

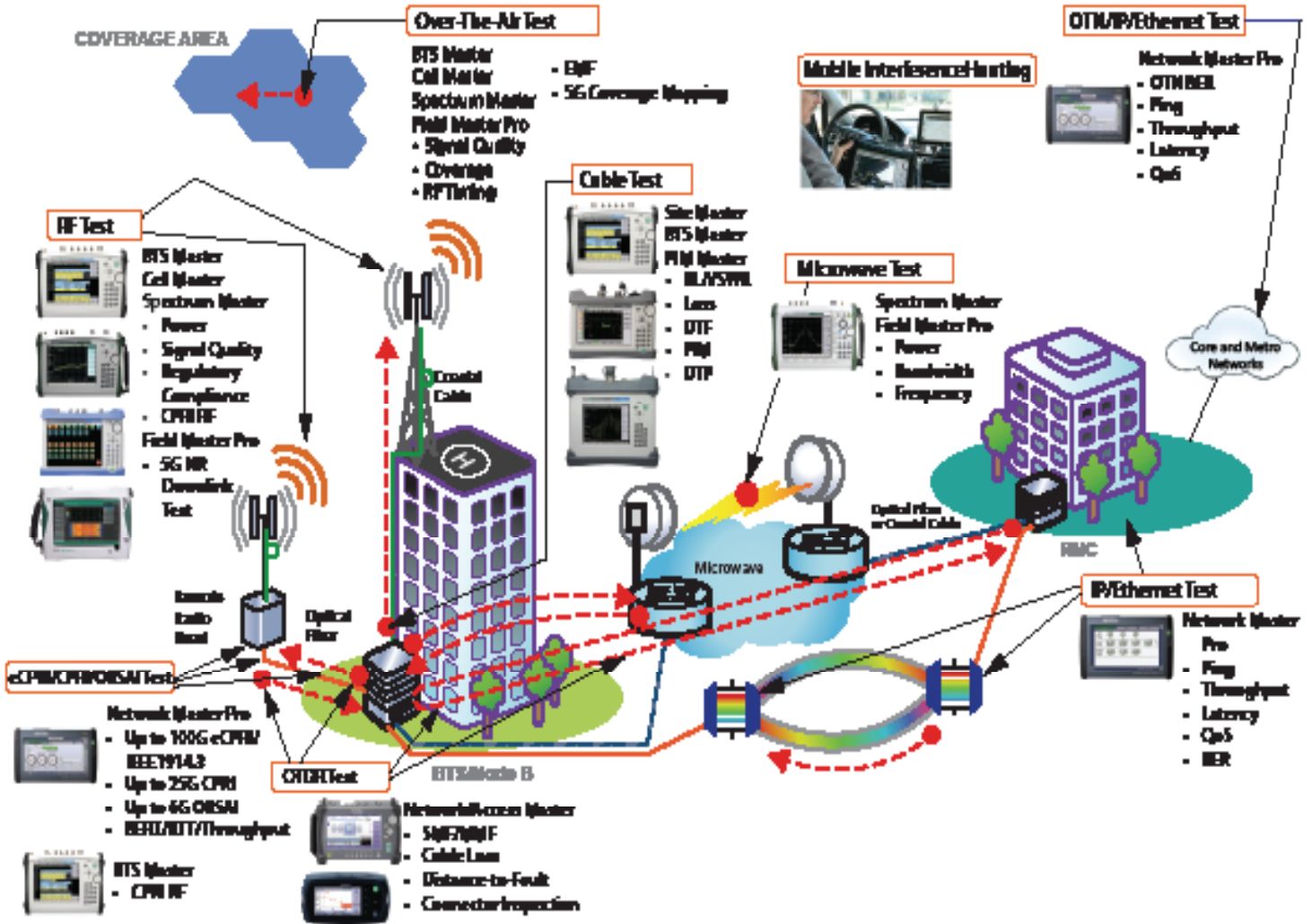
Installation, Maintenance and Optimization Solutions

Antenna Systems, Backhaul/Fronthaul, Base Stations, Air Interface

The right tools to achieve best-in-class network reliability



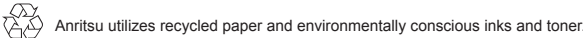
Base Station Field Test Environment



Specifications are subject to change without notice.

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Network reliability has the biggest impact on churn for wireless network operators.

Poor network reliability, perceived or real, is a primary reason subscribers leave a network; something the industry calls “churn”. Key performance indicators (KPI) such as blocked or dropped calls and data sessions or low data throughput are monitored and are identified by network operators as the main reasons customers churn.

Additionally, operators are having to overcome the multiple challenges of co-siting new **5G** technology with legacy **LTE** and 2G infrastructure, new base station types such as remote radio heads (**RRH**) using the optical **CPRI** interface for fronthaul, advanced **MIMO** transmission techniques, providing reliable in-building coverage using distributed antenna systems (**DAS**), increasing passive intermodulation (**PIM**) and interference levels and sometimes periodic mandatory regulatory testing, all while keeping installation, maintenance and optimization costs under control.

Anritsu products and cloud-based services are focused on maximizing technician productivity and consequently keeping operating costs down. Giving technicians the right, **simple-to-use** tools to optimize network performance is more cost effective than trying to replace lost subscribers, which are becoming harder and more costly to find.

Discover **Anritsu’s best-in-class tools** which will help your technicians and engineers optimize all areas of your network and elevate your network reliability to best-in-class.



Network Master™ Pro
MT1000A
I&M Transport Analyzer

- Highlights:**
- Complete 1.5 Mbps to 10 Gbps Transport Analyzer – eCPRI, CPRI, OBSAI, Ethernet, SONET/SDH, OTN, Fibre Channel
 - High-Resolution Latency (Delay) Measurement
 - PTP-based Time Synchronization Measurement
 - WLAN/Bluetooth/LAN Connectivity
 - Simple User Interface
 - PDF, CSV and XML Report Generation for Documentation of Test Results
 - Allows Execution of Multiple Test Via One-Button Selection



Network Master™
MT9090A
Gigabit Ethernet Analyzer

- Highlights:**
- Comprehensive 10/100/1000 Mbps Ethernet Analyzer for I&M
 - Verify throughput and transport signal quality
 - PING, RFC2544, Y.1564, Multiple Stream Generation
 - Channel Stats - troubleshooting utility
 - RJ45 and SFP interfaces



Network Master™
MT9090A
Optical Time Domain Reflectometer (μOTDR)

- Highlights:**
- Pocket-Sized Optical Fiber Analyzer
 - High Resolution, 4.3 in indoor/outdoor color display
 - Simple Operation and PDF Reporting with Fiber Visualizer
 - Complete I&M tool in One Unit: OTDR, Light Source, Power Meter, and Connector Microscope



ACCESS Master™
MT9085 Series
Optical Time Domain Reflectometer (OTDR)

- Highlights:**
- 8-Inch Wide Touchscreen and Hard Keys
 - Optical Fiber Analyzer
 - Simple, Graphical Summary of Results and Close-Out Reporting
 - Complete Fiber Test Tool: OTDR, Light Source, Power Meter, VFL, Microscope
 - Rugged, Sealed Design for Reliability



Video Inspection Probe
G0306B/G0382A
Connector Inspection Microscope

- Highlights:**
- Autofocus Type (G0382A)
 - Manual Type (G0306B)
 - Simple PASS/FAIL Analysis for Tower Cables, RRU/DAS Jumpers, SFPs
 - IE61300-3-35 Compliant, Ensures all Technicians and Contractors Use the Same Criteria

Network Element								
	Fronthaul or Backhaul			Base Station Transmitter	Antenna System			Coverage Area
	Ethernet or CPRI	Fiber	Microwave		Antenna	RF Feeder	DAS	
Dropped Calls								
Insufficient Coverage				BTS Master Cell Master Spectrum Master Field Master Pro	Site Master	Site Master	Site Master	BTS Master Cell Master Spectrum Master Field Master Pro
Wrong Downtilt								BTS Master Cell Master Spectrum Master Field Master Pro
Low Power or Bad Frequency Response at Antenna			Site Master	BTS Master Cell Master Spectrum Master Field Master Pro	Site Master	Site Master	Site Master	BTS Master Cell Master Spectrum Master Field Master Pro
Transmitter Problems			Spectrum Master Field Master Pro	BTS Master Cell Master Spectrum Master Field Master Pro				BTS Master Cell Master Spectrum Master Field Master Pro
PIM					PIM Master	PIM Master	PIM Master	
Uplink Interference				BTS Master Cell Master Spectrum Master Field Master Pro	PIM Master	PIM Master	PIM Master	BTS Master Cell Master Spectrum Master Mobile InterferenceHunter Handheld InterferenceHunter Field Master Pro
Backhaul Problems	Network Master Pro Network Master Gigabit Ethernet	Access Master Network Master Video Inspection Probe	Site Master Spectrum Master Field Master Pro					
Fronthaul Problems	Network Master Pro BTS Master	Access Master Network Master Video Inspection Probe	Site Master Spectrum Master Field Master Pro					
Blocked Calls								
Uplink Interference				BTS Master Cell Master Spectrum Master Field Master Pro	PIM Master	PIM Master	PIM Master	BTS Master Cell Master Spectrum Master Mobile InterferenceHunter Handheld InterferenceHunter Field Master Pro
PIM					PIM Master	PIM Master	PIM Master	
Transmitter Problems			Spectrum Master Field Master Pro	BTS Master Cell Master Spectrum Master Field Master Pro				BTS Master Cell Master Spectrum Master Field Master Pro
Backhaul Problems	Network Master Pro Network Master Gigabit Ethernet	Access Master Network Master Video Inspection Probe	Site Master Spectrum Master Field Master Pro					
Fronthaul Problems	Network Master Pro BTS Master	Access Master Network Master Video Inspection Probe	Site Master Spectrum Master Field Master Pro					
Low Throughput								
Transmitter Problems			Spectrum Master Field Master Pro	BTS Master Cell Master Spectrum Master Field Master Pro				BTS Master Cell Master Spectrum Master Field Master Pro
Backhaul Problems	Network Master Pro Network Master Gigabit Ethernet	Access Master Network Master Video Inspection Probe	Site Master Spectrum Master Field Master Pro					
Fronthaul Problems	Network Master Pro BTS Master	Access Master Network Master Video Inspection Probe	Site Master Spectrum Master Field Master Pro					
Low Power or Bad Frequency Response at Antenna			Site Master	BTS Master Cell Master Spectrum Master Field Master Pro	Site Master	Site Master	Site Master	
DAS Problems		Access Master Network Master Video Inspection Probe		BTS Master Cell Master Spectrum Master Field Master Pro	Site Master	PIM Master Site Master	PIM Master Site Master	BTS Master Cell Master Spectrum Master Field Master Pro
Uplink Interference				BTS Master Cell Master Spectrum Master Field Master Pro	PIM Master	PIM Master	PIM Master	BTS Master Cell Master Spectrum Master Mobile InterferenceHunter Handheld InterferenceHunter Field Master Pro
PIM					PIM Master	PIM Master	PIM Master	
Complaints from other Operators								
Transmitter Problems			Spectrum Master Field Master Pro	BTS Master Cell Master Spectrum Master Field Master Pro				BTS Master Cell Master Spectrum Master Field Master Pro
PIM					PIM Master	PIM Master	PIM Master	
Regulatory Compliance								
Transmitter Problems			Spectrum Master Field Master Pro	BTS Master Cell Master Spectrum Master Filed Master Pro				



Field Master Pro™
MS2090A
RF Spectrum Analyzer

- Highlights:**
- Models to 54 GHz
 - 100 MHz analysis bandwidth
 - 5G NR downlink analysis
 - RTSA for interference hunting
 - Channel power, OBW, ACPR, SEM
 - DANL -164 dBm for small signal detection



Spectrum Master™
MS2711E/13E & MS2720T
Spectrum Analyzer

- Highlights:**
- Interference hunting, microwave backhaul, and quality of the transmitter
 - Benchtop performance in a handheld package
 - 2G, 3G, 4G signal analysis options
 - Channel Power, OBW, ACPR, SEM and Spurious Emissions
 - Interference analysis, GPS, coverage mapping and I/Q capture.
 - CPRI RF (MS2713E)



BTS Master™ MT8220T
Cell Master™ MT8213E
Base Station Signal Analyzer

- Highlights:**
- Cable and antenna analyzer
 - Spectrum analyzer
 - Vector signal generator (MT8220T)
 - Interference analyzer with mapping
 - Power meter
 - Signal analyzers: LTE/LTE-A FDD/TDD, W-CDMA/HSPA+, GSM/GPRS/EDGE, TD-SCDMA/HSPA+, CDMA, EV-DO, Fixed and Mobile WiMAX
 - CPRI RF (MT8220T)



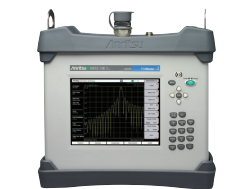
Site Master™
S331L/S33xE/S36xE/S820E
Handheld Cable and Antenna Analyzer

- Highlights:**
- Cable and Antenna Analyzer
 - Field Strength
 - Spectrum Analyzer (some models)
 - Channel Power, Occupied Bandwidth, ACPR, C/I
 - Return Loss, Cable Loss, DTF
 - S820E model to 40 GHz
 - CPRI RF (S331E, S332E, S361E, S362E)



Mobile Interference
Hunting System
MX280007A

- Highlights:**
- Quickly find intefering, single and multiple, signals
 - Spectrum clearing mode
 - Uses Google Maps™
 - Quickly drive to interfering signal location
 - Locate multiple emitters such as cable TV leakage
 - Works with Spectrum Master, BTS Master, Cell Master, Field Master Pro, and Site Master models with spectrum analyzer



PIM Master™
MW82119B
PIM Analyzer

- Highlights:**
- PIM vs.Time, Swept PIM, Distance-to-PIM (DTP), Noise Floor
 - Battery Operated: > 3 hour
 - 20 dBm (0.1 Watt) to 46 dBm (40 Watt)
 - Field-proven design: rugged, compact, daylight viewable display

For more information about these products go to anritsu.com