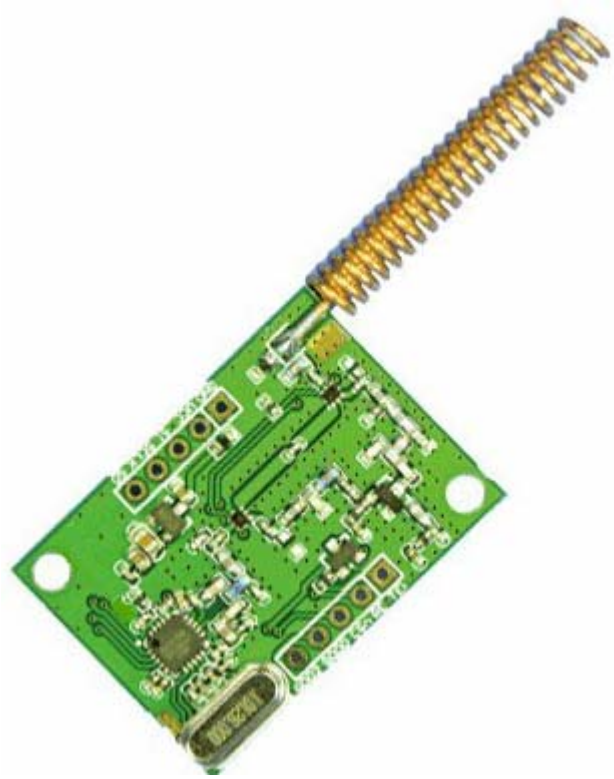
HR-1101 RF Module User Manual



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HR-1101 module is used to supply enable design for customers, the module does not take with MCU by itself, it only offer customers user interface for operation.

Ⅰ、Pin caption

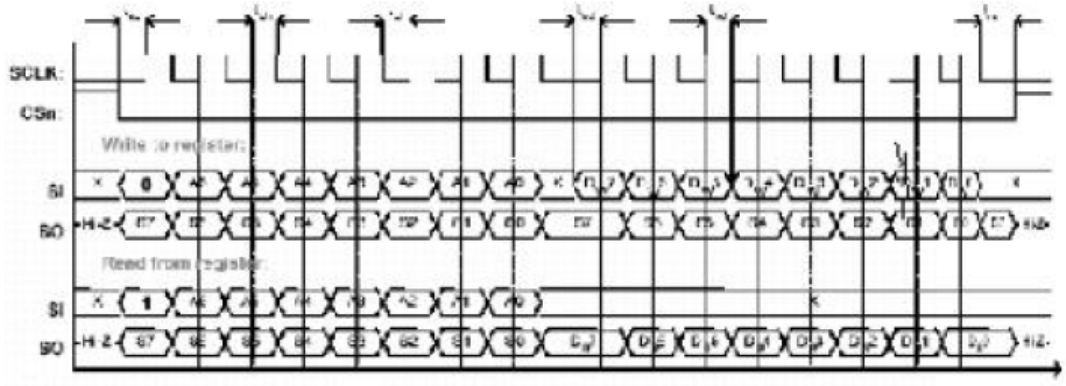
Number	Name	Definition
1	GND	Ground(Digital)
2	VCC	Power Supply

3	SI	Serial configuration interface(Data input)(the detailed functions reference CC1100 Datasheet)
4	SCLK	Serial configuration interface(Clock input)(the detailed functions reference CC1100 Datasheet)
5	SO	Serial configuration interface(Date output)Optional general output pin when CSn is high
6	GDO2	Digital output pin (the detailed functions reference CC1100 Datasheet)
7	GDO0	Digital output pin (the detailed functions reference CC1100 Datasheet)
8	CSn	Serial configuration interface, chip select
9	RE	Receive enable
10	TE	Transmit enable

1. Power supply

Work voltage of module is 1.8V-3.6V, recommending to use 2.8V. If the working voltage of MCU is higher than module`s, between each working port and MCU I/O port must be linked with resistance in series to separate them, and the range of supplying voltage between them is not too far.(recommending the same power supply to offer power)

2. The schedule of read and write of Register as follow:



The register starts to work when the situation of CSn is low, it can change situation of register and read&write register consists of single byte read&write, successive read&write or blend to use, we can further decide by register.

3. RE/TE Control instruction:

RE/TE is used to control power of data receiving in expansion and transmission

Num	RE	TE	Situation
1	L	L	TX(plus expansion, output 1100 2 dBm
2	L	H	Sleep(1100)sleep needs control of software)
3	H	L	
4	H	H	RX/TX(There is no need for transmit power)

Ⅱ、Technology patameters

Modules technology parameter under common temperature as follow :

Transmit power: >16dbm

Receiver sensitivity: <-109dbm(1200bps)

Phasic noise: <-90dbc/Hz

Transmit current: <65mA

Receive current: < 25mA

Sleep current: < 3uA

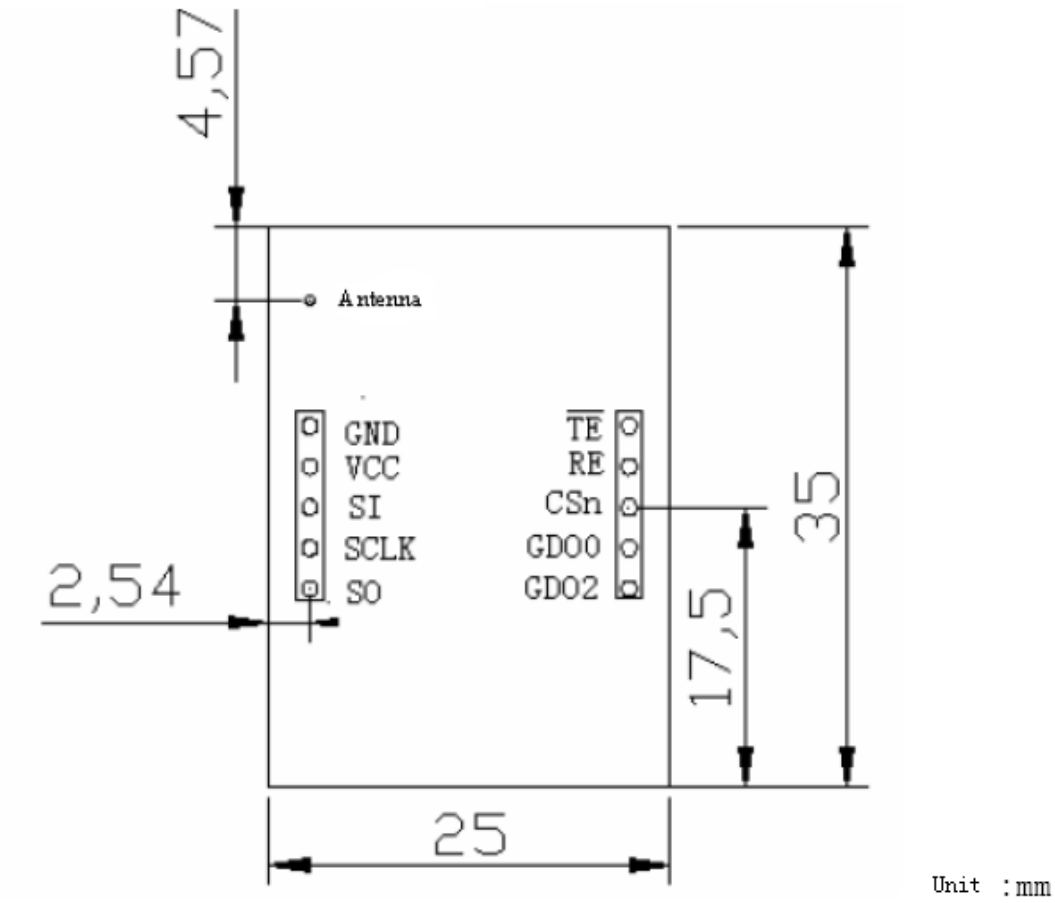
Center frequency: 433MHz

Outer transmit distance: 800m—1000m

Modules functions will be influenced by the change of temperature, so module parameter is changed by the change of temperature, we gained following experiment data through experiment under -20℃～75℃ over again and again (choose one of modules datum to reference, the other modules datum are basically as same as the follows)

Num	Tep ℃	Transmission Parameter				Receive Patameter			
		Transmission Power	Center Frequency	Transmission Current	Second Baud	Receiver sensitivity	Centre Frequency	Receive Current	
1	-20	15.06	432.9920	54	-46	-111		432.9990	25
2	-10	15.80	432.9936	55	-44	-111		433.0010	25
3	0	16.09	432.9952	57	-41	-111		433.0020	24.5
4	10	16.16	432.9948	58	-40	-111		433.0010	24.5
5	25	16.19	432.9942	61	-39	-111		433.0000	24.5
6	50	15.70	432.9928	67	-39	-108		432.9970	24
7	75	14.80	432.9952	78	-38	-107		432.9980	24.5

Ⅲ、Exterior dimension:



Ⅳ、Technology support and after service:

We offer sufficient technology support for customers use the module embed design for free: repairing broken modules one year for free, always offer after service.