



- CCSI's complete Outdoor DAS (ODAS) and Small Cell services include installation, integration, commissioning and testing of the pole mounted equipment including all cabling, antennas, remote radio units (RRU) or small cell and all associated, cabling, jumpers and interconnects.
- Additionally for ODAS CCSI will install, integrate and commission the Base Band Unit as well.
- CCSI's skilled technicians will mount the Small Cell or RRU to the pole, connect to power, ground and connect the small cell to backhaul or in the case of an RRU to the fiber feed to the BBU.
- Work includes mounting the antenna and associated coaxial cable jumper and connecting from the Small Cell/RRU to the antenna.
- Once all the equipment is in place and connected to power CCSI will commission the RRU or in the case of a Small installation a power up test will be performed. CCSI can optionally commission the Small Cell based on the customer's requirements.
- Our robust test suite includes PIM testing the antenna on the ground prior to installation as well insertion loss sweeps and PIM tests on the installed antenna system prior to turn up.
- CCSI will perform an OTDR, insertion loss and connection verification testing of all fiber cable.
- CCSI's excellent logistics support which utilizes our regional warehouse resources enables us to keep inventory of customer equipment and to deliver it to the work site.
- CCSI technical resources provide expertise throughout the project from RF engineering through ground and tower installation, integration and optimization.
- Industry leading project management support provides reporting on key milestones and project completion.
- Ability to quickly deploy multiple crews of experienced tower technicians and engineers provides quick ramp up on our customer's critical projects.
- Best in class closeout documentation includes all required test results and robust photo documentation of installed equipment as well data upload to the customers selected repository.
- At CCSI safety, quality and on-time delivery are our top priorities and all of our processes procedures are designed with these metrics in mind allowing us to deploy quickly, accurately and safely.
- With multiple locations throughout North America CCSI has the ability to support the wireless carrier in large national or regional roll outs.
- CCSI has significant experience with the installation microwave equipment ensures that your microwave network is installed and integrated in a timely manner.



SPECIFICATIONS

DAS & In Building Services

Outdoor DAS & Small Cell

Overview

CCI Services (CCSI) delivers complete Outdoor DAS and Small Cell services from installation to turn up and test, from the BBU to the Pole mounted RRU. Our team of highly trained technicians will install, commission and test the remote BBU and the pole mounted RRU on the site and interconnect with fiber cable. In the case of a pole mounted Small Cell, CCSI will install it and connect to the backhaul on site. For both the Small Cell and ODAS system, the units will be connected to a pole mounted antenna by a coaxial jumper. As part of turn up and test of the RRU CCSI will confirm the fiber link with OTDR, insertion loss and connection verification testing and for the Small Cell CCSI. The antenna system will be PIM tested and insertion loss swept prior to commissioning.

No matter what the work entails, our team of technicians and engineers bring their expertise and the experience of thousands of site installations to every project making CCSI one of the leading providers of services for cell site equipment.

CCSI is capable of providing Outdoor DAS and Small Cell services throughout North America. CCSI continues to provide both national and regional services supporting several of the major carriers for their 4G rollouts. We've become a trusted partner and CCSI can always be expected to deliver high quality services, safely and on time.

Deliverables

- Inventory customer equipment and deliver to site for integration.
- For ODAS install the remote BBU and the pole mounted RRU, tie into existing power, install fiber interconnect and commission.
- For Small Cell install the unit to the utility pole, tie into existing power and ground and perform power up test, optional commissioning services available for Small Cell.
- For both Small Cell and ODAS install pole mounted antenna and interconnect with a coaxial jumper.
- Provide OTDR, insertion loss and connection verification testing for the fiber interconnections.
- Provide both PIM and insertion loss sweeps testing of the antenna system prior turn up and test.
- Dedicated project and construction managers provide timely progress reporting and project tracking.
- Comprehensive closeout documentation includes all test results and complete photo documentation of installed equipment and includes digital upload services.
- As needed RF engineering a troubleshooting expertise.