PRODUCT SUMMARY

SKY58813-11: Sky5® Mid- and High-Band Front-End Module for 4G/5G Applications

Applications

- Handsets
- Data cards
- Machine-to-machine (M2M) applications

Features

- Three antenna ports with full sounding reference signal (SRS) and transmit antenna selection (TAS) functionality
- Supports n41 PC1.5/PC1 power at VCC = 5.5 V
- Integrated filters for Band 41
- Integrated quadplexer filter for Bands 25 and 66, with carrier aggregation (CA) support for Band 41
- One auxiliary TX output for mid-band and NTN with external filtering
- Four auxiliary TRX ports for additional band support
- One SRS_IN and two MHB LNA_Aux ports for enhanced flexibility
- Four LNA outputs for RX output multiplexing
- Integrated bi-directional RF coupler with daisy chain switch for external modules and programmable attenuator
- RX MIPI® RFFE 3.0 control interface with 1.2 V/1.8 V nominal supply
- All RF I/O ports are matched to 50 Ω impedance to minimize external components
- Two ID ports (ID1 and ID2) for simplified system configuration and USID selection
- Compact, low-profile package
  - 4.32 mm x 4.4 mm x 0.642 mm
  - SkyShield™ shielded module
  - 78 Cu-post on die with Double-Sided Molded Grid Array (DSMGA) package
  - Lead (Pb)-free (MSL3 @ 260 °C per JEDEC J-STD-020)
- For RoHS and other product compliance information, see the Skyworks Certificate of Conformance.

4G Features

- FDD/TDD LTE support for MB/HB
- Uplink modulation QPSK, 16QAM, 64QAM
- Inter-band downlink CA support for B25+B66+B41

5G Features

- FDD/TDD NR bands
- Uplink QPSK, 16QAM, 64QAM, and 256QAM
- n25, n66, FDD PC2 support
- n41, PC1/PC1.5 support

Description

The SKY58813-11 is an MHB LNA plus Power Amplifier Module with integrated Duplexer (LPAMiD) designed for 4G and 5G mobile devices, supporting operation across mid- and high-band frequencies. The SKY58813-11 is part of our Sky5® product portfolio.

The SKY58813-11 integrates power amplifier (PA) blocks for 4G/5G, a controller with MIPI RFFE interface, RF band switches, MB/HB antenna switches, bi-directional couplers, and filters for Bands 25, 66, and 41.

The module delivers PC1.5 power at 5.5 VCC, offering high performance in a compact form factor. This enables external TX EN-DC for various mid- and high-band combinations and provides primary MHB support for associated applications.

RF I/O ports are matched to 50 Ω, and low leakage current extends standby time. The IC die and passive components are mounted on a multilayer laminate substrate for robust integration.

The module supports 5G NR and LTE, accommodating wider bandwidth and CA for high data rates. Combined filtering, RF matching, and TRX switching enhance downlink CA performance.

MHB and HB antenna ports support multiple antenna profiles, while PA blocks enable uplink operation with wide bandwidth 5G NR (>100 MHz for n41).

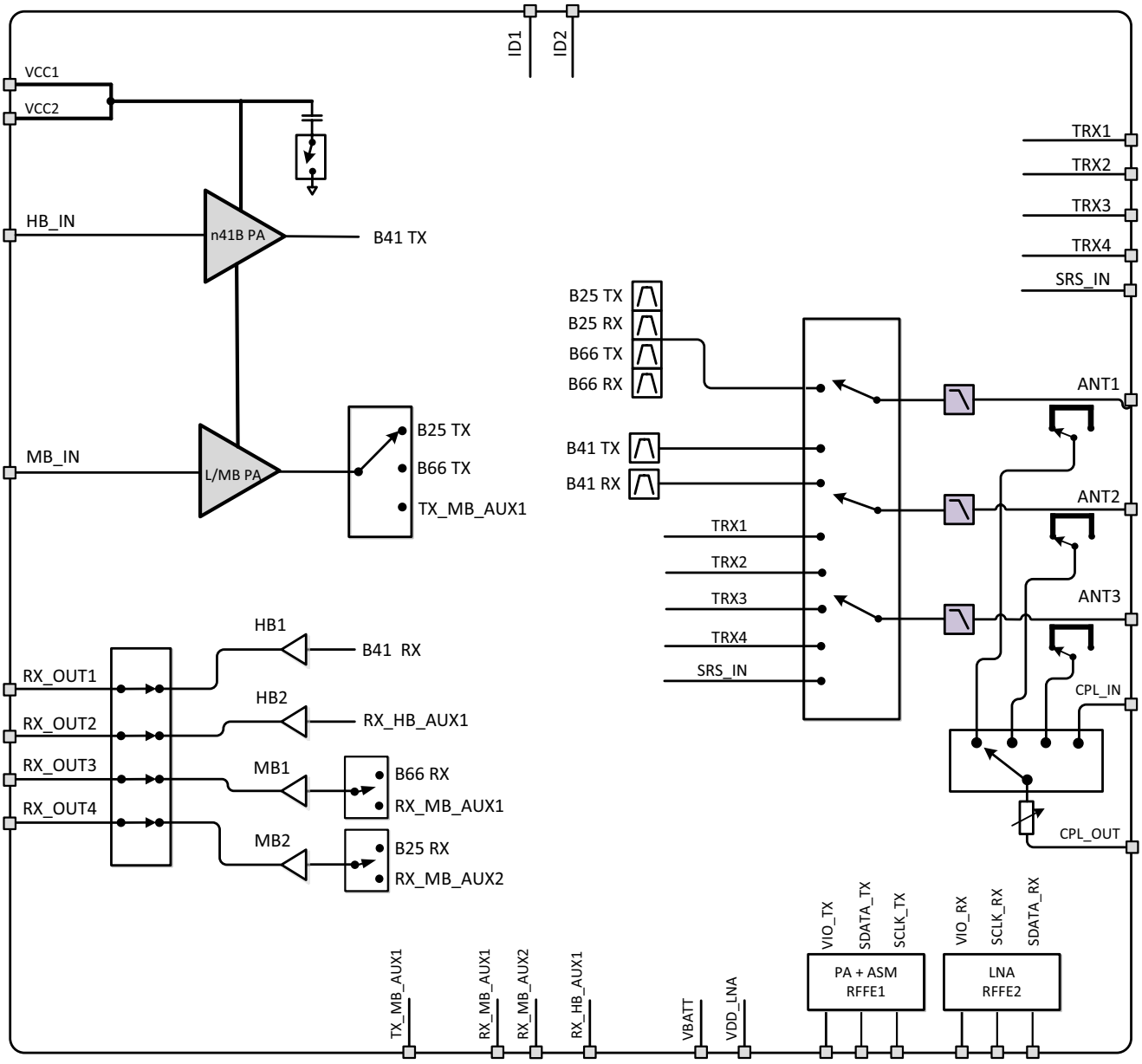

Figure 1. Functional Block Diagram

Ordering Information

Part Number	Description	Evaluation Board Part Number
SKY58813-11	Sky5® Mid- and High-Band Front-End Module for 4G/5G Applications	SKY58813-11EK1