MRT Technology (Taiwan) Co., Ltd Phone: +886-3-3288388 Web: www.mrt-cert.com Report Version: V01 Issue Date: 11-05-2020

RF Exposure Evaluation Declaration

FCC ID: 2ALS8-PS0002

Applicant: Ninebot (Changzhou) Tech Co., Ltd.

Application Type: Certification

Product: Ninebot S-Max

Model No.: N3M432

Brand Name: Ninebot

FCC Rule(s): FCC Part 2.1091

KDB 447498 D01 General RF Exposure Guidance v06

Reviewed By:

(Sunny Sun

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.

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Revision History

Report No.	Version	Description	Issue Date	Note
2010RSU002-U2	Rev. 01	Initial Report	11-05-2020	Valid



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1. General Information

1.1. Applicant

Ninebot (Changzhou) Tech Co., Ltd.

16F-17F, Block A, Building 3, Changwu Mid Road 18#, Wujin Dist., Changzhou, Jiangsu, China

1.2. Manufacturer

Ninebot (Changzhou) Tech Co., Ltd.

16F-17F, Block A, Building 3, Changwu Mid Road 18#, Wujin Dist., Changzhou, Jiangsu, China

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, Chi Laboratory Accreditations					
	A2LA: 3628.01 CNAS: L10551					
	FCC: CN1166	ISED: CN0001				
	VCCI: R-20025, G-20034, C-20020, T-2	20020				
	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					



2. Product Information

2.1. Equipment Description

Product Name	Ninebot S-Max
Model No.	N3M432
Brand Name	Ninebot
Bluetooth Version	v4.1 (BLE Only)
Bluetooth Frequency	2402 ~ 2480MHz
Type of modulation	GFSK
Data Rate	1Mbps
Antenna Type	PCB Antenna
Antenna Gain	5 dBi
S/N	N3MGM1952C0027
	Model No.: HT-A10-120W
AC Adapter	Input Power: 100 - 240V ~ 50/60Hz, Max. 2.0A
	Output Power: 63VDC, 2.0A

Note: Above information is declared by the manufacturer.

2.2. Working Frequencies for this report

Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz
03	2408 MHz	04	2410 MHz	05	2412 MHz
06	2414 MHz	07	2416 MHz	08	2418 MHz
09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz
15	2432 MHz	16	2434 MHz	17	2436 MHz
18	2438 MHz	19	2440 MHz	20	2442 MHz
21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz
27	2456 MHz	28	2458 MHz	29	2460 MHz
30	2462 MHz	31	2464 MHz	32	2466 MHz
33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz
39	2480 MHz		-	-	-



3. RF Exposure Evaluation

3.1. Limits

SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in Note 1 must be applied to determine SAR test exclusion.

MHz 5 10 15 150 39 77 116 300 27 55 82	20 155	25	mm
300 27 55 82	155		
		194	SAR Test
4=0	110	137	Exclusion
450 22 45 67	89	112	Threshold
835 16 33 49	66	82	(mW)
900 16 32 47	63	79	
1500 12 24 37	49	61	
1900 11 22 33	44	54	
2450 10 19 29	38	48	
3600 8 16 24	32	40	
5200 7 13 20	26	33	
5400 6 13 19	26	32	
5800 6 12 19	25	31	
MHz 30 35 40	45	50	mm
150 232 271 310	349	387	SAR Test
300 164 192 219	246	274	Exclusion
450 134 157 179	201	224	Threshold
835 98 115 131	148	164	(mW)
900 95 111 126	142	158	
1500 73 86 98	110	122	
1900 65 76 87	98	109	
2450 57 67 77	86	96	
3600 47 55 63	71	79	
5200 39 46 53	59	66	
5400 39 45 52	58	65	
5800 37 44 50	56	62	



Note: The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances \leq 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] * $[\sqrt{f(GHz)}] \le 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is \leq 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

3.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.



3.3. Test Result of RF Exposure Evaluation

Product	Ninebot S-Max	
Test Item	RF Exposure Evaluation	

Test	Frequency	Maximum	Maximum	SAR Test
Mode	Band	Conducted Power	Conducted Power	Exclusion
	(MHz)	(dBm)	(mW)	Threshold (mW)
BLE	2402 ~ 2480	0.54	1.13	10

Per FCC KDB 447498 D01v06, the SAR exclusion threshold for distances<50mm is defined by the following equation:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] * $[\sqrt{f(GHz)}] \le 3.0$

Based on the maximum conducted power of Bluetooth and the antenna to use separation distance, Bluetooth SAR was not required;

 $[(1.13\text{mW/5})^* \sqrt{2.402}] = 0.35 < 3.0$

Note: When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.



Appendix - EUT Photograph

Refer to "2010RSU002-UE" file.