

# **COM Table Consensus for Annex 120D CDAUI (C2C)**

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# COM issues and recommendations

- Compliant COM packages must utilize compliant signal amplitudes.
- Use of  $SNR_{Tx} = Tx \text{ SNDR}$  double counts some noise that will be present in the COM computation.
  - This suggest is that the  $SNR_{Tx}$  used in COM should be slightly higher that the SNDR Tx specification
- Other COM suggestions
  - Change DER to  $1e-5$
  - Change package  $Z_c$  to 85 ohms
  - Change COM threshold limit to 3 dB

# COM table Recommendation

Table 93A-1 parameters		
Parameter	Setting	Units
f_b	26.5625	GBd
f_min	0.05	GHz
Delta_f	0.01	GHz
C_d	[2.8e-4 2.8e-4]	nF
z_p select	[1 2 ]	
z_p (TX)	[12 30]	mm
z_p (NEXT)	[12 12]	mm
z_p (FEXT)	[12 30]	mm
z_p (RX)	[12 30]	mm
C_p	[1.1e-4 1.1e-4]	nF
R_0	50	Ohm
R_d	[55 55]	Ohm
f_r	0.75	*fb
c(0)	0.6	
c(-1)	[-0.15:0.05:0]	
c(1)	[-0.35:0.05:0]	
g_DC	[-15:1:0]	dB
f_z	10.625	GHz
f_p1	10.625	GHz
f_p2	1.00E+99	GHz
A_v	0.45	V
A_fe	0.45	V
A_ne	0.63	V

Table 93A-1 parameters		
Parameter	Setting	Units
L	4	
M	32	
N_b	10	UI
b_max(1)	0.5	
b_max(2..N_b)	0.2	
sigma_RJ	0.01	UI
A_DD	0.02	UI
eta_0	2.60E-08	V <sup>2</sup> /GHz
SNR_TX	[29.0 31.1]	dB
R_LM	0.95	
DER_0	1.00E-05	
Operational control		
COM Pass threshold	3	dB
Include PCB	0	Value
g_DC_HP	[-4:1:0]	
f_HP_PZ	0.6640625	GHz

Table 93A-3 parameters		
Parameter	Setting	Units
package_tl_gamma0_a1_a2	[0 1.734e-3 1.455e-4]	
package_tl_tau	6.141E-03	ns/mm
package_Z_c	85	Ohm

# COM incremental\* change results (dB)

healey_3bs_02_1115 cases	1	2	3	4	5	6	7	8	9	10
Insertion loss (dB)	19.6	14.7	6.9	19.5	17.4	11.0	9.2	18.6	19.1	17.4
case 2 new comprmise SNDR_Tx 31.1	3.10	3.70	3.67	2.87	2.64	3.77	3.59	4.80	1.69	3.19
case 1 new comprmise SNR_Tx 29	3.08	3.19	2.41	2.83	2.36	3.20	2.70	4.48	1.60	2.80

\* COM Revision: 1.63