

Applicant: GLORY STAR TECHNICS (SHENZHEN) CO., LTD.

Product: Commercial Kiosk Tablet

Model No.: ALU150, ALU100

Trademark: Glory Star

Test Standards: FCC Part 15.249

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10 & FCC Part 15 Subpart C,

Paragraph 15.249 regulations for the evaluation of

electromagnetic compatibility

Approved By

Terry long

Terry Tang

Manager

Dated: April 09, 2024

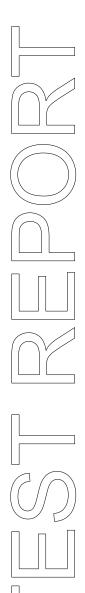
Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com



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Date: 2024-04-09



Special Statement:

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) — Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

CAB identifier: CN0033

Date: 2024-04-09



Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 744189 For 3m Anechoic Chamber

1.2 Applicant Details

Applicant: GLORY STAR TECHNICS (SHENZHEN) CO., LTD.

Address: Bldg., 9, 4/F., Zong Yuntai Technology Industrial Park, Songbai Road, Shiyan Street, Boan,

Shenzhen, China

Telephone: (0755)-26001808-305 Fax: (0755)-26002933

1.3 Description of EUT

Product: Commercial Kiosk Tablet

Manufacturer: GLORY STAR TECHNICS (SHENZHEN) CO., LTD.

Address: Bldg., 9, 4/F., ZongYuntai Technology Industrial Park, Songbai Road, Shiyan

Street, Boan, Shenzhen, China

Trademark: Glory Star Model Number: ALU150 Additional Model Name ALU100

Rating: Input: DC12V, 1.2A

Switching Adapter: Model: SOY-1200500-327

Input: 100-240V~, 50/60Hz, 1.7A Max; Output: DC12V, 5.0A, 60W

(for ALU150)

Model: FJ-SW20181202000D

Input: 100-240V~, 50/60Hz, 1.5A Max; Output: DC12V, 2.0A, 24W

(for ALU100)

Modulation Type: GFSK, π/4DQPSK, 8DPSK

Operation Frequency: 2402-2480MHz

Channel Number: 79
Channel Separation: 1MHz

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THE LABOR DE LA CONTROL DE LA

Hardware Version: V1.4

Software Version: Android 12

Serial No.: GS101240300461

Antenna Designation FPC antenna with gain 1.48dBi Max (Get from the antenna specification)

1.4 Submitted Sample: 4 Samples

1.5 Test Duration

2024-03-11 to 2024-04-09

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty = 6.0dB

Occupied Channel Bandwidth Uncertainty =5%

Conducted Emissions Uncertainty = 3.6dB

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy Xing

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100253	2023-07-14	2024-07-13
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2023-07-14	2024-07-13
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2023-07-14	2024-07-13
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2024-07-17
Power meter	Anritsu	ML2487A	6K00003613	2023-07-14	2024-07-13
Power sensor	Anritsu	MA2491A	32263	2023-07-14	2024-07-13
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17
9*6*6 Anechoic			N/A	2022-07-26	2025-07-25
EMI Test Receiver	RS	ESVB	826156/011	2023-07-14	2024-07-13
EMI Test Receiver	RS	ESCS 30	834115/006	2023-07-14	2024-07-13
Spectrum	HP/Agilent	E4407B	MY50441392	2023-07-14	2024-07-13
Spectrum	RS	FSP	1164.4391.38	2023-07-14	2024-07-13
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA	1	2023-07-14	2024-07-13
RF Cable	Zhengdi	7m		2023-07-14	2024-07-13
Pre-Amplifier	Schwarebeck	BBV9743	#218	2023-07-14	2024-07-13
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2023-07-14	2024-07-13
LISN	SCHAFFNER	NNB42	00012	2023-07-14	2024-07-13
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13

2.1 Automation Test Software

For Conducted Emission Test

Name	Version		
EZ-EMC	Ver.EMC-CON 3A1.1		

For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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3.0 Technical Details

3.1 Summary of test results

TL. FITT L. L.	441	.1: 4- 41	C- 11	<u>: C</u> 4 <u>:</u>
The EUT has been	rested accor	aing to the	tonowing	specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph 15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit	Field Strength of Fundamental	Pass	Complies
FCC Part 15, Paragraph 15.209	Radiated Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	Pass	Complies

3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4:2014 and ANSI C63.10:2013

4.0 EUT Modification

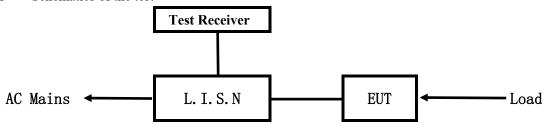
No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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5. Power Line Conducted Emission Test

5.1 Schematics of the test

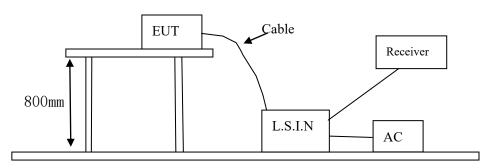


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2014.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2014. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

79 channels are provided to the EUT

A. EUT

Device	Manufacturer	Model	FCC ID
Commercial Kiosk Tablet	GLORY STAR TECHNICS		2AACS-ALU100-
	al Kiosk Tablet (SHENZHEN) CO., LTD.		150

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B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	Rating
N/A			

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2014

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency	Limits (dB µ V)			
(MHz)	Quasi-peak Level	Average Level		
0.15 ~ 0.50	66.0~56.0*	56.0~46.0*		
$0.50 \sim 5.00$	56.0	46.0		
5.00 ~ 30.00	60.0	50.0		

Notes: 1.

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies
- 5.6 Test Results:

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

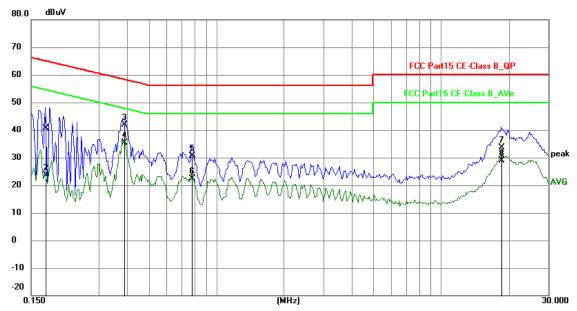
EUT Operating Environment

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by BT

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1734	30.78	9.77	40.55	64.80	-24.25	QP	Р
2	0.1734	13.84	9.77	23.61	54.80	-31.19	AVG	Р
3	0.3879	32.05	9.76	41.81	58.11	-16.30	QP	Р
4	0.3879	25.55	9.76	35.31	48.11	-12.80	AVG	Р
5	0.7779	20.76	9.78	30.54	56.00	-25.46	QP	Р
6	0.7779	12.72	9.78	22.50	46.00	-23.50	AVG	Р
7	18.6039	23.11	10.60	33.71	60.00	-26.29	QP	Р
8	18.6039	18.16	10.60	28.76	50.00	-21.24	AVG	Р

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

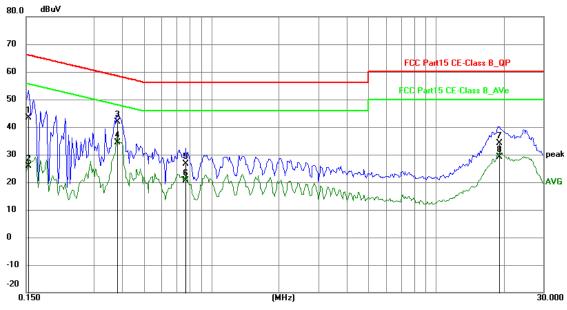
EUT Operating Environment

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by BT

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	33.56	9.78	43.34	65.79	-22.45	QP	Р
2	0.1539	16.22	9.78	26.00	55.79	-29.79	AVG	Р
3	0.3800	32.12	9.76	41.88	58.28	-16.40	QP	Р
4	0.3800	24.52	9.76	34.28	48.28	-14.00	AVG	Р
5	0.7700	16.90	9.78	26.68	56.00	-29.32	QP	Р
6	0.7700	10.76	9.78	20.54	46.00	-25.46	AVG	Р
7	19.0680	23.44	10.62	34.06	60.00	-25.94	QP	Р
8	19.0680	18.63	10.62	29.25	50.00	-20.75	AVG	Р

Note: The two models were tested and only the worst case was recorded in the test report. ALU150 was the worst case.

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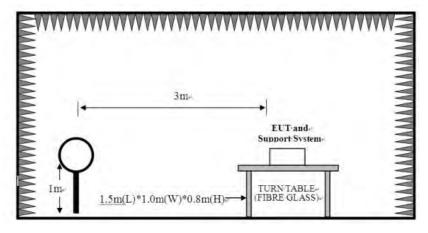


6 Radiated Emission Test

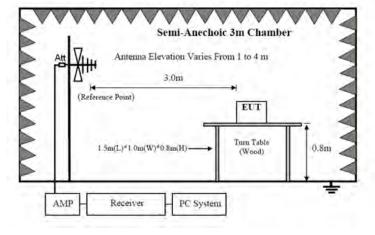
- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz (Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz



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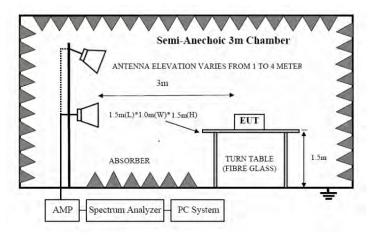
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For radiated emissions above 1GHz



- 6.2 Configuration of The EUT

 Same as section 5.3 of this report
- 6.3 EUT Operating Condition
 Same as section 5.4 of this report.
- 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency	Field Stre	ength of Fundame	ntal (3m)	Field S	trength of Harmo	nics (3m)
(MHz)	mV/m	dBu	V/m	uV/m	dBu	V/m
2400-2483.5	50	94 (Average) 114 (Peak) 500 54 (Average)		74 (Peak)		

Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
- 2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

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B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
0.009-0.490	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-80	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
- 5. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.
- 6. All modulation type were tested and only the worst case was recorded in the test report. GFSK modulation was the worst case.
- 7. The two models were tested and only the worst case was recorded in the test report. ALU150 was the worst case.

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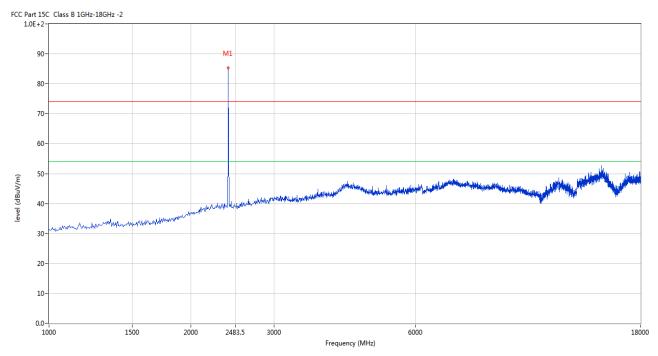


6.5 Test result

A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2402MHz

Horizontal



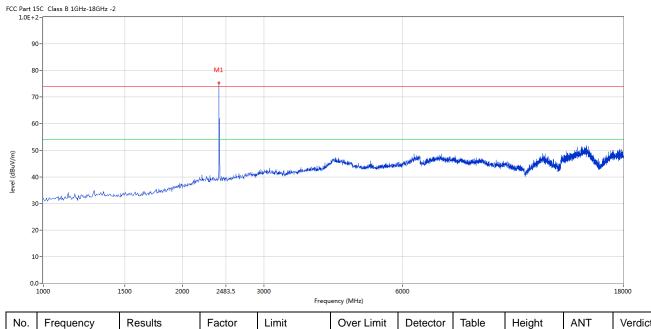
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402	85.26	-3.57	114.0	-28.74	Peak	283.00	100	Horizontal	Pass

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Vertical



1	No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
•	1	2402	75.24	-3.57	114.0	-38.76	Peak	195.00	100	Vertical	Pass

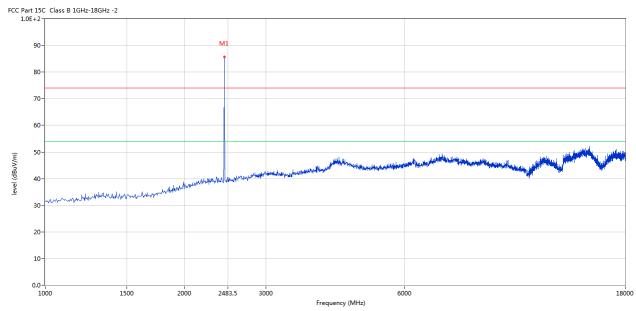
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Please refer to the following test plots for details: Middle Channel-2441MHz

Horizontal



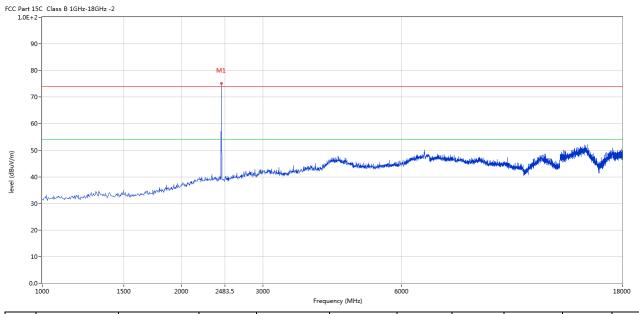
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	85.71	-3.57	114.0	-28.29	Peak	286.00	100	Horizontal	Pass

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Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	75.13	-3.57	114.0	-38.87	Peak	182.00	100	Vertical	Pass

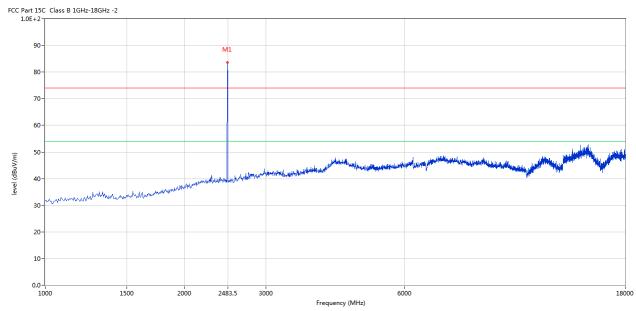
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Please refer to the following test plots for details: High Channel-2480MHz

Horizontal



Ī	No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
	1	2480	83.53	-3.57	114.0	-30.47	Peak	59.00	100	Horizontal	Pass

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Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	74.76	-3.57	114.0	-39.24	Peak	181.00	100	Vertical	Pass

Note: (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

- (3) Margin=Emission-Limits
- (4) According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, it is only the floor noise. No necessary to take down.
- (6) The measured PK value less than the AV limit.

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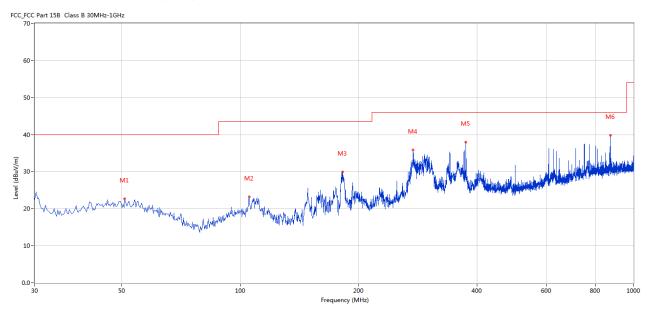


B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	50.850	22.67	-11.40	40.0	17.33	Peak	156.00	100	Horizontal	Pass
2	105.399	23.24	-13.25	43.5	20.26	Peak	0.00	100	Horizontal	Pass
3	182.009	29.92	-15.03	43.5	13.58	Peak	298.00	100	Horizontal	Pass
4	275.349	35.84	-11.66	46.0	10.16	Peak	359.00	100	Horizontal	Pass
5	374.991	37.95	-9.44	46.0	8.05	Peak	113.00	100	Horizontal	Pass
6	874.901	39.80	-2.17	46.0	6.20	Peak	250.00	100	Horizontal	Pass

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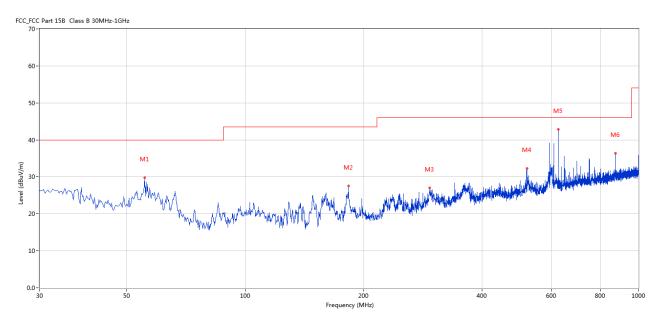


Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	55.456	29.82	-11.89	40.0	10.18	Peak	288.00	100	Vertical	Pass
2	182.979	27.58	-14.94	43.5	15.92	Peak	319.00	100	Vertical	Pass
3	294.501	26.98	-11.20	46.0	19.02	Peak	95.00	100	Vertical	Pass
4	519.970	32.24	-6.76	46.0	13.76	Peak	177.00	100	Vertical	Pass
5	624.946	42.79	-4.85	46.0	3.21	Peak	352.00	100	Vertical	Pass
6	874.901	36.41	-2.17	46.0	9.59	Peak	288.00	100	Vertical	Pass

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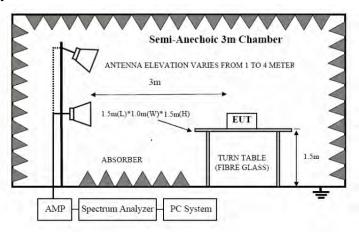


7. Band Edge

7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

7. 2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

7.3 Configuration of the EUT

Same as section 5.3 of this report

7.4 EUT Operating Condition

Same as section 5.4 of this report.

7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

The report refers only to the sample tested and does not apply to the bulk.

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In the event of the improper use of the report. The SHENZHEN TIMEWAY TESTING LABORATORIES. reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

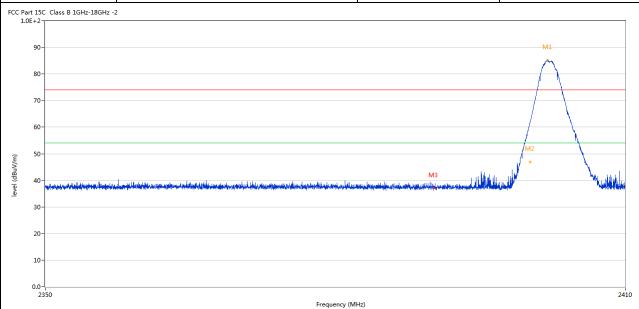
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7.6 Test Result

Product:	Commercial Kiosk Tablet	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2401.902	85.21	-3.57	74.0	11.21	Peak	67.00	100	Horizontal	N/A
2	2400.057	62.00	-3.57	74.0	-12.00	Peak	67.00	100	Horizontal	Pass
2**	2400.057	46.94	-3.57	54.0	-7.06	AV	67.00	100	Horizontal	Pass
3	2390.025	37.07	-3.53	74.0	-36.93	Peak	98.00	100	Horizontal	Pass

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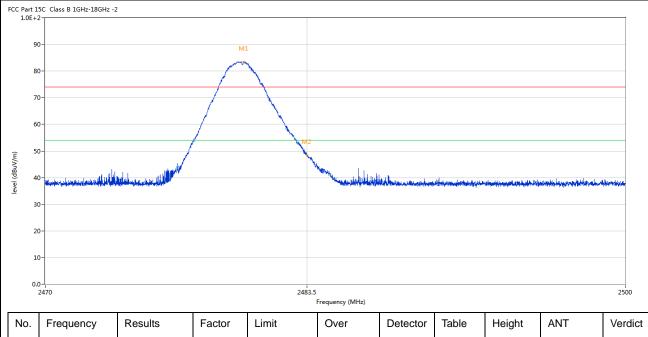


	Product:	Cor	nmercial I	Kiosk Tablet		Detect	or		Vertical	
	Mode	K	eeping Tra	ansmitting		Test Vol		120V~		
Те	mperature		24 deg	g. C,		Humid	ity	4	56% RH	
Т	est Result:		Pas	SS						
C Part 1 1.0E+	15C Class B 1GHz-18GHz 2-	-2								
g	10-									
8	00-							M	1	
7	70-									
6	60-							NA NA	*	
. 5	60-							IVI4	1	
. 4	10-	Mary and the second and the second and the second	hterrotydd dagae acholyddy		مالين ومالجو مكادياه أروره ويدامون أماينك	M3	habalay so lopen paya Makabapha lima	led a phyliterately	N/V material	iantify i filteri
	60-									
2	20-									
1	.0-									
n	.0-									
	2350			Fre	quency (MHz)					2410
			ı	12	Over Limit	Detector	Table	Height	ANT	Verdi
	Frequency	Results	Factor	Limit						
	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	(dBuV/m)	(dB)		(o)	(cm)		
No.					(dB)	Peak	(o) 192.00	(cm) 100	Vertical	N/A
No.	(MHz)	(dBuV/m)	(dB)	(dBuV/m)		Peak Peak		` ′	Vertical Vertical	

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THE REAL PROPERTY.	
1	

Product:	Commercial Kiosk Tablet	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



	No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
	1	2480.242	83.50	-3.57	74.0	9.50	Peak	260.00	100	Horizontal	N/A
	2	2483.500	48.34	-3.57	74.0	-25.66	Peak	87.00	100	Horizontal	Pass
Г											

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	Product:		Comme	rcial Kiosk Ta	ablet		Detecto	or	Vertic	al	
	Mode		Keepii	ng Transmitti	ng		Test Volt	age	120V~		
Те	mperature		2	24 deg. C,		Humidity			56% R	H	
Te	est Result:			Pass							
C Part 1	LSC Class B 1GHz-18GHz	-2				l		, , , , , , , , , , , , , , , , , , ,			
1.06+	2-										
9	0-										
8	0-		M1								
7	0-										
6	0-										
5	0-		/	M2							
5	0-				والمراجعة	d Bakarangan kapilahan di kabarahara	ورود و در المعالم المعامل المعامل المعامل و المعامل و المعامل و المعامل المعامل و المعامل المعامل و	والمتعارض والمتع	المستعدد والمستعددة والمستعدد والمستعد والمستعدد والمست	I Militable Inc.	
4	O-	indicated in the second of the second			terdaktion alminosis et ekstelet et et	al by a great and a special an	e die del politica de la despessora	na delegia, completa, elegia de la grada de seguida	things on the state of the stat	i, Middella Jose	
3	O-	interpritation and the state of			ing displace of a facility of the second policy of the second policy of the second policy of the second policy	مغام المعادم والمعادم	والمرابع المرابع	المعادلة ال	iden, yksis yksis on alle siis o	i professione, ma	
3	O-	uletingerisk jamaniskompeteraktu flydder u ^{rk}			ર્યું તે કર્યું કે કહ્યું કરો કરો તે કહે છે. તે કહે કહ્યું કહ્યું કહ્યું કહ્યું કહ્યું કહ્યું કહ્યું કહ્યું કહ	u bywyn a de y dely e	uda jagunda da da aran a	المعاطوة والمعاطوة المعاطوة ا	dernydrate Ante all fless can del fast	i pridividu jeno	
3	O-	indicamini kimu anto capacio anto i Palabar ^d			to, i de la constitució de constitució de la constitució de la constitució de la constitució de la constitució	diberiya se keedaan ka gadan d	nd he kidy select of the instrument	nedous, district, ministral	denghashris digen waathys	a produce one	
. 4 3 2		iletingeriskijme en troppet de sky tig det e ^d			ર્યું તે કર્યું કે કહ્યું કરો કરો તે કહ્યું કે કહ્	d North and Antickle in	inda, keljustilla fysika kapanin	مخطور سياس والمراجع المراجع ال	den market dien and he		
4 3 2		interprisi in an energy or easy to delegate and		2483.5	equency (MHz)	d.Populos este de la dicidica	nds.kdyssicalysiteinsnun	nesidae, contan d _{es} ia, min tenja	denghashus alamo waatha	2500	
3 2 2		Results	Factor	2483.5		Detector	Table	Height	ANT	2500	
4 3 2 1	0-		Factor (dB)	2483.5 Fr	equency (MHz)						
. 4 3 2 1	0- 0- 0- 0- 0- 0- 0- 0- 0- 0- 0- 0- 0- 0	Results		2483.5 Fr	equency (MHz) Over Limit		Table	Height		2500	

Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.

2. All modulation type were tested and only the worst case was recorded in the test report. GFSK modulation was the worst case.

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8.0 Antenna Requirement

Applicable Standard

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has an FPC antenna. The antenna gain is 1.48dBi Max. It fulfills the requirement of this section. Test Result: Pass

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GFSK Modulation												
Product:		Comm	ercial Kio	sk Tablet		Test Mo	de:		Keep tr	ansmi	tting	
Mode		Keep	ing Trans	mitting		Test Volt	age	120V~				
Temperature			24 deg. (Humidi	ty	56% RH				
Test Result:			Pass			Detecto	or			PK		
20dB Bandwidth			974kHz									
E Da		Delta 1	[T1]		RBW	30 k	Hz	RE	7 Att	20	dВ	
Ref Lvl			-0.	.63 dB	VBW	100 k	Hz					
10 dBm		973	.947895	79 kHz	SWT	8.5 m	ıs	Ur	nit		dBm	L
10						V 1	[T1]		-20	0.03	dBm	
				2					2.40156	3413	GHz	A
0				N _A	Λ.,	^ 1	[T1]		- (.63	đВ	
					Vh			97	3.94789	579	kHz	
-10				<i>f</i> \√		∇2 _ ∧	[T1]		2.40188	3.52 8878	dBm	
			1 /	e ^l		W .			2.40100	0070	Gnz	
-20 D1 -20.5	2 dBm											
1MAX -30			المير			f	آلر					1M
-40								***************************************				
		, A.										
-50 -60	, and a second								Ţ	No. of the last of	محد	
-70												
-80												
-90 Center 2.4	402 G	H z		300	kHz/				Sn=	an 3	MHz	ĺ

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10 2	Product:	Commercial Ki	osk Tablet	Test Mode:	: Kee	ep transmitting
Temperature 24 deg. C, Humidity 56% RH Test Result: Pass Detector PK 1.004 MHz Ref Lv1 0.13 dB VBW 100 kHz 10 dBm 1.00400802 MHz SWT 8.5 ms Unit dBm 10 V1 (T1) -2C.81 dBm 2.44053 407 GHz 1.00400 802 MHz 2.44058 878 GHz -10 D1 20.86 dBm -10 D1 20.86 dBm -20 D1 20.86 dBm -30 D1 20.86 dBm -40 D1 20.86 dBm -50 D1 20.86 dBm	Mode	Keeping Tran	smitting	Test Voltage		
Test Result: Pass Detector PK 0dB Bandwidth 1.004MHz	Temperature					56% RH
Delta 1 [T1] RBW 30 kHz RF Att 20 dB Ref Lv1 10 dBm 1.00400802 MHz SWT 8.5 ms Unit dBm 10 V1 [T1] -2C.81 dBm 2.44053407 GHz -10 V2 [T1] -1.86 dBm -20 D1 20.86 dBm -30 LHZ RF Att 20 dB VBW 100 kHz 1.00400802 MHz SWT 8.5 ms Unit dBm 2.44053407 GHz -2.44082878 GHz -30 LHZ RF Att 20 dBm 10 A LHZ RF Att 20 dBm 10 A LHZ RF Att 20 dBm 10 A LHZ RF Att 20 dBm 2.44053407 GHz -2.44053407 GHz -2.44082878 GHz						PK
Ref Lvl 0.13 dB VBW 100 kHz 10 dBm 1.00400802 MHz SWT 8.5 ms Unit dBm 10 V1 [T1] -20.81 dBm 2.44053407 GHz -10 V2 [T1] -0.86 dBm -2.44088878 GHz -20 D1 20.06 dBm 1 MAX -30	OdB Bandwidth	1.004M	Hz			
10 dBm 1.00400802 MHz SWT 8.5 ms Unit dBm 10 V1 [T1] -20.81 dBm 2.444053 407 GHz -10 V2 [T1] -0.86 dBm -2.44088 378 GHz -20 D1 20.06 dBm -30 LMAX	<u>.</u>	Delta 1 [T1]	RBW 30 k	KHZ RF At	t 20 dB
10 2	Ref Lvl		0.13 dB	VBW 100 k	cHz	
□		1.004	00802 MHz	SWT 8.5 m	ns Unit	dBm
-10 -10 -10 -10 -10 -10 -10 -10 -10 -10	10			▼1	[T1]	
-10 -10 -10 -10 -10 -10 -10 -10 -10 -10			2		2.44	4053407 GHz
-10	0		Ã. A			0.13 dB
-20 D1 20.86 dBm 1 2.44088878 GHz -30 -40 -50			1 / 1	<i>س</i> /ر		
-20 P1 -20 86 dBm	-10		- N' $ -$	V 2		
-30 -40 -50		1	<i>,</i>	\psi_ 1	2.4	1000,0 9112
-30 -40 -50	-20 D1 -20.86	dBm /	J ^N			
-40 -50				\	نامر	11M
-50 What what was a second of the second of					N. Carlotte	
married landing to the state of		1~1			1	Ly.
	mornous					here may ray
-60	-60					
-70	-70					
-80	-80					
-90 Center 2.441 GHz 300 kHz/ Span 3 MHz						

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Product:		Commerc	cial Kiosk	Tablet	7	Test Mode:		Keep tra	ansmitting	
Mode			g Transmi			est Voltage			0V~	
Temperature			4 deg. C,	8		Humidity		56% RH		
Test Result:		<u>_</u>	Pass			Detector			PK	
20dB Bandwidth	1.004MHz									
^		Delta 1			RBW	30 k	Hz R	F Att	20 dB	
Ref Lvl				11 dB	VBW		Hz			
10 dBm		1	.004008	02 MHz	SWT	8.5 m	ıs U	nit	dBm	
10						V 1	[T1]	-21	.29 dBm	
								2.47954		A
0				X		<u></u> 1	[T1]		1.11 dB	
				/ tru	Δ_{Λ}			1.00400	802 MHz	
-10					2 /2	∇ 2	[T1]	-1	.69 dBm	
				N_{r}	,	L _q		2.47988	878 GHz	
-20	60 15		1			1				
D1 -21.	69 dBm,		744			1				1MA
-30			a d			7	Ĺ			
							N. Mary			
-40	\wedge	~						m		
-50	N							1	- Ave a	
-60									7,4,4	
-70										
-80										
-90										
Center 2	.48 GH:	Z		300	kHz/			Spa	ın 3 MHz	•
Date: 30	.MAR.2									

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Product:	Comm	ercial Kic	sk Tablet		Test Mod	de:	Keep tra	ansmitting	
Mode	Keej	oing Trans	mitting		Test Volta	age	120V~		
Temperature		24 deg. (24 deg. C,			ty	56% RH		
Test Result:		Pass				or	I	PK.	
0dB Bandwidth	1.269MHz								
	Marker	RBW	30 k	Hz R	F Att	20 dB			
Ref Lvl	ndB	20	.00 dB	VBW	100 k	Hz			
10 dBm	BW	L.26853	707 MHz	SWT	8.5 m	s U	nit	dBr	n
					▼1	[T1]	- 0	.90 dBm	
			1				2.40189	479 GHz	
0			Ā	Λ	nđE)	20	.00 as	1
					BW ✓TI	[T1]	1.26853	707 MHz	
-10		W		<u> </u>		[++]	2.40141	383 GHz	1
		1200			▽ T2	T211	-21	.07 dBm	n
-20		7				- Color	2.40268	236 GHz	
1MAX						-			11
-30									1
	hand					M	_		
-40	/						\\\		1
V June V	[*]							\sim	
-50									Ì
-60									1
-70									1
-80									-
-90				<u> </u>			l		1
Center 2.402	2 GHz		300	kHz/			Spa	ın 3 MHz	

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Product:	Commer	cial Kiosk	Tablet		Γ	est Mode:		Keep tra	ansmitting	
Mode	Keepir	ng Transmi	tting		T	est Voltage	;	12	0V~	
Temperature		4 deg. C,				Humidity		569	% RH	
Test Result:		Pass				Detector]	PK	
0dB Bandwidth	1	.238MHz								
/s de	Marker	1 [T1 n	idB]	R	BW	30 k	Hz R	F Att	20 dB	
Ref Lvl	ndB	20.	00 dB	V	BW	100 k	Ηz			
10 dBm	BW	1.238476	95 MHz	S	WT	8.5 m	s U	nit	dBm	
10						▼1	[T1]	-3	l.01 dBm	P
			1					2.44088	8878 GHz	
0			Ą	Λ		ndi		20	1.00 dB	
1.0			\sqrt{N}	(_	- ,	BW ∿∧. ∇ T1		1.23847 -20	0.81 dBm	
-10		1	1		T.	M		2.44041	383 GHz	
		ممر1 ا				▽ ⊤2	[T1]	-21	l.37 dBm	
-20		7					4	2.44165	230 GHz	1M
							ŧ			
-30										
							~	L ~~		
-40								A fr	Lag.	
	<u> </u>								$-\sqrt{N}$	
-50										
-60										
-70										
-80										
-90 Center 2.	441 CH-	l	300	kHz/				C~-	an 3 MHz	
Conter 2.	111 0112		300	/				Spe	0 1.1112	

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π/4DQPSK Mod	ulation								
Product:	Comme	rcial Kiosk Ta	ablet	Т	est Mode:		Keep tra	nsmitting	
Mode	Keepi	ng Transmitti	ng	To	est Voltage		12	0V~	
Temperature		24 deg. C,]	Humidity		56%	% RH	
Test Result:		Pass			Detector		F	PK	
20dB Bandwidth	1.232MHz								
(E)	Marker	1 [T1 nd	B]	RBW	30 kl	Hz RI	F Att	20 dB	
Ref Lvl	ndB	20.0		VBW		Ηz			
10 dBm	BW	1.2324649	3 MHz	SWT	8.5 m	s Ur	nit	dBm	
10					▼1	[T1]	-1	.78 dBm	A
			1				2.47988	878 GHz	A
0			Ă A		ndB		20	.00 aB	•
					BW ▼T1		1.23246	493 MHz	
-10		m	A	- V	1/2000	[11]	2.47941	984 GHz	
					V _T	[T1]	-22	.13 dBm	
-20						<u>A/</u> 1.5	2.48065	230 GHz	
-30	<u> </u>	4				Ì			1MA
	الرا					\int_{V}			
-40	VW						AR IV	ny	
-50								7	
-60									
-70									
-80									
-90	40. 67			/					
Center 2.			300 k	HZ/			Spa	n 3 MHz	
Date: 30.	MAR.2024 0	9:50:35							

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Product:	Comm	nercial Kio	sk Tablet		Test Mo	de:	Keep tra	ansmitting	
Mode	Keej	ping Trans	mitting		Test Volta	age	120V~		
Temperature		24 deg. (С,		Humidi	ty	56% RH		
Test Result:		Pass				or]	PK	
OdB Bandwidth		1.238MHz							
<u> </u>	Marker	1 [T1 r	RBW	30 k	Hz R	F Att	20 dB		
Ref Lvl	ndB	20	.00 dB	VBW	100 k	Hz			
10 dBm	BW I	1.238476	695 MHz	SWT	8.5 m	ıs U	nit	dBr	n
					▼1	[T1]	- (.90 dBm	
			1				2.40188	878 GHz	▐▔
0			Ā	Λ	ndE		20	.00 as	1
			_ / \ _\		BW Laf\ ▼TI	[T1]	1.23847	695 MHz	
-10		/W		<u> </u>		. [11]	2.40141	383 GHz	1
	5	11/			▽ T2	[1] T1]	-20	.93 dBm	n
-20		7				- ST-	2.40265	230 GHz	1
1MAX						ļ			11
-30									1
	1					M			
-40	/ \						\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1
Vary V	•						_	W	
-50								0	١
-60									1
-70									1
-80									-
-90		<u> </u>						<u> </u>	1
Center 2.40	2 GHz		300	kHz/			Spa	n 3 MHz	3

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Report No.: TW2403090-01E



8DPSK Modulat	tion						
Product:	Commercial Kiosk Tablet			Test Mode:	Keep tra	Keep transmitting	
Mode	Keeping Transmitting			est Voltage	12	120V~	
Temperature	24 deg. C,			Humidity	569	56% RH	
Test Result:	Pass			Detector		PK	
20dB Bandwidth	1.238MHz						
Ŕ A	Marker 1	[T1 ndB]	RBW	30 kH:	z RF Att	20 dB	
Ref Lvl	ndB	20.00 dB	VBW	100 kH:			
10 dBm	BW 1.:	23847695 MHz	SWT	8.5 ms	Unit	dBm	
				▼1 [т1] —	l.04 dBm	
0		1			2.44088	8878 GHz	
		A	Λ	ndB BW	1.23845	7695 MHz	
1.0		_ / W	Lun,	- BW 	[T1] -20	0.83 dBm	
-10		MA	V	M	2.44041	383 GHz	
	2,1	<i>J</i>		VT2	[T1] -21	l.39 dBm	
-20	7'			-	2.44165	230 GHZ 1MA	
					<u> </u>	IMA	
-30					1.		
					1		
-40	1200				~ ~ ~	Vrg -	
	v					~~~~	
-50							
-60							
-70							
-80							
-90	111 50				<u> </u>		
Center 2.441 GHz 300 kHz/ Span 3 MHz							
Date: 30.	MAR.2024 10:1	5:28					

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Date: 2024-04-09



Product: Commer			nercial Kiosk Tablet			Т	Test Mode:		Keep transmitting		
Mode	Keepin	ng Transmitting			To	Test Voltage		120V~			
			24 deg. C,			_	Humidity		56% RH		
Test Result:		Pass				Detector			PK		
0dB Bandwidth		1.232MHz									
<u>—————————————————————————————————————</u>	Ma	rker	1 [T1 n	dB]	F	RBW	30 k	Hz R	F Att	20 dB	
Ref Lvl	nd	.В	20.	00 dB	7	/BW		Ηz			
10 dBm	BW	1	.232464	93 MHz	5	TWS	8.5 m	s U	nit	dBm	
10							▼1	[T1]	-1	.88 dBm	A
									2.47988	878 GHz	
0				Ā	Λ		ndi	3	20	.00 dB	
				[]	$\langle \cdot \rangle$		вw - ∨ т1		-23	493 MHz	
-10			\sim	~ ~	<u> </u>	∇	V/W	. [+ +]	2.47941	984 GHz	
							Vтз	[T1]	-21	.92 dBm	
-20								₩\	2.48065	230 GHZ	1M
-30								1			IM
		J						J.			
-40	V WW	-							ωN	and the same of th	
-50										7	
-60											
-70											
, ,											
-80											
-00											
-90											
Center 2	.48 GHz	<u> </u>		300	kHz/				Spa	ın 3 MHz	

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Date: 2024-04-09



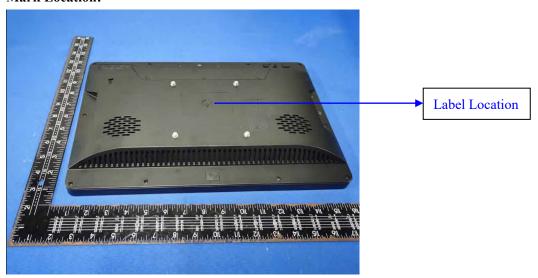
10.0 FCC ID Label

FCC ID: 2AACS-ALU100-150

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



Page 39 of 67

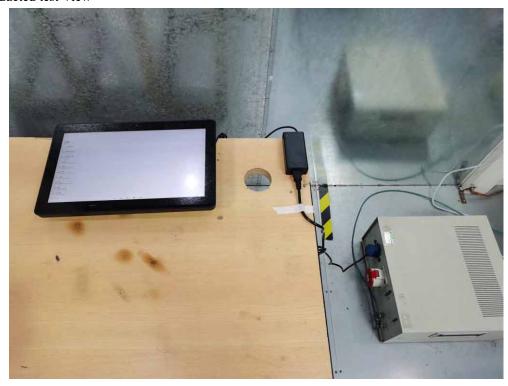
Report No.: TW2403090-01E

Date: 2024-04-09



11.0 Photo of testing

11.1 Conducted test View--



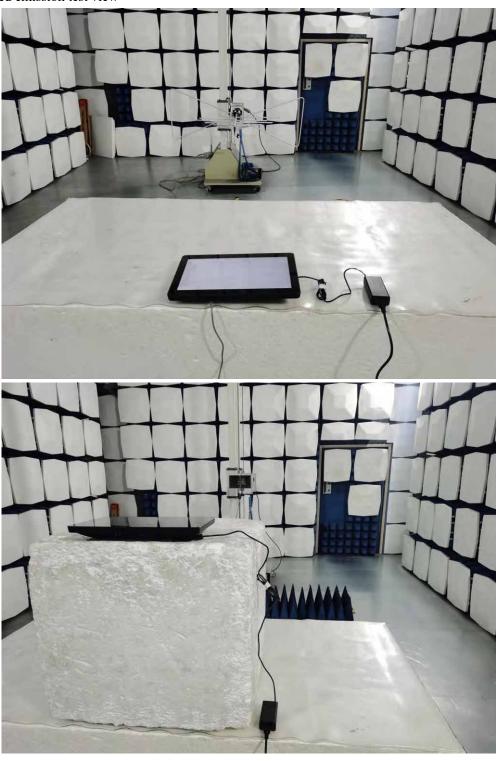
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Date: 2024-04-09



Radiated emission test view



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11.2 Photographs – EUT

Outside View-ALU150





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Outside View-ALU150





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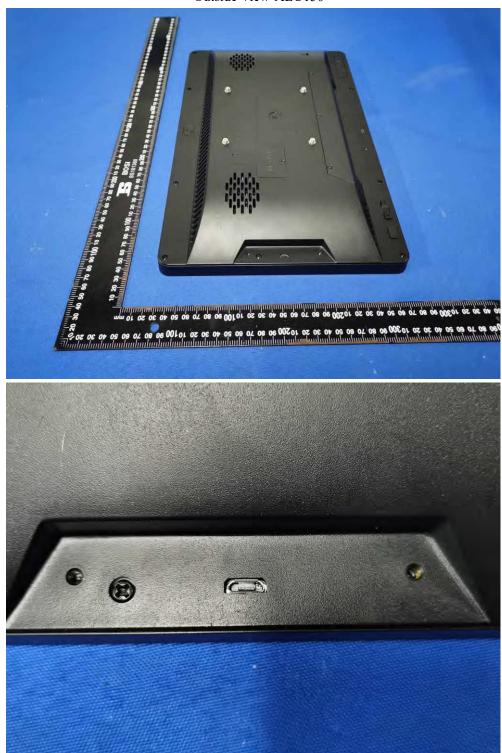
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Report No.: TW2403090-01E

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Outside View-ALU150



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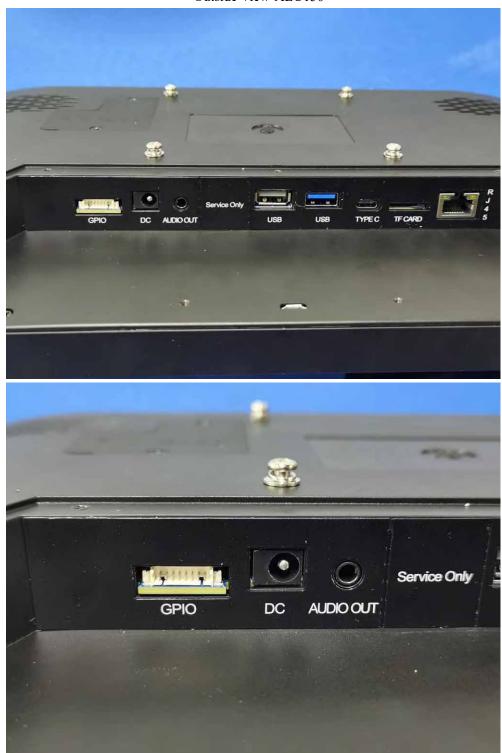
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Outside View-ALU150



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Outside View-ALU150





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Power Supply-ALU150



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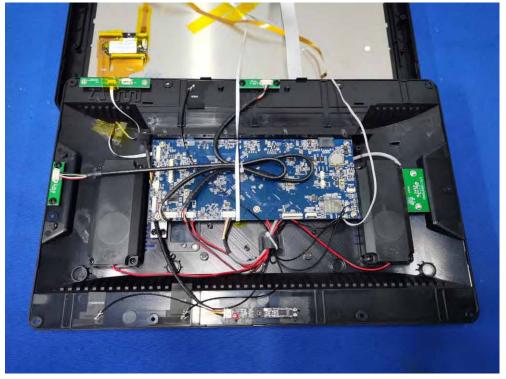
Report No.: TW2403090-01E

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Inside view-ALU150





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Date: 2024-04-09



Inside view-ALU150



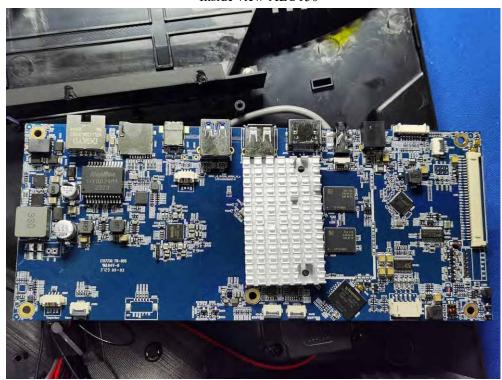
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Inside view-ALU150





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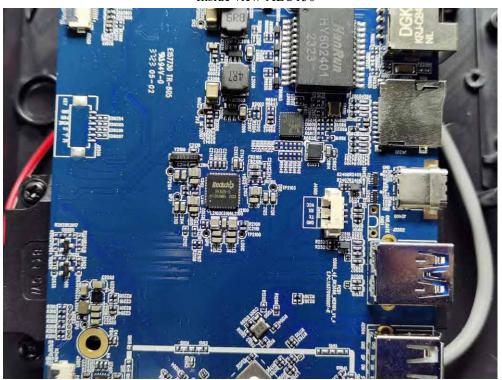
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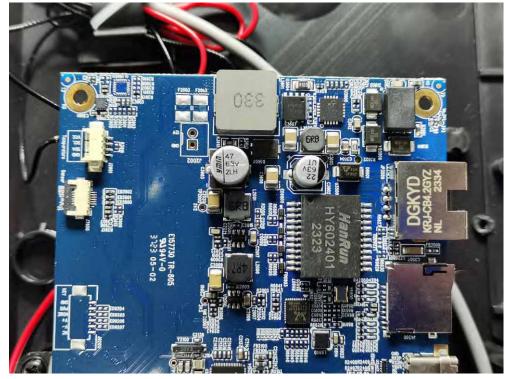
Report No.: TW2403090-01E

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Inside view-ALU150





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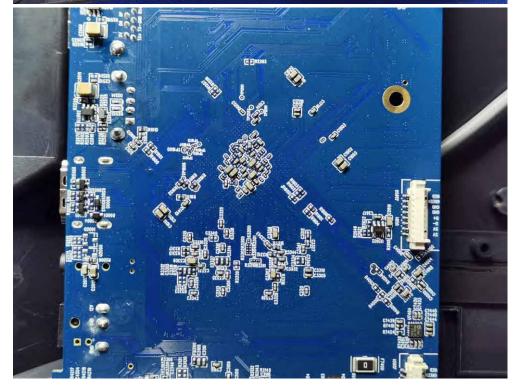
Report No.: TW2403090-01E

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Inside view-ALU150





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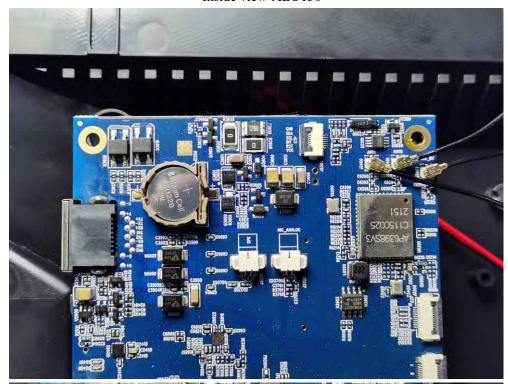
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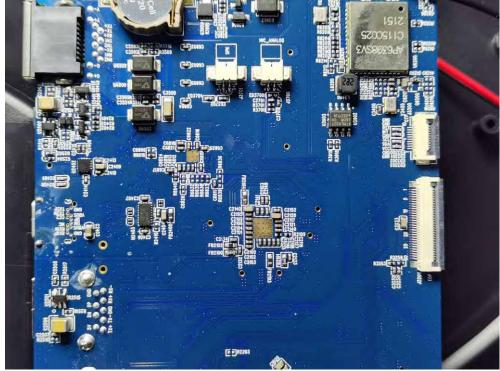
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Inside view-ALU150





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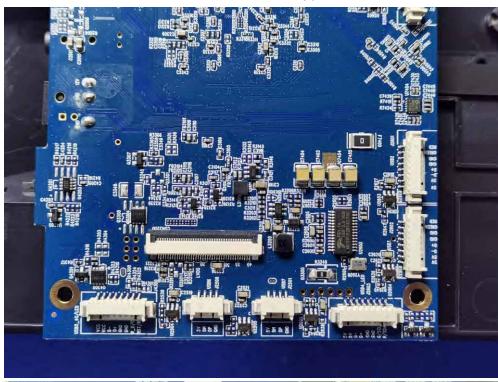
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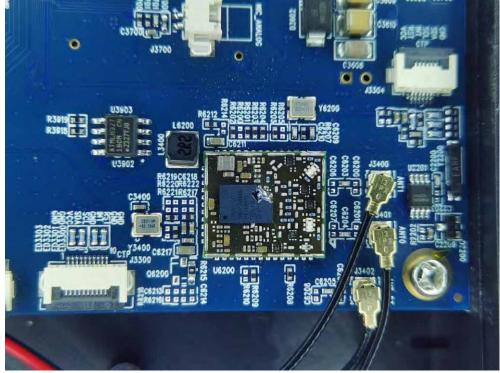
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Inside view-ALU150





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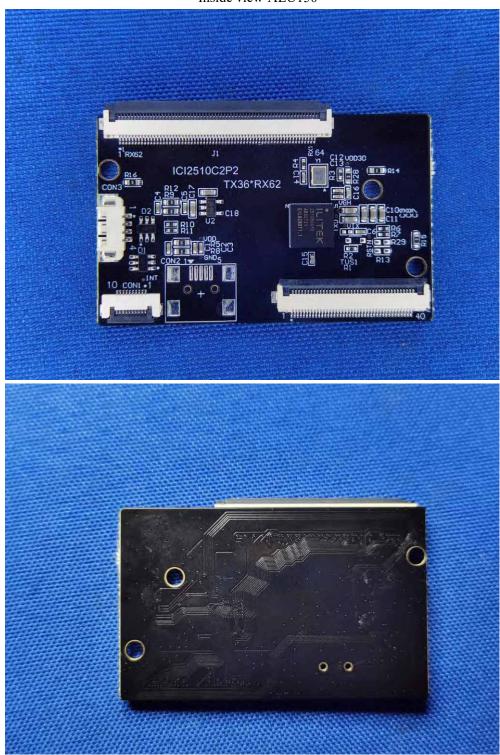
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Inside view-ALU150



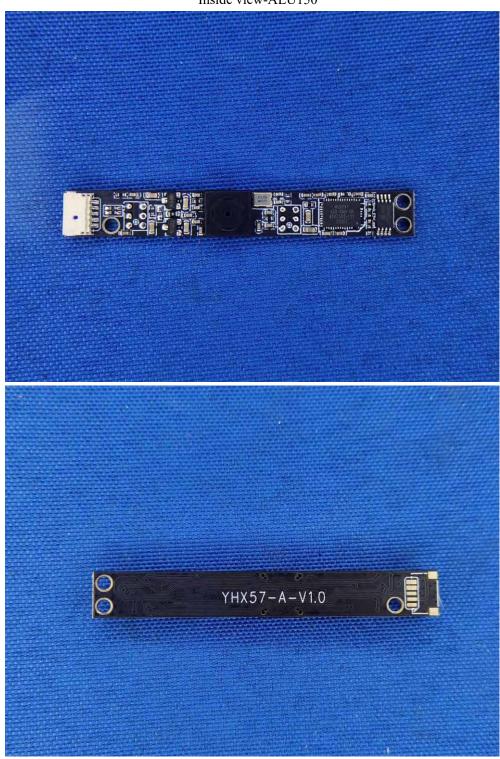
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Inside view-ALU150



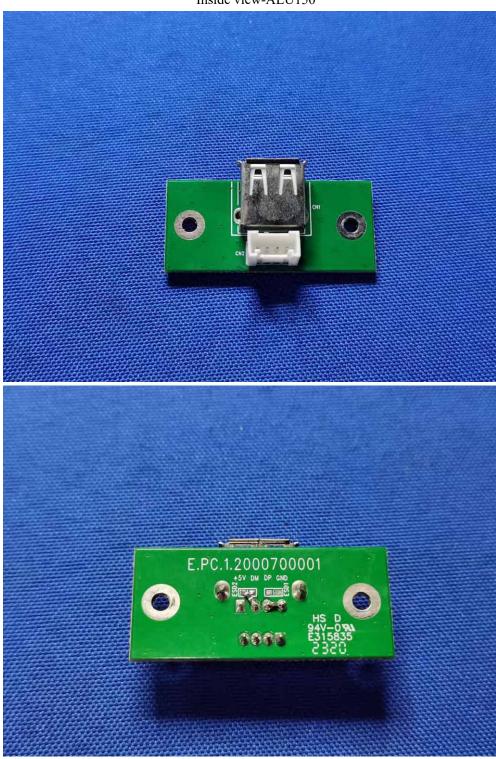
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Inside view-ALU150



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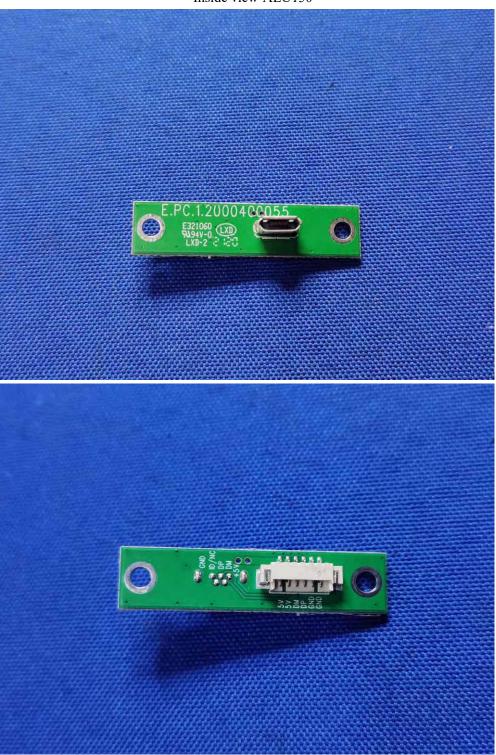
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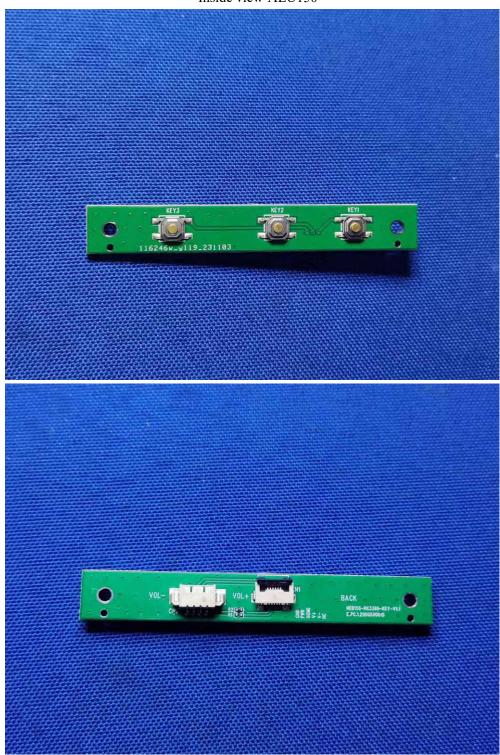
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Report No.: TW2403090-01E

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Inside view-ALU150



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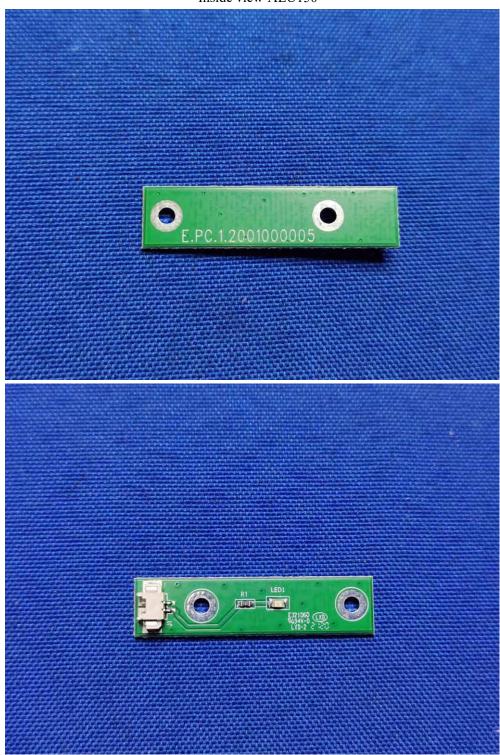
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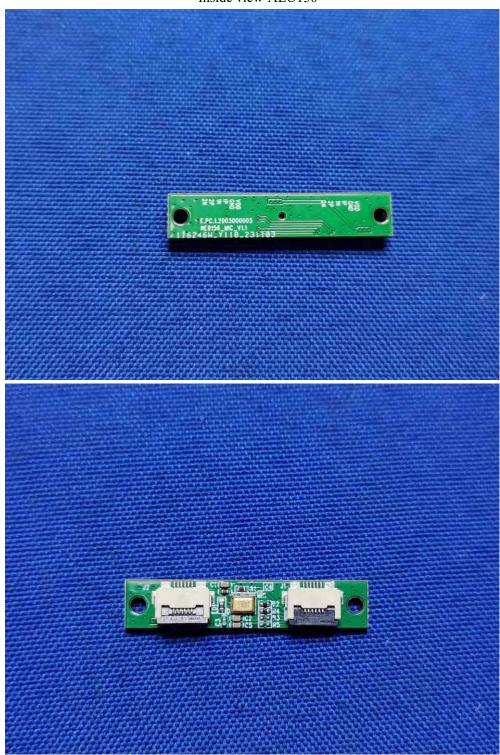
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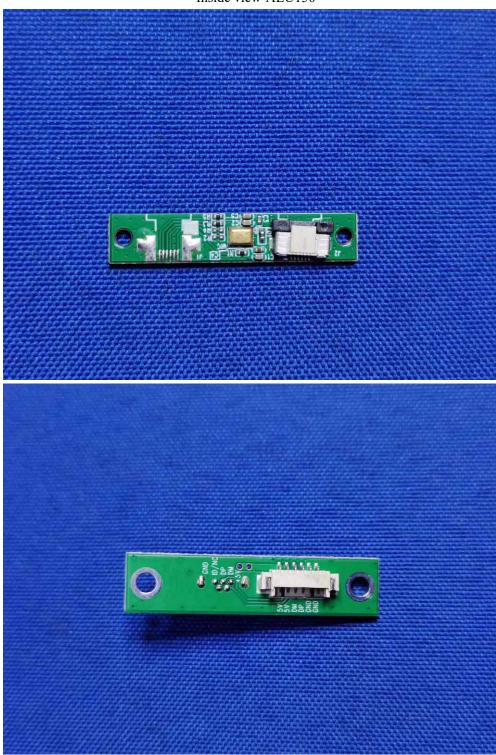
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Inside view-ALU150



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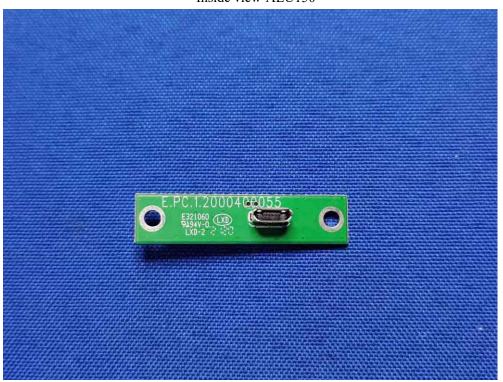
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Inside view-ALU150



Date: 2024-04-09



Outside View-ALU100





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Outside View-ALU100





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Outside View-ALU100



Date: 2024-04-09



Power Supply-ALU100





-- End of the report--

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