What's New in this Revision

This help describes version V1.25 of the R&S ZVL firmware. This firmware version provides the following new features:

- **S-parameter wizard** , provides settings for a standard S-parameter measurement
- Ripple limit test
- New measurement mode: Embedding/deembedding of a transformation network
- Export of formatted traces
- Absolute bandpass search (bandpass/bandstop absolute level)
- **New remote control features**
  - New command `CALCulate<Chn>:GDAPerture:SCOunt` , sets the number of aperture steps for the group delay calculation.

Product improvements in firmware version V1.21

- Improved HP8714 parser emulation.

Bug fixes in firmware version V1.21

- Very time-consuming calibration sweeps (>30 s) are no longer canceled.
- Correct type and version information for spectrum analyzer options R&S FSL-K30, R&S FSL-K91, and R&S FSL-K93 in the **Versions / Options** dialog.

To check your R&S ZVL firmware version, click *Help – About Nwa...*

Contents of this help and of your documentation CD-ROM

This help system represents an up-to-date version of the R&S ZVL documentation including all new features of the current firmware version. An updated printable (.pdf) file and CD-ROM is provided for each major (2-digit) firmware version.

New Features in Firmware Version V1.21 (Compared to V1.20)

- Support for digital monitor interface (DVI-D)
- Configurable marker table ("Normal" vs. "Reduced")
- **New remote control features**
  - New data formats `...CH<nr>Fdata, ...CH<nr>Sdata, CH<nr>FMEM, CH<nr>SMEM` for `TRACE[:DATA][:RESPonse][:ALL]` .

Bug fixes in firmware version V1.21

- Standards in predefined and ideal 75 Ω calibration kits are stored with the correct impedance (75 Ω instead of 50 Ω).
- Limit check for limit lines with a length below the frequency step size corrected.

Known issues in firmware version V1.21

- On an external monitor with a screen resolution > 640x480 pixels, the screen for options R&S FSL-K14 (Spectrogram Measurements), R&S FSL-K30 (Noise Figure and Gain Measurements), R&S FSL-K91 (WLAN OFDM Analysis) and R&S FSL-K93 (WCDMA Measurements) does not scale correctly. We recommend to use a compatible resolution when working with these spectrum analyzer options.

New Features in Firmware Version V1.20 (Compared to V1.10)

- Support for new spectrum analysis options:

  R&S FSL-B6, TV Trigger
  R&S FSK-B8, Gated Sweep
  R&S FSL-K7, AM/FM/φM Measurement Demodulator
  R&S FSL-K8, Bluetooth Measurements
  R&S FSL-K14, Spectrogram Measurements
  R&S FSL-K30, Noise Figure and Gain Measurements (requires option R&S FSL-B5, Additional Interfaces, and a preamplifier)
  R&S FSL-K72, WCDMA Measurements (3GPP/FDD BTS)
  R&S FSL-K91, WLAN OFDM Analysis
  R&S FSL-K93, WiMAX OFDM/OFDMA Analysis. **Note:** In the installation manager, this option is referred to as option R&S FSL-K92

The new options are extensions to option R&S ZVL-K1, **Spectrum Analysis** .

The following new features apply to the network analyzer mode:

- Extended functionality of option R&S ZVL-K2, *Distance-to-Fault* measurement: fault limit check and fault list, frequency list for cable attenuation, context menu.
- **New remote control features**

  The new features reported above are also available via remote control; the SCPI commands are reported in the relevant reference sections. Besides the following remote-control features have been added:

  - New remote control command `OUTPut<Ch>[:STATe]` , turns the source power on or off.
  - New command `CALCulate<Ch>:LIMit:SEGMent:COUNt?` , queries the number of limit line segments.

Product improvements in firmware version V1.20

- The cable type is channel-specific rather than trace-specific
- NWA setup files (***.nwa**) are saved to the same default directory as the setup files for spectrum analysis: R_S/Intr/user.
- The size of the application window can be changed by an easy drag-and-drop operation.
- *CLS clears the remote error tooltip.

Bug fixes in firmware version V1.20

- Changing the permittivity in the length offset dialogs changes the electrical length, leaving the mechanical length unchanged.

New Features in Firmware Version V1.10 (Compared to V1.00)

- Support for option R&S ZVL-K1, **Spectrum Analysis**

The following new features apply to the network analyzer mode:

- Support for option R&S ZVL-K2, *Distance-to-Fault* measurement.
- Hardware **error messages** with corresponding status registers
- **Unidirectional normalization** calibration for two-port (transmission) measurements
- Extended autoscale feature: Autoscale All
- Configurable marker info field: *Active Trace Only, Stimulus Info Off* (see **Marker Properties** dialog)
- Indication of **power supply option** in the status bar
- Transparent info fields for marker values and trace statistics
- **New remote control features**

  The new features reported above are also available via remote control; the SCPI commands are reported in the relevant reference sections. Besides the following remote-control features have been added:

  - Changed (and configurable) response string format of ***IDN?** query.
  - New remote control command `HCOPy[:IMMediate<config>]:NEXT`
  - New remote control command `CONFigure:TRACe<Trc>:CATalog?` , returns the numbers and names of all traces in the current setup.

Product improvements in firmware version V1.10

- Enhanced measurement speed in **segmented sweep**

Changed numeric values in firmware version V1.10

- Preset/*RST value for *Step Atten. b1, Step Atten. b2:* +10 dB
- Preset/*RST value for *Start* frequency: 9 kHz
- Maximum source *Power:* + 20 dBm
- The center frequency of a bandfilter search is calculated as the geometric mean value of the lower and upper band edge.
