

2-PORT - PIM FINDER

SOLUTION FOR B17 AND B14

Over the years, we have seen a steady increase in the complexity of the antenna tower architecture. It is nowadays not uncommon to see cellular infrastructures supporting multiple frequencies bands. Although each system can, individually, perform within the expected PIM level, when mixing with other bands, stronger PIM signals can be generated by external PIM sources and deafen the radio's receivers.

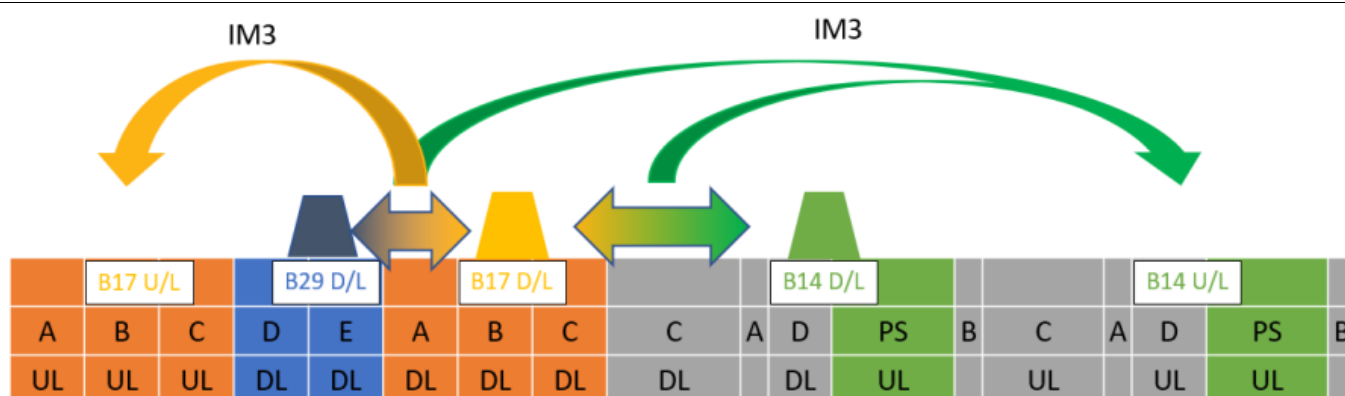
The Kaelus 2-port PIM Finder solution is developed specifically to troubleshoot external PIM by replicating the cross band PIM scenario between Band 17 and Band 14. This solution allows for more accurate searching of the PIM sources caused by loose mounting brackets, fasteners, parapet walls and more. The PIM Finder is ideal for all testing scenarios, including tower, rooftop, DAS and small cell sites.



FEATURES

- Complete solution from Kaelus
- One GUI controls all equipment by Kaelus Unify software
- iXA has the ability to check for internal PIM on each antenna at 2x20W without swapping RF cables
- iXA provides transmit tones in both bands, each at a power level of up to 40W per antenna for illuminating external PIM sources
- iXA can measure distance to external PIM from the antenna with its built-in Rang to Fault (RTF)
- iVA provides a receiver for measuring externally generated PIM
- One-handed operation, direct connection from iVA to PIM Test probe
- Small and lightweight, allows for working in hard to access areas
- Rugged design for field application

Band 17 and Band 14 are FDD spectrum at 700MHz. Each band individually only creates a 5th order PIM in its receive frequency band. Band 29 has been added for supplementary downlink. When Band 29, Band 17 and Band 14 are collocated, the three downlink bands can together energise external PIM sources and create some 3rd order PIM products, which are likely to fall in the receiver band of Band 17 and Band 14. This interference can deafen the receiver, severely impacting the performance of the cellular site.



TECHNICAL SPECIFICATIONS

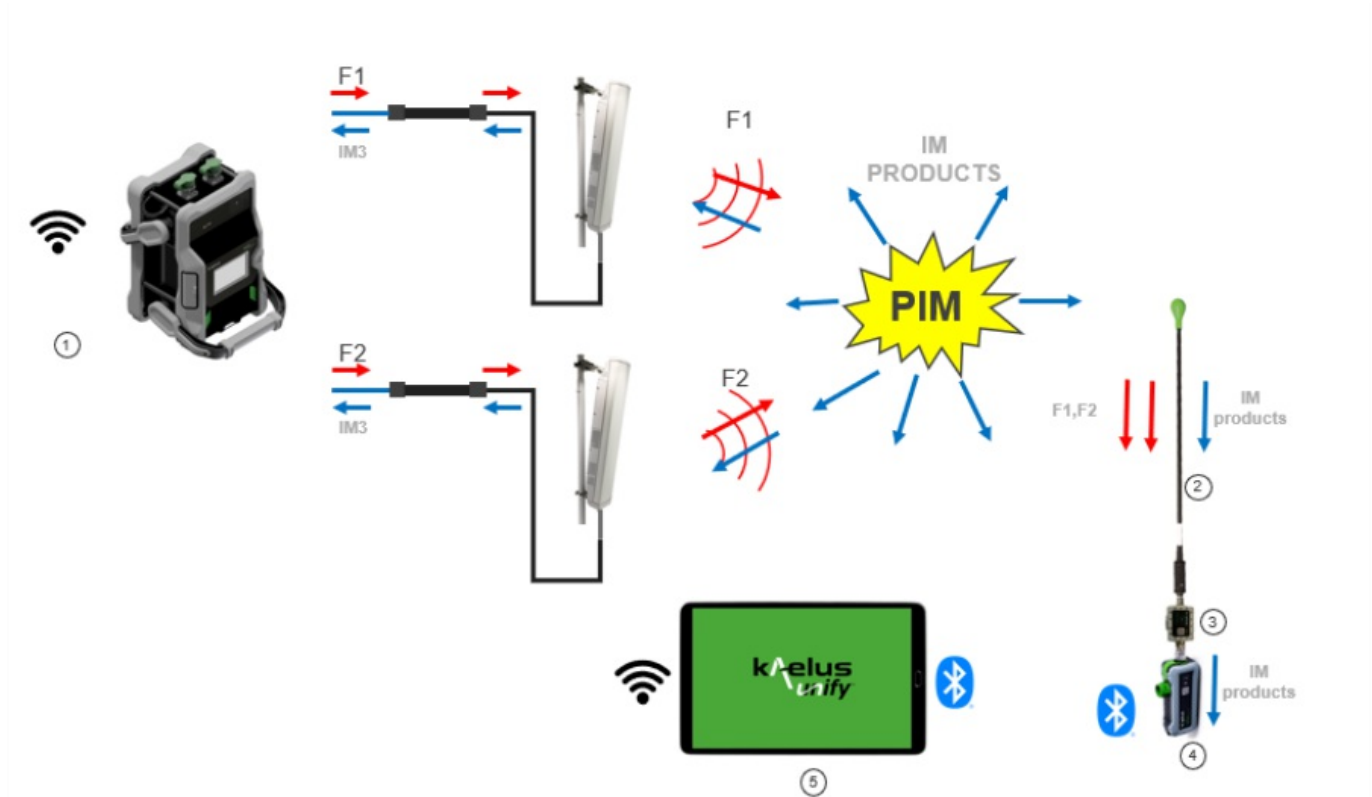
SYSTEM	
Maximum input power into BPA	10mW max 20MHz LTE signal or equivalent
iVA Sampling Rate	1kSa per second
iVA + BPA: Dynamic Range	-60 to -125dBm
iVA Resolution bandwidth	20kHz
iVA + BPA: Displayed average noise level (RBW = 20kHz)	-125dBm typ

For more detailed specifications of each component (iXA, iVA and BPA), refer to the datasheets on www.kaelus.com

SYSTEM DIAGRAM

The 2-port PIM Finder solution consists of lightweight, easy to use products that are battery powered:

1. A 2-port portable PIM Test Analyzer: iXA-0707A
2. PIM Test probe: R29-4788
3. Protection Filter/Bandpass Amplifier: BPA-0707A
4. Cable and Antenna Analyzer: iVA-0627A
5. Kaelus Unify Software for remote control of iPA and iVA. Running on iOS/Android tablet/phone, or Windows PC



WARNING! RF HAZARD!

The radio frequency fields near cellular antennas may exceed safe levels for human exposure. Personnel engaged in troubleshooting external PIM sources should be trained for work in radio frequency environments and use a personal RF monitor if working near active antennas.

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
iVA-0627A	iVA Cable & Antenna Analyzer System
iXA-0707A	iXA 2-port PIM Tester
BPA-0707A	Band Pass Amplifier
R29-4788	PIM Test probe
iVA-SW-FI-A	PIM Finder Mode - Software upgrade



PIM Finder in action