

# **COM Commit Requests: 4p6\_1, 4p6\_2, 4p6\_3**

Rich Mellitz, Samtec

August 13, 2024, COM ad hoc

# Commit Requests for COM 4.7

- ❑ [4p6\_1] Change MLSE\_U1\_c\_178A code module to align with shakiba\_3dj\_01\_2407
  - Submitter: Rich Mellitz
- ❑ [4p6\_2] Change MLSE\_U1\_c\_178A code module to align with healey\_3dj\_01a\_2407
  - Submitter: Rich Mellitz
- ❑ [4p6\_3] Change read\_ParamConfigFile code module to align clean up package syntax in configuration spreadsheet to no longer require dummy Zp and Zc entries
  - Submitter: Rich Mellitz
- ❑ Adjust support files
  - adjust read\_ParamConfigFile for new commands
  - Add to comments to file zzz\_list\_of\_changes.m

# Commit request 4p6\_1

shakiba\_3dj\_01\_2407

## ❑ Added parameter.

- **N\_tc** is trunc in shakiba\_3dj\_01\_2407 slide 6 ff representing sequence truncation. Units are number of symbols considered for MLSE
  - No Truncation will be used unless N\_tc is specified in the configuration spreadsheet

N_tc	18		MLSE truncatlon
------	----	--	-----------------

## ❑ If delta COM computes to less than 0, the message "MLSE truncation failed. Try increasing N\_tc" is reported and delta COM of zero will be used.

# Commit request 4p6\_2

healey\_3dj\_01a\_2407

## ❑ Added parameter.

- **Q\_budget\_adj** is regular expression of a 2 element row vector for the coefficients of the equation on slide 6 of healey\_3dj\_01a\_2407 defining  $Q(\text{COM}_{\text{DFE}})$

Q_budget_adj	[0.57 0.1]		0 to disable
--------------	------------	--	--------------

- Where  $Q(\text{COM}_{\text{DFE}}) = Q\_budget\_adj(1) - Q\_budget\_adj(2) * \text{COM}_{\text{DFE}}$
- Q is 0 if Q\_budget\_adj is specified in the configuration spreadsheet

# Commit request 4p6\_3

healey\_3dj\_01a\_2407

- ❑ Remove the requirement of dummy package specifications in the configuration spreadsheet. (grey colored cells no longer required)

COM 4.6

parameters				I/O control			package parameter holder			
Parameter	Setting	Units	Information	DIAGNOSTICS	1	logical	Parameter	Setting	Units	Information
f_b	106.25	GBd		DISPLAY_WINDOW	1	logical	package_tl_gamma0_a1_a2	[5e-4 0.00065 0.0003]		
f_min	0.05	GHz		CSV_REPORT	0	logical	package_tl_tau	0.006141	ns/mm	
Delta_f	0.01	GHz		RESULT_DIR	.\results\CRKR_{date}\		package_Z_c	2 92 ; 70 70; 80 80; 100 10	Ohm	
C_d	[0.4e-4 0.9e-4 1.1e-4; 0.4e-4 0.9e-4 1.1e-4]	nF	[TX RX]	SAVE_FIGURES	0	logical	z_p (TX)	; 1 1 1 1; 1 1 1 1; 0.5 0	mm	[test cases to run]
L_s	[0.13 0.15 0.14; 0.13 0.15 0.14]	nH	[TX RX]	Port Order	[ 1 3 2 4 ]		z_p (NEXT)	; 1 1 1 1; 1 1 1 1; 0.5 0	mm	[test cases]
C_b	[0.3e-4 0.3e-4]	nF	[TX RX]	RUNTAG	KR_set1_eval_		z_p (FEXT)	; 1 1 1 1; 1 1 1 1; 0.5 0	mm	[test cases]
R_0	50	Ohm		COM_CONTRIBUTION	0	logical	z_p (RX)	; 1 1 1 1; 1 1 1 1; 0.5 0	mm	[test cases]
R_d	[ 50 50 ]	Ohm	[TX RX]				C_p	[0.4e-4 0.4e-4]	nF	[test cases]
PKG_NAME	PKG_HIR_CLASSB PKG_HIR_CLASSB		TX RX	TDR and ERL options			Operational			
A_v	0.413	V		TDR	1	logical	ERL Pass threshold	10	dB	
A_fe	0.413	V		ERL	1	logical	COM Pass threshold	3	db	
A_ne	0.45	V		ERL_ONLY	0	ns	DER_0	2.00E-04		
z_p select	[3]			TR_TDR	0.01		T_r	0.00400	ns	
L	4			N	4000	logical	FORCE_TR	1	logical	
M	32			TDR_Butterworth	1		PMD_type	C2C		
filter and Eq				beta_x	0		EW	1		
f_r	0.58	*fb		rho_x	0.618		MLSE	1	logical	
c(0)	1		min	TDR_W_TXPKG	0	UI	N_tc	18		MLSE truncation
c(-1)	0		[min:step:max]	N_bx	20		Q_budget_adj	[0.57 0.1]		0 to disable
parameters				I/O control						
Parameter	Setting	Units	Information	DIAGNOSTICS	1	logical				
f_b	106.25	GBd		DISPLAY_WINDOW	1	logical <td></td> <td></td> <td></td> <td></td>				
f_min	0.05	GHz		CSV_REPORT	0	logical <td></td> <td></td> <td></td> <td></td>				
Delta_f	0.01	GHz		RESULT_DIR	.\results\CRKR_{date}\					
C_d	[0.4e-4 0.9e-4 1.1e-4; 0.4e-4 0.9e-4 1.1e-4]	nF	[TX RX]	SAVE_FIGURES	0	logical <td></td> <td></td> <td></td> <td></td>				
L_s	[0.13 0.15 0.14; 0.13 0.15 0.14]	nH	[TX RX]	Port Order	[ 1 3 2 4 ]					
C_b	[0.3e-4 0.3e-4]	nF	[TX RX]	RUNTAG	KR_set1_eval_					
R_0	50	Ohm		COM_CONTRIBUTION	0	logical <td></td> <td></td> <td></td> <td></td>				
R_d	[ 50 50 ]	Ohm	[TX RX]							
PKG_NAME	PKG_HIR_CLASSB PKG_HIR_CLASSB		TX RX	TDR and ERL options			Operational			
				TDR	1	logical	ERL Pass threshold	10	dB	
				ERL	1	logical	COM Pass threshold	3	db	
				ERL_ONLY	0	ns	DER_0	2.00E-04		
z_p select	[3]			TR_TDR	0.01		T_r	0.00400	ns	
L	4			N	4000	logical	FORCE_TR	1	logical	
M	32			TDR_Butterworth	1		PMD_type	C2C		
filter and Eq				beta_x	0		EW	1		
f_r	0.58	*fb		rho_x	0.618		MLSE	1	logical	
c(0)	1		min	TDR_W_TXPKG	0	UI	N_tc	7		MLSE truncation
c(-1)	0		[min:step:max]	N_bx	20		Q_budget_adj	[0.57 0.1]		0 to disable

COM  
4.7beta1

# COMPARISON REPORTS

- ❑ MLSE\_U1\_c\_178A 4.7beta1 comparisonReport.html
- ❑ read\_ParamConfigFile 4.7beta1 comparisonReport.html
- ❑ zzz\_list\_of\_changes 4.7beta1 comparisonReport.html

# Thank You!