

**Commit Request 4p14_2:
Bug Fix for Crosstalk path in get_PSDs()-
Inconsistent length gate ($\text{num_ui} * M > \text{length}(\text{pulse_ctle})$) when resizing hk.k**

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IEEE 802.3 Channel Operating Margin (COM) Open Source Project Ad Hoc

History

Revision	Date	Comment
0.5	18-Mar-2026	<ul style="list-style-type: none">Initial Draft.
1.0	23-Mar-2026	<ul style="list-style-type: none">Revised title slide with the commit request number and purpose for commit request slide with the merge request link.

Purpose for Commit Request

- Bug related to inconsistent length gate ($\text{num_ui} * M > \text{length}(\text{pulse_ctle})$) when resizing `hk.k` in the `get_PSDs()` for crosstalk.
 - The condition $\text{num_ui} * M > \text{length}(\text{pulse_ctle})$ controls padding/ truncation of `hk(xchan).k`, which is wrong.
 - It should be $\text{num_ui} * M > \text{length}(\text{hk}(\text{xchan}).k)$
- Bug exists in v4p13p0 and earlier versions.
- Fixing this issue has no impact on the results of COM and other parameters.
- Merge request: https://opensource.ieee.org/802-com/com_code/-/merge_requests/36
- Branch: `get_PSDs_bug_fix_resizing_hk_k`.
https://opensource.ieee.org/hansel.dsilva/com_code/-/branches
- Git branch file pointer:
https://opensource.ieee.org/hansel.dsilva/com_code/-/blob/get_PSDs_bug_fix_resizing_hk_k/release/com_ieee8023_4p14p0_getPSDs_release_hk_k/sizehkk.m

Navigate to Hansel_Dsilva/com_code

https://opensource.ieee.org/802-com/com_code/-/forks

The screenshot shows the IEEE Open Source Project page for the 802-COM / com_code repository. The page displays a list of forks, with the Hansel Dsilva / com_code fork highlighted by a red box. An arrow points to this fork with the text "Navigate to Hansel_Dsilva/com_code".

Forker	Repository	Description	Updated
Baidyanath Dutta	com_code	Merge branch 'KR_PKGB_CONFIG_for_d2p1' into 'main'	Updated 2 months ago
Norman Swenson	com_code	add 4p10p0 beta release	Updated 4 months ago
Mohammad Shakiba	com_code	add configuration file folder and some configuration files	Updated 4 months ago
Adee Ran	com_code	Merge branch 'signal_flow_graph' into 'main'	Updated 3 months ago
Hansel Dsilva (Owner)	com_code	rename for 4.12.0_beta1 to 4.12.0	Updated 16 minutes ago
Kent Lusted	com_code	rename for 4.12.0_beta1 to 4.12.0	Updated 2 weeks ago
Richard Mellitz	com_code	rename for 4.12.0_beta1 to 4.12.0	Updated 1 day ago
Adam Gregory	com_code	deleting fork version	Updated 1 month ago

Checking changes of a branch to the last release

https://opensource.ieee.org/hansel.dsilva/com_code/-/branches

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Hansel Dsilva / com_code / Repository / Branches

Overview Active Stale All

Filter by branch name View branch rules New branch

Active branches

get_PSDs_bug_fix_resizing_hk_k
f54ca6e7 · Bug fix for resizing of hk.k for crosstalk in get_PSDs() · 1 hour ago

adc_quant_noise_worst
c85371ec · verifying P_qc is one-sided or two-sided probability, it is one-sided

Use drop down in the 3 dots pulldown for get_PSDs_bug_fix_resizing_hk_k and select compare. Selecting bring up the compare screen

0.48 New Download

0.21 Compare Delete branch

Code Updates

- 1 m file changed.
- 0 m files added.
- No additional config csv and xlsx files are included.

src/get_PSDs.m

New or changed keywords

- Configuration file parameters.

Keywords (not case sensitive)	Default	Units	Comment

None

New Outputs

None

Summary of code changes page 1

```
src/get_PSDs.m View file @ 3c72b5ed
... @@ -119,12 +119,10 @@ else % find noise for item that set have tx ffe
    for each loop
119     end
120     if num_channel_files~=1
121         for xchan=2:num_channel_files
122 - pulse_ctle=filter(ones(1,M),1,chdata(xchan).ctle_imp_response(:).');
123 - pulse_ctle=[
124     pulse_ctle(1:floor(length(pulse_ctle)/M)*M) ];
125
126     hk(xchan).k=chdata(xchan).pulse_response_w_CFT_TXFFE_noRxFFE.';
127     % enable less UI for computation speed improvement
128     %%
129 - if num_ui*M > length(pulse_ctle)
130     hk(xchan).k= [ hk(xchan).k zeros(1,num_ui*M-
131     length(hk(xchan).k)) ];% crosstalk pulse responce
132     else
133     hk(xchan).k=hk(xchan).k(1:num_ui*M);
134     ...
... @@ -119,12 +119,10 @@ else % find noise for item that set have tx ffe
    for each loop
119     end
120     if num_channel_files~=1
121         for xchan=2:num_channel_files
122
123     hk(xchan).k=chdata(xchan).pulse_response_w_CFT_TXFFE_noRxFFE.';
124     % enable less UI for computation speed improvement
125     %%
126 + if num_ui*M > length(hk(xchan).k)
127     hk(xchan).k= [ hk(xchan).k zeros(1,num_ui*M-
128     length(hk(xchan).k)) ];% crosstalk pulse responce
129     else
130     hk(xchan).k=hk(xchan).k(1:num_ui*M);
131     ...
```

- num_ui= 4096; M= 32; length(pulse_ctle)= 34e4; length(hk(xchan).k)= 34e4;
- The condition num_ui*M > length(pulse_ctle) controls padding/ truncation of hk(xchan).k, which is wrong.

Thank You