



Hi3798M V100 Cost Reduction Design

User Guide

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About This Document

Purpose

This document describes the cost reduction hardware design for the Hi3798M V100 boards.

Related Version

The following table lists the product version related to this document.

Product Name	Version
Hi3798M	V1XX

Intended Audience

This document is intended for:

- Technical support personnel
- Hardware development engineers

Change History

Changes between document issues are cumulative. Therefore, the latest document issue contains all changes made in previous issues.

Issue 00B01 (2014-12-16)

This issue is the first draft release.



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1 Overview

When the Hi3798M V100 demo board is upgraded from VER.D to VER.E, the cost reduction design is used. Some originally soldered capacitors are now not connected, and some electromagnetic interference (EMI) beads are replaced with 0 Ω resistors. If you need to reduce the cost, modify the BOM based on the cost reduction design of the board without modifying the printed circuit board (PCB).



2 Hi3798M DMO1A

Table 2-1 describes the differences between the BOMs of the Hi3798M DMO1A board before and after the cost reduction design.

Table 2-1 Differences between the BOMs of the Hi3798M DMO1A board before and after the cost reduction design

Item	Original BOM (VER.D)	Cost Reduction BOM (VER.E)
Capacitors at the Hi3798M V100 end	C264, C98, C99, C97, C101, C102, C104, C137, C20, C198, C245, C108, C193, C127, C189, C132, C48, C85, C194, C182, C336, C78, C251, C57, C94, C96 Soldered by default	C264, C98, C99, C97, C101, C102, C104, C137, C20, C198, C245, C108, C193, C127, C189, C132, C48, C85, C194, C182, C336, C78, C251, C57, C94, C96 Not soldered
	C135 = 2.2 μF	C135 = 10 nF
Capacitors at the DDR end	C319, C228, C233, C226, C232, C234, C235, C238, C231, C240, C224, C225, C236, C315, C215, C216, C201, C206, C220, C218, C219, C202, C203, C205, C209, C210 Soldered by default	C319, C228, C233, C226, C232, C234, C235, C238, C231, C240, C224, C225, C236, C315, C215, C216, C201, C206, C220, C218, C219, C202, C203, C205, C209, C210 Not soldered
Capacitors at the eMMC end	C63, C93, C323, C324 Soldered by default	C63, C93, C323, C324 Not soldered
EMI beads at the Hi3798M V100 end	LB18, LB11, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 (EMI beads) Soldered by default	LB18, LB11, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 Replaced with 0 Ω resistors
Capacitors at the USB switch end	C52, C75 Soldered by default	C52, C75 Not soldered
Capacitor at the DC-DC end	C68 Soldered by default	C68 Not soldered



Item	Original BOM (VER.D)	Cost Reduction BOM (VER.E)
Capacitor at the IR end	C177 Soldered by default	C177 Not soldered



3 Hi3798M DMO1B

Table 3-1 describes the differences between the BOMs of the Hi3798M DMO1B board before and after the cost reduction design.

Table 3-1 Differences between the BOMs of the Hi3798M DMO1B board before and after the cost reduction design

Item	Original BOM (VER.D)	Cost Reduction BOM (VER.E)
Capacitors at the Hi3798M V100 end	C264, C98, C99, C97, C102, C104, C137, C20, C198, C245, C108, C193, C120, C189, C31, C119, C85, C194, C182, C336, C78, C251, C57 Soldered by default	C264, C98, C99, C97, C102, C104, C137, C20, C198, C245, C108, C193, C120, C189, C31, C119, C85, C194, C182, C336, C78, C251, C57 Not soldered
	C132 = 1 μF	C132 = 10 nF
Capacitors at the DDR end	C211, C228, C206, C213, C203, C315, C232, C219, C233, C239, C234, C235, C236, C230, C215, C106, C319 Soldered by default	C211, C228, C206, C213, C203, C315, C232, C219, C233, C239, C234, C235, C236, C230, C215, C106, C319 Not soldered
	C237 = C214 = C212 = C238 = 100 nF	C237 = C214 = C212 = C238 = 470 nF
Capacitors at the eMMC end	C63, C93, C323, C324 Soldered by default	C63, C93, C323, C324 Not soldered
EMI beads at the Hi3798M V100 end	LB18, LB11, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 (EMI beads) Soldered by default	LB18, LB11, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 Replaced with 0 Ω resistors
Capacitors at the USB switch end	C265, C52 Soldered by default	C265, C52 Not soldered
Capacitor at the IR end	C177 Soldered by default	C177 Not soldered



4 Hi3798M DMO1C

Table 4-1 describes the differences between the BOMs of the Hi3798M DMO1C board before and after the cost reduction design.

Table 4-1 Differences between the BOMs of the Hi3798M DMO1C board before and after the cost reduction design

Item	Original BOM (VER.D)	Cost Reduction BOM (VER.E)
Capacitors at the Hi3798M V100 end	C270, C98, C99, C100, C101, C103, C104, C137, C20, C198, C199, C108, C19, C120, C189, C31, C119, C85, C194, C182, C336, C78, C251, C57 Soldered by default	C270, C98, C99, C100, C101, C103, C104, C137, C20, C198, C199, C108, C19, C120, C189, C31, C119, C85, C194, C182, C336, C78, C251, C57 Not soldered
	C132 = 1 μF	C132 = 10 nF
Capacitors at the DDR end	C211, C216, C206, C220, C203, C315, C232, C229, C227, C231, C234, C235, C236, C237, C240, C258, C319 Soldered by default	C211, C216, C206, C220, C203, C315, C232, C229, C227, C231, C234, C235, C236, C237, C240, C258, C319 Not soldered
	C213 = C214 = C233 = C238 = 100 nF	C213 = C214 = C233 = C238 = 470 nF
Capacitors at the eMMC end	C63, C93, C323, C324 Soldered by default	C63, C93, C323, C324 Not soldered
EMI beads at the Hi3798M V100 end	LB18, LB113, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 (EMI beads) Soldered by default	LB18, LB113, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 Replaced with 0 Ω resistors
Capacitors at the USB switch end	C265, C372 Soldered by default	C265, C372 Not soldered
Capacitor at the IR end	C177 Soldered by default	C177 Not soldered



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Hi3798M DMO1D

Table 5-1 describes the differences between the BOMs of the Hi3798M DMO1D board before and after the cost reduction design.

Table 5-1 Differences between the BOMs of the Hi3798M DMO1D board before and after the cost reduction design

Item	Original BOM (VER.D)	Cost Reduction BOM (VER.E)
Capacitors at the Hi3798M V100 end	C264, C98, C99, C97, C101, C102, C104, C137, C20, C198, C245, C108, C193, C127, C189, C132, C48, C85, C194, C182, C336, C78, C251, C57, C94, C96 Soldered by default	C264, C98, C99, C97, C101, C102, C104, C137, C20, C198, C245, C108, C193, C127, C189, C132, C48, C85, C194, C182, C336, C78, C251, C57, C94, C96 Not soldered
	C135 = 2.2 μ F	C135 = 10 nF
Capacitors at the eMMC end	C63, C93, C323, C324 Soldered by default	C63, C93, C323, C324 Not soldered
EMI beads at the Hi3798M V100 end	LB18, LB11, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 (EMI beads) Soldered by default	LB18, LB11, LB17, LB8, LB14, LB35, LB20, LB31, LB1, LB7, LB21, LB22 Replaced with 0 Ω resistors
Capacitors at the USB switch end	C52, C75 Soldered by default	C52, C75 Not soldered
Capacitor at the DC-DC end	C68 Soldered by default	C68 Not soldered
Capacitor at the IR end	C177 Soldered by default	C177 Not soldered