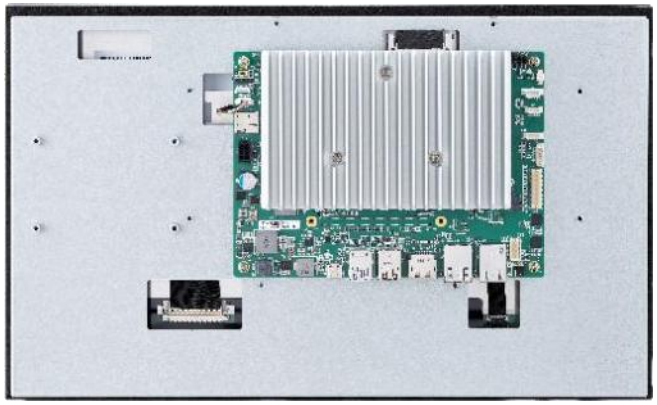
SP2-TWL Series

Intel® processor-based - Open Frame Panel PC





Features

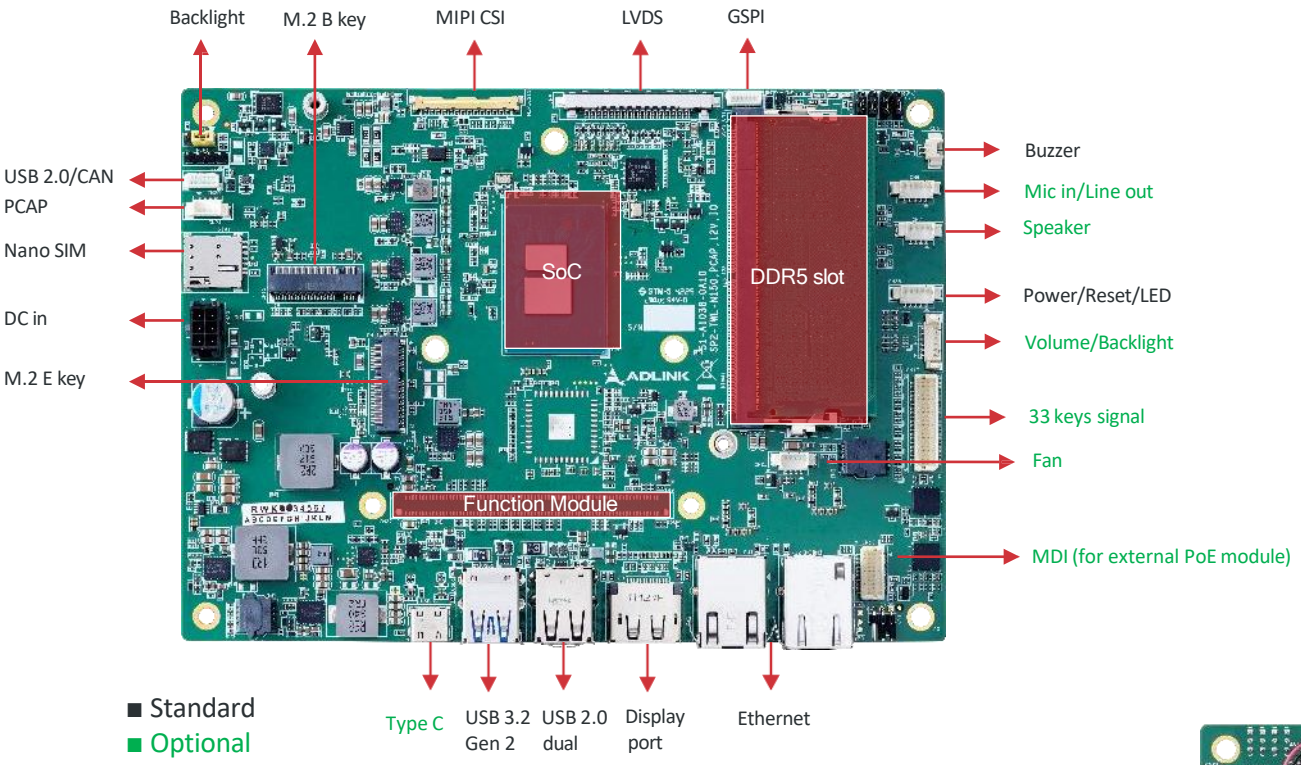
- Intel® Processor N-series, N150/N355
- 10.1"/15.6"/21.5" Projected capacitive touch screen
- 1x M.2 3042 B key support SATA or LTE module
- 1x M.2 2280 M key support SATA or NVMe Gen3 x2
- 3 independent display output, LVDS, DP and USB type C (Optional)
- **Supports 1x MIPI CSI camera** (Optional)
- Supports PoE (Power over Ethernet) (Optional)
- 12V DC in (Standard), 9-36V DC (Optional)

Software Support

- Windows® 11/10
- Linux Ubuntu 22.04 (By Request)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Advanced SP2-TWL Single Board Computer (SBC)



■ Standard
■ Optional

PCB: 180mm x 130 mm

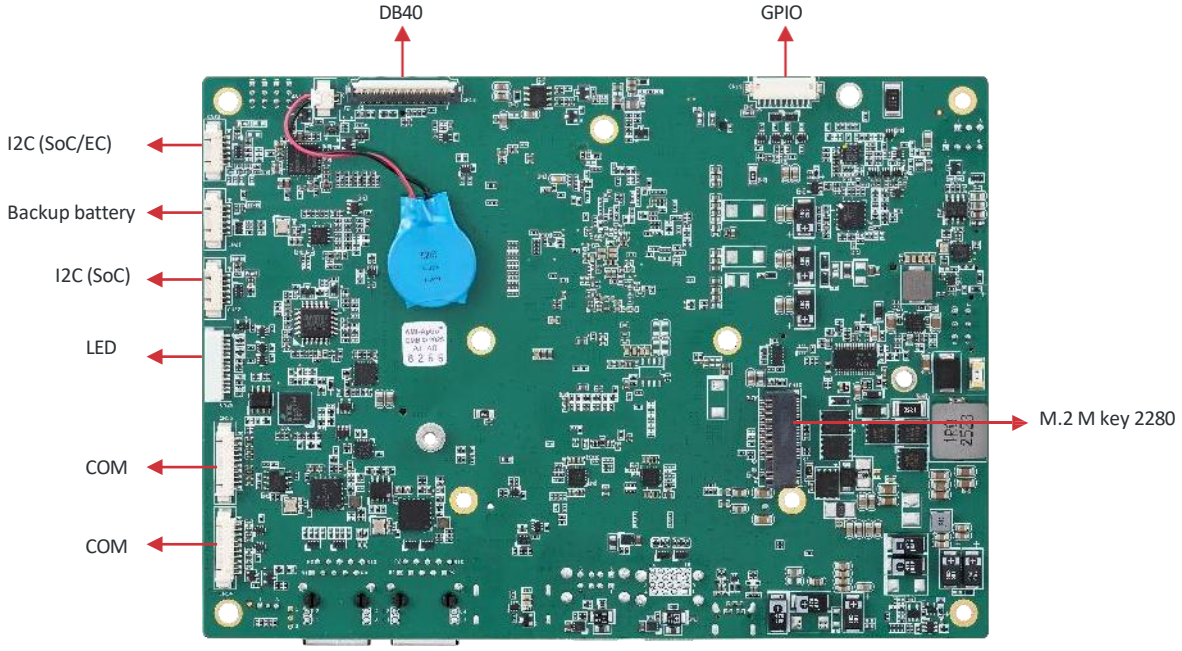


Seamless Integration



Function Module Expansion

Feature expansion through internal I/O connectors



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

		93-P1700-20XX	93-P1700-60XX	93-P1700-B0XX	Optional Accessory	
Model	**Maximum Supported Configuration**	**SP2-10WP-TWL**	**SP2-15WP-TWL**	**SP2-21WP-TWL**	**Part Number**	**Description**
Processor	Intel® Processor N150, 3.6GHz or Intel® Core™ 3 N355, 3.9GHz	N150				
Memory	1x SODIMM socket, DDR5 4800MHz , up to 16GB	8GB DDR5				
Storage	1x M.2 SATA M key 2280 SATA SSD or 2280 NVME (PCIe Gen2 x2)	128GB SSD				
	1x M.2 Bkey 2242 SATA SSD					
Chip	EC					
	TPM 2.0					
Display and Touch						
Display	Size	10.1”	15.6”	21.5”		
	Interface	LVDS	LVDS	LVDS		
	Resolution	1280 x 800	1920 x 1080	1920 x1080		
	Contrast Ratio	800:1	1000:1	1000:1		
	Brightness (Nits)	400	400	400		
	Backlight Life (Hrs)	50000	50000	50000		
	Viewing Angle (U/D/R/L)	89/89/89/89	89/89/89/89	89/89/89/89		
Touch	Touchscreen	10-point, PCAP (Projected Capacitive Touch)	10-point, PCAP (Projected Capacitive Touch)	10-point, PCAP (Projected Capacitive Touch)		
	Surface Hardness	7H	7H	7H		
	Surface Treatment	Anti-Fingerprint	Anti-Fingerprint	Anti-Fingerprint		
External I/O						
Ethernet	2x GbE (Intel® I226), RJ-45, WOL, up to 2.5GB	2 x 1 GbE				
	External 60W PoE module (Co-layout with LAN 2, optional)					
USB Ports	2x USB 3.2, Gen 1 (5 Gbps), OCP, Type A	2				
	2x USB 2.0, OCP, Type A	2				
	1x USB 3.2 Gen 1, Type C (optional)					
DisplayPort	1x DisplayPort, DisplayPort++, up to 3840x2160@60Hz	1				
	1x USB Type C, up to 3840x2160@60Hz (optional)					
Internal I/O with Wire to Connectors						
USB / CAN	1x wafer USB 2.0 client or CAN bus	1 (USB)			30-21401-0000-A0 TBD	USB 2.0 female dongle CAN Bus cable
COM	2x wafers RS-232/422/485 programmable, auto flow	2			30-21862-0010-A0	COM cable - DB9
MIPI CSI	1x connector to support MIPI-CSI 1.8V/3.3V/5V Supports 1x4 lane or 2x2 lane camera (optional)				TBD	IMX678 MIPI camera MIPI CSI cable - 36 pin
I²C wafer	2x wafers for I²C client	1			30-21353-0000-A0	I²C cable - open end
Audio	1x wafer for buzzer	1			23-52111-0A00	Buzzer cable
	1x wafer for 2x 2 watts stereo speakers (optional)				23-51635-0020	2x 2W speakers
	1x wafer for Mic-in and Line-out (optional)				30-22087-0000-A0	Mic in/Line out
LED	1x wafer for Watch dog/SATA LED, 1x load reset button, 3x user define LED	1			30-22249-0000-A0	LED cable
Expansion	1x M.2 2230 E key for wireless (Wi-Fi/Bluetooth)	1			91-95266-400E	WiFi kit - ENL-R8852BE
	1x M.2 3042 B key for 4G module (optional), share with SATA SSD	1x slot support M.2 2242 SSD				
Keys wafer	1x for 32 physical keys (optional)					
	1x LCD backlight up/down and volume up/down (optional)					
GPIO	1x wafer 8-pin GPIO	1			30-21352-0000-A0	8x GPIO - open end
SPI	1x wafer for general SPI	1			30-22282-0000-A0	SPI cable - open end
Buttons	1x wafer for Power/Reset button and 1x LED	1			30-21350-0000-A0	Power/reset button, LED
Fan	1x wafer for 12V system fan	1			32-00086-3000-A0	Fan

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

		93-P1700-20XX	93-P1700-60XX	93-P1700-20XX	Optional accessory	
Model	**Maximum Supported Configuration**	**SP2-10WP-TWL**	**SP2-15WP-TWL**	**SP2-21WP-TWL**	**Part Number**	**Description**
Power						
Power Input	AT/ATX mode (switch by BIOS)	AT mode				
	12V ±5% / 9-36V, both with OVP/UVP protection	12V				
	Power saving (power consumption <1W in S5)	Yes				
Power Connector	1x 6-pin power connector	1				
Backup batter	1x wafer to support backup battery to remind power (customization)					
Environmental						
Environmental	Operating Temperature for system	0°C to 60°C				
	Storage Temperature	-20°C to 70°C				
	Operating Humidity	Up to 95% @40°C				
	Vibration	5 ~ 500 Hz, 1 Grms for X,Y,Z axes				
	Shock	Half sine, 20G, 11ms Refer to IEC 60068-2-27				
	IP Rating	Front side IP65				
	ESD	Air: ±15kV, Contact: ±8kV, screwing grounding				
	Certifications & Compliance	CE/FCC class B FCC CFR Title 47 Part 15 Subpart B EN 55032:2015 + A11:2020; EN 55035:2017 + A11:2020; BS EN 55032:2015 + A11:2020; BS EN 55035:2017 + A11:2020; AS/NZS CISPR 32:2015 + A1:2020 EN 60601-1-2:2015 + A1:2021; IEC 60601-1-2:2014 + A1:2020 BS EN 60601-1-2:2015 + A1:2021 EN IEC 61000-3-2:2019+A1:2021 BS EN IEC 61000-3-2:2019+A1:2021 EN 61000-3-3:2013+A1:2019+A2:2021 BS EN 61000-3-3:2013+A1:2019+A2:2021 EN IEC 61000-6-4:2019 ; EN IEC 61000-6-2:2019 BS EN IEC 61000-6-4:2019 ; BS EN IEC 61000-6-2:2019 EN 50121-3-2:2016+A1:2019 BS EN 50121-3-2:2016+A1:2019				
Software						
Software	WDT	Watch Dog Timer supported				
	Operating System	Windows® 11/10, Linux				
Mechanical						
Mechanical	Construction	SGCC				
	Dimension (W x L x D)	249.66 x 168.3 x 64.4 ± 2 mm	383.15 x 232.79 x 65.1 ± 2 mm	517.46 x 309.19 x 67.6 ± 2 mm		
	Weight	2.06 ± 0.2 kg	3.02 ± 0.2 kg	4.85 ± 0.2 kg		
	Mounting	1) Panel Mounting 2) VESA mounting, support by a rear cover				

©2026 ADLINK Technology, Inc. All Rights Reserved. All pricing and specifications are subject to change without further notice.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

MIPI Camera

- **SP2-TWL Power Supply:** 1.8V / 3.3V / 5V
- **Connector:** 40-pin I-PEX connector
- **Camera Configuration:** Supports 1x4-lane or 2x2-lane camera input (By Request)
- **Camera Control Interface:** Supports V4L2 camera control interface (Ubuntu only)

ORDER NO.	TITLE	INTERFACE	SENSOR	SENSOR VENDOR	RESOLUTION MAX	FRAME RATE MAX	WDR/HDR
B-16	IMX415(4K) MIPIYUV-i 36PIN/22PIN	MIPI (YUV)	IMX415	Sony	4K (3840x2160)	30fps(4lane/36pin)	WDR (1T)
B-17	AR0822(4K) MIPIYUV-i 36PIN/22PIN	MIPI (YUV)	AR0822	onsemi	4K (3840x2160)	30fps(4lane/36pin)	HDR (2T)
B-18	IMX335(5MP) MIPIYUV-i 15PIN/22PIN/36PIN	MIPI (YUV)	IMX335	Sony	5MP (2560x1920)	30fps(4lane/36pin) 25fps(2lane/15pin)	HDR (2T)
B-19	IMX678(4K) MIPIYUV-i5, 36PIN / 22PIN	MIPI (YUV)	IMX678	Sony	4K (3840x2160)	30fps(4lane)	HDR (2T)
C-16	IMX290(2M) MIPI+SPi(YUV) 15PIN/22PIN/36PIN	MIPI (YUV)	IMX290	Sony	2M (1920x1080)	60fps	HDR (2T)
D-07	AR0234(Global shutter) MIPI+ISP(YUV)	MIPI (YUV)	AR0234	onsemi	2.3M (1920x1200)	60fps(2lane/15pin) 100fps(4lane/36pin)	WDR (1T)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

GMSL Camera

4x GMSL Camera Support with Intel® Twin Lake Platform

- Supports **4x 2MP-8MP GMSL cameras**
- Integrated **GMSL de-serializer 96724 adapter**
- Powered by **Intel® Twin Lake platform via ADLINK SP2-TWL**



[E-13] AP-AR0822-Mini-C-MAXI-YUV-I



[E-12] AP-IMX290-Mini-C-MAXI-YUV-I



[E-11] AP-AR0234-Mini-C-MAXI-YUV-I



[E-10] AP-IMX335-Mini-C-MAXI-YUV-I



[E-09] AP-IMX415-Mini-C-MAXI-YUV-I



[Z-16] ZB-De-serializer-MAX96724-Fakra(x4)-To-MIPI-36pin



***Camera modules shown are for reference only and may include third-party products. Final configuration is subject to compatibility, availability, and project validation.**

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000