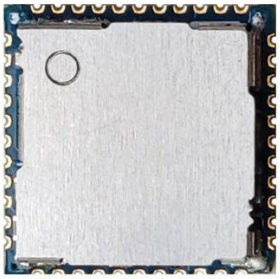
BL-M8800DS1

802.11a/b/g/n/ac/ax 287Mbps WLAN +Bluetooth v5.0 SDIO/USB Module

SHENZHEN BILIAN ELECTRONIC CO., LTD

Add: 10~11/F, Building 1A, Huaqiang idea park, Guangming district, Shenzhen. Guangdong, China

Web: www.b-link.net.cn



（Top View）

（Bottom View）

Module Name: BL-M8800DS1	
Module Type: 802.11a/b/g/n/ac/ax 287Mbps WLAN +Bluetooth v5.0 SDIO/USB Module	
Revision: V1.0	
Customer Approval:	
Company:	
Title:	
Signature:	Date:
LB-link Approval:	
Title:	
Signature:	Date:

Revision History

Revision	Summary	Release Date	Revised By
0.1	Initial release	2022-05-21	
1.0	official	2022-07-16	
1.0	Content optimization	2023-3-21	Qx

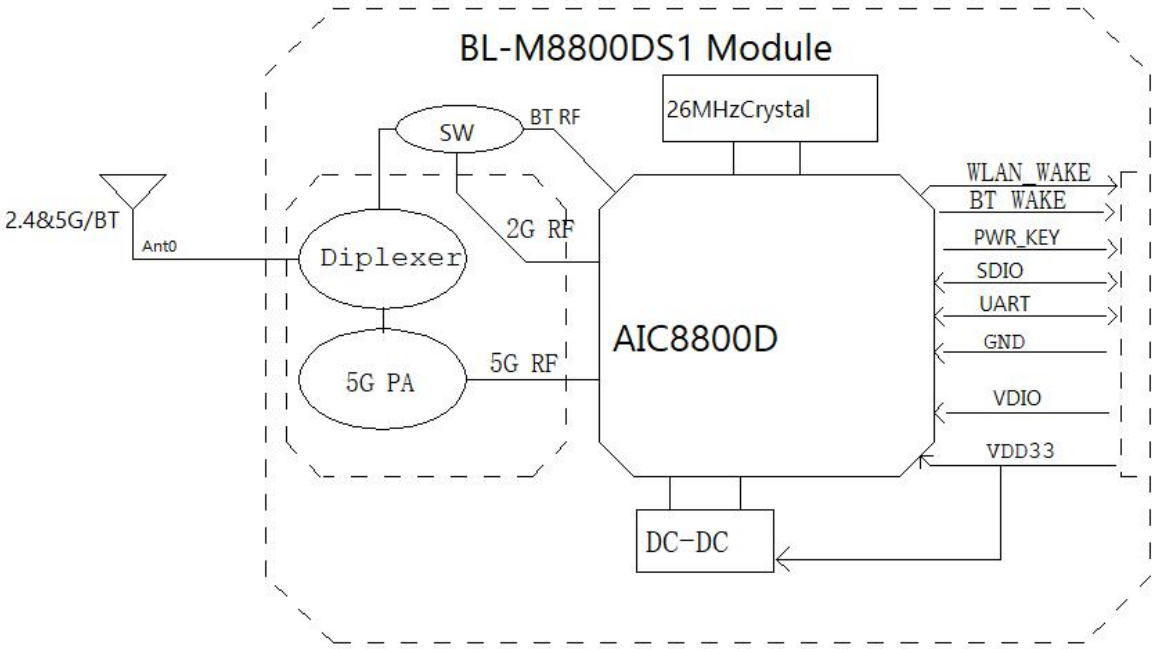
1. Introduction

BL-M8800DS1 is a highly integrated Dual-band WLAN + Bluetooth v5.0 Combo module. It combines a 1T1R Dual-band WLAN subsystem and a Bluetooth v5.0 subsystem,This module compatible IEEE 802.11 a/b/g/n/ac/ax standard and provides the maximum PHY rate up to 287Mbps, it supports BT / BLE dual mode with BT v5.0 /v4.2/v2.1 compliant, offering feature-rich wireless connectivity at high standards, and delivering reliable, cost-effective throughput from an extended distance.

1.1 Features

- Operating Frequencies: 2.4~2.4835GHz or 5.15~5.85GHz
- Wireless PHY rate can reach up to 287Mbps@TX and 230Mbps@RX with 20/40MHz bandwidth
- Host Interfaces ate SDIO 2.0 or USB2.0，those two interfaces are optional and cannot be used together
- Support STA, AP, WLAN Direct modes concurrently
- Support BT Classic / BT Low Energy dual mode

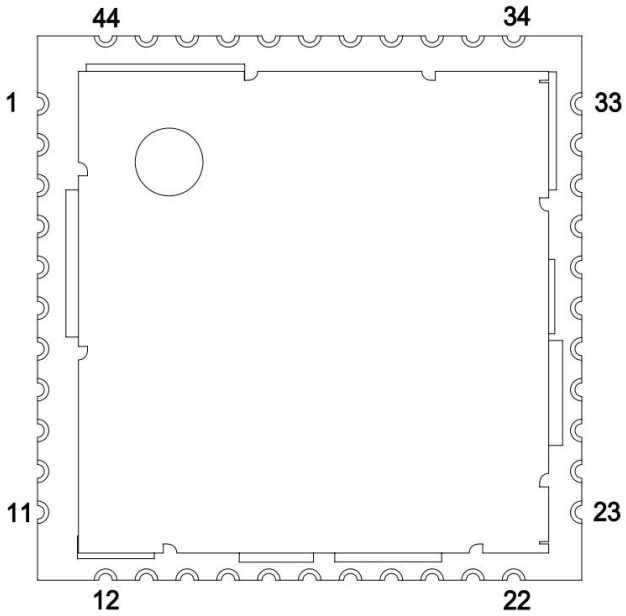
1.2 Block Diagram



1.3 General Specifications

Module Name	BL-M8800DS1
Chipset	AIC8800D
WLAN Standards	IEEE802.11a/b/g/n/ac/ax
BT Specification	Bluetooth Core Specification v5.0 /4.2/2.1
Host Interface	SDIO for WLAN & UART for Bluetooth or USB for WLAN + Bluetooth
Antenna	Connect to the external antenna through half hole pad
Dimension	12.0*12.0*2.25mm (L*W*H) ±0.15MM
Power Supply	3.3V±0.2V main power supply @ 450 mA (Max) 3.3V±0.2V or 1.8V±0.1V I/O power supply
Operation Temperature	-20℃ to +70℃
Operation Humidity	10% to 95% RH (Non-Condensing)

2. Pin Assignments



(Top view)

2.1 Pin Definition

No	Pin Name	Type	I/O Level	Module Pin Description
1	GND	RF		RF Ground connections
2	ANT0	RF		RF Pad for 2.4G WLAN/5G WLAN/2.4G BT ANT
3	GND	RF		RF Ground connections
4	NC	/		NC
5	NC	/		NC
6	HOST_WAKE_BT	I/O	VIO	1.General Purpose Input / Output Pin GPIO5 2.Host to wake-up this Bluetooth device input
7	BT_WAKE_HOST	I/O	VIO	1.General Purpose Input / Output Pin GPIOB3 2.Bluetooth device to wake-up Host output
8	NC	/		NC
9	VDD33	P		3.3V Main power supply
10	USB_DM	I/O		USB 2.0 Device High Speed Interface differential pair
11	USB_DP	I/O		USB 2.0 Device High Speed Interface differential pair
12	PWRKEY	I	VIO	enable signal input, it can externally shut down the module by pulled low. When VDD33 and VIO are ready, PWRKEY goes to high level exceeds 1.1V and lasts for 6mS, the module starts up,then the level of PWRKEY must be maintained at VIO. (internal pull up to VIO by 47K and pull down to GND by 200K resistors)
13	WL_HOST_WAKE	I/O	VIO	1.General Purpose Input / Output Pin GPIOB2 2.WLAN device to wake-up Host output
14	SD_D2	I/O	VIO	SDIO data line
15	SD_D3	I/O	VIO	SDIO data line
16	SD_CMD	I/O	VIO	SDIO command line
17	SD_CLK	I/O	VIO	SDIO clock line
18	SD_D0	I/O	VIO	SDIO data line
19	SD_D1	I/O	VIO	SDIO data line
20	GND	P		Ground connections
21	NC	/		NC
22	VIO	P		1.8V or 3.3V power supply for digital I/O (3.3V I/O recommended for USB application)
23	GPIOB4	I/O	VIO	General Purpose Input / Output GPIOB4
24	NC	/		NC
25	NC	/		NC

26	NC	/		NC
27	NC	/		NC
28	NC	/		NC
29	UART0_TX	I	VIO	High-Speed UART Data Out (Debug pin)
30	UART0_RX	O	VIO	High-Speed UART Data In (Debug pin)
31	GND	P		Ground connections
32	NC	/		NC
33	GND	P		Ground connections
34	GPIOB7	I/O	VIO	General Purpose Input / Output GPIOB7
35	GPIOB6	I/O	VIO	General Purpose Input / Output GPIOB6
36	GND	P		Ground connections
37	NC	/		NC
38	NC	/		NC
39	NC	/		NC
40	NC	/		NC
41	UART1_RTS	O	VIO	Bluetooth UART interface RTS
42	UART1_TX	O	VIO	Bluetooth UART interface TX
43	UART1_RX	I	VIO	Bluetooth UART interface RX
44	UART1_CTS	I	VIO	Bluetooth UART interface CTS

P: Power or ground, I: Input, O: Output, I/O: In/Output, RF: Analog RF Port

3. Electrical and Thermal Specifications

3.1 Recommended Operating Conditions

Parameters		Min	Typ	Max	Units
Ambient Operating Temperature		-20	25	70	℃
External Antenna VSWR			1.7	2.1	/
Supply Voltage	VDD33	3.1	3.3	3.5	V
	VIO_3.3V	3.1	3.3	3.5	V
	VIO_1.8V	1.7	1.8	1.9	V

3.2 DC Electrical Specification (Recommended Operation Conditions):

Symbol	DESCRIPTION	Min	Typ	Max	Units
VIL	CMOS Low Level Input Voltage	0	--	0.3*VIO	V
VIH	CMOS High Level Input Voltage	0.7*VIO	--	VIO	V
VTH	CMOS Threshold Voltage	--	0.5*VIO	--	V

3.3 Current Consumption

Conditions : SDIO,VDD33=3.3V ,VIO=3.3V; Ta:25℃;			
Use Case	VDD33 Current		
	Typ(I_{RMS})	Max(I_{Peak})	Units
WLAN & BT Unassociated (Linux SDIO Driver)	30	48	mA
2.4G WLAN throughput 100Mbps (Linux SDIO Driver)	131	210	mA
5G WLAN throughput 145Mbps (Linux SDIO Driver)	175	301	mA
2.4G 11b 1Mbps TX @ (1TX RF test)	240	256	mA
2.4G HT20 MCS0 TX@ (1TX RF test)	174	192	mA
2.4G HE_SU 40MHz MCS11 TX@ (1TX RF test)	122	172	mA
2.4G HE_SU 40MHz MCS9 RX (1RX RF test)	32	44	mA
5G 11a 6Mbps TX @ (1TX RF test)	263	280	mA
5G 11a 54Mbps TX @ (1TX RF test)	233	270	mA
5G VHT 40MHz MCS9 TX@ (1TX RF test)	195	252	mA
5G HE_SU 40MHz MCS11 TX@ (1TX RF test)	185	246	mA
5G HE_SU 40MHz MCS9 RX (1RX RF test)	43	64	mA
BT BR_1M TX@3dBm (BT RF test, WLAN disable)	24	36	mA
BT BR_1M RX Active (BT RF test, WLAN disable)	26	30	mA
BT EDR_3M TX@ (BT RF test, WLAN disable)	23	36	mA
BT LE_1M TX@ (BT RF test, WLAN disable)	30	36	mA

4. WLAN & Bluetooth RF Specifications

4.1 2.4G RF Specification

Conditions : VDD33=3.3V ; Ta:25℃	
Features	**Description**
WLAN Standard	IEEE 802.11b/g/n/ax CSMA/CA
Frequency Range	2.4~2.4835GHz (2.4GHz ISM Band)
Channels	Ch1~Ch13 (For 20MHz Channels)
Modulation	802.11b (DSSS): DBPSK, DQPSK, CCK; 802.11g (OFDM): BPSK, QPSK, 16QAM, 64QAM; 802.11n (OFDM): BPSK, QPSK, 16QAM, 64QAM; 802.11ax (OFDMA): BPSK, BPSK_DCM, QPSK, QPSK_DCM, QAM16, QAM16_DCM, QAM64, QAM256, QAM1024;
Date Rate	802.11b: 1, 2, 5.5, 11Mbps; 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps; 802.11n (HT20): MCS0~MCS7(1T1R_SISO) 6.5~72.2Mbps; 802.11n (HT40): MCS0~MCS7(1T1R_SISO) 13.5~150Mbps; 802.11ax (HE_MU,OFDMA 26~242RU): MCS0~MCS11(1T1R) 0.4~143.4Mbps; 802.11ax (HE_SU, non-OFDMA 20MHz): MCS0~MCS11(1T1R) 3.6~143.4Mbps; 802.11ax (HE_SU, non-OFDMA 40MHz): MCS0~MCS11(1T1R) 7.3~286.8Mbps;
Frequency Tolerance	≦ ±20ppm

2.4G Receiver Specifications			
RX Rate	**Min Input Level (dBm)**	**Max Input Level (dBm)**	**PER**
802.11b@1Mbps	-94	-10	< 8%
802.11b@11Mbps	-88	-10	< 8%
802.11g@6Mbps	-92	-15	< 10%
802.11g@54Mbps	-73	-15	< 10%
802.11n@HT20_MCS0	-91	-15	< 10%
802.11n@HT20_MCS7	-70	-15	< 10%
802.11n@HT40_MCS0	-89	-15	< 10%
802.11n@HT40_MCS7	-69	-15	< 10%
802.11ax@HE_SU 20M_MCS0	-90	-15	< 10%
802.11ax@HE_SU 20M_MCS7	-69	-15	< 10%
802.11ax@HE_SU 40M_MCS0	-87	-15	< 10%
802.11ax@HE_SU 40M_MCS9	-65	-15	< 10%

4.2 5G WLAN RF Specification

Conditions: VDD33=3.3V; Ta:25℃	
Features	**Description**
WLAN Standard	IEEE 802.11a/n/ac/ax
Frequency Range	5.15~5.25GHz; 5.25~5.35GHz; 5.47~5.73GHz; 5.735~5.835GHz (5GHz ISM Band)
Channels	Ch36, Ch40, Ch44, Ch48; Ch52~Ch64; Ch100~Ch140; Ch149~Ch165(For 20MHz Channels)
Modulation	802.11a (OFDM): BPSK, QPSK, QAM16, QAM64; 802.11n (OFDM): BPSK, QPSK, QAM16, QAM64; 802.11ac (OFDM): BPSK, QPSK, QAM16, QAM64, QAM256; 802.11ax (OFDMA): BPSK, BPSK_DCM, QPSK, QPSK_DCM, QAM16, QAM16_DCM, QAM64, QAM256, QAM1024;
Date Rate	802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps; 802.11n (HT20): MCS0~MCS7 6.5~72.2Mbps; 802.11n (HT40): MCS0~MCS7 13.5~150Mbps; 802.11ac (VHT20): MCS0~MCS8(1T1R) 6.5~86.7Mbps; 802.11ac (VHT40): MCS0~MCS9(1T1R) 13.5~200Mbps; 802.11ax (HE_MU,OFDMA 26~242RU): MCS0~MCS11(1T1R) 0.4~143.4Mbps; 802.11ax (HE_SU, non-OFDMA 20MHz): MCS0~MCS11(1T1R) 3.6~143.4Mbps;

	802.11ax (HE_SU, non-OFDMA 40MHz): MCS0~MCS11(1T1R) 7.3~286.8Mbps;
Frequency Tolerance	≦ ±20ppm

5G Receiver Specifications			
RX Rate	**Min Input Level （dBm)**	**Max Input Level （dBm)**	**PER**
802.11a@6Mbps	-88	-5	< 10%
802.11a@54Mbps	-72	-5	< 10%
802.11n@HT20_MCS0	-90	-5	< 10%
802.11n@HT20_MCS7	-70	-5	< 10%
802.11n@HT40_MCS0	-89	-5	< 10%
802.11n@HT40_MCS7	-69	-5	< 10%
802.11ac@VHT40_MCS0	-79	-5	< 10%
802.11ac@VHT40_MCS9	-63	-5	< 10%
802.11ax@HE_SU 40_MCS0	-79	-5	< 10%
802.11ax@HE_SU 40_MCS9	-65	-5	< 10%

4.3 Bluetooth RF Specification

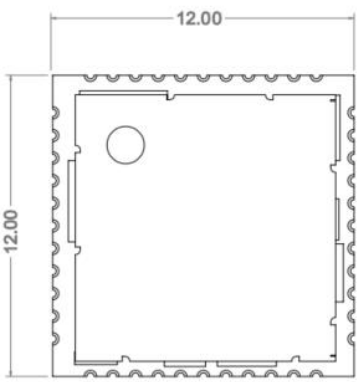
Conditions: VDD33 =3.3V; Ta:25℃			
Features	**Description**		
Bluetooth Specification	Bluetooth Core Specification v5.0 /4.2/2.1		
Frequency Range	2.4~2.4835GHz(2.4GHz ISM Band)		
Channels	Bluetooth Classic: Ch0~Ch78 (For 1MHz Channels); Bluetooth Low Energy: Ch0~Ch39 (For 2MHz Channels);		
Power Classes	Bluetooth Classic: Class1; Bluetooth Low Energy: Class1.5;		
Date Rate & Modulation	BR_1Mbps: GFSK; EDR_2Mbps: π/4-DQPSK; EDR_3Mbps: 8DPSK; LE_1Mbps: GFSK (Uncoded);		
BR_1M (DH1) Modulation Characteristics			
Δf1avg	140KHz	153.5KHz	175KHz
Δf2avg	140KHz	153.2KHz	175KHz
Δf2max	115KHz	165.5KHz	/
Δf2avg/Δf1avg	0.8	1	/
BR_1M (DH1) Initial Carrier Frequency Tolerance			
Init Freq Error	-75kHz	-4.3kHz	+75kHz

EDR_3M(3DH5) EDR Carrier Frequency Stability and Modulation Accuracy			
ωi	-75KHz	-5.3KHz	+75KHz
ωi+ωo	-75KHz	-5.4KHz	+75KHz
ωo	-10KHz	0.8KHz	+10KHz
8DPSK RMS DEVM	/	0.06	0.13
8DPSK DEVM	/	0.12	0.25
LE_1M Modulation Characteristics			
Δf1avg	225KHz	250.7KHz	275KHz
Δf2avg	225KHz	252.9KHz	275KHz
Δf2max	185KHz	245.5KHz	/
Δf2avg/Δf1avg	0.8	0.98	/

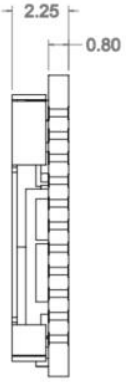
Bluetooth Receiver Specifications				
Items	Sensitivity		Maximum Input Level	
	Input Level(Typ)	BER	Input Level(Typ)	BER
BR_1M	-88dBm	≦0.1%	-5dBm	≦0.1%
EDR_2M/3M	-80dBm	≦0.01%	-5dBm	≦0.1%
	Input Level (Typ)	PER	Input Level (Typ)	PER
LE_1M	-90dBm	≦5%	-5dBm	≦5%

5. Mechanical Specifications

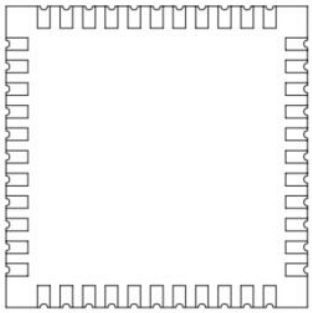
5.1 Module Outline Drawing（units:mm）



(Top View)

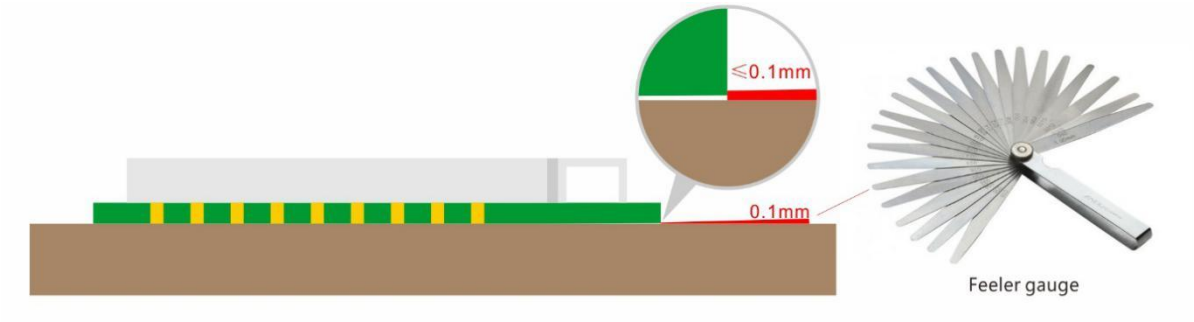


(Side View)



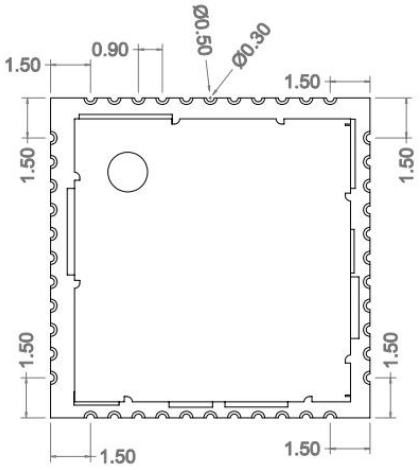
(Bottom View)

Module dimension: 12.0*12.0*2.25mm (L*W*H; Tolerance: ±0.15mm)

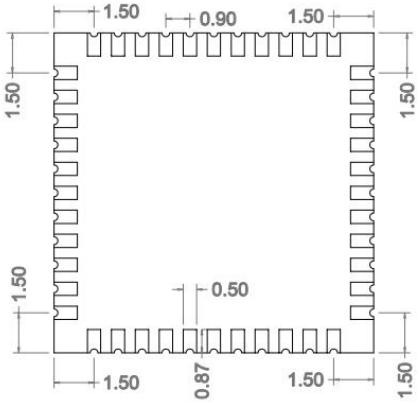


Module Bow and Twist：≤0.1mm

5.2 Mechanical Dimensions（units:mm）



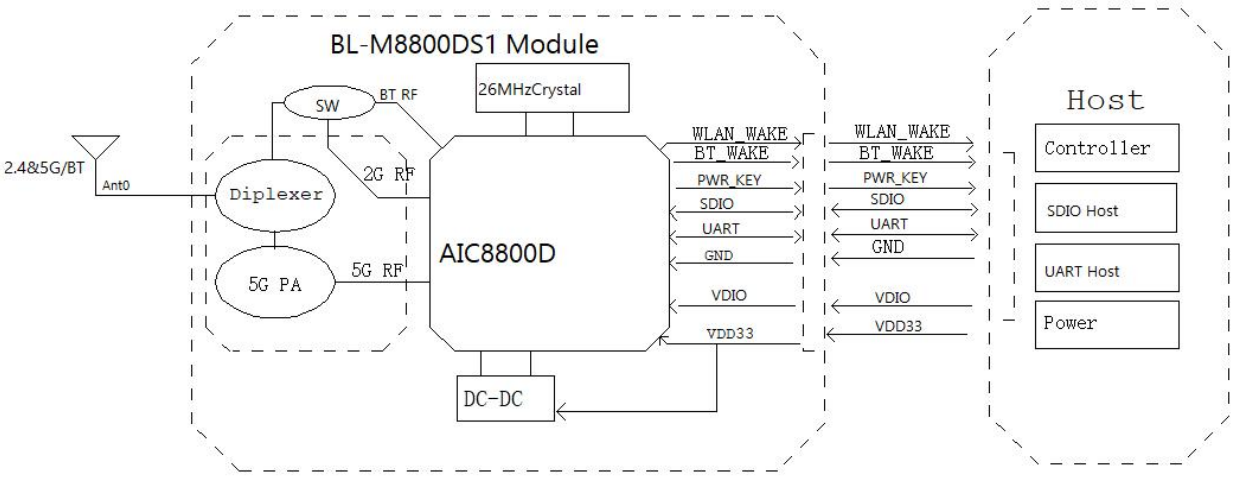
(Top View)



(Bottom View)

6. Application Information

6.1 Typical Application Circuit



6.2 HW Application Note

NOTE:

a. RF path needs to maintain 50 ohm impedance.

b. The module UART_TX is connected to the RX of the reference circuit, and the UART_RX is connected to the TX of the reference circuit.

c. Keep the SDIO lines as equal as possible and minimize the distance between the host and the module. Make sure SD_CLK has a good ground reference.

d. Main power supply voltage: DC 3.1 ~ 3.5V, ripple voltage <80mV

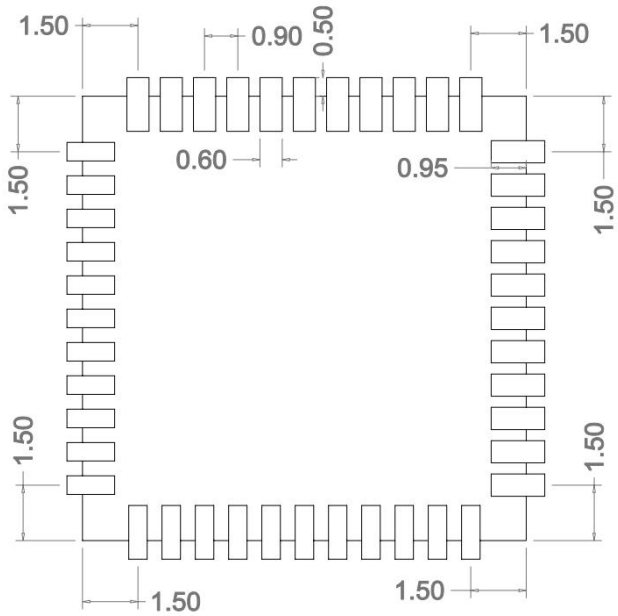
e. Maximum RMS current ≥450mA and maximum peak current ≥700mA

f. For fast transient response, a current mode buck converter is recommended.

g.The USB high speed differential pair should be maintain 90Ω ±5Ω differential impedance.

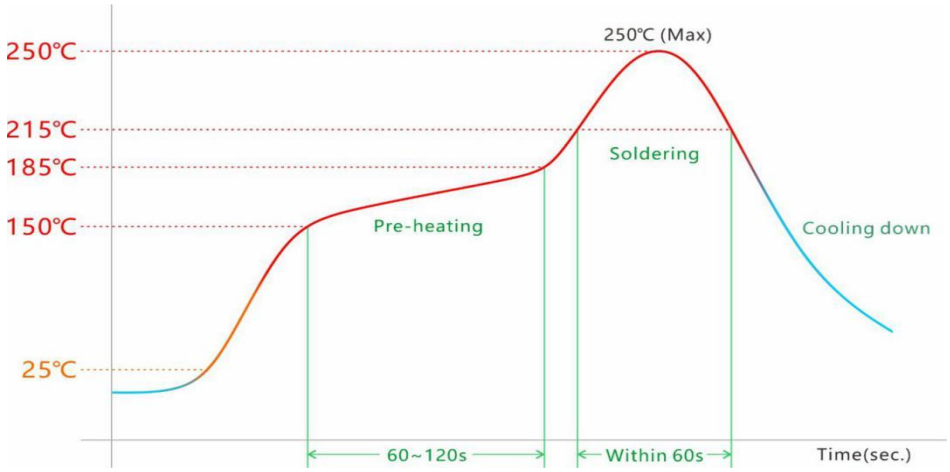
h.USB signal pairs as short as possible, avoid interference from Power and other signals.

6.3 Recommend PCB Layout Footprint(units:mm)



(Design Unit: mm)

6.4 Reflow Soldering Standard Conditions



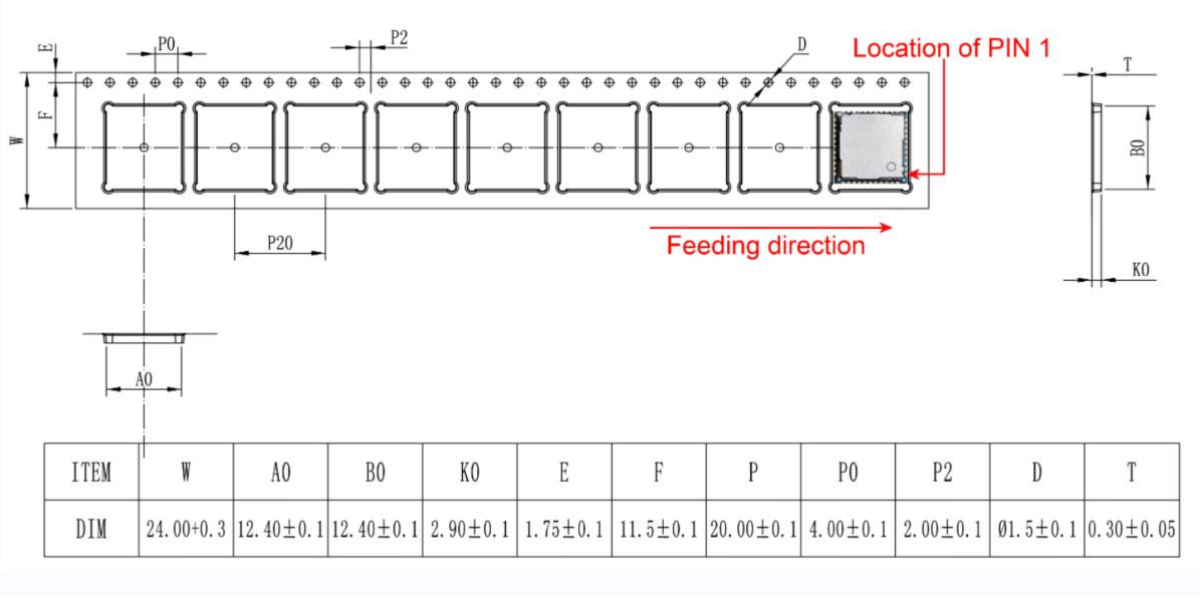
Please use the reflow within 2 times.
Set up the highest temperature within 250℃.

7. Key Components Of Module

No.	Parts	Specification	Manufacturer	Note
1	Chipset	AIC8800D	AIC Semiconductor (Shanghai) CO.,LTD	
2	PCB	BL-M8800DS1	SHEN ZHEN QILI ELECTRON CO.,LTD	
			Quzhou Sunlord Electronics Co.,Ltd	
			ShenZhen Tie Fa Technology Limited	
3	Crystal	26MHz-2016	LUCKI CM ELECTRONICS CO.,LTD	
			Chengde oscillator Electronic Technology CO.,LTD	
			JinHua East Crystal Electronic CO.,LTD	
			HUBEI TKD CRYSTAL ELECTRONIC SCIENCE AND TECHNOLOGY CO.,LTD	
4	PA	CB5717	Chipbetter Microelectronics Inc.	
		KCT8525	Kangxi Communication Technologies（Shanghai） Co.， Ltd.	
5	Diplexer	DIP1608	Shenzhen Sunlord Electronics Co.,Ltd	
			Dongguan Hekang Electronics Co.,LTD	
			Advanced Ceramic X Corp.	
			Walsin Technology Corporation	

8. Package and Storage Information

8.1 Package Dimensions



ITEM	W	A0	B0	K0	E	F	P	P0	P2	D	T
DIM	24.00+0.3	12.40±0.1	12.40±0.1	2.90±0.1	1.75±0.1	11.5±0.1	20.00±0.1	4.00±0.1	2.00±0.1	Ø1.5±0.1	0.30±0.05

Package specification:

1. 1,000 modules per roll and 5,000 modules per box.
2. Outer box size: 37.5*36*29cm.
3. The diameter of the blue environment-friendly rubber plate is 13 inches, with a total thickness of 28mm (with a width of 24mm carrying belt).
4. Put 1 package of dry agent (20g) and humidity card in each anti-static vacuum bag.
5. Each carton is packed with 5 boxes.

8.2 Storage Conditions

Absolute Maximum Ratings:
Storage temperature: -40℃ to +85℃
Storage humidity: 10% to 95% RH（Non-Condensing）
Recommended Storage Conditions:
Storage temperature: 5℃ to +40℃
Storage humidity: 20% to 90% RH

Please use this Module within 12month after vacuum-packaged.
The Module shall be stored without opening the packing.
After the packing opened, the Module shall be used within 72hours.
When the color of the humidity indicator in the packing changed,
the Module shall be baked before soldering.
Baking condition: 60℃, 24hours, 1time.

ESD Sensitivity:
ESD Protection: 2KV(HBM, Maximum rating)
The Module is a static-sensitive electronic device.
Do not operate or store near strong electrostatic fields.
Take proper ESD precautions!

ESD CAUTION

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This modular has been tested and found to comply with part 15 requirements for Modular Approval.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01r01

2.2 List of applicable FCC rules

CFR 47 FCC Part 15 Subpart C and Subpart F has been investigated. It is applicable to the modular transmitter

2.3 Specific Operational Use Conditions - Antenna Placement Within the Host Platform

The module is tested for standalone mobile RF exposure use condition.

- The antenna must be installed such that 20cm is maintained between the antenna and users,
- The transmitter module may not be co-located with any other transmitter or antenna.

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

2.4 Limited Module Procedures

Not applicable

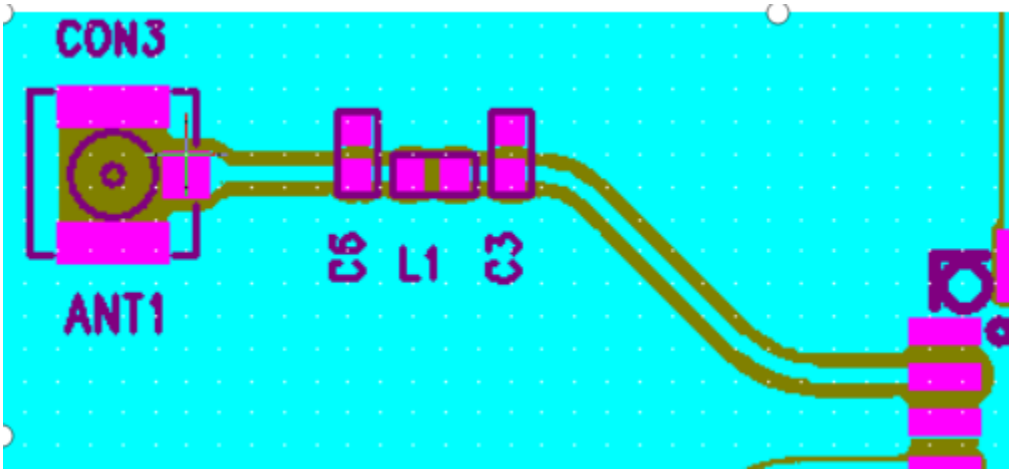
2.5 Trace Antenna Designs

Users should connect antennas to half hole pad through copper tube structure or FP types of RF trace and the trace impedance must be controlled in 50Ω.recommends that the total insertion loss between the antenna pads and antennas should meet the following requirements:

Trace loss

Frequency	Loss
2400MHz-2500MHz	<1.2dB
5150MHz-5850MHz	<1.2dB

To facilitate the antenna tuning and certification test, a RF connector and an antenna matching circuit should be added. The following figure is the recommended circuit.



The module needs to be attached to the PCB board and connected to the external antenna through the solder joint of the circuit on the PCB. The gain of the external antenna is 2dBi(Max.), the internal structure is copper tube structure or FPC. A resistance of 0R is added between the module and the antenna at L1 to ensure that the impedance of the connection between the module and the antenna reaches 50R.The ANT1 position on the PCB is where the external antenna is connected.

RF traces layout

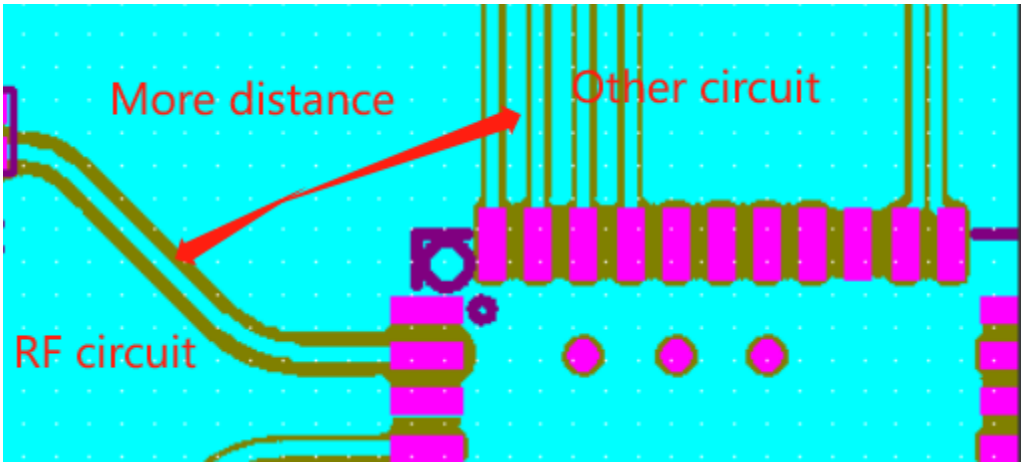
1.Keep the RF trace from module ant pin to antenna as short as possible

2.RF trace should be 50 Ω either on the top layer or in the inner layer

3.RF trace should be avoided right angle and sharp angle.

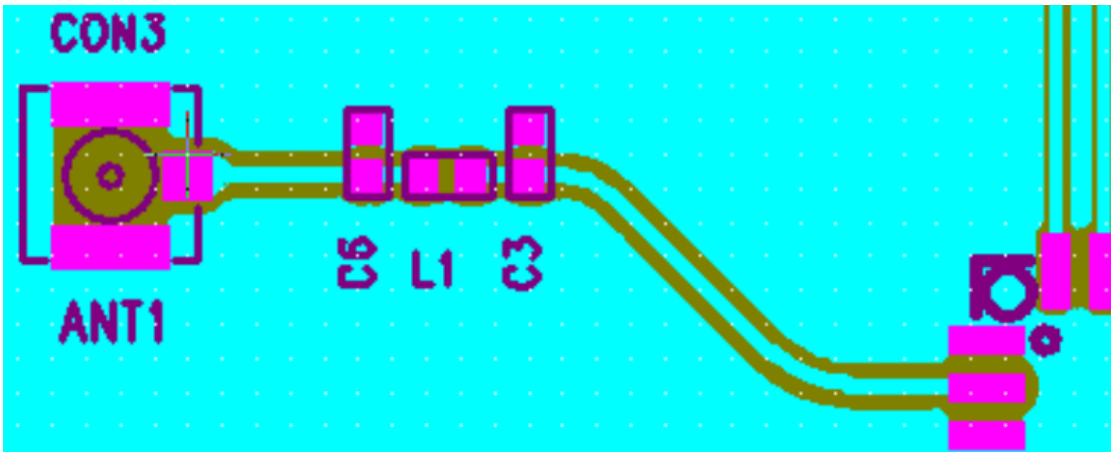
4.Put enough GND vias around RF traces.

5.RF trace should be far away from other high speed signal lines.



Avoiding the paroling rout of other system antennas nearly.

There should be some distance from The GND to the inner conductor of the IPEX connector. It is better to keep out all the layers from inner to the outer conductor.



External Antenna VSWR

Parameters	Min	Typ	Max	Units
External Antenna VSWR		1.7	2.0	/

2.6 RF Exposure Considerations

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

2.7 Antenna Type and Gain

The following antennas have been certified for use with this module.

Only antennas of the same type with equal or lower gain may also be used with this module.

Other types of antennas and/or higher gain antennas may require the additional authorization for operation.

Antenna Specification list below:

Model	Type	Connector	Peak gain (dBi)				
			2400-2483.5 MHz	5150-5250 MHz	5250-5350 MHz	5470-5725 MHz	5725-5850 MHz
BL-M8800DS1	External Antenna	/	2.00dBi	2.00dBi	2.00dBi	2.00dBi	2.00dBi

2.8 End Product Labelling Compliance Information

When the module is installed in the host device, the FCC ID label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily removed. If not, a second label must be placed on the outside of the final device that contains the following text: “Contains FCC ID: **2AL6KBL-M8800DS1**”. The FCC ID can be used only when all FCC compliance requirements are met.

2.9 Information on Test Modes and Additional Testing Requirements

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitter(s) class II permissive change re-evaluation or new FCC authorization.

Host manufacturer installed this modular with single modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C, Part 15E, 15.209, 15.207 requirement, only if the test result comply with FCC part 15C, Part 15E, 15.209, 15.207 requirement, then the host can be sold legally.

2.10 Additional testing, Part 15 Subpart B Disclaimer

This transmitter modular us tested as a subsystem and its certification does not cover the FCC Part 15 Subpart B rules requirement applicable to the final host. The final host will still need to be reassessed for compliance to this portion of rules requirements if applicable.

As long as all conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this modular installed.

2.11 Manual Information to The End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The host integrator must follow the integration instructions provided in this document and ensure that the composite system end product complies with the requirements by a technical assessment or evaluation to the rules and to KDB Publication 996369.

The host integrator installing this module into their product must ensure that the final composite product complies with the requirements by a technical assessment or evaluation to the rules, including the transmitter operation and should refer to guidance in KDB Publication 996369.

OEM/Host Manufacturer Responsibilities

OEM/Host manufacturers are ultimately responsible for the compliance of the Host and Module. The final product must be reassessed against all the essential requirements of the FCC rule such as FCC Part 15 Subpart B before it can be placed on the US market. This includes reassessing the transmitter module for compliance with the Radio and RF Exposure essential requirements of the FCC rules.

2.12 How to Make Changes - Important Note

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.