

MODEL NO. : TA067FVMK01-08

Customer No. : _____

ISSUED DATE: 2022-10-12

VERSION : Ver 1.0

☒ **Preliminary Specification**
☐ **Final Product Specification**

Customer :

Approved by	Note

TIANMA Confirmed :

Prepared by	Checked by	Approved by
Tony Xiao		

This technical specification is subjected to change without notice

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Record of Revision

[illegible]

1 Features

The TA067FVMK01-08 is 6.67 inch OLED.

AMOLED (Active Matrix/Organic Light Emitting Diode) Cell without D-IC&POL. This

Cell is composed of 6.67 inch OLED panel with ONCELL touch panel.

This cell is display terminals for cellular phone.

2 General Specifications

Item	Specification	Unit
Substrate Thickness	0.408	mm
Panel Outline Dimension	71.940x165.680	mm
Active Screen Size	6.67	Inch
Active Area	69.552*154.560	mm
Resolution	1080(V)*2400(H)	pixel
Pixel Size	57.9×57.9	um
Pixel Configuration	SPR	/
Pixel Driving Element	LTPS	/
Display Mode	OLED	
Technology Type	ONCELL	
Driver IC	NT37701AH/A/H RM692E5	
TP IC	S3909	

Note 1: Viewing direction for best image quality is different from TFT definition. There is a 180 degree shift.

Note 2: Requirements on Environmental Protection: Q/S0002+HF

Note 3: Module weight tolerance: ± 5%

3 Input/Output Terminals

3.1 DD Fog Pin Assignment

PIN NO.	PIN NAME	PIN NO.	PIN NAME
1	TEST	252	DVDD_AR
2	FOG1	253	DVDD_AR
3	FOG2	254	DVSS_AR
4	crack test(TPOT)	255	DVSS_AR
5	crack test(TPOT)	256	DVSS_AR
6	GND	257	DVSS_AR
7	GU	258	AVDD
8	Rx_37	259	AVSS
9	Rx_36	260	PSWAP
10	Rx_35	261	EXT_OSC
11	Rx_34	262	DSWAP0
12	Rx_33	263	DSWAP1
13	Rx_32	264	RESX
14	Rx_31	265	IM0
15	Rx_30	266	CPHY_EN
16	Rx_29	267	BTM
17	Rx_28	268	EXT_DVDD_EN
18	Rx_27	269	HZ_OPT
19	Rx_26	270	BIST_EN
20	Rx_25	271	FPR_EN
21	Rx_24	272	CASCADE_EN
22	Rx_23	273	M_S
23	Rx_22	274	VDDI
24	Rx_21	275	DVSS
25	Rx_20	276	F_SPCK
26	Rx_19	277	F_SPCK
27	Rx_18	278	F_SPDI
28	Rx_17	279	F_SPDO
29	Rx_16	280	F_SPHOLDX

30	Rx_15	281	F_SPWPX
31	Rx_14	282	F_SPCSX
32	Rx_13	283	GPO0
33	Rx_12	284	GPO1
34	Rx_11	285	GPO2
35	Rx_10	286	GPO3
36	Rx_09	287	SWIRE
37	Rx_08	288	SWIRE2
38	Rx_07	289	VSS2
39	Rx_06	290	VDD2
40	Rx_05	291	DVDD_AR
41	Rx_04	292	DVDD_AR
42	Rx_03	293	DVDD_AR
43	Rx_02	294	DVDD_AR
44	Rx_01	295	DVDD_AR
45	GU	296	DVSS_AR
46	GND	297	DVSS_AR
47	bending test	298	DVSS_AR
48	bending test	299	DVSS_AR
49	DUMMY	300	DVSS_AR
50	PVEE	301	VDDI
51	PVEE	302	VDDI
52	PVEE	303	VDDI
53	PVEE	304	DVSS
54	PVEE	305	DVSS
55	PVEE	306	DVSS
56	PVEE	307	DVSS
57	PVEE	308	DVDD
58	PVEE	309	DVDD
59	DUMMY	310	DVDD
60	PCD_R	311	DVDD
61	PVDD_test_R	312	AVDD
62	DUMMY	313	AVDD
63	PVDD	314	AVSS

64	PVDD	315	AVSS
65	PVDD	316	C21N
66	PVDD	317	C21N
67	PVDD	318	C21P
68	PVDD	319	C21P
69	PVDD	320	VDDDB
70	PVDD	321	VDDDB
71	PVDD	322	C22P
72	MCD_TESTPAD	323	C22P
73	VT2_PCD1_VOLTAGE_IN (VT Pad)	324	C22N
74	VGH	325	C22N
75	VGH	326	AVEE_R
76	DUMMY	327	AVEE_R
77	VREF	328	AVEE_R
78	VREF	329	AVSS
79	DUMMY	330	VDDI
80	VGL	331	VDDI
81	VGL	332	VDDI
82	DUMMY	333	VDDI
83	EMIT_OUT	334	DVSS
84	STV1	335	DVSS
85	DUMMY	336	DVSS
86	CK1	337	DVDD
87	XCK1	338	DVDD
88	DUMMY	339	VSSB
89	SCAN_OUT	340	VSSB
90	STV2	341	C41N
91	DUMMY	342	C41N
92	CK2	343	C41P
93	XCK2	344	C41P
94	DUMMY	345	VGH
95	RED	346	VGH
96	GREEN	347	VDDDB

97	BLUE	348	VDDDB
98	DUMMY	349	VDDIB
99	SW1	350	VDDIB
100	SW2	351	VCI
101	SW3	352	VCI
102	SW4	353	DVDD
103	DUMMY	354	DVDD
104	Bonding test_out1	355	DVDD
105	Bonding test_out2	356	DVSS
106	S_L_TEST	357	DVSS
107	Bonding test_input1	358	DVSS
108	Bonding test_input2	359	AVDD
109	PCD2_PWR_L	360	AVDD
110	VGH	361	AVSS
111	VGH	362	AVSS
112	AVDD	363	C51P
113	AVDD	364	C51P
114	AVSS	365	C51N
115	AVSS	366	C51N
116	VGL	367	VGL
117	VGL	368	VGL
118	VGL_REG_L	369	VREF4_R
119	VGL_REG_L	370	VSSB
120	VRGH_L	371	VSSB
121	VRGH_L	372	VREF2_R
122	VREF	373	VREF2_R
123	VREF	374	DVSS
124	DVSS	375	DVSS
125	DVSS	376	DVDD
126	DVSS	377	DVDD
127	DVDD	378	VREF1_R
128	DVDD	379	VREF1_R
129	DVDD	380	VRGH_R
130	PCD_L	381	VRGH_R

131	PCD_R	382	VGL_REG_R
132	AVSS	383	VGL_REG_R
133	AVSS	384	VGL
134	AVDD	385	VGL
135	AVDD	386	AVSS
136	VDDR	387	AVSS
137	VDDR	388	AVDD
138	VSSR	389	AVDD
139	VSSR	390	VGH
140	VGMP	391	VGH
141	VGMP	392	MTP_PWR
142	VGSP	393	MTP_PWR
143	VGSP	394	PCD2_PWR_R
144	DVDD	395	Bonding test_input2
145	DVDD	396	Bonding test_input1
146	DVSS	397	S_R_TEST
147	DVSS	398	Bonding test_out2
148	DVSS	399	Bonding test_out1
149	VDDI	400	DUMMY
150	VDDI	401	SW4
151	VDDI	402	SW3
152	VDDI	403	SW2
153	ELVDD_AVC	404	SW1
154	U_ELVDD	405	DUMMY
155	U_ELVDD	406	BLUE
156	U_ELVDD	407	GREEN
157	AVDD	408	RED
158	AVDD	409	DUMMY
159	AVSS	410	XCK2
160	AVSS	411	CK2
161	VREF1_L	412	DUMMY
162	VREF1_L	413	STV2
163	DVDD	414	SCAN_OUT
164	DVDD	415	DUMMY

165	DVDD	416	XCK1
166	DVSS	417	CK1
167	DVSS	418	DUMMY
168	DVSS	419	STV1
169	U_ELVSS	420	EMIT_OUT
170	U_ELVSS	421	DUMMY
171	U_ELVSS	422	VGL
172	AVEE_L	423	VGL
173	AVEE_L	424	DUMMY
174	VREF2_L	425	VREF
175	VREF2_L	426	VREF
176	VREF4_L	427	DUMMY
177	AVSS	428	VGH
178	AVSS	429	VGH
179	AVDD	430	VT2_PCD2_VOLTAGE_IN (VT Pad)
180	AVDD	431	MCD_TESTPAD
181	OSCVSS	432	PVDD
182	OSCVSS	433	PVDD
183	OSCVDD	434	PVDD
184	OSCVDD	435	PVDD
185	DVSS_AR	436	PVDD
186	DVSS_AR	437	PVDD
187	DVSS_AR	438	PVDD
188	DVSS_AR	439	PVDD
189	DVDD_AR	440	PVDD
190	DVDD_AR	441	DUMMY
191	DVDD_AR	442	PVDD_test_L
192	DVDD_AR	443	PCD_L
193	DVDD	444	DUMMY
194	DVDD	445	PVEE
195	DVSS	446	PVEE
196	DVSS	447	PVEE
197	VDDI	448	PVEE

198	VDDI	449	PVEE
199	VDDI	450	PVEE
200	VDDI	451	PVEE
201	VDDIM	452	PVEE
202	VDDIM	453	PVEE
203	MVDDA	454	DUMMY
204	MVDDA	455	bending test
205	MVDDA	456	bending test
206	MVDDA	457	GND
207	VSSAM	458	GU
208	VSSAM	459	Tx_01
209	DSI_D3_P	460	Tx_02
210	DSI_D3_P	461	Tx_03
211	VSSAM	462	Tx_04
212	DSI_D3_N	463	Tx_05
213	DSI_D3_N	464	Tx_06
214	VSSAM	465	Tx_07
215	DSI_D0_P	466	Tx_08
216	DSI_D0_P	467	Tx_09
217	VSSAM	468	Tx_10
218	DSI_D0_N	469	Tx_11
219	DSI_D0_N	470	Tx_12
220	VSSAM	471	Tx_13
221	DSI_CLK_P	472	Tx_14
222	DSI_CLK_P	473	Tx_15
223	VSSAM	474	Tx_16
224	DSI_CLK_N	475	Tx_17
225	DSI_CLK_N	476	GU
226	VSSAM	477	Tx_17
227	DSI_D1_P	478	Tx_16
228	DSI_D1_P	479	Tx_15
229	VSSAM	480	Tx_14
230	DSI_D1_N	481	Tx_13
231	DSI_D1_N	482	Tx_12

232	VSSAM	483	Tx_11
233	DSI_D2_P	484	Tx_10
234	DSI_D2_P	485	Tx_09
235	VSSAM	486	Tx_08
236	DSI_D2_N	487	Tx_07
237	DSI_D2_N	488	Tx_06
238	VSSAM	489	Tx_05
239	VSSAM	490	Tx_04
240	MVDDA	491	Tx_03
241	MVDDA	492	Tx_02
242	MVDDA	493	Tx_01
243	MVDDA	494	GU
244	VDDI	495	GND
245	VDDI	496	crack test(TPOT)
246	VDDI	497	crack test(TPOT)
247	VDDI	498	DUMMY
248	DVSS	499	DUMMY
249	DVDD	500	FOG3
250	DVDD_AR	501	FOG4
251	DVDD_AR	502	TEST

Note1: I/O definition: I----Input O---Output P----Power/Ground

Note2: No used I/O pin please fix to GND level

4 Optical Characteristics

无

Test Conditions:

1. The ambient temperature is 25℃.
2. The test systems refer to Note 1 and Note 2.

Note 1: Definition of optical measurement system.

The optical characteristics should be measured in dark room. After 5 minutes operation, the optical properties are measured at the center point of the OLED screen. All input terminals OLED panel must be ground when measuring the center area of the panel.

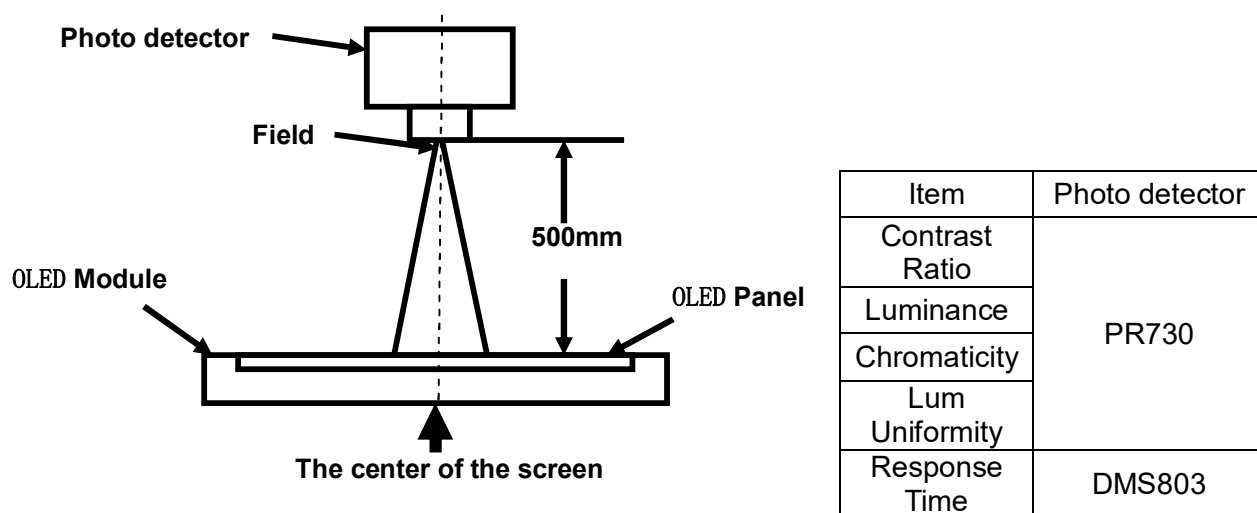


Fig. 1 Optical measurement system

Note 2: Definition of viewing angle range and measurement system.

viewing angle is measured at the center point of the OLED by PR730.

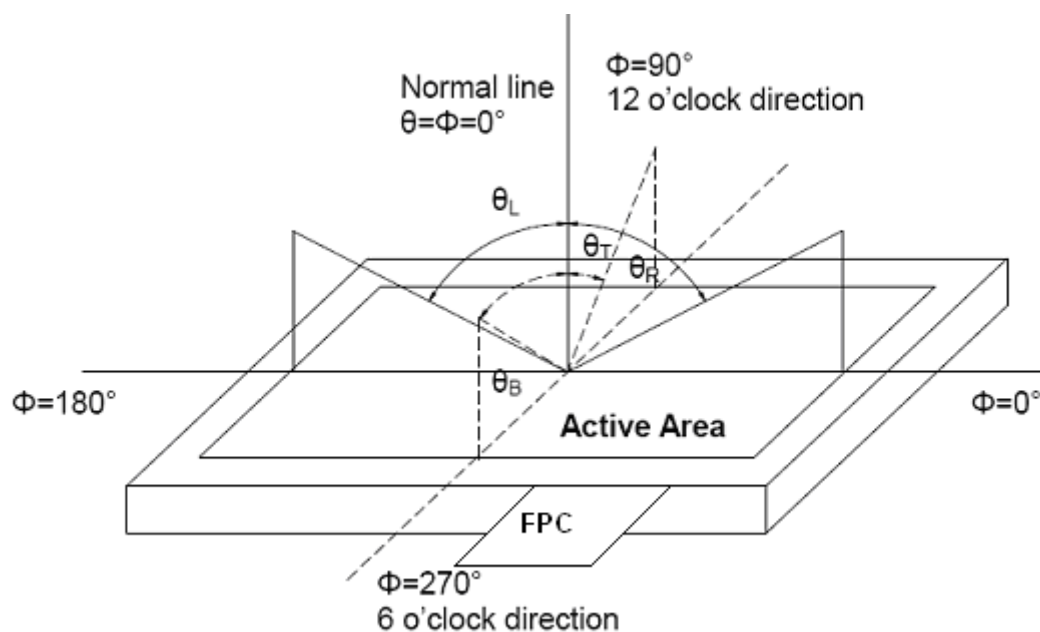


Fig. 2 Definition of viewing angle

Note 3: Definition of contrast ratio

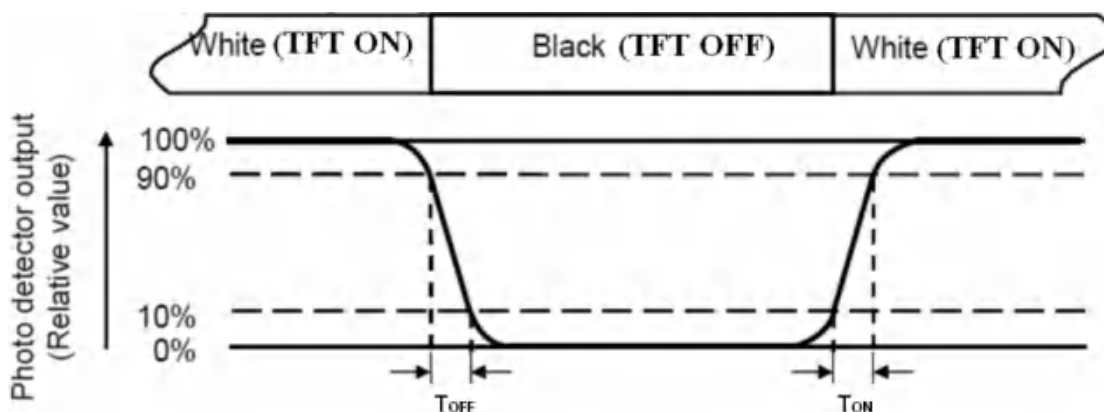
$$\text{Contrast ratio (CR)} = \frac{\text{Luminance measured when OLED is on the "White" state}}{\text{Luminance measured when OLED is on the "Black" state}}$$

"White state": The state is that the OLED should be driven by V_{white} .

"Black state": The state is that the OLED should be driven by V_{black} .

Note 4: Definition of Response time

The response time is defined as the OLED optical switching time interval between "White" state and "Black" state. Rise time (T_{ON}) is the time between photo detector output intensity changed from 90% to 10%. And fall time (T_{OFF}) is the time between photo detector output intensity changed from 10% to 90%.



Note 5: Definition of color chromaticity (CIE1931)

Color coordinates measured at center point of OLED.

Note 6: Definition of Luminance Uniformity

Active area is divided into 9 measuring areas (Refer Fig. 3). Every measuring point is placed at the center of each measuring area.

$$\text{Luminance Uniformity}(U) = L_{\min} / L_{\max}$$

L-----Active area length W----- Active area width

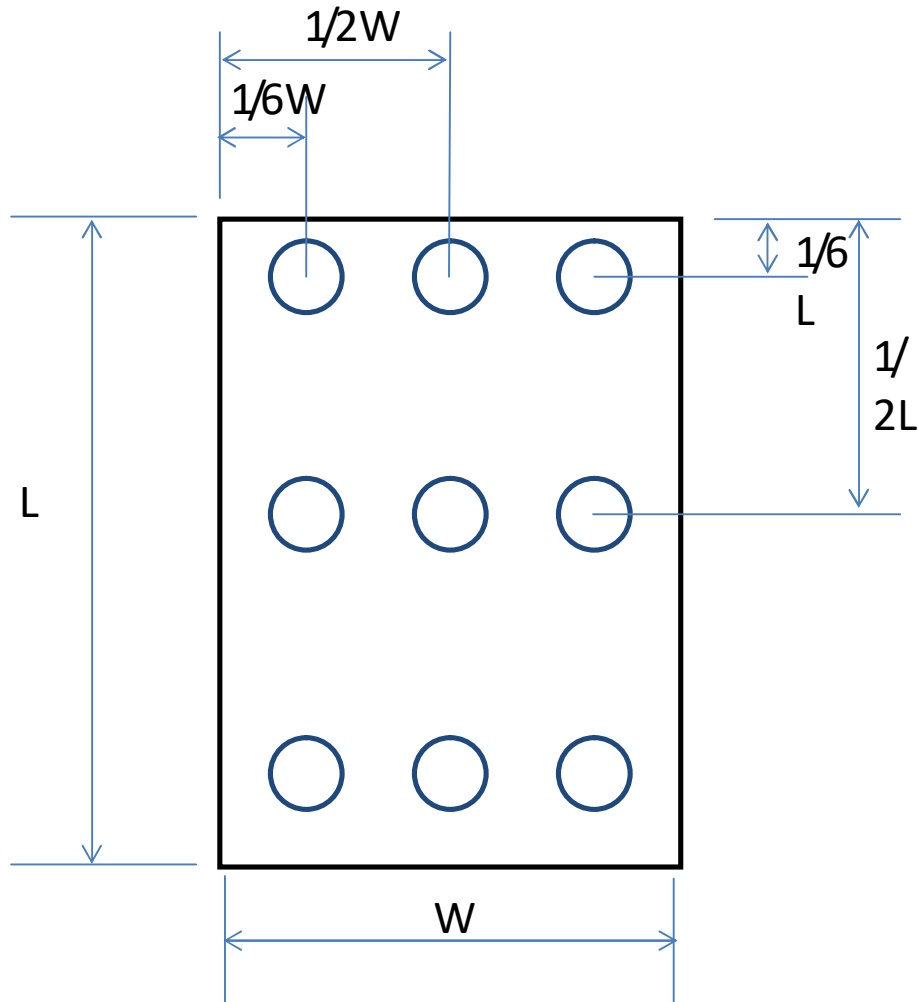


Fig. 3 Definition of uniformity

$L_{\max}$: The measured maximum luminance of all measurement position.

$L_{\min}$: The measured minimum luminance of all measurement position.

Note 7: Definition of Luminance :

Measure the luminance of white state at center point.

5 Environmental / Reliability Test

TBD

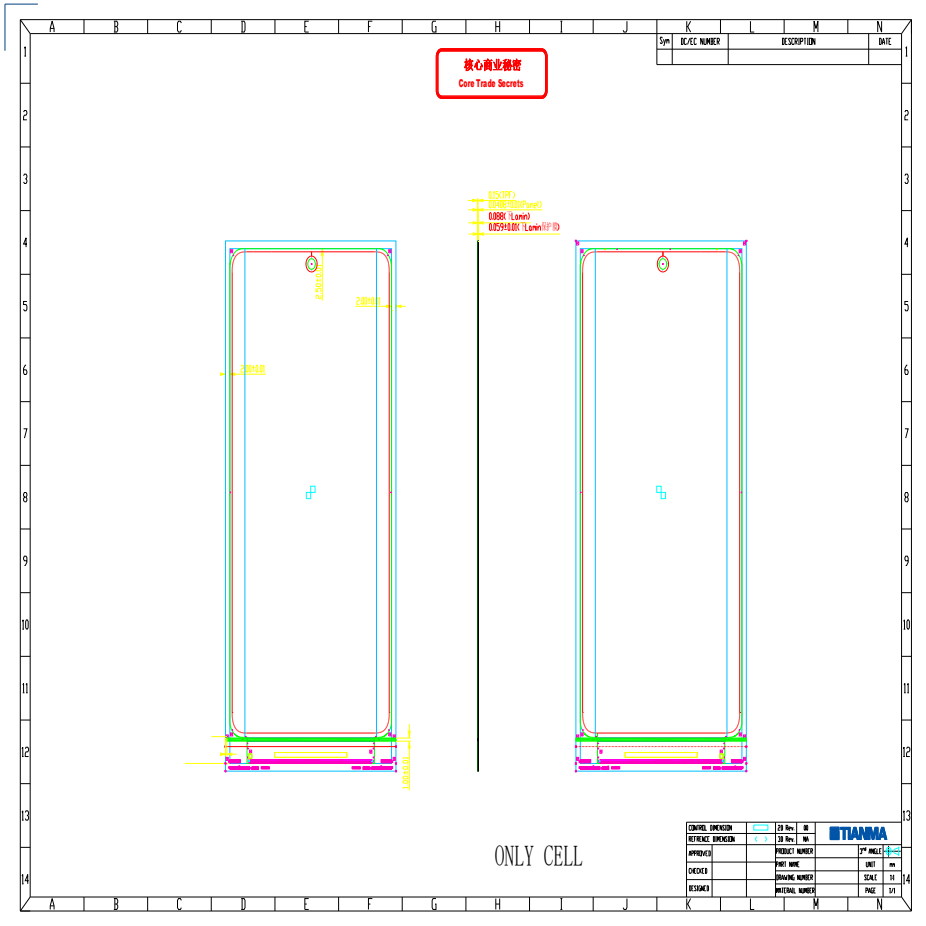
Note1: T_s is the temperature of panel's surface.

Note2: T_a is the ambient temperature of sample with lens.

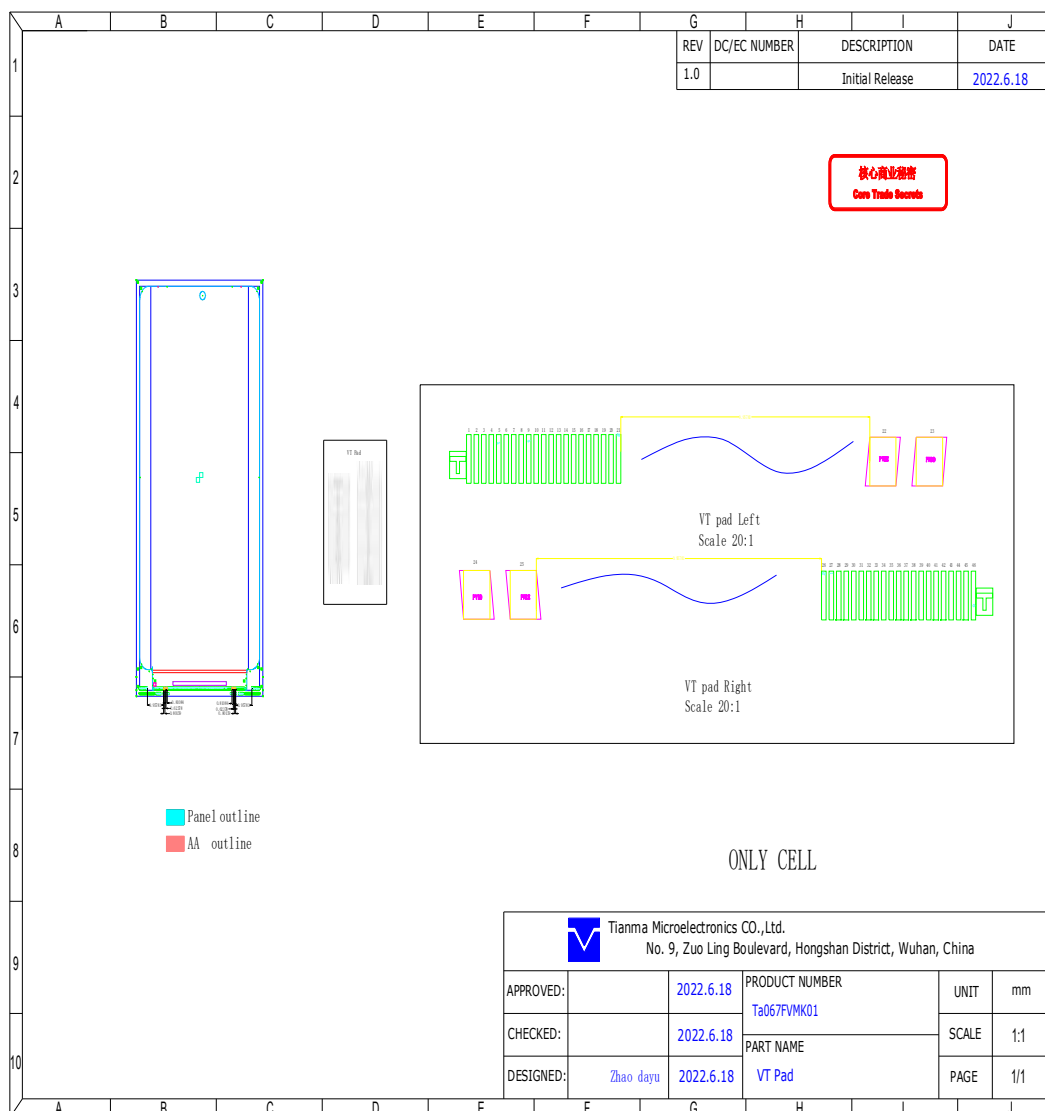
Note3: Before cosmetic and function test, the product must have enough recovery time, at least 2 hours at room temperature.

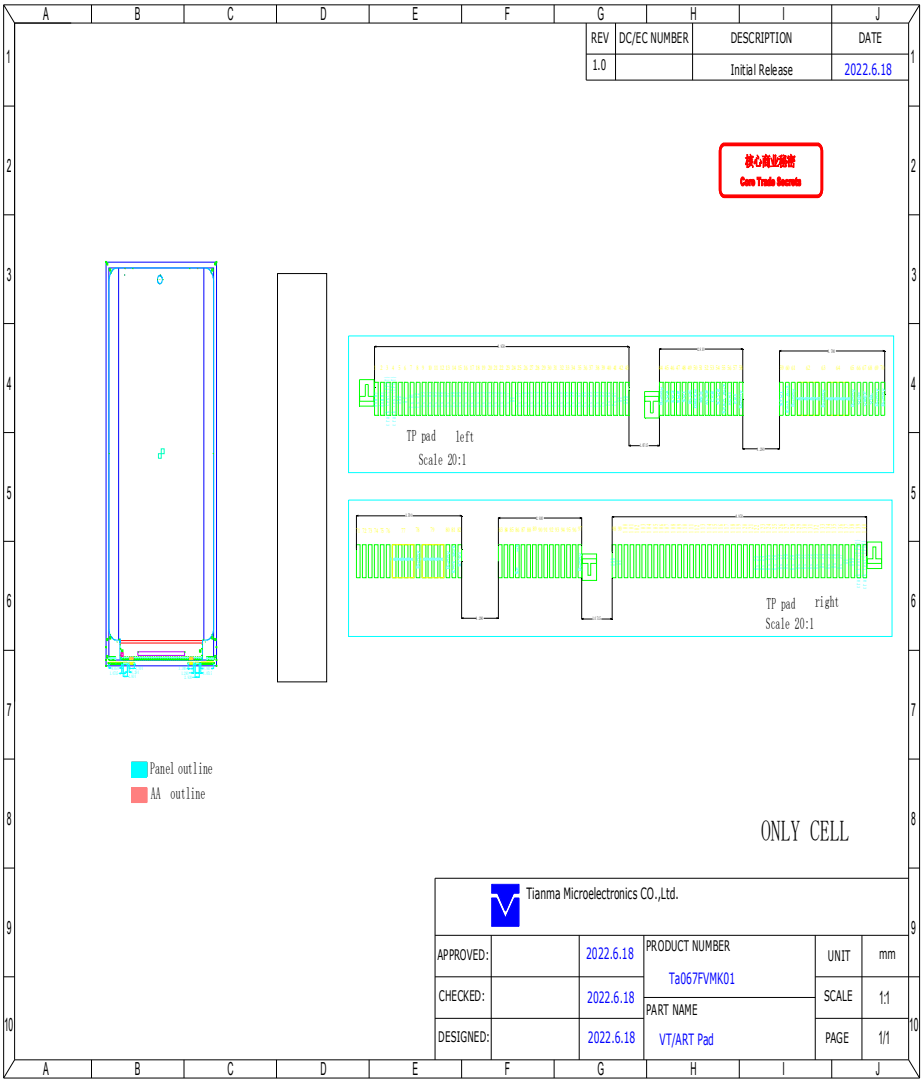
Note 4: In the standard condition, there shall be no practical problem that may affect the display function. After the reliability test, the product only guarantees operation, but don't guarantee all of the cosmetic specification.

6 Mechanical Drawing



PANEL+TPF+TLamin





7 Packing Drawing

TBD

8 Precautions For Use of OLED Modules

8.1 Handling Precautions

8.1.1 The display panel is made of glass. Do not subject it to a mechanical shock by dropping it from a high place, etc.

8.1.2 If the display panel is damaged and the Organic Light-Emitting Diode inside it leaks out, be sure not to get any in your mouth, if the substance comes into contact with your skin or clothes, promptly wash it off using soap and water.

8.1.3 Do not apply excessive force to the display surface or the adjoining areas since this may cause the color tone to vary.

8.1.4 The polarizer covering the display surface of the OLED module is soft and easily scratched. Handle this polarizer carefully.

8.1.5 If the display surface is contaminated, breathe on the surface and gently wipe it with a soft dry cloth. If still not completely clear, moisten cloth with one of the following solvents:

- Isopropyl alcohol
- Ethyl alcohol

Solvents other than those mentioned above may damage the polarizer. Especially, do not use the following:

- Water
- Ketone
- Aromatic solvents

Do not attempt to disassemble the LCD Module.

8.1.6 If the logic circuit power is off, do not apply the input signals.

8.1.7 To prevent destruction of the elements by static electricity, be careful to maintain an optimum work environment.

8.1.8 Be sure to ground the body when handling the LCD Modules.

8.1.9 Tools required for assembly, such as soldering irons, must be properly ground.

8.1.10 To reduce the amount of static electricity generated, do not conduct assembly and other work under dry conditions.

8.1.11 The LCD Module is coated with a film to protect the display surface. Be care when peeling off this protective film since static electricity may be generated.

8.2 Storage precautions

8.2.1 When storing the LCD modules, avoid exposure to direct sunlight or to the light of fluorescent lamps.

8.2.2 The LCD modules should be stored under the storage temperature range. If the LCD modules will be stored for a long time, the recommend condition is:

Temperature : 0℃ ~ 40℃ Relatively humidity: ≤80%

8.2.3 The LCD modules should be stored in the room without acid, alkali and harmful gas.

8.3 Transportation Precautions

8.3.1 The LCD modules should be no falling and violent shocking during transportation, and also should avoid excessive press, water, damp and sunshine.