



# FCC RF Test Report

## (U-NII)

**Report No.:** ReportId

**Applicant:** APLEX TECHNOLOGY INC.

**Address of Applicant:** 15F-1, No.186, JIAN YI ROAD, ZHONGHE DIST., NEW TAIPEI CITY, 235 TAIWAN.

**Equipment Under Test (EUT)**

Product Name: Tablet

Model No.: ART-610, APC-38247A

Trade Mark: N/A

**FCC ID:** 2BH8A-ART610

**Applicable Standards:** FCC CFR Title 47 Part 15E (§15.407)

**Date of Sample Receipt:** 20 Jul., 2022

**Date of Test:** 21 Jul., to 24 Aug., 2022

**Date of Report Issued:** 07 Aug., 2024

**Test Result:** PASS

**Tested by:** \_\_\_\_\_

TESTED BY

**Date:** \_\_\_\_\_

07 Aug., 2024

**Reviewed by:** \_\_\_\_\_

STAMP MARK

**Date:** \_\_\_\_\_

07 Aug., 2024

**Approved by:** \_\_\_\_\_

APPROVED BY

Manager

**Date:** \_\_\_\_\_

07 Aug., 2024

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

## 1 Version

Version No.	Date	Description
00	07 Aug., 2024	Original

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### 3 General Information

#### 3.1 Client Information

Applicant:	APLEX TECHNOLOGY INC.
Address:	15F-1, No.186, JIAN YI ROAD, ZHONGHE DIST., NEW TAIPEI CITY, 235 TAIWAN.
Manufacturer:	APLEX TECHNOLOGY INC.
Address:	15F, No.150, JIAN YI ROAD, ZHONGHE DIST., NEW TAIPEI CITY, 235 TAIWAN.
Factory:	APLEX TECHNOLOGY INC.
Address:	15F, No.150, JIAN YI ROAD, ZHONGHE DIST., NEW TAIPEI CITY, 235 TAIWAN.

#### 3.2 General Description of E.U.T.

Product Name:	Tablet
Model No.:	ART-610, APC-38247A
Operation Frequency:	Band 1: 5150 MHz - 5250 MHz
Channel Numbers:	Band 1: 4 (802.11a, n-HT20, ac-VHT20)
	Band 1: 2 (802.11n-HT40, ac-VHT40)
	Band 1: 1 (802.11ac-VHT80)
Modulation Technology: (IEEE 802.11a/802.11n)	OFDM-BPSK, QPSK, 16QAM, 64QAM
Modulation Technology: (IEEE 802.11ac)	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type:	Internal Antenna
Antenna Gain:	1.2 dBi (declare by applicant)
Antenna Transmit Mode:	SISO (1TX, 1RX)
Power Supply:	Rechargeable Li-Polymer Battery DC3.85V, 20000mAh
AC Adapter:	Model: HJ-PD33W-US Input: AC100-240V, 50/60Hz, 0.8A Output: DC 5.0V== 3.0A, 9.0V == 3.0V, 12.0V== 2.75A
Remark:	Model No.: ART-610, APC-38247A were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name.
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

### 3.3 Test Mode and Environment

Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.

### 3.4 Description of Test Auxiliary Equipment

The EUT has been tested as an independent unit.

### 3.5 Measurement Uncertainty

Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.

### 3.6 Additions to, Deviations, or Exclusions from the Method

No

### 3.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

### 3.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

### 3.9 Test Instruments List

Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.

## 4 Measurement Setup and Procedure

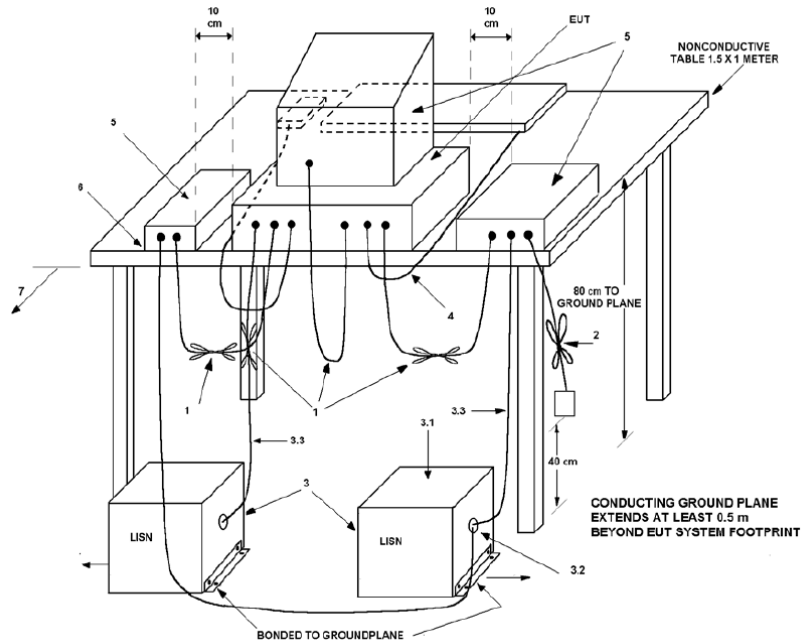
### 4.1 Test Channel

According to ANSI C63.10-2013 chapter 5.6.1 Table 4 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

Operation frequency: 5150 MHz – 5250 MHz						
Modulation mode	Lowest channel		Middle channel		Highest channel	
	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
802.11a, n-HT20, ac-VHT20	36	5180	40	5200	48	5240
802.11n-HT40, ac-VHT40	38	5190	/	/	46	5230
802.11ac-VHT80	/	/	42	5210	/	/

## 4.2 Test Setup

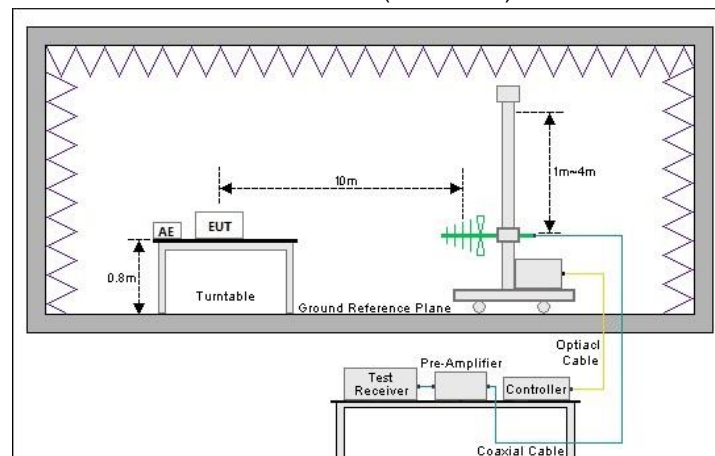
### 1) Conducted emission measurement:



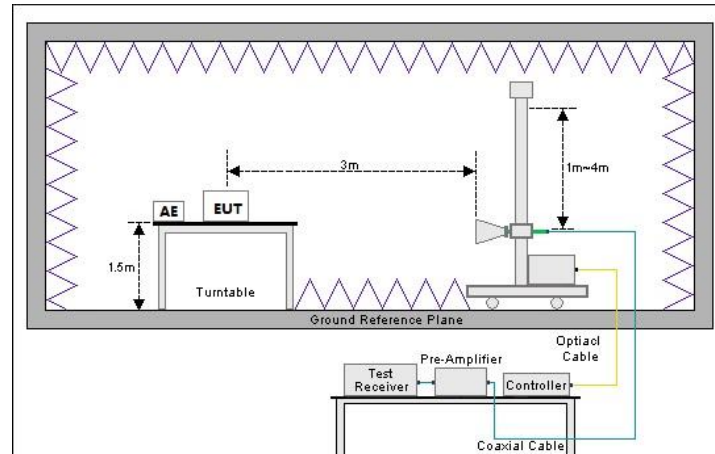
**Note:** The detailed descriptions please refer to Figure 8 of ANSI C63.4:2014.

### 2) Radiated emission measurement:

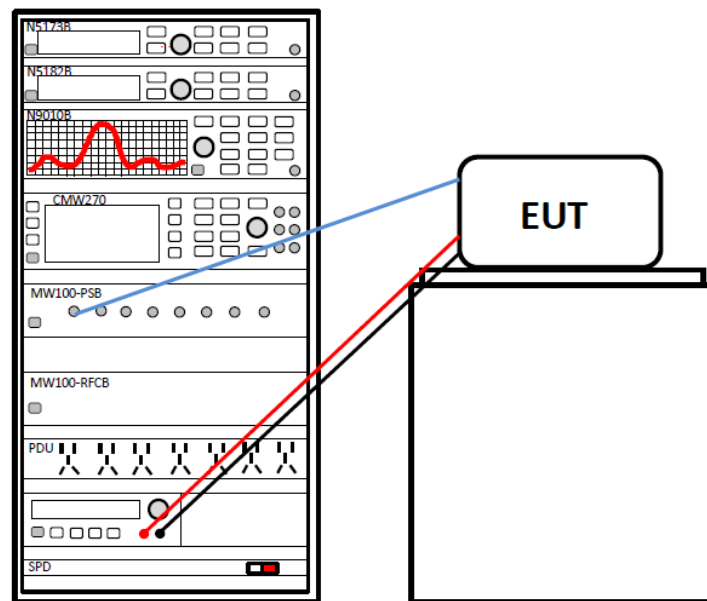
Below 1GHz (10m SAC)



Above 1GHz (3m SAC)



### 3) Conducted test method





### 4.3 Test Procedure

Test method	Test step
Conducted emission	<ol style="list-style-type: none"> <li>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.</li> </ol>
Radiated emission	<p><b>For below 1GHz:</b></p> <ol style="list-style-type: none"> <li>1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 10 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 10 m.</li> <li>2. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol> <p><b>For above 1GHz:</b></p> <ol style="list-style-type: none"> <li>1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m.</li> <li>2. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol>
Conducted test method	<ol style="list-style-type: none"> <li>1. The Wi-Fi antenna port of EUT was connected to the test port of the test system through an RF cable.</li> <li>2. The EUT is keeping in continuous transmission mode and tested in all modulation modes.</li> <li>3. Open the test software, prepare a test plan, and control the system through the software. After the test is completed, the test report is exported through the test software.</li> </ol>

## 5 Test Results

### 5.1 Summary

#### 5.1.1 Clause and Data Summary

This report is revised according to FCC ID: 2ANMU-RT6SPU, report No.: JYTSZ-R12-2300240 issued by JianYan Testing Group Shenzhen Co., Ltd, follow the Change ID allow change principle. Differences: Update addresses of applicant and applicant, and update addresses of manufacturer and manufacturer. Update model, FCC ID. Remove the logo and add the factory and factory address. Update product back photos, so no need to retest.

Test items	Standard clause	Test data	Result
Antenna Requirement	15.203	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
AC Power Line Conducted Emission	15.207 15.407 (b)(9)	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
Duty Cycle	ANSI C63.10-2013	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
Conducted Peak Output Power Power Spectral Density	15.407 (a)(1)(iv)	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
26dB Emission Bandwidth 99% Occupied Bandwidth	15.407 (a)(12)	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
6dB Emission Bandwidth	15.407 (e)	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
Unwanted Emissions	15.205 15.209 15.407 (b)(1), (9), (10)	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
Frequency Stability	15.407 (g)	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
Dynamic frequency selection	15.407 (h)(2)	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.
<b>Remark:</b> 1. Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU issue by JianYan Testing Group Shenzhen Co., Ltd.			
<b>Test Method:</b>	ANSI C63.10-2013 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01		

### 5.1.2 Test Limit

Test items	Limit																														
AC Power Line Conducted Emission	<table><tr><th rowspan="2">Frequency (MHz)</th><th colspan="2">Limit (dBμV)</th></tr><tr><th>Quasi-Peak</th><th>Average</th></tr><tr><td>0.15 – 0.5</td><td>66 to 56 <sup>Note 1</sup></td><td>56 to 46 <sup>Note 1</sup></td></tr><tr><td>0.5 – 5</td><td>56</td><td>46</td></tr><tr><td>5 – 30</td><td>60</td><td>50</td></tr></table> <p><b>Note 1:</b> The limit level in dBμV decreases linearly with the logarithm of frequency. <b>Note 2:</b> The more stringent limit applies at transition frequencies.</p>	Frequency (MHz)	Limit (dBμV)		Quasi-Peak	Average	0.15 – 0.5	66 to 56 <sup>Note 1</sup>	56 to 46 <sup>Note 1</sup>	0.5 – 5	56	46	5 – 30	60	50																
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0.5 – 5	56	46																													
5 – 30	60	50																													
Conducted Peak Output Power  Power Spectral Density	<p><b>For the 5.15-5.25 GHz band:</b></p> <p>For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p>																														
26dB Emission Bandwidth 99% Occupied Bandwidth	N/A																														
6dB Emission Bandwidth	Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.																														
Unwanted Emissions	<p>(1) <b>For transmitters operating in the 5.15-5.25 GHz band:</b> All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27</p> <p>(2) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. The provisions of § 15.205 apply to intentional radiators operating under this section:</p> <table><tr><th rowspan="2">Frequency (MHz)</th><th colspan="2">Limit (dBμV/m)</th><th rowspan="2">Detector</th></tr><tr><th>@ 3m</th><th>@ 10m</th></tr><tr><td>30 – 88</td><td>40.0</td><td>30.0</td><td>Quasi-peak</td></tr><tr><td>88 – 216</td><td>43.5</td><td>33.5</td><td>Quasi-peak</td></tr><tr><td>216 – 960</td><td>46.0</td><td>36.0</td><td>Quasi-peak</td></tr><tr><td>960 – 1000</td><td>54.0</td><td>44.0</td><td>Quasi-peak</td></tr></table> <p><b>Note:</b> The more stringent limit applies at transition frequencies.</p> <table><tr><th rowspan="2">Frequency</th><th colspan="2">Limit (dBμV/m) @ 3m</th></tr><tr><th>Average</th><th>Peake</th></tr><tr><td>Above 1 GHz</td><td>54.0</td><td>74.0</td></tr></table> <p><b>Note:</b> The measurement bandwidth shall be 1 MHz or greater.</p>	Frequency (MHz)	Limit (dBμV/m)		Detector	@ 3m	@ 10m	30 – 88	40.0	30.0	Quasi-peak	88 – 216	43.5	33.5	Quasi-peak	216 – 960	46.0	36.0	Quasi-peak	960 – 1000	54.0	44.0	Quasi-peak	Frequency	Limit (dBμV/m) @ 3m		Average	Peake	Above 1 GHz	54.0	74.0
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Above 1 GHz	54.0	74.0																													
Frequency Stability	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.																														

## 6 Test Setup Photo

Please refer to report JYTSZ-R12-2300240, FCC ID: 2ANMU-RT6SPU.

-----End of report-----