NICOMATIC R&D LABORATORY	QUALIFICATION TEST REPORT	QTR18039a
EMM SERIE ACCORDING TO MIL-DTL-83513G STANDARD		Page : 1 /12
		Qualification status : PASSED

M2 MAX TORQUE

According to Internal Requirements

ISSUE	MODIFICATION	VISA	DATE
a	Original Issue	AJ	21/05/18
b			
c			

	Name	Duty	Date	Visa
Written by	A.JAGHMIM	Test & Measurement Manager	18/05/18	AJ
Test Operator(s)	A.JAGHMIM	Test & Measurement Manager	18/05/18	AJ
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Approved by	A.VULLIEZ	R&D Manager	18/05/18	AV
Requested by	J.RIGAT	Project Manager	18/05/18	JR

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1 Conclusion

The EMM connectors are **qualified** regarding M2 MAX TORQUE according to Internal Requirements.

2 Technical Features Proposal

EMM connectors:
Torque Fixing Recommendation:
- Between Connector and PCB = 0.3 N.m
- Between Connectors = 0.2 N.m

3 Connate Reports

4 Information about the tests

4.1 Object

The object of this test is to define the torque for EMM connector fixings by measuring the torque breaking of the fixings.

4.2 Reference documents/Qualification Plan

- MDC.P16020.a

4.3 Tested Products

Designation	Article Reference*	Drawing issue*	Batch / DI*	Quantity
C18892-30 (Female, Straight on PCB, E60 guiding)	C18892-30	na	DI7576	20
C18900-30 (Female Straight on PCB, E50)	C18900-30	na	DI7577	20
C18891-30 (Male, Straight on PCB, E10)	C18891-30	na	DI7579	20
C18904-30 (Male, 90° on PCB, E11 guiding)	C18904-30	na	DI7578	20
C18893-30 (Female, 90° on PCB, E61 guiding)	C18893-30	na	DI7580	20
C18901-30 (Female, 90° on PCB, E51 jackscrew)	C18901-30	na	DI7581	20
C18981-30-0250 (Male, on cable AWG30, E01 jackscrew)	C18981-30-0250	na	DI7592	20
C18980-30-0250 (Male, on cable AWG28, E01 jackscrew)	C18980-30-025	na	DI7591	20
C18902-30-0250 (Male, on cable AWG26, E01 jackscrew)	C18902-30-0250	na	DI7588	20
C18979-30-0250 (Male, on cable AWG24, E01 jackscrew)	C18979-30-0250	na	DI7589	20
C18902-30-0250-BP (Male, on cable AWG26, E01 jackscrew BP)	C18902-30-0250-BP	na	DI7586	20
18224-AWG24	18224-AWG24	na	DI7594	25
18224-AWG26	18224-AWG26	na	DI7596	25
18240-AWG28	18240-AWG28	na	DI7597	25
18240-AWG30	18240-AWG30	na	DI7598	25

4.4 Persons present during the tests

Name	Duty
A.JAGHMIM	Test & Measurement Manager

4.5 Date and place of the tests

NICOMATIC France Lab. from 26/02/18 to 09/03/18

4.6 Environmental conditions

Ambient temperature: 23.1°C
Pressure: 961 mbar
Humidity: 43%

4.7 Incidents during the test

None

4.8 Test Equipments

Designation	Calibration Data	
Torque Screwdriver N°00457	**Last calibration date**	20/07/16
	Next calibration date	20/07/19

4.9 Test Tooling

Designation	Tooling reference
Tin Batch	
Binocular	

5 Requirements according to MIL-DTL-83513G standard

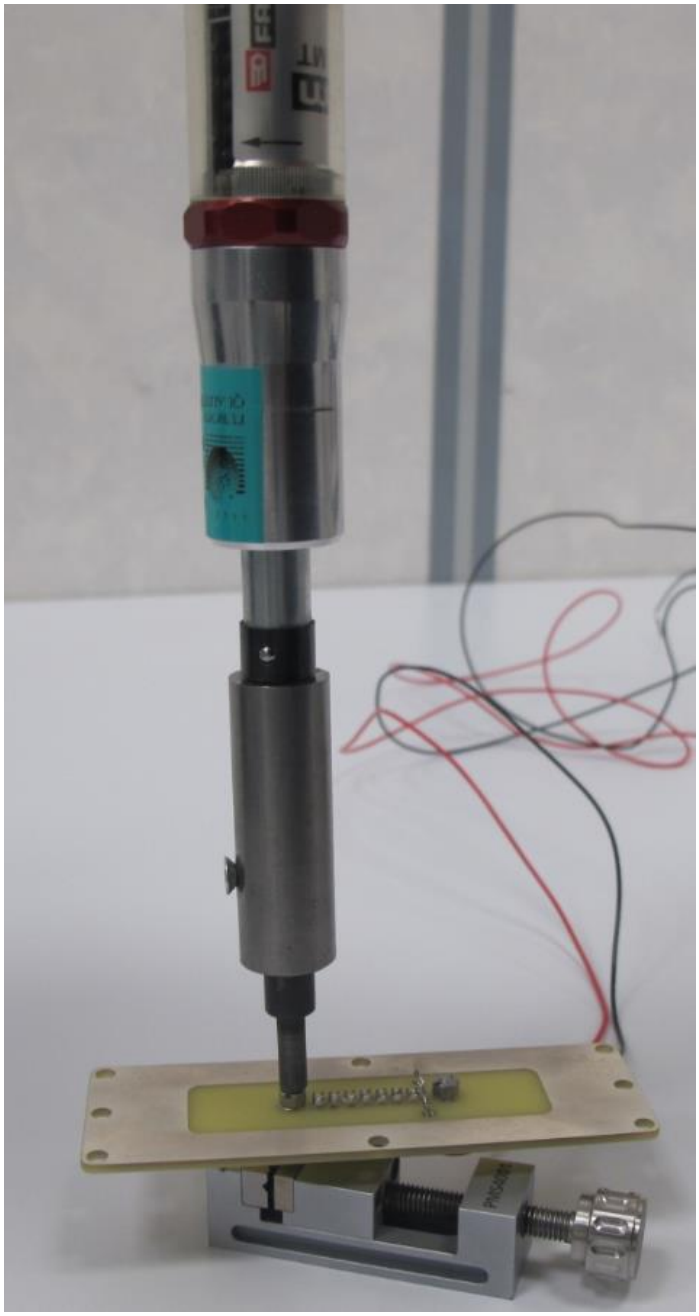
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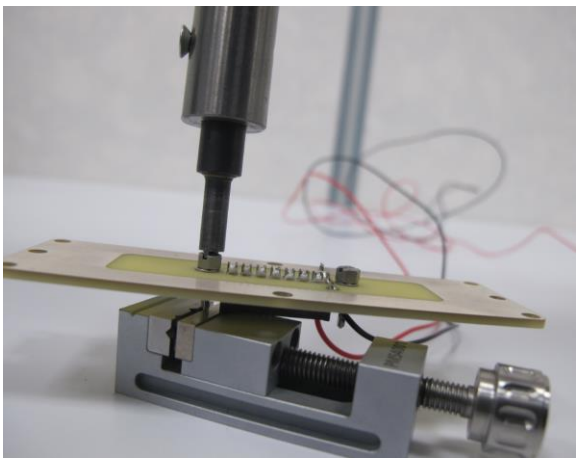
6 Test Procedure

Screw fixing by increasing the torque until the break occurs.

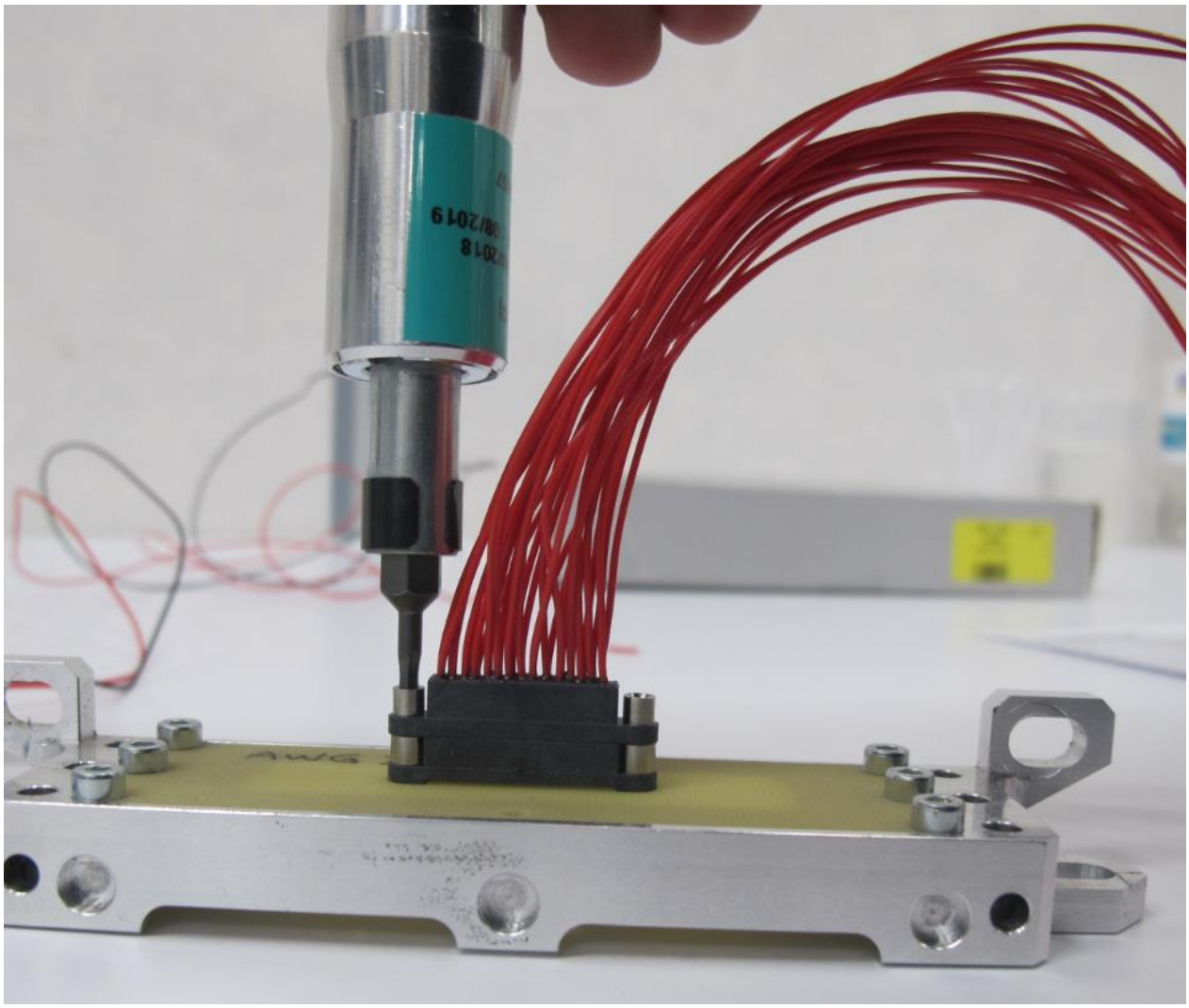
7 Test setup

7.1 Between Connector and PCB





7.2 Between Connectors



8 Measurements results

Insert or Fixation	Connectors	Test Method	Max Torque	
			Fixation 1	Fixation 2
18165	C18892-30 (Female, Straight on PCB, E60 guiding)	vs PCB	0.50 N.m	0.54 N.m
18060	C18900-30 (Female Straight on PCB, E50)	vs PCB	0.54 N.m	0.59 N.m
18160	C18891-30 (Male, Straight on PCB, E10)	vs PCB	0.64 N.m	0.65 N.m
18192	C18904-30 (Male, 90° on PCB, E11 guiding)	vs PCB	0.58 N.m	0.60 N.m
18194	C18901-30 (Female, 90° on PCB, E51 jackscrew)	vs Cable Connector	0.28 N.m	0.28 N.m
18051	C18981-30-0250 (Male, on cable AWG24, E01 jackscrew)	vs 18060	0.28 N.m	0.28 N.m

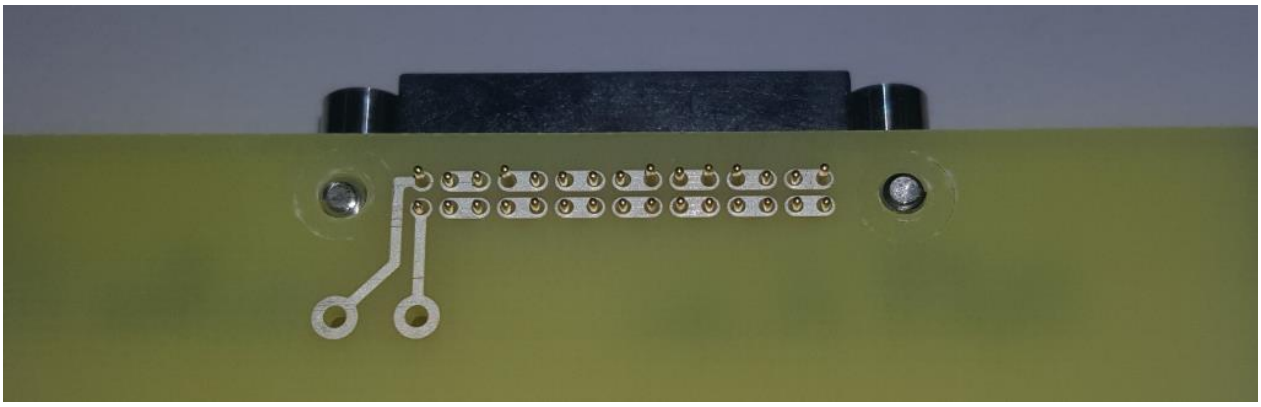
We have chosen to define the torque as following:

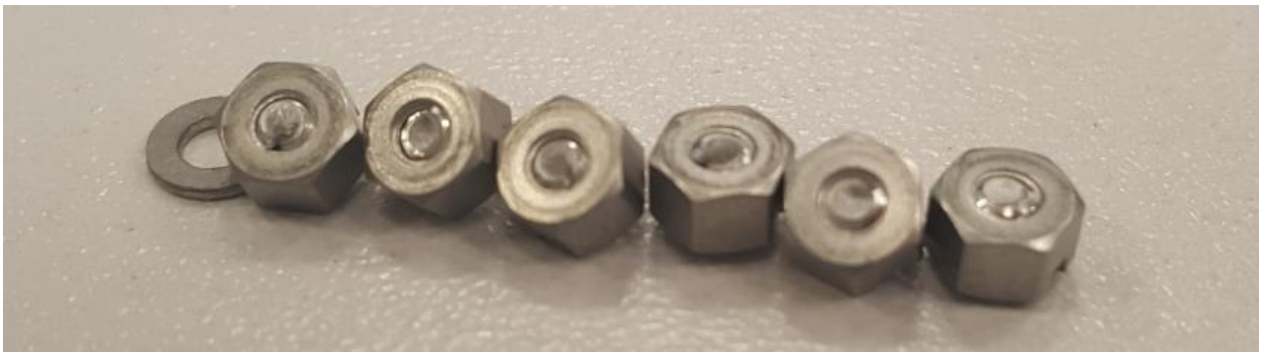
Torque Fixing Recommendation:
- Between Connector and PCB = 0.3 N.m
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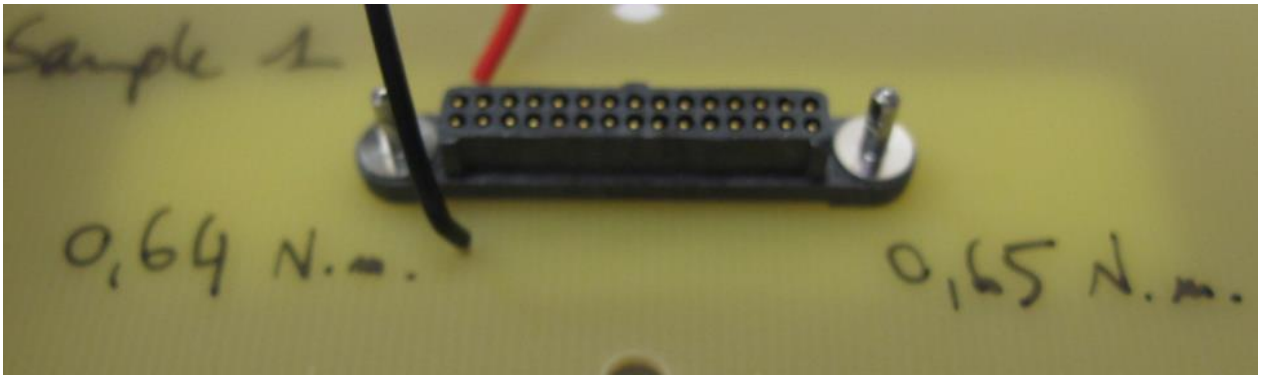
See Visual Inspection to see where the fixing were broken

9 Visual Inspection

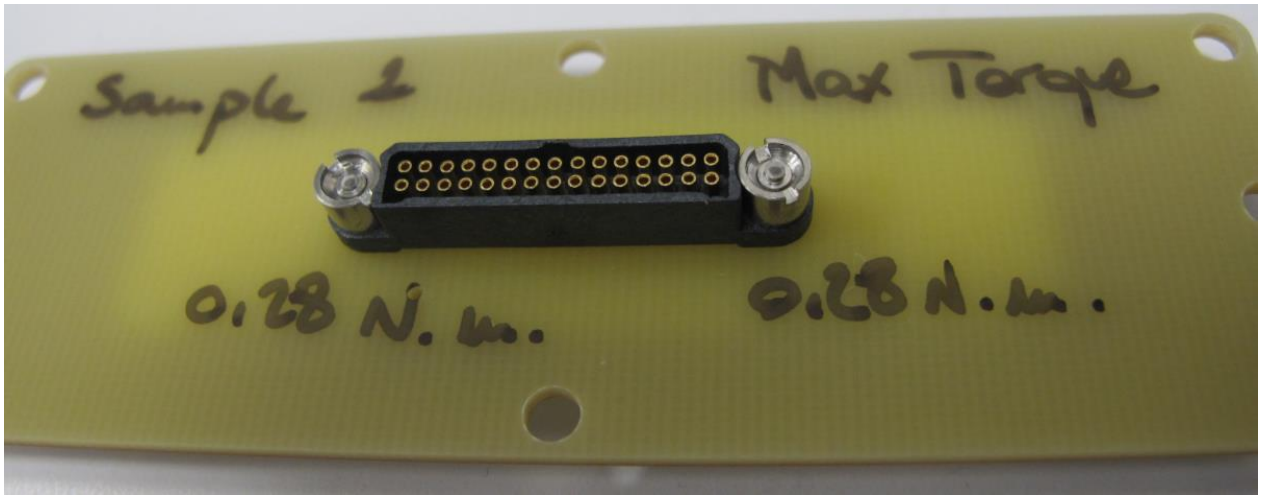
Required by the applicable standard ?			
YES		NO	☐













E01 Jackscrew broken inside the E50 PCB fixing

**********END OF REPORT**********

10 APPENDIX

Internal use only ?			
YES	☐	NO	☒

10.1 The Laboratory Advice

10.2 Pictures

**********END OF APPENDIX**********