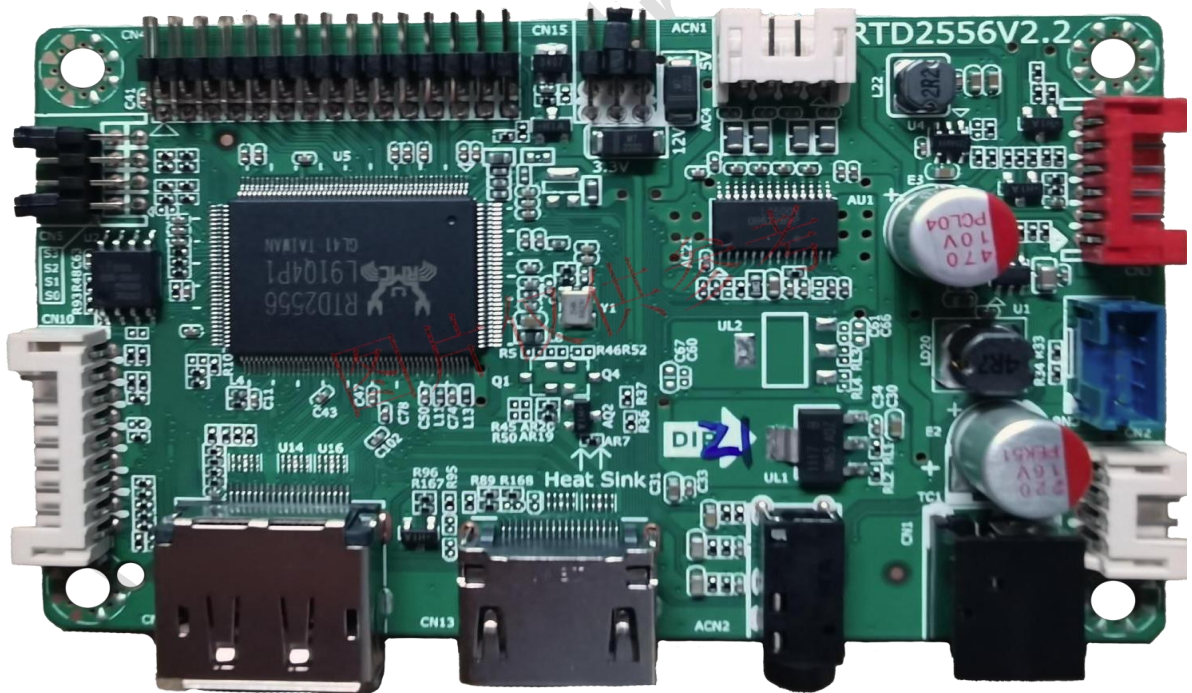


# Multi-Purpose LCD Converter Board Specification

Model: BTP-LC-RTD2556V2.2



## 1. General Description (整体概述)

BTP-LC-RTD2556V2.2 is a multi-function drive board, It is suitable for Global market. It supports LVDS LCD display with the highest resolution to FHD.

BTP-LC-RTD2556V2.2 是一个多功能的驱动板，适用于全球市场。它支持 LVDS 液晶显示屏，分辨率最高支持到 FHD。

BTP-LC-RTD2556V2.2 Support for HDMI, DP input, and also supports Earphone output. BTP-LC-RTD2556V2.2

支持 HDMI, DP 输入，也支持耳机输出。

Note: The specification of board includes the description of all functions. Therefore, our clients can select the functions which they require to produce the board. But the specification can be introduced universally.

注：上面描述为板卡全功能规格，客户可以根据需要选择性的生产。此规格书具有通用性。

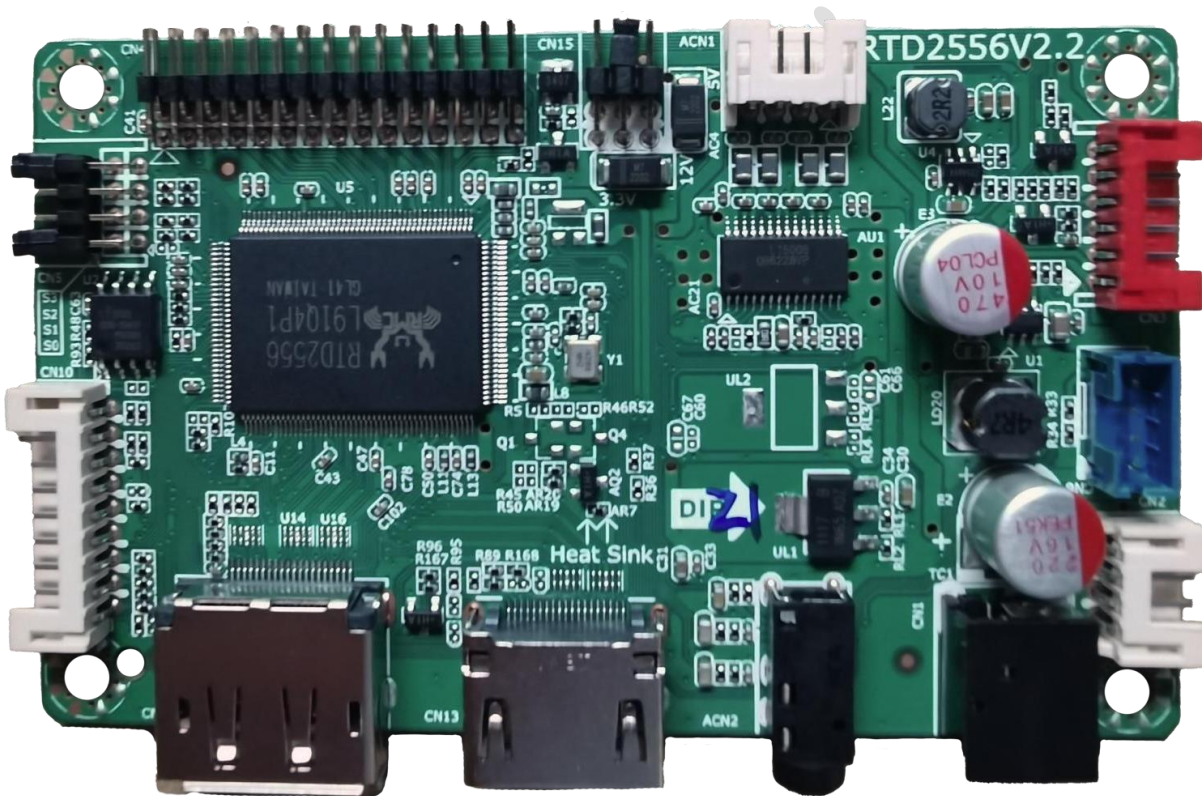
## 2. Features (产品特性)

MARKET AREA (市场区域)	Global market (全球市场)		
OSD LANGUAGE (菜单语言)	English, French, German, Italian, Spanish, Portuguese, Russian and so on (英语、法语、德语、意大利语、西班牙语、葡萄牙语、俄语等)		
CHIPSET (芯片)	RTD2556		
VIDEO INPUT (视频输入)	HDMI	Video (视频)	Standard TMDS format
		Resolution (分辨率)	480p、576p、720p、1080p
	DDC	EDID	
POWER (功率)	To panel (驱屏电压)	3.3V/5V/12V	
	Management (电源管理)	Low power consumable mode: standby $\leq$ 0.25W (only for PCB board) (待机功耗 $\leq$ 0.25W, 仅适用于PCB板)	
AUDIO OUTPUT (音频输出)	2*5W8 $\Omega$		

KEY FUNCTIONS (按键功能)	EXIT,MENU,AUTO,LEFT,RIGHT,ON/OFF (退出, 菜单, 自动, 左, 右, 开/关)	
Terminal input (终端输入)	DP	1×DP terminal (1×DP 端子)
	DC	1×DC terminal (1×DC 端子)
	HDMI	1×HDMI terminal (1×HDMI 端子)
Terminal output (终端输出)	Earphone Out	1× Earphone terminal black color (1×耳机端子, 黑色)

### 3. Port Configuration (端口配置)

All of pictures below are only for reference. Please take the actual objects as a standard.  
(以下图片仅供参考,请以实物为准)



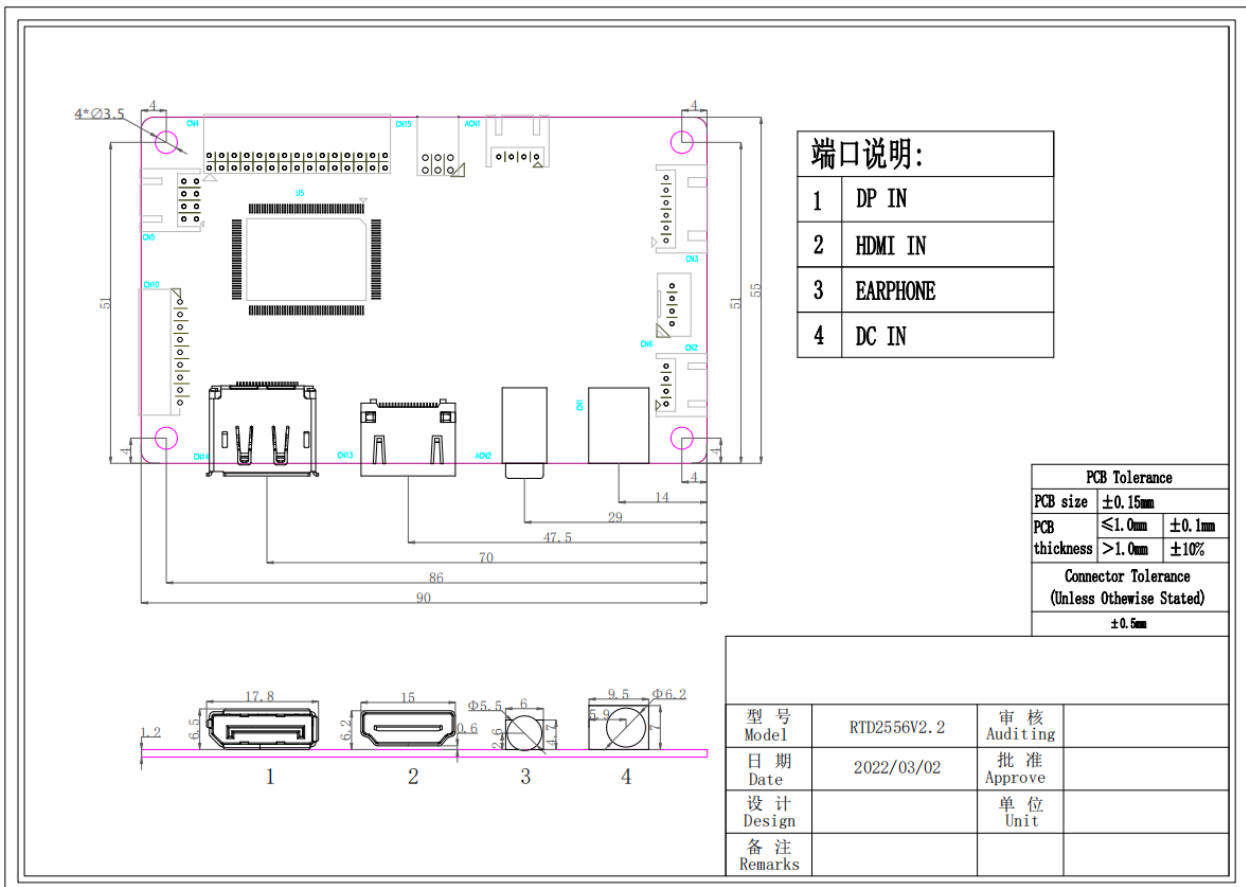
# Configuration 1:

Front View Of BTP-LC-RTD2556V2.2 (前视图)



1	2	3	4
DP	HDMI	EARPHONE	DC IN

## CAD DIMENSIONS (CAD 尺寸)



## 4. Interface Definition (接口定义)


### CN4(30PIN/2.0mm)LVDS INTERFACE (LVDS 屏接口)



NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	VCC	Power for panel (驱屏电源)
2	VCC	Power for panel (驱屏电源)
3	VCC	Power for panel (驱屏电源)
4	GND	Ground (地)
5	GND	Ground (地)
6	NC	NC
7	O0-	LVDS ODD 0- Signal (LVDS 奇数 0-信号)
8	O0+	LVDS ODD 0+ Signal (LVDS 奇数 0+信号)
9	O1-	LVDS ODD 1- Signal (LVDS 奇数 1-信号)
10	O1+	LVDS ODD 1+ Signal (LVDS 奇数 1+信号)
11	O2-	LVDS ODD 2- Signal (LVDS 奇数 2-信号)
12	O2+	LVDS ODD 2+ Signal (LVDS 奇数 2+信号)
13	GND	Ground (地)
14	GND	Ground (地)
15	OC-	LVDS ODD Clock- Signal (LVDS 奇数时钟-信号)
16	OC+	LVDS ODD Clock+ Signal (LVDS 奇数时钟+信号)
17	O3-	LVDS ODD 3- Signal (LVDS 奇数 3-信号)
18	O3+	LVDS ODD 3+ Signal (LVDS 奇数 3+信号)
19	E0-	LVDS EVEN 0- Signal (LVDS 偶数 0-信号)
20	E0+	LVDS EVEN 0+ Signal (LVDS 偶数 0+信号)
21	E1-	LVDS EVEN 1- Signal (LVDS 偶数 1-信号)
22	E1+	LVDS EVEN 1+ Signal (LVDS 偶数 1+信号)
23	E2-	LVDS EVEN 2- Signal (LVDS 偶数 2-信号)
24	E2+	LVDS EVEN 2+ Signal (LVDS 偶数 2+信号)
25	GND	Ground (地)
26	GND	Ground (地)

27	EC-	LVDS EVEN Clock- Signal (LVDS 偶数时钟-信号)
28	EC+	LVDS EVEN Clock+ Signal (LVDS 偶数时钟+信号)
29	E3-	LVDS EVEN 3- Signal (LVDS 偶数 3-信号)
30	E3+	LVDS EVEN 3+ Signal (LVDS 偶数 3+信号)

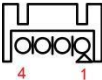
### CN3(6PIN/2.0mm) CONSTANT CURRENT PLATE INTERFACE (恒流板接口)

		
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	GND	Ground (地)
2	GND	Ground (地)
3	ADJ	BRI_ADJ (背光亮度调节)
4	BK	Back-light on/off control (背光控制开关)
5	12V	BACKLIGHT POWER SUPPLY (背光供电端口)
6	12V	BACKLIGHT POWER SUPPLY (背光供电端口)


### CN10(9PIN/2.0mm) KEY BOARD INTERFACE (按键接口)

		
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	EXIT	EXIT Key (退出)
2	MENU	MENU Key (菜单)
3	AUTO	AUTO Key (自动)
4	V-	V- Key (音量-)
5	V+	V+ Key (音量+)
6	GND	Ground (地)
7	G	Green indicator (绿色指示器)
8	R	Red indicator (红色指示器)
9	ON/OFF	ON/OFF Key (开/关)


### CN6(4PIN/2.0mm) DEBUGGING INTERFACE(调试接口)

		
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	GND	Ground (地)
2	TX	Transmit Data (发送数据)
3	RX	Receive Data (接收数据)
4	+5V	+5V DC power supply (+5V 直流供电)

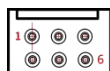
### CN2 (4PIN/2.0MM ) BUILT-IN POWER SUPPLY INTERFACE (内置供电接口)

		
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	GND	Ground (地)
2	GND	Ground (地)
3	12V	+12V DC Power supply (+12V 直流供电)
4	12V	+12V DC Power supply (+12V 直流供电)

### ACN1 (4PIN/2.0MM ) SPEAKER INTERFACE (喇叭接口)

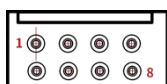
		
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	RP	Positive right audio channel out (右声道音频输出正极)
2	RN	Negative right audio channel out (右声道音频输出负极)
3	LN	Negative left audio channel out (左声道音频输出负极)
4	LP	Positive left audio channel out (左声道音频输出正极)

### CN15 (6PIN/2.0MM ) SCREEN VOLTAGE JUMPER PIN (屏电压跳帽插针)



NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	12V	+12V Power supply (+12V 供电)
2	PVCC	Power Supply for panel (屏幕供电)
3	5V	+5V Power Supply (+5V 供电)
4	PVCC	Power Supply for panel (屏幕供电)
5	3.3V	+3.3V Power Supply (+3.3V 供电)
6	PVCC	Power Supply for panel (屏幕供电)

### CN5(8PIN/2.0mm) RESOLUTION JUMPER PIN 分辨率跳帽插针



NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	S0	Screen resolution selection (屏幕分辨率选择)
2	GND	Ground (地)
3	S1	Screen resolution selection (屏幕分辨率选择)
4	GND	Ground (地)
5	S2	Screen resolution selection (屏幕分辨率选择)
6	GND	Ground (地)
7	S3	Screen resolution selection (屏幕分辨率选择)
8	GND	Ground (地)



Common program wire sequence definition:  
 1: Insert the wire sequence selection cap 0: No wire sequence selection cap  
 普通程序跳帽定义 1: 插上跳帽 0: 不插跳帽

CN5	Pixel	S0	S1	S2	S3	Location
	1680×1050 dou 8	0	0	0	0	0
1280×1024 dou 8	1	0	0	0	1	
1024×768 sig 8	0	1	0	0	2	
800×600 sig 6	1	1	0	0	3	
1024×768 sig 6	0	0	1	0	4	
1440×900 dou 8	1	0	1	0	5	
1024×600 sig 6	0	1	1	0	6	
1280×800 sig 6	1	1	1	0	7	
1366×768 sig 8	0	0	0	1	8	
1920×1080 dou 8	1	0	0	1	9	
1920×1200 dou 8	0	1	0	1	10	

## 5. International Standard (国际标准)

Safety (安全)

The power supply shall compliance with following Criterion:

(电源安全性满足下列标准)

- ◆ UL62368-1
- ◆ EN62368-1
- ◆ IEC62368-1
- ◆ GB4943-2011/GB8898-2011

Isolation (隔离)

- ◆ HI-POT (耐压测试)

Input to Output: 3000Vac 50Hz 1minute $\leq$ 10mA

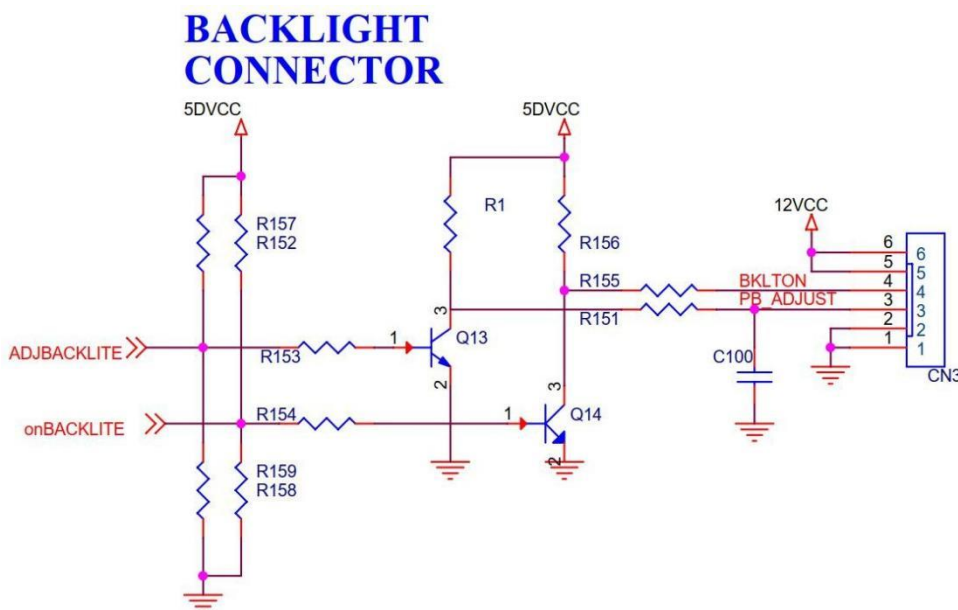
- ◆ Isolation Resistance (隔离电阻)

Input to Output: DC 500V 50M $\Omega$  min (at room temperature)

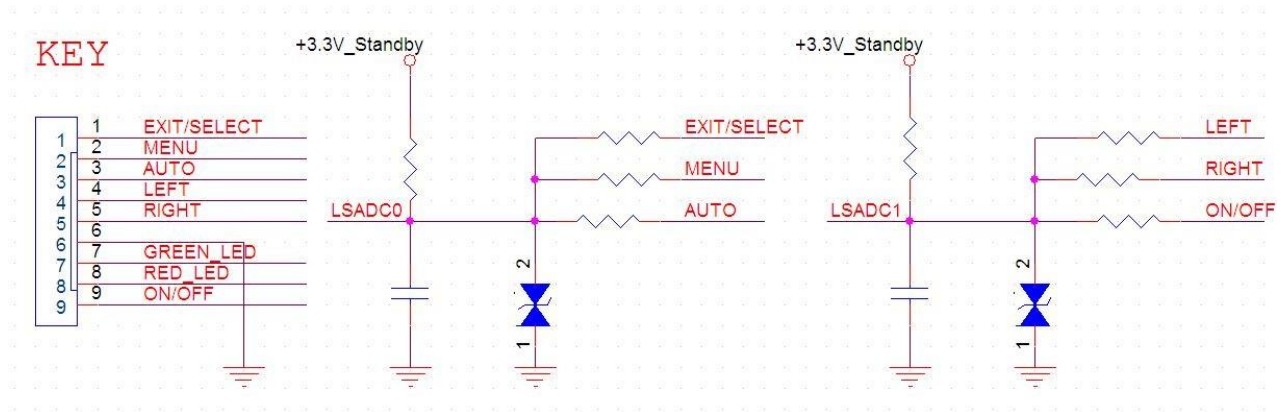
## 6. BK&ADJ Board System Schematic (BK 和 ADJ 原理图)

The Motherboard ADJ and BK control circuits refer to below and confirm motherboard circuit compatibility before adapting for external power supply.

(主板 ADJ 和 BK 控制电路参考如下，适配外置电源前需确认主板电路兼容性。)



## 7. Key Board System Schematic (按键原理图)



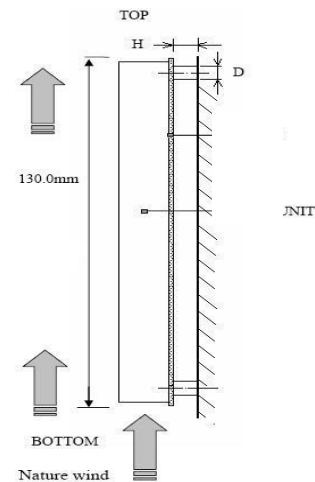
## 8. Matters Need Attention (注意事项)

Mount Matters Need Attention (装配注意事项) :

D	$\leq 5.5\text{mm}$
H	$\geq 7.0\text{mm}$

Note:

- ◆ Mount the TV board to the mounting board using M3 screw. The maximum value of the tightening torque is 0.4N/M. The insertion depth of the screw should be less 5.5mm.
- ◆ If  $H \leq 7.0\text{mm}$  .Add Mylar under PCB bottom.



- ◆ Do not pressed and distorted. (禁止挤压和弯曲)
- ◆ Keep away from static and water. (远离静电和水)
- ◆ Relative humidity : 10% ~ 90%. (相对湿度: 10% ~ 90%)
- ◆ Storage humidity : 5% ~ 95%. (储存湿度: 5% ~ 95%)
- ◆ Storage temperature:  $-10 \sim +60^{\circ}\text{C}$ . (储存温度:  $-10 \sim +60^{\circ}\text{C}$ )
- ◆ Operation temperature:  $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$ . (操作温度:  $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$ )
- ◆ Cooling Method: Ventilation cooling. (冷却方式: 通风)
- ◆ The production shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on it. (该产品不能遭到水滴或水溅, 而且设备上不能放置诸如花瓶一类装满液体的物品)
- ◆ Please use it under the condition of good aeration. (该产品使用时需有良好通风)