RF-Matrix MX-8x2/2+2x8/8-6G

MTS-No.: 28848

Application

The MX-8x2/2+2x8/8-6G is an RF-Matrix made of three matrices with dividers and semiconductor switches. The principle is like described at the block diagram. It can be used for several applications, f.e.:

- Switching Unit for RF-generators, amplifiers and antennas at EMC test laboratories
- Filter, diplexer attenuator etc. selection unit
- Any automated routing of measurement

Description

At the MX-8x2/2+2x8/8-6G all of the outputs can be connected to maximum one input simultaneously. This can be the same input for up to eight outputs.

The configuration is 16 inputs and 16 outputs.

In combination with attenuators, splitters and other modules the usability can be extended.

Characteristics

- RF-Matrix, bidirectional, made of three intern matrices with dividers and semiconductor switches (16 inputs, 16 outputs)
- Frequency range from 500 MHz to 6000 MHz
- Switching time up to 0.1 ms per transmitted binary sign (S P F 8 1 7 2 *ETX* are eight signs).
- Integrated power supply 100 V - 240 V AC
- Remote control by RS-232 and LAN (other interfaces or web control on request)
- 19” rack mount case with 6 HU
- Windows control programs can be offered
- High quality materials and components for extended durability
- On Request user blocking of separate components (with name / name and keyword available)
- On request switching cycles of every matrix position can be requested
- RF-Matrices can be designed according to customer’s individual requirements

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Configuration:

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Technical data:

1 RF-specifications:

			min.	typ.	max.
1.1	Impedance			50 Ω	
1.2	Input power			+30 dBm max. @ each connector	
1.3	Frequency range			500 MHz - 6000 MHz	
1.4	RF-connections			N female	
1.5	VSWR in / out			1.4	2.2
1.6	Insertion loss (IL)				
		@ 500 MHz		19 dB	21 dB
		@ 3000 MHz		24 dB	27 dB
		@ 6000 MHz		31 dB	35 dB
1.7	IL derating / 100 MHz			0.22 dB	
1.8	Isolation (see plot)				
		@ IN/IN, switched to other output	100 dB	130 dB	
		@ IN/IN, IN4G/IN5G-x pair to same output		30 dB	
		@ IN/OUT	100 dB	130 dB	
		@ OUT/OUT, switched to other input	100 dB	130 dB	
		@ OUT/OUT, switched to same input			
		@ 500 - 790 MHz	20 dB	30 dB	
		@ 790 - 6000 MHz	27 dB	37 dB	
1.9	Switching time per transmitted binary sign (S P F 8 1 7 2 *ETX* are eight signs).				0.1 ms

2 Connections:

2.1	Front side	RF-connections
		Power switch with integrated control lamp
2.2	Rear side	Control card with control interfaces
		Appliance plug with the integrated fuses F1 and F2
		Ground connector

3 General specifications

3.1	Power supply	100 V - 240 V 50 Hz / 60 Hz
3.2	Internal voltage	+5 V DC, +30 V DC
3.3	Control displays	Control lamp in the power switch
3.4	Control interfaces	RS-232
		LAN
3.5	Power consumption primarily	150 mA max. @ 230 V
3.6	Voltage supply	Standard rubber connector
3.7	Operating temperature	0 °C - +50 °C
3.8	Reference temperature for specifications	+25 °C
3.9	Dimensions	19''-unit x 6 HU x 495 mm (dimensions without handles and connections)
3.10	Colour	Front side colourless anodized
		Rear side colourless anodized
3.11	Weight	41.0 kg

4 Delivered parts:

MX-8x2/2+2x8/8-6G
Power cable
CD with operating manual

5 Comments:

Warranty	12 months
RoHS-compliant	Yes

6 Recommended accessories:

Shielding box of the series MSB-02xx or MSB-01xx
RF-cables
Control software

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Typical measurements:

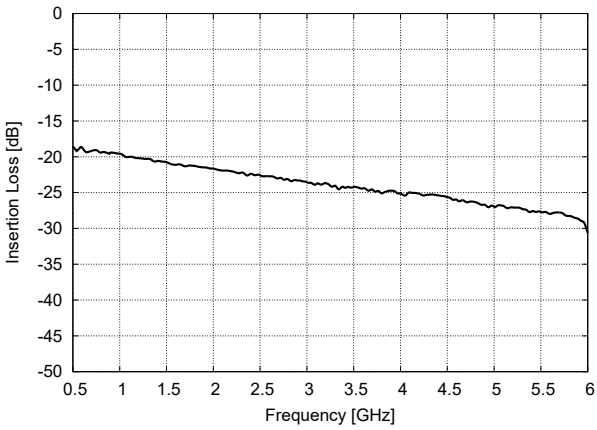

Fig. 1: Input port to output port insertion loss

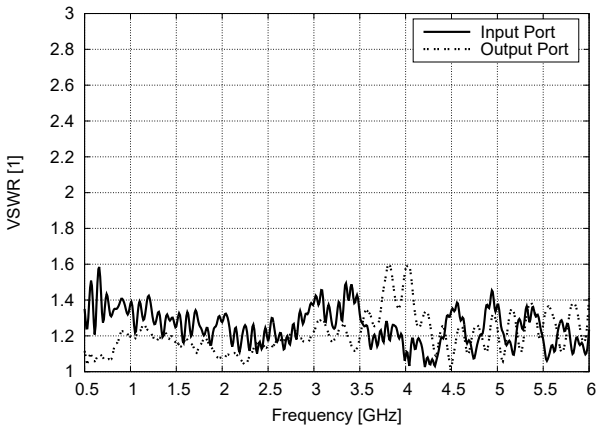

Fig. 2: VSWR for input and output ports

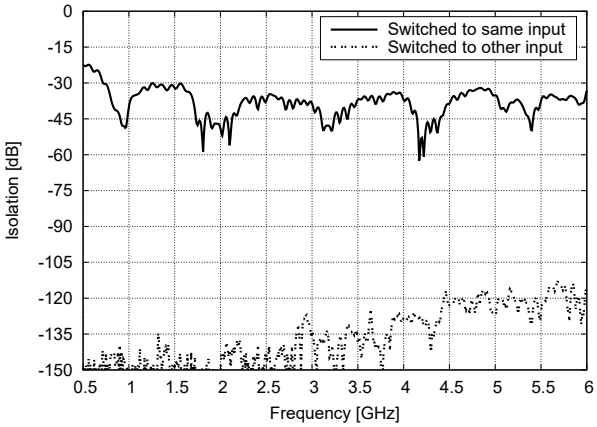

Fig. 3: Isolation between output ports

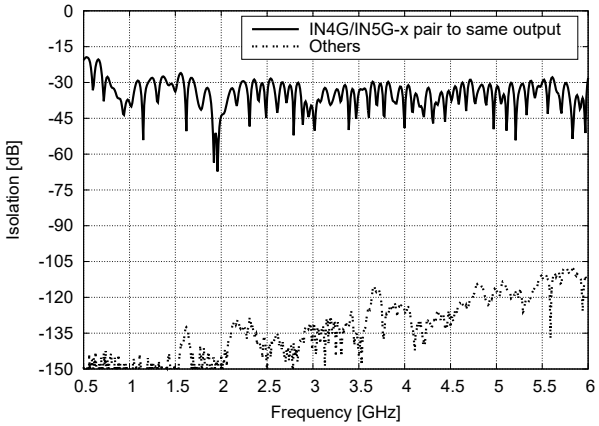

Fig. 4: Isolation between input ports

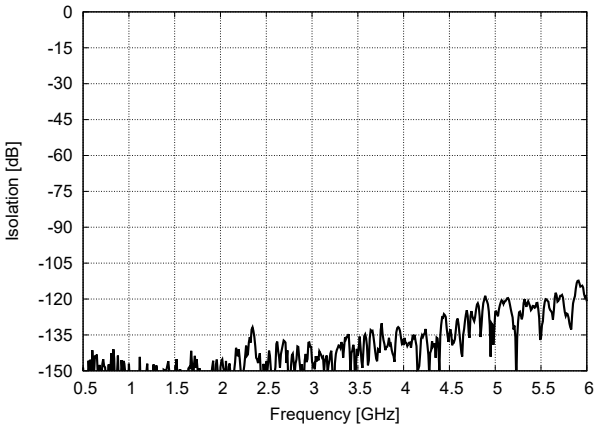

Fig. 5: Isolation between in- and output ports

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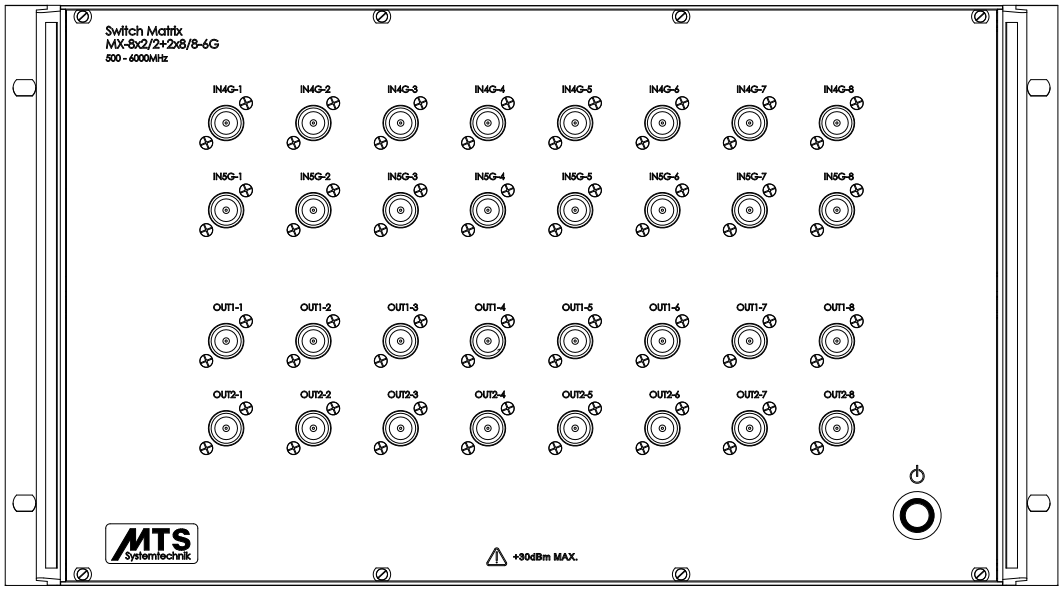
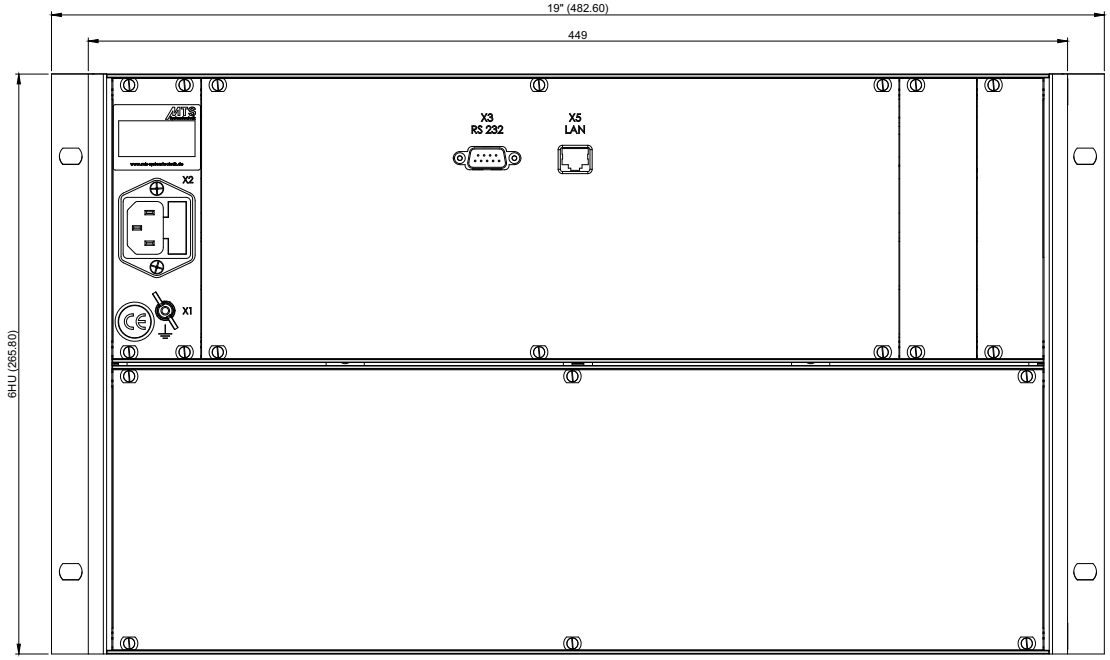
Views:





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