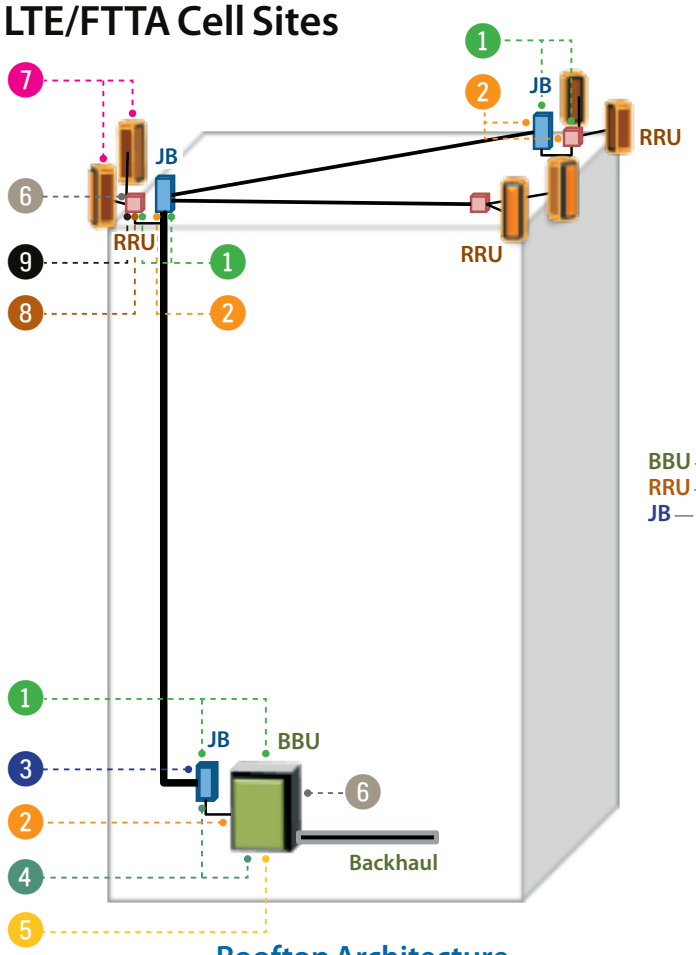
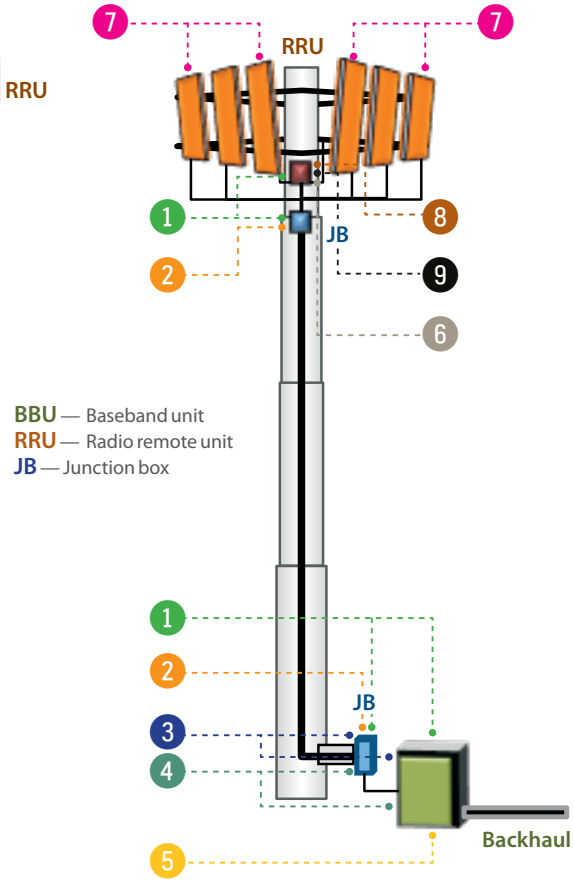
Wireless Test Kits | Essential Cell-Site Testing

Installation and Maintenance of LTE/FTTA Cell Sites



Rooftop Architecture



Macrocell Site Architecture

1 Inspection and Cleaning

Visually inspect and certify the quality and cleanliness of the fiber connectors located at both sides (patch cord and bulkhead) of a connection.

2 Visual Fault Locator (VFL)

Check continuity, identify channels, and verify with your co-worker at the remote end that you are testing the correct fiber.

3 Optical Power Meter (OPM)

Measure optical power levels at the equipment or connection point or perform link or channel insertion loss measurements (with an optical light source).

4 OTDR

Construction Phase

- Characterize cell tower and rooftop fiber link and network component build quality (connector loss and reflectance, link loss and reflectance)
- Characterize backhaul fiber

Maintenance/Troubleshooting Phase

- Verify output and/or receive power level of the equipment (Rx/Tx)
- Locate and identify causes of fiber or component issues or failure

5 CPRI/OBSAI and Ethernet

Verify CPRI/OBSAI links between the BBU-RRU. Emulate the CPRI/OBSAI protocol to ensure no code violations, BER errors, delays, or framing issues. Verify SLAs on Ethernet backhaul links. Ensure link quality, throughput, and QoS from L1 through L4. Perform RFC 2544/Y.1564sam, committed burst size (CBS), and TrueSpeed™ RFC 6349 tests.

6 Radio Conformance

Verify that RF signal integrity (power levels, RF leakage, and spurious) meets standards.

7 Cellular Signal Quality

Measure cell-site transmission over the air for proper signal modulation performance to ensure quality of service.

8 Sweep (VSWR, DTF)

Measure coaxial reflections and distance to fault of coaxial lines.

9 PIM Detection

Measure passive inter-modulation in coaxial lines with active transmitters.

JDSU

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Fiber Acceptance Test Tier 1

Part numbers: FIT-COMM-B, FBP-COMM-T

1 2 3

- **Complete jobs faster, correctly with pass/fail, and on time—the first time**
  Efficient, easy-to-use SmartClass™ Fiber tools with integrated inspection, test, and best practices cut testing and certification time in half.
- **Complete jobs faster with auto-centering, an integrated patch cord microscope (PCM), and special duplex LC/SC inspection adapters**
  Getting fiber on the screen is now easy. No need to change tips at the top of the tower—switch between a bulkhead and the patch cord microscope with just one button click. Plug in the duplex LC and slide to inspect each connector.
- **Easily generate certification reports**
  Prove that your work quality meets industry standards and specifications.
- **Flexibility for use anywhere**
  Use the portable, organized, hands-free carrier up cell towers and on cell sites.
- **Eliminate subjective guesswork with pass/fail analysis**
  This unique, automated handheld tool certifies fiber end-face condition and measures optical power with pass/fail results. Technicians use the same parameters across the entire network.

Fiber Acceptance Test Tier 2

Part number: TB2-FTTA-QU-P

1 2 3 4

- **Fully qualify your cell tower and rooftop**
  All-in-one kit integrating a high performance OTDR (sharp resolution) with inspection and essential fiber test tools for detailed analysis of your link components.
- **Simplify and speed OTDR testing with an OTDR application designed specifically for cell tower/rooftop testing**
  - No complex setup required
  - Simple icon-based schematic displays
  - Auto identification and analysis of network elements
- **Immediately diagnose fiber network infrastructure quality**
  Isolate issues with pass/fail measurement results.
- **Easily generate certification reports**
  Prove that your work quality meets industry standards and specifications.
- **Flexibility for use anywhere**
  Use the portable, organized, hands-free carrier up cell towers and on cell sites.
- **Eliminate subjective guesswork with pass/fail analysis**
  This unique, automated handheld tool certifies fiber end-face condition and measures optical power with pass/fail results. Technicians use the same parameters across the entire network.

CPRI/OBSAI Validation Test

Part numbers: MTS-5801/5812/5812P

1 3 5

- **Verify CPRI- or OBSAI-based fronthaul**
  Ensured connectivity to the RRU without climbing the tower. Verify error-free transmission with BERT and proper CPRI and OBSAI alarm reporting.
- **Ensure that Ethernet backhaul misconfiguration does not cause retransmissions on the wireless spectrum**
  - Perform RFC 2544 or Y.1564 tests to validate Ethernet-layer KPIs: throughput, latency, packet loss, jitter, and committed burst size (CBS)
  - Ensure Layer 2 control-plane transparency with the automated J-Proof test
  - Guarantee high-quality customer data throughput with RFC 6349 TrueSpeed
  - Validate all the above KPIs for multiple flows based on Y.1564sam specifications (SAMComplete) and guarantee QoS and CoS
  - Validate the customer experience and TCP throughput using RFC 6349 TrueSpeed-based tests
- **Automated workflows and report generation**
  Prove that your work quality meets industry standards and operator's specifications with an automatic pass/fail test.
- **Ensure network timing synchronization**
  - Ensure Layer 2 control-plane transparency with the automated J-Proof test
  - Guarantee high-quality customer data throughput with RFC 6349 TrueSpeed

RF and Fiber Analyzer and Test

Part number: JD745AB04

1 3 6 7 8 9

- **Fully characterize cellular transmission quality**
  Integrated high-performance cell-site analyzer with RF characterization, sweep test, PIM-detection, and signal analysis of CDMA/EV-DO and LTE.
- **Complete jobs faster with pass/fail spectrum masks and Fiber Testing**
  Perform all traditional RF cell-site tests, including "Inspect Before You Connect" (IBYC) tests and power measurements, on sites with fiber links. The P5000i Fiber Microscope ensures all fiber connections are clean and power levels are verified, while the MP-60/80 optical power meter enables users to turn up cell sites and get them running faster. Users can certify fiber connectors and power for a lifetime and avoid the presence of any RF interference before commissioning.
- **Easy and systematic pass/fail sweep conformance**
  Certify cable runs quickly and easily with pass/fail indications according to custom specifications.
- **Immediate diagnostic of modulation performance**
  Obtain modulation profiles of CDMA/EV-DO and LTE signals to promptly identify problems and expedite resolution.
- **Verify the system for passive intermodulation**
  Perform in-service PIM detection tests to certify the installation of the entire system is not generating unwanted RF noise.
- **Automated testing and report generation**
  Prove that your work quality meets industry standards and specifications with an automated pass/fail test.

Ordering Information

Part Number	Description
FIT-COMM-B	Bottom tower: OLP-82P with OPM, P5000i, FiberChekPRO™ software, LC and SC duplex inspection tips/adapters, cleaning tools, utility carrier, carrying case
FBP-COMM-T	Top tower: HD4iP with PCM, P5000i, FiberChekPRO software, LC and SC duplex inspection tips/adapters, cleaning tools, utility carrier, carrying case
TB2-FTTA-QU-P	T-BERD/MTS-2000 with SM/MM OTDR module, OPM, SLM-FTTA app, VFL, P5000i, LC and SC inspection tips, utility carrier, cleaning tools, carrying case
JD745AB04	CellAdvisor JD745A with soft carrying case, GPS receiver and antenna, 2-port test, CW signal generator, interference and signal analysis for CDMA/EV-DO/LTE
MTS-5801/5812/5812P	Portable, all-in-one Ethernet test instrument

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