

Quick Fact Sheet

IQ Fiber Master™

PIM and RF Interference Analyzer

MT2780A

PIM and RF Interference Analysis in the Palm of Your Hand

The IQ Fiber Master MT2780A PIM and RF analyzer is a CPRI-based solution that provides critical PIM diagnosis across multiple bands and sectors using live traffic. Utilizing a non-invasive process that allows cell sites to remain active during testing, this solution uses the CPRI link to analyze RF data and identify PIM levels, PIM location, and conduct RF spectrum analysis. This provides RF engineers with important diagnostic information that will help with PIM debugging and hunting efforts. The small size of the IQ Fiber Master MT2780A and its ability to test any frequency radio without interrupting network traffic make it an ideal, cost-effective solution for cell site technicians and engineers performing PIM and interference analysis.

Key Features

- RF over CPRI for interference measurements
- PIM over CPRI for any frequency PIM measurements
- PIM analytics for long-term PIM monitoring
- 4 SFP ports
- 4x4 MIMO support
- Line Rate 1- 8 support
- PIM Location (DTP = distance-to-PIM)
- Support all Tier 1 LTE base station radio manufacturers
 - o Ericsson, Nokia, Huawei, Samsung
 - o Other vendors can be added as needed
- Up to 12 AxC traces simultaneously for multiple sectors/carriers
- Uses MX280020A PC software; free download from Anritsu.com website



IQ FIBER MASTER MT2780A FRONT PANEL



IQ FIBER MASTER MT2780A REAR PANEL



2000-1977-R OPTICAL TAP FRONT PANEL



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Key Specifications

Optical Inputs	Up to four Small Form Pluggable (SFP) transceivers
Line Rate	Supports Rate 1 to Rate 8 CPRI (SFP dependent)
Supported Vendors	Ericsson, Huawei, Nokia, Samsung
LTE Bandwidth	5 MHz, 10 MHz, 15 MHz, and 20 MHz
LTE RF over CPRI measurements	Spectral analysis of CPRI IQ streams, absolute or relative frequency LTE UL or DL
PIM over CPRI	MIMO support: SISO, 1x2, 2x2, 2x4, 4x4 Supported PIM configurations: Multi-band dual carrier – IM3-5, Single carrier – IM3-5, Single carrier harmonic – H2, H3 PIM power level: PIM measurement in dB relative to thermal noise floor (measurements in dBm or dBsb)
Distance to PIM (PIM Location)	± 1 m typical, 1000 m range
PIM Analytics	PIM vs. Time, PIM Distribution, PIM Daily, Heat Map
Results and Reports	Report Header, Configuration Check, Spectrum, DTP (Distance-to-PIM), Long-Term Monitoring, Pass/Fail
Operating Temperature Range	0° C to 45° C (based on SFP specs)
Size	185 mm x 133 mm x 55 mm (2.1 in x 7.3 in x 5.2 in)
Weight	1 kg (2.2 lb)

Ordering Information

Part Number	Description
MS2780A	IQ Fiber Master (requires option 0752, min.)
MX280020A	IQ Fiber Master Control Software (no cost; download from anritsu.com)
MT2780A-0752	LTE RF Over CPRI (requires MT2780A)
MT2780A-0754	PIM Over CPRI (requires option 0752)
MT2780A-0755	PIM Analytics (requires options 0752 and 0754)

Standard Accessories

Part Number	Description
2000-1979-R	SM Fiber Optic Cable Kit, 30 cm, Simplex
2000-1980-R	MM Fiber Optic Cable Kit, 30 cm, Simplex
2000-1371-R	Ethernet cable, 2 m
40-209-R	AC power supply (and adapters for local AC line outlets)

Optional Accessories

Part Number	Description
68-11-R	SFP+ (optical module), SM 10.5 Gbps, 1310 nm
68-12-R	SFP+ (optical module), MM 10.5 Gbps, 850 nm
68-13-R	SFP+ (optical module), SM 9.83 Gbps, 1310 nm
806-16-R	Fiber optic cable, 3 m, duplex MM 1.6 mm LC/PC LC/PC 50 µm
806-17-R	Fiber optic cable, 3 m, simplex MM 1.6 mm LC/UPC LC/UPC 50 µm
806-18-R	Fiber optic cable, 3 m, ruggedized simplex SM LC/UPC LC/UPC
806-19-R	Fiber optic cable, 3 m, ruggedized duplex SM LC/UPC LC/UPC
2100-29-R	Fiber optic cable, 3 m, simplex SM LC/UPC
2100-30-R	Fiber optic cable, 10 m, simplex MM LC-SC
2100-31-R	Fiber optic cable, 3 m, duplex SM LC/UPC
971-14-R	Ferrule cleaner, 2.5 mm SC
971-15-R	Ferrule cleaner, 1.25 mm LC
971-16	Fiber ferrule cleaner
2000-1849-R	SFP 4-slot ESD box
2000-1977-R	3-port SM 1310/1550 nm TAP (includes 2000-1979-R)
2000-1978-R	3-port MM 850/1300 nm TAP (includes 2000-1980-R)
2000-1982-R	PIM source
2000-1981-R	Hard transit case

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