



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Copper Mountain Technologies

631 East New York Street
Indianapolis, IN 46202
(and the satellite location listed on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017

and national standard

ANSI/NCSL Z540-1-1994 (R2002)

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 01 July 2028

Certificate Number: AC-2060



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
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 April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

AND

ANSI/NCSL Z540-1-1994 (R2002)

Copper Mountain Technologies

631 East New York Street

Indianapolis, IN 46202

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CALIBRATION

ISO/IEC 17025 Accreditation Granted: **01 July 2026**

Certificate Number: **AC-2060**

Certificate Expiry Date: **01 July 2028**

Electrical - RF/Microwave

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
RF Absolute Power – Measure ^{2,3}	0 dBm DC to 33 GHz (33 to 54) GHz (-20 to +20) dBm DC to 33 GHz (33 to 54) GHz	0.1 dB + M 0.25 dB + M 0.15 dB + M 0.3 dB + M	Comparison to Power Sensor

Electrical – RF/Microwave

Parameter/ Equipment	Reflection Magnitude ¹			
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit			
Range	Expanded Uncertainty of Measurement (+/-)			
Frequency	Measured VRC Magnitude (Linear)			
	0 to ≤ 0.4	> 0.4 to ≤ 0.6	> 0.6 to ≤ 0.8	> 0.8 to ≤ 1
(DC to 10) GHz ³	0.004	0.005	0.006	0.008

This Scope of Accreditation, version 013, was last updated on: 01 July 2026 and is valid only when accompanied by the Certificate.

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Electrical – RF/Microwave

Parameter/ Equipment	Reflection Magnitude ¹			
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit			
Range	Expanded Uncertainty of Measurement (+/-)			
Frequency	Measured VRC Magnitude (Linear)			
	0 to ≤ 0.4	> 0.4 to ≤ 0.6	> 0.6 to ≤ 0.8	> 0.8 to ≤ 1
(10 to 33) GHz ³	0.006	0.007	0.009	0.012
(33 to 50) GHz	0.009	0.011	0.014	0.019
(50 to 54) GHz	0.016	0.018	0.022	0.027

Electrical – RF/Microwave

Parameter/ Equipment	Reflection Phase				
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit				
Range	Expanded Uncertainty of Measurement (+/-)				
Frequency	Measured VRC Magnitude (Degrees)				
	(0.01 to 0.02)	(0.02 to 0.05)	(0.05 to 0.1)	(0.1 to 0.2)	(0.2 to 1)
(DC to 10) GHz ³	10 °	4 °	2 °	1 °	0.5 °
(10 to 33) GHz ³	15 °	6 °	3 °	2 °	1 °
(33 to 50) GHz	26 °	10 °	5 °	2.5 °	1.5 °
(50 to 54) GHz	–	19 °	10 °	5 °	2 °

Electrical – RF/Microwave

Parameter/ Equipment	Transmission Magnitude						
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit						
Range	Expanded Uncertainty of Measurement (+/-)						
Frequency	Measured VRC Magnitude (dB)						
	0	10	20	30	40	50	60
(DC to 20) GHz ³	0.05 dB	0.05 dB	0.05 dB	0.05 dB	0.05 dB	0.05 dB	0.05 dB
(20 to 44) GHz ³	0.1 dB	0.1 dB	0.1 dB	0.1 dB	0.1 dB	0.1 dB	0.1 dB
(44 to 50) GHz	0.11 dB	0.11 dB	0.11 dB	0.11 dB	0.11 dB	0.11 dB	0.15 dB
(50 to 54) GHz	0.15 dB	0.15 dB	0.15 dB	0.15 dB	0.15 dB	0.15 dB	0.17 dB

Electrical – RF/Microwave

Parameter/ Equipment	Transmission Phase						
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit						
Range	Expanded Uncertainty of Measurement (+/-)						
Frequency	Measured VRC Magnitude (Degrees)						
	0	10	20	30	40	50	60
(DC to 20) GHz ³	0.5 °	0.5 °	0.5 °	0.5 °	0.5 °	0.5 °	0.5 °
(20 to 44) GHz ³	1 °	1 °	1 °	1 °	1 °	1 °	1 °
(44 to 50) GHz	1.1 °	1.1 °	1.1 °	1.1 °	1.1 °	1.1 °	1.5 °
(50 to 54) GHz	1.5 °	1.5 °	1.5 °	1.5 °	1.5 °	1.5 °	1.7 °

Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Frequency – Source	10 MHz	130 nHz/Hz	Comparison to Frequency Counter

Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Frequency – Measure ³	1 Hz to 60 GHz	100 nHz/Hz	Comparison to Frequency Counter with Spectrum Analyzer and Harmonic Mixer

Services performed at satellite location:

Copper Mountain Technologies EMEA

Leoforos Mesogi 16
Mesogi 8280 Cyprus

Electrical - RF/Microwave

Parameter/ Equipment	Reflection Magnitude ¹			
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit			
Range	Expanded Uncertainty of Measurement (+/-)			
Frequency	Measured VRC Magnitude (Linear)			
	0 to ≤ 0.4	> 0.4 to ≤ 0.6	> 0.6 to ≤ 0.8	> 0.8 to ≤ 1
(DC to 18) GHz	0.005	0.006	0.007	0.009
(18 to 22) GHz	0.006	0.007	0.009	0.012

Electrical - RF/Microwave

Parameter/ Equipment	Reflection Phase				
Reference Standard, Method, and/or Equipment	Vector Network Analyzers: C1220 Calibration Kits: 03CK010-150, 05CK010-150				
Range	Expanded Uncertainty of Measurement (+/-)				
Frequency	Measured VRC Magnitude (Degrees)				
	(0.01 to 0.02)	(0.02 to 0.05)	(0.05 to 0.1)	(0.1 to 0.2)	(0.2 to 1)
(DC to 18) GHz	13 °	5.5 °	3 °	1.5 °	0.8 °
(18 to 22) GHz	16 °	6.5 °	3.5 °	2 °	1 °

Electrical - RF/Microwave

Parameter/ Equipment	Transmission Magnitude						
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit						
Range	Expanded Uncertainty of Measurement (+/-)						
Frequency	Measured VRC Magnitude (dB)						
	0	10	20	30	40	50	60
(DC to 22) GHz	0.05 dB	0.05 dB	0.05 dB	0.05 dB	0.05 dB	0.05 dB	0.05 dB

Electrical - RF/Microwave

Parameter/ Equipment	Transmission Phase						
Reference Standard, Method, and/or Equipment	Comparison to Network Analyzer, Calibration Kit and Verification Kit						
Range	Expanded Uncertainty of Measurement (+/-)						
Frequency	Measured VRC Magnitude (dB)						
	0	10	20	30	40	50	60
(DC to 22) GHz	0.5 °	0.5 °	0.5 °	0.5 °	0.5 °	0.5 °	0.5 °

Electrical - RF/Microwave

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
RF Absolute Power – Measure ²	0 dBm DC to 33 GHz	0.1 dB + M	Comparison to Power Sensor
	(-20 to +20) dBm DC to 33 GHz	0.15 dB + M	

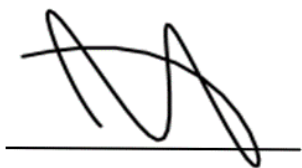
Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Frequency – Source	10 MHz	100 nHz/Hz	Comparison to Frequency Counter
Frequency – Measure	1 Hz to 26.5 GHz	100 nHz/Hz	Comparison to Frequency Counter with Spectrum Analyzer

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%.

Notes:

1. Unitless linear measure.
2. M – Match between Standard and UUT.
3. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.



Jason Stine, Vice President