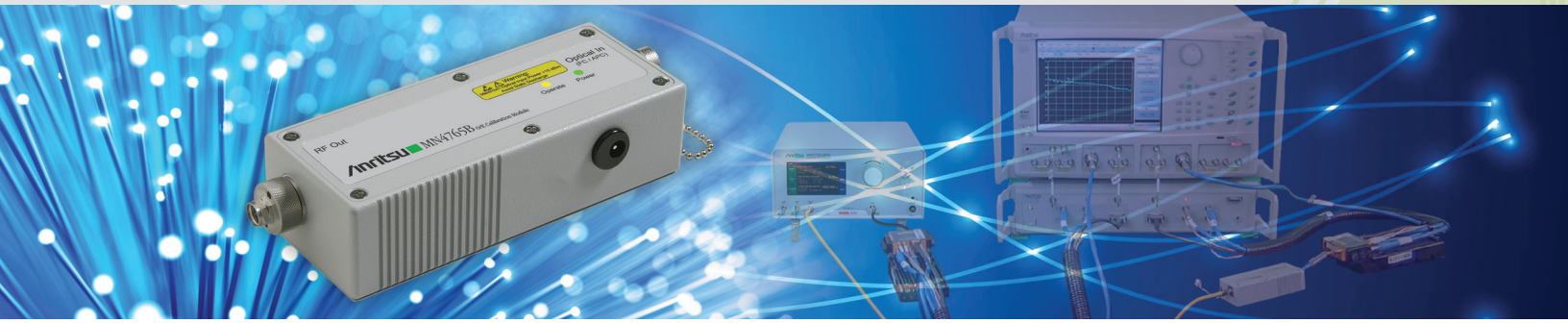
Application Flyer

Anritsu Advancing beyond

# The 145 GHz Optical-to-Electrical Measurement Solution

## with the MN4765B-0140 O/E Reference Calibration Module



**Unlocking the 1.6T/3.2T Data Center**

The growth of AI and Machine Learning is pushing data centers to 448 Gbps per lane, requiring component bandwidths greater than 130 GHz. The Anritsu MN4765B-0140 is the world's first traceable O/E photodetector module designed to test these next-generation E/O Modulators and O/E Receivers, ensuring reliable data flow for 1.6T/3.2T systems.

**The World's Only Complete 145 GHz Opto-Electronic Solution**

| The Challenge | The Anritsu Solution (MN4765B-0140 + VectorStar™) |
|---|---|
| **Data Rate Demands:** Testing components for 224/448 Gbps per lane requires verification up to 145 GHz. | 145 GHz Bandwidth: World's first and fastest reference photodetector module with a 70 kHz to 145 GHz frequency range at 1550 nm. |
| **Measurement Confidence:** Traceability standards are currently limited to 110 GHz. | Traceability to 145 GHz: First O/E module traceable to an NMI, ensuring highest measurement confidence and verifiable calibration at these extreme speeds. |
| **Incomplete Competitive Solutions:** Competitors lack a high-speed reference O/E module and may propose costly systems. | Unique System Solution: Paired with the Anritsu ME7838D 145 GHz VectorStar VNA, it forms the world's only complete, traceable system to test opto-electronic devices beyond 130 GHz. |

**Superior Performance, Unmatched Flexibility**

The VectorStar-based system delivers clear operational advantages over conventional analyzers:

| Anritsu VectorStar Advantage | Benefit to You |
|---|---|
| **Seamless O/E, E/O, and E/E Switching** | Switch between Optical and Electrical measurements with a simple software click, eliminating the need to physically dismantle the system. |
| **Secured Investment & Simple Upgrades** | Future-Proof your investment. Easily upgrade the VNA's frequency capabilities from 70 GHz up to 220 GHz by replacing small mm-Wave modules. |
| **Industry-Leading Measurement Speed** | 5x faster than competitive solutions in the market. |
| **Dual-Use Tool** | Your VNA system can also be used for High-Speed Signal Integrity (SI) E/E Testing, serving your entire design team (driver amplifiers, TIAs, PCBs). |

**Target Applications & Customers**

The complete Anritsu Opto-electronic Network Analyzer system is essential for:

- AI/Data Center Leaders: NVIDIA, META, INTEL, SAMSUNG
- High-Speed Silicon Photonics: CISCO, MACOM, IMEC
- Component Manufacturers: E/O Modulators, O/E Photodetectors, TOSA, ROSA, and BOSA
- Next-Generation Developers: Co-packaged Optics (CPO), Photonic Integrated Chips (PIC)

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Specifications are subject to change without notice.


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