RF Exposure Evaluation Declaration

FCC ID: TV7CPGI52XL

Applicant: Mikrotikls SIA

Product: cAP XL ac

Model No.: RBcAPGi-5acD2nD-XL-US

Brand Name: MikroTik

FCC Classification: Digital Transmission System (DTS)
Unlicensed National Information Infrastructure (NII)

Reviewed By: Vincent Yu

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2108RSU082-U3	Rev. 01	Initial Report	09-22-2021	Valid

CONTENTS

1. General Information

1.1. Applicant

Mikrotikls SIA

Brivibas gatve 214i, Riga, LV-1039, Latvia

1.2. Manufacturer

Mikrotikls SIA

Brivibas gatve 214i, Riga, LV-1039, Latvia

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China **Laboratory Location (Suzhou - SIP)** 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China
	Laboratory Accreditations
	A2LA: 3628.01 CNAS: L10551 FCC: CN1166 ISED: CN0001 VCCI: ☐R-20025 ☐G-20034 ☐C-20020 ☐T-20020 ☐R-20141 ☐G-20134 ☐C-20103 ☐T-20104
☐	**Test Site – MRT Shenzhen Laboratory**
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	Laboratory Accreditations
	A2LA: 3628.02 CNAS: L10551 FCC: CN1284 ISED: CN0105
☐	**Test Site – MRT Taiwan Laboratory**
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	Laboratory Accreditations
	TAF: L3261-190725 FCC: 291082, TW3261 ISED: TW3261

1.4. Equipment Description

Product Name	cAP XL ac
Model No.	RBcAPGi-5acD2nD-XL-US
Serial No.	For Radiated: E4F30DA8A985/052 For Conducted: E4F30D549481/052
Hardware Version	r4
Software Version	RouterOS 6.48.1
Wi-Fi Specification	802.11a/b/g/n/ac
Antenna Delivery	2*TX + 2*RX
Power Supply	AC/DC Adapter
Operating Environment	Indoor Use
Accessories	
AC/DC Adapter	Model No.: SAW30-240-1200G INPUT: 100-240V ~ 50/60Hz, 0.8A OUTPUT: 24.0V⎓1.2A, 28.8W
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

2. RF Exposure Evaluation

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				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
r = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	cAP XL ac
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Conducted Power (dBm)	Maximum Tune up (dBm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Result
802.11b/g/n	2412 ~ 2462	15.42	16.00	0.02810	1	Pass
802.11a/n/ac	5180 ~ 5240	17.11	18.00	0.04454	1	Pass
	5260 ~ 5320	19.87	20.00	0.07059	1	Pass
	5500 ~ 5720	19.66	20.00	0.07059	1	Pass
	5745 ~ 5825	17.26	18.00	0.04454	1	Pass

Note: The maximum antenna gain is 5.5dBi.

CONCLUSION:

So the compliance distance is 20cm for this device installed without any other radio equipment.

The End