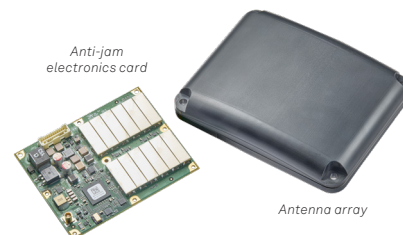


GAJT-310 Federated

Low SWaP GPS/GNSS Anti-Jam Technology (GAJT)



Jamming and interference are constant threats

Jamming and interference, whether intentional or unintentional, can seriously degrade GNSS positioning, navigation and timing (PNT) availability—even to the point of total solution denial. Jammers create excessive noise, overpowering the low power GNSS signals. Methods are needed to suppress this interference so your GNSS receiver continues to operate.

Small and light solution

The federated GAJT-310 solution includes a small form factor anti-jam electronics (AE) card paired with a 3-element controlled reception pattern antenna (CRPA) array to receive GNSS signals, and employs advanced anti-jam technology to protect against all types of radio frequency (RF) interference.

Applications

The federated GAJT-310 is designed for space-constrained platforms where size, weight and power consumption need to be minimised. This includes land and air vehicles, marine vessels, dismounted, positioning networks and timing infrastructure. The federated solution seamlessly integrates with your platform's GNSS receiver to protect PNT information.

How it works

The federated GAJT-310 mitigates interference by dynamically creating nulls in the antenna gain pattern in the direction of the jammers, providing anti-jam protection. The output is a protected standard RF signal, free from jamming and suitable for input into modern and legacy GNSS receivers.

Protects GNSS navigation and precise timing receivers

GAJT-310 protects GPS L1/L2, Galileo E1, QZSS L1/L2, BeiDou B1C and SBAS L1 signals, while permitting a selection of other GNSS bands to pass-through to the receiver.

Higher positioning availability

In addition to the protected bands, GAJT-310 also allows a selection of other GNSS bands to pass-through the antenna to be utilized by the receiver in the positioning solution. This increases the availability of a PNT solution in benign (non-jammed) conditions.

Benefits

- Low size, weight and power (SWaP)
- Enhanced situational awareness
- Easy integration on space-constrained platforms
- Commercial export status
- Anti-jam protection in dynamic multi-jammer scenarios
- Compatible with modern and legacy GNSS receivers, including M-Code
- Pairs with multi-constellation, multi-frequency receivers for additional resiliency against jamming

Features

- Very low end-to-end latency
- Affordable protection for GNSS position, navigation and timing (PNT)
- Nulling protection for L1/L2 bands, with pass-through for other GNSS bands and Alt-Nav signals
- Protects against 2 jammers per band simultaneously (2x L1/E1/B1 and 2x L2)
- Separate Anti-Jam electronics card and antenna array
- 30 dB interference suppression

Performance

Protected bands

GPS	L1, L2
Galileo	E1
BeiDou	B1C
QZSS	L1, L2
SBAS	L1

Pass-through bands

GPS	L5
Galileo	E5b
GLONASS	L1, L2, L3
BeiDou	B1, B2
Iridium	Iridium

Interference rejection

Interference suppression	30 dB (typical)
Number of simultaneous nulling directions	
L1	2
L2	2

Latency

End-to-end latency	<50 ns
--------------------	--------

Connectors

RF	MCX
Power & Data	Molex CLIK-Mate 213225

Physical and electrical

Dimensions

Anti-Jam Electronics PCB	95 x 75 mm
Antenna array	127 x 102 x 25 mm

Weight

Anti-Jam Electronics PCB	73 grams
Antenna array with radome	323 grams
Antenna array, no radome	213 grams

Power

Power consumption	<3 W (typical)
Input voltage	10 to 33 VDC
Compliance	DO-160G

Environmental

Temperature¹

MIL-STD-810G(CH1) 501.6	
Operating	-40°C to +71°C
Storage	-55°C to +85°C

Altitude¹

MIL-STD-810G(CH1), 500.6	
Operating	3,600 m/12,000'
Storage	12,000 m/40,000'

Vibration¹

MIL-STD-810G(CH1), 514.7	
--------------------------	--

Shock¹

MIL-STD-810G(CH1), 516.7	
--------------------------	--

Emissions

DO-160G	
---------	--

Accessories

Power/Data cable

Export approvals

Dual-Use Export Controls for Civil/Military Applications

Other GAJT products

GAJT-310 Integrated



- Lowest SWaP enclosed GAJT, protecting against 2 simultaneous jammers per band
- Ideal for integration on existing platforms with a legacy antenna footprint

GAJT-AE-N and GAJT-AE-R



- Suitable for smaller platforms including UAVs
- Antenna electronics to be paired with a 4-element antenna array
- Available as a card-only variant (GAJT-AE-R) for space constrained platforms.

4-Element antenna array

A 4-element antenna array allows gain pattern shapes to be changed in response to interference. Provides 3 independent nulls.



¹ As tested in a GAJT-310 enclosure.

Contact Hexagon | NovAtel

sales.nov.ap@hexagon.com 1-800-NOVATEL (U.S. and Canada) or 403-295-4900 | China: 0086-21-68882300 | Europe: 44-1993-848-736 | SE Asia and Australia: 61-400-883-601. For the most recent details of this product: novatel.com

This document and the information contained herein are provided AS IS and without any representation or warranty of any kind. All warranties, express or implied, are hereby disclaimed, including but not limited to any warranties of merchantability, non-infringement, and fitness for a particular purpose. Nothing herein constitutes a binding obligation. The information contained herein is subject to change without notice.

GAJT, NovAtel and Antcom are trademarks of Hexagon AB and/or its subsidiaries and affiliates, and/or their licensors. All other trademarks are properties of their respective owners.

© Copyright 2024 Hexagon AB and/or its subsidiaries and affiliates. All rights reserved. A list of entities within the Hexagon Autonomy & Positioning division is available at <https://hexagon.com/company/divisions/autonomy-and-positioning>.