

REPAIR MANUAL

LSX4081B — calibration manual



Simulate, Stimulate, Test...

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Revision History

Version	Date	Author	Change Summary
0.5	2026-07-13	Arie Oster	Engineering manual

1. Scope and Purpose

This manual defines the procedure required to calibrate the LSX4081B signal generator in the field or at a service depot, without returning the unit to the factory for routine maintenance. It is intended for a technically qualified maintainer.

The LSX4081B calibration procedure is done automatically by dedicated SW that was developed and maintained by Tabor. The process includes updating the calibration tables in the LSX module, updating the calibration date and output calibration documents and charts.

2. Required Test Equipment

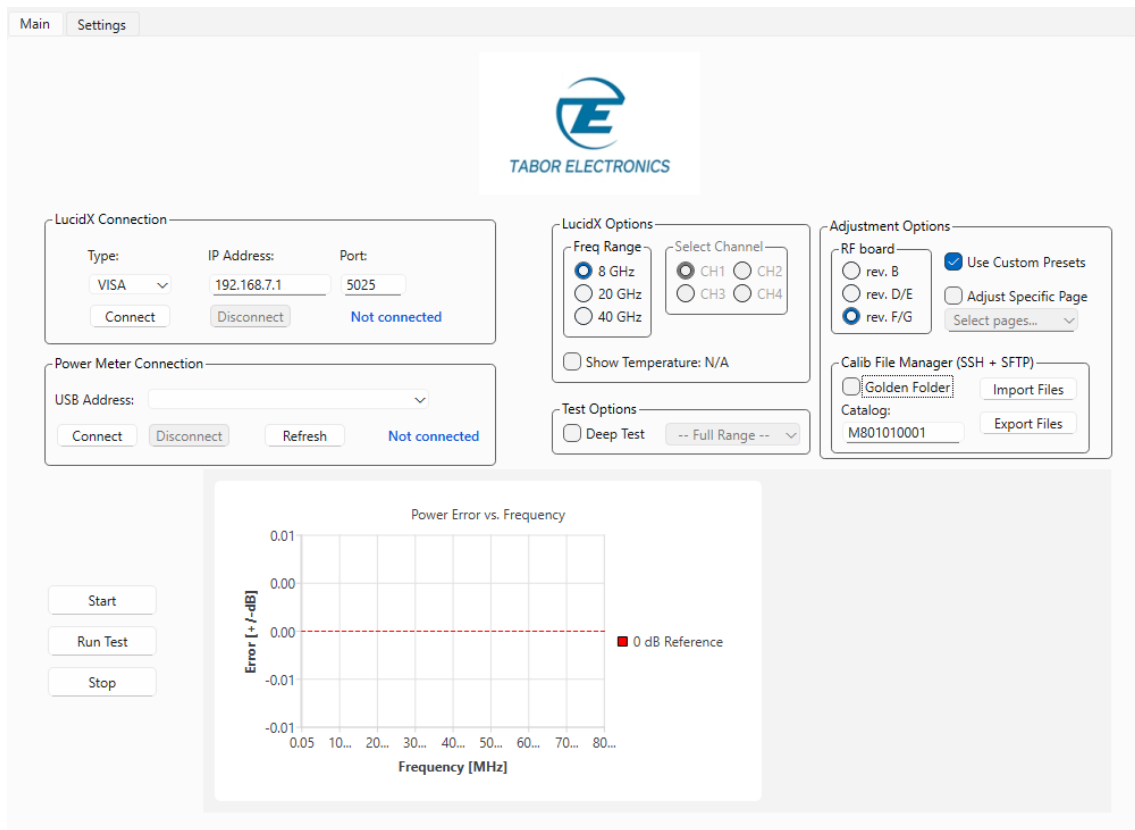
Equipment required for the calibration process is power meter. Calibration automated tool supports PM from BNC, LadyBug or Keysight.

The PM needs to be connected to device RF output throughout all procedure.

3. calibration process

- Connect the device to PM
- Open the Calibration adjustment tool
- Identify the device IP number and the PM
- Chose 4GHz, CH1.
- In the adjustment options chose “Use Custom Preset”
- RF board – NA.
- In the Calib file manager – put the device serial number (the data will be collected on the PC with this directory name)
- Push “Start”

Calibration process takes ~2-3 Hrs.



The screenshot shows the Tabor Electronics Calibration Adjustment Tool interface. The interface is divided into several sections:

- LucidX Connection:** Includes fields for Type (VISA), IP Address (192.168.7.1), and Port (5025). Buttons for Connect, Disconnect, and Not connected are present.
- Power Meter Connection:** Includes a field for USB Address and buttons for Connect, Disconnect, Refresh, and Not connected.
- LucidX Options:** Includes a Freq Range section with radio buttons for 8 GHz, 20 GHz, and 40 GHz. A Select Channel section has radio buttons for CH1, CH2, CH3, and CH4. A checkbox for Show Temperature: N/A is also present.
- Adjustment Options:** Includes an RF board section with radio buttons for rev. B, rev. D/E, and rev. F/G. A checkbox for Use Custom Presets is checked. A dropdown for Adjust Specific Page is set to Select pages....
- Calib File Manager (SSH + SFTP):** Includes a Golden Folder checkbox, an Import Files button, a Catalog field with the value M801010001, and an Export Files button.
- Test Options:** Includes a checkbox for Deep Test and a dropdown for Full Range.
- Graph:** A line graph titled "Power Error vs. Frequency" showing Error [+-dB] on the y-axis (ranging from -0.01 to 0.01) and Frequency [MHz] on the x-axis (ranging from 0.05 to 80.00). A red dashed line at 0.00 is labeled "0 dB Reference".
- Buttons:** Start, Run Test, and Stop buttons are located at the bottom left.

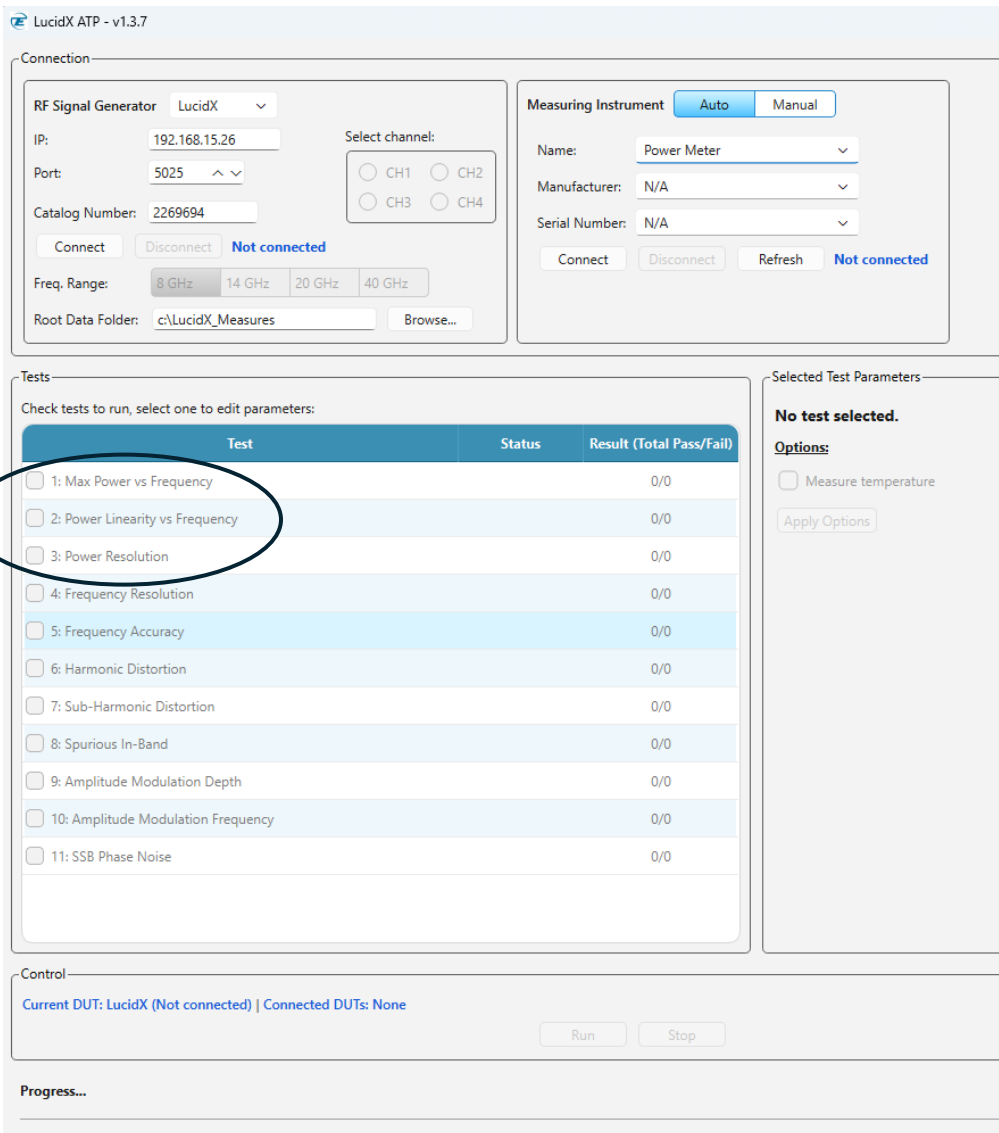
4. Testing

After the calibration process is done, use the test button to run the test at 5 different levels (-40dBm, -20dBm, -10dBm, 0dBm and 10dBm).

5. ATP

With the ATP tool, we can run 3 more power tests that cover all aspects of the device power:

- Max power vs frequency
- Power resolution
- Power linearity vs frequency.



LucidX ATP - v1.3.7

Connection

RF Signal Generator: LucidX

IP: 192.168.15.26

Port: 5025

Catalog Number: 2269694

Select channel: ☐ CH1 ☐ CH2 ☐ CH3 ☐ CH4

Connect Disconnect **Not connected**

Freq. Range: 8 GHz 14 GHz 20 GHz 40 GHz

Root Data Folder: c:\LucidX_Measures Browse...

Measuring Instrument: Auto Manual

Name: Power Meter

Manufacturer: N/A

Serial Number: N/A

Connect Disconnect Refresh **Not connected**

Tests

Check tests to run, select one to edit parameters:

Test	Status	Result (Total Pass/Fail)
☐ 1: Max Power vs Frequency		0/0
☐ 2: Power Linearity vs Frequency		0/0
☐ 3: Power Resolution		0/0
☐ 4: Frequency Resolution		0/0
☐ 5: Frequency Accuracy		0/0
☐ 6: Harmonic Distortion		0/0
☐ 7: Sub-Harmonic Distortion		0/0
☐ 8: Spurious In-Band		0/0
☐ 9: Amplitude Modulation Depth		0/0
☐ 10: Amplitude Modulation Frequency		0/0
☐ 11: SSB Phase Noise		0/0

Selected Test Parameters

No test selected.

Options:

☐ Measure temperature

Apply Options

Control

Current DUT: LucidX (Not connected) | Connected DUTs: None

Run Stop

Progress...