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MAX2172
Direct-Conversion to Low-IF Tuner for Digital Audio Broadcast

High-Performance Digital Radio Tuner Incorporates Fast and Accurate RSSI Function

Overview Technical Documents Ordering Info Related Products User Comments (0) All

Status

Active: Data sheet on request only

Data Sheet

Request Full Data Sheet

Description

The MAX2172 direct-conversion to low-IF tuner is designed for digital audio broadcast (DAB) and terrestrial digital multimedia broadcast (T-DMB) applications, covering an input frequency range of 168MHz to 240MHz (VHF-III), 1452MHz to 1492MHz (L-band), and also 87MHz to 108MHz (FM). The MAX2172 achieves a high level of component integration, allowing lowpower, tuner-on-board designs. The direct-conversion to low-IF architecture eliminates the need for an IF-SAW filter while providing a balanced 2.048MHz center frequency baseband output to the demodulator.

The MAX2172 provides a buffered reference clock at the crystal frequency.

A sigma-delta fractional-N synthesizer is incorporated to optimize both close-in and wideband phase noise performances for OFDM applications where sensitivity to both 1kHz phase noise and wideband phase noise related to strong adjacents can be a problem.

The MAX2172 is available in a 40-pin thin QFN package (6mm x 6mm) with an exposed pad. Electrical performance is guaranteed over the extended -40°C to +85°C temperature range.

An evaluation kit is available: MAX2172EVKIT

Key Features

- +2.7V to +3.5V Supply Voltage Range
- Low-IF Output Eliminates IF-Saw Filter
- Integrated FM/VHF-III Bandpass Filter
- Integrated Low-IF Bandpass Filter
- Sigma-Delta Fractional-N Synthesizer
- +45dBc ACPR (N+1)
- 2.9dB Typical Noise Figure for VHF-III (Includes On-Chip Tracking Filter)
- 3.1dB Typical Noise Figure for L-Band
- VHF-III Sensitivity of -101dBm
- L-Band Sensitivity of -101dBm
- Baseband Overload Detector Controls RF AGC
- Fast Channel Scan RSSI 5-Bit Output
- FM (S+N)/N = 26dB at -111dBm
- Small 6mm x 6mm Thin QFN Package

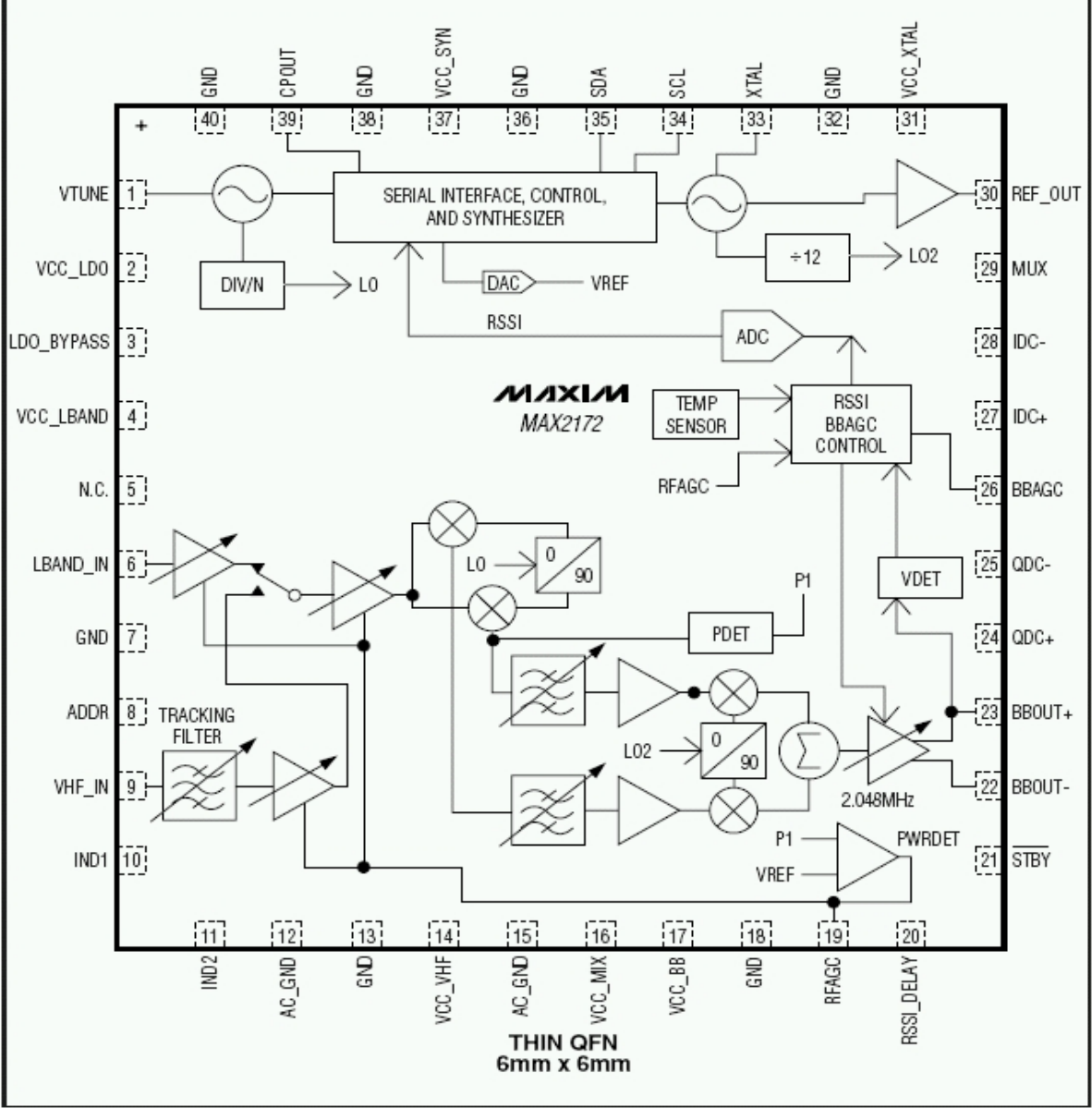
Applications/Uses

- Fixed and Mobile Digital Audio Broadcast (DAB, DAB+) with FM
- Terrestrial Digital Multimedia Broadcast (T-DMB) with FM

Key Specifications:

Digital Radio Receivers														
Part Number	Ref. Clock Freq. (MHz)	IF f _{OUT} (MHz)	Noise Figure (dB)	V _{SUPPLY} (V)	I _{SUPPLY} (mA)	Applications	Solutions	Band/ Freq. (MHz)	Features	Footprint (mm x mm)	Package/Pins	Smallest Available Pckg. (mm ²)	Industry Qualified	Budgetary Price
			typ									max w/pins		See Notes
MAX2172	24.576	2.048	2.9	2.7 to 3.5	61	FM, DAB and T-DMB Home and Automotive Radios	Automotive Consumer	87 to 108, 168 to 240 and 1452 to 1492	3.1dB NF in L-band 5bit RSSI 45dB ACPR Closed loop RF and BB AGC On-Chip VHF Tracking Filter	6.0 x 6.0	TQFN/40	37.2	Automotive - AECQ100 Automotive - General	\$3.64 @1k
See All Digital Radio Receivers (5)														
Pricing Notes: This pricing is BUDGETARY, for comparing similar parts. Prices are in U.S. dollars and subject to change. Quantity pricing may vary substantially and international prices may differ due to local duties, taxes, fees, and exchange rates. For volume-specific prices and delivery, please see the price and availability page or contact an authorized distributor.														

Diagram



Functional Diagram

Application Notes

Tutorial 5100 General Layout Guidelines for RF and Mixed-Signal PCBs

Product Guides

Wireless (PDF)

Reliability Reports

Reliability Report: MAX2172.pdf
Show FIT data for: MAX2172 Go

Software/Models

none

Ordering Information

Filters: Part Number: Package: Any Temperature: Any Tape and Reel Sample Go						
Part Number	Free Sample	Buy	Status	Package: TYPE PINS FOOTPRINT DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX2172ETL+	Sample	Buy	Active: Data sheet on request only	TQFN;40 pin;37.2 mm ² Outline Drawing:21-0141 (PDF) Land Pattern: 90-0053 (PDF) Use pkgcode/variation: T4066+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2172ETL+C8S		Buy	Active: Data sheet on request only	TQFN;40 pin;37.2 mm ² Outline Drawing:21-0141 (PDF) Land Pattern: 90-0053 (PDF) Use pkgcode/variation: T4066+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2172ETL+T		Buy	Active: Data sheet on request only	TQFN;40 pin;37.2 mm ² Outline Drawing:21-0141 (PDF) Land Pattern: 90-0053 (PDF) Use pkgcode/variation: T4066+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2172ETLV+	Sample	Buy	Active: Data sheet on request only	TQFN;40 pin;37.2 mm ² Outline Drawing:21-0141 (PDF) Land Pattern: 90-0053 (PDF) Use pkgcode/variation: T4066+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2172ETLV+CBM		Buy	Active: Data sheet on request only	TQFN;40 pin;37.2 mm ² Outline Drawing:21-0141 (PDF) Land Pattern: 90-0053 (PDF) Use pkgcode/variation: T4066+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2172ETLV+T		Buy	Active: Data sheet on request only	TQFN;40 pin;37.2 mm ² Outline Drawing:21-0141 (PDF) Land Pattern: 90-0053 (PDF) Use pkgcode/variation: T4066+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis

- Notes:
- Other options and links for purchasing parts are listed at: <http://www.maxim-ic.com/sales>.
 - Didn't Find What You Need? Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
 - Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt; -D = drypack; -U/+U on DS parts = cut tape. More: See Full Data Sheet or Maxim Product Naming Conventions.
 - * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses. Note that "+", "#", "-" in the part number suffix describes RoHS status. Package drawings may show a different suffix character.

Similar Products by Function

MAX2170, MAX2171 Direct-Conversion to Low-IF Tuners for Digital Audio Broadcast
MAX3580 Direct-Conversion TV Tuner
See All Digital Radio Receivers (5 Products)

Similar Products by Application

Automotive: Head Unit > Digital Audio Broadcast (DAB)
Broadcast TV and Radio > Terrestrial TV
Flat-Panel TVs > Radio

Evaluation Kits

MAX2172EVKIT Evaluation Kit for the MAX2172

Products with Similar Part Numbers

MAX2172EVKIT Evaluation Kit for the MAX2172

More Information

New Product Press Release [2009-07-13]

Your Comments

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Applications Help

Information Index

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