



RF Exposure Evaluation Declaration

FCC ID: TV7D53G-5ACD2ND

Applicant: Mikrotiks SIA

Application Type: Certification

Product: Chateau LTE6-US

Model No.: D53G-5HacD2HnD-TC&EG06-A

Brand Name: MikroTik

FCC Classification: Digital Transmission System (DTS)
Unlicensed National Information Infrastructure (NII)
PCS Licensed Transmitter (PCB)

FCC Rule Part(s): FCC Part 2.1091

Test Procedure(s): KDB 447498 D01v06

Reviewed By: 
Vincent Yu

Approved By: 
Robin Wu



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2112RSU086-U4	Rev. 01	Initial Report	02-23-2022	Valid

CONTENTS

Description	Page
1. General Information	4
1.1. Applicant.....	4
1.2. Manufacturer	4
1.3. Testing Facility.....	4
1.4. Product Information	5
2. RF Exposure Evaluation.....	6
2.1. Test Limits	6
2.2. Test Result.....	7

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. Product Information

Product Name	Chateau LTE6-US
Model No.	D53G-5HacD2HnD-TC&EG06-A
Serial No.	F6E80FB4EDA7/137
Wi-Fi Specification	802.11a/b/g/n/ac
LTE Specification	B2/B4/B5/B7/B12/B13/B25/B26/B30/B66
WCDMA Specification	B2/B4/B5
Working Voltage	12-28VDC (Nominal Voltage: 24VDC)
Operating Temp.	0~70°C
Power Supply	AC/DC Adapter
Accessories	
Adapter	Model No.: SAW30-240-1200U Input Power: 100 - 240V ~ 50/60Hz, 0.8A Output Power: 24V dc 1.2A
Remark: 1. This device contains a certified WCDMA/LTE module (FCC ID: XMR201807EG06A). 2. 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. Test 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: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

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

P_d is the limit of MPE, 1mW/cm². 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

Product	Chateau LTE6-US
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Max. Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
802.11b/g/n	2412 ~ 2462	23.34	3	26.34	0.0857	1
802.11a/n/ac	5180 ~ 5240	25.25	5.5	30.75	0.2364	1
	5260 ~ 5320	20.75	5.5	26.25	0.0839	1
	5500 ~ 5720	20.54	5.5	26.04	0.0799	1
	5745 ~ 5825	22.46	5.5	27.96	0.1244	1
WCDMA Band 2	1852.4 ~ 1907.6	24	6	30.00	0.1989	1
WCDMA Band 4	1712.4 ~ 1752.6	24	6	30.00	0.1989	1
WCDMA Band 5	826.4 ~ 846.6	24	6	30.00	0.1989	0.5509
LTE Band 2	1850.7 ~ 1909.3	24	6	30.00	0.1989	1
LTE Band 4	1710.7 ~ 1754.3	24	6	30.00	0.1989	1
LTE Band 5	824.7 ~ 848.3	24	6	30.00	0.1989	0.5498
LTE Band 7	2502.5 ~ 2567.5	24	6	30.00	0.1989	1
LTE Band 12	699.7 ~ 715.3	24	6	30.00	0.1989	0.4664
LTE Band 13	779.5 ~ 784.5	24	6	30.00	0.1989	0.5197
LTE Band 25	1850.7 ~ 1914.3	24	6	30.00	0.1989	1
LTE Band 26	814.7 ~ 848.3	24	6	30.00	0.1989	0.5431
LTE Band 30	2307.5 ~ 2312.5	18	6	24.00	0.0500	1
LTE Band 66	1710.7 ~ 1779.3	24	6	30.00	0.1989	1

CONCULISON:

The calculations of above situations as below table

Configuration	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	CPD1/LPD1 + CPD2/LPD2 + CPD3/LPD3	Limit (%)	Result
802.11b/g/n	0.0857	1	0.7486	1	Pass
802.11a/n/ac	0.2364	1			
GSM850	0.1989	0.4664			

Note: CPD = Calculation Power Density; LPD = Limit of Power Density

Therefore, the compliance distance is 20cm.

The End