

Plastic Docking Frame with Lock Series

1. INTRODUCTION

1.1 Purpose

This document provides the qualification summary of TE Connectivity Plastic Docking Frame with Lock Series.

1.2 Scope

This specification covers the mechanical and environmental performance of Plastic Docking Frame with Lock Series. Testing was performed at the Shanghai Electrical Components Test Laboratory.

1.3 Conclusion

Based on the test results, all meet the requirements according to TE Connectivity Design Objectives 108-137725.

1.4 Product Description

Name	Remarks
HMN-T4-PLM-TOP	
HMN-T4-PLM-BASE	
HMN-T6-PLM-TOP	
HMN-T6-PLM-BASE	

1.5 Qualification Test Sequence

Test or Examination	Test Group			
	A	B	C	D
	Test Sequence ¹⁾			
Visual and dimensional examination	1,3	1,4	1,4	1,4
Retention force		3		
Mechanical strength impact	2			
Mechanical Operation (Durability)		2		
Vibration, Random				2
Shock				3
Cold			2	
Dry Heat			3	

* Notes:

1) Numbers indicate the sequence in which the tests are performed.

2. TEST PROCEDURE

General			
No.	Test Items	Requirements	Condition according to
2.1	Visual and dimensional examination	Meets requirements of product drawing	Visual and dimensional examination IEC 60512-1-1/-2, Test 1a and 1b 6.2 of EN 61984
Mechanical			
2.2	Retention force	HMN-Tx-PLM-TOP retention force:200N HMN-Tx-PLM-BASE retention force:250N Module retention in frame :300 N Minimum	Test load applied in axial direction, test speed:20mm/min, permissible shift inserts of 1.0mm, Test 15a of IEC 60512-15-1
2.3	Mechanical strength impact	No damage likely to impair normal use	Dropping height: - 750mm for specimens of mass≤250g - 500mm for specimens of mass>250g Dropping cycles:8 positions in 45° step, one cycles per position IEC 60512-7-2 Test 7b
2.4	Mechanical Operation (Durability)	100 operation cycles; No damage likely to impair normal use	Shall be engaged and disengaged by means of A) a device simulating normal operating conditions at the speed of approximately 50mm/min B) manual mating/un-mating 300 Max. cycle per hour IEC 60512-9-1 Test 9a 7.3.9 of EN 61984
2.5	Vibration, Random	No damage likely to impair function	Frequency:5~150Hz Per EN 61373, Category 1, Class B (IEC60068-2-6 Test Fc)
2.6	Shock	No damage likely to impair function	Acceleration:50m/s ² ; Duration:30ms Total 18 shocks (three positive and three negatives in each of the three orthogonal axes) Per EN 61373
Environmental			
2.7	Cold	No damage likely to impair function	Subject mated specimen to -40℃ Duration time:16h, Test Ab Per IEC 60512-11-10 Test 11j (IEC 60068-2-1)
2.8	Dry Heat	No damage likely to impair function	Subject mated specimen to +125℃ Duration time:168h Test Bb Per IEC 60512-11-9 Test 11i (IEC 60068-2-2)

3. SUMMARY OF TEST RESULTS:

Examination of product – all test group

Test Group	Test Item	Requirement	Test Result	Judgment
Group A	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Mechanical strength impact	Frame shall no damage to impair normal use.	No damage likely to impair function	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group B	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Mechanical Operation (Durability)	100 operation cycles; No damage likely to impair normal use	No damage likely to impair function	passed
	Retention force	HMN-Tx-PLM-TOP retention force:200N HMN-Tx-PLM-BASE retention force:250N Module retention in frame :300 N Minimum	No damage likely to impair function	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group C	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Cold	No damage likely to impair function	No damage likely to impair function	passed
	Dry Heat	No damage likely to impair function	No damage likely to impair function	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group D	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Vibration, Random	No damage likely to impair function	No damage likely to impair function	passed
	Shock	No damage likely to impair function	No damage likely to impair function	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed