

# TEST REPORT

	<b>CTK Co., Ltd.</b> (Ho-dong) 113, Yejik-ro, Cheoin-gu, Yongin-shi Gyeonggi-do KOREA, REPUBLIC OF Tel: +82-31-339-9970 Fax: +82-31-624-9501	REPORT No.: CTK-2021-02219-1 Page (1) / (14) pages	
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## 1. Applicant

◦ Name..... : Hanwha Techwin Co., Ltd.

◦ Address..... : Hanwha Techwin R&D center, 6 Pangyo-ro 319Beon-gil,  
Bundang-gu, Seongnam-si, Gyeonggi-do, 13488 KOREA

◦ Date of Receipt..... : 2021-05-04

## 2. Manufacturer

◦ Name..... : Hanwha Techwin Co., Ltd

**3. Use of Report .....** : Quality control

**4. Test sample / Model.....** : NETWORK CAMERA / TNO-7180R

**5. Date(s) of test .....** : 2021-05-29 to 2021-05-31



**6. Test Standard (Method) used....** : Specifications presented by the sponsor  
(reference NEMA TS 2.2.8)

**7. Testing Environment.....** : Temperature: (25.0 ± 10.0) °C, Humidity: (50 ± 25) %R.H.,  
Air Pressure: (99.0 ± 2) kPa

**8. Results .....** : Refer to each test items

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.  
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Approval	Tested by:	Technical Manager:
	Min-Gi Mun	

 (Signature)
  (Signature)

2022-11-07

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Test place

<b>Institution name</b>	CTK Co., Ltd.
<b>Address</b>	142, Dongbu-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea

## 1. Resonant search

### 1.1. Test equipment

Test equipment	Model	manufacturer	Serial
Vibration testing system	GT1000M	FAMTECH	D1803072-1
Acceleration sensor	8703A250M5	KISTLER	5241941
Acceleration sensor	8703A250M5	KISTLER	5241944

### 1.2. Test condition

- 1) With the test unit securely fastened to the test table, set the test table for a double amplitude displacement of 0.015 inch.
- 2) Cycle the test table over a search range from 5 to 30 Hz and back within a period of 12.5 minutes.
- 3) Conduct the resonant frequency search in each of the three mutually perpendicular planes.
- 4) Note and record the resonant frequency determined from each plane.
  - a. In the event of more than one resonant frequency in a given plane, record the most severe a. resonance.
  - b. If resonant frequencies appear equally severe, record each resonant frequency.
  - c. If no resonant frequency occurs for a given plane within the prescribed range, 30 Hz shall be recorded.

### 1.3. Test Result

axis	Resonance check	recorded
X	none	30Hz
Y	none	30Hz
Z	none	30Hz

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## 2. Endurance Test

### 2.1. Test equipment

Test equipment	Model	manufacturer	Serial
Vibration testing system	GT1000M	FAMTECH	D1803072-1
Acceleration sensor	8703A250M5	KISTLER	5241941

### 2.2. Test condition

1. Vibrate the test unit in each plane at its resonant frequency for a period of 1 hour at an amplitude resulting in 0.5 g acceleration. (test profile)
2. When more than one resonant frequency has been recorded in accordance with Section 1.2 Item 4, the test period of 1 hour shall be divided equally between the resonant frequencies.
3. The total time of the endurance test shall be limited to 3 hours, 1 hour in each of three mutually perpendicular planes.

### 2.3. Check Item

- No mechanical damage.

### 2.4. Test Result

- **Pass**

### Model description

Basic Model .....	TNO-7180R
Series model .....	TNO-7180RLP
Model differences .....	The model TNO-7180RLP is identical to TNO-7180R except model designation.



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### 3. APPENDIX

#### 3.1. Products

< Photo 1 > Product External view



< Photo 2 > Product External view



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< Photo 3 > Product label





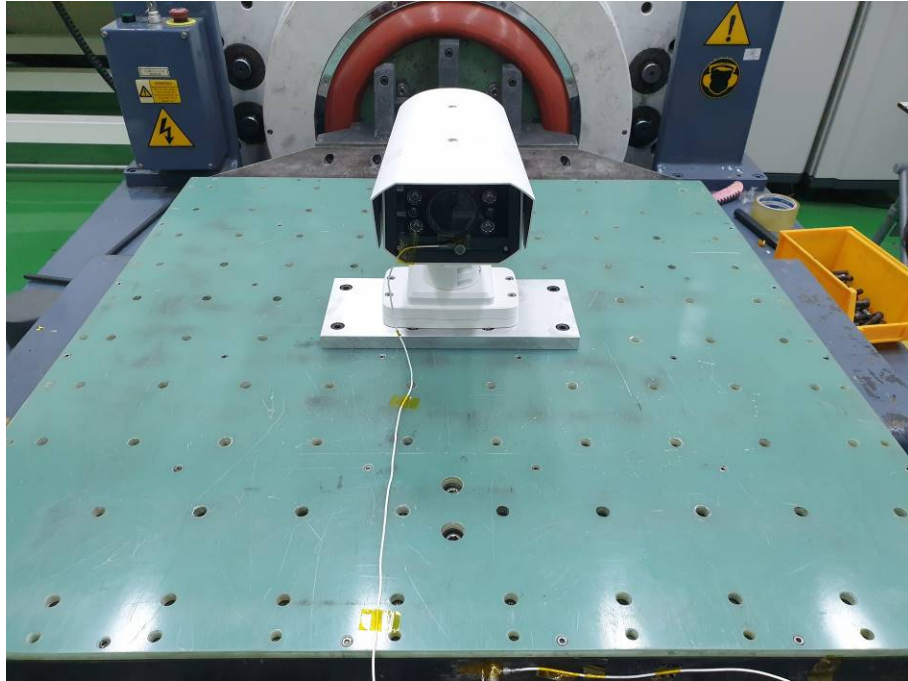
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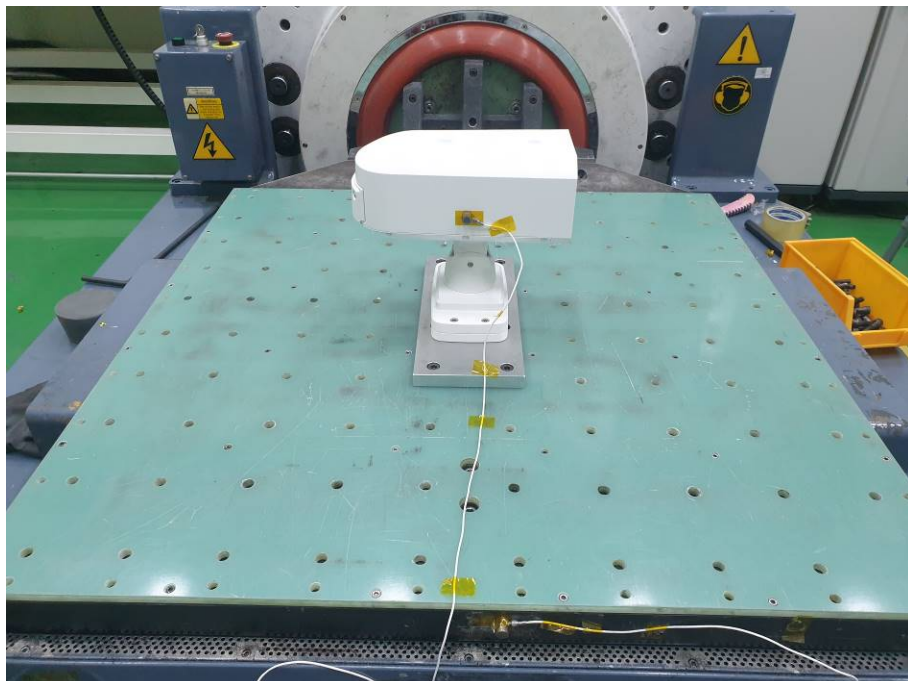
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### 3.2. Test photos

[X axis]



[Y axis]



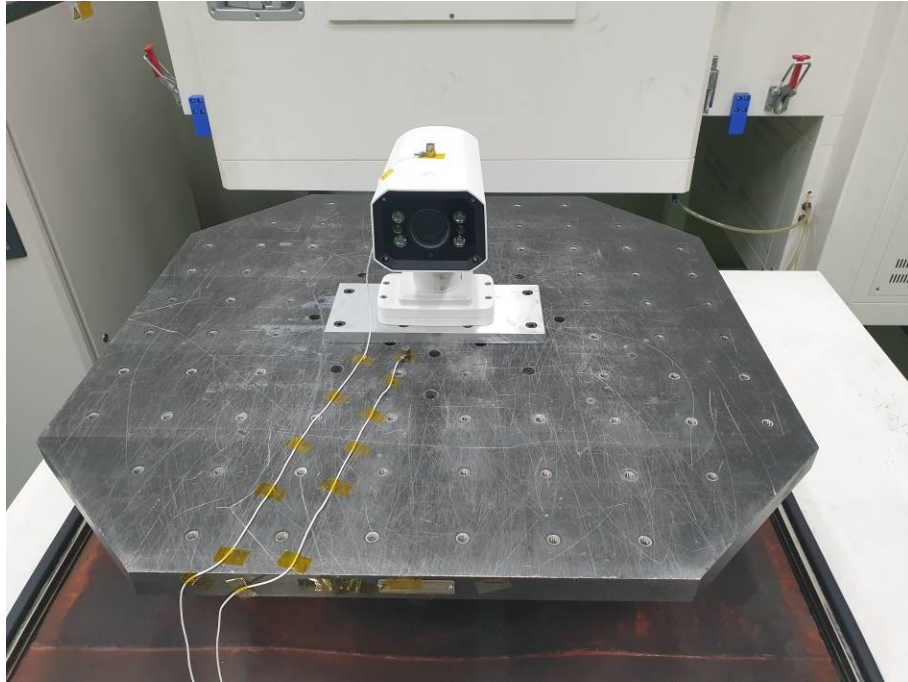


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[Z axis]





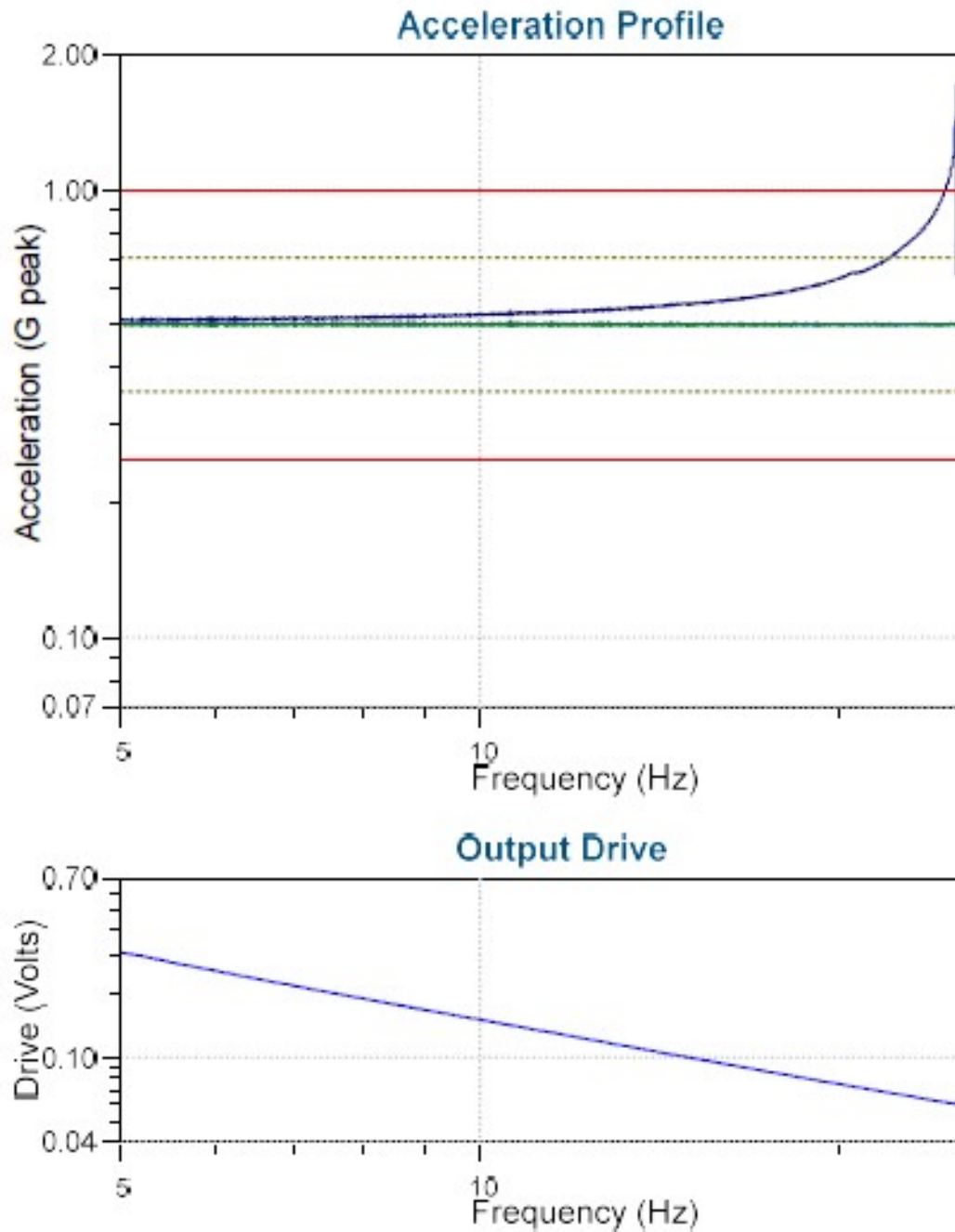
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### 3.3. Data

[Resonant search]

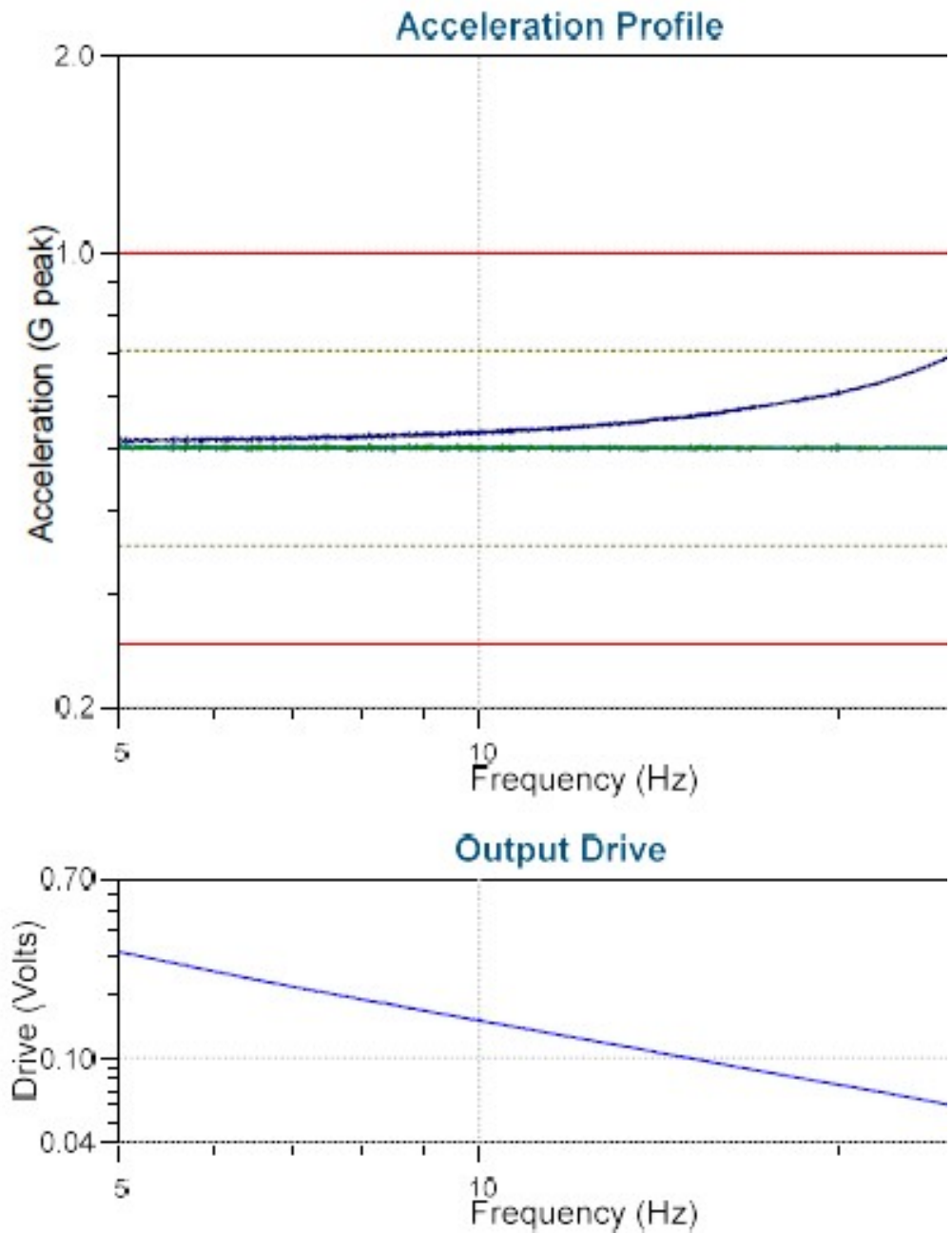


[X axis]

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**[Resonant search]**

5/29, 2021 11:29:05 Level 1) 100 %

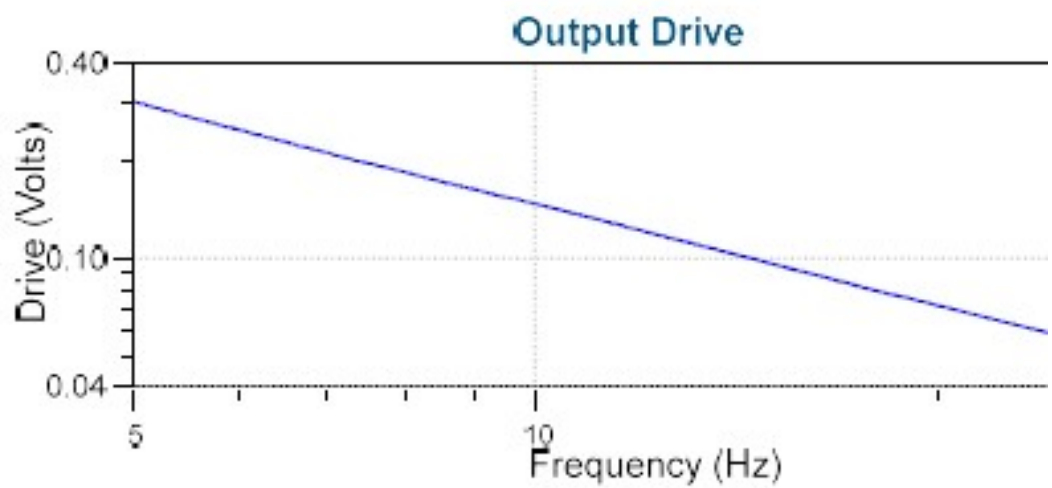
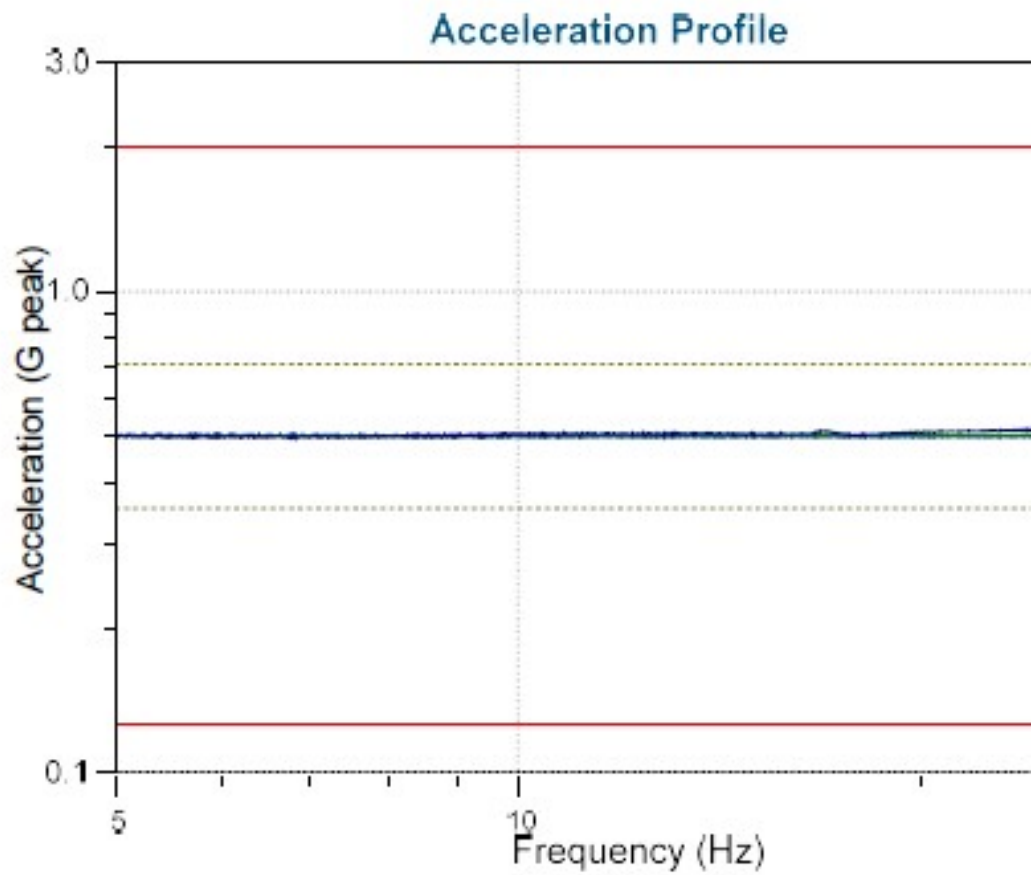
Output: 0.0497 Volts peak 공진시

[Y axis]

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**[Resonant search]**

[Z axis]

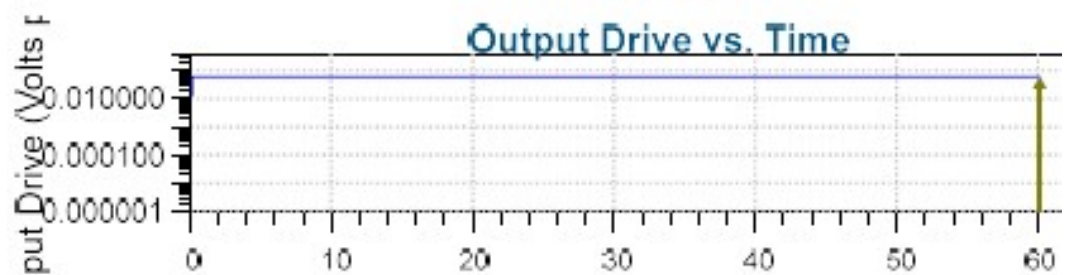
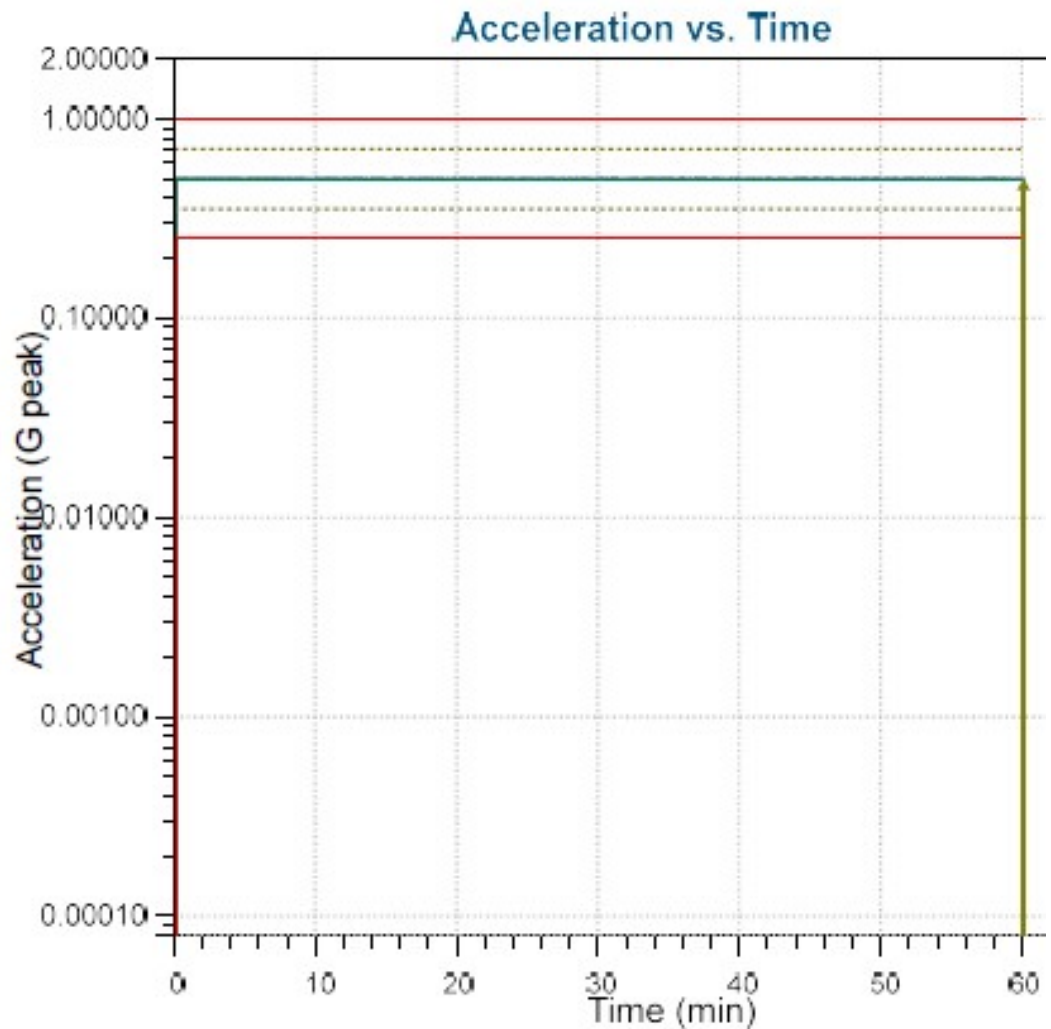


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### [Endurance Test]

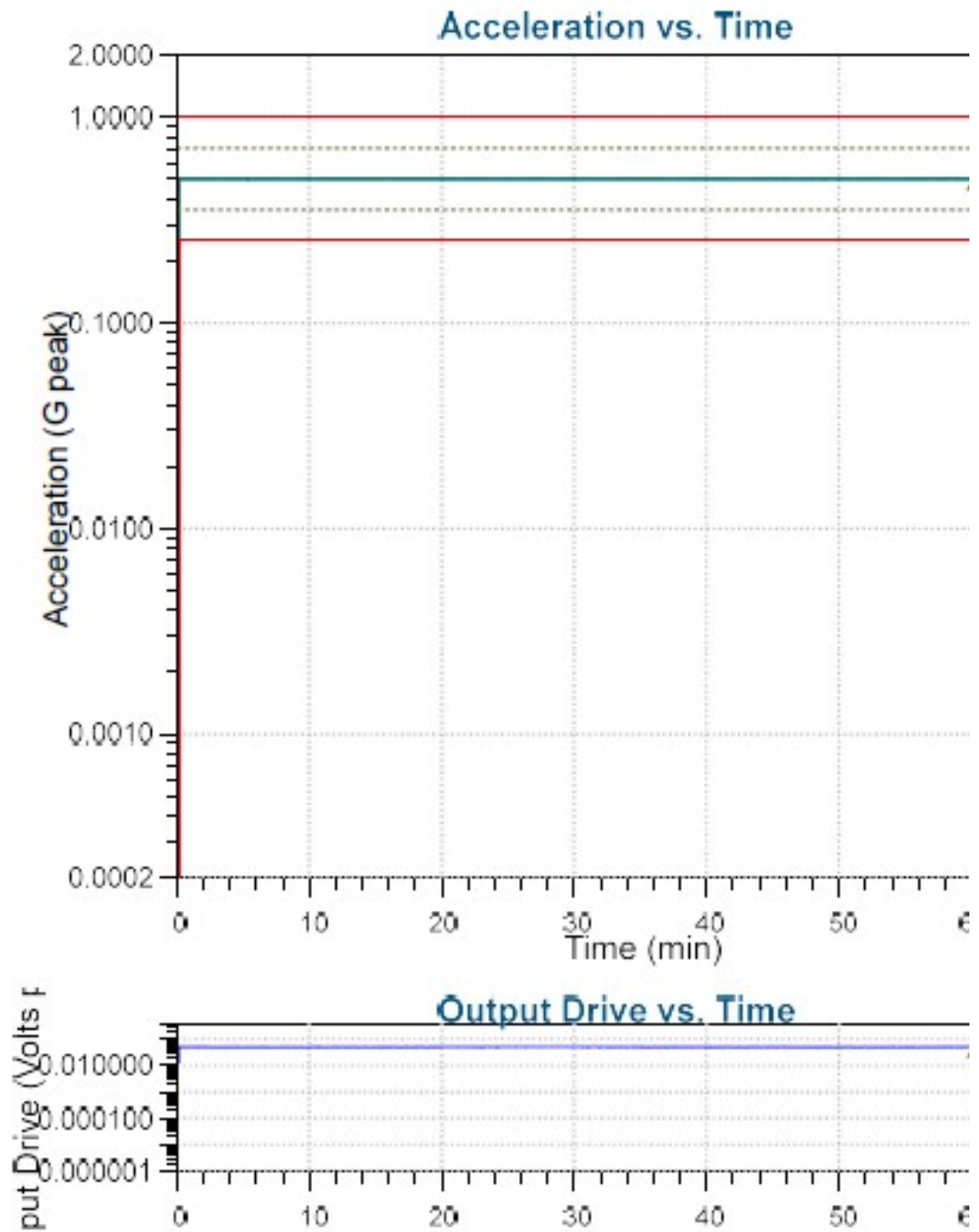


5.20. 2021.11.09.5 Level 4) 100 % at 25.02 Hz Output 0.05042 Volts peak 고정비드  
[X axis]

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**[Endurance Test]**

5 29 2021 12 29 3: Level 1) 100 % at 30 Hz  
[Y axis]

Output: 0.04975 Volts per 공진대



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## [Endurance Test]

