

RF Exposure Evaluation Report

Report Reference No......: **MTEB25050136-H**

FCC ID.....: **2BPPK-RMS03**

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Applicant's name.....: **Shenzhen Ronghuige Technology Co., Ltd**

Address.....: 408, Jingfa Building, No. 46 Baoqian Lane, Xin'an Community,
Xin'an Street, Bao'an District, Shenzhen City

Test specification/ Standard.....: **47 CFR Part 1.1307;47 CFR Part 1.1310**
KDB447498D01 General RF Exposure Guidance v06

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

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Test item description.....: Intelligent car box

Trade Mark.....: RHG

Model/Type reference.....: RMS03

Listed Models: RMS01,RMS02,RMS04,RMS05,RMS06,RPS04

Modulation Type.....: b: DSSS ; g/n: OFDM
GFSK

Operation Frequency.....: From 2412MHz~2462MHz
2402MHz to 2480MHz

Hardware Version.....: V1.0

Software Version.....: V1.0

Rating.....: DC 5V

Result.....: **PASS**

TEST REPORT

Equipment under Test : Intelligent car box

Model /Type : RMS03

Listed Models : RMS01,RMS02,RMS04,RMS05,RMS06,RPS04

Remark : Use RMS03 for all tests. Only the model name is different.while other designs are the same.Internal electronic components, circuit layout and wiring are consistent.

Applicant : **Shenzhen Ronghuige Technology Co., Ltd**

Address : 408, Jingfa Building, No. 46 Baoqian Lane, Xin'an Community, Xin'an Street, Bao'an District, Shenzhen City

Manufacturer : **Shenzhen Ronghuige Technology Co., Ltd**

Address : 408, Jingfa Building, No. 46 Baoqian Lane, Xin'an Community, Xin'an Street, Bao'an District, Shenzhen City

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2025.05.15	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 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 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
300–1500			f/300	6
1500–100,000			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
300–1500			f/1500	30
1500–100,000			1.0	30

F= Frequency in MHz

Friis Formula

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 = 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, 1 mW/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.

2.1.3 EUT RF Exposure**BLE**

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402 MHz)	1.11	1.11 ± 1	2.11
Middle(2440MHz)	0.88	0.88 ± 1	1.88
Highest(2480MHz)	0.01	0.01 ± 1	1.01

BLE

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Lowest(2402 MHz)	2.11	1.63	-3.94	0.00013	1.0	Pass

Note: 1) Refer to report MTEB25050136-R for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (1.63 \cdot 0.40) / (4 \cdot 3.1416 \cdot 20^2) = 0.00013$

WIFI 2.4G

802.11b			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	10.46	10.46 ± 1	11.46
Middle(2437MHz)	10.64	10.64 ± 1	11.64
Highest(2462MHz)	11.20	11.20 ± 1	12.2

802.11g			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	12.51	12.51 ± 1	13.51
Middle(2437MHz)	11.58	11.58 ± 1	12.58
Highest(2462MHz)	12.22	12.22 ± 1	13.22

802.11n(H20)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	10.09	10.09 ± 1	11.09
Middle(2437MHz)	10.09	10.09 ± 1	11.09
Highest(2462MHz)	10.77	10.77 ± 1	11.77

WIFI 2.4G

Worst case: 802.11g						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Lowest(2412MHz)	13.51	22.44	-3.94	0.00179	1.0	Pass

Note: 1) Refer to report MTEB25050136-R1 for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (22.44 * 0.40) / (4 * 3.1416 * 20^2) = 0.00179$

.....THE END OF REPORT.....