G3

GRANADA Galileo GPS (G3) Receiver and RF Data Grabber

Main Features

- 44 fully configurable FPGA-based universal channels (Xilinx Zynq-7000 FPGA)
- Dual core CPU (ARM Cortex A9)
- Dual frequency E1-B/E1-C/L1-CA/L1-C + E5a/L5 (22 GPS + Galileo sat in view) or E1-B/E1-C + E5a+b (7 Galileo satellites in view)
- BPSK/BOC/MBOC/AltBOC processing (BeiDou upgradeable)
- AltBOC code accuracy of 1 cm
- 1Hz processing with data output via Ethernet (proprietary format)
- Data grabber mode with real-time streaming up to 125 MHz in dual-channel (2-bit per channel)
- Up to 4 RF inputs, noise Figure < 1 dB analogue stage
- Companion software package for data visualisation, receiver monitoring and control, measurement, post-processing, accessing low level data

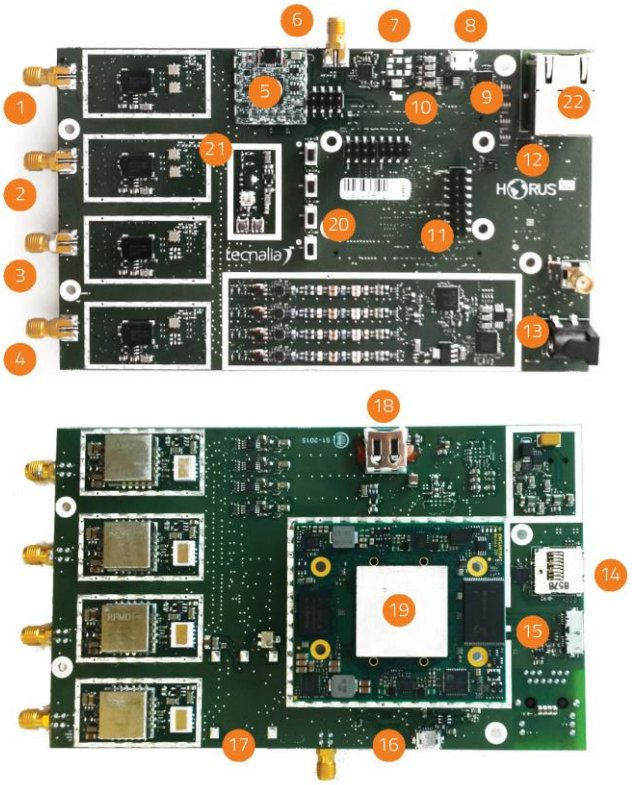
Ronda de Poniente 19
Tres Cantos, Madrid, Spain
+34 91 806 34 50

deimos elecnor group

www.elecnor-deimos.com
info@elecnor-deimos.com
@ElecnorDeimos

The **GRANADA GPS Galileo Receiver (G3)** is a flexible GNSS receiver that enables the **processing of GPS and Galileo signals.** Supporting **dual-frequency and/or multi-antenna**, providing **access to low-level data**, and combining the flexibility of an FPGA with the power of a microprocessor, it can be customised for a **wide range of applications** (e.g. attitude determination, receiver hybridization or reflectometry), making it also a good choice for **R&D activities.** Besides, the G3 receiver can be used as a **data grabber for real-time digital signal streaming** to a PC.

RF input 1	**1**
RF input 2	**2**
RF input 3	**3**
RF input 4	**4**
JTAG connector	**5**
Ext. Ref. input	**6**
TXCO high-g (Optional)	**7**
USB on the go	**8**
16 GP LEDS	**9**
4+4 GPIO	**10**
4+4 GPIO	**11**
Temp. & humidity sensor	**12**
5V to 15V DC connector	**13**
µSD connector	**14**
USB 3.0 connector	**15**
USB UART	**16**
TXCO	**17**
Battery holder	**18**
Zynq-7000 FPGA	**19**
GP Push buttons	**20**
RF amplifier	**21**
Ethernet	**22**



Applications

- **GNSS-Reflectometry Applications** (e.g. biomass, altimetry, ocean winds)
- **Attitude Determination**
- **High accuracy navigation**
- **Implement your own real-time DSP**
- **Real-time data grabber for SDR**
- **Applications requiring hybridization with external sensors** (accelerometers, gyroscopes, barometer, magnetometer, Wi-Fi, LIDAR, etc.) and various integration approaches (up to deep integration)
- **Performance assessment of high precision applications** (BOC/CBOC/AltBOC signals)
- **R&D and education projects**

Electrical and Physical Characteristics

- Typical Power Consumption: **19 W**
- Input DC Range Voltage: **5-15 Volts**
- Weight: **< 160grams**
- Total Size: **100mm x 164mm x 45mm** (including motherboard and DSP board)

Interfaces and Storage

- **Ethernet** (proprietary data output of receiver and of data grabber), **JTAG** (programing), **GPIO** (debug, PPS), **SMA** (RF and external clock), **USB 3.0**, and **Micro-SD storage**
- **Access to internal receiver observables and configuration parameters** via telecommanding and control instructions

deimos
elecnor group