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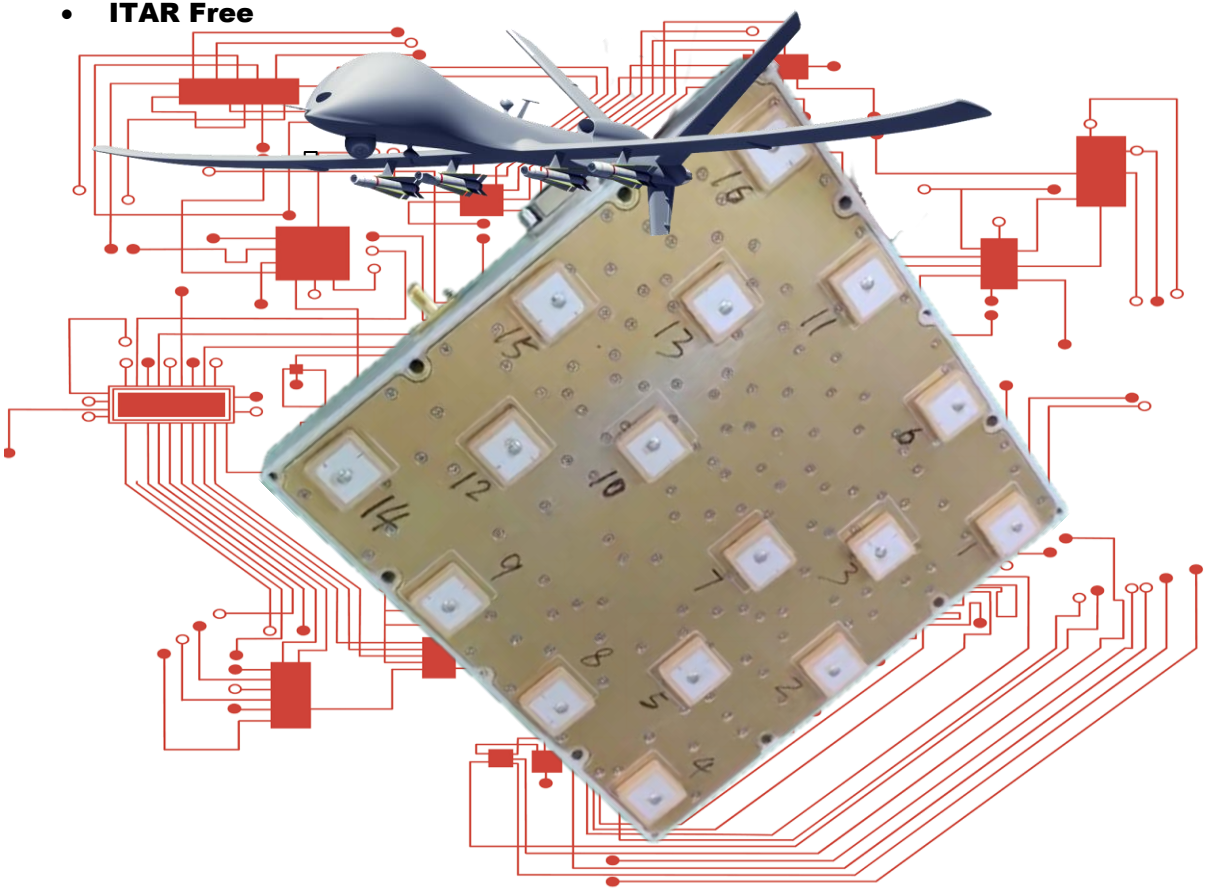
The Wall-E16 Anti-Jamming GNSS CRPA

The purpose of using the Wall-E16 anti-jamming antenna or Controlled Reception Pattern Antenna (CRPA) is to ensure stable reception of the GNSS navigation signal in conditions of CW or AWGN jamming from Electronic Warfare Systems (EWS). The Wall-E16 is connected to the GNSS Receiver (recommended JAVAD TR-2S) via a RF connector. The Wall-E16 CRPA has a embedded GNSS Receiver that can be connected to the Drone's autopilot via the UART interface. The Wall-E16 CRPA does not provide protection against spoofing attacks by EWS.

Advantages

- Embedded GNSS Receiver
- Hardware and Software (Firmware) make in Russia
- RU Patent # 230 964
- Low power consumption up to 20 W
- Plug and Play
- ITAR Free

Low power consumption in drones is crucial for extending flight time, typically achieved through CRPA lightweight designs, efficient autopilots, and aerodynamic optimization.



Specification

Receive GNSS:
GLONASS L1 + GALILEO E1 + GPS L1 + BDS B1
Interference Rejection:
GALILEO E1 + GPS L1 + BDS B1
Antenna Array: 16
Nulling Directions: 15
Anti-Jamming:
JSR 110 dB for 1 jammer AWGN with GNSS Receiver
75 dB for 14 jammer AWGN with GNSS Receiver
Data Rate: 38400/1 Hz
Intefaces: UART
Data Output Format: NMEA 0183
Power Supply: 12-24 V
Power Consumption: 20 W
RF Connector: SMA-KF
Power Connector: J30J-9ZKP
Weight: 760 g
Size: 165 x 165 x 35 mm
Temperature: -40ºC to +85ºC
Reliability: MTBF 2000 h
EMI/EMC: MIL-STD-461F
Environmental Tests: MIL-STD-810G

Contact: info@rimco.ru

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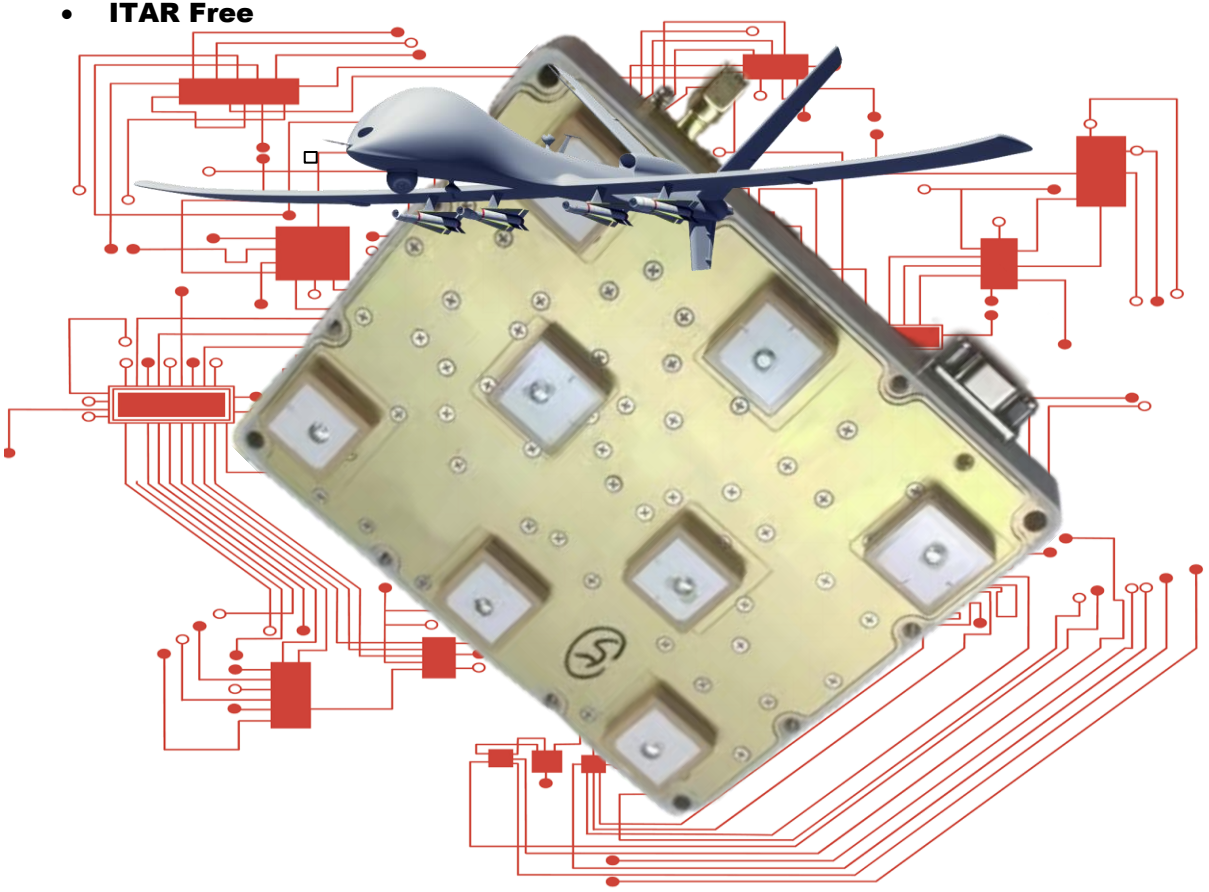
The Wall-E8 Anti-Jamming GNSS CRPA

The purpose of using the Wall-E8 anti-jamming antenna or Controlled Reception Pattern Antenna (CRPA) is to ensure stable reception of the GNSS navigation signal in conditions of CW or AWGN jamming from Electronic Warfare Systems (EWS). The Wall-E8 is connected to the GNSS Receiver (recommended uBlox ZED-X20P or JAVAD TR-2S) via a RF connector. The Wall-E8 CRPA has a embedded GNSS Receiver that can be connected to the Drone's autopilot via the UART interface. The Wall-E8 CRPA does not provide protection against spoofing attacks by EWS.

Advantages

- **Embedded GNSS Receiver**
- **Hardware and Software (Firmware) make in Russia**
- **RU Patent # 230 964**
- **Low power consumption up to 9 W**
- **Plug and Play**
- **ITAR Free**

Low power consumption in drones is crucial for extending flight time, typically achieved through CRPA lightweight designs, efficient autopilots, and aerodynamic optimization.



Specification

Receive GNSS:
GLONASS L1 + GALILEO E1 + GPS L1 + BDS B1
Interference Rejection:
GALILEO E1 + GPS L1 + BDS B1
Antenna Array: 8
Nulling Directions: 7
Anti-Jamming:
JSR 110 dB for 1 jammer AWGN with GNSS Receiver
75 dB for 7 jammer AWGN with GNSS Receiver
Data Rate: 38400/1 Hz
Intefaces: UART
Data Output Format: NMEA 0183
Power Supply: 12-24 V
Power Consumption: 9 W
RF Connector: SMA-KF
Power Connector: J30J-9ZKP
Weight: 330 g
Size: 110 x 100 x 25 mm
Temperature: -40°C to +85°C
Reliability: MTBF 2000 h
EMI/EMC: MIL-STD-461F
Environmental Tests: MIL-STD-810G

Contact: info@rimco.ru

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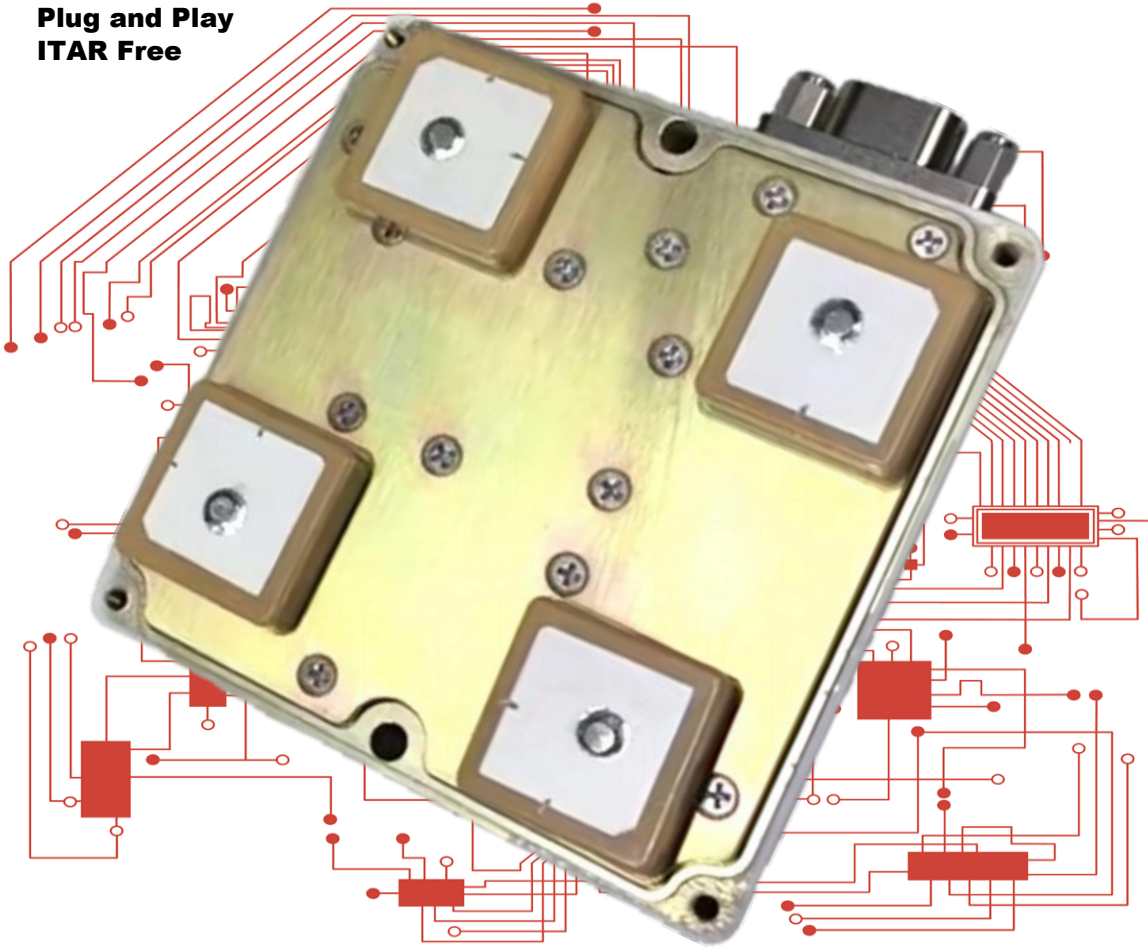
The Wall-E4 Anti-Jamming GNSS CRPA

The purpose of using the Wall-E4 anti-jamming antenna or Controlled Reception Pattern Antenna (CRPA) is to ensure stable reception of the GNSS navigation signal in conditions of CW or AWGN jamming from Electronic Warfare Systems (EWS). The Wall-E4 is connected to the GNSS Receiver (recommended uBlox ZED-X20P or JAVAD TR-2S) via a RF connector. The Wall-E4 CRPA has a embedded GNSS Receiver that can be connected to the Drone's autopilot via the UART interface. The Wall-E4 CRPA does not provide protection against spoofing attacks by EWS.

Advantages

- **Embedded GNSS Receiver**
- **Hardware and Software (Firmware) make in Russia**
- **RU Patent # 179 926**
- **Plug and Play**
- **ITAR Free**



Specification

Receive GNSS:
GLONASS L1 + GALILEO E1 + GPS L1 + BDS B1
Interference Rejection:
GALILEO E1 + GPS L1 + BDS B1
Antenna Array: 4
Nulling Directions: 3
Anti-Jamming:
JSR 95 dB for 1 jammer AWGN with GNSS Receiver
80 dB for 3 jammer AWGN with GNSS Receiver
Data Rate: 38400/1 Hz
Intefaces: UART
Data Output Format: NMEA 0183
Power Supply: 12-24 V
Power Consumption: 5 W
RF Connector: SMA
Power Connector: J30J-9ZKP
Weight: 80 g
Size: 55 x 55 x 15 mm
Temperature: -40°C to +85°C
Reliability: MTBF 2000 h

Contact: info@rimco.ru

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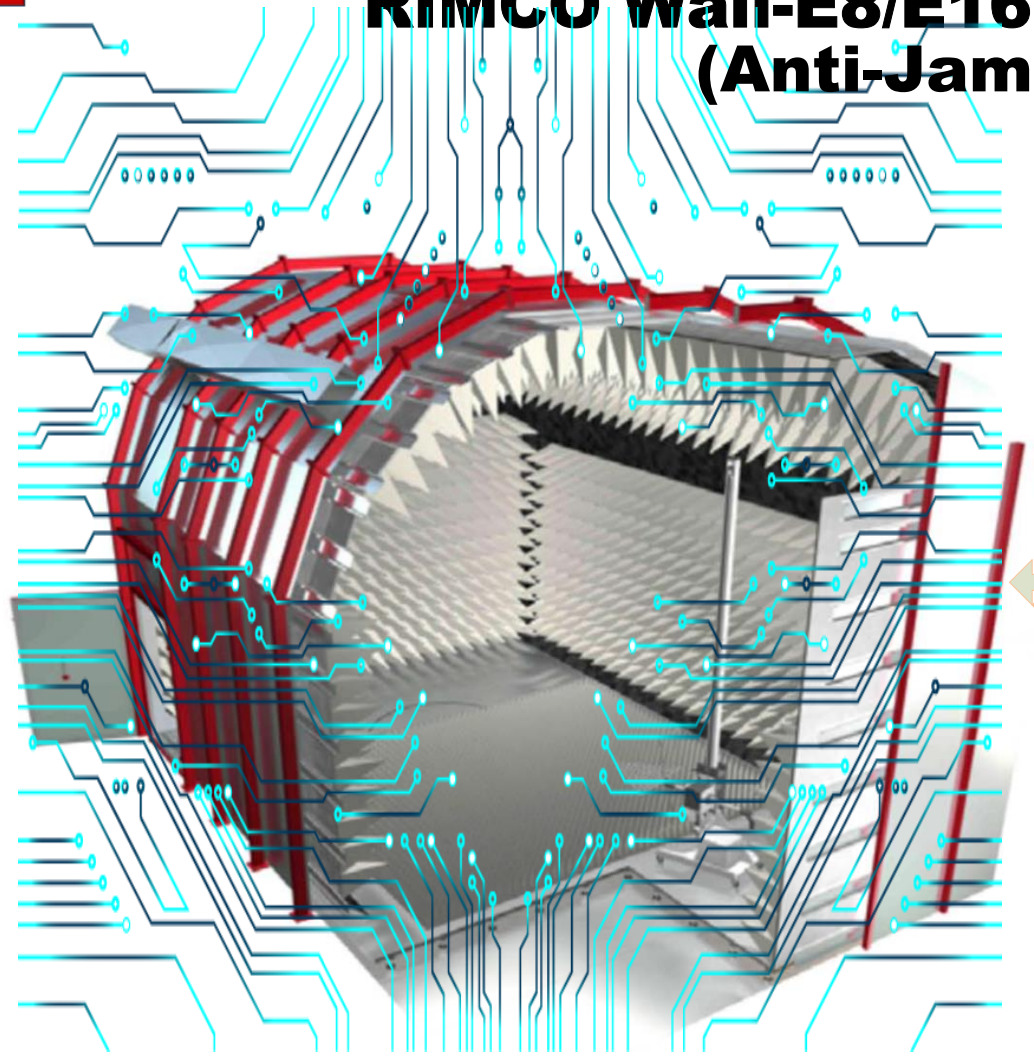
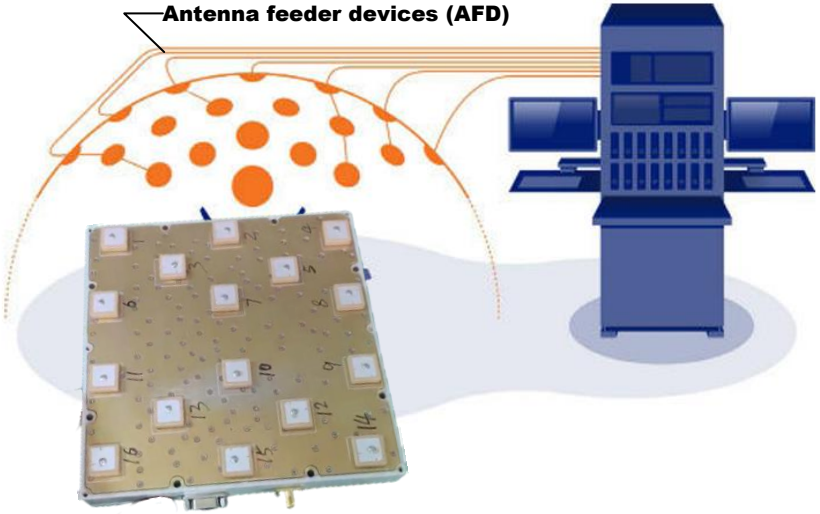
Confidentially

RIMCO Wall-E8/E16 CRPA Testing Methodology (Anti-Jamming Test)



Anechoic chamber

GSG/BroadSim Anechonic GNSS simulation system



Wall E8/E16 CRPA

CRPA Testing for Continuous Wave (CW), Frequency-Modulated Continuous Wave (FMCW), Additive White Gaussian Noise (AWGN) with GNSS simulation System

RIMCO Wall-E8/E16 CRPA Testing Methodology (Anti-Spoofing Test)