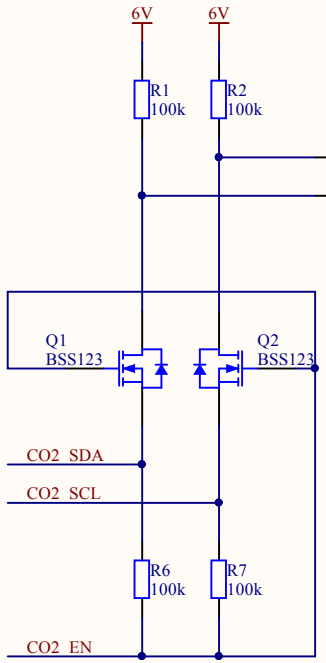
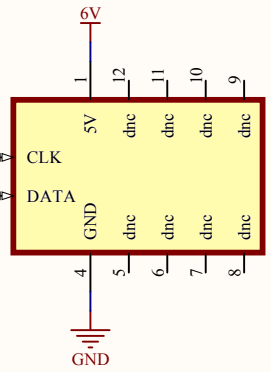
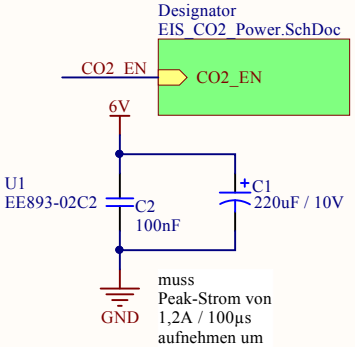






muss
Peak-Strom von
1,2A / 100µs
aufnehmen um
10µF zu laden

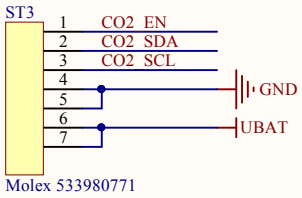
CO2-Sensor
0...2000ppm: < ± (50ppm +2% vom Messwert)
I²C-Adressen: 0x11 .. 0xF1 (außer 0x61) (lesen)
0x10 bzw. 0x50 (schreiben)

I²C-Interface:
benötigt 5 V-Pegel damit High richtig erkannt wird und der Strom im Eingangsteil des Sensors gering bleibt.

Interface ist nur mit 5kBaud spezifiziert was ein weiterer Grund für die Trennung der I²C-Busse ist.

Mode	min. supply current	description
Sleep mode	40µA	The module is waiting for measurement or communication request
Warm-up mode	1.7mA	The module is in warm-up mode. Duration ~4.3s before a measurement is taken. Upon starting the warm-up mode a 10µF capacitor is charged. The current peak of up to ~1.2A lasts for ~200µs.
Communication mode	3.4mA	initiated by an interrupt on the E2 Bus and lasts for at least 1s
Measuring mode	120mA	average value over 350ms, caused by flashing the infrared lamp. For details see Figure 2.

Hahn-Schickard Logo



Molex 533980771

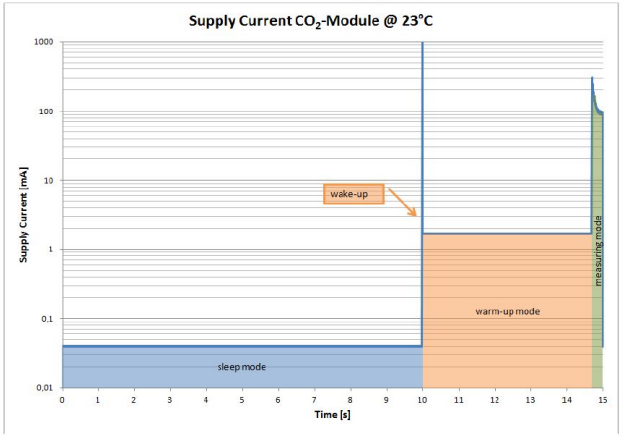
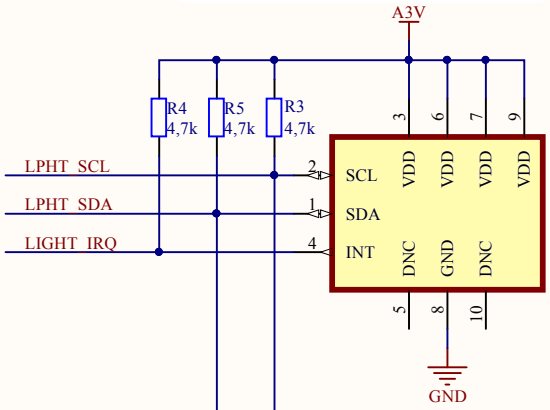
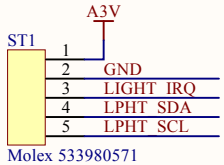


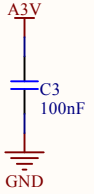
Figure 1: Supply current for 15s measuring time interval @23°C

I²C-Bus getrennt wegen den vielen Adressen des Sensors, geringer Baudrate von nur 5kBaud und 5V-Pegel
Die Gefahr einer Doppel-Belegung ist zu groß.
Deshalb lieber 2 Busse

UV Index and Ambient Light Sensor
1 to 128 klx dynamic range
I²C-Adressen: 0x06 for Reset, 0x60 for normal use

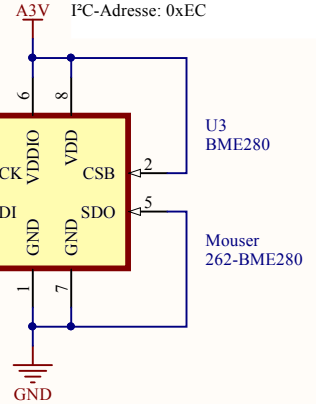


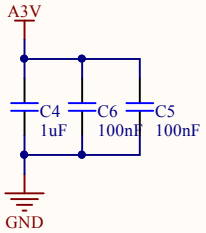




Hahn-Schickard Logo

Druck & Feuchte -Sensor
300...1100hPa / 0...100%
I²C-Adresse: 0xEC

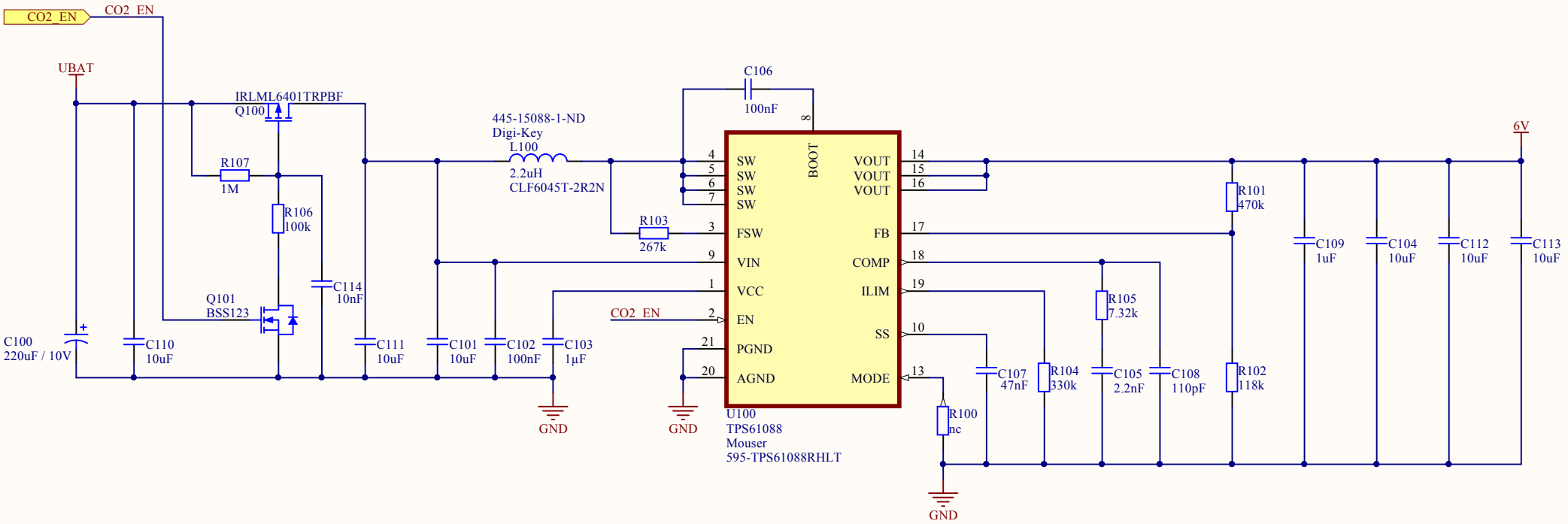




Abtrennbar vom Rest routen

Project Name:	EIS_CO2_V1_1.PrjPcb		
Title:	**EIS: CO2 / Temp / Feuchte / Druck / Licht**		Hahn-Schickard Wilhelm-Schickard-Str. 10 78052 Villingen-Schwenningen Bernd.Ehrbrecht@Hahn-Schickard.de 0 7721 943 137
Size:	A4	Revision: 1.1	
Date:	10.06.2016 Time: 11:25:24	Sheet 1 of 2	
File:	G:\06 Projekte\41 ES\314108 ESIMA @ BmbF\07 Layout & Konstruktion\01 Schaltpläne\ESIMA_EIS\EIS_Sensoren_V1_1.SchDoc		

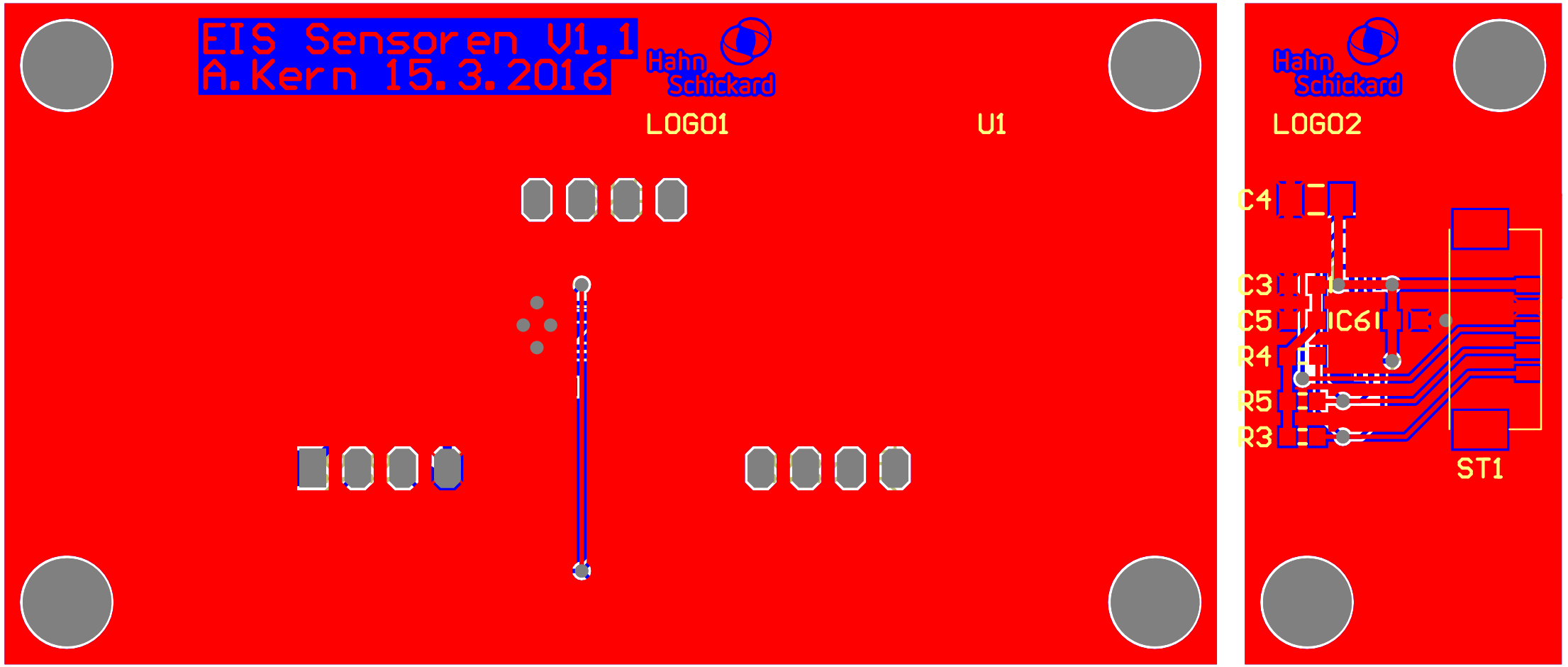
Hahn Schickard

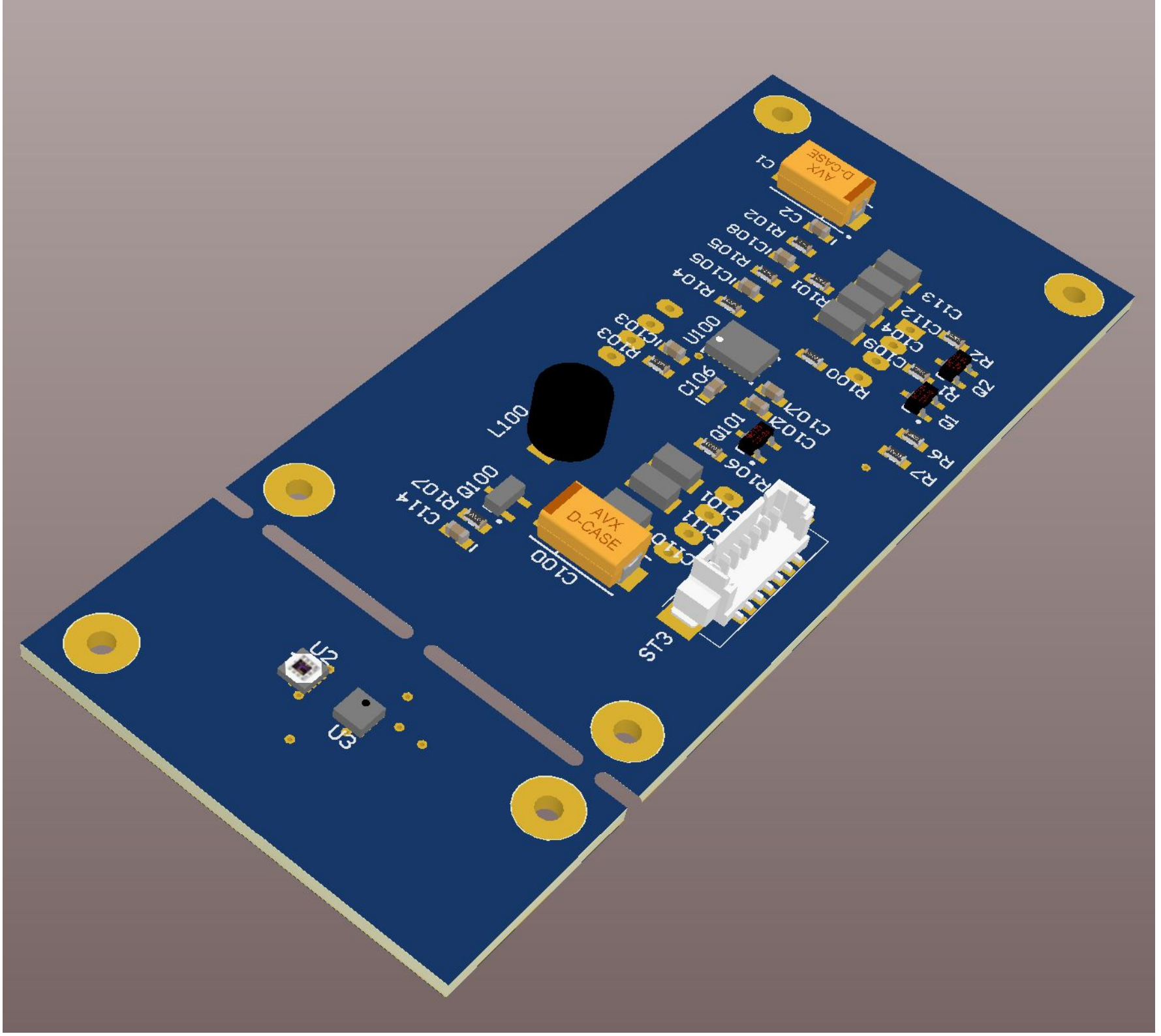


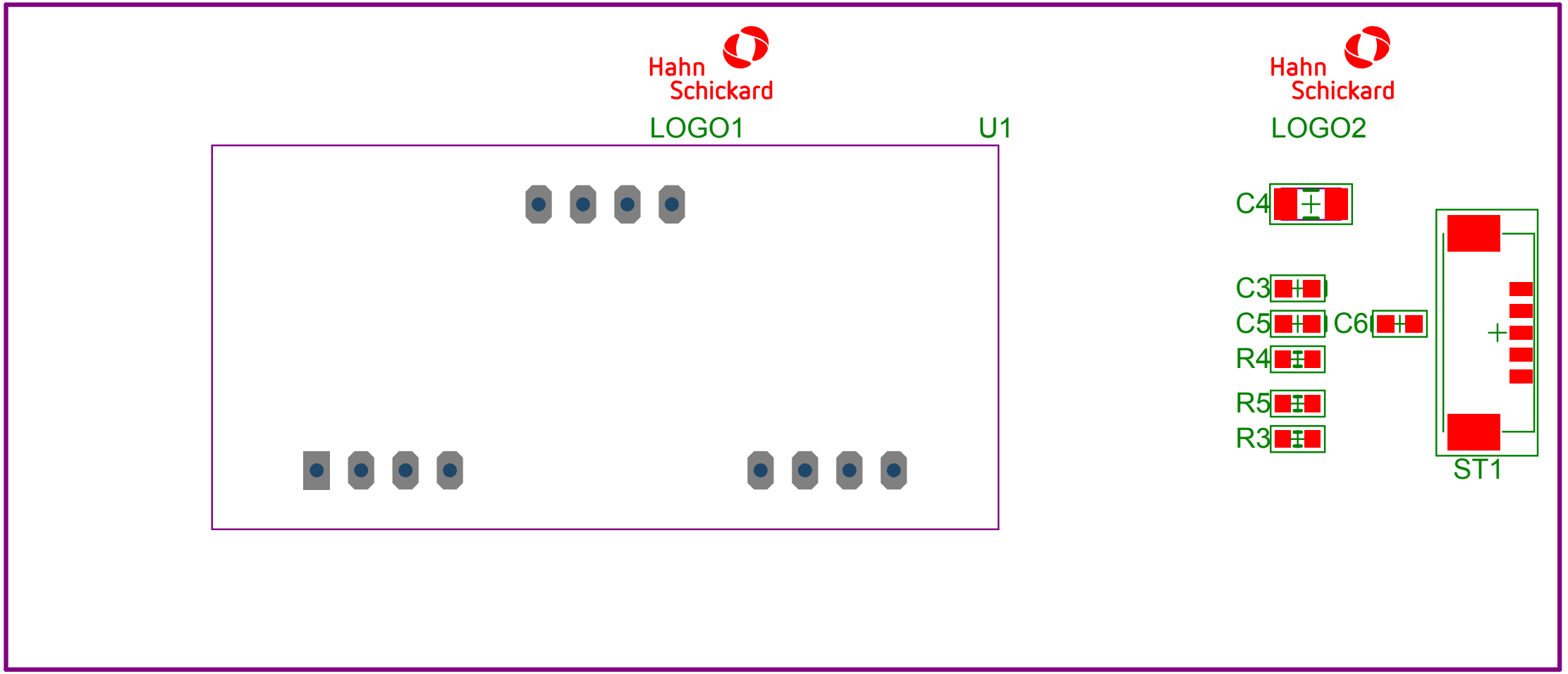
Project Name:	EIS_CO2_V1_1.PrjPcb
Title:	**CO2-Sensor Powersupply**
Size:	A4 Revision: 1.1
Date:	10.06.2016 Time: 11:25:25 Sheet 2 of 2
File:	G:\06 Projekte\41 ES\314108 ESIMA @ BmbF\07 Layout & Konstruktion\01 Schaltpläne\ESIMA_EIS\EIS_CO2_Power.SchDoc

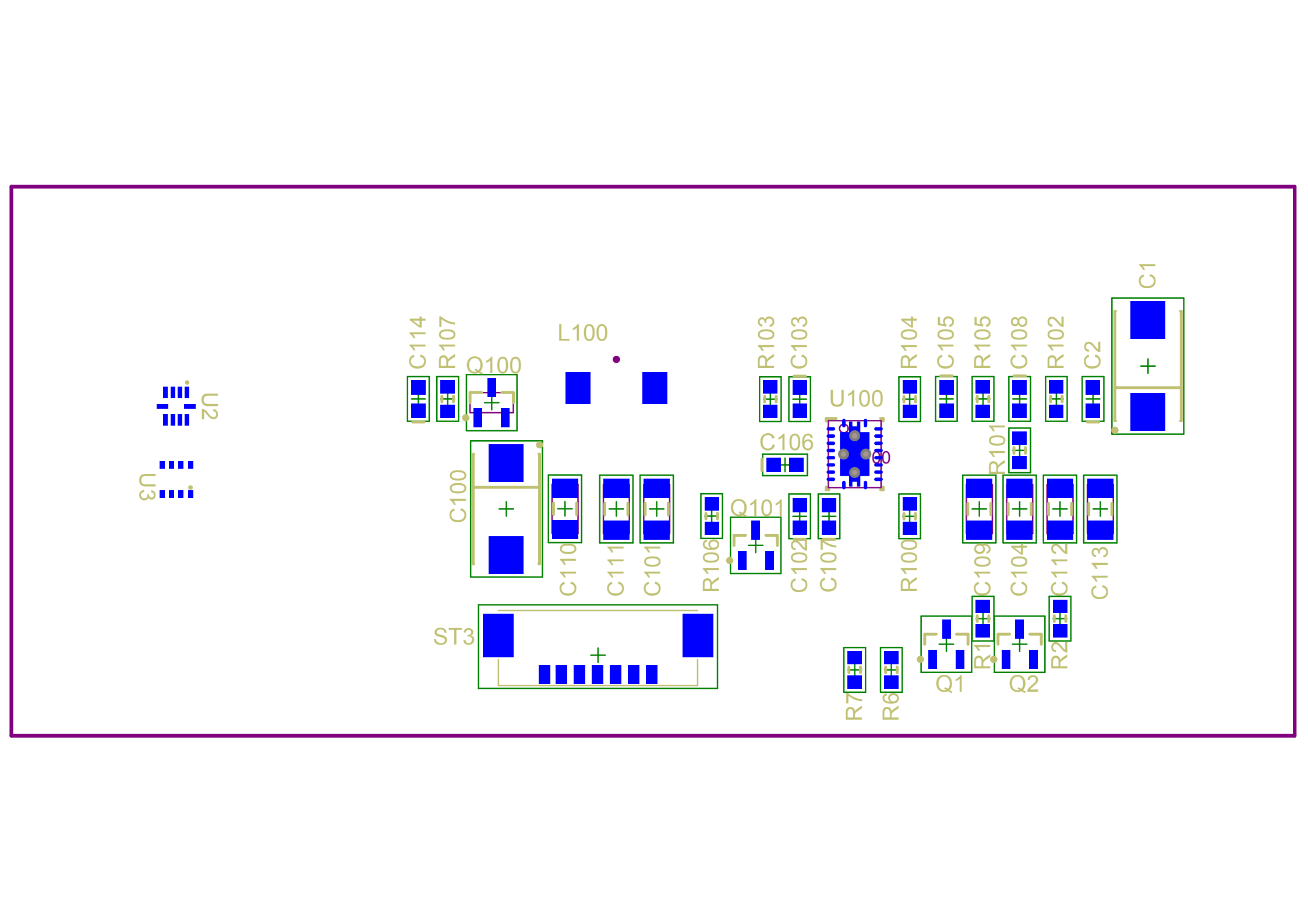
Hahn-Schickard
Wilhelm-Schickard-Str. 10
78052 Villingen-Schwenningen
Bernd.Ehrbrecht@Hahn-Schickard.de
0 7721 943 137

Hahn Schickard


EIS Sensoren V1.1
A.Kern 15.3.2016
Hahn Schickard
LOGO1
U1
Hahn Schickard
LOGO2
C4
C3
C5
IC6
R4
R5
R3
ST1


C1
AVX
D-CASE
C2
R102
C108
R105
C105
R104
U100
C103
R103
C106
L100
C107
C102
Q101
R106
C101
C111
C110
C100
AVX
D-CASE
Q103
R107
C114
ST3
U2
U3
R101
C113
C112
C104
C109
R100
R2
R1
R5
R6
R7


Hahn
Schickard
LOGO1
U1
Hahn
Schickard
LOGO2
C4
C3
C5
C6
R4
R5
R3
ST1


C114
R107
Q100
L100
R103
C103
U100
R104
C105
R105
C108
R102
C2
C1
C106
R101
U2
U3
C100
C110
C111
C101
R106
Q101
C102
C107
R100
C109
C104
C112
C113
ST3
R1
R2
R7
R6
Q1
Q2

Comment	Description	Designator	Footprint	LibRef	Quantity
220uF / 10V	Polarized Capacitor (Surface Mount)	C1, C100	D	Cap Pol3	2
100nF		C2, C3, C5, C6, C102, C106	CAPC1608N	Kondensator SMD Keramik	6
1uF		C4, C109	CAPC3216N	Kondensator SMD Keramik	2
10uF		C101, C104, C110, C111, C112, C113	CAPC3216N	Kondensator SMD Keramik	6
1µF		C103	CAPC1608N	Kondensator SMD Keramik	1
2.2nF		C105	CAPC1608N	Kondensator SMD Keramik	1
47nF		C107	CAPC1608N	Kondensator SMD Keramik	1
110pF		C108	CAPC1608N	Kondensator SMD Keramik	1
10nF		C114	CAPC1608N	Kondensator SMD Keramik	1
CLF6045T-2R2N	Inductor	L100	CLF6045	Inductor	1
Hahn-Schickard LOGO	Hahn-Schickard Logo als Footprint	LOGO1, LOGO2	Hahn-Schickard-LOGO_klein	Hahn-Schickard LOGO	2
BSS123	N-channel Enhancement Mode Vertical D-MOSFET	Q1, Q2, Q101	SOT23_N - BSS123	BSS123	3
IRLML6401TRPBF	P-Channel MOSFET	Q100	SOT23_N	IRLML6401TRPBF	1
100k	RESC1608 (R0603)	R1, R2, R6, R7, R106	RESC1608N	RESC1608 (R0603)	5
4,7k	RESC1608 (R0603)	R3, R4, R5	RESC1608N	RESC1608 (R0603)	3
nc	RESC1608 (R0603)	R100	RESC1608N	RESC1608 (R0603)	1
470k	RESC1608 (R0603)	R101	RESC1608N	RESC1608 (R0603)	1
118k	RESC1608 (R0603)	R102	RESC1608N	RESC1608 (R0603)	1
267k	RESC1608 (R0603)	R103	RESC1608N	RESC1608 (R0603)	1
330k	RESC1608 (R0603)	R104	RESC1608N	RESC1608 (R0603)	1
7.32k	RESC1608 (R0603)	R105	RESC1608N	RESC1608 (R0603)	1
1M	RESC1608 (R0603)	R107	RESC1608N	RESC1608 (R0603)	1
Molex 533980571	MOLEX - 53398-0571 - STIFTLEISTE, SMT, 1.25MM, 5POL	ST1	Molex 533980571	Molex 533980571	1
Molex 533980771	Molex Pico 7Pol Blade SMD gerade 533980771	ST3	Molex 533980771	Molex 533980771	1
EE893-02C2	CO2-Sensor; I^2C-Interface,	U1	EE893	EE893-02C2	1
Si1132	UV INDEX AND AMBIENT LIGHT SENSOR IC WITH I2C INTERFACE, QFN 2x2mm	U2	Si1132	Si1132	1
BME280	Bosch, Druck & Feuchte-Sensor, I2C / SPI	U3	BME280	BME280	1
TPS61088	Boost Schaltregler, 2,7V	U100	RHL0020A	TPS61088	1