

BLX-403 Lab Brick® Signal Generator

500 – 40,000 MHz Frequency

Features/Benefits

- Reliable and Repeatable solid state signal generation
- Standard Internal/external pulse modulation
- USB/Ethernet Control
- 10 MHz external or internal reference
- 100 Hz Frequency Resolution
- Easily portable
- Sized to fit into a single rack unit for ATE applications



Applications

- Portable LO Source
- Engineering/Production Test Labs
- Automated Test Equipment (ATE)
- Wi-Fi, Wi-Fi6E, 4G, 5G, LTE Test Systems

The Lab Brick™ series of synthesized signal generators bring affordability, functionality, and simplicity to the microwave test bench. Vaunix offers standard products with frequencies covering from .5 MHz up to 40 GHz with 100 Hz frequency resolution, +10 dBm output power with a minimum of 40 dB output level control. They offer advanced features such as frequency sweeping, internal/external 10 MHz reference and standard pulse modulation.

The BLX-403 offers both USB and Ethernet interfaces. The USB port uses a native HID interface to avoid the difficulties inherent in using older serial or IEEE-488 interfaces implemented over USB. As a result, Lab Brick™ users can get to work faster without having to install kernel level drivers, and Lab Brick™ devices can be easily used on any system that supports USB HID devices, including low-cost embedded computers using Linux or similar operating systems. The Ethernet interface is configurable for Static IP or DHCP with the ability to assign the HTTP port for extra security.

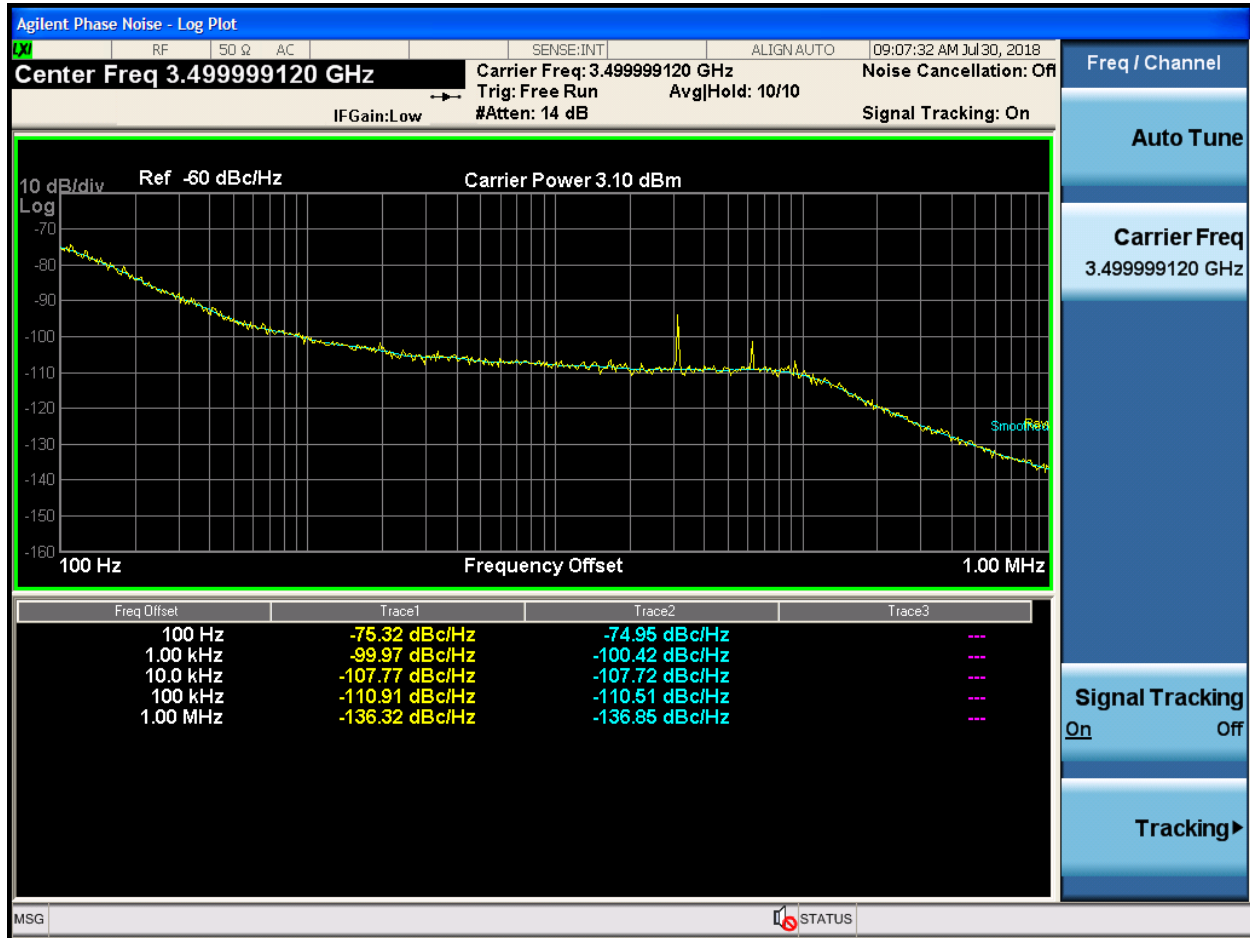
The BLX-403 is an affordable Signal Generator with low harmonic energy. The BLX-403 provides calibrated power control from 500 to 40000 MHz with a 100 Hz frequency setting resolution. The signal generator is easily programmable for fixed frequency operation, unidirectional or bidirectional frequency sweep and pulse modulation directly from the included Graphical User Interface (GUI). Alternatively, for users wishing to develop their own interface, Vaunix supplies LabVIEW drivers, Windows API DLL files, Linux drivers, Python examples and much more.

BLX-403 Specifications

| Parameter | Test Conditions | Min | Typ | Max |
|---|------------------------------------|--|---------------------|---------|
| Frequency | Range (MHz) | 500 | | 40,000 |
| | Step Size (Hz) | 100 | | |
| | Accuracy/stability (ppm) | | | +/- 2.0 |
| Phase Noise (dBc/Hz) @ 1/10/100/1000 kHz | @ 1 GHz | -95/-100/-105/-130 | -105/-110/-115/-140 | |
| | @10 GHz | -80/-85/-90/-120 | -85/-90/-100/-130 | |
| | @ 40 GHz | -70/-75/-80/-110 | -75/-80/-90/-120 | |
| Output Power | Standard (dBm) | | +10 | |
| | Optional (dBm) | | +20 | |
| | Control Range (dB) | 40 | 45 | |
| | Step Size (dB) | | 0.5 | |
| | Accuracy (dB) | -2.5 | +/-1 | +2.5 |
| Spurious | Inband (dBc) | -50 | -70 | |
| | Harmonics (dBc) | | -35 | |
| Switching Speed (ms) | | | 5 | |
| Internal/External Reference | Frequency (MHz) | | 10 | |
| | Input Level (Vpp) | 0.5 | 1 | 3 |
| Pulse Modulation | Pulse Width (ns) | 100 | | |
| | Pulse Repetition Rate (ns) | 200 | | |
| | Pulse Depth (dB) | 35 | 45 | |
| VSWR | | | 2.0:1 | |
| Power Requirements | | 12 VDC 800 mA | | |
| Environmental | Operating Temperature | 0 °C to +50 °C | | |
| | Relative Humidity (non-condensing) | <95% | | |
| Physical Connections | Power | 2.5mmx2.1mm | | |
| | Control | USB/Ethernet | | |
| | RF Connector | 2.92mm – female | | |
| | Reference | SMA – female | | |
| | Pulse Modulation | SMA - female | | |
| Mechanical | Size | 6.5 x 3.64 x 1.0 inches 165.1 x 92.5 x 25.4 millimeters | | |
| | Weight | 1.7 pounds 0.77 kilograms | | |

BLX-403 Performance Plots

Phase Noise



BLX-403 Mechanical Outline

