**Позиции СМС по электрическому сопротивлению переменного тока, обеспечиваемые лабораторией госэталонов в области измерений параметров электрических цепей (НИЛ 2202) ФГУП "ВНИИМ им. Д.И.Менделеева"**

| Calibration or Measurement Service | | | Measurand Level or Range | | | Measurement Conditions/Independent Variable | | Expanded Uncertainty | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quantity | Instrument or Artifact | Instrument Type or Method | Minimum value | Maximum value | Units | Parameter | Specifications | Value | Units | Coverage Factor | Level of Confidence | Is the expanded uncertainty a relative one? | Matrix Uncertainty | Service provider | NMI Internal Service Identifier | Comments |
| AC resistance: real component | Fixed resistor | Transformer bridge by substitution | 0.1 | 0.1 | Ω | Frequency | 1 kHz | 10 | μΩ/Ω | 2 | 95% | Yes | | 39 | VNIIM | Oil and air bath |
| | | | | | | Temperature | 20 °C | | | | | | | | | |
| AC resistance: real component | Fixed resistor | Transformer bridge by substitution | 1 | 1 | Ω | Frequency | 1 kHz | 5 | μΩ/Ω | 2 | 95% | Yes | | 40 | VNIIM | Oil and air bath |
| | | | | | | Temperature | 20 °C | | | | | | | | | |
| AC resistance: real component | Fixed resistor | Transformer bridge by substitution | 10 | 10 | Ω | Frequency | 1 kHz | 2 | μΩ/Ω | 2 | 95% | Yes | | 41 | VNIIM | Oil and air bath |
| | | | | | | Temperature | 20 °C | | | | | | | | | |
| AC resistance: real component | Fixed resistor | Transformer bridge by substitution | 0.1 | 10 | kΩ | Frequency | 1 kHz | 1 | μΩ/Ω | 2 | 95% | Yes | | 42 | VNIIM | Oil and air bath |
| | | | | | | Temperature | 20 °C | | | | | | | | | |

| Calibration or Measurement Service | | | Measurand Level or Range | | | Measurement Conditions/Independent Variable | | Expanded Uncertainty | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quantity | Instrument or Artifact | Instrument Type or Method | Minimum value | Maximum value | Units | Parameter | Specifications | Value | Units | Coverage Factor | Level of Confidence | Is the expanded uncertainty a relative one? | Matrix Uncertainty | Service provider | NMI Internal Service Identifier | Comments |
| AC resistance: real component | Fixed resistor | Transformer bridge by substitution | 100 | 100 | kΩ | Frequency | 1 kHz | 1 | μΩ/Ω | 2 | 95% | Yes | | 43 | VNIIM | Oil and air bath |
| | | | | | | Temperature | 20 °C | | | | | | | | | |
| AC resistance: real component | Fixed resistor | Transformer bridge by substitution | 1 | 1 | MΩ | Frequency | 1 kHz | 5 | μΩ/Ω | 2 | 95% | Yes | | 44 | VNIIM | Oil and air bath |
| | | | | | | Temperature | 20 °C | | | | | | | | | |
| AC resistance: time constant | Fixed resistor | Transformer bridge by substitution | 0.001 | 500 | μs | Resistance | 0.1 Ω | 20 | ns | 2 | 95% | No | | 45 | VNIIM | |
| | | | | | | Frequency | 1 kHz | | | | | | | | | |
| AC resistance: time constant | Fixed resistor | Transformer bridge by substitution | 0.001 | 500 | μs | Resistance | 1 Ω | 10 | ns | 2 | 95% | No | | 46 | VNIIM | |
| | | | | | | Frequency | 1 kHz | | | | | | | | | |
| AC resistance: time constant | Fixed resistor | Transformer bridge by substitution | 0.001 | 500 | μs | Resistance | 10 Ω to 10 kΩ | 5 | ns | 2 | 95% | No | | 47 | VNIIM | |
| | | | | | | Frequency | 1 kHz | | | | | | | | | |
| AC resistance: time constant | Fixed resistor | Transformer bridge by substitution | 0.001 | 500 | μs | Resistance | 100 kΩ | 10 | ns | 2 | 95% | No | | 48 | VNIIM | |
| | | | | | | Frequency | 1 kHz | | | | | | | | | |
| AC resistance: time constant | Fixed resistor | Transformer bridge by substitution | 0.001 | 500 | μs | Resistance | 1 MΩ | 20 | ns | 2 | 95% | No | | 49 | VNIIM | |
| | | | | | | Frequency | 1 kHz | | | | | | | | | |
| AC resistance: ac-dc difference | Fixed resistor | Transformer bridge by substitution | 0.1 | 1 | Ω | Frequency | 1 kHz | 2E-05 | | 2 | 95% | Yes | | 50 | VNIIM | |

| Calibration or Measurement Service | | | Measurand Level or Range | | | Measurement Conditions/Independent Variable | | Expanded Uncertainty | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quantity | Instrument or Artifact | Instrument Type or Method | Minimum value | Maximum value | Units | Parameter | Specifications | Value | Units | Coverage Factor | Level of Confidence | Is the expanded uncertainty a relative one? | Matrix Uncertainty | Service provider | NMI Internal Service Identifier | Comments |
| AC resistance: ac-dc difference | Fixed resistor | Transformer bridge by substitution | 10 | 1E+04 | Ω | Frequency | 1 kHz | 1E-05 | | 2 | 95% | Yes | | 51 | VNIIM | |
| AC resistance: ac-dc difference | Fixed resistor | Transformer bridge by substitution | 0.1 | 1 | MΩ | Frequency | 1 kHz | 5E-05 | | 2 | 95% | Yes | | 52 | VNIIM | |
| AC resistance: resistors for high current | AC current shunt | Voltamperometri c method | 5 | 600 | μΩ | Frequency | 50 Hz | 1 | mΩ/Ω | 2 | 95% | Yes | | 53 | VNIIM | |
| | | | | | | Current | 100 A to 10 kA | | | | | | | | | |
| AC resistance: meters | LCR meter | Comparison to a resistance standard | 0.1 | 1.0E+07 | Ω | Frequency | 1 kHz | 1E-04 | | 2 | 95% | Yes | | 54 | VNIIM | |