

The NavChip™ is a high precision MEMS 6-axis Inertial measurement unit (IMU). Using proprietary technologies and advanced signal processing techniques, the NavChip achieves a level of performance, miniaturization, and environmental ruggedness superior to competing IMUs using standard off-the-shelf MEMS sensors. The NavChip is a very low drift IMU with a full-scale acceleration range of $\pm 16g$ and a full-scale angular rate of $2,000^\circ/s$. It is fully factory-calibrated and temperature compensated over an operating range of $-40^\circ C$ to $+85^\circ C$.



INTERSENSE® NAVCHIP™ IMU



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The InterSense NavChip is Thales' 2nd generation fully-integrated Inertial Measurement Unit (IMU). Using MEMS technologies and advanced signal processing techniques, the NavChip achieves a level of performance, miniaturization and environmental ruggedness superior to any other IMU in its size class.

Measuring 12.37mm x 24.25mm x 4.4mm, and operating from a wide 3.25-5.5V at 40mA (typ), the NavChip is well-suited for a range of embedded applications where extremely small size and low power consumption are required. Each NavChip is ready for integration and is fully factory-calibrated and temperature compensated over an operating range of -40°C to +85°C.

NAVCHIP SPECIFICATIONS

> Fully-compensated $\Delta\Theta$ and ΔV outputs

Gyro bias in-run stability

> 5°/hr

Angular random walk

> 0.18°/√hr

Velocity random walk

> 0.03m/s/√hr

Full-scale angular rate

> 2000°/s

Full-scale acceleration

> ± 16g

Low power consumption

> 135mW

Factory calibrated bias, scale factor and misalignment

> (-40°C to +85°C)

Single supply operation

> 3.25V to 5.5V

- > Selectable built-in test (BIT) modes for commanded and continuous diagnostic monitoring
- > TTL UART or SPI-compatible data output interfaces
- > Embedded temperature sensors
- > Selectable output data types and rates
- > External sync pin can accept optional GPS pulse-per-second or faster synchronization signal
- > RS422 adapter board available
- > USB/TTL Serial adapter board with calibrated mag available



US Patents: 8762091 and Patents Pending.

¹TYP Specs are mean values or 1 □ for values that are nominally zero.

> Specifications are subject to change without notice.