VIAVI Solutions

Application Note

Reduce DAS Maintenance Time with CellAdvisor Auto-Measure

The DAS Challenge

Installing and maintaining distributed antenna sites (DAS) where the antenna and the base station are not colocated is an issue all operators face. Until now, technicians have relied on manually recording and comparing the RF signal integrity between the base stations and the DAS. This method is susceptible to errors and can result in unnecessary and expensive maintenance recording procedures, including traveling between the base station and the DAS. Deploying the DAS requires technicians to measure the signal level at several points in the design to confirm that the DAS meets the required specifications, as the red circles in Figure 1 indicate. The figure also shows a typical DAS deployment where the base station at point 'A' and the antenna at point 'B' are not collocated.

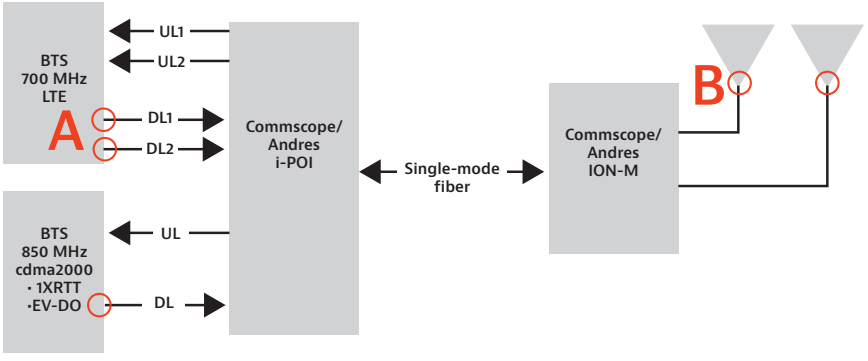

Figure 1. Signal level measurement points

Two Common Problems

DAS Commissioning

The VIAVI Solutions CellAdvisor JD745A/JD785A Base Station Analyzers uniquely automate the validation process to ensure that the RF signal between the base station and the DAS service antenna did not degrade during installation. Technicians can now measure at point A, shown in Figure 1, and then save the measurement to a reference file. They can then move to the antenna site at point B, load the reference file, and repeat the measurement to detect if any faulty equipment or cabling between points A and B caused any degradation.

CellAdvisor Base Station Analyzer

Signal Degradation over Time

Technicians can also use auto-measure to detect signal degradation over time. They simply take a measurement at point A during deployment, save the results to a reference file, and then repeat the measurement during scheduled periodic maintenance to check for degradation.

The Optimal DAS Testing Solution

VIAVI CellAdvisor JD745A/JD785A Base Station Analysers *automate and guide* users in measuring DAS, speeding up the deployment and testing process. As Figure 2 shows, the CellAdvisor guides technicians as they connect to point A and make a reference measurement, which is saved as a *gold-standard reference file.* Taking subsequent measurements at point A can help to detect degradation over time. Measurements taken at point B can help to detect issues between the base station and the antenna. Both measurement methods automatically compare results against the reference file to instantly alert users of any degradation.

Instant Result Analysis

In Auto-Measure mode, VIAVI CellAdvisor JD745A/JD785A Base Station Analyzers automatically measure and display the saved reference values, the new measurement, the difference between points A and B, and a percentage difference for all parameters. User-configured limits instantly alert technicians to problems, which eliminates misinterpreting results and saves significant time, and it empowers them to decide when maintenance is really necessary. Also, test results can be saved in .CSV file format for further analysis or report generation.

For more information about DAS Auto-Measure or to request a demonstration, contact your VIAVI account manager or visit www.VIAVIsolutions.com/go/mobile.

Point A Point B

Figure 2. Automated measurements and guiding users speeds deployments and testing

Figure 3. Auto-Measure results

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