



RF TEST REPORT

Product Name: Smart Phone

Model Name: CP12t

FCC ID: R38YLCP12T

Issued For : Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Issued By : Shenzhen LGT Test Service Co., Ltd.
Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China

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Date of Issue: Mar. 21, 2023

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TEST REPORT CERTIFICATION

Applicant Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Manufacturer Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Product Name Smart Phone

Trademark coolpad

Model Name CP12t

Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC Part 15.407, Subpart E ANSI C63.10-2013	PASS

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Technical Director





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Revision History

Rev.	Issue Date	Contents
00	Mar. 21, 2023	Initial Issue



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Part 15.407, KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC Part 15.407		
FCC standard	Test Item	Results
15.207	AC Conducted Emission	PASS
15.407 (a) /15.407 (e)	26dB/6dB &99% Bandwidth	PASS
15.407(a)	Maximum Conducted Output Power	PASS
15.407(b)/15.205/15.209	Radiated Emission And (bandedge Emissions) Measurement	PASS
15.407(a)	Power Spectral Density	PASS
15.407(c)	Automatically Discontinue Transmission	PASS
15.203/15.204	Antenna Requirement	PASS

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report.
- (2) All tests are according to ANSI C63.10-2013.



1.1 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China
Accreditation Certificate:	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 0.68\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.988\text{dB}$
3	All emissions, radiated 9K-30MHz	$\pm 2.84\text{dB}$
4	All emissions, radiated 30M-1GHz	$\pm 4.39\text{dB}$
5	All emissions, radiated 1G-6GHz	$\pm 5.10\text{dB}$
6	All emissions, radiated >6G	$\pm 5.48\text{dB}$
7	Conducted Emission (9KHz-150KHz)	$\pm 2.79\text{dB}$
8	Conducted Emission (150KHz-30MHz)	$\pm 2.80\text{dB}$



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Smart Phone													
Trademark	coolpad													
Model Name	CP12t													
Series Model	N/A													
Model Difference	N/A													
Product Description	The EUT is a Smart Phone													
	<table border="1"> <tr> <td rowspan="7">Operation Frequency:</td> <td>IEEE 802.11a/n(HT20)/ac(VHT20): 5.180GHz-5.240GHz</td> </tr> <tr> <td>IEEE 802.11n(HT40)/ac(VHT40): 5.190GHz-5.230GHz</td> </tr> <tr> <td>IEEE 802.11ac(VHT80): 5.210GHz</td> </tr> <tr> <td>IEEE 802.11a/n(HT20)/ac(VHT20): 5.260GHz-5.320GHz</td> </tr> <tr> <td>IEEE 802.11 n(HT40)/ac(VHT40): 5.270GHz-5.310GHz</td> </tr> <tr> <td>IEEE 802.11ac(VHT80): 5.290GHz</td> </tr> <tr> <td>IEEE 802.11a/n(HT20)/ac(VHT20): 5.500GHz-5.700GHz</td> </tr> <tr> <td>IEEE 802.11 n(HT40)/ac(VHT40): 5.510GHz-5.670GHz</td> </tr> <tr> <td>IEEE 802.11ac(VHT80): 5.530 GHz - 5.610GHz</td> </tr> <tr> <td>IEEE 802.11a/n(HT20)/ac(VHT20): 5.745GHz-5.825GHz</td> </tr> <tr> <td>IEEE 802.11a/n(HT40)/ac(VHT40): 5.755GHz-5.795GHz</td> </tr> <tr> <td>IEEE 802.11ac(VHT80): 5.775GHz</td> </tr> </table>	Operation Frequency:	IEEE 802.11a/n(HT20)/ac(VHT20): 5.180GHz-5.240GHz	IEEE 802.11n(HT40)/ac(VHT40): 5.190GHz-5.230GHz	IEEE 802.11ac(VHT80): 5.210GHz	IEEE 802.11a/n(HT20)/ac(VHT20): 5.260GHz-5.320GHz	IEEE 802.11 n(HT40)/ac(VHT40): 5.270GHz-5.310GHz	IEEE 802.11ac(VHT80): 5.290GHz	IEEE 802.11a/n(HT20)/ac(VHT20): 5.500GHz-5.700GHz	IEEE 802.11 n(HT40)/ac(VHT40): 5.510GHz-5.670GHz	IEEE 802.11ac(VHT80): 5.530 GHz - 5.610GHz	IEEE 802.11a/n(HT20)/ac(VHT20): 5.745GHz-5.825GHz	IEEE 802.11a/n(HT40)/ac(VHT40): 5.755GHz-5.795GHz	IEEE 802.11ac(VHT80): 5.775GHz
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IEEE 802.11a/n(HT40)/ac(VHT40): 5.755GHz-5.795GHz														
IEEE 802.11ac(VHT80): 5.775GHz														
Modulation Type:	802.11a(OFDM): BPSK, QPSK, 16-QAM, 64-QAM 802.11n(OFDM): BPSK, QPSK, 16-QAM, 64-QAM 802.11ac (OFDM): BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM													
Antenna Designation:	Please refer to the Note 3.													
Antenna Gain(dBi)	0.15													
More details of EUT technical specification, please refer to the User Manual.														
Test Channel	Please refer to the Note 2.													
Adapter	Input: 100-240V, 50/60Hz, 0.2A Output: 5V, 1A													
Battery	Capacity: 4000mAh Rated Voltage: 3.8V													
Hardware Version	P2													
Software Version	CP12t.230321.0S.AL													
Connecting I/O Port(s)	Please refer to the Note 1.													

Note

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.



Operation Frequency of channel			
5.180GHz-5.240GHz		5.500GHz-5.720GHz	
Channel	Frequency	Channel	Frequency
36	5180	100	5500
38	5190	102	5510
40	5200	104	5520
42	5210	106	5530
44	5220	108	5540
46	5230	110	5550
48	5240	112	5560
		116	5580
		118	5590
5.260GHz-5.320GHz			
Channel	Frequency	Channel	Frequency
52	5260	120	5600
54	5270	122	5610
56	5280	124	5620
58	5290	126	5630
60	5300	128	5640
62	5310	132	5660
64	5320	134	5670
		136	5680
		140	5700
5.745GHz-5.825GHz			
Channel	Frequency	Channel	Frequency
149	5745		
151	5755		
153	5765		
157	5785		
159	5795		
161	5805		
165	5825		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Carrier Frequency Channel

Channel List for 802.11a/n/ac(20MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	44	5220	48	5240
52	5260	56	5280	60	5300	64	5320
100	5500	116	5580	140	5700	149	5745
153	5765	157	5785	161	5805	165	5825

Channel List for 802.11n/ac(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230	54	5270	62	5310
102	5510	151	5755	159	5795		



Channel List for 802.11ac(80MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	58	5290	155	5775		

3KDB 662911 D01 Multiple Transmitter Output v02r01

. 2) Directional Gain Calculations for In-Band Measurements

a) Basic methodology with NANT transmit antennas, each with the same directional gain GANT dBi, being driven by NANT transmitter outputs of equal power. Directional gain is to be computed

Ant	Brand	Model Name	Ant Type	Connector	Gain (dBi)	NOTE
1	coolpad	CP12t	FPC antenna	N/A	0.15	WLAN Ant

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.



2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Worst Mode	Description	Data Rate
Mode 1	TX IEEE 802.11a HT20 CH36&CH40&CH48	6 Mbps
Mode 2	TX IEEE 802.11a HT20 CH52&CH60&CH64	6 Mbps
Mode 3	TX IEEE 802.11a HT20 CH149&CH157&CH165	6 Mbps
Mode 4	TX IEEE 802.11n HT20 CH36&CH40&CH48	MCS 0
Mode 5	TX IEEE 802.11ac HT20 CH36&CH40&CH48	NSS1 MCS0
Mode 6	TX IEEE 802.11n HT20 CH52&CH60&CH64	MCS 0
Mode 7	TX IEEE 802.11ac HT20 CH52&CH60&CH64	NSS1 MCS0
Mode 8	TX IEEE 802.11n HT20 CH149&CH157&CH165	MCS 0
Mode 9	TX IEEE 802.11ac HT20 CH149&CH157&CH165	NSS1 MCS0
Mode 10	TX IEEE 802.11n HT40 CH38&CH46	MCS 0
Mode 11	TX IEEE 802.11ac HT40 CH38&CH46	NSS1 MCS0
Mode 12	TX IEEE 802.11n HT40 CH54 &CH62	MCS 0
Mode 13	TX IEEE 802.11ac HT40 CH54 &CH62	NSS1 MCS0
Mode 14	TX IEEE 802.11n HT40 CH151&CH159	MCS 0
Mode 15	TX IEEE 802.11ac HT40 CH151&CH159	NSS1 MCS0
Mode 16	TX IEEE 802.11ac HT80 CH42	NSS1 MCS0
Mode 17	TX IEEE 802.11ac HT80 CH58	NSS1 MCS0
Mode 18	TX IEEE 802.11ac HT80 CH155	NSS1 MCS0

- Note: (1) The measurements are performed at the highest, middle, lowest available channels.
 (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.
 (3) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation.
 (4) The battery is fully-charged during the radited and RF conducted test.

AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 19: TX Mode



2.3 TEST SOFTWARE AND POWER LEVEL

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test software Version	Test program: 5G WIFI B1	
engineering mode	a	15
	ac/n20	15
	ac/n40	15
	ac80	15
Test software Version	Test program: 5G WIFI B2	
engineering mode	a	15
	ac/n20	15
	ac/n40	15
	ac80	15
Test software Version	Test program: 5G WIFI B3	
engineering mode	a	15
	ac/n20	15
	ac/n40	15
	ac80	15
Test software Version	Test program: 5G WIFI B4	
engineering mode	a	15
	ac/n20	15
	ac/n40	15
	ac80	15

2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
Adapter	ShenZhen Huajin Electronics Co.,Ltd	HJ-0501000E1-US	N/A	Input:100-240V ~ 50/60Hz 0.2A Output:5V, 1000mA
USB-A to USB-C Cable	N/A	N/A	N/A	1m, unshielded, without ferrite core

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Earphone	N/A	39630078	N/A	N/A
Laptop	HUAWEI	HKF-16	N/A	N/A

Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Conducted Emission

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Until
EMI Test Receiver	R&S	ESU	100372	2022.04.12	2023.04.11
LISN	COM-POWER	LI-115	02032	2022.04.13	2023.04.12
LISN	SCHWARZBECK	NNLK 8121	00847	2022.08.19	2023.08.18
CE Cable	N.A	C01	N.A	2022.05.05	2023.05.04
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2022.08.19	2023.08.18
Temperature & Humidity	KTJ	TA218B	N.A	2022.05.05	2023.05.04
Testing Software	EMC-I_V1.4.0.3_SKET				

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESU	100372	2022.04.12	2023.04.11
Spectrum Analyzer	Keysight	N9010B	MY60242508	2022.04.29	2023.04.28
Bilog Antenna	SCHWARZBECK	VULB 9168	01447	2022.12.12	2025.12.11
Horn Antenna(18GHz)	SCHWARZBECK	3115	10SL0060	2022.06.02	2025.06.01
Horn Antenna(40 GHz)	A-INFO	LB-180400-KF	J211060273	2022.03.28	2025.03.27
Pre-amplifier(3GHz)	HP	8447D	2727A05655	2022.04.11	2023.04.10
Pre-amplifier(26.5G)	Agilent	8449B	3008A4722	2022.04.12	2023.04.11
Pre-amplifier(40 GHz)	com-mw	LNPA_18-40-01	18050001	2022.06.08	2023.06.07
RE Cable (9K-1G)	N.A	R01	N.A	2022.05.05	2023.05.04
RE Cable (1-26G)	N.A	R02	N.A	2022.05.05	2023.05.04
Temperature & Humidity	KTJ	TA218B	N.A	2022.05.05	2023.05.04
Testing Software	EMC-I_V1.4.0.3_SKET				

RF Connected Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Generator	Keysight	N5182B	MY59100717	2022.04.30	2023.04.29
Signal Analyzer	Keysight	N9010B	MY60242508	2022.04.29	2023.04.28
Temperature & Humidity	KTJ	TA218B	N/A	2022.05.05	2023.05.04
Temperature & Humidity test chamber	AISRY	LX-1000L	171200018	2022.05.10	2023.05.09
Attenuator	eastsheep	90db	N/A	2022.04.29	2023.04.28
Testing Software	MTS 8310_2.0.0.0_MWRF-TEST				



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class B (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	56.00	46.00	CISPR
5.0 -30.0	60.00	50.00	CISPR

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of “ * ” marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



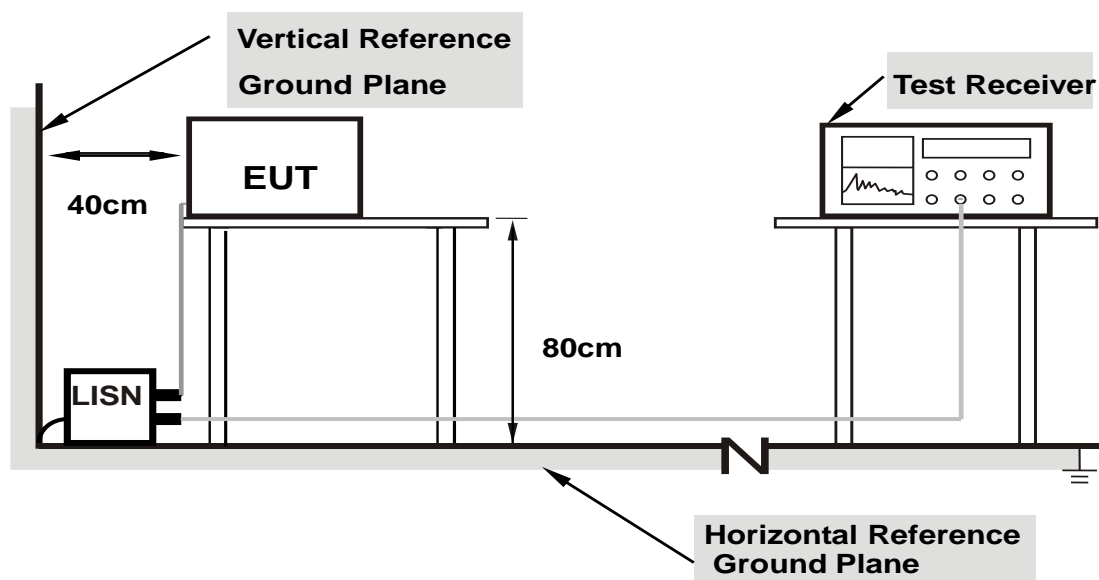
3.1.2 TEST PROCEDURE

- a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN is at least 80 cm from the nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.