



SL1620 Qualified Component List

PN: 538-000597-01 Rev K

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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 _{max} (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 |

Table 2. DDR4 QVL

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

Table 3. DDR3L QVL

| Item | Mfg | Part Number | Capacity | Width | Device DDR Type - Speed | Board Layers | Qualified DDR Type - Speed |
|------|-------|-------------------|----------|-------|-------------------------|--------------|----------------------------|
| 1 | Nanya | NT5CC256M16ER-EKI | 4Gb | X16 | DDR3(L)-1866 | 6 | 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 |
|------|-------------|------------------|---------------|--------------|-----------|
| 1 | Synaptics | SYN43456 | WiFi 5 | 1x1 | SDIO3.0 |
| 2 | Synaptics | SYN43711 | WiFi 6E | 1x1 | SDIO3.0 |

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"> • Table 1. PMIC QVL • Table 2. DDR4 QVL • • • Table 3. DDR3L QVL • Table 4. eMMC QVL • Table 5. NAND QVL |
| 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. |



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