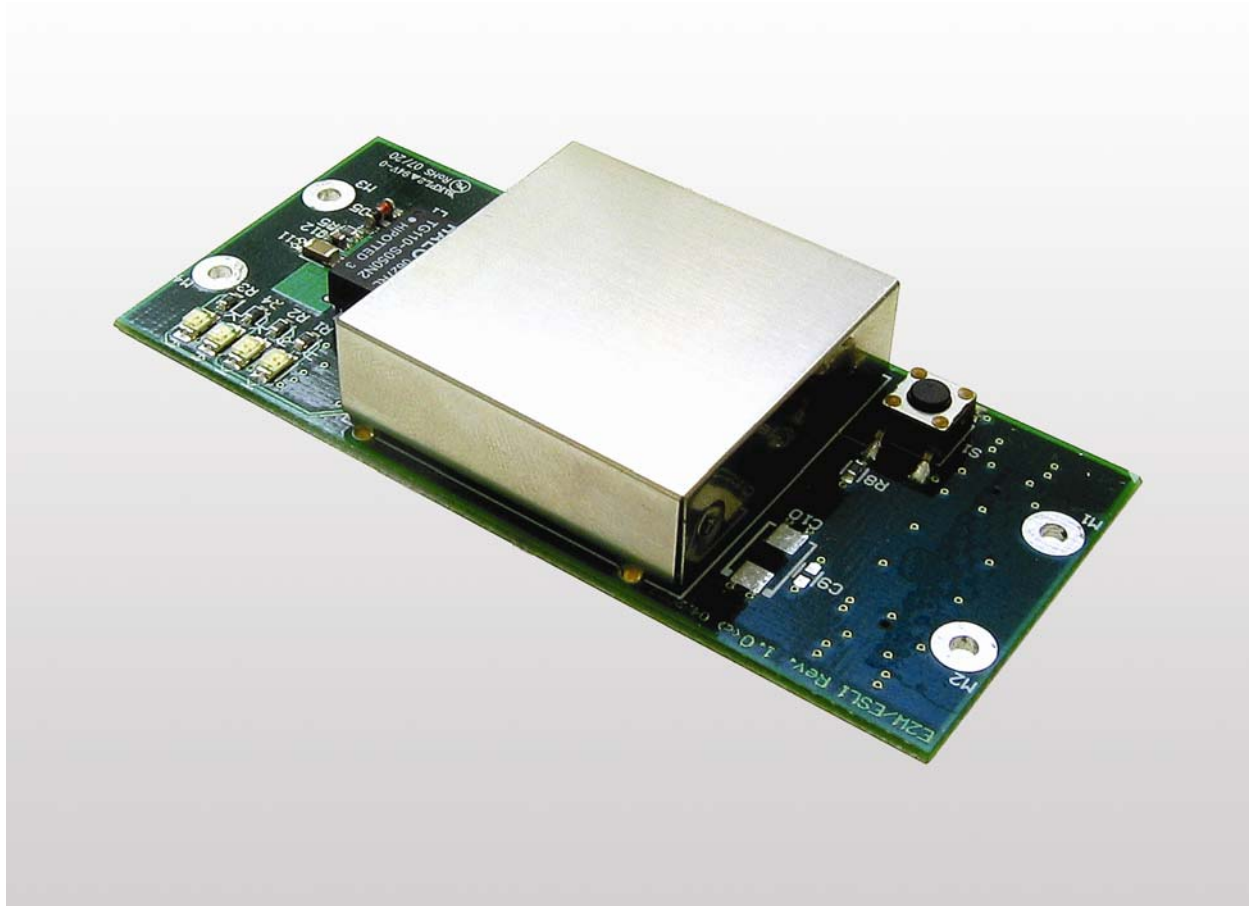


# ***E2W/ESL1***

## *Board Revision 1.0*

# Hardware Reference



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# 1 INTRODUCTION

This document describes the hardware components of the E2W/ESL1. For further information about the individual components of this product you may follow the links from our website at <http://www.ssv-embedded.de>. Our website contains a lot of technical information, which will be updated in regular periods.

## 1.1 Safety Guidelines

Please read the following safety guidelines carefully! In case of property or personal damage by not paying attention to this document and/or by incorrect handling, we do not assume liability. In such cases any warranty claim expires.



**ATTENTION:** Observe precautions for handling – electrostatic sensitive device!

- Discharge yourself before you work with the device, e.g. by touching a heater of metal, to avoid damages.
- Stay grounded while working with the device to avoid damage through electrostatic discharge.

## 1.2 Block Diagram

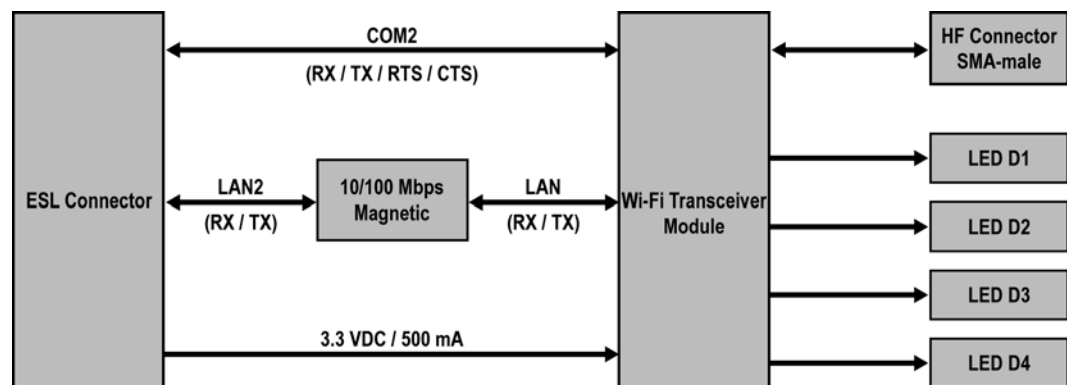


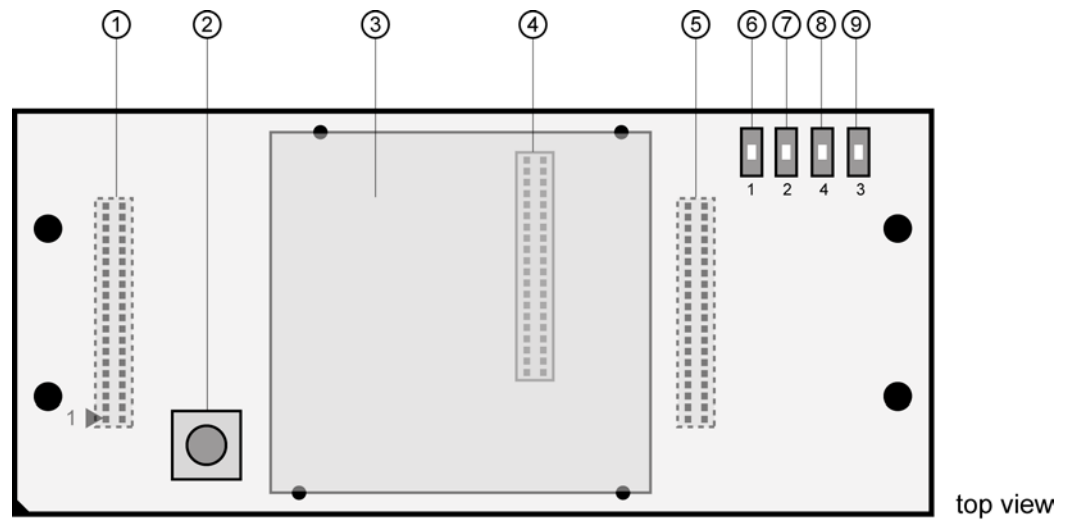
Figure 1: Block diagram of E2W/ESL1

## 1.3 Feature Overview

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- 80-pin ESL connector as interface to the DIL/NetPC ADNP/9200
- Wi-Fi transceiver module with IEEE 802.11b and IEEE 802.g support
- Full transparent bridge mode between Wi-Fi networks and the ADNP/9200 LAN2 Ethernet network interface
- Supports IEEE 802.11 infrastructure mode and ad-hoc mode
- External antenna connector (SMA male type) with 100 mm cable
- IEEE 802.11 security with 64/128-bit WEP or WPA-PSK
- 2.412 – 2.484 GHz frequency range
- 14 dBm +1.5 dBm/-1.0 dBm RF output power
- 10 dBm (with PER < 8 %) max. RF receiver level
- Range up to 100 m indoor
- Serial interface to ADNP/9200 COM2 port for Wi-Fi setup operations
- User setup over serial interface from ADNP/9200 Linux command line
- Four status LEDs for power, Wi-Fi activity, LAN interface link and LAN interface activity
- 3.3 VDC / 500 mA (max.) power supply
- Operating temperature -40° to +70° C
- Module size 82 mm x 36 mm

## 2 BOARD LAYOUT



- |   |                              |
|---|------------------------------|
| ① J1 - 80-pin ESL connector 1 (bottom side) | ⑥ D1 - Wi-Fi power on LED    |
| ② S1 - Reset button                         | ⑦ D2 - Wi-Fi activity LED    |
| ③ Wi-Fi transceiver module                  | ⑧ D4 - Ethernet activity LED |
| ④ J3 - Wi-Fi transceiver module connector   | ⑨ D3 - Ethernet link LED     |
| ⑤ J2 - 80-pin ESL connector 2 (bottom side) |                              |

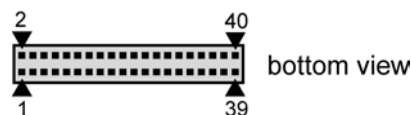
**Figure 2: Board layout E2W/ESL1**

### 3 PINOUTS

#### 3.1 80-pin ESL Connector (1. Part)

Pin	Name	Function
1	VCC	3.3 Volt Power Input
2	GND	Ground
3	Reserved	Reserved – Do not use
4	Reserved	Reserved – Do not use
5	Reserved	Reserved – Do not use
6	Reserved	Reserved – Do not use
7	VCC	3.3 Volt Power Input
8	GND	Ground
9	Reserved	Reserved – Do not use
10	Reserved	Reserved – Do not use
11	Reserved	Reserved – Do not use
12	Reserved	Reserved – Do not use
13	Reserved	Reserved – Do not use
14	Reserved	Reserved – Do not use
15	Reserved	Reserved – Do not use
16	Reserved	Reserved – Do not use
17	GND	Ground
18	VCC	3.3 Volt Power Input
19	Reserved	Reserved – Do not use
20	RTS	Serial Port, RTS Pin
21	Reserved	Reserved – Do not use
22	TXD	Serial Port, TXD Pin
23	Reserved	Reserved – Do not use
24	RXD	Serial Port, RXD Pin
25	Reserved	Reserved – Do not use
26	CTS	Serial Port, CTS Pin
27	GND	Ground
28	VCC	3.3 Volt Power Input
29	Reserved	Reserved – Do not use
30	Reserved	Reserved – Do not use
31	Reserved	Reserved – Do not use
32	Reserved	Reserved – Do not use
33	Reserved	Reserved – Do not use
34	Reserved	Reserved – Do not use
35	Reserved	Reserved – Do not use
36	Reserved	Reserved – Do not use
37	GND	Ground
38	GND	Ground
39	VCC	3.3 Volt Power Input
40	VCC	3.3 Volt Power Input

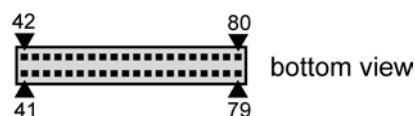
Table 1: 80-pin ESL connector pinout – pin 1 to 40



### 3.2 80-pin ESL Connector (2. Part)

Pin	Name	Function
41	VCC	3.3 Volt Power Input
42	VCC	3.3 Volt Power Input
43	GND	Ground
44	GND	Ground
45	TX-	10/100 Mbps LAN2, TX- Pin
46	RX-	10/100 Mbps LAN2, RX- Pin
47	TX+	10/100 Mbps LAN2, TX+ Pin
48	RX+	10/100 Mbps LAN2, RX+ Pin
49	GND	Ground
50	GND	Ground
51	Reserved	Reserved – Do not use
52	Reserved	Reserved – Do not use
53	VCC	3.3 Volt Power Input
54	GND	Ground
55	Reserved	Reserved – Do not use
56	Reserved	Reserved – Do not use
57	Reserved	Reserved – Do not use
58	Reserved	Reserved – Do not use
59	Reserved	Reserved – Do not use
60	Reserved	Reserved – Do not use
61	Reserved	Reserved – Do not use
62	Reserved	Reserved – Do not use
63	VCC	3.3 Volt Power Input
64	GND	Ground
65	Reserved	Reserved – Do not use
66	Reserved	Reserved – Do not use
67	Reserved	Reserved – Do not use
68	Reserved	Reserved – Do not use
69	Reserved	Reserved – Do not use
70	Reserved	Reserved – Do not use
71	Reserved	Reserved – Do not use
72	Reserved	Reserved – Do not use
73	GND	Ground
74	VCC	3.3 Volt Power Input
75	Reserved	Reserved – Do not use
76	Reserved	Reserved – Do not use
77	Reserved	Reserved – Do not use
78	Reserved	Reserved – Do not use
79	GND	Ground
80	VCC	3.3 Volt Power Input

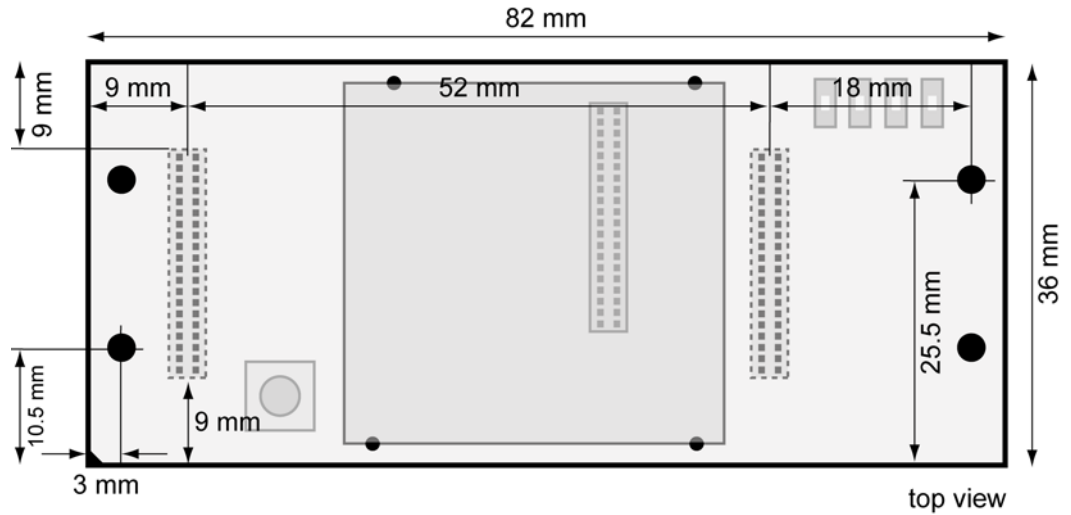
Table 2: 80-pin ESL connector pinout – pin 41 to 80



## 4 MECHANICAL DIMENSIONS

### 4.1 Board Dimensions

All length dimensions have a tolerance of 0.5 mm. The drillings are suitable for M2.2 screws.



**Figure 3: Mechanical dimensions of E2W/ESL1**

ESL connector specifications:

2 x 40-pin Samtec FTMH-120-03-F-DV-ES connectors (18 mm x 5 mm)

Wi-Fi transceiver module connector specifications:

1 x 40-pin Samtec FTMH-120-03-F-DV-ES connector (18 mm x 5 mm)



## 4.2 Wireless Interface Dimensions

All length dimensions have a tolerance of 0.5 mm.

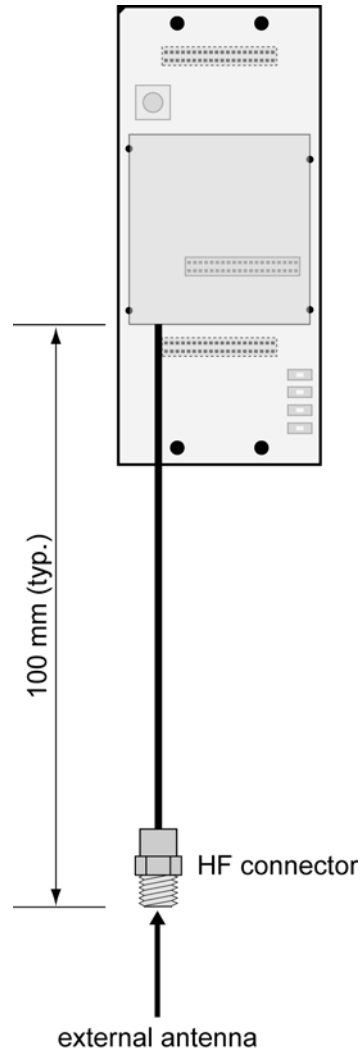


Figure 4: Mechanical dimensions of wireless interface

## 5 HELPFUL LITERATURE

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- DIL/NetPC ADNP/9200 hardware reference manual
- Evaluation Board DNP/EVA11 hardware reference manual
- First Steps Starter Kit DNP/SK27

## CONTACT

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Support: [www.ssv-comm.de/forum](http://www.ssv-comm.de/forum)

For actual information about the E2W/ESL1 visit us at [www.dilnetpc.com](http://www.dilnetpc.com).

## DOCUMENT HISTORY

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Revision	Date	Remarks	Name
1.0	2007-09-12	first version	WBU

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