

1. Product Overview and Benefits

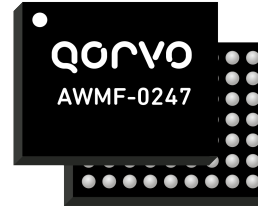
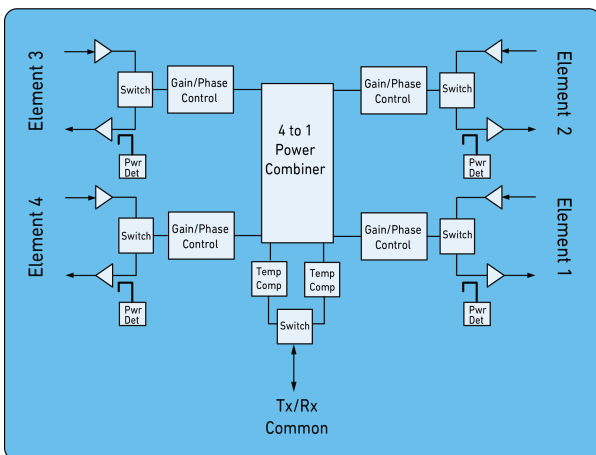
The AWMF-0247 is Qorvo’s newest TDD beamformer IC architecture using our next-generation CMOS Ku-Band advances. The IC supports Transmit (Tx) SATCOM band of 13.75 to 14.5 GHz and Receive (Rx) SATCOM band of 10.7 to 12.75 GHz with four element feeds each. The PA VDD is adjustable to deliver the linearity needed to support **higher order modulation schemes**. Industry leading Noise Figure (NF) enables smaller arrays or increased array performance.

With leading-edge performance in both transmit and receive modes, the AWMF-0247 enables higher link budgets and supports demanding modulation schemes without compromising efficiency.

New Updates:

- **TDD architecture** for emerging NTN/5G and low-cost LEO terminals
- **Separate Tx and Tx element feed architectures** for best performance
- Inactive **port impedance management** improves off-state return loss by >3dB, **increasing aperture efficiency**
- **Industry leading NF and DC power** performance
- **Higher accuracy** temperature sensing
- **New FC-CSP** package

2. Functional Block Diagram



3.0 x 3.8 mm FC-CSP

3. Key Features

- 13.75 to 14.5 GHz Tx operation
- 10.7 to 12.75 GHz Rx operation
- Supports 4 antenna elements with fixed polarization
- 10 dBm Tx output power per port
- 27 dB Tx gain per channel
- 30 dB Rx coherent gain
- 6-bit phase control (LSB=5.625°)
- 6-bit gain control (LSB=0.25 dB)
- Telemetry reporting

4. Applications

- SATCOM flat panel terminals
 - Low-cost GEO
 - Emerging NTN

5. Ordering Information

Part Number	Description
AWMF-0247 ¹	AWMF-0247 Tape and reel 7", Qty 2000
AMWF-0247-SQ ¹	AWMF-0247 Cut tape small sample, Qty 25
AWMF-0247-SR ¹	AWMF-0247 Short reel, Qty 100
AWMF-0247-DL	AWMF-0247 Developer kit for evaluation, Qty 1

Notes: ¹Volume qty available Q1-2026

If you need further information about the AWMF-0247, please contact us at beamforming-sales@qorvo.com.

6. Developer Kit: AWMF-0247-DL



The developer kit includes all hardware and software required to interface to the AWMF-0247. The kit enables full evaluation and RF testing 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-0247 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.

6.1. Developer Kit Bill of Material

QTY	DESCRIPTION
1	Test board with 9 x RF connectors, 1 x DC connector and 1 x SPI connector
1	DC power cable assembly
1	High speed SPI cable assembly
1	USB-SPI controller
1	SPI driver software
1	Control software with User's Guide, full test results and board calibration
1	Software Installation and Control Software User's Guide
1	Gerber files

7. Environmental Compliance

This part is compliant with the 2011/65/EU RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment), as amended by Directive 2015/863/EU.

This product also has the following attributes:

- Lead Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A (C₁₅H₁₂Br₄O₂) Free



Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

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