

## 深圳市安普盛科技有限公司



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电话：0755-86185128

## Data Sheet

—For

编号	N20230414
品牌	<b>HMCORE</b>
品名	HLR2
安普盛型号	HFR22-U-B1-M
客户料号	403700007
客户型号	
制作	WU
审核	Siya、XZZ
批准	Sky
日期	2023. 04. 14

客户承认签印	
日期	

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DRAWN BY: WU	CHECKED BY: Xzz, Siya		
DESIGNED BY: WU	APPROVED BY: Sky		
TITLE: HFR22-U Data Sheet	DOCUMENT NO.	N20230414	SPEC REV. R1



## HFR22-U 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

### 2. 应用场景:

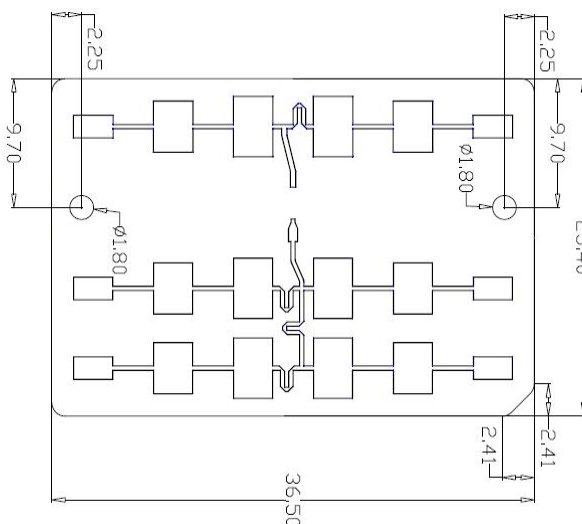
- 楼宇、智能家居
- 灯光控制
- 工业机器人（制造机器人）


### 3. 产品型号命名规则:

HFR22-U-B1-M

- (1) H:HONMAX
- (2) F:F 系列
- (3) R:RADAR
- (4) U:串口通讯
- (5) B1:封装方式，B1 代表胶圈密封 1 号壳
- (6) M:线材型号

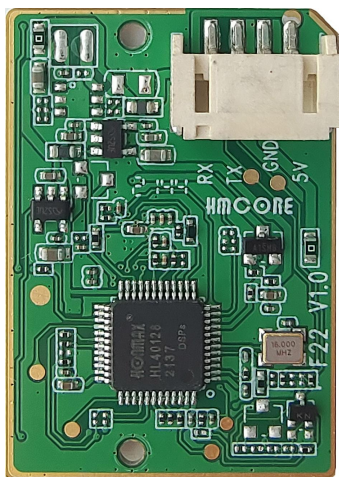
### 4. PCB 尺寸(单位: mm) :



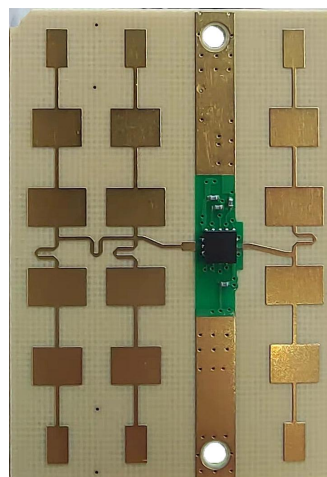
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PCBA

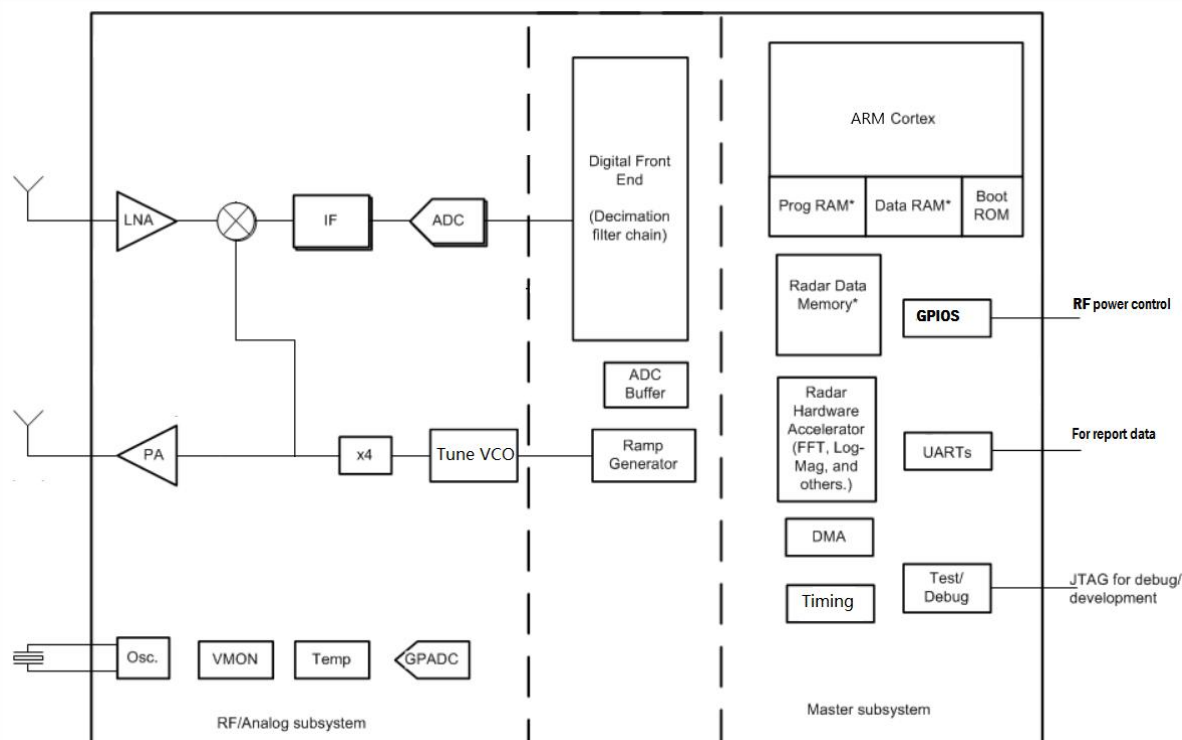



正面



背面

5. 方框原理图:




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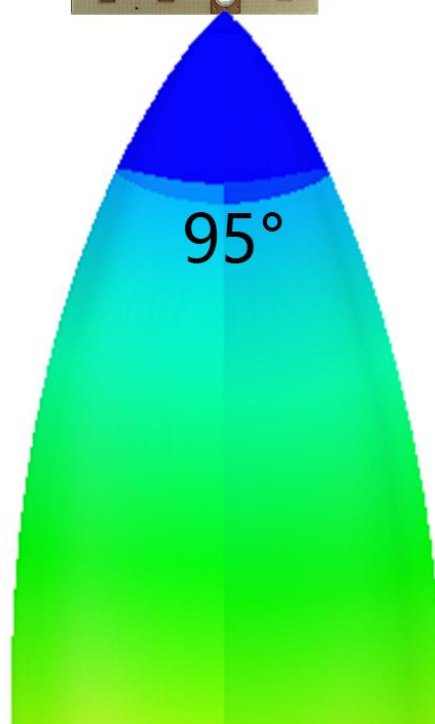
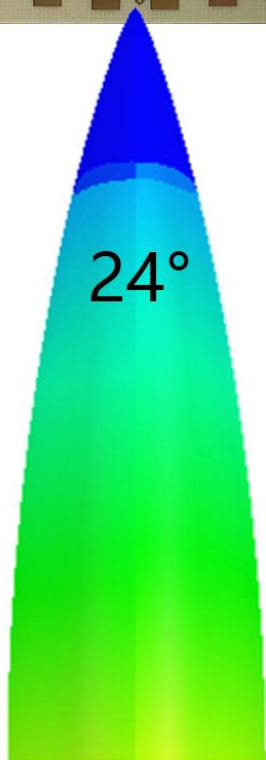
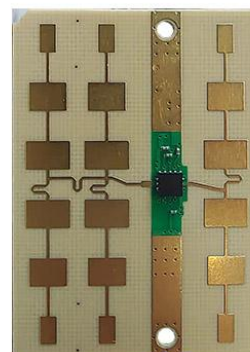
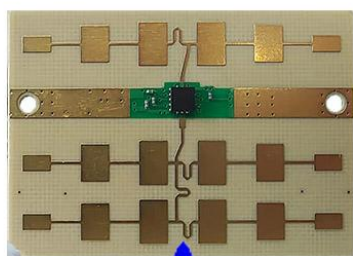


6. 产品参数表:

参数条件	环境	最小值	典型值	最大值	单位
<b>System</b>					
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			
<b>Radar</b>					
检测距离	@0 dBsm	0.45		2.5	m
<b>Antenna</b>					
天线-6dB 波束	水平面角度(-6dB)		24		deg
	垂直面角度 (-6dB)		95		deg
<b>Other</b>					
工作电压		3.6	5	5.5	V
工作电流			70	<80	mA


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-6dB 天线波束示意图



← horizontal (-6dB) →

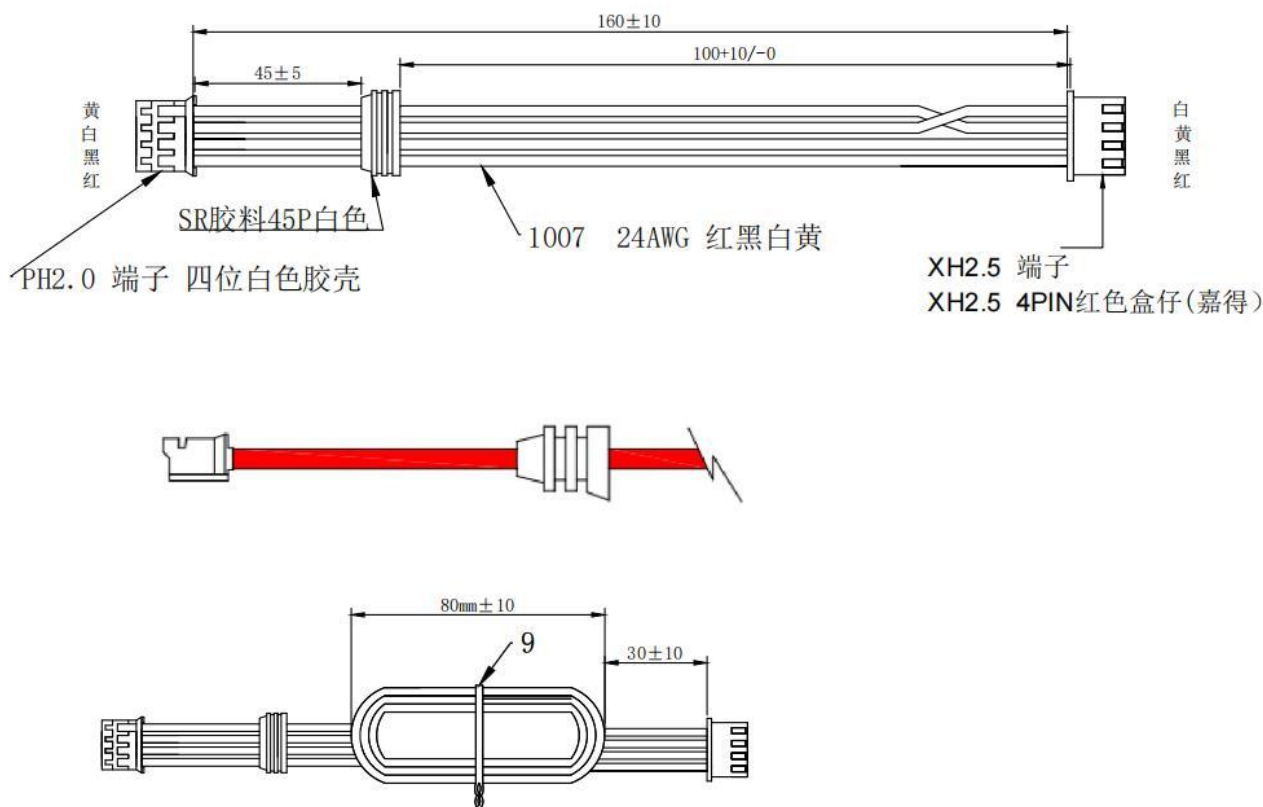
← vertical(-6dB) →

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### 7.接口定义:

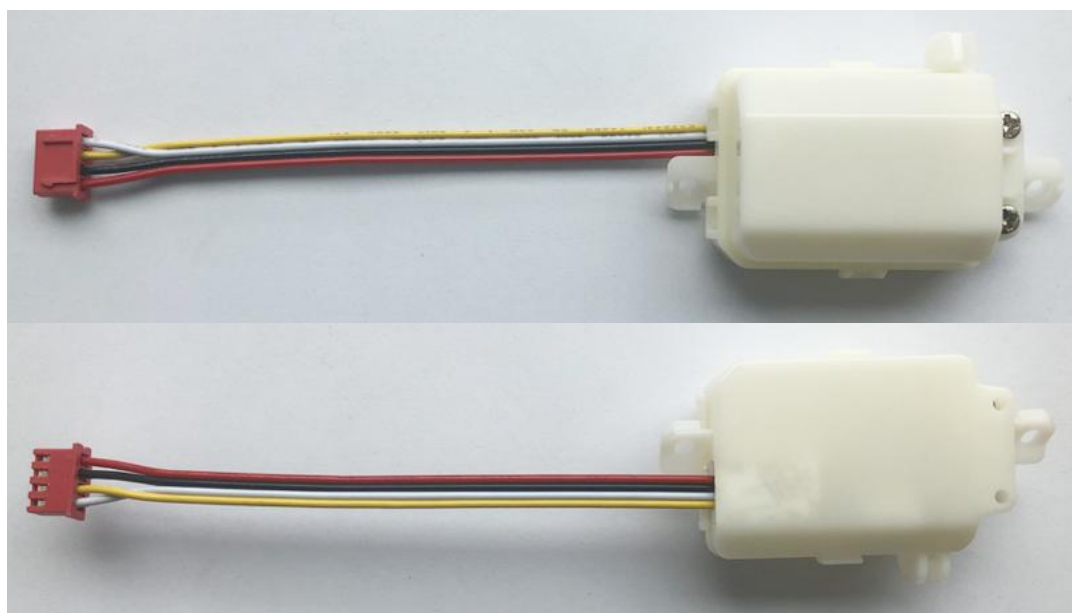
	PIN#	DESCRIPTION	IN/OUT	COMMENT
	PIN1	Power	input	5 (V)
	PIN2	GND	-	GND
	PIN3	RX	input	3V3 (兼容 5V)
	PIN4	TX	Output (OD)	3V3 (兼容 5V)

### 8. 线材规格 (单位: mm):



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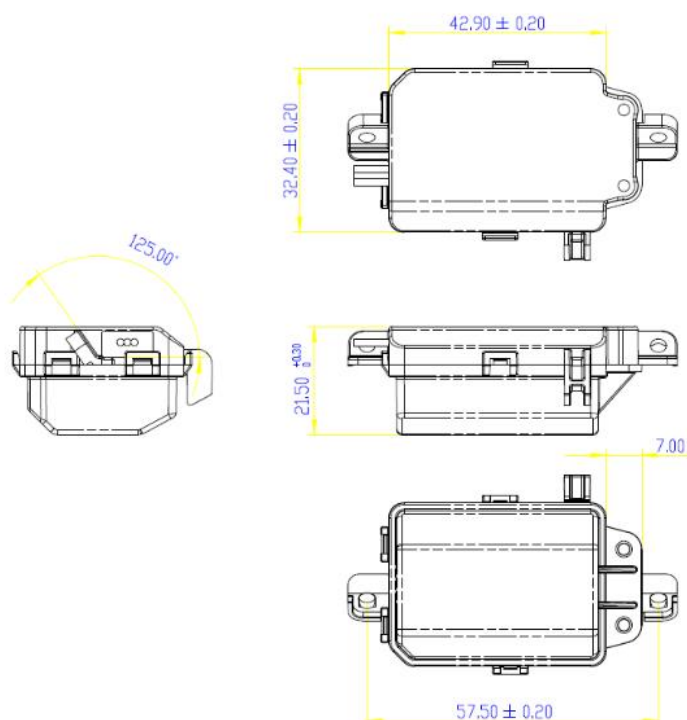
9. 装配实图:




天线面

元件面

10. 外壳尺寸(单位: mm) :

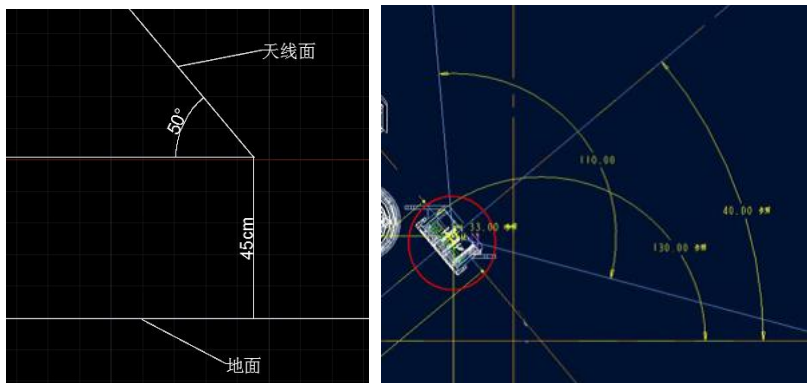


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### 11. 安装角度:

装于马桶后，天线的法线与水平夹角一般为25-35°。安装图:



### 12. 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。

### 13. 协议:

串口默认波特率为19200，详见通讯协议文件。

### 14. 变更记录:

版本	变更内容	变更人	生效日期
2023/04/14	“首次发布”	WU	2023-04-14

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