

**PRODUCT SUMMARY**

# SKY85809-11: Dual-Band 802.11a/g/n/ac Wireless LAN Front End

## Applications

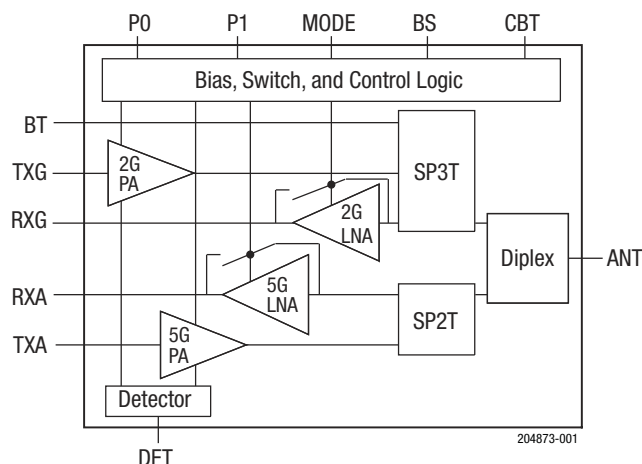
- WLANs:
  - IEEE802.11b DSSS
  - IEEE802.11a/g OFDM
  - IEEE802.11ac/n
- Set-top boxes
- Access points
- PCMCIA cards
- PC cards

## Features

- All RF ports matched to 50  $\Omega$
- Integrated 2.4 GHz PA, 5 GHz PA, transmit filter, diplexers, and T/R switches
- Integrated logarithmic power detector for each transmit chain
- +25 dBm power, 802.11b, 11 Mbps, ACPR = +35 dBc
- +22 dBm @ 3% (-30 dB) EVM, MCS7, HT40, 2G
- +19.5 dBm @ 3% (-30 dB) EVM, MCS7, HT40, 5G
- +20 dBm @ 1.8% (-35 dB) EVM, MCS9, HT40, 2G
- +18.5 dBm @ 1.8% (-35 dB) EVM, MCS9, HT80, 5G
- Single supply voltage: 5.0 V  $\pm$  10%
- Sleep mode: < 1  $\mu$ A
- Bluetooth® functional when Vcc = 0 V or 5.0 V
- Bluetooth and 5 GHz WiFi concurrent operation
- Multiple receive bypass step attenuation
- Small QFN (28-pin, 4.0  $\times$  3.0  $\times$  0.6 mm) package (MSL3, 260  $^{\circ}$ C per JEDEC J-STD-020)



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**Figure 1. SKY85809-11 Block Diagram**

## Description

The SKY85809-11 is a complete 802.11a/b/g/n/ac wireless local area network (WLAN), RF front-end module (FEM) that provides all the functionality of a power amplifier (PA), filtering, power detector, transmit/receive (T/R) switch, diplexer, and associated matching. The SKY85809-11 provides a complete 2.4 GHz and 5 GHz WLAN RF solution, from the output of the transceiver to the antenna in an ultra-compact form factor. Designed to meet the stringent linearity conditions of the 802.11ac standard, the SKY85809-11 delivers less than 2% error vector magnitude (EVM) at the rated alternating current (AC) power.

Designed for ease of use, all RF ports are matched to 50  $\Omega$  to simplify the layout of the printed circuit board (PCB) and the interface to the transceiver. The SKY85809-11 also includes a transmitter power detector with +20 dB of dynamic range for each transmit chain. Each power amplifier has a separate digital enable control for transmitter on/off control. The power ramp rise/fall time is less than 0.5  $\mu$ s.

The SKY85809-11 provides local oscillator (LO) filters for the 2 GHz and 5 GHz transmit paths.

The SKY85809-11 is packaged in a small 4.0  $\times$  3.0  $\times$  0.6 mm, Quad Flat No-Lead (QFN) package. A block diagram of the SKY85809-11 is shown in Figure 1.

## Ordering Information

Product Description	Product Part Number	Evaluation Board Part Number
SKY85809-11: Dual-Band WLAN Front-End	SKY85809-11	SKY85809-11EK1

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