

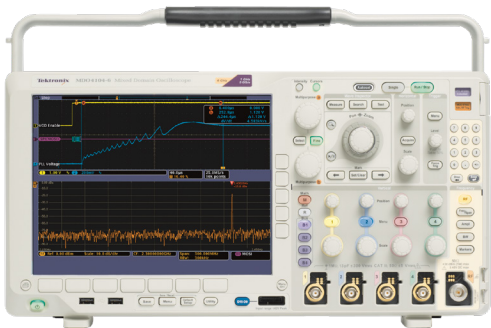
Comparison Guide:

Keysight Technologies HSAs Series Handheld Spectrum Analyzer versus Tektronix MDO4000

Field testing just got easier with Keysight HSAs

- Get the features you need in a field-ready instrument.
- Gain confidence in your measurements with benchtop performance in a handheld instrument.
- Innovative task planner (www.keysight.com/find/taskplanner) reduces test setup time by 95% and delivers test automation and consistency.

If you are making measurements in the field, the Keysight handheld spectrum analyzer (HSA) makes your job easier. It's got the features you need for operating in tough field environments, and its measurement performance gives you confidence the job's been done right. The Keysight HSA lets you automate routine tasks to save time and ensure consistent results. Field testing just got easier with the Keysight HSA.



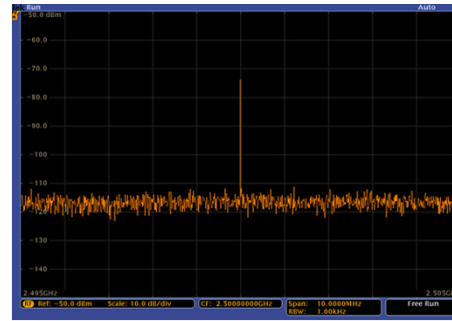
Tektronix MDO	Keysight scope	Keysight spectrum analyzer
MDO4054-3	MSO7054B	N9320B or N9340B
MDO4054-6	MSO7054B	N9342C
MDO4104-3	MSO7104B	N9320B or N9340B
MDP4104-6	MSO7104B	N9342C

	Keysight N9340B/N9342C/N9343C/N9344C		Tektronix MDO4000	
Frequency range	100 kHz to 3/7/13.6/20 GHz (tunable to 9 kHz)	✓	50 kHz to 3/6 GHz	x
RBW	10 Hz to 3 MHz	✓	20 Hz to 10 MHz	✓
Attenuation	0 to 51 dB in 1 dB steps	✓	Not user adjustable	x
DANL (at 2 GHz, 6 GHz)	-158 dBm w/preamp	✓	-148 dBm	x
	-155 dBm w/preamp		-140 dBm	
Φ noise (100 kHz, 1 MHz offset)	-97 dBc/Hz	✓	-95 dBc/Hz	x
	-115 dBc/Hz	✓	-113 dBc/Hz	x
Level accuracy	±1.5 dB (±0.6 dB typical)	✓	±1 dB (±0.5 dB typical)	✓
Residual response	-90 dBm (-98 dBm typical)	✓	78 dBm	x
Size	207 x 318 x 69 mm (8.15 x 12.5 x 2.7 in)	✓	229 x 439 x 147 mm (9 x 17.3 x 5.8 in)	x

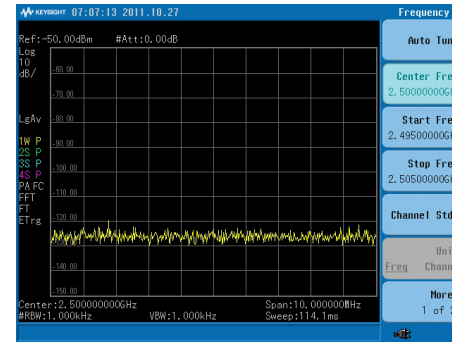
Keysight HSAs offers

High performance

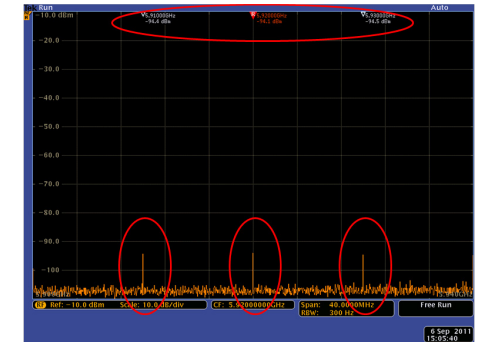
- Better performance and insight on the signals of interest
- Keysight HSAs have >10 dB better DANL performance
- Keysight HSAs have better residual response performance which makes you confident with the measurement results
- MDO4000's coupling between analog channels and RF channels is significant



A typical residual response of MDO4000 which may impact measurement accuracy.



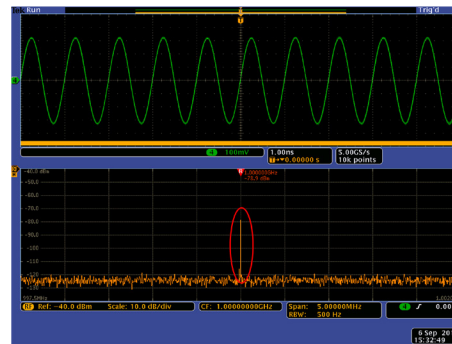
HSA has a clean spectrum with the same settings and > 10 dB better DANL.



With a wider span, MDO4000 shows more residuals.

Richer spectrum/signal analysis features

- Keysight HSAs offer broader features that meet various needs when doing spectrum and signal analysis



MDO4000 shows significant coupling between analog and RF channels causes artifacts from analog channels to be visible on RF channel.

Superior usability

- Small in size, light in weight, and battery-operated
- Better responsiveness ensures measurement efficiency
 - Keysight HSAs offer instant responsiveness to parameter changes
 - MDO4000 needs perceptible time to refresh after parameter change, e.g. may up to 10 seconds when changing reference level with narrow RBW
- Innovative task planner reduces up to 95% test setup time and delivers test automation without a PC. Get more information at www.keysight.com/find/taskplanner

Features	HSA	MDO4000
Task planner ¹	Yes	No
Channel scanner ¹	Yes	No
Tracking generator	Yes	No
Cable and antenna test ²	Yes	No
AM/FM demodulation metrics	Yes	No
ASK/FSK demodulation metrics	Yes	No
Spectrum emission mask	Yes	No
Limit lines, corrections	Yes	No
USB power meter	Yes	No
Remote control software	Yes	No

1. Not available on N9340B HSA.
2. Only available on N9342C HSA.