# VIAVI

# Improving the Customer Experience with PathTrak™ MACTrak™



Increased utilization of upstreams makes it abundantly clear that spectrum-analysis-only-based tools can no longer manage the task of service/network maintenance alone. The biggest changes in the (Data over Cable Interface Specification) DOCSIS® 3.0 environment are upstreams crowded with wider carriers and higher-modulation quadrature amplitude modulation (QAM) carriers with increased sensitivity to impairments.

Codeword errors indicate that corruption of data within packets is likely or is occurring; therefore, you can expect angry customers to be phoning your call center if you are experiencing them. MACTrak with Codeword Error Detection uses in-service cable modem or Digital Service Activation Meter (DSAM) packets to determine in real-time which upstream impairments are affecting subscriber services.

Locating faults and verifying the fix is critical for reducing truck rolls and repeat visits. MACTrak allows technicians to identify the right node, neighborhood, or customer based on the Media Access Control (MAC) address of problem packets that MACTrak provides. Once repairs have been completed, they can verify that the problem is fixed and confirm that codeword errors are corrected, in real time. In addition, technicians can utilize the subscriber modem or DSAM in-band packets to confirm that a specific problem is truly fixed.

## Key Benefits

- Determine the impairments that currently impact subscriber services and correct them with the exclusive MACTrak codeword error detection capability
- Combine essential spectrum-based monitoring and troubleshooting with live cable modem analysis
- Target maintenance and repair down to a single subscriber
- Increase network availability and service up time
- See faults that standard Spectrum Analysis tools miss
- Protect revenue and lower the risk of customer churn because of poor service quality

## Applications

- Identify service impairments
- Troubleshoot live modems (In-Band and In-Service)
- Verify repairs
- Detect codeword errors
- Extract MAC address

The full MACTrak display condenses everything for advanced users into one informative page.



The modem upstream Impairments Dashboard indicates problems at-a-glance.

| MAC Address | Packets from this MAC | Percent of All Packets (%) | Packets with Codeword Errors (%) | Min MER (dB) | Min UN-EQ MER (dB) | Min Carrier Level (dBmV) | Max Micro-reflection (dB) |
|---|---|---|---|---|---|---|---|
| 00:11:11:C9:F0 | 1 | 1.43 | 0.00 | 27.34 | 15.82 | 9.84 | -18.02 |
| 00:07:E9:D5:A5 | 1 | 1.43 | 0.00 | 25.94 | 15.69 | 8.74 | -18.11 |
| 00:0C:41:E3:39 | 2 | 2.86 | 0.00 | 28.73 | 16.78 | 10.20 | -18.77 |
| 00:22:75:EF:C6 | 16 | 22.86 | 0.00 | 27.80 | 16.78 | 9.83 | -18.85 |
| 00:22:75:6C:20 | 1 | 1.43 | 0.00 | 27.83 | 16.94 | 10.03 | -18.90 |
| 00:21:29:66:D1 | 7 | 10.00 | 0.00 | 27.78 | 16.72 | 10.14 | -19.01 |

The MAC address display and filter shows customers that are experiencing problems.

Contact Viavi Solutions today to learn how you can equip your technicians with PathTrak MACTrak: effortless, fast, and effective.

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Contact Us    **+1 844 GO VIAVI**
              (+1 844 468 4284)

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visit viavisolutions.com/contacts.

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