

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
- 5 x AWMF-0135 (1 mounted on test board)
- 1 x Flash drive including SPI driver software, full test results, and board calibration
- 1 x Software Installation and Control Software User's Guide



Applications

The AWMF-0135 is a highly integrated silicon quad core IC intended for 5G phased array applications. The device supports four Tx/Rx radiating elements, includes all requisite beam steering controls for 5 bit phase and gain control, and operates in half duplex fashion to enable a single antenna to support both Tx and Rx operation.

General Description

The Developer Kit includes all hardware required to interface to the AWMF-0135. It enables full evaluation and RF testing of the Ka-Band Quad Core IC 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-0135 with the Developer Kit will significantly shorten the time to become familiar with the operation and performance of the product, thereby reducing system development time and cost.

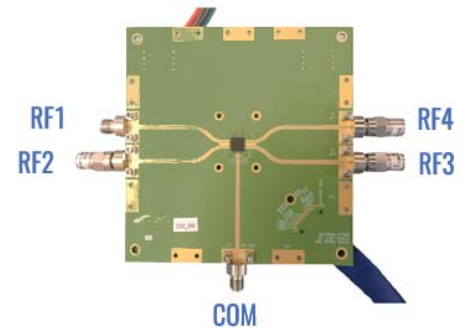
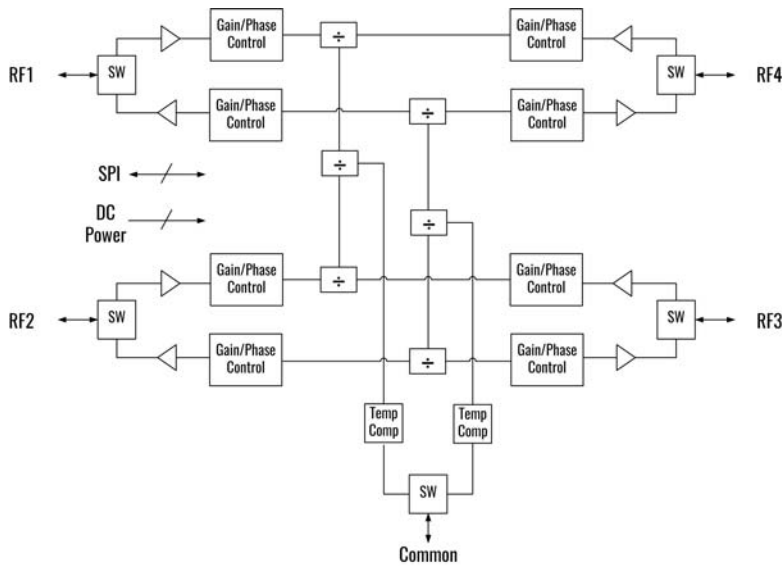


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RF Ports



NOTE: Unused ports must have 50 Ω terminations

Mode	RF Path IN	RF Path OUT
Rx	RF1 RF2 RF3 RF4	RF COM
Tx	RF COM	RF1 RF2 RF3 RF4

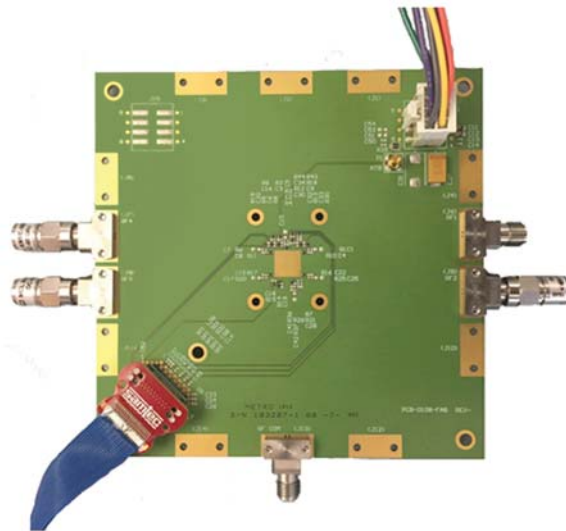


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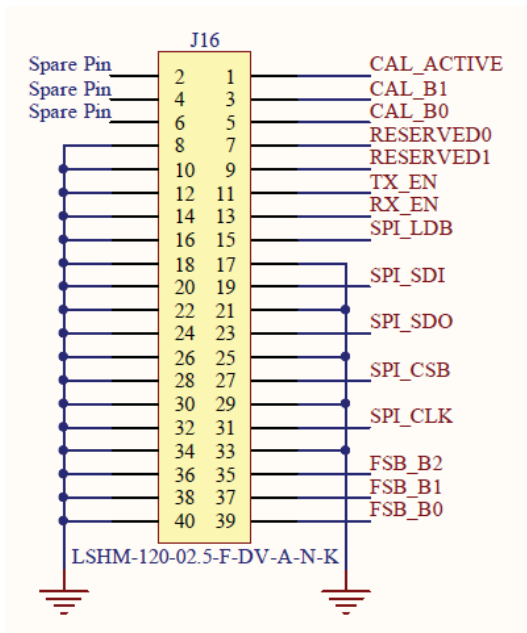
Bias and Control



DC Bias J4

Pin	Bias	Color
1	GND	Brown
2	GND	Red
3	Vcc Sense	Orange
4	Vcc Force 1.8 DC	Yellow
5-8	No Connect	

SPI/Control J3



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Data Sheet

K-Band Silicon 5G Quad Core IC Developer Kit AWMF-0135-DK

SPI Controller



Refer to the Anokiwave SPI Operation & Interface document number PRO-10012. The SPI interposer board routes the National Instruments SPI interface module (or customer may use their own unique SPI) directly to a high speed IP cable. Header J2 allows the user to wire their SPI signals directly to the IC. Reserved 0 and reserved 1 jumpers are required.

SPI Logic Level: 1.8V

Ref: SPI Interposer Board Schematic SC-0102-001



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