



ALION DYNAMIC NANO SPECTRUM SOLUTION (ADNSS)

Small form factor spectrum dominance solution enabling operations on unmanned systems

Features:

- MOD Payload 4.0 compliant chassis optimized for unmanned applications
- Xilinx RFSoc based transceiver
- Swappable RF conditioning modules for customized applications
- Up to 20 GHz instantaneous receive and transmit capability
- Software upgradable in the field
- Field programmable
- Applications
 - ▶ Enable effective deployment of 5G wireless networks
 - ▶ Resolve propagation issues in highly contested environments
 - ▶ Group 1 Unmanned Aerial System (UAS), Unmanned Surface Vessel (USV), unattended, and dismount operation
 - ▶ Software Defined Radio receiver and transmitter
 - ▶ Electronic Warfare and spectrum monitoring
 - ▶ Analog data recording and playback
 - ▶ Multimode data acquisition

Mission Capabilities:

- Passive RF collection
- Counter C2 and communications
- Deception
- Decoy
- Electronic attack

- Cyber electronic attack
- Electronic protection
- Electronic support

Specifications:

Input Power: 9V – 36V

Size: 6.3" x 4.3" x 1.5"

Weight: 4.5 lbs

Interfaces:

- USB 3.0
- Gigabit Ethernet

Environmental

- Operating temperature: -40 C – 60 C
- Cooling: conduction
- Designed to meet MIL-STD-810G

Field Programmable Gate Array

- Standard: Xilinx Zynq UltraScale+ RFSoc XCZU27DR
 - ▶ Analog Inputs
 - Quantity: 8
 - Sampling rate: 4 GHz
 - Resolution: 12-bits
 - ▶ Analog Outputs
 - Quantity: 8
 - Sampling rate: 6.4 GHz
 - Resolution: 14-bits

- Option -03: Xilinx Zynq UltraScale+ RFSoc XCZU47DR
 - ▶ Analog Inputs
 - Quantity: 8
 - Sampling rate: 5 GHz
 - Resolution: 14-bits
 - ▶ Analog Outputs
 - Quantity: 8
 - Sampling rate: 10 GHz
 - Resolution: 14-bits

System Memory

- Processing System: 4GB 2133 MHz LPDDR4
- Programmable Logic: 4GB 2400 MHz DDR4

Non-Volatile Memory

- 2TB NVMe Solid State Drive
- 64GB eMMC
- 2Gb QSPI



About Alion Science and Technology

Solving our nation's complex national security challenges, Alion works with our defense and intelligence communities to deliver advanced engineering solutions. With global expertise in Live, Virtual, and Constructive Training; Big Data Analytics and Cyber Security; Artificial Intelligence; Electronic Warfare and C5ISR, Alion ensures mission success. To learn more, visit alionscience.com.

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