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SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
1st Review Date: 7/14/98
Authority: ☐ ADC ☒ ADD
Name: Whayne
2nd Review Date: 7/23/98
Authority: ADD
Name: R.B. Crane
Determination (Circle Numbers):
1 Classification Retained
2 Classification Changed to: U
3 Contains No DOE Classified Information
4 Coordinate With:
5 Contains UCNI? no
6 Comments:
OK for Openness

December 3, 1962
File No. T-14
T-18015
Completion Date 5/15/62

CENTRAL RECORD FILE
ACCOUNTABILITY CARD
FILE No. XW 53
3-2

To: T. J. Hoban, Jr. - 7212
Attn: R. H. Lanes

Re: Vibration Test of the XW-53 Telemetry Package (U)

## Test Summary

The telemetry package for the XW-53 was subjected to sinusoidal vibration testing in three orientations. The inputs were sweeps of 2 g from 10 to 500 to 10 cps in 12 minutes and 0.3 in. D.A. 10 to 18 cps, 5 g 18 to 150 to 18 cps, 0.3 in. D.A. 18 to 10 cps in 8 minutes. The telemetry equipment functioned satisfactorily in all orientations for both inputs. The results and maximum responses are summarized in Table I.

## Object of Test

The object of the test was to prove the structural integrity and functional capability of the telemetry package in the XW-53 when subjected to vibration encountered during flight.

## Authorization for Test

The test was authorized by Environmental Test Order from 7253 (now 7212) to R. S. Hooper, 7321-5, dated August 9, 1961. Mr. R. D. Robinett was the consultant.

## Setup for Test

The test setups and accelerometer locations for three orientations and two inputs are shown in Figures 1 through 13.

## Procedure

The XW-53 telemetry package was instrumented and assembled in the container and bolted to the table in the vertical orientation. The unit was to be subjected to an input of 2 g from 10 to 500 to 10 cps in 12 minutes with the table control accelerometer on the forward container cap (Figure 2). Due to the high response of the system, the input was limited to approximately 1.3 g. The acceleration-vs-frequency plot is shown in Figure 14.

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DOWNGRADING OR DECLASSIFICATION STAMP
CLASSIFICATION CHANGED TO: U
Emilda Selph 7/28/98
PERSON CHANGING MARKING & DATE
W. C. Lane 7/30/98
PERSON VERIFYING MARKING & DATE
AUTHORITY: R.B. Crane
RECORD ID: 98SN2995
DATED: 7/23/98

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Records of responses were made on magnetic tape for the sweep from 10 to 500 cps.

The unit was changed to the lateral orientation and the test was repeated. The input for this orientation was approximately 1.8 g (Figure 15).

The unit was changed to the longitudinal orientation with the aft end of the container bolted to the table and the table control accelerometer on the aft container cap (Figure 4). The input for this orientation was approximately 2.0 g (Figure 16).

The unit was removed from the table and modified by Org. 7210 by installing two nylon tipped 1/2-20 bolts through the TM container and bearing on the frame of the TM package. A dummy weight was bolted in place of the recorder.

The TM package was installed in the container and assembled on the table in the vertical orientation. The unit was subjected to an input of 0.3 in. D.A. 10 to 18 cps, 5 g 18 to 150 to 18 cps, 0.3 in. D.A. 18 to 10 cps sweeping from 10 to 150 to 10 cps in 8 minutes. Records of responses were made on magnetic tape for the sweep from 10 to 150 cps. The table control accelerometer was mounted on the forward container cap (Figure 2).

The unit was changed to the lateral orientation and the test was repeated. The acceleration vs frequency plot of the input is shown in Figure 17.

The unit was bolted to the shaker in the longitudinal orientation with the aft container cap bolted to the shaker and the table control accelerometer mounted on the forward container cap (Figure 5). The acceleration vs frequency plot of the input is shown in Figure 18.

Results

There was no apparent damage to the structure or components during the 2 g sweeps. The telemetry system functioned satisfactorily during all runs.

During the 5 g sweep of the vertical orientation, the nylon tip was broken off one of the clamping bolts. There was no other apparent structural damage and the telemetry system functioned satisfactorily.

The responses of the accelerometers for the 2 g sweeps are shown as filtered acceleration vs frequency plots in Figures 14 through 53. The records from the magnetic tape were filtered through a low pass filter set at 1000 cps.

The responses of the accelerometers for the 5.0 g sweeps are shown as filtered acceleration vs frequency plots in Figures 54 through 77. The

records from the magnetic tape were filtered through a low pass filter set at 300 cps. The magnetic tape with the 5.0 g vertical cross record was accidentally destroyed before acceleration vs frequency plots could be made.

The results are summarized in Table I.

J. F. REID - 7324-2

D. T. JUDD - 7331-1

Approved by: R. S. HOOPER - 7331-1

JFR:7324-2:dc

Encs: Figs. 1-77
Table I

Copy to:
J. M. Wiesen, 1442
D. S. Bliss, 2344
E. H. Copeland, 7331
C. L. Johnson, 7523
Central Record File, 3421-3

D#62-23035

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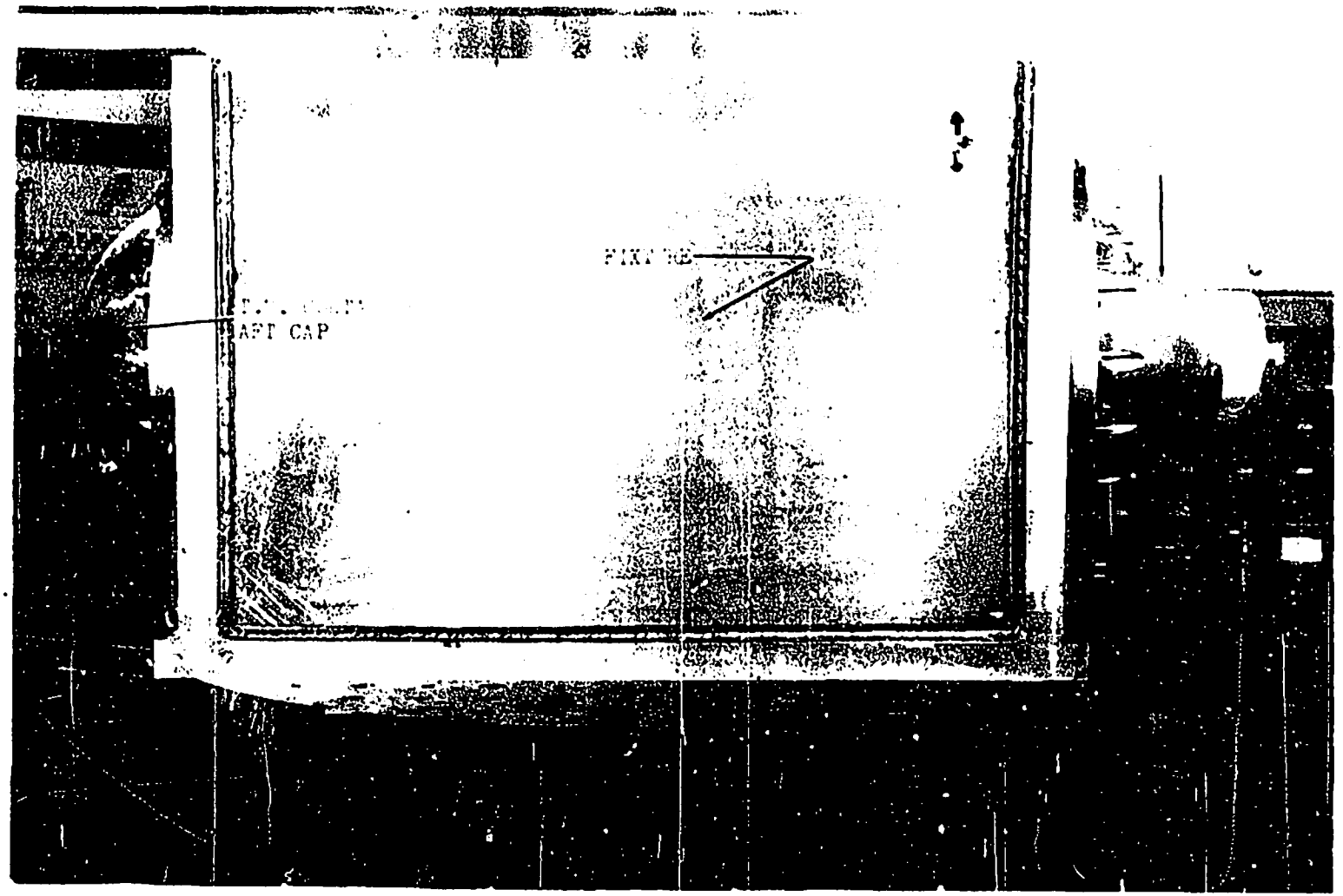


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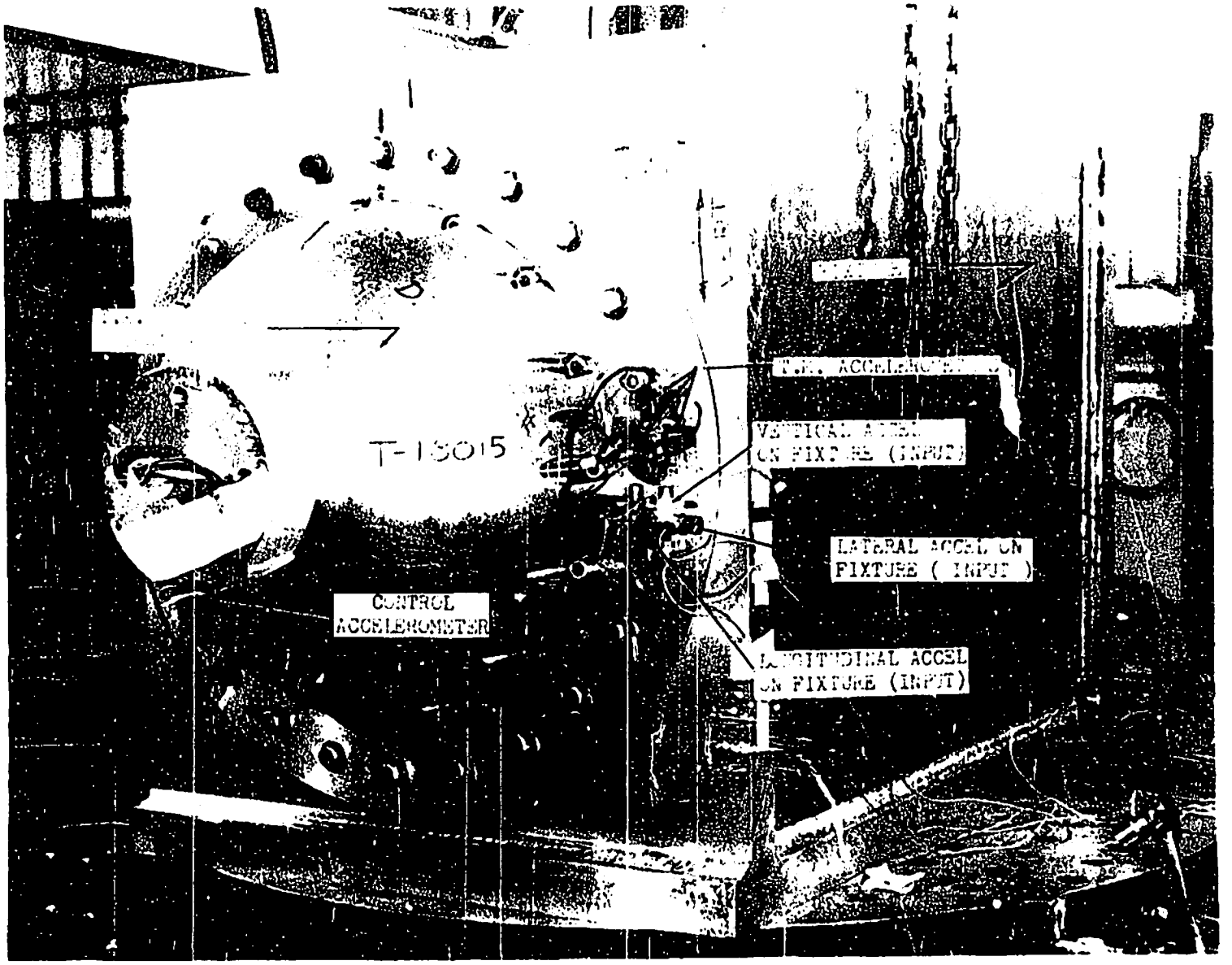


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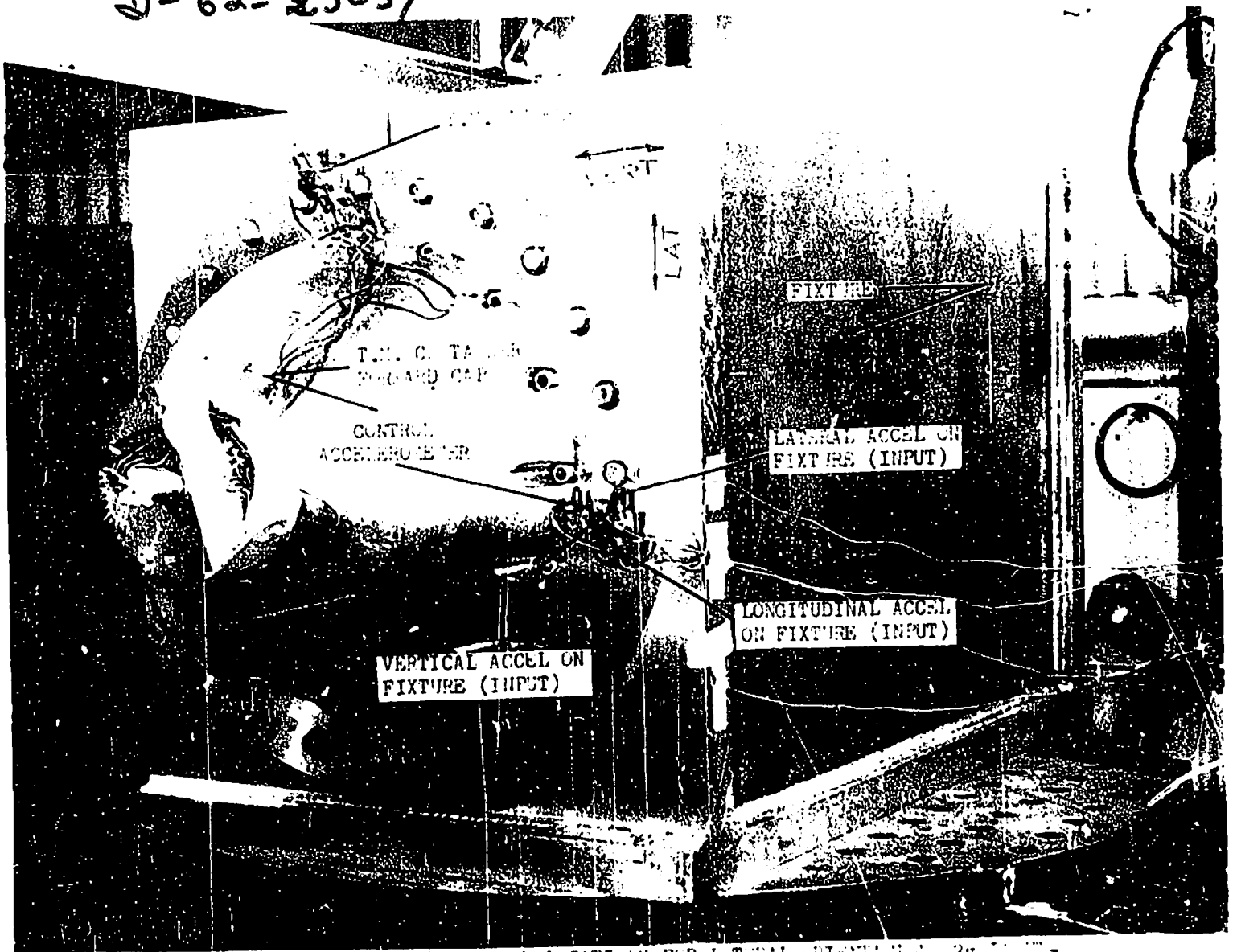


FIG. 3 TEST SETUP AND CONTROL ACCELEROMETER LOCATIONS FOR LATERAL ORIENTATION, 2F [illegible] VIBRATION TEST OF THE XW-53 TELEMETRY PACKAGE.

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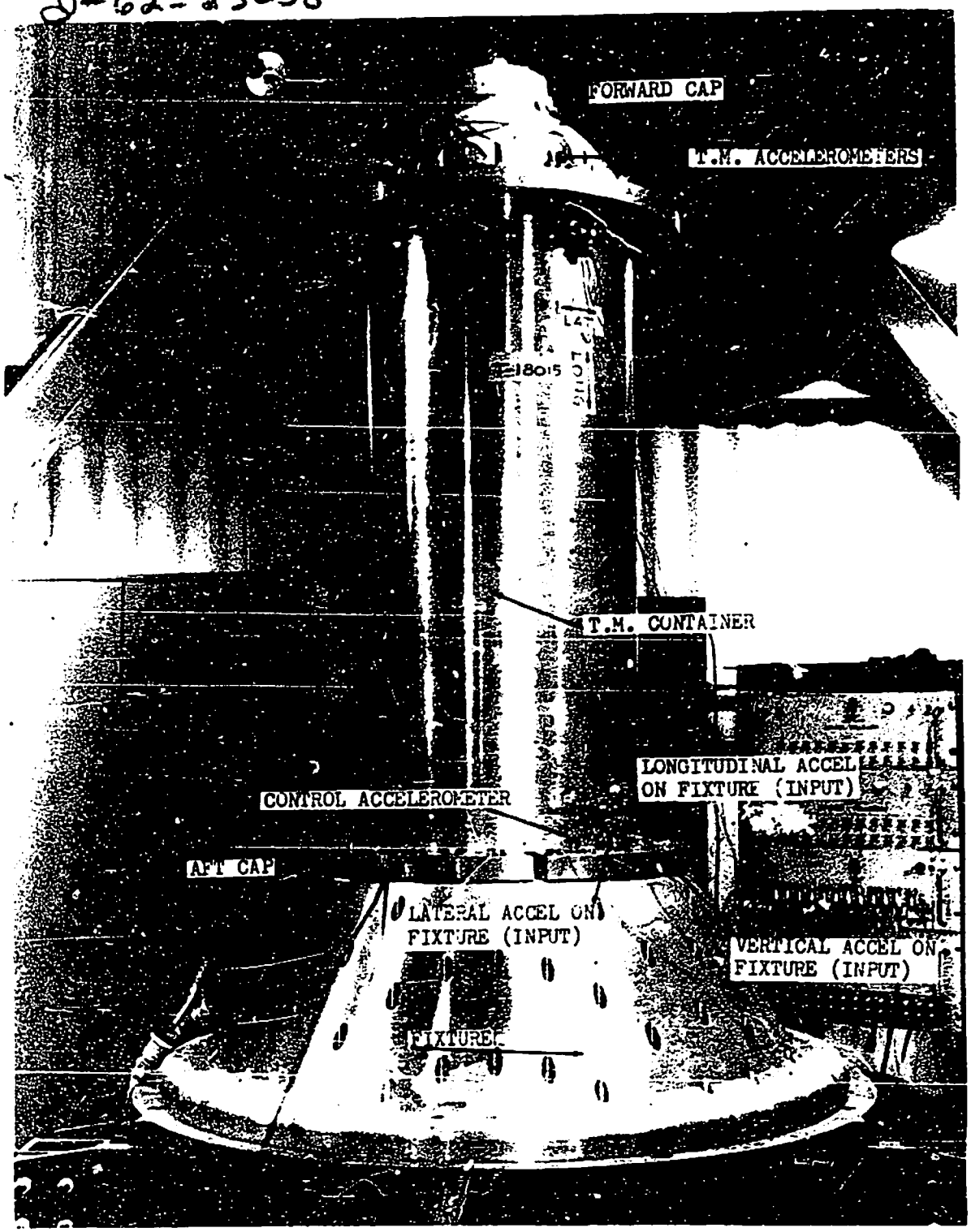


FIG. 1 TEST SETUP AND CONTROL ACCELEROMETER LOCATION FOR LONGITUDINAL ORIENTATION, 2g INPUT-
VIBRATION TEST OF THE XW-53 TELEMETRY PACKAGE.

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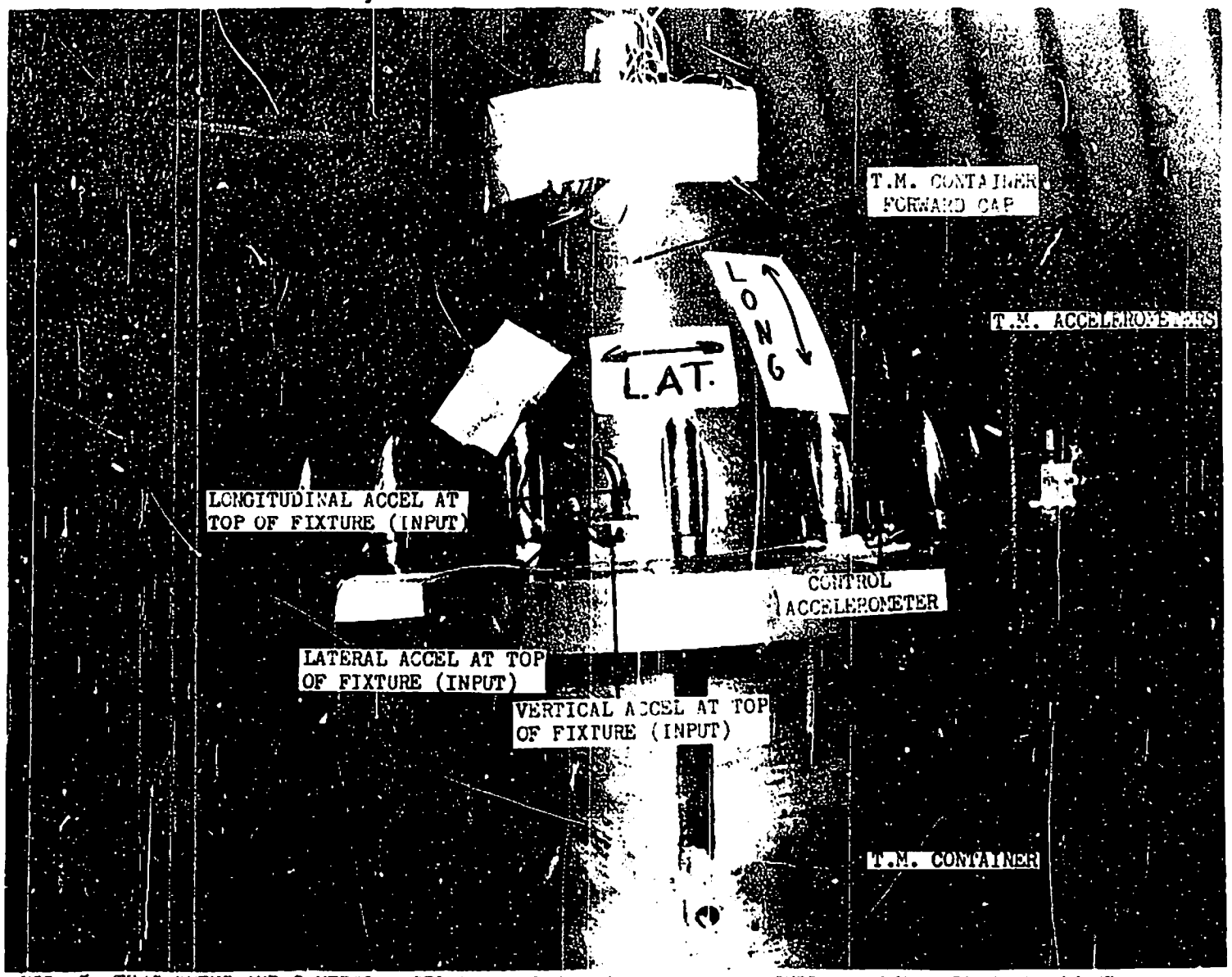


FIG. 5 TEST SETUP AND CONTROL ACCELEROMETER LOCATION FOR LONGITUDINAL ORIENTATION, [illegible] VIBRATION TEST OF THE XM-53 TELEMETRY PACKAGE.

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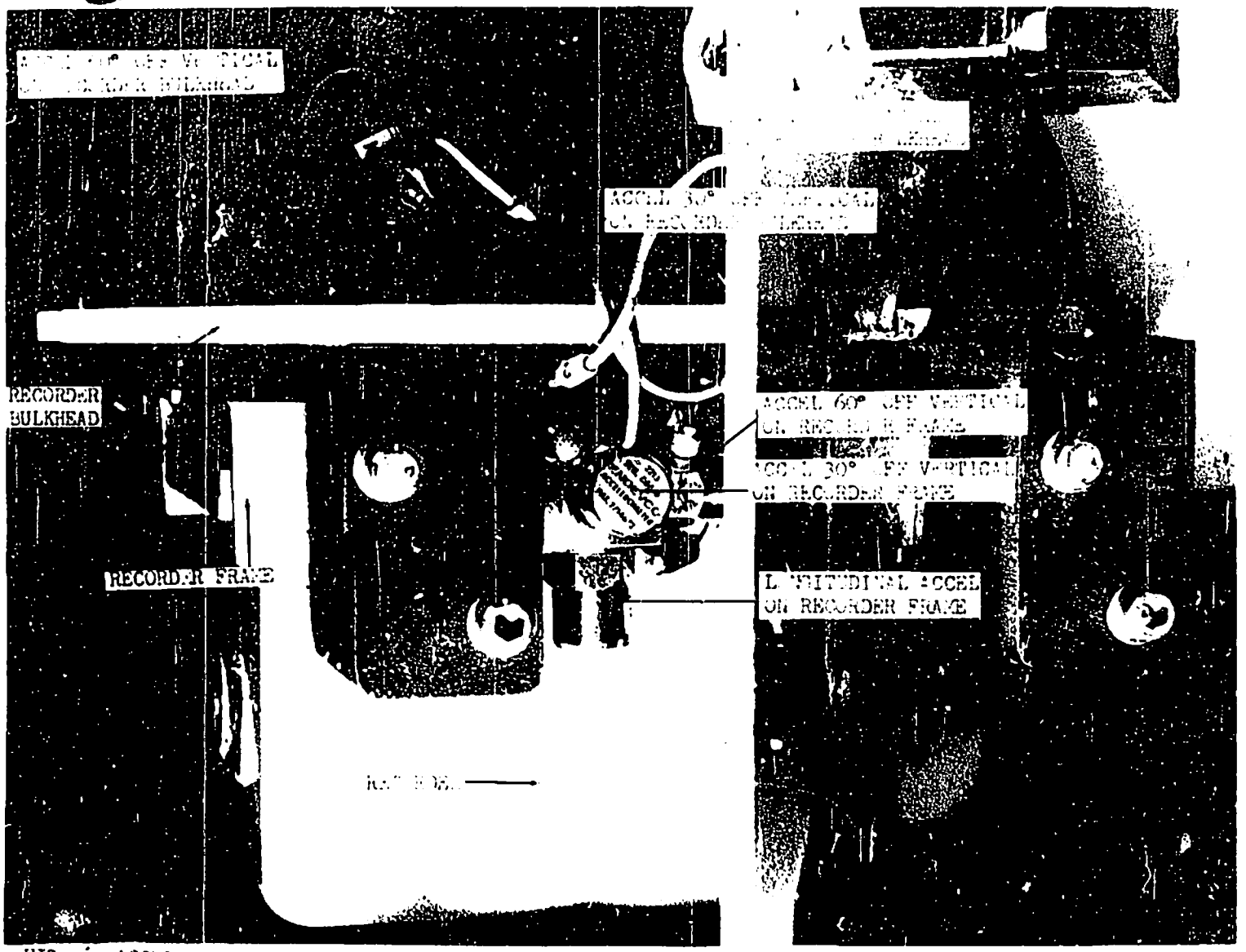


FIG. 5 ACCELEROMETER LOCATIONS ON RECORDER AND RECORDER BULKHEAD, 2K IN MT-[illegible] TEST [illegible] XN-CR [illegible] PACKAGE.

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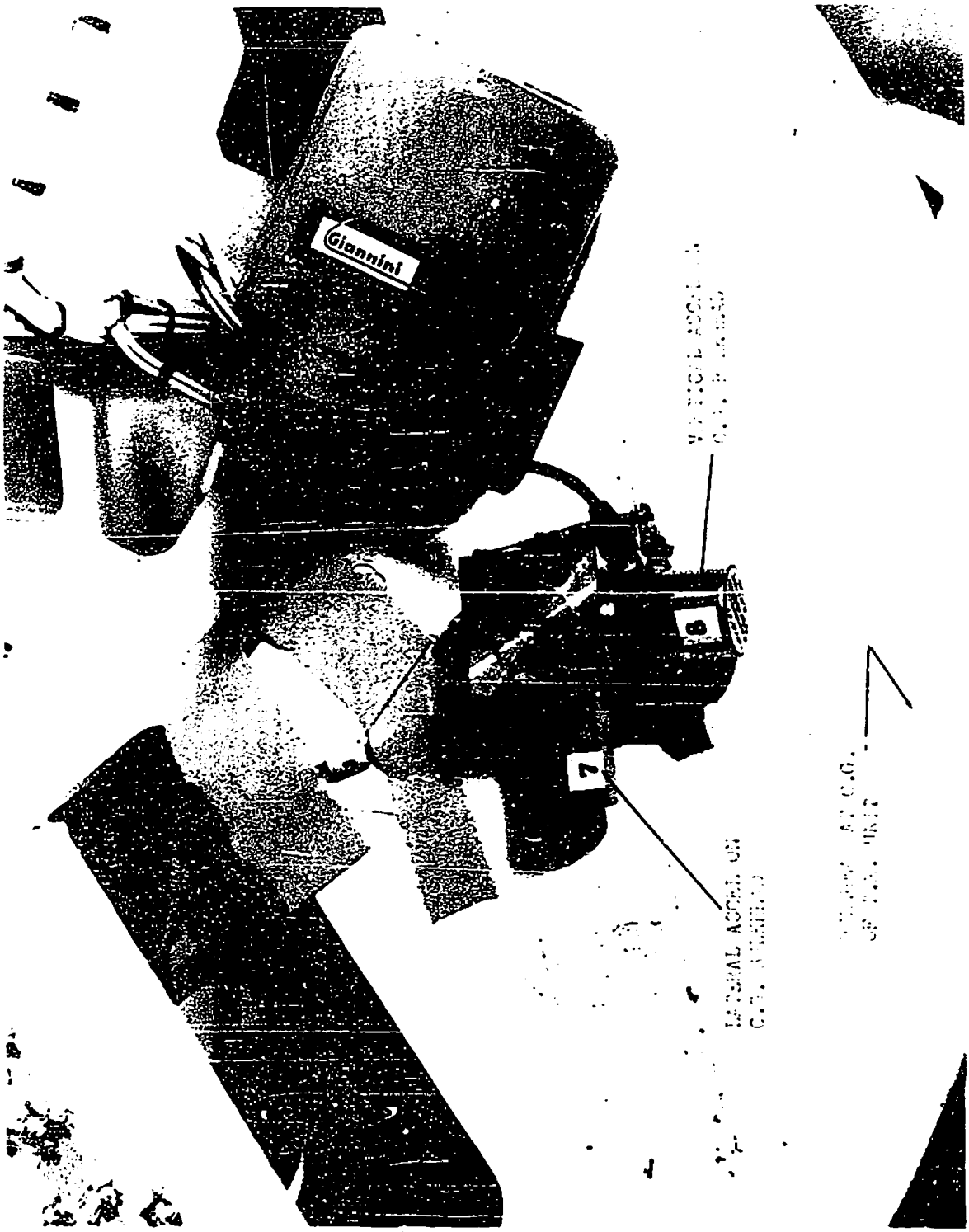


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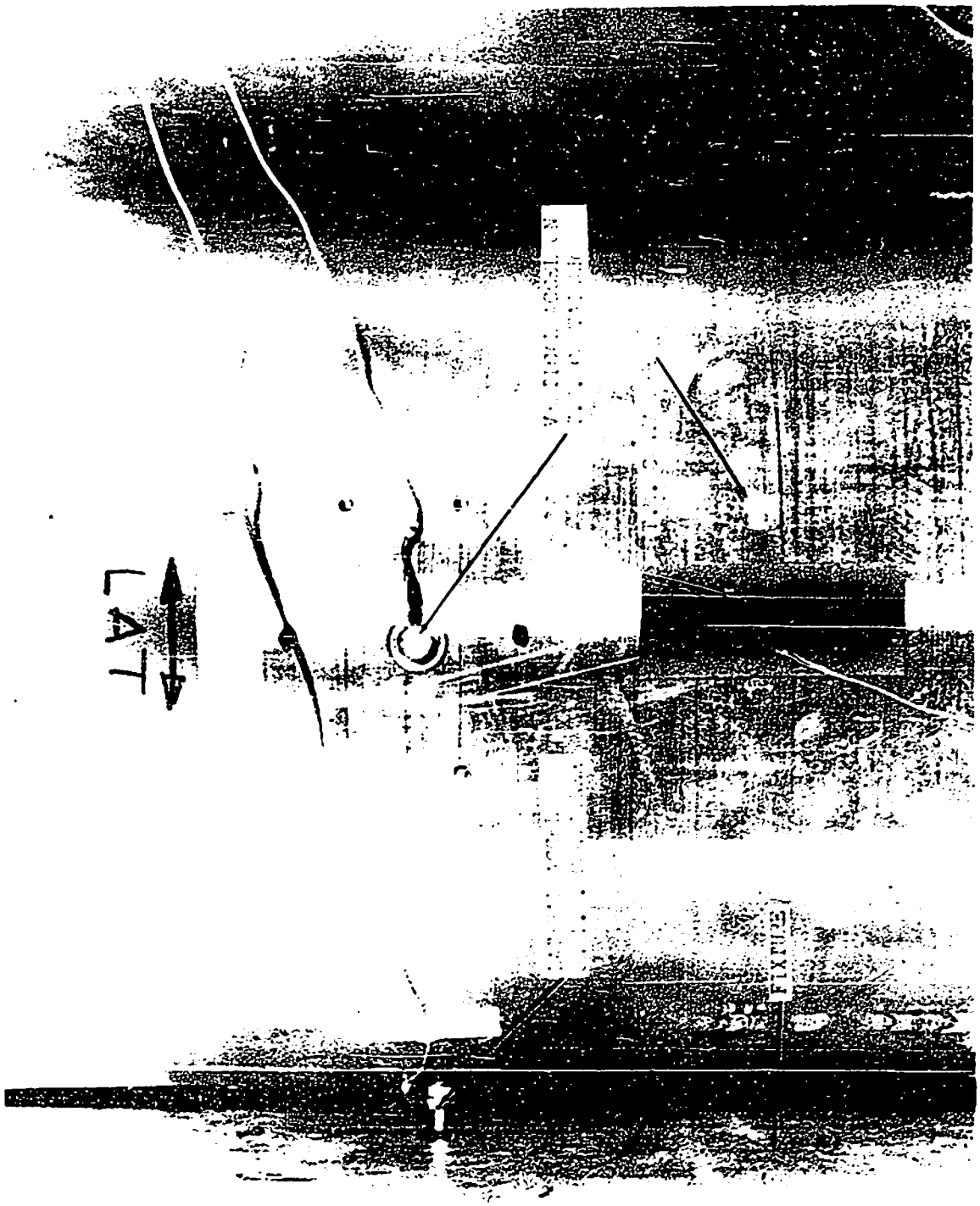


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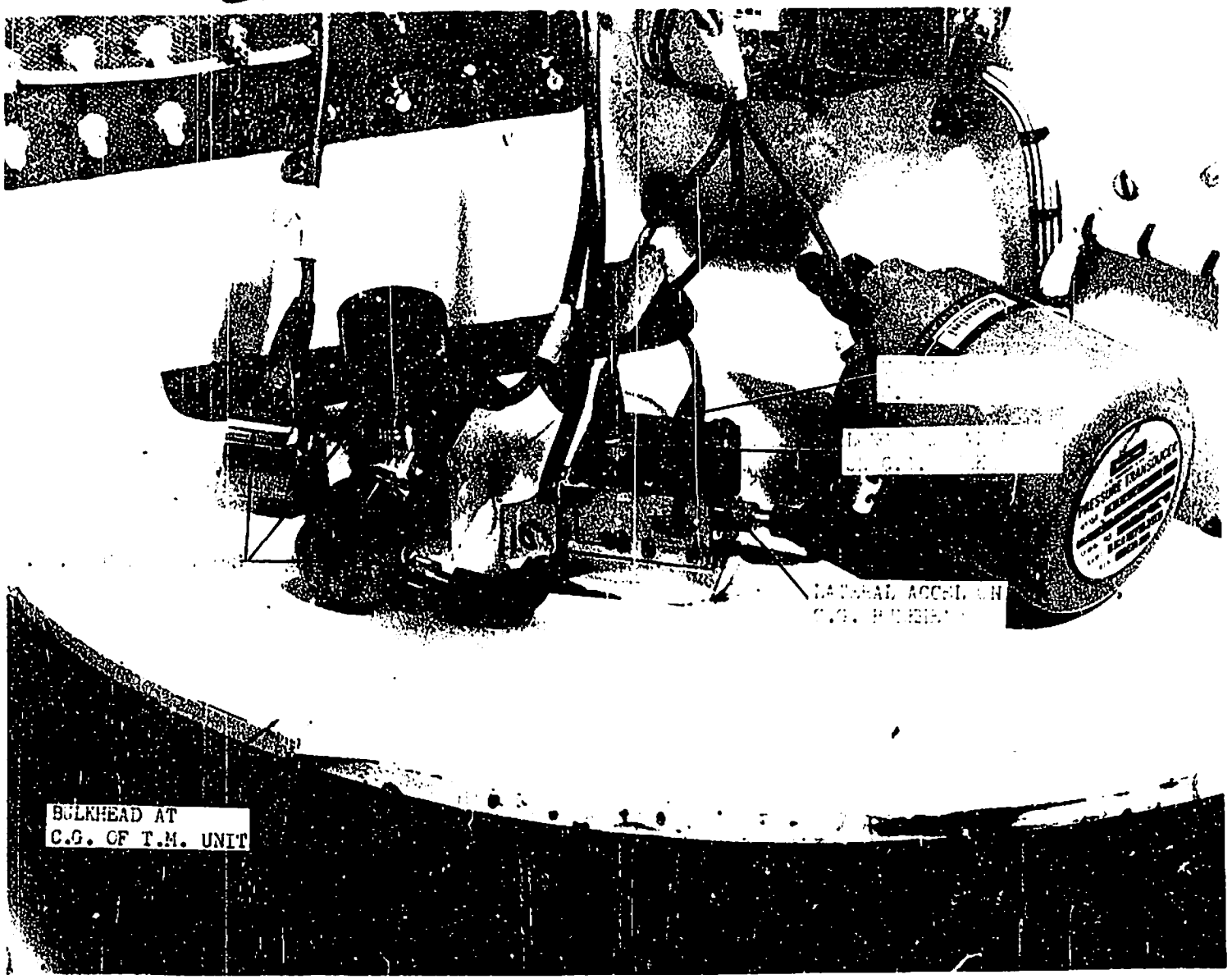


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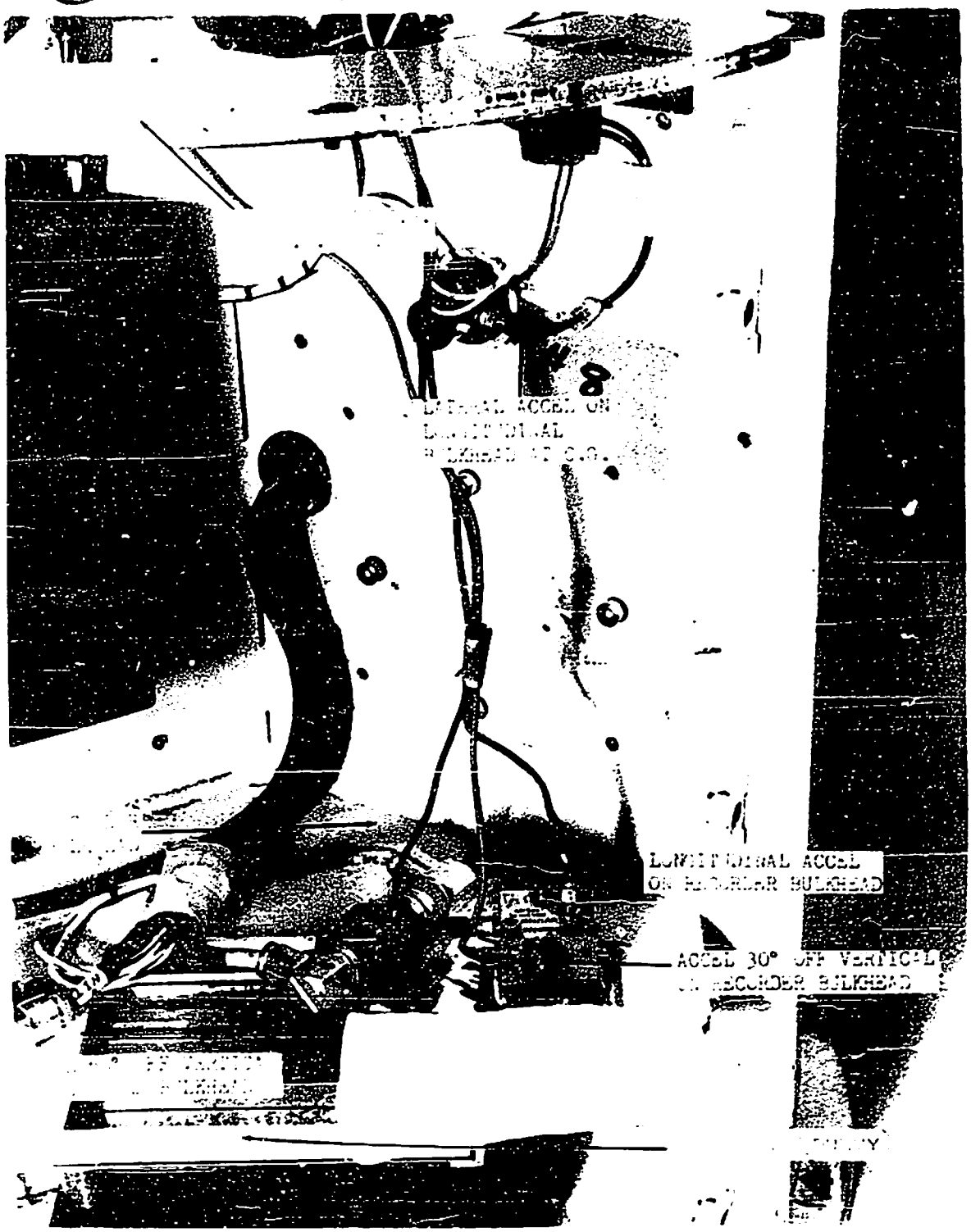


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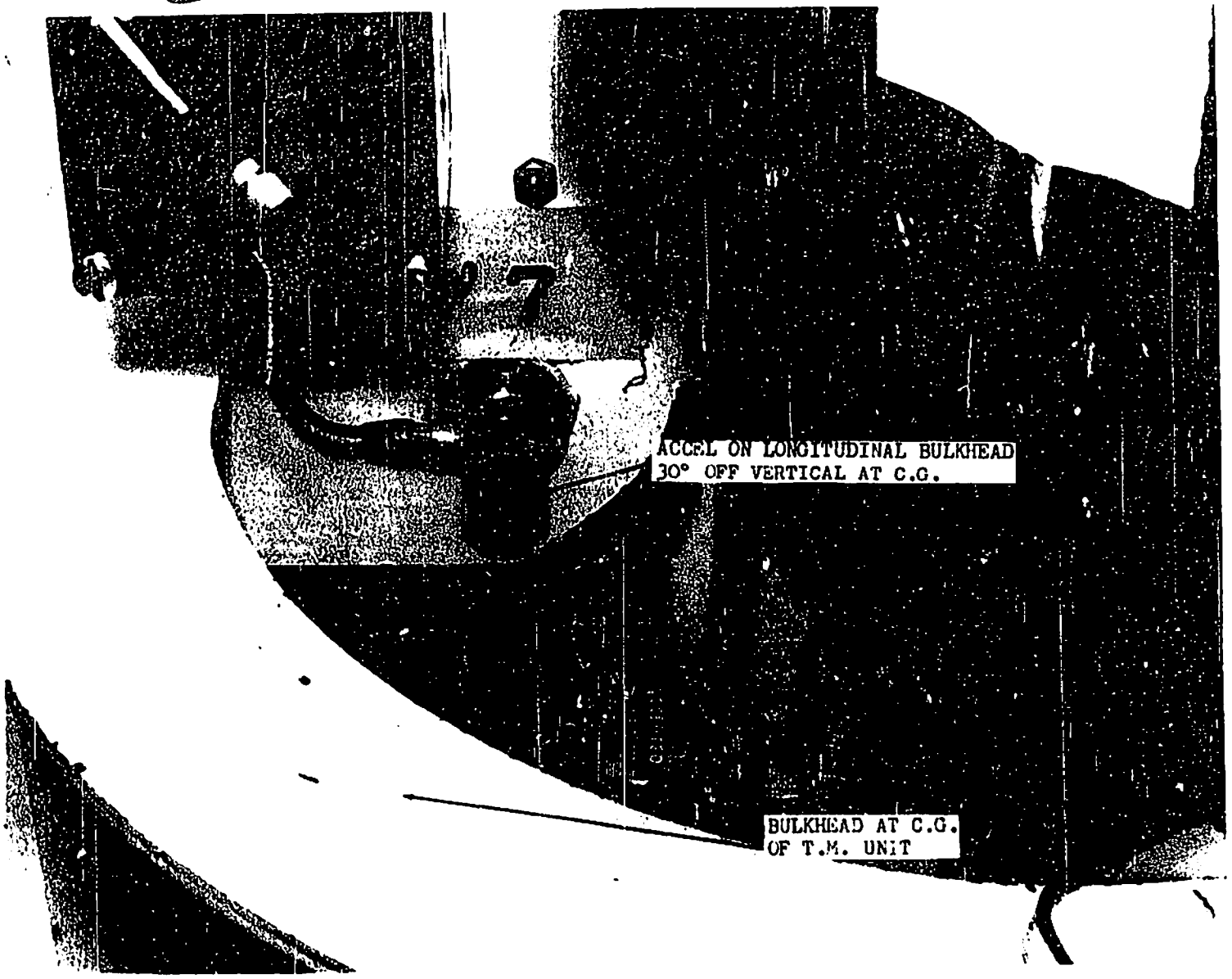


FIG. 12 ACCELEROMETER LOCATION ON LONGITUDINAL BULKHEAD - 5g INPUT-
VIBRATION TEST OF THE XM-53 TELEMETRY PACKAGE.

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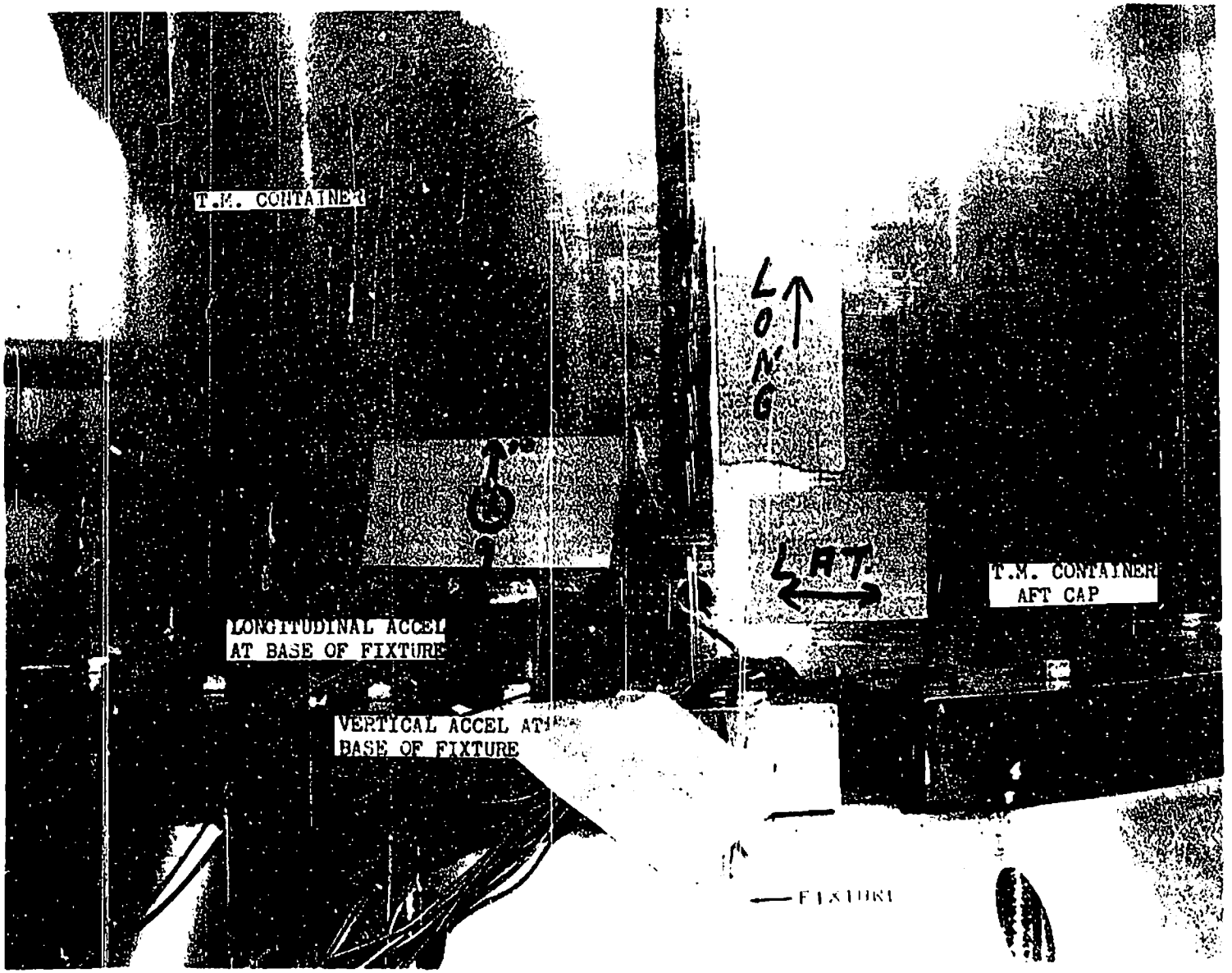


FIG. 13 ACCELEROMETER LOCATION AT BASE OF FIXTURE - [illegible] - [illegible] VIBRATION TEST OF THE XW-53 TELEMETRY PACKAGE.

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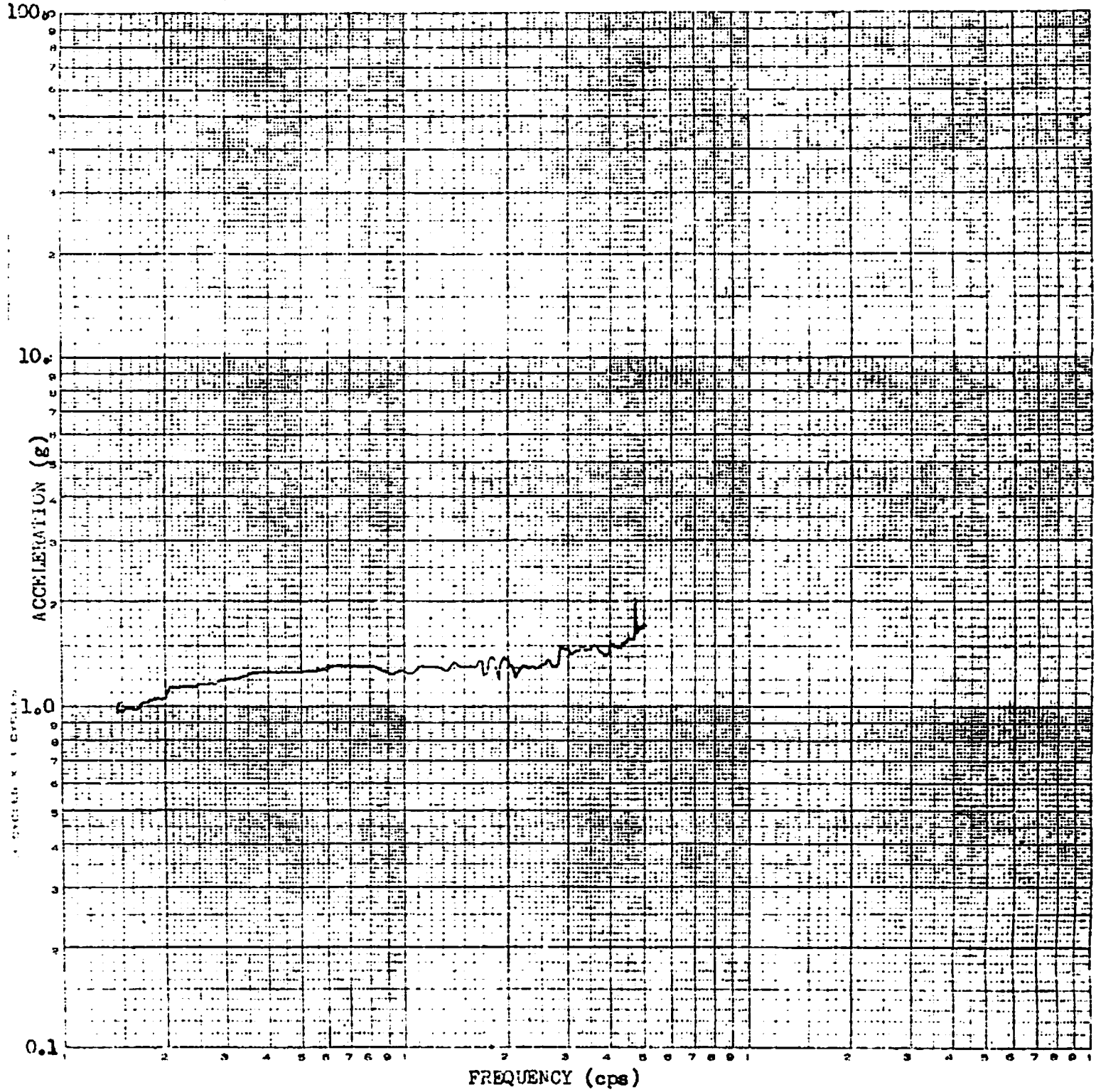


FIG. 14 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE FIXTURE (INPUT); 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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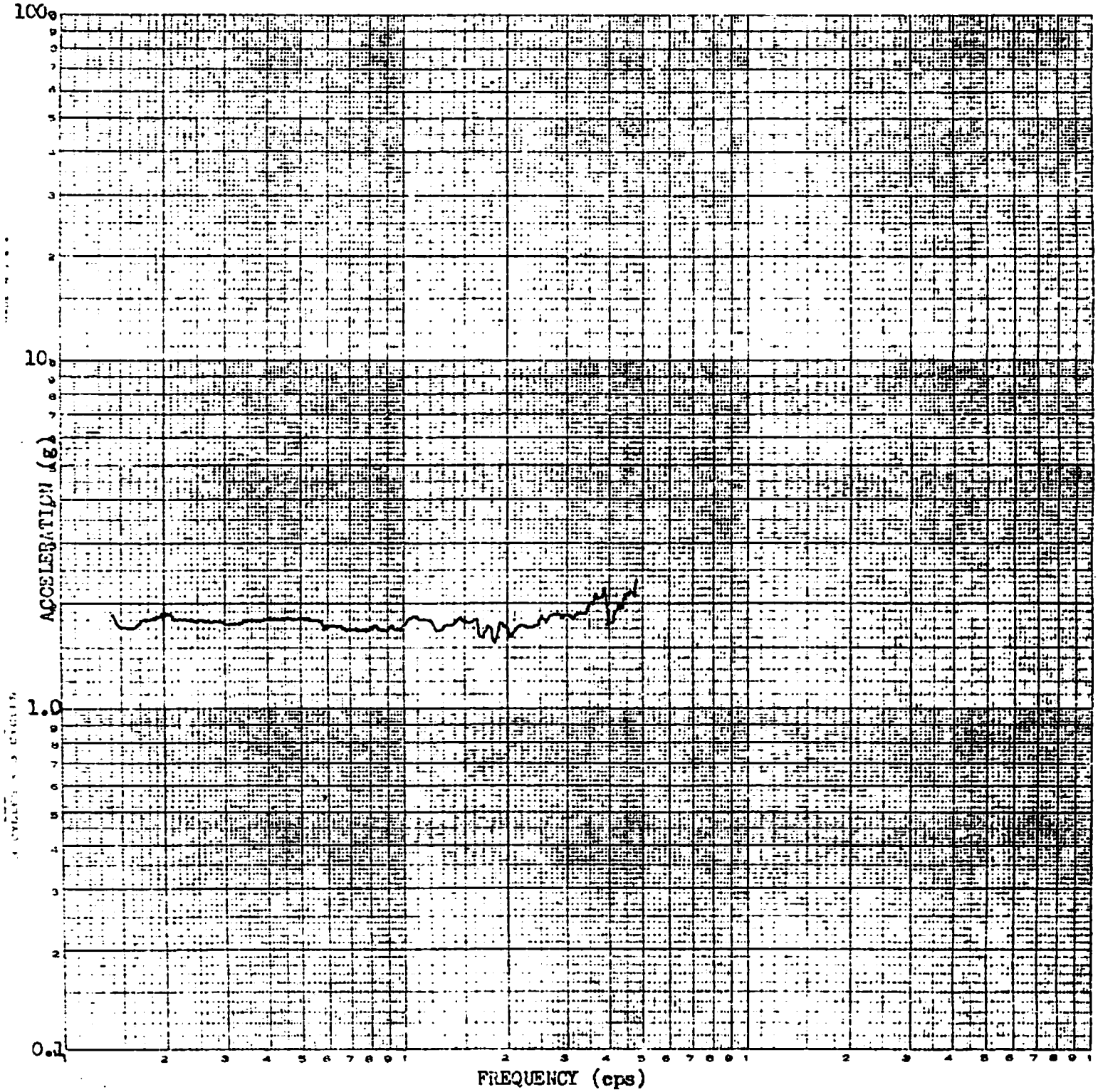


FIG. 15 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE FIXTURE (INPUT); 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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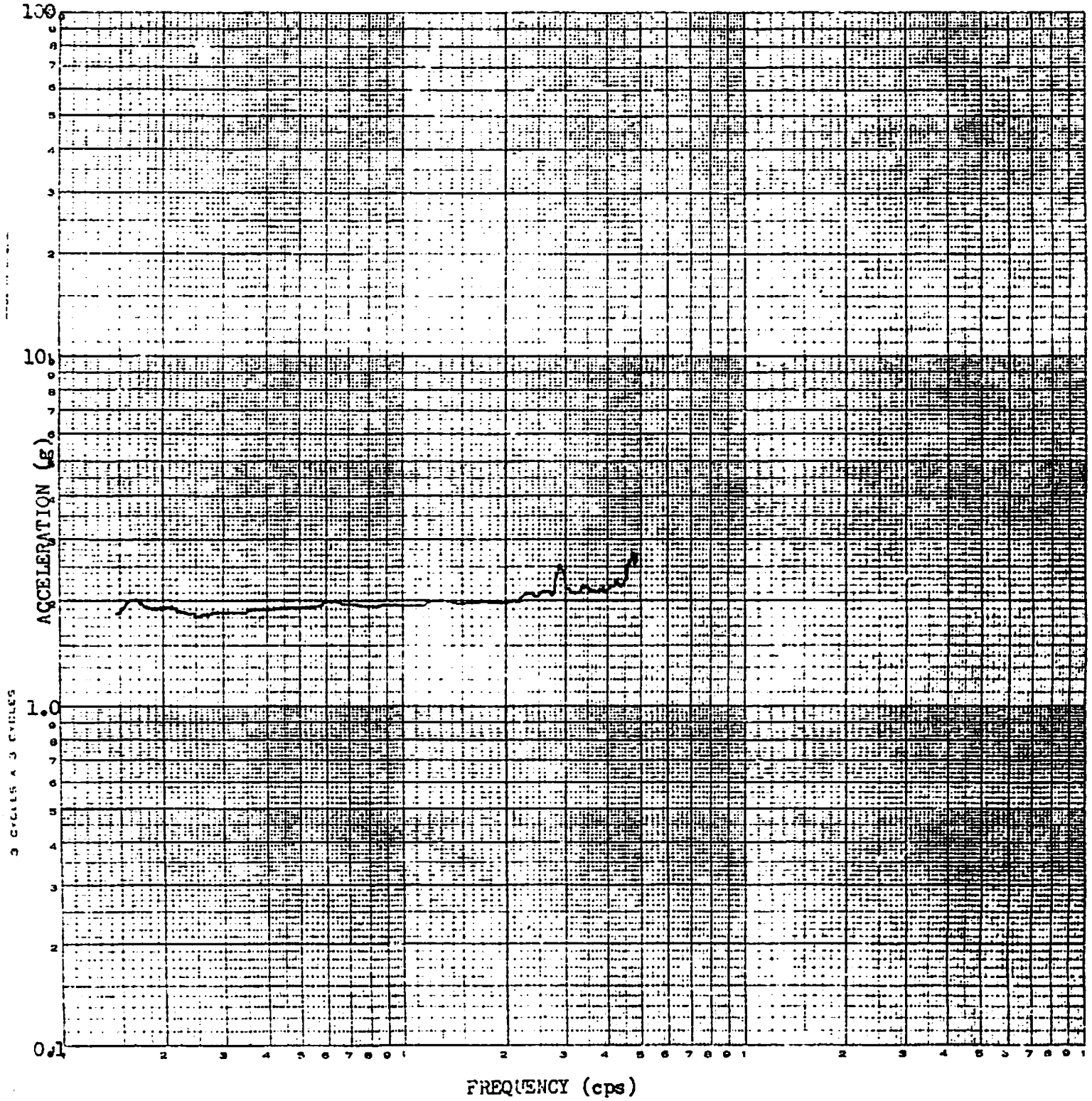


FIG. 16 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE BASE OF THE FIXTURE (INPUT); 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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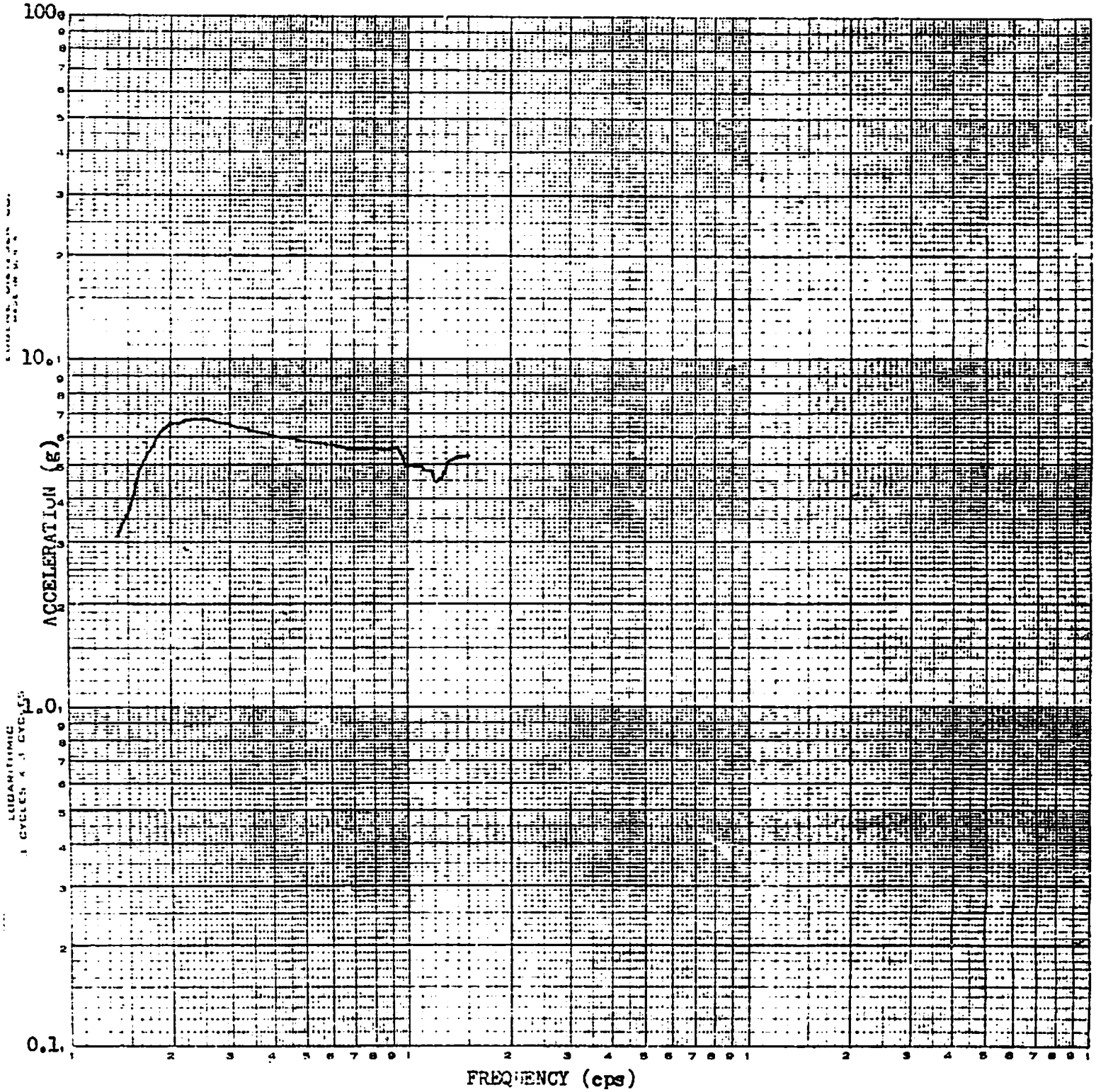


FIG. 17 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE FIXTURE (INPUT); 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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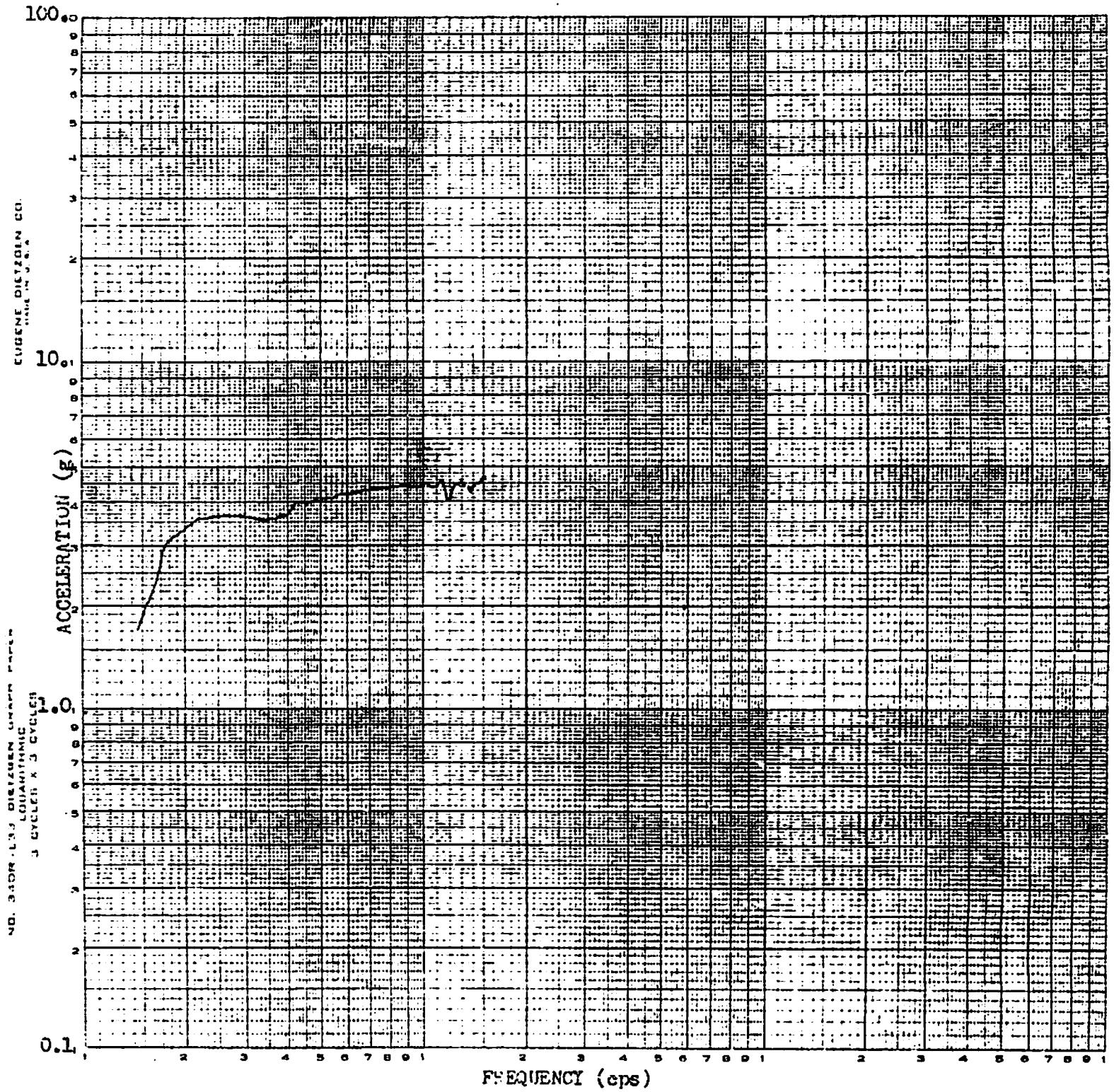


FIG. 18 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON TOP OF FIXTURE (INPUT); 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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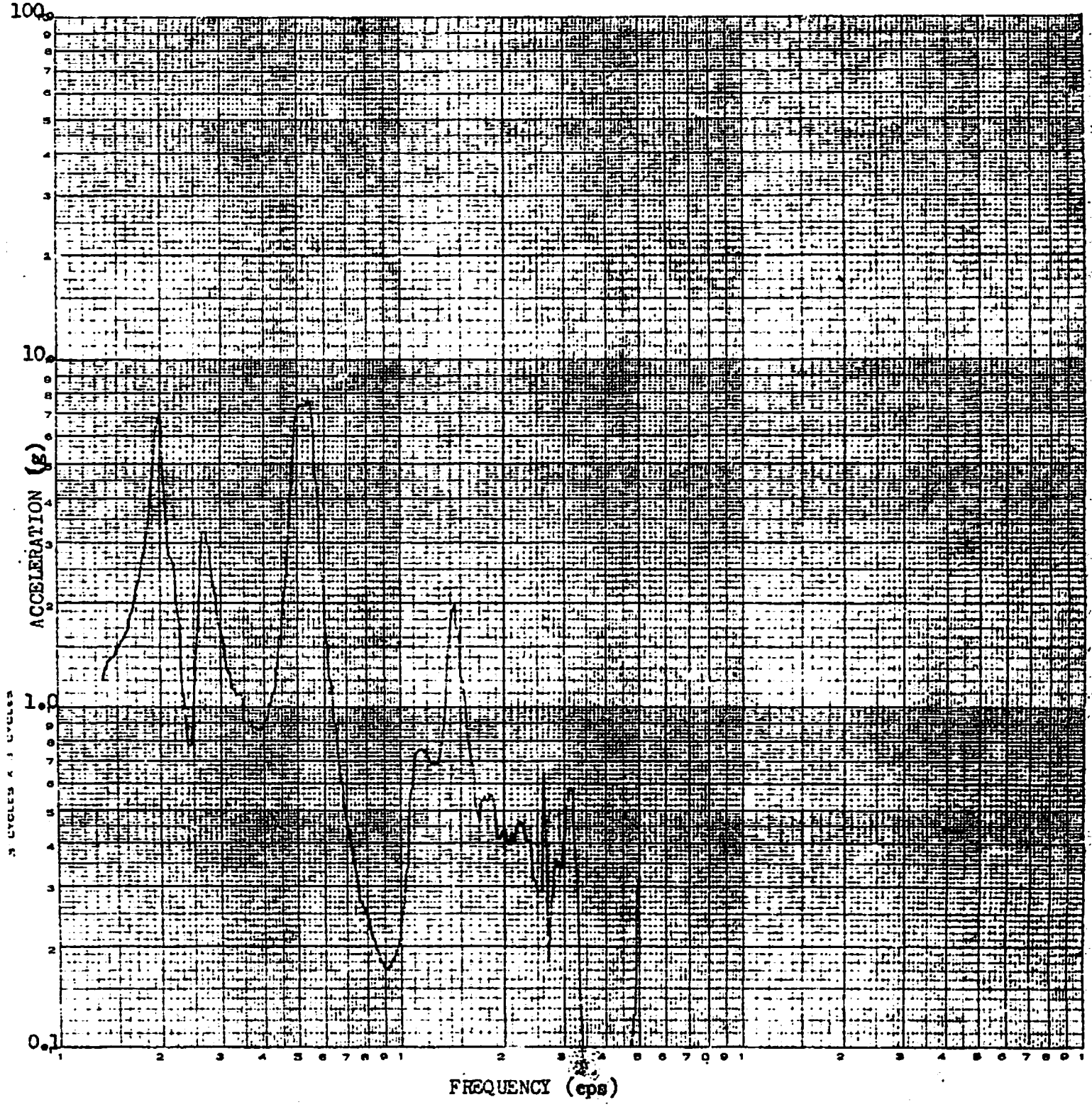


FIG. 19 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER, 60° OFF VERTICAL; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF XW-53 T.M. PACKAGE.

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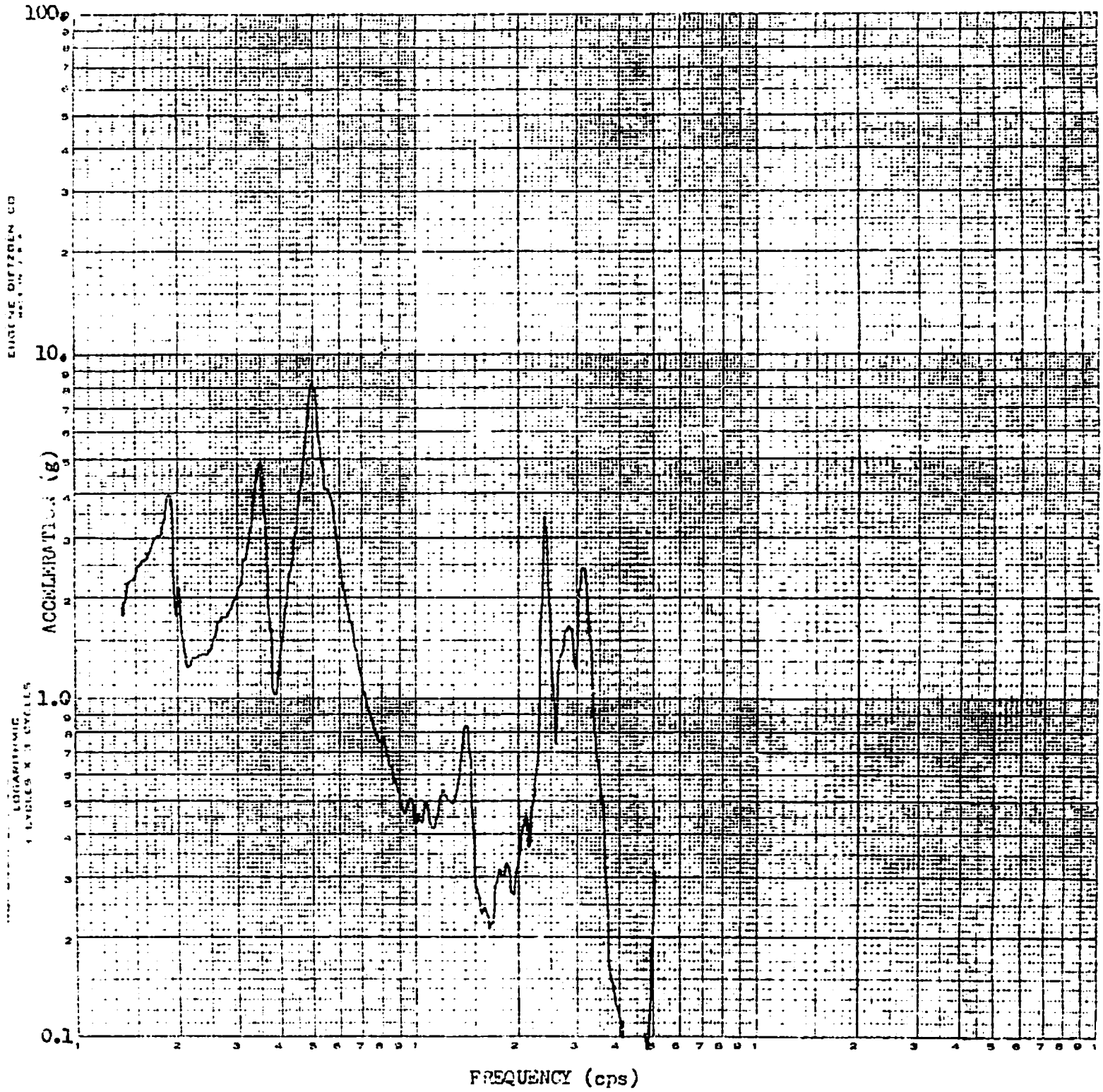


FIG. 20 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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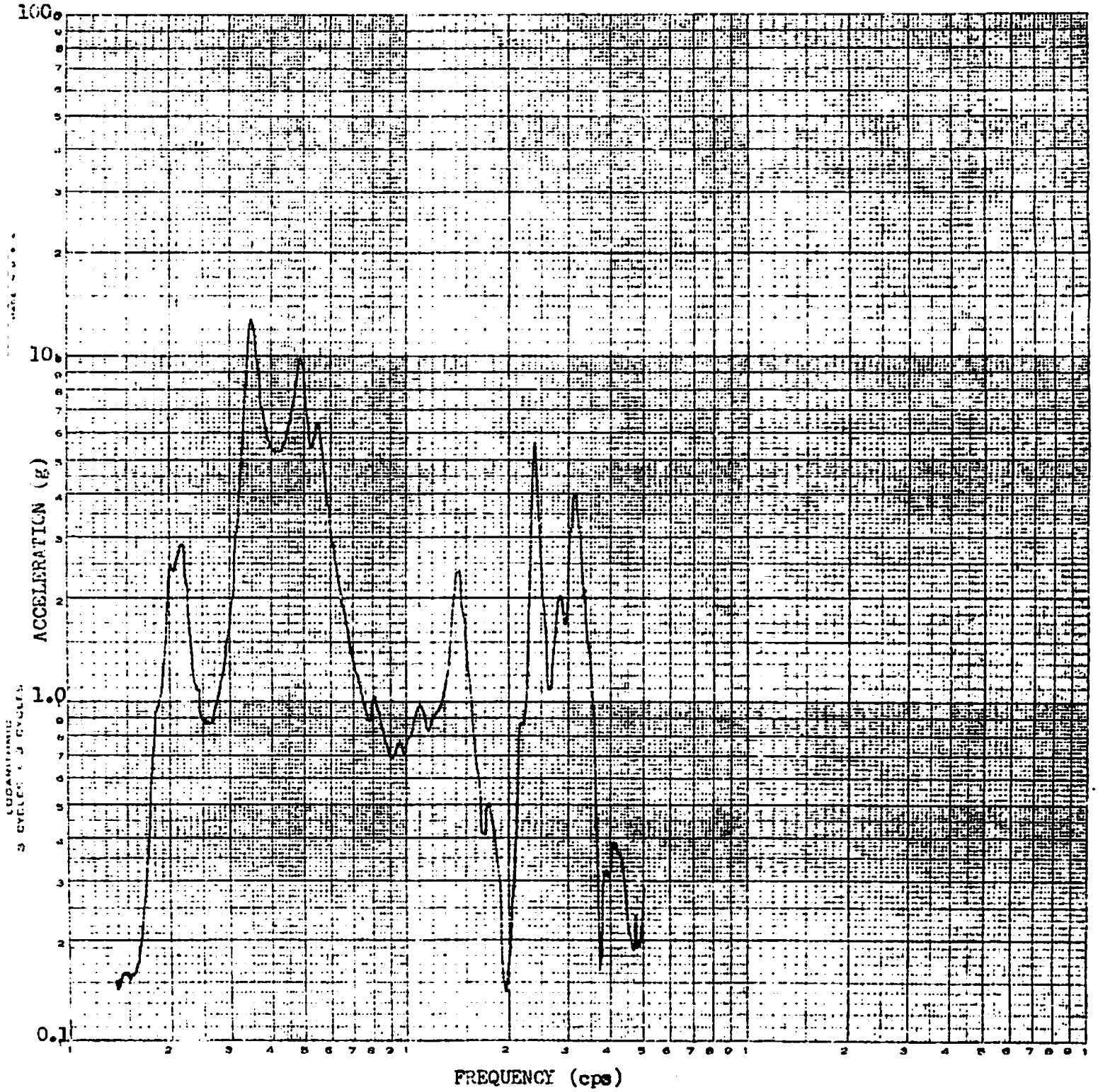


FIG. 21 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER, 30° OFF VERTICAL; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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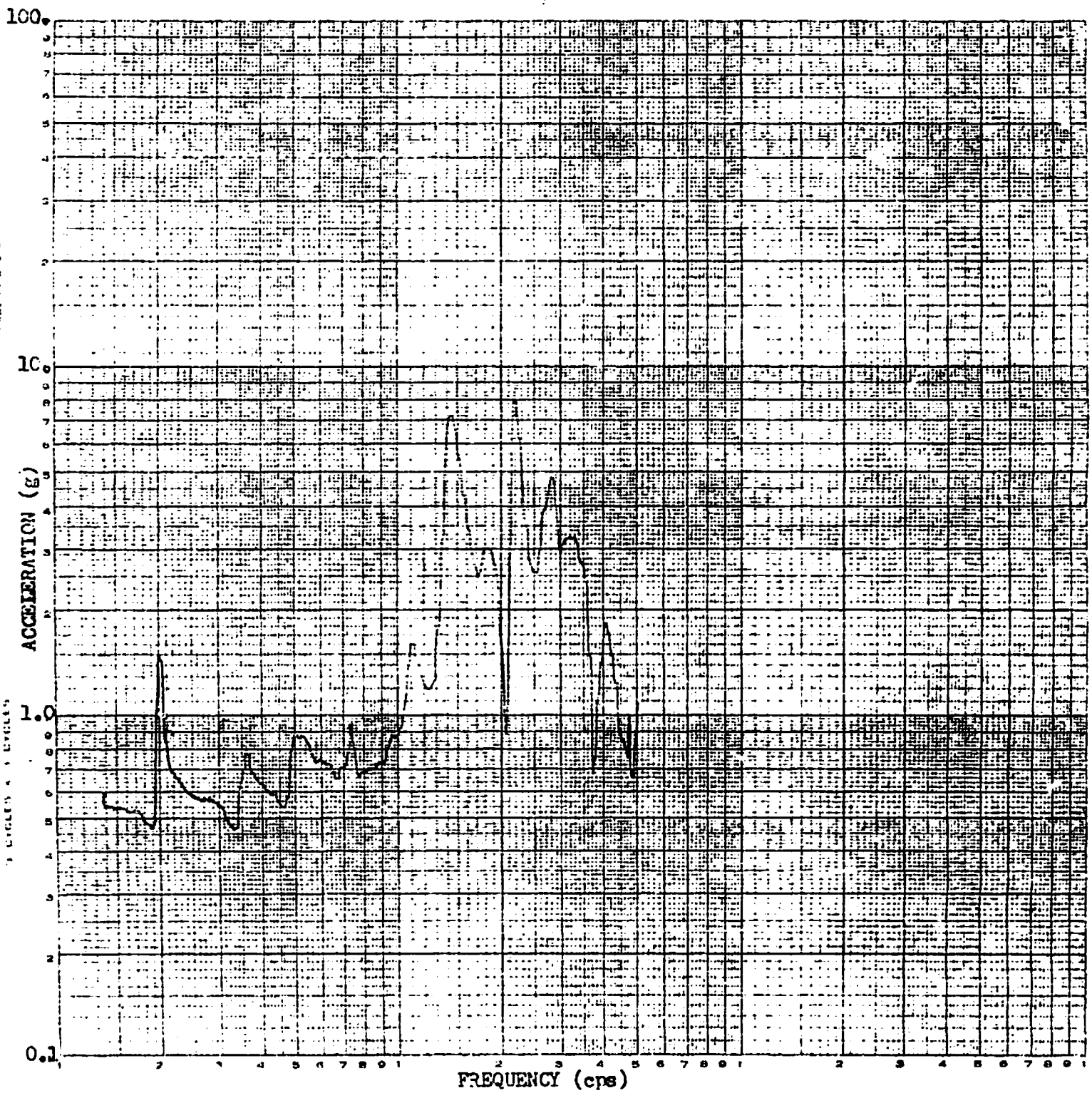


FIG. 22 FILTERED RESPONSE VS FREQUENCY PLOT OF ACCELEROMETER ON RECORDER BULKHEAD, 60° OFF VERTICAL; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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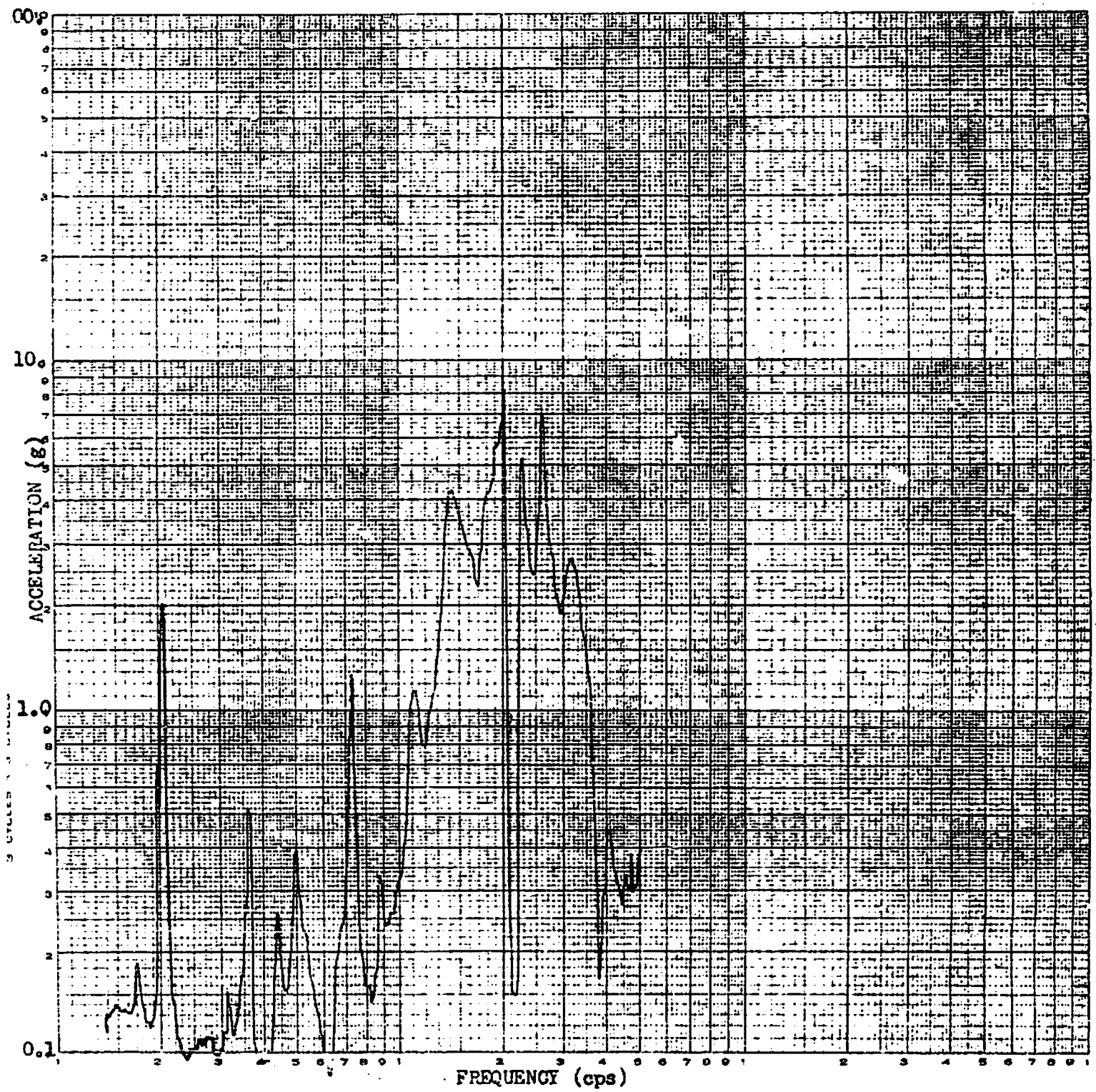


FIG. 23 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER BULKHEAD; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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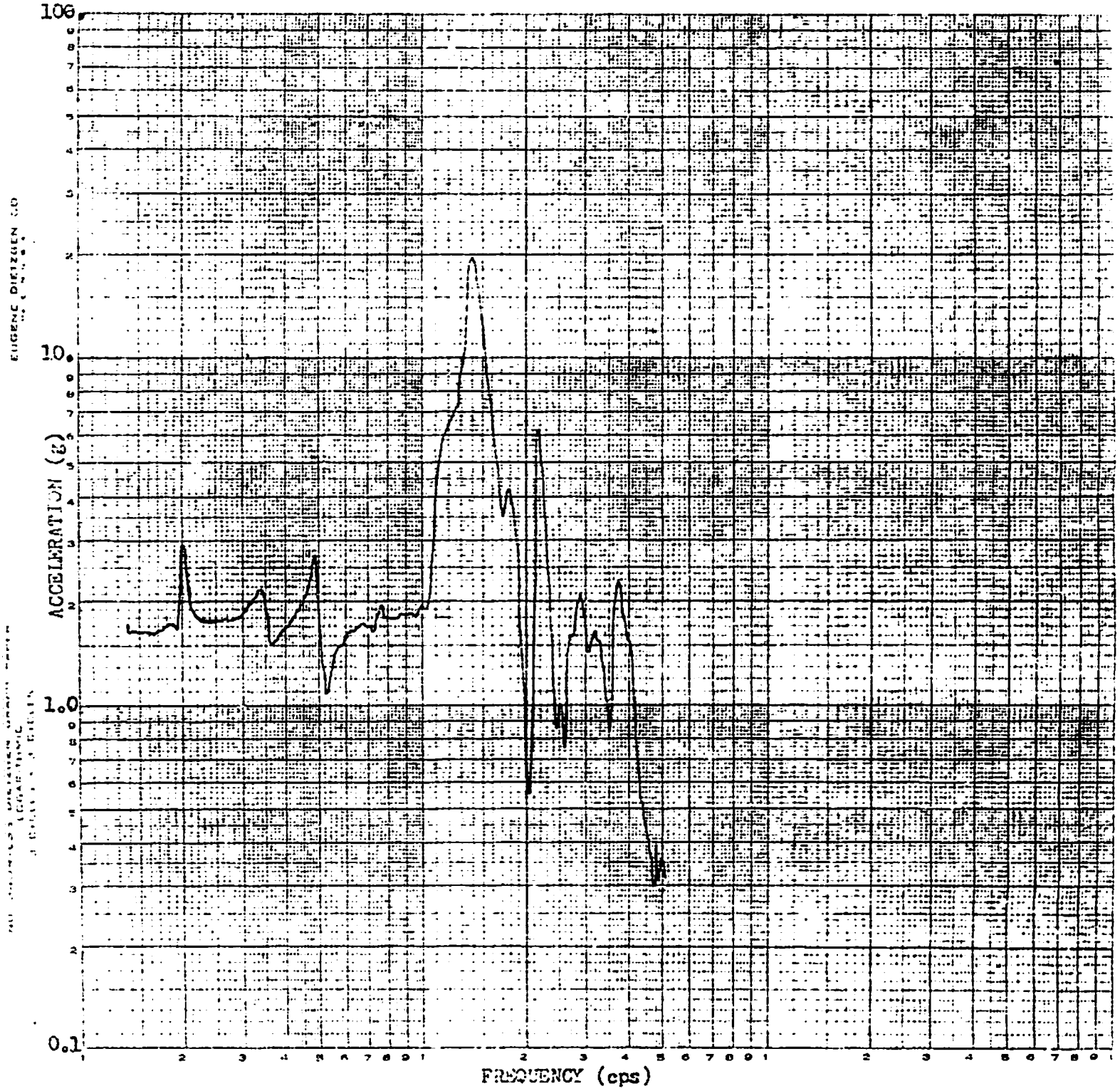


FIG. 24 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD 30° OFF VERTICAL; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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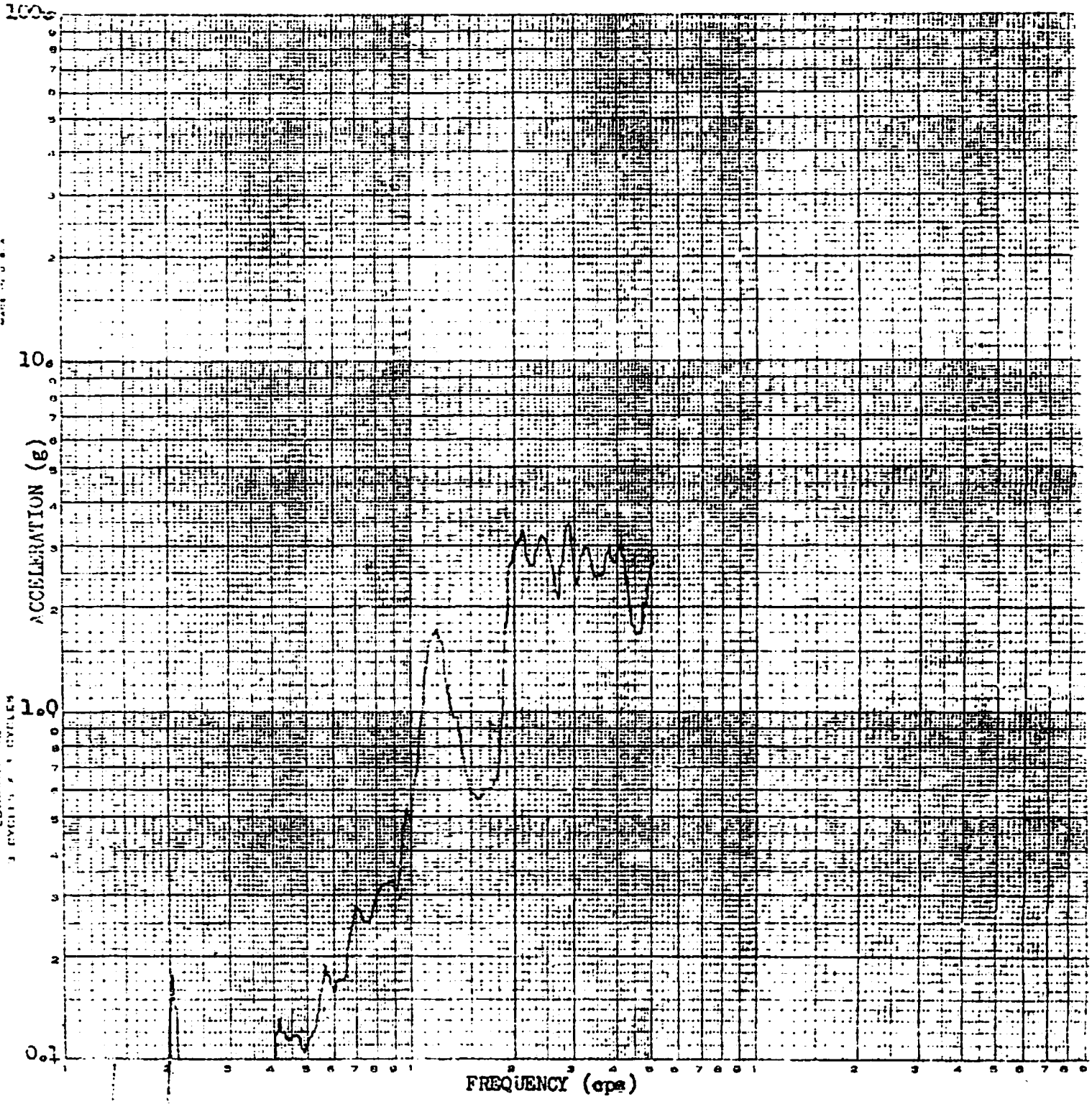


FIG. 25 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE C.G. BULKHEAD
2g INPUT; VERTICAL ORIENTATION -
VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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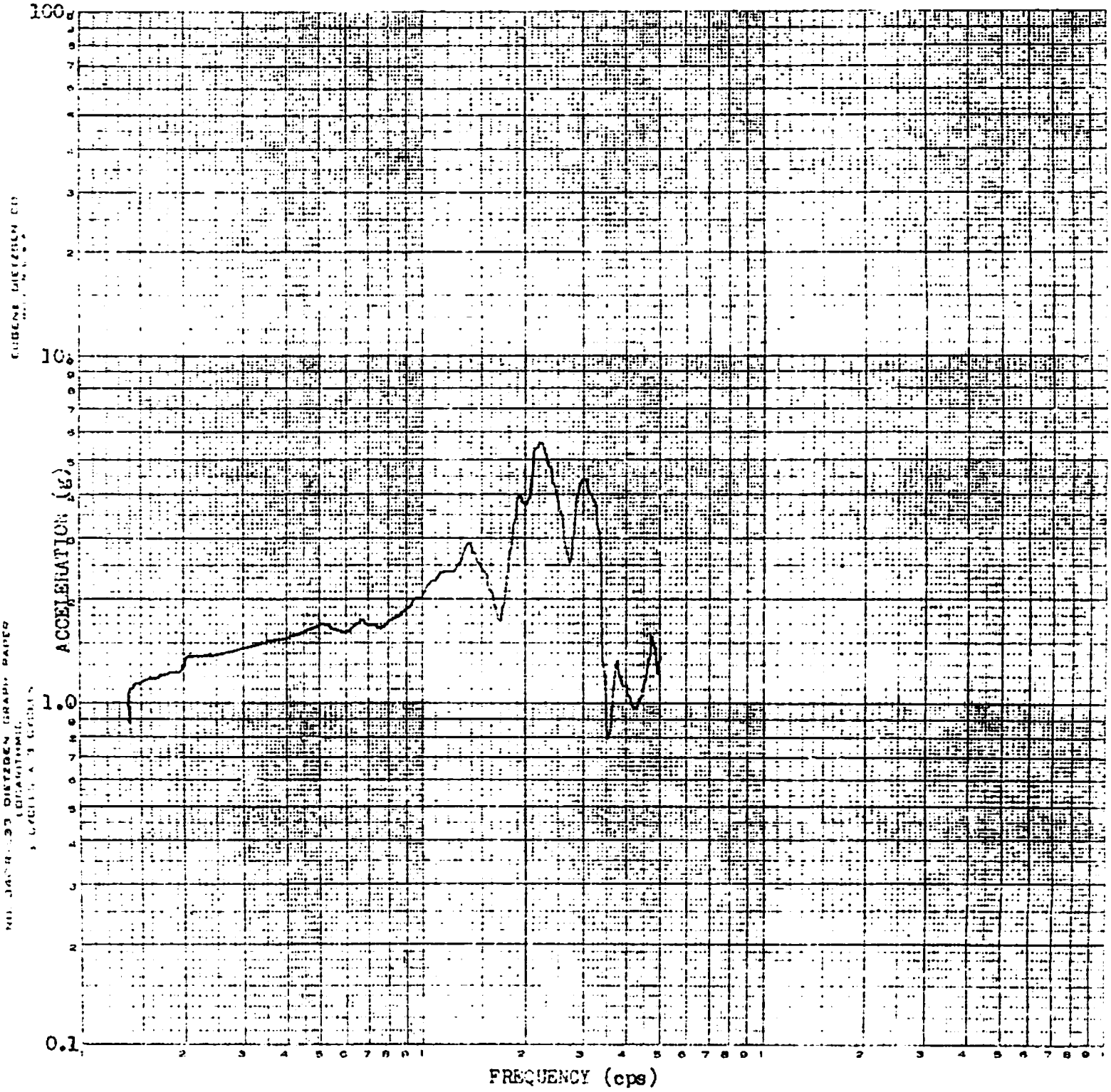


FIG. 26 FLIGHT LO RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE C.G. PLANE; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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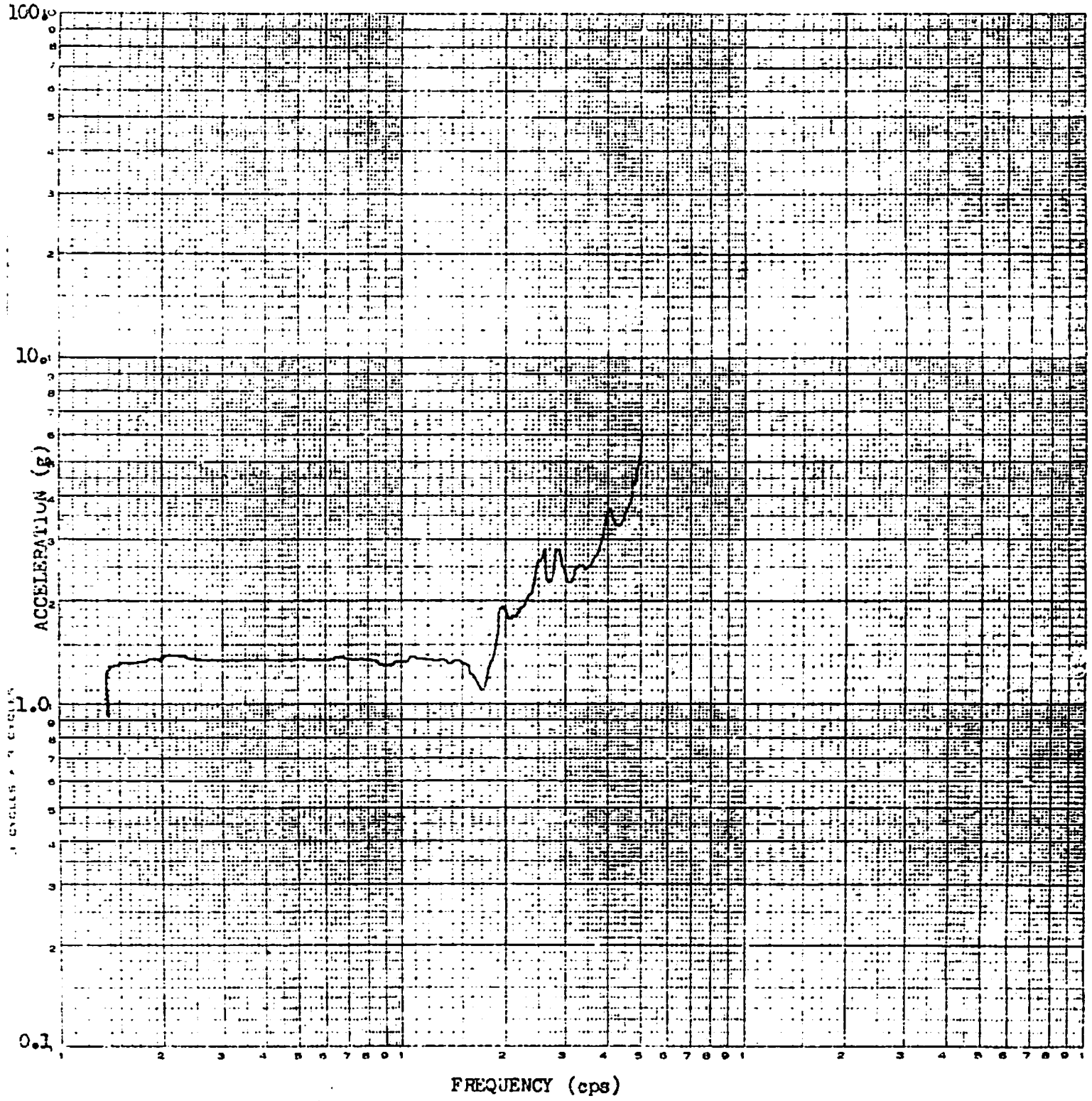


FIG. 27 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON C.G. OF FIXTURE; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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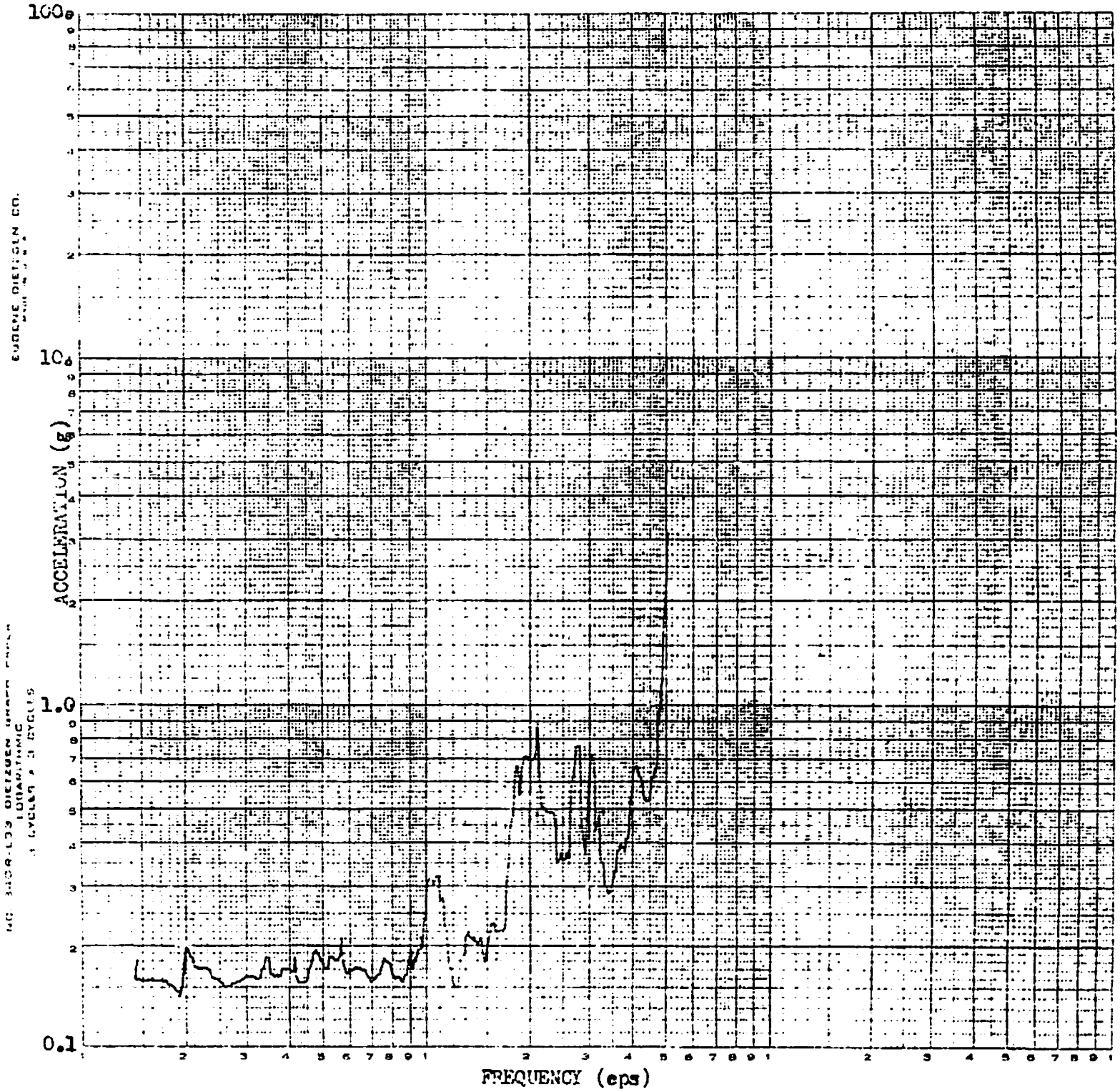


FIG. 28 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE C.G. OF THE FIXTURE; 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.N. PACKAGE.

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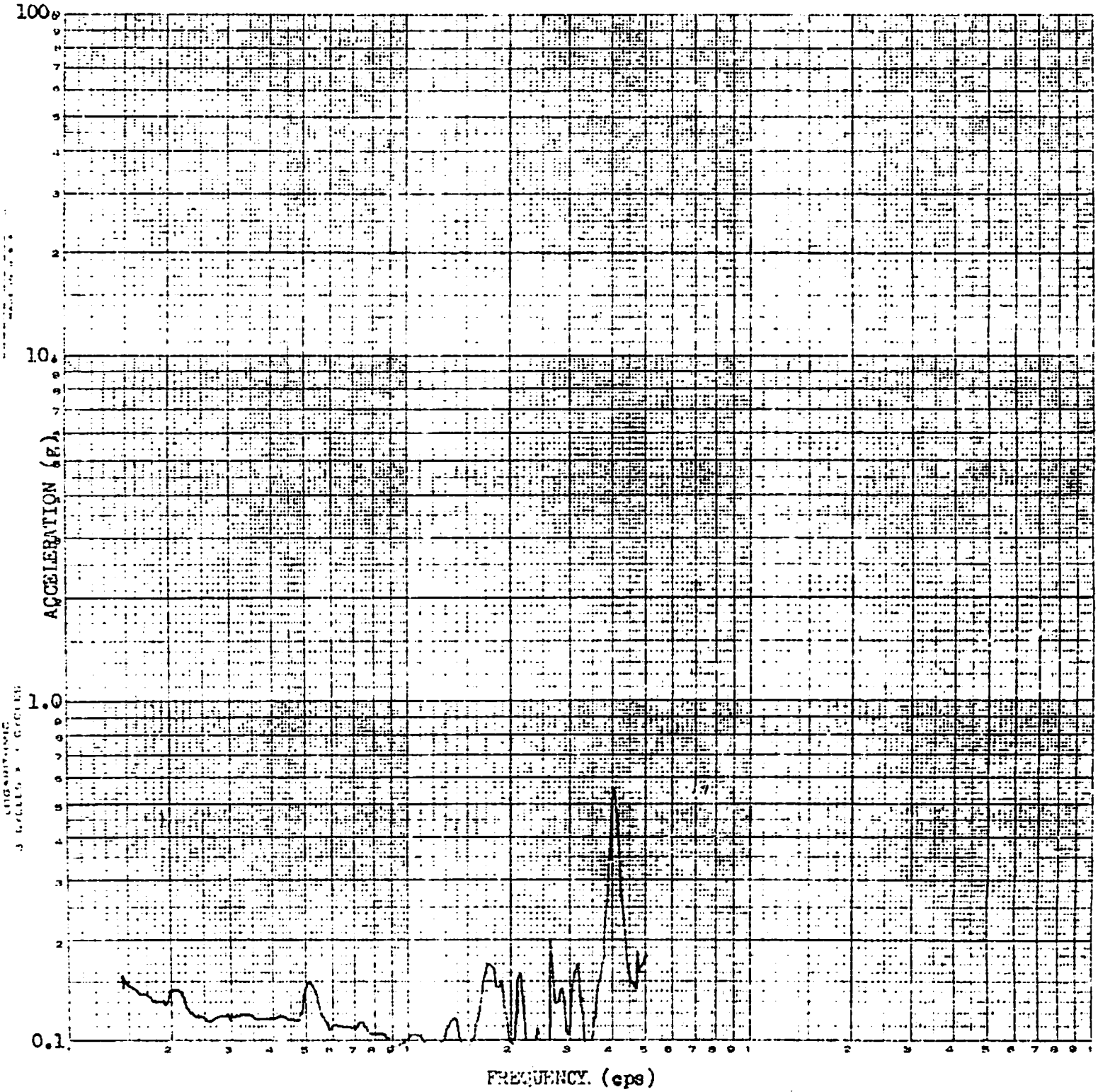


FIG. 29 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE FIXTURE (INPUT); 2g INPUT: VERTICAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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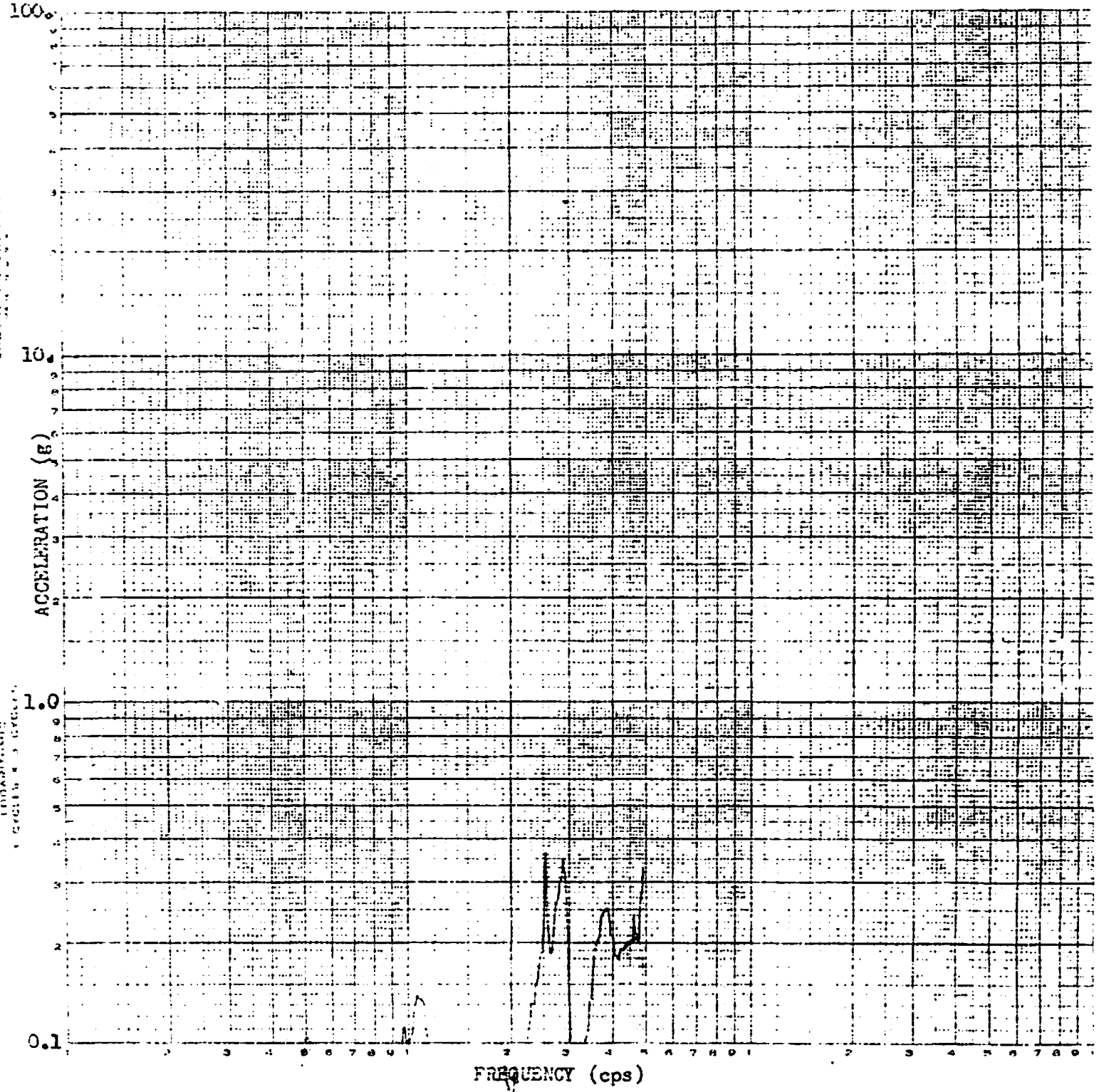


FIG. 30 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE FIXTURE (INPUT); 2g INPUT; VERTICAL ORIENTATION - VIBRATION TEST OF THE XN-53 T.M. PACKAGE.

PROJECT NO. T-18015

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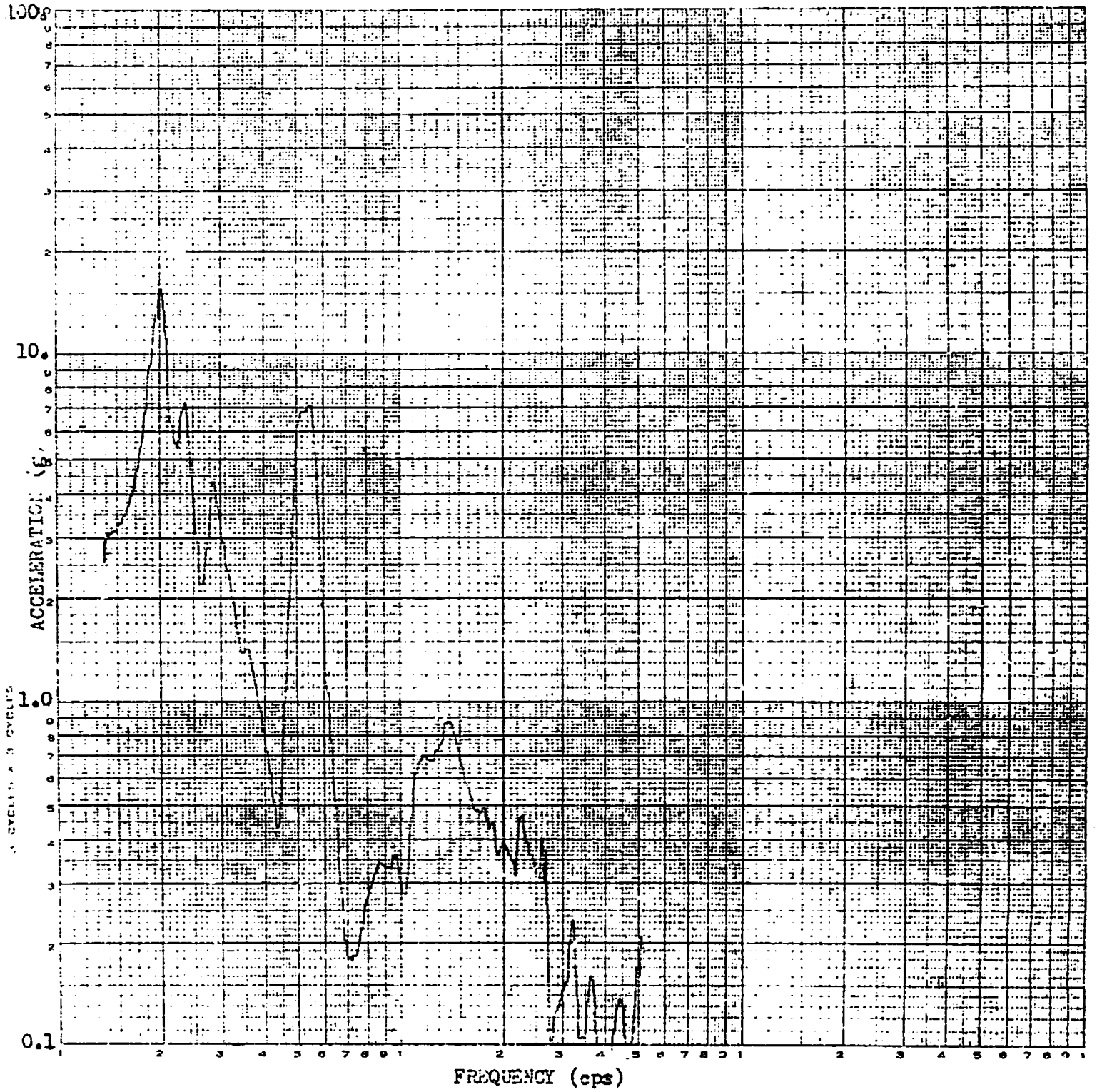


FIG. 31 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER, 60° OFF VERTICAL; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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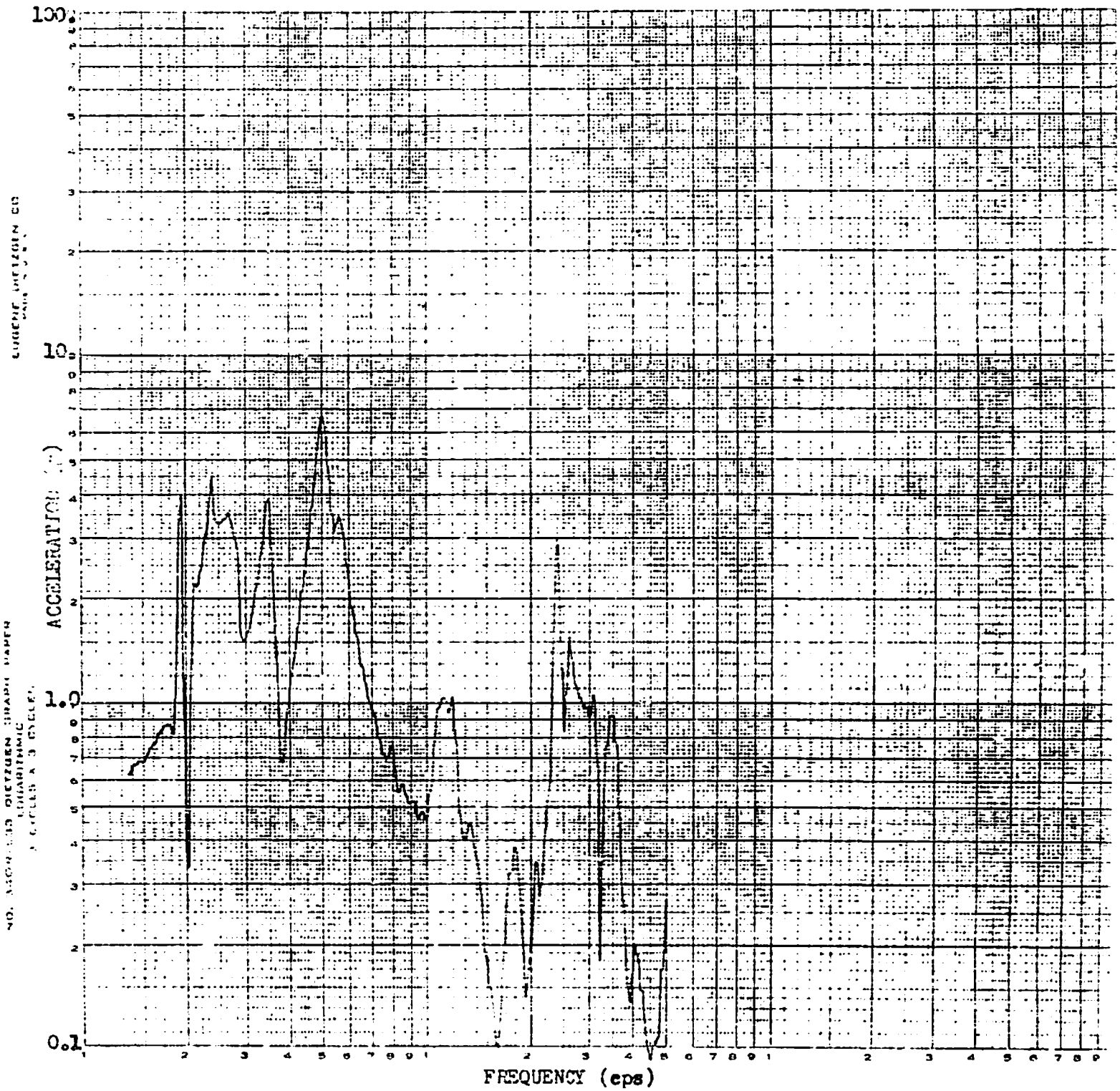


FIG. 32 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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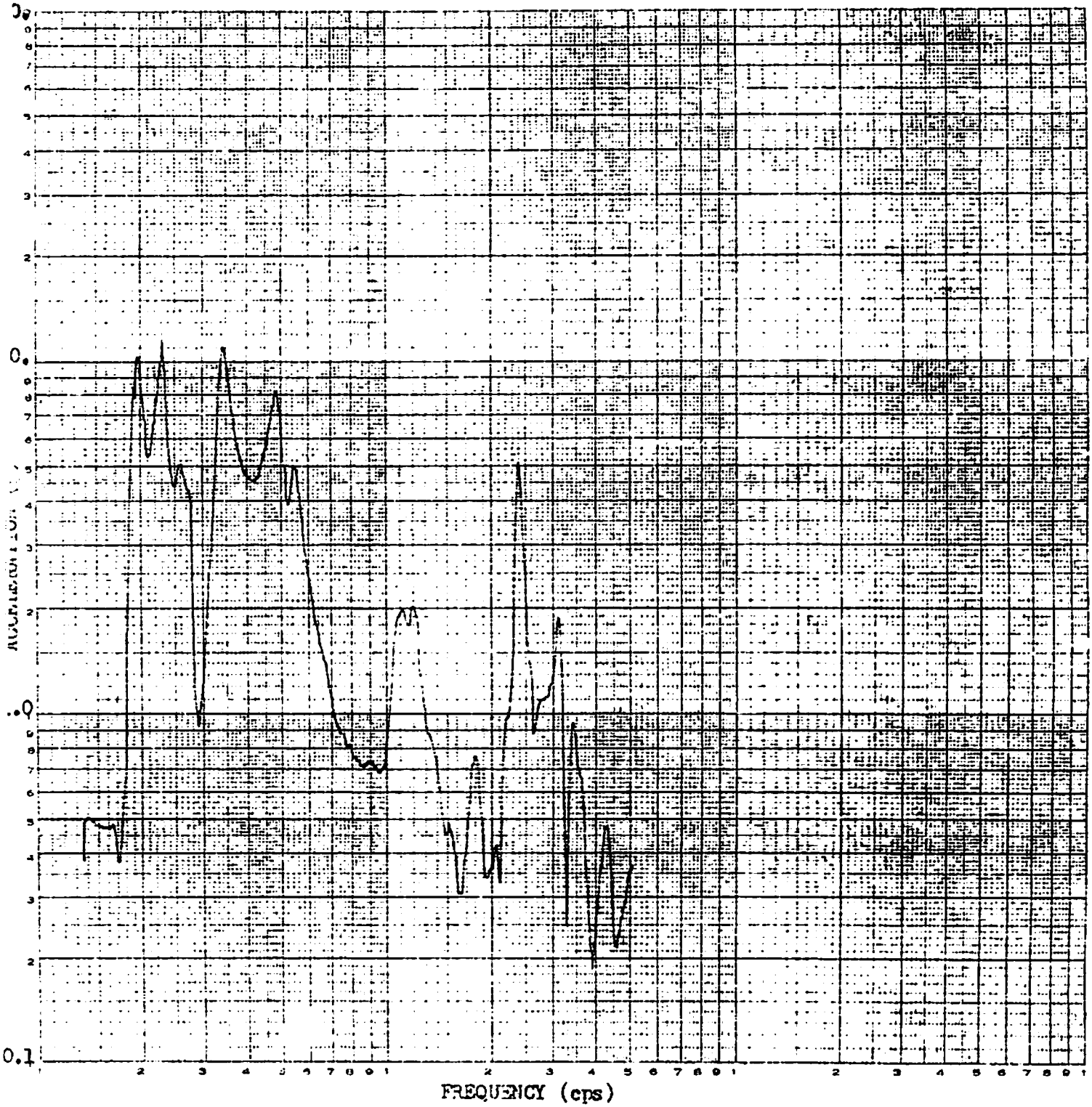


FIG. 33 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER, 30° OFF VERTICAL; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-13015

[redacted]

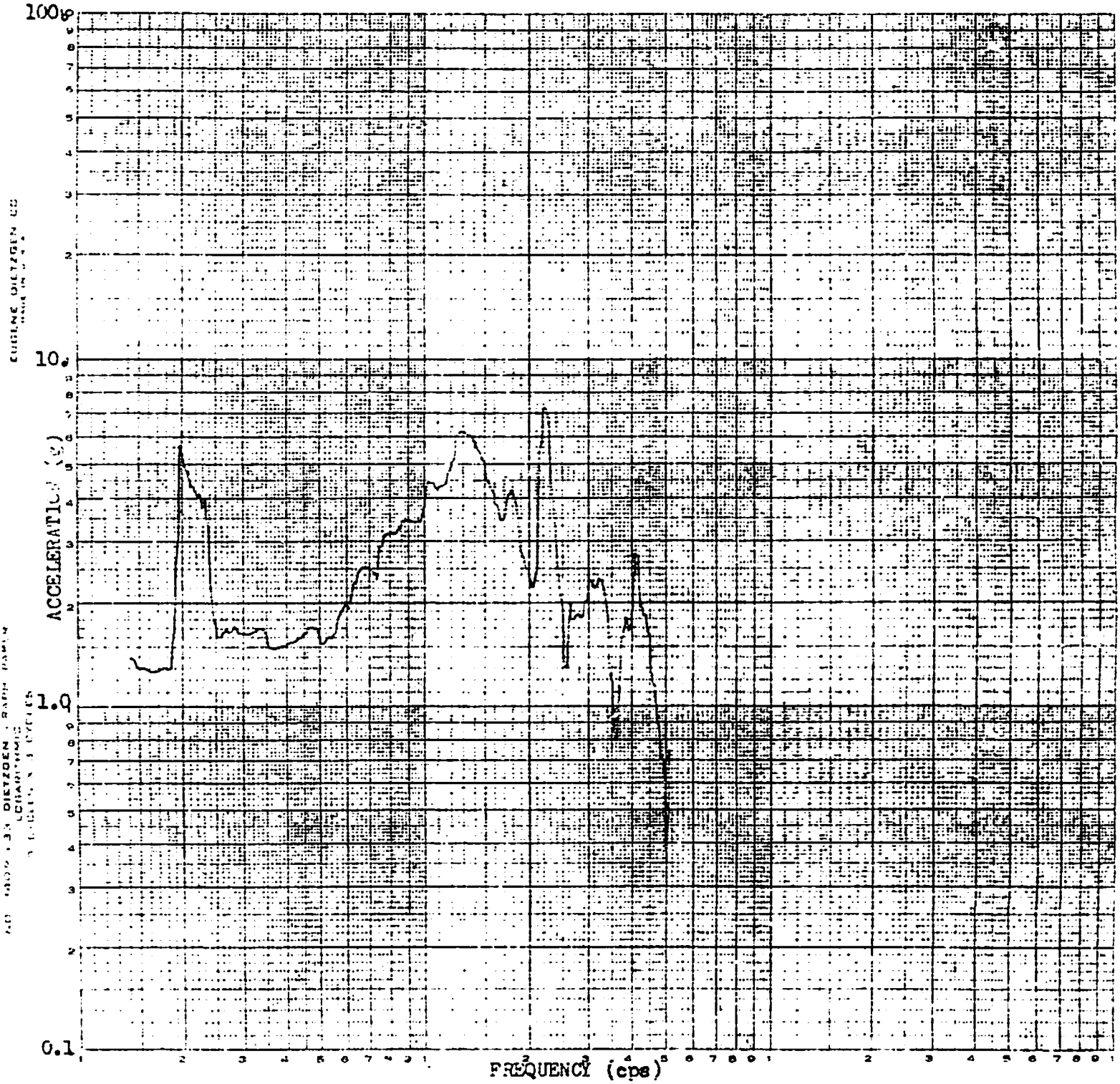


FIG. 34 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON RECORDER BULKHEAD, 60° OFF VERTICAL; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

[redacted]

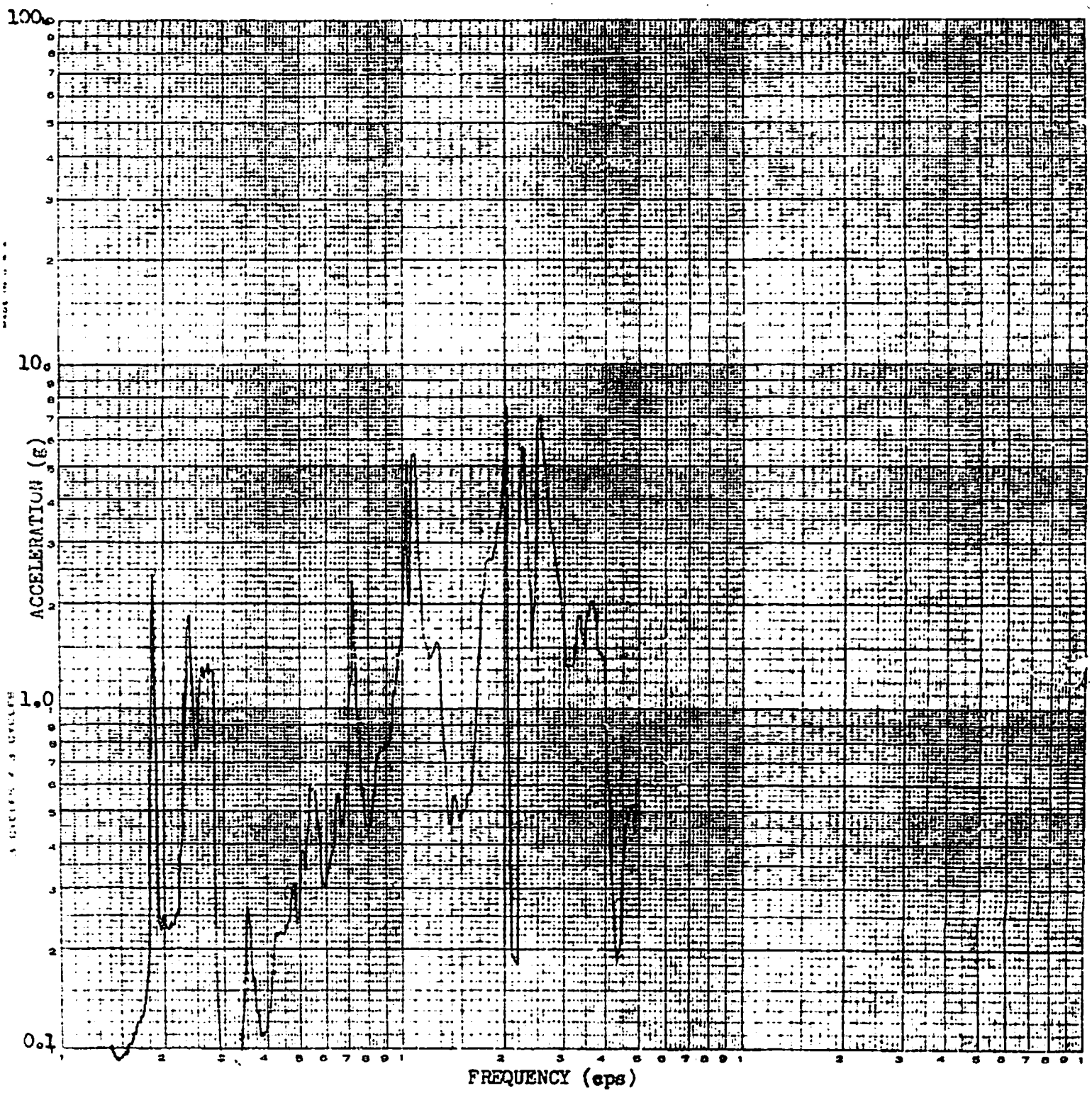


FIG. 35 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER BULKHEAD; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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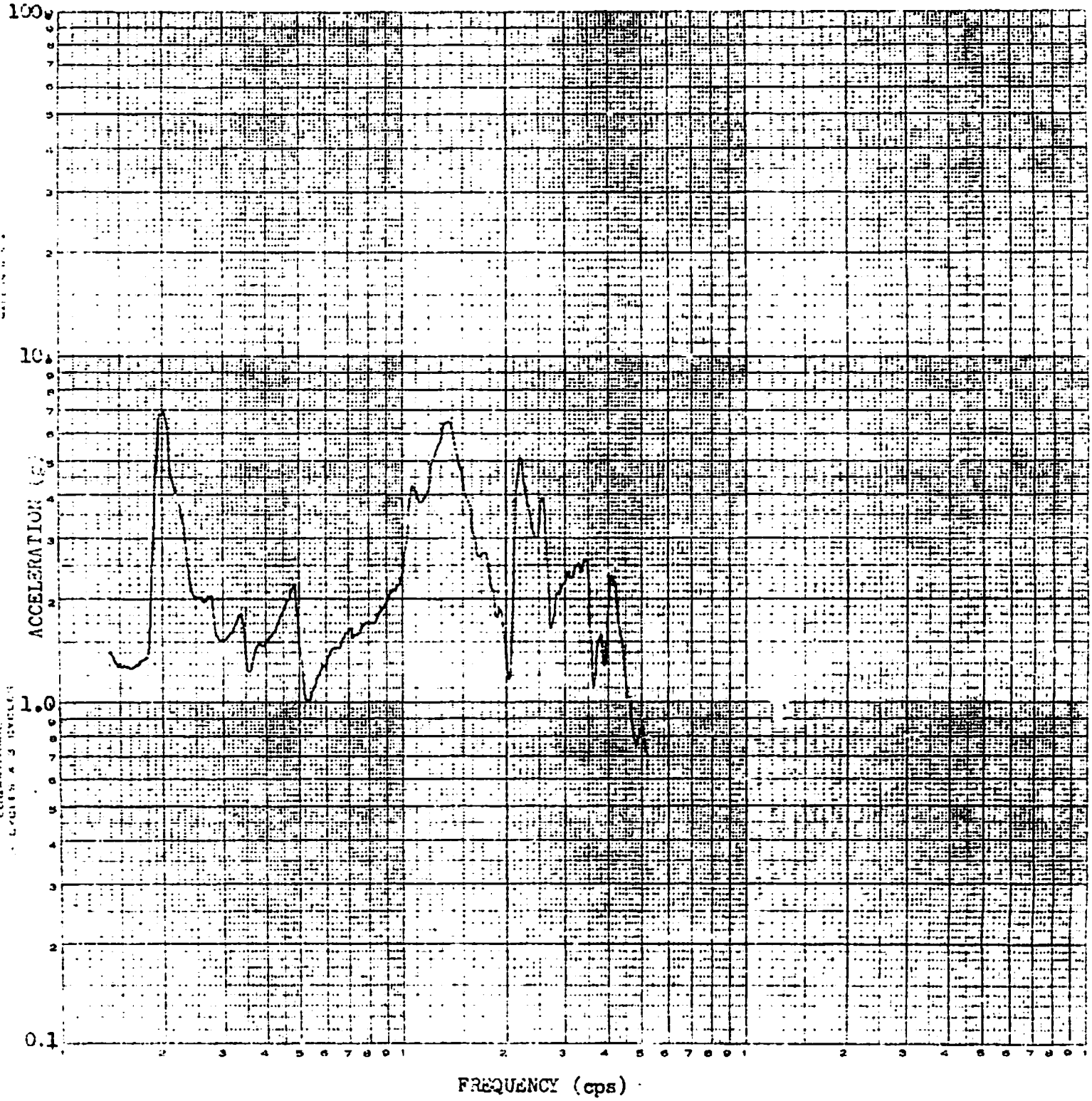


FIG. 36 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD, 30° OFF VERTICAL; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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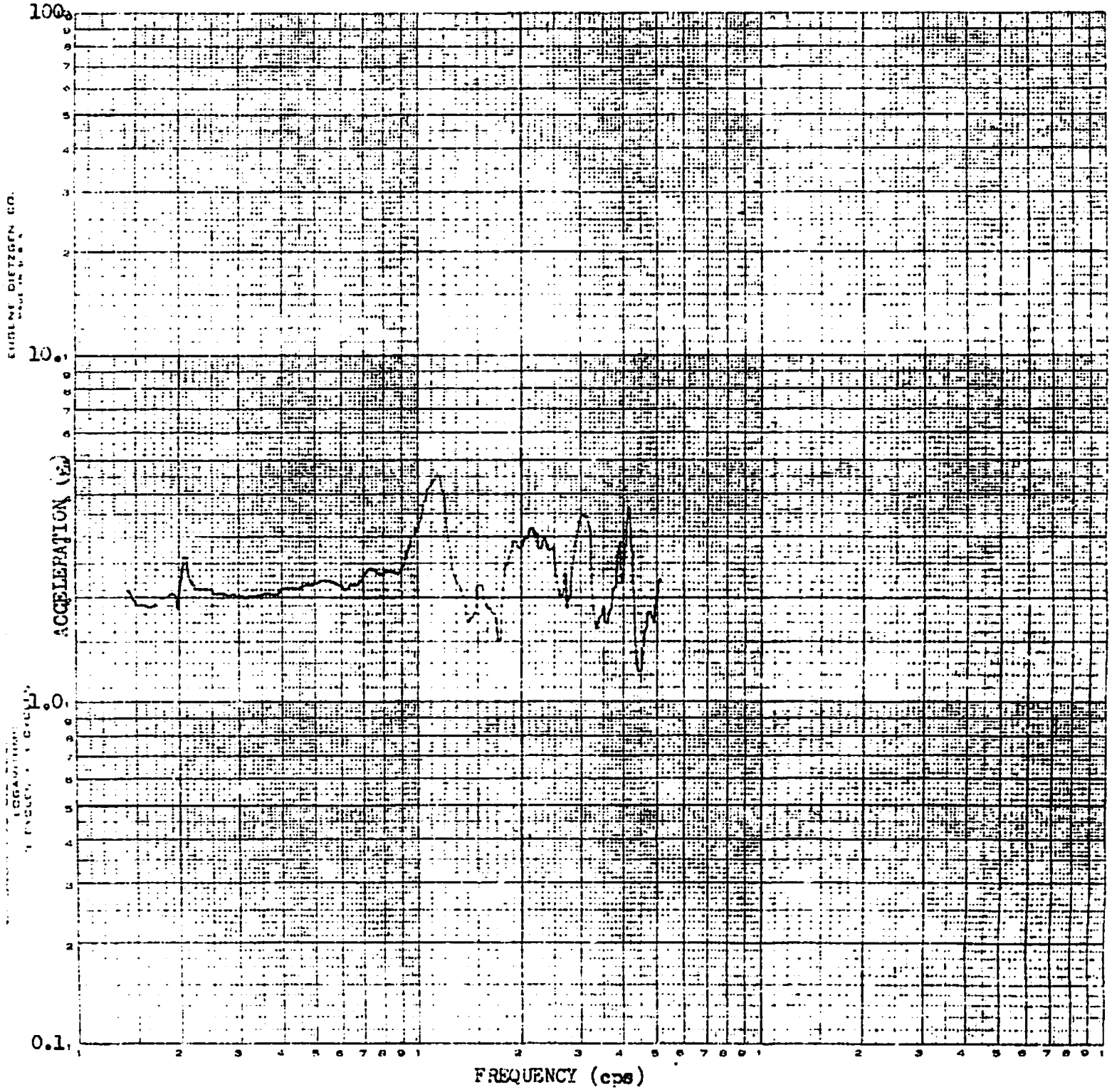


FIG. 37 F[illegible] VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE C.G. [illegible]; 2g INPUT; LATERAL ORIENTATION - [illegible] TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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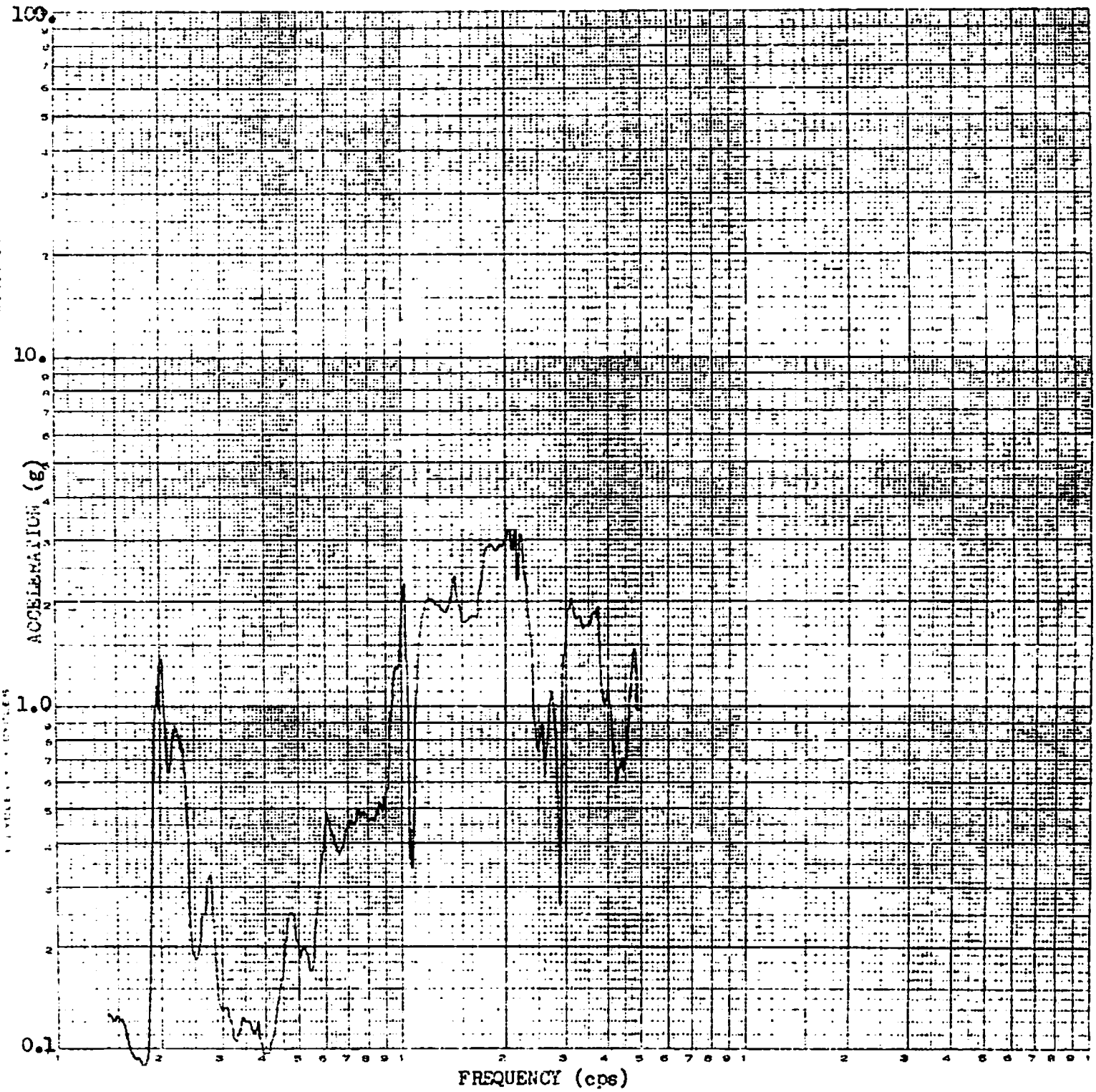


FIG. 3[illegible] [illegible] RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE C.G. BULKHEAD; 2g INPUT; LATERAL ORIENTATION-VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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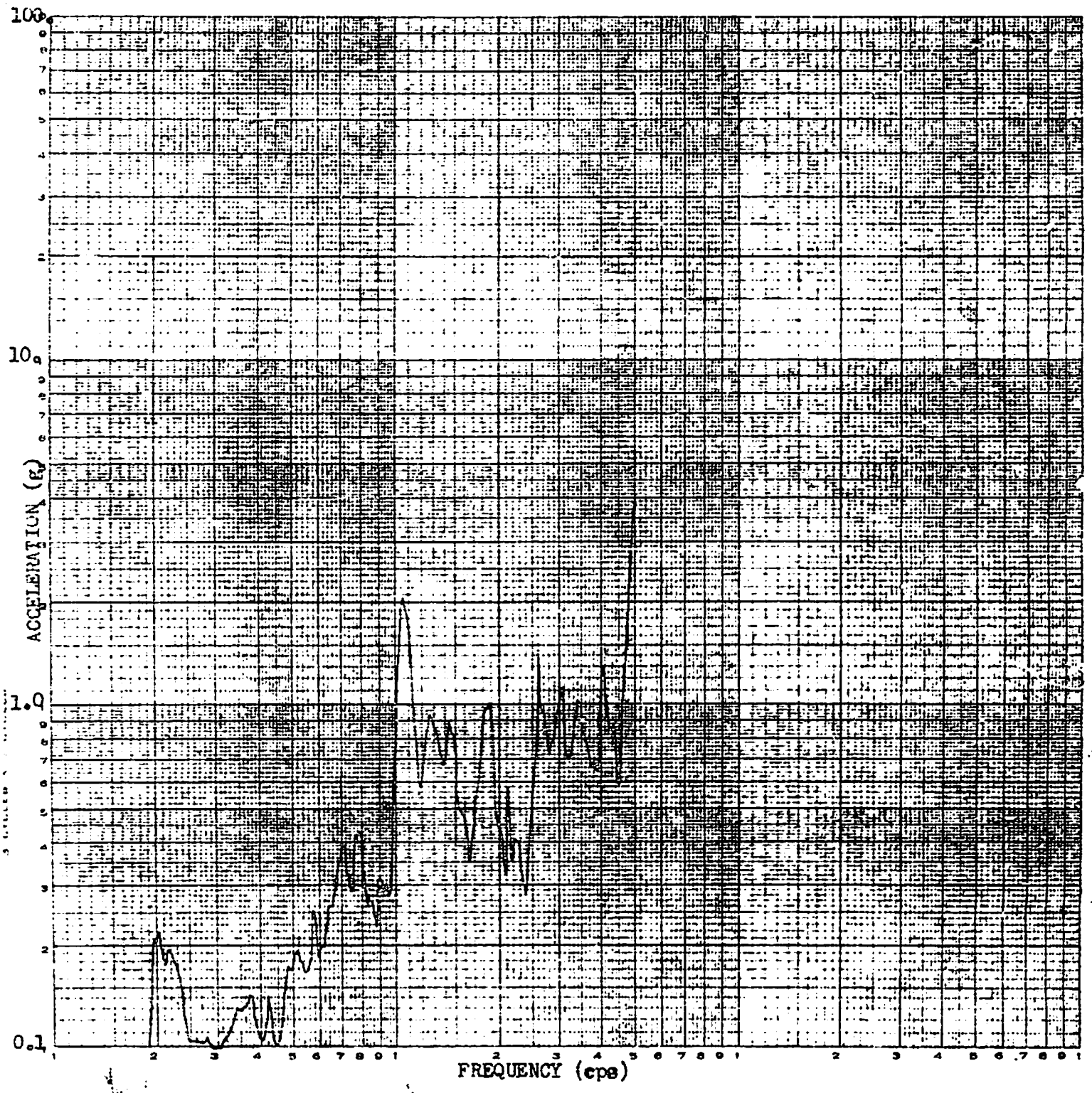


FIG. 39 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE C.G. OF THE FIXTURE; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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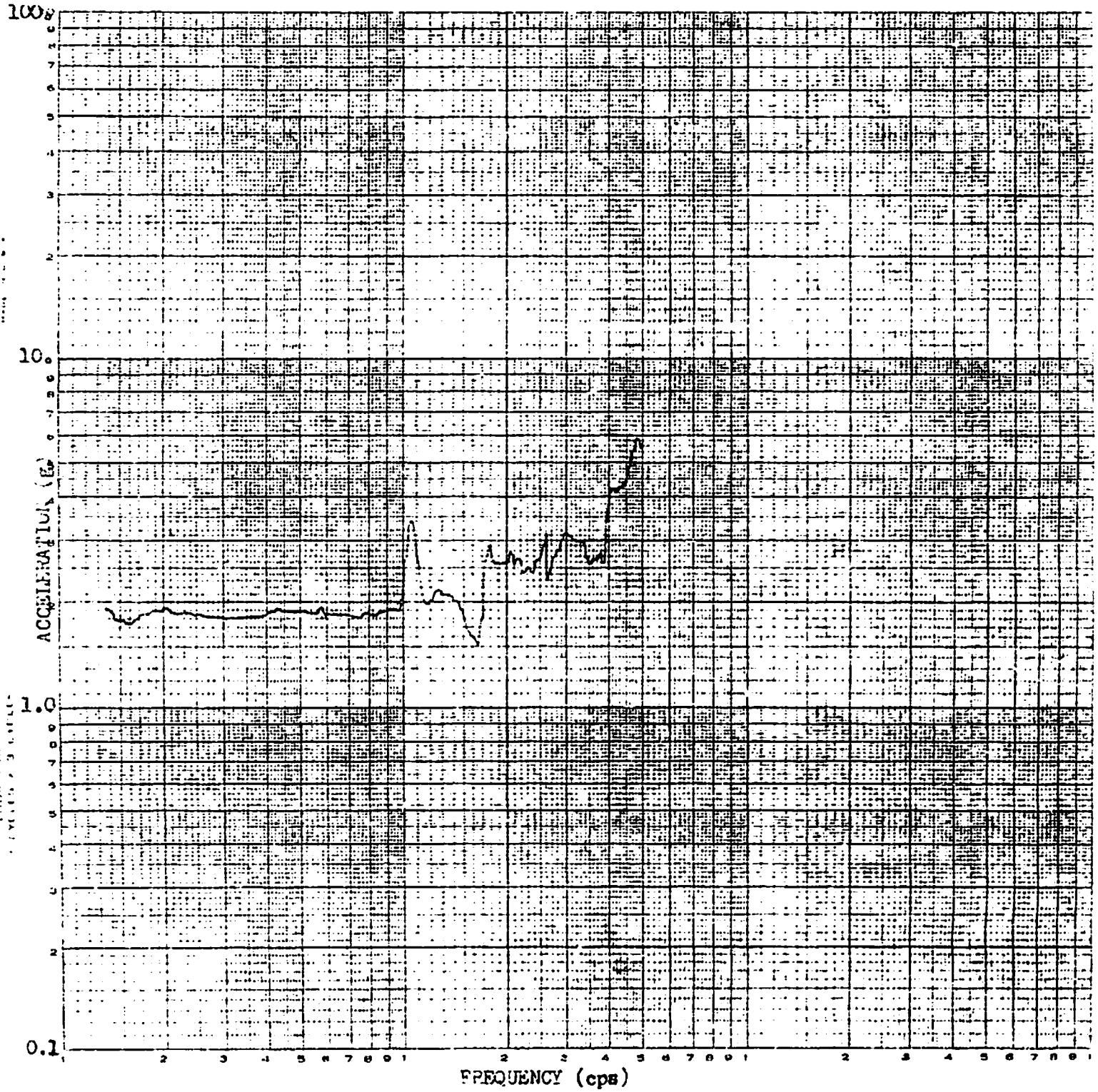


FIG. 40 F[illegible]RED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE C.G. OF THE F[illegible]X[illegible]URE; 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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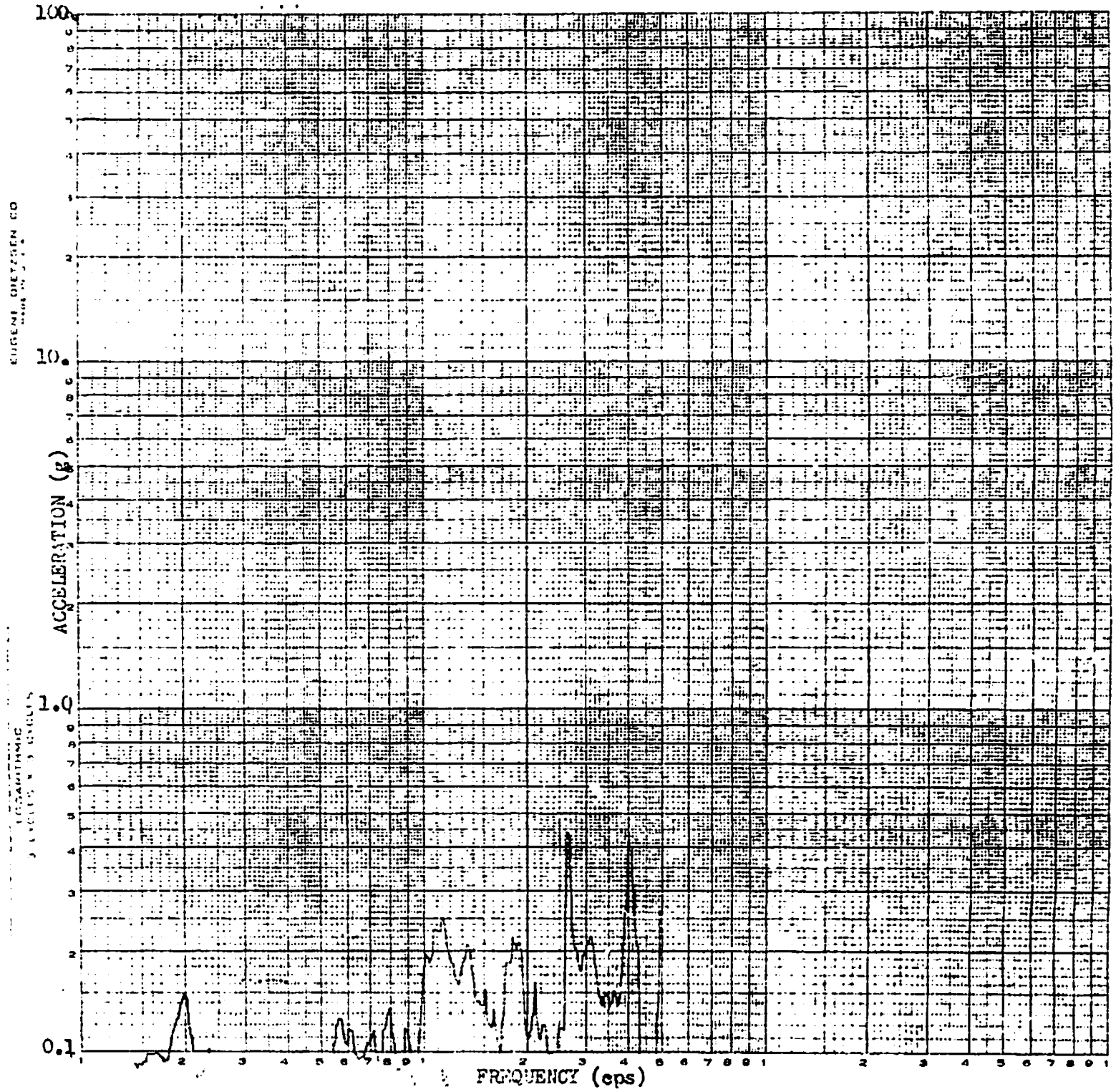


FIG. 41 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE FIXTURE (INPUT); 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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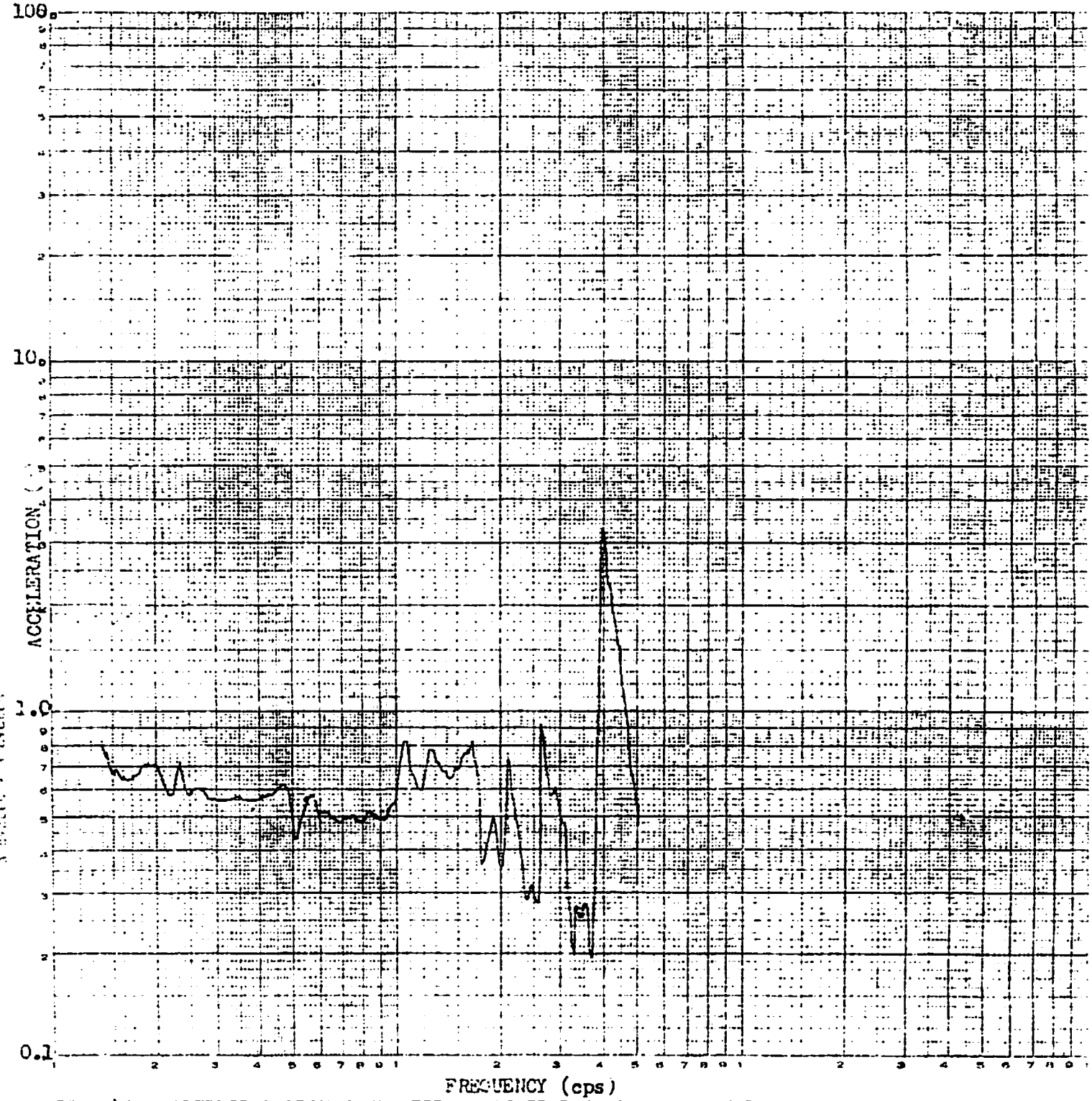


FIG. 42 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE FIXTURE (INPUT); 2g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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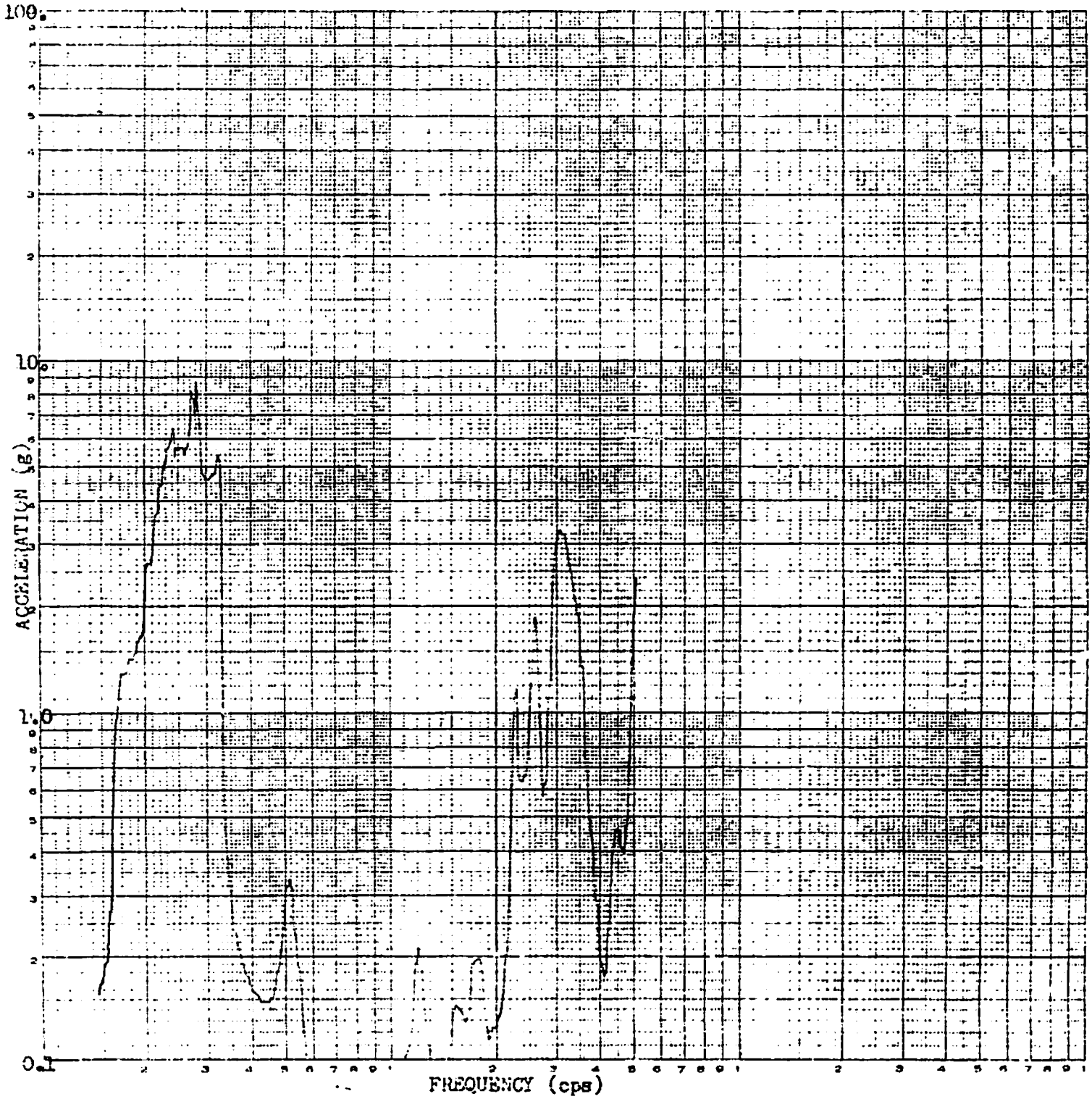


FIG. 13 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER, 60° OFF VERTICAL; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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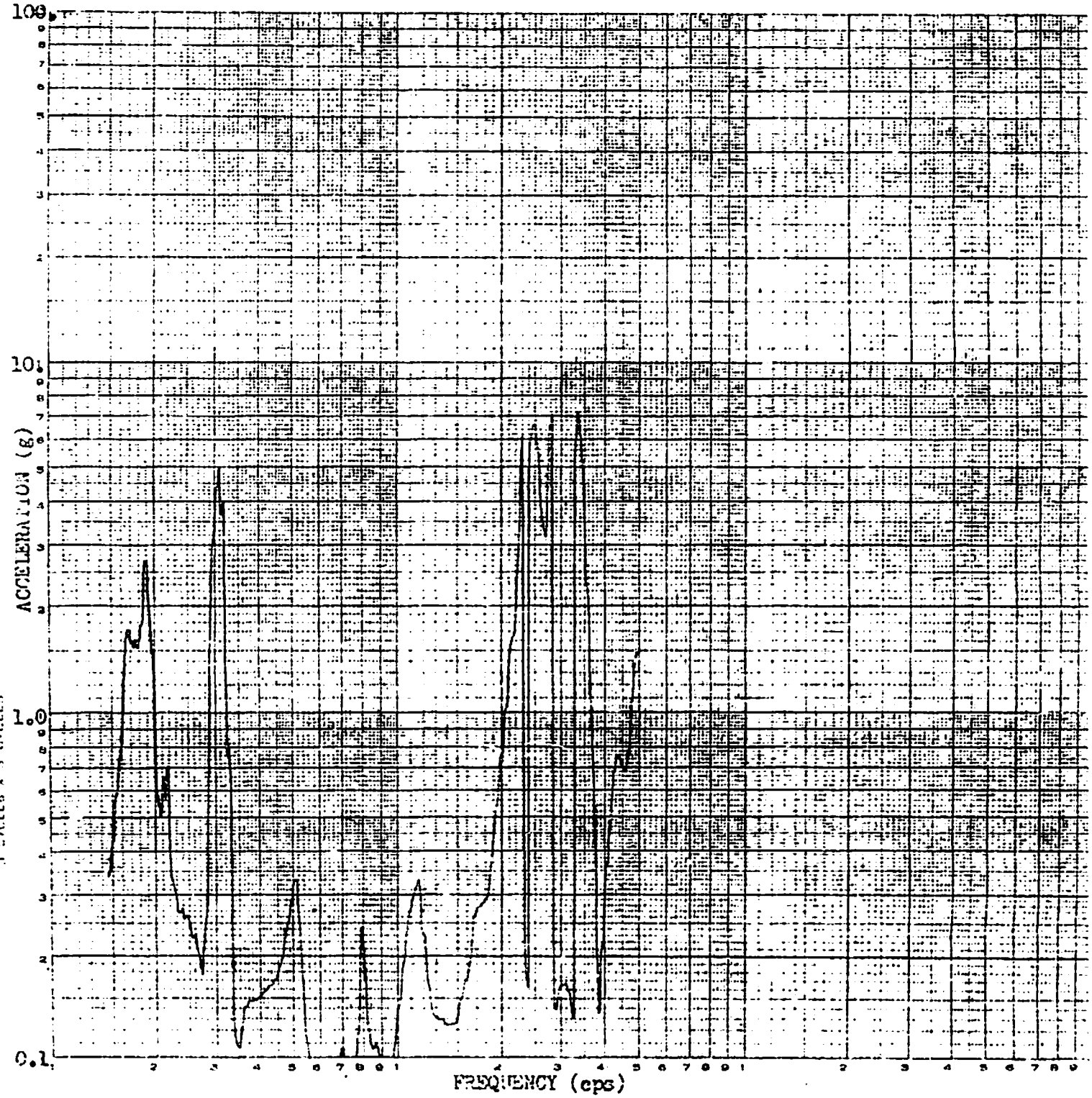


FIG. 44 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER; 2g INPUT; LONGITUDINAL ORIENTATION-VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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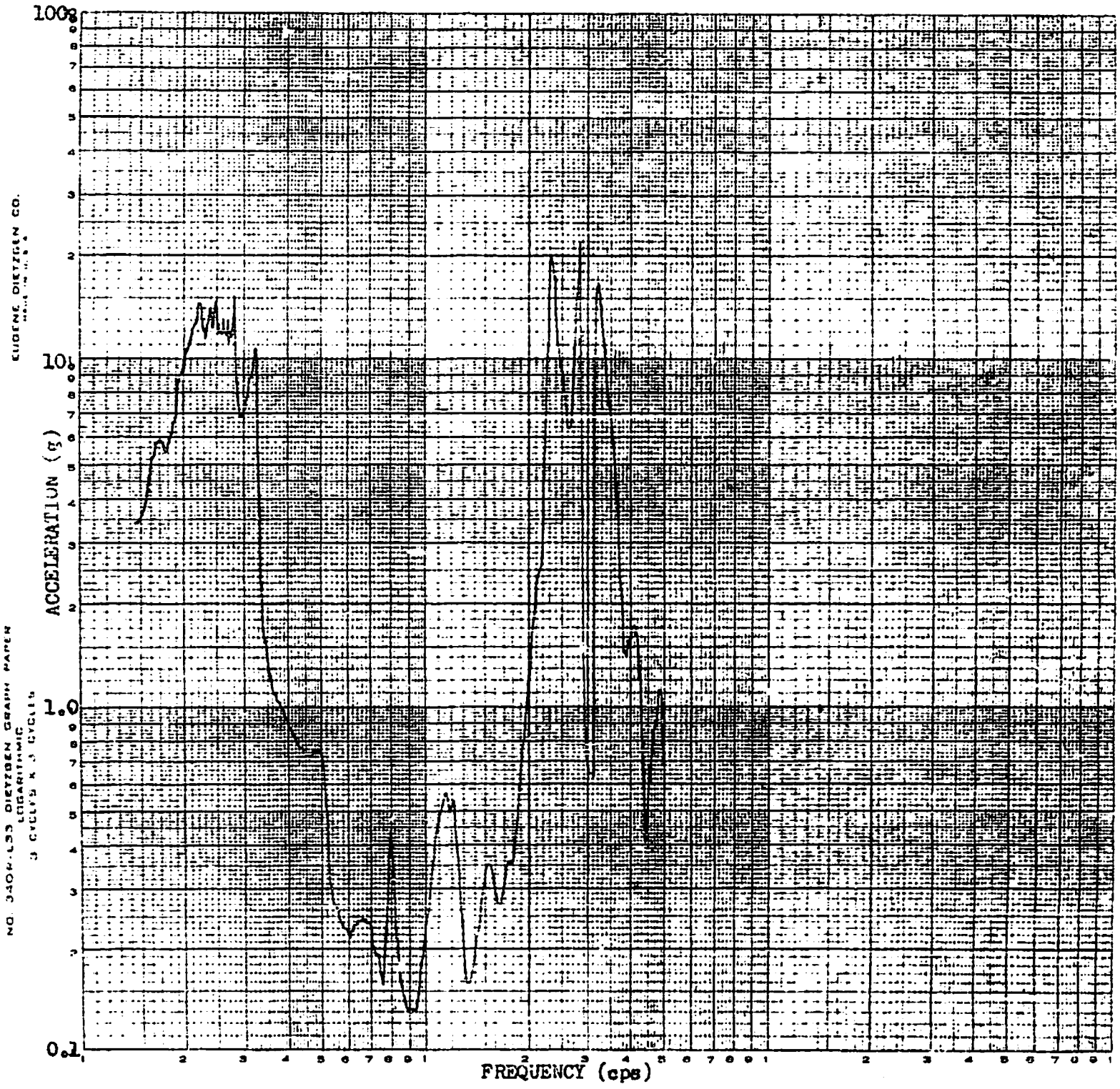


FIG. 45 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER, 30° OFF VERTICAL; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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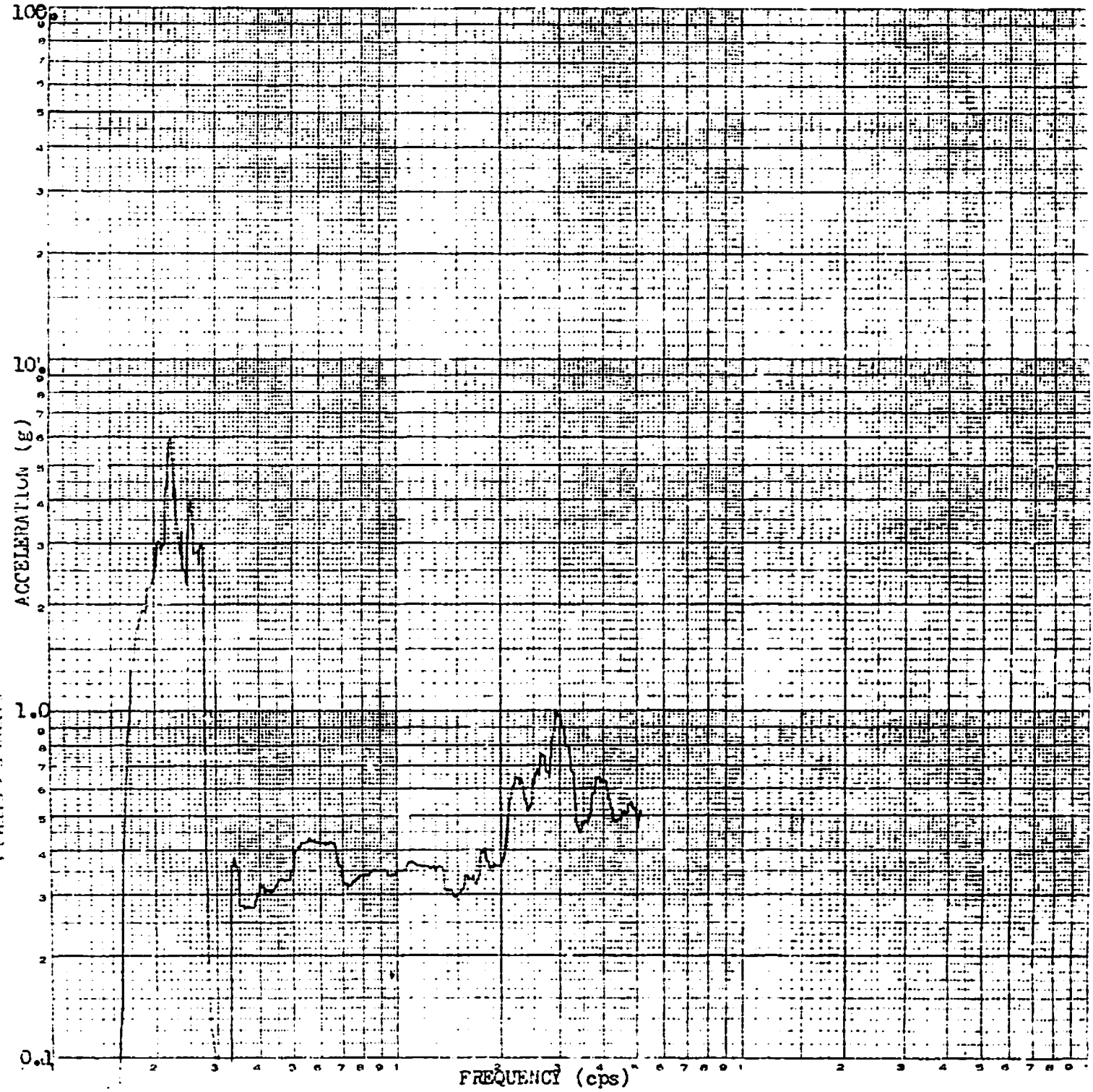


FIG. 46 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD 60° OFF VERTICAL; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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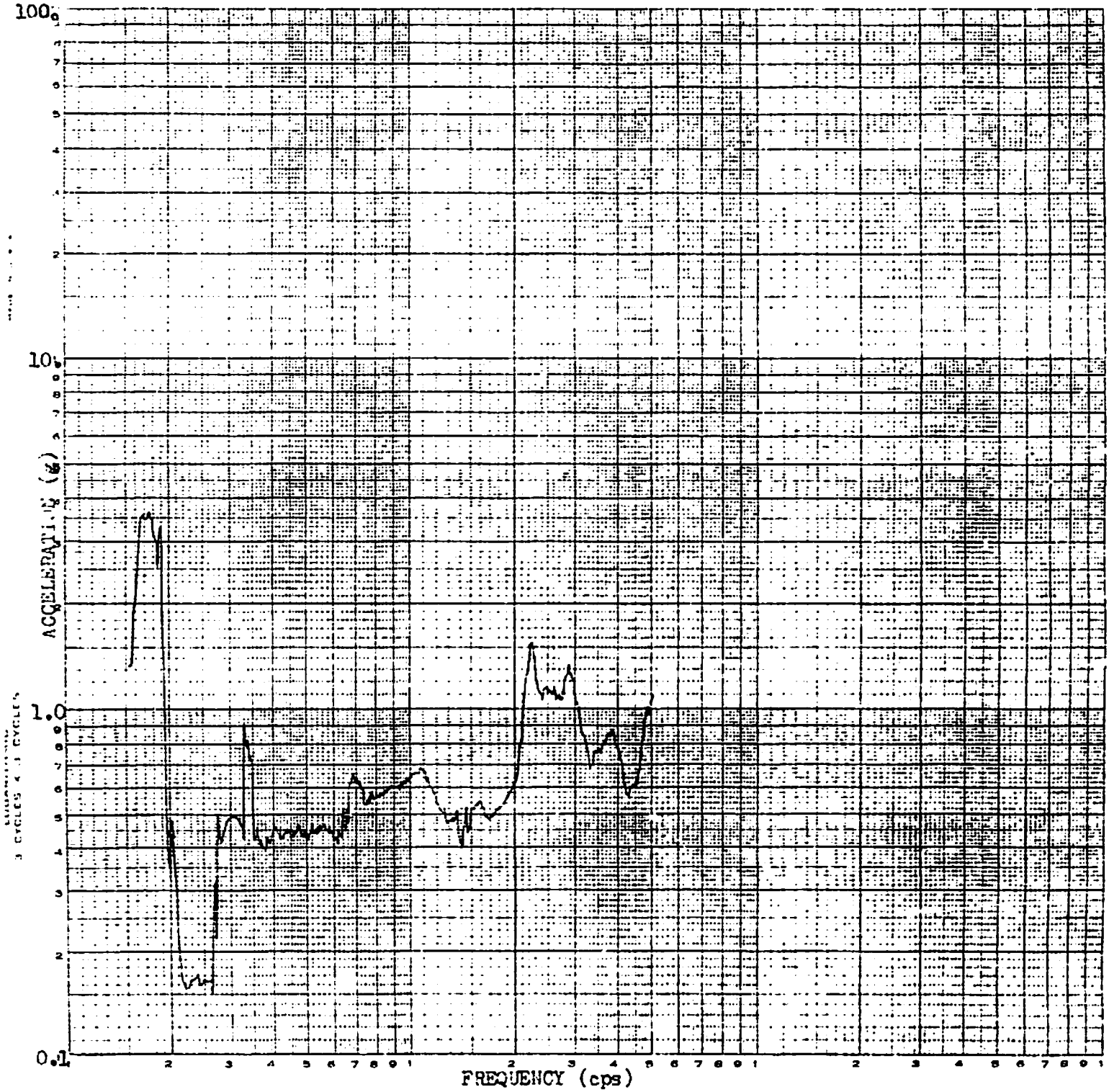


FIG. 47 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER BULKHEAD; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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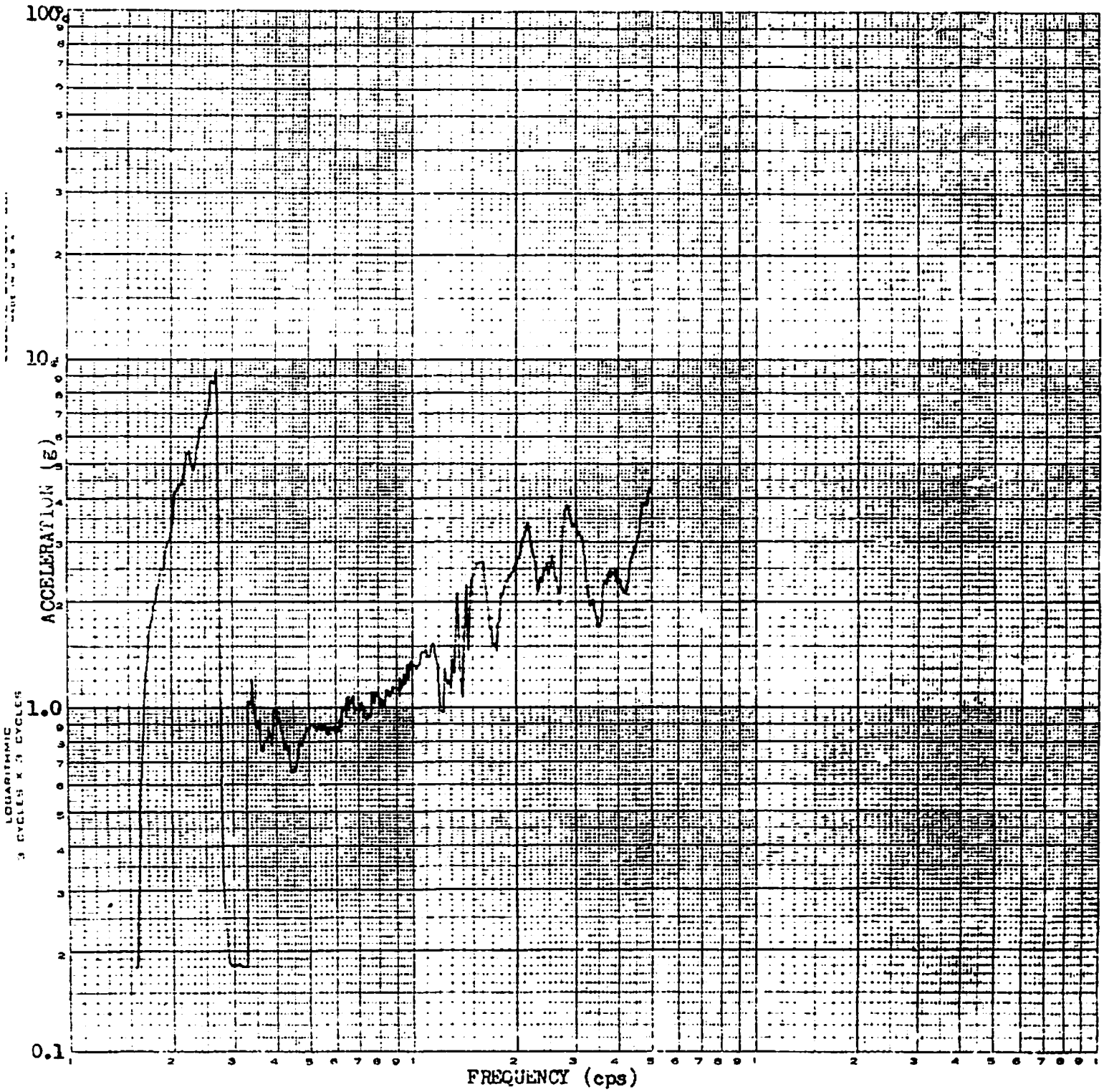


FIG. 48 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD, 30° OFF VERTICAL; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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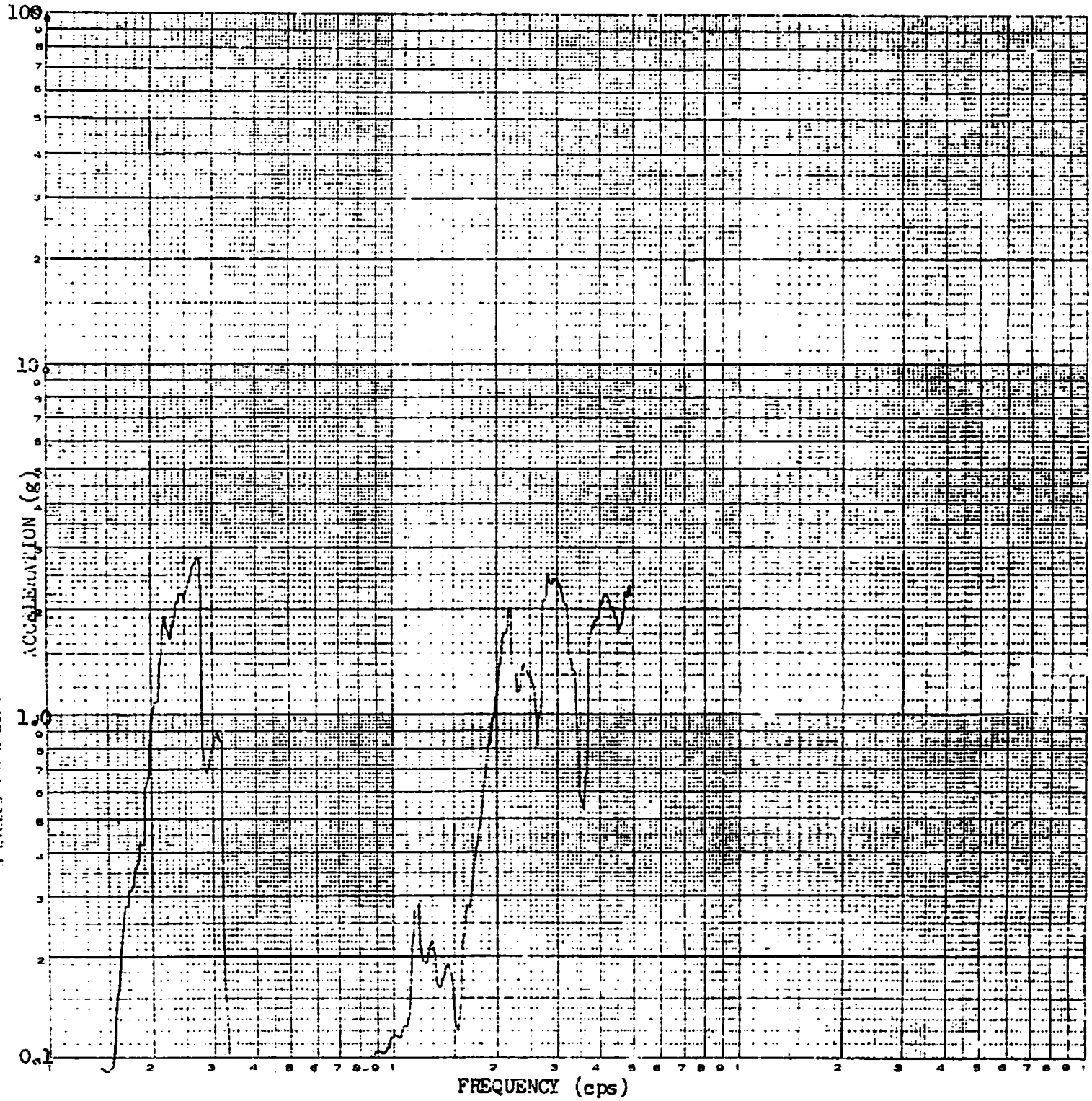


FIG. 49 FILTERED RESPONSE VS. [redacted]: PLOT OF LATERAL ACCELEROMETER ON THE C.G. BULKHEAD; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-13015

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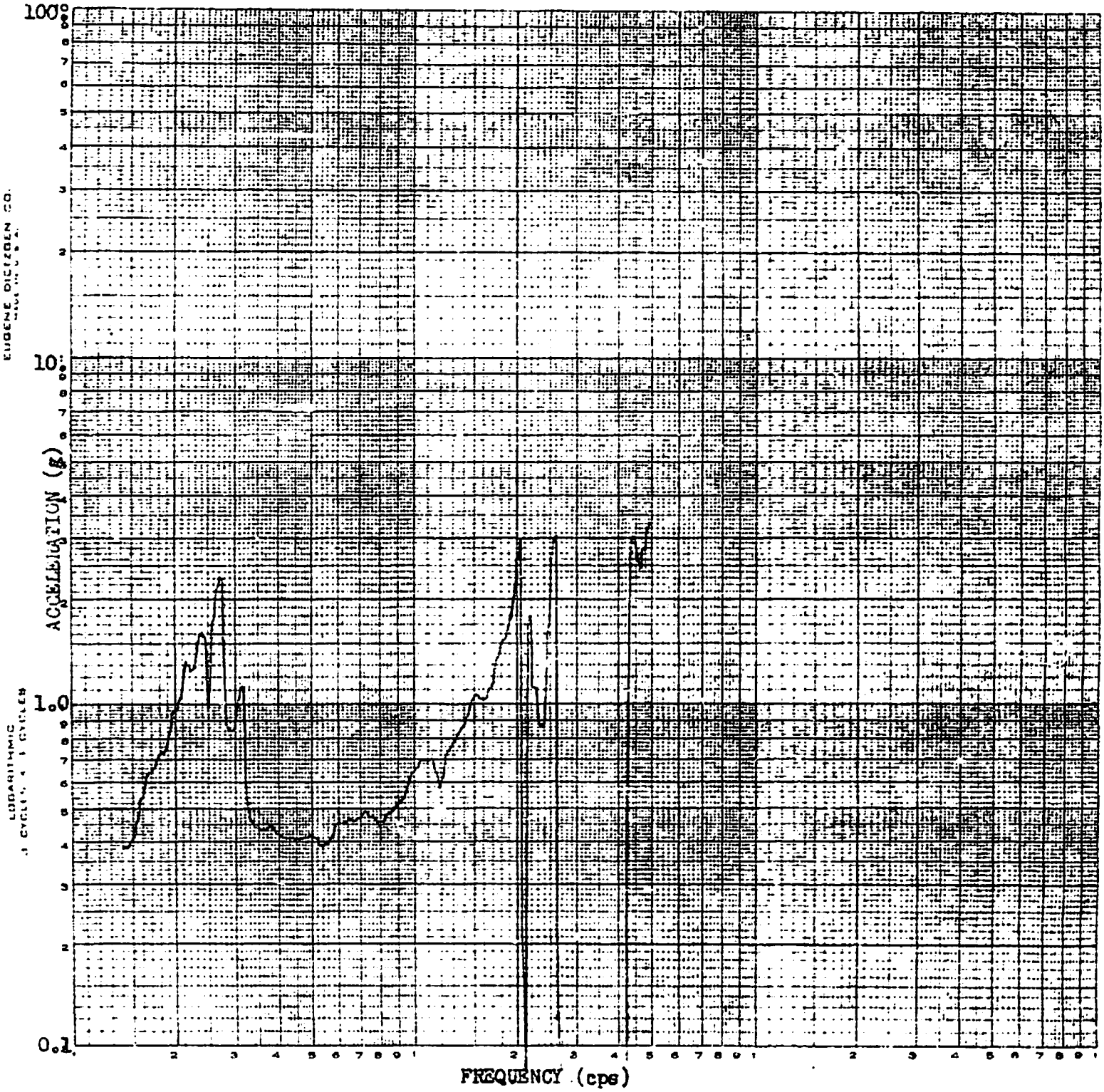


FIG. 50 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE C.G. BULKHEAD; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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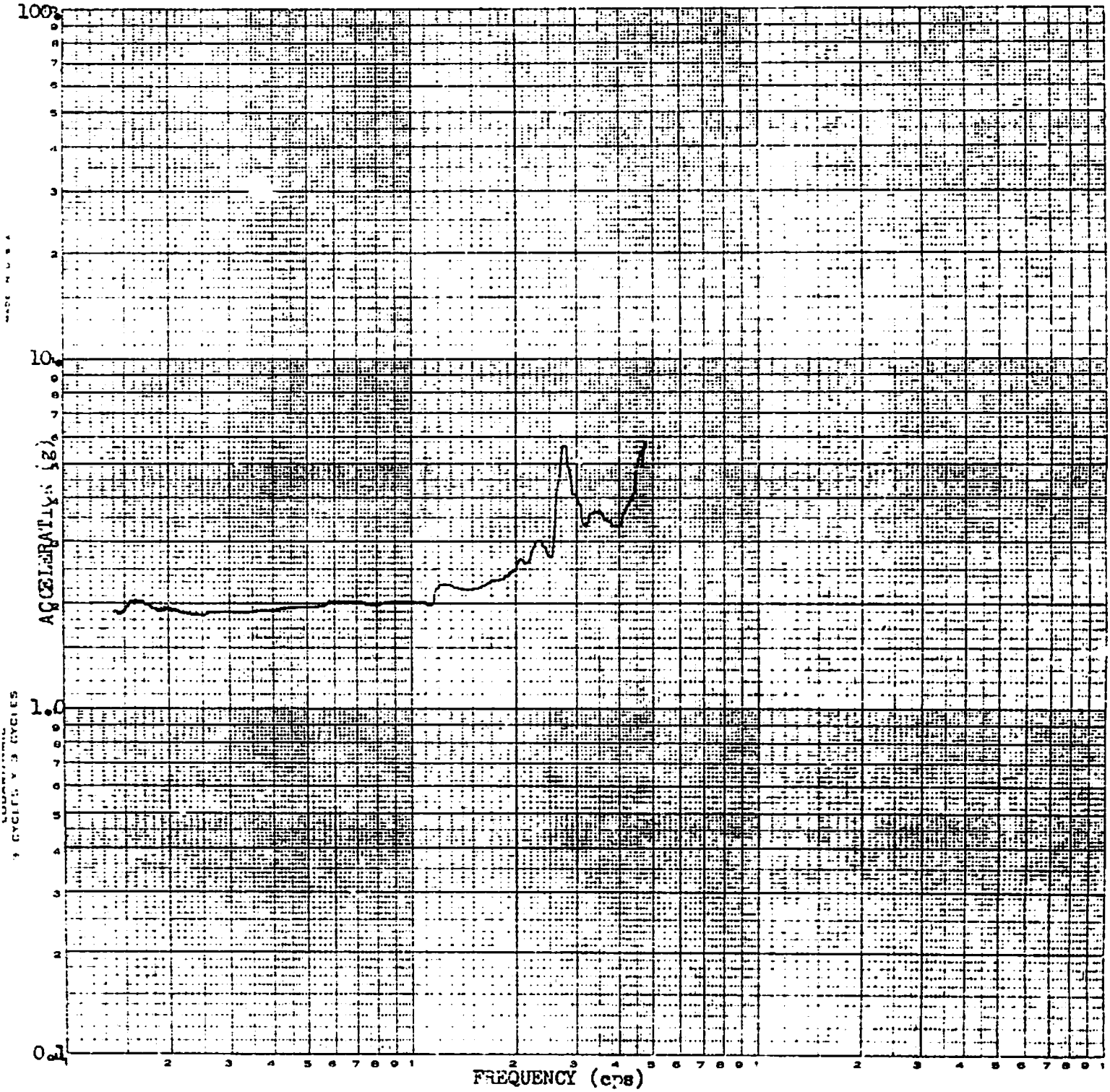


FIG. 51 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON TOP OF FIXTURE; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-13015

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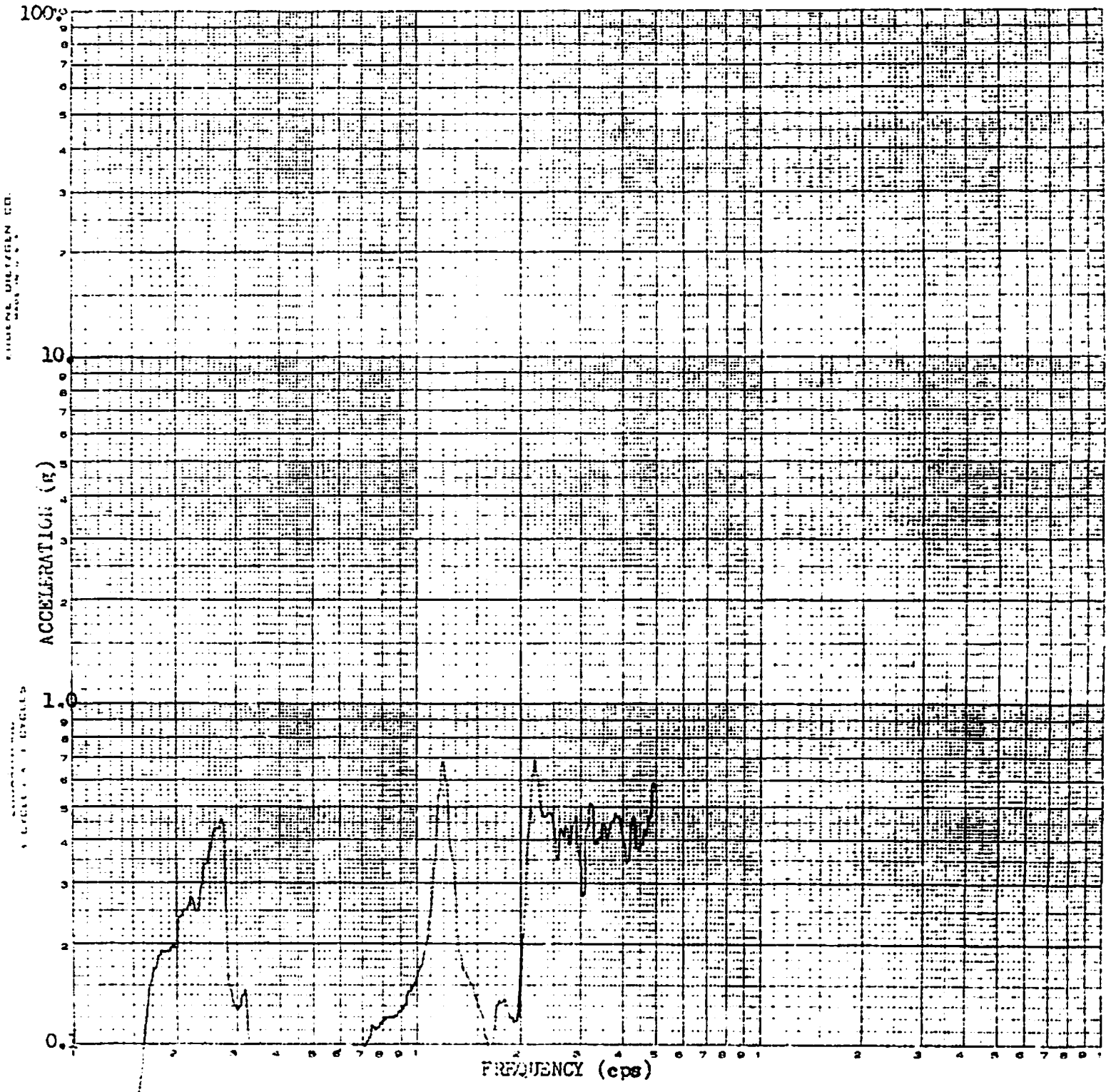


FIG. 52 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE TOP OF THE FIXTURE; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-13015

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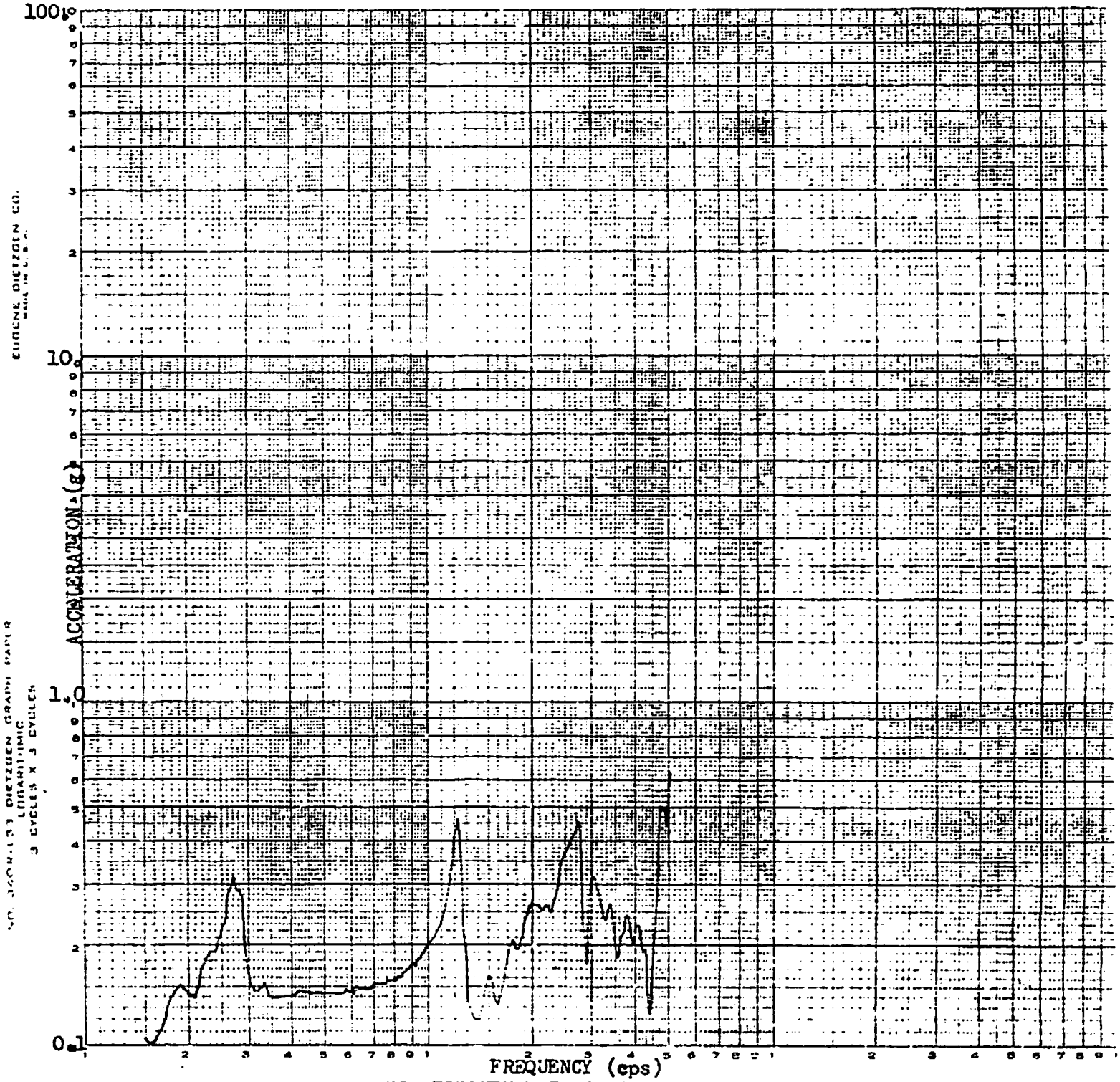


FIG. 53 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE TOP OF THE FIXTURE; 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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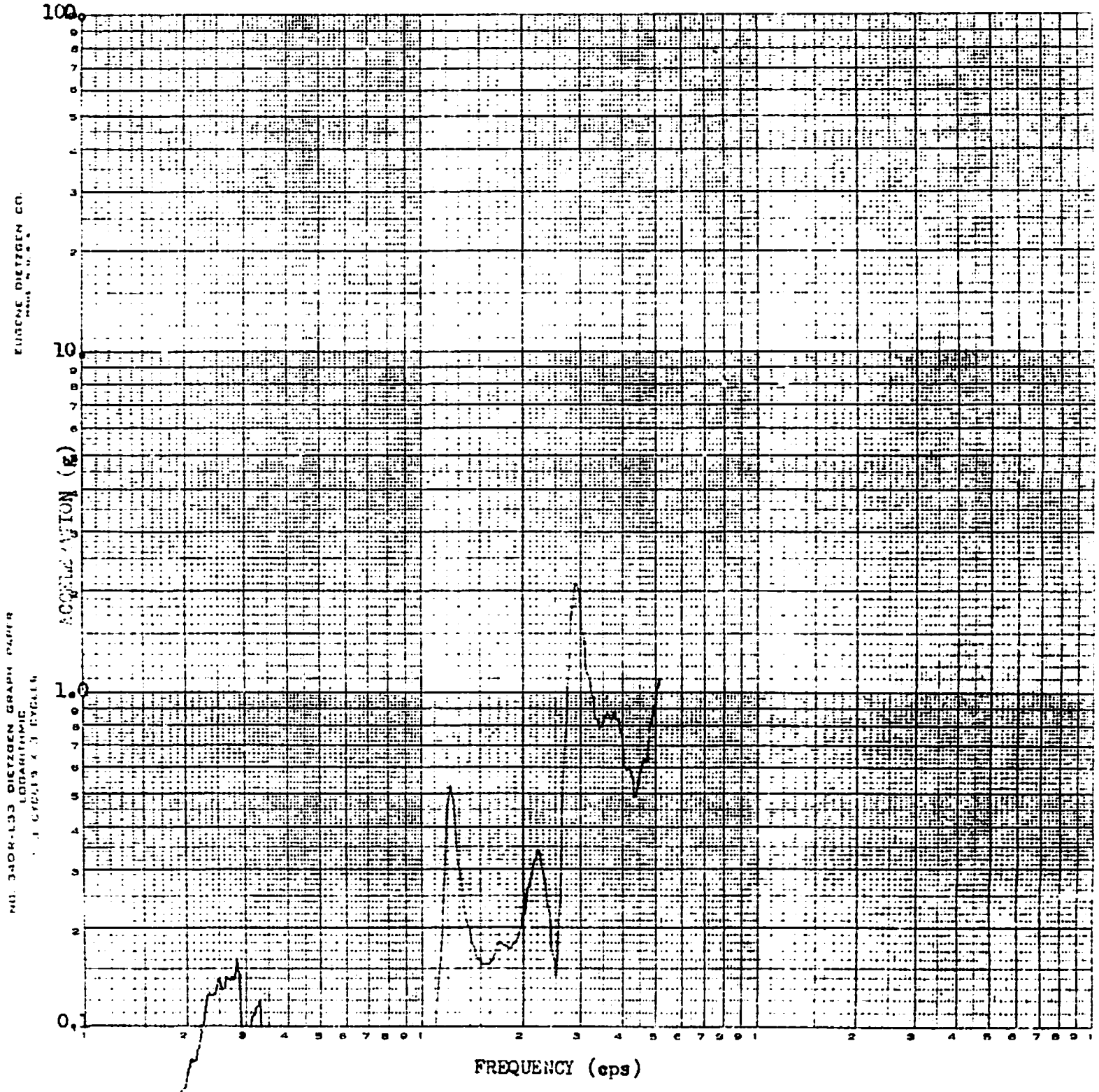


FIG. 54 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON BASE OF FIXTURE (INPUT); 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-13015

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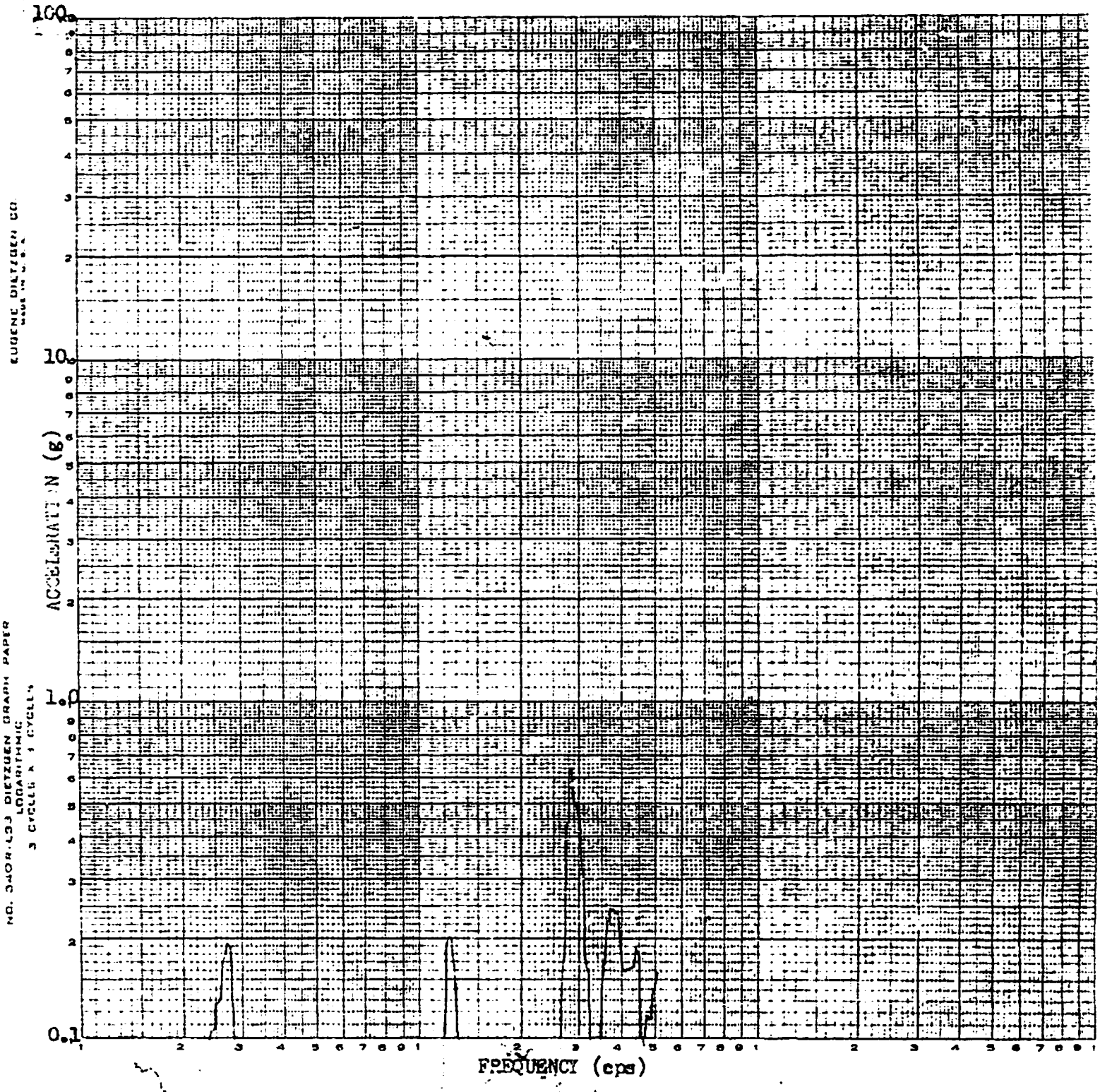


FIG. 55 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE BASE OF THE FIXTURE (INPUT); 2g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-13015

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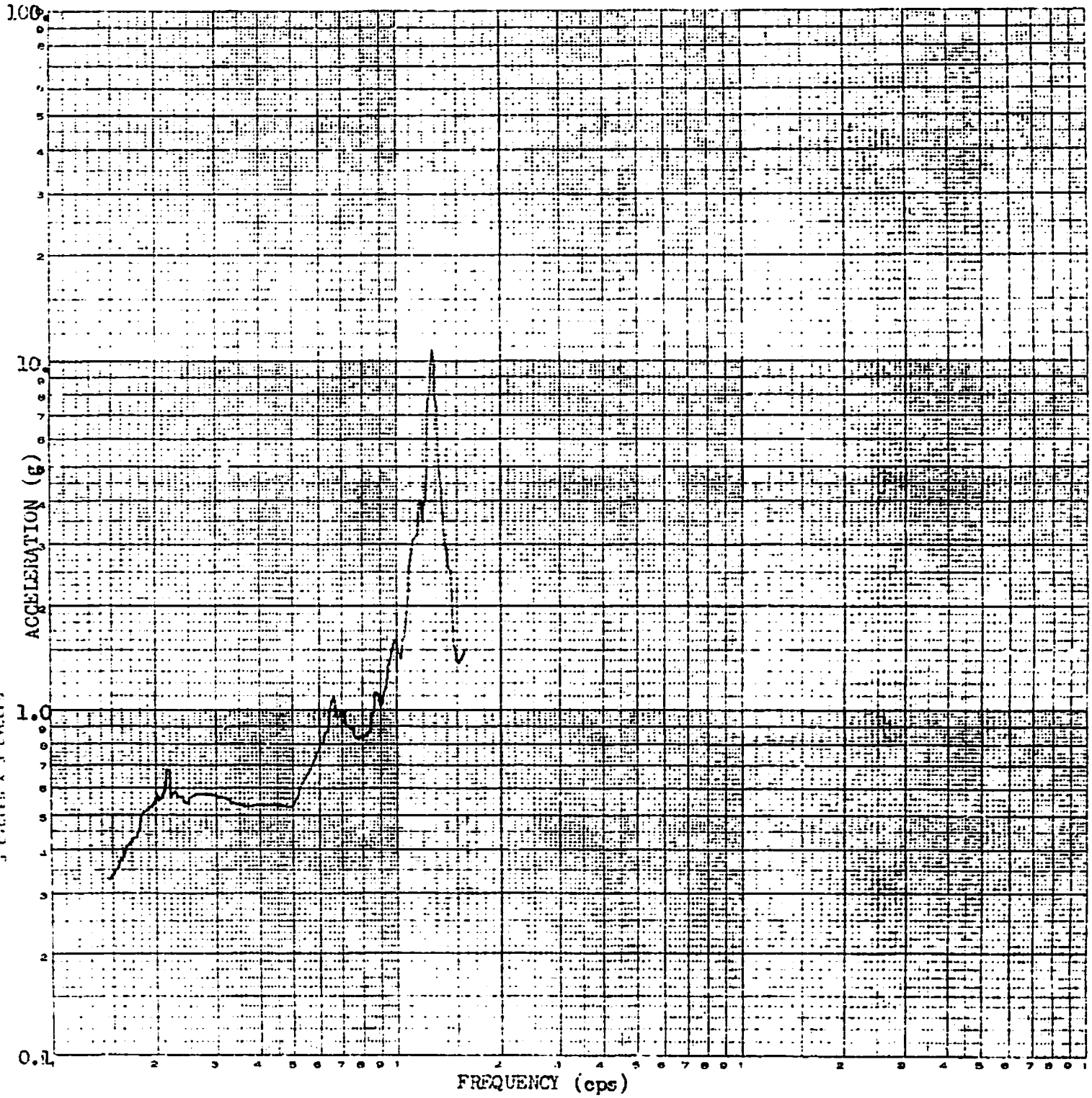


FIG. 55 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON C.G. BULKHEAD; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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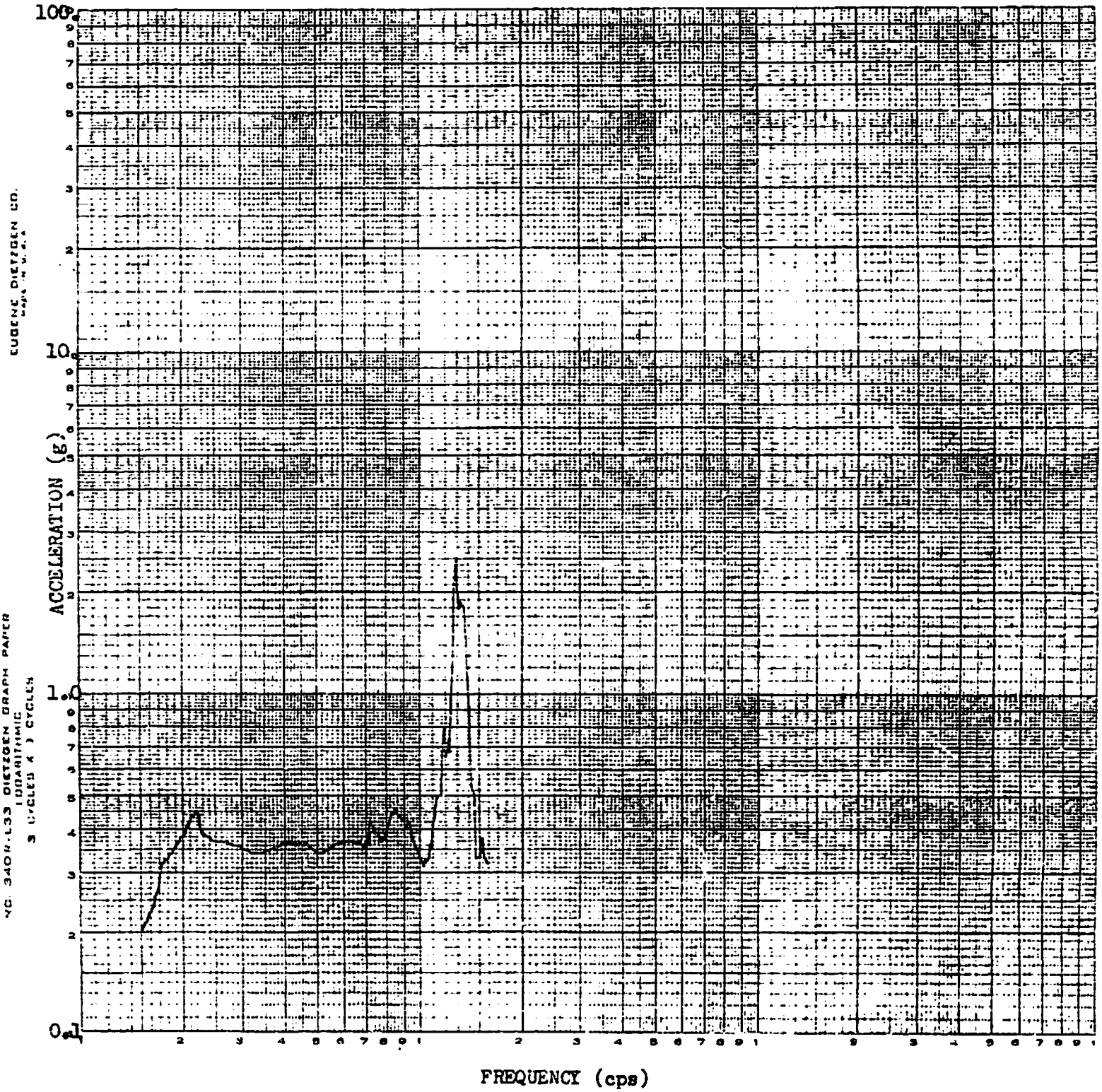


FIG. 57 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE C.G. BULKHEAD; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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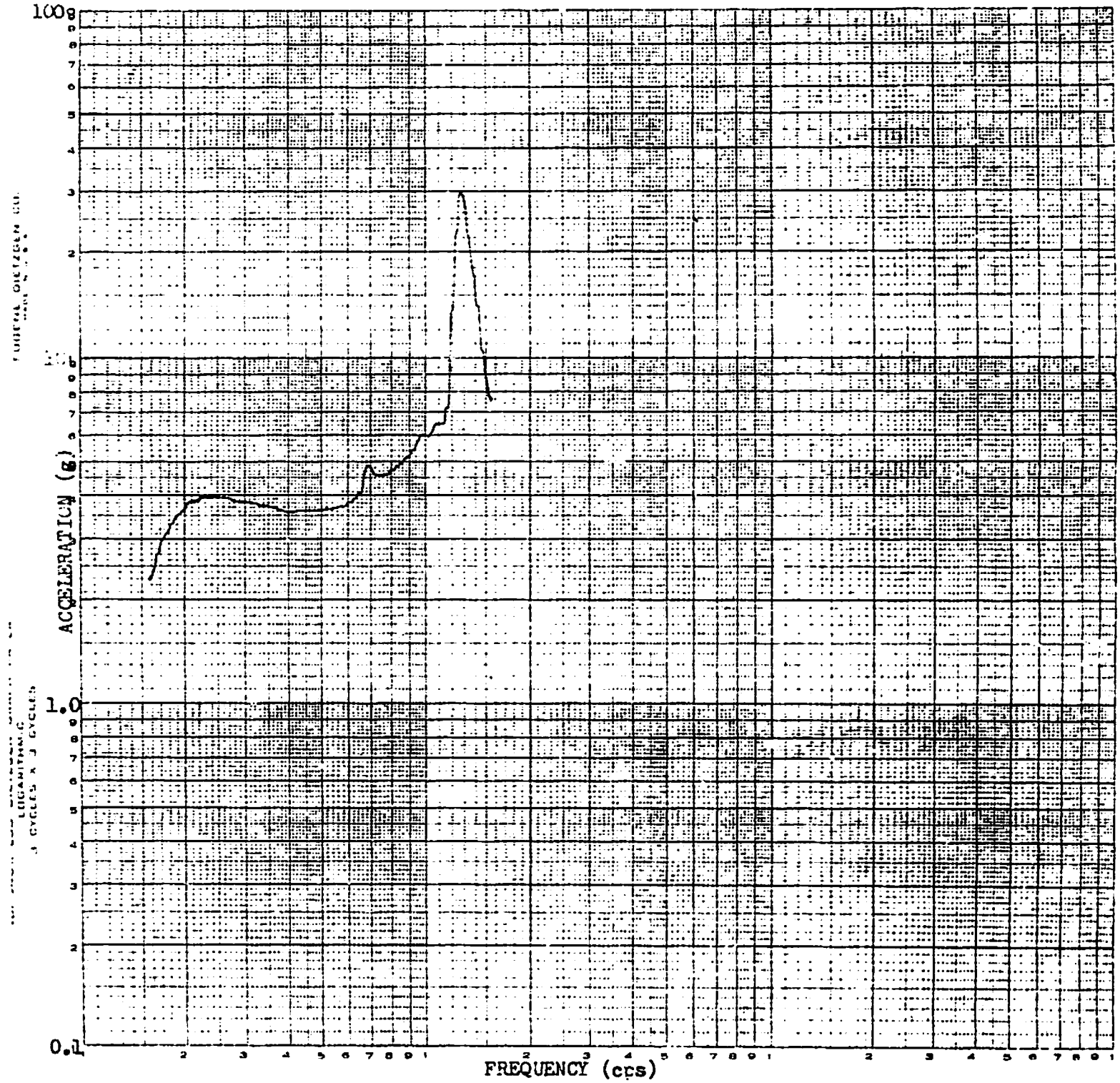


FIG. 98 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD 60° OFF VERTICAL; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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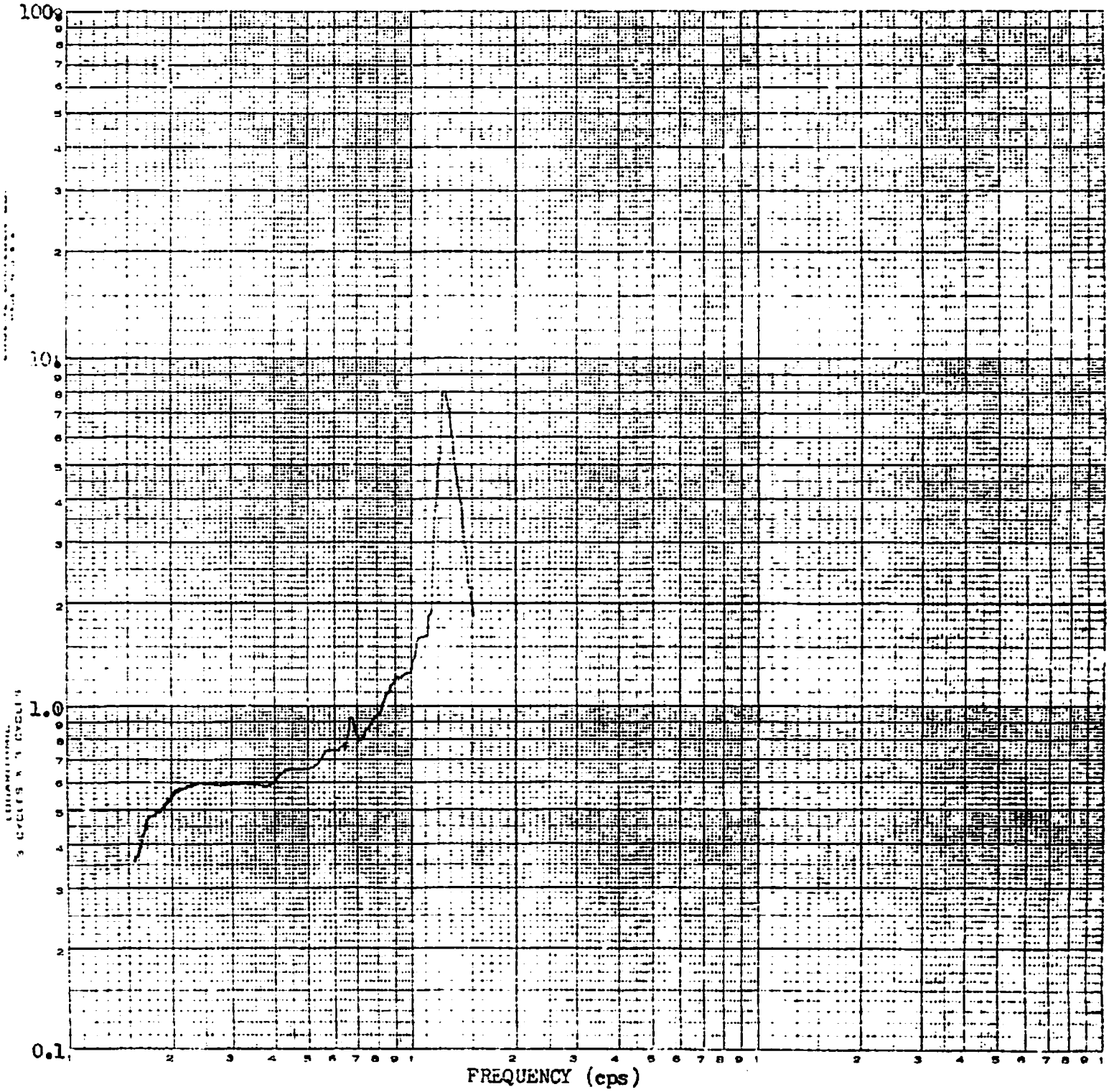


FIG. 59 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER SHAHEAD; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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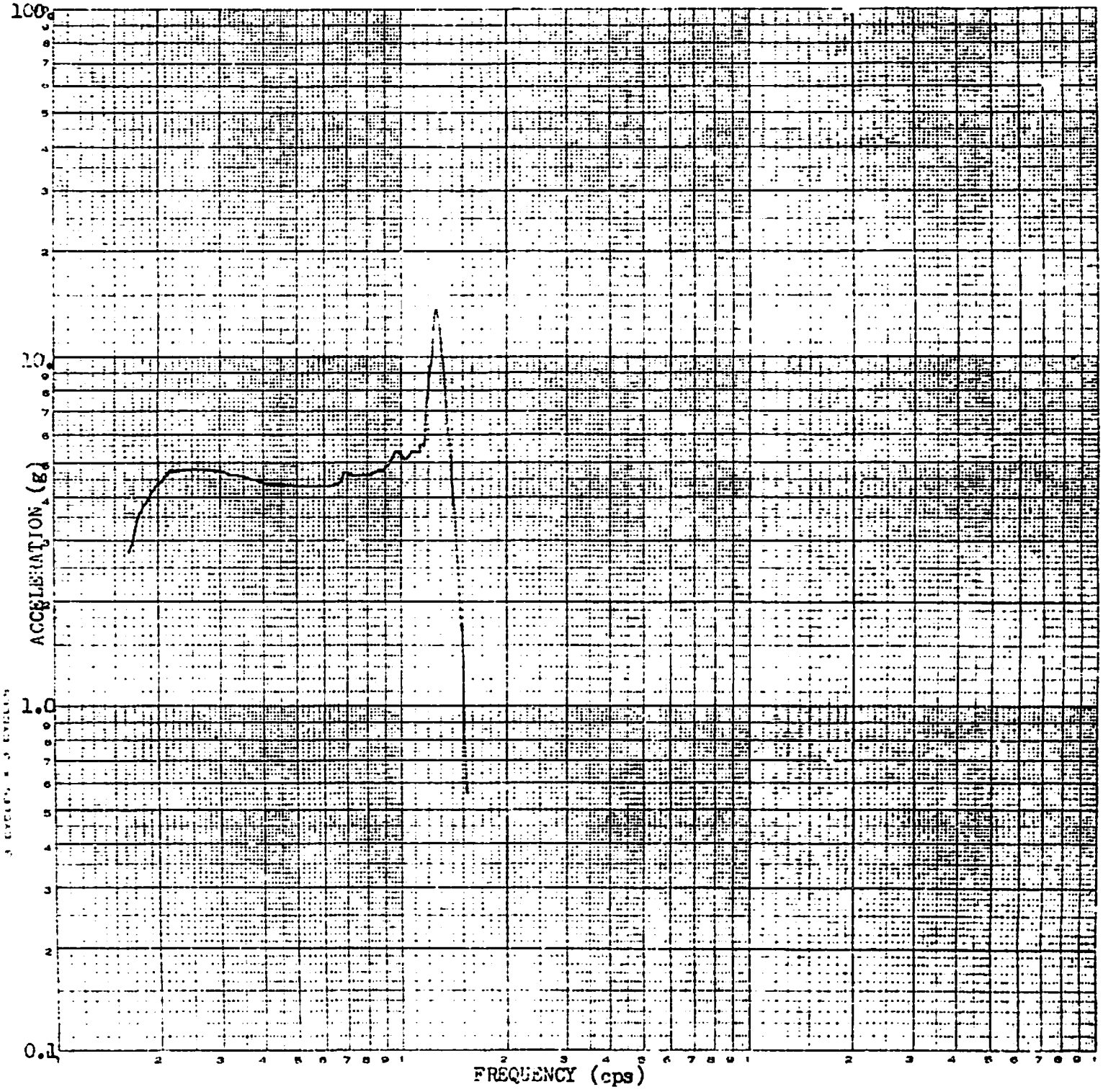


FIG. 60 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD, 30° OFF VERTICAL; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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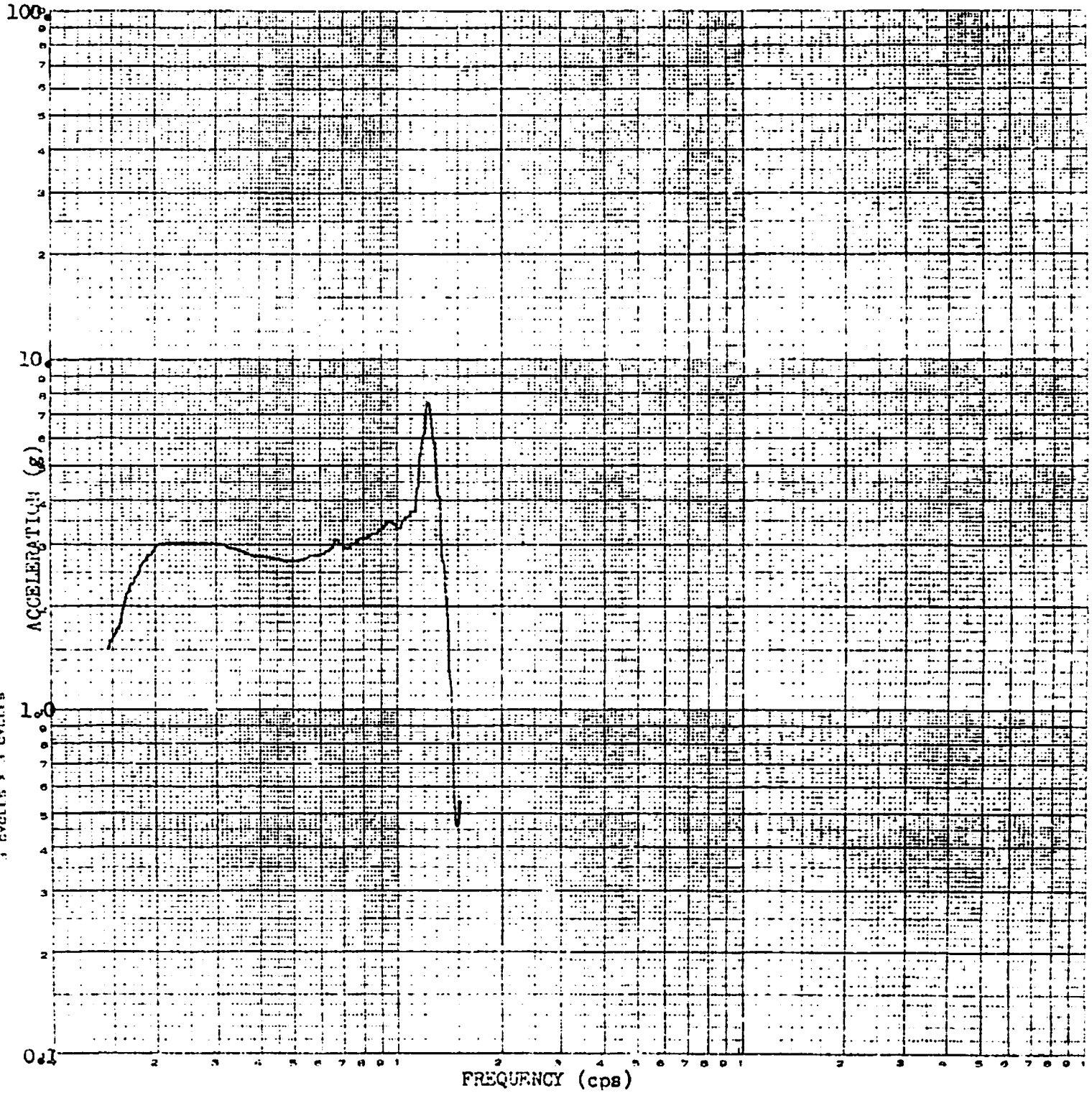


FIG. 61 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON LONGITUDINAL BULKHEAD, 30° OFF VERTICAL; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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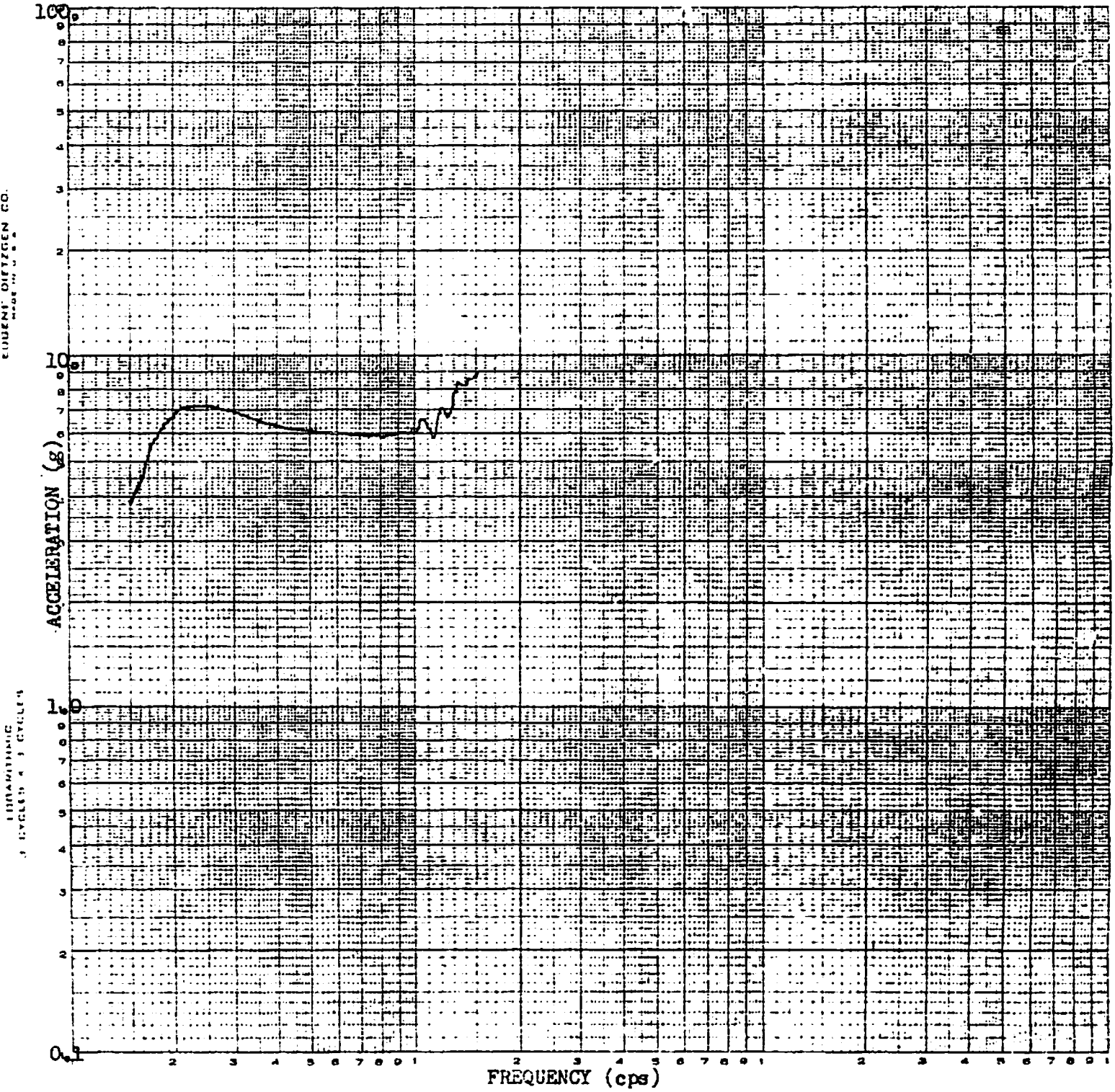


FIG. 62 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE LONGITUDINAL BULKHEAD; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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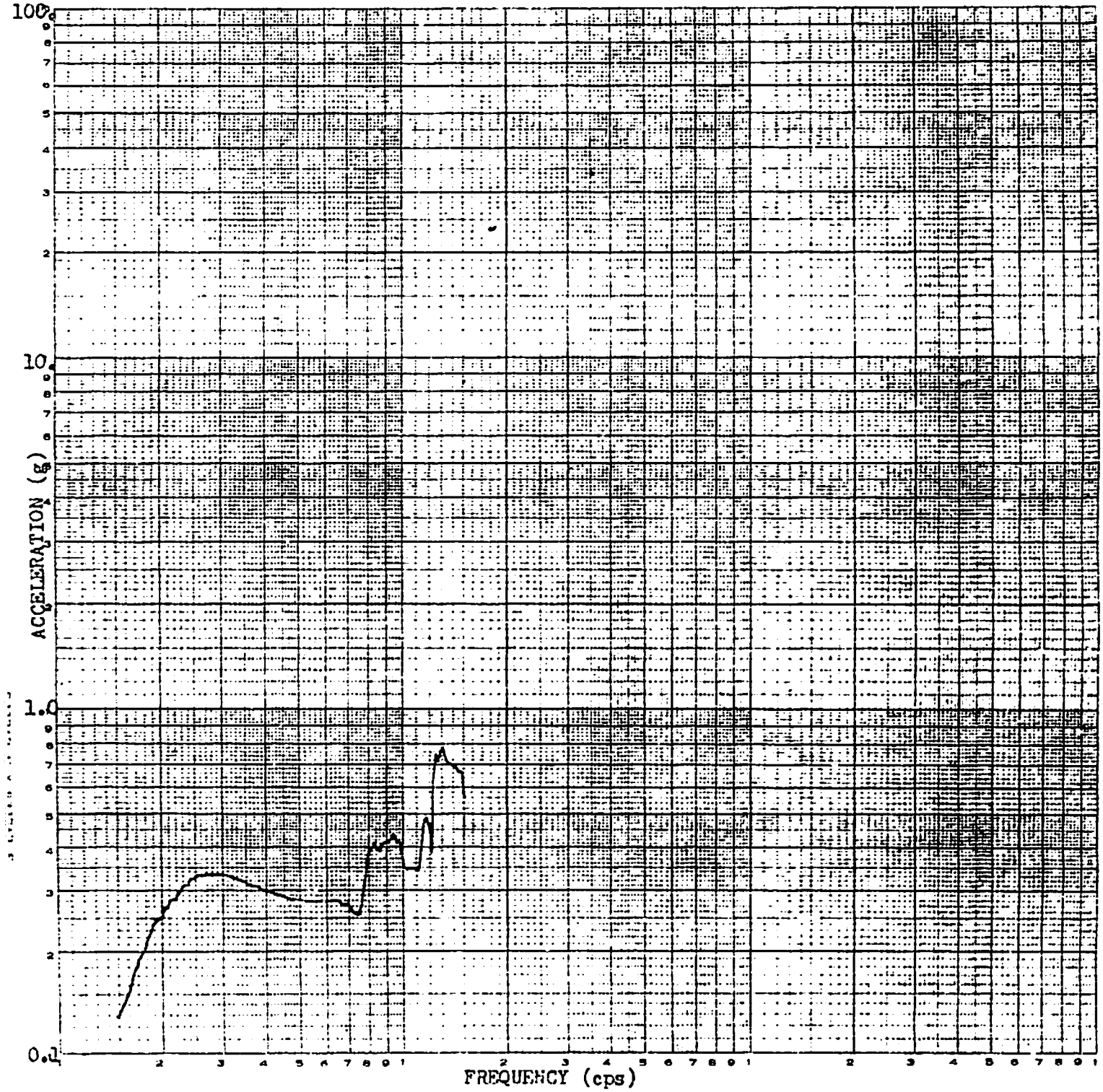


FIG. 63 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE C.G. OF THE FIXTURE; 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XN-53 T.M. PACKAGE.

PROJECT NO. T-18015

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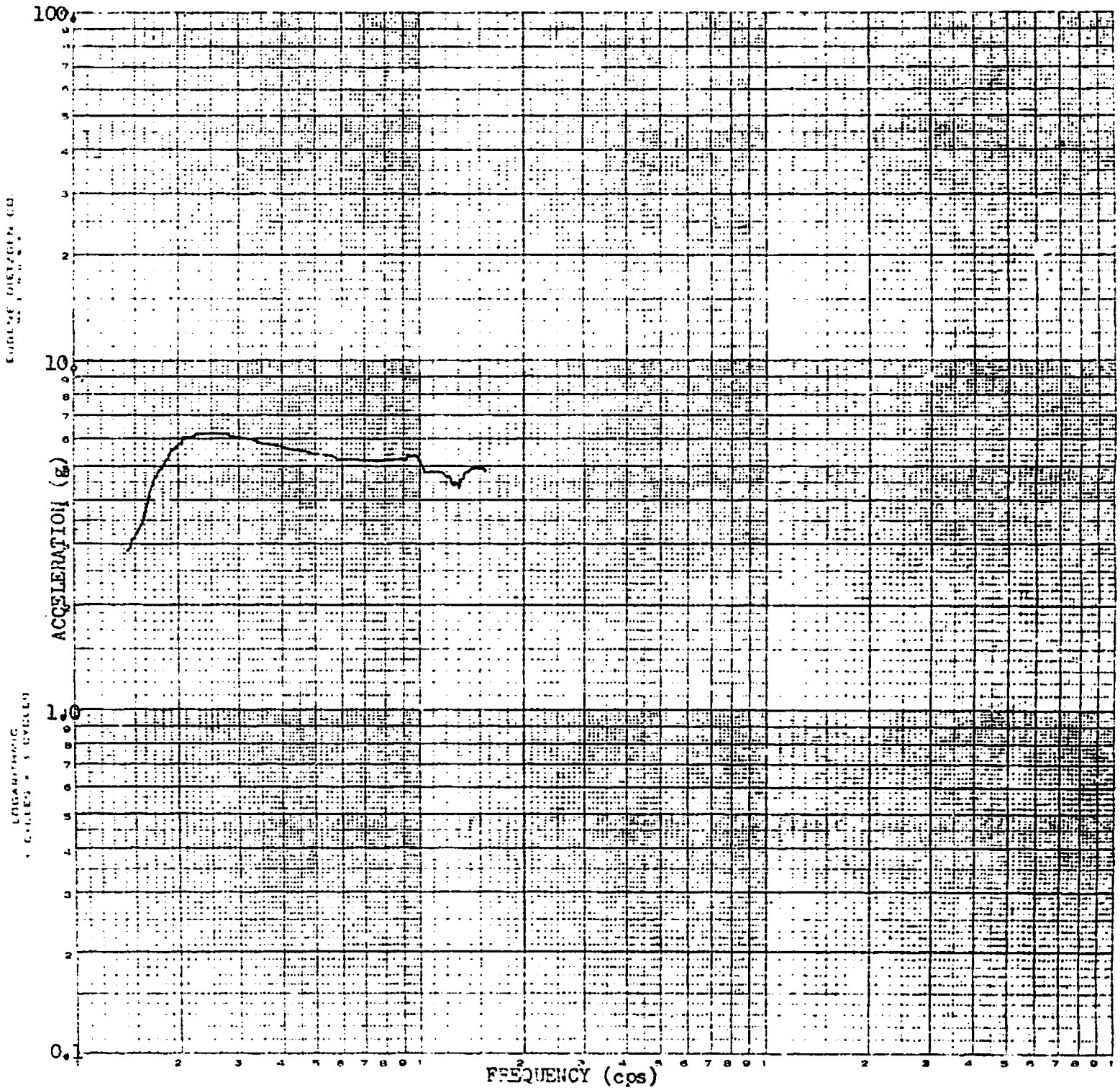


FIG. 64 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON THE C.G. OF THE FIXTURE: 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.N. PACKAGE.

PROJECT NO. T-18015

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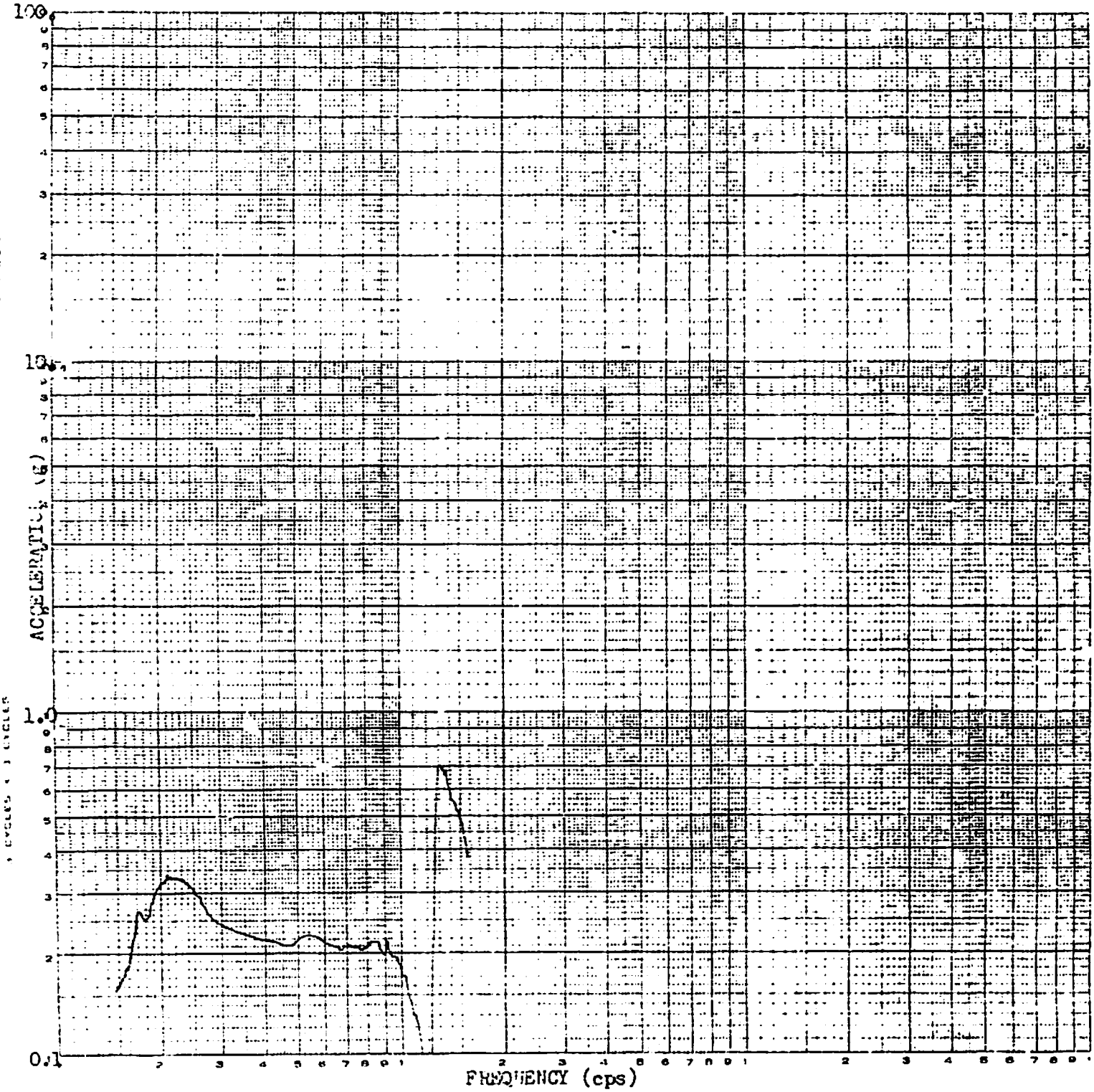


FIG. 65 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE FIXTURE (INPUT); 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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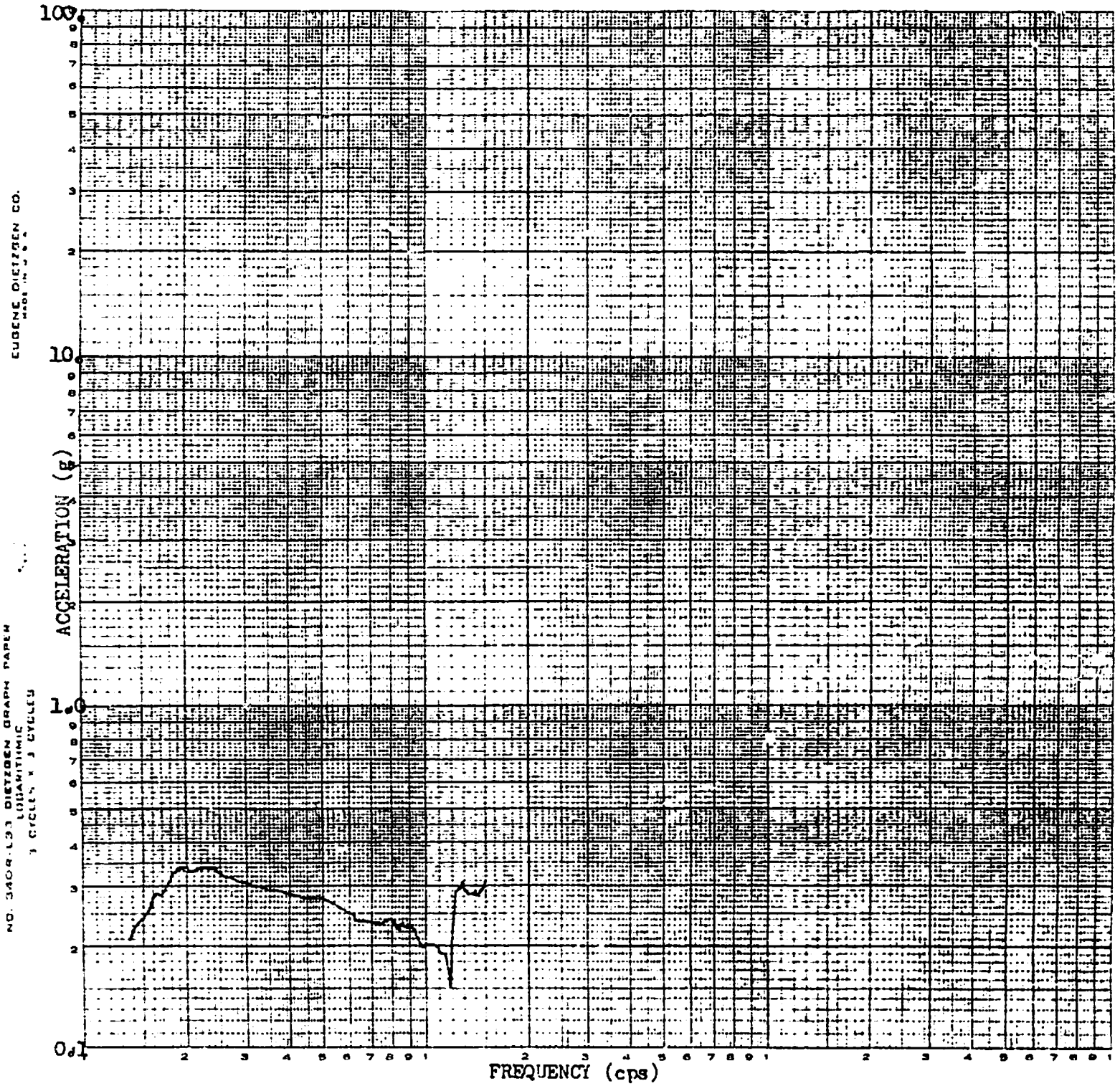


FIG. 66 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE FIXTURE (INPUT); 5g INPUT; LATERAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

PROJECT NO. T-18015

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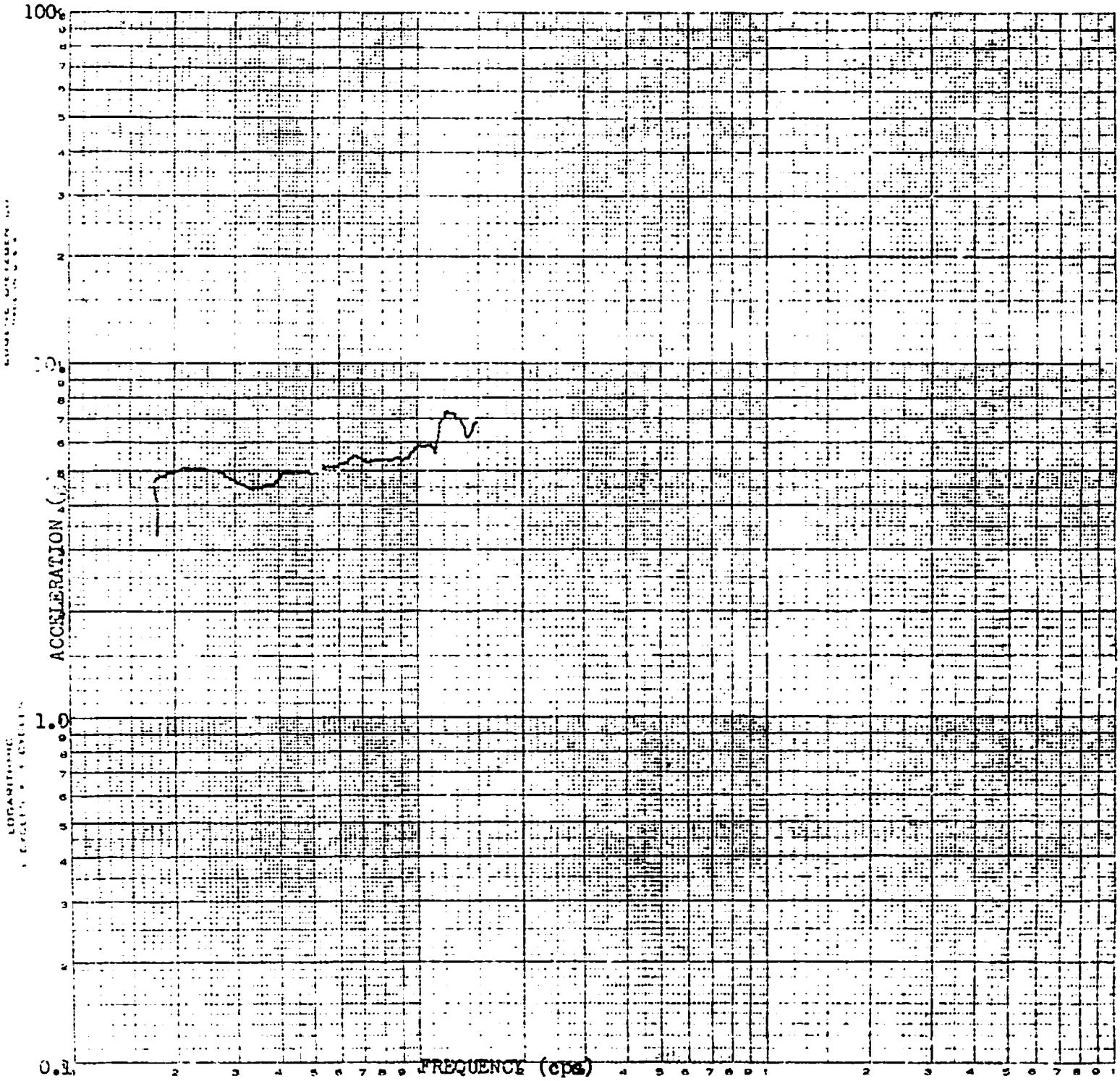


FIG. [illegible] FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON THE [illegible].G. BULKHEAD; 5g INPUT; LONGITUDINAL ORIENTATION-[illegible]IBRATION TEST OF THE XW-53 T.[illegible]. PACKAGE.

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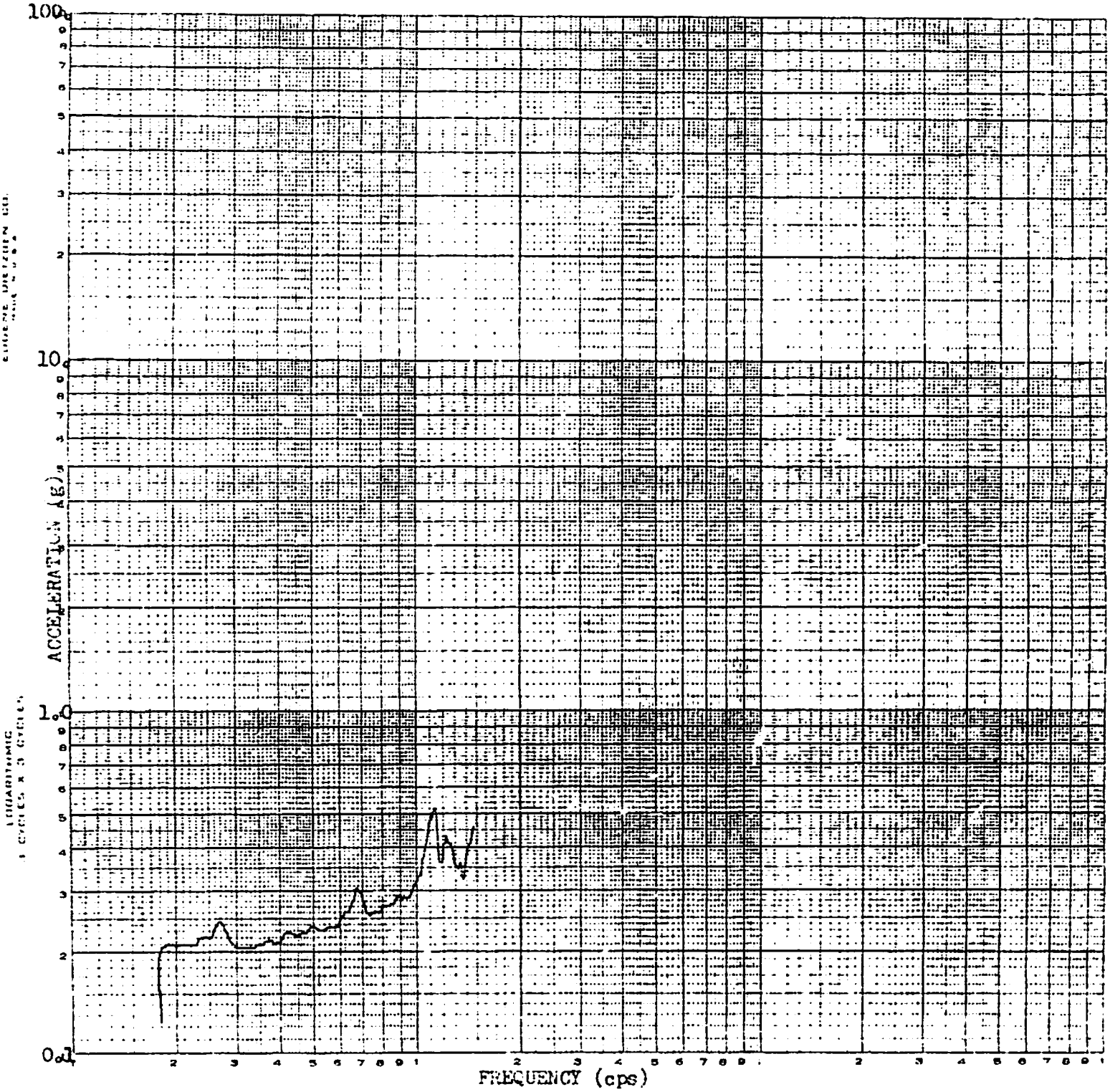


FIG. 69 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE C.G. BULKHEAD; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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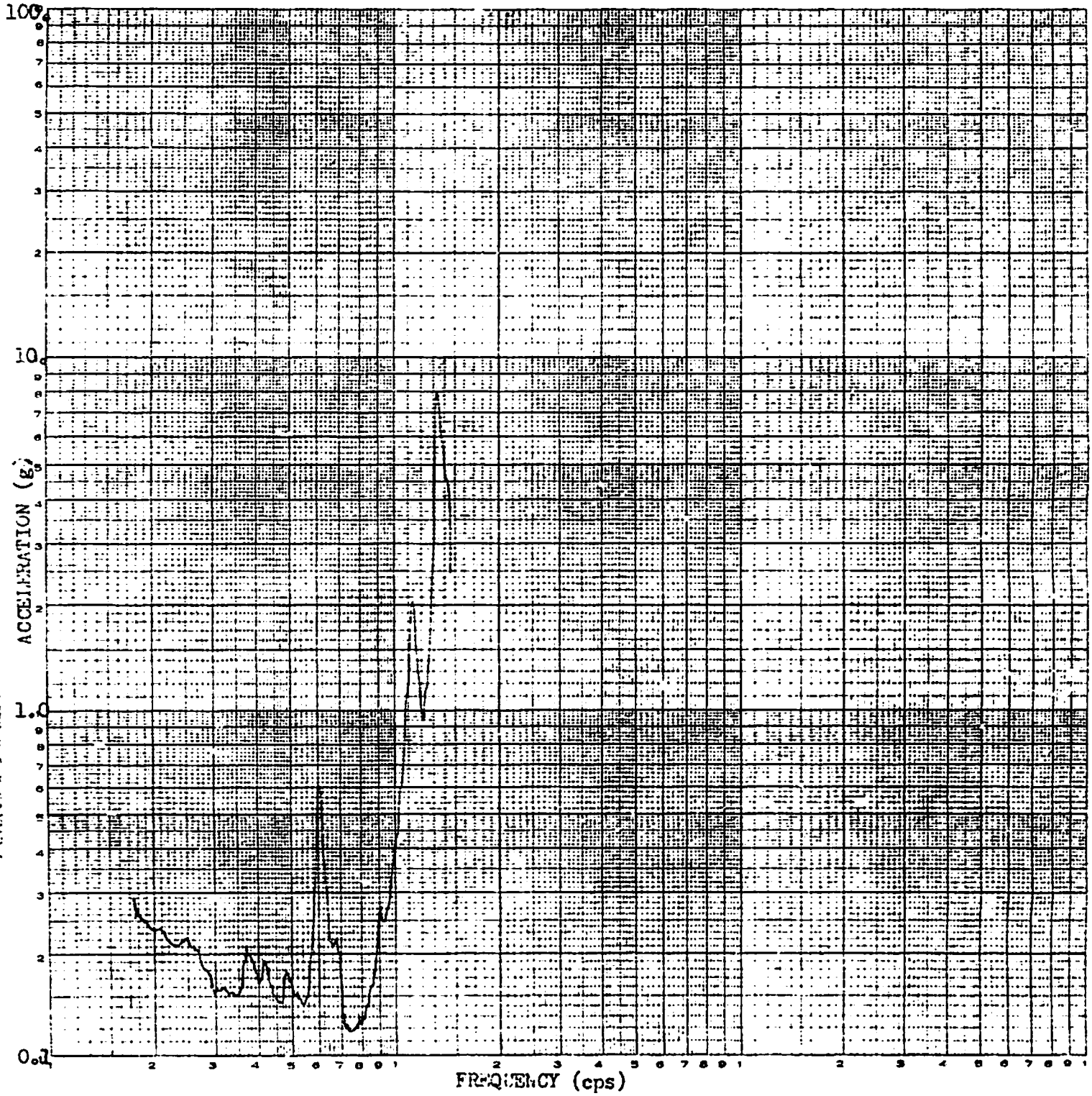


FIG. 69 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD, 60° OFF VERTICAL; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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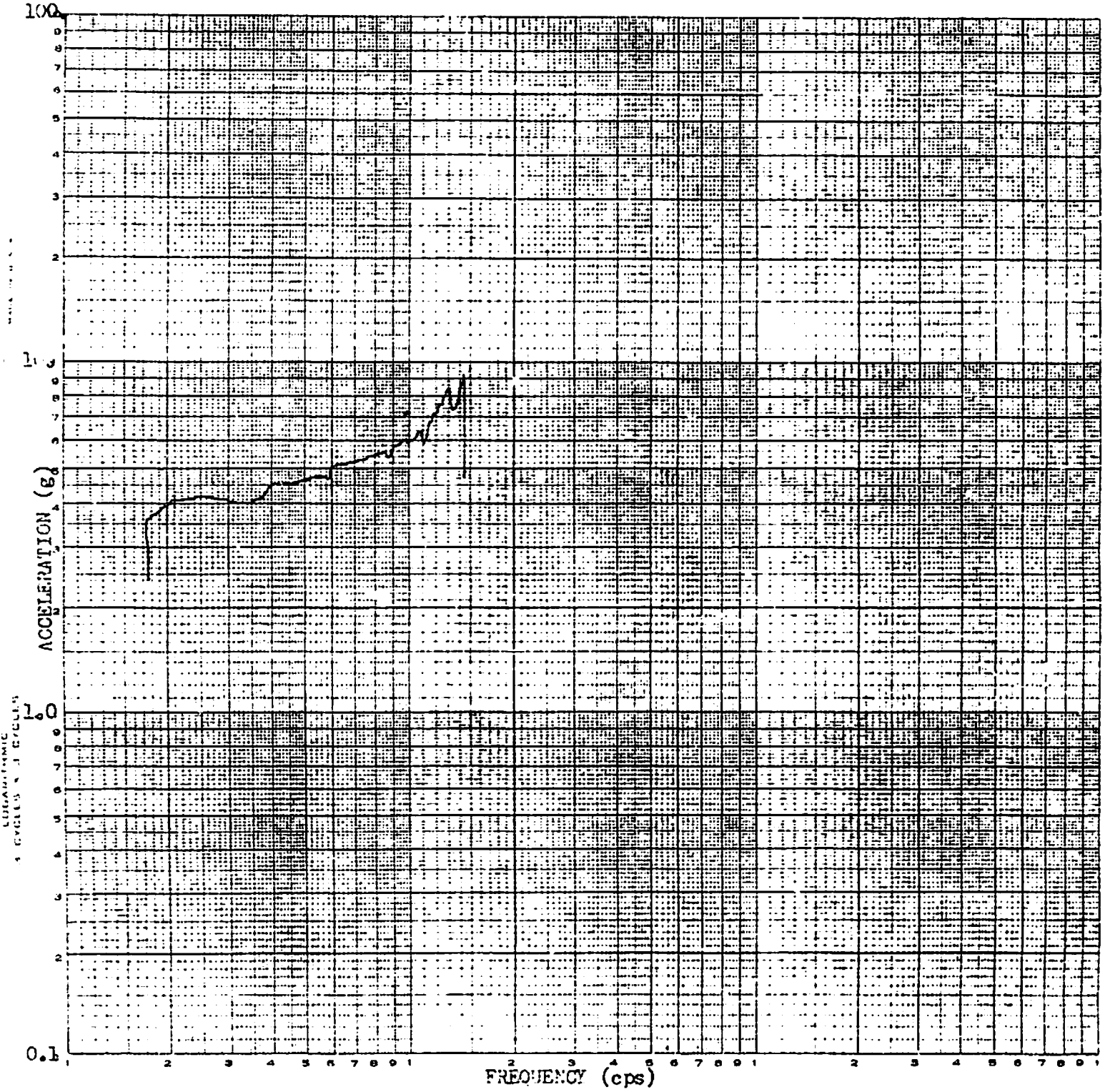


FIG. 70 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON THE RECORDER BULKHEAD; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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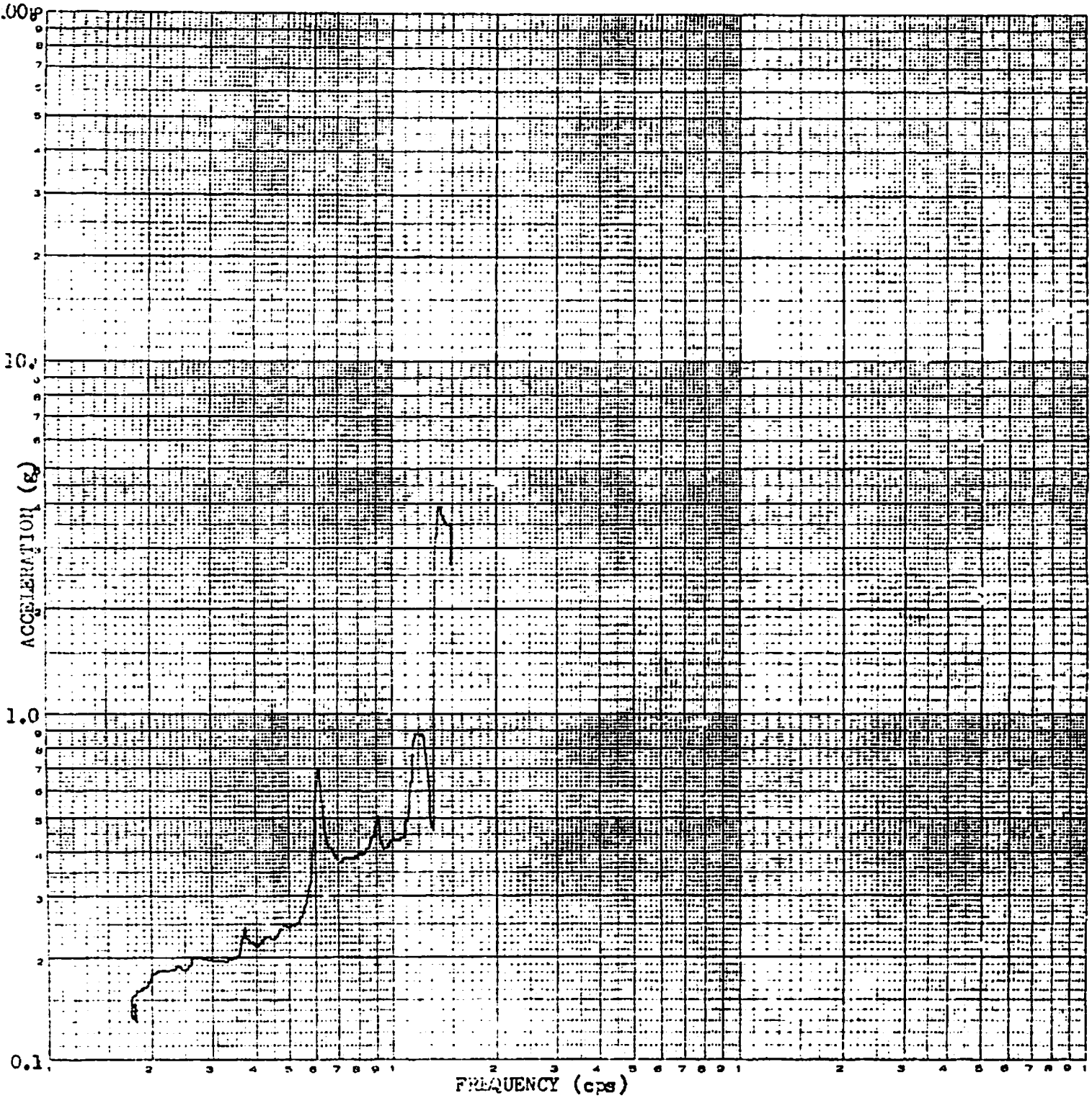


FIG. 71 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE RECORDER BULKHEAD 30° OFF VERTICAL; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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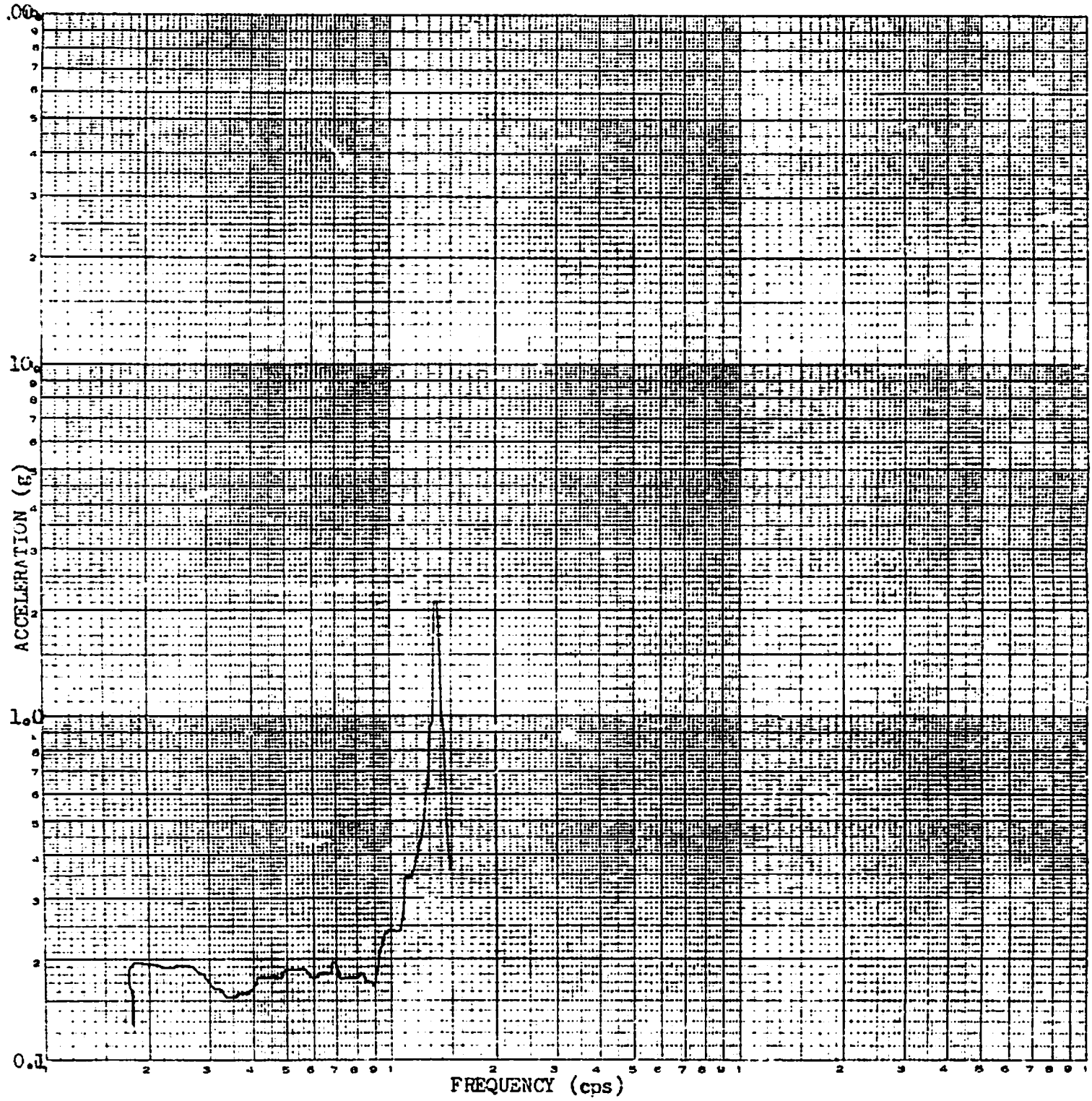


FIG. 72 FILTERED RESPONSE VS. FREQUENCY PLOT OF ACCELEROMETER ON THE LONGITUDINAL BULKHEAD, 30° OFF VERTICAL; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE. PROJECT NO. T-18015

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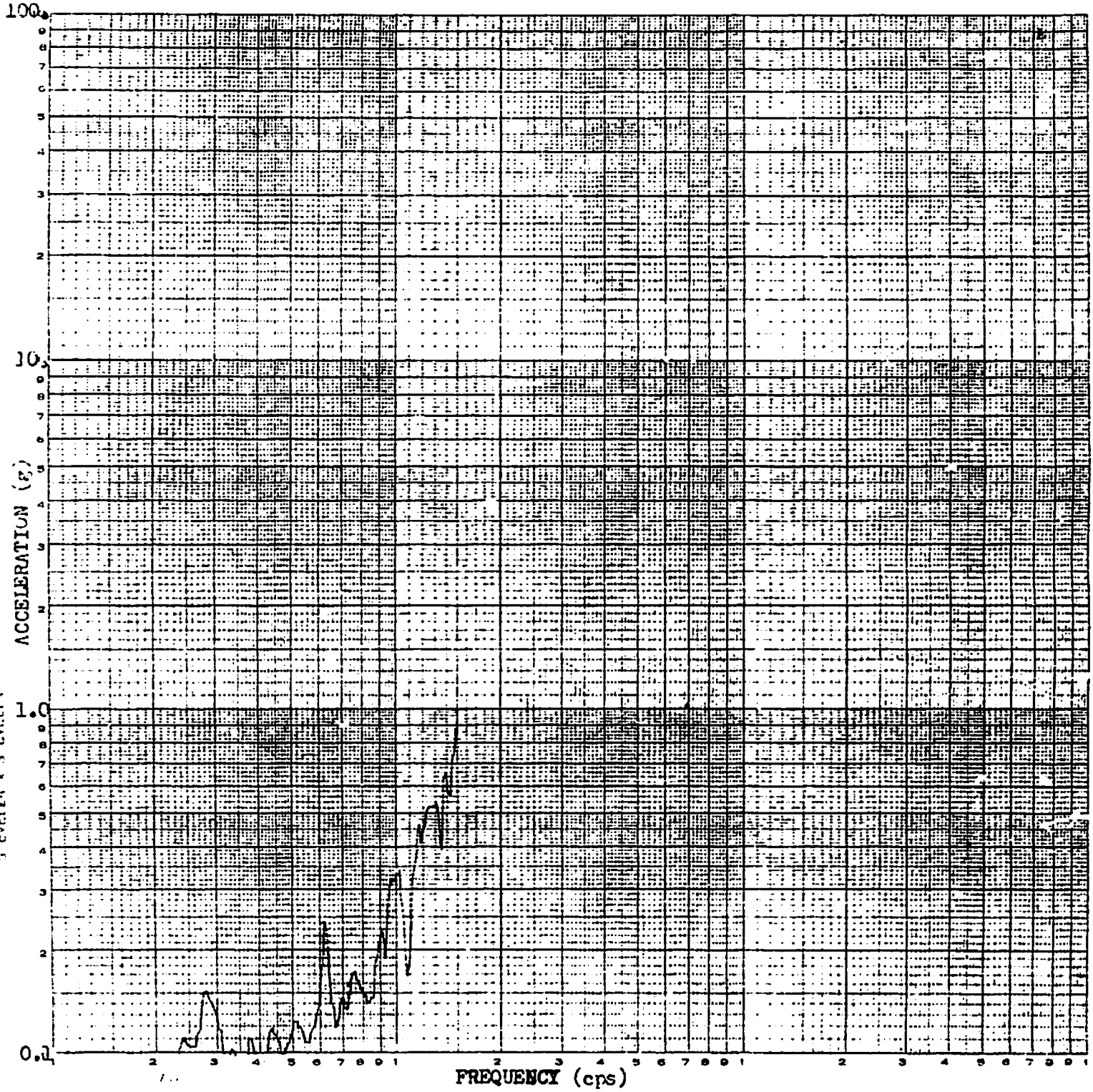


FIG. 73 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON LONGITUDINAL BULKHEAD; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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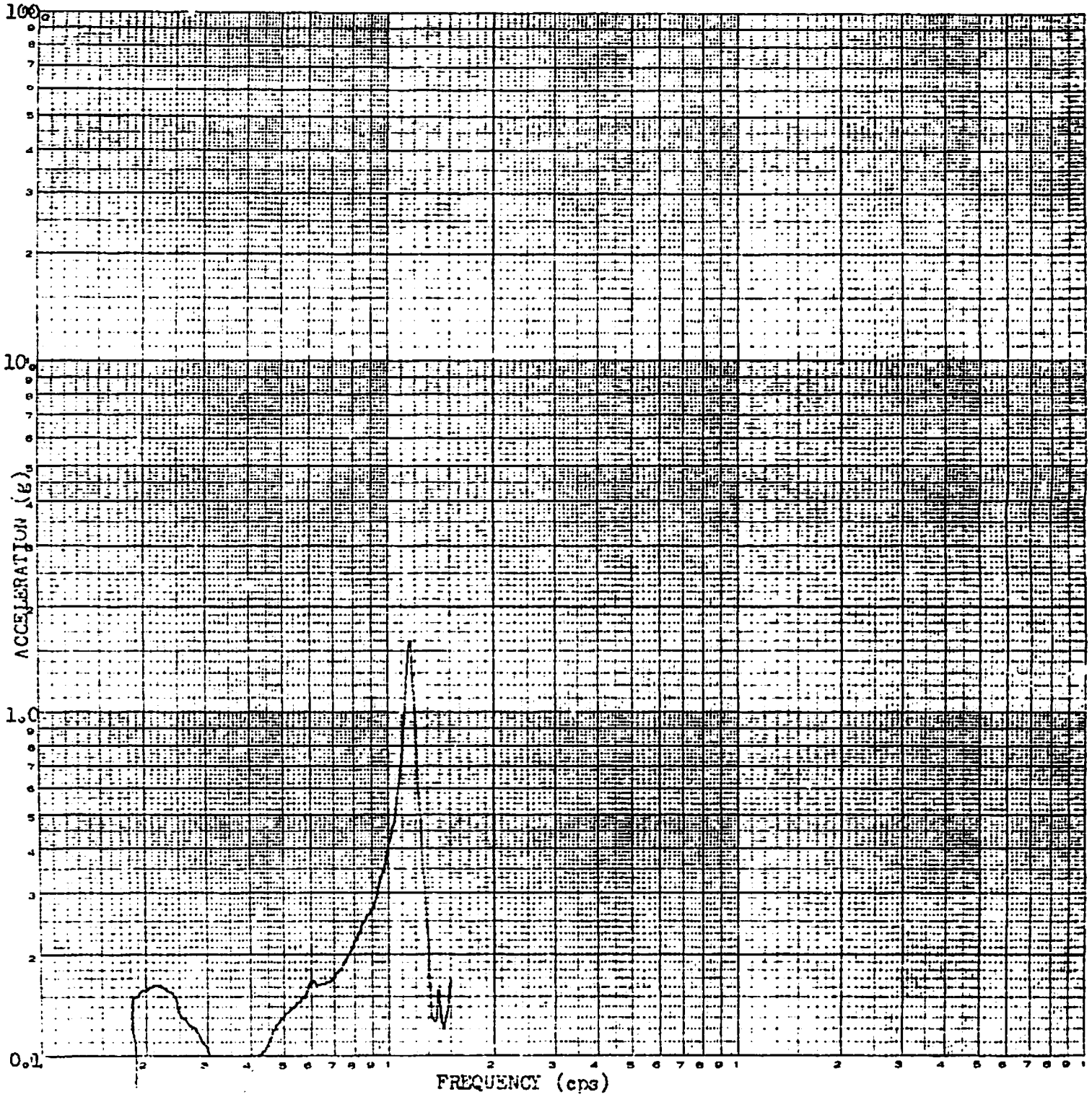


FIG. 74 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON BASE OF FIXTURE; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.H. PACKAGE.

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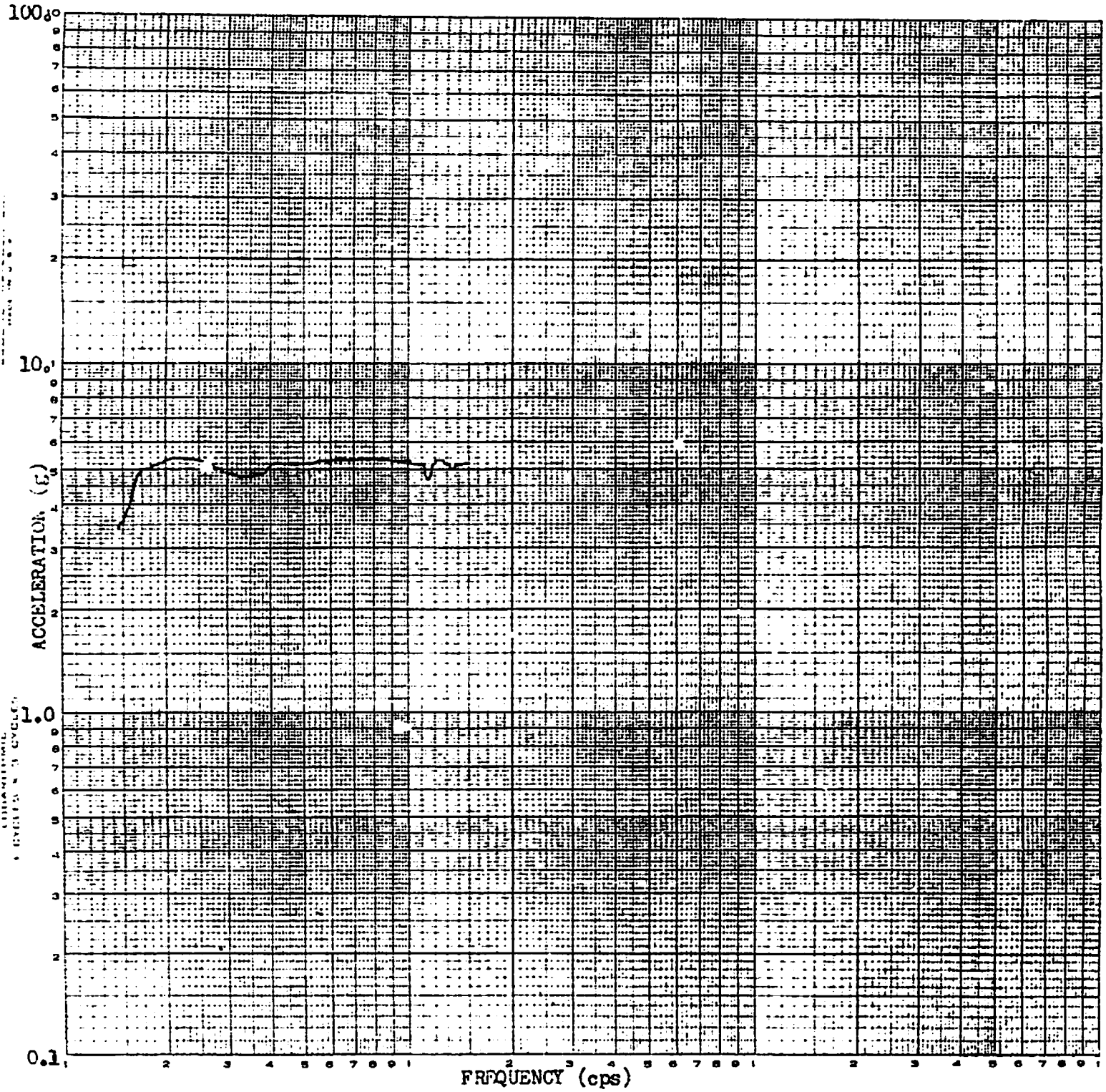


FIG. 75 FILTERED RESPONSE VS. FREQUENCY PLOT OF LONGITUDINAL ACCELEROMETER ON BASE OF FIXTURE; 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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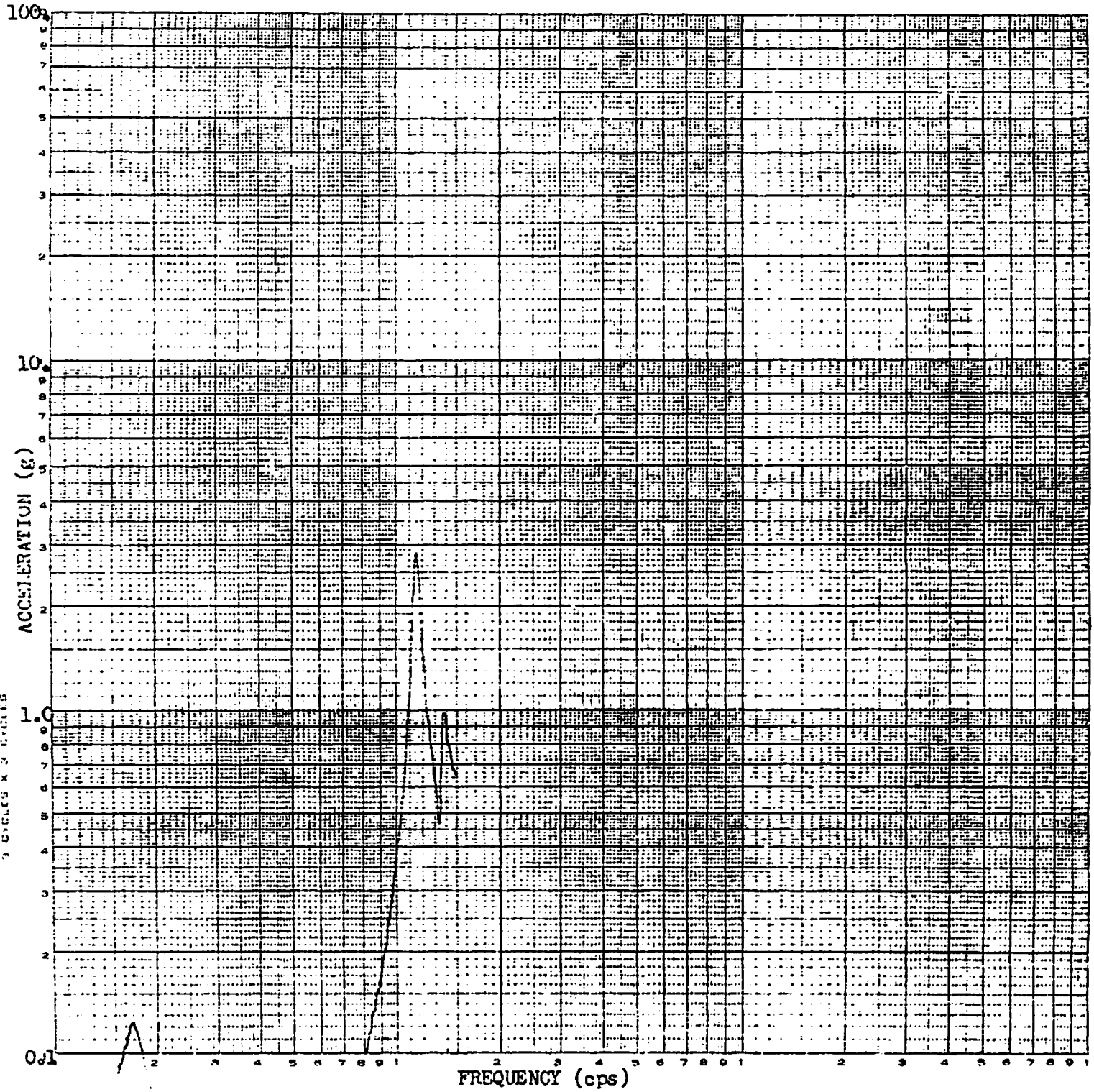


FIG. 76 FILTERED RESPONSE VS. FREQUENCY PLOT OF VERTICAL ACCELEROMETER ON TOP OF FIXTURE (INPUT); 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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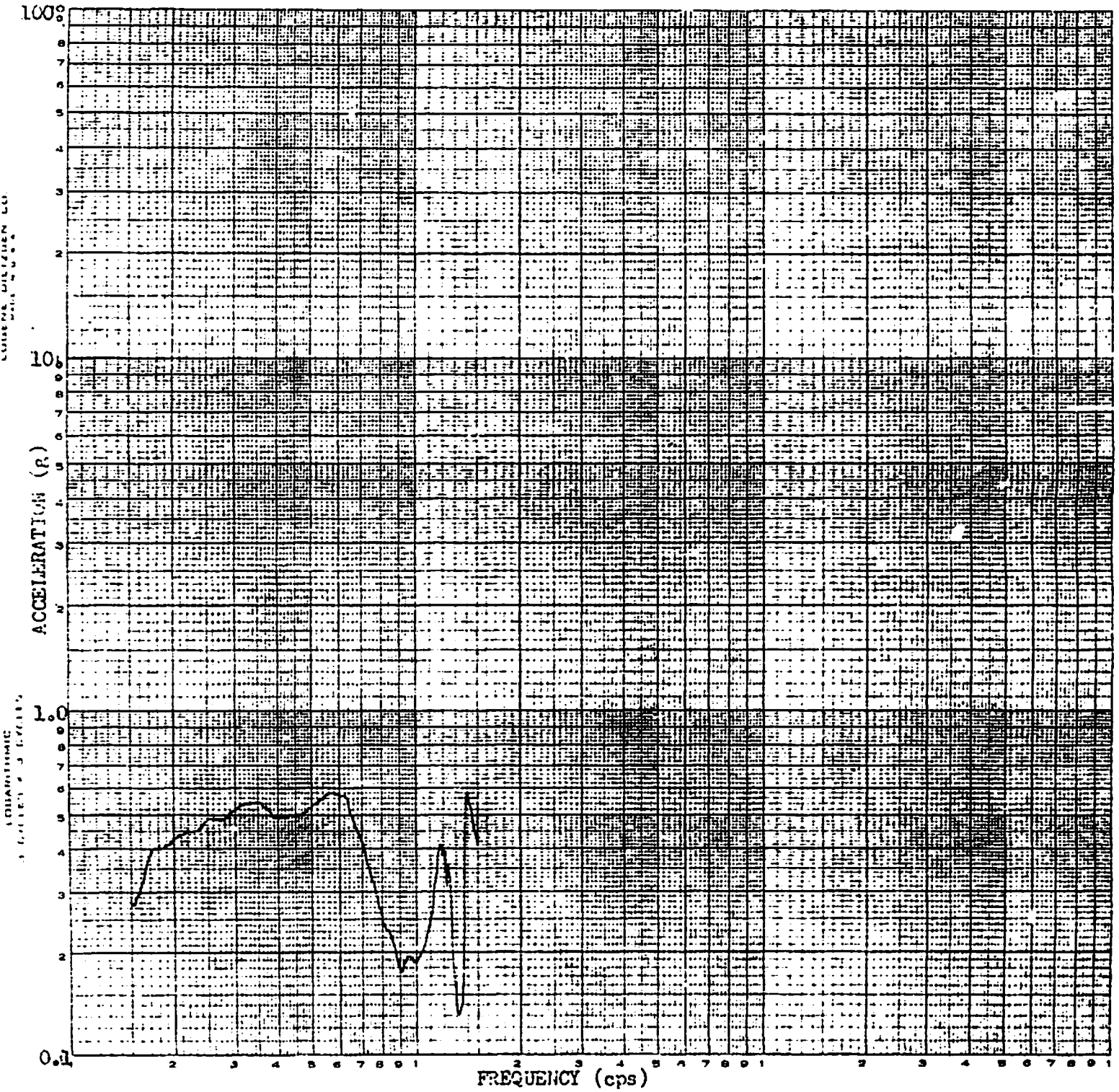


FIG. 77 FILTERED RESPONSE VS. FREQUENCY PLOT OF LATERAL ACCELEROMETER ON TOP OF FIXTURE (INPUT); 5g INPUT; LONGITUDINAL ORIENTATION - VIBRATION TEST OF THE XW-53 T.M. PACKAGE.

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TABLE I

Summary of Results - Vibration Test of the XW-53 Telemetry Package

| Location of Accelerometer | Orientation of Unit | Orientation of Accelerometer | Max. Response g | Max. Response cps | Recorded Input |
|---|---|---|---|---|---|
| 2 g Sweep | | | | | |
| Recorder | Vertical | 30° off vertical | 13.0 | 35 | 1.2 |
| Recorder Bulkhead | Vertical | 30° off vertical | 20.0 | 140 | 1.4 |
| C.G. Bulkhead | Vertical | Vertical | 5.6 | 220 | 1.3 |
| Recorder | Lateral | 60° off vertical | 16.0 | 20 | 1.4 |
| Recorder Bulkhead | Lateral | 60° off vertical | 7.2 | 220 | 1.7 |
| Recorder Bulkhead | Lateral | Longitudinal | 7.5 | 200 | 1.7 |
| Recorder Bulkhead | Lateral | 30° off vertical | 7.0 | 20 | 1.9 |
| C.G. Bulkhead | Lateral | Lateral | 4.5 | 115 | 1.8 |
| Recorder | Longitudinal | 30° off vertical | 22.0 | 280 | 2.2 |
| Recorder Bulkhead | Longitudinal | 30° off vertical | 9.2 | 27 | 1.8 |
| C.G. Bulkhead | Longitudinal | Vertical | 3.0 | 205,260,440 | 2.0,2.1,2.2 |
| 5 g Sweep | | | | | |
| C.G. Bulkhead | Lateral | Vertical | 11.0 | 130 | 5.0 |
| Recorder Bulkhead | Lateral | 60° off vertical | 30.0 | 130 | 5.0 |
| Longitudinal Bulkhead | Lateral | Lateral | 9.0 | 150 | 5.3 |
| C.G. Bulkhead | Longitudinal | Vertical | 7.2 | 120 | 4.0 |
| Recorder Bulkhead | Longitudinal | Longitudinal | 9.0 | 145 | 4.5 |
| Longitudinal Bulkhead | Longitudinal | 30° off vertical | 2.1 | 135 | 4.4 |