

SPI to MIL-STD-1553 Daughterboard

BRD1553SPI / BRD1553SPI-P

MIL-STD-1553B/1760 with SPI Connectivity

Compact, Robust, Reliable
MIL-STD-1553 Products



Specifications

Compatibility

- MIL-STD-1553B Notice 2
- Transformer coupling pins
- Direct coupling pins
- SPI up to 50Mhz

Host Requirements

- SPI over PMOD port

Power

- Single 3.3Vdc
- 2W peak during transmission

Connection

- 4 pins SPI slave to host
- 4 pins for 1553 bus A and B
- RT Address wires (Optional)
- Interrupt to host
- Two 17 pins, 2 mm headers
- Field upgradeable connector

Ordering Information

- BRD1553SPI
Board without coating
- BRD1553SPI-C
Board with coating
- BRD1553SPI-P
Board with PMOD and Triax
adapter board

More 1553 products from Sital:

- MIL-STD-1553 IP Cores for FPGAs.
- MIL-STD-1553 Discrete Components Transceiver for IP Core
- USB 1553 Tester
- Smart Wiring for 1553 bus fast fault detection and location

Sital Technology Ltd.
17 Atir Yeda St, Kfar-Saba, Israel
Tel.: +972-9-7633300

BRD1553SPI-P Key Features and Benefits

- Dual-Redundant Mil-Std-1553B Bus transceiver and transformer.
- Simple hardware connections 4 wires to Host, 4 wires to bus.
- PMOD connectivity for popular evaluation boards for rapid prototyping
- Digital engine and API compatibility with DDC® Micro-ACE®, Total-ACE®, Mini-ACE®, Enhanced Mini-ACE® and Mini-ACE® Mark3 chipset families.
- 8K x 16 internal memory.
- Operates from a single 3.3Vdc power supply, 2W at peak usage.
- Less than 0.25W power dissipation.
- PCB Board size 32 x 35 mm (SPI)
- Additional JTAG header for optional field update
- Both transformer AND direct coupling pins for user selection
- Triaxial Connectors for MIL-STD-1553B bus



BRD1553SPI



BRD1553SPI-P

The BRD1553SPI unit is a complete Mil-Std-1553 node intended to simplify the integration of MIL-STD-1553 BC, RT, or MT onto a system. The BRD1553SPI unit integrates compatibility with DDC® Micro-ACE®, Total-ACE®, Mini-ACE®, Enhanced Mini-ACE® and Mini-ACE® Mark3 chipset families with transceiver and transformer. The digital engine uses an 8Kx16 memory incorporated on the same fabric for higher reliability. The BRD1553SPI is built from commonly available components, and does not depend on any of the MIL-STD-1553 IC suppliers.

More information available at www.sitaltech.com
Email: info@sitaltech.com



Integration Options

- Standard 6 pin PMOD connector
- Zilinx Vivado Project files with SPI Master IP
- Linux / PetaLinux / VxWorks 7.0 device drivers

Supported Software

- Device drivers:
 - Linux
 - VxWorks 6.9
 - VxWorks 7.0
- Application sample code

Deliverables

- BRD1553SPI Board
- PMOD <-> 1553 adapter
- PikoLinux device driver
- FPGA SPI Host IP
- VIVADO project files for rapid out of the box operation
- Application sample code

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Tel: +972-9-7633300
Fax: +972-9-7663394

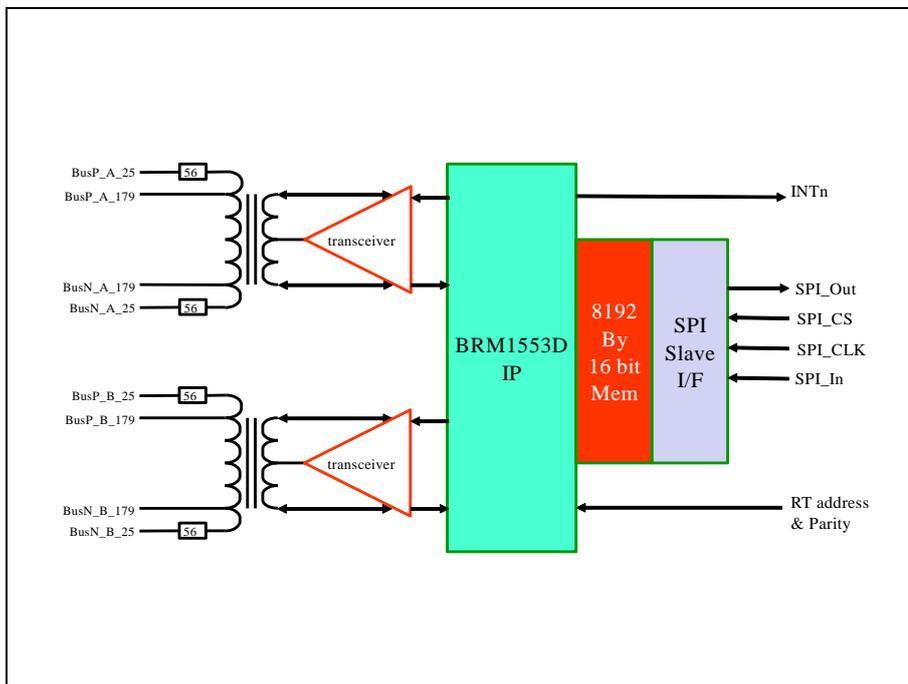
Email: info@sitaltech.com
Web: www.sitaltech.com



BRD1553SPI-P

Mil-Std-1553 Transceiver board

Sital's 1553 Transceiver / Transformer board from discrete components and 2 Transformers. The block diagram of the card is:



The BRD1553SPI connects to user's board via two 17 pin headers, 2mm spacing:

P1 - 1	3V3	P2 - 1	3V3
P1 - 2	N/C	P2 - 2	RT_Address(0)
P1 - 3	N/C	P2 - 3	RT_Address(1)
P1 - 4	GND	P2 - 4	GND
P1 - 5	INTn	P2 - 5	N/C
P1 - 6	SPI_Out	P2 - 6	N/C
P1 - 7	GND	P2 - 7	GND
P1 - 8	SPI_In	P2 - 8	RT_Address(2)
P1 - 9	SPI_CSn	P2 - 9	RT_Address(3)
P1 - 10	SPI_CLK	P2 - 10	RT_Address(4)
P1 - 11	GND	P2 - 11	GND
P1 - 12	N/C	P2 - 12	RT_Address_Parity
P1 - 13	BUSN_B_179	P2 - 13	BUSN_A_179
P1 - 14	N/C	P2 - 14	N/C
P1 - 15	BUSP_B_179	P2 - 15	BUSP_A_179
P1 - 16	BUSN_B_25	P2 - 16	BUSN_A_25
P1 - 17	BUSP_B_25	P2 - 17	BUSP_A_25

About Sital Technology

Sital is a world leader in the design and manufacture of high-reliability connectivity solutions (FPGA IP cores; Transceivers; Transformers; software; I/O boards) for aerospace, defense, space, and industrial applications. With a focus on quality, innovation, delivery, and support, Sital has served these industries as a trusted resource for more than 20 years providing proven solutions that are optimized for efficiency, reliability, safety, security and performance. Sital Technology is headquartered in Kfar Saba, Israel and has manufacturing operations in northern Israel.

Among our many customers you can find NASA, Boeing, Lockheed Martin, Honeywell, Raytheon, GM, BAE Systems, Orbital Sciences, Thales, IEC, Elbit Systems, Rafael, IAI