



ICAMB2629-A

PRODUCT SUMMARY



26.5 – 29.5 GHz BEAMFORMING IC

ICAMB2629-A is an 8 channel, dual polarization beamforming IC fabricated for n257 and n261 5G NR FR2 Wireless Infrastructure applications. The ICAMB2629-A comes in a compact, 90-pin 4.6 × 5.1 mm² BGA based package.



90-Pin, 4.6 × 5.1 mm² BGA Package

Key Features

- Frequency range: 26.5 – 29.5 GHz
- 8 channels, dual polarization
- Wide signal bandwidth up to 800 MHz
- 6-bit phase resolution (5.6° phase step)
- Channel gain range of 7 dB with 0.5 dB step
- Common gain range of 20 dB with 1 dB step
- NVM for phase and gain calibration coefficients
- Automatic temperature compensation for gain
- High-speed digital SPI-based interface
- Memory for 2048 shared transmit and receive beam positions
- Fast beam switching
- Matched to 50 Ω, single-ended RF inputs and outputs
- Integrated temperature and power sensor for each RF port
- 8-bit resolution for integrated temperature and power sensor
- Dual power supply: 1.8 V and 0.9 V
- Compact BGA package: 4.6 × 5.1 mm²

Transmit Operation:

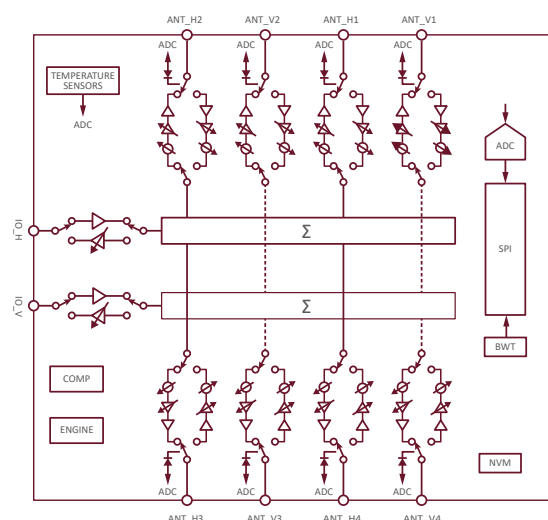
- OP1dB: 15.5 dBm
- High linear nominal gain: 27 dB with 1 dB control step
- High output power: Pavg = 10 dBm per channel at 3% EVM

Receive Operation:

- High gain: 27 dB with 1 dB control step
- Low Noise Figure < 4.5 dB
- High Linearity: IIP3 = -22 dBm

Typical Applications

- 3GPP 5G NR FR2 band n257 and n261
- Small cells for wireless communications infrastructure
- Fixed Wireless Access (FWA)
- Repeaters
- Customer Premises Equipment (CPE)



Functional Block Diagram

5G NR FR2 BFIC Product Line

Product Name	Frequency Range (GHz)	5G Bands
ICAMB2427-A	24.25 – 27.5	n258
ICAMB2629-A	26.5 – 29.5	n257, n261
ICAMB3743-A	37 – 43.5	n259, n260

REV 1.2

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