PRODUCT SUMMARY

SKY68031-11: Low Profile, Multi-Band Massive IoT Front-End Module

Applications

- Low-power, low-data-rate cellular IoT
- Half-duplex operation (HD-FDD):
  - LTE-M
  - NB-IoT
- Universal modem products:
  - Low-band: 5, 8, 12, 13, 14, 17, 18, 19, 20, 26, 28, 85
  - Mid-band: 1, 2, 3, 4, 25, 39, 66, 70
- Broadband operation on TRX to ANT Paths, from 400 MHz to 2.7 GHz

Features

- Output power: +23.5 dBm, optimized to support LTE for 1 RB to 6 RB
- Broadband PA supporting APT mode of operation or Vcc fixed supply: 2.85 V to 4.5 V
- Integrated TX low-pass filters for optimized harmonic rejection
- Integrated SP6T antenna TX/RX switch
- Low leakage current: 0.4 uA
- Adaptive biasing scheme for maximum PA efficiencies
- MIPI® RFFE control interface, 2.0 compliant
- Operating temperature range: -40 °C to +85 °C
- Small, low-profile package (3 mm x 3 mm x 0.7 mm) (MSL3 @ 260°C per JEDEC J-STD-020)

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.

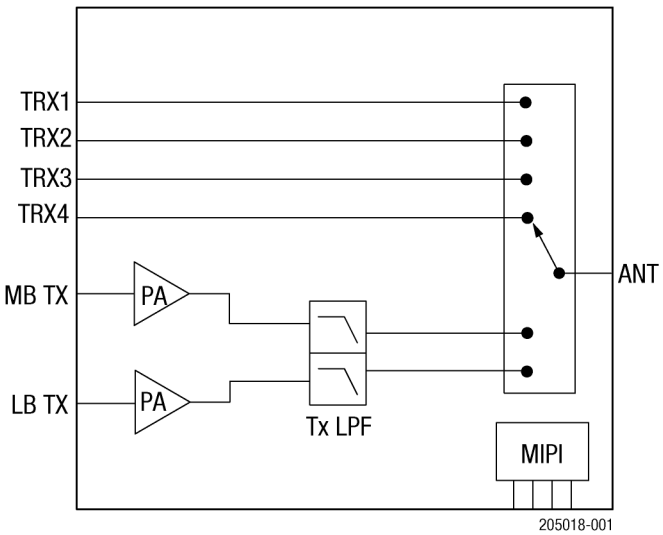

Figure 1. SKY68031-11 Functional Block Diagram

Description

The SKY68031-11 is a low-profile, multi-band RF front-end (RFFE) module supporting LTE-M/NB-IoT transceiver platforms. The module integrates the entire RF front end necessary for an LTE multi-band radio operating in low-band (5, 8, 12, 13, 14, 17, 18, 19, 20, 26, 28, 85) and mid-band (1, 2, 3, 4, 25, 39, 66, 70) frequencies, including broadband PA with bias controller, TX low-pass harmonic filter, antenna switch, and MIPI RFFE controller.

The SKY68031-11 block diagram is shown in Figure 1.

TX Section

The PA load-line is optimized for high efficiency while simultaneously meeting 3GPP ACLR and emissions mask specifications with LTE up to 6 RB. An integrated LPF is implemented to reject the PA and transceiver harmonics while at the same time minimizing any post PA loss for an optimized transmit current consumption. Out-of-band emissions performance is emphasized by the design to be 3GPP-compliant for low-band (5, 8, 12, 13, B14, 17, 18, 19, 20, 26, 28, 85) and mid-band (1, 2, 3, 4, 25, 39, 66, 70) frequencies.

Ordering Information

Part Number	Product Description	Evaluation Board Part Number
SKY68031-11	Low Profile, Multi-Band Massive Iot Front End Module	SKY68031-11EK1

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