



# CERTIFICATE OF ACCREDITATION

**The ANSI National Accreditation Board**

Hereby attests that

**Rhein Tech Laboratories, Inc.  
360 Herndon Parkway, Suite 1400  
Herndon, VA 20170**

Fulfills the requirements of

**ISO/IEC 17025:2017**

and

**US Federal Communication Commission (FCC) EMC and  
Telecommunications (EC&T) Testing Designation Program**

and

**Recognition of Telecommunications Testing - Innovation, Science, and  
Economic Development (ISED) Canada**

while demonstrating technical competence in the field of

**TESTING**

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](http://www.anab.org).

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 30 June 2023

Certificate Number: AT-1445



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

### U.S. Federal Communication Commission (FCC) EMC and Telecommunications (EC&T) Testing Designation Program <sup>4</sup>

### Recognition of Telecommunications Testing - Innovation, Science, and Economic Development (ISED) Canada <sup>5</sup>

#### Rhein Tech Laboratories, Inc.

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Herndon, VA 20170

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### TESTING

Valid to: **June 30, 2023**

Certificate Number: **AT-1445**

#### Testing performed in support of FCC approval procedures for certification <sup>4</sup>

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments/Maximum Frequency Tested
Unintentional Radiators (FCC Part 15, Subpart B)	ANSI C63.4-2014	-	40 000 MHz
Industrial, Scientific, and Medical Equipment (FCC Part 18) Consumer ISM equipment	FCC MP-5, (February 1986)	-	220 000 MHz
Intentional Radiators (FCC Part 15, Subpart C)	ANSI C63.10-2013	-	220 000 MHz
U-NII without DFS Intentional Radiators (FCC Part 15, Subpart E) Unlicensed National Information Infrastructure Devices (U-NII without DFS)	ANSI C63.10-2013	KDB Publication 789033	40 000 MHz
UWB Intentional Radiators (FCC Part 15, Subpart F) Ultra-wideband Operation	ANSI C63.10-2013	-	200 000 MHz
BPL Intentional Radiators (FCC Part 15, Subpart G) Access Broadband Over Power Line (Access BPL)	ANSI C63.10-2013	-	40 000 MHz



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**Testing performed in support of FCC approval procedures for certification <sup>4</sup>**

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments/Maximum Frequency Tested
White Space Device Intentional Radiators (FCC Part 15, Subpart H) White Space Devices	ANSI C63.10-2013	-	40 000 MHz
Commercial Mobile Services (FCC Licensed Radio Service Equipment) Part 22 (cellular) Part 24 Part 25 (below 3 GHz) Part 27	ANSI/TIA-603-E or TIA-102.CAAA-E-2016 or ANSI C63.26-2015	KDB Publication 971168	220 000 MHz
General Mobile Radio Services (FCC Licensed Radio Service Equipment) [1] Part 22 (non-cellular) Part 90 (below 3 GHz) Part 95 (below 3 GHz) Part 97 (below 3 GHz) Part 101 (below 3 GHz)	ANSI/TIA-603-E or TIA-102.CAAA-E-2016 or ANSI C63.26-2015	-	220 000 MHz
Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment) Part 96	ANSI/TIA-603-E or TIA-102.CAAA-E-2016 or ANSI C63.26-2015	KDB Publication 971168 KDB Publication 940660	220 000 MHz
Maritime and Aviation Radio Services (FCC Licensed Radio Service Equipment) Part 80 Part 87	ANSI/TIA-603-E or ANSI C63-26-2015	-	220 000 MHz
Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment) Part 25 Part 30 Part 74 Part 90 (above 3 GHz) Part 95 (above 3 GHz) Part 97 (above 3 GHz) Part 101	ANSI/TIA-603-E or TIA-102.CAAA-E-2016 or ANSI C63.26-2015	KDB Publication 653005	220 000 MHz
Broadcast Radio Services (FCC Licensed Radio Service Equipment) Part 73 Part 74 (below 3 GHz)	ANSI/TIA-603-E or TIA-102.CAAA-E-2016 or ANSI C63.26-2015	-	220 000 MHz

**Testing performed in support of FCC approval procedures for certification <sup>4</sup>**

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments/Maximum Frequency Tested
Signal Boosters (Part 20) Wideband Consumer signal boosters Provider-specific signal boosters Industrial signal boosters Signal Boosters (Section 90.219)	ANSI C63.26-2015	KDB Publication 935210 D03, D04, and D05 [1]	220 000 MHz

**Testing to Meet the Requirements for Recognition of Telecommunications Testing – Innovation, Science, and Economic Development (ISED) Canada <sup>5</sup>**

Test Method (Standard)	Issue, Date, Amendment	Test Specification(s)	Comments
RSS-GEN	Issue 5, April 2018 Amendment 1, March 2019 Amendment 2, February 2021	General Requirements for Compliance of Radio Apparatus	-
RSS-102	Issue #5 Amendment 1, February -2021	Radio Frequency (RF) Exposure compliance of Radiocommunications Apparatus (All Frequency Bands)	RF Exposure (RF Exp) - Measurement
RSS-111	Issue #5, September 2014	Broadband Public Safety Equipment Operating in the Band (4 940 to 4 990) MHz	-
RSS-112	Issue #1, February 2008	Land Mobile and Fixed Equipment Operating in the Band (1 670 to 1675) MHz	-
RSS-117	Issue #3, January 2016, Amendment June 2021	Land and Coast Station Transmitters Operating in the Band (200 to 535) kHz	-
RSS-119	Issue #12, May 2015	Land Mobile and Fixed Equipment Operating in the Frequency Range (27.41 to 960) MHz	-
RSS-123	Issue #4, August 2019	Licensed Wireless Microphones	-
RSS-125	Issue #3, June 2020	Land Mobile and Fixed Equipment Operating in the Frequency Range (1.705 to 30) MHz	-
RSS-127	Issue #1, August 2009	Air-Ground Equipment Operating in the Bands (849 to 851) MHz and (894 to 896) MHz	-
RSS-130	Issue #2, February 2019	Equipment Operating in the Frequency Bands (617 to 652) MHz, (663 to 698) MHz, (698 to 756) MHz, and (777 to 787) MHz	-
RSS-131	Issue #3 January 2017 Updated May 2017	Zone Enhancers	-
RSS-132	Issue #3, January 2013	Cellular Telephone Systems Operating in the Bands (824 to 849) MHz and (869 to 894) MHz	-



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Test Method (Standard)	Issue, Date, Amendment	Test Specification(s)	Comments
RSS-133	Issue #6 January 2018, Amendment January 2018	2 GHz Personal Communications	-
RSS-134	Issue #2, February 2016	900 MHz Narrowband Personal Communication Service	-
RSS-135	Issue #2, June 2009	Digital Scanner Receivers	-
RSS-137	Issue #2, February 2009	Location and Monitoring Service in the Band (902 to 928) MHz	-
RSS-139	Issue #3, July 2015	Advanced Wireless Services (AWS) Equipment Operating in the Bands (1 710 to 1 780) MHz and (2 110 to 2 180) MHz	-
RSS-140	Issue #1 April 2018	Equipment Operating in the Public Safety Broadband Frequency Bands (758 to 768) MHz and (788 to 798) MHz	-
RSS-141	Issue #2, June 2010	Aeronautical Radiocommunication Equipment in the Frequency Band (117.975 to 137) MHz	-
RSS-142	Issue #5, April 2013	Narrowband Multipoint Communication Systems in the Bands (1 429.5 to 1 432) MHz	-
RSS-170	Issue #3, July 2015, Amendment November 2020	Mobile Earth Stations (MESs) and Ancillary Terrestrial Component (ATC) Equipment Operating in the Mobile-Satellite Service Bands (2 483.5 to 2 500) MHz	-
RSS-181	Issue #2 August 2019, Amendment February 2020	Coast and Ship Station Equipment Operating in the Maritime Service in the Frequency Range (1 605 to 28 000) kHz	-
RSS-182	Issue #6, June 2021	Maritime Radio Transmitters and Receivers in the Band (156 to 162.5) MHz	-
RSS-191	Issue #3, April 2008, Note January 2020	Local Multipoint Communication Systems in the Band (25.35 to 28.35) GHz; Point-to-Point and Point-to-Multipoint Broadband Communication Systems in the Bands (24.25 to 24.45) GHz and (25.05 to 25.25) GHz; and Point-to-Multipoint Broadband Communications in the Band (38.6 to 40) GHz	-
RSS-192	Issue #4, May 2020	Flexible Use Broadband Equipment Operating in the Band (3 450 to 3 650) MHz	-
RSS-194	Issue #1, October 2007	Fixed Wireless Access Equipment Operating in the Band (953 to 960) MHz	-





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Test Method (Standard)	Issue, Date, Amendment	Test Specification(s)	Comments
RSS-195	Issue #2, April 2014	Wireless Communication Service (WCS) Equipment Operating in the Bands (2 305 to 2 320) MHz and (2 345 to 2 360) MHz	-
RSS-196	Issue #2 February 2019	Point-to-Multipoint Broadband Equipment Operating in the Bands (512 to 608) MHz and (614 to 698) MHz for Rural Remote Broadband Systems (RRBS) (TV Channels 21 to 51)	-
RSS-197	Issue #1 February 2010	Wireless Broadband Access Equipment Operating in the Band (3 650 to 3 700) MHz	-
RSS-199	Issue #3 December 2016	Broadband Radio Service (BRS) Equipment Operating in the Band (2 500 to 2 690) MHz	-
RSS-210	Issue #10 December 2019, Amendment April 2020	License-Exempt Radio Apparatus: Category I Equipment	-
RSS-211	Issue #1, March 2015	Level Probing Radar Equipment	-
RSS-213	Issue #3, March 2015	2 GHz License-exempt Personal Communications Service Devices (LE-PCS)	-
RSS-215	Issue #2, June 2009	Analogue Scanner Receivers	-
RSS-216	Issue #2, Amendment September 2020	Wireless Power Transfer Devices	-
RSS-220	Issue #1 March 2009, Amendment 1, July 2018	Devices Using Ultra-Wideband (UWB) Technology	-
RSS-222	Issue #3 October 2021	White Space Devices (WSDs)	-
RSS-236	Issue #1, September 2012	General Radio Service Equipment Operating in the Band (26.960 to 27.410) MHz (Citizens Band)	-
RSS-238	Issue #1, July 2013	Shipborne Radar in the (2 900 to 3 100) MHz and (9 225 to 9 500) MHz Bands	-
RSS-243	Issue #3, February 2010	Medical Devices Operating in the (401 to 406) MHz Frequency Band	-
RSS-247	Issue #2 February 2017, Note Mar 2017	Digital Transmission Systems (DTS), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Networks (LE-LAN) Devices	Without DFS
RSS-248	Issue #1 Nov 2021	Radio Local Area Network (RLAN) Devices Operating in the (5 925 to 7 125) MHz Band	Per ISED notice 2021-DRS0011

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Test Method (Standard)	Issue, Date, Amendment	Test Specification(s)	Comments
RSS-251	Issue 2, July 2018	Vehicular Radar and Airport Fixed or Mobile Radar in the (76 to 81) GHz Frequency Band	-
RSS-252	Issue #1 September 2017	Intelligent Transportation Systems – Dedicated Short Range Communications (DSRC) – On Board Unit (OBU)	-
RSS-287	Issue #2, March 2014, Amendment June 2021	Emergency Position Indicating Radio Beacons (EPIRB), Emergency Locator Transmitters (ELT), Personal Locator Beacons (PLB), and Maritime Survivor Locator Beacons (MSLD)	-
RSS-310	Issue #5, January 2020	License-Exempt Radio Apparatus: Category II Equipment	-

**Electromagnetic Compatibility**

Field of Test	Specific Tests or Properties Measured	Specification, Standard Method, or Technique Used
Emissions Standards	Radiated and Conducted	CISPR 22: 2008 ED 6.0, EN 55022: 2006, A1:2007 and AS/NZS CISPR 22:2009+A1(2010); CAN/CSA-CEI/IEC CISPR 22; CNS 13438-2006 (up to 6 GHz); CISPR 11, EN 55011, AS/NZS CISPR 11:2011; CNS 13803 CISPR 32 Ed 2.0 2015+AMD1:2019 EN 55032:2015+A1:2020
Emissions Standards	Harmonics	IEC 61000-3-2, EN 61000-3-2, AS/NZS 61000.3.2
	Flicker	IEC 61000-3-3, EN 61000-3-3, AS/NZS 61000.3.3
	Generic / Product Specific	IEC 61000-6-3, EN 61000-6-3, AS/NZS 61000.6.3:2012; IEC 61000-6-4, EN 61000-6-4, AS/NZS 61000.6.4:2012
	ESD	IEC 61000-4-2, EN 61000-4-2, MIL-STD-704; DO-160D/E/F: Section 25 MIL-STD-461G: Method CS118
	RF	IEC 61000-4-3, EN 61000-4-3
Immunity Standards	EFT	IEC 61000-4-4, EN 61000-4-4
	Surge	IEC 61000-4-5, EN 61000-4-5
	Conducted	IEC 61000-4-6, EN 61000-4-6

**Electromagnetic Compatibility**

Field of Test	Specific Tests or Properties Measured	Specification, Standard Method, or Technique Used
	Low Frequency Magnetic	IEC 61000-4-8, EN 61000-4-8
	Power Drop	IEC 61000-4-11, EN 61000-4-11
Immunity Standards	Generic / Product Specific	CISPR 24, EN 55024 and AS/NZS CISPR 24; EN 61000-6-1; EN 61000-6-2; AS/NZS 4254.1
Emissions and Immunity Standards	Combined Generic / Product Specific	IEC 60601-1-2; EN 60601-1-2; IEC 61326; EN 61326
RF Exposure	MPE	IEEE STD C95.1; IEEE STD C95.3; OET Bulletin 65; EN 50371; RSS-102

**Radio**

Field of Test	Specific Tests or Properties Measured	Specification, Standard Method, or Technique Used
Radio Testing	Europe	ETSI EN 300 086-2, 300 113-2, 300 219-2, 300 220-1, 300 220-2, 300 328, 300 330-2, 300 390-2, 300 440-2, 301 893, 301 489-1, 301 489-3, 301 489-4, 301 489-5, 301 489-7, 301 489-8, 301 489-15, 301 489-17
Radio Testing	Japan (Items as listed in the US/Japan MRA)	<p>Citizen radio (Item 3 of Article 2 Paragraph 1 of Certification Ordinance)</p> <p>Cordless telephone (Item 7 of Article 2 Paragraph 1 of Certification Ordinance)</p> <p>(From Item 8 of Article 2 Paragraph 1 of Certification Ordinance) --</p> <p>Radio equipment in the 2.4 GHz band for use in identification of moving objects</p> <p>Detection sensor of moving objects (10.525 GHz and 24.15 GHz band)</p> <p>Radio equipment for millimeter wave visual transmission or data transmission in the (59 to 66) GHz band</p> <p>Millimeter wave radar (60.5 GHz and 76.5 GHz)</p> <p>Radio microphones in the (70 to 300) and 800 MHz band</p> <p>75 MHz Voice assist radiotelephone</p> <p>315 MHz Telemeter, telecontrol or data transmission</p> <p>400 MHz Radiotelephone</p> <p>400 MHz band Data transmission radio equipment</p> <p>(420 to 450) MHz Medical telemeter Type D and F, plus Type A, B, &amp; C</p> <p>429 MHz Radio pager</p> <p>950 MHz Band identification of moving objects</p> <p>1 200 MHz band Data transmission radio equipment</p> <p>75 MHz Radio microphone for hearing aid</p> <p>433 MHz Data transmission used for international transportation</p> <p>(402 to 405) MHz Data transmission for self-contained medical instruments</p>



**Radio**


Field of Test	Specific Tests or Properties Measured	Specification, Standard Method, or Technique Used
		426 MHz Low-power security radio (Item 13 of Article 2 Paragraph 1 of Certification Ordinance) 2.4 GHz band wide-band low-power data communication system (Item 19 of Article 2 Paragraph 1) (From Item 19-2 of Article 2 Paragraph 1) -- 2.4 GHz band low-power data communication system Low power data communications system in the 2.4GHz band (for radio control model aircraft, [2471 to 2497] MHz) 2.4 GHz band low-power data communication system (From Item 19-3 of Article 2 Paragraph 1) -- 5 GHz band low-power data communication system (1) (5.2 GHz band, plus [5.3 and 5.6] GHz bands) Quasi-millimeter band low-power data communication system (Item 19-4 of Article 2 Paragraph 1 of Certification Ordinance) Land mobile station for 5 GHz band wireless access system (3) (Item 19-11 of Article 2 paragraph 1 of Certification Ordinance)
Radio Testing	Japan (Items as listed in the US/Japan MRA)	1 900 MHz Digital cordless telephone (Item 21 of Article 2 Paragraph 1 of Certification Ordinance) PHS land mobile station (Item 22 of Article 2 Paragraph 1 of Certification Ordinance) Mobile station for dedicated short-range communications system (Item 32 of Article 2 paragraph 1 of Certification Ordinance) Station for testing radio equipment for dedicated short-range communications system (Item 33-2 of Article 2 Paragraph 1 of Certification Ordinance) Ultra Wideband Wireless System (Item 47 of Article 2 Paragraph 1)
Military/Aviation	Conducted Emissions	MIL-STD-461G: Methods CE101, CE102, CE106; MIL-STD -461F: Methods CE101, CE102, CE106; MIL-STD -461E: Methods CE101, CE102, CE106; MIL-STD -461D/462D: Methods CE101, CE102, CE106; MIL-STD -461C/462: Methods CE01, CE03; DO-160D/E/F/G: Section 21
	Radiated Emissions	MIL-STD-461G: Methods RE101, RE102; MIL-STD -461F: Methods RE101, RE102; MIL-STD -461E: Methods RE101, RE102; MIL-STD -461D/462D: Methods RE101, RE102; MIL-STD -461C/462: Methods RE01, RE02; DO-160D/E/F/G: Section 21

**Radio**

Field of Test	Specific Tests or Properties Measured	Specification, Standard Method, or Technique Used
	Conducted Susceptibility	MIL-STD-461G: Methods CS101, CS114, CS115, CS116; MIL-STD -461F: Methods CS101, CS106, CS114, CS115, CS116; MIL-STD -461E: Methods CS101, CS114, CS115, CS116; MIL-STD -461D/462D: Methods CS101, CS114, CS115, CS116; MIL-STD-704 LDC103, LDC 104; DO-160D/E/F/G: Section 18, 19, 20
	Radiated Susceptibility	MIL-STD-461G: Methods RS101, RS103; MIL-STD -461F: Methods RS101, RS103; MIL-STD -461E: Methods RS101, RS103; MIL-STD -461D/462D: Methods RS101, RS103; MIL-STD -461C/462: Methods RS01, RS02, RS03; DO-160D/E/F/G: Section 19, 20
	Magnetic Effect	DO-160D/E/F/G: Section 15
Military/Aviation	Power Input	MIL-STD-704 LDC101, LDC102, LDC105, LDC201, LDC301, LDC302, LDC401, LDC501, LDC601; DO-160D/E/F/G: Section 16
	Voltage Spike	DO-160D/E/F/G: Section 17
	Phase Reversal	MIL-STD-704 LDC 602

Notes:

1. For Signal Boosters (Part 20) accreditation is required for Commercial Mobile Services (FCC Licensed Radio Services Equipment) and for Signal Booster (Section 90.219) accreditation is required for General Mobile Radio Services (FCC Licensed Radio Service Equipment).
2. For standards or methods listed on the scope of accreditation without a revision number or issue date or with a superseded issue date or revision number, laboratories are expected to be competent in the use of the current version within one year of standard or method publication update (or by the authorized use date of a recognition body or regulatory agency). When an older standard or method is required for an accredited test, the scope will include the superseded date/version if lab demonstrated proficiency for the procedures to be employed by and within the limits of the listed tests and the general controls enveloped in ISO/IEC 17025 Accreditation.
3. For the CISPR standards, the test laboratory is using the regional test requirement documents as opposed to the base reference documents as defined by the regional regulatory agencies (e.g. AS/NZ representing Australia and New Zealand, EN for the European community).
4. Meets the requirements of the FCC equipment authorization program as detailed in 47 CFR Part 2 Subpart J as defined in the ANAB SR 2412 U.S. Federal Communication Commission (FCC) EMC and Telecommunications (EC&T) Testing Designation Accreditation Program. Recognition by the FCC can be confirmed by visiting their website <https://apps.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm>.
5. Testing performed to meet the Requirements for Recognition of Telecommunications Testing – Innovation, Science, and Economic Development (ISED) Canada. Recognition by ISED can be confirmed by visiting their website [https://www.ic.gc.ca/eic/site/mra-arm.nsf/eng/h\\_nj00091.html](https://www.ic.gc.ca/eic/site/mra-arm.nsf/eng/h_nj00091.html).
6. This scope is formatted as part of a single document including Certificate of Accreditation No. AT-1445.



R. Douglas Leonard Jr., VP, PILR SBU