



## Rambus to Present 10 Papers at DesignCon 2012

SANTA CLARA, Calif.--(BUSINESS WIRE)-- Rambus Inc. (NASDAQ: RMBS)

**Who:** Rambus Inc. (NASDAQ: RMBS)

**Where:** DesignCon 2012  
Santa Clara Convention Center  
Santa Clara, CA

**When:** January 30 — February 2, 2012

At DesignCon 2012, Rambus engineers and scientists will present 10 technical papers on topics such as signal integrity, high-speed memory design and semiconductor security.

Additionally, the company is exhibiting (Booth #301) innovations from its Terabyte Bandwidth Initiative, DDR3 Memory Interface, Ultra-Fast Power-On Technology and Cryptography Research. For additional details, visit [www.rambus.com](http://www.rambus.com).

### Rambus Presentations:

#### Monday, January 30, 2012

**Title:** Managing Timing Jitter in High-speed Interface Design  
*1:30 p.m. - 4:30 p.m. — Ballroom F*  
Dan Oh, Ralf Schmitt and Chuck Yuan, Rambus Inc.

This session will discuss how as I/O speed continues to increase, timing errors due to random noise and power supply noise become a major bottleneck in high-speed I/O designs.

#### Tuesday, January 31, 2012

**Title:** Power Supply Noise Induced Jitter in a 6.4Gbps/Link Memory Interface System  
*8:30 a.m. - 9:10 a.m. — Ballroom E*  
Hai Lan, Ravi Kollipara, Sam Chang, Ling Yang, Lei Luo, Kashinath Prabhu, John Eble and Ralf Schmitt, Rambus Inc.

Rambus will discuss and explore the modeling methodology and analysis of supply noise and its jitter impact in a single-ended signaling memory interface operating at 6.4Gbps/link.

**Title:** Analysis and Characterization of Supply Noise and Its Jitter Impact in a 12.8Gbps Single-ended Signaling Memory Interface  
*11:05 a.m. — 11:45 a.m. — Ballroom F*  
Hai Lan, Minghui Han, Wendem Beyene, Chris Madden, Chuck Yuan and Ralf Schmitt, Rambus Inc.

This talk focuses on the analysis of supply noise induced jitter in 12.8Gbps advanced single-ended parallel interfaces with modeling results in correlation with on-chip measurement data.

**Title:** Methodologies and Measurement Comparisons of High-speed Links Using On-chip and On-bench Instrumentations  
*11:05 a.m. - 11:45 a.m. — Ballroom G*  
Wendem Beyene and Chris Madden, Rambus Inc.

In this session, the advantages and disadvantage of on-chip and on-bench measurement techniques are described. Measurement comparisons are also provided to compare the accuracy and limitations of the methods.

**Title:** Design, Analysis and Characterization of 12.8 Gbps Single-ended and 20 Gbps Differential Signaling for Memory Interface

2:00 p.m. - 2:40 p.m. — *Great America J*

Wendem Beyene, Amir Amirkhany, Chris Madden, Kambiz Kaviani, Ralf Schmitt, Hai Lan, Ling Yang, Keisuke Saito, Dave Secker and Deborah Dressler, Rambus Inc.

Attendees will hear about the design and analysis of 12.8 Gbps/link single-ended and 20 Gbps differential parallel interfaces using conventional low-cost package and board technologies.

**Title:** A New Technique for Efficient Side Channel Security Testing

2:50 p.m. - 3:30 p.m. — *Ballroom C*

Luke Teyssier, Cryptography Research, a division of Rambus, Inc.

Cryptographic security, which is essential to secure embedded, consumer and mobile products, can be completely compromised by power and electromagnetic side-channel attacks. In this talk, the author will present a simplified, streamlined technique for checking cryptographic devices for side channel leakages, along with advice for building test fixtures, making this type of analysis accessible to designers and testing engineers.

### **Wednesday, February 1, 2012**

**Title:** Extending Data Rate of GDDR5 Interface Beyond 6Gb/s

2:00 p.m. - 2:40 p.m. — *Great America J*

Sanku Mukherjee, Dan Oh, Arun Vaidyanath, Debra Dressler, Dave Secker, and Arul Sendhil, Rambus Inc.

In this talk, Rambus will address the challenges in single-ended signaling that make pushing data rates beyond 6Gb/s exceedingly difficult.

**Title:** Design and Characterization of the Power Supply System for a High-speed 1600 Mbps DDR3 Interface in Wirebond Package

2:00 p.m. - 2:40 p.m. - *Great America K*

Ralf Schmitt and Hai Lan, Rambus Inc.

Attendees will hear about supply system design methodology for high-speed interface systems used in the design of a 1600 Mbps DDR3 interface in wire bond package.

**Title:** Secret Cryptographic Key Extraction from Mobile Devices Using RF EM Emissions

2:50 p.m. - 3:30 p.m. — *Ballroom F*

Gary Kenworthy, Cryptography Research, a division of Rambus, Inc.

This session will provide two live demonstrations of key recovery from mobile devices through RF electromagnetic (EM) signal analysis.

### **Thursday, February 2, 2012**

**Title:** Plane Bounce in High-speed Single-ended Signaling I/O Interfaces

10:40 a.m. - 11:20 a.m. — *Ballroom G*

Dan Oh, Rambus Inc.

Rambus will demonstrate using various reference configurations and termination conditions to showcase that while plane bounce may be significant in amplitude, its impact on the data signal is not as critical as previously thought.

### **About Rambus Inc.**

Rambus is one of the world's premier technology licensing companies. Founded in 1990, the Company specializes in the invention and design of architectures focused on enriching the end-user experience of electronic systems. Rambus' patented innovations and breakthrough technologies help industry-leading companies bring superior products to market. Rambus licenses both its world-class patent portfolio, as well as its family of leadership and industry-standard solutions. Headquartered in Sunnyvale, California, Rambus has regional offices in North Carolina, Ohio, India, Germany, Japan, Korea and Taiwan. Additional information is available at [www.rambus.com](http://www.rambus.com).

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