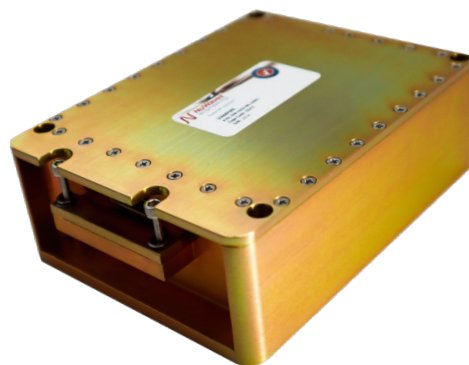


NuWaves

RF Solutions

VAMPIRE

MIL STD 1553 Anomaly
Detection and Data
Recording



P/N: NW-1553-ML-VA01

Vampire Anomaly Detection and Data Recording module is an AFRL/RyWA created device for the MIL-STD 1553 avionics bus.

The Vampire MIL STD 1553 Anomaly Detection and Data recording module records all of the energy on the MIL STD 1553 bus to an internal SD Card to allow for post flight and test analysis, along with playback of the recorded MIL STD 1553 traffic (using AFRL's Transfusion product). Vampire also has the capability to convert the MIL STD 1553 bus traffic to Ethernet UDP packets. It allows for real-time anomaly detection and is an additional method of recording bus traffic (external laptop needed). The module comes in a 30 in³ / 2 lb package offering 400 mA at 28 VDC.

Protect your vital information by using Vampire from NuWaves RF Solutions.

Features

- Decodes incoming 1553 traffic
- Creates timestamp for bus controller (BC) command message at 5 ns
- Measures remote terminal (RT) response time to 5 ns
- Packetizes 8 BC and RT responses into a UDP packet for transfer efficiency
- Sends all decode data in UDP format out of Ethernet port

Benefits

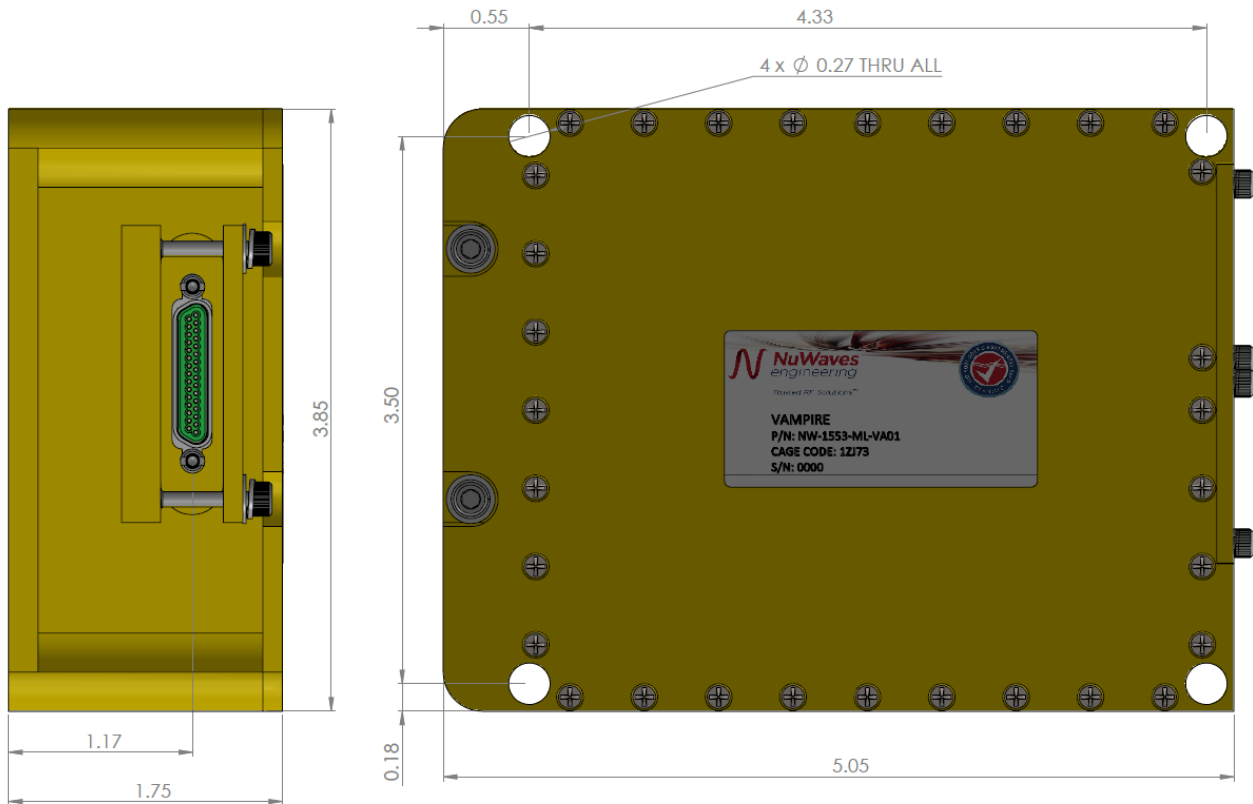
- Alternative to Untrusted Monitors
- Predictive Maintenance
- Reverse Engineering
- Anomaly Detection
- Real Time Secondary Display
- Commercial 1553 over Ethernet

Applications

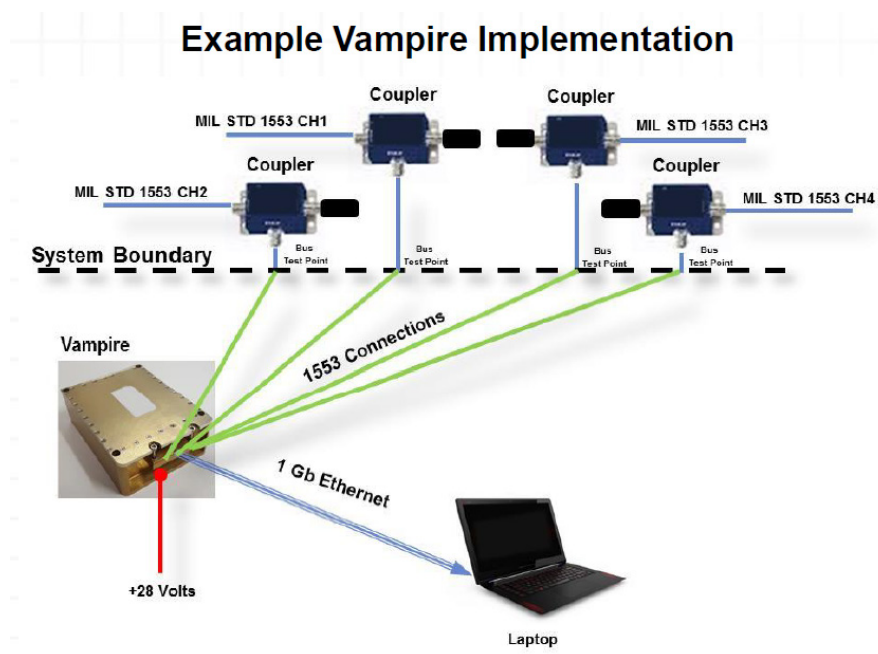
- Can be used with commercial-off-the-shelf (COTS) Ethernet tools
- Bus maintenance monitors and alerts
- Anomaly detection of bus traffic
- Statistical analysis of bus health during flight
- Deep dive post forensics analysis of MIL STD 1553 traffic (ICD verification, predictive maintenance, etc.)

VAMPIRE MIL STD 1553 Anomaly Detection and Data Recording

Mechanical Outline



Vampire Implementation



VAMPIRE MIL STD 1553 Anomaly Detection and Data Recording

MIL STD Test Compliance

MIL-STD-810G.

500.5 – Low Pressure (Altitude) report

501.5 – High Temperature report

502.5 – Low Temperature report

507.5 – Humidity report

514.6 – Vibration report

516.6 Procedure 1 – Functional Shock report

516.6 Procedure 5 – Crash Hazard Shock report

MIL-STD-461G.

CE101 – Conducted emissions report

CE102 – Conducted emissions report

CS101 – Conducted susceptibility report

CS114 curve 5 – Conducted susceptibility report

CS115 – Bulk Cable Injection, Impulse Excitation report

CS116 – Conducted Susceptibility, Damped Sinusoidal Transients report

CS118 – Personnel Borne Electrostatic Discharge (ESD) report

RE101 – Radiated emissions report

RE102 – Radiated emissions report

MIL-STD-704F.

LDC101 – Load Measurement report

LDC102 – Steady State Limits for Voltage report

LDC103 – Voltage Distortion Spectrum report

LDC105 – Normal Voltage Transients report

LDC201 – Power Interrupt report

LDC301 – Abnormal Steady State Limits for Voltage report

LDC302 – Abnormal Voltage Transients (Over/Under voltage) report

LDC401 – Emergency Limits for Voltage report

LDC501 – Starting Voltage Transients report

LDC601 – Power Failure report

* Module has tested compliant to each test identified. Certified test results can be acquired per request based on unique implementation requirements.

For information on product disposal (end-of-life), please refer to this document:
<https://nuwaves.com/wp-content/uploads/Product-Disposal-End-of-Life.pdf>

Contact NuWaves



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