ANALOG DEVICES

AHEAD OF WHAT'S POSSIBLE™

Aerospace and Defense

Analog Devices provides solutions from antenna to bits to enable today's mission-critical platforms. We offer the industry's broadest portfolio of components and high performance signal chain solutions, decades of system-level knowledge and expertise, custom modules and subsystems, and system evaluation boards with software support.

VISIT **ANALOG.COM/ADEF**

Solving Tomorrow's Aerospace and Defense Problems

ADI's industry-leading technologies help drive novel product ideas while our new platform solutions enable rapid system-level prototyping.

Electronic Surveillance and Radar

EW Applications

- Higher RF frequencies
- 5G resilience
- GPS denied environments
- Countermeasures and decoys
- UAV/drone applications

Radar Applications

- Fully digital AESA
- Multifunction radar plus EW and comms
- Scalable platforms
- Improved SWaP
- Increased channel density
- eVTOL
- Next-gen weather radar

Space and Hi-Rel Applications

New Space and Classic Space

- HCR (high reliability components) and rad test
- Electrical power systems
- Communication systems (transmit/receive apertures)
- Earth observations and payload acquisition
- Telemetry, tracking, and command
- System monitoring
- Transponders

Military Communications

Applications

- Handheld and man pack radios
- Mobile satcom
- Satellite communications
- Search and rescue radios
- Secure base stations/repeaters
- Military networking radios

Avionics

Applications

- Ubiquitous high speed connectivity
- HUMS for composite structures
- Distributed actuation
- Advanced power distribution

Missiles and Munitions

Applications

- Small form factor smart munitions
- UAV/UAS specific missiles
- Hypersonic applications
- Weapon modernization
- Air defense upgrades
- Advanced EW capabilities on-board

Technology

- Mixed-signal front ends
- GSPS ADCs and DACs
- RF transceivers
- GaN & GaAs PAs and LNAs
- RF frequency generation
- Frequency conversion
- Advanced MEMS
- Gyroscopes, accelerometers, and IMUs
- $A^2B^®$, GMSL for airborne applications
- Motor control solutions
- Broad precision portfolio

Flight Control Technology

- Data acquisition modules
- Precision converters
- Linear amplifiers
- Isolation devices

Video/Audio Controls

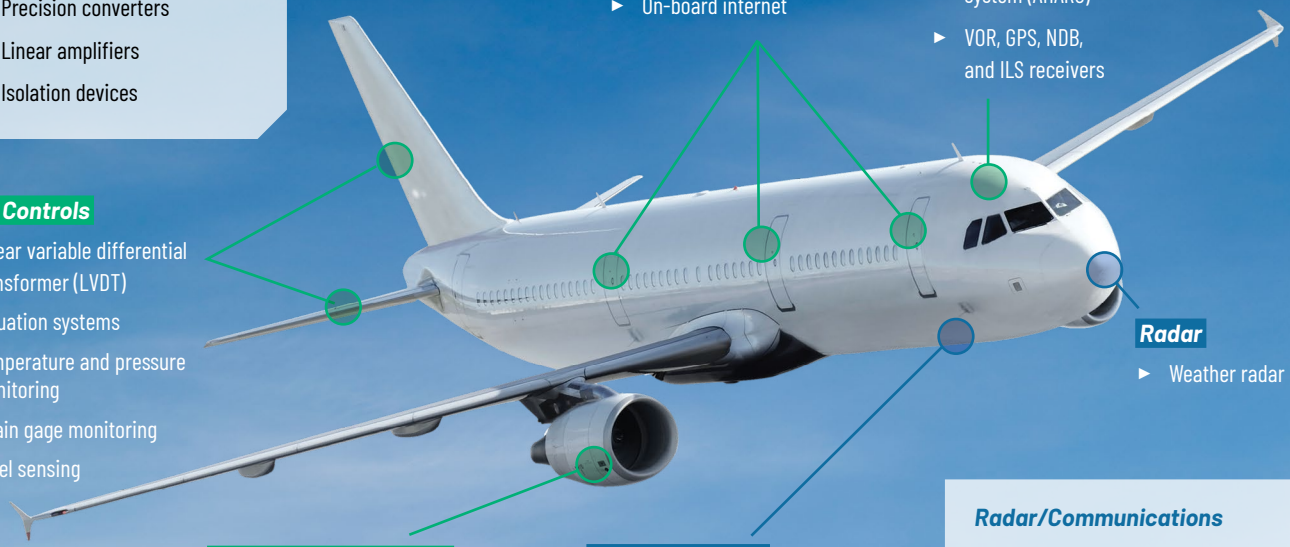
- In-flight entertainment
- On-board internet

Navigation

- Attitude heading and reference system (AHARS)
- VOR, GPS, NDB, and ILS receivers

Flight Controls

- Linear variable differential transformer (LVDT)
- Actuation systems
- Temperature and pressure monitoring
- Strain gage monitoring
- Level sensing



Radar

- Weather radar

Power Plant Monitoring

- FADEC systems
- Health and usage monitoring systems (HUMS)

Communications

- Satellite communications
- Air-to-ground/air-to-air communications
- ADS-B transponders
- Navigation and GPS

Radar/Communications

- RF and microwave devices
- Integrated transceivers
- Mixed-signal front-end digitizers
- Integrated, low noise synthesizers
- High power amplifiers

A Commitment to Innovation, Performance, and Reliability for Defense and Aerospace Applications

Aerospace Technology

- MEMS gyroscopes and accelerometers
- Inertial measurement units
- MxFE® devices with DSP capability
- RF transceivers
- Battery management systems

Collision Avoidance Systems

Communication Data Links

Radar Altimeters and Sensors

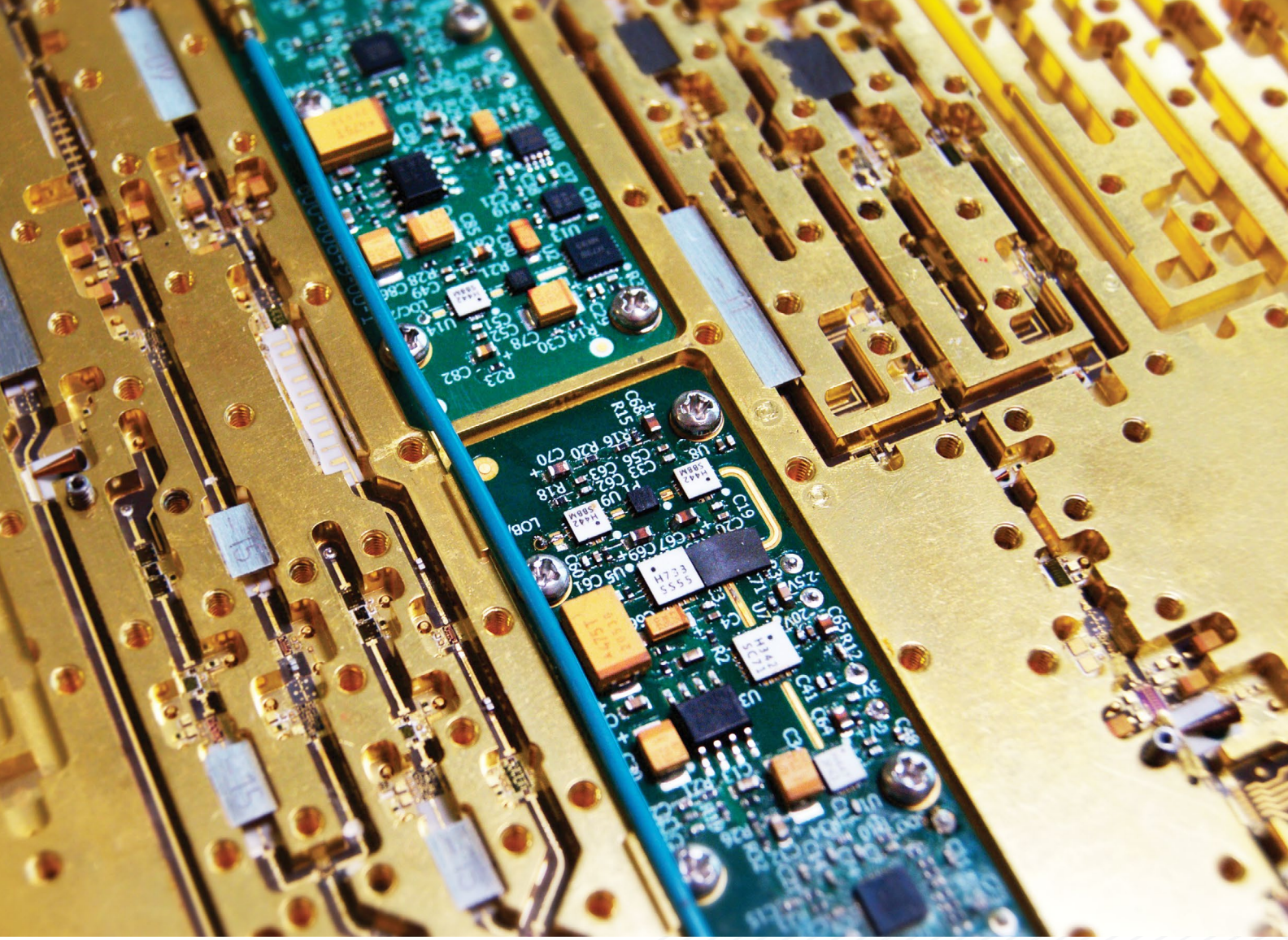
Advanced Payloads

Industry's Broadest Portfolio

ADI helps our customers **break down the barriers between RF, analog, and digital, and rethink the signal chain**—to build, optimize, integrate, repackage, and redefine the entire signal chain to deliver the highest performance with the greatest reliability to mission-critical applications.

Broadest portfolio of process technologies: GaN, GaAs, SiGe, BiCMOS, CMOS, MEMS, and SOI

- 1000+ RF and microwave parts and ICs
- Mixed-signal platforms
- Advanced video and audio
- Integrated DSP functions
- LO frequency generation ICs
- MEMS gyroscopes and IMUs
- Clock and timing ICs with advanced synchronization
- Full range of power, PMICs, µModule® devices, and power protection



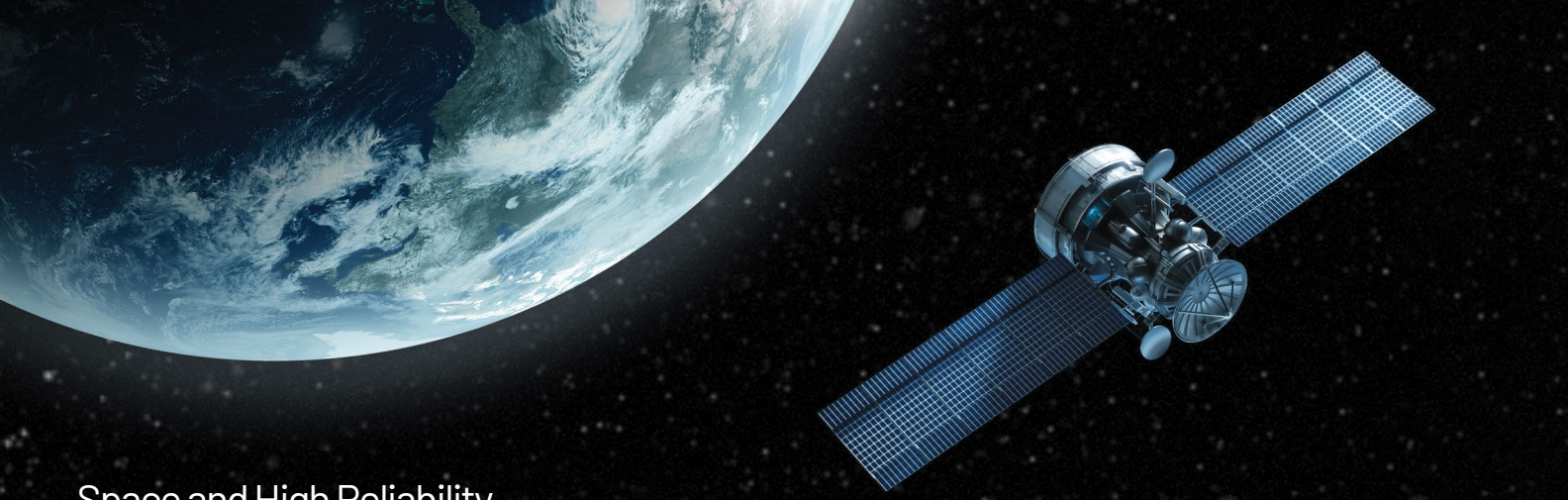
Advanced Integration Capabilities

Our antenna-to-bits portfolio and ability to integrate on-chip, in-package, and on the line replaceable units (LRUs) enable us to provide customers with **custom integrated solutions that mitigate new adoption risks and ensure the highest levels of performance and design efficiency**.

ADI has extensive experience in the design and manufacturing of high performance miniature microwave, analog, and digital subsystems for demanding high reliability defense and space applications, including high power amplifiers, frequency converters, digitizers, integrated measurement units (IMUs), and precision instrumentation.

ADI Manufacturing and Test Abilities Include:

- ISO 9001:2008 and AS9100:2009 certified
- Automatic hybrid assembly equipment; includes
  - Die inspect/pick
  - Die/substrate attach
  - Wire bond
- IR reflow equipment for PCB-based assemblies
- Automated digital product test to 40 Gbps
- Automated RF, microwave, and millimeter wave product tests to 110 GHz
- Integrated microwave assemblies (IMAs) and systems in package (SIPs)



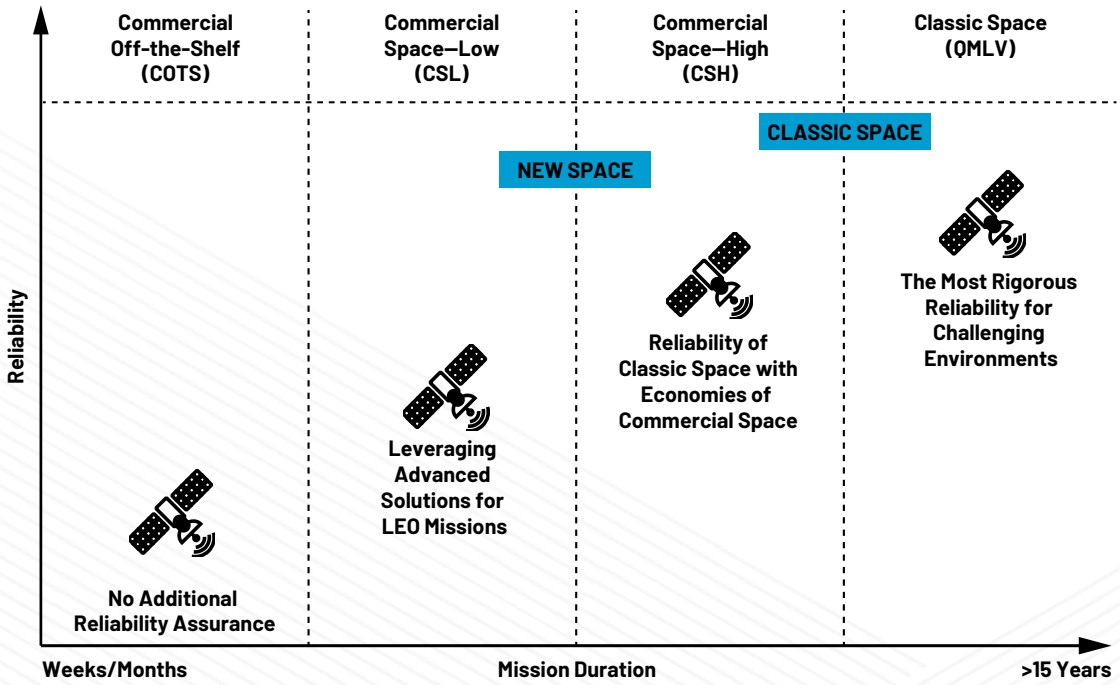
Space and High Reliability

With expertise across RF and microwave, power inertial, and signal processing, ADI delivers modules and solutions across:

- **Electrical Power Systems**
- **Communication Systems**
- **Transponders**
- **Earth Observation and Payload Acquisition**
- **Telemetry, Tracking, and Command**
- **System Monitoring**

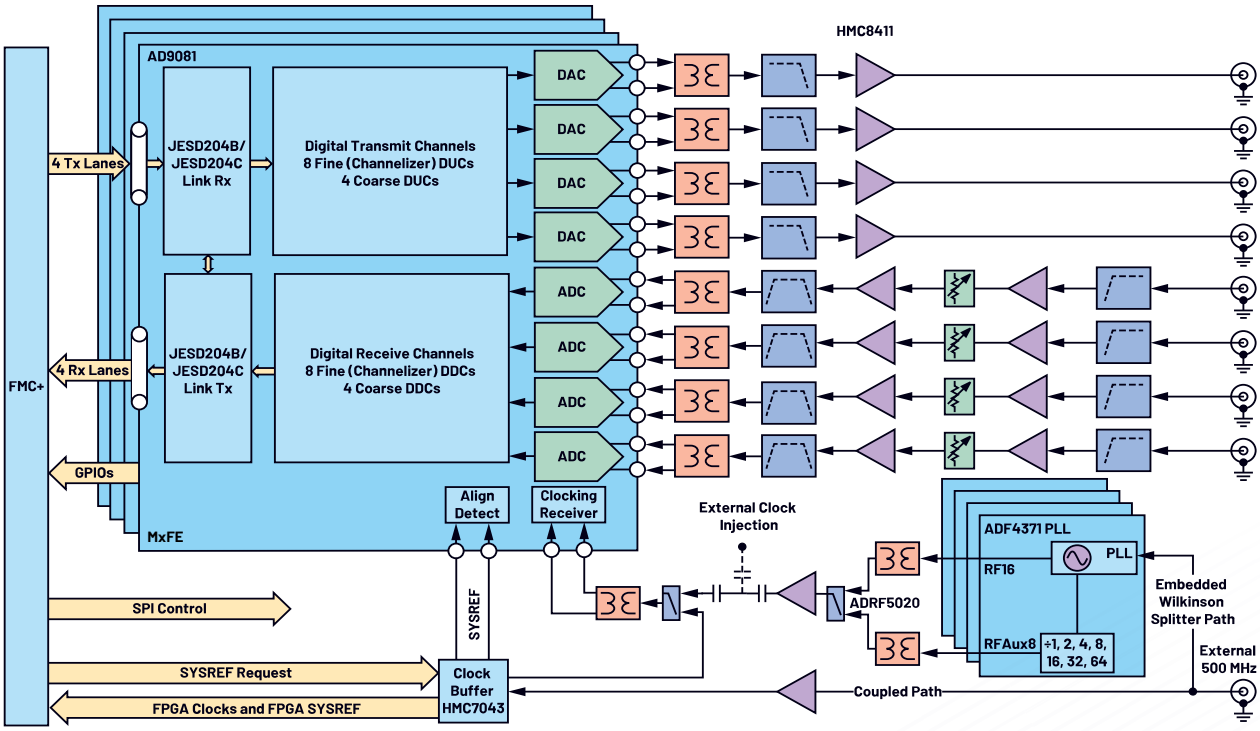
Get On-Orbit Faster

From satcom to space exploration, Earth observation to situational awareness, ADI can accelerate your innovation into space



System Development Platforms

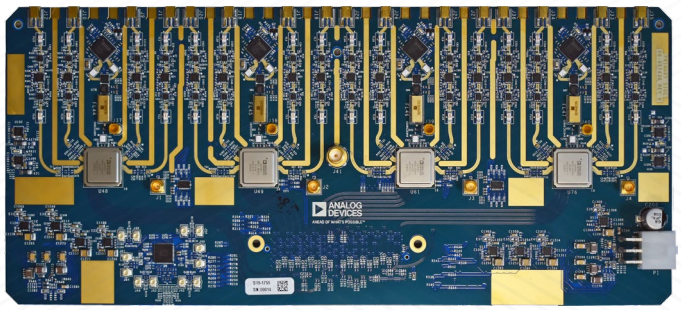
Complete hardware, software, and simulation solutions let you demonstrate your ideas in days not months!



Quad-MxFE Platform

Multichannel, Wideband System Development Platform Using MxFE

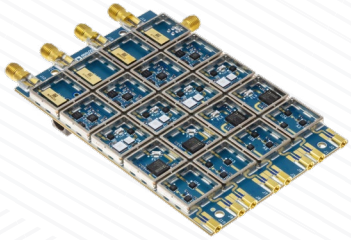
- Multichip synchronization for power-up phase determinism
- System-level amplitude/phase alignment using NCOs
- Low latency ADC-to-DAC loopback bypassing JESD
- pFIR control for channel-to-channel amplitude/phase alignment
- Fast frequency hopping
- Calibration board MATLAB® driver file
- FPGA programming MATLAB script

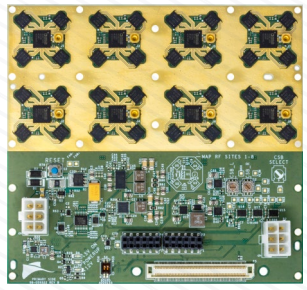


X-Band Phased Array Platform

Scalable 32 Element Hybrid Beamforming Phased Array Radar Development Platform

- 32-channel analog phased array prototyping platform
- Standalone RF detector/ADC combo for calibration
- 10 GHz lattice spacing
- MATLAB system applications GUI
- Hybrid beamsteering capability
- System phase calibration





Aerospace and Defense Online Design Support

To assist engineers in designing the best systems possible, ADI has launched a dedicated online design site that provides quick and easy access to relevant product and technical design information. This online design resource contains a diverse range of technical resources including:

- Product data sheets
- Reference designs
- Sample interactive circuit diagrams
- Application notes
- Technical articles
- Circuit notes
- On-demand technical webcasts
- Video tutorials
- Design tools
- Design communities
- Webcasts
- Platform solutions

Stay up to date on the latest aerospace and defense products and solutions from ADI by registering for our free enewsletter. Registration is quick and easy: go to analog.com/subscribe to sign up today.

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