

**Title:** DOWNLOAD; A better mousetrap?: ParkerVision's D2D promises to change RF landscape.(Company Business and Marketing)

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ParkerVision believes it has developed the catalyst for a much-needed leap in wireless communications with its Direct2Data technology, which will be unveiled publicly for the first time this week.

D2D is a semiconductor-based technology that uses standard complementary metal oxide semiconductors to convert received RF signals to broadband data without expensive intermediate frequency (IF) components that have limited wireless devices in the past. It also performs the reciprocal function in a transmitter.

"We don't eliminate RF, but we move all the problems people have been facing in RF... where it is easier to manage," said Jim Baker, vice president and general manager of ParkerVision's wireless division.

The company has guarded its technology carefully, waiting for patent protection to be ensured. ParkerVision will explain D2D publicly for the first time at this week's RF semiconductor executive conference sponsored by Agilent Technologies in Monterrey, Mexico.

"The D2D technology enables direct conversion between RF and baseband signals through a unique architecture embodying two novel concepts: the application of energy sampling and matched-filter theory," Baker said.

ParkerVision plans to use D2D technology in three wireless arenas - wireless LAN, wireless phones and Bluetooth, a synchronization format for wireless data - but future uses include wired devices, "smart" appliances and products once believed to be unattainable, said Doug Makishima, ParkerVision's director of marketing and business development.

"With our technology, you can finally envision a road map that takes you to the Holy Grail - the single-chip radio," he said.

Compared with the significant advancements regularly achieved on the digital side of wireless technology, radio technology has remained largely unchanged. Components have become smaller, but multiple IF filters and oscillators remain fixtures of the radio architecture found in wireless devices. For this reason, about 65% of the cost of a wireless handset is connected to its radio components.

The D2D solution is cheaper and easier to design and manufacture, thereby reducing the time to market for product upgrades, Baker said. D2D technology also is smaller and uses significantly less power than the current RF architecture - important for manufacturers trying to squeeze more functionality from wireless devices, Makishima said.

ParkerVision projects RF power savings between 25% and 50% for wireless handsets while overall costs should drop 10% to 20%, according to preliminary estimates.

D2D's advantages should be greater in the future because it is based on semiconductors.

"The reality is we'll be able to apply Moore's Law in radios, where it has never been applied before," Makishima said.

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