Narda SignalShark vs. Rohde & Schwarz PR100® / DDF007®

Profile Comparison

narda Safety Test Solutions

Narda SignalShark 3310 – The Monitoring Receiver

- ✓ **Reliable signal detection:** 40 MHz real-time bandwidth. High sensitivity with a wide intermodulation-free dynamic range (HDR). 100 % Probability of Intercept for signals longer than 3.125 µs
- ✓ **Demodulation:** Two digital down converters (DDC) for simultaneous measurement and demodulation. Analog and digital demodulation*
- ✓ **Signal processing:** Built-in I/Q analyzer*. I/Q recording* and Vita 49 streaming* for additional signal processing.
- ✓ **SWaP:** 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)
- ✓ **Full automatic direction finding**: Reliable and fast DF.

Rohde & Schwarz PR100® / DDF007®

- ✗ Limited signal detection due to only 10 MHz real-time bandwidth (RTBW), missing HDR and lower POI
- ✓ Two digital down converters (DDC) for simultaneous measurement and demodulation. Analog demodulation
- ✗ No I/Q analyzer. Limited I/Q streaming.
- ✓ Size (w x h x d) 192 mm × 320 mm × 62 mm, Weight ~ 3.5 kg, Power consumption ~ 30 W
- ✓ 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		Rohde & Schwarz PR100® / DDF007®	
Real-time Bandwidth (RTBW)			✓	40 MHz	✗	10 MHz
POI (100% for signals…)			✓	> 3.125 µs in 40 MHz	✗	~ *10µs*
Frequency Range			✓	8 kHz to 8 GHz	✓	9 kHz to 7.5 GHz
Scan Speed			✓	up to 50 GHz/s	✗	2 GHz/s
HDR	**DANL (NF)**	2 MHz to 30 MHz	✓	< -160 dBm/Hz (< 14 dB)	✗	≤ – 151.5 dBm/Hz (≤ 22.5 dB)
		30 MHz to 3 GHz	✓	< -159 dBm/Hz (< 15 dB)	✓	≤ –158.5 dBm/Hz (≤ 15.5 dB)
	IP2	2 MHz to 30 MHz	✓	> 56 dBm	✓	*typ. 60 dBm*
		30 MHz to 630 MHz	✗	*typ.* 30 dBm	✓	*typ. 35 dBm*
		630 MHz to 3 GHz	✓	*typ.* 40 dBm	✗	*typ. 35 dBm*
	IP3	2 MHz to 30 MHz	✓	> 20 dBm	✓	≥ 18 dBm
		30 MHz to 3 GHz	✓	*typ.* 12 dBm	✗	≥ –5 dBm

ME-E0338A

All information is taken form from public sources (i.e. datasheets) and is supplied without guarantee
* This feature will be included with future software updates