

E7100B

Cable & Antenna Analyzer

2.2 MHz ~ 6.1 GHz

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



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 E7100B 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.

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 ~ 6.1 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 0.01dB)
VSWR	1:1 to 65:1 (Resolution 0.01)
Cable Loss	0 to 30 dB (Resolution 0.01dB)
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

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

Optional Accessories

RF Test Port Cable, Armored, phase stable, 1.5m, N(m) to N(f), 6GHz, 50Ω	DTC-6SNMNF-1.5
RF Test Port Cable, Armored, phase stable, 1.5m, N(m) to 7/16 DIN(f), 6GHz, 50Ω	DTC-6SNMDF-1.5
RF Test Port Cable, Armored, phase stable, 1.5m, N(m) to 7/16 DIN(m), 6GHz, 50Ω	DTC-6SNMDM-1.5
RF Test Port Cable, Armored, phase stable, 3.0m, N(m) to N(f), 6GHz, 50Ω	DTC-6SNMNF-3.0
RF Test Port Cable, Armored, phase stable, 3.0m, N(m) to 7/16 DIN(f), 6GHz, 50Ω	DTC-6SNMDF-3.0
RF Test Port Cable, Armored, phase stable, 3.0m, N(m) to 7/16 DIN(m), 6GHz, 50Ω	DTC-6SNMDM-3.0
RF Test Port Extension Cable, phase stable, 1.5m, N(f) to N(f), 6GHz, 50Ω	DTC-6SNFNF-1.5
Precision Adapter Kit, 50Ω (NMDM, NFD, NMF, NDF, DFD, DFM90°)	DPAK-6G100
Precision Adapter, N(m) to N(m), DC to 18GHz, 50Ω	DPA-NMNM
Precision Adapter, N(f) to N(m), DC to 18GHz, 50Ω	DPA-NFNM
Precision Adapter, N(f) to N(f), DC to 18GHz, 50Ω	DPA-NFNF
Precision Adapter, N(f) to 7/16 DIN N(m), DC to 6GHz, 50Ω	DPA-NFDM
Precision Adapter, N(f) to 7/16 DIN N(f), DC to 6GHz, 50Ω	DPA-NFDF

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