



# INX™ 600 Series Probe Microscope

## User Guide

22183219 Preliminary

October 2024



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## About this guide

This user guide provides information about the INX™ 600 Series Probe Microscope. This is a preliminary version of the document intended for internal use by VIAVI.

# Safety instructions

	<p><b>CAUTION</b></p> <p>Turn off the equipment, and disconnect all cables connected to it before moving the equipment or performing maintenance procedures.</p> <p><b>ATTENTION</b></p> <p>Éteignez l'équipement et débranchez tous les câbles qui y sont connectés avant de déplacer l'équipement ou d'effectuer des procédures de maintenance.</p>
	<p><b>WARNING</b></p> <ul style="list-style-type: none"><li>• To prevent potential fire or shock hazard, do not expose the equipment to any source of excessive moisture.</li><li>• Do not perform any operating or maintenance procedure that is not described in the user documentation. If the equipment is used in a manner not specified by VIAVI, the protection provided by the equipment might be impaired.</li><li>• Do not attempt to service this product yourself, as opening or removing covers might expose you to dangerous high-voltage points and other hazards. Refer all servicing to qualified VIAVI service personnel.</li><li>• Do not operate any equipment with its covers or panels removed.</li></ul> <p><b>AVERTISSEMENT</b></p> <ul style="list-style-type: none"><li>• Pour éviter tout risque d'incendie ou d'électrocution, n'exposez pas l'équipement à une source d'humidité excessive.</li><li>• N'effectuez aucune opération ou procédure de maintenance qui n'est pas décrite dans la documentation utilisateur. Si l'équipement est utilisé d'une manière non spécifiée par VIAVI, la protection fournie par l'équipement peut être altérée.</li><li>• N'essayez pas de réparer ce produit vous-même, car l'ouverture ou le retrait des panneaux latéraux peut vous exposer à des points haute tension dangereux et à d'autres dangers. Confiez tous les travaux d'entretien au personnel de service qualifié de VIAVI.</li><li>• N'utilisez aucun équipement dont les panneaux latéraux ont été retirés.</li></ul>

**Note:** See also [“Regulatory compliance” on page A-1.](#)

# 1 Introduction

The INX™ 600 Series Probe Microscope offers unparalleled efficiency in ensuring pristine single-fiber, duplex-fiber, or multifiber connections.

Optimized for field use and VIAVI TPA™ (Test Process Automation) enabled, the microscope enables automation of every step of the inspection process, including test set up, tip configuration, image panning and focus, end-face analysis testing, and data storage. Operators can either use the microscope autonomously or connect it to local devices, such as smartphones, tablets, or PCs, via USB or wireless connections (see [“Specifications and regulatory compliance” on page 1-3](#)), with the VIAVI Mobile Tech app serving as the bridge between the microscope and the cloud.

**Figure 1-1: INX 600 Series Probe Microscope**



This section covers the following information:

- [“Variants” on page 1-2](#)
- [“Specifications and regulatory compliance” on page 1-3](#)
- [“Technical Assistance Center and Knowledge Base” on page 1-4](#)

## Variants

**Table 1-1: INX 600 Series Probe Microscope variants**

Description	Variant
INX 600 Probe Microscope, Automated Simplex Inspection, Semi-auto Multifiber Inspection, Wired And Wireless Connectivity	INX 660
INX 600 Probe Microscope, Automated Simplex Inspection, Semi-auto Multifiber Inspection, Wired Connectivity	INX 650
INX 600 Probe Microscope, Automated Simplex Inspection, Wired And Wireless Connectivity, Tethered Operation	INX 640
INX 600 Probe Microscope, Automated Simplex Inspection, Wired Connectivity, Tethered Operation	INX 630
INX 600 Probe Microscope, Automated Simplex Inspection, Wired And Wireless Connectivity	INX 620
INX 600 Probe Microscope, Automated Simplex Inspection, Wired Connectivity	INX 610

## Specifications and regulatory compliance

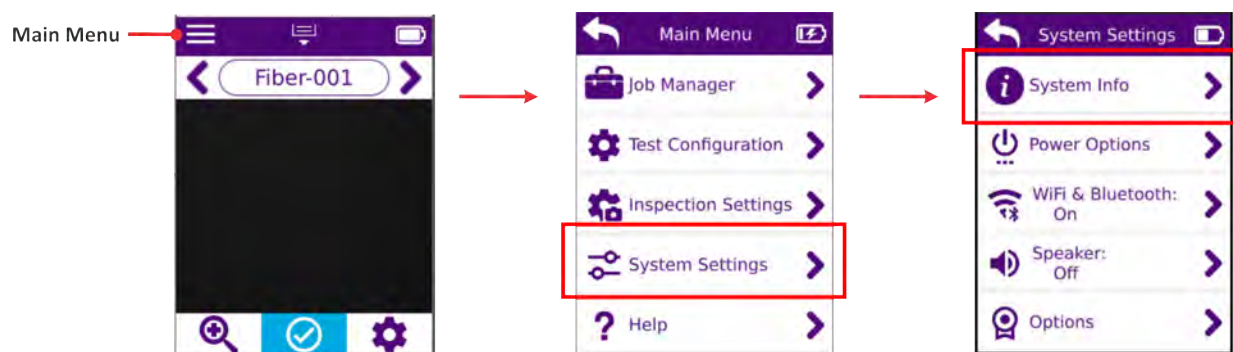
**Table 1-2: INX 600 Series Probe Microscope specifications**

Parameter	Specification
Display	320 x 240-pixel (2.4") IPS color backlit touch screen
Status indicators	<ul style="list-style-type: none"> <li>• LED ring</li> <li>• Speaker</li> </ul>
Power supply	5V/2.1A USB AC adapter
Battery	Li-ion 18.15 Wh (field replaceable)
Charging modes	<ul style="list-style-type: none"> <li>• USB2.0 in 500mA and 1.5A modes</li> <li>• USB-C Power Delivery (PD), 500mA, 1.5A, and 3A modes</li> </ul>
USB port	1x USB-C
Wireless connectivity	Singleband 2.4 GHz <ul style="list-style-type: none"> <li>• Bluetooth® 5.2 BLE</li> <li>• Wi-Fi 802.11b/g/n</li> </ul>
Mounting point	¼" diameter, 20 threads per inch (¼"-20) socket
Operating temperature	0 to 40°C (32 to 104°F)
Operating humidity	0 to 90% non-condensing
Storage temperature	-20 to 60°C (-4 to 140°F)
Dimensions (L x W x H)	<ul style="list-style-type: none"> <li>• Without inspection tip: 253 x 191 x 60 mm (9.9 x 7.5 x 2.4 in)</li> <li>• With LC inspection tip: 275 x 191 x 60 mm (10.8 x 7.5 x 2.4 in)</li> </ul>
Weight (without inspection tip)	0.524 kg (1.15 lb)
Inspection tips	Simplex, Duplex, Multifiber Stainless steel with threaded mounting nut; integrated auto-identification technology; tether point (lanyard sold separately)

### Regulatory compliance

To access regulatory compliance information on the microscope, select **Main Menu > System Settings > System Info > Regulatory Info**.

**Figure 1-2: Accessing regulatory compliance information**





## Technical Assistance Center and Knowledge Base

To find the Technical Assistance Center phone number and email in your region for the INX 600 Series Probe Microscope, or to search the VIAVI Solutions Knowledge Base, visit the VIAVI Solutions Technical & Product Support site at [support.viavisolutions.com](https://support.viavisolutions.com).

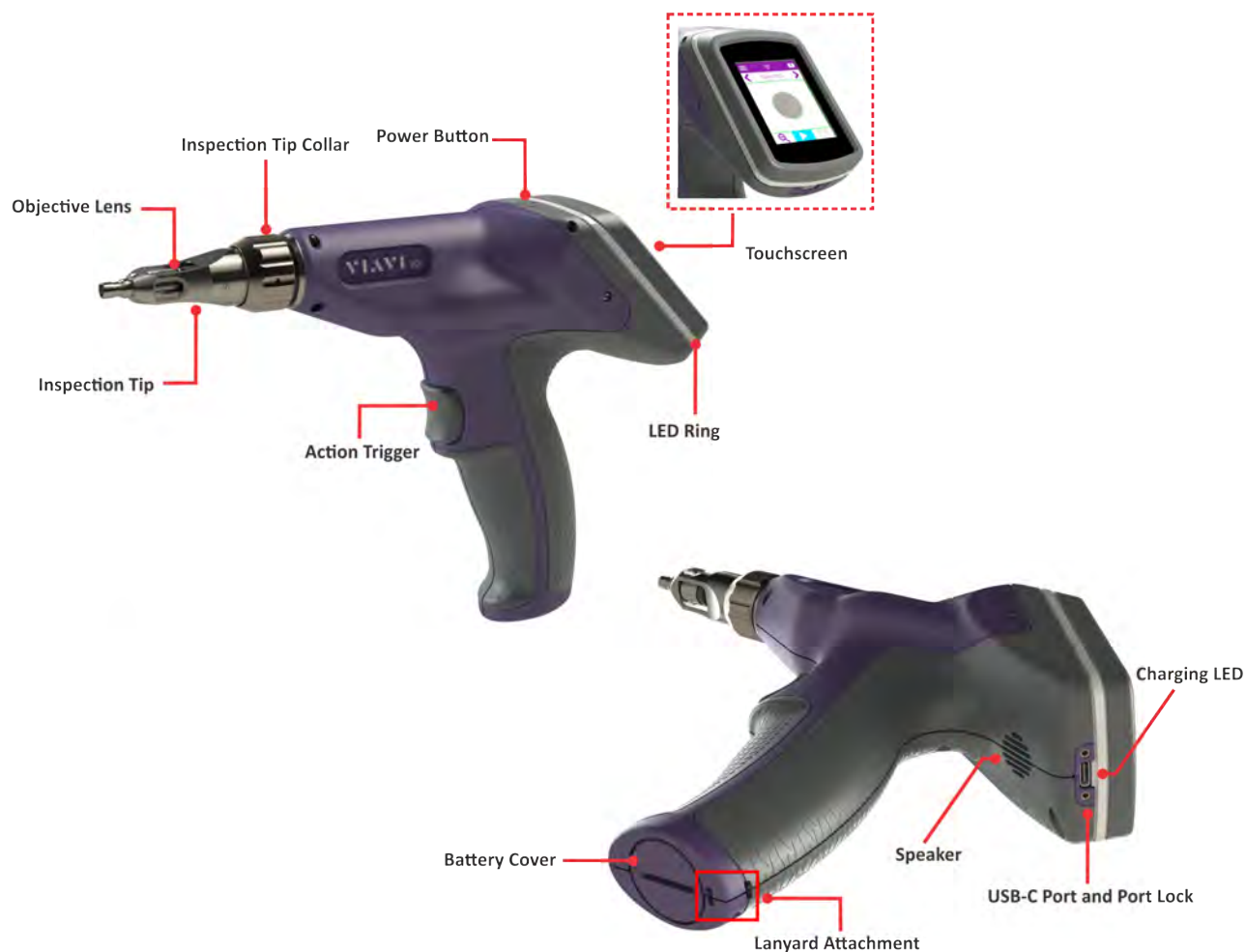


## 2 Getting started

This section covers the following information:

- [“Microscope features” on page 2-2](#)
- [“Powering the microscope ON or OFF” on page 2-4](#)
- [“Installing a fiber inspection tip” on page 2-6](#)
- [“Mounting a fiber connector” on page 2-8](#)
- [“Charging the microscope battery” on page 2-9](#)
- [“Replacing the battery” on page 2-10](#)

## Microscope features



## LED states

State	LED Ring	Charging LED
Off	<ul style="list-style-type: none"> <li>Microscope powered OFF</li> <li>Microscope powered ON, no test in progress</li> </ul>	<ul style="list-style-type: none"> <li>Microscope powered OFF</li> <li>Battery charger not connected</li> </ul>
Orange	—	Battery charging, microscope powered OFF
Blue	—	Microscope powered ON
Purple (circulating)	Test in progress	—
Red	Test failed	—
Green	Test passed	Battery fully charged
Blue Orange (flashing)	—	Fully discharged battery charging, microscope powered ON (Power OFF microscope until battery charged)

## Action trigger

The Action trigger operates via either short press or long press (i.e., press and hold).

Do the following...	To...
Short press the Action trigger	<ul style="list-style-type: none"><li>• Start a Pass/Fail test while Auto-test system setting is set to On AutoFocus</li><li>• Autofocus the fiber image displayed in Live view</li><li>• Return to the <b>Home</b> screen from any other screen</li></ul>
Long press the Action trigger	Start a Pass/Fail test

## Powering the microscope ON or OFF

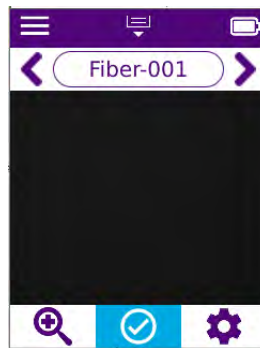
### Powering the microscope ON

Step 1 Press and hold the Power button for two (2) seconds.

Step 2 Note the following sequence:

- The touchscreen lights, and the start-up screen appears after a few seconds.
- The charging LED lights blue.
- The objective lens of the microscope might move to automatically adjust its position.
- The **Home** screen appears on the touchscreen after the initialization process is completed.

The following image shows the **Home** screen that displays when an inspection tip is installed on the microscope, but no fiber is connected to the tip.



While an inspection tip is installed on the device, the fiber illumination LED emits a blue light from the end of the objective lens.

**Note:** To protect the objective lens from dust and debris, always place the safety cap on the inspection tip when the microscope is not in use. For information, see, [“Installing a fiber inspection tip” on page 2-6](#).

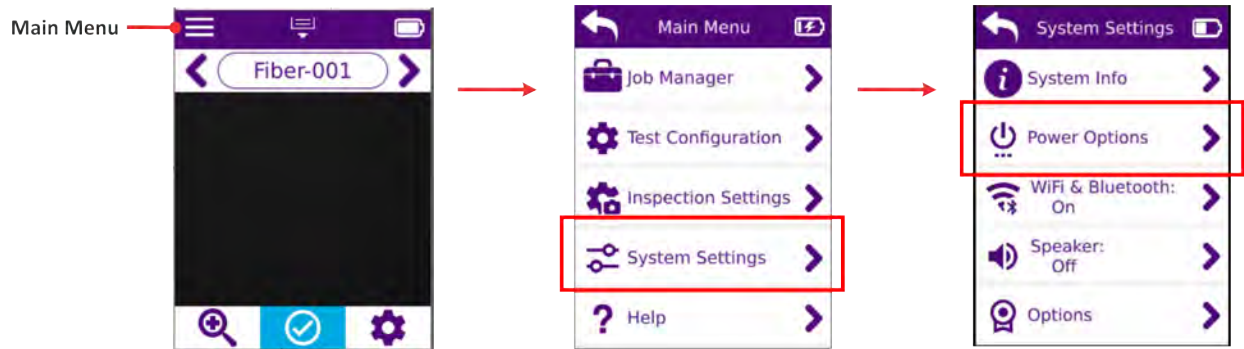
— End —

## Powering the microscope OFF

- Press and hold the Power button until the touchscreen turns off.

The fiber illumination LED and the charging LED turn off after a few seconds.

**Note:** You can access automatic power OFF values for the microscope by selecting **Main Menu > System Settings > Power Options**.

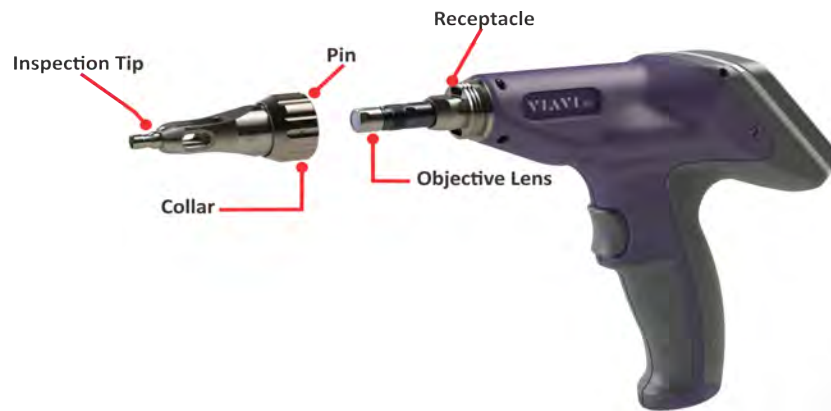


— End —

## Installing a fiber inspection tip

Step 1 Remove the inspection tip installed on the microscope:

- i. Holding the microscope securely, rotate the inspection tip collar to fully loosen it.
- ii. Carefully pull the tip away from the microscope, ensuring that the tip does not come into contact with the objective lens.

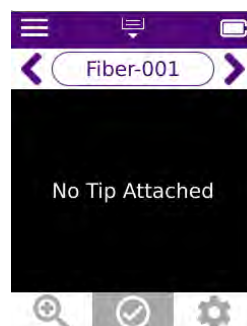


- iii. Install the safety cap at the back of the inspection tip, place the tip in a dust-proof container, and store it in an accessible location.



Step 2 If the microscope is powered on, note the following:

- The fiber illumination LED turns off.
- The **Home** screen indicates that no tip is attached to the microscope, and the Tool tray is disabled.



**Step 3** Install the required inspection tip:

- i. If present, carefully loosen and remove the inspection tip cap cover from back of the tip, and place it in a dust-free container.
- ii. Align the pin at the rear of the inspection tip with the receptacle on the microscope.
- iii. Carefully position the inspection tip onto the microscope, ensuring that the tip does not come into contact with the objective lens, and that the pin is inserted in the receptacle.
- iv. Thread the collar of the tip, and rotate it to secure it to the microscope. Do not overtighten the collar.

**Important:** Ensure that the collar is properly threaded and secured to the microscope.

**Step 4** If the microscope is powered on, note the following:

- The objective lens might move to adjust to the correct position for the newly installed tip.
- The fiber illumination LED emits a blue light from the end of the objective lens.

**Note:** Place the dust cover onto the inspection tip to keep the objective lens free of dust and debris while the microscope is not in use.



— End —



## Mounting a fiber connector

- Step 1 Power ON the microscope, and, if required, short press the Action trigger to return to the **Home** screen.
- Step 2 Ensure that the fiber inspection tip required for the Pass/Fail application is installed on the microscope.
- Step 3 Thoroughly clean the fiber connector, and mount it onto the inspection tip.

For a bulkhead connector, ensure that the connector is correctly aligned with the key on the inspection tip.



A Live view of the fiber end face appears on the **Home** screen.

— End —

## Charging the microscope battery

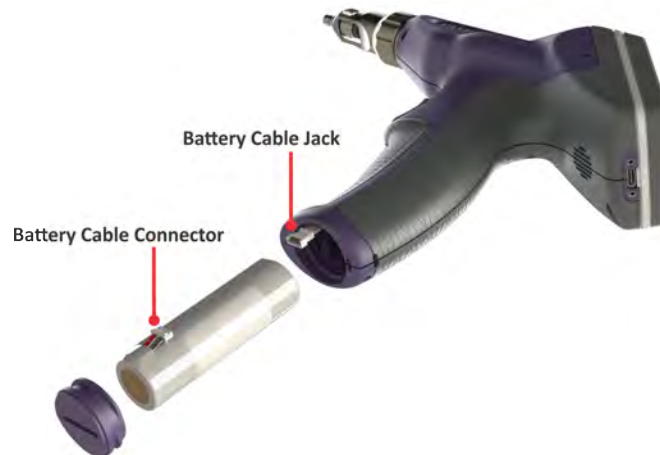
- Step 1 Connect the USB connector of a suitable charger to the USB-C port on the microscope.
- Step 2 Connect the charger to an appropriate power source.
- Step 3 When the battery is charged (see [“LED states” on page 2-2](#)), disconnect the charger from the power source and then from the microscope.
- Step 4 Store the charger in an accessible location.

— End —

## Replacing the battery

**Important:** Use only the VIAVI-supplied battery.

- Step 1 Power OFF the microscope (see [“Powering the microscope OFF” on page 2-5](#)).
- Step 2 Holding the microscope securely, remove the battery cover.
- Step 3 Carefully slide the battery far enough out of the receptacle to disconnect the battery cable connector from the jack, and then fully remove the battery from the receptacle.



**Important:** Dispose of the used battery according to local requirements.

- Step 4 Carefully insert the replacement battery into the receptacle, and connect the battery cable to the jack. The microscope automatically powers ON.
- Step 5 Replace and secure the battery cover. Do not overtighten the cover.

— End —



## Appendix A Regulatory compliance

This section covers the following information:

- [“California Proposition 65” on page A-2](#)
- [“Federal Communications Commission \(FCC\)” on page A-2](#)
- [“Innovation, Science and Economic Development Canada” on page A-3](#)
- [“Product Environmental Compliance” on page A-4](#)
- [“EU REACH” on page A-4](#)
- [“EU Declaration of Conformity” on page A-4](#)
- [“EU Radio Equipment Directive” on page A-4](#)
- [“Additional standards compliance” on page A-5](#)
- [“China RoHS materials declaration” on page A-6](#)

## California Proposition 65

California Proposition 65, officially known as the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted in November 1986 with the aim of protecting individuals in the state of California and the state's drinking water and environment from excessive exposure to chemicals known to the state to cause cancer, birth defects or other reproductive harm.

For the VIAVI position statement on the use of Proposition 65 chemicals in VIAVI products, see the **Hazardous Substance Control** section of the [VIAVI Policies & Standards](#) web page.

## Federal Communications Commission (FCC)


The equipment was tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

The authority to operate this equipment is conditioned by the requirements that no modifications be made to the equipment unless the changes or modifications are expressly approved by VIAVI.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

When configured with wireless connectivity, this product complies with 47 CFR Part 15 through use of a modular component authorized under a grant of certification: FCC ID: WUW-LWBPLUS.

	<div><b>CAUTION: RF Radiation Exposure</b></div> <ul style="list-style-type: none"><li>• This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment.</li><li>• This transmitter must not be collocated or operated with any other antenna or transmitter.</li></ul>
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## Innovation, Science and Economic Development Canada

This Class A digital apparatus complies with Canadian ICES-003.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Le présent appareil est conforme aux d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage,
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

When configured with wireless connectivity, this product complies with relevant ISED Canada Radio Standard Specifications (RSS) through use of the following modular component authorized under a grant of certification: IC: 9613A-LWBPLUS.

Lorsqu'il est configuré avec connectivité sans fil, ce produit est conforme aux spécifications des normes radioélectriques (RSS) pertinentes d'ISDE Canada grâce à l'utilisation du composant modulaire suivant autorisé en vertu de une délivrance de certification: IC: 9613A-LWBPLUS.



### CAUTION: RF Radiation Exposure

- This equipment complies with ISED Canada radiation exposure limits set forth for an uncontrolled environment.
- To comply with Canadian RF exposure requirements, this device and its antenna must not be collocated or operated in conjunction with any other antenna or transmitter.

### ATTENTION: Exposition aux rayonnements RF

- Cet équipement est conforme aux limites d'exposition aux rayonnements RF d'ISDE Canada établies pour un environnement non contrôlé.
- Pour se conformer aux exigences de conformité RF canadienne l'exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

## Korea Certification

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다

## Product Environmental Compliance

VIAVI is committed to compliance with all applicable laws and regulations controlling the use of hazardous substances in its products, as well as the disposal of equipment (including batteries) and waste packaging. For details, see the [VIAVI Policies & Standards](#) web page or contact the VIAVI WEEE Program Management team at [Global.WEEE@ViaviSolutions.com](mailto:Global.WEEE@ViaviSolutions.com).

## EU REACH

Article 33 of EU REACH regulation (EC) No 1907/2006 requires product suppliers to provide information when a substance included in the list of Substances of Very High Concern (SVHC) is present in an product above a certain threshold. For information about the presence of REACH SVHC in VIAVI products, see the **Hazardous Substance Control** section of the [VIAVI Policies & Standards](#) web page.

## EU Declaration of Conformity

EU manufacturer Declaration of Conformity is shipped with the product and is also available on request.

## EU Radio Equipment Directive

In accordance with Article 10.8 of the EU Radio Equipment Directive 2014/53/EU, the following table provides information on the frequency bands and the maximum RF transmit power of this product for sale in the EU, when configured with wireless connectivity..

Frequency Range (MHz)	Channels Used	Maximum Transmit Power (dBm)
2400-2483.5	1 to 13	19.98

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in Italy and France where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information, the end-user should contact the national spectrum authority in France.

## Additional standards compliance

The equipment meets the following standards and requirements:

- Installation Category (Over voltage Category) II under IEC 60664-1
- Pollution Degree 2 Category under IEC 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use





## China RoHS materials declaration

The China RoHS materials declaration is shipped with the product and is also available on request.



## Appendix B User Guide revision history

Revision	Date	Details
Preliminary	October 2024	This document is intended for internal use by VIAVI.



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English

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