

 福瑞达 深圳市福瑞达显示技术有限公司 SHENZHEN FRIDA LCD CO.,LTD	Doc.No.: FRD043LHG1M-CK	
	REV : A	PAGE : 1/11
SPEC TITLE DOCUMENT CONTROL SPECIFICATION	EFFECTIVE DATE : 2023-12-12	

产品型号：FRD043LHG1M-CK

客户确认	
批 准	意 见

	签 名	日 期
设 计	Yuan Bao Long	2023.12.12
审 核	Feng Ya Hui	2023.12.12
批 准	Zheng Bin	2023.12.12

深圳市福瑞达显示技术有限公司

工厂地址：深圳市光明新区公明田寮第二工业区田荣路 68 号

Manufacturing base: The 68th, Tianrong Road, Tianliao Community, Gongming town, Guangming District, Shenzhen, China.

总部地址:深圳市光明区光明大道云创谷园区 2 栋 18 楼

Headquarters: 18th Floor, 2nd Building, Yunchuang Valley Park, Guangming Avenue, Guangming District, Shenzhen, China.

电话(Tel):0755-23422110

网址(Web):www.fridalcd.com

sales@fridalcd.com



深圳市福瑞达显示技术有限公司
SHENZHEN FRIDA LCD CO.,LTD

Doc.No.: FRD043LHG1M-CK

REV : A

PAGE : 2/11

SPEC TITLE
DOCUMENT CONTROL SPECIFICATION

EFFECTIVE DATE : 2023-12-12

Contents

No.	ITEM
1	修改记录
2	产品概述
3	产品特性
4	产品图纸
5	品质标准



1. 修改记录 :

版本	日期	描述	发行者
A	2023-12-12	首次发行	YBL

 福瑞达 深圳市福瑞达显示技术有限公司 SHENZHEN FRIDA LCD CO.,LTD	Doc.No.: FRD043LHG1M-CK	
	REV : A	PAGE : 4/11
SPEC TITLE DOCUMENT CONTROL SPECIFICATION	EFFECTIVE DATE : 2023-12-12	

2. 产品概述:

FRD043LHG1M-CK 是一款 4.3 寸 480*272 智能显示模块，带电容触摸屏。

本产品应用于充电桩类

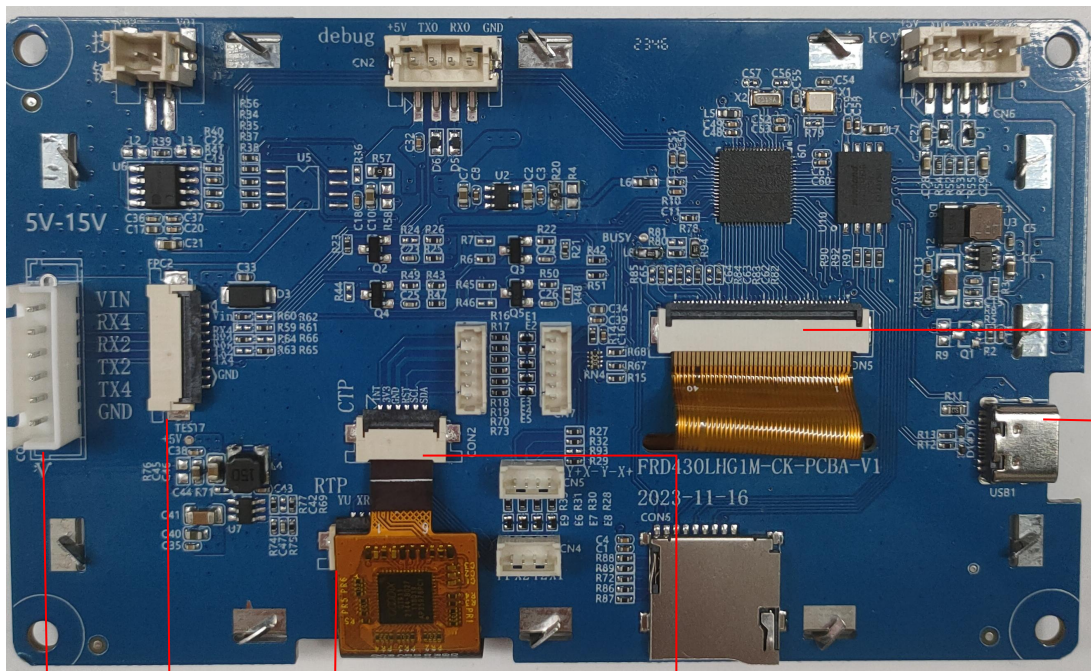
- 480*272 分辨率 262K 色真彩显示触摸屏实现人机交互
- UART 通信最高支持 115200 bps 通信速率支持 TTL/COMS 电平
- 存储容量可定制 16~512M bytes 可选择
- 支持 RTC 时钟功能
- 支持 UNICODE 编码字库显示
- 触摸屏实现人机交互 电阻屏电容屏可选择
- 支持自定义语音播报



SPEC TITLE

DOCUMENT CONTROL SPECIFICATION

EFFECTIVE DATE : 2023-12-12



显示屏接口

Type-C 接口

用户接口

电阻触摸屏
接口

电容触摸屏
接口



3. 产品特性:

3.1 显示性能参数

项目	参数	说明
LCM 尺寸	4.3 寸	
显示尺寸 (A. A)	95.04*53.86	
分辨率	480*272 像素	
背光模式	LED	
LCM 亮度	200 cd/M2	
LCD 接口	RGB565	

3.2 电性能参数

项目	测试条件	最小值	典型值	最大值	单位
工作电压	正常工作: VCC=5V to 15V; Ta=25°C; Vbl=High(背光常开)	5	5	6.5	V
工作电流		142	142	50	mA
功耗		0.71	0.71	0.75	W



3.3 可靠性参数

项目	测试环境	最小值	典型值	最大值	单位
工作温度	5V DC 电压下, 湿度 60%	-20	25	70	°C
储存温度	正常环境	-30	25	80	°C
工作湿度	25°C	10%	60%	90%	RH

3.4 接口性能参数

项目	测试环境	最小值	典型值	最大值	单位
串口波特率	-	-	9600	115200	bps
串口输出电平	正常环境	-	3.3	-	v
串口输入电平	25°C	-	3.3	-	v
串口模式	双工 UART	-	-	-	-
用户接口方式	串口	-	-	-	-
USB 接口	烧录用	-	-	-	-
SD 卡接口	预留离线升级用	-	-	-	-



3.5 储存器特性

储存器类型	项目	最小值	典型值	最大值	单位
FLASH 储存器	总容量	-	16	512	MB
	全屏图片储存数量	-	64	2000+	幅

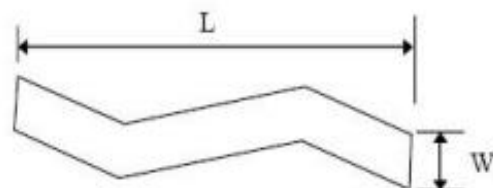
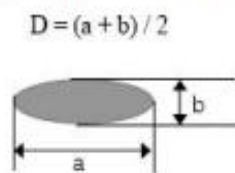
5. 品质标准

5.1 Appearance inspection

Item	Acceptable standards for defects	Defect level
Broken	Not allowed	critical defects
Cracks	Not allowed	critical defects
Insufficient UV glue entering	Not allowed	critical defects
Liquid crystal seal leakage	Not allowed	critical defects
Liquid crystal bubbles	Not allowed	critical defects
Surface scratch(mm)	$W \leq 0.02$, ignored	minor defects
	$0.02 < W \leq 0.04$ $L \leq 4, N \leq 2$	
	$0.03 < W \leq 0.05$ $L \leq 3, N \leq 1$	
	$0.05 < W$ Not allowed	
Black/white spot(mm)	$D \leq 0.15$, ignored; $0.15 < D \leq 0.25, N \leq 4$	minor defects
	$0.25 < D \leq 0.30, N \leq 2$; $0.3 < D$, Not allowed	
The seal pollution	Not allowed	minor defects
Liquid crystal residues	Not allowed	minor defects
Surface stains	Stains that cannot be cleaned or erased are not allowed	minor defects
size	Refer to the product specification corresponding to each product, overall size(including length, Width, thickness) or partial size exceeding the drawing size is not allowed	major defects

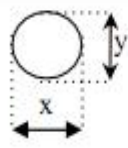
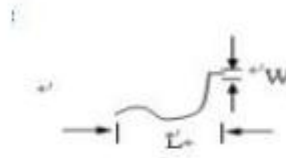
Remarks: 1) Surface scratches within 1.5mm of the glass edge are ignored;

2) D = diameter, L = length, W = width, N = qty;





5.2 Functional test criteria

Item	Judgment	Level																			
Display status	No Display、Incomplete image、line defect、wrong viewing angle、flickering、abnormal image, are not allowed.	major defects																			
	Display color, judged by approved samples, Or by limited samples	minor defects																			
	MURA or the phenomenon that is unable to describe in words, judged by ND 5% or limited samples	minor defects																			
Spot(bright/dark)defect	Definition of spot defect: $\Phi = (x+y) / 2$	minor defects																			
																					
	<table border="1"> <thead> <tr> <th rowspan="2">Size(mm)</th> <th colspan="2">acceptable qty</th> </tr> <tr> <th>Active area</th> <th>View area</th> </tr> </thead> <tbody> <tr> <td>$\Phi \leq 0.15$</td> <td>ignored</td> <td rowspan="4">ignored</td> </tr> <tr> <td>$0.15 < \Phi \leq 0.25$</td> <td>$N \leq 2$ (gap ≥ 5)</td> </tr> <tr> <td>$0.25 < \Phi \leq 0.30$</td> <td>1</td> </tr> <tr> <td>$0.30 < \Phi$</td> <td>Not allowed</td> </tr> </tbody> </table>		Size(mm)	acceptable qty		Active area	View area	$\Phi \leq 0.15$	ignored	ignored	$0.15 < \Phi \leq 0.25$	$N \leq 2$ (gap ≥ 5)	$0.25 < \Phi \leq 0.30$	1	$0.30 < \Phi$	Not allowed					
	Size(mm)			acceptable qty																	
			Active area	View area																	
	$\Phi \leq 0.15$		ignored	ignored																	
$0.15 < \Phi \leq 0.25$	$N \leq 2$ (gap ≥ 5)																				
$0.25 < \Phi \leq 0.30$	1																				
$0.30 < \Phi$	Not allowed																				
Black/white line	Definition of line defect: L: length, W: width	minor defects																			
																					
	<table border="1"> <thead> <tr> <th colspan="2">Size(mm)</th> <th colspan="2">Acceptable qty</th> </tr> <tr> <th>W(width)</th> <th>L(length)</th> <th>Active area</th> <th>View area</th> </tr> </thead> <tbody> <tr> <td>$W \leq 0.03$</td> <td>ignored</td> <td>ignored</td> <td rowspan="2">ignored</td> </tr> <tr> <td>$0.03 < W \leq 0.05$</td> <td>$L \leq 3.0$</td> <td>2</td> </tr> <tr> <td>$W > 0.05$</td> <td>-</td> <td>Not allowed</td> <td></td> </tr> </tbody> </table>		Size(mm)		Acceptable qty		W(width)	L(length)	Active area	View area	$W \leq 0.03$	ignored	ignored	ignored	$0.03 < W \leq 0.05$	$L \leq 3.0$	2	$W > 0.05$	-	Not allowed	
	Size(mm)		Acceptable qty																		
	W(width)		L(length)	Active area	View area																
$W \leq 0.03$	ignored	ignored	ignored																		
$0.03 < W \leq 0.05$	$L \leq 3.0$	2																			
$W > 0.05$	-	Not allowed																			