

# Calibration certificate

## Werkskalibrierschein



<b>Object</b> <i>Gegenstand</i>	TCM (Test Channel Mobile)
<b>Manufacturer</b> <i>Hersteller</i>	Institut Dr. Foerster GmbH & Co. KG In Laisen 70, 72766 Reutlingen, Germany
<b>Type</b> <i>Typ</i>	2.142
<b>Serial number</b> <i>Serien-Nr.</i>	1
<b>Customer</b> <i>Auftraggeber</i>	Sample GmbH
<b>Order No.</b> <i>Auftragsnummer</i>	78917
<b>Date of calibration</b> <i>Datum der Kalibrierung</i>	24.01.2024
<b>Place of calibration</b> <i>Ort der Kalibrierung</i>	Produktion IFR

This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI). The user is obliged to have the object recalibrated at appropriate intervals.

*Dieser Werkskalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI). Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.*

**This calibration certificate may only be distributed in its entirety and unchanged. This is a machine-generated document and is valid without a signature.**

*Dieser Kalibrierschein darf nur vollständig und unverändert weiterverbreitet werden. Dies ist ein maschinell erstelltes Dokument und ohne Unterschrift gültig.*

Date / Datum  
24.01.2024

Person in charge / Bearbeiter  
Lange

## Measuring equipment

### Messmittel

<b>Description</b> <i>Beschreibung</i>	<b>Equipment No.</b> <i>Prüfmittel-Nr.</i>	<b>Calibration Date</b> <i>Kalibrierdatum</i>
National Instruments NI PXIe-5122 - Serial: 0210CD91	14/147 -1	01.08.2023
Keysight 33522B - Serial: MY59002460	14/147 -2	01.08.2023

## Ambient conditions

### Umgebungsbedingungen

The calibration was performed at a temperature of  $(23 \pm 3)$  °C.

*Die Kalibrierung wurde bei einer Temperatur von  $(23 \pm 3)$  °C durchgeführt.*

## Performance verification

### Funktionskontrolle

X **Measured values within manufacturers specifications**

*Messwerte innerhalb der Spezifikationen des Herstellers*

**Measured values out of manufacturers**

*Messwerte außerhalb der Spezifikationen des Herstellers*

# Measurement results

## Messergebnisse

Result: Pass

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Fieldsignal							
Frequency	Field Signal	100Hz	Measured: 100	Min: 99	Max: 101	Hz	Pass
Amplitude	Field Signal	100Hz	Measured: 2.028	Min: 1.8	Max: 2.2	V	Pass
Frequency	Field Signal	100kHz	Measured: 100000	Min: 99000	Max: 101000	Hz	Pass
Amplitude	Field Signal	100kHz	Measured: 2.023	Min: 1.8	Max: 2.2	V	Pass
Frequency	Field Signal	1MHz	Measured: 1000000	Min: 990000	Max: 1010000	Hz	Pass
Amplitude	Field Signal	1MHz	Measured: 2.077	Min: 1.8	Max: 2.2	V	Pass
Channel 1							
Voltage	ADC	0dB 10kHz	Measured: 1.833	Min: 1.712	Max: 1.986	V	Pass
Voltage	ADC	0dB 100kHz	Measured: 1.834	Min: 1.712	Max: 1.986	V	Pass
Voltage	ADC	0dB 1MHz	Measured: 1.839	Min: 1.712	Max: 1.986	V	Pass
Attenuation		6dB	Measured: -5.41	Min: -6.6	Max: -4.8	dB	Pass
Attenuation		12dB	Measured: -11.34	Min: -12.3	Max: -10.7	dB	Pass
Attenuation		18dB	Measured: -17.29	Min: -18.3	Max: -16.6	dB	Pass
Amplifier	1 -	6dB	Measured: 5.43	Min: 3.2	Max: 6.2	dB	Pass
Amplifier	1 -	12dB	Measured: 10.6	Min: 8	Max: 11.2	dB	Pass
Amplifier	2 -	6dB	Measured: 5.82	Min: 4.8	Max: 7	dB	Pass
Amplifier	2 -	12dB	Measured: 11.6	Min: 10.7	Max: 13.1	dB	Pass
Amplifier	3 -	6dB	Measured: 5.79	Min: 4.8	Max: 7	dB	Pass
Amplifier	3 -	12dB	Measured: 11.47	Min: 10.7	Max: 13.1	dB	Pass
Channel 2							
Voltage	ADC	0dB 10kHz	Measured: 1.834	Min: 1.712	Max: 1.986	V	Pass
Voltage	ADC	0dB 100kHz	Measured: 1.835	Min: 1.712	Max: 1.986	V	Pass
Voltage	ADC	0dB 1MHz	Measured: 1.839	Min: 1.712	Max: 1.986	V	Pass
Attenuation		6dB	Measured: -5.37	Min: -6.6	Max: -4.8	dB	Pass
Attenuation		12dB	Measured: -11.33	Min: -12.3	Max: -10.7	dB	Pass
Attenuation		18dB	Measured: -17.25	Min: -18.3	Max: -16.6	dB	Pass
Amplifier	1 -	6dB	Measured: 5.45	Min: 3.2	Max: 6.2	dB	Pass
Amplifier	1 -	12dB	Measured: 10.63	Min: 8	Max: 11.2	dB	Pass
Amplifier	2 -	6dB	Measured: 5.82	Min: 4.8	Max: 7	dB	Pass
Amplifier	2 -	12dB	Measured: 11.62	Min: 10.7	Max: 13.1	dB	Pass
Amplifier	3 -	6dB	Measured: 5.8	Min: 4.8	Max: 7	dB	Pass
Amplifier	3 -	12dB	Measured: 11.51	Min: 10.7	Max: 13.1	dB	Pass