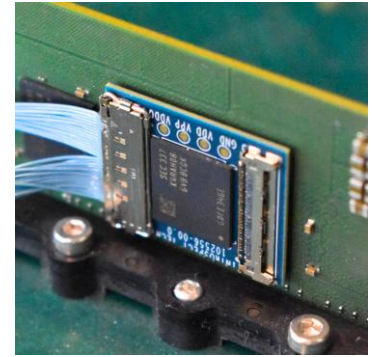


OSCILLOSCOPE PROBING SOLUTIONS

Integrated-Tip Interposer for Memory Devices

High-impedance, high-bandwidth signal access solution



Integrated Tip Under Each Ball in a DDR, LPDDR, or GDDR Memory

Introspect’s Integrated-Tip Interposers are designed to enable probing of next-generation memory interfaces running at ultra high transfer rates. Sitting underneath a memory device, the interposers provide a through path for signals between a processor and the memory device, while also generating a copy of the signal for **oscilloscope** or **protocol analyzer** probing. By integrating the high-impedance tip inside the interposer, this family of memory interposers creates a high-fidelity copy of the signal under test – in the analog sense – and solves the issue of reflections that often occur in traditional memory interposers.

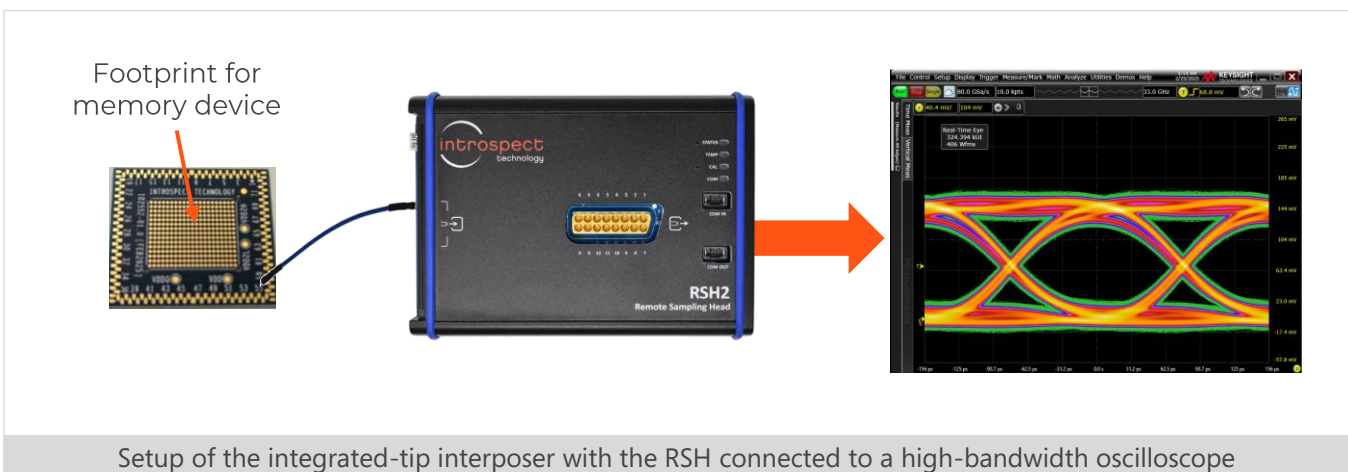
KEY FEATURES:

- **Integrated-Tip Design:** Built-in sensing tip eliminates the need for external high-impedance probes, preserving signal integrity
- **Broad Memory Support:** Works with LPDDR4/5/6, DDR, and GDDR devices, including individual DRAM, DIMMs, and LPDDR packages
- **Compatibility With Any Oscilloscope Model:** Push-on connectors for protocol analyzers, full pad access for oscilloscopes, and compatible with any 50 Ω scope

KEY BENEFITS:

- **Reliable High-Speed Probing:** Maintains signal integrity even for DDR5/LPDDR6/GDDR7 at advanced speeds
- **Time-Saving & Low-Risk Setup:** Quick push-on installation, no soldering, and reduced EMI for accurate measurements
- **Versatile & Future-Proof:** Works with multiple scopes and RSH probes, supporting evolving memory standards and workflows

Typical Application: Oscilloscope-Based Electrical Compliance

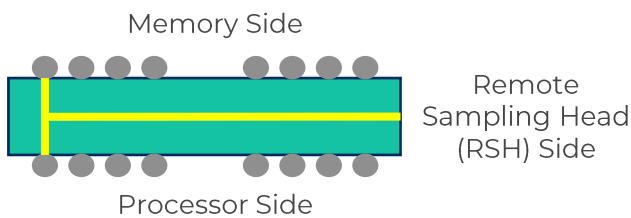


Setup of the integrated-tip interposer with the RSH connected to a high-bandwidth oscilloscope

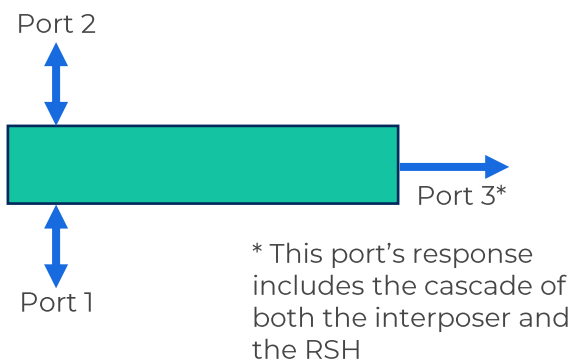
Selection of Interposer Packages

NAME	DESCRIPTION	BALLS	PACKAGE TYPE	RISER	NOTES
LP5-315-O	LPDDR5 memory interposer	315	1ch x 16	Yes	Access to all pins for oscilloscope probing
LP5-315-P	LPDDR5 memory interposer	315	1ch x 16	Yes	Compatible with Introspect Protocol Analyzer
LP5-441-O	LPDDR5 memory interposer	441	4ch x 32	Yes	Access to all pins for oscilloscope probing
LP5-441-P	LPDDR5 memory interposer	441	4ch x 32	Yes	Compatible with Introspect Protocol Analyzer
LP5-496-O	LPDDR5 memory interposer	496	4ch x 16	Yes	Access to all pins for oscilloscope probing
LP5-496-P	LPDDR5 memory interposer	496	4ch x 16	Yes	Compatible with Introspect Protocol Analyzer
DDR-78-O	DDR5 memory interposer	78	1ch x 4/x8	Yes	Access to all pins for oscilloscope probing
DDR-78-P	DDR5 memory interposer	78	1ch x 4/x8	Yes	Compatible with Introspect Protocol Analyzer
DDR-RDIMM	Full RDIMM interposer	N/A	228 pin	Yes	Compatible with Introspect Protocol Analyzer
LP6-357-O	LPDDR6 memory interposer	357	TBD	Yes	Coming soon

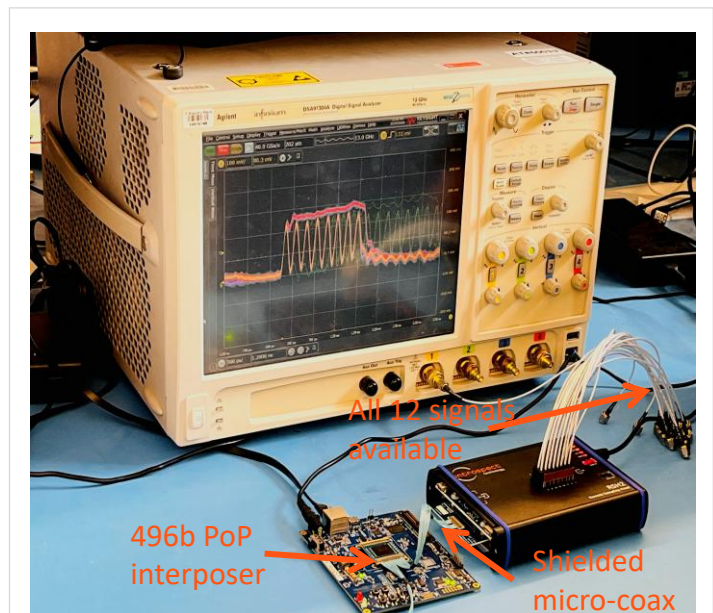
PHYSICAL CONSTRUCTION



THREE-PORT NETWORK MODEL



Full Application



Real setup of the integrated-tip interposer with the RSH connected to a high-bandwidth oscilloscope