

PRODUCT SUMMARY

SKY77928-11 SkyLiTE™ Tx-Rx Front-End Module for Quad-Band GSM / GPRS / EDGE w/ 16 Linear TRx Switch Ports – Dual-Band TD-SCDMA, TDD LTE Band 39 – Dual Antenna

Applications

- Cellular handsets encompassing Quad-Band GSM/EDGE, Dual-Band TD-SCDMA, and TDD LTE
 - Class 4 GSM850/900
 - Class 1 DCS1800/PCS1900
 - Class 12 GPRS multi-slot operation
 - Linear EDGE operation
 - TD-SCDMA Bands 34/39
 - TDD LTE Band 39
- Carrier Aggregation (CA) with dual antenna

Features

- Small, low profile package
 - 5.5 mm x 5.5 mm x 0.8 mm Max.
 - 44-pad configuration
- MIPI® RFFE control
- RF ports internally matched to 50 Ω w/ zero DC offset
- High GMSK Efficiency (inclusive of coupler and diplexer)
 - 34% GSM850 34% DCS1800
 - 34% GSM900 34% PCS1900
- Tx harmonics below –40 dBm
- Supports APT, buck DC-DC supply
- 16 low loss/high linearity/high isolation TRx switch ports with excellent cross-band flexibility
- Three directional couplers: LB/MB/HB
- Downlink inter-band CA support with L+M/H diplexer and separate HB switch/antenna with ultra-low loss and superb linearity
- Noise suppression notch filter for WiFi coexistence
- Built-in IEC-compliant antenna ESD protection
- High impedance control inputs and low standby current
- Current limiting and overvoltage ruggedness
- Power control circuitry built-in for improved TRP variation

Description

The SKY77928-11 SkyLiTE™ Tx-Rx Front-End Module (FEM) offers a complete Power Amplifier (PA) and switching solution for advanced 2G/3G/4G cellular handsets with dual antenna.

Two PAs support quad-band GSM, GPRS, EDGE multi-slot operation and TD-SCDMA and TDD LTE transmission. The low band (LB) PA transmits in the GSM850/900 bands. The mid-band (MB) PA covers DCS1800, PCS1900, TD-SCDMA bands 34/39, and TDD LTE band 39. The FEM facilitates flexible broadband RF switch-through by means of 16 transmit/ receive (TRx) antenna switch ports covering all 3G/4G bands from 700 MHz through 2300-2700 MHz. In support of downlink inter-band Carrier Aggregation (CA), the TRx ports are partitioned into three independent switch blocks comprising 7 LB, 5 MB and 4 HB ports with strong M/H cross-band support. Each switch block includes a directional coupler that may be monitored on the CPL port with selectable forward or reverse directionality. A diplexer and a second antenna port provide flexible simultaneous L+M/HB reception required for downlink CA.

The SKY77928-11 includes a full set of features for state-of-the-art performance and minimal phone board complexity. The Heterojunction Bipolar Transistor (HBT) PA blocks are fabricated in Gallium Arsenide (GaAs). The HBT, switches, controller die, and passive components are mounted on a multi-layer laminate substrate. A plastic overmold encapsulates the entire assembly.

The CMOS controller provides PA band/mode selection and bias control, including the Mobile Industry Processor Interface (MIPI) RFFE logic and switch decoder circuitry. The PA controller provides VRAMP control of the GMSK envelope and reduces sensitivity to input drive, temperature, power supply, and process variations. Skyworks' Finger-Based Integrated Power Amplifier Control (FB-iPAC) minimizes output power variation into mismatch. In EDGE and TD-SCDMA / TDD LTE linear modes, VRAMP voltage and MIPI-based bias settings jointly optimize PA linearity and efficiency.



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.

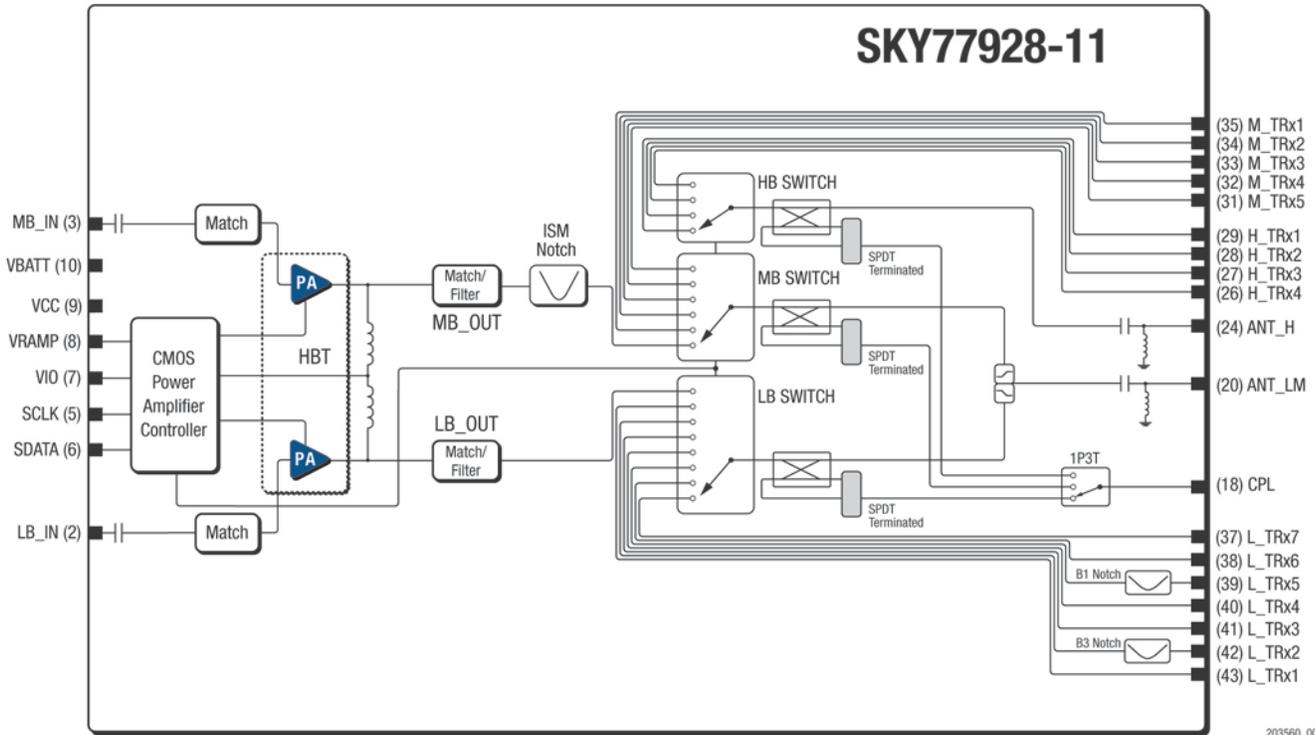


FIGURE 1. SKY77928-11 FUNCTIONAL BLOCK DIAGRAM

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY77928-11 SkyLiTE™ Tx-Rx Front-End Module	SKY77928-11	

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