Specifications:

Measurement channels	1 to 8 channels (depending on the configuration)
Synchronisation	Fully synchronized or fully independent control of each channel
Signal processing	Integrated powerful signal processing unit for very fast and precise measurements even when all channels are active
Mechanical dimensions	19 inch 3HE Housing (rack mountable) 450mm x 290mm x 150mm (width x depth x height)
Connectors	USB, Power connector (100-240VAC)

Specifications of a measurement channel equipped with an IF-Frontend

Frequency

Range	100mHz to 10MHz
Resolution	5mHz, 25mHz or 100mHz (depending on the setting)
Frequency	100ppm (25°C)

Frequency-Sweep-Settings

Sweep type	linear, logarithmic, list
Points	1 to 2048
Sweep-Delay	0µs to 800µs in 1µs steps

Signal amplitude

Range	0.1mV to 100mV peak-amplitude 0.1mV to 250mV peak-amplitude (from revision June 2011)
Resolution	0.1 mV

Precision settings

Range	0	fast, but less precise
	1	standard configuration $\Delta\|Z\|/\|Z\|<0.1\%$
	>1	slow, but high accuracy

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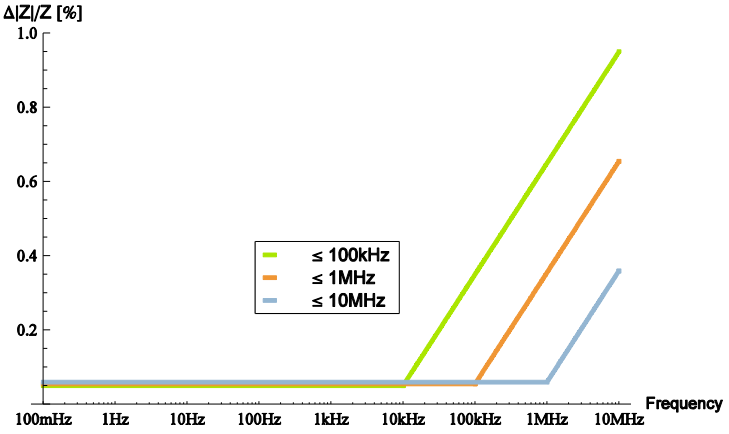
Relation between frequency range setting and frequency resolution or measurement accuracy

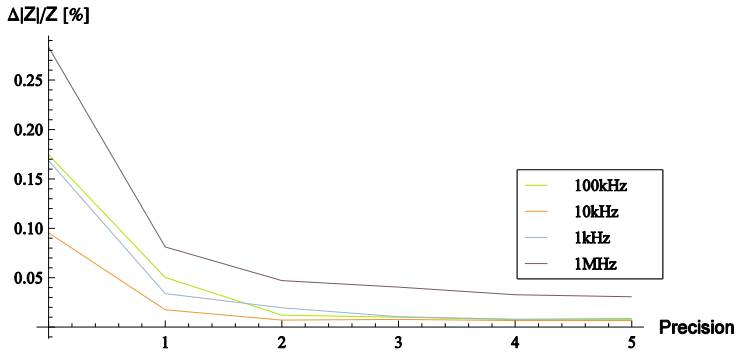
3 frequency ranges with different resolution

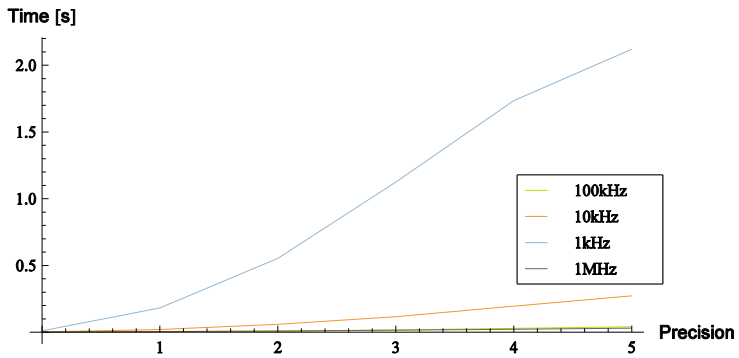
range	< 100kHz	< 1MHz	< 10MHz
resolution	5mHz	25mHz	100mHz



The choice of the frequency range also affects the accuracy of the impedance measurement. This relation is shown schematically for one measurement.

Relation between the precision setting and the measurement time or the measurement accuracy





The diagram on the left shows the influence of the precision settings on the accuracy and time for the measurement of an impedance value at the specified frequency.

Low precision settings correspond to fast measurements with lower accuracy.

High precision settings correspond to greater accuracy at longer measurement times.

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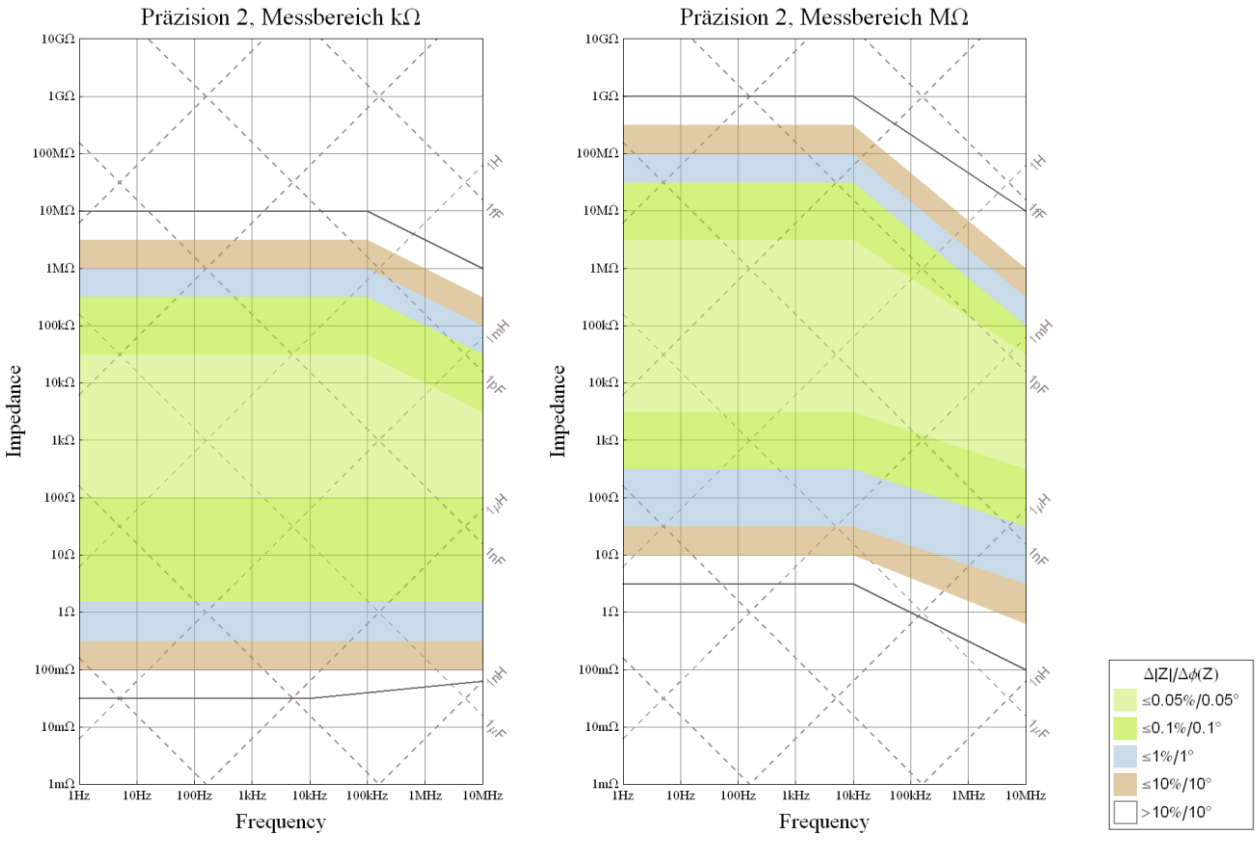
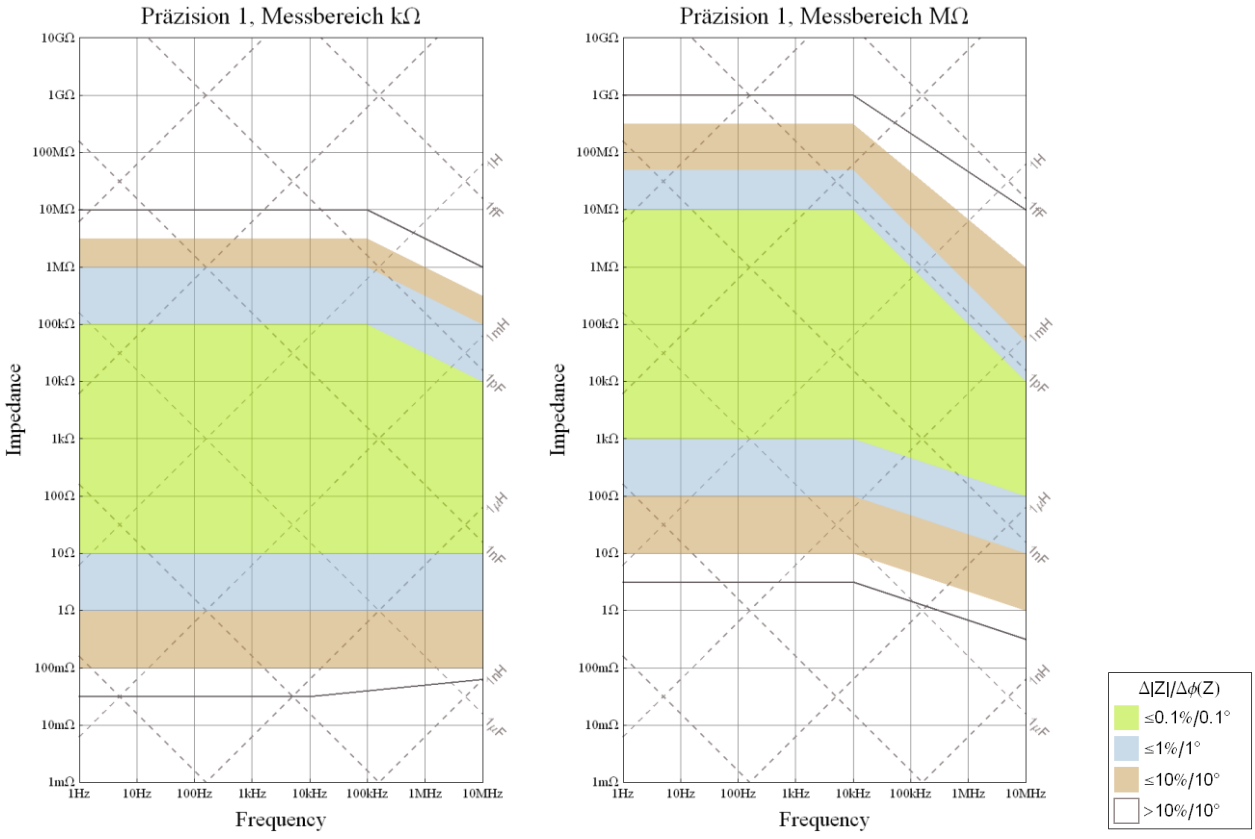
Overview of the different range and precision settings





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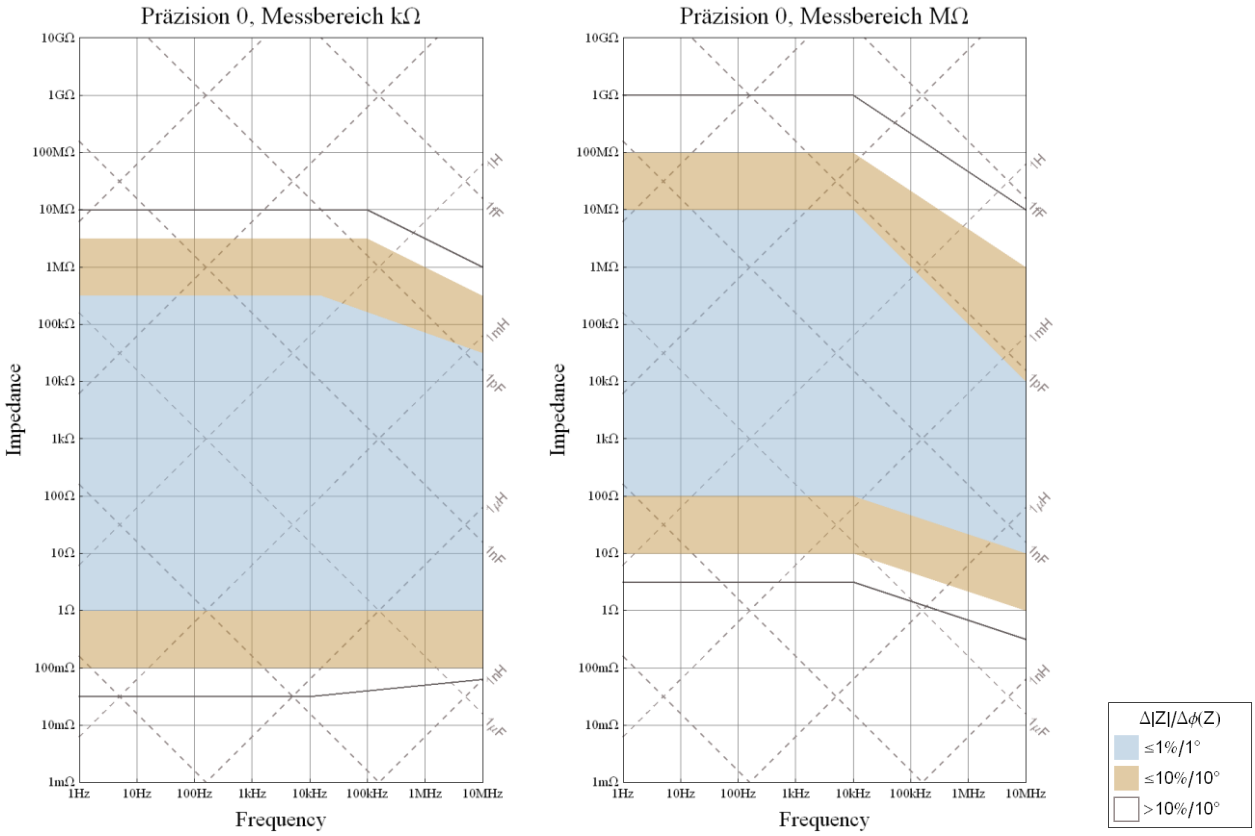


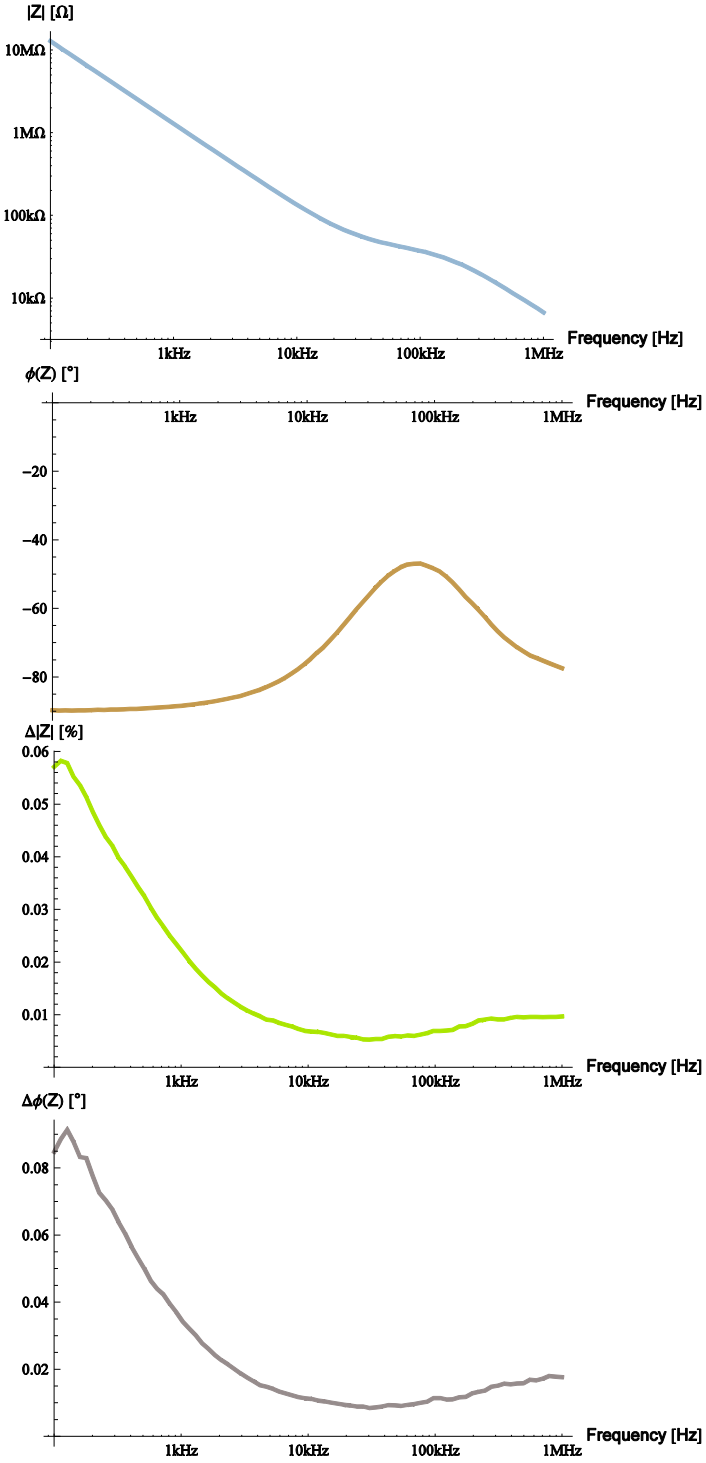
All specifications refer to measurements done with a Sciospec ISX-5 in combination with the Sciospec MEArack. The signal amplitude is set to 100mV and the frequency range to „<10MHz“. Measurements done, using the BNC connectors show very similar results.

Beispiel Messungen:

Frequenzsweep: 100Hz – 1MHz, 80 logarithmische Schritte,
Präzision 1, Amplitude 100mV, Messbereich MΩ

Messadapter: Sciospec MEA Rack

Messobjekt: Multielektrodenarray, 40µm Elektroden, 200µm Abstand, Platin
PBS Pufferlösung



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