



# R&S® RTE1000 versus Tektronix 5 Series MSO



## Truly uncompromised performance

Reliable measurements, a multitude of tools, easy to use, fast results and engineered for multi-domain challenges – that's the R&S® RTE oscilloscope. From embedded design development to power electronics analysis and general debugging, the R&S® RTE offers quick solutions for everyday T&M tasks.

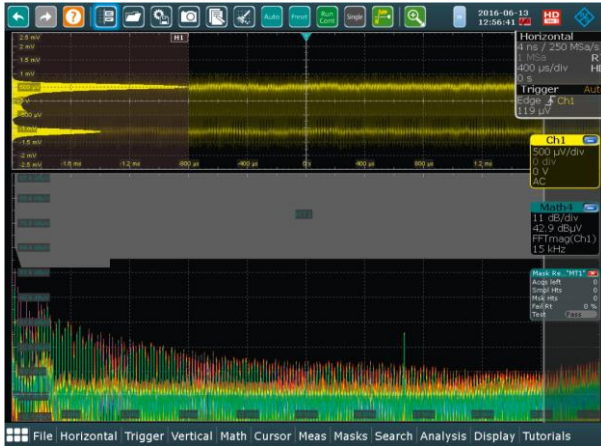
Your benefit	Features
Truly uncompromised performance	Capture long signal sequences (200 Msample memory depth), find signal faults quickly (> 1 million waveforms/s), highly precise results (16-bit vertical resolution, including triggering on high-resolution signals)
Smartphone like GUI	R&S® RTE1000: drag and drop signals and measurement results, define zoom and measurement ranges with your finger, scale and position dialog boxes on the screen as required, adjust cursors, offsets and the trigger level by touching the lines, create masks in seconds Tektronix 5 Series MSO copied a lot of this functionality from Rohde & Schwarz.
Multichannel spectrum analysis	R&S® RTE1000: analysis of up to four signals in parallel, correlation of time and frequency signals, spectrogram, outstanding RF performance with high dynamic range and low inherent noise Tektronix 5 Series MSO: limited flexibility in setting up FFT

Parameter	R&S® RTE1000	5 Series MSO
Channels	2, 4	4, 6, 8
Bandwidth (MHz)	200, 350, 500, 1000, 1500, 2000 (upgradeable)	350, 500, 1000, 2000 (upgradeable)
500 µV, 1 mV, 2 mV per division	full bandwidth, all models	bandwidth-limited, some models
ADC resolution	8-bit	12-bit
Resolution at max. sample rate	8-bit	8-bit
ENOB	6.7 to 8.7	7.0 to 9.0
Max. vertical resolution	16-bit in high definition mode (hardware filter), triggering on high-resolution signals	16-bit in high-resolution mode (hardware filter)
Max. sample rate	5 Gsample/s	6.25 Gsample/s
Max. memory depth	200 Msample	500 Msample
Trigger sensitivity	always 0.04 divisions	as poor as 3 divisions
Waveform update rate	1 000 000 waveforms/s	500 000 waveforms/s
MSO	optional – 16 channels, doesn't take up an analog channel	optional – up to 64 channels, each 8-channel pair takes up one analog channel
MSO sample rate/memory	5 Gsample/s / 100 Msample	6.25 Gsample/s / 500 Msample
Frequency domain	yes, including spectrogram	yes, no spectrogram
History mode	yes	no
Mask test	yes, hardware-accelerated	optional
Number of supported LSS triggering and decoding options	22	26
Standard probes	500 MHz, 10:1	1 GHz, 10:1
AWG	2 channels, 100 MHz	1 channel, 50 MHz
Display	10.1" XGA	15.6" HD



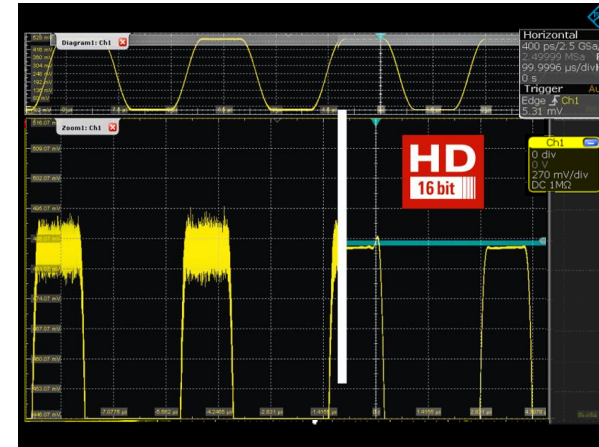
For prices and more information, visit  
[www.rohde-schwarz.com/product/RTE](http://www.rohde-schwarz.com/product/RTE)

## Multichannel spectrum analysis



R&S® RTE oscilloscopes come with built-in spectrum analysis for up to four signals in parallel. Results can be correlated in the time and frequency domains. Analysis functions such as spectrogram (with the R&S® RTE-K18 option), mask test and peak list display are available. The Tektronix 5 Series MSO offers limited FFT setup and analysis capabilities.

## 16-bit vertical resolution in high definition mode



In HD mode, the R&S® RTE has a vertical resolution of up to 16 bit. This results in sharp waveforms, showing details that would otherwise be masked. The Rohde & Schwarz digital trigger allows triggering on ultra-small signal details. The Tektronix 5 Series MSO offers a trigger sensitivity of only 4 divisions, even in high-resolution mode.

## MSO with the R&S® RTE1000 – flexible and attractively priced



R&S® RTE1000  
(4 channels)



+ 1 MSO option

The typical MSO configuration consists of 4 analog and 16 digital channels. 16 digital channels can be retrofitted to the 4-channel R&S® RTE base unit via the MSO interface at a very attractive price.



Tek 5 Series MSO  
(6 channels)



+ 2 logic probes

The typical MSO configuration for the Tektronix 5 Series MSO requires the 6-channel base unit. 2 of the channels are used to connect the logic probes. Channels cannot be retrofitted to the 5 Series models.

### Price comparison

R&S® RTE1000 + 1 MSO option

Tektronix 5 Series MSO + 2 logic probes

Tektronix 5 Series  
configuration costs 40 % more

## The R&S® RTE1000 offers

- ▶ **Smartphone like GUI**
  - Invented by Rohde & Schwarz
  - Tektronix has mostly copied it
- ▶ Extremely high **vertical resolution of up to 16 bit** paired with the ability to trigger on ultra-small signal details in real time
- ▶ Powerful 4-channel **spectrum analysis** as standard
- ▶ Overall **better performance** values: lower noise, higher update rate, full bandwidth at all sensitivities
- ▶ Flexible and attractively priced **mixed signal analysis (MSO)** with the typical 4 analog/16 digital channel configuration
- ▶ **Advanced analysis capabilities**: mask test (standard), segmented memory (standard), history mode (standard), comprehensive set of triggering and decoding options, power analysis, etc.