

MDSM

Impedance

Transfer Impedance

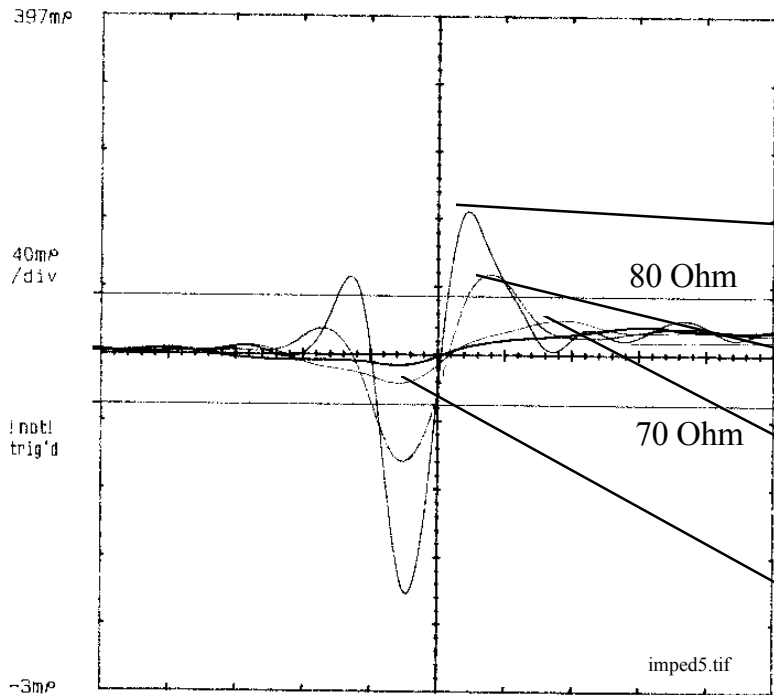
MDSM Impedance

- Measurement details , if not other specified
- TDR Tektronic CSA803A
- Chip resistor direct connected to pcb tails of external device connector .
- External cable connector harnessed with 100mm Madison cable 6702 . 300mm of 50 Ohm cable connected between Madison cable and TDR
- 50 Ohm and Madison cable copper braid linked together
- Differential signal applied
- Measurement single ended
- Cable on input side

MDSM Impedance Measurement

- Verify connector impedance at higher data rates for SSA PH2
- Three different connector configurations tested .
 - Standard harnessed
 - PCB applied in the cable connector
MDSM - 9SC
 - Increased cable shielding inside shield can.

MDSM Impedance



Cursor		n		nx2		Cursor 1	
Type	P1	231.40mV	80.11n	160.2n	231.3997mV		
Horizontal	P2	166.60mV	69.99n	140.0n	Cursor 2		
Bars	AP	-64.800mV	-10.12n	-20.23n	166.5997mV		
Exit	Set					Remove/Clr	
	Zero					Trace 2	
						Filter (M1...	
						Main	

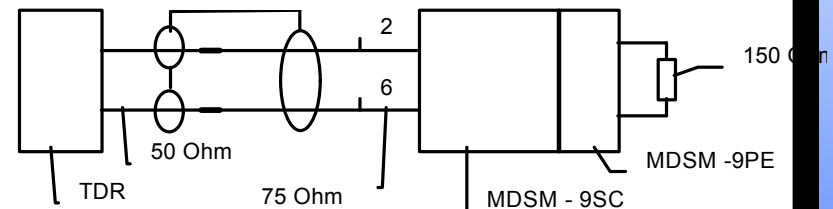
- Actual data:

125 ps
56 / 89 Ohm

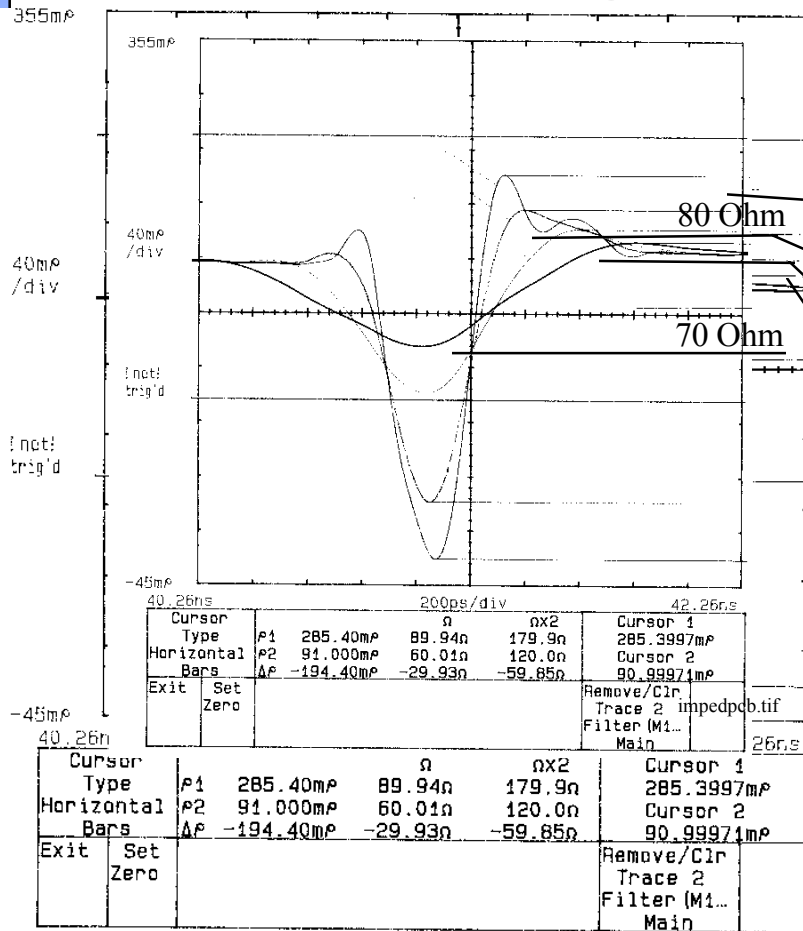
250 ps
65 / 82 Ohm

500 ps
78 / 72 Ohm

750 ps
77 / 74 Ohm



MDSM Impedance



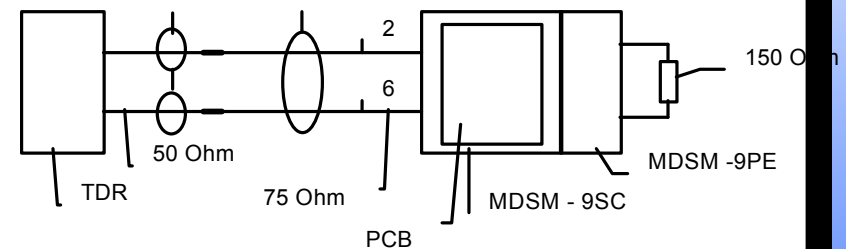
- Actual data:

125 ps
47 / 85 Ohm

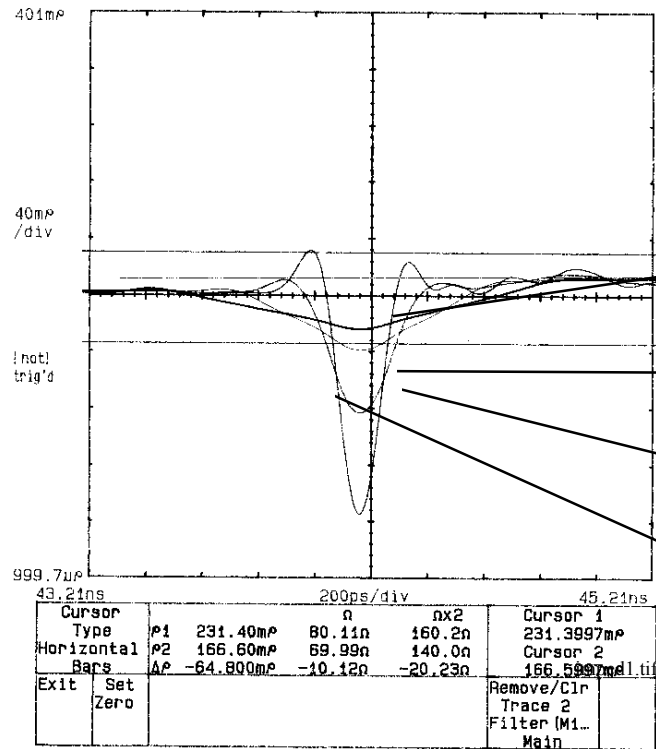
250 ps
52 / 80 Ohm

500 ps
61 / 78 Ohm

750 ps
65 / 76 Ohm



MDSM Impedance



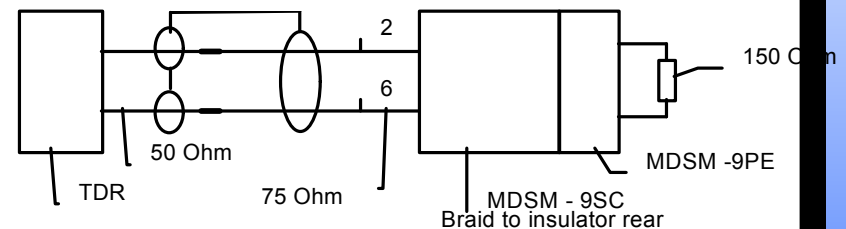
- Actual data:

125 ps
54 / 81 Ohm

250 ps
63 / 77 Ohm

500 ps
69 / 77 Ohm

750 ps
71 / 77 Ohm



MDSM Impedance Measurement

- Further investigations with an integrated pcb / termination methods are required to meet data rates higher than 40 MB/s .
- Standard harness meets SSA PH2 at rise times up to 500 ps .

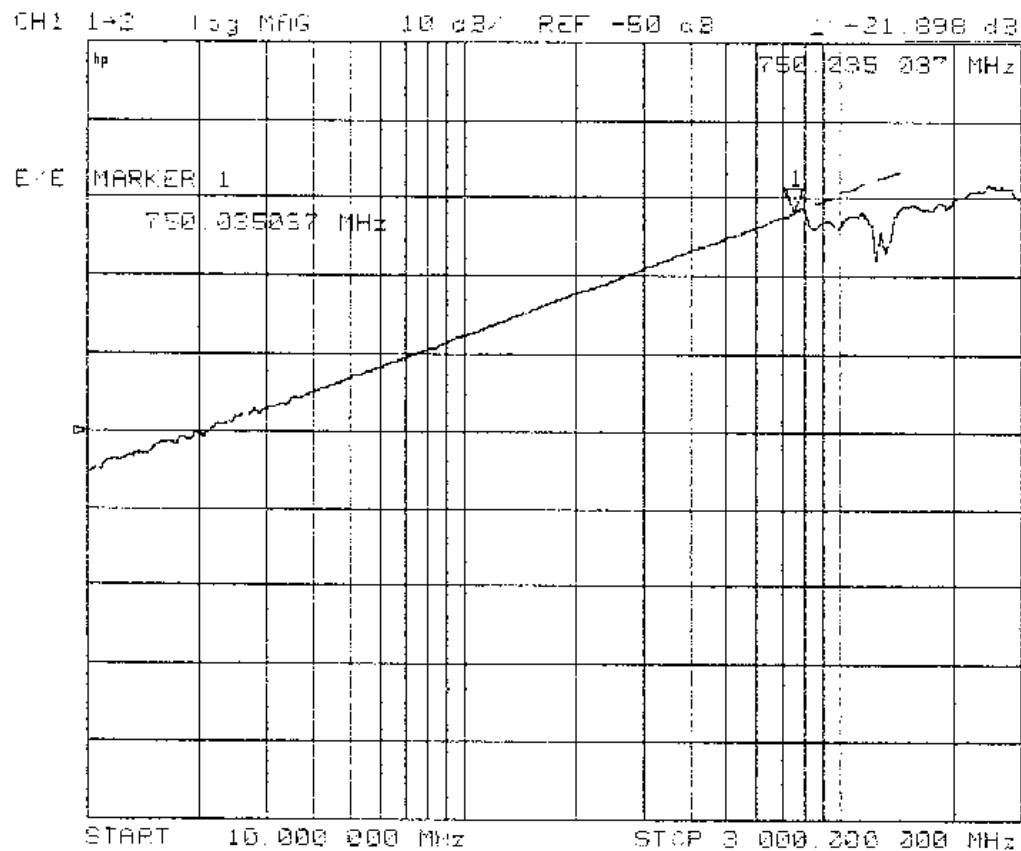
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Transfer Impedance

- ◆ Shielded against EMI / RFI
- ◆ Exceeds shield effectiveness requirements as specified by X3T10.1 / 1145D rev.8a for SSA PHase 1

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Transfer Impedance



- Transfer impedance curve marked at 750 MHz - 22 dB
- Test method: Line injection method - tested at Bosch-ANT

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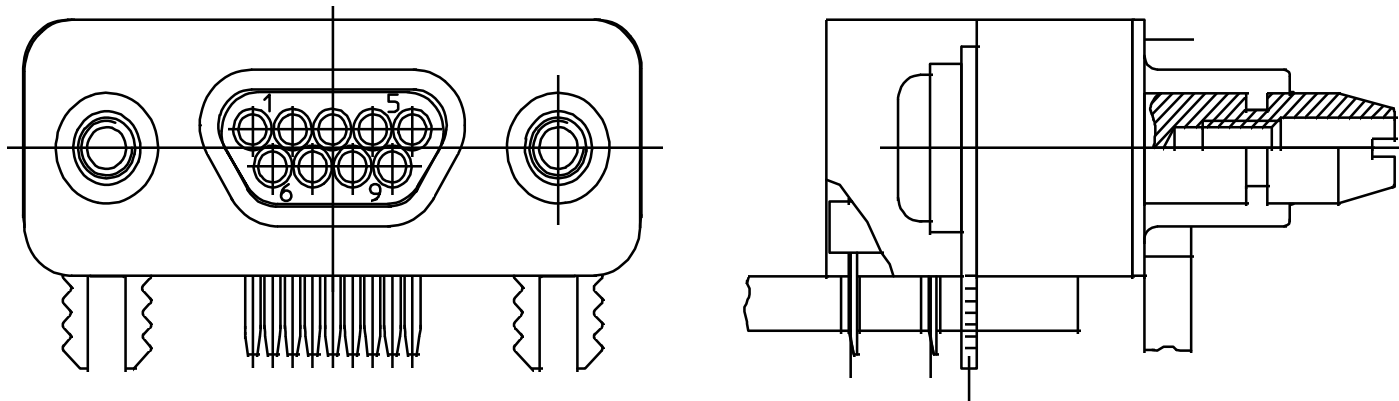
Transfer Impedance



MHz	SSA PH1	MDSM Actual
10	-	56 dB
30	25 dB - Ohm	47 dB
159	16 dB - Ohm	34 dB
500	10 dB - Ohm	25 dB
750	-	22 dB
1 000	-	19 dB

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- ◆ MDSM -9PE-Z42
Shielded Device Connector
with 90° PCB Tails

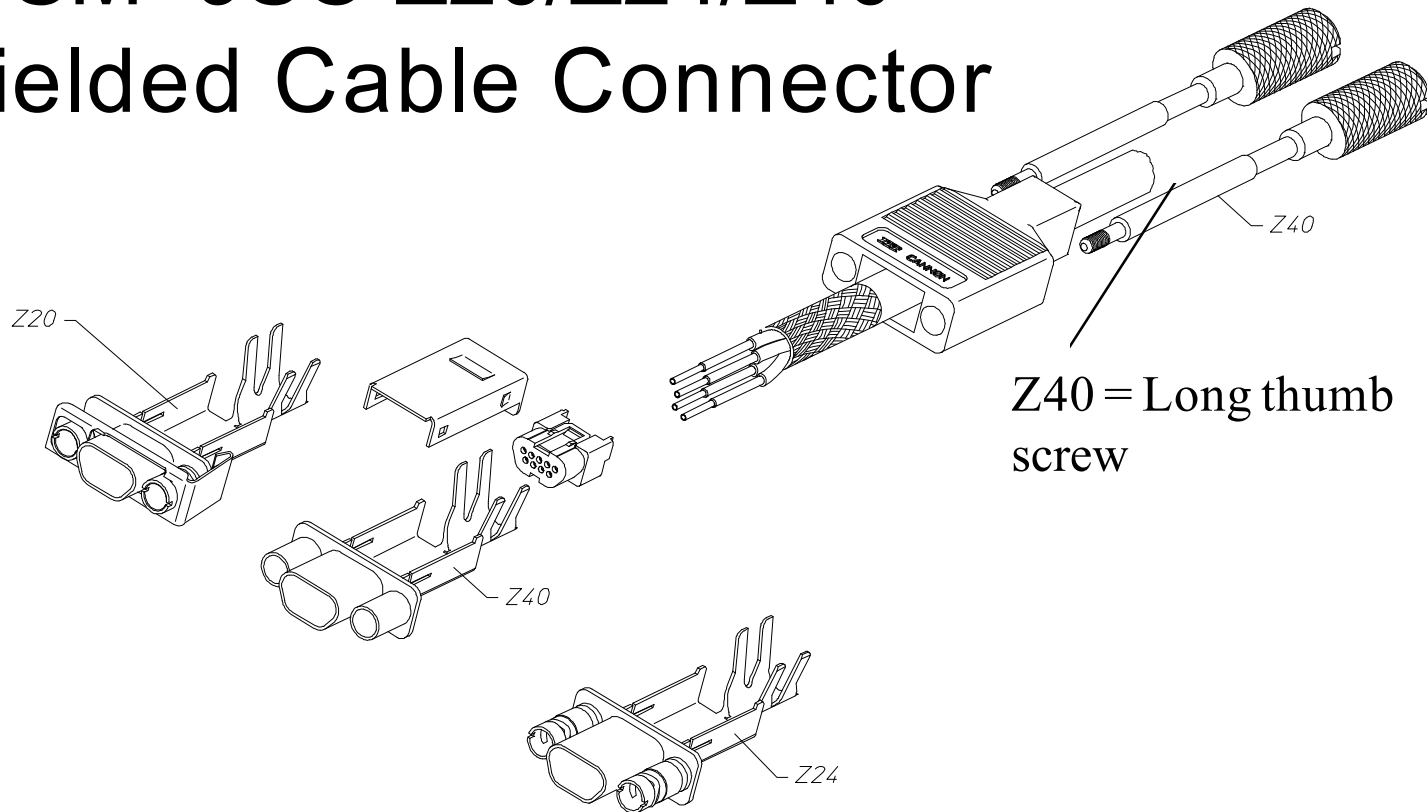


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- ◆ Shielded device connector
MDSM-9PE with universal jackpost
for wall thickness 0.060" (1.5mm)

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◆ MDSM -9SC-Z20/Z24/Z40 Shielded Cable Connector



MDSM

- ◆ Positive quick latching retention method available :
Push-Pull - Z24
- ◆ Long thumb screw - Z40
- ◆ Proven D - shape polarized interface
- ◆ Intermateable with connectors according to MIL-C-83513

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◆ For technical and commercial support please contact :

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