

# SIR and ECM Test Comparisons

		<b>SIR</b>		
Test Specimen	Parameters	J-STD-004A	J-STD-004B	Bellcore GR-78-CORE 13.1.3
	Coupon	IPC B24	IPC B24	IPC B23 (B or E)
	Spacing	.020" (0.508mm)	.020" (0.508mm)	.0125" (0.318mm)
	Board Finish	Bare Copper	Bare Copper	Bare Copper
	Laminate	FR4	FR4	FR4
	Cleaning	Zero Ionics (Omegameter)	Zero Ionics (Omegameter)	Clean to 4E10 Ohms
	Stencil (Paste)	0.15mm (0.00591") thick	0.15mm (0.00591") thick	
	Reflow (Paste)	Vendor Specified	Vendor Specified	Production Conditions
	Iron Temperature (Cored Wire)	Vendor Specified	Vendor Specified	Production Conditions
	Preheat (Wave Flux)	Vendor Specified or 140°C, 30-45s	Vendor Specified or 140°C, 30-45s	Production Conditions
Processing Conditions	Solder Temp. (Wave Flux)	245-260°C	245-260°C	
	Temp/Humidity	85°C, 85%RH, 168 hours	40°C, 90%RH	35C, 85%RH, 96 hours
	Stress Bias	45 - 50 Volts DC	5 Volts	45 - 50 Volts
	Pre-Bias Stabilization Period	3 hours at T&H	1 hour at T&H	24 hours at T&H
	Measurement Bias	-100 Volts DC	5 Volts	100 Volts DC
	Time of Readings	24, 96, 168 hours	At least once every 20 minutes	24 and 96 hours
	Control	>1E9 Ohms, 96 hours to end	>1E9 Ohms, 96 hours to end	IRavg >2E10 Ohms @ 24, 96 hours
	SIR data	>1E8 Ohms @ 96, 168 hours	>1E8 Ohms @ All Measurements	IRavg >2E10 Ohms @ 24, 96 hours
	Dendrites/Corrosion	None >25% of spacing	None > 20% of spacing	No Discoloration Allowed
	<b>ECM</b>			
Test Specimen	Parameters	IPC TM 650 2.6.14.1	Bellcore GR-78-CORE 13.1.4	Hewlett Packard EL-EN861-00
	Coupon	IPC B25 (B or E)	IPC B25 (B or E)	IPC-B-25A
	Spacing	.0125" (0.318mm)	.0125" (0.318mm)	.0125" (0.318mm)
	Board Finish	Bare Copper	Bare Copper	Bare Cu, InSn, ImAg
	Laminate	FR4	FR4	FR4
	Cleaning	Clean to 4E10 Ohms	Clean to 4E10 Ohms	
	Stencil (Paste)	Negotiated	0.20mm (.0079")	150 microns or 6 mil
	Reflow (Paste)	Production Conditions	Production Conditions	Production Conditions
	Iron Temperature (Cored Wire)			
	Preheat (Wave Flux)	Production Conditions	Production Conditions	Production Conditions
Processing Conditions	Solder Temp. (Wave Flux)	250°C or compatible with alloy	Production Conditions	Production Conditions
	Temp/Humidity	65°C, 85%RH, 500 hours	65°C, 85%RH, 500 hours	50°C, 90%RH, 28 days
	Stress Bias	10 Volts	10 Volts	5 Volts
	Pre-Bias Stabilization Period	24 hours at T&H	24 hours at T&H	8 hours at T&H
	Measurement Bias	45 to 50 Volts DC	45 to 50 Volts DC	5 Volts
	Time of Readings	96, 500 hours	96, 500 hours	At least once every 10 minutes
	Control	IRinitial/IRfinal <=10	IRinitial/IRfinal <=10	IRinitial/IRfinal <=10
	SIR data	IRinitial/IRfinal <=10	IRinitial/IRfinal <=10	IRinitial/IRfinal <=10
	Dendrites/Corrosion	None > 20% of spacing	None > 20% of spacing	None > 20% of spacing

