



ACON Group

8/2020

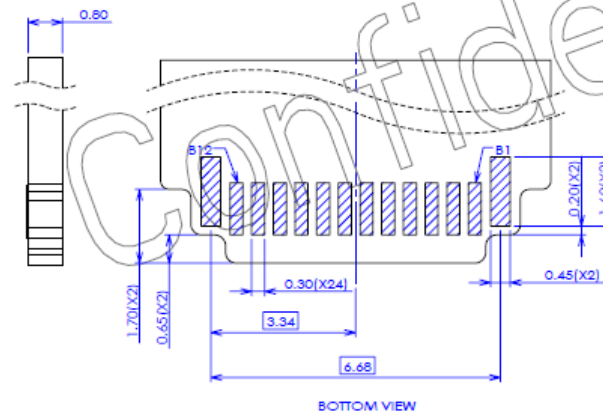
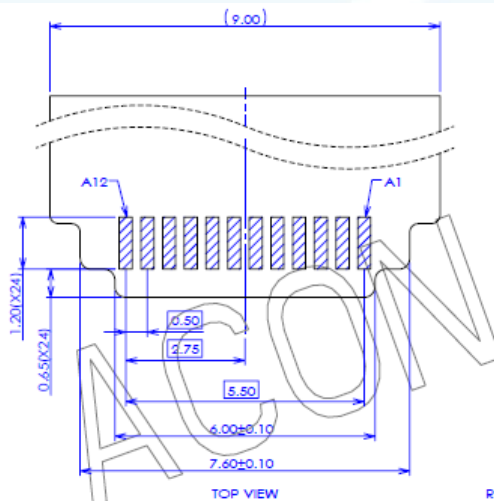
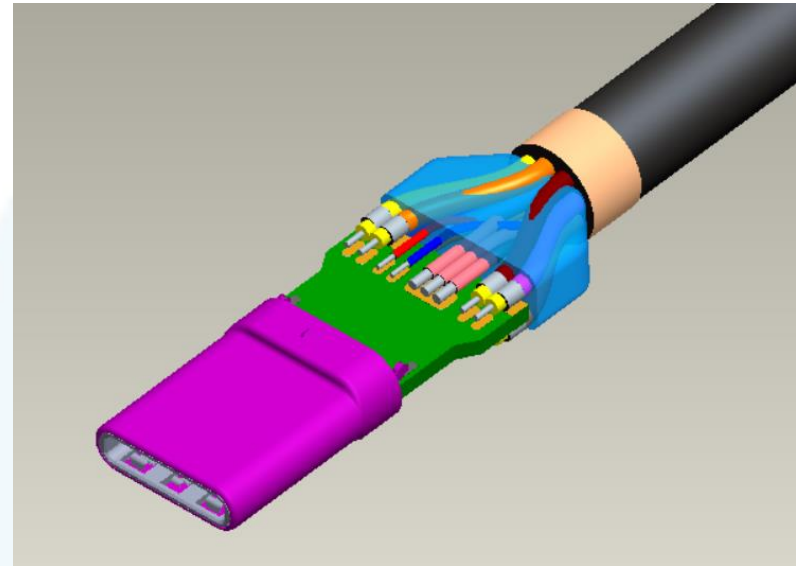




- **USB4/TBT4: 20Gbpsx2=40G Bandwidth**
- **Connector**
- **Cable**
- **USB4 certification compliance test Q4'2020**
- **Note, TBT4 products will derive from USB4, under separate certification process**

USB4 Connector

- **Plug, Straddle Mount**
PN: NEW36-BK5100
- **Delivery ~Q4/2020**



RECOMMEND PCB LAYOUT
TOLERANCE = ±0.05

➤ Plug, NEW36-BK5100

	Tx1	Rx1	Tx2	Rx2	Limit	Min	Margin				
IL_fit@2.5GHz_dB	-0.56	-0.44	-0.44	-0.53	-0.6	0.04					
IL_fit@5GHz_dB	-0.72	-0.56	-0.55	-0.66	-0.8	0.08					
IL_fit@10GHz_dB	-0.8	-0.64	-0.64	-0.73	-1	0.2					
IL_fit@12.5GHz_dB	-0.82	-0.66	-0.68	-0.75	-1.25	0.43					
IL_fit@15GHz_dB	-0.87	-0.69	-0.72	-0.79	-1.5	0.63					
IMR_dB	-46.49	-51.12	-46.78	-47.91	-39	7.49					
IRL_dB	-20.68	-22.42	-22.97	-22.75	-15	5.68					
C2/D2/C_dB	-25.03	-26.1	-29.23	-25.14	-20	4.95					
Tx1	NEXT(1.3)	NEXT(1.7)	NEXT(2.4)	NEXT(2.8)	Limit	Min	Margin				
	-51.2	-51.7	-51.65	-49.11	-43	6.11					
Rx1	NEXT(3.1)	NEXT(3.5)	NEXT(4.2)	NEXT(4.6)	Limit	Min	Margin				
	-51.2	-56.26	-51.65	-52.62	-43	8.2					
Tx2	NEXT(5.3)	NEXT(5.7)	NEXT(6.4)	NEXT(6.8)	Limit	Min	Margin				
	-56.26	-51.09	-52.62	-51.23	-43	8.09					
Rx2	NEXT(7.1)	NEXT(7.5)	NEXT(8.2)	NEXT(8.6)	Limit	Min	Margin				
	-51.7	-51.09	-49.11	-51.23	-43	6.11					
Tx1	FEEXT(1.4)	FEEXT(1.6)	FEEXT(1.8)	FEEXT(2.3)	FEEXT(2.5)	FEEXT(2.7)	Limit	Min	Margin		
	-48.86	-54.43	-50.49	-48.95	-54.39	-50.32	-43	5.86			
Rx1	FEEXT(3.2)	FEEXT(3.6)	FEEXT(3.8)	FEEXT(4.1)	FEEXT(4.5)	FEEXT(4.7)	Limit	Min	Margin		
	-48.95	-54.63	-57.4	-48.86	-54.11	-56.21	-43	5.86			
Tx2	FEEXT(5.2)	FEEXT(5.4)	FEEXT(5.8)	FEEXT(6.1)	FEEXT(6.3)	FEEXT(6.7)	Limit	Min	Margin		
	-54.39	-54.11	-49.26	-54.43	-54.63	-46.46	-43	3.46			
Rx2	FEEXT(7.2)	FEEXT(7.4)	FEEXT(7.6)	FEEXT(8.1)	FEEXT(8.3)	FEEXT(8.5)	Limit	Min	Margin		
	-50.32	-56.21	-46.46	-50.49	-57.4	-49.26	-43	3.46			
TX/RX to D+/D-(L)XTK_dB	-67.4	-84.92	-84.04	-67.17	-50	17.17					
TX/RX to D+/D-(R)XTK_dB	-67.27	-84.64	-74.73	-67.07	-50	17.07					
D+/D- to TX/RX XTK_dB	-67.42	-67.25	-84.69	-84.87	-83.9	-74.75	-67.26	-67	-50	17	

Pass

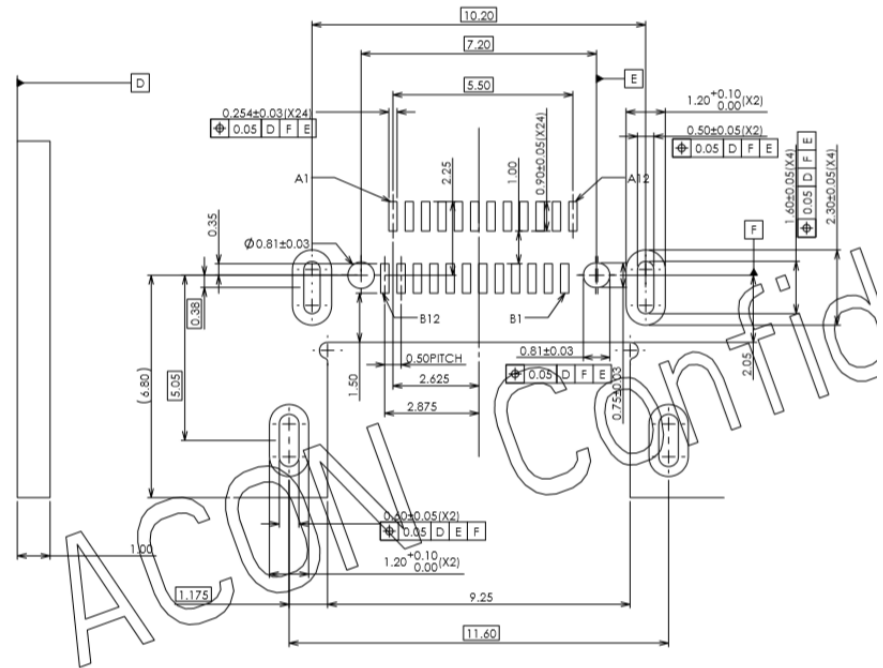
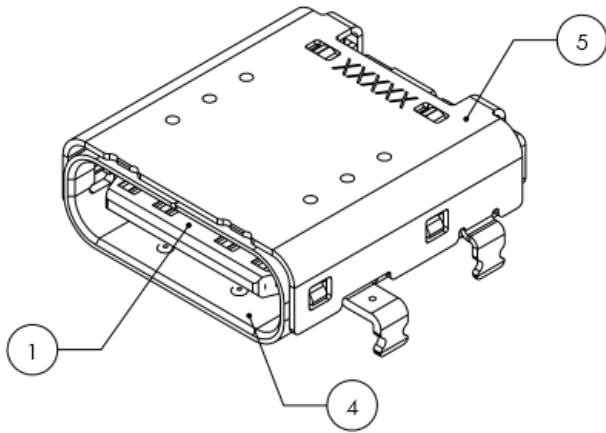
USB4 Gen3 Get iPar Revision 0.80a
Report Time: 05-Jun-2020 15:52:59
Tool Support: Xiang.Li@intel.com

(Mated Connector NEW36-BK5100+ NER2W-AKXV20)

USB4 Connector

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- Receptacle, SMT/Mid Mount, Center Height 1.1mm
- PN: NER2W-AKXV20
- Delivery ~Q4/2020



RECOMMENDED PCB LAYOUT (TOP VIEW)
THICKNESS 1.0mm
TOLERANCE ± 0.05

USB4 Connector

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➤ Rcpt, NER2W-AKXV20

	Tx1	Rx1	Tx2	Rx2	Limit	Min	Margin				
II_fit@2.5GHz_dB	-0.56	-0.44	-0.44	-0.53	-0.6	0.04					
II_fit@5GHz_dB	-0.72	-0.56	-0.55	-0.66	-0.8	0.08					
II_fit@10GHz_dB	-0.8	-0.64	-0.64	-0.73	-1	0.2					
II_fit@12.5GHz_dB	-0.82	-0.66	-0.68	-0.75	-1.25	0.43					
II_fit@15GHz_dB	-0.87	-0.69	-0.72	-0.79	-1.5	0.63					
IMR_dB	-46.49	-51.12	-46.78	-47.91	-39	7.49					
IRL_dB	-20.68	-22.42	-22.97	-22.75	-15	5.68					
C2D/D2C_dB	-25.03	-26.1	-29.23	-25.14	-20	4.95					
Tx1	NEXT(1.3)	NEXT(1.7)	NEXT(2.4)	NEXT(2.8)	Limit	Min	Margin				
	-51.2	-51.7	-51.65	-49.11	-43	6.11					
Rx1	NEXT(3.1)	NEXT(3.5)	NEXT(4.2)	NEXT(4.6)	Limit	Min	Margin				
	-51.2	-56.26	-51.65	-52.62	-43	8.2					
Tx2	NEXT(5.3)	NEXT(5.7)	NEXT(6.4)	NEXT(6.8)	Limit	Min	Margin				
	-56.26	-51.09	-52.62	-51.23	-43	8.09					
Rx2	NEXT(7.1)	NEXT(7.5)	NEXT(8.2)	NEXT(8.6)	Limit	Min	Margin				
	-51.7	-51.09	-49.11	-51.23	-43	6.11					
Tx1	FEEXT(1.4)	FEEXT(1.6)	FEEXT(1.8)	FEEXT(2.3)	FEEXT(2.5)	FEEXT(2.7)	Limit	Min	Margin		
	-48.86	-54.43	-50.49	-48.95	-54.39	-50.32	-43	5.86			
Rx1	FEEXT(3.2)	FEEXT(3.6)	FEEXT(3.8)	FEEXT(4.1)	FEEXT(4.5)	FEEXT(4.7)	Limit	Min	Margin		
	-48.95	-54.63	-57.4	-48.86	-54.11	-56.21	-43	5.86			
Tx2	FEEXT(5.2)	FEEXT(5.4)	FEEXT(5.8)	FEEXT(6.1)	FEEXT(6.3)	FEEXT(6.7)	Limit	Min	Margin		
	-54.39	-54.11	-49.26	-54.43	-54.63	-46.46	-43	3.46			
Rx2	FEEXT(7.2)	FEEXT(7.4)	FEEXT(7.6)	FEEXT(8.1)	FEEXT(8.3)	FEEXT(8.5)	Limit	Min	Margin		
	-50.32	-56.21	-46.46	-50.49	-57.4	-49.26	-43	3.46			
TX/RX to D+/D-(L)XTK_dB	-67.4	-84.92	-84.04	-67.17	-50	17.17					
TX/RX to D+/D-(R)XTK_dB	-67.27	-84.64	-74.73	-67.07	-50	17.07					
D+/D- to TX/RX XTK_dB	-67.42	-67.25	-84.69	-84.87	-83.9	-74.75	-67.26	-67	-50	17	

USB4 Gen3 Get iPar Revision 0.80a
Report Time: 05-Jun-2020 15:52:59
Tool Support: Xiang.Li@intel.com

Pass

(Mated Connector NER2W-AKXV20 + NEW36-BK5100)

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➤ Receptacle, NER28-AK5V20

	Tx1	Rx1	Tx2	Rx2	Limit	Min Margin
ILF@2.5GHz, dB	-0.56	-0.46	-0.45	-0.56	-0.6	0.04
ILF@5GHz, dB	-0.68	-0.58	-0.6	-0.67	-0.8	0.12
ILF@10GHz, dB	-0.7	-0.77	-0.8	-0.71	-1	0.2
ILF@12.5GHz, dB	-0.74	-0.88	-0.9	-0.77	-1.25	0.35
ILF@15GHz, dB	-0.84	-1	-1	-0.9	-1.5	0.5
IMR, dB	-43.9	-40.11	-40.26	-45.77	-39	1.11
IRL, dB	-19.45	-17.6	-17.7	-18.79	-15	2.6
C2D/D2C, dB	-29.85	-33.39	-25.92	-28.33	-20	5.92

Pass

Tx1	NEXT(1,3)	NEXT(1,7)	NEXT(2,4)	NEXT(2,8)	Limit	Min Margin
	-48.45	-56.59	-48.71	-55.48	-43	5.45
Rx1	NEXT(3,1)	NEXT(3,5)	NEXT(4,2)	NEXT(4,6)	Limit	Min Margin
	-48.45	-55.07	-48.71	-56.28	-43	5.45
Tx2	NEXT(5,3)	NEXT(5,7)	NEXT(6,4)	NEXT(6,8)	Limit	Min Margin
	-55.07	-47.69	-56.28	-48.6	-43	4.69
Rx2	NEXT(7,1)	NEXT(7,5)	NEXT(8,2)	NEXT(8,6)	Limit	Min Margin
	-56.59	-47.69	-55.48	-48.6	-43	4.69

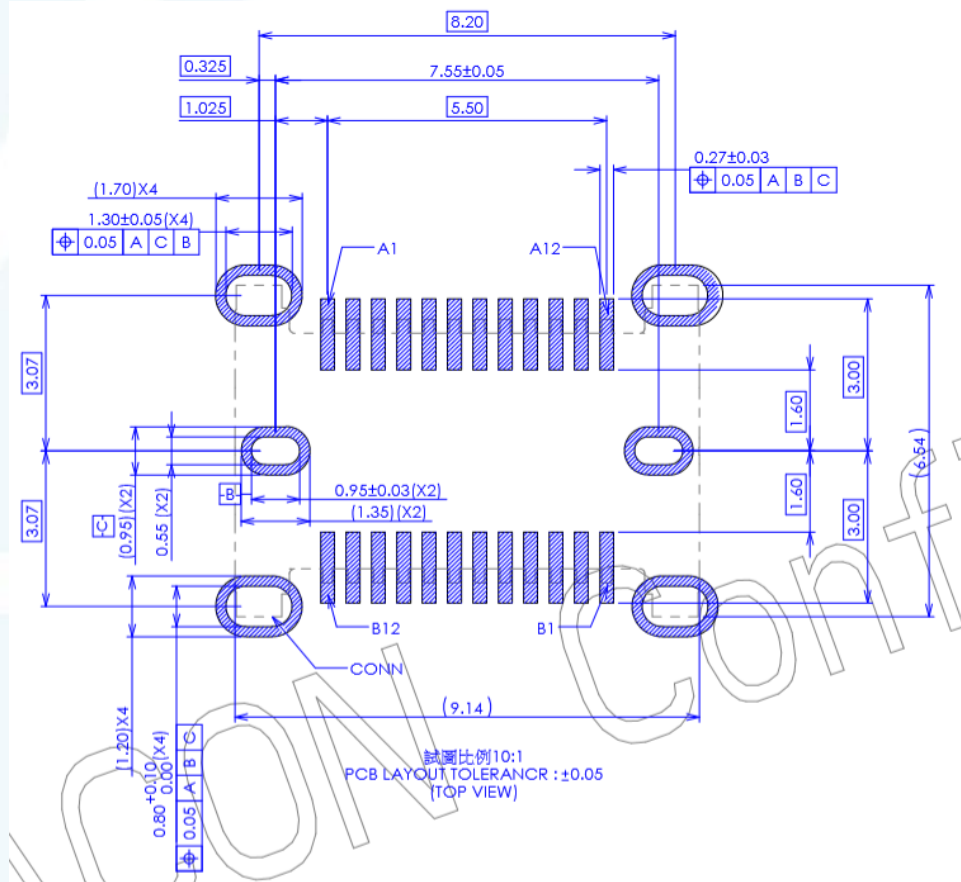
Tx1	FEXT(1,4)	FEXT(1,6)	FEXT(1,8)	FEXT(2,3)	FEXT(2,5)	FEXT(2,7)	Limit	Min Margin
	-46.29	-57.76	-55.83	-45.94	-58.69	-56.33	-43	2.94
Rx1	FEXT(3,2)	FEXT(3,6)	FEXT(3,8)	FEXT(4,1)	FEXT(4,5)	FEXT(4,7)	Limit	Min Margin
	-45.94	-55.55	-58.52	-46.29	-50.78	-59.29	-43	2.94
Tx2	FEXT(5,2)	FEXT(5,4)	FEXT(5,8)	FEXT(6,1)	FEXT(6,3)	FEXT(6,7)	Limit	Min Margin
	-58.69	-50.78	-45.98	-57.76	-55.55	-45.58	-43	2.58
Rx2	FEXT(7,2)	FEXT(7,4)	FEXT(7,6)	FEXT(8,1)	FEXT(8,3)	FEXT(8,5)	Limit	Min Margin
	-56.33	-59.29	-45.58	-55.83	-58.52	-45.98	-43	2.58

	Tx1	Rx1	Tx2	Rx2	Limit	Min Margin				
TX/RX to D+/D-(L)XTK, dB	-69.6	-87.25	-85.35	-68.37	-50	18.37				
TX/RX to D+/D-(R)XTK, dB	-69.89	-85.69	-85.15	-69.71	-50	19.71				
	Tx1(L)	Tx1(R)	Rx1(L)	Rx1(R)	Tx2(L)	Tx2(R)	Rx2(L)	Rx2(R)	Limit	Min Margin
D+/D- to TX/RX XTK, dB	-69.91	-69.59	-87.14	-85.77	-85.06	-85.45	-68.43	-69.63	-50	18.43
USB4 Gen3 Get_iPar Revision 0.80a										
Report Time: 27-May-2020 17:15:12										
Tool Support: Xiang.Li@intel.com										

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- **Type-C to Type-C**
- **Length 0.2M, 0.3M, 0.5M, 0.7M, 0.8M**
- **Delivery Q4/2020**
- **(Other lengths, i.e. 1.0M etc. ~Q1/Q2/2021)**

