# OFC 2020

## 70 GHz E/O & O/E Measurement

## Annitsu envision : ensure

400G Testing AND Beyond



#### 70 GHz E/O & O/E Measurement



•MN4765B O/E calibration module and MN4775A E/O Converter transform a microwave VNA into a Lightwave Component Analyzer (LCA) or Opto-**Electronic VNA** 

•Provides cost-effective, error-corrected, transfer function, group delay, and return loss measurements of optical modulators (E/O) and photo receivers (O/E)

 Internal VNA application for simplified calibration (now standard in both VectorStar and Shockline)

E/O & O/E Measurements •Transfer function (bandwidth, flatness, phase linearity, and group delay) •Electrical return loss





### ME7848A Opto-Electronic VNA (850, 1310 or 1550 nm)

#### MN4775A E/O





MN4765B-0070 (Option 70): 70 GHz at 1550 nm MN4765B-0071 (Option 71): 70 GHz at 1310 nm MN4765B-0072 (Option 72): 70 GHz at 1310/1550 nm MN4765B-0110 (Option 110): 110 GHz at 1550 nm MN4765B-0040 (Option 40): 40 GHz at 850 nm MN4765B-0042 (Option 42): 40 GHz at 850/1060 nm MN4765B-0043 (Option 43): 40 GHz at 850/1060/1310/1550 nm



### MN4765B O/E Calibration Module (850, 1310 or 1550 nm)



- Protected from physical and static damage
- Bias regulation
- Temperature stable
- NIST derived characterization to from 70 kHz to 110 GHz (magnitude & phase)
- Battery backup
- Improved uncertainties



• Characterized optical front end for both VectorStar and ShockLine VNAs





#### MN4775A E/O Converter (850, 1310 or 1550 nm)



 Integrated laser, modulator, and automatic bias controller









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