LabWindows/CVI, VxiPnp driver history for the R&S® Power Supplies

R&S®HMC804x

R&S®NGE10x

R&S®NGA

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Table of Contents

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**
HMC804x	1.400	
NGE10x	1.57	
NGA	4.008	

2 Revision history

Version 2.1.1 / 01 – 2024

* New core 4.6.0

* Fixed:
- Fixed inconsistence of channel settings after reset.
- For NGE devices, added querying of Instrument Options.

Version 2.1.0 / 07 – 2023

* New core 4.5.0

* Modified:
- rshmc804x_QueryOutputMode - Mode help updated
- RsHmc804x_rngQueriedOutputMode (RSHMC804X_ATTR_QUERY_MODE) - range table value changed from RSHMC804X_VAL_OUTPUT_MODE_VC - VC, to RSHMC804X_VAL_OUTPUT_MODE_CV - CV

Version 2.0.0 / 12 – 2021

- Added support for NGA instrument
- New core 4.2.1 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:
- rshmc804x_ConfigureChannelFusion
- rshmc804x_ConfigureOutputMode
- rshmc804x_QueryOutputMode
- rshmc804x_ConfigureVoltmeterEnabled
- rshmc804x_QueryVoltmeterValue
- rshmc804x_SystemOptions

- rshmc804x_SystemDeviceFootPrint

* Deleted:
- rshmc804x_SetAttributeViSession
- rshmc804x_GetAttributeViSession
- rshmc804x_CheckAttributeViInt32
- rshmc804x_CheckAttributeViReal64
- rshmc804x_CheckAttributeViString
- rshmc804x_CheckAttributeViBoolean
- rshmc804x_CheckAttributeViSession
- rshmc804x_ReadInstrData

Version 1.7.1 / 04 – 2019

- New core 3.7.0
* Fixed
- Fixed sporadic QUERY INTERRUPTED errors with HMC804x series
- Fixed init problem when compiled in LabWindows/CVI
- Improved help for rshmc804x_init(), rshmc804x_InitWithOptions()
- Optimized help texts for status codes
- Changed OPC timeout from 5 seconds to 10 seconds

Version 1.6.1 / 09 – 2019

- New core 3.6.1
* Fixed:
- rshmc804x_InitWithOptions() - skipping *OPT? which is not supported by all the instruments

* Modified:
- Text Formatting of the driver header and source file
- minor changes

Version 1.6.0 / 04 – 2019

- New core 3.4.0
- Changed USB and GPIB interface properties to Non-VXI
* New:
- rshmc804x_GetAttributeRepCapName
- rshmc804x_ConfigureAutoSystemErrQuery
- rshmc804x_ConfigureMultiThreadLocking
- rshmc804x_SetOPCTimeout
- rshmc804x_GetOPCTimeout

Version 1.5.2 / 11 – 2018

* Modified:
- rshmc804x_OutputEnabled_WriteCallback - bug fixed

Version 1.5.1 / 04 – 2018

- Make sure you use this instrument driver with HMC804x firmware 1.400 (12/2017) or newer
- Improved performance for NGE10x and HMC804x instruments over LAN, GPIB, USB-TMC

Version 1.5.0 / 12 – 2017

- IVI.NET Shared components 1.4.0 referenced
- Fixed Outputs.Configure(), Outputs.ChannelOnlyEnabled, Outputs.MasterEnabled for NGE10x instruments

Version 1.4.1 / 08 – 2017

Bug fixes:
- rshmc804x_close
- rshmc804x_QueryViBoolean
- rshmc804x_QueryViInt32
- rshmc804x_QueryViReal64
- rshmc804x_QueryViString

Version 1.4.0 / 03 – 2017

* Added support for NGE10x

Version 1.3.0 / 02 – 2017

* Added additional delay before each viRead and viWrite. Default value is set to 50ms, but can be changed during initialization using option string. Use syntax i.e. "WriteDelay=100,ReadDelay=50"
* New:
- rshmc804x_SetVISATimeout
- rshmc804x_GetVISATimeout
* Modified:
- *WAI sync replaced by *OPC? sync

Version 1.2.0 / 04 – 2016

- rshmc804x_ClearStatus
- rshmc804x_IDQueryResponse
- rshmc804x_ProcessAllPreviousCommands
- rshmc804x_QueryOPC
* Modified:
- rshmc804x_ConfigureAllOutputEnabled - renamed to rshmc804x_ConfigureChannelOnlyEnabled, added parameter Channel
- RSHMC804X_ATTR_OUTPUTS_SELECT_ALL_CHANNEL - renamed to RSHMC804X_ATTR_CHANNEL_ONLY_ENABLED
- RSHMC804X_ATTR_CHANNEL_ONLY_ENABLED - added *WAI to force synchronization

Version 1.02 / 01 – 2015

* Added MATLAB custom driver
* Added MATLAB snippet codes to functions and attributes help file
* Modified:
- RSHMC804X_ATTR_OUTPUTS_SELECTED_CHANNEL - added *WAI to force synchronization
- RSHMC804X_ATTR_OUTPUTS_ENABLED - added *WAI to force synchronization
- Fixed USB-TMC communication

Version 1.01 / 10 – 2014

Fixed value of RSHMC804X_ATTR_ID_QUERY_RESPONSE attribute causing driver initialization to fail

Version 1.0.0 / 02 – 2014

* Initial release

3 Getting Started

LabWindows/CVI driver

The Rohde & Schwarz **rshmc804x** 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:

- *rshmc804x.c + rshmc804x.h*
- *rshmc804x_attributes.c + rshmc804x_attributes.h*
- *rshmc804x_utility.c + rshmc804x_utility.h*
- *rscore.c + rscore.h*
- *rshmc804x_callbacks.c*
- *rshmc804x.fp + rshmc804x.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\rshmc804x.h
- C:\Program Files\IVI Foundation\VISA\Win64\Lib_x64\msc\rshmc804x64.lib (static)
- C:\Program Files\IVI Foundation\VISA\Win64\Bin\rshmc804x_64.dll (dynamic)
- C:\Program Files\IVI Foundation\VISA\Win64\rshmc804x\rshmc804x.fp (in CVI only)
- C:\Program Files\IVI Foundation\VISA\Win64\rshmc804x\rshmc804x.sub (in CVI only)

VXIplug&play driver in MATLAB

MATLAB instrument driver **rshmc804x.mdd** can be found here:

C:\Program Files\IVI Foundation\VISA\Win64\rshmc804x\rshmc804x.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 **rshmc804x** 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 **rshmc804x_vxi.chm**):

C:\Program Files\IVI Foundation\VISA\Win64\rshmc804x\rshmc804x_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: