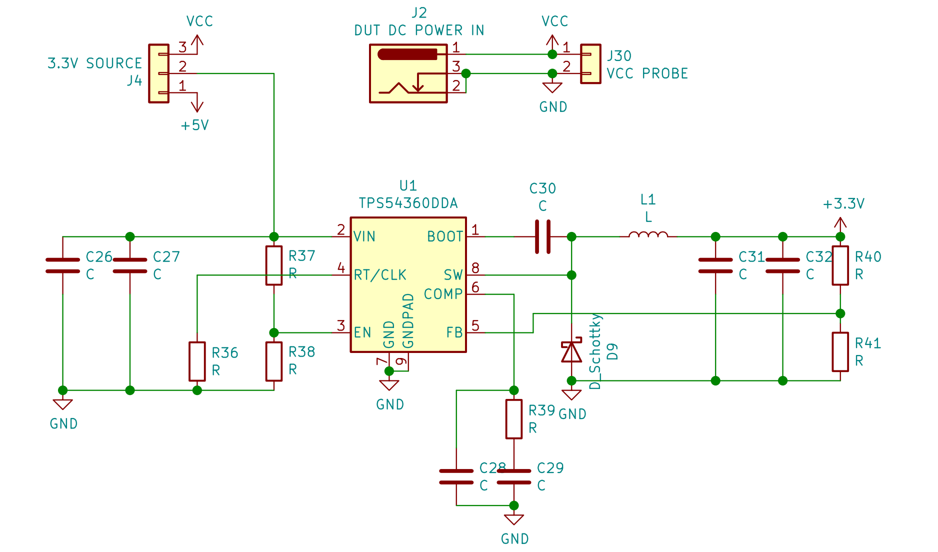
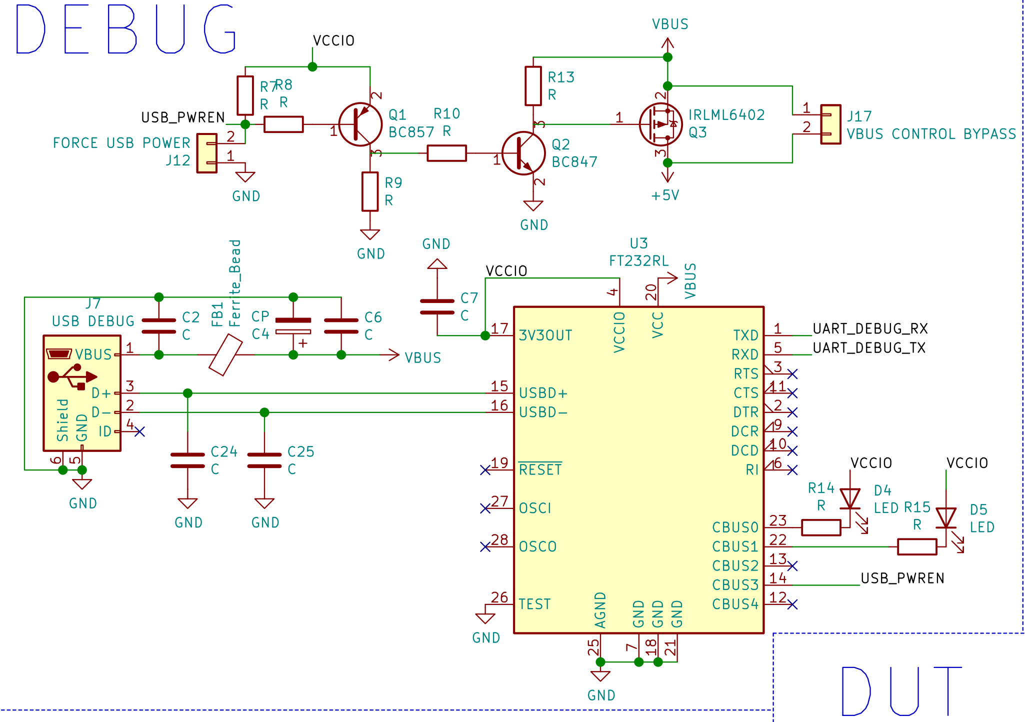
POWER SUPPLY



DEBUG



DUT POWER

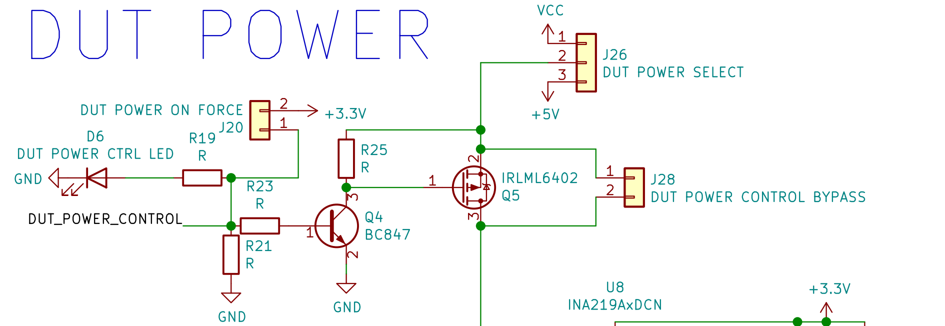


Table 1. INA219 Address Pins and Slave Addresses

A1	A0	SLAVE ADDRESS
GND	GND	1000000
GND	V_{S+}	1000001
GND	SDA	1000010
GND	SCL	1000011
V_{S+}	GND	1000100
V_{S+}	V_{S+}	1000101
V_{S+}	SDA	1000110
V_{S+}	SCL	1000111
SDA	GND	1001000
SDA	V_{S+}	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	V_{S+}	1001101
SCL	SDA	1001110
SCL	SCL	1001111

Camera Debug Facility

Device represents hands free remote embedded development conception.

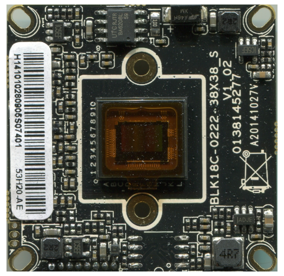
Typical DUT has debug IART port, spi nor (rarely nand) flash ROM and Fast Ethernet.
Software stack is U-Boot + Linux based OS.

During debug developer usually many times completely reupload full ROM image,
use UART as main control and network connection on last stages of software development.

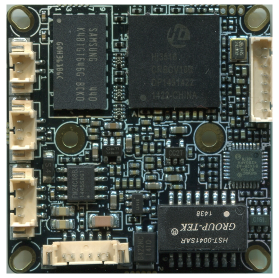
Usually such process involves DUT on developer's table. This device eliminates this requirement.
Developer and DUT can be placed anywhere in separate locations connected via Internet.

Implementation tuned to satisfy basic needs for
typical 38x38mm cctv ip camera module development/debug.

Typical DUT (Device Under Test):



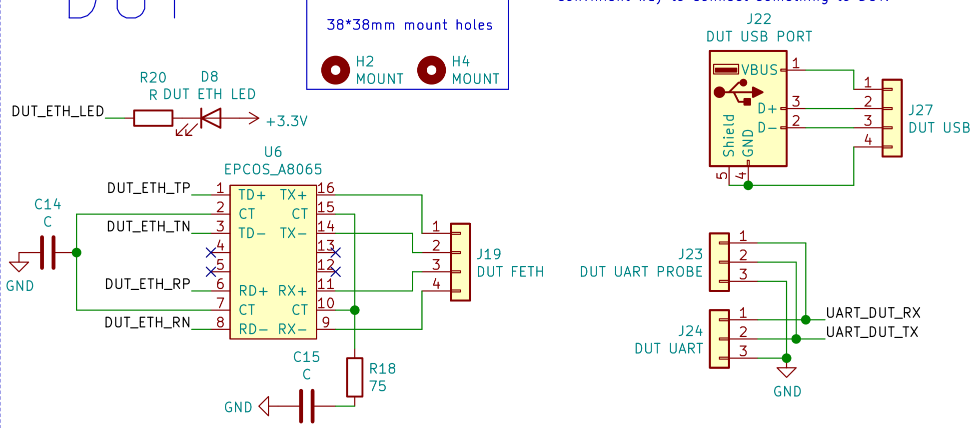
Front



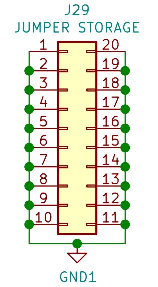
Back

DUT

DUT's usb host port is fully separate electric circle,
doesn't connected with anything, just to provide
convinient way to connect something to DUT.

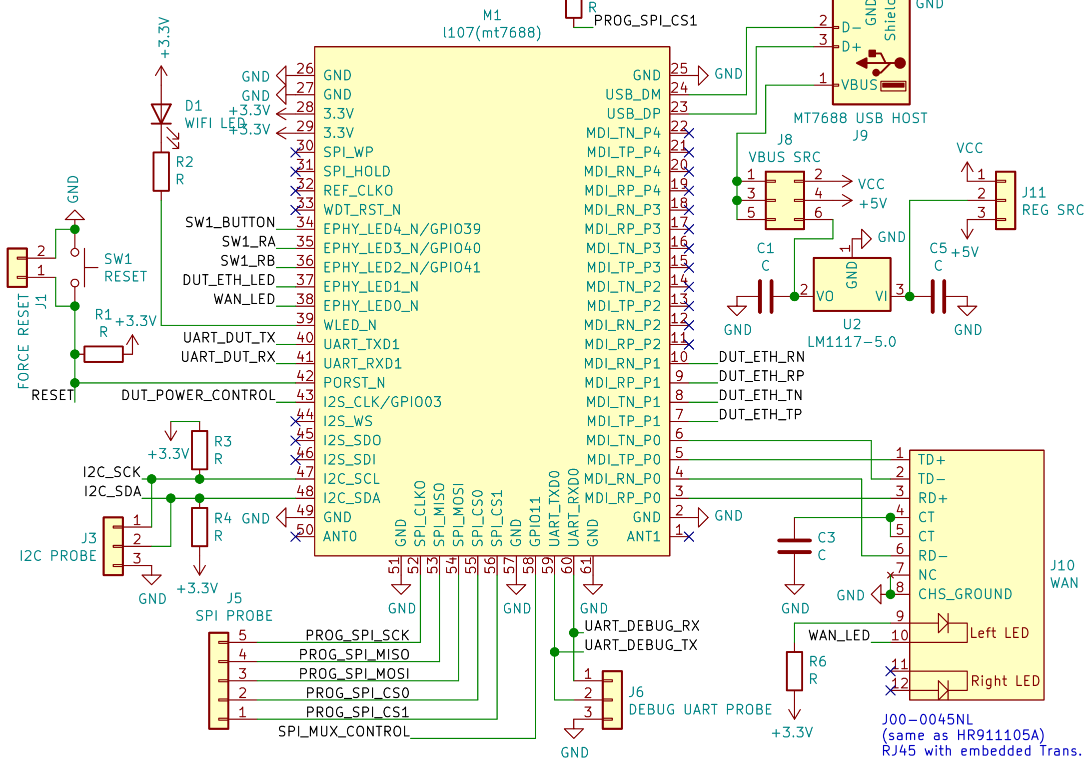


MISC



MT76x8 UNIT

Prefferable module type is 16MB ROM + 128MB RAM.
In case of 32MB ROM, maybe will be usefull to pullup SPI_CS1
on order to force 4 byte addr boot mode.



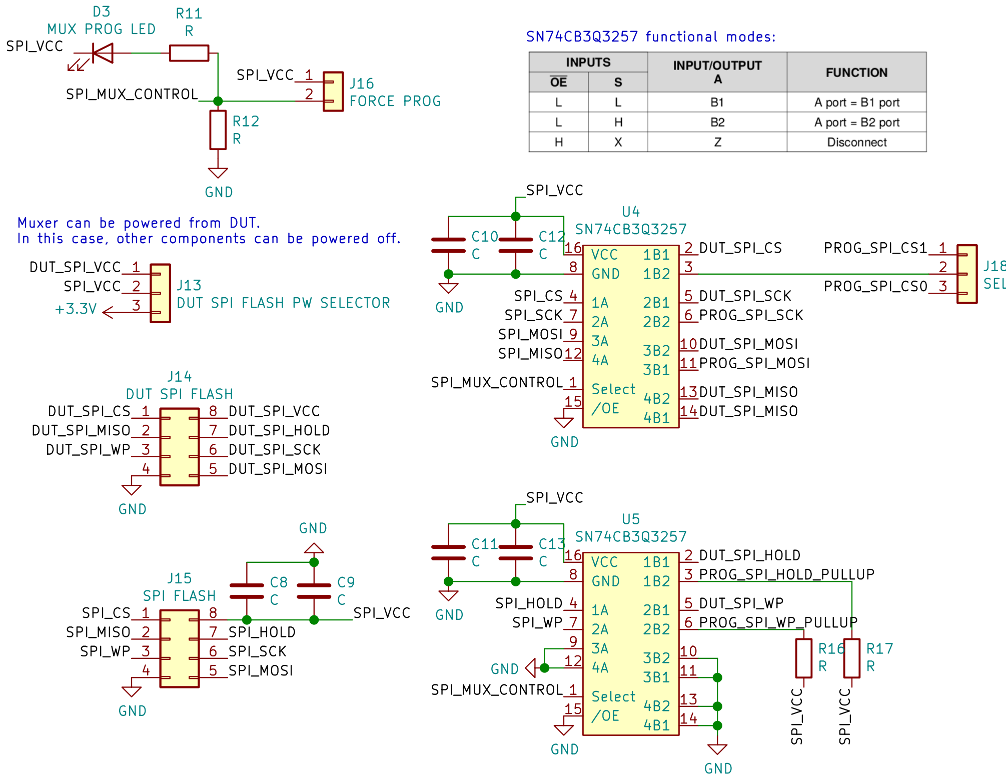
SPI MUXER

Muxer by default connect SPI_FLASH to DUT_SPI_FLASH.
SPI_MUX_CONTROL High switches SPI_FLASH to PROG_SPI.
SPI_MUX_CONTROL is Low by default.

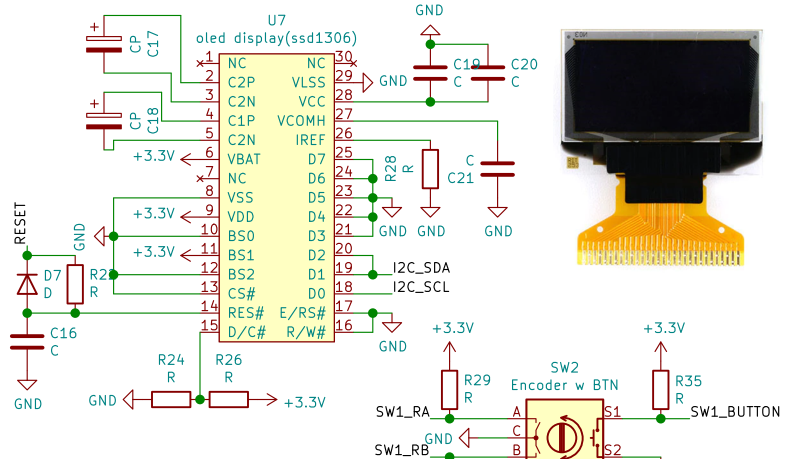
SN74CB3Q3257 functional modes:

INPUTS		INPUT/OUTPUT A	FUNCTION
$\overline{OE}$	S		
L	L	B1	A port = B1 port
L	H	B2	A port = B2 port
H	X	Z	Disconnect

Muxer can be powered from DUT.
In this case, other components can be powered off.



USER INTERFACE



For the SSD1306, the slave address is
either "b0111100" or "b0111101"
by changing the SA0 to LOW or HIGH
(D/C pin acts as SA0).

Hands free remote embedded development device.

Documentation: https://www.openhisiipcam.org/camera-debug-facility
Sources: https://github.com/OpenHisilpCam/camera-debug-facility
OpenHisilpCam

Sheet: /
File: cdf-1.sch

Title: Camera Debug Facility

Size: A3	Date: 2021-10-12	**Rev: 1.1.0**
KiCad E.D.A.	kicad 5.1.10-88a1d61d5888ubuntu18.04.1	Id: 1/1