

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-170725-2

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 : SATA Flash Drive

DATE OF RECEIVED : 2017/07/19

DATE OF TESTED : 2017/07/24

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 :

Peter Peng

Approval Signatory :

David Lee

2017.7.28

Laboratory Head :

Hein Tai Chang

金頓科技實驗室

TESTING / INSPECTION REPORT

TESTING EQUIPMENT :

- | | |
|-------------------------|---|
| 1.Vibration Tester | : KING DESIGN KD-9363EM-600F2K-50N120,
S/N : KDS11054986 |
| 2.Controller | : VCS-913+, S/N : 1312384 |
| 3.Control Accelerometer | : Wilcoxon Research WR-777, S/N : 4207 |
| 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 | : SM(U/S)210-25 |
| 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) :

As per applicant's requirement

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) :

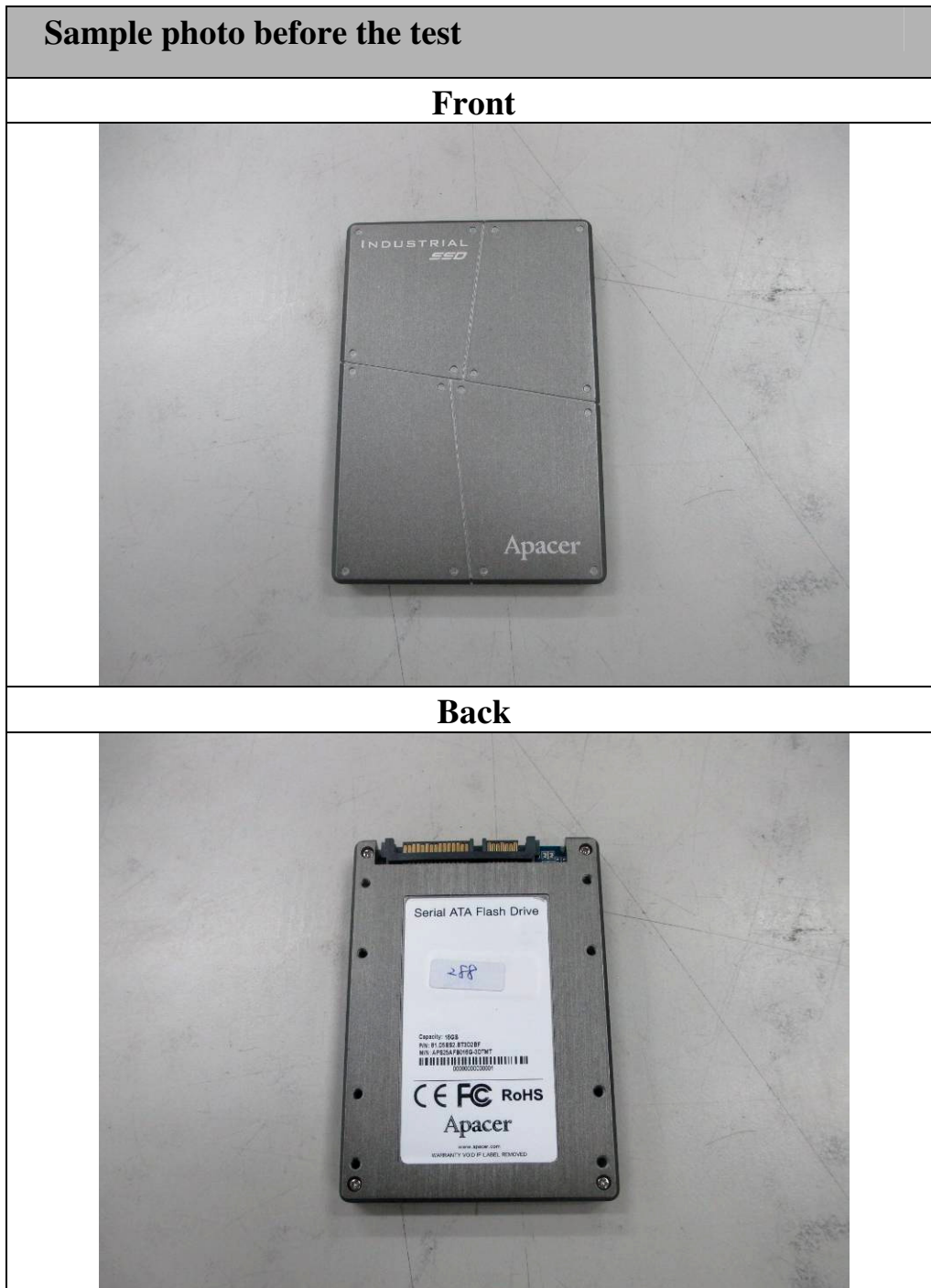
As per applicant's requirement

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






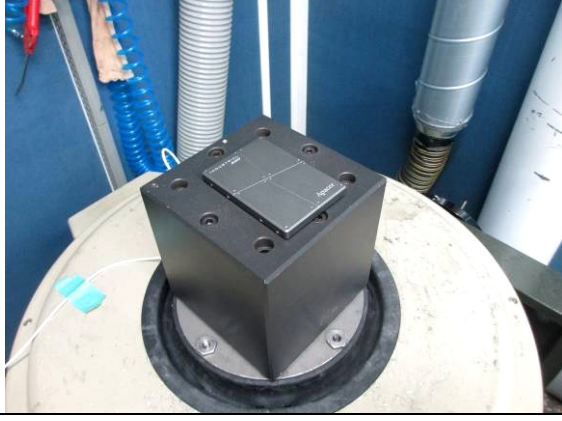
TEST RESULT :

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

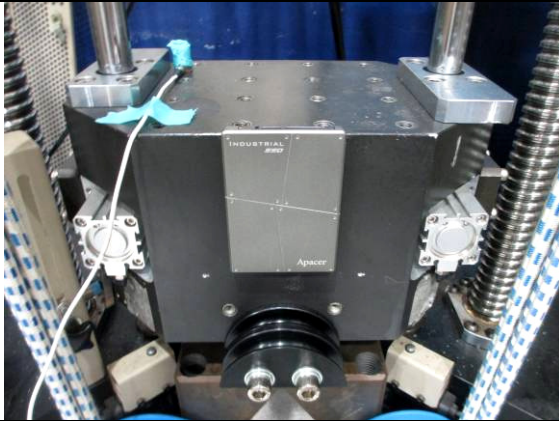
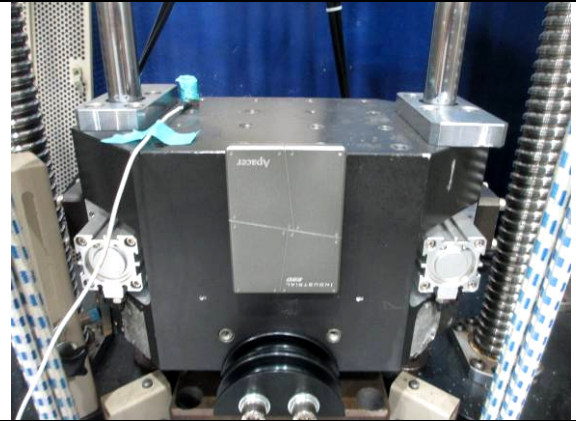
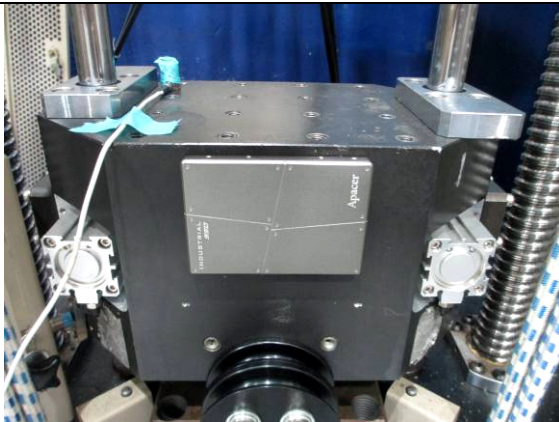
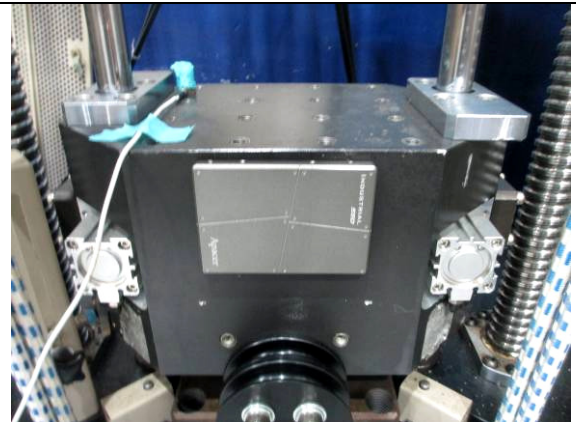
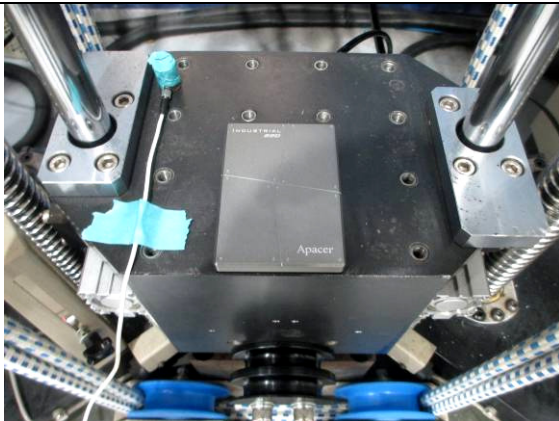
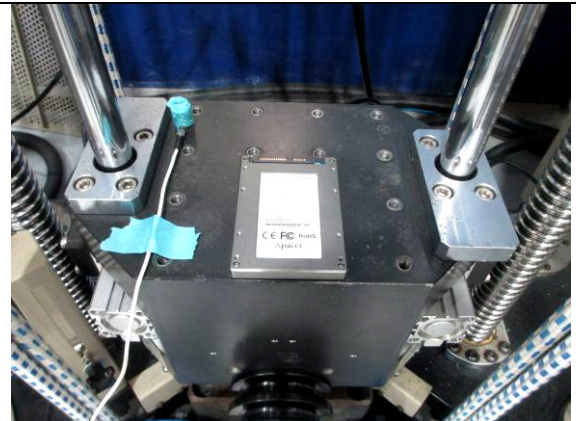


TESTING / INSPECTION REPORT

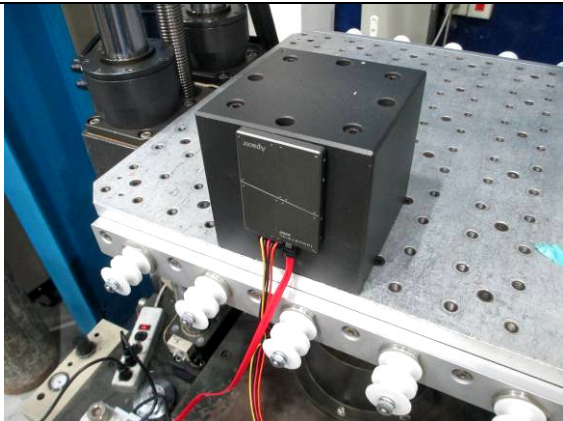
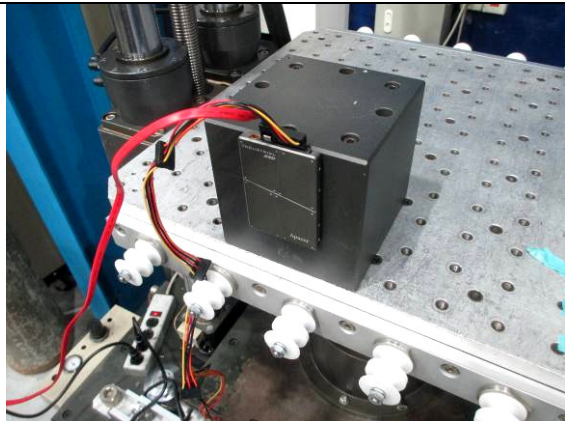
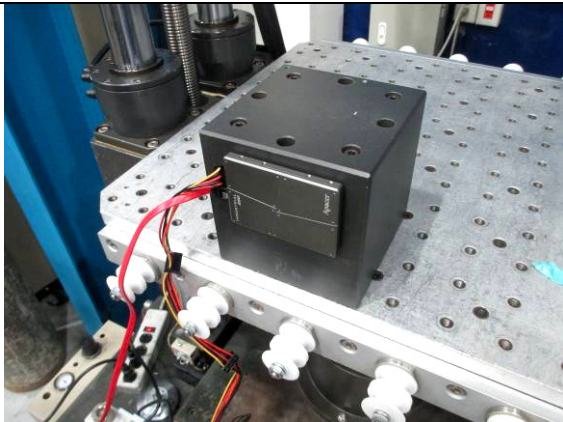
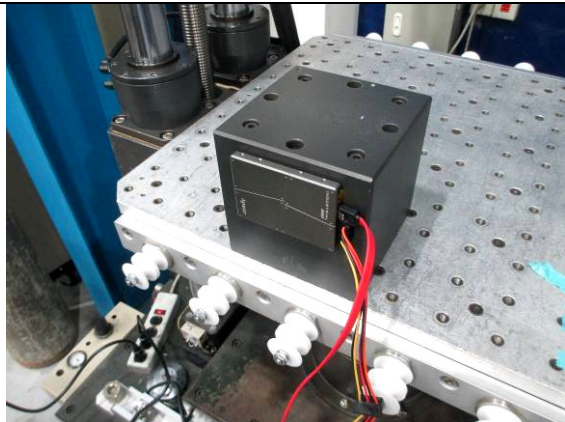
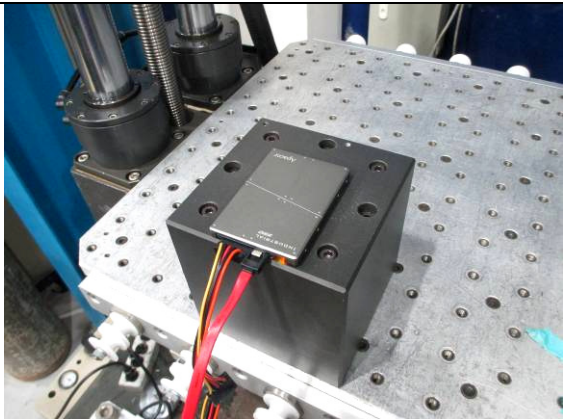
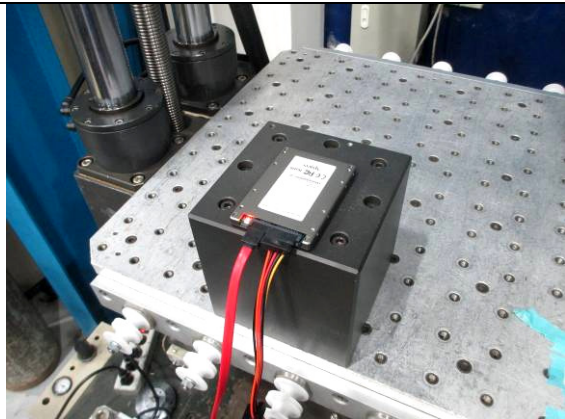
Vibration testing photos	
X axis (Operating)	X axis (Non-Operating)
	
Y axis (Operating)	Y axis (Non-Operating)
	
Z axis (Operating)	Z axis (Non-Operating)
	

TESTING / INSPECTION REPORT

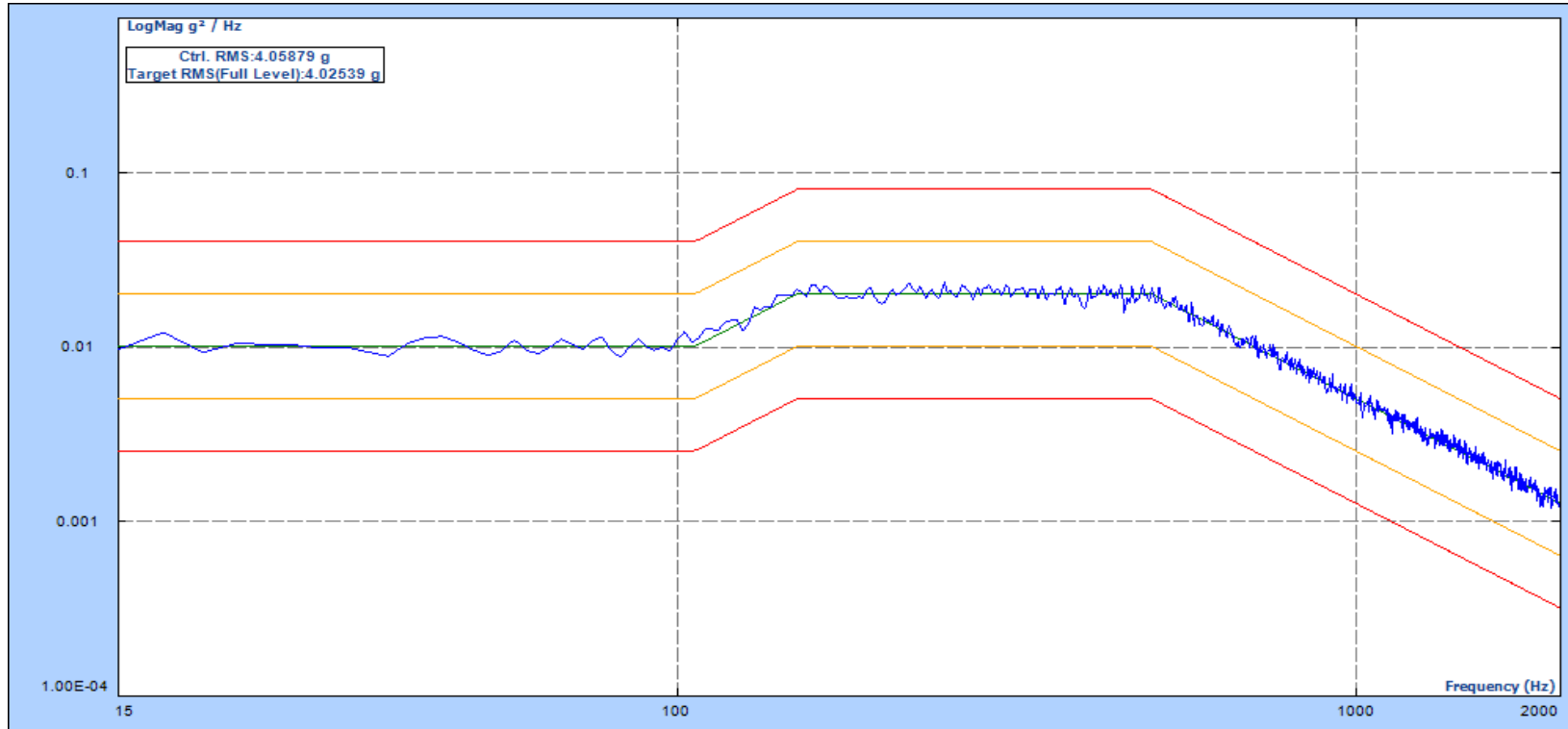
Shock testing photos (Non-operating)

+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

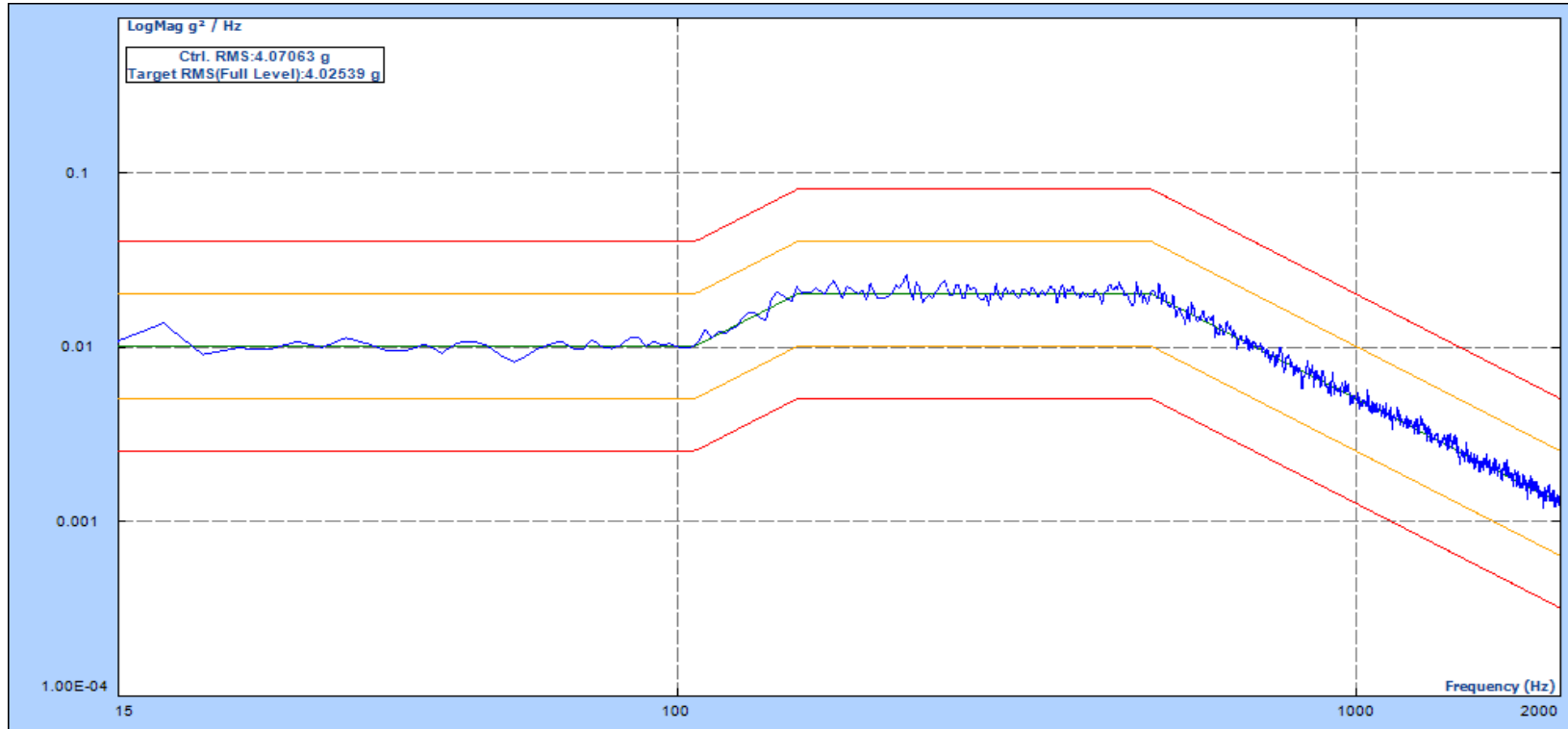


Level: 100.00 %
 Velocity Pk: 0.133 m/s
 Remaining: 00:00:00

Drive Pk: 0.448V
 Control RMS: 4.059 g
 Total Elapsed: 01:01:00

Est. Disp. : 1.710 mm Pk-Pk
 Target RMS: 4.020 g
 Full Level Elapsed: 01:00:00

Y axis

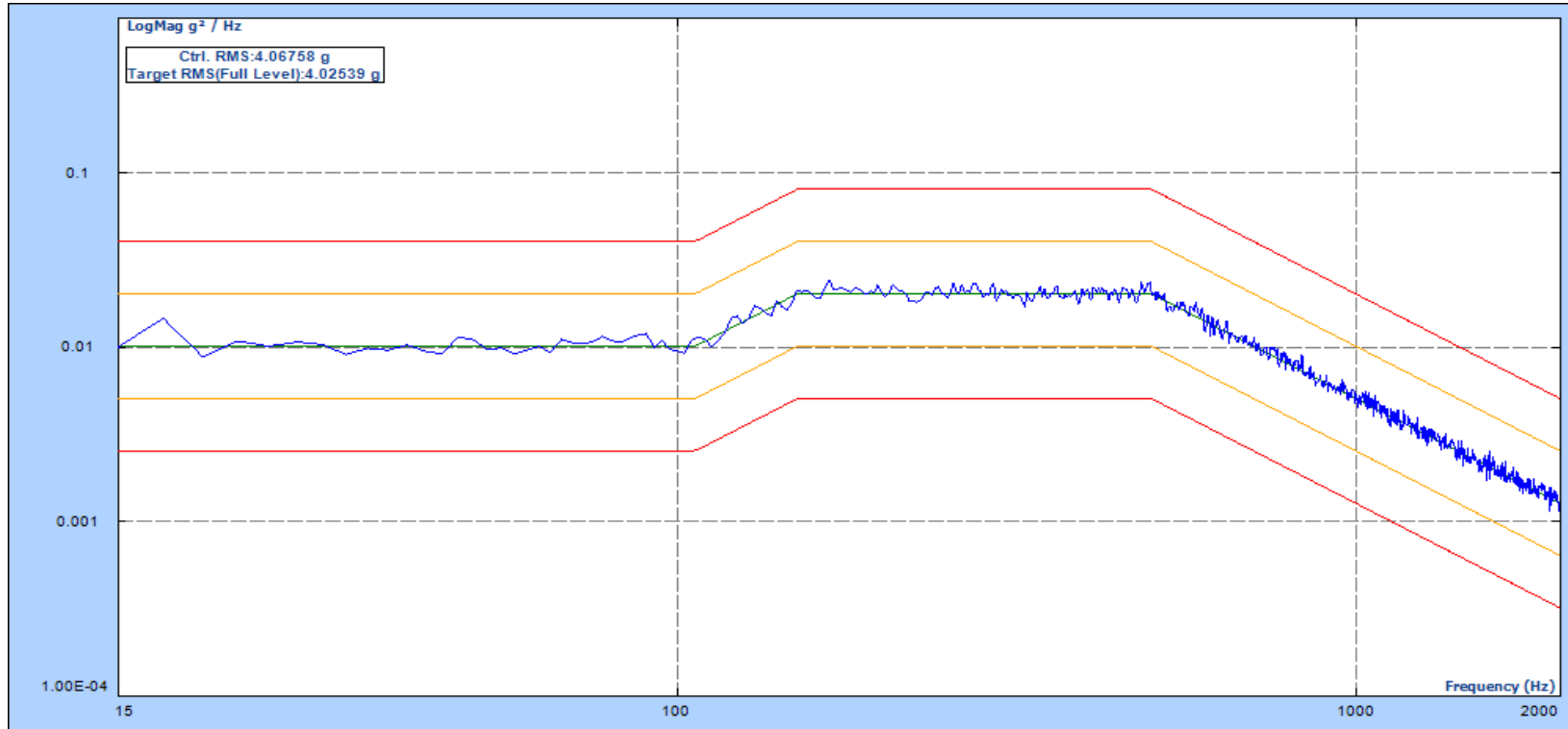


Level: 100.00 %
 Velocity Pk: 0.134 m/s
 Remaining: 00:00:00

Drive Pk: 0.505V
 Control RMS: 4.071 g
 Total Elapsed: 01:01:01

Est. Disp. : 1.764 mm Pk-Pk
 Target RMS: 4.020 g
 Full Level Elapsed: 01:00:00

Z axis

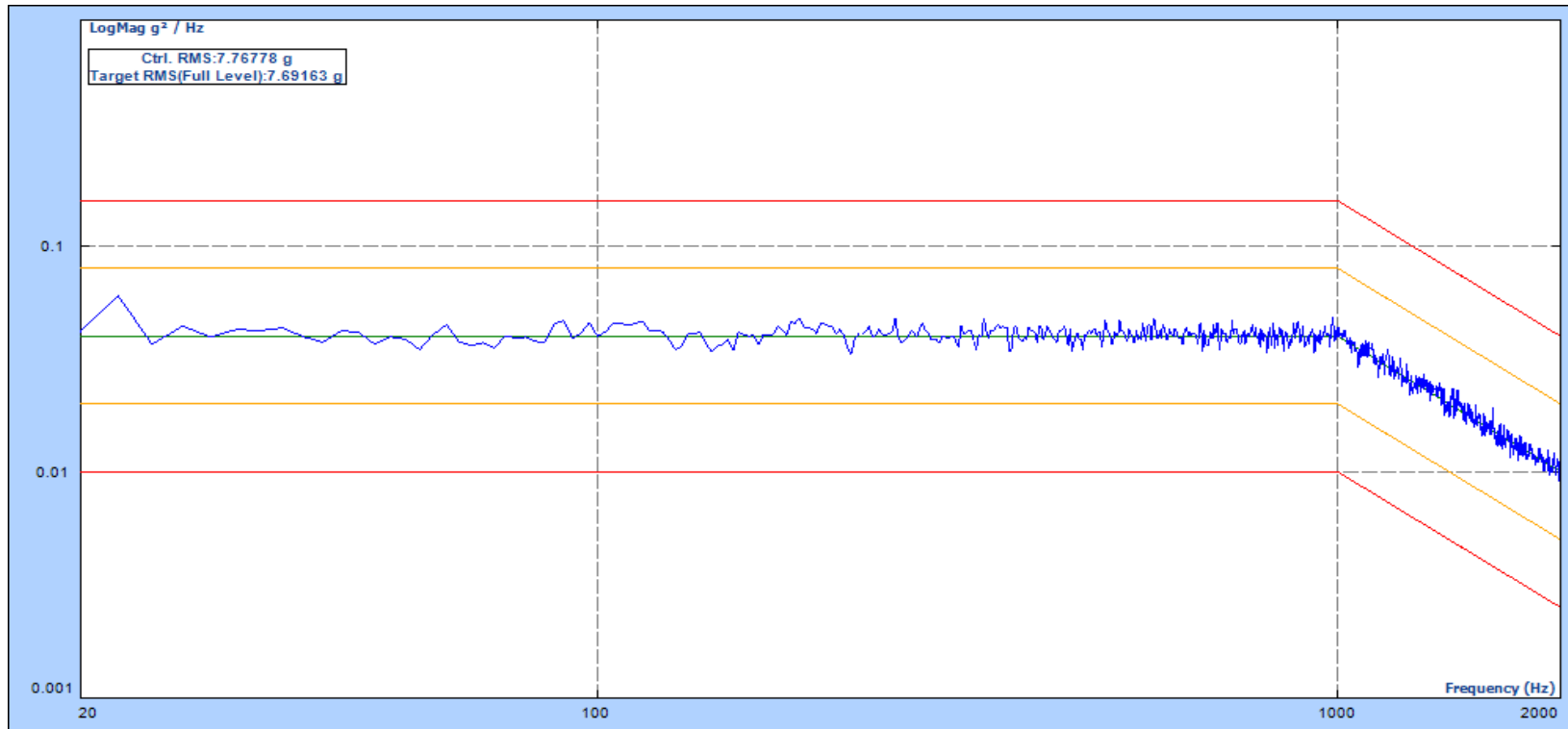


Level: 100.00 %
Velocity Pk: 0.135 m/s
Remaining: 00:00:00

Drive Pk: 0.440V
Control RMS: 4.066 g
Total Elapsed: 01:01:01

Est. Disp. : 1.760 mm Pk-Pk
Target RMS: 4.020 g
Full Level Elapsed: 00:30:00

X axis

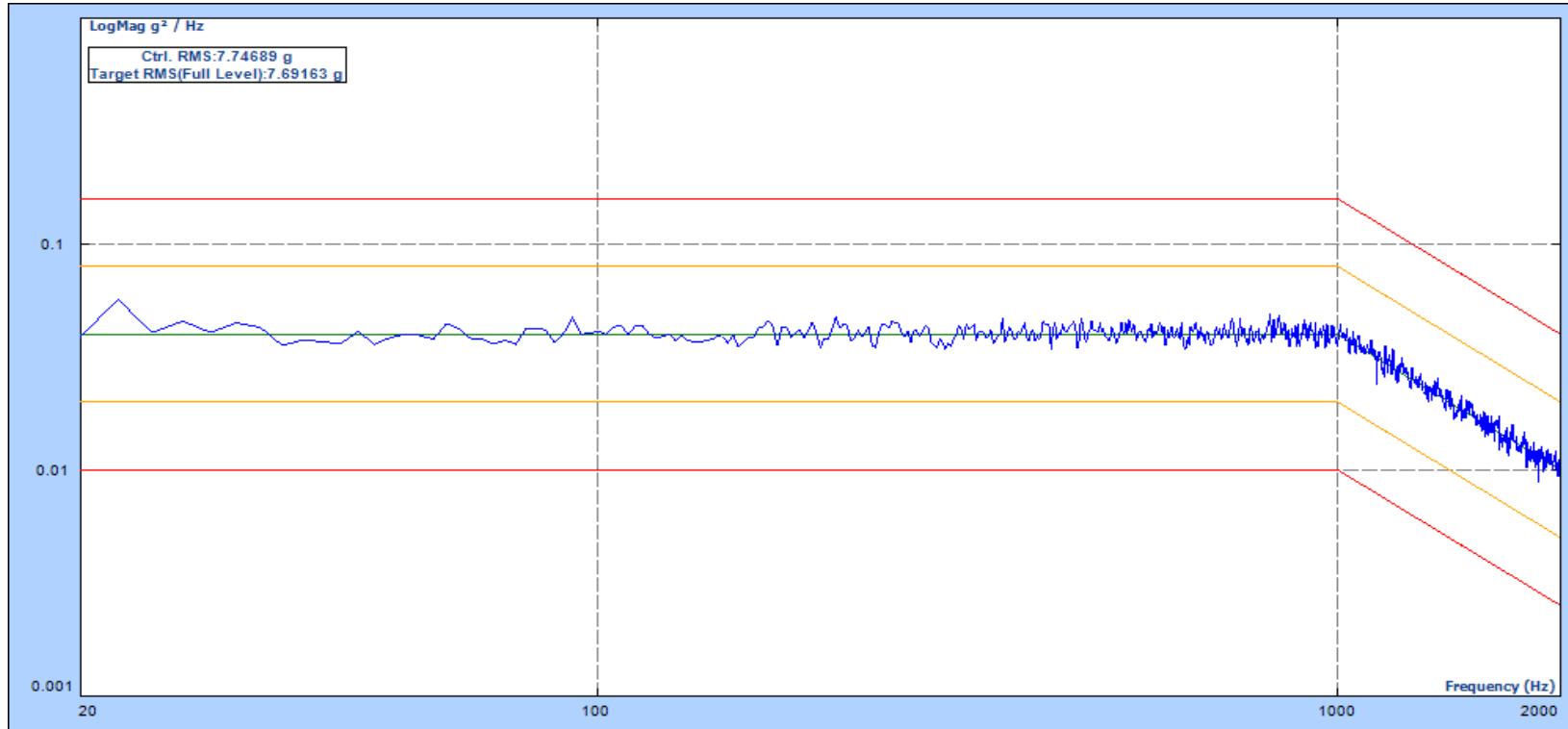


Level: 100.00 %
Velocity Pk: 0.222 m/s
Remaining: 00:00:00

Drive Pk: 0.810V
Control RMS: 7.698 g
Total Elapsed: 01:01:03

Est. Disp. : 2.239 mm Pk-Pk
Target RMS: 7.690 g
Full Level Elapsed: 01:00:00

Y axis

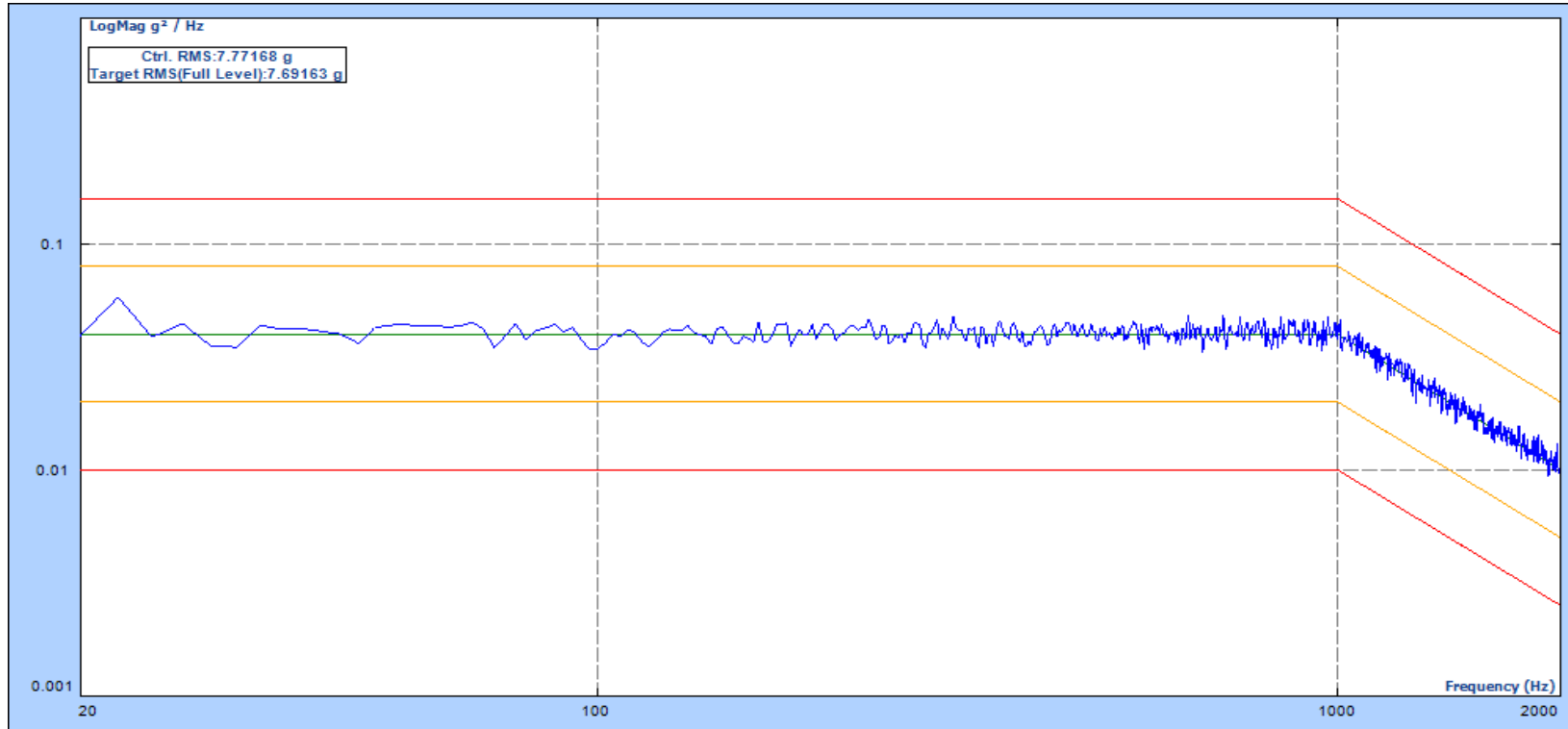


Level: 100.00 %
Velocity Pk: 0.221 m/s
Remaining: 00:00:00

Drive Pk: 0.806V
Control RMS: 7.747 g
Total Elapsed: 01:01:03

Est. Disp. : 2.217 mm Pk-Pk
Target RMS: 7.690 g
Full Level Elapsed: 01:00:00

Z axis



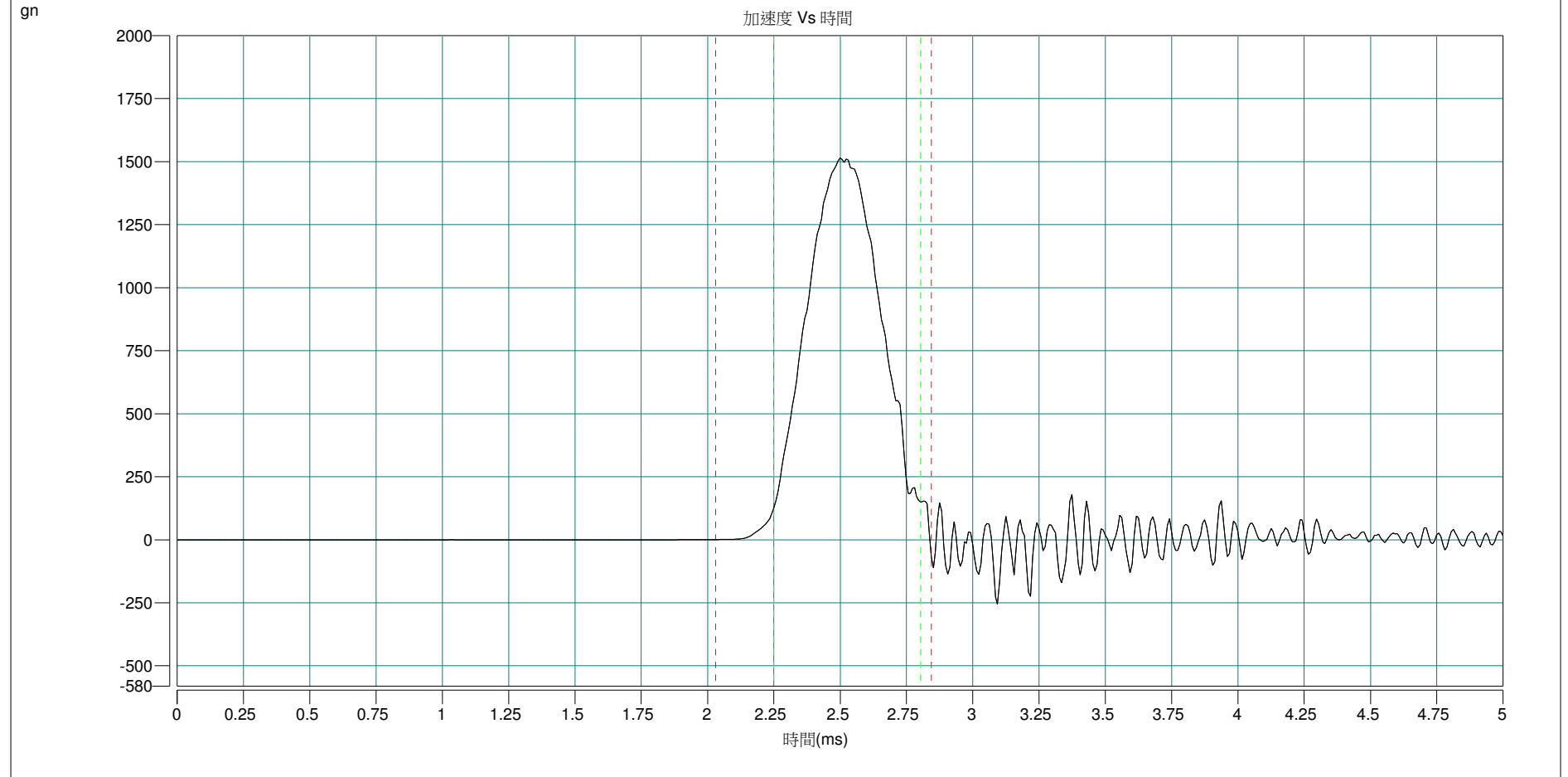
Level: 100.00 %
 Velocity Pk: 0.221 m/s
 Remaining: 00:00:00

Drive Pk: 0.784V
 Control RMS: 7.772 g
 Total Elapsed: 01:01:03

Est. Disp. : 2.204 mm Pk-Pk
 Target RMS: 7.690 g
 Full Level Elapsed: 01:00:00

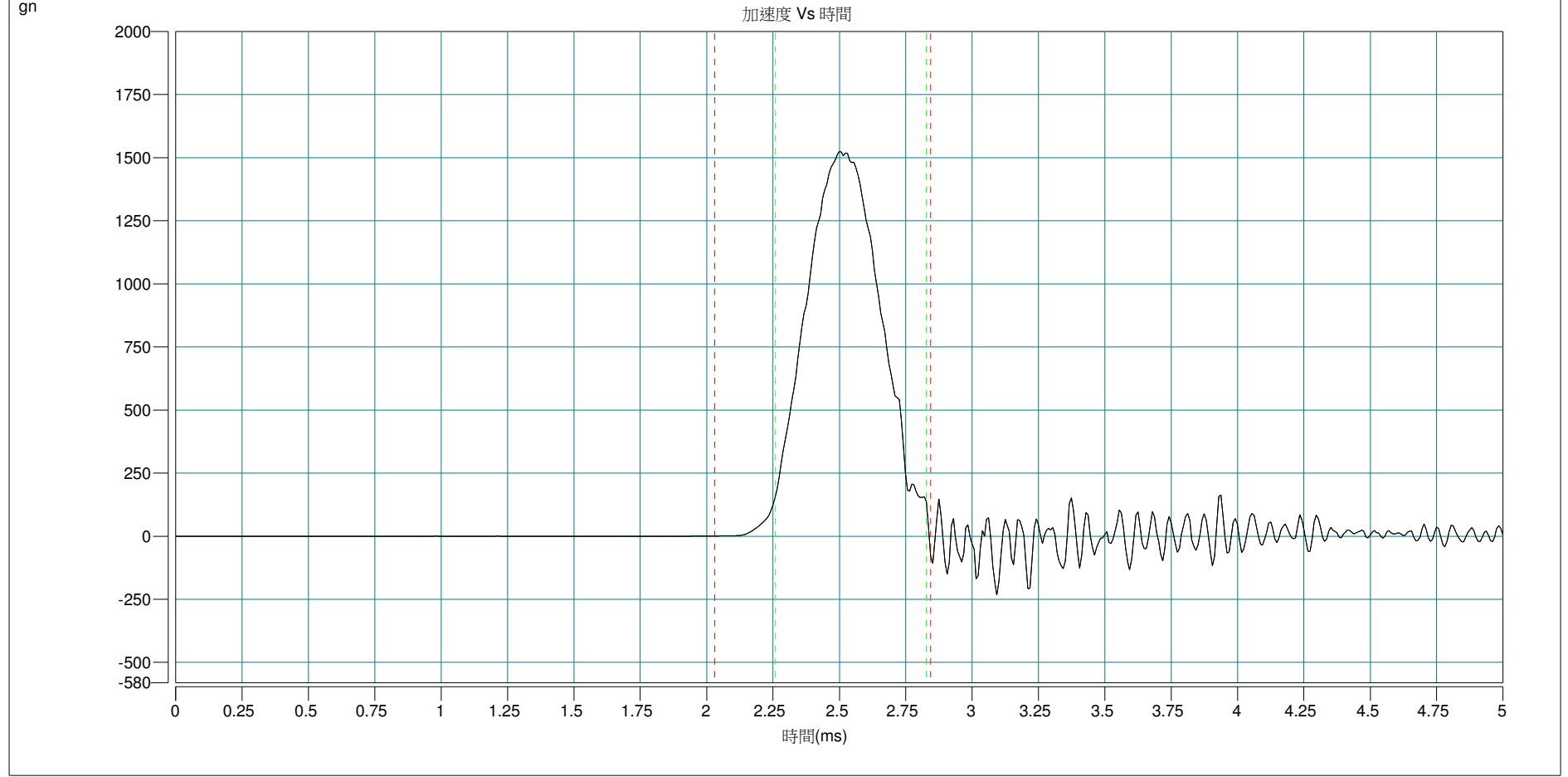
+X axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1514.82	0.55	194.85	2000.00	1514.82	-255.40



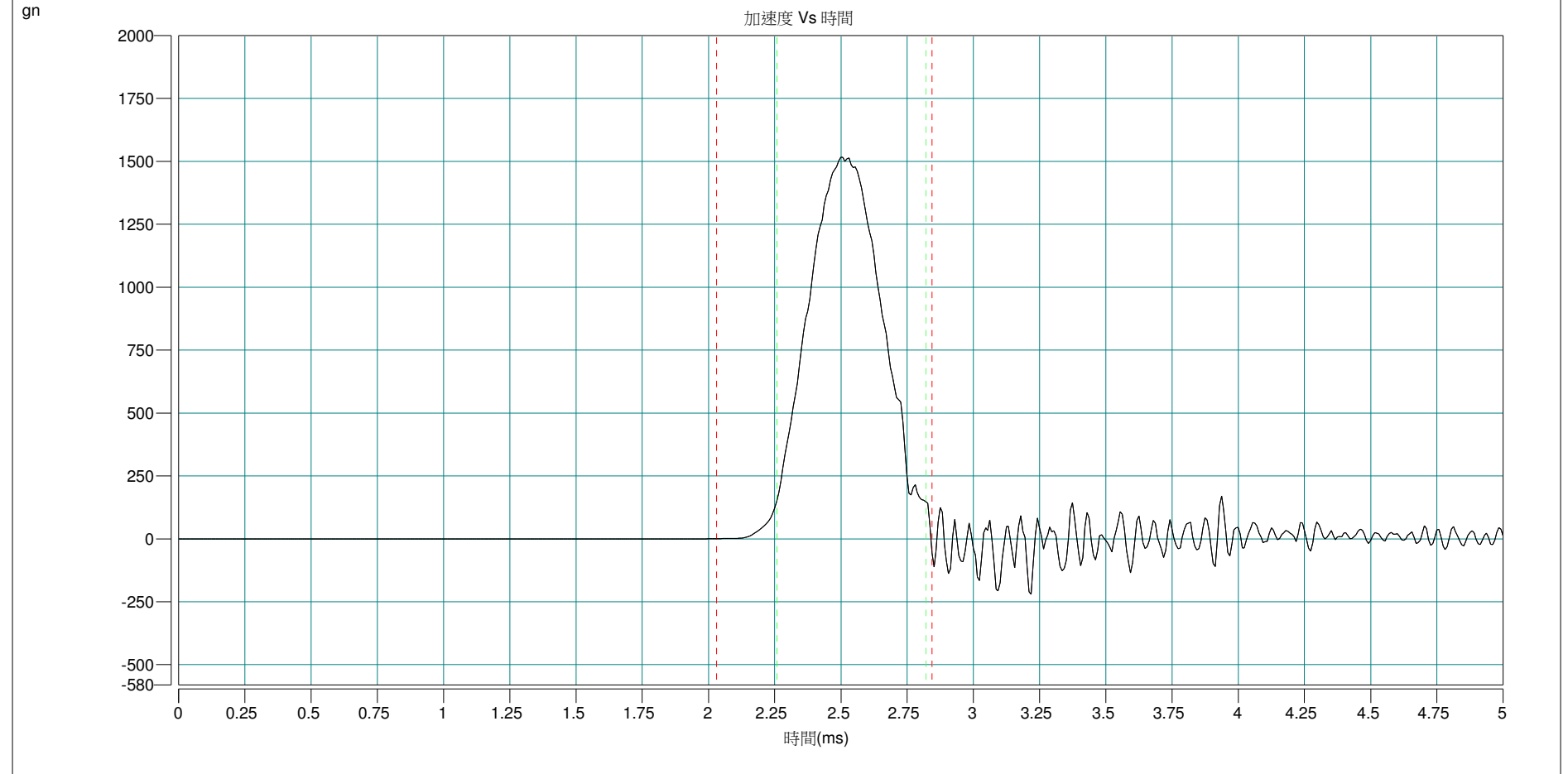
-X axis

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



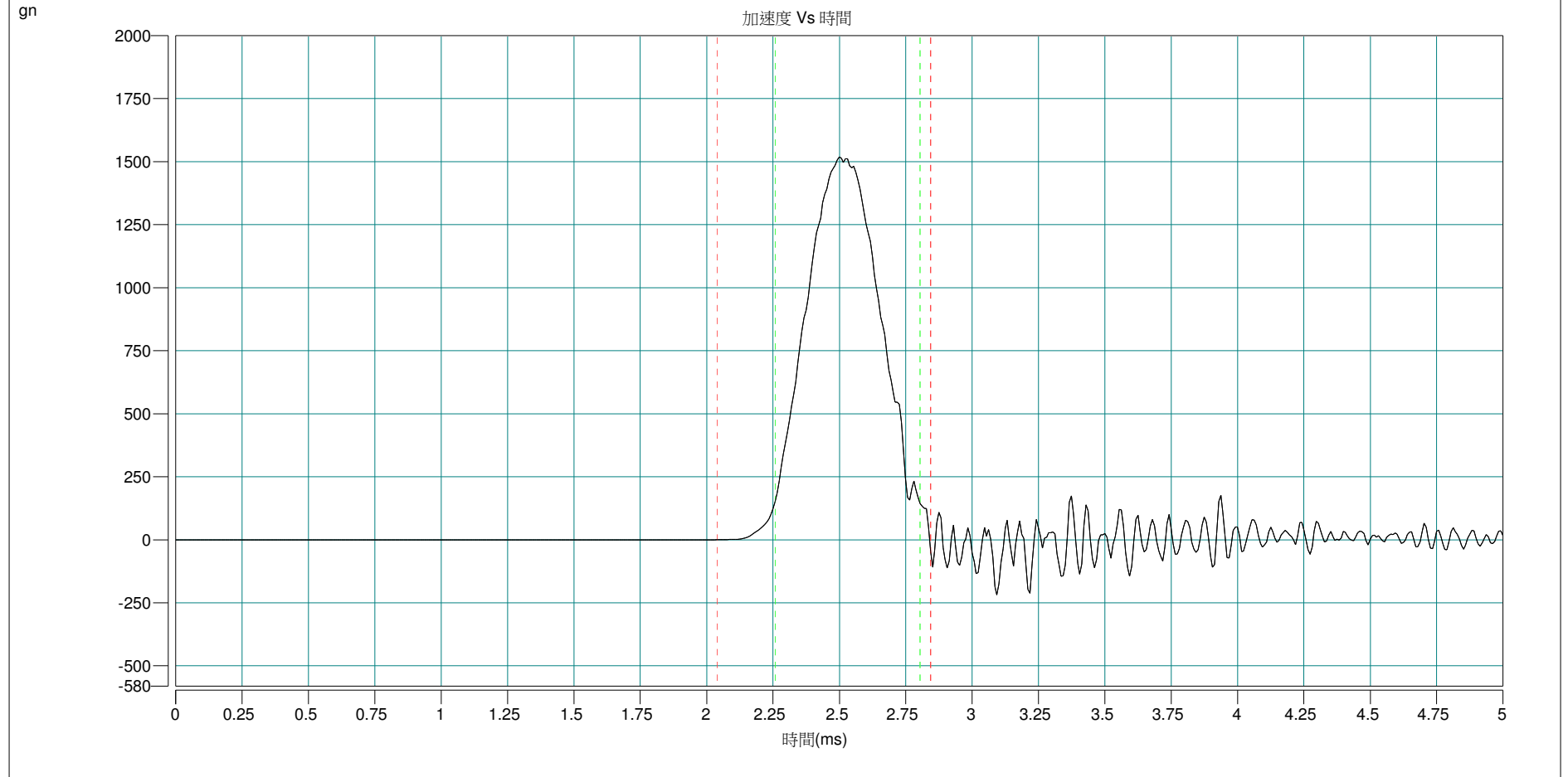
+Y axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1516.31	0.56	195.23	2000.00	1516.31	-220.79



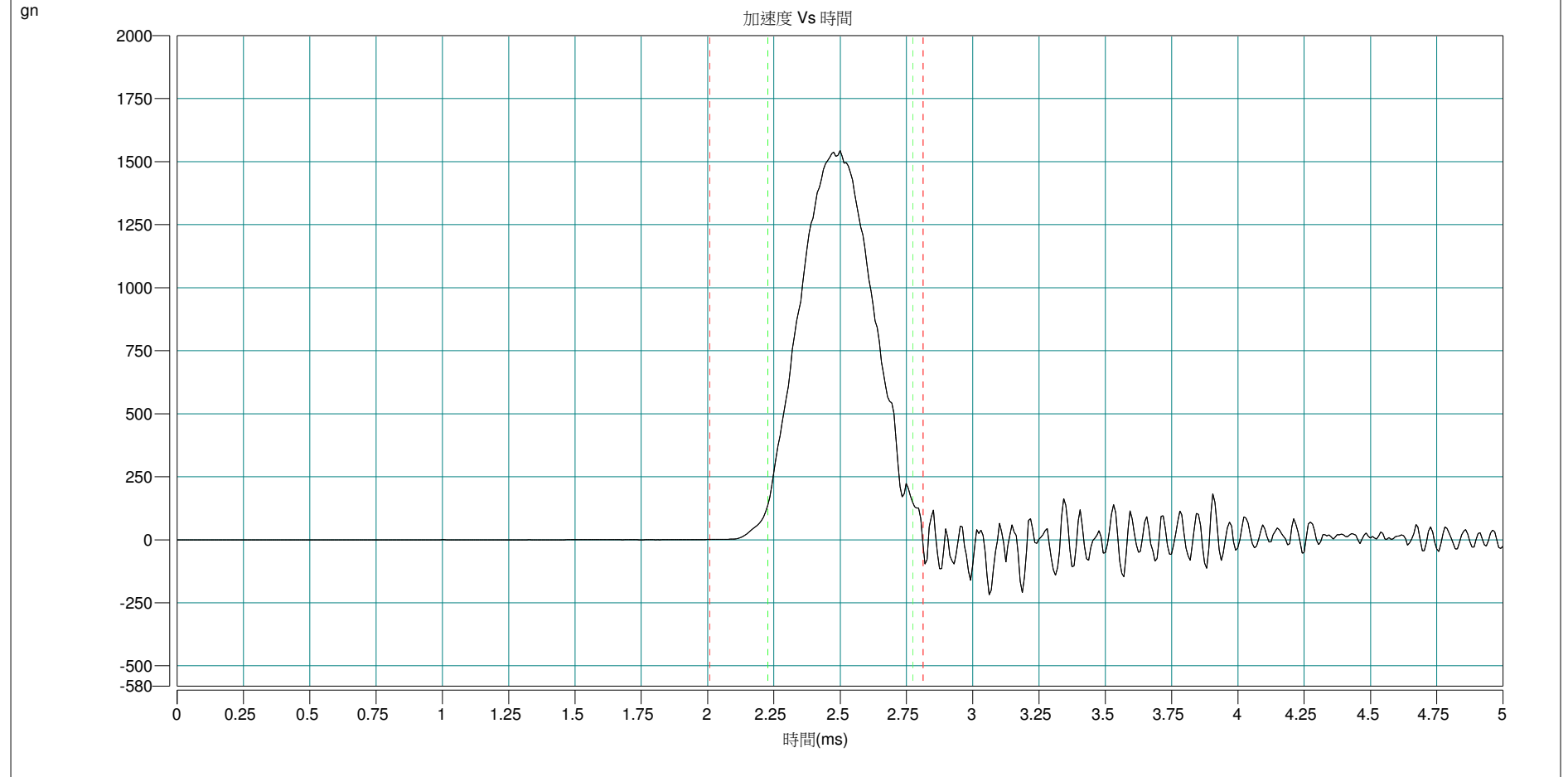
-Y axis

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



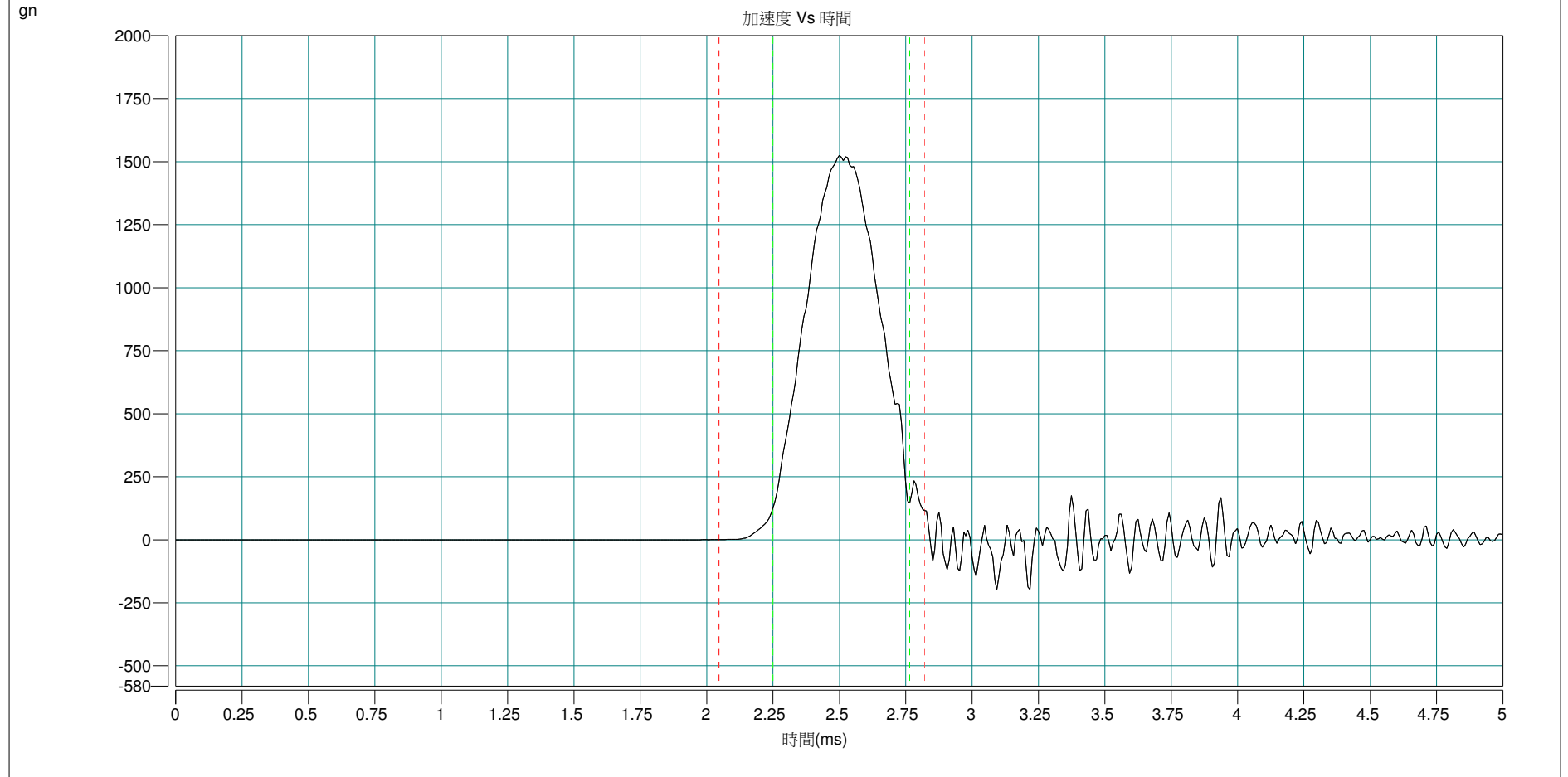
+Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1544.73	0.54	197.45	2000.00	1544.73	-217.85



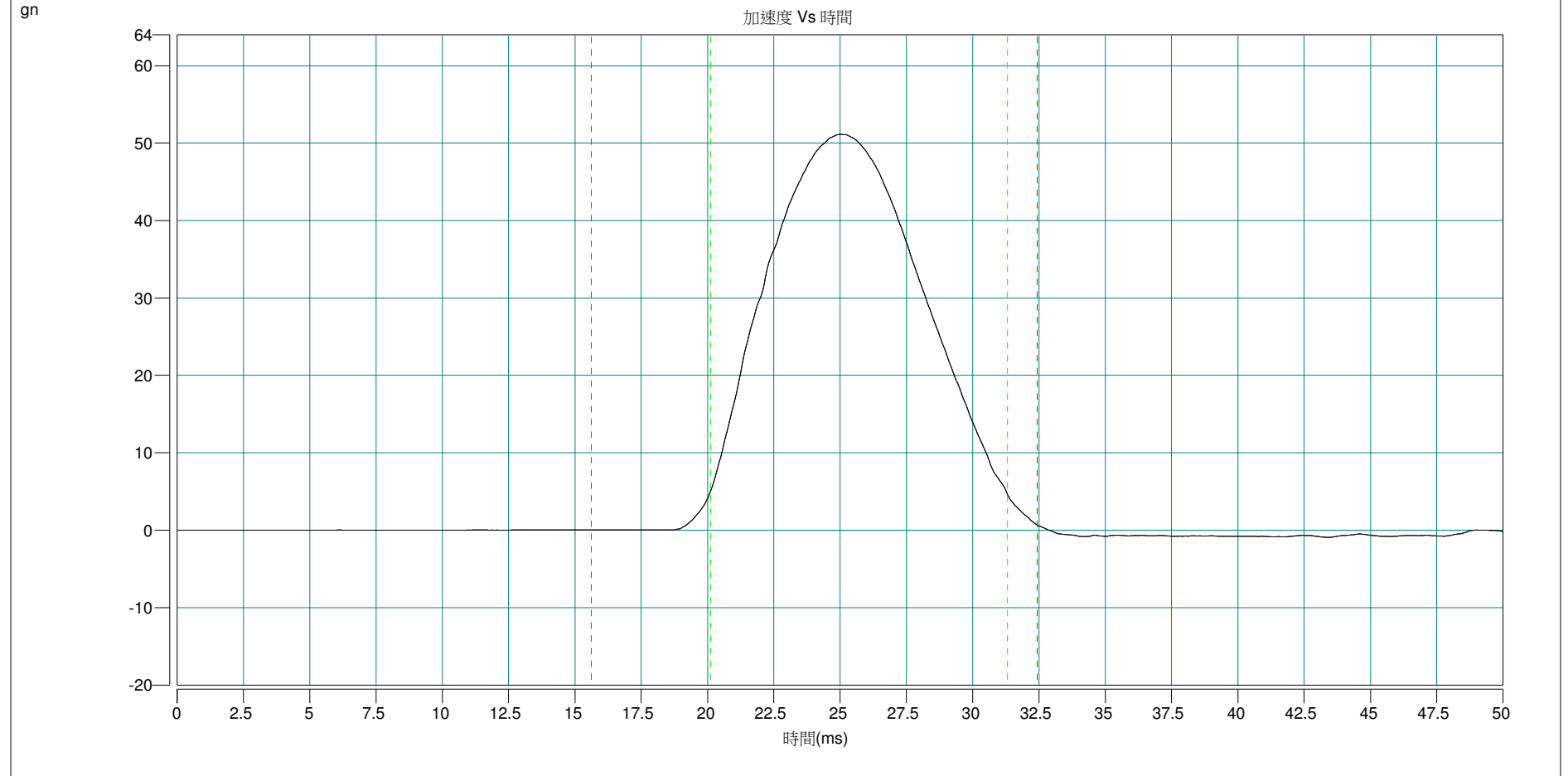
-Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	1525.25	0.50	194.80	2000.00	1525.25	-198.33



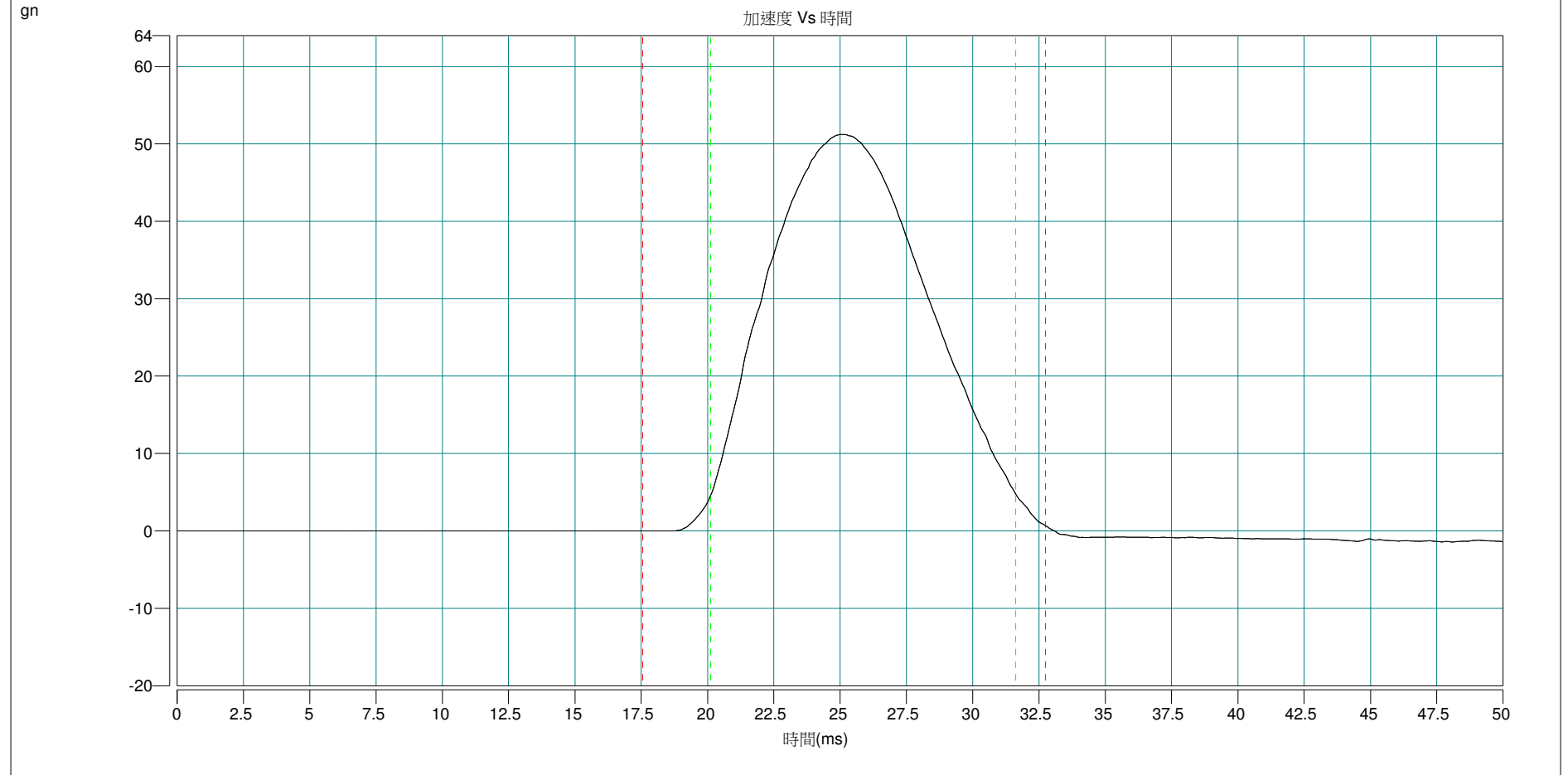
+X axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	51.16	11.13	139.13	500.00	51.16	-0.92



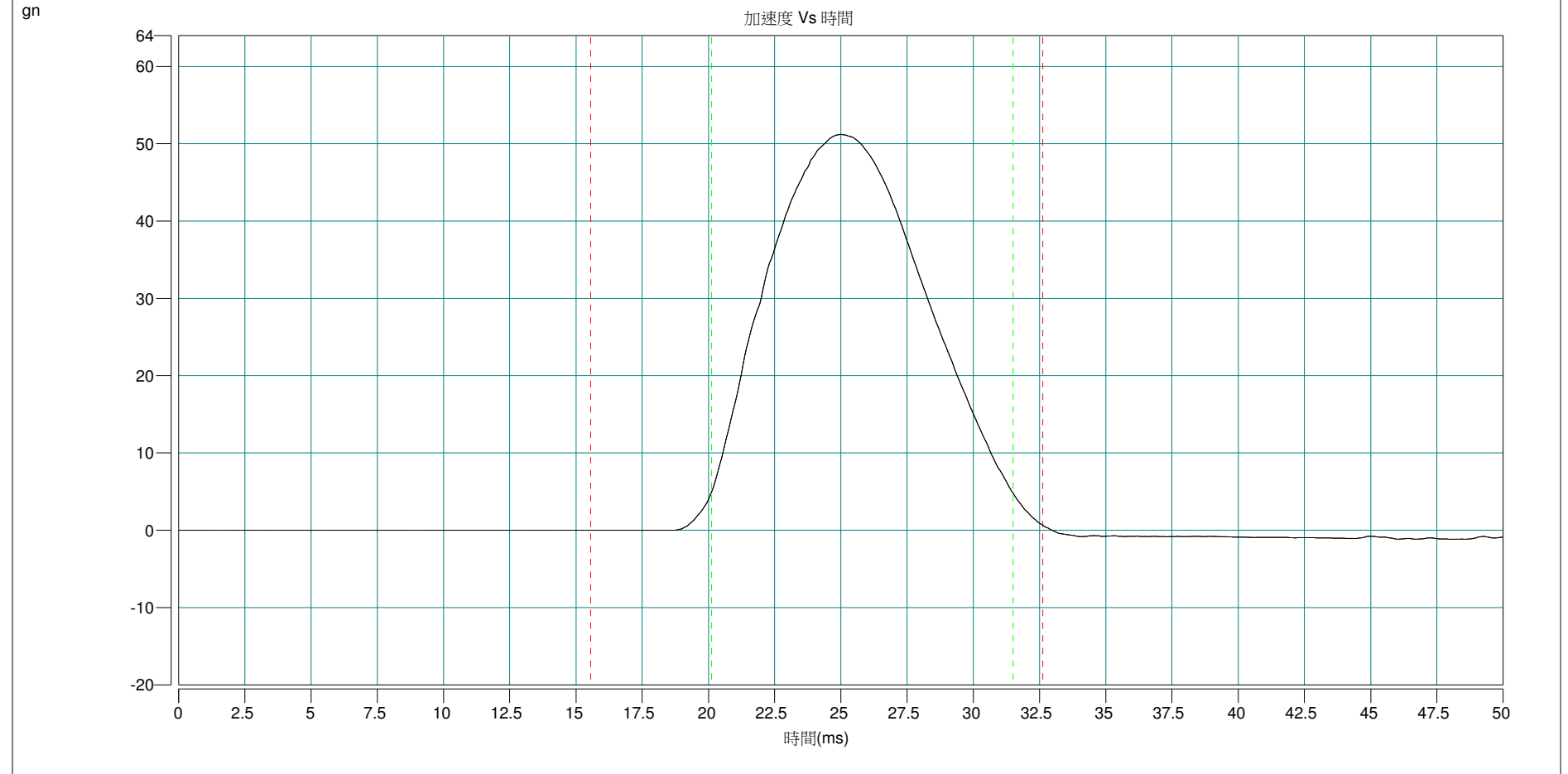
-X axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	51.23	11.38	141.51	500.00	51.23	-1.42



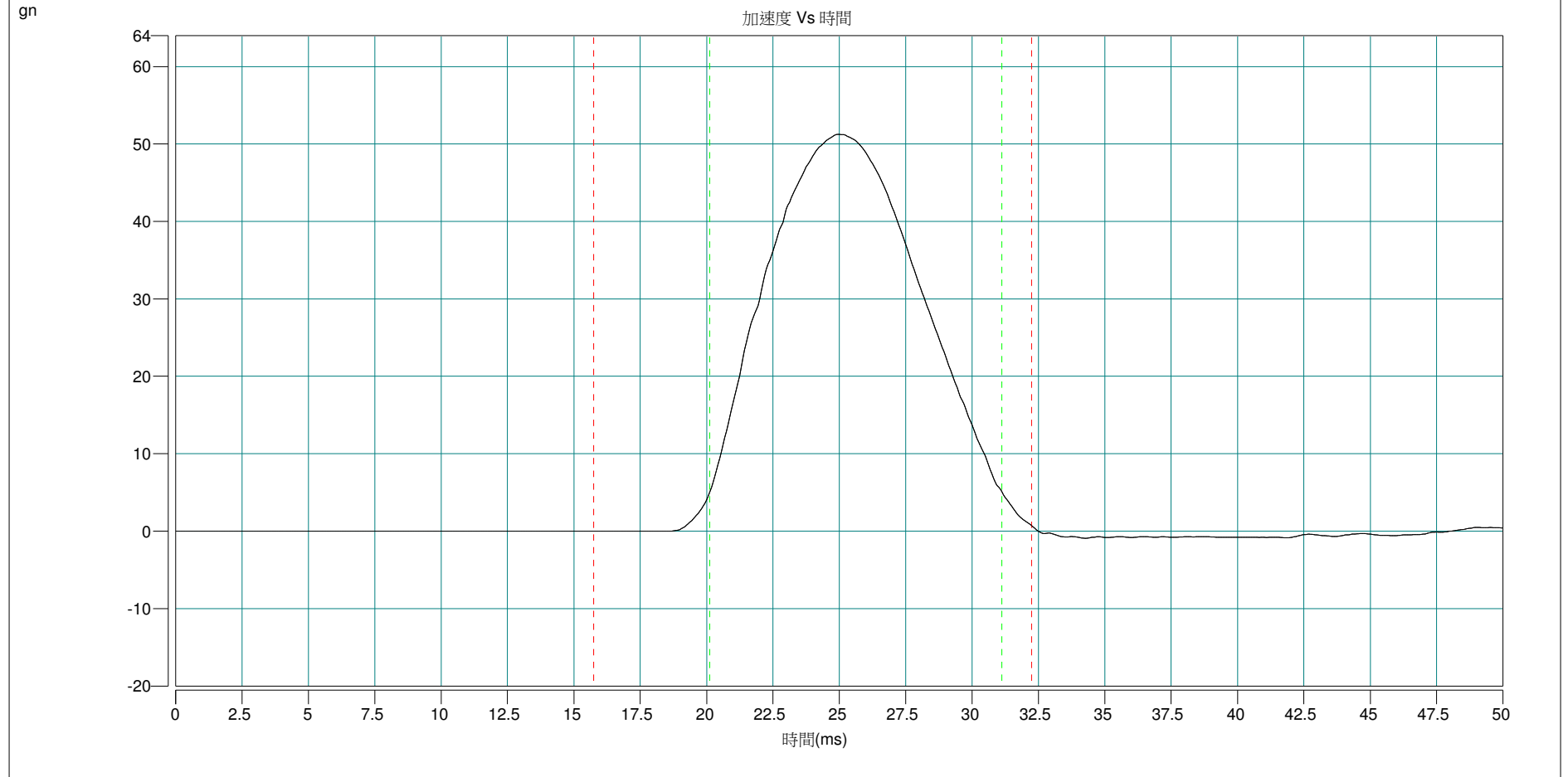
+Y axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	51.20	11.30	140.89	500.00	51.20	-1.16



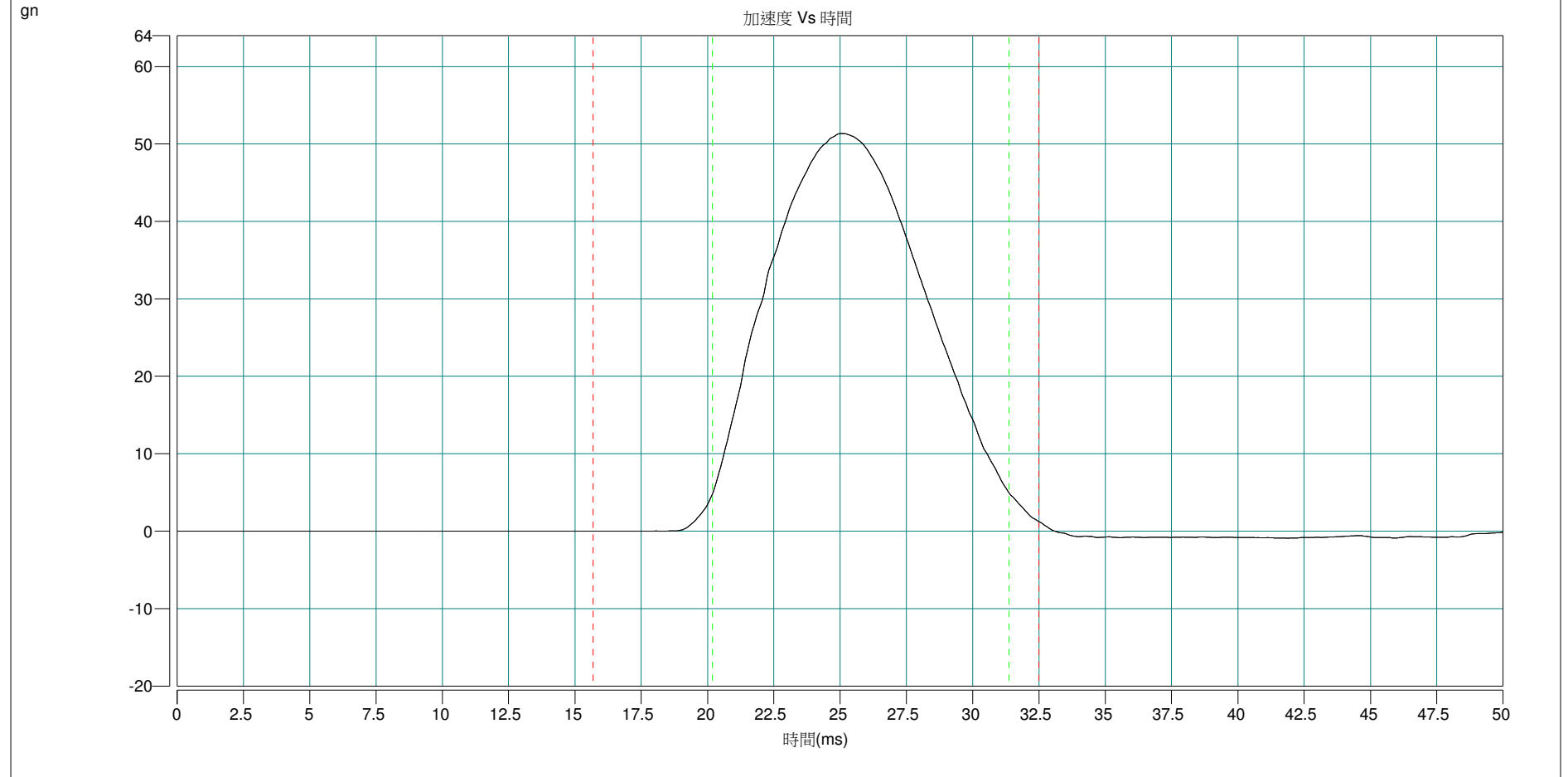
-Y axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	51.26	10.98	138.34	500.00	51.26	-0.91



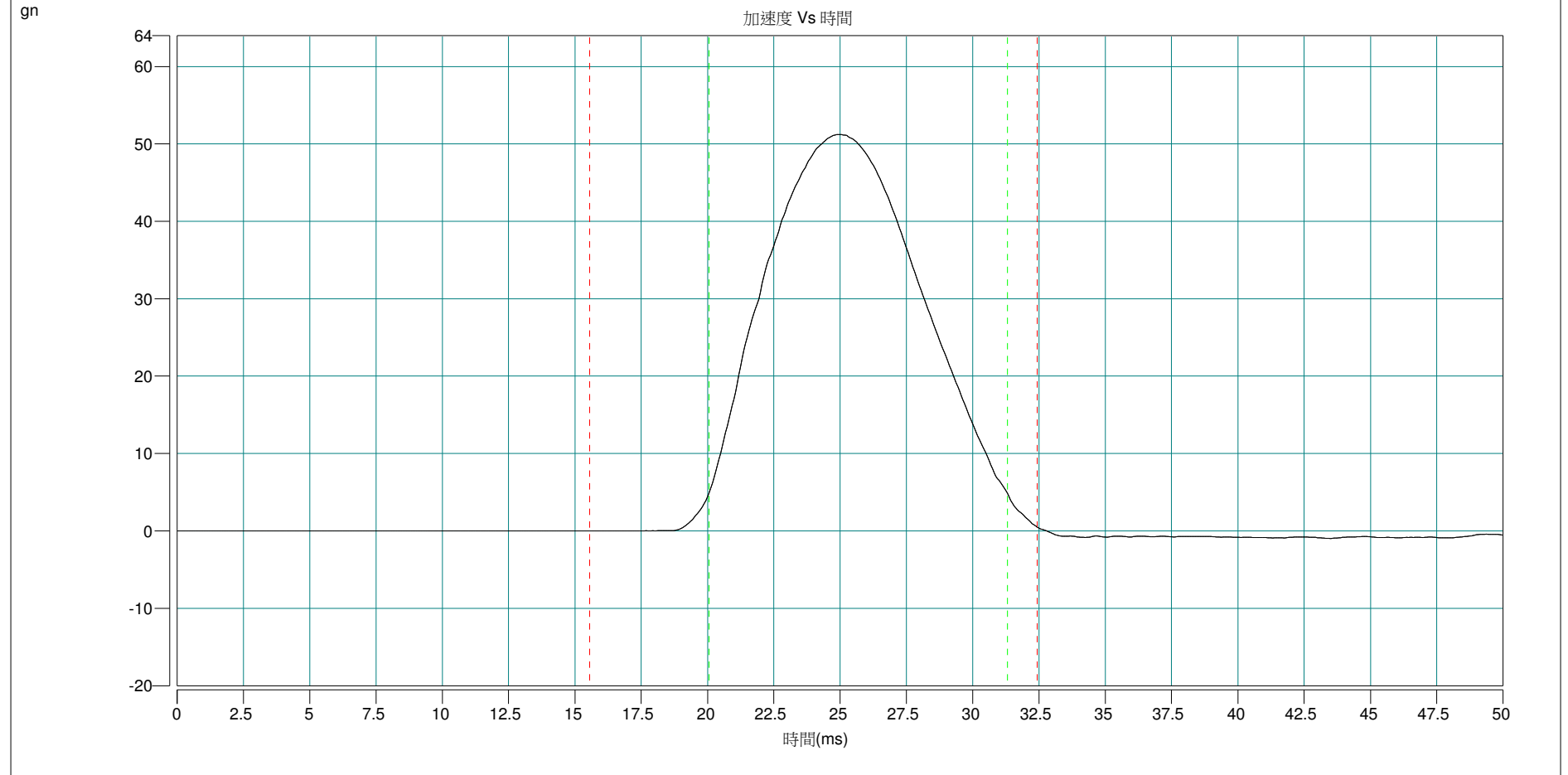
+Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	51.36	11.11	139.18	500.00	51.36	-0.91



-Z axis

Signal	Acceleration (gn)	Duration (ms)	Velocity (In/s)	Filter (Hz)	Max Acc (gn)	Min Acc (gn)
Input1(t)	51.23	11.18	139.53	500.00	51.23	-0.96



-END-