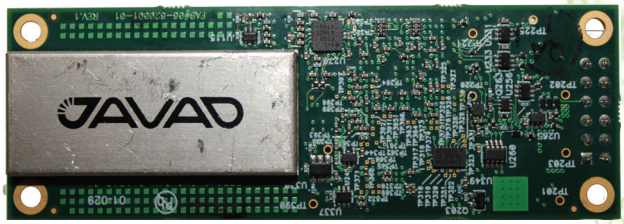
OEM BOARD

TRH-G2P



DATA SHEET

VERSION 1.2 OCTOBER 18, 2019

PINOUT

Pin #	Signal Name	I/O	Description	Pin #	Signal Name	I/O	Description
1	PWR_IN	I	+4.5V to +40 VDC Power input	8	GND (1)	-	Signal Ground
2	PWR_IN	I	+4.5V to +40 VDC Power input	9	CTSL* (3)	I	Serial port CTS line
3	PGND (1)	_	Power Ground	10	TXDL* (3)	O	Serial port TXD line
4	PGND (1)	_	Power Ground	11	RXDL* (3)	I	Serial port RXD line
5	-	_	Factory Use Only. Must be left open or connected to Ground	12	RTSL* (3)	O	Serial port RTS line
6	-	_	Factory Use Only. Must be left open or connected to Ground	13	1 Puls Per Second output (4)	O	1PPS
7	RESET_IN* (2)	_	Active Low Reset Input	14	Not Connected	-	-

(1) Power Ground and Signal Ground internally connected into the board.
(2) Connect to Ground to activate. Internal pull-up 2.2 kOhm to +3.0V.
(3) UART Logical signals (default - High, active - Low) with 3.0V CMOS level for output and input. Inputs 5V tolerant.
(4) Voh > 2.0 V (ty p) at 50 O

Specifications[1]

TRACKING FEATURES

- Total 216 channels: all-in-view
- GPS C/A, P1
- Galileo E1 (B+C)
- QZSS C/A, L1C(I+Q), SAIF
- BeiDou B1
- SBAS L1
- Advanced Multipath Reduction
- Fast acquisition channels
- High accuracy velocity measurement
- Almost unlimited altitude and velocity

DATA FEATURES

- Up to 100 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
- RTCM SC104 ver. 2.x and 3.x input/output
- CMR/CMR+ input/output
- NMEA 0183 ver. 2.x and 3.0 output
- SBAS/QZSS SAIF/BeiDou/ wide area code differential mode
- Code Differential Base/Rover
- Phase differential (RTK) Base/Rover
- Different models of tropospheric delay
- Different models of ionospheric delay
- Support of upload of user geoid data
- Geoid and Magnetic Variation models
- RAIM
- Different DATUMs support
- Different map projections support
- Output of grid coordinates

DATA STORAGE

- Up to 256MB of onboard non-removable memory for data storage
- Raw Data Recording up to 100 times per second (100Hz)

INPUT / OUTPUT

- One high speed serial port (up to 460.8 Kbps, UART, Logical signals)
- One 1 PPS output synchronized to GPS, Galileo or UTC

ELECTRICAL

- On-board power supply accepts any unregulated voltage between +4.5 to +40 V DC
- Central pin of the antenna connector is power supply for LNA, +5 VDC and sourced current up to 0.12A (max)
- Power consumption: 1 W (typical, without antenna current)

GNSS ANTENNA

- Type: External
- LNA gain: 30 dB
- Noise Figure: 1.8 dB typ.
- Current consumption: up to 120 mA @ 5 V DC

RF

- Input sensitivity level: -134 dBm/Hz (acquisition mode)
- Input sensitivity level: -145 dBm/Hz (tracking mode)

ENVIRONMENTAL

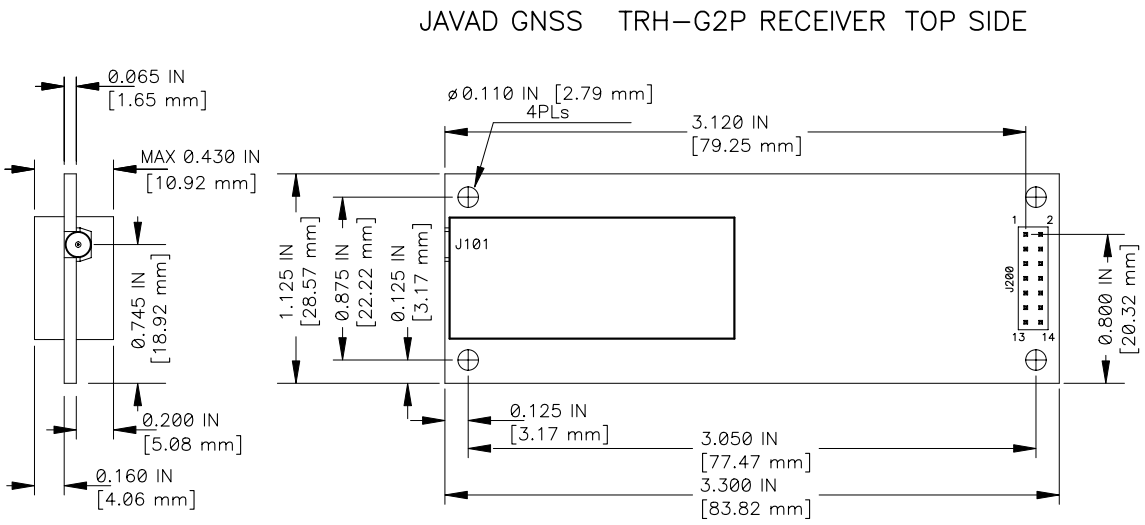
- Operating Temperature: -40°C to +80°C
- Storage Temperature: -40°C to +85°C
- High shock and vibration resistance

PHYSICAL

- Dimensions: 101.6 x 25.4 mm (4 x1 inches)
- Weight: 14 g
- Digital connector: Header, 2x7 pins, 2.00 mm pitch, 0.50 mm SQ post, Samtec p/n TMM-107-03-S-D.
- RF connector: MMCX Jack, edge mount. Amphenol p/n 908-22100.

1 For the full list of standard and optional features see www.javad.com
2 For good observation conditions and proper length of observation session

Dimensions



TRH-G2P OEM board is based on our TRIUMPH Technology implemented in our 216-channels TRIUMPH Chip. The TRH-G2P board tracks GPS L1, Galileo E1, BeiDou B1, and QZSS L1.

The on-board power supply on TRH-G2P OEM board accepts any voltage from +4.5 to +40 Volts and delivers clean filtered voltage where needed. This eliminates the risk of power contamination (ripples) that can be created when clean power is generated elsewhere and delivered to the board via cables.

TRH-G2P provides UART interface and timing strobe. In addition, the board comes with large amount of flash for data storage.

The dimensions are just 4x1 inches.

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