This GNSS-Receiver platform has been developed in the frame of GOOSE project (the German acronym for »GNSS Receiver with open software interface«) by Fraunhofer Institute for Integrated Circuits IIS. It is the only available development platform for GNSS-Receiver and it can provide an own hardware solution independent from commercial receivers. The platform is dedicated to software developer and mobile communication operators and system developer. Four separate components characterize the platform: a multi-frequency GNSS antenna, an analogue-frontend board, a baseband board, and the processor system.

Main benefits
- Flexible development platform with multi-system and multi-signal real-time processing
- Integrated antenna receiver combination (smart antenna)
- Guaranteed stable phase center for all GNSS frequencies
- Deployment in commercial PC or as an embedded platform
- Allows deep coupling and vector tracking in real time
- Access to correlation values

Features
- 60 data pilot hardware channels
- Up to 25 Hz Raw data output (code, carrier, navigation data)
- Supported signals:
  - GPS (L1CA, L2C L5)
  - Galileo (E1B, E5ab, E5AltBOC)
  - Optional SBAS (EGNOS)
  - BeiDou (B1), GLONASS (G1, G2) ready
- Open GNSS Receiver Protocol (OGRP®), fully documented with parsing tool using CONVBIN from RTKLIB as RINEX converter
- 10 MHz reference input
- 10 MHz reference output
- x PPS output (1 Hz - max. 25 Hz)
- 1 Ethernet port
- 2 full speed USB2.0 ports
- Ntrip client for RTKLIB

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1 GOOSE was developed from 2014 to 2015 and is hardened for rail application in the GalileoOnline project from 2015 to 2018. Both supported by the German Federal Ministry for Economic Affairs and Energy.
**Performance**
- 1 PPS out: resolution 12 ns
- 1 PPS out rise time: ~ 3 ns
- Cold start: not specified, startup time of SBC takes already one minute
- Warm start: not available yet
- Re-acquisition: 1 - 2 s until satellite is again used in position solution
- Tracking: down to 30 dbHz
- Acquisition: from 35 dbHz

**Technical Details**
- Dimensions housing (H x D): 20 x 17 cm
- Dimensions electronic cube including antenna (H x W x D): 7 x 10 x 10 cm
- Weight electronic cube: 350 g
- Weight housing: 350 g
- Power: Input voltage: 6 - 36 V
- Power consumption: ~ 13 W
- Antenna LNA power output: output voltage 3.3 V, maximum current 100 mA
- Connectors:
  - Antenna: SMA
  - REF IN: SMA
  - REF OUT: SMA
  - PPS OUT: Pin header
  - Power: 3.5``
  - COM1: Pin header
  - COM2: Pin header
  - 2x USB 2.0 Type A
  - Ethernet RJ45

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