Wi-Fi Interoperability TEST REPORT

No. 24T04Z101045-022

for

TCL Communication Ltd.

Product Name:9491G

Model Number:9491G

CID: WFA131214

Wi-Fi Component Firmware：2023-10-26-192901

Issued Date: 2024-06-17

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04Z101045-022	Rev.0	1st edition	2024-06-17

Note: the latest revision of the test report supersedes all previous version.

CONTENTS

1. Test Laboratory

1.1. Testing Location

Location 1: CTTL(CuiHu)

Address: CuiHu Cloud Center,No. 1 Gaolizhang Road, Wenquan Town, Haidian District, Beijing，China

1.2. Testing Environment

Normal Temperature: 20-22℃

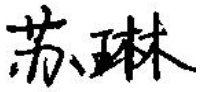
Relative Humidity: 40-60%

1.3. Project date

Testing Start Date: 2024-05-21

Testing End Date: 2024-06-17

1.4. Signature



Su Lin

(Prepared this test report)

Xie Fangfang

(Reviewed this test report)

Hu Xiaoyu

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
Address /Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
City:	/
Postal Code:	/
Country:	/
Contact	Annie Jiang
Email	nianxiang.jiang@tcl.com
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2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address /Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
City:	/
Postal Code:	/
Country:	/
Contact	Annie Jiang
Email	nianxiang.jiang@tcl.com
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3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Series Number	E88F6F7EE43D
CID	WFA131214
Product Name	9491G
Mode Number	9491G
Wi-Fi Component Firmware Version	2023-10-26-192901
Wireless Chipset	MT6631N/B
Operating System	Android
OS Version	Android

Note: Photographs of EUT are shown in ANNEX A of this test report.

3.2. Product Designators

Device Type	Enterprise
Product Type	STA
Primary Product Category	Tablet (Wi-Fi and other)
Additional Category of Product	N / A
Does this product want be designate as a Source	Yes
Is this product an Application Specific Device	No
Does this product support Wi-Fi Test Suite	Yes
Is 802.11a Device:	Yes
Is 802.11b Device:	Yes
Is 802.11g Device:	Yes
Is 802.11n Device:	Yes
Is 802.11ac Device:	Yes
Is 802.11ax Device:	No

Spatial Streams

Band	Transmit	Receive
2.4GHz	1	1
5GHz	1	1

*EUT ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Protected Management Frames Interoperability Test Plan v1.8

5. Test Results

5.1. Summary of Measurement Results

No	Test Cases	Standard Sub-clause	Mandatory/optional	Verdict
1	TTest Procedure for verification of CCMP to protect received unicast disassociation frames	Clause 5.3.3.1	M	P
2	Test Procedure for verification of CCMP to protect received unicast deauthentication frames	Clause 5.3.3.2	M	P
3	Test Procedure for verification of CCMP to protect received unicast deauthentication frames	Clause 5.3.3.2_6GHz	C	NA
4	Test Procedure for verification of CCMP to protect transmitted unicast disassociation/de-authentication frames	Clause 5.3.3.3	O	NA
5	Test Procedure for verification of CCMP to protect unicast action frames	Clause5.3.3.4	M	P
6	Test Procedure for verification of SA Query initiation	Clause 5.3.3.5	M	P
7	Test Procedure for verification of BIP to protect broadcast disassociation frames	Clause 5.4.3.1	M	P
8	Test Procedure for verification of BIP to protect broadcast deauthentication frames	Clause 5.4.3.2	M	P
9	Basic association with PMF enabled configuration test to verify backward compatibility of STAUT with test bed AP acting as a legacy device	CT_Security_PMF_STA_Association-PMFDisabled_10044_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	P
10		CT_Security_PMF_STA_Association-PMFEnabled_10049_1 [4]		P
11		CT_Security_PMF_STA_Association-PMFRequired_10056_1 [4]		P
12	Basic association with PMF required configuration test	CT_Security_PMFRequired_STA_Association-PMFRequired_10054_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	P
13		CT_Security_PMFRequired_STA_NoAssociation-PMFDisabled_10158_1 [4]		P

No	Test Cases	Standard Sub-clause	Mandatory/optional	Verdict
14	CCMP to protect unicast disassociation frames for correctly protected disassociation frame upon reception test	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDisassoc_10475_1 [4]	M for 6 GHz else N/A	NA
15		CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDisassoc_10084_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	P
16	CCMP to protect unicast deauthentication frames for correctly protected deauthentication frame upon reception test	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDeauth_10474_1 [4]	M for 6 GHz else N/A	NA
17		CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDeauth_10083_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	P
18	CCMP to protect transmitted unicast disassociation/ deauthentication frames	CT_Security_PMF_STA_CCMP-ProtectedUnicastDeauthDisassFrames_10473_1 [4]	M for 6 GHz else N/A	NA
19		CT_Security_PMF_STA_CCMP-ProtectedUnicastDeauthDisassFrames_10074_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	NA
20	CCMP to protect unicast action frames SA query for correctly protected SA query upon reception test	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtSAQuery_10476_1 [4]	M for 6 GHz else N/A	NA
21		CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtSAQuery_10085_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	P
22	BIP to protect broadcast disassociation frames for correctly protected disassociation frame upon reception test	CT_Security_PMF_STA_BIP-ProtectedBroadcastMgmtFrames-CorrectProtDisassoc_10072_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	P
23	BIP to protect broadcast deauthentication frames for correctly protected deauthentication frame upon reception test	CT_Security_PMF_STA_BIP-ProtectedBroadcastMgmtFrames-CorrectProtDeauth_10071_1 [4]	M for 2.4/5 GHz N/A for 6 GHz and sub-1 GHz	P

Please refer to **ANNEX B2** for details.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

5.2. Statements

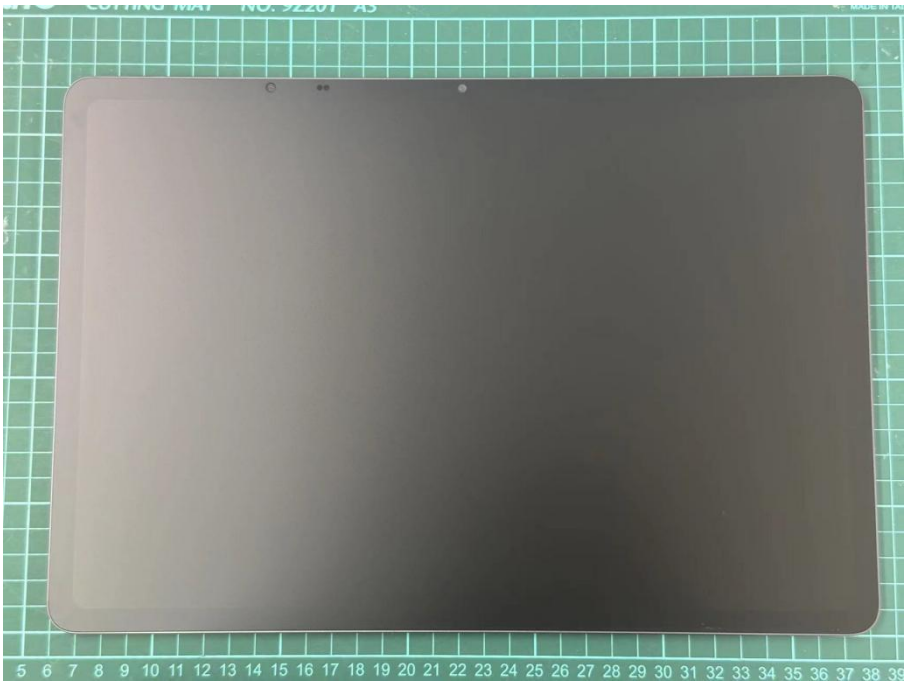
The test cases as listed in section 5.1 of this report for the EUT specified in section 3 was performed by CTTL according to the standards or reference documents listed in section 4.2

The EUT met all requirements of the standards or reference documents, and only the WLAN function was tested.

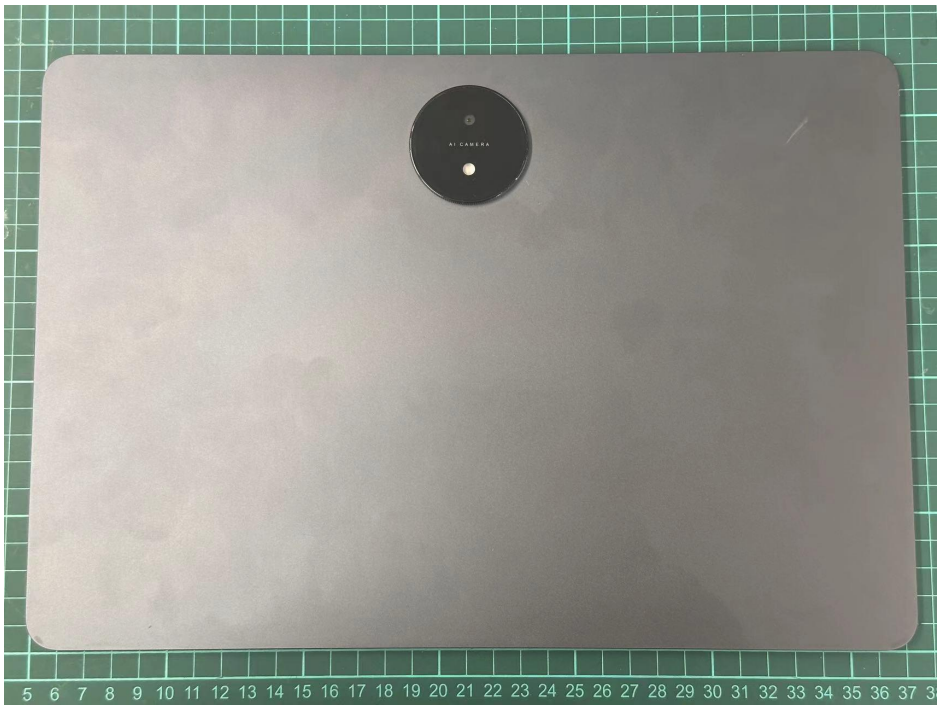
6. Test Facilities Utilized

No.	Equipment	Model	Software	Manufacturer	Serial No.
1	Shielding Room	S81	/	ETS	/
2	Wireless STA	BCM943224HMS	5.110.62	Broadcom	/
3	Wireless STA	RD-88WPLUG-8787	SD8787-14.40.20.p1-M2614346-GPL-(FP40)	Marvell	/
4	Wireless STA	AR5BXB-0092D	Ath9k, Compat-wireless-v3.0-2/ wpas=0.8.x-qca-pmf-3	Atheros	/
5	Wireless STA	RT3593	3.2.4.0	Ralink	/
6	Wireless AP	BCM94718NR	5.110.62.0	Broadcom	/
7	Wireless AP	CD-88W-AP95-A0	2010.11.05-LSP-2.6.29-RC7	Marvell	/
8	Wireless AP	AR5KAP-096PMF	hostapd v0.8.x-qca-3	Atheros	/
9	Wireless AP	RT3800PDAP3	3.3.3.0,2.4.2.4	Ralink	/
10	Quick track test tool	/	/	/	/

ANNEX A: EUT photograph



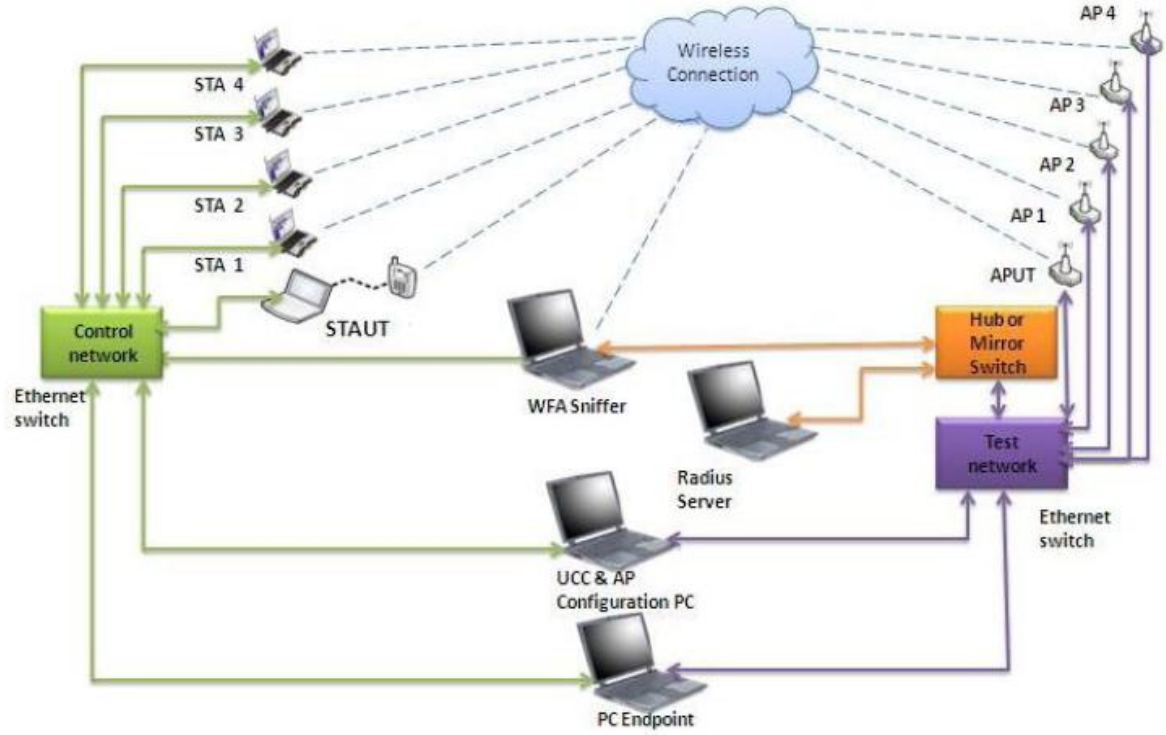
EUT Photo (Front view)



EUT Photo (Back view)

ANNEX B: EUT parameters

B.1. Measurement Method



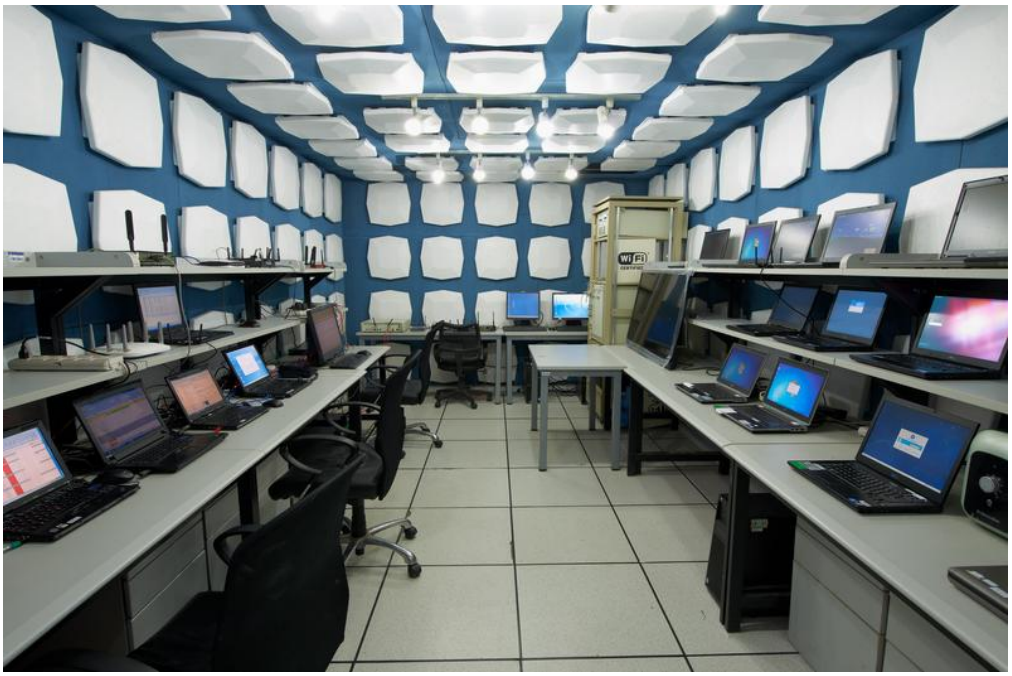
1). The WFA Sigma Automation Suite will be used as much as possible. This tool suite provides configuration, test control, traffic generation, and results analysis services. The test plan, in its entirety, can be executed in a fully automated manner through the WFA distributed Sigma Command Scripts and the Sigma Unified CAPI Console.

B.2 Measurement Result

No	Test Item	Standard Requirement	Test Result	Conclusion
1	Clause 5.3.3.1	Test Procedure for verification of CCMP to protect received unicast disassociation frames	Pass	P
2	Clause 5.3.3.2	Test Procedure for verification of CCMP to protect received unicast deauthentication frames	Pass	P
3	Clause 5.3.3.2_6GHz	Test Procedure for verification of CCMP to protect received unicast deauthentication frames	Not Tested	NA
4	Clause 5.3.3.3	Test Procedure for verification of CCMP to protect transmitted unicast disassociation/de-authentication frames	Not Tested	NA
5	Clause5.3.3.4	Test Procedure for verification of CCMP to protect unicast action frames	Pass	P
6	Clause 5.3.3.5	Test Procedure for verification of SA Query initiation	Pass	P
7	Clause 5.4.3.1	Test Procedure for verification of BIP to protect broadcast disassociation frames	Pass	P
8	Clause 5.4.3.2	Test Procedure for verification of BIP to protect broadcast deauthentication frames	Pass	P
9	CT_Security_PMF_STA_Association-PMFDisabled_10044_1 [4]	Basic association with PMF enabled configuration test to verify backward compatibility of STAUT with test bed AP acting as a legacy device	Pass	P
10	CT_Security_PMF_STA_Association-PMFEnabled_10049_1 [4]		Pass	P
11	CT_Security_PMF_STA_Association-PMFRequired_10056_1 [4]		Pass	P

No	Test Item	Standard Requirement	Test Result	Conclusion
12	CT_Security_PMFRequired_STA_Association-PMFRequired_10054_1 [4]	Basic association with PMF required configuration test	Pass	P
13	CT_Security_PMFRequired_STA_NoAssociation-PMFDisabled_10158_1 [4]		Pass	P
14	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDisassoc_10475_1 [4]	CCMP to protect unicast disassociation frames for correctly protected disassociation frame upon reception test	Not Tested	NA
15	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDisassoc_10084_1 [4]		Pass	P
16	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDeauth_10474_1 [4]	CCMP to protect unicast deauthentication frames for correctly protected deauthentication frame upon reception test	Not Tested	NA
17	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtDeauth_10083_1 [4]		Pass	P
18	CT_Security_PMF_STA_CCMP-ProtectedUnicastDeauthDisassFrames_10473_1 [4]	CCMP to protect transmitted unicast disassociation/ deauthentication frames	Not Tested	NA
19	CT_Security_PMF_STA_CCMP-ProtectedUnicastDeauthDisassFrames_10074_1 [4]		Not Tested	NA
20	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtSAQuery_10476_1 [4]	CCMP to protect unicast action frames SA query for correctly protected SA query upon reception test	Not Tested	NA
21	CT_Security_PMF_STA_CCMP-ProtectedUnicastMgmtFrames-CorrectProtSAQuery_10085_1 [4]		Pass	P
22	CT_Security_PMF_STA_BIP-ProtectedBroadcastMgmtFrames-CorrectProtDisassoc_10072_1 [4]	BIP to protect broadcast disassociation frames for correctly protected disassociation frame upon reception test	Pass	P
23	CT_Security_PMF_STA_BIP-ProtectedBroadcastMgmtFrames-CorrectProtDeauth_10071_1 [4]	BIP to protect broadcast deauthentication frames for correctly protected deauthentication frame upon reception test	Pass	P

ANNEX C: TEST LAYOUT



Wi-Fi Certification Test Laboratory

ANNEX D: Accreditation Certificate

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L0570)

Telecommunication Technology Labs, CAICT

(Legal Entity: China Academy of Information and Communications Technology)

No.52, Huayuan North Road, Haidian District, Beijing, China

is accredited in accordance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence to undertake the service described in the schedule attached to this certificate.

The scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The schedule forms an integral part of this certificate.

Effective Date：2023-06-20

Expiry Date：2029-06-19

Signed on behalf of China National Accreditation Service for Conformity Assessment 张朝华

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is a signatory of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) and the Asia Pacific Accreditation Cooperation Mutual Recognition Arrangement (APAC MRA).

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*****END OF REPORT*****