

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fur Street, Bao'an District, Shenzhen, China

STING	RF Exposure MPE
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Page 2 of 9

TATES			
J *			
Equipment under Test	: CarPlay	TESTING	
Model /Type	: CPDuo-9		
Listed Models	: CP101		
Model difference	The PCB board, circuit, same, but the model na	structure and interior of these mod me is different.	els are the
Applicant	: Rexing Inc	ATESTING	
Address	: 34 Ludwig St, Little Fer	ry, NJ, 07643 USA	ATESTIN
Manufacturer	: KA FUNG TECHNOLC	GY CO LIMITED	
Address	: Rm.202, C5 Building, H Hangcheng Subdistrict,	engfeng Industry Park, No.739 Zho Bao'an Dist., Shenzhen, China	oushi Rd,
Test	Result:	PASS	
The test report m It is not permitte	nerely corresponds to the test s d to copy extracts of these tes	ample. t result without the written permiss	ion of
the test laborator	y. ESTING	TESTING	TESTING
the test laborator	y. ESTING Con CTATESTING	ATESTING COM CTATESTING	TESTING
The test laborator	y. ESTING Con CTA TESTING Shenzhen CTA Testing Techr	TESTING Con crit sology Co., Ltd.	TESTIN

### Report No.: CTA25030600704

## Contents

1	TEST STANDARDS	
-	CTA.	TING
2	SUMMARY.	
<u>-</u>		
2 1	General Bemarks	
∠.ı 2.2	Product Description	5 5
2.3	Special Accessories	5
2.4	Modifications	6
<u>3</u>	TEST ENVIRONMENT	6
2.4	A Block to the fact to be a fac	NG
3.1	Address of the test laboratory	6
১.∠ ব ব	Statement of the measurement uncertainty	0
	etatement of the measurement uncertainty	-=-5
4		TATE
<u>+</u>		
	De mulana en t	Let
4.1 12	Requirement MPE Calculation Method	7 7
+.∠ 4.3	Conducted Power Results	/ 8
4.4	Manufacturing tolerance	9
4.5	Standalone MPE Result	9
4.6	Simultaneous Transmission for MPE Result	9
	- TAIL	
<u>5</u>	CONCLUSION	-ESTIN 9
	CTA .	
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	TESTING	
	CTA CIA	TESTING
		CIT

# 1 TEST STANDARDS

CTATESTING

The tests were performed according to following standards:

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. FCC KDB 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures. FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits. FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices

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### SUMMARY 2

#### 2.1 **General Remarks**

2 <u>SUMMART</u>		
2.1 General Remarks		ATES
Date of receipt of test sample		Mar. 06, 2025
Testing commenced on	:	Mar. 06, 2025
Testing concluded on	•	Mar. 10, 2025

## 2.2 Product Description

Product Name:	CarPla	ау			
Model/Type reference:	CPDu	0-9			
Power supply:	DC 5.0	0V From external circuit	STING		
Car charging information	Input: Outpu	DC 12-24V t: DC 5V 3A			ring
Hardware version:	V1.0	C.		CTATES	
Software version:	V1.0		50	1	
Bluetooth :					
Supported Type:	Blueto	ooth BR/EDR			
Modulation:	GFSK	, π/4DQPSK, 8DPSK			
Operation frequency:	2402N	/Hz~2480MHz		G	
Channel number:	79	<u>/r</u>	ESTIN		
Channel separation:	1MHz		CTATE		
Antenna type:	PIFA a	antenna	C		
Antenna gain:	1.59 d	Bi		(2	
WIFI					
TES	TING	20MHz system	40MHz system	80MHz system	160MHz system
Supported type:		802.11a 802.11n	802.11n	N/A	N/A
Operation frequency:		5180MHz-5240MHz	5190MHz-5230MHz	N/A	N/A
Modulation:		OFDM	OFDM	N/A	N/A
Channel number:		4	2	N/A	N/A
Channel separation:		20MHz	40MHz	N/A	N/A
Antenna type:		PIFA antenna			
Antenna gain:		3.15 dBi			
FM					
Modulation:	FM	ATES		G	
Operation frequency:	88.1	MHz~107.9MHz	TESTIN		
Channel number:	199		CTA I		

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Channel separation:	100KHz
Channel frequency	88.1MHz~107.9MHz(Channel Number: 199, Channel Frequency=88.1+0.1(K-1), K=1, 2, 3199)
Antenna type:	Internal antenna
Antenna gain:	0.00 dBi

#### Special Accessories 2.3

2.3 Spec	ial Accesso	ries				CTATES
The following	is the EUT tes	t of the auxiliary e	equipment provided by the	laboratory:	F	
Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by	
/	1 TES	1	1	/	/	

#### **Modifications** 2.4

No modifications were implemented to meet testing criteria.

#### TEST ENVIRONMENT 3

#### 3.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd. Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

#### 3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations: FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

### A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement. TATESTING The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

#### 3.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. :

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China

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.02 dB	(1)
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Output Peak power	30MHz~18GHz	0.55 dB	(1)
Power spectral density	-	0.57 dB	(1)
Spectrum bandwidth		1.1%	(1)
Radiated spurious emission (30MHz-1GHz)	30~1000MHz	4.10 dB	(1)
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB	(1)
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB	(1)
<u>Test limit</u>	CTA TEST	NG	
l Requirement			- CTA

### Test limit 4

#### Requirement 4.1

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
TATL	Limits for Oco	cupational/Control	led Exposure	
0.3 - 3.0 3.0 - 30 30 - 300 300 - 1500 1500 - 100,000	614 1842/f 61.4 /	1.63 4.89/f 0.163 / /	(100) * (900/f <sup>2</sup> )* 1.0 f/300 5	6 6 6 6

### Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

1500 – 1500 1500 – 100,000	1	/ /	f/300 5	6 6	TES
Limits for Maxim	um Permissible E	xposure (MPE)/U	ncontrolled Expos	sure	CTA .
Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)	
	Limits for Occ	cupational/Control	led Exposure		
0.3 - 3.0 3.0 - 30 30 - 300 300 - 1500 1500 - 100,000	614 824/f 27.5 / /	1.63 2.19/f 0.073 /	(100) * (180/f <sup>2</sup> )* 0.2 f/1500 1.0	30 30 30 30 30 30	STING

F=frequency in MHz

\*=Plane-wave equivalent power density

## 4.2 MPE Calculation Method

Predication of MPE limit at a given distance CTATESTING Equation from page 18 of OET Bulletin 65, Edition 97-01

### S=PG/4πR<sup>2</sup>

Where: S=power density P=power input to antenna

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G=power gain of the antenna in the direction of interest relative to an isotropic radiator R=distance to the center of radiation of the antenna

### 4.3 Conducted Power Results

Туре	Channel	Output power Peak (dBm)	(CT)
TING	0	1.04	
GFSK	39	0.19	
CIR	78	-0.32	
	0	0.03	TING
π /4DQPSK	39	-0.56	TATESI
	78	-1.12	G
	0	-0.28	
3 8DPSK	39	-0.62	
	78	-0.98	

TESTING					
Туре	Channel	Output power Average (dBm)			
Constant of the second s	36	12.31			
802.11a	44	12.37			
-	48	12.45			
	36	12.51			
802.11n(HT20)	44	11.97			
TESTIN	48	12.76			
	38	13.2			
802.11n(H140)	46	13.07			

802.11n(HT40)			TES		
A Star and Star and Star		46	CTP 1	3.07	
					TATESI
Freq. (MHz)	Field strength(ma	ax)(dBuV/m)	EIRP (max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]
88.1MHz	56.27		-38.99	-38.0±1	-37.0
Note: E = EIRP – 20log I	D + 104.8	100	G		<u>.</u>
where: E = electric field st EIRP = equivalent D = specified meas EIRP=E-104.8+20logD,	rength in dBµV/m, isotropic radiated powe: urement distance in met <b>D=3</b>	r in dBm eers.	G	K CTATEST	NG

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		. C.
Mode	Max. Peak Conducted Output Power (dBm)	Max. tune-up
BT	1.04	1.0±1
FM	-38.99	-38.0±1
Mode	Max. Average Conducted Output Power (dBm)	Max. tune-up
5.2GWIFI	13.2	13.0±1

#### 4.5 **Standalone MPE Result**

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna is refer to section 2.2, the RF power density can be obtained.

Modulation Type	Output power		Antenna	Antenna	MDE	MPE
	dBm	mW	Gain Gain (mW/c) (dBi) (linear)	(mW/cm <sup>2</sup> )	) Limits (mW/cm <sup>2</sup> )	
BT	2.0	1.5849	1.59	1.4421	0.0005	1.0000
5.2GWIFI	14.0	25.1189	3.15	2.0654	0.0103	1.0000
FM	-37.0	0.0002	0.0	1.000	0.0000	0.0587

Remark:

1. Output power (Peak) including turn-up tolerance;

2. MPE evaluate distance is 20cm from user manual provide by manufacturer.

3. BT and WLAN can be active at the same time, but only with interleaving of packages switched on board level. That means that they cannot transmit at the same time, but FM was another antenna need consider Simultaneous Transmission.

#### Simultaneous Transmission for MPE Result 4.6

5.2GWIFI MPE (Ratio)	FM MPE (Ratio)	simultaneous MPE (Ratio)	MPE Limits (Ratio)		
0.0103	0.0000	0.0103	1.0000		

#### Conclusion 5

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device Threshold per KDB 447498 D01v06 CTA TESTING

\*\*\*\* End of Report \*\*\*\*\*\*\*\*\*

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