AP21121_X-CUBE_IAS_DEMO3_ADAPTER

Page	Description
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2	Block Diagram
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Rev	Who	Date	Description
Rev 0.0	sesha	07NOV19	Adoption of AP21114_Demo3_IAS_Adapter
Rev 0.1	sesha	11NOV19	Power Jumper P7 default option changed, Oscillator is now DNP and changed P13 orientation
Rev 0.2	sesha	12Dec19	VDDIO (P10) and Trigger (P2) jumper is made as mount

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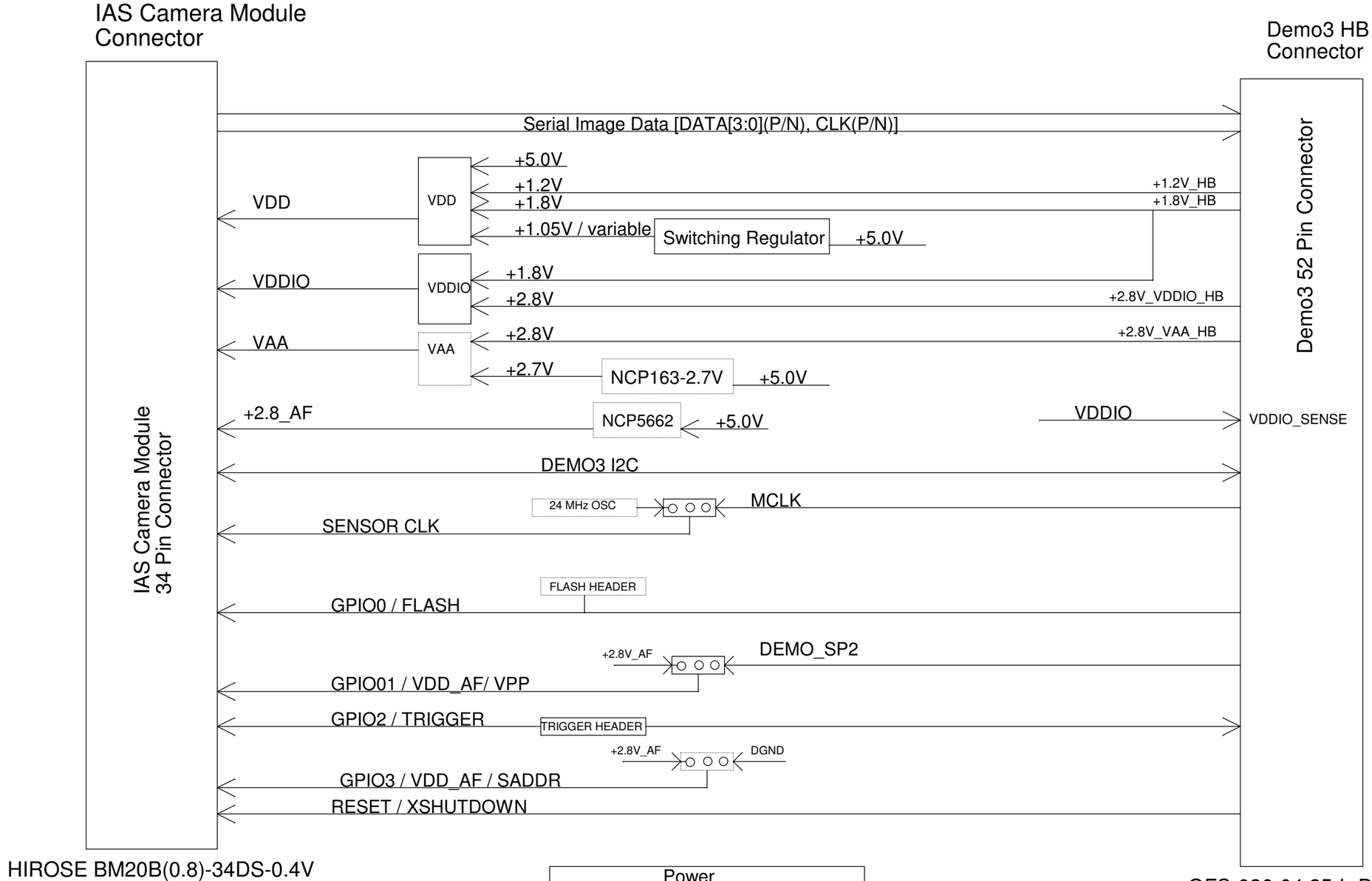
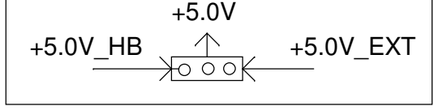
Script NOT executed

BLOCK DIAGRAM

X-CUBE IAS MODULE TO DEMO3



Power



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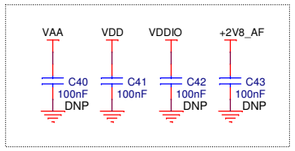
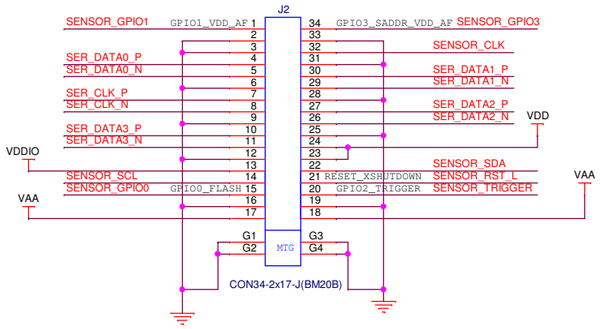
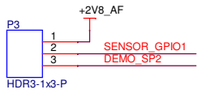
EXTERNAL INTERFACE_CLOCK

STANDARD SENSOR MODULE INTERFACE





GPIO1 / VDD_AF / VPP HEADER



Default: 2-3

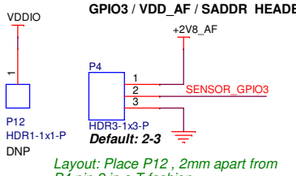
GPIO2 / TRIGGER

Default: Close

GPIO0 / FLASH

Default: Open

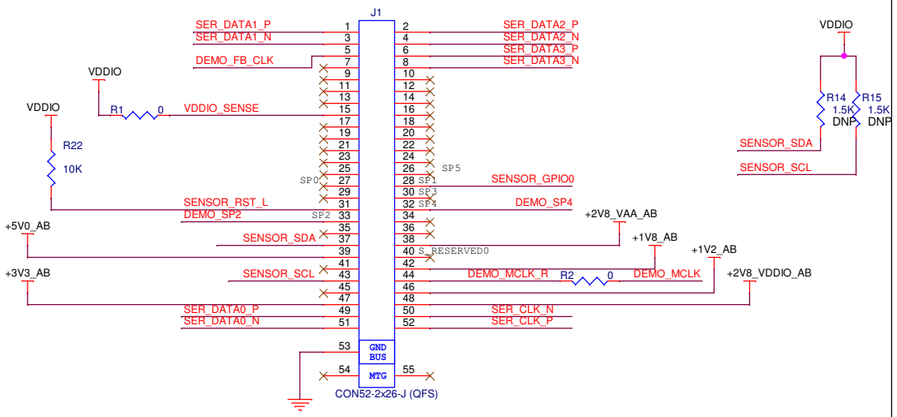
GPIO3 / VDD_AF / SADDR HEADER

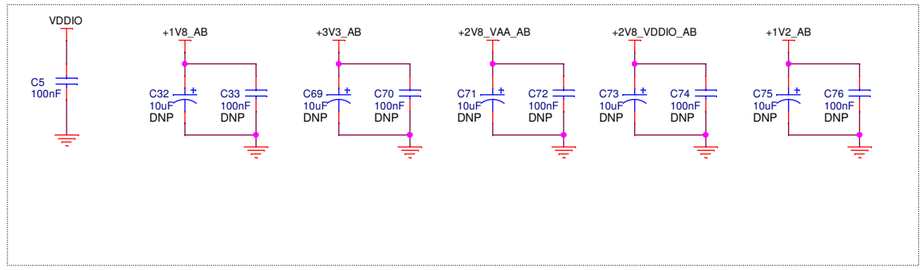


Default: 2-3

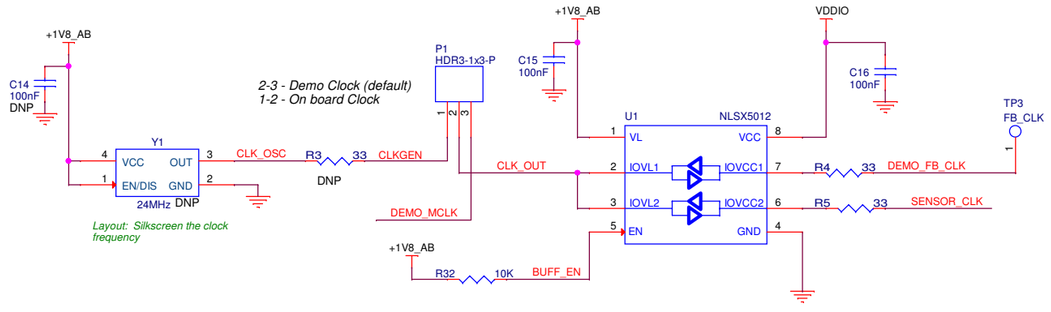
Layout: Place P12 , 2mm apart from P4 pin 2 in a T fashion

DEMO3 BASEBOARD INTERFACE

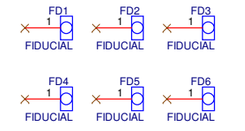




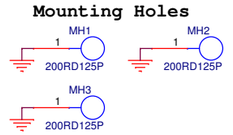
CLOCK CIRCUIT



MECHANICALS

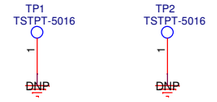


Mounting Holes



TEST POINTS

SYSTEM GROUND



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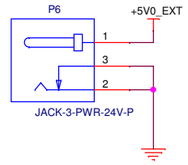
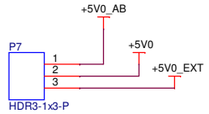
POWER

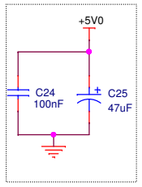
External Power Jack



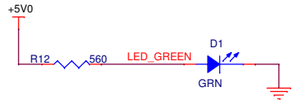
HEADER FOR POWER INPUT SELECTION



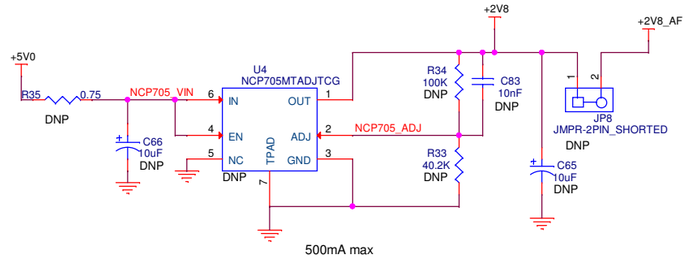
P7 (1-2) Power Input from Demo3
P7 (2-3) Power Input from the on board Jack (Default)



LED for BRD INPUT POWER



LDO to generate 2.8V_AF

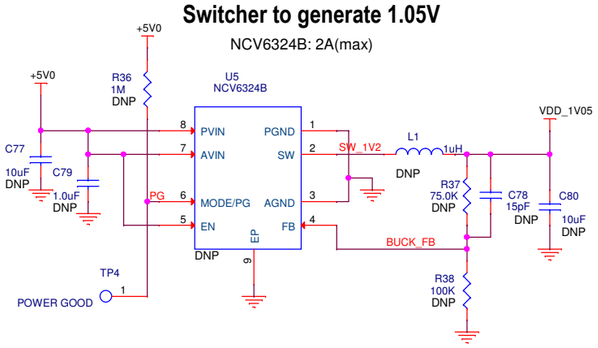


500mA max

Designer's note: NCV6324 supply could be used for a sensor in future whose VDD > 800mA

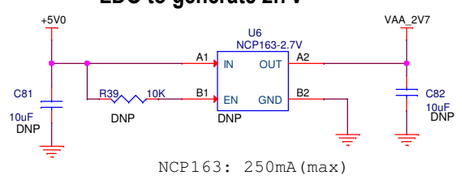
Switcher to generate 1.05V

NCV6324B: 2A(max)



Designer's note: NCP163 device is a fixed regulator that has different Vo options in the same footprint in the same family.

LDO to generate 2.7V

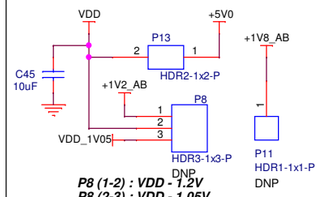


NCP163: 250mA(max)

Header for VDD Voltage Selection

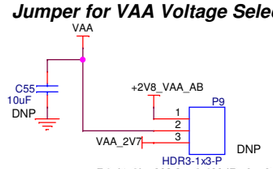
Note: the default value is only for MVRM sensors whose VDD should be 5V

Layout: Place P11 , 2mm apart from P8 pin 2 in a T fashion



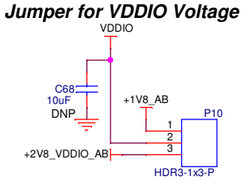
P8 (1-2) : VDD - 1.2V
P8 (2-3) : VDD - 1.05V
(P8.2 - P11.1) : VDD - 1.8V
P13 (1-2): VDD - 5V (Default)

Jumper for VAA Voltage Selection



P9 (1-2) : VAA - 2.8V (Default)
P9 (2-3) : VAA - 2.7V

Jumper for VDDIO Voltage Selection



P10 (1-2) : VDDIO - 1.8V (Default)
P10 (2-3) : VDDIO - 2.8V

POWER AVAILABLE FROM BASEBOARD

POWER RAIL	VOLTAGE (V)	MAX CURRENT (mA)
+5V0_AB	5.0	900 (USB 3.0)
+1V8_AB	1.8	200
+2V8_VAA_AB	2.8	300
+2V8_VDDIO_AB	2.8	200
+3V3_AB	3.3	200
+1V2_AB	1.2	800

POWER ONBOARD IAS ADAPTER

POWER RAIL	VOLTAGE (V)	MAX CURRENT (mA)
VDD_1V05	1.05	2A
VAA_2V7	2.7	250
+2V8_AF	2.8	500

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