

LC12S Wireless Data link Module

Low cost UART

Item Info

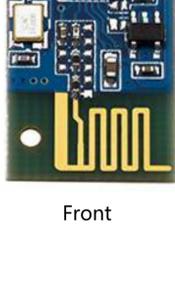
General Description :

LC12S is a 2.4G SOC low cost, high performance transparent transceiver, it features development-free with transmission distance upto 120m in open space, it is easily set up and is easy for engineers of all skill levels to use.



QUICK REFERENCE DATA	
Frequency	2.4GHz
Interface	UART
Distance	120m
Channels	128 ↑
Data rate	0.6-38.4kbps
Supply voltage	2.2-3.6V Typical 3.3V

Appearance



Front



Backside

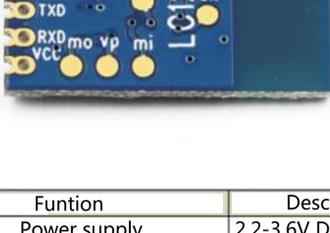
Features

- Half-Duplex Communication, strong anti-interference
- 2.4GHz ISM band , globally license free
- Max output power: 12 dBm
- Receive Sensitivity: -95 dBm
- Transmit supply current: 40mA@12dBm
- Receive supply current: 24mA
- Sleep current: 3.5uA
- Standard TTL UART interface
- Operation frequency can be configured, acceptable for several modules working in different frequency with no disturbance on each other.
- Ready to use, auto exchange on communication & transceiver Data rate at 0.6kbps-38.4kbps, set by AT
- Long transmission distance, upto 120m in open space
- SMD packaging

Applications

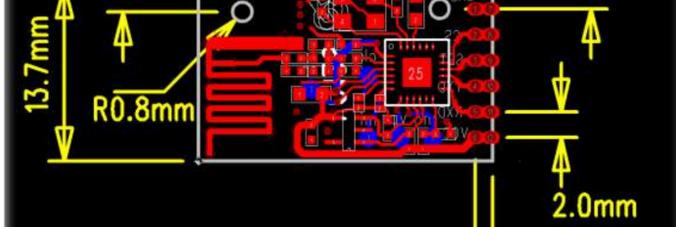
- Remote Control
- Data Collection
- Home Automation
- Industrial Control
- AGV Robot

Pin Assignment

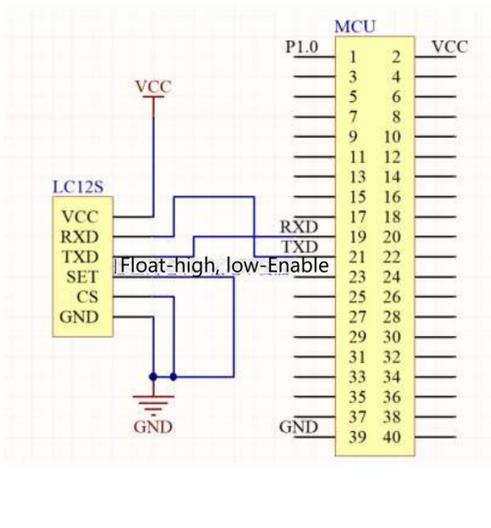


PIN	Name	Funtion	Description
1	VCC	Power supply	2.2-3.6V DC power, typical 3.3V
2	RXT	Data output(level TTL)	serial communication data receive
3	TXD	Data input (level TTL)	serial communication data transmit
4	SET	Setting	Set low for working, while floating means setting high
5	CS	Sleep	Set low for working, back to sleep while floating
6	GND	Power	Ground

Size



Application Diagram



Parameters

NO.	Function
1	0xaa (command byte)
2	0x5a (command byte)
3,4	Self ID 2Byte
5,6	Net ID 2Byte
7	Nc(keep)must 0x00
8	RF Power 1Byte(0~14)
9	Nc(keep)must 0x00
10	Baud 1Byte(0~6)
11	Nc(save)must 0x00
12	RF CHN 1Byte(0~127)
13,14	Nc(keep)must 0x0000
15	Nc(keep)must 0x00
16	Lenght 1Byte(0x12)
17	Nc(keep)must 0x00
18	Checksum 1Byte save 8 low variables

Data Format:

Master send: 0xaa+0x5a+Self ID+Net ID (ID must be same)+0x00+RF transmit power+0x00+serial speed+0x00+RF channel+0x00+0x00+0x12(byte length)+0x00+checksum byte

Note: Checksum byte= bytes sum of all parameters

Modules answer succeed

For example:

Master send: AA5A22331122000000040064000000120006

Refer to the tables below, the above parameters set the RF module as:

RF transmit power: 12dbm

Serial speed: 9600 bps

RF channel: 100

Module ID: 0x2233

Checksum byte: 06

Return: AA5B22331122000000040064000000120007

Run:

After power connected, Pin CS (Power-down) set low for work, Pin SET to configure parameter flag, set low or short connect to ground for configuration mode, start configure when low. TXD and RXD works when high.

Serial port setting:

Once in configuration mode, level of SET must be low, CS must connect to low level, and serial configuration must be as follow: Data Byte 8, Baud Rate 9600, Checkbit N, Stop bit 1, Rate(Air): 1Mbps

RF Power Setting:

Set transmit power, parameter with take 1 byte

Setting range: 0-14

Param	Transmit Power
0	12dbm
1	10dbm
2	9dbm
3	8dbm
4	6dbm
5	3dbm
6	0dbm
7	-2dbm
8	-5dbm
9	-10dbm
10	-15dbm
11	-20dbm
12	-25dbm
13	-30dbm
14	-35dbm

Serial Baud Rate:

Param of setting Serial Interface Transmission Rate takes 1 byte

Setting range: 600 1200 2400 4800 9600 19200 38400

Param	Baud Rate
0	600bps
1	1200bps
2	2400bps
3	4800bps
4	9600bps
5	19200bps
6	38400bps