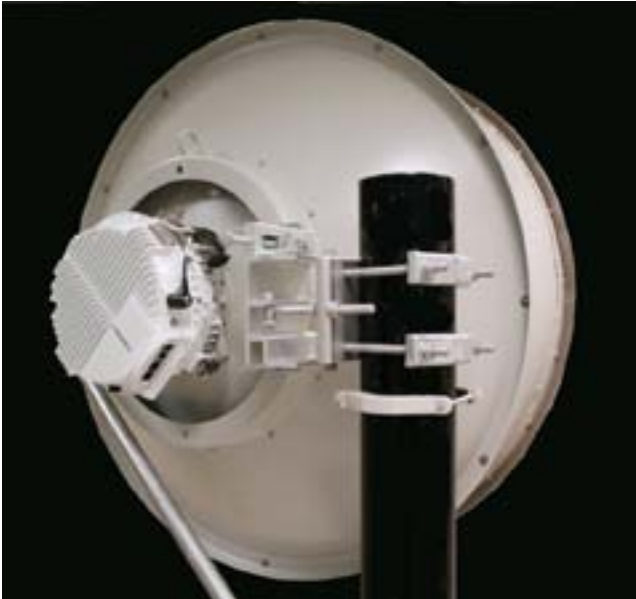


HIGH CAPACITY IPLINK MODEL SALINAS IPLINK-600



- **600 Mbps full duplex in 80 MHz channel bandwidth**
- **Available in all licensed frequency bands from 4.5 to 42 GHz**
- **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**
- **7 GigE Interfaces (3 copper RJ-45, 4 SFP/fiber)**

PRODUCT APPLICATION:

The Salinas IPLINK-600 is a high performance point-to-point microwave link available at all standard licensed frequency bands from 4.5 to 42 GHz.

The link offers throughput of up to 600 Mbps full duplex in a single polarization channel (750 Mbps with header compression).

The radio offers hitless Advanced Adaptive Coding & Modulation (AACM) to provide link reliability in degraded 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)

SALINAS IPLINK-600 SPECIFICATIONS

General Parameters

Model Number	IPLINK -600
Frequency bands	4.5 - 42 GHz, Frequency Division Duplex (FDD)
Channel Size*	7, 10, 14, 20, 25, 28, 30, 40, 50, 56, 60, 80 MHz
Modulation Format	Selectable: QPSK, 8PSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, 512QAM, 1024QAM
Max Uncompressed Capacity	600 Mbps full duplex – Varies by modulation, bandwidth, and packet mix
Payload Latency	200 µs 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

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 115 kbps
IP addresses	Addresses type Additional function	Primary IP/ Secondary IP / RFI / USB Static Routes, NAT, Ping, Telnet
GUI	Type	WEB based
CLI	Type	athOS
SNMP	Version Read access Write access	SNMP v.1, SNMP v.2c, SNMP v.3 Complete MIB Subset of link parameter
Security	Licenses Access levels HTTPS certificates	Permanent / Time limited licenses Guest/User/Admin with password security Client and server certificates

Product Specification¹



SALINAS IPLINK-600 SPECIFICATIONS

Interfaces

Ethernet Traffic / 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 VD C direct or using PoE
Power consumption	48 to 72 Watts dependent on sub-band
Power Protection	Reverse polarity and transient clamping to 100 volts

Mechanical and Environmental

IDU	
Dimensions	W220 x H44 x L240 mm
Weight	2,2 kg
Temperature	-5 °C to +45 °C / +23°F to +113°F
Humidity	0 to 95%, non-condensing
Altitude	4,500 meters
ODU	
Dimensions	W277 x 239 x L92 mm
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)

	1518	64	1518	64	1518	64	1518	64	1518	64	1518	64	1518	64	1518	64
Channel Bandwidth (MHz)	QPSK		16 QAM		32 QAM		64 QAM		128 QAM		256 QAM		512 QAM		1024 QAM	
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

Frequency Band	U4	L/U6	7	8	10	10.5	11	13	15	18	23	26	28	32	38	42
Frequency 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
Transmitter 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 28 GHZ

RECEIVER SENSITIVITY (DBM) FOR FREQUENCIES ABOVE 28 GHZ

Channel Width (Mhz)	RECEIVER SENSITIVITY (DBM) FOR FREQUENCIES UP TO 28 GHZ								RECEIVER SENSITIVITY (DBM) FOR FREQUENCIES ABOVE 28 GHZ							
	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	-78.3	-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