



FCC RF Test Report

(LTE)

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 2, 22H, 24E, 27L & H & M

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: _____ **Date:** 07 Aug., 2024

STAMP MARK

Reviewed by: _____ **Date:** 07 Aug., 2024

APPROVED
Manager

Approved by: _____ **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.

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1 Version

Version No.	Date	Description
00	07 Aug., 2024	<i>Original</i>

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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 Range:	LTE band 2:	Tx: 1850 MHz - 1910 MHz	Rx: 1930 MHz - 1990 MHz		
	LTE band 4:	Tx: 1710 MHz - 1755 MHz	Rx: 2110 MHz - 2155 MHz		
	LTE band 5:	Tx: 824 MHz - 849 MHz	Rx: 869 MHz - 894 MHz		
	LTE band 7:	Tx: 2500 MHz - 2570 MHz	Rx: 2620 MHz - 2690 MHz		
	LTE band 12:	Tx: 699 MHz - 716 MHz	Rx: 729 MHz - 746 MHz		
	LTE band 17:	Tx: 704 MHz - 716 MHz	Rx: 734 MHz - 746 MHz		
	LTE band 66:	Tx: 1710 MHz - 1780 MHz	Rx: 2110 MHz - 2200 MHz		
Modulation Type:	<input checked="" type="checkbox"/> QPSK	<input checked="" type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 64QAM(only supports downlink)		
Antenna Type:	Internal Antenna				
Antenna Gain:	LTE band 2:	0.43 dBi (declare by Applicant)			
	LTE band 4:	1.03 dBi (declare by Applicant)			
	LTE band 5:	-1.93 dBi (declare by Applicant)			
	LTE band 7:	2.95 dBi (declare by Applicant)			
	LTE band 12:	-2.32 dBi (declare by Applicant)			
	LTE band 17:	-2.32 dBi (declare by Applicant)			
	LTE band 66:	1.03 dBi (declare by Applicant)			
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-R12-2300243, FCC ID: 2ANMU-RT6SPU.

3.4 Description of Test Auxiliary Equipment

Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.

3.5 Measurement Uncertainty

Please refer to report JYTSZ-R12-2300243, 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-R12-2300243, FCC ID: 2ANMU-RT6SPU.

4 Measurement Setup and Procedure

4.1 Test Channel

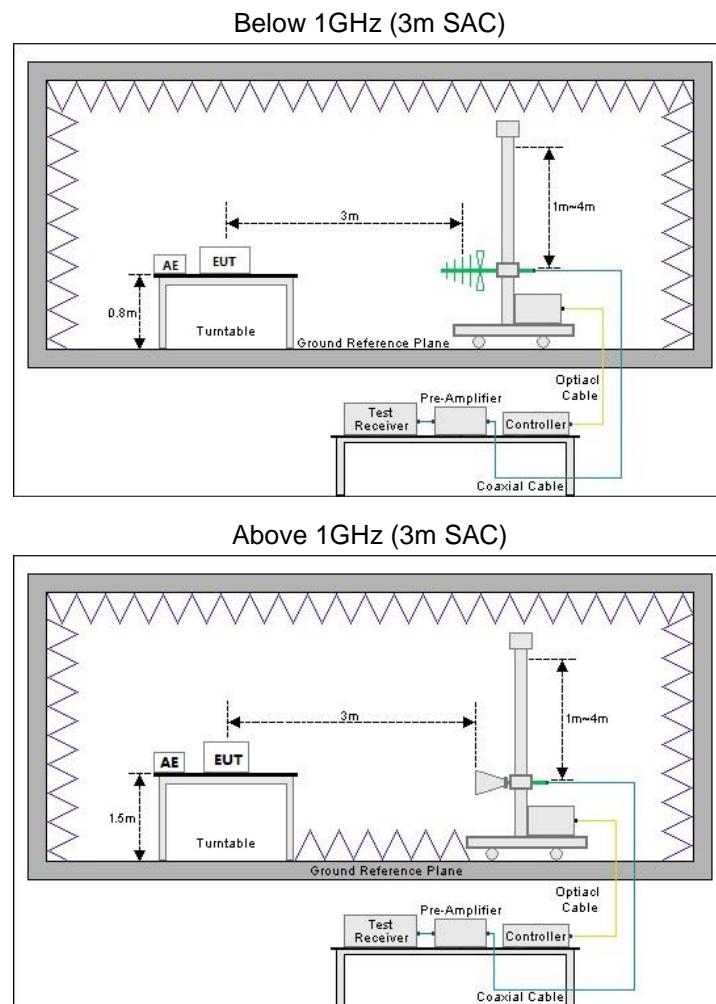
According to ANSI C63.26-2015 chapter 5.1.2.1 Table 2 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

LTE band 2					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
1.4 MHz			3 MHz		
Lowest channel	18607	1850.7	Lowest channel	18915	1851.5
Middle channel	18900	1880.0	Middle channel	18900	1880.0
Highest channel	19193	1909.3	Highest channel	19185	1908.5
5 MHz			10 MHz		
Lowest channel	18625	1852.5	Lowest channel	18650	1855.0
Middle channel	18900	1880.0	Middle channel	18900	1880.0
Highest channel	19175	1907.5	Highest channel	19150	1905.0
15 MHz			20 MHz		
Lowest channel	18675	1857.5	Lowest channel	18700	1860.0
Middle channel	18900	1880.0	Middle channel	18900	1880.0
Highest channel	19125	1902.5	Highest channel	19100	1900.0
LTE band 4					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
1.4 MHz			3 MHz		
Lowest channel	19957	1710.7	Lowest channel	19965	1711.5
Middle channel	20175	1732.5	Middle channel	20175	1732.5
Highest channel	20393	1754.3	Highest channel	20385	1753.5
5 MHz			10 MHz		
Lowest channel	19975	1712.5	Lowest channel	20000	1715.0
Middle channel	20175	1732.5	Middle channel	20175	1732.5
Highest channel	20375	1752.5	Highest channel	20350	1750.0
15 MHz			20 MHz		
Lowest channel	20025	1717.5	Lowest channel	20050	1720.0
Middle channel	20175	1732.5	Middle channel	20175	1732.5
Highest channel	20325	1747.5	Highest channel	20300	1745.0
LTE band 5					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
1.4 MHz			3 MHz		
Lowest channel	20407	824.7	Lowest channel	20415	825.5
Middle channel	20525	836.5	Middle channel	20525	836.5
Highest channel	20643	848.3	Highest channel	20635	847.5
5 MHz			10 MHz		
Lowest channel	20425	826.5	Lowest channel	20450	829.0
Middle channel	20525	836.5	Middle channel	20525	836.5
Highest channel	20625	846.5	Highest channel	20600	844.0

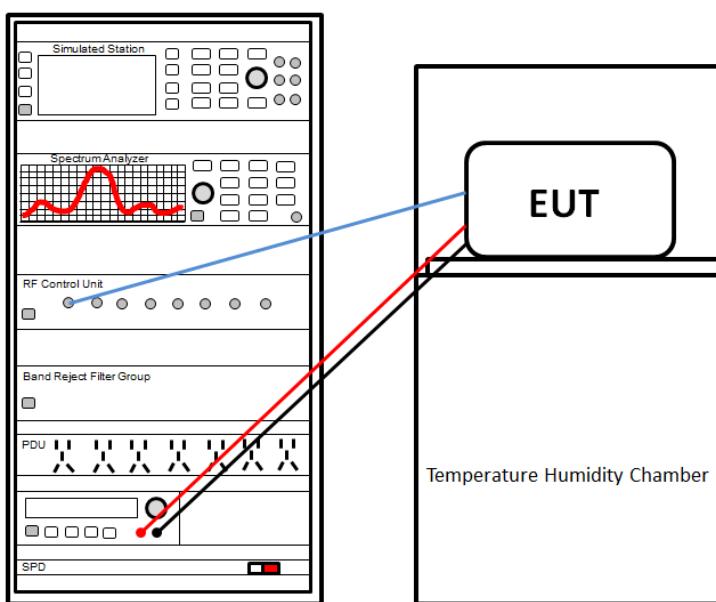
LTE band 7					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	20775	2502.5	Lowest channel	20800	2505.0
Middle channel	21100	2535.0	Middle channel	21100	2535.0
Highest channel	21425	2567.5	Highest channel	21400	2565.0
15 MHz			20 MHz		
Lowest channel	20825	2507.5	Lowest channel	20850	2510.0
Middle channel	21100	2535.0	Middle channel	21100	2535.0
Highest channel	21375	2562.5	Highest channel	21350	2560.0
LTE band 12					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
1.4 MHz			3 MHz		
Lowest channel	23017	699.70	Lowest channel	23025	700.50
Middle channel	23095	707.50	Middle channel	23095	707.50
Highest channel	23173	715.30	Highest channel	23165	714.50
5 MHz			10 MHz		
Lowest channel	23035	701.50	Lowest channel	23060	704.00
Middle channel	23095	707.50	Middle channel	23095	707.50
Highest channel	23155	713.50	Highest channel	23130	711.00
LTE band 17					
5 MHz			10 MHz		
Lowest channel	23755	706.50	Lowest channel	23780	709.00
Middle channel	23790	710.00	Middle channel	23790	710.00
Highest channel	23825	713.50	Highest channel	23800	711.00
LTE band 66					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
1.4 MHz			3 MHz		
Lowest channel	131979	1710.7	Lowest channel	131987	1711.5
Middle channel	132322	1745.0	Middle channel	132322	1745.0
Highest channel	132665	1779.3	Highest channel	132657	1778.5
5 MHz			10 MHz		
Lowest channel	131997	1712.5	Lowest channel	132022	1715.0
Middle channel	132322	1745.5	Middle channel	132322	1745.0
Highest channel	132647	1777.5	Highest channel	132622	1775.0
15 MHz			20 MHz		
Lowest channel	132047	1717.5	Lowest channel	132072	1720.0
Middle channel	132322	1745.0	Middle channel	132322	1745.0
Highest channel	132597	1772.5	Highest channel	132572	1770.0

4.2 Test Setup

1) Radiated emission measurement:



2) Conducted test method



4.3 Test Procedure

Test method	Test step
Radiated emission	<p>For below 1GHz:</p> <ol style="list-style-type: none"> 1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m. 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 & 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. 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. <p>For above 1GHz:</p> <ol style="list-style-type: none"> 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. 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 & 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. 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.
Conducted test method	<ol style="list-style-type: none"> 1. The LTE antenna port of EUT was connected to the test port of the test system through an RF cable. 2. The EUT is keeping in continuous transmission mode and tested in all modulation modes. 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.

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-R12-2300243 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
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
RF Output Power	Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c) Part 27.50 (c)(10) Part 27.50 (d)(4) Part 27.50 (h)(2)	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
Peak-to-Average Power Ratio	Part 24.232 (d) Part 27.50 (d)(5)	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
Modulation Characteristics	Part 2.1047	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
26dB Emission Bandwidth 99% Occupied Bandwidth	Part 2.1049	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
Out of Band Emission at Antenna Terminals	Part 2.1051 Part 22.917 (a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h) Part 27.53 (m)(4)	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h) Part 27.53 (m)(4)	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
Frequency Stability vs. Temperature	Part 2.1055 (a)(1)(b) Part 22.355 Part 24.235 Part 27.54	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.
Frequency Stability vs. Voltage	Part 2.1055 (d)(2) Part 22.355 Part 24.235 Part 27.54	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.	Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.

Remark:

1. Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU issue by JianYan Testing Group Shenzhen Co., Ltd.

Test Method:

ANSI/TIA-603-E-2016
ANSI C63.26-2015

5.1.2 Test Limit

Test items	Limit
RF Output Power	LTE band 2/7: 2W EIRP LTE band 4/66: 1W EIRP LTE band 5: 7W ERP LTE band 12/17: 3W ERP
Peak-to-Average Power Ratio	LTE band 2/4: The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB Other bands: N/A report only
Modulation Characteristics	N/A
26dB Emission Bandwidth 99% Occupied Bandwidth	N/A
Out of Band Emission at Antenna Terminals Field Strength of Spurious Radiation	LTE band 2, 4, 5, 12, 17, 66: The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. LTE band 7: For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz.
Frequency Stability vs. Temperature Frequency Stability vs. Voltage	LTE band 2: The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. LTE band 4, 7, 12, 17, 66: The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation. LTE band 5: Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

TABLE C-1—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES

Frequency range (MHz)	Base, fixed (ppm)	Mobile >3 watts (ppm)	Mobile ≤3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	n/a	n/a
929 to 960	1.5	n/a	n/a
2110 to 2220	10.0	n/a	n/a

6 Test Setup Photo

Please refer to report JYTSZ-R12-2300243, FCC ID: 2ANMU-RT6SPU.

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