

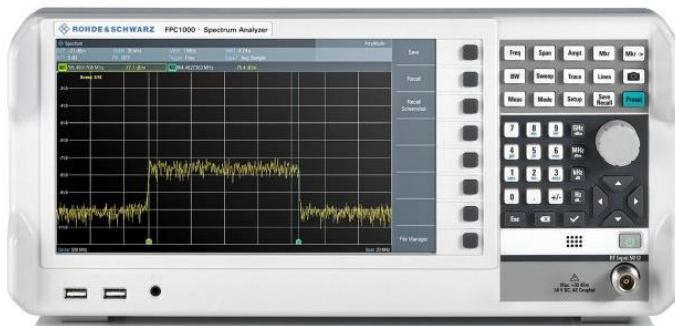
IVI.NET driver history for the R&S® FPH and FPC Spectrum Analyzers Driver Documentation

Products:

| R&S®FPH



| R&S®FPC



Driver history for IVI.NET - C#, Visual Basic .NET

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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
FPH	1.70	
FPC	1.40	

2 IVI.NET driver history

IVI.NET Instrument Driver		
Driver history		
Revision	Date	Note
1.41.1	02/2021	<ul style="list-style-type: none"> * New core 2.13.0 * Fixed setting of initial VISA Timeout which previously led to VISA timeout error in the driver constructor.
1.41.0	01/2021	<ul style="list-style-type: none"> * New core 2.12.0 – there is only one universal driver assembly compiled for AnyCPU. You can use it for 32-bit, 64-bit, or AnyCPU builds.
1.40.0	08/2019	<ul style="list-style-type: none"> * Support for FPH FW 1.70 / FPC FW 1.40 * New subsystems: <ul style="list-style-type: none"> - Vector Network Analyzer * New properties/methods: <ul style="list-style-type: none"> - RsFph.Frequency.ChannelTableSelect - RsFph.TrackingGenerator.Attenuation - RsFph.TrackingGenerator.ZeroSpanEnabled - RsFph.TrackingGenerator.AutoFrequencyEnabled - RsFph.TrackingGenerator.Frequency - RsFph.TrackingGenerator.FrequencyOffset - RsFph.TrackingGenerator.Power - RsFph.TrackingGenerator.Enabled - RsFph.Trigger.IQTriggerLevel - RsFph.Trace.Math.SubtractTraces - RsFph.Trace.Marker.Mode - RsFph.Trace.Marker.Functions.SpectrumEmissionMask.Preset - RsFph.Trace.Marker.Functions.SpectrumEmissionMask.Standard - RsFph.Trace.Marker.Functions.SpectrumEmissionMask.SweepMode - RsFph.Trace.Marker.Functions.ThirdOrderIntermodulation.TOIMeasurementEnabled - RsFph.Trace.Marker.Functions.ThirdOrderIntermodulation.TOISearch - RsFph.Trace.Marker.Functions.ThirdOrderIntermodulation.QueryTOIResult - RsFph.Trace.Marker.Functions.MarkerTrackingEnabled - RsFph.SystemFph.ReadBytes() - RsFph.SystemFph.ReadString() - RsFph.SystemFph.WriteBytes() - RsFph.SystemFph.WriteString() - RsFph.SystemFph.IOTimeout - RsFph.Display.RemoteOperationEnabled - RsFph.FileFph.LoadDatasetFromFile() - RsFph.PowerMeter.Configuration.Wavelength - RsFph.PowerMeter.Analysis.PWMFetchReflectedResult - RsFph.AnalogModulation.Configuration.ReferenceDeviation

IVI.NET Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - RsFph.AnalogModulation.Analysis.AMModulationDepthResult - RsFph.AnalogModulation.Analysis.FMModulationRateResult - RsFph.DigitalDemodulation.Configuration.BurstStateEnabled - RsFph.DigitalDemodulation.Configuration.FSKFrequencyDeviation - RsFph.ReceiverMode.Configuration.FrequencyScale - RsFph.ReceiverMode.Configuration.Marker.SynchronizeBargraphFrequencyToSpecifiedMarker - RsFph.UtilityFunctions.BinaryDataOrder <p>* Modified properties/methods:</p> <ul style="list-style-type: none"> - RsFph.Frequency.Offset - new range: <-100.0E+9;100.0E+9>. Default unit may be Hz or GHz - RsFph.Amplitude.AmplitudeUnits - Range table updated - RsFph.Acquisition.NumberOfSweeps - new range: <0;999>. - RsFph.Acquisition.VerticalScale - Long form updated - RsFph.SweepCoupling.ResolutionBandwidth - Default value updated. - RsFph.SweepCoupling.SweepPoints - No longer read-only, range table added, enabled for FPH. - RsFph.SweepCoupling.VideoBandwidth - Default value updated. - RsFph.Trigger.Source - RSFPH_VAL_TRG_IQP and RSFPH_VAL_TRG_GET added to range table. - RsFph.Trace.FetchY() - Added Window parameter. - RsFph.Trace.Marker.Functions.PowerMeasurements.PowerStandard - Changing to Write Only - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRRelativeLimitCheck - Range table updated - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRAbsoluteLimitCheck - Range table updated - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRTransmissionChannelAsReferenceChannel - Range table updated - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateRelativeLimitCheck - Range table updated - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateAbsoluteLimitCheck - Range table updated - RsFph.UtilityFunctions.IDQueryResp - Updating attribute's command, access, callback, flags. <p>* Deleted properties/methods:</p> <ul style="list-style-type: none"> - RsFph.UtilityFunctions.StatusRegisterFormat <p>* Modified Range Tables:</p> <ul style="list-style-type: none"> - rsfph_rngDisplayBrightness - RSFPH_ATTR_DISP_BRIGHTNESS Range changed to <0.00;1.00> - TriggerSource - RSFPH_ATTR_TRIGGER_SOURCE New items: IQPower, Gated - TraceMode - RSFPH_ATTR_TRACE_TYPE New items: Blank - AmplitudeUnits - RSFPH_ATTR_AMPLITUDE_UNITS, RSFPH_ATTR_TFAC_UNIT New items: dBuVEMF, dBmVEMF, VEMF, dBuA, dB - SystemAccessory.Z1 - RSFPH_ATTR_SYST_ACCESSORY

IVI.NET Instrument Driver		
Driver history		
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		<p>Help changed ("Type of measurement accessory is Z1", "type of measurement accessory is Z1")</p> <ul style="list-style-type: none"> - SystemAccessory.Z2 - RSFPH_ATTR_SYST_ACCESSORY <p>Help changed ("Type of measurement accessory is Z2", "type of measurement accessory is Z2")</p> <ul style="list-style-type: none"> - SystemAccessory.Z3 - RSFPH_ATTR_SYST_ACCESSORY <p>Help changed ("Type of measurement accessory is Z3", "type of measurement accessory is Z3")</p> <ul style="list-style-type: none"> - SystemAccessory.Z18 - RSFPH_ATTR_SYST_ACCESSORY <p>Help changed ("Type of measurement accessory is Z18", "type of measurement accessory is Z18")</p> <ul style="list-style-type: none"> - SystemAccessory - RSFPH_ATTR_SYST_ACCESSORY <p>New items: Z44, ZN_Z103</p> <ul style="list-style-type: none"> - InstrumentMode - RSFPH_ATTR_INSTRUMENT_MODE <p>New items: VectorNetworkAnalyzer</p> <ul style="list-style-type: none"> - MathExpression.CurrentMemory - RSFPH_ATTR_SUBTRACT_TRACES <p>Command changed ("(memory - IMPLied)", "(memory - IMPLied)")</p> <ul style="list-style-type: none"> - rsfph_rngDisplayReferencePosition - RSFPH_ATTR_DISP_REF_POSITION <p>Range changed to <0;100></p> <ul style="list-style-type: none"> - ACLRUnits - RSFPH_ATTR_ACLR_RESULT_UNIT <p>New items: dBuA, dBuV_m, dBuA_m, V_m, W_m2</p> <ul style="list-style-type: none"> - ACLRReferenceChannelAutomaticSelection <p>RSFPH_ATTR_ACLR_REFERENCE_CHANNEL_AUTOMATIC_SELECTION</p> <p>New items: Manual</p>
1.30.0	09/2017	<ul style="list-style-type: none"> * Added supported instrument FPC1000 * Update for FPH Firmware 1.30 * IVI.NET shared components 1.4.0 used * New properties/methods: <ul style="list-style-type: none"> - RsFph.Frequency.ChannelNumber - RsFph.Frequency.ChannelTableDownlink - RsFph.Frequency.ChannelTableUplink - RsFph.Frequency.ChannellinkDirection - RsFph.Trace.Marker.Functions.PowerMeasurements.QueryResults() - RsFph.Trace.Marker.Functions.PowerMeasurements.Select - RsFph.Trace.Marker.Functions.PowerMeasurements.Disable - RsFph.Trace.Marker.Functions.PowerMeasurements.PowerStandard - RsFph.Trace.Marker.Functions.PowerMeasurements.PowerStandardCheck - RsFph.Trace.Marker.Functions.PowerMeasurements.AdjustReferenceLevel() - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRLimitCheckEnabled - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRRelativeLimitCheckEnabled - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRRelativeLimitCheck - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRAbsoluteLimitCheckEnabled

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		<ul style="list-style-type: none"> - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRAbsoluteLimitCheck - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRLimitCheckResult() - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRResultUnit - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRNumberOfAdjacentChannels - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRChannelMode - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRChannelBandwidth - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRAdjacentChannelBandwidth - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRAdjacentChannelSpacing - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRAdjustReferenceLevel() - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRTransmissionChannelCount - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRReferenceChannelAutomaticSelection - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRTransmissionChannelAsReferenceChannel - RsFph.Trace.Marker.Functions.PowerMeasurements.ACLRTotalTXChannelPower - RsFph.Trace.Marker.Functions.PowerMeasurements.TransmissionChannel.ACLRTransmissionChannelSpacing - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateChannelBandwidth - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateChannelSpacing - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateRelativeLimitCheckEnabled - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateRelativeLimitCheck - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateAbsoluteLimitCheckEnabled - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateAbsoluteLimitCheck - RsFph.Trace.Marker.Functions.PowerMeasurements.AlternateChannel.ACLRAlternateLimitCheckResult() - RsFph.Trace.Marker.Functions.ChannelPowerMeasurements.Bandwidth - RsFph.Trace.Marker.Functions.ChannelPowerMeasurements.DisplayMode - RsFph.Trace.Marker.Functions.ChannelPowerMeasurements.Unit - RsFph.Trace.Marker.Functions.ChannelPowerMeasurements.PerHertz - RsFph.Trace.Marker.Functions.HarmonicDistortion.Enabled - RsFph.Trace.Marker.Functions.HarmonicDistortion.NoOfHarmonics - RsFph.Trace.Marker.Functions.HarmonicDistortion.AdjustSettings() - RsFph.Trace.Marker.Functions.HarmonicDistortion.HarmonicDistortionResult() - RsFph.Trace.Marker.Functions.HarmonicDistortion.HarmonicDistortionPositionList() - RsFph.Trace.Marker.Functions.AMModulationDepth.Enabled - RsFph.Trace.Marker.Functions.AMModulationDepth.Result - RsFph.Trace.Marker.Functions.OccupiedBandwidth.ChannelBandwidth - RsFph.Trace.Marker.Functions.OccupiedBandwidth.PowerPercentage - RsFph.Trace.Marker.Functions.TDMAMeasurements.BurstLength - RsFph.Trace.Marker.Functions.IsotropicAntenna.Enabled - RsFph.Trace.Marker.Functions.IsotropicAntenna.Direction - RsFph.Transducer.IsotropicAntenna - RsFph.SystemFph.BeeperOnPowerOverload - RsFph.SystemFph.CaptureGPXInformationEnabled

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		<ul style="list-style-type: none"> - RsFph.SystemFph.DeviceMaterialNumber - RsFph.SystemFph.DeviceSerialNumber - RsFph.SystemFph.FreeRAM - RsFph.SystemFph.TotalRAM - RsFph.SystemFph.UsedRAM - RsFph.SystemFph.FreeStorage - RsFph.SystemFph.TotalStorage - RsFph.SystemFph.UsedStorage - RsFph.SystemFph.GPSReceiver.Enabled - RsFph.SystemFph.GPSReceiver.Connected - RsFph.SystemFph.GPSReceiver.CorrectionFrequency - RsFph.SystemFph.GPSReceiver.Satellites - RsFph.SystemFph.GPSReceiver.Quality - RsFph.SystemFph.GPSReceiver.Latitude() - RsFph.SystemFph.GPSReceiver.Longitude() - RsFph.SystemFph.GPSReceiver.Altitude - RsFph.SystemFph.GPSReceiver.ValidPosition - RsFph.Display.DeviationPerDivision - RsFph.Display.UnitLength - RsFph.HardCopy.HcopyPrintScreenToFile() - RsFph.FileFph.SaveDatasetToFile() - RsFph.FileFph.SaveDatasetAndScreenshotToFile() - RsFph.PowerMeter.Configuration.ForwardPowerDisplay - RsFph.AnalogModulation.Configuration.Bandwidth - RsFph.AnalogModulation.Configuration.MeasurementTime - RsFph.AnalogModulation.Configuration.DeemphasisEnabled - RsFph.AnalogModulation.Configuration.DeemphasisTimeConstant - RsFph.AnalogModulation.Configuration.AudioLowpassFilter - RsFph.AnalogModulation.Configuration.LimitLines.Select - RsFph.AnalogModulation.Configuration.LimitLines.Delete - RsFph.AnalogModulation.Analysis.CheckResult - RsFph.AnalogModulation.Analysis.ResultDisplay - RsFph.AnalogModulation.Analysis.FMOffset - RsFph.AnalogModulation.Analysis.CarrierPowerResult - RsFph.AnalogModulation.Analysis.SINADResult - RsFph.AnalogModulation.Analysis.THDRResult - RsFph.AnalogModulation.Analysis.AudioFrequencyResult - RsFph.AnalogModulation.Analysis.FrequencyErrorResult - RsFph.AnalogModulation.Analysis.AMModulationIndexResult - RsFph.AnalogModulation.Analysis.AMMaxResult - RsFph.AnalogModulation.Analysis.AMMinResult

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		<ul style="list-style-type: none"> - RsFph.AnalogModulation.Analysis.AMAverageResult - RsFph.AnalogModulation.Analysis.AMRMSResult - RsFph.AnalogModulation.Analysis.FMMaxResult - RsFph.AnalogModulation.Analysis.FMMinResult - RsFph.AnalogModulation.Analysis.FMAverageResult - RsFph.AnalogModulation.Analysis.FMRMSResult - RsFph.DigitalDemodulation.Configuration.SelectMeasurement - RsFph.DigitalDemodulation.Configuration.SymbolRate - RsFph.DigitalDemodulation.Configuration.NumberOfSymbols - RsFph.DigitalDemodulation.Configuration.MeasurementFilter - RsFph.DigitalDemodulation.Configuration.FilterType - RsFph.DigitalDemodulation.Configuration.FilterRollOffFactor - RsFph.DigitalDemodulation.Analysis.FSKOffset - RsFph.DigitalDemodulation.Analysis.ResultDisplay - RsFph.DigitalDemodulation.Analysis.CarrierPowerResult - RsFph.DigitalDemodulation.Analysis.CarrierFrequencyDriftResult - RsFph.DigitalDemodulation.Analysis.CarrierFrequencyErrorResult - RsFph.DigitalDemodulation.Analysis.ModulationDepthResult - RsFph.DigitalDemodulation.Analysis.FrequencyDeviationResult - RsFph.DigitalDemodulation.Analysis.MagnitudeErrorResult - RsFph.DigitalDemodulation.Analysis.ModulationIndexResult - RsFph.DigitalDemodulation.Analysis.ModulationErrorResult - RsFph.DigitalDemodulation.Analysis.CarrierSignalPowerResult - RsFph.ReceiverMode.Configuration.ScanRangeStart - RsFph.ReceiverMode.Configuration.ScanRangeStop - RsFph.ReceiverMode.Configuration.ScanRangeStepSize - RsFph.ReceiverMode.Configuration.ResetMaxholdInformation() - RsFph.ReceiverMode.Configuration.TraceStyle - RsFph.ReceiverMode.Configuration.CISPRBandwidthAuto - RsFph.ReceiverMode.Configuration.CISPRBandwidth - RsFph.ReceiverMode.Configuration.Marker.SynchronizeBargraphFrequencyToMarker() - RsFph.UtilityFunctions.StatusRegisterFormat - RsFph.UtilityFunctions.Bit.SetStatusRegister() - RsFph.UtilityFunctions.Bit.GetStatusRegister() - RsFph.UtilityFunctions.WriteCommand() - RsFph.UtilityFunctions.WriteCommandWithOPCSync() - RsFph.UtilityFunctions.ReadCommand() - RsFph.UtilityFunctions.QueryCommand() - RsFph.UtilityFunctions.QueryWithOPCSync() <p>* Modified properties/methods:</p>

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		<ul style="list-style-type: none"> - RsFph.Trace.FetchY() - Added Window parameter. - RsFph.SystemFph.InstrumentMode - Added new values to range table. - RsFph.PowerMeter.Configuration.Unit - Added new values to range table. * Modified Range Tables: - PowerSensorUnit - RSFPH_ATTR_PWM_UNIT New items: dBuVm, dBuV, W_M2, V_M - TraceMode.Freeze - RSFPH_ATTR_TRACE_TYPE Help changed ("Freeze", "") - TraceMode.Infinite - RSFPH_ATTR_TRACE_TYPE Help changed ("Infinite", "") - StatusRegister - New items: Sync - StatusRegisterQuery.PTransition - Help changed ("P Transition", "PTransition") - StatusRegisterQuery.PTransition - Description changed ("P Transition", "PTransition") - StatusRegisterQuery.NTransition - Help changed ("N Transition", "NTransition") - StatusRegisterQuery.NTransition - Description changed ("N Transition", "NTransition") - InstrumentMode - RSFPH_ATTR_INSTRUMENT_MODE New items: AnalogModulation, Receiver, CableAndAntennaAnalyzer, Maps, DigitalDemodulation
1.10.0	12/2016	* Initial Release for the FPH firmware 1.10

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.

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- 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

North America

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

customer.support@rsa.rohde-schwarz.com

Latin America

+1-410-910-7988

customersupport.la@rohde-schwarz.com

Asia/Pacific

+65 65 13 04 88

customersupport.asia@rohde-schwarz.com

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Rohde & Schwarz GmbH & Co. KG

Mühl Dorfstraße 15 | D - 81671 München

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

www.rohde-schwarz.com