R&S®FPC
Spectrum Analyzer
Release Notes
Firmware Version V1.51

These Release Notes are for following models of the R&S®FPC Spectrum Analyzer:
R&S® FPC1000,   order no. 1328.6660.02,
R&S® FPC1500,   order no. 1328.6660.03

The following abbreviations are used throughout this document:
R&S®FPC is abbreviated as R&S FPC.

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1 Current Version and History

1.1 New Functions

The following table lists the new functions and indicates the version in which the new function was introduced:

New functions of Firmware V1.50:

Version	Functions
V1.50	S-Parameter based calibration kit data in VNA mode
V1.50	S11 and S21 can be displayed in one screen in VNA mode
V1.50	Calibrate S11 and S21 in a single step in VNA mode

New functions of Firmware V1.40:

Version	Functions
V1.40	Support of two detectors in parallel, peak list and logarithmic limit lines in R&S FPC-K43: Receiver Mode
V1.40	Support of auto tracking markers
V1.40	Extended measurement functionalities in R&S FPC-K7: ASK/FSK
V1.40	Support for variable input attenuation in R&S FPC-K42: Vector Network Analysis
V1.40	Trigger status displayed in status bar

New functions of Firmware V1.30:

Version	Functions
V1.30	Support of R&S FPC1500
V1.30	R&S FPC-K42: Vector Network Analysis (for R&S FPC1500 only)
V1.30	Logarithmic display in R&S FPC-K43: Receiver Mode
V1.30	Support of up to 3 memory traces
V1.30	Support of R&S®ZN-Z103 calibration unit
V1.30	Deactivate display for faster measurements via SCPI

New functions of Firmware V1.20:

Version	Functions
V1.20	Extended FPC-K55 Advanced Measurements with third order intercept, TDMA power, harmonic distortion and AM modulation depth measurements.
V1.20	Extended FPC-K7 ASK/FSK with support for Bluetooth LE and Tire Pressure standard, burst processing, and an IQ power trigger
V1.20	Possibility to manual select between Sweep and FFT mode where possible
V1.20	Turn on all marker with a single softkey

New functions of Firmware V1.10:

Version	Functions
V1.10	R&S FPC-K7: Modulation Analysis (AM, FM, ASK, FSK)
V1.10	R&S FPC-K43: Receiver Mode

V1.10	R&S FPC-K55: Advanced Measurement (Spectrogram, Occupied Bandwidth and Channel Power)

1.2 Improvements

The following tables list the improvements and indicate since which version the issue could be observed:

Improvements of Firmware V1.51:

since	Function
V1.51	Some instruments show sporadic LAN data transfer problems. This issue is fixed.

Improvements of Firmware V1.50:

since	Function
V1.50	Improved on/off switching of tracking generator in Spectrum Analyzer mode
V1.50	Improved display in VNA mode when interference suppression is switched off
V1.50	Fixed various bugs concerning SCPI commands
V1.50	Corrected instrument ID via USB: R&S®InstrumentView V2.00 required for USB connection

Improvements of Firmware V1.41:

since	Function
V1.41	Improved handling of special measurement settings
V1.41	Improved sweep control

Improvements of Firmware V1.40:

since	Function
V1.40	Fixed various bugs concerning SCPI commands
V1.40	Improved UI for WIFI connection

Improvements of Firmware V1.30:

since	Function
V1.30	Performance improvements
V1.30	Fixed a bug where the last WiFi password was not remembered
V1.30	Fixed a bug where the time markers did not jump over each other
V1.30	Hardware Options are correctly returned when querying via SCPI on *OPT?

Improvements of Firmware V1.20:

since	Function
V1.20	Performance improvements
V1.20	Show WiFi MAC address in Instrument Setup Screen
V1.20	Support special characters for WiFi passphrase

1.3 Known Issues

The following table lists the known issues and indicates since which version the issue could be observed:

since	Function

1.4 Modifications to the Documentation

All new features are described in the online help or the latest documentation, which is available for download from the Rohde & Schwarz website, on the R&S FPL1000 product page at:

http://www.rohde-schwarz.com/product/FPL1000.html

2 Firmware Update

New firmware versions usually contain new features, improvements of existing functionality, bug fixes etc. When a new firmware version is available, it is recommended to replace the old firmware with the new one.

The installation file is named "**FPC_V1.51.exe**". The file can be found on the Rohde & Schwarz web page at http://www.rohde-schwarz.com/firmware/fpc.

2.1 Updating the Firmware

Before you update the firmware, you should make a backup of the data that you have stored on the R&S®FPC Spectrum Analyzer (datasets, screenshots, transducer factors etc.). You can make a backup with the tools available in the R&S®InstrumentView software package. The firmware update itself does not delete or modify that data, but it is recommended to perform a factory reset after the firmware update to update predefined limit lines, channel tables etc. The factory reset, however, does delete user data.

1. Download the firmware installer from the internet.

2. The firmware comes in a single `.exe` file.

3. Save the file to the root directory of a memory stick.

4. Run the `.exe` file to unpack the self-extracting zip archive.

5. The following files are extracted.
    a) `FPC_<version>_bootloader.bin`
    b) `FPC_<version>_osimage.bin`
    c) `FPC_<version>_updater.bin`
    d) `FPC_<version>_xmegaloadfiles.bin`

6. Make sure that only these files are present in the root directory of the memory stick.

7. Turn off the R&S®FPC Spectrum Analyzer.

8. Connect the memory stick to one of the USB interfaces of the R&S®FPC Spectrum Analyzer.

9. Press the "Preset" key and the number "8" key simultaneously.

10. Turn on the R&S®FPC Spectrum Analyzer and keep pressing the two keys for at least 5 seconds after the startup screen appears.

11. Release the keys.

12. The booting process continues. After a couple of seconds, the R&S®FPC Spectrum Analyzer asks you if you really want to update the firmware.

13. Press the Enter ("✓") key to update the firmware.
    (You can cancel the firmware update with the "Esc" key.)

    The firmware update takes several minutes. The R&S®FPC Spectrum Analyzer shows a message when the firmware update is done.

    Note: Do not turn off the R&S®FPC Spectrum Analyzer during the firmware update.

14. Turn off the R&S®FPC Spectrum Analyzer.

15. Turn on the R&S®FPC Spectrum Analyzer.

16. The R&S®FPC Spectrum Analyzer boots with the new firmware version.

17. Optional: It is recommended to perform a **factory reset** after a firmware update to replace the predefined limit lines, channel tables and other data with the latest updates.

18. **Note**: Before you start a factory reset, make sure to make a backup of your data that you have saved on the R&S®FPC Spectrum Analyzer. Otherwise that data is deleted.

2.2 Enabling Firmware Options via Option Key Codes

You can equip the R&S®FPC Spectrum Analyzer with optional functionality or firmware options like the analog demodulation application or the receiver application. These firmware options expand the functionality of the R&S®FPC Spectrum Analyzer with new measurement functions settings etc.

Installing firmware options

To install a new firmware option, you have to enter a license key for validation.

The license key is included in the delivery of the firmware option.

1. Press the "Setup" key to enter the instrument setup menu.

2. Select the "Installed Options" menu item.
    The R&S®FPC Spectrum Analyzer shows a list of all options that are currently installed on your R&S®FPC Spectrum Analyzer.

3. Select the "Install Option" button and press the Enter ("✓") key.
    The R&S®FPC Spectrum Analyzer opens an input field.

4. Enter the license key with the alphanumeric keys and confirm the entry with the Enter ("✓") key.

5. The license key is a 32-digit number.

6. The R&S®FPC Spectrum Analyzer confirms a successful installation.
    If the R&S®FPC Spectrum Analyzer shows an "Invalid Key Code" message, try to enter the license key again.

3 Customer Support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz equipment, contact one of our Customer Support Centers. A team of highly qualified engineers provides telephone support and will work with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz equipment.

Up-to-date information and upgrades

To keep your instrument up-to-date and to be informed about new application notes related to your instrument, please send an e-mail to the Customer Support Center stating your instrument and your wish. We will take care that you will get the right information.

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