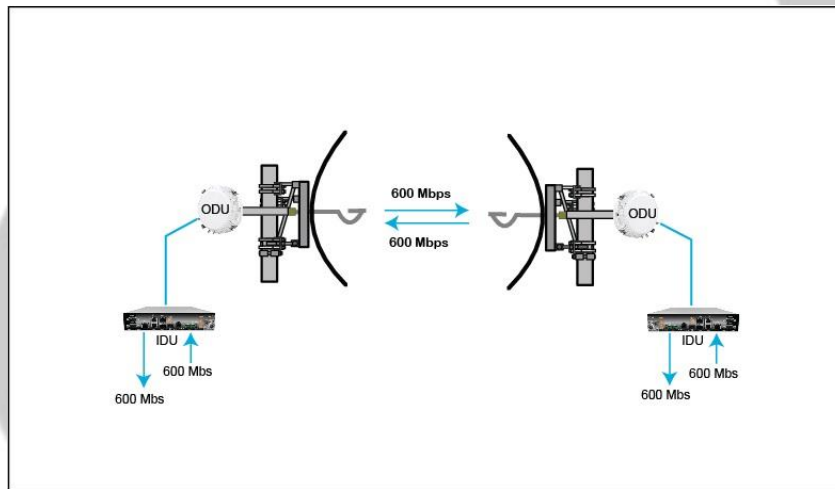
MECHANICAL AND ENVIRONMENTAL

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 +55°C (ETS 300 019-2-4 Class 4M5)



ONE-WAY FULL DUPLEX CAPACITY TABLES IN MBPS
Capacity Range 1518-64 Byte Packets (Mbps)

Channel bandwidth (MHz)	1518		64		1518		64		1518		64		1518		64		1518		64	
	QPSK		16QAM		32QAM		64 QAM		128AQM		256QAM		512QAM		1024QAM					
7	11.5	14.4	23.0	28.8	28.7	35.9	34.5	43.1	40.2	50.3										
10	16.5	20.6	33.1	41.4	41.3	51.6	49.6	62.0	57.9	72.4										
14	23.0	28.8	46.0	57.5	57.5	71.9	69.0	86.3	80.5	100.6	92	115.0								
20	33.1	41.4	66.1	82.6	82.7	103.4	99.2	124.0	115.7	144.6	132.3	165.4	148.8	186.0	165.3	206.6				
25	40.3	50.4	80.5	100.6	100.6	125.8	120.8	151.0	140.9	176.1	161.0	201.3	181.1	226.4	201.3	251.6				
28	46.7	58.4	93.4	116.8	116.8	146.0	140.2	175.3	163.5	204.4	186.9	233.6	210.2	262.8	233.6	292.0				
30	49.6	62.0	99.2	124.0	124.0	155.0	148.8	186.0	173.6	217.0	198.4	248.0	223.2	279.0	248.0	310.0				
40	66.1	82.6	132.3	165.4	165.3	206.6	198.4	248.0	231.4	289.3	264.5	330.6	297.6	372.0	330.6	413.3				
50	81.9	102.4	163.9	204.9	204.8	256.0	245.8	307.3	286.8	358.5	327.8	409.8	368.7	460.9	409.7	512.1				
56	94.2	117.8	188.3	235.4	235.4	294.3	282.5	353.1	329.6	412.0	376.6	470.8	423.7	529.6	470.8	588.5				
60	97.8	122.3	195.5	244.4	244.4	305.5	293.3	366.6	342.1	427.6	391.0	488.8	439.9	549.9	488.8	611.0				
80	120.0	150.0	240.1	300.1	300.1	375.1	360.1	450.1	420.1	525.1	480.1	600.1	540.2	675.3	600.2	750.3				

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	150 154 160 161 168 311.32 245	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

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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