Achieve straightforward and reliable DDR4 DIMM bus analysis at 2400MT/s and DDR4 SO-DIMM analysis at 1867MT/s

The Double Data Rate 4 (DDR4) memory bus introduces changes in the communications protocol and increases the clock frequencies and data transfer rates for Dual Inline Memory Modules (DIMMs). These developments present new challenges in the design and debug of computer motherboards and DIMMs or SO-DIMMs (Small Outline DIMMs) incorporating the new DDR4 technology, especially in the area of protocol analysis and verification.

The FuturePlus® FS2510 DDR4 2400 DIMM and FS2512 DDR4 1867 SO-DIMM interposers provide a mechanical, electrical and software interface between the Agilent Technologies U4154A logic analyzer and the DDR4 connector. The FS2510 and FS2512 are used to design and debug computer motherboards and DIMMS or SO-DIMMs incorporating DDR4 technology.

The FS2510 and FS2512 protocol-decode software translates acquired signals into easily understood bus transactions, at the full bus speed. The Agilent logic analyzer provides extensive triggering and store qualification features. The FS2510 DIMM interposer can be configured to perform state analysis of Reads or Writes, or both Reads and Writes, at up to 2400 MT/s. The FS2512 DIMM interposer can be configured to perform state analysis of Reads or Writes, or both Reads and Writes, at up to 1867 MT/s.

- Quick and easy connection between the DDR4 DIMM or SO-DIMM SDRAM memory bus connector and Agilent U4154A logic analyzers
- Complete and accurate 2400 MT/s state and timing analysis up to 12.5 GHz
- Compatible with all 284 pin and 288 pin DDR4 DIMM’s and 260 pin DDR4 SO-DIMMs
- All signals are probed passively. Does not require U4201A cables.
- Supports registered, unbuffered, and large register (LR) DIMMs
- Burst sizes of 2, 4, or 8 are supported.
- Monitors writes only, reads only, or writes and reads simultaneously.
- Quick and easy setup using Agilent EyeScan with 5 ps/5 mV resolution
The DDR4 protocol decode software executes in the logic analyzer. The user selects attributes such as Burst length, CAS and Additive Latency, and Chip Selects to decode the key DDR bus signals. The logic analyzer displays the transaction type, address, data and command conditions and user-defined symbols. User-selectable post-processing filters allow the acquired data for different types of transactions to be displayed in different colors.

As timing and voltage margins continue to shrink, confidence in signal integrity becomes an increasingly vital requirement of the design verification process. Agilent’s EyeScan lets you quickly acquire comprehensive signal integrity information on the DDR4 bus in your design, and can provide measurements with 5 ps of resolution.

Both the FS2510 and FS2512 plug directly onto the Agilent logic analyzer module, maximizing the quality of the connection to the system under test. The FuturePlus DDR4 interposers, when used with an Agilent Technologies logic analyzer, allow you to achieve straightforward and reliable protocol analysis of your DIMM and SO-DIMM designs.

System Components

Agilent Technologies
M9502A  AXiE 2 slot chassis
U4154A  Logic Analyzer Module, 136 channels, 2 required
U4154A Option 02G  2.5 GHz state speed, 2 required
M9045B  PCIe ExpressCard adaptor from laptops
B4622B  Protocol compliance and analysis toolset for DDR/2/3/4, and LPDDR/2/3

FuturePlus Systems
FS2510  DDR4 DIMM interposer
FS2512  DDR4 SO-DIMM interposer

To learn how this solution can address your specific needs please contact Agilent’s solutions partner, FuturePlus Systems.

FuturePlus Systems has been in business for over 20 years and has become the world’s leading manufacturer of analysis tools for industry standard computer buses. FuturePlus provides both the acquisition hardware and the software that executes in the Agilent logic analyzer.

Agilent Solutions Partner Program
Agilent and its Solutions Partners work together to help customers meet their unique challenges, in design, manufacturing, installation or support. To learn more about the program, our partners and solutions go to www.agilent.com/find/solutionspartner

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Printed in USA, January 8, 2014 5991-1827EN