



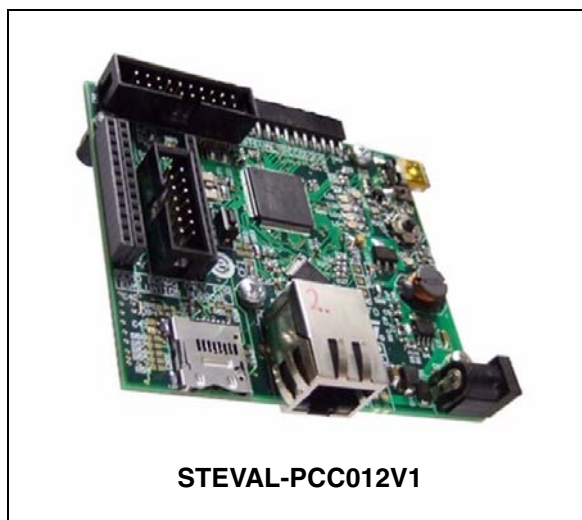
STEVAL-PCC012V1

Connectivity gateway demonstration board based on the STM32F107

Data brief

Features

- Offers Ethernet, USB OTG and general-purpose extension connector
- Two positions for optional Wi-Fi modules
- A microSD™ card socket
- Digital/analog extension connectors compatible with STEVAL-MKI0xxV1 MEMS extension boards and STEVAL-CCA021V1 audio extension board
- Compatible with ST7590 “PRIME” board – narrow-band OFDM
- JTAG interface for microcontroller firmware change/update
- DC-DC power supply using the L7986A
- Stand-alone demonstration firmware, on-board LEDs and joystick
- RoHS compliant



Description

The STEVAL-PCC012V1 demonstration board is equipped with an Ethernet interface, four digital/analog extension connectors (I²C, SPI, etc.), footprint positions for two different Wi-Fi modules, an OFDM PRIME power line networking extension connector and a microSD card socket with SPI interface. It also features a 5-way joystick, four general-purpose LEDs and two LEDs dedicated to the user interface.

The demonstration board also includes digital/analog input/output connectors with pinouts compatible with other demonstration boards from STMicroelectronics.

The STEVAL-PCC012V1 can be supplied from a standard DC power supply (7 - 35 VDC), or directly using a 24 VDC industrial mains supply.

JTAG

Pin 1: +3.3V CN1
Pin 2: +3.3V
Pin 3: JTRST
Pin 4: JTDI
Pin 5: JTMS
Pin 6: JTCK
Pin 7: JTRST
Pin 8: JTDI
Pin 9: JTRST
Pin 10: JTDI
Pin 11: JTRST
Pin 12: JTDI
Pin 13: JTRST
Pin 14: JTDI
Pin 15: JTRST
Pin 16: JTDI
Pin 17: JTRST
Pin 18: JTDI
Pin 19: JTRST
Pin 20: JTDI

LEDs

Pin 1: +3.3V
Pin 2: LED1 (YELLOW)
Pin 3: LED2 (RED)
Pin 4: LED3 (YELLOW)
Pin 5: LED4 (GREEN)

Audio connector

Pin 1: +3.3V
Pin 2: +3.3V
Pin 3: +3.3V
Pin 4: +3.3V
Pin 5: +3.3V
Pin 6: +3.3V
Pin 7: +3.3V
Pin 8: +3.3V
Pin 9: +3.3V
Pin 10: +3.3V
Pin 11: +3.3V
Pin 12: +3.3V
Pin 13: +3.3V
Pin 14: +3.3V
Pin 15: +3.3V
Pin 16: +3.3V
Pin 17: +3.3V
Pin 18: +3.3V
Pin 19: +3.3V
Pin 20: +3.3V

Test points

3.3V
+3.3V
5.3V
+5.3V
GND
GND

Header 10 x 2 S

Pin 1: +3.3V
Pin 2: +3.3V
Pin 3: +3.3V
Pin 4: +3.3V
Pin 5: +3.3V
Pin 6: +3.3V
Pin 7: +3.3V
Pin 8: +3.3V
Pin 9: +3.3V
Pin 10: +3.3V
Pin 11: +3.3V
Pin 12: +3.3V
Pin 13: +3.3V
Pin 14: +3.3V
Pin 15: +3.3V
Pin 16: +3.3V
Pin 17: +3.3V
Pin 18: +3.3V
Pin 19: +3.3V
Pin 20: +3.3V

Figure 5. Ethernet - part 1 (PHY pinout)

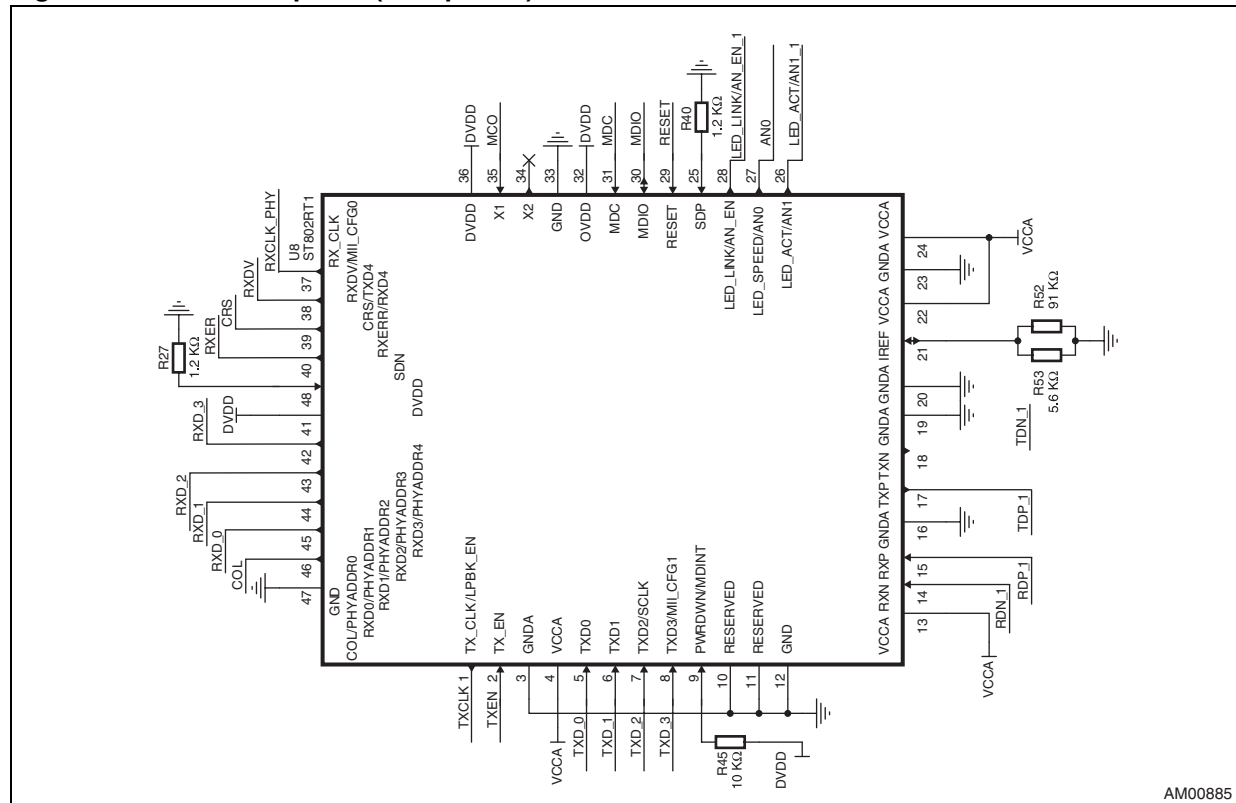
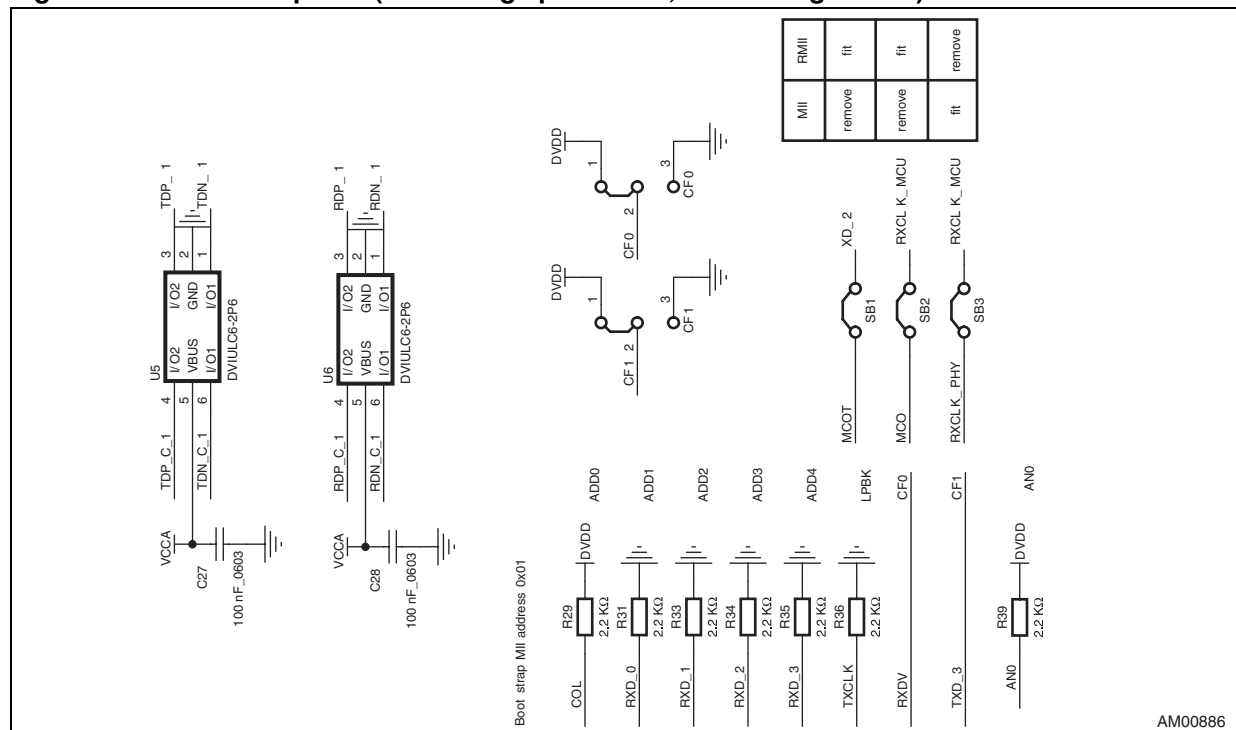


Figure 6. Ethernet - part 2 (overvoltage protection, PHY configuration)



[illegible]

The schematic diagram illustrates the electrical connections for the ZG2100M module. Key components and their connections are as follows:

- Resistors:**
 - R60, R61, R62:** 10 K Ω resistors connected to the INT_NX, MOSI, and SCK pins, respectively, leading to a +3.3 V supply.
 - R49:** A 4.7 K Ω resistor connected to the RESET pin, leading to a +3.3 V supply.
- Connectors and Jumper Settings:**
 - JP5:** A 3-pin header with pins 1 and 2 connected, and pin 3 to GND.
 - JP4:** A 3-pin header with pins 1 and 2 connected, and pin 3 to GND.
 - JTGEN:** A 2-pin header with pin 1 connected to GND and pin 2 to JTGRN.
 - JTGRN:** A 2-pin header with pin 1 connected to GND and pin 2 to JTGRN.
- Module Pin Connections (U9):**
 - Pin 19:** CS_WIFI to +3.3 V.
 - Pin 20:** CE_N to GND.
 - Pin 21:** JTGEN to JTGEN.
 - Pin 22:** DNC to GND.
 - Pin 23:** SCS_N to GND.
 - Pin 24:** VDD_1.8 to GND.
 - Pin 25:** GND to GND.
 - Pin 26:** UART_RX to GND.
 - Pin 27:** UART_TX to GND.
 - Pin 28:** GND to GND.
 - Pin 29:** VDD_3.3 to +3.3 V.
 - Pin 30:** GND to GND.
 - Pin 31:** VDD_1.8 to GND.
 - Pin 32:** SDO to GND.
 - Pin 33:** *INT_NX to GND.
 - Pin 34:** SCK to GND.
 - Pin 35:** MOSI to GND.
 - Pin 36:** GND to GND.
- Module Internal Connections:**
 - Pin 18:** GND to GND.
 - Pin 17:** VDD_3.3 to +3.3 V.
 - Pin 16:** RES to GND.
 - Pin 15:** DNC to GND.
 - Pin 14:** DNC to GND.
 - Pin 13:** DNC to GND.
 - Pin 12:** DNC to GND.
 - Pin 11:** DNC to GND.
 - Pin 10:** VDD_1.8 to GND.
 - Pin 9:** GND to GND.
 - Pin 8:** JTGRN to JTGRN.
 - Pin 7:** DNC to GND.
 - Pin 6:** RST_N to GND.
 - Pin 5:** JTGEN_TDI to GND.
 - Pin 4:** JTGEN_TMS to GND.
 - Pin 3:** JTGEN_TCK to GND.
 - Pin 2:** JTGEN_TDO to GND.
 - Pin 1:** VDD_1.8 to GND.

Figure 11. MicroSD card

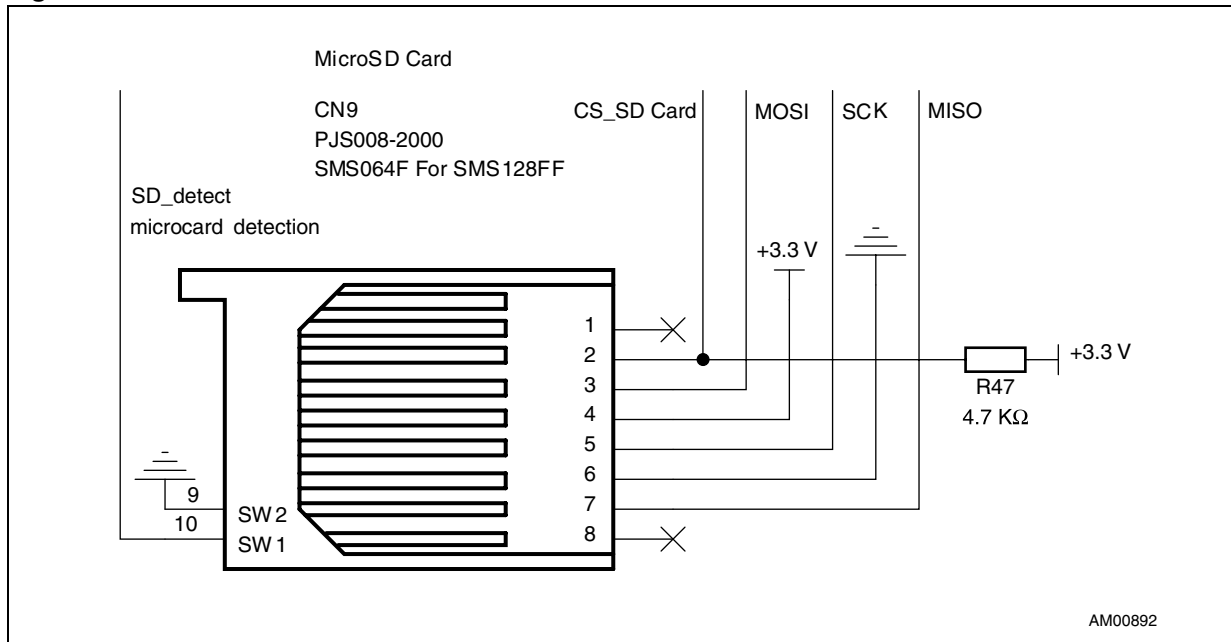
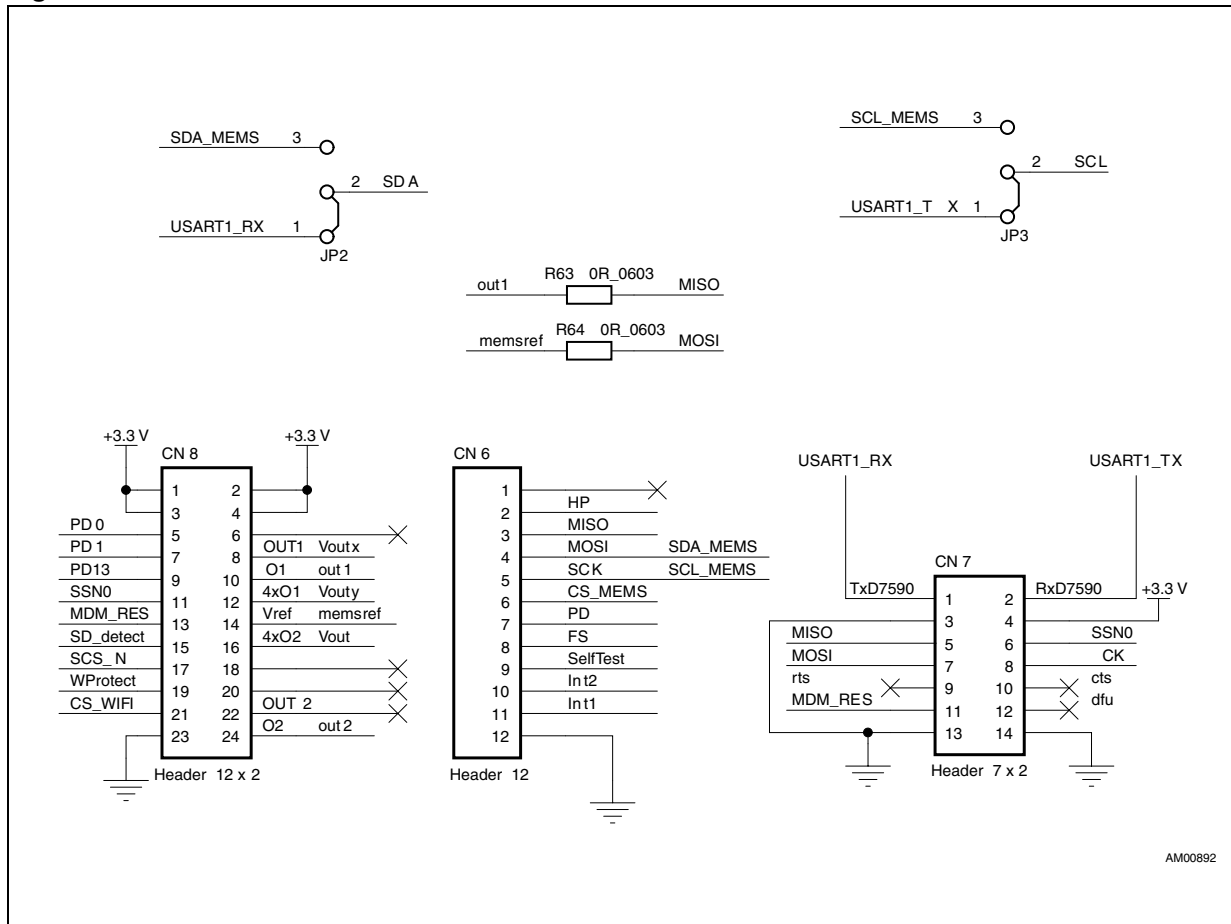


Figure 12. MEMS extension connectors



2 Power supply connectors CN2, P2

Figure 13. Power supply connector CN2

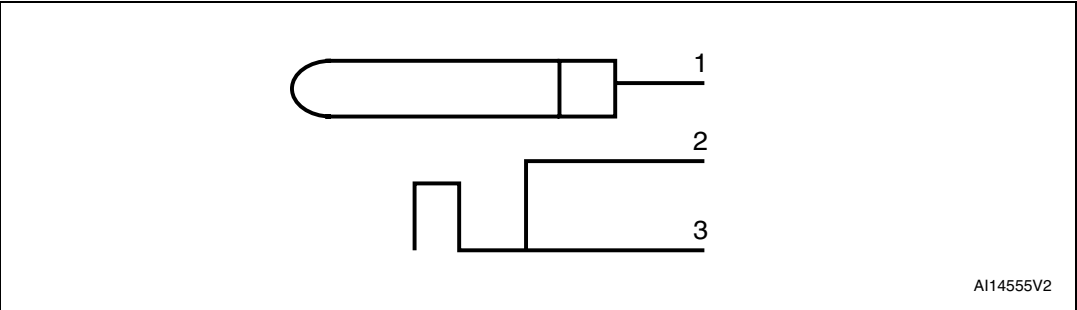


Table 1. Power supply connector CN2

Pin	Signal	Pin	Signal
1	24 VDC	3	GND
2	GND		

Figure 14. Power supply connector P2

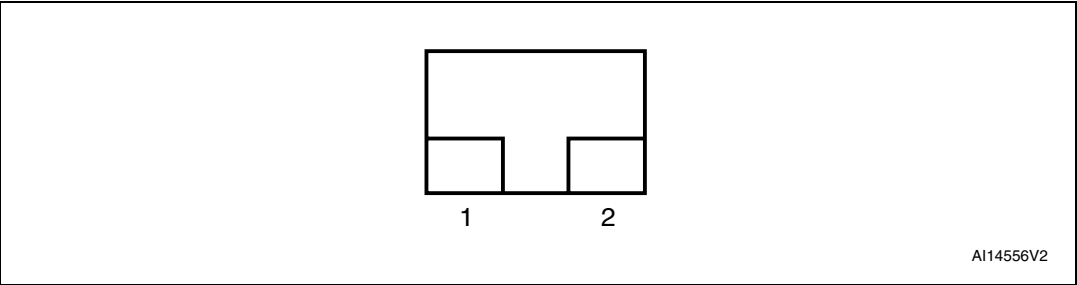


Table 2. Power supply connector P2

Pin	Signal
1	24 VDC
2	GND

3 Revision history

Table 3. Document revision history

Date	Revision	Changes
15-Jun-2010	1	Initial release.

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