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USER GUIDE AND SPECIFICATIONS NI 9795 WSN C Series Gateway

This user guide describes how to use the NI 9795 Wireless Sensor Network gateway and lists specifications. The NI 9795 combines with NI WSN-32xx nodes to form a wireless sensor network.

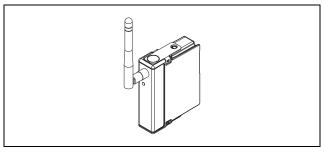


Figure 1. NI 9795 WSN Gateway



1	NI WSN-32xx Nodes	4	PC or NI Real-Time Hardware
2	NI CompactRIO Chassis		Running Application Software
3	NI 9795 WSN Gateway	5	Ethernet Network (not pictured)

Figure 2. NI WSN System Components

Figure 2 shows the components of the NI WSN system. A NI WSN system consists of one NI WSN gateway, up to 36 NI WSN-32xx nodes per gateway, and multiple PCs or Programmable Automation Controllers (PACs) to receive and analyze the distributed sensor data. When you connect the NI WSN gateway,

you can use a separate host PC running Windows, or a PAC running NI LabVIEW Real-Time, to display measurement results, status information, and to change the NI WSN gateway and NI WSN-32xx node settings.

Safety Guidelines

Operate the NI 9795 only as described in these operating instructions.



Hot Surface This icon denotes that the component may be hot. Touching this component may result in bodily injury.



Caution Do *not* operate the NI WSN product in a manner not specified in the user manual or operating instructions. Product misuse can result in a hazard. You can compromise the safety protection built into the product if the product is damaged in any way. If the product is damaged, return it to National Instruments for repair.



Caution If you need to clean a NI WSN product, wipe it with a dry towel. The product *must* be completely dry and free from contaminants before you return it to service.

Safety Guidelines for Hazardous Locations

The NI 9795 is suitable for use in Class I, Division 2, Groups A, B, C, D, T4 hazardous locations; Class I, Zone 2, AEx nA IIC T4 and Ex nA IIC T4 hazardous locations; and nonhazardous locations only. Follow these guidelines if you are installing the NI 9795 in a potentially explosive environment. Not following these guidelines may result in serious injury or death.

Safety Guidelines for Hazardous Locations

The NI 9795 is suitable for use in Class I, Division 2, Groups A, B, C, D, T4 hazardous locations; Class I, Zone 2, AEx nC IIC T4 and Ex nL IIC T4 hazardous locations; and nonhazardous locations only. Follow these guidelines if you are installing the NI 9795 in a potentially explosive environment. Not following these guidelines may result in serious injury or death.



Caution Do *not* install or remove the gateway unless power has been switched off or the area is known to be nonhazardous.



Caution Substitution of components may impair suitability for Class I, Division 2.

Caution For Zone 2 applications, install the WSN system in an enclosure rated to at least IP 54 as defined by IEC 60529 and EN 60529.

Special Conditions for Hazardous Locations Use in Europe

The NI 9795 has been evaluated as Ex nA nL IIC T4 equipment under DEMKO Certificate No. 07 ATEX 0626664X. Each gateway is marked II 3G and is suitable for use in Zone 2 hazardous locations, in ambient temperatures of -40 °C \leq Ta \leq 70 °C.

Electromagnetic Compatibility Guidelines

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC) as stated in the product specifications. These requirements and limits are designed to provide reasonable protection against harmful interference when the product is operated in its intended operational electromagnetic environment.

This product is intended for use in industrial locations. There is no guarantee that harmful interference will not occur in a particular installation, when the product radio is operating in an environment, or if the product is used in residential areas. To minimize the potential for the product to cause interference to radio and television reception or to experience unacceptable performance degradation, install and use this product in strict accordance with the instructions in the product documentation.

Furthermore, any changes or modifications to the product not expressly approved by National Instruments could void your authority to operate it under your local regulatory rules.

The following statements contain important EMC information needed before installing and using this product:



Caution This product is intended for use in industrial locations. As a result, this product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts.



Caution To ensure the specified EMC performance, operate this product only with approved accessories.

Software Overview



Note Refer to the *NI WSN Readme*, available on the software installation disc included with your device or from ni.com/drivers, for NI software application version support. For information about which software version supports your device, go to ni.com/info and enter wsnsoftware.

The NI-WSN driver software includes NI Measurement and Automation Explorer (MAX) as well as server and driver software for easy integration into application software packages. These software components manage the low-level communications and hardware details, simplifying programmatic access to I/O channels. The NI-WSN driver software is on the software installation disc included with your NI 9795 gateway device. The NI-WSN driver software is supported by Windows 7/Vista/XP and contains the following components:

- NI MAX
- NI-WSN driver software

What You Need To Get Started

For information about which software version supports your device, go to ni.com/info and enter wsnsoftware.

- Host PC running Windows and NI software
- NI LabVIEW 2011 or later, and LabVIEW Real-Time 2011 or later
- NI LabVIEW WSN Module (optional)
- NI-RIO 4.0 or later, included on software installation disc included with your CompactRIO chassis
- NI-WSN 1.3 or later and NI Measurement & Automation Explorer (MAX), on the software installation disc that shipped with your gateway
- NI CompactRIO chassis with Scan Mode support. For more information, visit ni.com/info and enter rdsoftwareversion



Note Use only one NI 9795 WSN C Series Gateway per NI CompactRIO chassis.

NI 9795 WSN gateway

- NI WSN-32xx node devices with an approved power supply or four approved 1.5 V AA batteries for each node
- RJ45 Ethernet cable/Ethernet network
- NI CompactRIO approved power supply
- Related hardware and software documentation

Unpack the Device and Install the Antenna

Remove the device from the package and inspect the device. Contact NI if the device appears damaged. Do *not* install a damaged device.



Caution The device is static sensitive. Always properly ground yourself and the equipment when handling or connecting to the device.

To attach the antenna, align the antenna with the mount and screw it on as shown in Figure 3.



Caution The antenna must be attached to the NI WSN device in order for the NI WSN device to function correctly.

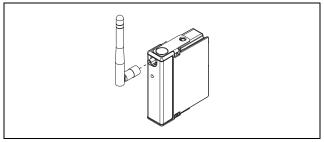


Figure 3. Attach Antenna to Device

Refer to the *NI 9795 WSN Gateway Getting Started Guide* for more information about how to get started using your device.

Device Interface

Figure 4 shows the NI 9795 device interface.

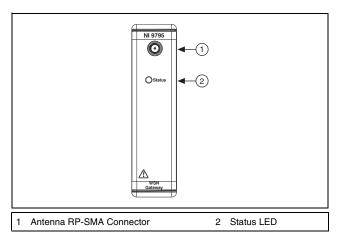


Figure 4. NI 9795 Device Interface

Using the NI 9795

Adding, Removing, and Replacing NI WSN-32*xx* Devices

Use NI MAX to add and remove nodes to and from your NI Wireless Sensor Network. You can add and remove NI WSN-32xx devices while the system is operating and without powering down the NI WSN system. NI WSN-32xx devices already working in the system remain operational and accessible on the network. Commands sent to a missing NI WSN-32xx device return an error response, but the NI 9795 stores the commands and applies the effects of the commands if a suitable replacement is installed until the NI CompactRIO system is powercycled.

When you remove a NI WSN-32xx device and add a new one, the NI 9795 first verifies that the replacement device is the same node type as the one that was removed. If it is the same node type, the NI 9795 device configures the replacement NI WSN-32xx device with the previous device settings.

For more information, refer to **Start»All Programs»National Instruments»NI-WSN»Configuring WSN in MAX**.

NI Wireless Sensor Networks

The NI WSN system is built on an IEEE 802.15.4 wireless mesh network. The 802.15.4 radio in each NI WSN device provides for low-power communication of measurement data across a large network of devices. The NI-WSN software builds on top of that to provide network configuration and reliable communication from the host PC or PAC to the NI WSN-32xx nodes.

Mesh Networking

The NI WSN system consists of two types of devices: gateways and nodes. Gateways act as the network coordinator, in charge of node connection, message buffering, and bridging from the 802.15.4 wireless network to the wired Ethernet network. Nodes primarily function as end nodes in the network to collect data and control DIO channels, but can also be programmed as routers to relay data from other nodes back to the gateway and host PC or PAC. Router nodes also collect data and control DIO, but require significantly more power. Use NI MAX to configure nodes as end nodes or routers. Figure 2 shows a typical NI Wireless Sensor Network.

The gateways and nodes work together to form a mesh network. The gateway maintains a list of nodes (by serial number) that have been authorized for network access. When a node powers up, it

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scans for available networks, locates either a gateway or router, and attempts to join it. If the gateway has the node in its list, the node joins the network, downloads the latest configuration from the gateway, and begins its normal operation of acquiring measurement data and controlling DIO.

Since each node joins a network instead of a particular router or gateway, it can find a new path back to the gateway in the event that the signal is lost or blocked to its existing network route. In this way, the mesh network is inherently self-forming and self-healing. However, this may also cause network throughput to decrease, as there is no way to force a router or end node to join to a particular device in the network. Each time a node joins through a router, the overall throughput of that node is halved, because that the node must hop to get its messages back to the gateway. Figure 5 shows an example of one possible mesh configuration.

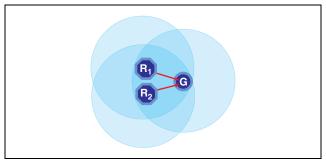


Figure 5. Mesh Configuration Example

In this configuration, R_1 (a router) and R_2 (a router) both communicate directly with the gateway. Measurements taken by both devices can directly reach the gateway without having to hop through another node. However, the configuration above does not always mesh in the same way. Figure 6 shows another possible configuration for the same network.

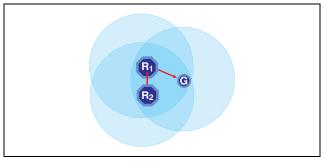


Figure 6. Same Network Configuration Example

In this configuration, R_1 can still communicate with the gateway, but R_2 is now connected through R_1 . This means that all measurements taken by R_2 must hop through R_1 before making it back to the gateway. In addition, R_1 is now not only responsible for sending its own measurement data, but also the R_2 data. This configuration is considered a worst-case 2-hop system, as R_2 and R_1 both have the possibility of meshing through a router that is connected to the gateway. National Instruments recommends configuring your system for no more than three hops. Configuring multiple nodes as routers and placing them within close proximity introduces the possibility that your system could mesh inefficiently. Figure 7 shows how a system could mesh efficiently, yet also have the possibility of meshing inefficiently.

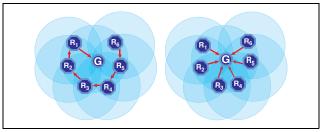


Figure 7. Inefficient Versus Efficient Meshing

The network can be improved with two separate techniques:

- 1. Convert some routers to end nodes.
- 2. Set up the network to prevent the routers from being in range of each other (spatially separated by distance, or introducing objects that increase radio interference, such as buildings).

Another advantage of the mesh network is the ability to extend the distance of the end measurement from the wired gateway. By

placing mesh routers throughout the space where you wish to acquire signals, you can expand the area and distance across which measurement data can be acquired and sent. Refer to the *Specifications* section for typical line of sight ranges for the NI WSN devices. Figure 8 shows how a network can be set up to cover greater distances.

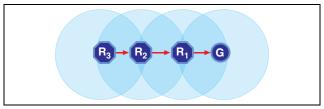


Figure 8. Network Containing Distance Example

End Node Versus Router

Each NI WSN-32xx node can be configured as either an end node or a router. NI WSN-32xx nodes are configured by default at the factory in end node mode. You can change the mode of the node using the NI-WSN software and NI MAX. One trade-off to consider when configuring nodes is power consumption. NI WSN-32xx nodes configured as end nodes are designed to be run from battery power while routers are designed to use external power at all times to send, receive, and buffer messages to and from end nodes.

Data Transfer in the NI WSN Network

The NI WSN system is built on a low-power, reliable IEEE 802.15.4 network. In order to save power and increase reliability, this network delivers a maximum theoretical throughput of 250 kbps. This correlates to a typical maximum rate of 1 sample per second per node.

Measurements taken with NI WSN-32*xx* nodes are single point, waveform, and string based depending on the hardware being used. Nodes have an onboard buffer to handle lag in the network conditions or reformation of a network. If the lag is greater than several minutes or a node is shut down to power loss, the buffered data is considered to be lost, meaning there is no way to retrieve past data from the device.

Configuring Your NI WSN System

As discussed in the *Mesh Networking* section, creating a reliable and efficient wireless sensor network requires an understanding of the physical environment the network will reside in, as well as an understanding of the expected meshing configuration. Additionally, the following consideration needs to be taken into account: parent devices (routers and gateways) can only have a maximum of eight end nodes connected to them at a given time.

This introduces the stranded node problem. The stranded node problem exists when a node configured as an end node has the possibility of not being able to join a device node. Figure 9 shows a network consisting of one gateway, two routers, and nine end nodes.

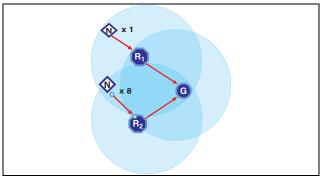


Figure 9. Stranded Node Problem, Example 1

In this case, all nodes have properly meshed, and all nodes can communicate with the gateway. However, this network could potentially strand end nodes. Figure 10 shows another possible mesh of the same network.

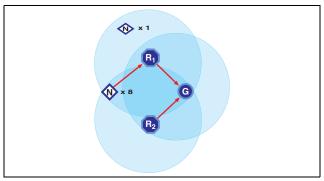


Figure 10. Stranded Node Problem, Example 2

In this mesh configuration, eight end nodes in range of both R_1 and R_2 join with R_1 . This leaves one end node stranded from the network. This can be corrected in the following two ways:

- 1. Move the set of 8 end nodes to where they can only communicate with R_2 . This prevents them from possibly joining R_1 .
- 2. Add an additional router that is in range of the single end node. This introduces the possibility of creating additional hops in the network, but also guarantees coverage of all end nodes.

Specifications

These specifications are typical for the range -40 to 70 °C unless otherwise noted. For the NI WSN-32xx specifications, refer to the node user guides.

CompactRIO Chassis Support

Number of NI WSN 9795	
gateways per chassis	.1
Supported mode ¹	RIO Scan Interface

¹ The NI 9795 requires that the NI CompactRIO chassis is configured in RSI scan mode. For more information about which NI CompactRIO chassis supports scan interface, go to ni.com/info and enter rdsoftwareversion.

Node Support

Star topology	Up to 8 NI WSN-32xx nodes
	configured as end nodes
Mesh topology ¹	Up to 36 NI WSN-32 <i>xx</i>
	nodes configured as end and
	router nodes

Wireless Characteristics

Radio mode	. IEEE 802.15.4
RF data rate	. 250 kbits/s
Frequency band ²	. ISM 2.4 GHz (2400 MHz to 2483.5 MHz)
Channels ³	.11–24
TX power	.+10 dBm max (10 mW)
Outdoor range	. Up to 150 m
Modulation type	.DSSS (O-QPSK)

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¹ Requires at least 4 nodes configured as routers in MAX. Router nodes can also take measurements. NI recommends that router nodes be externally powered as the radio is always on to route wireless traffic.

² Due to regulations, the frequency bands depend upon the country of operation.

³ Due to regulations, the valid channels depend upon country of operation.

Receiver sensitivity-102 dBm

Antenna

Connector	. Female RP-SMA connector
VSWR	. MAX 2.0
Impedance	. 50 Ω
Directivity	. Omni
Nominal gain	. 1.5 dBi

Power Requirements

Power consumption from chassis	
Active mode	1 W max
Sleep mode	25 µW max
Thermal dissipation (at 70 °C)	
Active mode	625 mW max
Sleep mode	25 µW max

Physical Characteristics

Weight	Approx. 137 g (4.8 oz)
Weight with antenna	Approx. 145 g (5.1 oz)



Note For two-dimensional drawings and three-dimensional models of the C Series modules and connectors, visit ni.com/dimensions and search by module number.

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Safety Hazardous Locations

U.S. (UL)	. Class I, Division 2,
	Groups A, B, C, D, T4; Class I, Zone 2, AEx nA IIC T4
Canada (C-UL)	Class I, Division 2, Groups A, B, C, D, T4;
	Class I, Zone 2, Ex nA IIC T4
Europe (DEMKO)	. Ex nA IIC T4

Safety Standards

The NI 9795 is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

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- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1



Note For UL and other safety certifications, refer to the product label or the *Online Product Certification* section.

RF Safety Warning

This product complies with FCC radiation exposure limits set for uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This product generates and radiates radio frequency energy. To comply with the radio frequency radiation exposure guidelines in an uncontrolled environment, this equipment should be installed and operated with at least 20 cm between the radiator and the person's body (excluding extremities: hands, wrists, feet, and legs).

This product complies with the European Council Recommendation (1995/519/EC) on the limitation of exposure of the general public to electromagnetic fields. Compliance was determined in accordance with the requirements in EN 50371.

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

• EN 61326-1 (IEC 61326-1): Class A emissions; Basic immunity

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- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions

- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions

This product also meets the requirements of the following EMC standards for intentional radiators:

- EN 300 328
- EN 301 489-1 and EN 301 489-17
- FCC 15.247 CFR Part 15C
- IC RSS-210



Note For EMC certification and additional information, refer to the product label or the *EU Regulatory Statements* section.

CE Compliance $\zeta \in$

This product meets the essential requirements of applicable European Directives as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)
- 1999/5/EC; Radio and Telecommunications Terminal Equipment (R&TTE) Directive

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Online Product Certification

To obtain product certifications and the Declaration of Conformity (DoC) for this product, visit ni.com/certification, search by module number or product line, and click the appropriate link in the Certification column.

Shock and Vibration

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Environmental

Operating temperature (IEC-60068-2-1 and IEC-60068-2-2).....-40 to 70 °C Storage temperature (IEC-60068-2-1 and IEC-60068-2-2).....-40 to 85 °C

NI 9795 User Guide and Specifications

Regulatory Information

United States

This product complies with Part 15 of the FCC Rules. Operation is subject to these two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada

This product complies with Industry Canada RSS-210.

Cet appareil est conforme aux norme RSS210 d'Industrie Canada.

Europe—EU Declaration of Conformity ${\sf C}{f E}{ig D}$

Marking by the above CE symbol on the label indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards: EN 300 893, EN 300 328, EN 301 489-17, EN 60950.

Europe – Restrictions for Use of 2.4 GHz Frequencies in European Community Countries

België/ Belgique:	For private usage outside buildings across public grounds over less than 300 m no special registration with IBPT/BIPT is required. Registration to IBPT/BIPT is required for private usage outside buildings across public grounds over more than 300 m. For registration and license please contact IBPT/BIPT.
	Voor privé-gebruik buiten gebouw over publieke groud over afstand kleiner dan 300 m geen registratie bij BIPT/IBPT nodig; voor gebruik over afstand groter dan 300 m is wel registratie bij BIPT/IBPT nodig. Voor registratie of licentie kunt u contact opnemen met BIPT.
	Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300 m. Pour une distance supérieure à 300 m un enregistrement auprès de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.

Deutschland:	License required for outdoor installations. Check with reseller for procedure to follow.	
	Anmeldung im Outdoor-Bereich notwendig, aber nicht genehmigungspflichtig.Bitte mit Händler die Vorgehensweise abstimmen.	
France:	Restricted frequency band: only channels 1 to 7 (2400 MHz and 2454 MHz respectively) may be used outdoors in France.	
	Bande de fréquence restreinte : seuls les canaux 1–7 (2400 et 2454 MHz respectivement) doivent être utilisés endroits extérieur en France. Vous pouvez contacter I'Autorité de Régulation des Télécommuniations (http://www.art-telecom.fr) pour la procédure à suivre.	
Italia:	License required for indoor use. Check with reseller for procedure to follow.	
	E'necessaria la concessione ministeriale anche per l'uso interno. Verificare con i rivenditori la procedura da seguire.	
Nederland:	License required for outdoor installations. Check with reseller for procedure to follow.	
	Licentie verplicht voor gebruik met buitenantennes. Neem contact op met verkoper voor juiste procedure.	

Japan

The certified radio equipment is embedded in this device.

全 回^{2011WW}
の8215142 本機器には認証済み無線設備が内蔵されています

Singapore

Complies with IDA Standards DA105692

Taiwan R.O.C.

低功率電波輻射性電機管理辦法

第十二條經型式認證合格之低功率射頻電機,非經許可,公司、商號 用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。 第十四條低功率射頻電機之使用不得影響飛航安全及幹擾合法通信; 現有幹擾現象時,應立即停用,並改善至無幹擾時方得繼續使用。 前項合法通信,指依電信規定作業之無線電信。低功率射頻電機須忍

EU Regulatory Statements

Česky [Czech]	National Instruments tímto prohlašuje, _e tento NI 9795 je ve shodě se základními po_adavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede National Instruments erklérer herved, at fřilgende udstyr NI 9795 overholder de vésentlige krav og řvrige relevante krav i direktiv 1999/5/EF.
de [German]	Hiermit erklärt <i>National Instruments</i> , dass sich das Gerät NI 9795 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et] Eesti [Estonian]	Käesolevaga kinnitab <i>National Instruments</i> seadme NI 9795 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

English	Hereby, <i>National Instruments</i> , declares that this NI 9795 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente <i>National Instruments</i> declara que el NI 9795 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ National Instruments ΔΗΛΩΝΕΙ ΟΤΙ ΝΙ 9795 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente <i>National Instruments</i> déclare que l'appareil NI 9795 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
itt Italiano [Italian]	Con la presente <i>National Instruments</i> dichiara che questo NI 9795 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Ιv	Latviski [Latvian]	Ar šo <i>National Instruments</i> deklarē, ka NI 9795 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
It	Lietuvių [Lithuanian]	Šiuo <i>National Instruments</i> deklaruoja, kad šis NI 9795 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl	Nederlands [Dutch]	Hierbij verklaart <i>National Instruments</i> dat het toestel NI 9795 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt	Malti [Maltese]	Hawnhekk, <i>National Instruments</i> , jiddikjara li dan NI 9795 jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu	Magyar [Hungarian]	Alulírott, <i>National Instruments</i> nyilatkozom, hogy a NI 9795 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

pl	Polski [Polish]	Niniejszym National Instruments. oświadcza, że NI 9795 jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt	Português [Portuguese]	<i>National Instruments</i> declara que este NI 9795 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
ડા	Slovensko [Slovenian]	National Instruments izjavlja, da je ta NI 9795 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
sk	Slovensky [Slovak]	National Instruments týmto vyhlasuje, _e NI 9795 spĺňa základné po_iadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi	Suomi [Finnish]	National Instruments vakuuttaa täten että NI 9795 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
l cul	Svenska [Swedish]	Härmed intygar <i>National Instruments</i> att denna NI 9795 står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

	Íslenska [Icelandic]	Hér með lýsir National Instruments yfir því að NI 9795 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
no	Norsk [Norwegian]	<i>National Instruments</i> erklærer herved at utstyret NI 9795 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

Online Product Certification



Note Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

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