

深圳市安普盛科技有限公司



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Data Sheet

—For

编号	N20230710
品牌	HMCORE
品名	HLR2 手势识别微波
安普盛型号	HLR12-7AI
客户料号	
客户机型	
制作	WU
审核	Xzz, Siya
批准	Sky
日期	2023. 07. 10

客户承认签印	
日期	

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±

X.X=±

X.XX=

ANGLES = ±

HOLE DIA = ±



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SCALE: N/A

UNIT: mm

DRAWN BY:WU

CHECKED BY:Xzz, Siya

DESIGNED BY:WU

APPROVED BY:Sky

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TITLE: HLR12-7AI Data Sheet

DOCUMENT
NO.

N20230710

SPEC REV.

R1



HLR12-7AI Data Sheet

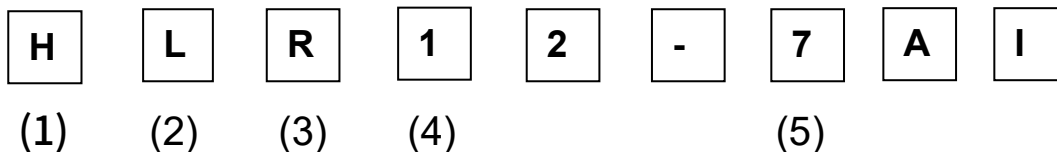
1. 产品特性:

- 轻巧、紧凑
- K波段
- 低成本
- 可隐藏安装
- 不受温度、噪声、气流、尘埃、光线等环境因素影响，抗干扰强
- 手势识别

2. 应用场景:

- 楼宇、智能家居
- 灯光控制
- 工业机器人（制造机器人）
- 手势识别开关

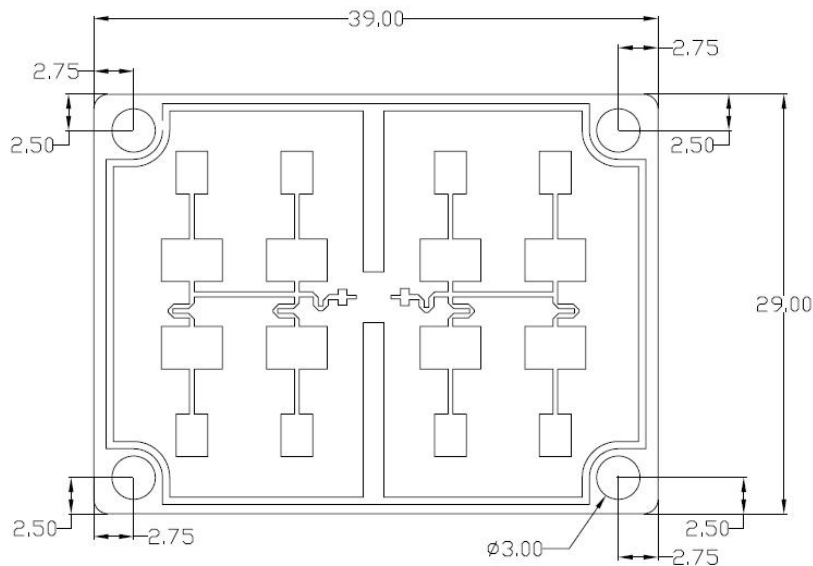
3. 产品型号命名规则:



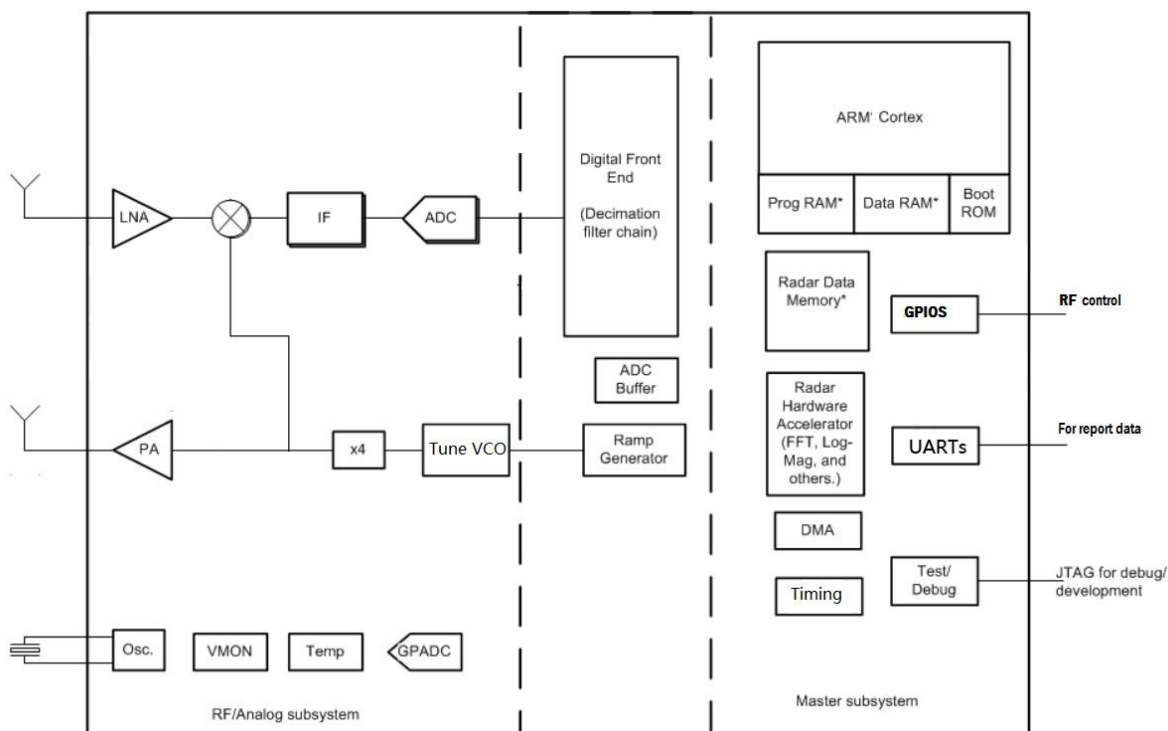
- (1) Honmax
- (2) L Series
- (3) Radar
- (4) Part No. 12
- (5) Gesture Radar Model


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4. PCB 尺寸(单位: mm) :



5. 方框原理图



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6. 产品参数表:

参数条件	环境	最小值	典型值	最大值	单位
System					
工作频率		K-BAND			
输出功率 (TX output)	@ 25°C		5		mW
调制方式	FMCW				
更新时间			100		ms
通信接口		UART			
Radar					
检测距离	@0 dBsm	0		2.55	m
Antenna					
天线-6dB 波束	水平面角度(-6dB)		59		deg
	垂直面角度 (-6dB)		36		deg
Other					
工作电压		4.8	5	12.8	V
工作电流			<80		mA

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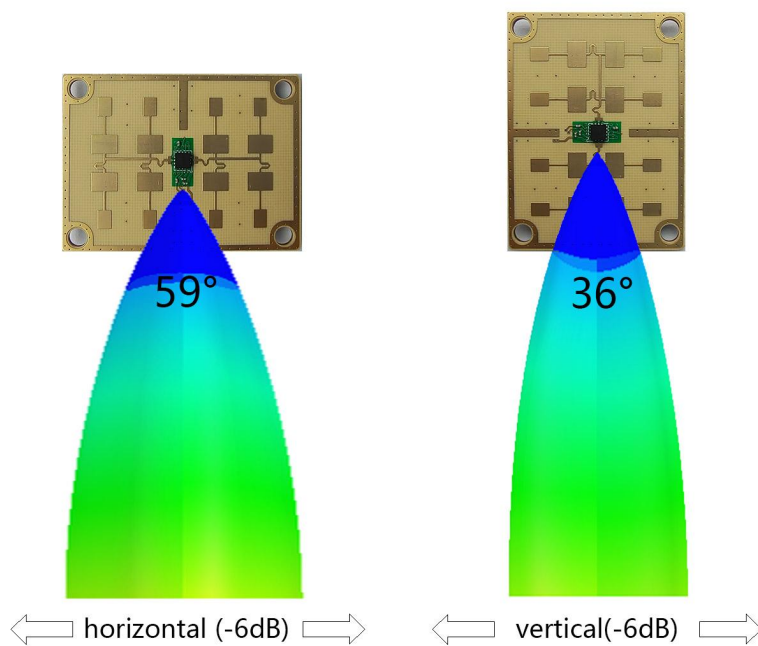
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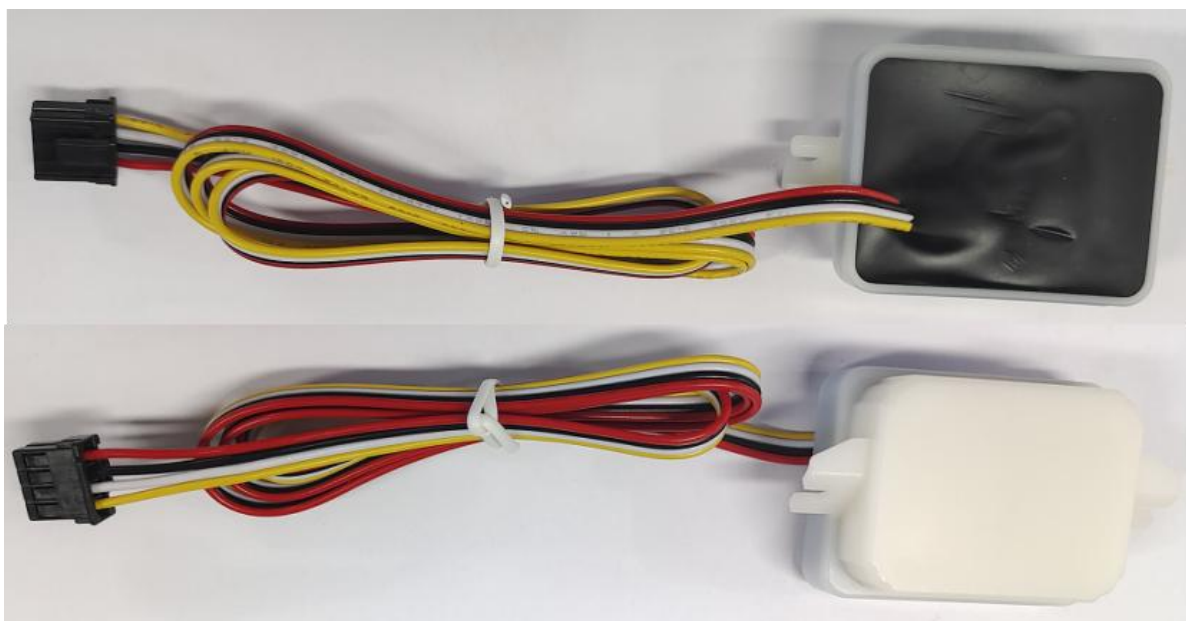
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天线-6dB波束示意图



实物图



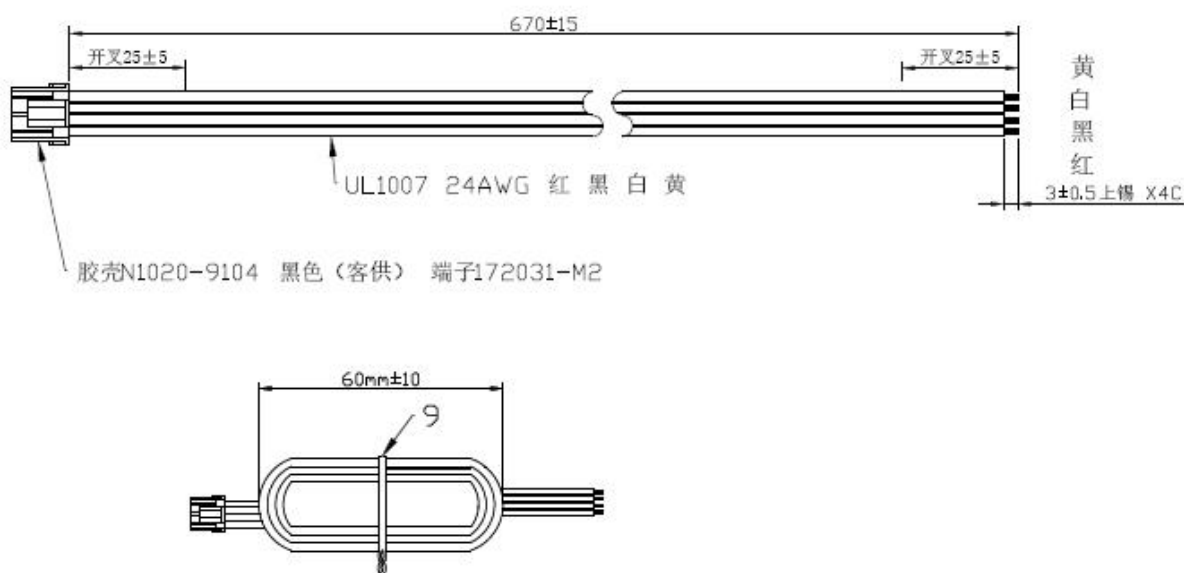
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7. 接口定义:

	PIN#	DESCRIPTIO	IN/OUT	COMMENT
	PIN1	Power	input	5~12(V)
	PIN2	GND	-	GND
	PIN3	TX	Output(OD)	TTL 兼容 3.3V/5V
	PIN4	RX	input	TTL 兼容 3.3V/5V

8. 线材规格(单位: mm):



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9. 安装角度:

装于马桶内，天线的法线与水平夹角为 40°

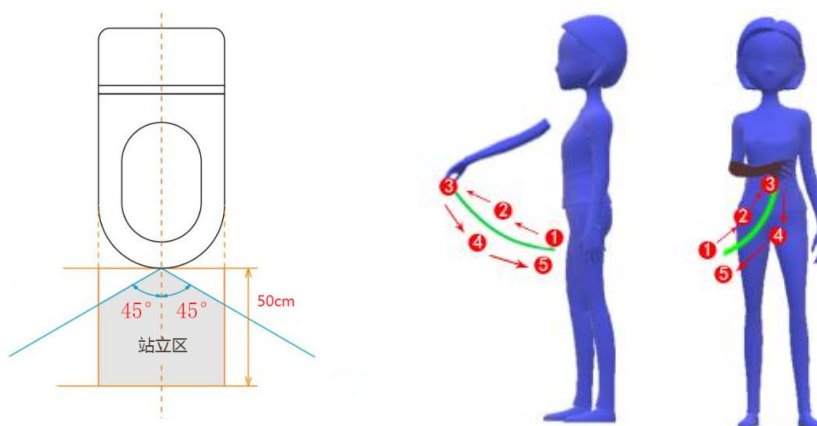
安装图:



10. 手势:

站立在马桶前端挥手，挥手动作需要在 85cm（手部到模块天线面的距离）范围以内，人体站立在手势站立区最佳。（如下图阴影部分：左下）。

上下摆手:



手臂由自然垂直向斜上抬高然至胸前，然后落下（中间不要停顿），摆手时手臂不要高过肩部。

摆手周期为自然往返一个周期（如图：右上）。

注：一个摆手周期大概时间是1.2秒。

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11. 注意事项:

1、存储条件:

- ①为避免损坏电路，在存储、使用时都应采取ESD静电防护措施；
- ②产品在交付后应1年内被使用，存储温度适宜在0℃~30℃，湿度应小于60%RH。

2、使用条件:

- ①请严格按照产品手册所示的电气参数（例如电压、电流等）范围内使用，如果超标使用，会降低产品的可靠性，并可能造成硬件永久性损坏，导致产品功能失效；
- ②安装前请将马桶断电，确认接线正确；
- ③可操作温度范围：-20℃ to +70℃。

注：详见使用注意事项。


12. 协议:

串口默认波特率为9600，详细通讯协议见通讯协议文件。

13. 变更记录:

版本	变更内容	变更人	生效日期
2022/06/24	“首次发布”	YK	2022-06-24
2022/11/17	更改线材规格	WU	2022-11-17
2023/07/10	1. 更改测距范围 2. 修改手势识别动作图片	WU	2023-07-10



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