

COM Commit Requests: 4p4_2 and 4p4_3 – 9 April 2024

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Commit Requests for COM 4.5

- ❑ [4p4_1] Error in implementing method of computing COM with Rx FFE
 - Submitter: Rich Mellitz
- ❑ [4p4_2] Reduce execution time when using Tx FFE
 - Submitter: Rich Mellitz
- ❑ [4p4_3] Change name of MLSE function in code to align with adopted shakiba_3dj_01b_2401 and adjust PSDs
 - Submitter: Rich Mellitz
- ❑ [4p4_4] Floating taps algorithm ISI method gives better results than FOM method when 3 or more groups are used
 - Submitter: Rich Mellitz

Today's
focus

4p4_2 (1 of 1)



□ Description:

- Reduce execution time when using Tx FFE
- Replaces circular shift with equivalent matrix math
 - Saves 60-70% execution time

□ Change the following COM functions:

- `optimize_fom`
 - During parameter computation, the unused RXFFE parameters (when using MMSE) are not used or stored

4p4_3 (1 of 1)

□ Description:

- Adjust the PSDs to match the interpretation of the shakiba_3dj_01b_2401 proposal
 - Need a confirmation and a review that the PSD calculations for MLSE match the contribution
- The name of the MLSE function 'U1.c' in code does not align with the name used in shakiba_3dj_01b_2401

□ Change the following COM functions:

- MLSE_U1_c // add new function
 - Initial implementation based on Rich's interpretation of shakiba_3dj_01b_2401
 - Use new function in place of MLSE_U3
 - Uses PSD_results.Sn_rho
- com_ieee8023_93a
 - Replaced the function call from MLSE_U3 to MLSE_U1_c
 - MLSE keyword: 0 = No MLSE, 1 = MLSE_U3, 3 = MLSE_U1_c

Thank You!