

VI.VI

**Cable
Subscriber
Installation
and Test Guide**

In today's competitive environment for broadband services, it is of utmost importance to make sure customers are having a high-quality experience. Technology is always on the move, and there are some major changes in progress as networks are evolving to provide more attractive and reliable services. DOCSIS 3.1 is being deployed in legacy HFC networks. Fiber is commonly used in greenfield construction. Customers are either purchasing managed WiFi services from the provider, or are installing their own routers to enable access for internet connected devices in the home. Each of these technologies must be tested to ensure that performance reliably meets expectations. The following is a short list of some key cable installation and service test use cases.

Use Case 1. DOCSIS Installation and Service

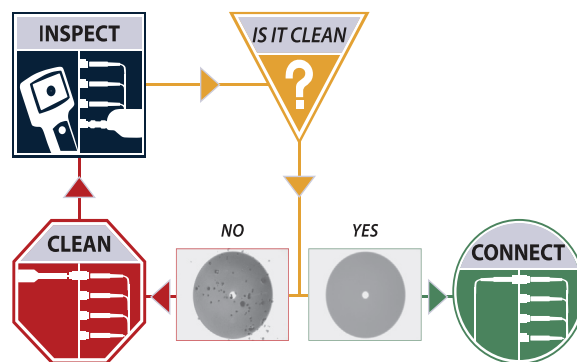
Problem: A wide range of issues can impact the service quality at the installation, and comprehensive testing is imperative to ensure that any complications are addressed while the technician is on site for installation. Issues include, but are not limited to, new installation craftsmanship, condition or limitations of existing network and components, damage caused in modifications to the home network or in unassociated DIY projects, modem provisioning problems, or other issues in the network that must be referred to maintenance. Testing must be performed at the tap, ground block and CPE locations, and include both RF and service performance verification.

Solution: VIAVI offers a variety of the most capable, rugged meters for installation and service testing. The DSP Trilithic Series meters cover the most basic signal level measurement (180 DSP) to DOCSIS 3.1 service testing (DSP 360). The OneExpert CATV ONX-620 is the most advanced meter on the market for complete home network installation and service testing, with speed, simplicity and power. Channel Check and OneCheck test modes provide quick, comprehensive tests in about two minutes, and Session Expert reveals any problems that need attention. A partial list of tests includes RF levels, MER, BER, as well as DOCSIS 3.0 and 3.1 physical and service performance. RF “pressure tests” of the home network are now used to verify the shielding integrity and the avoid the impact of leakage on devices in the home, as well as avoid allowing on-air signals from entering the network. The Home Leakage Test Kit enables techs to quickly find any coaxial network issues without the time-consuming trial and error process.

Use Case 2. Fiber Installation

Problem: Fiber installations must be tested to ensure that proper levels are arriving at the demarcation point. To avoid the most common source of trouble with fiber connections, the fiber face must be cleaned and inspected with a scope to ensure that it is clean before connections are made.

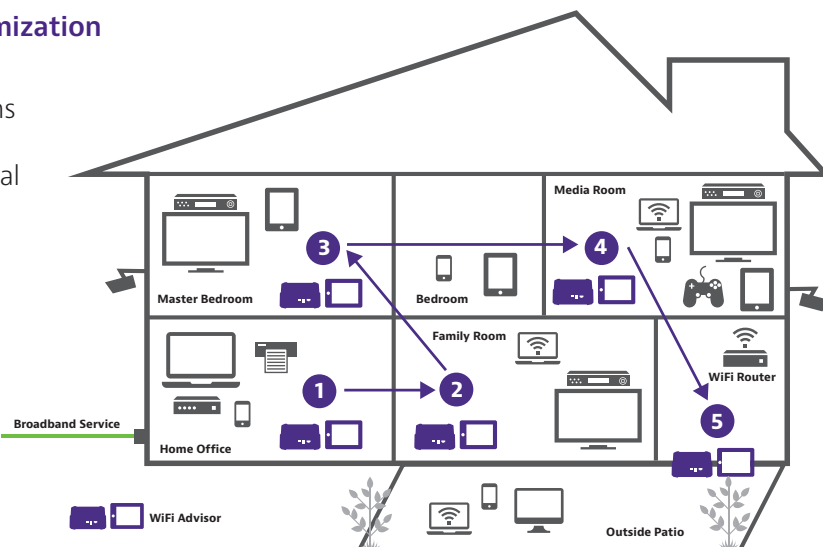
Solution: The MP-80A USB Power Meter can be used with a OneExpert CATV meter (ONX-620, for example) to measure optical power levels. The P5000i Fiber Scope can be used with the OneExpert CATV meter to check the fiber face to make sure it's clean.



Use Case 3. WiFi Service Installation and Optimization

Problem: A high proportion of service calls for cable operators are related to WiFi. These problems may be related to subscriber installation of consumer WiFi routers, perhaps in less than optimal locations, with interference or setup issues.

Solution: Techs must have a way to test and optimize WiFi service, including location, channel selection, and identification of interfering noise or signals. The WiFi Advisor from VIAVI simplifies this process, using probes (WIFEDs) which can be accessed for measurements using the OneExpert CATV (ONX-620, for example), or using an iPad.



Use Case 4. Workforce and Inventory Management

Problem: Techs are under a lot of pressure to get jobs done quickly, and may be tempted to take shortcuts. Proper testing is essential to make sure the customer has a quality experience, and it's important to keep techs accountable by requiring an upload of test results for every installation and service call. This ensures that the installation is performed correctly and tested. For contractors, it can mean quicker payment for services rendered.



In the cable provider work environment, both in-house management and service contractors must keep track of their test equipment inventory, to ensure that each tech is empowered to do quality work, and to keep track of equipment status (need for calibration, firmware version, options installed).

Solution: OneExpert CATV meters include StrataSync Core, which is a hosted, cloud-based solution that provides asset, configuration, and test data management for VIAVI instruments and ensures all instruments have the latest software and options installed. StrataSync's workflow/compliance reporting allows managers to automatically track whether assigned jobs are being completed and their pass/fail rate. Results can be viewed per-technician, per region, per subcontractor.


Use Case 1. DOCSIS Installation and Service

VIAVI Product	Product Link	Photo
ONX-620	http://www.viavisolutions.com/en-us/products/oneexpert-catv	
DSP Trilithic Series	https://www.viavisolutions.com/en-us/products/trilithic-dsp-series-meters	
Home Leakage Test Kit	https://www.viavisolutions.com/en-us/products/home-leakage-test-kit	

Use Case 2. Fiber Installation

VIAVI Product	Product Link	Photo
MP-80A	http://www.viavisolutions.com/en-us/products/mp-60-80-miniature-usb-20-power-meters-fiberchek-pro-integration	
P5000i	http://www.viavisolutions.com/en-us/products/p5000i-fiber-microscope	

Use Case 3. WiFi Installation and Optimization

VIAVI Product	Product Link	Photo
WFED300AC-1PC	http://www.viavisolutions.com/en-us/products/wifi-advisor	

Use Case 4. Workforce and Inventory Management

VIAVI Product	Product Link	Photo
StrataSync	http://www.viavisolutions.com/en-us/products/stratasync	



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