



GPSI-031 Globalstar Simplex Transmitter Module - IMPLEMENTATION MANUAL

TELONICS INTERNAL USE ONLY – Not for sale to the public

Automated testing of GPSI-031:

Prior to integrating into a finished product, all **GPSI-031** Transceivers must undergo automated testing to ensure they function properly and meet the FCC RF requirements.

Power Supply:

Required supply voltage: 2.4 – 5.0Vdc @ 500mA max current. On-board regulators provide multiple layers of power supply leveling and filtering. Supply voltage conditioning is not normally necessary.

Antenna:

This radio is certified for use with the following antennas:

- Telonics 1.25" dorsal mount Globalstar antenna (2.0dBi gain)
- Telonics 1.0" dorsal mount Globalstar antenna (-1.0dBi gain)
- Any Globalstar certified antenna with gain $\leq$ 2.0dBi @ 1611.25-1618.75MHz

Integration testing:

The finished product must undergo RF testing to ensure the **GPSI-031** transmitter is connected to its antenna and power supply and functioning properly.

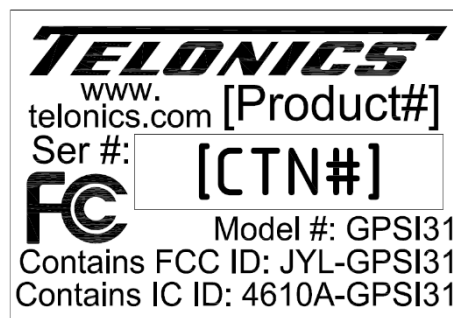
FCC Licensing Information:

The Telonics **GPSI-031** Transceiver is type accepted for use as a Globalstar simplex mobile earth station as defined under FCC Part 25. This radio is licensed by rule. As such, a license is not required to transmit on these frequencies. For more information, visit the FCC's web site at <https://www.fcc.gov/>.

Labeling:

Any product containing the **GPSI-031** should meet the following labeling requirements:

- The FCC ID shall be placed in the user manual of all finished products.
- Space permitting, the following label should be affixed to the final product. Minimum font size is four point. [sample label shown to right]
- When the finished product is so small or for such use that it is impracticable to label with a font size that is four points or larger, the FCC ID shall be placed on a removable label.



APPENDIX 1
Shielding/Grounding requirements
Rev_2025.09.30

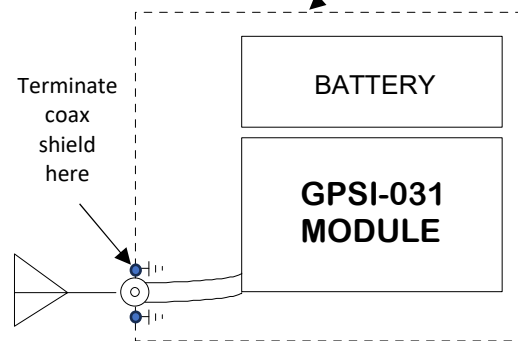
Minimum Shielding and Grounding Requirements:

The following shielding and grounding conventions should be followed in all GPSI-31 configurations. Actual implementation depends on the type of packaging required for each application.

The **GPSI-031** is generally integrated into two classes of final enclosures: Metal canister

- **Full Metal Canister** (All electronics and batteries are effectively enclosed in a full RF shield)

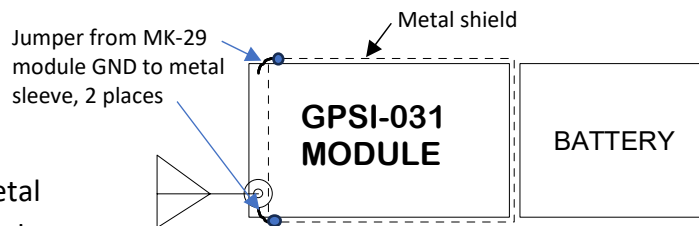
- **GPSI-031** coaxial cable shield must be terminated at the antenna feed-thru per diagram.



- **Polymeric Housing with hybrid shielding**

(**GPSI-031** module shield is the primary ground plane).

- Terminate antenna counterpoise elements to the **GPSI-31** module metal shield at the indicated points...
 - Additional shielding / ground counterpoise may be added as necessary to support antenna function and tuning.



APPENDIX 2
GPSI-031 Globalstar Simplex Transmitter Module
Specifications Rev _ 2025.09.30

Frequency Specifications (TX & RX):

- | | |
|---|-------------|
| • Globalstar Channel A (default) | 1611.25MHz |
| • Globalstar Channel B (not used): | 1613.75MHz |
| • Globalstar Channel C (restricted use) | 1616.25 MHz |
| • Globalstar Channel D (not used) | 1618.75 MHz |

Frequency Tolerance: ± 2.0 ppm max [temp & voltage]

Modulation Characteristics: DSSS / BPSK
FCC Emission Designator 2M50G1D

RF Output Power: +18dBm typical on all channels

Antenna Gain (anticipated): +2.0dBi max LHCP/linear

Power Supply: 2.4 – 5.0Vdc (1200mW max)

Environmental: Operating Temp: -30°C to +60°C

Board dimensions: 0.82 x 1.25 x .225" nominal

Electrical Connections (typical):

Power and serial interface:
28ga stranded w/ PTFE insul.
Red = +BATTERY (3.6V nom)
BLK = -BATTERY
Yel = Serial (as req'd)
RF (TX & RX):
coaxial cable (as req'd)