SL1640 Qualified Component List

PN: 538-000599-01 Rev I

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1. Introduction

This document lists the qualified components for Synaptics' SL1640 consumer. It includes the following lists:

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

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 DVFS and power-up sequence and ramping rate. For details, refer to Table 58 of the *SL1640 Datasheet* (PN: 505-001415-01) and the *SL1640 DVFS Application Note* (PN: 506-001368-01).

Table 1. PMIC QVL

Item	Mfg	Part Number	Imax(A)	RDS (mOhm)	Adjustable Step (mV)	Default Vout (V)	Switch Frequency (MHz)	Efficiency	Type Interface	Package
1	Halo	HL7593WL06	3	40	6.25	0.8	2.4	80%@0.8V,3A	I2C	WLCSP
2	Silergy	SY8827N	6	28	12.5	0.8	2.4	85%@0.8V,6A	I2C	CSP-20
3	RichTek	RT5739	3.5	30	5	0.8	2.4	78%@0.8V,3A	I2C	15-Ball WL-CSP
4	TI	TPS628681	4	11	5	0.8	2.4	87%@0.9V,3A	I2C	9-Pin QFN

Table 2. DDR4 QVL

Item	Mfg	Part Number	Capacity	Width	Device DDR Type - Speed	Board Layers	Qualified DDR Type - Speed
1	Hynix	H5AN8G6NDJR-VKC	8Gb	x16	DDR4-2666	4	DDR4-2666
2	Hynix	H5AN8G6NDJR-XNC	8Gb	x16	DDR4-3200	4	DDR4-3200
3	Hynix	H5AG36EXNDX017N	8Gb	x16	DDR4-3200	4	DDR4-3200
4	Micron	MT40A512M16TB-062E:J	8Gb	x16	DDR4-3200	4	DDR4-3200
5	Micron	MT40A512M16TB-062E:R	8Gb	x16	DDR4-3200	4	DDR4-3200
6	Micron	MT40A512M16LY-062E:E	8Gb	x16	DDR4-3200	4	DDR4-3200
7	Micron	MT40A1G16TB-062E:F	16Gb	x16	DDR4-3200	6	DDR4-3200
8	Nanya	NT5AD512M16C4-JR	8Gb	x16	DDR4-3200	4	DDR4-3200
9	Samsung	K4A8G165WC-BCTD	8Gb	x16	DDR4-2666	4	DDR4-2666
10	Samsung	K4A8G165WC-BCWE	8Gb	x16	DDR4-3200	6	DDR4-3200
11	Samsung	K4A8G165WC-BCWE	8Gb	x16	DDR4-3200	4	DDR4-3200
12	Hynix	H5ANAG6NCJR-XNC	16Gb	x16	DDR4-3200	4	DDR4-3200
13	ESMT	M16U8G16512A-NLBG2W	8Gb	x16	DDR4-3200	4	DDR4-3200
14	Samsung	K4A8G165WG-BCWE	8Gb	x16	DDR4-3200	4	DDR4-3200
15	Rayson	RS512M16Z2DD-62DT	8Gb	x16	DDR4-3200	6	DDR4-3200
16	DW Micro	DWSE562FMC0	8Gb	x16	DDR4-3200	4	DDR4-3200
17	Ramoster	RH45126D-32F	8Gb	x16	DDR4-3200	6	DDR4-3200

Table 3. LPDDR4 QVL

Item	Mfg	Part Number	Capacity	Width	Device DDR Type – Speed	Board Layers	Qualified DDR Type – Speed
1	Micron	MT53E512M32D1NP-046-WTB	16Gb	x32	LPDDR4-3733	4	LPDDR4-3733
2	Micron	MT53E512M32D1ZW-046WT	16Gb	x32	LPDDR4-3733	4	LPDDR4-3733
3	Micron	MT53E1G32D2FW-046 WT:C	32Gb	x32	LPDDR4-4266	4	LPDDR4-3733
4	RocFour	MC4X512M32AQ200A-42T	16Gb	x32	LPDDR4-4266	6	LPDDR4-3733
5	CXMT	CXDB4CBAM-MK-A	16Gb	x32	LPDDR4-3733	6	LPDDR4-3733

Table 4. eMMC QVL

Item	Mfg	Part Number	Capacity
1	Hynix	H26M41208HPRN	8GB
2	ISSI	IS21TF08G-JCLI	8GB
3	ISSI	IS21ES08GA-JCL	8GB
4	Kioxia	THGBMJG6C1LBAIL	8GB
5	Kioxia	THGAMRG7T13BAIL	16GB
6	Kioxia	THGAMVG7T13BAIL	16GB
7	Kioxia	THGBMUG6C1LBAIL	8GB
8	Micron	MTFC32GAZAQHD-IT	32GB
9	Micron	MTFC8GAMALBH-IT	8GB
10	Samsung	KLM8G1GETF-B041	8GB
11	Samsung	KLMAG1JETD-B041	16GB
12	Samsung	KLMBG2JETD-B041	32GB
13	SanDisk	SDINBDA6-64G	64GB
14	SanDisk	SDINBDG4-8G	8GB
15	SKhynix	H26M51OO2KPR	16GB
16	ESMT	FC51J32SJTS1A-2.5BWGE2A	32GB
17	ESMT	FC51J16SJTS1A-2.5BWGE2AF	16GB
18	ESMT	FC51L08SFY3A-2.5BWGE	8GB
19	Kingston	EMMC16G-PJ30	16GB
20	Foresee	FEMDNN016G-A3A55	16GB
21	Foresee	FEMDNN008G-A3A55	8GB
22	SiliconGo	SGM8000C-S21BAG	16GB
23	Foresee	FEMDNN016G-C9A43	16GB
24	SanDisk	SDINBDG4-16G	16GB
25	SCY	E32GCYNB1ABE00	32GB
26	Rayson	RS70B16G4S15G	16GB
27	Phison	PTE4A0SP-32GE	32GB

Note: SL1640 requires eMMC's RPMB feature for security storage functions. The eMMC devices in Table 4 are verified with SL1640, with RPMB feature included.

Table 5. Wireless QVL

Item	WiFi Vendor	WiFi Part Number	WiFi Standard	Tx/Rx Stream	Interface
1	Synaptics	SYN43456	WiFi 5	1x1	SDIO3.0
2	Synaptics	SYN43752	WiFi 6	2x2	PCIe
3	Synaptics	SYN43598	WiFi 5	2x2	PCIe
4	Synaptics	SYN43756	WiFi 6E	2x2	PCIe

Note: Contact Synaptics for additional WIFI options.

Table 6. 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

3. Revision History

Last Modified	Revision	Description
September 2023	A	Initial release.
June 2024	B	Initial public release.
September 2024	C	Updated Table 4. eMMC QVL.
October 2024	D	Added Rayson part (item #15) to Table 2. Added SanDisk part (item #24) to Table 4.
November 2024	E	Added Table 6. DSI Panel QVL.
January 2025	F	Added RocFour (item #4) and CXMT (item #5) parts to Table 3. LPDDR4 QVL. Added SCY (item #25) and Rayson (item #26) parts to Table 4. eMMC QVL.
June 2025	G	Updated Board Layers (item #15) in Table 2. DDR4 QVL. Added DW Micro (item #16) to Table 2. DDR4 QVL.
July 2025	H	Added item #27 (Phison) to Table 4. eMMC QVL.
August 2025	I	Updated Table 2 DDR4 QVL.

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