

REP021: Front End for 2.5GHz GlobalStar +IS-95

Rapid Engineering Prototypes are real circuits that Maxim application engineers have built and measured in our labs. They can provide a starting point for new RF designs. They are not available as Evaluation Kits.

Additional Information: [Wireless Product Line Page](#)
[Quick View Data Sheet for the MAX2323/MAX2325](#)
[Applications Technical Support](#)



Objective: To develop an application circuit for using this dual-band triple-mode CDMA front-end IC, employing the PCS-band downconverter for the 2.5GHz LEO satellite channel and the cellular-band downconverter for IS-95 CDMA.

The emphasis of this application design was to use the PCS-band signal path for a 2.5GHz downconversion to 210MHz and to use the cellular-band signal path for IS-95 CDMA. The LNA input and output matches were redesigned completely, and a great deal of attention was paid to optimizing the IF SAW filter match at 210MHz. The MAX2323 is attractive, because the PCS LNA offers two gain steps and excellent 2GHz noise figure, suitable for LEO satellite handset design. In order to meet the frequency plan, the project requirement was to modify the FM analog and the cellular/PCS digital mixer IF matches both to 210MHz IF.

The MAX2323 low-noise amplifier (LNA) plus mixer is designed for dual-band CDMA cellular-phone handsets, but it can also be used in dual-band TDMA, GSM, EDGE, or WCDMA applications. It differs from its predecessor (the MAX2320) by adding a third "mid-gain" state for the cellular-band LNA that improves switchover hysteresis margin. It also comes in a smaller package (28-QFN) and offers increased third-order input intercept.

[Schematic of the MAX2323 Evaluation Kit](#) (PDF, 54K)

[Bill of Materials, Part 1](#)

[Bill of Materials, Part 2](#)

[LNA Noise-Figure Test Setup](#)

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MORE INFORMATION

MAX2323: [QuickView](#) -- [Full \(PDF\) Data Sheet \(176k\)](#)

-- [Free Sample](#)