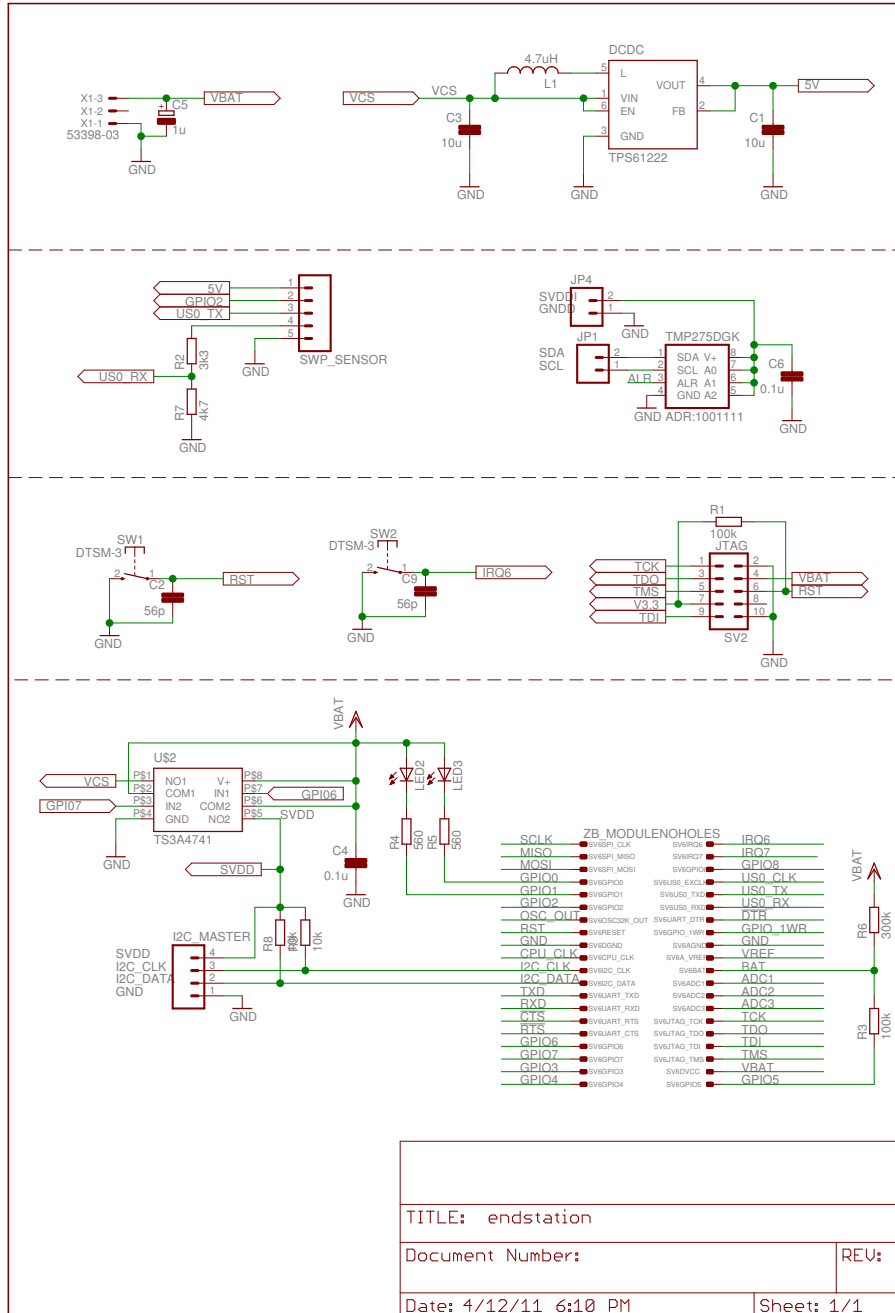


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A ATTACHMENTS

A.1 Circuit Diagram of End Station



TITLE: endstation

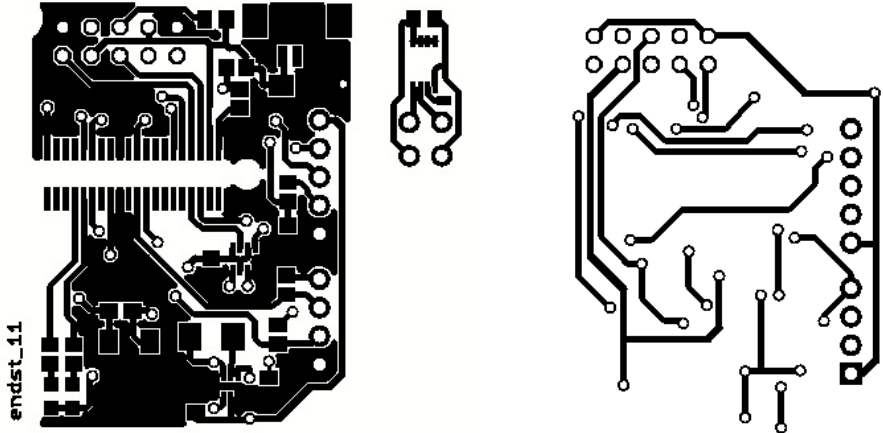
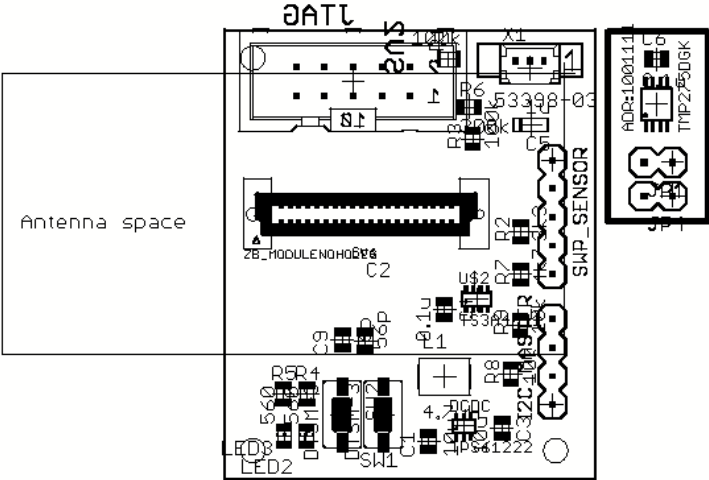
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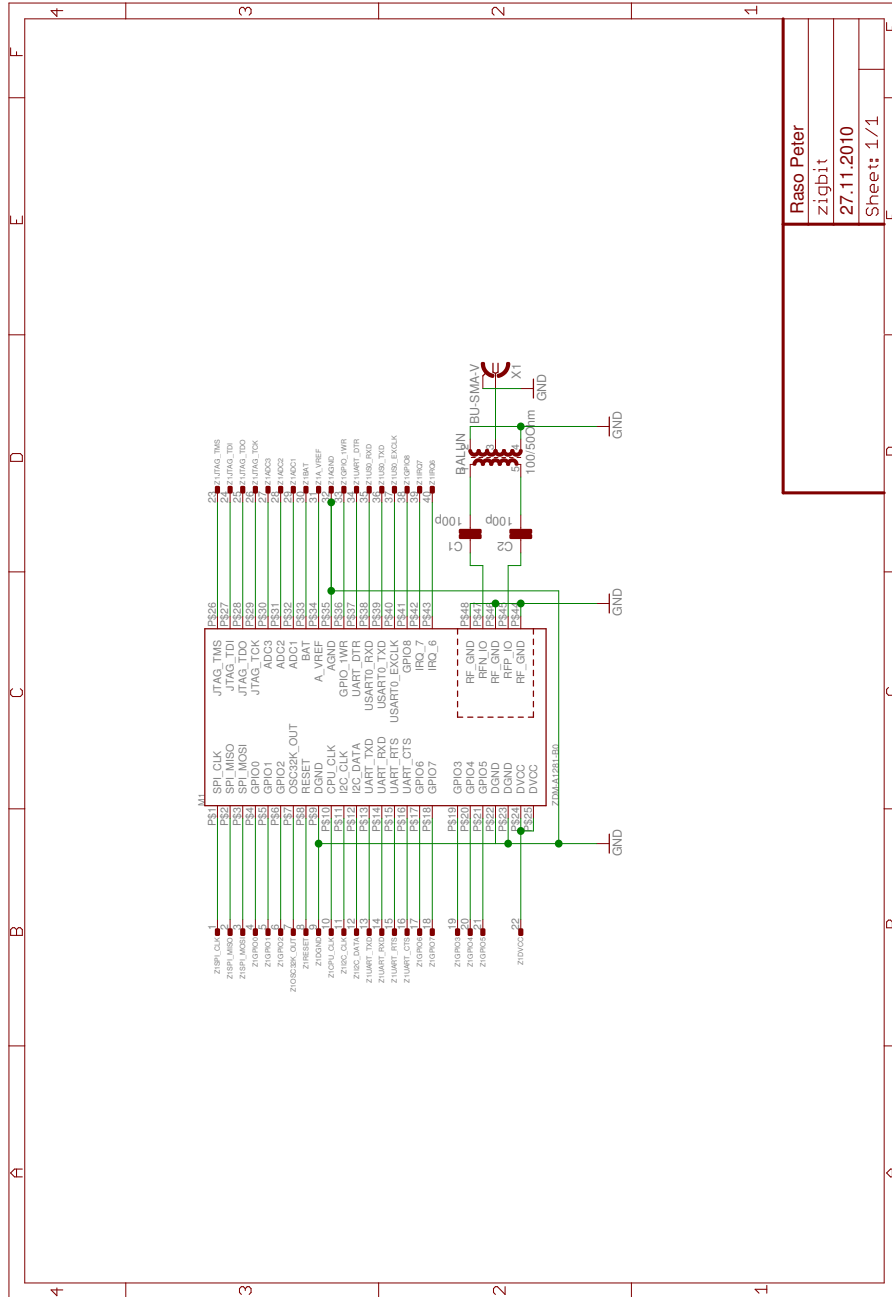
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Sheet: 1/1

A.2 Printed Circuit Board of End Station



A.5 Circuit Diagram of ZigBit 900 Module



A.6 Realisation

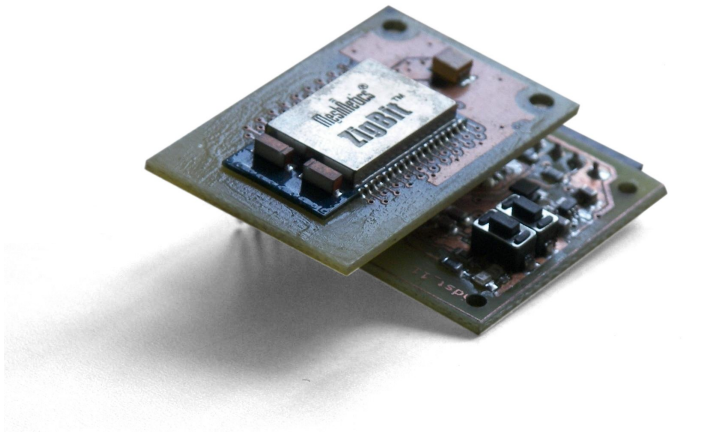


Fig. A.1: End station

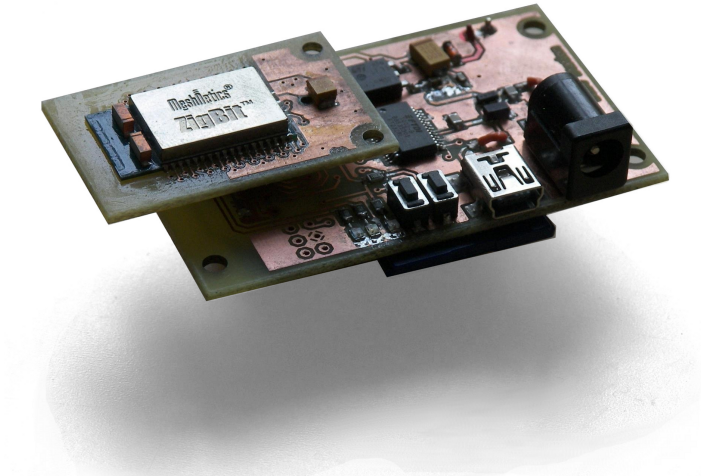


Fig. A.2: Base station

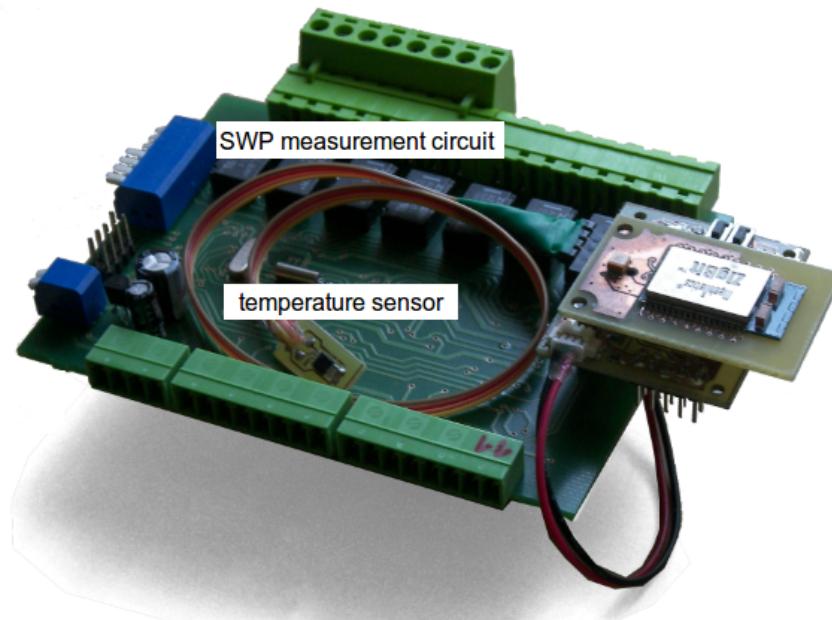


Fig. A.3: Connection of the end station to sensors



Fig. A.4: Watermark sensor

A.7 Measured Data

t - measured temperature

SWP - measured soil water potential

R - measured resistance

1. measurement					
R [kΩ]	SWP [kPa]	t [°C]			
0.6	0	5	3	19	20
0.7	2	5	5	28	20
0.8	3	5	8	45	20
0.9	4	5	10	57	20
1	6	5	12	70	20
2	10	5	15	91	20
3	14	5	20	127	20
5	20	5	25	163	20
8	32	5	28	184	20
10	41	5	0.6	0	30
12	50	5	0.7	2	30
15	65	5	0.8	4	30
20	89	5	0.9	6	30
25	117	5	1	8	30
28	132	5	2	16	30
0.6	0	10	3	22	30
0.7	2	10	5	33	30
0.8	3	10	8	53	30
0.9	5	10	10	67	30
1	6	10	12	83	30
2	12	10	15	107	30
3	15	10	20	151	30
5	23	10	25	194	30
8	36	10	0.6	0	40
10	46	10	0.7	2	40
12	57	10	0.8	5	40
15	73	10	0.9	7	40
20	102	10	1	10	40
25	132	10	2	19	40
28	148	10	3	25	40
0.6	0	20	5	38	40
0.7	2	20	8	62	40
0.8	4	20	10	78	40
0.9	6	20	12	97	40
1	7	20	15	125	40
2	14	20	20	176	40
			25	199	40

2. measurement		
R [kΩ]	SWP [kPa]	t [°C]
0.6	0	5
0.7	2	5
0.8	3	5
0.9	4	5
1	6	5
2	10	5
3	14	5
5	20	5
8	32	5
10	40	5
12	50	5
15	64	5
20	90	5
22	100	5
25	115	5
28	129	5
0.6	0	10
0.7	2	10
0.8	3	10
0.9	5	10
1	6	10
2	12	10
3	15	10
5	23	10
8	36	10
10	46	10
12	57	10
15	73	10
20	102	10
22	114	10
25	132	10
28	147	10
0.6	0	20
0.7	2	20
0.8	4	20
0.9	6	20
1	7	20
2	14	20

3	19	20
5	28	20
8	45	20
10	57	20
12	70	20
15	91	20
20	128	20
22	140	20
25	163	20
28	182	20
0.6	0	30
0.7	2	30
0.8	4	30
0.9	6	30
1	8	30
2	16	30
3	22	30
5	33	30
8	53	30
10	67	30
12	83	30
15	107	30
20	151	30
22	168	30
25	194	30
0.6	0	40
0.7	2	40
0.8	5	40
0.9	7	40
1	10	40
2	19	40
3	25	40
5	38	40
8	62	40
10	78	40
12	97	40
15	125	40
20	177	40
22	196	40

3. measurement		
R [kΩ]	SWP [kPa]	t [°C]
0.6	0	5
0.7	2	5
0.8	3	5
0.9	4	5
1	6	5
2	10	5
3	14	5
5	20	5
8	32	5
10	40	5
12	50	5
15	64	5
20	90	5
22	100	5
25	115	5
28	129	5
30	132	5
0.6	0	10
0.7	2	10
0.8	3	10
0.9	5	10
1	6	10
2	12	10
3	15	10
5	23	10
8	36	10
10	46	10
12	57	10
15	73	10
20	102	10
22	114	10
25	132	10
28	147	10
30	151	10
0.6	0	20
0.7	2	20
0.8	4	20
0.9	6	20
1	7	20
2	14	20

3	19	20
5	28	20
8	45	20
10	57	20
12	70	20
15	91	20
20	128	20
22	140	20
25	163	20
28	182	20
30	186	20
0.6	0	30
0.7	2	30
0.8	4	30
0.9	6	30
1	8	30
2	16	30
3	22	30
5	33	30
8	53	30
10	67	30
12	83	30
15	107	30
20	151	30
22	168	30
25	194	30
28	199	90
0.6	0	40
0.7	2	40
0.8	5	40
0.9	7	40
1	10	40
2	19	40
3	25	40
5	38	40
8	62	40
10	78	40
12	97	40
15	125	40
20	177	40
22	196	40
25	199	40