



Product Specification for AMPSEAL 16 COAXIAL Housings

1. SCOPE

1.1. Content

This specification defines the performance, tests, and quality requirements for the TE Connectivity (TE) AMPSEAL 16 COAXIAL (AS16CX) 1 & 4 Position Connectors used with TE MATE-AX Coaxial 180° Contacts.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Qualification Test Results

Successful qualification testing on the subject product line was completed across many test reports dating from June 2020 to March 2025. The Qualification Test Report number for this compiled list of tests on a part number basis is reported on 501-94038.

2. APPLICABLE DOCUMENTS AND FORMS

The following documents and forms constitute a part of this specification to the extent specified herein. Unless otherwise indicated, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1. TE Documents

- 501-94038: AS16CX Product Qualification Test Report
- 114-94667: AS16CX Application Specification
- 108-94515: Product Specification MATE-AX Wire Contacts & Headers
 - Applicable Sections for Cable Connections:
 - I. Electrical Data (1 to 6 GHz)
 - II. Materials
 - III. Contact Plating (Silver mating interface)
 - IV. RF Parameter
 - In correlation with MATE-AX Product Specification sections listed above
 - I. 109-18379: Test Specification Assembled Contacts for Automotive Coaxial Connectors (MATE-AX cable assemblies)
- 114-94413: Application Specification MATE-AX Contact Kit 180°

2.2. Industry Documents

- SAE/USCAR2 (Rev 7): Performance Specification for Automotive Electrical Connector Systems.
- ISO 20653: Tests and measurements- Road vehicles - Degrees of protection (IP-Code) - Protection of electrical equipment against foreign objects, water and access.
- SAE J2030 (Rev 2015): Performance Standard for Heavy-Duty Electrical Connector
- USCAR17 (Rev 5): Performance Specification for Automotive RF Connector System.
- IEC 60512-2-1: Tests and measurements - Part 2-1: Electrical continuity and contact resistance tests - Test 2a: Contact resistance - Millivolt level method
- IEC 60512-25-7: Tests and measurements – Impedance, reflection coefficient, and voltage standing wave ratio (VSWR)

- IEC 60512-25-2: Tests and measurements – Attenuation (insertion loss)
- IEC 60512-25-5: Tests and measurements – Return loss
- IEC 60512-25-1: Tests and measurements – Crosstalk ratio
- GMSL2 Hardware Design Guide (Rev. 14.0)
- LV214 (VW 75174, 2010): Motor Vehicle Connectors Test Specification

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of the design, construction, materials and physical dimensions specified in the applicable product drawing.

3.2. Materials

Materials used in the construction of this product shall be specified on the applicable product drawing.

3.3. Ratings

- Voltage: 60V DC max
- Current at 80°C:
 - 3A max RTK031 (DACAR 302-4) cable
 - 1A max RG174 (DACAR 462-2/-6) cable
- Operating Temperature:
 - Connectors: -40°C to +125°C
 - Depending upon cable type -40 to +105°C
- Coax Characteristic Impedance:
 - Wire-to-Wire: 50Ω ±10Ω
 - Wire-to-Board: 50Ω ±5Ω
- Frequency Range: 1 to 6 GHz

3.4. Test Requirements and Procedures Summary

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Table 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

Table 1

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Visual inspection	No visual defects, torn seals, cracked plastic, or discoloration observed.	SAE J2030 6.1 OR USCAR2 Visual inspection of product before (and after) un-mating connectors for conditions such as torn seals, cracked plastic, evidence of fluid or dust ingress in sealed connector systems, arcing, charring, melting, or anything that affects the performance or serviceability of the product as deemed by qualified Engineer.
MECHANICAL		
Connector Mating/Un-Mating/Retention Force	135N Max. Mating Force 135N Max. Un-mating Force with primary latch disengaged 110N Min. Retention Force with primary latch engaged	SAE J2030 6.9/6.10 OR USCAR2 Measure force necessary to mate and un-mate specimens axially at a maximum rate of 50 mm per minute.
Connector Cycling/Durability	10 cycles See note	USCAR2 5.1.7 Mate and unmate each connector pair 10 times as preconditioning to other tests
Connector-Connector Audible Click	Ambient noise of 30 to 50dB	USCAR2 5.4.7 Record audible dB level from 600mm \pm 50mm distance after 6hour moisture conditioning
Connector Drop	1 meter height Six faces See note	USCAR2 5.4.8 Drop sample at specified height onto concrete surface, at orientation corresponding to connector faces
Connector Polarization Feature Effectiveness	Withstand >60N of properly mated connector force with no electrical contact detected	USCAR2 5.4.4 Mis-mate connector halves at max rate of 50mm/min, hold 3s, with use of penetration detection device
Connector Clip Mounting Feature Strength	Force Direction (90° apart) F1 – F5: 50N Min F6: 110N Min	USCAR2 5.4.11 Apply force at max rate of 50mm/min
Terminal Insertion/Forward Stop	50N Max. Insertion 50N Min. Push Through	USCAR2 5.4.1.3 Insert the terminal axially at max rate of 50mm/min. Once the terminal has been snapped into place, continue applying force to the forward stop until at least 50N has been applied.
Terminal Retention	60N Min. (Initial)	USCAR2 5.4.1.3

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
	50N Min. (Final)	Pull the terminal axially at max rate of 50mm/min until pullout occurs
TPA engagement Pre-Set to Lock/disengagement Lock to Pre-Set w/ terminals	60N Max.	USCAR2 5.4.5 Engage or disengage component with retaining mechanism at max rate of 50mm/min
Cavity Damage Susceptibility	80N Min. TPA not to seat See note	USCAR2 5.4.9 With contact terminals unseated, apply force to TPA at rate of 50mm/min normal to TPA seating direction.
Terminal Mechanical Pull – Axial	No discontinuity at 110N Max (initial) 80N Max (final)	USCAR17, 4.2.1.3 Pull axially at max rate of 50mm/min, hold for 5s, while monitoring continuity
Terminal Angular Pull	No discontinuity at 75N Max	USCAR17, 4.2.1.3 Rev 5 Apply force at max rate of 50mm/min to 75N at angles 1C, 3C, 5B, 7B, and 8C on same sample, hold each angle for 5s, while monitoring continuity

ELECTRICAL

Insulation resistance	Insulation Resistance > 100 MΩ	SAE J2030 6.3 Rev 2015 OR USCAR2 5.5.1 U = 500 V (DC) t = 60s									
Dry Circuit Contact Resistance	Outer Contacts: Initial: max 7.5 mΩ After test: max 40mΩ Inner Contacts: Initial: max 15 mΩ After test: max 40mΩ	IEC 60512-2-1// TE 109-18379 OR USCAR2 Measure connection resistance across mated terminals under low energy conditions (<20mV and <100mA) and subtract bulk resistance of Equal Wire Lengths (EWL).									
Voltage Drop	<table border="1"> <thead> <tr> <th>Wire</th><th>Test current</th><th>Max Voltage Drop</th></tr> </thead> <tbody> <tr> <td>RG 174</td><td>1A</td><td>50 mV</td></tr> <tr> <td>RTK-031</td><td>3A</td><td>50 mV</td></tr> </tbody> </table>	Wire	Test current	Max Voltage Drop	RG 174	1A	50 mV	RTK-031	3A	50 mV	USCAR2 5.3.2 Measure after current noted stabilizes, after 30 minutes of current being applied. EWL subtracted. Note: "Power Over Coax" (PoC) customer may have specified max voltage drop – contact TE engineering
Wire	Test current	Max Voltage Drop									
RG 174	1A	50 mV									
RTK-031	3A	50 mV									
Maximum Test Current Capability	Data collected for information only. Derating Curves can be found in the Appendix. Current is dependent on the cable	USCAR2 5.3.3 Ambient = 80 Deg C, Operating Temp = 105 Deg C, Max T-rise = 45 Deg C All inner conductors to be under current, outer contact to be return conductor									
Circuit Continuity Monitoring	No discontinuities ≥7 ohms for more than 1 microsecond for terminal pair	USCAR2 5.1.9									

SIGNAL PROPAGATION

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Impedance (informational only)	Wire-to-Wire: 50Ω ±10Ω Wire-to-Board: 50Ω ±5Ω	IEC 60512-25-7/ TE 109-18379; for informational purposes only: Impedance of a mated connector pair shall be determined by Time Domain Analysis using 35 ps rise time.
Crosstalk (4P Connector only)	≥ 60 dB ≥ 50 dB	IEC 60512-25-1/ TE 109-18379 Measure near and far end crosstalk between all positions 0.08 GHz < f ≤ 4 GHz 4.0 GHz < f ≤ 6 GHz
Insertion Loss	<0.30 dB <0.50 dB <0.60 dB <0.70 dB < 0.80 dB	IEC 60512-25-2/ TE 109-18379 0.03GHz<f<1GHz 1GHz<f<2.5GHz 2.5GHz<f<4GHz 4GHz<f<5.5GHz 5.5GHz<f<6GHz
Return Loss	≤ -23 dB ≤ -23 dB + 3 dB / GHz * (f - 1 GHz) ≤ -20 dB ≤ -20 dB + 5 dB / GHz * (f - 5.5 GHz)	IEC 60512-25-2/ TE 109-18379 120.5 GHz ≤ f ≤ 1 GHz 1 GHz < f ≤ 3 GHz 3 GHz < f ≤ 5.5 GHz 5.5 GHz < f ≤ 6 GHz
GMSL2 Channel Test: Insertion Loss	GMSL2 Per Section: <i>Single-Ended Insertion Loss Specification: forward/reverse</i> <i>6 Gbps/187 Mbps and 6 Gbps/1.5 Gbps</i> for 10MHz – 3.5GHz	GMSL2 System Channel Design Guide (Rev. 14.0) Section 3 RTK031 wire only, >15 meter
GMSL2 Channel Test: Insertion Loss	GMSL2 Per Section: <i>Single-Ended Insertion Loss Specification: forward/reverse</i> <i>3 Gbps/187 Mbps and 3 Gbps/1.5 Gbps</i> for 10MHz – 2GHz	GMSL2 System Channel Design Guide (Rev. 14.0) Section 3 RTK031 wire, >15 meter RG174 wire, >10 meter
GMSL2 Channel Test: Insertion Loss to Return Loss Ratio (IRR)	GMSL2 Per Section: <i>Single-Ended IRR Specification: forward/reverse</i> <i>6 Gbps/187 Mbps and 6 Gbps/1.5 Gbps</i> for 10MHz – 250MHz	GMSL2 System Channel Design Guide (Rev. 14.0) Section 3 RTK031 wire only, >15 meter

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
GMSL2 Channel Test: Insertion Loss to Return Loss Ratio (IRR)	GMSL2 Per Section: <i>Differential/Single-Ended IRR Specification: forward/reverse 3 Gbps/187 Mbps and 3 Gbps/1.5 Gbps for 10MHz – 250MHz</i>	GMSL2 System Channel Design Guide (Rev. 14.0) Section 3 RTK031 wire, >15 meter RG174 wire, >10 meter
ENVIRONMENTAL		
Temperature/Thermal Shock Cycling	See note Test sequence will indicate which temperature shock cycling was used.	Subject specimens to -40 and 105°C temperature extremes SAE J2030 6.13 Rev 2015: (deviated temperature range) 10 cycles, 1 hour dwell (20 hours total) USCAR2-7 5.6.1 or USCAR17-5 4.5 100 cycles, 30 min dwell (100 hours total) LV214 B.19.1 (deviated temperature range) 144 cycles, 15 min dwell (72 hours total)
Temperature /Humidity Cycling	See note	USCAR2 5.6.3 Rev 7 Subject specimens to 1008 hours at 105°C
High Temperature Exposure/Heat Aging	See note Test sequence will indicate which duration was used.	Subject specimens to 105°C temperature USCAR2 5.6.3 Rev 7 1008 hours LV214 B 19.3 (deviated peak temperature) 120 hours
Mechanical Shock	See note	USCAR2 5.4.6.3 Class V2 Half Sine Wave Shock, 10 shocks/axis, 5- 10ms duration, 35g acceleration
Vibration	See note	USCAR2 5.4.6.3 Class V2 Random Vibration, 8 hours/axis, 60-1200 Hz, 12.1g (rms)
Water Immersion IPX7	No visible ingress See note	ISO 20653 Immersion depth: 1.0 m Duration 30 min
Dust Test IP6X	No visible ingress See note	ISO 20653 Expose to dust spray for 6 seconds every 15 minutes, repeat for 20 cycles

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
		Arizona Road Dust – fine grade
Pressure/Vacuum Leak	No visible ingress 7 PSI (initial) 4 PSI (final) See note	USCAR2 5.6.6 Submerge test sample 300mm-400mm in solution. Initially apply 7 PSI of pressure then vacuum, hold 15 seconds in water. After conditioning, apply 4 PSI of pressure then vacuum, hold 15 seconds in salt/soap water
High Pressure Spray IPX9K	No visible ingress See note	USCAR2 5.6.7 80°C, 14-16 L/min, 8000-10000 kPa, 5 RPM, 30s spray at 0, 30, 60, 90-degree reference
Header Terminal Solderability Dip	95% coverage of center contact and shield solder tines	TEC-109-11-10; Method B Lead-Free Solder Type, ROL1 (Rosin, Low Activity Level, Containing Halide (<0.5%)) Flux Type, complies with JEDEC JESD22-B102E, Method 1 Solder bath control 245°C ±5°C Steam age 8 hrs prior to test
Header Terminal Heat Resistance to Wave Solder	Inspect at 30x magnification, note any blisters, deformation/warpage or melting. Measure and record dimension	TEC-109-202; Condition B Lead-Free Solder bath at 265°C ±5°C, hold time 10 ±2 seconds, underside of header body surface (not including alignment pegs) held 1 to 2mm above solder bath
Header Heat Resistance to Reflow Solder	See note	TEC-109-201; Method B Condition B Without moisture soak, peak reflow temp 260°C; 3 cycles of profile: Average ramp rate: 3°C per second max Preheat temperature (minimum): 150°C Preheat temperature (maximum): 200°C Preheat time: 60 to 180 seconds Ramp to peak: 3°C per second max Time over liquidus (217°C): 60 to 150 seconds Peak temperature: 260 +0/-5°C Time within 5°C of peak: 20 to 40 seconds Ramp - cool down: 6°C per second max Time 25°C to peak: 8 minutes maximum

NOTE: Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 1

3.5. Product Qualification and Requalification Test Sequence

Figure 1. Test Sequences

TEST OR EXAMINATION	Test Group (a)																												
	1(d)	2	3	4	5	6	7	8(d)	9	10	11	12	13	14	15	16	17	18	19(d)	20	21	22	23	24	25	26	27	28	29
	Test Sequence (b)																												
Visual inspection	1,10	1,4	1,7	1, 3	1, 3	1, 3	1, 4	1,8	1, 3	1, 3	1,7	1,7	1,7	1,6	1, 3	1, 3	1, 4	1, 3	1,11	1, 4	1,10	1,10	1, 3	1, 4	1, 3	1, 5	1,12	1,12	1,10
Connector Mating/Un-mating Force		3											2,5																
Connector Retention Force													3,6																
Connector Cycling/Durability								2											4		4	4				2	2	2	4
Connector Drop																2													
Connector Audible Click																									2				
Polarization Effectiveness/Continuity (e)															2														
Clip Mounting Feature Strength																		2											
Terminal Insertion/Forward Stop					2						2,5																		
Terminal Retention											3,6																		
TPA engagement Pre-Set to Lock w/ terminals				2								2,5																	
TPA disengagement Lock to Pre-Set w/ terminals												3,6																	
Cavity Damage Susceptibility																	2												
Terminal Mechanical Pull – Axial and Angular/Continuity (e)																							2	3					
Insulation resistance			2,4, 6																3,8		3,7	3,7					3,7,9, 11	3,7,9 ,11	3,7

Dry Circuit Contact Resistance	2,5,8							3,6										2,7		2,6	2,6							2,6
Voltage drop	3,6,9							7																				
Maximum Test Current Capability						2																						
Signal Propagation: Insertion Loss and Return Loss																		9	2	8	8							8
Crosstalk (4P Only)							3											10	3	9	9							9
Signal Propagation: GMSL2 Channel (Insertion Loss, Insertion-Return Loss Ratio)							2																					
Thermal/Temperature Shock (c)	4■	2■										4■■■										2■						5■■
Temperature-Humidity Cycling																					5					5		
High Temperature Exposure/Heat Aging (f)											4**	4**	4**	3**						5*							5*	
Mechanical Shock (e)								4										5										
Vibration (e)	7							5										6										
Water Immersion IPX7			3										2,5											3	8	8		
Dust Test IP6X			5																									
Pressure/Vacuum																									4,6	4,6		
High Pressure IPX9K																								4	10	10		
Header Terminal Solderability Dip								2																				
Heat Resistance to Solder (W = Wave; R = Reflow)									2																			

(a) See Paragraph 4.1.A

(b) Numbers indicate sequence in which tests were performed.

(c) The following signifies the level of Thermal Shock Cycling:

- SAE J2030 10 cyc, 20 hrs total
- USCAR2 100 cyc, 100 hrs total
- LV2141 144 cyc, 72 hrs total

- (d) Test group is divided into two sample groups. The first group is used to measure contact resistance, and second group is used to measure voltage drop and continuity monitoring.
- (e) Circuit continuity monitoring is performed at the same time during the scheduled conditioning per the Test Sequence's step number.
- (f) The following signifies level of Heat Aging:

- * USCAR2 1008 hrs

- ** LV2141 120 hrs

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Specimen Selection

Specimens shall be prepared in accordance with the applicable Instruction Sheets and shall be selected at random from current production.

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Table 2.

Table 2: Description of Samples

Test Group	Test Report	Primary Assembly	Wire Size (a)	Mating Assembly	Wire Size (a)	Sample Size
1	WE-20200496	2338212-1	RTK031	2338211-1	RTK031	4
		2338212-1	RG174	2338211-1	RG174	4
	WE-20210821	2338212-1	RTK031	2356408-1	N/A	4
		2338212-1	RG174	2356408-1	N/A	4
	WE-20200590	2355843-1	RTK031	2355844-1	N/A	4
		2355843-1	RG174	2355844-1	N/A	4
2	WE-20200495	2338212-1	RTK031	2338211-1	RTK031	10
		2338212-1	RG174	2338211-1	RG174	10
	WE-20200698	2338212-1	RTK031	2356408-1	N/A	10
		2338212-1	RG174	2356408-1	N/A	10
	WE-20211129	2355843-1	RTK031	2355844-1	N/A	10
	TR-2501004 No T-shock	2338212-2	RTK031	2356408-2	N/A	12
		2338212-2	RTK031	2394674-6	N/A	3
3	WE-20201075	2338212-1	RTK031	2338211-1	RTK031	4
		2338212-1	RG174	2338211-1	RG174	10
	WE-20210154	2338212-1	RTK031	2356408-1	N/A	10
	WE-20210786	2338212-1	RTK031	2339729-1	RTK031	10
	TR-2211294	2355843-1	RTK031	2355844-1	N/A	10
	WE-20211035	2355843-1	RG174	2355844-1	N/A	10
	WE-20211183	2355843-1	RG174	2374559-1	RG174	10
	AUT-CN-2300158OR02	2338212-1	RG174	2439715-5	N/A	5
	AUT-CN-2300153OR02 Separate Samples not per test sequence, no IR, visual only	2355843-1	RG174	2449917-1	RG174	4 IPX7 8 IP6X
	AUT-CN-2400444OR01 IR is N/A	2475029-1	N/A	2439715-5	N/A	5
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	5
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	5
4	WE-20200608	2338212-1	RTK031	-	-	10
		2338211-1	RTK031	-	-	10
	WE-20200587	2355843-1	RTK031	-	-	10
5	WE-20200608	2338212-1	RTK031	-	-	10
		2338212-1	RG174	-	-	10
		2338211-1	RTK031	-	-	10

	WE-20200587	2338211-1	RG174	-	-	10
		2355843-1	RTK031	-	-	10
		2355843-1	RG174	-	-	10
6	WE-20200609	2338212-1	RTK031	2338211-1	RTK031	3
		2338212-1	RG174	2338211-1	RG174	3
	WE-20200695	2338212-1	RTK031	2356408-1	N/A	3
		2338212-1	RG174	2356408-1	N/A	3
	WE-20200588	2356413-1 Header Terminal	N/A	2298488-1	RTK031	3
		2356413-1 Header Terminal	N/A	2298510-1	RG174	3
		2355843-1	RTK031	2355844-1	N/A	3
		2355843-1	RG174	2355844-1	N/A	3
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	5
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	3
7	WE-20210699 15-meter channel	2338212-1 2338212-1	RTK031	2338211-1 2356408-1	RTK031	2
	WE-20210698 15-meter channel	2355843-1 2355843-1	RTK031	2374559-1 2355844-1	RTK031	2
	TR-AOR22/0860 10-meter channel	2355843-1 2355843-1	RG174	2374559-1 2355844-1	RG174	2
8	WE-20211051	2355843-1	RTK031	2355844-1	N/A	4
		2355843-1	RG174	2355844-1	N/A	4
	WE-20210784	2338212-1	RTK031	2339729-1	RTK031	6
		2338212-1	RG174	2339729-1	RG174	6
	AUT-CN- 2300153OR02 No Mech Shock	2355843-1	RG174	2449917-1	RG174	6
9	WE-20200589	2356413-1 Header Terminal	NA	-	-	5
	AUT-CN- 2300153OR02	2439715-5	NA	-	-	5
	R21-901511-04	2394674-5	NA	-	-	5
	R21-901511-05	2420047-5	NA	-	-	5
10	WE-20200589 Wave	2356413-1 Header Terminal	NA	-	-	5
	AUT-CN- 2300153OR02 Reflow	2439715-5	NA	-	-	5
	R21-901511-04 Reflow	2394674-5	NA	-	-	5
	R21-901511-05 Reflow	2420047-5	NA	-	-	5
11	AUT-BEU- 2100256OR02	2374559-1	RTK031	-	-	4
		2374559-1	RG174	-	-	4
	AUT-CN- 2300153OR02	2449917-1	RG174	-	-	8
12	AUT-BEU- 2100256OR03	2374559-1	RTK031	-	-	7
		2374559-1	RG174	-	-	7

	WE-20200587 No Heat Age	2355843-1	RTK031	-	-	10
		2355843-1	RG174	-	-	10
	WE-20200608 No Heat Age	2338212-1	RTK031	-	-	10
		2338212-1	RG174	-	-	10
	AUT-CN- 2300153OR02	2449917-1	RG174	-	-	10
13	AUT-BEU- 2100256OR04	2355843-1	RTK031	2374559-1	RTK031	4
		2355843-1	RG174	2374559-1	RG174	4
	AUT-CN- 2300158OR02 No Heat Age	2338212-1	RG174	2439715-5	N/A	5
	AUT-CN- 2300153OR02 No Heat Age	2355843-1	RG174	2449917-1	RG174	20
	AUT-CN- 2400444OR01 No Heat Age	2475029-1	N/A	2439715-5	N/A	10
	R21-901511-04 No Heat Age	2338212-1	RG174	2394674-5	N/A	5
	R21-901511-05 No Heat Age	2355843-1	RG174	2420047-5	N/A	3
14	AUT-BEU- 2100256OR01	2355843-1	RTK031	2374559-1	RTK031	4
		2355843-1	RG174	2374559-1	RG174	4
15	AUT-BEU- 2100256OR05	2355843-1	RTK031	2374559-1	RTK031	5
		2355843-1	RG174	2374559-1	RG174	5
	AUT-CN- 2300158OR02	2338212-1	RG174	2439715-5	N/A	3
	AUT-CN- 2300153OR02	2355843-1	RG174	2449917-1	RG174	3
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	3
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	3
16	AUT-BEU- 2100256OR06	2374559-1	N/A	-	-	18
17	AUT-BEU- 2100256OR07	2374559-1	RTK031	-	-	5
		2374559-1	RG174	-	-	5
18	AUT-BEU- 2100256OR08	2374559-1	N/A	-	-	30
	AUT-BEU- 2300153OR02	2449917-1	N/A			30
19	AUT-CN- 2300158OR02	2338212-1	RG174	2439715-5	N/A	5
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	5
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	3
20	WE-20210418	2355843-1	RG174	2355844-1	N/A	8
	WE-20210508	2338212-1	RG174	2356408-1	N/A	4
	AUT-CN- 2300153OR02	2355843-1	RG174	2449917-1	RG174	3
21	AUT-CN- 2300158OR02	2338212-1	RG174	2439715-5	N/A	5
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	5
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	3
22	AUT-CN- 2300158OR02	2338212-1	RG174	2439715-5	N/A	5
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	5
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	3
23	R21-901511-04	2338212-1	RG174	2394674-5	N/A	5

24	WE-20200587	2355843-1	RG174	-	-	10
	WE-20200698	2338212-1	RG174	-	-	10
	WE-20200495	2338211-1	RTK031			
		2338211-1	RG174			
25	AUT-CN-2300158OR02	2338212-1	RG174	2439715-5	N/A	5
	AUT-CN-2300153OR02	2355843-1	RG174	2449917-1	RG174	6
	AUT-CN-2400444OR01	2475029-1	N/A	2439715-5	N/A	3
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	3
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	3
26	AUT-CN-2300153OR02	2355843-1	RG174	2449917-1	RG174	8
	AUT-CN-2400444OR01 No Connector Cyc or IPX7	2475029-1	N/A	2439715-5	N/A	3
27	WE-20210786	2338212-1	RTK031	2339729-1	RTK031	10
28	WE-20210786	2338212-1	RTK031	2339729-1	RTK031	10
29	AUT-CN-2300158OR02	2338212-1	RG174	2439715-5	N/A	5
	R21-901511-04	2338212-1	RG174	2394674-5	N/A	5
	R21-901511-05	2355843-1	RG174	2420047-5	N/A	3

4.2. Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequences as determined by development/product, quality and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken, and specimens resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.4. Quality Conformance Inspection

The applicable quality inspection plan shall specify the acceptable sampling level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

5. APPENDIX

5.1. Four Position Inline Coaxial Derating Curves

A. The first group (Figure 2, Curve 1) consisted of the following test samples:

- (a). 2338211-1 → 4 Position Cap Assembly
- (b). 2338212-1 → 4 Position Plug Assembly
- (c). 2298488-1 → Female Contact Kit with RTK031 Cable
- (d). 2298490-1 → Male Contact Kit with RTK031 Cable

B. The first group (Figure 2, Curve 2) consisted of the following test samples:

- (a). 2338211-1 → 4 Position Cap Assembly
- (b). 2338212-1 → 4 Position Plug Assembly
- (c). 2298510-1 → Female Contact Kit with RG174 Cable
- (d). 2298511-1 → Male Contact Kit with RG174 Cable

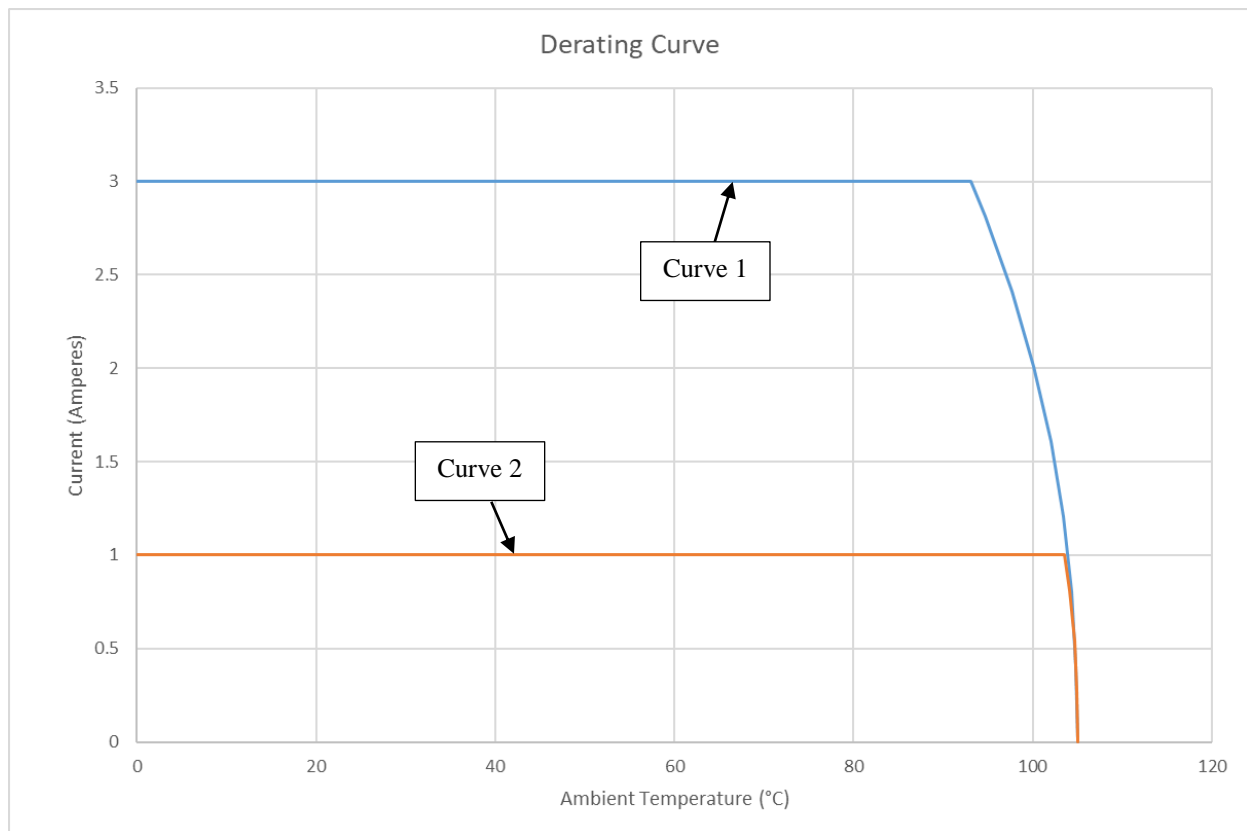


Figure 2: Derating Curves 4 Position Inline Plug and Cap

5.2 Four Position Vertical Header Derating Curves

A. The first group (Figure 3, Curve 1) consisted of the following test samples:

- (a). 2338212-1 → 4 Position Plug Assembly
- (b). 2356408-1 → 4 Position Vertical Header
- (c). 2298488-1 → Female Contact Kit with RTK031 Cable

B. The first group (Figure 2, Curve 2) consisted of the following test samples:

- (a). 2338212-1 → 4 Position Plug Assembly
- (b). 2356408-1 → 4 Position Vertical Header
- (c). 2298510-1 → Female Contact Kit with RG174 Cable

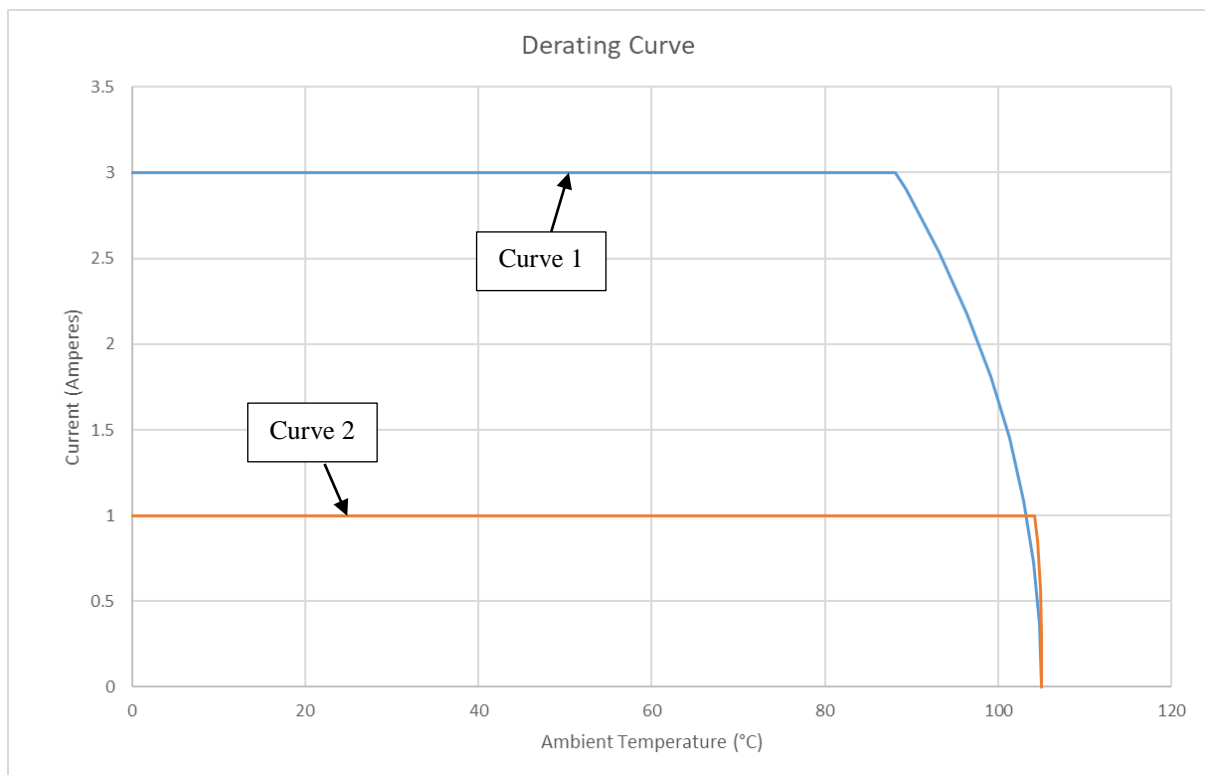


Figure 3: Derating Curves 4 Position Plug and Vertical Header

5.3. Four Position Inline Coaxial Derating Curves

A. The first group (Figure 2, Curve 1) consisted of the following test samples:

- (a). 2356413 → AS16 Coax Vertical Header Terminal
- (b). 2298488-1 → Female Contact Kit with RTK031 Cable

B. The first group (Figure 2, Curve 2) consisted of the following test samples:

- (a). 2356413 → AS16 Coax Vertical Header Terminal
- (b). 2298510-1 → Female Contact Kit with RG174 Cable

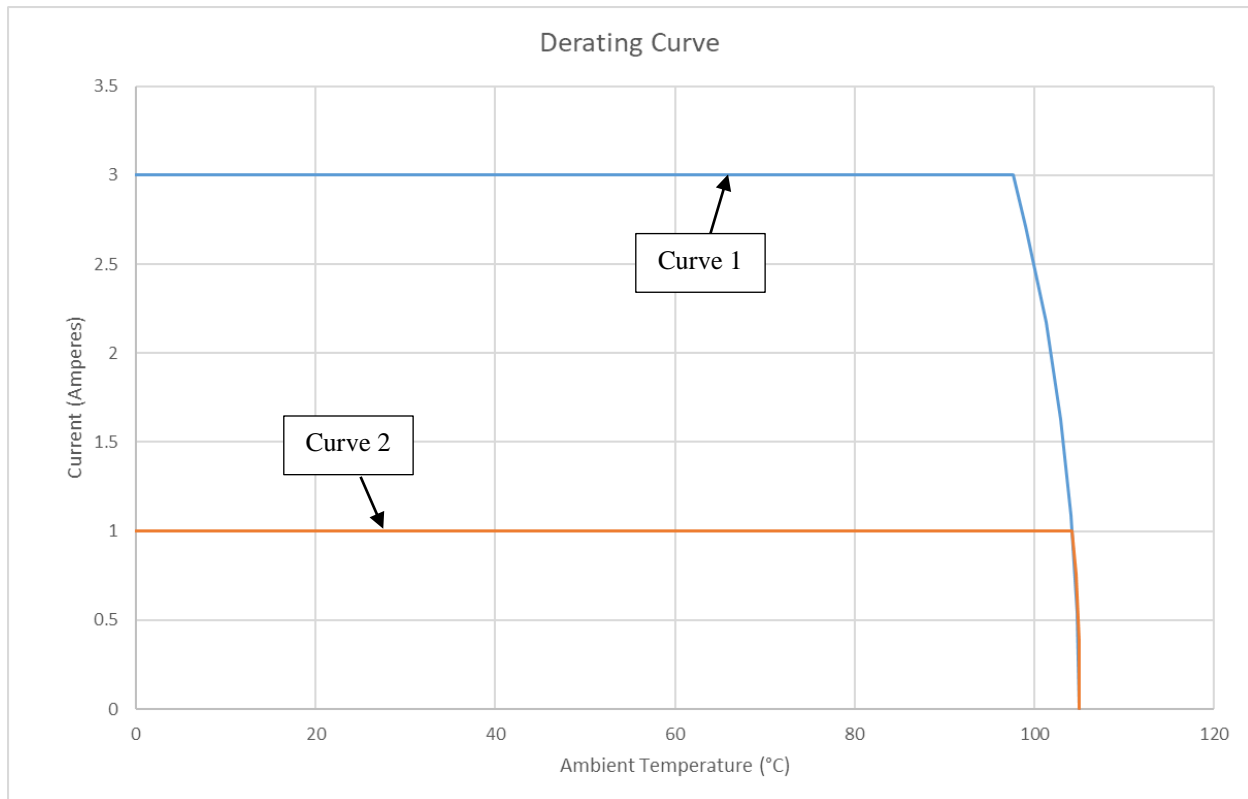


Figure 4: Derating Curves Header Terminal and Female Terminal in Free Air

6. REVISION NOTES

B	<p>Clarified TE Documents (2.1), Industry Standards (2.2), and Product Ratings (3.3)</p> <p>Updated/Added Product Requirements (3.4, Table 1), Test Sequences (3.5, Figure 1) to reflect all general testing completed across the current product line.</p> <p>Added test reports coinciding with tested part numbers to their corresponding test sequences in Table 2, which should align with 501-94038.</p> <p>Moved Revision Notes to new Section 6</p>	16MAY2025	KD	WR
A4	Test sequence and details as per USCAR2 Rev 7 added	21OCT2021	HPS	JB
A3	<p>1P, Header Updates for Release to Market</p> <p>4P Header Vibration Data Added</p>	21SEP2021	DFS	JB
A2	<p>1P, Cap Pin Assy, W2W Sealed Coaxial – Test details, sequence and sample description added.</p> <p>4P, Cap Pin Assy, flange, Sealed COAX AS16 - Sample description added.</p>	15SEP2021	HPS	JB
Rev	Description	Date	Drawn	Approved