Observations on 200G/lane AUI BER Allocation for Type 1 and Type 2 PHYs

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v1p0

Contributors

Contributors:

- Tobey P.-R. Li, MediaTek
- Adee Ran, Cisco
- Matt Brown, Alphawave Semi
- Adam Healey, Broadcom

Introduction

- In July 2023, the 3dj Task Force adopted a DER_0 value of 2.67E-5 for the AUIs within a PHY
- This contribution will focus on the allocation of BER for AUIs inside a Type 1 or Type 2 PHY (not part of an extender sublayer)
  - AUIs are optional instantiations
- Note: "BER" is loosely used in this contribution to represent "random BER" and recognize there is much discussion on the topic

Motion #6

Move to adopt one DER0 value of 2.67e-5 (equivalent to measured BER of 4e-5 with precoding ON) as the total allocation for 200Gbps/lane AUIs within a PHY (BER division between C2C and C2M as well as the measurement method to be determined later)

M: Adee Ran
S: Tobey P.-R. Li
Technical (>=75%)
802.3 voters only
Result: passed by unanimous consent. 9:19 a.m.

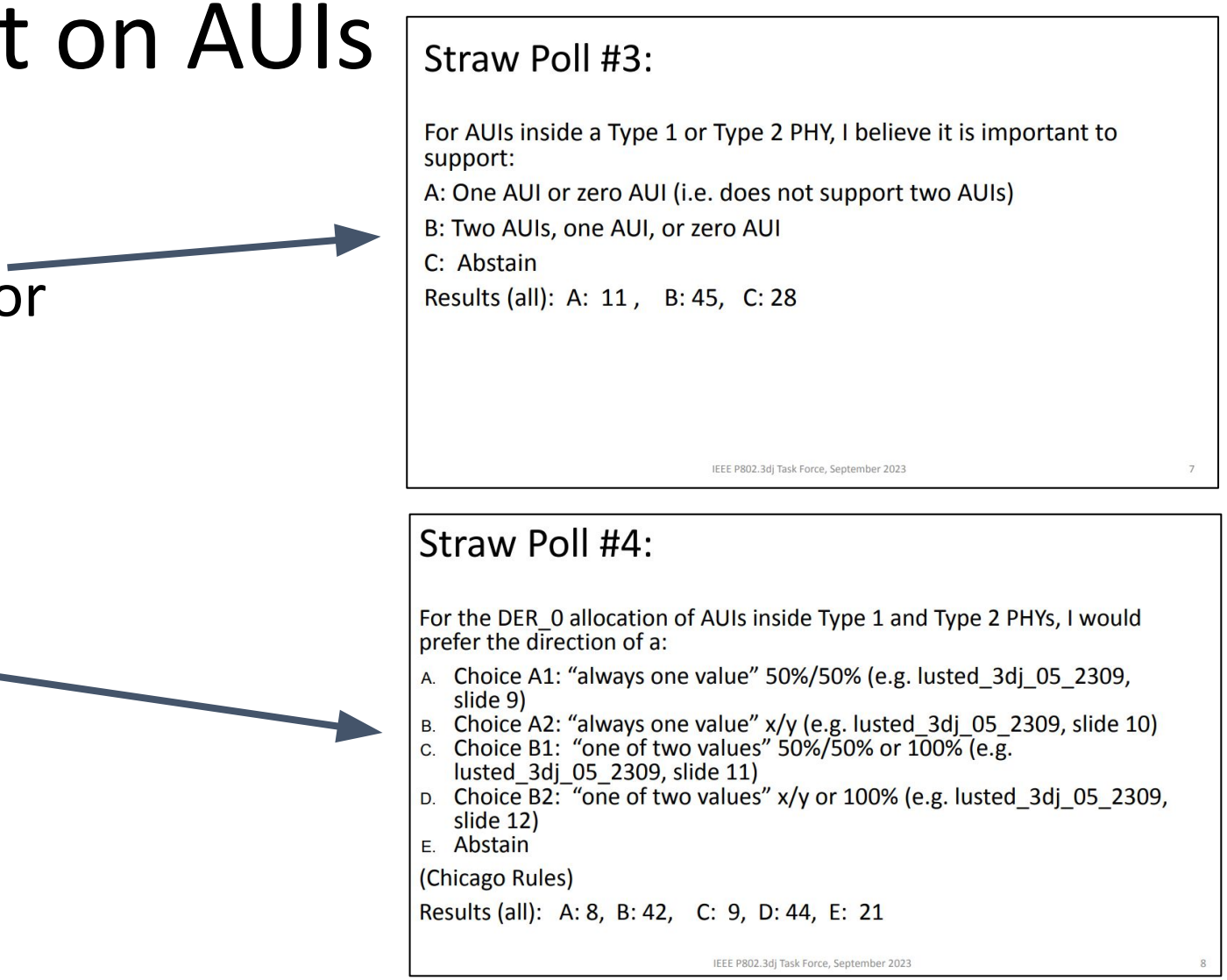
https://www.ieee802.org/3/dj/public/23_07/motions_3cwdfdj_2307.pdf

PHY/FEC types defined in https://www.ieee802.org/3/dj/public/23_03/brown_3dj_01a_2303.pdf

Recap of 11-14 Sept on AUIs

There is consensus to support 0, 1, or 2 AUIs inside a Type 1 or Type 2 PHY

There is consensus for a non-50/50 split of the DER_0 allocation.



Straw Poll #3:

For AUIs inside a Type 1 or Type 2 PHY, I believe it is important to support:

A: One AUI or zero AUI (i.e. does not support two AUIs)

B: Two AUIs, one AUI, or zero AUI

C: Abstain

Results (all): A: 11 , B: 45, C: 28

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Straw Poll #4:

For the DER_0 allocation of AUIs inside Type 1 and Type 2 PHYs, I would prefer the direction of a:

A. Choice A1: "always one value" 50%/50% (e.g. lusted_3dj_05_2309, slide 9)
B. Choice A2: "always one value" x/y (e.g. lusted_3dj_05_2309, slide 10)
C. Choice B1: "one of two values" 50%/50% or 100% (e.g. lusted_3dj_05_2309, slide 11)
D. Choice B2: "one of two values" x/y or 100% (e.g. lusted_3dj_05_2309, slide 12)
E. Abstain

(Chicago Rules)

Results (all): A: 8, B: 42, C: 9, D: 44, E: 21

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https://www.ieee802.org/3/dj/public/23_09/motions_3cwdfdj_2309.pdf

Recap of 11-14 Sept on AUIs

When two AUIs are on a host, the preferred DER_0 allocation is C2C = 0.67E-5 and C2M =2E-5

Straw Poll #7:

For the case when the AUI DER_0 is split across the C2M and the C2C on a host, I would prefer the allocation of:

A. C2C = 0.67E-5 and C2M = 2E-5

B. C2C = 0.87E-5 and C2M = 1.8E-5

C. C2C = 1.33E-5 and C2M = 1.33E-5

D. Abstain

(chicago rules) Results (all): A: 54, B: 23, C: 7, D: 27

(pick one) Results (all): A: 44, B: 7, C: 4, D: 27

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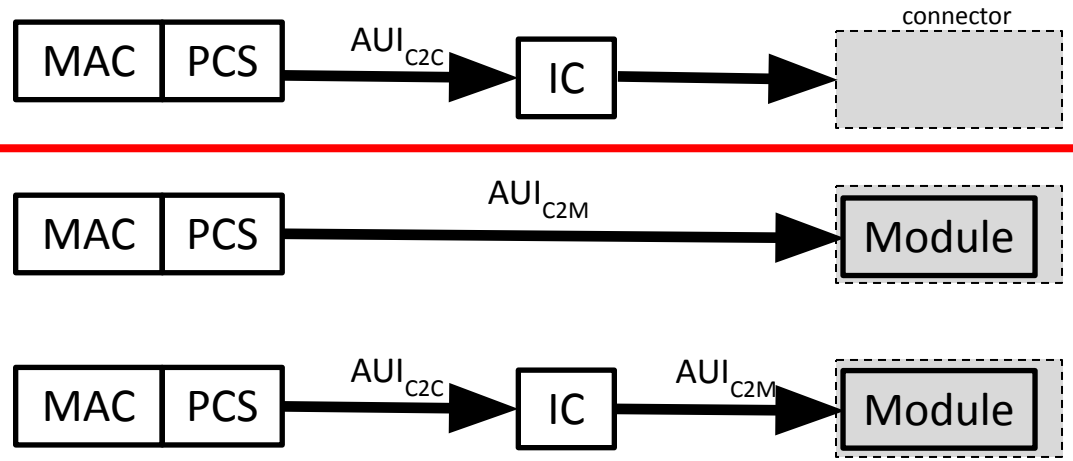
https://www.ieee802.org/3/dj/public/23_09/motions_3cwdfdj_2309.pdf

Common Host Use Case Examples - FPP



Host IC “Retimer” to passive copper cable

No IC “Retimer” to Module

Host IC “Retimer” to Module

Focus on pluggable optical transceiver case in order to progress C2M AUI baseline

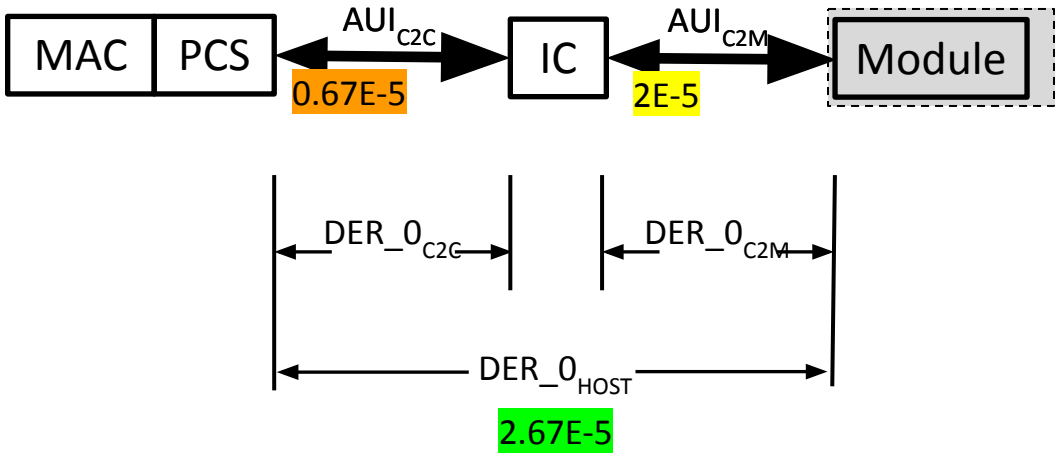
Note: AUIs inside Type 1 and Type 2 PHYs

The model above was provided for illustrative purposes to enable discussion. No formal budget has been adopted.

Two AUI (C2C + C2M) Case:

Divide the DER_0 allocation between C2M and C2C as follows

- DER_0 C2C = 0.67E-5
- DER_0 C2M = 2E-5



The model above was provided for illustrative purposes to enable discussion. No formal budget has been adopted.

What about the 1 AUI C2M Case?

Do we relax the DER_0 value or not?

Straw Poll #8:

For the DER_0 allocation of AUIs inside Type 1 and Type 2 PHYs, I would prefer the direction of a:

A. Choice A2: “always one value” C2C = 0.67E-5 and C2M = 2E-5
B. Choice B2: “one of two values” as follows
   - C2C = 0.67E-5 and C2M = 2E-5 (if two AUIs)
   - C2C or C2M = 2.67E-5 (if one AUI)
A. Abstain

(Pick one)

Results (all): A: 39, B: 21 , C: 21

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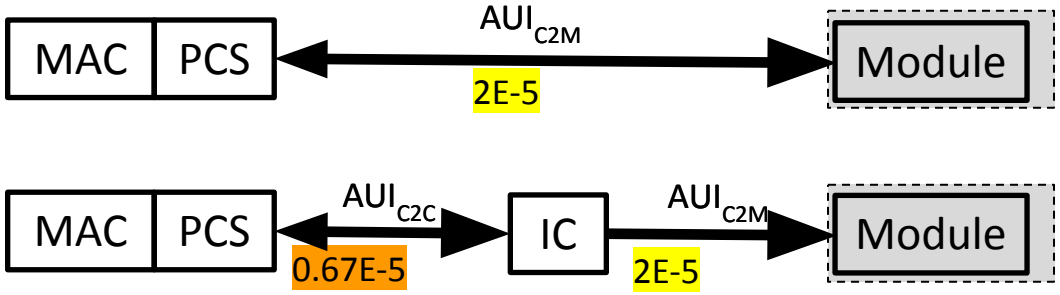
https://www.ieee802.org/3/dj/public/23_09/motions_3cwdfdj_2309.pdf

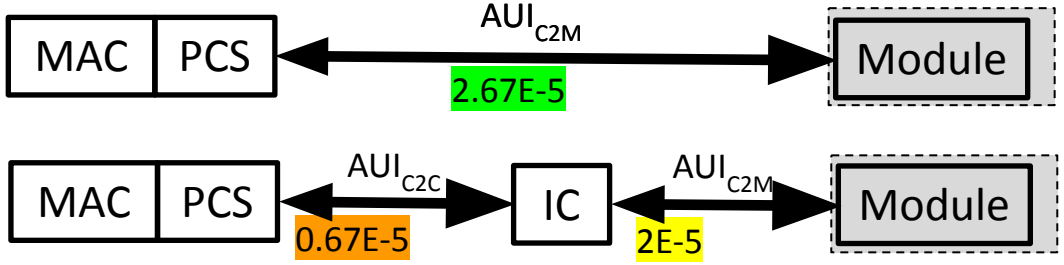
One AUI case - C2M only (no C2C)

Choice A



DER_0 = 2E-5

Choice B



DER_0 = 2E-5 and 2.67E-5

COM (1/2)

~0.14 dB COM difference between DER_0 = 2E-5 vs. 2.67E-5

Regardless of channel, package class (A/B) or EQ class (I/II)

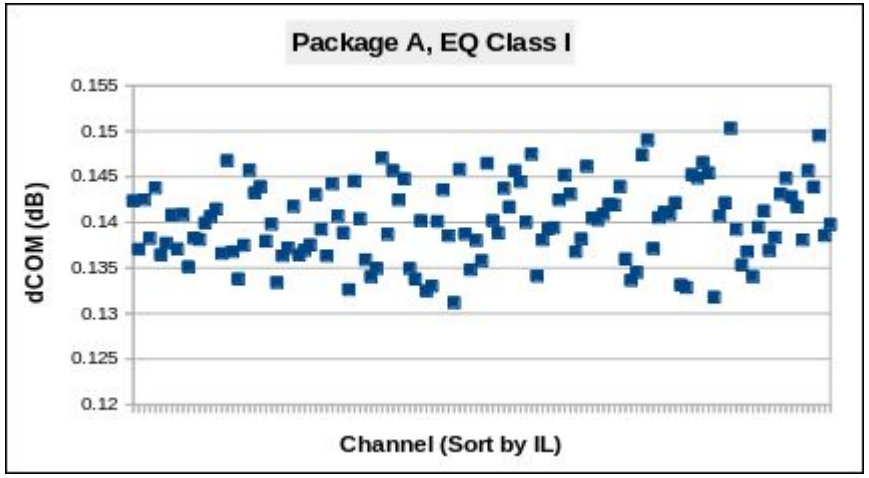
Channel	IL (dB)	ERL (dB)	ICN (mV)	ICR (dB)	Bump-Bump IL (PKG A)	COM (DER = 2E-5)		COM (DER = 2.67E-5)		Bump-Bump IL (PKG B)	COM (DER = 2E-5)		COM (DER = 2.67E-5)	
						I	II	I	II		I	II	I	II
akinwale_3dj_02_2307/C2M_PCB_93ohms_0p5in	6.34	14.14	4.47	27.09	13.18	3.99	5.05	4.13	5.19	15.86	4.38	5.43	4.52	5.56
akinwale_3dj_02_2307/C2M_PCB_100ohms_0p5in	6.44	13.51	4.48	26.73	13.63	3.98	5.12	4.12	5.25	16.10	4.54	5.54	4.67	5.68
akinwale_3dj_02_2307/C2M_PCB_85ohms_0p5in	6.78	12.75	4.47	27.39	13.09	3.82	4.93	3.96	5.07	15.93	4.09	5.27	4.23	5.41
weaver/egress/C2M_X_OSFP224_3in_host_PCB_25C	6.90	13.98	5.31	28.05	12.87	4.30	5.35	4.43	5.48	15.87	5.03	5.84	5.17	5.99
weaver/egress/C2M_Y_OSFP224_3in_host_PCB_25C	7.21	14.32	3.15	32.35	14.43	5.03	5.72	5.18	5.86	17.00	5.62	6.32	5.77	6.45
weaver/egress/C2M_X_OSFP224_3in_host_PCB_80C	7.32	14.04	5.12	27.99	13.33	4.34	5.40	4.47	5.53	16.28	5.05	5.88	5.19	6.02
akinwale_3dj_02_2307/C2M_PCB_100ohms_1p0in	7.33	14.09	4.16	26.70	14.43	4.23	4.97	4.37	5.11	16.93	4.63	5.23	4.76	5.37
weaver/egress/C2M_Y_OSFP224_3in_host_PCB_80C	7.63	14.38	3.05	32.28	14.76	5.08	5.78	5.22	5.92	17.35	5.61	6.31	5.75	6.45
weaver/egress/C2M_Y_OSFP224_3in_host_PCB_80C	7.64	14.89	4.17	27.30	14.00	4.67	5.24	4.81	5.38	16.80	4.94	5.40	5.07	5.54
akinwale_3dj_02_2307/C2M_PCB_100ohms_1p5in	8.21	14.64	3.88	26.63	15.25	4.10	4.87	4.24	5.01	17.76	4.35	5.08	4.50	5.22
shanbhag/C2M_TP0TP1a_8p4dB_PCBHost_3p7dB	8.35	17.05	2.48	36.64	14.43	5.24	5.61	5.38	5.75	17.26	5.66	6.04	5.80	6.18
akinwale_3dj_02_2307/C2M_PCB_85ohms_1p0in	8.51	13.34	4.17	27.13	14.33	3.88	4.98	4.02	5.12	17.05	4.10	5.28	4.24	5.42
akinwale_3dj_02_2307/C2M_PCB_93ohms_1p5in	8.95	15.83	3.90	27.18	15.06	4.14	4.70	4.28	4.84	17.82	4.48	4.93	4.61	5.08
akinwale_3dj_02_2307/C2M_PCB_85ohms_1p5in	9.05	13.85	3.91	26.48	15.15	4.08	4.56	4.22	4.70	17.55	4.95	5.37	5.09	5.51
akinwale_3dj_02_2307/C2M_PCB_100ohms_2p0in	9.09	15.15	3.65	26.53	16.07	3.97	4.30	4.11	4.43	18.59	4.61	4.89	4.74	5.02
akinwale_3dj_02_2307/C2M_PCB_85ohms_2p0in	9.26	14.29	3.68	26.22	16.24	4.36	4.76	4.50	4.90	18.35	4.89	5.19	5.03	5.33
weaver/egress/C2M_X_OSFP224_5in_host_PCB_25C	9.39	14.22	4.29	28.09	16.35	4.48	5.60	4.62	5.74	19.08	5.13	5.98	5.27	6.12
weaver/egress/C2M_Y_OSFP224_5in_host_PCB_25C	9.64	14.56	2.64	32.24	17.17	5.14	5.84	5.29	5.99	19.47	5.67	6.34	5.80	6.47
akinwale_3dj_02_2307/C2M_PCB_100ohms_2p5in	9.97	15.62	3.44	26.40	16.89	4.47	4.83	4.61	4.97	19.42	4.91	5.21	5.06	5.35
akinwale_3dj_02_2307/C2M_PCB_93ohms_2p0in	10.00	16.16	3.67	26.86	16.06	4.46	4.79	4.59	4.93	18.71	5.10	5.37	5.24	5.51
weaver/egress/C2M_X_OSFP224_5in_host_PCB_80C	10.08	14.30	4.05	28.01	16.97	4.47	5.58	4.60	5.72	19.70	5.12	5.96	5.26	6.10
weaver/egress/C2M_Y_OSFP224_5in_host_PCB_80C	10.34	14.63	2.52	32.05	17.80	5.13	5.84	5.27	5.98	20.14	5.64	6.29	5.78	6.43
akinwale_3dj_02_2307/C2M_PCB_85ohms_2p5in	10.35	14.74	3.49	26.41	17.84	4.43	4.84	4.58	4.98	19.91	5.11	5.41	5.25	5.56
akinwale_3dj_02_2307/C2M_PCB_93ohms_2p5in	10.77	16.29	3.47	26.45	16.92	4.69	5.05	4.83	5.19	19.44	5.27	5.56	5.41	5.70
akinwale_3dj_02_2307/C2M_PCB_100ohms_3p0in	10.84	15.67	3.27	26.25	17.71	4.57	4.96	4.71	5.10	20.25	5.08	5.39	5.22	5.52
akinwale_3dj_02_2307/C2M_PCB_93ohms_3p0in	11.36	16.33	3.30	26.05	17.74	4.67	5.03	4.81	5.17	20.12	5.31	5.60	5.45	5.73
Kareti/PCB_Host_ball_ball_11p5db_set3	11.51	7.92	3.83	25.05	17.99	0.17	2.34	0.31	2.48	20.39	0.83	2.88	0.97	3.02
akinwale_3dj_02_2307/C2M_PCB_85ohms_3p0in	11.57	15.01	3.33	26.18	19.01	4.44	4.83	4.58	4.98	21.16	5.10	5.43	5.25	5.57
li_dj_C2M_Design_B_Rev1_THRU.s4p	11.57	15.48	2.46	27.78	17.75	4.62	4.97	4.76	5.10	20.32	5.37	5.59	5.51	5.73
li_dj_C2M_Design_A_Rev1_THRU.s4p	11.61	14.75	4.06	24.23	18.09	4.28	4.58	4.42	4.72	20.54	4.89	5.10	5.03	5.25
Kareti/Cabled_Host_ball_ball_11db.s4p	11.65	7.78	3.83	24.86	17.77	-0.16	1.85	-0.03	1.99	20.36	0.43	2.33	0.57	2.47
shanbhag/C2M_TP0TP1a_11p7dB_CabledHost_7p85dB	11.68	14.21	1.65	25.34	18.89	4.62	4.94	4.75	5.08	21.17	5.14	5.44	5.27	5.58
akinwale_3dj_02_2307/C2M_PCB_100ohms_3p5in	11.69	15.69	3.11	26.08	18.54	4.62	5.01	4.76	5.15	21.07	5.19	5.50	5.33	5.64
weaver/egress/C2M_X_OSFP224_7in_host_PCB_25C	11.93	14.40	3.53	27.65	19.39	4.34	5.45	4.48	5.58	21.87	5.02	5.86	5.17	6.00
akinwale_3dj_02_2307/C2M_PCB_93ohms_3p5in	11.94	16.35	3.16	25.75	18.64	4.68	5.03	4.82	5.18	20.89	5.28	5.57	5.42	5.71
shanbhag/C2M_TP0TP1a_12p1dB_PCBHost_7p3dB	12.13	17.43	1.72	37.72	19.83	5.34	5.75	5.48	5.88	22.06	5.86	6.26	5.99	6.40
weaver/egress/C2M_Y_OSFP224_7in_host_PCB_25C	12.19	14.73	2.28	31.44	19.70	4.98	5.67	5.13	5.80	21.93	5.54	6.19	5.68	6.33
akinwale_3dj_02_2307/C2M_PCB_85ohms_3p5in	12.21	15.07	3.19	25.65	19.45	4.53	4.95	4.67	5.08	21.72	5.18	5.52	5.32	5.66
Rabinovich_C2M_200G_Paral_19mil	12.27	15.04	2.35	26.93	18.20	5.34	5.72	5.48	5.86	20.63	5.86	6.08	5.99	6.22
Rabinovich_C2M_200G_Ortho_19mil	12.38	15.80	1.79	28.68	18.30	5.46	5.85	5.59	5.99	20.86	6.06	6.25	6.20	6.39
akinwale_3dj_02_2307/C2M_PCB_100ohms_4p0in	12.54	15.70	2.98	25.90	19.36	4.62	5.01	4.77	5.15	21.89	5.22	5.52	5.36	5.66
akinwale_3dj_02_2307/C2M_PCB_93ohms_4p0in	12.64	16.36	3.03	25.58	19.64	4.64	5.03	4.78	5.17	21.83	5.26	5.55	5.40	5.68
akinwale_3dj_02_2307/C2M_PCB_85ohms_4p0in	12.78	15.11	3.07	25.38	19.69	4.49	4.90	4.62	5.04	22.14	5.12	5.47	5.26	5.61
weaver/egress/C2M_X_OSFP224_7in_host_PCB_80C	12.91	14.48	3.27	27.53	20.28	4.23	5.32	4.36	5.46	22.78	4.96	5.77	5.10	5.90
Rabinovich_C2M_200G_Paral_135mil	12.93	13.49	3.78	22.23	18.96	4.29	4.72	4.43	4.86	21.82	4.76	4.98	4.89	5.12
weaver/egress/C2M_Y_OSFP224_7in_host_PCB_80C	13.17	14.80	2.16	31.10	20.64	4.82	5.54	4.97	5.68	22.89	5.44	6.03	5.58	6.17
Rabinovich_C2M_200G_Paral_67mil	13.32	15.41	2.87	26.79	19.31	4.86	5.25	5.00	5.40	21.60	5.46	5.62	5.60	5.77
Rabinovich_C2M_200G_Ortho_135mil	13.35	13.13	3.39	22.24	19.46	4.21	4.65	4.35	4.79	22.40	4.71	5.02	4.85	5.16
akinwale_3dj_02_2307/C2M_PCB_100ohms_4p5in	13.39	15.72	2.86	25.70	20.19	4.61	4.99	4.75	5.13	22.71	5.19	5.49	5.33	5.63
Rabinovich_C2M_200G_Paral_93mil	13.44	12.03	3.17	24.32	19.66	4.44	4.95	4.59	5.08	22.63	4.74	5.20	4.88	5.34
akinwale_3dj_02_2307/C2M_PCB_93ohms_4p5in	13.49	16.37	2.92	25.46	20.70	4.63	4.98	4.76	5.12	22.86	5.25	5.53	5.39	5.67
akinwale_3dj_02_2307/C2M_PCB_85ohms_4p5in	13.76	15.15	2.97	25.32	20.29	4.45	4.86	4.59	5.00	22.85	5.10	5.44	5.24	5.58
Rabinovich_C2M_200G_Ortho_93mil	14.17	12.96	2.83	24.90	20.46	4.50	4.96	4.64	5.10	23.34	4.88	5.23	5.02	5.36
akinwale_3dj_02_2307/C2M_PCB_100ohms_5p0in	14.22	15.73	2.76	25.48	21.01	4.53	4.91	4.66	5.04	23.52	5.14	5.44	5.27	5.58
weaver/egress/C2M_X_OSFP224_9in_host_PCB_25C	14.42	14.52	2.96	27.06	22.02	4.01	5.05	4.14	5.19	24.37	4.79	5.56	4.93	5.70
akinwale_3dj_02_2307/C2M_PCB_93ohms_5p0in	14.43	16.38	2.83	25.31	21.72	4.54	4.93	4.68	5.06	23.89	5.18	5.45	5.32	5.59
shanbhag/C2M_TP0TP1a_14p6dB_PCBHost_9p8dB	14.61	17.58	1.39	37.43	21.39	5.11	5.50	5.25	5.64	24.04	5.70	6.06	5.83	6.20
Kareti/PCB_Host_ball_ball_14p6db_set3	14.66	8.39	3.05	24.85	21.88	0.46	2.49	0.60	2.63	24.05	1.21	3.23	1.35	3.37
Rabinovich_C2M_200G_Ortho_67mil	14.70	15.53	2.71	27.00	20.66	4.79	5.19	4.92	5.33	23.06	5.39	5.60	5.53	5.74
weaver/egress/C2M_Y_OSFP224_9in_host_PCB_25C	14.70	14.85	2.02	30.29	21.97	4.59	5.29	4.74	5.43	24.22	5.24	5.80	5.38	5.94
akinwale_3dj_02_2307/C2M_PCB_85ohms_5p0in	14.75	15.19	2.89	25.05	21.15	4.34	4.75	4.48	4.89	23.65	5.03	5.37	5.17	5.50
akinwale_3dj_02_2307/C2M_PCB_100ohms_5p5in	15.05	15.73	2.67	25.25	21.83	4.42	4.80	4.56	4.94	24.33	5.07	5.37	5.22	5.51
Kareti/Cabled_Host_ball_ball_14p5db.s4p	15.28	8.25	3.05	24.21	21.80	0.12	2.03	0.26	2.18	24.30	0.72	2.54	0.86	2.68
akinwale_3dj_02_2307/C2M_PCB_93ohms_5p5in	15.34	16.40	2.75	25.07	22.65	4.43	4.78	4.56	4.93	24.84	5.07	5.36	5.21	5.50
akinwale_3dj_02_2307/C2M_PCB_85ohms_5p5in	15.48	15.24	2.81	24.61	22.09	4.23	4.65	4.37	4.79	24.43	4.93	5.26	5.08	5.41
weaver/egress/C2M_X_OSFP224_9in_host_PCB_80C	15.71	14.60	2.72	26.74	23.23	3.70	4.76	3.84	4.90	25.61	4.53	5.31	4.67	5.45

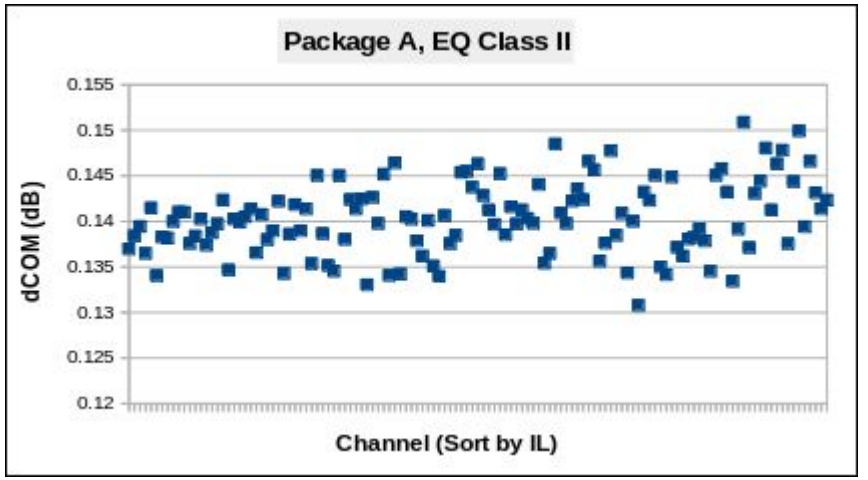
COM (2/2)

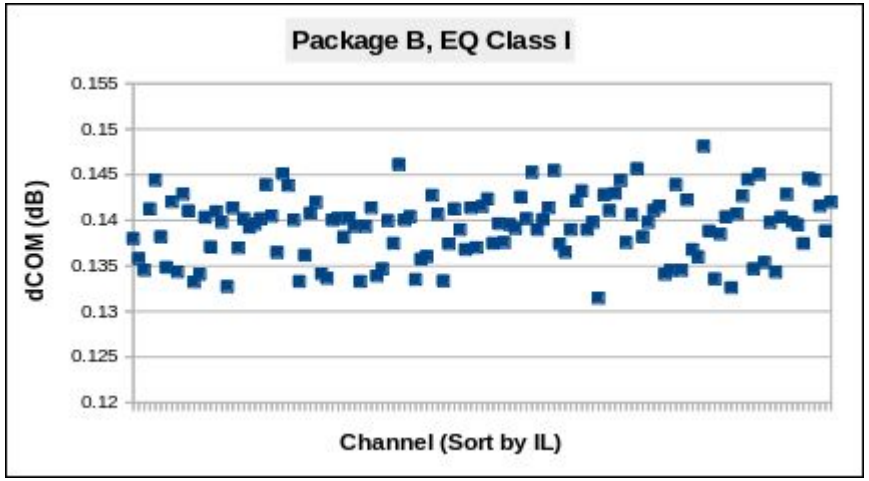
Channel	IL (dB)	ERL (dB)	ICN (mV)	ICR (dB)	Bump-Bump IL (PKG A)	COM (DER = 2E-5)		COM (DER = 2.67E-5)		Bump-Bump IL (PKG B)	COM (DER = 2E-5)		COM (DER = 2.67E-5)	
						I	II	I	II		I	II	I	II
weaver/egress/C2M_X_OSFP224_9in_host_PCB_80C	15.71	14.60	2.72	26.74	23.23	3.70	4.76	3.84	4.90	25.61	4.53	5.31	4.67	5.45
akinwale_3dj_02_2307/C2M_PCB_100ohms_6p0in	15.87	15.74	2.59	25.02	22.64	4.30	4.67	4.44	4.81	25.14	4.98	5.28	5.12	5.41
weaver/egress/C2M_Y_OSFP224_9in_host_PCB_80C	15.99	14.92	1.92	29.66	23.26	4.32	5.00	4.46	5.14	25.53	5.03	5.61	5.17	5.75
akinwale_3dj_02_2307/C2M_PCB_93ohms_6p0in	16.19	16.40	2.67	24.76	23.45	4.30	4.67	4.44	4.81	25.68	5.00	5.26	5.14	5.40
akinwale_3dj_02_2307/C2M_PCB_85ohms_6p0in	16.20	15.27	2.74	24.33	23.16	4.09	4.49	4.24	4.63	25.39	4.79	5.13	4.93	5.27
akinwale_3dj_02_2307/C2M_PCB_100ohms_6p5in	16.69	15.75	2.52	24.76	23.46	4.16	4.55	4.30	4.69	25.94	4.85	5.14	4.99	5.28
akinwale_3dj_02_2307/C2M_PCB_93ohms_6p5in	16.97	16.41	2.61	24.41	24.16	4.13	4.51	4.27	4.65	26.44	4.86	5.12	5.00	5.26
akinwale_3dj_02_2307/C2M_PCB_85ohms_6p5in	17.11	15.30	2.68	24.13	24.28	3.92	4.36	4.07	4.50	26.49	4.67	5.01	4.82	5.14
shanbhag/C2M_TP0TP1a_17p1dB_PCBHost_12p2dB	17.12	17.70	1.14	37.48	24.68	4.72	5.08	4.86	5.22	27.06	5.42	5.76	5.56	5.91
akinwale_3dj_02_2307/C2M_PCB_100ohms_7p0in	17.51	15.76	2.45	24.50	24.27	4.03	4.40	4.17	4.54	26.75	4.71	5.01	4.85	5.14
akinwale_3dj_02_2307/C2M_PCB_93ohms_7p0in	17.73	16.43	2.55	24.08	24.82	4.03	4.38	4.17	4.52	27.15	4.71	4.98	4.85	5.11
akinwale_3dj_02_2307/C2M_PCB_85ohms_7p0in	18.01	15.34	2.63	23.82	25.17	3.80	4.21	3.94	4.35	27.42	4.50	4.83	4.64	4.96
akinwale_3dj_02_2307/C2M_PCB_100ohms_7p5in	18.32	15.76	2.40	24.23	25.08	3.88	4.24	4.02	4.39	27.55	4.56	4.84	4.70	4.98
akinwale_3dj_02_2307/C2M_PCB_93ohms_7p5in	18.49	16.43	2.50	23.78	25.48	3.85	4.19	3.99	4.33	27.85	4.55	4.80	4.68	4.94
akinwale_3dj_02_2307/C2M_PCB_85ohms_7p5in	18.78	15.36	2.58	23.43	25.81	3.64	4.03	3.78	4.17	28.14	4.30	4.63	4.44	4.78
akinwale_3dj_02_2307/C2M_PCB_100ohms_8p0in	19.12	15.77	2.35	23.95	25.90	3.73	4.06	3.86	4.20	28.35	4.38	4.66	4.53	4.80
akinwale_3dj_02_2307/C2M_PCB_93ohms_8p0in	19.29	16.44	2.45	23.50	26.17	3.67	4.00	3.80	4.14	28.58	4.33	4.60	4.48	4.75
akinwale_3dj_02_2307/C2M_PCB_85ohms_8p0in	19.57	15.39	2.54	23.12	26.41	3.43	3.81	3.58	3.95	28.82	4.15	4.46	4.29	4.59
shanbhag/C2M_TP0TP1a_19p6dB_PCBHost_14p6dB	19.60	17.79	0.95	37.60	26.70	4.18	4.55	4.32	4.69	29.18	4.95	5.27	5.09	5.40
akinwale_3dj_02_2307/C2M_PCB_100ohms_8p5in	19.93	15.77	2.30	23.65	26.71	3.51	3.83	3.65	3.98	29.15	4.21	4.48	4.34	4.61
akinwale_3dj_02_2307/C2M_PCB_93ohms_8p5in	20.12	16.44	2.41	23.22	26.91	3.46	3.78	3.60	3.91	29.35	4.17	4.40	4.31	4.55
Kareti/PCB_Host_ball_ball_20p4db_set3	20.41	8.79	1.89	24.34	27.61	0.11	2.01	0.26	2.15	29.91	1.22	2.87	1.36	3.01
akinwale_3dj_02_2307/C2M_PCB_85ohms_8p5in	20.44	15.42	2.50	22.84	27.13	3.22	3.57	3.36	3.72	29.57	3.96	4.26	4.10	4.40
akinwale_3dj_02_2307/C2M_PCB_100ohms_9p0in	20.73	15.77	2.26	23.37	27.52	3.29	3.61	3.44	3.74	29.96	4.03	4.29	4.18	4.43
akinwale_3dj_02_2307/C2M_PCB_93ohms_9p0in	20.96	16.45	2.37	22.92	27.70	3.23	3.52	3.36	3.66	30.13	3.98	4.21	4.12	4.35
Kareti/Cabled_Host_ball_ball_20p5db.s4p	21.18	8.65	1.89	23.58	28.44	-0.41	1.44	-0.27	1.58	30.83	0.59	2.23	0.73	2.37
akinwale_3dj_02_2307/C2M_PCB_85ohms_9p0in	21.30	15.44	2.46	22.50	27.98	3.00	3.33	3.13	3.47	30.37	3.76	4.05	3.91	4.19
akinwale_3dj_02_2307/C2M_PCB_100ohms_9p5in	21.53	15.77	2.22	23.02	28.32	3.04	3.35	3.19	3.48	30.75	3.83	4.09	3.97	4.23
akinwale_3dj_02_2307/C2M_PCB_93ohms_9p5in	21.79	16.46	2.33	22.58	28.51	2.97	3.26	3.12	3.40	30.93	3.77	4.00	3.91	4.15
akinwale_3dj_02_2307/C2M_PCB_85ohms_9p5in	22.10	15.46	2.43	22.10	28.89	2.74	3.06	2.88	3.20	31.22	3.52	3.79	3.66	3.93
akinwale_3dj_02_2307/C2M_PCB_100ohms_10p0in	22.33	15.78	2.18	22.69	29.13	2.81	3.10	2.95	3.24	31.55	3.62	3.87	3.76	4.00
Kareti/PCB_Host_ball_ball_22p4db_set3	22.48	8.80	1.63	24.27	29.44	-0.47	1.48	-0.32	1.62	31.80	0.78	2.48	0.92	2.62
akinwale_3dj_02_2307/C2M_PCB_93ohms_10p0in	22.61	16.47	2.30	22.22	29.34	2.71	2.98	2.85	3.12	31.74	3.54	3.76	3.67	3.90
akinwale_3dj_02_2307/C2M_PCB_85ohms_10p0in	22.92	15.48	2.39	21.75	29.86	2.45	2.74	2.59	2.88	32.14	3.30	3.56	3.45	3.71
akinwale_3dj_02_2307/C2M_PCB_100ohms_10p5in	23.13	15.78	2.15	22.34	29.94	2.55	2.81	2.69	2.95	32.35	3.39	3.62	3.53	3.76
Kareti/Cabled_Host_ball_ball_22p6db.s4p	23.22	8.65	1.63	23.54	30.47	-0.98	0.92	-0.85	1.05	32.82	0.13	1.77	0.27	1.91
akinwale_3dj_02_2307/C2M_PCB_93ohms_10p5in	23.41	16.47	2.27	21.85	30.19	2.41	2.67	2.55	2.80	32.55	3.30	3.51	3.44	3.65
akinwale_3dj_02_2307/C2M_PCB_85ohms_10p5in	23.77	15.51	2.36	21.39	30.79	2.16	2.44	2.31	2.58	33.07	3.06	3.30	3.20	3.44
akinwale_3dj_02_2307/C2M_PCB_100ohms_11p0in	23.93	15.78	2.12	21.98	30.74	2.23	2.48	2.38	2.62	33.15	3.13	3.35	3.28	3.49
akinwale_3dj_02_2307/C2M_PCB_93ohms_11p0in	24.21	16.48	2.24	21.47	31.05	2.12	2.36	2.27	2.50	33.39	3.04	3.23	3.18	3.37
Kareti/PCB_Host_ball_ball_24p5db_set3	24.47	8.81	1.48	23.74	31.34	-1.05	0.81	-0.92	0.94	33.79	0.15	1.92	0.28	2.06
akinwale_3dj_02_2307/C2M_PCB_85ohms_11p0in	24.61	15.53	2.33	20.99	31.62	1.84	2.10	1.98	2.25	33.93	2.73	2.99	2.87	3.13
akinwale_3dj_02_2307/C2M_PCB_100ohms_11p5in	24.73	15.78	2.09	21.60	31.55	1.93	2.15	2.07	2.29	33.95	2.86	3.07	3.01	3.21
akinwale_3dj_02_2307/C2M_PCB_93ohms_11p5in	25.01	16.48	2.21	21.08	31.92	1.77	1.99	1.92	2.14	34.23	2.75	2.92	2.88	3.05
Kareti/Cabled_Host_ball_ball_24p5db.s4p	25.19	8.66	1.48	23.04	32.18	-1.55	0.14	-1.41	0.27	34.65	-0.49	1.26	-0.35	1.40
akinwale_3dj_02_2307/C2M_PCB_85ohms_11p5in	25.43	15.55	2.30	20.57	32.36	1.50	1.74	1.64	1.88	34.71	2.47	2.67	2.61	2.82
akinwale_3dj_02_2307/C2M_PCB_100ohms_12p0in	25.52	15.78	2.06	21.20	32.35	1.60	1.80	1.73	1.95	34.75	2.58	2.78	2.72	2.92
akinwale_3dj_02_2307/C2M_PCB_93ohms_12p0in	25.82	16.48	2.18	20.68	32.78	1.42	1.62	1.56	1.76	35.08	2.46	2.63	2.60	2.77
akinwale_3dj_02_2307/C2M_PCB_85ohms_12p0in	26.25	15.57	2.27	20.20	33.10	1.12	1.34	1.26	1.48	35.47	2.15	2.37	2.30	2.50
akinwale_3dj_02_2307/C2M_PCB_100ohms_12p5in	26.32	15.79	2.03	20.79	33.16	1.23	1.42	1.37	1.57	35.55	2.31	2.47	2.44	2.61
Kareti/PCB_Host_ball_ball_26p4db_set3	26.44	8.81	1.33	23.39	33.53	-1.69	-0.05	-1.55	0.10	35.87	-0.55	1.22	-0.41	1.36
akinwale_3dj_02_2307/C2M_PCB_93ohms_12p5in	26.64	16.48	2.15	20.26	33.63	1.05	1.23	1.19	1.37	35.93	2.14	2.29	2.27	2.43
akinwale_3dj_02_2307/C2M_PCB_85ohms_12p5in	27.10	15.58	2.25	19.71	33.88	0.74	0.93	0.89	1.08	36.26	1.82	2.00	1.96	2.15
akinwale_3dj_02_2307/C2M_PCB_100ohms_13p0in	27.12	15.79	2.01	20.35	33.96	0.85	1.02	0.99	1.17	36.35	1.97	2.12	2.11	2.27
Kareti/Cabled_Host_ball_ball_26p4db.s4p	27.12	8.77	1.33	22.70	34.14	-2.20	-0.68	-2.06	-0.55	36.53	-1.04	0.64	-0.90	0.78
akinwale_3dj_02_2307/C2M_PCB_93ohms_13p0in	27.46	16.49	2.13	19.82	34.47	0.66	0.82	0.80	0.96	36.77	1.77	1.92	1.91	2.06
akinwale_3dj_02_2307/C2M_PCB_100ohms_13p5in	27.91	15.79	1.99	19.90	34.77	0.44	0.58	0.57	0.73	37.15	1.64	1.78	1.78	1.92
akinwale_3dj_02_2307/C2M_PCB_85ohms_13p0in	27.93	15.59	2.22	19.24	34.72	0.34	0.52	0.48	0.66	37.08	1.43	1.63	1.58	1.78
akinwale_3dj_02_2307/C2M_PCB_93ohms_13p5in	28.27	16.50	2.10	19.35	35.28	0.23	0.39	0.37	0.54	37.59	1.42	1.54	1.57	1.68
akinwale_3dj_02_2307/C2M_PCB_100ohms_14p0in	28.71	15.79	1.96	19.42	35.57	0.03	0.18	0.18	0.33	37.95	1.25	1.38	1.39	1.52
akinwale_3dj_02_2307/C2M_PCB_85ohms_13p5in	28.76	15.61	2.19	18.76	35.61	-0.10	0.08	0.04	0.22	37.94	1.08	1.23	1.22	1.37
akinwale_3dj_02_2307/C2M_PCB_85ohms_14p0in	29.59	15.62	2.17	18.26	36.50	-0.55	-0.39	-0.41	-0.25	38.82	0.68	0.83	0.82	0.96

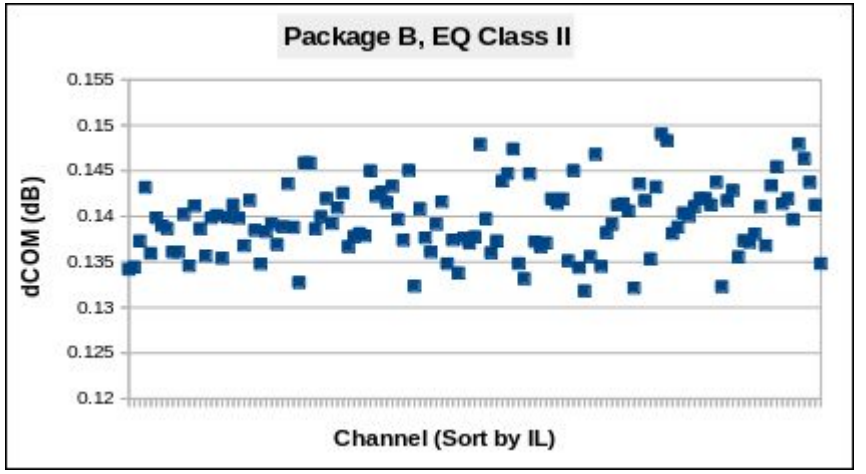
dCOM Difference

dCOM = COM (DER_0 = 2.67e-5) – COM (DER_0 = 2e-5)









Summary

- When two AUIs are used on a host, the preferred DER_0 allocation is C2C = 0.67E-5 and C2M =2E-5
  - Let’s adopt this now to unblock baseline development
- For the C2M only (no C2C) case to an optical module, the COM difference between DER_0 = 2E-5 vs. 2.67E-5 is negligible
- Let’s see if we can make a DER_0 decision on the “C2M only” case, too
- Make a DER_0 decision on the C2C used with CR/KR ports later

Straw polls and possible motions on these topics were requested

Thanks!