

The most integrated and cost effective OEM DVB-S/S2 demodulator for:

- IRDs,
- Digital Microwave Link
- Digital Terrestrial TV transceivers

#### Applications:

- Satellite distributions
- Satellite contributions
- DSNG applications
- Test systems

SaTurn packaging is available

- OEM board
- Compact Aluminium box
- 1U Rack

(see ordering information)

## Key features :

- DVB-S2X roll off
- Dual L-Band input
- Input frequency range: 950 MHz to 2150 MHz
- Full compliance with DVB-S and DVB-S2 technology
- High performances for 16APSK and 32 APSK
- CCM, VCM and ACM support
- Adaptive equalization
- Up to 240 Mbps useful bit rate, up to 65MBaud
- Multi-stream supported
- Physical Layer Scrambling according to EN 302 307 standard
- RS232 and I2C control & monitoring
- Low power consumption less than 9 W (fanless)

# SaTurn

## DVB-S/S2 All-In-One Compact Demodulator Board

5% roll off

### Description

SaTurn is a state-of-the-art of professional DVB-S and DVB-S2 demodulator. The board is a high performance demodulator for advanced DVB satellite reception. It supports up to 240Mbit/s and operates in 16APSK and 32APSK with a very low implementation loss as well as the DVB-S2X roll off.

SaTurn board is a compact and powerful OEM unit, especially designed and developed for fast integration, addressing the satellite market. SaTurn integrates the complete technology core required to perform high quality demodulation based on a high level knowledge.

SaTurn demodulator can be used either with LNB satellite blocks or with L-band (from 950 MHz to 2150 MHz) receivers. In the most robust MODCOD, the C/N can go below 0 dB and SaTurn module synchronises and demodulates correctly the input signal with automatic MODCOD detection.

SaTurn is a DVB-S2 demodulator supporting multi-stream (as defined in EN 302 307) and proposes to deliver up to 2 simultaneous Input Stream Identifier (ISI), corresponding to up to 2 MPTS contents (Multiple Program Transport Streams). Thanks to the ACM feature, SaTurn allows the MODCOD seamless switching, change the robustness of the transmission and keep your Quality of Service.

Depending on your integration, to facilitate your time to market and to have a better efficiency, SaTurn offers the possibility to use standard ASI outputs or a dedicated connector. SaTurn offers a flexibility to improve your integration requirements.

Customers can control this module by using a very simple API protocol thanks to both ports I2C and/or Serial. Moreover, full control and error monitoring facilities are available and signal statistics (C/N, FER, PER) are provided.

An evaluation kit is available to discover all SaTurn possibilities & performances and make a quick integration. SaTurn Starter Kit is a complete development board solution giving customers instant access to the capabilities of SaTurn. The Starter Kit is either available as an aluminium box or as 1U Rack unit.

### Main advantages

- High compactness
- Reduce time to market (easy to operate)
- High performance with 16APSK and 32APSK modulations
- Dedicated setup to optimize for DVB-S2X low roll off reception,
- Very large Symbol Rate range: from 0.2 MBaud up to 65 MBaud
- Highest reliability
- **All-in-One**, full features, easy maintenance management
- Flexible Inputs/Outputs definition

# SaTurn

## Compact DVB-S/S2 All-In-One Demodulator Board

### Specifications<sup>1</sup>

#### ■ Standards

- o DVB-S2: EN 302 307
- o DVB-S: EN 300 421
- o DVB-ASI: EN 50083-9, ETSI TR 101 891
- o MPEG-TS: ISO/IEC 13818-1

#### ■ RF inputs

- o 2 Connector F - 75 Ω
- o L-Band: From 950 MHz to 2150 MHz
- o Return loss > 9 dB
- o -25 dBm to -65 dBm (sensitivity -100 dBm @ QPSK-1/4)
- o LNB: 2 independent DiSEqC controls (off, + 13/18 Vdc, 22 KHz, 750mA max)

#### ■ Outputs

- o DVB-S2 Single & Multi-Stream management
- o Packet length 188/204 auto-detection
- o ASI output:
  - 2 x connector BNC - 75 Ω
  - MPEG-TS over ASI, up to 210 Mbps
- o HE10 with 40 pins (2mm pitch)
  - MPEG-TS over HE10, up to 240 Mbps

#### ■ Modulation

- o DVB-S:
  - Outer/inner FEC: Reed Solomon/Viterbi
  - QPSK: 1/2, 2/3, 3/4, 5/6, 7/8
  - Roll-off value: 0.05, 0.10, 0.15, 0.20, 0.25, 0.35
- o DVB-S2
  - Outer/Inner FEC: BCH/LDPC
  - QPSK: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  - 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
  - 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  - 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10
  - PL Scrambling codes [0, 262141]
  - Operating modes:
    - » CCM: Constant Coding and Modulation,
    - » VCM: Variable Coding and Modulation,
    - » ACM: Adaptive Coding and Modulation
  - Short and long frame
  - Roll-off values: 0.05, 0.10, 0.15, 0.20, 0.25, 0.35
  - Pilots ON or OFF
- o Variable Symbol rate (Mbauds) 0.2 to 65 Mbauds
- o Embedded adaptive equalizer

#### ■ Control & Monitoring

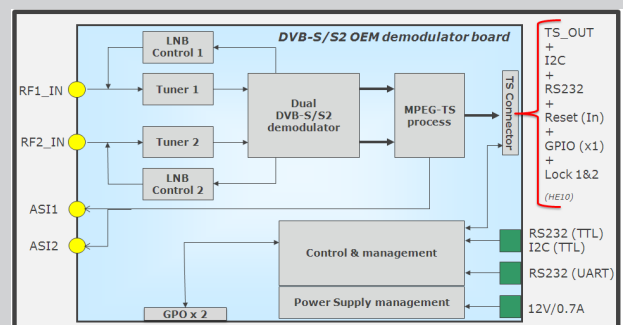
- o 1 x RS232 serial port (HE10 & standard connectors)
- o 1 x I2C port (HE10 connector & standard connectors)
- o 1 x GPIO pin (HE10 & standard connectors)
- o 2 x demod lock output pins (HE10 connector)
- o 1 x Reset input pin (HE10 connector)

#### ■ Physical

- o Board
  - Power supply: 12VDC - Power consumption < 9W
  - Board Dimensions: 100 x 100 x 20 mm
- o Starter Kit 1U Rack
  - Power supply: 90 to 240 VAC - 10 W
  - Dimensions: 450 x 350 x 44 mm - Weight: 3.000 kg
- o Operating temperature range: 0 °C to 50 °C

#### ■ Starter Kit content:

- o SaTurn board fixed either in an aluminium box or 1U Rack
- o A power kit/cable (90/240AVC to 12VDC),
- o A USB/RS232 transceiver,
- o A GUI for control and monitoring easily the product,
- o Documents (application notes, data sheets, etc.)



### Ordering Information

XSSB-DTM2-2910<sup>(2)</sup> DVB-S/S2 Demodulator - 950/2150 MHz - 2xRF Inputs - 2xASI & HE10 outputs - Board

XSSK-DTM2-2910 DVB-S/S2 Demodulator - 950/2150 MHz - 2xRF Inputs - 2xASI & HE10 outputs - Kit OEM

<sup>1</sup> Specifications are not contractual and are subject to revision without notice.

<sup>2</sup> A minimum quantity is required

