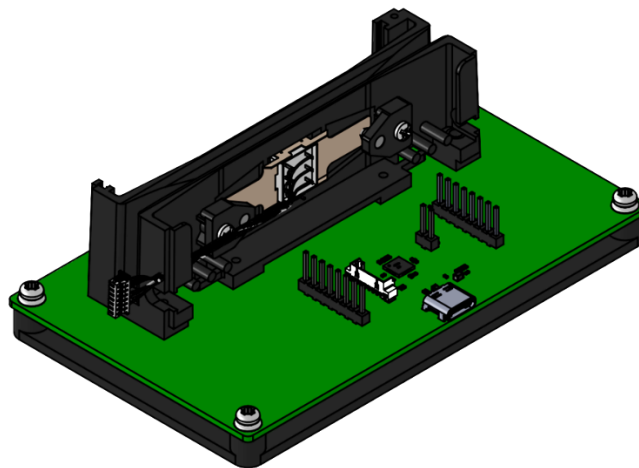


# QWANTUM

**Application Specific Integrated Circuit (ASIC)  
OEM Integration Evaluation Kit**



August 2024

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REGISTERED TO ISO 9001:2015

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**Table 0-1 - Revisions**

<b>Rev Number</b>	<b>Date</b>	<b>Notes</b>
100	August 2, 2024	Initial Release

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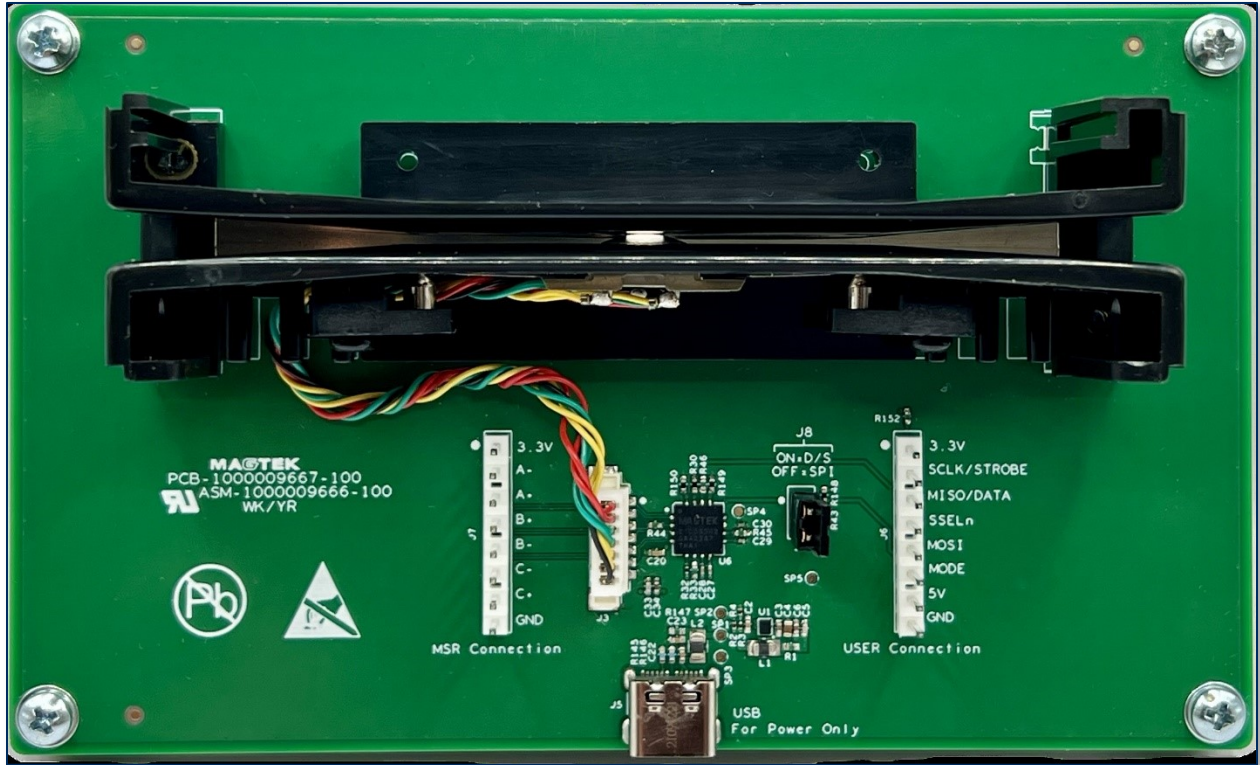


Figure 1-2 - Fully Assembled Production Unit

## 2 Connection Type Pin Descriptions and Configuration

This section describes the connection type pins and their function. For a list of the connection types and their locations, refer to **Figure -1**.

**Table 2-1 - J3 PIN Description**

PIN	FUNCTION	
<b>J3</b>		
1	A-	Analog Pins into the QWANTUM ASIC
2	A+	
3	B+	
4	B-	
5	C-	
6	C+	
7	Ground	
<b>J7 MSR Connection</b>		
1	3.3V Reference Voltage	Analog Pins into the QWANTUM ASIC
2	A-	
3	A+	
4	B+	
5	B-	
6	C-	
7	C+	
8	Ground	
<b>J6 USER Connection</b>		
1	3.3V in	
2	SCLK/STROBE	
3	MISO/DATA	
4	SSELn	
5	MOSI	
6	MODE	
7	5V in	
8	Ground	
<b>J8 Mode Select for QWANTUM ASIC</b>		
Jumper ON	DATA Strobe	
Jumper OFF	SPI	
<b>J5 USB For Power Only</b>	<b>USB-C Connector for Power Only</b>	

### 2.1 Configuration

If a track B is single ended, install a 1000pf capacitor at C20 and R44

### 2.2 Power Supply Options

1. 5 V through USB-C Connector.
2. 5 V input on J6 Pin 7.
3. 3.3 V input on J6 Pin 1.

**Note: R1 must be removed.**

## Appendix A Warranty, Standards, and Certifications

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MagTek warrants that the products sold pursuant to this Agreement will perform in accordance with MagTek's published specifications. This warranty shall be provided only for a period of one year from the date of the shipment of the product from MagTek (the "Warranty Period"). This warranty shall apply only to the "Buyer" (the original purchaser, unless that entity resells the product as authorized by MagTek, in which event this warranty shall apply only to the first repurchaser).

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Caution: Changes or modifications not expressly approved by MagTek could void the user's authority to operate this equipment.**

## CANADIAN DECLARATION OF CONFORMITY

This digital apparatus does not exceed the Class B limits for radio noise from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## INDUSTRY CANADA (IC) RSS

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) L'appareil ne doit pas produire de brouillage, et (2) L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## CUR/UR

This product is recognized per Underwriter Laboratories and Canadian Underwriter Laboratories 1950.

## CE STANDARDS

Testing for compliance with CE requirements was performed by an independent laboratory. The unit under test was found compliant with standards established for Class B devices.

## EU STATEMENT

Hereby, MagTek Inc. declares that the radio equipment types **Wideband Transmission System** (802.11 wireless and Bluetooth Low Energy), and **Non-Specific Short Range Device** (contactless) are in compliance with **Directive 2014/53/EU**. The full text of the EU declarations of conformity is available at the following internet addresses:

- <https://www.magtek.com/Content/DocumentationFiles/D998200238.pdf>.
- <https://www.magtek.com/Content/DocumentationFiles/D998200296.pdf>


## AUSTRALIA / NEW ZEALAND STATEMENT

Testing for compliance with AS/NZS standards was performed by a registered and accredited laboratory. The unit under test was found compliant with standards established under AS/NZS CISPR 32 (2013), AS/NZS 4268 Table 1, Row 59 DTS 2400-2483MHz SRD (802.11), and AS/NZS 4268 (2017) Table 1, Row 43 13.553-13.567MHz (contactless reader).

## UL/CSA

This product is recognized per **UL 60950-1, 2nd Edition, 2011-12-19** (Information Technology Equipment - Safety - Part 1: General Requirements), **CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12** (Information Technology Equipment - Safety - Part 1: General Requirements).

## ROHS STATEMENT

When ordered as RoHS compliant, this product meets the Electrical and Electronic Equipment (EEE) Reduction of Hazardous Substances (RoHS) Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU. The marking is clearly recognizable, either as written words like “Pb-free,” “lead-free,” or as another clear symbol ().

## PCI STATEMENT

PCI Security Standards Council, LLC (“PCI SSC”) has approved this PIN Transaction Security Device to be in compliance with PCI SSC’s PIN Security Requirements.

When granted, PCI SSC approval is provided by PCI SSC to ensure certain security and operational characteristics important to the achievement of PCI SSC’s goals, but PCI SSC approval does not under any circumstances include any endorsement or warranty regarding the functionality, quality or performance of any particular product or service. PCI SSC does not warrant any products or services provided by third parties. PCI SSC approval does not under any circumstances include or imply any product warranties from PCI SSC, including, without limitation, any implied warranties of merchantability, fitness for purpose, or non-infringement, all of which are expressly disclaimed by PCI SSC. All rights and remedies regarding products and services which have received PCI SSC approval shall be provided by the party providing such products or services, and not by PCI SSC.

## SAFETY

**This product has been evaluated by multiple safety certification agencies, including Underwriters Laboratories (UL) and the United States Federal Communications Commission (FCC Class A and Class B), and is designed to protect both the user and the device. This document is written specifically to work in conjunction with these safety and integrity features to protect the user and the device. It is very important to follow all steps in the product documentation carefully, in the order in which they are described, and at the recommended times. Failure to do so could result in personal injury, and / or cause damage to the device, and / or void the product warranty.**

### SAFETY REQUIREMENTS

#### CAUTION

##### **Never do any of the following:**

- DO NOT use a ground adapter plug to connect equipment to a power socket-outlet that lacks a ground connection terminal.
- DO NOT attempt any maintenance function that is not specifically described in this manual or in other ExpressCard 3000 instructional documents published by MagTek.
- DO NOT remove any of the covers or guards that are fastened with screws. There are no user-serviceable areas within these covers.
- DO NOT override or “cheat” electrical or mechanical interlock devices.
- DO NOT use EC3000 supplies or cleaning materials for other than their intended purposes.
- DO NOT operate the equipment if you or anyone else have noticed unusual noises or odors.

##### **Consider the following before operating the ExpressCard 3000:**

- Connect the EC3000 to a properly grounded AC power socket-outlet. If in doubt, have the socket-outlet checked by a qualified electrician. Improper connection of the device’s grounding conductor creates a risk of electric shock.
- Place the EC3000 on a solid surface that can safely support the device’s weight plus the weight of a person leaning against it (such as a service technician).
- Be careful when moving or relocating the device. Use proper lifting techniques.
- Use materials and supplies specifically designed for MagTek devices. Using unsuitable materials may result in poor performance, and in some cases may be hazardous.

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