MTT ACM II

Advanced Cable Maintenance Toolkit

The MTT ACM II chassis features a family of plug-in modules, providing a wide variety of testing capabilities for the Access Network.

The Advanced Cable Maintenance (ACM II) Chassis, part of the Modular Test Toolkit (MTT) family of test sets, is a rugged, battery-operated test solution for installation and maintenance of physical layer access network services. The MTT ACM II is the industry's premier handheld test system designed to qualify copper cables at VDSL2 frequencies, readying service providers for triple play deployments.

The ACM II covers an industry best frequency range from voiceband to 30 MHz – necessary for VDSL2 qualification based on FTTN or MDU architectures. Our patented 'detaptor' feature helps identify short bridge taps, which are especially harmful for VDSL2 transmission. In addition, ACM II offers key voice frequency features that are common to industry methods and procedures. Using the MTT ACM II enables service providers to complete installations in less time and with greater confidence in the quality of service delivered to customers.

Benefits

- Handheld and portable
- Flexible and dynamic
- Copper qualification with extended VDSL2 frequency range
- Standard POTS installation tests
- Convenient and cost-effective
- Integrated cable maintenance features
- Enhanced troubleshooting and repair
- Complete FTTn/x testing in one package

Platform Highlights

- Color display
- Easy-to-use interface
- Fast and easy one-button auto test
- Dual trace TDR for in-depth fault location
- RFL to locate resistance faults
- Spectrum analyzer - 30 MHz PSD background noise
- 30 MHz insertion loss
- Voice frequency features
  - Longitudinal balance
  - Circuit noise and power influence
  - Power harmonics analysis
- Detaptor (patented) to determine lengths of bridge taps
- Supports many SSMTT/SSxDSL test modules

Advanced Cable Maintenance Features

TDR

Display Options
- Single Trace
- Dual Trace (Split Screen, Overlap, Difference, Recall)

Distance Range: Dependent on cable type and condition

ENGLISH	
Cable Gauge	Distance Range
22 AWG	15 ft. to 24000 ft.
24 AWG	15 ft. to 18000 ft.
26 AWG	15 ft. to 12000 ft.

METRIC	
Cable Gauge	Distance Range
0.6 mm	3 m to 7200 m
0.5 mm	3 m to 5400 m
0.4 mm	3 m to 3600 m

Display Resolution: 0.6% of selected range
Pulse Widths: 12 nS to 4 µS, autoselect
Output Impedance: 100
Vp: 0.4 to 0.99 in 0.01 increments
Automatic search to first fault

RFL

Fault Range: 10 MΩ
RTS: 4 kΩ
Accuracy of RTF (at 1 MΩ)
- ± 0.1% RTS ± 0.1Ω 0Ω to 100Ω
- ± 0.2% RTS ± 0.1Ω > 100Ω to 1000Ω
- ± 0.25% RTS ± 0.1Ω > 1000Ω to 4000Ω

DC Voltage

Range: 300V Max
Accuracy: ± 0.5% ± 10 mV

AC Voltage

Detector: True RMS
Range: 250 VAC Max
Accuracy: ± 1% ± 20 mV for 20 Hz to 1 kHz

Resistance

Range: 1Ω to 100 MΩ
Accuracy
- ± 1% ± 1Ω for 1Ω to 1 MΩ
- ± 2% for > 1 MΩ to 4 MΩ
- ± 5% for > 4 MΩto 100 MΩ

Capacitance

Range: 1 nF to 2 µF
Accuracy
- ± 2% ± 300 pF for 1 nF to 1 µF
- ± 5% for > 1 µF to 2 µF

Current

Load: 430Ω
Range: 0 mA to 110 mA
Accuracy: ± 2% ± 0.1 mA

Insertion Loss

Range: 0 to 80 dB
Accuracy: ± 2 dB
Frequency response sweep from 13 kHz to 30 MHz
Detaptor: Bridge Tap Detection (Patented)

WB Background Power Spectral Density (PSD) Noise

Frequency Range: 13 kHz to 30 MHz
Resolution Bandwidths: 4.3125 kHz, 34.5 kHz
Level Range: -30 to -140 dBm/Hz

VF Background Power Spectral Density (PSD) Noise

Frequency Range: Up to 6000 Hz
Level Range: 10 dBrn to 90 dBrn

Power Harmonics

Frequency Range: Up to 6000 Hz
Level Range: -50 dBm to 40 dBm

VF Metallic Noise

Range: 0 dBrn to 90 dBrn
Resolution: 1 dBrn
Accuracy
- ± 1.5 dB from 10 dBrn to 90 dBrn
- ± 2 dB from 0 dBrn to 10 dBrn

Filter: C-Message
Impedance: 600Ω

Power Influence (Noise-to-Ground)

Range: 40 dBrn to 130 dBrn
Resolution: 1 dBrn
Accuracy: ± 1.5 dB
Filter: C-Message

Longitudinal Balance

Frequency: 1 kHz
Range: 0 to 70 dB
Accuracy: ± 2 dB

Impulse Noise

Threshold Range: 50 dBrn to 100 dBrn
Dead Time Range: 100 µS to 255 mS
Max Count Range: 1 to 9999
Timer: Settable from 1 to 999 minutes or continuous

Signal-to-noise

Frequency range: 13 kHz to 30 MHz

Near End and Far End Crosstalk (NEXT/FEXT)

Frequency range: 34.5 kHz to 30 MHz

Auto Test

User selectable tests with CSV output
Reports PASS/FAIL/MARGINAL status where applicable

Load Coil Detector

Graphic and count

Cable Pair Detect
Audible connectivity verification

Transmitter
Frequency Range: 10 kHz to 30 MHz
Frequency Resolution: 0.1 kHz
Frequency Accuracy: ± 25 ppm
Levels: 0 to -40 dBm in 1 dB steps
Level Accuracy: ± 1 dB
Output Impedance: 100Ω balanced

Receiver
Measurement Method: FFT
Frequency Range: 13 kHz to 30 MHz
Frequency Resolution: 4.3125 kHz
Level Range
+5 to -80 dBm for 13 kHz to 18 kHz
+10 to -80 dBm for > 18 kHz to 30 MHz
Level Resolution: 0.1 dB
Level Accuracy: ± 1 dB
Input Impedance: 100Ω balanced

General Specifications

Size	4.1 x 10.6 x 2.6 in (W x H x D) 10.5 x 27 x 6.5 cm
Weight	3.5 lb (1.6 kg)
Battery	Rechargeable, field replaceable NiMH pack
Charger	Universal 100-240 VAC adapter with IEC connector; DC power jack
Operating Temperature	23˚F to 113˚F (-5˚C to 45˚C)
Storage Temperature	-4˚F to 158˚F (-20˚C to 70˚C)
Humidity	5% to 85% non-condensing
Display	Backlit 240x320 dot STN indoor/ outdoor color screen; CFL backlight
Connectors	Five 2 mm banana test leads
LEDs	20 bi-color
Serial Port	8-DIN, RS-232C (V.24) DTE

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