Anritsu envision : ensure

Solutions Brief

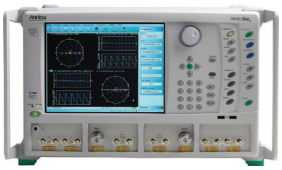
Anritsu Universal Test Fixture EduPack Bundle

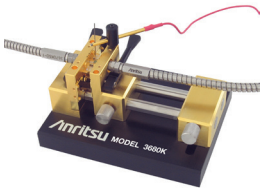
Providing Today's Industry-Leading Technology to Tomorrow's Industry-Changing Engineers

Microstrip and coplanar waveguide (CPW) structures are types of electrical transmission lines that carry electro-magnetic waves or microwave frequency signals. One technique to test these prior to production is to solder the connectors on to the device under test (DUT), however, if done improperly this can cause substantial errors in measurement results (return loss, etc.). Another more reliable method is to utilize a fixture (a structure that provides precise connection to the DUT when no input/output connectors are available) to hold the microstrip or CPW during testing.

Anritsu is dedicated to ensuring universities have the state-of-the-art equipment in their classrooms and to conduct proper testing in their labs. That is why the Anritsu Universal Test Fixture EduPack Bundle was developed. This bundle includes the Anritsu 3680 series Universal Test Fixture (UTF), which is able to test any device up to 40 GHz as well as provides an accurate and repeatable solution for measuring microstrip and coplanar substrate devices. Input and output connections are made to the substrate device by two spring-loaded jaws that include coax-to-microstrip/coplanar launchers, eliminating the need for soldering. The jaws accommodate substrates from 0.13 to 1.9 mm in thickness, making it versatile for a variety of different structures.

The bundle comes standard with a VectorStar™ MS4644B 40 GHz vector network analyzer, active measurement suite, Cadence AWR lite software, a 3680K UTF, and a calibration kit.





Microstrip testing with Anritsu Universal Test Fixture Bundle
Anritsu VectorStar MS4644B vector network analyzer (VNA) providing: • Frequency coverage of 70 kHz to 40 GHz • Industry-standard Cadence AWR software (lite version)
40 GHz high-precision manual calibration kit
Active measurement suite (includes: step attenuators, bias tees, direct access loops, and gain compression and efficiency measurement capabilities)
Time domain analysis for measuring your devices in time domain rather than frequency domain
IMD measurement wizard that characterizes your amplifiers for various parameters like IMD, TOI, IPn, etc.
Gain compression measurements to check active amplifier characteristics
Receiver offset for mixer and scaler measurements
Universal Test Fixture – 40 GHz
Calibration kit for UTF

Integrating High-Performance VNAs with High-Frequency Design Tools

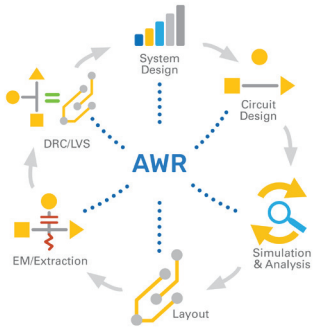
The VectorStar MS4644B VNA is a leading modular solution that provides coverage from 70 kHz to 40 GHz (available up to 220 GHz with a single coaxial test port) covering the most current communication standards including 5G. When coupled with Anritsu's 3680 series UTF, this system provides your university's lab with the flexibility, performance, accuracy, and reliability needed when conducting microstrip and CPW measurements.

- **Industry-leading dynamic range (>140 dB)** – enables users to quickly and easily perform accurate high-sensitivity measurements and overcome path loss at mmWave frequencies
- **Industry-best time domain resolution** for testing various discontinuities in your microstrip/CPW structures
- **Advanced embedding/de-embedding algorithms supported** for adaptors/fixture removal including microstrip
- **Support for several standard and advanced calibration method algorithms** like LRL/TRL/LRM including microstrip compensations as standard in VectorStar VNA
- **User-friendly measurement** – wizards available for amplifier (IMD, swept IMD, P1dB, THD, spectrum view, etc.); optional internal combiner helps make single connection measurements

Cadence AWR Software

Every VectorStar VNA solution includes a lite version of the industry-standard AWR software, enabling your university's students and staff to leverage a variety of tools for their high-frequency IC, PCB, and module design, including:

- Linear circuit simulators
- Electromagnetic (EM) analysis tools
- Integrated schematic and layout



Anritsu UTF and Calibration kit with Calibration/Verification Kits

Providing substrate measurement capability for your microstrip or CPW designs, the 3680 series UTF allows accurate, repeatable transitions from coax to microstrip or CPW. The 3680 series UTF provides both a fixed and movable connector that can position substrates up to 50 mm (2 in) long, however it is unique in that no center section is required. By holding the substrate in place between spring-loaded jaws, the UTF can accommodate different devices without the need for custom center sections for each length. This helps ensure solid, repeatable electrical contact. Dielectric rods behind the jaws accurately position the substrate away from the launch to reduce fringing capacitance and contribute to the UTF's superior repeatability. Anritsu provides the complete measurement solution – the test fixtures, the calibration kits, and the test equipment for measurements on substrate devices – ensuring your students and staff are utilizing compatible system components designed to work together properly. Guaranteed system specifications provide assurance that your test results are accurate and verifiable.

- **Provides microstrip dispersion compensation** – because microstrips and CPWs are dispersive media, their phase shift is not linear with respect to frequency. The VectorStar MS4644B VNA has the ability to compensate for this to dramatically improve vector measurement accuracy.
- **Simplifies offset measurements** – many designs, such as filters, require parallel traces that are offset. Rather than add extra line lengths, creating custom fixtures, or not testing your device, the 3680 series UTF has the ability to offset lines by as much as ±½ inch and easily enables testing offset or in-line designs with one setup.
- **Right-angle measurements** – this solution comes with a right-angle launcher to test these types of connections with precision and provides the ability to test multi-port devices. By adding this launcher, this UTF becomes a 3- to 4-port launching fixture. The VectorStar MS4644B VNA's optional dual source control can independently control up to two sources and a receiver for testing mixers or other frequency conversion devices. This enables a microstrip or CPW mixer, converter, or other device to be tested with the same convenience as a packaged device.
- **40 GHz measurements** – leveraging the VectorStar MS4644B VNA's time domain capabilities provides unsurpassed resolution of time or distance measurements. Discontinuities as close as 1.2 mm on alumina can be resolved and your students and staff will be able to make measurements that they had only theorized.
- **Bias capability** – this solution enables your users to inject bias into any point on their device under test, giving them infinite placement resolution and eliminating the need for external bias hardware. If an active device is biased through an RF connection, the available bias tee can be used to combine bias and RF at any launch point.
- **MMIC measurements** – the UTF has an optional MMIC attachment, enabling the testing of MMICs and very small components as easily and precisely as other devices.

Optimize Your Lab Today for Tomorrow's Future

The Anritsu Universal Test Fixture EduPack Bundle has the cutting-edge equipment your university's engineering lab needs to help bring your curriculum and research to life. Contact your local Anritsu sales representative to provide your students with the hands-on experience they need to become tomorrow's engineers and your researchers with the tools to discover their next technological breakthrough.

Anritsu envision : ensure

Specifications are subject to change without notice.

• **United States**
Anritsu Company
450 Century Parkway, Suite 190, Allen,
TX 75013 U.S.A.
Phone: +1-800-Anritsu (1-800-267-4878)

• **Canada**
Anritsu Electronics Ltd.
700 Silver Seven Road, Suite 120,
Kanata, Ontario K2V 1C3, Canada
Phone: +1-613-591-2003
Fax: +1-613-591-1006

• **Brazil**
Anritsu Electrônica Ltda.
Praça Amadeu Amaral, 27 - 1 Andar
01327-010 - Bela Vista - Sao Paulo - SP - Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3288-6940

• **Mexico**
Anritsu Company, S.A. de C.V.
Blvd Miguel de Cervantes Saavedra #169 Piso 1, Col. Granada
Mexico, Ciudad de Mexico, 11520, MEXICO
Phone: +52-55-4169-7104

• **United Kingdom**
Anritsu EMEA Ltd.
200 Capability Green, Luton, Bedfordshire LU1 3LU, U.K.
Phone: +44-1582-433200
Fax: +44-1582-731303

• **France**
Anritsu S.A.
12 avenue du Québec, Batiment Iris 1-Silic 612,
91140 VILLEBON-SUR-YVETTE, France
Phone: +33-1-60-92-15-50
Fax: +33-1-64-46-10-65

• **Germany**
Anritsu GmbH
Nemetschek Haus, Konrad-Zuse-Platz 1
81829 München, Germany
Phone: +49-89-442308-0
Fax: +49-89-442308-55

• **Italy**
Anritsu S.r.l.
Via Elio Vittorini 129, 00144 Roma Italy
Phone: +39-06-509-9711
Fax: +39-6-502-2425

• **Sweden**
Anritsu AB
Isafjordsgatan 32C, 164 40 KISTA, Sweden
Phone: +46-8-534-707-00

• **Finland**
Anritsu AB
Teknobulevardi 3-5, FI-01530 VANTAA, Finland
Phone: +358-20-741-8100
Fax: +358-20-741-8111

• **Denmark**
Anritsu A/S
c/o Regus Winghouse, Ørestads Boulevard 73, 4th floor,
2300 Copenhagen S, Denmark
Phone: +45-7211-2200

• **Russia**
Anritsu EMEA Ltd.
Representation Office in Russia
Tverskaya str. 16/2, bld. 1, 7th floor.
Moscow, 125009, Russia
Phone: +7-495-363-1694
Fax: +7-495-935-8962

• **Spain**
Anritsu EMEA Ltd.
Representation Office in Spain
Edificio Cuzco IV, Po. de la Castellana, 141, Pta. 5
28046, Madrid, Spain
Phone: +34-915-726-761
Fax: +34-915-726-621

• **United Arab Emirates**
Anritsu EMEA Ltd.
Dubai Liaison Office
902, Aurora Tower,
P O Box: 500311- Dubai Internet City
Dubai, United Arab Emirates
Phone: +971-4-3758479
Fax: +971-4-4249036

• **India**
Anritsu India Pvt Ltd.
6th Floor, Indiqube ETA, No.38/4, Adjacent to EMC2,
Doddanekundi, Outer Ring Road, Bengaluru – 560048, India
Phone: +91-80-6728-1300
Fax: +91-80-6728-1301

• **Singapore**
Anritsu Pte. Ltd.
11 Chang Charn Road, #04-01, Shriro House
Singapore 159640
Phone: +65-6282-2400
Fax: +65-6282-2533

• **Vietnam**
Anritsu Company Ltd.
Room No. 1635, 16th Floor, ICON 4 Tower,
243A De La Thanh Street,
Lang Thuong Ward, Dong Da District, Hanoi, Vietnam
Phone: +84-24-3760-6216
Fax: +84-24-6266-2608

• **P. R. China (Shanghai)**
Anritsu (China) Co., Ltd.
Room 2701-2705, Tower A,
New Caohejing International Business Center
No. 391 Gui Ping Road Shanghai, 200233, P.R. China
Phone: +86-21-6237-0898
Fax: +86-21-6237-0899

• **P. R. China (Hong Kong)**
Anritsu Company Ltd.
Unit 1006-7, 10/F., Greenfield Tower, Concordia Plaza,
No. 1 Science Museum Road, Tsim Sha Tsui East,
Kowloon, Hong Kong, P. R. China
Phone: +852-2301-4980
Fax: +852-2301-3545

• **Japan**
Anritsu Corporation
8-5, Tamura-cho, Atsugi-shi, Kanagawa, 243-0016 Japan
Phone: +81-46-296-6509
Fax: +81-46-225-8352

• **Korea**
Anritsu Corporation, Ltd.
5FL, 235 Pangyoyeok-ro, Bundang-gu, Seongnam-si,
Gyeonggi-do, 13494 Korea
Phone: +82-31-696-7750
Fax: +82-31-696-7751

• **Australia**
Anritsu Pty Ltd.
Unit 20, 21-35 Ricketts Road,
Mount Waverley, Victoria 3149, Australia
Phone: +61-3-9558-8177
Fax: +61-3-9558-8255

• **Taiwan**
Anritsu Company Inc.
7F, No. 316, Sec. 1, NeiHu Rd., Taipei 114, Taiwan
Phone: +886-2-8751-1816
Fax: +886-2-8751-1817

Anritsu utilizes recycled paper and environmentally conscious inks and toner.

11410-02841, Rev. A Printed in United States 2020-11