



# SL1620 Qualified Component List

*PN: 538-000597-01 Rev L*

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## 1. Introduction

This document lists the qualified components for Synaptics' SL1620 (consumer grade). It includes the following lists:

- PMIC QVL
- DDR4 QVL
- DDR3L QVL
- eMMC QVL
- NAND QVL
- Wireless QVL
- DSI Panel QVL

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## 2. Qualified Component Lists

The recommended PMIC for the core power rail may vary from project to project. The customer should evaluate the core current consumption under worst-case conditions, choose the PMIC with proper output current ratings, meet the requirement Dynamic Voltage Frequency Scale and power-up sequence and ramping rate. For details, refer to Table 35 of the *SL1620 Datasheet* (PN: 505-001428-01) and the *SL1620 DVFS Application Note* (PN: 506-001423-01).

Table 1. PMIC QVL

Item	Mfg	Part Number	I <sub>max</sub> (A)	RDS (mOhm)	Adjustable Step (mV)	Default Vout (V)	Switch Frequency (MHz)	Efficiency	Type Interface	Package
1	TI	TPS628660AYCGR	6	7	5	0.8	2.4	87%@0.9V,3A	I2C	WCSP (15)
2	TI	TPS628640AYCGR	4	7	5	0.8	2.4	87%@0.9V,3A	I2C	WCSP (15)
3	TI	TPS628681	4	11	5	0.8	2.4	87%@0.9V,3A	I2C	QFN(9)
4	TI	TPS628691	6	11	5	0.8	2.4	87%@0.9V,3A	I2C	QFN(9)
5	TI	TPS62870	6	7	5	0.8	SEL OPTION	90%@0.9V,4A	I2C	RXS
6	Halo	HL7593WL06	3	40	6.25	0.8	2.4	80%@0.8V,3A	I2C	WLCSP
7	RichTek	RT5739	3	30	5	0.8	2.4	78%@0.8V,3A	I2C	WLCSP
8	Silergy	SY8827N	6	28	12.5	0.8	2.4	85%@0.8V,6A	I2C	CSP-20

**Note:** Validated with the Synaptics SoC using the Synaptics 4-layer reference design. Board-specific DDR tuning, and validation are required if the customer layout differs from the Synaptics reference PCB.

Table 2. DDR4 QVL

Item	Mfg	Part Number	Capacity	Width	Device DDR Type - Speed	Qualified DDR Type - Speed
1	Samsung	K4A8G165WC-BCTD	8Gb	x16	DDR4-2666	DDR4-2133
2	Samsung	K4A8G165WG-BCWE	8Gb	x16	DDR4-3200	DDR4-2133
3	Samsung	K4A4G165WG-BCWE	4Gb	x16	DDR4-3200	DDR4-2133
4	DW Micro	DWSE562FMCO	8Gb	x16	DDR4-2666	DDR4-2133
5	Samsung	K4A4G165WF-BCTD	4Gb	x16	DDR4-2666	DDR4-2133
6	DW Micro	DWCA662FECO	4Gb	x16	DDR4-2666	DDR4-2133
7	GigaDevice	GDQ2BFAA-CE	4Gb	x16	DDR4-2400	DDR4-2133
8	Micron	MT40A1G16TB-062E:F	16Gb	x16	DDR4-3200	DDR4-2133
9	Samsung	K4A8G165WB-BCRC	8Gb	x16	DDR4-2400	DDR4-2133
10	Nanya	NT5AD512M16C4-JR	8Gb	x16	DDR4-3200	DDR4-2133

Table 3. DDR3L QVL

Item	Mfg	Part Number	Capacity	Width	Device DDR Type - Speed	Qualified DDR Type - Speed
1	Nanya	NT5CC256M16ER-EKI	4Gb	X16	DDR3(L)-1866	DDR3L-1866

Table 4. eMMC QVL

Item	Mfg	Part Number	Capacity
1	Samsung	KLM8G1GETF-B041	8GB
2	Kioxia	THGBMUG6C1LBAIL	8GB
3	Phison	PSE2AOSL-O8GI	8GB
4	Micron	MTFC16GAPALBH-IT TR	16GB
5	Foresee	FEMDNN008G-C9A39	8GB
6	Kingston	EMMC08G-MV36-GA02	8GB
7	Foresee	FEMDNN016G-C9A43	16BG
8	Micron	MTFC32GBCAQTC-IT	32GB

**Note:** SL1620 requires eMMC's RPMB feature for security storage functions. The eMMC devices in Table 4 are verified with SL1620, with RPMB feature included.

Table 5. NAND QVL

Item	Mfg	Part Number	Capacity
1	Kioxia	TH58NYG3SOHBAI4	8Gb
2	Macronix	MX30UF4G28AD-XKI	4Gb
3	SkyHigh Memory	S34MSO2G2	2Gb
4	ESMT	F59D4G81KA-45T	4Gb
5	GigaDevice	GD9FS4G8F3A	8Gb
6	GigaDevice	GD9FS4G8F4DLGI	4Gb

Table 6. Wireless QVL

Item	WiFi Vendor	WiFi Part Number	WiFi Standard	Tx/Rx Stream	Interface	Ampak M.2 Module P/N	M.2 module included in Machina shipment? (Y/N)
1	Synaptics	SYN43456	WiFi 5	1x1	SDIO3.0	N/A	N/A
2	Synaptics	SYN43711	WiFi 6E	1x1	SDIO3.0	AP12611_M2	Yes

**Note:** Contact Synaptics for additional Wi-Fi options.

Table 7. DSI Panel QVL

Item	Panel Vendor	Part Number	Disp. Size (Inch)	Resolution	Driver IC	MIPI Mode	MIPI Channels	Display Mode	Connector Interface	Touch Interface
1	Waveshare	HC070TG35057-C04V01	7	800 × 3(RGB) × 480	—	Video	2 ch.	Landscape	15-Pin FPC	I2C
2	ODS-FK01	VC4-KMS-V3D	7	800 × 3(RGB) × 480	—	Video	2 ch.	Landscape	15-Pin FPC	I2C

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### 3. Revision History

Last Modified	Revision	Description
December 22, 2023	1	Initial release.
May 14, 2024	2	Updated the following tables: <ul style="list-style-type: none"> <li>• Table 1. PMIC QVL</li> <li>• Table 2. DDR4 QVL</li> <li>• Table 3. DDR3L QVL</li> <li>• Table 4. eMMC QVL</li> <li>• Table 5. NAND QVL</li> </ul>
June 20, 2024	A	Initial public release.
June 28, 2024	B	Added SYN43711 part to Table 6. Wireless QVL.
August 23, 2024	C	Added Samsung part to Table 2. DDR4 QVL.
October 14, 2024	D	Added Samsung part (item #5) to Table 2. DDR4 QVL.
November 14, 2024	E	Added DW Micro part (item #6) to Table 2. DDR4 QVL and Foresee part (item #5) to Table 4. eMMC QVL.
November 19, 2024	F	Added Table 7. DSI Panel QVL.
February 11, 2025	G	Added item #6 (Kingston) to Table 4. eMMC QVL.
March 24, 2025	H	Updated Table 5. NAND QVL to include Macronix.
April 20, 2025	I	Updates to Table 2. DDR4 QVL and Table 4. eMMC QVL.
June 09, 2025	J	Updated Table 5. NAND QVL with additional part numbers.
June 27, 2025	K	Added Samsung (item #9) and Nanya (item #10) to Table 2. DDR4 QVL.
November 11, 2025	L	Revised Table 1, Table 3 and Table 6.



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