SKY78117 SkyOne® Ultra 2.0 Front-End Module for FDD/TDD LTE Bands 7, 30, 38, 40, 41

Applications

- FDD/TDD LTE-modulated handsets for bands 7, 30, 38, 40, 41

Features

- Highly integrated HB multiband module
- Optimized for average power tracking system
- Fully programmable Mobile Industry Processor Interface digital control
- Integrated duplexers for Band 7
- MIPI®/RFFE interface
- Integrated Rx switch
- Single SAW architecture for TDD-LTE
- External Tx Input switch control
- Support B30/B38/B40/B41 Transmit Output port
- Small, low profile package
  - 5.0 mm x 4.3 mm x 0.8 mm
  - 34-pad configuration

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.

Description

The SKY78117 SkyOne® Ultra 2.0 is a multimode multiband (MMMB) Front-End Module (FEM) that supports 4G handsets and operates efficiently in FDD/TDD LTE modes. The FEM consists of an LTE block operating in the high bands, a logic control block for multiple power control levels. RF I/O ports internally matched to 50 ohms minimize the need for external components. Extremely low leakage current maximizes handset standby time. The InGaP/GaAs die and passive components are mounted on a multi-layer laminate substrate and the assembly encapsulated in plastic overmold.

LTE: The SKY78117 meets spectral linearity requirements of LTE modulation with QPSK/16QAM up to 40 MHz bandwidth in Bands 38, 40, and 41 including various resource block allocations, with good power-added efficiency.

Receiver Section: The SKY78117 integrated Duplexers support Downlink Carrier Aggregation (CA) for additional Rx data rate and provide 4G Rx paths from antenna to LNA port of RFIC. Carrier Aggregation requirements for noise and harmonics are designed-in for best desense performance. Optimized low insertion-loss Rx paths, matching circuits, and well-grounded guard traces (high Tx–Rx isolation) inside the module mitigate desense problems and enhance sensitivity performance. An integrated RX consolidated switch provides the ability to match different RX port mapping on different platforms.

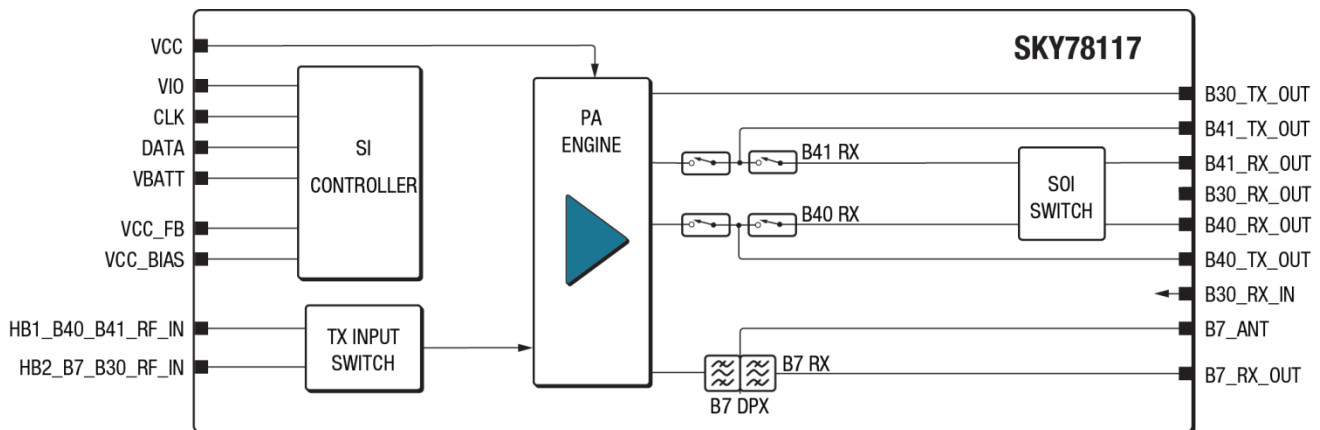**TRx and Rx Ports:** The SKY78117 provides three Tx ports and one Antenna port (Band 7).

Figure 1. SKY78117 Functional Block Diagram

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY78117 SkyOne® Ultra 2.0 Front-End Module	SKY78117-14	