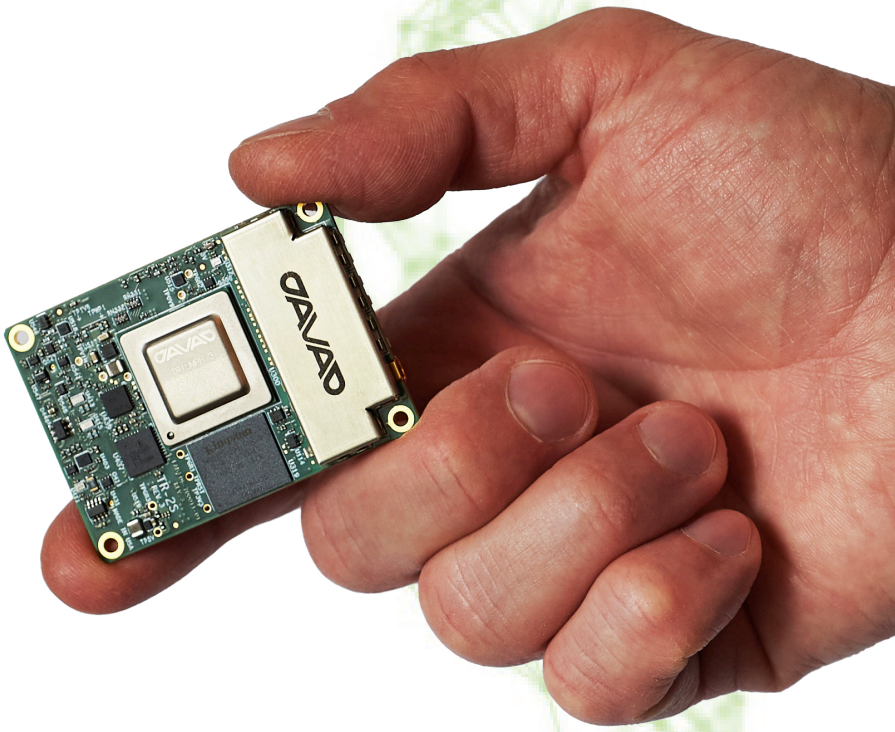
TR-2S

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 and seamless integration.

TR-2S Specifications

Number of Channels	874	
GNSS Constellations	GPS	C/A, L1C (P+D) including TMBOC (6,1,4/33), P1, P2, L2C (L+M), L5 (I+Q)
	GLONASS	E1 (B+C) including CBOC (6,1,1/11), E5A (I+Q), E5B (I+Q), AltBoc, E6 (B+C)
	Galileo	E1(B+C) including CBOC(6,1,1/11), E5A(I+Q), E5B(I+Q), AltBoc, E6(B+C)
	BeiDou	B1, B1C(P+D) including TMBOC(6,1,4/33) , B2B(I+Q), B2, B2A(I+Q), AltBoc, B3
	QZSS	C/A, L1C (P+D); TMBOC (6,1,4/33), L2C (L+M), L5 (I+Q), L6 (L61/L62), L1S, L1Sb, L5S
	SBAS	L1, L5(P+D)
	IRNSS	L5
	L-band	1525-1560 MHz
Tracking Features	Spoofing detection Advanced Multipath Reduction Fast acquisition channels High accuracy velocity measurement	
Input/Output	RS232	One serial port (up to 460.8 Kbps)
	RS232/RS422	Two configurable serial ports (up to 460.8 Kbps)
	USB to RS232	Built-in FTDI converter (12Mbps USB 2.0 FullSpeed. Up to 1.5Mbps RS232 speed)
	Event Marker	One input
	1-PPS	One output synchronized to GPS or UTC
	Logic-Level GPIO	Two configurable ports
	RTCM SC104	versions 2.x and 3.x Input/Output
	NMEA 0183	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)
Time for First Fix	Cold Start	< 35 s
	Warm Start	< 5 s
	Reacquisition	< 1 second
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 & 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	Operating t°	-40° C to +80° C
	Storage t°	-40° C to +85° C
	Vibration	High shock and vibration resistance

GNSS performance is dependent on signal quality, satellite geometry, ionospheric and tropospheric conditions, baseline length, multipath effects and RF interference. Specifications may be changed without notice.