



STEVAL-PCC010V2

Ethernet with ST802RT1A and STM32F207 demonstration board

Data brief

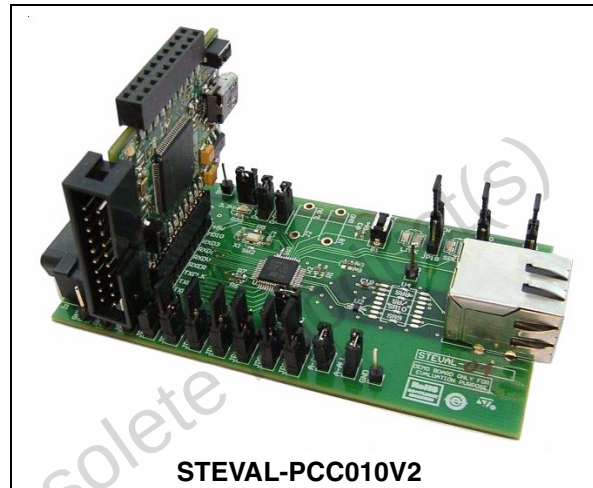
Features

ST802RT1A Ethernet PHY demonstration board:

- ST802RT1A Fast Ethernet physical layer transceiver
- Onboard 3.3 V LDO regulator
- Onboard 25 MHz crystal
- 12 jumpers for boot-strap configuration (MII address, auto-negotiation, loopback, power down, and MII/RMII configuration)
- Several GND test points and jumpers for power consumption measurement
- Connectors
 - 20-pin full pitch header connector for debug purposes (compatible with the STM32F207 controller board)
 - RJ45 connector with embedded transformer
 - 40-pin connector footprint compatible with the spirent communications SmartBits 200/2000 (SMB-200/ SMB-2000) analysis system (connector is not assembled)

STM32F207 controller demonstration board:

- STM32F207 Connectivity Line Cortex-m3 based microcontroller with embedded Ethernet MAC
- Onboard 3.3 V LDO regulator
- Onboard 25 MHz crystal
- Reset button, power LED, general-purpose button, and two LEDs
- Connectors:
 - 20-pin full pitch header connector for debug purposes and compatibility with the ST802RT1A demonstration board
 - 20-pin JTAG connector
 - Additional general purpose 20-pin full pitch header connector
 - USB device connector (+5 V0 Power supply)



- RoHS compliant

Description

The STEVAL-PCC010V2 demonstration board is an evolution of the STEVAL-PCC010V1 and was designed to allow evaluation of the ST802RT1A, Fast Ethernet physical layer (PHY) interface supporting 100BASE-TX and 10BASE-T applications.

The PHY provides a media independent interface (MII) and reduced media independent interface (RMII) for easy attachment to a 10/100 media access controllers (MAC).

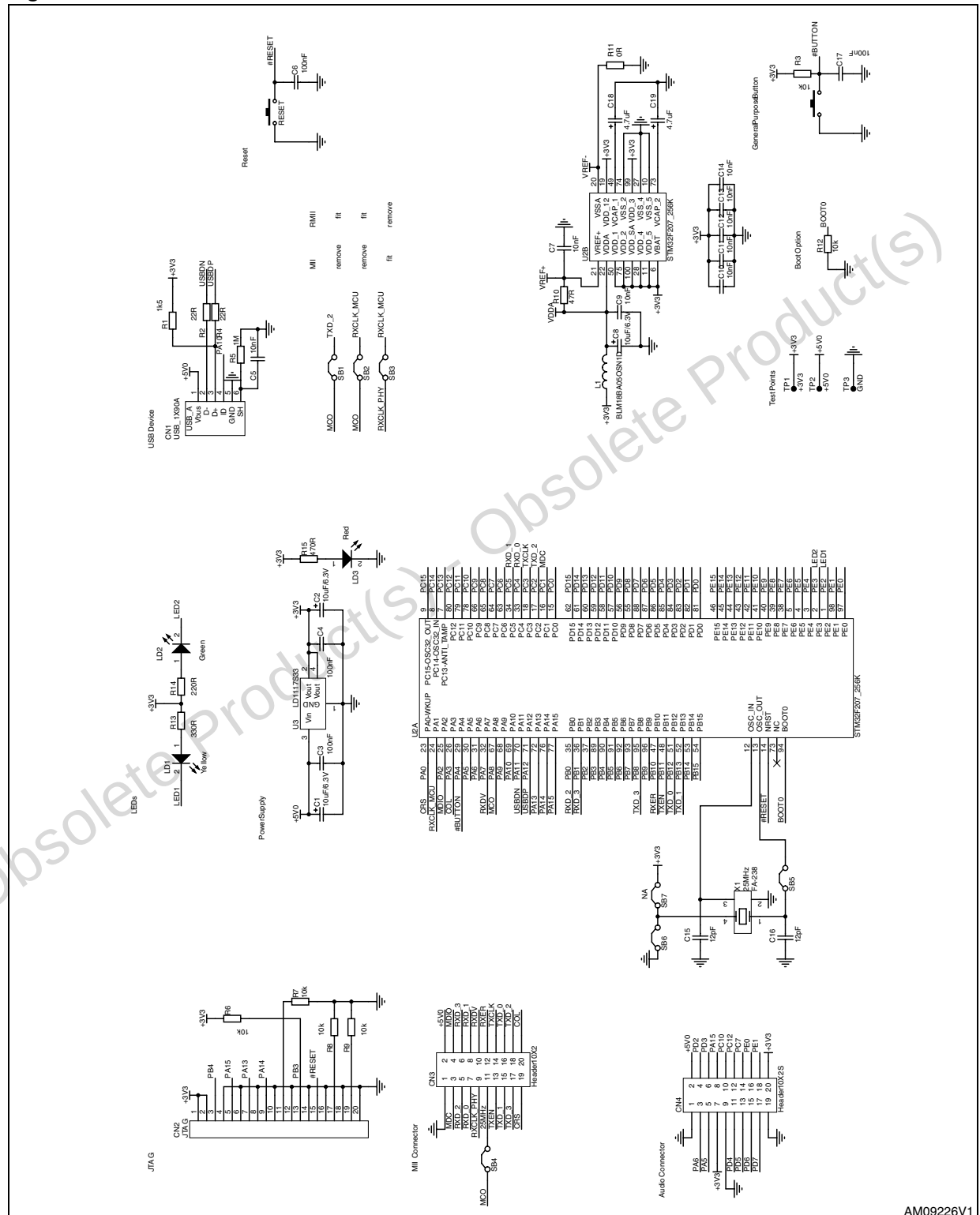
Many jumpers, test points, and connectors on the demonstration board enable to test the features provided by the ST802RT1A Ethernet PHY. An additional header connector allows connection to the STM32F207 controller demonstration board for an immediate evaluation of the complete application – microcontroller and the physical layer.

The controller board is pre-flashed with a web server demo.

The STM32F207 controller demonstration board is part of the STEVAL-PCC010V2 package delivery.

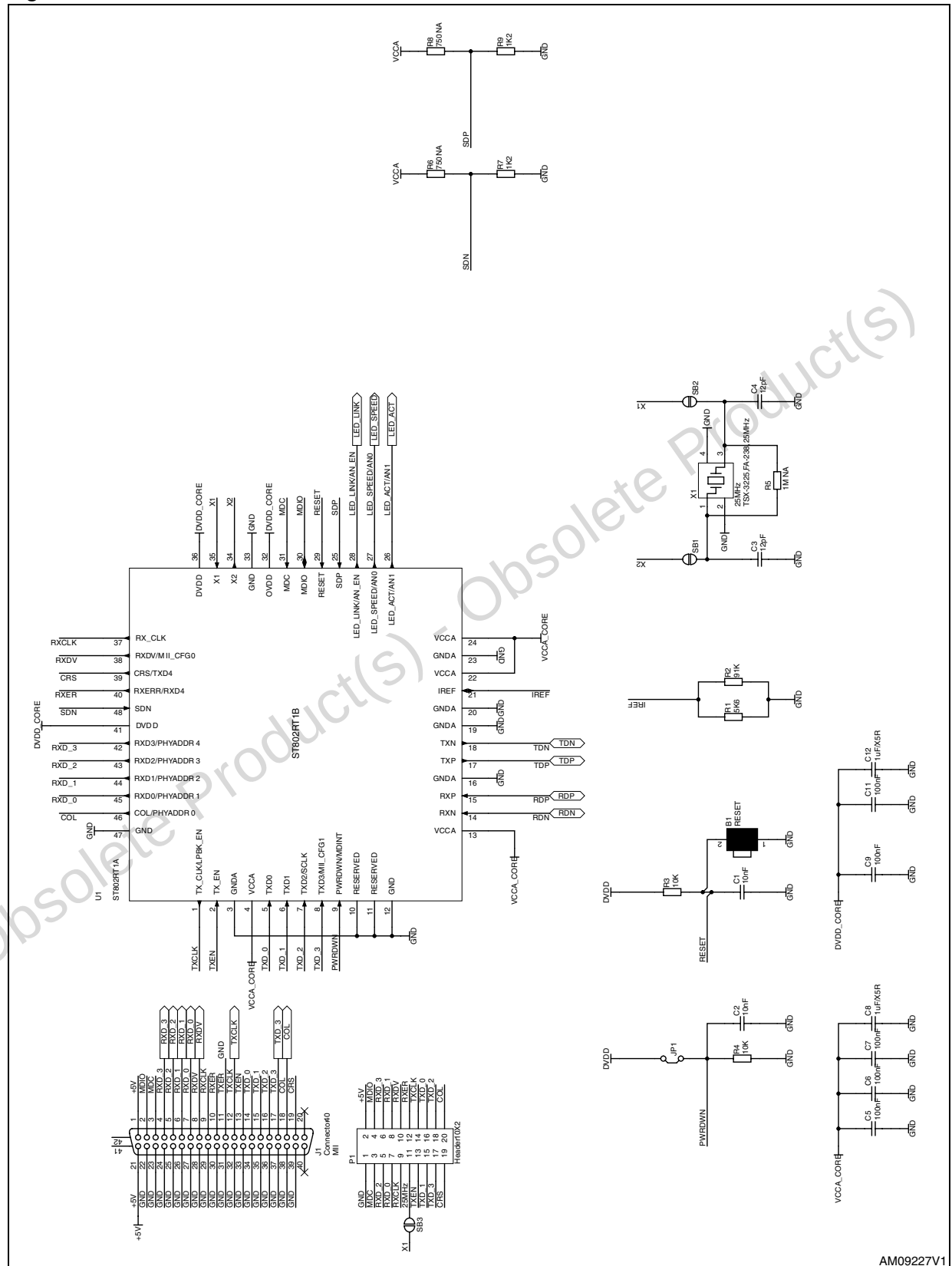
1 Schematics

Figure 1. Schematic 1/4



AM09226V1

Figure 2. Schematic 2/4



AM09227V1

The schematic diagram illustrates the internal circuitry of the AM09228V module, including power regulation, signal processing, and status indicators.

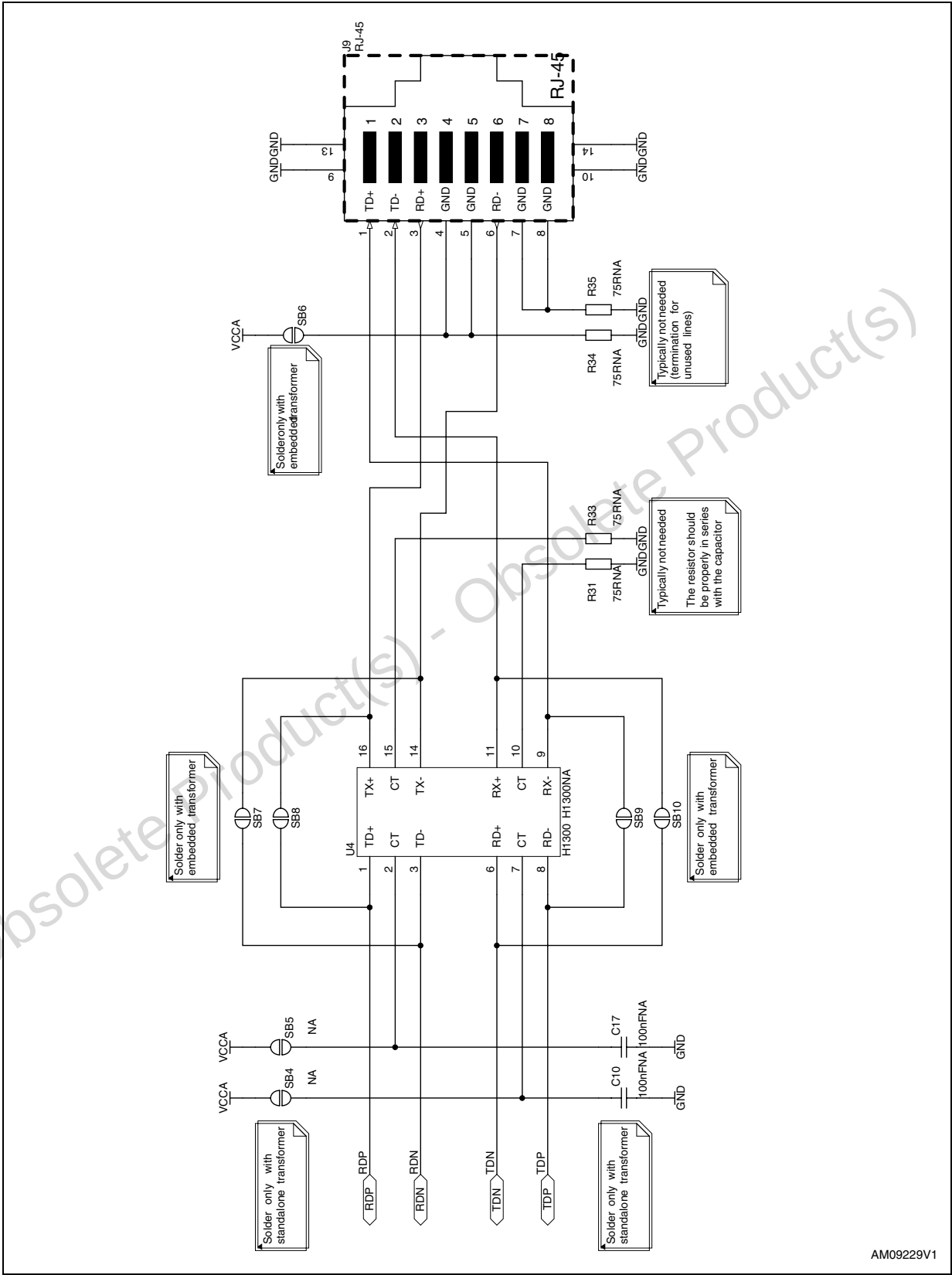
Power and Ground Connections:

- Power Input:** A +5V input is connected to pin J20 (STP82A40U) and pin 3 of U3 (LD1117S33).
- Power Regulation:** U3 (LD1117S33) is configured as a voltage regulator, outputting 3V3 to pin J19 (3V3LDO).
- Grounding:** Multiple ground connections are shown, including GND, GND, and GND.
- Capacitors:** C14 (100nF), C15 (100nF), C16 (100nF), and C17 (100nF) are used for decoupling and filtering.

Signal and Control Connections:

- TXCLK:** Connected to pin 1 of J7 (TXCLK).
- RXD0:** Connected to pin 2 of J7 (RXD0).
- RXD1:** Connected to pin 3 of J7 (RXD1).
- RXD2:** Connected to pin 4 of J7 (RXD2).
- RXD3:** Connected to pin 5 of J7 (RXD3).
- RXD4:** Connected to pin 6 of J7 (RXD4).
- RXD5:** Connected to pin 7 of J7 (RXD5).
- RXD6:** Connected to pin 8 of J7 (RXD6).
- RXD7:** Connected to pin 9 of J7 (RXD7).
- RXD8:** Connected to pin 10 of J7 (RXD8).
- RXD9:** Connected to pin 11 of J7 (RXD9).
- RXD10:** Connected to pin 12 of J7 (RXD10).
- RXD11:** Connected to pin 13 of J7 (RXD11).
- RXD12:** Connected to pin 14 of J7 (RXD12).
- RXD13:** Connected to pin 15 of J7 (RXD13).
- RXD14:** Connected to pin 16 of J7 (RXD14).
- RXD15:** Connected to pin 17 of J7 (RXD15).
- RXD16:** Connected to pin 18 of J7 (RXD16).
- RXD17:** Connected to pin 19 of J7 (RXD17).
- RXD18:** Connected to pin 20 of J7 (RXD18).
- RXD19:** Connected to pin 21 of J7 (RXD19).
- RXD20:** Connected to pin 22 of J7 (RXD20).
- RXD21:** Connected to pin 23 of J7 (RXD21).
- RXD22:** Connected to pin 24 of J7 (RXD22).
- RXD23:** Connected to pin 25 of J7 (RXD23).
- RXD24:** Connected to pin 26 of J7 (RXD24).
- RXD25:** Connected to pin 27 of J7 (RXD25).
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- RXD128:** Connected to pin 130 of J7 (RXD128).
- RXD129:** Connected to pin 131 of J7 (RXD129).
- RXD130:** Connected to pin 132 of J7 (RXD130).
- RXD131:** Connected to pin 133 of J7 (RXD131).
- RXD132:** Connected to pin

Figure 4. Schematic circuit 4/4



AM09229V1

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
23-Feb-2011	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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