

***CURTISS -
WRIGHT***

**Environmental Qualification
Handbook for Axon Products**



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Environmental testing overview

The Axon product family

The Axon product family is the next generation data acquisition platform from Curtiss-Wright Aerospace Instrumentation.

The Axon family is made up of the Axon ADAU range, optimized for use with TTC nDAU/MnACQ/MnHSD DAUs and the Axon AXN range, optimized for use with Acra KAM-500 network based DAUs.

Its ultra-compact, SWaP optimized and future-proof design make it ideal for flight test applications on many different airframe types.

The Axon product family is designed to seamlessly integrate into legacy networked systems, offering identical output formats and enhanced features over the legacy products.

AXN products are colored orange and black (in keeping with KAM-500 products) and are supported in DAS Studio 3 only. They offer the same output formats as KAM-500, including iNET-X and IENA and additionally add IRIG-106 Chapter 10 UDP support to the product range.

ADAU products are colored silver (in keeping with MnACQ products) and are supported in TTCWare only. They offer the same output formats as TTC Networks systems, including DARv3 and IRIG-106 Chapter 10 UDP.

From an environmental qualification point of view, both AXN and ADAU are identical, using the same design and components across both products. The only major differences are the color, software support and production test levels. For any environmental qualification listed in this document a direct read across from the AXN module can be made to its ADAU equivalent, and a direct read across from the ADAU module can be made to its AXN equivalent.

AXN products are tested during production at room temperature only, whereas ADAU products go through an extra step of thermal checking at -40°C and +85°C (case temperature).

Declaration of Design and Performance

Curtiss-Wright Axon products have been specifically designed to operate in harsh aerospace test environments. The following table summarizes the main environmental specifications for the Axon product family.

Storage Life	5 years minimum
Temperature – Operating	-40°C to +85°C (case)
Temperature – Non-operating, Storage	-55°C to +105°C (case)
Altitude	80,000 ft / 24,400m / 2.76 kPa
Shock	60g, half-sine, 6 ms
Vibration	DO-160G: Fixed Wing- or Pylon-mounted, Robust Sinusoidal: 10g peak x 1 hour/axis Random Endurance: 13.3 gRMS x 3 hours/axis
Humidity	0-95% RH
Acceleration	60g for 1 minute in each direction of 3 axes
EMC	MIL-STD-461F Army Aircraft (CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103); DO-160G §16.6, §17
Power	Nominal 28V, MIL-STD-704(A-F)
Indirect Lightning	DO-160G §22
ESD	MIL-STD-461G CS118

The specifications in this chapter apply to all Axon products unless stated otherwise in the product data sheet. Some modules have been qualified by type. Unless otherwise stated, all specifications apply to a fully operating system.

Storage life and maintenance

Special conditions such as altitude, temperature, humidity, pressure, and ventilation beyond those specified under operating conditions do not apply during storage (including air transportation).

Unless specified on the product data sheet, Axon products do not contain batteries and have no storage maintenance requirements.

Design considerations

Where possible, devices selected for testing are selected based on designs that have already been tested on other modules. In particular the same connectors, backplane logic, EEPROMS, RAMS, gate arrays, and capacitors can be found on all acquisition modules.

Every effort is made to use components with no particular life restrictions. In particular components that may drift with age such as timers and A/D or D/A converters are specified over their lifetime.

Only certain modules such as Time Code Generator (TCG) will have on-board batteries. Apart from battery replacements or module replacements, no part of the system requires removal from the aircraft.

The mass of each component or module is kept to a minimum.

The Axon is a modular system and information on a particular configuration's mass, dimensions, and center of gravity can be provided on request. As far as possible, all modules will use the same top-block connector type and can be used with any chassis in any combination.

Construction

Printed circuit board assemblies (PCBA) are conformally coated for protection against humidity.

Equipment under test (EUT)

Test setup EUT 1

Test setup EUT 1, identified by chassis mark "A3", was used in vibration testing:

- AXN/CHS/16U
- AXN/BCU/401
- AXN/ADC/401

Test setup EUT 2

Test setup EUT 2, identified by serial ZZA1615, was used in launch vehicle environmental testing:

- AXN/CHS/06U
- AXN/BCU/401
- AXN/ENC/401
- AXN/EXT/401
- AXN/ITE/01U
- AXN/ADC/401
- AXN/UBM/401

Test setup EUT 3

Test setup EUT 3, identified by chassis mark "A2", was used in EMC testing:

- AXN/CHS/16U
- AXN/BCU/401
- AXN/ADC/401

Test setup EUT 4

Test setup EUT 4, consisting of test setup EUT 5 and an ADC-equipped Axonite, was used in EMC testing:

- AXN/CHS/16U
- AXN/BCU/401
- AXN/ADC/401
- AXN/EXT/401
- AXN/ITE/401
- AXN/ADC/401

Test setup EUT 5

Test setup EUT 5, identified as "DVJ0022", was used in power supply and lightning testing:

- AXN/CHS/16U
- AXN/BCU/401
- AXN/ADC/401
- AXN/EXT/401

Test setup EUT 6

Test setup EUT 6, identified by serial ZZA2122, was used in MIL-STD-461 EMC testing, 2021:

- AXN/CHS/16U
- AXN/BCU/402
- AXN/ADC/408
- AXN/DSI/401
- AXN/ENC/401
- AXN/EXT/401
- AXN/MBM/401
- AXN/TCG/401
- AXN/TDC/401
- AXN/UBM/401
- AXN/ADC/404/B
- AXN/ADC/405/10V
- AXN/ADC/406
- AXN/ITE/001
- AXN/ADC/401

Test setup EUT 7

Test setup EUT 7, identified by serial ZZA3311 in AB1 chassis, was used in multiple EQ tests:

- AXN/CHS/09U/AB1
- AXN/BCU/402/C
- AXN/ADC/404/B
- AXN/ADC/405/10V
- AXN/ADC/406
- AXN/ADC/408
- AXN/TDC/401
- AXN/ADC/401
- AXN/DSI/401
- AXN/MBM/401
- AXN/UBM/401

Test setup EUT 8

Test setup EUT 8, identified by serial ZZA2129, was used in ATEX testing:

- AXN/CHS/16U
- AXN/BCU/402/C
- AXN/ADC/404/B
- AXN/ADC/405/10V
- AXN/ADC/406
- AXN/ADC/408
- AXN/TDC/401
- AXN/ADC/401
- AXN/DSI/401
- AXN/MBM/401
- AXN/UBM/401

Test setup EUT 9

Test setup EUT 9, identified by serial 2303212, was used in Axon model B testing:

- AXN/CHS/09U/B
- AXN/BCU/402/C

Test Setup EUT 10

Test setup EUT 10, identified by serial 2307002, was used in Axon model B testing:

AXN/CHS/09U/B

AXN/BCU/402/C

For Sustained Acceleration: AXN/MEM/401, AXN/TCG/401, AXN/ABM/401, AXN/HSS/401, AXN/ADC/405/10V, AXN/DEC/401

For ATEX: AXN/ENC/401, AXN/EXT/401, AXN/TCG/401, AXN/ABM/401, AXN/HSS/401, AXN/ITE/01U, AXN/DEC/401

For Lightning transients: AXN/EXT/401, AXN/ITE/01U

Refer to test reports for specific modules or loads present during tests.

Summary of tests

Axon product family environmental test certification

Representative modules in the Axon product family have been tested and found to be compliant against the following relevant standards.

All reports and certificates referenced in the following tests are available on request. Contact Curtiss-Wright support (acra-support@curtisswright.com) for details.

DO-160G environmental testing

Test	Section	Category	Test conditions	Certificate or report reference	EUT
Vibration (sine)	8.5.1	S	Curve T (wing), 10g peak, 1hr per axis	10737	1
Vibration (random)	8.5.2	R	Curve of max (D1,E1), 3 hr per axis, 13.3g (RMS) ¹	10737 CW-VTR-0021	1 9
Mechanical Shock	7.3.1	B	6g & 20g	10737	1

1. This random vibration qualification is only claimed for AXN/CHS/09U/B with certain modules prepared as detailed in the report. It cannot be claimed for all modules.

Launch vehicle testing

Test	Test conditions	Certificate or report reference	EUT
Vibration - Sine	Peak 15.0g, 2 minutes/1sweep per axis	RTL00160 D0004 CW-VTR-0021	2 9
Vibration - Random	Peak 0.225 g ² /Hz, 20 seconds/axis	RTL00160 D0004 CW-VTR-0021	2 9
Shock	60g half-sine 6 ms each direction, 3 axes	RTL00160 D0004 CW-VTR-0021	2 9
Acceleration - Centrifuge	60g 60 sec each direction, 3 axes, operational	TRA043237CC01A CW-NREAF039-RPT-060 & TRA-062925-21-CR-01	2 10
Thermal Cycling - Operational	6 cycles, air temperature +70C to -40C, 3 hr dwells including power cycle	CW-Launch-Vehicle-AE035-QTR	2
Thermal Cycling - Storage	1 cycle, +85C, -54C, 6 hr dwells	CW-Launch-Vehicle-AE035-QTR	2
Thermal Vacuum (TVAC) Cycling - Operational	1 cycle, controlled baseplate +61C to -24C, 3 hr dwells	EL17568 THC.pdf	2

MIL-STD-810F/G environmental testing

Test	Section/ Method	Test Level or Limit	Test conditions	Certificate or report reference(s)	EUT
Altitude	500.6	2.5 kPa (85,000 ft) Procedure II (Operation, Continuous) 4.44 kPa (70,000ft)	Ambient air temperature 68W	RTL00367 D0034 & CW-NREAH022-RPT-010 RTL00593 D0004 & CW-NREAF039-RPT-010	7 10
Temperature	501.4 502.4	Operating High Operating Low	+70°C (air) -40°C (air)	CW-NREAH022-RPT-020	7
Humidity	507.4	Up to 95%rh at 60°C max. ambient, non-condensing Procedure 4.5.2	5 x 48h cycles Performance checks	CW-NREAH022-RPT-030 CW-NREAF039-RPT-030	7 9
Vibration, Random	514.7 proc 1	Functional W0 = 0.1 g ² /Hz Endurance W0 = 0.42 g ² /Hz 23.55 gRMS ¹	30 minutes (f) 10 minutes (e) 30 minutes (f)	RTL00367 D0025 & CW-NREAH022-QTR-001 CW-VTR-0021	7 9
Vibration, Sinusoid (MIL-STD-810B)	514.1	Procedure I, resonance search and dwell, 10g-pk	5Hz-2000Hz	RTL00367 D0025 & CW-NREAH022-QTR-001 CW-VTR-0021	7 9
Mechanical shock	516.7	20g & 40g, 11ms, terminal sawtooth, 3x per direction	Functional & Endurance	RTL00367 D0025 & CW-NREAH022-QTR-001 CW-VTR-0021	7 9
Explosive atmosphere (ATEX)	511.6	Procedure I, 186.7 mbar (40,000 ft) & 1022.5 mbar (Ground Level)	Operating +70°C	104904426LHD-001 & CW-NREAH022-RPT-080 105568144LHD-001 & CW-NREAF039-RPT-080	8 10

1. This random vibration qualification is only claimed for AXN/CHS/09U/AB1 and AXN/CHS/09U/B with certain modules prepared as detailed in the report. It cannot be claimed for all modules.

MIL-STD-461F/G EMC testing

Test	Section/ Method	Test Level or Limit	Test conditions	Certificate or report reference(s)	EUT
Conducted Emissions, AF Power	CE101	Aircraft Curve #2 (100 dBuA)	30 Hz – 10 kHz, Power lines only	NLR-CR-2023-269	9
Conducted Emissions, AF Power	CE101	Extended range:	20 Hz – 10 kHz, Power lines only	NLR-CR-2023-269	9
Conducted Emissions, RF Power	CE102	Basic Curve (60 dBuV)	10 kHz – 10 MHz, Power lines only	CEI 23E10586-1	9
Conducted Emissions, RF Power [SP-P-90-010] ¹	N/A	CE-TOR-1 (Power lines) CE-TOR-2 (Signal lines)	20 Hz – 100 MHz	NLR-CR-2023-269	9
Conducted Susceptibility, Power	CS101	Curve #2 (28V) 126 dBuV	30 Hz – 150 kHz, Power lines only	CEI 23E10586-1	9

MIL-STD-461F/G EMC testing (continued)

Test	Section/ Method	Test Level or Limit	Test conditions	Certificate or report reference(s)	EUT
Conducted Susceptibility, Injection	CS114	Curve #3 (Aircraft, internal, Air Force) 89 dBuA	10 kHz – 200 MHz	20E9173-4	6
Conducted Susceptibility, Injection	CS114	Curve #5 (Aircraft) 109 dBuA	10 kHz – 200 MHz, Power lines only ²	NLR-CR-2023-269	9
Conducted Susceptibility, Impulse	CS115	5A (Figure CS115-1)	30 ns, 30 Hz, 60 sec	6381	3
				NLR-CR-2018-366	4
				NLR-CR-2022-065	7
				NLR-CR-2023-269	9
Conducted Susceptibility, Transients	CS116	10A (Figure CS116-2)	10 kHz – 100 MHz	CEI 23E10586-1, Power lines only ³	9
				20E9173-4	6
Personnel Borne Electrostatic Charge (ESD)	CS118	±15kV to LED pipe ±8kV to External chassis and backshells	Air discharge & Contact discharge	20E9173-4	6
				CEI 23E10586-1	9
Radiated Emissions, Magnetic Field	RE101	Navy, 160 – 76 dBpT	30 Hz -100 kHz	NLR-CR-2018-366	4
				CEI 23E10586-1	9
Radiated Emissions, Electric Field	RE102	Aircraft, Navy, Fixed Wing Internal <25m. (Figure RE102-3) 34 dBuV/m	10 kHz – 18 GHz	NLR-CR-2018-366	4
				CEI 23E10586-1	9
Radiated Susceptibility, Magnetic Field	RS101	Army and Navy (180 dBpT)	30 Hz -100 kHz	NLR-CR-2018-366	4
Radiated Susceptibility, Electric Field	RS103	Aircraft External, 200V/m ²	2 MHz – 18 GHz	NLR-CR-2018-366	4
				AQL 7278	10
Radiated Susceptibility, Electric Field	RS103	Aircraft Internal, 20/60 V/m ⁴	30 MHz – 18 GHz	20E9173-4	6
Radiated Susceptibility, Electric Field	RS103	Aircraft Internal, 20/60 V/m	2 MHz – 30 GHz	CW-NREAH022-RPT-070, 21E9708-6	7

1. CE-TOR curves from Panavia, 1995
2. Immunity not claimed to 200V level of RS103 for modules other than power and backplane controller. Susceptibility will vary by module sensitivity and setup of sensors and cables.
3. Dwells of two minutes only.
4. TDC/401 threshold: 11V/m

DO-160G EMC testing

Test	Section/ Method	Category	Test conditions	Certificate or report reference(s)	EUT
Power Surge	16.6.2.4	Z	80V, 100 ms (per 704A)	NLR-CR-2023-269	9
Voltage Spike on power inputs	17.4	A	600v±, 10 us	NLR-CR-2023-269	9
Lightning Induced Transients	22.5.1	A1	ADC, pin injection 100V WF3, 50V/10A WF4	6441	5
Lightning Induced Transients	22.5.1	A2	BCU, pin injection 300V WF3	6381	3
Lightning Induced Transients	22.5.1	A2 J2	EXT, pin injection 250V WF3	6381	3
			EXT and ITE, cable 250V WF3 WF1	AQL 7278	10

DO-160G EMC testing (continued)

Test	Section/ Method	Category	Test conditions	Certificate or report reference(s)	EUT
Lightning Induced Transients (PSU)	22.5.1	A4H3L3	PSU, 1500V WF3, 750V/150A WF4	AQL 7278	10

Power supply compatibility testing, MIL-STD-704/MIL-HDBK-704-8

Test	Section/ Method	Category	Test conditions	Certificate or report reference	EUT
Load Measurements	LDC 101	-	11A Inrush current limit per DO-160G 16.7.5.2	CEI 23E10586	10
Input Voltage Distortion	LDC 103	704A, F	A-K (10 Hz-10 kHz) 1.0 Vrms	NLR-CR-2023-269	9
Total Ripple	LDC 104	704A	1.5V, A (1200-8400 Hz), B (2400-16800 Hz)	NLR-CR-2023-269	9
Power Interrupts	LDC 201	704F	Table LDC201-II, 50ms, 30ms, 10ms	NLR-CR-2023-269, TRA-063259-39-00B	9
Abnormal Steady-State Voltage	LDC 301	704F	20V, 31.75V, 50V Covers LDC 102 AHSS	CW-NREAF039-RPT-090	9
Under-voltage, Over-voltage, Combined Transient	LDC 302	704A, F	Table LDC302-IV, 50V, 50 ms. 80V/100 ms per DO-160 16.6.2.4 power surge.	NLR-CR-2023-269, TRA-063259-39-00B	9
Emergency Low Voltage Steady State	LDC 401	704F	16V (for DO-160G 16.6) ¹ 18V (for MIL-STD-704F) Covers LDC 102 ELSS	CW-NREAF039-RPT-090	9
Undervoltage Ramp Start	LDC 501	704F	12VDC, 30s ramp-up. (as DO-160 16.6.1.5)	NLR-CR-2023-269	9
Starting Voltage Transients	LDC 501	704A-F	Table LDC501-II, 16V Table LDC501-III, 12V	NLR-CR-2023-269	9
Low Voltage Conditions (Dying Battery)	DO-160G 16.6.2.2	B (dc)	Ramp down from 22V to 0V over 10 minutes	NLR-CR-2023-269	9
Power Failure	LDC 601	704F	Table LDC601-II 100ms, 500ms, 3s, 7s	NLR-CR-2023-269	9
Power Reversal	LDC 602	704F	28V, 30 minutes	CW-NREAF039-RPT-090	9

1. LDC401: Will not start up at 16V (DO-160G 16.6) but will continue to operate if voltage decreases to 16V. Manufacturer concession noted: max load 60W at 16V. Pass for 704F (18V).

Other relevant testing

Corrosion or contamination

Test	Section/ Method	Test Level or Limit	Test conditions	Certificate or report reference(s)	EUT
Contamination (Fluids) BS3G100, Part 2	Section 3, 3.12	#1.2.3.6 TBC	Class A at 70°C ambient for 93h	CW-NREAH022-RPT-090 & 19874	Samples

Operating temperature

As part of the standard Axon design qualification process, all Axon module designs undergo testing to prove operation over the temperature range +85°C to -40°C (case or chassis wall temperature).

ADAU qualification

Similarity statement for ADAU modules

Environmental qualification for ADAU modules can be taken from design qualifications and tests performed on equivalent AXN hardware that share hardware design and use the same PCB assemblies.

The risk associated with this approach is minimized due to the following:

- Elements are mechanically integrated with each other in the chassis.
- Elements share a common topology/arrangement.
- Elements are similar in size and weight.
- Elements utilize common mechanical packaging designs.
- Elements utilize common metalwork/PWB fabrication technology.
- Elements utilize common materials and components.
- Elements utilize a common aerospace-certified manufacturing process.

Read-across table

ADAU module	ADAU part number	AXN module equivalent
ABCU-402A-1	702101100-001	AXN/BCU/402
ABIM-422A-1	702100600-001	AXN/UBM/401
ABIM-429A-1	702100700-001	AXN/ABM/401
ABIM-553A-2	702101900-002	AXN/MBM/402
ABIM-553A-4	702101900-004	AXN/MBM/401
ADAU-2006A-1	946900600-001	AXN/CHS/06U
ADAU-2009A-1	946900900-001	AXN/CHS/09U
ADAU-2016A-1	946901600-001	AXN/CHS/16U
AEXT-401A-1	702101200-001	AXN/EXT/401
AFED-424A-1	702101000-001	AXN/DSI/401
AFED-424A-2	702101000-002	AXN/DSI/402
AFLX-408A-1	702100800-001	AXN/ADC/401
AGPS-401A-1	702102000-001	AXN/TCG/401
AICP-404A-1	702103000-001	AXN/ICP/402
AITE-401A-1	702101300-001	AXN/ITE/01U
APCM-404A-1	702101400-001	AXN/ENC/401
APCM-407A-1	702102900-001	AXN/ENC/402
APMC-406A-1	702100900-001	AXN/ADC/408
ASCD-412A-1	702102300-001 B	AXN/ADC/404/B
ARTD-416A-1	702102100-001	AXN/ADC/406
ASCD-424A-10	702101600-010	AXN/ADC/405/100m
ASCD-424A-20	702101600-020	AXN/ADC/405/1V

ADAU module	ADAU part number	AXN module equivalent
ASCD-424A-30	702101600-030	AXN/ADC/405/10V
ASCD-424A-40	702101600-040	AXN/ADC/405/40V
ATCD-415A-1	702101700-001	AXN/TDC/401

Note on AXN/ADAU differences

Every ADAU module is tested at temperature extremes as an additional quality check in the production process.

ADAU modules have proprietary ADAU operating system software, requiring TTCWare to program.

AXN/ADAU module list

AXN products	Description	ADAU module equivalent	Description
AXN/BCU/402/C	Axon backplane controller - PTPv1/v2 client or Grandmaster, dual Ethernet output	ABCU-402A-3	ADAU backplane controller – PTPv1/v2 client or Grandmaster, dual Ethernet output, Chapter 10 streaming
AXN/UBM/401	Axon 24 channel serial bus monitor/packetizer, iNET-X, IRIG-106 Ch10 UDP support	ABIM-422A-1	ADAU 24 channel serial bus monitor/packetizer, DARv3, IRIG-106 Ch10 UDP support
AXN/ABM/401	Axon 24 channel ARINC-429 bus monitor/packetizer, iNET-X, IENA, IRIG-106 Ch10 UDP support	ABIM-429A-1	ADAU 24 channel ARINC-429 bus monitor/packetizer, DARv3, IRIG-106 Ch10 UDP support
AXN/MBM/401	Axon 4 dual redundant channel MIL-STD-1553 bus monitor / packetizer, iNET-X, IRIG-106 Ch10 UDP support	ABIM-553A-4	ADAU 4 dual redundant channel MIL-STD-1553 bus monitor/ packetizer, DARv3, IRIG-106 Ch10 UDP support
AXN/MBM/402	Axon 2 dual redundant channel MIL-STD-1553 bus monitor/ packetizer, iNET-X, IRIG-106 Ch10 UDP support	ABIM-553A-2	ADAU 2 dual redundant channel MIL-STD-1553 bus monitor/ packetizer, DARv3, IRIG-106 Ch10 UDP support
AXN/CHS/03U	Axon 3 user-slot chassis with 50W integrated power supply	ADAU-2003A-1	ADAU 3 user-slot chassis with 50W integrated power supply
AXN/CHS/06U	Axon 6 user-slot chassis with 50W integrated power supply	ADAU-2006A-1	ADAU 6 user-slot chassis with 50W integrated power supply
AXN/CHS/09U	Axon 9 user-slot chassis with 100W integrated power supply	ADAU-2009A-1	ADAU 9 user-slot chassis with 100W integrated power supply
AXN/CHS/16U	Axon 16 user-slot chassis with 100W integrated power supply	ADAU-2016A-1	ADAU 16 user-slot chassis with 100W integrated power supply
AXN/CHS/16U/AB2	Axon chassis - 16 user-slots, 3.2 mm wide walls (with heat sink mounting holes)	No ADAU Equivalent	
AXN/EXT/401	Axon backplane extender module, for use with AXN/ITE/01U remote housing	AEXT-401A-1	ADAU backplane extender module, for use with AITE-401A remote housing
AXN/ICP/402	Accelerometer ADC (25 kHz b/w) with FFT and TEDS support 4ch at 100 ksp/s	AICP-404A-1	Accelerometer ADC (25 kHz b/w) with FFT and TEDS support 4ch at 100 ksp/s
AXN/ITE/01U	Axon single user-slot remote mounting housing	AITE-401A-1	ADAU single user-slot remote mounting housing

AXN products	Description	ADAU module equivalent	Description
AXN/DSI/401	Axon 24 channel discrete/counter module, high bandwidth	AFED-424A-1	ADAU 24 channel discrete / counter module, high bandwidth
AXN/DSI/402	Axon 24 channel discrete/counter module, high input impedance	AFED-424A-2	ADAU 24 channel discrete/ counter module, high input impedance
AXN/ADC/401	Axon 8 channel flexible analog module	AFLX-408A-1	ADAU 8 channel flexible analog module
AXN/TCG/401/B	Axon GPS/IRIG sync with 2 x CVSD voice channels	AGPS-401A-1	ADAU GPS/IRIG Sync with 2 x CVSD voice channels
AXN/ENC/401	Axon IRIG-106 Chapter 4 PCM encoder, 40Mbps	APCM-404A-1	ADAU IRIG-106 Chapter 4 PCM encoder, 40Mbps
AXN/ENC/402	Axon IRIG-106 Chapter 7 (2017) PCM encoder, 40Mbps	APCM-407A-1	Axon IRIG-106 Chapter 7 (2017) PCM encoder, 40Mbps
AXN/ADC/408	Axon 3 channel variable frequency power monitor module	APMC-406A-1	ADAU 3 channel variable frequency power monitor module
AXN/ADC/406	Axon 16 channel RTD module	ARTD-416A-1	ADAU 16 channel RTD module
AXN/ADC/404/B	Axon 12 channel strain module, voltage excitation	ASCD-412A-1	ADAU 12 channel strain module, voltage excitation
AXN/ADC/405/100m	Axon 24 channel DE/SE voltage module, +/-100mV range	ASCD-424A-10	ADAU 24 channel DE/SE voltage module, +/-100mV range
AXN/ADC/405/1V	Axon 24 channel DE/SE voltage module, +/-1V range	ASCD-424A-20	ADAU 24 channel DE/SE voltage module, +/-1V range
AXN/ADC/405/10V	Axon 24 channel DE/SE voltage module, +/-10V range	ASCD-424A-30	ADAU 24 channel DE/SE voltage module, +/-10V range
AXN/ADC/405/40V	Axon 24 channel DE/SE voltage module, +/-40V range	ASCD-424A-40	ADAU 24 channel DE/SE voltage module, +/-40V range
AXN/TDC/401	Axon 15 channel thermocouple module	ATCD-415A-1	ADAU 15 channel thermocouple module
AXN/HSS/401	Axon high speed serial module	No ADAU Equivalent	
AXN/VID/401	Axon video module	AVID-401A-1	Axon video module
AXN/MEM/401	Axon memory module	AMEM-401A-1	ADAU memory module
AXN/PRS/401	Axon pressure module	APRS-401A-1	ADAU pressure module
AXN/ICP/401/B	Axon ICP module - 12 ch, 25ksps, With FFT & TEDs support	AICP-412A-1	ADAU ICP module - 12 ch, 25ksps, with FFT & TEDs support
AXN/CBM/401	Axon CANBUS module	ABIM-CANA-1	ADAU CANBUS module
AXN/MCH/401	Axon Manchester module	No ADAU Equivalent	
AXN/STG/401	Axon STANAG-3910 module	No ADAU Equivalent	
AXN/EXT/421	Axon 4:1 extender Module	AEXT-404A-1	ADAU 4:1 extender module
AXN/PCM/401	Axon PCM merger module	ABIM-PCMA-1	ADAU PCM merger module
AXN/HSP/401	Axon High Speed Parallel module	No ADAU Equivalent	

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Revision history

This section outlines the revision history of the Environmental Qualification Handbook for Axon and ADAU Products.

Date	Action	Reason
9 Apr. 2024	Updated "Test setup EUT 9"; added new "Test setup EUT 10". In the "Axon product family environmental test certification" section, made multiple changes in the "Certificate or report reference(s)" column.	Release of AXN/CHS/09U/B with new power supply
6 Oct. 2023	Updated "AXN/ADAU module list" on page 10 to reflect released products.	
6 May 2022	New test reports and setups added for 2021/2022.	New EQ test results available
13 Oct. 2021	Updated "AXN/ADAU module list" on page 10 to reflect released products.	
6 Oct. 2020	Updated handbook to include a similarity statement and read-across table for ADAU products.	
22 Nov. 2019	Issued first release	

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