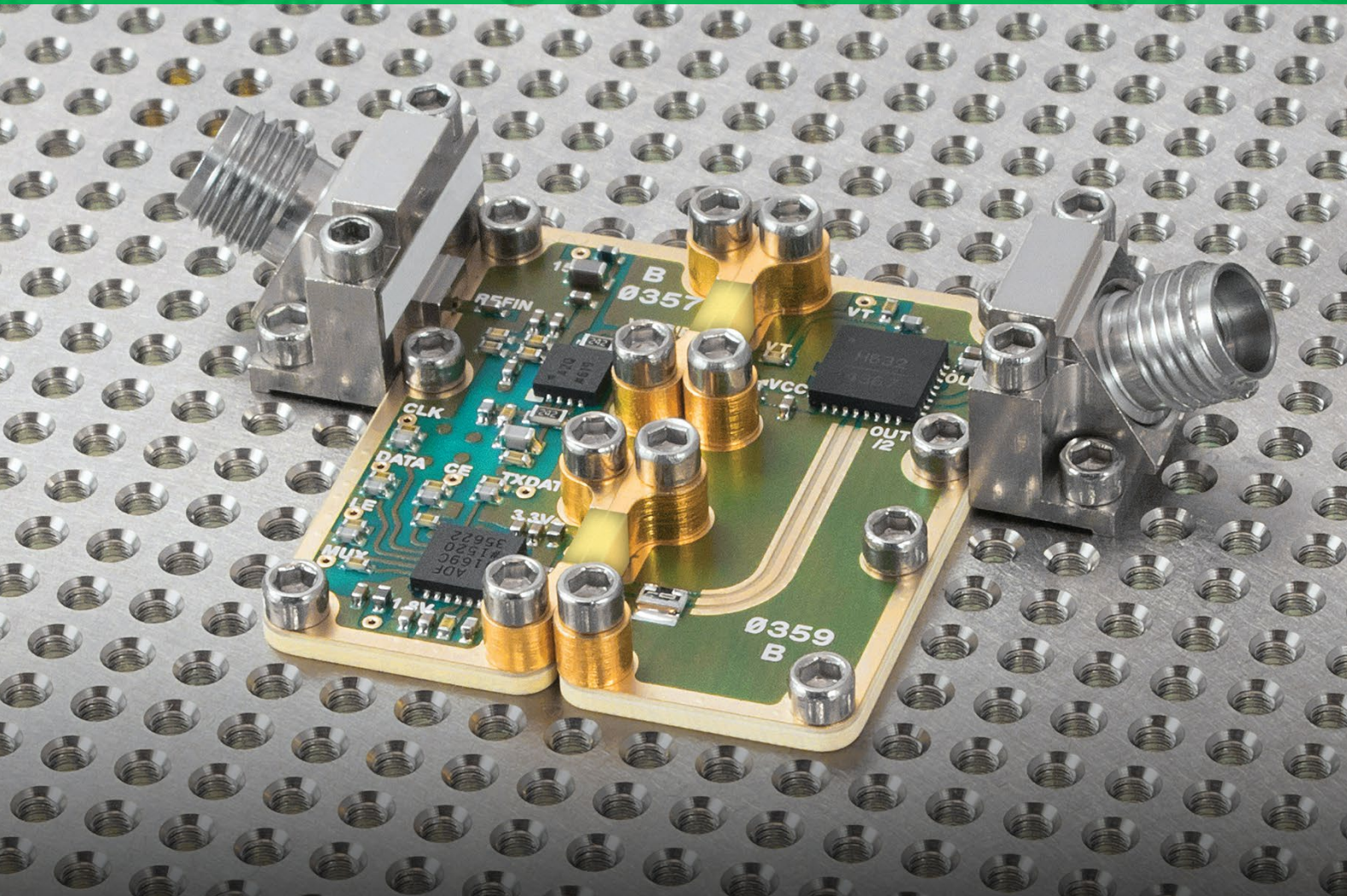


GET ON THE GRID

*Simplify RF, Microwave, and
Millimeter Wave Component
Evaluation and Signal Chain Design*



#ADlahead

SEE HOW ADI AND X-MICROWAVE ARE SIMPLIFYING THE SIGNAL CHAIN.

analog.com/XMW

Simplifying RF Component Evaluation and Signal Chain Design

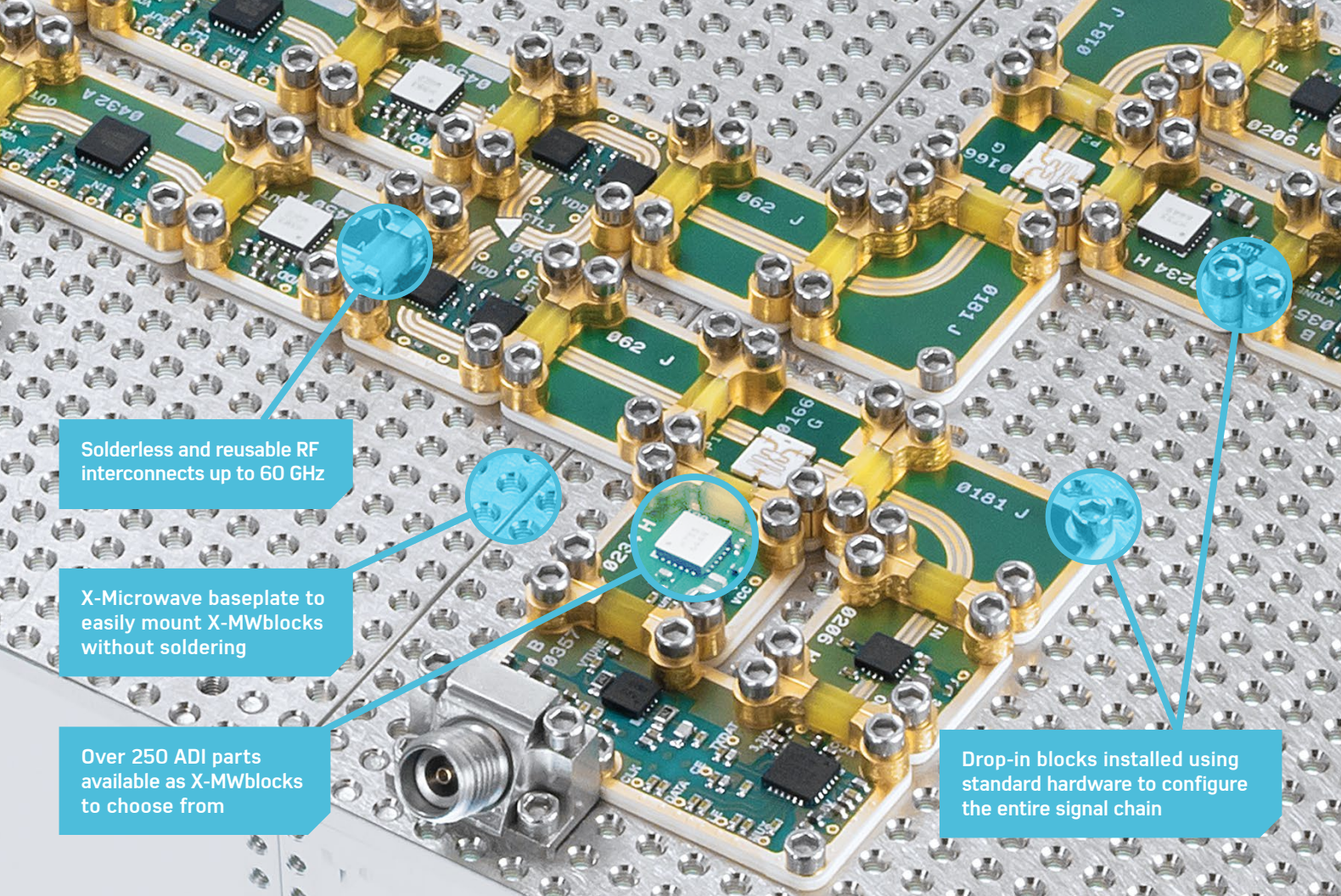
Changing Design Environment

- ▶ Aerospace and defense, 5G, VSAT, industrial, and automotive sensor applications are driving huge market growth for RF applications
- ▶ In this highly competitive environment, time to market and lower cost of development are more critical than ever
- ▶ Companies can no longer spend months developing their RF designs
- ▶ They need a faster way to test, evaluate, and build their signal chains

The New Solution: Drop-In Flexibility

- ▶ Analog Devices, in collaboration with X-Microwave, is simplifying the way RF designers evaluate components and build their signal chains
- ▶ X-MWblocks® provide ADI's RF, microwave, and millimeter wave parts with all necessary application circuitry on standardized drop-in modules
- ▶ Using these blocks, designers can easily assemble and modify to optimize RF signal chains
- ▶ No soldering of components or connection of multiple evaluation boards required
- ▶ Supporting software and programming tools further simplify the design process





Solderless and reusable RF interconnects up to 60 GHz

X-Microwave baseplate to easily mount X-MWblocks without soldering

Over 250 ADI parts available as X-MWblocks to choose from

Drop-in blocks installed using standard hardware to configure the entire signal chain

Complete Ecosystem of RF and Microwave Components on X-MWblocks

Drop-in modular design blocks allow designers to easily build and quickly modify RF signal chains, and the **deep design and simulation software** further simplifies each stage of design.

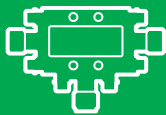
ADI and X-Microwave together are **revolutionizing the way RF components are evaluated and signal chains are designed.**

The Industry's Broadest Portfolio Is Now Supported on X-Microwave Design Blocks



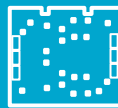
Wide Range of Part Options for Complete Signal Chain Design

Drop-In X-MWblocks



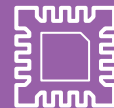
Built-In Bias/Control Circuit with RF Connectors

Packaged and Die Parts



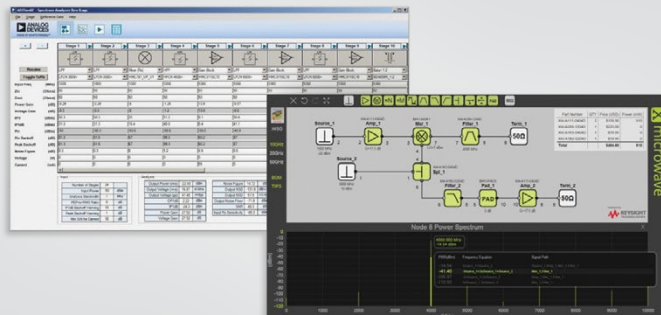
250+ ADI Parts, Including Die

Up to 60 GHz

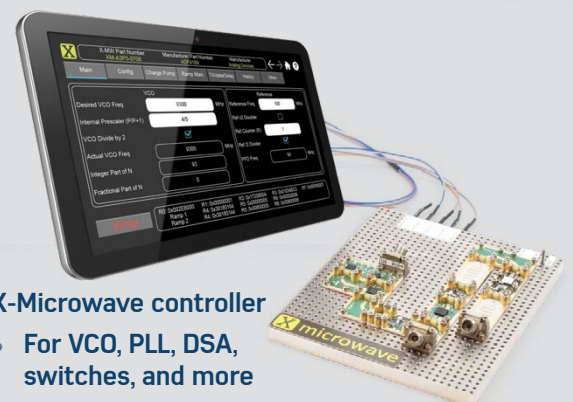


ADI's Industry-Leading Wideband Parts

Complete Suite of Software Tools to Help with Signal Chain



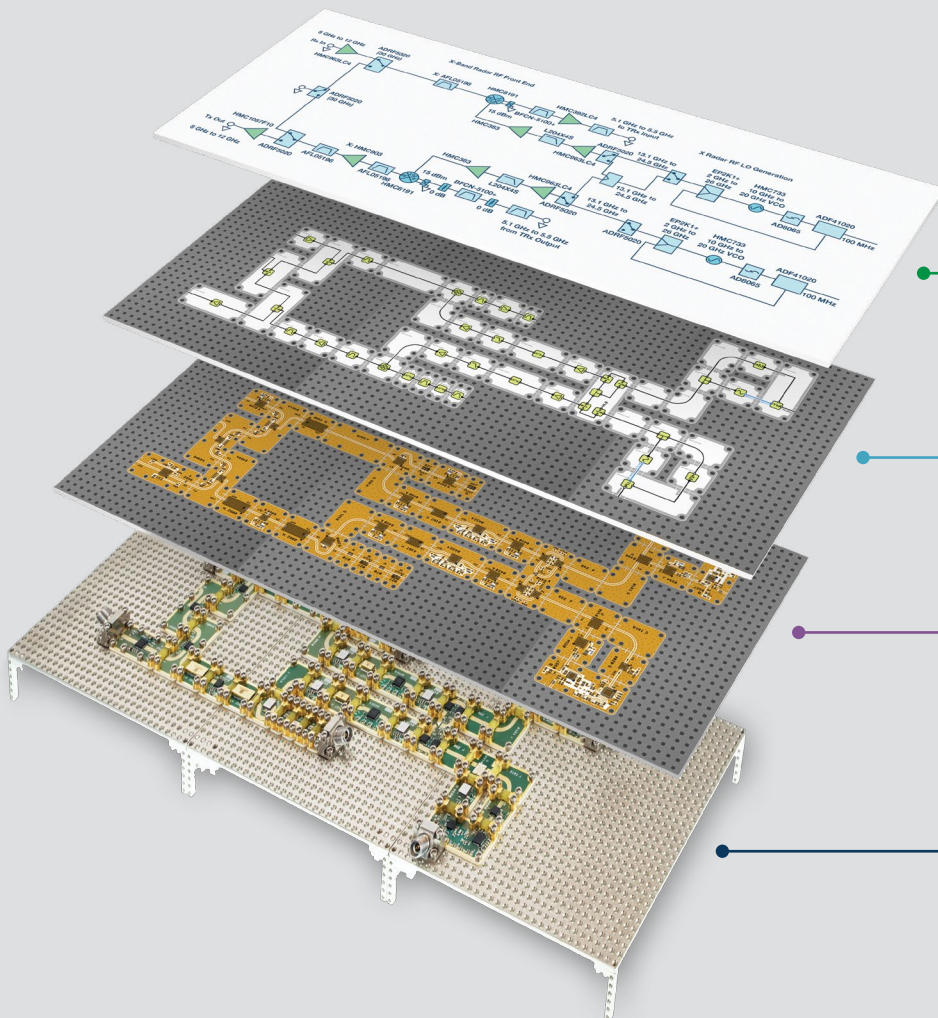
- ▶ ADIsimRF and ADIsimPLL
- ▶ X-MWsimulator™



- ▶ X-Microwave controller
 - For VCO, PLL, DSA, switches, and more



From Concept to Complete Signal Chain Prototype: *Fast and Cost Effective*



Signal Chain Concept

- ▶ Complete X-band radar signal chain using Analog Devices parts
- ▶ Includes RF front end and internal and external LO sources
- ▶ TDD and FDD modes

Mechanical Block Layout

- ▶ Using X-Microwave layout tool

Mechanical Application Layout

- ▶ Using X-Microwave layout tool

Full Prototype Build

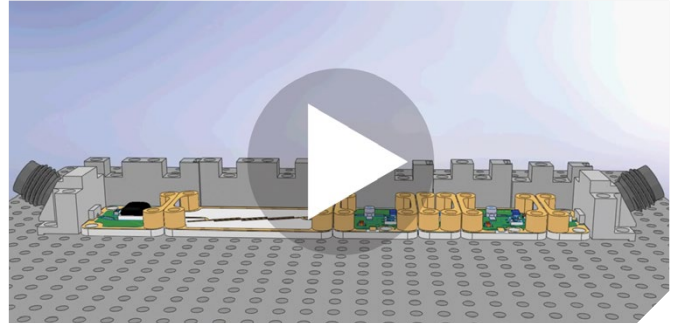
- ▶ Complete working X-band radar prototype built using Analog Devices parts on X-MWblocks

ADI on X-MWblocks

X-Microwave's complete modular ecosystem for RF and microwave components is called the X-MWsystem™. The X-MWsystem is built around two key concepts: 1. a complete modular building block ecosystem of RF and microwave components and test and production accessories and 2. X-parameter technology, including free models and an online system simulator (powered by Keysight's Genesys and Spectrasys).

X-MWblocks™ are the drop-in and drop-on components at the heart of the X-Microwave innovative modular building block system. X-MWblocks are easy to test, integrate, align, and configure to 60 GHz. From prototype to final production hardware, no messy sweat soldering or silver epoxy processes are required. X-MWblocks are highly characterized and include X-parameter and S-parameter models. Optimize your design topology using our online X-MWsimulator and build your product with confidence. X-MWprotostations™ are prototype stations for testing individual X-MWblock components or to quickly cascade, align, and test multiple X-MWblocks to create an integrated microwave assembly. Prototype stations include:

- ▶ Prototype plates
- ▶ High performance RF probes
- ▶ Modular wall and lid pieces to build arbitrary housings
- ▶ High performance test cables (adapt from 1.85 mm to 2.92 mm)



X-cessories are all of the accessories used to build, test, and optimize X-MWsystems on the prototype station or in housings. Purchase X-MWblocks and all of the X-cessories you need to build a prototype or production integrated microwave assembly with functionality to 50 GHz.

X-Microwave is pleased to offer a broad selection of Analog Devices RF parts on its format. Over 250 parts from dc to 100 GHz are supported, including both packaged and die parts and drop-in or connectorized parts.

- ▶ Watch the video and learn more at analog.com/XMW

Newest ADI X-MWblocks

Category	X-MW PN	ADI MFG PN	Format
Amplifier	XM-A2A3-0404D	HMC441LC3B	0404
Bias controller	XM-A738-0804D	HMC980LP4E	0804
Comparator	XM-A4H4-0809D	HMC874LC3C	0609
Divider	XM-A297-0604D	HMC705LP4E	0604
Mixer	XM-A5L9-0404D	HMC558ALC3B	0404
Modulator	XM-A6J8-0819D	ADRF6720-27	0819
PLL-VCO	XM-A5Y8-0409D	ADF4356	0409
Switch	XM-A3R1-0409D	ADRF5020BCCZN	0409

- ▶ Check out more X-MWblocks at analog.com/XMWblocks

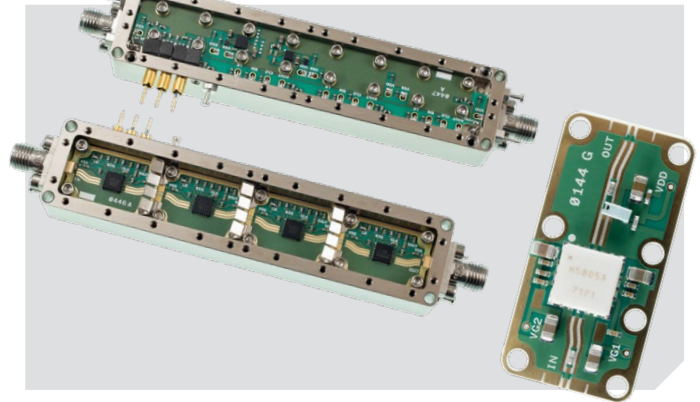


Figure 1. ADI parts available as individual or combined X-MWblocks.

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