CDW-B1800D4-L3
Dual-band WiFi6 + BLE Module Spec
（USB2.0, BW40M, IPEX antenna type, Shielding)

Software：

客　　户 Customer	客户承认 Approve（请盖印章）	日 期 Date

拟制 Design	审核 Check	批准 Approve	版本 Version	日期 Date
			V1.1	2025.05.15

深 圳 市 中 龙 通 电 子 科 技 有 限 公 司
公司地址：深圳市宝安区沙井街道南浦路林坡坑蚝三第一工业园 B4 栋
Phone：(86　755) 81449957
Fax：(86　755) 81449967
E-mail: Info@cdtech.cn
Http://www.cdtech.cn

更改记录：

Reversion History：

版本 Version	日期 Date	更改内容 Modification
1.0	2025.02.24	First release
1.1	2025.05.15	Customized Laser Engraving Design

1. Overview

The B1800D4-L3 is a single-die wireless local area network (WLAN) and BLE combination solution to support 1 × 1 IEEE 802.11 a/b/g/n/ax/ac WLAN standards and BLE enabling seamless integration of WLAN/BLE and low-energy technology.

2. Features

- Supports a low-power USB2.0 interface for WLAN and a UART/PCM interface for BLE
- Provides a highly integrated WLAN system-on-chip (SoC) for 5 GHz 802.11ac, or 2.4 GHz/5 GHz 802.11n WLAN applications
- Support WLAN 2.4GHz and 5GHz band channels
- Supports BLE and ANT+ and backward compatibility with BLE + Enhanced Data Rate
- Supports a single-ended RF port for cleaner and lower cost design
- Supports 20 MHz/40 MHz at 2.4 GHz and supports 20 MHz, 40 MHz at 5 GHz
- Support MU-MIMO,OFDMA

4. General Specification

Model	CDW-B1800D4-L3
Product Name	WLAN 802.11a/b/g/n/ax/acUSB2.0 1T1R + BLE module
Major Chipset	AIC8800D40L
Standard	802.11a/b/g/n/ac/ax
Modulation Method	BPSK/ QPSK/ 16-QAM/ 64-QAM/256-QAM/1024-QAM
Frequency Band	Dual band 2.4&5GHz ISM
WiFi Interface	USB
BLE Interface	USB
Operating Temperature	-20° C ~ 70° C
Storage Temperature	-20° C ~ 125°C
Humidity	5% to 90% maximum
Dimension	13x12.2x2.3 (LxWxH) ±0.2mm

5. RF Specification

A. 2.4GHz RF Specification

Feature	Description
WLAN Standard	IEEE 802.11b/g/n/ax WiFi compliant
Frequency Range	2.412 GHz ~ 2.462 GHz (2.4 GHz ISM Band)
Number of Channels	2.4GHz：Ch1 ~ Ch11
Modulation	802.11b : DQPSK, DBPSK, CCK 802.11 g/n : OFDM /64-QAM,16-QAM, QPSK, BPSK 802.11 ax : OFDMA /1024-QAM,256-QAM, 64-QAM, 16-QAM, QPSK, BPSK
Receive Sensitivity (11b,20MHz) @8% PER	- 1Mbps PER @ -93 dBm, typical
	- 2Mbps PER @ -90 dBm, typical
	- 5.5Mbps PER @ -88 dBm, typical
	- 11Mbps PER @ -86 dBm, typical
Receive Sensitivity (11g,20MHz) @10% PER	- 6Mbps PER @ -91 dBm, typical
	- 9Mbps PER @ -89 dBm, typical
	- 12Mbps PER @ -86 dBm, typical
	- 18Mbps PER @ -83 dBm, typical
	- 24Mbps PER @ -80 dBm, typical
	- 36Mbps PER @ -77 dBm, typical
	- 48Mbps PER @ -74 dBm, typical
	- 54Mbps PER @ -72 dBm, typical
Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -90 dBm, typical
	- MCS=1 PER @ -87 dBm, typical
	- MCS=2 PER @ -84 dBm, typical
	- MCS=3 PER @ -81 dBm, typical

	- MCS=4	PER @ -78 dBm, typical
	- MCS=5	PER @ -75 dBm, typical
	- MCS=6	PER @ -72 dBm, typical
	- MCS=7	PER @ -70 dBm, typical
Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0	PER @ -87 dBm, typical
	- MCS=1	PER @ -84 dBm, typical
	- MCS=2	PER @ -81 dBm, typical
	- MCS=3	PER @ -78 dBm, typical
	- MCS=4	PER @ -75 dBm, typical
	- MCS=5	PER @ -72 dBm, typical
	- MCS=6	PER @ -69 dBm, typical
	- MCS=7	PER @ -67 dBm, typical
Receive Sensitivity (11ax,20MHz) @10% PER	- HE=0	PER @ -90 dBm, typical
	- HE=1	PER @ -88 dBm, typical
	- HE=2	PER @ -86 dBm, typical
	- HE=3	PER @ -84 dBm, typical
	- HE=4	PER @ -81 dBm, typical
	- HE=5	PER @ -79 dBm, typical
	- HE=6	PER @ -76 dBm, typical
	- HE=7	PER @ -73 dBm, typical
	- HE=8	PER @ -70 dBm, typical
	- HE=9	PER @ -68 dBm, typical
Receive Sensitivity (11ax,40MHz) @10% PER	- HE=0	PER @ -88 dBm, typical
	- HE=1	PER @ -86 dBm, typical
	- HE=2	PER @ -83 dBm, typical
	- HE=3	PER @ -80 dBm, typical
	- HE=4	PER @ -77 dBm, typical
	- HE=5	PER @ -74 dBm, typical
	- HE=6	PER @ -72 dBm, typical
	- HE=7	PER @ -69 dBm, typical
	- HE=8	PER @ -66 dBm, typical
	- HE=9	PER @ -64 dBm, typical
Maximum Input Level	802.11b : -10 dBm	
	802.11g/n/ax : -20 dBm	

B. 5GHz RF Specification

Feature	Description	
WLAN Standard	IEEE 802.11a/n/ac/ax WiFi compliant	
Frequency Range	5.15 GHz ~ 5.845 GHz (5.0 GHz ISM Band)	
Number of Channels	5.0GHz：Please see the table	
Modulation	802.11a : OFDM /64-QAM,16-QAM, QPSK, BPSK 802.11n : OFDM /64-QAM,16-QAM, QPSK, BPSK 802.11ac : OFDM /256-QAM 802.11ax: OFDMA/1024-QAM	
Receive Sensitivity (11a,20MHz) @10% PER	- 6Mbps	PER @ -93dBm, typical
	- 9Mbps	PER @ -90 dBm, typical
	- 12Mbps	PER @ -87 dBm, typical
	- 18Mbps	PER @ -84 dBm, typical
	- 24Mbps	PER @ -81 dBm, typical
	- 36Mbps	PER @ -78 dBm, typical
	- 48Mbps	PER @ -76 dBm, typical
	- 54Mbps	PER @ -74 dBm, typical
Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0	PER @ -92 dBm, typical
	- MCS=1	PER @ -89 dBm, typical
	- MCS=2	PER @ -86 dBm, typical
	- MCS=3	PER @ -83 dBm, typical
	- MCS=4	PER @ -80 dBm, typical
	- MCS=5	PER @ -77 dBm, typical
	- MCS=6	PER @ -74 dBm, typical

	- MCS=7	PER @ -72 dBm, typical
Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0	PER @ -90 dBm, typical
	- MCS=1	PER @ -87 dBm, typical
	- MCS=2	PER @ -84 dBm, typical
	- MCS=3	PER @ -81 dBm, typical
	- MCS=4	PER @ -78 dBm, typical
	- MCS=5	PER @ -75 dBm, typical
	- MCS=6	PER @ -72 dBm, typical
	- MCS=7	PER @ -70 dBm, typical
Receive Sensitivity (11ac,20MHz) @10% PER	- MCS=0, NSS1	PER @ -91 dBm, typical
	- MCS=1, NSS1	PER @ -88 dBm, typical
	- MCS=2, NSS1	PER @ -85 dBm, typical
	- MCS=3, NSS1	PER @ -82 dBm, typical
	- MCS=4, NSS1	PER @ -79 dBm, typical
	- MCS=5, NSS1	PER @ -76dBm, typical
	- MCS=6, NSS1	PER @ -73 dBm, typical
	- MCS=7, NSS1	PER @ -70 dBm, typical
	- MCS=8, NSS1	PER @ -68 dBm, typical
Receive Sensitivity (11ac,40MHz) @10% PER	- MCS=0, NSS1	PER @ -89 dBm, typical
	- MCS=1, NSS1	PER @ -86 dBm, typical
	- MCS=2, NSS1	PER @ -83 dBm, typical
	- MCS=3, NSS1	PER @ -80 dBm, typical
	- MCS=4, NSS1	PER @ -77 dBm, typical
	- MCS=5, NSS1	PER @ -74 dBm, typical
	- MCS=6, NSS1	PER @ -71 dBm, typical
	- MCS=7, NSS1	PER @ -68 dBm, typical
	- MCS=8, NSS1	PER @ -65 dBm, typical
	- MCS=9, NSS1	PER @ -63 dBm, typical
Receive Sensitivity (11ax,20MHz) @10% PER	- HE=0	PER @ -89 dBm, typical
	- HE=1	PER @ -86 dBm, typical
	- HE=2	PER @ -83 dBm, typical
	- HE=3	PER @ -80 dBm, typical
	- HE=4	PER @ -77 dBm, typical
	- HE=5	PER @ -74 dBm, typical
	- HE=6	PER @ -71 dBm, typical
	- HE=7	PER @ -68 dBm, typical

	- HE=8	PER @ -65 dBm, typical
	- HE=9	PER @ -63 dBm, typical
Receive Sensitivity (11ax,40MHz) @10% PER	- HE=0	PER @ -87 dBm, typical
	- HE=1	PER @ -84 dBm, typical
	- HE=2	PER @ -81 dBm, typical
	- HE=3	PER @ -78 dBm, typical
	- HE=4	PER @ -75 dBm, typical
	- HE=5	PER @ -72 dBm, typical
	- HE=6	PER @ -69 dBm, typical
	- HE=7	PER @ -66 dBm, typical
	- HE=8	PER @ -63 dBm, typical
	- HE=9	PER @ -61 dBm, typical
Maximum Input Level	802.11a/n/ac/ax : -20 dBm	

C. BLE RF Specification

Feature	Description
RF Specification	
Output Power, tolerance±2dBm	
Sensitivity, tolerance±2dBm	
Sensitivity @ BLE=30.8% for LE(1Mbps)	-100 dBm
Sensitivity @ BLE=30.8% for LE(2Mbps)	-90 dBm

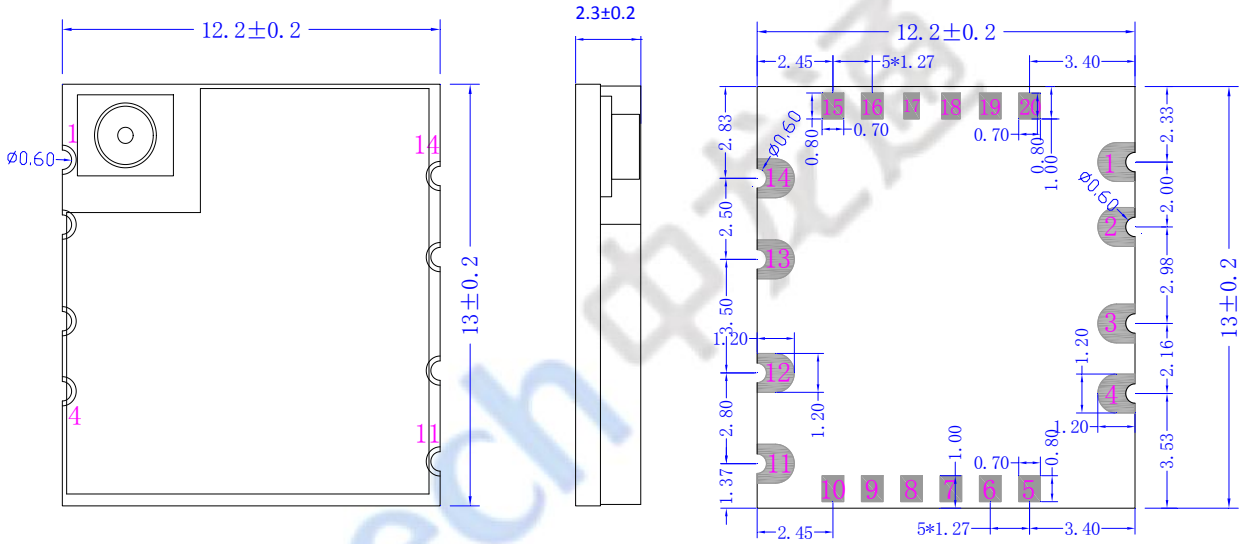
6. Recommended Operating Rating

symbol	Parameter	Minimum	Typical	Maximum	Units
VDD	3.3V supply voltage	3.0	3.3	3.6	V
VDDIO	I/O supply voltage	3.0	3.3	3.6	V
Current	3.3V rating current	--	--	1000	mA

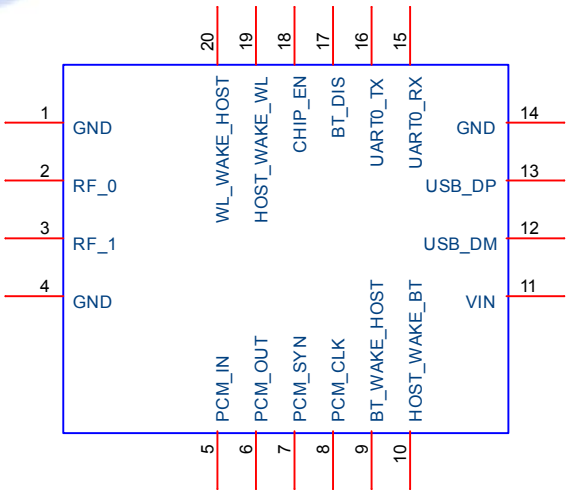
7. Physical Dimensions

(Unit:mm)

Unit:mm



8. Pin Description

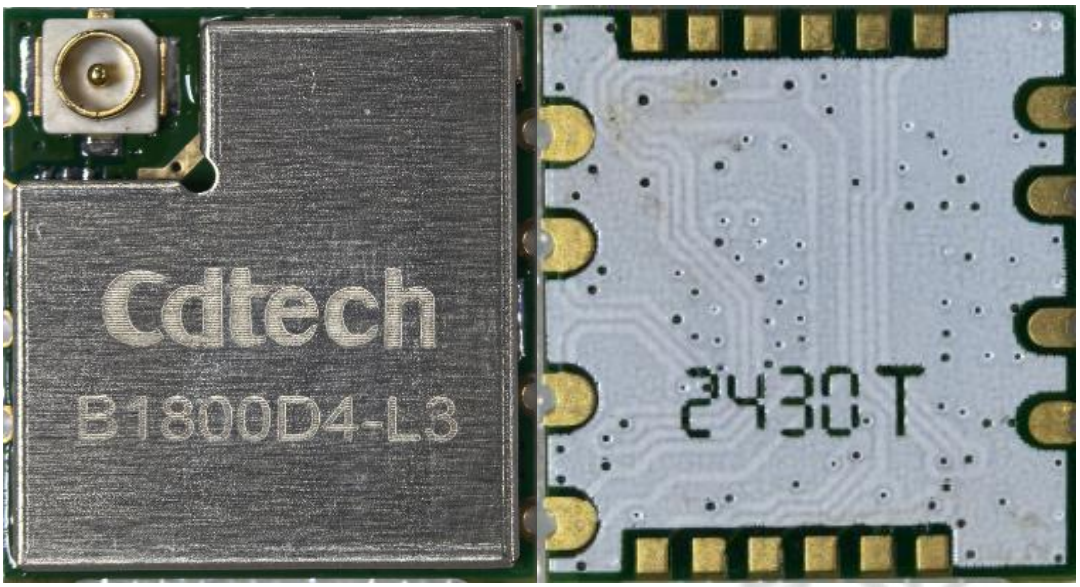


NO.	Name	Type	Description
1	GND	—	Ground connections
2	RF_0	—	keep floating
3	RF_1	—	keep floating
4	GND	—	Ground connections
5	PCM_IN	I	PCM data input
6	PCM_OUT	O	PCM data output
7	PCM_SYN	I	PCM sync signal
8	PCM_CLK	I/O	PCM CLK
9	BT_WAKE_HOST	O	BT wake up host
10	HOST_WAKE_BT	I	Host wake up BT
11	VIN	P	3.3V POWER INPUT
12	USB_DM	I/O	USB DATA DM
13	USB_DP	I/O	USB DATA DP
14	GND	—	Ground connections
15	UART0_RX	—	keep floating(for debug RXD0)
16	UART0_TX	—	keep floating(for debug TXD0)
17	BT_DIS	—	keep floating
18	CHIP_EN	I/O	WiFi system enable
19	HOST_WAKE_WL	I	HOST wake up WL device
20	WL_WAKE_HOST	O	WL device to wake Host

9. Suplier

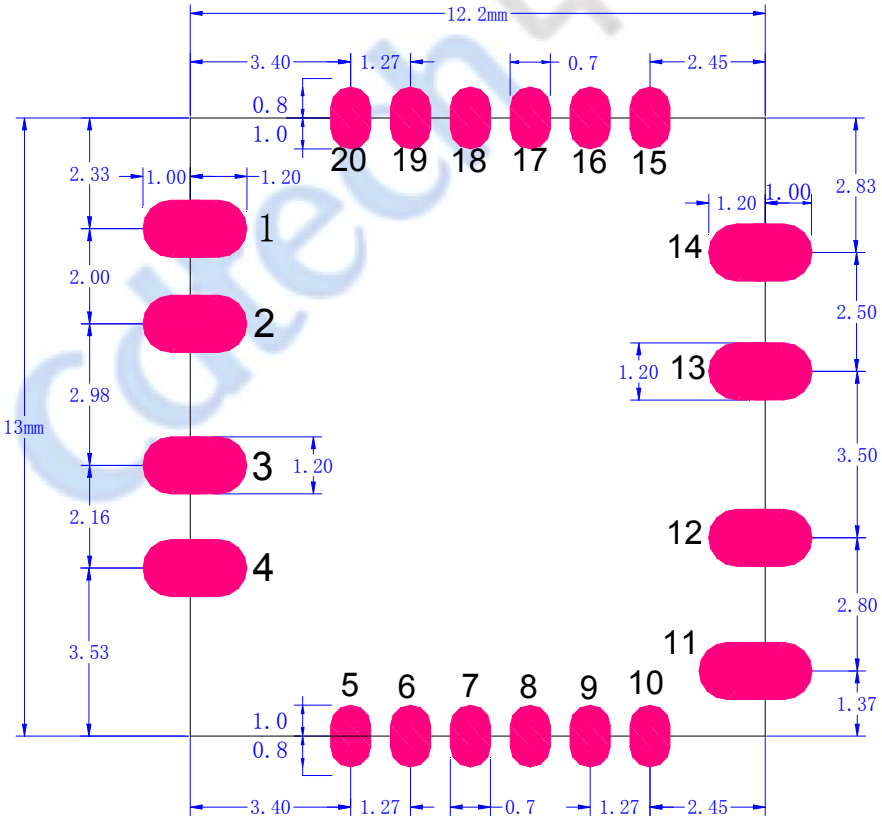
Supplier list	
Name of material	Material brand
Crystal	JWT/FK/TKD/Murata/TXC
Duplexer	ACX/GLEAD/Sunlord/Walsin
Inductor	Sunlord/ CHILISIN/ SAMWHA/Murata
Wifi chip	AIC
Capacitance	SAMSUNG /EYANG
Resistance	UniOhm /YAGEO
PCB(13x12.2x0.8mm)	A,O,I,F,D,T

10. Physical photo



Note: There are minor differences in the bottom silk-screen printing for PCBs from different suppliers.

11. Layout Recommendation



(Top view)

12.Warpage

Inspection standard for warpage (gap):

Place the module on a horizontal marble surface and measure the gap between the bottom of the module and the marble with a feeler gauge of 0.1mm thickness. The requirement is that the gap should be no more than 0.12mm.

13.Baking & storage temperature & Recommended Reflow Profile

（烘烤，储存温度和推荐炉温）

13.1 Baking & storage temperature

A. Storage life：12 months. Storage conditions:<40℃. Relative humidity:<90%R.H.
(保存期限：12个月，储存环境条件：温度在：<40℃，相对湿度：<90%R.H.)

B. After this bag is opened , devices that will be subjected to infrared reflow, vapor-phase reflow, or equivalent processing must be .(模块包装被拆后，SMT 组装之时限)

a. Check the humidity card :stored at ≦20%RH.If :30%~40%(pink)or greater than 40%(red).Labeling module has moisture absorption.(检查湿度卡：显示值应小于30%（蓝色），如：30%~40%(粉红色）或 者大于40%（红色）表示模块已吸湿气.)

b. Mounted within 168 hours at factory conditions of: t≦30%℃， ≦60%R.H.
(工厂环境温度湿度管制：≦30%℃， ≦60%R.H, 168小时内。)

c. Once opened, the workshop the preservation of life for168 hours.
(拆封后，车间的保存寿命为168小时.)

C. Module apart packing after 168 hours，If baking is required, devices may be baked for.
(如在拆封后的168个小时内未使用完，需要烘烤，烘烤条件如下：)

a. Modules must be to remove module moisture problem. (模块须重新烘烤，以除去模块吸湿问题.)

b. Baking temperature: 40℃±5℃, 120 hours. (烘烤温度条件：40℃±5℃，120小时).

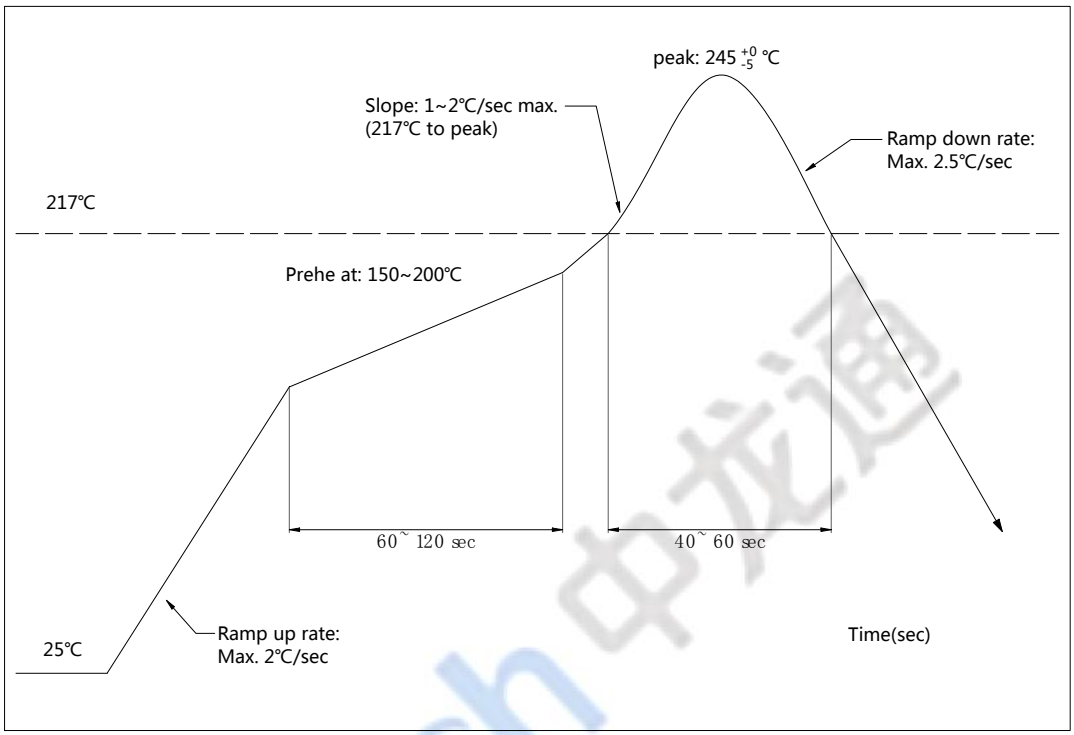
c. After baking, put proper amount of desiccant to seal packages.
(烘烤后，放入适量的干燥剂再密封包装)

13.2 Recommended Reflow Profile

Referred IPC/JEDEC standard.

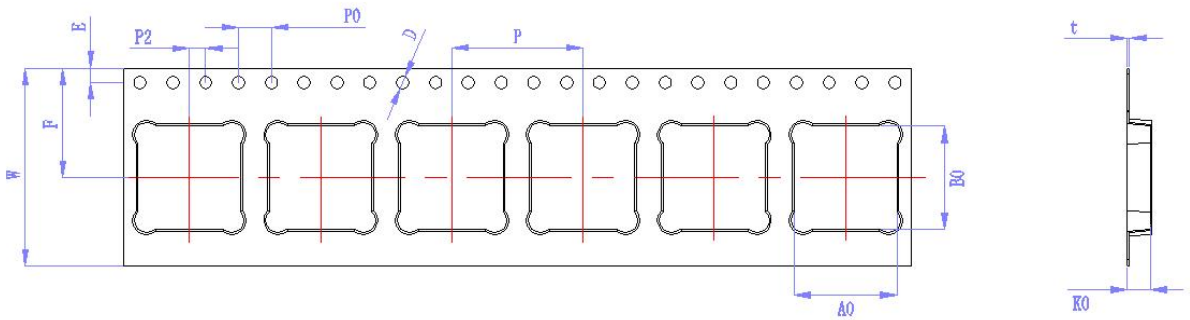
Peak Temperature : <250°C

Number of Times : ≤2 times



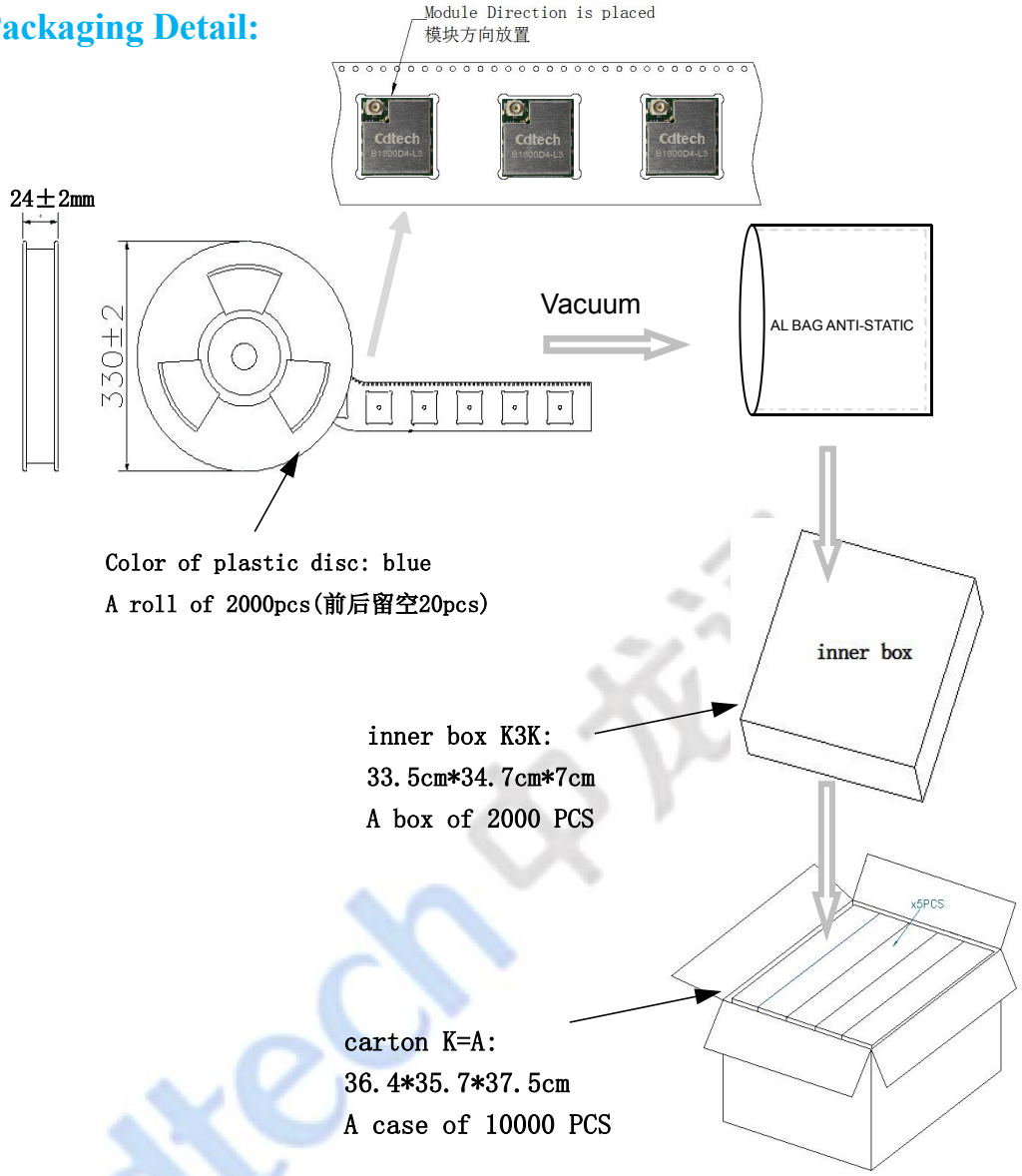
14. Packing information

14.1 Carrier size Detail:



ITEM	W	A0	B0	K0	P	F	E	D	P0	P2	T
DIM	24	12.7	13.3	2.0	16	13.25	1.75	1.50	4	2	0.3
TOLE	+0.30 −0.30	+0.10 −0.10	+0.10 −0.10	+0.10 −0.10	+0.10 −0.10	+0.10 −0.10	+0.10 −0.10	+0.10 −0.10	+0.10 −0.10	+0.10 −0.10	+0.05 −0.05

14.2 Packaging Detail:



ESD CAUTION

The B1800D4-L3 module is ESD (electrostatic discharge) sensitive device and may be damaged with ESD or spike voltage. Although B1800D4-L3 module is with built-in ESD protection circuitry, please handle with care to avoid the permanent malfunction or the performance degradation.

Customized Laser Engraving Design

FCC WARNING

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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 device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

15.105 Information to the user.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination.

The firmware setting is not accessible by the end user.

The final end product must be labelled in a visible area with the following:

“Contains Transmitter Module FCC ID:2BN5S-2504A

Requirement per KDB996369 D03

2.2 List of applicable FCC rules

List the FCC rules that are applicable to the modular transmitter. These are the rules that specifically establish the bands of operation, the power, spurious emissions, and operating fundamental frequencies. DO NOT list compliance to unintentional-radiator rules (Part 15 Subpart B) since that is not a condition of a module grant that is extended to a host manufacturer. See also Section 2.10 below concerning the need to notify host manufacturers that further testing is required.3

Explanation: This module meets the requirements of FCC part 15C(15.247).FCC Part 15.407

2.3 Summarize the specific operational use conditions

Describe use conditions that are applicable to the modular transmitter, including for example any limits on antennas, etc. For example, if point-to-point antennas are used that require reduction in power or compensation for cable loss, then this information must be in the instructions. If the use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual. In addition, certain information may also be needed, such as peak gain per frequency band and minimum gain.

Explanation: The EUT contains two different External antennas. Yes, this module includes a permanent additional antenna with a maximum antenna gain of 2.89dBi for 2.4G and 2.79dBi for 5G. The prototype is used under mobile conditions.

2.4 Limited module procedures

If a modular transmitter is approved as a "limited module," then the module manufacturer isresponsible for approving the host environment that the limited module is used with. The manufacturer of a limited module must describe, both in the filing and in the installation instructions, the alternative means that the limited module manufacturer uses to verify that the host meets the necessary requirements to satisfy the module limiting conditions.

A limited module manufacturer has the flexibility to define its alternative method to address the conditions that limit the initial approval, such as: shielding, minimum signaling amplitude, buffered modulation/data inputs, or power supply regulation. The alternative method could include that the limited module manufacturer reviews detailed test data or host designs prior to giving the host manufacturer approval.

This limited module procedure is also applicable for RF exposure evaluation when it is necessary to demonstrate compliance in a specific host. The module manufacturer must state how control of the product into which the modular transmitter will be installed will be maintained such that full compliance of the product is always ensured. For additional hosts other than the specific host originally granted with a limited

module, a Class II permissive change is required on the module grant to register the additional host as a specific host also approved with the module.
Explanation: The module is a single module.

2.5 Trace antenna designs

For a modular transmitter with trace antenna designs, see the guidance in Question 11 of KDB Publication 996369 D02 FAQ – Modules for Micro-Strip Antennas and traces. The integration information shall include for the TCB review the integration instructions for the following aspects: layout of trace design, parts list (BOM), antenna, connectors, and isolation requirements.

a) Information that includes permitted variances (e.g., trace boundary limits, thickness, length, width, shape(s), dielectric constant, and impedance as applicable for each type of antenna);

b) Each design shall be considered a different type (e.g., antenna length in multiple(s) of frequency, the wavelength, and antenna shape (traces in phase) can affect antenna gain and must be considered);

c) The parameters shall be provided in a manner permitting host manufacturers to design the printed circuit (PC) board layout;

d) Appropriate parts by manufacturer and specifications;

e) Test procedures for design verification; and

f) Production test procedures for ensuring compliance.

The module grantee shall provide a notice that any deviation(s) from the defined parameters of the antenna trace, as described by the instructions, require that the host product manufacturer must notify the module grantee that they wish to change the antenna trace design. In this case, a Class II permissive change application is required to be filed by the grantee, or the host manufacturer can take responsibility through the change in FCC ID (new application) procedure followed by a Class II permissive change application.

Explanation: No, The module has no tracking antenna design, is External antenna.

2.6 RF exposure considerations

It is essential for module grantees to clearly and explicitly state the RF exposure conditions that permit a host product manufacturer to use the module. Two types of instructions are required for RF exposure information: (1) to the host product manufacturer, to define the application conditions (mobile, portable – xx cm from a person's body); and (2) additional text needed for the host product manufacturer to provide to end users in their end-product manuals. If RF exposure statements and use conditions are not provided, then the host product manufacturer is required to take responsibility of the module through a change in FCC ID (new application).

Explanation: This module complies with FCC RF radiation exposure limits set forth for an uncontrolled environment, This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body." This module is designed to comply with the FCC statement,
FCC ID: 2BN5S-2504A

2.7 Antennas

A list of antennas included in the application for certification must be provided in the instructions. For modular transmitters approved as limited modules, all applicable professional installer instructions must be included as part of the information to the host product manufacturer. The antenna list shall also identify the antenna types (monopole, PIFA, dipole, etc. (note that for example an “omni-directional antenna” is not considered to be a specific “antenna type”)).

For situations where the host product manufacturer is responsible for an external connector, for example with an RF pin and antenna trace design, the integration instructions shall inform the installer that unique antenna connector must be used on the Part 15 authorized transmitters used in the host product. The module manufacturers shall provide a list of acceptable unique connectors.

Explanation: The EUT contains two different External antennas. Yes, this module includes a permanent additional antenna with a maximum antenna gain of 2.89dBi for 2.4G and 2.79dBi for 5G. The prototype is used under mobile conditions.

2.8 Label and compliance information

Grantees are responsible for the continued compliance of their modules to the FCC rules. This

includes advising host product manufacturers that they need to provide a physical or e-label stating “Contains FCC ID” with their finished product. See Guidelines for Labeling and User Information for RF Devices – KDB Publication 784748.

Explanation: The host system using this module, should have label in a visible area indicated the following texts: "Contains FCC ID: 2BN5S-2504A

2.9 Information on test modes and additional testing requirements

Additional guidance for testing host products is given in KDB Publication 996369 D04 Module Integration Guide. Test modes should take into consideration different operational conditions for a stand-alone modular transmitter in a host, as well as for multiple simultaneously transmitting modules or other transmitters in a host product.

The grantee should provide information on how to configure test modes for host product evaluation for different operational conditions for a stand-alone modular transmitter in a host, versus with multiple, simultaneously transmitting modules or other transmitters in a host.

Grantees can increase the utility of their modular transmitters by providing special means, modes, or instructions that simulates or characterizes a connection by enabling a transmitter. This can greatly simplify a host manufacturer’s determination that a module as installed in a host complies with FCC requirements.

Explanation: Any company of the host device which install this modular with limit modular approval should perform the test ofradiated & conducted emission and spurious emission,etc. according to FCC part 15C: 15.247&15.407 and 15.209 &15.207, 15B Class B requirement, Only if the test result comply with FCC part 15C: 15.247&15.407 and 15.209
&15.207, 15B Class B requirement, then the host can be sold legally.The module is installed in the host and can be transmitted independently.

2.10 Additional testing, Part 15 Subpart B disclaimer

The grantee should include a statement that the modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules

that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15

Subpart B compliant (when it also contains unintentional-radiator digital circuity), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

Explanation: The host shoule be evaluated by the FCC Subpart B.

This product adopts Internal antennas. The maximum antenna gain is 2.89dBi for the 2.4G antenna and 2.79dBi for the 5G antenna B.

IC statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science
and Economic DevelopmentCanada's licence-exempt RSS(s). Operation is subject to the following
two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.
The term "IC: " before the certification/registration number only signifies that the Industry Canada
technical specifications were met.
This product meets the applicable Industry Canada technical specifications.
Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS)
d'Innovation, Sciences etDéveloppement économique Canada. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pasproduire de brouillage,et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible
d'en compromettre le fonctionnement.
L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme auxCNR
d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.
L'exploitation est autorisée aux deux conditions suivantes :
1)L'appareil ne doit pas produire de brouillage;
2)L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre lefonctionnement.
Please notice that if the ISED certification number is not visible when the module is installed inside
another device, then theoutside of the device into which the module is installed o display a label referring to the enclosed module. This exteriorlabel can use wording such as the following:
"Contains IC: 33667-2504A" any similar wording that expresses the same meaningmay be used.
l'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie

Canada, précédé des mots «Contient un module d'émission », du mot « IC: 33667-2504A » ou d'une formulation similaireexprimant le même sens, comme suit

The device meets the exemption from the routine evaluation limits in section 6.6 of RSS 102 andcompliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure andcompliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 6.6 de RSS
102 etla conformité
à l'expositionde RSS-102 rf, utilisateurs peut obtenir l'information canadienne surl'exposition et la
conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna ortransmitter. This equipment should be installed and operated with a minimum distance of 20centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ouémetteur. Cet équipementdevrait être installé et actionné avec une distance minimum
de 20 centimètres entre le radiateur et votre corps.

Operation of this device is restricted to indoor use only. (5150-5250MHz)

Le fonctionnement de cet appareil est limité à une utilisation en intérieur uniquement. (5150-5250MHz)

Cet émetteur radio IC : 33667-2504A a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous, avec le gain maximal admissible indiqué. Les types d'antenne non inclus dans cette liste qui ont un gain supérieur au gain maximum indiqué pour tout type répertorié sont strictement interdits pour une utilisation avec cet appareil.

The radio transmitter IC: 33667-2504A has been approved by The Ministry of Innovation, Science and Economic Development of Canada to use the following antenna types with the specified maximum allowed gain. Antenna types not included in this list, whose gain is higher than the maximum gain of any type listed, are strictly prohibited from use with this device.

ANT1

Type of antenna:	External antenna
Antenna Gain:	2.4G :2400-2500(2.89dBi) 5G :5150-5850MHz(2.55dBi)
Impedance:	50hm
Manufacture:	Shenzhen Yingjia Chuang electronic technology Co., LTD
Model:	54.07.001.0147

ANT2

Type of antenna:	External antenna
Antenna Gain:	2.4G :2400-2500(2.82dBi) 5G :5150-5850MHz(2.79dBi)
Impedance:	50hm
Manufacture:	SHENZHEN LINRONG TECHNOLOGY CO.,LTD
Model:	54.07.001.0164