





ViTrox Technologies Sdn. Bhd. [507043-P]
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### V810i Series

### Advanced 3D X-ray Inspection (AXI)

Designed for various size of PCB assemblies to increase production efficiency and cost savings for Electronic Manufacturing Services (EMS), Original Equipment Manufacturers (OEMs), Original Design Manufacturers (ODMs), and etc.

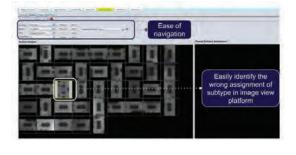




#### What is OLP?

OLP means for Offline Programming. It is a software to allow user to develop program on his/her own PC without connecting to machine.

The drag and drop concept eases programming and the inline OLP concept minimizes system downtime and increases product throughput.



## 2 Largest Board Size Platform

Minimum and Maximum Panel Size 127mm x 127mm - 1320.8mm x 1320.8mm

Minimum and Maximum Panel Thickness
1.5mm to 10mm

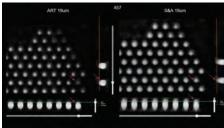
Maximum Panel Weight 25Kg

The smart V810i S2XLW AXI solution offers the world-class board inspection capabilities and software compatible with Industry 4.0 for quality-assured inspection results. With its latest capability, the largest and heaviest PCB board weighing up to 25kg and up to 1.3m x 1.3m (length x width) in size can be accommodated and inspected.



Provide alternative view (3D model) for defects buy off and increase user confidence to buy off defect. At the same time, it will generate defect failure analysis for further improvement.





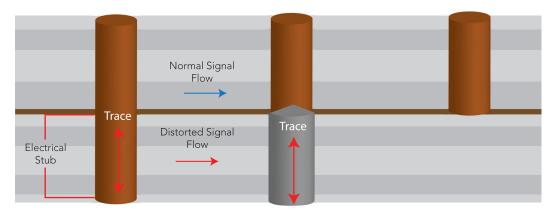
- Alternative view (3D model) for defects buyoff
- Increase users confident to buyoff defects

V810/ 52 XLW

• Defect failure analysis

## 4 Backdrill Inspection

Back drilling, is a technique used at high speed multi-layered boards to remove the unused portion, or stub, or copper barrel from a thru-hole in a printed circuit board in order to minimize signal integrity degradation and reduce via-to-via crosstalk.



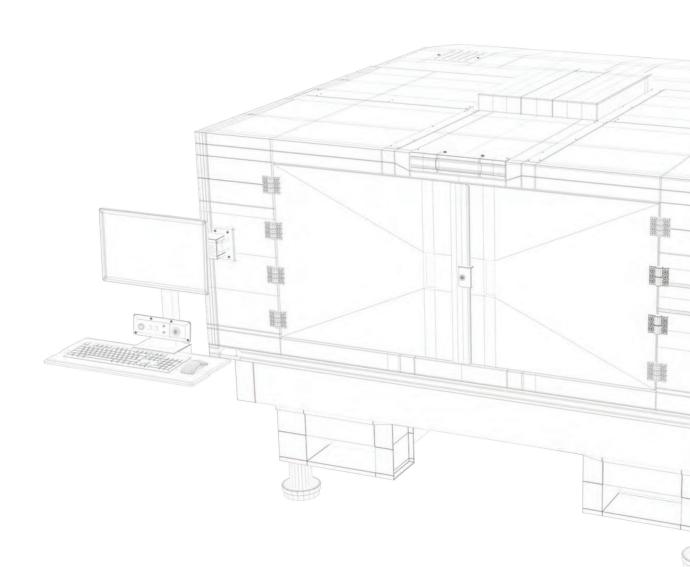
A typical through hole VIA without backdrill results in reflections, capacitance, & inductance discontinuities which will degrade the signal integrity

Backdrill the unused stub with a controlled depth

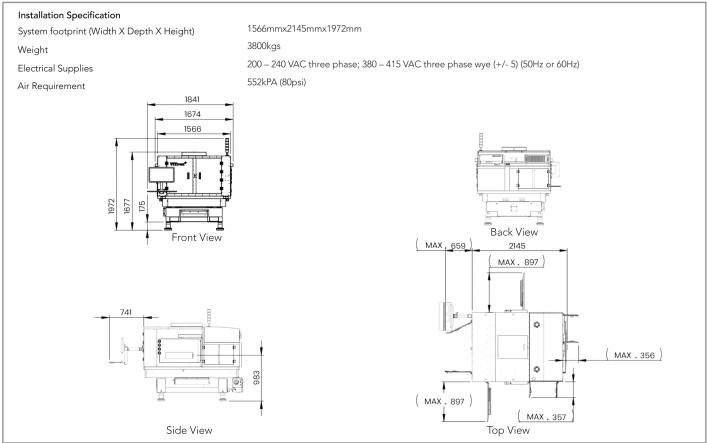
After backdrill, the signal will not flow to unwanted stub and minimize signal integrity degradation

# V8 I Oi Series Advanced 3D X-ray Inspection (AXI)

Designed for various sizes of PCB assemblies to increase production efficiency and cost savings for Electronic Manufacturing Services (EMS), Original Equipment Manufacturers OEMs), Original Design Manufacturers (ODMs), and etc.



	V8	310i S2 EX	
System Controller	Integrated controller with 8 Cc	ore Intel Xeon processors	
Operating System	Windows 10 (64-bit)		
Test Development Environment			
User Interface	Microsoft Windows based soft	ware solution with easy-to-use GUI and	password-protected user levels
Off-line Test Development Software	Optional for off-line PC	•	
CAD Conversion Tool	Support 4 different types of CA data to ViTrox's format	AD in V810i software and optional softwa	are available to translate other CAD
Typical Test Development Time	4 hours to 1.5 days to convert raw CAD file and develop application		
Line Integration			
Transport Heights	865mm - 1025mm		
Line Communication Standard	SMEMA, HERMES		
Barcode Readers	Compatible with most industry	y standard barcode readers	
Performance Parameters *			
Typical Image Acquisition Rate	51.68cm²/sec (8 in²/sec) at 19µ	ım	
False Call Rate	500 - 1000ppm		
Minimum Features Detection Capability	Joint pitch <sup>1</sup>	Short pitch <sup>2</sup>	Solder thickness
	0.3mm and above	0.045mm	0.0127mm
Allowable Panel Characteristics **			
Maximum PCB Size (L x W)	609.6mmx482.6mm (24"x19")		
Minimum PCB Size (L x W)	76.2mmx76.2mm (3"x3")		
Maximum PCB Inspectable Area	609.6mmx474.9mm (24"x18.7"	()	
Maximum PCB Thickness	7mm (275 mils)		
Minimum PCB Thickness	0.5mm (20 mils)		
PCB Warp	Downside < 3.3mm; Upside <	1.5mm	
Maximum PCB Weight	4.5kg		
Top Clearance of PCB with System Resolution	50mm @ 23µm resolution; 38m 11mm @ 11µm resolution; 11m	nm @ 19µm resolution; 38mm @ 10.5µm nm @ 6µm resolution# (Calculated from	resolution#; Board Top surface)
Bottom Clearance of PCB	70mm		
PCB Edge Clearance	3mm		
	Yes (With PSP2 / PSP2.1 feature	-1	
100% Press-fit Testability	res (With PSP2 / PSP2. I featur	e)	



- 1. Assuming pad width is 50% of pitch.
- $2. \ The \ reported \ values \ for \ minimum \ feature \ detection \ assume \ that \ the \ feature \ is \ in \ a \ single \ plane \ of$ focus and that there are no X-ray absorbers in the X-ray path or in theimmediate area of the feature other than those found in a typical multi-layer printed circuit board.
- \*\*Note:

  1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.

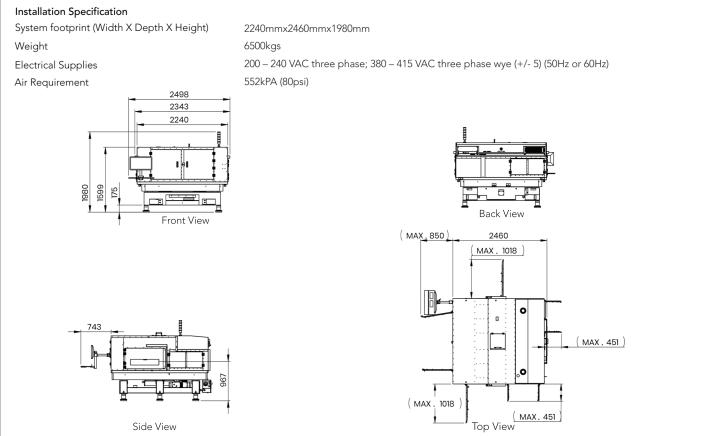
  2. Maximum panel size dimensions and weight must include carrier if applicable.

  3. Smaller panels are possible with the use of panel carriers.

  4. With panels of this thickness, imaging results can be affected by PCBA layout.

  5. Measured from the bottom of the panel including a maximum warp.

	V81	0i S2 XXL	
System Controller	Integrated controller with 8 Cor	e Intel Xeon processors	
Operating System	Windows 10 (64-bit)		
Test Development Environment			
User Interface	Microsoft Windows based softw	are solution with easy-to-use GUI and	password-protected user levels
Off-line Test Development Software	Optional for off-line PC	-	
CAD Conversion Tool	Support 4 different types of CAI data to ViTrox's format	D in V810i software and optional softwa	are available to translate other CAD
Typical Test Development Time	4 hours to 1.5 days to convert ra	w CAD file and develop application	
Line Integration			
Transport Heights	865mm - 1025mm		
Line Communication Standard	SMEMA, HERMES		
Barcode Readers	Compatible with most industry s	standard barcode readers	
Performance Parameters *			
Typical Image Acquisition Rate	51.68cm²/sec (8 in²/sec) at 19µr	n	
False Call Rate	500 - 1000 ppm		
Minimum Features Detection Capability	Joint pitch <sup>1</sup>	Short pitch <sup>2</sup>	Solder thickness
	0.3mm and above	0.045mm	0.0127mm
Allowable Panel Characteristics **			
Maximum PCB Size (L x W)	965.2mmx660.4mm (38"x26")		
Minimum PCB Size (L x W)	76.2mmx76.2 mm (3"x 3")		
Maximum PCB Inspectable Area	965.2mmx654.4mm (38"x25.7")		
Maximum PCB Thickness	12.7mm (500 mils)		
Minimum PCB Thickness	0.5mm (20 mils)		
PCB Warp	Downside < 3.3mm; Upside < 3.	3mm	
Maximum PCB Weight	15kg		
Top Clearance of PCB with System Resolution	25mm @ 19μm resolution; 15mm (Calculated from Board Top surt	n @ 13μm resolution ace)	
Bottom Clearance of PCB	80mm		
PCB Edge Clearance	3mm		
100% Press-fit Testability	Yes (With PSP2 / PSP2.1 feature)		
PCB Temperature	40°C		



\*Note:

1. Assuming pad width is 50% of pitch.

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- \*\*Note:

  1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.

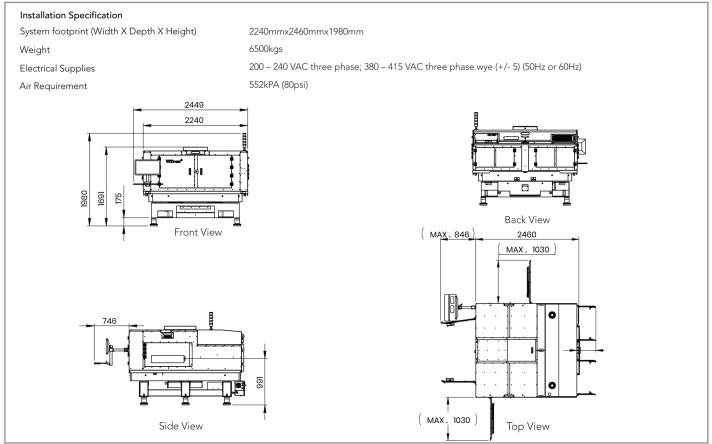
  2. Maximum panel size dimensions and weight must include carrier if applicable.

  3. Smaller panels are possible with the use of panel carriers.

  4. With panels of this thickness, imaging results can be affected by PCBA layout.

  5. Measured from the bottom of the panel including a maximum warp.

	V8	10i S2 XLT	
System Controller	Integrated controller with 8 Cor	e Intel Xeon processors	
Operating System	Windows 10 (64-bit)		
Test Development Environment			
User Interface	Microsoft Windows based softw	rare solution with easy-to-use GUI and p	password-protected user levels
Off-line Test Development Software	Optional for off-line PC		
CAD Conversion Tool	Support 4 different types of CA data to ViTrox's format	D in V810i software and optional softwa	re available to translate other CAD
Typical Test Development Time	4 hours to 1.5 days to convert ra	w CAD file and develop application	
Line Integration			
Transport Heights	865mm - 1025mm		
Line Communication Standard	SMEMA, HERMES		
Barcode Readers	Compatible with most industry	standard barcode readers	
Performance Parameters *			
Typical Image Acquisition Rate	51.68cm²/sec (8 in²/sec) at 19μι	n	
False Call Rate	500 - 1000 ppm		
Minimum Features Detection Capability	Joint pitch <sup>1</sup>	Short pitch <sup>2</sup>	Solder thickness
	Joint pitch <sup>1</sup> 0.3mm and above	Short pitch <sup>2</sup> 0.045mm	Solder thickness 0.0127mm
Minimum Features Detection Capability	I		
	0.3mm and above		
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)	0.3mm and above 965.2mmx660.4mm (38"x26")		
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)	0.3mm and above 965.2mmx660.4mm (38"x26") 76.2mmx76.2mm (3"x3")		
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)	0.3mm and above 965.2mmx660.4mm (38"x26")		
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area	0.3mm and above 965.2mmx660.4mm (38"x26") 76.2mmx76.2mm (3"x3")		
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness	965.2mmx660.4mm (38"x26") 76.2mmx76.2mm (3"x3") 965.2mmx654.4mm (38"x25.7")		
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness	0.3mm and above  965.2mmx660.4mm (38"x26")  76.2mmx76.2mm (3"x3")  965.2mmx654.4mm (38"x25.7")  12.7mm (500 mils)	0.045mm	
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness	0.3mm and above  965.2mmx660.4mm (38"x26")  76.2mmx76.2mm (3"x3")  965.2mmx654.4mm (38"x25.7")  12.7mm (500 mils)  0.5mm (20 mils)	0.045mm	
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp	0.3mm and above  965.2mmx660.4mm (38"x26") 76.2mmx76.2mm (3"x3") 965.2mmx654.4mm (38"x25.7") 12.7mm (500 mils) 0.5mm (20 mils) Downside < 3.3mm; Upside < 3 15kg 50mm @ 19um resolution; 31mm	0.045mm	0.0127mm
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp  Maximum PCB Weight  Top Clearance of PCB with	0.3mm and above  965.2mmx660.4mm (38"x26") 76.2mmx76.2mm (3"x3") 965.2mmx654.4mm (38"x25.7") 12.7mm (500 mils) 0.5mm (20 mils) Downside < 3.3mm; Upside < 3 15kg 50mm @ 19um resolution; 31mm	0.045mm  .3mm  n @ 15um resolution; 13mm @ 11um re	0.0127mm
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp  Maximum PCB Weight  Top Clearance of PCB with System Resolution  Bottom Clearance of PCB	0.3mm and above  965.2mmx660.4mm (38"x26") 76.2mmx76.2mm (3"x3") 965.2mmx654.4mm (38"x25.7") 12.7mm (500 mils) 0.5mm (20 mils) Downside < 3.3mm; Upside < 3 15kg 50mm @ 19µm resolution; 31mm 13mm @ 7.5µm resolution# (Cal	0.045mm  .3mm  n @ 15um resolution; 13mm @ 11um re	0.0127mm
Minimum Features Detection Capability  Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp  Maximum PCB Weight  Top Clearance of PCB with System Resolution	0.3mm and above  965.2mmx660.4mm (38"x26") 76.2mmx76.2mm (3"x3") 965.2mmx654.4mm (38"x25.7") 12.7mm (500 mils) 0.5mm (20 mils) Downside < 3.3mm; Upside < 3 15kg 50mm @ 19µm resolution; 31mm; 13mm @ 7.5µm resolution# (Ca.	0.045mm  .3mm  n @ 15μm resolution; 13mm @ 11μm reculated from Board Top surface)	0.0127mm



\*Note:

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  3. Smaller panels are possible with the use of panel carriers.

  4. With panels of this thickness, imaging results can be affected by PCBA layout.

  5. Measured from the bottom of the panel including a maximum warp.

Departing System Windows 10 (64-bit)  Test Development Environment  Jaer Interface Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels  Optional for off-line PC  CAD Conversion Tool Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format  Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format  Iprical Test Development Time 4 hours to 1.5 days to convert raw CAD file and develop application  Line Integration  Jine Integration  Sime MA, HERMES  Barcode Readers Compatible with most industry standard barcode readers  Performance Parameters *  Sprical Mage Acquisition Rate 51.68cm²/sec (8 in²/sec) at 19µm  Feales Call Rate 500 - 1000 ppm  Minimum Features Detection Capability Joint pitch¹ Short pitch² Solder thickness  0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Iaximum PCB Size (L x W) 1320.8mmx1320.8mm (52"x 52")  Illimimum PCB Size (L x W) 127mmx127mm (5"x 5")  Ilaximum PCB Inickness 1.5mm (60 mils)  CB Warp 2.7mm downward, 1mm upwards (without PSP); 3mm downward, <1.5mm upwards (with PSP)  Ilaximum PCB Weight 2.5kg  pop Clearance of PCB with 50mm @ 19µm resolution; 31mm @ 15µm resolution; 14mm @ 11µm resolution  Calculated from Board Top surface)  CB Edge Clearance 10mm				
Departing System Windows 10 (64-bit)  Test Development Environment  Jaer Interface Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels  Optional for off-line PC  CAD Conversion Tool Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format  Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format  Iprical Test Development Time 4 hours to 1.5 days to convert raw CAD file and develop application  Line Integration  Jine Integration  Sime MA, HERMES  Barcode Readers Compatible with most industry standard barcode readers  Performance Parameters *  Sprical Mage Acquisition Rate 51.68cm²/sec (8 in²/sec) at 19µm  Feales Call Rate 500 - 1000 ppm  Minimum Features Detection Capability Joint pitch¹ Short pitch² Solder thickness  0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Iaximum PCB Size (L x W) 1320.8mmx1320.8mm (52"x 52")  Illimimum PCB Size (L x W) 127mmx127mm (5"x 5")  Ilaximum PCB Inickness 1.5mm (60 mils)  CB Warp 2.7mm downward, 1mm upwards (without PSP); 3mm downward, <1.5mm upwards (with PSP)  Ilaximum PCB Weight 2.5kg  pop Clearance of PCB with 50mm @ 19µm resolution; 31mm @ 15µm resolution; 14mm @ 11µm resolution  Calculated from Board Top surface)  CB Edge Clearance 10mm		V810	i S2 XLW	
Test Development Environment	System Controller	Integrated controller with 8 Cor	e Intel Xeon processors	
Jase   Interface   Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels	Operating System	Windows 10 (64-bit)		
Optional for off-line PC CAD Conversion Tool Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format (prical Test Development Time 4 hours to 1.5 days to convert raw CAD file and develop application  Interpretation  Transport Heights 865mm - 1025mm  Line Communication Standard 5MEMA, HERMES  Barcode Readers Compatible with most industry standard barcode readers  Performance Parameters *  Typical Image Acquisition Rate 51.68cm²/sec (8 in²/sec) at 19µm  Talse Call Rate 500 - 1000 ppm  Minimum Features Detection Capability Joint pitch¹ Short pitch² Solder thickness  0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Isaximum PCB Size (L. x W) 1320.8mmx1320.8mm (52"x 52")  Illimimum PCB Inspectable Area 1320.8mmx1300.48mm (52"x 51.2") (Dual Stage Inspection with External Rotator)  Islaminum PCB Thickness 1.5mm (60 mils)  10mm (393 mils)  Itinimum PCB Weight 25kg  Op Clearance of PCB with 50mm @ 19µm resolution; 31mm @ 15µm resolution; 14mm @ 11µm resolution (Calculated from Board Top surface)  Bedge Clearance of PCB 86mm  Translate on the formation of the surface of PCB 10mm  Translate on the converse available to translate other cannot be available to translate other CaD data to VITTOX (Applied Top Surface)  Translate on the converse available to translate other cannot be available to translate other CaD and the CAD and th	Test Development Environment			
Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format 4 hours to 1.5 days to convert raw CAD file and develop application  Line Integration  Transport Heights 865mm - 1025mm Line Communication Standard 3mEMA, HERMES 3arcode Readers Compatible with most industry standard barcode readers  Performance Parameters *  Typical Image Acquisition Rate 300 - 1000 ppm  Minimum Features Detection Capability Joint pitch¹ Short pitch² Solder thickness 0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Iaximum PCB Size (L x W) 1320.8mmx1320.8mm (52"x 52")  Iaximum PCB Inspectable Area 1320.8mmx1300.48mm (52"x 51.2") (Dual Stage Inspection with External Rotator)  Illowable Thickness 10mm (393 mils)  Illimium PCB Thickness 1.5mm (60 mils) CB Warp 42mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)  Illawinum PCB Weight 50mm @ 19µm resolution; 31mm @ 15µm resolution; 14mm @ 11µm resolution (Calculated from Board Top surface)  CB Edge Clearance 10mm  CB Edge Clearance	User Interface	Microsoft Windows based softw	vare solution with easy-to-use GUI and p	password-protected user levels
Injury   A   A   A   A   A   A   A   A   A	Off-line Test Development Software	Optional for off-line PC		
Line Integration  Transport Heights Line Communication Standard  SMEMA, HERMES  Barcode Readers  Compatible with most industry standard barcode readers  Performance Parameters *  Typical Image Acquisition Rate  S1.68cm²/sec (8 in²/sec) at 19µm  False Call Rate  500 - 1000 ppm  Minimum Features Detection Capability  Joint pitch¹ Short pitch² Solder thickness  0.3mm and above  0.045mm 0.0127mm  Illowable Panel Characteristics **  Iaximum PCB Size (L x W) 1320.8mmx1320.8mm (52"x 52")  Ilinimum PCB Size (L x W) 127mmx127mm (5"x 5")  Iaximum PCB Inickness 10mm (393 mils)  Itinimum PCB Thickness 1.5mm (60 mils)  CB Warp <a (200="" (393="" (5"x="" (52"="" (60="" (calculated="" (dual="" (l="" (with="" (without="" 1.5mm="" 10mm="" 10mm<="" 127mmx127mm="" 1320.8mmx1300.48mm="" 1mm="" 25kg="" 2mm="" 5")="" 51.2")="" 52")="" <="" <1.5mm="" <3mm="" area="" board="" cb="" clearance="" downward,="" edge="" external="" from="" href="mailto:claim of the bushings of the bu&lt;/td&gt;&lt;td&gt;CAD Conversion Tool&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;D in V810i software and optional softwa&lt;/td&gt;&lt;td&gt;re available to translate other CAD&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Fransport Heights 865mm - 1025mm Line Communication Standard SMEMA, HERMES  Barcode Readers Compatible with most industry standard barcode readers  Performance Parameters *  Propical Image Acquisition Rate 51.68cm²/sec (8 in²/sec) at 19µm  False Call Rate 500 - 1000 ppm  Minimum Features Detection Capability Joint pitch¹ Short pitch² Solder thickness 0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Idaximum PCB Size (L x W) 1320.8mmx1320.8mm (52" idaximum="" idinimum="" illammum="" illinimum="" inspectable="" inspection="" isize="" miles)="" mils)="" of="" op="" pcb="" psp)="" psp);="" rotator)="" somm="" stage="" surface)="" td="" thickness="" top="" upwards="" w)="" warp="" weight="" with="" x=""><td>Typical Test Development Time</td><td>4 hours to 1.5 days to convert ra</td><td>w CAD file and develop application</td><td></td></a>	Typical Test Development Time	4 hours to 1.5 days to convert ra	w CAD file and develop application	
Fransport Heights 865mm - 1025mm Line Communication Standard SMEMA, HERMES  Barcode Readers Compatible with most industry standard barcode readers  Performance Parameters *  Propical Image Acquisition Rate 51.68cm²/sec (8 in²/sec) at 19µm  False Call Rate 500 - 1000 ppm  Minimum Features Detection Capability Joint pitch¹ Short pitch² Solder thickness 0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Idaximum PCB Size (L x W) 1320.8mmx1320.8mm (52" x 52") Idinimum PCB Isize (L x W) 127mmx127mm (5"x 5") Idaximum PCB Inspectable Area 1320.8mmx1300.48mm (52" x 51.2") (Dual Stage Inspection with External Rotator) Illammum PCB Thickness 10mm (393 mils) Illinimum PCB Thickness 1.5mm (60 mils) CB Warp < 2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP) Idaximum PCB Weight 25kg op Clearance of PCB with (Calculated from Board Top surface)  Somm (200 miles)  CB Edge Clearance 10mm	Line Integration			
Compatible with most industry standard barcode readers  Solder thickness  D.3 mand above  Compatible with most industry standard barcode readers  Solder thickness  D.3 most pitch  Short pitch  Solder thickness  D.3 mand above  Columnation  Colum	Transport Heights	865mm - 1025mm		
Performance Parameters *  Typical Image Acquisition Rate 51.68cm²/sec (8 in²/sec) at 19µm  False Call Rate 500 - 1000 ppm  Minimum Features Detection Capability Joint pitch¹ Short pitch² Solder thickness 0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Iaximum PCB Size (L x W) 1320.8mmx1320.8mm (52"x 52")  Iaximum PCB Size (L x W) 127mmx127mm (5"x 5")  Iaximum PCB Inspectable Area 1320.8mmx1300.48mm (52"x 51.2") (Dual Stage Inspection with External Rotator)  Iaximum PCB Thickness 10mm (393 mils)  Ilinimum PCB Thickness 1.5mm (60 mils)  CB Warp < 2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)  Iaximum PCB Weight 25kg  Op Clearance of PCB with (Calculated from Board Top surface)  ottom Clearance of PCB 80mm  CB Edge Clearance	Line Communication Standard	SMEMA, HERMES		
Typical Image Acquisition Rate  51.68cm²/sec (8 in²/sec) at 19µm  False Call Rate  500 - 1000 ppm  Minimum Features Detection Capability  Joint pitch¹ Short pitch² Solder thickness 0.3mm and above 0.045mm 0.0127mm  Illowable Panel Characteristics **  Iaximum PCB Size (L x W) 1320.8mmx1320.8mm (52"x 52")  Ilinimum PCB Size (L x W) 127mmx127mm (5"x 5")  Iaximum PCB Inspectable Area 1320.8mmx1300.48mm (52"x 51.2") (Dual Stage Inspection with External Rotator)  Iaximum PCB Thickness 10mm (393 mils)  Ilinimum PCB Thickness 1.5mm (60 mils)  CB Warp <a (393="" (5"x="" (52"x="" (60="" (calculated="" (dual="" (l="" (with="" (without="" 1.5mm="" 10mm="" 10mm<="" 127mmx127mm="" 1320.8mmx1300.48mm="" 1mm="" 25kg="" 2mm="" 5")="" 51.2")="" 52")="" 80mm="" <="" <1.5mm="" <3mm="" <a="" area="" board="" cb="" clearance="" downward,="" edge="" external="" from="" href="mailto:campage-left-square-left-squ&lt;/td&gt;&lt;td&gt;Performance Parameters *&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;False Call Rate    Source - 1000 ppm   Short pitch2   Solder thickness    &lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;51.68cm²/sec (8 in²/sec) at 19µr&lt;/td&gt;&lt;td&gt;m&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Minimum Features Detection Capability  Joint pitch¹  0.3mm and above  0.045mm  0.0127mm  10000000000000000000000000000000000&lt;/td&gt;&lt;td&gt;False Call Rate&lt;/td&gt;&lt;td&gt;500 - 1000 ppm&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Illowable Panel Characteristics **  Maximum PCB Size (L x W) 1320.8mmx1320.8mm (52" iaximum="" ilinimum="" inspectable="" inspection="" maximum="" mils)="" minimum="" of="" op="" ottom="" pcb="" psp)="" psp);="" resolution="" rotator)="" size="" stage="" surface)="" system="" td="" thickness="" top="" upwards="" w)="" warp="" weight="" with="" x=""><td>Minimum Features Detection Capability</td><td></td><td>Short pitch<sup>2</sup></td><td>Solder thickness</td></a>	Minimum Features Detection Capability		Short pitch <sup>2</sup>	Solder thickness
Maximum PCB Size (L x W)  1320.8mmx1320.8mm (52" x 52")  Maximum PCB Size (L x W)  127mmx127mm (5" x 5")  Maximum PCB Inspectable Area  1320.8mmx1300.48mm (52" x 51.2") (Dual Stage Inspection with External Rotator)  Maximum PCB Thickness  10mm (393 mils)  Minimum PCB Thickness  1.5mm (60 mils)  CB Warp  <2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)  Maximum PCB Weight  25kg  Op Clearance of PCB with (Calculated from Board Top surface)  ottom Clearance of PCB  80mm  CB Edge Clearance  10mm		0.3mm and above	0.045mm	0.0127mm
Maximum PCB Size (L x W)  1320.8mmx1320.8mm (52" x 52")  Maximum PCB Size (L x W)  127mmx127mm (5" x 5")  Maximum PCB Inspectable Area  1320.8mmx1300.48mm (52" x 51.2") (Dual Stage Inspection with External Rotator)  Maximum PCB Thickness  10mm (393 mils)  Minimum PCB Thickness  1.5mm (60 mils)  CB Warp  <2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)  Maximum PCB Weight  25kg  Op Clearance of PCB with (Calculated from Board Top surface)  ottom Clearance of PCB  80mm  CB Edge Clearance  10mm				
Some   Calculated from Board Top surface	Allowable Panel Characteristics **			
Maximum PCB Inspectable Area     1320.8mmx1300.48mm (52"x 51.2") (Dual Stage Inspection with External Rotator)       Maximum PCB Thickness     10mm (393 mils)       Ilinimum PCB Thickness     1.5mm (60 mils)       CB Warp     <2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)	Maximum PCB Size (L x W)			
Maximum PCB Thickness     10mm (393 mils)       Ilinimum PCB Thickness     1.5mm (60 mils)       CB Warp     <2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)	Minimum PCB Size (L x W)	127mmx127mm (5"x 5")		
1.5mm (60 mils)	Maximum PCB Inspectable Area	1320.8mmx1300.48mm (52"x 51.3	2") (Dual Stage Inspection with Externa	l Rotator)
CB Warp <a href="mailto:c2mm downward">&lt;2mm downward</a> , 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)  Jaximum PCB Weight 25kg  Op Clearance of PCB with 50mm @ 19µm resolution; 31mm @ 15µm resolution; 14mm @ 11µm resolution  (Calculated from Board Top surface)  Ottom Clearance of PCB 80mm  CB Edge Clearance 10mm	Maximum PCB Thickness	10mm (393 mils)		
Maximum PCB Weight 25kg  op Clearance of PCB with ystem Resolution (Calculated from Board Top surface)  ottom Clearance of PCB 80mm  CB Edge Clearance 10mm	Minimum PCB Thickness	1.5mm (60 mils)		
op Clearance of PCB with 50mm @ 19µm resolution; 31mm @ 15µm resolution; 14mm @ 11µm resolution (Calculated from Board Top surface) ottom Clearance of PCB 80mm CB Edge Clearance 10mm	PCB Warp	<2mm downward, 1mm upwards	(without PSP); <3mm downward, <1.5r	nm upwards (with PSP)
vstem Resolution (Calculated from Board Top surface) ottom Clearance of PCB 80mm CB Edge Clearance 10mm	Maximum PCB Weight	25kg		
CB Edge Clearance 10mm	op Clearance of PCB with System Resolution	50mm @ 19µm resolution; 31mm (Calculated from Board Top surfa	@ 15µm resolution; 14mm @ 11µm reso ace)	olution
	Bottom Clearance of PCB	80mm		
00% Press-fit Testability Yes (With PSP2 / PSP2.1 feature)	PCB Edge Clearance	10mm		
	00% Press-fit Testability	Yes (With PSP2 / PSP2.1 feature)		

#### Installation Specification

System footprint (Width X Depth X Height)

Weight

PCB Temperature

**Electrical Supplies** 

Air Requirement

3300mmx3300mmx1990mm

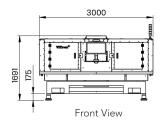
11000kgs

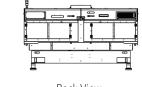
40°C

200 - 240 VAC three phase; 380 - 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)

( MAX. 872)

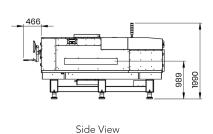
828kPA (120psi)





Back View

3300



( MAX. 614 ) 0 0 Top View

- 1. Assuming pad width is 50% of pitch.
- $2. \ The \ reported \ values \ for \ minimum \ feature \ detection \ assume \ that \ the \ feature \ is \ in \ a \ single \ plane \ of$ focus and that there are no X-ray absorbers in the X-ray path or in theimmediate area of the feature other than those found in a typical multi-layer printed circuit board.
- \*\*Note:

  1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.

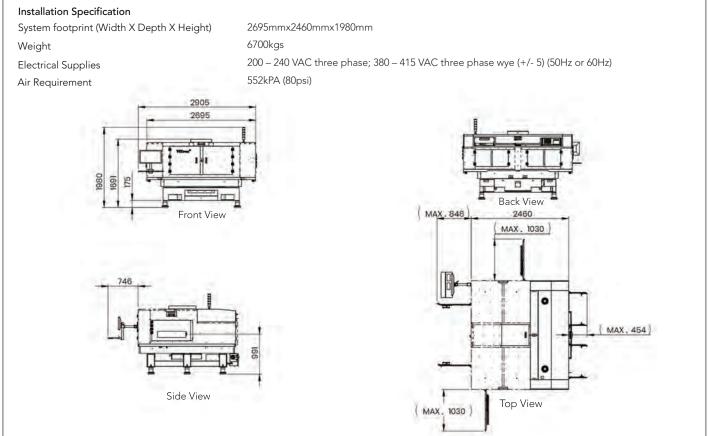
  2. Maximum panel size dimensions and weight must include carrier if applicable.

  3. Smaller panels are possible with the use of panel carriers.

  4. With panels of this thickness, imaging results can be affected by PCBA layout.

  5. Measured from the bottom of the panel including a maximum warp.

	V81	0i S2 XLL	
System Controller	Integrated controller with 8 Core	e Intel Xeon processors	
Operating System	Windows 10 (64-bit)	·	
Test Development Environment			
User Interface	Microsoft Windows based softw	are solution with easy-to-use GUI and p	password-protected user levels
Off-line Test Development Software	Optional for off-line PC	,	
CAD Conversion Tool	Support 4 different types of CAI data to ViTrox's format	D in V810i software and optional softwa	re available to translate other CAD
Typical Test Development Time	4 hours to 1.5 days to convert ra	w CAD file and develop application	
Line Integration			
Transport Heights	865mm - 1025mm		
Line Communication Standard	SMEMA, HERMES		
Barcode Readers	Compatible with most industry s	standard barcode readers	
Performance Parameters *			
Typical Image Acquisition Rate	51.68cm²/sec (8 in²/sec) at 19µn	า	
False Call Rate	500 - 1000 ppm		
Minimum Features Detection Capability	Joint pitch <sup>1</sup>	Short pitch <sup>2</sup>	Solder thickness
	0.3mm and above	0.045mm	0.0127mm
Allowable Panel Characteristics **			
	1200.0mmx660.4mm (47.24"x26'	<b>'</b> )	
Maximum PCB Size (L x W)	1200.0mmx660.4mm (47.24"x26' 76.2mmx76.2mm (3"x 3")	′)	
Maximum PCB Size (L x W) Minimum PCB Size (L x W)	<u> </u>	,	
Maximum PCB Size (L x W) Minimum PCB Size (L x W) Maximum PCB Inspectable Area	76.2mmx76.2mm (3"x 3")	,	
Maximum PCB Size (L x W) Minimum PCB Size (L x W) Maximum PCB Inspectable Area Maximum PCB Thickness	76.2mmx76.2mm (3"x 3") 1200.0mmx654.4mm (47.24"x25.	,	
Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp	76.2mmx76.2mm (3"x 3") 1200.0mmx654.4mm (47.24"x25. 10mm (393 mils) 1.5mm (60 mils)	,	mm upwards (with PSP)
Maximum PCB Size (L x W) Minimum PCB Size (L x W) Maximum PCB Inspectable Area Maximum PCB Thickness Minimum PCB Thickness PCB Warp	76.2mmx76.2mm (3"x 3") 1200.0mmx654.4mm (47.24"x25. 10mm (393 mils) 1.5mm (60 mils)	7")	mm upwards (with PSP)
Maximum PCB Size (L x W) Minimum PCB Size (L x W) Maximum PCB Inspectable Area Maximum PCB Thickness Minimum PCB Thickness	76.2mmx76.2mm (3"x 3") 1200.0mmx654.4mm (47.24"x25. 10mm (393 mils) 1.5mm (60 mils) <2mm downward, 1mm upward: 15kg	7") s (without PSP); <3mm downward, <1.5	
Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp  Maximum PCB Weight  Top Clearance of PCB with	76.2mmx76.2mm (3"x 3") 1200.0mmx654.4mm (47.24"x25. 10mm (393 mils) 1.5mm (60 mils) <2mm downward, 1mm upward: 15kg 50mm @ 19um resolution: 31mm	7") s (without PSP); <3mm downward, <1.5	
Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp  Maximum PCB Weight  Top Clearance of PCB with  System Resolution	76.2mmx76.2mm (3"x 3") 1200.0mmx654.4mm (47.24"x25. 10mm (393 mils) 1.5mm (60 mils) <2mm downward, 1mm upward: 15kg 50mm @ 19µm resolution; 31mm 13mm @ 7.5µm resolution# (Calc	7") s (without PSP); <3mm downward, <1.5	, ,
Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness  PCB Warp  Maximum PCB Weight  Top Clearance of PCB with  System Resolution  Bottom Clearance of PCB	76.2mmx76.2mm (3"x 3") 1200.0mmx654.4mm (47.24"x25. 10mm (393 mils) 1.5mm (60 mils) <2mm downward, 1mm upward: 15kg 50mm @ 19µm resolution; 31mm 13mm @ 7.5µm resolution# (Calc	7") s (without PSP); <3mm downward, <1.5	, ,



- 1. Assuming pad width is 50% of pitch.
- $2. \ The \ reported \ values \ for \ minimum \ feature \ detection \ assume \ that \ the \ feature \ is \ in \ a \ single \ plane \ of$ focus and that there are no X-ray absorbers in the X-ray path or in theimmediate area of the feature other than those found in a typical multi-layer printed circuit board.
- \*\*Note:

  1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.

  2. Maximum panel size dimensions and weight must include carrier if applicable.

  3. Smaller panels are possible with the use of panel carriers.

  4. With panels of this thickness, imaging results can be affected by PCBA layout.

  5. Measured from the bottom of the panel including a maximum warp.

	V810i S	3	
System Controller	Integrated controller with 8 Core Inte	Xeon processors	
Operating System	Windows 10 (64-bit)		
Test Development Environment			
User Interface	Microsoft Windows based software so	olution with easy-to-use GUI and p	password-protected user levels
Off-line Test Development Software	Optional for off-line PC	·	·
CAD Conversion Tool	Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format		
Typical Test Development Time	4 hours to 1.5 days to convert raw CAD file and develop application		
Line Integration			
Transport Heights	865mm - 1025mm		
Line Communication Standard	SMEMA, HERMES		
Barcode Readers	Compatible with most industry stand	ard barcode readers	
Performance Parameters *			
Typical Image Acquisition Rate	51.68cm²/sec (8 in²/sec) at 19µm		
False Call Rate	500 - 1000 ppm		
	Joint pitch <sup>1</sup>	Short pitch <sup>2</sup>	Solder thickness
Minimum Features Detection Capability	o o p. room		
Minimum Features Detection Capability	0.3mm and above	0.045mm	0.0127mm
	· · · · · · · · · · · · · · · · · · ·	0.045mm	0.0127mm
	· · · · · · · · · · · · · · · · · · ·	0.045mm	0.0127mm
Allowable Panel Characteristics **	0.3mm and above	0.045mm	0.0127mm
Allowable Panel Characteristics **  Maximum PCB Size (L x W)	0.3mm and above 725mmx482.6mm (28.5"x19")	0.045mm	0.0127mm
Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)	0.3mm and above 725mmx482.6mm (28.5"x19") 63.5mmx63.5mm (2.5"x 2.5")	0.045mm	0.0127mm
Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area	0.3mm and above  725mmx482.6mm (28.5"x19") 63.5mmx63.5mm (2.5"x 2.5") 725mmx474.9mm (28.5"x18.7")	0.045mm	0.0127mm
Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness	0.3mm and above  725mmx482.6mm (28.5"x19") 63.5mmx63.5mm (2.5"x 2.5") 725mmx474.9mm (28.5"x18.7") 7mm (276 mils)		0.0127mm
Allowable Panel Characteristics **  Maximum PCB Size (L x W)  Minimum PCB Size (L x W)  Maximum PCB Inspectable Area  Maximum PCB Thickness  Minimum PCB Thickness	0.3mm and above  725mmx482.6mm (28.5"x19")  63.5mmx63.5mm (2.5"x 2.5")  725mmx474.9mm (28.5"x18.7")  7mm (276 mils)  0.5mm (20 mils)		0.0127mm

### Installation Specification

Top Clearance of PCB with System Resolution

Bottom Clearance of PCB

100% Press-fit Testability

PCB Edge Clearance

PCB Temperature

System footprint (Width X Depth X Height) 1835mmx2185mmx2162mm

4000kgs

Yes (With PSP2 / PSP2.1 feature)

80mm

3mm

40°C

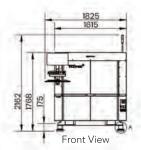
**Electrical Supplies** 

Weight

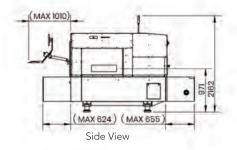
200 - 240 VAC three phase; 380 - 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)

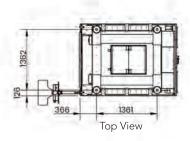
50mm @ 22μm resolution; 44mm @ 19μm resolution; 28mm @ 15μm resolution; 13mm @ 12μm resolution; 28mm @ 10μm resolution; 13mm @ 7μm resolution *(Calculated from Board Top surface)* 

552kPA (80psi) Air Requirement









- 1. Assuming pad width is 50% of pitch.
- 2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in theimmediate area of the feature other than those found in a typical multi-layer printed circuit board.
- ^^Note:

  1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.

  2. Maximum panel size dimensions and weight must include carrier if applicable.

  3. Smaller panels are possible with the use of panel carriers.

  4. With panels of this thickness, imaging results can be affected by PCBA layout.

  5. Measured from the bottom of the panel including a maximum warp.