

VectorStar Vector Network Analyzers and Accessories

This guide provides warranty, safety and regulatory compliance information for the VectorStar™ Series VNA products. The VectorStar Series VNA products provide powerful network measurement tools for performance analysis of RF and microwave devices with frequency ranges spanning from 70 kHz to 70 GHz and up to 1.1 THz using broadband mmWave modules.

For additional information and literature, visit the product page of your instrument and select the Library tab:

MS464xB VNA, ME7838x and ME7838x4 Broadband VNA, 3736B, 3739C 3743x, 3744x-xx, MA25300A, MA25400A Broadband/Banded mmWave Modules, MN469xC Multiport Test Set, ME7848A Opto-electronic Network Analyzer

<https://www.anritsu.com/test-measurement/products/ms4640b-series>

<https://www.anritsu.com/test-measurement/products/me7838>

<https://www.anritsu.com/test-measurement/products/me7838x4>

<https://www.anritsu.com/test-measurement/products/me7848a>

3680x UTF, 36585 AutoCal Module, MN4765B O/E Calibration Module

<https://www.anritsu.com/components-accessories/products/3680-series>

<https://www.anritsu.com/components-accessories/products/36585-Series>

<https://www.anritsu.com/components-accessories/products/mn4765b>

365xx, 366xx Calibration Kits

<https://www.anritsu.com/components-accessories/products/3651-series>

<https://www.anritsu.com/components-accessories/products/3652-series>

<https://www.anritsu.com/components-accessories/products/3654d>

<https://www.anritsu.com/components-accessories/products/3656>

<https://www.anritsu.com/components-accessories/products/3659>

<https://www.anritsu.com/components-accessories/products/366x-series>

Contacting Anritsu

<https://www.anritsu.com/contact-us>

Here, you can find the latest sales, service and support contact information for your country or region, provide online feedback, complete a Talk to Anritsu form to get your questions answered, or obtain other services offered by Anritsu.



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1 — Important Notices and Warranty

1-1 Applicable Product Models

The information in this guide relates to the following product models:

VectorStar™ VNA Instruments	Broadband/Banded Millimeter-Wave Modules	4-Port VNA Test Sets	Calibration Devices, Kits, and Measurement Fixtures
MS4642B	3743A	MN4694C	3651A
MS4644B	3743AX	MN4697C	3652A
MS4645B	3743E		3654D
MS4647B	3743EX		3656B
ME7838A	3744A-EE		3656C
ME7838AX	3744E-EE		3659
ME7838D	3744A-EW		3663-1
ME7838E	3744E-EW		3666-1
ME7838EX	3744A-Rx		3668-1
ME7838G	3744E-Rx		3669B-1
ME7838A4	MA25300A		3680-20
ME7838A4X	MA25400A		3680K
ME7838D4			3680V
ME7838E4			36585K-2x
ME7838E4X			36585V-2x
ME7838G4			MN4765B
ME7848A			MN4775A

1-2 Unauthorized Use or Disclosure

Anritsu Company has prepared VectorStar user documentation for use by Anritsu Company personnel and customers as a guide for the proper installation, operation and maintenance of Anritsu Company equipment and computer programs. The drawings, specifications, and information contained herein are the property of Anritsu Company, and any unauthorized use or disclosure is prohibited; they shall not be reproduced, copied, or used in whole or in part as the basis for manufacture or sale of the equipment or software programs without the prior written consent of Anritsu Company.

1-3 Export Management

This product and its manuals may require an Export License or approval by the government of the product country of origin for re-export from your country. Before you export this product or any of its manuals, please contact Anritsu Company to confirm whether or not these items are export-controlled. When disposing of export-controlled items, the products and manuals must be broken or shredded to such a degree that they cannot be unlawfully used for military purposes.

1-4 Trademark Acknowledgments

The following trademark acknowledgments are listed for one or more of the products listed in [Section 1-1](#).

- Anritsu, VectorStar, AutoCal, Advanced-LRM, K-Connector, V-Connector, and W1-Connector are trademarks or registered trademarks of the Anritsu Company, Morgan Hill, California, USA.
- Hampshire is a registered trademark and TSHARC a trademark of Microchip Technology.
- LabView, LabWindows, NI, NI-VISA, are registered trademarks of the National Instruments Corporation.
- MATLAB is a registered trademark of The MathWorks, Inc.
- Smith (Smith Chart) is a registered trademark of Analog Instruments Company.
- Windows 10 IoT, Windows 7, and Windows XP are registered trademarks of Microsoft Corporation.
- Bi-Lobe is a registered trademark of Omnetics Corporation.
- Teflon is a registered trademark and brand name of the DuPont Company.
- All other trademarks mentioned are the property of their respective companies.

1-5 Warranty Information

Anritsu products are warranted against defects in materials and workmanship as listed below.

Anritsu's obligation covers repairing or replacing products which prove to be defective during the warranty period. Buyers shall prepay transportation charges for equipment returned to Anritsu for warranty repairs. Obligation is limited to the original purchaser. Anritsu is not liable for consequential damages.

1 Year Warranty:

MS464xB Series VNA

MN469xC Series 4-Port VNA

ME7838x Series 2-Port Broadband/Banded Millimeter-Wave VNA System

ME7838x4 Series 4-Port Broadband/Banded Millimeter-Wave VNA System

3743x, 3744x-xx Broadband/Banded mmWave Modules

MA25300A, MA25400A Broadband mmWave Modules

1 Year Warranty:

ME7848A Opto-electronic Network Analyzer

MN4765B O/E Calibration Module

MN4775A E/O Converter

3680 Series Universal Test Fixture (UTF)

36585-Series Precision Automatic Calibrators (AutoCal)

36xxx Series Calibration/System Performance Verification Kits

Limitation of Warranty

The foregoing warranty does not apply to Anritsu connectors that have failed due to normal wear. Also, the warranty does not apply to defects resulting from improper or inadequate maintenance, unauthorized modification or misuse, or operation outside of the environmental specifications of the product. No other warranty is expressed or implied, and the remedies provided herein are the Buyer's sole and exclusive remedies.

Disclaimer of Warranties

To the maximum extent permitted by applicable law, Anritsu Company and its suppliers disclaim all warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the product. The user assumes the entire risk of using the product. Any liability of provider or manufacturer will be limited exclusively to product replacement.

No Liability For Consequential Damages.

To the maximum extent permitted by applicable law, in no event shall Anritsu Company or its suppliers be liable for any special, incidental, indirect, or consequential damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use the product, even if Anritsu Company has been advised of the possibility of such damages. Because some states and jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply to you.

2 — Safety

To reduce the risk of personal injury or loss related to equipment malfunction, Anritsu Company uses the following symbols to indicate safety-related information. You may encounter them on your products and in documentation. For your own safety, please read the information carefully before operating the equipment.

2-1 Safety Symbols Used in Manuals

Warning



Danger or **Warning** indicates a risk from a very hazardous condition or procedure that could result in light-to-severe injury or death, or loss related to equipment malfunction. Follow all safety precautions and procedures to minimize this risk.

Caution



Caution indicates a risk from a hazardous condition or procedure that could result in injury or loss related to equipment malfunction. Follow all safety precautions and procedures to minimize this risk.

2-2 Safety Symbols Used on Equipment and in Manuals

The following symbols are used inside or on the equipment near operation locations to provide information about safety items and operation precautions and status. Ensure that you clearly understand the meanings of the symbols and take the necessary precautions *before* operating the equipment. Some or all of the following symbols may or may not be used on Anritsu equipment. In addition, there may be other labels attached to products that are not shown in the diagrams in the manual.



This indicates a prohibited operation. The prohibited operation is indicated symbolically in or near the barred circle.



This indicates a compulsory safety precaution. The required operation is indicated symbolically in or near the circle.



This indicates a danger, warning, or caution. The contents are indicated symbolically in or near the triangle.



This indicates a note. The contents are described in the box.



This indicates a push button Out position (generally Off condition).



This indicates a push button In position (generally On condition).



This indicates an Off condition.



This indicates On condition.



This indicates Alternating Current (AC).



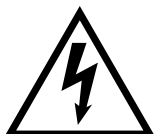
This indicates Direct Current (DC).

2-3 Safety Notices

Warning

Always refer to the equipment manual when working near locations where the alert mark, shown on the left, is displayed. If equipment operation is conducted without heeding the advice in the manual, there is a risk of personal injury. In addition, the equipment performance may be reduced.

This alert mark is sometimes used with other marks and descriptions indicating other dangers.

Warning

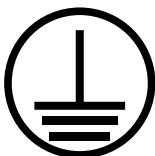
This equipment may present a risk to electric shock. Only qualified service personnel should access areas where this alert mark is present. Ensure that precautions are taken and that appropriate lockout mechanisms are in place before proceeding to enter the areas presenting this risk.

Warning

Unless your equipment is rated for Ingress Protection (IP) or is otherwise ruggedized, it is not designed to withstand exposure to extreme environments or water. If your equipment gets wet or is dropped, remove external power and any user serviceable batteries from the equipment and contact Anritsu support for any additional precautions and instructions to bring the equipment back into service. Always follow the environmental operating and storage requirements listed in the product technical data sheet.

Warning

Before supplying power to this equipment, ensure that proper voltage and current source is connected as indicated on the equipment labeling. Your equipment may be supplied with an external power adapter or it may be connected directly to the mains supply. Be sure to always use the supplied external power adapter and cabling. If your equipment connects directly to the mains supply, the input may be auto sensing or require a switch setting to match your supplied voltage. If power is supplied to the equipment that does not match the input specifications printed on the equipment labeling, there is a risk of personal injury and damage to the equipment.

Warning

When supplying power to this equipment, connect the accessory 3-pin power cord to a 3-pin grounded power outlet. If required, ground the instrument chassis to a suitable earth ground. If power is supplied without grounding the equipment, there is a risk of receiving a severe or fatal electric shock.

Warning

This equipment cannot be repaired by the operator. Do not attempt to remove the equipment covers or to disassemble internal components. Only qualified service technicians with a knowledge of electrical fire and shock hazards should service this equipment. There are high-voltage parts in this equipment that present a risk of severe injury or fatal electric shock. In addition, there is a risk of damage to precision components.

Warning

Use two or more people to lift and move this equipment, or use an equipment cart. There is a risk of back injury if this equipment is lifted by one person.

Warning

Laser radiation may be present at fiber-optic cable connectors and ports. This laser radiation could present an ocular hazard from either direct viewing or by diffuse reflection. Do not view the emitted laser radiation directly or indirectly because permanent blindness may result.

Warning

NEVER touch parts where the label shown on the left is attached. Such parts are hotter than 55 degrees Celsius and you risk receiving a burn.

Caution

Electrostatic Discharge (ESD) can damage the highly sensitive circuits in the instrument. ESD is most likely to occur as test devices are being connected to, or disconnected from, the instrument's front and rear panel ports and connectors. You can protect the instrument and test devices by wearing a static-discharge wristband. Alternatively, you can ground yourself to discharge any static charge by touching exposed, unpainted metal of the outer chassis of the grounded instrument before touching the instrument's front and rear panel ports and connectors. Avoid touching the test port center conductors unless you are properly grounded and have eliminated the possibility of static discharge.

Repair of damage that is found to be caused by electrostatic discharge is not covered under warranty.

3 — Regulatory Compliance

The following compliance notices apply to the products listed in [Section 1-1](#). This equipment is categorized as Class A devices as noted below:

- A device marketed for use in an industrial application and is not intended for use in the home or residential area is classified as Class A. Class A equipment, commonly known as ISM (industrial, scientific, and medical) equipment, are for professional use in engineering and scientific applications commanding specialized training and good understanding of the English language. Products being sold in a commercial market for such applications have significantly less stringent emissions limits than Class B (residential) devices.
- A device that is marketed for use in the home or a residential area by the customer is classified as a Class B device. Class B verification is for devices that are marketed for in-home use, but are not permanently connected to a personal computer.

3-1 Compliance Notifications

Note

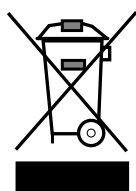
Depending on the economic region/area that your equipment is marketed for, certain labels may not be applicable. Please refer to the markings affixed to your equipment.

CE Conformity Marking



Anritsu affixes the CE Conformity marking onto its conforming products in accordance with Council Directives of The Council Of The European Communities in order to indicate that these products conform to the EMC, LVD, RoHS, and RED directives of the European Union (EU).

European Parliament and Council Directive 2012/19/EU



Equipment Marked with the crossed-out Wheelie Bin symbol complies with the European Parliament and Council Directive 2012/19/EU (the “WEEE Directive”) in the European Union.

For Products placed on the EU market after August 13, 2012, please contact your local representative at the end of the product’s useful life to arrange disposal in accordance with your initial contract and the local law.

Canadian ICES-001 Conformity Marking

CAN/ICES-1(A)/NMB-1(A)

Anritsu affixes the CAN ICES-1(A)/NMB-1(A) compliance label onto its conforming products in accordance with the following Canadian Interference-Causing Equipment Standards.

ICES-001 — Industrial, Scientific and Medical (ISM) Radio Frequency Generators

RCM Conformity Marking



Anritsu affixes the Regulatory Compliance Mark (RCM) onto its conforming products in accordance with the electromagnetic compliance regulations of Australia and New Zealand in order to indicate that these products conform to the EMC regulations of Australia and New Zealand.

KCC Conformity Marking



Anritsu affixes the Korean Communications Commissions (KCC) mark onto its conforming products in accordance with the electromagnetic compliance regulations of Korea.

UKCA Conformity Marking



Anritsu affixes the UKCA Conformity marking onto its conforming products in accordance with the United Kingdom conformity assessment body (CAB) in order to indicate that these products conform to the market of Great Britain (England, Wales, and Scotland).

Recycle Marking



Anritsu affixes the universal recycle symbol onto its products to indicate that the marked part is made from recyclable materials and should be recycled. Materials should be recycled in accordance with your local regulatory requirements.

Proposition 65 Notification

State of California Proposition 65 Notification: <https://www.p65warnings.ca.gov>

Notification for California customers: Chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm may be present in the products listed in [Section 1-1](#) or their related accessories. For information, see: <https://oag.ca.gov/prop65>

Effective August 31, 2018, the State of California requires customer notification of products manufactured after August 31, 2018 that contain substances listed in the Proposition 65 substance list, in amounts exceeding *Significant Risk Levels/Dosage levels*, which are known in the state of California to cause cancer, or birth defects, or reproductive harm. This requirement applies to products sold in California or products that may be exposed to people in the state of California.

While Anritsu does not believe there is risk of significant exposure with our products, it is possible that some of the listed substances identified by Proposition 65 are present with the electronic components and instruments manufactured by Anritsu. Anritsu is providing this warning out of an abundance of caution to fully comply with the Proposition 65 Law and as an information service to our customers.

Please visit <https://oehha.ca.gov/proposition-65/chemicals> for a complete listing of chemicals considered or listed under Proposition 65 (this list and web site are maintained by the Office of Environmental Health Hazard Assessment [OEHHHA], one of six agencies under the umbrella of the California Environmental Protection Agency [CalEPA]).

Perchlorate Material Notification – Special Handling May Apply**Applicable Models:** MS464xB, MN4765B

Notification for California customers: this product uses a small Lithium battery installed internally on the circuit board that may contain perchlorate. Disposal may be regulated due to environmental considerations. Please contact your local authorities for disposal or recycling information. For information, see:

<http://www.dtsc.ca.gov/hazardouswaste/perchlorate>

Chinese RoHS Compliance Statements

Applicable Models:

MS464xB, ME7838x, ME7838x4, ME7848A

Applicable Models:

MN4765B

产品中有毒有害物质或元素的名称及含量							YLYB · 201606
部件名称	有毒有害物质或元素						
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 [Cr(VI)]	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
印刷线路板 (PCA)	×	○	×	○	○	○	
机壳、支架 (Chassis)	×	○	×	×	○	○	
LCD	×	×	×	×	○	○	
其他(电缆、风扇、 连接器等) (Appended goods)	×	○	×	×	○	○	
○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11364-2014 标准规定的限量要求以下。 ×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11364-2014 标准规定的限量要求。							

环保使用期限



这个标记是根据 2016/1/21 公布的「电子信息产品污染控制管理办法」以及 SJ/T 11364-2014「电子信息产品污染控制标识要求」的规定，适用于在中国销售的电子信息产品的环保使用期限。仅限于在遵守该产品的安全规范及使用注意事项的基础上，从生产日起算的该年限内，不会因产品所含有害物质的泄漏或突发性变异，而对环境污染，人身及财产产生深刻地影响。
注) 电池的环保使用期限是 5 年。生产日期标于产品序号的前四码
(如 S/N 1628XXXX 为 16 年第 28 周生产)。

产品中有毒有害物质或元素的名称及含量							NLYB · 201606
部件名称	有毒有害物质或元素						
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 [Cr(VI)]	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
印刷线路板 (PCA)	×	○	×	○	○	○	
机壳、支架 (Chassis)	×	○	×	×	○	○	
其他(电缆、风扇、 连接器等) (Appended goods)	×	○	×	×	○	○	
○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11364-2014 标准规定的限量要求以下。 ×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11364-2014 标准规定的限量要求。							

环保使用期限



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注) 电池的环保使用期限是 5 年。生产日期标于产品序号的前四码
(如 S/N 1628XXXX 为 16 年第 28 周生产)。

Products with Hg-free LCD and with Battery

Products without Hg-free LCD and with Battery

Applicable Models:

MN4775A

Applicable Models:

MN469xC, 36585, 36xx, 3680x,
3743x, 3744x-xx, MA25300A, MA25400A

产品中有毒有害物质或元素的名称及含量							YLNMYB · 201707
部件名称	有毒有害物质或元素						
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 [Cr(VI)]	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
印刷线路板 (PCA)	×	○	×	○	○	○	
机壳、支架 (Chassis)	×	○	×	×	○	○	
LCD	×	○	×	×	○	○	
电池 (Battery)	×	○	○	○	○	○	
其他(电缆、风扇、 连接器等) (Appended goods)	×	○	×	×	○	○	
○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11364-2014 标准规定的限量要求以下。 ×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11364-2014 标准规定的限量要求。							

环保使用期限



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注) 电池的环保使用期限是 5 年。生产日期标于产品序号的前四码
(如 S/N 1628XXXX 为 16 年第 28 周生产)。

Products with Hg-free LCD and without Battery

产品中有毒有害物质或元素的名称及含量							NLNB · 201606
部件名称	有毒有害物质或元素						
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 [Cr(VI)]	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
印刷线路板 (PCA)	×	○	×	○	○	○	
机壳、支架 (Chassis)	×	○	×	×	○	○	
其他(电缆、风扇、 连接器等) (Appended goods)	×	○	×	×	○	○	
○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11364-2014 标准规定的限量要求以下。 ×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11364-2014 标准规定的限量要求。							

环保使用期限



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注) 生产日期标于产品序号的前四码(如 S/N 1628XXXX 为 16 年第 28 周生产)。

Products without Hg-free LCD and without Battery



10100-00063



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Anritsu utilizes recycled paper and environmentally conscious inks and toner.

Anritsu Company
490 Jarvis Drive
Morgan Hill, CA 95037-2809
USA
<http://www.anritsu.com>