

Merge Cal SCPI command failure to retrieve label of port -specific cal standard /cr/

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Mike,

The guys at Boeing St Louis want port-specific cal standards. Their current setup is two ports. The Agilent VNA that they have does not support this, but they make it work by claiming that the ports are of different genders.

They want to generalize this to four or more ports, which they could not do with their Agilent VNA in this manner. They were happy to learn that our VNA supports port-specific standards.

They also really like the fact that the ZNB lets them add labels to their cal kits and standards. They want to use the label field to help them perform the calibration.

Unfortunately I've ran into another SCPI deficiency while implementing all this in Merge Cal: I am missing a SCPI command to retrieve information (specifically the label) of a port-specific cal standard.

Details:

Follow these steps

1. Load this 3.5 mm cal kit with name "Port Specific" and an empty label "" into your ZNB:



Port Specific.calkit

- 2. Open GPIB Explorer.
- 3. As a sanity check, make sure the cal kit is present by sending this command:

:CORR:CKIT:STAN:LCAT? 'Port Specific',"

Result:

'MSH(P1), MOP'

There are two standards in this cal kit:

- 1. A port specific short (to Port 1)
- 2. A male open
- 4. As another sanity check, I query the details of the male open:

:CORR:CKIT:MOP:WLAB? '3.5 mm','Port Specific',"

Result:

'3.5 mm', 'Port Specific', ", 'Open Label', 0, 1E+012, 0, 0, 50, 0, 0, 0, 0, 0, 0, 0

Notice that the label of the standard ('Open Label') was returned.

5. Now I try to query the details (including label) of the port specific short:

:CORR:CKIT:MSH(P1):WLAB? '3.5 mm', 'Port Specific',"

This command gives me an error about an invalid separator (presumably the parenthesis). I have tried different permutations of 'MSH(P1)' (with the parenthesis, without, with an extra colon separating 'MSH:1', etc etc), but I cannot query it.

Note: There is another SCPI command menu that you can use without specifying the label of the kit (I don't know why, probably for historical reasons). I get the same result with these commands.

They are:

:CORR:CKIT:STAN:CAT? 'Port Specific'

Result:

'MSH(P1),MOP'

:CORR:CKIT:MOP? '3.5 mm','Port Specific'

Result:

'3.5 mm', 'Port Specific', 'Open Label', 0, 1E+012, 0, 0, 50, 0, 0, 0, 0, 0, 0, 0

:CORR:CKIT:MSH(P1)? '3.5 mm','Port Specific' ***ERROR***

It seems like whoever implemented this SCPI command did not take into account port specific standards. This needs to be fixed for me to finish Merge Cal.

Do you think this is a feasible project for Munich? We already have one request outstanding...

Have a happy 4th of July!

Best Regards, Nick Lalic

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