



ABOUT THE PRODUCT

3diRECT is a powerful anti-jamming device, providing an advanced protection of the GNSS signal, that is provided to the navigation or timing receivers. Designed as an add-on guarding device, it delivers mitigation services to an existing GNSS installations. It is the first in the signal processing chain electronic unit, that is exposed to the harmful interferences. 3DiRECT is the device, where the interferences are detected, recognized and mitigated, while the GNSS navigation signal is maintained and carried to the receiver.

WHY US?

RECTANGLE offers effective and high-end protection against GNSS jamming and spoofing with best-in-class expertise and support delivering maximum reliable PNT services.

FEATURES



WIDEST FREQUENCY RANGE

3diRECT provides the widest protection range of GNSS frequency bands on the market, covering 180 MHz for all GNSS L-band services bringing the satellite navigation system to an ultimate performance. Simultaneous processing of signals from all bands improves PNT service continuity and reliability during jamming disruptions.



HI-END FILTERING

3diRECT advanced filtering methods are designed to provide real-time resilience to interferences & jamming offering superior suppression performance resulting in increased GNSS service continuity and reliability even when distorting signal is over 40 dB stronger than GNSS signal level.



PRECISION

Our proprietary signal processing algorithms increase sensitivity and precision of jamming & interference detection reducing the occurrence of the so-called false flag detection or no detection when the distortion has actually occurred.

CONTACT US





Flexible and versatile solution for different marked segments: drones, aviation, critical infrastructure, telecommunications, security & defence, transport & logistics, others.

BENEFITS

- safety – in critical applications requiring continuity or high performance
- security – mitigating attacks on the GNSS receiver
- resilience – extended sensitivity of the GNSS receiver
- continuity – extended uninterrupted receiver work
- convenience – easy to deploy
- performance – faster TTFF, better satellite visibility
- cost-effectiveness – does not require re-design of existing GNSS installation

FUNCTIONALITY

PROTECTED BANDWIDTHS

- GPS: L1 C/A, L1P, L2P, L2C, L5
- BeiDou: B1, B2, B3
- GLONASS: L1 C/A, L2 C/A, L3
- Galileo: E1, E5a, E5b, E6
- IRNSS: L5
- QZSS: L1 C/A, L1 SAIF, L2C, L5
- SBAS: EGNOS, WAAS, GAGAN

OUT-OF-BAND PROTECTION

- analog + digital

IN-BAND PROTECTION

- continues parallel adaptive active filtering

MITIGATED THREADS

- pulsed interferences
- continuous interferences
- narrow-band
- wide-band
- complex

PERFORMANCE

ACTIVE PROTECTION RANGE

- L: 1160 MHz – 1300 MHz
- U: 1560 MHz – 1606 MHz

PROTECTION BANDWIDTH

- 180 MHz (all L-band RNSS)

NOMINAL WIDEBAND SUPPRESSION

- >40dB

INPUT TO OUTPUT GAIN

- ± 2 dB (all bandwidth wide)

SIGNAL LATENCY

- 136 μ s (fixed)
- all bandwidth neutral

CHARACTERISTICS

DIMENSIONS

- 147x119x82mm (inc. mounting)

WEIGHT

- 380g

POWER SUPPLY

- 9 to 15 VDC

PHYSICAL INTERFACES

- 1x SMA – RF input
- 1x SMA – RF output
- 1x M8 (3 pin) power supply
- 1x RJ-45
- 1xST1213/S9 (5up to 9 pins, configurable interface)

TEMPERATURE

- Operating -40°C to +75°C
- Storage -55°C to +85°C

EMI / EMC

- Directive 2014/53/EU (RED)
- Directive 2014/30/EU (EMC)

