



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board
11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Copper Mountain Technologies
631 East New York Street
Indianapolis IN 46202

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17025:2017

and national standard

ANSI/NCSL Z540-1-1994 (R2002)

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

AC-2060
Certificate Number


ANAB Approval

Certificate Valid Through: 07/01/2020
Version No. 004 Issued: 05/22/2019



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).



ANSI National Accreditation Board

**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
Subbaiah Pemmaiah 317-222-5400
subbaiah.p@coppermountaintech.com

CALIBRATION

Valid to: **July 1, 2020**

Certificate Number: **AC-2060**

Electrical - RF/Microwave

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Reflection Magnitude ¹ DC to 10 GHz (10 to 20) GHz	(0 to 0.4) lin (0.4 to 0.6) lin (0.6 to 0.8) lin (0.8 to 1) lin (0.0 to 0.4) lin (0.4 to 0.6) lin (0.6 to 0.8) lin (0.8 to 1) lin	0.004 0.005 0.006 0.008 0.006 0.007 0.009 0.012	C1220ET Vector Network Analyzer, 05CK010-150 and 03CK010-150 Calibration Kits
Reflection Phase DC to 10 GHz (0.01 to 0.02) lin (0.02 to 0.05) lin (0.05 to 0.10) lin (0.10 to 0.20) lin (0.20 to 1.00) lin (10 to 20) GHz (0.01 to 0.02) lin (0.02 to 0.05) lin (0.05 to 0.10) lin (0.10 to 0.20) lin (0.20 to 1.00) lin	(-180 to +180) °	10 ° 4 ° 2 ° 1 ° 0.5 ° 15 ° 6 ° 3 ° 2 ° 1 °	C1220ET Vector Network Analyzer, 05CK010-150 and 03CK010-150 Calibration Kits



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Electrical - RF/Microwave

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Transmission Magnitude DC to 18 GHz (18 to 20) GHz	(-60 to 0) dB	0.05 dB	C1220ET Vector Network Analyzer, 05CK010-150 and 03CK010-150 Calibration Kits
Transmission Phase (-60 to 0) dB DC to 18 GHz (18 to 20) GHz		0.05 dB	
	(-180 to +180) °	0.5 °	NRP-Z52 Thermal Power Sensor
		0.5 °	
RF Absolute Power – Measure		0 dBm DC to 8 GHz (8 to 33) GHz (-20 to +20) dBm DC to 33 GHz	

Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Frequency - Source	10 MHz	100 nHz/Hz	53181A, opt. 010 Counter
Frequency - Measure	1 Hz to 26.5 GHz	100 nHz/Hz	53181A, opt. 010 Counter; E4407B 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. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2060.


 Vice President