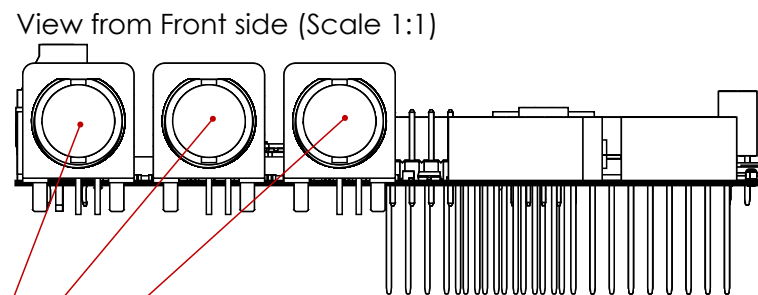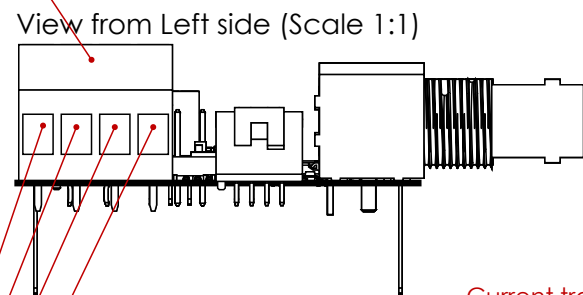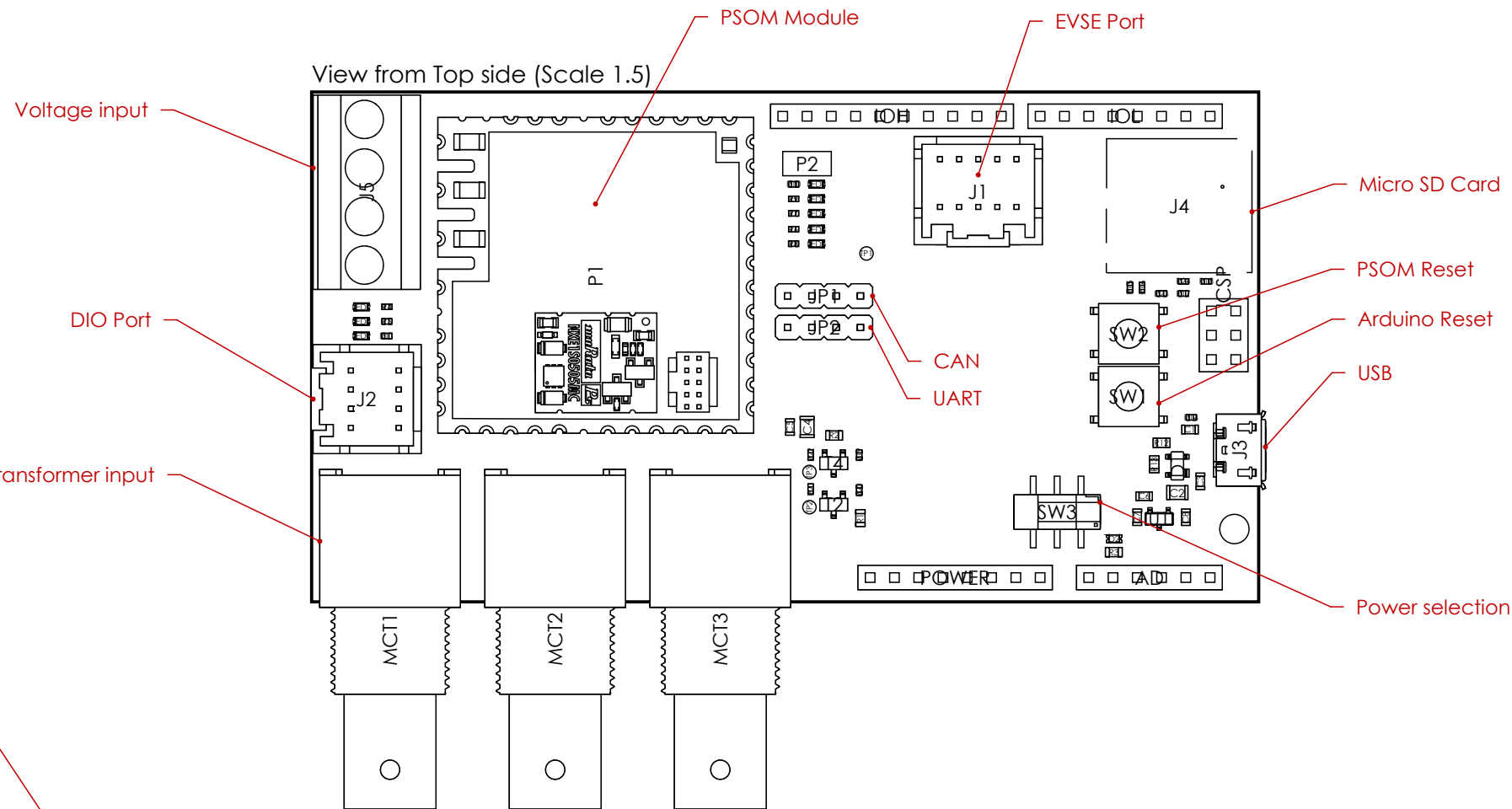Project : PSOM Eval
Version : 1
Revision: 2

Project by Nils Minor
Date: 09.01.2017

View from Top side (Scale 1.5)

PSOM Module

EVSE Port

Voltage input

Micro SD Card

P2

J1

J4

PSOM Reset

DIO Port

P1

CSP

SW2

Arduino Reset

P1

CAN

USB

J2

P2

UART

SW

J3

SW3

Power selection

MCT1

MCT2

MCT3

POWER

AD

View from Left side (Scale 1:1)

View from Front side (Scale 1:1)

Current transformer input

HV 380V

Phase 1 (L1)

Phase 2 (L2)

Current transformer 1

Phase 3 (L3)

Current transformer 2

Neutral (N)

Current transformer 3

Boot jumper. Leave open for normal operation. Fit for boot-mode

PSOM Event 1
PSOM Event 2
PSOM Event 3
PSOM Event 4

P2

Measurment active
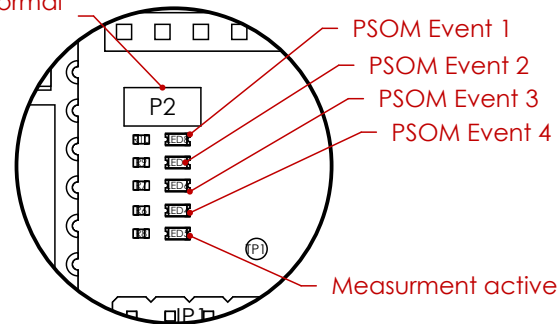
PSOM signals (Scale 2:1)

GND
CAN RX
CAN TX
3V3

JP1

JP2

3V3
UART TX
UART RX
GND
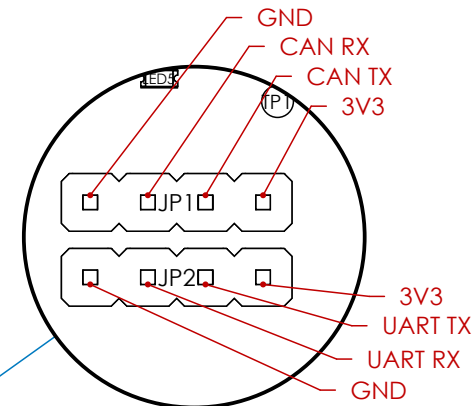
UART and CAN (Scale 3)

DIO1
DIO2
DIO3
3V3 ISO

DIO4
DIO5
DIO6
GND ISO

J2
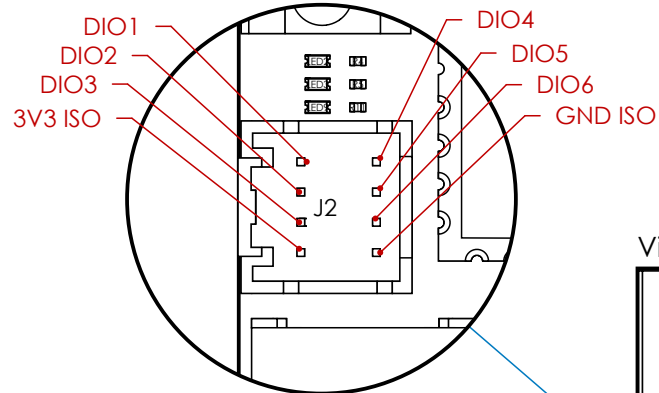
DETAIL DIO (Scale 2:1)

View from Top side (Scale 1:1)

P2

J1

J4

P1

JP1
JP2

SW2
SW1

SW3

J3

MCT1
MCT2
MCT3

POWER

CAN

USB communication and power input

Power selection.
Left   = Arduino
Right = USB

SW2
SW1

SW3

J3

CAN

Power selection (Scale 2:1)

D2 indicates if ext. power supply is used

Testpoint RX
Testpoint TX

C5
C4
R2
T4
TP3
TP2
T2
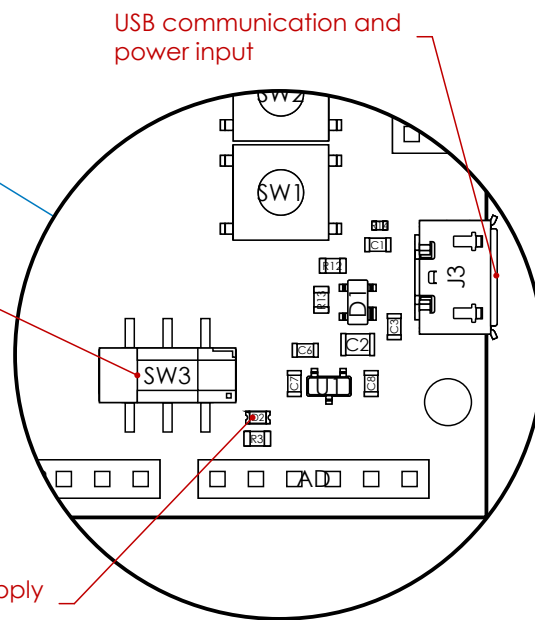R1
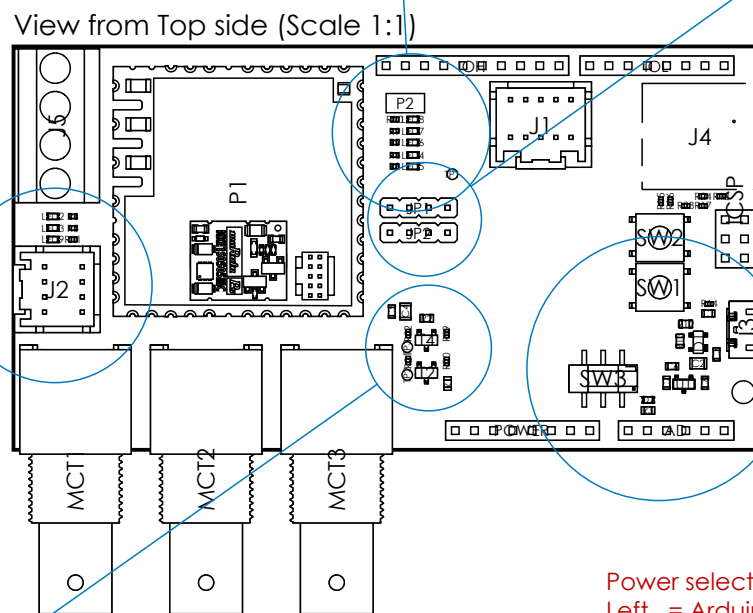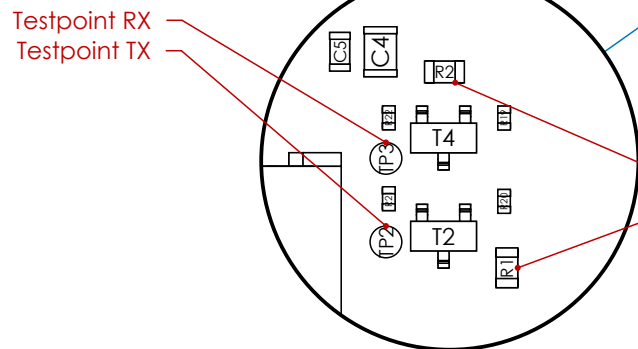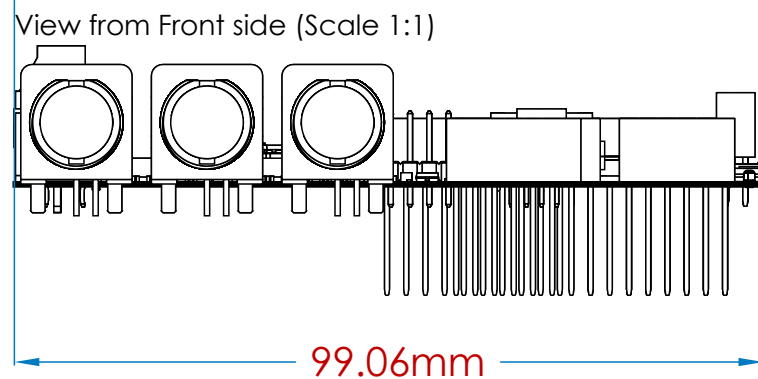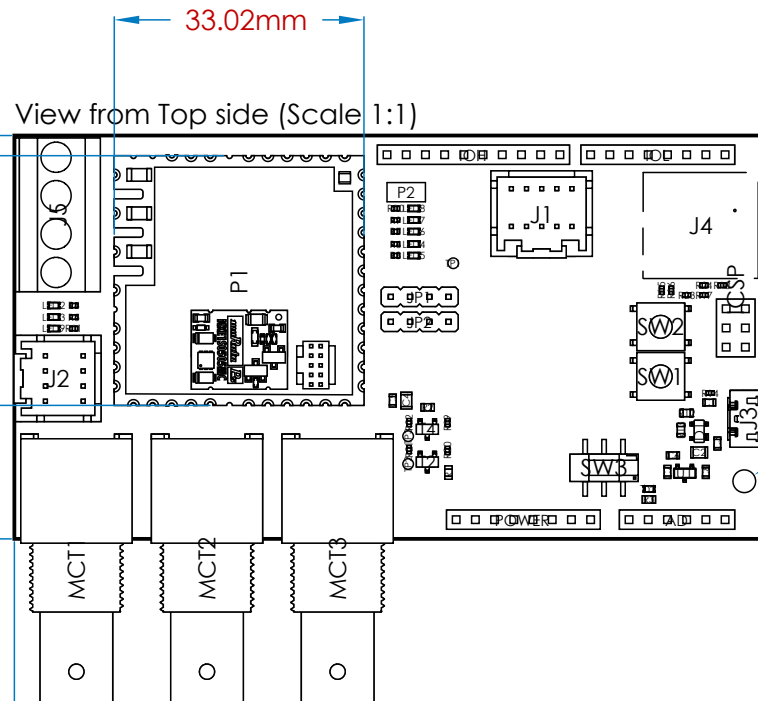
Default T2 and T4 are fitted for 5V/3V3 level shifting. Unsolder T2 and T4 and shorten R1 and R2 for direct connection (3V3 PSOM Uart)

Uart setup (Scale 3)

A | B | C | D | E

View from Top side (Scale 1:1)

33.02mm

33.02mm

53.34mm

P2

P1

J2

J1

J4

CSP

SW2

SW1

J3

SW3

MCT1

MCT2

MCT3

POWER

AD

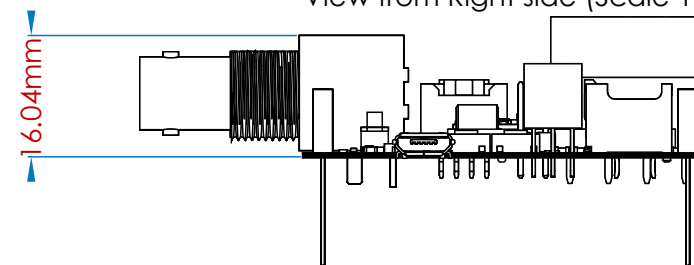Ø3.2mm

View from Bottom side (Scale 1:1)
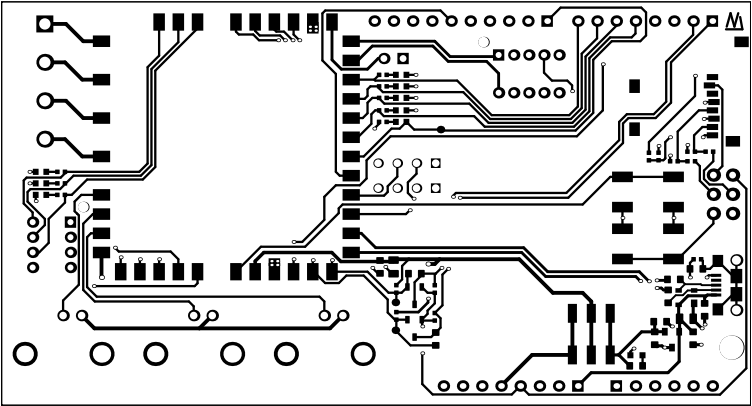
View from Front side (Scale 1:1)
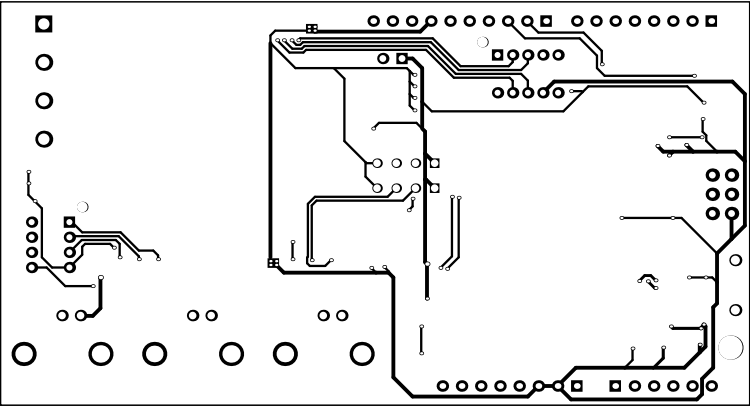
99.06mm
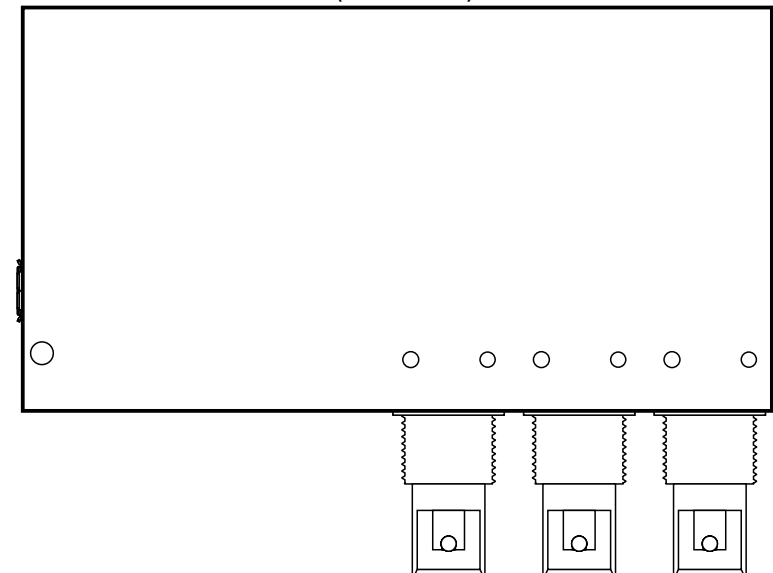
View from Right side (Scale 1:1)

16.04mm

Top Layer (Scale 1:1)

Bottom Layer (Scale 1:1)

Layer Stack Legend

Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Paste			Paste Mask	GTP
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.01mm	Solder Resist	Solder Mask	GTS
Copper	**Top Layer**	**0.036mm**		**Signal**	**GTL**
		0.32mm	*FR-4*	*Dielectric*	
Copper	**Bottom Layer**	**0.036mm**		**Signal**	**GBL**
Surface Material	Bottom Solder	0.01mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO
	Bottom Paste			Paste Mask	GBP

Total thickness: 0.411mm

Drill Drawing View (Scale 1:1)
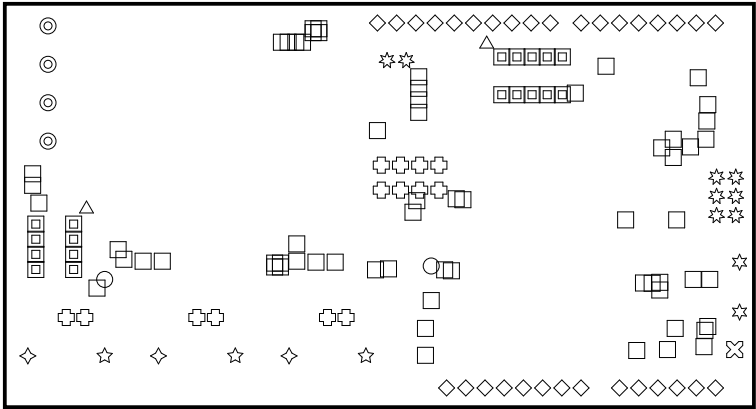
Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
☐	64	0.3mm	Plated	None
○	2	0.46mm	Plated	None
◇	32	0.76mm	Plated	None
▣	18	0.8mm	Plated	None
✿	8	0.9mm	Plated	None
✛	14	1mm	Plated	None
✿	2	1.2mm	Plated	None
△	2	1.4mm	Non-Plated	None
◎	4	1.5mm	Plated	None
◇	3	2.2mm	Plated	None
☆	3	2.3mm	Plated	None
⊠	1	3.2mm	Plated	None
	153 Total			

Bill Of Materials

Item	Designator	Comment	Quantity
1	AD	AD	1
2	C1-C8	approved sub OK	8
3	D1	PRTR5V0U2X	1
4	D2	150060RS75000	1
5	ICSP	ICSP	1
6	IOH	IOH	1
7	IOL	IOL	1
8	J1	62401021622	1
9	J2	62400821622	1
10	J3	MicroUSB-B	1
11	J4	693071010811	1
12	J5	691244510004	1
13	JP1, JP2	J1X4	2
14	LED2-LED9	L0603G	8
15	MCT1-MCT3	Value	3
16	P1	PSOM Module	1
17	P2	Header 2	1
18	POWER	POWER_UNO	1
19	R3-R24	Thick Film	22
20	SW1, SW2	PB SW	2
21	SW3	Switch	1
22	T2, T4	BSS138	2
23	U1	AP7333-33SAG-7	1