

# Ellisys helps Staccato be early to market with single chip for Certified Wireless USB

## Client

### Staccato

**Communications Inc.**



San Diego, CA

Fabless semiconductor firm

www.staccatocommunications.com

## Challenge

To deliver innovative products based on single-chip, all-CMOS designs for Certified Wireless USB.

## Solution

Staccato used a variety of test equipment including an Ellisys Wireless USB Explorer 300 and an Ultrawideband Generator 320 to help test silicon, firmware, software, and reference designs.

## Benefits

Staccato met the challenge, sampling the world's first single-chip solution in time to enable customers to add Certified Wireless USB to products.

## Quote

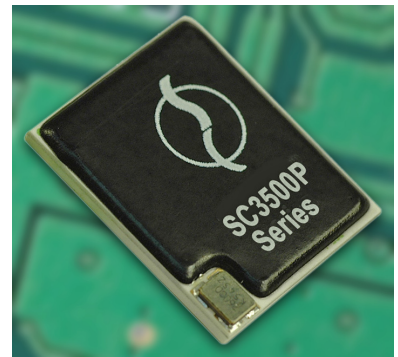
*"The Ellisys equipment has allowed us to achieve our aggressive schedule of delivering single-chip, all-CMOS products to market. Ellisys has been critical to our team's advancement."*

Mark Bowles  
Business Development & Marketing VP  
Staccato Communications

Headquartered in San Diego, Staccato Communications was the first to introduce a single-chip solution for Certified Wireless USB, meeting its goal of enabling high-speed wireless consumer products in 2006.

And implementing the single-chip design entirely in CMOS gives Staccato an edge in the growing marketplace for Certified Wireless USB.

"Staccato has the lowest-cost bill of materials, smallest form-factor, and lowest power consumption," says Mark Bowles, the company's Business Development and Corporate Marketing VP. "Single-chip, all-CMOS is the Holy Grail for silicon solutions."



*Staccato produces single-chip, all-CMOS products for Certified Wireless USB and Ultrawideband applications.*

To help meet the schedule, Staccato's engineers used a variety of test equipment including two units from Ellisys: the Wireless USB Explorer 300 protocol analyzer and the Ultrawideband Generator 320 frame generator.

Ellisys knows something about being first to market as well. The company was the first in the world to market both an over-the-air protocol analyzer and a wireless traffic generator: a device that outputs reproducible traffic, timing, and error scenarios.

## A blistering pace of development

Staccato is a 70-person firm founded in 2003 with the help of \$60-million investment, partly from Intel Capital. In the race to be first to offer complete solutions for Certified Wireless USB, Staccato provides silicon, firmware, software, reference designs, and documentation for its customers and partners.

"We sell complete solutions, that's what we do," says Bowles. "And the easier we can make it for our customers to get into production, the better."

Three OEMs in Taiwan — AboCom, Cameo Communications, and Cellink — are already using Staccato chips, with their first Certified Wireless USB products demonstrated in late 2006. And that's not all.

"Going forward, we've already engaged notebook manufacturers, printer companies, digital still-camera companies, hard drive companies, and the music and multimedia player companies," says Bowles.

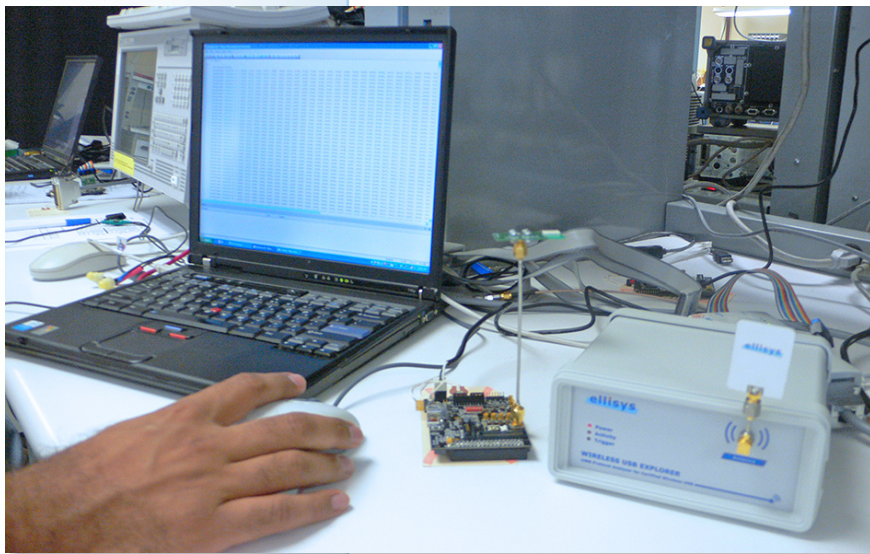
"We have active designs in those areas, and we have begun some aggressive work for mobile handsets. Some of these activities will



Ellisys is a leading supplier of cutting-edge USB, Wireless USB and Ultrawideband Protocol Analyzers. The company's products help hardware, software and test engineers save development effort, improve quality, and accelerate time to market. Ellisys protocol analyzers range from simple and cost-effective tools to high-end fully-featured equipment.



Staccato Communications is a UWB technology pioneer with applications expertise in Certified Wireless USB, Bluetooth and Internet Protocol (IP) connectivity. The fabless semiconductor company serves the PC, consumer electronics, and mobile phone industries with small form factor, single chip, all-CMOS wireless solutions. Their WiMedia-based offerings include PHY, MAC, drivers, application software, development kits and reference designs.



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**"The Ellisys equipment was critical to our software development. It allowed us to hit our aggressive schedule."**

result in commercially available products in 2007 and some will be 2007 prototypes."

To meet that blistering pace of development, Staccato's engineers needed reliable wireless test equipment, so they acquired a wireless analyzer and frame generator from Ellisys.

### Shaving time off the schedule

Staccato's engineers used the Ellisys units throughout the intense process of creating and debugging the Certified Wireless USB Host Wire Adapter and Device Wire Adapter capability.

"Our engineers certainly value the Certified Wireless USB analyzer and traffic generator,"

Staccato certainly appreciates the groundbreaking wireless frame generator from Ellisys.

"They're the first in the industry to have a traffic generator, and we believe that's important," says Bowles. "It helps us to do compliance testing, by sending a reliable pre-determined packet structure. That gives us a unique perspective to further improve our design, and allows our customers to confirm that we offer a compliant Certified Wireless USB solution."

As the world's first frame generator for both WiMedia Ultrawideband and Certified Wireless USB, the Ellisys UWB Generator 320 can benefit any wireless USB development project.

### Educating engineers on the wireless standards

Further proving its leadership, Staccato recently created UWB University. This free education service is aimed at helping engineers and business people understand the Ultrawideband standard. UWB University offers live and online courses, an interactive message board, and a detailed review of industry-related topics at [www.uwb-u.com](http://www.uwb-u.com).

For its part, Ellisys has published a 12-page technical article called "The Challenges of Migrating to Wireless USB" available from [www.ellisys.com/company/press.php](http://www.ellisys.com/company/press.php).

Both efforts showcase a commitment to educate a new wave of wireless product designers.

"Ellisys has put forward a huge amount of effort to become one of the leaders in Certified Wireless USB. I can't stress enough that Ellisys has demonstrated a lot of leadership," says Bowles. "They're very active in the standards community, and they're respected by many."

In the race to be first, top performers tend to recognize one another. Perhaps that's why the engineering teams from Staccato and Ellisys admire each other for pioneering new wireless technologies. 📶

In the Staccato engineering lab in San Diego, CA, an Ellisys UWB 320 frame generator transmits over-the-air to a Staccato wireless receiver, with detailed transaction results shown on the laptop.

says Bowles. "The only way to advance the debug is to do over-the-air analysis, and Ellisys has a good product for that. An analyzer helps us identify and interpret corrupted data structures and resolve timing conflicts."

In fact, engineers say the Ellisys units helped shave precious time off their ambitious schedule. "The Ellisys equipment was critical to our software development," confirms Bowles. "It allowed us to hit our aggressive schedule."