

Rx Section

Receive low-pass filters are integrated into the module along with the necessary matching to yield a 50 Ω single-ended impedance for the antenna and Rx ports. The filters provide a high level of rejection to out-of-band interferers, protecting the transceiver from high blocking signal levels and to support 3GPP LTE blocking test conformance. The Rx low-pass filters are cascaded with the low throw count switch to establish a lower insertion loss and noise figure than conventional LTE receivers.

Auxiliary Paths

The two AUX ports are additional broadband ports that can be used symmetrically for either Tx or Rx operation. The AUX ports can support conventional GSM power levels.

Smart Biasing

For most IoT applications, the DC-DC converter might not be available to control the VCC supply of the PA. With a fixed DC supply, Smart Biasing allows for easy power control through the MIPI interface by programming reduced bias current for lower gain states. Based on the application, a set of 4 to 6 different bias conditions with specific fixed-gain steps are predefined. For each of the steps, the transceiver output power can be adjusted to meet the desired total output power.

The key advantages of the smart biasing scheme are:

- Saving current consumption during lower output power operation
- Easy programming of fixed-gain steps through the MIPI interface
- Reducing the required output dynamic range of the transceiver

MIPI RFFE Controller Interface

The SKY68020-11 functional operation is fully controllable by a single MIPI interface which is used to drive the PA in various optimized bias modes as well as providing band selection and controlling the antenna switch Tx, Rx, and band selection.

Figure 1 shows the block diagram for the SKY68020-11.

Ordering Information

Part Number	Product Description	Evaluation Board Part Number
SKY68020-11	LTE Universal Multi-Band Front-End Module for IoT	SKY68020-11EK1

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