

COGNOSOS INC.

RF EXPOSURE REPORT

SCOPE OF WORK

RF EXPOSURE CALCULATIONS – RG-400 / RG-401 GATEWAYS

REPORT NUMBER

106348906ATL-003

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RF EXPOSURE REPORT

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Report Issue Date: 18 November 2025

Revision Date: 02 December 2025

Model / HVIN: RG-400 and RG-401

FCC ID: 2AKFQRG40X

IC: 22165-RG40X

Standards: FCC Title 47 CFR Parts 1.1310
RSS-102, Issue 6

Test Location

Intertek
1950 Evergreen Blvd., Suite 100
Duluth, GA 30096 USA
FCC Designation: US1046
CAB Designator: US0128

Client

Cognosos Inc.
1100 Spring St. NW #300a
Atlanta, GA 30309 USA

Report prepared by



Jeremy Pickens / Senior Staff Engineer

Report reviewed by



Aaron Chang / EMC Team Leader

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1 Introduction and Conclusion

RF Exposure calculations were performed on the product constructed as described in Section 4. Information provided by the client including maximum output power, antenna gain(s), and minimum separation distance(s) was used to determine if the product under evaluation was exempt from routine evaluation. Any change in these stated values may invalidate these results. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product under evaluation is exempt from routine evaluation for each of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) evaluated. Intertek does not make any claims of compliance for samples or variants which were not evaluated.

2 Evaluation Summary

Section	Test full name	Result
5	Maximum Permissible Exposure (FCC Title 47 CFR Part 1.1310)	Compliant
6	ISED Routine Evaluation Exemption Criteria (RSS-102 Issue 6)	Compliant

3 Client Information

This evaluation was performed at the request of:

Client: Cognosos Inc.
1100 Spring St. NW #300a
Atlanta, GA 30309 USA

Contact: Sean Nowlan

Email: sean.nowlan@cognosos.com

4 Description of Equipment Under Test and Variant Models

Manufacturer: Cognosos Inc.
1100 Spring St. NW #300a
Atlanta, GA 30309 USA

Equipment Under Test			
Description	Manufacturer	Model Number	Serial Number
Indoor Gateway	Cognosos	RG-400	4000010400
Outdoor Gateway	Cognosos	RG-401	4000010211

Receive Date:	29 September 2025
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)

The DUTs were wireless gateways that were powered either via PoE or an AC/DC power supply.

Radio/Receiver Characteristics	
Frequency Range / Number of Channels	902.6 – 927.4MHz, 63 Channels
Data Rate / Modulation Type(s)	50kbps, O-QPSK DSSS
Channel Separation:	400kHz
Maximum Conducted Output Power:	25.44 dBm (349.95mW)
Equipment Type	Mobile – 20cm Separation Distance (Indoor) Mobile – 26cm Separation Distance (Outdoor)
Antenna Type and Gain	Indoor: Dipole (Rubber Duck) Antenna: 3dBi Outdoor: Dipole: 8 dBi

5 Maximum Permissible Exposure Criteria

§ 1.1310: The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1 TO § 1.1310(e)(1)—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)				
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	* (100)	≥6
3.0-30	1842/f	4.89/f	* (900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* (100)	<30
1.34-30	824/f	2.19/f	* (180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

5.1 Calculations

Gateway	Channel (MHz)	Measured Conducted Power		Antenna Gain		Separation Distance (m)	Result (mW/cm ²)	Limit (mW/cm ²)	Verdict
		(dBm)	(W)	(dBi)	Numeric				
Indoor	902.6	25.44	0.350	3	1.995	0.2	0.139	0.602	Compliant
Outdoor	902.6	25.44	0.350	8	6.310	0.26	0.260	0.602	Compliant

6 ISED Routine Evaluation Exemption Criteria

RSS-102 Issue 6 § 5.3.2: RF Exposure limits

The electric and magnetic field strength reference levels, power density reference levels, and associated reference period for devices employed by the general public (uncontrolled environment) and controlled-use devices (controlled environment) are specified in table 7 and table 8. Note that the power density limits specified in these tables apply to whole body exposure conditions.

Table 7: RF field strength and power density limits for devices used by the general public (uncontrolled environment)

Frequency range (MHz)	Electric field (V_{RMS}/m)	Magnetic field (A_{RMS}/m)	Power density (W/m^2)	Reference period (minutes)
10-20	27.46	0.0728	2	6
20-48	$58.07 / f^{0.25}$	$0.1540 / f^{0.25}$	$8.944 / f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000 / f^{1.2}$
150000-300000	$0.158 f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000 / f^{1.2}$

6.1 Calculations

Gateway	Channel (MHz)	Measured Conducted Power		Antenna Gain		Separation Distance (m)	Result (W/m^2)	Limit (W/m^2)	Verdict
		(dBm)	(W)	(dBi)	Numeric				
Indoor	902.6	25.44	0.350	3	1.995	0.2	1.389	2.741	Compliant
Outdoor	902.6	25.44	0.350	8	6.310	0.26	2.600	2.741	Compliant

7 Revision History

Revision Level	Date	Prepared By	Reviewed By	Notes
0	18 November 2025	JOP	AC	Original Issue
1	02 December 2025	JOP	AC	• Corrected modulation type in Section 4
2	12 January 2026	JOP	AC	• Corrected outdoor antenna gain from 5dBi to 8dBi and corrected calculations accordingly • Adjusted separation distance to 26cm with 8dBi antenna