
Modular, 8GHz to 11GHz, Single Polarized, Phased Array Platform

FEATURES

- ▶ Frequency range: 8GHz to 11GHz
- ▶ Modular tile architecture
- ▶ Transmit performance, 16-element tile
 - ▶ Saturated power per element: 2W to 4W
 - ▶ Single-channel large signal gain: 38dB
- ▶ Receive performance, 16-element tile
 - ▶ Cascaded noise figure: 4dB
 - ▶ Single-channel gain: 23dB
- ▶ Common RF performance
 - ▶ 360° phase range with 2.8° LSB
 - ▶ 180ns Tx/Rx switching speed
- ▶ Passive antenna performance
 - ▶ Active VSWR at 0°: 2:1
 - ▶ E-plane active VSWR at 45°: 2.5:1
 - ▶ H-plane active VSWR at 45°: 2.5:1
 - ▶ Radiation efficiency: >80%

APPLICATIONS

- ▶ Commercial SATCOM, weather radar
- ▶ Military radios, radars, electronic counter measures (ECMs)
- ▶ Passive radar and very small aperture terminals (VSATs)

GENERAL DESCRIPTION

The ADSY2301 is an 8GHz to 11GHz half-duplex, single polarized, transmit and/or receive modular platform for phased array applications.

The ADSY2301 has analog beamforming in the transmit and receive front end (tile) featuring the [ADAR1000](#) beamformer IC (BFIC) and the [ADTR1101](#) T/R module (TRM). The upconverter and downconverter card features the ADMV1320/ADMV1420 tuner ICs to convert X band down to a sampleable, intermediate frequency (IF) range. The digitizer back end makes use of the [ADRV9009-ZU11EG](#) digitizer, system on module (SOM) and a carrier card for development.

The ADRV9009-ZU11EG is a highly integrated RF System-On-Module (RF-SOM)-based on the Analog Devices, Inc., [ADRV9009](#) and Xilinx Zynq UltraScale+ MPSoC.

The ADSY2301 platform is available as standalone, scalable BFIC+TRM tiles, as a scalable integrated RF to IF system with 4× tiles and an upconverter and downconverter card, and as an end-to-end, RF to bits, benchtop use hybrid array with 4× tiles, an upconverter and downconverter card, and digitizer back end for evaluation.

For more information on the ADSY2301, contact SystemOnModules@analog.com.

NOTES**Legal Terms and Conditions**

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