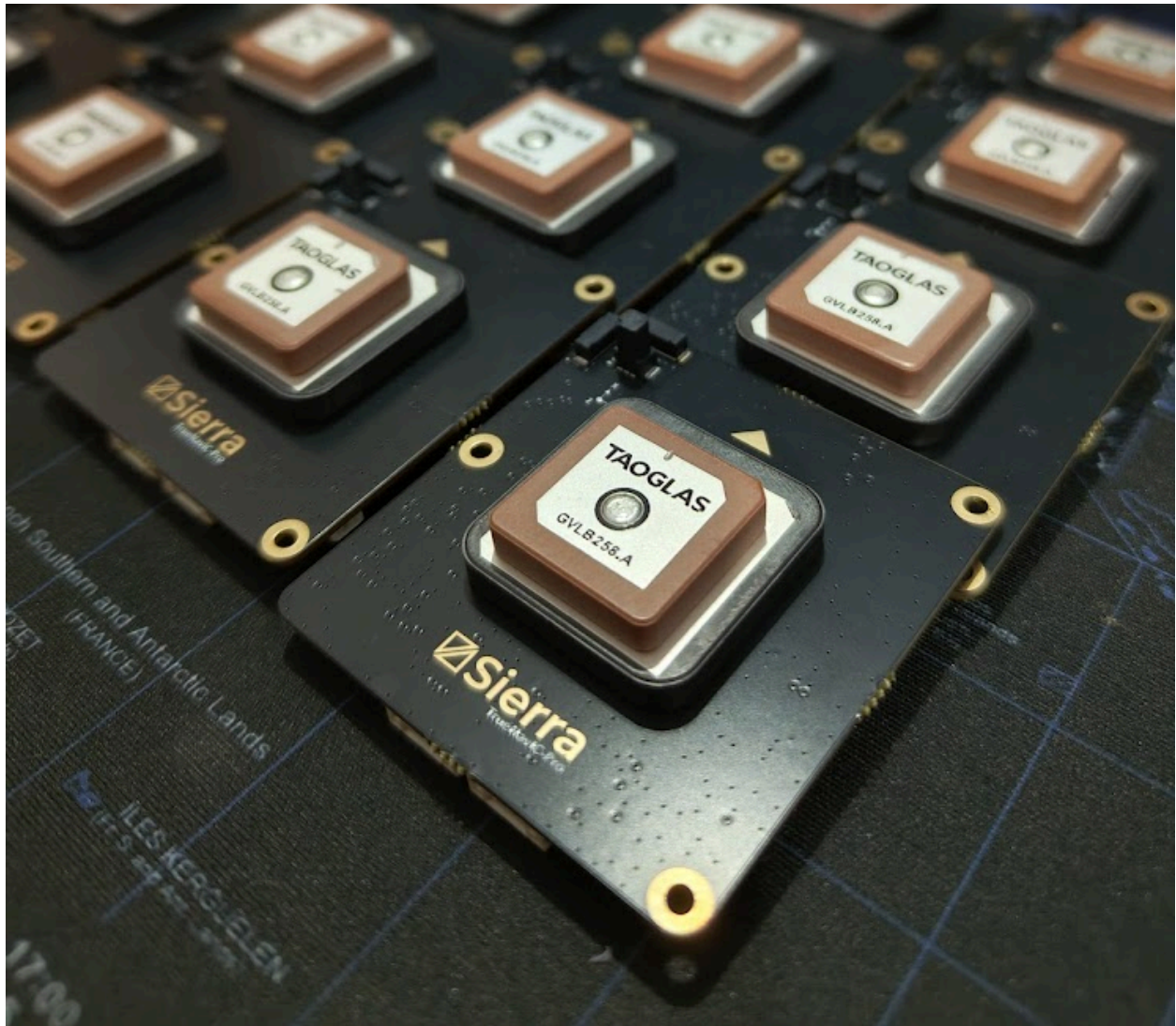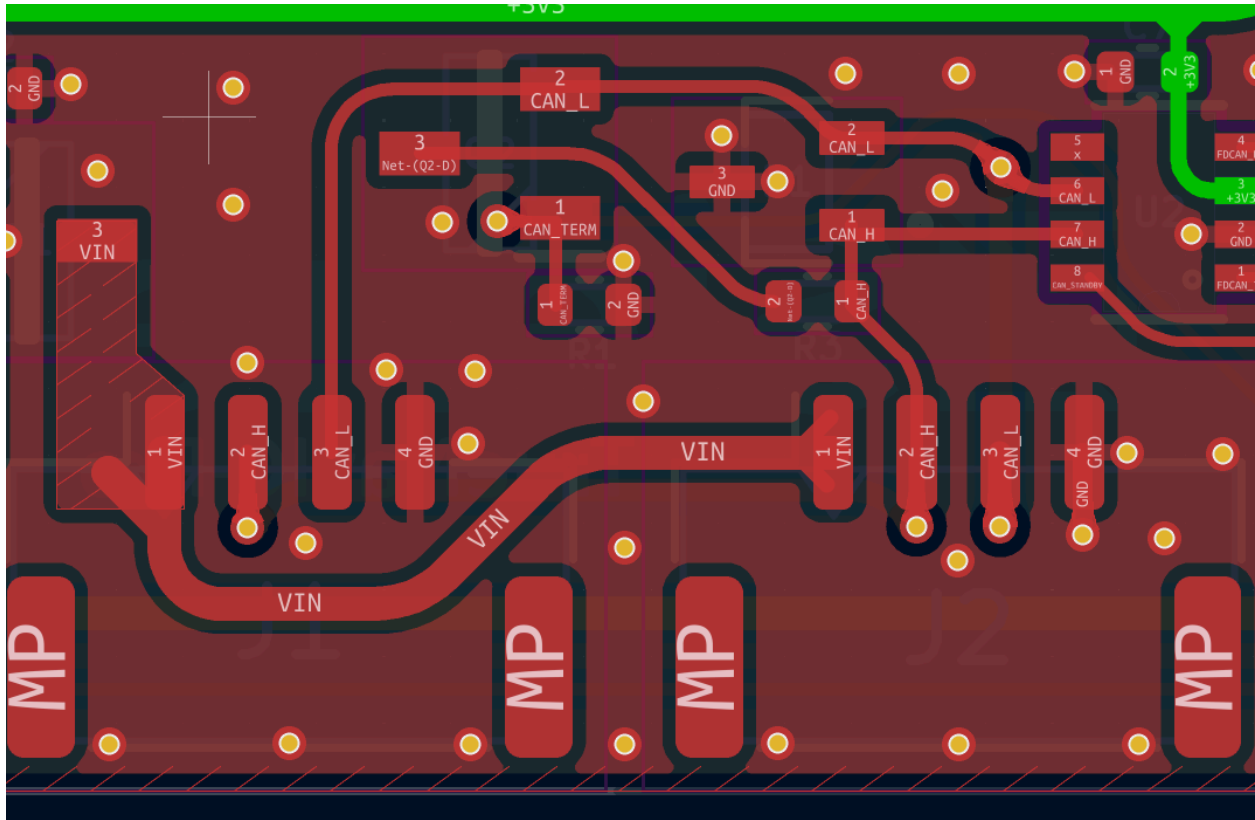# Sierra

Aerospace

Sierra TrueNavIC-Pro

Sierra TrueNavIC-Pro is a Standard Precision L1+L5 band Navigation module with 4 concurrent GNSS constellation reception. Communicates to any host device via CANBus and can daisy-chain seamlessly. Integrated with industrial grade RM3100 magnetometer with no drift, precise magnetic field measurements and high accuracy DPS310 barometer.

Features include,

- Ultra low power consumption Cortex®-M4 core with floating point unit
- Ublox F10N
- Industrial PNICorp RM3100 Magnetometer/ HMC5883L on TrueNavIC
- DPS310 Barometer
- UAVCAN/DroneCAN communication protocol
- Horizontal accuracy down to 0.75m
- Optimized ground plane with LNA and SAW filters
- Weight: 27.5g, Dimension: 50x47mm
- Max. Power consumption: 5V, 100mA max
- Operating temperature: -20°C to +85°C (Barometer vent needs to be taken care for moisture and icing)
- 2x GPIO with individual timers available for PWM, Relay etc.
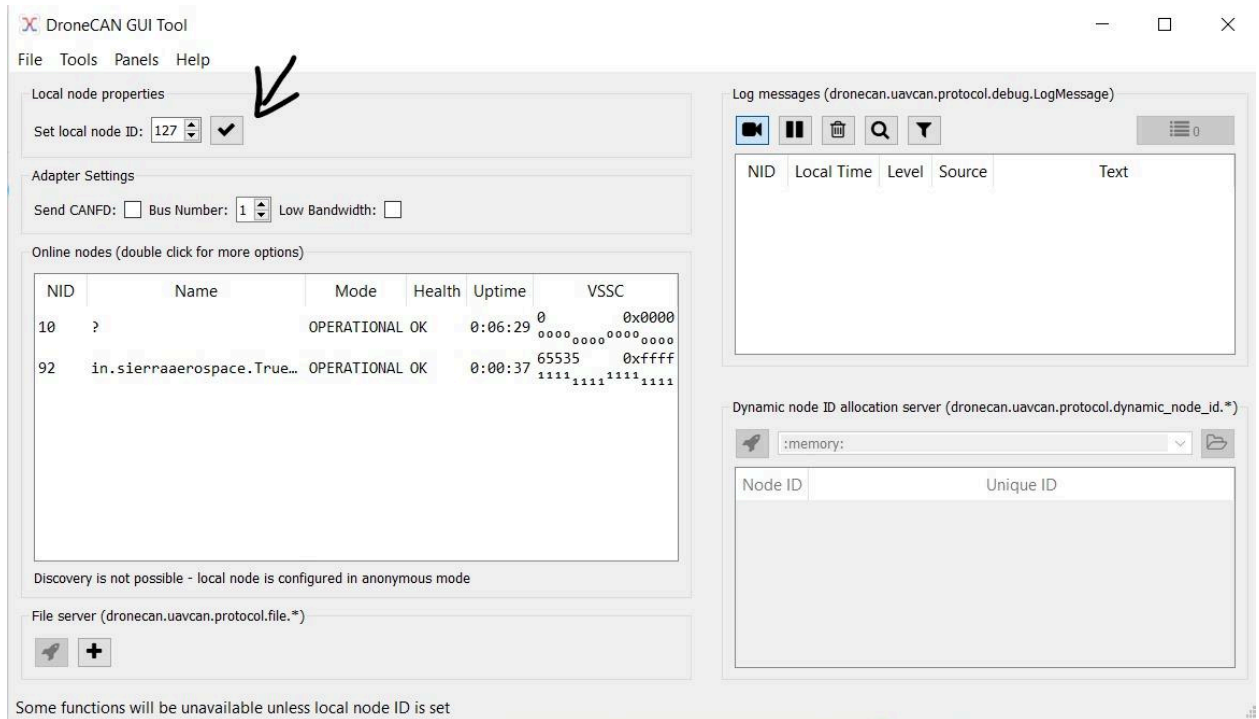- EMI shielding on LDO and RF components of GPS

Interface:

1. CAN ports: J2=CAN 1.1 & J1=CAN 1.2

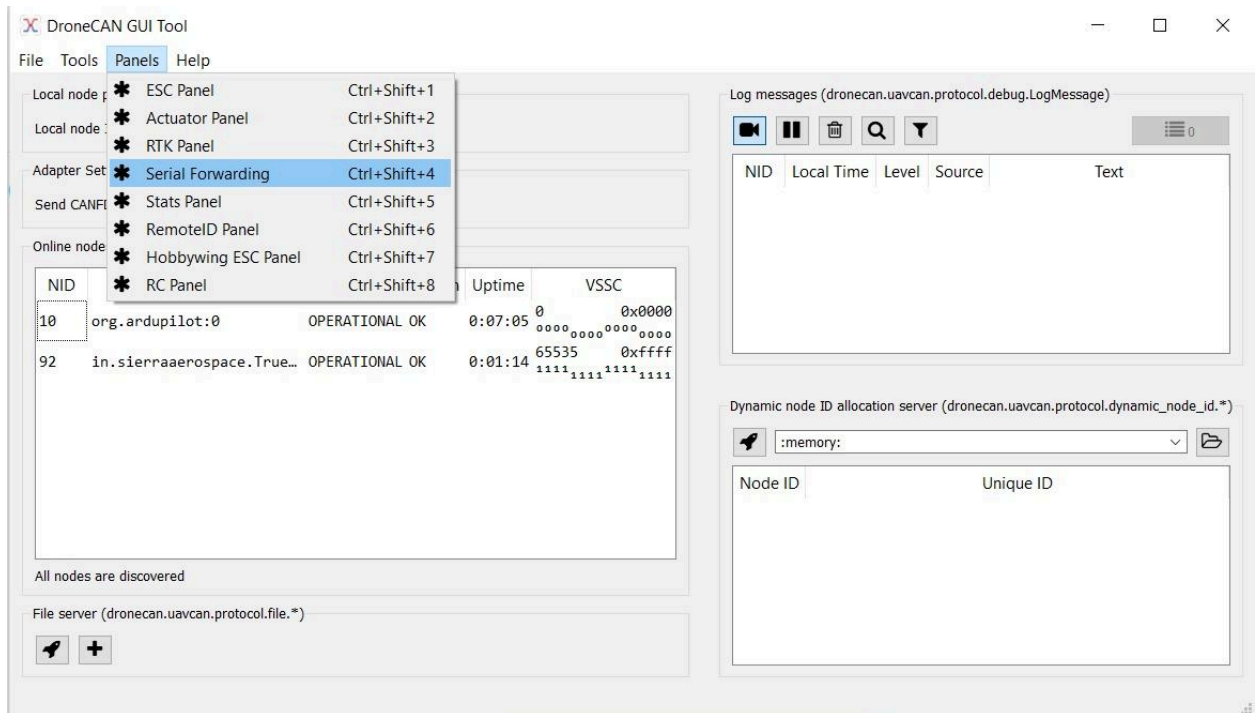   **Note:** Follows exact pinouts as Pixhawk Cube/ Pixhawk standards

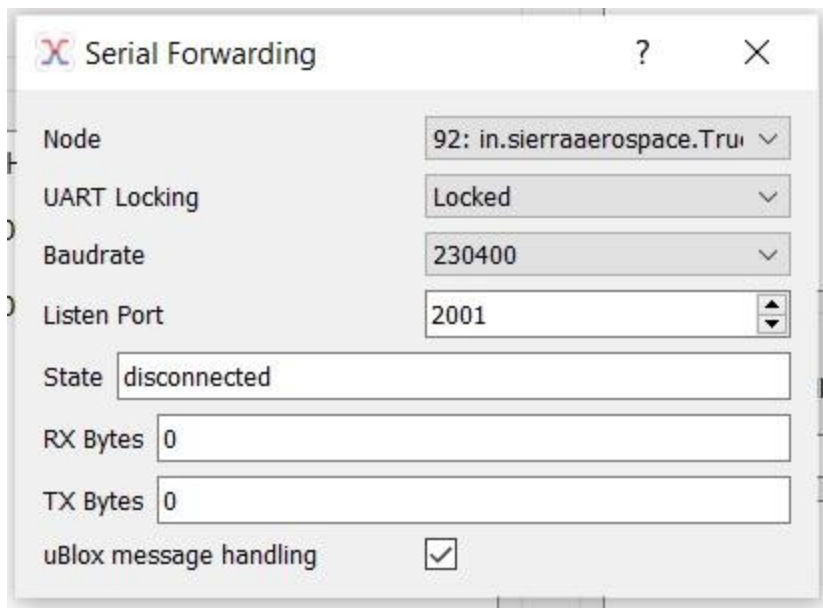| Pin	Signal	Volt
1 (red)	VCC	+5V
2 (blk)	CAN_H	CAN high
3 (blk)	CAN_L	CAN low
4 (blk)	GND	GND

Serial forwarding:

1. Open DroneCAN GUI using any USB port
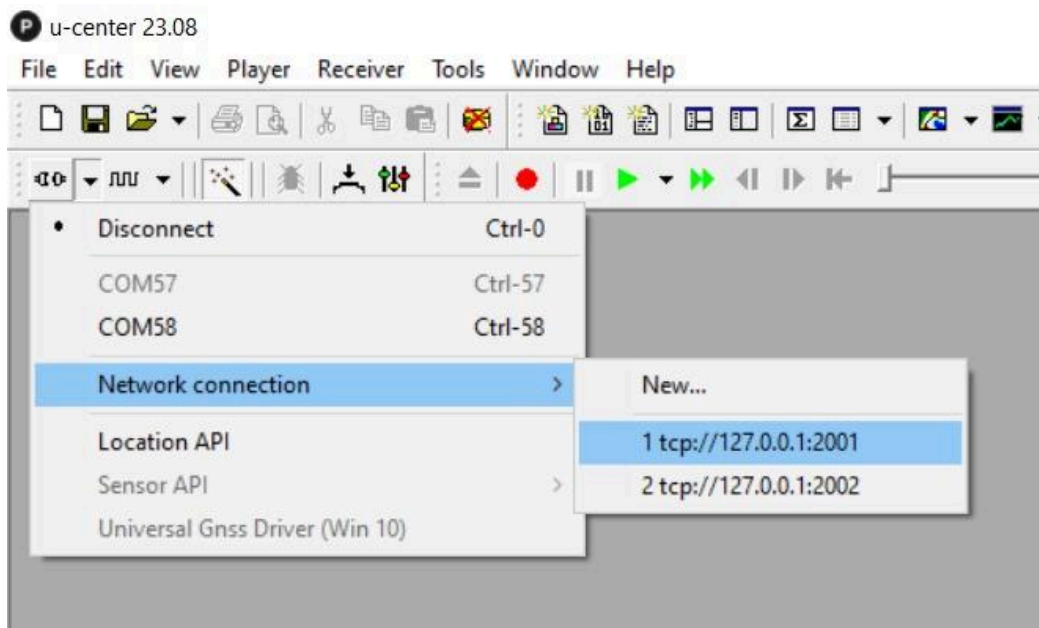
2. Click on the tick mark shown below

3. Go to Panels and navigate to serial forwarding
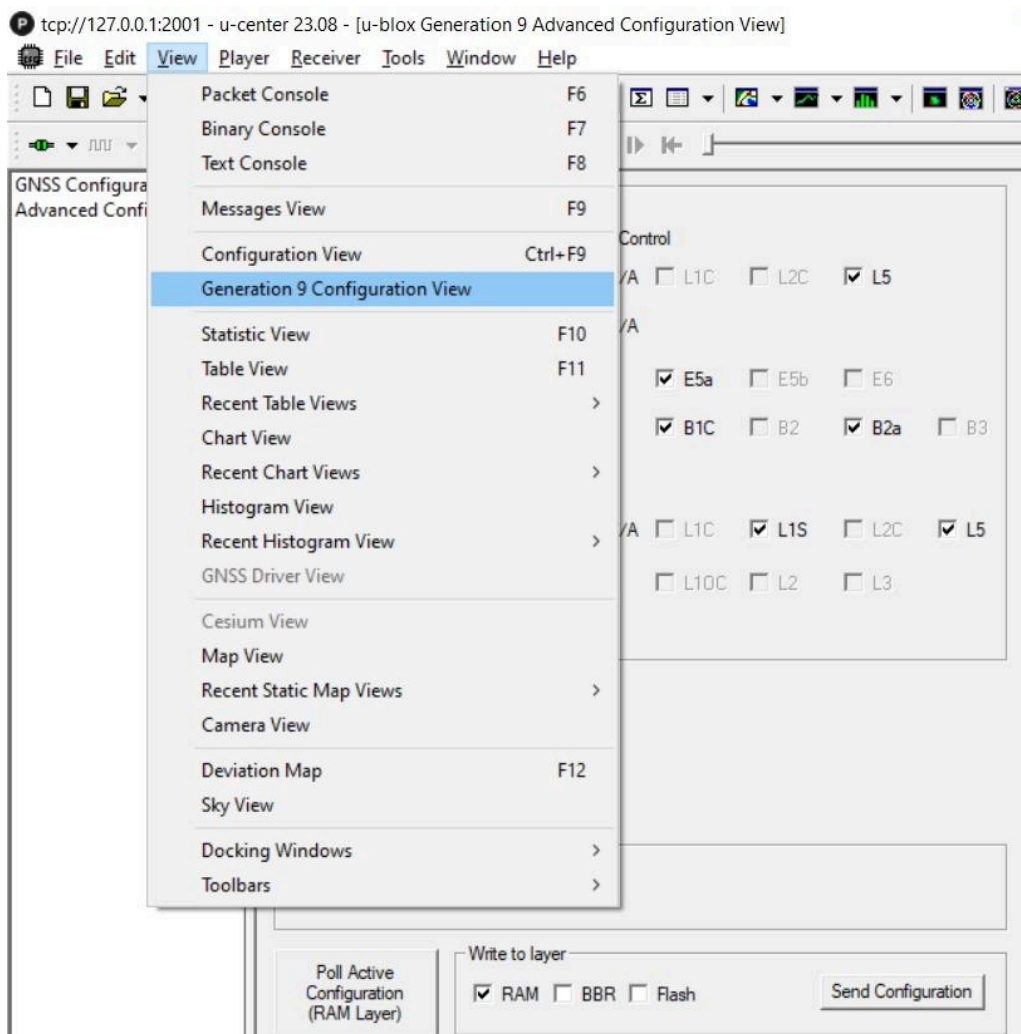

4. Set below parameters

5. Open U-Center V23 and above and connect via network connection

6. In the view tab, click on Gen9 config view and make changes to constellations required. Note: Save config to flash by checking the option and send config.

Config can be polled for checking.

7. This will enable NavIC satellites.
8. You can enable the rest of L5 band satellites by setting GPS_DRV_OPTIONS=32 on CAN node parameter. This will override the health status of L5 sats by considering L1 health as reference. This applies to all L5 satellites except NavIC.