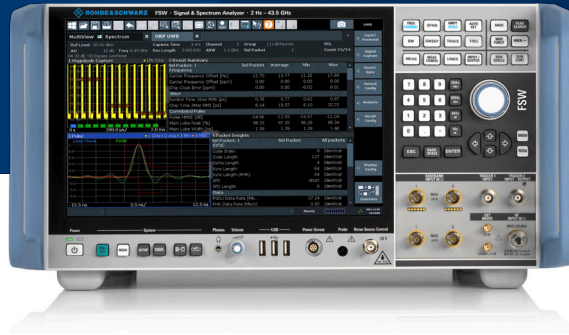


R&S®FSW-K575 AND R&S®FSV3-K575 I/Q NOISE CANCELLATION

R&S®FSW firmware 5.30 and R&S®FSVA3000/R&S®FSV3000 firmware 2.20 support



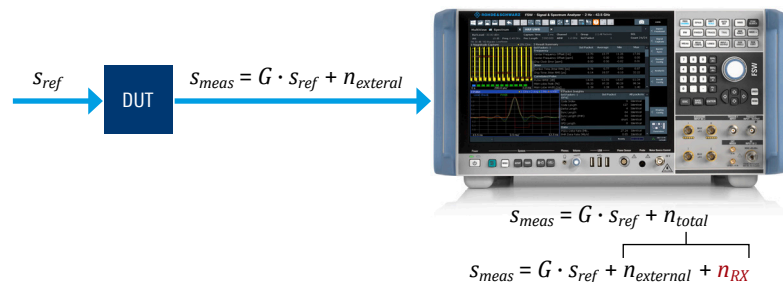
Measurement function

The R&S®FSW-K575 and R&S®FSV3-K575 I/Q noise cancellation option removes instrument-inherent wideband receiver noise and corrects signals so that only external noise contributions (those not caused by the instrument) remain present after being adjusted.

The approach significantly reduces the residual instrument EVM. The option helps with measurement scenarios that have very stringent EVM requirements.

Removal of wideband receiver noise

The I/Q noise cancellation option removes wideband receiver noise n_{RX} since it scales up with increasing bandwidth and can have a major impact on the instrument residual EVM.



Ideal for

Wi-Fi and chip characterization

5G OTA test scenarios

Satellite RF component testing

6G research and predevelopment

For all applications

R&S®FSW-K575 and
R&S®FSV3-K575
I/Q noise cancellation

Wi-Fi app

5G app

⋮

Other app

Benefit	R&S®FSW-K575 and R&S®FSV3-K575 features
Significant EVM improvement	<ul style="list-style-type: none"> Improvement up to 10 dB of the residual instrument EVM
Flexible usage with generic correction approach	<ul style="list-style-type: none"> Correction is applied on the raw I/Q data; both the EVM and all measurements can take advantage of signal-to-noise improvements Corrected signals can be used as input for a variety of signal analysis applications (e.g. WLAN, 5G, generic digital demodulation.)
Most affordable solution for superior EVM performance	<ul style="list-style-type: none"> Only firmware option needed, no hardware changes required Because no additional hardware is required, cost effective scalability and reuse of installed base possible EVM performance is limited only by measurement time, no longer instrument performance

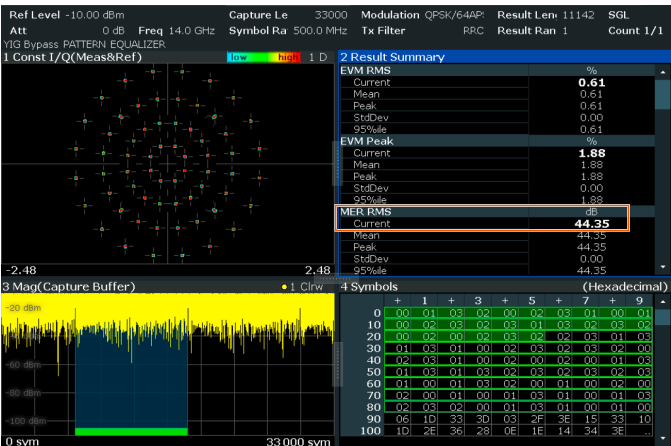


For options, prices and more information, visit
www.rohde-schwarz.com

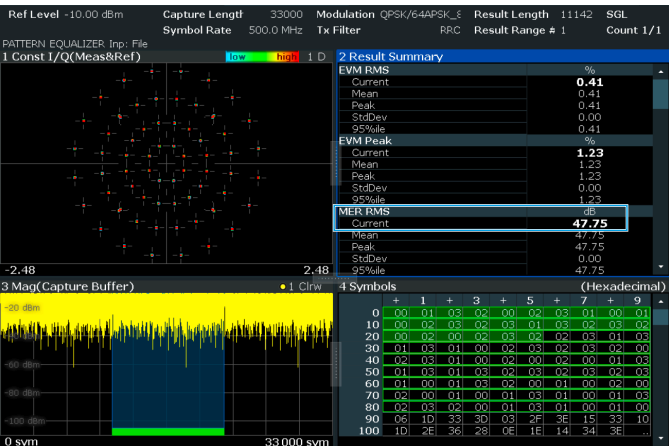
Measurement example 1: DVB-S2X signal

64APSK 5/6, 500 MHz bandwidth, at 14 GHz

Without R&S®FSW-K575/R&S®FSV3-K575 I/Q noise cancellation



With R&S®FSW-K575/R&S®FSV3-K575 I/Q noise cancellation (20 averages)



See also

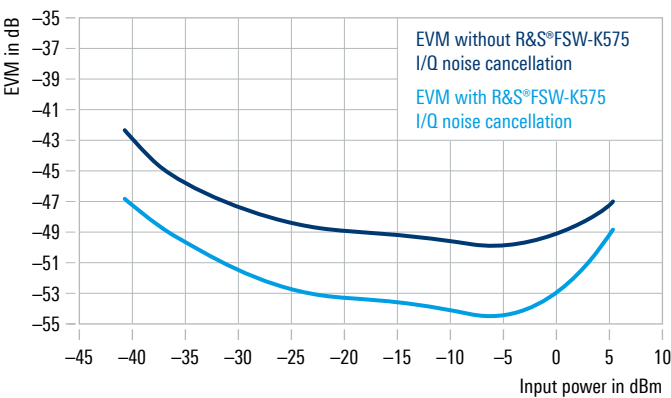
- ▶ Webinar: www.rohde-schwarz.com/de/knowledge-center/knowledge-plus/webinars-videos/i-q-noise-cancellation-webinar_255100-1430466.html
- ▶ Application card: www.rohde-schwarz.com/applications/optimize-your-signal-and-spectrum-analyzer-to-address-the-most-stringent-evm-requirements-application-card_56279-1432384.html

Product information

Designation	Type
I/Q noise cancellation, for FSW signal and spectrum analyzer	R&S®FSW-K575
I/Q noise cancellation, for R&S®FSVA3000 and R&S®FSV3000 signal and spectrum analyzers	R&S®FSV3-K575

Measurement example 2: Wi-Fi IEEE 802.11be signal

Residual EVM of R&S®FSW at 6.905 GHz (320 MHz bandwidth, 4096QAM)



Feature highlights of the of the R&S®FSW-K575 and R&S®FSV3-K575

- ▶ Simple keycode upgrade – does not require additional measurement path
- ▶ Allows SNR improvement on raw I/Q data
- ▶ Corrected signal can be used as input for a multitude of applications
- ▶ Native support for Wi-Fi and 5G downlink and uplink applications
- ▶ Generic I/Q analyzer support
 - Users can have I/Q noise cancellation, even if an application has no native support

Rohde & Schwarz GmbH & Co. KG

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R&S®FSW-K575 and R&S®FSV3-K575 I/Q noise cancellation
PD 3673.1053.32 | Version 01.00 | November 2024 (ch)
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