

# LabWindows/CVI, VxiPnp driver history for the R&S® Vector Signal Generators

[R&S®SMW200A](#)



[R&S®SMBV100B](#)



[R&S®SMM100A](#)



[R&S®SMBV100A](#)



# Table of Contents

## **1 Supported Instruments**

## **2 Revision history**

*Version 5.30.0 / 06 – 2024*

*Version 5.10.0 / 06 – 2023*

*Version 5.0.0 / 10 – 2022*

*Version 4.90.0 / 12 - 2021*

*Version 1.13.0 / 02 - 2021*

*Version 1.12.0 / 12 - 2020*

*Version 1.11.0 / 05 - 2020*

*Version 1.10.0 / 01 - 2020*

*Version 1.9.1 / 11 - 2019*

*Version 1.9.0 / 04 – 2019*

## **3 Getting Started**

*LabWindows/CVI driver*

*VXIplug&play driver in C/C++, LabWindows/CVI*

*VXIplug&play driver in MATLAB*

*Linux and Mac OS X*

*Additional Help*

## **4 Customer support**

# 1 Supported Instruments

In the following table, the supported R&S instruments and firmware versions are listed:

Which instruments are supported?		
Instrument	Supported Firmware	Remarks
SMW200A	5.30	
SMM100A	5.30	
SMBV100B	5.30	
SMBV100A	4.70	
SGS100A	4.30	Treated as SMW
SGT100A	4.90	Treated as SMW

## 2 Revision history

### Version 5.30.0 / 06 – 2024

\* Updated for the SMW FW version 5.30.xx

\* New core 4.7.0

\* New:

- rsfsiggen\_ConfigureARBTriggerDateTime
- rsfsiggen\_ConfigureDMTriggerDateTime
- rsfsiggen\_ConfigureGSMTriggerDateTime
- rsfsiggen\_ConfigureBTTriggerDateTime
- rsfsiggen\_ConfigureWLANNTTriggerDateTime
- rsfsiggen\_ConfigureWLANADTriggerDateTime
- rsfsiggen\_ConfigureDVBTriggerDateTime
- rsfsiggen\_ConfigureMCCWTriggerDateTime
- rsfsiggen\_ConfigureEUTRATriggerDateTime
- rsfsiggen\_ConfigureOFDMTriggerDateTime
- rsfsiggen\_ConfigureExtSeqTriggerDateTime
- rsfsiggen\_Configure5GNRTTriggerDateTime
- rsfsiggen\_ConfigureHRPUWBTriggerDateTime
- rsfsiggen\_ConfigureSatNavTriggerDateTime
- rsfsiggen\_ConfigureSatNavSatConstellationImportUseForAllSystems
- rsfsiggen\_AddHUMSSNMPUser
- rsfsiggen\_QueryHUMSSNMPUsers
- rsfsiggen\_ConfigureScreenColor
- rsfsiggen\_ConfigureNetworkInterface
- rsfsiggen\_ConfigureNetworkServices
- rsfsiggen\_OPCTSyncWriteEnable
- rsfsiggen\_OPCTSyncQueryEnable
- rsfsiggen\_SetOpcSyncQueryMechanism

\* Updated:

- rsfsiggen\_SelectDMStandard - Added items to Standard

- rsrfsiggen\_ConfigureWLANAD - Added items to DMG PHY Mode
- rsrfsiggen\_ConfigureExtSeqMode - Added items to Mode
- rsrfsiggen\_ConfigureFSIMStandard - Added items to Standard
- rsrfsiggen\_ConfigureSatNavGNSSPseudorangeErrorsFile - Range in SV ID updated

See the **rsrfsiggen\_vxi.chm** file for detailed description.

## Version 5.10.0 / 06 – 2023

\* Updated for the SMW FW version 5.10.xx

\* New core 4.5.0

\* New:

- rsrfsiggen\_ConfigureSatNavGNSSRTKBaseLocationDecimalIPZ
- rsrfsiggen\_ConfigureSatNavGNSSRTKBaseLocationDecimalWGS
- rsrfsiggen\_ConfigureSatNavGNSSRTKBaseLocationDMSPZ
- rsrfsiggen\_ConfigureSatNavGNSSRTKBaseLocationDMSWGS
- rsrfsiggen\_ConfigureHUMSTagValue
- rsrfsiggen\_QueryHUMSTagValue

\* Updated:

- rsrfsiggen\_ConfigureSatNavGNSSADGSynchronize - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGReferenceFrame - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGPositionFormat - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGCoordinatesDecimalIPZ - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGCoordinatesDecimal - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGCoordinatesDMSPZ - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGCoordinatesDMS - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGUncertainlyRadius - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGTimeBasis - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGDate - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGTime - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGDuration - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGResolution - Added Navic to Standard
- rsrfsiggen\_ConfigureSatNavGNSSADGSVIDEnabled - Added Navic to Standard

See the **rsrfsiggen\_vxi.chm** file for detailed description.

## **Version 5.0.0 / 10 – 2022**

- \* Updated for the SMW FW version 5.00.xx
- \* New core 4.3.0

See the **rsrfsiggen\_vxi.chm** file for detailed description.

## **Version 4.90.0 / 12 - 2021**

- \* Updated for the SMW FW version 4.90.xx
- \* New core 4.2.0. The core is incompatible with the Cores 3.x. If you work with drivers that use both core 4.x and 3.x, please contact our customer support, we will update your Core 3.x drivers to the newest version.

See the **rsrfsiggen\_vxi.chm** file for detailed description.

## **Version 1.13.0 / 02 - 2021**

- \* Added SMM100A to the list of supported instruments
- \* New core 3.13.0
- \* Fixed data types of several HexPattern attributes

## **Version 1.12.0 / 12 - 2020**

- \* Updated for the SMW FW version 4.80.xx
- \* New core 3.11.0

See the **rsrfsiggen\_vxi.chm** file for detailed description.

## **Version 1.11.0 / 05 - 2020**

- \* Added support for SGS and SGT signal generators. They are treated as an SMW instrument
- \* New core 3.8.0
- \* Improved help for `rsrfsiggen_init()`, `rsrfsiggen_InitWithOptions()`
- \* Optimized help texts for status codes

## **Version 1.10.0 / 01 - 2020**

- \* Updated for the SMW FW version 4.70.xx
- \* New core 3.6.3
- added support for LoRa

## Version 1.9.1 / 11 - 2019

- \* New core 3.6.1
- \* Fixed:
  - rsfsiggen\_CreateFrequencyList
  - rsfsiggen\_CreatePowerList
  - rsfsiggen\_CreateDwellList
  - Several bug fixes in SatNav query functions
- \* Reformatted header and source files

## Version 1.9.0 / 04 – 2019

- \* Updated for the SMW FW version 4.50.100.xx
  - added support for 5G New Radio
  - added support for SatNav GNSS
  - added support for DigitalDoherty
  - renaming C5G to OFDM
- \* New functions:
  - rsfsiggen\_UserCorrectionDataLevelValues
  - rsfsiggen\_QueryIQEnvelopeVccForX
  - rsfsiggen\_ConfigureIQOutputEnvelopeTablesNew
  - rsfsiggen\_ConfigureIQOutputEnvelopeTablesData
  - rsfsiggen\_ConfigureIQOutputEnvelopeTablesAutoNew
  - rsfsiggen\_ConfigureIQOutputEnvelopeTablesAutoData
  - rsfsiggen\_ConfigureIQOutputEnvelopePolynomialCoefficients
  - rsfsiggen\_ConfigureIQDigitalPredistortionDPDShapingTablesData
  - rsfsiggen\_ConfigureIQDigitalPredistortionDPDShapingTablesNewFile
  - rsfsiggen\_QueryIQDigitalPredistortionDPDDeltaPhaseDeltaPowerForX
  - rsfsiggen\_ConfigureIQDigitalDPDShapingPolynomialCoefficients
  - rsfsiggen\_ConfigureIQDigitalPredistortionNormalizedData
  - rsfsiggen\_ConfigureIQDigitalDohertyShapingTablesData
  - rsfsiggen\_ConfigureIQDigitalDohertyShapingTablesNewFile
  - rsfsiggen\_QueryIQDigitalDohertyDeltaPhaseDeltaPowerForX
  - rsfsiggen\_ConfigureIQDigitalDohertyShapingPolynomialCoefficients
  - rsfsiggen\_ConfigureIQDigitalDohertyPredistortionNormalizedData
  - rsfsiggen\_QueryGSMUserSlotMarkerDefinition
  - rsfsiggen\_ConfigureEUTRADLUserAPMCodebookIndex
  - rsfsiggen\_ConfigureSatNavSBASRegionImportAddDirectory
  - rsfsiggen\_ConfigureSatNavSBASRegionImportAddFile
  - rsfsiggen\_QuerySatNavSBASRegionImportFileCatalog
  - rsfsiggen\_LoadSatNavSBASRegionImportFiles
  - rsfsiggen\_RemoveSatNavSBASRegionImportAllFiles
  - rsfsiggen\_RemoveSatNavSBASRegionImportFile
  - rsfsiggen\_SetTimeout
  - rsfsiggen\_GetTimeout
  - rsfsiggen\_ConfigureAutoSystemErrQuery
  - rsfsiggen\_ConfigureMultiThreadLocking
  - rsfsiggen\_ConfigureAttributeDataTypeMismatchReporting
  - rsfsiggen\_GetAttributeRepCapName
  - rsfsiggen\_RecallInstrumentSettings
  - rsfsiggen\_SaveInstrumentSettings
  - rsfsiggen\_BERTestGenState
  - rsfsiggen\_BERTestGenConfig
  - rsfsiggen\_GetBLERResult
  - rsfsiggen\_GetBERResult
  - rsfsiggen\_Preset

\* Updated functions:

- rsrfsiggen\_FileCatalog - renaming C5G to OFDM, adding 5Gg NR
- rsrfsiggen\_FileSettings - renaming C5G to OFDM, adding 5G NR
- rsrfsiggen\_GenerateWaveformFile - renaming C5G to OFDM, adding 5G NR

See the **rsrfsiggen\_vxi.chm** file for detailed description.

## 3 Getting Started

### LabWindows/CVI driver

The Rohde & Schwarz **rsrfsiggen** Instrument driver can be used in LabWindows/CVI 6 and later. In order to be able to compile an application it is required to add following files to your LabWindows/CVI project:

- *rsrfsiggen.c* + *rsrfsiggen.h*
- *rsrfsiggen\_attributes.c* + *rsrfsiggen\_attributes.h*
- *rsrfsiggen\_utility.c* + *rsrfsiggen\_utility.h*
- *rscore.c* + *rscore.h*
- *rsrfsiggen\_callbacks.c*
- *rsrfsiggen.fp* + *rsrfsiggen.sub*

### VXIplug&play driver in C/C++, LabWindows/CVI

The compiled source code from LabWindows/CVI driver is used. The compiled ANSI-C libraries exist for Windows 7 64-bit and newer.

Add the following files to your 64-bit target project:

- C:\Program Files\IVI Foundation\VISA\Win64\Include\rsrfsiggen.h
- C:\Program Files\IVI Foundation\VISA\Win64\Lib\_x64\msc\rsrfsiggen64.lib (static)
- C:\Program Files\IVI Foundation\VISA\Win64\Bin\rsrfsiggen\_64.dll (dynamic)
- C:\Program Files\IVI Foundation\VISA\Win64\rsrfsiggen\rsrfsiggen.fp (in CVI only)
- C:\Program Files\IVI Foundation\VISA\Win64\rsrfsiggen\rsrfsiggen.sub (in CVI only)

### VXIplug&play driver in MATLAB

MATLAB instrument driver **rsrfsiggen.mdd** can be found here:

**C:\Program Files\IVI Foundation\VISA\Win64\rsrfsiggen\rsrfsiggen.mdd**

For more, refer to [1MA171 - How to use R&S instrument in MATLAB](#)

### Linux and Mac OS X

To be able to use Rohde & Schwarz **rsrfsiggen** Instrument driver in Linux or macOS, the functioning VISA is required. Check out [R&S VISA](#) for Linux or macOS.

### Additional Help

LabWindows/CVI and VXIplug&play instrument driver contains the documentation in a compressed HTML format (Windows CHM help file **rsrfsiggen\_vxi.chm**):

**C:\Program Files\IVI Foundation\VISA\Win64\rsrfsiggen\rsrfsiggen\_vxi.chm**





## 4 Customer support

### **Technical support – where and when you need it**

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

### **Contact information**

Contact our customer support center at [www.rohde-schwarz.com/support](http://www.rohde-schwarz.com/support) or follow this QR code:

