



**SKYWORKS®**

## PRODUCT SUMMARY

# SKY58109-51 Sky5® Front-End Module for LTE and NR Bands 1, 3, 40, 32, 25, 66, 30, 7, 41, 34, and 39

## Applications

- Multi-band 4G and 5G handsets
- Long Term Evolution (LTE)
  - Up to 60 MHz bandwidth/300 resource blocks
- 5G New Radio: Up to 190 MHz Bandwidth

## Features

- VCC switch integration for power supply connections
- Multiple Gain State Average Power Tracking Mode
- 50 ohm input/output impedance
- Integrated Bands 1, 3, 40, 32(75/76), 25(70), 66, 30, 7, 41(38), 34, 39
- Two programmable MIPI v3.0 digital controls
- Continuous bias control via MIPI/RFFE interface
- Low supply voltage
- Low leakage current in power-down mode
- Temperature sensor
- Autonomous over voltage protection
- Integrated Antenna and band select switches
- Two auxiliary MB Tx outputs for external filters;  
Two auxiliary HB Tx output for external filters
- Two auxiliary TRx ports for additional bands
- Auxiliary Mid-Band antenna switch input for 2G Tx output from low band module
- Integrated bi-direction RF coupler with cascade support
- Integrated SRS\_IN and SRS\_OUT: B40, B41 support
- Integrated SRS\_OUT FWD RF coupler
- Small, low profile package:
  - 6.5 mm x 6.25 mm x 0.765 mm max.
  - 135-pad configuration
- SkyShield™ self-shielded module

## Description

The SKY58109-51 Front-End Module (FEM) is a fully matched, 135-pad Dual-Sided Mold Grid Array (DSMGA) module developed for 4G LTE and 5G NR applications. The SKY58109-51 is part of our Sky5® portfolio.

The FEM is housed in a low profile package which consists of PA blocks, LNA blocks, RF inputs and outputs matched to 50 ohms, two Mobile Industry Processor Interface (MIPI) standard digital control blocks and integrated duplexers for bands Front-End Module for LTE Bands 1, 3, 40, 32, 25, 66, 30, 7, 41, 34, 39.

The enhanced SKY58109-51 architecture covers multiple bands and meets the spectral linearity requirements of LTE QPSK, 16QAM, and 64QAM modulations and New Radio DFTS-OFDM and CP-OFDM modulations up to 190 MHz bandwidth.

Power output is controlled by varying the input power. An extremely low leakage current maximizes handset standby time.



Skyworks Green™ products are compliant with all applicable legislation and are halogen-free. For additional information, refer to *Skyworks Definition of Green™*, document number SQ04-0074.

Ordering Information

Part Number	Part Description	Evaluation Board Part Number
SKY58109-51	Sky5® Front-End Module for LTE and NR Bands 1, 3, 40, 32, 25, 66, 30, 7, 41, 34, and 39	SKY58109-51EK1

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