



## Test Report - RF Exposure Evaluation Report for SAR Exclusion

Applicant: Ciholas Inc.

Signature:

A handwritten signature in black ink, appearing to read 'Tim Royer'.

Sr. EMC Engineer  
EMC-003838-NE



Name & Title:

Tim Royer, EMC Engineer

Date of Signature

7/25/2025

Signature:

A handwritten signature in black ink, appearing to read 'Kristoffer Costa'.

Name & Title:

Kristoffer Costa, EMC Technician

Date of Signature

7/25/2025

This test report relates only to the items tested as identified and is not valid for any subsequent changes or modifications made to the equipment under test.

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## 1. Applicant Information

Applicant: Ciholas Inc.  
Address: 3700 Bell Rd  
Newburgh, Indiana, 47630, United States

## 2. Location of Testing

### 2.1 Test Laboratory

Timco Engineering Inc. is a subsidiary of Industrial Inspection & Analysis, Inc. ("IIA"). Testing was performed at IIA's permanent laboratory located at 13146 NW 86<sup>th</sup> Drive, Suite 400, Alachua, Florida 32615.

FCC test firm # 578780

FCC Designation # US1070

FCC site registration is under A2LA certificate # 0955.01

ISED Canada test site registration # 2056A

EU Notified Body # 1177

For all designations see A2LA scope # 0955.01

## 3. Test Sample(s) (EUT/DUT)

The test sample was received: 7/21/2025

Dates of Testing: 7/21/2025 – 7/21/2025

### 3.1 Description of the EUT

A description as well as unambiguous identification of the EUT(s) tested. Where more than one sample is required for technical reasons (such as the use of connected units for the purpose of conducted output power testing where the product units will have integral antennas), each specific test shall identify which unit was tested.

Identification	
FCC ID:	2ALIR-PT301
Brief Description	PT301 Portable Tag
Model(s) #	E00979
Firmware version	N/A
Software version	N/A
Serial Number	N/A

Technical Characteristics	
Frequency Range	6489.60 MHz 7987.20 MHz
Modulation	BPSK
Number of Channels	N/A
Duty Cycle	100%
Antenna Connector	N/A
Voltage Rating (AC or Batt.)	DC

Antenna Characteristics			
Antenna	Frequency Range	Mode / BW	Antenna Gain
1	n/a	n/a	0 dBi

- Note: Information such as antenna gain, firmware/software numbers are provided by manufacturer and cannot be validated by the test lab.

## 1. Test methods & Applicable Regulatory Limits

### 1.1 Test methods/Standards/Guidance:

The following guidance FCC KDB 447498 D01 General RF Exposure Guidance v06 was used for RF exposure evaluation as per FCC Part 1.1310 and FCC Part 2.1091 and part 2.1093. Full test results are available in this report.

#### 1.1.1 FCC Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
<b>A Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
<b>B Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

## 1.2 Equations

### POWER DENSITY

$$E(V/m) = \text{SQRT} ( 30 * P * G ) / d$$

$$Pd(W/m^2) = E^2 / 377$$

$$S = \text{EIRP} / ( 4 * \pi * D^2 )$$

Where:

S = Power density, in mW/cm<sup>2</sup>

EIRP = Equivalent Isotropic Radiated Power, in mW

D = Separation distance in cm

Power density is converted from units of mW/cm<sup>2</sup> to units of W/m<sup>2</sup> by multiplying by 10.

### DISTANCE

$$D = \text{SQRT} ( \text{EIRP} / ( 4 * \pi * S ) )$$

Where:

D = Separation distance in cm

EIRP = Equivalent Isotropic Radiated Power, in mW

S = Power density in mW/cm<sup>2</sup>

**SOURCE-BASED DUTY CYCLE** (When applicable (for example, multi-slot mobile phone applications) A duty cycle factor may be applied.)

$$\text{Source-based time-average EIRP} = ( DC / 100 ) * \text{EIRP}$$

Where:

DC = Duty Cycle in % as applicable.

EIRP = Equivalent Isotropic radiated Power, in mW

## 2. RF Exposure Results

Radiated fundamental measurements

Tuned Frequency (MHz)	Detector	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dB $\mu$ V/m)	ERP (dBm)	Spurious Limit (dBm)	Margin (dB)
6489.60	PK	28.47	H	0.84	35.84	3.00	65.15	-32.23	-14.00	18.23
6489.60	PK	33.94	V	0.84	35.84	3.00	70.62	-26.76	-14.00	12.76
7987.20	PK	38.71	V	0.84	36.13	3.00	75.68	-21.69	-14.00	7.69
7987.20	PK	26.65	H	0.84	36.13	3.00	63.62	-33.75	-14.00	19.75

### MPE

Frequency Band	Separation Distance (mm)	Max Power + Tolerance (dBm)	Max Power + Tolerance (mW)	SAR Exclusion Value	Limit for 1-g SAR	Limit for 10-g SAR (Extremities)	SAR Exclusion
6489.6-7987.2 MHz	5	-21.69	0.01	0.00	3.0	7.5	SAR EXEMPT

Conclusion: SAR testing is not required

### 3. History of Test Report Changes

Test Report #	Revision #	Description	Date of Issue
TR_22412-25_ RF Exp SAR Exclusion _	1	Initial release	8/4/2025



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END OF TEST REPORT

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