

# R&S®NRPC-LS

## Release Notes

**Firmware Version 02.40.23032501**

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The software makes use of several valuable open source software packages. For information, see the "Open Source Acknowledgment" provided with the product.

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

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# Contents

<b>1</b>	<b>Information on the current version and history .....</b>	<b>3</b>
1.1	Version 02.40.23032501 .....	3
1.2	Version 02.30.22012002 .....	4
1.3	Version 02.20.20072802 .....	5
1.4	Version 02.10.19092501 .....	7
<b>2</b>	<b>Modifications to the documentation .....</b>	<b>8</b>
<b>3</b>	<b>Firmware update .....</b>	<b>9</b>
3.1	Update information .....	9
<b>4</b>	<b>Customer support.....</b>	<b>10</b>

# 1 Information on the current version and history

## 1.1 Version 02.40.23032501

**Released: April, 2023**

### New functionality

#### Functions

S-Parameter correction (see user manual for details)

Gamma correction (see user manual for details)

Signal Check as additional measurement mode:

- Set Signal Check mode: `SENSe:FUNCTION "XFREq:POWer"`
- Set number of points: `SENSe:SPECTrum:FFT:POINts` points (points min 32, max 1024, default 64)
- Start measurement and fetch result: `INITiate:IMMEDIATE;FETCh?`
- Query limits of frequency domain axis:
  - `SENSe:SPECTrum:FFT:FREQUENCY:START?`
  - `SENSe:SPECTrum:FFT:FREQUENCY:STEP?`

### Modified functionality

#### Functions

None

### Improvements

#### Improvements

Autotrigger function (`TRIGger:ATRigger:EXECuted?`) works reliably.

When connected to NRX and using fast aperture times, trigger modes BUS and EXT provide measurement results as expected.

ACLR mode supports triggering without restriction.

## Known issues

### Known Issues

INPut:ATTenuator:AUTO ONCE sometimes turns on the attenuator even with signals below threshold.

When measuring with INIT:CONT ON while using an external reference clock, a loss of clock might not be signaled immediately. Measurement results may be wrong.

In some rare conditions when performing fast measurement cycles together with the automatic attenuator feature instead of reading results the sensor responds with a "Data corrupt or stale;fetch?" error.

PoE PowerCycle issue in case of USB cable connected.

In I/Q Trace Mode, negative trigger delay is cursed internally to 0s.

## 1.2 Version 02.30.22012002

**Released: January, 2022**

### New functionality

#### Functions

Peak Power Measurement – Added new command CALCulate:FEED with measurands:  
 POWER:AVERAge and POWER:TRACe  
 POWER:PEAK and POWER:PEAK:TRACe,  
 POWER:RANDOm and POWER:RANDOm:TRACe  
 to FETCh average, peak or random measurement results

Peak Power Measurement – Web User Interface:  
 Display additional peak or random measurement results in Continuous Average or Trace mode

Added new commands to support recalibration of R&S NRQ6 (user calibration):  
 CALibration:UNLock  
 CALibration:FREQuency:LIMITs  
 CALibration:RESTore  
 CALibration:SAVE

Added new commands for trigger synchronization among multiple sensors:  
 TRIGGer:SENDER/RECEiver

Added new command for phase coherent measurements synchronization:  
 SENSE:TRACe:IQ:SYNC:TYPE OFF | SENDER | RECEIVER

Added query SENSE:BANDwidth:NOISE?

**Modified functionality****Functions**

IQ Trace mode:

SENSe:TRACe:IQ:DATA? and FETCh? behave the same

SENSe:TRACe:IQ:DATA:FORMat new default value is IQPair

**Improvements****Improvements**

None

**Known issues****Known Issues**

INPut:ATTenuator:AUTO ONCE sometimes turns on the attenuator even with signals below threshold.

When measuring with INIT:CONT ON while using an external reference clock, a loss of clock might not be signaled immediately. Measurement results may be wrong.

Autotrigger function (an automatic sensor trigger after a certain time without trigger event) does not work reliably and if occurred, it is not correctly query able using TRIGger:ATRIgger:EXECuted?

When connected to NRX and using fast aperture times, trigger modes BUS and EXT may not provide a measurement result.

In some rare conditions when performing fast measurement cycles together with the automatic attenuator feature instead of reading results the sensor responds with a "Data corrupt or stale;fetch?" error.

PoE PowerCycle issue in case of USB cable connected

In I/Q Trace Mode, negative trigger delay is cursed internally to 0s

**1.3 Version 02.20.20072802**

**Released: July, 2021**

**New functionality****Functions**

None

## Modified functionality

### Functions

None

## Improvements

### Improvements

Maximal length of trace points in trace mode increased from  $2^{13}$  (= 8192) to  $2^{20}$  (= 1048576)

Sensor autoset failure in trace mode at high frequency unmodulated RF signal is fixed

In continuous average mode, a non-static error is raised, when using long aperture times together with large resolution bandwidth. Measurement will not complete in this situation.

Static errors are raised in different not-allowed configuration scenarios.

Sensor web client trigger level value displayed in wrong format.

DC Zeroing feature improved, to measure and save the DC offset value within a predefined range of measurement configurations.

## Known issues

### Known Issues

INPut:ATTenuator:AUTO ONCE sometimes turns on the attenuator even with signals below threshold.

When measuring with INIT:CONT ON while using an external reference clock, a loss of clock might not be signaled immediately. Measurement results may be wrong.

Autotrigger function (an automatic sensor trigger after a certain time without trigger event) does not work reliably and if occurred, it is not correctly query able using TRIGger:ATRigger:EXECuted?

When connected to NRX and using fast aperture times, trigger modes BUS and EXT may not provide a measurement result.

In some rare conditions when performing fast measurement cycles together with the automatic attenuator feature instead of reading results the sensor responds with a "Data corrupt or stale;fetch?" error.

PoE PowerCycle issue in case of USB cable connected

In I/Q Trace Mode, negative trigger delay is cursed internally to 0s

## 1.4 Version 02.10.19092501

Released: October, 2019

### New functionality

#### Functions

None

### Modified functionality

#### Functions

None

### Improvements

#### Improvements

None

### Known issues

#### Known Issues

Sensor autoset failure in trace mode with high frequency unmodulated RF signal

INPut:ATTenuator:AUTO ONCE sometimes turns on the attenuator even with signals below threshold.

When measuring with INIT:CONT ON while using an external reference clock, a loss of clock might not be signaled immediately. Measurement results may be wrong.

Autotrigger function (an automatic sensor trigger after a certain time without trigger event) does not work reliably and if occurred, it is not correctly query able using TRIGger:ATRigger:EXECuted?

When connected to NRX and using fast aperture times, trigger modes BUS and EXT may not provide a measurement result.

In some rare conditions when performing fast measurement cycles together with the automatic attenuator feature instead of reading results the sensor responds with a "Data corrupt or stale;fetch?" error.

In CONT:AVG measurement mode, a non-static error is raised when using long aperture times together with large resolution bandwidth. Measurement will not complete in this situation.

PoE PowerCycle issue in case of USB cable connected

## 2 Modifications to the documentation

The current documentation is up-to-date.



## 3 Firmware update

### 3.1 Update information

Please refer to the document "R&S®NPC Sensor Calibration Kits - User Manual" (<https://www.rohde-schwarz.com/manual/nrpc>).

## 4 Customer support

### Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

### Contact information

Contact our customer support center at [www.rohde-schwarz.com/support](http://www.rohde-schwarz.com/support) or follow this QR code:



Figure 4-1: QR code to the Rohde & Schwarz support page