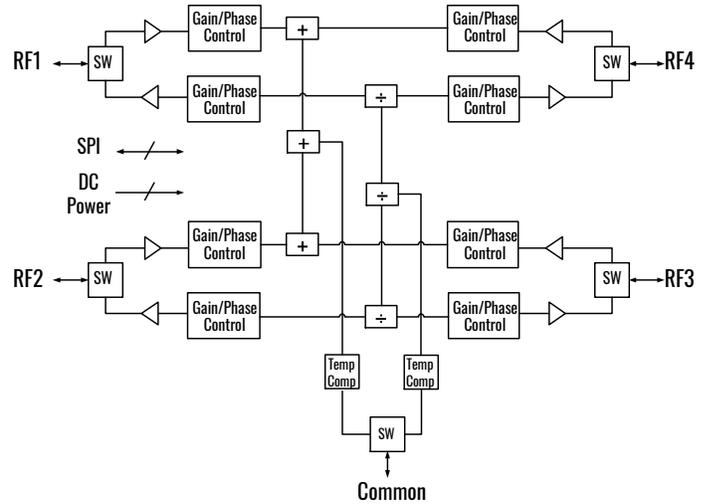


Product Features

- 26.5 – 29.5 GHz operation
- Supports 4 radiating elements
- Tx/Rx half duplex operation
- +9 dBm Tx OP1dB
- +26 dB Tx gain
- +28 dB Rx coherent gain
- 5.0 dB Rx NF
- -28 dBm Rx IIP3
- 5-bit phase control (LSB=11.25°)
- 5-bit gain control (LSB=1.0 dB)
- Fast beam steering
- Telemetry reporting
- 6x6 mm QFN
- +1.8 V operation



Applications

5G communications antenna arrays

General Description

The AWMF-0108 is a highly integrated silicon quad core IC intended for 5G phased array applications. The device supports four Tx/Rx radiating elements, includes 5-bit phase and 5-bit gain control for analog RF beam steering, and operates in half duplex fashion to enable a single antenna to support both Tx and Rx operation. The device provides 26 dB gain and +9 dBm output power during transmit mode and 28 dB coherent gain, 5.0 dB NF, and -28 dBm IIP3 during receive mode. Additional features include gain compensation over temperature, temperature reporting, Tx power telemetry, and fast beam switching using eight on-chip beam weight storage registers. The device features ESD protection on all pins, operates from +1.8 V, and is packaged in a 48 lead 6x6 mm QFN for easy installation in planar phased array antennas.



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

Document: AWMF-0108-DSB
 Rev. 3

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

AWMF-0108 Developer Kit

The developer kits (AWMF-0108-DK, AWMF-0108-DL) include all hardware and software required to interface to the AWMF-0108. 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 AWMF-0108 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.

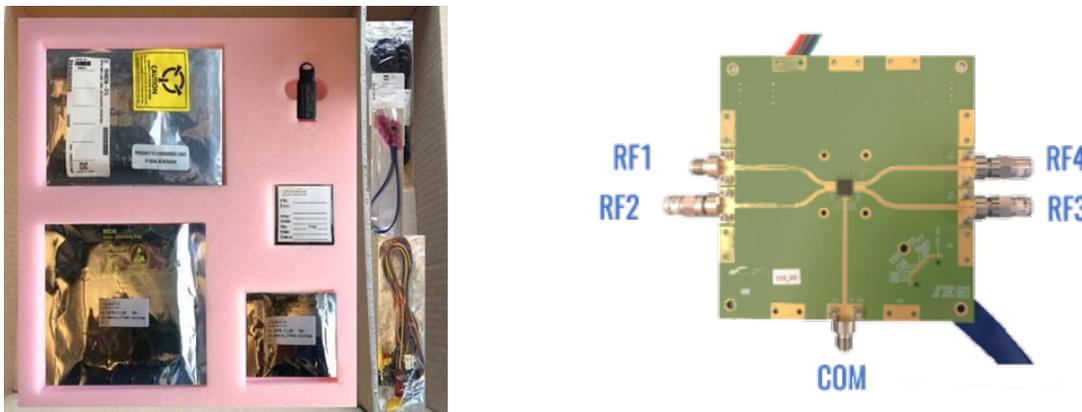


Figure 1: AWMF-0108-DK Contents and Evaluation Board

Developer Kit Contents

- 1 x Test board with 5 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 (AWMF-0108-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	Temperature Range	Package	MSL Rating	Package Description	Package Option	Package Marking
AWMF-0108	-40°C to +85°C	QFN		6x6 mm 48 LD QFN		AWMF-0108 00A1YYWW 01MA672M ZZZZZZZZ
AWMF-0108-DK				Developer's Kit for evaluation (includes 25 additional ICs)		
AWMF-0108-DL				Developer's Kit Lite (without additional ICs)		