

HIGH-POWER AUTOMATED TUNERS

0.25 TO 8.0 GHz

Features

- Optimized for GSM/EDGE, WCDMA, WiFi and WiMax In-Fixture and On-Wafer Applications
- High matching Range for GaN, GaAs, LDMOS, and Si Characterization
- Simultaneous High Matching and Low Vibration for On-Wafer Applications
- USB Interface for Simple, Fast, and Reliable Control
- DLL Environment for Automated Applications
- Industry's Highest Accuracy Means Your Designs Work Right the First Time
- Industry's Best Calibration Frees Your Time for Design



MT981BU10
High-Power Automated Tuner

Applications and Benefits Overview

The MT981 series automated tuners are optimized for high power in-fixture and on-wafer applications requiring low impedance and low vibration simultaneously. Based on Maury's proven non-contacting probe technology, these high-performance tuners evolve beyond outdated contacting probe technology to deliver high VSWR with superb accuracy and reliability. An integral component of Maury's Device Characterization Solutions, these PC-based USB-interface automated tuners are controlled using Maury's family of Device Characterization Software tools including the ATS Version 5 (or later) interactive environment and the DLL-based measurement automation environment. The ATS interactive environment is an integrated device characterization environment providing comprehensive calibration and device characterization tools for power and noise optimization. The DLL environment enables direct interface with common programming tools such

Agilent VEE™, NI Labview™, MS Visual Basic & C/C++, and Mathworks MATLAB™. With a tuning resolution in excess of a million impedance points and accuracy better than -50 dB over the entire Smith Chart, Maury automated tuners give you the device characterization answers you need with the accuracy necessary to make engineering decisions with confidence. Typical applications include load-pull using CW, GSM/EDGE, CDMA, WCDMA, WiMax, and WiFi stimulus for mobile and infrastructure terminal design, RADAR design, and Sat-Com design.

Controller

For optimum performance, the MT1020B ATS Power Distribution Hub can be used to control up to four (4) MT981U series tuners. Additionally, the MT1020D Desktop Switching Power Supply can be used to provide power to a single MT981HU series tuner.

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Specifications

Frequency Range See **Available Models Table**
 VSWR Matching Range See **Available Models Table**
 Step Size (Probes) 62.5 microinches¹
 Step Size (Carriage) 786 microinches¹
 Connectors* Precision 7mm²

Recommended Accessories

2698C2 7mm (3/4-in. hex) torque wrench
 A028D 7mm connector gage kit
 8022S 7mm to 3.5mm (f) precision adapter
 8022T 7mm to 3.5mm (m) precision adapter

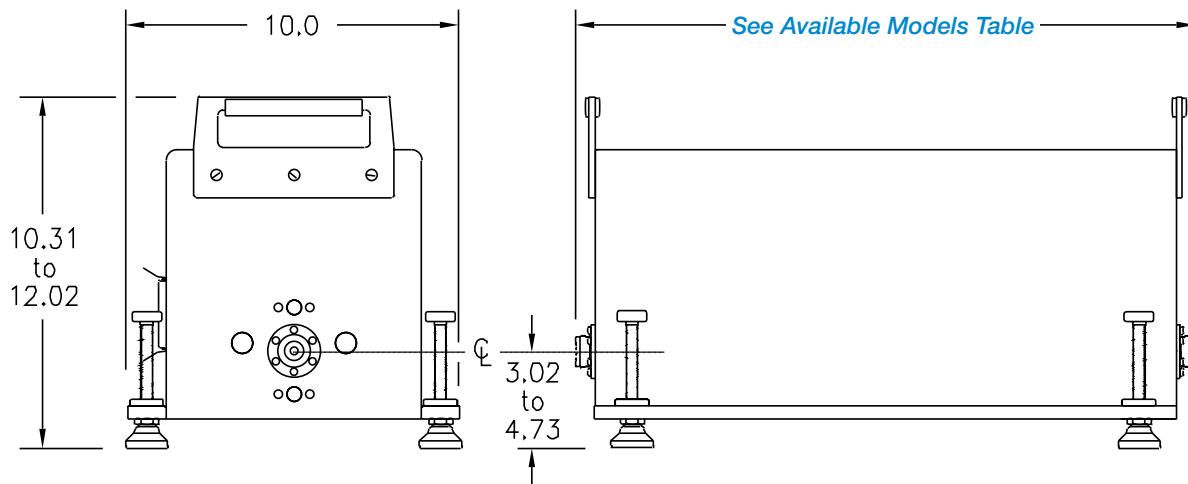
Accessories Provided

One MT1020D controller, one USB cable and one operating manual.

Available Models

| Model | Frequency Range (GHz) | Matching Range | | Power Capability ⁴ | Vector Repeatability (Minimum) | ΔGt (Typical) | VSWR ⁵ (Maximum) | Insertion Loss ⁵ (Maximum) | Dimensions |
|-----------|-----------------------|----------------|----------------------|-------------------------------|--------------------------------|-----------------------|-----------------------------|---------------------------------------|-----------------------------------|
| | | Minimum | Typical ³ | | | | | | 12.0" (30.5cm) x 10.0" (25.4cm) x |
| MT981AU11 | 0.25 — 2.5 | 15:1 | 40:1 | 250 W CW 2.5 kW PEP | -50 dB | ±0.1 dB | 1.05:1 | 0.3 dB | 36.9" (93.6cm) |
| MT981BU10 | 0.40 — 4.0 | 15:1 | 50:1 | | | | | | 23.0" (58.6cm) |
| MT981BU15 | 0.40 — 2.5 | 30:1 | 60:1 | | | | | | 23.0" (58.6cm) |
| MT981BU16 | 0.40 — 0.5 | 30:1 | 60:1 | | | | | | 23.0" (58.6cm) |
| | 0.50 — 2.2 | 40:1 | 80:1 | | | | | | |
| | 2.20 — 2.5 | 30:1 | 60:1 | | | | | | |
| MT981EU10 | 0.80 — 8.0 | 15:1 | 50:1 | | | | | | 15.9" (40.3cm) |
| MT981WU10 | 0.60 — 6.0 | 15:1 | 40:1 | 23.0" (58.6cm) | | | | | |

MT981 Dimensions



- ¹ Based on 1/2 stepping the drive motors.
 - ² Precision 7mm per Maury data sheet 5E-060.
 - ³ Defined as the maximum VSWR within 20% of the peak VSWR.
 - ⁴ Power rated at maximum VSWR.
 - ⁵ With probes fully retracted.
- * Also available in 14mm and/or 7-16 upon request.