AGILENT/HP E5504B REPLACEMENT

Blog Post

Model 7000 Series: The Superior Replacement for Agilent/HP E5504B Phase Noise Analyzers

The Agilent/HP E5504B phase noise analyzer has long been a mainstay in the industry, but like all technology, it eventually reaches its end of life. For those seeking a modern and more powerful replacement, the Berkeley Nucleonics Model 7000 Series offers a compelling solution.



Here's why the Model 7000 Series is the ideal upgrade:

Superior Performance:

- Wider Frequency Range: The Model 7000 Series covers a frequency range of 1 MHz to 65 GHz, exceeding the E5504B's 10 MHz to 26.5 GHz range. This allows you to test a wider range of devices and components.
- Lower Phase Noise Floor: The Model 7000 Series boasts a phase noise floor down to -190 dBc/Hz, significantly lower than the E5504B's -140 dBc/Hz. This allows you to measure even the most sensitive devices with greater accuracy.
- **Faster Measurement Speed**: The Model 7000 Series offers faster measurement speeds, up to 70% faster than the E5504B. This translates into increased productivity and efficiency.
- Wider Offset Range: The Model 7000 Series provides a wider offset range, from 0.01 Hz to 100 MHz, compared to the E5504B's 0.1 Hz to 10 MHz range. This allows you to analyze phase noise closer to the carrier frequency.

Enhanced Features:

- Absolute and Additive Measurements: The Model 7000 Series offers both absolute and additive (residual) measurement capabilities, while the E5504B requires an additional option for additive measurements. This provides greater flexibility and eliminates the need for additional hardware.
- **Dual Channel Cross-Correlation System**: The Model 7000 Series features a two-channel crosscorrelation system, allowing for simultaneous measurements of two signals. This is not available

on the E5504B.

- **External Reference Source**: The Model 7000 Series offers the option of using an external reference source, further improving measurement accuracy. This is not possible with the E5504B.
- Integrated Power Supplies and VCO Tuning Voltages: The Model 7000 Series features two integrated programmable low-noise power supplies and VCO tuning voltages, simplifying test setups and reducing the need for external equipment.

Future-Proof Technology:

- **Modern Software and Hardware**: The Model 7000 Series is built with modern software and hardware, ensuring reliable operation and long-term support. The E5504B, being a discontinued product, may have limited support options in the future.
- Intuitive GUI and Programming Interface: The Model 7000 Series features a user-friendly graphical user interface (GUI) and powerful programming interface, making it easy to learn and use. The E5504B's interface may be less intuitive and require more technical knowledge.



Overall, the Berkeley Nucleonics Model 7000 Series phase noise analyzer is a clear upgrade over the Agilent/HP E5504B. It offers superior performance, enhanced features, and future-proof technology, making it the ideal choice for any engineer or scientist who needs a reliable and accurate tool for measuring phase noise.

For more information on the Model 7000 Series, please visit the Berkeley Nucleonics website:

https://www.berkeleynucleonics.com/phase-noise-testers