MxL603

Product Brief

Digital Cable and Terrestrial Silicon Tuner

General Description

The MxL603 is a highly integrated, low power silicon tuner IC, that targets all global digital cable and terrestrial standards. The high performance MxL603 is fully compliant with the latest specifications for DVB-T and DVB-T2 (including Nordig 2.6 and DTG D-Book V10.0), ATSC A/74:2010, ATSC 3.0, ISDB-T 13-Segment, SBTVD-T(Brazil), DTMB (China) and cable (DOCSIS 2.0/3.0, J.83 Annex A/B/C) reception.

The MxL603 supports an input tuning range from 44MHz to 1002 MHz. A differential 75Ω RF input signal is filtered and converted to a programmable IF output up to 44 MHz. The AGC, LO generation, channel selection, and Loop-Through (LT) output functions are completely integrated on the chip, which simplifies board-level design. All functions of the IC can be controlled via an I^2C interface. Driver integration with all commercially available third-party demodulators is made easy through the use of simple software APIs.

Immunity to LTE and WiFi interference is optimized and provides significant margin above industry requirements.

The high level of integration enables a very compact, cost-effective design with few external components, low BOM costs, and low power consumption.

The MxL603 is available in a 4 mm x 4 mm x 0.85mm^3 24-pin QFN package.

Applications

- Digital terrestrial receivers such as STBs, PVRs, and media gateways
- Digital cable applications such as STBs, cable modems, EMTAs, and cable DTAs

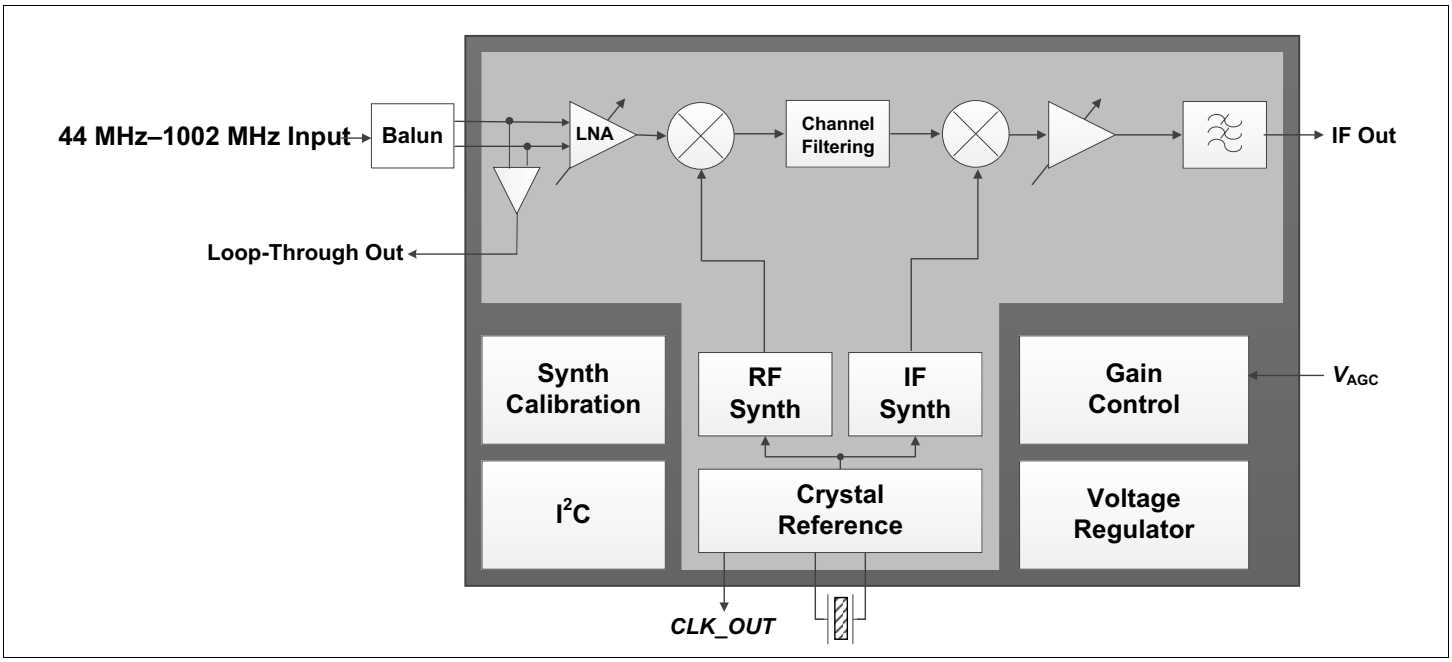
Features

- Tuning range from 44 MHz to 1002 MHz
- Integrated channel filtering requiring no external SAW filter
- Programmable channel bandwidths of 1.7 MHz, 5 MHz, 6 MHz, 7 MHz, and 8 MHz
- Low power consumption with 3.3V and 1.8V dual-supply operation—403 mW (digital terrestrial)
- On-chip voltage regulator enables single supply 3.3V operation
- Programmable IF frequency and IF spectrum inversion
- Reference clock output available for re-use by demodulators and additional tuners in multichannel applications
- On-chip RF LT
- High accuracy RSSI
- Excellent immunity to LTE and WiFi interference
- General purpose open-drain output GPO available for controlling off-chip circuitry
- Integrated on-chip programmable loading capacitors for the reference crystal
- I^2C-compatible digital control interface
- RoHS compliant

Supported Standards

- DOCSIS/EuroDOCSIS 2.0, 3.0
- ITU-T J.83
  - Annex A (DVB-C)
  - Annex B (US Cable)
  - Annex C (Japan)
- DVB-C2 (ETSI EN 302 769)
- DVB-T and DVB-T2 (Nordig 2.6, DTG D-Book V10.0)
- ATSC A/74:2010, ATSC 3.0
- ISDB-T 13-Segment
- SBTVD-T (Brazil)
- DTMB (China)

Block Diagram



Ordering Information

Marketing Part Number	Ordering Part Number	Package	Dimension	Shipping
MxL603	MxL603-AG-T	SAWN QFN24	4 mm x 4 mm x 0.85 mm^3	Tray
MxL603	MxL603-AG-R	SAWN QFN24	4 mm x 4 mm x 0.85 mm^3	Tape and Reel

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