

VR – Process 7  
 Process  
**Revision History**

Pass Panel Through Heat

Date / Time	Rev	Author	Description
8/26/2017	A	FS	Original Version
9/28/2017	B	FS	Process image added

**Approvals**

Rev	Approval	Customer	Engineering	Mechanical	Software	Mfg	OPS	QA	Test	Sales	Support	Corp
A	DT											
	Initial		FS									

**1.0 Process Description**

Description	<b>Apply Glue to FR4 and HDPE</b>
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VR Part Number	VR1
Customer Part Number	355467-01
Configuration	Standard
Model	SRA-16(20x69]
Process Number	VR102601-07

Process Standard	
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## 2. Setup

### 2.1 Technician

Tech #	Certification Required	Skill	Process	Safety
1	No	None	Yes	Yes


### 2.2 Tools

#### 2.2.1 Calibrated Tools




Number	Tool	Description	Rev	Specification	Calibration Requirements	Image
1	Heat Chamber Temp Sensor	Temp Sensors used to verify the temperature of each lamp inside the heat chamber.	1	Temperature should be between 200 and 230 degrees Celsius.	To be checked every year against a calibrated temperature controlled chamber.	

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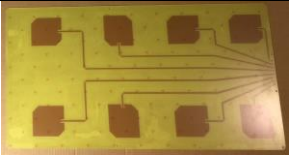

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2	Heat Chamber Tachometer	Tachometer used to verify conveyor speed		Speed controlled between 5 and 6RPM	Calibrated oscilloscope needs to be used to check tachometer output pulses.	
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2.2.2 Non-Calibrated Tools

Number	Tool	Description	Rev	Specification	Requirements	Image
1	FR4 to HDPE alignment Fixture	Used to align the FR4 antenna panel on top of the HDPE antenna cutout.	1	FR4 to HDPE Alignment Fixture	Check if fixture side, the side in contact with HDPE, is free of adhesive or debris and if it is locked in place. To remove excess adhesive or debris, use M-4, M-5 and M-6.	
2	Heat Lamp	1500W infrared Heat Lamp	1	3x Heat Lamp of 1500W	3x Heat Lamp of 1500W	
3	J-Roller	J-Roller for Plastic Laminate	1	3 in. J-Roller for up to 25PSI	3 in. J-Roller should be free of debris that could damage the antenna panels.	

### 2.3 Materials

#	VR Part Number	Mfg Part #	Manuf	Description	Qty	Requires Serial #	Size	Tolerance	COC Req	Lot Req	Incoming QA Req	Image
1	VR102651	See BOM	See BOM	FR4 Sheet (21" x 48")	2	N	See Engineering Drawing	See Engineering Drawing	Y	Y	Y	
2	VR102681	See BOM	See BOM	3/8" HDPE – Front Side	1	N	See Engineering Drawing	See Engineering Drawing	Y	Y	Y	

### 2.4 References



Number	VR Doc Number	Rev	Manuf	Description	Directory
1					

### 2.5 Safety

Number	Type	Description	Reference
1	Heat Resistant Safety Gloves	Use of heat resistant gloves while placing and removing material from heat chamber is required.	Refer to MSDS


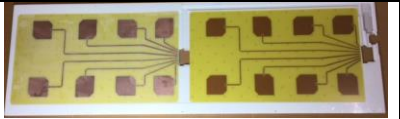
2	Safety Power Cut Off Training	All personnel working with or around gluing area need to be able to use safety power cutoff switch.	VR internal training
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## Procedure (Pass Panel through Heat Process and Attach FR4)

Step	Tech	Tool	Material	Tasks description	Reference Drawing	Image
1	1		M-2	Place HDPE panel on top of conveyor, glue facing up and board side towards the heat chamber. Wait for it to come out of the other side of the chamber. This step should be performed twice.		
2	1		M-1	Once HDPE panel has come out of the other side for the second time you can safely place the FR4 panel on top of the conveyor. The glued side should be facing up and the board side should be towards the heat chamber. Wait for it to come out of the other side of the chamber.		

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				Place FR4 alignment fixture on top of HDPE panel		
3	1	Hand	M-1, M-2	Align the top of the FR4 panel with the top of the alignment jig and gently side of the FR4 panel on top of the glued side of the HDPE panel.		
4	1	NC-2	M-1, M-2	Use the hand roller to bind both panels, applying even pressure throughout the FR4 panel.		

## 4.0 Process Recording

Step	Tasks description	Reference Drawing / Image
1		

## 5.0 Non Compliance

#	Non Compliance	Disposition	Reference Drawing / Image
1	Glued FR4 not aligned with HDPE antenna cutout or mux lead wires.	Unit has to go back to rework area where FR4 and HDPE will be taken apart and cleaned.	