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# P1394B 2GBAUD JITTER UPDATE

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## SUMMARY

Fibre Channel have agreed some working numbers for 2GBaud copper and multi-mode Fiber (amongst others)

- They've decided to make output and tolerance normative only at the connector (at the equivalent of TP2 and TP3 respectively)
- Numbers represent a trade-off between silicon designers, optical transceiver manufacturers, connector manufacturers and cable manufacturers

Propose that P1394b adopts the same Unit Interval values slightly more generous ps numbers all round corner frequency also needs to be doubled

# 2GBAUD COPPER PROPOSAL

## JITTER OUTPUT

Jitter output	ps				UI			
Compliance Point	DJ pk-pk	RJ RMS	RJ pk-pk	TJ pk-pk	DJ pk-pk	RJ RMS	RJ pk-pk	TJ pk-pk
TP1	66	4.32	61.04	127	0.13	0.009	0.12	0.25
TP1 to TP2	15	2.54	35.61	51	0.03	0.005	0.07	0.10
TP2	<b>81</b>	5.09	71.21	<b>153</b>	<b>0.16</b>	0.010	0.14	<b>0.30</b>
TP2 to TP3	107	5.09	71.21	178	0.21	0.010	0.14	0.35
TP3	188	7.12	101.7	290	0.37	0.014	0.2	0.57
TP3 to TP4	15	0.00	0	15	0.03	0.000	0	0.03
TP4	203	7.12	101.7	305	0.40	0.014	0.2	0.60

# 2GBAUD COPPER PROPOSAL

## JITTER TOLERANCE

Jitter tolerance	ps					UI				
Compliance Point	DJ pk-pk	RJ RMS	RJ pk-pk	Sinus oidal pk-pk	TJ pk-pk	DJ pk-pk	RJ RMS	RJ pk-pk	Sinus oidal pk-pk	TJ pk-pk
TP1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP2	81	5.09	71	51	204	0.16	0.010	0.140	0.1	0.40
TP3	<b>188</b>	7.12	102	<b>51</b>	<b>341</b>	<b>0.37</b>	0.014	0.200	<b>0.1</b>	<b>0.67</b>
TP4	203	7.12	102	51	356	0.40	0.014	0.200	0.1	0.70

Change jitter test corner frequency to 1275kHz  
(637 for 1GBaud jitter tolerance)

# 2GBAUD MMF PROPOSAL JITTER OUTPUT

Jitter output Compliance Point	ps				UI			
	DJ pk-pk	RJ RMS	RJ pk-pk	TJ pk-pk	DJ pk-pk	RJ RMS	RJ pk-pk	TJ pk-pk
TP1	66	4.32	61	127	0.13	0.009	0.12	0.25
TP1 to TP2	66	5.09	71	137	0.13	0.010	0.14	0.27
TP2	<b>132</b>	6.66	92	<b>224</b>	<b>0.26</b>	0.013	0.18	<b>0.44</b>
TP2 to TP3	15	1.53	20	36	0.03	0.003	0.04	0.07
TP3	148	6.87	97	244	0.29	0.014	0.19	0.48
TP3 to TP4	56	6.10	86	142	0.11	0.012	0.17	0.28
TP4	203	9.16	127	331	0.40	0.018	0.25	0.65

# 2GBAUD MMF PROPOSAL

## JITTER TOLERANCE

Jitter tolerance	ps					UI				
	DJ	RJ	RJ	Sinus	TJ	DJ	RJ	RJ	Sinus	TJ
Compliance Point	pk-pk	RMS	pk-pk	oidal pk-pk	pk-pk	pk-pk	RMS	pk-pk	oidal pk-pk	pk-pk
TP1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP2	132	6.66	92	51	249	0.26	0.013	0.180	0.1	0.49
TP3	<b>148</b>	6.87	97	<b>51</b>	270	<b>0.29</b>	0.014	0.190	<b>0.1</b>	<b>0.53</b>
TP4	203	9.16	127	51	356	0.40	0.018	0.250	0.1	0.70

- For optical tolerance, compromise on the 0.1 UI figure
  - require the extra 0.1 UI sinusoidal sweep be tolerated,
  - but only include 0.05 in the total budget

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(637 for 1GBaud jitter tolerance)