FCC Test Report

Report No: FCS202404276W02

Issued for

Applicant:	Zhengzhou Chongfenghao International Trade Co. , Ltd.
Address:	Room B17, No. 9-3, Liudong Road, Zhengzhou (Jinshui) , Henan Pilot Free Trade Zone
Product Name:	Wireless CarPlay Adapter
Brand Name:	N/A
Model Name:	WL01-C-Black
Series Model:	WL01-C-White, WL01-C-Sierra Blue, WL01-C-Purple, WL01-C-Gun, WL01-C-Titanium, WL01-C-Navy, YYYY1-Black, YYYY1-Gunmetal Gray, YKCAA-Black, YKCAA-Blue, L-PP01-Black, L-PP01-Rose Gold, MYC-C-Black, MYC-C-Titanium, TK-XTT-Black, TK-XTT-Navy, CXX-00-Black, CXX-00-Gunmetal Gray
FCC ID:	2BF5Y-WL01-C

Issued By: Flux Compliance Service Laboratory
Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Tel: 769-27280901 Fax:769-27280901 http://www.FCS-lab.com

TEST RESULT CERTIFICATION

Applicant's Name..... :	Zhengzhou Chongfenghao International Trade Co. , Ltd.
Address..... :	Room B17, No. 9-3, Liudong Road, Zhengzhou (Jinshui) , Henan Pilot Free Trade Zone
Manufacture's Name..... :	Zhengzhou Chongfenghao International Trade Co. , Ltd.
Address..... :	Room B17, No. 9-3, Liudong Road, Zhengzhou (Jinshui) , Henan Pilot Free Trade Zone

Product Description

Product Name..... :	Wireless CarPlay Adapter
Brand Name.....:	N/A
Model Name..... :	WL01-C-Black
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Test Standards..... :	FCC Rules and Regulations Part 15 Subpart C, Section 247
Test Procedure..... :	ANSI C63.10:2013

This device described above has been tested by Flux Compliance Service Laboratory, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Date (s) of performance of tests. :	Apr 26, 2024 ~ May 09, 2024
Date of Issue.....:	May 09, 2024
Test Result.....:	Pass

Tested by : Scott Shen
(Scott Shen)

Reviewed by : Duke Qian
(Duke Qian)

Approved by : Jack Wang
(Jack Wang)

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Revision History

Rev.	Issue Date	Effect Page	Contents
00	May 09, 2024	N/A	N/A

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
KDB 558074 D01 15.247 Meas Guidance v05r02

FCC Part 15.247,Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.247(a)(1)	Hopping Channel Separation	PASS	--
15.247 (b)(1)	Output Power	PASS	--
15.209	Radiated Spurious Emission	PASS	--
15.247(d)	Conducted Spurious & Band Edge Emission	PASS	--
15.247(a)(1)(i)	Number of Hopping Frequency	PASS	--
15.247(a)(1)(i)	Dwell Time	PASS	--
15.247(a)(1)	20dB Bandwidth 99% Bandwidth	PASS	--
15.205	Restricted bands of operation	PASS	--
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS	
15.203	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:	Flux Compliance Service Laboratory
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-769-27280901
Fax:	+86-769-27280901
Laboray Accreditations：	
FCC Test Firm Registration Number:	514908
CNAS Number:	L15566
Designation number:	CN0127
A2LA accreditation number:	5545.01
ISED Number:	25801
CAB ID：	CN0097

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ±U**, where expended 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	±0.71dB
2	Unwanted Emissions, conducted	±2.988 dB
3	Conducted Emission (9KHz-150KHz)	±4.13 dB
4	All emissions radiated (9KHz -30MHz)	±3.1 dB
5	Conducted Emission (150KHz-30MHz)	±4.74 dB
6	All emissions,radiated(<1G) 30MHz-1000MHz	±5.2 dB
7	All emissions,radiated 1GHz -18GHz	±4.66 dB
8	All emissions,radiated 18GHz -40GHz	±4.31 dB
9	Occupied bandwidth and PSD	±0.3 dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td>Wireless CarPlay Adapter</td></tr>
<tr><td>Trade Name</td><td>N/A</td></tr>
<tr><td>Model Name</td><td>WL01-C-Black</td></tr>
<tr><td>Series Model</td><td>WL01-C-White, WL01-C-Sierra Blue, WL01-C-Purple, WL01-C-Gun, WL01-C-Titanium, WL01-C-Navy, YYYY1-Black, YYYY1-Gunmetal Gray, YKCAA-Black, YKCAA-Blue, L-PP01-Black, L-PP01-Rose Gold, MYC-C-Black, MYC-C-Titanium, TK-XTT-Black, TK-XTT-Navy, CXX-00-Black, CXX-00-Gunmetal Gray</td></tr>
<tr><td>Model Difference</td><td>The above product with same circuit, PCB layout, electrical parts, materials and wiring structures, Appearance shape, the materials of decorative accessories is same, the only difference is the model name and colour.</td></tr>
<tr><td>Product Description</td><td>
<table>
<tr><td>Operation Frequency:</td><td>☑2420-2480 MHz</td></tr>
<tr><td>Modulation Type:</td><td>☑GFSK ,☑π/4-DQPSK, ☑8-DPSK</td></tr>
<tr><td>Bluetooth Configuration:</td><td>BT</td></tr>
<tr><td>Bluetooth technology:</td><td>☑BR/EDR</td></tr>
<tr><td>Number Of Channel:</td><td>☑79 Channels</td></tr>
<tr><td>Antenna Type:</td><td>☑FPC Antenna</td></tr>
<tr><td>Antenna Gain (dBi)</td><td>0.62</td></tr>
</table>
</td></tr>
<tr><td>Report number</td><td>FCS202404276W02</td></tr>
<tr><td>Power Supply</td><td>DC 5V</td></tr>
<tr><td>Battery</td><td>N/A</td></tr>
<tr><td>Hardware version number</td><td>V1.0</td></tr>
<tr><td>Software version number</td><td>V1.0</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>Please refer to the User's Manual</td></tr>
</table>

Note:

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

2. The channel list

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

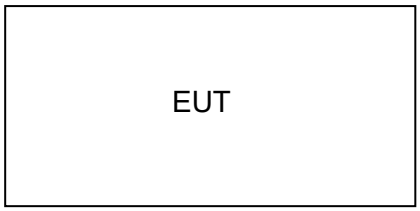
3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	FPC Antenna	N/A	0.62	2.4G Antenna

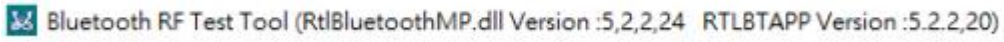
2.2 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Block diagram of EUT configuration for test



2.3 TEST SOFTWARE: THE



The test softeware was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table

No.	Test model descrption
1	Low channel GFSK
2	Middle channel GFSK
3	High channel GFSK
4	Low channel π/4-DQPSK
5	Middle channel π/4-DQPSK
6	High channel π/4-DQPSK
7	Low channel 8DPSK
8	Middle channel 8DPSK
9	High channel 8DPSK
10	BT link

Note:

1. All the test modes can be supply by adapter, only the result of the worst case recorded in the report. GFSK mode is worst mode.
2. For radiated emission, 3 axis were chosen for testing for each applicable mode.
3. The EUT used adapter when tested.
4. The test voltage was tuned from 85% to 115% of the Nominal rate supply votage, and found that the worst case was the nominal rated supply condition, So the report just shows that condition's data

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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
1	Adapter	XIOAMI	MDY-11-EB	N/A	this adapter is for testing only in repor

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
N/A	N/A	N/A	N/A	N/A	N/A

Note:

(1) The support equipment was authorized by Declaration of Confirmation.

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

(3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.5 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2023.08.29	2024.08.28
Signal Analyzer	R&S	FSV40-N	FCS-E012	2023.08.29	2024.08.28
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2023.08.29	2024.08.28
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2023.08.29	2024.08.28
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2023.08.29	2024.08.28
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2023.08.29	2024.08.28
Pre-Amplifier(0.1M-3GHz)	EMCI	EM330N	FCS-E004	2023.08.29	2024.08.28
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2023.08.29	2024.08.28
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2023.08.29	2024.08.28
Temperature & Humidity	HTC-1	victor	FCS-E005	2023.08.29	2024.08.28
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2023.08.29	2024.08.28
LISN	R&S	ENV216	FCS-E007	2023.08.29	2024.08.28
LISN	ETS	3810/2NM	FCS-E009	2023.08.29	2024.08.28
Temperature & Humidity	HTC-1	victor	FCS-E008	2023.08.29	2024.08.28
Testing Software	EZ-EMC(Ver.EMC-CON 3A1.1)				

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2023.08.29	2024.08.28
Spectrum Analyzer	Agilent	E4447A	MY50180039	2023.08.29	2024.08.28
Spectrum Analyzer	R&S	FSV-40	101499	2023.08.29	2024.08.28
Power Sensor	Agilent	UX2021XA	FCS-E021	2023.08.29	2024.08.28
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

3 CONDUCTED EMISSION MEASUREMENT

3.1 LIMIT

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

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.

3.2 TEST PROCEDURE

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

a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

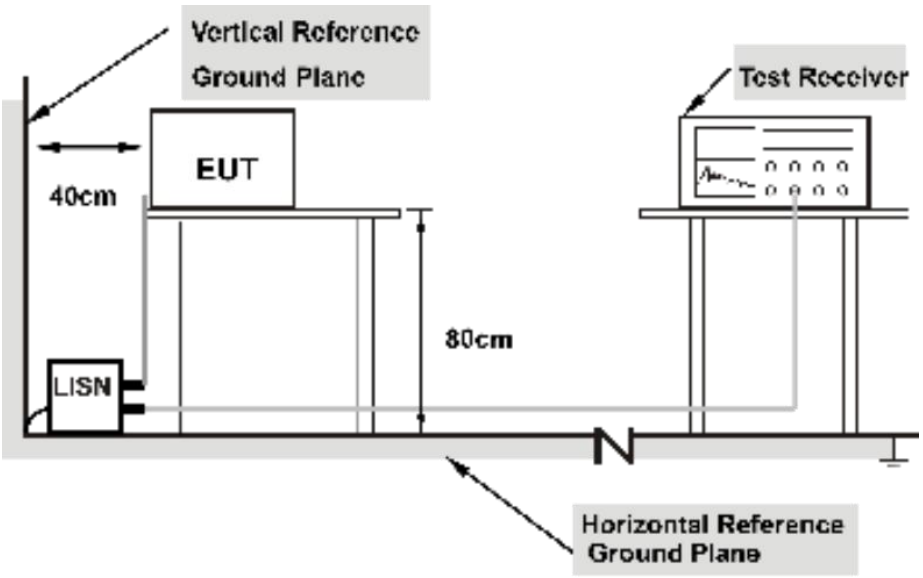
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

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 at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 TEST SETUP

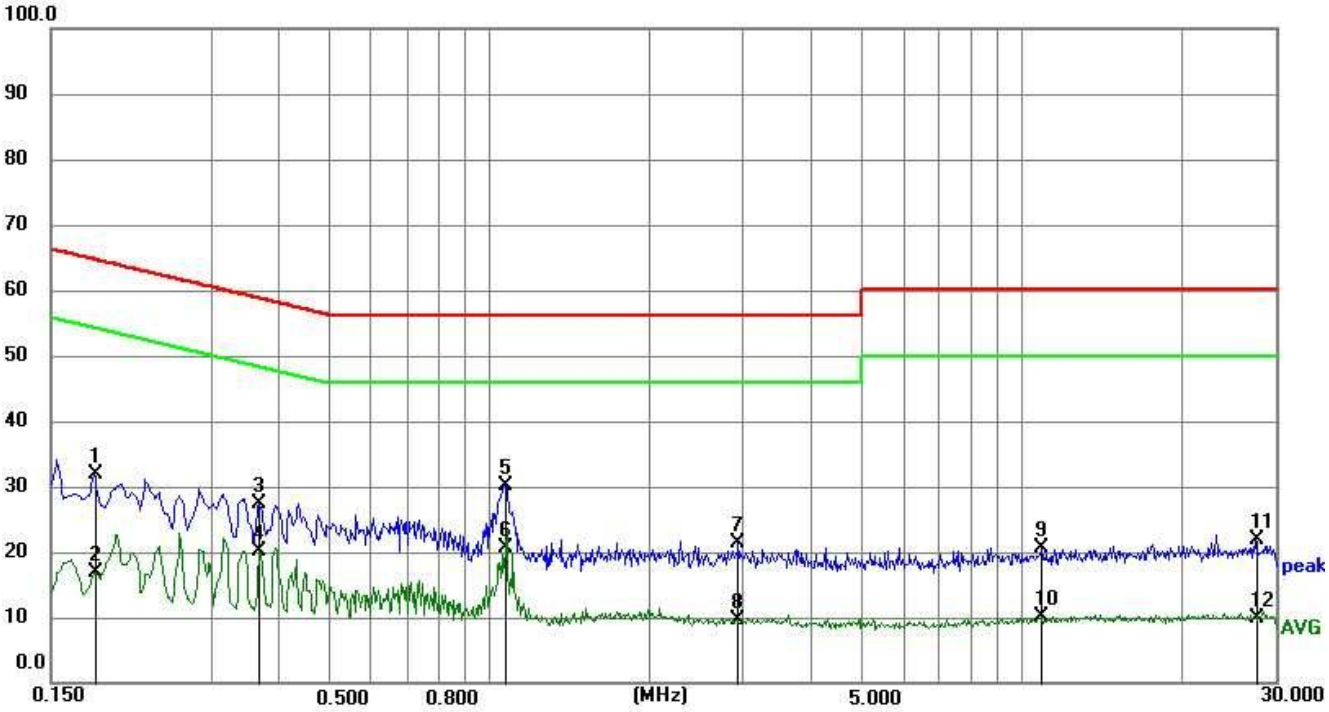


Note: 1.Support units were connected to second LISN.

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

3.4 TEST RESULTS

Temperature:	25℃	Relative Humidity:	50%
Test Mode:	GFSK(worst mode)	Test Voltage:	DC 5V from adapter AC 120V/60Hz
Result:	L	Result:	Pass



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1815	21.88	10.10	31.98	64.42	32.44	QP
2	0.1815	6.88	10.10	16.98	54.42	37.44	AVG
3	0.3704	17.40	10.02	27.42	58.49	31.07	QP
4	0.3704	10.17	10.02	20.19	48.49	28.30	AVG
5	1.0723	20.23	10.00	30.23	56.00	25.77	QP
6	1.0723	10.72	10.00	20.72	46.00	25.28	AVG
7	2.9445	11.45	9.94	21.39	56.00	34.61	QP
8	2.9445	-0.43	9.94	9.51	46.00	36.49	AVG
9	10.9500	10.77	9.80	20.57	60.00	39.43	QP
10	10.9500	0.29	9.80	10.09	50.00	39.91	AVG
11	27.5235	11.93	9.90	21.83	60.00	38.17	QP
12	27.5235	-0.09	9.90	9.81	50.00	40.19	AVG