



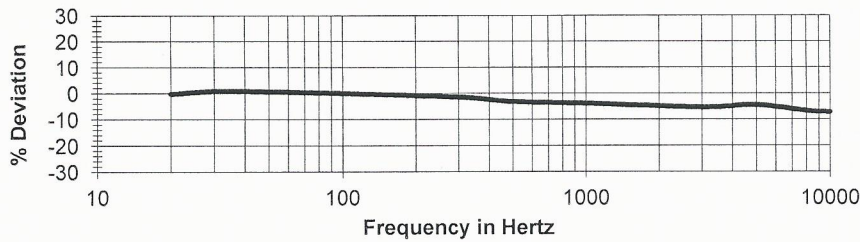
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## CALIBRATION CERTIFICATE VOLTAGE MODE ACCELEROMETER

<b>CUSTOMER:</b> ESTEQ TEST & MEAS. (PTY) LTD.			<b>TEST REPORT #:</b> 16112		
<b>PURCHASE ORDER #:</b> TMO0870		<b>SALES ORDER #:</b> 162546		<b>PROCEDURE:</b> TP3002	
<b>MODEL:</b> 3225M24		<b>SERIAL #:</b> 16112		<b>RANGE, F.S. (g's):</b> +/- 50	
<b>NEW UNIT</b>	<b>X</b>	<b>RE-CALIBRATION [1]</b>		<b>AS RECEIVED CODE</b>	
<b>REF. SENSITIVITY (mV/g) [2]:</b> 102.65			<b>TEMP (°C):</b> 23		<b>HUMIDITY (%):</b> 45
<b>FREQUENCY RESPONSE [3]</b>					
<b>FREQUENCY (Hz)</b>		<b>SENSITIVITY (mV/g)</b>		<b>FREQUENCY (Hz)</b>	
20		102.36		500	
30		103.50		1000	
50		103.34		3000	
100		102.65		5000	
300		101.14		8000	
<b>TRANSVERSE SENSITIVITY (%):</b> 2.7				10000	
<b>DISCHARGE TIME CONSTANT (sec):</b> 0.2			<b>BIAS VOLTAGE (VDC):</b> 12.2		

### Amplitude Response



**REMARKS:**

#### TEST EQUIPMENT LIST - CALIBRATION STATION # 4

DII #	MANUFACTURER	MODEL	SERIAL #	DESCRIPTION	CAL DATE	DUE DATE
686	DYTRAN INST.	3010M14	1684	ACCELEROMETER	03/13/13	03/13/14
1684	NATIONAL INST.	PCI-4461	1814F5B	DATA ACQUISITION CARD	02/21/13	02/21/14

[1] AS RECEIVED / AS RETURNED CODES:

- |                                  |                             |  |
|----------------------------------|-----------------------------|--|
| 1 = IN TOLERANCE, NO ADJUSTMENTS | 4 = OUT OF TOLERANCE > 5%   | 7 = UNIT NON-REPAIRABLE, RECOMMEND REPLACEMENT     |
| 2 = IN TOLERANCE, BUT ADJUSTED   | 5 = REPAIR REQUIRED         | 8 = UNIT SERVICEABLE WITH CURRENT CALIBRATION DATA |
| 3 = OUT OF TOLERANCE < 5%        | 6 = REPAIRED AND CALIBRATED |  |

[2] THE REFERENCE SENSITIVITY IS MEASURED AT 100 Hz, 1G RMS.

[3] THIS CALIBRATION WAS PERFORMED IN ACCORDANCE WITH ANSI/NCCL Z540-1-1994, ISO 10012-1, ISO/IEC17025 USING THE

BACK-TO-BACK COMPARISON METHOD PER ISA RP37.2 AND IS TRACEABLE TO THE NIST THROUGH TEST REPORT # 0444 DUE 03-13-2014.

ESTIMATED UNCERTAINTY OF CALIBRATION: 2% FROM 20-100 Hz, 1.5% FROM 100-2500 Hz, 2.8% FROM 2.5KHZ-10 kHz. APPLIES TO FREQUENCY RESPONSE ONLY.

THIS CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN PERMISSION FROM DYTRAN INSTRUMENTS, INC.

**CALIBRATION TECHNICIAN:**

HUNG LE

**TEST DATE:** 11/21/13

**RECOMMENDED RECALL DATE:** 11/21/14