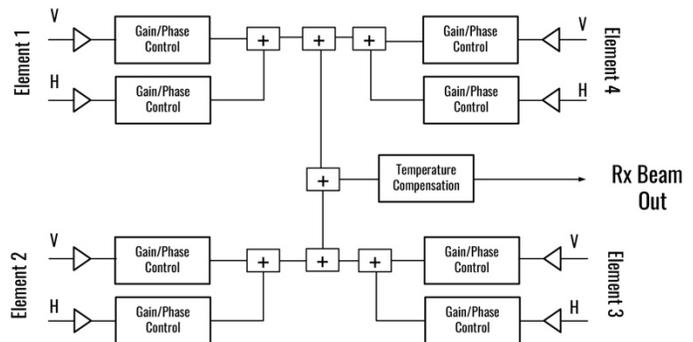


Product Features

- 17.7 to 20.2 GHz operation
- Supports 4 dual pol radiating elements
- Flexible polarization (RHCP, LHCP, linear)
- 22 dB coherent gain
- 3.4 dB coherent NF
- 5-bit phase control (LSB=11.25°)
- 5-bit gain control (LSB=0.5 dB, DR=15.5 dB)
- Temperature sense
- 7x7 mm QFN
- +1.8 V operation



Applications

Satellite communications terminals

General Description

The AWS-0102 is a highly integrated silicon quad core IC intended for satellite communications applications. The device supports four dual polarization radiating elements with full programmable polarization flexibility. The device provides 22 dB of gain with a noise figure of 3.4 dB. Additional features include gain compensation over temperature and temperature reporting. The chip features ESD protection on all pins, operates from a +1.8V supply, and is packaged in a 7x7 mm QFN for easy installation in planar phased array antennas.



Anokiwave, Inc.
 5355 Mira Sorrento Place
 San Diego, CA 92121

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 Rev. 3

www.anokiwave.com
 1-858-792-9910
 innovation@anokiwave.com

AWS-0102 Developer Kit

The developer kits (AWS-0102-DK, AWS-0102-DL) include all hardware and software required to interface to the AWS-0102. The kits enable full evaluation and RF testing of the developer kit with easily defined user interfaces. The test board has been carefully designed to easily replicate the performance of the device and to provide the necessary channel to channel isolation. Calibration data is included to enable the removal of test board line losses. The SPI control is supported through a high-speed cable, interposer board, and USB interface module. Driver software is supplied to provide control from a PC. DC power is supplied to the test board through a separate cable assembly. A full set of measured data is included to provide reference performance for each Developer Kit. Evaluation of the AWS-0102 with the Developer Kits will significantly shorten the time to become familiar with the operation and performance of the product, thereby reducing system development time and cost.

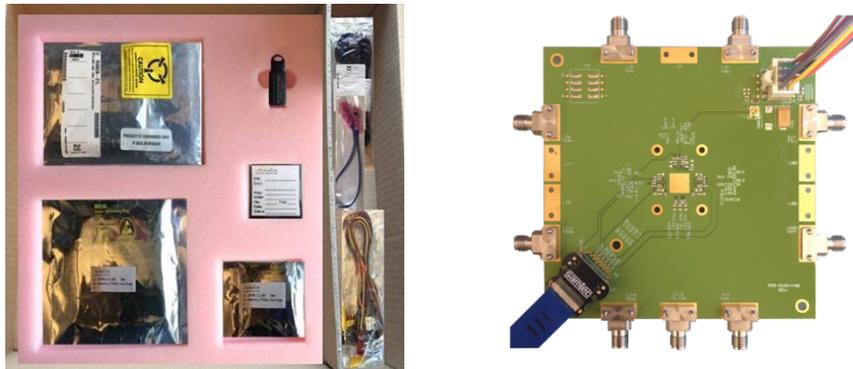


Figure 1: AWS-0102-DK Contents and Evaluation Board

Developer Kit Contents

- 1 x Test board with 9 x RF connectors, 1 x DC connector, and 1 x SPI connector
- 1 x DC power cable assembly
- 1 x high speed SPI cable assembly
- 1 x SPI interposer board
- 1 x USB-SPI interface module
- 25 extra ICs (AWS-0102-DK only)
- SPI driver software
- Control software with User Guide, full test results, and board calibration
- 1 x Software Installation and Control Software User's Guide

Ordering Guide

Model	Package	MSL Rating	Package Description	Package Option	Package Marking
AWS-0102	QFN		7x7 mm QFN		AWS-0102 YYWW <u>ZZZZZZ</u>
AWS-0102-DK			Developer's Kit for evaluation (includes 25 additional ICs)		
AWS-0102-DL			Developer's Kit Lite (without additional ICs)		