LabWindows/CVI VXIpnp driver history for the R&S® RF and Microwave Analog Signal Generator

R&S®SMA100B

R&S®SMB100B

ROHDE&SCHWARZ

Make ideas real

Table of Contents

1 Supported Instruments

2 Revision history

Version 5.30.0 / 09 – 2024

Version 5.0.0 / 11 – 2022

Version 4.70.0 / 05 – 2021

Version 1.2.0 / 06 – 2019

Version 1.1.0 / 05 – 2018

Version 1.0.0 / 11 – 2017

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**
SMA100B	5.30	
SMB100B	5.30	

2 Revision history

Version 5.30.0 / 09 – 2024

* Updated for firmware 5.30
* New core 4.7.1

* New:
- Power Level Control (Class)
- System Configuration External RF (Class)
- RF Frontend (Class)
- General Settings (Class)
- Cable Correction (Class)
- Security (Class)
- HUMS (Class)
- rssmx_ConfigureRFUserCorrectionReferenceLevel
- rssmx_ConfigureChirpModulationPulseNumber
- rssmx_ConfigurePowerLevelControlState
- rssmx_ConfigurePowerLevelControlSensorSelect
- rssmx_ConfigurePowerLevelControlPeakPower
- rssmx_ConfigurePowerLevelControlSettings
- rssmx_PowerSPCTakeMeasurementAsTargetLevel
- rssmx_PowerSPCExecuteSingle
- rssmx_QueryPowerSPCWarning
- rssmx_ConfigurePowerAnalysisFrequencyMarker
- rssmx_ConfigurePowerAnalysisPowerMarker
- rssmx_ConfigurePowerAnalysisTimeMarker
- rssmx_CalibrationDataExport
- rssmx_ConfigureDelayedAdjustment
- rssmx_QueryCalibrationAdjustAllDelayed
- rssmx_ConfigureCalibrationLogging
- rssmx_ConfigureFrontPanelNumericKeypadLayout
- rssmx_ConfigureSystemTimeProtocol
- rssmx_MMEMoryRemoveDirectoryRecursive
- rssmx_ConfigureExternalRFAutoConnect
- rssmx_ExternalRFConnectAll
- rssmx_ExternalRFConnect
- rssmx_ExternalRFDisconnectAll
- rssmx_ExternalRFDisconnect
- rssmx_ExternalRFCleanAll
- rssmx_QueryExternalRFExternalInstrumentList

- rssmx_ConfigureExternalRFSymbolicName
- rssmx_QueryExternalRFDirection
- rssmx_QueryExternalRFInstrumentName
- rssmx_QueryExternalRFInstrumentInfo
- rssmx_QueryExternalRFRemoteConnectionStatus
- rssmx_ExternalRFSelectedConnectorTriggerConnection
- rssmx_ConfigureExternalRFSelectedConnectorSelectInstrument
- rssmx_QueryFrontendExternalInstrumentVersionAndOptions
- rssmx_QueryFrontendIntermediateFrequency
- rssmx_ConfigureFrontendCableCorrectionEnabled
- rssmx_QueryFrontendCableCorrectionFileCatalog
- rssmx_ConfigureFrontendCableCorrectionFileName
- rssmx_QueryFrontendRecommendedFrequencyRangeLower
- rssmx_ConfigureSecuritySanitize
- rssmx_ConfigureVolatileMode
- rssmx_ConfigureSecurityNetworkLANEnabled
- rssmx_ConfigureSecurityLANServices
- rssmx_ConfigureHUMSGeneralSettings
- rssmx_DeleteHUMSAllData
- rssmx_DeleteHUMSHistory
- rssmx_SaveHUMSDataFromInstrumentToFile
- rssmx_SaveHUMSHistory
- rssmx_QueryHUMSTagCatalog
- rssmx_AddHUMSTag
- rssmx_DeleteHUMSTag
- rssmx_DeleteAllHUMSTags
- rssmx_QueryHUMSTagByID
- rssmx_ConfigureHUMSSNMPVersion
- rssmx_ConfigureHUMSREST
- rssmx_QueryHUMSRESTState
- rssmx_ConfigureHUMSSNMPAdminInformation
- rssmx_ConfigureHUMSSNMPCommunity
- rssmx_AddHUMSSNMPUser
- rssmx_DeleteHUMSSNMPUser
- rssmx_DeleteAllHUMSSNMPUsers
- rssmx_QueryHUMSSNMPUserList

Version 5.0.0 / 11 – 2022

* Updated for firmware 5.00
* New core 4.3.0

* New:
- rssmx_ConfigureRFFrequencyPhaseContinuity
- rssmx_QueryRFFrequencyPhaseContinuityMaxMin
- rssmx_ConfigureALCExternalDetector
- rssmx_QueryRFFrequencySweepBlankPoints
- rssmx_ConfigurePowerAnalysisMathAxis
- rssmx_ConfigurePowerAnalysisSource

* Fixed RsSmx_rngClockSynthesisPower range to -24..+30

* Modified:
- rssmx_ConfigureClockSynthesisOutputSignal - range fixed at Level parameter

Version 4.70.0 / 05 – 2021

* Version 4.70.0
* Update for firmware 4.70
* Aligned version of the driver with the version of the instrument firmware
* New Core 4.0.0. 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.

* New:
- rssmx_QueryRFLevelUninterruptedRange
- rssmx_QueryRFLevelRange
- rssmx_QueryALCMode
- rssmx_ConfigureChirpModulationEnabled
- rssmx_ConfigureChirpModulationSettings
- rssmx_QueryChirpModulationCompressionRatio
- rssmx_ExecuteChirpModulationSingleTrigger
- rssmx_ConfigureRFCombinedSweepState
- rssmx_ConfigureRFCombinedSweepMode
- rssmx_ConfigureRFCombinedSweepTriggerSource
- rssmx_ConfigureRFCombinedSweepRetrace
- rssmx_ExecuteRFCombinedSingleSweep
- rssmx_ConfigureRFCombinedSweepShape
- rssmx_ConfigureRFCombinedSweepDwellTime
- rssmx_ConfigureRFCombinedSweepFrequencyStartStop
- rssmx_ConfigureRFCombinedSweepLevelStartStop
- rssmx_ConfigureRFCombinedSweepStepCount
- rssmx_AddPowerSensorMappingUSBSensor
- rssmx_AddPowerSensorMappingLANSensor
- rssmx_RemovePowerSensorMappingLANSensors
- rssmx_RemovePowerSensorMappingUSBSensors
- rssmx_RemoveAllPowerSensorMappingSensors

* Modified:
- rssmx_ConfigureRFFrequencyMode - Parameter added
- rssmx_ConfigureClockSynthesisOutputSignal - Frequency range removed

* Deleted:
- rssmx_CheckAttributeViInt32
- rssmx_CheckAttributeViReal64
- rssmx_CheckAttributeViString
- rssmx_CheckAttributeViBoolean
- rssmx_CheckAttributeViSession
- rssmx_SetAttributeViSession
- rssmx_GetAttributeViSession
- rssmx_ReadInstrData

Version 1.2.0 / 06 – 2019

* Update for firmware 4.60
* New core 3.5.0
* Added support for Avionic Standards, Power Analysis subsystems.
* New:
- rssmx_ConfigureAMSettings
- rssmx_ConfigureAMDeviationMode
- rssmx_ConfigureAMDepthTotal

- rssmx_ConfigureFMDeviationMode
- rssmx_ConfigureFMDeviationTotal
- rssmx_ConfigurePMDeviationMode
- rssmx_ConfigurePMDeviationTotal
- rssmx_TriggerPulseGenerator
- rssmx_ConfigureSweepType
- rssmx_ConfigureRFFrequencySweepTime
- rssmx_TriggerLFFrequencySweepAuto
- rssmx_QueryReferenceOscillatorNominalSynchronizationBandwidth
- rssmx_QueryReferenceOscillatorMinimumLockingRange
- rssmx_RecallImmediate
- rssmx_SaveImmediate
- rssmx_ConfigureAutoSystemErrQuery
- rssmx_ConfigureMultiThreadLocking
- rssmx_GetAttributeRepCapName

* Modified:
- rssmx_ConfigureRFLevel - New setting characteristics

Version 1.1.0 / 05 – 2018

* Modified:
- rssmx_ConfigureALCEnabled - "Off" value added (for backward compatibility)
- rssmx_ConfigureRFLevel - Setting Characteristics - remove "User" value

* New attribute:
- RSSMX_ATTR_PGEN_MODE_DOUBLE (for backward compatibility)

Version 1.0.0 / 11 – 2017

Initial Release

3 Getting Started

LabWindows/CVI driver

The Rohde & Schwarz **rssmx** 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:

- *rssmx.c + rssmx.h*
- *rssmx_attributes.c + rssmx_attributes.h*
- *rssmx_utility.c + rssmx_utility.h*
- *rscore.c + rscore.h*
- *rssmx_callbacks.c*
- *rssmx.fp + rssmx.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\rssmx.h
- C:\Program Files\IVI Foundation\VISA\Win64\Lib_x64\msc\rssmx64.lib (static)
- C:\Program Files\IVI Foundation\VISA\Win64\Bin\rssmx_64.dll (dynamic)
- C:\Program Files\IVI Foundation\VISA\Win64\rssmx\rssmx.fp (in CVI only)
- C:\Program Files\IVI Foundation\VISA\Win64\rssmx\rssmx.sub (in CVI only)

VXIplug&play driver in MATLAB

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

C:\Program Files\IVI Foundation\VISA\Win64\rssmx\rssmx.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 **rssmx** 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 **rssmx_vxi.chm**):

C:\Program Files\IVI Foundation\VISA\Win64\rssmx\rssmx_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
or follow this QR code: