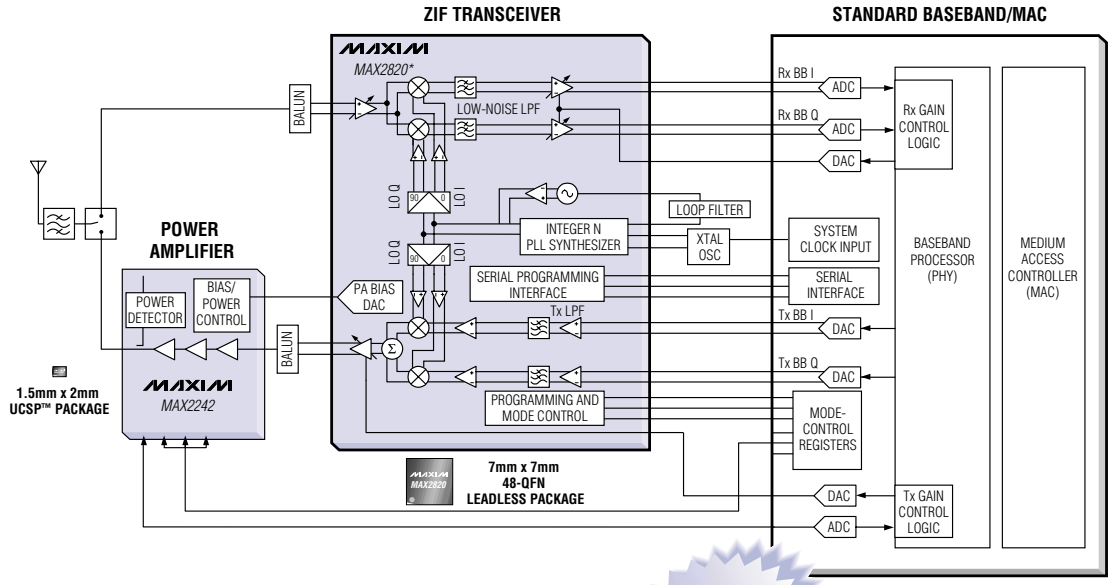
FUTURE PRODUCT

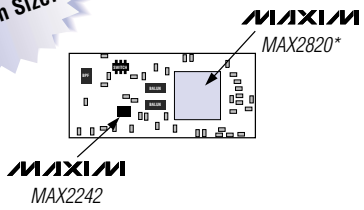
802.11b Zero-IF Radio Delivers Best-In-Class Size, Power, and Sensitivity Performance

- **-87dBm Receiver Sensitivity at 11Mbps Data Rate Is 3dB Better than Other Zero-IF (ZIF) Solutions**
- **Eliminates SAW Filter with No Compromise in Adjacent Channel Rejection**
- **Reduces Radio Component Count by 50% and Board Space by Over 80%!**



- **MAX2820* ZIF Transceiver Features:**
  - **Direct-Conversion Receiver and Transmitter**
  - **Fully Monolithic Low-Noise Voltage-Controlled Oscillator (VCO)**
  - **High-Rejection Integrated Baseband Filters**
  - **Digital Bias Control for External PA**
  - **Digital Tx/Rx Mode Control**
  - **Analog Receive Level Detection**
  - **Interfaces to Industry-Standard Baseband/MAC**
  - **2.7V to 3.6V Supply**

320mm² RF Solution Size!



Small Solution Size Ideal for:

- **Compact Flash WLAN Cards**
- **Embedded WLAN Designs for Notebooks, PDAs, and LAN/WAN Smart Phones**
- **2.4GHz/5GHz Dual-Band WLAN Modules**

*Future product—contact factory for availability.
UCSP is a trademark of Maxim Integrated Products, Inc.

FUTURE PRODUCTS

Quad Mode Receiver for CDMA Saves BOM Cost, Board Space, and Current Draw

Better Sensitivity, Longer Talk Time, 8mA Average Supply Current

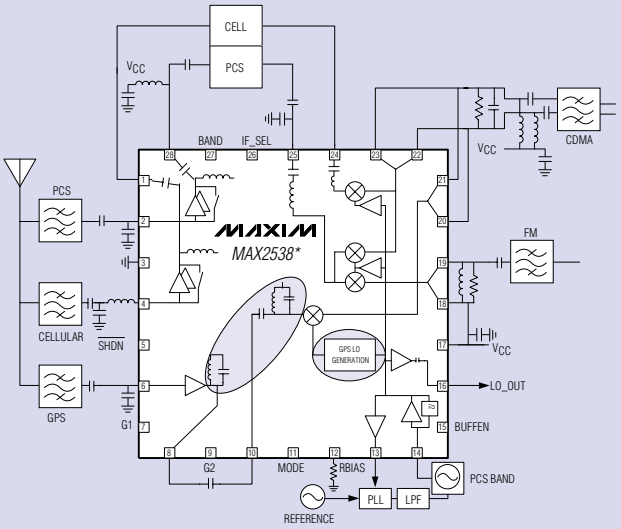
The new MAX2538* family eliminates the need for 10 inductors, needs no dual-band VCO module, and consumes 12mA less current than the competition. The MAX2538 uses Maxim's new SiGe technology, which saves cost, space, and power. (Most RF ports have on-chip 50Ω matching.) LO for GPS mode is generated internally, enabling the use of a single-band VCO module. The high-linearity GPS path eliminates the interstage GPS SAW filter.

- **8mA Average Supply Current (12mA Less Average Supply Curent than the Competition)**
- **1.7dB PCS Cascade Noise Figure**
- **1.6dB Cellular Cascade Noise Figure**
- **1.6dB GPS Cascade Noise Figure**

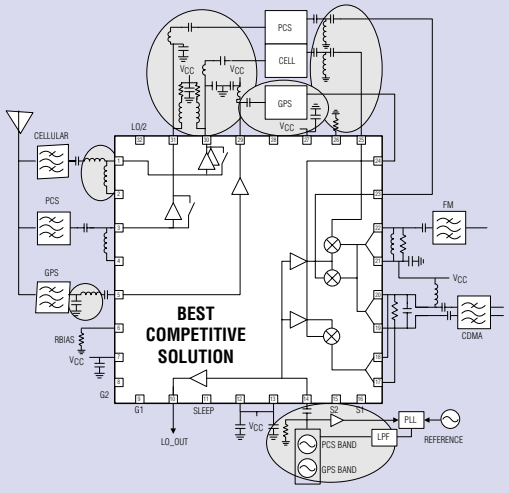
Part	GPS	LO
MAX2530*	Yes	Dual Input
MAX2531*	Yes	Doubler
MAX2538*	Yes	Divider
MAX2351*	No	Doubler
MAX2358*	No	Divider

Note: Devices applicable to: CDMA, TDMA, EDGE, GPRS, GAIT.
*Future product—contact factory for availability.

MAX2538 CDMA Receiver Beats the Competition!



- **Saves 10 Inductors**
- **Saves GPS Interstage Filter**
- **Saves Dual-Band VCO Module**
- **Saves 15 Capacitors**
- **Saves 5 Resistors**



DALLAS SEMICONDUCTOR MAXIM

NEW

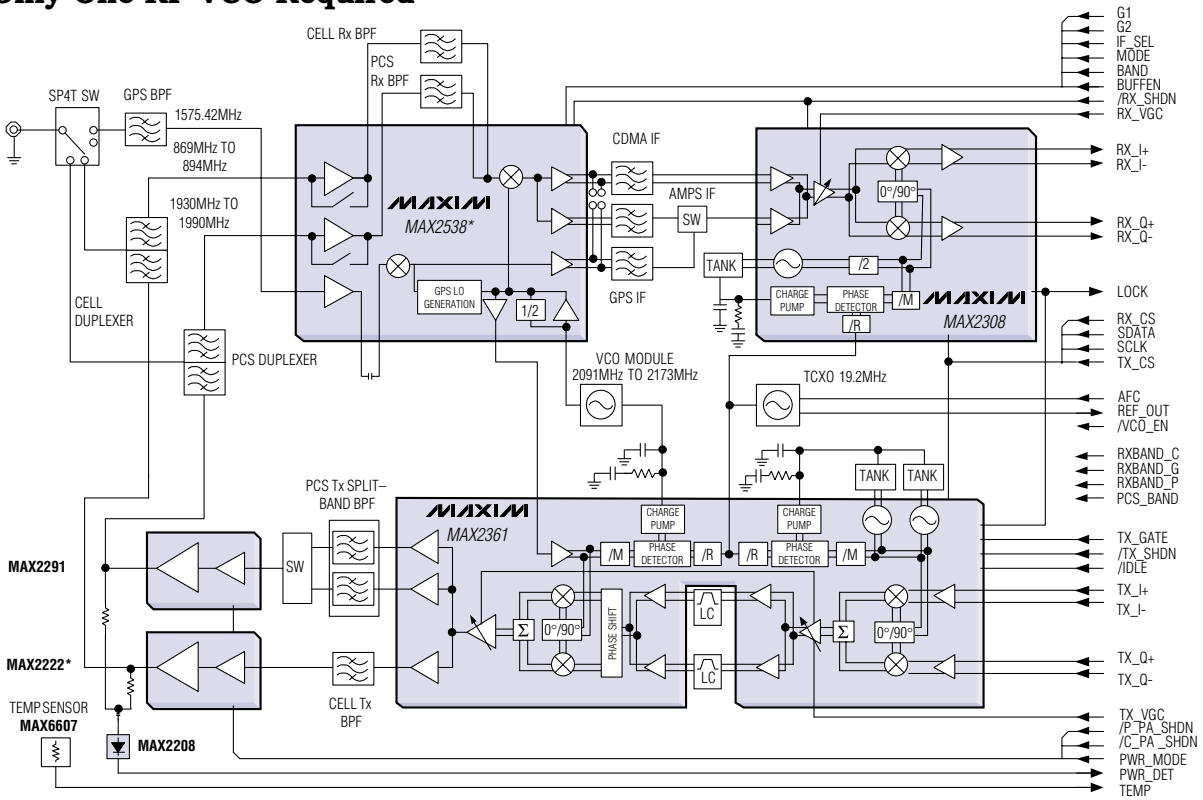
Speed Up Your cdma2000™ Development with Maxim's CDMA Reference Design Version 3.5

Includes GPS!

Maxim's CDMA reference designs include all the functions necessary to translate a CDMA-modulated downlink RF carrier at the antenna port to baseband analog I and Q, and back.

Radio Features

- **Dual-Band Triple-Mode CDMA with Optional GPS**
- **Only One RF VCO Required**
- **Ultra-Low Current Consumption for Both Talk and Standby**



MAX2538*:

- **Dual-Band, Triple-Mode CDMA Plus GPS**
- **Ultra-Low Supply Current**
- **On-Chip Matching for Most RF Ports**

MAX2308:

- **Self-Contained RXIF Solution**
- **Compact 5mm x 5mm QFN Package**
- **On-Chip Synthesizer and IF VCO**

MAX2361:

- **Fully Integrated Quadrature Transmitter**
- **On-Chip Synthesizers**

MAX2291/MAX2222*:

- **Chip-Scale PCS Band and Cellular Band Power Amplifiers**
- **Advanced SiGe Process**
- **Lowest Average Supply Current**
- **36% Peak Efficiency**

MAX2208:

- **World's Smallest Power-Detector Solution**

cdma2000 is a trademark of the Telecommunications Industry Association.
*Future product—contact factory for availability.

DALLAS SEMICONDUCTOR MAXIM

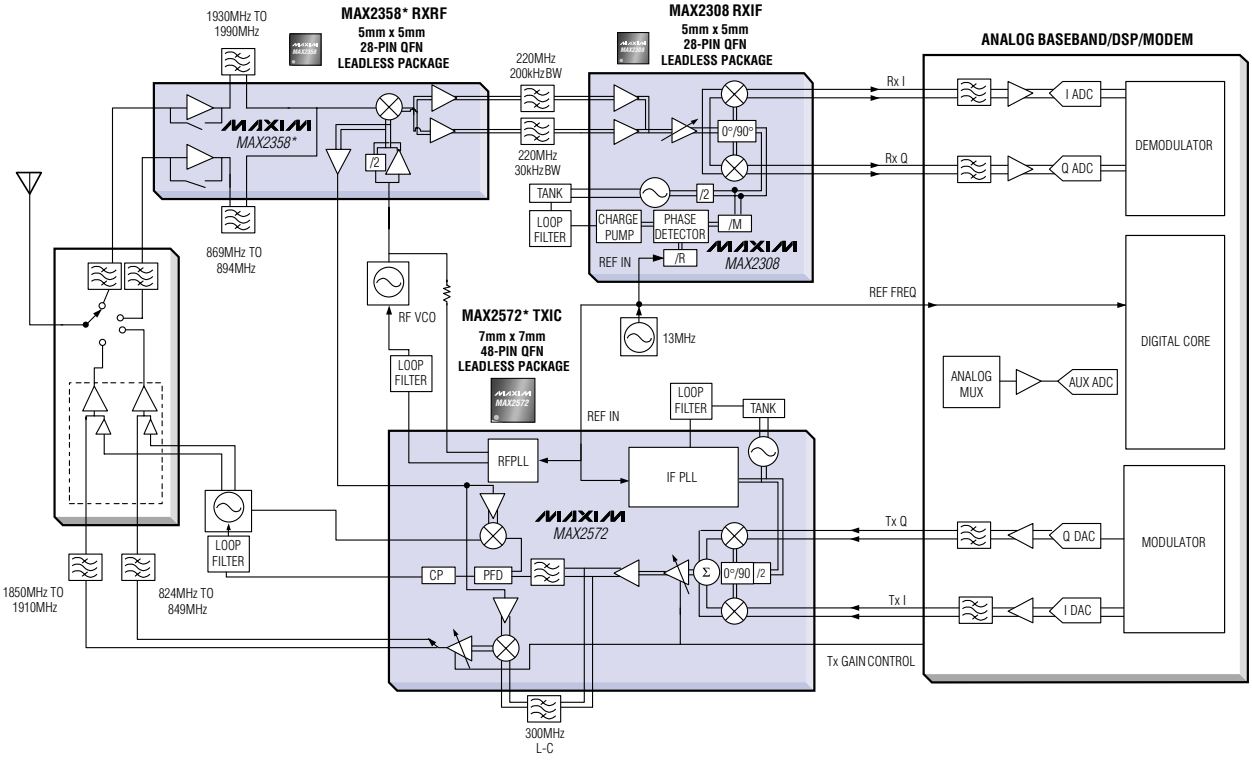
NEW GSM/GPRS Solution Supports TDMA

Take advantage of Maxim's advanced technology and develop a lower cost, longer talk time, and smaller GAIT phone. Maxim receiver technology requires fewer external components and has low current consumption and the industry's highest sensitivity. The transmitter includes a linear path and a GSM offset loop.

Radio Features

- **Dual-Band GAIT Handset Radio**
- **AMPS†, GSM/GPRS/EDGE, TDMA Compatible**
- **Ultra-Low Current Consumption for Both Talk and Standby**
- **Only One RF VCO Required**
- **Dual-Band Operation**
- **Expands to Include European GSM Bands**
- **No Duplexer for Longest Talk Time**

† AMPS requires duplexer.



MAX2358*:

- **Dual Band, Triple Mode**
- **Ultra-Low Supply Current**
- **No Off-Chip Matching Required**

MAX2308:

- **Self-Contained RXIF Solution**
- **Compact 5mm x 5mm QFN Package**
- **On-Chip Synthesizer and IF VCO**

MAX2572*:

- **Fully Integrated Quadrature Transmitter**
- **GSM Offset Loop with On-Chip Filters**
- **High Output Power**
- **GPRS-Capable PLL**

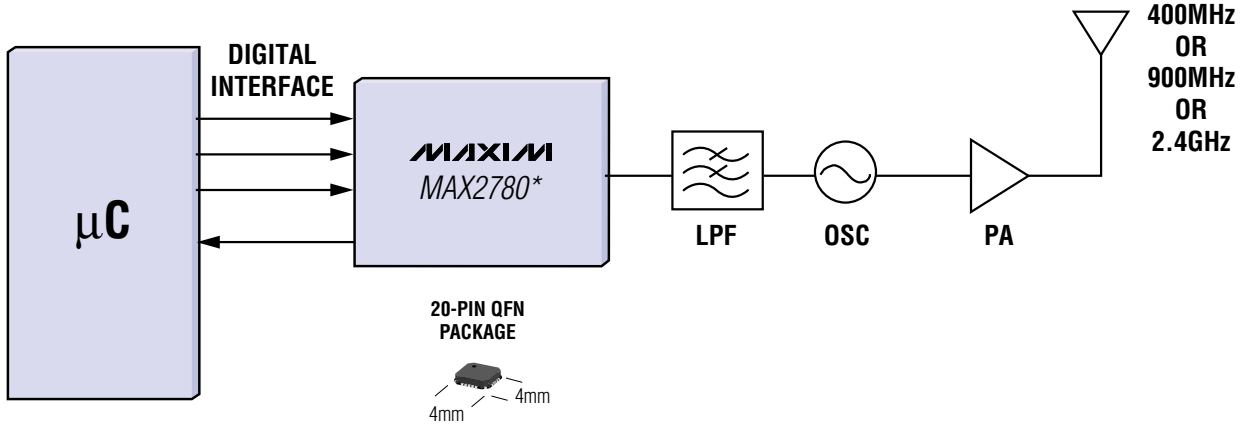
*Future product—contact factory for availability.

DALLAS SEMICONDUCTOR MAXIM

FUTURE PRODUCT

Sigma-Delta Frac-N Synthesizer Enables Direct Digital FSK Modulation in Multiple ISM Bands

Lowest Cost, Lowest Component Count ISM Radio Solution Requires No Baseband or RF Filters



Benefits for ISM Radios

- Spur Level <90dBc Outperforms Any DDS System
- -93dBc/Hz Close-In Phase Noise:
  - Allows Use of 3x to 5x Higher Loop Bandwidth Compared to Classical Synthesizers
  - Results in Less VCO Pulling, Buffering, and Shielding
- Digital Transmit Modulation Through the Frac-N PLL:
  - Enables Fast Frequency Hopping and Multichannel Operation in the 400MHz, 900MHz, and 2400MHz ISM Bands
- Digitally Controlled Frequency Deviation Improves Receiver BER Performance
- Programmable Data Rate Up to 256kbps
- On-Chip Raised-Cosine Filter Provides High Spectral Efficiency and Easy Demodulation of NRZ FSK Data; Completely Eliminates All Analog FSK Filters
- Simple, Direct Interface to Microprocessor 8-Bit Serial Port

Benefits for Cellular Handset Applications

- Ultra-Fast Settling Time Satisfies the Most Stringent Cellular Standards:
  - Including GPRS (100µs Lock Time for 35MHz Jump with 50kHz Loop Bandwidth)
- Low-Phase Noise: -93dBc/Hz Close-In
- Small 4mm x 4mm 20-Pin QFN

*Future product—contact factory for availability.

FUTURE PRODUCT

Satellite TV Receiver Reference Design Is Complete Two-Chip Solution

The MAX2115* direct broadcast satellite (DBS) tuner IC, combined with LSI Logic's L64736 demodulators, form a complete, simple-to-implement satellite receiver front end. The MAX2115 provides a complete ZIF solution, operating over the entire U.S. and European frequency ranges—925MHz to 2175MHz and beyond.

Following the success of the first-generation MAX2104, the MAX2115 further simplifies the design of motherboard-based DBS tuner solutions for the ultimate in cost savings.

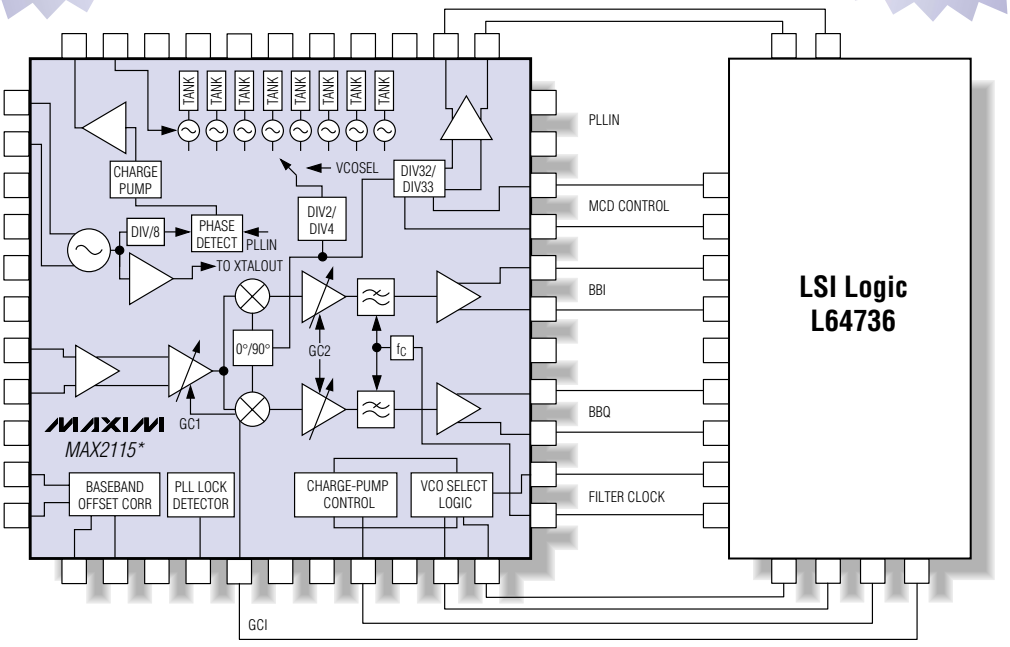
The MAX2115*/LSI Logic chipset achieves sensitivity in excess of -70dBm for U.S. and international digital satellite TV systems. The superior front-end performance of the MAX2115 eliminates the need for bulky and expensive baluns, discrete LNAs, filters, and switches, providing a clean F-connector-to-device interface that requires little or no RF know-how. The MAX2115* incorporates both an RF VGA, providing in excess of 60dB of guaranteed gain control range, and as a baseband VGA with a guaranteed minimum gain control range of 19dB.

Featuring completely integrated VCOs and tank circuits, the MAX2115 eliminates the need for multiple board spins and tedious production tolerance analysis. No longer is the designer concerned with VCO tank circuit design, 30V power supplies, and the multiple board spins that go along with a discrete tank circuit design. An on-chip reference oscillator and buffer amplifier are also provided.

The MAX2115 incorporates variable bandwidth 7th-order Butterworth lowpass filters with group delay compensation for variable baud rates from 1MB to 45MB. Filter bandwidth is adjustable through a unique interface to the demodulator, making it possible to optimize continuously for higher system performance.

Drop-In Reference Design Available

Eliminates Difficult Tank Circuit Design



*Future product—contact factory for availability.

DALLAS SEMICONDUCTOR MAXIM

FUTURE PRODUCTS

World's Most Highly Integrated Satellite Tuner Solution Works with All Demodulators

No RF Experience Required

Eliminates Expensive "Tuner in a Can" Solutions

The MAX2116*/MAX2118* DBS tuners are the industry's most versatile and most highly integrated tuners available. The devices provide a complete ZIF solution, operating over the entire U.S. and European DBS frequency ranges—925MHz to 2175MHz and beyond.

While achieving a sensitivity exceeding the requirement for DSS and DVB-S, these devices eliminate the requirement for expensive external baluns, discrete LNAs, filters, and switches, providing a clean F-connector-to-device interface requiring little or no RF know-how.

Both RF and baseband VGA controls are incorporated. The RF VGA provides in excess of 60dB of guaranteed gain control range, while the baseband VGA provides an additional 19dB of guaranteed control range. The baseband VGA is digitally controlled through the 2-wire interface, thus making it possible to set it once and forget it. Optionally, the baseband VGA could be used in a control loop to optimize front-end NF at all input signal levels.

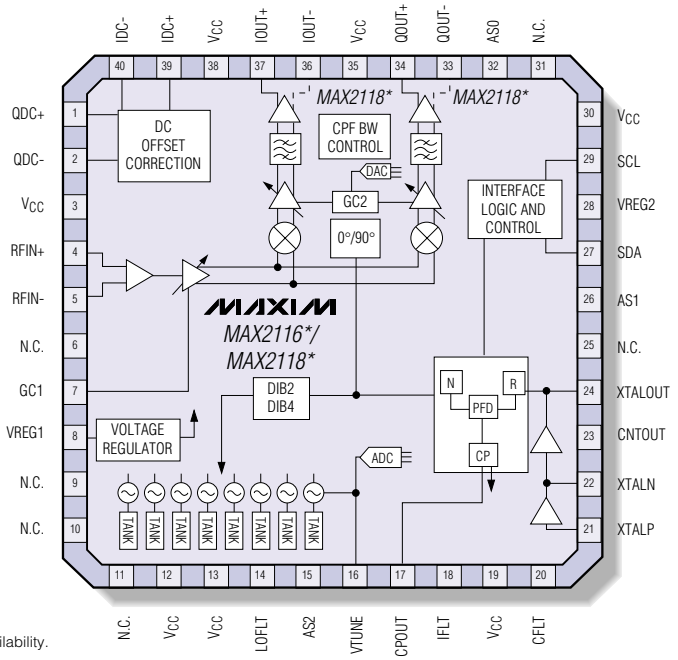
The MAX2116/MAX2118 contain integrated VCOs and a frequency synthesizer. The high level of integration of the MAX2116/MAX2118 eliminates the need for expensive tuner modules or RF daughter cards. By keeping the RF inside the IC, numerous companies have achieved motherboard-based satellite receivers. The designer need not be concerned with VCO tank circuit design and the multiple board spins that go along with satellite front-end design. Additionally, an on-chip reference oscillator and buffer amplifier operating to 30MHz are provided.

The MAX2116/MAX2118 incorporate variable bandwidth 7th-order Butterworth lowpass filters with group delay compensation for variable baud-rate applications. Filter bandwidth is adjustable through the 2-wire interface, making it possible to continuously optimize for system performance.

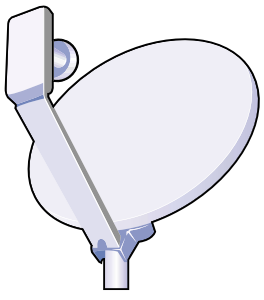
Two on-chip 3V regulators are provided for simple pullup terminations of low-voltage open-drain/collector baseband interfaces. Finally, the MAX2116/MAX2118 are capable of setting the device address byte to eight addresses for multituner applications.

Available in both single-ended (MAX2116) and differential output configurations (MAX2118), these universal devices are compatible with virtually all demodulator ICs.

Eliminate Difficult Tank Circuit Design



No 30V Supply



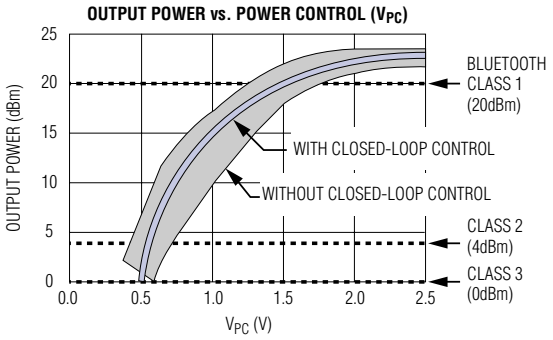
SATELLITE DISH

*Future product—contact factory for availability.

NEW First Bluetooth PA with Integrated Closed-Loop Power Control

Saves 24 Components and $0.71 Compared to a Discrete Implementation Using an Op Amp and Diode Detectors

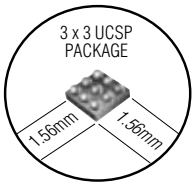
NEAR-CONSTANT OUTPUT POWER PERFORMANCE OVER FULL OPERATING CONDITIONS* AT ANY OUTPUT LEVEL



*Full operating conditions defined as temperature = -40°C to +85°C, V_{CC} = 3.0V to 3.6V, and RF PIN = -4dBm to +4dBm. Blue region shows performance under full operating conditions with closed-loop control and gray region shows performance without closed-loop control.

MAX2244 Features:

- **Closed-Loop Power Control for Near-Constant Performance Over Full Operating Conditions**
- **22dBm Output (20dBm at the Antenna)**
- **Continuous Analog Power Control Covering All Bluetooth™ Class 1, 2, and 3 Power Levels**
- **27% Efficiency at 22dBm Output**
- **Integrated Input 50Ω Match**
- **1µA Shutdown Mode**
- **Single 3V to 3.6V Supply**



Applications:

- **Bluetooth Modules**
- **2.4GHz Cordless Phones**

Complete Bluetooth PA Family Available in 3 x 3 UCSP Package

Part	Peak Output Power (dBm)	Supply Current (mA)	Closed-Loop Control	Power Control Voltage (V)
MAX2244	22	179	Yes	0.5 to 2.0, analog
MAX2240	19	105	No	2 bit, digital
MAX2245	22	179	Yes	1.0 to 2.5, analog
MAX2246	20	120	Yes	0.5 to 2.0, analog

Bluetooth is a trademark of Ericsson Corp.

MAXIM/DALLAS SEMICONDUCTOR DIRECT! DISTRIBUTION

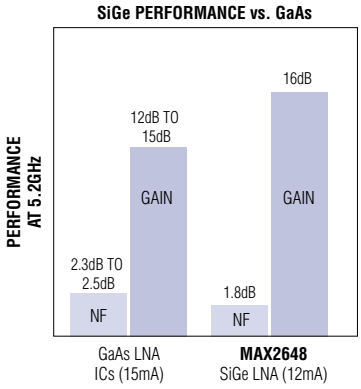
Get Price, Delivery, and Place Orders Online at

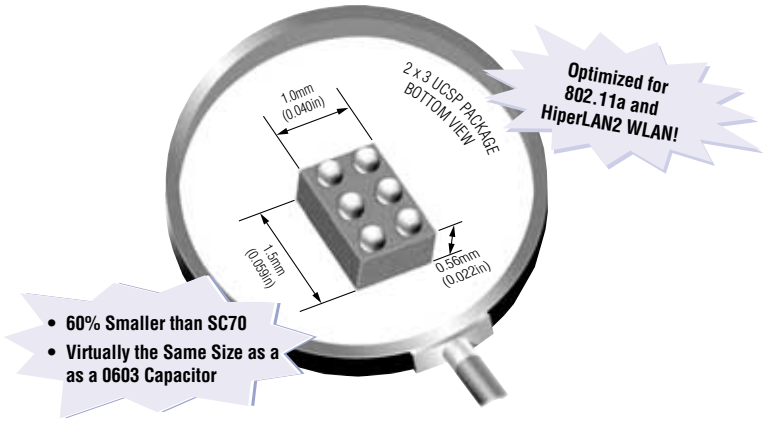
www.maxim-ic.com

DALLAS SEMICONDUCTOR MAXIM

5GHz Chip-Scale LNA Delivers 1.8dB Noise Figure

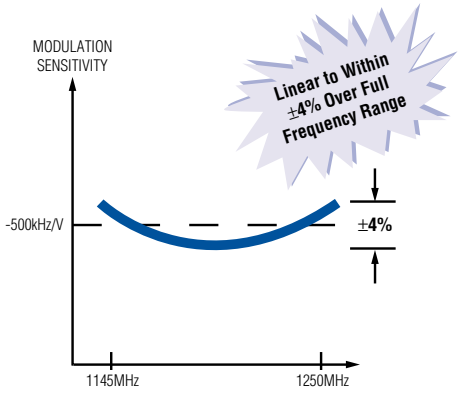
The MAX2648/MAX2649* SiGe LNA take the complexity out of designing a low-cost, high-performance 5GHz LNA for IEEE802.11a and HiperLAN2 wireless LAN (WLAN) systems. Compared to a discrete design, the LNA's integrated active bias network saves one transistor and three passive components while maintaining stable RF performance over supply and temperature variations. Total board space required is only 11mm^2, ideal for WLAN PC cards for laptop computers. The MAX2649 includes shutdown and step-gain features.

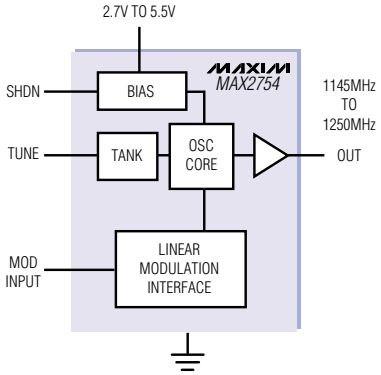




* Future product—contact factory for availability.

World's First Monolithic VCO IC with Linear Modulation Interface





MAX2754 VCO Features:

- **Guaranteed 1145MHz to 1250MHz Tuning Range to Support 1/2 LO Applications**
- **Integrated Tank Circuit and Output Buffer**
- **Modulation Linearity Within ±4%**
- **Phase Noise of -137dBc/Hz at 4MHz Offset**
- **Low-Power Shutdown Mode**

Applications:

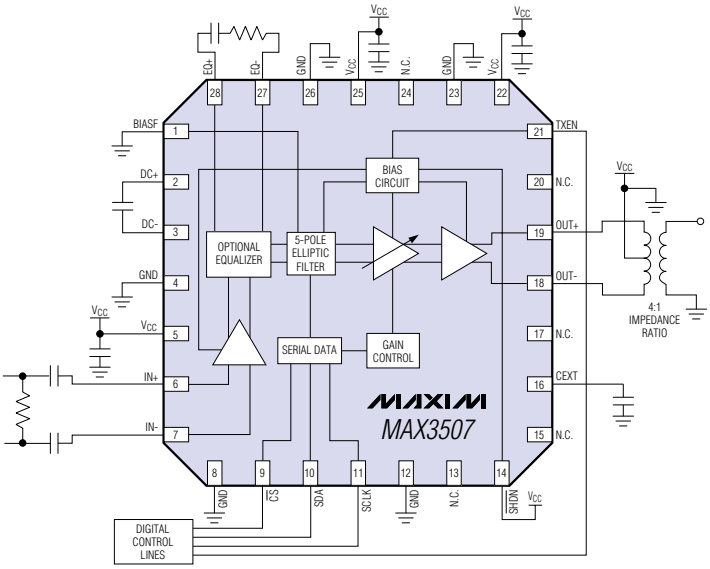
- **2.4GHz Cordless Phones**
- **Home RF**
- **Bluetooth**
- **2.4GHz Wireless Data Radios**

DALLAS SEMICONDUCTOR MAXIM

NEW World's Only EuroDOCSIS/DOCSIS Cable Upstream Amplifier with Integrated Anti-Alias Filter

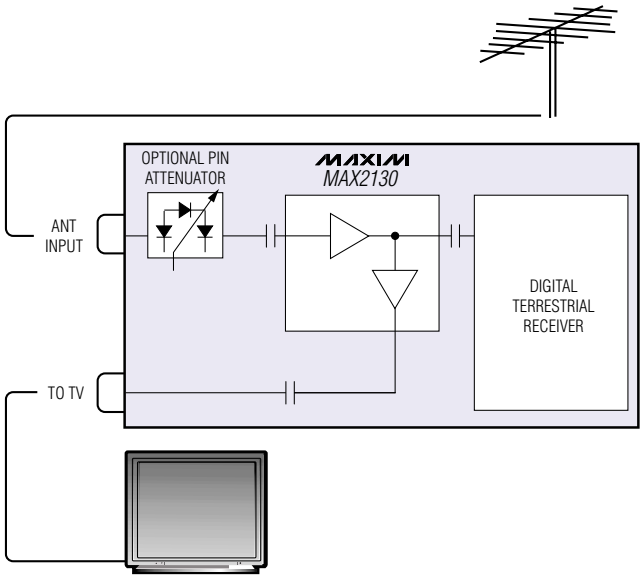
- **63dBmV Output at 65MHz**
- **47dB Typical Attenuation of Alias Spur**
- **Built-In Adjustable Equalizer**
- **Small 28-Pin QFN Package**
- **Eliminates External Alias Filter**
- **Ideal for RF Modules Including Upstream Amplifier**

The MAX3507 is the only upstream amplifier to include an anti-alias filter that attenuates the alias product produced by the upstream modulator DAC. This is especially helpful in EuroDOCSIS cable modems where the alias product is closer to the desired upstream signal, making the LPF more complicated, larger, and more costly. The LPF typically provides 47dB of attenuation at 135MHz and above, while meeting EuroDOCSIS/DOCSIS requirements with an output level of 8dBmV to 60dBmV. The MAX3507 is available in a 28-pin QFP package, further reducing the required space.



NEW Eliminate Broadband Splitter, Improve SNR in Digital Terrestrial Set-Top Boxes

The MAX2130 is ideal for digital terrestrial receivers (DVB-T or VSB). The amplifier has a low noise figure of 2.8dB and an IIP3 of 17dBm. The MAX2130 also has a second integrated loop-through output. The unbalanced input and outputs allow use with existing canned tuner architectures. When used with a pin-diode attenuator, the low-noise MAX2130 provides enough gain (15dB) at low input levels to deliver an acceptable signal-to-noise ratio (SNR) to the receiver while also providing low distortion during high signal-level conditions. The loop-through output eliminates the need for a splitter or directional coupler to provide a TO TV output. The part requires a 5V supply and draws 93mA.



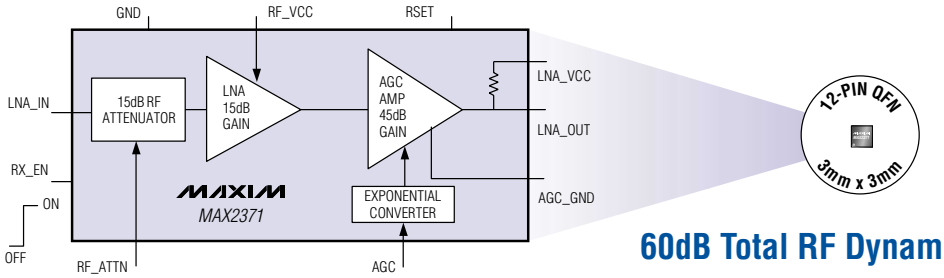
DALLAS SEMICONDUCTOR MAXIM

NEW Increase Your Direct Conversion Receive Sensitivity

Dynamic Range Makes LNA Ideal for Direct Conversion

The MAX2371/MAX2373 wideband low-noise amplifier (LNA) ICs are designed for direct conversion receiver (DCR) or very low IF (VLIF) receiver applications. They contain single-channel, single-ended LNAs with switchable attenuator and automatic gain control (AGC). These devices provide high dynamic range (typically 60dB) at RF with 1.8dB noise figure and 41dB reverse isolation.

The MAX2371/MAX2373 operate over the 100MHz to 1GHz frequency range. Since only a narrow band is needed in each application, different matching circuits can be applied. The devices are dynamically configured through the digital/analog control pins and the analog AGC control pin. The MAX2371 is optimized for use at 150MHz, while the MAX2373 is optimized for use in the 900MHz bands. The MAX2371/MAX2373 come in a leadless 3mm x 3mm QFN package.



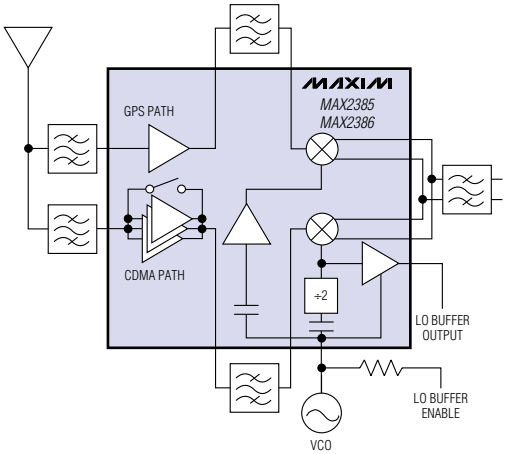
60dB Total RF Dynamic Range!

NEW Add GPS, Better Receive Sensitivity, and Lower Current Draw to Your CDMA Phone

Tiny UCSP Packages Are 4x Smaller than 4mm x 4mm QFN Solutions

The MAX2385/MAX2386 LNA/mixer ICs are designed for CDMA/cdma2000 1x and GPS applications. The MAX2385/MAX2386 are optimized for the Japanese 832MHz to 870MHz band, and can also be configured for the Korean/Chinese/U.S. 869MHz to 894MHz band.

- **4.5mA Average CDMA Current**
- **Single VCO Operates GPS and CDMA**
- **2.5dB Cascade CDMA NF with 27dB Gain**
- **LO Output Buffer Drives Tx Upconverter**
- **GPS Mode:**
  - **2.0dB Cascade Noise Figure**
  - **36dB/32dB Gain (MAX2385/MAX2386)**
- **EV Kit Available for Easy Evaluation**



Also from Maxim

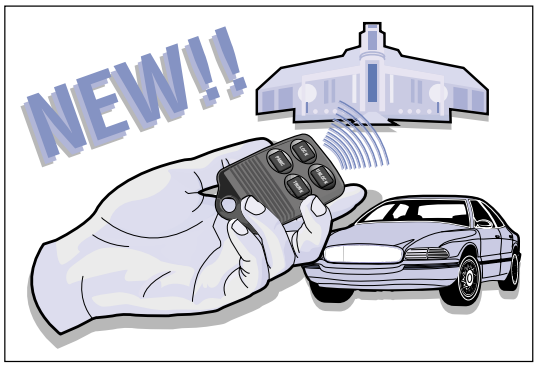
Single-Band Chip-Scale Upconverter/PA Driver. The MAX2307 is only 2.0mm x 2.5mm and eliminates a SAW filter and reduces current draw. Find the data sheet and request samples at www.maxim-ic.com.

DALLAS SEMICONDUCTOR MAXIM

FUTURE PRODUCT

World's Smallest 300MHz to 450MHz Transmitter

High 10dBm Output Power Operates Down to 2.1V and Fits in a Tiny SOT23 Package!



The MAX1472* is a 300MHz to 450MHz ASK transmitter packaged in an industry-standard 8-pin SOT23. It pumps out 10dBm of power, operates down to 2.1V, and draws only 9mA of power at a 100% duty cycle. Designed for key fobs, security systems, garage doors, and other high-volume, battery-powered transmitters, the MAX1472 is the world's smallest integrated transmitter.

The MAX1472 is a crystal-based transmitter, which eliminates most of the problems common to LC and SAW-based transmitters. Due to the inherent accuracy of the crystal frequency, the MAX1472 can transmit with a much narrower IF bandwidth, improving the overall system sensitivity. The MAX1472 uses an on-chip phase-lock loop (PLL) to multiply the frequency of the lower cost, low-frequency external crystal.

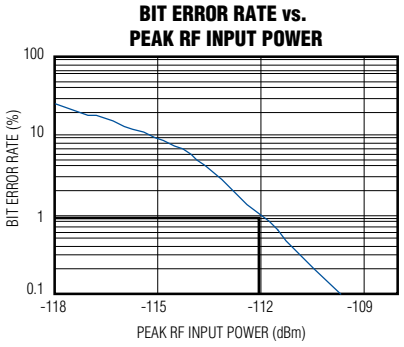
* Future product—contact factory for availability.

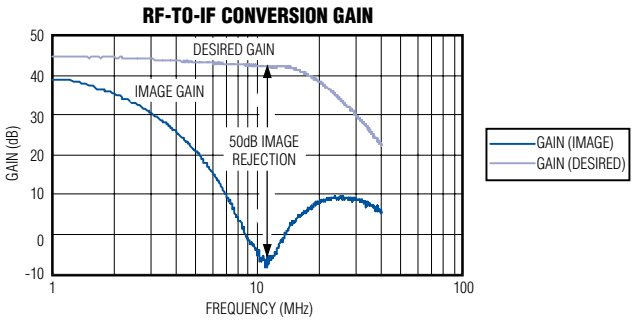
Improve the Range of Your 300MHz to 450MHz System with New Single-Chip Receiver

The MAX1470 provides an impressive -112dBm (peak power level) sensitivity at 315MHz, along with 50dB of integrated image rejection. Additionally, with Maxim's superheterodyne receiver architecture, no manual tuning is required, saving both time and money in manufacturing. The device is targeted for high-volume devices such as remote keyless-entry systems, tire-pressure monitoring, garage-door openers, security systems, remote controls, or remote sensors.

Saving power was paramount in the design of the MAX1470, and many features were included to maximize the battery life of your system. First, the part operates from 3V supplies, saving 1/3 the power vs. 5V systems. The part features a very fast transition of less than 250ms from sleep to valid data out. This allows the MAX1470 to remain in sleep mode longer, saving more battery power. Finally, the part itself draws only 5.5mA when receiving data.

The MAX1470 is priced at $1.95† for 10,000 units. Evaluation kits are also available.





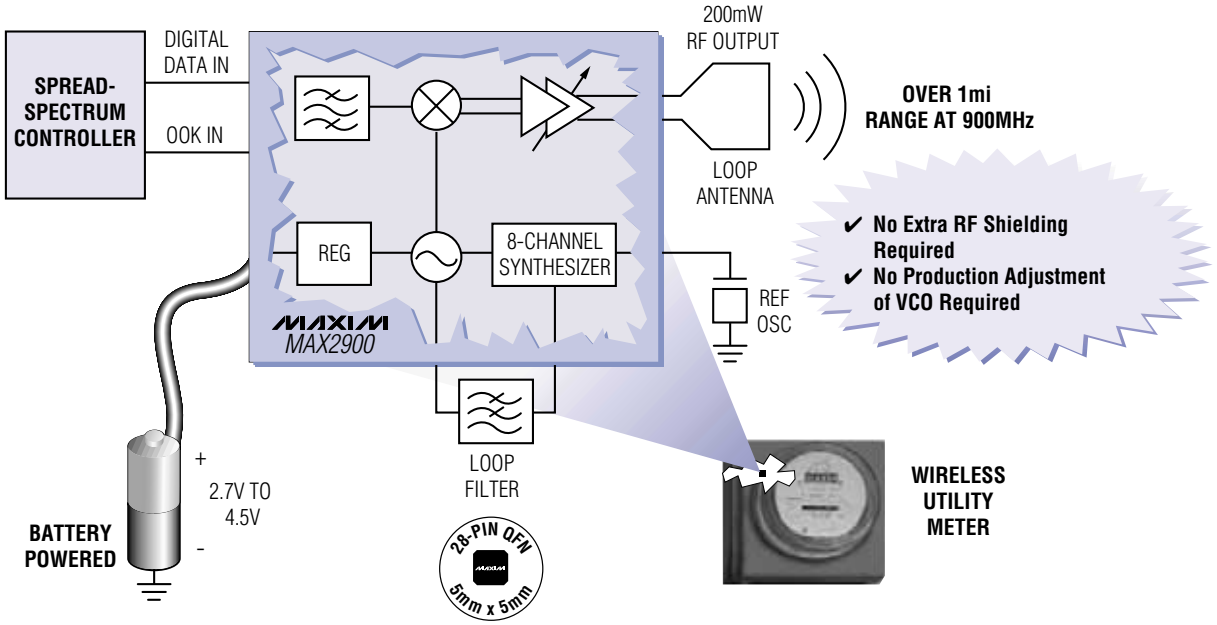
†10,000-up recommended resale. Prices provided are for design guidance and are FOB USA. International prices will differ due to local duties, taxes, and exchange rates. Not all packages are offered in 1k increments, and some may require minimum order quantities.

DALLAS SEMICONDUCTOR MAXIM

NEW

First 900MHz Single-Chip Transmitter Delivers 23dBm Output Power

Combines BPSK Modulator, Modulation Filter, VCO and Tank, 8-Channel Synthesizer, and 200mW Power Amplifier



MAX2900 Transmitter Features:

- **Support for OOK, ASK, and FM**
- **Modulation Filter for Direct Sequence BPSK Up to 5Mchips/s**
- **23dBm Peak Output at 4.5V, 17dBm at 3V**
- **Extremely Low Frequency Pulling for OOK Modulation**
- **2.7V to 4.5V Supply Range**
- **Small 5mm x 5mm 28-Pin QFN Package**

Applications:

- **Meter Reading**
- **Security/Alarms**
- **Building Control**
- **Telemetry**
- **Data Networks**

Complete 900MHz Transmitter Family Supports U.S. and European ISM Bands

Part	Market	Frequency Range (MHz)	Synthesizer Option
MAX2900EGI	U.S.	902 to 928	Internal 8 selectable channels
MAX2901EGI	U.S.	902 to 928	Internal dual channel
MAX2902EGI	U.S.	902 to 928	Use off-chip synthesizer
MAX2903EGI	Europe	867 to 870	Internal dual channel
MAX2904EGI	Europe	867 to 870	Use off-chip synthesizer

FUTURE PRODUCT

Industry's Highest Performance Broadband Transmit Solution

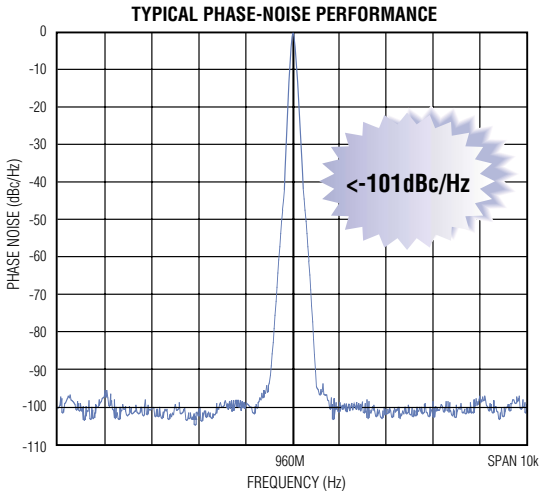
Perfect for Two-Way Satellite Internet and Wireless Broadband Internet Access

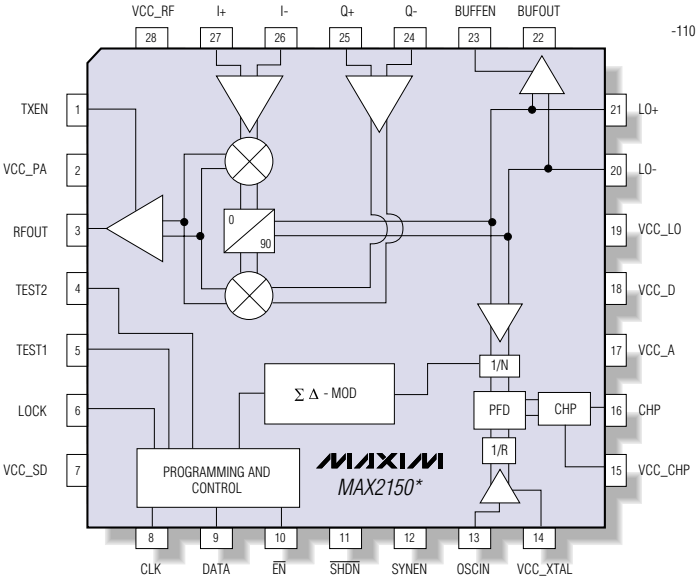
Featuring extremely wide bandwidth and unprecedented synthesizer frequency resolution, the MAX2150* quadrature modulator and sigma-delta fractional-N synthesizer provide the ultimate solution for satellite and terrestrial broadband systems.

The MAX2150's 28-bit fractional-N synthesizer results in better than 100mHz of frequency resolution when used with a 10MHz reference oscillator. The industry's only broadband modulator/synthesizer provides less than -101dBc phase noise performance along with wide-loop filter bandwidths for fast settling applications. An ultra-low-noise reference oscillator and buffer amplifier are also provided to reduce the overall system component count and the associated cost.

Greater than 30dBc carrier and sideband suppression are achieved over the entire 700MHz to 2300MHz frequency range. The DC-coupled interface allows optimization of the application interface, as well as carrier suppression due to DC offsets generated at baseband.

Using a standard 3-wire interface, the MAX2150 is completely software configurable, including various shutdown modes. Operating from 2.7V to 5.5V, the MAX2150 draws a mere 65mA for low-power applications.





Applications Include:

- **Satellite Internet**
- **Terrestrial Broadband**
- **VSAT**
- **Cellular Base Stations**

* Future product—contact factory for availability.

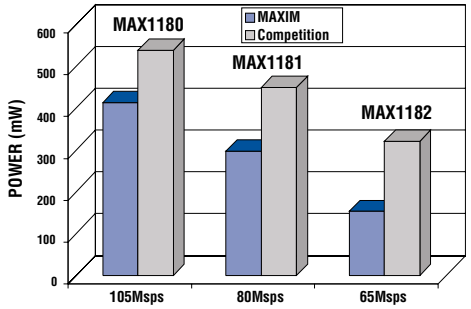
DALLAS SEMICONDUCTOR MAXIM

Lowest Power 3V, Dual 10-Bit ADCs Deliver 59dB SNR at 105Msps

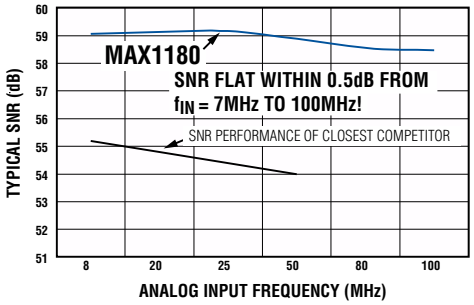
Outstanding Wideband Dynamic Performance

The MAX1180 is the latest exciting addition to our growing 3V ADC family. This dual 10-bit ADC is targeted at high-speed I/Q digitization, IF undersampling, imaging, and instrumentation applications. Wherever wide bandwidth, excellent linearity, and high dynamic performance at lowest power are needed, this new converter delivers the best power versus performance and cost available.

Unlike other high-speed dual 10-bit ADCs, the MAX1180 (105Msps) achieves a full 59dB SNR, 72dBc SFDR, and -71dBc THD at 7.5MHz input frequency, while nominally consuming only 206mW per channel. For even lower power and cost, Maxim offers the MAX1181 (80Msps), MAX1182 (65Msps), MAX1183 (40Msps), MAX1184 (20Msps), and MAX1185/MAX1186 (mixed outputs).



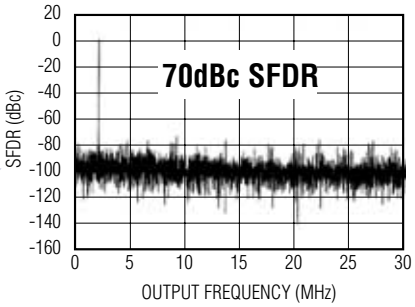
Minimum Power Plus Maximum Performance Equal the Best Dual 10-Bit ADC Available

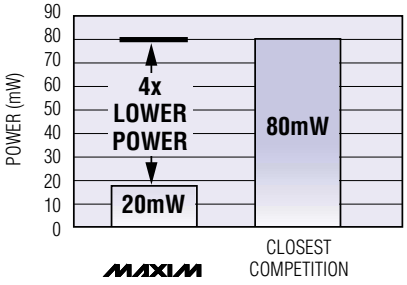


3V, Dual DACs Deliver 70dBc SFDR at Lowest Power: 18mW

Dual 8- and 10-Bit 40MHz DACs Support Portable, Single-Bus Interleaved Applications

- **±1% FSR Gain Error; ±0.2° Phase Error**
- **20mW (Dual) and 18mW (Single) Power at 3V**
- **Low 10pV-s Glitch Energy for Ultra-Low Distortion**
- **Single 2.7V to 3.3V Supply**
- **Small 24-Pin (Single) and 28-Pin (Dual) Packages**
- **Single and Dual, 8-Bit and 10-Bit Versions (MAX5180–MAX5191)**
- **70dBc SFDR at f_{OUT} = 2.2MHz**
- **Shutdown (<1µA) and Standby Modes to Save Power**





MAXIM

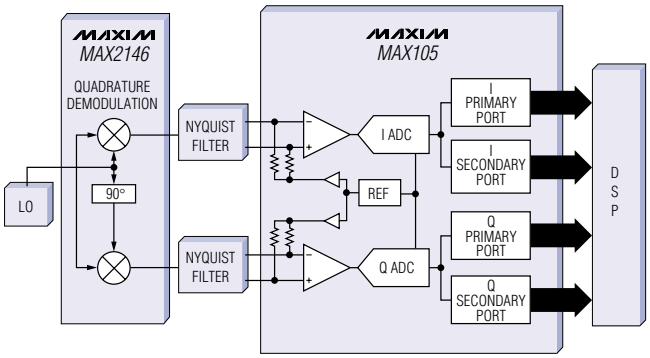
DALLAS SEMICONDUCTOR MAXIM

Wideband, 6-Bit I/Q Digitizer Delivers 37dB SNR at 800Msps

Ideal for Ultra-High Data Rate Broadband Communication Systems

The MAX105 dual 6-bit, 800Msps ADC is optimized for applications demanding fast and precise digitizing of in-phase (I) and quadrature (Q) baseband signals in high-bandwidth receiver architectures. The MAX105 features a unique quantizer design that converts the baseband analog I/Q components to digital LVDS outputs in a two's complement format, while achieving an SNR of 37dB at an input frequency of 200MHz.

An internal 1-to-2 output demultiplexer reduces the MAX105's full-speed 800MHz output rate to half that speed. The output data are presented on two identical LVDS 6-bit output ports. A 400Msps version is also available (MAX107).



- **On-Chip 1-to-2 Demultiplexer with LVDS Outputs**
- **36.4dB SINAD, 45dBc SFDR at f_{IN} = 200MHz**
- **Excellent Gain/Phase Matching**
- **1.5GHz, -3dB Full-Power Bandwidth**

NEW

Lowest Power, Smallest Package Analog Output Temperature Sensors

MAX6607/MAX6608—Operate Down to 1.8V:

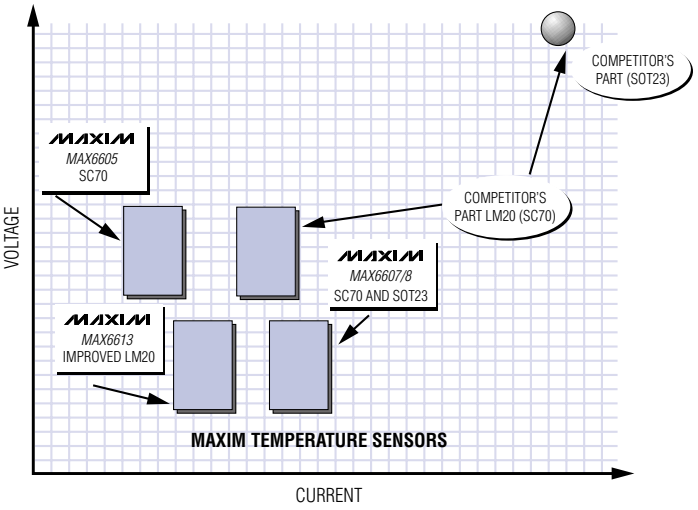
- **Low Power (1.8V, 8µA)**
- **Small SC70 or SOT23 Packages**
- **Excellent Accuracy (±0.7°C)**
- **Excellent Capacitive Load (1nF)**

MAX6605—Small and Low Power:

- **Excellent Capacitive Load (>1nF)**
- **Low Power (2.4V, 4.5mA)**
- **Accurate (±1°C)**
- **SC70 Package**

MAX6613—Improved Second Source for LM20:

- **Improved Accuracy (±1°C)**
- **Wider Supply Voltage Range (1.8V to 5.5V)**
- **Improved Capacitive Load Capability**



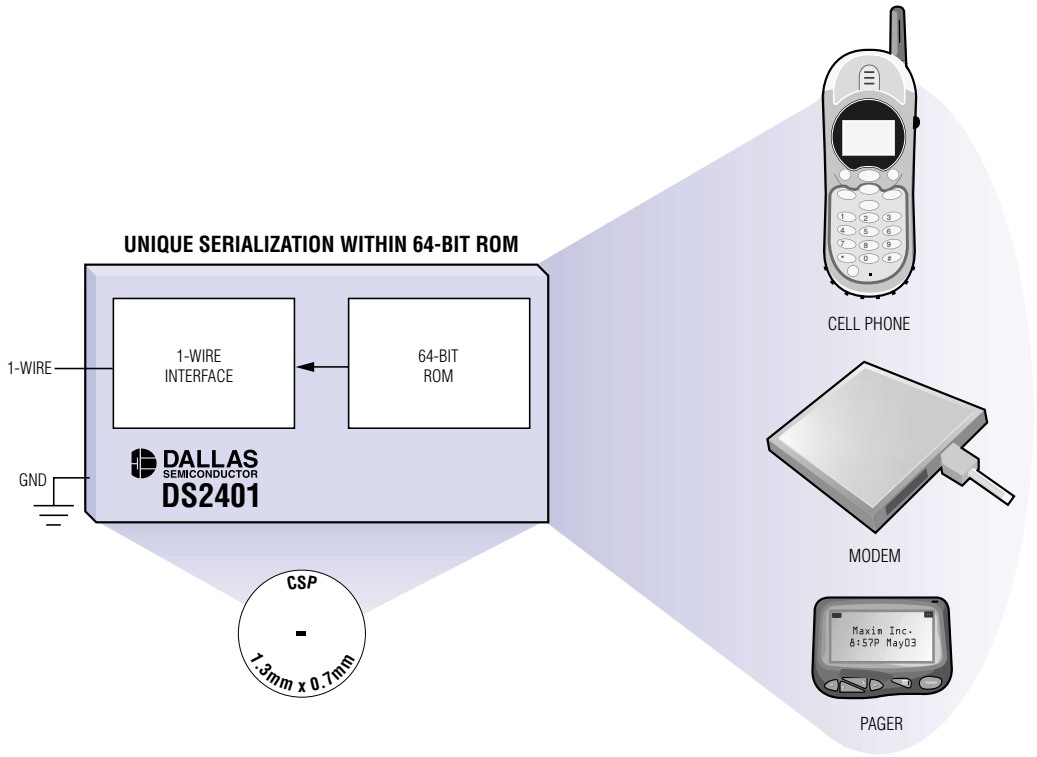
DALLAS SEMICONDUCTOR MAXIM

NEW

World's Smallest Globally Unique Electronic Serial Number

64-Bit Serial Number Solves Wireless Network or Node Address Administration

The DS2401 binds a unique electronic identification to whatever device, PC board, or system it is attached to. Each device is factory lasered with a unique and unalterable 64-bit serial number. A single-contact 1-Wire® interface, simple to implement with a spare processor port pin, powers the DS2401 and communicates with it. The 1-Wire commands and protocol also enable multiple DS2401s and/or other 1-Wire devices to coexist on a common 1-Wire network.



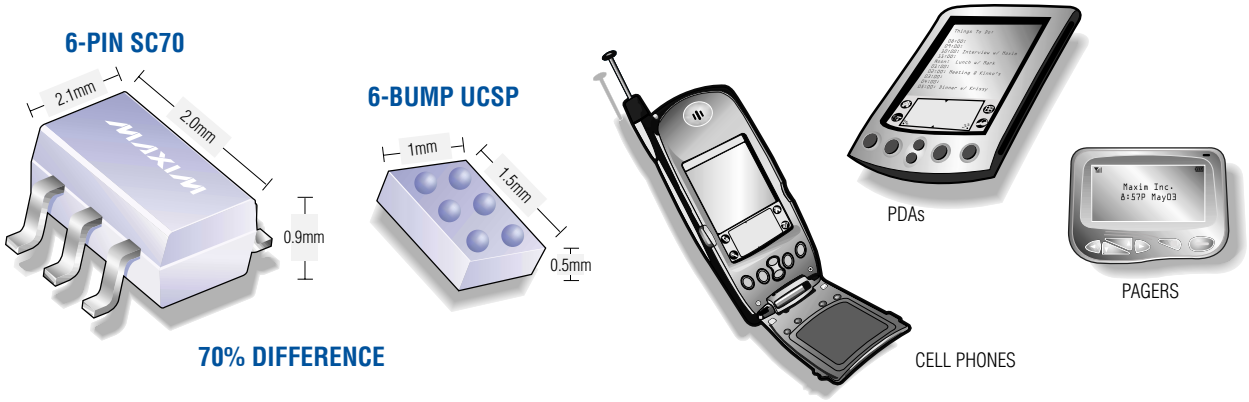
- **Unique Factory-Lasered 64-Bit ROM ID**
- **Fully 1-Wire Network Compatible**
- **Operating Power Derived Entirely from the Single-Contact 1-Wire Interface**
- **Exceptional ESD Performance: >±8kV Human Body Model**
- **2.8V to 6.0V, -40°C to +85°C Operating Range**
- **Zero Standby Power**
- **Available in TO-92, 6-Pin TSOC, and CSP Packages**

Other Dallas Semiconductor devices offer additional user-programmable memory to store configuration, calibration, or other manufacturing data. Refer to our *1-Wire Design Guide* at www.maxim-ic.com/DesignApps/design_guides.htm.

DALLAS SEMICONDUCTOR MAXIM

NEW

World's Smallest Analog Switches Dramatically Reduce Board Space



- **Chip-Scale Package:**
  - **6 Bump, Area = 1.5mm²**
  - **12 Bump, Area = 3mm²**
  - **16 Bump, Area = 4.1mm²**
- **Low On-Resistance: 0.5Ω to 70Ω**
- **Guaranteed 5V, 3V, 1.8V Operation**
- **Low Cost**
- **Available in Standard Packages for Easy Prototyping**

Part	Function	R_{ON} (Ω max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	Switching Speeds (ns max)		Supply Voltage (V)	Bump/Pin-Package
					t_{ON}	t_{OFF}		
MAX4696	SPST NO	35	2	13	80	25	2 to 5.5	6-UCSP/8-µMAX
MAX4697	SPST NC	35	2	13	80	25	2 to 5.5	6-UCSP/8-µMAX
MAX4686	SPST NO	2.5	0.4	1	30	12	1.8 to 5.5	6-UCSP/8-µMAX
MAX4687	SPST NC	2.5	0.4	13	30	12	1.8 to 5.5	6-UCSP/8-µMAX
MAX4698	SPDT	35	2	1	80	25	2 to 5.5	6-UCSP/8-µMAX
MAX4688	SPDT	2.5	0.4	0.15	30	12	1.8 to 5.5	6-UCSP/8-µMAX
MAX4684	Dual SPDT	0.5/0.8	0.06	0.15	50	30	1.8 to 5.5	12-UCSP/10-µMAX
MAX4685	Dual SPDT	0.8	0.06	0.35	50	30	1.8 to 5.5	12-UCSP/10-µMAX
MAX4691	8:1	70	5	6	300	100	2 to 11, ±2 to ±5.5	16-UCSP/QFN
MAX4692	Dual 4:1	70	5	6	300	100	2 to 11, ±2 to ±5.5	16-UCSP/QFN
MAX4693	Triple 2:1	70	5	6	300	100	2 to 11, ±2 to ±5.5	16-UCSP/QFN
MAX4694	Quad 2:1	70	5	6	300	100	2 to 11	16-UCSP/QFN

DALLAS SEMICONDUCTOR MAXIM

NEW Audio Solutions for Portable/ Wireless Applications

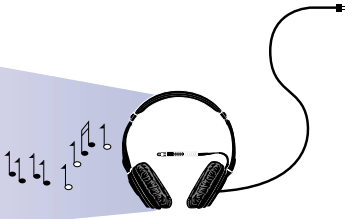
Headphone Drivers

MAX4410:

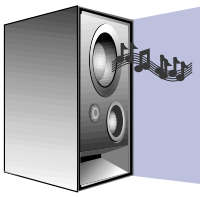
- **Unique Design Eliminates Bulky Output Capacitors**
- **Ultra-Small UCSP (2 x 2) Packaging**

MAX4336/MAX4337/MAX4338:

- **Tiny SC70 Packaging**



Speaker Drivers



MAX4295:

- **400mW Filterless Class-D Optimizes Power Savings**

MAX4336/MAX4337/MAX4338:

- **330mW BTL Amplifiers in 8-Pin SOT23**

MAX4364/MAX4365:

- **1W and 500mW BTL Amplifiers in 8-Pin QFN**

Microphone Amplifiers

MAX4060–MAX4063:

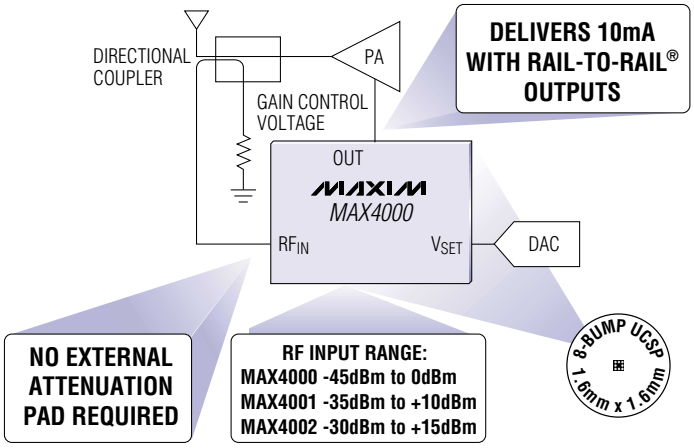
- **Integrated Microphone Bias, Tiny QFN Package**

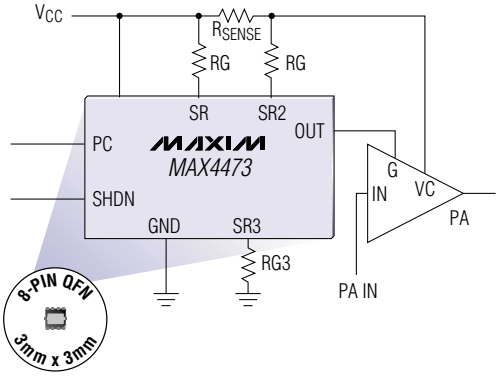
MAX4465–MAX4469:

- **5nA SHDN, Ultra-Small SC70 (2mm x 2mm) Package**

NEW World's Smallest Single-Chip Solutions for GSM PA Control

Choose Voltage-Controlled MAX4000 or Current-Controlled MAX4473





Rail-to-Rail is a registered trademark of Nippon Motorola, Ltd.

DALLAS SEMICONDUCTOR MAXIM