

KING DESIGN INDUSTRIAL CO., LTD.

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VIBRATION TEST LABORATORY<http://www.kdi.tw><http://www.vibration.com.tw>E-mail: service@kdi.tw**TESTING / INSPECTION REPORT**

REPORT NO : VT-170915-2

COMPANY : Apacer Technology Inc.

ADDRESS : 1F., No.32, Zhongcheng Rd., Tucheng Dist.,
New Taipei City 236, Taiwan (R.O.C)

TEL : 886-2-2267-8000

FAX : 886-2-2267-2261

SPECIMEN : MO-297 SSD

DATE OF RECEIVED : 2017/09/05

DATE OF TESTED : 2017/09/07

TEST / INSPECTION ITEMS : Vibration / Shock

REMARKS :

- The laboratory is accredited by ISO/IEC 17025 General Requirements for the Competence of Calibration and Testing Laboratory.
- The results only apply to the device under test.
- This report is 26 pages, and no part of it may be abstracted or reproduced.

Test Engineer : <i>Peter Peng</i>	
Approval Signatory : <i>David Lee</i>	Laboratory Head : <i>Hsin Jui Chang</i>

金頓科技實驗室

TESTING / INSPECTION REPORT

TESTING EQUIPMENT :

- | | |
|-------------------------|---|
| 1.Vibration Tester | : KING DESIGN KD-9363EM-600F2K-50N120,
S/N : KDS11054783 |
| 2.Controller | : DACTRON COMET DSP, S/N : 8208367 |
| 3.Control Accelerometer | : Wilcoxon Research WR-777, S/N : 4208 |
| 4.Shock Testing System | : KING DESIGN DP-1200-60, S/N : R2110086489 |
| 5.Controller | : DAS-105, S/N : 263210255 |
| 6.Accelerometer | : B&K 4398, S/N : 2209044 |
| 7.Shock Testing System | : KING DESIGN DP-1200-18, S/N : KDS02197998 |
| 8.Controller | : DAS-105, S/N : 263210255 |
| 9.Accelerometer | : DYTRAN Model : 3200B6 S/N : 8594 |

TEST ENVIRONMENT :

- | | |
|-------------------|----------------------|
| Temperature | : 25°C (25±10°C) |
| Relative Humidity | : 65% RH (50±25% RH) |

SPECIMEN :

- | | |
|----------|-------------|
| Model | : SM230-297 |
| Quantity | : 1 unit |

TESTING / INSPECTION REPORT

TEST SPECIFICATION(1) :

Comply with MIL-STD 810G 514.6 category 7

Random Vibration test (Non-Operating)

Frequency : 15 Hz to 2,000 Hz

Accelerate : 4.02 g rms

P.S.D. : 0.01 g²/Hz (15Hz)

0.01 g²/Hz (105.94Hz)

+6 dB/Oct (105.94Hz to 150Hz)

0.02 g²/Hz (150Hz)

0.02 g²/Hz (500Hz)

-6 dB/Oct (500Hz to 2,000Hz)

0.0013 g²/Hz (2,000Hz)

Test Axis : X, Y, Z axis

Test Time : 1 hr (Each axis)

Total Test Time : 3 hrs

TEST SPECIFICATION(2) :

Comply with MIL-STD 810G 514.6 category 24

Random Vibration test (Operating)

Frequency : 20 Hz to 2,000 Hz

Accelerate : 7.69 g rms

P.S.D. : 0.04 g²/Hz (20Hz to 1,000Hz)

: -6 dB/Oct (1,000Hz to 2,000Hz)

Test Axis : X, Y, Z axis

Test Time : 1 hr (Each axis)

Total Test Time : 3 hrs

TESTING / INSPECTION REPORT

TEST SPECIFICATION(3) :

Comply with MIL-STD-883K Method 2002.5

Wave Form : Half sine wave (Non-Operating)
 Acceleration : 1,500 g
 Duration Time : 0.5 mS
 No. of Shock : Each axis 3 times
 Shock Direction : $\pm X$, $\pm Y$, $\pm Z$ axis

TEST SPECIFICATION(4) :

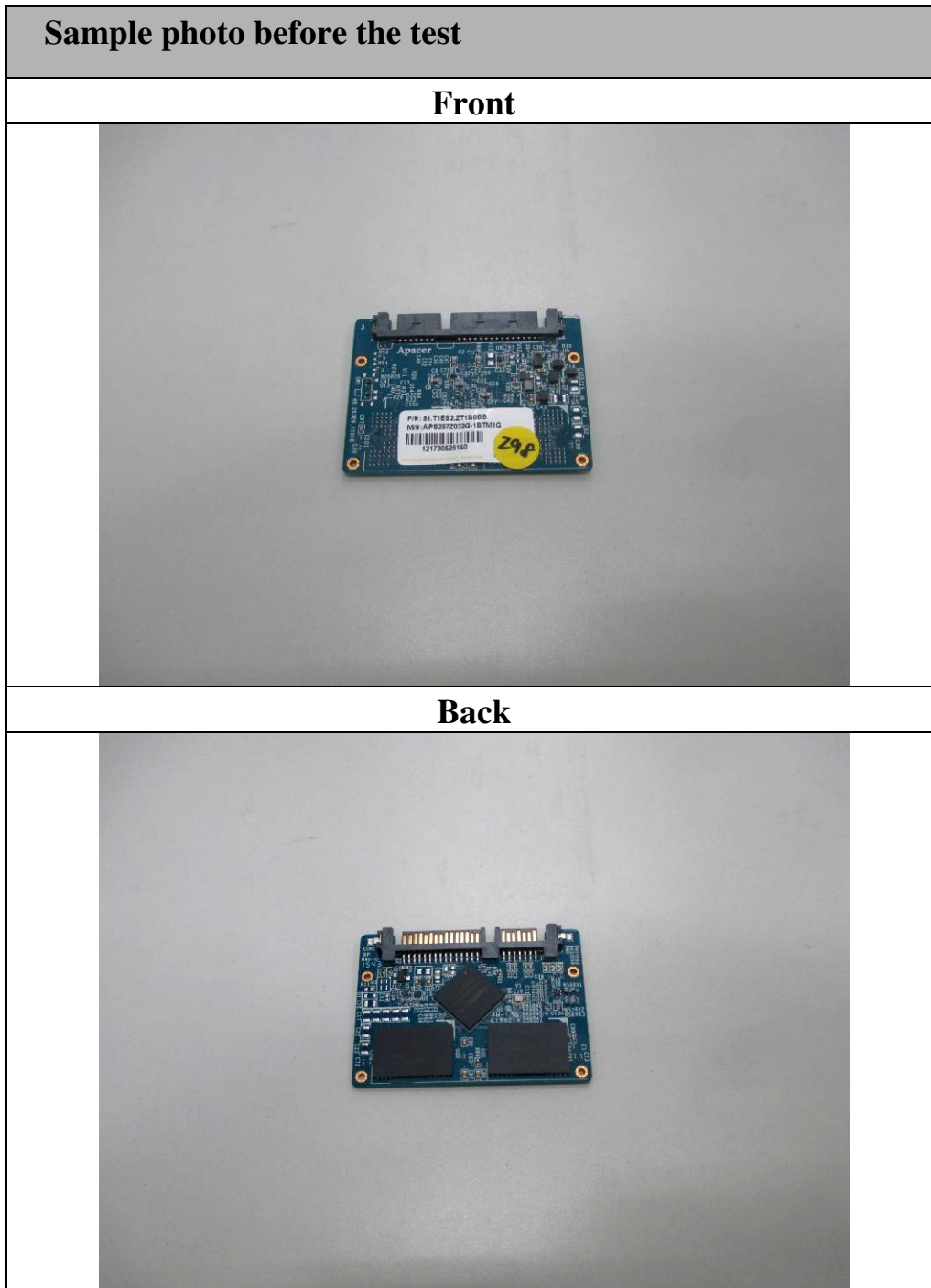
As per applicant's requirement

Wave Form : Half sine wave (Operating)
 Acceleration : 50 g
 Duration Time : 11 mS
 No. of Shock : Each axis 3 times
 Shock Direction : $\pm X$, $\pm Y$, $\pm Z$ axis

TEST RESULT :

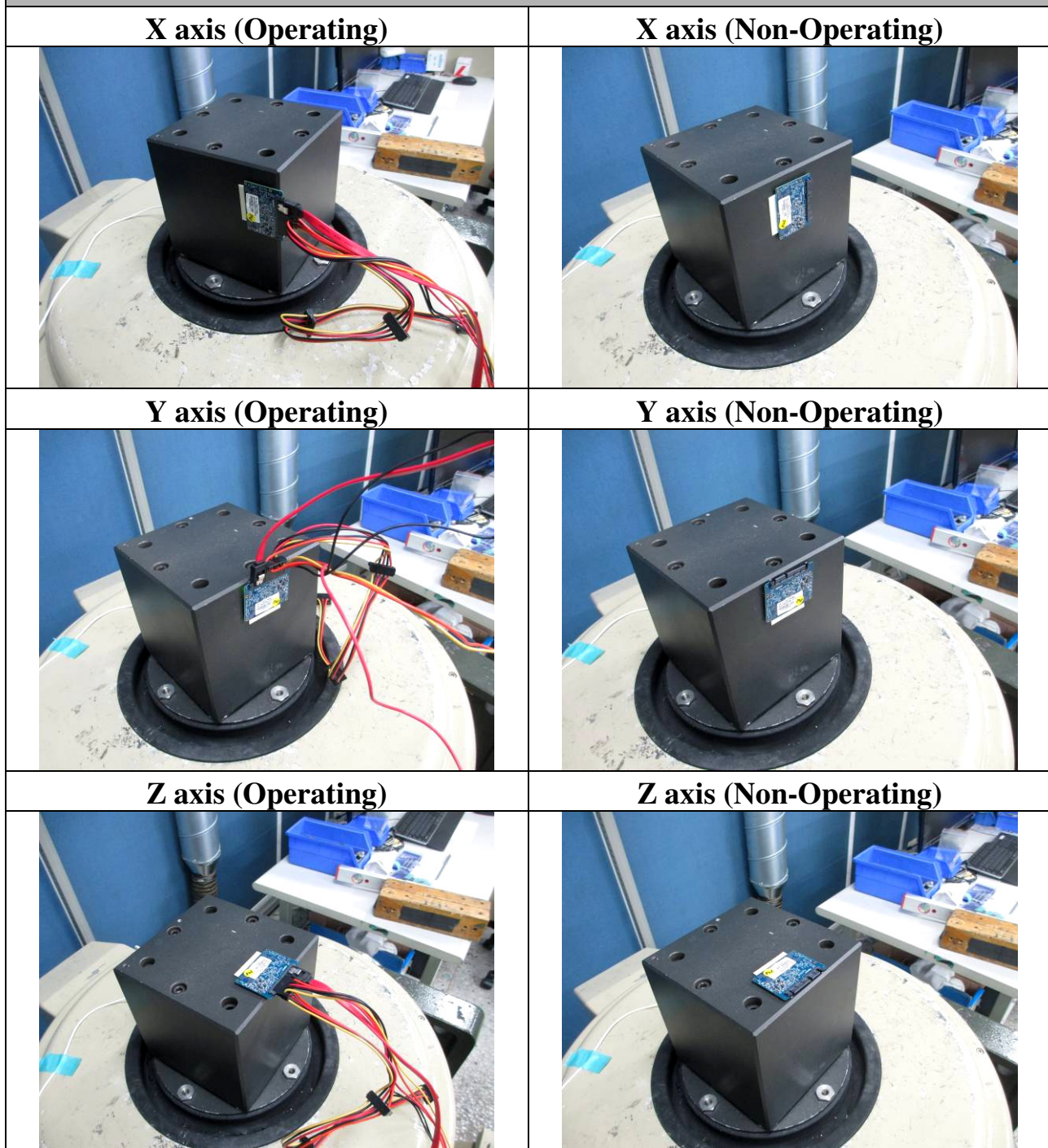
Describe	PASS	FAIL	Non-Judgment
Function judgment ⁽¹⁾	√	---	---
Appearance check ⁽²⁾	√	---	---
(1)--Burn in function was normal after the test.			
(2)--No visible damages were found after the test.			

TESTING / INSPECTION REPORT



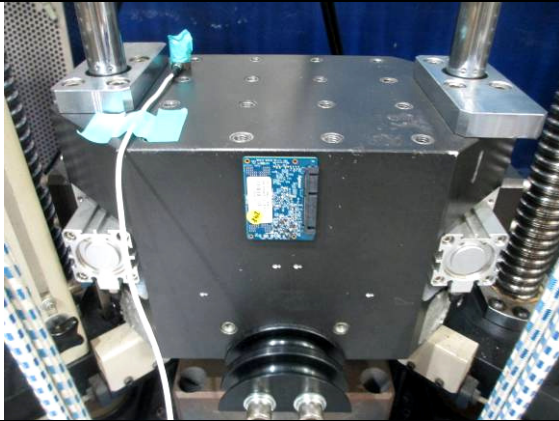
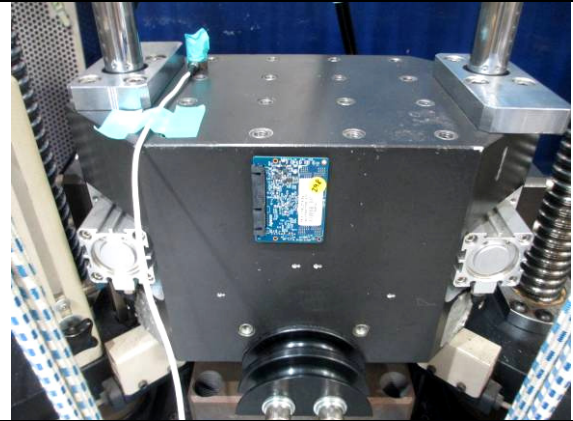
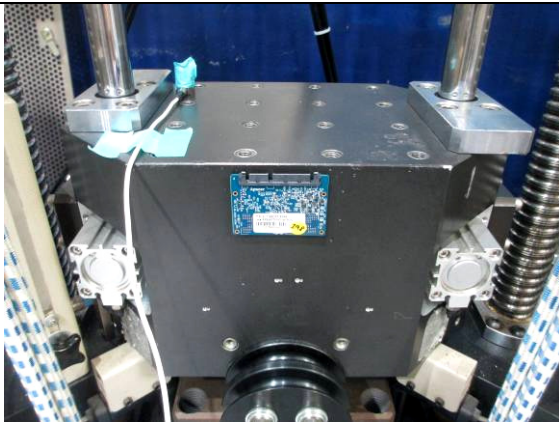
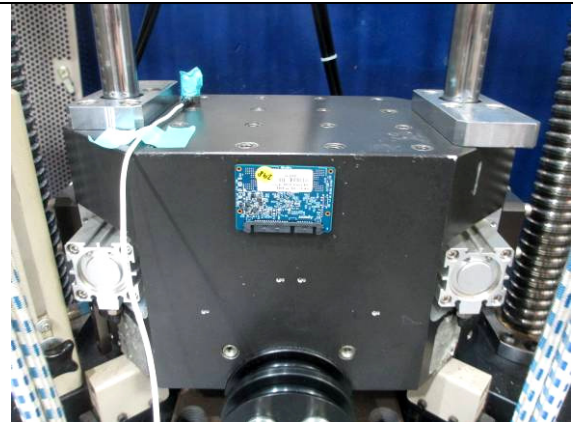
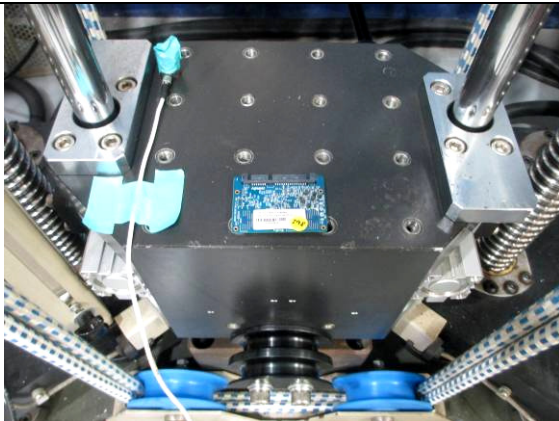
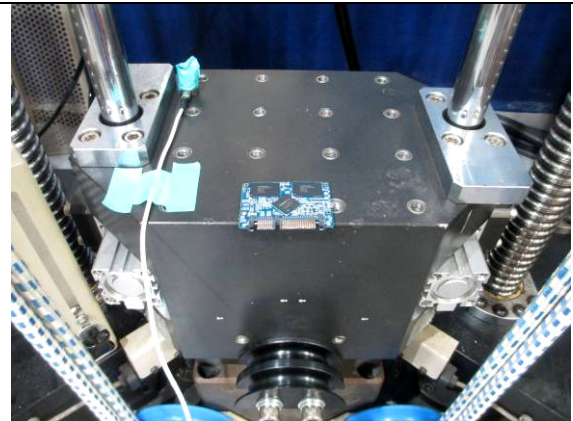
TESTING / INSPECTION REPORT

Vibration testing photos

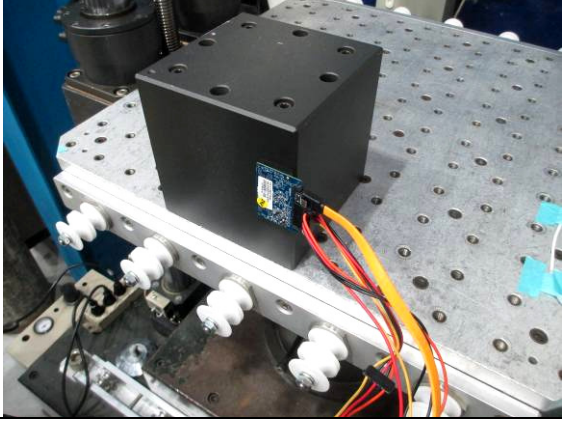
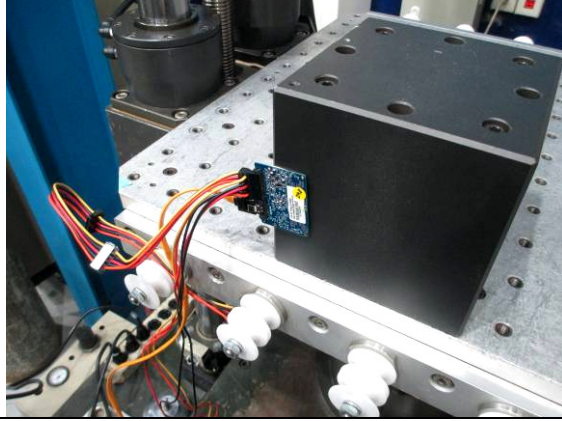
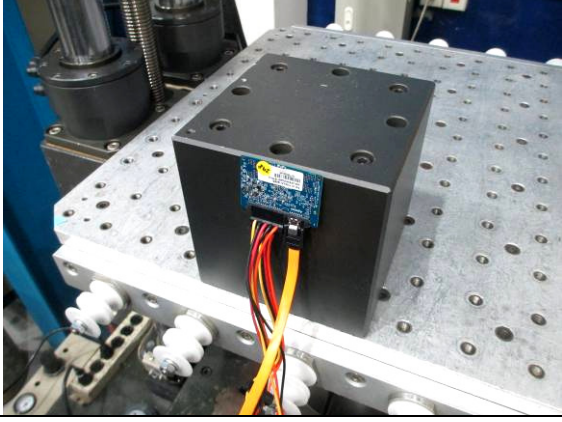
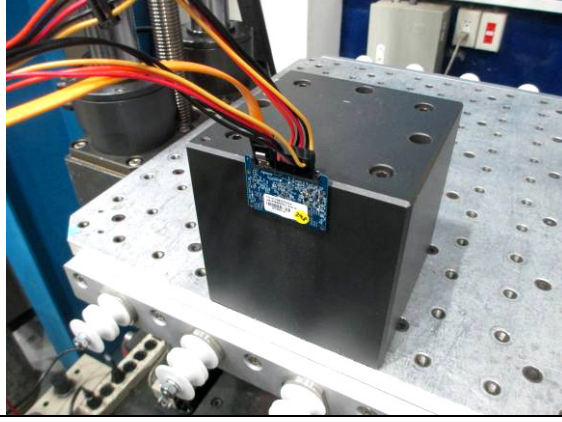
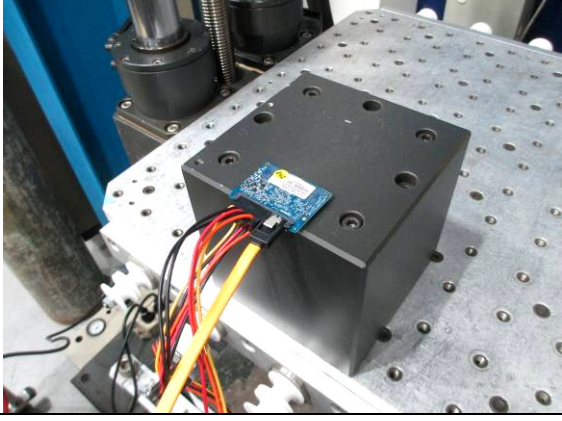
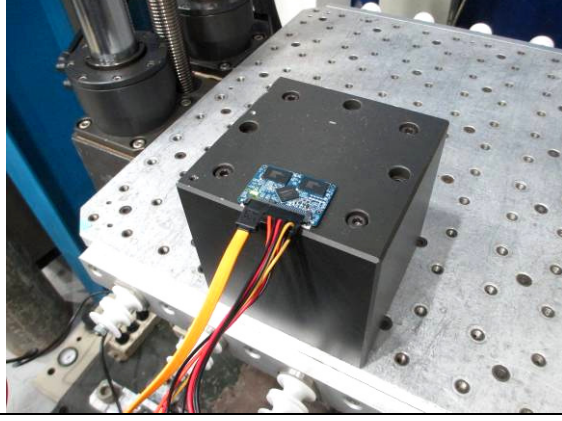


TESTING / INSPECTION REPORT

Shock testing photos (Non-operating)

+X axis

-X axis

+Y axis

-Y axis

+Z axis

-Z axis


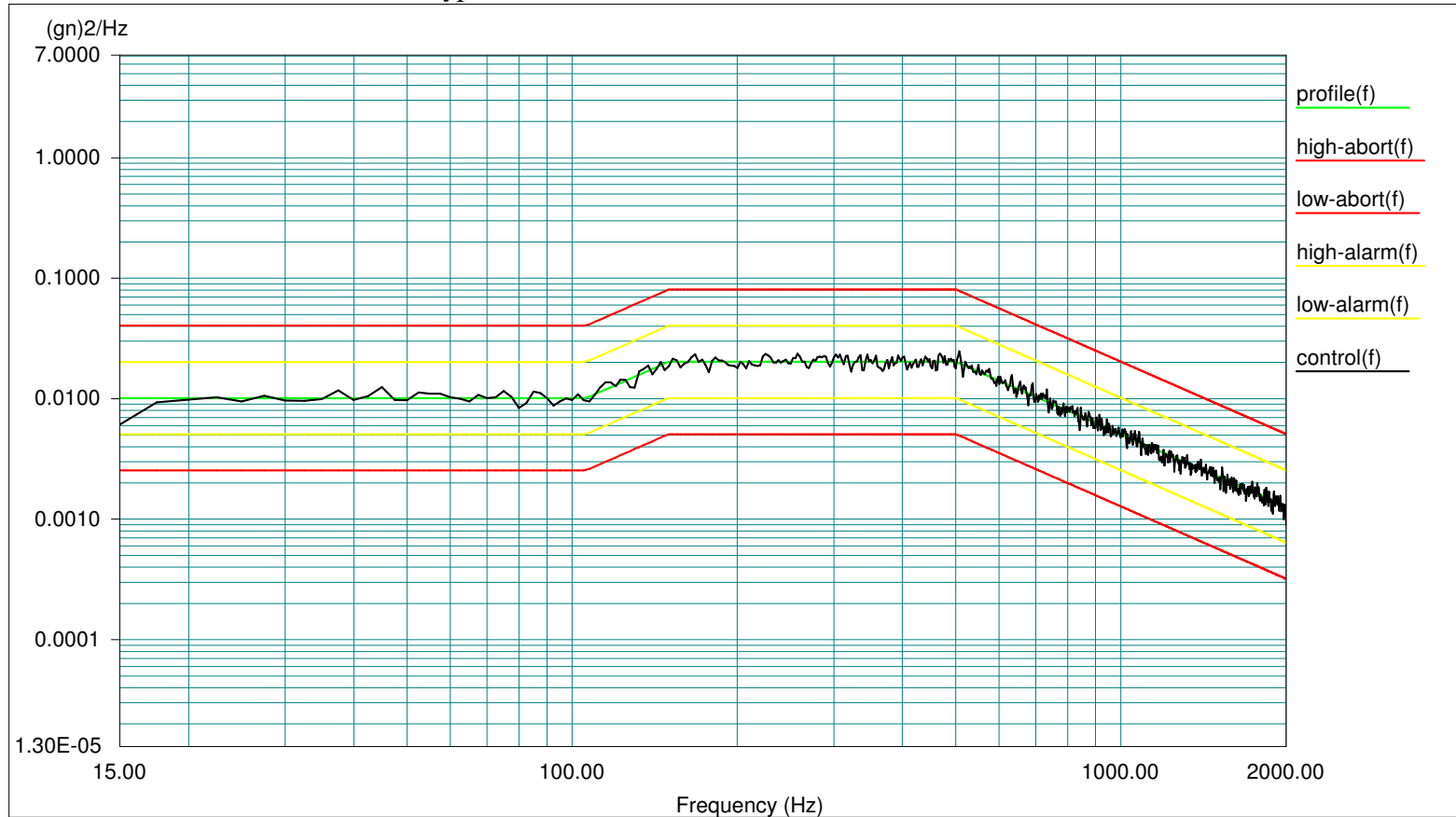
TESTING / INSPECTION REPORT

Shock testing photos (Operating)	
+X axis	-X axis
	
+Y axis	-Y axis
	
+Z axis	-Z axis
	

X axis

Project File Name: 15-2000Hz 4.02grms.prj

Profile Name: Default Test Type: Random Run Folder: .\RunFolder



Level: 100 %

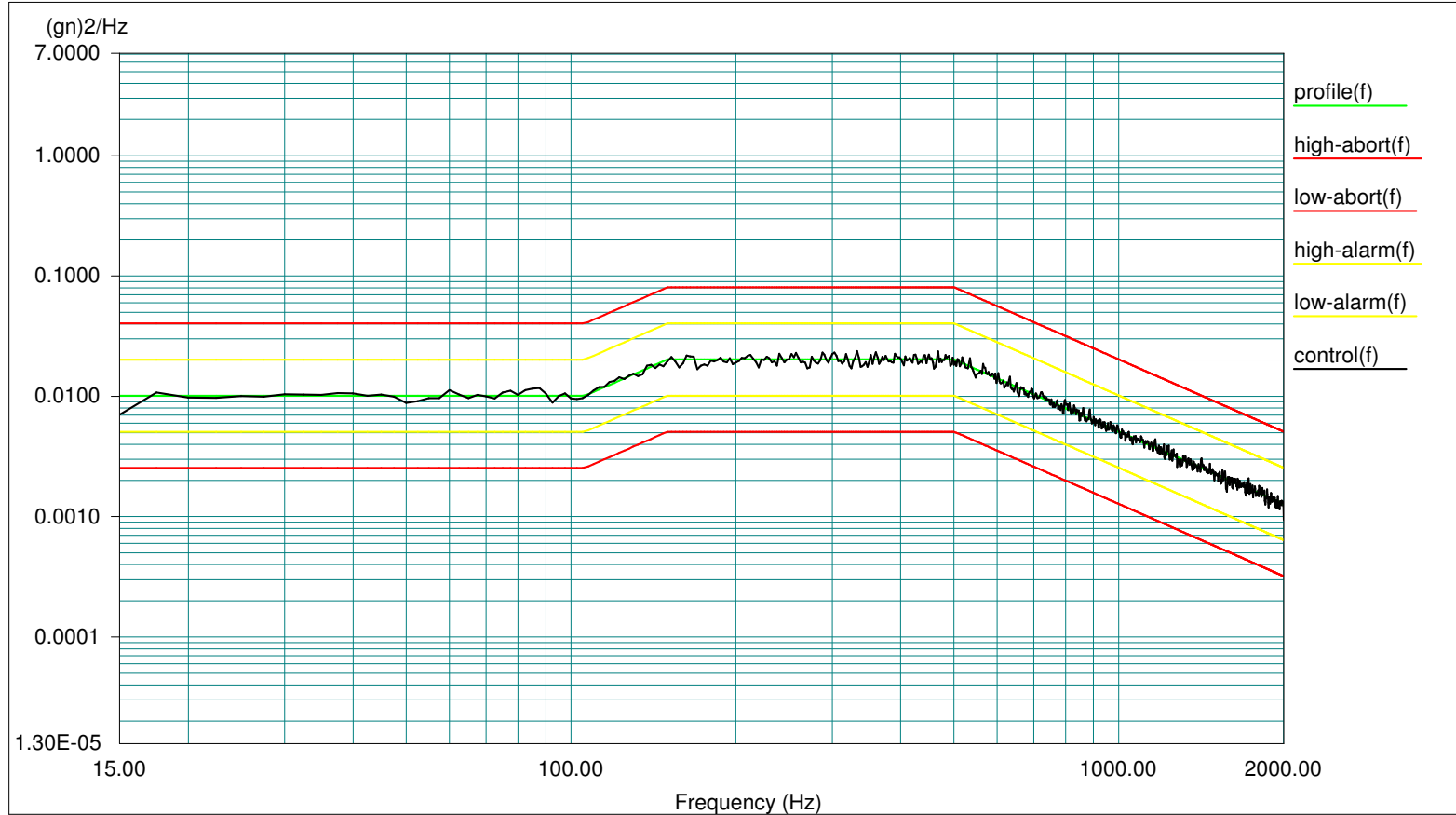
Control RMS: 4.028811 gn Full Level Elapsed Time: 01:00:00 Lines: 800 Frame Time: 0.400000 Seconds

Demand RMS: 4.021014 gn Remaining Time: 00:00:00 DOF: 154 dF: 2.500000 Hz

Y axis

Project File Name: 15-2000Hz 4.02grms.prj

Profile Name: Default Test Type: Random Run Folder: .\RunFolder



Level: 100 %

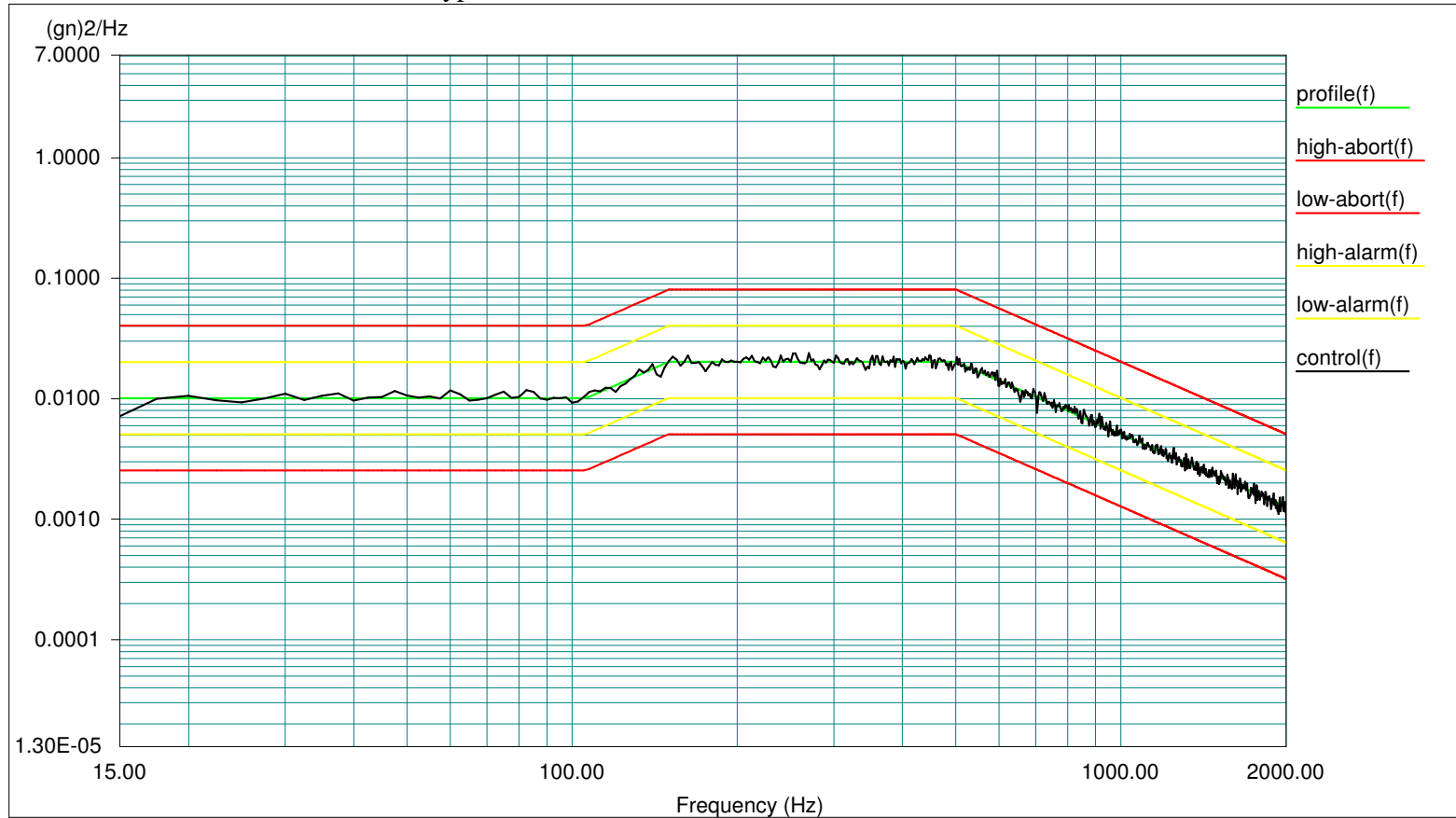
Control RMS: 4.014578 gn Full Level Elapsed Time: 01:00:00 Lines: 800 Frame Time: 0.400000 Seconds

Demand RMS: 4.021014 gn Remaining Time: 00:00:00 DOF: 154 dF: 2.500000 Hz

Z axis

Project File Name: 15-2000Hz 4.02grms.prj

Profile Name: Default Test Type: Random Run Folder: .\RunFolder



Level: 100 %

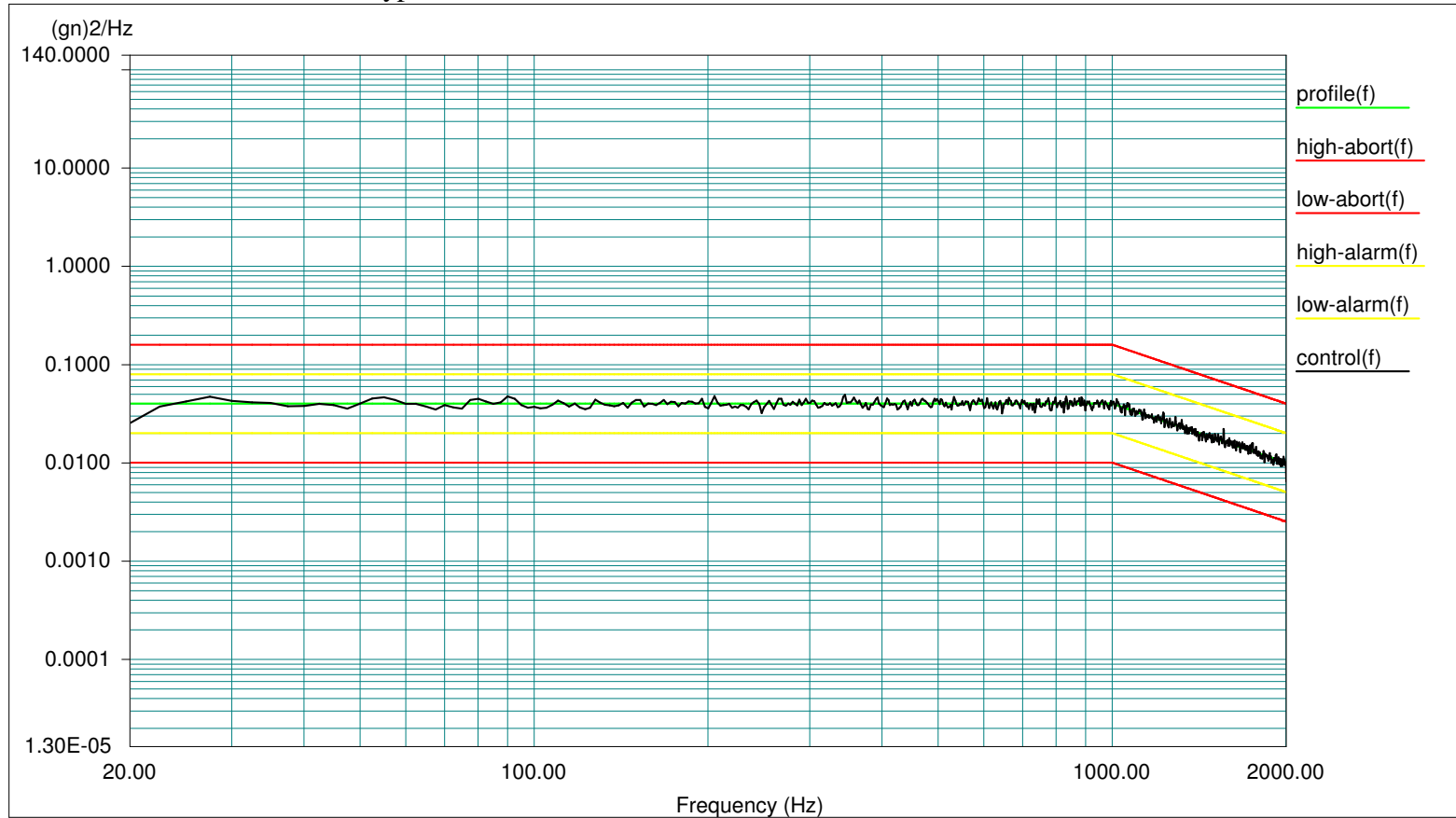
Control RMS: 4.036094 gn Full Level Elapsed Time: 01:00:00 Lines: 800 Frame Time: 0.400000 Seconds

Demand RMS: 4.021014 gn Remaining Time: 00:00:00 DOF: 154 dF: 2.500000 Hz

X axis

Project File Name: 20-2000Hz 7.69g rms.prj

Profile Name: Test Type: Random Run Folder: .\RunDefault



Level: 100 %

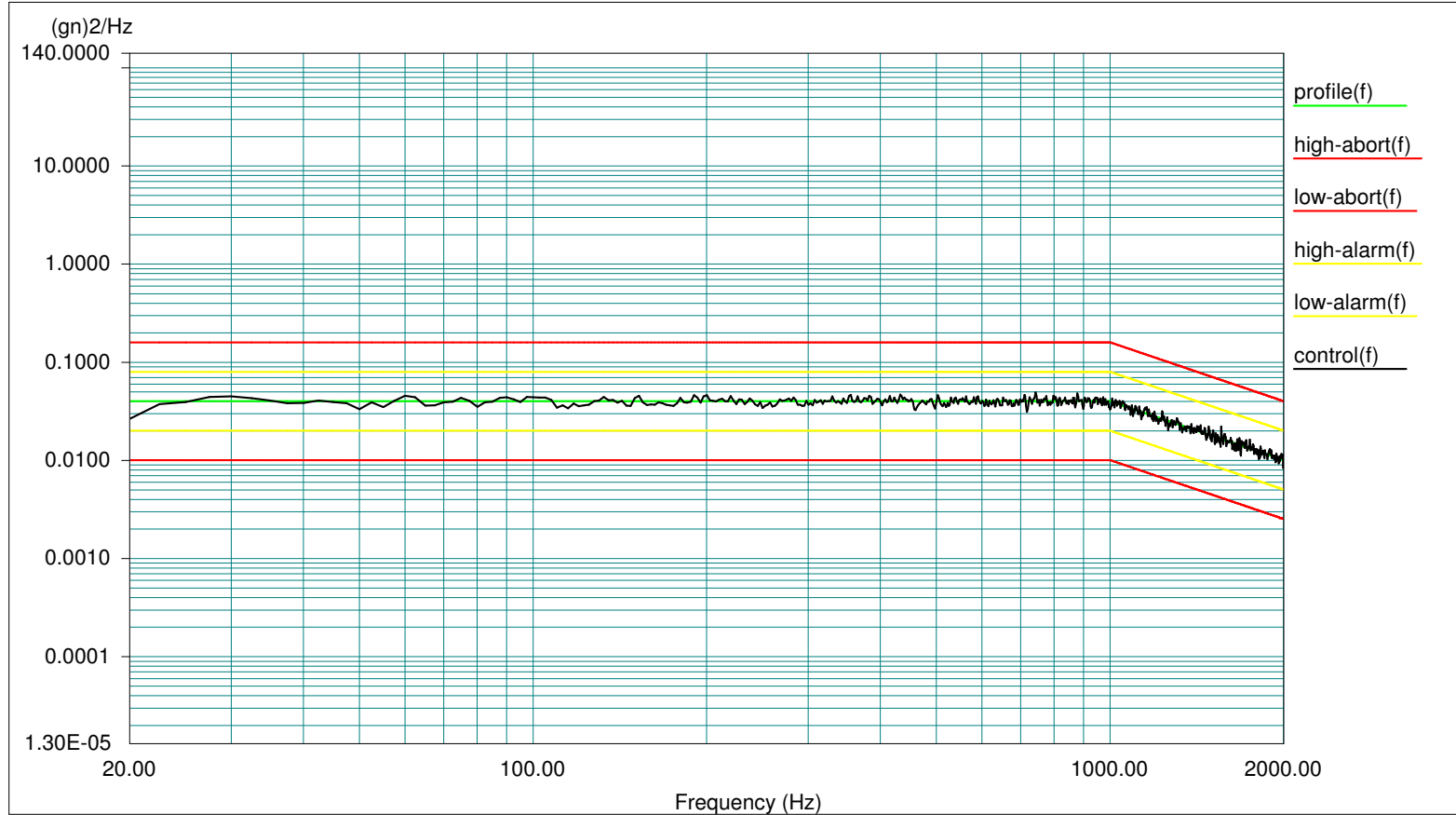
Control RMS: 7.717746 gn Full Level Elapsed Time: 01:00:00 Lines: 800 Frame Time: 0.400000 Seconds

Demand RMS: 7.691833 gn Remaining Time: 00:00:00 DOF: 154 dF: 2.500000 Hz

Y axis

Project File Name: 20-2000Hz 7.69g rms.prj

Profile Name: Test Type: Random Run Folder: .\RunDefault



Level: 100 %

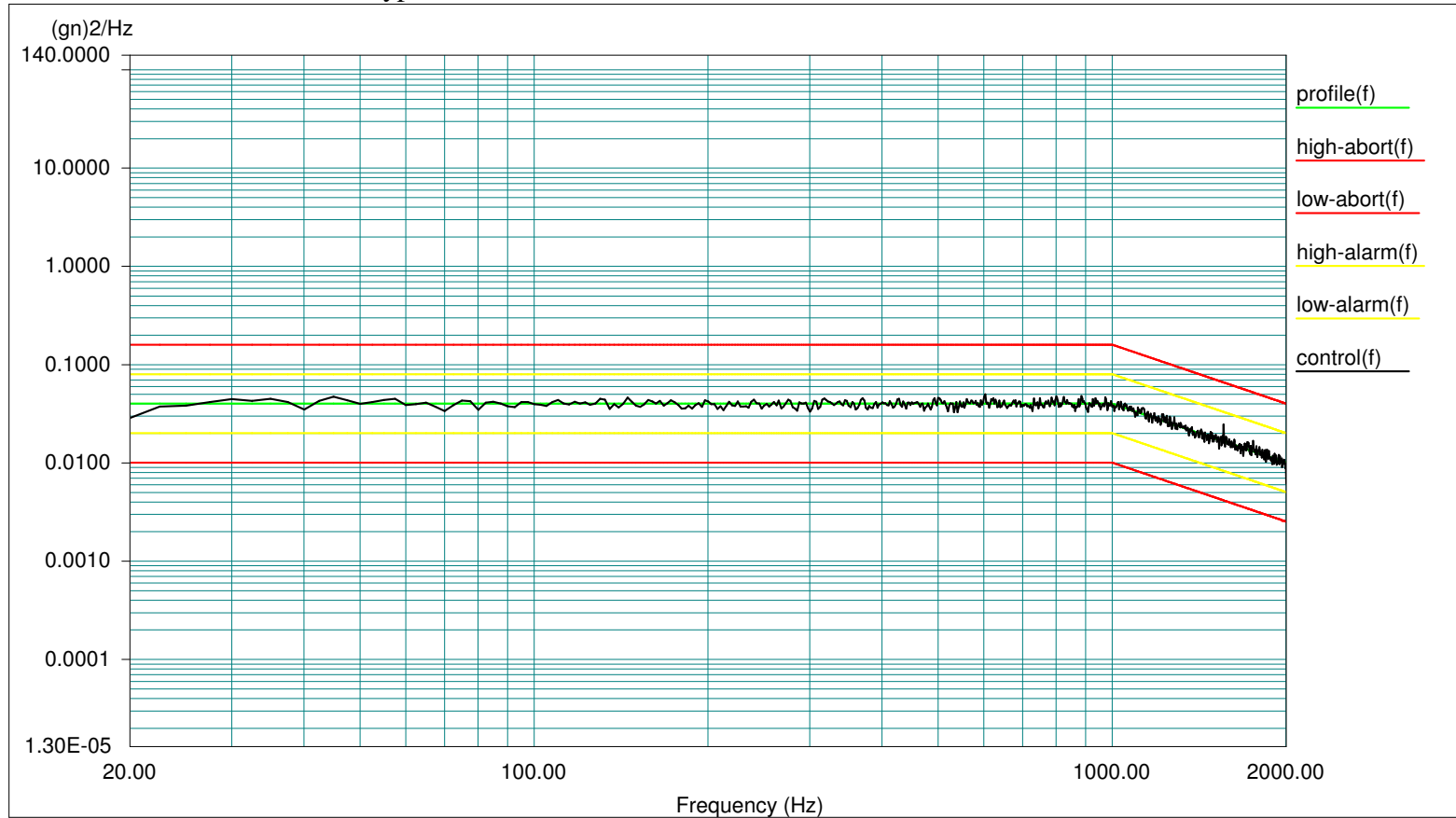
Control RMS: 7.701673 gn Full Level Elapsed Time: 01:00:00 Lines: 800 Frame Time: 0.400000 Seconds

Demand RMS: 7.691833 gn Remaining Time: 00:00:00 DOF: 154 dF: 2.500000 Hz

Z axis

Project File Name: 20-2000Hz 7.69g rms.prj

Profile Name: Test Type: Random Run Folder: .\RunDefault



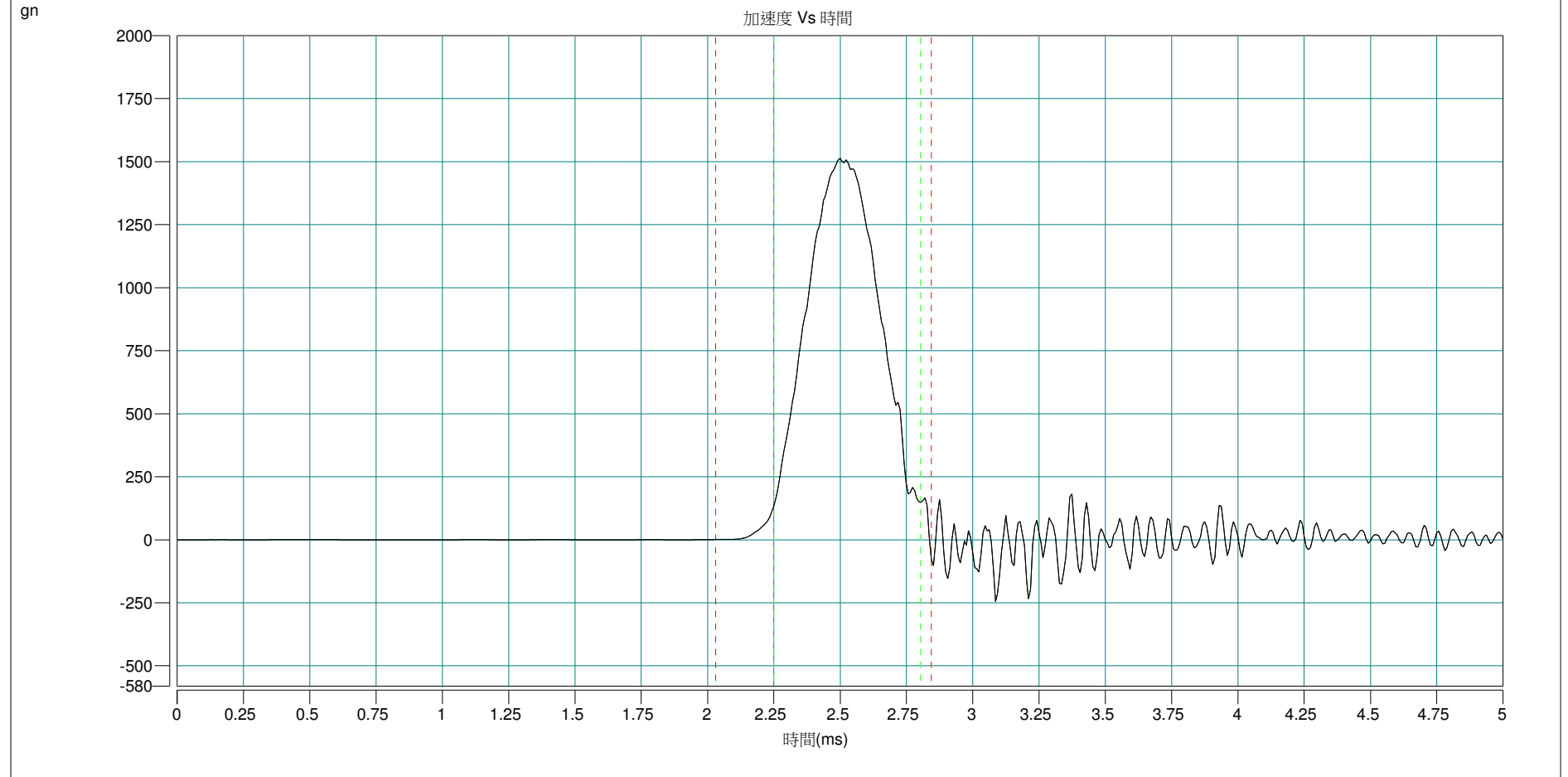
Level: 100 %

Control RMS: 7.714017 gn Full Level Elapsed Time: 01:00:00 Lines: 800 Frame Time: 0.400000 Seconds

Demand RMS: 7.691833 gn Remaining Time: 00:00:00 DOF: 154 dF: 2.500000 Hz

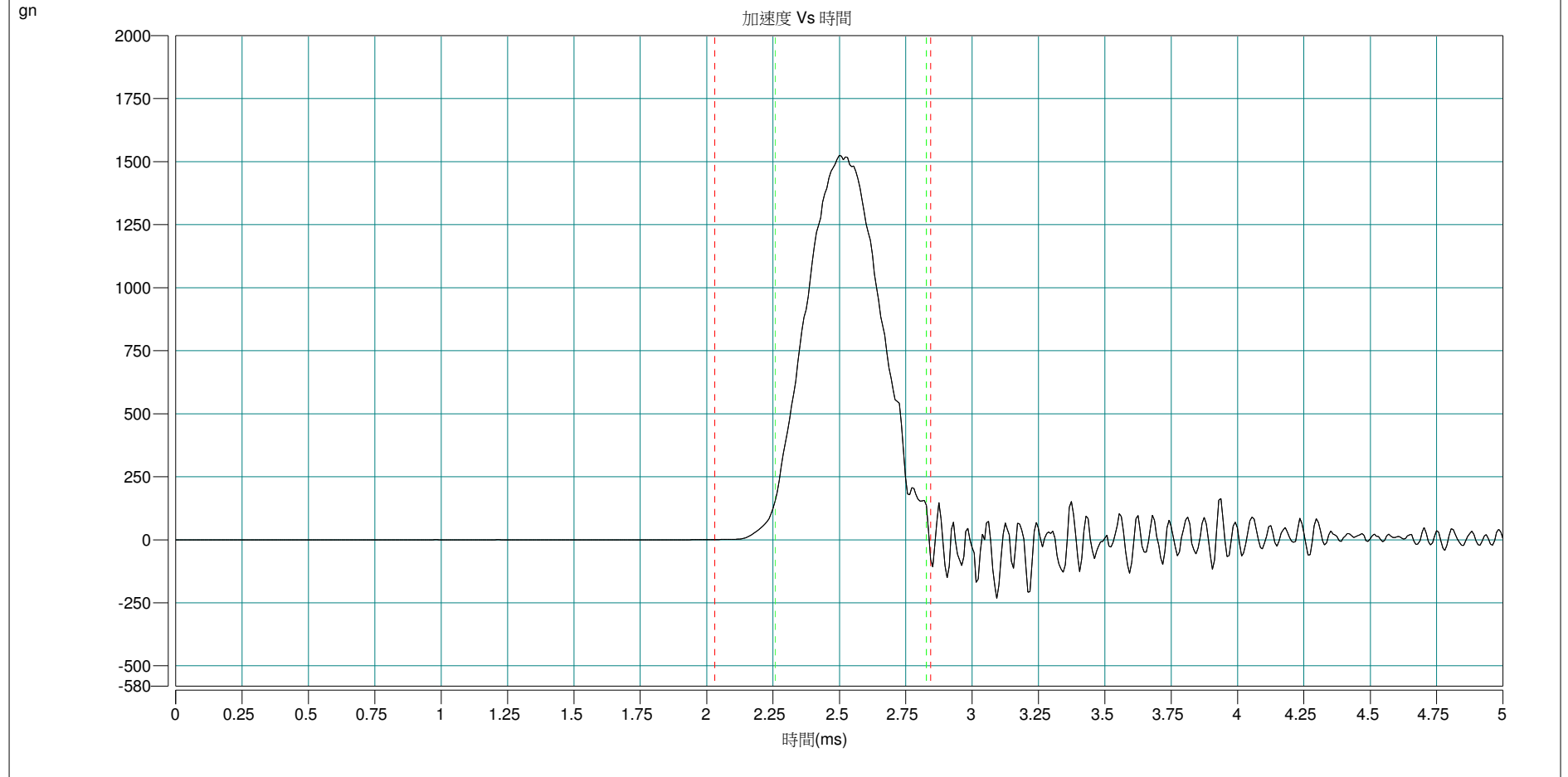
+X axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1513.72	0.54	194.60	2000.00	1513.72	-244.03



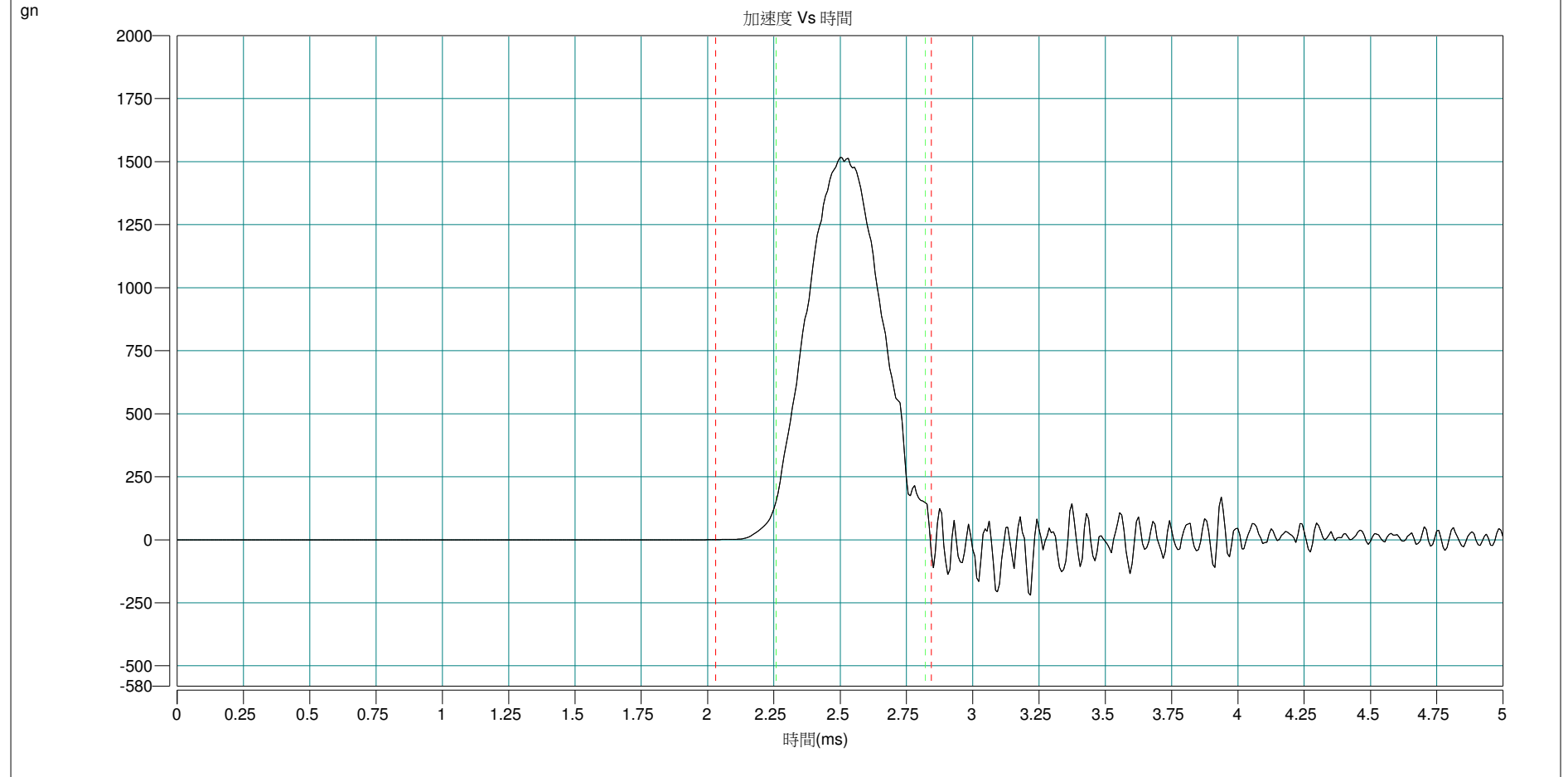
-X axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1525.46	0.56	195.97	2000.00	1525.46	-232.91



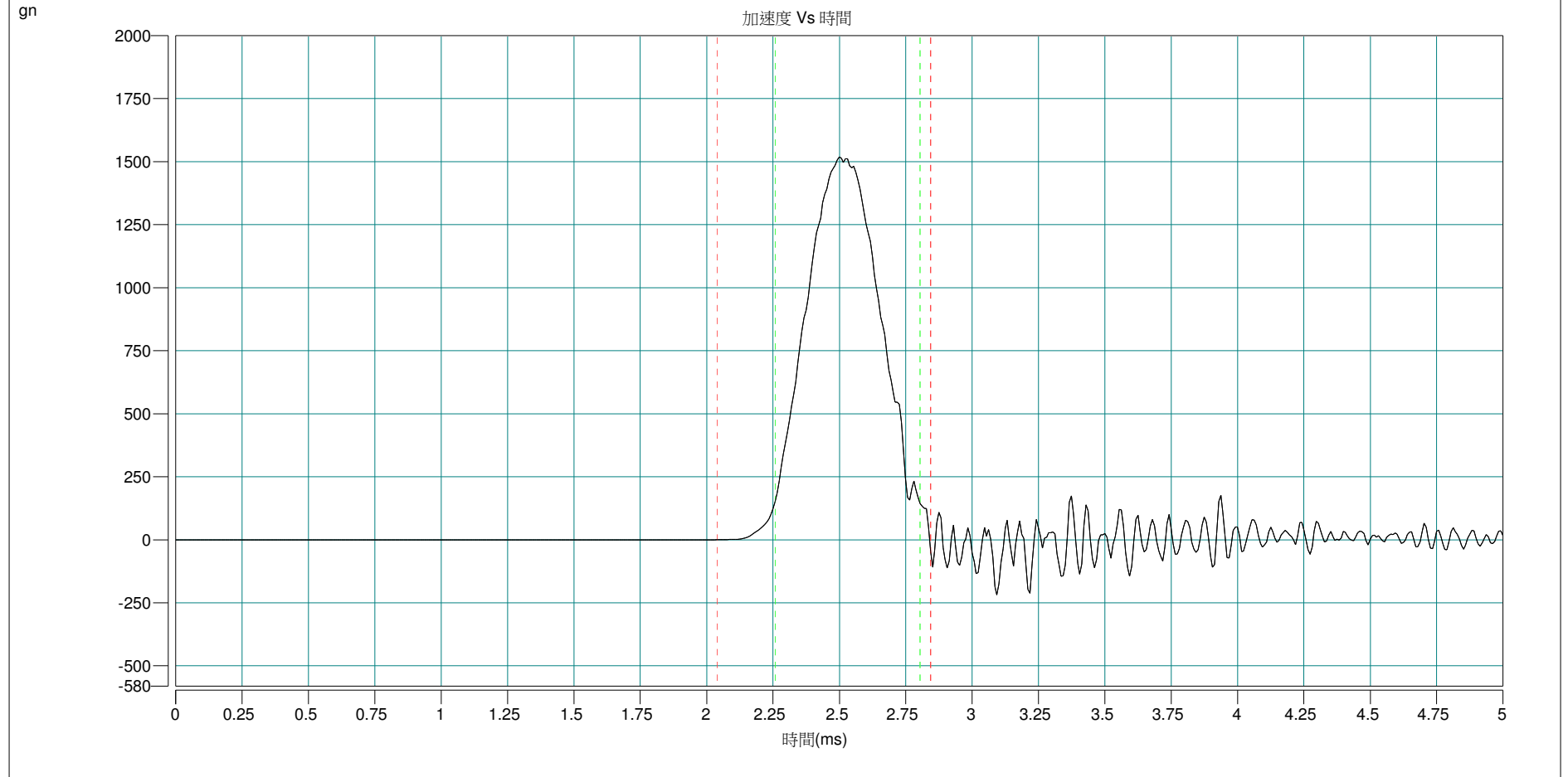
+Y axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1516.29	0.56	195.13	2000.00	1516.29	-220.79



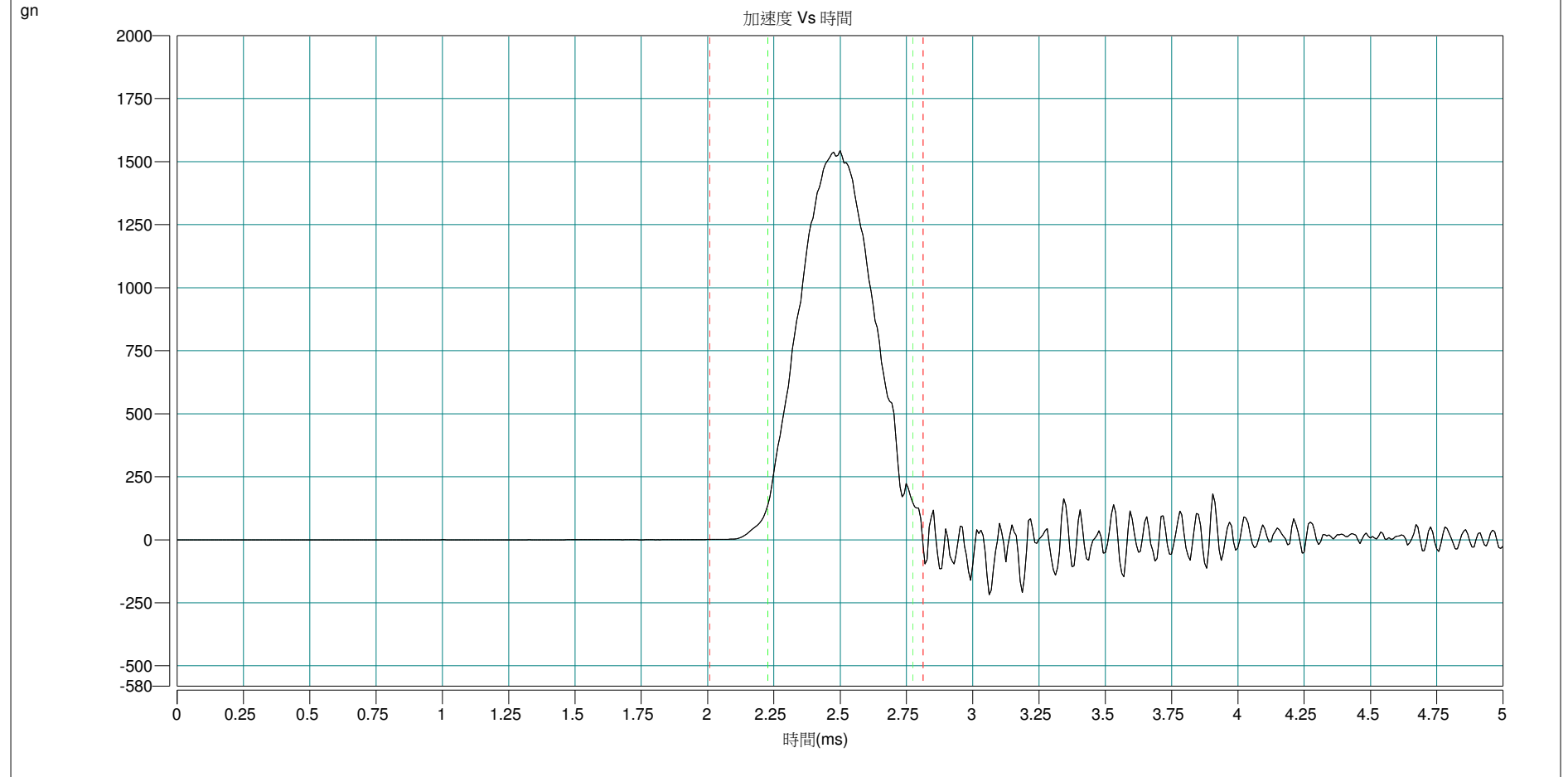
-Y axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1518.89	0.54	195.15	2000.00	1518.89	-218.52



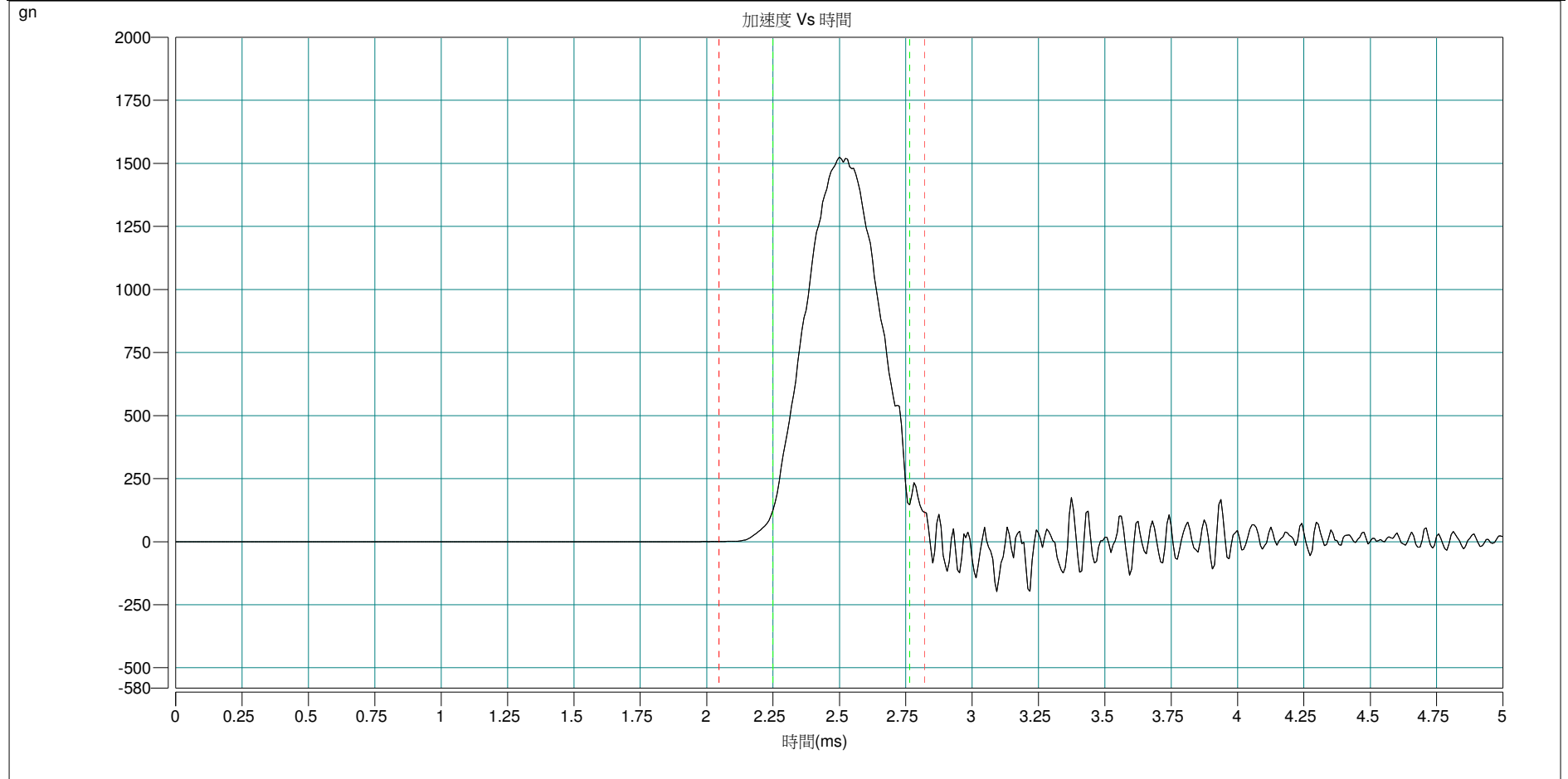
+Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1538.73	0.54	197.45	2000.00	1538.73	-217.85



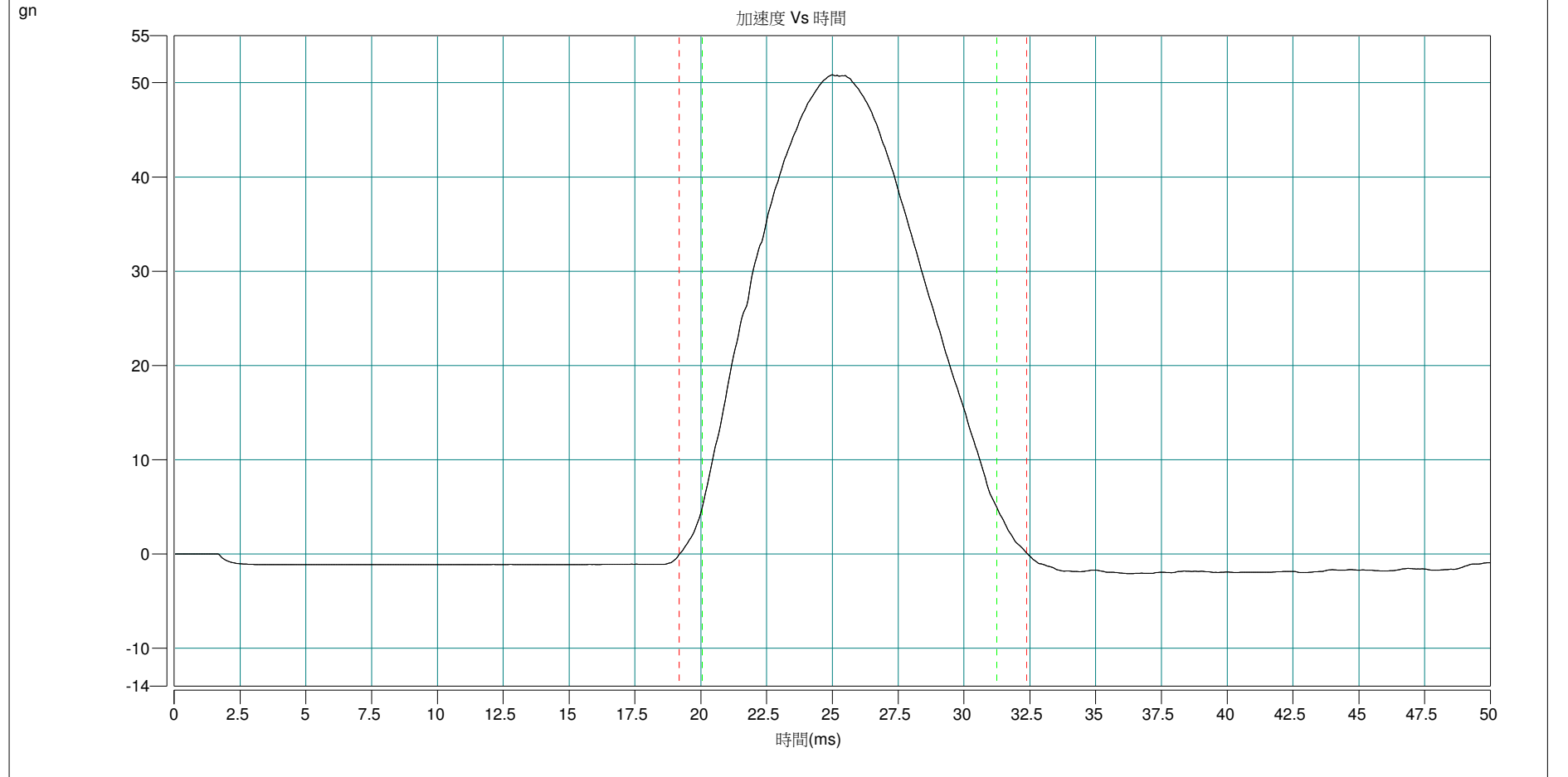
-Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1525.75	0.50	194.98	2000.00	1525.75	-198.33



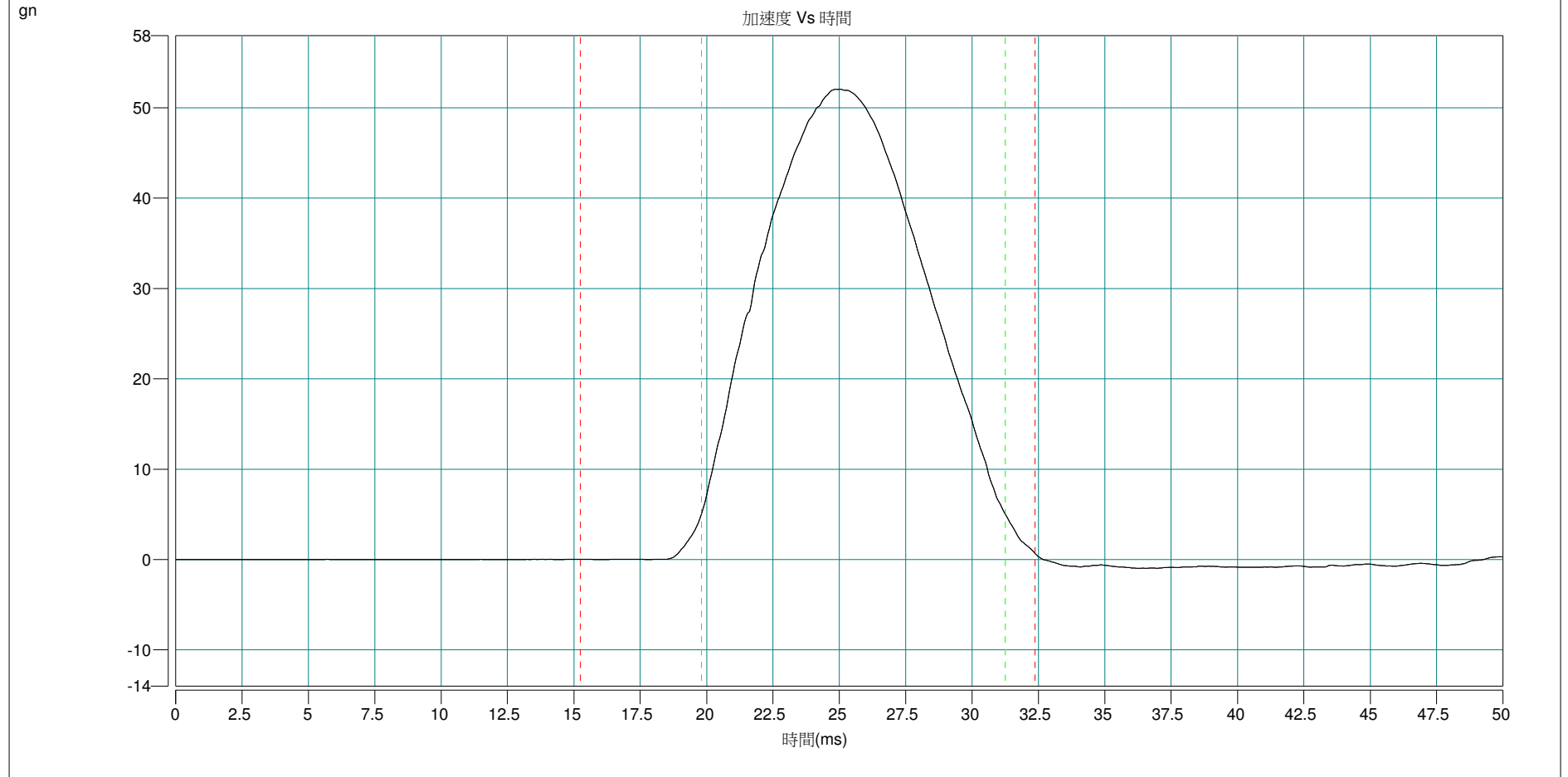
+X axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	50.86	11.15	3.57	500.00	50.86	-2.08



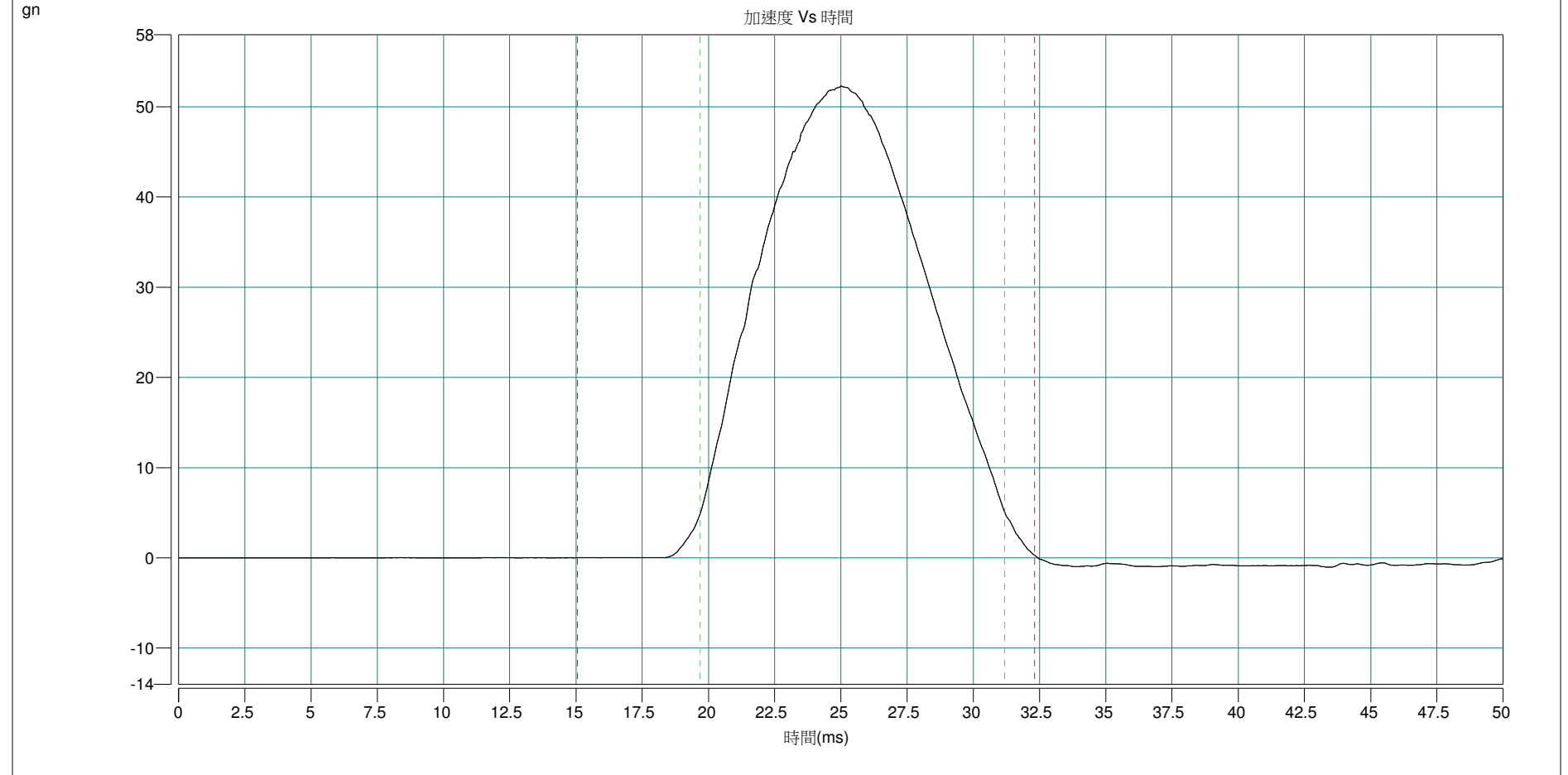
-X axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	52.08	11.39	3.72	500.00	52.08	-0.97



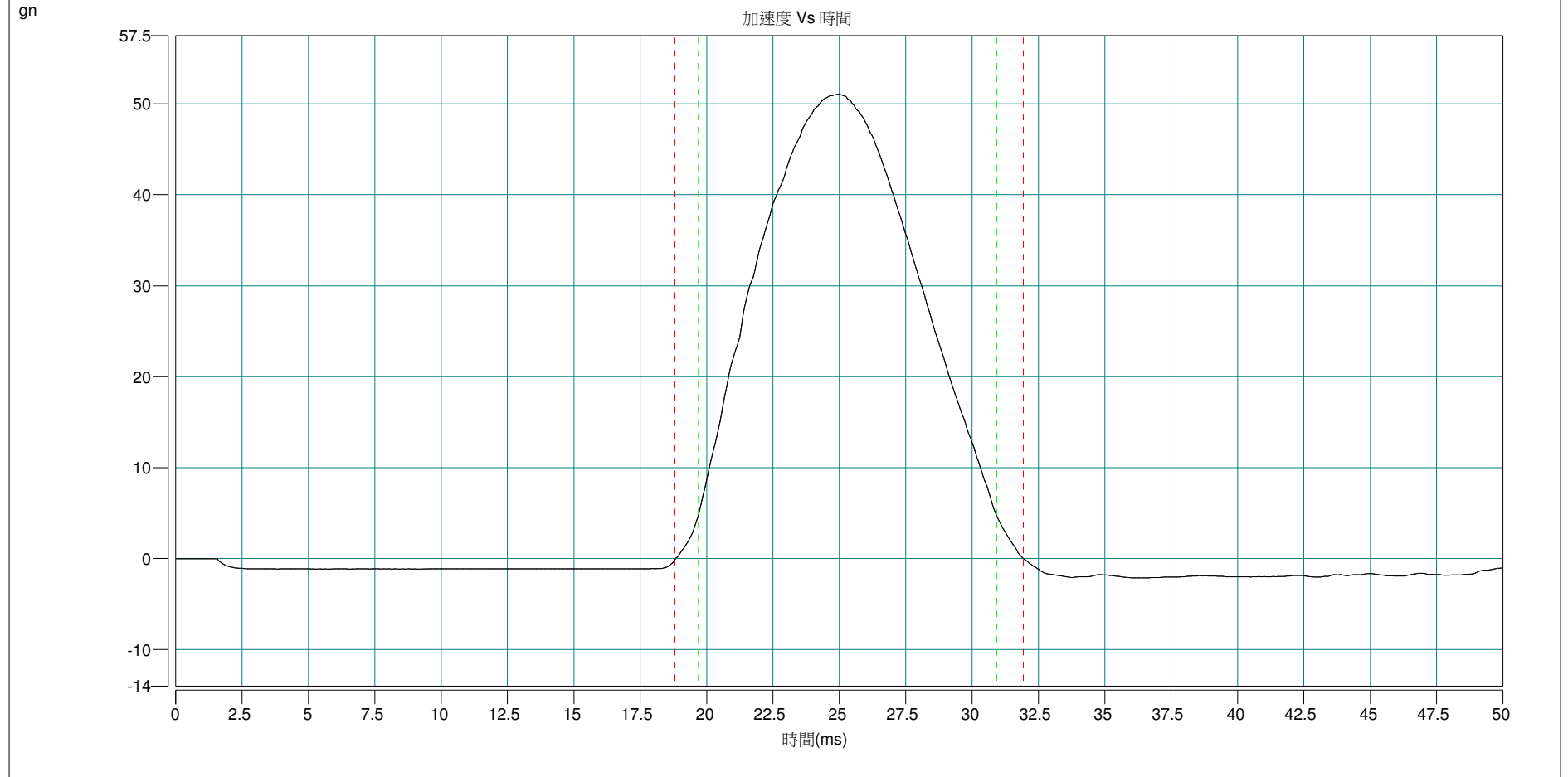
+Y axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	52.33	11.44	3.75	500.00	52.33	-1.03



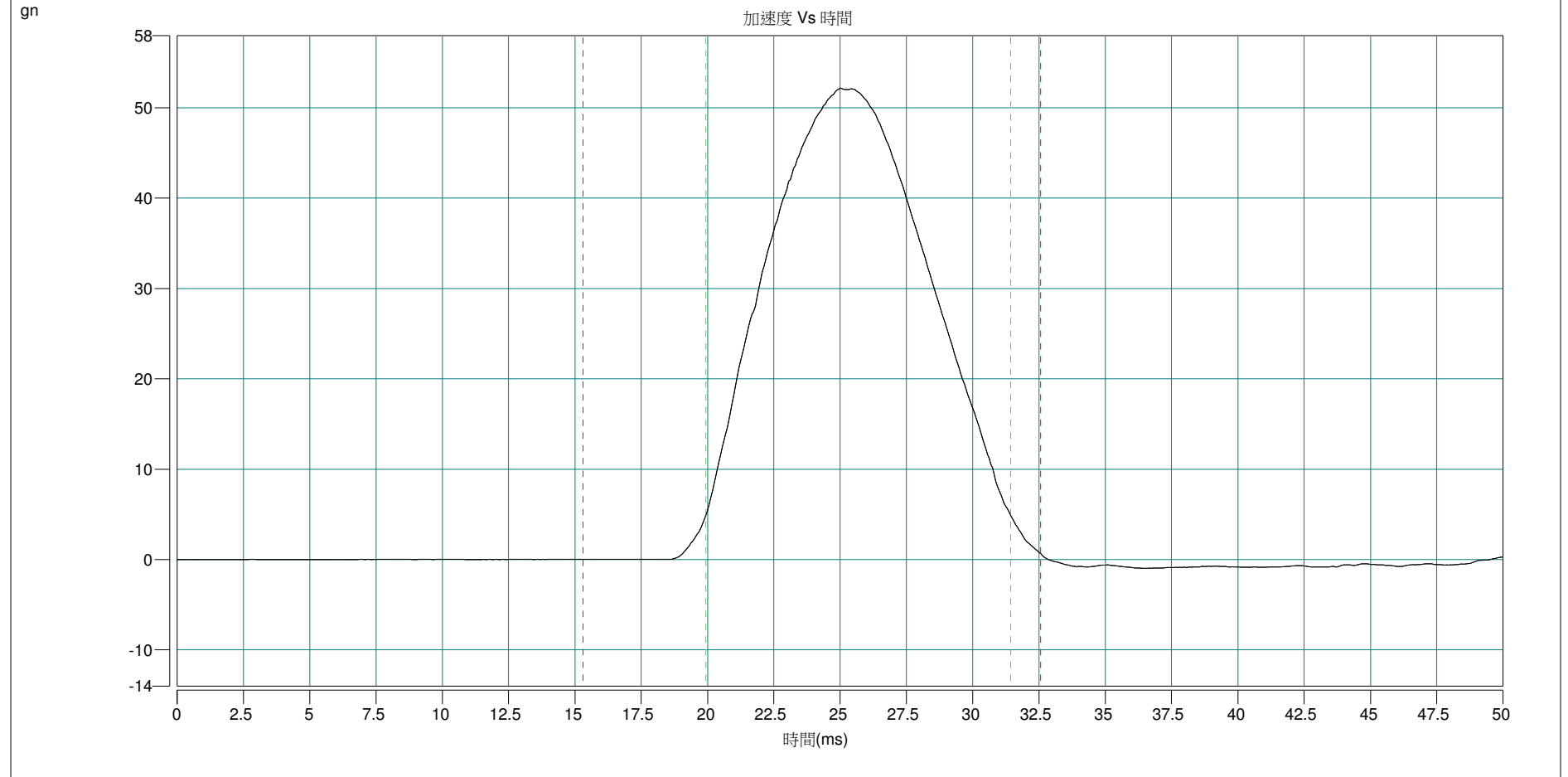
-Y axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	51.07	11.16	3.58	500.00	51.07	-2.12



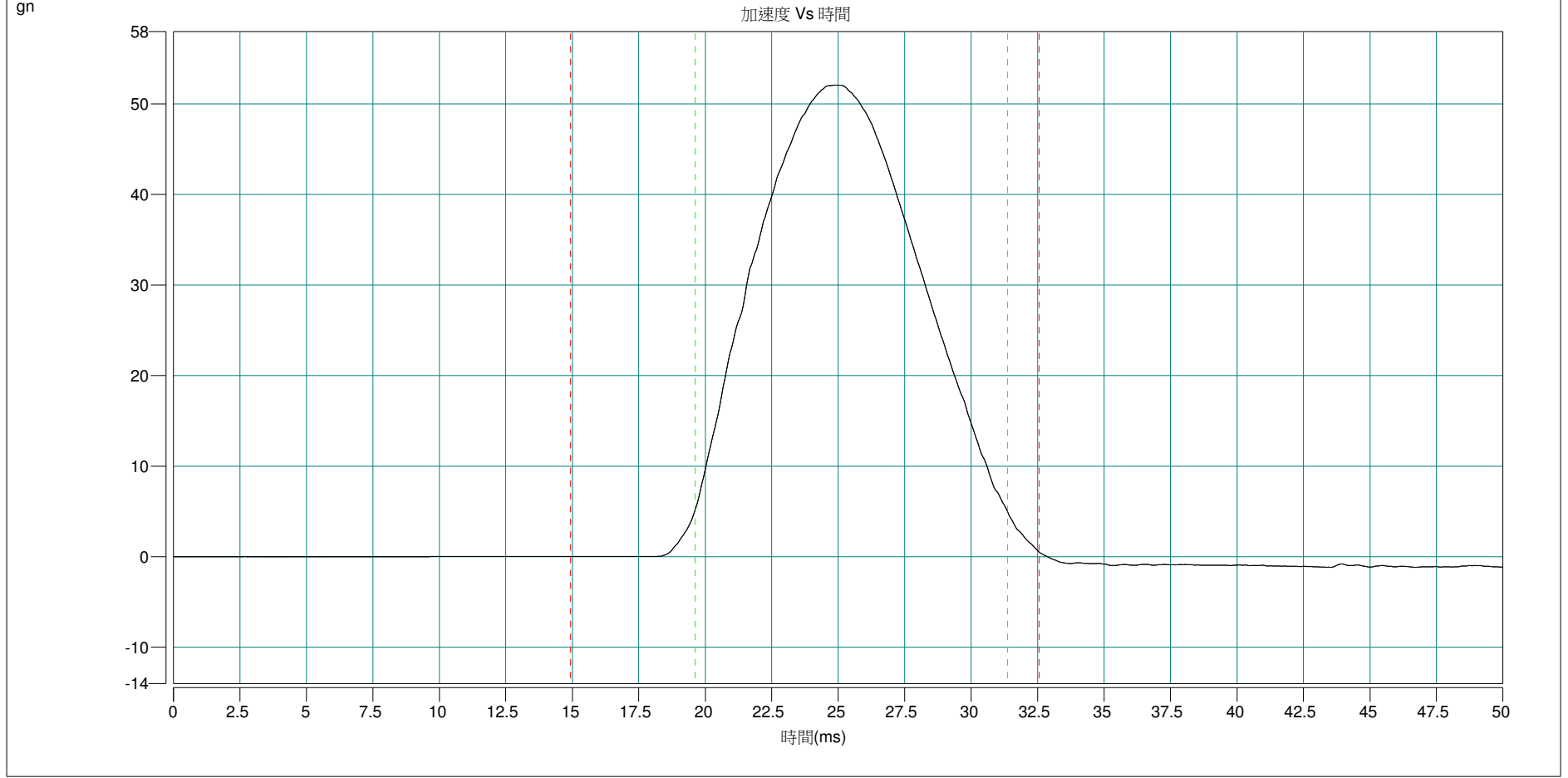
+Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	52.19	11.41	3.73	500.00	52.19	-0.97



-Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	52.11	11.70	3.79	500.00	52.11	-1.17



-END-