

RF Exposure Evaluation Report

Report Reference No...... : **MTEB26010198-H**

FCC ID..... : **O89AOCX**

Compiled by

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Date of issue..... : **Jan.23,2026**

Representative Laboratory Name. : **Shenzhen Most Technology Service Co., Ltd.**

Address..... : No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park,
Nanshan, Shenzhen, Guangdong, China.

Applicant's name..... : **Xiamen Pinnacle Electrical Co.,Ltd.**

Address..... : 4F, Guang Xia Building, Torch High-Tech Zone, Xiamen, China

Test specification/ Standard..... : **47 CFR Part 1.1307;47 CFR Part 1.1310**
KDB447498D01 General RF Exposure Guidance v06

TRF Originator..... : Shenzhen Most Technology Service Co., Ltd.

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Test item description..... : All-in-one Touch POS

Trade Mark..... : ACLAS

Model/Type reference..... : AOCX

Listed Models : AODX

Modulation Type..... : GFSK, $\pi/4$ DQPSK, 8DPSK
b: DSSS g/n/ax:OFDM
OFDM
ASK

Operation Frequency..... : BT: From 2402MHz to 2480MHz
WIFI2.4G: From 2412MHz to 2462MHz
WIFI 5G: From 5180MHz-5240MHz
From 5260MHz-5320MHz
From 5500MHz-5720MHz
From 5745MHz-5825MHz

13.56MHz

Hardware Version..... : EPAOX6IMB

Software Version..... : /

Rating..... : DC 13.8V by Adapter
DC 7.4V by Battery

Result..... : **PASS**

TEST REPORT

Equipment under Test : All-in-one Touch POS

Model /Type : AOCX

Listed Models : AODX

Remark : Their electrical circuit design, layout, components used, and internal wiring are identical.Only the model names are different.

Applicant : **Xiamen Pinnacle Electrical Co.,Ltd.**

Address : 4F, Guang Xia Building, Torch High-Tech Zone, Xiamen, China

Manufacturer : **Xiamen Pinnacle Electrical Co.,Ltd.**

Address : 4F, Guang Xia Building, Torch High-Tech Zone, Xiamen, China

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2026.01.23	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$ Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.3 EUT RF Exposure

Antenna Gain: 4.11dBi

BLE 1M

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	3.79	3.79 ± 1	4.79
Middle(2440MHz)	3.69	3.69 ± 1	4.69
Highest(2480MHz)	3.75	3.75 ± 1	4.75

BLE 2M

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	3.91	3.91 ± 1	4.91
Middle(2440MHz)	3.79	3.79 ± 1	4.79
Highest(2480MHz)	3.95	3.95 ± 1	4.95

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Highest(2480MHz)	4.95	3.13	4.11	0.0016	1.0	Pass

Note: 1) Refer to report **MTEB26010198-R1** for EUT test Max Conducted average Output Power value.Note: 2) $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (3.13 \cdot 2.58) / (4 \cdot 3.1416 \cdot 20^2) = 0.0016$

Note: 3) EUT's Bluetooth module is more than 20cm away from the human body.

Antenna Gain: 4.11dBi
BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	2.30	2.30 ± 1	3.3
Middle(2441MHz)	1.90	1.90 ± 1	2.9
Highest(2480MHz)	1.76	1.76 ± 1	2.76

$\pi/4$ DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	3.17	3.17 ± 1	4.17
Middle(2441MHz)	2.80	2.80 ± 1	3.8
Highest(2480MHz)	2.65	2.65 ± 1	3.65

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	3.58	3.58 ± 1	4.58
Middle(2441MHz)	3.25	3.25 ± 1	4.25
Highest(2480MHz)	3.11	3.11 ± 1	4.11

Worst case: 8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Lowest(2402MHz)	4.58	2.87	4.11	0.0015	1.0	Pass

Note: 1) Refer to report **MTEB26010198-R** for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (2.87 \cdot 2.58) / (4 \cdot 3.1416 \cdot 20^2) = 0.0015$

Note: 3) EUT's Bluetooth module is more than 20cm away from the human body.

Antenna gain: 4.11dBi
WIFI 2.4G

802.11b			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	16.93	16.93 ± 1	17.93
Middle(2437MHz)	18.12	18.12 ± 1	19.12
Highest(2462MHz)	18.87	18.87 ± 1	19.87

802.11g			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	15.77	15.77 ± 1	16.77
Middle(2437MHz)	16.79	16.79 ± 1	17.79
Highest(2462MHz)	17.46	17.46 ± 1	18.46

802.11n(H20)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	14.50	14.50 ± 1	15.5
Middle(2437MHz)	15.57	15.57 ± 1	16.57
Highest(2462MHz)	16.18	16.18 ± 1	17.18

802.11n(H40)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2422MHz)	15.80	15.80 ± 1	16.8
Middle(2437MHz)	16.39	16.39 ± 1	17.39
Highest(2452MHz)	16.81	16.81 ± 1	17.81

802.11ax(H20)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	17.38	17.38 ± 1	18.38
Middle(2437MHz)	17.12	17.12 ± 1	18.12
Highest(2462MHz)	17.74	17.74 ± 1	18.74

802.11ax(H40)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2422MHz)	15.45	15.45 ± 1	16.45
Middle(2437MHz)	16.22	16.22 ± 1	17.22
Highest(2452MHz)	16.54	16.54 ± 1	17.54

WIFI 2.4G

Worst case: 802.11b						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Highest(2462MHz)	19.87	97.05	4.11	0.0498	1.0	Pass

Note: 1) Refer to report **MTEB26010198-R2** for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (97.05 \cdot 2.58) / (4 \cdot 3.1416 \cdot 20^2) = 0.0498$

Note: 3) EUT's Wifi module is more than 20cm away from the human body.

WIFI 5G

Antenna gain: 7.8dBi

Mode	Channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
IEEE 802.11a	5180	11.51	11.51±1	12.51
	5200	12.03	12.03±1	13.03
	5240	12.19	12.19±1	13.19
	5260	13.94	13.94±1	14.94
	5280	13.72	13.72±1	14.72
	5320	13.44	13.44±1	14.44
	5500	10.95	10.95±1	11.95
	5600	16.20	16.20±1	17.2
IEEE 802.11n_20	5700	14.51	14.51±1	15.51
	5180	11.34	11.34±1	12.34
	5200	12.36	12.36±1	13.36
	5240	12.36	12.36±1	13.36
	5260	13.46	13.46±1	14.46
	5280	13.32	13.32±1	14.32
	5320	13.00	13.00±1	14
	5500	10.53	10.53±1	11.53
IEEE 802.11n_40	5600	16.50	16.50±1	17.5
	5700	14.14	14.14±1	15.14
	5190	5.41	5.41±1	6.41
	5230	9.98	9.98±1	10.98
	5270	11.71	11.71±1	12.71
	5310	6.98	6.98±1	7.98
IEEE 802.11ac_20	5510	5.05	5.05±1	6.05
	5590	14.21	14.21±1	15.21
	5670	13.28	13.28±1	14.28
	5180	12.19	12.19±1	13.19
	5200	12.56	12.56±1	13.56
	5240	12.72	12.72±1	13.72
	5260	12.41	12.41±1	13.41
	5280	12.21	12.21±1	13.21
IEEE 802.11ac_40	5320	12.00	12.00±1	13
	5500	10.13	10.13±1	11.13
	5600	16.38	16.38±1	17.38
	5700	14.84	14.84±1	15.84
	5190	6.19	6.19±1	7.19
	5230	10.90	10.90±1	11.9
	5270	15.77	15.77±1	16.77
IEEE 802.11ax_20	5310	5.63	5.63±1	6.63
	5510	4.04	4.04±1	5.04
	5590	13.79	13.79±1	14.79
	5670	12.50	12.50±1	13.5
	5180	11.88	11.88±1	12.88
	5200	12.24	12.24±1	13.24
	5240	12.12	12.12±1	13.12
	5260	18.78	18.78±1	19.78
	5280	18.30	18.30±1	19.3
	5320	12.16	12.16±1	13.16
	5500	13.18	13.18±1	14.18
	5600	17.96	17.96±1	18.96

	5700	16.25	16.25±1	17.25
IEEE 802.11ax_40	5190	5.27	5.27±1	6.27
	5230	15.56	15.56±1	16.56
	5270	15.98	15.98±1	16.98
	5310	5.72	5.72±1	6.72
	5510	13.22	13.22±1	14.22
	5590	17.19	17.19±1	18.19
	5670	16.04	16.04±1	17.04

Mode	Channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
IEEE 802.11a	5745	14.64	14.64±1	15.64
	5785	15.14	15.14±1	16.14
	5825	13.22	13.22±1	14.22
IEEE 802.11n_20	5745	14.20	14.20±1	15.2
	5785	14.54	14.54±1	15.54
	5825	12.86	12.86±1	13.86
IEEE 802.11n_40	5755	12.36	12.36±1	13.36
	5795	8.54	8.54±1	9.54
IEEE 802.11ac_20	5745	14.87	14.87±1	15.87
	5785	14.45	14.45±1	15.45
	5825	13.46	13.46±1	14.46
IEEE 802.11ac_40	5755	12.50	12.50±1	13.5
	5795	8.17	8.17±1	9.17
IEEE 802.11ax_20	5745	15.06	15.06±1	16.06
	5785	14.52	14.52±1	15.52
	5825	12.21	12.21±1	13.21
IEEE 802.11ax_40	5755	12.60	12.60±1	13.6
	5795	8.30	8.30±1	9.3

WIFI 5G U-NII 1

Worst case: IEEE 802.11ax_40						
Channel	Maximum Peak Conducted Output Power	Maximum Peak Conducted Output Power	Antenna Gain	Power Density at R = 20 cm	Limit	Result
	(dBm)	(MW)	(dBi)	(mW/cm ²)		
(5230MHz)	16.56	45.29	7.8	0.054	1.0	Pass

Note: 1) Refer to report **MTEB26010198-R3** for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (45.29 \cdot 6.03) / (4 \cdot 3.1416 \cdot 20^2) = 0.054$

Note: 3) EUT's Wifi module is more than 20cm away from the human body.

WIFI 5G U-NII 2A

Worst case: IEEE 802.11ax_20						
Channel	Maximum Peak Conducted Output Power	Maximum Peak Conducted Output Power	Antenna Gain	Power Density at R = 20 cm	Limit	Result
	(dBm)	(MW)	(dBi)	(mW/cm ²)		
(5260MHz)	19.78	95.06	7.8	0.114	1.0	Pass

Note: 1) Refer to report **MTEB26010198-R3** for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (95.06 * 6.03) / (4 * 3.1416 * 20^2) = 0.114$

Note: 3) EUT's Wifi module is more than 20cm away from the human body.

WIFI 5G U-NII 2C

Worst case: IEEE 802.11ax_20						
Channel	Maximum Peak Conducted Output Power	Maximum Peak Conducted Output Power	Antenna Gain	Power Density at R = 20 cm	Limit	Result
	(dBm)	(MW)	(dBi)	(mW/cm ²)		
(5600MHz)	18.96	78.70	7.8	0.0944	1.0	Pass

Note: 1) Refer to report **MTEB26010198-R3** for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (78.70 * 6.03) / (4 * 3.1416 * 20^2) = 0.0944$

Note: 3) EUT's Wifi module is more than 20cm away from the human body.

WIFI 5G U-NII 3

Worst case: IEEE 802.11a						
Channel	Maximum Peak Conducted Output Power	Maximum Peak Conducted Output Power	Antenna Gain	Power Density at R = 20 cm	Limit	Result
	(dBm)	(MW)	(dBi)	(mW/cm ²)		
(5785MHz)	16.14	41.11	7.8	0.0493	1.0	Pass

Note: 1) Refer to report **MTEB26010198-R3** for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (41.11 * 6.03) / (4 * 3.1416 * 20^2) = 0.0493$

Note: 3) EUT's Wifi module is more than 20cm away from the human body.

For 13.56MHz wireless:
 Field strength=78.9dBuV/m
 EIRP =78.9dBuV/m-95.2+6= -10.3dBm
 Antenna: 3dBi ,so Ant numeric gain=2

NFC

Channel	EIRP	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
13.56 MHz	-10.3dBm	± 1	-9.3	0.117	0.0000116	0.9789	Pass

Note: 1) Refer to report **MTEB26010198-R4** for EUT test Max Conducted average Output Power value.
 Note: 2) Pd = (Pout*G)/(4* Pi * R²)=(0.117/2)/(4*3.1416*20²)=0.0000116

Simultaneous TX(BLE+EDR+WIFI+NFC):

Mode	Power Density((mW/cm ²))		Conclusion
	Result	Limit	
Simultaneous TX	0.1171116	1.0	Pass

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

Results(BLE+EDR+WIFI+NFC):0.0015/1+0.0016/1+0.114/1+0.0000116/1=0.1171116