
N5262BW/BT/BR/DRxx

Mini VNAX Frequency Extension Modules

The Keysight N5262BWxx Transceiver Modules (Tx/Rx), N5262BRxx Receiver Modules (Rx), N5262BTxx Transmitter (TxRef) Modules, and N5262DRxx Dual Receiver Modules (RX) are manufactured by Virginia Diodes, Inc. (VDI). These modules may be used with the Keysight N5222/24/25/27A/B PNA or N5242/44/45/47A/B PNA-X, or the Keysight N5261/62A or N5292A Controller to configure a banded millimeter-wave network analyzer system.

Notices

© Keysight Technologies, Inc. 2017
- 2023

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Keysight Technologies, Inc. as governed by United States and international copyright laws.

Trademark Acknowledgments

Manual Part Number

N5262-90002

Edition

Print Date: August 2023

Supersedes: July 2023

Published by:
Keysight Technologies
1400 Fountaingrove Parkway Santa
Rosa, CA 95403

Warranty

THE MATERIAL CONTAINED IN THIS DOCUMENT IS PROVIDED "AS IS," AND IS SUBJECT TO BEING CHANGED, WITHOUT NOTICE, IN FUTURE EDITIONS. FURTHER, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, KEYSIGHT DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED WITH REGARD TO THIS MANUAL AND ANY INFORMATION CONTAINED HEREIN, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. KEYSIGHT SHALL NOT BE LIABLE FOR ERRORS OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, USE, OR PERFORMANCE OF THIS DOCUMENT OR ANY INFORMATION CONTAINED HEREIN. SHOULD KEYSIGHT AND THE USER HAVE A SEPARATE WRITTEN AGREEMENT WITH WARRANTY TERMS COVERING THE MATERIAL IN THIS

DOCUMENT THAT CONFLICT WITH THESE TERMS, THE WARRANTY TERMS IN THE SEPARATE AGREEMENT WILL CONTROL.

Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

U.S. Government Rights

The Software is "commercial computer software," as defined by Federal Acquisition Regulation ("FAR") 2.101. Pursuant to FAR 12.212 and 27.405-3 and Department of Defense FAR Supplement ("DFARS") 227.7202, the U.S. government acquires commercial computer software under the same terms by which the software is customarily provided to the public. Accordingly, Keysight provides the Software to U.S. government customers under its standard commercial license, which is embodied in its End User License Agreement (EULA), a copy of which can be found at <http://www.keysight.com/find/sweula>. The license set forth in the EULA represents the exclusive authority by which the U.S. government may use, modify, distribute, or disclose the Software. The EULA and the license set forth therein, does not require or permit, among other things, that Keysight: (1) Furnish technical information related to commercial computer software or commercial computer software documentation that is not customarily provided to the public; or (2) Relinquish to, or otherwise provide, the government rights in excess of these rights customarily provided to the public to use, modify, reproduce, release, perform, display, or disclose commercial computer software or commercial computer software

documentation. No additional government requirements beyond those set forth in the EULA shall apply, except to the extent that those terms, rights, or licenses are explicitly required from all providers of commercial computer software pursuant to the FAR and the DFARS and are set forth specifically in writing elsewhere in the EULA. Keysight shall be under no obligation to update, revise or otherwise modify the Software. With respect to any technical data as defined by FAR 2.101, pursuant to FAR 12.211 and 27.404.2 and DFARS 227.7102, the U.S. government acquires no greater than Limited Rights as defined in FAR 27.401 or DFARS 227.7103-5 (c), as applicable in any technical data.

Safety Notices

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Keysight Technologies N5262BWxx/BTxx/BRxx/DRxx Mini VNAX Frequency Extension Modules

The Keysight N5262BWxx Transceiver Modules (Tx/Rx), N5262BRxx Receiver Modules (Rx), N5262BTxx Transmitter (TxRef) Modules, and N5262DRxx Dual Receiver Modules (RX) are manufactured by Virginia Diodes, Inc. (VDI). These modules may be used with the Keysight N5222/24/25/27A/B PNA or N5242/44/45/47A/B PNA-X, or the Keysight N5261/62A or N5292A Controller to configure a banded millimeter-wave network analyzer system.

Specifications for the VNAX products can be found in the VDI User's Guide (VDI-707.1), or on the VDI web page.

Refer to the VDI User's Guide (VDI-707.1) included on the USB drive or the VDI web site: https://www.vadiodes.com/images/Products/VNA/Product_Manual/VDI-707.1-VNAX-Product-Manual.pdf.

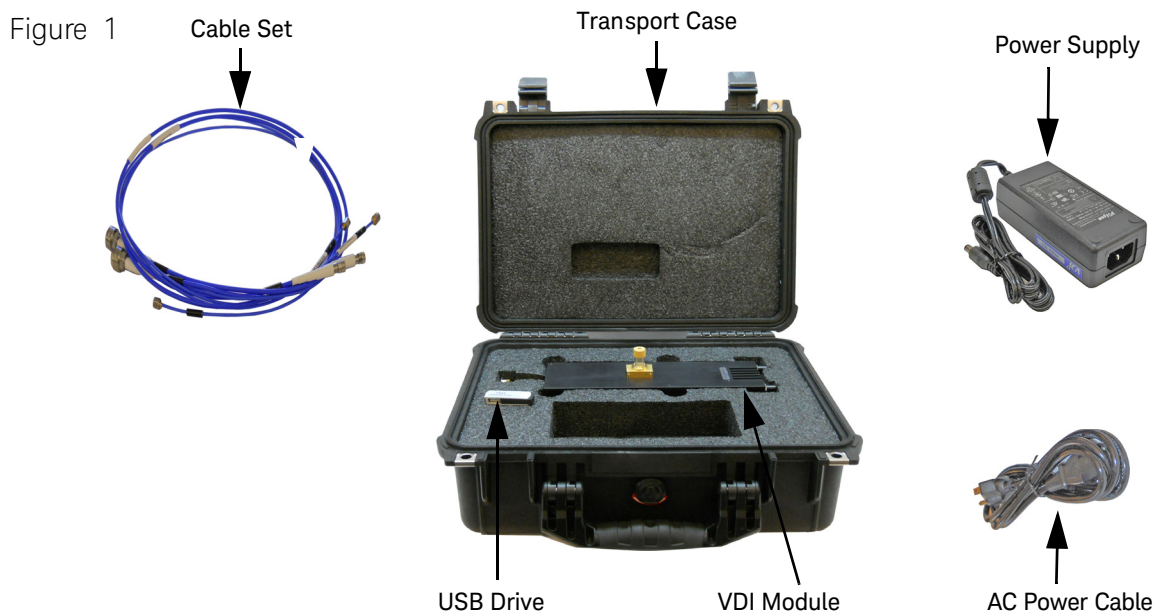
Specifications can be found on the VDI web page at: https://www.vadiodes.com/images/Products/VNA/Specs_Sheets/VDI-956_VNA-X_Typical_Performance_2022.01.19.pdf.

N5262BWxx transceiver modules have both a source and measurement receiver and can be used with the network analyzer to make S-parameter reflection measurements. Another transceiver or receiver module is required to make transmission measurements. Transceiver modules are also known as transmission/reflection modules.

N5262BTxx transmitter modules have only a source and a reference receiver. They can be used with the network analyzer to make S-parameter transmission measurements only and require a receiver module or a transceiver module to complete the network analyzer system.

N5262BRxx receiver modules have only a measurement receiver. They can be used with the network analyzer to make S-parameter transmission measurements only and require a transmitter module or a transceiver module to complete the network analyzer system.

N5262DRxx dual receiver modules have two input test ports (measured receivers) using only one LO input. They require two transmitter or transceiver modules to complete a mm-wave network analyzer system for S-parameter or antenna measurements.



Option Information

Refer to the section "Configuring a Module: Ordering a VDI VNAX Mini-Module, N526xBxx" on page 36 of the **Keysight Technologies Banded Millimeter Wave Network Analysis Technical Overview** at <https://literature.cdn.keysight.com/litweb/pdf/5992-2177EN.pdf?id=2870369&cc=US&lc=eng#page=36>

RF/LO Input Power Options

Option 120: Requires +10 dBm at the module input. Recommended for use with the test set and 1.2m cable set.

Option 500: Requires +2 dBm at the module input. Recommended for direct connect with 1.2m or 5m cable sets, or the test set with a 5m cable set.

NOTE

When using a 1.2m cable set with Option 500, ensure that is set to 2 dBm at module input. Reduce power on the PNA, or use attenuators.

All models include a 9 Vdc power supply and have compatible options for use with a PNA/PNA-X or test set controller (see **Tables 1- 6**, beginning on [page 5](#)).

Cable sets are available for purchase for use with the modules. For cable set options, see [page 8](#).

For information on the controller, refer to the **N5261A and N5262A User's and Service Guide (N5262-90001)** at <http://literature.cdn.keysight.com/litweb/pdf/N5262-90001.pdf?id=1541557>

The TxRx and TxRef modules are available with internal micrometer adjustable (0-30 dB) attenuators. The Rx modules include an external attenuator for high sensitivity.

For ordering information, reference the **Keysight Technologies Banded Millimeter Wave Network Analysis Technical Overview** at <https://literature.cdn.keysight.com/litweb/pdf/5992-2177EN.pdf?id=2870369&cc=US&lc=eng>

Table 1 TxRx Transceiver Mini Modules (STD)

Keysight Model	Extended Freq. (GHz)	Waveguide Flange	VDI Part Number
N5262BW01-STD	750 to 1,100	WR1.0	VNAX-WR1.0TxRx-M
N5262BW02-STD	330 to 500	WR2.2 **	VNAX-WR2.2TxRx-M
N5262BW03-STD	220 to 330	WR3.4	VNAX-WR3.4TxRx-M
N5262BW04-STD	260 to 400	WR4.3	VNAX-WR4.3TxRx-M
N5262BW05-EBO	130 to 220	WR5.1	VNAX-WR5.1TxRx-M
N5262BW05-STD	140 to 220	WR5.1	VNAX-WR5.1TxRx-M
N5262BW06-DSO	110 to 170	WR6.5	VNAX-WR6.5TxRx-M
N5262BW06-STD	110 to 170	WR6.5	VNAX-WR6.5TxRx-M
N5262BW08-STD	90 to 140	WR8.0	VNAX-WR8.0TxRx-M
N5262BW10-STD	67 to 115	WR10 *	VNAX-WR10TxRx-M
N5262BW12-STD	55 to 95	WR12 *	VNAX-WR12TxRx-M
N5262BW15-DSO	47 to 77	WR15	VNAX-WR15TxRx-M-SE ***
N5262BW15-STD	47 to 77	WR15	VNAX-WR15TxRx-M-SE ***
N5262BW19-STD	40 to 60	WR19	VNAX-WR19TxRx-M
N5262BW28-STD	26.5 to 40	WR28	VNAX-WR28TxRx-M
N5262BW1B-STD	500 to 750	WR1.5 **	VNAX-WR1.5TxRx-M
N5262BW2B-STD	260 to 400	WR2.8 **	VNAX-WR2.8TxRx-M

Table 2 TxRx Transceiver Mini Modules with Attenuators (001)

Keysight Model	Extended Freq. (GHz)	Waveguide Flange	VDI Part Number
N5262BW02-001	330 to 500	WR2.2 **	VNAX-WR2.2TxRx-M
N5262BW03-001	220 to 330	WR3.4	VNAX-WR3.4TxRx-M
N5262BW04-001	260 to 400	WR4.3	VNAX-WR4.3TxRx-M
N5262BW05-EB1	130 to 220	WR5.1	VNAX-WR5.1TxRx-M
N5262BW05-001	140 to 220	WR5.1	VNAX-WR5.1TxRx-M
N5262BW06-DS1	110 to 170	WR6.5	VNAX-WR6.5TxRx-M
N5262BW06-001	110 to 170	WR6.5	VNAX-WR6.5TxRx-M
N5262BW08-001	90 to 140	WR8.0	VNAX-WR8.0TxRx-M
N5262BW10-001	67 to 115	WR10 *	VNAX-WR10TxRx-M
N5262BW12-001	55 to 95	WR12 *	VNAX-WR12TxRx-M
N5262BW15-DS1	47 to 77	WR15	VNAX-WR15TxRx-M-SE ***
N5262BW15-001	47 to 77	WR15	VNAX-WR15TxRx-M-SE ***
N5262BW19-001	40 to 60	WR19	VNAX-WR19TxRx-M
N5262BW28-001	26.5 to 40	WR28	VNAX-WR28TxRx-M
N5262BW1B-001	500 to 750	WR1.5 **	VNAX-WR1.5TxRx-M
N5262BW2B-001	260 to 400	WR2.8 **	VNAX-WR2.8TxRx-M

* WR10 and WR12 models have SE0 and SE1 special export options available for reduced export requirements. WR10 and WR12 models have DSO (no attenuators) or DS1 (with attenuators) dual source for IMD measurement options available.

** WR1.5 = WM-380; WR2.2 = WM-570; WR2.8 = WM-710.

*** SE = 13 dBm typical output. See SE option on the [VDI website](https://www.vadiodes.com/index.php/en/products/vector-network-analyzer?id=1035) (https://www.vadiodes.com/index.php/en/products/vector-network-analyzer?id=1035) for more information.

Table 3 TxRef Transmitter Mini Modules (STD)

Keysight Model	Extended Freq. (GHz)	Waveguide Flange	VDI Part Number
N5262BT02-STD	330 to 500	WR2.2 **	VNAX-WR2.2TxRef-M
N5262BT03-STD	220 to 330	WR3.4	VNAX-WR3.4TxRef-M
N5262BT05-STD	140 to 220	WR5.1	VNAX-WR5.1TxRef-M
N5262BT06-STD	110 to 170	WR6.5	VNAX-WR6.5TxRef-M
N5262BT08-STD	90 to 140	WR8.0	VNAX-WR8.0TxRef-M
N5262BT10-STD	67 to 115	WR10 *	VNAX-WR10TxRef-M
N5262BT12-STD	55 to 95	WR12 *	VNAX-WR12TxRef-M
N5262BT15-STD	47 to 77	WR15	VNAX-WR15TxRef-M-SE ***
N5262BT19-STD	40 to 60	WR19	VNAX-WR19TxRef-M
N5262BT28-STD	26.5 to 40	WR28	VNAX-WR28TxRef-M

Table 4 TxRef Transmitter Mini Modules with Attenuators (001)

Keysight Model	Extended Freq. (GHz)	Waveguide Flange	VDI Part Number
N5262BT02-001	330 to 500	WR2.2 **	VNAX-WR2.2TxRef-M
N5262BT03-001	220 to 330	WR3.4	VNAX-WR3.4TxRef-M
N5262BT05-001	140 to 220	WR5.1	VNAX-WR5.1TxRef-M
N5262BT06-001	110 to 170	WR6.5	VNAX-WR6.5TxRef-M
N5262BT08-001	90 to 140	WR8.0	VNAX-WR8.0TxRef-M
N5262BT10-001	67 to 115	WR10 *	VNAX-WR10TxRef-M
N5262BT12-001	55 to 95	WR12 *	VNAX-WR12TxRef-M
N5262BT15-001	47 to 77	WR15	VNAX-WR15TxRef-M-SE ***
N5262BT19-001	40 to 60	WR19	VNAX-WR19TxRef-M
N5262BT28-001	26.5 to 40	WR28	VNAX-WR28TxRef-M

* WR10 and WR12 models have SE0 and SE1 special export options available for reduced export requirements. WR10 and WR12 models have DS0 (no attenuators) or DS1 (with attenuators) dual source for IMD measurement options available.

** WR2.2 = WM-570; WR2.8 = WM-710.

*** SE = 13 dBm typical output. See SE option on the [VDI website](https://www.vadiodes.com/index.php/en/products/vector-network-analyzer?id=1035) (https://www.vadiodes.com/index.php/en/products/vector-network-analyzer?id=1035) for more information.

Table 5 Rx Dual Receiver Mini Modules (STD)

Keysight Model	Waveguide Flange	Extended Freq. (GHz)	VDI Part Number
N5262DR02-STD	WR2.2	330 to 500	WR2.2Rx-M-HS
N5262DR03-STD	WR3.4	220 to 330	WR3.4Rx-M-HS
N5262DR05-STD	WR5.1	140 to 220	WR5.1Rx-M-HS
N5262DR06-STD	WR6.5	110 to 170	WR6.5Rx-M-HS
N5262DR08-STD	WR8.0	90 to 140	WR8.0Rx-M-HS
N5262DR12-STD	WR12	60 to 90	WR12Rx-M-HS
N5262DR15-STD	WR15	50 to 75	WR15Rx-M-HS
N5262DR19-STD	WR19	40 to 60	WR19Rx-M-HS
N5262DR28-STD	WR28	26.5 to 40	WR28Rx-M-HS

Table 6 Rx Receiver Mini Modules with High Sensitivity External Attenuators (001)

Keysight Model	Waveguide Flange	Extended Freq. (GHz)	VDI Part Number
N5262BR01-001	WR1.0	750 to 1,100	WR1.0Rx-M-HS
N5262BR02-001	WR2.2 **	330 to 500	WR2.2Rx-M-HS
N5262BR03-001	WR3.4	220 to 330	WR3.4Rx-M-HS
N5262BR04-001	WR4.3	260 to 400	WR4.3Rx-M-HS
N5262BR05-001	WR5.1	140 to 220	WR5.1Rx-M-HS
N5262BR06-001	WR6.5	110 to 170	WR6.5Rx-M-HS
N5262BR08-001	WR8.0	90 to 140	WR8.0Rx-M-HS
N5262BR10-001	WR10 *	67 to 115	WR10Rx-M-HS
N5262BR12-001	WR12 *	55 to 95	WR12Rx-M-HS
N5262BR15-001	WR15	47 to 77	WR15Rx-M-HS
N5262BR19-001	WR19	40 to 60	WR19Rx-M-HS
N5262BR28-001	WR28	26.5 to 40	WR28Rx-M-HS
N5262BR1B-001	WR1.5	500 to 750	WR1.5Rx-M-HS
N5262BR2B-001	WR2.8 **	260 to 400	WR2.8Rx-M-HS

* WR10 and WR12 models have SE0 and SE1 special export options available for reduced export requirements. WR10 and WR12 models have DS0 (no attenuators) or DS1 (with attenuators) dual source for IMD measurement options available.

** WR2.2 = WM-570; WR2.8 = WM-710.

Cable Sets

NOTE

If ordering a cable set separately, use model number to determine the appropriate set.

Table 7 Available TxRx Cable Sets

Keysight Cable Option ^a	VDI Part Number	Description
201	CS-24-TxRx-1.2	1.2m cable set for 26.5 GHz PNA or PNA-X
205	CS-24-TxRx-5	5m cable set for 26.5 GHz PNA or PNA-X
401	CS-40-TxRx-1.2	1.2m LF cable set for > 43 GHz PNA or PNA-X
405	CS-40-TxRx-5	5m dual cable set for > 43 GHz PNA or PNA-X
501	CS-TST-TxRx-1.2	1.2m cable set for controller
505	CS-TST-TxRx-5	5m cable set for controller

a. TxRx cable sets include IF (2x), LO and RF cables.

Table 8 Available Rx Cable Sets

Keysight Cable Option ^a	VDI Part Number	Description
201	CS-24-Rx-1.2	1.2m cable set for 26.5 GHz PNA or PNA-X
205	CS-24-Rx-5	5m cable set for 26.5 GHz PNA or PNA-X
401	CS-40-Rx-1.2	1.2m LF cable set for > 43 GHz PNA or PNA-X
405	CS-40-Rx-5	5m dual cable set for > 43 GHz PNA or PNA-X
501	CS-TST-Rx-1.2	1.2m cable set for controller
505	CS-TST-Rx-5	5m cable set for controller

a. Rx cable sets include IF and LO cables.

Table 9 Available TxRef Cable Sets

Keysight Cable Option ^a	VDI Part Number	Description
201	CS-24-TxRef-1.2	1.2m cable set for 26.5 GHz PNA or PNA-X
205	CS-24-TxRef-5	5m cable set for 26.5 GHz PNA or PNA-X
401	CS-40-TxRef-1.2	1.2m LF cable set for > 43 GHz PNA or PNA-X
405	CS-40-TxRef-5	5m dual cable set for > 43 GHz PNA or PNA-X
501	CS-TST-TxRef-1.2	1.2m cable set for controller
505	CS-TST-TxRef-5	5m cable set for controller

a. TxRef cable sets include LO/RF and one IF cable.

Serial Numbers

The product serial number is the OEM serial number **VNAXxxxx** (xxxx = numbers in the OEM serial number) assigned by Virginia Diodes, Inc. Refer to the label on the product for the serial number.

Serial Number Prefix Information

For model **N5262BW02 (WR2.2TxRx-M)**, new serial number prefix US6002 indicates a test port power specified by VDI at -3 dBm typical. Old serial number prefix US5625 indicates a test port power specified by VDI at -8 dBm typical.

For models **N5262BW03 (WR3.4TxRx-M)**, and **N5262BT03 (WR3.4TxRef-M)**, serial number prefix US5918 indicates a test port power specified by VDI at +1 dBm typical. Serial number prefix US5427 indicates a test port power specified by VDI at -6 dBm typical.

For model **N5262BW05 (WR5.1TxRx-M)**, new serial number prefix US6002 indicates a test port power specified by VDI at +6 dBm typical. Old serial number prefix US5425 indicates a test port power specified by VDI at -1 dBm typical.

For model **N5262BW06 (WR6.5TxRx-M)**, serial number prefix US5921 indicates a test port power specified by VDI at +13 dBm typical. Serial number prefix US5425 indicates a test port power specified by VDI at +9 dBm typical.

For model **N5262BW10 (WR10TxRx-M)**, new serial number prefix US5918 indicates a test port power specified by VDI at +18 dBm typical. Old serial number prefix US5803 indicates a test port power specified by VDI at +11 dBm typical. Old serial number prefix US5725 indicates a change from a rear heat-sink to a rear fan cooling system.

NOTE

All Models include a 9V power supply

NOTE

5m modules can be used with 1.2 cable sets when power is reduced. Refer to VDI Users Guide recommendations.

NOTE

Refer to [Table 1](#) through [Table 6](#) to identify the VDI part numbers of the cable set supplied with each module:

C40 - direct connect to PNA > 43.5 GHz

C24 - direct connect to PNA > 26.5 GHz

CTS - connect to controller

Cable set is included when Option 201, 205, 401, 405, 501 or 505 is ordered (see [tables on page 8](#)). When Option NOC is ordered, no cable set is supplied and XXX will be blank.

NOTE

Modules sold for use with 1.2 meter cable sets have a 10 dBm (± 3 dBm) RF and LO power requirement at module inputs. For direct connection ONLY using FOM, the PNA source power may indicate unlevelled at 10 dBm. Reduce power until the unlevelled warning turns off, ensuring the power level is at least 7 dBm at input to module.

CAUTION












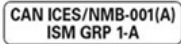







IMPORTANT!

The RF and LO test set controller power level is a nominal +10 dBm, and is configured to drive standard (+10 dBm input) VDI heads using 1.2m cables or low power (+2 dBm input) VDI heads using 5m cables. If low power VDI heads are connected to the test set controller using 1.2m cables, an 8 to 10 dB attenuator must be placed on each RF and LO cable connected to the modules.

For low power VDI modules that are directly connected to the Keysight PNA/ PNA-X with a 1.2m cable set, the VNA port power driving the RF and LO must be set to the nominal +2 dBm.

Instrument Markings

This section contains markings which may be included on the instrument.

	The instruction documentation symbol. The product is marked with this symbol when it is necessary for the user to refer to the instructions in the documentation.
	The AC symbol indicates the required nature of the line module input power.
	The crossed out wheeled bin symbol indicates that separate collection for waste electric and electronic equipment (WEEE) is required, as obligated by the EU DIRECTIVE and other national legislation. Please refer to keysight.com/go/takeback to understand your trade-in options with Keysight in addition to product takeback instructions.
	This symbol indicates that the power line switch is ON.
	This symbol indicates that the power line switch is in the STANDBY position.
	This symbol indicates that the power line switch is in the OFF position.
	This symbol is used to identify a terminal which is internally connected to the product frame or chassis.
	The CE marking is a registered trademark of the European Community (if accompanied by a year, it is the year when the design was proven). It indicates that the product complies with all relevant directives.
CAN ICES/NMB-001(A)	Canada EMC label. Interference-Causing Equipment Standard for industrial, scientific and medical (ISM) equipment. Matériel industriel, scientifique et médical (ISM)
ccr.keysight@keysight.com	The Keysight email address is required by EU directives applicable to our product.
	The CSA mark is a registered trademark of the CSA International.
	This is a symbol of an Industrial Scientific and Medical Group 1 Class A product. (CISPR 11, Clause 5)
	China Restricted Substance Product Label. The EPUP (environmental protection use period) number in the center indicates the time period during which no hazardous or toxic substances or elements are expected to leak or deteriorate during normal use and generally reflects the expected useful life of the product.
	ICES/ISM Label. This is a space saver label that combines two markings – CAN ICES and ISM
	CE/ICES/ISM Label. This is a space saver label that combines three markings – CE, CAN ICES, and ISM.
	This symbol indicates DC voltage.
IP 2 0	The instrument has been designed to meet the requirements of IP 2 0 for ingress and operational environment.
	The RCM mark is a registered trademark of the Australian Communications and Media Authority.
	This is a marking to indicate product compliance with the Canadian Interference-Causing Equipment Standard (ICES-001). Cet appareil ISM est conforme à la norme NMB du Canada.
	Universal recycling symbol. This symbol indicates compliance with the China standard GB 18455-2001 as required by the China RoHS regulations for paper/fiberboard packaging.
	South Korean Certification (KC) mark. It includes the marking's identifier code.
	The UK conformity mark is a UK government owned mark. Products showing this mark comply with all applicable UK regulations.

EMC Compliance

Complies with the essential requirements of the European EMC Directive as well as current editions of the following standards (dates and editions are cited in the [Declarations of Conformity](#)):

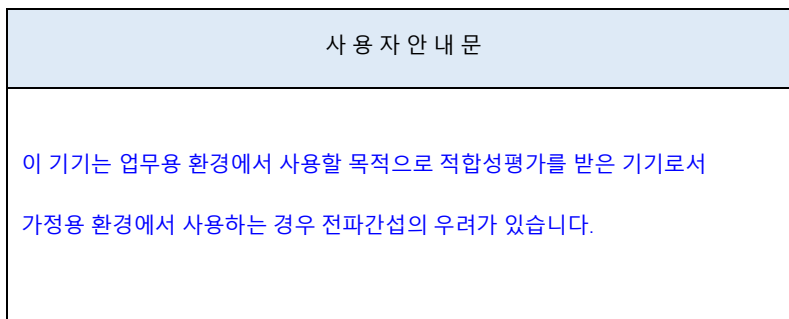
- IEC/EN 61326-1
- CISPR Pub 11 Group 1, Class A
Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.
- AS/NZS CISPR 11
- ICES/NMB-001
 This ISM device complies with Canadian ICES-001.
 Cet appareil ISM est conforme a la norme NMB-001 du Canada.

South Korean Class A EMC Declaration

If there is a "KC" mark on the instrument, then the following statement applies:

This equipment has been conformity assessed for use in business environments. In a residential environment, this equipment may cause radio interference.

※ This EMC statement applies to the equipment only for use in a business environment.



※ 사용자 안내문은 "업무용 방송통신기자재"에만 적용한다.

Safety

Complies with the following standard (dates and editions are cited in the Declaration of Conformity):

- IEC/EN 61010-1

Acoustic Statement (European Machinery Directive)

Acoustic noise emission
 LpA <70 dB
 Operator position
 Normal operation mode per ISO 7779

To find a current Declaration of Conformity for a specific Keysight product, go to:
<https://regulations.about.keysight.com/DoC/default.htm>

Keysight Support, Services, and Assistance

To verify the contents shipped with your product, refer to the "Box Content List" included with the shipment.

Inspect the shipping container. If the container or packing material is damaged, it should be kept until the contents of the shipment have been checked mechanically and electrically. If there is any physical damage, refer to **"Contacting Keysight" below**. Keep the damaged shipping materials (if any) for inspection by the carrier and a Keysight Technologies representative.

Keysight Technologies provides warranty service, if a repair is needed. The product is serviced by VDI, which requires that the product be returned to VDI or Keysight.

Contacting Keysight

Assistance with test and measurement needs, and information on finding a local Keysight office are available on the Internet at:

<http://www.keysight.com/find/assist>

You can also purchase accessories or documentation items on the Internet at:

<http://www.keysight.com/find>

If you do not have access to the Internet, contact your field engineer.

NOTE

In any correspondence or telephone conversation, refer to the Keysight product by its model number and full serial number. With this information, the Keysight representative can determine the warranty status of your unit.

This information is subject to change
without notice.

© Keysight Technologies 2017 - 2023

Print Date: August 2023

Supersedes: July 2023



N5262-90002