



TEST & MEASUREMENT



at&t

APPROVED PRODUCTS
2022 ORDERING GUIDE

TEST AND MEASUREMENT SOLUTIONS

Kaelus is a recognized leader in test and measurement instruments, cell-site filters, combiners and tower-mounted amplifiers. As an approved vendor, Kaelus provides AT&T, as an approved vendor, with high-quality, low PIM products that enable effective global communication.

Cable and Antenna Analyzer

The iVA Series Cable and Antenna Analyzer enables users to accurately measure VSWR, return loss and the location of the VSWR/return loss faults in their RF infrastructure.



Part Number	Frequency	Case Type
iVA-0627A-SK-02	600 MHz – 2700 MHz, Standard Accessories	Rugged Hard Case
iVA-0627A-PK-02	600 MHz – 2700 MHz, Standard Accessories & Phase Stable Cable	Rugged Hard Case

NOTE: Change A to B for 4.3-10 connector

iVA Software Options

iVA-TMA and iVA-CPA are new analysis modes now available with the purchase of an iVA-0627A. Both software analysis modes add new measurement capabilities to the existing base iVA analyzer

iVA-SW-TMA - Cable & Antenna Analyzer with Transmission Analysis Mode enables two or more iVAs to operate in a coordinated fashion to perform accurate swept insertion loss, antenna isolation and radiation pattern measurements.

- Directly measure insertion loss and Isolation
- Accurately measure transmission loss (magnitude only)
- 90 dB dynamic range
- Comes with all features of base iVA Cable & Antenna Analyzer
- Up to 7 units can be connected together via Bluetooth

NOTE: Transmission Mode requires 2 or more iVA-Transmission Mode units

iVA-SW-CPA - Cable & Antenna Analyzer with Channel Power Analysis Mode enables the user to determine the total RF power between any two frequencies in a spectrum monitor trace. Measurement modes include CW signal and modulated signal.

- Levels ranging from -100 to +15 dBm
- Measurement bandwidths of up to 75 MHz allowed
- Both modulated and continuous wave signals supported
- Comes with all features of base iVA Cable & Antenna Analyzer

iVA Software Ordering Guide

1. Choose base iVA with desired accessories

Part Number	Description
iVA-0627A-SK-02	iVA Cable & Antenna Analyzer System with Standard Accessories Kit, Rugged Hard Case

NOTE: * A second iVA does not come with this kit; customer will need to purchase second iVA-0627 separately

Change A to B for 4.3-10 connector, Example: iVA-0627B-NC iVA Cable & Antenna Analyzer System, 4.3-10 male connector with Neoprene Soft Case

2. Add desired iVA software options

Part Number	Description
iVA-SW-TMA	Transmission Mode (Second iVA Sold Separately)
iVA-SW-CPA	Channel Power Mode
iVA-SW-FI-A	PIM Finder Mode (CEQ.25868)

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iPA Series PIM Test Set Bundle

Kaelus bundles the iPA Series Analyzer with the iAK-0060A Accessory Kit and Range-to-Fault (RTF) Module. The iAK is a passive intermodulation (PIM) premium test accessory kit that includes all of the necessary components required to validate test equipment operation and perform PIM testing on systems with 7-16 DIN and Type-N connectors. The customized storage and carrying case is rugged enough for complete protection of the iPA and components when transporting or on-site testing. The RTF module is also included in this bundle.



Item Master #	Part Number	Description	TX1 Range	TX2 Range	RX Range (PIM)
CEQ.54305	iPA-0707D-BD02	700 MHz Low/High, 40W, Battery Powered PIM Analyzer	728-731.5	741-765	698-716/776-802
NEQ.15893	iPA-0850A-BD02	850 MHz, 20W, Battery Powered, PIM Analyzer	869	879-894	824-849
NEQ.17196	iPA-1921A-BD02	AWS/PCS, 20W, Battery Powered, PIM Analyzer	1930-1950	1970-1990/ 2110-2155	1850-1910/1710-1785

iXA Series 2-port PIM Test Set

The iXA is a 2-port battery-powered PIM Analyzer versatile enough to support multiple test scenarios, such as testing at the top of the tower, base of the tower, rooftop, in-building for DAS systems and external PIM Finding.

No other PIM tester has ever been integrated to this level! The iXA includes a network of electronic switches to change from one-port to two port measurement seamlessly. In addition, with integrated Range-to-Fault (RTF) on each port, the user can first troubleshoot the system for internal PIM. Then, without reconnection, the user can progress with the external PIM process, making the entire process much more efficient.



With integrated RTF on each port, the user can collect four times more range-to-fault data than the standard 1-port PIM Finder solution. Thus, the user can easily locate and swiftly eliminate the strongest PIM source.

Item Master #	Part Number	Description	TX1 Range	TX2 Range	RX Range (PIM)
CEQ.54413	iXA-0707A	700 MHz Low/High, 40W, Battery Powered, 2-Port PIM Analyzer	728-740	741-764	692-716/776-800
CEQ.54412	iXA-0707A-BD00	Bundle of iXA-0707A, iAK-0140A, and iAK-0160A	728-740	741-764	692-716/776-800

iAK Accessory Kits

The iAK is a premium PIM test accessory kit that includes all of the necessary components required to perform and system check of the portable PIM tester (iPA or iXA) and perform PIM testing. The customized storage and carrying case is rugged enough for complete protection of the portable PIM tester and components when transporting or on-site testing.

Concerned about the weight and portability of the iAK-0150A? Use the iAK-0140A, Soft case accessory kit with the iAK-0160A, iXA transit case as an alternative handling of the iXA and its accessories.



Item Master #	Part Number	Description
TBD	iAK-0060A	iPA Premium Accessory Kit
CEQ.54410	iAK-0150A	iXA Premium Accessory Kit
CEQ.54409	iAK-0140A	iXA Soft Case Accessory Kit
CEQ.54411	iAK-0160A	iXA Transit Case

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PIM Finder – External PIM Fault Detection System

Kaelus PIM Finder accurately identifies and locates PIM sources external to antenna infrastructure while providing the ability to search for PIM sources caused by loose mounting brackets, fasteners, parapet walls and more. PIM Finder is ideal for all testing scenarios including tower, rooftop, DAS and small cell sites.

PIM Finder is a software option available through Kaelus Unify and is used in combination with the iVA Cable & Antenna Analyzer, iXA 2-port Portable PIM Analyzer and Low-PIM Probe. By scanning the environment around the antenna infrastructure with the low-PIM probe while monitoring the received PIM level, the location of external PIM sources can be pinpointed quickly and precisely.

- Pinpoints external PIM (outside antenna infrastructure)
- Locates PIM sources in the B17 / B14 band
- One-handed operation: direct connection from iVA to low PIM probe
- Small and lightweight: allows for working in hard-to-access areas
- iXA provides two transmit tones at a power level of up to 40W per carrier
- iVA provides a receiver for measuring externally generated PIM
- Long-range Bluetooth connection
- No phase-stable cable required



Item Master #	Part Number	Description
CEQ.30578	iVA-0627A	iVA Cable & Antenna Analyzer
CEQ.25868	iVA-SW-FI-A	PIM Finder Software Upgrade for iVA
CEQ.30155	R29-4788	Low-PIM Probe
CEQ.30037	iVA-0627A-F	Cable & Antenna Sweep Analyzer with PIM Finder Software
CEQ.53551	iVA-0627A-FD01	PIM Finder Complete Kit
CEQ.48796	BPA-0707A	Band Pass Amplifier - 700L/700H UL

Kaelus Demystifying PIM Finding

Making PIM Finding methodology simple to execute and less time consuming

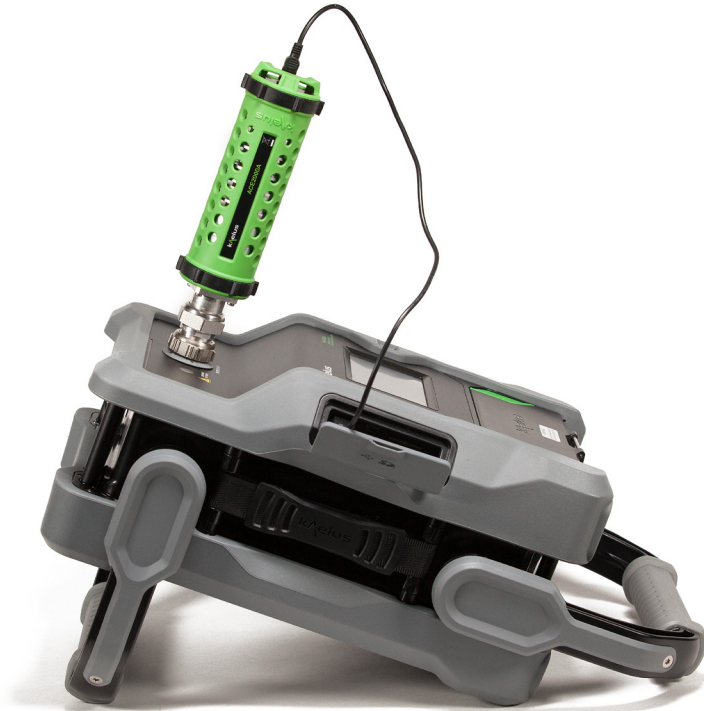


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ACE THE TEST WITH KAEPLUS!

[ANALYZER CALIBRATION EXTENDER]

- ✓ SELF-CALIBRATE KAEPLUS PIM ANALYZERS IN THE FIELD
- ✓ CALIBRATION IN LESS THAN ONE HOUR
- ✓ CALIBRATE MULTIPLE IPA, ITA, IQA, IBA AND SI E-SERIES INSTRUMENTS WITH ONE ACE UNIT



Analyzer Calibration Extender – In-field Calibration of PIM Equipment

The Analyzer Calibration Extender is a solution that allows customers to self-calibrate their Kaelus PIM instruments in the field. With successful calibration, ACE will extend your analyzer's calibration while reducing downtime to less than one hour, while at the same time increasing productivity by retaining instruments in the field.

Part Number	Description
ACE-1000A	Analyzer Calibration Extender for PIM Analyzers



Range-to-Fault Module

Range-to-Fault (RTF) is an exciting technology from Kaelus that enables operators to accurately measure the distance to PIM and return loss (RL) faults in their RF infrastructure.

- Distance to largest and multiple PIM sources
- PIM vs. distance graphing
- Return loss vs. distance graph
- RL verification in PIM test mode



Range-to-Fault Module	Part Number	Description	Test Frequency Range
RTF-1000A	NEQ.15308	Range-to-Fault Module for iPA/iBA Low Band	698-960 MHz
RTF-2000A	NEQ.15309	Range-to-Fault Module for iPA/iBA High Band	1710-2170 MHz



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