



- Lightest full power portable PIM analyzer covering the 698-766 MHz and 774-804 MHz bands
- Real world 40 W x 2 radio power levels with highly accurate -135 dBm sensitivity
- Ultra-portable in a convenient and durable backpack enclosure and with over three hours of battery life
- Simultaneous Real Time PIM & Return Loss measurements
- Automatic GPS site location feature
- Distributed antenna system (DAS) test feature
- New PiMPoint feature (integrated) allows distance approximation to largest PIM source, in 50' path and outside the antenna
- New Distance to Fault feature allows for simultaneous view of PiMPoint and Distance to Fault impedance reflections on the same graph
- Fully integrated Wi-Fi remote control using smart phone App (Android & iPhone)
- Instantaneous Measurement Modes for PIM and Return Loss, Frequency Sweep and PIM vs Time
- Easy to use graphic navigation tools with unique touch screen display
- Self-calibrating to industry standards
- Variable output power from 24 to 46 dBm x 2 (250mW to 40W x 2)
- Measures the 3rd and 5th reflective passive intermodulation
- Internal and external data storage
- Software and firmware updates downloadable via USB connection
- Universal and Basic 7-16 DIN component Accessory Kits available

Overview

CCI's PiMPro Tower Series is the first truly portable family of Passive Intermod (PIM) analyzers. All PiMPro Tower analyzers have real world 40W x 2 output power capability, with a sensitivity of -135 dBm, and can run on battery power for over three hours. The PiMPro Tower 700 has the ability to cover the upper and lower 700 MHz bands, both 698-766 MHz and 774-798 MHz. The analyzer's excellent measurement sensitivity (-135 dBm) as well as its ability to set transmit tone levels down to 20 dBm (100 mW) x 2 makes it the perfect resource for conventional cell sites as well as in-building Distributed Antenna System (DAS) requirements.

The Tower Series demonstrates the perfect synergy of CCI's world class in-house engineering design expertise for both filters and amplifiers. Each light weight and compact unit is protected by a reinforced backpack case which can easily strap to a climber's back for top-of-the-tower performance testing. The unit can be safely secured to most any tower structure with its integrated industrial grade clips. Each unit features a superior quality bright TFT capacitive 7.0 inch screen that provides a more friendly user interface. CCI's simple GUI combined with a powerful CPU make for fast measurement acquisition and site data storage. The portable construction, designed with durable ruggedness and reliability first and foremost, PiMPro Tower Series will prove to be a valuable investment for years to come.



DATA SHEET

PiMPro Tower Series

PiMPro Tower 700

Most LTE sites are configured with radios set at 40 watts or more per carrier and each site can have as many as four carriers per sector. This means that PIM testing at anything less than 40W x 2 will not accurately simulate live network traffic and is likely to understate actual site PIM levels. The PiMPro Tower Series' 40 watt x 2 power level allows for realistic PIM level testing in the field and at the tower top. The analyzer provides precise measurement of the 3rd and 5th order intermods of any system or component under high-power conditions. In addition to passive intermodulation measurements, the unit will provide VSWR and Return Loss values. PiMPro can be used to verify the integrity of individual passive components including connectors, cable assemblies, antennas, filters, making it an integral performance tool for site and tower technicians.

As a leading provider of wireless base station enhancement products, CCI set out to design and develop a reliable solution to system performance and enhancement challenges. PiMPro employs state-of-the-art technology and is built to meet the ever changing demands and needs of today's wireless suppliers.

Applications

- On site installation testing of antennas, filters, cable assemblies and other passive components
- Tower technicians can test antenna installations under real world 40W x 2 conditions at the tower top
- Mobile operators can isolate site performance issues and perform interference testing



SPECIFICATIONS

PiMPro Tower Series

PiMPro Tower 700

Electrical Specifications

PiMPro Tower 700	
Transmitter	Band LTE 700L / LTE 700U
	Receive Frequency 698 - 722 MHz / 774 - 804 MHz
	Transmit Frequency 732 - 746 MHz
	Frequency Accuracy < 5 ppm
	Power Accuracy 0.3 dB
	Frequency Step Size 200 kHz
	Power Resolution 0.1 dB
Receiver	Adjustable Power Range 24 to 46 dBm x 2 (250 mW to 40 W x 2)
	Residual Intermod Level -122 dBm (-125 dBm Typical)
	Measurement Sensitivity -135 dBm
	Noise Floor -136 dBm
Measurement Mode	Reverse Power Protection 13 dBm (20 mW) continuous
	Measurement Method One Port, Reverse PIM
	Real Time PIM 3rd & 5th PIM
	Return Loss Measured in dB
	PIM vs Time 3rd & 5th PIM
	PIM Location (PIMPoint) Distance in Feet or Meters with VP Settings
	Distance to Fault Distance in Feet or Meters with VP Settings
	RX Interference Receive Only Mode - Noise Floor Measurements
	Noise Floor Measurement Up-Link noise level with TX off
	Frequency Sweep Frequency Response
System	DAS Feature Path Loss Characteristics
	Battery >3 hours (Full Charge)
	Power AC & DC (AC 90 - 256 V, 50 - 60 Hz)
	Alarms Audio & Visual Display
	Display Size & Type 7" TFT Color Touch Screen
	Data Ports 3 - USB 2.0, 1 - Ethernet Port
	Remote Control WiFi Enabled (802.11n)
	Battery Power 28 VDC
	Battery Capacity 5.8 AH
	Battery Type Li Ion Removable Battery Pack
Electrical	Max Power Consumption <340 W

Mechanical

	Weight 18.0 to 27 lbs. (8.5 to 12.5 kg.) (model dependent)
	RF Output Connector 7-16 DIN Female
	Dimensions (WxHxD) 14 x9 x4.5 in. (350 x 230 x 114 mm)
	Operating Temperature -10-45°C, 14-117°F, 95% RH
	Storage Temperature -30-60°C, -27-140°F, 85% RH



SPECIFICATIONS

PiMPro Tower Series

PiMPro Tower 700

Measurement & Configuration



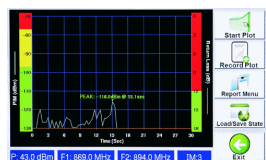
System Configuration

System Configuration is the first data entry point for PiMPro users, where all system and report generation parameters are set. Includes settings for Date and Time, Audio Alarm, RF Power on Time interval, central Data Label management, PiMPro registration information and IP address are all keyed in from this screen. Software updates and screen calibrations are also accessed from this screen.



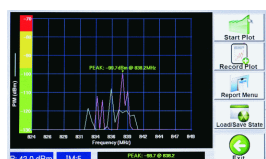
PIM vs Return Loss

PiMPro's main measurement screen provides instantaneous PIM measurement in both dBc or dBm. The large display flashes to annunciate the presence of RF power at the output connector. Pass/Marginal/Fail Limits, Output Power, Frequency and IM settings originate from this screen. PiMPro's unique Return Loss diagnostic feature at high transmit (TX) power, quickly points out open cables.



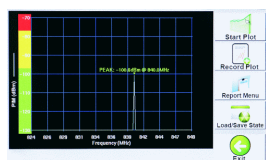
PIM vs Time

The PIM vs Time dynamic measurement mode features a graphical representation of PIM as a function of time. Time scale can be set from 10 seconds to 4 minutes. The PiMPro Return Loss feature is also available on this screen.



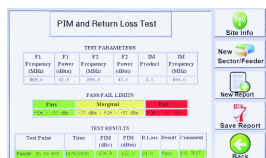
Frequency Sweep

PiMPro displays a swept receive (RX) PIM range by sweeping the TX carriers from end to end within the set frequency band. PIM frequency response is displayed, exposing the worst case PIM level and the contributing frequencies. Users can immediately transfer the graph to the PIM vs Time feature and run a new test to isolate the causes of the specific PIM.



RX Interference

With both internal amplifiers set to off, PiMPro performs a spectral analysis sweep, for interfering signals. RX Interference mode provides the added ability to discern PIM from external interfering signals in the receive band. External and internal PIM signals are unlikely to be in phase or simultaneous within PiMPro's narrow receiver range, therefore, making RX Interference a powerful field diagnostic tool.



Report Generator

Report data for all measurement modes can be stored in either, HTML or PDF file format. Users can concatenate a limitless series of measurements with different sector, feeder, color codes, as one single PDF file. Reports can be saved in PiMPro's internal memory or to external USB memory from the unit's front panel.



PP-AK-CBL-DMDM	Low PIM Jumper Cable DIN M
PP-AK-CBL-DMDM	Low PIM Jumper Cable DIN M to DIN F
PP-AK-PSTAN-80	PIM Standard - 80 dBm
PP-AK-DMDM	Low PIM 7-16 DIN Male to Male Adapter
PP-AK-DFDF	Low PIM 7-16 DIN Female to Female Adapter
PP-AK-DMNF	Low PIM 7-16 DIN Male to N Female Adapter
PP-AK-DMNM	Low PIM 7-16 DIN Male to N Male Adapter
PPT-AK-LOAD	Low PIM Termination Load < -168 dBc with both Male and Female 7-16 DIN
PP-AK-CAB-DMDF	Low PIM Male DIN to Female DIN jumper cable 3/8" 3 m (10 ft) length
PP-AK-CAB-DMDM	Low PIM Male DIN to Male DIN jumper cable 3/8" 3 m (10 ft) length
PP-AK-TORW	Torque Wrench for 7-16 DIN Connector
PP-AK-ADJW	Adjustable Wrench
PP-AK-FIXW	Small 32 mm Wrench for 7-16 DIN
PPT-AK-BATT	Rechargeable Battery
PPT-AK-CHRG	Battery Charger
PPT-AK-CASE	PiMPro Tower Accessory Kit Case

* All accessory kit components and cables have low PIM connectors, with PIM level < -122 dBm



ORDERING

PiMPro Tower Series

PiMPro Tower 700

Parts & Accessories

PIMPRO TOWER 700	PiMPro Tower 700
Accessories Included	Power Cord, Operation Manual
	Additional operational accessories available individually or in convenient Universal Kit configurations.
PimPro Tower 700 SP	Includes PimPro Tower 700, Tower Accessory Kit, Transport Case
Option 11	GPS Capability
Option 12	SCPI Programmable
PPT-TC	PiMPro Tower Transport Case
PPT-AK	PiMPro Tower Accessory Kit



STANDARDS & CERTIFICATIONS

PiMPro Tower Series

PiMPro Tower 700

Certifications

Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US