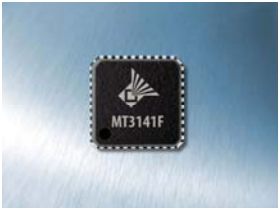


UNIVERSAL RECEIVER SATISFIES WORLDWIDE TV STANDARDS IN A SINGLE CHIP

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A single-chip receiver makes it possible to use one design to meet global TV requirements, all while offering industry-leading reception at a notable cost savings.



The MT3141 is the industry's smallest, highest performing silicon receiver, and it enables OEMs to design next-generation TVs on a low-cost, global electronics panel that can be used across entire TV product lines.

TV designers around the world are faced with a wide variety of needs and requirements that differ by country, application, and region. Despite the well-publicized transition to digital TV, analog TV is still very much in use all around the world. In today's consumer-driven marketplace, designers are challenged to find the lowest-cost solution that still satisfies consumers' expectations of high-quality. Behind the screen, it is the quality of the receiver that dominates a TV's ability to deliver a clean analog or digital signal. An ideal TV receiver supports worldwide standards, operates in rural as well as crowded urban environments, delivers high-quality digital as well as analog signals quickly and cleanly, has a small footprint, is easily manufactured, and offers low cost.

Integration is the key to simultaneously achieving high performance and low-cost in next generation TVs. The good news is a single-chip TV receiver that supports analog and digital TV reception around the world is now available. The first member of the MicroCeiver™ family from Microtune, the MT3141 chip delivers industry-leading performance in a small footprint at a low cost.

CURRENT TV DEMANDS

Although the transition to digital TV is well underway, manufacturers still need to receive off-air and cable analog TV signals, and will probably need to do so well into the next decade. For instance, industry analysts expect it will take the Chinese market years to migrate to digital TV. Most designers would prefer to streamline their board designs to avoid the analog receiver circuitry and extensive filtering that is required to support the various worldwide TV standards. Bringing all of this functionality onto a single receiver chip simplifies circuit board design, making it easier to manufacture and achieve high reliability.

In addition to supporting analog and digital signals, the latest TVs use advanced display technology that requires the electronics to fit in smaller footprints. The addition of advanced features (video-on-demand, picture-in-picture, data streams, etc.) requires additional receiver circuitry, further shrinking the available footprint.

The majority of the worldwide TV market still uses antennas to receive off-air signals. Whether they are analog or digitally modulated signals, a high-performance receiver is key to support clean, reliable off-air channel reception across a broad range of signal conditions and levels of interference. Those using cable, fiber, or satellite TV connections also benefit from interference-resistant, high-quality receivers. A high-performance receiver can detect and use very large or very small signals (depending on the receiver's location) and pick out a single channel in the midst of interference from an adjacent channel, a growing problem for crowded TV and broadband services.

MICROCEIVER™ ADVANTAGES

The MicroCeiver MT3141 incorporates proven receiver technology and provides industry-leading performance in real-world environments. It is a new class of receiver, a single-chip RF-to-digital converter (RDC) that combines the functions of an RF tuner, analog TV demodulator, intermediate frequency (IF) filters and amplifiers. Because it is not tied to a particular application or standard, the MT3141 works in any country with any cable or off-air TV format. It is truly a universal device that allows TV manufacturers the flexibility to differentiate their brands and remain cost-competitive.

The high level of integration in the MT3141 allows Microtune to provide features that cannot be achieved in traditional multi-chip architectures. The MT3141 receiver includes automatic gain control (AGC) circuitry that improves performance in interference-ridden and challenging signal environments. The chip also integrates all of the filtering for analog and digital applications around the world, including new CTTB (China) and DVB-T2 (Europe) requirements. This means that no SAW filters are required between the MT3141 receiver and the next device in the signal chain. (see Figure 1).

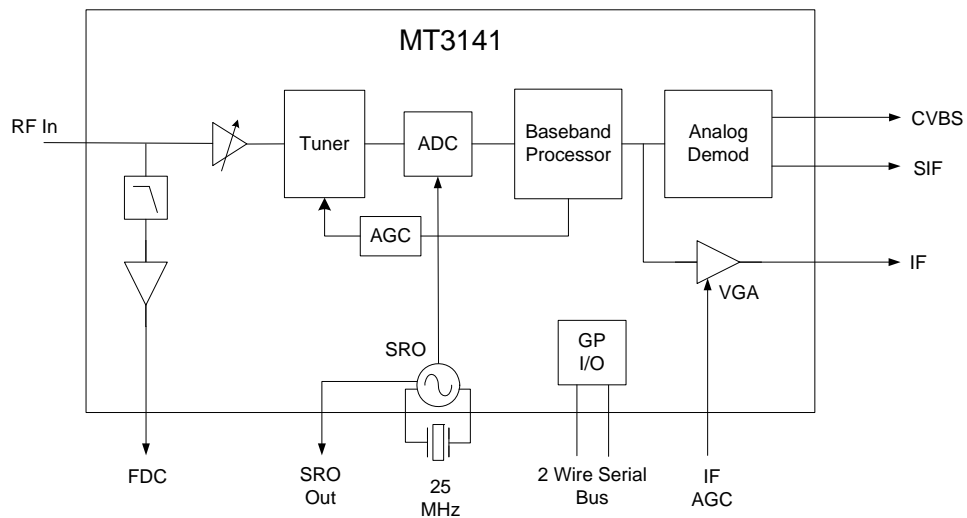


Figure 1: Block diagram of MT3141. The device includes the functionality to receive global TV signal and pass them directly to the digital circuitry.

Implemented in a 6mm x 6mm package, the MT3141 receiver accepts frequencies in the 44 MHz to 1.0 GHz range, converts a selected channel to a low-IF or a standard intermediate frequency (IF) between 30 MHz and 57 MHz, and outputs a composite video baseband signal (CVBS) and a sound IF (SIF) signal.

HIGH PERFORMANCE AT A LOW COST

From a consumer perspective, the MT3141 delivers stable broadcast signals to users who demand high quality over-the-air reception. It has the industry-leading performance required to eliminate TV picture break-up, freezing, and loss across intense variations of terrestrial TV conditions, including those found in the congested signal environments of major metropolitan areas.

Because of its low noise figure (for analog signals) and good sensitivity (for DTV signals), the MicroCeiver MT3141 can deliver a good picture even in areas of poor reception. It deploys unique

internal algorithms that continually optimize key functions across the receiver chain to achieve the highest-quality decoded signals for video and audio. At a \$2.00 price point, the MT3141 offers unmatched price and performance with highly flexible design capability.

RECEIVER FOR NEXT-GENERATION TVS

Manufacturers have found that they need a new class of front-end technology. The MT3141 was designed to provide a smaller, better, and more cost-efficient receiver for next-generation global TV designs. Using Microtune's MT3141, manufacturers can build thinner, lighter digital TVs that deliver premium performance for all brands, models, price points and screen sizes. Additionally, with the MT3141, it is no longer necessary to maintain an inventory of multiple ICs and discrete SAW filters for the TV receiver. The MT3141 reduces the bill of materials, overall solution cost, and inventory control costs. Also, fewer components and interconnects dramatically improve manufacturability and reliability.

As consumers upgrade to larger displays, TV manufacturers want to be cost-competitive, but they also want to deliver high quality reception, regardless of the end-user's environment. Using a high-performance receiver such as the MT3141 can improve customer perception about TV quality. A new class of receiver, the MicroCeiver is tiny enough for thin, 'picture on a wall' TVs, yet it has the performance to put a superb TV picture on even the biggest widescreen.