Power Sensor Module Specifications

	Agilent 81530A	Agilent 81536A	Agilent 81531A	Agilent 81532A
Sensor element	Si	InGaAs		
Wavelength range	450–1020 nm	800–1700 nm		
Power range	+3 to –100 dBm	+3 to –70 dBm	+3 to –90 dBm	+3 to –110 dBm
Display resolution	0.001 dB/dBm (0.0001 dB/dBm on printout), 0.01 pW to 10 pW (depending on power range)			
Application fiber type	9/125 μm–100/140 μm, NA $\leq$ 0.3			
Uncertainty (accuracy) at reference conditions	±2.5% (600–1020 nm) [1]	±2.5% (1000–1650 nm) [1]		
Total uncertainty	±5% ±0.5 pW (600–1020 nm) [2]	±5% ±50 pW (1000–1650 nm) [2]	±5% ±1.5 pW (1000–1650 nm) [2]	±5% ±0.5 pW (1000–1650 nm) [2]
Linearity (power) (18 °C to 28 °C, const. temp.) (0 °C to 55 °C, const. temp.)	(0 to –90 dBm) ±0.015 dB ±0.3 pW ±0.05 dB ±0.5 pW	(0 to –50 dBm) ±0.015 dB ±30 pW ±0.05 dB ±50 pW	(0 to –70 dBm) ±0.015 dB ±1 pW ±0.05 dB ±1.5 pW	(0 to –90 dBm) ±0.015 dB ±0.3 pW ±0.05 dB ±0.5 pW
Noise (peak to peak), averaging time 1 second	< 0.5 pW (700–900 nm)	< 50 pW (1200–1600 nm)	< 1.5 pW (1200–1600 nm)	< 0.5 pW (1200–1600 nm)
Dimensions	75 mm H, 32 mm W, 335 mm D (2.8" x 1.3" x 13.2")			
Weight	net 0.6 kg (1.3 lbs), shipping 1 kg (2.2 lbs)			
Recalibration period	2 years			
Warm-up time	20 minutes			
The display may vary by a count of ±1.				

[1] At the following reference conditions:
- Power level 10 μW (–20 dBm), continuous wave (CW).
- Fiber 50 μm graded-index, NA – 0.2.
- Ambient temperature 23°C ±5 k.
- Connector Diamond HMS-10/Agilent.
- On day of calibration (add 0.3% for aging over one year, add 0.6% over two years).
- Spectral width of source < 10 nm.

[2] At the following operating conditions:
- Fiber $\leq$ 50 μm, NA $\leq$ 0.2.
- For NA > 0.2, add 1%.
- Ambient temperature 0 °C to 55 °C, non-condensing.
- Within one year after calibration, add 0.3% for second year.
- Add ±1% for Biconic connector.

Supplementary Performance Characteristics

- Add 1% to total uncertainty for full wavelength range.
- Outside the specified wavelength range, the noise will increase by up to five times the values shown above.

Analog output:
Bandwidth: $\geq$ DC, $\leq$ 300 to 4000 Hz, depending on range and sensor module.
Output voltage: 0–2 V into open.
Output impedance:
600 Ω typical.
Max. input voltage: ±10 V.