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Radio TechCheck

NAB NATIONAL ASSOCIATION OF BROADCASTERS

The Weekly NAB Newsletter for Radio Broadcast Engineers

Radio Keeps Chipping Away

As integrated circuits pack more and more capability and new services into their bulging plastic packages, space for any given function is becoming more and more precious and is coveted by other functions competing for that scarce space. As such, it's heartening to see that July was a big month for announcements by chip manufacturers that continue to include, and improve, broadcast radio functionality in their new communications chips. Below are examples of newly announced radio-enabled chips from several different market segments.

Radio for High-End Consumer and Professional Audio Equipment

SILICON LABS

On July 17, Silicon Labs announced a family of advanced AM/FM receivers intended for the high end consumer and pro audio market. The Si477x AM/FM receivers are designed for the discerning audiophile with best-in-class performance. The Si4770 is a global multiband AM/FM receiver, while the Si4777 additionally supports HD Radio tuner functionality.

In addition to excellent linearity, sensitivity and selectivity, the Si477x receivers feature an on-chip "prosumer" FM channel equalizer designed to reduce the effects of multipath fading and deliver optimal performance under complex multipath interference conditions present in urban settings. Silicon Labs claims this high-performance FM channel equalizer is the first of its kind in the audio industry.

The units are available now in a 6 mm by 6 mm 40-pin QFN package. For more information, see the Silicon Labs press release here . Silicon Labs also recently updated their white paper called "Design Considerations for High-End Consumer and Pro-Audio Equipment" which can be accessed here and describes the technical characteristics of the Si477x receiver chips in the context of key requirements and performance considerations for an AM/FM radio receiver solution targeting high-end consumer and pro-audio applications.

Radio in Smartphones and Tablets

On July 24, Broadcom introduced a new combo chip with 802.11ac WiFi (so-called 5G WiFi), also incorporating Bluetooth 4.0 and FM radio. The BCM 4335 is intended for smartphones, tablets, ultrabooks and other mobile devices. The Broadcom family of 5G WiFi chips was initially announced at CES in January 2012. The BCM4335 is now sampling to Broadcom's early access customers, with full production expected in Q1 2013.

5G WiFi is Broadcom's name for the technologies being standardized in IEEE 802.11ac. While the technical standard won't be completed until at least 2013, products incorporating the technologies are hitting the marketplace now. With maximum WiFi speeds of 1 gigabit per second, the expected proliferation of 5G WiFi over the next several years is substantial. Having FM radio embedded in these WiFi chips is a good sign for radio as an easily implemented design feature in new smartphones and tablets.

For more information see the Broadcom press release on the new chip here.

For more information on 5G Wifi see www.5GWiFi.org.

Automotive Electronics

On July 18, ST Microelectronics announced the industry's first digital radio chipset that enables simultaneous reception and processing of AM/FM and multiple digital-radio broadcasts. Developed in cooperation with Bosch Car Multimedia, ST's multi-standard digital radio chipset addresses high-performance, cost-effective car infotainment systems. These systems will enhance the driving experience with new-generation radio features and value-added services like synchronized streaming of textual and visual information, including real-time weather and traffic updates.

The chipset can receive and decode up to four channels in parallel, two for FM phase diversity and two for terrestrial digital broadcasting. For example, the car radio can receive audio content from one channel, while pulling real-time traffic and weather information from another one at the same time. The radio receiver can also seamlessly switch between the analog FM and the digital radio signals and simultaneously demodulate audio and data from two separate digital radio channels. It supports the DAB family of standards (DAB/DAB+/DMB-A), the Digital Radio Mondiale broadcasting standard, as well as HD Radio™ technology (HD Radio functionality also requires the addition of an external co-processor). Volume production of the chipset began in Q2 2012.

For more information, see the ST Microelectronics press release here .

Call for Speakers and Proposals - Now Open

We are currently in the process of developing our educational programs for the 2013 NAB Show. More than 90,000 media and entertainment professionals from 156 countries, including more than 1,600 industry press representatives, attended the 2012 NAB Show. We invite you to be part of the 2013 event.

Visit the Call for Speakers area of the NAB Show website to learn more about our programming emphasis areas, requirements for submission and notification process.

Hilton Anatole – Dallas, Texas – September 19-21

This year's all new technology program covers issues that are important to all radio engineers. Change is occurring very quickly and impacting the ways we conduct business and generate revenue. "It's not your father's radio station anymore…" is more appropriate today than ever. Technology is moving consumers to new platforms and generating competition for our products. We have assembled a program of sessions and discussions developed specifically for radio professionals who need to keep up with regulatory issues, HD radio developments, disaster preparedness and new Hybrid Radio technologies. You will have ample time to network with your peers and meet with Radio Show exhibitors who can assist with your technical challenges and offer fresh insights and solutions.

Registration details and more are available online at www.radioshowweb.com. See you in September!

Participate in the Radio Show!

The Radio Show is the ultimate venue for connecting with radio. There's no better place to interact one-on-one with thousands of radio professionals - from station management to CEOs, sales managers to digital and marketing directors, engineers to program directors. Formulate your marketing plan to take advantage of this audience by contacting NAB Advertising for more information. Exhibit, sponsorship and advertising opportunities are available!