



- CCSI's complete Microwave Backhaul deployment services include installation, integration and test of all tower and ground mounted equipment including all cabling, antennas, remote radio units, base band units and all associated jumpers and interconnects.
- Prior to installation our team will perform a pre-construction site visit and audit, to confirm and validate the necessary work. Based on the site audit CCSI will confirm with the customer a site specific scope of work, including a complete a bill of materials.
- CCSI's skilled technicians will set, integrate, commission and test both the ground level Base Band Unit (BBU) and the tower equipment Remote Radio Unit (RRU)
- Work includes microwave path alignment, installation of all fiber optic BBU to RRU interconnect cabling, alarming as well as power distribution and grounding. As necessary CCSI's civil team will reinforce the antenna mounting solution based on local conditions.
- For Microwave backhaul networks, services will include linking "drain" site with customers network according the customer's requirements.
- Our robust microwave test suite includes Bit Error Rate (BER) testing, as well as OTDR, insertion loss and connection verification testing of all fiber cable. Upon completion of the microwave system CCSI will perform validation or end-to-end testing of the "ring" or alternate microwave configuration.
- Our testing also includes sweep insertion loss and Passive InterModulation (PIM) testing of all coaxial cable and jumpers.
- 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.



Overview

CCI Services (CCSI) delivers complete Microwave Backhaul deployment services from installation to turn up and test, from the bottom of the tower to the top. Our team of highly trained technicians will install, commission and test the BBU and RRU on site and interconnect with fiber cable. As part of turn up and test CCSI will confirm the fiber link with OTDR, insertion loss and connection verification testing as well as align the microwave path, perform Bit Error Rate (BER) testing and validate the microwave ring upon completion.

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 Microwave Backhaul deployment 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.
- Install BBU and RRU, tie into existing power, install fiber interconnect and commission.
- Provide OTDR, insertion loss and connection verification testing for the fiber inter connections.
- Align the RF path and perform BER testing and validate the microwave ring or alternate microwave configuration.
- 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.