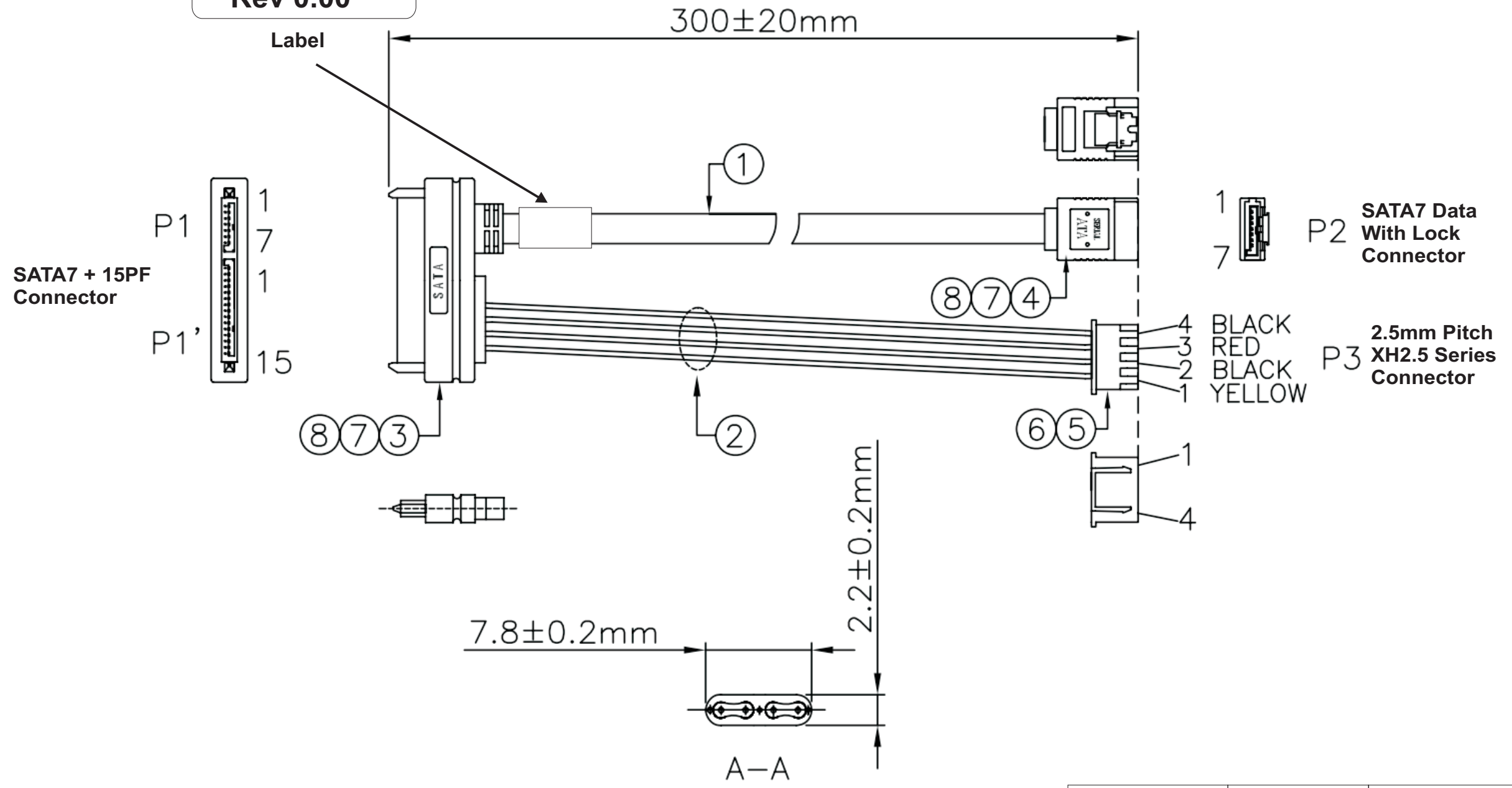


REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2011-12-06	
	0.00b	Updated Template	2017-08-14	

**CBG090**  
**CTIC-00347**  
**Rev 0.00**



**Pinout**

P1	P2	
1	1	GND
2	2	A+
3	3	A-
4	4	GND
5	5	B-
6	6	B+
7	7	GND

P3	P1'	
1	15	+12V
	14	
	13	
2	12	GND
	11	
	10	
3	9	+5V
	8	
	7	
4	6	GND
	5	
	4	
	3	
	2	
	1	

- Material Notes**
1. Ensure SATA data cable is SATA III (6Gbps) Capable
  2. Ensure Power Cables are 22AWG

ASSEMBLY & TEST PROCEDURE:

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN METRIC (MM)

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DRAWN PD	DATE 2017-08-14
CHECKED	DATE
ENG APPR.	DATE
MFG APPR.	DATE
Q.A.	DATE
<b>NOT DRAWN TO SCALE</b>	

**Connect Tech Inc.**  
Embedded Computing Experts  
42 ARROW ROAD, GUELPH, ON, CANADA, N1K 1S6

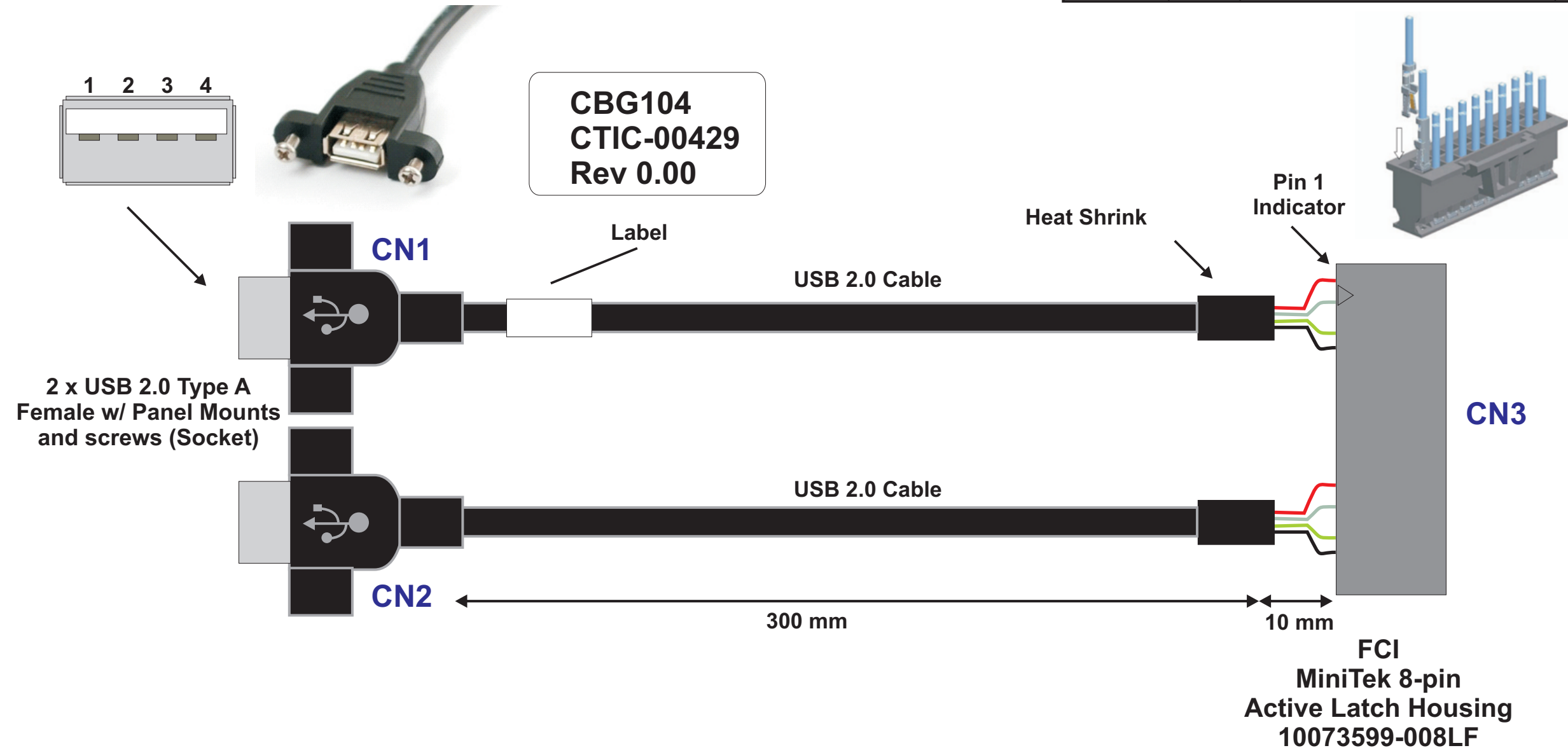
TITLE  
**SATA Data+Power to  
SATA Data and XH2.5 Power**

PART NO.  
**CBG090**

DOCUMENT NO.  
**CTIC-00347**

REV  
**0.00b**

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2013-07-22	
	0.00b	Updated Template	2017-08-14	



**Pinout**

CN1 USB #1	Signal	Color	CN3 FCI
1	VCC	RED	1
2	D-	WHITE	3
3	D+	GREEN	5
4	GND	BLACK	7
CN2 USB #2			
1	VCC	RED	2
2	D-	WHITE	4
3	D+	GREEN	6
4	GND	BLACK	8


**Material Notes**

1. Cable is made from **RoHS** compliant components, must be USB 2.0 compliant and 26-30 AWG
2. Both Signal Pairs D-/D+ must be twisted pair, 90ohm differential impedance
3. USB sockets must be USB 2.0 Type A Female
4. FCI 10073599-008LF must be used; along with required crimps 77138

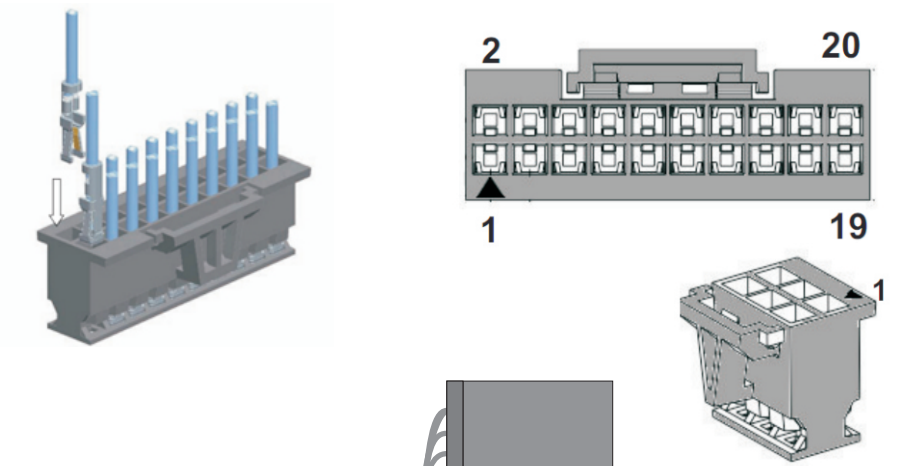
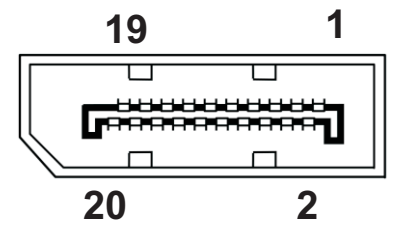
ASSEMBLY & TEST PROCEDURE:

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN METRIC (MM)

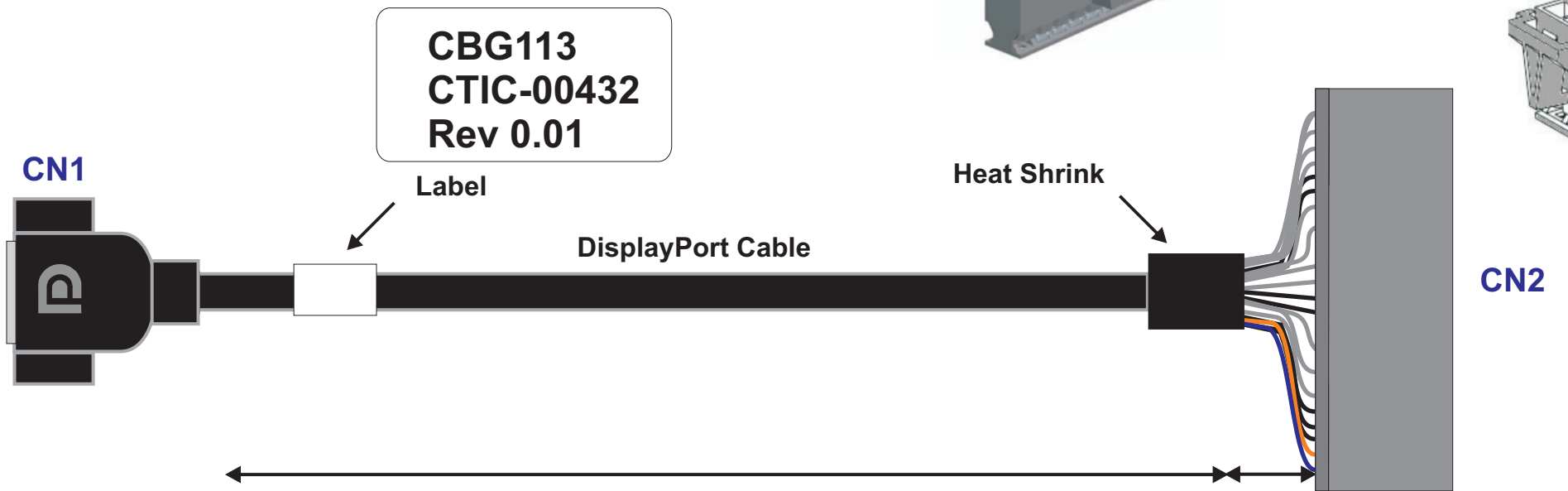
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DRAWN <b>PD</b>	DATE 2017-08-14	 <b>Connect Tech Inc.</b> <i>Embedded Computing Experts</i> 42 ARROW ROAD, GUELPH, ON, CANADA, N1K 1S6
CHECKED	DATE	
ENG APPR.	DATE	TITLE <b>8-Pin Minitek to 2x USB 2.0 Type-A Female</b>
MFG APPR.	DATE	
Q.A.	DATE	PART NO. <b>CBG104</b>
<b>NOT DRAWN TO SCALE</b>		
		REV <b>0.00b</b>

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2013-06-04	
	0.01	Updated Pin 1 Detail, Fixed Pin14 Desc	2013-06-09	
	0.01b	Updated Template	2017-08-14	



DisplayPort++ v1.2  
Female w/ Panel  
Mounts and Screws



**Pinout**

CN1	Signal	CN2
1	DP0+	1
10	DP3+	2
3	DP0-	3
12	DP3-	4
2	GND	5
5	GND	6
4	DP1+	7
17	DPAUX-	8
6	DP1-	9
15	DPAUX+	10
8	GND	11
11	GND	12
7	DP2+	13
18	DP.HPD	14
9	DP2-	15
14	GND	16
16	GND	17
19	GND	18
20	DP_PWR	19
13	DP_AUX_SEL	20

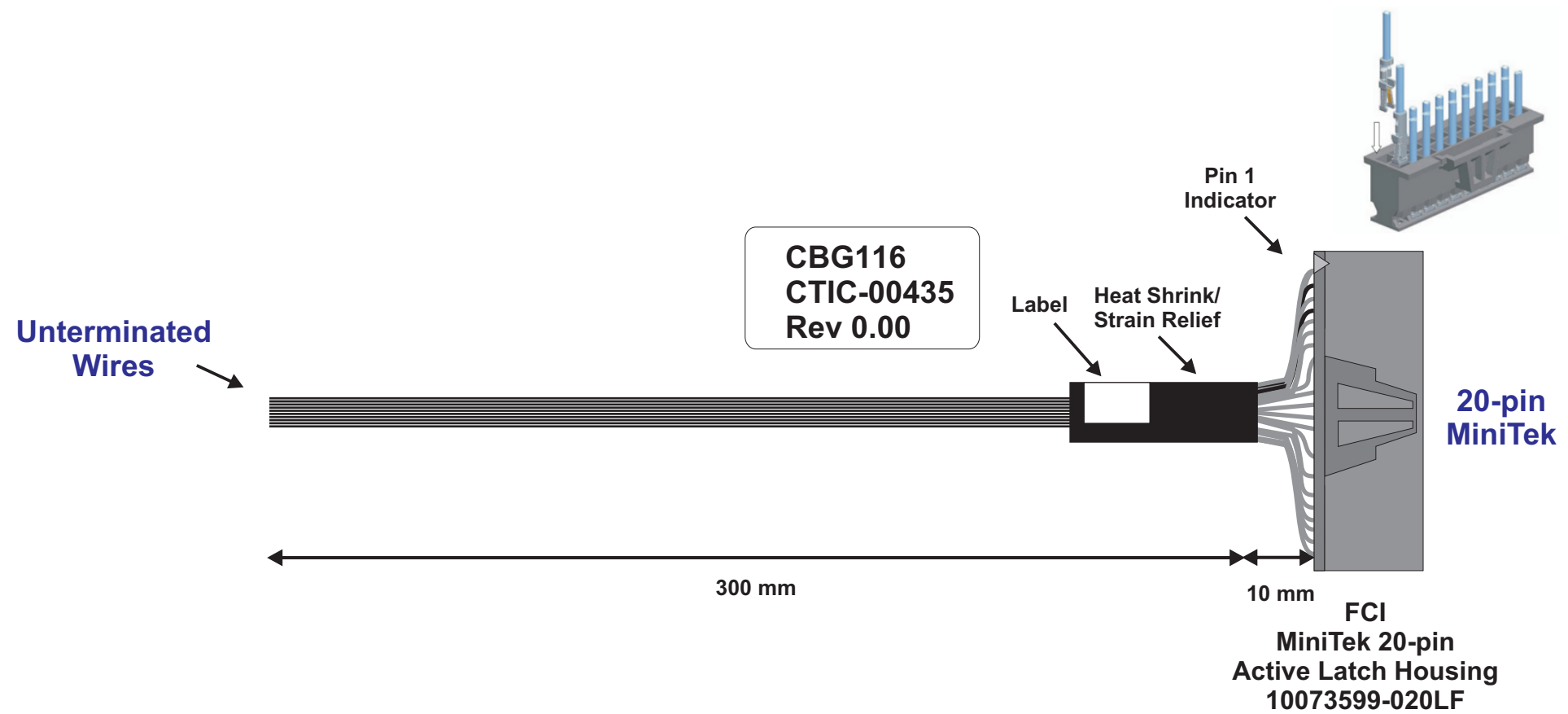
**Material Notes**

1. Cable is made from **RoHS** compliant components, must be DisplayPort++ compliant and wires must be 26-30 AWG
2. All DPX+/- pairs must be twisted pairs.
2. DisplayPort socket must be DisplayPort++ v.1.2 Female
3. FCI 10073599-020LF must be used; along with required crimps 77138

**CBG113**  
**CTIC-00432**  
**Rev 0.01**

DRAWN <b>PD</b>	DATE 2017-08-14	<b>Connect Tech Inc.</b> Embedded Computing Experts 42 ARROW ROAD, GUELPH, ON, CANADA, N1K 1S6
	CHECKED	
	ENG APPR.	DATE
	MFG APPR.	DATE
	Q.A.	DATE
ASSEMBLY & TEST PROCEDURE:  UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN METRIC (MM)		TITLE 20-Minitek to DisplayPort
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NOT DRAWN TO SCALE		DOCUMENT NO. CTIC-00432
		REV 0.01b

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2013-05-28	
	0.00b	Updated template	2017-08-14	




**Pinout**

Unterminated Wires	20-pin MiniTek
-	1
-	2
-	3
-	4
-	5
-	6
-	7
-	8
-	9
-	10
-	11
-	12
-	13
-	14
-	15
-	16
-	17
-	18
-	19
-	20

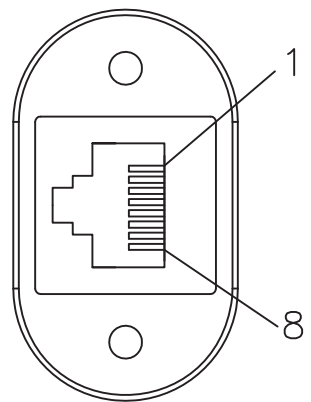
**Assembly Instructions**

1. Cable is made from **RoHS** compliant components and 26 AWG
2. FCI Minitex House PN: 10073599-020LF must be used
3. FCI Minitex Crimp PN: 77138-001LF must be used

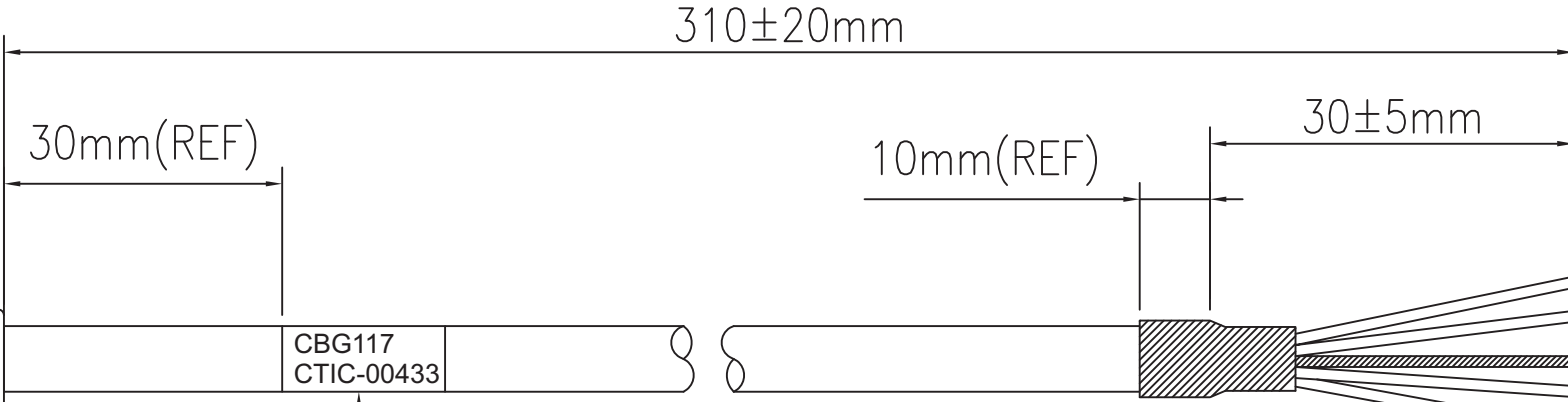
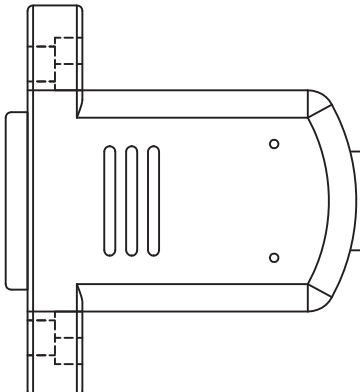
ASSEMBLY & TEST PROCEDURE:	DRAWN PD	DATE 2017-08-14	 <b>Connect Tech Inc.</b> <i>Embedded Computing Experts</i> 42 ARROW ROAD, GUELPH, ON, CANADA, N1K 1S6
	CHECKED	DATE	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN METRIC (MM)	ENG APPR.	DATE	TITLE 20-Pin Minitex to Flying Leads
	MFG APPR.	DATE	
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	NOT DRAWN TO SCALE		
			DOCUMENT NO. CTIC-00435

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2013-06-04	
	0.01	Updated PN Info	2013-06-09	
	0.01b	Updated Template	2017-08-14	

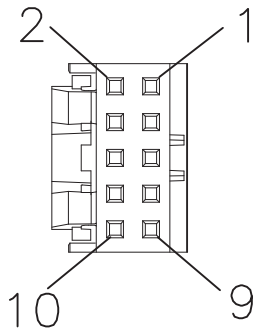
**RJ-45 8P8C Female  
w/ Panel Mounts and Screws, Washers, Nuts**



P1(8P8C JACK)

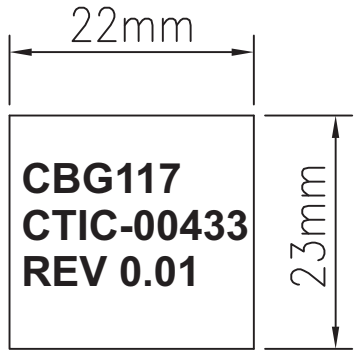


**FCI  
MiniTek 10-pin  
Housing  
PN:10073599-010LF**



P2(10P HSG)

WHITE GROUND  
BLACK PRINTING



LABEL

Pinout	
P1	P2
2 ORANGE	1
1 WHITE/ORANGE	2
6 GREEN	3
3 WHITE/GREEN	4
SHELL BRAID	5
SHELL BRAID	6
5 WHITE/BLUE	7
4 BLUE	8
8 BROWN	9
7 WHITE/BROWN	10

**Material Notes**

1. Cable is made from **RoHS** compliant components, must be RJ-45 compliant and 26-30 AWG
2. RJ-45 socket must be 8P8C (8 Pins, 8 Connectors)
3. FCI 10073599-010LF must be used; along with required crimps 77138

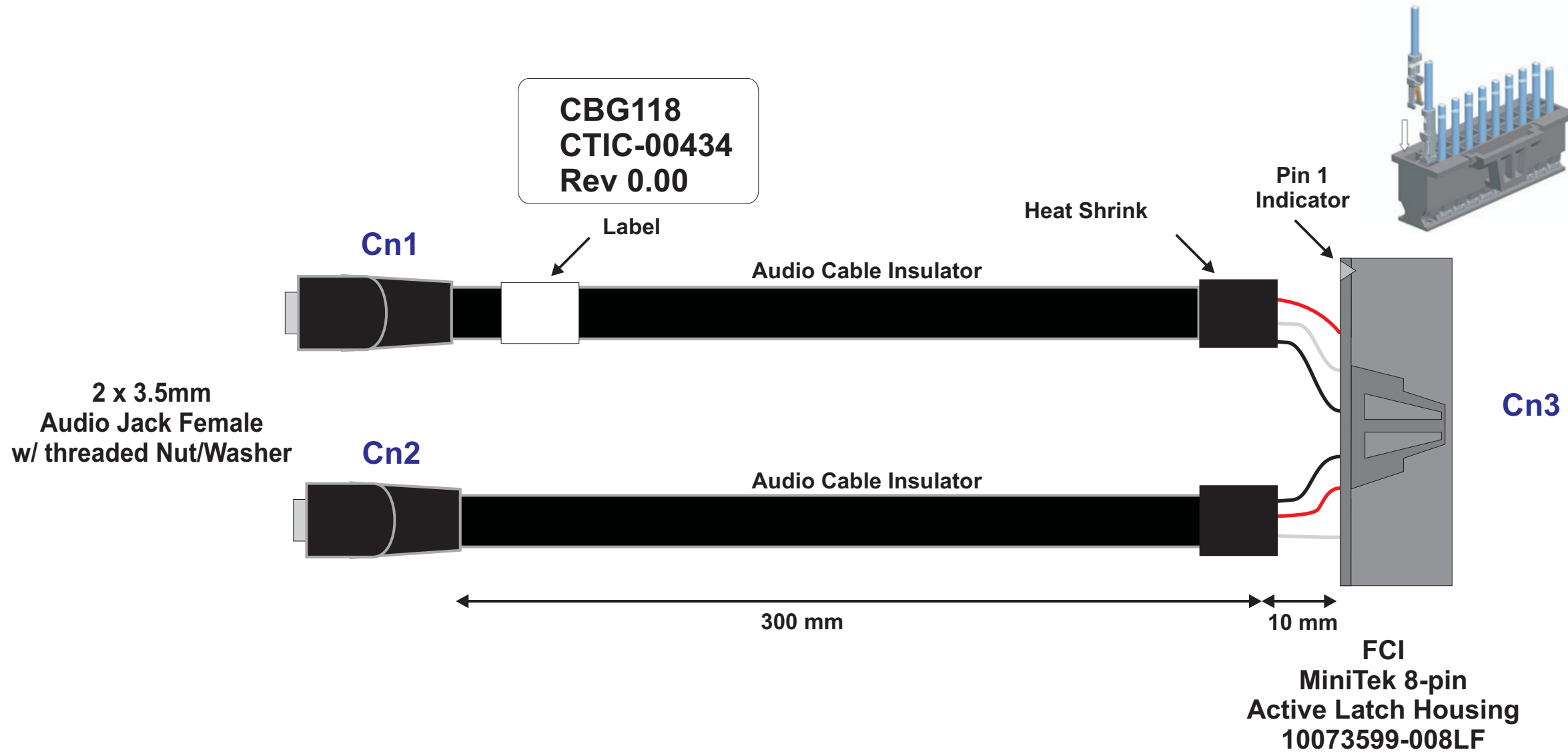
ASSEMBLY & TEST PROCEDURE:  
  
UNLESS OTHERWISE SPECIFIED:  
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DRAWN <b>PD</b>	DATE <b>2017-08-14</b>
CHECKED	DATE
ENG APPR.	DATE
MFG APPR.	DATE
Q.A.	DATE

**Connect Tech Inc.**  
Embedded Computing Experts  
42 ARROW ROAD, GUELPH, ON, CANADA, N1K 1S6

NOT DRAWN TO SCALE		TITLE <b>10-Minitek to RJ45F</b>
PART NO. <b>CBG117</b>		REV <b>0.01b</b>
DOCUMENT NO. <b>CTIC-00433</b>		

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2013-07-22	
	0.00b	Updated Template	2017-08-14	



**Pinout**

CN1/CN2	CN3
-	1
-	2
CN1 - Ring	3
CN1 - Tip	4
CN1 - Sleeve	5
CN2 - Sleeve	6
CN2 - Ring	7
CN2 - Tip	8

**Material Notes**

1. Cable is made from **RoHS** compliant components and wires must be 26-30 AWG
2. FCI 10073599-008LF must be used; along with required crimps 77138

ASSEMBLY & TEST PROCEDURE:

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN METRIC (MM)

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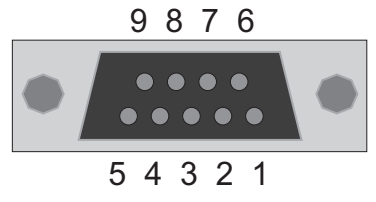
DRAWN PD	DATE 2017-08-14
CHECKED	DATE
ENG APPR.	DATE
MFG APPR.	DATE
Q.A.	DATE

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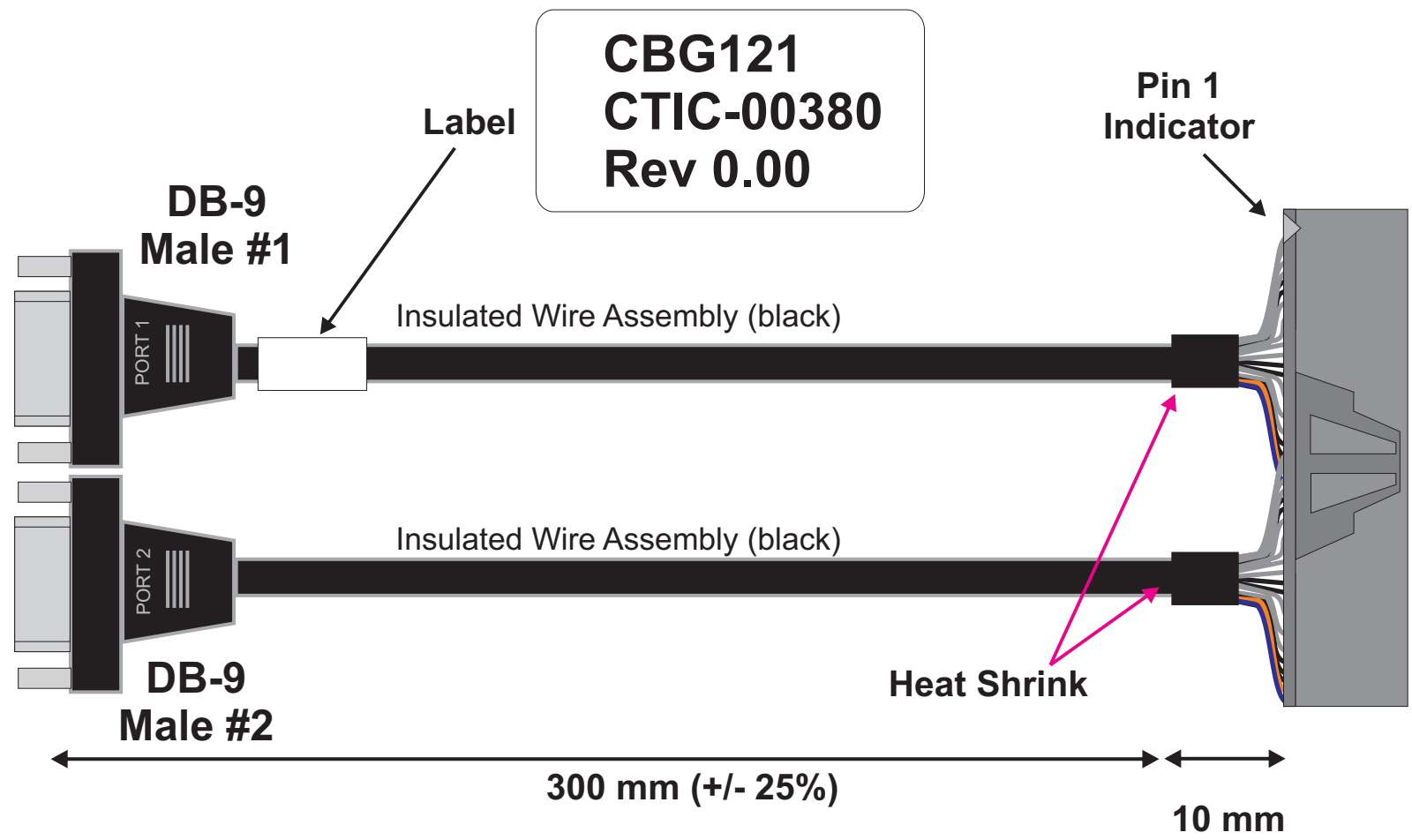
TITLE 8-Pin Minitek to 2x 3.5 Audio Jacks	
PART NO. CBG118	
DOCUMENT NO. CTIC-00434	REV 0.00b

NOT DRAWN TO SCALE

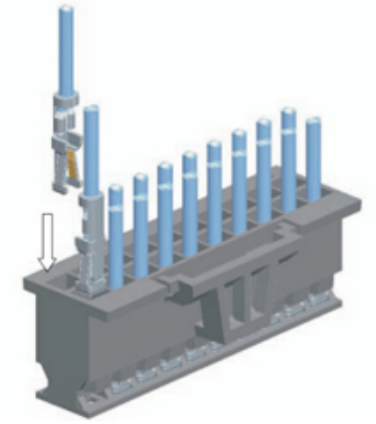
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2013-07-22	
	0.00b	Updated Template	2017-08-14	



**Dual DB-9 Male Panel Mount Connectors with mouldings/covers and hex nut screws**



**CBG121  
CTIC-00380  
Rev 0.00**



**FCI  
MiniTek 20-pin  
Active Latch Housing  
10073599-020LF  
crimps: 77138**

**Pinout Information**

DB9 #1	20-pin
1	1
6	2
2	3
7	4
3	5
8	6
4	7
9	8
5	9
	10
DB9 #2	
1	11
6	12
2	13
7	14
3	15
8	16
4	17
9	18
5	19
	20

**Material Notes**

- Cable must be made from **RoHS** compliant components
- Wires must be 26-30 AWG
- Hex nut screws on DB-9 connectors must be installed

ASSEMBLY & TEST PROCEDURE:  
  
UNLESS OTHERWISE SPECIFIED:  
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DRAWN PD	DATE 2017-08-14
CHECKED	DATE
ENG APPR.	DATE
MFG APPR.	DATE
Q.A.	DATE

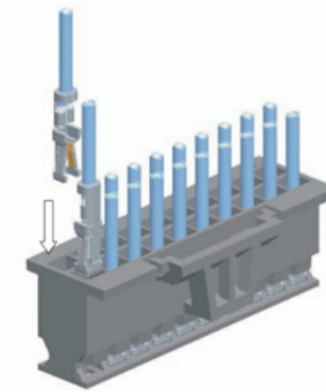
**Connect Tech Inc.**  
Embedded Computing Experts  
42 ARROW ROAD, GUELPH, ON, CANADA, N1K 1S6

TITLE  
**20-Pin Minittek to 2x DB9M**

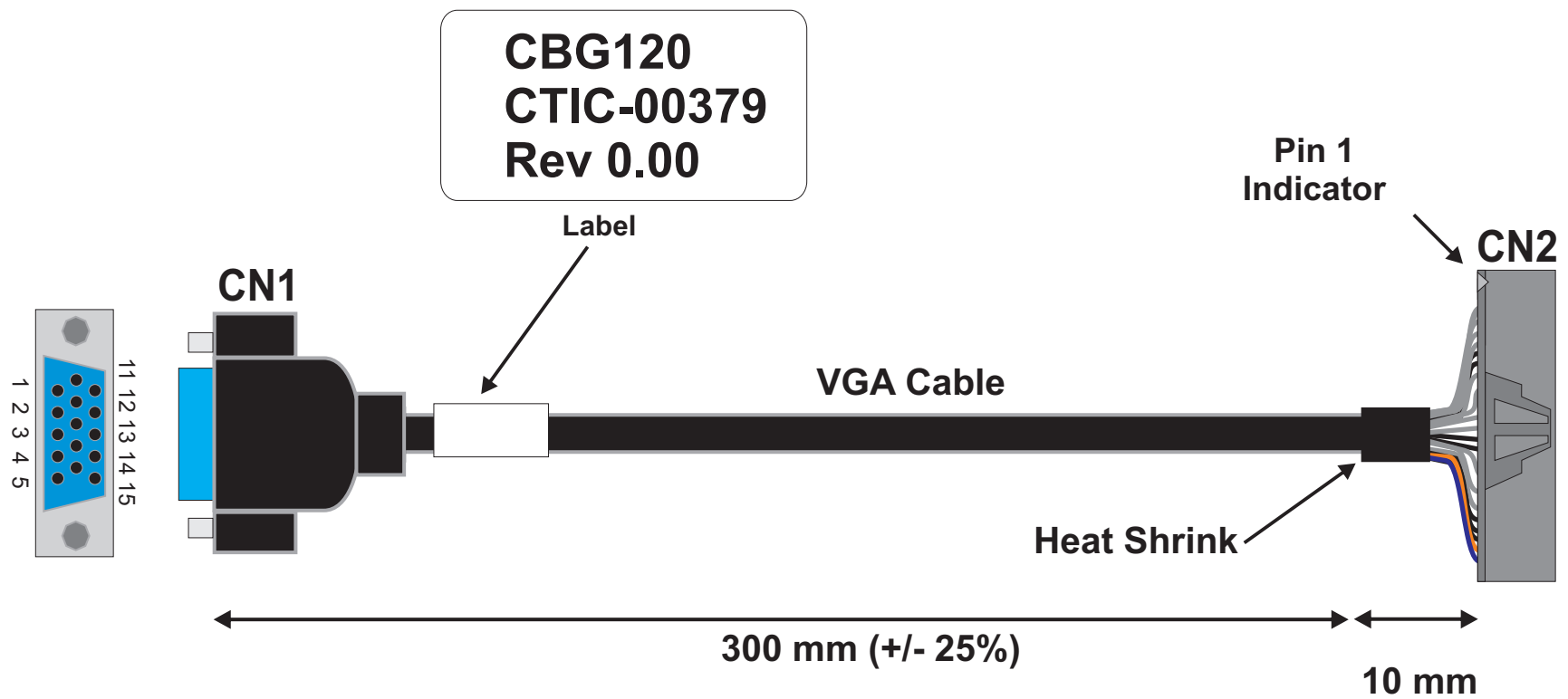
**NOT DRAWN TO SCALE**

PART NO. <b>CBG121</b>	REV <b>0.00b</b>
DOCUMENT NO. <b>CTIC-00380</b>	

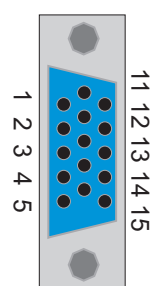
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	0.00	Initial	2013-07-22	
	0.00b	Updated Template	2017-08-14	



**FCI  
MiniTek 10-pin  
Active Latch Housing  
10073599-010LF  
crimps: 77138**



**VGA - HD-15 Female  
Panel Mount Connector  
with moulding/cover  
and hex nut screws**



**Pinout**

CN1 VGA (HD-15)	Signal	CN2 10 Pin Header
1	RED	1
2	GREEN	3
3	BLUE	5
4	NC	-
5	GND	10
6	GND	2
7	GND	2
8	GND	2
9	NC	-
10	GND	10
11	NC	-
12	DDC DATA	8
13	HSync	7
14	VSynC	9
15	DDC CLK	6

**Material Notes**

- Cable must be made from **RoHS** compliant components
- Wires must be 26-30 AWG
- Hex nut screws on CN1 must be installed

ASSEMBLY & TEST PROCEDURE:

UNLESS OTHERWISE SPECIFIED:  
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DRAWN <b>PD</b>	DATE 2017-08-14
CHECKED	DATE
ENG APPR.	DATE
MFG APPR.	DATE
Q.A.	DATE

**Connect Tech Inc.**  
Embedded Computing Experts  
42 ARROW ROAD, GUELPH, ON, CANADA, N1K 1S6

TITLE  
**10-Pin Minitex to VGA Cable**

**NOT DRAWN TO SCALE**

PART NO.  
**CBG120**

DOCUMENT NO.  
**CTIC-00379**

REV  
**0.00b**





**Connect Tech Inc.**  
Embedded Computing Experts

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

## **Product Change Notification**

### *USB 3.0 Optimization*

<b>PCN Number:</b>	CTIU-00008
<b>Revision:</b>	0.01
<b>Issue Date:</b>	2018-01-08
<b>Effective Date:</b>	2017-12-10
<b>Authors:</b>	TH

# 1 Product Identification

## 1.1 Product Data

	Effected Products
<b>CTI Part Numbers</b>	ASG001, ASG002, ASG010, ASG011, ASG012, CCG017, CCG018, CCG020, CCG060, CBG131, CBG133, VXG001, VXG002, VXG003, VXG004, VXG005, VXG006, VXG007, VXG008, VXG009, VXG010, VXG011, VXG012, VXG013, VXG014, VXG015, VXG016, VXG017, VXG018, VXG019, VXG020, VXG021, VXG022, VXG023, VXG024, VXG025, VXG026, VXG027, VXG028, VXG029, VXG030, VXG031, VXG032, VXG033, VXG034, VXG035, VXG036, VXG037, VXG038, VXG039, VXG040, VXG041, VXG042, VXG043, VXG044, VXG045, VXG046, VXG101, VXG102, VXG103, VXG104, VXG105, VXG113, VXG201, VXG202, VXG203, VXG204, VXG205, VXG206, VXG301, VXG302, VXG303
<b>Serial Number</b>	N/A
<b>Lot Number</b>	N/A
<b>Hardware Revision</b>	N/A
<b>Firmware Version</b>	N/A

## 1.2 Means of Distinguishing Changed Products

		Remark
<b>Product Number</b>	<input type="checkbox"/>	
<b>Hardware Revision</b>	<input type="checkbox"/>	
<b>Lot Code</b>	<input type="checkbox"/>	
<b>Label</b>	<input type="checkbox"/>	
<b>Other</b>	<input checked="" type="checkbox"/>	Products shipped after the date of this PCN release will have the USB 3.0 optimization applied.

## 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"/>		

### USB 3.0 Re-Driver Settings:

ASG001, ASG002, ASG010, ASG011, ASG012, CCG017, CCG018, CCG020, CCG060, VXG001, VXG002, VXG003, VXG004, VXG005, VXG006, VXG007, VXG008, VXG009, VXG010, VXG011, VXG012, VXG013, VXG014, VXG015, VXG016, VXG017, VXG018, VXG019, VXG020, VXG021, VXG022, VXG023, VXG024, VXG025, VXG026, VXG027, VXG028, VXG029, VXG030, VXG031, VXG032, VXG033, VXG034, VXG035, VXG036, VXG037, VXG038, VXG039, VXG040, VXG041, VXG042, VXG043, VXG044, VXG045, VXG046, VXG101, VXG102, VXG103, VXG104, VXG105, VXG113, VXG201, VXG202, VXG203, VXG204, VXG205, VXG206, VXG301, VXG302, VXG303

The Connect Tech Inc. (CTI) products listed above all use USB 3.0 re-drivers for each of the USB 3.0 ports present on that product. Using USB 3.0 compliance testing along with several functional tests the re-driver settings have been optimized on each product to ensure robust operation of the USB 3.0 interfaces across multiple applications.

These improvements should not have any adverse effects on existing systems. If you discover that you have USB 3.0 issues with CTI products please contact our customer support at [support@connecttech.com](mailto:support@connecttech.com) with the relevant details of your issue.

USB 3.0 Cables: CBG131, CBG133

As part of the USB 3.0 optimization of CTI products, CTI no longer recommends CBG131 and CBG133 for new designs. CTI will continue to offer and support these cables for existing systems. See cable images below; CBG131 is on the left and CBG133 is on the right.



\*Images courtesy of StarTech

For new designs CTI recommends CBG160, CBG287, and CBG288.

CBG160 on the left. CBG287 on the right. Both right-angle PCB connections but one exits 180 degrees in the opposite direction of the other.



CBG288 shown below with vertical connection to the PCB connector.



For more information regarding these cables please read further in this document and/or contact our sales department at [sales@connecttech.com](mailto:sales@connecttech.com).

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

### 3.1 Quality and Reliability

The changes listed in Section 2 should have a positive effect on the overall quality and reliability of the USB 3.0 ports of the listed Connect Tech products.

### 3.2 Software Compatibility

N/A

### 3.3 Hardware Compatibility

USB 3.0 ports on the listed Connect Tech Inc. board level products have had their default USB 3.0 re-driver settings optimized based on a wide range of use-cases and applications. These changes should have a positive effect on the operation of the USB 3.0 interfaces. If you have an existing product in which you have characterized the USB 3.0 channels it is recommended that you conduct characterization of these channels again with the post ECN optimized products.

### 3.4 Mechanical Compatibility

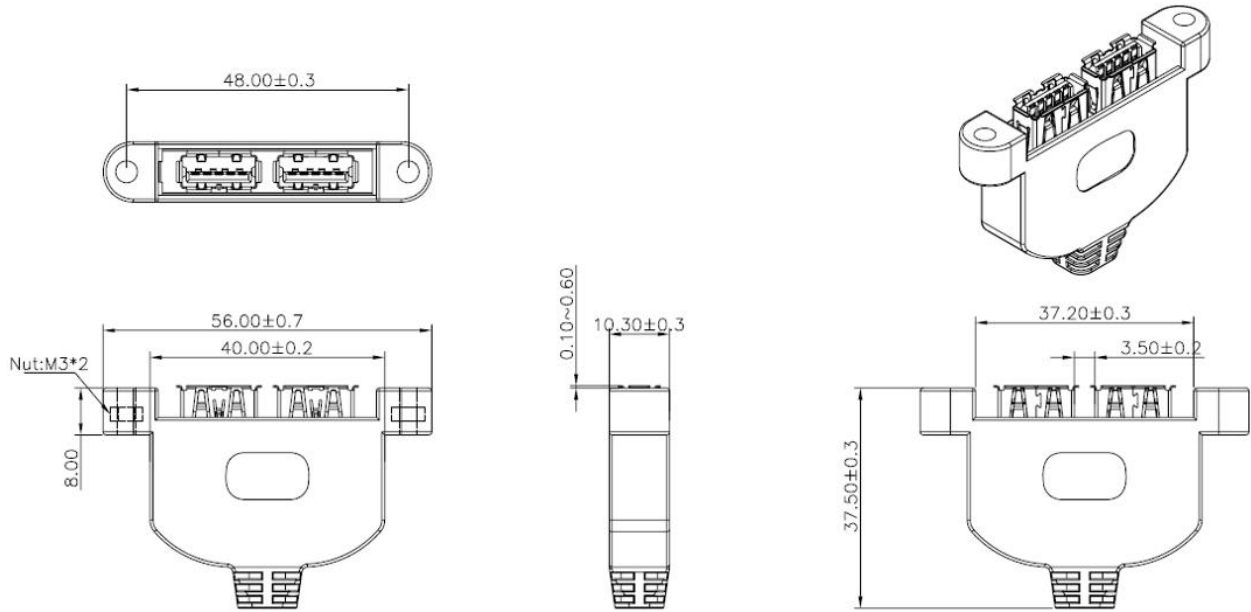
Cable colour, length and panel mount geometries are different between the old and new cables. See below for more information.

#### 3.4.1 Cable Detail Summary

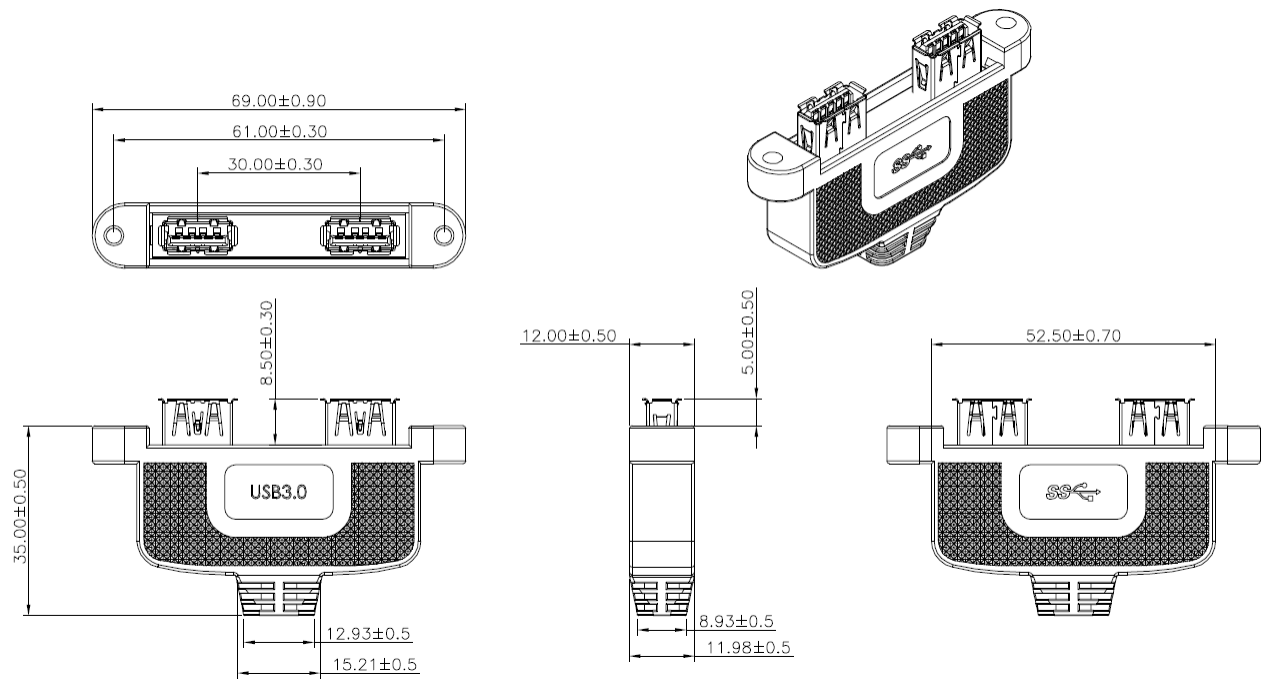
	CTI Cable Number	OEM	Cable Length	Cable Colour	Board Exit
No Longer Recommended	CBG131	StarTech USB3SPLATE	0.5 m (1.6 ft.)	Blue	Vertical
	CBG133	StarTech USB3SPNLAFFHD	0.5 m (1.6 ft.)	Blue	Vertical
Recommended for New Designs	CBG160	Lotes ABA-USB-526-K01	0.3175 m (1.04 ft.)	Black	Right-Angle
	CBG287	Lotes ABA-USB-067-K01	0.4572 m (1.5 ft.)	Black	Right-angle 180 degrees
	CBG288	Lotes ABA-USB-164-K01	0.7167 m (2.35 ft.)	Black	Vertical

### 3.4.2 New Panel Mount Geometries

#### 3.4.2.1 CBG160 and CBG287



#### 3.4.2.2 CBG288



\*Images courtesy of Lotes  
\*Dimensions in mm

## 4 Product / Revision Discontinuation

These changes take effect immediately upon the release of this PCN and only products with the USB 3.0 optimization will be delivered. This does not include products that fall under the RMA process.

## 5 Contact Information

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