

LabVIEW driver history for the R&S® Spectrum Analyzers Driver Documentation

Products:

| R&S®FSUP



R&S®FSH4/8



| R&S®FSMR



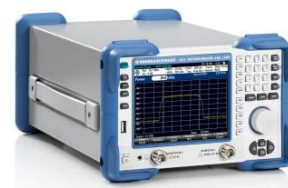
| R&S®ZVH



| R&S®ESL



| R&S®FSC



Driver history for LabVIEW

Table of Contents

1	Supported Instruments.....	3
2	Installation of the LabVIEW driver	4
2.1	Installation on a Windows machine.....	4
2.2	Installation on a non-Windows machine.....	5
3	LabVIEW driver history.....	6

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
FSUP	4.67	
FSMR	4.76	
ESL	1.81	
FSH4/8	2.50	
ZVH	2.50	
FSC	1.30	

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\rssafsup-lv-1.71.0**
The driver is compiled in LabVIEW 2010 32-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 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 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 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

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
1.71.0	11/2018	<p>New driver Core 6.31, all ExpressVI instances changed to the last version</p> <p>New Help file format with attribute hyperlinks</p> <p>Changed rssafsup Read Memory IQ Large Data.vi to use Queue</p> <p>Deleted rssafsup Get Probe Calibration Status.vi, rssafsup Read Memory IQ Large Data Block.vi</p> <p>Added VIs:</p> <ul style="list-style-type: none"> - rssafsup Query Frequency Center.vi - rssafsup Query Reference Level.vi - rssafsup Query Detected Signal Frequency.vi - rssafsup Query Detected Signal Reference Level.vi
1.70	03/2018	<p>* Non-functional changes.</p> <ul style="list-style-type: none"> - Fixed all VI and Control Description - Fixed and optimized all Palettes - rssafsup Initialize.vi, rssafsup Initialize with Options.vi, rssafsup Close.vi and Utility VIs have new VI icons - All Express VIs have new instances - New core 6.10.0
1.65	12/2017	<p>Removed WiMAX subsystem</p> <p>New core 6.8.1</p> <p>Changed multiple VI icons</p> <p>Other cosmetic changes</p> <p>New Help file format</p>
1.60.0	08/2017	Added FSH Receiver VIs
1.50.0	08/2017	<p>Exchanged Driver Core 6.7.1</p> <p>Added ZVH Network, Cable and Antenna Analyzer VIs</p> <p>RSSPECAN_ATTR_DTF_CABLE_MODEL CALC:DTF:CABL:PRES</p> <p>RSSPECAN_ATTR_DTF_CABLE_LENGTH CALC:DTF:CABL:LENG</p> <p>Several Bug-fixes</p>
1.40.0	02/2017	<p>Exchanged Driver Core 6.3.4 that enables Simulation mode</p> <p>All Express VI instances changed to new format with new context help</p> <p>Cleaned up all the Front Panels and Block Diagrams</p> <p>Changed Palette Icon and ExpressVI icon, Corrected Palette names</p> <p>Fixed all simulation run-time errors</p> <p>Several Bug-fixes</p>
1.30	05/2016	<p>Modified:</p> <ul style="list-style-type: none"> - changed prefix from rsspecan to rssafsup for co-existence with rsspecan2.x and rsspecan 3.x. The attributes still have the prefix RSSPECAN_ - changed driver icon stripes to green color for better distinction

rssfesup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - removed obsolete subsystems to reduce the driver size - improved error handling - all errors return complete call chain info, in case of Express VI instance the Instance title is reported. rssfesup Error Query.vi reads all the error from the queue and reports them cumulatively.
1.24	07/2014	<p>Added support for R&S FSH4/8, ZVH firmware 2.50</p> <p>New:</p> <p>rssfespecan Configure PWM Channel Bandwidth.vi rssfespecan Configure LTE Downlink Carrier.vi rssfespecan Configure LTE Downlink Bandwidth Carrier.vi rssfespecan Configure LTE Downlink Frequency Center Carrier.vi rssfespecan Configure LTE Downlink Frequency Input Mode Carrier.vi rssfespecan Configure LTE Downlink Channel Carrier.vi rssfespecan Configure LTE Downlink Channel Table Carrier.vi rssfespecan Configure LTE Downlink Occupied Bandwidth.vi rssfespecan Query LTE Downlink Measurement Sync Signal Carrier.vi rssfespecan Query LTE Downlink Measurement Reference Signal Carrier.vi rssfespecan Query LTE Downlink Measurement Frequency Error Carrier.vi rssfespecan Query LTE Downlink Detected Cell Identity Group Carrier.vi rssfespecan Query LTE Downlink Detected Cell Identity Carrier.vi rssfespecan Query LTE Downlink Cell Identity Carrier.vi rssfespecan Configure LTE Uplink Frequency Center Carrier.vi rssfespecan Configure LTE Uplink Frequency Input Mode Carrier.vi rssfespecan Configure LTE Uplink Channel Carrier.vi rssfespecan Configure LTE Uplink Channel Table Carrier.vi rssfespecan Configure LTE Uplink Occupied Bandwidth.vi rssfespecan Query LTE Uplink Measurement Reference Signal Carrier.vi rssfespecan Query LTE Uplink Measurement Frequency Error Carrier.vi rssfespecan Query LTE Uplink Measurement Frame Power Carrier.vi rssfespecan Query LTE Uplink Detected Cell Identity Group Carrier.vi rssfespecan Query LTE Uplink Detected Cell Identity Carrier.vi rssfespecan Query LTE Uplink Cell Identity Carrier.vi</p> <p>Modified:</p> <p>rssfespecan Configure 3GPP FDD BS WCDP Measurement.vi - Antenna >> added all rssfespecan Configure TDS BS User Defined CPICH.vi - not for FSH rssfespecan Configure TDS UE User Defined CPICH.vi - not for FSH</p>
1.23	02/2014	<p>Added support for R&S FSH4/8, ZVH firmware 2.40</p> <p>New:</p> <p>rssfespecan System Time Shift.vi rssfespecan Calibration Start.vi rssfespecan Calibration Continue.vi rssfespecan Configure Electrical Cable Time.vi</p>

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Query Electrical Cable Time.vi Modified: rsspecan System Reboot.vi - updated help
1.22.0	10/2013	Added support for R&S FSH4/8 firmware 2.30 New: rsspecan Configure SSA Spurious Emission Carrier.vi rsspecan Query LTE Downlink Measurement EVM Peak Current.vi rsspecan Query LTE Downlink Measurement RSRP.vi rsspecan Query LTE Downlink Measurement RSRQ.vi rsspecan Query LTE Downlink Measurement RSSI.vi rsspecan Query LTE Downlink Measurement SINR.vi Data Capture Saving Events Modified: rsspecan Move Marker.vi, rsspecan Marker Search.vi, rsspecan Query Marker.vi - fixed order of repeated capability identifiers rsspecan Instrument Status Checking.vi, rsspecan Set OPC Timeout.vi - fixed FGV action
1.21.1	07/2013	Cosmetic changes in help texts Modified: rsspecan Read Trace IQ Data.vi - removed byte swap rsspecan Transducer Select.vi - fixed callback
1.21.0	04/2013	Added support for R&S FSH4/8 firmware 2.20 New rsspecan Configure Trace Style.vi rsspecan Define Limit Line Shape.vi rsspecan Read SEM Peak List Portable.vi rsspecan Configure GSM K10 Training Sequence.vi rsspecan Configure GSM K10 Time Slot.vi rsspecan Fetch GSM K10 Base Station Id Code.vi rsspecan Fetch GSM K10 Modulation Type.vi rsspecan Fetch GSM K10 Burst Power.vi rsspecan Fetch GSM K10 RF Channel Power.vi rsspecan Fetch GSM K10 Analyzed Slot.vi rsspecan Fetch GSM K10 Traffic Activity.vi rsspecan Configure TDS BS Switching Point.vi rsspecan Configure TDS BS Scrambling Code.vi rsspecan Configure TDS BS Scrambling Code Auto Search.vi rsspecan Query C2K BST Code Domain Analyzer PN Scanner Results.vi rsspecan Configure LTE Downlink Cell Under Test Identity.vi Modified rsspecan Fetch GSM K10 Measurement Results.vi - EVM Slot

rssfup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan C2K BST Mode.vi - new command string for FSH rsspecan Configure LTE Downlink TDD Allocation.vi - range for FSH rsspecan Configure C2K BST Code Domain Analyzer Results.vi - added PN Scanner
1.20.0	12/2012	Modifications: Added support for R&S FSH FW V. 2.0 and R&S FSMR 4.76 New rsspecan Auto Search 3GPP FDD BS Scrambling Code.vi rsspecan Configure 3GPP FDD BS Frequency Error Units.vi rsspecan Configure Antenna Direction.vi rsspecan Configure Channel Table Link Direction.vi rsspecan Configure Channel Table UL DL Signal.vi rsspecan Configure Ethernet Remote Desktop Port.vi rsspecan Configure VSWR Y Scale Min Max.vi rsspecan Query LTE Downlink Measurement Sync Signal.vi rsspecan Query LTE Downlink Measurement Traffic Activity.vi rsspecan Query LTE Downlink Measurement Power.vi rsspecan Query LTE Downlink Measurement EVM.vi rsspecan Query Store Memory Info.vi rsspecan Query System Memory Info.vi rsspecan System Reboot.vi rsspecan Configure Measuring Receiver Autotune Threshold.vi rsspecan Measuring Receiver Clear Calibration Values.vi rsspecan Configure Measuring Receiver PWM Manual Value.vi rsspecan Configure Measuring Receiver ALC Fixed.vi Modified rsspecan Configure Marker Search Limits.vi rsspecan Get 3GPP FDD BS WCDP Result.vi
1.19.0	03/2012	Modifications: Added support for R&S FSH K43 - Receiver Mode Modified rsspecan Fetch TETRA ACP - added Average measurement type rsspecan Configure Scan Table Start Stop.vi rsspecan Configure Transducer Factor.vi rsspecan Select Transducer Factor.vi RSSPECAN_ATTR_AMPL_PREAMPLIFIER - options removed Modified Attributes for FSH RSSPECAN_ATTR_RECEIVER_MODE RSSPECAN_ATTR_MARKER_AOFF RSSPECAN_ATTR_MARKER_SEARCH_LIMITS_STATE RSSPECAN_ATTR_MARKER_SEARCH_LIMITS_LEFT

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		RSSPECAN_ATTR_MARKER_SEARCH_LIMITS_RIGHT RSSPECAN_ATTR_RECEIVER_SCAN_START RSSPECAN_ATTR_RECEIVER_SCAN_STOP RSSPECAN_ATTR_RECEIVER_SCAN_STEP_SIZE RSSPECAN_ATTR_DISP_REF_POSITION RSSPECAN_ATTR_ATTENUATION_MODE RSSPECAN_ATTR_FREQUENCY_MODE Added rsspecan Configure Receiver CISPR Bandwidth.vi rsspecan Read Receiver Trace Data.vi rsspecan Transducer Select.vi
1.18.3	02/2012	Modifications: rsspecan Fetch TETRA ACP - fixed Fixed co-existence with other core based drivers
1.18.2	12/2011	Modifications: rsspecan Configure Marker Band Power.vi (commands corrected) rsspecan Query Marker Band Power.vi (command corrected)
1.18.1	11/2011	Modifications: Fixed callbacks Fixed option checking
1.18.0	10/2011	Modifications: Support for ZVH version 1.20 added, support of FSH network analyzer (v1.56) updated Support for dual trace (dual window) added for ZVH and FSH Support for FSQ version 4.75 added Support for FSH4/8 version 1.56 added Modified VIs: rsspecan Configure LTE Downlink PDSCH Configurable Subframes.vi - Range updated. rsspecan Configure WLAN FFT Start Offset.vi - now uses attribute RSSPECAN_ATTR_WLAN_FFT_START_OFFSET rsspecan Configure WLAN Spectrum Measurement.vi - now uses attribute RSSPECAN_ATTR_WLAN_SPEC_SEL rsspecan Configure WiMAX Trigger.vi - now uses attribute RSSPECAN_ATTR_WIMAX_TRIG_MODE rsspecan Query LTE Downlink Measurement Crest Factor.vi - now uses attribute RSSPECAN_ATTR_LTE_DOWNLINK_CREST_FACTOR_RESULT rsspecan Query LTE Uplink Measurement Crest Factor.vi - now uses attribute RSSPECAN_ATTR_LTE_UPLINK_CREST_FACTOR_RESULT rsspecan Query LTE Uplink Measurement Result Summary.vi - now uses attributes:

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		RSSPECAN_ATTR_LTE_UPLINK_EVM_PUSCH_16QAM_RESULT RSSPECAN_ATTR_LTE_UPLINK_EVM_PUSCH_64QAM_RESULT RSSPECAN_ATTR_LTE_UPLINK_EVM_DMRS_PUSCH_QPSK_RESULT RSSPECAN_ATTR_LTE_UPLINK_EVM_DMRS_PUSCH_16QAM_RESULT RSSPECAN_ATTR_LTE_UPLINK_EVM_DMRS_PUSCH_RESULT RSSPECAN_ATTR_LTE_UPLINK_EVM_PUCCH_RESULT RSSPECAN_ATTR_LTE_UPLINK_EVM_PRACH_RESULT rsspecan_ConfigureMarkerZoomPortable - window control added RSSPECAN_ATTR_NAN_MEAS_MODE RSSPECAN_ATTR_NAN_MEAS_FORMAT rsspecan_ConfigureMagnitudeSpacing RSSPECAN_ATTR_NAN_MAGN_SPACING rsspecan_ConfigureSmithChartReferenceImpedance RSSPECAN_ATTR_NAN_SMITH_REF_IMPEDANCE rsspecan_ConfigureReflectionCoefficientUnit RSSPECAN_ATTR_NAN_REFL_COEFFICIENT_UNIT rsspecan_ConfigureTrackingGeneratorReferenceLevel RSSPECAN_ATTR_NAN_CABLE_REF_LEVEL RSSPECAN_ATTR_NAN_MAGN_REF_LEVEL RSSPECAN_ATTR_NAN_PHASE_REF_LEVEL RSSPECAN_ATTR_NAN_CABLE_REF_POSITION RSSPECAN_ATTR_NAN_MAGN_REF_POSITION RSSPECAN_ATTR_NAN_PHASE_REF_POSITION rsspecan_ConfigureGroupDelay RSSPECAN_ATTR_GDEL_REF_LEVEL RSSPECAN_ATTR_GDEL_REF_POSITION RSSPECAN_ATTR_GDEL_Y_SCALE rsspecan_ConfigureMarkerOutputFormat RSSPECAN_ATTR_NETWORK_ANALYZER_MARKER_OUTPUT_FORMAT rsspecan_ConfigurePhaseUnwrap RSSPECAN_ATTR_NAN_PHASE_UNWRAP rsspecan_ConfigureNetworkAnalyzerMeasurement RSSPECAN_ATTR_NAN_MEAS_MODE RSSPECAN_ATTR_NAN_MEAS_FORMAT rsspecan_ConfigureTrackingGeneratorYScale RSSPECAN_ATTR_USER_CALIBRATE_LENGTH - command changed rsspecan_ConfigureMarker - range checking modified according to ZVH and FSH rsspecan_ConfigureTrace rsspecan_MarkerSearch

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		<p> rsspecan_MoveMarker rsspecan_QueryMarker RSSPECAN_ATTR_GDEL_Y_SCALE - added range checking RSSPECAN_ATTR_NAN_CABLE_Y_SCALE RSSPECAN_ATTR_NAN_MAGN_Y_SCALE RSSPECAN_ATTR_NAN_PHASE_Y_SCALE RSSPECAN_ATTR_NAN_MAGN_REF_LEVEL RSSPECAN_ATTR_NAN_PHASE_REF_LEVEL RSSPECAN_ATTR_NAN_CABLE_REF_LEVEL RSSPECAN_ATTR_NAN_CABLE_REF_POSITION - increased value range RSSPECAN_ATTR_USER_CALIBRATE_OFFS - Port selection added rsspecan_ConfigureDistancetoFaultThreshold rsspecan_ConfigureMarkerOutputFormat - values label updated rsspecan_ConfigureTrackingGeneratorYScale - units forced to dB for magnitude rsspecan_ConfigureCATMeasurementMode - option checking added for "Transmission" rsspecan_ConfigureUserCaliyabrate - offset legth units changed from mm to m RSSPECAN_ATTR_USER_CALIBRATE_OFFS rsspecan_ConfigurePhaseUnwrap - command changed DISPlay:PHASe:Y:UNWRap to DISPlay:PHASe:UNWRap RSSPECAN_ATTR_NAN_PHASE_UNWRAP rsspecan_ConfigureNetworkAnalyzerMeasurement - new formats added (Reflection Coefficient, Smith Chart, VSWR, Vector Voltmeter), Magnitude phase (M Phase) format removed from GUI RSSPECAN_ATTR_NAN_MEAS_MODE RSSPECAN_ATTR_NAN_MEAS_FORMAT rsspecan_ConfigureGroupDelay - unit changed from ns to s, data type of "Reference Level" control changed to Real, range updated RSSPECAN_ATTR_GDEL_REF_LEVEL Added: rsspecan Set LTE Downlink Mode FSH.vi rsspecan Set LTE Uplink Mode FSH.vi rsspecan Configure LTE Downlink Demodulation Calculation State.vi rsspecan Configure LTE Downlink Carrier Frequency Error Units.vi rsspecan Query LTE Downlink Measurement Power Result Summary.vi rsspecan Query LTE Downlink Measurement Channel.vi rsspecan Query LTE Downlink Measurement Reference Signal.vi rsspecan Query LTE Downlink Cell Identity.vi rsspecan Configure LTE Uplink Carrier Frequency Error Units.vi rsspecan Query LTE Uplink Measurement Power Result Summary.vi rsspecan Query LTE Uplink Measurement Channel.vi rsspecan Query LTE Uplink Measurement Reference Signal.vi </p>

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Query LTE Uplink Cell Identity.vi rsspecan Query TPIS Time Offset.vi RSSPECAN_ATTR_QUERY_TPIS_TIME_OFFSET rsspecan Configure 3GPP TAER BTS Carrier.vi RSSPECAN_ATTR_3GPP_TAER_CPICH_CODE_NUMBER RSSPECAN_ATTR_3GPP_TAER_ANTENNA_PATTERN RSSPECAN_ATTR_3GPP_TAER_FREQUENCY_OFFSET RSSPECAN_ATTR_3GPP_TAER_SCRAMBLING_CODE rsspecan Query 3GPP TAER BTS Number.vi RSSPECAN_ATTR_3GPP_TAER_BTS_NUMBER rsspecan 3GPP TAER BTS Operation.vi RSSPECAN_ATTR_3GPP_TAER_BTS_NUMBER_INSERT RSSPECAN_ATTR_3GPP_TAER_BTS_NUMBER_DELETE RSSPECAN_ATTR_3GPP_TAER_BTS_NUMBER_DELETE_ALL rsspecan Query 3GPP TAER Table Catalog.vi RSSPECAN_ATTR_3GPP_TAER_TABLE_CATALOG rsspecan 3GPP TAER Table Operation.vi RSSPECAN_ATTR_3GPP_TAER_TABLE_DELETE RSSPECAN_ATTR_3GPP_TAER_TABLE_SAVE rsspecan 3GPP TAER Table Preset.vi RSSPECAN_ATTR_3GPP_TAER_TABLE_PRESET rsspecan Configure WLAN Number Of Antennas.vi RSSPECAN_ATTR_WLAN_NUMBER_OF_ANTENNAS rsspecan Configure WLAN MIMO DUT Configuration.vi RSSPECAN_ATTR_WLAN_MIMO_DUT_CONFIGURATION rsspecan Configure WLAN MIMO Antenna Signal Capture.vi RSSPECAN_ATTR_WLAN_MIMO_ANT_SIGNAL_CAPTURE_TYPE rsspecan Configure WLAN STC MIMO.vi RSSPECAN_ATTR_WLAN_ANALYZER_STATE RSSPECAN_ATTR_WLAN_ANALYZER_ADDRESS RSSPECAN_ATTR_WLAN_ANTENNA_CONFIGURATION rsspecan Configure WLAN MIMO Sequential Capture Setup.vi RSSPECAN_ATTR_WLAN_MIMO_OSP_IP_ADDRESS RSSPECAN_ATTR_WLAN_MIMO_OSP_SWITCH_MODULE rsspecan Configure WLAN RBW Filter.vi RSSPECAN_ATTR_WLAN_RBW_FILTER rsspecan Configure WLAN Bursts To Analyze Settings.vi RSSPECAN_ATTR_WLAN_BURST_TYPE_TO_MEASURE RSSPECAN_ATTR_WLAN_CHANNEL_BANDWIDTH_TO_MEAS RSSPECAN_ATTR_WLAN_GUARD_INTERVAL_LEGTH RSSPECAN_ATTR_WLAN_STBC

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		RSSPECAN_ATTR_WLAN_EXT_SPATIAL_STREAMS RSSPECAN_ATTR_WLAN_SOURCE_OF_PAYLOAD_LENGTH rsspecan Configure WLAN MCS.vi RSSPECAN_ATTR_WLAN_MCS_INDEX_TO_USE_FBUR RSSPECAN_ATTR_WLAN_MCS_INDEX rsspecan Configure WLAN MIMO Spatial Mapping Configuration.vi RSSPECAN_ATTR_WLAN_MIMO_SPATIAL_MAPPING_MODE RSSPECAN_ATTR_WLAN_MIMO_POWER_NORMALISE rsspecan Configure WLAN MIMO UDF Spatial Mapping Antenna.vi rsspecan Configure WLAN MIMO UDF Spatial Mapping Stream.vi RSSPECAN_ATTR_WLAN_MIMO_UDFSPATIAL_MAPPING_TIME_SHIFT rsspecan Configure WLAN Channel Select.vi RSSPECAN_ATTR_WLAN_SPEC_CSEL rsspecan Fetch WLAN Burst Error Rate For Pilots.vi RSSPECAN_ATTR_WLAN_FETC_BERPILOT rsspecan Configure WiMAX Constellation Diagram Normalization.vi RSSPECAN_ATTR_LTE_DOWNLINK_CONSTELLATION_DIAGRAM rsspecan Configure LTE Downlink Data Analysis Settings.vi RSSPECAN_ATTR_LTE_DOWNLINK_PDSCH_SUBFRAME_DETECT RSSPECAN_ATTR_LTE_DOWNLINK_BOOSTING_ESTIMATION RSSPECAN_ATTR_LTE_DOWNLINK_PDSCH_REFERENCE_DATA RSSPECAN_ATTR_LTE_DOWNLINK_MULTICARRIER_FILTER rsspecan Query LTE Downlink Measurement RSTP.vi RSSPECAN_ATTR_LTE_DOWNLINK_RSTP_RESULT rsspecan Configure LTE Uplink Suppressed Interference Synchronization.vi RSSPECAN_ATTR_LTE_UPLINK_SUPPRESSED_INTERFERENCE_SYNC rsspecan Configure LTE Uplink Slot Selection.vi RSSPECAN_ATTR_LTE_UPLINK_SLOT_SELECTION rsspecan Applications Versions.vi RSSPECAN_ATTR_APPLICATIONS_VERSIONS rsspecan_ConfigureEthernetGateway rsspecan_ConfigureCalibrationDiscard rsspecan_ConfigureUserPreset rsspecan_ConfigureMarkerZoomYPortable rsspecan_ConfigureInterferenceSuppressionState rsspecan_ConfigureInterferenceSuppressionApertureSize rsspecan_ConfigureNetworkAnalyzerSMeasurementResult rsspecan_QueryComplexMarker rsspecan_ConfigurePortOffsetLength
1.17.0	09/2011	Modifications: Support for FSUP version 4.67 added

rssfsw Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		<p>Support for FSW version 1.10 added</p> <p>Modified</p> <p>rsspecan Get Transducer Factor Catalog.vi - added FSUP support</p> <p>rsspecan Configure SSA VCO Loop Premeasurement.vi - added attribute: RSSPECAN_ATTR_SSA_PREMEAS_NEW</p> <p>rsspecan Configure IF Output Source.vi - added FSW support</p> <p>rsspecan Configure Trigger Source.vi - added: Trigger Source - External 2, External 3, IQ Power</p> <p>rsspecan Configure External Gate.vi - added: Gate Source - External 2, External 3, IQ Power</p> <p>rsspecan Configure Display Zoom.vi - added FSW support</p> <p>rsspecan Configure Auto Adjust.vi - added FSW support</p> <p>Added</p> <p>DISPLAY/LAYOUT Subsystem</p> <p>TRIGGER/OUTPUT Subsystem</p> <p>rsspecan Create Transducer Factor.vi</p> <p>RSSPECAN_ATTR_TFAC_CREATE</p> <p>rsspecan Configure SSA Phase Frequency Axis Truncation.vi</p> <p>RSSPECAN_ATTR_SSA_FREQUENCY_AXIS_TRUNCATION</p> <p>rsspecan Configure SSA Phase Spot Noise List.vi</p> <p>RSSPECAN_ATTR_SSA_SPOT_NOISE_LIST</p> <p>rsspecan Configure SSA Phase Spur List.vi</p> <p>RSSPECAN_ATTR_SSA_SPUR_LIST</p> <p>rsspecan Configure SSA Phase Spurs Highlight.vi</p> <p>RSSPECAN_ATTR_SSA_SPURS_HIGHLIGHT</p> <p>rsspecan Configure SSA VCO Marker Coupling.vi</p> <p>RSSPECAN_ATTR_SSA_MARKER_COUPLING</p> <p>rsspecan Configure SSA VCO Loop Frequency Band.vi</p> <p>RSSPECAN_ATTR_SSA_ADET_GAIN</p> <p>rsspecan Configure SSA VCO Loop DUT Type.vi</p> <p>RSSPECAN_ATTR_SSA_DUT_TYPE</p> <p>rsspecan Configure IF Out Frequency.vi</p> <p>RSSPECAN_ATTR_IF_OUTPUT_FREQUENCY</p> <p>rsspecan Configure Noise Source.vi</p> <p>RSSPECAN_ATTR_NOISE_SOURCE_STATE</p> <p>rsspecan Configure Trigger Dropout Time.vi</p> <p>RSSPECAN_ATTR_TRIGGER_DROPOUT_TIME</p> <p>rsspecan Configure External Trigger Port.vi</p> <p>RSSPECAN_ATTR_EXTERNAL_TRIGGER_LEVEL_PORT</p> <p>rsspecan Configure Highpass Filter.vi</p> <p>RSSPECAN_ATTR_AMPL_HIGHPASS_FILTER</p> <p>rsspecan Configure Display Multiple Zoom.vi</p>

rssfesup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Configure SE Sweep List Preamplifier Level.vi RSSPECAN_ATTR_SE_LIST_RANG_INP_GAIN_LEVEL rsspecan Configure SEM Range RF Preamplifier Level.vi RSSPECAN_ATTR_SEM_RANGE_PREAMPLIFIER_LEVEL rsspecan Configure Reciever Preamplification Level.vi RSSPECAN_ATTR_AMPL_PREAMPLIFIER_LEVEL
1.16.0	07/2011	Modifications: Support for FSV version 1.60 added Modified RSSPECAN_ATTR_ACP_USER_STD_SET - added FSV support rsspecan Configure GSM K10 Burst.vi - added: Access Burst Type, TS 0, TS 1, TS 2 rsspecan Configure GSM K10 Measurement.vi - added Trigger to Sync measurement rsspecan Read GSM K10 Measurement Results.vi - added results for Trigger to Sync measurement RSSPECAN_ATTR_READ_GSM_K10_TRIGGER_TO_SYNC_RESULTS rsspecan Load Wlan IQ Data.vi - now uses attribute RSSPECAN_ATTR_LOAD_IQ_DATA rsspecan Load WiMAX IQ Data.vi - now uses attribute RSSPECAN_ATTR_LOAD_IQ_DATA rsspecan Store Wlan IQ Data.vi - now uses attribute RSSPECAN_ATTR_SAVE_IQ_DATA rsspecan Store WiMAX IQ Data.vi - now uses attribute RSSPECAN_ATTR_SAVE_IQ_DATA RSSPECAN_ATTR_IQ_DATA_EXPORT_FILE_DESCRIPTION - added FSV support rsspecan Configure Trigger Source.vi - Baseband power added (RSSPECAN_ATTR_TRIGGER_SOURCE) rsspecan Configure External Gate.vi - Power Sensor as Gate Source is available for FSV rsspecan Configure WiMAX Trigger.vi - added Power Sensor, RF Power trigger mode (RSSPECAN_ATTR_WIMAX_TRIG_MODE) rsspecan Configure Wlan Trigger.vi - added Power Sensor, RF Power trigger mode (RSSPECAN_ATTR_WLAN_TRIG_MODE) RSSPECAN_ATTR_VSA_RESULT_FORMAT - added None, IQCorr RSSPECAN_ATTR_VSA_TX_FILTER_TYPE - added user defined filter type RSSPECAN_ATTR_VSA_MEASUREMENT_FILTER_TYPE - added user defined filter type rsspecan Read VSA Trace Data.vi - new traces added rsspecan File Directory.vi - fixed portable instruments support Added RSSPECAN_ATTR_GSM_K10_MEAS_TRIGGER_TO_SYNC rsspecan Configure GSM K10 Trigger To Sync.vi RSSPECAN_ATTR_GSM_K10_TRIGGER_TO_SYNC_BINS_COUNT RSSPECAN_ATTR_GSM_K10_TRIGGER_TO_SYNC_ADAPTIVE_DATA_SIZE rsspecan Configure GSM K10 Wide Spectrum Results Unit.vi RSSPECAN_ATTR_GSM_K10_WIDE_SPECTRUM_UNIT rsspecan Read GSM K10 Spectrum Reference Power.vi rsspecan Fetch GSM K10 Spectrum Reference Power.vi rsspecan Assign Marker To Trace.vi

rssfesup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		RSSPECAN_ATTR_NOISE_ASSIGN_MARKER_TO_TRACE rsspecan Configure 3GPP BS Mode.vi RSSPECAN_ATTR_3GPP_BS_STANDARD rsspecan Configure PWM External Power Trigger Advanced.vi RSSPECAN_ATTR_PWM_EXTERNAL_POWER_TRIGGER_HYSTERESIS RSSPECAN_ATTR_PWM_EXTERNAL_POWER_TRIGGER_DROPOUT_TIME RSSPECAN_ATTR_PWM_EXTERNAL_POWER_TRIGGER_HOLDOFF_TIME RSSPECAN_ATTR_PWM_EXTERNAL_POWER_TRIGGER_SLOPE rsspecan VSA Refresh Captured Data.vi RSSPECAN_ATTR_VSA_REFRESH_CAPTURED_DATA rsspecan Configure VSA User Defined TX Filter.vi RSSPECAN_ATTR_VSA_TX_FILTER_USER_FILE rsspecan Configure VSA User Defined Measurement Filter.vi RSSPECAN_ATTR_VSA_MEASUREMENT_FILTER_USER_FILE rsspecan set VSA Modulation Status Register.vi rsspecan get VSA Modulation Status Register.vi RSSPECAN_ATTR_VSA_MODULATON_QUESTIONABLE_REGISTER rsspecan Configure VSA Limits Default.vi RSSPECAN_ATTR_VSA_LIMIT_MODULATION_ACCURACY_DEFAULTS RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_STATE rsspecan Configure VSA Limits EVM.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_EVM rsspecan Configure VSA Limits Phase Error.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_PHASE_ERROR rsspecan Configure VSA Limits Magnitude Error.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_MAGNITUDE_ERROR rsspecan Configure VSA Limits Carrier Frequency Error.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_CARRIER_FREQUENCY_ERROR rsspecan Configure VSA Limits RHO.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_RHO rsspecan Configure VSA Limits IQ Offset.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_IQ_OFFSET rsspecan Configure VSA Limits Frequency Error.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_FREQUENCY_ERROR rsspecan Configure VSA Limits Frequency Deviation Error.vi RSSPECAN_ATTR_VSA_LIMIT_MOD_ACC_FREQUENCY_DEVIATION_ERROR rsspecan VSA Refresh Captured Data.vi RSSPECAN_ATTR_VSA_REFRESH_CAPTURED_DATA rsspecan Query VSA Modulation Accuracy Limits Check Results.vi RSSPECAN_ATTR_VSA_QUERY_MOD_ACC_LIMIT_CHECK_RESULT rsspecan Query VSA Modulation Accuracy Statistic Results.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
1.15.0	05/2011	<p>Modifications:</p> <ul style="list-style-type: none"> Support for FSV version 1.55 added Support for FSVR version 1.54 added Support for FSP version 4.60 added Support for FSU version 4.61 added Support for FSQ version 4.65 added Support for FSP New Vector Signal Analysis API K54 support added Better FSC and ZVH support <p>New:</p> <ul style="list-style-type: none"> rsspecan Configure Spectrum Display.vi rsspecan Trace IQ Record Length.vi rsspecan Configure Reference Marker.vi rsspecan Query Trigger PositionIn Sample.vi rsspecan Configure External Generator Frequency.vi rsspecan Configure ADemod Filter AWeighting.vi rsspecan Configure Spectrogram FFT Window.vi rsspecan Store Spectrogram To File.vi rsspecan Configure Frequency Mask Trigger Source.vi rsspecan Configure VSA Include IQ Data.vi rsspecan Lock Local Key.vi rsspecan Activate Marker Peak Search.vi rsspecan Configure Marker Peak List Settings.vi rsspecan Configure GSM K10 Trace.vi rsspecan Configure GSM K10 Access Burst.vi rsspecan Configure GSM K10 AQPSK Burst.vi rsspecan Configure GSM K10 Demodulation.vi rsspecan Configure GSM K10 Multi Measurement.vi rsspecan Fetch GSM K10 Wide Spectrum Results.vi rsspecan Configure Persistence Spectrum Marker Position.vi rsspecan Load IQ Data.vi rsspecan Store IQ Data.vi rsspecan Configure IQ Data Export File Description.vi rsspecan Configure Analog Demod Squelch.vi rsspecan Configure FM Stereo Squelch.vi rsspecan Configure Spectrogram Continuous Trigger.vi rsspecan Configure Spectrogram TimeDomain Trigger.vi rsspecan Configure Persistence Spectrum Marker Position.vi rsspecan Query Persistence Marker Z Axis.vi rsspecan Configure Persistence Spectrum Delta Marker Position.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Configure Frequency Mask Directory.vi rsspecan Configure Noise Generator Auto Switch Off.vi rsspecan InitNoiseGenerator.vi rsspecan Configure TDS BS Sync To Slot Rotate Code Channels.vi rsspecan Configure LTE Downlink PRB Symbol Offset.vi rsspecan Trace Clear.vi rsspecan Configure Marker Peak List Annotation.vi rsspecan Configure Marker Peak List State.vi rsspecan Read Marker Peak List.vi rsspecan Spurious Emissions Standard Catalog.vi rsspecan Spurious Emissions Standard Save.vi rsspecan Spurious Emissions Standard Load.vi rsspecan Spurious Emissions Standard Delete.vi rsspecan SEM Standard Save.vi rsspecan SEM Standard Delete.vi rsspecan Configure WLAN Peak Vector Error.vi Modified: rsspecan Configure YIG Filter.vi rsspecan Configure FM Stereo AF Filter.vi rsspecan Configure Power Measurement.vi - added ZVH support rsspecan Configure Power Channel Bandwidth.vi - added FSC support rsspecan Fetch PWM Result.vi - fixed rsspecan Configure GSM K10 Burst.vi - added new burst types and modulations rsspecan Configure Trigger Source.vi rsspecan Configure External Gate.vi rsspecan Configure External Mixer.vi rsspecan Create External Mixer Conversion Loss Table.vi rsspecan Fetch X Trace.vi rsspecan Spectrogram Marker Search.vi rsspecan Spectrogram Delta Marker Search.vi rsspecan Configure Spectrogram Result Display Mode.vi rsspecan Configure VSA Trace Evaluation.vi rsspecan Configure BDO Advanced Settings.vi rsspecan Configure MDO Code Domain Analyzer Results.vi rsspecan Query MDO Code Domain Analyzer Result Summary.vi rsspecan Configure Wlan Meas Range.vi rsspecan Configure WiMAX Demodulation.vi rsspecan Configure Marker Peak List.vi - added two new arguments rsspecan Set Instrument From Marker.vi - fixed
1.14.0	04/2011	Modifications: Support for LTE Uplink added (FSV-K101, FSV-K105)

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		Modified VIs: rsspecan Configure Level.vi (Amplitude Units update for FSH4/8) rsspecan Query Power Results.vi rsspecan Configure Acquisition.vi rsspecan Read To File From Instrument.vi
1.13.0	03/2011	Modifications: Support for ZVH added
1.12.0	02/2011	Modifications: Support for FSH 4/8 version 1.40 added New VIs: rsspecan Configure Antenna Settings.vi rsspecan Set Channel Number.vi rsspecan Configure Relative Delta Marker Position.vi rsspecan Configure External Gate Time.vi rsspecan Get GPS Altitude.vi rsspecan Configure SEM Preset Settings.vi rsspecan Configure 3GPP FDD BS Scrambling Code.vi rsspecan Configure EV-DO BST Power Reference.vi Modified VIs: rsspecan Set Instrument From Marker.vi rsspecan Select Power Measurement.vi rsspecan Configure External Gate.vi rsspecan Configure Hardcopy Device.vi rsspecan Query Power Results.vi rsspecan Configure SEM Preset Standard.vi rsspecan Configure 3GPP FDD BS WCDP Measurement.vi rsspecan Configure 3GPP FDD BS WCDP Results.vi rsspecan Search 3GPP FDD BS Scrambling Code.vi rsspecan Get 3GPP FDD BS WCDP Result.vi rsspecan Get 3GPP FDD BS CDP Result.vi rsspecan Get 3GPP FDD BS CDP Scrambling Code Results.vi rsspecan Configure C2K Basic Settings.vi rsspecan Configure C2K BST Advanced Settings.vi rsspecan Configure C2K BST Antenna Settings.vi rsspecan Configure C2K BST Code Domain Analyzer Results.vi rsspecan Configure C2K BST Code Domain Analyzer Settings.vi rsspecan Query C2K BST Code Domain Analyzer Result Summary.vi rsspecan Configure EV-DO BST Code Domain Analyzer Results.vi rsspecan Configure EV-DO BST Code Domain Analyzer Settings.vi rsspecan Configure EV-DO BST Advanced Settings.vi rsspecan Query EV-DO BST Code Domain Analyzer General Results.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		RSSPECAN_ATTR_SERVICE_NOISE_SOURCE - remove B5 option checking RSSPECAN_ATTR_FFT_FILTER_MODE - supported instrument models updated RSSPECAN_ATTR_SWEEP_TYPE - supported instrument models and range table updated
1.11.1	01/2011	Modifications: rsspecan Configure Occupied Bandwidth.vi rsspecan Configure SSA Spurs Display Settings.vi - Show All, Suppress All interchanged
1.11.	12/2010	Modifications: Added support for FSVR Added support for FSV-K14. Old K14 renamed to Realtime Spectrum Analysis Multiple power sensors support (FSV and FSVR) New VIs: rsspecan Configure GSM K10 Correlation Threshold.vi rsspecan Configure GSM K10 Swap IQ.vi rsspecan Configure GSM K10 Marker Zoom.vi rsspecan Configure GSM K10 Result Display.vi rsspecan Configure GSM K10 User TSC.vi rsspecan Configure GSM K10 Power vs Time Alignment.vi rsspecan Read GSM K10 Burst Slot Delta To Sync.vi rsspecan Fetch GSM K10 Burst Slot Delta To Sync.vi rsspecan Read GSM K10 Wide Spectrum Results.vi rsspecan Read GSM K10 Wide Spectrum Gating.vi rsspecan Configure Trace IQ Data Analyzer Enabled.vi rsspecan Configure Power Channel Name.vi rsspecan Configure Display Focused Area.vi rsspecan Get Selected Subwindow.vi rsspecan Configure Delta Marker Band Power.vi rsspecan Query Delta Marker Band Power.vi rsspecan Configure Marker Band Power.vi rsspecan Query Marker Band Power.vi rsspecan System Shutdown.vi rsspecan Configure Digital Baseband Input Coupling.vi rsspecan Configure Digital Baseband Input Parameters Auto.vi rsspecan Configure 3GPP FDD BS WCDP Single Antenna MIMO Mode.vi rsspecan Get 3GPP FDD BS Time Alignment Error Result.vi rsspecan Configure TDS BS Channel Table Max Modulation.vi rsspecan Configure TDS UEChannel Table Max Modulation.vi rsspecan Configure TDS BS Sync To Slot Mode.vi rsspecan Configure TDS UE SEM Limits.vi rsspecan Configure TDS UE Sync To Slot Mode.vi

rssfesup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		<p> rssfespecan Configure WiMAX STC MIMO.vi rssfespecan Configure WiMAX Auto Demodulation.vi rssfespecan Configure WiMAX STC MIMO Demodulation.vi rssfespecan Configure WiMAX Burst Boosting.vi rssfespecan Configure WiMAX Zone STC Mode.vi rssfespecan Configure WiMAX Zone Burst STC Mode.vi rssfespecan Configure WiMAX TTC Subframe Length Measure.vi rssfespecan Configure WiMAX TTC Subframe Length.vi Modified VIs: rssfespecan Configure GSM K10 Burst.vi - added possibility to define user TSC rssfespecan Configure GSM K10 Measurement.vi - added Wide Spectrum rssfespecan Configure Noise Measurement Mode.vi - added Single Frequency Single Sweep Measurement and Single Frequency Continuous Measurement rssfespecan Calibration Abort.vi - fixed rssfespecan Configure Reference Fixed Point.vi - fixed rssfespecan Configure Hardcopy Device.vi - fixed rssfespecan Configure Trigger Source.vi - added RFP rssfespecan Configure External Gate.vi - added RFP rssfespecan Query FM Stereo Channel Type Results.vi - fixed, added Cross Talk rssfespecan Configure VSA Marker Search.vi - added Magnitude rssfespecan Set 3GPP FDD BS Measurement.vi - added Time Alignment Error rssfespecan Get TDS BS Result.vi - added Average RCDE of active channels rssfespecan Get TDS UE Result.vi - added Average RCDE of active channels rssfespecan Configure WiMAX Demodulation.vi - added new modulation detection modes rssfespecan Configure WiMAX Zone Space Time Coding.vi - added One Antenna (MIMO only) rssfespecan Create WiMAX New Zone Burst.vi - added Modulation Auto rssfespecan Configure WiMAX Zone Burst.vi - added Modulation Auto rssfespecan Configure WiMAX Spectrum Measurement.vi - added ETSI30254401,BW10M; ETSI30254401,BW5M rssfespecan Configure WiMAX SEM Measurement.vi - added ETSI EN 30254401 standard for 5MHz BW and ETSI EN 30254401 standard for 10MHz BW rssfespecan File Manager Operations.vi - added Delete File Immediate </p>
1.10.3	07/2010	<p> Modifications: Initial Release for Mac OS X support for: - Snow Leopard (10.5.x) Distance to Fault measurement is no longer available for FSC Power meter mode is no longer available for FSC Fixed attributes: RSSPECAN_ATTR_FREQUENCY_CENTER_LINK - added DIVT option RSSPECAN_ATTR_PMET_MODE - added wait for OPC </p>

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
1.10.2	07/2010	Modifications: Fixed global variable - incorrect ranges of floating point values
1.10.1	06/2010	Modifications: Edit support of K40 option for FSV instrument
1.10.0	06/2010	Modifications: Support for FSQ-K110 version 4.50 added New VIs: rsspecan DTF Mode.vi Updates and fixes: rsspecan PWM Mode.vi - now supports FSH and FSC rsspecan Read SSA Trace Data.vi - fixed rsspecan Configure SSA DC Ports Settings.vi - fixed rsspecan Fetch SSA VCO Pulling Result.vi - fixed
1.9.0	03/2010	Modifications: Support for FSV-K70 version 1.40 added New VIs: rsspecan Configure Digital Baseband Input Trigger Parameters.vi rsspecan Configure Digital Baseband Input Trigger Source.vi rsspecan Configure Display Zoom.vi rsspecan Configure VSA Burst Search Auto Configuration.vi rsspecan Configure VSA Burst Search Auto.vi rsspecan Configure VSA Capture Oversampling.vi rsspecan Configure VSA Compensation.vi rsspecan Configure VSA Display Points Per Symbol.vi rsspecan Configure VSA Display Window State.vi rsspecan Configure VSA Full Scale Level Unit.vi rsspecan Configure VSA Marker Peak Search.vi rsspecan Configure VSA Marker Search.vi rsspecan Configure VSA Measurement Filter.vi rsspecan Configure VSA Modulation Accuracy.vi rsspecan Configure VSA Pattern Offset.vi rsspecan Configure VSA Pattern Search Auto Configuration.vi rsspecan Configure VSA Pattern Search Auto.vi rsspecan Configure VSA Pattern Signal State.vi rsspecan Configure VSA Screen Coupling.vi rsspecan Configure VSA Signal Type.vi rsspecan Configure VSA Trace Evaluation.vi rsspecan Configure VSA TX Filter.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Get VSA All Results.vi rsspecan Preset VSA Screens.vi rsspecan VSA Adjust Reference Level To Full Scale Level.vi rsspecan Y-Axis Auto Scale.vi rsspecan Configure WiMAX Frame ID Cell Auto.vi rsspecan Configure WiMAX Frame Predefined Map.vi Updated VIs: rsspecan Get VSA Result.vi rsspecan Set VSA Factory Defaults.vi rsspecan Configure VSA Burst Search.vi rsspecan Configure VSA Burst Search Hysteresis.vi rsspecan Configure VSA Equalizer.vi rsspecan Configure VSA Equalizer Mode.vi rsspecan VSA Equalizer Operations.vi rsspecan Configure VSA Display Alignment.vi rsspecan Configure VSA Display X-Axis.vi rsspecan Configure VSA Force WB Path.vi rsspecan Get VSA Digital Standard Catalog.vi rsspecan VSA Digital Standard Save.vi rsspecan Configure VSA File Export.vi rsspecan Configure VSA File Import.vi rsspecan VSA Export.vi rsspecan VSA Import.vi rsspecan Configure VSA EVM Modulation.vi rsspecan Configure VSA Modulation.vi rsspecan Configure VSA Modulation Filters.vi rsspecan Get VSA Modulation Filter Catalog.vi rsspecan Configure VSA Multiple Evaluation.vi rsspecan Configure VSA Multiple Evaluation Zoom.vi rsspecan VSA Search Burst in Capture RAM.vi rsspecan Trace IQ Set.vi rsspecan Run Receiver Measurement.vi
1.8.0	01/2010	Modification: Support for FSH 4/8 FW 1.20 & 1.21 K10 (GSM Measurement) no longer limited to FSV instrument Instrument checking (FSC) added to attributes Updated VIs: rsspecan GSM K10 Mode
1.7.0	11/2009	Modifications: - Support for FSV version 1.40 added - Support for K7S (FM Stereo) added

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - Support for K100 and K102 added - Support for FSMR version 4.36 added, tested and debugged - Support for FSH4/8 version 1.10 added - Support for FSV version 1.20 added <p>New VIs:</p> <ul style="list-style-type: none"> Added support for LTE Downlink (K100) rsspecan All FM Stereo AF Filters Off.vi rsspecan Configure Digital Baseband Full Scale Level.vi rsspecan Configure Digital Baseband Output.vi rsspecan Configure External Mixer Handover Frequency.vi rsspecan Configure External Mixer High Harmonic.vi rsspecan Configure External Mixer Preset Band.vi rsspecan Configure External Mixer RF Overrange.vi rsspecan Configure FM Stereo AF Auto Scale.vi rsspecan Configure FM Stereo AF Filter.vi rsspecan Configure FM Stereo AF Range Dev Unit.vi rsspecan Configure FM Stereo AF Range THD Unit.vi rsspecan Configure FM Stereo AF Range.vi rsspecan Configure FM Stereo Difference Frequency Distortion.vi rsspecan Configure FM Stereo Display Config.vi rsspecan Configure FM Stereo Intermodulation Distortion.vi rsspecan Configure FM Stereo Meas To Ref.vi rsspecan Configure FM Stereo Measurement Time.vi rsspecan Configure FM Stereo Phase Noise Marker.vi rsspecan Configure FM Stereo Reference Deviation.vi rsspecan Configure FM Stereo Result Summary Setup.vi rsspecan Configure FM Stereo Time Domain Zoom Length.vi rsspecan Configure FM Stereo Time Domain Zoom.vi rsspecan Configure FM Stereo Trace Modes.vi rsspecan Configure FM Stereo Trigger.vi rsspecan Configure GSM K10 Demodulation Equal Timeslot Length.vi rsspecan Configure GSM K10 Modulation Transient Spectrum.vi rsspecan Configure GSM K10 Multi Carrier.vi rsspecan Configure GSM K10 Power vs Time Filter.vi rsspecan Configure GSM K10 Synchronization.vi rsspecan Configure Preamplifier Auto.vi rsspecan Configure PWM Duty Cycle.vi rsspecan Configure SSA DC Measurement.vi rsspecan Configure Trace IQ Data Display Type.vi rsspecan Configure Trace IQ Gate.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Configure WLAN FFT Start Offset.vi rsspecan Error Query.vi rsspecan FM Stereo Difference Frequency Distortion Search Signal.vi rsspecan FM Stereo Intermodulation Distortion Search Signal.vi rsspecan FM Stereo Mode.vi rsspecan Get OPC Timeout.vi rsspecan Input Protection State.vi rsspecan Instrument Options.vi rsspecan Load LTE Downlink Demodulation Settings.vi rsspecan Query External Mixer RF Start Stop.vi rsspecan Query FM Stereo Carrier Frequency.vi rsspecan Query FM Stereo Channel Type All Results.vi rsspecan Query FM Stereo Channel Type Results.vi rsspecan Query FM Stereo Difference Frequency Distortion Result.vi rsspecan Query FM Stereo Intermodulation Distortion Result.vi rsspecan Query FM Stereo Measurement Results.vi rsspecan Query FM Stereo Phase Noise Result.vi rsspecan Query FM Stereo Result Values.vi rsspecan Query Trace IQ Filter Bandwidth.vi rsspecan Set FM Stereo State.vi rsspecan Set LTE Downlink Mode.vi rsspecan Set OPC Timeout.vi rsspecan Update IQ Results.vi Updated VIs: rsspecan Trace IQ Extended Bandwidth.vi rsspecan Configure External Mixer Enabled.vi rsspecan Configure External Mixer Number Of Ports.vi rsspecan Configure External Mixer.vi rsspecan Configure External Mixer Signal ID Mode.vi rsspecan Configure External Mixer Bias.vi (function API redesigned) rsspecan Configure External Mixer Conversion Loss.vi (function API redesigned) rsspecan Configure External Mixer Conversion Loss Table.vi (function removed) rsspecan Configure External Mixer Low Power.vi rsspecan Create External Mixer Conversion Loss Table.vi rsspecan External Mixer Conversion Loss Table Select.vi rsspecan External Mixer Conversion Loss Table Delete.vi rsspecan External Mixer Conversion Loss Table Catalog.vi rsspecan Phase Noise Peak Search Auto.vi rsspecan Configure Measuring Receiver Relative Level Measurement.vi rsspecan Read GSM K10 Measurement Results.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Fetch GSM K10 Measurement Results.vi rsspecan Configure 3GPP FDD BS Channel Table Data.vi rsspecan Get 3GPP BS CDP Scrambling Code Result.vi rsspecan Get 3GPP BS CDP List Evaluation Result.vi rsspecan Configure Wlan Baseband Signal Level.vi
1.4.0	06/2009	Modifications: Support for FSUP (Signal Source Analyzer) instrument added Updated VIs: rsspecan LXI Info.vi (deleted) rsspecan LXI Instrument Description.vi (deleted) rsspecan LXI LAN Reset.vi (deleted) rsspecan LXI Password.vi (deleted) rsspecan Configure Filter Type.vi rsspecan Configure Level.vi rsspecan Configure Unit Power.vi rsspecan Trace IQ Averaging.vi rsspecan Configure Subtract Traces.vi rsspecan Store Marker Peak List.vi rsspecan Configure Reference Oscillator.vi rsspecan Configure External Mixer Signal ID Mode.vi rsspecan Configure Spurious Emissions Sweep List Filter Type.vi rsspecan Configure Spurious Emissions Sweep List Preamplifier.vi rsspecan Configure WiMAX Zone Matrix.vi (renamed) rsspecan Configure WiMAX Zone Burst Matrix.vi (renamed) rsspecan Configure Service Pulsed Input.vi rsspecan Data Set File Select Items.vi rsspecan Set Status Register.vi rsspecan Get Status Register.vi
1.3.0	05/2009	Driver update for Spectrum Analyzer firmware 4.40: Modifications: New VIs: rsspecan Configure Frequency Zero Span.vi rsspecan Query Selected Reference Oscillator Source.vi rsspecan Configure Reference Oscillator External PLL Bandwidth.vi rsspecan Query Channel Power Standard Catalog.vi rsspecan Configure Channel Power User Standard.vi rsspecan ACP Channel Power Adjust Ref Level Offset.vi rsspecan ACP Adjust Reference Level To Channel Power.vi rsspecan Configure Signal Statistic Mean Power Position.vi

rssfesup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		<p> rssfespecan Configure TOI Positioning.vi rssfespecan Query Harmonic Distortion Bandwidth List.vi rssfespecan Query Digital Baseband Input Output Configuration.vi rssfespecan Configure VSA File Import.vi rssfespecan Configure WiMAX Zone Matrix.vi rssfespecan Configure WiMAX Zone Burst Matrix.vi rssfespecan Configure WiMAX TTC Start.vi rssfespecan Configure PWM Bar Graph View.vi (added to VI Tree) </p> <p> Updated VIs: rssfespecan Configure IF Power Trigger Parameters.vi rssfespecan Configure Marker Zoom State.vi rssfespecan Configure Reference Oscillator.vi rssfespecan Initiate Spurious.vi rssfespecan Initiate Spectrum Emission Mask Measurement.vi rssfespecan Configure Channel Power Standard.vi rssfespecan Configure Power Channel Weighting Filters.vi rssfespecan Configure Harmonic Distortion Measurement.vi rssfespecan Configure Spurious Emissions Sweep List Limits.vi rssfespecan Configure VSA File Export.vi rssfespecan Configure VSA Modulation.vi rssfespecan Get 3GPP FDD BS WCDP Result.vi rssfespecan Get 3GPP FDD UE WCDP Result.vi rssfespecan Fetch WLAN Burst All.vi rssfespecan Configure WiMAX Spectrum Measurement.vi rssfespecan Configure WiMAX SEM Measurement.vi rssfespecan Fetch WiMAX EVM.vi rssfespecan Write From File To Instrument.vi rssfespecan Set Status Register.vi rssfespecan Get Status Register.vi </p>
1.2.1	04/2009	<p> Modifications: Support for R&S ESL FW 1.82 added </p> <p> Initial Release for Linux, support for: - Mandriva Linux 2008 and Mandriva Linux 2009 - openSUSE 10.3 and openSUSE 11.0 </p> <p> New VIs: rssfespecan Read Receiver Detector Extended.vi rssfespecan Read Scan Measurement Status.vi rssfespecan Read Peak Results.vi </p>

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		Updated VIs: rsspecan Configure Limit Line.vi rsspecan Configure Final Receiver Detector.vi rsspecan Configure Receiver Detector.vi rsspecan Configure PWM Measurement.vi rsspecan Data Set File Select Items.vi rsspecan Configure WLAN SEM Measurement.vi _rsspecan Clear Before Read.vi
1.2.0	03/2009	Modifications: Support for FSH4/FSH8 FW 1.0 added Updated VIs: rsspecan Configure Level.vi rsspecan Configure Trace Detector.vi rsspecan Configure Delta Marker.vi rsspecan Configure Delta Marker Position.vi rsspecan Delta Marker Search.vi rsspecan Query Delta Marker.vi rsspecan Configure Trigger.vi rsspecan Configure Display Line State.vi rsspecan Configure Display Line Position.vi rsspecan Initiate.vi rsspecan Initialize.vi rsspecan Instrument Options.vi _rsspecan Default Instrument Setup.vi rsspecan_core_range.vi - error output string modified rsspecan Read VSA Trace Data.vi - question mark in command added Help updated in: rsspecan_TraceIQAveraging
1.1.1	01/2009	Bug fixed when reading out the trace I/Q data Updated VIs: rsspecan Read Trace IQ Data.vi rsspecan Fetch Trace IQ Data.vi
1.1.0	01/2009	Modifications: Driver update for Spectrum Analyzer firmware 4.30: New VIs: rsspecan Trace IQ Extended Bandwidth.vi rsspecan Application Setup Recovery.vi

rssfesup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rssfespecan Application Setup Recovery.vi rssfespecan Configure IF Shift.vi rssfespecan Configure VSA EVM Offset State.vi rssfespecan Configure TDS BS Sync To Slot.vi rssfespecan Configure TDS BS Sync To Slot.vi rssfespecan Configure TDS UE Sync To Slot.vi rssfespecan Configure TDS UE User Defined CPICH.vi rssfespecan Configure WiMAX Number Of Antennas.vi rssfespecan Configure WiMAX Zone Space Time Coding.vi Updated VIs: rssfespecan Configure Filter Type.vi rssfespecan Configure Spurious Emissions Sweep List Filter Type.vi rssfespecan Trace Phase Settings.vi rssfespecan Get 3GPP FDD BS WCDP Result.vi rssfespecan Get 3GPP FDD UE WCDP Result.vi rssfespecan Configure WiMAX Standard.vi rssfespecan Create WiMAX New Zone Burst.vi rssfespecan Configure WiMAX Zone Burst.vi rssfespecan Fetch WiMAX Burst Power.vi Added support for FSV Signal and Spectrum Analyzer (FW 1.10): New VIs: rssfespecan Configure Frequency Step Size Auto.vi rssfespecan Configure Frequency Mode.vi rssfespecan Configure Horizontal Scale.vi rssfespecan Configure Sweep Type.vi rssfespecan Configure Marker Search Limits Zoom.vi rssfespecan LXI Info.vi rssfespecan LXI Instrument Description.vi rssfespecan LXI LAN Reset.vi rssfespecan LXI Password.vi rssfespecan Configure External Gate Trace.vi rssfespecan Configure Display Settings.vi rssfespecan Get Display Theme Catalog.vi rssfespecan Configure Display Theme Select.vi rssfespecan Configure Display Marker Table.vi rssfespecan Hardcopy Print Next.vi rssfespecan Hardcopy Time Date.vi rssfespecan Configure Auto Adjust.vi rssfespecan Query N dB Q Factor.vi rssfespecan Configure Power Channel Weighting Filters.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan TOI Signal Search.vi rsspecan Configure Fast SEM.vi rsspecan Store SEM Preset Settings.vi rsspecan Configure SEM Used Power Classes.vi rsspecan Configure SEM Power Class Count.vi rsspecan Configure SEM Power Class Limits.vi rsspecan Configure SEM Power Class All Limits.vi rsspecan Query SEM Power Class All Limits.vi rsspecan Configure Analog Demod Zoom Length.vi Updated VIs: rsspecan Query Delta Marker.vi rsspecan Configure Trigger Source.vi rsspecan Configure IF Power Trigger Parameters.vi rsspecan Configure TV Trigger.vi rsspecan Configure External Gate.vi rsspecan Configure RF Input Coupling.vi rsspecan Configure Electronic Attenuator.vi rsspecan Configure Preamplifier State.vi rsspecan Input Protection Reset.vi rsspecan Configure Limit Line.vi rsspecan Configure Transducer Factor.vi rsspecan Get Transducer Factor Catalog.vi rsspecan Read Y Trace.vi rsspecan Fetch Y Trace.vi rsspecan Get Current Results.vi rsspecan Initiate Spectrum Emission Mask Measurement.vi rsspecan onfigure Marker Noise Measurement.vi rsspecan Query Marker Noise Measurement Result.vi rsspecan Configure Marker Frequency Counter.vi rsspecan Query Marker Frequency Counter Result.vi rsspecan Configure List Power Average Type.vi rsspecan Configure Channel Power Trace.vi rsspecan Configure Channel Power Standard.vi rsspecan Query Signal Statistic Result.vi rsspecan Modulation Depth Signal Search.vi rsspecan Configure Harmonic Distortion Measurement.vi rsspecan Configure PWM External Power Trigger.vi rsspecan Configure 3GPP FDD BS WCDP Result Type.vi rsspecan Configure WLAN Standard.vi rsspecan Create WiMAX New Zone.vi rsspecan Configure WiMAX Zone.vi

rssfesup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Configure Service Input.vi rsspecan Configure Service Pulsed Input.vi rsspecan Memory Size.vi rsspecan Configure Vertical Scale.vi rsspecan Configure Sweep Points.vi rsspecan Configure Signal Track.vi rsspecan Marker Search.vi rsspecan Move Marker.vi rsspecan Set Instrument From Marker.vi rsspecan Link Marker And Delta Marker.vi rsspecan Query Marker.vi rsspecan Probability Marker Position.vi rsspecan Configure IF Output Source.vi rsspecan Configure Unit Power.vi rsspecan Configure Marker.vi rsspecan Configure Marker Demodulation.vi rsspecan Configure Marker Peak List.vi rsspecan Store Marker Peak List.vi rsspecan Query Marker Peak List Found.vi rsspecan Query Marker Peak List.vi rsspecan Configure Delta Marker.vi rsspecan Configure Delta Marker Position.vi rsspecan Delta Marker Search.vi rsspecan Configure Spurious Emissions Sweep List Sweep.vi rsspecan Configure Spurious Emissions Sweep List Limits.vi rsspecan SEM Mark All Peaks.vi rsspecan Configure SEM Reference Range.vi rsspecan Query SEM Reference Range Position.vi rsspecan Configure SEM Preset Standard.vi rsspecan Restore SEM Standard Files.vi rsspecan SEM Save List to File.vi rsspecan Configure Analog Demod AF Param.vi Driver update for FSL Spectrum Analyzer firmware 1.90: New VIs: rsspecan Configure Attenuation Mode.vi rsspecan Service Version Info.vi rsspecan Network Map Drive.vi rsspecan Network Disconnect Drive.vi rsspecan Network Unused Drives List.vi rsspecan Network Used Drives List.vi

rssafsup Instrument Driver		
LabVIEW driver history		
Revision	Date	Note
		rsspecan Network Show Folder Info.vi Updated VIs: rsspecan Configure Averaging Type.vi rsspecan Configure Subtract Traces.vi rsspecan Configure Hardcopy Device.vi rsspecan Configure SEM.vi rsspecan File Directory Path.vi
1.0.1	11/2008	New functions: - rsspecan_ReadScanMeasurement - rsspecan_RunReceiverMeasurement
1.0	10/2008	Initial revision

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



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