Customer Evaluation Board [MAC57D5-516DC]

Table of Contents

Revision Information

Rev	Date	Designer	Comments
0.1		Jesus Sanchez	Start of capture, Working version
X1		Jesus Sanchez	1st release for internal review (Complete Board)
X2		Jesus Sanchez	Version sent to Pre Layout, incorporating fixes from review
A		Jesus Sanchez	Post Layout (Back Annotated). Matches PCB RevA

C A U T I O N :

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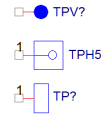
3 Different test points used in design:

TPVx - Through Hole Pad small

TPHx - Through Hile Pad Large (for standard 0.1" header). Also used on IO Matrix (IOMx)

TPX - Surface Mount Wire Loop



Notes:

- All components and board processes are to be ROHS compliant
- All small capacitors are 0402 unless otherwise stated
- All resistors are 0603 5% 0.1w unless otherwise stated. All zero ohm links are 0603
- All connectors and headers are denoted Px and are 2.54mm pitch unless otherwise stated
- All jumpers are denoted Jx. Jumpers are 2mm pitch
- Jumper default positions are shown in the schematics. For 3 way jumpers, default is always posn 1-2.
  2 Pin jumpers generally have the "source" on pin 1.
- All switches are denoted SWx
- All test points (SMT wire loop style) are denoted TPx
- Test point Vias (just through hole pads) are denoted TPVx

Signals (ports) have not been routed via busses as this makes it harder to determine where each signal goes.

User notes are given throughtout the schematics.

Specific PCB LAYOUT notes are detailed in ITALICS

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Designer: Jesus Sanchez - B42964	Drawing Title: MAC57D5-516DC		
Drawn by: Jesus Sanchez - B42964	Page Title: TITLE and NOTES		
Approved: Ioseph Martinez	Size B	Document Number SCH-28806 PDF: SPF-28806	Rev A
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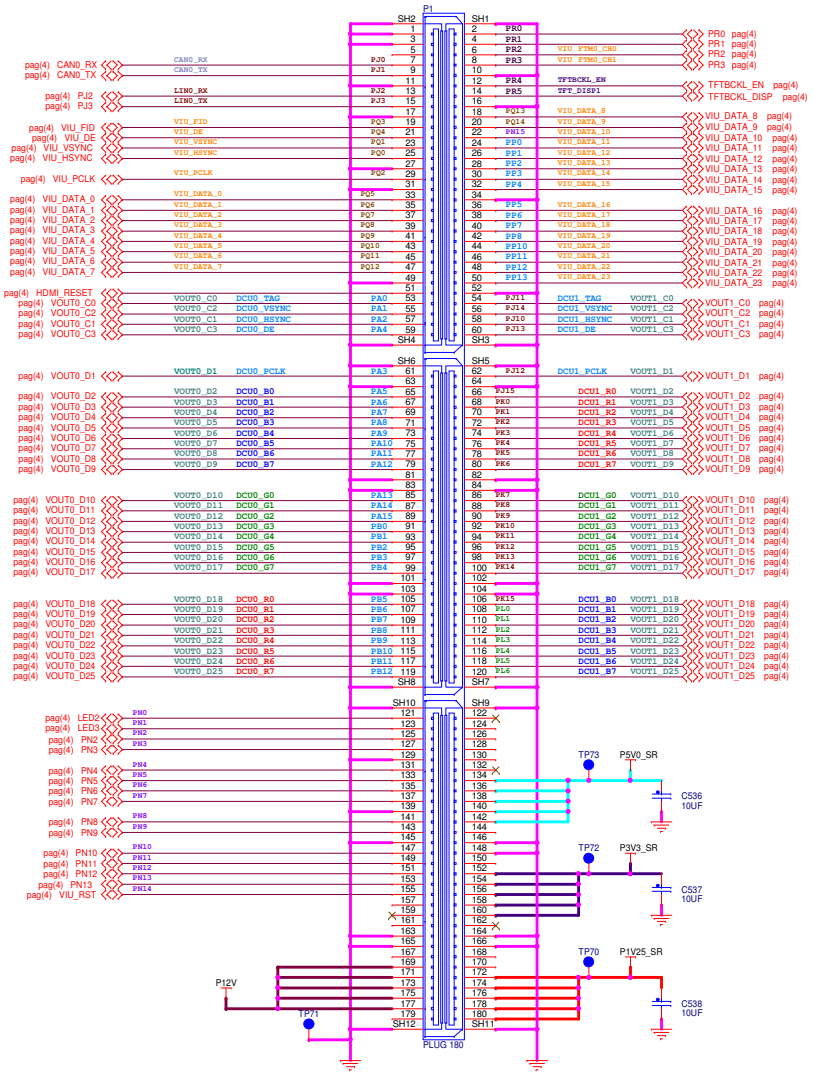

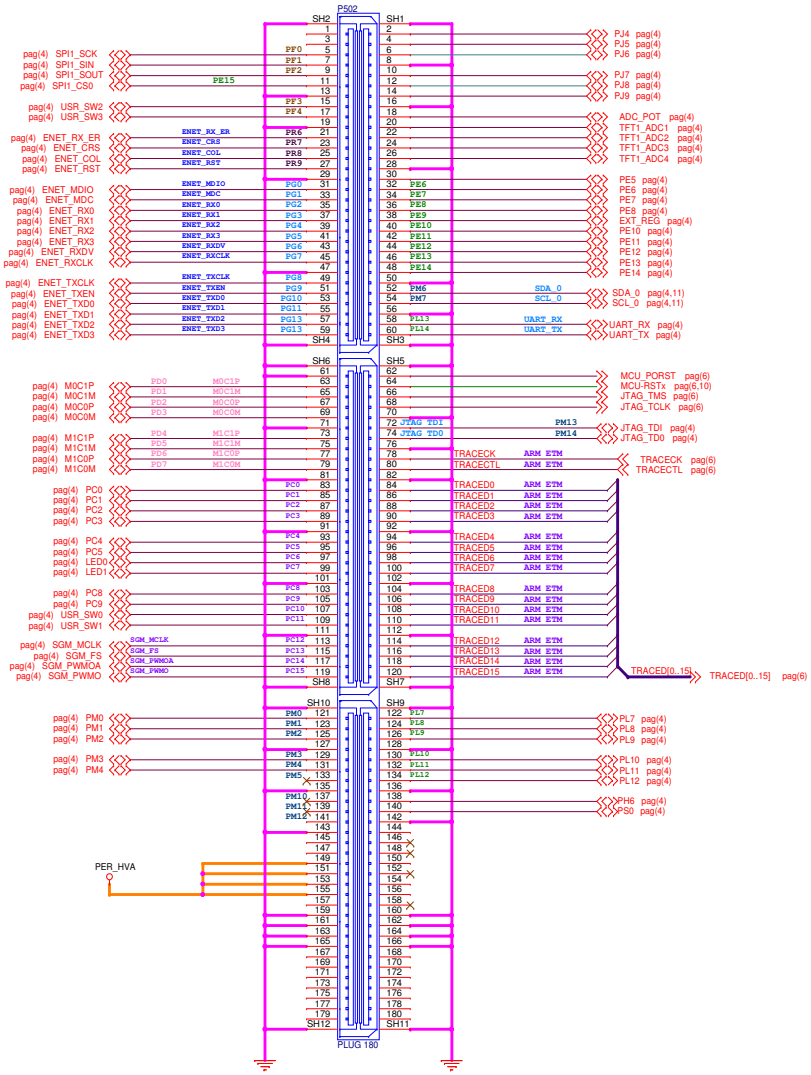

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DC Connectors

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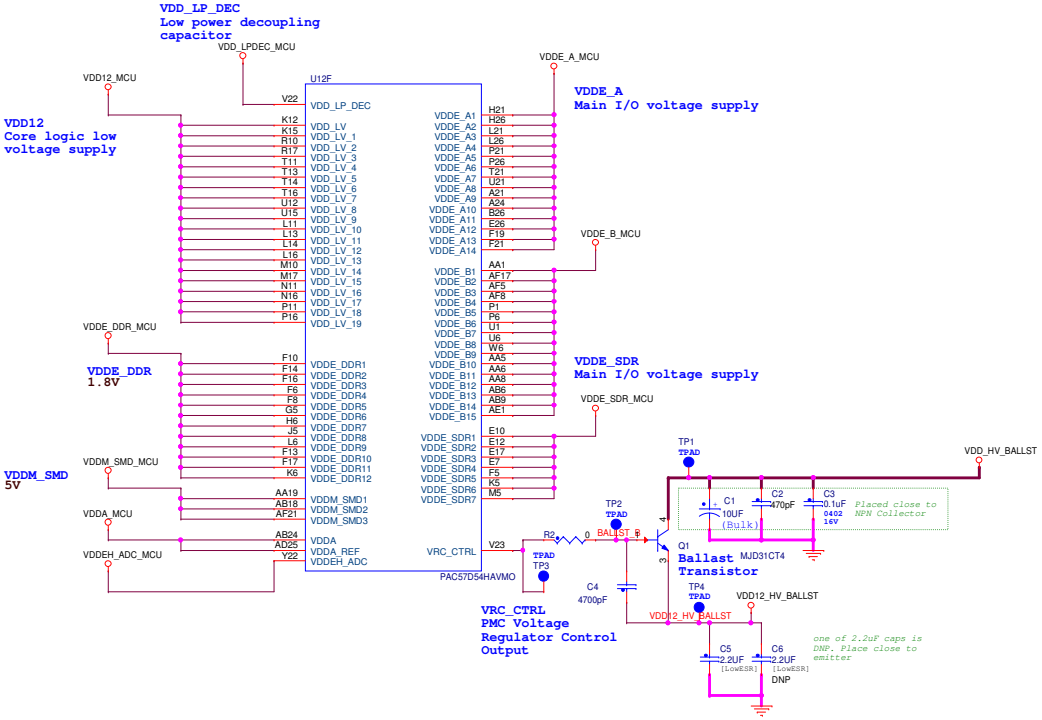
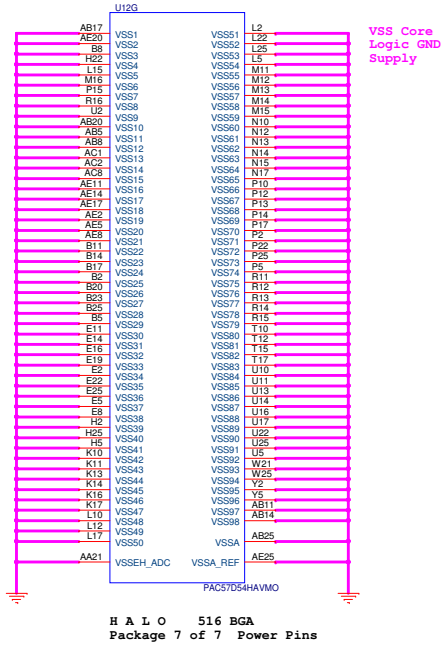
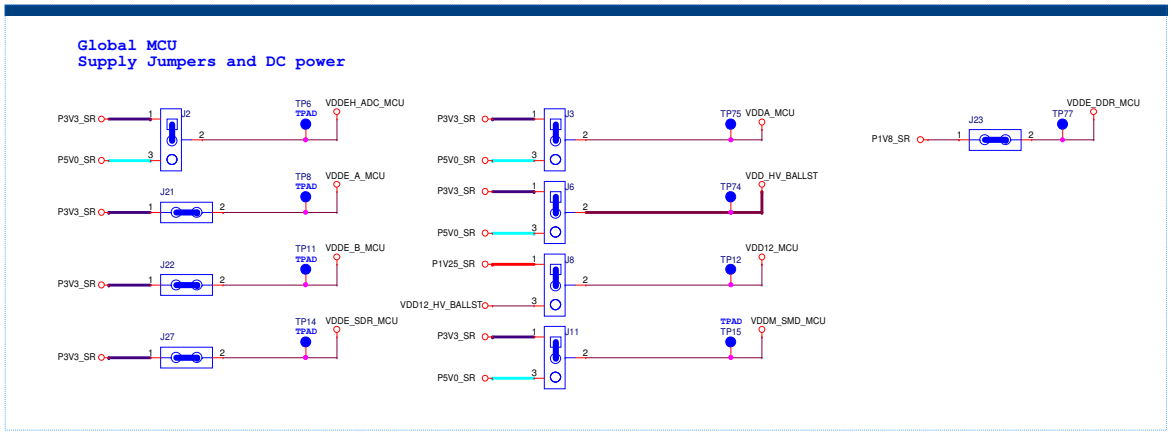




H A L O 516 BGA
Package 7 of 7 Power Pins



Function	Voltage Range	Description
VDD12	1.2V – 1.32V	Core Logic Low Voltage Supply
VSS	GND	Core Logic & HV Ground Supply
VDDE_A	3.0V – 5.5V	I/O Segment A Voltage Supply
VDDE_B	3.0V – 5.5V	I/O Segment B Voltage Supply
VDDE_SDR	3.0V – 5.5V	I/O Segment C Voltage Supply
VDDE_DDR	1.7V – 1.9V	DDR2 DRAM I/O Segment Voltage Supply
VDD0P9_DDR	0.85V – 0.95V	0.9V DDR2 Supply Voltage
VDDM_SMD	3.0V – 5.5V	Stepper Motor Drive Voltage Supply
VPP_TEST	0V	Flash Test Supply / Test Mode Input
VDDA_REF	3.0V – 5.5V	SAR ADC High Voltage Reference
VSSA_REF	0V	SAR ADC Low Voltage Reference
VDDEH_ADC	3.0V – 5.5V	SAR ADC I/O Segment Voltage Supply
VSSEH_ADC	GND	SAR ADCI/O Segment Ground
VDDA	3.0V – 5.5V	SAR ADC Voltage Supply
VSSA	GNDA	SAR ADC Ground Supply
VDD_LP_DEC	GND	VDD_LV Decoupling Capacitor
VRC_CTRL	–	PMC Voltage Regulator Control Output

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Automotive Microcontroller Applications. MEXICO

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HALO 516BGA

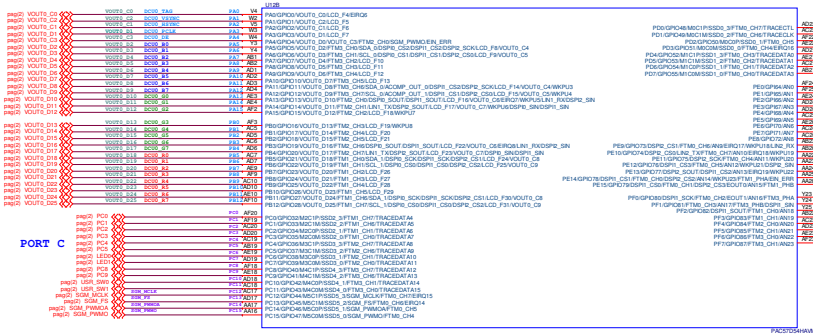
PORT A

PORT B

PORT C

PORT E

PORT F



PORT M

PORT N

PORT R

PORT S

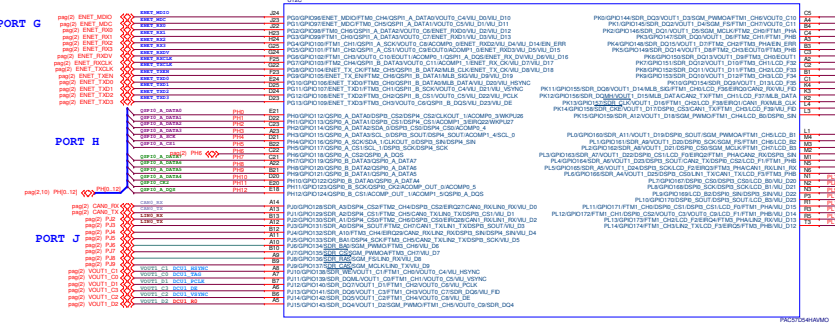
PORT G

PORT H

PORT J

PORT K

PORT L



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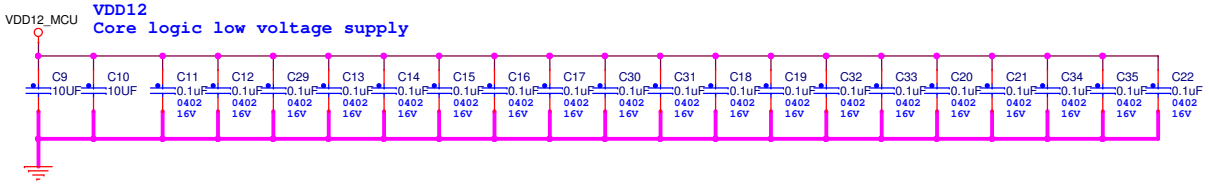
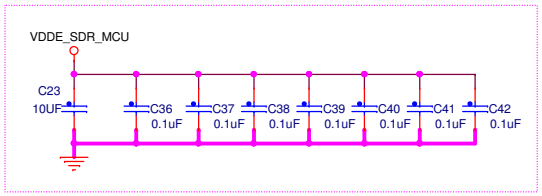
HALO MCU Decoupling and bulk storage

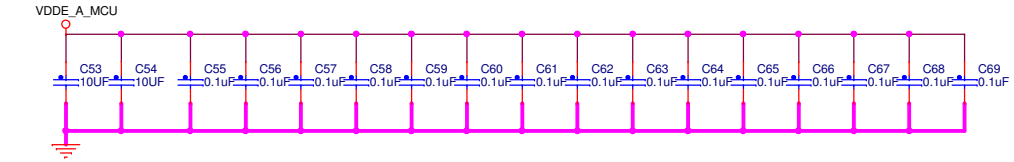
VDD12
Core logic low voltage supply



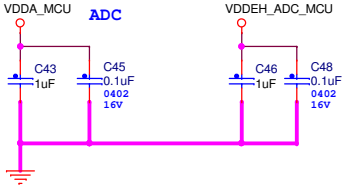
VDDE SDR

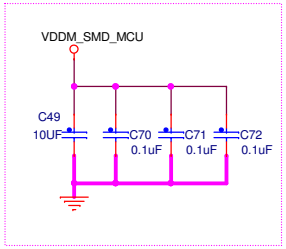


VDDE A

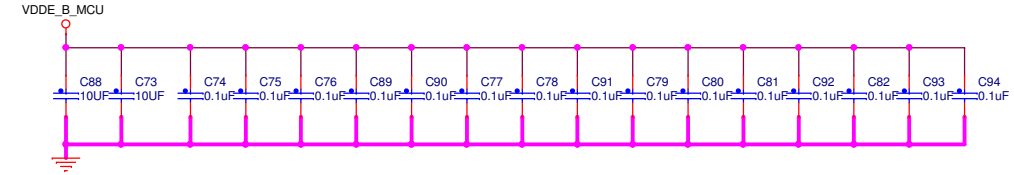


ADC

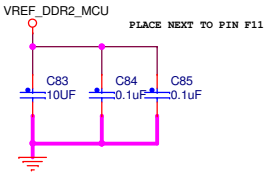




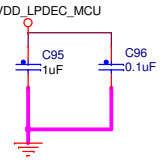
VDDE B



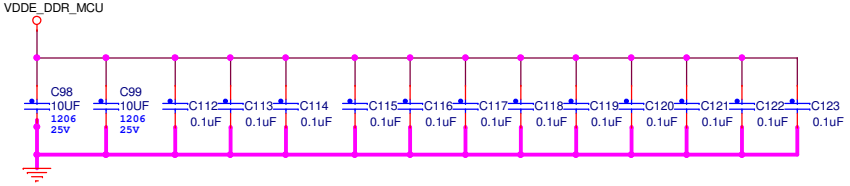
VDDP9_DDR_MCU
VREF_DDR2_MCU



VDD_LP_DEC
Low power decoupling capacitors



VDDE_DDR



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Drawing Title: **MAC57D5-516DC**

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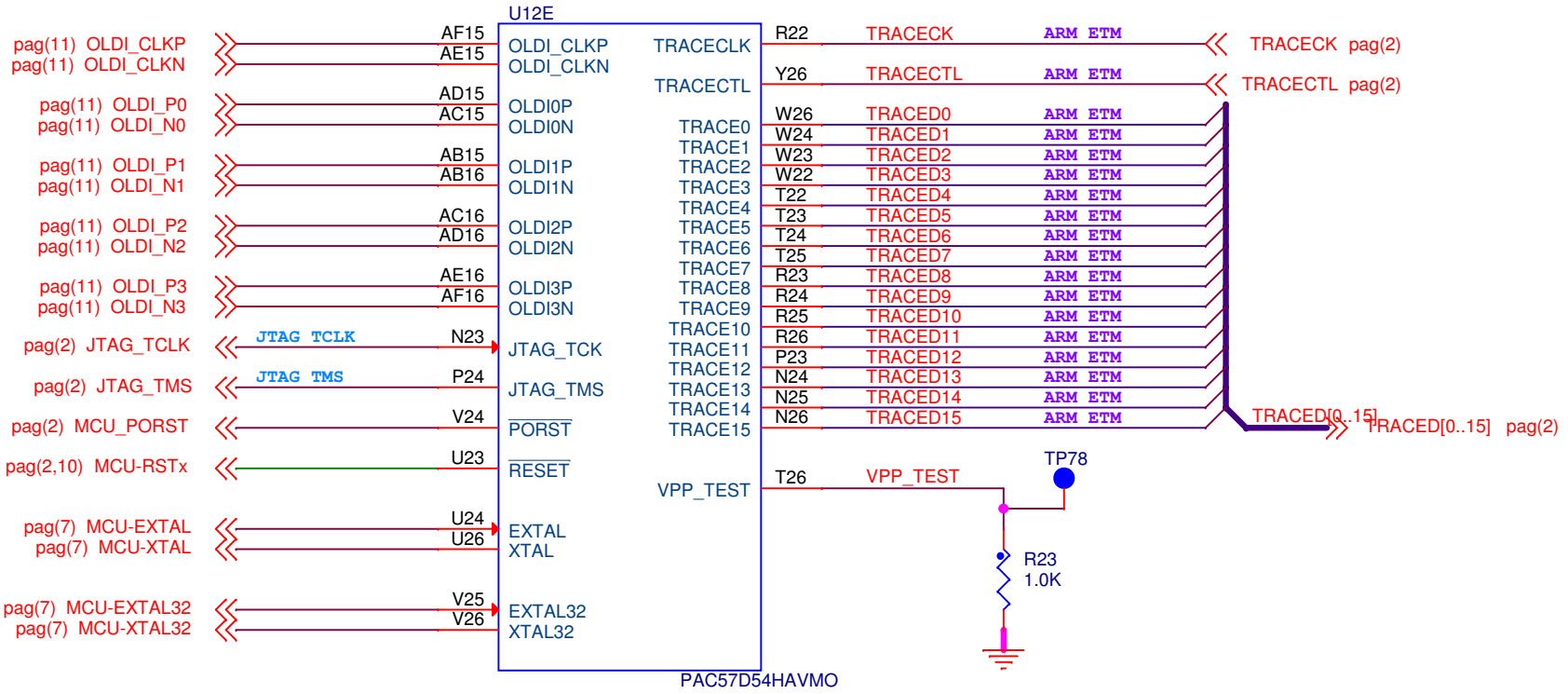

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MCU CLK

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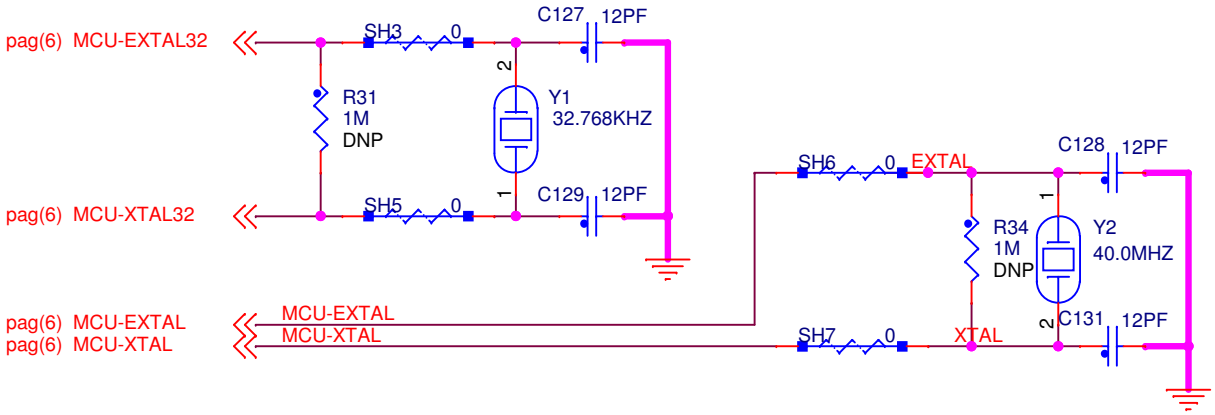
Oscillators and External Clock



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CLK

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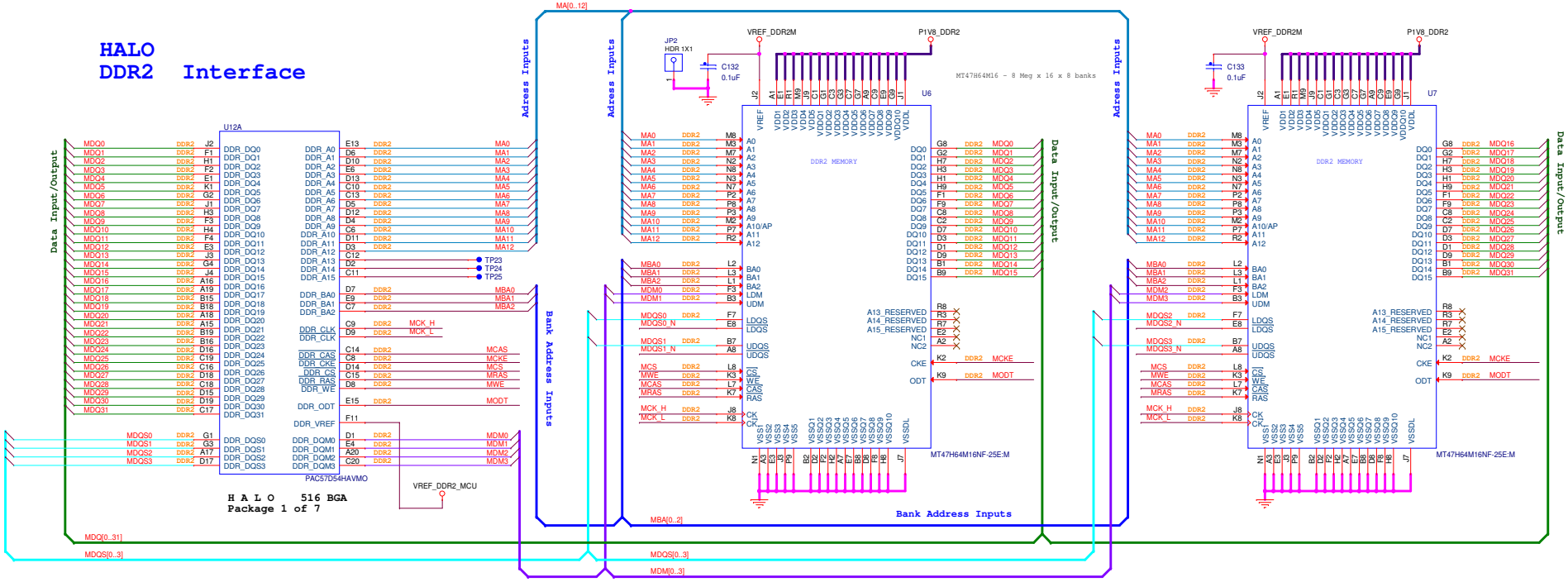
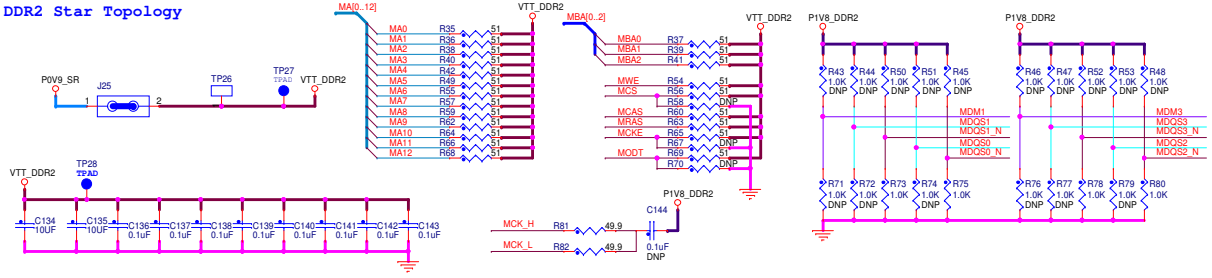
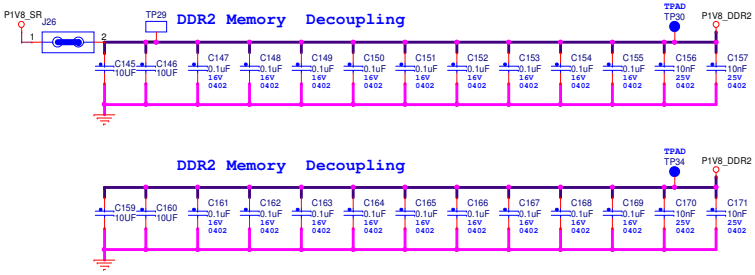
HALO DDR2 Interface



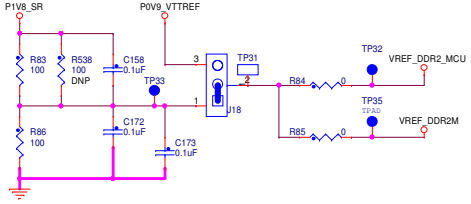
DDR2 Star Topology



DDR2 Memory Decoupling



DDR2_VREF Jumper



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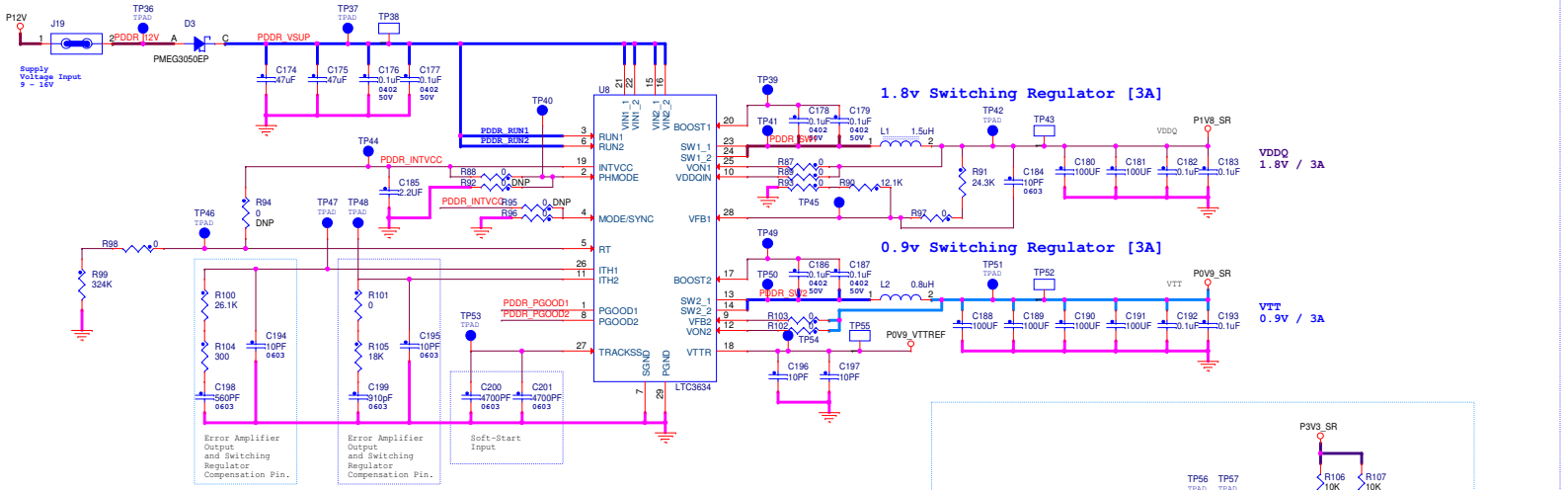
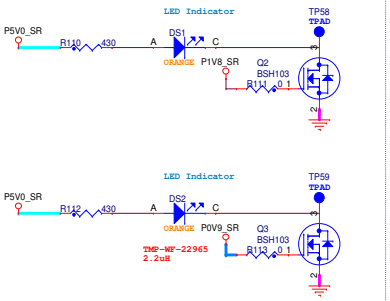
Step-Down Regulator for DDR Power



http://cds.linear.com/docs/en/datasheet/3634fb.pdf

LED Indicators



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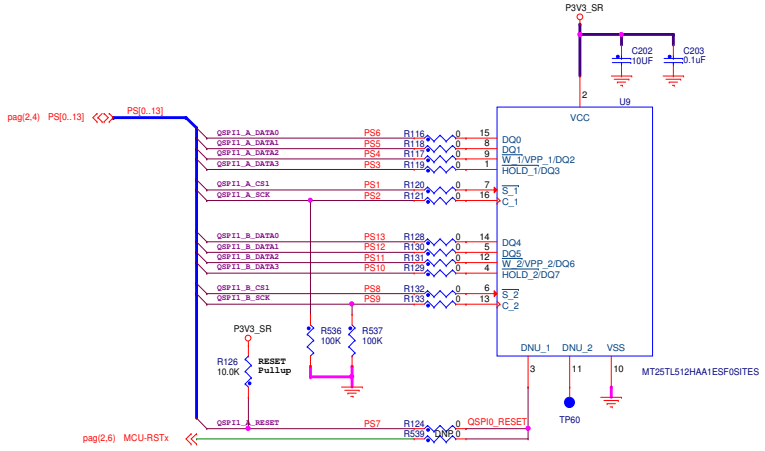
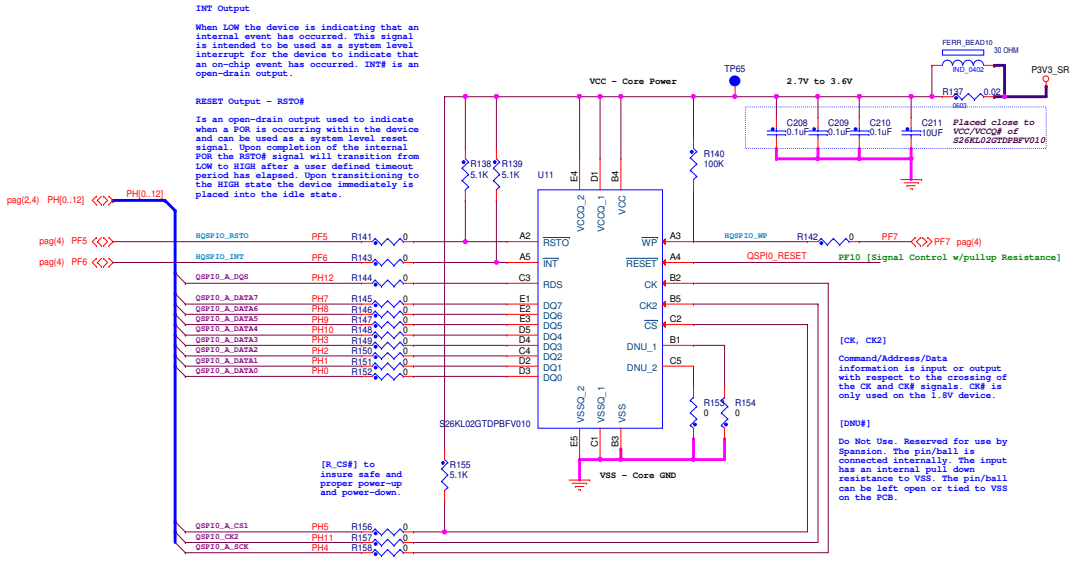
512Mb, Twin-Quad I/O Serial Flash Memory



HyperFlash NOR Flash Memory



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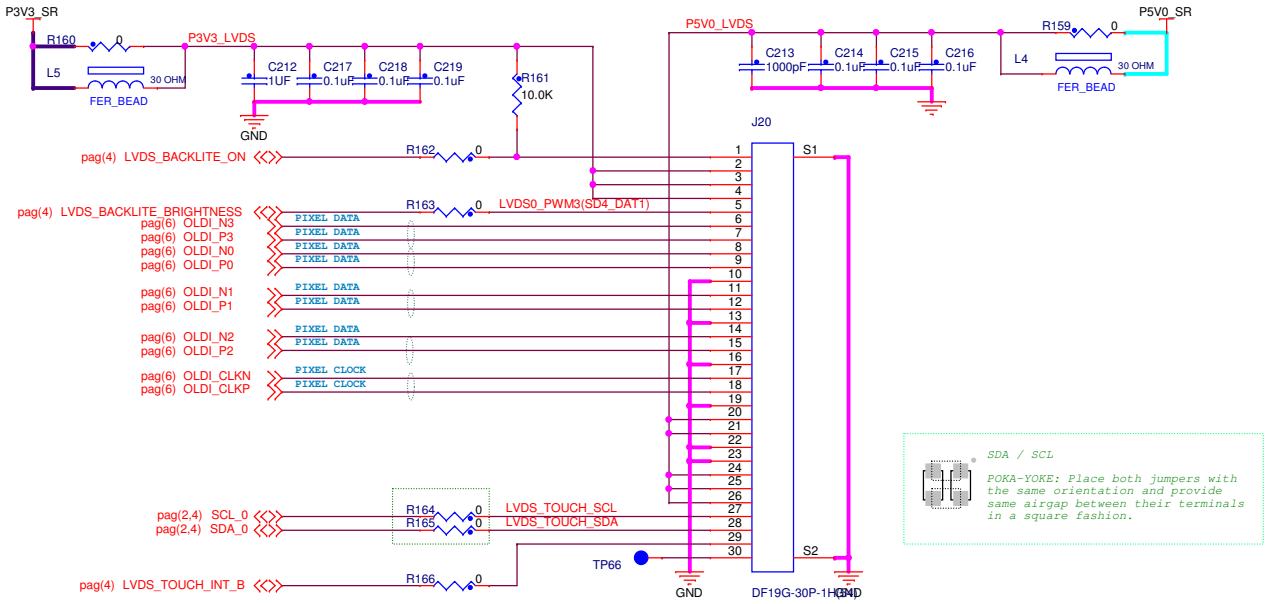
LVDS LCD with Backlight & Capacitive Touch

Compatible Display: Freescale part number MCIMX-LVDS1



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