

THE PRISMARK WIRELESS TECHNOLOGY REPORT

A Quarterly Market and Technology Analysis of RF Wireless Systems, Modules and Components from 100MHz to 100GHz

JUNE 2011



TIME TO TUNE

- Faster links, more bands, thinner phones
- Only tunable antenna matching can deliver
- Paratek has started to ship



Multi-Filter FEM

Tuner Module

Multi-Band Match

Control

Boost

DAC

Control

Processor

SW control

SPI driver



MEMS IN WIRELESS SYSTEMS

- Historically only few winners
- Now many MEMS in phones
- Smart packaging reduces size and cost



LEADING EDGE PACKAGE DEVELOPMENT

- Smartphones, tablets drive packaging
- Flip chip, stacking, wafer-level
- Examples and market numbers

A valuable source of competitive intelligence and trend analysis for technology and business development executives. Targeted at wireless systems designers, RF semiconductor houses, board and package assemblers, as well as their component suppliers.



*CONSULTANTS TO THE ELECTRONICS INDUSTRY
BUSINESS OPPORTUNITY FROM TECHNOLOGY AND
MARKET CHANGES*

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THE PRISMARK WIRELESS TECHNOLOGY REPORT – JUNE 2011

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The world remains a scary place with unusual levels of uncertainty due to macro-economic, geo-political and natural upheavals. This has led to lower economic growth than expected in most regions, and rest-of-year forecasts have also been reduced slightly. Mobile phone shipments have held up well, however, coming in at the very top of our forecast range. This is really driven by smartphones, which now account for almost one-third of all mobile phone shipments.	2
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Network operators, handset OEMs and end users desire mobile phones that provide high-speed, reliable connections even in adverse conditions, such as at the cell edge or in the “death grip”. This is complicated by the wide range and increasing number of operating frequencies, and the space constraints on antenna. Paratek has developed a complete antenna tuning solution for these problems. The first phone with Paratek’s tuning solution, a flagship smartphone from one of the largest handset suppliers, is now shipping.....	8
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THE PRISMARK WIRELESS TECHNOLOGY REPORT – MARCH 2011

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Tablet computers have been available for many years, but they had been a niche product used mainly in vertical markets. In April 2010, Apple introduced its iPad, instantaneously creating a new category of device that became a must have. This year, Apple will account for about 95% of tablet computer shipments, but many companies are eager to enter the market. Only a few have done so, the most competitive being Samsung with its Galaxy Tab. The construction is based on that company’s line of Galaxy S smartphones.	9
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The global economy is growing, but unusual uncertainty remains, and the pace of recovery is very uneven in different parts of the world. The electronics industry is expected to grow at a healthy pace, and mobile phones are tracking Prismark’s optimistic forecast as well. Infrastructure investments are also being made to deal with the strong growth in smartphones and other devices that access the Internet. This growth is helpful, but not all players are showing the same success as market conditions are changing.	2
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Filters and duplexers are critical components in any wireless system, and every mobile phone uses multiple SAW and or BAW filters. As the number of bands and modes supported by the average mobile phone increases, the number of filters and duplexers used also increases. Package technologies have been important in reducing the size and cost of these filters, but novel RF architectures are also important in high-end mobile phones. This section shows the latest packaging technologies and RF front end architectures.	13
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