SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

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CALIBRATION

Valid To: July 31, 2019 Certificate Number: 2296.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1]:

I. Acoustical Quantities

Parameter/Equipment[5]	Frequency	CMC[2] (±)	Comments[6]
Microphone[3]	250 Hz	0.40 dB	Microphone

II. Electrical DC & Low Frequency

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments[6]
DC Voltage[3] – Generate	(0 to 32.999 9) mV (33.000 to 77.999) mV (78.000 to 119.999) mV (120.000 to 329.999) mV (330.00 to 779.99) mV (0.78000 to 1.19999) V (1.20000 to 3.29999) V	61 µV 0.27 mV/V 0.14 mV/V 0.17 mV/V 87 µV/V 60 µV/V 0.12 mV/V	Fluke 5520A

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments[6]
DC Voltage[3] – Generate (cont)	(3.300 0 to 7.7999) V (7.800 0 to 11.999 9) V (12.000 0 to 32.999 9) V (33.000 to 77.999) V (78.000 to 119.999) V (120.000 to 329.999) V	65 µV/V 49 µV/V 0.15 mV/V 84 µV/V 63 µV/V 0.2 mV/V	Fluke 5520A

Parameter/Range	Frequency	CMC[2, 4] (±)	Comments[6]
AC Voltage[3] – Generate			Fluke 5520A
(48.000 to 77.999) mV	1 kHz	0.19 %	
(78.000 to 119.999) mV	1 kHz	0.14 %	
(120.00 to 189.99) mV	1 kHz	0.37 %	
(190.00 to 329.00) mV	1 kHz	0.26 %	
(330.00 to 479.99) mV	1 kHz	0.18 %	
(480.00 to 779.99) mV	1 kHz	0.14 %	
(0.780 00 to 1.19999) V	1 kHz	0.11 %	
(1.200 0 to 1.8999) V	1 kHz	0.36 %	
(1.900 0 to 3.2999) V	1 kHz	0.25 %	
(3.300 0 to 4.799 9) V	1 kHz	0.18 %	
(4.800 0 to 7.799 9) V	1 kHz	0.14 %	
(7.800 0 to 11.9999) V	1 kHz	0.11 %	
(12.000 to 18.999) V	1 kHz	0.38 %	
(19.000 to 32.999) V	1 kHz	0.26 %	
(33.000 to 77.999) V	1 kHz	0.18 %	
(78.000 to 119.999) V	1 kHz	0.11 %	
(120.00 to 329.99) V	1 kHz	0.31 %	
AC Voltage – Measure[3, 7] Series Voltage Drop			
LISN, AN, AMN	(100, 200, 230) VAC 50/60 Hz	0.25 % of reading	Power analyzer CISPR16-1-2(2006), CISPR16-1-2

III. Electrical - RF/Microwave Device Specific Parameters

Parameter/Range[5]	Frequency	CMC[2] (±)	Comments[6]
E-Field Probe —			IEEE Std 1309:
Frequency Response, Linearity	100 kHz to 80 MHz 80 MHz to 1 GHz (1 to 3.2) GHz (3.2 to 6) GHz	0.98 dB 0.96 dB 0.97 dB 0.95 dB	GTEM cell
Isotropic Response	10 kHz to 6 GHz	0.31dB	
Displayed Frequency Accuracy[3]	9 kHz to 30 MHz 30 MHz to 1 GHz (1 to 10) GHz (10 to 40) GHz	10 Hz 30 Hz 300 Hz 300 Hz	Signal generator, frequency standard
Span Readout Accuracy[3]	9 kHz to 40 GHz	0.7 % of reading	Signal generator, frequency standard
Intercept Point Accuracy[3] –			
3rd Order (IP3)	9 kHz to 3 GHz (3 to 8) GHz (8 to 40) GHz	1.8 dB 3.1 dB 3.9 dB	Signal generator, frequency standard
2nd Order (IP2)	9 kHz to 1 GHz (1 to 8) GHz (8 to 13) GHz	1.7 dB 2.9 dB 3.6 dB	
Absolute Amplitude Accuracy[3] –			Signal generator, frequency standard, power meter, power sensor, attenuator
Calibration of Measurement Function (-70 to +20) dBm	9 kHz to 1 GHz (1 to 18) GHz (18 to 40) GHz	0.23 dB 0.40 dB 0.50 dB	
Calibration of Signal Source (-70 to +20) dBm	9 kHz to 6 GHz 10 MHz to 18 GHz (18 to 40) GHz	0.17 dB 0.24 dB 0.21 dB	Assuming “0” reflection coefficient at input of device under test
Power Meter Ref. Out	50 MHz, 0 dBm	0.04 dB	

Parameter/Range[5]	Frequency	CMC[2] (±)	Comments[6]
Amplitude Modulation[3] – Carrier Frequency Modulation Frequency 400 Hz to 3 kHz Modulation Index (30 to 95) %	 (0.15 to 10) MHz (10 to 1300) MHz (1 to 18) GHz	 2.1 % of reading 1.3 % of reading 2.5 % of reading	 Modulation analyzer Spectrum analyzer
Frequency Modulation[3] – Carrier Frequency Modulation Frequency (0.3 to 10) kHz FM Deviation (1 to 200) kHz	 (0.25 to 10) MHz (10 to 1300) MHz	 2.5 % of reading 1.3 % of reading	 Modulation analyzer
Pulse Modulation[3] – Carrier Frequency 150 kHz to 6 GHz Rise and Fall Time Pulse Width	 (0 to 90) % (1 to 3) µs (3 to 10) µs 10 µs to 1 ms (1 to 3) ms (3 to 10) ms (10 to 30) ms	 6 % of reading + 70 ps 1.5 % of reading 0.5 % of reading 0.2 % of reading 0.01 % of reading 0.02 % of reading 0.01 % of reading	 Oscilloscope
Reference Level[3] (-80 to +10) dBm	9 kHz to 1 GHz (1 to 18) GHz	0.17 dB 0.48 dB	Signal generator, frequency standard, attenuator

Parameter/Equipment[5]	Range	CMC[2] (±)	Comments[6]
Attenuator Check[3] –			
Calibration of Attenuation Measurement Function (0 to 110) dB	9 kHz to 1 GHz (1 to 8) GHz (8 to 18) GHz	0.25 dB 0.35 dB 0.63 dB	Signal generator, frequency standard, attenuator
Measurement of Attenuation (0 to 110) dB	9 kHz to 1 MHz 1 MHz to 12 GHz (12 to 30) GHz (30 to 40) GHz	0.36 dB 0.25 dB 0.32 dB 0.52 dB	Spectrum analyzer
Marker Amplitude Readout Accuracy[3]	9 kHz to 1 GHz (1 to 18) GHz (18 to 40) GHz	0.23 dB 0.40 dB 0.50 dB	Signal generator, frequency standard, power meter, power sensor, attenuator Assuming "0" reflection coefficient at input of device under test.
Log Fidelity[3] –			
9 kHz to 1 GHz	(1 to 49) dB (50 to 70) dB (71 to 80) dB (81 to 90) dB	0.18 dB 0.19 dB 0.21 dB 0.22 dB	Signal generator, frequency standard, attenuator
1 MHz to 1 GHz	(91 to 100) dB	0.25 dB	
5 MHz to 1 GHz	(101 to 110) dB (111 to 120) dB	0.24 dB 0.31 dB	
(1 to 8) GHz	(1 to 80) dB (81 to 90) dB (91 to 100) dB (101 to 110) dB (111 to 120) dB	0.28 dB 0.35 dB 0.35 dB 0.50 dB 0.70 dB	
(8 to 18) GHz	(1 to 80) dB (81 to 90) dB (91 to 100) dB (101 to 110) dB (111 to 120) dB	0.53 dB 0.58 dB 0.58 dB 0.70 dB 0.87 dB	

Parameter/Equipment[5]	Frequency	CMC[2] (±)	Comments[6]
Bandwidth Accuracy[3, 7]	9 kHz to 1 GHz (1 to 18) GHz	2 % of reading 3.5 % of reading	Signal generator, frequency standard, attenuator
Bandwidth Switching Accuracy[3]	9 kHz to 1 GHz (1 to 18) GHz	0.1 dB 0.1 dB	Signal generator, frequency standard, attenuator
Harmonic Measurements[3]	9 kHz to 18 GHz	1.8 dB	Signal generator, frequency standard, power meter, power sensor, spectrum analyzer Assuming "0" reflection coefficient at input of device under test
Displayed Average Noise Level[3]	9 kHz to 3.6 GHz (3.6 to 8) GHz (8 to 40) GHz	1.2 dB 2.0 dB 2.7 dB	50 Ω termination
Frequency Response[3] – Measure	9 kHz to 1 GHz (1 to 18) GHz (18 to 40) GHz	0.23 dB 0.40 dB 0.50 dB	Signal generator, frequency standard, power meter, power sensor, attenuator
Measuring Equipment	9 kHz to 6 GHz 10 MHz to 18 GHz (18 to 40) GHz	0.17 dB 0.24 dB 0.21 dB	Assuming "0" reflection coefficient at input of device under test

Parameter/Equipment[5]	Range	CMC[2] (±)	Comments[6]
CISPR Amplitude Calibration[3, 7 –]			
Pulse Repetitions	Bands A/B/C/D/E	0.65 dB	CISPR pulse generator, signal generator, power meter, power sensor, function generator
Relative Amplitude		0.77 dB	
Amplitude Relationship		0.66 dB	
Response to intermittent, unsteady and drifting narrowband disturbances		0.65 dB	
Impedance[3, 7] – Measure			VNA with calibration kit
LISN, AN, AMN	9 kHz to 110 MHz	0.6 Ω	CISPR16-1-2(2006), CISPR16-1-2 ANSI C63.4(2003/2009) ANSI C63.4
CDNs	0.1 MHz to 230 MHz	4.7 Ω	IEC/EN 61000-4-6
Terminator	9 kHz to 500 MHz 45 MHz to 18 GHz	0.6 Ω 1.4 Ω	
Impedance Phase Angle[3, 7]			VNA with calibration kit
LISN, AN, AMN	9 kHz to 110 MHz	6.3 deg (Reflection Coefficient > 0.01(lin))	CISPR16-1-2(2006), CISPR16-1-2 ANSI C63.4(2003/2009) ANSI C63.4

Parameter/Equipment[5]	Frequency	CMC[2] (±)	Comments[6]
Insertion Loss[3, 7, 8] –			VNA with calibration kit
LISN, AN, AMN (Voltage Division Factor, Isolation)	9 kHz to 110 MHz	0.45 dB	CISPR16-1-2(2006), CISPR16-1-2 ANSI C63.4(2003/2009) ANSI C63.4
CDNs, (50 to 150) Ω Adapters	9 kHz to 230 MHz	0.18 dB	IEC/EN 61000-4-6
Current Injection /Monitor Probes (Transfer Impedance) Calibration Fixture	(10 to 300) kHz 300 kHz to 200 MHz (200 to 400) MHz (400 to 1000) MHz	0.23 dB 0.31 dB 0.44 dB 0.86 dB	CISPR16-1-2, IEC/EN 61000-4-6 ISO11452-4
Amplifiers (Gain), Attenuators, Directional Couplers (Coupling Factor, Isolation), RF Cables and Filters	9 kHz to 45 MHz 45 MHz to 2 GHz (2 to 8) GHz (8 to 18) GHz (18 to 26.5) GHz (26.5 to 40) GHz	0.09 dB 0.05 dB 0.08 dB 0.14 dB 0.17 dB 0.18 dB	
Calibration Factor[3] –			
Power Sensor	9 kHz to 6 GHz 10 MHz to 18 GHz 10 MHz to 26.5 GHz 10 MHz to 40 GHz	2.0 % of reading 3.2 % of reading 3.9 % of reading 4.6 % of reading	Signal generator, power meter, power sensor, power splitter
Pulse Area[3, 7] –			Oscilloscope CISPR16-1-1
CISPR Pulse Generator	9 kHz to 1 GHz	5.3 % of reading	
Spectrum Flatness[3, 7] –			
CISPR Pulse Generator	9 kHz to 1 GHz	0.35 dB	Power meter, power sensor, signal generator, EMI test receiver

Parameter/Range	Frequency	CMC[2, 9] (±)	Comments
Reflection S_{11}/S_{22}, Magnitude and Phase (VSWR) – Measure[3]			
(0 to 0.4) lin	9 kHz to 10 MHz	(0.004 to 0.008) lin	Network analyzer with calibration kit
(0.4 to 0.6) lin		(0.008 to 0.01) lin	
(0.6 to 0.8) lin		(0.01 to 0.014) lin	
(0.8 to 1) lin		(0.014 to 0.017) lin	
(0 to 0.2) lin		(1.6 to 180) deg	
(0.2 to 0.4) lin		(1.1 to 1.6) deg	
(0.4 to 1) lin		(1.0 to 1.1) deg	
(0 to 0.4) lin	10 MHz to 2 GHz	(0.005 to 0.011) lin	
(0.4 to 0.6) lin		(0.011 to 0.015) lin	
(0.6 to 0.8) lin		(0.015 to 0.02) lin	
(0.8 to 1) lin		(0.02 to 0.027) lin	
(0 to 0.2) lin		(2.1 to 180) deg	
(0.2 to 1) lin		(1.4 to 2.1) deg	
(0 to 0.2) lin	(2 to 8) GHz	(0.0086 to 0.011) lin	
(0.2 to 0.4) lin		(0.011 to 0.014) lin	
(0.4 to 0.6) lin		(0.014 to 0.018) lin	
(0.6 to 0.8) lin		(0.018 to 0.023) lin	
(0.8 to 1) lin		(0.023 to 0.029) lin	
(0 to 0.2) lin		(3.0 to 180) deg	
(0.2 to 1) lin		(1.7 to 3.0) deg	
(0 to 0.2) lin	(8 to 18) GHz	(0.0091 to 0.012) lin	
(0.2 to 0.4) lin		(0.012 to 0.016) lin	
(0.4 to 0.6) lin		(0.016 to 0.023) lin	
(0.6 to 0.8) lin		(0.023 to 0.031) lin	
(0.8 to 1) lin		(0.031 to 0.04) lin	
(0 to 0.2) lin		(3.4 to 180) deg	
(0.2 to 1) lin		(2.3 to 3.4) deg	

Parameter/Range	Frequency	CMC[2, 9] (±)	Comments
Reflection S_{11}/S_{22}, Magnitude and Phase (VSWR)– Measure[3] (cont)			
(0 to 0.2) lin (0.2 to 0.4) lin (0.4 to 0.6) lin (0.6 to 0.8) lin (0.8 to 1) lin	(18 to 26.5) GHz	(0.0074 to 0.011) lin (0.011 to 0.015) lin (0.015 to 0.022) lin (0.022 to 0.031) lin (0.031 to 0.042) lin	Network analyzer with calibration kit
(0 to 0.2) lin (0.2 to 1) lin		(2.9 to 180) deg (2.1 to 2.9) deg	
(0 to 0.2) lin (0.2 to 0.4) lin (0.4 to 0.6) lin (0.6 to 0.8) lin (0.8 to 1) lin	(26.5 to 40) GHz	(0.0014 to 0.017) lin (0.017 to 0.021) lin (0.021 to 0.027) lin (0.027 to 0.034) lin (0.034 to 0.043) lin	
(0 to 0.2) lin (0.2 to 1) lin		(4.7 to 180) deg (2.5 to 4.7) deg	
Transmission S_{12}/S_{21}, Magnitude and Phase – Measure[3]			
(0 to -10) dB	9 kHz to 10 MHz	(0.045 to 0.056) dB (0.3 to 0.37) deg	Network analyzer with calibration kit non-reflecting device
(-10 to -20) dB		(0.056 to 0.068) dB (0.37 to 0.45) deg	
(-20 to -30) dB		(0.068 to 0.098) dB (0.45 to 0.65) deg	
(-30 to -40) dB		(0.098 to 0.18) dB (0.65 to 1.1) deg	
(-40 to -50) dB		(0.18 to 0.42) dB (1.1 to 2.8) deg	
(-50 to -60) dB		(0.42 to 1.2) dB (2.8 to 8.4) deg	

Parameter/Range	Frequency	CMC[2, 9] (±)	Comments
Transmission S_{12}/S_{21}, Magnitude and Phase – Measure[3] (cont)			
(0 to -10) dB	10 MHz to 2 GHz	(0.055 to 0.065) dB (0.37 to 0.43) deg	Network analyzer with calibration kit non-reflecting device
(-10 to -20) dB		(0.065 to 0.076) dB (0.43 to 0.5) deg	
(-20 to -30) dB		(0.076 to 0.097) dB (0.5 to 0.65) deg	
(-30 to -40) dB		(0.097 to 0.13) dB (0.65 to 0.81) deg	
(-40 to -50) dB		(0.13 to 0.16) dB (0.81 to 1.1) deg	
(-50 to -60) dB		(0.16 to 0.24) dB (1.1 to 1.6) deg	
(0 to -10) dB	(2 to 8) GHz	(0.074 to 0.087) dB (0.49 to 0.57) deg	
(-10 to -20) dB		(0.087 to 0.099) dB (0.57 to 0.65) deg	
(-20 to -30) dB		(0.099 to 0.12) dB (0.65 to 0.73) deg	
(-30 to -40) dB		(0.12 to 0.14) dB (0.73 to 0.88) deg	
(-40 to -50) dB		(0.14 to 0.17) dB (0.88 to 1.2) deg	
(-50 to -60) dB		(0.17 to 0.24) dB (1.2 to 1.6) deg	

Parameter/Range	Frequency	CMC[2, 9] (±)	Comments
Transmission S_{12}/S_{21}, Magnitude and Phase – Measure[3] (cont)			
(0 to -10) dB	(8 to 18) GHz	(0.12 to 0.14) dB (0.79 to 0.87) deg	Network analyzer with calibration kit non-reflecting device
(-10 to -20) dB		(0.14 to 0.15) dB (0.87 to 0.95) deg	
(-20 to -30) dB		(0.15 to 0.16) dB (0.95 to 1.1) deg	
(-30 to -40) dB		(0.16 to 0.18) dB (1.1 to 1.2) deg	
(-40 to -50) dB		(0.18 to 0.22) dB (1.2 to 1.5) deg	
(-50 to -60) dB		(0.22 to 0.28) dB (1.5 to 1.9) deg	
(0 to -10) dB	(18 to 26.5) GHz	(0.15 to 0.16) dB (0.95 to 1.1) deg	
(-10 to -20) dB		(0.16 to 0.18) dB (1.1 to 1.2) deg	
(-20 to -30) dB		(0.18 to 0.19) dB (1.2 to 1.3) deg	
(-30 to -40) dB		(0.19 to 0.21) dB (1.3 to 1.4) deg	
(-40 to -50) dB		(0.21 to 0.25) dB (1.4 to 1.7) deg	
(-50 to -60) dB		(0.25 to 0.35) dB (1.7 to 2.4) deg	

Parameter/Range	Frequency	CMC[2, 9] (±)	Comments
Transmission S_{12}/S_{21}, Magnitude and Phase – Measure[3] (cont)			
(0 to -10) dB	(26.5 to 40) GHz	(0.15 to 0.17) dB (0.96 to 1.1) deg	Network analyzer with calibration kit non-reflecting device
(-10 to -20) dB		(0.17 to 0.18) dB (1.1 to 1.2) deg	
(-20 to -30) dB		(0.18 to 0.19) dB (1.2 to 1.3) deg	
(-30 to -40) dB		(0.19 to 0.22) dB (1.3 to 1.5) deg	
(-40 to -50) dB		(0.22 to 0.26) dB (1.5 to 1.8) deg	
(-50 to -60) dB		(0.26 to 0.36) dB (1.8 to 2.4) deg	

IV. Mechanical

Parameter/Range[5]	Frequency	CMC[2] (±)	Comments[6]
Accelerometers[3] –			
(0 to 100) m/s^2	(5 to 9) Hz (10 to 99) Hz 100 Hz (101 to 920) Hz (0.921 to 5) kHz (5 to 10) kHz (10 to 15) kHz (15 to 20) kHz	1.8 % of reading 1.3 % of reading 1.2 % of reading 1.3 % of reading 1.4 % of reading 2.2 % of reading 2.6 % of reading 4.2 % of reading	Reference PCB accelerometer and shaker

Parameter/Equipment[5]	Range	CMC[2] (±)	Comments[6]
Shock Accelerometer Calibration[3]	(20 to 2000) g (2000 to 10 000) g	2.4 % of reading 2.4 % of reading	Data acquisition card shock reference shock exciter

V. Time and Frequency

Parameter/Equipment[5]	Frequency	CMC[2] (±)	Comments[6]
Frequency – Measure[3]	0.1 Hz to 9 kHz 9 kHz to 10 MHz (10 to 100) MHz 100 MHz to 18 GHz (18 to 40) GHz	0.1 mHz 10 mHz 100 mHz 1×10^{-9} Hz/Hz 1×10^{-9} Hz/Hz	Frequency counter, frequency standard After 72 hr warm-up period for frequency standard

[1] This laboratory offers commercial calibration service and field calibration service.

[2] Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] Field calibration service is available for this calibration and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

[4] The measurands stated are generated with the Fluke 5520A series of instruments. This capability is suitable for the calibration of the devices intended to measure the stated measurand in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a fraction of the reading plus a fixed floor specification.

[5] Some of the types of instruments calibrated under these parameters are EMI Receivers, EFT/Burst Generators, ESD Guns and Targets, Surge Generators, Generators for Voltage Dips, Short Interrupts and Variations, Ring Wave Generators, Network Analyzers, Click Analyzers, Pulse Generators, Power Meters, Power Sensors, Signal Generators, Spectrum Analyzers, Attenuators, Terminations, Power Analyzer, Reference Impedance Network (RIN), CVCF power supply and Audio Analyzer.

[6] For standards or methods listed below without a revision date, laboratories are expected to be competent in the use of the current version within one year of the date of publication of the standard test method or upon the date specified by the standard test method originator when the originator has implementation authority. When a superseded standard or method is required for an accredited test, the scope will include the superseded date/version.

[7] Instruments are calibrated against standard's specifications. These calibrations may also, at customer request, be based on conformance to the calibration requirements of various standards such as ANSI C63.2, CISPR 16-1-1, CISPR 16-1-2, CISPR 25. Other standards may apply and the customer should contact the lab for further information.

[8] CMCs do not include mismatch error due to connections of the device to other devices in actual use. Mismatch CMCs, due to the reflection coefficient of the device to be calibrated, are to be included in the overall measurement uncertainty. The approach of determining expanded CMCs at approximately the 95% level of confidence, (using a coverage factor of k=2) is to be applied for this calculation as well.

[9] CMC for intermediate values of the measurand can be found by interpolation.

Accredited Laboratory

A2LA has accredited

TOYO CORPORATION CALIBRATION LABORATORY

Tokyo 103-8284, JAPAN

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSLI Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 5TH day of September 2017.

Vice President, Accreditation Council
For the Accreditation Council
Certificate Number 4057.01
Valid to July 31, 2019
Revised May 17, 2019

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.