

RAK567 图传输出

规格书 V1.6



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1 概述

1.1 模块概述

RAK567 是一款支持 IEEE802.111a/b/g/n 无线协议的视频输出模块,支持 CVBS,HDMI,WIFI,SDI,USB 等接口视频输出,具有集成度、易于使用,扩展性强等特点。集成了对音频视频图像的采集,编码压缩,传输。采用高效的硬编码方式,强大的 WIFI 通讯模组,保证了视频的清晰,流畅度。由智能终端 Android、iphone 或者是 HDMI 显示屏、SDI 显示设备等完成音频视频的播放及显示。此外,还具有透传串口的设计。提供一路高速 UART 接口供客户功能扩展。

RAK567 内置 WIFI 模组,支持 802.11a/b/g/n 2x2 MIMO,高达 300Mbps 的数据速率,以及高达 22 dbm 的发射功率,模块可以支持远距离图像传输。

1.2 应用领域

- 飞行器
- 智能机器人
- 水下机器人
- 海洋探测器
- 楼宇自动化
- 物流和货运管理
- 家庭安全与自动化
- 电网基站巡检

1.3 产品特性

- 强大的 WIFI 功能
 - ➤ 满足 802.11a/b/g/n 协议
 - ➤ 发射功率: ≤22dBm
 - ➤ 支持 Infra/Soft AP 网络类型
 - > 2x2 300M PHY Rate
 - ▶ 支持 5.8G WIFI 远距离传输
 - ➤ 支持多种安全认证机制: WEP64/WEP128/TKIP/CCMP(AES)/WEP/WPA-PSK/WPA2-PSK



➤ 支持多种网络协议: TCP/UDP/ICMP/DHCP/DNS/HTTP

- 高效的视频编码处理
 - ▶ 编码帧率支持 1 fps~60fps
 - ▶ 支持 1080p/720P 实时视频输入
 - ➤ H264 视频编码输入
 - ➤ 支持 AAC-LC 音频输入
- 超强的视频解码处理
 - ▶ 支持 1080P/720p 实时解码
 - ➤ HDMI 最高分辨率支持 1080P@60fps
 - ▶ 1 个 GMAC 接口,最高支持 1000M 全双工模式
 - ▶ 支持 HDMI 1080P@60fps 同源输出+CVBS 输出
 - ➤ 支持 1080P@60FPS SDI 视频输出
 - ➤ H264 视频编码输出
- 信号输入接口
 - ➤ WIFI 信号 RTSP/RTMP 输入
 - ▶ 支持 1 路 1080P/720P/D1 H.264 视频流输入
 - ▶ 高速 UART 串口数据输入
- 扩展功能
 - ▶ 支持 I2S, UART, I2C, GPIO 功能扩展
- 模组体积

120mm*100mm

1.4 规格参数

参数	描述
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The simplest, the best							
		1080P(1920*1080) @60FPS,					
	HDMI 输出	1080P(1920*1080) @30FPS,					
	NDMI 制山	720P(1280*720) @60FPS,					
		720P(1280*720) @30FPS;					
	to to the state of	1080P(1920*1080) @30FPS,					
	以太网输出	720P(1280*720) @30FPS;					
视频输出	CVBS 输出	640*480@30FPS;					
	WIFI 输出	1080P(1920*1080) @30FPS,					
	WIFI 和正	720P(1280*720) @30FPS;					
		1080P(1920*1080) @60FPS,					
	SDI 输出(定制开 发) *	1080P(1920*1080) @30FPS,					
		720P(1280*720) @60FPS,					
		720P(1280*720) @30FPS;					
音频传输	音频采样率支持到 48	BK,码率 96Kbps。					
视频输入	高功率 WIFI 视频输入,可以支持多路输入						
网络传输	可以通过 RTMP 直接	推流到云服务器实现音视频同步直播。					
传输距离	有效距离 1000m,流	畅距离 500m					
视频延时	IOS 手机: 200-300ms	左右。Android 手机平均延时 300ms。HMDI 输出:150-200ms					
串口透传波特率	115200bps(默认),	可定制修改					
无线参数	5.8GWIFI,支持 Infra	a/Soft AP 网络类型					
电源参数	9-23V 电源,平均工作	电流 500mA(输入电压为典型值:12V)					
七小少女	峰值电流是 800mA(转	俞入电压为典型值:12V)					
平台	Linux-3.x + ARM Cor	tex A9					



2 硬件描述

2.1 模块视图



图2-1 RAK567 模块正面

2.2 模块尺寸



图2-3 模块平面尺寸图



2.3 接口定义

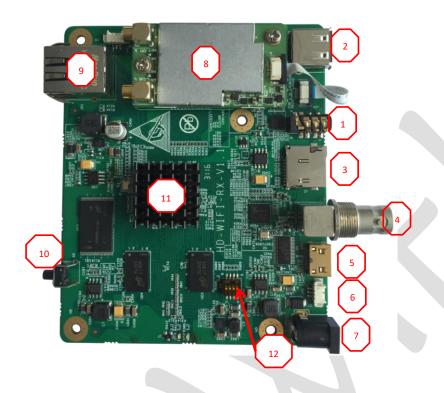


图2-4 模块硬件接口

标号	名称	描述	备注
1	CVBS	CVBS 信号输出接口	可以于 HDMI,WIFI 输出同时工作,
			支持声音输出
2	USB	USB 信号输出接口,定制开发	开发中
3	TF卡座	TF卡	
4	SDI	支持 3G-SDI 视频输出,定制开发	定制开发
5	Mini-HDMI	支持高清 HDMI 视频输出	可以预 CVBS, WIFI 输出同时工作,
			支持声音输出
6	UART	高速 UART 透传	默认波特率是 115200.
7	DC 电源	9-24V 直流电源供电	
8	WIFI 模块	5.8G 高功率 WIFI 模组,双天线	最高 23dB 发射功率
9	Ethernet	1000M 全双工以太网接口	
10	按键	功能按键, WPS 配对、恢复出厂设置等	
11	主芯片	CPU	
12	拨码开关	功能选择开关,切换信道	



3 射频特性

Item	Key specifications
Chip	O QCA AR9375
TX/RX	O 2T2R
Frequency range	 USA: 2.400 ~ 2.483GHz, 5.15 ~ 5.25GHz, 5.725 ~ 5.85GHz Europe: 2.400 ~ 2.483GHz, 5.15 ~ 5.25GHz Japan: 2.400 ~ 2.497GHz, 5.15 ~ 5.25GHz,
Modulation technique	O 802.11 Legacy a/b/g DSSS (DBPSK, DQPSK, CCK) OFDM (BPSK, QPSK, 16-QAM, 64-QAM) DSSS (Direct Sequence Spread Spectrum) with DBPSK (Differential Binary Phase Shift Keying 1Mbps), DQPSK (Differential Quaternary Phase Shift Keying 2Mbps), and CCK (Complementary Code Keying 5.5&11Mbps), and OFDM (Orthogonal Frequency Division Multiplexing with BPSK for 6,9Mbps for 12,18Mbps 16QAM for 24,36Mbps 64QAM for 48,54Mbps)
Host interface	O 802.11n a/g O USB 2.0
Channels support	O 802.11n b/g US/Canada: 11 (1 ~ 11) Major European country: 13 (1 ~ 13) France: 4 (10 ~ 13) Japan: 11b: 14 (1~13 or 14 th), 11g: 13 (1 ~ 13) O 802.11n a 1). US/Canada: channels (36,40,44,48,52, 149,153,157,161,165) 2). Europe: channel (36,40,44,48,52) 3). Japan: channels (36,40,44,48,52)
Operation voltage	O 5V +/- 5%
Power consumption @25°C	802.11ng MCS8(40MHz) 802.11na MCS8(40MHz) (mA) Avg Avg 5V 350 756



The simplest, the		2.11.							
		2.11a Tagt Engagnes	- !	C 24 TI : 4	26 m	~~4 40 T			
		Test Frequence	cies (6-24_Target	36_Targ			54_Target	
		5180		21	20		19	17	
Output Power		5320		21	20		19	17	
(Typical-for		5500		21	20		19	17	
each chain;		5600		21	20		19	17	
with ±2dB		5700		21	20		19	17	
tolerance).		5825		21	20]	19	17	
toter affec).	0 802	2.11b							
This power				1/2 TF	<i></i>	4 44 75	4		
table bases on		Test Frequence	cies	1/2_Target	5.5_Targ		get		
the maximum		2412		16	16	16			
HW capability		2437		16	16	16			
complying		2472		16	16	16			
with IEEE		• • •							
		2.11g		6 4 4 T	0	46 =	, -		
spec regardless the		Test Frequence	cies	6-24_Target	36_Targ		get 5	4_Target	
regulatory		2412		16	16	15		14	
limitation		2437		16	16	15		14	
mmtation		2472		16	16	15		14	
	• ••	0.11							
	O 802	2.11n							
	Frag E	Range: HT20							
		req MCS 0/8	MCC 1	0 MCS 2/10	MCC 2/11	MCS 4/12 M	CC 5/12	MCS 6/14	MCC 7/15
	5180 5240		21 21	21 21	21 21	20 20	20 20	19 19	17 17
	5240 5320		21 21	21	21	20	20	19	17 17
	5520 5500		21 21	21	21	20	20	19 19	17 17
	5700		21	21	21	20	20 20	19 19	17 17
	5745		21	21	21	20 20	20 20	19 19	17 17
	5743 5825		21	21	21	20 20	20 20	19 19	17 17
	3023	, 41	21	21	21	20	4 0	17	1/
	Frea. R	Range: HT40							
	Test F	req MCS 0/8	MCS 1	9 MCS 2/10	MCS 3/11	MCS 4/12 M	ICS 5/13	MCS 6/14	MCS 7/15
	5190		21	21	21	20	20	19	17
	5230		21	21	21	20	20	19	17
	5310		21	21	21	20	20	19	17
	5510		21	21	21	20	20	19	17
	5670		21	21	21	20	20	19	17
	5755		21	21	21	20	20	19	17
	5795		21	21	21	20	20	19	17
			41		#1	-0	20	1)	-/
	Freq. F	Range: HT20							
	Test F	req MCS 0/8	MCS 1	9 MCS 2/10	MCS 3/11	MCS 4/12 M	ICS 5/13	MCS 6/14	MCS 7/15
	2412		16	16	16	15	15	14	14
	2437		16	16	16	15	15	14	14
	2472		16	16	16	15	15	14	14
	Freq. F	Range: HT40							
	Test F	req MCS 0/8	MCS 1	9 MCS 2/10	MCS 3/11	MCS 4/12 M	ICS 5/13	MCS 6/14	MCS 7/15
	2412		16	16	16	15	15	14	14
	2437		16	16	16	15	15	14	14
	2472	2 16	16	16	16	15	15	14	14



EVM

The transmit modulation accuracy is measured using error vector magnitude (EVM). EVM is the magnitude of the phase difference as a function of time between an ideal reference signal and the measured transmitted signal.

802.11a			
Modulation	Code Rate	Relative constellation error (dB) IEEE Spec (1Tx dB)	Relative constellation error (dB Typical (1Tx dB)
BPSK	1/2	-5	-25
BPSK	3/4	-8	-25
QPSK	1/2	-10	-25
QPSK	3/4	-13	-25
16-QAM	1/2	-16	-25
16-QAM	3/4	-19	-28
64-QAM	2/3	-22	-30
64-QAM	3/4	-25	-31
802.11b			
Modulation	Code Rate	Relative constellation error (dB)	Relative constellation error (dl
		IEEE Spec (1Tx dB)	Typical (1Tx dB)
DBPSK		-10	-28
DQPSK		-10	-28
ССК		-10	-28
802.11g			
Modulation	Code Rate	Relative constellation error (dB)	Relative constellation error (dI
		IEEE Spec (1Tx dB)	Typical (1Tx dB)
BPSK	1/2	-5	-28
BPSK	3/4	-8	-28
QPSK	1/2	-10	-28
QPSK	3/4	-13	-28
16-QAM	1/2	-16	-28
16-QAM	3/4	-19	-29
64-QAM	2/3	-22	-29

O 802.11ng

Modulation	n Code I	Rate	Relative constellation error (dB)	Relative constellation error (dB)
НТ20			IEEE Spec (1Tx dB)	Typical (1Tx dB)
(MCS0)	BPSK	1/2	-5	-25
(MCS1)	QPSK	1/2	-10	-26
(MCS2)	QPSK	3/4	-13	-26
(MCS3)	16-QAM	1/2	-16	-26
(MCS4)	16-QAM	3/4	-19	-29
(MCS5)	64-QAM		-22	-30
(MCS6)	64-QAM	3/4	-25	-30
(MCS7)	64-QAM	5/6	-27	-31
(MCS8)	BPSK	1/2	-5	-25
(MCS9)	QPSK	1/2	-10	-26
(MCS10)	QPSK	3/4	-13	-26



Ine sin	nplest, the best			
	(MCS11) 16-QAM 1	1/2 -16	-26
	(MCS12) 16-QAM 3	-19	-29
	(MCS13) 64-QAM 2	2/3 -22	-30
	(MCS14) 64-QAM 3	3/4 -25	-30
	(MCS15) 64-QAM 5	5/6 -27	-31
	(,		
	HT40			
	(MCS0)		1/2 -5	-26
	(MCS1)	QPSK	1/2 -10	-27
	(MCS2)	QPSK 3	3/4 -13	-27
	(MCS3)	16-QAM 1	-16	-27
	(MCS4)	16-QAM 3	3/4 -19	-29
	(MCS5)	64-QAM 2		-30
	(MCS6)	_		-30
	(MCS7)	64-QAM 5	5/6 -27	-31
	(MCS8)	BPSK	1/2 -5	-26
	(MCS9)		1/2 -10	-27
	`	, -	3/4 -13	-27
) 16-QAM 1		-27
	,) 16-QAM 3		-29
	`) 64-QAM 2		-30
	(MCS14) 64-QAM 3	-25	-30
	(MCS15) 64-QAM 5	5/6 -27	-31
	O 802.11n	_		
EVM			ate Relative constellation error (dB)	Polative constellation error (dR)
EVIVI	Midula	non Couc K		· ´
	HT20		IEEE Spec (1Tx dB)	Typical (1Tx dB)
	(MCS0)	BPSK 1	1/2 -5	-25
	(MCS1)	QPSK	1/2 -10	-26
	(MCS1) (MCS2)	QPSK C	1/2 -10 3/4 -13	-26 -26
	(MCS1) (MCS2) (MCS3)	QPSK QPSK 16-QAM	1/2 -10 3/4 -13 1/2 -16	-26 -26 -26
	(MCS1) (MCS2) (MCS3) (MCS4)	QPSK QPSK 16-QAM 16-QAM	1/2 -10 3/4 -13 1/2 -16 -19	-26 -26 -26 -29
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5)	QPSK QPSK : 16-QAM : 16-QAM : 64-QAM :	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22	-26 -26 -26
	(MCS1) (MCS2) (MCS3) (MCS4)	QPSK QPSK : 16-QAM : 16-QAM : 64-QAM : 64-QAM :	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25	-26 -26 -26 -29 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7)	QPSK QPSK 16-QAM 1 16-QAM 2 64-QAM 3 64-QAM 3	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25	-26 -26 -26 -29 -30 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -26 -29 -30 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10	-26 -26 -26 -29 -30 -30 -31 -25 -26
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13	-26 -26 -26 -29 -30 -31 -25 -26
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10	QPSK QPSK 16-QAM 16-QAM 364-QAM 364-QAM 3BPSK QPSK QPSK) QPSK 16-QAM	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16	-26 -26 -29 -30 -31 -25 -26 -26
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11) (MCS11	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK) QPSK) 16-QAM) 16-QAM	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -29
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13	QPSK QPSK 16-QAM 1 16-QAM 2 64-QAM 3 64-QAM 3 BPSK QPSK) QPSK) 16-QAM 1) 16-QAM 3	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -29 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK) QPSK) 16-QAM 3) 16-QAM 3) 64-QAM 3	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -26 -27 -28 -29 -30 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14	QPSK QPSK 16-QAM 1 16-QAM 2 64-QAM 3 64-QAM 3 BPSK QPSK) QPSK) 16-QAM 1) 16-QAM 3	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -29 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK) QPSK) 16-QAM 3) 16-QAM 3) 64-QAM 3	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -26 -27 -28 -29 -30 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK) QPSK) 16-QAM 1) 64-QAM 3) 64-QAM 3	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -27 -26 -28 -29 -30 -30 -30 -31
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK 1 16-QAM 1 16-QAM 1 16-QAM 1 16-QAM 1 16-QAM 1	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -29 -30 -30 -31
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK 16-QAM 16	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10	-26 -26 -29 -30 -30 -31 -25 -26 -26 -29 -30 -31 -30 -31
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15) HT40 (MCS0) (MCS0) (MCS1) (MCS0)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK 3 16-QAM 3 16-QAM 3 64-QAM 3 64-QAM 3 64-QAM 3 64-QAM 3	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13	-26 -26 -29 -30 -30 -31 -25 -26 -26 -29 -30 -31 -27 -27
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15 HT40 (MCS0) (MCS1) (MCS2) (MCS3)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK 1 16-QAM 1 16-QAM 1 16-QAM 1 16-QAM 1 16-QAM 1 16-QAM 1 16-QAM 1	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -29 -30 -30 -31 -25 -26 -26 -29 -30 -31 -26 -27 -27
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15 HT40 (MCS0) (MCS1) (MCS2) (MCS3) (MCS4)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK 16-QAM 16-QAM 16-QAM 164-QAM 1	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -29 -30 -30 -31 -27 -27 -27 -29
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS13 (MCS14 (MCS15 HT40 (MCS0) (MCS1) (MCS2) (MCS3) (MCS4) (MCS5)	QPSK QPSK 16-QAM 1 16-QAM 3 64-QAM 3 64-QAM 3 BPSK QPSK 16-QAM 16-QAM 16-QAM 164-QAM 1	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -29 -30 -30 -31 -25 -26 -26 -26 -29 -30 -30 -31 -27 -27 -27 -29 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15 HT40 (MCS0) (MCS1) (MCS0) (MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6)	QPSK QPSK 16-QAM 1 64-QAM 6 64-QAM 6 64-QAM 6 9PSK QPSK 16-QAM 16	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -19 2/3 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -19 2/3 -22 3/4 -25	-26 -26 -29 -30 -30 -31 -25 -26 -26 -29 -30 -31 -25 -27 -27 -27 -27 -29 -30 -30 -30
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15 HT40 (MCS0) (MCS1) (MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7)	QPSK QPSK 16-QAM 1 64-QAM 6 64-QAM 6 64-QAM 6 9PSK QPSK 16-QAM 16	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -29 -30 -30 -31 -25 -26 -26 -29 -30 -30 -31 -27 -27 -27 -27 -29 -30 -30 -31
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15 HT40 (MCS0) (MCS1) (MCS0) (MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8)	QPSK QPSK 16-QAM 1 16-QAM 6 64-QAM 6 64-QAM 6 9PSK QPSK 16-QAM 16	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -5 -10 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 -27 -25 -27 -25 -27 -25 -27 -25 -27 -25 -27 -25 -28 -29 -29 -29<	-26 -26 -29 -30 -30 -31 -25 -26 -26 -29 -30 -31 -30 -31 -26 -27 -27 -27 -27 -29 -30 -30 -31 -26
	(MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7) (MCS8) (MCS9) (MCS10 (MCS11 (MCS12 (MCS13 (MCS14 (MCS15 HT40 (MCS0) (MCS1) (MCS1) (MCS2) (MCS3) (MCS4) (MCS5) (MCS6) (MCS7)	QPSK QPSK 16-QAM 1 16-QAM 64-QAM 64-QAM 64-QAM 64-QAM 64-QAM 64-QAM 64-QAM 64-QAM 16-QAM 16-QAM 16-QAM 16-QAM 16-QAM 64-QAM 64-Q	1/2 -10 3/4 -13 1/2 -16 3/4 -19 2/3 -22 3/4 -25 5/6 -27 1/2 -5 1/2 -10 3/4 -19 2/3 -22 3/4 -25 5/6 -27	-26 -26 -29 -30 -30 -31 -25 -26 -26 -29 -30 -30 -31 -27 -27 -27 -27 -29 -30 -30 -31



	ne best			
	(MCS11) 16-QAM	1/2	-16	-27
	(MCS12) 16-QAM		-19	-29
	(MCS13) 64-QAM		-22	-30
	(MCS14) 64-QAM		-25 -25	-30
	, , -			
	(MCS15) <u>64-QAM</u>	1 5/6	-27	-31
	O 802.11a			
	Modulation	Code Rate	IEEE Spec (1Rx dBm)	Typical (1Rx dBm)
	BPSK	1/2	-82	-88
	BPSK	3/4	-81	-86
	QPSK	1/2	-79	-85
	QPSK	3/4	-77	-83
	16-QAM	1/2	-74	-79
	16-QAM	3/4	-70	-77
	_	2/3	-66	-73
	64-QAM			
	64-QAM	3/4	-65	-70
	O 802.11b			
	Modulation	IEI	EE Spec (1Rx dBm)	Typical (1Rx dBm)
	DBPSK		not specified	-93
	DQPSK		not specified	-91
	ССК		not specified	-87
	O 802.11g Modulation	Code Rate	IEEE Spec (1Rx dBm)	Typical (1Dv dDm)
				Typical (1Rx dBm)
	BPSK	1/2	-82	-93
	BPSK	3/4	-81	-91
	QPSK	1/2	-79	-89
	QPSK	3/4	-77	-86
ensitivity	16-QAM	1/2	-74	-83
RX with	16-QAM	3/4	-70	-80
-4/-2dB	64-QAM	2/3	-66	-75
lerance,	64-QAM	3/4	-65	-70
dBm)		3/4	-03	-70
	O 802.11ng			
	Modulation	Code Ra	te IEEE Spec (1Rx dBm)	Typical (1Rx dBm)
	Modulation	Code Ra	te IEEE Spec (1Rx dBm)	Typical (1Rx dBm)
	Modulation HT20	Code Ra	te IEEE Spec (1Rx dBm) -82	Typical (1Rx dBm)
	Modulation		• • •	
	Modulation HT20 (MCS0) BPSK	1/2	-82	-90
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK	1/2 1/2 3/4	-82 -79 -77	-90 -87
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM	1/2 1/2 3/4 1/2	-82 -79 -77 -74	-90 -87 -86 -84
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM	1/2 1/2 3/4 1/2 3/4	-82 -79 -77 -74 -70	-90 -87 -86 -84 -80
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM	1/2 1/2 3/4 1/2 3/4 2/3	-82 -79 -77 -74 -70 -66	-90 -87 -86 -84 -80 -77
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4	-82 -79 -77 -74 -70 -66 -65	-90 -87 -86 -84 -80 -77 -72
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM	1/2 1/2 3/4 1/2 3/4 2/3	-82 -79 -77 -74 -70 -66	-90 -87 -86 -84 -80 -77
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6	-82 -79 -77 -74 -70 -66 -65	-90 -87 -86 -84 -80 -77 -72
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM HT40 (MCS0) BPSK	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6	-82 -79 -77 -74 -70 -66 -65 -64	-90 -87 -86 -84 -80 -77 -72 -67
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6	-82 -79 -77 -74 -70 -66 -65	-90 -87 -86 -84 -80 -77 -72
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM HT40 (MCS0) BPSK	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6	-82 -79 -77 -74 -70 -66 -65 -64	-90 -87 -86 -84 -80 -77 -72 -67
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM (MCS7) 64-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6	-82 -79 -77 -74 -70 -66 -65 -64	-90 -87 -86 -84 -80 -77 -72 -67
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM (MCS7) 64-QAM (MCS7) 64-QAM (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6 1/2 1/2 3/4 1/2	-82 -79 -77 -74 -70 -66 -65 -64 -79 -76 -74	-90 -87 -86 -84 -80 -77 -72 -67
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM HT40 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6 1/2 1/2 3/4 1/2 3/4	-82 -79 -77 -74 -70 -66 -65 -64 -79 -76 -74 -71	-90 -87 -86 -84 -80 -77 -72 -67 -88 -86 -84 -80 -78
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM HT40 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6 1/2 1/2 3/4 1/2 3/4 2/3	-82 -79 -77 -74 -70 -66 -65 -64 -79 -76 -74 -71 -67 -63	-90 -87 -86 -84 -80 -77 -72 -67 -88 -86 -84 -80 -78 -73
	Modulation HT20 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM (MCS5) 64-QAM (MCS6) 64-QAM (MCS7) 64-QAM HT40 (MCS0) BPSK (MCS1) QPSK (MCS2) QPSK (MCS3) 16-QAM (MCS4) 16-QAM	1/2 1/2 3/4 1/2 3/4 2/3 3/4 5/6 1/2 1/2 3/4 1/2 3/4	-82 -79 -77 -74 -70 -66 -65 -64 -79 -76 -74 -71	-90 -87 -86 -84 -80 -77 -72 -67 -88 -86 -84 -80 -78



HT20		O 802.11na										
(MCS0) BPSK 1/2 -79 -87 (MCS2) QPSK 3/4 -77 -84 (MCS3) 16-QAM 1/2 -74 -80 (MCS3) 16-QAM 3/4 -70 -77 (MCS5) 64-QAM 2/3 -66 -72 (MCS5) 64-QAM 3/4 -65 -71 (MCS7) 64-QAM 5/6 -64 -67 Sensitivity (IRX with +4-/2dB tolerance, (MCS0) BPSK 1/2 -76 -81 (MCS0) BPSK 1/2 -76 -81 (MCS1) QPSK 3/4 -74 -79 (MCS2) QPSK 3/4 -74 -79 (MCS3) 16-QAM 1/2 -71 -76 (MCS3) 16-QAM 1/2 -71 -76 (MCS3) 16-QAM 3/4 -67 -72 (MCS4) 16-QAM 3/4 -67 -72 (MCS5) 64-QAM 2/3 -63 -70 (MCS5) 64-QAM 3/4 -67 -72 (MCS7) 64-QAM 5/6 -61 -64 Transmit spectrum mask OF For transmitted spectral mask for 11a shall be less than -40dBr for for 30MHz <f-f-40mhz. -40dbr="" 11b="" 30mhz<f-f-40mhz.="" 30mhz<f-f-6-30mhz.="" be="" flatness="" for="" less="" mask="" shall="" spectral="" spectral<="" spectrum="" th="" than="" transmit="" transmitted=""><th></th><th></th><th>Modulation</th><th></th><th>Code</th><th>Rate</th><th></th><th>IFF</th><th>F Sne</th><th>c (1Rv</th><th>dRm)</th><th></th></f-f-40mhz.>			Modulation		Code	Rate		IFF	F Sne	c (1Rv	dRm)	
(MCSJ) QPSK 3/4 -77 -84 (MCSJ) 16-QAM 1/2 -74 -80 (MCSJ) 16-QAM 3/4 -70 -77 (MCSG) 64-QAM 2/3 -66 -72 (MCSG) 64-QAM 3/4 -65 -71 (MCSG) 64-QAM 5/6 -64 -67 HT40 (IRX with +4/-2dB tolerance, dBm) (MCSJ) 16-QAM 1/2 -79 -84 (MCSJ) QPSK 1/2 -79 -84 (MCSJ) QPSK 1/2 -76 -81 (MCSJ) 16-QAM 3/4 -67 -76 (MCSJ) 16-QAM 3/4 -67 -72 (MCSJ) 16-QAM 3/4 -67 -76 (MCSJ) 16-QAM 3/4 -67 -72 (MCSJ) 16-QAM 3/4 -67 -72 (MCSJ) 16-QAM 3/4 -67 -72 (MCSJ) 64-QAM 5/6 -61 -64 Transmit spectrum mask □ For transmitted spectral mask for 11a shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11b shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -40dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -45dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than -50dBr for fc-30MHz □ For transmitted spectral mask for 11g shall be less than								11515	•		uDiii)	
(MCS2) QPSK 3/4 -77 -84 (MCS3) 16-QAM 1/2 -74 -80 (MCS3) 16-QAM 3/4 -70 -777 (MCS5) 64-QAM 2/3 -66 -72 (MCS5) 64-QAM 3/4 -65 -71 (MCS7) 64-QAM 5/6 -64 -67 (MCS7) 64-QAM 5/6 -64 -67 (MCS7) 64-QAM 5/6 -64 -67 (MCS7) 64-QAM 5/6 -64 -79 -84 (MCS1) QPSK 1/2 -76 -81 (MCS1) QPSK 1/2 -76 -81 (MCS2) QPSK 3/4 -74 -79 (MCS3) 16-QAM 1/2 -71 -76 (MCS3) 16-QAM 1/2 -71 -76 (MCS4) 16-QAM 3/4 -67 -72 (MCS5) 64-QAM 3/4 -62 -67 (MCS6) 64-QAM 3/4 -62 -67 (MCS6) 64-QAM 3/4 -62 -67 (MCS7) 64-QAM 5/6 -61 -64 (MCS7) 64-QAM 5/6 -61 (MCS7) 64-QAM 5/6 (MCS7) 64-QAM 5/		,										
(MCS3) 16-QAM 3/4 -70 -77 (MCS5) 64-QAM 3/4 -70 -77 (MCS5) 64-QAM 3/4 -65 -72 (MCS6) 64-QAM 5/6 -64 -65 -71 (MCS7) 64-QAM 5/6 -64 -67 Sensitivity (IRX with +4/-2dB (MCS1) QPSK 1/2 -79 -84 (MCS0) QPSK 3/4 -74 -79 (MCS3) 16-QAM 1/2 -76 -81 (MCS3) 16-QAM 1/2 -71 -76 (MCS3) 16-QAM 3/4 -67 -72 (MCS3) 16-QAM 3/4 -67 -72 (MCS3) 16-QAM 3/4 -67 -72 (MCS6) 64-QAM 3/4 -67 -72 (MCS6) 64-QAM 3/4 -62 -63 -70 (MCS6) 64-QAM 3/4 -62 -67 (MCS7) 64-QAM 3/4 (MCS1) 64-QAM 3/4 (MCS												
MCS5) 64-QAM												
MCS5) 64-QAM 3/4 -65 -71												
MCS6) 64-QAM 3/4 -65 -71		, -										
MCS7) 64-QAM 5/6 -64 -67												
(IRX with +4/2dB (MCSI) QPSK 1/2 -79 -84 +84/2dB (MCSI) QPSK 1/2 -76 -81 (MCS2) QPSK 3/4 -74 -79 (MCS3) 16-QAM 1/2 -71 -76 (MCS3) 16-QAM 3/4 -67 -72 (MCS6) 64-QAM 3/4 -62 -67 (MCS6) 64-QAM 3/4 -62 -67 (MCS7) 64-QAM 5/6 -61 -64 For transmitted spectral mask for 11a shall be less than -40dBr for fc-30MHz		(MCS7) 64-QAM	5/6		-	-64			_	67		
(IRX with +4/2dB (MCSI) QPSK 1/2 -79 -84 +84/2dB (MCSI) QPSK 1/2 -76 -81 (MCS2) QPSK 3/4 -74 -79 (MCS3) 16-QAM 1/2 -71 -76 (MCS3) 16-QAM 3/4 -67 -72 (MCS6) 64-QAM 3/4 -62 -67 (MCS6) 64-QAM 3/4 -62 -67 (MCS7) 64-QAM 5/6 -61 -64 For transmitted spectral mask for 11a shall be less than -40dBr for fc-30MHz	Sensitivity	HT40										
Hel-2dB tolerance, dBm Color Color Color			1/2			-79				84		
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② 802.11na		
Modulation Code Rate IEEE Spec (1Rx dBm) >-20	Modulation Code Rate IEEE Spec (1Rx dBm)	
 ② 802.11b: 1, 2, 5.5, 11Mbps ③ 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps ② 802.11n: @800GI(400GI) Transfer data rate 1 Nss: 65(72.2) Mbps maximal 2 Nss: 130(144.444) Mbps maximal 	Modulation Code Rate IEEE Spec (1Rx dBm)	
1 Nss: 135(150) Mbps maximal	② 802.11b: 1, 2, 5.5, 11Mbps ② 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps ② 802.11n: @800GI(400GI) z 20MHz BW 1 Nss: 65(72.2) Mbps maximal 2 Nss: 130(144.444) Mbps maximal z 40MHz BW	



4 电气特性

4.1 绝对最大值

下表中给出绝对最大值,超过该最大值范围可能使模块器件受损。为避免模块及器件受损请在规定条件下进行操作。

表 3-1:参数及范围

参数	符号	数值	单位
外部电源电压	VDDIN	9~~23	V
I0 口最大输入电压	3V3V _{in} IOMax	3.6	V
IO 口最小输入电压	3V3V _{in} IOMin	-0.3	V
存储环境温度	T_{store}	-40~~+125	$^{\circ}$
工作温度	Toper	-20~~+65	°C

4.2 推荐工作参数

表 3-2: 推荐工作参数范围

参数	符号	最小值	典型值	最大值	单位
外部电压	VDDIN	9.0	12.0	23.0	V



5 订购信息

表 5-1: 订购型号

产品	描述	单托盘数量	最小包装数量
RAK567	图传模组,即插即用	12 片/tray	60 片





6 销售与服务

深圳总部

FAE 邮箱: ken.yu@rakwireless.com

电话: 0755-86108311

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上海

FAE 邮箱: steven.tang@rakwireless.com

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北京

FAE 邮箱: allan.jin@rakwireless.com

地址:北京市昌平区回龙观腾讯众创空间



7 版本更新说明

版本号	修改内容	修改日期
V1.0	修改文档格式	2016-06-09
V1.1	修复部分描述不准确	2016-07-09
V1.2	1,更新产品尺寸结构图, 2,增加 RTMP 视频直播功能。 3,加以太网的视频输出。 4,增加视频传输延迟参数。	2016-08-20
V1.3	1,删除部分错误描述	2016-10-20
V1.4	1,删除 TF 卡部分的错误描述。	2016-10-31
V1.5	更新销售服务信息。	2016-11-10
V1.6	更新视频输入信息描述。	2017-2-28