Narda SignalShark vs. Keysight Fieldfox N9935A
Profile Comparison

narda ⚠
Safety Test Solutions

Narda SignalShark 3310 – The Lab in Your Hand

✓ **Reliable:** No risk to miss-out any signal due to 40 MHz RTBW with high POI and HDR. No additional tablet or USB cable needed, that may cause problems. Rugged design.

✓ **Lab:** Powerful signal analysis, 4 x RF inputs, SCPI programmable and connectors for additional monitor, mouse and keyboard.

✓ **Field:** 10.4'' touch handheld to measure at the site, where the real problems occur. Size (w x h x d) 335 mm × 230 mm × 85 mm, Weight ~ 4.1 kg (with one battery), Power consumption ~ 35 W (hot-swappable batteries for long-term measurements)

✓ **Save time and money:** No additional lab analyzer needed. No installation time. Up and running in a few seconds. Shorter measurement campaigns due to faster measurements.

✓ **Full automatic direction finding**: Reliable and fast DF.

Keysight Fieldfox N9935A

✗ Limited signal perception due to only 10 MHz real-time bandwidth (RTBW) and default signal analysis (no HDR)

✗ Limited measurement functions compared to a lab analyzer. No connectors for additional monitor, mouse and keyboard

✓ Size (w x h x d) 188 mm × 292 mm × 72 mm, Weight ~ 3 kg, Power consumption: ~ 14W typical, mode dependent

✗ No full automatic direction finding

High Dynamic Range (HDR) Receiver

In real life, you often have to measure signals with a low power level in an environment with strong signals. One example is the measurement of an interferer in a LTE down link band.

It's the same problem as taking a picture of an object in the shadow while being in bright sunlight. Like the traditional camera cannot take a picture of dark and bright objects at once, a conventional analyzer can only perform either high sensitivity or large-signal immunity measurements using a "Normal Mode" or and "Low Distortion Mode".

The special hardware design of SignalShark allows measuring signals under lab conditions as well as real life measurements like the scenario stated above. This is accomplished by supporting three important receiver parameters at the same time for a HDR measurement:

- The Noise Figure / DANL allows measuring signals with a very low power level
- And at the same time the IP2 value and IP3 value protects your system for overload or rather intermodulation in an environment with strong signals.

Key Specification Comparison

			Narda SignalShark 3310		Keysight Fieldfox N9935A	
Real-time Bandwidth (RTBW)		✓	40 MHz	✗	10 MHz	
POI (100% for signals…)		✓	> 3.125 µs in 40 MHz	✗	12.2 µs in 10 MHz	
Frequency Range		✓	8 kHz to 8 GHz	✓	100 kHz to 9 GHz	
Scan Speed		✓	up to 50 GHz/s	✓	Up to 42.9 GHz/s	
HDR	**DANL (NF)**	2 MHz to 30 MHz	✓ < -160 dBm/Hz (< 14 dB)	✗ < -135 dBm/Hz (< 39 dB)		
		30 MHz to 3 GHz	✓ < -159 dBm/Hz (< 15 dB)	✗ < -135 dBm/Hz (< 39 dB)		
	IP2	2 MHz to 30 MHz	✓ > 56 dBm	✗ Nom. 24 dBm		
		30 MHz to 3 GHz	✓ typ. 40 dBm	✗ Nom. 24 dBm		
	IP3	2 MHz to 30 MHz	✓ > 20 dBm	✗ typ. + 10 dBm		
		30 MHz to 3 GHz	✓ typ. 12 dBm	✓ typ. + 15 dBm		