Version 25.1.0
- Linux version now detects new VID VNAs

Version 24.3.3
- Time domain span's lowest limit is reduced to 1ps

Version 24.3.2
- Added support for RP5/RP10 with new USB VID

Version 24.3.1
- A new factory calibration option for R150 is added

Version 24.2.1
- Added support for RP60s with new USB VID

Version 24.1.2
- Response to command SYST:ERR? Is now in compliance with the standard – message is in quotation marks
- Added support for new USB VID

Version 24.1.0
- Implemented *WAI command to wait for sweep completion initiated by TRIG:SING command
- Changed behavior of TRIG:SING command. To wait for the sweep to finish now, *OPC? or *WAI has to be used

Version 23.4.1
- SCPI command parser can work with file names with and without double quotes
- Added Z5411 and T4311 calibration kit definitions

Version 23.4.0
- Added SCPI commands for checking calibration status:
  CALCulate#[:SELected]:CORRection:STATus?
  CALCulate#:TRACe#:CORRection:STATus?

Version 23.3.5
- Fixed bugs with remote ACM(ACMB). The bugs appeared after version 22.3.0
- Invisible mode is optimized for speed

Version 23.3.2
- Fixed bugs in the power saving mode for R140B/RP140B VNAs
- Added option to include trace transform (time domain gating) when saving touchstone files

Version 23.3.1
- Fixed and enabled the power saving mode

Version 23.3.0
- Fixed the compatibility issue with R140Bs with first hardware revision
- Disabled the power saving mode

Version 23.2.2
- Added SCPI command for the 'active low' trigger selection - TRIGger:EXTernal:SLOPe LOW

Version 23.2.1

- Add a new selection under the external trigger polarity menu 'active low' for the R140B analyzers where the device will start triggering if it detects a low signal (like the R140 analyzers)

Version 23.2.0

- Fixed a bug where the sweeps froze occasionally with the R180 analyzer

Version 23.1.4

- Fixed a bug where the sweeps froze occasionally with the R60 analyzer

Version 23.1.1

- Added support for R140B hardware version 2

Version 22.4.6

- Fixed a bug when working with external triggers on R140B analyzers
- VCO calibration is enabled for the R140B regardless of stimulus settings

Version 22.4.4

- fixed bug when loading state files with memory trace data in it

Version 22.4.2

- Updated R140B firmware

Version 22.4.0

- Added support for R140B and RP140B analyzers

Version 22.3.1

- Fixed issues with a few automation commands:

  CALC:LIM:REP:POIN?
  CALC:LIM:REP?
  SCPI.CALCulate.SELected.LIMit.REPort.DATA
  SCPI.CALCulate.SELected.LIMit.REPort.POINts

Version 22.3.0

- Fixed a bug when using SCPI command to save calibration kits after the 16th slot in the table

Version 22.2.3

- Fixed the error launching the application for certain Windows 10 PCs
- The application window position information is removed from the state files

Version 22.2.2

- Fixed a bug with the COM command: SCPI.SYSTem.STANdby
- Added SCPI commands:
  SYSTem:STANdby[:STATe] {OFF|ON}
  SYSTem:STANdby[:STATe]?

Version 22.2.1

- Improved the time gating effects for low loss DUTs

Version 22.2.0
- Fixed a bug with the marker search function for a given range
- Fixed an issue caused when maximizing window for certain PCs

Version 22.1.4
- The channel title field now allows multiline entries using the delimiter character "\"

Version 22.1.3
- Fixed a bug in demo mode
- Fixed an issue caused when several devices are connected to the USB bus

Version 22.1.2
- Added new SCPI commands:

  MMEMory:LOAD:SNP[:DATA] <string>
  MMEMory:LOAD:SNP:FREQuency[:STATe] {OFF|ON|0|1}
  MMEMory:LOAD:SNP:FREQuency[:STATe]?
  MMEMory:LOAD:SNP:TRACe#:MEMory <string>

Version 22.1.1
- Fixed compatibility issues with Windows XP OS

Version 22.1.0
- Implemented a new USB driver based on WinUSB. The setup process automatically selects the driver.

Version 21.4.1
- Added the ability to translate the interface language
- Improved algorithm for time domain conversion for Lowpass Step type
- Added System Z0 edit field

Version 21.4.0
- N1802 -M- cal kit was added to the table

Version 21.3.2
- The operation manual was updated with a section to describe the use of the ACMB module
- New SCPI commands were added to the programming manual

Version 21.3.1
- Added new automation commands:
  SYSTem:CONNection:SERial[:NUMBer] <numeric>
  SYSTem:CONNection:SERial[:NUMBer]?

- Added the ability to assign a serial number when launching the application
  SerialNumber:XXXX (where XXXX is the serial number of the device)

Version 21.3.0

- Added the ability to work with a Remote ACM (ACMB)
- Implemented the ability to load and view the full matrix of S parameters from the S2P file (Touchstone)
- Added a parameter /NoSleep, which stops the application from switching to standby mode when closing the program

Version 21.2.2
- Disabled complex interpolation of marker position between two points of the complex plane
- Added an automation command for setting the size of the plot area:
  HCOPy:RECTangle <width>,<height>
  HCOPy:RECTangle?
- Added commands for saving and loading calibrations in channels
  MMEMory:LOAD:CHANnel#:CALibration <string>
  MMEMory:STORe:CHANnel#:CALibration <string>

Version 21.2.1
- Added support for ACM2520v2
- Fixed a bug in transferring binary data through automation (big endian / little endian formats were switched)
- Fixed an error in statistics and flatness update when scanning was stopped

Version 21.1.4
- Fixed reset in full screen mode, enabling and exiting full screen mode

Version 21.1.3
- The output power control is now unlocked in demo mode

Version 21.1.2
- Fixed a bug processing the national date standard
- Fixed a bug related to CALC:DATA:FDAT? automation command when working in polar coordinates

Version 21.1.1
- Optimized saving state files. The default settings are not recorded. The state file size is now minimal.

Version 20.4.3
- Fixed a bug in the compensation of the slope of the graph in the Lowpass Step mode in Time Domain. The Cable Loss correction option is not used for this (Lowpass Step) mode
- Fixed a bug related to reading group delay values via automation

Version 20.4.1
- Fixed a bug when renumbering a USB device with Windows 10 PCs

Version 20.4.0
- Phase offset is now applied with a negative sign

Version 20.3.4
- Added an option to select the time domain reflection type: one way, back and forth.

- The following automation commands:

  COM
  SCPI.CALCulate(Ch).SELected.TRANsform.TIME.REFLection {"RTRip","OWAY"}

SCPI
CALCulate#[:SELected]:TRANsform:TIME:REFLection: TYPE {RTR|OWAY}
CALCulate#[:SELected]:TRANsform:TIME:REFLection: TYPE?

Version 20.3.3
- Fixed a bug when launching R180 devices in Linux OS

Version 20.3.1
- Fixed a bug in waveguide calibration that occurred when switching the Offset Delay Unit characteristic from ps to mm

Version 20.3.0
- Improved automation stability

Version 20.2.2
- Added ability to export Touchstone files from memory traces
- The following automation commands were added:

COM
SCPI.CALCulate(Ch).TRACe(Tr).DATA.XAXis
SCPI.CALCulate(Ch).SELected.DATA.XAXis
SCPI.SYSTem.Ready

SCPI
CALCulate#[:SELected]:DATA:XAXis?
CALCulate#:TRACe#:DATA:XAXis?

Version 20.1.5
- Added SCPI.TRIGger.SEQuence.WAIT(STATus) COM command
- Added support to ACM2506
- Added COM/SCPI commands for all port extension features

Version 19.4.4
- Added SYST:TERM SCPI command to terminate the analyzer software
- Limit line in Polar format now includes magnitude

Version 19.4.3
- Fixed a bug related to 'trace hold' function

Version 19.4.2
- Autosave is now disabled by default
- Fixed a bug saving system impedance data in a state file

Version 19.4.1
- Fixed a bug related to DISP:WIND:TRAC:Y:PDIV command
- Fixed a bug related to time domain gating when selecting one way reflection type

Version 19.3.0
- Marker values now round properly

- Error correction information (for example F1) in the trace status field is hidden when the correction is turned off

Version 19.1.1
- Updated bootloader R60 (rev.3)

Version 19.1.0
- Added automation commands for confidence check and ACM orientation function
- Fixed a bug where 'dB' was shown on the trace status field for linear display format

Version 18.4.0
- Optimized data averaging algorithm

Version 18.3.3
- Fixed an issue related to cycle time when having multiple channels
- Updated the COM and SCPI programming manuals

Version 18.3.0
- Fixed an error with LabVIEW AutoCal function

Version 18.2.6
- Disabled the "new analyzer model detected" dialogue boxes when the program is run in invisible mode

Version 18.2.3
- Fixed a bug related to automation

Version 18.2.1
- Fixed a bug where the error dialogues pop up whenever the application was turned on/off constantly.

Version 18.2.0
- Added the SCPI command to load the touchstone file MMEM:LOAD:SNP

Version 18.1.5
- Fixed a bug with COM automation

Version 18.1.2
- Additional calibration kits are added to the cal kit table: S2611, N1801, S911T and N1.2

Version 18.1.0
- Improved the auto-detect functionality
- Added the possibility of connecting a device with the specified serial number
- Added the following SCPI commands:
  - DISPlay: UPDate [: IMMediate]
  - DISPlay: ENABle
  - TRIGger [: SEQuence]: WAIT {HOLD | MEASURE | WAIT}
- Added the ability to turn on/off cycle time
- Added the ability to turn on/off the display update

Version 17.4.4
- Fixed a bug related to the de-embedding function

Version 17.4.3
- Fixed a bug which caused an error when saving polar graph into a *.csv file

Version 17.4.2
- Added support for ACM2509 (version 2)

Version 17.4.1
- Fixed a bug related to the stimulus output power
- Integrated the data from S1P/ S2P file to the calibration file

Version 17.4.0
- Modified the control of time domain mode. It is now available under the 'Analysis' menu
- Extended set of data trace formats (Smith, Polar, etc.)

Version 17.3.2
- Automation commands have been added to control Avoid Ripple feature: SCPI.SYStem.ARIPple.STATe and SYSTem: ARIPple [: STATe]
- Improved algorithm avoiding ripple for R180 devices

Version 17.3.1
- Fixed a bug related to marker behavior on stored traces when using polar chart display formats

Version 17.3.0
- Fixed a bug in R60/R180 Demo Mode

Version 17.2.5
- Driver and installer are digitally signed using an enhanced certificate. Enables driver installation on all Windows versions including fresh (non-upgraded) installations of Windows 10, version 1607 with Secure Boot ON.
- "Reflectometer" renamed "1-Port VNA".

Version 17.2.2
- Fixed a bug related to "SCPI.CALCulate(Ch).SELected.MARKer(Mk).X = Value" behavior. Now COM and SCPI operations read and set a delta value if the reference marker is enabled. Also modified reading of Y values.
- Fixed a bug related to ACM Calibration and Confidence Check feature. The bug was introduced starting from version 16.3.6.

Version 17.2.0
- Added COM commands to read and write data of calibration standards for performance testing

Version 17.1.5
- Added vertical functionality to the limit line feature

Version 17.1.4
- Added COM and SCPI commands for deleting the memory trace in a channel
- Fixed a bug related to turning off the signal generator on TR5048 and TR7530
- Added COM and SCPI commands for recording calibration coefficients

Version 17.1.3
- Fixed a bug related to the auto port extension algorithm

Version 17.1.2

- Fixed a bug associated with launching a new window scan when using the channel placement function
- Optimized drawing of graphs when using a large number of points
- Added SCPI and COM commands for data functions
- Fixed a bug in the operation of the TCP server when using multiple clients

Version 17.1.1

- Fixed a bug related to traces loaded from a state file being overwritten by inadvertent sweeping immediately after loading

Version 17.1.0

- Added calibration kit S911
- Increased size of calibration kit list to 50
- Added calibration kit descriptions

Version 16.4.2

- Added display for temperature readout
- Fixed a bug related to the capitalization of Touchstone files
- Fixed a bug causing a crash when certain settings were input to port extension
- Fixed a bug that caused Demo mode to hang when using segmented sweep

Version 16.3.5

- Fixed a bug causing a crash when using automatic port extension
- Fixed a bug related to SCPI commands including SENS:CORR:EXT:PORT:xxx
- Improved the Phase Offset feature so it is no longer limited to a range of +/- 360 degrees
- Improved auto-detection algorithms for connected devices
- Fixed a bug related to limit line behavior in the log sweep mode

Version 16.3.1

- Fixed a bug related to programmatically defining a segment table when the first segment has a single point

Version 16.3.0

- Added default to last path for each save and load file according to type, including across sessions
- Changed output power adjustment to use increments of 0.1 dB
- Added an option to fix the grid. When enabled, the plot is always divided into 10 vertical grid lines
- Added files regserver.bat and unregserver.bat to installer package, for easier registration of the COM server
- Improved calibration status and progress indications when used with an ACM module
- Fixed the commands SCPI.CALCulate.SELected.MARKer.Y and CALCulate # [SELected] MARKer # Y; data is now returned correctly
- Fixed a bug related to recall of State files of type All with time domain enabled
- Markers now persist across switches between frequency and time domain
- During calibration, measurement results are now displayed in the measurement window
- Added support for COM DCOM and SCPI commands for charting a memory trace and data trace

Version 16.2.1

- Added a control for displaying data and/or memory traces
- Added markers capability to the memory trace
- Fixed a bug related to simultaneous use of Gating and Z-transform

Version 16.2.0

- Added automatic main window and font size adjustments according to screen resolution
- Disabled access to plug-ins menu when COM server is unregistered
- Added the software version number to the header of the main window

Version 16.1.7

- Improved buffering of SCPI commands for TCP Socket
- Fixed a bug in the SCPI command for calibration of THRU
- Added independent control of marker color

Version 16.1.4

- Fixed a bug related to use of socket interface in binary data format (REAL, REAL32)
- Added power calibration support for the Keysight U8481A power meter
- Added support for recall of *.ckd files created with S2VNA and S4VNA
- Added a COM command for control of standby mode SCPI.SYSTem.STANdby

Version 16.1.2

- Fixed a bug related to recalling Channels A, B, C, and D

Version 16.1.0

- IMPORTANT: All instruments in the R Family (1-Port VNAs) now share a common installer and software; device type can be dynamically detected or manually set on the System->Misc Setup menu. Version 16.1.2 supports the Planar R54 and R140 devices
- IMPORTANT: This software release includes significant changes to of demo/simulator mode: During installation, select whether the software should run in a demo/simulator mode or not. This setting can be changed later on the System->Misc Setup menu
- IMPORTANT: The version number now reflects the year of release, major, and minor revisions; it is unified across software families
- Updated the LabView driver to match the new COM interface name
- Updated Programming Examples and Guides to reflect the new COM interface name
- Added independent marker color control and improved the color theme of the user interface
- Changed the application icon

Version 15.4.0

- Unified the software installer across all Planar series reflectometers (R family of instruments)
- Changed the COM interface to the more universal name: IRVNAPtr
- Added a new more universal name for the COM server: RVNA.Application
- Added a panel at the top of the UI with "quick buttons"
- Fixed a bug related to disabling output power via COM interface; added new COM command for RF output control

Version 2.6.0

- Added SCPI interface for remote control via IP/TCP socket
- Added SCPI programming guide and sample program in Visual C ++
- Added error messages related to failed loading of an S2P file
- Added a graphical indication of gating time range when time domain mode is enabled
- Added sliders for dialogue boxes to scroll through lists
- Added the ability to run custom extensions (plugins)
- Added plugin for simulation of matching networks defined by circuit elements
- Added ability to erase user characterizations from the ACM
- Added calibration kit definitions for N911 / 912
- Fixed a bug related to ACM information requests via the COM interface
- Optimized memory usage when working with a large number of points

Version 2.5.9

- Fixed a bug in the COM server interface related to obtaining raw complex data
- Added version information to the splash screen
- Added Real and Imag display format options
- Updated and reformatted Operating Manual and Programming Manual

Version 2.5.8

- Fixed a bug in the COM server related to the Touchstone file interface

Version 2.5.7

- Fixed a minor bug related to the Smith Chart display Scale setting
- Added a trace pointer to Smith Chart and Polar display formats
- Added support for SCPI commands via VXI-11 remote management protocol (software is available on request)Version 2.5.6
- UI changed to resolve overloaded dialogs
- Fixed a minor bug when working with tables, including an issue related to scrolling mode after entering data
- Fixed a bug in the COM server associated with marker numbering in the calculation of statistics over a range
- Fixed a bug which could cause an application crash when switching from external to internal trigger
- Implemented segmented scan with delay enabled for points

Version 2.5.5

- The maximum number of points is increased to 100001
- Fixed a minor bug when saving / restoring calibration kits; data save/restore was applied to the active kit instead of the kit selected in the list

Version 2.5.4

- In absolute measurements, phase is now normalized to the reference channel
- The software has a single COM-server (type library) for all instruments of the R series
- LabView driver released (CMT R Series VNA)

Version 2.5.3

- Fixed a bug causing trace statistics function to not work in the absence of markers
- Fixed a typo the command group SCPI.SENSe.SWEep.REVerse
- Eliminated fading demo mode when changing the parameters of the sweep
- Fixed a bug related to stimulus information displayed inside softkeys

Version 2.5.2

- Added waveguide calibration (1/8 Offset Short, 3/8 Offset Short, Load)
- Added waveguide calibration kits (WR284, WR229, WR187, WR159, WR137 A-INFO)
- Fixed error related to accessing the calibration menu

Version 2.5.1

- Fixed bug in math traces related to Z transform
- Fixed a bug related to multiple channels

Version 2.5.0

- Added reverse frequency sweep feature
- Added feature to turn off the frequency axis and marker times/frequencies

Version 2.4.9

- Modified the frequency synthesis algorithm to increase the precision of frequency adjustments
- Expanded the list of IF filters to include 1 Hz
- Changed the automatic frequency adjustment mechanism for the x2 devices
- Added interactive website and support email in the About dialog box
- Fixed data for N1.1 calibration kit

Version 2.4.8

- Improved USB functionality related to PC Sleep/Standby and wake

Version 2.4.7

- Added trace allocation/maximization within the channel window
- Added control of the user interface color scheme
- Fixed a bug in the programming command for screenshot color
- Added function to save/restore calibration kit files

Version 2.4.6

- Improved code stability related to use of calibration standards defined by S1P files

Version 2.4.5

- Fixed a bug related to saving state after disabling the reference marker

Version 2.4.4

- Added display of center while selecting "Center/Span" for stimulus
- Fixed minor issues in VSWR calculation
- For trigger Mode Single/Hold, added a manual Trigger button to start the sweep
- Moved the standby softkey to the System menu
- Changed marker edit behavior when reference marker is enabled; now can edit in the offset or absolute frequency
- Bandwidth search supports notch filter, for searching from null up to a specified level
- Added selection of units for Touchstone files: Hz, kHz , MHz , GHz
- Fixed N612 calibration kit coefficients
- Fixed bug in cable loss correction (DTF Return Loss)

Version 2.4.1 - 2.4.3

- Fixed error when loading S2P for embedding/de-embedding
- Minor changes in the interface
- Bug fixes in the COM/DCOM command for Save calibration
- Support ACM via COM/DCOM

Version 2.4

- Examples of COM/DCOM now work with the English version of MS Excel.
- Added support for printing with chart templates into MS Word; expanded print menu.
- Added support for loading S1P, S2P files into memory as the active trace, the memory trace or measured S-parameters (which stops scanning).
- Extended menu persistence (condition, condition + calibration + track condition , all options)
- COM/DCOM command set supplemented to store the calibration file
- Implemented independent calibration for each channel
- Added the ability to save the calibration to file and restore from file
- Added option for port extension
- Added automatic port extension
- Added Max Hold function
- Added option to save/restore the state of the channel
- Fixed bug related to marker behavior when at the top of the chart (marker now flips)
- Added automatic driver installation and registration of COM server to installer
- Added support for Automatic Calibration Modules ACM6000T, ACM8000T

Version 2.3

- Added calibration status display to the channel window
- Supplemented controls for inputting electrical delay and phase shift
- Moved submenu Gating to submenu Analysis
- Added ability to load Touchstone files into memory trace data (S11) (*. S1p, *. S2p)
- Added support for negative values of the stimulus (time/distance) in DTF mode
- Fixed a bug that occurs while switching averaging over N- Emersion mode measurements and / or Exceptions impedance conversion circuits

Version 2.2

- Fixed a bug in the Display menu dialogue
- Updated Operating Manual
- For R140x2, synchronization mode has been added on the input trigger and associated mode frequency of the reference oscillator

Version 2.1

- Fixed a bug in the COM/DCOM “Remote” Operation Mode

Version 2.0

- Added ability to maximize a channel window.
- Added control of the synchronization source
- Any number of measuring points can be set up in an interval from 2 to 16,001
- Added time selection (Gating)
- Fixed COM/DCOM issue with starting up multiple copies of the application
- Added automatic registration of COM server at startup
- Added blocking/unblocking user intervention to COM/DCOM
- Added control on visibility of the main window to COM/DCOM
- Updated Programming and Operating Manuals

Version 1.9

- Fixed issue with recalling user state with calibration.
- Fixed issue with incorrect number of frequency points being returned to COM client when segment frequency scan is use

Version 1.8

- Added additional program switches to be used by authorized service centers.

Version 1.7

- Fixed issue with saving trace data using csv format in the time domain for distance units of measure (meters, feet, etc.).
- Added ability to disable system correction

Version 1.6

- Fixed incorrect averaging of complex data when averaging over n-measurements
- Added selection, saving, recall and editing cable description tables