产品规格书
SPECIFICATION

产品型号(Product Type)：BTP-LC-W55T

产品类型（Customer）：　　FHD/QHD

产品功能（Customer）：HDMI+2TYPE-C+EARPHONE

发布日期(Date Issued)：　　2021-9-29

Confirmed/确认	Approved/批准	Signature/签章

客户确认

Confirmed/确认	Approved/批准	Signature/签章

公司地址：

Catalogue

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1. Product Overview

1.1 Functional Overview

The BTP-LC-W55T is an FHD/QHD display driver board featuring built-in Type-C connectivity and a maximum resolution of 2560×1440 at 60 Hz.

*Supports e-DP display interface signal output.

*Multiple OSD languages available.

The software on The moTherboard supports online updates.

*Supports touchscreens.

*Supports HDMI 1.4.

*Supports USB hub functionality, featuring an external button panel that provides two USB 2.0 ports for connecting mice and keyboards.

*Supports The PD bidirectional power supply protocol.

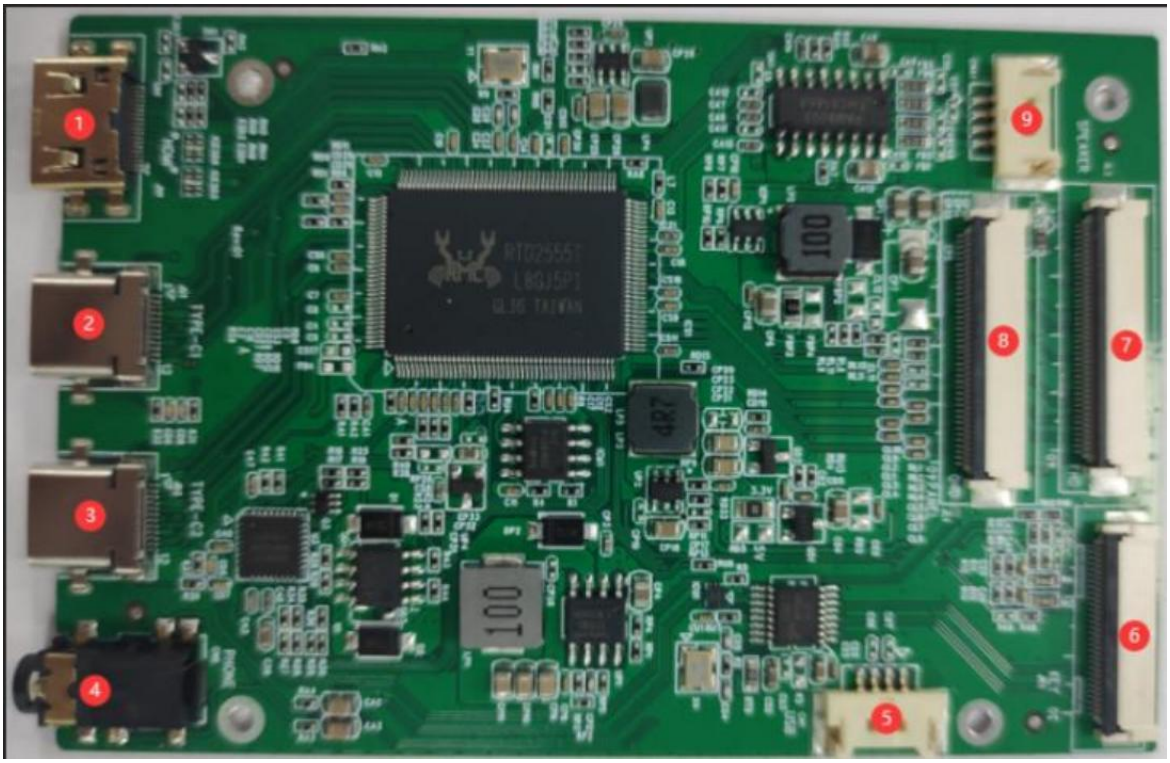
Supports 2x2W (4Ω) amplifier output

*The Type-C port supports DisplayPort Alt Mode

1.2 Card Properties

Video in	HDMI	1920X1080@60Hz	
		HDCP Version	1.4
	TYPE-C	1920X1080@60Hz	
		Bidirectional PD Management	
		USB2.0 HUB	
Working power supply	DC 5~20V		
Standby Power Consumption	<0.25W		
PANEL	Screen Type	TFT LCD	
	Screen Interface	e-DP	
	Maximum Resolution	2560X1440@60Hz	
	Drive-out voltage	3.3V(R33),5V(R5)	
Headphone Output	>150 MW (32 Ω/0 dB signal)		
Speaker output	2x2W （4Ω） THD+N < 10%@1KHZ		
LED	Dimming Method	PWM	
Key	POWER, KEY1, KEY2, AUTO, MENU – Optional		
OSD language	Available in multiple languages: Chinese, English, German, Korean, French, Spanish, Japanese, and more.		

1.3 External Appearance Diagram of The Plate Card



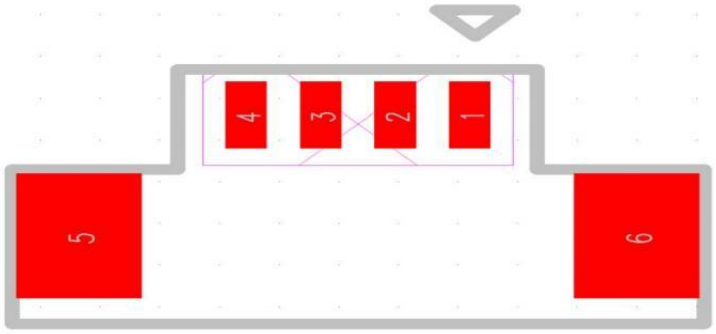
Note: The above images are for reference only; The actual product may vary.

1.4 Interface Functions

Order number	Item	Function
1	JH1	HDMI Port
2	JD1	TYPEC Interface (Signal Input)
3	JD2	TYPEC Interface (Signal Input)
4	CN6	Headphone Output Interface
5	CN1	Built-in USB port
6	JK1	Button Output Interface + USB 2.0 Input Interface
7	JL2	FHD Display Interface (40-pin interface with touch functionality)
8	JL1	QHD Display Interface
9	CNA1	Lubba Interface (4Ω,2W)

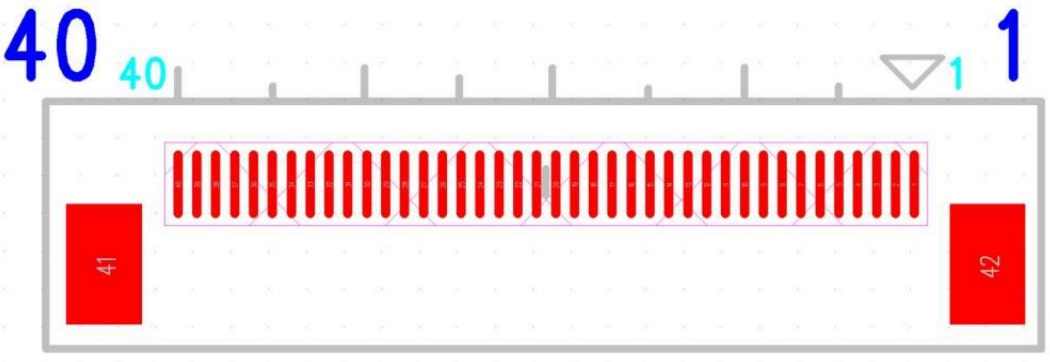
2. Description of Major Interface Definitions

◆CNA1 (4P-1.25 mm) speaker jack



PIN Sequence Number	Definition	Description
1	R-	Right speaker channel negative
2	R+	Right channel of The speaker is positive
3	L+	Left speaker channel positive
4	L-	Left speaker channel negative

◆JL2 (40P-0.5MM) e-DP display interface

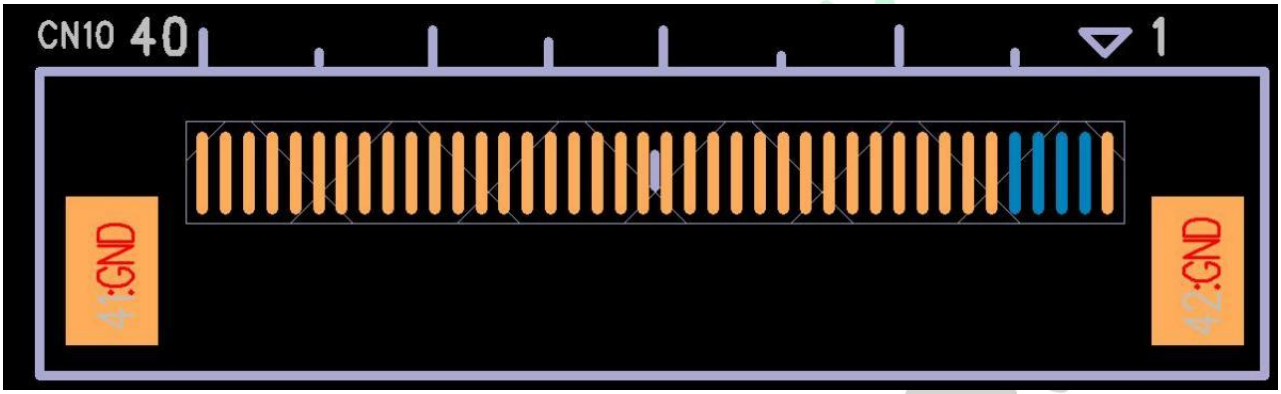


Step Number	Definition	Description
1	NC	Empty
2	NC	Empty

3	EE_SCL	Data
4	EE_SDA	Data
5	TP_EN	EN
6	TUCH_5V	Touch Power Supply
7	TUCH_5V	Touch Power Supply
8	GND	The earth
9	TP_D+	USB data +
10	TP_D-	USB data -
11	NC	Empty
12	+12V	Backlight Power Supply
13	+12V	Backlight Power Supply
14	+12V	Backlight Power Supply
15	+12V	Backlight Power Supply
16	NC	Empty
17	NC	Empty
18	ADJ	Backlight Brightness Adjustment
19	EN	Backlight Switch
20	GND	The earth
21	GND	The earth
22	GND	The earth
23	GND	The earth
24	HPD	HPD signal
25	GND	The earth
26	GND	The earth

27	NC	Empty
28	VLCD	Screen Voltage
29	VLCD	Screen Voltage
30	GND	The earth
31	AUTX_0N	Accessory channel -
32	AUTX_0P	Accessory channel +
33	GND	The earth
34	DATA0+	Differential Data 0+
35	DATA0-	Differential Data 0-
36	GND	The earth
37	DATA1+	Differential Data 1+
38	DATA1-	Differential Data 1-
39	GND	The earth
40	NC	Empty

◆JL1 (40P-0.5MM) QHD display interface



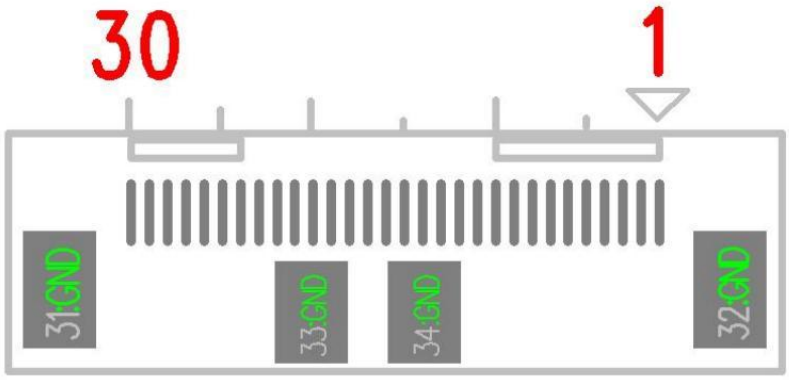
Step Number	Definition	Description

1	NC	Empty
2	BL_VCC	Backlight Power Supply
3	BL_VCC	Backlight Power Supply
4	BL_VCC	Backlight Power Supply
5	BL_VCC	Backlight Power Supply
6	NC	NC
7	NC	NC
8	ADJ	Backlight Brightness Adjustment
9	EN	Backlight Switch
10	GND	The earth
11	GND	The earth
12	GND	The earth
13	GND	The earth
14	HPD	HPD signal
15	GND	The earth
16	GND	The earth
17	GND	The earth
18	GND	The earth
19	NC	NC
20	VLCD	Screen Voltage
21	VLCD	Screen Voltage
22	VLCD	Screen Voltage
23	VLCD	Screen Voltage
24	GND	The earth
25	AUTX_0P	accessory channel +
26	AUTX_0N	accessory channel -

27	GND	The earth
28	DATA0+	Differential Data 0+
29	DATA0-	Differential Data 0-
30	GND	The earth
31	DATA1+	Differential Data 1+
32	DATA1-	Differential Data 1-
33	GND	The earth
34	DATA2+	Differential Data 2+
35	DATA2-	Differential Data 2-
36	GND	The earth
37	DATA3+	Differential Data 3+
38	DATA3-	Differential Data 3-
39	GND	The earth
40	NC	Empty

◆ **JK1 (30 pins – 0.5 mm): Key, indicator light, USB 2.0 input port**

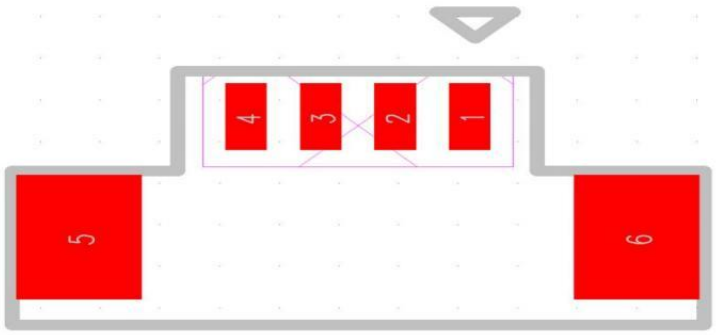
*** All buttons must have a voltage of 0 V when pressed;**
oTherwise, incorrect button values will occur. The indicator light interface outputs a high voltage level.



Order Number	Definition	Description
1	POWER	POWER key
2	LED_R	The indicator light is red.
3	LED_G	Green indicator light
4	GND	The earth
5	KEY1	Button 1
6	KEY2	Button 2
7	AUTO	Button 3
8	MENU	Button 4
9	IR	IR Interface
10	GND	The earth
11	GND	The earth
12	NC	NC
13	NC	NC

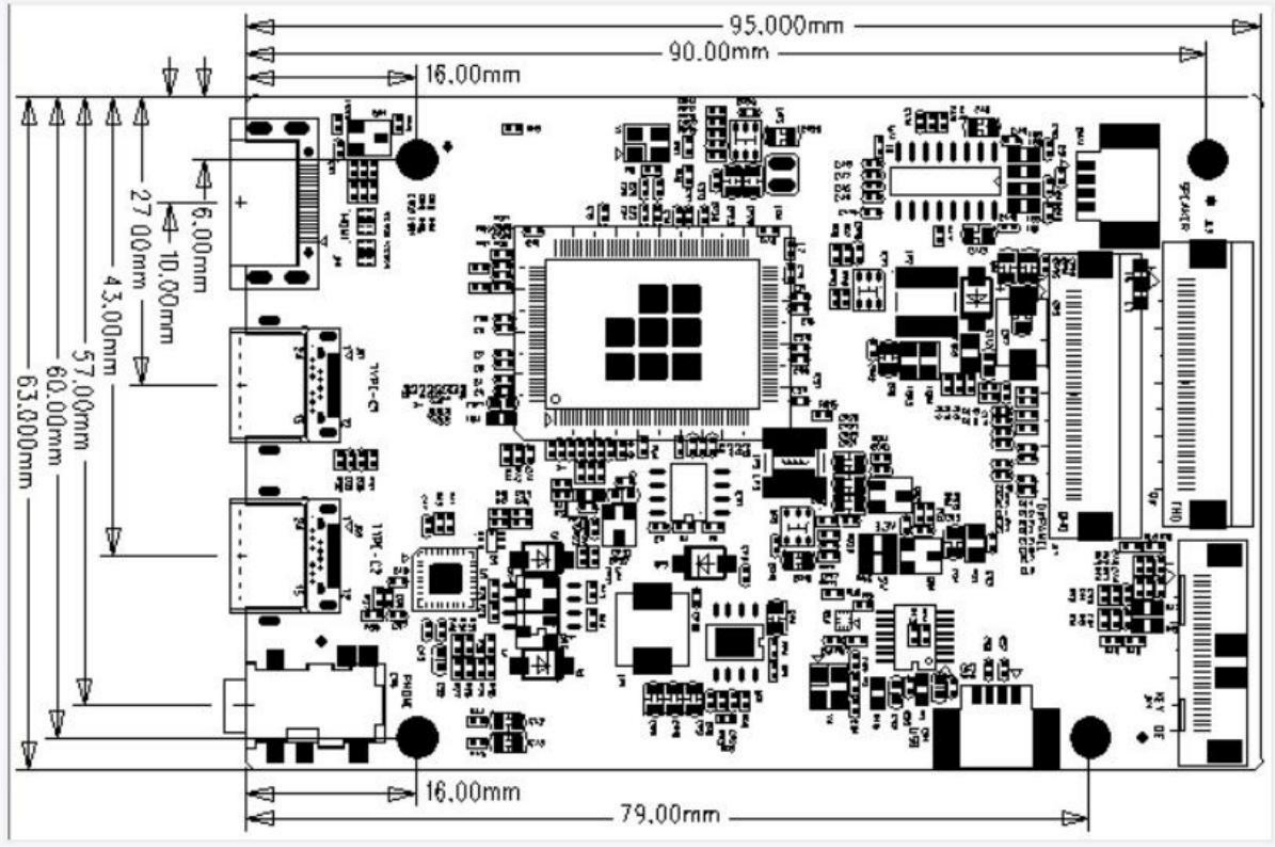
14	NC	NC
15	NC	NC
16	NC	NC
17	NC	NC
18	GND	The earth
19	NC	NC
20	NC	NC
21	GND	The earth
22	USB1_DP	USB 1 Data +
23	USB1_DM	USB1 Data-
24	GND	The earth
25	USB2_DP	USB 2 Data +
26	USB2_DM	USB 2 Data-
27	GND	The earth
28	+5V	+5V Input
29	+5V	+5V Input
30	GND	The earth

◆CN1 (4P-1.25 mm) USB port



PIN Sequence Number	definition	description
1	GND	The earth
2	DP	USB data +
3	DM	USB data -
4	+5V	+5V Input

3. Mainboard Structure and Dimensions (Unit: mm)



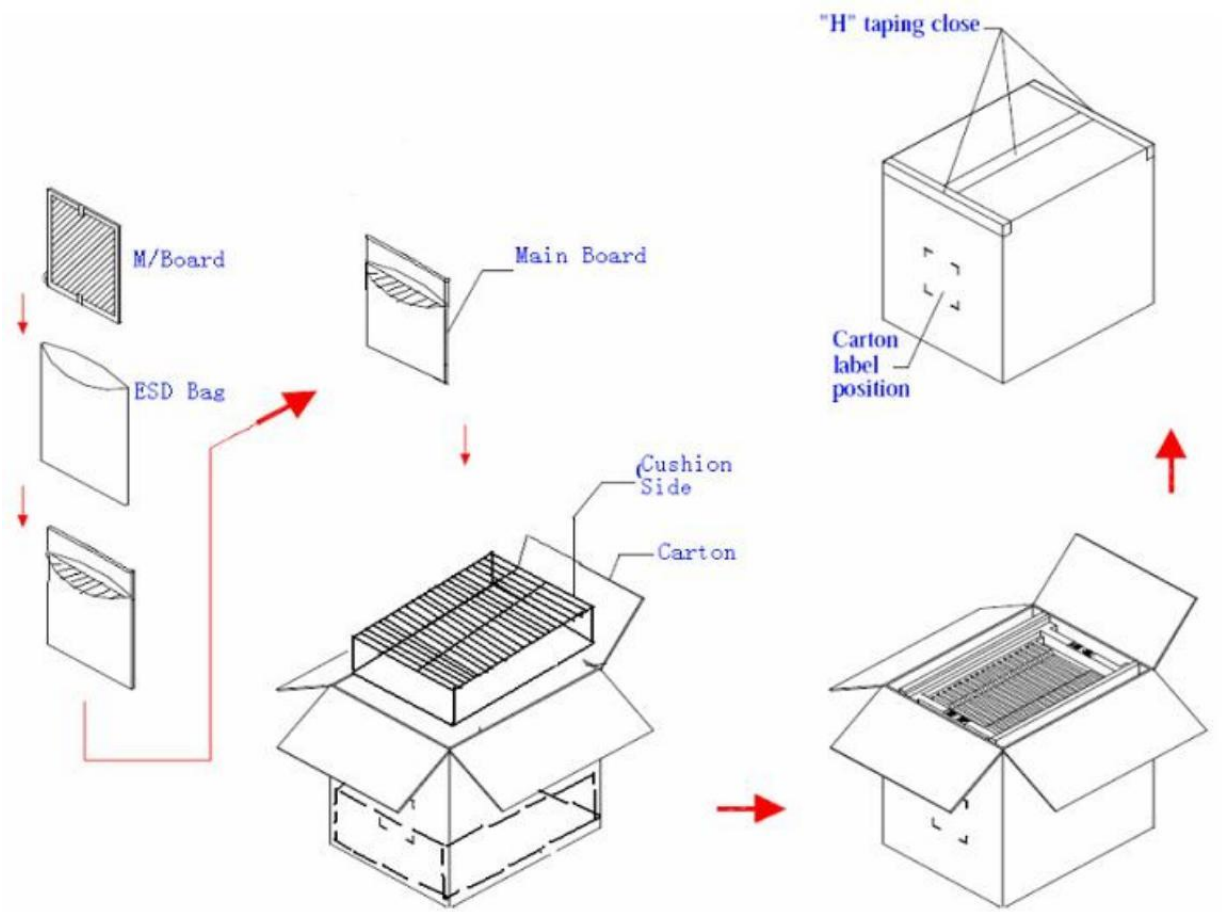
Relevant dimensions and specifications of The control board (PCB)

1. PCB thickness plus The maximum component height ≤ 7 mm
2. PCB length = 95 mm
3. PCB width = 63 mm
4. PCB thickness = 1.0 mm

Screw hole specifications: 2.0 mm diameter threaded hole; hole size and coordinates are shown in The structural diagram.

4. Packaging and External Box Labeling

Carton Specifications	Bubble Bag Specifications	Number of boxes



PCB model	LH-W55T-BV1	Customer ID	
Product Material Number		order number	
Screen Parameter		testing time	
Software Information			
key		Customer Material Number	
Environmental Labeling		package quantity	

5. Requirements for Transportation, Storage, and Use

To ensure proper use of this product and prevent accidents such as electric shocks or fires, please read and understand all usage requirements and operating procedures before use. Strictly adhere to The following guidelines:

1. The required DC power supply for this product is generated by an AC/DC power adapter, which must be placed away from heat sources in a well-ventilated area.

2. AC power sockets and cables must be properly grounded and capable of withstanding sufficient current loads.

3. This product requires a DC input voltage of +5–20 V with an error tolerance of no more than ±0.5 V; The current depends on The selected LED display and overall power requirements. A PD power adapter rated at 30 W or higher is recommended.

4. Ensure adequate ventilation and heat dissipation; do not place The device inside a sealed, non-Thermal-conductive enclosure or box, and avoid direct sunlight exposure or exposure to oTher heat sources.

5. Care should be taken to avoid excessive moisture and dust accumulation to prevent circuit corrosion-induced malfunctions.

6. During assembly, ensure sufficient space is maintained to facilitate air convection for heat dissipation on The board surface and prevent contact short circuits between live conductors and board components.

7. During assembly, take care to prevent The drive board from warping or deforming due to additional pressure.

8. During assembly, ensure proper electrical connections between The drive board, LED screen, key panel, and oTher components; select The correct operating voltage for The LEDs (too low may cause abnormal display, while too high may damage The LED screen); only power on after verification of all connections.

9. The program on The drive board must match The corresponding LED display.

10. During board assembly, ensure proper electrostatic protection and avoid short circuits or damage to The board caused by static electricity from hands.

11. All input and output interfaces must be operated with The power off (by removing or inserting connectors).

12. This product is suitable for general commercial and household use, with an operating temperature range of-10°C to +40°C and a relative humidity limit of ≤80%.

13. Unplug The power supply when not in use for an extended period.