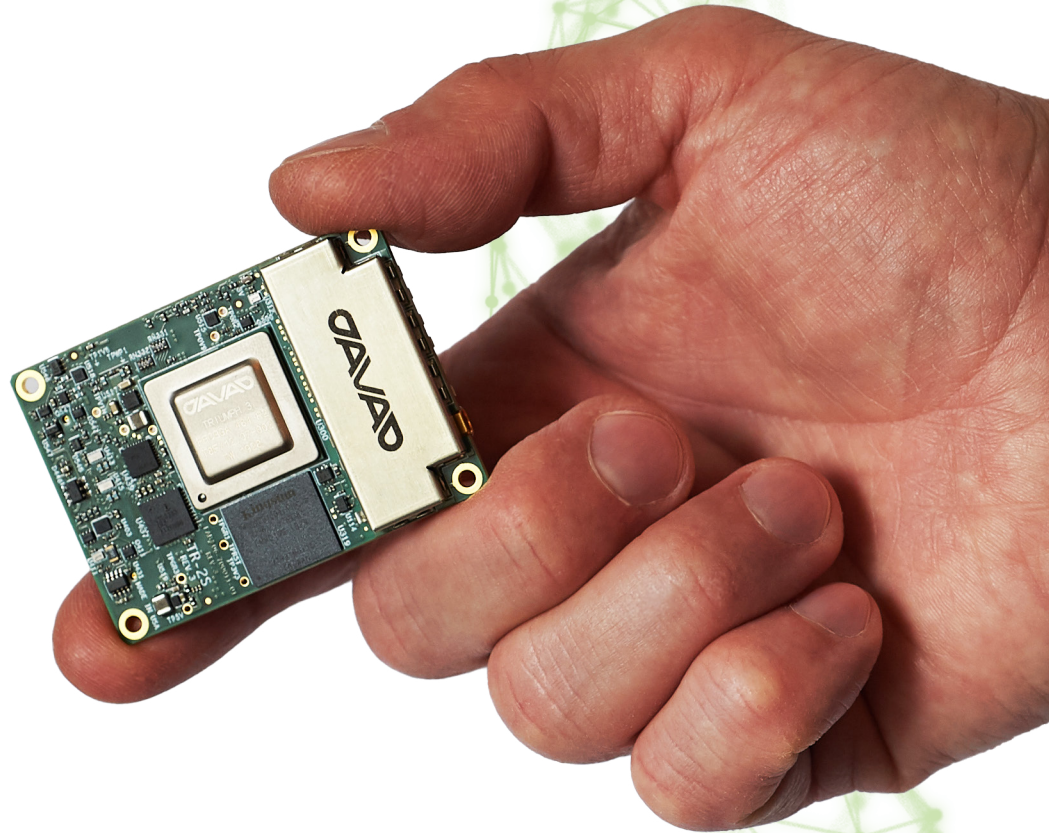




TR-2S

High Performance Compact OEM Board



Key Features

- Spoofing Detection
- Advanced Multipath Mitigation
- 874 Channel, all-in-view tracking
- Heading Determination
- NMEA output
- Up to 200Hz output
- RTK rates up to 200Hz
- 16GB onboard storage

The TR-2S is a compact and versatile GNSS board ready for any application requiring high precision and small size. Inbuilt capabilities for Geoid and Magnetic Variation models, use of different datums, and spoofing detection allow deployment in the most demanding environments.

The TR-2S is a complete GNSS system, not simply a signal tracking module. This allows full configuration using the JAVAD GREIS Commands and seamless integration.

TECHNICAL SPECIFICATIONS

Number of Channels 874		
GNSS Constellations	GPS GLONASS Galileo BeiDou QZSS SBAS IRNSS L-band	C/A, L1C (P+D) including TMBOC (6,1,4/33), P1, P2, L2C (L+M), L5 (I+Q) E1 (B+C) including CBOC (6,1,1/11), E5A (I+Q), E5B (I+Q), AltBoc, E6 (B+C) E1(B+C) including CBOC(6,1,1/11), E5A(I+Q), E5B(I+Q), AltBoc, E6(B+C) B1, B1C(P+D) including TMBOC(6,1,4/33) , B2B(I+Q), B2, B2A(I+Q), AltBoc, B3 C/A, L1C (P+D); TMBOC (6,1,4/33), L2C (L+M), L5 (I+Q), L6 (L61/L62), L1S, L1Sb, L5S L1, L5(P+D) L5 1525-1560 MHz
Tracking Features	Spoofing detection Advanced Multipath Reduction Fast acquisition channels High accuracy velocity measurement	
Input/Output	RS232 RS232/RS422 USB to RS232 Event Marker 1-PPS Logic-Level GPIO RTCM SC104 NMEA 0183	One serial port (up to 460.8 Kbps) Two configurable serial ports (up to 460.8 Kbps) Built-in FTDI converter (12Mbps USB 2.0 FullSpeed. Up to 1.5Mbps RS232 speed) One input One output synchronized to GPS or UTC Two configurable ports versions 2.x and 3.x Input/Output versions 2.x and 3.0 Output
Data Features	Up to 200 Hz update rate for real time position and raw data (code and carrier) 10 cm code phase and 1 mm carrier phase precision Hardware Viterbi decoder Hardware Reed-Solomon and LDPC decoders Code Differential Rover/Base Geoid and Magnetic Variation models RAIM Different DATUMs support Output of grid coordinates	
Storage	Memory	Up to 16 GB of onboard non-removable for data storage (TBD)

PERFORMANCE SPECIFICATIONS

Time for First Fix	Cold Start	< 35 s
	Warm Start	< 5 s
	Reacquisition	<1 second

POSITIONING SPECIFICATIONS

Position Accuracy	Autonomous	< 2 m
	DGPS	< 0.5 m
	RTK	Horizontal: 1 cm + 1 ppm Vertical: 1.5 cm + 1 ppm
	Static/Fast Static	Horizontal: 0.3 cm + 0.1 ppm Vertical: 0.35 cm + 0.4 ppm

PHYSICAL AND ELECTRICAL CHARACTERISTICS

Physical & Electrical	Connectors	40 pins for digital, MMCX for antenna
	Size	55 x 40 x 11 mm (2.16 x 1.57 x 0.43 in)
	Weight	20 g (0.044 lbs)

ENVIRONMENTAL CHARACTERISTICS

Environmental	Operating t°	-40° C to +80° C
	Storage t°	-40° C to +85° C
	Vibration	High shock and vibration resistance