

# LabVIEW driver history for the R&S® Spectrum Analyzers 2.x Driver Documentation

## Products:

| R&S®FSP



| R&S®FMU



| R&S®FSU



| R&S®FSG



| R&S®FSQ



| R&S®FSL



Driver history for LabVIEW

# Table of Contents

<b>1</b>	<b>Supported Instruments.....</b>	<b>3</b>
<b>2</b>	<b>Installation of the LabVIEW driver .....</b>	<b>4</b>
2.1	Installation on a Windows machine.....	4
2.2	Installation on a non-Windows machine.....	5
<b>3</b>	<b>LabVIEW driver History .....</b>	<b>6</b>
<b>4</b>	<b>Installation of the LabVIEW driver .....</b>	<b>15</b>
4.1	Installation on a Windows machine.....	16
4.2	Installation on a non-Windows machine.....	16

# 1 Supported Instruments

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

Which instruments are supported?		
Current revision of instrument driver supports these instruments and firmware versions:		
Instrument	Supported Firmware	Remarks
FSP	4.50	
FSU	4.71	
FSQ	4.75	
FMU	4.78	
FSG	4.79	
FSL	2.0	
FSW	1.80	Limited compatibility up to FW 1.80
FSV	2.0	Limited compatibility up to FW 2.00
FSVR	1.63	Limited compatibility up to FW 1.63

## 2 Installation of the LabVIEW driver

**Before you start the installer, please close your LabVIEW application.**

### 2.1 Installation on a Windows machine

The driver is distributed as a WinZip self-extracting executable file. Installer supported operation systems: WinXP, Win7, Win8, Win10.

Preconditions:

- LabVIEW 2010 or newer installed
- Any VISA installed – R&S VISA 5.5.4 or newer / NI VISA 5.4 or newer

When you start the driver WinZip installer, the following steps are being performed:

1. Unpacking of the driver's **instr.lib** and **user.lib** directories content as well as the **Installer.vi** into a temporary folder: **C:\temp\rsspecan-lv-2.8.2**  
The driver is compiled in LabVIEW 2010 64-bit. From there you can copy to another location or run the **Installer.vi** manually later. The content of the temporary folder is not deleted after the installation is finished. Starting the same installation again will overwrite all the data in this temporary folder.
2. After unpacking, the **Installer.vi** is automatically started in the last opened version of LabVIEW.  
In case you have more than one version of LabVIEW installed on your machine, make sure that the last opened LabVIEW version is the one in which you want to use the driver. If that is not the case, cancel the installation at this point, open and close your desired LabVIEW version and run the installer again. You can have the driver installed parallel for more LabVIEW versions by repeating the installation process for each desired version.
3. On the installer options page you have a choice to uncheck the **Mass-compiling** option (**not recommended, because of the driver's performance penalty as well as VIs opening times**) and also you can change the location of the **instr.lib** part of the driver. **user.lib** part must be placed in the default location, otherwise the Express VI configuration will not function.  
On this page you also see the actual LabVIEW version.  
Hitting **Next** button will first delete the old driver (if it existed), copy the new driver and mass-compile it.
4. The next window allows for selection of options to be installed. Select the options you plan to use, or use the choice '**Install All Options**'.
5. The LabVIEW is closed and after starting it again the driver is ready for use.

## 2.2 Installation on a non-Windows machine

In case you would like to install the driver on a non-Windows machine, use a Windows machine to start the driver's WinZip self-extracting executable file. **This machine does not need to have LabVIEW installed.**

After the **Step 1** from the previous chapter is finished, copy the content of the temporary folder to your target machine and start the **Installer.vi** manually. From that point onwards, the installation process is the same as described in the previous chapter Steps 2, 3, and 4.

## 3 LabVIEW driver History

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
2.8.2	03/2018	<p>Corrected all VI Descriptions</p> <p>New Utility VIs: rsspecan Configure Error Checking.vi, rsspecan Bin Data From File To Instrument.vi, rsspecan Bin Data To File From Instrument.vi</p> <p>New driver core 6.10.0</p> <p>All driver's Express VIs have new instances with colored icons based on the attribute data type</p> <p>All Front Panels with Frequency Controls/Indicators have changed display format to SI</p> <p>New Help file format</p>
2.8.1	02/2018	Initialize.vi, Initialize with Options.vi, Close.vi and Utility VIs have new VI icons
2.8.0	03/2017	<p>Version 2.8.0</p> <p>Exchanged Driver Core 6.7.1 that supports Simulation mode and Logging</p> <p>All VISA resource name inputs are mandatory</p> <p>Changed Palette Icons</p> <p>Cleaned up all the Front Panels and Block Diagrams</p> <p>Several bugfixes</p>
2.7.4	12/2015	<p>Driver icons common text changed from "SPECAN" to "SPEC 2.x" and the background color changed to red. This allows for the easy recognition when co-existing with the rsspecan driver branch 3.x</p> <p>Added Express VI custom Match First string function</p>
2.7.3	01/2015	<p>Express VI version 3.0.0</p> <p>Added Crosslinks.bin file for QuickDrop SCPI command searcher</p> <p>Added Forced decimal character "%." to all formatting/scanning functions</p>
2.7.2	12/2014	<p>Coexistence with rsspecan 3.x.x</p> <p>Express VI version 2.1.0</p>
2.7.1	01/2014	<p>Fixed order of repeated capabilities in:</p> <ul style="list-style-type: none"> <li>rsspecan Move Marker.vi</li> <li>rsspecan Query Marker.vi</li> <li>rsspecan Marker Search.vi</li> </ul>
2.7.0	08/2013	<p>Support for FSW 1.80 added</p> <p>Cosmetic changes in help texts</p> <p>New VI's:</p> <p>Parameter Spectrum</p> <p>rsspecan Select Realtime Spectrum Measurement.vi</p> <p>rsspecan Fetch Phase Spurs Discrete.vi</p> <p>rsspecan Fetch Phase Spurs Random.vi</p> <p>rsspecan Fetch Phase Integrated Phase Noise.vi</p> <p>rsspecan Fetch Phase User Integrated Phase Noise.vi</p> <p>rsspecan Configure Wlan Burst.vi</p> <p>rsspecan Configure Wlan IQ Compensation.vi</p>

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		rsspecan Configure Wlan Burst Unit.vi rsspecan Fetch Wlan Burst Payload.vi rsspecan Fetch Wlan Burst Peak.vi rsspecan Fetch Wlan Burst Preamble.vi rsspecan Fetch Wlan Burst Start.vi rsspecan Query LTE Downlink Measurement EVMS DSF Average.vi rsspecan Query LTE Downlink Measurement RSSI.vi rsspecan Configure LTE Uplink MIMO.vi rsspecan Configure LTE Uplink Transient Slots.vi Modified: rsspecan Add Window.vi rsspecan Replace Window.vi rsspecan Query Window Type.vi rsspecan Configure Spectrogram FFT Window.vi rsspecan Get Spectrogram Time Stamp.vi rsspecan Read Spectrogram Trace Data.vi rsspecan Read Persistence Spectrum Trace Data.vi rsspecan Read Maxhold Trace Data.vi rsspecan Get Spectrogram X Axis Scaling.vi rsspecan Configure Multi Carrier Group Delay Settings.vi rsspecan Configure LTE Uplink Trigger.vi rsspecan Configure Preset Operating Mode.vi
2.6.1	07/2013	Cosmetic changes in help texts Modified: rsspecan Read Trace IQ Data.vi - removed byte swap
2.6.0	06/2013	Support for FSW version 1.70 added New VIs: rsspecan Configure LTE Downlink CSI RS State.vi rsspecan Configure LTE Downlink CSI RS.vi rsspecan Configure VSA Optimization.vi rsspecan Read GSM K10 Magnitude Capture Results.vi rsspecan Configure Noise Uncertainty Common Source.vi rsspecan Configure Noise Uncertainty Source Calibration Characteristics.vi rsspecan Configure Phase Digital PLL.vi rsspecan Configure LTE Downlink Measurement.vi rsspecan Configure LTE Downlink PDSCH Start Offset.vi rsspecan Configure LTE Uplink Sounding Reference Signal AN Simultaneous TX.vi rsspecan Configure Phase Decimation.vi rsspecan Fetch WLAN Burst Length.vi rsspecan Configure Pulse Result Parameter Distribution Bins.vi rsspecan Configure Pulse Result Parameter Distribution Power.vi

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		rsspecan Configure Pulse Result Parameter Distribution Timing.vi rsspecan Configure Pulse Result Parameter Distribution Frequency.vi rsspecan Configure Pulse Result Parameter Distribution Phase.vi Updated VIs: subsystem Parameter Trend.vi - changed to attributes, redesigned functionality rsspecan Add Window.vi - Frequency drift, Sweep result list, Pulse Parameter Distribution rsspecan Replace Window.vi - Frequency drift, Sweep result list, Pulse Parameter Distribution rsspecan Query Window Type.vi - Frequency drift, Sweep result list, Pulse Parameter Distribution rsspecan Configure Phase Trace Settings.vi - median rsspecan Configure VSA Capture Buffer.vi - Magnitude Overview Absolute
2.5.0	04/2013	Support for FSW version 1.61 added Support for FSV version 2.00 added New VIs: rsspecan Select Probe Connector.vi rsspecan Get Probe Type.vi rsspecan Query MSRA All Analysis Interval.vi rsspecan Configure MSRA Data Evaluation.vi rsspecan Configure Analog Baseband Fullscale Level.vi rsspecan Configure Analog Baseband Swap IQ.vi rsspecan Configure Pulse Result Automatic Range Scaling.vi rsspecan Query GSM K10 Trigger To Sync Number Of Acquisitions.vi rsspecan Configure Noise Single Frequency.vi rsspecan Configure WLAN Demodulation 802-11b g (DSSS).vi rsspecan Configure LTE Downlink PHICH Ng Parameter.vi rsspecan Configure LTE Downlink PHICH Enhanced Test Models.vi rsspecan Configure LTE Uplink PUSCH Hopping.vi rsspecan Configure LTE Uplink PRACH Structure.vi rsspecan Configure LTE Uplink PRACH Preamble Mapping.vi rsspecan Select Transducer Set.vi rsspecan Configure Transducer Set.vi rsspecan Query Transducer Set Catalog.vi rsspecan Delete Transducer Set.vi rsspecan Query Active Transducer Set.vi rsspecan Configure LTE Downlink PDSCH Power Ratio.vi Updated VIs: rsspecan Configure IF Output Source.vi rsspecan Add Window.vi rsspecan Replace Window.vi rsspecan Query Window Type.vi rsspecan Probe Micro Button Action.vi rsspecan Get Probe Information.vi



rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		rsspecan Configure WLAN Result Summary Display.vi rsspecan Set Status Register.vi rsspecan Get Status Register.vi rsspecan Configure WLAN Signal.vi
2.4.1	01/2013	Modifications: - RSSPECAN_ATTR_ATTENUATION - data type changed from INT to REAL, added write callback
2.4.0	11/2012	Modifications: Support for FSW version 1.60 added  Added: IEEE 802.11 class TD-SCDMA class MSR ACLR Configuration class rsspecan Duplicate Measurement Channel.vi rsspecan Configure MSRA Analysis Line.vi rsspecan Configure Analog Baseband Signal Calibration.vi rsspecan Configure Analog Demod Filter Manual.vi rsspecan Error List Specific Type.vi rsspecan Configure Trace Export.vi rsspecan Pulse Select IQ Data File.vi rsspecan Phase Copy To User Limit Line.vi Modified: rsspecan Set Status Register.vi - Extended, Extended Info added rsspecan Get Status Register.vi - Extended, Extended Info added rsspecan Read WLAN Memory IQ Data.vi rsspecan Add Window.vi - Window type - values 65 - 77 rsspecan Replace Window.vi - Window type - values 65 - 77 rsspecan Query Window Type.vi - Window type - values 65 - 77 rsspecan Configure Channel Power Standard.vi - MSR added rsspecan Configure Pulse Input Signal Source.vi - FIQ Functions moved to TD-SCDMA rsspecan Set TDS BS Mode.vi rsspecan Set TDS UE Mode.vi rsspecan Configure TDS BS Adapt To Signal.vi rsspecan Configure TDS UE Sync To Slot Mode.vi rsspecan Get TDS BS Result.vi rsspecan Get TDS UE Result.vi - New types: - Average RCDE of active channels - Channel Branch - Channel Slot Number - Average Power of the Inactive Codes

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		<ul style="list-style-type: none"> <li>- Modulation Type</li> <li>- Number of Pilot Bits</li> <li>- Total Power</li> <li>- Timing Offset</li> </ul> rsspecan Fetch TDS BS Trace.vi rsspecan Fetch TDS UE Trace.vi Channel Table - whole class moved from K76 - TD-SCDMA BTS Mode affected VIs: rsspecan TDS BS Channel Table Operations.vi rsspecan Configure TDS BS Channel Table Comment.vi rsspecan Configure TDS BS Channel Table Data.vi rsspecan Configure TDS BS Channel Table Order.vi rsspecan Configure TDS BS Channel Table Midamble Shift.vi rsspecan Configure TDS BS Channel Table Max Modulation.vi rsspecan Get TDS BS Channel Table Catalog.vi
2.3.0	09/2012	Modifications:  Support for FSV version 1.71SP3 added Support for FSW version 1.51 added Added: rsspecan Configure Analog Demod Predefined Stag2 ndard.vi rsspecan Configure Frequency Mask Span.vi rsspecan Configure Frequency Mask State.vi rsspecan Configure Noise Uncertainty Analyzer Characteristics.vi rsspecan Configure Noise Uncertainty DUT Characteristics.vi rsspecan Configure Noise Uncertainty Measurement Values.vi rsspecan Configure Noise Uncertainty Source Characteristics.vi rsspecan Configure Phase Tracking BW.vi rsspecan Configure Pulse Measurement Point Avaraging Window.vi rsspecan Configure WLAN Result Summary Display.vi rsspecan Frequency Mask Window.vi rsspecan Query Frontend Temperature.vi rsspecan Query Noise Uncertainty.vi rsspecan Query Window Type.vi rsspecan Select Analog Demod Trace.vi rsspecan Configure Noise ENR Calibration Settings.vi rsspecan Configure Noise ENR Common Mode.vi rsspecan Select Noise ENR Calibration Table.vi rsspecan Query Spectrum Analyzer Uncertainty.vi Modified:

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		rsspecan Configure Sweep Optimization.vi rsspecan Add Window.vi rsspecan Replace Window.vi rsspecan Query Noise Marker Amplitude.vi rsspecan Configure VSA Compensation.vi rsspecan Get VSA Result.vi rsspecan Trace IQ Set.vi - ranges removed rsspecan Trace IQ Sampling Rate.vi - ranges removed rsspecan Trace IQ Record Length.vi - ranges removed rsspecan Trace IQ Averaging.vi - ranges removed rsspecan Configure Trace IQ Gate.vi - ranges removed Frequency Mask Triggering - whole class moved from K14 - Realtime Spectrum Analysis to Base system (Trigger) - now available for R&S FSV - LTE rsspecan affected VIs: rsspecan Configure Frequency Mask Trigger Source.vi rsspecan Configure Frequency Mask.vi rsspecan Configure Frequency Mask Directory.vi rsspecan Delete Frequency Mask.vi rsspecan Configure Frequency Mask Condition.vi rsspecan Configure Frequency Mask Shape.vi rsspecan Configure Frequency Mask Auto.vi rsspecan Configure Frequency Mask Shift.vi
2.2.0	08/2012	Modifications:  Support for FSV version 1.71 added Support for FSW version 1.42 added Added support for R&S FSW K17 - Multi Carrier Group Delay  rsspecan_core.lvlib version 4.0.0 Added: rsspecan Configure User Settings Softkey.vi rsspecan Export Pulse Result Table.vi rsspecan Configure Phase AM Rejection.vi rsspecan Fetch Phase Spurs.vi rsspecan Fetch Phase Frequency Level.vi rsspecan Configure SEM MSR Settings.vi rsspecan Apply SEM MSR Settings.vi rsspecan Configure SEM Range Relative Limits Functions.vi rsspecan Configure Preset Operating Mode.vi rsspecan Initiate Sequencer.vi rsspecan Abort Sequencer.vi

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		rsspecan Refresh Sequencer.vi rsspecan Configure Sequencer State.vi rsspecan Configure Sequencer Mode.vi rsspecan MSRA Mode.vi rsspecan Query MSRA Analysis Interval.vi rsspecan MSRA Refresh.vi rsspecan Configure MSRA Capture Offset.vi rsspecan Configure LTE Uplink TDD Special Subframe.vi rsspecan Configure LTE Downlink TDD Special Subframe.vi rsspecan Configure LTE Downlink Y-Axis Scaling.vi rsspecan Configure LTE Uplink Y-Axis Scaling.vi rsspecan Link All Markers.vi rsspecan VSA Load User Modulation.vi Modified: RSSPECAN_ATTR_NOISE_INP_PRES_STAT - moved to base system, option and model limits removed RSSPECAN_ATTR_EMI_RESOLUTION_BANDWIDTH_FILTER_TYPE - command parameter changed from CISP to PULS rsspecan Add Window.vi - added Spurs, Group Delay, Phase, Reference Magnitude, Referenece Phase rsspecan Replace Window.vi - added Spurs, Group Delay, Phase, Reference Magnitude, Referenece Phase rsspecan Add Measurement Channel.vi - added GSM, WLAN, LTE rsspecan Replace Measurement Channel.vi - added GSM, WLAN, LTE rsspecan Set Status Register.vi rsspecan Get Status Register.vi rsspecan Configure LTE Uplink PUCCH Structur.vie rsspecan Configure LTE Downlink Subframe Selection.vi - range modified rsspecan Configure LTE Uplink Subframe Selection.vi - range modified rsspecan Configure VSA Modulation Settings.vi - added modulations for FSW
2.1.0	04/2012	Modifications:  rsspecan_core.lmlib version 2.2.0 Support for FSW version 1.30 added Support for FSQ version 4.70 SP3 added Modified: Control Window was changed in all control panels Window range checking was removed in all VIs rsspecan Configure IF Output Source.vi - FSW support rsspecan Store Trace to File.vi - trace range for FSW changed rsspecan Configure IF Power Trigger Parameters.vi - FSW support rsspecan Configure RF Power Trigger.vi - FSW support rsspecan Create Limit Line.vi - Help, Assign to Trace range 1 to 4 rsspecan Configure Display Marker Table.vi - FSW support

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		<p>           rsspecan Configure Auto Adjust Hysteresis.vi - FSW support            rsspecan Configure Auto Adjust Trigger State.vi - FSW support            rsspecan Configure Channel Power Noise Correction Auto.vi - FSW support            rsspecan Define Noise Limit Line.vi - Result type is not for FSW            rsspecan Assign Marker To Trace.vi - range for FSW changed            rsspecan Configure Phase Carrier Frequency Offset Table.vi - IQ FFT added            rsspecan Configure Phase Preset Settings.vi - IQ FFT added            rsspecan Trace IQ Sampling Rate.vi - range for FSQ same as for FMU            rsspecan Query GSM K10 Statistic Count.vi - Supports all instruments            rsspecan Configure GSM K10 Modulation Transient Spectrum Additional.vi - Supports all instrument            rsspecan Configure Wlan Standard.vi - values 6, 7 no longer only for FSV            rsspecan Configure WLAN Number Of Antennas.vi - for FSQ only 2 antennas            rsspecan Configure WLAN Simultaneous Capture State.vi - Supports all instruments            rsspecan Configure WLAN Tracking Pilots.vi - Supports all instruments            rsspecan Add Window.vi - added Window Types for K30, K40            rsspecan Replace Window.vi - added Window Types for K30, K40            rsspecan Configure Display Multiple Zoom.vi - incorrect attribute used            rsspecan Configure Noise Frequency Settings.vi - FSW checking added            rsspecan Configure Noise Measurement Mode.vi - FSW checking added            rsspecan Configure Noise Trace Settings.vi - repeated capability Window added            rsspecan Configure Noise Gain Trace Settings.vi - repeated capability Window added            rsspecan Enable Noise Limit Check.vi - repeated capability Window added            rsspecan Clear Noise Limit Line Results.vi - repeated capability Window added            rsspecan Get Noise Limit Check Result.vi - repeated capability Window added            rsspecan Configure Phase Spot Noise Settings.vi            rsspecan Read Phase Trace Data.vi            Added:            K6 Pulse Measurement support            Channel Subsystem            rsspecan Select Window.vi            rsspecan Assign Noise Limit Line To Trace.vi            rsspecan Query Noise Results.vi            rsspecan Configure Sweep Optimization.vi            RSSPECAN_ATTR_SWEEP_OPTIMIZATION            rsspecan Trace IQ Maximum Bandwidth Extension.vi            RSSPECAN_ATTR_IQ_MAX_BANDWIDTH_EXTENSION            rsspecan Link Marker To Another Marker.vi            RSSPECAN_ATTR_MARKER_LINK_TO_MARKER            rsspecan Link Delta Marker To Another Marker.vi            RSSPECAN_ATTR_DELTA_MARKER_LINK_TO_MARKER            rsspecan Configure IQ Power Trigger.vi         </p>

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		RSSPECAN_ATTR_TRIGGER_IQP_LEVEL rsspecan Configure RF Power Trigger Holdoff.vi RSSPECAN_ATTR_TRIGGER_RFP_HOLDOFF rsspecan Configure Display Measurement Window State.vi RSSPECAN_ATTR_DISP_MEAS_WINDOW_STATE rsspecan Query Active Measurement Window.vi RSSPECAN_ATTR_QUERY_ACTIVE_MEASUREMENT_WINDOW rsspecan Noise ENR Table Operations.vi RSSPECAN_ATTR_NOISE_CORR_ENR_TABLE_SELECT RSSPECAN_ATTR_NOISE_CORR_ENR_TABLE_DELETE rsspecan Noise Loss Input Table Operations.vi RSSPECAN_ATTR_NOISE_CORR_LOSS_INPUT_TABLE_SELECT RSSPECAN_ATTR_NOISE_CORR_LOSS_INPUT_TABLE_DELETE rsspecan Noise Loss Output Table Operations.vi RSSPECAN_ATTR_NOISE_CORR_LOSS_OUTPUT_TABLE_SELECT RSSPECAN_ATTR_NOISE_CORR_LOSS_OUTPUT_TABLE_DELETE rsspecan Configure Noise Limit Line Type.vi RSSPECAN_ATTR_NOISE_LIMIT_LINE_TYPE rsspecan Query Noise Marker Amplitude.vi RSSPECAN_ATTR_NOISE_MARKER_AMPLITUDE rsspecan Configure Phase Display Y Axis Settings.vi RSSPECAN_ATTR_PHASE_Y_AXIS_MANUAL_SCALING RSSPECAN_ATTR_PHASE_DISP_TRACE_Y_RLEV RSSPECAN_ATTR_PHASE_DISP_TRACE_Y_BOTTOM RSSPECAN_ATTR_PHASE_DISP_TRACE_Y RSSPECAN_ATTR_PHASE_DISP_TRACE_Y_AUTO rsspecan Configure Phase Display X Axis Settings.vi RSSPECAN_ATTR_PHASE_X_AXIS_SCOPE RSSPECAN_ATTR_PHASE_X_AXIS_START_FREQUENCY RSSPECAN_ATTR_PHASE_X_AXIS_STOP_FREQUENCY RSSPECAN_ATTR_PHASE_X_AXIS_HALF_DECADE rsspecan Configure Phase Trace Custom Range.vi RSSPECAN_ATTR_PHASE_USER_TRACE rsspecan Configure Phase User Residual Calculations.vi RSSPECAN_ATTR_PHASE_USER_EVALUATE_FROM RSSPECAN_ATTR_PHASE_USER_EVALUATE_TO rsspecan Configure Phase Spot Noise Calculation.vi RSSPECAN_ATTR_PHASE_SPOT_NOISE_CALCULATION rsspecan Configure Phase Spur Settings.vi RSSPECAN_ATTR_PHASE_SPUR_SUPPRESSION RSSPECAN_ATTR_PHASE_SPUR_THRESHOLD

rsspecan Instrument Driver																																						
Driver history for LabVIEW																																						
Revision	Date	Note																																				
		rsspecan Configure Phase Signal Verification Failed.vi RSSPECAN_ATTR_PHASE_SIGNAL_VERIFICATION_FAILED rsspecan Configure Phase Global IQ Window Settings.vi RSSPECAN_ATTR_PHASE_IQ_WINDOW_FUNCTION_PARTICULAR_DECADE RSSPECAN_ATTR_PHASE_IQ_WINDOW_FUNCTION_ALL_DECADE rsspecan Configure Phase Noise Limit Settings.vi rsspecan Get Phase Noise Limit Check State.vi rsspecan Get Active Phase Limit Line.vi RSSPECAN_ATTR_LIMIT_LINE_ACTIVE rsspecan Fetch Phase Residual User Results.vi rsspecan Get Phase Decade Spot Noise Result.vi rsspecan Configure C2K Power Display.vi RSSPECAN_ATTR_C2K_CDP_DISPLAY rsspecan Configure WLAN MIMO Payload Length Source.vi RSSPECAN_ATTR_WLAN_MIMO_PAYLOAD_LENGTH_SOURCE																																				
2.0.0	03/2012	Modifications:  * <b>Changed list of supported instruments - see chapter "Supported Instruments"</b> In the following table, the supported R&S instruments and firmware versions are listed:  <table border="1"> <thead> <tr> <th colspan="3">Which instruments are supported?</th> </tr> <tr> <th colspan="3">Current revision of instrument driver supports these instruments and firmware versions:</th> </tr> <tr> <th>Instrument</th> <th>Supported Firmware</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>4.50</td> <td></td> </tr> <tr> <td>FSU</td> <td>4.71</td> <td></td> </tr> <tr> <td>FSQ</td> <td>4.75</td> <td></td> </tr> <tr> <td>FMU</td> <td>4.78</td> <td></td> </tr> <tr> <td>FSG</td> <td>4.79</td> <td></td> </tr> <tr> <td>FSL</td> <td>2.0</td> <td></td> </tr> <tr> <td>FSW</td> <td>1.80</td> <td>Limited compatibility up to FW 1.80</td> </tr> <tr> <td>FSV</td> <td>2.0</td> <td>Limited compatibility up to FW 2.00</td> </tr> <tr> <td>FSVR</td> <td>1.63</td> <td>Limited compatibility up to FW 1.63</td> </tr> </tbody> </table> <h2>4 Installation of the LabVIEW driver</h2> <p><b>Before you start the installer, please close your LabVIEW application.</b></p>	Which instruments are supported?			Current revision of instrument driver supports these instruments and firmware versions:			Instrument	Supported Firmware	Remarks	FSP	4.50		FSU	4.71		FSQ	4.75		FMU	4.78		FSG	4.79		FSL	2.0		FSW	1.80	Limited compatibility up to FW 1.80	FSV	2.0	Limited compatibility up to FW 2.00	FSVR	1.63	Limited compatibility up to FW 1.63
Which instruments are supported?																																						
Current revision of instrument driver supports these instruments and firmware versions:																																						
Instrument	Supported Firmware	Remarks																																				
FSP	4.50																																					
FSU	4.71																																					
FSQ	4.75																																					
FMU	4.78																																					
FSG	4.79																																					
FSL	2.0																																					
FSW	1.80	Limited compatibility up to FW 1.80																																				
FSV	2.0	Limited compatibility up to FW 2.00																																				
FSVR	1.63	Limited compatibility up to FW 1.63																																				

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		<h2>1 Installation on a Windows machine</h2> <p>The driver is distributed as a WinZip self-extracting executable file. Installer supported operation systems: WinXP, Win7, Win8, Win10.</p> <p>Preconditions:</p> <ul style="list-style-type: none"> <li>- LabVIEW 2010 or newer installed</li> <li>- Any VISA installed – R&amp;S VISA 5.5.4 or newer / NI VISA 5.4 or newer</li> </ul> <p>When you start the driver WinZip installer, the following steps are being performed:</p> <ol style="list-style-type: none"> <li>6. Unpacking of the driver's <b>instr.lib</b> and <b>user.lib</b> directories content as well as the <b>Installer.vi</b> into a temporary folder: <b>C:\temp\rsspecan-lv-2.8.2</b> The driver is compiled in LabVIEW 2010 64-bit. From there you can copy to another location or run the <b>Installer.vi</b> manually later. The content of the temporary folder is not deleted after the installation is finished. Starting the same installation again will overwrite all the data in this temporary folder.</li> <li>7. After unpacking, the <b>Installer.vi</b> is automatically started in the last opened version of LabVIEW. In case you have more than one version of LabVIEW installed on your machine, make sure that the last opened LabVIEW version is the one in which you want to use the driver. If that is not the case, cancel the installation at this point, open and close your desired LabVIEW version and run the installer again. You can have the driver installed parallel for more LabVIEW versions by repeating the installation process for each desired version.</li> <li>8. On the installer options page you have a choice to uncheck the <b>Mass-compiling</b> option (<b>not recommended, because of the driver's performance penalty as well as VIs opening times</b>) and also you can change the location of the <b>instr.lib</b> part of the driver. <b>user.lib</b> part must be placed in the default location, otherwise the Express VI configuration will not function. On this page you also see the actual LabVIEW version. Hitting <b>Next</b> button will first delete the old driver (if it existed), copy the new driver and mass-compile it.</li> <li>9. The next window allows for selection of options to be installed. Select the options you plan to use, or use the choice '<b>Install All Options</b>'.</li> <li>10. The LabVIEW is closed and after starting it again the driver is ready for use.</li> </ol> <h2>2 Installation on a non-Windows machine</h2>



rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		<p>In case you would like to install the driver on a non-Windows machine, use a Windows machine to start the driver's WinZip self-extracting executable file. <b>This machine does not need to have LabVIEW installed.</b></p> <p>After the <b>Step 1</b> from the previous chapter is finished, copy the content of the temporary folder to your target machine and start the <b>Installer.vi</b> manually. From that point onwards, the installation process is the same as described in the previous chapter Steps 2, 3, and 4.</p> <p>”</p> <ul style="list-style-type: none"> <li>* Support for FSV version 1.70 added</li> <li>* Modified <ul style="list-style-type: none"> <li>- rsspecan_init - added option string "QueryInstrStatus=1"</li> <li>- rsspecan_ConfigureFilterType - added CISP, MIL Std RSSPECAN_ATTR_RESOLUTION_BANDWIDTH_FILTER_TYPE</li> <li>- rsspecan_ConfigureTriggerSource - added GP0 - GP5 RSSPECAN_ATTR_TRIGGER_SOURCE</li> <li>- rsspecan_ConfigureLimitLine - in code, DBPT for FSV added (upper range for FSV units increased)</li> <li>- rsspecan_ConfigureVSAMeasurementSignal - added I/Q Constellation (Rotated)</li> <li>- rsspecan_ConfigureWiMAXTrigger - added in FP, attribute - Falling &amp; Rising Edge RSSPECAN_ATTR_WIMAX_TRIG_MODE</li> <li>- rsspecan_ConfigureWlanStandard - added support for MIMO RSSPECAN_ATTR_WLAN_STAN</li> <li>- rsspecan_ConfigureLTEDownlinkSignalCharacteristics RSSPECAN_ATTR_LTE_DOWNLINK_CHANNEL_BANDWIDTH - 2.5 MHz not supported by FSV</li> <li>- rsspecan_ConfigureLTEUplinkSignalCharacteristics RSSPECAN_ATTR_LTE_UPLINK_CHANNEL_BANDWIDTH - 2.5 MHz not supported by FSV</li> <li>- rsspecan_ConfigureLTEUplinkTrigger - added IF Power for FSV (Different command string) RSSPECAN_ATTR_TRIGGER_MODE</li> <li>- Added *OPC query for these attributes: <ul style="list-style-type: none"> <li>RSSPECAN_ATTR_FMDEM_MODE</li> <li>RSSPECAN_ATTR_FMS_MODE</li> <li>RSSPECAN_ATTR_BTO_MODE</li> <li>RSSPECAN_ATTR_GSM_K10_MODE</li> <li>RSSPECAN_ATTR_REALTIME_MODE</li> <li>RSSPECAN_ATTR_GSM_K10_MODE_FSV</li> <li>RSSPECAN_ATTR_AVI_MODE</li> <li>RSSPECAN_ATTR_CATV_MODE</li> <li>RSSPECAN_ATTR_NOISE_MODE</li> <li>RSSPECAN_ATTR_PHASE_MODE</li> <li>RSSPECAN_ATTR_C2K_MODE</li> </ul> </li> </ul> </li> </ul>

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		<ul style="list-style-type: none"> <li>- rsspecan_WriteInstrData - added status checking</li> <li>* Added</li> <li>- rsspecan_ConfigureRemoteLoggingState RSSPECAN_ATTR_REMOTE_LOGGING_STATE</li> <li>- rsspecan_ProbeActivation RSSPECAN_ATTR_PROBE_ACTIVATION</li> <li>- rsspecan_ProbeMicroButtonAction RSSPECAN_ATTR_PROBE_MICRO_BUTTON_ACTION</li> <li>- rsspecan_GetProbeInformation RSSPECAN_ATTR_PROBE_CONNECTION_STATE RSSPECAN_ATTR_PROBE_NAME RSSPECAN_ATTR_PROBE_NUMBER</li> <li>- rsspecan_ConfigureAutoAdjustHysteresis RSSPECAN_ATTR_AUTO_ADJUST_HYSTERSIS</li> <li>- rsspecan_ConfigureAutoAdjustTriggerState RSSPECAN_ATTR_AUTO_ADJUST_TRIGGER_STATE</li> <li>- rsspecan_ReadYTracePrevious</li> <li>- rsspecan_ConfigureChannelPowerNoiseCorrectionAuto RSSPECAN_ATTR_MEAS_POW_NOISE_CORR_AUTO</li> <li>- rsspecan_QueryGSMK10StatisticCount RSSPECAN_ATTR_GSM_K10_STATISTIC_COUNT</li> <li>- rsspecan_ConfigureGSMK10ModulationTransientSpectrumAdditional RSSPECAN_ATTR_GSM_K10_MODULATION_TRANSIENT_SPECTRUM_FILTER_TYPE RSSPECAN_ATTR_GSM_K10_MODULATION_TRANSIENT_SPECTRUM_REF_POWER RSSPECAN_ATTR_GSM_K10_MODULATION_TRANSIENT_SPECTRUM_HIGH_DYNAMIC RSSPECAN_ATTR_GSM_K10_MODULATION_TRANSIENT_SPECTRUM_FREQUENCY_LIST</li> <li>- rsspecan_GSMK10RefreshCapturedData RSSPECAN_ATTR_GSM_K10_REFRESH_CAPTURED_DATA</li> <li>- rsspecan_EMIFinalMeasurementDeltaMarkerPeakSearch RSSPECAN_ATTR_EMI_FMEAS_DELTA_MARKER_PEAK_SEARCH</li> <li>- rsspecan_ConfigureVSAFineSynchronization RSSPECAN_ATTR_VSA_FINE_SYNC_AUTO RSSPECAN_ATTR_VSA_FINE_SYNC_MODE RSSPECAN_VAL_VSA_FINE_SYNC_KDAT</li> <li>- rsspecan_QueryVSAFineSynchronizationResult RSSPECAN_ATTR_VSA_FINE_SYNC_RESULT</li> <li>- rsspecan_ConfigureVSAKnownData RSSPECAN_ATTR_VSA_KNOWN_DATA_STATE RSSPECAN_ATTR_VSA_KNOWN_DATA_FILE_NAME</li> <li>- rsspecan_QueryVSABERResults RSSPECAN_ATTR_VSA_BER_BIT_ERROR_RATE</li> </ul>

rsspecan Instrument Driver		
Driver history for LabVIEW		
Revision	Date	Note
		<p>RSSPECAN_ATTR_VSA_BER_NUMBER_OF_ERRORS</p> <p>RSSPECAN_ATTR_VSA_BER_NUMBER_OF_BITS</p> <ul style="list-style-type: none"><li>- rsspecan_ConfigureVSAModulationAccuracyAdditional</li><li>- RSSPECAN_ATTR_VSA_RESULT_FORMAT - added RSUM, BER</li><li>- rsspecan_ConfigureWLANSimultaneousCaptureState</li></ul> <p>RSSPECAN_ATTR_WLAN_ANTENNA_SIMULTANEOUS_CAPTURE_STATE</p> <ul style="list-style-type: none"><li>- rsspecan_ConfigureWLANTrackingPilots</li></ul> <p>RSSPECAN_ATTR_WLAN_TRAC_PILOTS</p> <ul style="list-style-type: none"><li>- rsspecan_ConfigureLTEUplinkCodeBitsScrambling</li></ul> <p>RSSPECAN_ATTR_LTE_UPLINK_SCRAMBLING_OF_CODED_BITS</p> <ul style="list-style-type: none"><li>- rsspecan_ConfigureLTEUplinkSoundingReferenceSignalNRRC</li></ul> <p>RSSPECAN_ATTR_LTE_UPLINK_SOUNDING_REFERENCE_SIGNAL_N_RRC</p>

### **About Rohde & Schwarz**

Rohde & Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established more than 80 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

### **Environmental commitment**

- Energy-efficient products
- Continuous improvement in environmental sustainability
- ISO 14001-certified environmental management system



### **Regional contact**

Europe, Africa, Middle East

+49 89 4129 12345

[customersupport@rohde-schwarz.com](mailto:customersupport@rohde-schwarz.com)

North America

1-888-TEST-RSA (1-888-837-8772)

[customer.support@rsa.rohde-schwarz.com](mailto:customer.support@rsa.rohde-schwarz.com)

Latin America

+1-410-910-7988

[customersupport.la@rohde-schwarz.com](mailto:customersupport.la@rohde-schwarz.com)

Asia/Pacific

+65 65 13 04 88

[customersupport.asia@rohde-schwarz.com](mailto:customersupport.asia@rohde-schwarz.com)

R&S® is a registered trademark of Rohde & Schwarz GmbH & Co. KG; Trade names are trademarks of the owners.

**Rohde & Schwarz GmbH & Co. KG**

Mühlhofstraße 15 | D - 81671 München

Phone + 49 89 4129 - 0 | Fax + 49 89 4129 - 13777

[www.rohde-schwarz.com](http://www.rohde-schwarz.com)