

PIM Analytics

Passive Intermodulation (PIM), a growing problem in an RF dominated world

For many years engineers have been battling with single band PIM at cell sites.

Often the root cause of PIM has been poor installation or bad connections.

Today's networks use multiple bands & carrier aggregation, often in very dense RF environments.



Multi band PIM is growing in significance and impact.

Current PIM Analysis tools

- Single band RF test boxes that cannot passively test for multi band PIM
- Network tests which can only indicate the possible presence of PIM

The industry needs low cost, easy to use remote access tools to detect & root cause PIM

AceAxis PIM Analytics Capabilities

AceAxis has developed software and algorithms to provide greater insight into PIM in networks. The software works on a number of physical platforms, the capabilities provided are:

PIM Detection

- Detection of PIM (single band) in live cell site traffic
- Detection of PIM (2 or 3 bands) in live cell site traffic
- Detection of cross sector PIM
- Detection of PIM from other operators
- PIM magnitude (dBc/dBm) and on which band/cell site/sector/radio



PIM Location

- Identification of PIM on site or off site
- Identification of onsite PIM to +/-1m resolution (with on site calibration)
- Identification of offsite PIM to a +/- 2m resolution



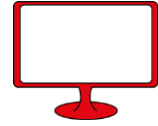
PIM Root Cause

- Identification of probable cause of PIM to guide repair crews



PIM Monitor

- Using low cost sensors, monitor 24/7 cell sites for transient/hard to detect PIM
- Threshold trigger monitor (time based or magnitude)
- Calculation of the financial impact to prioritize PIM resolution strategy



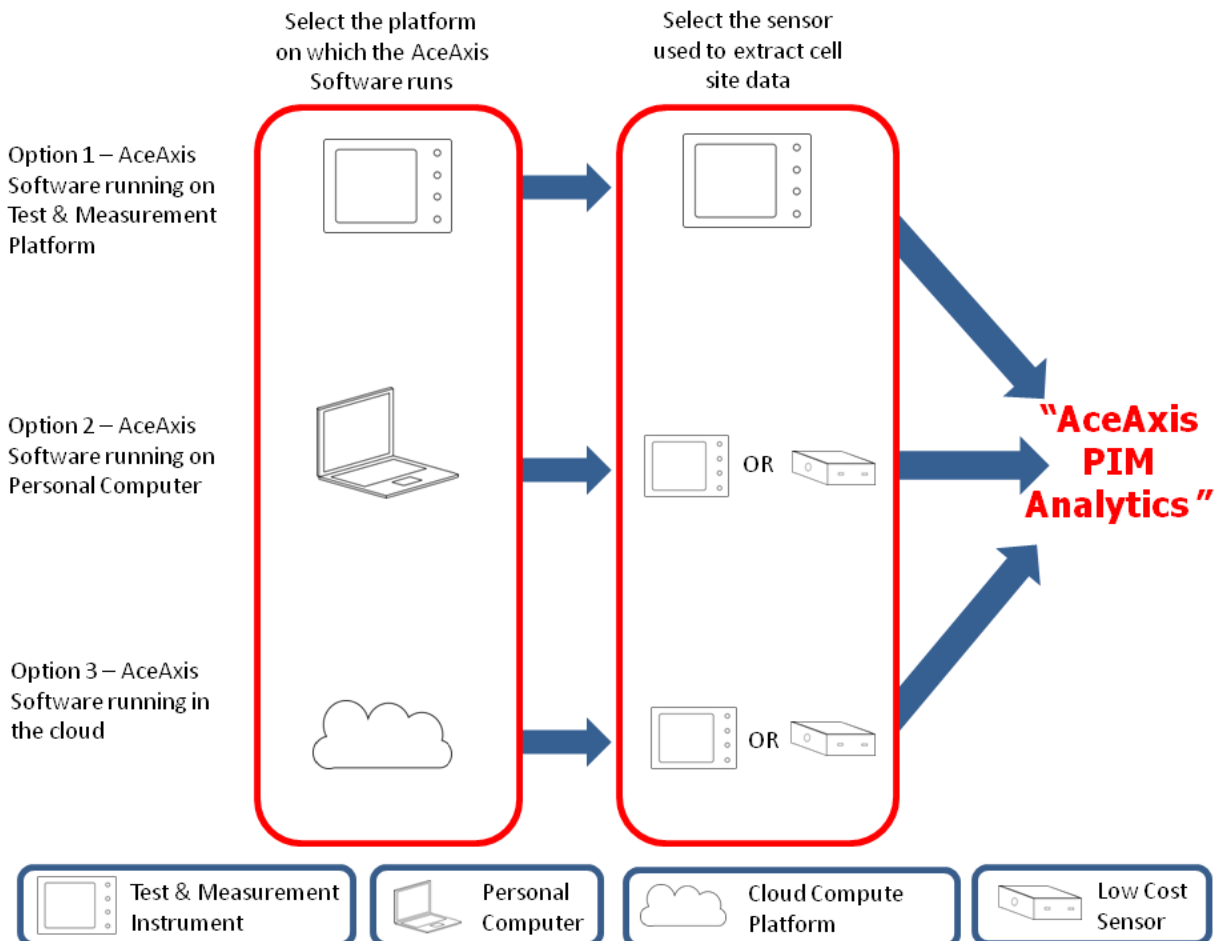
PIM Cancellation

- Calculation of the potential benefit to a cell site/sector of PIM Cancellation



AceAxis PIM Analytics Platforms

Analyzing PIM in the network requires a passive optical tap on the Front Haul interface between the baseband function and radio. This is a common method used today for basic spectrum analysis. A small sample of data is extracted and, using patented AceAxis software algorithms which can run on a variety of platforms, full analysis of PIM in the network is possible. PIM analysis can be conducted at the tower base, BBU Hotel or remote to the cell site.



About AceAxis

AceAxis is a well established technology company with a long history in radio design and test solutions for the telecommunications industry. Based in the UK our 35 scientists and engineers work on radio and radio related test and measurement solutions. We have a wealth of experience in PIM and with over 20 patents and pending patents for our PIM technology, AceAxis is constantly investing in lowering the cost of PIM.

AceAxis, the PIM experts, we'd love to help solve your PIM problem