News of Recent Activity in RF MEMS

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WiSpry Ships its First MEMS Handset Products

WiSpry, Inc. announces that it has successfully sampled its first custom product containing WiSpry's proprietary programmable RF technology to one of the largest cellular handset manufacturers in the world. This custom solution combines WiSpry's proprietary, RF-MEMS digital capacitor technology in an RF-CMOS manufacturing process with advanced analog and digital support circuitry, in a true single-chip implementation with no external components. WiSpry's unique approach also allows for a single-platform front-end device, which results in the need for fewer antennas and ubiquitous operation in every region in the globe.

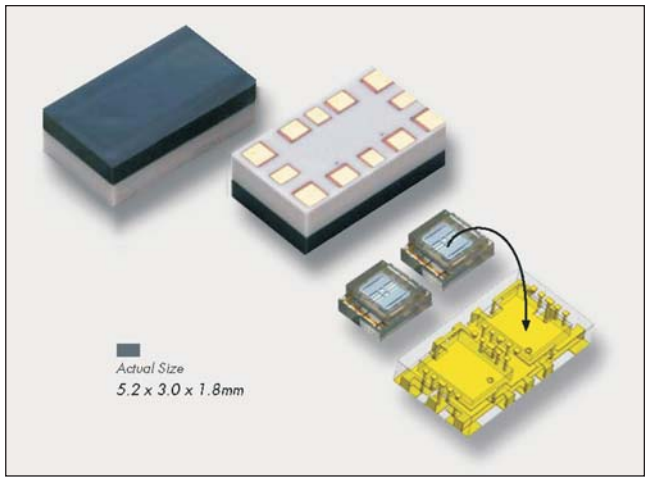
Handset manufacturers and carriers will also benefit from the increased performance through longer battery life, increased network capacity and fewer dropped calls. Finally, cost savings by using a consolidated front-end architecture, versus the current discrete approach, can also translate into lower handset prices or additional features being added. WiSpry released an initial standard product, the WSC 0805, featuring its Digitally Tunable Capacitor (TDC), technology in late 2008.

ST Microelectronics Sees MEMS Sensor Growth

According to market analyst iSuppli, ST's sales of MEMS devices for portable and consumer devices, which are used in the Nintendo Wii, for freefall detection in PCs such as the Fujitsu Siemens ESPRIMO range, the Gyration Air Mouse, leading smart phones and many other new applications, surged from $96m in 2007 to more than $209m in 2008. ST has a 200mm (8 inch) wafer processing facility in Agrate, near Milan, that is fully dedicated to producing MEMS devices such as accelerometers, gyroscopes and pressure sensors.

Raytheon Receives Scanned Lens Antenna Contract

In July 2008, the Office of Naval Research awarded Raytheon Integrated Defense Systems (IDS) a base contract with four options as part of its Active Electronically Scanned Lens Array (AESLA™) program. One of the technologies is a high-power transmit-receive radar module enabled by gallium nitride monolithic microwave integrated circuits, or MMICs. The other is a low-loss, reliable phase shifter employing radio frequency (RF) micro-electro-mechanical systems (MEMS) technology. Together, they combine to form a new, low-cost AESLA architecture that can provide up to 10 times higher radar sensitivity at 40 percent lower cost compared to existing technology used in radar transmitters and receivers.



Omron has developed an RF MEMS switch that can handle +36 dBm power with 1 dB maximum insertion loss and 30 dB isolation. The rated bandwidth is 8 GHz, with typical performance of 10 GHz.

Acquisition of NXP's MEMS Operation by Epcos

In mid-2008, EPCOS acquired the activities of NXP Semiconductors Netherlands B.V. (NXP) in the area of RF-MEMS. The new MEMS business opens up additional market potential to the company in the mobile communications market.

The transmit/receive unit and the antenna of today's mobile phones are optimized to a specific frequency band. However, when operated in other bands, the transmit/receive unit is no longer optimally tuned. As a result, the phone consumes an unnecessary amount of power, reducing operating and standby times. This can be prevented by the use of RF-MEMS. They allow the electrical path in the mobile phone between the antenna and transmit/receive unit to be tuned precisely to the desired frequency band. The stability of the radio circuit is also noticeably enhanced. This tuning can be accomplished efficiently using RF-MEMS that are capacitors whose capacitance values can be changed via a corresponding control circuit, creating an adjustable matching network.