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Avionics Databus
Solutions

MIL-STD-1553

Linux BSP

Release Notes

Version 15.3.0
December, 2024

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AIM – Gesellschaft für angewandte Informatik und Mikroelektronik mbH

AIM GmbH
Sasbacher Str. 2
D-79111 Freiburg / Germany
Phone +49 (0)761 4 52 29-0
Fax +49 (0)761 4 52 29-33
sales@aim-online.com

AIM GmbH – Munich Sales Office
Terofalstr. 23a
D-80689 München / Germany
Phone +49 (0)89 70 92 92-92
Fax +49 (0)89 70 92 92-94
salesgermany@aim-online.com

AIM UK Office
Cressex Enterprise Centre, Lincoln Rd.
High Wycombe, Bucks. HP12 3RB / UK
Phone +44 (0)1494-446844
Fax +44 (0)1494-449324
salesuk@aim-online.com

AIM USA LLC
Seven Neshaminy Interplex
Suite 211 Trevose, PA 19053
Phone 267-982-2600
Fax 215-645-1580
sales@aim-online.us

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List of Abbreviations ..... **I**

1 Important Notes

- This Board Software Package (BSP) is incompatible with previous versions (<15.0.0). Be sure to update the On-Board Software (Target-SW, Firmware,...) and to update the system driver. To do this have a look at the Getting Started Manual, which is located in the "doc" directory after installing the BSP and follow the instructions described there.

2 Known Issues

- None

3 Version and Change History

3.1 BSP 15.3.0 - (2024.12: Windows,Linux)

Task

- BSPMIL-1313 - Remove implementation of unused functions in 1553 api_mil.24.dll
- BSPMIL-1358 - Integrate and document the BSP version check tool into the BSP
- BSPMIL-1471 - Linux: Support Kernel 6.8
- BSPMIL-1482 - Linux: Update documentation for drivers install directory
- BSPMIL-1498 - Linux: Support RHEL 9.4 Kernel 5.14.0-427
- BSPMIL-1499 - AXCX1553-1/2/4/1T/2T: Increase BM area to 2 MB per channel
- BSPMIL-1500 - AXCX1553-1/2/4/1T/2T: Support DMA memory read
- BSPMIL-1503 - Windows: Uninstall old drivers from driver store before installing new driver in BSP setup
- BSPMIL-1506 - AXCX1553-1T/2T: ApiCmdSetIrigTime can set time without delay if in internal IRIG - Mode
- BSPMIL-1507 - AXCX1553-1/2/4: ApiCmdSetIrigTime can set time without delay if in internal IRIG - Mode
- BSPMIL-1587 - AXCX1553-1T/2T: ApiCmdSetIrigStatus: for internal mode no Irig output available
- BSPMIL-1588 - Support new hardware AXCX1553-1/2/4
- BSPMIL-1589 - Improved reliablity of DHCP and Bonjour (requires settings reset after update)

Bug

- BSPMIL-1394 - ApiCmdRTGetSimulationInfo returns wrong sa30 info
- BSPMIL-1438 - Linux: Symlink of libaim_mil.so is incorrect when downgrading to an older BSP
- BSPMIL-1509 - Unreliable RT response if RT and BM are started but the BM buffer is not read by the host application
- BSPMIL-1511 - ApiCmdBCGetXferDef returns invalid RT and SA values for RT to RT transfers

Incompatibilitiy Issues with Previous Versions

- None

3.2 BSP 15.2.0 - (2024.09: Windows,Linux)

Task

- BSPMIL-744 - Implement new firmware instruction return on error for multi channel firmware
- BSPMIL-1156 - ASC1553-1,AME1553: Update Toolchain to 2023.2
- BSPMIL-1232 - Update MIL-STD-1553 IO-Core for all AyE1553 devices
- BSPMIL-1330 - Linux: Support Kernel 6.5
- BSPMIL-1393 - AXCX1553-nT: Modified PCIe memory bars to prepare for DMA implementation
- BSPMIL-1430 - AXCX1553-nT: Renamed update files from MLCA5310 to MLCA5211
- BSPMIL-1432 - ASC1553-1,AME1553: Update Kernel to 2023.2
- BSPMIL-1468 - ANET1553: Send ANET hostname with DHCP request
  (requires settings reset after update)
- BSPMIL-1488 - Remove .NET assembly and samples from BSP
- BSPMIL-1490 - Update Programmers Guide description of Trigger Control Block (TCB)
- BSPMIL-1491 - Sample: Added 1553 trigger control block sample
- BSPMIL-1492 - Sample: Added time tag high in MilUtilBMLsInterpretData utility function
- BSPMIL-1494 - Linux: Reduced compiler warnings on 6.x kernels
- BSPMIL-1495 - Implement new firmware instruction traffic override for multi channel firmware

Bug

- BSPMIL-1486 - Linux: BSP can not be installed on systems with Python 3.12 and above
- BSPMIL-1487 - Windows: Installation on Windows 11 Enterprise does not work
- BSPMIL-1496 - AXCX1553-nT: XMC eeprom update does not work

Incompatibilitiy Issues with Previous Versions

- None

3.3 BSP 15.1.0 - (2024.05: Windows,Linux)

Task

- BSPMIL-1199 - Support new hardware AM2E1553-1/2
- BSPMIL-1288 - Provide aim_mil Python wrapper as wheel package for PIP

Bug

- BSPMIL-1110 - Improve copy and paste behaviour in Reference Manuals

Incompatibilitiy Issues with Previous Versions

- None

3.4 BSP 15.0.0 - (2024.03: Windows,Linux)

Task

- BSPMIL-1221 - Removed Milscope 100 MHz support from manuals
- BSPMIL-698 - Windows: Support Windows 11
- BSPMIL-866 - Added new Python 3 wrapper and samples
- BSPMIL-1004 - Update Net-Detection-Tool to QT5
- BSPMIL-1026 - Windows, AME1553: Enable MSI interrupt mode
- BSPMIL-1027 - Linux: Use MSI interrupt mode instead of INTx for all modules
- BSPMIL-1140 - New API functions ApiCmdBufHostControl and ApiCmdBufWriteBlock
- BSPMIL-1157 - LabView: Added Trigger Control Block VI & and sample
- BSPMIL-1278 - Updated Python Programmers Guide for use with new Python 3 wrapper

Bug

- BSPMIL-916 - ApiCmdDataQueueRead might return a single tt-high entry on a 1553 BM if called very fast after starting the BM with an active bus
- BSPMIL-1037 - ApiCmdRTGetDytagDef hang up due to missing handling of input value rt_hid
- BSPMIL-1138 - Windows: ApiFlushIntHandler missing in .NET assembly

Incompatibilitiy Issues with Previous Versions

- BSPMIL-838 - Remove all AyX based boards from BSP
- BSPMIL-861 - Windows: Remove 32-Bit driver support
- BSPMIL-866 - Removed Python 2 bindings from BSP
- BSPMIL-872 - Windows: Update Visual Studio Projects to new version 2022
- BSPMIL-879 - Windows: Update WDK to new version

- BSPMIL-945 - ANET1553: Remove MIL Python bindings from embedded file system as Python 2 is no longer supported
- BSPMIL-1053 - Windows: Remove Windows 7/8 support
- BSPMIL-1189 - 1553/3838 FW Put-Get BM buffer management

4 System Requirements

- Personal Computer (PC) with running x86_64 (64 bit) Linux Operating System (OS).
  (See Section 5 "Operating System Compatibility")
- AIM hardware device installed in local PC or in remote PC connected by Internet Protocol (IP) based network. Following devices are supported with this BSP:
  - ASC1553-1 (AIM USB-A 2.0 Smart Cable Architecture)
  - ASC1553-2 (AIM USB-C 3.0 Smart Cable Architecture)
  - AMCX1553 (AIM PMC AyE Architecture)
  - AMCE1553 (AIM PMC AyE Embedded Architecture)
  - ASE1553 (AIM XMC AyE Architecture)
  - AXC1553 (AIM XMC AyE Architecture)
  - AXE1553 (AIM XMC AyE Embedded Architecture)
  - APE1553 (AIM PCIe Architecture)
  - AEC1553 (AIM ExpressCard Architecture)
  - APXX1553 (AIM PCI Architecture)
  - ACXX1553 (AIM PXI Architecture)
  - ACE1553 (AIM PXIe Architecture)
  - ACP1553 (AMCX1553 on ACP carrier)
  - ACC1553-3U (AMCX1553 on ACC-3U carrier)
  - ACC1553-6U (AMCX1553 on ACC-6U carrier)
  - ANET1553 (AIM Ethernet Architecture)
  - AME1553 (AIM mini PCIe Architecture)
  - AMEE1553 (AIM mini PCIe Architecture)
  - AXCX1553 (AIM XMC ArtixUS Architecture) *
  - AM2E1553 (AIM M.2-B-M Architecture) *

Note:
* Modules marked with an asterix are only supported on Ubuntu 20.04 (64 bit), RHEL 8.x (64 bit) and newer distributions.

5 Operating System Compatibility

This BSP was tested on a selection of major x86_64 (64) bit Linux Distributions available at the time of this release. The software may also run on other Distributions, not listed here.

Ubuntu

18.04 LTE	20.04 LTE	22.04 LTE	24.04 LTE

RHEL

7.x	8.5	9.x

Note:
Green means Software was successfully tested on the OS
Yellow means the Software should work, but was not explicitly tested
Red means Software will not work on the OS

List of Abbreviations

BSP Board Software Package

IP Internet Protocol

OS Operating System

PC Personal Computer