



PRODUCT SUMMARY

SKY58105-31 Sky5® Mid and High Band Front-End Module for 3G/4G/5G Applications

Applications

- Multi-band 3G/4G/5G Mobile Devices
- Handsets, Data Cards, M2M
- LTE Advanced Carrier Aggregation (CA)

Features

- MIPI® RFFE 3.0 control IF 1.2V/1.8V nominal
- Supports envelope tracking applications
- Integrated quadplexer filter for Bands 1 and 3
- Integrated filter for Bands 34/39
- Integrated filter for Band 40 and 41F
- One auxiliary MB Tx outputs for external filters;
One auxiliary HB Tx output for external filter
- Two auxiliary TRx ports for additional bands
- Four Low Noise Amplifiers (LNA) Outputs
 - ANT output ports support flexible ANT configurations and swap
- Auxiliary 2G Tx output from low band module
- Integrated bi-directional RF coupler with cascade support
- All RF I/O ports matched to 50 Ω impedance
- Small, low-profile/low-cost package:
 - 8.6 mm x 6.5 mm x 0.76 mm
 - SkyShield™ Shielded Module
 - 62-pad Large Grid Array (LGA) configuration

3G Features

- WCDMA, HSPA+
- TD-SCDMA, TD-HSPA
- CDMA2000 1x RC1, RC3, EVDO (Rev A)



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.

4G Features

- FDD/TDD LTE
- Uplink QPSK, 16QAM, 64QAM
- Intra-band uplink Carrier Aggregation (CA) support
 - 35 MHz (175 RB) for Band 39
 - 40 MHz (200 RB) for Bands 1, 3, 40, and 41
 - 60 MHz (300 RB) for Bands 40 and 41
- Inter-band downlink CA support for B1+B3, B1+B3+B41, B1+B3+B40, B34+B39, B34+B39 +B41

5G Features

- FDD/TDD NR Bands
- Uplink QPSK, 16QAM, 64QAM and 256QAM
- Up to 100 MHz APT and ET
- n1, n3, n34, n39, n40, n41 support
- EN-DC Dual TX support: B3+n41/B39+n41/B1+n41

Description

The SKY58105-31 Mid/High Band (FEM) supports 3G/4G/5G mobile devices and operates efficiently in 3G/4G/5G modes. The module has separate 3G/4G/5G PA blocks operating in mid- and high bands, a silicon controller containing the MIPI RFFE interface, RF band switches, MB/HB antenna switches, bi-directional couplers, and integrated filters for Bands 1, 3, 34, 39, 40, and 41. RF I/O ports internally match to 50 ohms, minimizing external components. Extremely low leakage current maximizes device standby time. IC die/passive components are mounted on multi-layer laminate substrate. The module meets 5G NR and LTE advanced requirements where wider bandwidth (100 MHz) and CA are used for higher data rates. Combined filtering, RF matching, and TRx switching internal to the module optimizes performance for Downlink (DL) CA band combinations. The module contains components between antenna and RFIC transceiver and is optimized for superior Rx sensitivity and Tx efficiency.

Ordering Information

Part Number	Part Description	Evaluation Board Part Number
SKY58105-31	SKY58105-31 Sky5® Mid and High Band Front-End Module for 3G/4G/5G Applications	SKY58105-31EK1

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