RF EXPOSURE
Test Report

Report No.:	MTi230609007-04E3
Date of issue:	2023-06-29
Applicant:	Shenzhen Lingdu Auto Electronics Co.,Ltd.
Product:	Dashcam
Model(s):	M550 Pro , M550,M570,M571,M572,M560,C34
FCC ID:	2ASWV-M550PRO

Shenzhen Microtest Co., Ltd.

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Test Result Certification	
Applicant:	Shenzhen Lingdu Auto Electronics Co.,Ltd.
Address:	1807-1808 JinHua Building, No.468 Minzhi Avenue, Longhua District,
Manufacturer:	Dongguan Lingdu Electronics Technology Co., Ltd.
Address:	No.1, Longcheng Road, Xiekeng Village Committee, Qingxi Town, Dongguan, Guangdong, China.
Product description	
Product name:	Dashcam
Trademark:	N/A
Model name:	M550 Pro
Serial Model:	M550,M570,M571,M572,M560,C34
Standards:	N/A
Test procedure:	KDB 447498 D01 v06
Date of Test	
Date of test:	2023-06-20 to 2023-06-25
Test result:	Pass

Test Engineer : Letter. Lan.

(Letter Lan)

Reviewed By: : Leon chen

(Leon Chen)

Approved By: : Tom Xue

(Tom Xue)

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)

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: $Pd= (Pout*G)\ (4*pi*R^2)$

Where

Pd= Power density in mW/cm^2

Pout=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, $1mW/cm^2$. 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.

Measurement Result

2.4GWiFi:

Operation Frequency: WIFI 802.11b/g/n HT20/n HT40: 2412-2462MHz,

Power density limited: 1mW/ cm^2

5GWiFi:

802.11a: 20 MHz

Antenna Type: FPC Antenna;

2.4G WIFI antenna gain: 2 dBi

5G WIFI antenna gain: 3dBi

R=20cm

mW=10^(dBm/10)

2.4G WIFI antenna gain Numeric=10^(dBi/10)= 10^(2/10)=1.58

5G WIFI antenna gain Numeric=10^(dBi/10)= 10^(3/10)=2

2.4GWiFi:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm^2)	(mW/cm^2)
				(dBm)	(mW)	Numeric		
2412	802.11b	13.93	13±1	14	25.119	1.58	0.00792	1
2437		13.04	13±1	14	25.119	1.58	0.00792	1
2462		13.58	13±1	14	25.119	1.58	0.00792	1
2412	802.11g	11.87	11±1	12	15.849	1.58	0.00500	1
2437		10.80	10±1	11	12.589	1.58	0.00397	1
2462		10.71	10±1	11	12.589	1.58	0.00397	1
2412	802.11n H20	8.52	8±1	9	7.943	1.58	0.00250	1
2437		8.72	8±1	9	7.943	1.58	0.00250	1
2462		8.28	8±1	9	7.943	1.58	0.00250	1
2412	802.11n H40	7.97	7±1	8	6.310	1.58	0.00199	1
2437		8.75	8±1	9	7.943	1.58	0.00250	1
2462		7.91	7±1	8	6.310	1.58	0.00199	1

5GWiFi: UNII-1

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm^2)	(mW/cm^2)
				(dBm)	(mW)	Numeric		
5180	11a	12.31	12±1	13	19.953	2	0.00792	1
5200	11a	12.60	12±1	13	19.953	2	0.00792	1
5240	11a	11.94	11±1	12	15.849	2	0.00629	1

Conclusion:

For the max result: 0.00792≤ 1.0 SAR, No SAR is required.

2.4G WIFI and 5G WIFI cannot be launched at the same time.

----END OF REPORT----