

[ELKT51]

[User's Manual]



六联智能
SIXUNITED

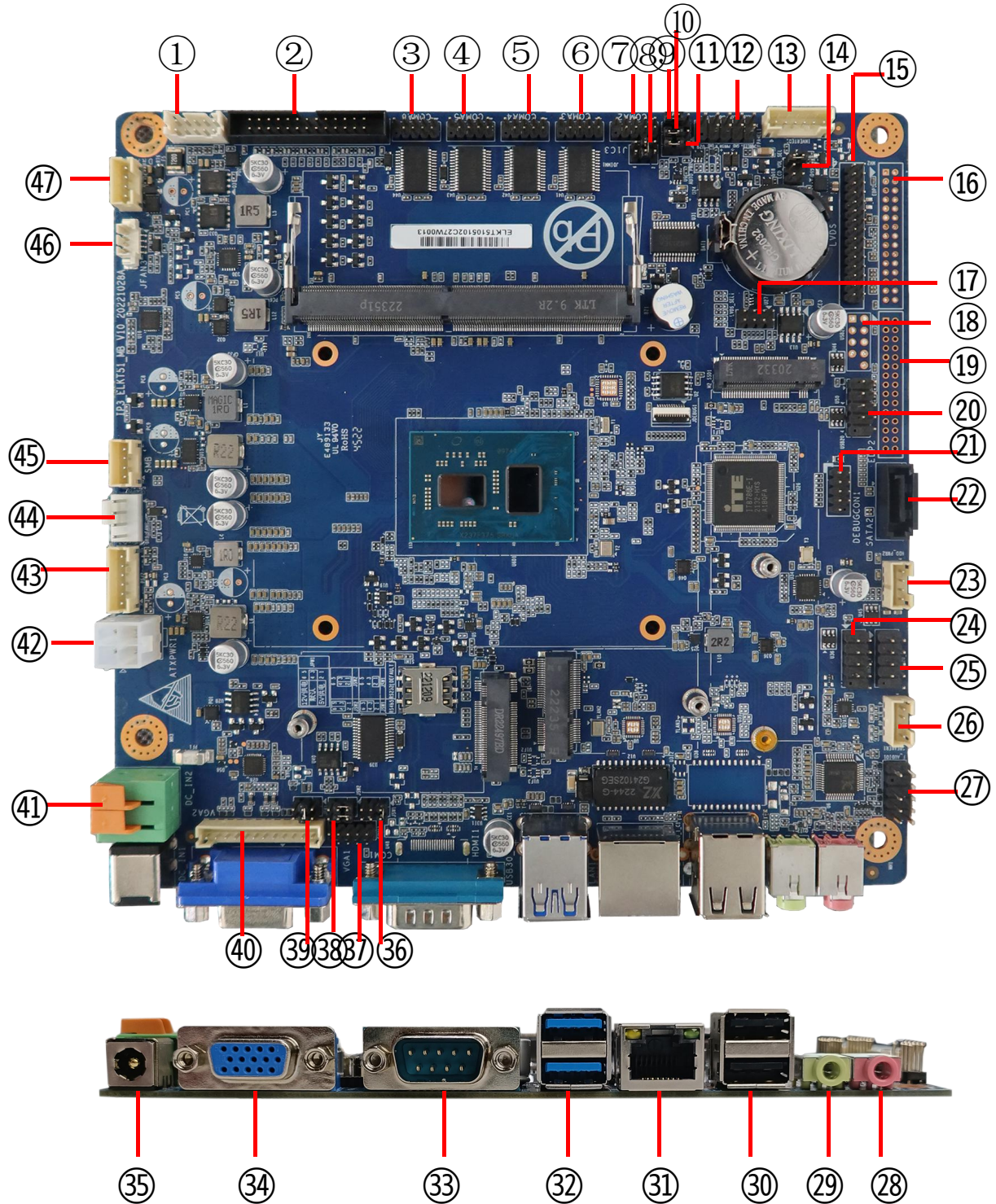
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1. Specifications

model	ELKT51
CPU	Support Intel Elkhart Lake platform ELKT51-SKU#2-5: J6412/4C/4T/Burst Freq 2.60 Ghz/TDP up to 10W
Memory	1*DDR4 SO-DIMM, Single Channel, Up to 32GB
Graphics	1*HDMI 2.0b,Maximum resolution 4096x2160@60Hz(COM1 colay) 1*LVDS,Maximum resolution 1920*1200@60Hz(EDP1 colay) 2*EDP,Maximum resolution 1920*1080@60Hz 1*VGA, Maximum resolution 1920x1200@60Hz
Storage	1*M.2 M Key 2242/2280 SSD(PCIE or SATA) 1*SATA3.0
LAN	1*Realtek RTL8111H 1000M LAN
Serial Port	6 COM, COM1 RS232/485 optional, COM2~COM6 RS232
Rear I/O	1*12V DC_IN 1*2 layer USB3.2 Gen2 1*2 layer USB2.0 (option) 2*RJ45 (option) (default single RJ45, the other RJ45 and 2 layer USB2.0 Colay) 1*VGA 1*HDMI2.0 or 1*COM(option) 1*Line_out 1*MIC_IN
Front I/O	NA
Internal I/O	1*eDP/LVDS 1*M.2 2230 for WIFI(PCIE&USB) 1*M.2 2242/2280 for SSD(PCIE or SATA) 1*M.2 3042/3052(with SIM card holder, supporting 4G module) 4*USB2.0 Header -when dual RJ45 or 3*USB2.0 Header -when Single RJ45 1*SATA 1*F AUDIO 1*F PANEL 1*Internal Stereo Speaker 1*12V SYS FAN 1*5V CPU FAN 1*VGA 1*PS2 6*COM (1 shared with external COM) 1*LPT 1*Cash Drawer 1*Clear CMOS 1*SM BUS
Size	170mm *170mm
Temperature	Operation: -10~60°C, Storage: -25~75°C
Relative Humidity	Operation: 5~90%, Storage: 5~90%
Power Input	DC 12V

2. Locations

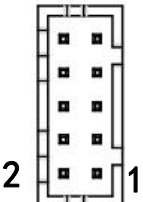


Locations	
1	GPIO
2	LPT
3	COM6
4	COM5
5	COM4
6	COM3
7	COM2
8	JPW2
9	CLEAR COMS
10	PWR ON
11	AUTO PWRON
12	F_PANEL
13	INVERTER1
14	LCD_VOL_SEL
15	LVDS
16	EDP1
17	LVDS SEL1
18	USB20_3
19	EDP2
20	USB20_4
21	DEBUGCON1
22	SATA2
23	HDD PWR2
24	USB20_1
25	USB20_2
26	SPEAKER
27	F_AUDIO
28	Mic
29	Earphone
30	1*2 layer USB2.0
31	LAN
32	1*2 layer USB3.2 Gen2
33	COM1
34	VGA1
35	DC_IN1
36	JSW1
37	COMA1
38	JSW2
39	JPW1
40	VGA2
41	DC_IN2
42	ATX PWR1

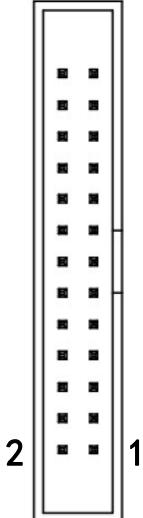
Locations	
43	PS/2
44	SYS_FAN
45	SMB
46	CPU_FAN
47	DRAWER

3. Connector and Jumper Setting

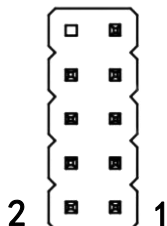
1) GPIO

Graphic	PIN	Define	PIN	Define
	1	GPIO_C_1	2	GPIO_C_2
	3	GPIO_C_3	4	GPIO_C_4
	5	GPIO_C_5	6	GPIO_C_6
	7	GPIO_C_7	8	GPIO_C_8
	9	VCC_GPIO(5V)	10	GND

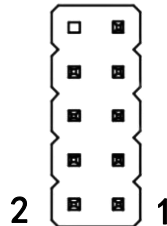
2) LPT

Graphic	PIN	Define	PIN	Define
	1	STB#	2	AFD#
	3	PD0	4	ERR#
	5	PD1	6	INT#
	7	PD2	8	SLIN#
	9	PD3	10	GND
	11	PD4	12	GND1
	13	PD5	14	GND2
	15	PD6	16	GND3
	17	PD7	18	GND4
	19	ACK#	20	GND5
	21	BUSY	22	GND6
	23	PE	24	GND7
	25	SLCT	26	GND8


3) COM1

Graphic	PIN	Define	PIN	Define
	1	COM1_DCD_CN or RS485 N1	2	COM1_RXD_CN or RS485 P1
	3	COM1_TXD_CN	4	COM1_DTR_CN
	5	GND	6	COM1_DSR_CN
	7	COM1_RTS_CN	8	COM1_CTS_CN
	9	COM2_RI_CN		


4) COM2-6

Graphic	PIN	Define	PIN	Define
	1	COM2_DCD_CN	2	COM2_RXD_CN
	3	COM2_TXD_CN	4	COM2_TXD_CN
	5	GND	6	COM2_DSR_CN
	7	COM2_RTS_CN	8	COM2_CTS_CN
	9	COM2_RI_CN		


5) CLEAR CMOS

Graphic	Setting	Function
	1-2	CLear CMOS
	2-3 (Default)	Normal

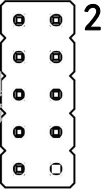
6) PWR ON

Graphic	Setting	Function
	1-2	AT Mode
	2-3 (Default)	ATX Mode


7) AUTO PWRON

Graphic	Setting	Function
	1-2	AT Mode
	2-3 (Default)	ATX Mode

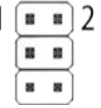
8) FPANEL

Graphic	PIN	Define	PIN	Define
	1	HDLED+	2	PWRLED+
	3	HDLED-	4	GND
	5	GND	6	PWRRSW_N
	7	RERST_BTN	8	GND
	9	NA		


9) INVENTER1

Graphic	PIN	Define
	1	+12V
	2	+12V
	3	BKLT_ON
	4	BKLT_PWM1
	5	GND
	6	GND

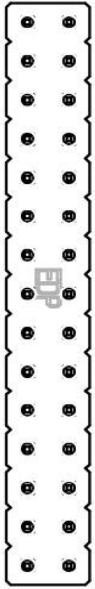
10) LCD VOL SEL

Graphic	Setting	Function
	1-2 (Default)	LCD_VDD 3.3V
	3-4	LCD_VDD 5V
	5-6	LCD_VDD 12V

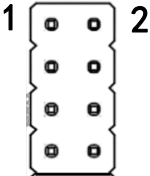
11) LVDS

Graphic	PIN	Define	PIN	Define
	1	VDD1	2	VDD2
	3	VDD3	4	GND1
	5	GND2	6	GND3
	7	A0N	8	A0P
	9	A1N	10	A1P
	11	A2N	12	A2P
	13	GND4	14	GND5
	15	ACKN	16	ACKP
	17	A3N	18	A3P
	19	B0N	20	B0N
	21	B1N	22	B1P
	23	B2N	24	B2P
	25	GND6	26	GND7
	27	BCKN	28	BCKP
29	B3N	30	B3P	

12) EDP1~2

Graphic	PIN	Define	PIN	Define
	1	BLK_PWR1	2	BLK_PWR2
	3	BLK_PWR3	4	GND1
	5	GND2	6	NC1
	7	NC2	8	NC3
	9	LCD_VCC1	10	NC4
	11	LCD_VCC2	12	PWM
	13	GND4	14	GND5
	15	VDDEN	16	AUXP_EDP
	17	EDP_HPD	18	AUXN_EDP
	19	GND3	20	GND6
	21	EDP_P3	22	EDP_N3
	23	EDP_P2	24	EDP_N2
	25	GND8	26	GND7
	27	EDP_P1	28	EDP_N1
29	EDP_P0	30	EDP_N0	

13) LVDS SEL1

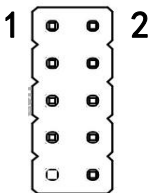
Graphic	PIN	Define	PIN	Define
	1	GPIO0	2	V3P3A_LCD
	3	GPIO1	4	V3P3A_LCD
	5	GPIO2	6	V3P3A_LCD
	7	GPIO3	8	V3P3A_LCD

LVDS resolution selection

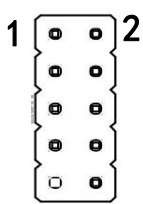
	PIN8-PIN7	PIN6-PIN5	PIN4-PIN3	PIN2-PIN1	RES
0	0	0	0	0	800*600 1 Chanel 6bit
1	0	0	0	1	800*600 1 Chanel 8bit
2	0	0	1	0	1024*600 1 Chanel 6bit
3	0	0	1	1	1024*600 1 Chanel 8bit
4	0	1	0	0	1024*768 1 Chanel 6bit
5	0	1	0	1	1024*768 1 Chanel 8bit
6	0	1	1	0	1280*800 1 Chanel 6bit
7	0	1	1	1	1280*800 1 Chanel 8bit
8	1	0	0	0	1280*1024 2 Chanel 6bit
9	1	0	0	1	1280*1024 2 Chanel 8bit
10	1	0	1	0	1366*768 1 Chanel 6bit
11	1	0	1	1	1366*768 1 Chanel 8bit
12	1	1	0	0	1680*1050 2 Chanel 8bit
13	1	0	1	1	1600*1200 2 Chanel 8bit
14	1	1	1	0	1920*1080 2 Chanel 6bit
15	1	1	1	1	1920*1080 2 Chanel 8bit

Note: PIN1-PIN2 connection is expressed as 1, on the contrary, it is 0. There are 16 cases in total.

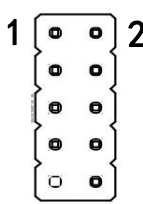
14) USB 20_1

Graphic	PIN	Define	PIN	Define
	1	+V5P0A_USB_P3	2	+V5P0A_USB_P3
	3	USB2_HEADER1_DN	4	USB2_HEADER2_DN
	5	USB2_HEADER1_DP	6	USB2_HEADER2_DP
	7	GND	8	GND
	9	NC	10	GND

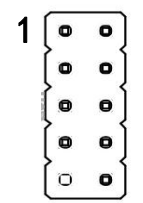
15) USB 20_2

Graphic	PIN	Define	PIN	Define
	1	+V5P0A_USB_P3	2	+V5P0A_USB_P3
	3	USB2_HEADER3_DN	4	USB2_HEADER4_DN
	5	USB2_HEADER3_DP	6	USB2_HEADER4_DP
	7	GND	8	GND
	9	NC	10	GND

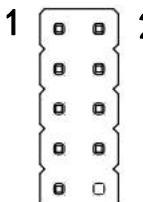
16) USB 20_3

Graphic	PIN	Define	PIN	Define
	1	+V5P0A_USB_P3	2	+V5P0A_USB_P3
	3	USB2_HEADER5_DN	4	USB2_HEADER6_DN
	5	USB2_HEADER5_DP	6	USB2_HEADER6_DP
	7	GND	8	GND
	9	NC	10	GND

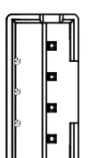
17) USB 20_4

Graphic	PIN	Define	PIN	Define
	1	+V5P0A_USB_P3	2	+V5P0A_USB_P3
	3	USB2_P6_DN	4	USB2_P0_DN
	5	USB2_P6_DP	6	USB2_P0_DP
	7	GND	8	GND
	9	NC	10	GND

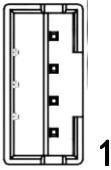
18) DEBUG CON1

Graphic	PIN	Define	PIN	Define
	1	+V3.3S	2	PLTRST_C
	3	ESPICLK	4	ESPI[0]
	5	ESPI_CS#	6	ESPI[1]
	7	ESPI[3]	8	ESPI[2]
	9	GND		

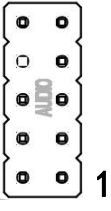
19) HDD PWR2

Graphic	PIN	Define
	1	+12V
	2	GND
	3	GND
	4	+5S

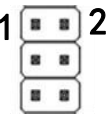
20) SPEAKER

Graphic	PIN	Define
	1	SPKR_RN_CON
	2	SPKR_RP_CON
	3	SPKR_LN_CON
	4	SPKR_LP_CON

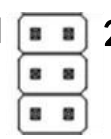
21) F_AUDIO

Graphic	PIN	Define	PIN	Define
	1	MIC2_L	2	GND_AUD
	3	MIC3_R	4	+3.3VD
	5	LINE2-R	6	MIC2_JD
	7	GND_AUD	8	NA
	9	LINE2-L	10	LINE2-JD

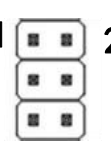
22) JSW1 (COM1)

Graphic	Setting	Function
	1-2(Default)	RS232
	3-4	RS485
	5-6	

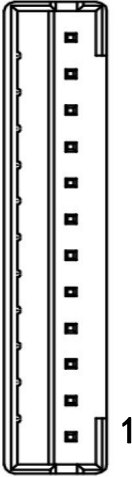
23) JSW2 (COM1)

Graphic	Setting	Function
	1-3	RS232
	2-4 (Default)	
	3-5	RS485
	4-6	

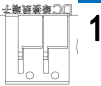
24) JPW1

Graphic	Setting	Function
	1-2	5V
	3-4	
	3-4(Default)	RI
	3-4	12V
	5-6	

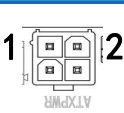
25) VGA2

Graphic	PIN	Define
	1	GND
	2	VSOUT
	3	HSOUT
	4	GND
	5	VGA_R+
	6	GND
	7	VGA_G+
	8	GND
	9	VGA_B+
	10	GND
	11	VGA_DDCSDA
	12	VGA_DDCSCL

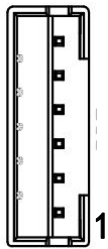
26) DC_IN2

Graphic	PIN	Define	PIN	Define
	1	GND	2	GND
	3	DC IN	4	DC IN

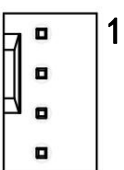
27) ATX PWR

Graphic	PIN	Define	PIN	Define
	1	GND	2	GND
	3	DC IN	4	DC IN


28) PS/2

Graphic	PIN	Define
	1	KB_CLK
	2	KB_DATA
	3	MS_CLK
	4	GND
	5	PS2_VCC
	6	MS_DAT


29) SYS_FAN1

Graphic	PIN	Define
	1	GND
	2	+V12S
	3	FAN3_TACH
	4	FAN3_PWM


30) SMB

Graphic	PIN	Define
 1	1	+5V_3V_SMBUS
	2	SMB_CLK
	3	SMB_DATA
	4	GND

31) CPU FAN

Graphic	PIN	Define
 1	1	GND
	2	+V5S
	3	FAN1_TACH
	4	FAN1_PWM

32) DRAWER

Graphic	PIN	Define
 1	1	GND
	2	DRAWER_2_R
	3	DRAWER_1_R
	4	VCC_DRAWER