



# G3

## GRANADA Galileo GPS(G3) Receiver





### Main Features

- 44 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)
- E1-B/E1-C + E5a+b (7 Galileo satellites in view)
- BPSK/BOC/MBOC/AltBOC processing
- AltBOC code accuracy of 1 cm
- 1Hz processing with data output via Ethernet (proprietary format)
- 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

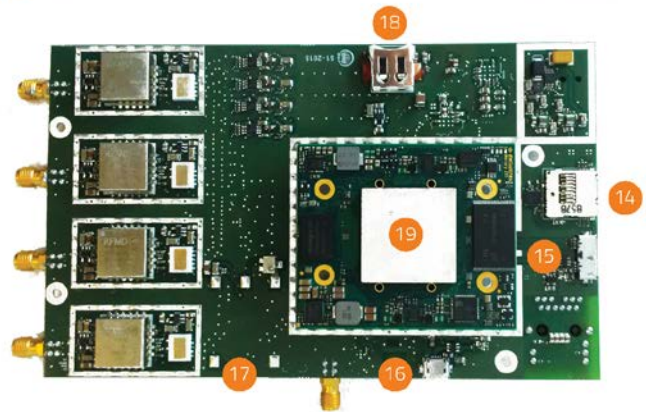
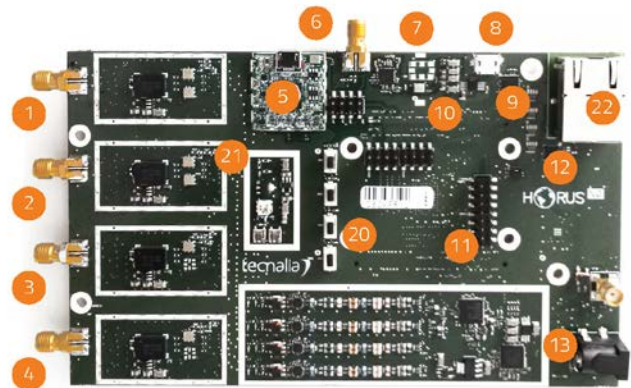
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The **GRANADA GPS Galileo Receiver (G3)** is a flexible GNSS receiver that enables the **processing of GPS and Galileo signals**. Supporting **dual-frequency and/or multi-antenna**, providing **access to low-level data**, and combining the flexibility 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**.

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



### Electrical and Physical Characteristics

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

### Interfaces and Storage

- **Ethernet** (proprietary data output of receiver and of data grabber), **JTAG** (programming), **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

### Applications

- **GNSS-Reflectometry Applications** (e.g. biomass, altimetry, ocean winds)
- **Attitude Determination**
- **High accuracy navigation using PPP**
- **Implement your own real-time DSP**
- **Support SDR for Cubesat e.g. GOMSPACE 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**