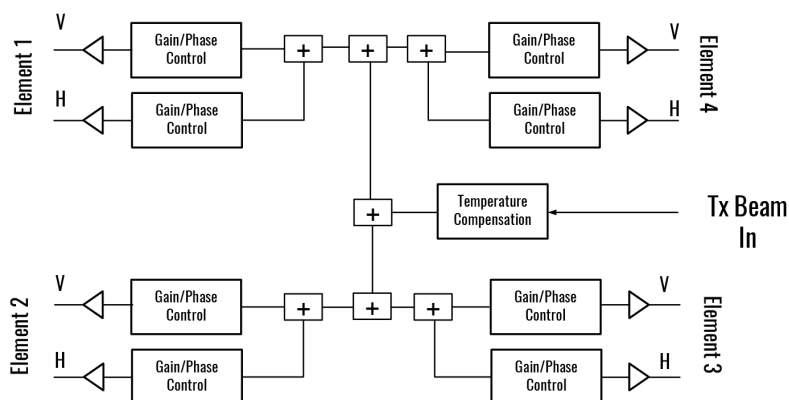


Product Features

- 27.5 – 30.0 GHz operation
- Supports 4 dual pol radiating elements
- Flexible polarization (RHCP, LHCP, linear)
- 22 dB coherent gain
- +12 dBm output power per port
- 5-bit phase control (LSB=11.25°)
- 5-bit gain control (LSB=0.5 dB, DR=15.5 dB)
- Temperature sense
- Tx output power sense
- 6x6 mm QFN
- +1.8 V operation



Applications

Satellite communications terminals

General Description

The AWMF-0109 is a highly integrated silicon quad core IC intended for satellite communications transmit applications. The device supports four dual polarization radiating elements with full programmable polarization flexibility. The device provides 22 dB of gain per channel with an output power of +12 dBm per element per polarization. Additional features include gain compensation over temperature, temperature reporting, and Tx output power telemetry. The chip features ESD protection on all pins, operates from a +1.8 V supply, and is packaged in a 6x6 mm QFN for easy installation in planar phased array antennas.



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AWMF-0109 Developer Kit

The developer kits (AWMF-0109-DK, AWMF-0109-DL) include all hardware and software required to interface to the AWMF-0109. 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-0109 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.

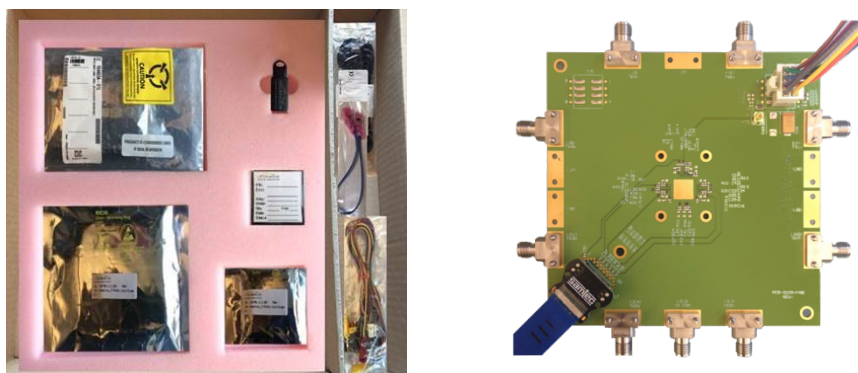


Figure 1: AWMF-0109-DK Contents and Evaluation Board

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 (AWMF-0109-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
AWMF-0109	QFN		6x6 mm QFN		AWMF-0109 00A1YYWW 01MA672M ZZZZZZZZ
AWMF-0109-DK			Developer's Kit for evaluation (includes 25 additional ICs)		
AWMF-0109-DL			Developer's Kit Lite (without additional ICs)		