

RF Exposure Evaluation Declaration

FCC ID: 2AU2Y-JH0003

Applicant: Nine Tech Co., Ltd.

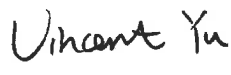
Application Type: Certification

Product: Ninebot Telematics Box

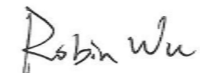
Model No.: N-A-LTEC72-A

FCC Rule(s): FCC Part 2.1091
KDB 447498 D01 General RF Exposure Guidance v06

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.

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Revision History

Report No.	Version	Description	Issue Date	Note
2011RSU046-U2	Rev. 01	Initial Report	12-11-2020	Valid

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1.1. Applicant

1 Xingben Rd. Xinbei Dist. Changzhou, Jiangsu, China

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☒	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: 3628.01CNAS: L10551 FCC: CN1166ISED: CN0001 VCCI: R-20025, G-20034, C-20020, T-20020
☐	Test Site – MRT Shenzhen Laboratory
	Laboratory Location (Shenzhen)
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	Laboratory Accreditations
	A2LA: 3628.02CNAS: L10551 FCC: CN1284ISED: CN0105
☐	Test Site – MRT Taiwan Laboratory
	Laboratory Location (Taiwan)
	No. 38, Fuxing 2 nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	Laboratory Accreditations
	TAF: L3261-190725 FCC: 291082, TW3261ISED: TW3261

2. Product Information

2.1. Equipment Description

Product Name	Ninebot Telematics Box
Model No.	N-A-LTEC72-A
Bluetooth Version	v4.1 (BLE Only)
Bluetooth Frequency	2402 ~ 2480MHz
Type of modulation	GFSK
Data Rate	1Mbps
Antenna Type	PCB Antenna
Antenna Gain	-1.26dBi

Note: Above information is declared by the manufacturer.

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

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)	Averaging 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
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
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

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.

3.2. Test Result of RF Exposure Evaluation

Product	Ninebot Telematics Box
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Conducted Output Power (dBm)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
BLE	2402 ~ 2480	-2.99	0.00006	1.00
GSM850	824 ~ 849	25.97	0.06898	0.55
GSM1900	1850 ~ 1910	22.97	0.03457	1.00
WCDMA Band II	1850 ~ 1910	25.00	0.05517	1.00
WCDMA Band V	824 ~ 849	25.00	0.05517	0.55
LTE Band 2	1850 ~ 1910	25.00	0.05517	1.00
LTE Band 4	1710 ~ 1755	25.00	0.05517	1.00
LTE Band 5	824 ~ 849	25.00	0.05517	0.55
LTE Band 7	2500 ~ 2570	25.00	0.05517	1.00

Note 1: The Max. Declared Conducted Output Power of the GSM/WCDMA/LTE refer to the MPE report of FCC ID: XMR202006EC25AUX.

Note 2: The max antenna gain of GSM/WCDMA/LTE is -0.57dBi as declared by manufacturer.

Summary of Test Result

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	Limit (%)	Result
BLE	0.00006	1.00	0.12548	1	Pass
GSM850	0.06898	0.55			

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

The End

Appendix - EUT Photograph

Refer to “2011RSU046-UE” file.