SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Acertara Acoustic Laboratories, LLC

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CALIBRATION AND TESTING

ISO/IEC 17025 Accreditation Granted: **02 June 2025**

Certificate Number: **ACT-1394** Certificate Expiry Date: **02 June 2027**

TESTING

Acoustics

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Reference Standard, Method and/or Equipment
Acoustic Pressure, Intensity and Power	IEC 60601-2-5 and IEC 61689, Part 1050.10 of the Title 21 US CFR	Ultrasonic medical therapeutic equipment	Oscilloscope, Hydrophone, Acoustic Measurement System
Acoustic Pressure, Intensity and Power. Thermal and Mechanical indices	IEC 60601-2-37 and IEC 62359	Ultrasonic medical diagnostic and monitoring equipment	Oscilloscope, Hydrophone, Acoustic Measurement System
Ultrasonic Energy	IEC 14708-1, -2, -3 and EN45502-1	Implantable medical devices	Oscilloscope, Hydrophone, Source Transducer, Acoustic Measurement System
Air & Simulated Use Temperature	IEC 60601-2-5, IEC 60601-2-37, IEC 60601-2-62 (201.11)	Ultrasonic medical equipment	Thermocouple, DAQ, Air / Water Chamber
Ultrasonic Power	IEC 62555	Ultrasonic medical diagnostic and medical therapeutic equipment	Radiation Force Balance, RTD
Acoustic Pressure, Intensity and Power.	IEC 60601-2-62, IEC 62556	Ultrasonic medical therapeutic equipment	Oscilloscope, Hydrophone, Acoustic Measurement System

CALIBRATION

Acoustics and Vibration

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Hydrophone – End of Cable Loaded Sensitivity	(5 to 1 000) nV/Pa (2 to 10) MHz (10 to 12) MHz (12 to 15) MHz (15 to 20) MHz	10 % of reading 21 % of reading 23 % of reading 36 % of reading	Comparison to Reference Hydrophones, Acoustic Measurement System, ARTIS TDS

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage - Measure	(1 to 5) V	0.038 % of reading	Comparison to Keysight 34465A Multimeter
DC Voltage - Measure	(0.6 to 5.999) V (6 to 60) V (60 to 600) V	0.08% of reading 0.08% of reading 0.08% of reading	Comparison to Fluke 87 V Multimeter
AC Voltage - Measure	(110 to 260) V (48 to 62) Hz	0.27 % of reading	Comparison to Keysight 34465A Multimeter
AC Current - Measure	(20 to 500) µA (48 to 62) Hz	0.44 % of reading	Comparison to Keysight 34465A, Standard Resistors
Capacitance – Measure 100 Hz, 120 Hz, 1 kHz, 10 kHz, 100 kHz	(200.1 to 2 000) pF	0.7% of reading	Comparison to Agilent U1733C LCR Meter and Capacitors

Electrical – RF/Microwave

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
RF Power – Measure	(0 to 60) dBm 5 MHz	0.38 dB	Comparison to Agilent 5990-4019EN Power Meter (Artis TDS)

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Electrical – RF/Microwave

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
RF Power – Generate	(-20 to 20) dBm 5 MHz	0.31 dB	Comparison to Agilent 5990-4019EN Power Meter (Artis TDS)
RF Power – Measure	(0 to 42) dBm 4 MHz	0.46 dB	Comparison to Tektronix AFG3101C Function Generator, Tektronix 3014C Oscilloscope, JFW 50PA-635 Attenuator

Time and Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Frequency – Generate	(1 to 20) MHz	0.02% of reading	Comparison to Keysight 53210A Frequency Counter, ARTIS TDS
Frequency – Measure	(48 to 62) Hz	0.38 % of reading	Comparison to Tektronix TDS3014C Oscilloscope
Frequency – Measure	(1 to 20) MHz	0.3% of reading	Comparison to Keysight 53210A Frequency Counter, ARTIS TDS

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Jason Stine, Vice President

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