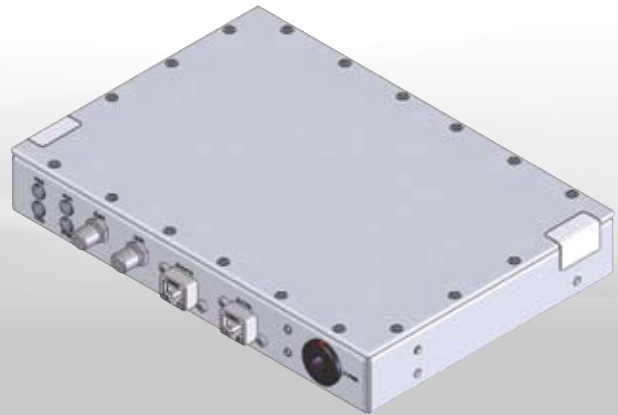


Industry's smallest, lightest, and most power efficient DVB-S2 modem providing 2-way data rates of 500 kbps to 180 Mbps.

Performance within 1dB of Shannon theoretical limit using SkyPHY ASIC and LDPC codes.

Power efficiency through auto sensing of link C/N and adaptive adjustment to modulation and coding using ACM/VCM.



The ELITE-S2 (Efficient and Light DVB-S2 Transceiver/Modem) incorporates our SkyPhy DVB-S2 Receiver ASIC and Low Density Parity Check (LDPC)/BCH codes to perform within 1 dB of Shannon's theoretical limit.

The DVB-S2 standard provides optimum power efficiency during operations by automatically sensing the link carrier-to-noise ratio, for "on-the-fly" adjustments of the modulation (QPSK, 8PSK, 16APSK) and code rate (1/4 to 9/10). Under severe fades, the system can gain up to 15 dB of additional link margin by automatically reducing the modulation and code rate. The two-way modem symbol rate can be either asymmetrical or symmetrical at a rate of 1 Msps to 50 Msps in increments of 100 ksymbols/sec.

## TARGET APPLICATIONS

- » IPTV headends
- » Content delivery
- » Point to multipoint IP networks
- » SCPC data links
- » Wireless and mobile backhaul
- » Rapid ISP deployment for rural areas
- » Maritime/offshore communications
- » Business continuity/ disaster recovery
- » Corporate networking

## KEY FEATURES

- » Small size, lightweight, low-power ruggedized modem
- » Weather tight housing weighing approximately 2 lbs
- » 10 watts to operate at maximum data rate in both directions
- » IP ready – streams all sensor data over IP networks
- » Selectable bit rate from 500 kbps to 180 Mbps for both forward and return link
- » QPSK, 8PSK, and 16APSK modulations
- » Low Density Parity Check (LDPC)/BCH error correction codes in accordance with DVB-S2
- » Built in IP encapsulator
- » "On-the-fly" Adaptive Coding and Modulation (ACM)



# ELiTE-S2 Specifications

**IF Frequency:** 950 to 2150 MHz for both Tx and Rx signals

**RF Connector:** 50 Ohm SMA

**DC input power:** over a range of 9 to 28 VDC

**DC power consumption:** 10 Watts at max data rate in both direction

**Data Interface:** GbE

Configuration and Monitoring via 10/100 BaseT Ethernet port using web-based GUI

## ENVIRONMENTAL

Weather tight housing

Cooled by conduction through housing (no fan)

**Ambient Temperature:** - 20° to +60° C

**Storage Temperature:** -40° to +85° C

Shock and vibration consistent with fixed wing and helicopter environments

95% max relative humidity (non-condensing)

EMI requirements according to FCC rules part 15

## HOUSING SIZE

9.00" W X 6.25" D X 1.4" H

## DATA LINK

DVB-S2 standard compliant

Constant (CCM), Variable (VCM) and Adaptive (ACM)

## CODING AND MODULATION

**Coding:** LDPC/BCH with 1/4, 1/3, 2/5, 1/2, 3/5, 4/5, 5/6, 8/9, 9/10 rates

**Code Block Size:** 16K or 64K bits

**Modulation:** QPSK, 8PSK, 16APSK

**Symbol Rates:** 1 to 50 Msps in increments of 100 Ksps

**User Data Rate:** 500 kbps to 180 Mbps.

The 180 Mbps is accomplished using 16APSK 9/10.

IP supports gateway as proxy bridge between each subnet node.

**Tx and Rx (two-way) at each node:**

synchronous or asynchronous.

Integrated AES 256 encryption

## PERFORMANCE (IF LOOPBACK)

Mod	LDPC Code Identifier	16K BLOCK SIZE		64K BLOCK SIZE	
		Special Efficiency bits/sym	ELiTe-S2 Target (Per = 1e-6) Es/No (dB)	Spectral Efficiency bits/sym	ELiTe-S2 Target (Per = 1e-6) Es/No (dB)
QPSK	1/4	0.37	-1.0	0.49	-0.9
QPSK	1/3	0.63	0.5	0.66	0.3
QPSK	2/5	0.76	1.5	0.79	1.2
QPSK	1/2	0.85	2.1	0.99	2.5
QPSK	3/5	1.16	3.9	1.19	3.7
QPSK	2/3	1.29	4.8	1.32	4.6
QPSK	3/4	1.42	5.8	1.49	5.5
QPSK	4/5	1.51	6.4	1.59	6.2
QPSK	5/6	1.60	6.9	1.65	6.7
QPSK	8/9	1.73	8.0	1.77	7.7
QPSK	9/10	N/A	N/A	1.79	7.9
8PSK	3/5	1.73	7.3	1.78	7.0
8PSK	2/3	1.92	8.2	1.98	8.1
8PSK	3/4	2.12	9.5	2.23	9.4
8PSK	5/6	2.38	11.0	2.48	10.9
8PSK	8/9	2.58	12.4	2.65	12.2
8PSK	9/10	N/A	N/A	2.68	12.5
16APSK	2/3	2.55	10.7	2.64	10.5
16APSK	3/4	2.81	12.0	2.97	11.7
16APSK	4/5	2.98	12.7	3.17	12.5
16APSK	5/6	3.16	13.3	3.30	13.1
16APSK	8/9	3.42	14.6	3.52	14.4
16APSK	9/10	N/A	N/A	3.57	14.6



## CONTACT

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