Verify cell site, RF site, and fiber transmission settings, feedline and antenna system performance.

The demand for high-speed wireless service has resulted in the deployment of advanced cell sites, many of which employ RF technology or newer fiber-based feedlines. As with traditional RF networks, where connectors are often the root problem to system performance, contamination in fiber connectors is the most common problem associated with the fiber feedline. Since a majority of wireless network performance issues occur within the base station infrastructure, consisting of the feedline (RF or fiber), antenna system and associated connectors, it is imperative that all wireless networks with fiber-based feedlines verify the performance of both RF and fiber-based systems. Designed specifically for carriers, wireless professionals and contractors who install, maintain and troubleshoot wireless communications networks (RF or fiber), the E7000B Cable & Antenna Analyzer provides an integrated solution that tests both RF and fiber-based wireless cell sites, thereby eliminating the need to carry multiple instruments.

All necessary measurement functions and performance are included to accurately diagnose and verify both RF and fiber-based feedlines, antenna system and connectors. Fiber-based measurements include Fiber Scope to detect and identify dirty/damaged connections, Visual Fiber Location (VFL) to access fiber continuity and detect excessive bends and breaks in the fiber, as well as verifying if the correct fiber is routed to the correct RRU Port, and Optical Power Meter to verify transmission power level.

Key Benefits

- RF and fiber testing in a single solution
- Handheld, lightweight, field-proven design withstands harsh environments and lighting conditions
- Easily set up measurements with over 100 preset wireless frequency bands and cable types
- Reduce test time with dual measurement display to make two measurements simultaneously
- Detect signal degradation and system performance over time with trace overlay
- Instant Pass/Fail status
- Manage your measurement data and test setups with Measurement Center Software
- Intuitive touchscreen user interface for easier, faster measurements

Measurements

- Reflection - Return Loss or VSWR
- Fault Location – DTF/RL or DTF/VSWR
- Cable Loss
- 1-Port Phase
- Smith Chart

Optional Measurements Modes

- RF Power Meter (DML-015)
- Optical Power Meter (DML-016)
- Visual Fault Locator (DML-017)
- FiberScope Inspection (DML-018)
Performance Specifications

**Frequency**
- Frequency Range: 2.2 MHz – 4.4 GHz
- Resolution: 0.5 kHz

**Measurement Speed**
- Reflection: < 0.9 mS/point
- DTF: < 1.15 mS/point
- Data Points: 130, 259, 517, 1033, 2065

**Measurement Accuracy**
- Corrected Directivity: ≥ 42 dB (typical, after standard OSL calibration)
- ≥ 38 dB (typical, after eCAL calibration)

**Output Power**
- 0 dBm (Nominal)

**Interference Immunity**
- On-channel: +20 dBm @ > 1 MHz of carrier frequency
- Off-channel: +13 dBm within ± 10 kHz of carrier frequency

**Measurements**
- Return Loss: 0 to 60 dB (Resolution 0.01 dB)
- VSWR: 1.1 to 65.1 (Resolution 0.01)
- Cable Loss: 0 to 30 dB (Resolution 0.01 dB)
- DTF Range (Distance): 1500 meters (4921 feet)

**Connectors (Reflection/RF Out)**
- RF Out: Type N, female, 50Ω
- RF Out Damage Level: 25 dBm, ± 50 VDC

**Connectivity**
- USB host: USB 2.0 Type A
- USB client: 5-pin mini-B (connect to PC for data transfer)
- LAN: RJ45 10M/100M LAN Ethernet Port

**Display**
- Type / Size: TFT LCD / 8.4” (800 x 600)

**Data Storage**
- Internal: 1 GB, > 2000 saved measurement files
- External: Limited by size of USB flash drive

**Battery**
- Type: Li-Ion, 11.1V, 5.2Ah
- Operation: TYP. > 6.0 hours, continuous; 8.0 hours idle

**Environmental**
- Operating Temperature: -10°C to + 55 °C
- Storage Temperature: -40°C to + 80°C
- Maximum Humidity: 95% RH (non-condensing) @ 40 °C
- Shock: Mil-PRF-28800F Class
- Altitude: 4600 meters, operating and non-operating

**EMC**
- European EMC: IEC/EN 61326-1:2006

**AC Power**
- AC Adapter Output: 12.5-19 VDC
- AC Adapter Input: 100 – 240 VAC, 50-60 Hz

**Size & Weight**
- Size: 275 mm x 215 mm x 88 mm (10.82 in x 8.46 in x 3.46 in)
- Weight: ≤ 2.5kg (5.51 lbs)

Standard Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rechargeable Li-Ion battery: 11.1 V, 5.2Ah</td>
<td>6190.0100.05</td>
</tr>
<tr>
<td>AC-DC adapter: 12.5 to 19VDC</td>
<td>FSP065-RAB</td>
</tr>
<tr>
<td>Vehicle Plug-in lighter adapter</td>
<td>E8000-0400</td>
</tr>
<tr>
<td>1.5m RF Test Port Cable, N(m), 6GHz</td>
<td>E7000-0702</td>
</tr>
<tr>
<td>Calibration Combo Open/Short/Load, N(m), 6GHz</td>
<td>E7000-0700</td>
</tr>
<tr>
<td>Soft carry case</td>
<td>E7000-0600</td>
</tr>
<tr>
<td>Measurement Center Software CD-ROM with Users-Manual</td>
<td>E7000-0200</td>
</tr>
</tbody>
</table>

Optional Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Test Port Cable, Armored, phase stable, 1.5m, N(m) to N(f), 6GHz, 50Ω</td>
<td>DTC-6SNMF-1.5</td>
</tr>
<tr>
<td>RF Test Port Cable, Armored, phase stable, 1.5m, N(m) to 7/16 DIN(f), 6GHz, 50Ω</td>
<td>DTC-6SNMDF-1.5</td>
</tr>
<tr>
<td>RF Test Port Cable, Armored, phase stable, 1.5m, N(m) to 7/16 DIN(m), 6GHz, 50Ω</td>
<td>DTC-6SNMDM-1.5</td>
</tr>
<tr>
<td>RF Test Port Cable, Armored, phase stable, 3.0m, N(m) to N(F), 6GHz, 50Ω</td>
<td>DTC-6SNMF-3.0</td>
</tr>
<tr>
<td>RF Test Port Cable, Armored, phase stable, 3.0m, N(m) to 7/16 DIN(F), 6GHz, 50Ω</td>
<td>DTC-6SNMF-3.0</td>
</tr>
<tr>
<td>RF Test Port Cable, Armored, phase stable, 3.0m, N(m) to 7/16 DIN(m), 50Ω</td>
<td>DTC-6SNMDM-3.0</td>
</tr>
<tr>
<td>RF Test Port Extension Cable, phase stable, 1.5m, N(F) to N(F), 6GHz, 50Ω</td>
<td>DTC-6SNFNF-1.5</td>
</tr>
<tr>
<td>Precision Adapter Kit, 50Ω (NMDM, NFDM, NMDF, NFDF, DFDF90°)</td>
<td>DPAK-6G100</td>
</tr>
<tr>
<td>Precision Adapter, N(m) to N(m), DC to 18GHz, 50Ω</td>
<td>DPA-NMNM</td>
</tr>
<tr>
<td>Precision Adapter, N(f) to N(m), DC to 18GHz, 50Ω</td>
<td>DPA-NFNM</td>
</tr>
<tr>
<td>Precision Adapter, N(f) to N(f), DC to 18GHz, 50Ω</td>
<td>DPA-NFNF</td>
</tr>
<tr>
<td>Precision Adapter, N(f) to 7/16 DIN N(m), DC to 6GHz, 50Ω</td>
<td>DPA-NFDM</td>
</tr>
<tr>
<td>Precision Adapter, N(f) to 7/16 DIN N(F), DC to 6GHz, 50Ω</td>
<td>DPA-NFDF</td>
</tr>
</tbody>
</table>

Deviser Instruments, Incorporated. 780 Montague Expressway, Suite 606, San Jose, CA 95131 ©2014 Deviser Instruments Incorporated. All rights reserved. Specifications subject to change without notice. All product and company names are trademarks of their respective corporations. Deviser Instruments manufacturing facilities are ISO 9001 certified. Do not reproduce, redistribute, or repost without written permission from Deviser Instruments.