

## Welcome to EDABoard.com

Welcome to our site! EDABoard.com is an international Electronic Discussion Forum focused on EDA software, circuits, schematics, books, theory, papers, asic, pld, 8051, DSP, Network, RF, Analog Design, PCB, Service Manuals... and a whole lot more! To participate you need to register. Registration is free. [Click here to register now.](#)

[Register](#)

[Log in](#)

[Forums](#) > [Analog Design](#) > [RF, Microwave, Antennas and Optics](#) >

[How to calibrate the VNA using the commercial calibration kit?](#)

🔒 Not open for further replies.

Jan 29, 2013

🔗 #1



**ia88**

Newbie level 3



Joined: Jun 1, 2010  
Messages: 4  
Helped: 0  
Reputation : 0  
Reaction score: 0  
Trophy points: 1,281  
Activity points: 1,303

Hi,

I am going to build a simple 1 port network analyzer, how do I calibrate the VNA using the commercial calibration kit? For example HP Agilent 85033.

I read about the 1 port error model (<http://na.tm.agilent.com/vnahelp/tip20.html>), but where do I find the actual known standard value for the calibration kit?

Thanks

Jan 29, 2013

🔗 #2



**BigBoss**

Advanced Member  
level 5



Joined: Nov 17, 2001

### Re: network analyzer calibration

Each calibration kit has its own measured calibration coefficients and they are written on a paper or saved on a disk.

This site uses cookies to help personalise content, tailor your experience and to keep you logged in if you register. By continuing to use this site, you are consenting to our use of cookies.

✓ Accept

Learn more...

Reaction score: 1,341  
Trophy points: 1,393  
Location: Turkey  
Activity points: 29,977

Jan 29, 2013

#3



**ia88**

Newbie level 3



Joined: Jun 1, 2010  
Messages: 4  
Helped: 0  
Reputation: 0  
Reaction score: 0  
Trophy points: 1,281  
Activity points: 1,303

### Re: network analyzer calibration

BigBoss said: ↑

Each calibration kit has its own measured calibration coefficients and they are written on a paper or saved on a disk.

How can I access this disk or paper?

Nov 19, 2013

#4



**drkirkby**

Full Member level 6

### Re: network analyzer calibration

ia88 said: ↑

Hi,  
I am going to build a simple 1 port network analyzer, how do I calibrate the VNA using the commercial calibration kit? For example

This site uses cookies to help personalise content, tailor your experience and to keep you logged in if you register.  
By continuing to use this site, you are consenting to our use of cookies.

✓ Accept

Learn more...

Messages: 383  
Helped: 59  
Reputation : 118  
Reaction score: 56  
Trophy points: 1,308  
Activity points: 5,194

value for the calibration kit?  
Thanks

I know this is an old thread, but I just noticed it and thought I'd reply, as you might still want the information, or someone else might do.

There is not an Agilent 85033 kit. There are to my knowledge the following HP or Agilent kits with the 85033 prefix.

#### Obsolete

85033A SMA kit  
85033B 3.5 mm kit  
85033C 3.5 mm kit  
85033D 3.5 mm kit

#### Current

85033E 3.5 mm kit

 FORUMS ▾

 BEST ANSWERS

 WHAT'S NEW ▾

 MEDIA ▾

 BLOGS >

LOG IN

REGISTER



<http://na.tm.agilent.com/pna/caldefs/stddefs.html>

They are available as both binary files and human readable/HTML files. Be aware the HTML files are sometimes rounded, so the numbers are not always given with much precision. But the binary files you download are accurate.

Anyway, for completeness


#### For the opens of 85033D, 85033E, 85052B, 85052C, 85052D (both male and female)

$C0=49.43$ ,  $C1=-310.13$ ,  $C2=23.17$ ,  $C3=-0.16$

Offset delay=29.243 ps

#### For the shorts of 85033D, 85033E, 85052B, 85052C, 85052D (both male and female)

This site uses cookies to help personalise content, tailor your experience and to keep you logged in if you register.  
By continuing to use this site, you are consenting to our use of cookies.

 Accept

Learn more...

For the 85033C, the parameters can be found in the manual, or if you use Cal Kit Manager 2.1, you can read them yourself.

**Opens of 85033C (both male and female)**

Offset delay = 14.491 ps  
C0=53, C1=150, C2=0, C3=0

**Shorts of 85033C (both male and female)**

Offset delay = 16.695 ps  
L0=0, L1=0, L2=0, L3=0

I think the 85033B has the same constants as the 85033C, but I am not 100% sure on that.

Note the opens and short in the 26.5 GHz 85052B, 85052C and 85052D kits are the same as those in the lower frequency kits.

Dave

 aniakhan




**aniakhan**









Points: 2

Helpful Answer Positive Rating

Aug 29, 2014 ·

 Not open for further replies.

Similar threads

- |   |   |                          |                           |   |
|---|---|--------------------------|---------------------------|---|
|  | <b>Calibration of VNA for transmission measurement with the TRM kit</b><br>yasine79 · Jan 9, 2013 · RF, Microwave, Antennas and Optics        | Replies: 0<br>Views: 758 | Jan 9, 2013<br>yasine79   |  |
|  | <b>How to calibrate the non-zero THRU in TRL calibration?</b><br>fanghong58 · May 7, 2013 · RF, Microwave, Antennas and Optics                | Replies: 2<br>Views: 1K  | May 8, 2013<br>johnjoe    |  |
|  | <b>VNA : accuracy without a calibration kit</b><br>imett · Jan 9, 2009 · RF, Microwave, Antennas and Optics                                   | Replies: 8<br>Views: 6K  | Jan 11, 2009<br>radiohead |  |
|  | <b>Measure the difference of length by VNA, is it necessary to calibrate?</b><br>votientu · May 25, 2016 · RF, Microwave, Antennas and Optics | Replies: 2<br>Views: 926 | May 26, 2016<br>biff44    |  |

» **PART AND INVENTORY SEARCH**

» **WELCOME TO EDABOARD.COM**

» **SPONSOR**

Forums > Analog Design > **RF, Microwave, Antennas and Optics** >

This site uses cookies to help personalise content, tailor your experience and to keep you logged in if you register. By continuing to use this site, you are consenting to our use of cookies.

✓ Accept

Learn more...

**Connect with us**

**Online statistics**

Members online:

Guests online:

Total visitors:

Totals may include hidden visitors.

**Forum statistics**

7 Threads:

352 Messages:

359 Members:

Latest member:

374,441

1,639,308

588,760

harshith74

**What's new**


▷ [New posts](#)

▷ [New profile posts](#)

▷ [Latest activity](#)

Copyright © 2021 WTWH Media, LLC. All Rights Reserved.

[Style chooser](#)

[Contact us](#) [Terms and rules](#) [Privacy policy](#) [Help](#) [Home](#) 

This site uses cookies to help personalise content, tailor your experience and to keep you logged in if you register. By continuing to use this site, you are consenting to our use of cookies.

Accept

[Learn more...](#)