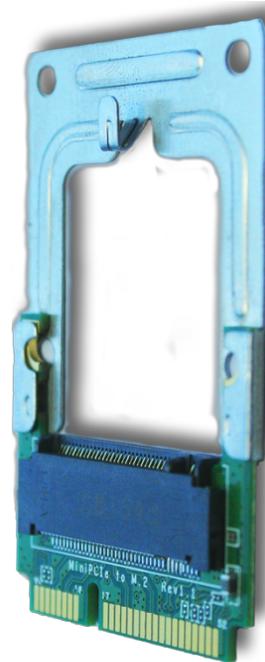




AXS-1NGFF2E-A & AXS-1NGFF2E-E

NGFF (M.2) to mini mPCIe Host, low profile, standard miniPCI Express fullsize bay format, driverless

Fits perfectly into fullsize miniPCI Express bays. Further mechanical configurations available.





Revision History

Releases	Date	Notes	Prepared	Approved
Version 1.0	2018-09-19	Standard Version Spec	A Stamatis	L Tu

NGFF (M.2) TO MINI PCIE HOST

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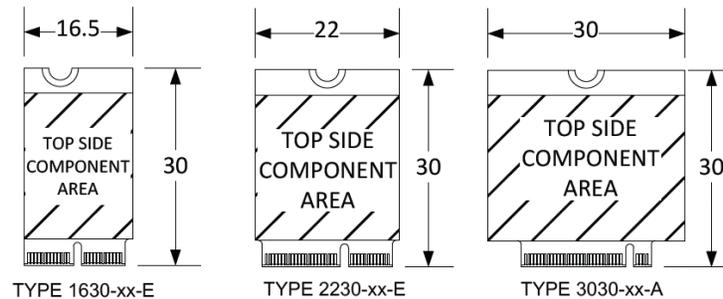
1. Introduction

The Next Generation Form Factor (NGFF) also known as M.2 form factor is a transition from the mini-PCIE and half-size mini-PCIE to a smaller form factor – both in size and volume. An NGFF module can utilize the full speed of PCI-Express specifications, with a bandwidth up to 1GB/s under current PCIE 3.0 standards, while allowing for a variety of physical sizes.

To ensure effective distinction and understanding of compatibility for all different types of NGFF modules, standardized nomenclature has been developed. For example, a module that is 22mm wide and 80mm long would be listed as being a 2280 (22mm x 80mm). For the communications sector Common lengths for NGFF modules are 30mm (2230), 42mm (2242), 60mm (2260), 80mm (2280) and 110mm (22110).

Var #	NGFF Footprint Dimensions	Applications Supported	Part Number	Compatible Keying
A	1630, 2230, 3030	WiFi, Bluetooth, NFC, & or WiGig	AXS-1NGFF2E-A	A+E
E	1630, 2230, 3030	WiFi, Bluetooth, NFC, & or WiGig	AXS-1NGFF2E-E	E
B	2230, 2242, 2260, 2280, 22110	WWAN + GNSS or SSD	AXS-1NGFF2E-B	B
M	2242, 2260, 2280, 22110	SSD, PCIE or SATA	AXS-1NGFF2E-M	B+M

Various NGFF model types are shown in the picture below:

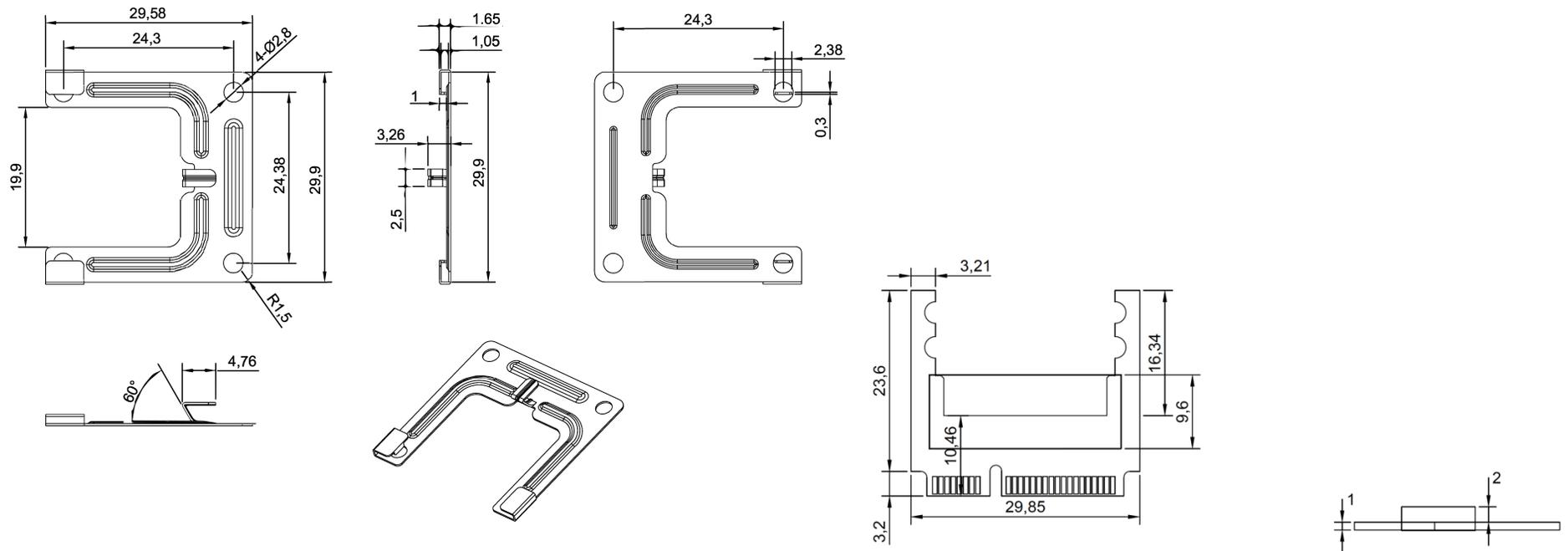




2. Top Features

- Zero-excess standoff height, for optimal placement into the tight spaces. with maximum total height up to 3mm.
- Standard mPCIe Full-size bay dimensions, with standard location for screw holes.
- Simple locking mechanism – Module fitted in adaptor and adaptor in bay with 3 moves and 2 screws.
- No drivers are required.
- Comoditiy asseccory at great price, allowing backwards compatibility.

3. Mechanical Drawing



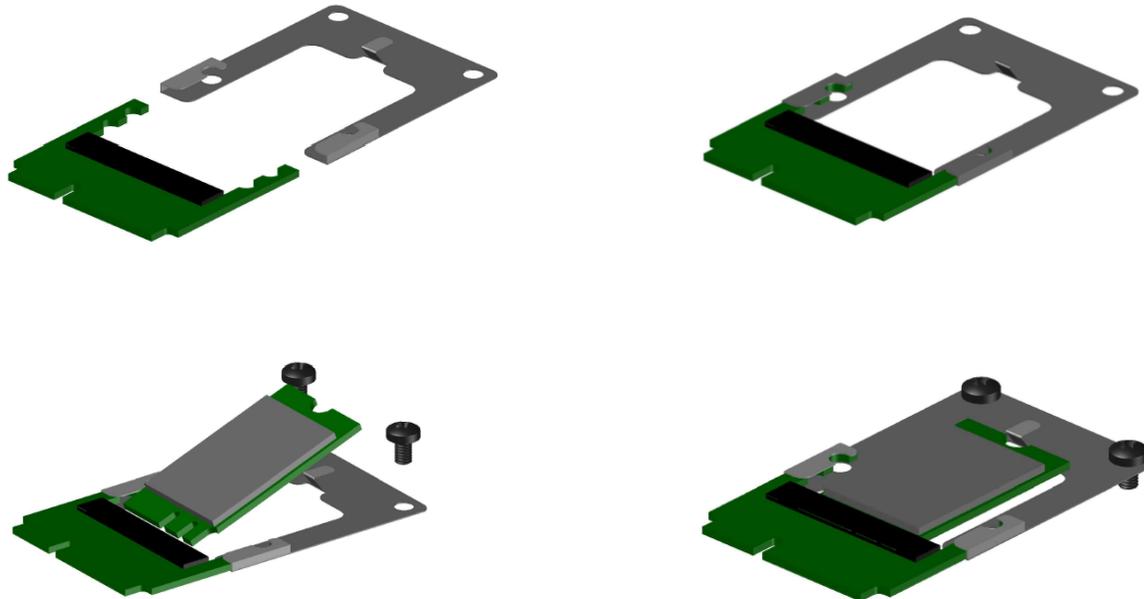


4. Connection Instructions

The OxfordTEC NGFF to mPCIe Adaptor is an innovative component, taking into account optimal performance and reduced space requirements. It consists of a metallic clip-bracket and a PCB. The NGFF module can be easily slotted into the Adaptor which is then placed and screwed on a standard full-size or half-size mPCIe bay. The OxfordTEC Adaptor layout allows for minimal module height, saving space and enabling compact designs.

Assemble as follows:

1. Move the module against the housing's chamber
2. Rotate the module to 30 degrees and insert it until the bottom of the connector
3. Rotate the module to horizontal position
4. Fix the module with a set of PCB screws



5. Standard Packaging, Storage and Shipping

ESD Sleeve, Inner Box & Outer Carton level standard packing schematic*:



	Module in ESD Sleeve	Inner Box Kit (K)	Master Carton (M)
CONTENT (UNITS)	1	60	960
INVENTORY SKU	AXS-1NGFF2E-A AXS-1NGFF2E-E	AXS-1NGFF2E-A-K AXS-1NGFF2E-E-K	AXS-1NGFF2E-A-M AXS-1NGFF2E-E-M
OUTER DIMENSIONS	70 x 60 x 3.5 mm	204 x 165 x 65 mm	430 x 350 x 285 mm
GROSS WEIGHT	6.2 gr	430 gr	8000 gr
PICK & PACK METHOD	Padded envelope or carton box depending on quantity. Padded & separated.	In outer carton packaging.	As-is.
PACKAGING COMPLIANCE **	ANSI/ESD S20.20, IEC 61340-5-1, RoHS2	RoHS2	RoHS2
HTS CODE (HS)	8517.62	8517.62	8517.62
NAFTA / ECCN	On request	On request	On request

* Packaging modality and artwork can be designed as per customer’s requirements.

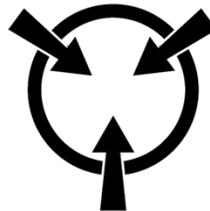
** The Packaging modality and the selection of its materials is made with environmental responsibility and commitment to resource preservation. Please reuse and recycle where possible.



The AXS-1NGFF2E-A/E/B/M constitutes a sensitive electronic device and caution is required when handling it. ESD handling, shipment and storage notices apply:



**DO NOT OPEN OR HANDLE
EXCEPT AT A STATIC-FREE
WORKSTATION**



**DO NOT SHIP OR STORE NEAR STRONG
ELECTROSTATIC, ELECTROMAGNETIC OR
RADIOACTIVE FIELDS**

6. Ordering Information

Public variants, their differential characteristics and ordering information:

	Ordering P/N	Variant IDs	Description
STANDARD PRODUCT	AXS-1NGFF2E-A	-/A/00	- A+E Key - Standard packaging
	AXS-1NGFF2E-E	-/E/01	- E Key - Standard packaging

7. Notices

STORAGE: The product shall be stored and the package shall remain closed according to storage environmental conditions noted within this datasheet. -he product shall be stored in non-corrosive gas (Cl₂, NH₃, SO₂, Nox, etc.). No excess mechanical shock shall be applied including, but not limited to, sticking the packing materials by sharp object and dropping the product, in order to avoid damaging the packing materials.

SHELF LIFE: Products left more than two years after reception need to have their specifications confirmed prior to use.

HANDLING: Care in handling or transporting products is required as excessive stress or mechanical shock may break products. – Cracks or damages on products' terminals may lead to changes in their characteristics. Products are not to be touched with bare hands as this may result in electrostatic damage. - Application of static electricity or overvoltage may cause defect in the product or deterioration of its reliability, and caution must be taken against exposure to any static electricity generated by electrified items such as workbenches, soldering irons, tools, carrying containers, etc.

LAND PATTERN & DIMENSIONS: All ground terminals should be connected to the ground patterns. Furthermore, the ground pattern should be provided between IN and OUT terminals. Please refer to the specifications for standard land dimensions.

MECHANICAL PLACEMENT: When mounting products connected to other components, products may be stressed and broken by uneven forces. To prevent such damages, compliance with specifications for the tools and interfaces being used is required.

CLEANING: As this Product is Moisture Sensitive, no cleaning is permitted.

OPERATIONAL ENVIRONMENTAL CONDITIONS: Products are designed to work as part of electronic compositions under normal environmental conditions (ambient temperature, humidity and pressure). Operation under the following circumstances may damage the products and leakage of electricity and abnormal temperature may occur:

In an atmosphere containing corrosive gasses (Cl₂, NH₃, SO_x, NO_x) or combustible / volatile gases - Dusty places – Places of direct sunlight - Water splashing zones - Humid places where water condenses - Freezing places

In the instance of potential operation in such environments, consult with OxfordTEC before actual use. Application of static electricity or excessive voltage while assembling and measuring is discouraged as it might be a cause of degradation or destruction.

INPUT POWER CAPACITY: Products shall be used in the input power capacity specified in this datasheet. If components are to be used beyond the documented input power capacity range, prior consultation with OxfordTEC is advised.

LIMITATION OF APPLICATIONS: The product is designed and manufactured for consumer application only and is not available for any application listed below which requires significantly high reliability for the prevention of defects that may directly cause damage to the third party's life, body or property.

- Aircraft equipment - Aerospace equipment - Undersea equipment - Power plant control equipment - Medical equipment - Transportation equipment (vehicles, trains, ships, etc.) - Traffic signal equipment - Disaster prevention / crime prevention equipment - Data-processing equipment - Application of similar complexity and/ or reliability requirements to the applications listed in the above.

If the product is to be used in equipment or electric circuit that requires high safety or reliability function / performances, sufficient reliability evaluation check for safety shall be performed prior to commercial shipment and consideration for the installation of a protective circuit at customer's design stage is strongly recommended. Please provide and appropriate fail-safe function on the customer's product to prevent any damages that may be caused by the abnormal function or the failure of our product.

QUALITY CONTROL: Testing and quality control is applied to the extent OxfordTEC deems necessary. Unless mandated by government requirements, OxfordTEC does not necessarily test all parameters of each product.

LIFECYCLE: Please note that OXFORDTEC may discontinue the manufacture of products, due to reasons such as end of supply of materials and/or components from our suppliers.

CONFORMITY: Please make sure that your product has been evaluated and confirmed against your specifications when the OxfordTEC product is mounted to your product. Please conduct validation and verification of the products in actual condition of mounting and operating environment before commercial shipment of the equipment. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement. We consider it not appropriate to include other terms and conditions for transaction warranty in product specifications, drawings or other technical documents. Therefore, even if your original part of this product specification includes such terms and conditions as warranty clause, product liability clause, or intellectual property infringement liability clause, we are not able to accept such terms and conditions in this product specification unless they are based on the governmental regulation or what we have agreed otherwise in a separate contact. We would like to suggest that you propose to discuss them under negotiation of contract.

DISCLAIMER: Please note that the only warranty that OxfordTEC (DBA part of the VoxMicro LTD Group) provides regarding the products is its conformance to the specifications provided herein. Accordingly, OxfordTEC shall not be responsible for any defects in products or equipment incorporating such products, which are caused under the conditions other than those specified in this specification.

OXFORDTEC HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. YOU AGREE TO INDEMNIFY AND DEFEND OXFORDTEC AND ITS AFFILIATES AGAINST ALL CLAIMS, DAMAGES, COSTS, AND EXPENSES THAT MAY BE INCURRED, INCLUDING WITHOUT LIMITATION, ATTORNEY FEES AND COSTS, DUE TO THE USE OF PRODUCTS. OxfordTEC's liability under this warranty shall be limited to products that are returned during the warranty period to the address designated by OxfordTEC and that are determined by OxfordTEC not to conform to such warranty. If OxfordTEC elects to repair or replace such products, OxfordTEC shall have reasonable time to repair such products or provide replacements. Repaired products shall be warranted for the remainder of the original warranty period. Replaced products shall be warranted for a new full warranty period.

For avoidance of doubt, OxfordTEC shall not be liable for any defects that are caused by neglect, misuse or mistreatment by an entity other than OxfordTEC including improper installation or testing, or for any products that have been altered or modified in any way by an entity other than OxfordTEC. Moreover, OxfordTEC shall not be liable for any defects that result from your or third party's design, specifications or instructions for such products.



OxfordTEC® PROFILE

5 Locations – 80% Direct Market Coverage – Affiliate Support

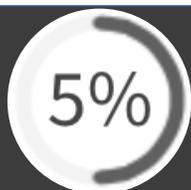


Quality Functions at all Stages

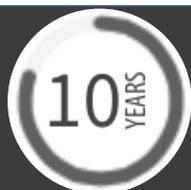




Behind the Scenes



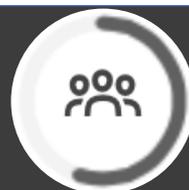
OF REVENUE
• INVESTED IN INNOVATION R&D



HANDS-ON IN
• OEM/ODM WIRELESS MODULE MARKET



DECADES OF
• CUMMILATIVE ENGINEERING EXPERIENCE



HUNDREDS OF
• ROUTINE INDUSTRIAL CUSTOMERS



THOUSANDS OF
• TUNING HOURS YEARLY



MILLIONS OF
• INTERNAL AND EXTERNAL INVESTMENTS

World Distribution & Samples via OxfordTEC®



FREE SHIPPING

*on orders above \$100



CARD, CHECK OR P.O.

NET Terms for trade & government



30-DAY RETURNS

peace of mind on all items



WORLD SHIPPING

*also via your courier for account customers