

Test-CMOS-MEA

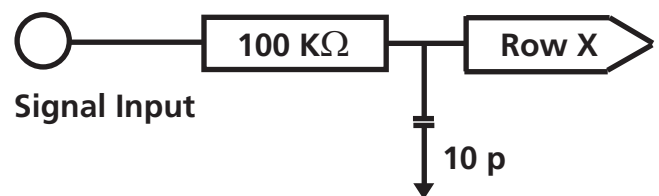
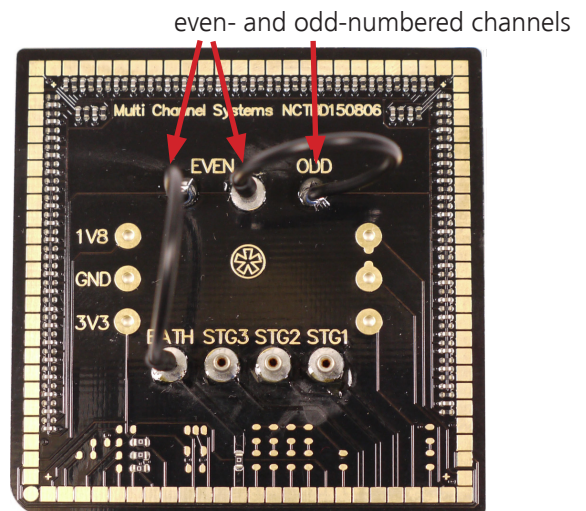
Test Model Probe for the CMOS-MEA5000-System

Scope of delivery

1 Test Model Probe
Test-CMOS-MEA with two
cables (ca. 50 mm/0.76 mm)
soldered to the „EVEN“
and „ODD“ connectors.

The provided test model probe simulates a
CMOS-MEA chip with a resistor of 100 k Ω
and a 10 p capacitor between ground and
each row of the 65 x 65 electrodes in the grid.

It can be used for testing the noise level of a
CMOS-MEA5000-System, for the calibration
of the system and for testing the internal
stimulation.



Warning: The device may only be used together with the CMOS-MEA5000-System from Multi Channel Systems MCS GmbH, and only for the specified purpose. Damage of the device and even fatal injuries can result from improper use.

The „ODD“ cable supports the odd-numbered channels and the „EVEN“ cable supports the even-numbered channels. For the intention to check the noise level of a CMOS-MEA5000-System without external signals, please connect the cable soldered to the „ODD“ connector to the input connector of the even-numbered channels and the cable soldered to the „EVEN“ connector to the „BATH“ input. Connected in this way, the signal input supports all 65 rows of the 65 x 65 layout of the CMOS-MEA chip at a time and simulates also the calibration of the bath.

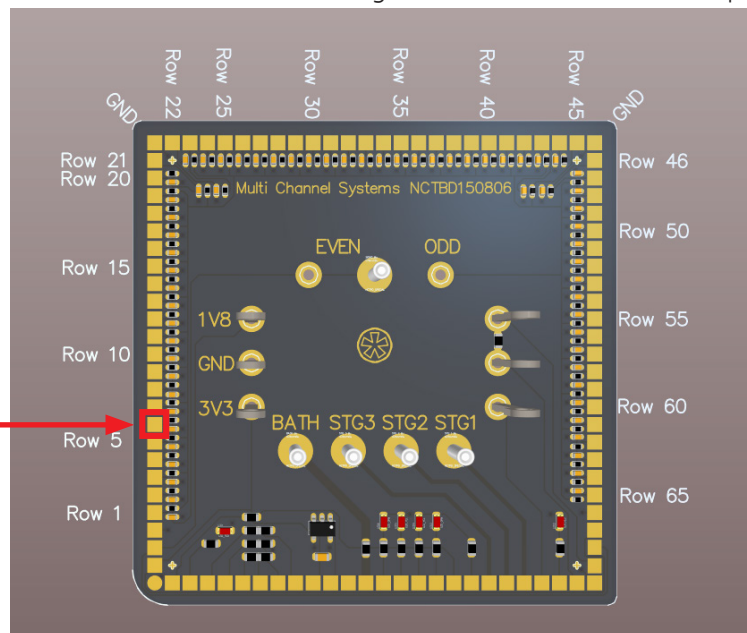
The Test-CMOS-MEA probe is equipped with three additional connectors to test the stimulation, „STG1“, „STG2“ and „STG3“. The stimuli are color coded in the CMOS-MEA-Control software: Stimulus 1 is indicated in green color, Stimulus 2 is indicated in blue and Stimulus 3 in red color.

Please take care for the correct orientation of the chip. The „EVEN“ and „ODD“ connectors have to be in the back when looking directly at the open CMOS-MEA headstage. The round edge of the Test-CMOS-MEA is in the front on the left side.

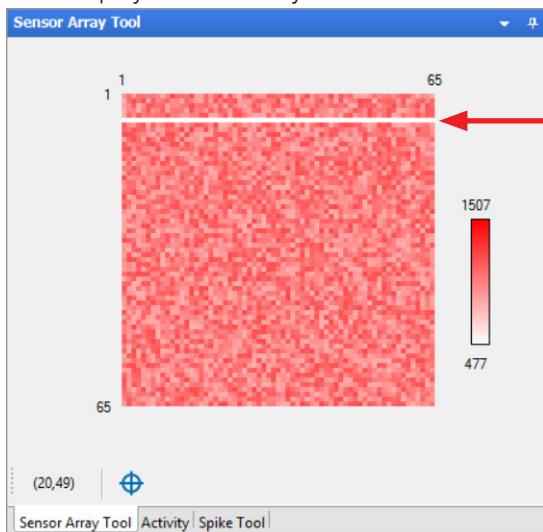
● **Test-CMOS-MEA**

● **Test Model Probe for the CMOS-MEA5000-System**

Pin assignment on the CMOS-MEA chip



Data display: Sensor Array Tool



● **Troubleshooting**

CMOS sensors are multiplexed in rows, each row corresponds to one contact pad on the chip and one gold contact pin in the lid of the amplifier.

If pins or pads are dirty or defective, there is no contact and a whole row of sensors won't record data, resulting in a white row in the „Sensor Array Tool“, „Activity“ and „Spike Tool“ displays.

See above the pin assignment to identify pins or pads which need to be cleaned or replaced. In the example shown, it would be row 6, corresponding to the contact pad marked in red and the respective gold pin contact in the lid of the amplifier.