

## Orca Systems Announces ORC5300 Family of Universal Hybrid CMOS TV Tuners

*ORC5300 TV tuner family provides exceptional performance and reduces solution costs*

Poway, Calif. – January 5, 2012 – [Orca Systems, Inc.](#), an innovative wireless technology company, today announced the ORC5300 family of complementary metal-oxide semiconductor (CMOS) TV tuner integrated circuits (ICs), powered by Orca’s patented DSP-RF™ technology. The ORC5300 tuner family currently includes the ORC5305, a universal hybrid tuner supporting worldwide analog and digital terrestrial and cable TV standards, and the ORC5310, a universal hybrid tuner with an integrated analog TV demodulator. The tuner family devices are configurable to receive all worldwide terrestrial and cable TV standards, enabling manufacturers to have a single hardware platform to support regional requirements across the globe. Supported standards include: PAL, SECAM, NTSC, DVB-T/T2, ISDB-T, ATSC, DTMB, ITU-T J.83 Annex A (DVB-C) / B (US Cable) / C (Japan Cable), DOCSIS and EURODOCSIS.

The new tuner family includes the ORC5310, which integrates a digital and analog TV tuner with an analog TV demodulator to reduce the design complexity of TVs, set-top-boxes (STBs) and PC TV accessories. The ORC5310 provides composite video baseband (CVBS) and sound interface (SIF) outputs for analog TV signals directly to the audio and video processor of the TV or STB.

The ORC5300 family supports a wide tuning range spanning 45 MHz to 1002 MHz, very low noise figure (4 dB nominal) making it easier to receive weak signals and facilitating reception of more channels. The solutions also provide high adjacent channel rejection, strong blocking immunity, high RF linearity and channel selectivity, resulting in better channel reception in spectrum crowded urban areas.

The new tuner family provides a highly integrated solution that does away with many external components, including surface acoustic wave (SAW) filters, wire bound inductors and low noise amplifier (LNA). The solutions also provide a bill-of-material (BOM) efficient multi-tuner configuration with the ability for several tuners to share a common crystal reference and a control interface with configurable I2C addresses.

“This announcement embodies a significant breakthrough in silicon area for high performance CMOS tuners,” said Guruswami Sridharan, CEO and founder of Orca Systems. “DSP-RF enables monolithic integration of RF and mixed-signal functions with high speed digital circuits. The ORC5300 family is the first step to delivering highly integrated hybrid single chip receivers combining tuner and demodulator functions, enabling a path to further system cost reductions and design flexibility for TV and STB manufactures.”

The solution provides flexible and robust interfaces, including a programmable intermediate frequency (IF), tunable from 4 MHz to 57 MHz, providing compatibility with nearly all commercially available digital TV demodulators. The IF interface uses a constant amplitude, low impedance output that reduces impairments from the PCB layout and can support simultaneous direct connection to up to three demodulators.

The solution provides very low power operation at only 550 mW in a typical application supporting a single digital demodulator and 600 mW when directly connected to multiple demodulators. In addition, the solutions self-contained automatic gain control (AGC) eliminates the need for dynamic gain control of the IF, greatly simplifying the interface to, and integration with the digital TV demodulator.

The ORC5305 and ORC5310 are pin compatible, and are available in small 6mm x 6mm 40 pin QFN packages. Additionally, the programming and control interfaces are common between the devices.

The ORC5300 tuner family is built using Orca's DSP-RF based *DRTV*<sup>™</sup> universal TV tuner IP core. The foundation of DSP-RF is an innovative digital receiver architecture and open-loop frequency synthesizer enabling the design of RF and mixed signal radios with digital circuits in standard CMOS process technology. The result is up to 4 times reduction in silicon area, significant reductions in power consumption and exceptional radio performance compared to traditional analog and mixed signal designs. The *DRTV* IP core is comprised largely of digital circuits making it portable to any CMOS process node and scalable in both size and power with CMOS process geometry.

Orca will demonstrate the ORC5300 tuner family at the 2012 International CES in Las Vegas, Nevada from January 10-13. Samples are available now for selected customers.

#### **About Orca Systems, Inc.**

Orca Systems is a technology company specializing in leading edge wireless semiconductor chips, intellectual property and chip design services, creating innovative digital architectures with best in class cost, power and performance. Orca's patented DSP-RF technology enables the use of digital circuits for RF and mixed signal designs in advanced digital CMOS process technologies. The benefits of Orca's DSP-RF technology include superior radio performance, small silicon area, low power and design flexibility. Orca is headquartered in Poway, California and has a development office in Bangalore, India. For further information please visit [www.orcasystems.com](http://www.orcasystems.com).

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