

## SPONSORED BY AVALON TEST EQUIPMENT

Since the introduction of portable PIM test equipment in 2008, wireless operators have made significant improvements in network quality. Thousands of installers and technicians around the world have been trained to use portable PIM test equipment to successfully locate and repair PIM problems at macro tower, rooftop and DAS installations.

An unfortunate limitation of this equipment has been its inability to precisely locate PIM sources when they are beyond the antenna. Every network operator has sectors negatively impacted by external PIM that they are unable to resolve.... until now! A new test technique, using a combination of tradition PIM testing and interference hunting, has been developed to precisely locate external PIM sources at cell sites. Once the locations are known, mitigation techniques can be applied to repair the problems and regain site performance.

Avalon now offers an intense one-day instructor led training course to teach wireless professionals how to precisely locate and mitigate external PIM at cell sites. The course uses a combination of theory and practical, hands-on exercises to build confidence.



## STUDENTS WILL LEARN

- ▷ **What is external PIM?**
- ▷ **How to verify that PIM is external**
  - Rooftop sites
  - Tower sites
  - In-building systems
- ▷ **The common sources of external PIM**
- ▷ **How to precisely locate external PIM Sources**
- ▷ **What equipment is required**
  - PIM analyzer
  - Spectrum Analyzer
  - Bandpass Filter
  - PIM probe
  - PIM blankets

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- ▷ **How to set-up and properly operate test equipment**
  - PIM analyzers- Anritsu, Kaelus
  - Spectrum analyzers- Anritsu, R&S, Keysight, Viavi
- ▷ **Practical tips and techniques to help guarantee success**
- ▷ **Safety requirements**
- ▷ **PIM survey documentation requirements**
- ▷ **How to mitigate common sources of external PIM**

## WHO SHOULD ATTEND?

- Wireless operators
- Installation contractors
- Troubleshooting experts
- Site maintenance engineers
- RF optimization engineers
- Field technicians
- Installers



**Prerequisite: Traditional PIM training or field experience  
operating a PIM analyzer**