

# R&S®FSW-K97: 802.11ay Spectrum and Signal Analysis

## Tackling a standard with wide bandwidth and high frequency



### 802.11ay is pushing the limits

- Up to 7.04 GHz bandwidth is allowed by the 802.11ay standard
- First devices will cover 3.52 GHz by bonding 2 channels
- 802.11ay resides in the frequency range of 58 GHz to 70 GHz
- Testing is also needed at IF frequencies below 20 GHz
- OTA measurements require test equipment with good dynamic range at low input levels
- 4 GHz analysis bandwidth at mmWave frequencies is pushing the limits of test equipment

### The perfect choice for

Modulation quality analysis

Spectrum analysis

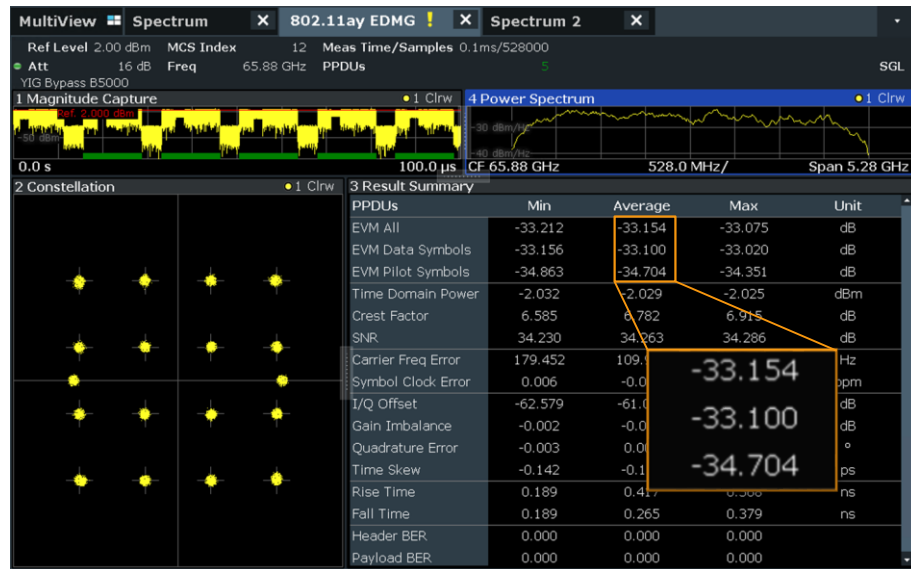
RF transmitter testing

OTA measurements

Your problem	How to solve
Measurements at 20 GHz and 60 GHz	R&S®FSW85: one instrument for the entire frequency range, no external mixers
Image-free spectral measurements	R&S®FSW85 preselection covers the entire frequency span
Signal demodulation with 4 GHz bandwidth	R&S®FSW-B5000 + R&S®RTO2064 offers 5 GHz analysis bandwidth
Standard-compliant modulation analysis	R&S®FSW-K97 is the 802.11ay demodulation personality running on the R&S®FSW85
OTA measurements with high path loss	R&S®HA-Z24 external preamplifier delivers up to 10 dB improved dynamic range at low input powers (e.g. -30 dBm)

► For more information,  
see [www.rohde-schwarz.com/product/fsw](http://www.rohde-schwarz.com/product/fsw)

## Modulation quality analysis with R&S®FSW-K97



Excellent residual EVM for a 3.52 GHz wide 802.11ay signal

## Spectrum emission mask

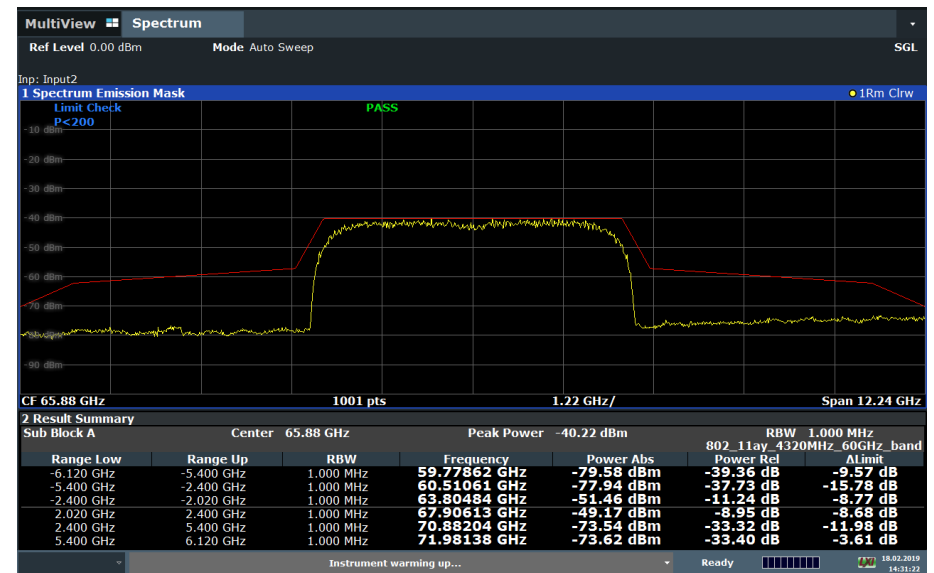


Image-free spectral measurements with preselection up to 85 GHz

## OTA measurements with low input power (-30 dBm)

- High path loss at 60 GHz (> 60 dBm over 0.5 m)
- Very low input power to spectrum analyzer ( $\leq -30$  dBm)
- Preamplifier necessary to improve dynamic range at low input powers
- R&S®HA-Z24E external preamp is a calibrated LNA covering 1 GHz to 85 GHz with approx. 20 dB gain
- Improves residual EVM by 10 dB at -30 dBm input power



## Popular options/accessories

Description	Type
Signal and spectrum analyzer up to 85 GHz	R&S®FSW85
5 GHz analysis bandwidth	R&S®FSW-B5000
Oscilloscope, 6 GHz, 20 Gsample/s, 4 channels	R&S®RTO2064
OXC0, 10 MHz, for the R&S®RTO	R&S®RTO-B4
WLAN 802.11ay measurements	R&S®FSW-K97
External preamplifier, 1 GHz to 85 GHz	R&S®HA-Z24E