Cavendish Kinetics Announces Breakthrough RF MEMS Technology

Cavendish Kinetics

Cavendish Kinetics [1] has announced the availability of production samples of its tunable RF capacitors to key strategic partners.

Use of Cavendish Digital Variable Capacitor (DVC) technology [1] in wireless devices enhances the user experience, differentiates phones, and lowers costs for handset makers. It also improves spectral efficiency, coverage and customer retention for network operators. Potential customers include handset OEMs and ODMs and device module manufacturers.

Shipped as a chip scale package (CSP), the DVC is used to tune antennas, power amplifiers and filters to significantly improve RF connection quality and signal strength. RF tuning is widely viewed as a leading technology solution for today's challenging LTE, LTE-A and 4G wireless standards. The Cavendish technology meets today's stringent technical requirements while also fitting slim form factors; it is highly reliable, simple to implement and cost effective.

Cavendish high-performance, breakthrough DVC products for manufacturers of smartphones and other wireless devices will help resolve the industry's toughest connectivity challenges. Use of internal antennas and demand for larger displays, as well as proliferating features and frequency bands, have contributed to a widening gap between actual and theoretical data rates for wireless devices. Radio performance is reduced significantly in many cases, creating challenges for device designers and network operators and frustration for consumers. As usage of bandwidth-intensive video and interactive gaming continues to increase, the performance gap is becoming not just a technical issue, but an economic one for wireless operators.

"Cavendish is reversing this trend by improving mobile RF front-end performance and improving RF connectivity between consumer devices and cell towers," said Dennis Yost, president and CEO of Cavendish Kinetics. "Customers using our production devices have seen performance improved by 2-3dB in low bands used for LTE/ 4G devices. This level of performance improvement results in much higher data rates for 4G users, more efficient network operations for wireless operators and lower bill-of-material costs for device makers."

Development of the Cavendish technology and tuning components has yielded more than 100 patents covering the process technology, the MEMS design and integration with CMOS. More than 40 patents already have been granted.

“Cavendish technology demonstrates a true engineering achievement,” said Dr. Gabriel Rebeiz, professor of electrical and computer engineering at the University of California, San Diego. “Cavendish brilliantly leverages MEMS to manufacture high-performance, tunable RF components. With its global supply chain and a highly experienced management team, Cavendish has solved the manufacturing issues for RF MEMS and achieved a highly reliable digital variable capacitor.”

During the International Microwave Society conference June 4-6 at the Seattle Convention Center, Paul Tornatta, vice president of product engineering for Cavendish Kinetics, will present a paper on antenna frequency tuning. It will be presented at session WE1C, “Advances in RF/Microwave Technologies for Reconfigurable 4G Front Ends,” scheduled for 8:00 am PDT, Wed., June 5, in Room 602/604. Cavendish will be at Booth 2260.

Links:
[1] http://www.cavendish-kinetics.com/index.php/solutions/