



MPE Test Report

Report No.: MTi210722005-01E3

Date of issue: Nov. 18, 2021

Applicant: Nanjing Nonagon Electronic Technology Co., Ltd.

Product name: Mella Pro Bluetooth USB Wireless Charger

Model(s): Mella001C

FCC ID: 2A2M9MELLA001C

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



Instructions

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TEST RESULT CERTIFICATION	
Applicant's name.....	Nanjing Nonagon Electronic Technology Co., Ltd.
Address.....	Room 807, Building A1, No.32, Fengzhan Road, Yuhuatai District, Nanjing City, Jiangsu Province
Manufacturer's Name	Nanjing Nonagon Electronic Technology Co., Ltd.
Address.....	Room 807, Building A1, No.32, Fengzhan Road, Yuhuatai District, Nanjing City, Jiangsu Province
Product description	
Product name.....	Mella Pro Bluetooth USB Wireless Charger
Trademark	N/A
Model Name	Mella001C
Serial Model	N/A
Standards.....	N/A
Test procedure	KDB 447498 D01 v06
Date of Test	
Date (s) of performance of tests... :	Aug. 11, 2021 ~Aug. 30, 2021
Test Result.....:	Pass
This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.	

Testing Engineer :

(Danny Xu)

Technical Manager :

(Leon Chen)

Authorized Signatory :

(Tom Xue)



1 RF EXPOSURE EVALUATION

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)

1.1 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)
(A) 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
(B) 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

MPE Calculation Method

Friis transmission 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= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1415926

R= distance between observation point and center of the radiator in cm(20cm)

Pd the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.



1.2 Measurement Result

BLE:

Operation Frequency: GFSK: 2402-2480MHz

Power density limited: 1mW/ cm²

Antenna Type: BLE Antenna: Ceramic Antenna;

BLE antenna gain: 4.3dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(4.3/10)=2.69

Chann el Freq. (MHz)	modulat ion	conduct ed power	Tune- up power (dBm)	Max		Antenna		Evalua tion result	Power density Limits		
				tune-up power		Gain					
		(dBm)		(dBm)	(mW)	(dBi)	Numeri c				
2402	GFSK	-4.354	-5±1	-4	0.398	4.3	2.69	0.0002	1		
2440		-5.251	-5±1	-4	0.398	4.3	2.69	0.0002	1		
2480		-4.737	-5±1	-4	0.398	4.3	2.69	0.0002	1		

Conclusion:

For the max result: 0.0002≤ 1.0 for 1g SAR, No SAR is required.

----END OF REPORT----