



# Connect Tech Inc.

## Embedded Computing Experts

[www.connecttech.com](http://www.connecttech.com)

# Product Change Notification

## *COM Express® Type 7 + GPU Embedded System*

<b>PCN Number:</b>	CTIU-00015
<b>Revision:</b>	0.01
<b>Issue Date:</b>	2019-09-19
<b>Effective Date:</b>	2019-09-19

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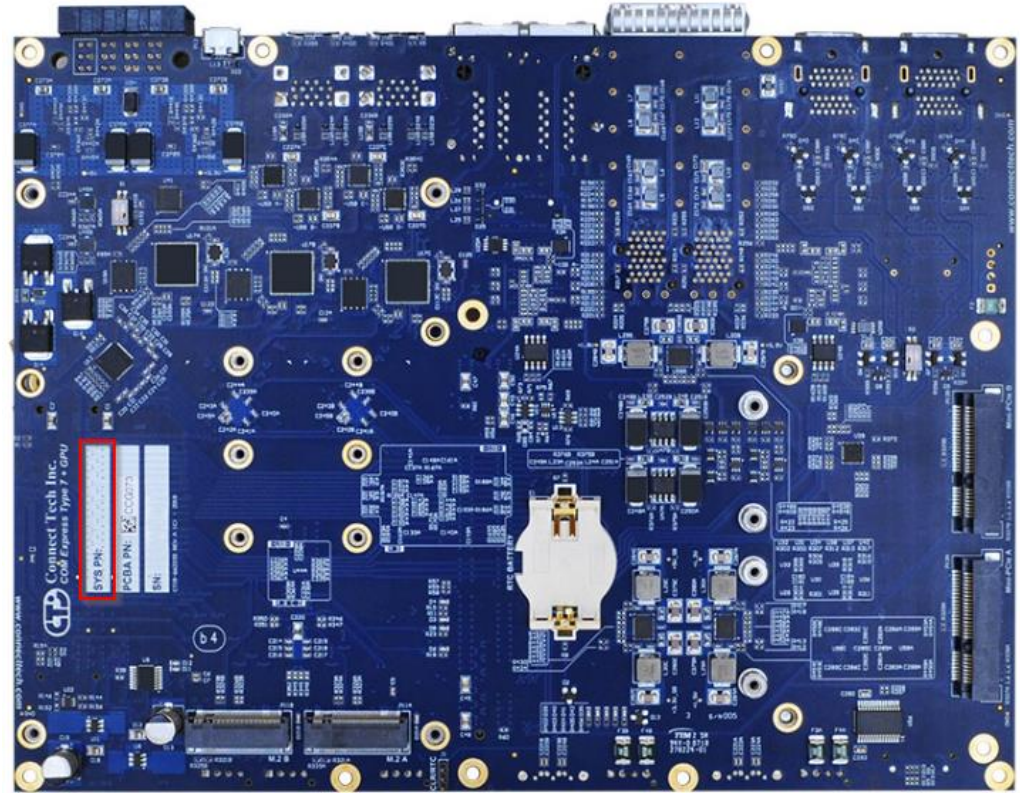
# 1 Product Identification

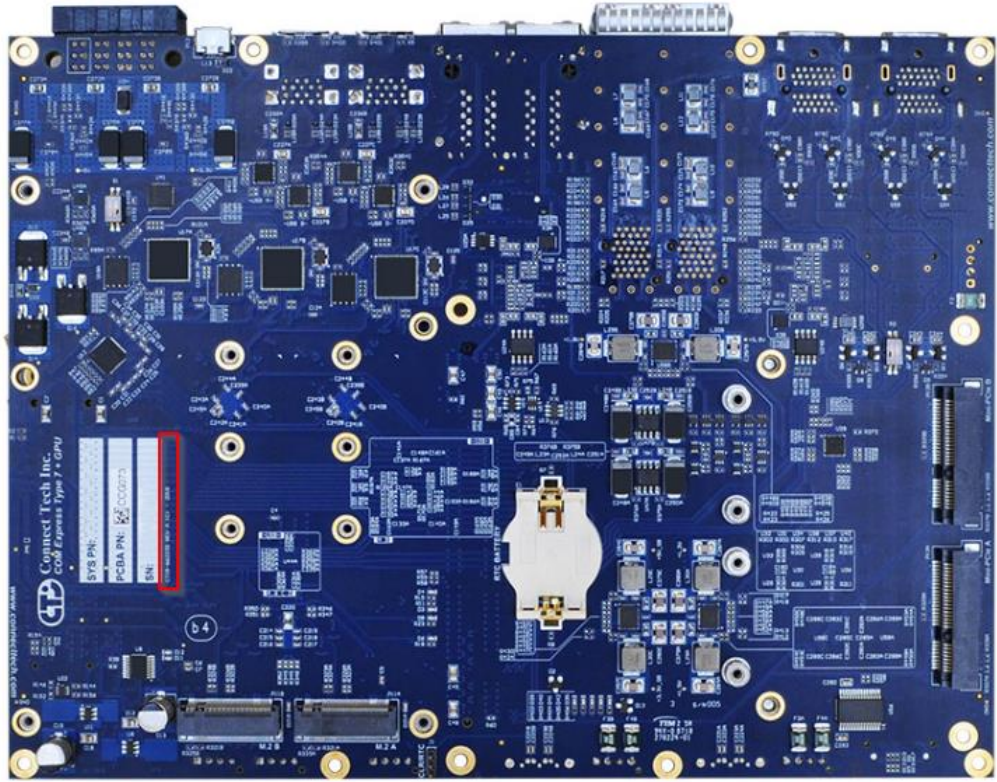
## 1.1 Product Data

	Previous Version	New Version
<b>Product Name</b>	COM Express® Type 7 + GPU Embedded System	COM Express® Type 7 + GPU Embedded System
<b>CTI Part Numbers</b>	V7G001, V7G002, V7G003, V7G004, V7G005, V7G006, D7G001, D7G002, D7G003, D7G004, D7G005, D7G006	V7G001, V7G002, V7G003, V7G004, V7G005, V7G006, D7G001, D7G002, D7G003, D7G004, D7G005, D7G006
<b>Hardware Revision</b>	B and older	C

	Previous Version	New Version
<b>Product Name</b>	V7G GPU System	V7G GPU System
<b>CTI Part Numbers</b>	ESG701, ESG702, ESG703, ESG704, ESG705, ESG706, ESG710, ESG711, ESG712	ESG701, ESG702, ESG703, ESG704, ESG705, ESG706, ESG710, ESG711, ESG712
<b>Hardware Revision</b>	B and older	C

## 1.2 Means of Distinguishing Changed Products

	Remark
<b>Product Number</b>	<input checked="" type="checkbox"/> Product number on PCB silkscreen 
<b>Hardware Revision</b>	<input checked="" type="checkbox"/> See board number and revision on PCB silkscreen.

	
Lot Code	<input type="checkbox"/>
Label	<input type="checkbox"/>
Other	<input type="checkbox"/>

## 2 Description and Reason of Change

AVL	<input type="checkbox"/>	Product Improvement	<input checked="" type="checkbox"/>
Material	<input type="checkbox"/>	BIOS Release	<input type="checkbox"/>
Assembly Process	<input type="checkbox"/>	Firmware Release	<input type="checkbox"/>
Assembly BOM	<input type="checkbox"/>	Datasheet / Manual	<input type="checkbox"/>
Testing	<input type="checkbox"/>	DFM	<input type="checkbox"/>
Manufacturing Site	<input type="checkbox"/>	Other	<input type="checkbox"/>
Equipment	<input type="checkbox"/>		

## SATA Performance

CTI has found that SATA Port **0** will only operate at SATA Generation II (3 Gbps) with select SATA disk and SSD devices, while SATA Port **1** can operate at the up to SATA Generation III data rate (6 Gbps) depending on the connected HDD/SDD model.

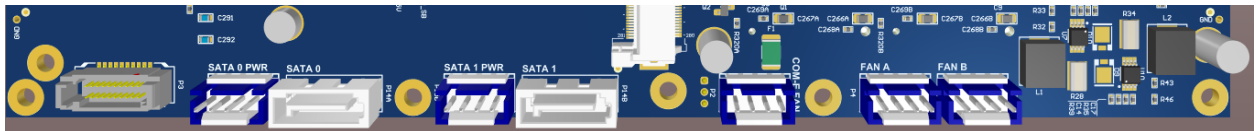
SATA devices compatibility

Device PN	HDD/SDD	SATA 0	SATA 1	Functional
Seagate ST1000LM048	HDD	Gen 3 Link	Gen 3 Link	Yes
Transend SATA A400 120GB	SSD	Gen 2 Link	Gen 3 Link	Yes
Samsung EVO 850 250GB	SSD	Gen 2 Link	Gen 2 Link	No

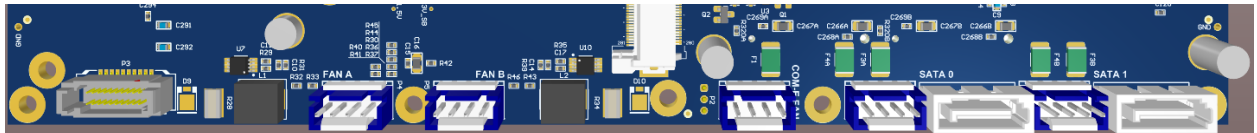
The next product revision will improve SATA performance by

- Removing SATA re-drivers
- Repositioning the SATA Port **0** and Port **1** connectors in place of the fan connectors; in closer proximity to the COM Express module interface connector
- PCB stack-up and routing optimization

Revision B SATA Connector Location:



Revision C SATA Connector Location:



## NVMe Performance

CTI has found that NVMe Slot **B** will only operate at PCI Express Generation 2 (5 Gbps) x4 link and Gen 3 (8 Gbps) x2 link ; while NVMe Slot **A** can operate at the full PCI Express Generation 3 (8 Gbps) x4 link.

NVMe Device Compatibility

Device PN	NVMe A	NVMe B	Functional
Crucial CT200PSSD8	Gen 3 Link 4x	Gen 3 Link 2x Gen 2 Link 4x	Yes
Transcend TS128GME550T-I	Gen 3 Link 4x	Gen 3 Link 2x Gen 2 Link 4x	Yes
Samsung Evo 960 500GB	Gen 3 Link 4x		Yes Slot A only

The next product revision will improve performance with PCB stack-up and routing optimization

## 3 Impact of change (positive or negative) on fit, form, function & reliability

### 3.1 Quality and Reliability

The changes listed in Section 2 will improve the features of the product allowing full bandwidth data transfer on all SATA ports and NVMe slots

### 3.2 Software Compatibility

All software written for Revision B and earlier will be compatible with Revision C

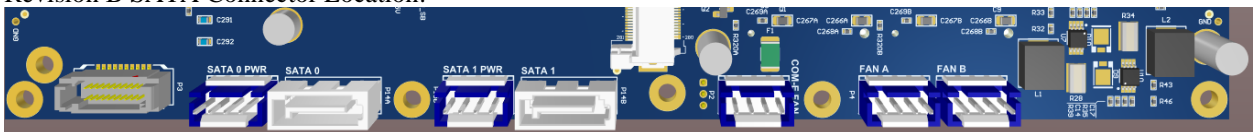
### 3.3 Hardware Compatibility

The Revision C hardware is fully compatible with Revision B ; only with improved performance

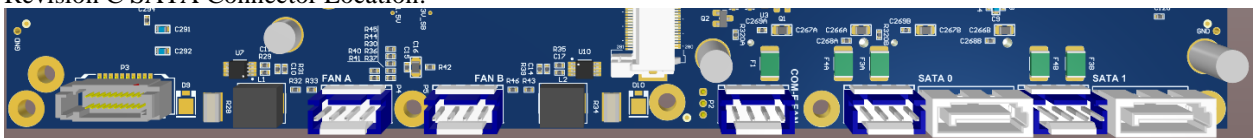
### 3.4 Mechanical Compatibility

The Revision C hardware swaps locations between the FAN and SATA connectors. This may affect cable lengths – requiring longer or shorter cables than in previous system integrations.

Revision B SATA Connector Location:



Revision C SATA Connector Location:



## 4 Product / Revision Discontinuation

After the release of this document only new revisions will be shipped.

## 5 Contact Information

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