CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **08 September 2026** CERTIFICATE NUMBER **274055**

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
L.Grant
Electronically signed:

Sound Calibrator : IEC 60942:2003

Instrument information

Manufacturer: Cirrus Research plc

Model: CR:515

Serial number: 90326

Class: 1

Notes:

Test summary

Date of calibration: 08 September 2026

The sound calibrator detailed above has been calibrated to the published data as described in the operating manual and in the half-inch configuration. The procedures and techniques used are as described in IEC60942_2003 Annex B – Periodic Tests and three determinations of the sound pressure level, frequency and total distortion were made.

The sound pressure level was measured using a WS2F condenser microphone type MK:224 manufactured by Cirrus Research plc.

The results have been corrected to the reference pressure of 101.33 kPa using the manufacturer's data.

As public evidence was available, from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

The manufacturer's product information indicates that this model of sound calibrator has been formally pattern approved to IEC60942_2003 Annex A to Class 1. This has been confirmed by Laboratoire National d'Essais (LNE), PhysikalischTechnische Bundesanstalt (PTB) and APPLUS (APPLUS).

Notes:

This certificate provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%.

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Environmental conditions

The following conditions were recorded at the time of the test:

Pressure: 99.54 kPa
Temperature: 22.9 °C
Humidity: 46.0 %

Test equipment

Equipment	Manufacturer	Model	Serial number
Distortion Meter	Keithley	2015	1164977
Environmental Monitor	Comet	T7510	21962628

Initial Results

	Expected	Sample 1	Sample 2	Sample 3	Average	Deviation	Tolerance	Uncertainty
Level (dB)	94.00	94.18	94.16	94.16	**94.17**	0.17	±0.40	0.09 dB
Distortion (%)	< 3.00	0.23	2.53	0.64	**1.14**	1.14	+3.00	0.22 %
Frequency (Hz)	1000.0	1000.3	1000.2	1000.5	**1000.3**	0.3	±10.0	0.2 Hz

The measured quantities or deviations (as applicable), extended by the expanded combined uncertainty of measurement, must not exceed the corresponding tolerance.

Adjusted Results

	Expected	Sample 1	Sample 2	Sample 3	Average	Deviation	Tolerance	Uncertainty
Level (dB)	94.00	94.00	94.02	94.02	**94.01**	0.01	±0.40	0.09 dB
Distortion (%)	< 3.00	0.51	1.77	0.45	**0.91**	0.91	+3.00	0.22 %
Frequency (Hz)	1000.0	1000.0	1000.2	1000.4	**1000.2**	0.2	±10.0	0.2 Hz

End of results