

PRODUCT SUMMARY

SKY78114 SkyOne® Ultra 2.0 Front-End Module for WCDMA / LTE Bands 1, 2, 3, 4, 34, 39

Applications

- Multiband 3G handsets
- CDMA /TD-SCDMA/ WCDMA / HSPA / HSPA+ / TDD-LTE/FDD LTE-modulated handsets for bands 1, 2, 3, 4, 34, 39, BC1

Features

- Fully integrated MB multiband module
- Optimized for average power tracking system
- CDMA compatible
- Fully programmable Mobile Industry Processor Interface digital control
- Integrated duplexers for bands 1, 2, 3, 4
- MIPI/RFFE interface
- Closed loop architecture with the Implemented coupler input/output port
- Integrated Rx switch
- Integrated two SPDT switches to support MB/HB carrier aggregation for single antenna architecture
- External Tx Input switch control
- Support B34/B39 Transmit Output port
- Small, low profile package
 - 7 mm x 4.7 mm x 0.8 mm
 - 44-pad configuration



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Description

The SKY78114, SkyOne® Ultra 2.0 is a multimode multiband (MMMB) Front-End Module (FEM) that supports 3G/4G, and CDMA handsets and operates efficiently in CDMA, TD-SCDMA, WCDMA, HSPA, and LTE modes. The FEM consists of a WCDMA blocks operating in the middle bands, a logic control block for multiple power control levels, and band enable functions in both cellular and UMTS. 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.

WCDMA: The SKY78114 enhanced architecture supports WCDMA/High Speed Downlink Packet Access (HSDPA) and High Speed Uplink Packet Access (HSUPA) modulations, covers multiple bands for 3GPP including bands 1, 2, 3, and 4, and operates at different power modes. The module is fully controllable via a MIPI® serial interface.

LTE: The SKY78114 meets spectral linearity requirements of LTE modulation with QPSK/16QAM up to 20 MHz bandwidth, including various resource block allocations, with good power-added efficiency.

CDMA: The SKY78114 meets spectral linearity requirements of CDMA2000 and EVDO Release A modulation with good power-added efficiency.

TD-SCDMA: The SKY78114 meets spectral linearity requirements of TD-SCDMA modulation dedicated transmit output port.

Receiver Section: The SKY78114 includes integrated Duplexers, RX SAWs, and a SP10T switch which supports simultaneous Downlink Carrier Aggregation for additional Rx data rate and provides 3G/4G Rx paths from antenna to LNA port of RFIC. Carrier Aggregation (CA) requirements for noise and harmonics are designed-in for best desense performance. Additionally, GPS and LB/HB WiFi coexistence are designed-in for exceptional support to maintain all radio performance including user scenarios of simultaneous use. 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. With an integrated RX consolidated switch, it is feasible to match different RX port mapping on different platforms.

TRx and Rx Ports: The SKY78114 provides three TRx ports.

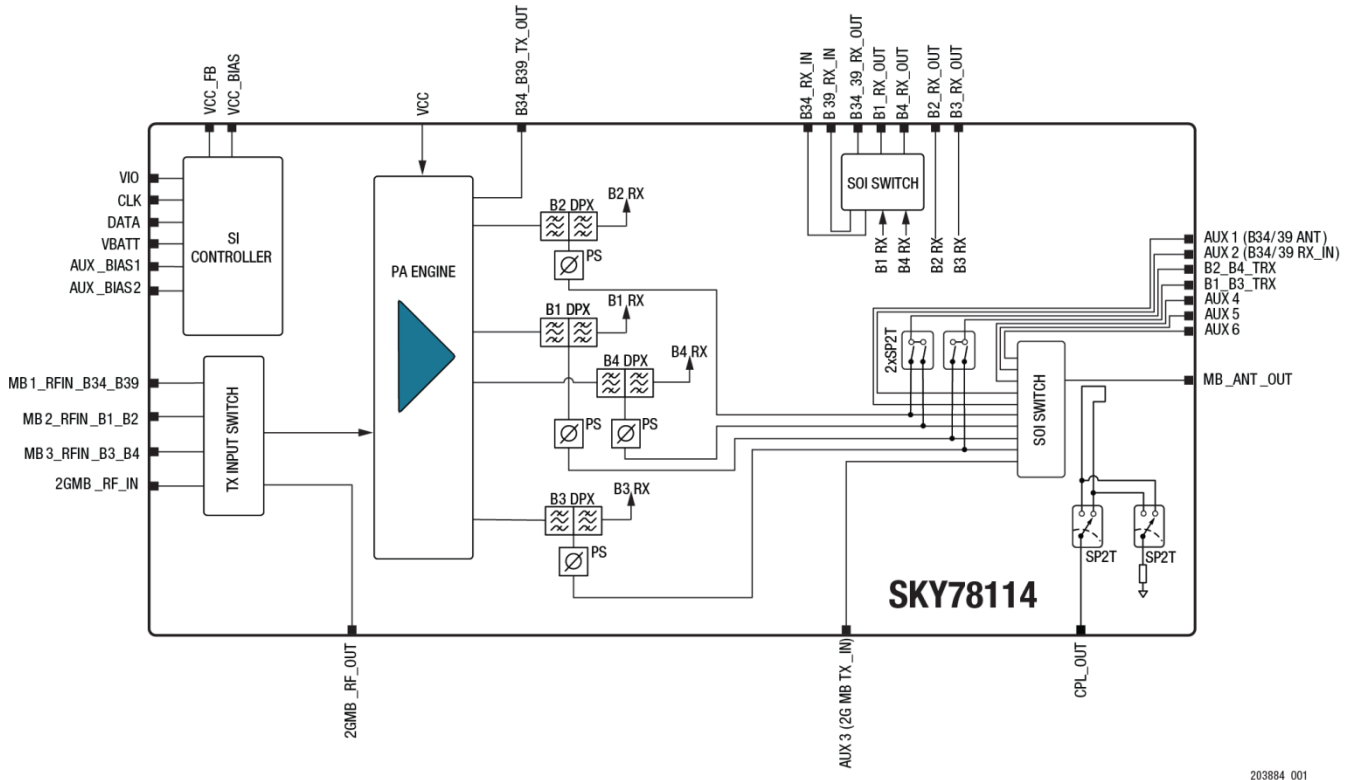


Figure 1. SKY78114 Functional Block Diagram

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY78114 SkyOne® Ultra 2.0 Front-End Module	SKY78114-14	

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