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Report No.: 2105TWC101-U6
Report Version: 1.0
Issue Date: 2021-08-20

Maximum Permissible Exposure

FCC ID: 2ACHW-S409A

APPLICANT: ARBOR Technology Corp.

Application Type: Certification

Product: Unibody Fever & Mask Screening Solution

Model No.: S409

Brand Name: ARBOR

FCC Rule Part(s): Part 2.1091 (Mobile)

Received Date: December 11, 2020

Test Date: December 11, 2020 ~ January 3, 2021

Reviewed By

: 

(Paddy Chen)

Approved By

: 

(Chenz Ker)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report. Test results reported herein relate only to the item(s) tested.

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Revision History

Report No.	Version	Description	Issue Date
2105TWC101-U6	1.0	Original Report	2021-08-20

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Unibody Fever & Mask Screening Solution
Model No.	S409
Trademark	ARBOR
Supports Radios Spec.	2.4G: 802.11b/g/n-20/n-40 5G: 802.11a/n-20/ac-20/n-40/ac-40/ac-80, Band 1, 4 Bluetooth Dual Mode: V4.2 GNSS: GPS & Beidou

1.2. Antenna Description

No.	Brand	Part No.	Antenna Type	Peak Gain
1	ARBOR	WGT_S409 WLAN+GPS	FPCB	1.94dBi for 2.4GHz / 2.29dBi for 5GHz

2. Maximum Permissible Exposure(MPE)

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
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
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3-1.4	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
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

Note : (1) f= Frequency in MHz , (2) * = Plane-wave equivalent power density

Calculation Formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

Under normal use condition, is at least 20cm away from the body of the user .

So, this device is classified as **Mobile Device**.

2.2. Test Result

Frequency Band (MHz)	Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2402~2480 (BT/BLE)	2.258	1.68	1.94	20	0.0005	1
2412~2462 (WIFI-2.4GHz)	24.28	267.92	1.94	20	0.0833	1
5180~5240/ 5745~5825 (WIFI-5GHz)	13.97	15.03	2.29	20	0.0084	1

Therefore, the maximum calculations are less than the “1” limit. Complies with FCC radiation exposure requirement specified in the FCC Rule 2.1091.

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