RF Exposure Report

Project Number:	**5185096**	**Proposal:**	**SUW-202405006418**
Report Number:	**5185096EMC05**	**Revision Level:**	**0**
Client:	**Cognosos, Inc.**		

Equipment Under Test:	**Wearable**
Model:	**RT-400**
FCC ID:	**2AKFQRT400**

Applicable Standards:	**47 CFR §§ 2.1093 (Portable)**
	FCC KDB 447498 D01 General RF Exposure Guidance v06

Report issued on:	**18 October 2024**
Test Result:	**Compliant**

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01
This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.

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Reviewed by: Stephen Whalen, SAR/EMC Manager

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1 General Information

1.1 *Client Information*

Name:	Cognosos, Inc.
Address:	1100 Spring Street NW, Suite 300A
City, State, Zip, Country:	Atlanta, Georgia 30309

1.1 *Test Laboratory*

Name:	SGS North America, Inc.
Address:	620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country:	Suwanee, GA 30024, USA
Accrediting Body:	A2LA
Type of lab:	Testing Laboratory
Certificate Number:	3212.01
FCC Designation Number:	US1126

1.2 *General Information of EUT*

Equipment Under Test:	Wearable
Model Number:	RT-400
Serial Number:	Engineering Sample
Frequency Range:	BLE / 2402 – 2480 MHz
Modulation:	GFSK / 2M PHY
Antenna*:	Internal Flag Antenna; +3.30 dBi*
Max. Transmit Power:	1.68 dBm
Frequency Range:	Proprietary / 902-928 MHz
Modulation:	FHSS / 7.5kHz
Antenna*:	Internal PCB Trace; +0.6 dBi*
Max. Transmit Power:	15.3 dBm
Rated Voltage:	3Vdc (Lithium Manganese Dioxide Battery)
Test Voltage:	3Vdc (Lithium Manganese Dioxide Battery)
Sample Received Date:	05 June 2024
Dates of testing:	05 June 2024– 07 June 2024

**Data was not measured; therefore, the lab is not responsible for accuracy. Data was obtained via customer, specification sheet, previous regulatory filing, or other means.*

2 RF Exposure

2.1 *Test Result*

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 1.1310	Compliant

2.2 *SAR Exclusion Calculations*

The highest conducted output power in conjunction with the Upper and Lower frequency boundaries have been used to demonstrate compliance for both BLE and Proprietary transmission modes.

Power levels were referenced from measurements captured in report number 5185096EMC03 Rev.0

The EUT was considered for body application.

Bluetooth LE:

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SAR test exclusion calculations

Section 4.3: General SAR test exclusion guidance / Section 4.3.1: Standalone SAR test exclusion considerations

	Input	Select Units	
Max Power:	1.12	dBm	
Duty Cycle:	100.0%		<== *Source based time average duty cycle*
Min separation distance:	5	mm	
Frequency, f:	2402	MHz	

Value reference Number	Values used for Calculation		Reference number definition
v1	1.000	mW	*[max. power of channel, including tune-up tolerance, mW] 'Rounded to nearest mW*
v2	5	mm	*[min. test separation distance, mm] 'Rounded to nearest mm*
v3	1.550		*[√f(GHz)]*

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR,

Exclusion Calculation(1g):	0.3100	number	<== *[v2 / v3] must be less than 3*
Exclusion Calculation(10g):	0.3100	number	<== *[v2 / v3] must be less than 7.5*

Conclusions (Body):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Body applications
Conclusions (Extremity):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Extremity applications

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SAR test exclusion calculations

Section 4.3: General SAR test exclusion guidance / Section 4.3.1: Standalone SAR test exclusion considerations

	Input	Select Units	
Max Power:	1.68	dBm	
Duty Cycle:	100.0%		<== *Source based time average duty cycle*
Min separation distance:	5	mm	
Frequency, f:	2480	MHz	

Value reference Number	Values used for Calculation		Reference number definition
v1	1.000	mW	*[max. power of channel, including tune-up tolerance, mW] 'Rounded to nearest mW*
v2	5	mm	*[min. test separation distance, mm] 'Rounded to nearest mm*
v3	1.575		*[√f(GHz)]*

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR,

Exclusion Calculation(1g):	0.3150	number	<== *[v2 / v3] must be less than 3*
Exclusion Calculation(10g):	0.3150	number	<== *[v2 / v3] must be less than 7.5*

Conclusions (Body):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Body applications
Conclusions (Extremity):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Extremity applications

Proprietary:

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SAR test exclusion calculations

Section 4.3: General SAR test exclusion guidance / Section 4.3.1: Standalone SAR test exclusion considerations

	Input	Select Units	
Max Power:	15.28	dBm	
Duty Cycle:	26.6%		<== *Source based time average duty cycle*
Min separation distance:	5	mm	
Frequency, f:	902.075	MHz	

Value reference Number	Values used for Calculation		Reference number definition
v1	9.000	mW	*[max. power of channel, including tune-up tolerance, mW] 'Rounded to nearest mW*
v2	5	mm	*[min. test separation distance, mm] 'Rounded to nearest mm*
v3	0.950		*[√f(GHz)]*

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR,

Exclusion Calculation(1g):	1.7096	number	<== *[v2 / v3] must be less than 3*
Exclusion Calculation(10g):	1.7096	number	<== *[v2 / v3] must be less than 7.5*

Conclusions (Body):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Body applications
Conclusions (Extremity):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Extremity applications

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SAR test exclusion calculations

Section 4.3: General SAR test exclusion guidance / Section 4.3.1: Standalone SAR test exclusion considerations

	Input	Select Units	
Max Power:	15.3	dBm	
Duty Cycle:	26.6%		<== *Source based time average duty cycle*
Min separation distance:	5	mm	
Frequency, f:	903.3	MHz	

Value reference Number	Values used for Calculation		Reference number definition
v1	9.000	mW	*[max. power of channel, including tune-up tolerance, mW] 'Rounded to nearest mW*
v2	5	mm	*[min. test separation distance, mm] 'Rounded to nearest mm*
v3	0.950		*[√f(GHz)]*

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR,

Exclusion Calculation(1g):	1.7108	number	<== *[v2 / v3] must be less than 3*
Exclusion Calculation(10g):	1.7108	number	<== *[v2 / v3] must be less than 7.5*

Conclusions (Body):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Body applications
Conclusions (Extremity):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Extremity applications

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	18 October 2024