PRODUCT SUMMARY

SKY58085-11 Sky5® Mid- and High Band Front-End Module for 3G, 4G, and 5G Applications

DISCONTINUED

Applications

- Multi-band 3G / 4G / 5G mobile devices
- Handsets, data cards, M2M
- LTE advanced carrier aggregation (CA)

Features

- MIPI® RFFE 2.1 control interface with 1.8 V nominal supply
- MB VCC switch integration for versatile power supply connections
- Supports envelope tracking (ET)
- Two ANT output ports support flexible ANT configurations and swap
- Integrated pentaplexer filter for Bands 1, 3, and 40
- Integrated duplexers for Bands 2 and 7
- Integrated diplexer filter for Bands 34/39
- Integrated filter for Band 41F
- One auxiliary MB Tx outputs for external filters; One auxiliary HB Tx output for external filter
- Two auxiliary TRx ports to support additional bands
- Auxiliary Mid-Band antenna switch input for 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 package:
  - 8.6 mm x 6.5 mm x 0.65 mm
  - 62-pad Large Grid Array (LGA) configuration

3G Features

- WCDMA, HSPA+
- TD-SCDMA, TD-HSPA
- CDMA2000 1x RC1, RC3, EVDO (Rev A)
- For RoHS and other product compliance information, see the Skyworks Certificate of Conformance

4G Features

- FDD/TDD LTE
- Uplink QPSK, 16QAM, and 64QAM
- Intra-band Uplink Carrier Aggregation
  - 35 MHz (175 RB) for Band 39
  - 40 MHz (200 RB) for Bands 1, 2, 3, 7, 40 and 41
  - 60 MHz (300 RB) for Bands 40 and 41
- Inter-band Downlink CA support

5G Features

- FDD/TDD NR Bands
- Uplink QPSK, 16QAM, 64QAM and 256QAM
- Up to 100 MHz APT and ET
- N1, n3, n41 support
- EN-DC Dual TX support for B3 + n41 and B39 + n41

Description

The SKY58085-11 Mid- and High Band Front-End Module (FEM) supports 3G / 4G / 5G mobile devices and operates efficiently in 3G / 4G /5G modes. The SKY58085-11 is part of our Sky5® product portfolio. The module has separate 3G / 4G / 5G PA blocks operating in the mid- and high bands, a silicon controller containing the MIPIR RFFER interface, RF band switches, MB and HB antenna switches, bi-directional couplers, and integrated filters for Bands 1, 2, 3, 7, 34, 39, 40 and 41. RF I/O ports are internally matched to 50 ohms to minimize the need for external components. Extremely low leakage current maximizes device standby time. IC die and passive components are mounted on a multi-layer laminate substrate. The 62-pad LGA assembly, encapsulated in an 8.6 mm x 6.5 mm x 0.65 mm SMT plastic package, offers a highly manufacturable and low-cost solution.

The module meets 5G NR and LTE advanced requirements where wider bandwidth (100 MHz) and carrier aggregation are used for higher data rates. The combined filtering, RF matching, and TRx switching internal to the module optimizes performance for popular Downlink (DL) CA band combinations, all in a compact and low- cost solution. The module contains necessary components between the antenna and RFIC transceiver and is optimized for superior Rx sensitivity and Tx efficiency. Two ANT ports provide flexibility to support multiple ANT configurations and ANT swap function. For the Uplink, the PA blocks support very wide bandwidth 5G NR operations: up to 60 MHz for n1 and up to 100 MHz for n41.

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Ordering Information

Part Number	Product Description	Evaluation Board Part Number
SKY58085-11	SKY58085-11 Front-End Module	SKY58085-11EK1



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