



Harwin Test Report Summary

HT02002

General Testing of Datamate
Mix-Tek Special Contacts

Datamate

A decorative graphic consisting of numerous thin, red, wavy lines that flow across the bottom half of the page, creating a sense of motion and depth.

1. **Introduction.**

1.1. **Description and Purpose.**

The Harwin Datamate (M80 Series) connector is manufactured to the requirements of BS9525-F0033. The following tests were carried out to test the performance of the Datamate Mix-Tek series coaxial and power contacts, known collectively as Special contacts.

1.2. **Conclusion.**

The following data has been collated from Harwin test report T70-07. The Mix-Tek contacts met the test requirements set out in section 2.3 of this test report summary – all electrical, mechanical and environmental requirements were fulfilled. These results are representative of all the Datamate Mix-Tek series coaxial and power contacts. Current vs. temperature rise information and derate curves are available on request – please contact technical@harwin.com.

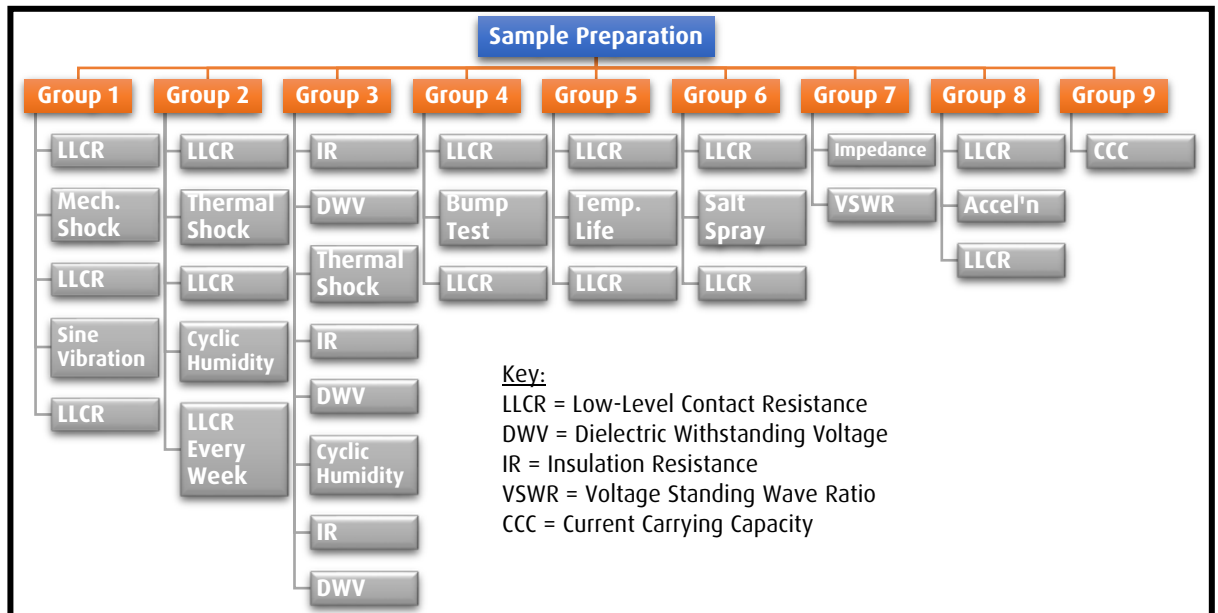
2. **Test Method, Requirements and Results.**

2.1. **List of Test Samples.**

- a) M80-4T110F1-03-301 – Female Vertical PC Tail with Coax
- b) M80-4C102F1-11-305 – Female Straight Crimp with Coax
- c) M80-5L110M4-03-313 – Male Horizontal PC Tail with Coax
- d) M80-5T102M2-11-311 – Male Vertical PC Tail with Coax
- e) M80-4T100F1-66-321 – Female Vertical PC Tail with Power
- f) M80-5T100M2-66-331 – Male Vertical PC Tail with Power

2.2. **Testing Methods.**

Cable contacts were tested with the appropriate conductors crimped in place. PCB connectors were terminated to test boards, mated, and with a common buss wire across the cable connectors. Voltage and Current probes were attached to each end of the common buss, to minimize bulk resistance. Samples were allocated to the following test groups:



Mated test samples remained with each other throughout the test group/sequences for which they were designated. Individual samples were allocated in the following groups:

	Part Number	Description	Group allocation
Group 1	M80-4T110F1-03-301	Receptacle vertical PC-Tail	1-1 thru 1-4
	M80-5L110M4-03-313	Plug horizontal PC-Tail	
	M80-4C102F1-11-305	Receptacle vertical crimp	1-5 thru 1-8
	M80-5T102M2-11-311	Plug vertical PC-Tail	
	M80-4T100F1-66-321	Receptacle vertical PC-Tail	1-9 thru 1-12
M80-5T100M2-66-331	Plug horizontal PC-Tail		
Group 2	M80-4C100F1-66-327	Receptacle vertical solder	1-13 thru 1-16
	M80-5T100M2-66-331	Plug horizontal PC-Tail	
	M80-4T110F1-03-301	Receptacle vertical PC-Tail	2-1 thru 2-4
	M80-5L110M4-03-313	Plug horizontal PC-Tail	
	M80-4C102F1-11-305	Receptacle vertical crimp	2-5 thru 2-8
M80-5T102M2-11-311	Plug vertical PC-Tail		
Group 3	M80-4T100F1-66-321	Receptacle vertical PC-Tail	2-9 thru 2-12
	M80-5T100M2-66-331	Plug horizontal PC-Tail	
	M80-4C100F1-66-327	Receptacle vertical solder	2-13 thru 2-16
	M80-5T100M2-66-331	Plug horizontal PC-Tail	
Group 4	M80-4T110F1-03-301	Receptacle vertical PC-Tail	3-1 thru 3-4
	M80-5L110M4-03-313	Plug horizontal PC-Tail	
	M80-4C102F1-11-305	Receptacle vertical crimp	3-5 thru 3-8
M80-5T102M2-11-311	Plug vertical PC-Tail		
Group 5	M80-4T110F1-03-301	Receptacle vertical PC-Tail	4-1 thru 4-4
	M80-5L110M4-03-313	Plug horizontal PC-Tail	
	M80-4C102F1-11-305	Receptacle vertical crimp	4-5 thru 4-8
	M80-5T102M2-11-311	Plug vertical PC-Tail	
	M80-4T100F1-66-321	Receptacle vertical PC-Tail	4-9 thru 4-12
M80-5T100M2-66-331	Plug horizontal PC-Tail		
Group 6	M80-4C100F1-66-327	Receptacle vertical solder	4-13 thru 4-16
	M80-5T100M2-66-331	Plug horizontal PC-Tail	
	M80-4T110F1-03-301	Receptacle vertical PC-Tail	5-1 thru 5-4
	M80-5L110M4-03-313	Plug horizontal PC-Tail	
	M80-4C102F1-11-305	Receptacle vertical crimp	5-5 thru 5-8
M80-5T102M2-11-311	Plug vertical PC-Tail		
Group 7	M80-4T100F1-66-321	Receptacle vertical PC-Tail	5-9 thru 5-12
	M80-5T100M2-66-331	Plug horizontal PC-Tail	
	M80-4C100F1-66-327	Receptacle vertical solder	5-13 thru 5-16
	M80-5T100M2-66-331	Plug horizontal PC-Tail	
Group 8	M80-4T110F1-03-301	Receptacle vertical PC-Tail	6-1 thru 6-4
	M80-5L110M4-03-313	Plug horizontal PC-Tail	
	M80-4C102F1-11-305	Receptacle vertical crimp	6-5 thru 6-8
	M80-5T102M2-11-311	Plug vertical PC-Tail	
Group 9	M80-4T100F1-66-321	Receptacle vertical PC-Tail	6-9 thru 6-12
	M80-5T100M2-66-331	Plug horizontal PC-Tail	
	M80-4C100F1-66-327	Receptacle vertical crimp	6-13 thru 6-16
	M80-5T100M2-66-331	Plug vertical PC-Tail	
Group 10	M80-4T110F1-03-301	Receptacle vertical PC-Tail	7-1 thru 7-4
	M80-5L110M4-03-313	Plug horizontal PC-Tail	
	M80-4C102F1-11-305	Receptacle vertical solder	7-5 thru 7-8
M80-5T102M2-11-311	Plug horizontal PC-Tail		

Sample group allocation continued:

	Part Number	Description			Group allocation	
Group 8	M80-4T110F1-03-301	Receptacle	vertical	PC-Tail	8-1 thru 8-4	
	M80-5L110M4-03-313	Plug	horizontal	PC-Tail		
	M80-4C102F1-11-305	Receptacle	vertical	crimp	8-5 thru 8-8	
	M80-5T102M2-11-311	Plug	vertical	PC-Tail		
	M80-4T100F1-66-321	Receptacle	vertical	PC-Tail	8-9 thru 8-12	
	M80-5T100M2-66-331	Plug	horizontal	PC-Tail		
Group 9	M80-4C100F1-66-327	Receptacle	vertical	solder	8-13 thru 8-16	
	M80-5T100M2-66-331	Plug	horizontal	PC-Tail		
	M80-4T100F1-66-321	Receptacle	vertical	PC-Tail	9-1	
	M80-5T100M2-66-331	Plug	horizontal	PC-Tail		
	Group 9	M80-4C100F1-66-327	Receptacle	vertical	crimp	9-2
		M80-5T100M2-66-331	Plug	vertical	PC-Tail	

2.3. Test Requirements and Results.

a) Group 1 – Shock, Vibration

Test	Requirement	Result
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.9 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.6 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	4.4 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.8 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	4.9 mΩ Max.
Mechanical Shock		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.8 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.9 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	4.9 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	4.0 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.9 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.0 mΩ Max.
Sine Vibration		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.6 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.8 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.6 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	4.3 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.8 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.2 mΩ Max.

b) Group 2 – Thermal Shock, Humidity

Test	Requirement	Result
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	4.7 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.6 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.2 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.9 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	3.3 mΩ Max.
Thermal Shock: 5 Cycles, -50°C to +125°C. 30 Minutes at each temperature (EIA 364, Test Procedure 32).		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	4.5 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.7 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.8 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.1 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.8 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	3.9 mΩ Max.
Cyclic Humidity: 90-95% Relative Humidity, Temperature 25°C to 65°C, 56 days (EIA 364, Test Procedure 31).		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.2 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.7 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.8 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.2 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.7 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	4.8 mΩ Max.
Low-Level Contact Resistance @ 336 hours		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.0 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.7 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	1.9 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.8 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	4.7 mΩ Max.
Low-Level Contact Resistance @ 504 hours		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	3.9 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	3.2 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.7 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	3.9 mΩ Max.
Low-Level Contact Resistance @ 672 hours		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	4.8 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	2.6 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.0 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.7 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	4.4 mΩ Max.

Group 2 test requirements and results continued on following page.

b) Group 2 – Thermal Shock, Humidity (continued)

Test	Requirement	Result
Low-Level Contact Resistance @ 840 hours		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.9 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.5 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.8 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	6.0 mΩ Max.
Low-Level Contact Resistance @ 1008 hours		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.2 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.7 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.1 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.7 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.3 mΩ Max.
Low-Level Contact Resistance @ 1176 hours		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.8 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.4 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.7 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.4 mΩ Max.
Low-Level Contact Resistance @ 1344 hours		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.6 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	2.0 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	2.2 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.9 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.4 mΩ Max.

c) Group 3 – Insulation Resistance, Dielectric Withstanding Voltage, Thermal Shock, Humidity

Test	Requirement	Result
Insulation Resistance		
M80-301/M80-313	>10 ⁶ Megaohms	Passed
M80-305/M80-311	>10 ⁶ Megaohms	Passed
Dielectric Withstanding Voltage		
M80-301/M80-313	No breakdown, Arc, ect.	Passed
M80-305/M80-311	No breakdown, Arc, ect.	Passed
Thermal Shock: 5 Cycles, -50°C to +125°C. 30 Minutes at each temperature (EIA 364, Test Procedure 32).		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Insulation Resistance		
M80-301/M80-313	>10 ⁶ Megaohms	Passed
M80-305/M80-311	>10 ⁶ Megaohms	Passed
Dielectric Withstanding Voltage		
M80-301/M80-313	No breakdown, Arc, ect.	Passed
M80-305/M80-311	No breakdown, Arc, ect.	Passed
Cyclic Humidity: 90-95% Relative Humidity, Temperature 25°C to 65°C for 56 days (EIA 364, Test Procedure 31).		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Insulation Resistance		
M80-301/M80-313	>10 ⁶ Megaohms	Passed
M80-305/M80-311	>10 ⁶ Megaohms	Passed
Dielectric Withstanding Voltage		
M80-301/M80-313	No breakdown, Arc, ect.	Passed
M80-305/M80-311	No breakdown, Arc, ect.	Passed

d) Group 4 – Bump

Test	Requirement	Result
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.5 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.8 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.1 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	4.9 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.7 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.9 mΩ Max.
Bump Test		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.5 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	2.3 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.8 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	5.0 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.9 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	6.0 mΩ Max.

e) Group 5 – Temperature Life

Test	Requirement	Result
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.7 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	2.0 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.6 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	5.5 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.7 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.9 mΩ Max.
Temperature Life		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.6 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.4 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	5.2 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	1.0 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.3 mΩ Max.

f) Group 6 – Salt Spray

Test	Requirement	Result
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	5.8 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	5.0 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.8 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.1 mΩ Max.
Salt Spray		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 mΩ Max.	6.0 mΩ Max.
M80-301/M80-313 Outer Contact	6.0 mΩ Max.	1.8 mΩ Max.
M80-305/M80-311 Inner Contact	6.0 mΩ Max.	5.9 mΩ Max.
M80-305/M80-311 Outer Contact	6.0 mΩ Max.	5.8 mΩ Max.
M80-321/M80-331	6.0 mΩ Max.	0.9 mΩ Max.
M80-327/M80-331	6.0 mΩ Max.	5.9 mΩ Max.

g) Group 7 – Impedance, Voltage Standing Wave Ratio (VSWR)

Test	Requirement	Result
Impedance		
M80-301/M80-313 @ 1.0 GHz	Record	55.1 Ω Max.
M80-301/M80-313 @ 3.0 GHz	Record	70.6 Ω Max.
M80-301/M80-313 @ 6.0 GHz	Record	75.6 Ω Max.
M80-305/M80-311 @ 1.0 GHz	Record	59.6 Ω Max.
M80-305/M80-311 @ 3.0 GHz	Record	91.8 Ω Max.
M80-305/M80-311 @ 6.0 GHz	Record	85.0 Ω Max.
Voltage Standing Wave Ratio		
M80-301/M80-313 @ 1.0 GHz	Record	1.18 Max.
M80-301/M80-313 @ 3.0 GHz	Record	1.43 Max.
M80-301/M80-313 @ 6.0 GHz	Record	1.62 Max.
M80-305/M80-311 @ 1.0 GHz	Record	1.30 Max.
M80-305/M80-311 @ 3.0 GHz	Record	1.96 Max.
M80-305/M80-311 @ 6.0 GHz	Record	1.94 Max.

h) Group 8 – Acceleration

Test	Requirement	Result
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 m Ω Max.	6.0 m Ω Max.
M80-301/M80-313 Outer Contact	6.0 m Ω Max.	2.0 m Ω Max.
M80-305/M80-311 Inner Contact	6.0 m Ω Max.	5.0 m Ω Max.
M80-305/M80-311 Outer Contact	6.0 m Ω Max.	5.9 m Ω Max.
M80-321/M80-331	6.0 m Ω Max.	0.8 m Ω Max.
M80-327/M80-331	6.0 m Ω Max.	5.1 m Ω Max.
Acceleration		
M80-301/M80-313	No Damage	Passed
M80-305/M80-311	No Damage	Passed
M80-321/M80-331	No Damage	Passed
M80-327/M80-331	No Damage	Passed
Low-Level Contact Resistance		
M80-301/M80-313 Inner Contact	6.0 m Ω Max.	5.4 m Ω Max.
M80-301/M80-313 Outer Contact	6.0 m Ω Max.	1.7 m Ω Max.
M80-305/M80-311 Inner Contact	6.0 m Ω Max.	5.5 m Ω Max.
M80-305/M80-311 Outer Contact	6.0 m Ω Max.	5.8 m Ω Max.
M80-321/M80-331	6.0 m Ω Max.	0.7 m Ω Max.
M80-327/M80-331	6.0 m Ω Max.	5.0 m Ω Max.

i) Group 9 – Current

Test	Requirement	Result
M80-327/M80-331 – No. of contacts		
1 Contact	20A or +30°C	25 amps / +24.7°C
2 Contacts	20A or +30°C	20 amps / +29.6°C
3 Contacts	20A or +30°C	20 amps / +40.8°C
4 Contacts	20A or +30°C	20 amps / +32.1°C
5 Contacts	20A or +30°C	20 amps / +31.3°C
6 Contacts	20A or +30°C	20 amps / +35.1°C
7 Contacts	20A or +30°C	20 amps / +50.2°C
8 Contacts	20A or +30°C	20 amps / +49.1°C
9 Contacts	20A or +30°C	20 amps / +62.2°C
10 Contacts	20A or +30°C	20 amps / +71.5°C
11 Contacts	20A or +30°C	20 amps / +79.5°C
12 Contacts	20A or +30°C	20 amps / +87.3°C
M80-321/M80-331 – No. of contacts		
1 Contact	20A or +30°C	25 amps / +39.0°C
2 Contacts	20A or +30°C	20 amps / +29.7°C
3 Contacts	20A or +30°C	20 amps / +34.6°C
4 Contacts	20A or +30°C	20 amps / +53.4°C
5 Contacts	20A or +30°C	20 amps / +59.2°C
6 Contacts	20A or +30°C	20 amps / +66.6°C
7 Contacts	20A or +30°C	20 amps / +67.5°C
8 Contacts	20A or +30°C	20 amps / +80.7°C
9 Contacts	20A or +30°C	20 amps / +72.1°C
10 Contacts	20A or +30°C	20 amps / +93.7°C
11 Contacts	20A or +30°C	20 amps / +100.6°C
12 Contacts	20A or +30°C	20 amps / +104.1°C