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PRODUCT DATASHEET

SYHS-8R8T-2G

Wideband RF Transceiver Board

The SYHS-8R8T-2G is a wideband RF transceiver board based on the ZU47DR RFSoC, with 8 RX and 8 TX channels and up to 2 GHz instantaneous bandwidth per channel. It integrates high-speed RF-ADC/RF-DAC, UltraScale+ FPGA logic, and ARM processing for wideband acquisition, real-time arbitrary waveform generation, and on-chip DSP. The board uses optical interfaces for high-speed, low-latency bidirectional data transfer, supporting external reference clock and trigger synchronization with multi-board cascade capability.



Features

• RFSoC single-chip with integrated RF converters, FPGA logic, multi-core ARM

• 8RX/8TX; 2GHz IBW per channel; wideband acquisition & arbitrary waveform 8

• Optical interface for high-speed data; large bandwidth, strong EMI immunity

• External ref. clock & trigger; multi-board cascade sync

• FPGA-based on-board DDC/DUC, filtering; reduces host load

Published technical information

Parameter	Specification / typical value
ADC	
Number of Channels	8 channels
ADC Sampling Rate	5Gsps(MAX.)
ADC Resolution	14bit
ADC Effective Resolution	10bit
Input Power	≤1dBm (typical)
SFDR	≥60dBc

Parameter	Specification / typical value
Typical Instantaneous Bandwidth	2GHz
Channel Phase Consistency	≤5°
DAC	
Number of Channels	8 channels
DAC Sampling Rate	9.85Gsps(MAX.)
DAC Resolution	14bit
Output Power	≤5dBm
Typical Instantaneous Bandwidth	2GHz
FPGA & Memory	
Logic Resources	930K
CLB LUTs	425K
DSP Slices	4272
Interfaces	Custom configuration; contact engineering for frequency and specifications
PSDDR	4GB
PLLDDR	2GB
General	
Power Supply	DC 12V@3A

Prepared from the existing product catalogue. Specifications may change; typical values are not guaranteed limits. Confirm operating conditions, interfaces and ordering configuration with engineering. This document does not replace the equipment operating manual.

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