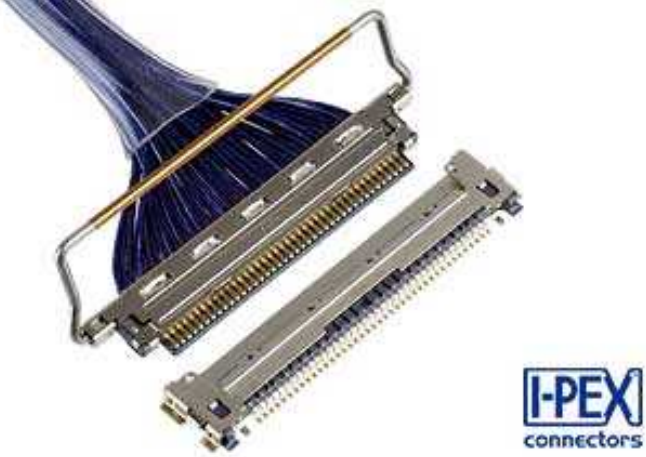


# ■ Provided Touchstone Model



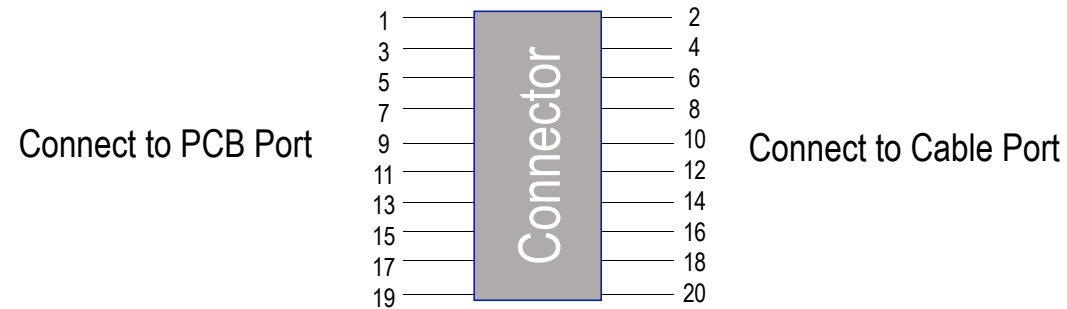
Image	Product name	Pitch [mm]	Mating	Remarks
	CABLINE®-CA	0.4	Horizontal	<ul style="list-style-type: none"> <li>High Speed Transmission</li> </ul>

Model Type	Pin assignment	Cable Length (mm)	Cable Zo (Ohm)	AWG	File name
<b>Harness</b> (Connector and Cable model)	All Signal	100	45	38	CA_hns_100mm_45ohm_38.s20p
			50	40	CA_hns_100mm_50ohm_40.s20p
		300	45	38	CA_hns_300mm_45ohm_38.s20p
			50	40	CA_hns_300mm_50ohm_40.s20p

# ■ Provided Touchstone list



## • Connector only model



## • Cable only model



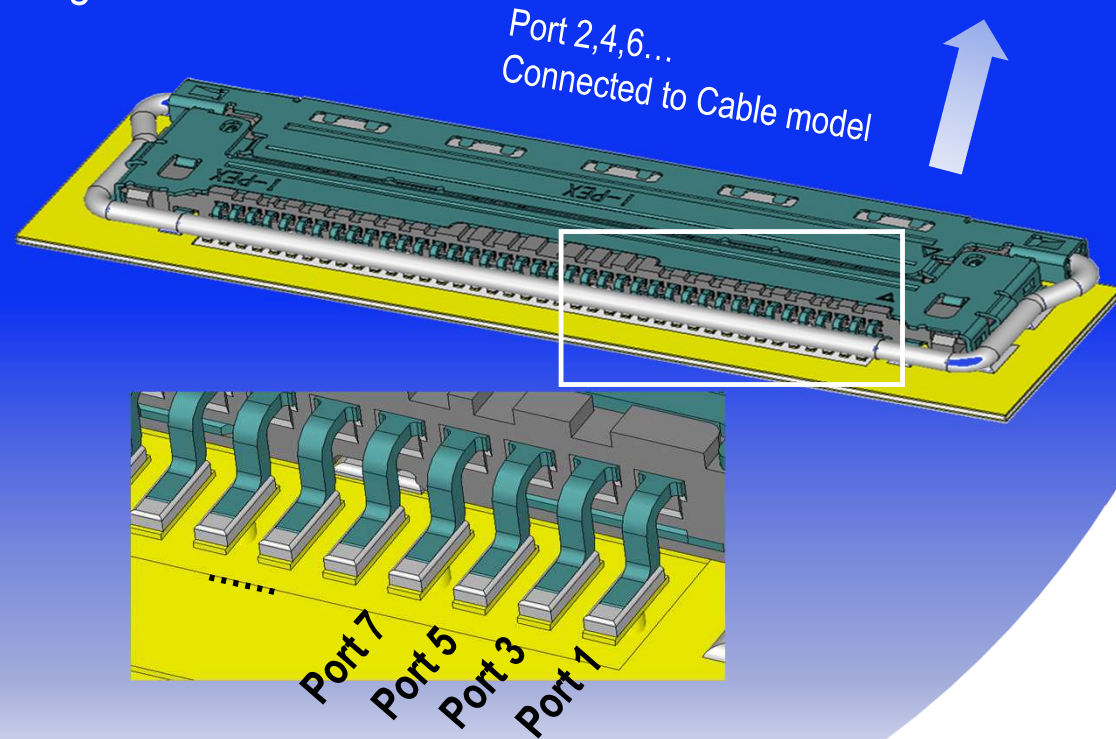
Model Type	Pin assignment	Port Zo (Ohm)	File name
Connector only	All Signal	45	CA_con_45ohm.s20p
		50	CA_con_50ohm.s20p

Model Type	Pin assignment	Cable Length (mm)	Cable Zo (Ohm)	AWG	File name
Cable only	-	100	45	38	MCX_100mm_45ohm_38.s2p
			50	40	MCX_100mm_50ohm_40.s2p
		300	45	38	MCX_300mm_45ohm_38.s2p
			50	40	MCX_300mm_50ohm_40.s2p

# Simulation Results Example



【Electromagnetic Simulation】



## Simulation conditions

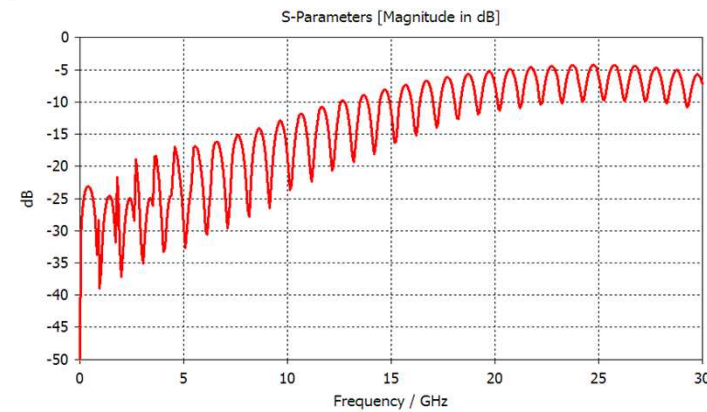
- Frequency : up to 30GHz
- Pin Assign : GSSGSSGSSG
- Differential Port Impedance : **85 Ohm**

## Used Model

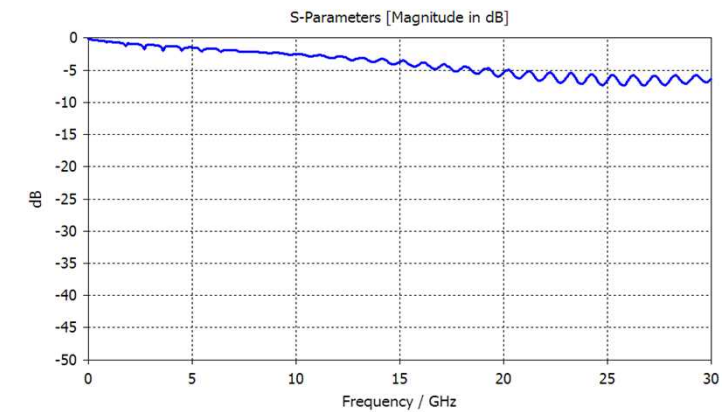
- Connector (CA\_con\_45ohm.s20p)
- Cable (MCX\_100mm\_45ohm\_38.s2p)

## S-Parameter (Mixed Mode)

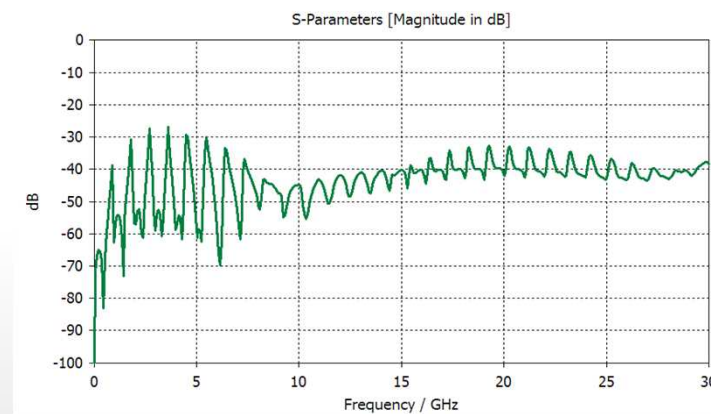
### Return Loss



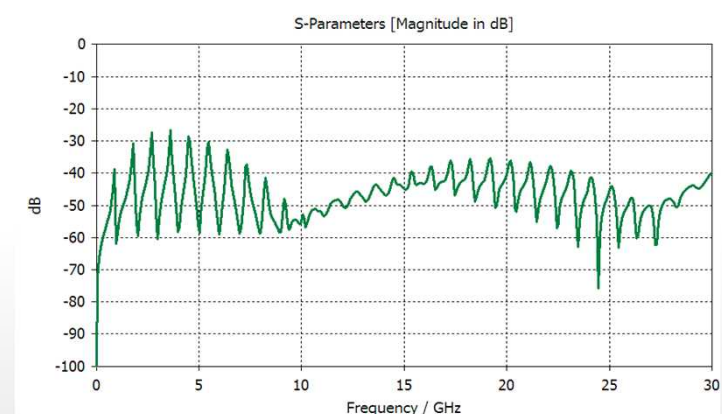
### Insertion Loss



### Near End Crosstalk

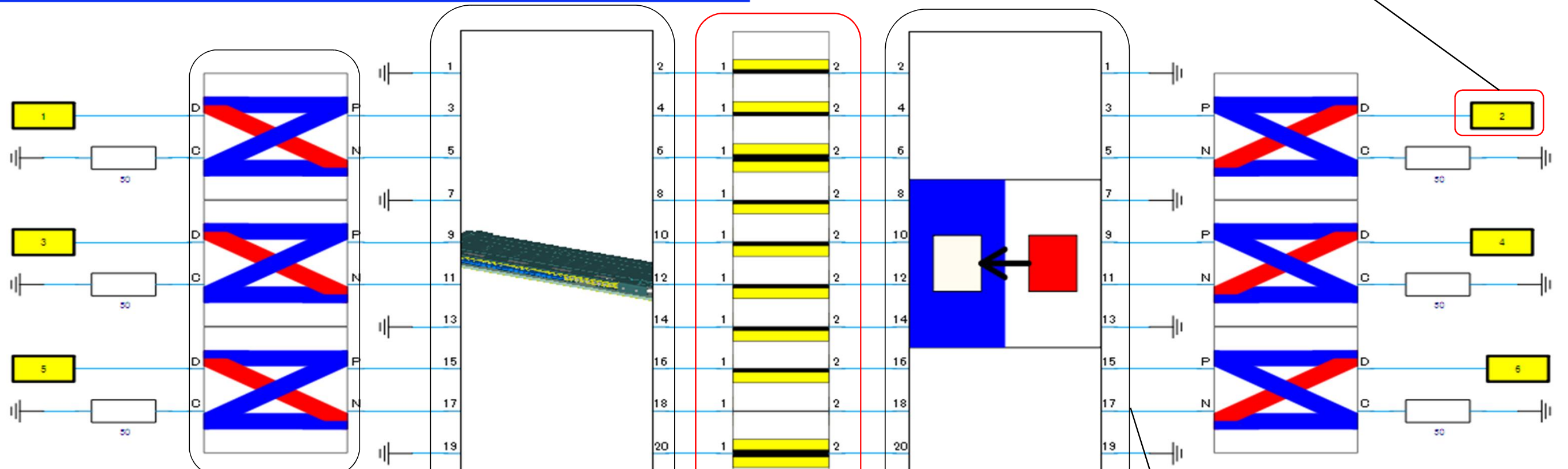


### Far End Crosstalk



# ■ Circuit simulation Example

- Used software  
CST Microwave Studio 2019



Mixed Mode Converter

Analysis data of CA

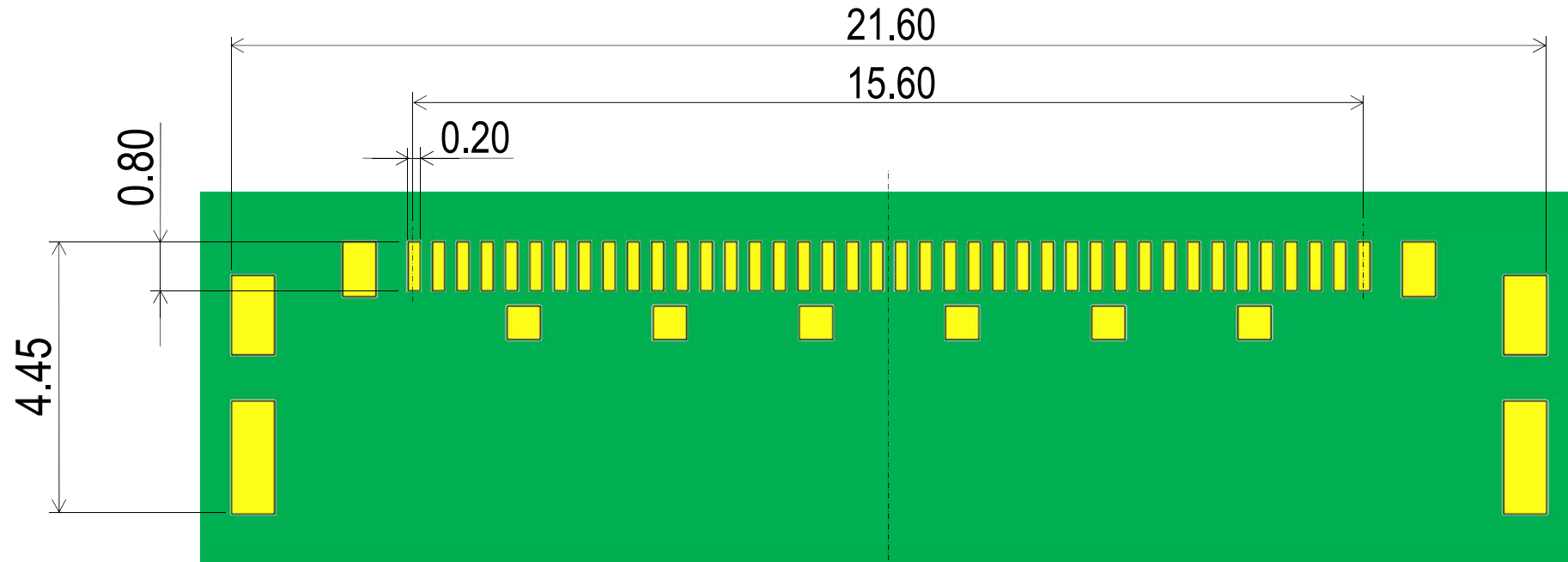
Cable Data: touchstone(s2p)

Analysis data of CA(mirror)

Differential port ( 85 Ohm )

# ■ Footprint Example

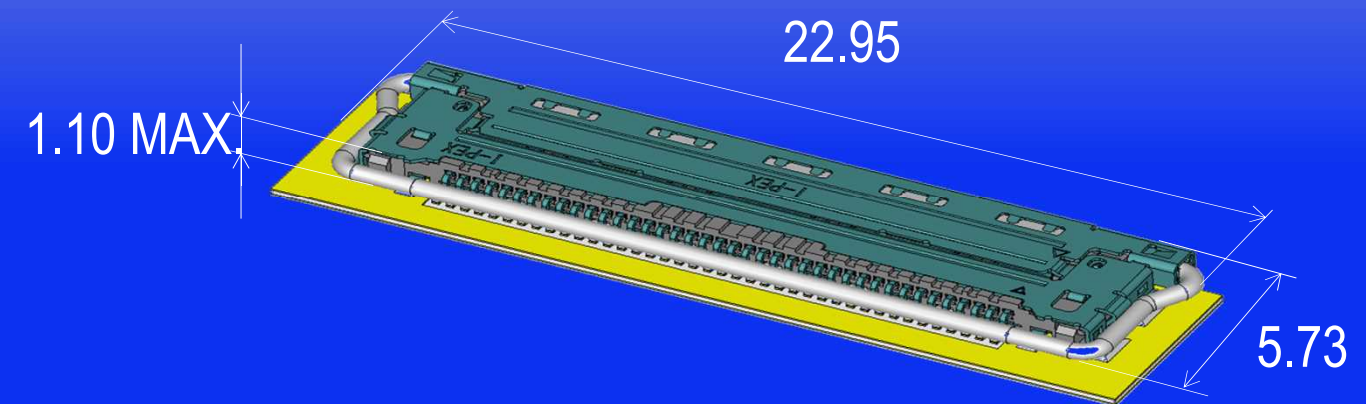
■ Footprint pattern size : 40p (mm)



For the detail and other pin counts : Please refer to I-PEX web-site.

PCB Stackup		
	Material	Thickness (mm)
TOP RESIST	Solder Mask	0.02
TOP LAYER	Copper	0.04
INSULATOR	Low Dk Material	0.2
BOTTOM LAYER	Copper	0.04
BOTTOM RESIST	Solder Mask	0.02

■ Connector size : 40p (mm)



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