Anritsu

Test and Measurement Solutions

Tier 1 Service Provider "Sees the Light"

Network Master Assists When Deploying UMTS Node Bs

Highlights

- MT9090A used by a Tier 1 service provider to test optical fiber in UMTS Node Bs and DAS systems
- Superior solution to light source/power meter alternative
- MT9090A can measure up to 10 meters without the need for a patch cable
- All tests can be made with a few keystrokes
- Test Automator and simple pass/fail ability make it easy to conduct measurements
- High resolution ensures measurement accuracy

Background

Optical fiber is becoming more prevalent at the backhaul and in the infrastructure of Node Bs to accommodate high-bandwidth next-generation technologies. A Tier 1 service provider was initiating a large deployment of UMTS Node Bs, each with a Remote Radio Head (RRH). Simultaneously, the carrier was conducting an ongoing deployment of distributed antenna systems (DAS) and T1/T3 backhaul installations. Optical fiber was part of all the projects, as its superior characteristics in isolating and distributing RF signals compared to copper was necessary for the high-bandwidth UMTS network. The fiber lines also met the electrical isolation requirements associated with the DAS systems, which had radio heads mounted on the top of high-voltage power transmission towers.

Challenge

Field engineers and technicians were very familiar with RF and copper lines but lacked experience in working with fiber optics and were unfamiliar with the necessary tools to properly test the single- and multi-mode fiber links. For these reasons, the carrier needed a test instrument that was simple to use and had the necessary "intelligence" to make the measurements with only a few keystrokes. Another issue was the high sensitivity of optical cables, especially compared to copper lines. The slightest error during fiber deployment could have a major impact on overall network performance. Recognizing the importance of ensuring the installation and operation of the optical cable, the Tier 1 provider was looking for a test instrument that was extremely accurate as well. Alternatives such as a light source and power meter configuration did not pass the test. They could locate a problem but were not capable of providing the data necessary to determine the type of problem and the time it occurred. Anritsu's MT9090A Network Master was the only test solution that could provide the in-depth analysis required by the Tier 1 carrier.

Solution

The MT9090A is an instrument that is small, easy to use, and has high resolution, making it desirable for the project at hand. The handheld instrument measures only 190 (W) x 96 (H) x 18 (D) mm and weighs less than 200 g. All test results are given in a very clear GO/NO GO indication. A Test Automator makes it simple to set up a sequence of tests that require only one key press to initiate – allowing anyone to make error-free measurements. Another key feature of the MT9090A platform is the ability to measure up to 10 meters without the need for patch cable. Field users simply connect the fiber directly to the MT9090A and easily differentiate the internal fiber from the fiber under test. From a reporting standpoint, the MT9090A stood out as well. Measurement results are given in both graphical representation and table format.

Conclusion

The Tier 1 service provider selected the MT9090A to ensure the installation of its networks in the San Francisco Bay area. The carrier will also utilize the MT9090A for troubleshooting when the need arises. The MT9090A is the right solution for carriers to ensure the performance of optical cables used in Node Bs. With its easy to set GO/NO GO test scenarios, the MT9090A is the ideal solution for the carrier's RRH, DAS and isolation test requirements. In short, the MT9090A is a simple and effective test solution that can help Tier 1 customers with their rapid field deployment of new technologies.

Anritsu Advantage

Simple Operation – GO/NO GO capability makes optical testing easy for non-fiber technicians

All-in-one Tool – MT9090A can test fiber, inspect connectors, and locate visual faults

Performance – Data sampling of 5 cm and dead zones of <1 meter ensure accurate and complete fiber evaluation

Easy-to-read Screen – High-resolution, large 4.3" display allows results to be seen in any environment

Portable – Compact in size and equipped with a car charger, the MT9090A is excellent for remote locations

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