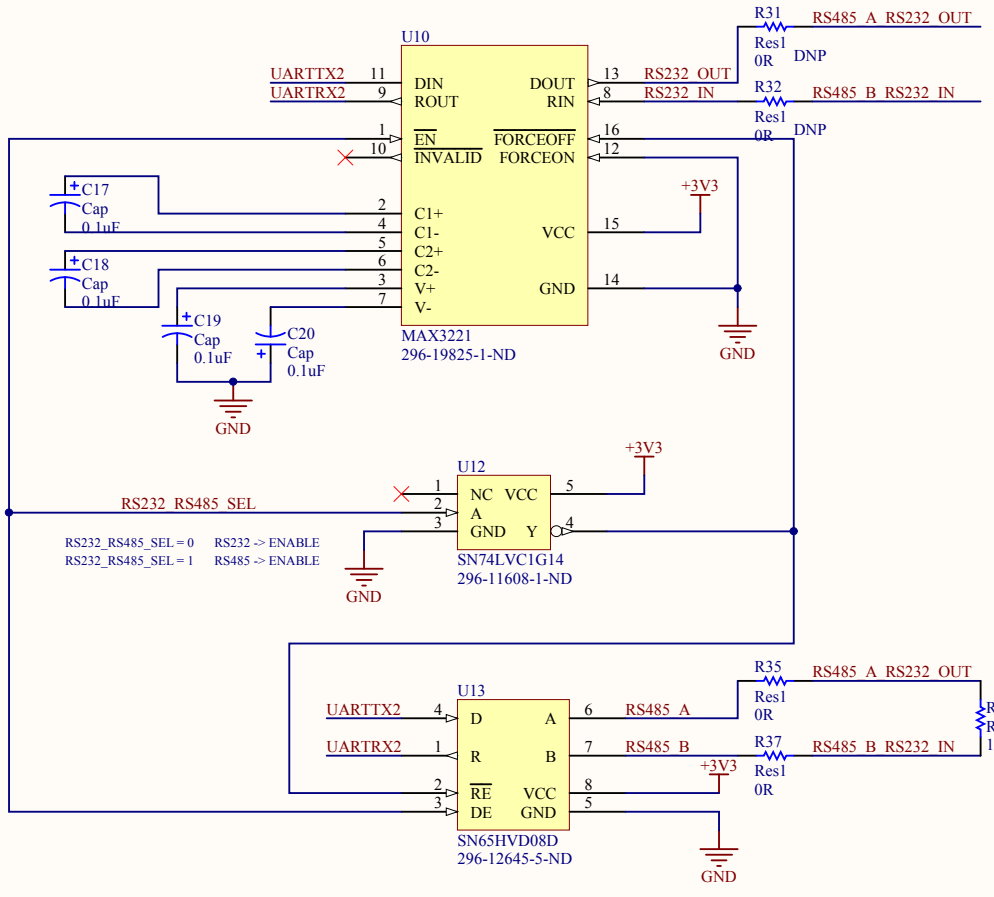
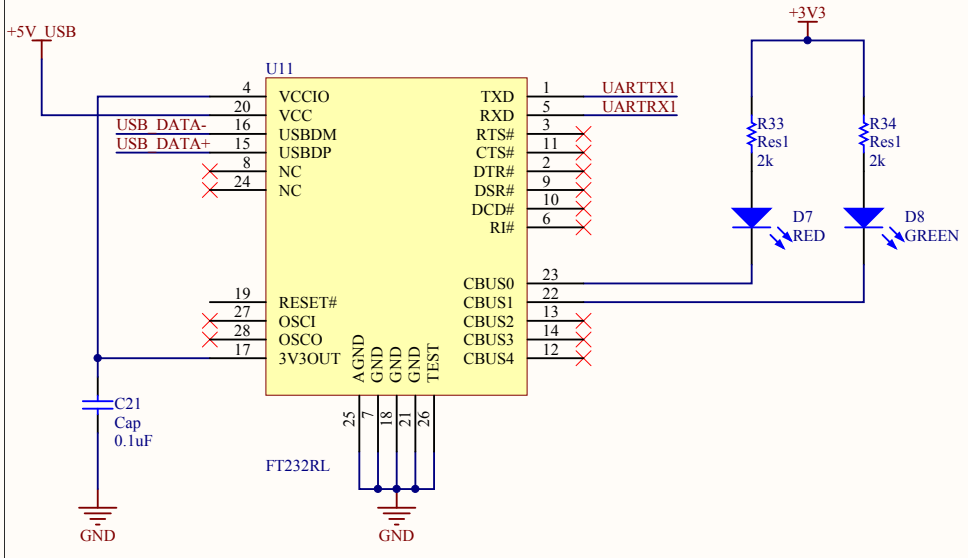
COMMUNICATION

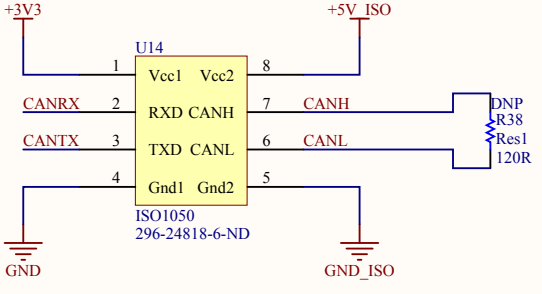
RS232/RS485



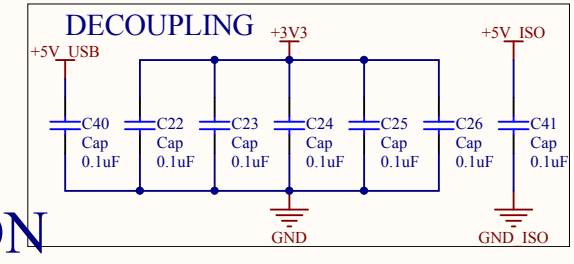
DEBUG



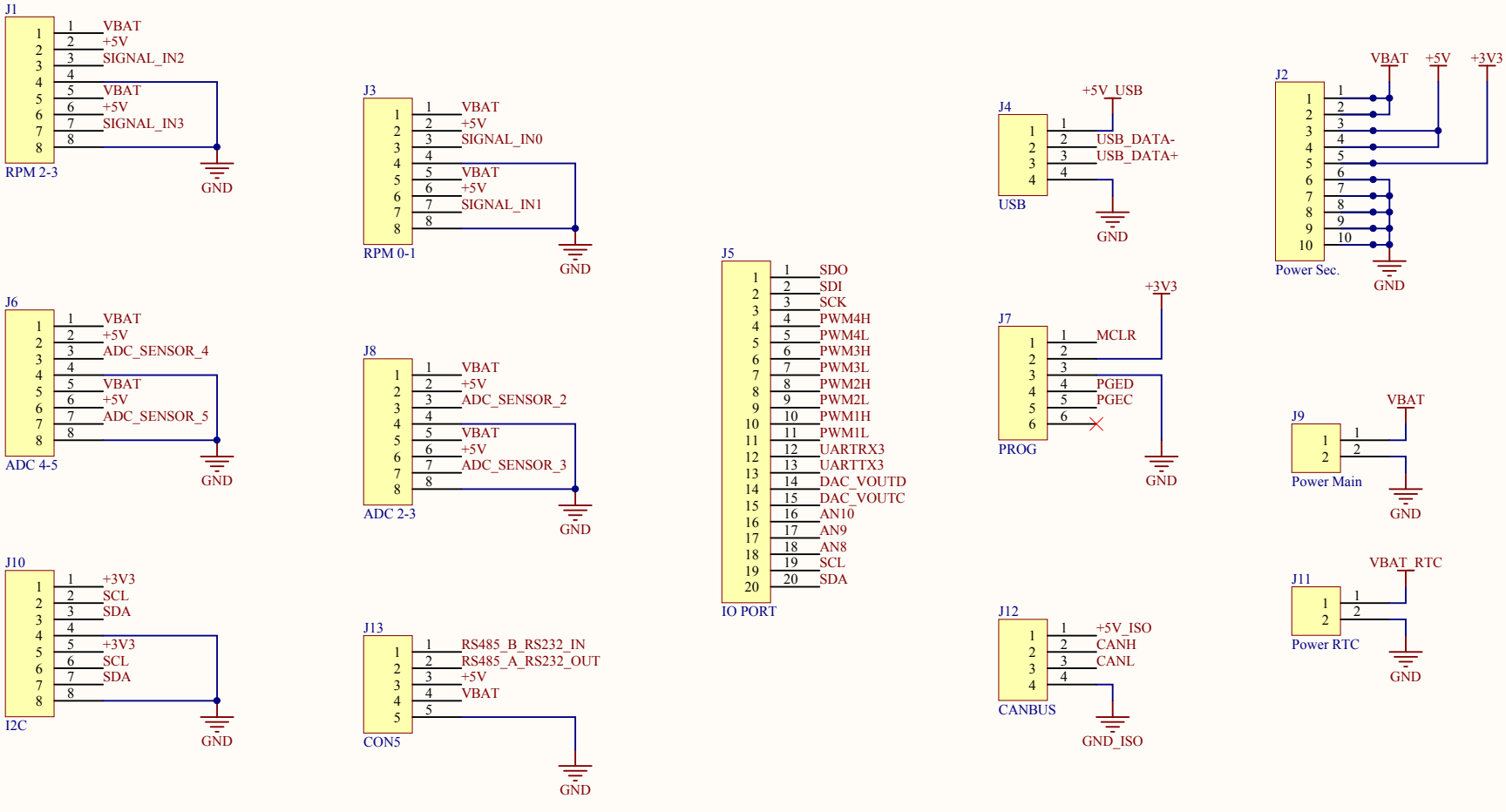
CAN BUS



DECOUPLING

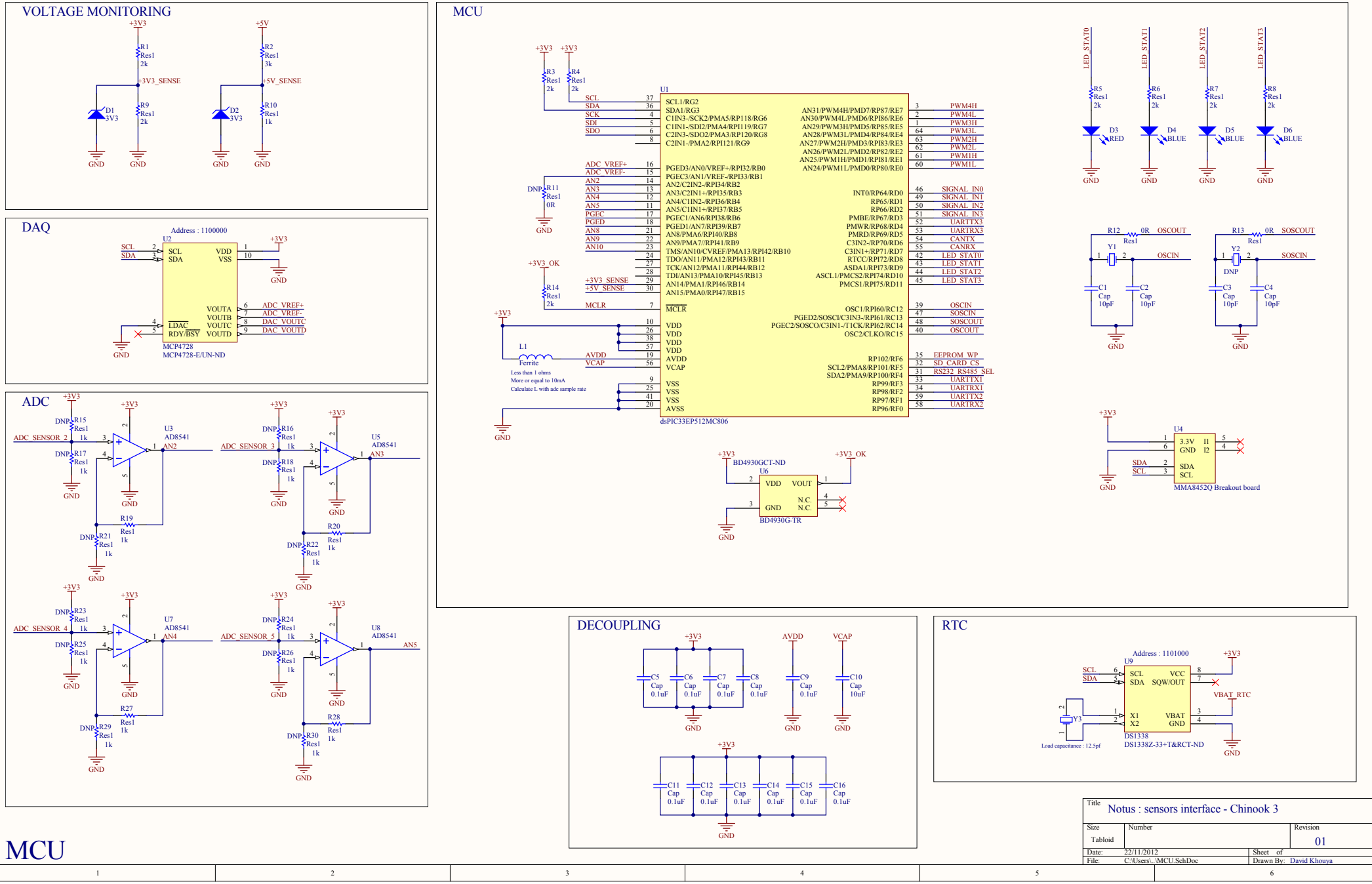


Title: Notus : sensors interface - Chinook 3		
Size: A4	Number:	Revision: 01
Date: 22/11/2012		Sheet of
File: C:\Users\..\Communication.SchDoc		Drawn By: David Khouya



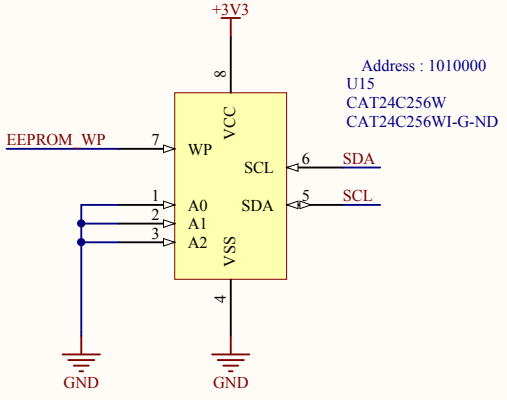
CONNECTORS

Title: Notus : sensors interface - Chinook 3		
Size: A4	Number:	Revision: 01
Date: 22/11/2012		Sheet of
File: C:\Users\..\Connectors.SchDoc		Drawn By: David Khouya

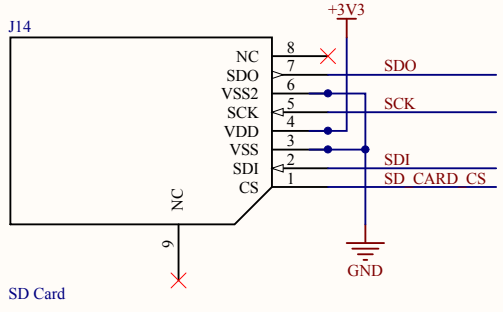

VOLTAGE MONITORING
+3V3
R1
Res1
2k
+3V3_SENSE
D1
3V3
R9
Res1
2k
GND
+5V
R2
Res1
3k
+5V_SENSE
D2
3V3
R10
Res1
1k
DAQ
Address : 1100000
U2
SCL
SDA
VDD
VSS
VOUTA
VOUTB
VOUTC
VOUTD
LDAC
RDY/BSY
ADC_VREF+
ADC_VREF-
DAC_VOUTC
DAC_VOUTD
MCP4728
MCP4728-E/UN-ND
ADC
DNP
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
1k
ADC_SENSOR_2
ADC_SENSOR_3
ADC_SENSOR_4
ADC_SENSOR_5
U3
U5
U7
U8
AD8541
AN2
AN3
AN4
AN5
MCU
U1
SCL1/RG2
SDA1/RG3
C1IN3-/SCK2/PMA5/RP118/RG6
C1IN1-/SDI2/PMA4/RPI119/RG7
C2IN3-/SDO2/PMA3/RP120/RG8
C2IN1-/PMA2/RPI121/RG9
PGED3/AN0/VREF+/RPI32/RB0
PGEC3/AN1/VREF-/RPI33/RB1
AN2/C2IN2-/RPI34/RB2
AN3/C2IN1+/RPI35/RB3
AN4/C1IN2-/RPI36/RB4
AN5/C1IN1+/RPI37/RB5
PGEC1/AN6/RPI38/RB6
PGED1/AN7/RPI39/RB7
AN8/PMA6/RPI40/RB8
AN9/PMA7/RPI41/RB9
TMS/AN10/CVREF/PMA13/RPI42/RB10
TDO/AN11/PMA12/RPI43/RB11
TCK/AN12/PMA11/RPI44/RB12
TDI/AN13/PMA10/RPI45/RB13
AN14/PMA1/RPI46/RB14
AN15/PMA0/RPI47/RB15
MCLR
VDD
VCAP
VSS
AVSS
AN31/PWM4H/PMD7/RP87/RE7
AN30/PWM4L/PMD6/RPI86/RE6
AN29/PWM3H/PMD5/RP85/RE5
AN28/PWM3L/PMD4/RP84/RE4
AN27/PWM2H/PMD3/RPI83/RE3
AN26/PWM2L/PMD2/RP82/RE2
AN25/PWM1H/PMD1/RPI81/RE1
AN24/PWM1L/PMD0/RP80/RE0
INT0/RP64/RD0
RP65/RD1
RP66/RD2
PMBE/RP67/RD3
PMWR/RP68/RD4
PMRD/RP69/RD5
C3IN2-/RP70/RD6
C3IN1+/RP71/RD7
RTCC/RPI72/RD8
ASDA1/RPI73/RD9
ASCL1/PMCS2/RPI74/RD10
PMCS1/RPI75/RD11
OSC1/RPI160/RC12
PGED2/SOSCI/C3IN3-/RPI61/RC13
PGEC2/SOSCO/C3IN1-/TICK/RPI162/RC14
OSC2/CLKO/RC15
RP102/RF6
SCL2/PMA8/RP101/RF5
SDA2/PMA9/RP100/RF4
RP99/RF3
RP98/RF2
RP97/RF1
RP96/RF0
PWM4H
PWM4L
PWM3H
PWM3L
PWM2H
PWM2L
PWM1H
PWM1L
SIGNAL_IN0
SIGNAL_IN1
SIGNAL_IN2
SIGNAL_IN3
UARTTX3
UARTRX3
CANTX
CANRX
LED_STAT0
LED_STAT1
LED_STAT2
LED_STAT3
OSCIN
SOSCIN
SOSCOUT
OSCOUT
EEPROM_WP
SD_CARD_CS
RS232_RS485_SEL
UARTTX1
UARTRX1
UARTTX2
UARTRX2
dsPIC33EP512MC806
+3V3_OK
+3V3_SENSE
+5V_SENSE
L1
Ferrite
Less than 1 ohms
More or equal to 10mA
Calculate L with adc sample rate
BD4930GCT-ND
BD4930G-TR
U6
VDD
VOUT
GND
N.C.
D3
RED
D4
BLUE
D5
BLUE
D6
BLUE
R5
R6
R7
R8
R11
R12
R13
R14
0R
Y1
Y2
DNP
C1
C2
C3
C4
Cap
10pF
U4
MMA8452Q Breakout board
3.3V
I1
I2
SDA
SCL
DECOUPLING
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
0.1uF
10uF
AVDD
VCAP
RTC
Address : 1101000
U9
SQW/OUT
VCC
VBAT
X1
X2
VBAT_RTC
Y3
Load capacitance : 12.5pf
DS1338
DS1338Z-33+T&RCT-ND
MCU
Title
Notus : sensors interface - Chinook 3
Size
Tabloid
Number
Revision
01
Date:
22/11/2012
Sheet of
File:
C:\Users\..\MCU.SchDoc
Drawn By:
David Khouya

MEMORY

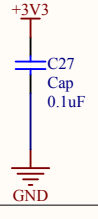
EEPROM



SD CARD

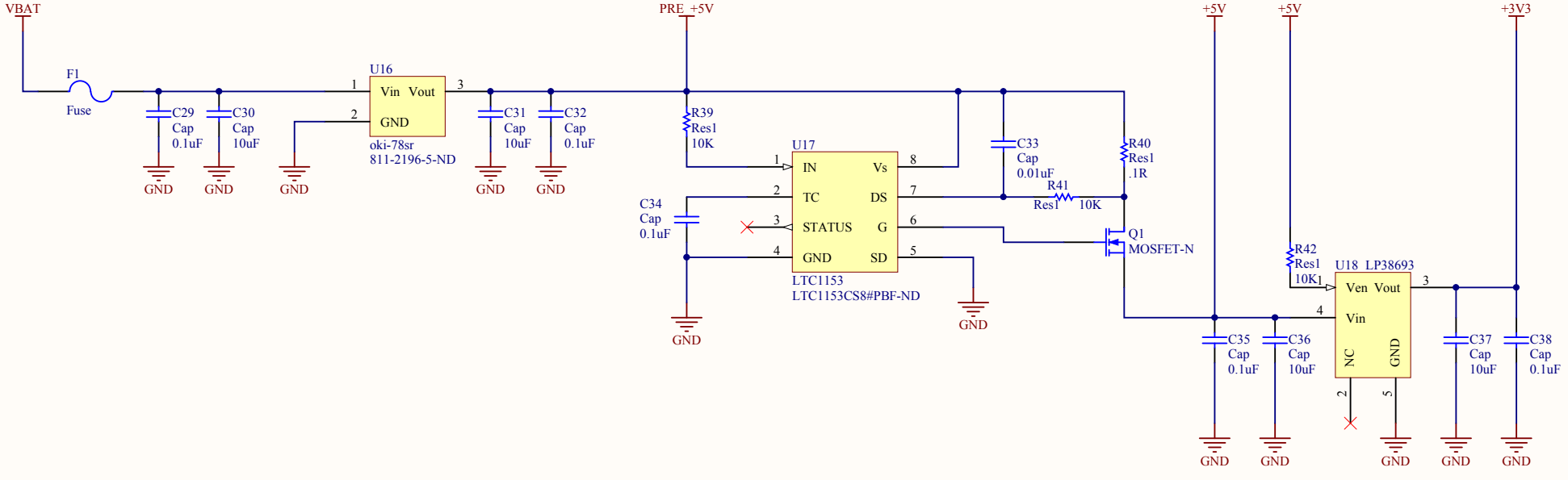


DECOUPLING

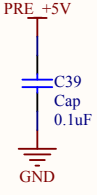


Title: Notus : sensors interface - Chinook 3		
Size: A4	Number:	Revision: 01
Date: 22/11/2012		Sheet of
File: C:\Users\..\Memory.SchDoc		Drawn By: David Khouya

REGULATORS

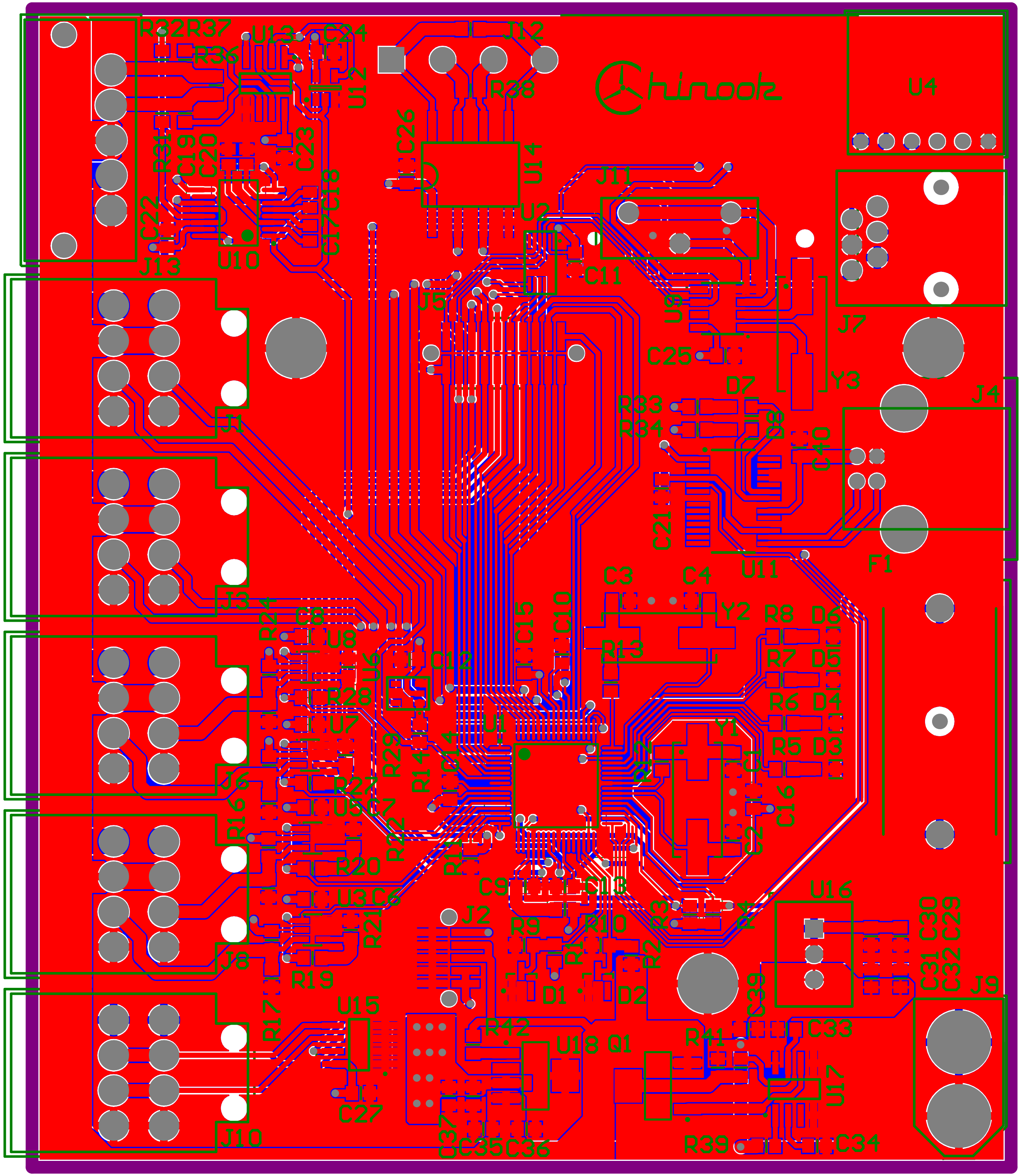


DECOUPLING



POWER

Title: Notus : sensors interface - Chinook 3		
Size: A4	Number:	Revision: 01
Date: 22/11/2012		Sheet of
File: C:\Users\..\Power.SchDoc		Drawn By: David Khouya



Chinook
R22
R37
R36
U13
C24
J12
U12
R38
U4
C26
U14
C19
C20
C23
J11
C22
C18
C17
U2
U10
J13
C11
J5
U9
J7
C25
D7
Y3
R33
R34
J4
J1
C40
C21
J3
U11
F1
C3
C4
R24
C8
U8
C15
C10
Y2
R8
D6
R13
R7
D5
C12
R28
R6
D4
U7
Y1
R5
D3
U1
R29
R27
C16
U5
C7
R20
U3
C6
C9
C13
J2
R9
R10
U16
C30
C29
C31
C32
R19
D1
D2
J8
R17
U15
R42
U18
Q1
R41
C39
C33
J9
U17
C27
C37
C35
C36
R39
C34
J10

Bill of Materials

<Parameter Title not found>

Source Data From: notus.PrjPcb
Project: notus.PrjPcb
Variant: None

Creation Date: 22/11/2012 11:01:45 PM
Print Date: 41235 41235.95964

Footprint	Comment	LibRef	Designator	Description	Quantity
RESC2012N	Cap	Cap	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C21, C22, C23, C24, C25, C26, C27, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41	Capacitor	36
C0805	Cap	Cap Pol3	C17, C18, C19, C20	Polarized Capacitor (Surface Mount)	4
SOT23-3M	3V3	D Zener	D1, D2	Zener Diode	2
0805_Diode	RED	LED0	D3, D7	Typical INFRARED GaAs LED	2
0805_Diode	BLUE	LED0	D4, D5, D6	Typical INFRARED GaAs LED	3
0805_Diode	GREEN	LED0	D8	Typical INFRARED GaAs LED	1
Fuse Holder 656	Fuse	Fuse 2	F1	Fuse	1
1633600000	RPM 2-3	CON8	J1	8 pins connector	1
104652-1	Power Sec.	CON10	J2	10 pins connector	1
1633600000	RPM 0-1	CON8	J3	8 pins connector	1
AU-Y1007-R	USB	CON4	J4	4 pins connector	1
104652-2	IO PORT	CON20	J5	20 pins connector	1
1633600000	ADC 4-5	CON8	J6	8 pins connector	1
A31411-ND	PROG	CON6	J7	6 pins connectors	1
1633600000	ADC 2-3	CON8	J8	8 pins connector	1
XT60_CON	Power Main	CON2	J9	2 pins connector	1
1633600000	I2C	CON8	J10	8 pins connector	1
BS-1225-PC	Power RTC	CON2	J11	2 pins connector	1
con4_200mils	CANBUS	CON4	J12	4 pins connector	1
1607070000	CON5	CON5	J13	5 pins connector	1
SD Card	SD Card	SD Card	J14	SPI Sd card connector pinout	1
RESC2012N	Ferrite	Inductor	L1	Inductor	1
SOT223-4M	MOSFET-N	MOSFET-N	Q1	N-Channel MOSFET	1
RESC2012N	Res1	Res1	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42	Resistor	42
TQFP-PT64_M	dsPIC33EP512MC806	dsPIC33EP512MC806	U1	16 bits microcontroller with Digital signal controller	1
	MCP4728	MCP4728	U2	12-Bit, Quad Digital-to-Analog Converter with EEPROM Memory	1
RT-5	AD8541	AD8541	U3, U5, U7, U8	CMOS Rail-to-Rail General-Purpose Amplifiers	4
MMA8452Q Breakout board	MMA8452Q Breakout board	MMA8452Q Breakout board	U4	Triple axis accelerometer breakout board	1
SSOP5	BD4930G-TR	BD4950G-TR	U6	5V Voltage supervisor	1
8SOIC-1	DS1338	DS1338	U9	I2C RTC with 56-Byte NV RAM	1
SSOP16_M	MAX3221	MAX3221	U10	RS232 to TTL	1
ssop-28	FT232RL	FT232RL	U11	USB UART IC	1
SOT23-5AM	SN74LVC1G14	SN74LVC1G14	U12	Inverter Gate	1
8SOIC-2	SN65HVD08D	SN65HVD08D	U13	RS485 to TTL	1
SOP-8	ISO1050	ISO1050	U14	ISOLATED CAN TRANSCEIVER	1
8SOIC-2	CAT24C256W	CAT24C256W	U15	256 kb I2C CMOS Serial EEPROM	1
oki-78sr	oki-78sr	oki-78sr	U16	5V 1.5A (Vin 7V-36V) swiching power supply - board mount	1
8SOIC-2	LTC1153	LTC1153	U17	Over current protection - Circuit breaker	1
SOT223-5M	LP38693	LP38693	U18	LDO 3.3V 500mA	1
HC49/4H_SMX		XTAL	Y1, Y2, Y3	Crystal Oscillator	3
					128

Approved	Notes	