

IntelliSwarm™

INTEGRATED AUTONOMY AND AVIONICS MODULE

The modern battlespace demands autonomous platforms with flight control, onboard AI compute, GPS-denied navigation, and collaborative swarming capabilities. IntelliSwarm powers all four in a single flight-tested module under 100 grams, so OEMs get to first flight faster, without the integration complexity of a multi-vendor stack.



FEATURES

Autonomous Collaborative Swarming

IntelliSwarm uses SwarmOS™ collaborative autonomy so platforms self-organize into a decentralized swarm and maintain mission continuity even in communications-constrained environments.

Integrated Flight Control and AI Compute

Hardware-separated AI and flight-control processors ensure AI workloads never compromise flight-critical processing, maintaining reliable, safe flight performance regardless of autonomy compute demand.

Resilient GPS-Denied Navigation

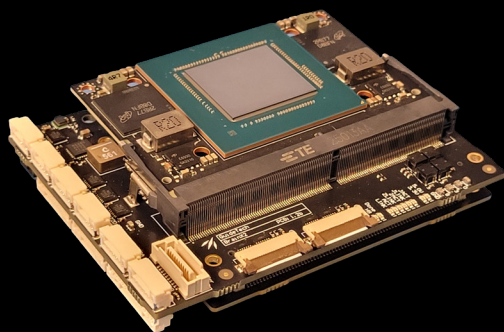
Multi-sensor fusion combines data from integral triple-redundant IMUs, a magnetometer, and a barometer to enable reliable navigation without external signals.

WOSA-Compatible

Designed for compatibility with DoD Weapons Open Systems Architecture (WOSA) standards, easing integration with existing weapons, rails, hardpoints, and platforms.

NDAA Compliance

Fully U.S.-based design, engineering, and manufacturing.



SPECIFICATIONS

PERFORMANCE

Flight Control

Processor:	AMD Zynq 7000 series SoC, 667 MHz Dual-Core Arm-A9
Memory:	1 GB RAM, 4 GB eMMC Flash, 32 MB Quad-SPI
Safety Watchdog:	Integral Safety Watchdog

AI and Autonomy

Compute Processor:	NVIDIA Jetson Orin NX 16 GB, 8-Core Arm-A78AE, 100 TOPS
Memory:	16 GB 128-bit LPDDR5 (102.4 Gbps)
Autonomy Software:	SwarmOS DECA architecture (Edge-native, no cloud dependency)

Sensors

Camera Inputs:	Up to 4 Cameras, D-PHY 2.1 (up to 20 Gbps)
Navigation:	Integral triple-redundant MEMS IMUs, magnetometer, barometer
GPS:	External GPS module connector

PHYSICAL

Camera Inputs:	97g
Size:	9.0 x 6.5 x 3.0 cm
Power Input:	10-32 VDC
Power Draw:	8 W nominal, 30 W max
Operating Temp.:	0°C to 85°C

INTERFACES

Video and Imaging

Camera (CSI MIPI-2):	4x
HDMI:	1x

High Speed Data

USB:	USB 3.0
Ethernet:	GigE

Platform Integration

RS-422/RS-485:	4x
Digital I/O:	11x GPIO, 3.3 V TTL Configurable

