NICOMATIC R&D LABORATORY	QUALIFICATION TEST REPORT	QTR18020a
EMM SERIE ACCORDING TO MIL-DTL-83513G STANDARD		Page : 1 /26
		Qualification status : PASSED

SHOCK

According to MIL-DTL-83513G §3.5.13 & 4.5.15 and EIA-364-27B test procedure

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
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1 Conclusion

The EMM connectors are **qualified** regarding SHOCK according to MIL-DTL-83513G standard.

2 Technical Features Proposal

EMM connectors:
Shock Severities: Sawtooth / 160g / 6ms
The connectors are not showing any evidence of cracking or breaking having undergoes Shock Severities.
No signal interruption longer than 1 microsecond.

3 Connate Reports

R-ADE-PMN-17-300962-1 A (00).pdf

4 Information about the tests

4.1 Object

The object of this test is to assess the ability of electrical components to withstand specified severities of mechanical Sshock.

4.2 Reference documents/Qualification Plan

- MDC.P16020.a
- MIL-DTL-83513G
- EIA-364-27B

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.BELKORCHIA	Test technician

4.5 Date and place of the tests

ADETESTS Lab. from 11/04/18 to 10/05/18

4.6 Environmental conditions

Ambient temperature: 21 – 24 °C
Pressure: 950 – 975 mbar
Humidity: 25 – 50 % HR

4.7 Incidents during the test

On the 1st pass, they were some problem regarding discontinuity of some connectors. It was coming from the solder parts that have some fault. During the second pass, all the connectors that have failed were retested and had passed the requirement (see Measurements results).

4.8 Test Equipments

Order Nr	Category	Manufacturer	Type	Last validity date	Next validity date
10293	Shaker control system	M+P international	VibPilot VP8	02/27/2018	04/27/2020
07908	Shock bench	MTS	886	N.A	N.A
07926	Spectrum analyzer	M+P international	VibPilot VP8	02/21/2017	04/21/2019
10294	Shaker	LDS/REXROTH	V8-440	03/14/2018	05/14/2019
10280	Accelerometer	PCB Piezotronics	M353B15	07/27/2017	09/27/2019

12288	Accelerometer	PCB Piezotronics	356A32	08/22/2017	10/22/2019
15101	Accelerometer	PCB	M352C65	12/11/2017	02/11/2020
15100	Accelerometer	PCB	M352C65	12/11/2017	02/11/2020
11805	Accelerometer	PCB Piezotronics	M353B15	03/01/2017	05/01/2019
10279	Accelerometer	PCB Piezotronics	M353B15	07/27/2017	09/27/2019

4.9 Test Tooling

Order Nr	*Category*	*Manufacturer*	*Type*	*Last validity date*	*Next validity date*
12726	Power supply	EA Elektro-automatik	PS 2084-05B	N.A	N.A
12733	Oscilloscope	Pico Technologie	2405A	N.A	N.A
12734	Oscilloscope	Pico Technologie	2405A	N.A	N.A

5 Requirements according to MIL-DTL-83513G standard

Mated connectors shall not be damaged and there shall be no loosening of parts, nor shall there be an interruption of electrical continuity or current flow longer than 1 microsecond during the exposure to mechanical shock.

6 Test Procedure

6.1 Test Procedure according to MIL-DTL-83513G

Mated connectors shall be subjected to test procedure EIA-364-27, test condition E.
One shock shall be applied to each direction of the three major axes of the connectors. Receptacles shall be mounted similar to the mounting specified in 4.5.14.1. Plugs shall be engaged with the receptacles and shall be held by normal locking means.
All contacts shall be wired in series with a minimum of 100 milliamperes of current allowed to flow and the wire bundles shall be clamped to structures that move with the connectors.
A minimum of 8 inches of wire shall be unsupported behind the rear of the receptacle and 4 ±1/2 inches of wire shall be unsupported behind the rear of the plug.
A suitable instrument shall be employed to indicate any discontinuity or interruption of current flow.

6.2 Test Procedure according to EIA-364-27B

Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks). The specified test pulse (half-sine or sawtooth pulse) shall be in accordance with figure 2 or 3, respectively, and shall have a duration and peak value in accordance with one of the test conditions shown in table 1.

Test condition	Peak acceleration		Normal duration (D) (ms)	Velocity change (V_i) (m/s : ft/s)	
	(m/s^2)	(g's)		Sawtooth	Half-Sine
H	294	30	11		2.07 : 6.8
I	294	30	11	1.62 : 5.3	
A	490	50	11		3.44 : 11.3
E	490	50	11	2.68 : 8.8	
B	735	75	6		2.81 : 9.2
F	735	75	6	2.20 : 7.2	
C	980	100	6		3.75 : 12.3
G	980	100	6	2.96 : 9.7	
D	2941	300	3		5.61 : 18.4
J	4903	500	1		3.11 : 10.2
K	9806	1000	0.5		3.11 : 10.2
L	14709	1500	0.5		4.69 : 15.4

NOTE - For test conditions D, J, K and L, where the weight of multi-specimen and fixtures exceeds 68 kg (150 lb), there is a question as to whether the shock pulse is properly transmitted to all specimens. Due consideration shall be given to the design of the test fixture to assure the proper shock input to each specimen.

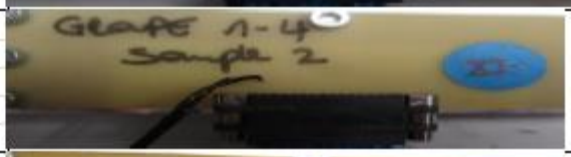
Test condition G except that the Peak acceleration will increase until 160g

6.2.1 SCHEDULE

STANDARD	EIA-364-27B: 2009
WAVEFORM	Half sine
AMPLITUDE	100g,120g,140g and 160g
DURATION	6 ms
NUMBER OF SHOCKS	3 shocks per direction
AXES	X, Y, Z

7 Test setup

Connectors :	Pictures :
Connector 1	
Connector 2	
Connector 3	
Connector 4	
Connector 5	
Connector 6	

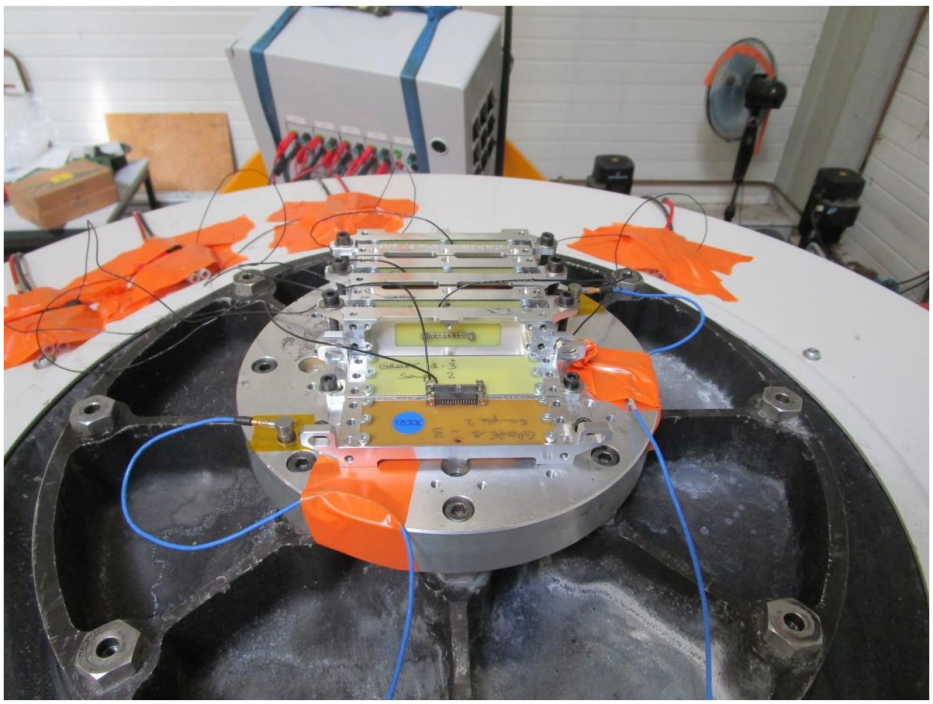
Connectors :	Pictures :
Connector 7	
Connector 8	
Connector 9	
Connector 10	
Connector 11	
Connector 12	

Connectors :	Pictures :
Connector 13	
Connector 14	
Connector 15	
Connector 16	

Connectors :	Pictures :
Connector 17	
Connector 18	
Connector 19	
Connector 20	

Connectors :	Pictures :
Connector21	
Connector 22	
Connecteur 23	
Connector 24	

Connectors :	Pictures :
Connector 25	
Connector 26	
Connector 27	
Connector 28	
Connector 29	
Connector 30	



EQUIPMENT UNDER TEST



Functional test bench

8 Measurements results

All the connectors were tested until 160g and have passed the requirement.
The connectors are not showing any evidence of cracking or breaking having undergoes Sinusoidal Vibration Severities.
No signal interruption longer than 1 microsecond.

Appendix 3: Tables of micro breaking

1st passage:

	Connectors axes			Comments:
	X Axis	Y Axis	Z Axis	
1	OK	OK	OK	
2	OK	OK	OK	
3	OK	OK	OK	
4	OK	OK	OK	
5	OK	OK	OK	
6	OK	out of order	OK	
7	OK	OK	OK	
8	OK	OK	OK	
9	OK	OK	OK	
10	OK	OK	OK	
11	OK	OK	OK	
12	OK	OK		redone weld for Y axis
13	OK	OK	OK	redone weld for X axis
14	connector welding			
15	out of order	out of order	OK	low welding
16	connector welding			defeated weld
17	35g 70 hz	40g 900hz	45g 300hz	touch sensitive
18	OK	OK	OK	
19	OK	out of order	40g 400hz	
20	OK	OK	OK	
21	OK	25g 150hz	OK	
22	OK	out of order	30g 400hz et 1600	
23	OK	out of order		
24	OK	out of order	OK	
25	OK	35g 240Hz	out of order after 40g	touch sensitive
26	connector out of order			
27	connector out of order			
28	connector out of order			
29	OK	OK	OK	
30	OK	OK	out of order after 40g	

2nd passage

	Axes Connectors			Comments:
	X Axis	Y Axis	Z Axis	
6	OK	OK	OK	
12	OK	OK	OK	
14	OK	OK	OK	
15	OK	OK	OK	
16	OK	OK	OK	
17	OK	OK	OK	No incident during test and no micro breaking
19	OK	OK	OK	
21	OK	OK	OK	
22	OK	OK	OK	
23	OK	OK	OK	
24	OK	OK	OK	
25	OK	OK	OK	
26	OK	OK	OK	
27	OK	OK	OK	
28	OK	OK	OK	
30	OK	OK	OK	

Date/Hours (mm/dd/yyyy)	Nomination of test	Observations	Curves (in appendix)
	Connectors 1-8		
04/11/2018	Z+ axis for 1,2,3 X+ axis for 4,5,6,7,8		
02h50 pm	- Shock 1 100g/6ms		
02h51 pm	- Shock 2 100g/6ms		
02h52 pm	- Shock 3 100g/6ms		
02h55 pm	- Shock 4 120g/6ms		
02h57 pm	- Shock 5 120g/6ms		
02h58 pm	- Shock 6 120g/6ms		
03h06 pm	- Shock 7 140g/6ms		
03h07 pm	- Shock 8 140g/6ms		
03h10 pm	- Shock 9 140g/6ms		
03h32 pm	- Shock 10 160g/6ms		
03h34 pm	- Shock 11 160g/6ms		
03h36 pm	- Shock 12 160g/6ms		
	X+ axis for 1,2,3 Z+ axis for 4,5,6,7,8		
04h41 pm	- Shock 1 100g/6ms	See the tables of micro breaking in appendix 3	Appendix 2
04h43 pm	- Shock 2 100g/6ms		
04h45 pm	- Shock 3 100g/6ms		
04h50 pm	- Shock 4 120g/6ms		
04h52 pm	- Shock 5 120g/6ms		
04h53 pm	- Shock 6 120g/6ms		
04h56 pm	- Shock 7 140g/6ms		
04h58 pm	- Shock 8 140g/6ms		
05h00 pm	- Shock 9 140g/6ms		
05h03 pm	- Shock 10 160g/6ms		
05h06 pm	- Shock 11 160g/6ms		
05h08 pm	- Shock 12 160g/6ms		
04/12/2018	X- axis for 1,2,3 Z- axis for 4,5,6,7,8		
08h57 am	- Shock 1 100g/6ms		
08h59 am	- Shock 2 100g/6ms		
09h01 am	- Shock 3 100g/6ms		
09h03 am	- Shock 4 120g/6ms		
09h05 am	- Shock 5 120g/6ms		

Date/Hours (mm/dd/yyyy)	Nomination of test	Observations	Curves (in appendix)
09h07 am	- Shock 6 120g/6ms		
09h50 am	- Shock 7 140g/6ms		
09h55 am	- Shock 8 140g/6ms		
10h01 am	- Shock 9 140g/6ms		
10h08 am	- Shock 10 160g/6ms		
10h11 am	- Shock 11 160g/6ms		
10h13 am	- Shock 12 160g/6ms		
	Z- axis for 1,2,3 X- axis for 4,5,6,7,8		
11h39 am	- Shock 1 100g/6ms		
11h41 am	- Shock 2 100g/6ms		
11h45 am	- Shock 3 100g/6ms	See the tables of micro breaking in appendix 3	
11h49 am	- Shock 4 120g/6ms		
11h52 am	- Shock 5 120g/6ms		
11h55 am	- Shock 6 120g/6ms		
12h00 am	- Shock 7 140g/6ms		
12h04 am	- Shock 8 140g/6ms		
12h06 am	- Shock 9 140g/6ms		
02h05 pm	- Shock 10 160g/6ms		
02h13 pm	- Shock 11 160g/6ms		
02h19 pm	- Shock 12 160g/6ms		
	Y+ Axis		
04h14 pm	- Shock 1 100g/6ms		
04h38 pm	- Shock 2 100g/6ms		
04h40 pm	- Shock 3 100g/6ms		
04h49 pm	- Shock 4 120g/6ms		
04h52 pm	- Shock 5 120g/6ms		
04h56 pm	- Shock 6 120g/6ms		
05h11 pm	- Shock 7 140g/6ms		
05h17 pm	- Shock 8 140g/6ms		
05h19 pm	- Shock 9 140g/6ms		
04/13/2018		See the tables of micro breaking in appendix 3	
09h42 am	- Shock 10 160g/6ms		
09h52 am	- Shock 11 160g/6ms		
09h56 am	- Shock 12 160g/6ms		
	Y- Axis		
11h17 am	- Shock 1 100g/6ms		
11h21 am	- Shock 2 100g/6ms		
11h23 am	- Shock 3 100g/6ms		
01h34 pm	- Shock 4 120g/6ms		
01h35 pm	- Shock 5 120g/6ms		
01h37 pm	- Shock 6 120g/6ms		
01h40 pm	- Shock 7 140g/6ms		
01h42 pm	- Shock 8 140g/6ms		
01h44 pm	- Shock 9 140g/6ms		
01h50 pm	- Shock 10 160g/6ms		
01h51 pm	- Shock 11 160g/6ms		
01h54 pm	- Shock 12 160g/6ms		
	Connectors 9-16		

Date/Hours (mm/dd/yyyy)	Nomination of test	Observations	Curves (in appendix)
04/24/2018	X+ axis for 9,10,11 Z+ axis for 12,13,14,15,16		
11h46 am			
11h50 am	- Shock 1 100g/6ms		
11h54 am	- Shock 2 100g/6ms		
11h59 am	- Shock 3 100g/6ms		
12h01 am	- Shock 4 120g/6ms		
12h17 am	- Shock 5 120g/6ms	See the tables of micro breaking in appendix 3	
02h56 pm	- Shock 6 120g/6ms		
03h06 pm	- Shock 7 140g/6ms		
03h08 pm	- Shock 8 140g/6ms		
03h44 pm	- Shock 9 140g/6ms		
04h01 pm	- Shock 10 160g/6ms		
04h06 pm	- Shock 11 160g/6ms		
	- Shock 12 160g/6ms		
04h54 pm	X- axis for 9,10,11 Z- axis for 13,14		
04h57 pm	- Shock 1 100g/6ms		
05h00 pm	- Shock 2 100g/6ms		
05h04 pm	- Shock 3 100g/6ms		
05h07 pm	- Shock 4 120g/6ms		
05h14 pm	- Shock 5 120g/6ms		
05h30 pm	- Shock 6 120g/6ms		
05h42 pm	- Shock 7 140g/6ms		
05h48 pm	- Shock 8 140g/6ms		
05h53 pm	- Shock 9 140g/6ms		
05h58 pm	- Shock 10 160g/6ms		
25/04/2018	- Shock 11 160g/6ms		
09h10 am	- Shock 12 160g/6ms		
	Z+ axis for 9,10,11 X+ axis for 13,14		
09h46 am	- Shock 1 100g/6ms	See the tables of micro breaking in appendix 3	
09h50 am	- Shock 2 100g/6ms		
09h53 am	- Shock 3 100g/6ms		
09h56 am	- Shock 4 120g/6ms		
10h00 am	- Shock 5 120g/6ms		
10h05 am	- Shock 6 120g/6ms		
10h39 am	- Shock 7 140g/6ms		
10h42 am	- Shock 8 140g/6ms		
10h44 am	- Shock 9 140g/6ms		
10h55 am	- Shock 10 160g/6ms		
10h58 am	- Shock 11 160g/6ms		
11h07 am	- Shock 12 160g/6ms		
	Z- axis for 9,10,11 X- axis for 13,14		
11h41 am	- Shock 1 100g/6ms		
11h46 am	- Shock 2 100g/6ms		
11h47 am	- Shock 3 100g/6ms		
11h51 am	- Shock 4 120g/6ms		
11h56 am	- Shock 5 120g/6ms		
11h58 am	- Shock 6 120g/6ms		
12h11 am	- Shock 7 140g/6ms		

Date/Hours (mm/dd/yyyy)	Nomination of test	Observations	Curves (in appendix)
12h14 am	- Shock 8 140g/6ms		
12h19 am	- Shock 9 140g/6ms		
01h53 pm	- Shock 10 160g/6ms		
01h56 pm	- Shock 11 160g/6ms		
02h01 pm	- Shock 12 160g/6ms		
	Y+ Axis		
02h51 pm	- Shock 1 100g/6ms		
02h54 pm	- Shock 2 100g/6ms		
02h58 pm	- Shock 3 100g/6ms		
03h17 pm	- Shock 4 120g/6ms	See the tables of micro breaking in appendix 3	
03h21 pm	- Shock 5 120g/6ms		
03h27 pm	- Shock 6 120g/6ms		
03h35 pm	- Shock 7 140g/6ms		
03h38 pm	- Shock 8 140g/6ms		
03h47 pm	- Shock 9 140g/6ms		
03h52 pm	- Shock 10 160g/6ms		
04h04 pm	- Shock 11 160g/6ms		
04h09 pm	- Shock 12 160g/6ms		
	Y- Axis		
04h52 pm	- Shock 1 100g/6ms		
04/26/2018			
09h56 am	- Shock 2 100g/6ms		
09h58 am	- Shock 3 100g/6ms		
10h35 am	- Shock 4 120g/6ms		
10h38 am	- Shock 5 120g/6ms		
10h42 am	- Shock 6 120g/6ms		
10h49 am	- Shock 7 140g/6ms		
10h52 am	- Shock 8 140g/6ms		
11h03 am	- Shock 9 140g/6ms	See the tables of micro breaking in appendix 3	
11h20 am	- Shock 10 160g/6ms		
11h28 am	- Shock 11 160g/6ms		
11h32 am	- Shock 12 160g/6ms		
	Connectors 17-24		
05/03/2018	X+ Axis		
11h32 am	- Shock 1 100g/6ms		
11h34 am	- Shock 2 100g/6ms		
11h35 am	- Shock 3 100g/6ms		
11h40 am	- Shock 4 120g/6ms		
11h41 am	- Shock 5 120g/6ms		
11h44 am	- Shock 6 120g/6ms		
11h48 am	- Shock 7 140g/6ms		
11h53 am	- Shock 8 140g/6ms		
11h59 am	- Shock 9 140g/6ms		
01h44 pm	- Shock 10 160g/6ms		
02h04 pm	- Shock 11 160g/6ms		
02h09 pm	- Shock 12 160g/6ms		
	X- Axis		
02h39 pm	- Shock 1 100g/6ms		

Date/Hours (mm/dd/yyyy)	Nomination of test	Observations	Curves (in appendix)
02h42 pm	- Shock 2 100g/6ms		
02h45 pm	- Shock 3 100g/6ms		
02h50 pm	- Shock 4 120g/6ms		
02h52 pm	- Shock 5 120g/6ms	See the tables of micro breaking in appendix 3	
05/04/2018			
01h59 pm	- Shock 6 120g/6ms		
02h07 pm	- Shock 7 140g/6ms		
02h11 pm	- Shock 8 140g/6ms		
02h14 pm	- Shock 9 140g/6ms		
02h26 pm	- Shock 10 160g/6ms		
02h28 pm	- Shock 11 160g/6ms		
02h32 pm	- Shock 12 160g/6ms		
	Y+ Axis		
03h31 pm	- Shock 1 100g/6ms		
03h34 pm	- Shock 2 100g/6ms		
03h36 pm	- Shock 3 100g/6ms		
03h39 pm	- Shock 4 120g/6ms		
03h42 pm	- Shock 5 120g/6ms		
03h44 pm	- Shock 6 120g/6ms		
03h49 pm	- Shock 7 140g/6ms		
04h11 pm	- Shock 8 140g/6ms		
04h14 pm	- Shock 9 140g/6ms		
04h26 pm	- Shock 10 160g/6ms		
04h31 pm	- Shock 11 160g/6ms		
04h35 pm	- Shock 12 160g/6ms		
05/07/2018	**Y- Axis**		
10h02 am	- Shock 1 100g/6ms	See the tables of micro breaking in appendix 3	
10h05 am	- Shock 2 100g/6ms		
10h08 am	- Shock 3 100g/6ms		
10h10 am	- Shock 4 120g/6ms		
10h13 am	- Shock 5 120g/6ms		
10h15 am	- Shock 6 120g/6ms		
02h30 pm	- Shock 7 140g/6ms		
02h35 pm	- Shock 8 140g/6ms		
02h37 pm	- Shock 9 140g/6ms		
02h40 pm	- Shock 10 160g/6ms		
02h47 pm	- Shock 11 160g/6ms		
02h49 pm	- Shock 12 160g/6ms		
05/09/2018	**Z+ Axis**		
10h56 am	- Shock 1 100g/6ms		
10h59 am	- Shock 2 100g/6ms		
11h02 am	- Shock 3 100g/6ms		
11h06 am	- Shock 4 120g/6ms		
11h12 am	- Shock 5 120g/6ms		
11h14 am	- Shock 6 120g/6ms		
11h18 am	- Shock 7 140g/6ms		
11h23 am	- Shock 8 140g/6ms		
11h27 am	- Shock 9 140g/6ms		

Date/Hours (mm/dd/yyyy)	Nomination of test	Observations	Curves (in appendix)
11h32 am	- Shock 10 160g/6ms		
11h37 am	- Shock 11 160g/6ms		
11h41 am	- Shock 12 160g/6ms		
	Z- Axis		
01h51 pm	- Shock 1 100g/6ms	See the tables of micro breaking in appendix 3	
01h54 pm	- Shock 2 100g/6ms		
01h57 pm	- Shock 3 100g/6ms		
02h02 pm	- Shock 4 120g/6ms		
02h05 pm	- Shock 5 120g/6ms		
02h07 pm	- Shock 6 120g/6ms		
02h15 pm	- Shock 7 140g/6ms		
02h19 pm	- Shock 8 140g/6ms		
02h22 pm	- Shock 9 140g/6ms		
02h28 pm	- Shock 10 160g/6ms		
02h32 pm	- Shock 11 160g/6ms		
02h37 pm	- Shock 12 160g/6ms		
05/10/2018	Connectors 25-30		
	X- Axis		
09h20 am	- Shock 1 100g/6ms		
09h22 am	- Shock 2 100g/6ms		
09h23 am	- Shock 3 100g/6ms		
09h35 am	- Shock 4 120g/6ms		
09h38 am	- Shock 5 120g/6ms		
09h40am	- Shock 6 120g/6ms		
09h48 am	- Shock 7 140g/6ms		
09h50 am	- Shock 8 140g/6ms		
09h52 am	- Shock 9 140g/6ms		
10h20 am	- Shock 10 160g/6ms		
10h23 am	- Shock 11 160g/6ms		
10h24 am	- Shock 12 160g/6ms		
	X+ Axis		
10h45 am	- Shock 1 100g/6ms		
10h46 am	- Shock 2 100g/6ms		
10h47 am	- Shock 3 100g/6ms		
10h52 am	- Shock 4 120g/6ms	See the tables of micro breaking in appendix 3	
10h54 am	- Shock 5 120g/6ms		
10h55 am	- Shock 6 120g/6ms		
11h01 am	- Shock 7 140g/6ms		
11h03 am	- Shock 8 140g/6ms		
11h04 am	- Shock 9 140g/6ms		
11h09 am	- Shock 10 160g/6ms		
11h11 am	- Shock 11 160g/6ms		
11h12 am	- Shock 12 160g/6ms		
	Y- Axis		
01h30 pm	- Shock 1 100g/6ms		
01h32 pm	- Shock 2 100g/6ms		
01h33 pm	- Shock 3 100g/6ms		
01h38 pm	- Shock 4 120g/6ms		

Date/Hours (mm/dd/yyyy)	Nomination of test	Observations	Curves (in appendix)
01h40 pm	- Shock 5 120g/6ms		
01h41 pm	- Shock 6 120g/6ms		
01h50 pm	- Shock 7 140g/6ms		
01h52 pm	- Shock 8 140g/6ms		
01h53 pm	- Shock 9 140g/6ms		
02h02 pm	- Shock 10 160g/6ms	See the tables of micro breaking in appendix 3	
02h04 pm	- Shock 11 160g/6ms		
02h06 pm	- Shock 12 160g/6ms		
	Y+ Axis		
02h21 pm	- Shock 1 100g/6ms		
02h23 pm	- Shock 2 100g/6ms		
02h24 pm	- Shock 3 100g/6ms		
02h36 pm	- Shock 4 120g/6ms		
02h38 pm	- Shock 5 120g/6ms		
02h39 pm	- Shock 6 120g/6ms		
02h50 pm	- Shock 7 140g/6ms		
02h51 pm	- Shock 8 140g/6ms		
02h52 pm	- Shock 9 140g/6ms		
03h03 pm	- Shock 10 160g/6ms		
03h04 pm	- Shock 11 160g/6ms		
03h05 pm	- Shock 12 160g/6ms		
	Z- Axis		
03h36 pm	- Shock 1 100g/6ms		
03h38 pm	- Shock 2 100g/6ms		
03h40 pm	- Shock 3 100g/6ms		
03h45 pm	- Shock 4 120g/6ms		
03h46 pm	- Shock 5 120g/6ms		
03h48 pm	- Shock 6 120g/6ms		
04h01 pm	- Shock 7 140g/6ms		
04h20 pm	- Shock 8 140g/6ms		
04h22 pm	- Shock 9 140g/6ms		
04h35 pm	- Shock 10 160g/6ms		
04h37 pm	- Shock 11 160g/6ms		
04h38 pm	- Shock 12 160g/6ms		
	Z+ Axis	See the tables of micro breaking in appendix 3	
04h51 pm	- Shock 1 100g/6ms		
04h53 pm	- Shock 2 100g/6ms		
04h54 pm	- Shock 3 100g/6ms		
05h00 pm	- Shock 4 120g/6ms		
05h02 pm	- Shock 5 120g/6ms		
05h04 pm	- Shock 6 120g/6ms		
05h08 pm	- Shock 7 140g/6ms		
05h10 pm	- Shock 8 140g/6ms		
05h11 pm	- Shock 9 140g/6ms		
05h17 pm	- Shock 10 160g/6ms		
05h19 pm	- Shock 11 160g/6ms		
05h21 pm	- Shock 12 160g/6ms		

9 Visual Inspection

Required by the applicable standard ?			
YES		NO	☐

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

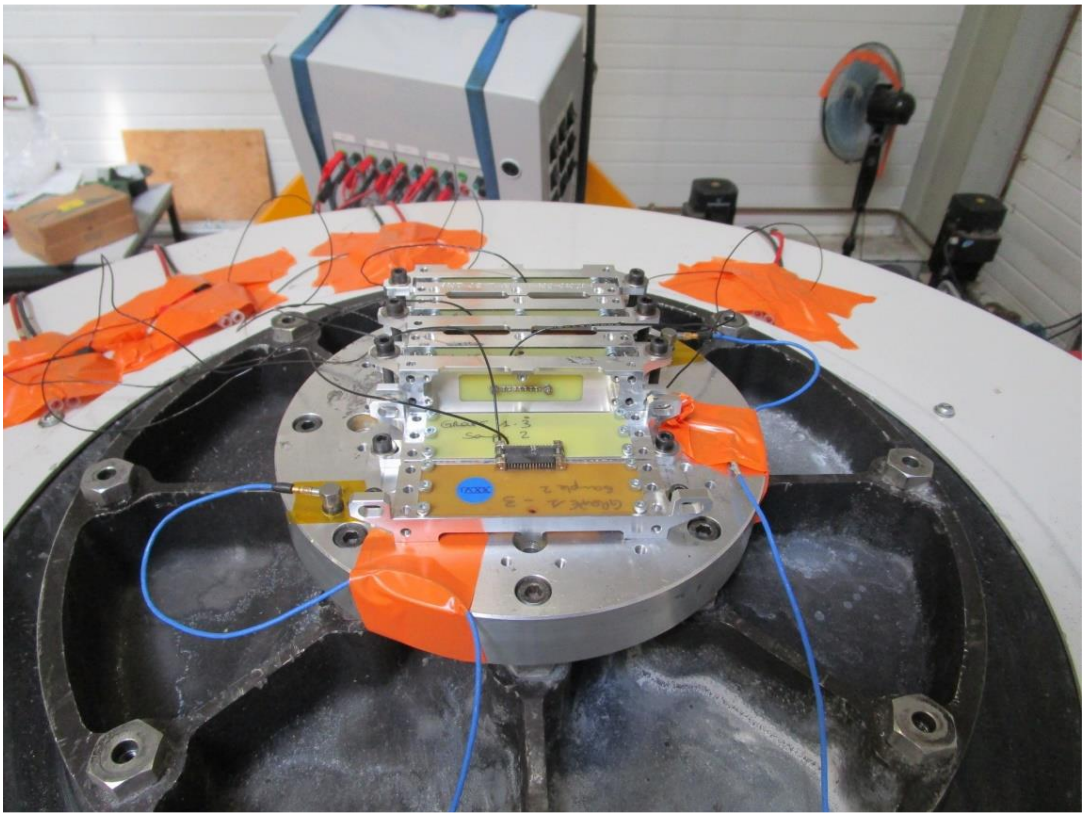
10 APPENDIX

Internal use only ?			
YES	☐	NO	☒

10.1 The Laboratory Advice

10.2 SPATIAL REFERENCE DEFINITION AND FIXATION

The equipment is rigidly fixed on a tool provided by NICOMATIC Company.
This tool is fastened on a disc or a square provided by ADETESTS Company which is fixed on the electrodynamics shaker of ADETESTS Company.

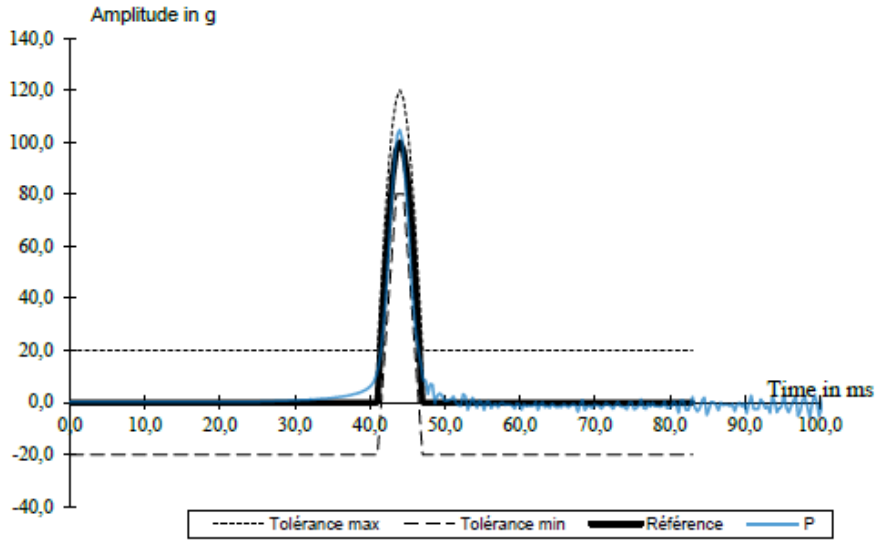


10.3 MECHANICAL CURVES

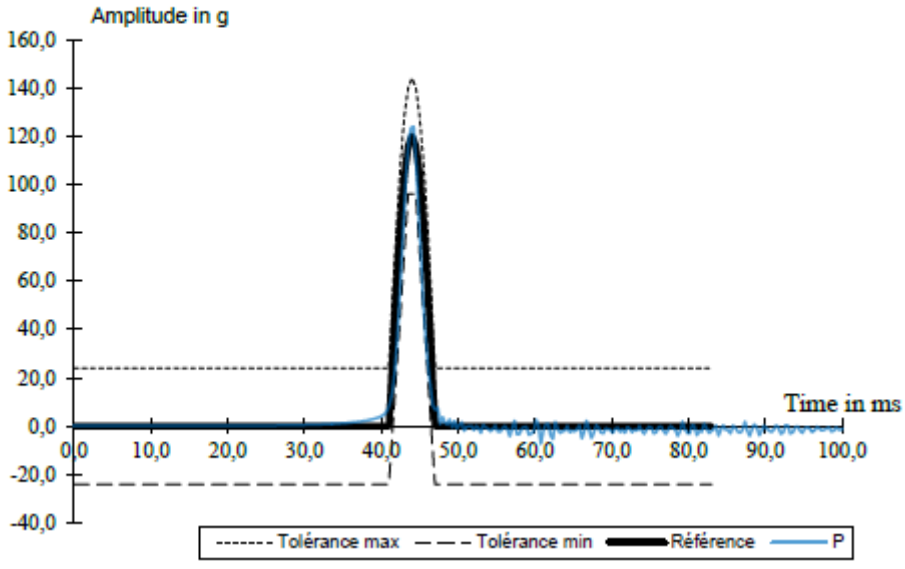
Tolerance for Shocks: see standard EIA-364-27B7

Shocks test :

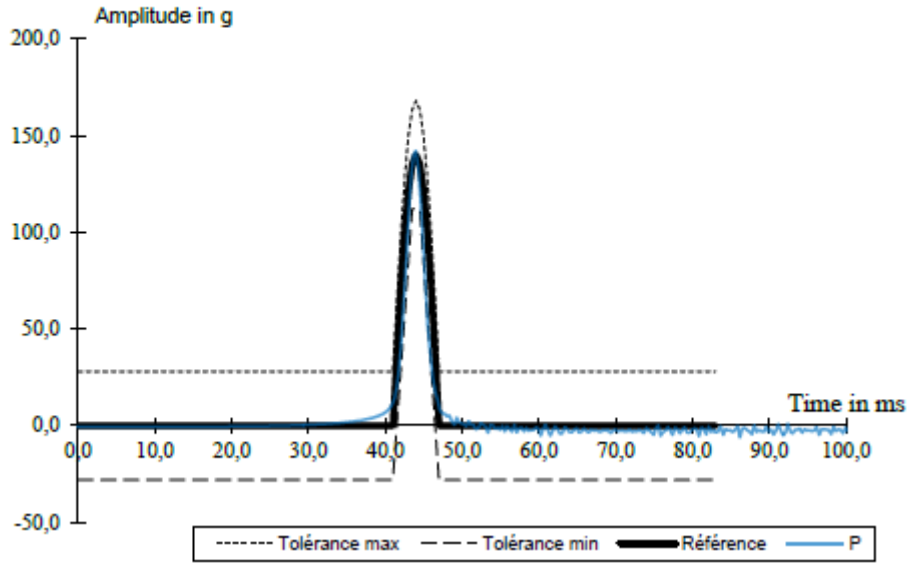
Shock test 100g 6ms :



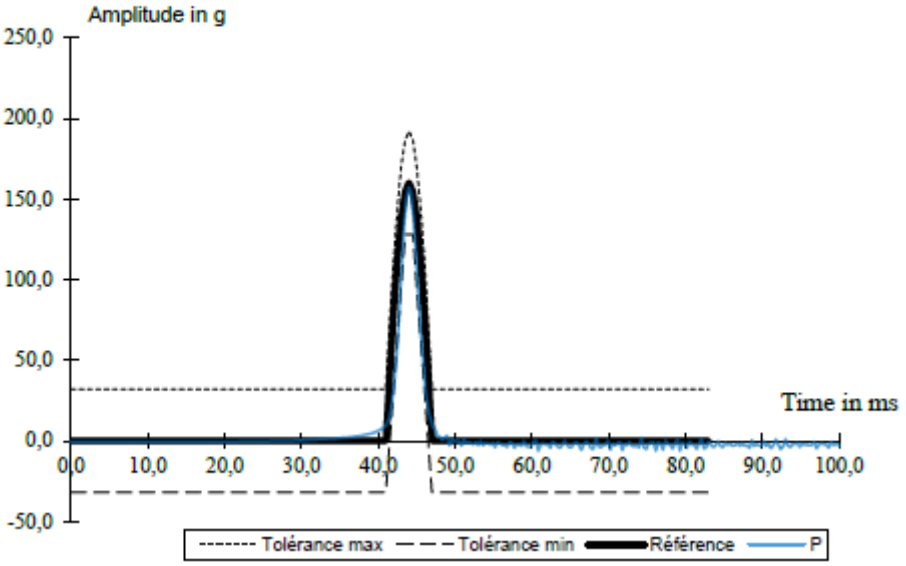
Shock test 120g 6ms :



Shock test 140g 6ms :



Shock test 160g 6ms :



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