

## LOW BITRATE SATELLITE DEMODULATOR (LBRSD)



### Specifications

- Modulation: BPSK/ QPSK
- Data rate:
  - BPSK: 300bps,600bps,1200bps,2.4kbps,4.8kbps,5.4kbps,9.6kbps,10.8kbps
  - QPSK: 1.2kbps,2.88kbps,4.8kbps,9.6kbps,10.8kbps,19.2kbps,16kbps
- Analog Interface: IQ at 50 kHz, 0.3 - 3Vp-p
- Ambiguity decoder: Differential Decoding
- FEC: Rate  $\frac{1}{2}$  (Viterbi) decoder with constraint length  $K=7$
- BER:  $1 \times 10^{-6}$  at  $E_b/N_0 = 6.1$  dB
- De-scrambler: CCITT V.35
- Built-in I/Q imbalance compensation and  $E_b/N_0$  indication
- Data interface: TTL, Synchronous, data valid on rising edge of clock
- Size: 3"  $\times$  3"
- Power consumption: 1W (operational) and 1.5W (programming) from 5V dc supply
- Operating temperature and humidity: 0 to 50°C, 95% RH at 45°C
- Processor: TMS320F2811
- Integration: Polarized dual row connectors and control lines for power save/ down
- Acquisition type: Continuous mode

Baudrate	BPSK			QPSK		
	Threshold $E_b/N_0$	Acquisition range	Acquisition time	Threshold $E_b/N_0$	Acquisition range	Acquisition time
21600	3.5 dB	$\pm 5$ kHz	4s	—	—	—
16000	—	—	—	3.5 dB	$\pm 2.5$ kHz	5s
10800	3.5 dB	$\pm 5$ kHz	4s	4.0 dB	$\pm 2.5$ kHz	5s
19200	3.5 dB	$\pm 5$ kHz	4s	3.5 dB	$\pm 2.5$ kHz	5s
9600	3.5 dB	$\pm 5$ kHz	4s	4.5 dB	$\pm 2.5$ kHz	5s
4800	3.5 dB	$\pm 5$ kHz	4s	5.0 dB	$\pm 2.5$ kHz	5s
2880	—	—	—	5.5 dB	$\pm 2.5$ kHz	6s
2400	3.5 dB	$\pm 5$ kHz	4s	—	—	—
1200	6.0 dB	$\pm 5$ kHz	4s	6.0 dB	$\pm 1.25$ kHz	8s
600	6.0 dB	$\pm 2.5$ kHz	8s	—	—	—