MACOM™

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Lincoln Apps Team

ZVA Gain Compression Application Evaluation Summary

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Test Setup

- Version 1.5.3
- DUT : Mini-Circuits ZHL-42
- 30dB attenuation in front of port 2
- CW measurement
- No power calibration performed (No power meter available for evaluation)

Observation / Comments

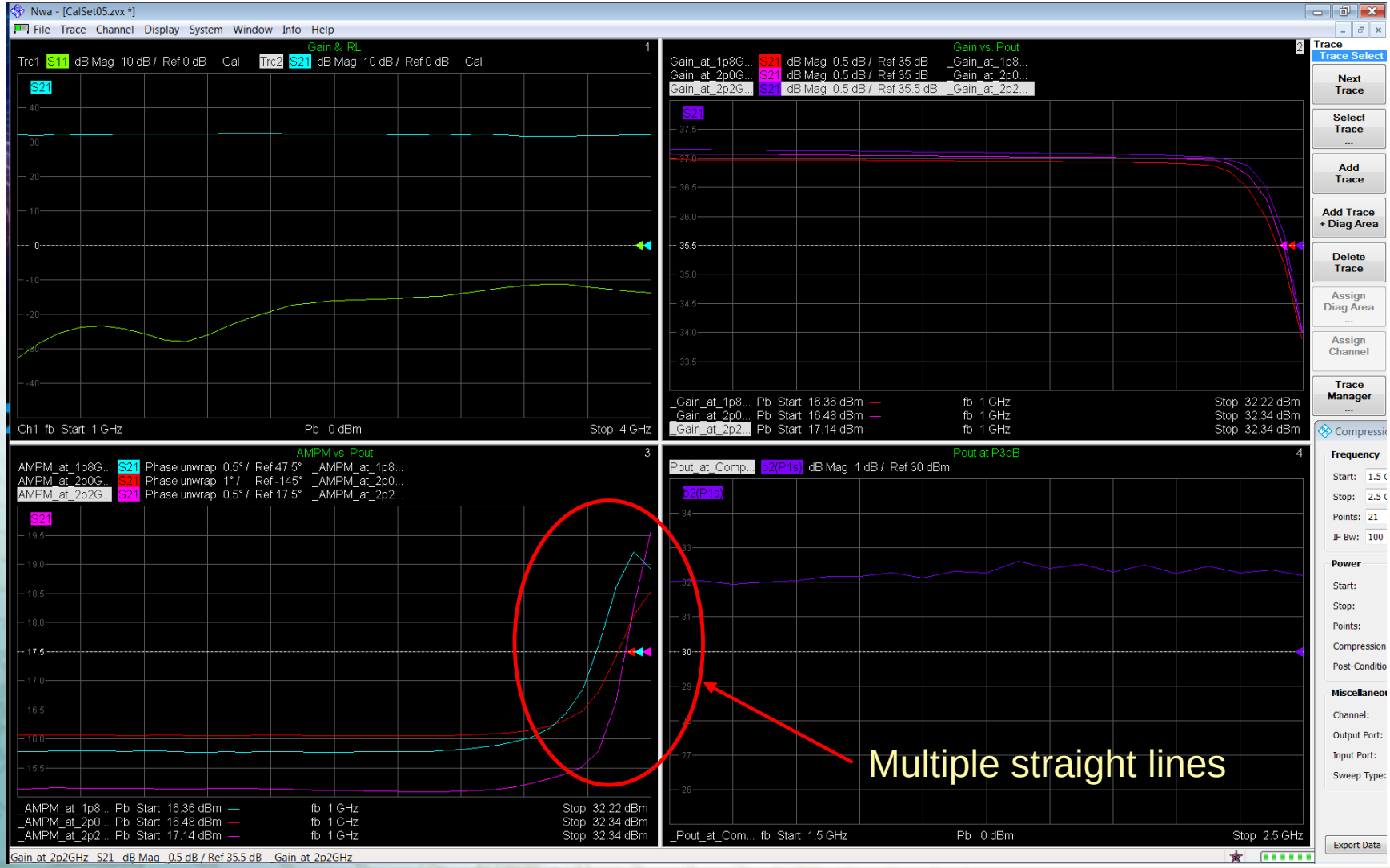
- First little issue I observed is the screen of the ZVA is a little small for this application. I believe the competitor had a little more space available there, or maybe was making a better use the space available.
    - This issue can be resolved by adding an external monitor to the ZVA. This way, you can populate your screen with up to 6 different plots easily, and the screen doesn't get crowded.
    - Plots on the next pages show the results when we use this method.

- Data can now be plotted easily using Frequency, Pin and Pout as the X-axis. This is great!

- Something makes the curves appear like a bunch of straight lines. It is still not clear to me if it is my power steps for sweeping of if it is related to X-axis interpolation (See next slide).

- It looks like I can't use the "Autoscale All" button to re-adjust scale on all plots at the same time. I wish I could use it.

Screen Capture



Observation / Comments

• It looks like you can't mix Power and gain values on the same plot. They have to be put on separate displays. It could be useful to have them on the same display (but this is a lower priority).

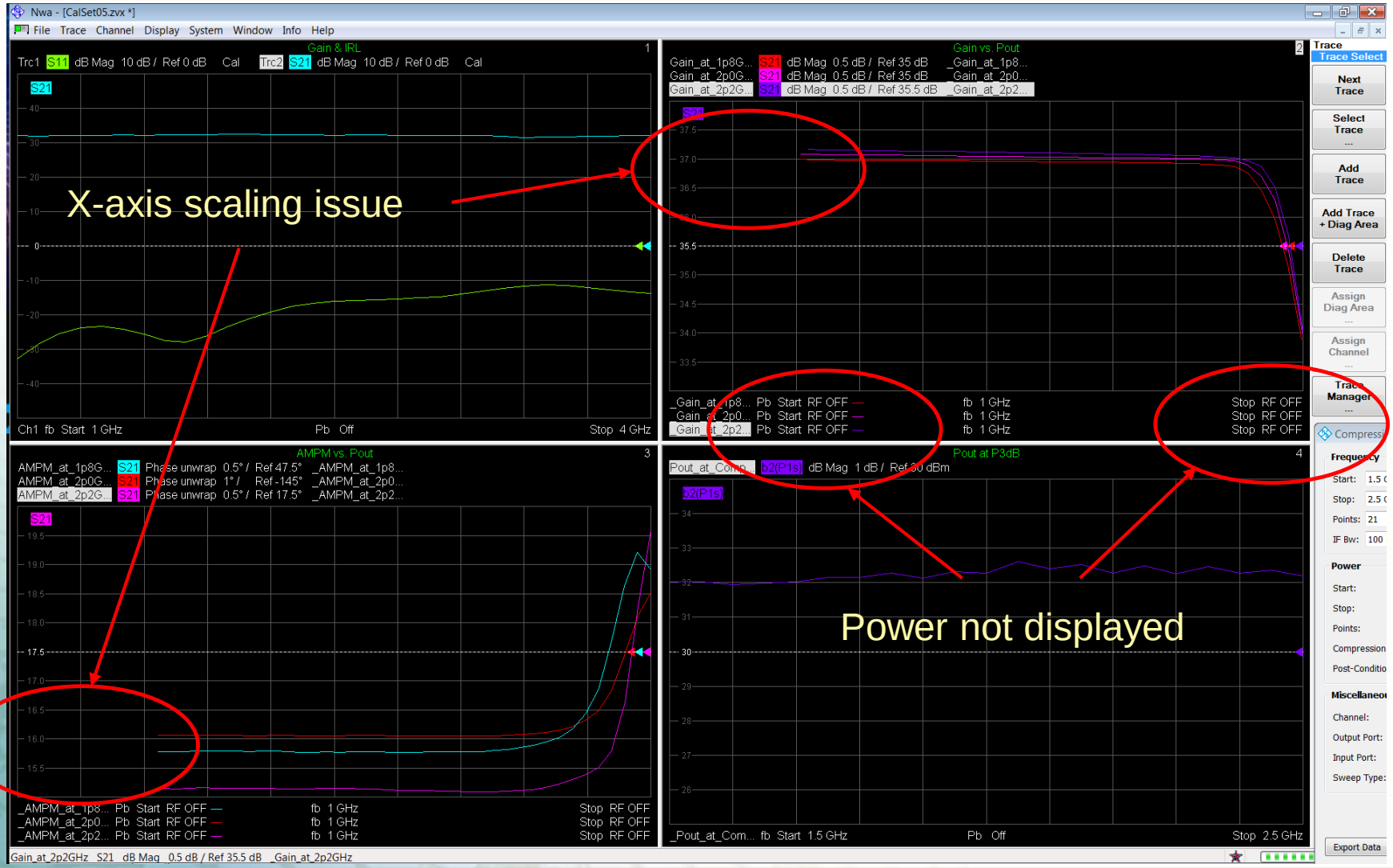
• There seem to be an issue with data plot when changing power sweep parameters. The plots do not re-scale properly (see next slide). I started Power sweep 5 dB below in comparison with previous slide, and it looks like the X-axis isn't being used in full.

• Also, when selecting RF Off at the end condition for sweep, Power Axis shows RF Off instead of showing Pstart and Pstop (see next slide). It would be nice to still see Pstart and Pstop even though RF power is off.

• You can't modify the label on the curve after it was created (Gain_at_1p8G for instance). If you do so, the software creates a new curve in a new window instead.

• When displaying frequency data at constant Pin or Pout, if requested power level exceeds what is available in the data, software does nothing and plots nothing. Maybe we could add a little warning message to explain what is wrong.

Screen Capture



Speed

- I observed something that has significant impact on speed, and I feel there may be something to be optimized there. On the frequency sweep (within the ZVA firmware, not the GCA) :
  - I ran the first calibration with 2801 frequency points. GCA was very slow.
  - Later, I reduced frequency sweep to 301 points. GCA was much faster.
  - So speed of the GCA appears to be related to the number of points in the ZVA frequency sweep calibration.