



Aerospace and Defense companies deploy advanced systems that must exceed mission requirements.

High performance RADAR, LiDAR and secure communications are key components of the modern military. From man-pack radios to phased array radar Swift™ data converters play a vital role in enabling the next generation of mil/aero solutions by address demands, including security, safety, longevity, and reliability in harsh environments with ultra-high performance and low power.

In advanced Radar Systems high-speed ADCs enable the detection and tracking of smaller, faster objects with improved resolution and accuracy. This is crucial for air defense systems, missile tracking, and battlefield surveillance.

For electronic warfare fast ADCs and DACs are essential for rapidly identifying and jamming enemy communication and radar signals. They allow for real-time analysis of complex signals and the generation of effective countermeasures.

Secure communication systems require high-speed data converters are used in software defined radio solution to provide robust and flexible communication solutions using Multi-Link Operation (MLO) and Multiple Inputs Multiple Outputs (MIMO) architectures.

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Omni Design Technologies is a leading provider of high-performance, ultra-low power IPs, from 28nm down through advanced FinFET nodes, which enable differentiated system-on-chip (SoC), in applications ranging from 5G, 6G, wireless, wireline and optical communications, LiDAR, radar, automotive networking, AI, image sensors, mil/aero and the internet-of-things (IoT). Our Swift™ ADC and DAC data converter IP cores range from 6-bit to 14-bit resolution and from a few MSPS to more than 100 GSPS sampling rates. Omni Design, founded in 2015 by semiconductor industry veterans, has an excellent track record of innovation and collaboration with customers to enable their success. The company is headquartered in Milpitas, California with five additional design centers globally.

High-speed operation often leads to increased power consumption. Omni Design Technologies' research and development is focused on energy-efficient low power high-performance Swift™ ADC, DAC and AFE architectures for extended mission times in mil/aero applications.







Type	Resolution	Sample Rate	Features	Node	I/O	Part Name	Quick View
ADC	12-Bit	4GSPS	IQ, Low Power	22nm	0.8V(p-p)	ODT-ADS-12B4GIQ-22	
ADC	12-Bit	32GSPS	Low power	5nm	0.8V(p-p)	ODT-ADS-12B32G-5	
ADC	12-Bit	6GSPS	Low power	16nm	0.8V(p-p)	ODT-ADS-12B6G-16	
DAC	12-Bit	7GSPS	Low Power	16nm	Current Steering	ODT-DAC-12B7G-16	
DAC	14-Bit	7GSPS	IQ, Low Power	22nm	Current Steering	ODT-DAC-14B8GIQ-22	
AFE	12-Bit	2GSPS ADC 2GSPS DAC	Rx/Tx 4 IQ Pairs	12nm	2 x IQ Freq1 2 x IQ Freq2	ODT-AFE-4T4R-12	

Table 1. Omni Design Technologies Some Advance Solutions for Military and Aerospace Applications

Additionally, Omni Design offers a family of OmniTRUST™ Voltage, Temperature, and Process monitors in a range of process nodes with compact size, low power consumption, and capable of operating over the entire temperature range of -40°C to 150°C. The temperature monitor achieves ±4°C temperature accuracy without trim and ±1°C temperature accuracy after a single room temperature trim. The voltage monitors support four differential or single-ended inputs with a voltage range up to ±1.8V. The included process monitor provides information on process variation of core P, N as well as I/O P, N MOS devices in an easily readable digital format. Available in advanced FinFET nodes to 28nm.



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