Tests PIM over the CPRI interface.

Passive test , tests for PIM magnitude and location on live cell sites running operational traffic.

Able to test for single band, multi band, cross sector and many different types of PIM.

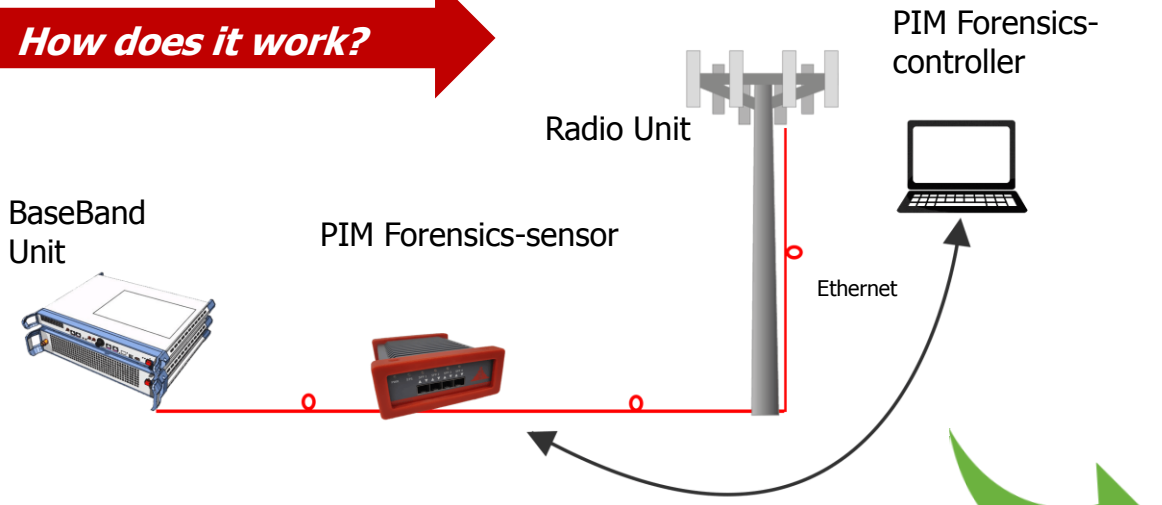
Designed to simplify the testing of PIM with easy to use GUI and simple to follow connectivity diagrams.

ace axis

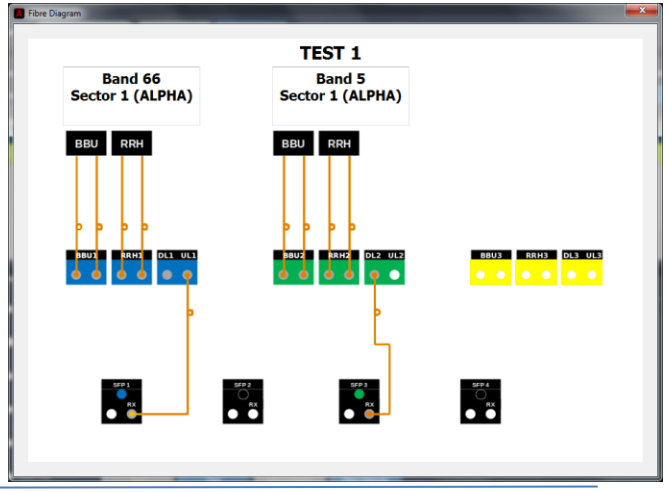
PIM Forensics

A new way to test passive intermods in cellular networks

How does it work?



Easy Fibre Setup where Fibre mapping for PIM test scenario is provided



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Configration	Connectivity	IM Order	MIMO Modes
Multiband Dual Carrier	1xDL, 1xUL carrier per antenna on RRH1, 1xDL carrier per antenna on RRH2	IM3-7	1x2, 2x2, 2x4, 4x4
Single Carrier "self PIM" Measurement	1xDL, 1xUL carrier per antenna single RRH	IM3-7	1x2, 2x2, 2x4, 4x4
Single Carrier Harmonic PIM Measurement	1xDL carrier per antenna, low band RRH1, 1xUL carrier per antenna, high band RRH2	Harmonic 2, Harmonic 3	1x2, 2x2, 2x4, 4x4
Multiband Tripple carrier (future software upgrade)	1xDL, 1xUL carrier per antenna on RRH1, 1xDL carrier per antenna on RRH2 1xDL carrier per antenna on RRH3	IM3-7	1x2, 2x2, 2x4, 4x4

What configurations can be tested?

What it will measure?

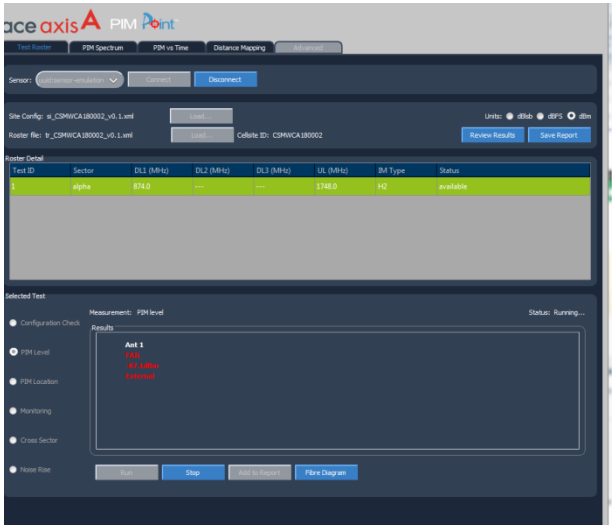
Measurement	Capability
PIM power level	PIM Power measurement sequentially on each UL antenna line. PIM measurement in dB relative to thermal noise floor
PIM Power Level Accuracy	±1 dB (rms level of digital PIM power on CPRI) Absolute (dBm) PIM accuracy will depend also on UL gain accuracy of
PIM Power Level Range	PIM levels from -10 dB below to +50 dB above RRH thermal noise: so -112 dBm to -52 dBm for LTE10 RRH with 2.5 dB NF
Measurement time - acquisition	One minute acquisition (typical)
Measurement time - subsequent measurements	4 seconds per UL (typical)
Off Site Distance-to-PIM	Measure distance to two dominant PIM sources relative to antenna+mounting PIM signature
Off Site Distance to-PIM Accuracy	±2m, PIM 10 dB or more above UL noise; quiet channel
Off Site Distance to-PIM Range	0-1000m (free space)
Off Site Distance to-PIM Measurement time	One minute typical per UL
On Site Distance-to-PIM Calibration	Additional mode where strong PIM source is introduced in front of antenna to force a calibration point. Measurement accuracy ±1m
Cross Sector PIM (future software feature)	Yes / No indication of PIM contribution from adjacent sector
PIM check (future software update)	Indicate significant PIM contribution from any downlink(>-10dB PIM contribution with respect to primary sector DL)

PIM Forensics component	Metric
PIM Forensics Sensor	4 SFP unit , supports Rate 1 to Rate 8 CPRI , power consumption 30W AC powered (220 – 240 VAC, 50-60 Hz)
PIM Forensics Sensor	Unit dimensions 185mm*133mm*55mm (2.1"*7.3"*5.2"), unit weight 1Kg, 2.2lBs
PIM Forensics Tap	3 fibre taps
PIM Forensics Tap	Unit dimensions 185mm*133mm*55mm (2.1"*7.3"*5.2"), unit weight 0.75Kg, 1.6lBs
PIM Forensics Control (Software to analyse PIM runs on Personal computer)	Specification of PC required (PC is not support with software) Minimum specification, operating System: Windows 10 Processor: Intel i5, RAM: 8GB, Memory Storage: 512GB SSD

What does it consist of?

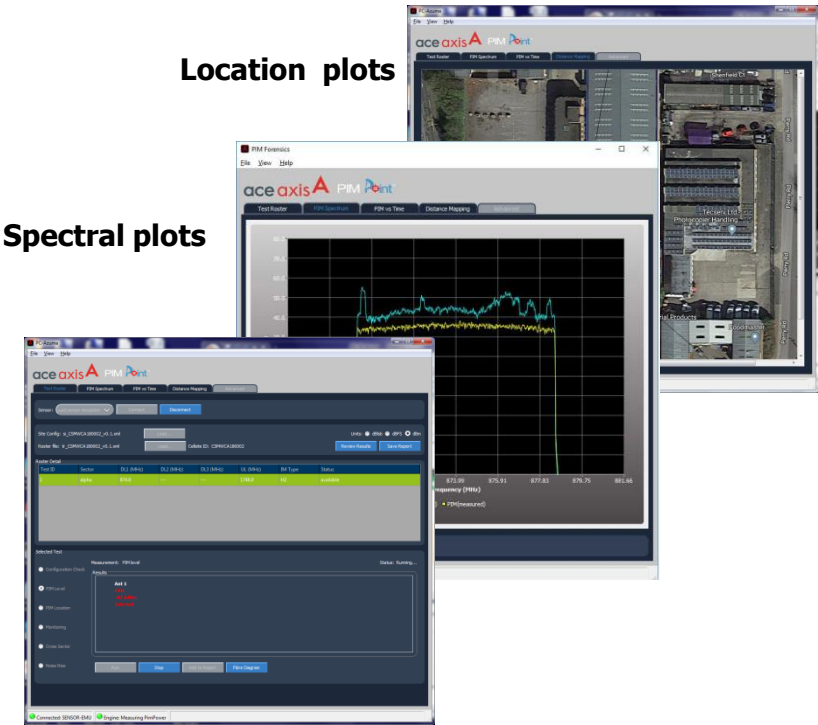
User presented with simple menu

- **Verify connection**
- **Measure PIM**
- **Locate PIM**
- **Results stored and PDF report generated**



Location plots

Spectral plots



Cell site analysis tools

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