Measured 400 Gb/s per lane channel files

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Cable to Board Evaluation Board (EVB)

Coaxial Cabled Host Empirical Upper Bound

- Generalize cabled C2M interconnect as ~35mm of planar routing to cable to front panel connector.
- Implementation agnostic high water performance results can be harvested from today's precision RF test fixtures with 1.00mm cabling.
- Leverage existing empirical characterization to 110GHz.
- Non-scalable coaxial RF fixture design rules





EVB Measured Insertion Loss



- 4.2dB to 14dB 212Gbps
 Channels
- No notch filter response to 110GHz
- -1dB ILD BW ~ 95GHz
- -15dB RL BW ~ 95GHz
- P/N Skew < 0.5ps
- 1.65dB/25mm PCB
 Striplines @53GHz
- Independently measured coaxial 2-ports provided as low skew 4 ports.

Contents in : josephson_e4ai_02_250430.zip

ISI Loss Channel Emulator Measurements



Contents in: josephson_e4ai_03_250430.zip

File Key

		Cable	PCB Stripline	Cable	Meas. S21dd	Meas. S21dd	Meas. S21dd
Measurement File Name	Platform	Length	Length	Length	@ 53 GHz	@ 71 GHz	@ 82 GHz
		(mm)	(mm)	(mm)	(dB)	(dB)	(dB)
evb_cable_0000mm_pcb_038mm_cable_0100mm	EVB	0	38	100	-4.2	-5.3	-6.1
evb_cable_0000mm_pcb_038mm_cable_0305mm	EVB	0	38	305	-6.4	-8.0	-9.0
evb_cable_0000mm_pcb_038mm_cable_0610mm	EVB	0	38	610	-9.6	-11.8	-13.1
evb_cable_0000mm_pcb_038mm_cable_1000mm	EVB	0	38	1000	-14.0	-17.0	-18.9
chan_em_cable_0152mm_pcb_040mm_cable_0152mm	Chan. Em.	152	40	152	-6.8	-8.4	-9.9
chan_em_cable_0152mm_pcb_060mm_cable_0152mm	Chan. Em.	152	60	152	-7.7	-9.9	-11.2
chan_em_cable_0152mm_pcb_080mm_cable_0152mm	Chan. Em.	152	80	152	-9.0	-11.4	-13.2
chan_em_cable_0152mm_pcb_100mm_cable_0152mm	Chan. Em.	152	100	152	-10.0	-12.8	-14.5
chan_em_cable_0152mm_pcb_120mm_cable_0152mm	Chan. Em.	152	120	152	-11.2	-14.1	-16.1
chan_em_cable_0152mm_pcb_160mm_cable_0152mm	Chan. Em.	152	160	152	-13.5	-17.0	-19.4
chan_em_cable_0152mm_pcb_200mm_cable_0152mm	Chan. Em.	152	200	152	-15.8	-19.8	-22.6
chan_em_cable_0152mm_pcb_240mm_cable_0152mm	Chan. Em.	152	240	152	-18.3	-23.3	-26.5
chan_em_cable_0152mm_pcb_280mm_cable_0152mm	Chan. Em.	152	280	152	-20.4	-25.8	-29.6
chan_em_cable_0152mm_pcb_360mm_cable_0152mm	Chan. Em.	152	360	152	-24.9	-31.4	-36.0
chan_em_cable_0152mm_pcb_442mm_cable_0152mm	Chan. Em.	152	442	152	-29.6	-37.5	-42.5

Channel File zip Contents

□ josephson_e4ai_02_250430.zip

File Name

evb_cable_0000mm_pcb_038mm_cable_0100mm evb_cable_0000mm_pcb_038mm_cable_0305mm evb_cable_0000mm_pcb_038mm_cable_0610mm evb_cable_0000mm_pcb_038mm_cable_1000mm

All measured files are 4-port thrus



□ josephson_e4ai_03_250430.zip

File Name

chan_em_cable_0152mm_pcb_040mm_cable_0152mm chan_em_cable_0152mm_pcb_060mm_cable_0152mm chan_em_cable_0152mm_pcb_080mm_cable_0152mm chan_em_cable_0152mm_pcb_100mm_cable_0152mm chan_em_cable_0152mm_pcb_120mm_cable_0152mm chan_em_cable_0152mm_pcb_160mm_cable_0152mm chan_em_cable_0152mm_pcb_200mm_cable_0152mm chan_em_cable_0152mm_pcb_240mm_cable_0152mm chan_em_cable_0152mm_pcb_280mm_cable_0152mm chan_em_cable_0152mm_pcb_360mm_cable_0152mm chan_em_cable_0152mm_pcb_442mm_cable_0152mm

All measured files are 4-port thrus

Thank You!