

Brochure

VIAVI

OneAdvisor-800

All-in-One Cell-site Installation and Maintenance Test Solution

One Solution. One Process. One Report

LTE and 5G network topologies and infrastructure technologies must converge flawlessly at a cell site to ensure peak performance. In order to integrate all the elements into a functioning cell site, installation and maintenance teams have been using multiple test sets, manual test processes, and manual report consolidation. With the volume of new cell sites that must be installed, multiple test sets and manual processes simply don't meet the work speed and accuracy now required.

Introducing the VIAVI OneAdvisor-800, a portable test solution that brings unprecedented simplicity, speed, and accuracy to site turn-up. Intuitive test process automation streamlines the work into a short sequence of push-button tests.

OneAdvisor combines fiber inspection and validation, cable and antenna analysis, as well as over the air tests with spectrum and interference analysis. All tests are conducted with an intuitive workflow automation bringing built-in guidance, automatic configuration, pass/fail results, and a single report package ready for closeout. OneAdvisor allows field teams to get in, get out, and get paid.



OneAdvisor-800 Benefits

- **Improved tool efficiency.** Replaces multiple independent tools (i.e. OTDR, CAA, Fiber scope, etc).
- **Broad coverage.** Covers all radios types (LTE and 5G) and topologies (Macro-cell, Small-cell, C-RAN, and/or DAS)
- **Scalable.** As a team's test responsibility grows, so can the OneAdvisor platform with modular test components

Benefits of OneAdvisor-800 Test Process Automation

- **Greater accuracy.** Complete test plans exactly to the specifications of the service provider with precise measurements
- **Consistency.** Test processes and workflows are defined centrally and "pushed" to test instruments, eliminating the variability of manual procedures and drives consistent, repeatable results, regardless of technician skill or experience level
- **Lower Training Costs.** Training focus shifts to the test process itself, which is faster and easier to learn, rather than on technical information that is generally time-consuming and overwhelming for new technicians
- **Speed.** Job Manager eliminates wasted technician time trying to remember which tests to run and how to run them
- **Peace of Mind.** Test results automatically uploaded to the StrataSync cloud

Test Process Automation with Job Manager and StrataSync

The VIAVI test process automation software, Job Manager, offers network operations and construction teams a self-guided solution to improve efficiency in the field for cell-site installation and maintenance. By automating the entire process, Job Manager ensures the proper test sequence is executed, time is not wasted, and results are consistent.

StrataSync

StrataSync is cloud-hosted system that provides a centralized management of test solutions including; test set management, test configurations, data management, and test results. Stratasync is designed to eliminate email dispatches, manual test procedures, manual report consolidation, test solution availability and test devices that need calibration.



With Test Process Automation, contractors and cell-technicians can perform installation and maintenances tests with confidence:

- In accordance with mobile operator's test criteria
- Covering all radios types (LTE and 5G) and topologies (Macro-cell, Small-cell, C-RAN, and/or DAS)
- Automatically uploading test results to the StrataSync cloud with simple PASS/FAIL indicator



Reduce Typing

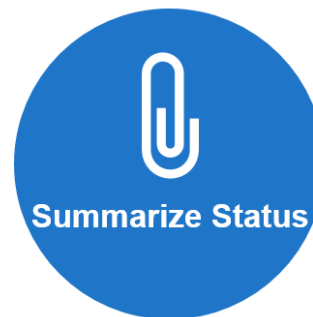
Easily create jobs consisting of multiple tests via a web interface

Eliminates the need to fill in information at the job site



Guide Technicians

Step by step checklist of ensures that all tests are executed



Summarize Status

Single summary report provides an easy to read indication that all tests pass

All the details are still available



Ensure the job is Done Right

Make every tech and expert just by following the plan

Job Manager benefits and key features

Fiber Inspection

The most common cause of signal impairment in an optical system is a dirty connector or end-face, which can get contaminated very easily at a windy, outdoor cell site. Therefore, the first step in achieving acceptable insertion- and return-loss measurements is by inspecting end-faces with a fiber microscope.



P5000i

There are multiple VIAVI microscopes that integrate with the OneAdvisor-800, including the P5000i. The P5000i connects to the ONA-800 with a simple USB connection, and makes certifying that every connection in your mobile network is clear fast and easy.

FBP-P5000i Specifications

| General Technical (typical at 25°C) | |
|-------------------------------------|---|
| Weight | 110 g (3.88 oz) |
| Dimensions (w × h × d) | 140 x 46 x 44 mm (5.5 x 1.8 x 1.7 in) |
| Low mag field-of-view (FOV) | Horizontal: 740 µm Vertical: 550 µm |
| High mag field-of-view (FOV) | Horizontal: 370 µm Vertical: 275 µm |
| Live image | 640 x 480 fps |
| Connector | USB 2.0 (backwards compatible to USB 1.1) |
| Cord length | 183 cm (6 ft) |
| Camera sensor | 2560 x 1920, 1/2.5-in CMOS |
| Particle size detection | <1 µm |
| Light source | Blue LED, 100,000+ hour life |
| Lighting technique | Coaxial |
| Power source | USB Port |
| Certification | CE |
| Warranty | 1 yr |

FBPP-WIFI Specifications

| | |
|--------------|--|
| Dimensions | 218 x 50 x 131 mm (8.6 x 2.0 x 5.2 in) |
| Weight | 272 g (9.5 oz) |
| Connector | USB 2.0 (Micro-B) |
| Power Source | Internal Li-ion Battery, USB power |
| Run Time | 5.5 hr |
| Charge Time | 2.5 hr (2.1 A max power source) 8 hr (500 mA max power source) |
| Power Supply | 5 VDC, 2.1 A USB power adapter with interchangeable wall plug for EU, UK, US, and AU |

Fiber optic testing – OTDR

Fiber is the foundation of the 5G infrastructure and must be tested to ensure its readiness to transmit huge data loads. Historically, testing fiber with an optical time-domain reflectometer (OTDR) was expensive and complicated. With the VIAVI OTDR module that pairs with the OneAdvisor-800, fiber testing the network at cell-sites is now simple, fast, and cost-effective.



Standard tests:

- Automatic macro bend detection
- Summary results table with pass/fail analysis
- Bidirectional OTDR analysis

Specifications

| General (Typical at 25°C) | |
|--|--|
| Weight | 0.4 kg (0.88 lb) |
| Dimensions (w × h × d) | 128x134x40 mm (5 x 5.28 x 1.58 in) |
| Optical Interfaces | |
| Interchangeable optical connectors | FC, SC, DIN, LC, and ST |
| Technical Characteristics | |
| Laser safety class (21 CFR) | Class 1 |
| Distance units | Kilometers, feet, and miles |
| Group index range | 1.300000 to 1.700000 in 0.00001 steps |
| Number of data points | Up to 128,000 data points |
| Distance measurement | Automatic or dual cursor |
| Display range | 0.5 m to 260 km |
| Cursor resolution | 1 cm |
| Sampling resolution | 4 cm |
| Accuracy | ±1 m ±sampling resolution ±1.10 ⁻⁵ x distance (Excluding group index uncertainties) |
| Attenuation Measurement | |
| Automatic, manual, 2-point, 5-point, and LSA | |
| Display range | 1.25 dB to 55 dB |
| Display resolution | 0.001 dB |
| Cursor resolution | 0.001 dB |
| Linearity | ±0.03 dB/dB |
| Threshold | 0.01 to 5.99 dB in 0.01 dB steps |

Key Features:

- Up to 37 dB dynamic range in single-mode and 26 dB in multi-mode
- Quad-wavelength version with 850, 1300, 1310, and 1550 nm and a dual-wavelength version with 850 and 1300 nm
- Integrated continuous wave (CW) light source and power meter
- TIA/IEC pass/fail thresholds
- Propagation delay measurement in multimode (TIA-568-C)
- Optimized for 10 MB to 40 GE testing
- Certifies Tier 2 premises networks**
- IEC 61280-4-1-compliant using an external modal controller
- Ready for SLM, FTTA-SLM, and FTTHSLM intelligent optical application software

| Reflectance/ORL Measurements | | |
|---|--|------------------|
| Reflectance accuracy | ±2 dB | |
| Display resolution | 0.01 dB | |
| Threshold | -11 to -99 dB in 1 dB steps | |
| CW Source Option | | |
| CW Source output power level | -3.5 dBm | |
| Operating modes | CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz, TWINTest | |
| Power Meter Option | | |
| Power level range | -3 to -30 dBm | |
| | SM -2 to -50 dBm | |
| Calibrated wavelengths | 850 and 1300 nm | |
| | SM 1310, 1490, 1550, 1625, and 1650 nm | |
| Measurement accuracy | ±1 dB | |
| | SM ±0.5 dB | |
| Multimode and Quad OTDR Modules (Typical at 25°C) | | |
| Central wavelength ² | 850/1300 ±30 nm | 1310/1550 ±20 nm |
| Pulse width | 3 ns to 1 µs | 3 ns to 20 µs |
| RMS dynamic range ³ | 26/24 dB | 37/35 dB |
| Event dead zone ⁴ | 0.8 m | 0.9 m |
| Attenuation dead zone ⁵ | 4 m | 4 m |

1. Using a mode conditioner

2. Laser at 25°C

3. The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level after 3-minutes averaging

4. Measured at ±1.5 dB down from the peak of an unsaturated reflective event

5. Measured at ±0.5 dB from the linear regression using an F/U/PC-type reflectance

Sweep Test – Cable and Antenna Analyzer (CAA)

Most problems in mobile networks occur in cell site infrastructure: antennas, cables, amplifiers, filters, connectors, combiners, jumpers, etc. The Cable and Antenna Analyzer module, in combination with the OneAdvisor-800, guides a technician through a sweep test that confirms system integration and antenna performance. The user-friendly GUI with intuitive pass/fail results instantly identifies problems enables a technician to easily determine if the performed installation meets the required performance specifications.



Key Applications

- Acceptance testing for new cell sites
- DAS deployment validation
- Test and commission distributed radios with coaxial feed lines

Technical Data

| Frequency | |
|---|--|
| Frequency range | 12.5 MHz to 6 GHz |
| Frequency resolution | 1 kHz |
| Frequency accuracy | ±2.5 ppm @25°C |
| Aging per year | ±1 ppm |
| Data points | |
| 126, 251, 501, 1001, 2001 | |
| Measurement bandwidth | |
| 10 kHz | |
| Measurement accuracy after OSL calibration | |
| Corrected directivity | > 42 dB |
| Reflection uncertainty | $\pm(0.3 + 20\log (1 + 10^{-EP/20}))$ typical EP = directivity – measured return loss |
| Measurement Accuracy after EZ-Cal calibration | |
| Corrected directivity | > 38 dB (≤ 4 GHz) |
| | > 33 dB (> 4 GHz) |

Important Features

- Easy to interpret OTDR results with SmartLink Mapper apps
- Performance characterization and validation of RF devices
- NFC antenna test (RFID and security equipment)
- Trace overlay accurately detects signal degradation over time
- Dual display and multiple tabs allow fast and efficient measurements
- Intuitive pass/fail analysis instantly notifies of any cable and antenna system problem
- Integrated RF CW source enables small cell coverage and DAS path loss testing
- EZ-Cal™ technology ensures fast and easy calibration

| Reflection uncertainty | $\pm(0.3 + 20\log (1 + 10^{-EP/20}))$ typical (≤ 4 GHz) $\pm(1 + 20\log (1 + 10^{-EP/20}))$ typical (> 4 GHz) EP = directivity – measured return loss |
|--------------------------|--|
| Output power | |
| High | 0 dBm nominal |
| Low | -30 dBm nominal |
| Maximum input level | |
| Average continuous power | 23 dBm nominal |
| DC voltage | ±50 V DC |
| Interference immunity | |
| On channel | 15 dBm @ ≥ 1.3 MHz |
| On frequency | 15 dBm within 100 kHz |
| Reflection | |
| Measurement speed | 0.5 ms per data point |
| VSWR range | 1 to 65 |
| Resolution | 0.01 |
| Return loss range | 0 to 60 dB |
| Resolution | 0.01 dB |

Sweep Test – Cable and Antenna Analyzer (CAA) continued

| Distance to Fault (DTF) | |
|----------------------------|---|
| Measurement speed | 0.5 ms per data point |
| Vertical VSWR range | 1 to 65 |
| Vertical resolution | 0.01 |
| Vertical return loss range | 0 to 60 dB |
| Vertical resolution | 0.01 dB |
| Horizontal range | 0 to (# of data points – 1) x horizontal resolution Maximum = 1500 m (4921 ft) |
| Horizontal resolution | $(1.5 \times 10^8) \times (VP)/\Delta F$ VP = propagation velocity ΔF = stop frequency – start frequency (Hz) |
| 1-port cable loss | |
| Measurement range | 0 to -30 dB |
| Resolution | 0.01 dB |
| 1-port phase | |
| Measurement range | -180 to +180° |
| Resolution | 0.01° |
| Smith chart | |
| Impedance | 50 Ω |
| Resolution | 0.01 |

| 2-port transmission | |
|--------------------------|--|
| Output power | High: 5 dBm typical |
| | Low: -30 dBm typical |
| Scalar measurement speed | 3.8 ms typical |
| Dynamic range | 110 dB typical @average 5 for ≤ 4.5 GHz |
| | 105 dB typical @average 5 for > 4.5 GHz |
| Measurement range | -120 to +100 dB |
| Resolution | 0.01 dB |
| Bias voltage | |
| Voltage range | +12 to +30 V DC, 6 W max. |
| Voltage resolution | 1 V |
| Current | 500 mA |
| RF CW source | |
| Output power range | -30 to +10 dBm for 12.5 MHz to 6 GHz |
| | |
| Step | 1 dB |
| Accuracy | ± 1.5 dB for 20 to 30°C |

For More Information:



Vicom Australia

1064 Centre Rd
Oakleigh South Vic 3167
Australia
1300 360 251
info@vicom.com.au
www.vicom.com.au

Vicom New Zealand

Grd Floor, 60 Grafton Road
Auckland 1010
New Zealand
+64 9 379 4596
info@vicom.co.nz
www.vicom.co.nz



Contact Us **+1 844 GO VIAVI**
(+1 844 468 4284)

To reach the VIAVI office nearest you,
visit viavisolutions.com/contact

© 2020 VIAVI Solutions Inc.
Product specifications and descriptions in this
document are subject to change without notice.
ona800-br-xpf-nse-ae
30191033 900 0220