



Sound Power Compliance

Boggabri Coal Mine

2025

Revision 0

Prepared By: Michael Thearle
Date: 19 February 2026
Telephone: 0437 345 297
Email: michael@thearle.net.au
Address: Branxton NSW 2335

Report - Sound Power Compliance - Boggabri Coal Mine - 2025

This report has been prepared within the specific requirements agreed between Thearle Engineering and Boggabri Coal Mine. This report was prepared with background information, terms of reference and assumptions agreed with Boggabri Coal Mine. The report is not intended for use by any other individual or organisation. Thearle Engineering will not accept liability for use of the information contained in this report, other than that which was intended at the time of writing.

Introduction:

Thearle Engineering has prepared this report at the request of Boggabri Coal. This report details the results of the annual requirement of sound power testing of 1/3 of the attenuated HME fleet as required by the current Boggabri Coal Noise Management Plan. The testing has been conducted and reported to maintain consistency with previous sound power testing conducted onsite. The machines were tested utilising methodologies consistent with current testing methods employed onsite and throughout the NSW Coal Industry.

6.5 Mobile plant monitoring

In accordance with Conditions 9 and 10 of Schedule 3, equipment and noise control measures used at BCM will have their sound power levels quantified once every three years. BCOPL will test a third of the equipment each year to achieve a representative sample.

This annual monitoring program of attenuated plant will aim to assess the effectiveness of the attenuation. Equipment and noise control measures will be maintained to minimise site noise emissions.

The results of the monitoring and attenuation program will be included in the BCOPL Annual Review, which will be made publicly available on the BCM website ([Idemitsu Approvals, Plans & Reports - Idemitsu](#)).

Extract from Boggabri Coal Noise Management Plan

Referenced Standards:

AS 5335:2019	Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane
AS ISO 6393:2019	Earth-moving machinery – Determination of sound power level Stationary test conditions
AS ISO 6395:2020	Earth-moving machinery – Determination of sound power level Dynamic test conditions
MDG15	Guideline for mobile and transportable equipment for use in mines
ENV-NOI-PLN-001 Noise Management Plan_V15	Boggabri Coal Operations Pty Ltd Noise Management Plan March 2024, Revision No. 15
J0130-30-R2	Boggabri Coal Pty Limited Acoustic Impact Assessment Continuation of Boggabri Coal Mine Environmental Assessment 12 October 2010
20144 RP#1 V3	Noise Impact Assessment Boggabri Coal Mine Modification 8 - Amendment

Test Configuration:

In accordance with previous years of Annual Sound Testing, testing has been conducted using the methods described in AS ISO 6393 and AS ISO 6395. Haul Truck dynamic testing has been adjusted to Uphill Loaded and Downhill Unloaded. Water Cart and Service Cart dynamic testing has been adjusted to Uphill and Downhill Loaded. The methodology utilised is noted in the test results.

Note: Where the Acoustic Impact Assessment reports values to 1 significant figure, these have been rounded to the nearest integer to align with the requirements of AS 5335:2019.

Testing Equipment:

Class I Sound Meters Pattern Approved to IEC 61672:2013 and IEC 61260:2014.

	Serial Number	Microphone and Preamp Serial Number	Calibration Date	Calibration Expiry
NTI XL2-TA	A2A-19615-E0	A19789 / 7865	11/07/2025	11/07/2027
NTI XL2-TA	A2A-18632-E0	A20339 / 9696	14/07/2025	14/07/2027
NTI XL2-TA	A2A-14826-E0	A20326 / 9691	14/07/2025	14/07/2027
NTI XL2-TA	A2A-14797-E0	A15893 / 7656	06/03/2024	06/03/2026
NTI XL2-TA	A2A-16636-E0	A15916 / 8979	06/03/2024	06/03/2026
NTI XL2-TA	A2A-18591-E0	A17538 / 9599	29/02/2024	29/02/2026
NTI XL2-TA	A2A-18907-E0	A20339 / 9696	11/08/2023	11/08/2025
NTI XL2-TA	A2A-18699-E0	A20326 / 9691	11/08/2023	11/08/2025
NTI XL2-TA	A2A-18906-E0	A19781 / 9601	11/08/2023	11/08/2025
Precision Calibrator CAL200	16048		17/07/2025	17/07/2026
Precision Calibrator CAL200	15642		17/07/2025	17/07/2026
Precision Calibrator CAL200	18282		30/01/2025	30/01/2026
Precision Calibrator CAL200	18292		30/01/2025	30/01/2026

Calibration Certificates are supplied separately on request.

Atmospheric Conditions:

Sound Test Date	Temperature	Wind Speed	Barometric Pressure	Relative Humidity
03/04/2025	19 °C	< 20 KPH	1011 hPa	90 %
19/09/2025	28 °C	< 20 KPH	1025 hPa	40 %
25/09/2025	25 °C	< 20 KPH	1020 hPa	38 %
29/09/2025	28 °C	< 20 KPH	1015 hPa	26 %
22/10/2025	27 °C	< 10 KPH	1003 hPa	60 %
06/11/2025	30 °C	< 20 KPH	1014 hPa	20 %
07/11/2025	33 °C	< 30 KPH	1012 hPa	40 %
17/12/2025	35 °C	< 20 KPH	1019 hPa	45 %
18/12/2025	35 °C	< 20 KPH	1017 hPa	40 %
22/01/2026	28 °C	< 30 KPH	1006 hPa	52 %
11/02/2026	38 °C	< 10 KPH	1010 hPa	50 %

Results:

The following results detail the sound power test measurements for each machine tested during the reporting period.

Dozer

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Forwards	Dynamic Test Reverse	Boggabri Coal Mine Target	Exceedance	Compliant
TD084	Komatsu D475A	11/02/2026	106 dBA / 115 dB	115 dBA / 120 dB	116 dBA / 122 dB	117 dBA / 122 dB	- dBA / - dB	Yes
TD086	Komatsu D475A	11/02/2026	106 dBA / 115 dB	115 dBA / 120 dB	116 dBA / 122 dB	117 dBA / 122 dB	- dBA / - dB	Yes

Drill

Unit Number	Model	Test Date	Stationary Test	Loaded Test	Boggabri Coal Mine Target	Exceedance	Compliant
311	CAT MD6250	03/04/2025	114 dBA / 119 dB	115 dBA / 120 dB	117 dBA / 129 dB	- dBA / - dB	Yes
312	CAT MD6250	03/04/2025	114 dBA / 118 dB	114 dBA / 118 dB	117 dBA / 129 dB	- dBA / - dB	Yes
313	CAT MD6250	03/04/2025	113 dBA / 118 dB	113 dBA / 118 dB	117 dBA / 129 dB	- dBA / - dB	Yes
314	CAT MD6250	03/04/2025	114 dBA / 118 dB	115 dBA / 119 dB	117 dBA / 129 dB	- dBA / - dB	Yes
315	Atlas Copco DML	03/04/2025	119 dBA / 127 dB	119 dBA / 126 dB	117 dBA / 129 dB	2 dBA / - dB	No

Excavator

Unit Number	Model	Test Date	Stationary Test	Dynamic Test	Boggabri Coal Mine Target	Exceedance	Compliant
132	Liebherr 9800	22/01/2026	113 dBA / 125 dB	117 dBA / 126 dB	117 dBA / 126 dB	- dBA / - dB	Yes

Grader

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Forwards	Dynamic Test	Boggabri Coal Mine Target	Exceedance	Compliant
GR062	CAT 24M	11/02/2026	108 dBA / 118 dB	109 dBA / 118 dB		108 dBA / 117 dB	1 dBA / 1 dB	No
GR064	CAT 24	22/10/2025	108 dBA / 117 dB		108 dBA / 117 dB	108 dBA / 117 dB	- dBA / - dB	Yes

Haul Truck

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Uphill	Dynamic Test Downhill	Boggabri Coal Mine Target	Exceedance	Compliant
DT291	Komatsu 930E-4	19/09/2025	119 dBA / 128 dB	126 dBA / 138 dB	123 dBA / 129 dB	121 dBA / 130 dB	5 dBA / 8 dB	No
DT305	Hitachi EH3500	18/12/2025	116 dBA / 125 dB	115 dBA / 128 dB	114 dBA / 121 dB	117 dBA / 129 dB	- dBA / - dB	Yes
DT307	Hitachi EH3500	07/11/2025	117 dBA / 126 dB	117 dBA / 129 dB	115 dBA / 123 dB	117 dBA / 129 dB	- dBA / - dB	Yes
DT308	Hitachi EH3500	18/12/2025	115 dBA / 123 dB	118 dBA / 129 dB	114 dBA / 120 dB	117 dBA / 129 dB	1 dBA / - dB	No
DT316	Hitachi EH3500	07/11/2025	117 dBA / 124 dB	119 dBA / 129 dB	116 dBA / 121 dB	117 dBA / 129 dB	2 dBA / - dB	No
DT317	Hitachi EH3500	17/12/2025	117 dBA / 123 dB	118 dBA / 127 dB	114 dBA / 120 dB	117 dBA / 129 dB	1 dBA / - dB	No
DT319	Hitachi EH3500	18/12/2025	116 dBA / 124 dB	119 dBA / 129 dB	114 dBA / 122 dB	117 dBA / 129 dB	2 dBA / - dB	No
DT320	Hitachi EH3500	07/11/2025	116 dBA / 127 dB	118 dBA / 129 dB	115 dBA / 122 dB	117 dBA / 129 dB	1 dBA / - dB	No
DT321	Hitachi EH3500	17/12/2025	115 dBA / 123 dB	117 dBA / 127 dB	114 dBA / 121 dB	117 dBA / 129 dB	- dBA / - dB	Yes
DT322	Hitachi EH3500	18/12/2025	116 dBA / 123 dB	118 dBA / 128 dB	114 dBA / 121 dB	117 dBA / 129 dB	1 dBA / - dB	No
DT324	Hitachi EH3500	18/12/2025	116 dBA / 124 dB	118 dBA / 128 dB	114 dBA / 121 dB	117 dBA / 129 dB	1 dBA / - dB	No
DT720	Komatsu 930E-4	07/11/2025	116 dBA / 126 dB	117 dBA / 128 dB	121 dBA / 124 dB	121 dBA / 130 dB	- dBA / - dB	Yes
DT721	Komatsu 930E-4	07/11/2025	117 dBA / 125 dB	119 dBA / 132 dB	121 dBA / 126 dB	121 dBA / 130 dB	- dBA / 2 dB	No
DT722	Komatsu 930E-4	18/12/2025	118 dBA / 125 dB	120 dBA / 131 dB	118 dBA / 124 dB	121 dBA / 130 dB	- dBA / 1 dB	No
DT723	Komatsu 930E-4	07/11/2025	118 dBA / 126 dB	120 dBA / 130 dB	121 dBA / 126 dB	121 dBA / 130 dB	- dBA / - dB	Yes
DT724	Komatsu 930E-4	07/11/2025	118 dBA / 125 dB	119 dBA / 129 dB	121 dBA / 125 dB	121 dBA / 130 dB	- dBA / - dB	Yes

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Uphill	Dynamic Test Downhill	Boggabri Coal Mine Target	Exceedance	Compliant
DT725	Komatsu 930E-4	17/12/2025	118 dBA / 125 dB	119 dBA / 126 dB	120 dBA / 122 dB	121 dBA / 130 dB	- dBA / - dB	Yes
DT748	Komatsu 930E-4	17/12/2025	118 dBA / 127 dB	122 dBA / 135 dB	120 dBA / 127 dB	121 dBA / 130 dB	1 dBA / 5 dB	No
DT749	Komatsu 930E-4	06/11/2025	118 dBA / 127 dB	122 dBA / 133 dB	121 dBA / 126 dB	121 dBA / 130 dB	1 dBA / 3 dB	No
DT750	Komatsu 930E-4	06/11/2025	116 dBA / 125 dB	122 dBA / 134 dB	120 dBA / 127 dB	121 dBA / 130 dB	1 dBA / 4 dB	No
DT751	Komatsu 930E-4	18/12/2025	119 dBA / 128 dB	122 dBA / 135 dB	117 dBA / 124 dB	121 dBA / 130 dB	1 dBA / 5 dB	No
DT752	Komatsu 930E-4	06/11/2025	115 dBA / 124 dB	120 dBA / 133 dB	123 dBA / 124 dB	121 dBA / 130 dB	2 dBA / 3 dB	No
DT753	Komatsu 930E-4	06/11/2025	118 dBA / 128 dB	121 dBA / 132 dB	121 dBA / 124 dB	121 dBA / 130 dB	- dBA / 2 dB	No
DT755	Komatsu 930E-4	06/11/2025	119 dBA / 128 dB	121 dBA / 133 dB	120 dBA / 124 dB	121 dBA / 130 dB	- dBA / 3 dB	No
DT756	Komatsu 930E-4	07/11/2025	120 dBA / 126 dB	122 dBA / 131 dB	121 dBA / 124 dB	121 dBA / 130 dB	1 dBA / 1 dB	No
DT757	Komatsu 930E-4	18/12/2025	118 dBA / 127 dB	119 dBA / 129 dB	120 dBA / 125 dB	121 dBA / 130 dB	- dBA / - dB	Yes
DT807	Komatsu 930E-5	06/11/2025	112 dBA / 120 dB	120 dBA / 129 dB	113 dBA / 121 dB	121 dBA / 130 dB	- dBA / - dB	Yes
DT808	Komatsu 930E-5	06/11/2025	112 dBA / 120 dB	120 dBA / 129 dB	109 dBA / 120 dB	121 dBA / 130 dB	- dBA / - dB	Yes
DT809	Komatsu 930E-5	06/11/2025	112 dBA / 119 dB	119 dBA / 128 dB	110 dBA / 118 dB	121 dBA / 130 dB	- dBA / - dB	Yes
DT810	Komatsu 930E-5	07/11/2025	113 dBA / 120 dB	118 dBA / 128 dB	112 dBA / 120 dB	121 dBA / 130 dB	- dBA / - dB	Yes

Wheeled Dozer

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Forwards	Dynamic Test Reverse	Boggabri Coal Mine Target	Exceedance	Compliant
WD001	CAT 854K	11/02/2026	108 dBA / 118 dB	109 dBA / 118 dB	110 dBA / 119 dB	110 dBA / 119 dB	- dBA / - dB	Yes

Loader

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Forwards	Dynamic Test Reverse	Boggabri Coal Mine Target	Exceedance	Compliant
WLI88	Komatsu WA1200	11/02/2026	115 dBA / 123 dB	116 dBA / 123 dB	117 dBA / 123 dB	119 dBA / 127 dB	- dBA / - dB	Yes



Service Truck

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Uphill	Dynamic Test Downhill	Boggabri Coal Mine Flat Ground Target	Boggabri Coal Mine Uphill Target	Exceedance	Compliant
TK828	CAT 775G	11/02/2026	116 dBA / 125 dB	117 dBA / 126 dB	116 dBA / 123 dB	117 dBA / 126 dB	119 dBA / 125 dB	- dBA / 1 dB	No
TK829	CAT 775G	11/02/2026	114 dBA / 125 dB	114 dBA / 126 dB	112 dBA / 119 dB	117 dBA / 126 dB	119 dBA / 125 dB	- dBA / 1 dB	No

Water Cart

Unit Number	Model	Test Date	Stationary Test	Dynamic Test Uphill	Dynamic Test Downhill	Boggabri Coal Mine Target	Exceedance	Compliant
WC029	Komatsu HD785	17/12/2025	115 dBA / 123 dB	115 dBA / 124 dB	112 dBA / 119 dB	120 dBA / 126 dB	- dBA / - dB	Yes
WC045	CAT 789D	25/09/2025	114 dBA / 118 dB	115 dBA / 120 dB	114 dBA / 119 dB	117 dBA / 128 dB	- dBA / - dB	Yes
WC046	CAT 789D	19/09/2025	114 dBA / 118 dB	115 dBA / 120 dB	115 dBA / 119 dB	117 dBA / 128 dB	- dBA / - dB	Yes
WC047	CAT 789D	29/09/2025	114 dBA / 117 dB	115 dBA / 119 dB	115 dBA / 120 dB	117 dBA / 128 dB	- dBA / - dB	Yes

Appendix A

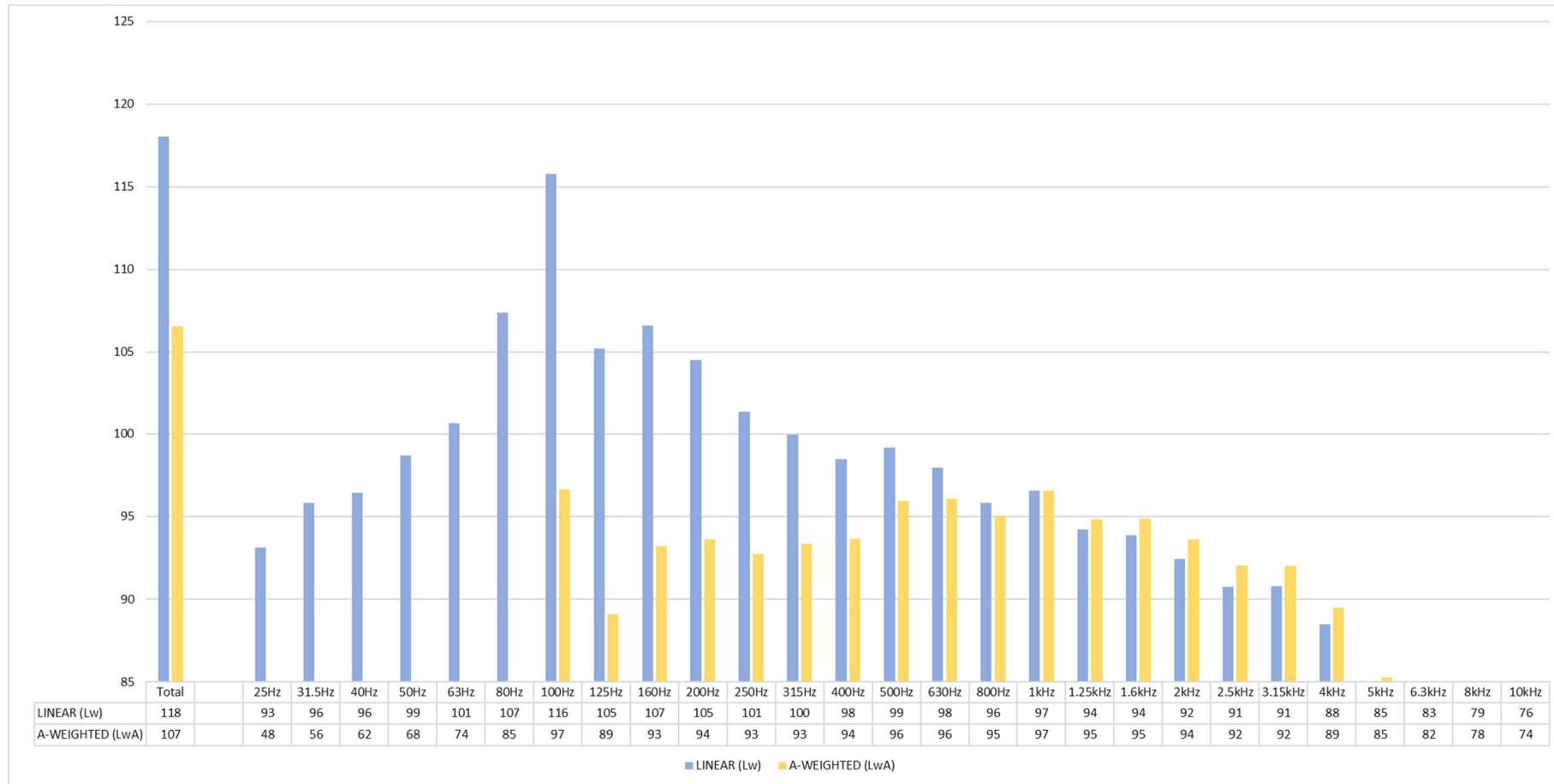


Figure 2: TD084 Stationary Test

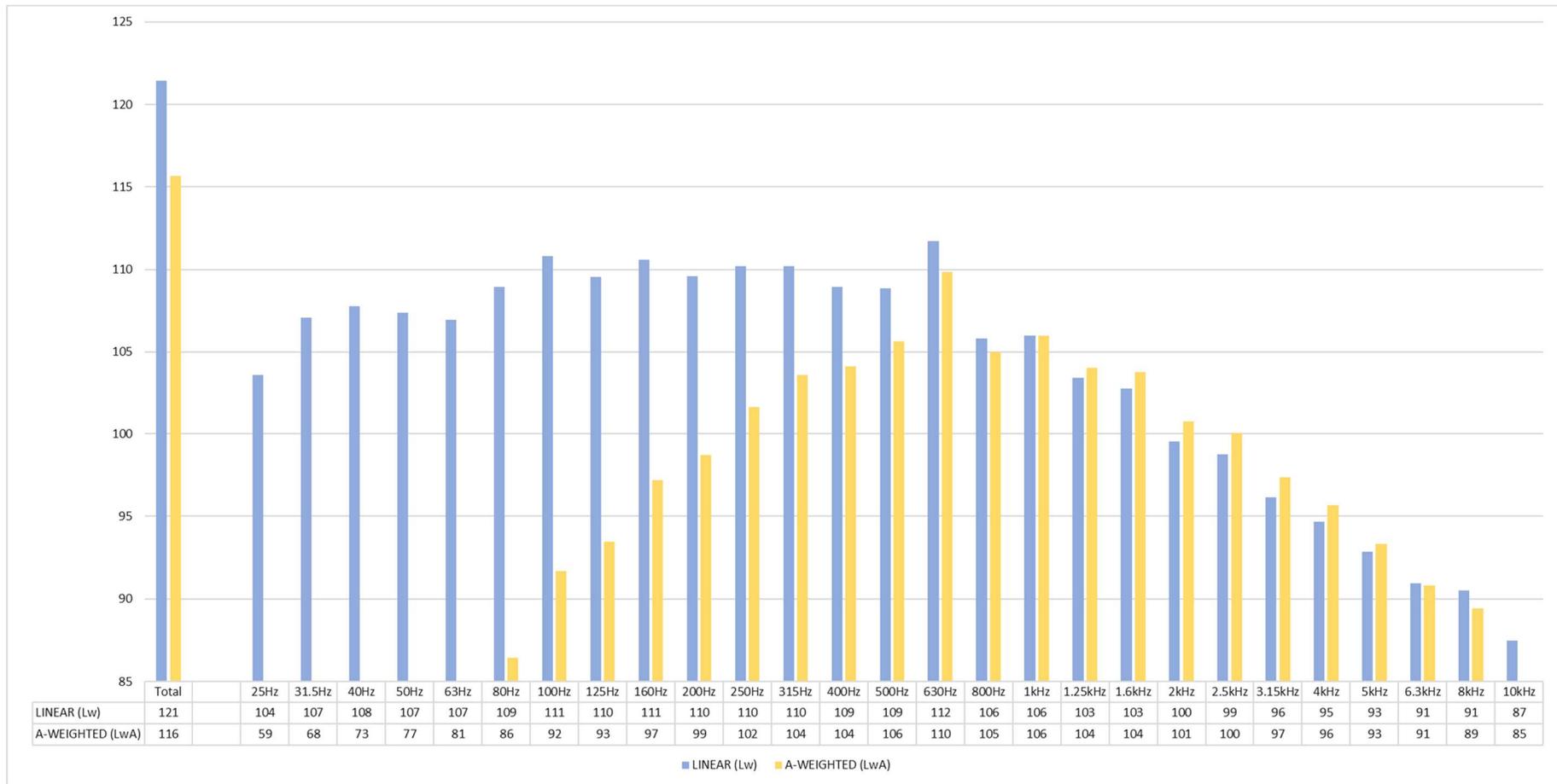


Figure 3: TD084 Dynamic Test Forwards

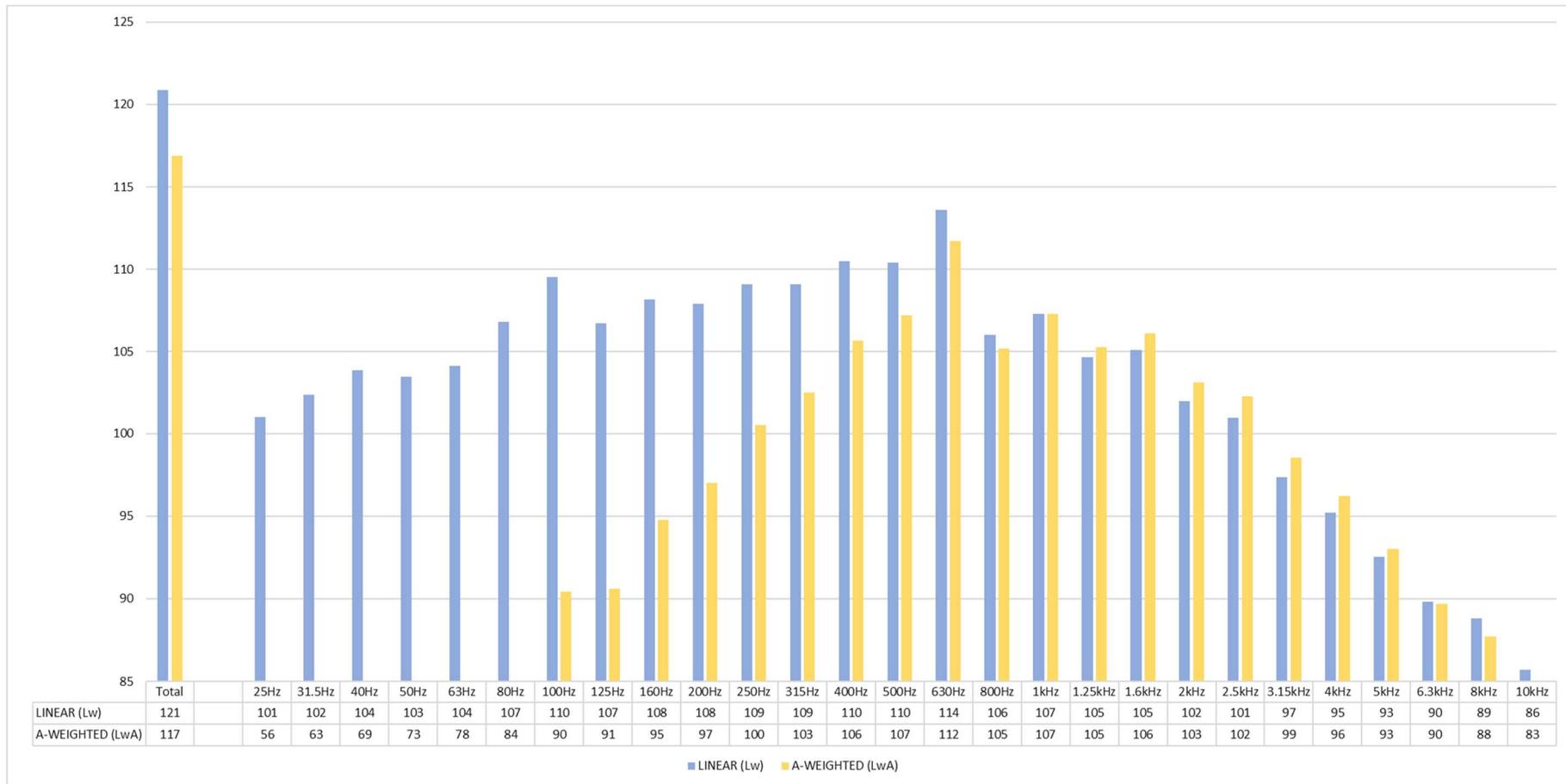


Figure 4: TD084 Dynamic Test Reverse

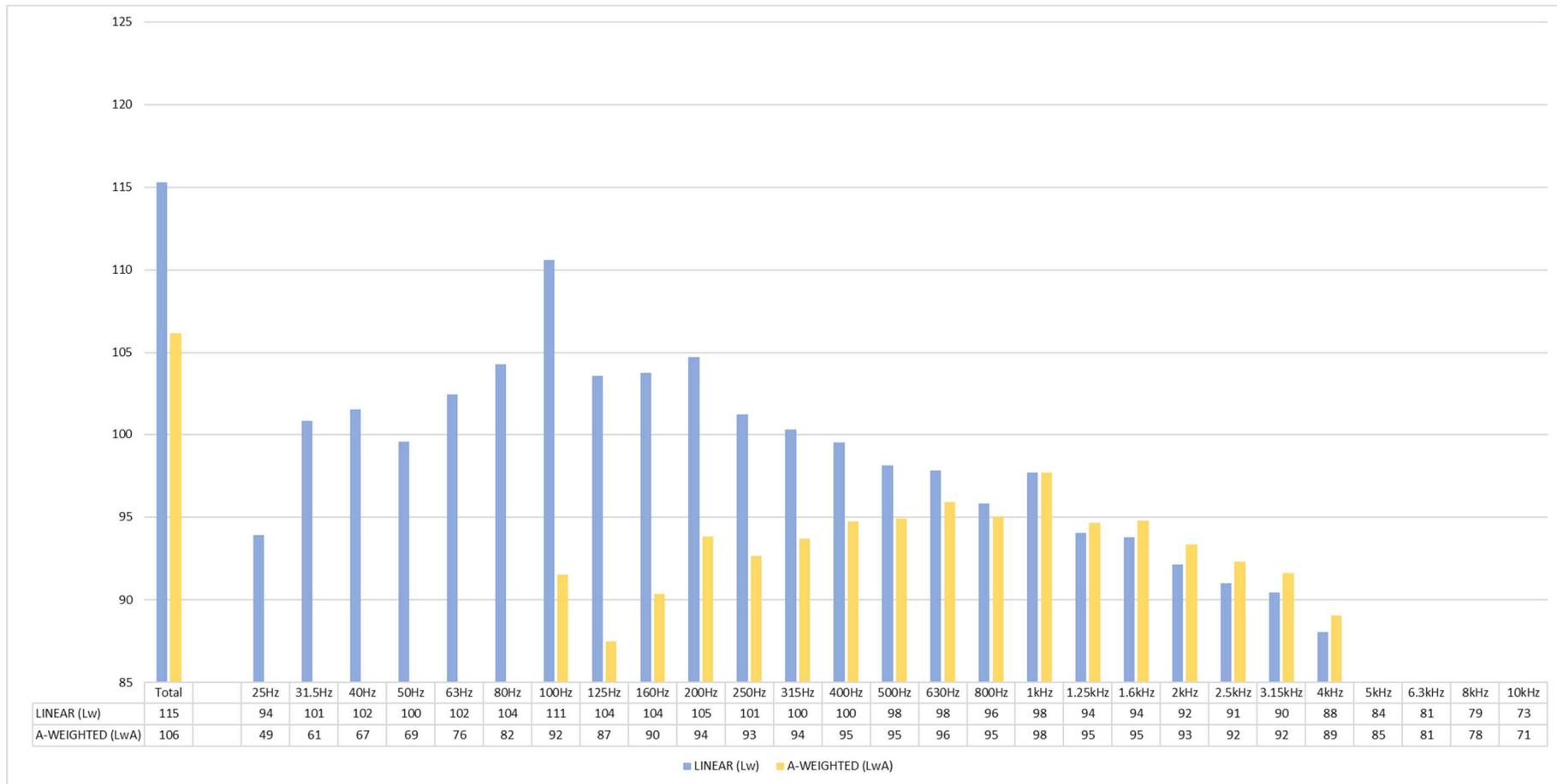


Figure 5: TD086 Stationary Test

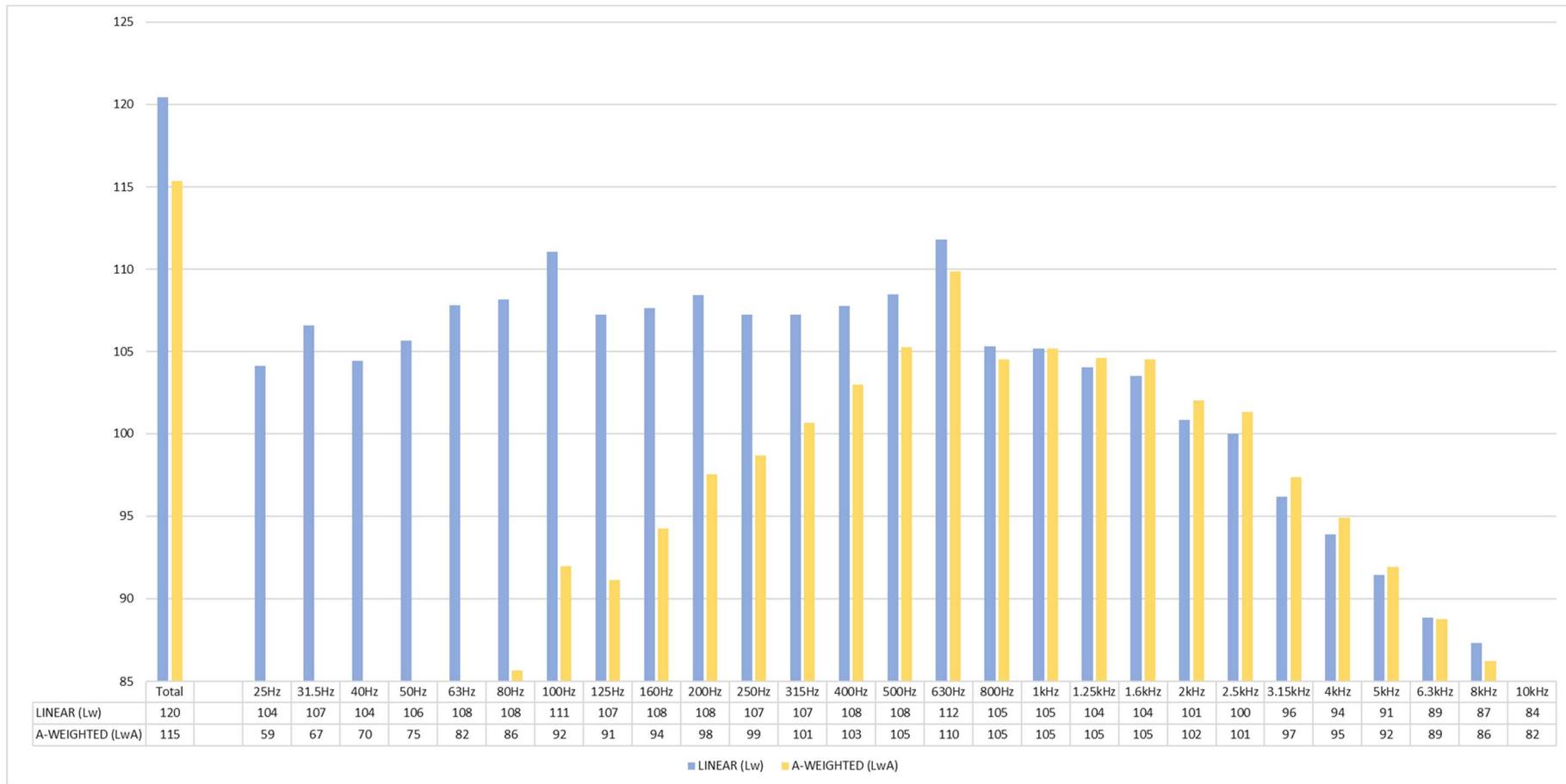


Figure 6: TD086 Dynamic Test Forwards

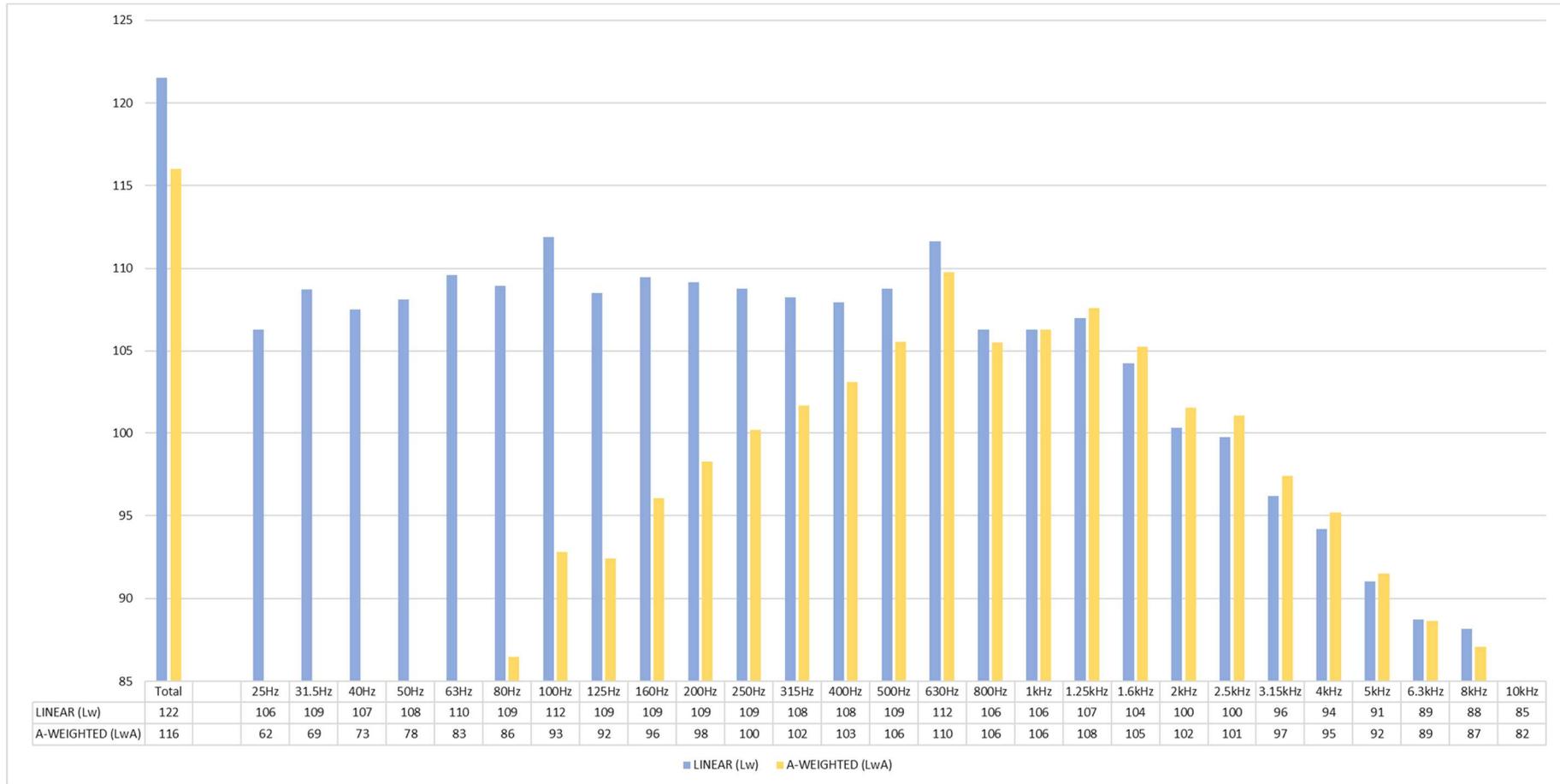


Figure 7: TD086 Dynamic Test Reverse

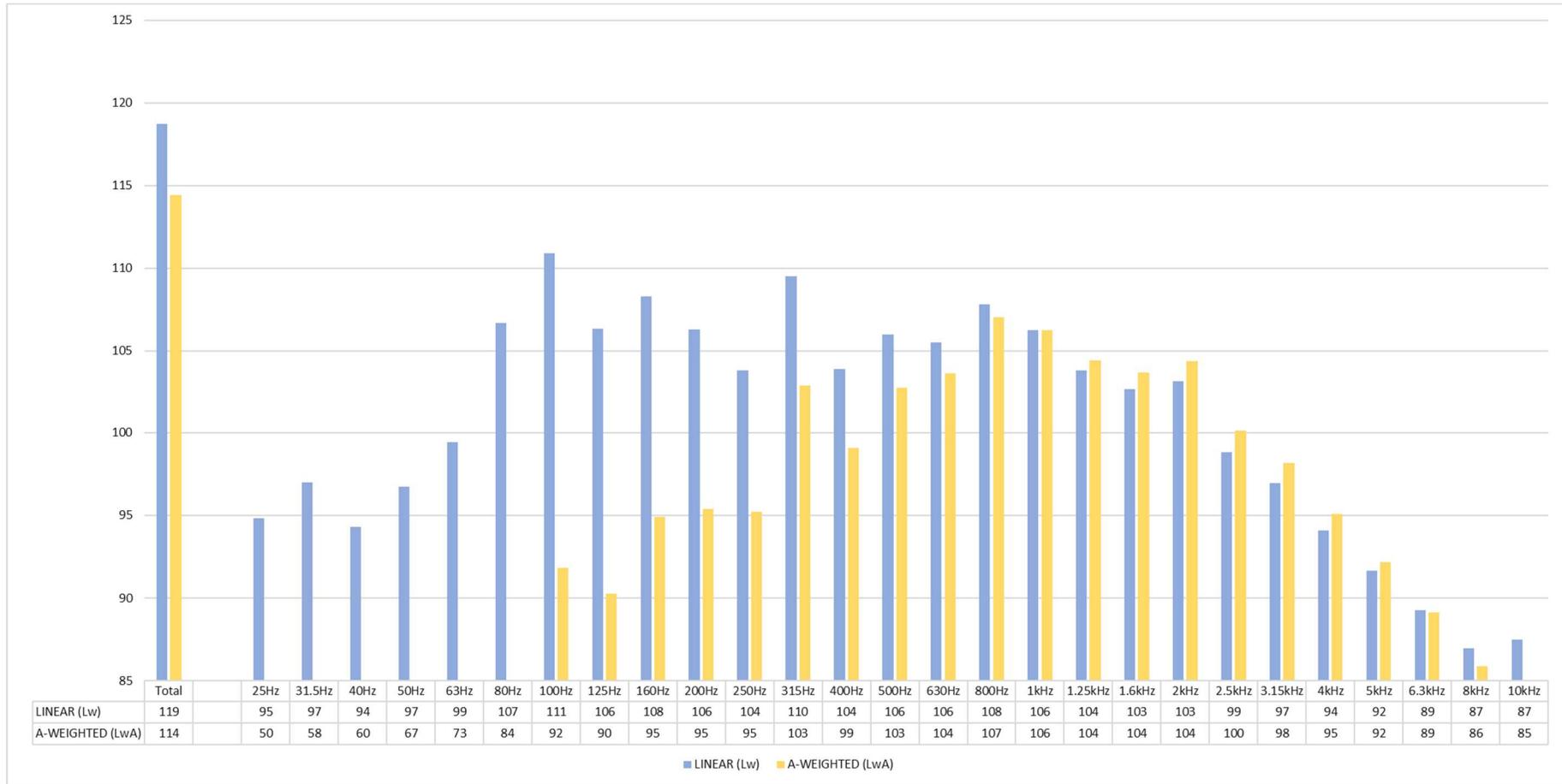


Figure 8: 311 Stationary Test

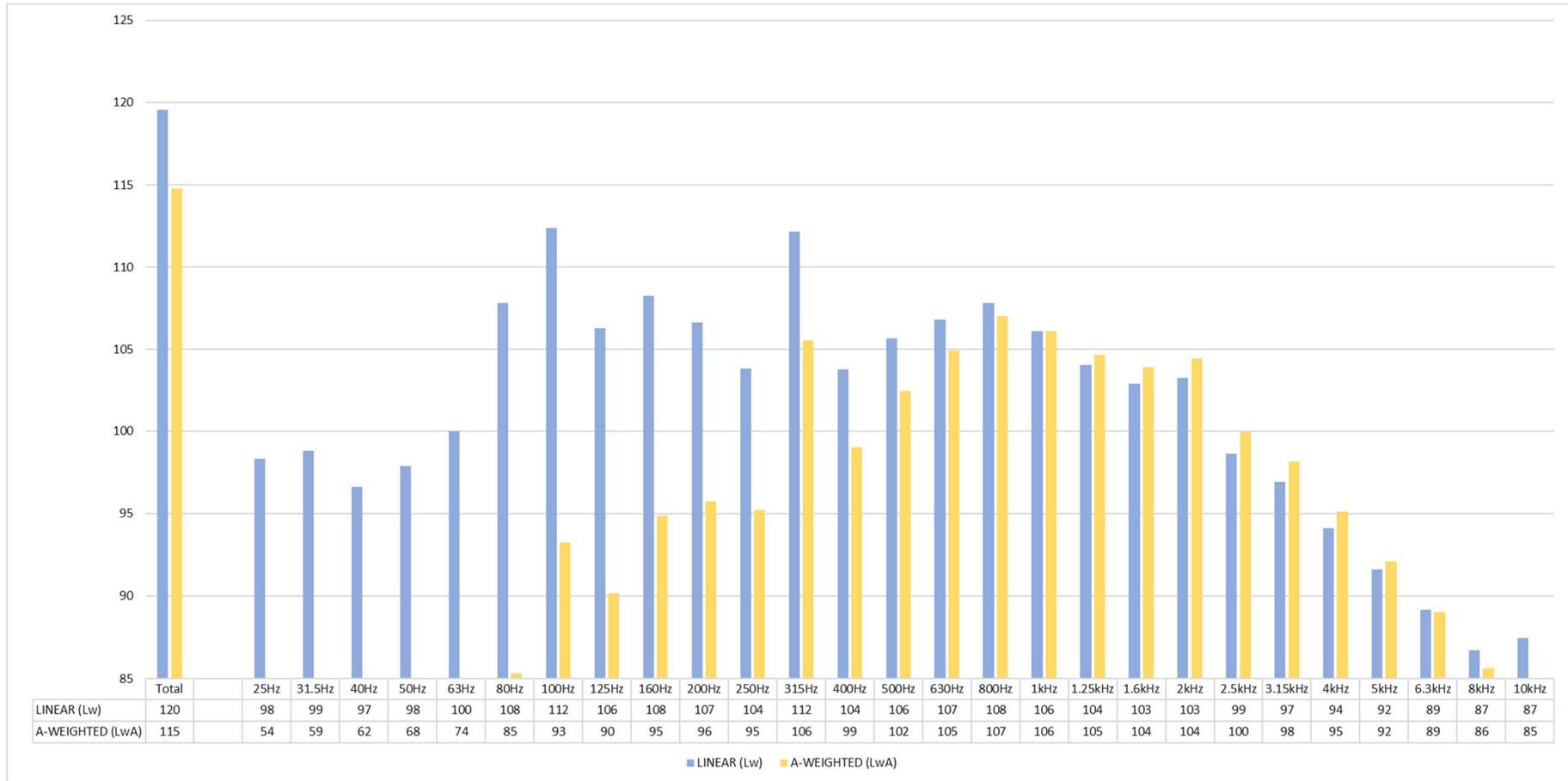


Figure 9: 311 Dynamic Test Forwards

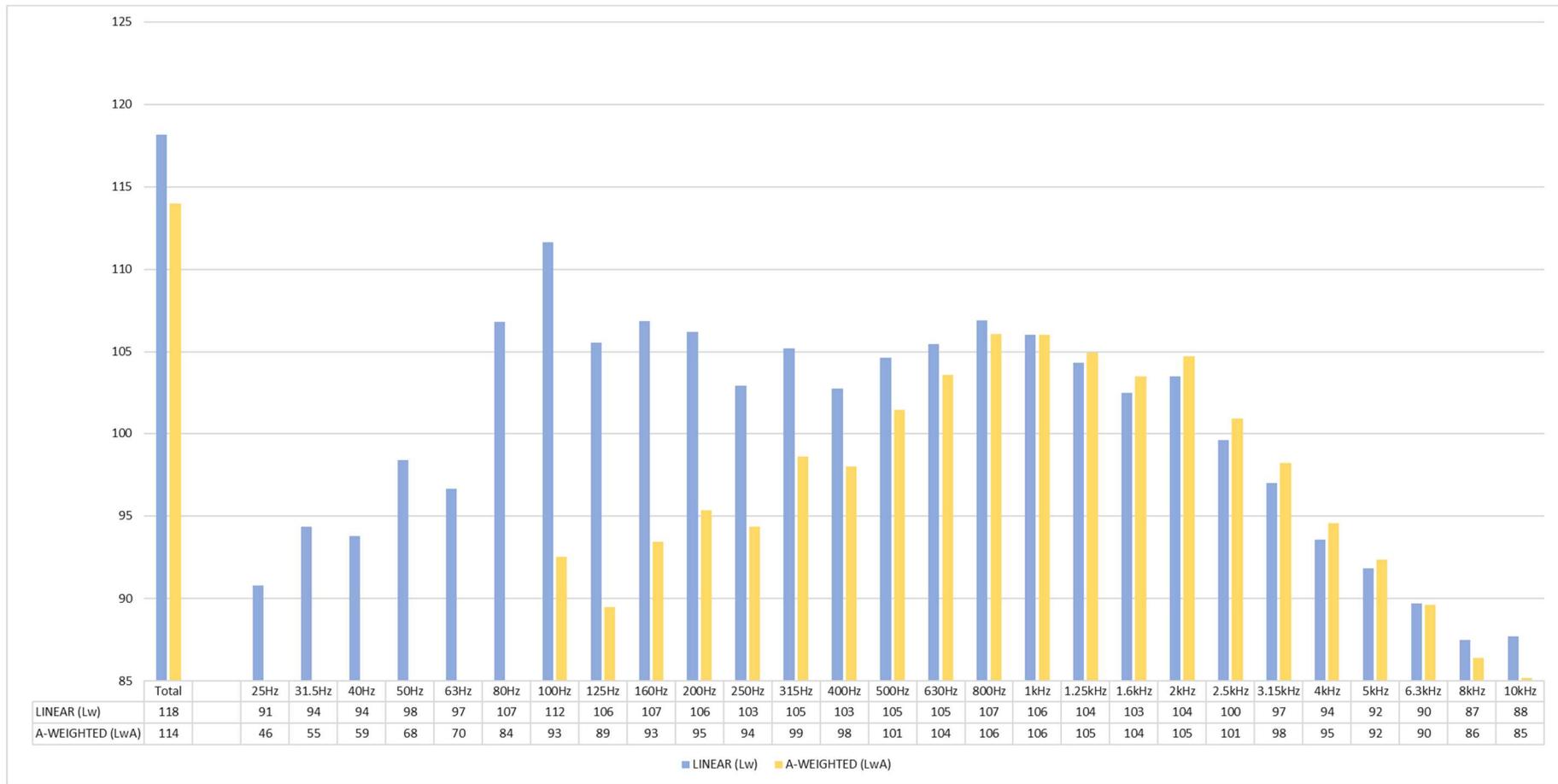


Figure 10: 312 Stationary Test

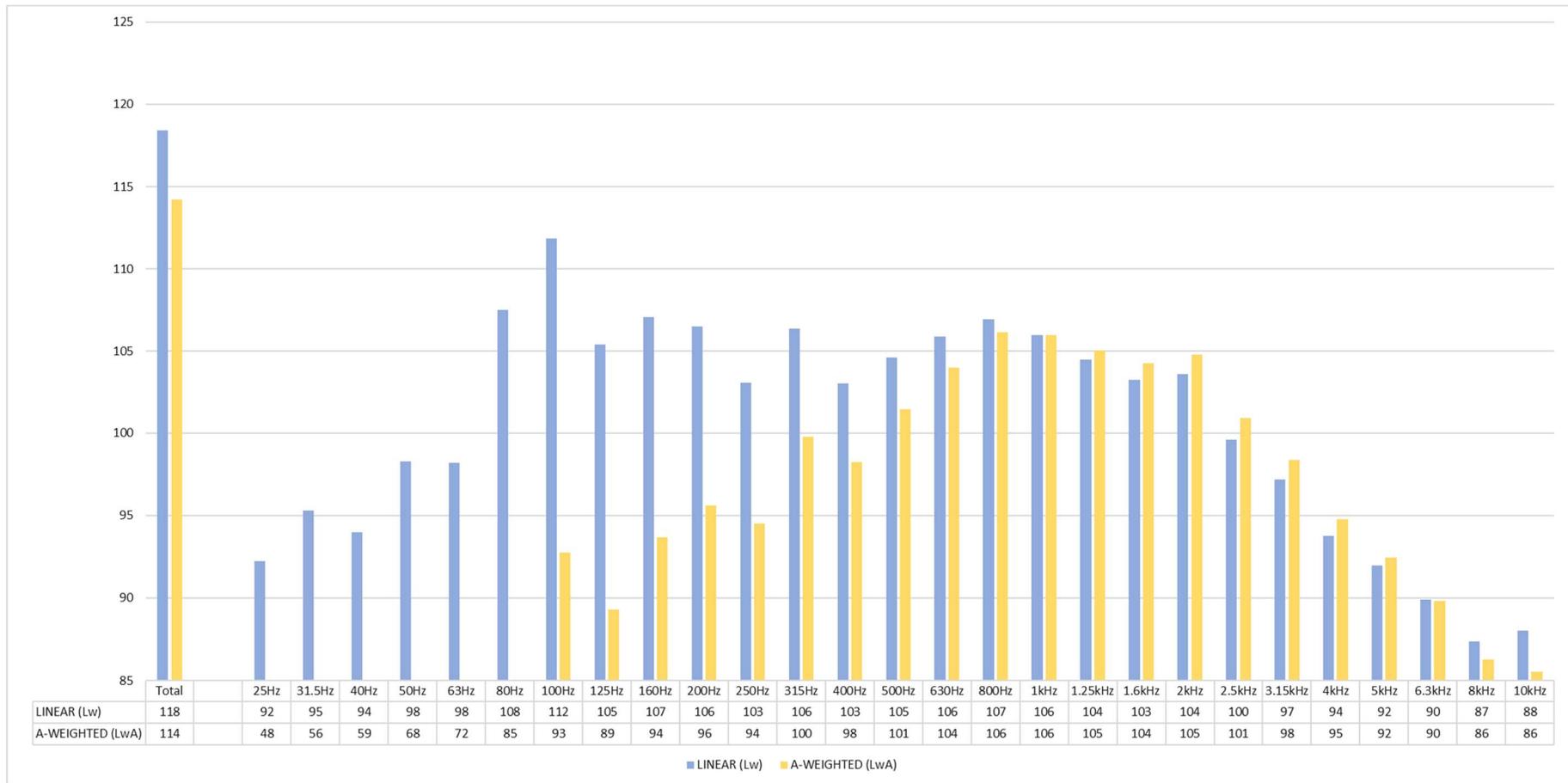


Figure 11: 312 Dynamic Test Forwards

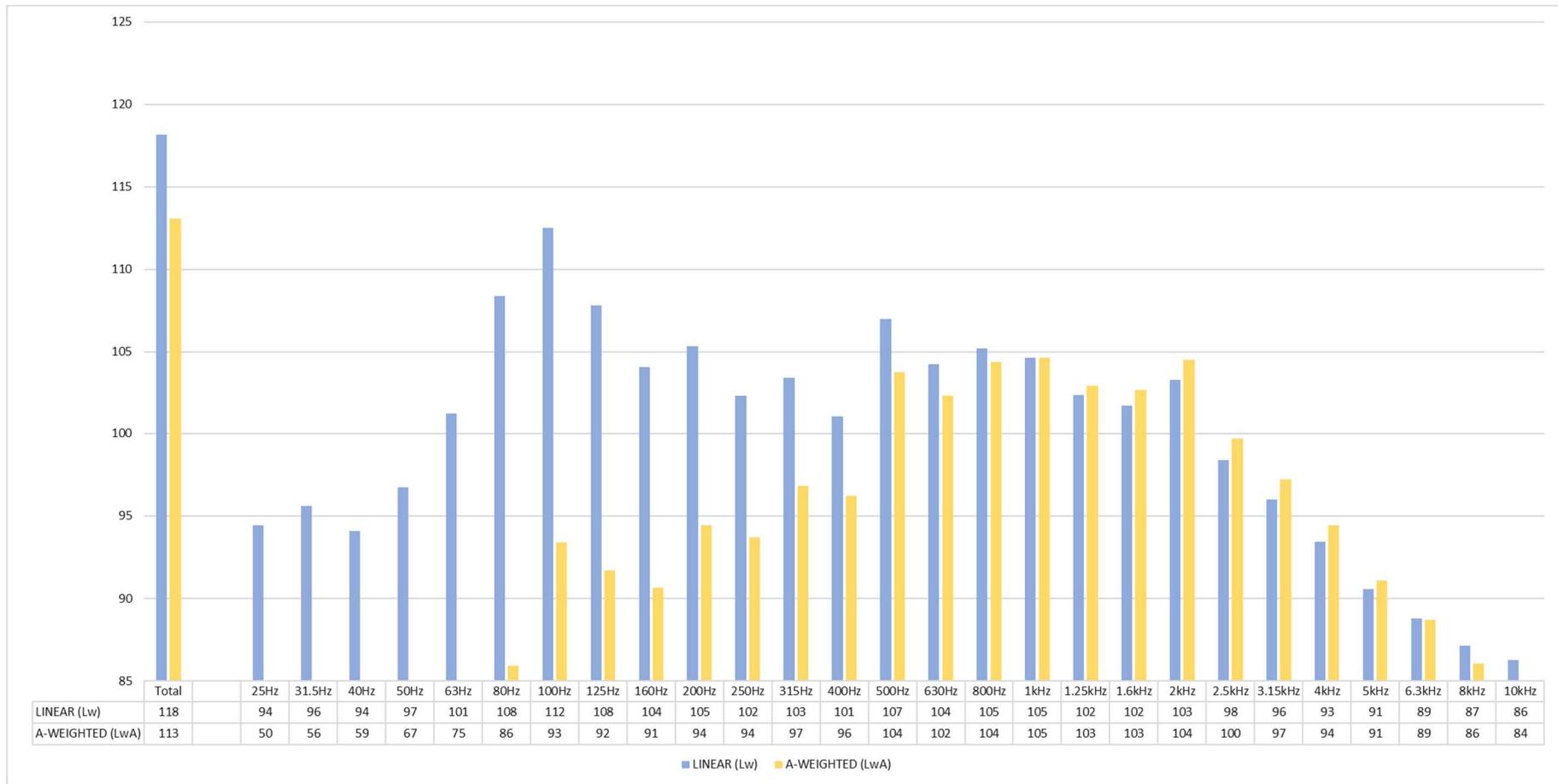


Figure 12: 313 Stationary Test

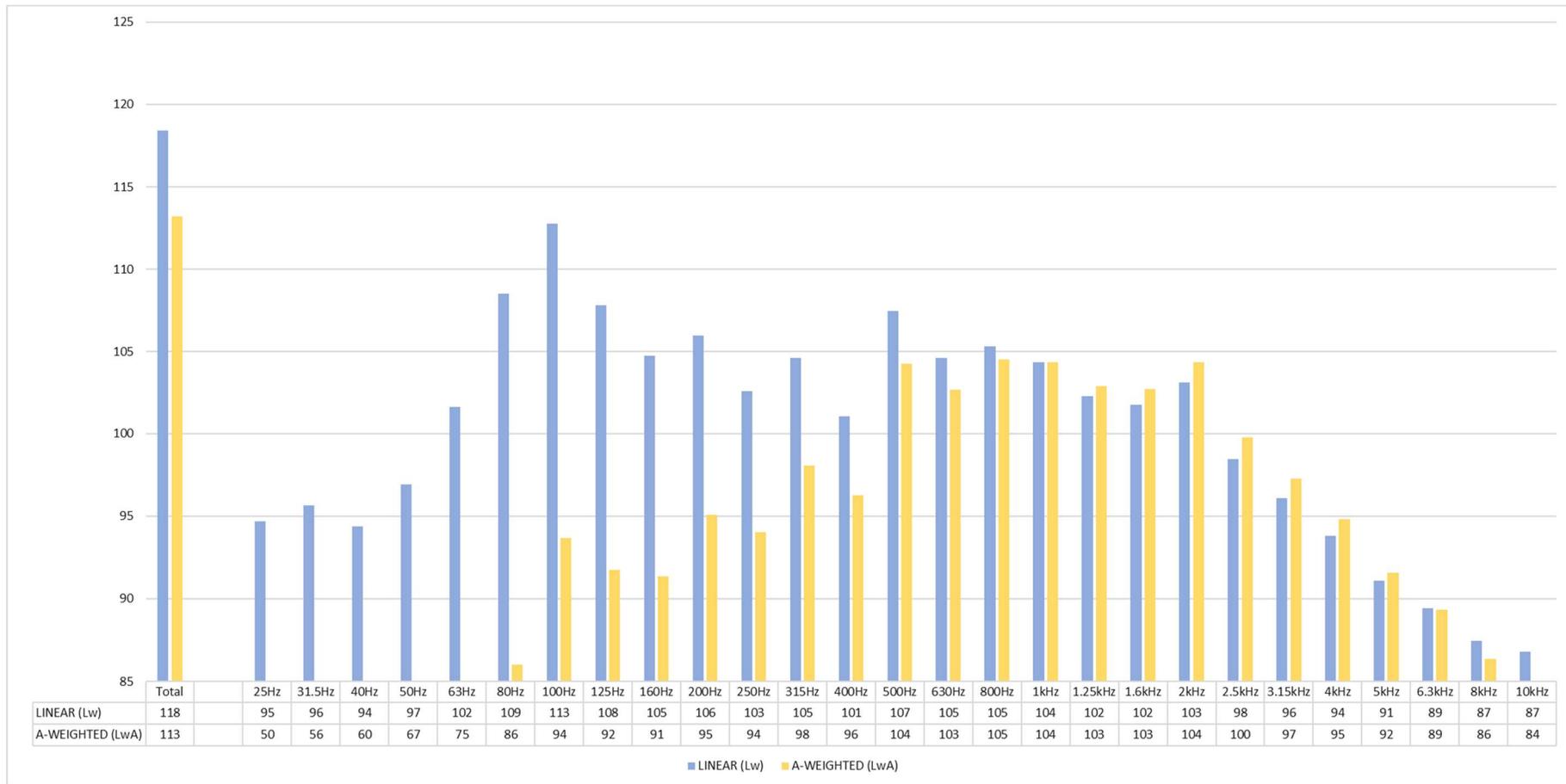


Figure 13: 313 Dynamic Test Forwards

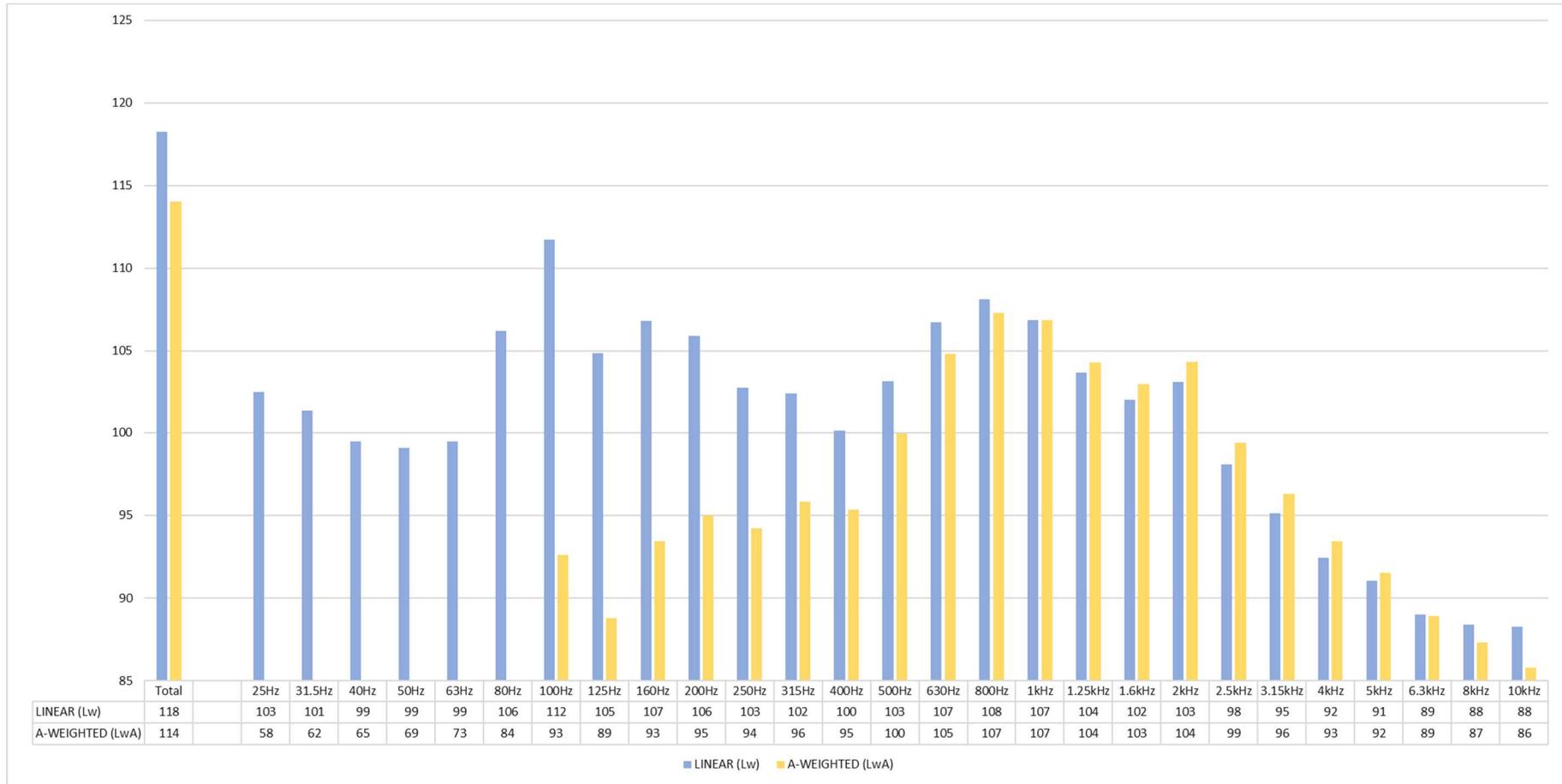


Figure 14: 314 Stationary Test

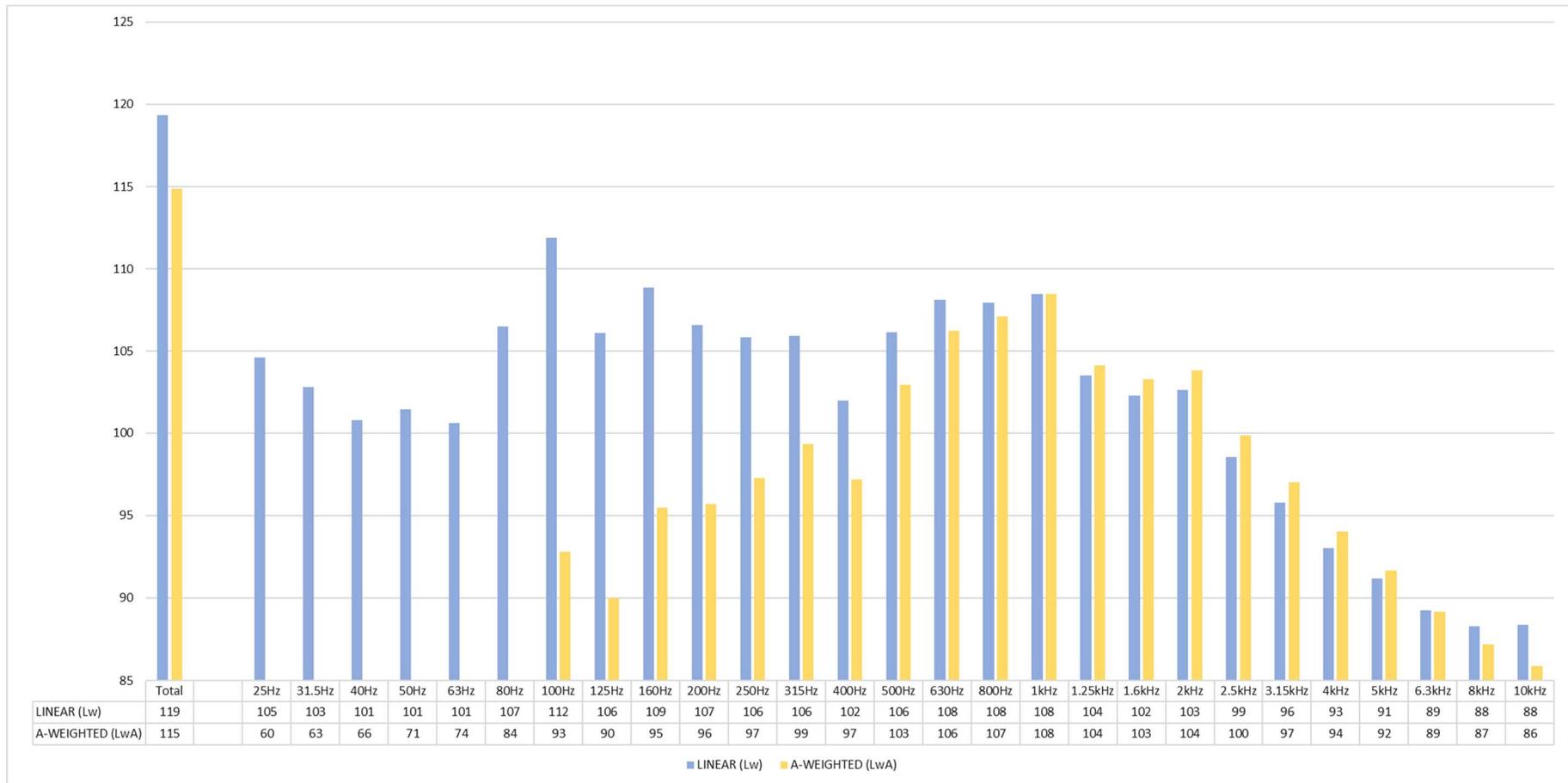


Figure 15: 314 Dynamic Test Forwards

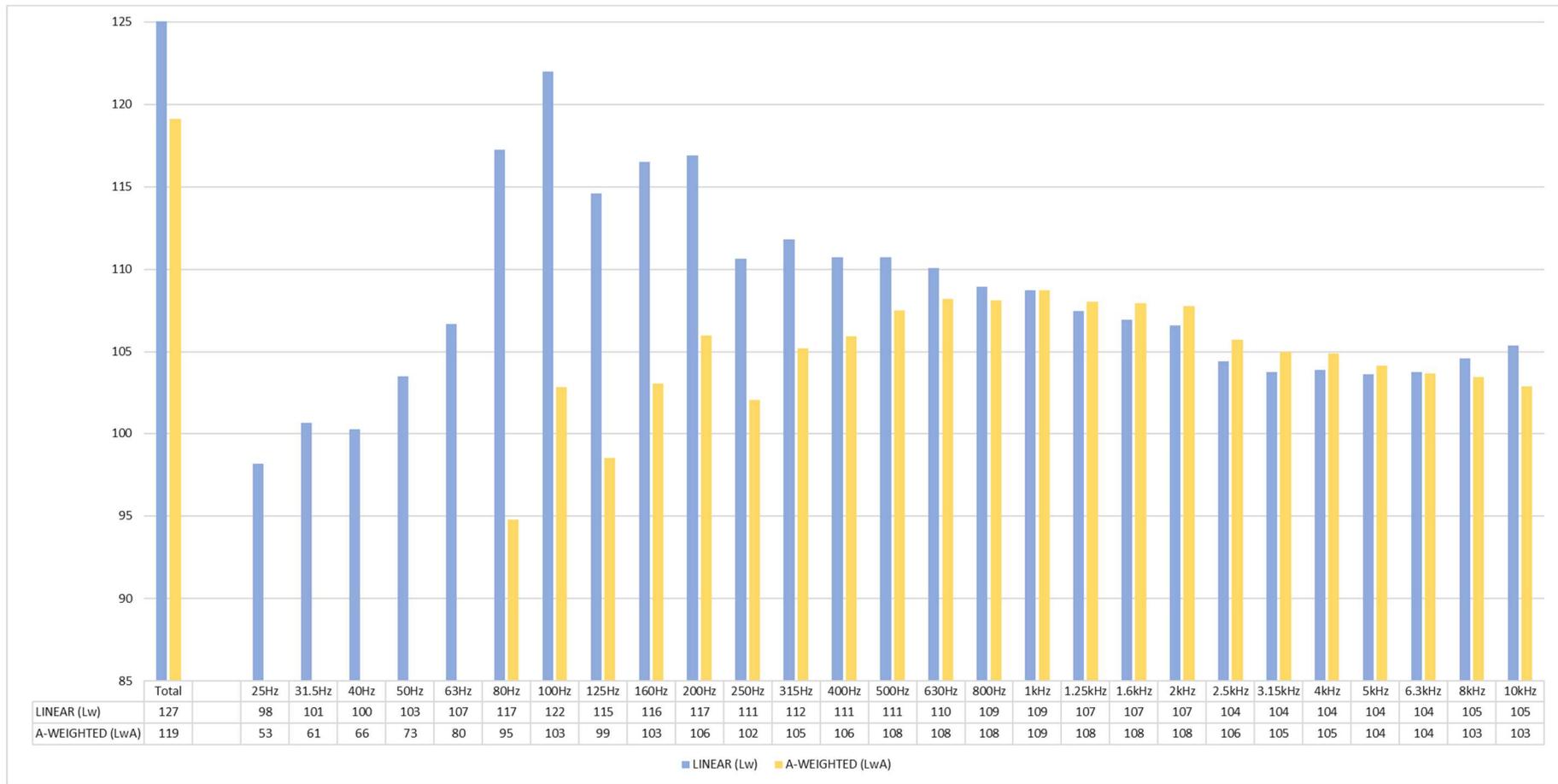


Figure 16: 315 Stationary Test

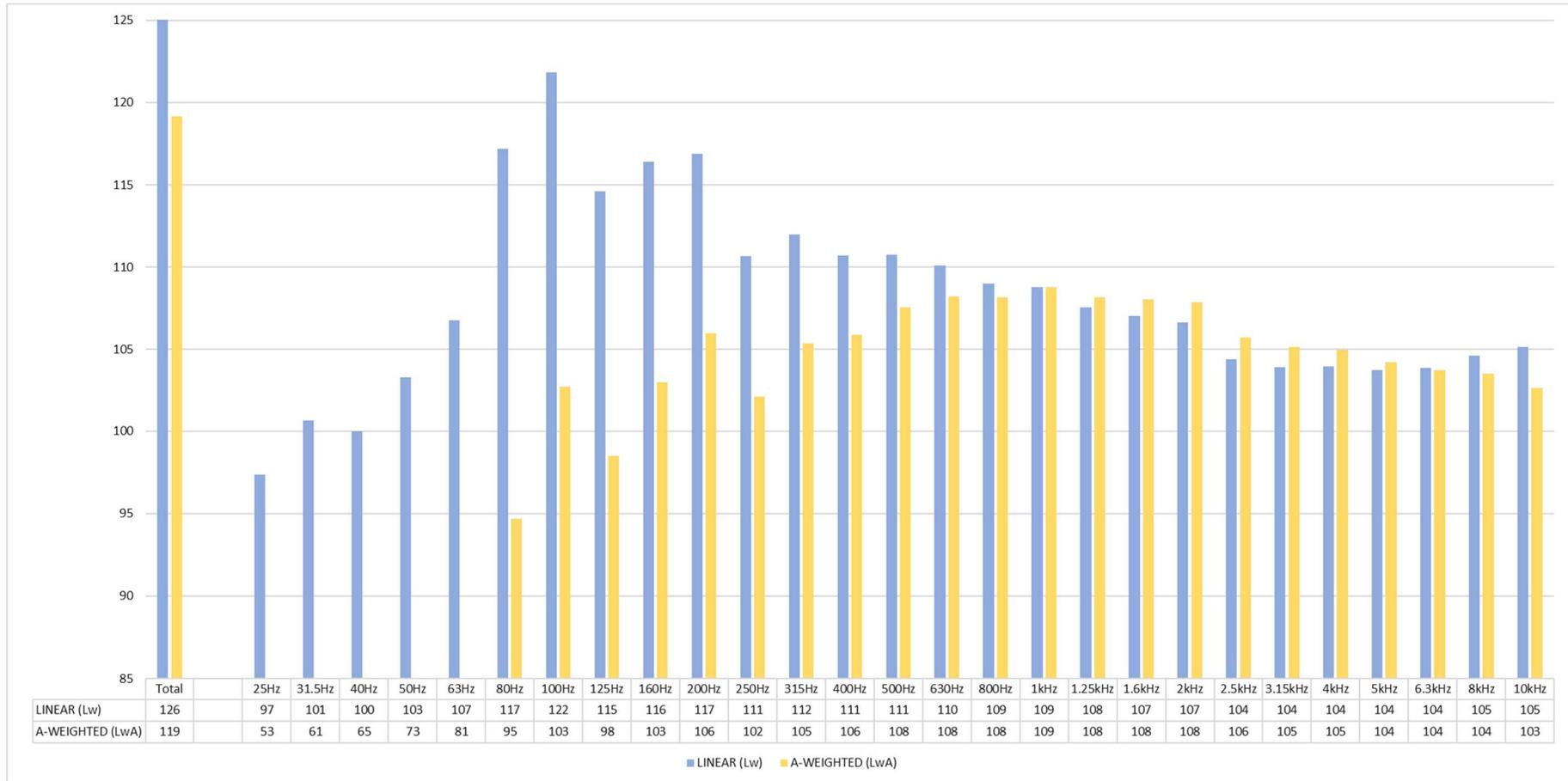


Figure 17: 315 Dynamic Test Forwards

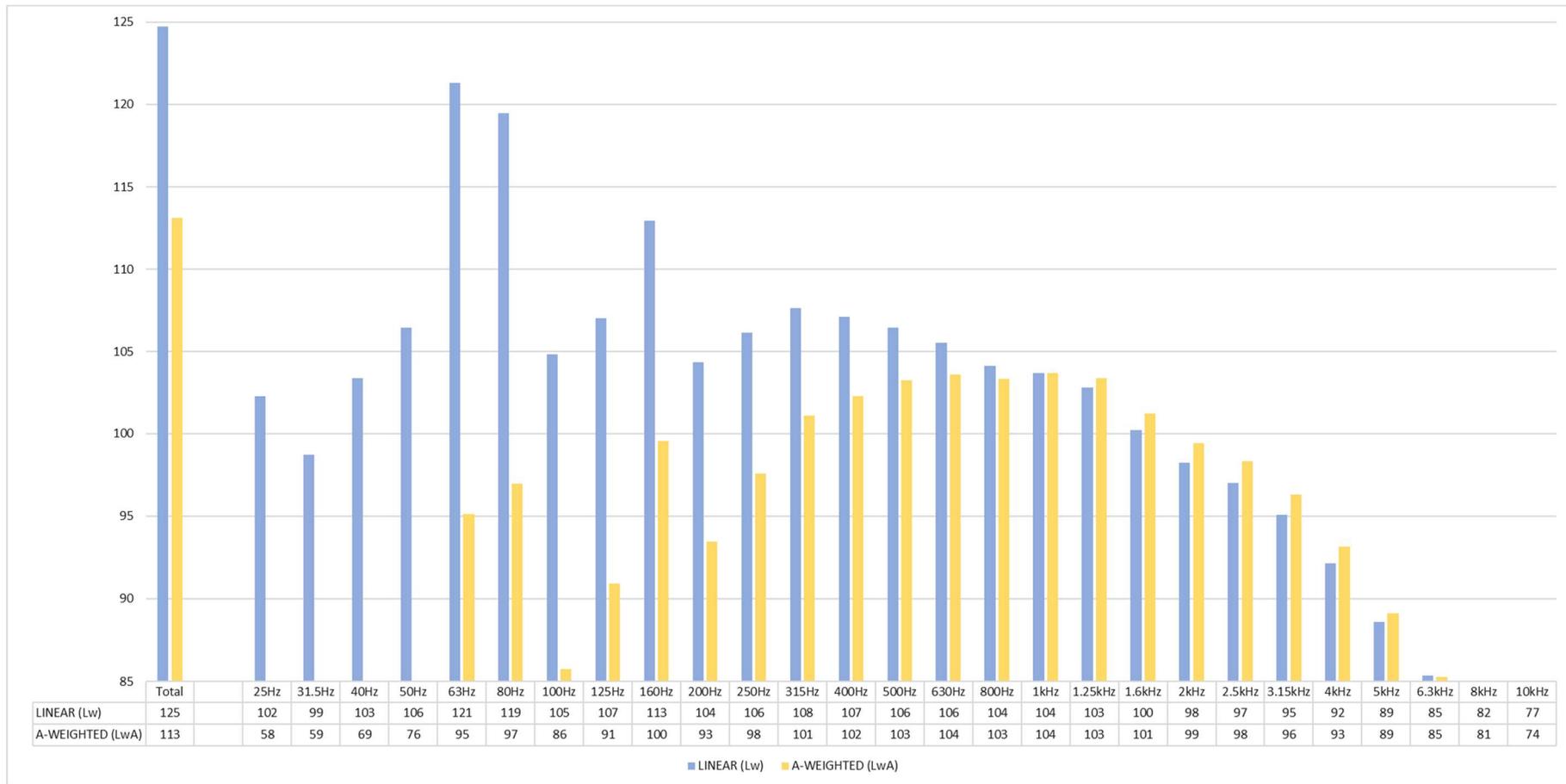


Figure 18: I32 Stationary Test

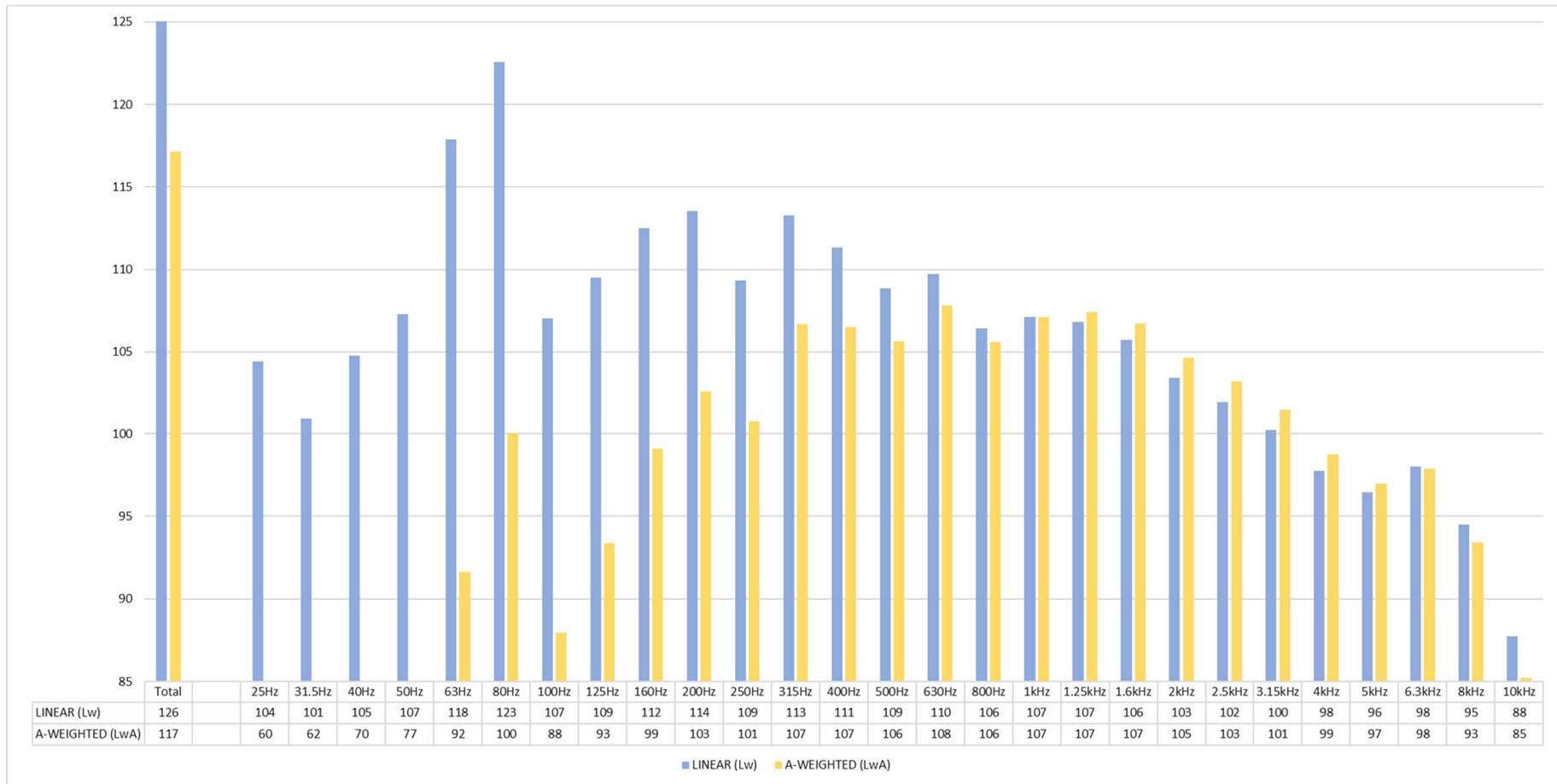


Figure 19: I32 Dynamic Test

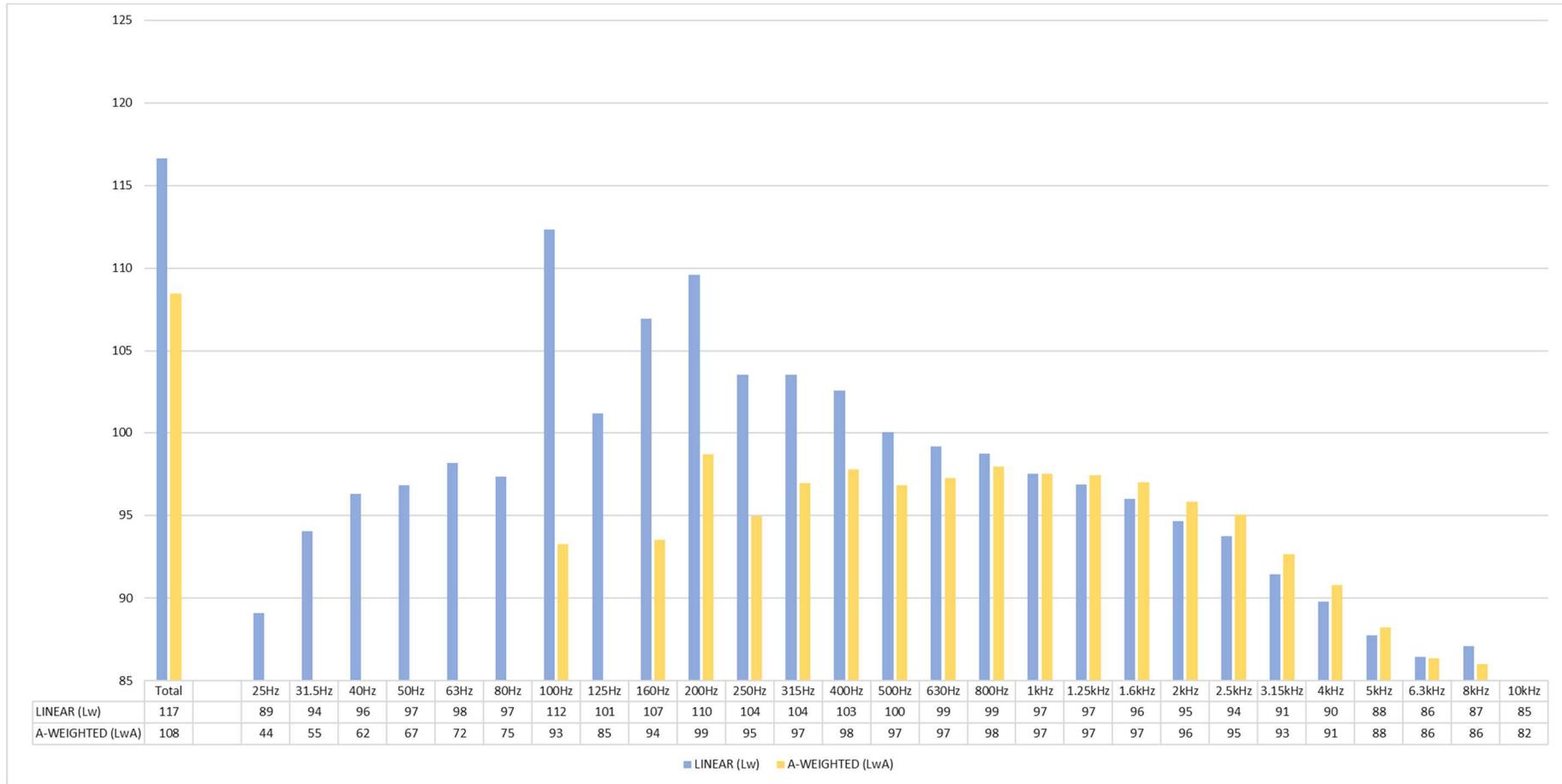


Figure 20: GR062 Stationary Test

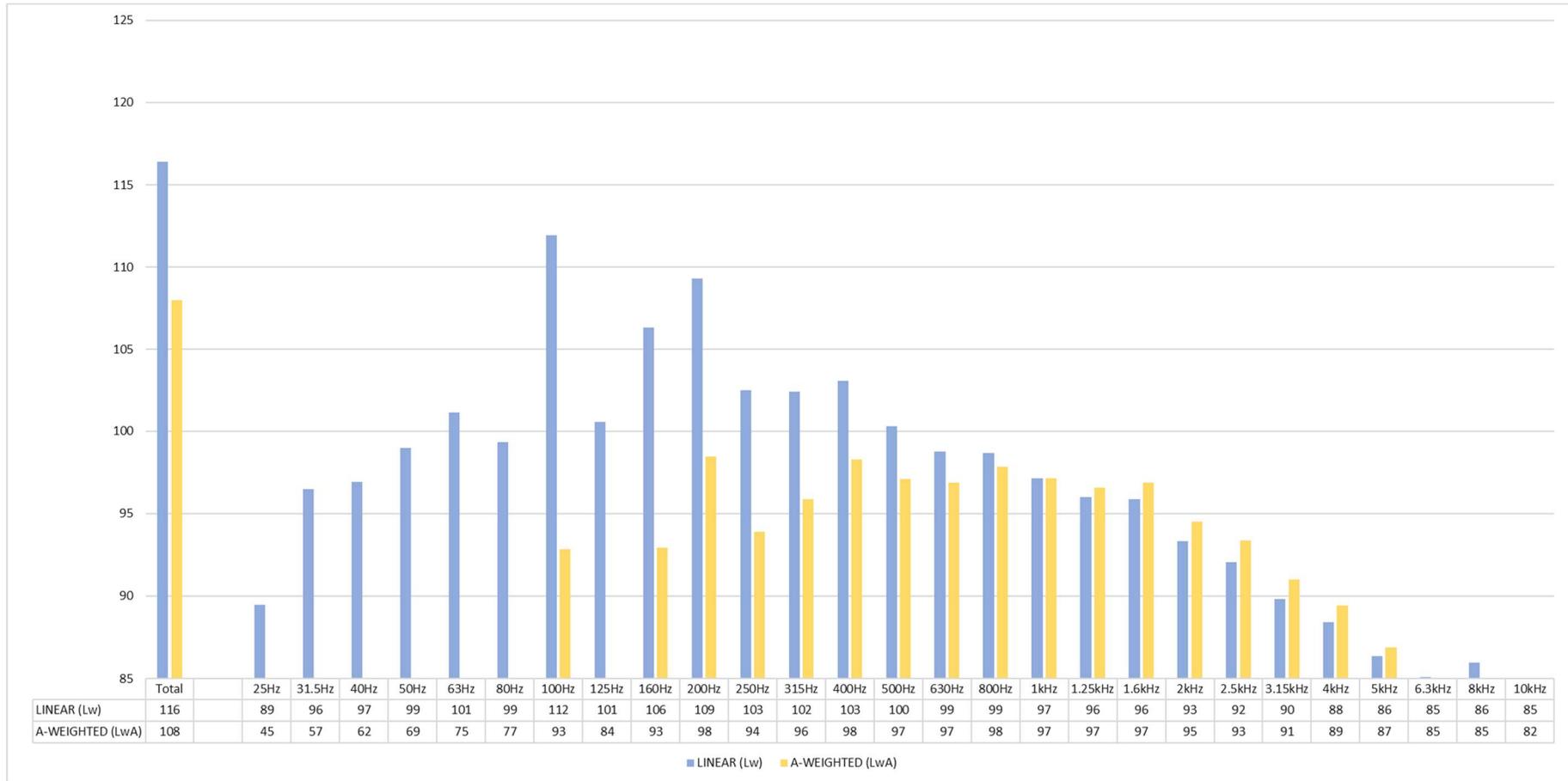


Figure 21: GR062 Dynamic Test Forwards

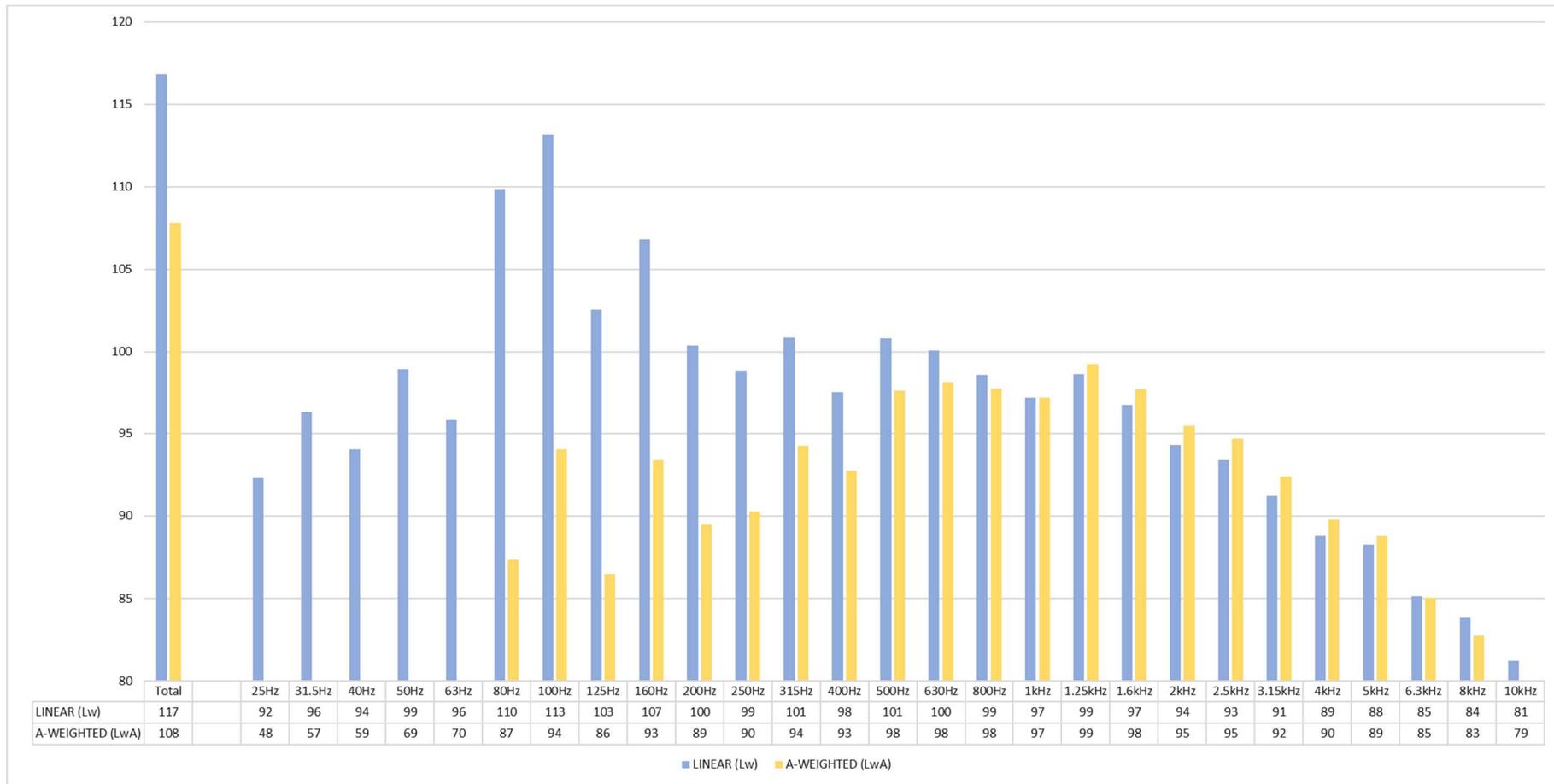


Figure 22: GR064 Stationary Test

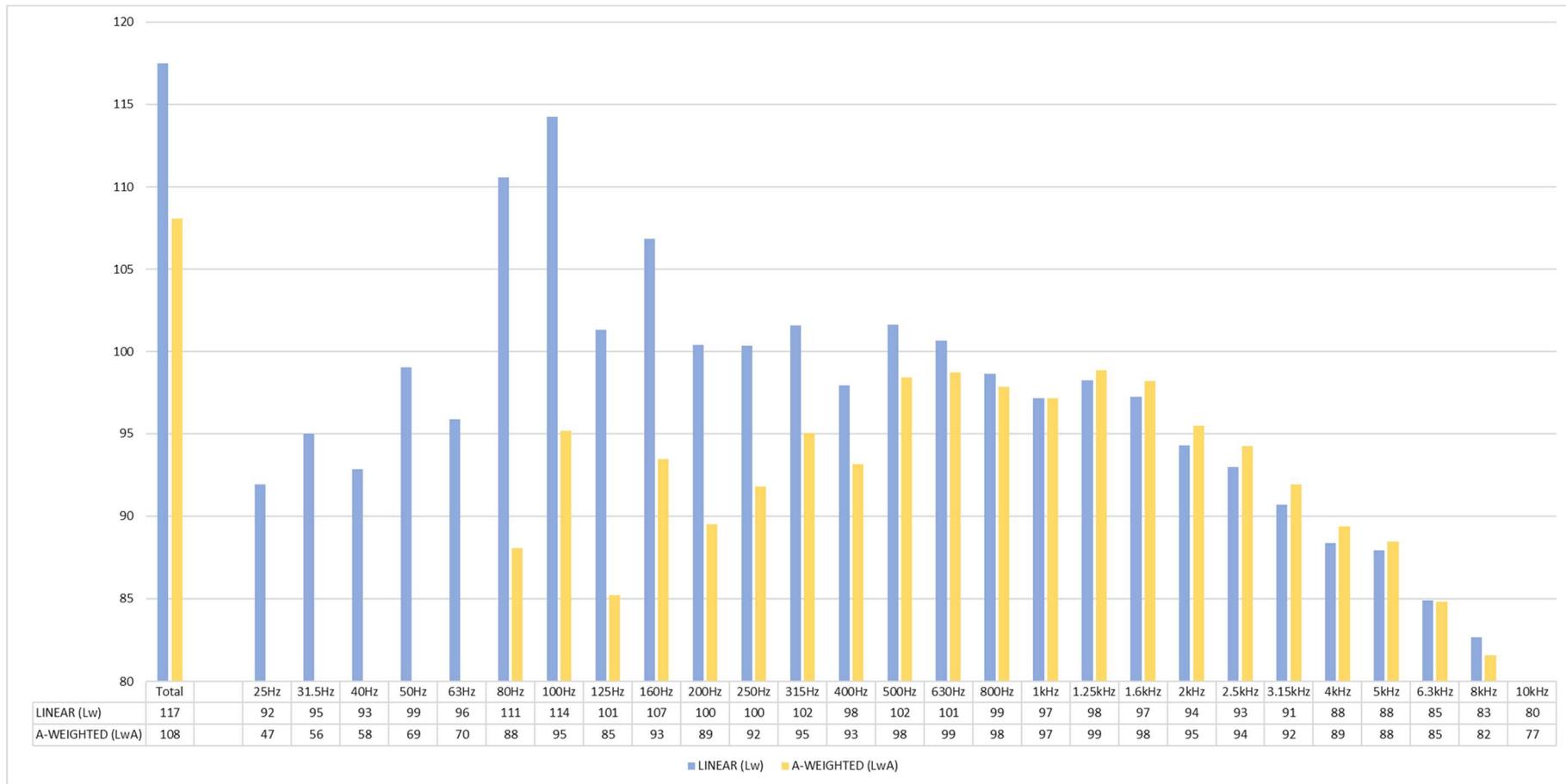


Figure 23: GR064 Dynamic Test Forwards

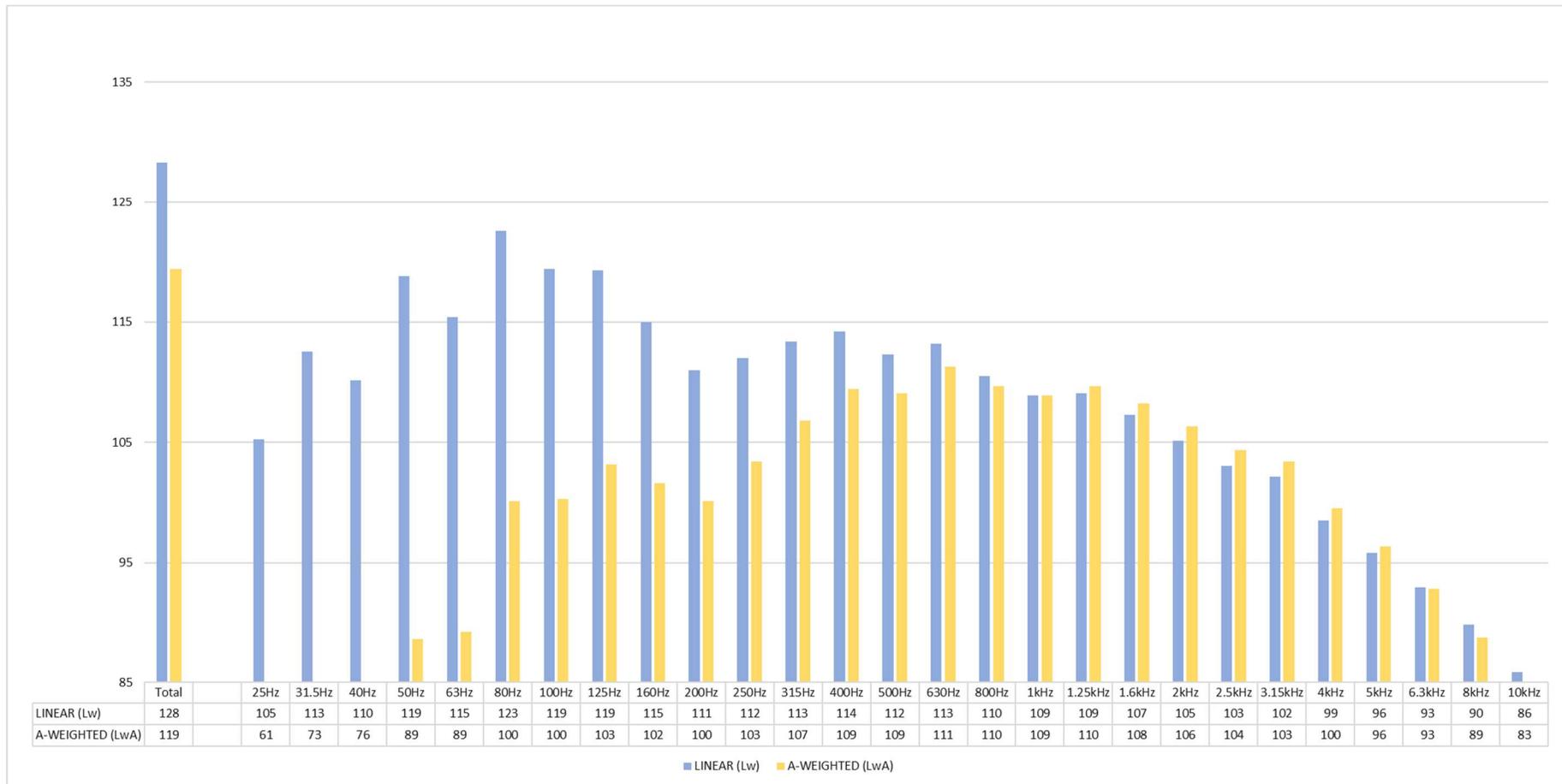


Figure 24: DT29I Stationary Test

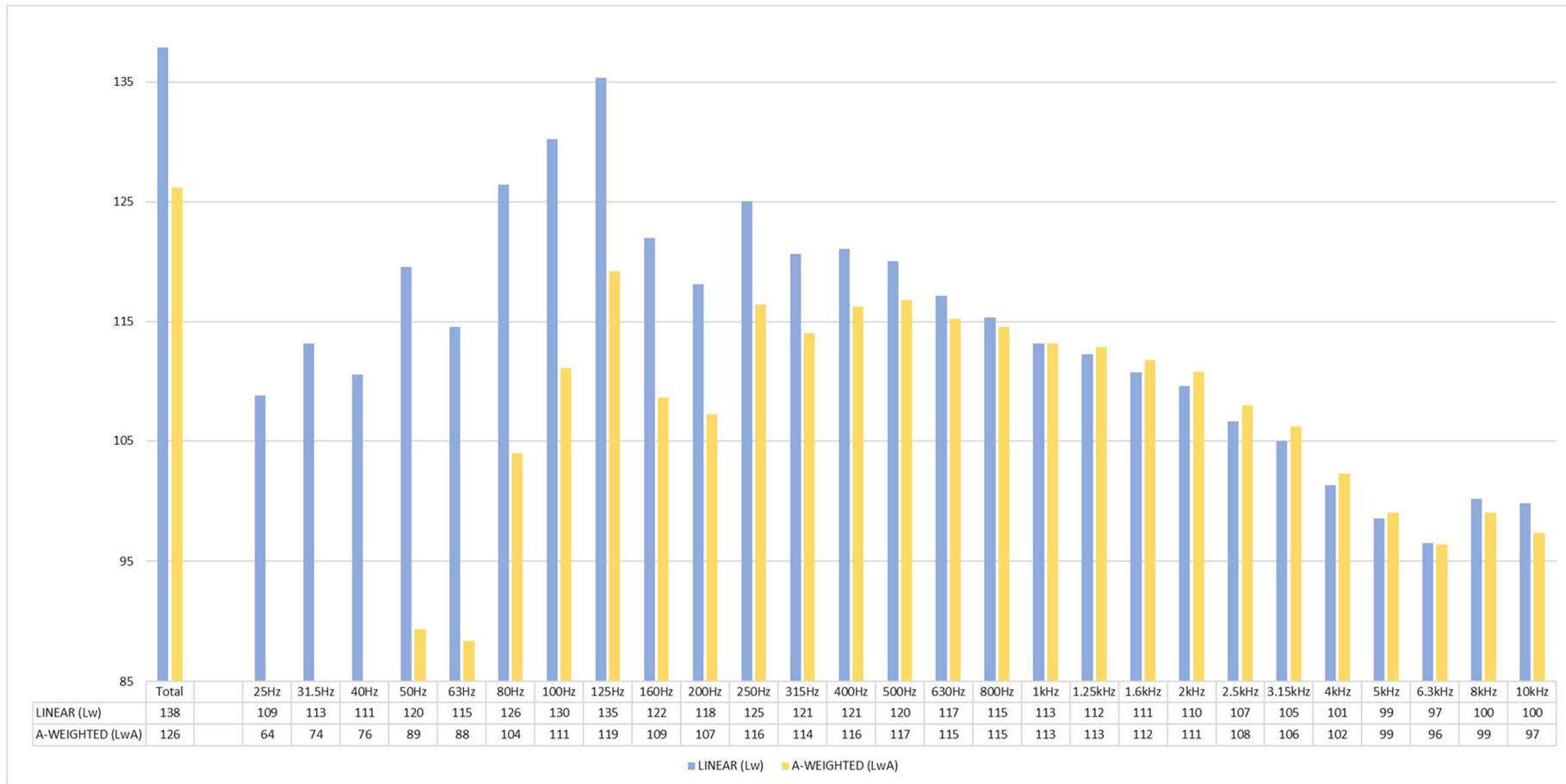


Figure 25: DT291 Dynamic Test Uphill

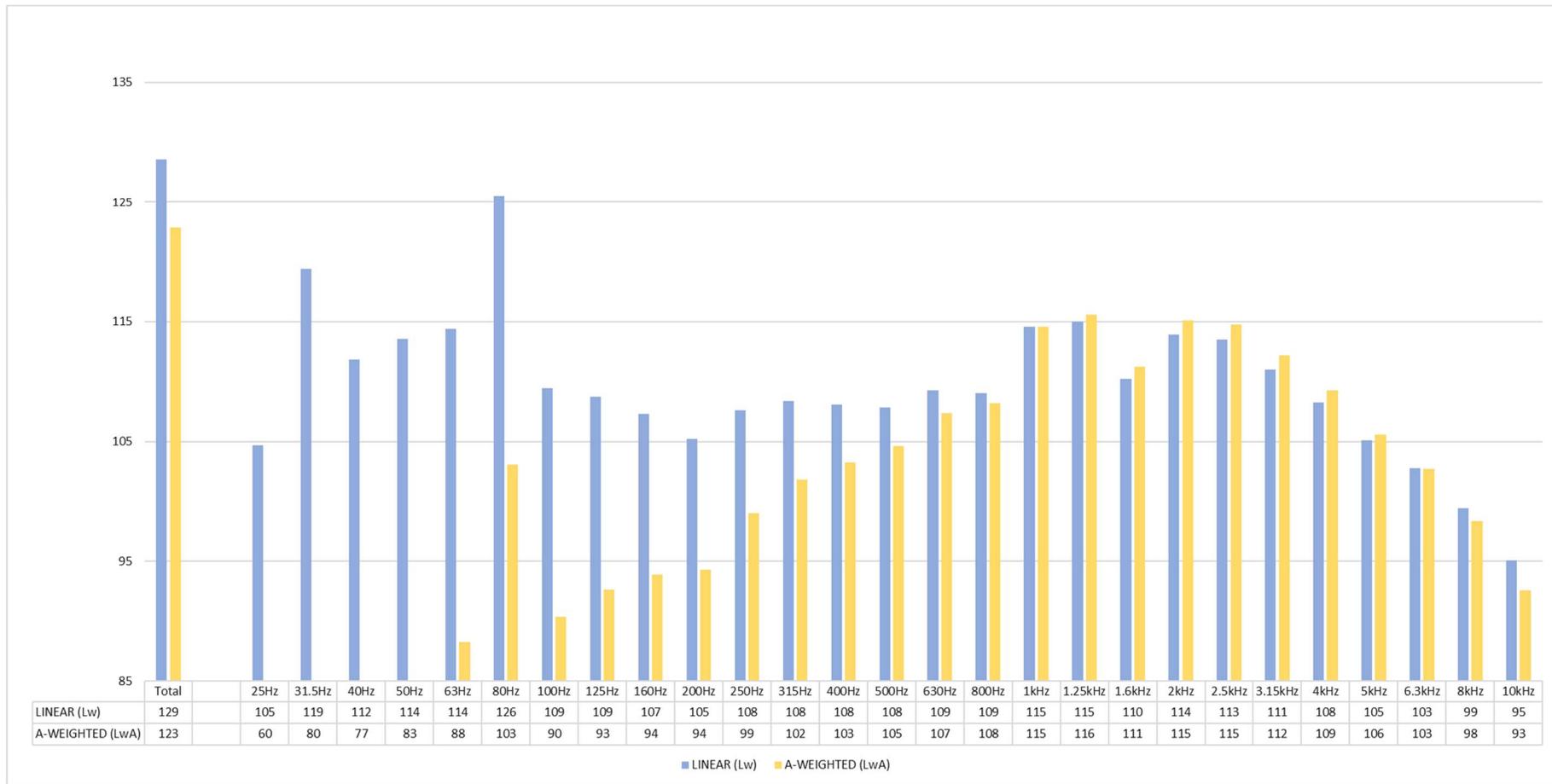


Figure 26: DT29I Dynamic Test Downhill

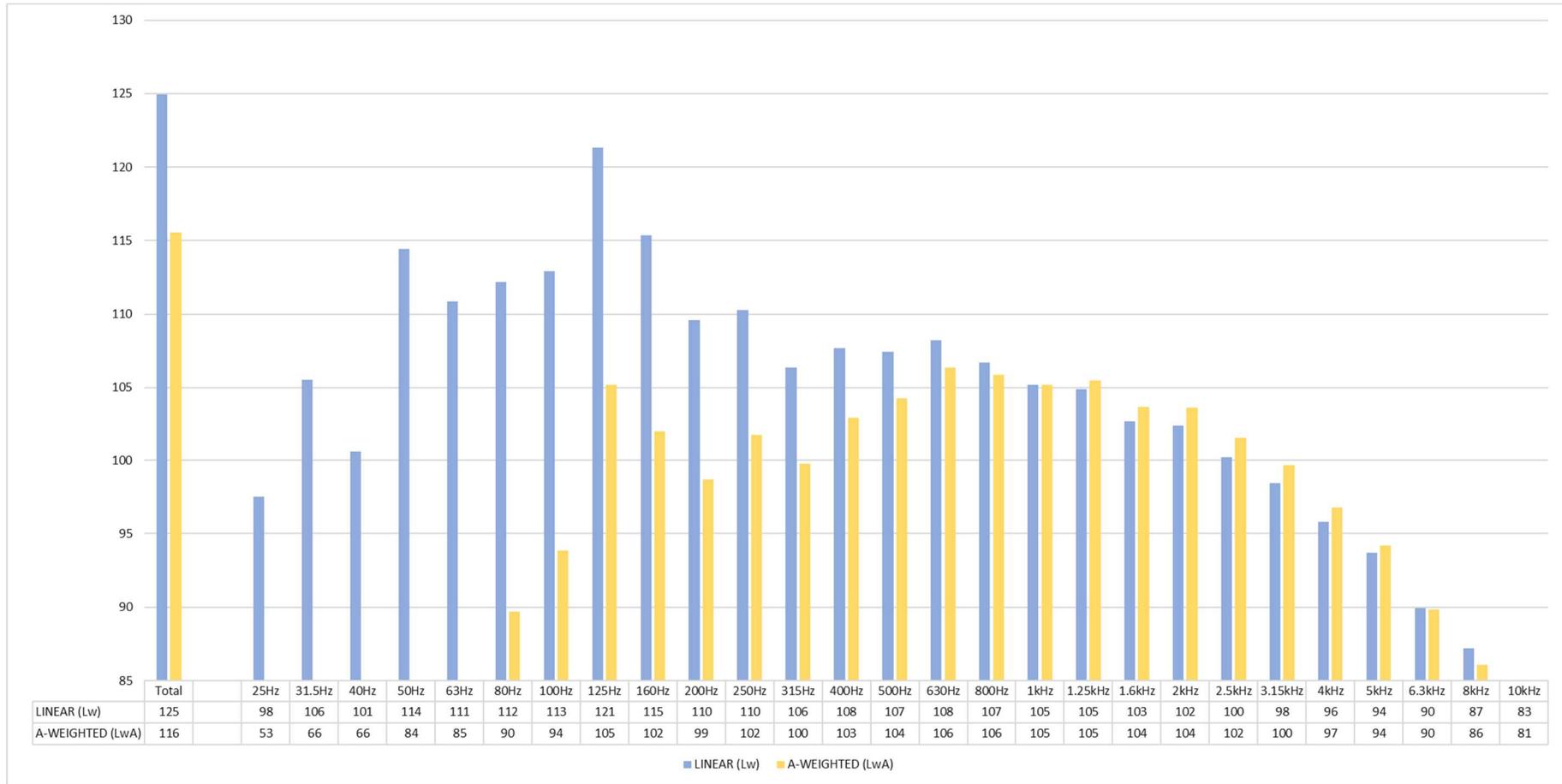


Figure 27: DT305 Stationary Test

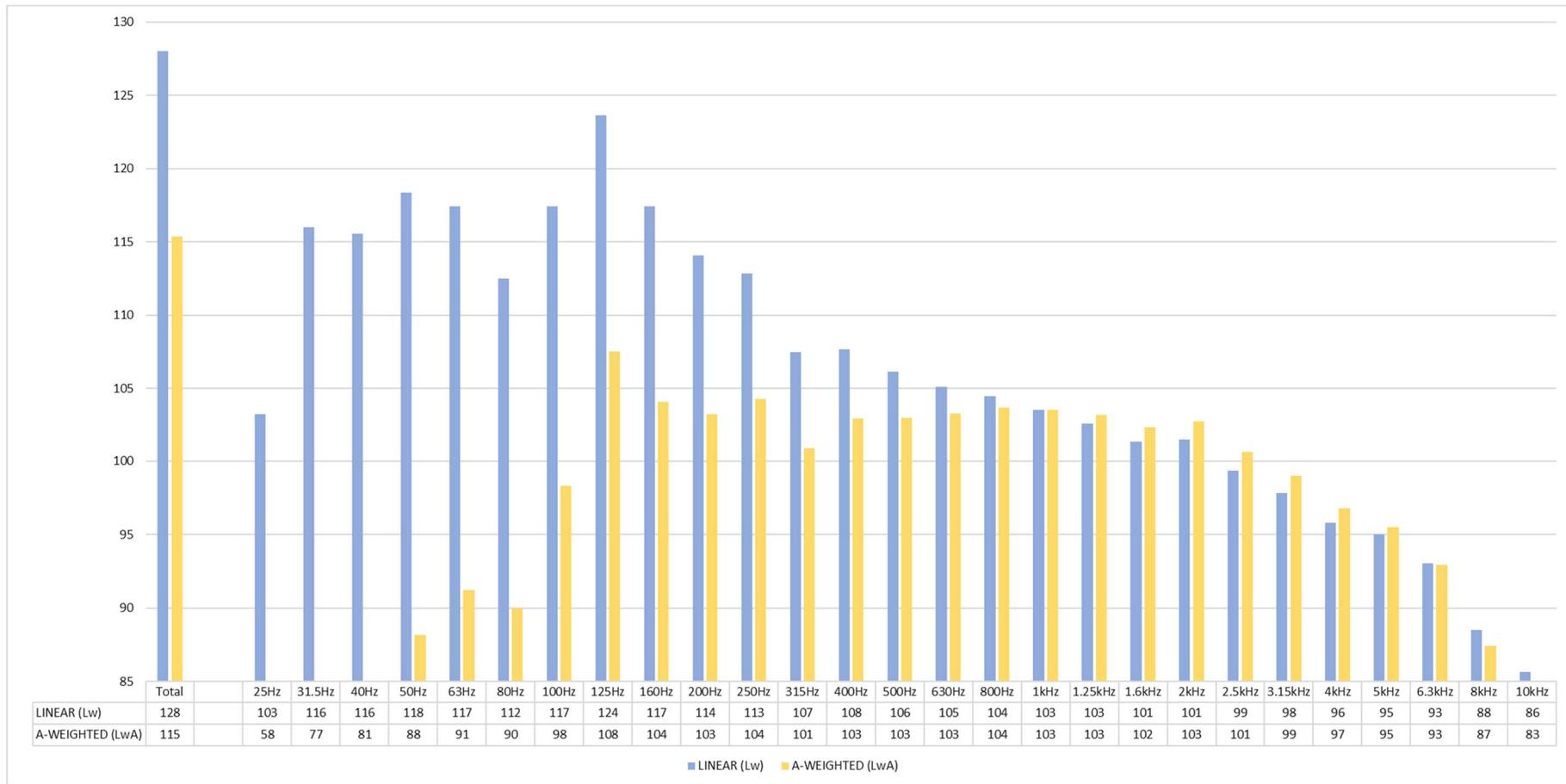


Figure 28: DT305 Dynamic Test Uphill

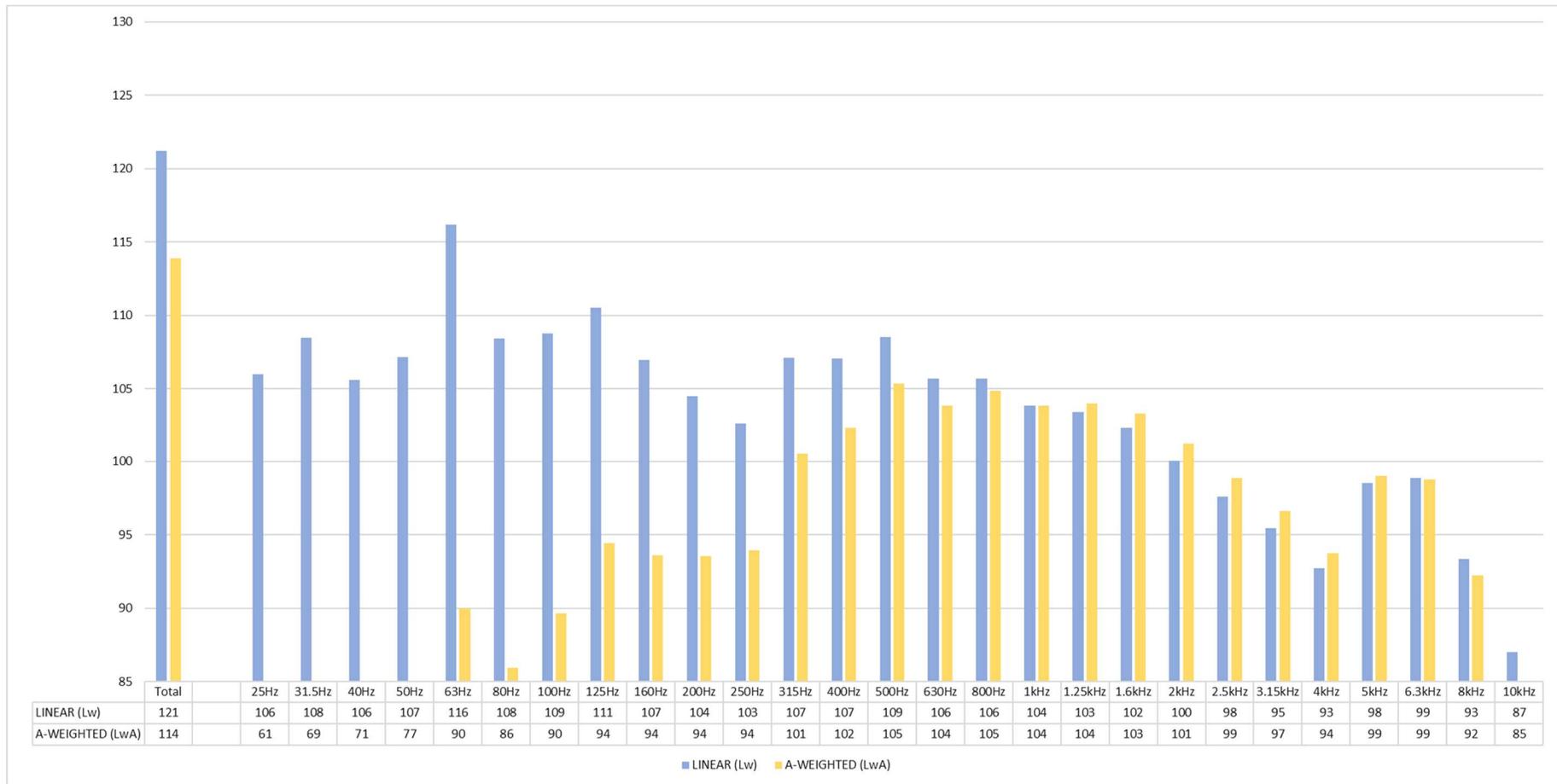


Figure 29: DT305 Dynamic Test Downhill

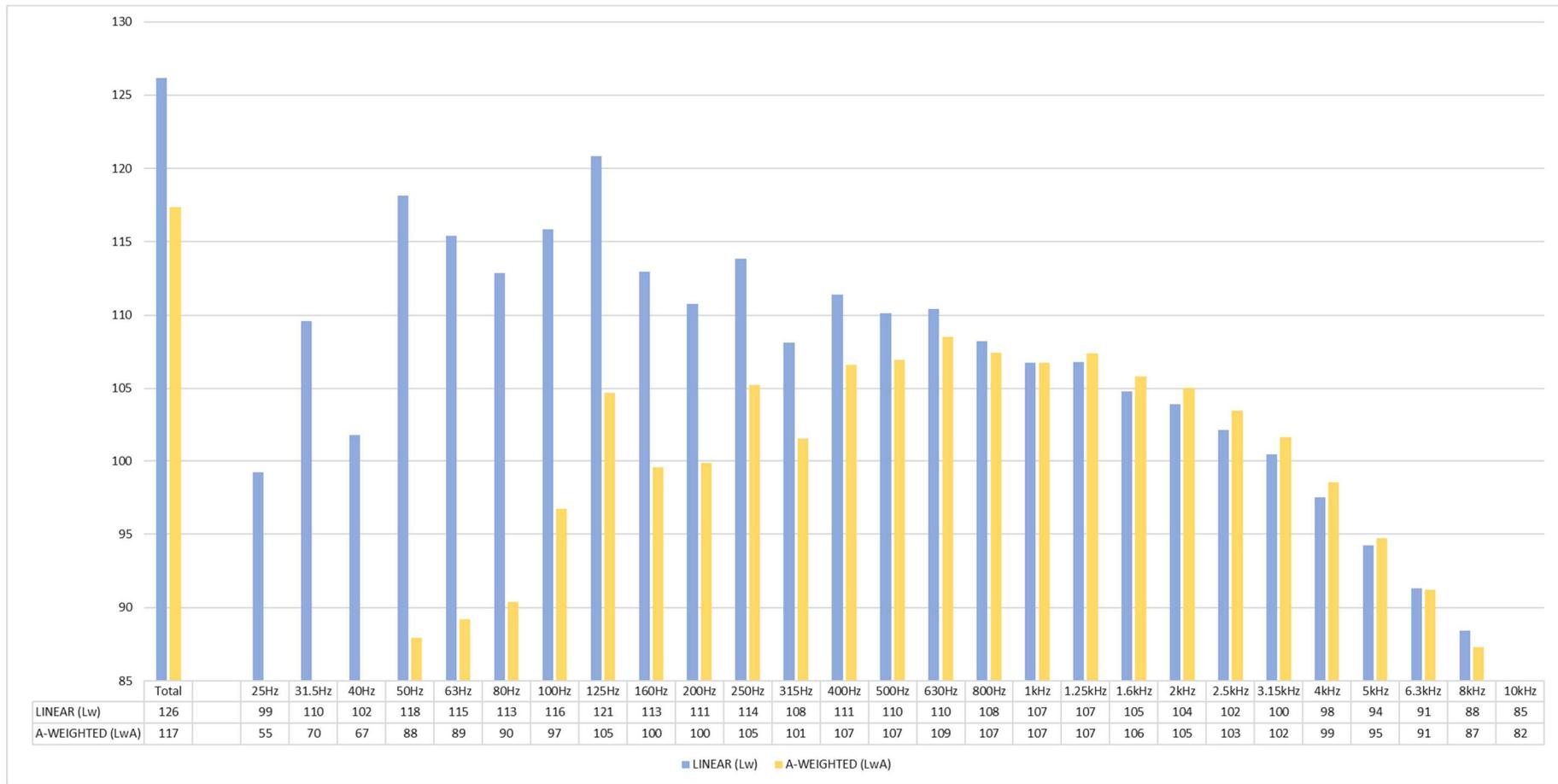


Figure 30: DT307 Stationary Test

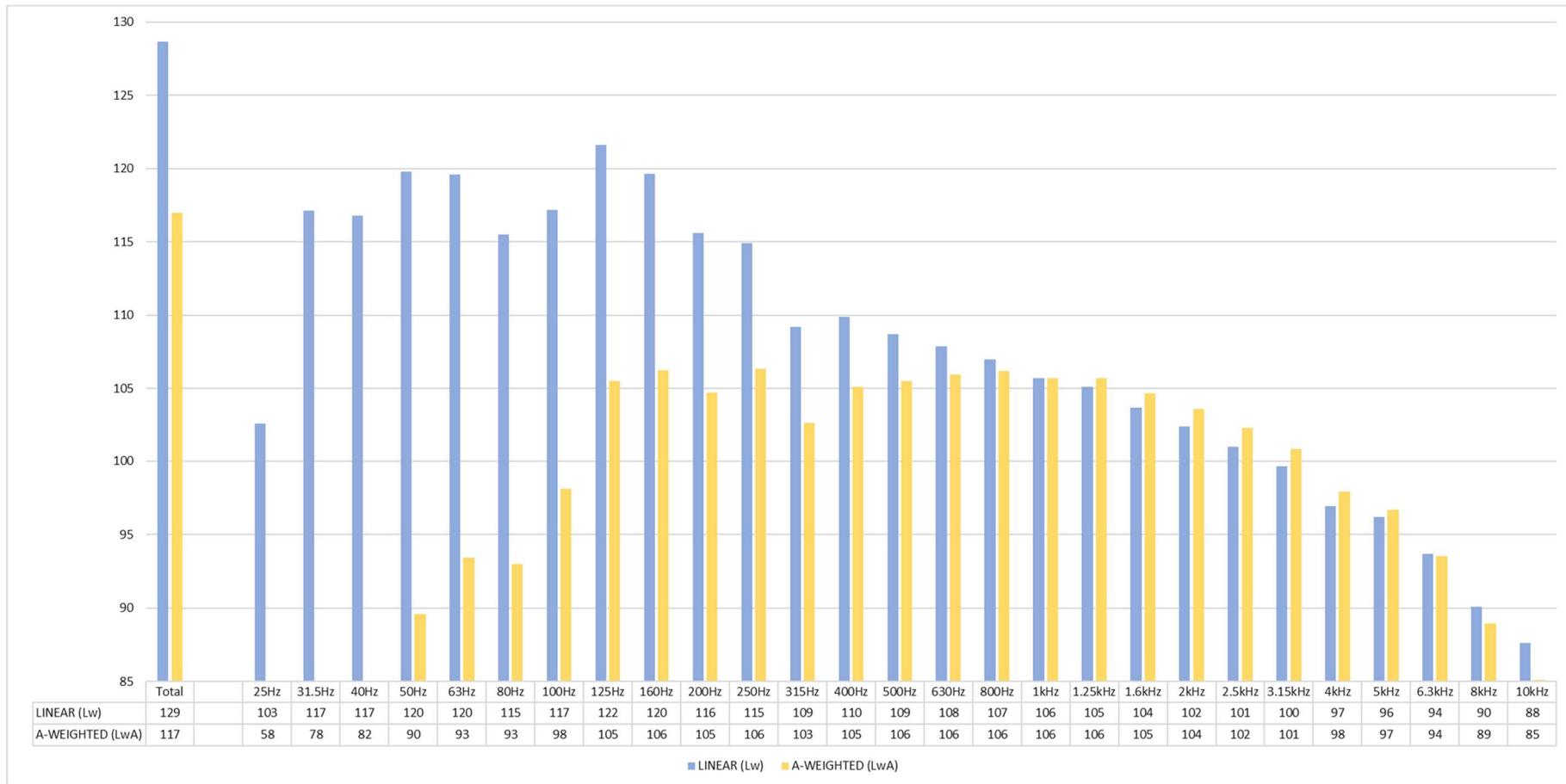


Figure 31: DT307 Dynamic Test Uphill

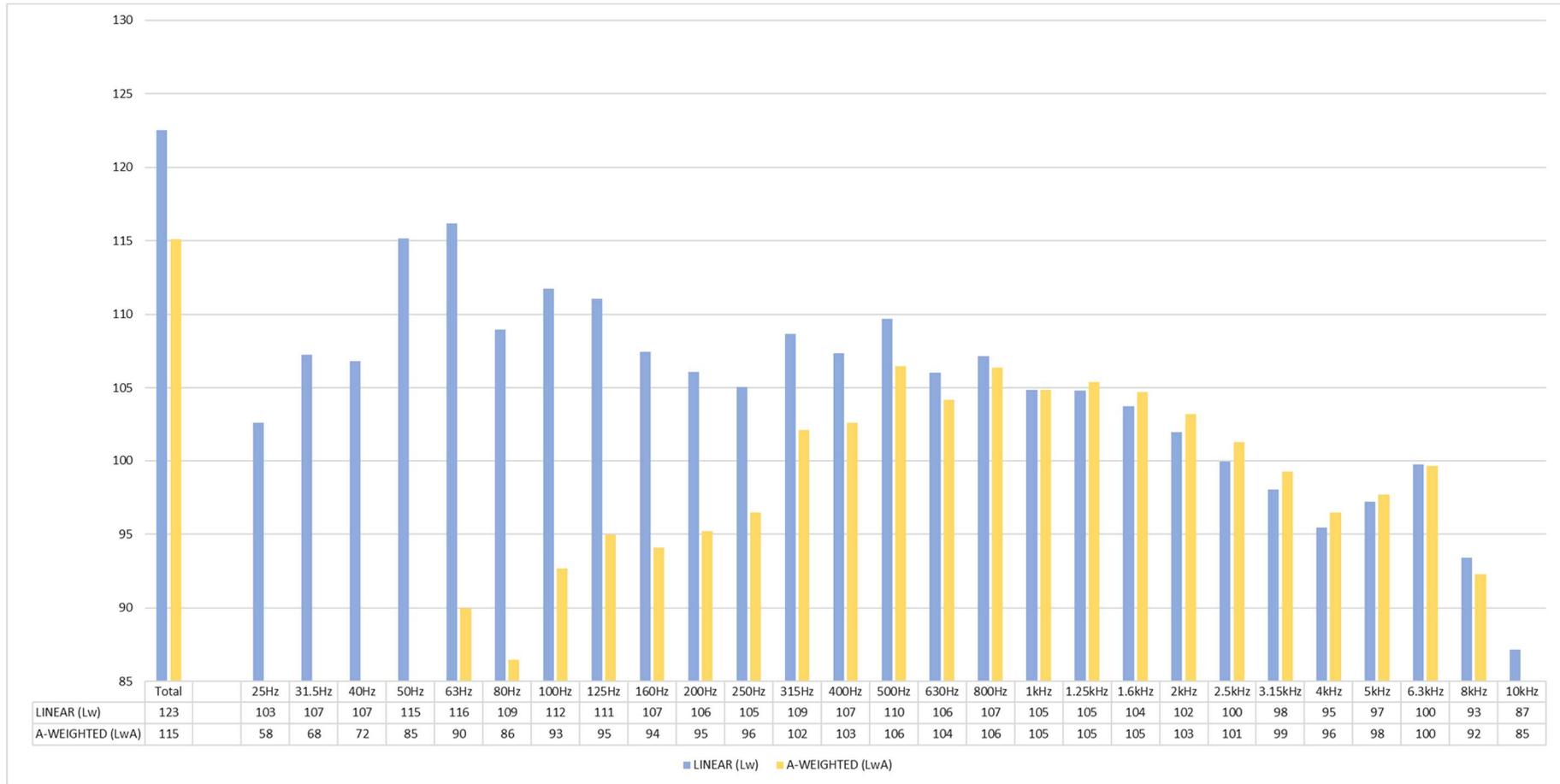


Figure 32: DT307 Dynamic Test Downhill

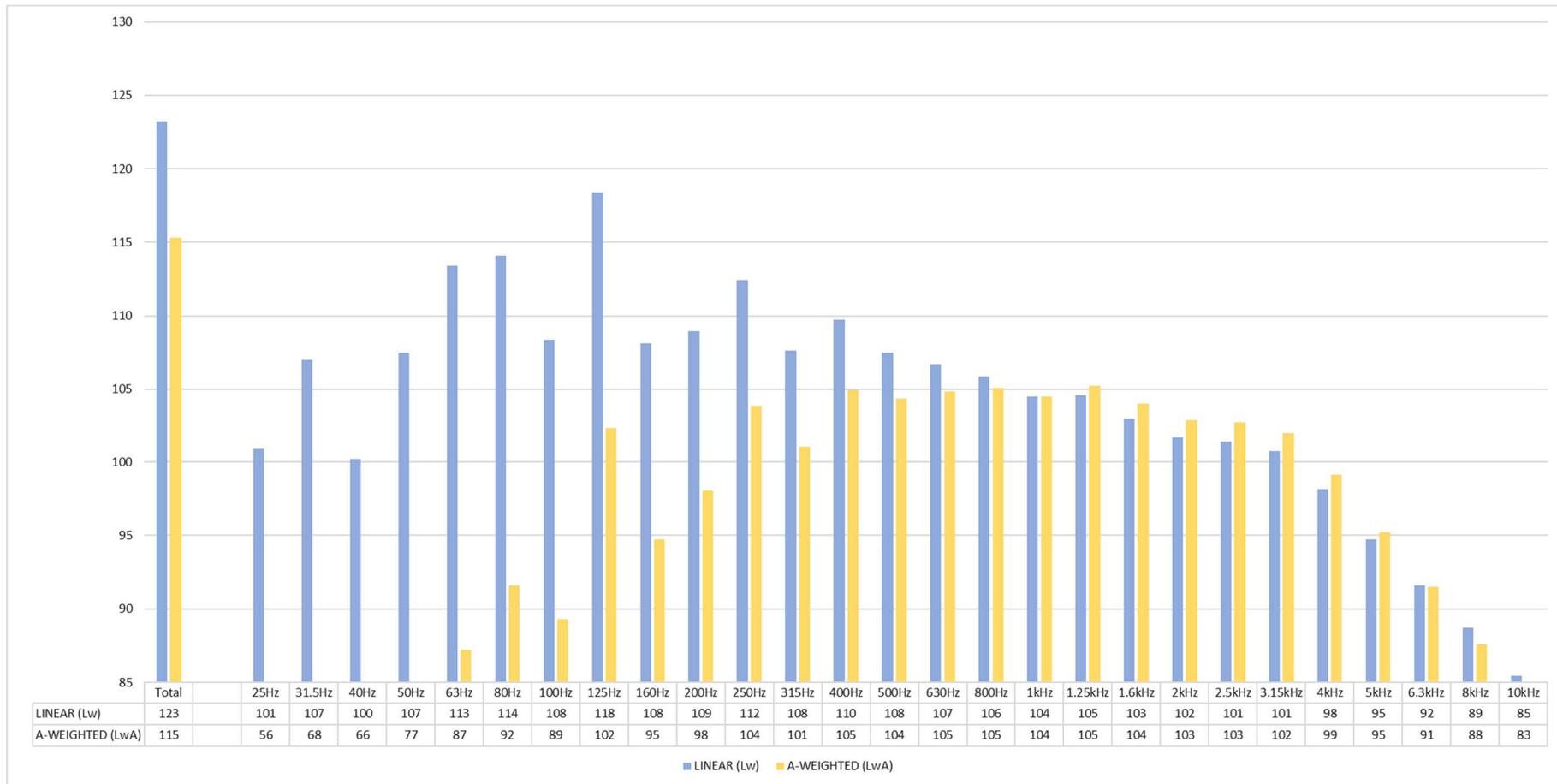


Figure 33: DT308 Stationary Test

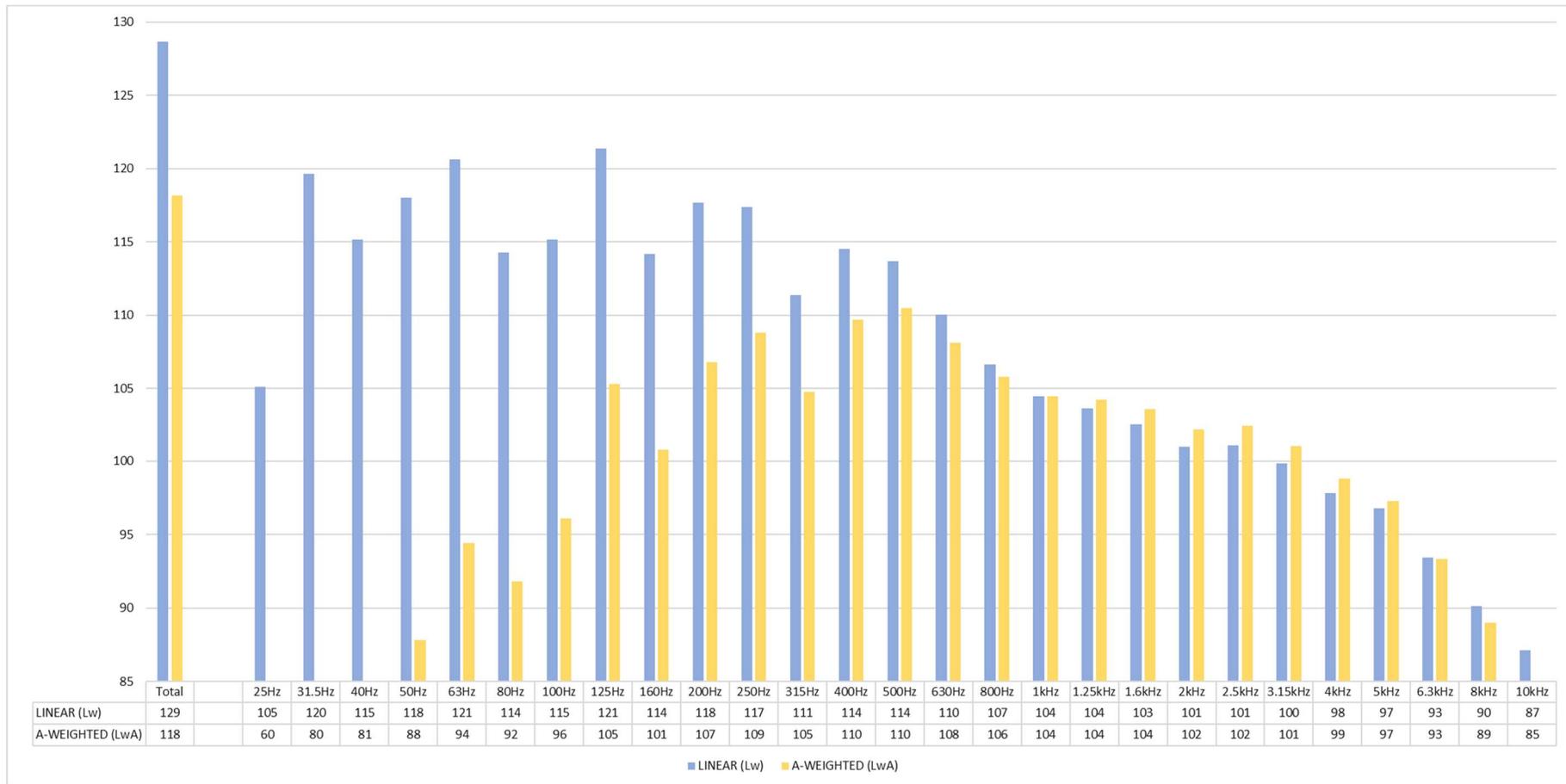


Figure 34: DT308 Dynamic Test Uphill

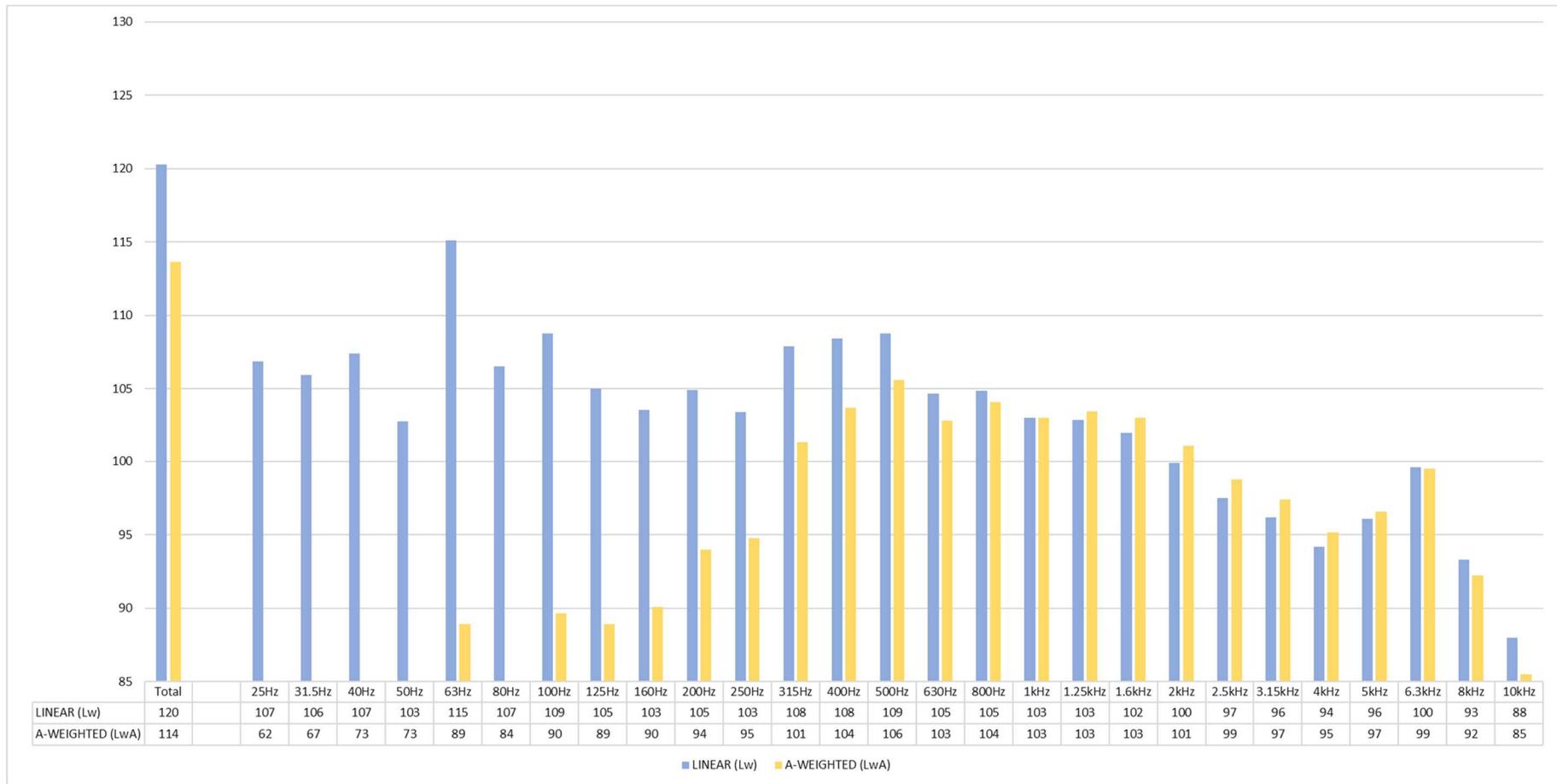


Figure 35: DT308 Dynamic Test Downhill

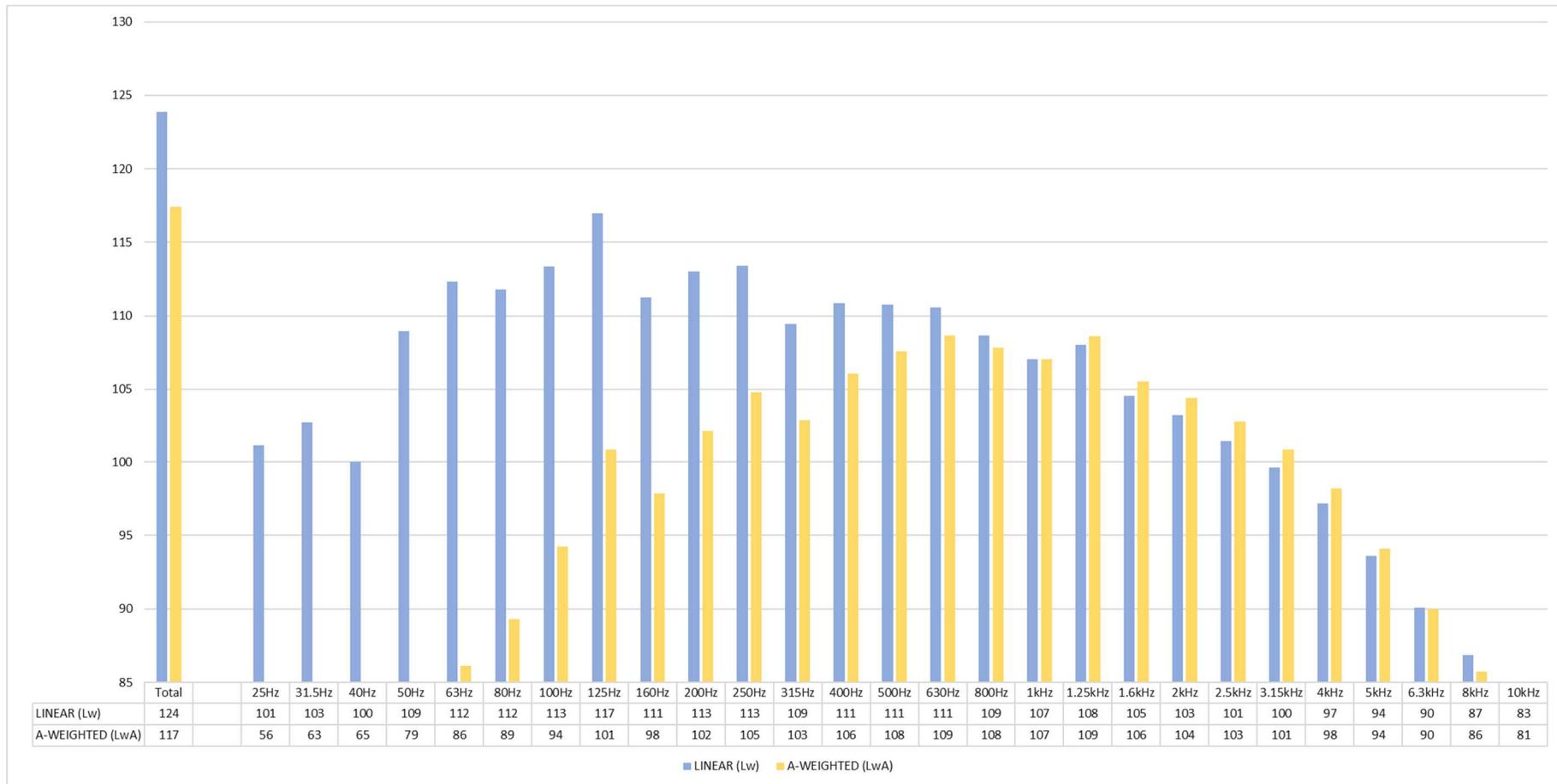


Figure 36: DT316 Stationary Test

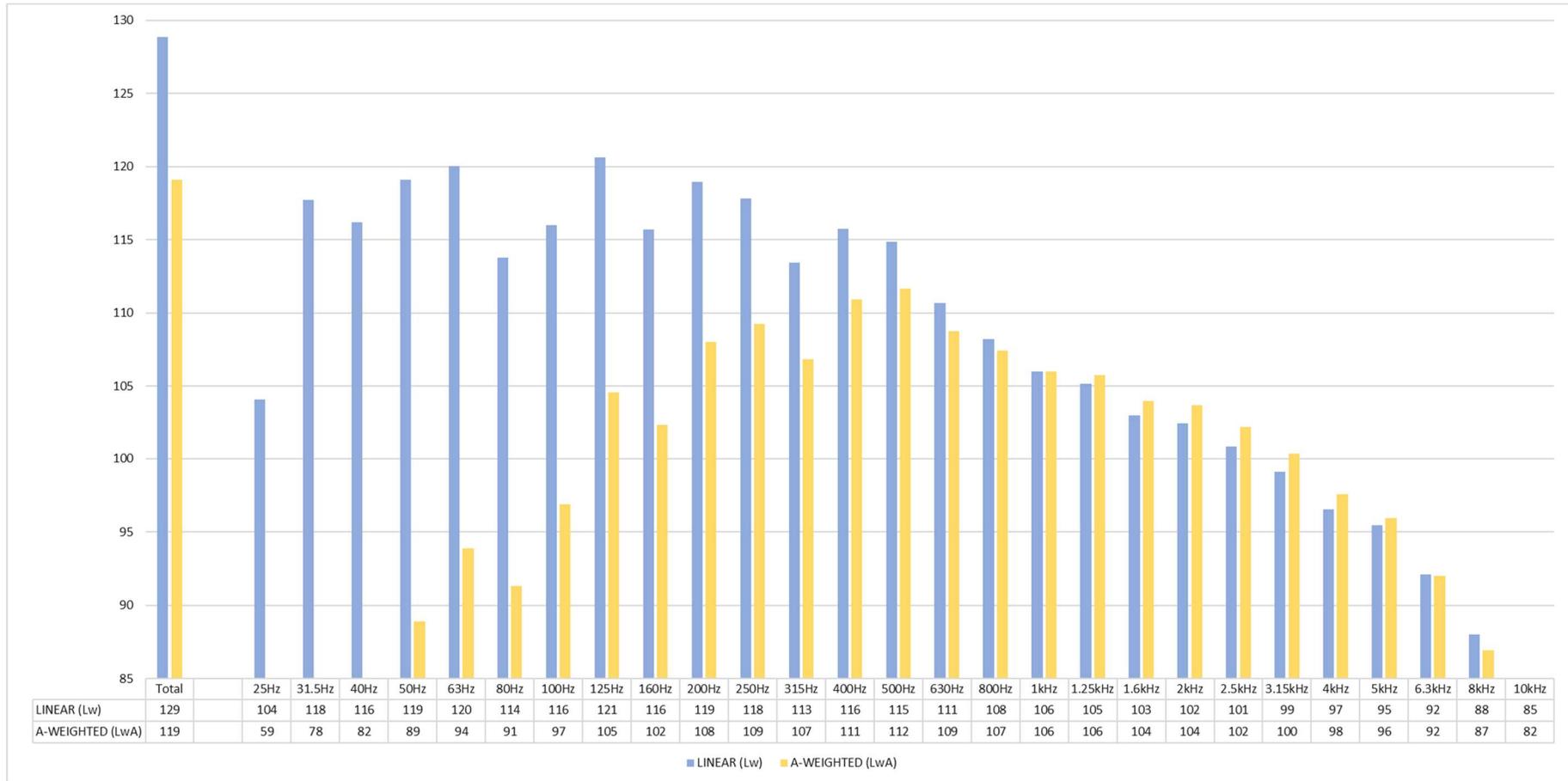


Figure 37: DT316 Dynamic Test Uphill

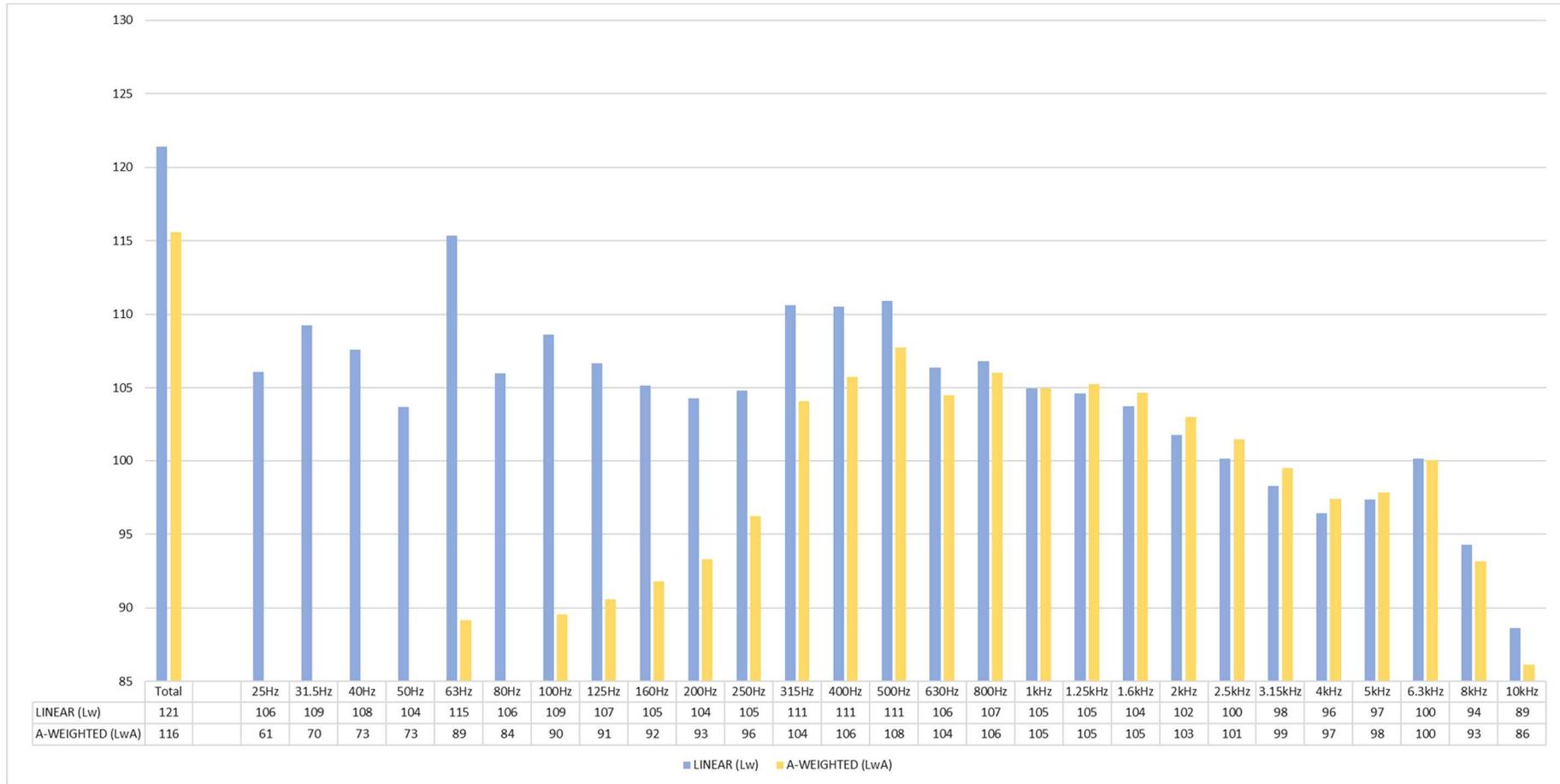


Figure 38: DT316 Dynamic Test Downhill

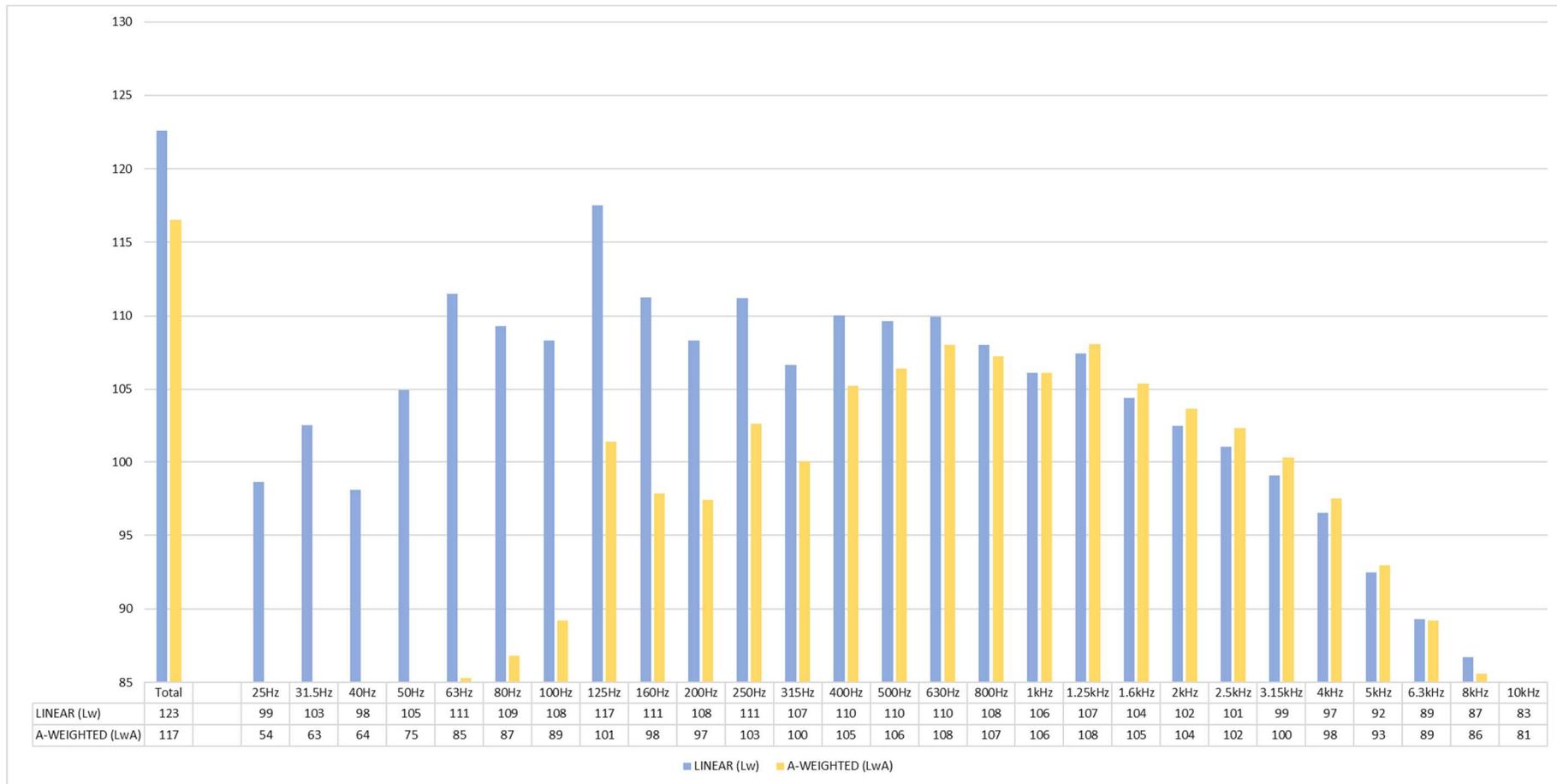


Figure 39: DT317 Stationary Test

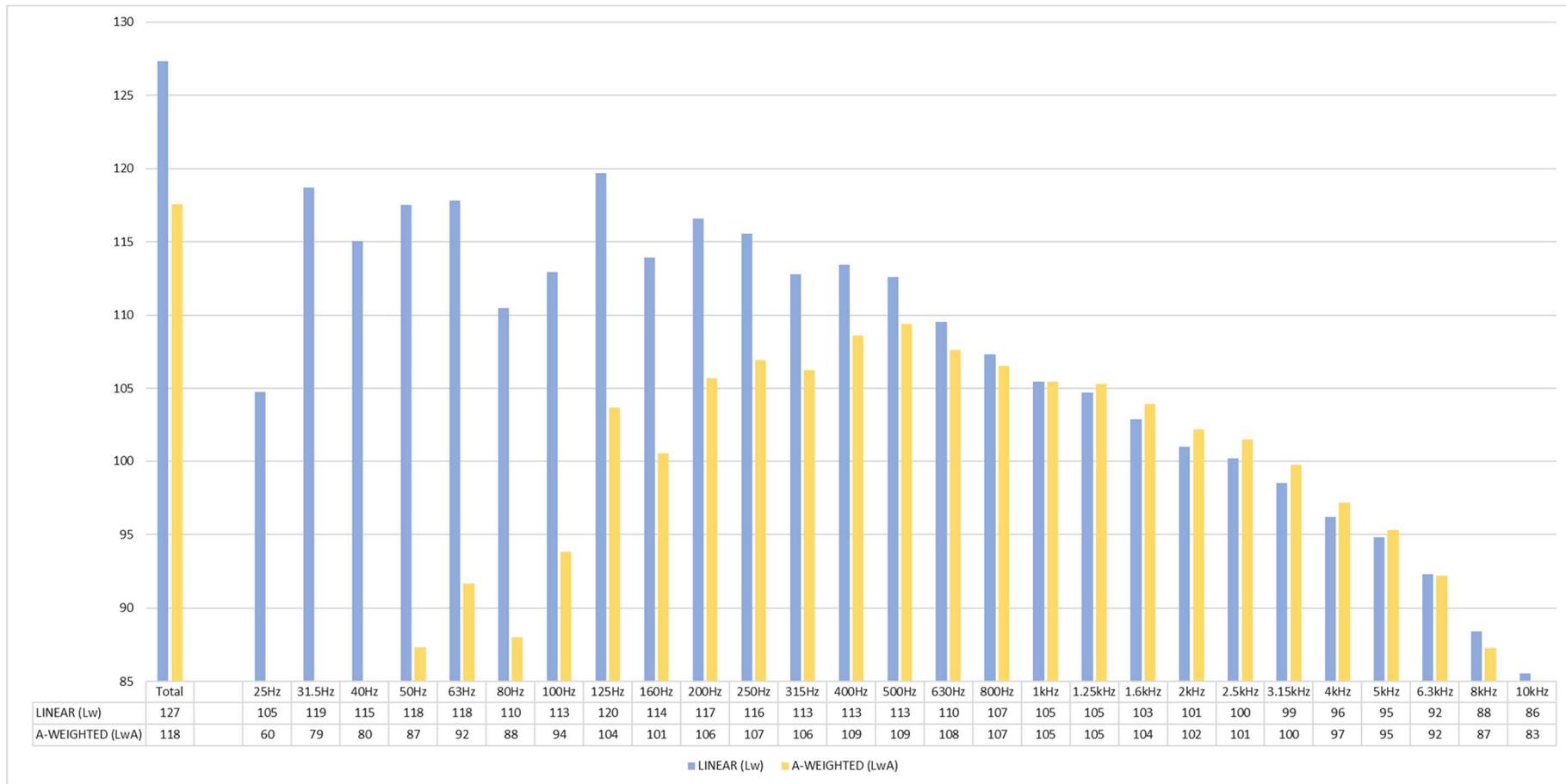


Figure 40: DT317 Dynamic Test Uphill

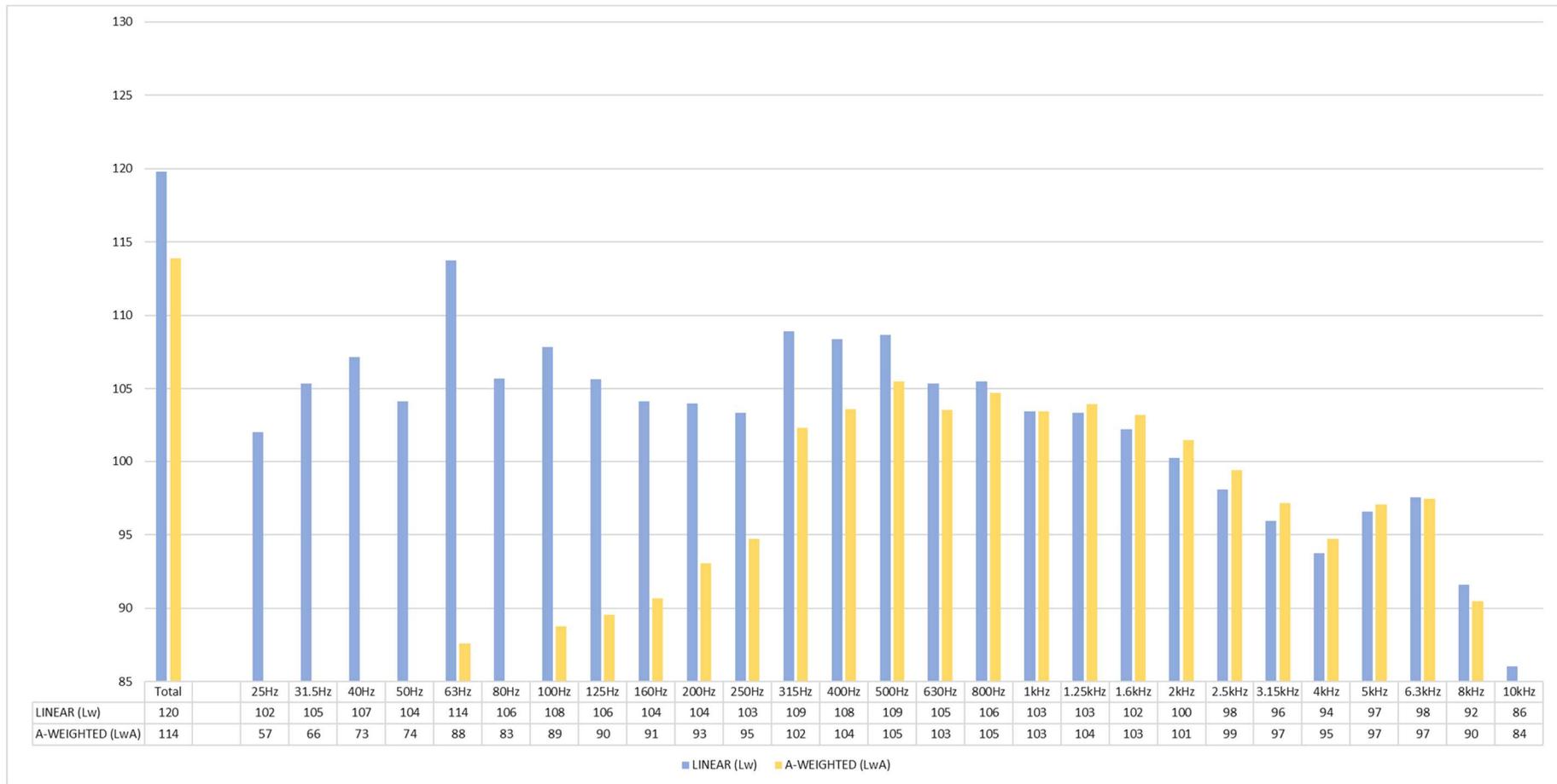


Figure 41: DT317 Dynamic Test Downhill

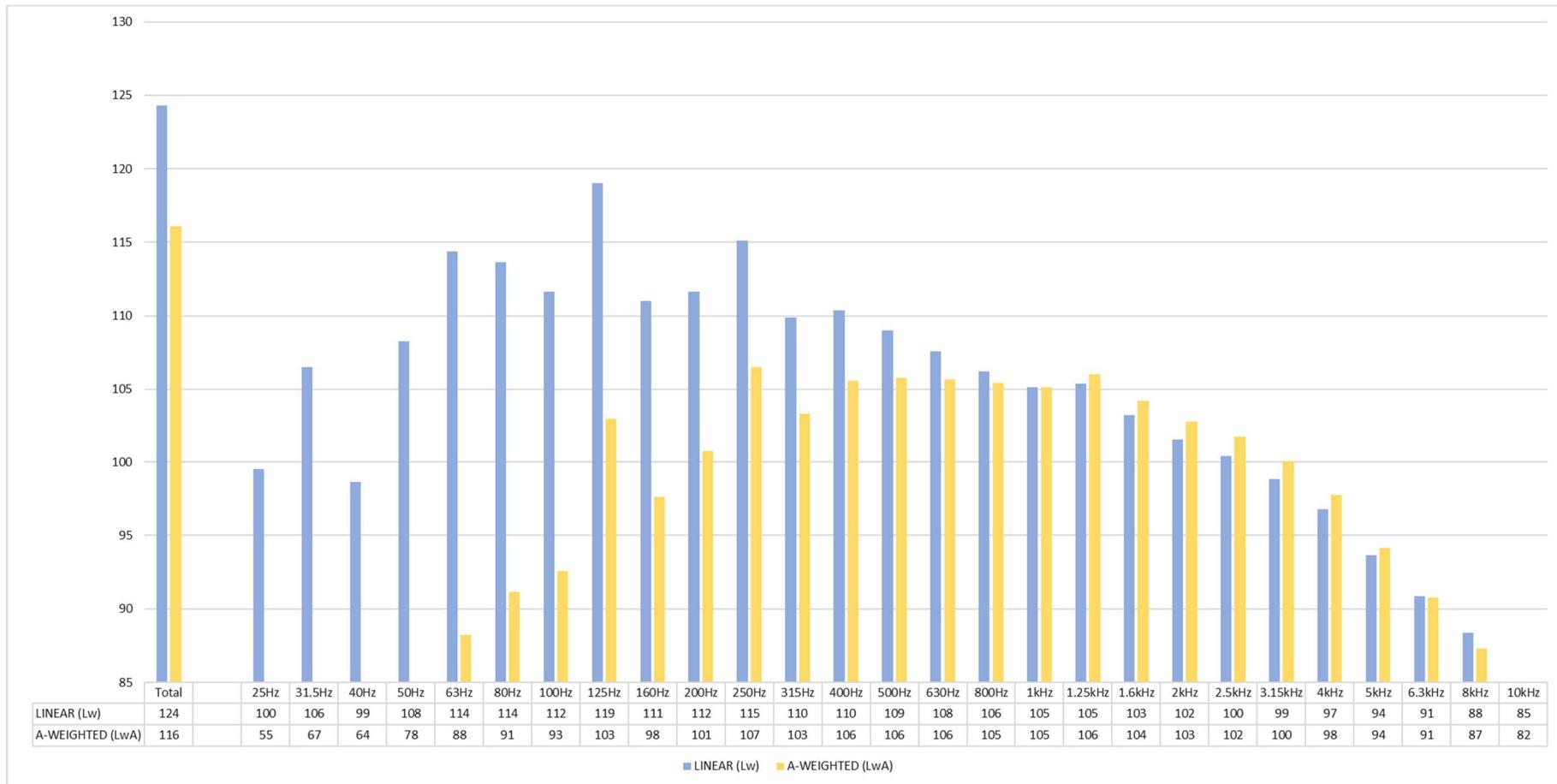


Figure 42: DT319 Stationary Test

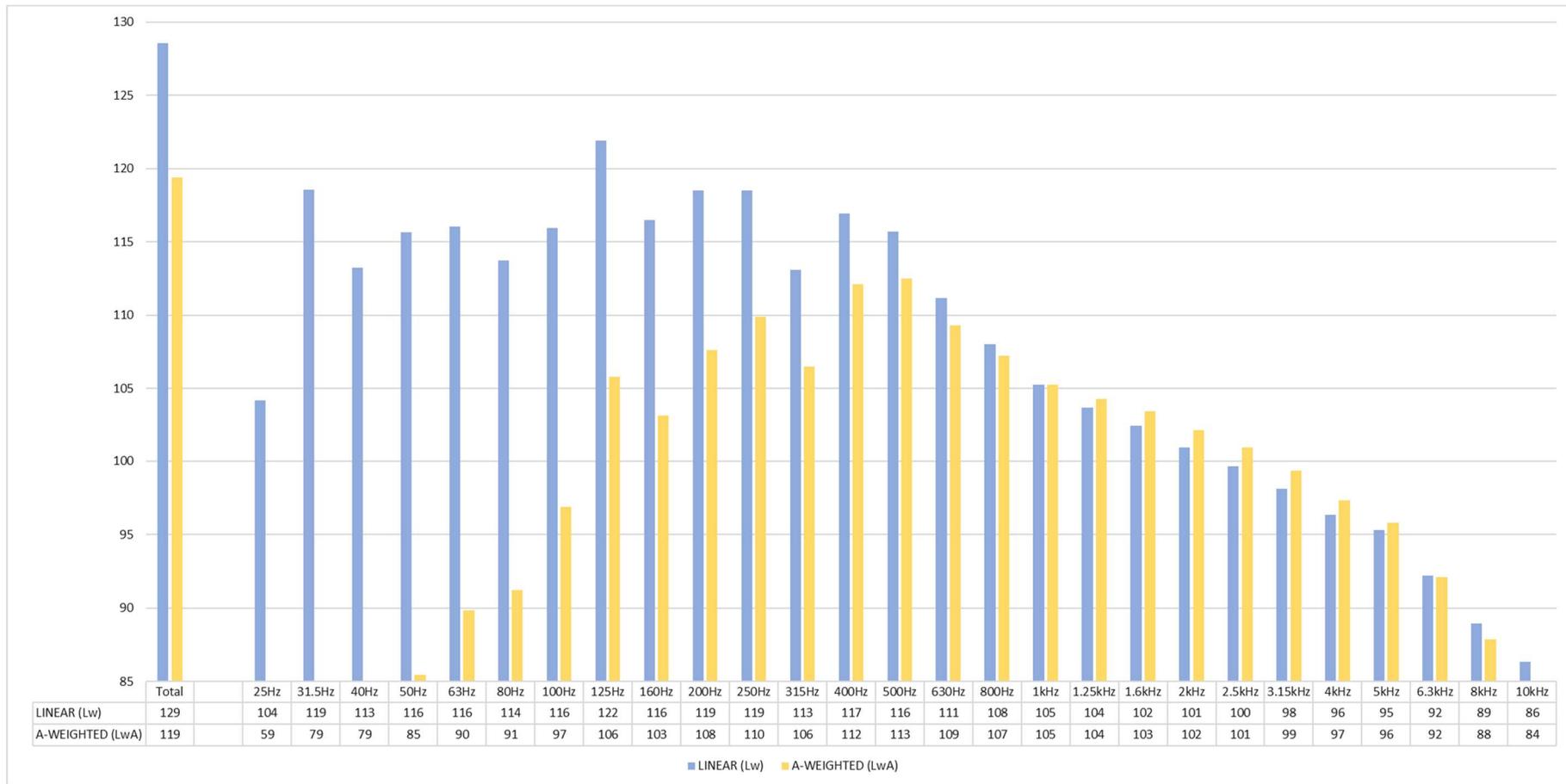


Figure 43: DT319 Dynamic Test Uphill

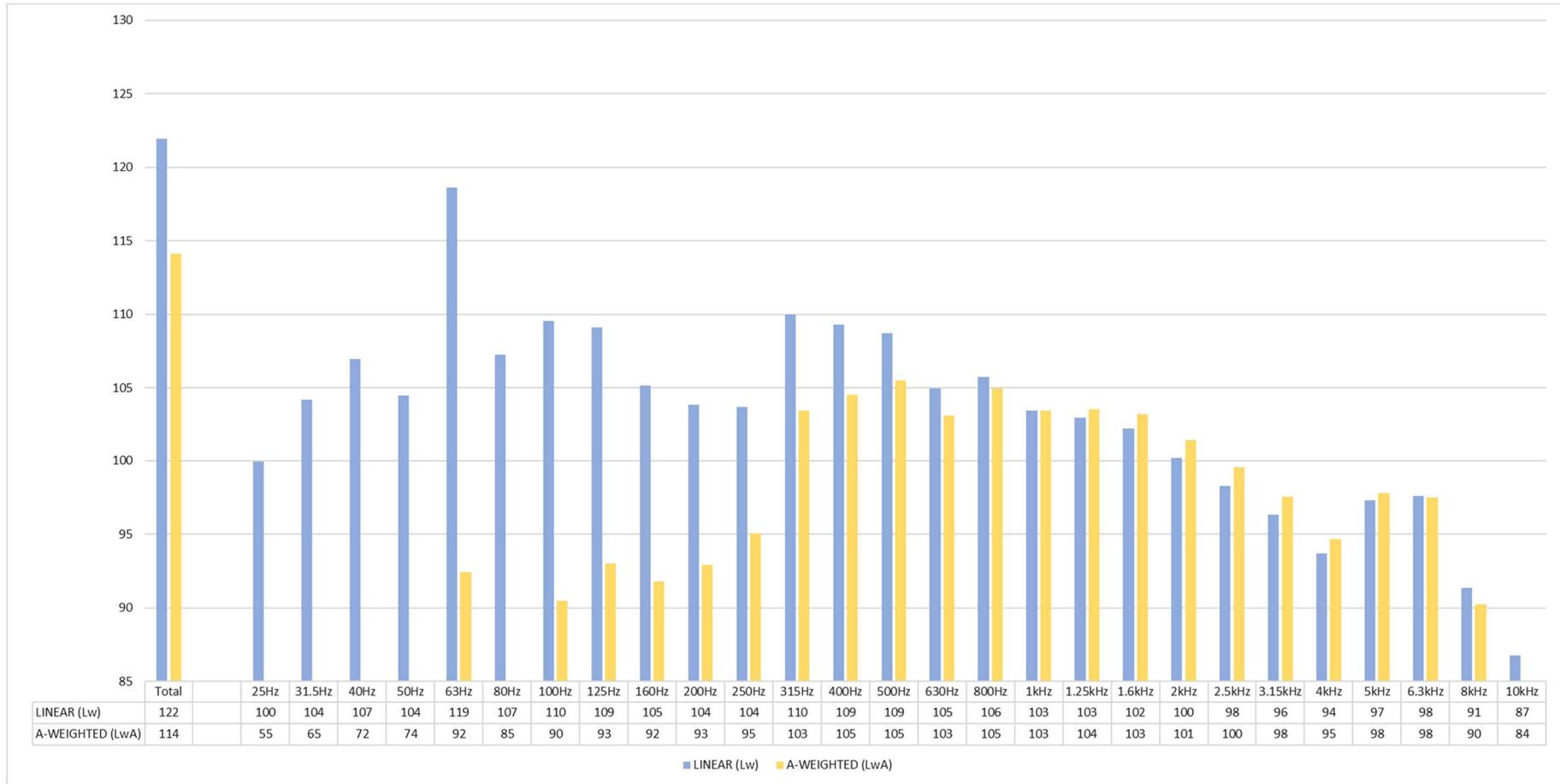


Figure 44: DT319 Dynamic Test Downhill

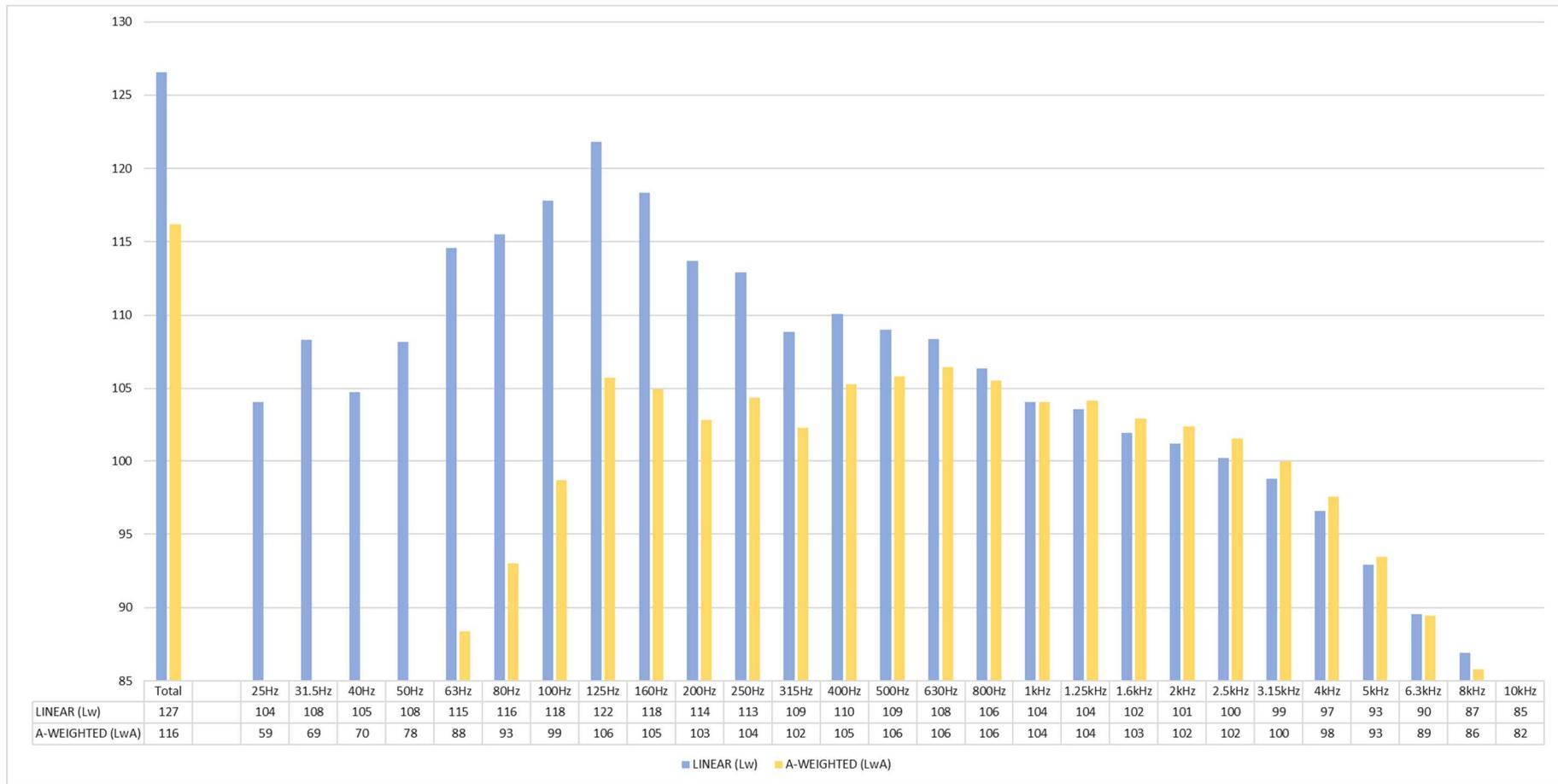


Figure 45: DT320 Stationary Test

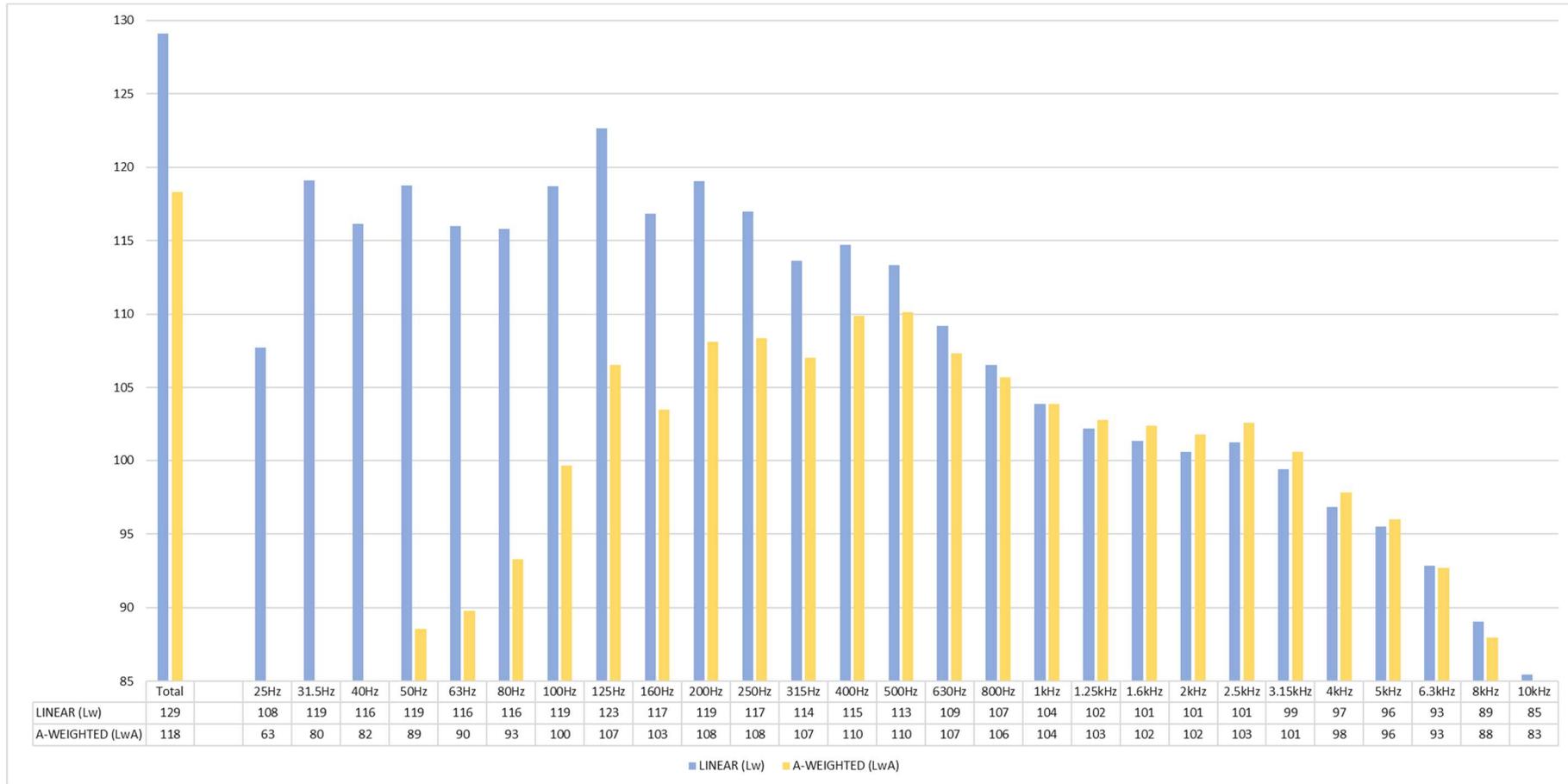


Figure 46: DT320 Dynamic Test Uphill

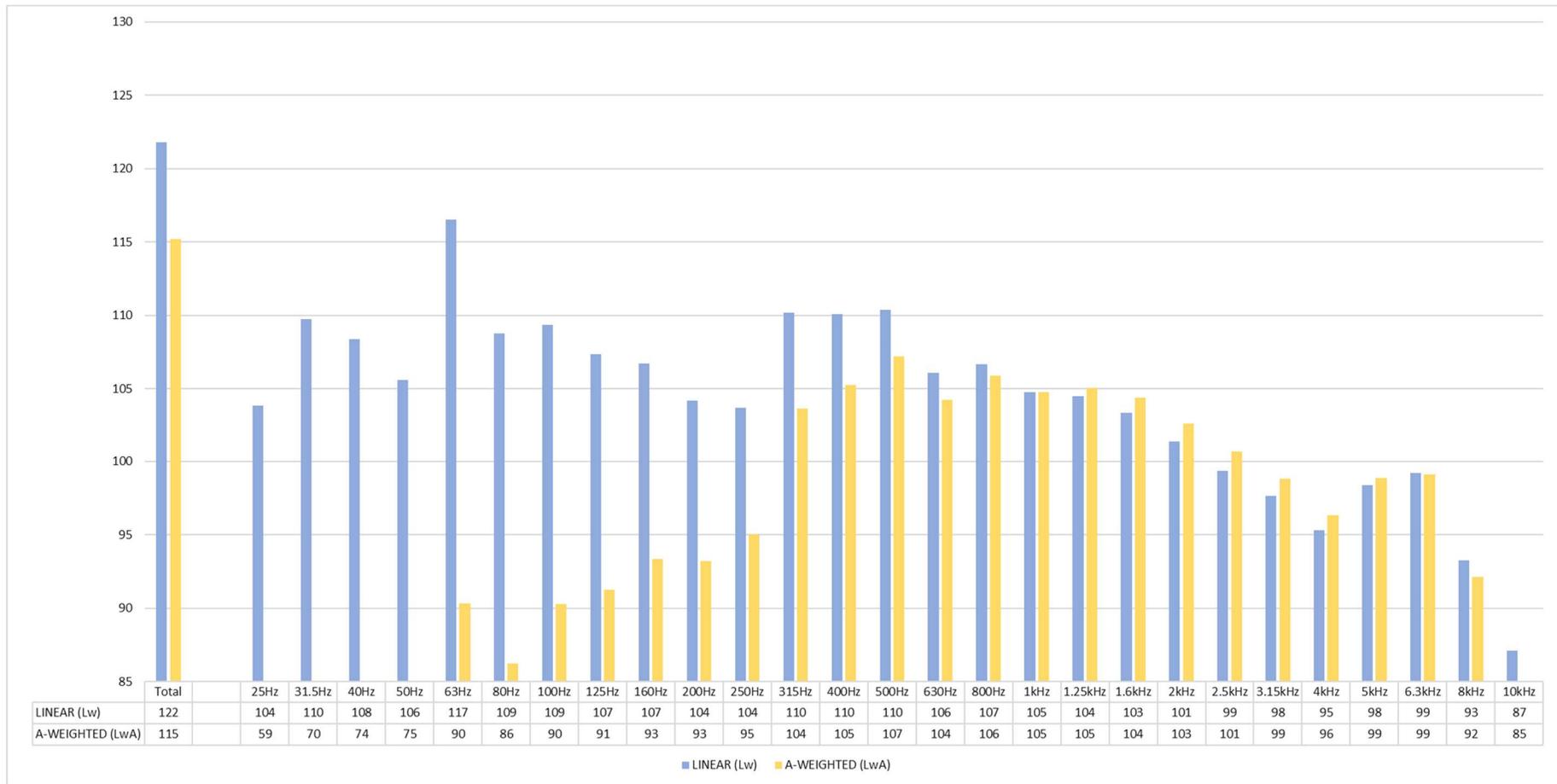


Figure 47: DT320 Dynamic Test Downhill

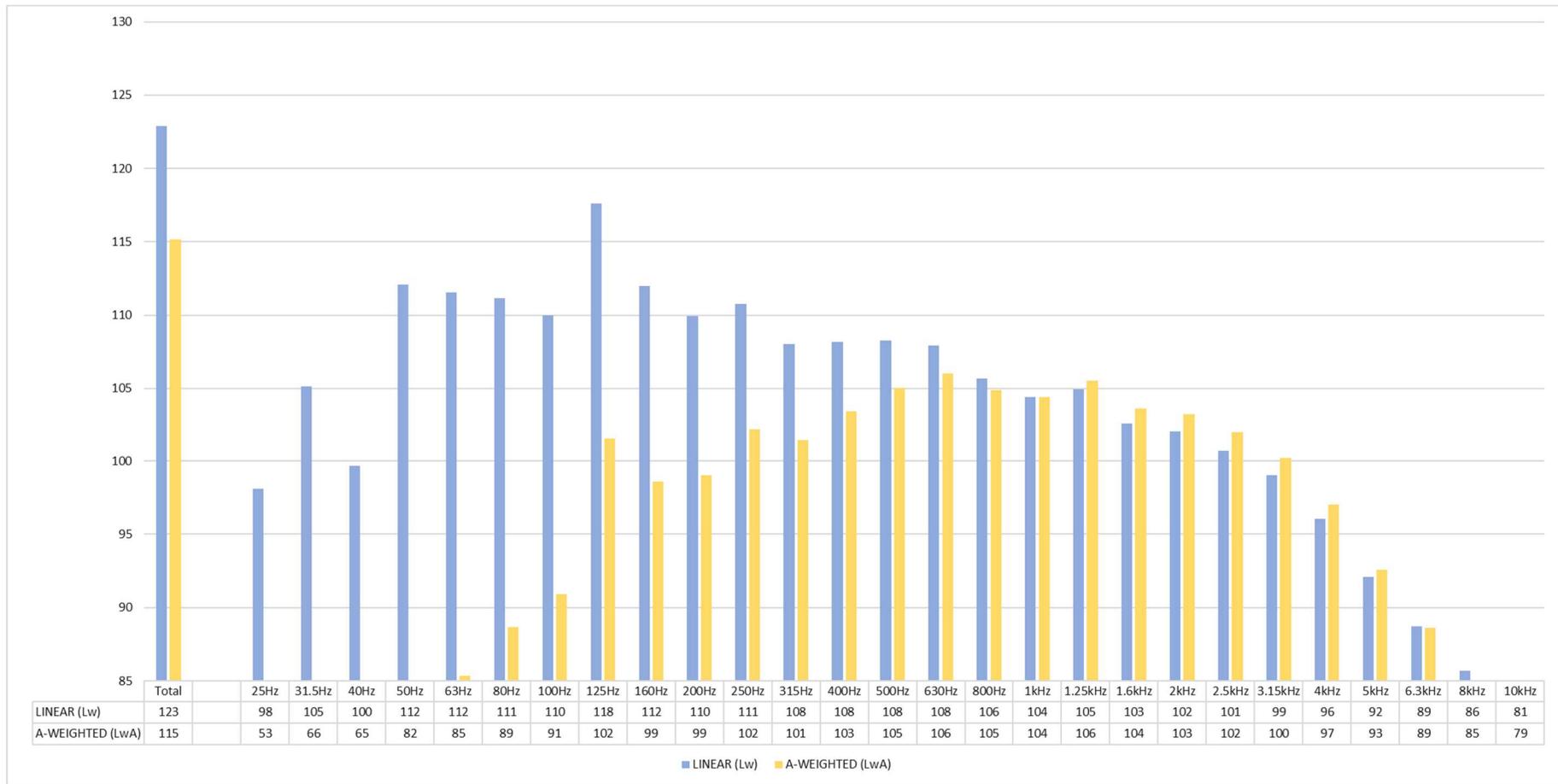


Figure 48: DT32I Stationary Test

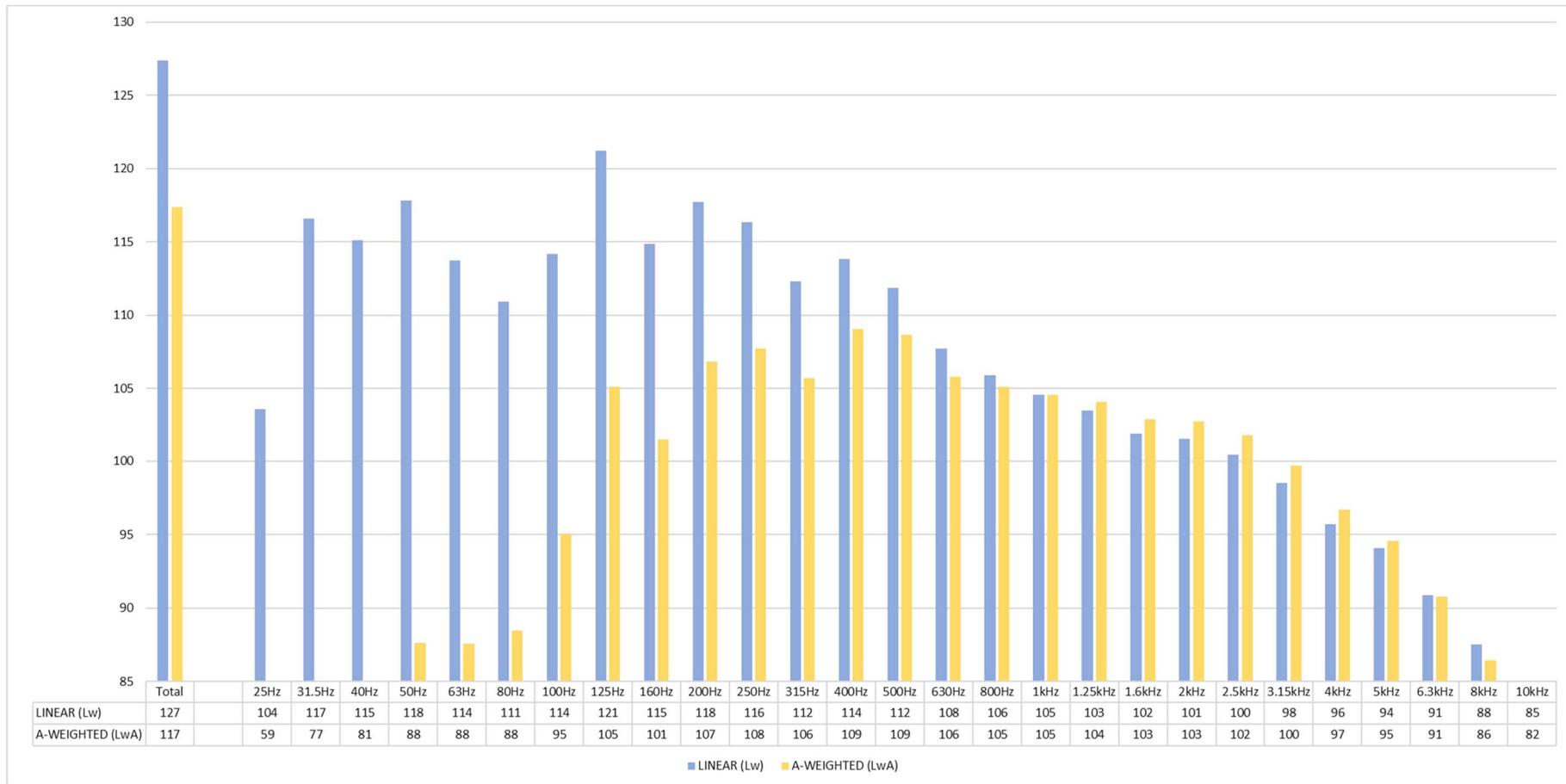


Figure 49: DT32I Dynamic Test Uphill

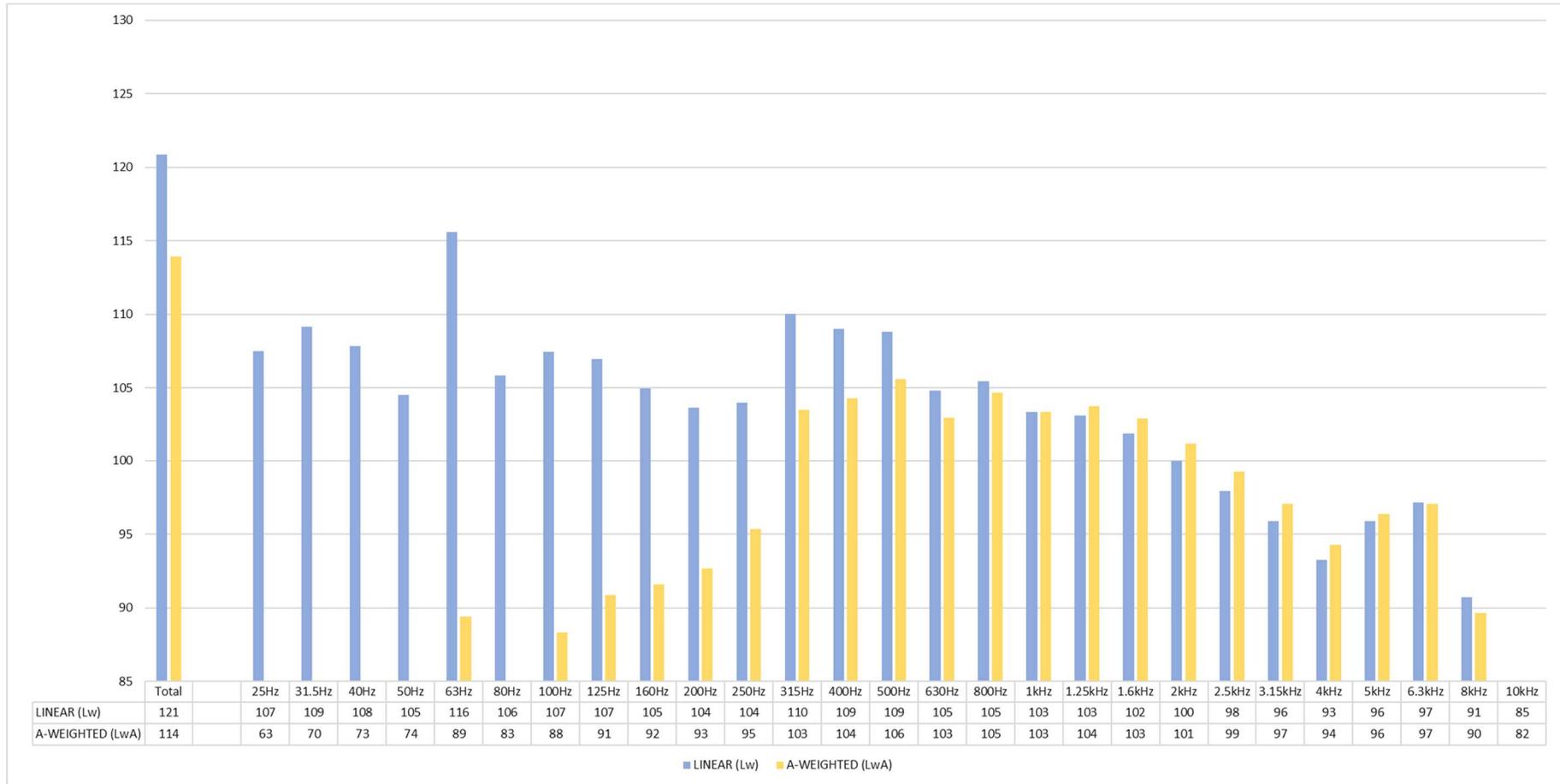


Figure 50: DT321 Dynamic Test Downhill

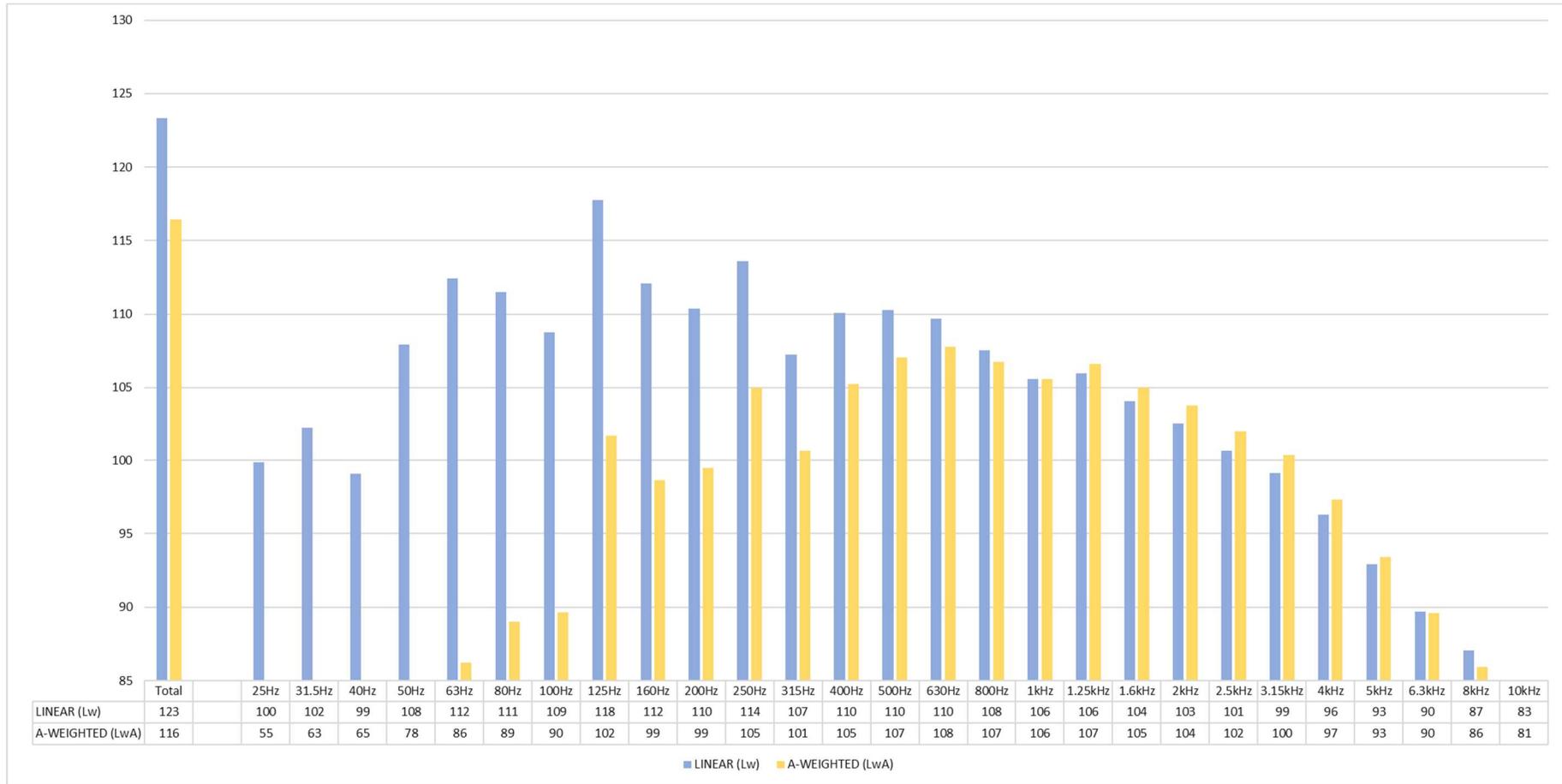


Figure 51: DT322 Stationary Test

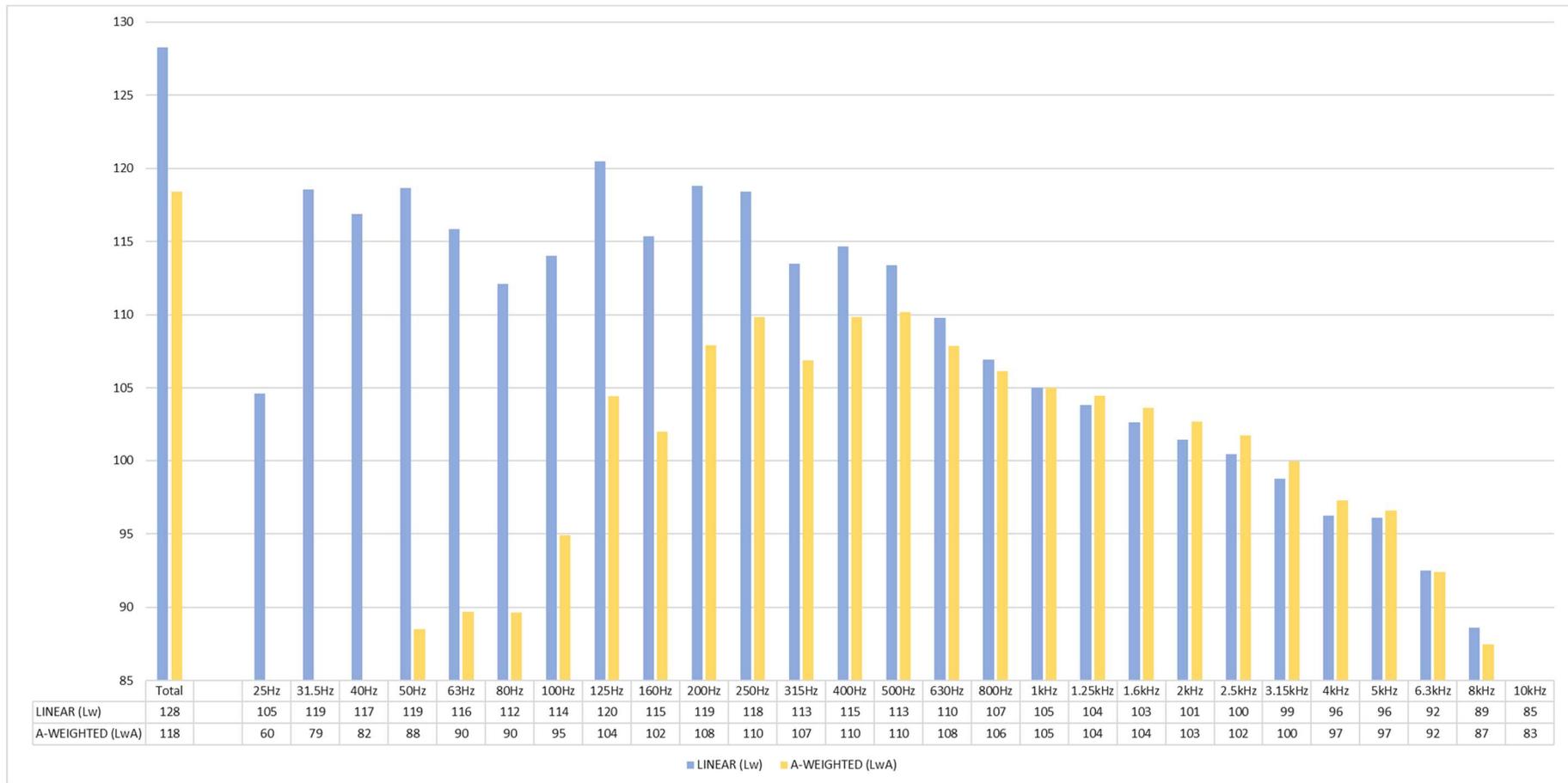


Figure 52: DT322 Dynamic Test Uphill

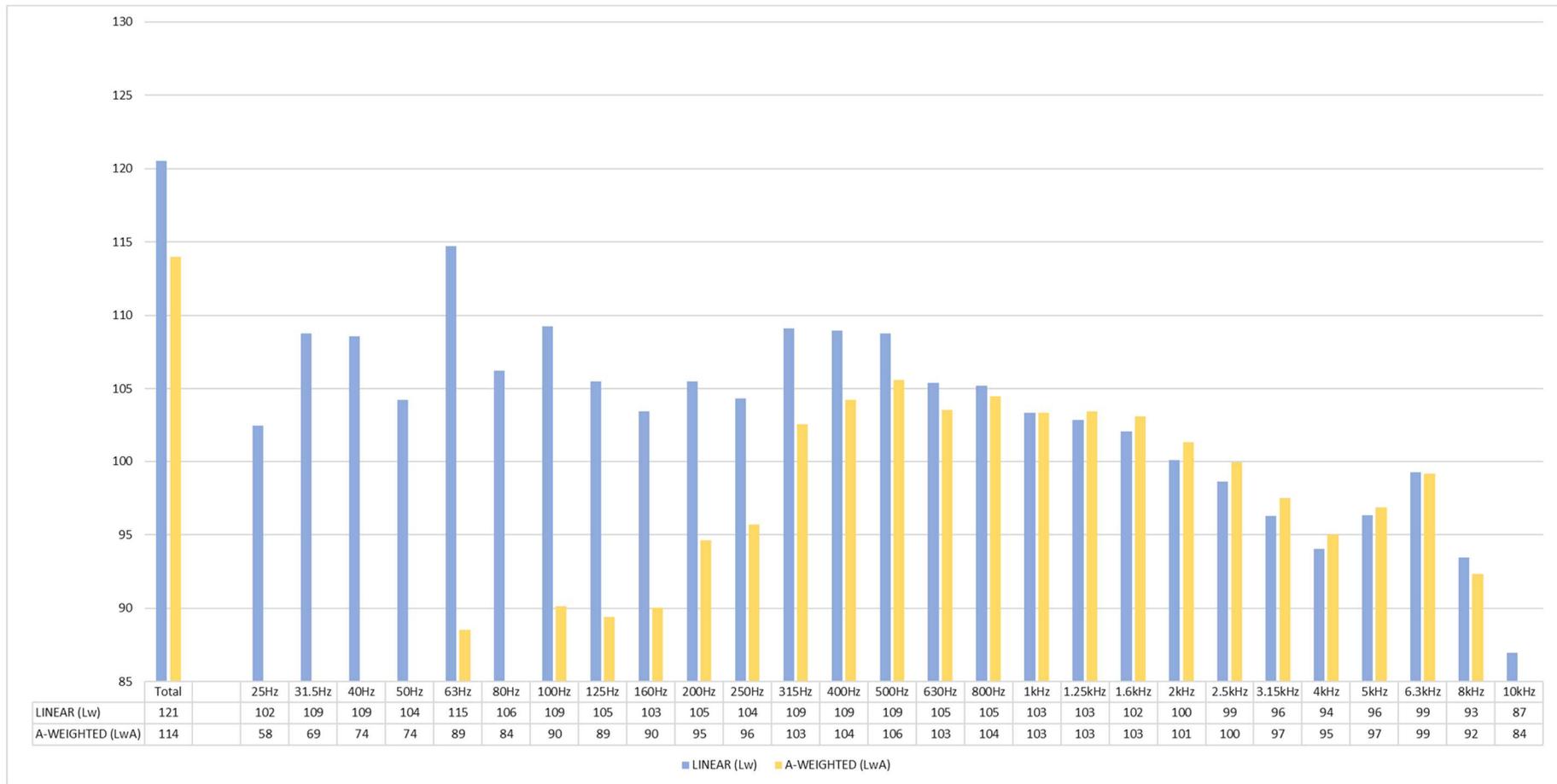


Figure 53: DT322 Dynamic Test Downhill

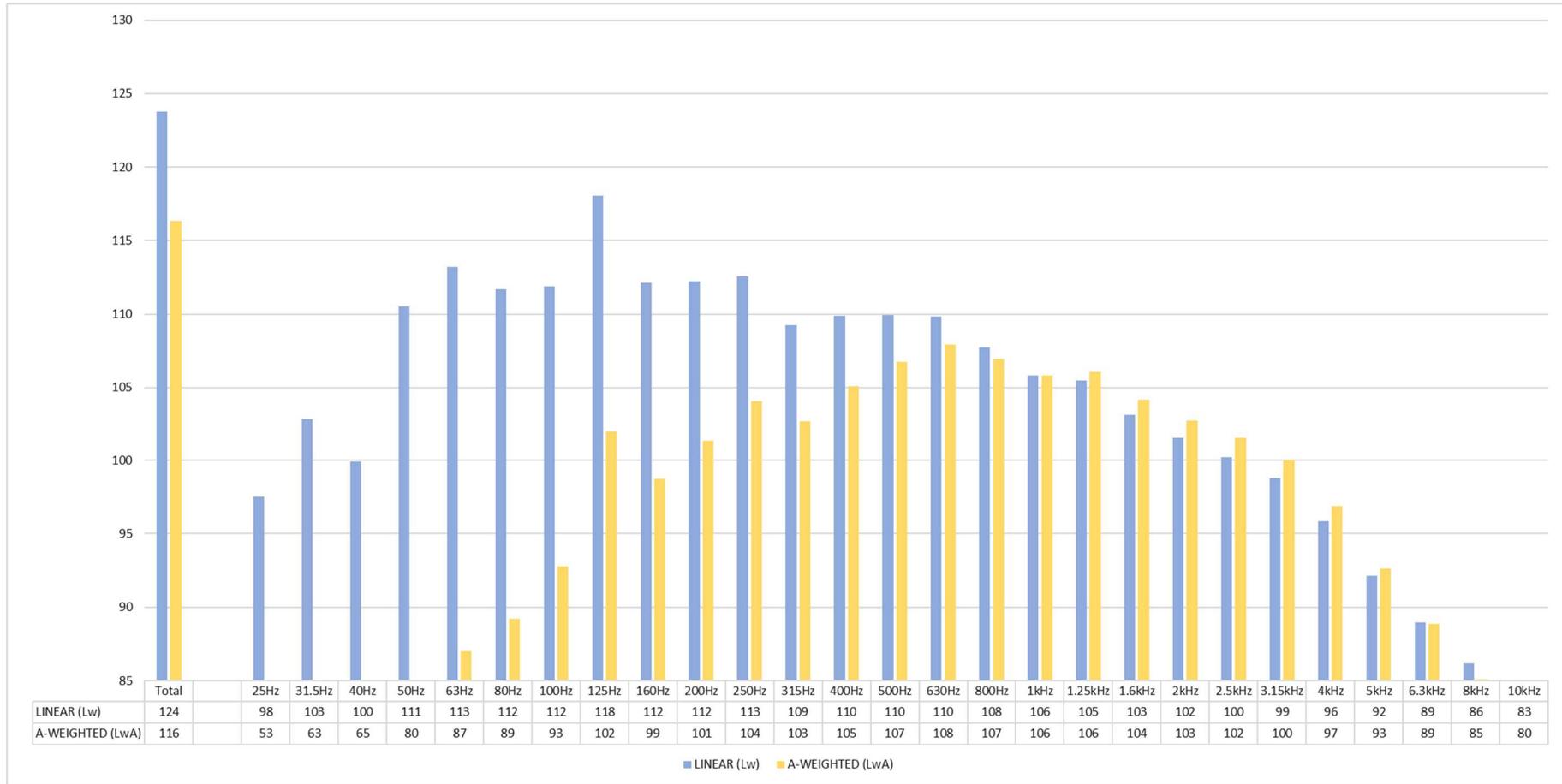


Figure 54: DT324 Stationary Test

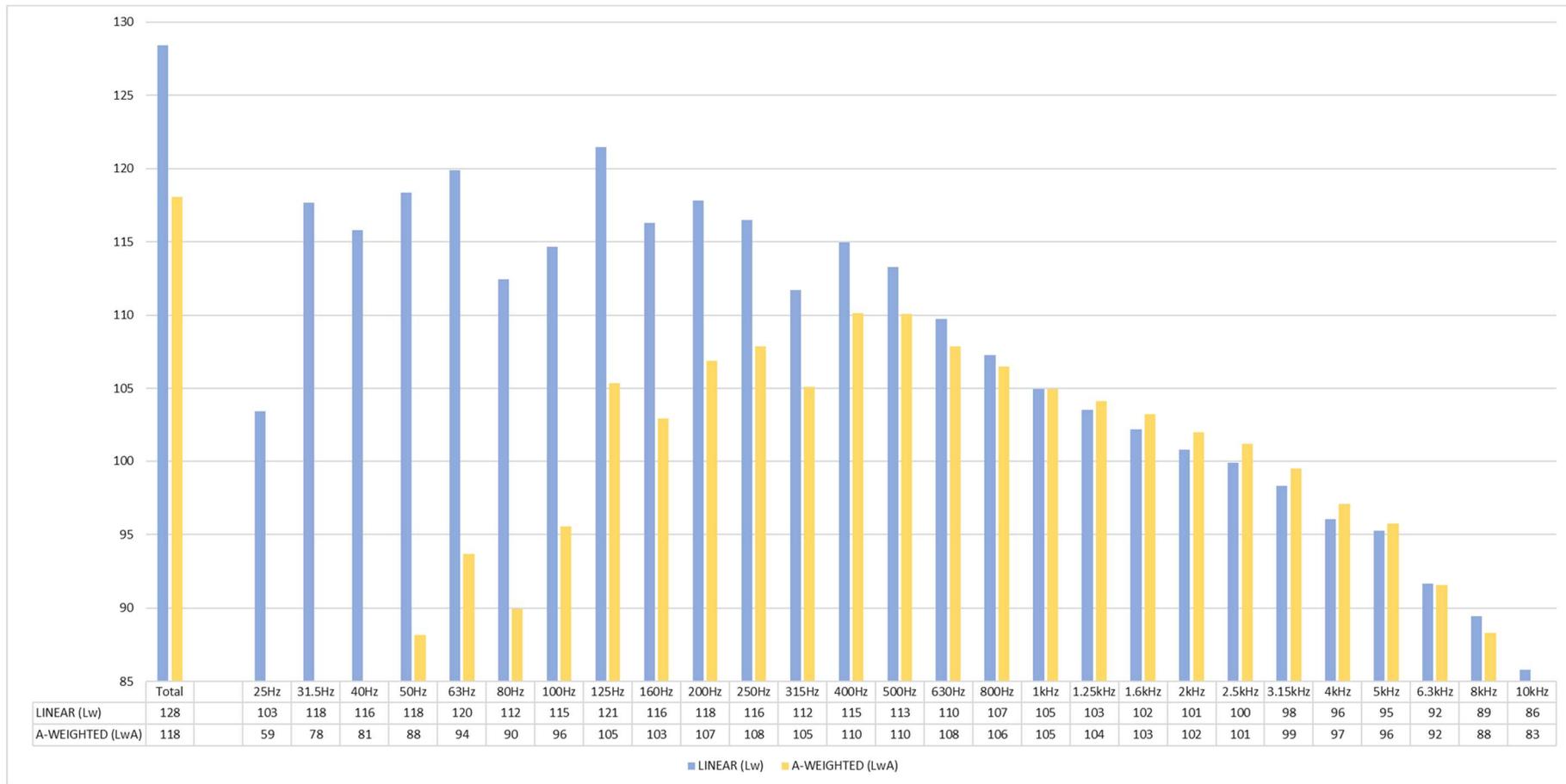


Figure 55: DT324 Dynamic Test Uphill

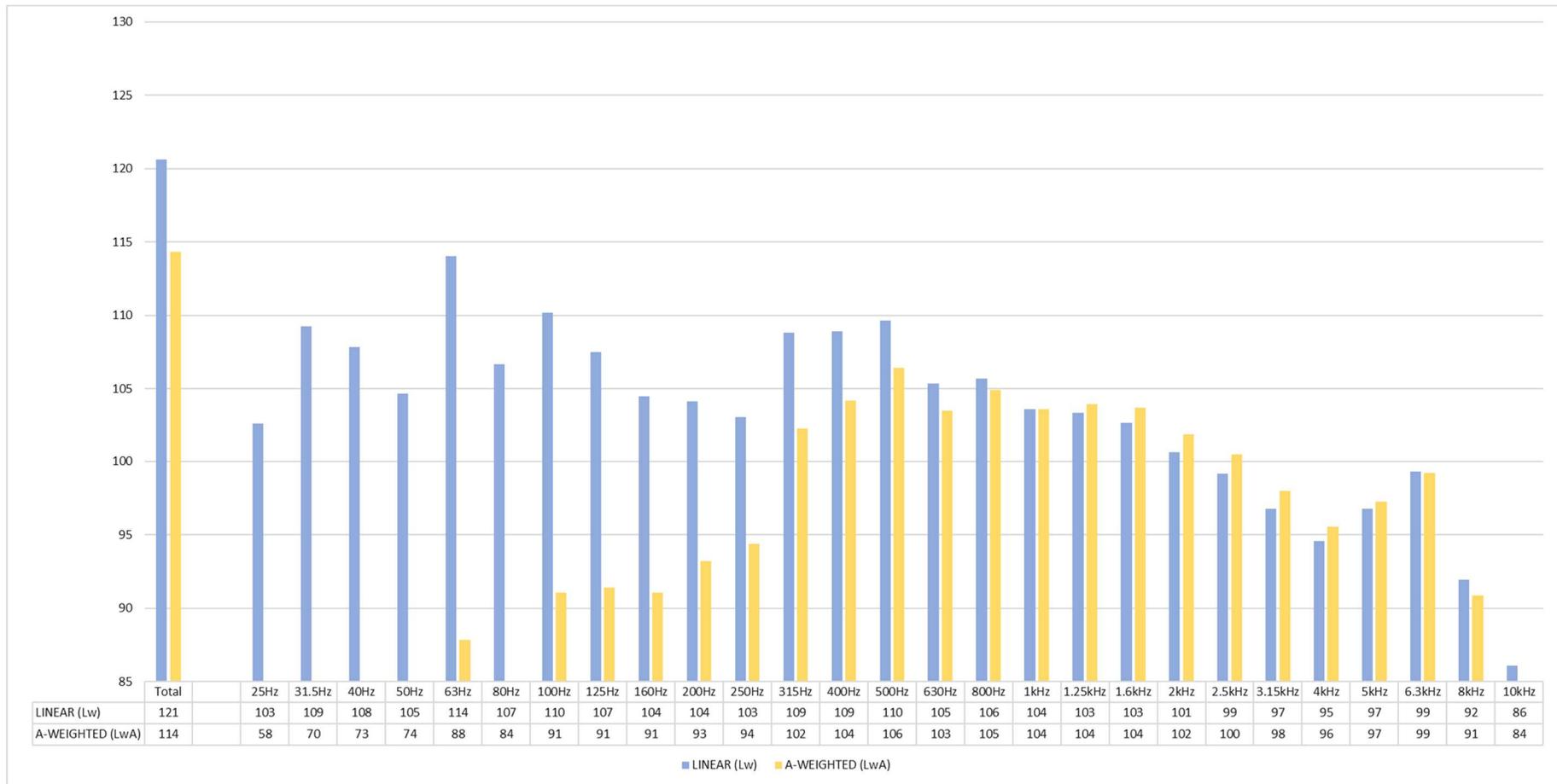


Figure 56: DT324 Dynamic Test Downhill

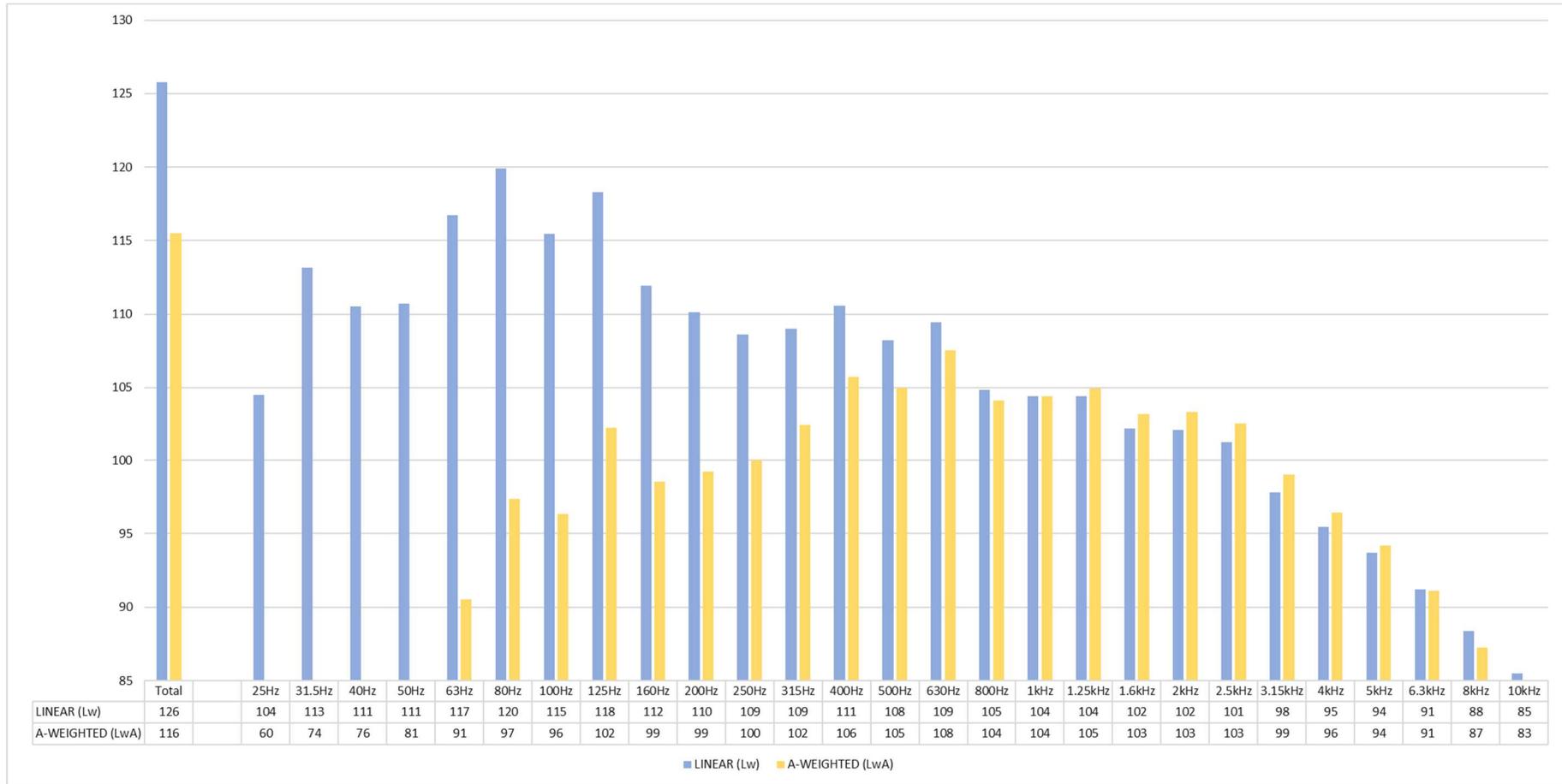


Figure 57: DT720 Stationary Test

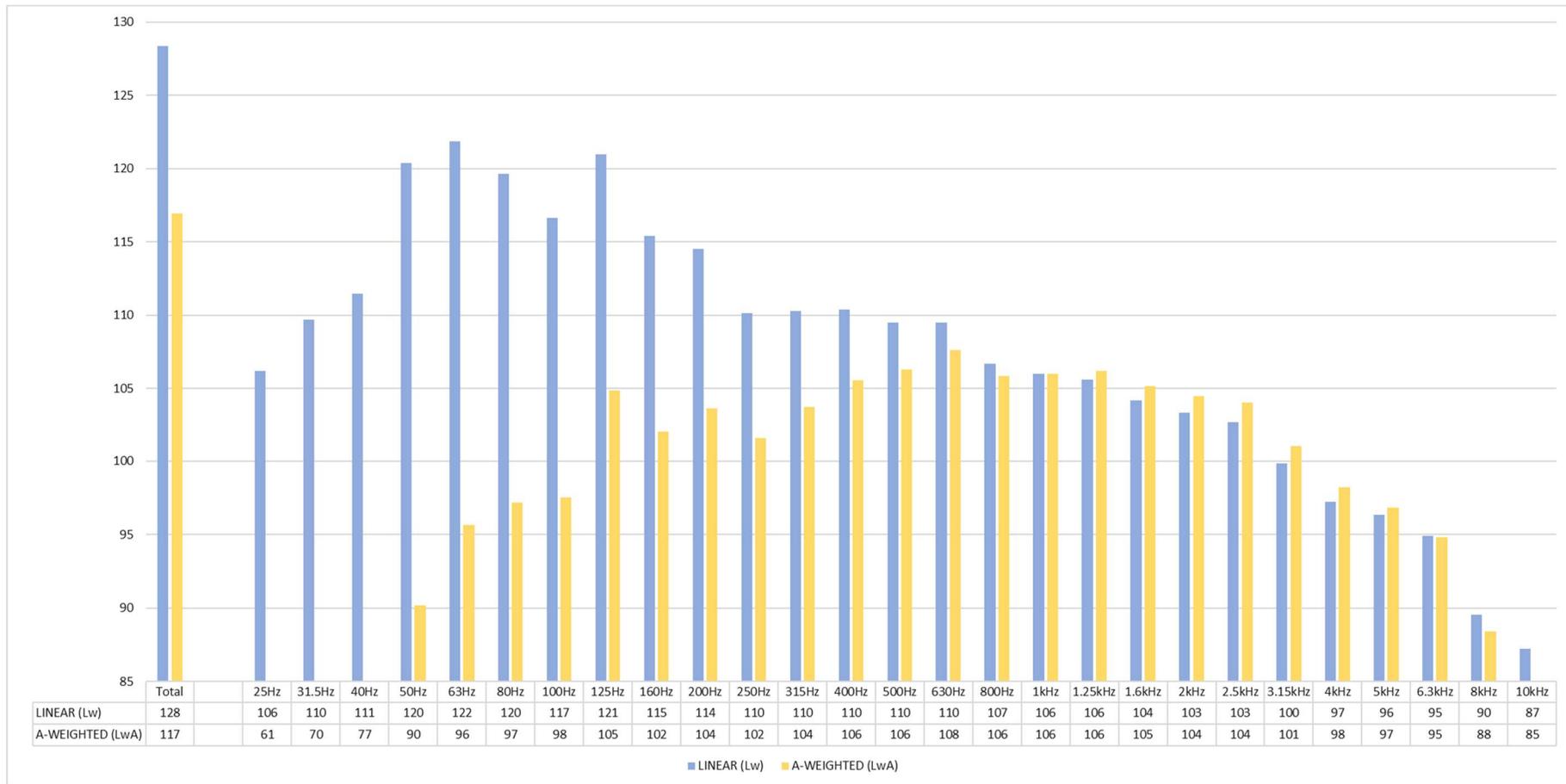


Figure 58: DT720 Dynamic Test Uphill

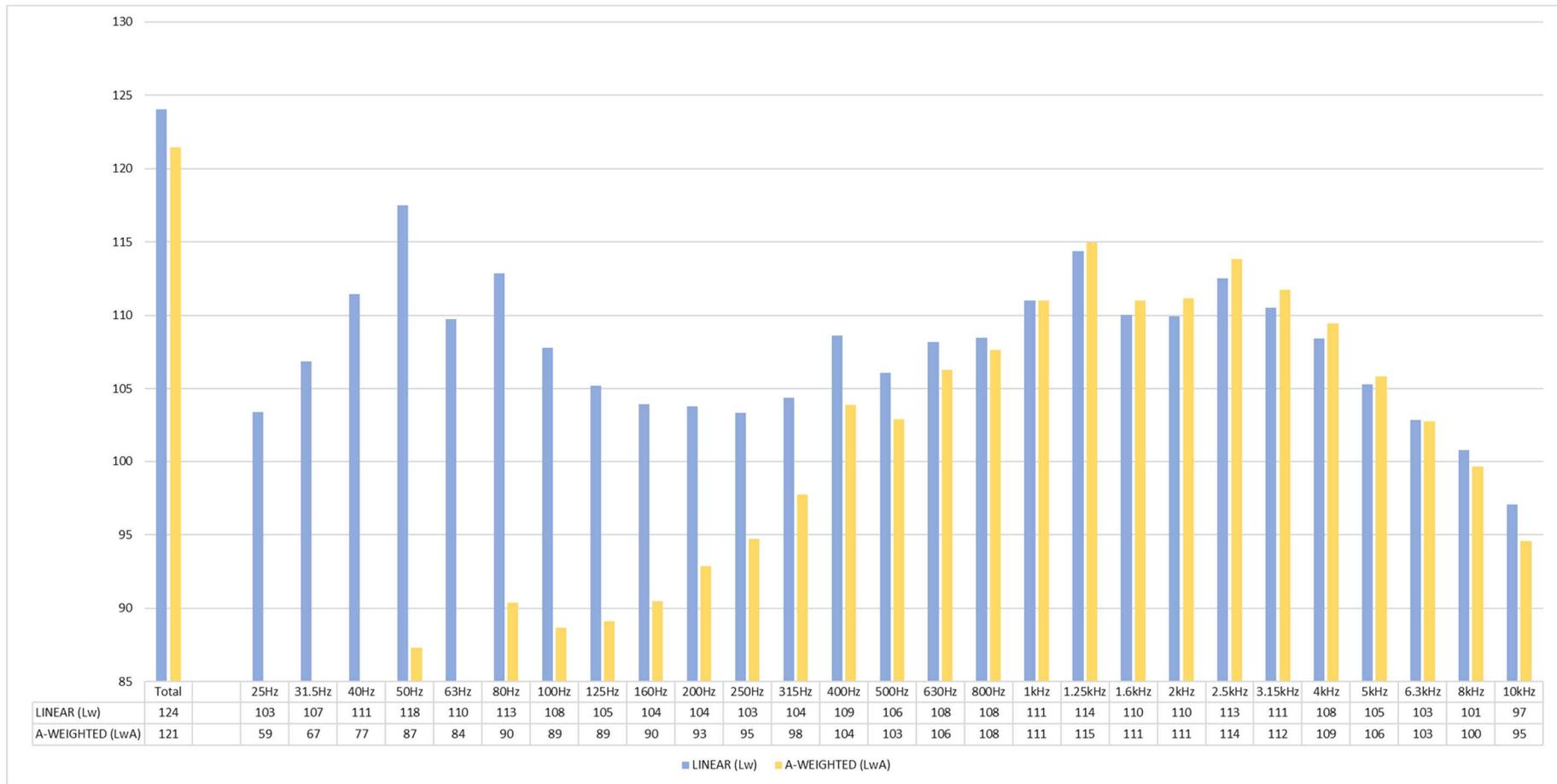


Figure 59: DT720 Dynamic Test Downhill

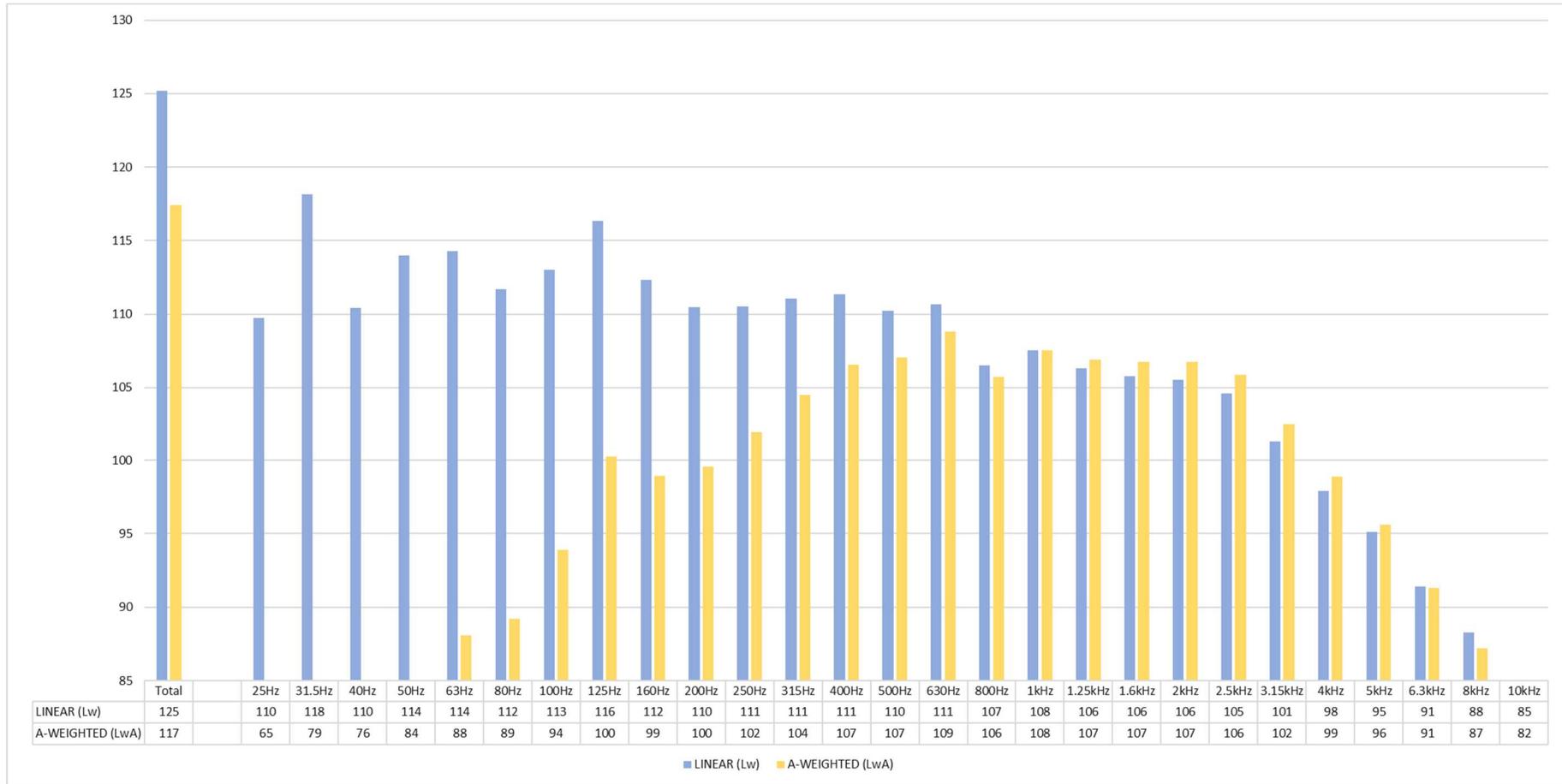


Figure 60: DT72I Stationary Test

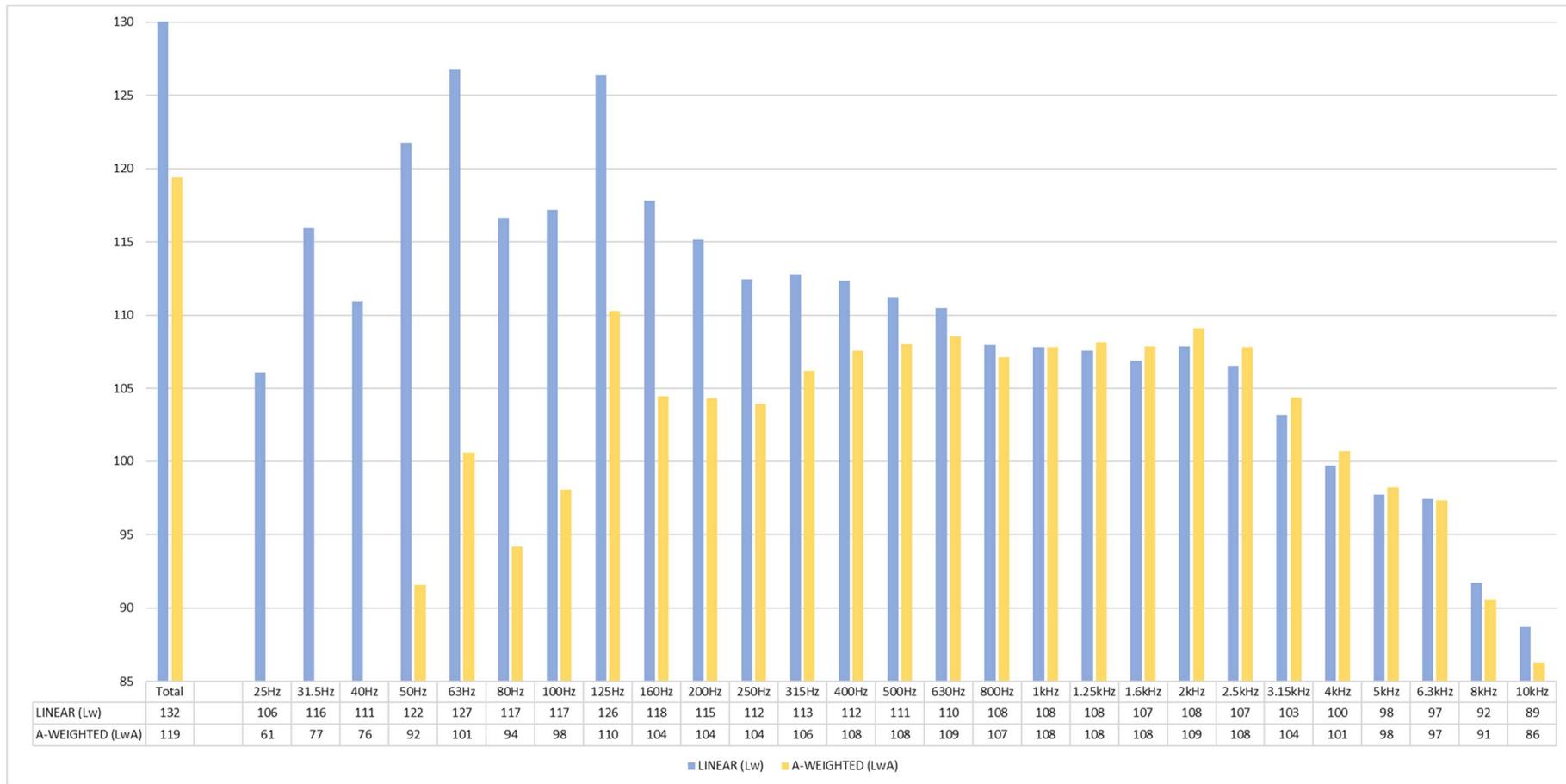


Figure 61: DT721 Dynamic Test Uphill

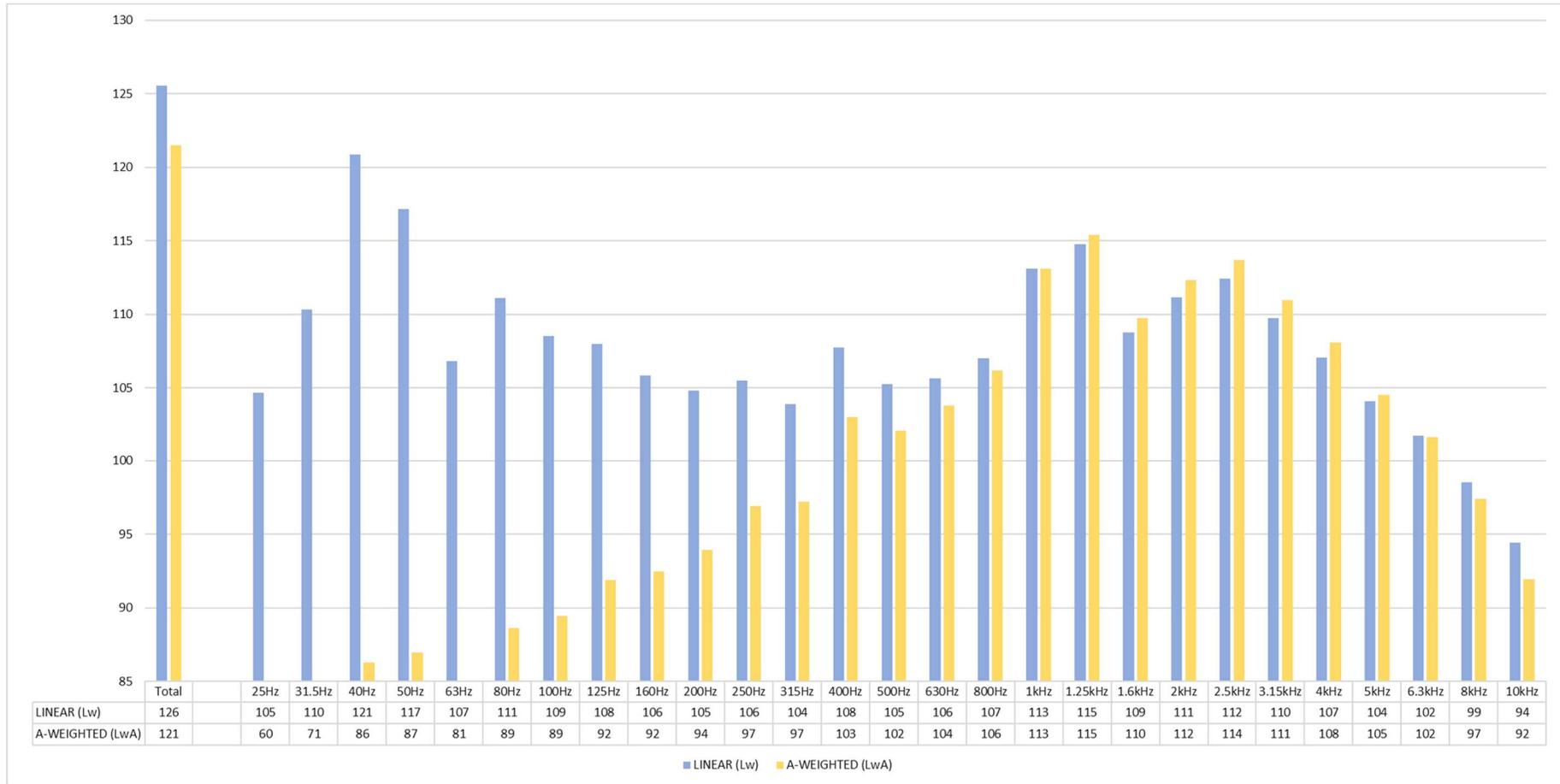


Figure 62: DT721 Dynamic Test Downhill

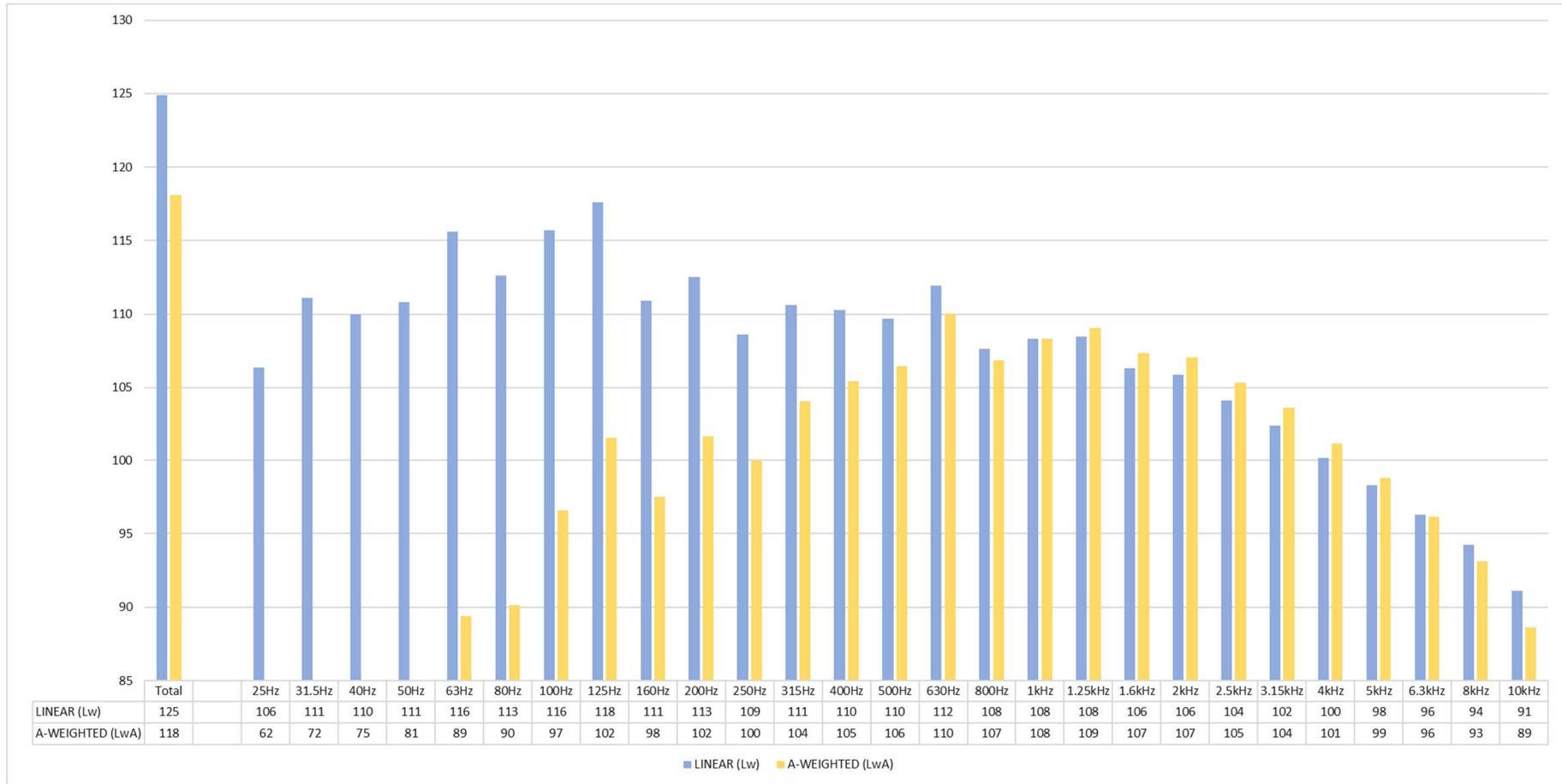


Figure 63: DT722 Stationary Test

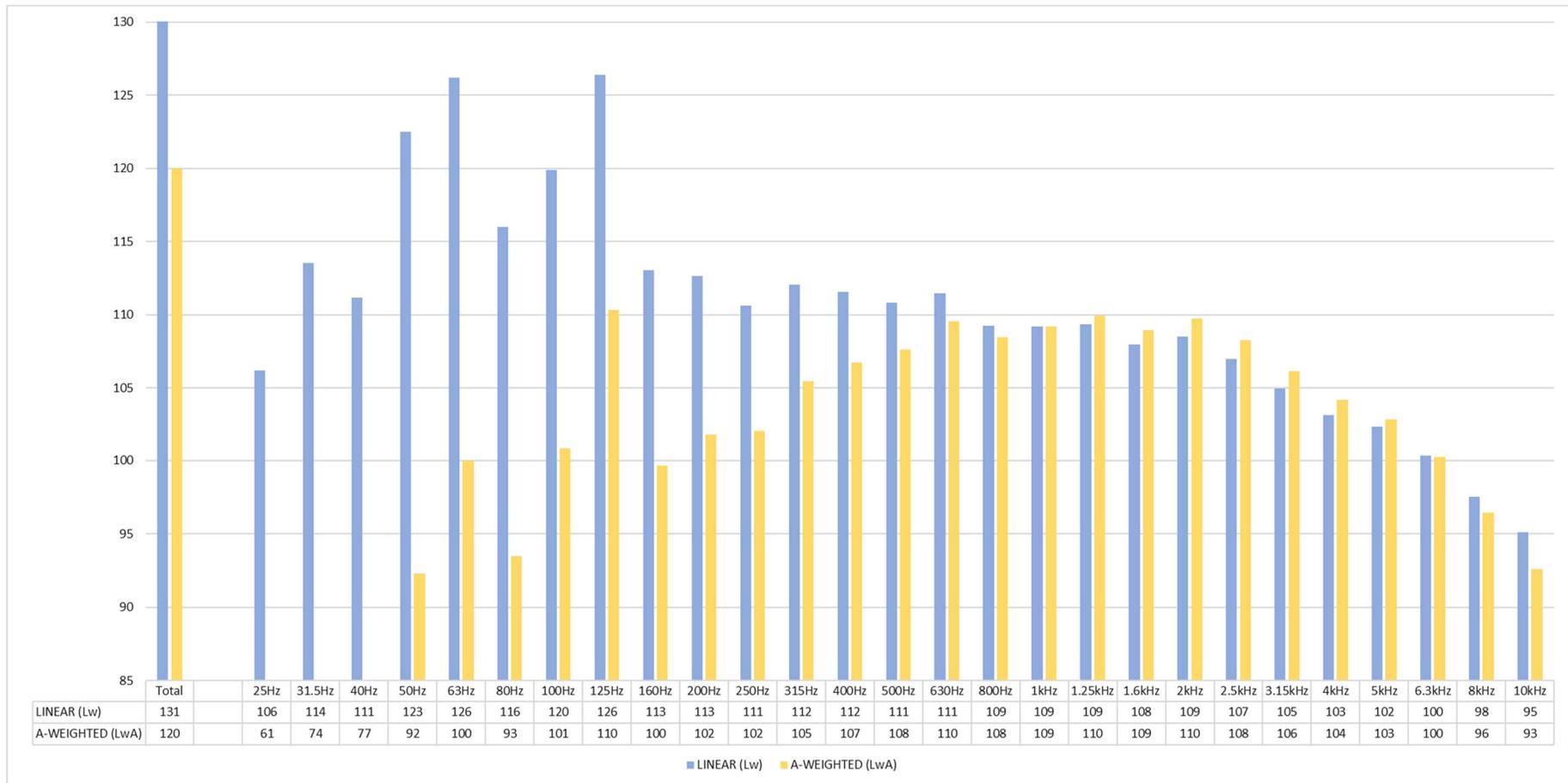


Figure 64: DT722 Dynamic Test Uphill

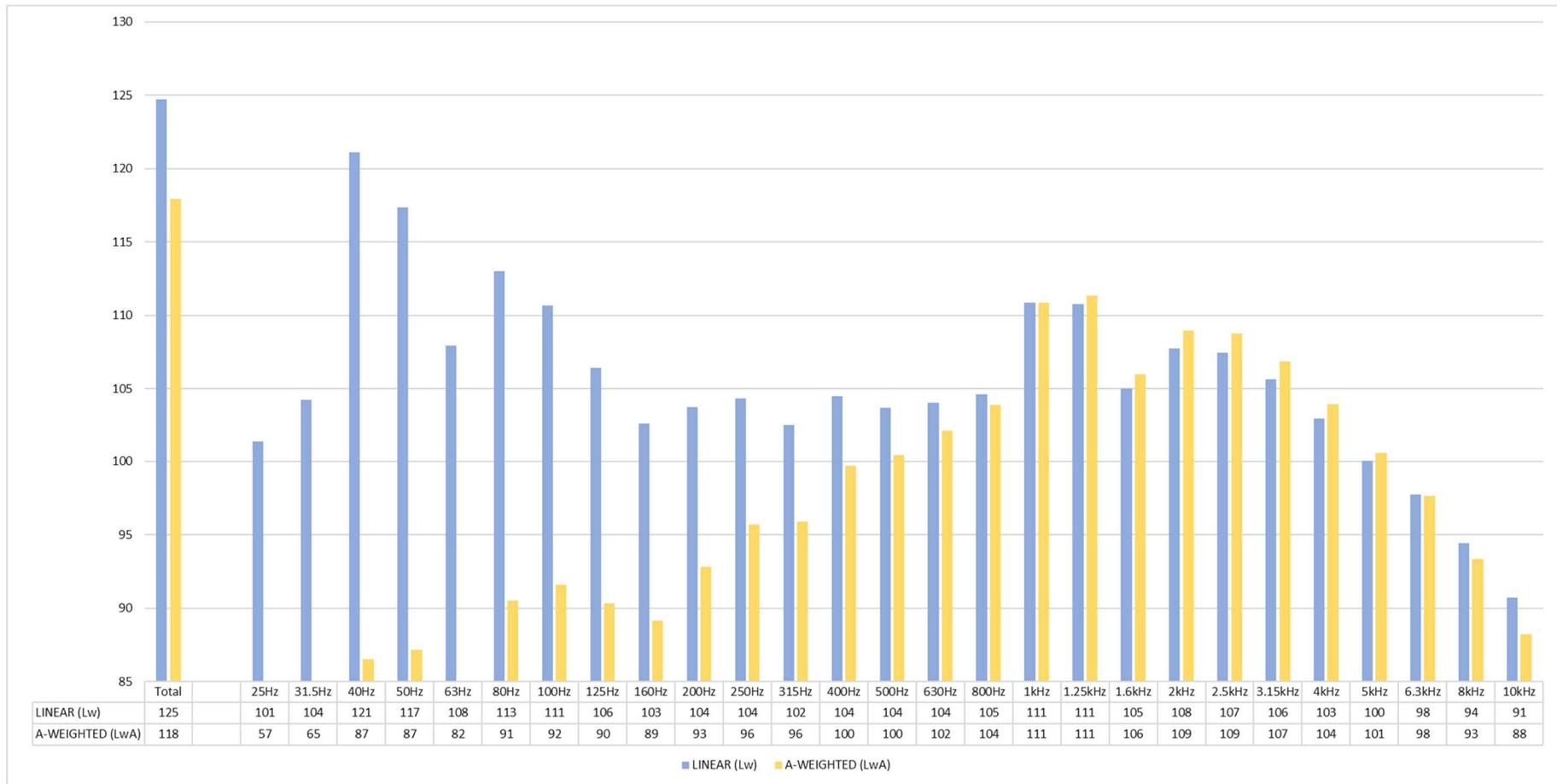


Figure 65: DT722 Dynamic Test Downhill

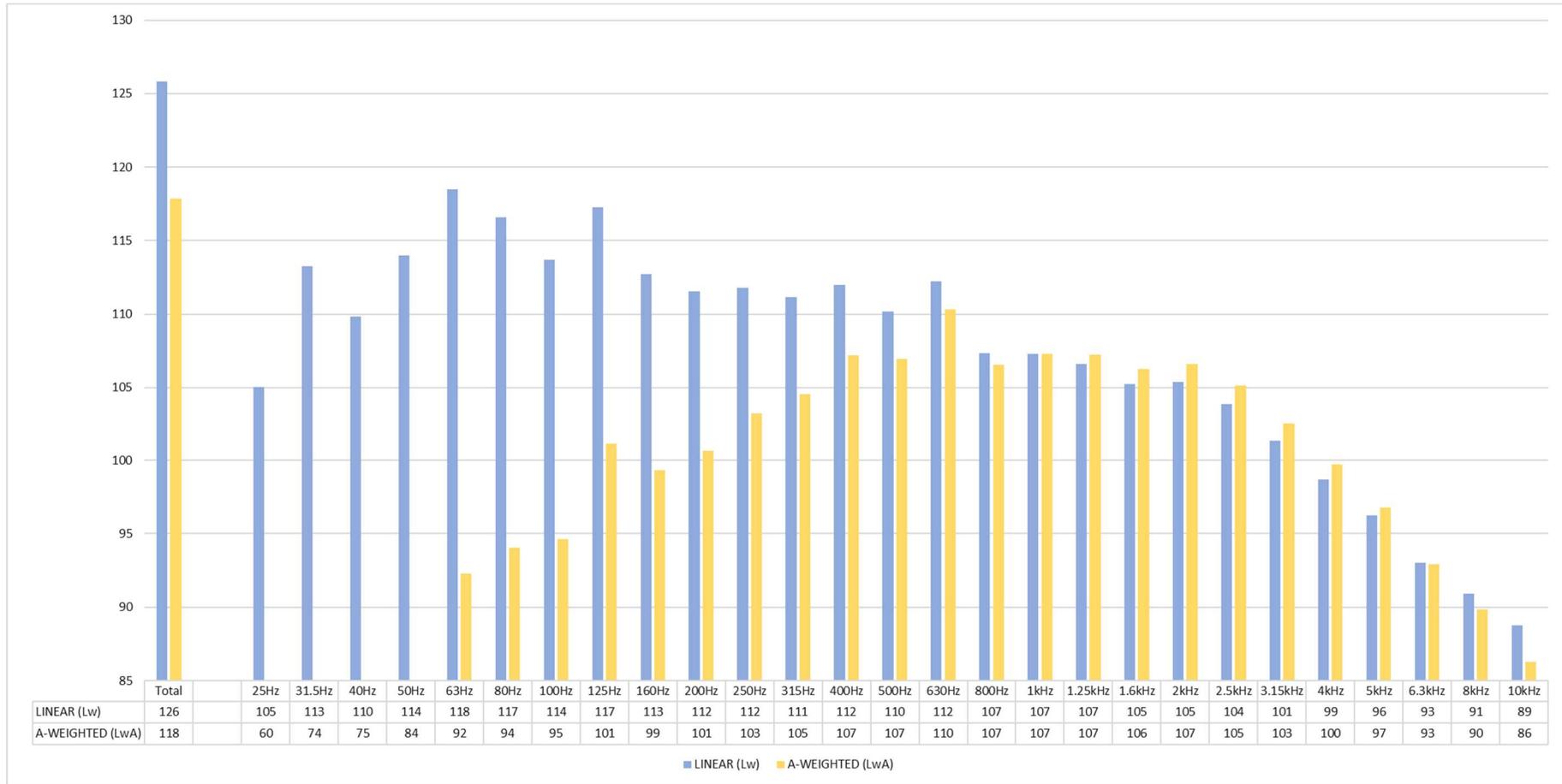


Figure 66: DT723 Stationary Test

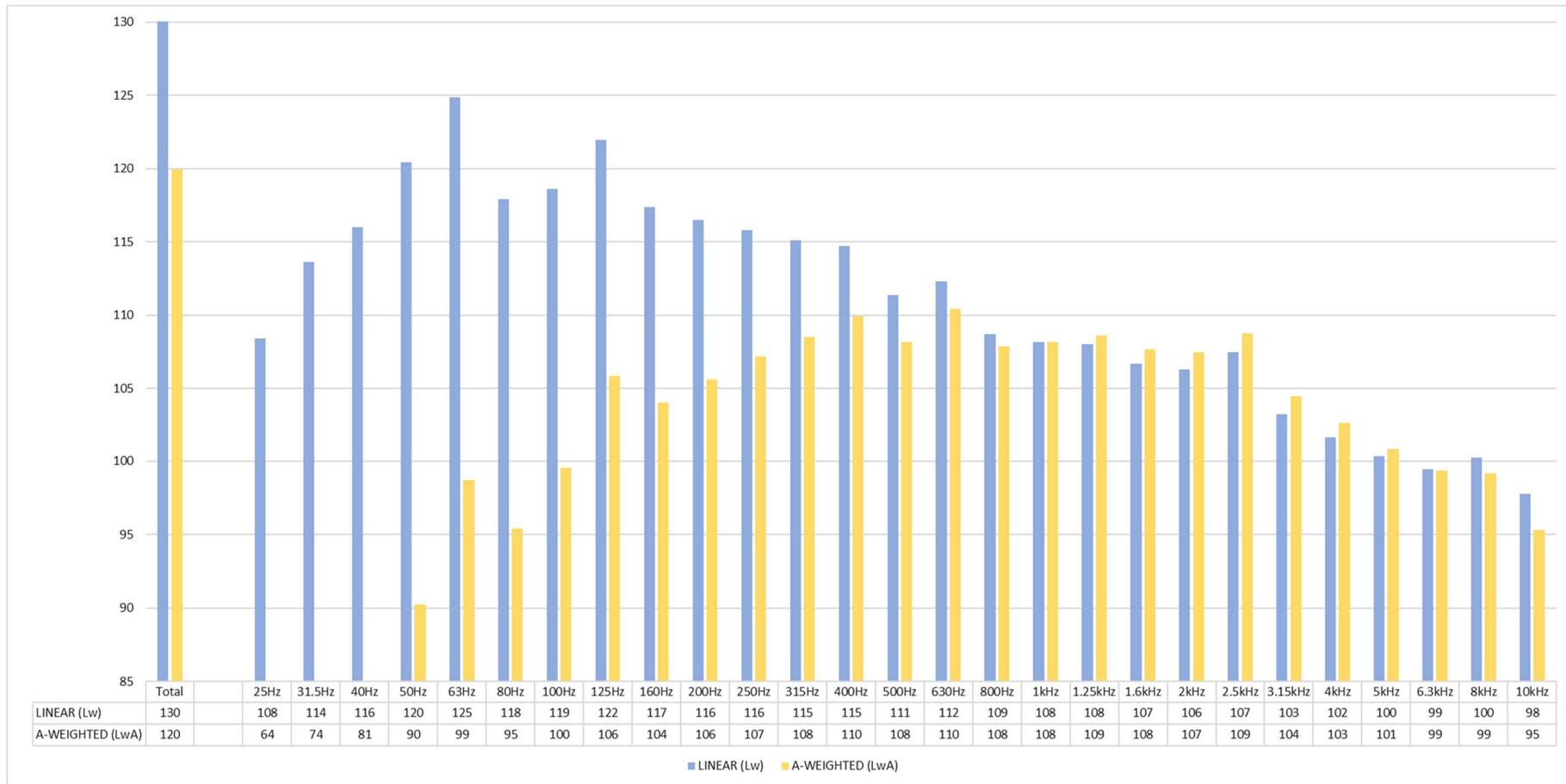


Figure 67: DT723 Dynamic Test Uphill

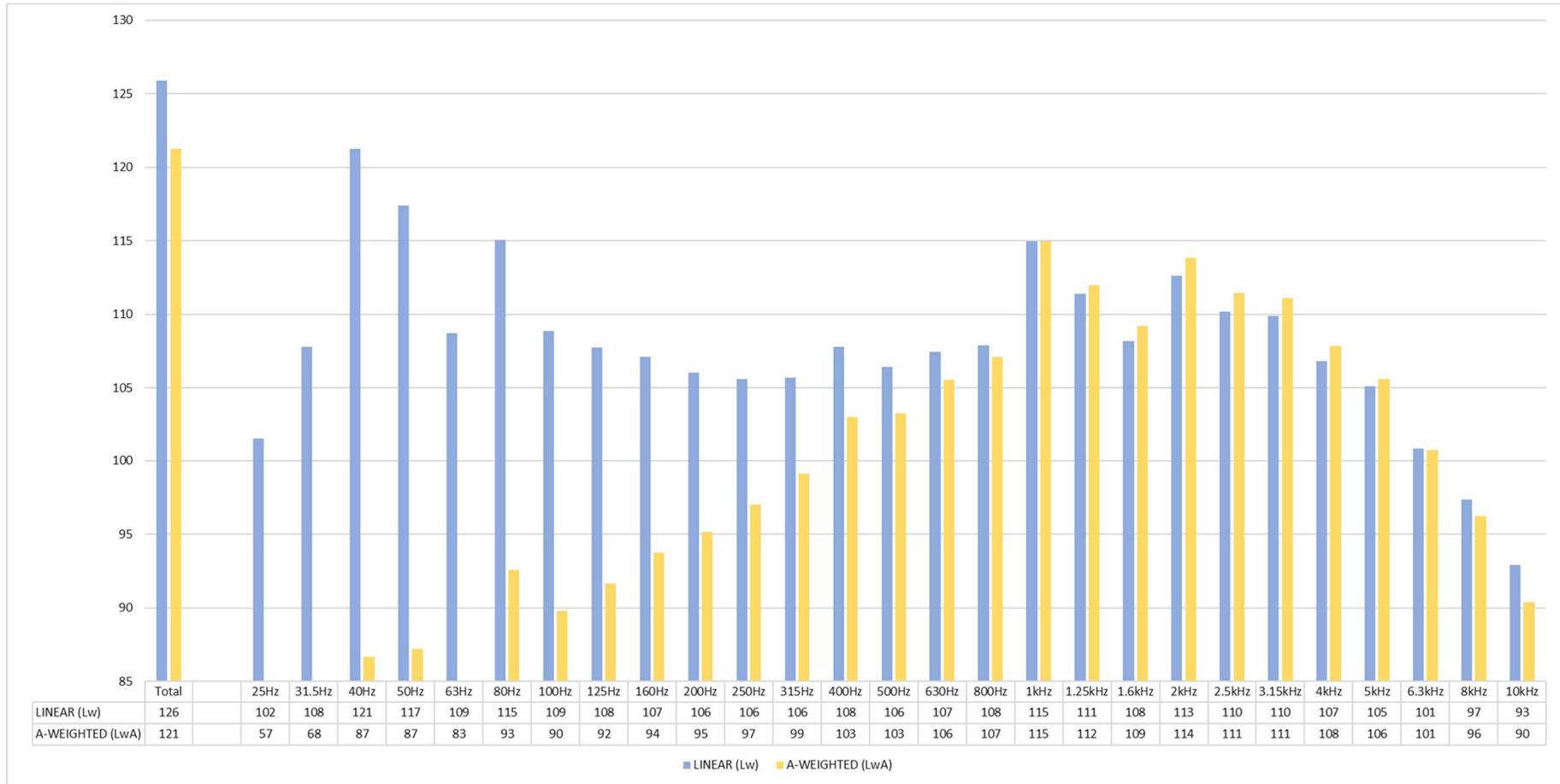


Figure 68: DT723 Dynamic Test Downhill

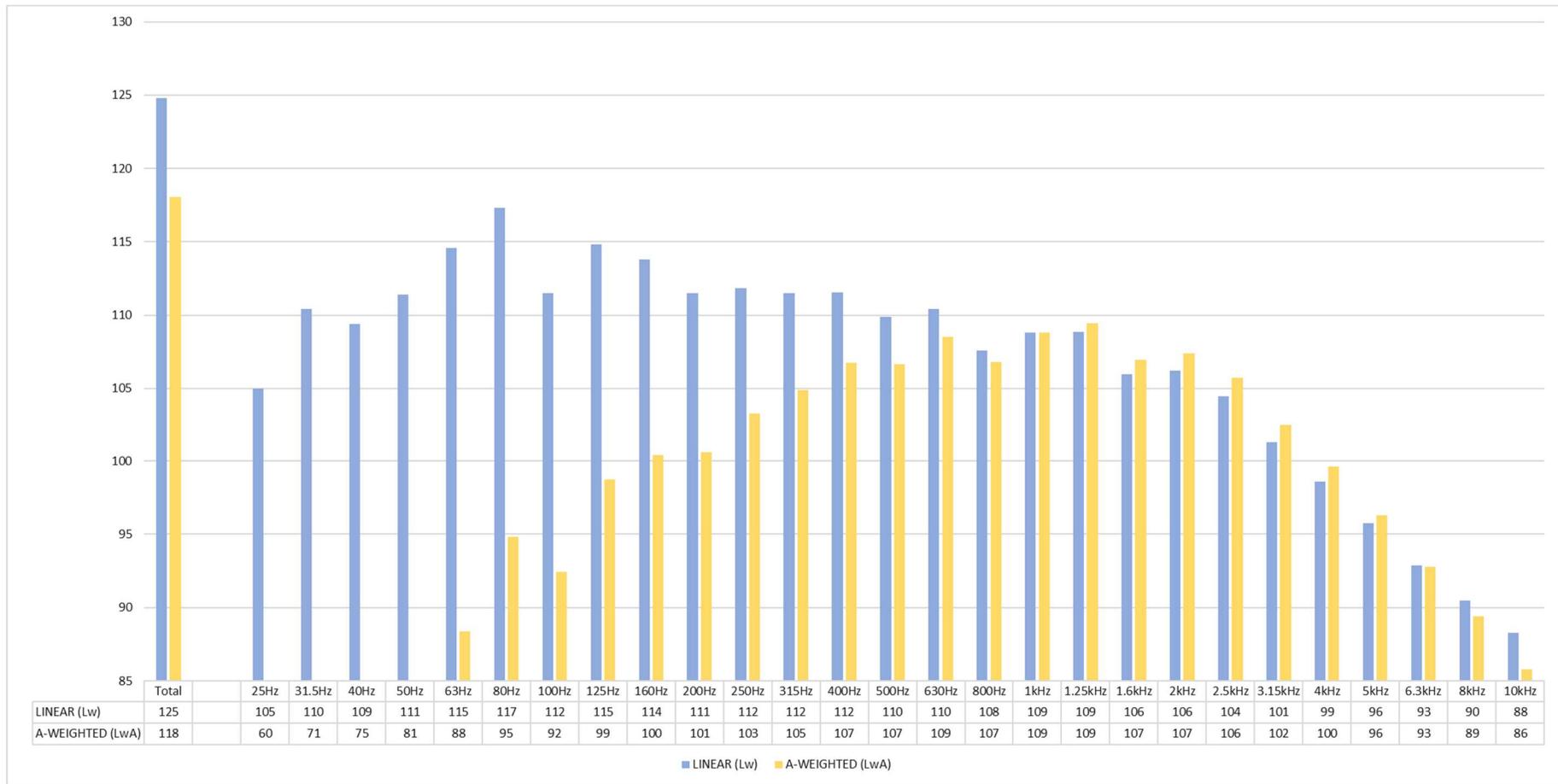


Figure 69: DT724 Stationary Test

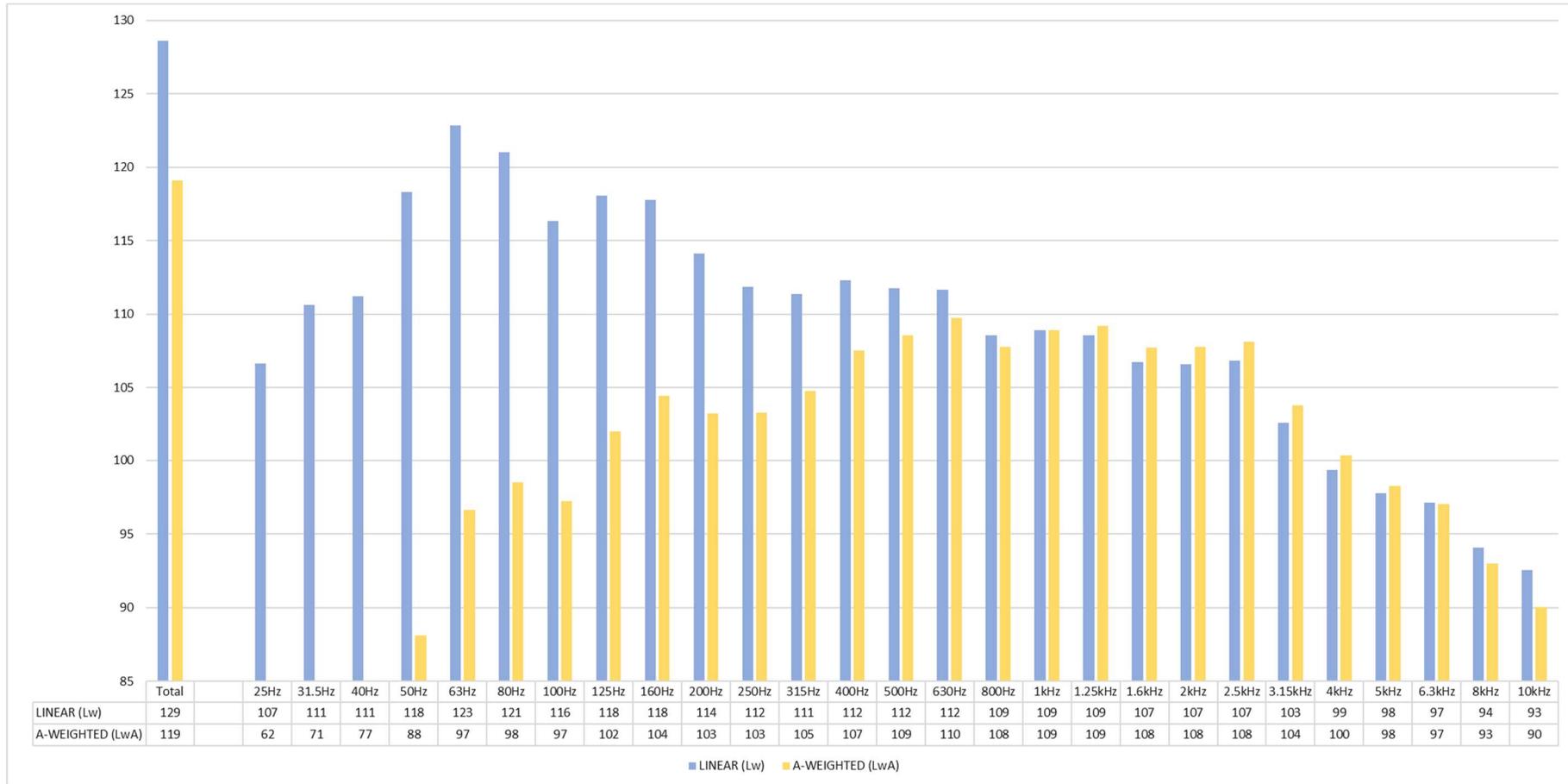


Figure 70: DT724 Dynamic Test Uphill

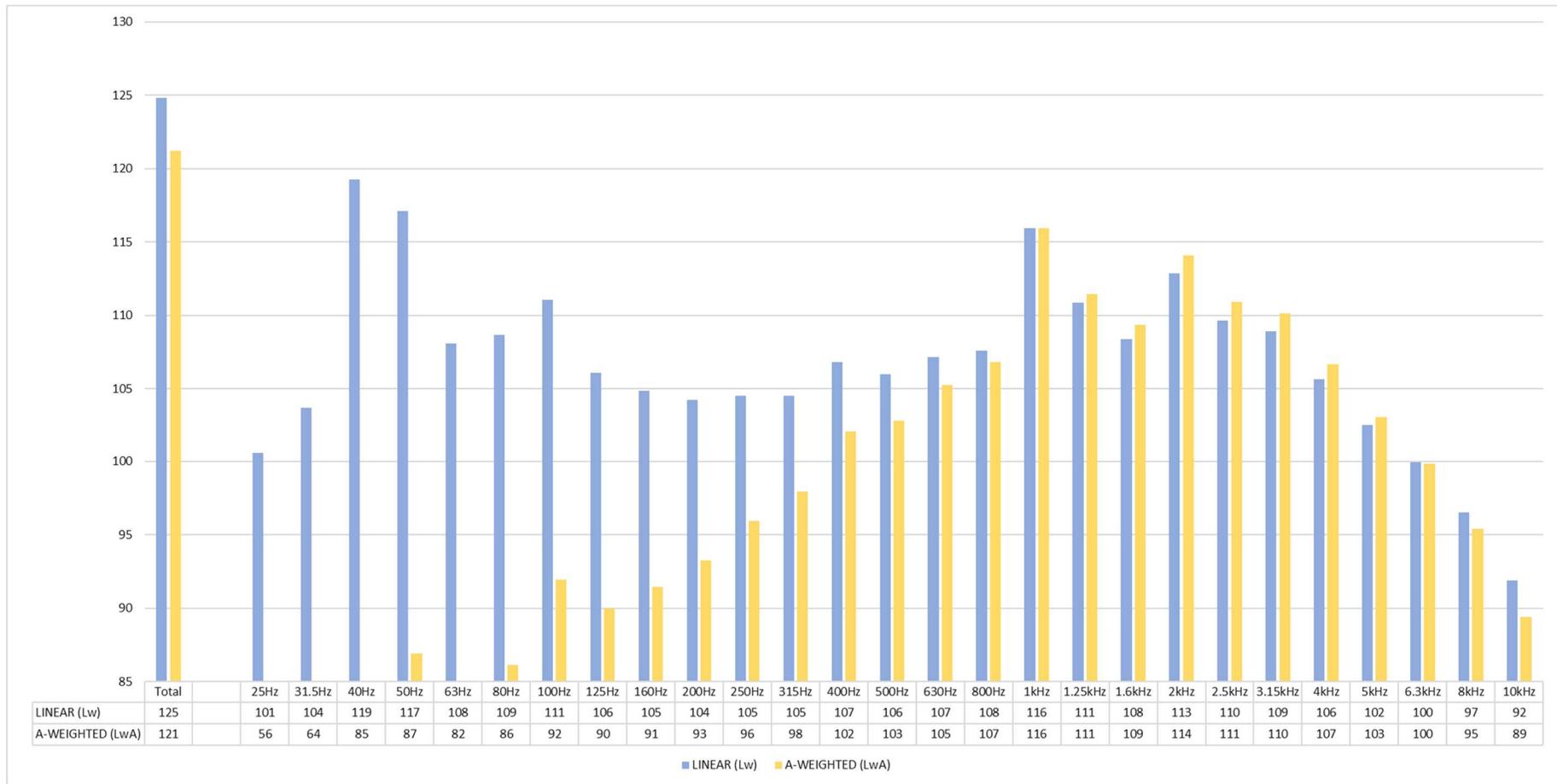


Figure 71: DT724 Dynamic Test Downhill

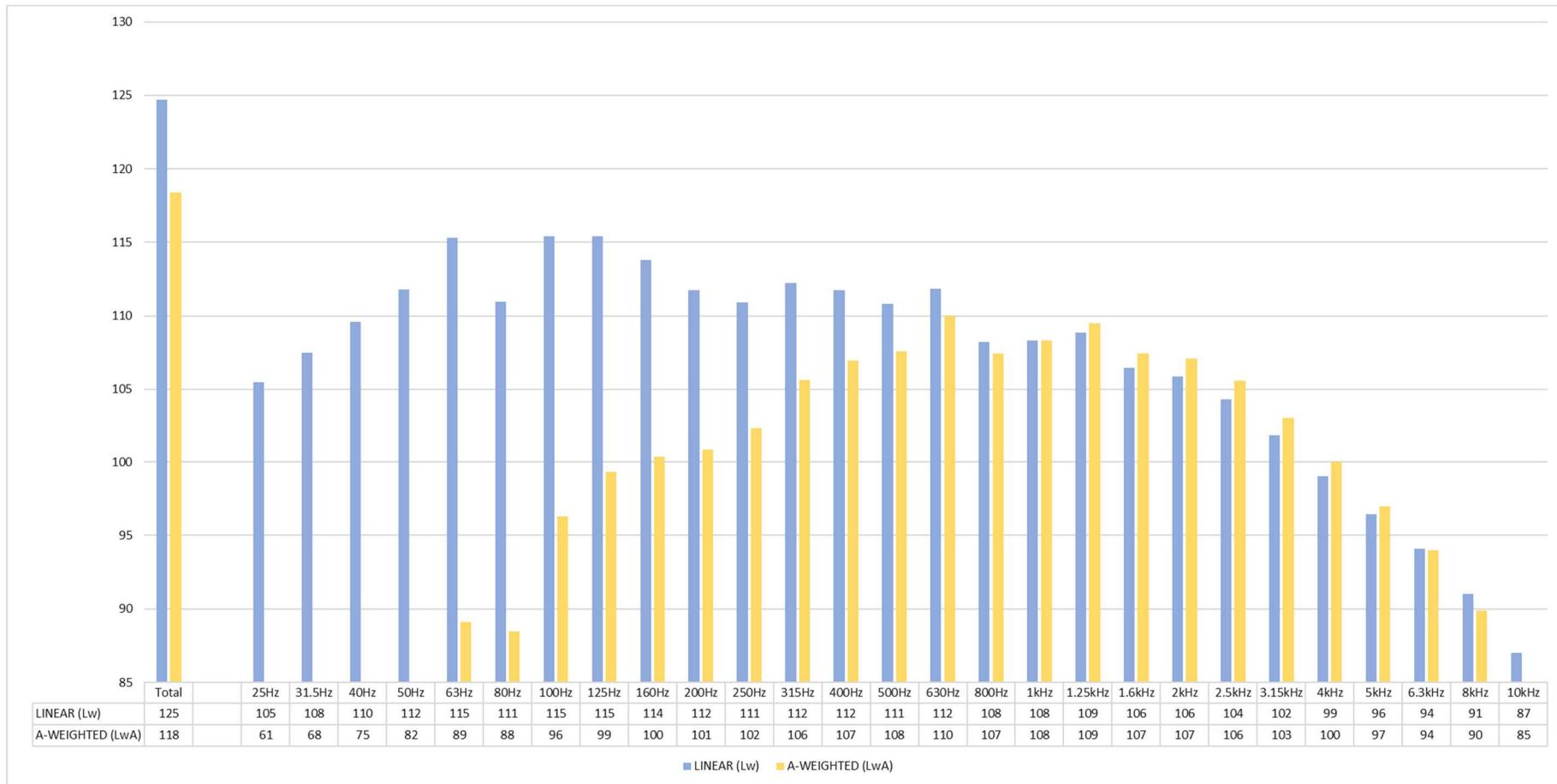


Figure 72: DT725 Stationary Test

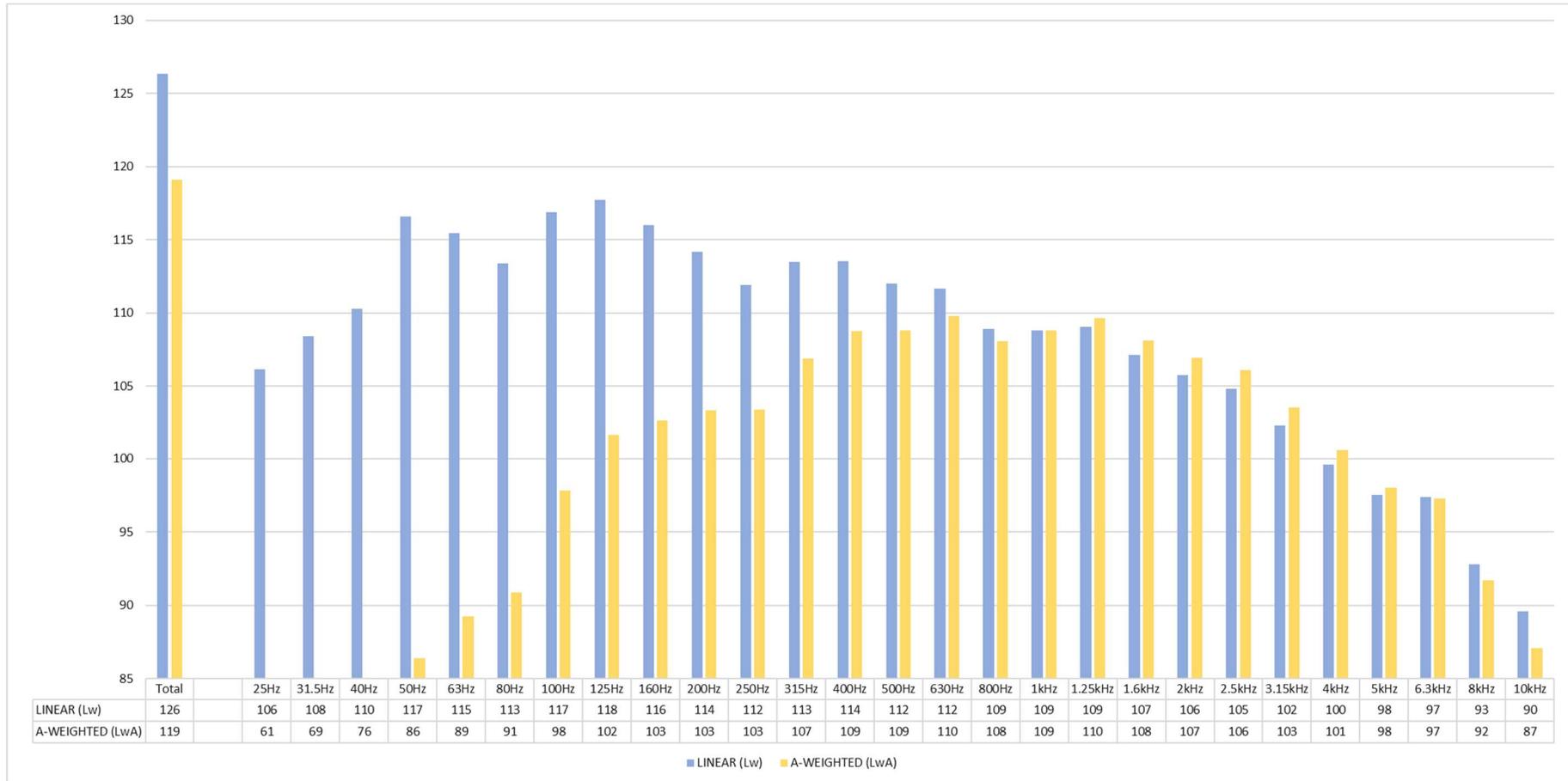


Figure 73: DT725 Dynamic Test Uphill

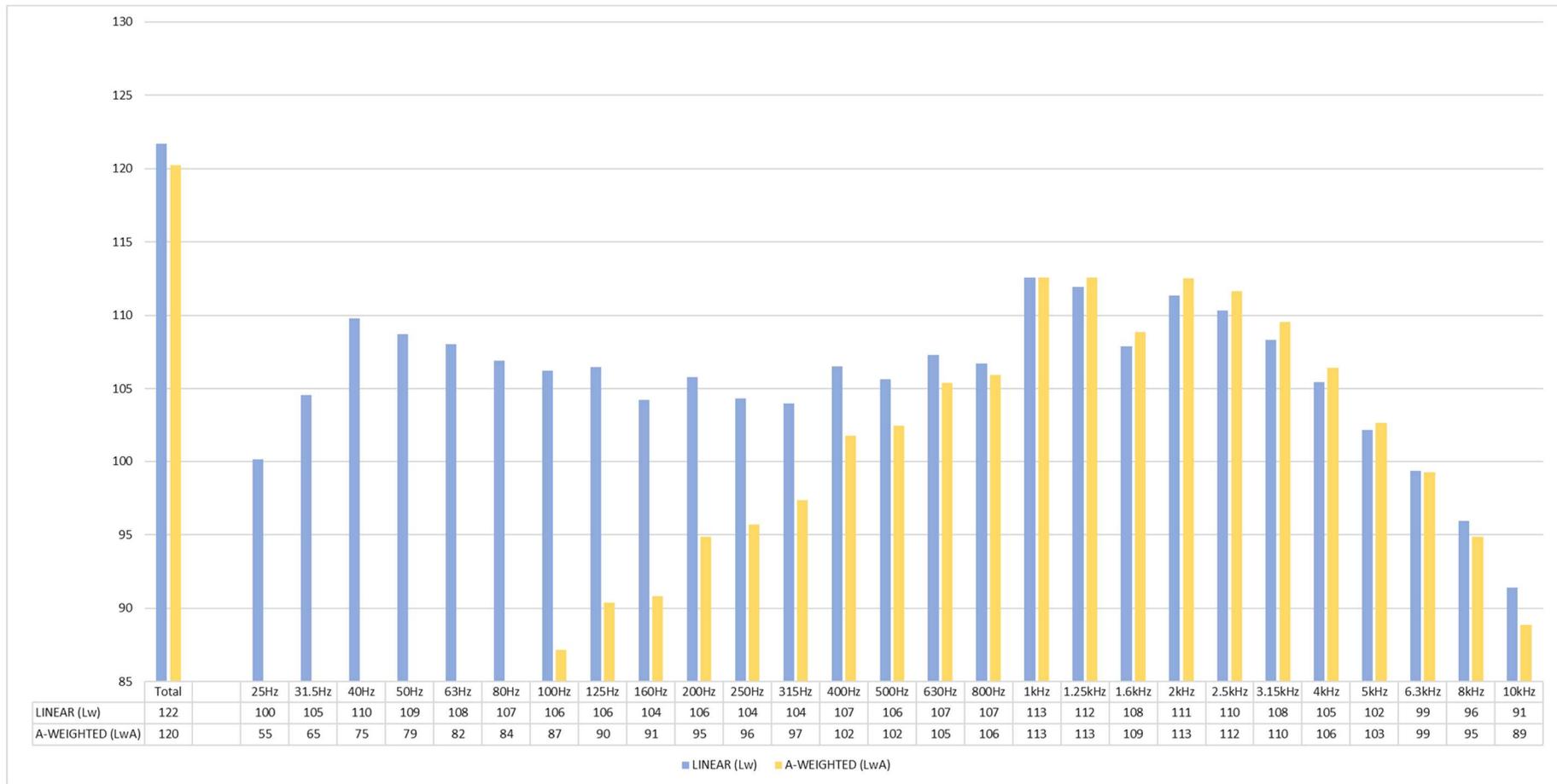


Figure 74: DT725 Dynamic Test Downhill

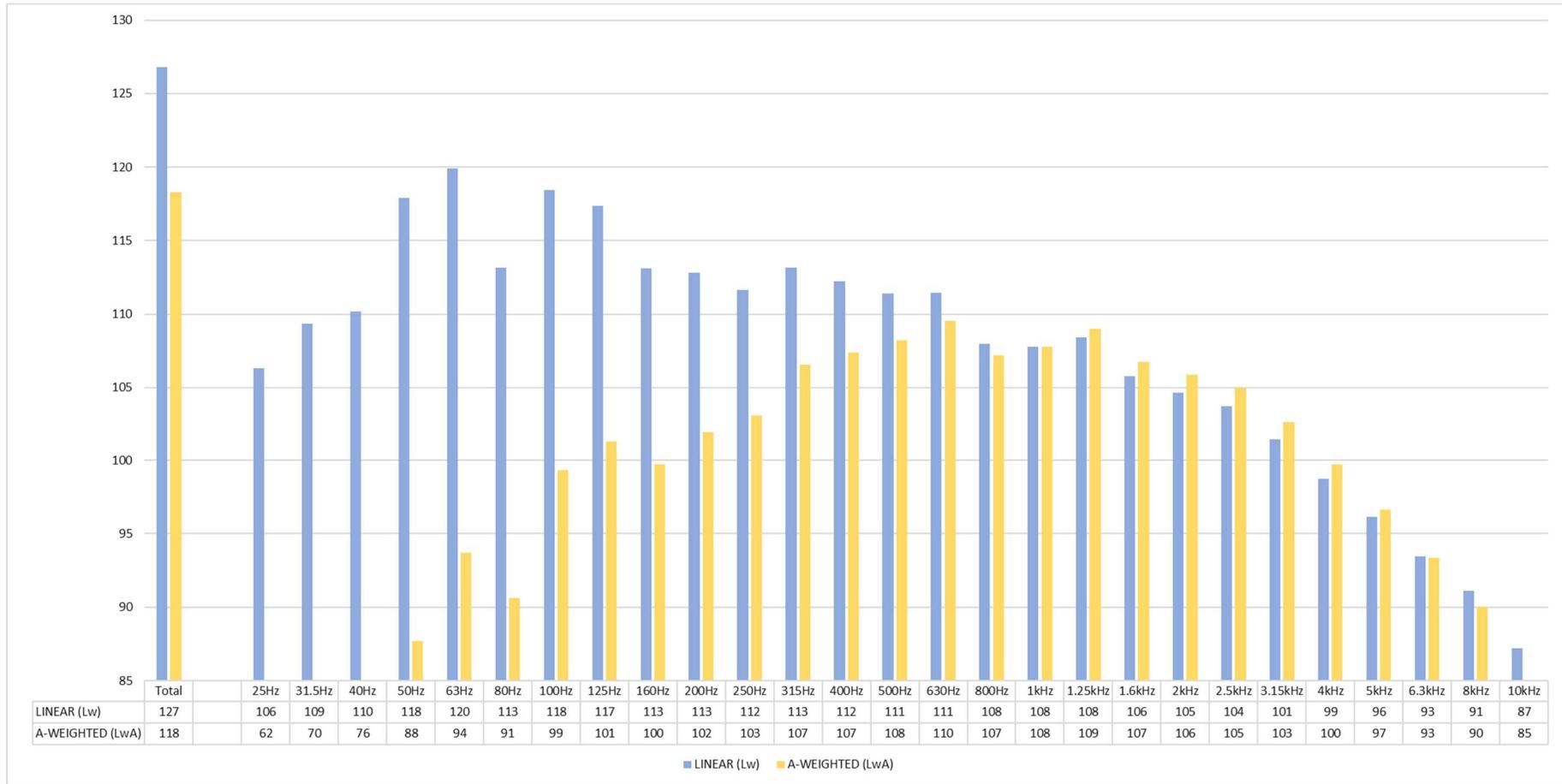


Figure 75: DT748 Stationary Test

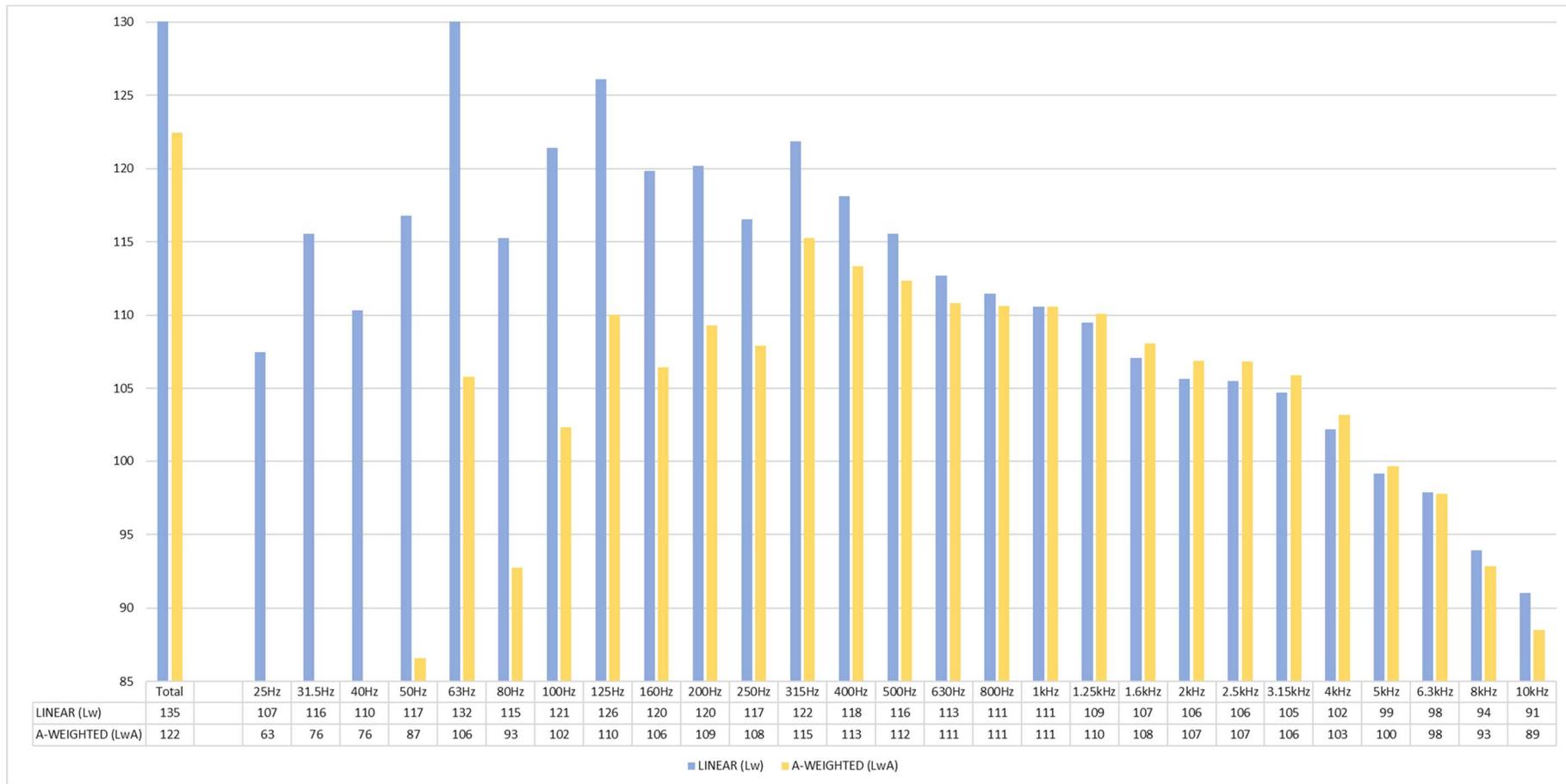


Figure 76: DT748 Dynamic Test Uphill

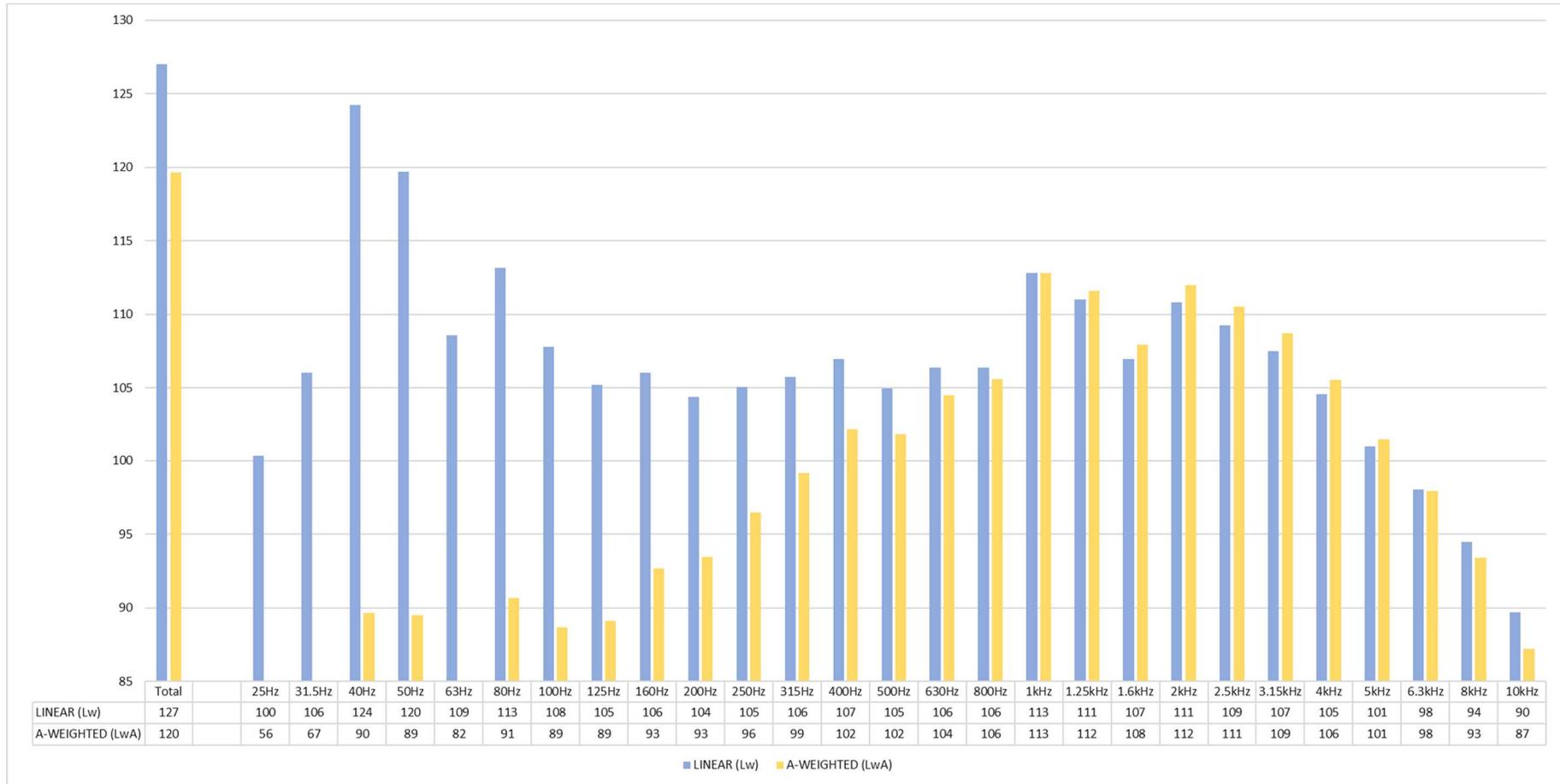


Figure 77: DT748 Dynamic Test Downhill

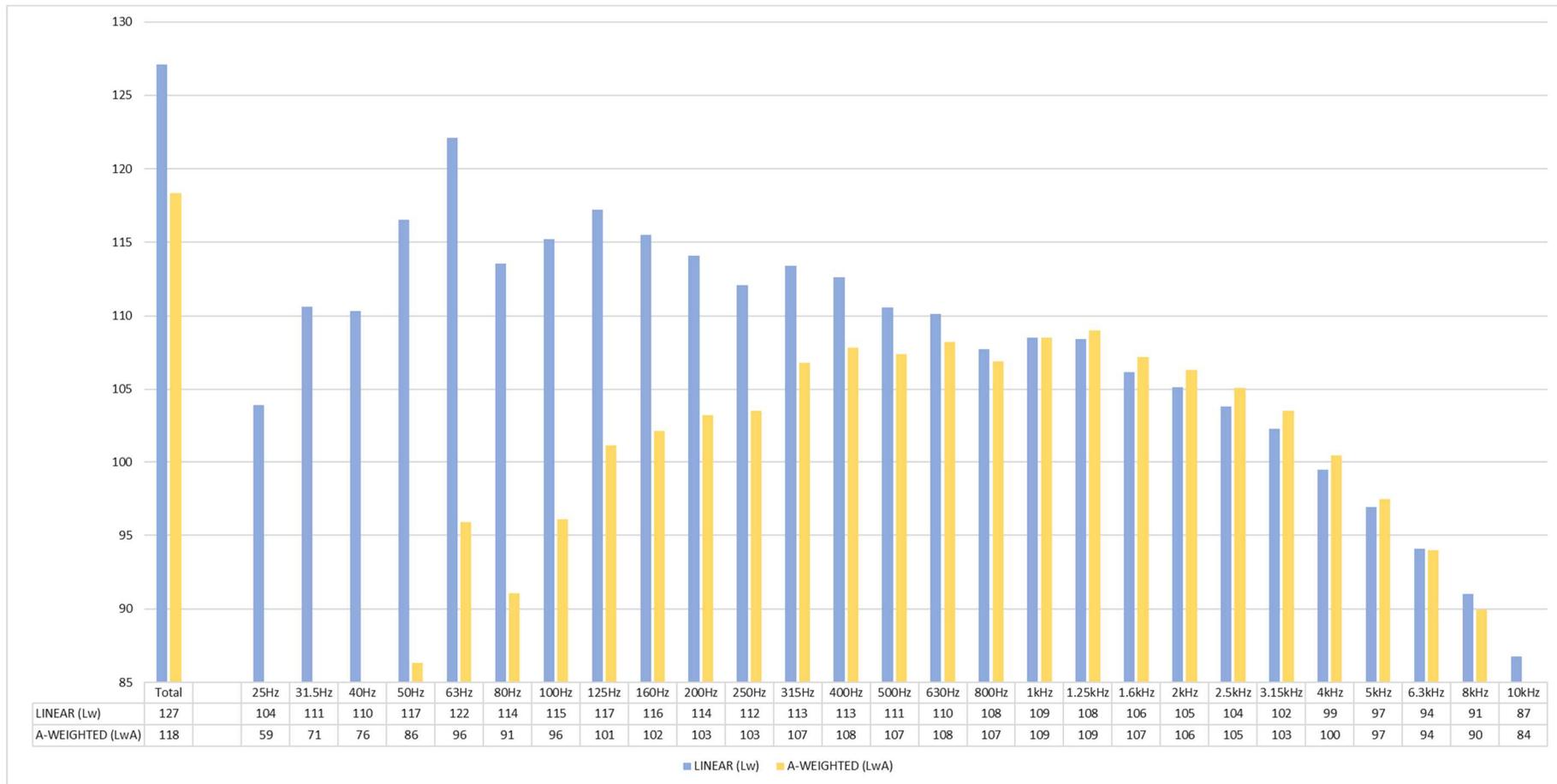


Figure 78: DT749 Stationary Test

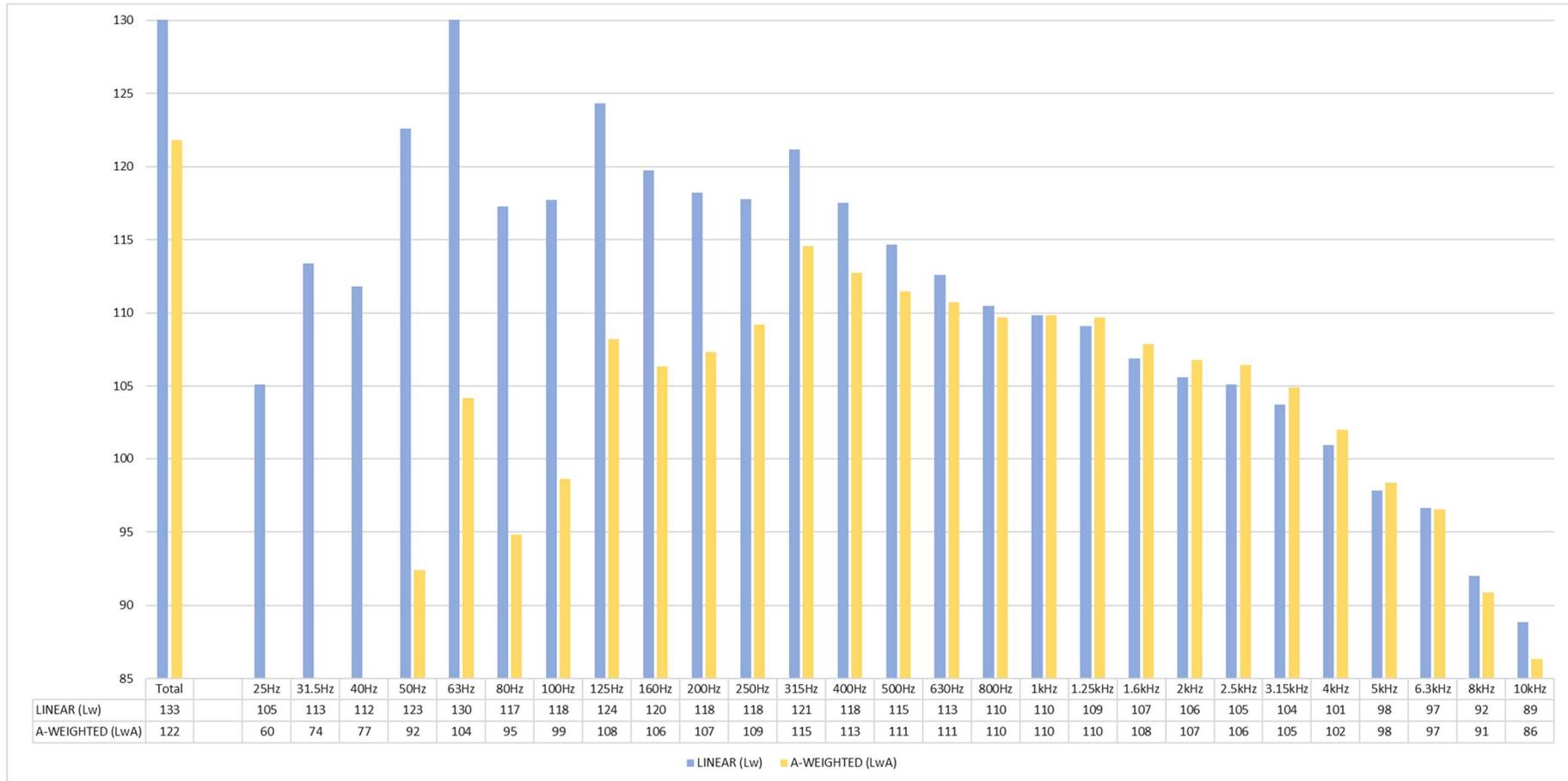


Figure 79: DT749 Dynamic Test Uphill

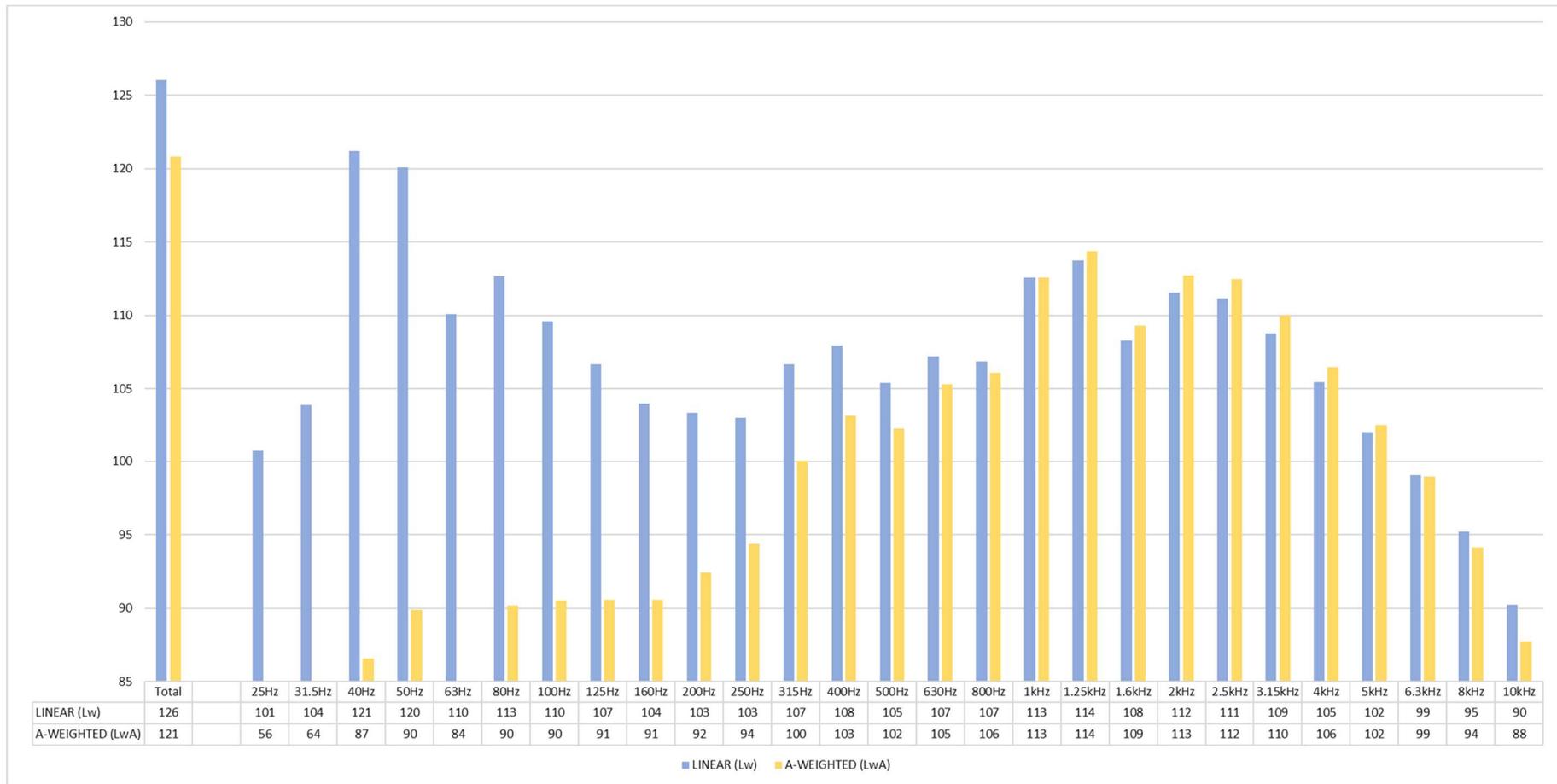


Figure 80: DT749 Dynamic Test Downhill

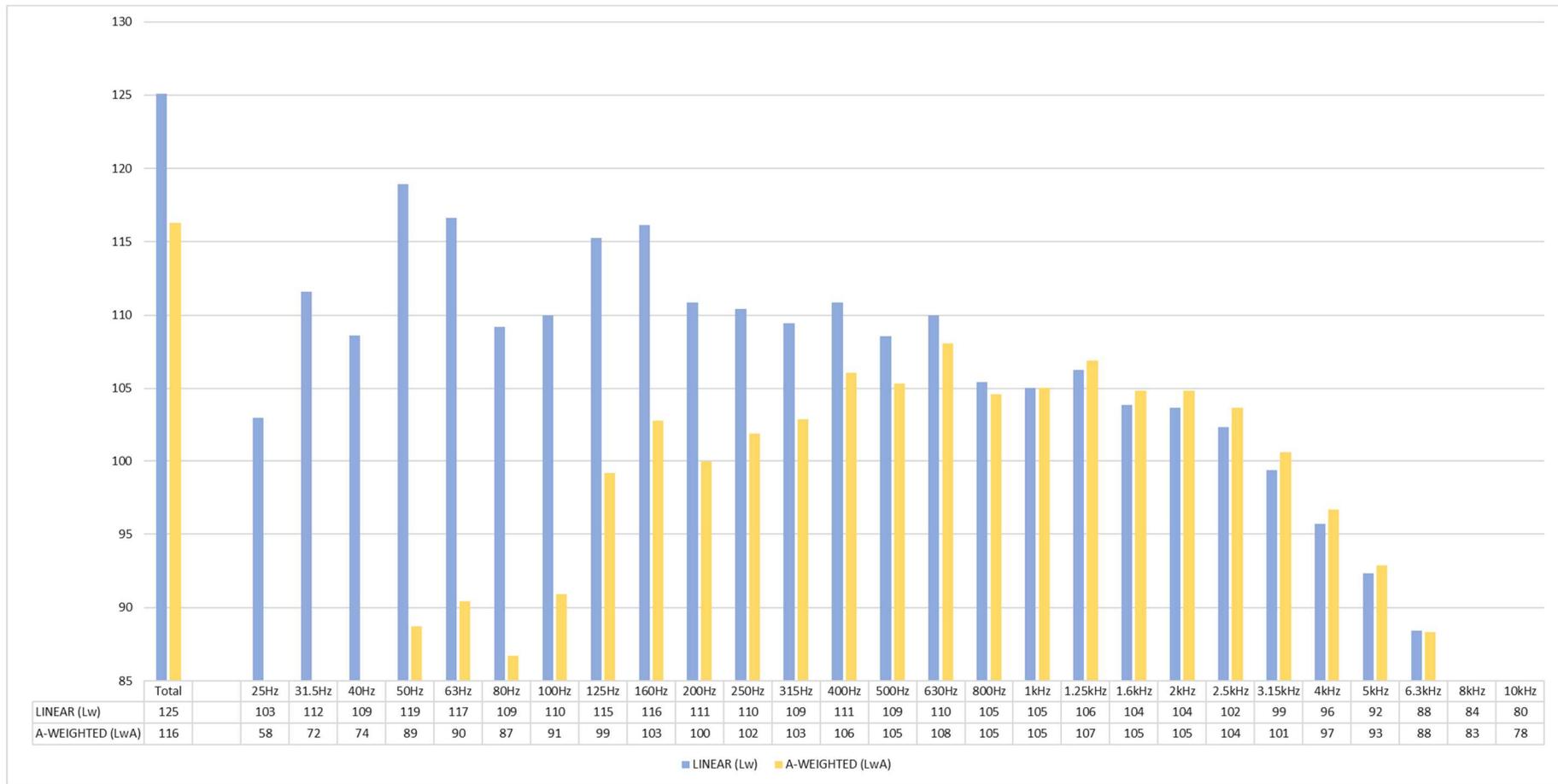


Figure 81: DT750 Stationary Test

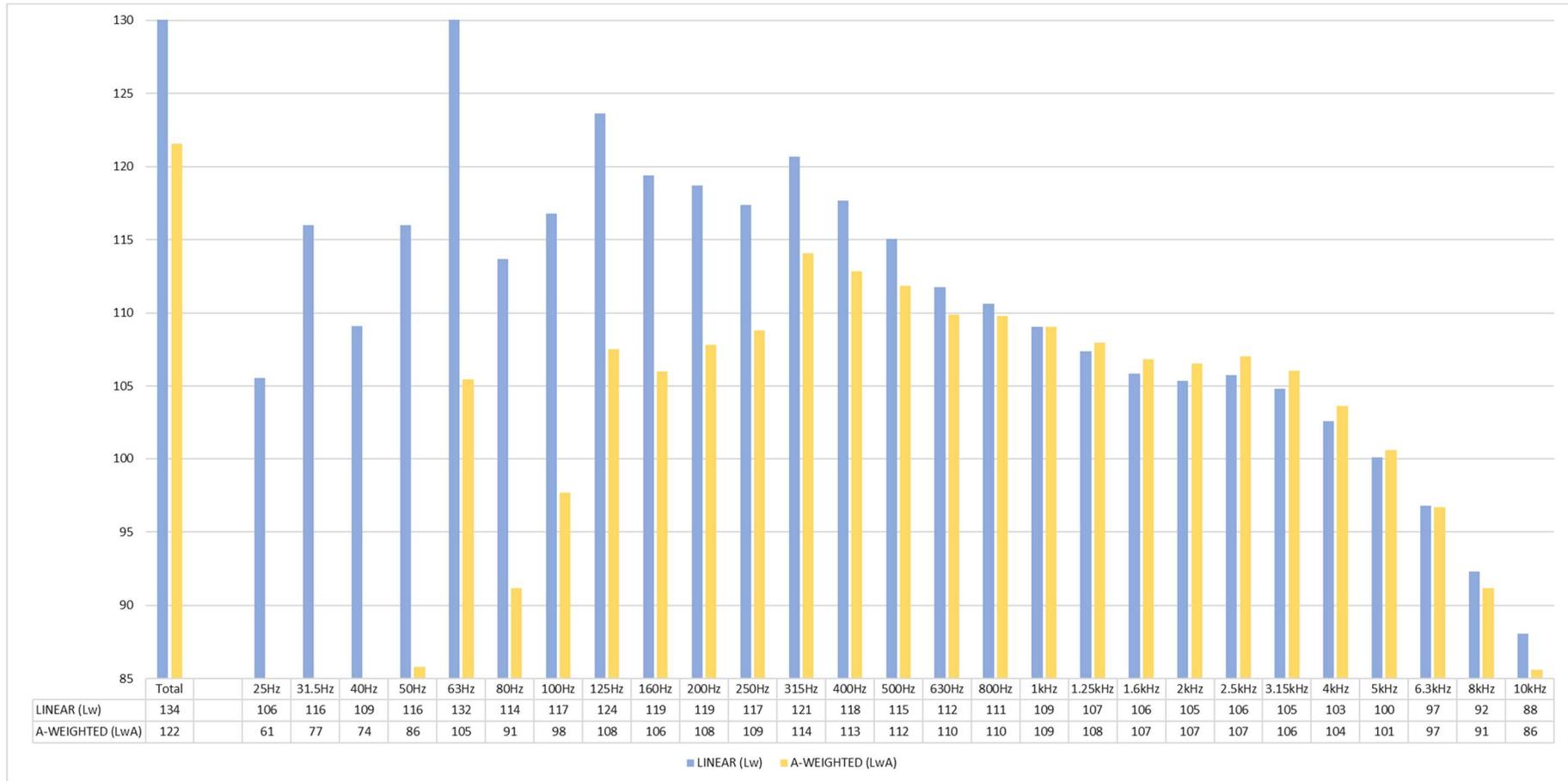


Figure 82: DT750 Dynamic Test Uphill

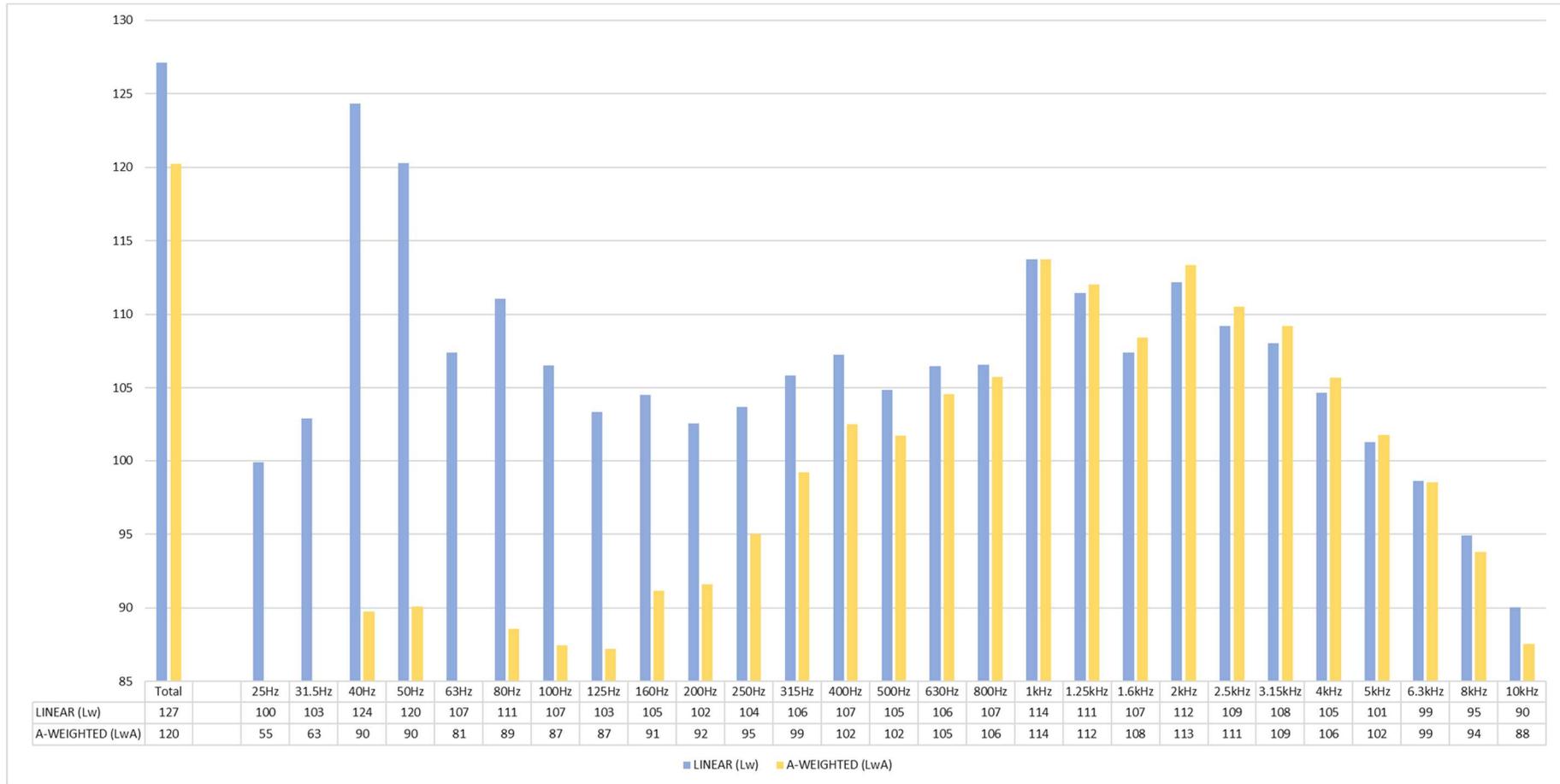


Figure 83: DT750 Dynamic Test Downhill

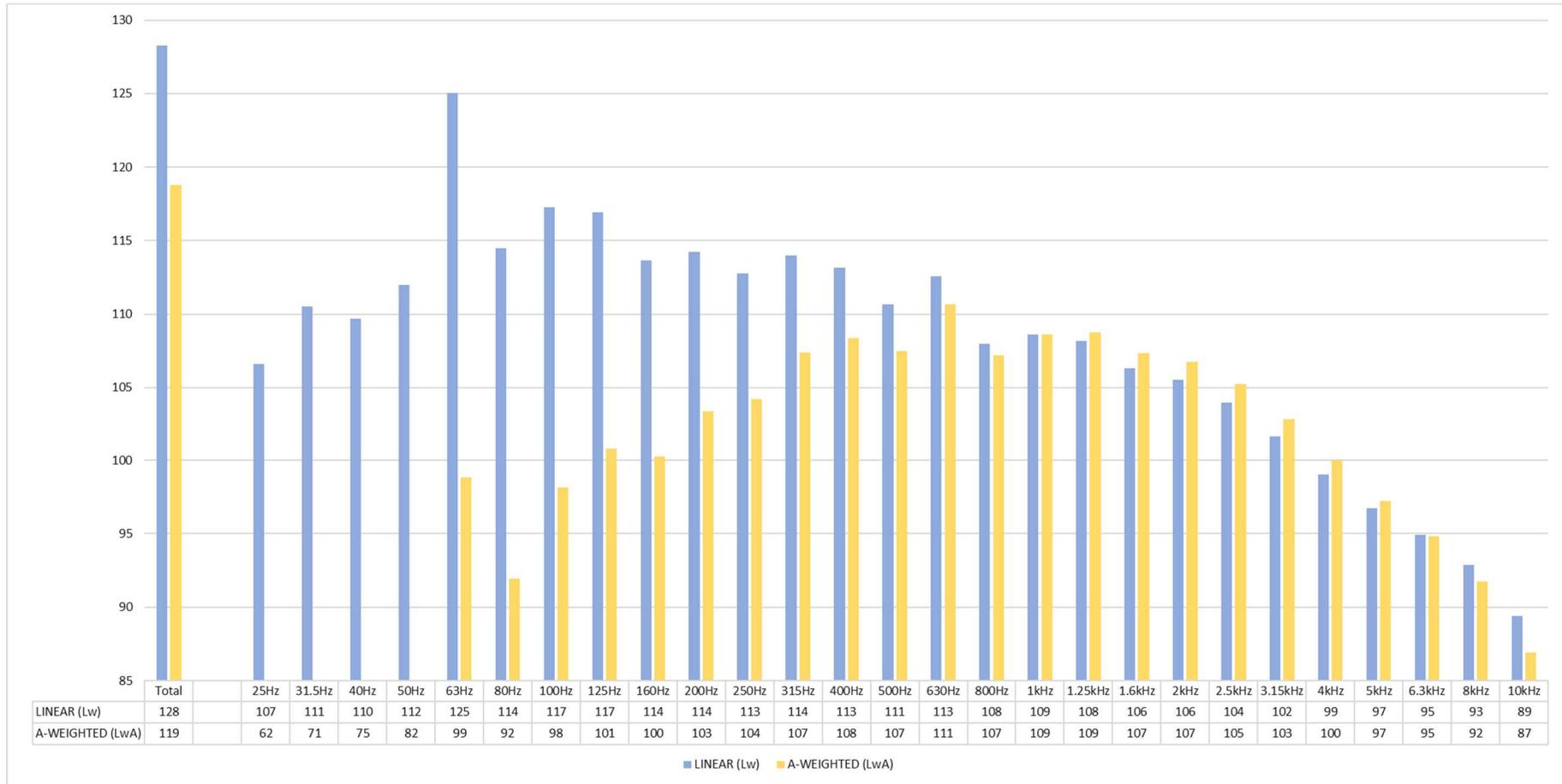


Figure 84: DT75I Stationary Test

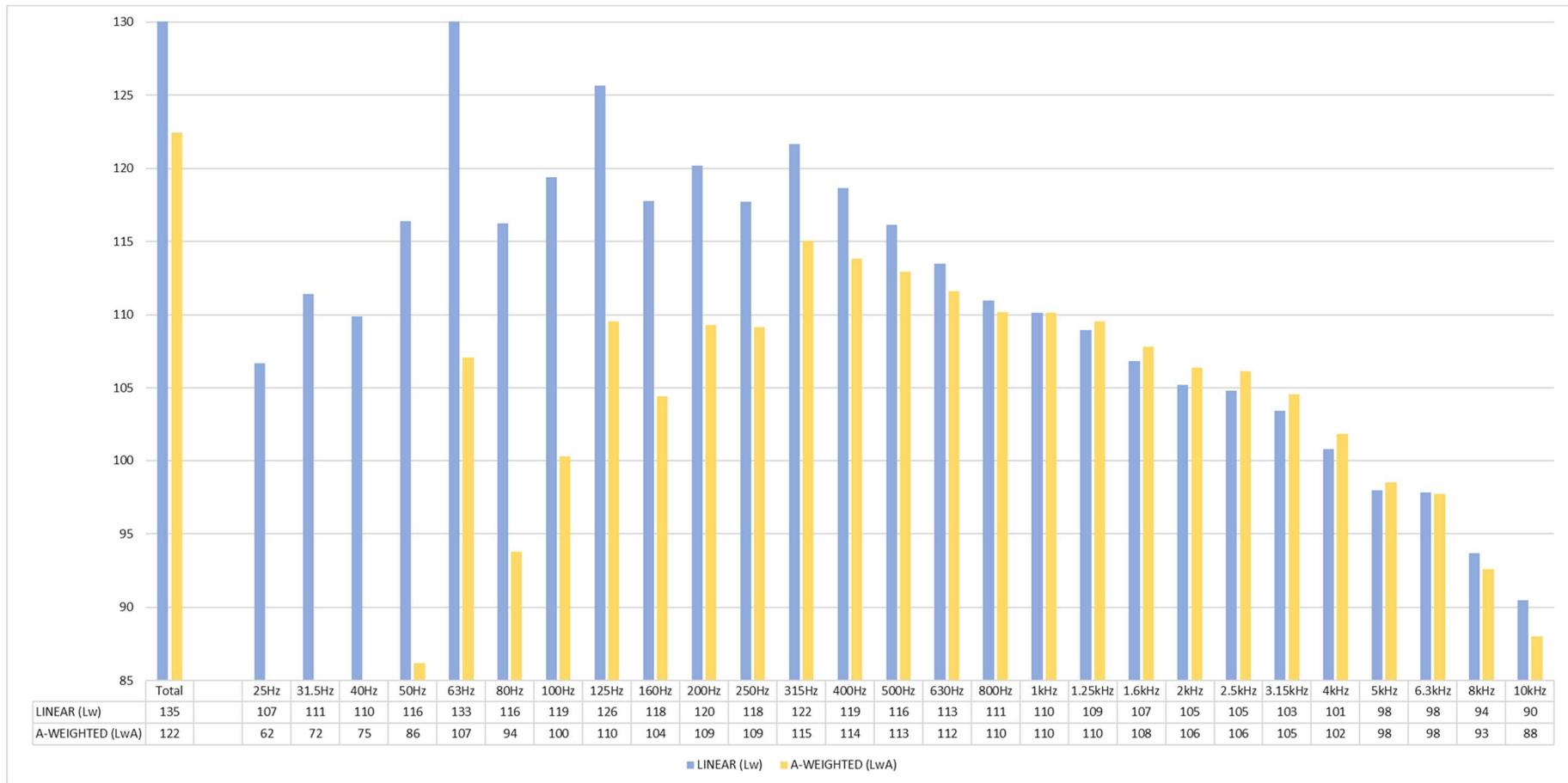


Figure 85: DT75I Dynamic Test Uphill

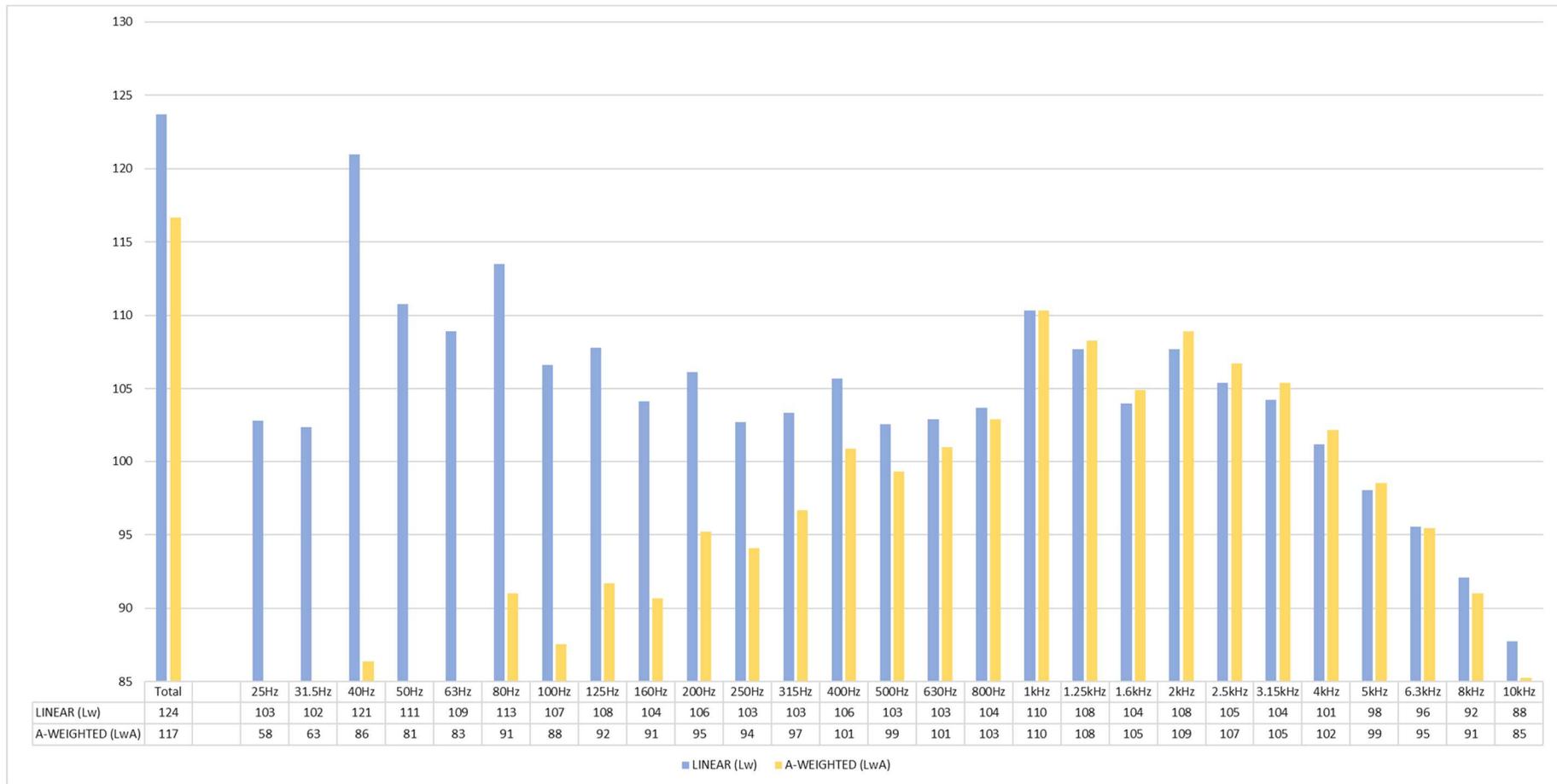


Figure 86: DT75I Dynamic Test Downhill

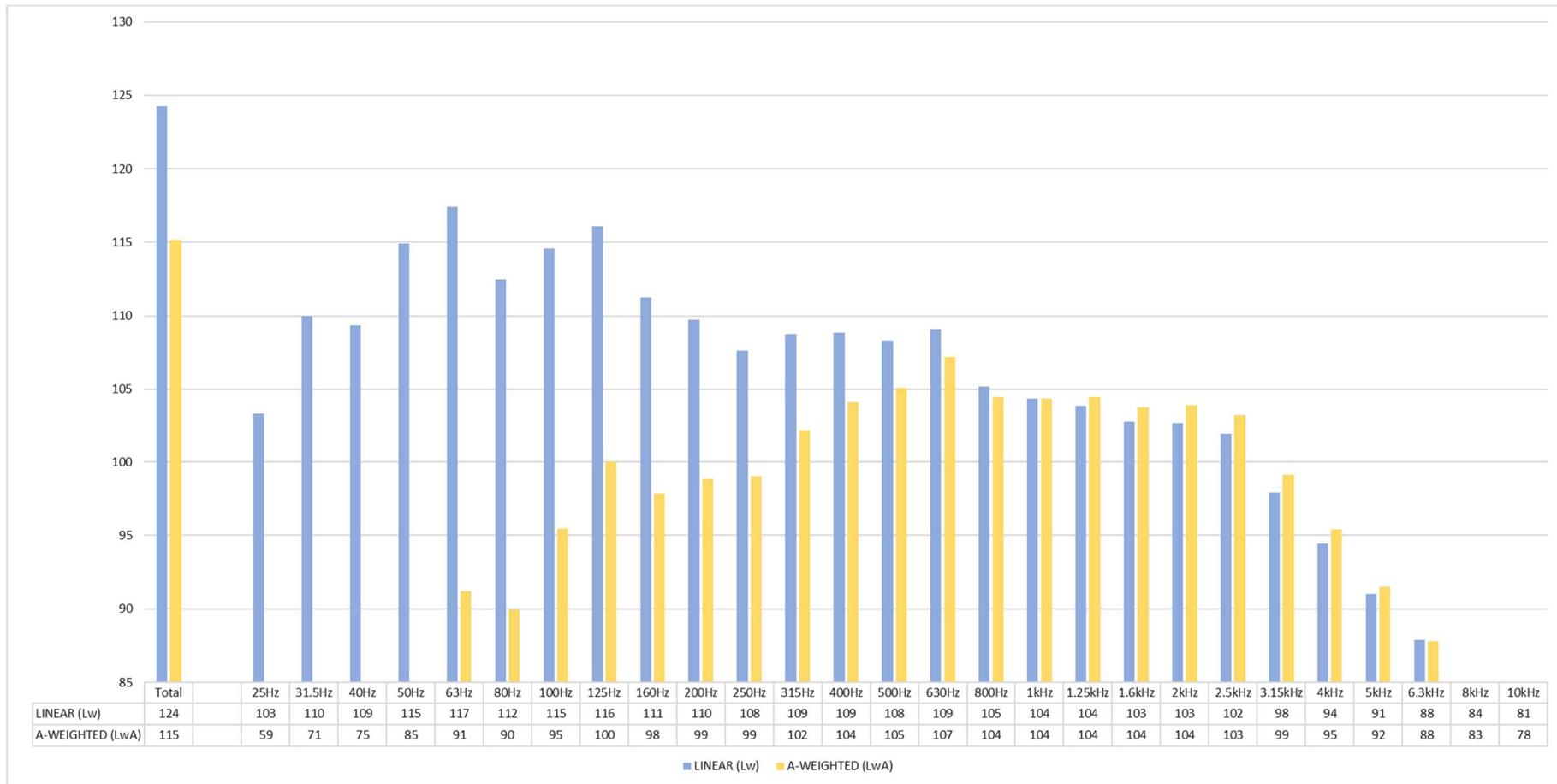


Figure 87: DT752 Stationary Test

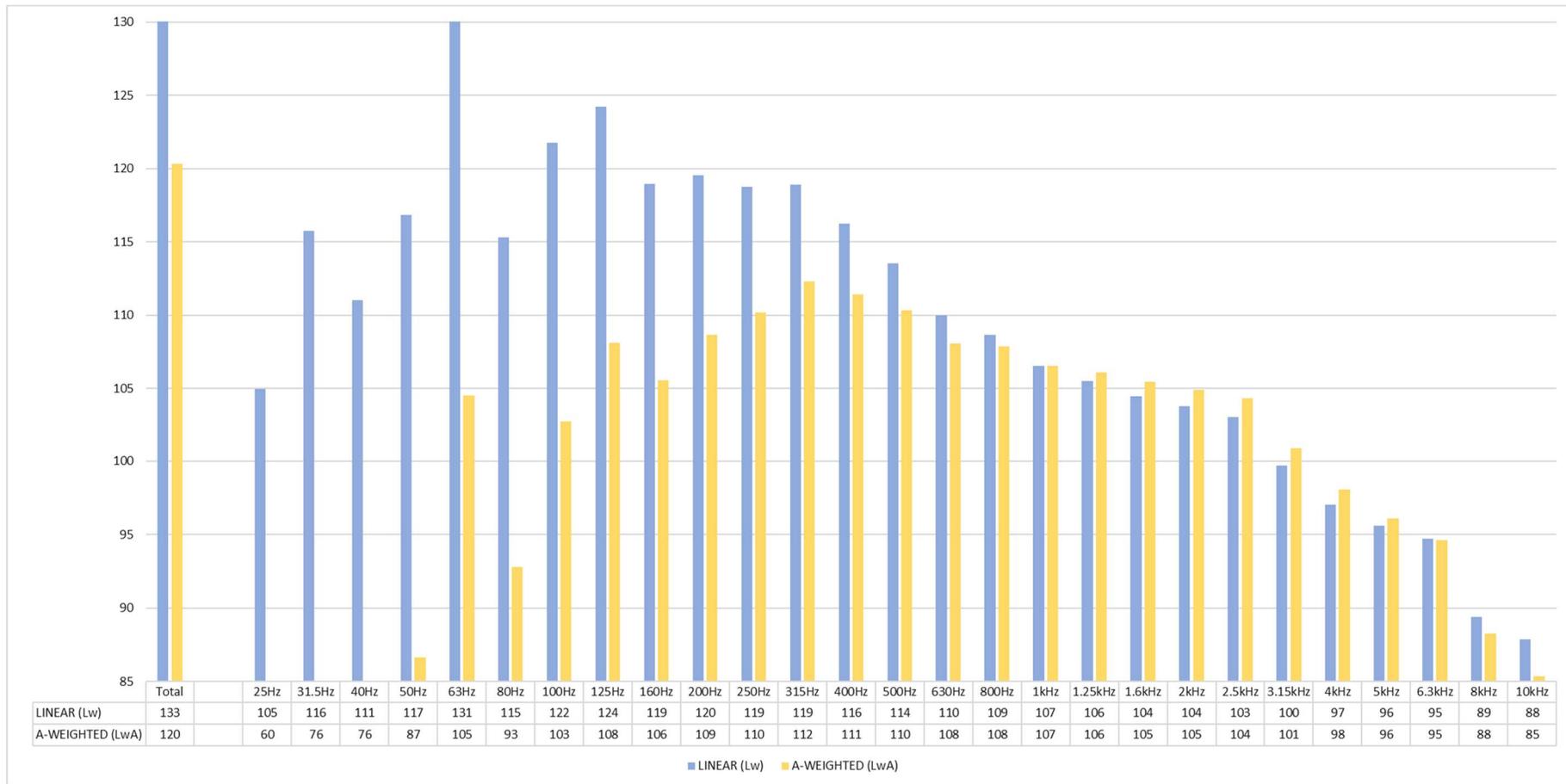


Figure 88: DT752 Dynamic Test Uphill

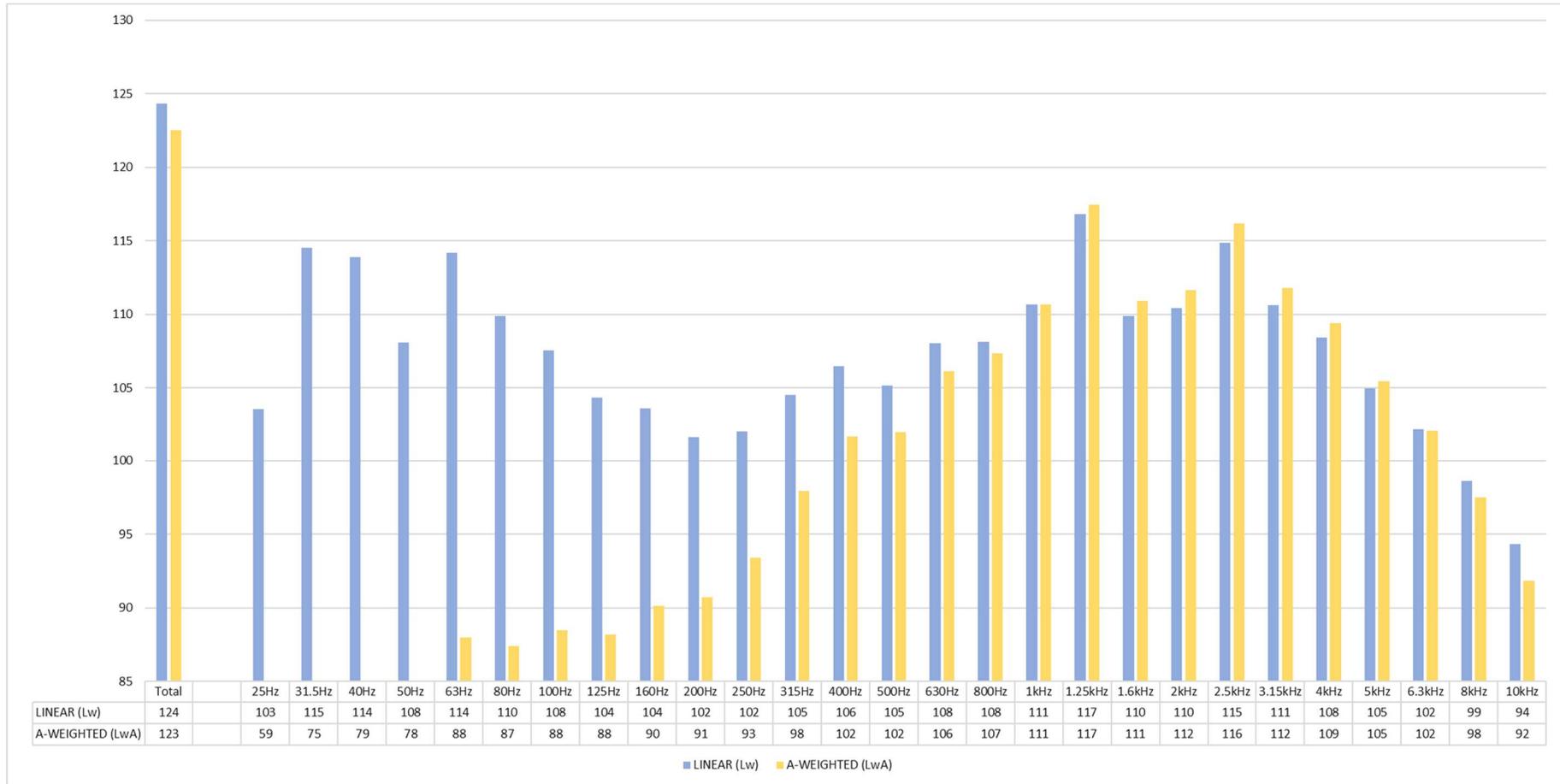


Figure 89: DT752 Dynamic Test Downhill

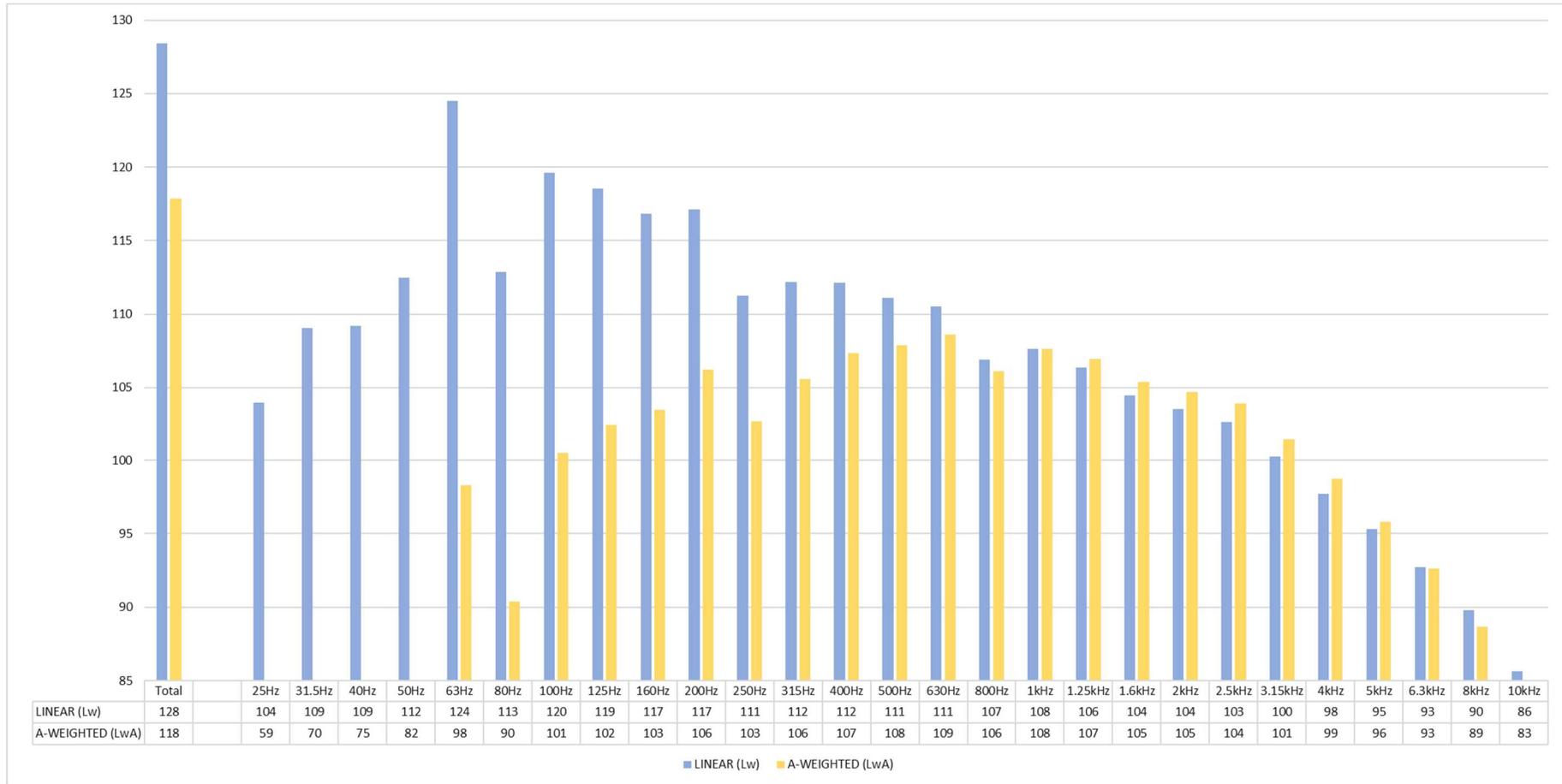


Figure 90: DT753 Stationary Test

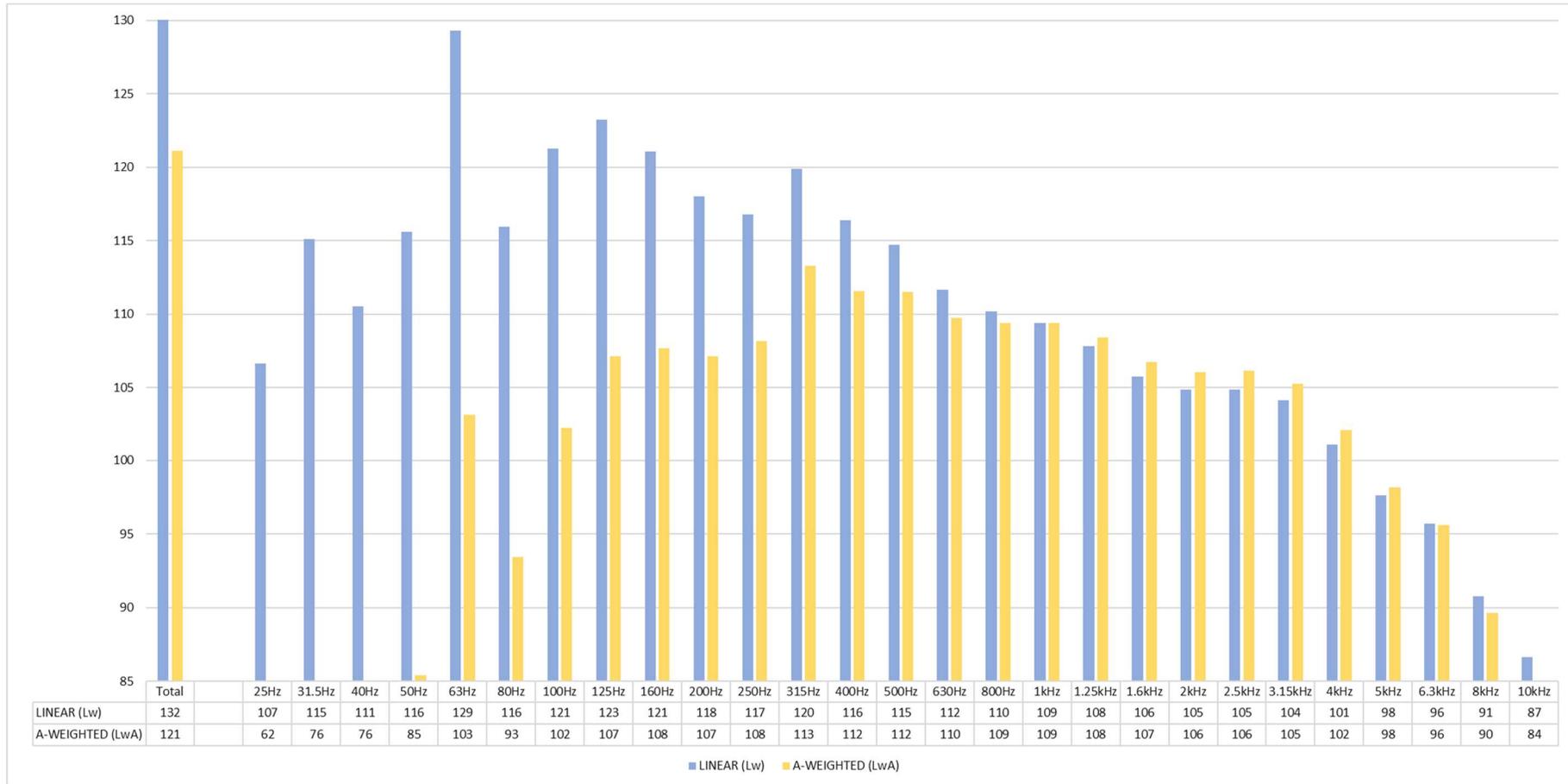


Figure 91: DT753 Dynamic Test Uphill

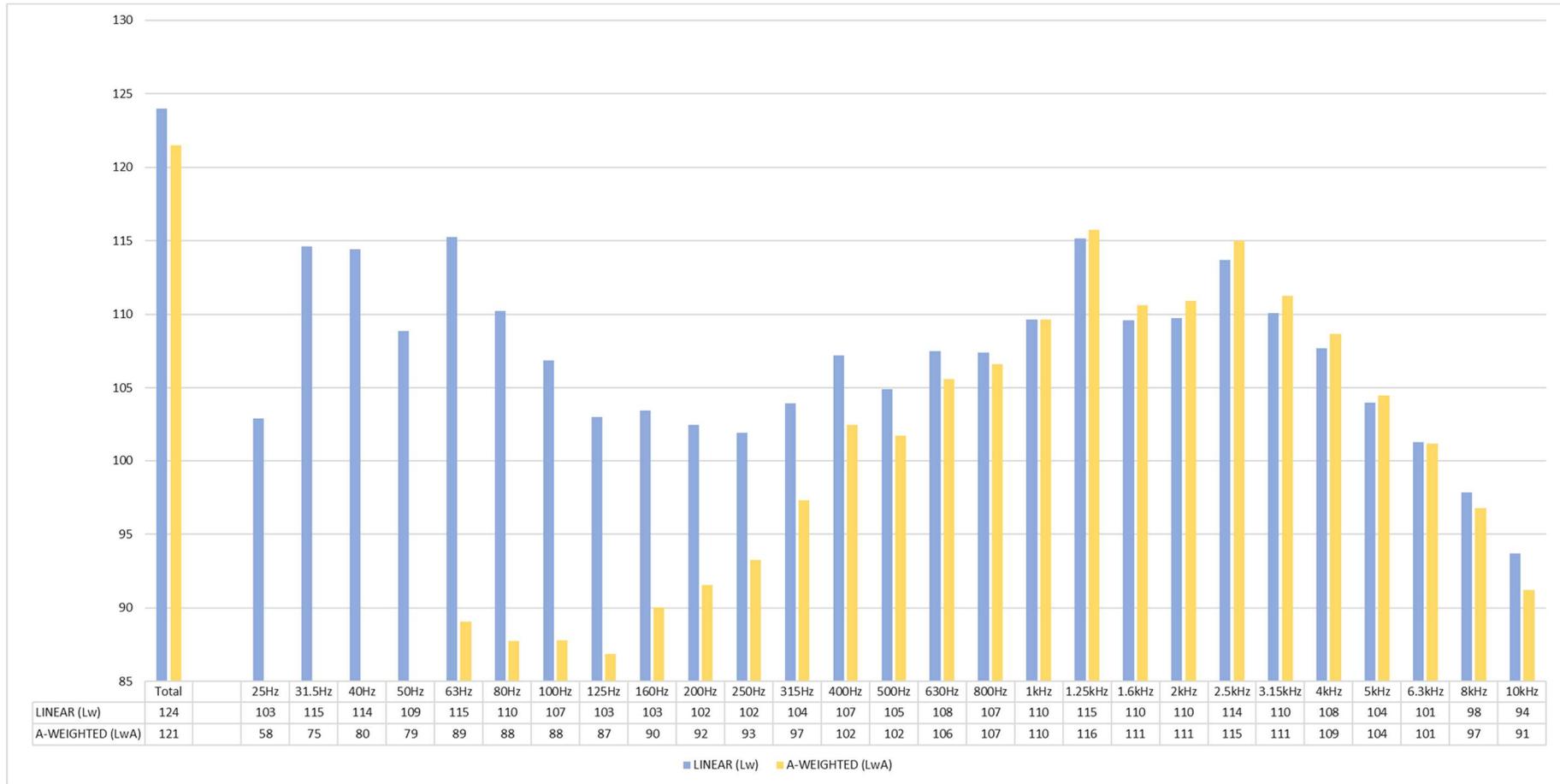


Figure 92: DT753 Dynamic Test Downhill

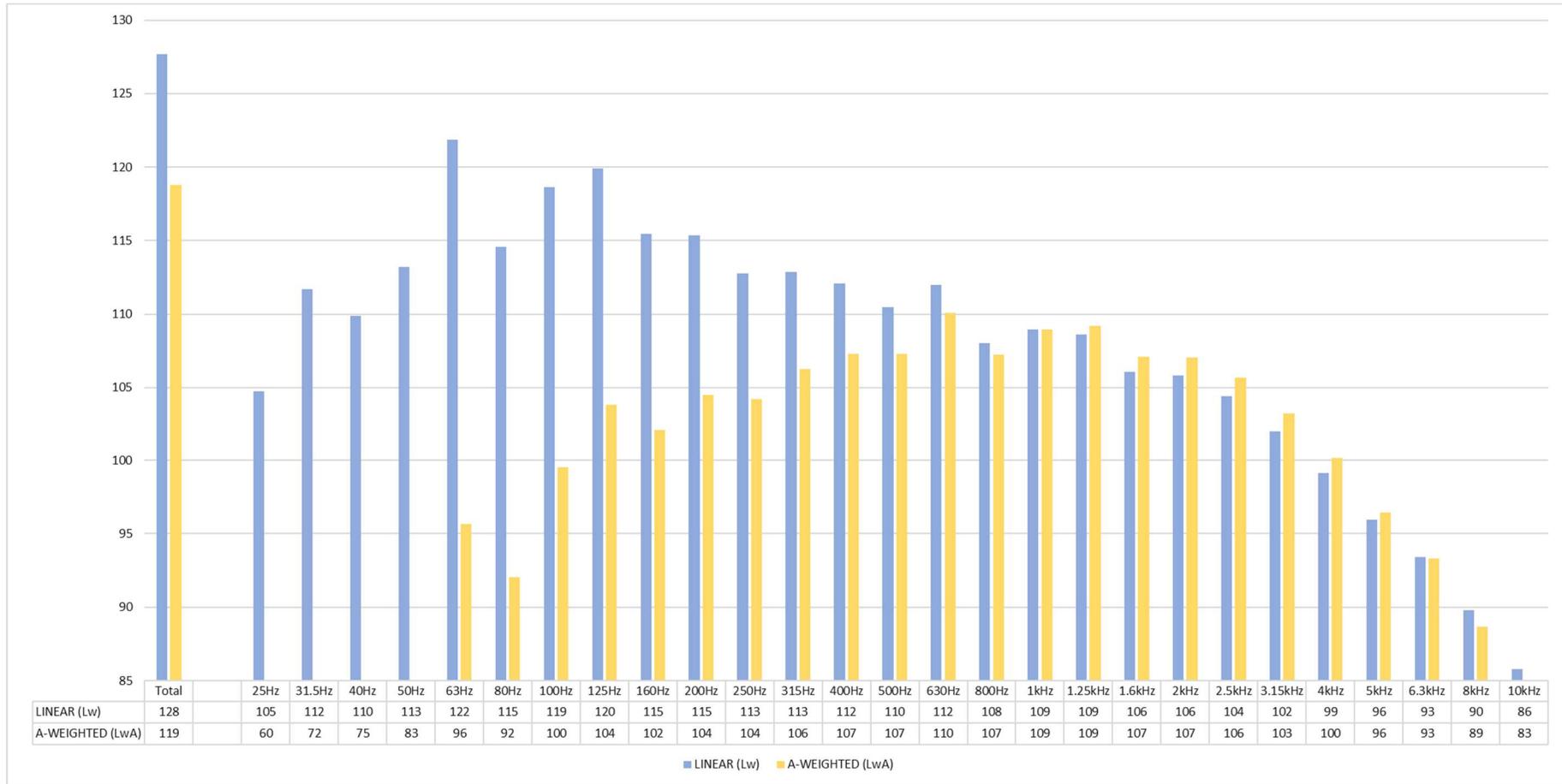


Figure 93: DT755 Stationary Test

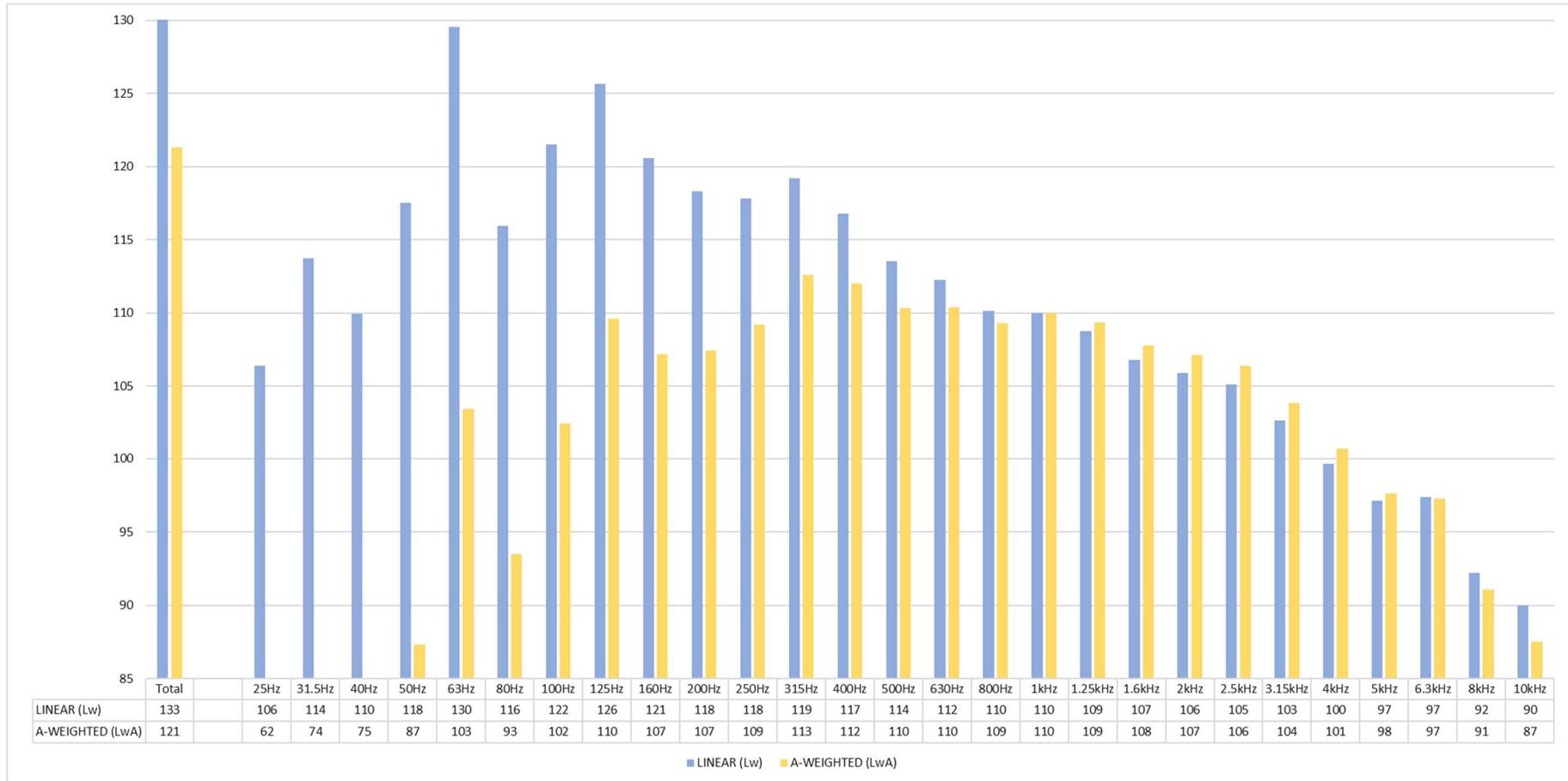


Figure 94: DT755 Dynamic Test Uphill

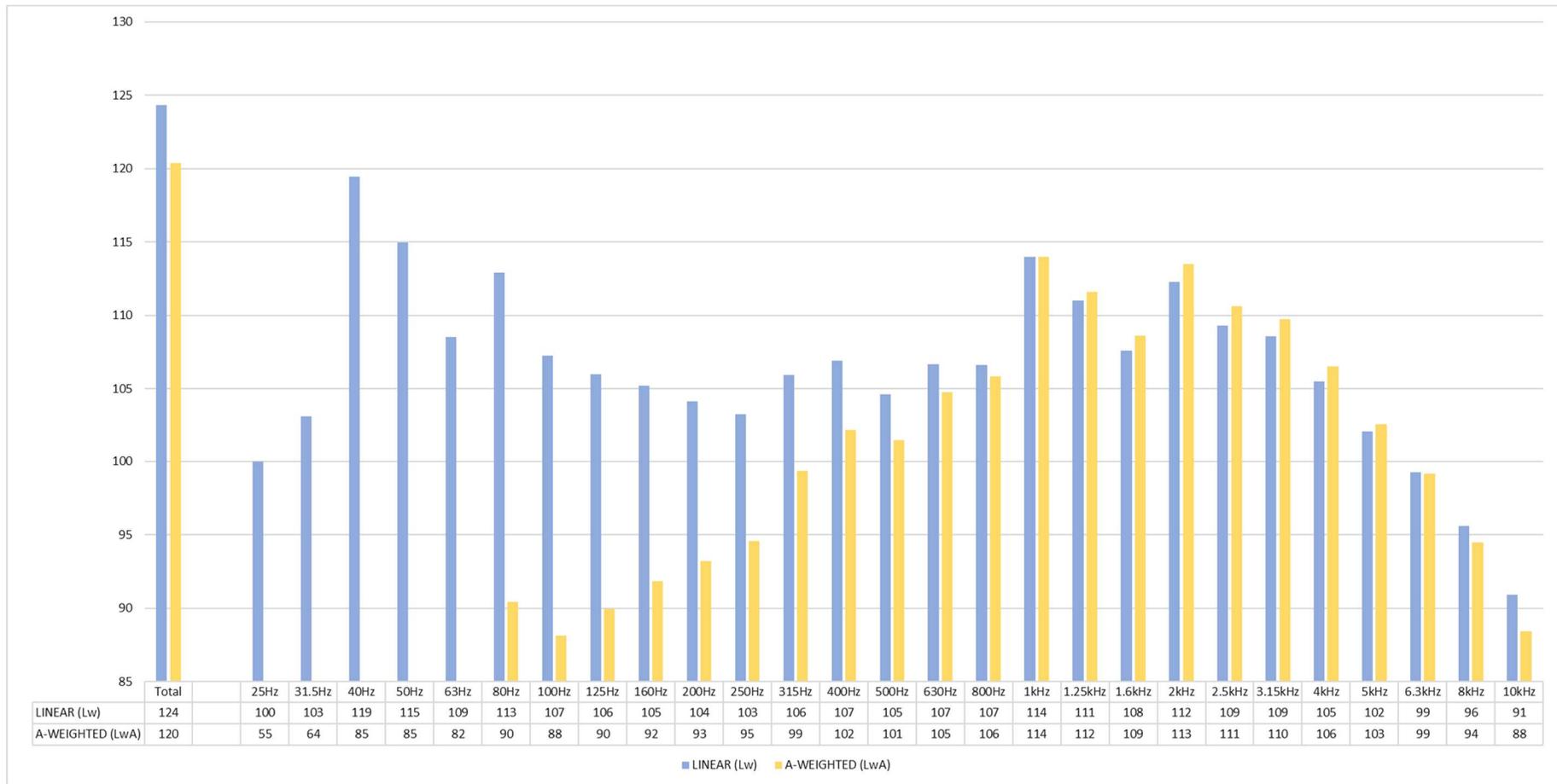


Figure 95: DT755 Dynamic Test Downhill

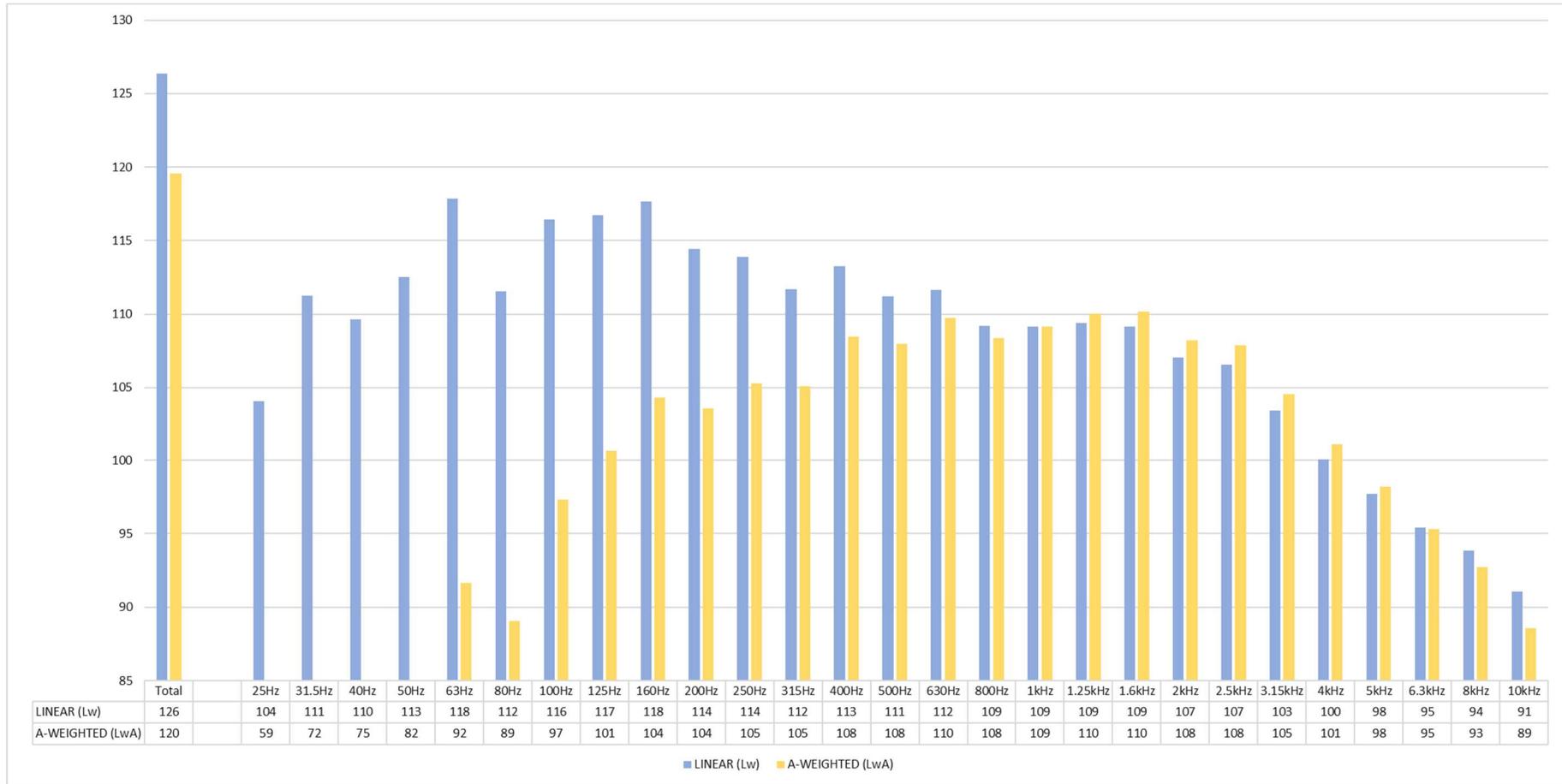


Figure 96: DT756 Stationary Test

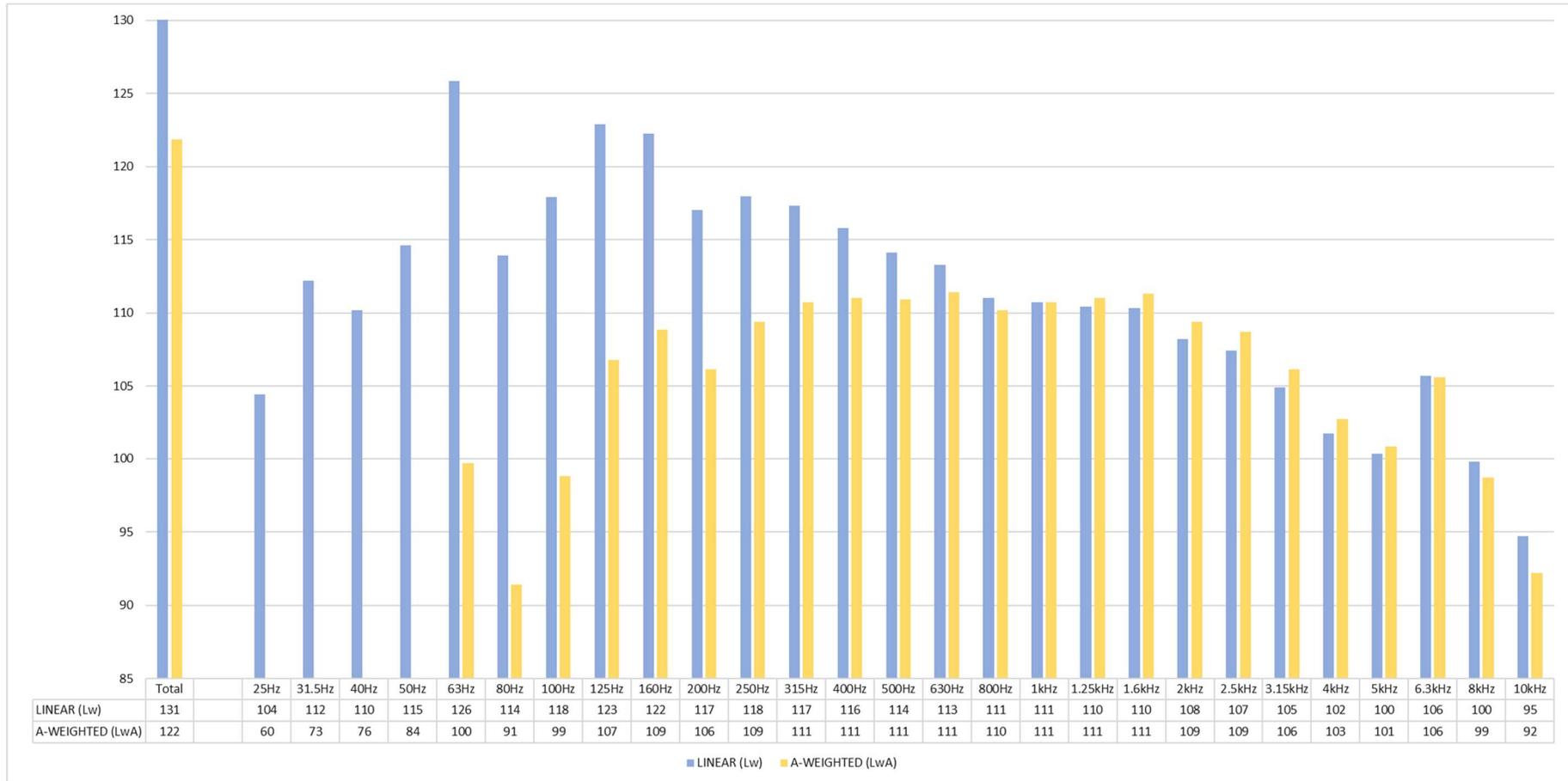


Figure 97: DT756 Dynamic Test Uphill

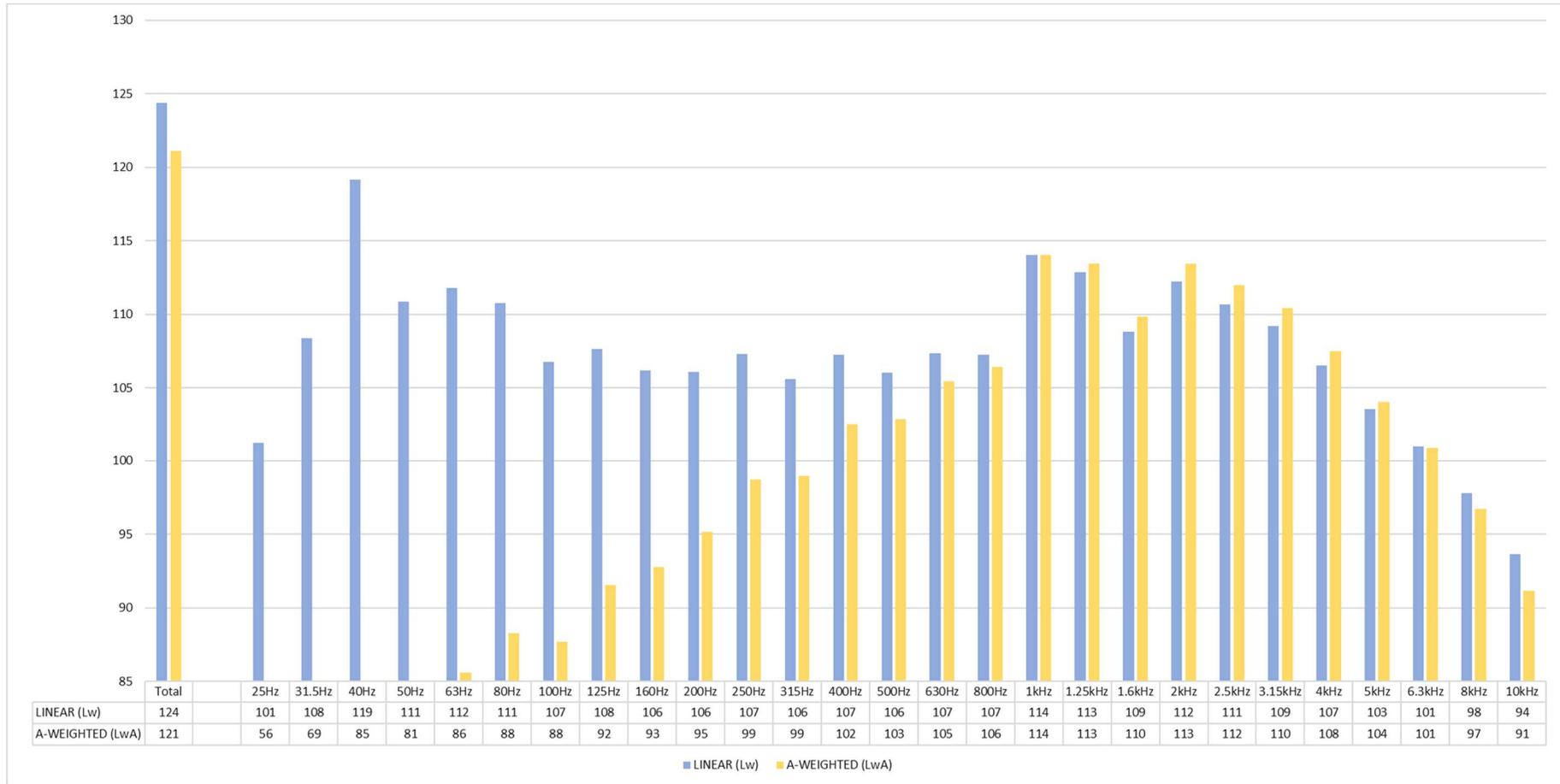


Figure 98: DT756 Dynamic Test Downhill

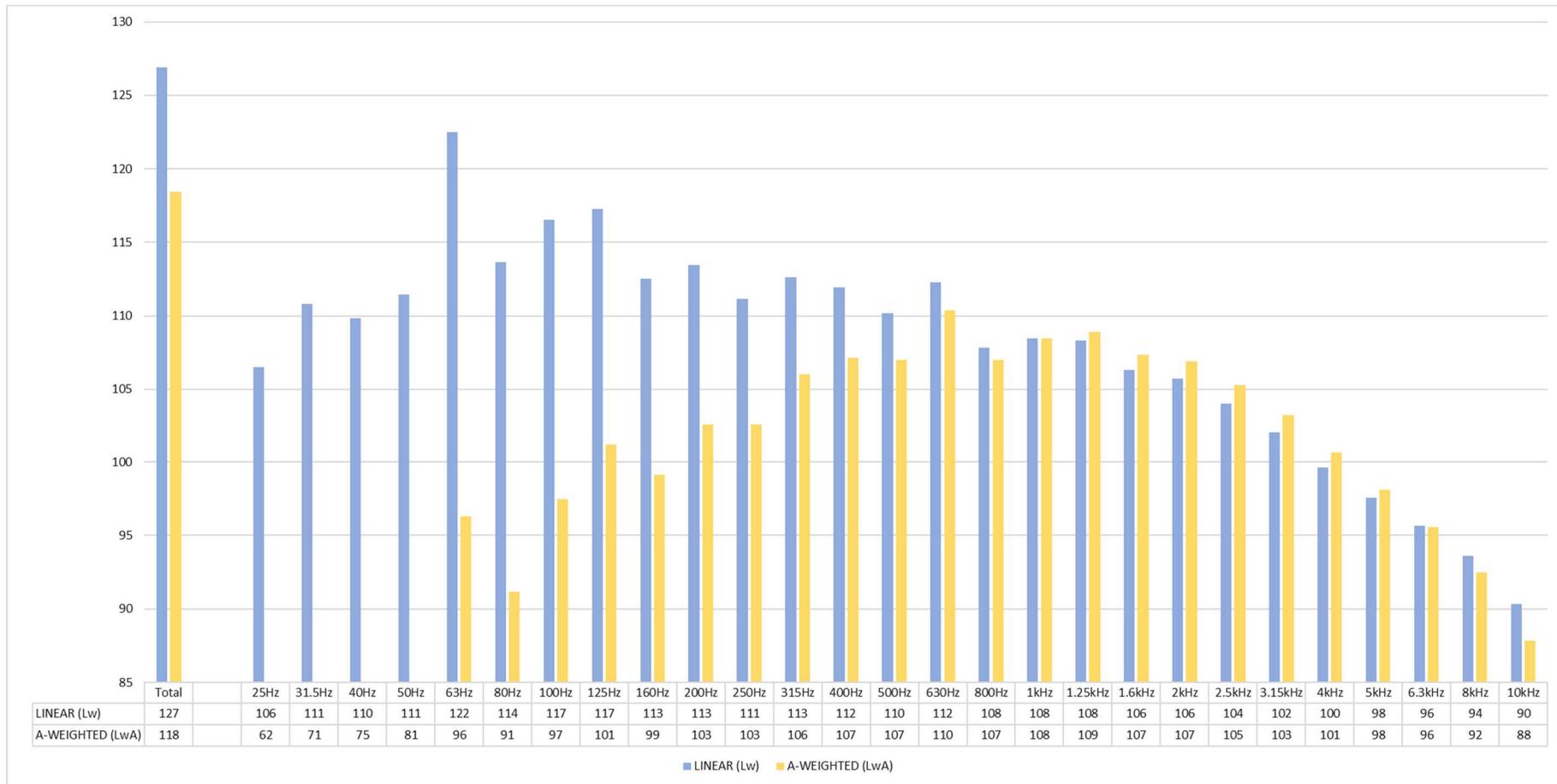


Figure 99: DT757 Stationary Test

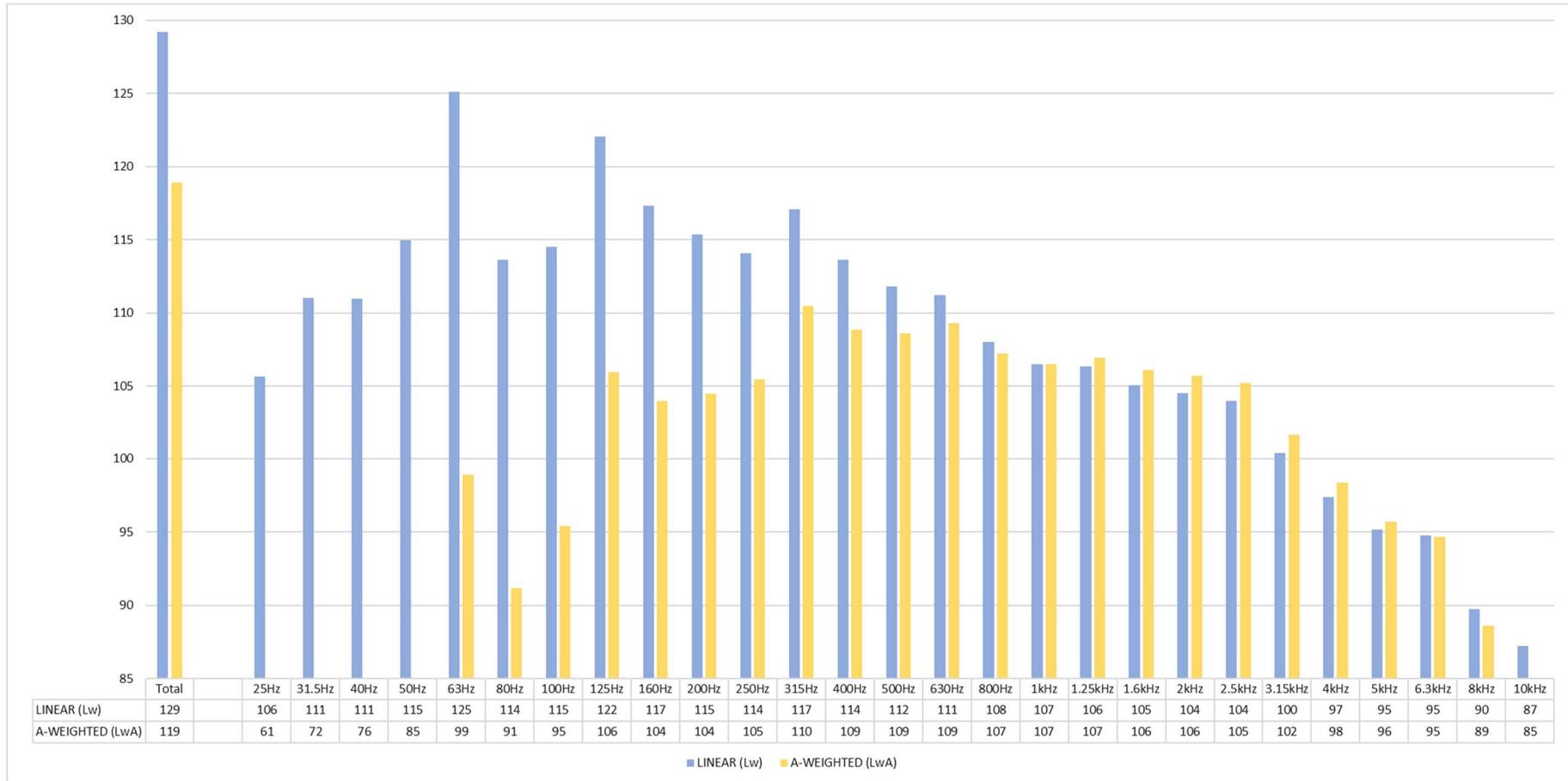


Figure I00: DT757 Dynamic Test Uphill

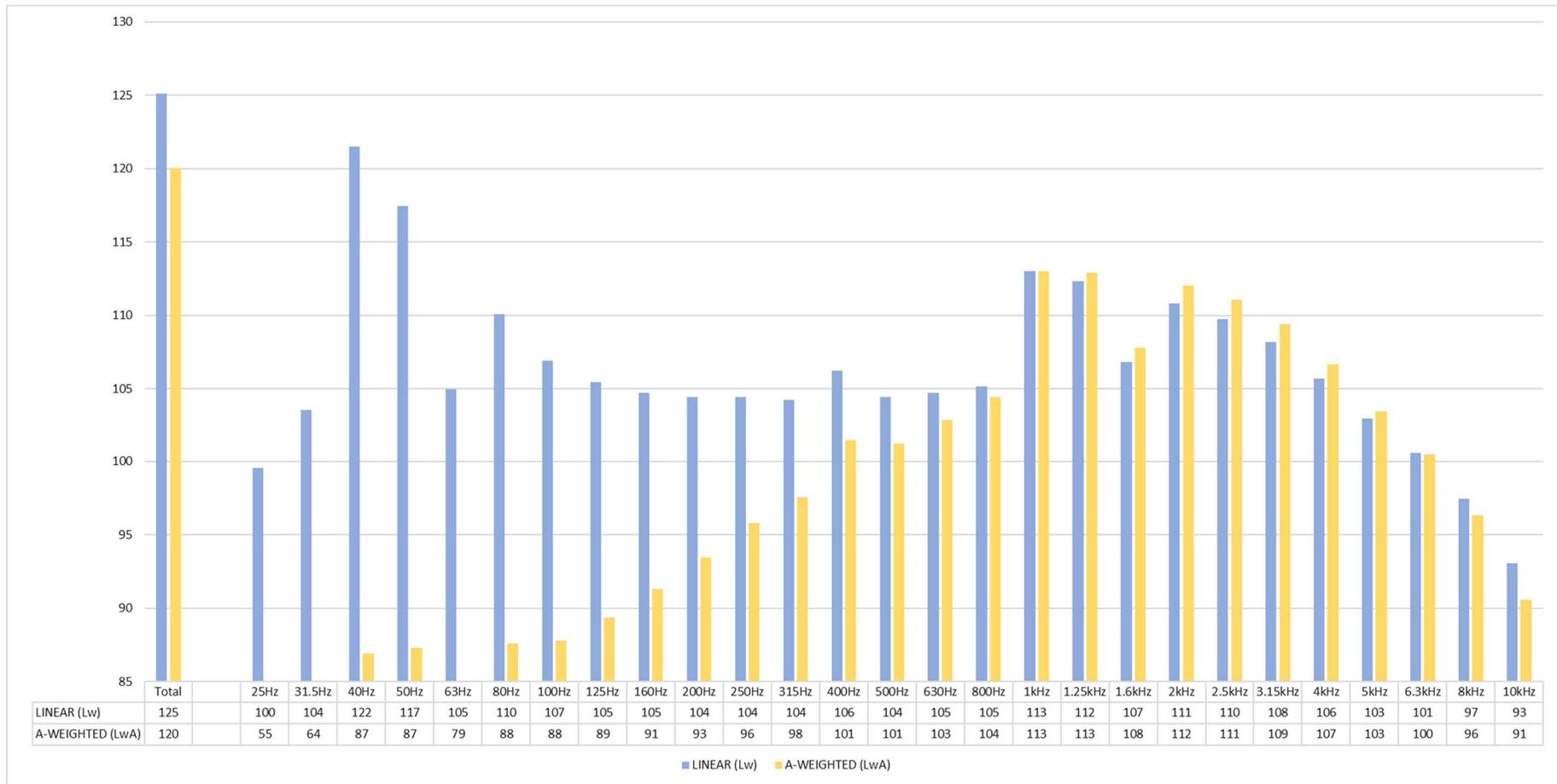


Figure I01: DT757 Dynamic Test Downhill

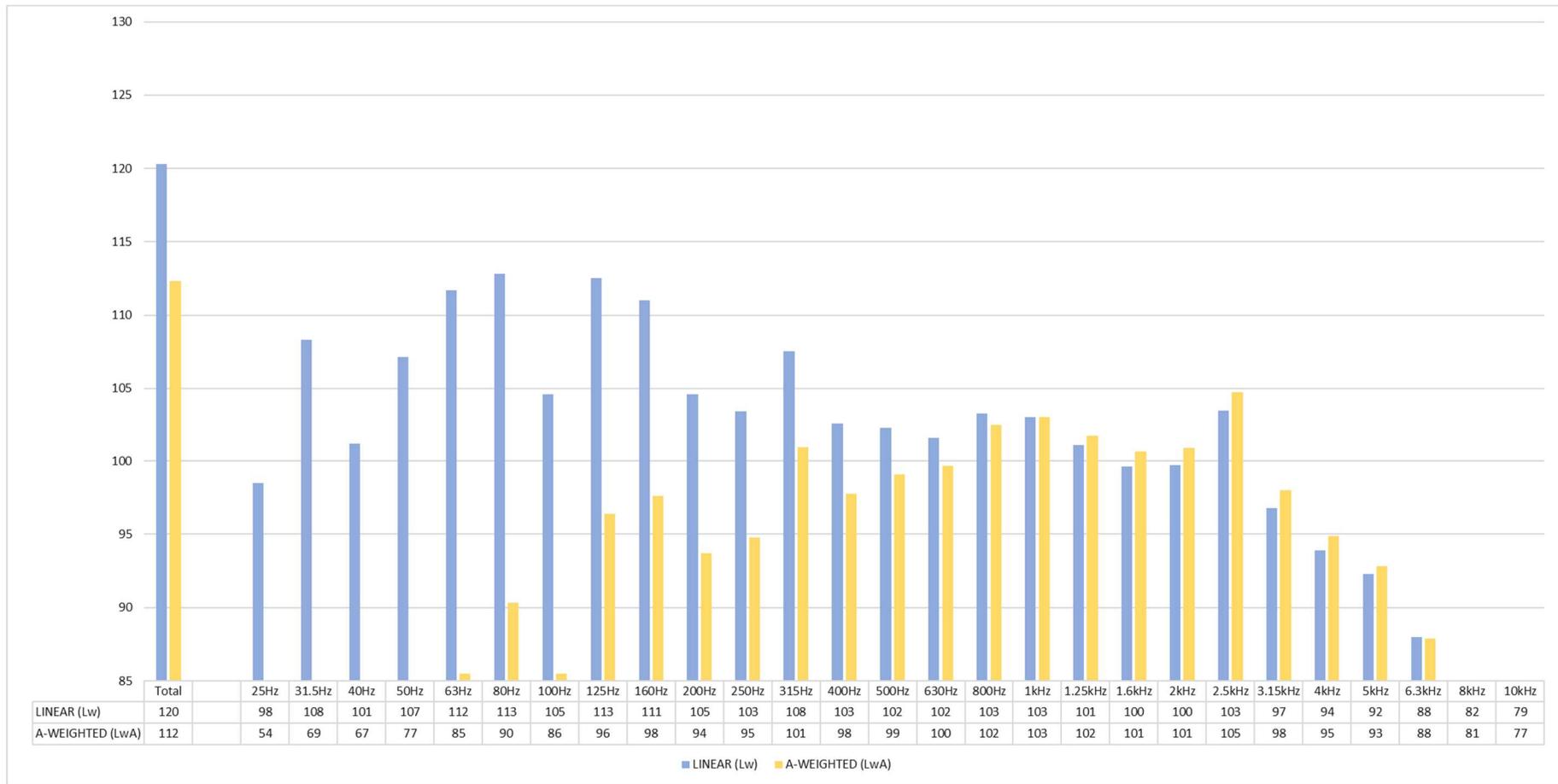


Figure I02: DT807 Stationary Test

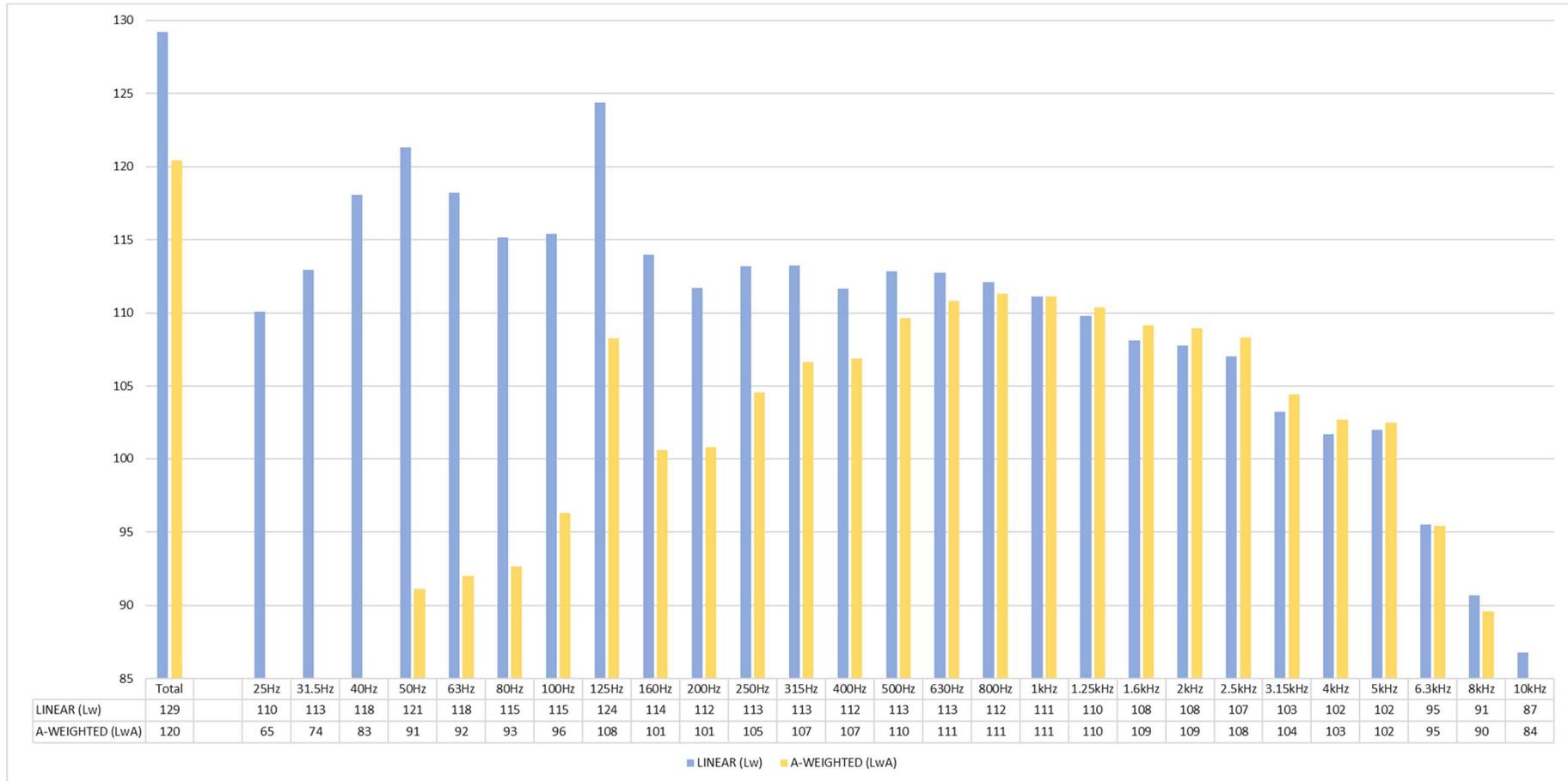


Figure I03: DT807 Dynamic Test Uphill

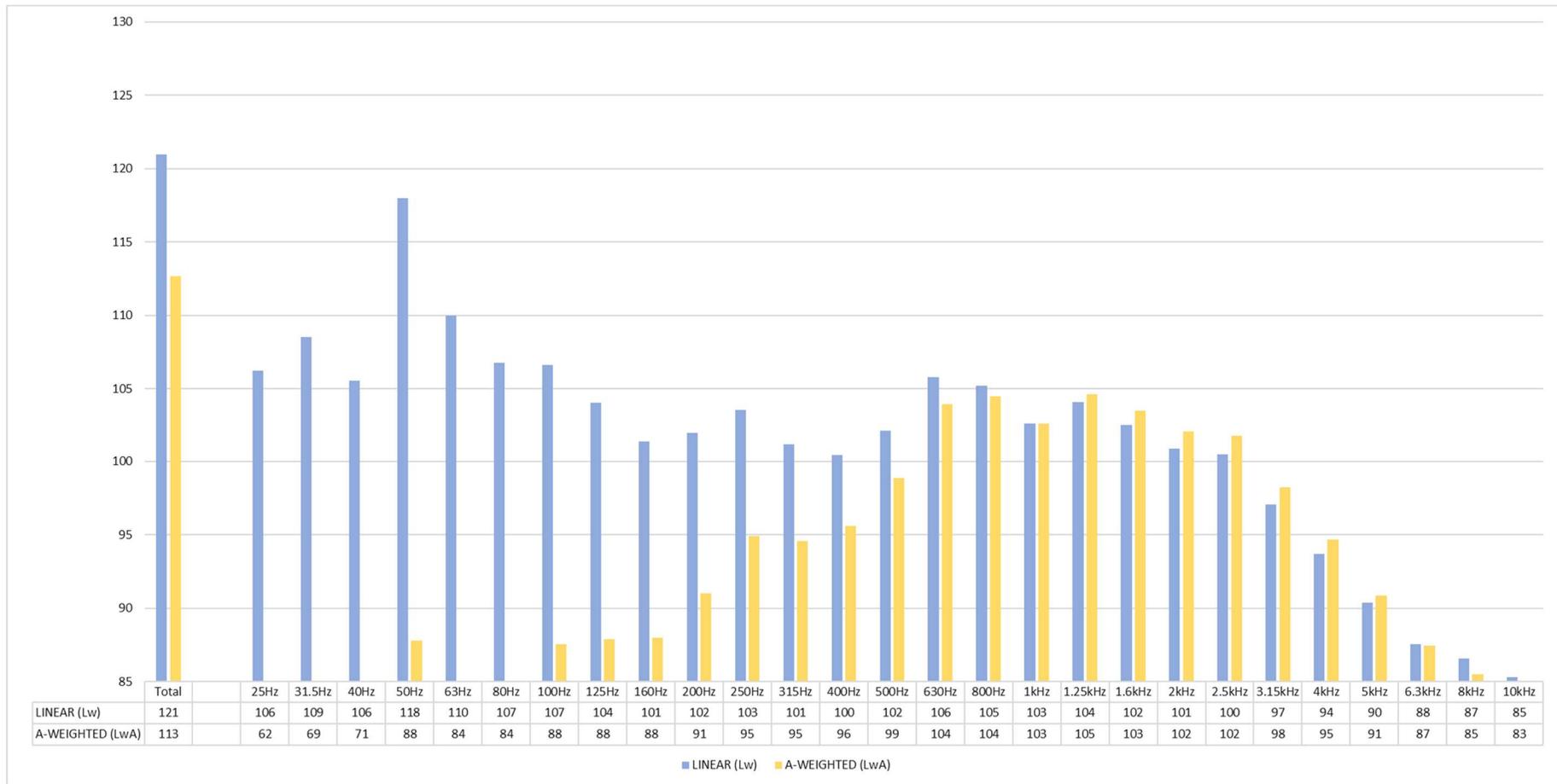


Figure I04: DT807 Dynamic Test Downhill

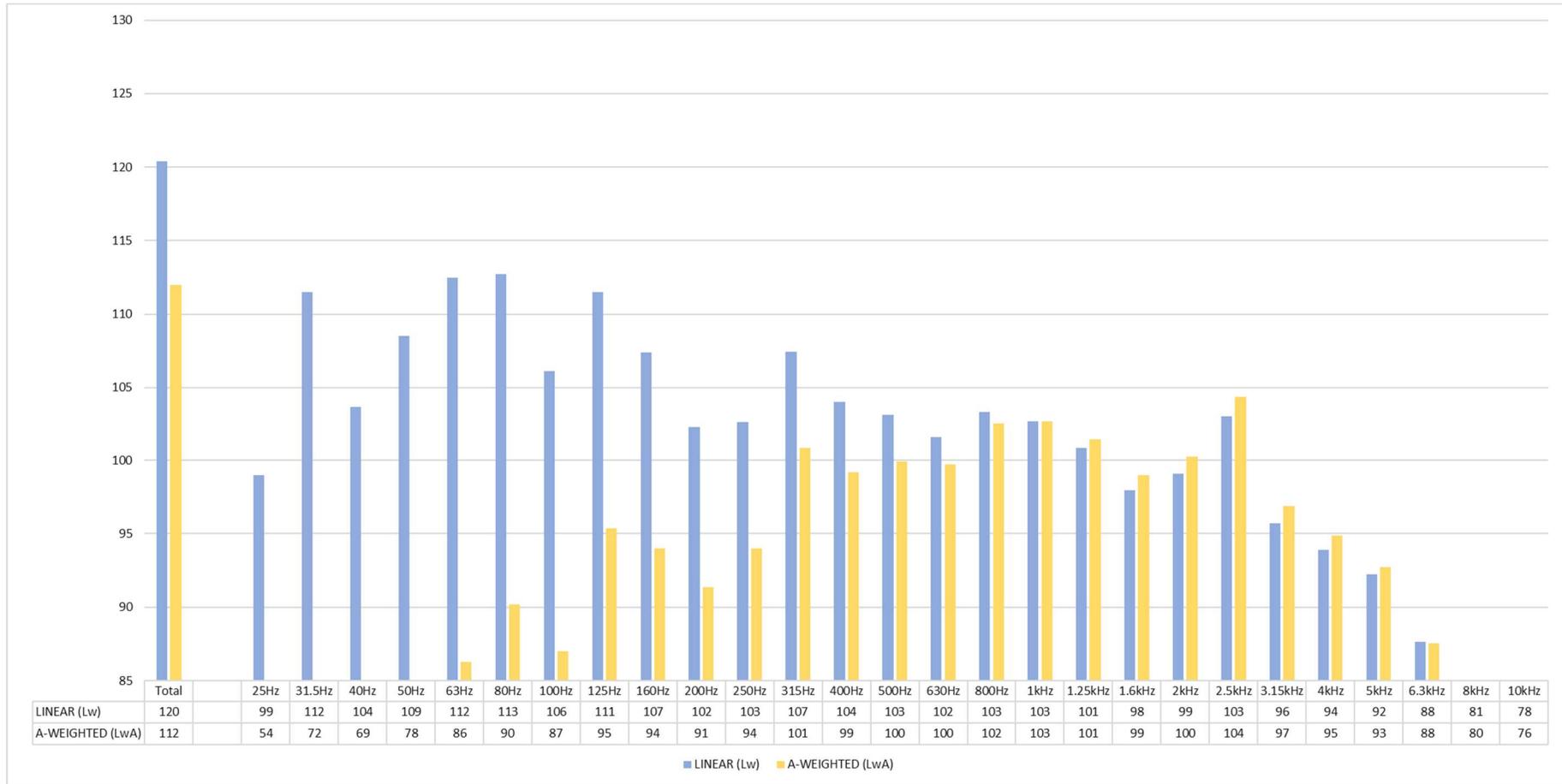


Figure I05: DT808 Stationary Test

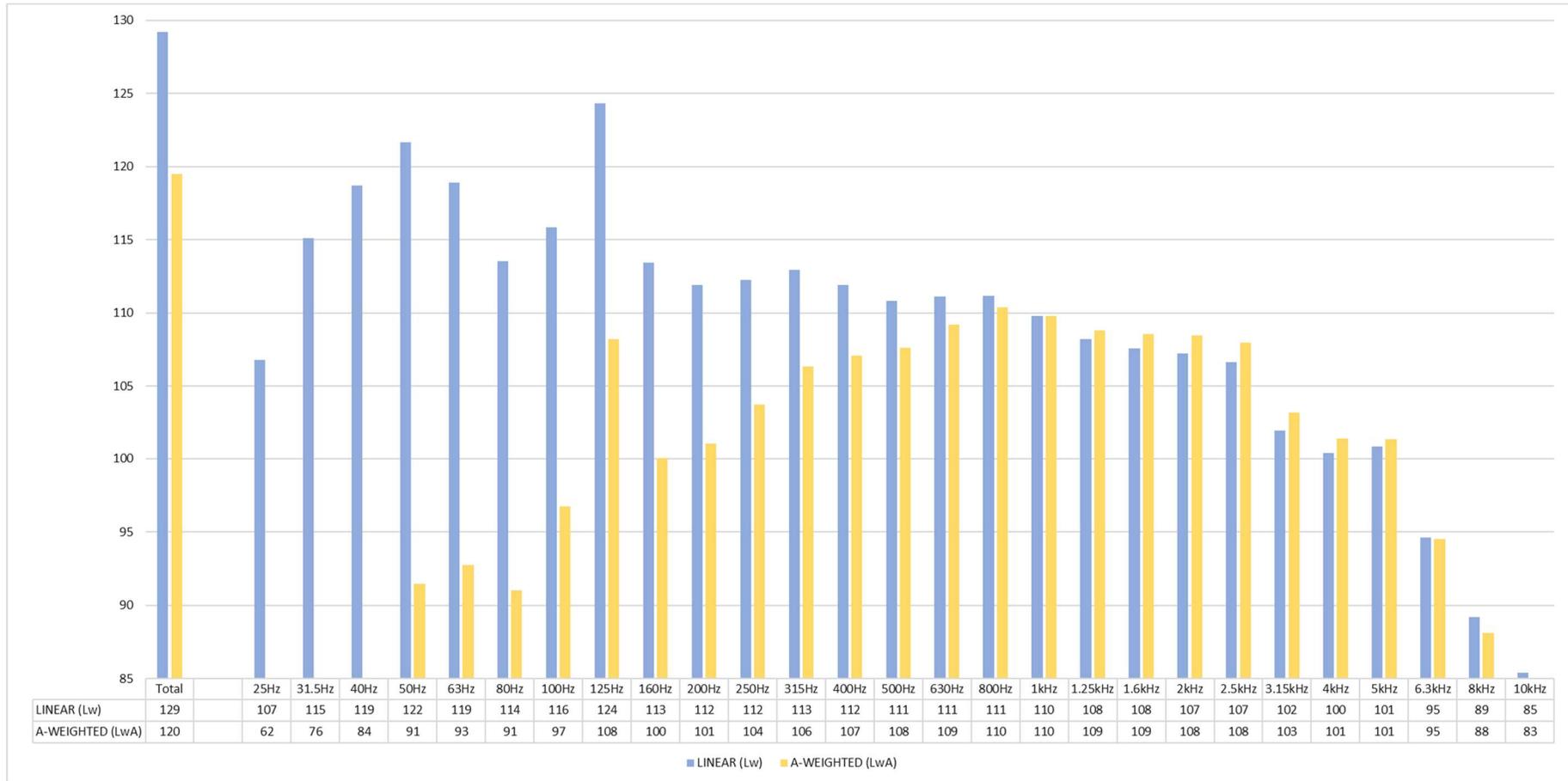


Figure I06: DT808 Dynamic Test Uphill

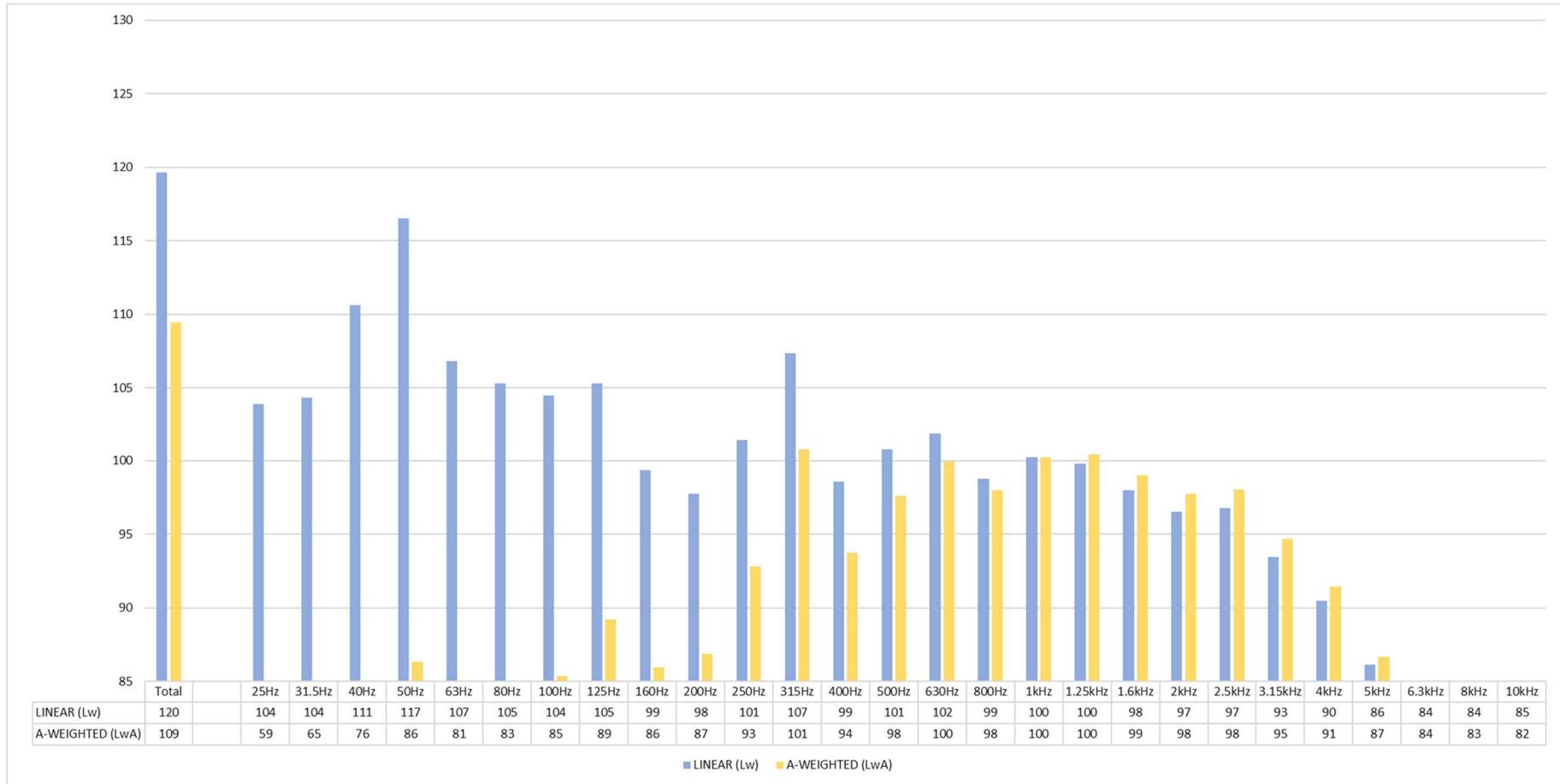


Figure I07: DT808 Dynamic Test Downhill

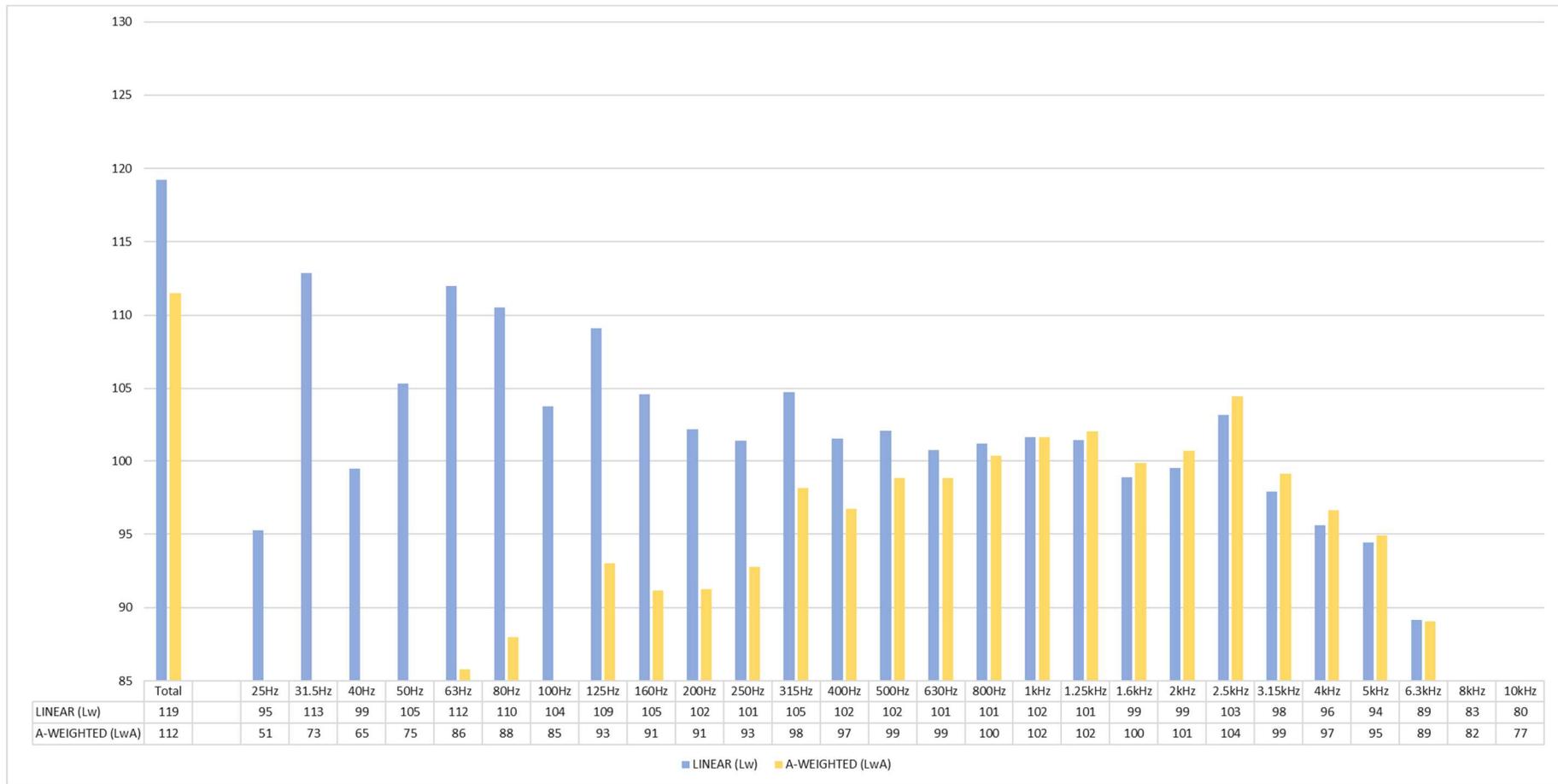


Figure I08: DT809 Stationary Test

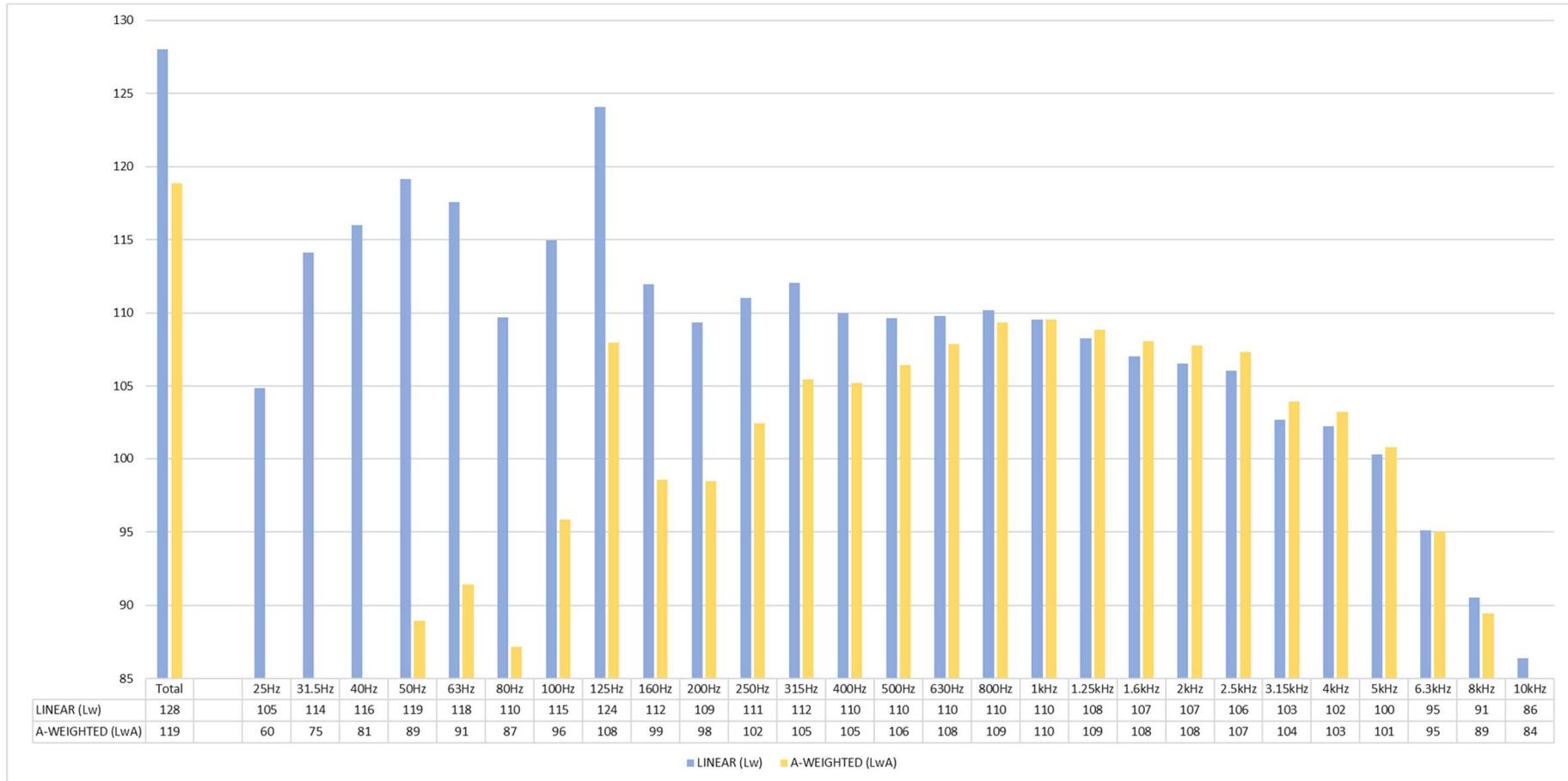


Figure I09: DT809 Dynamic Test Uphill

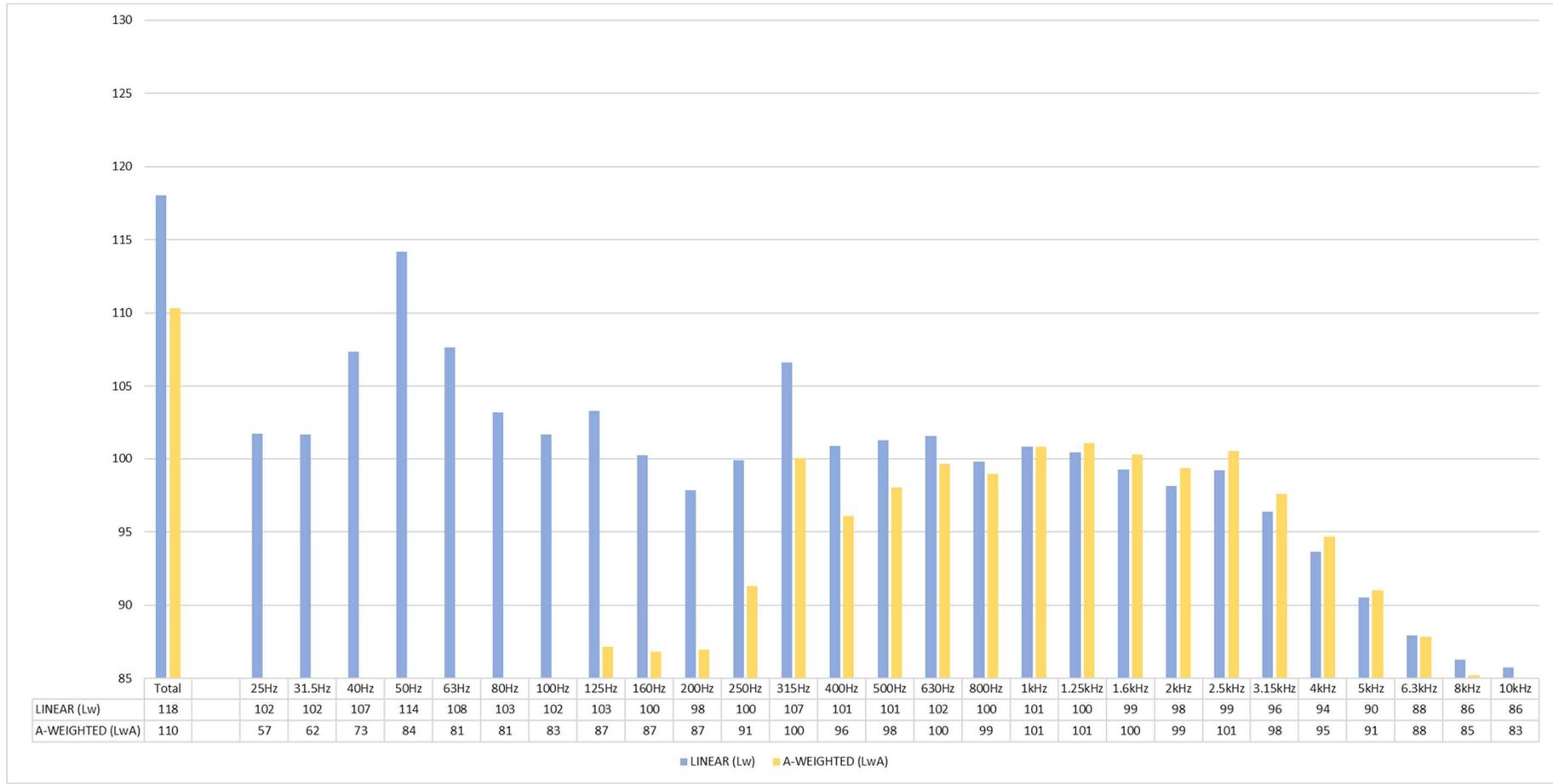


Figure I 10: DT809 Dynamic Test Downhill

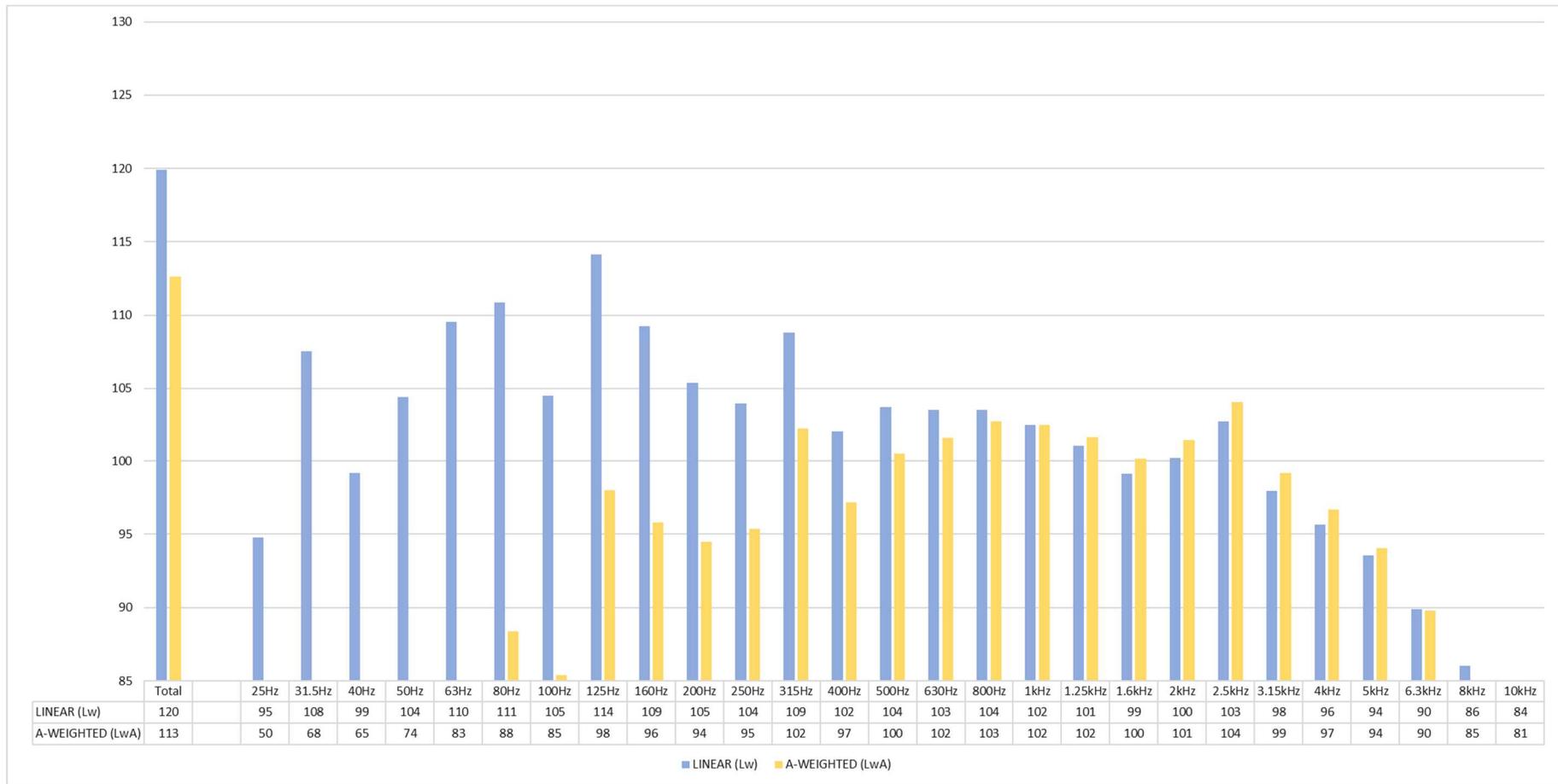


Figure 111: DT810 Stationary Test

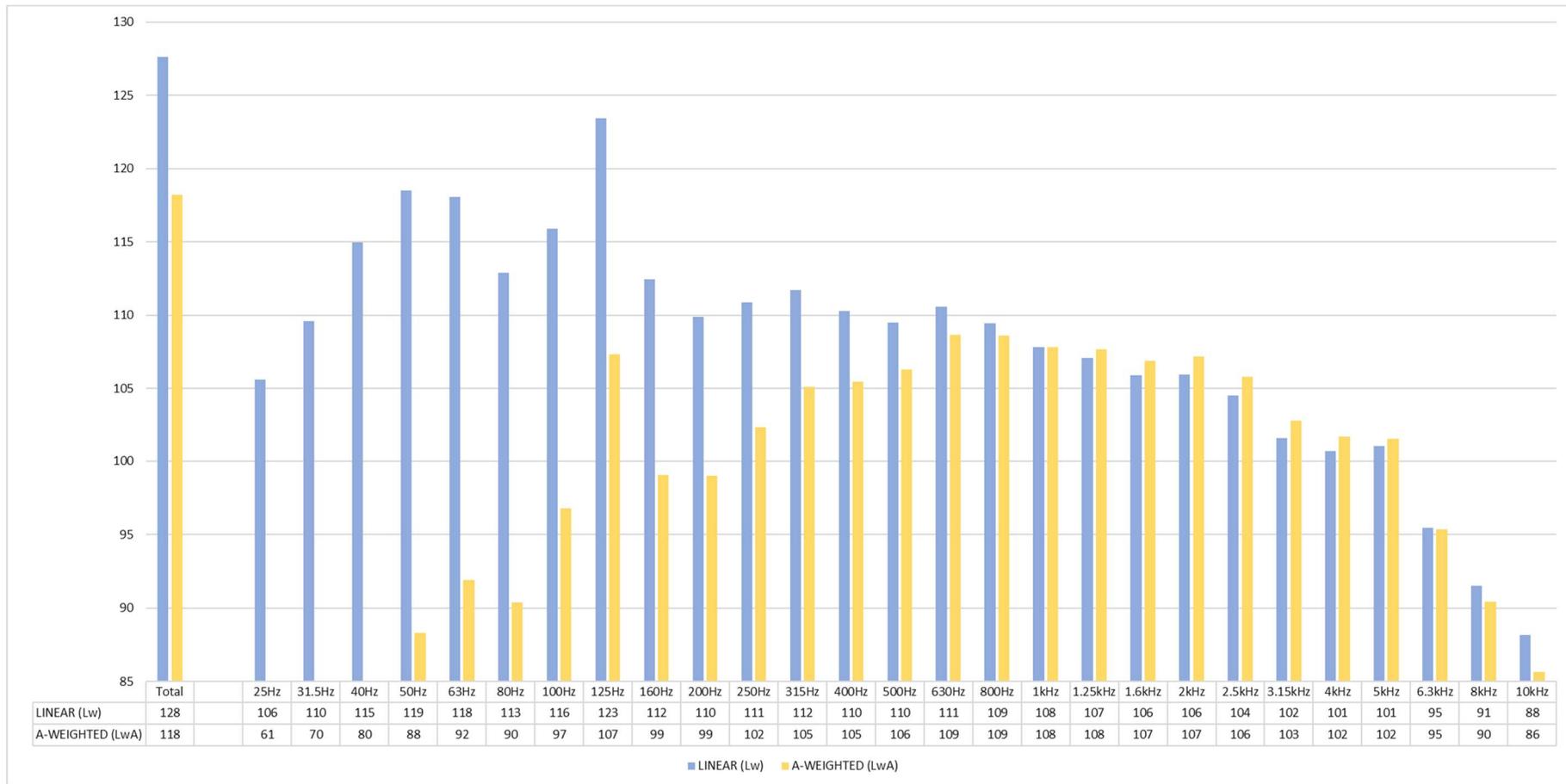


Figure I 12: DT810 Dynamic Test Uphill

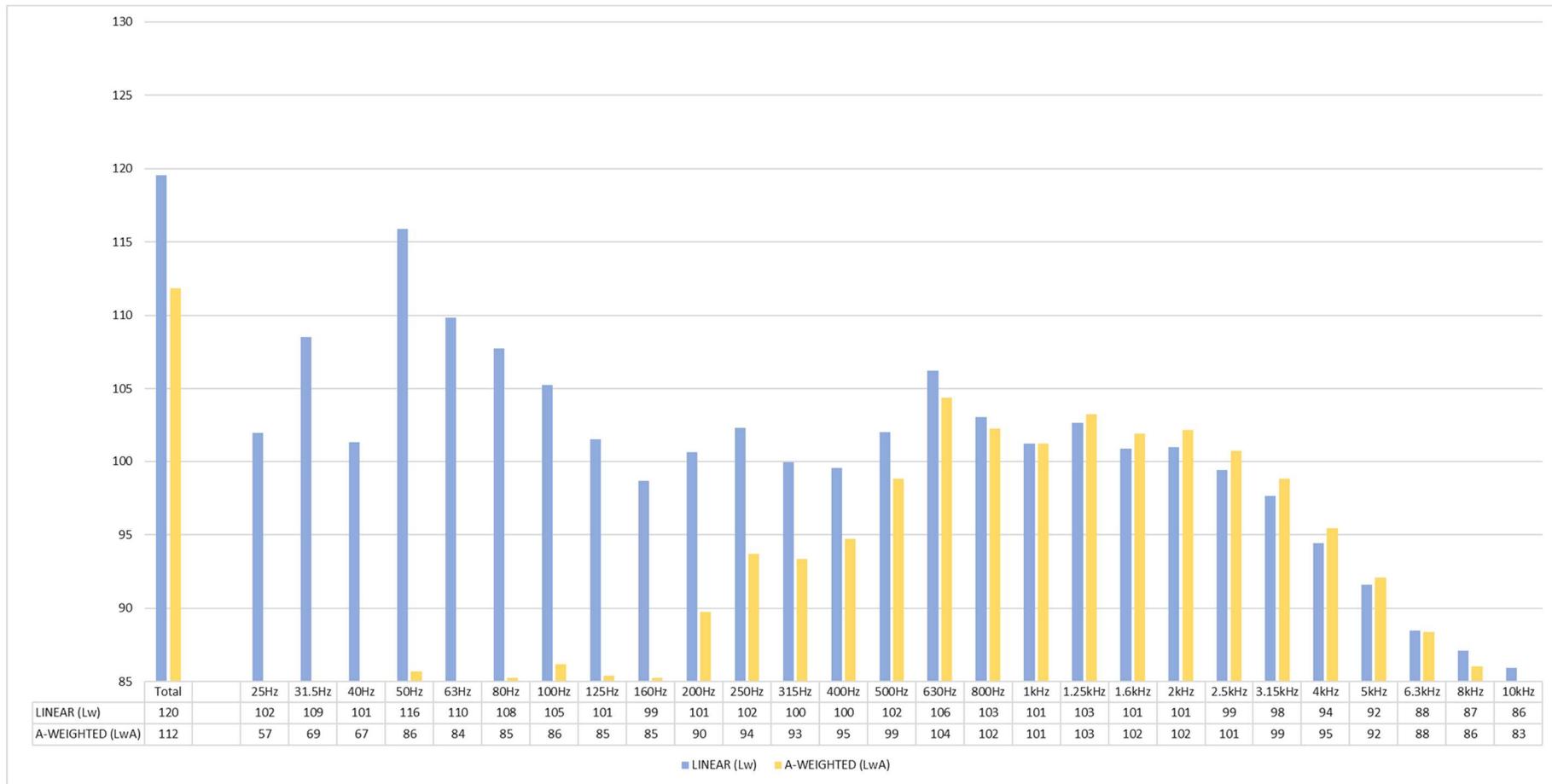


Figure I13: DT810 Dynamic Test Downhill

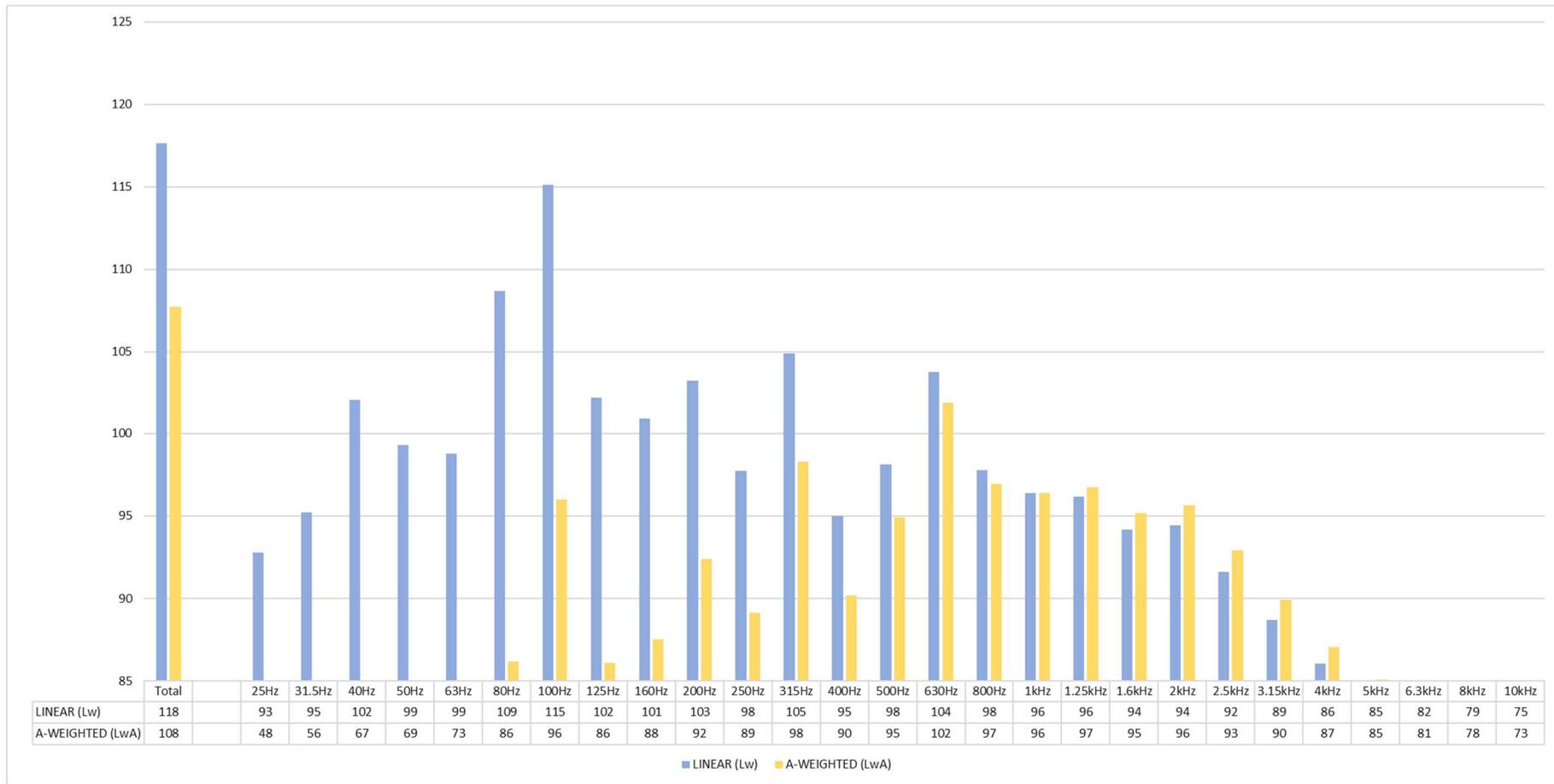


Figure I14: WD001 Stationary Test

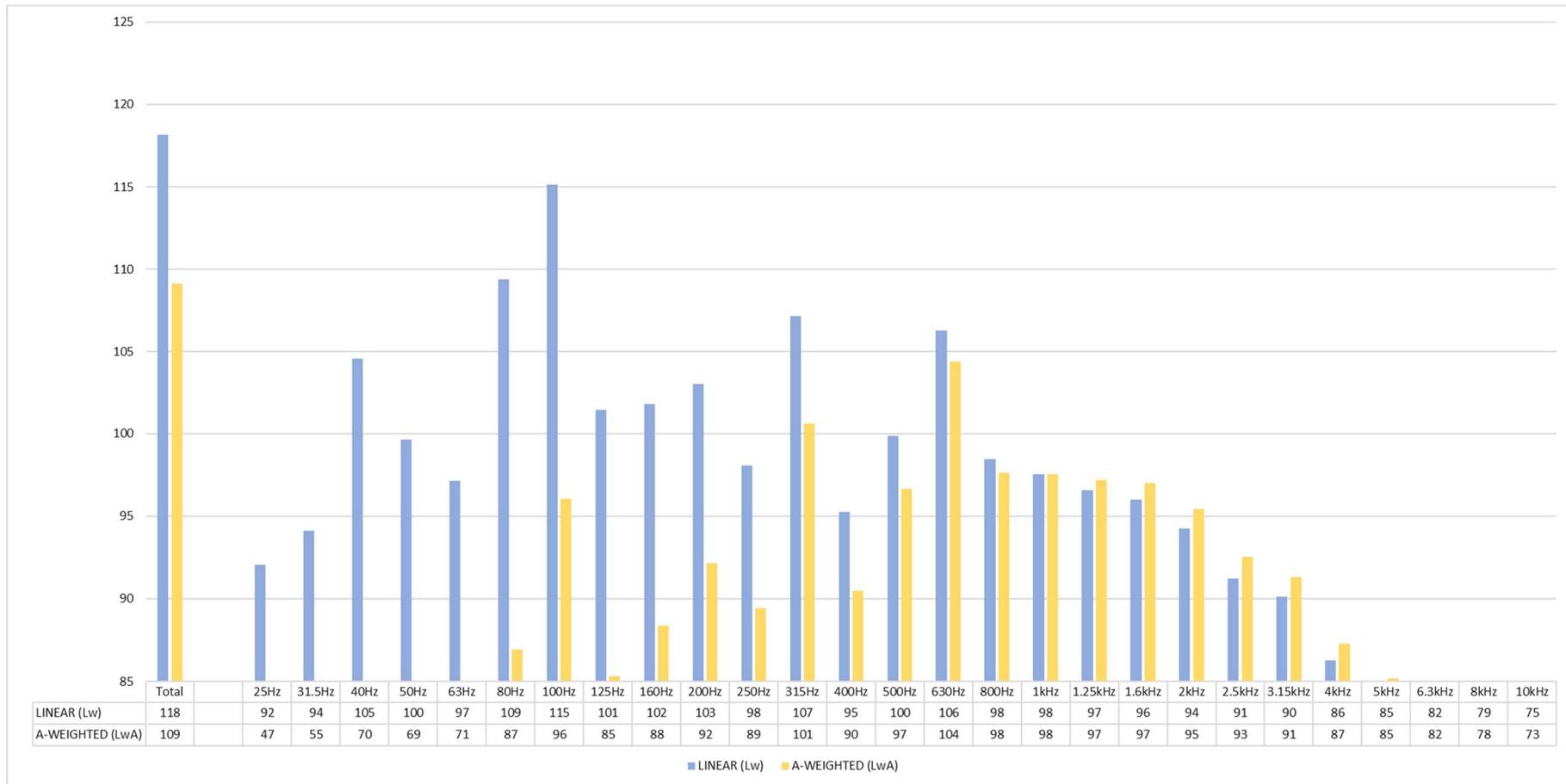


Figure 115: WD001 Dynamic Test Forwards

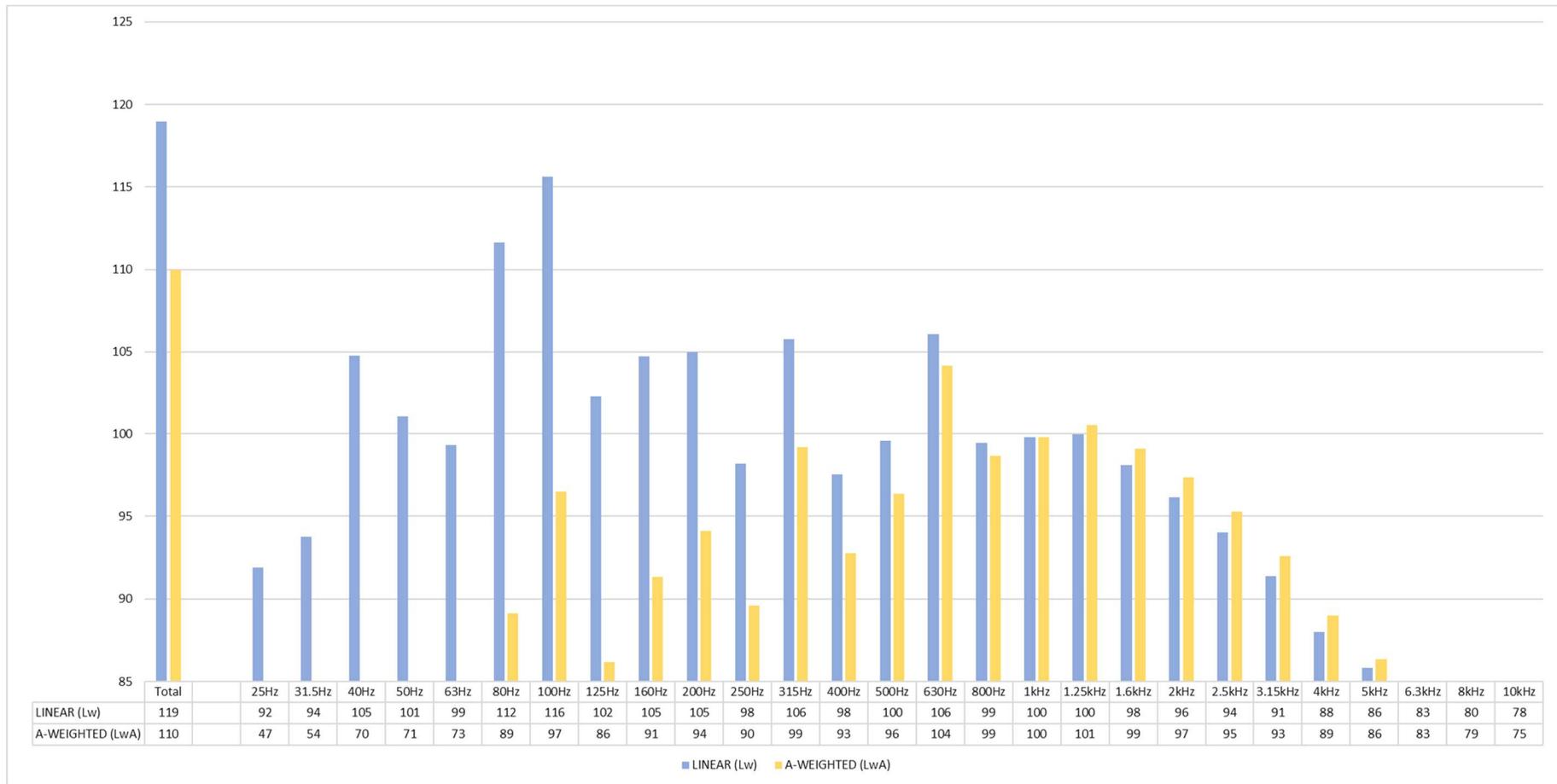


Figure I 16: WD001 Dynamic Test Reverse

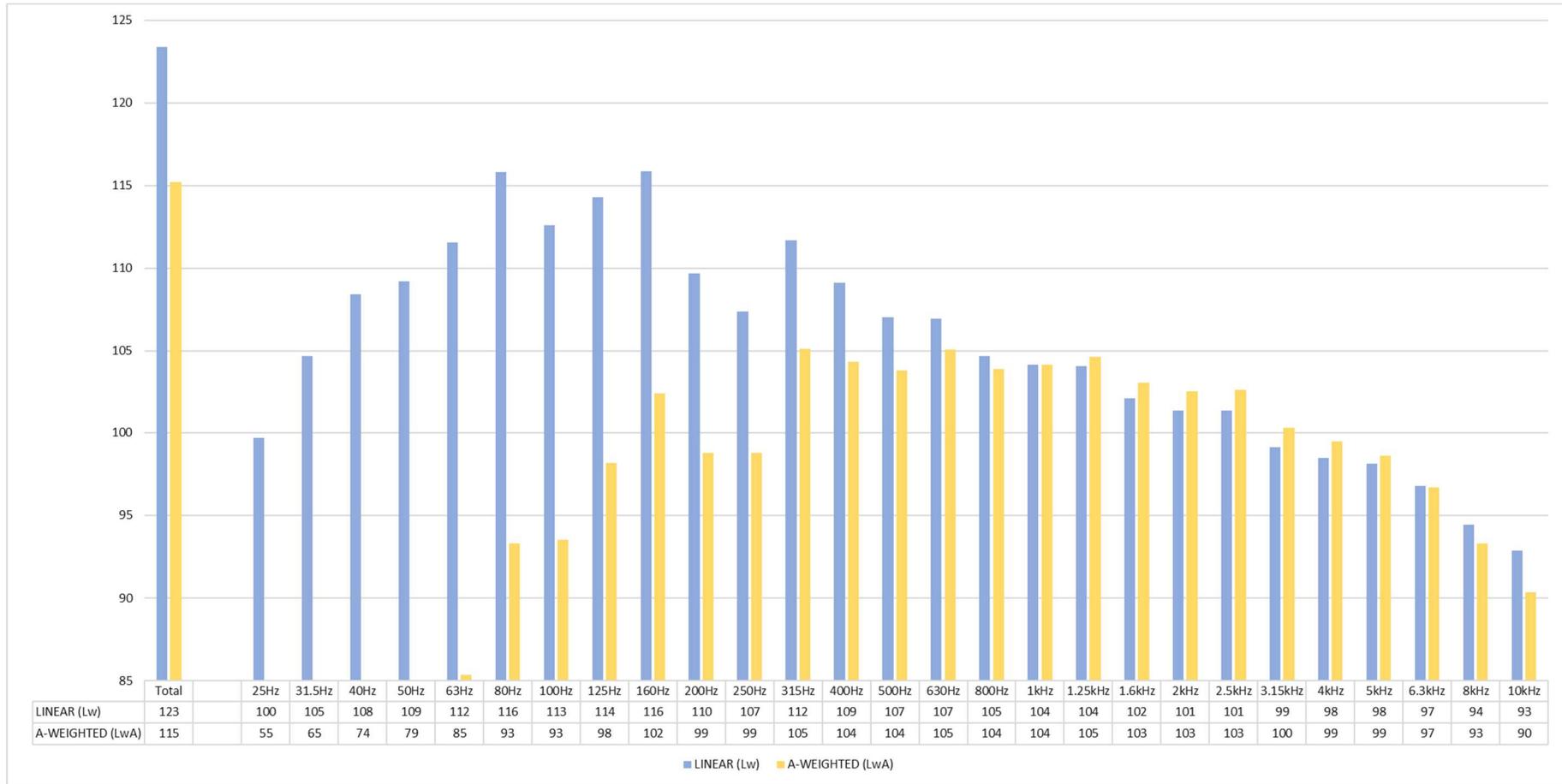


Figure I 17: WLI88 Stationary Test

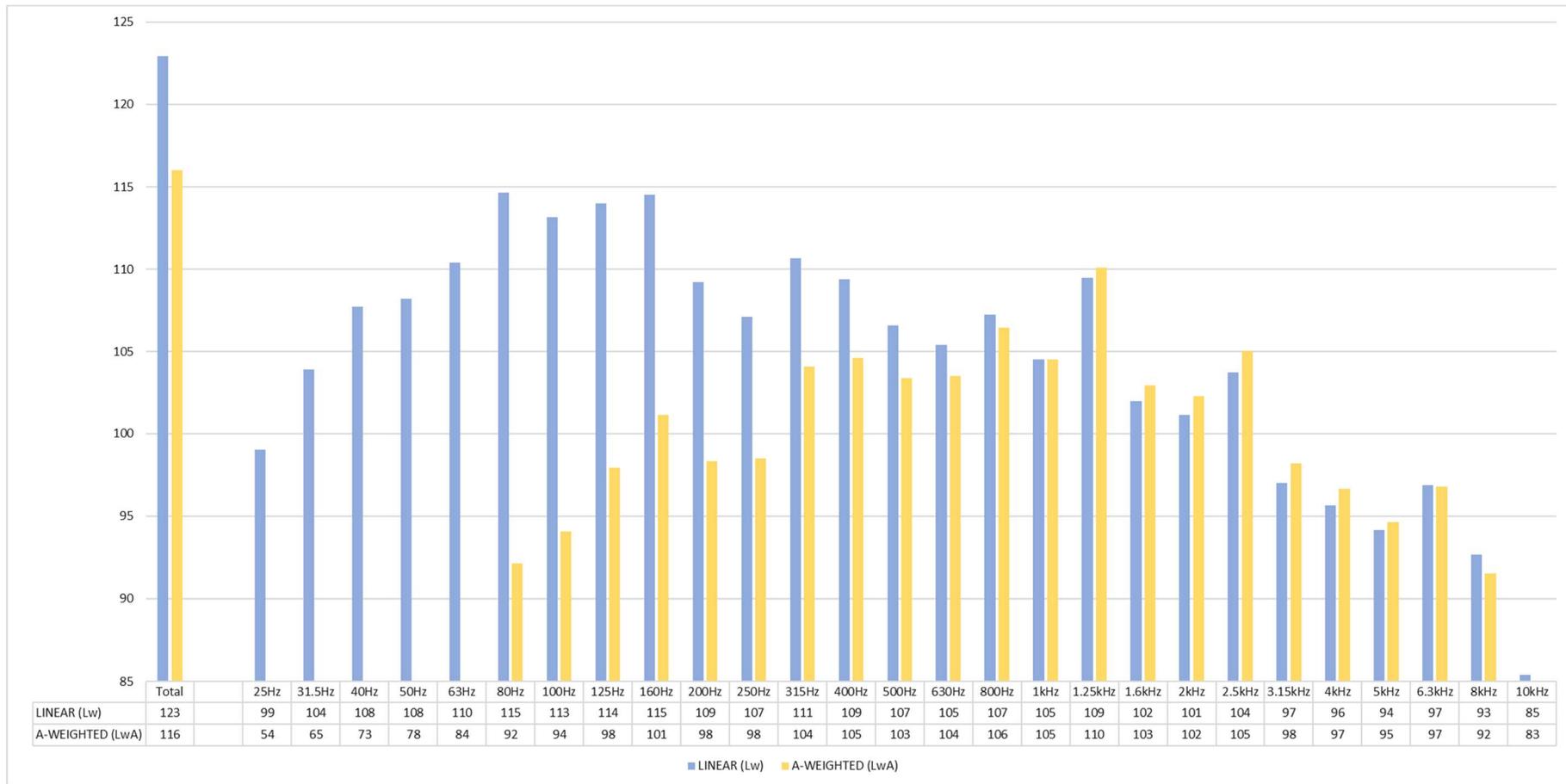


Figure I 18: WLI88 Dynamic Test Forwards

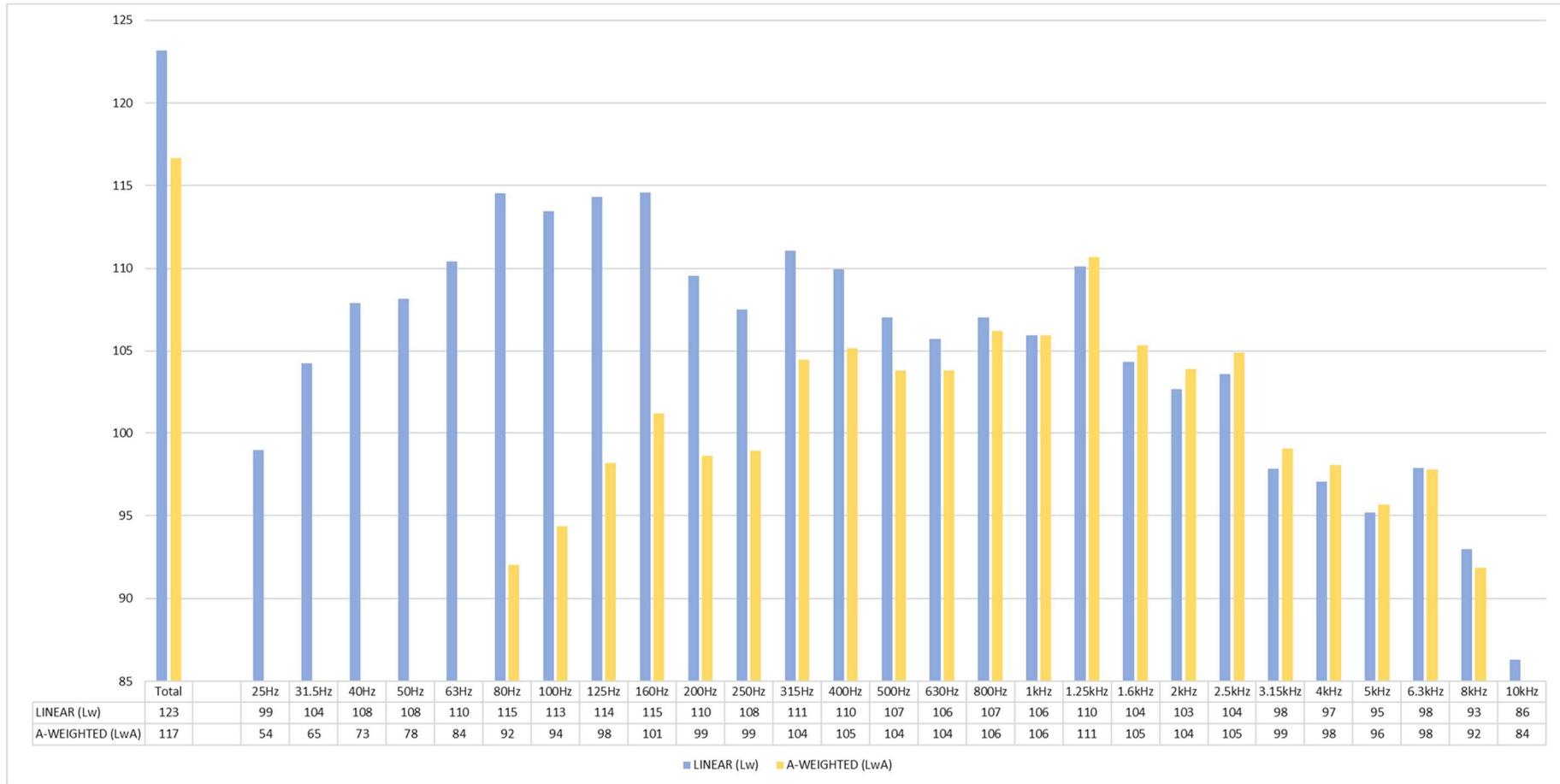


Figure I 19: WLI88 Dynamic Test Reverse

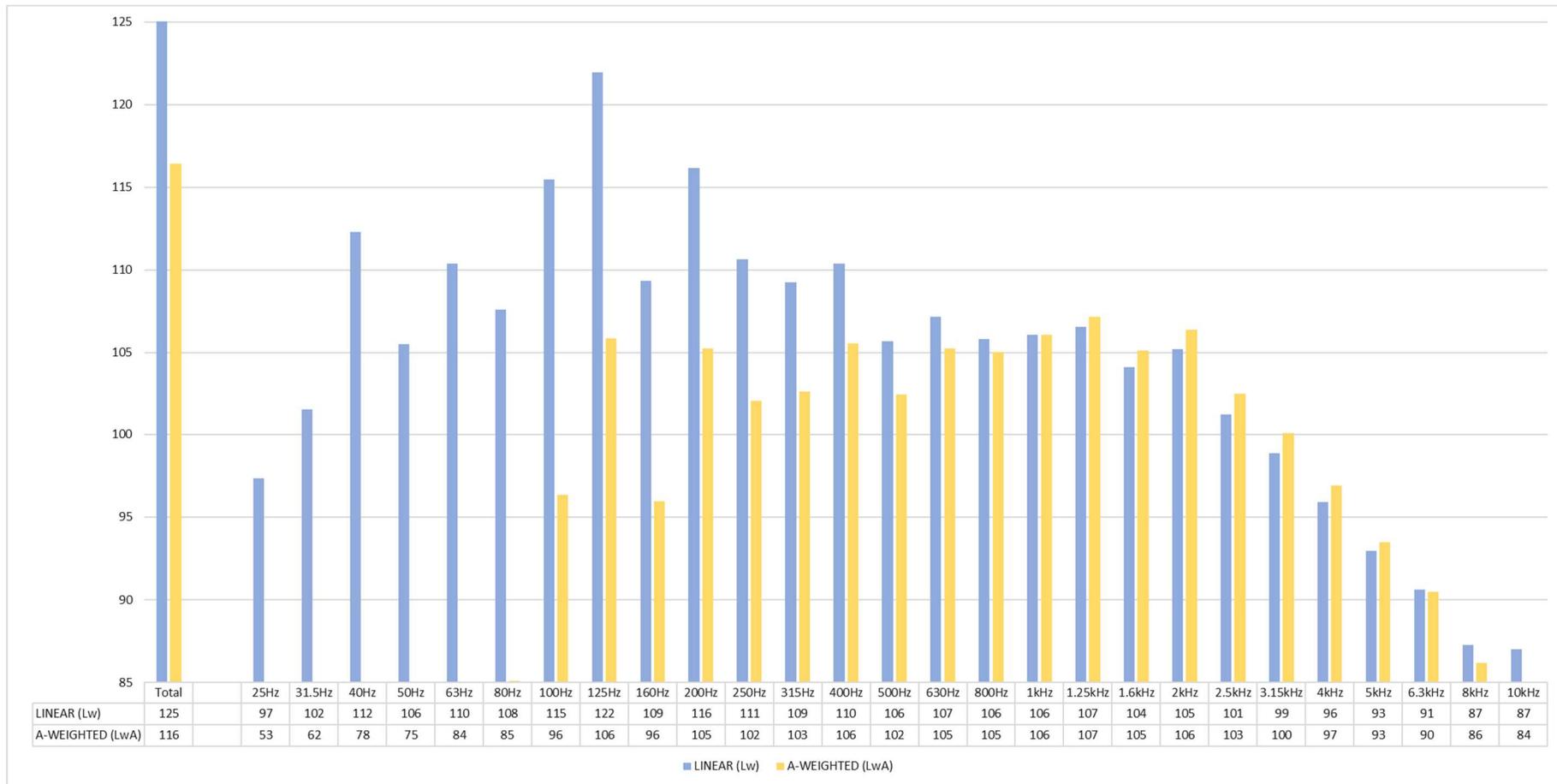


Figure I20: TK828 Stationary Test

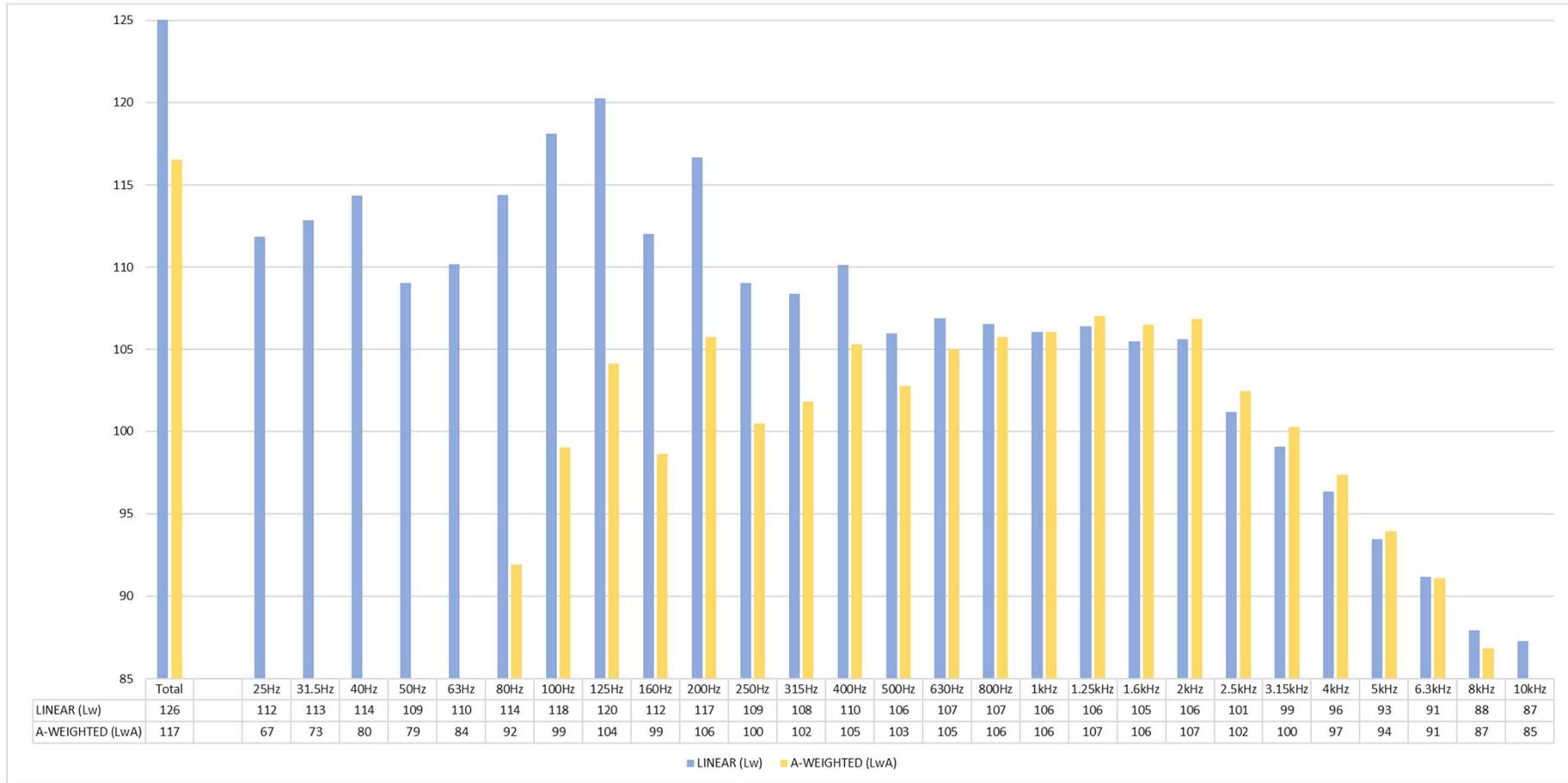


Figure 121: TK828 Dynamic Test Uphill

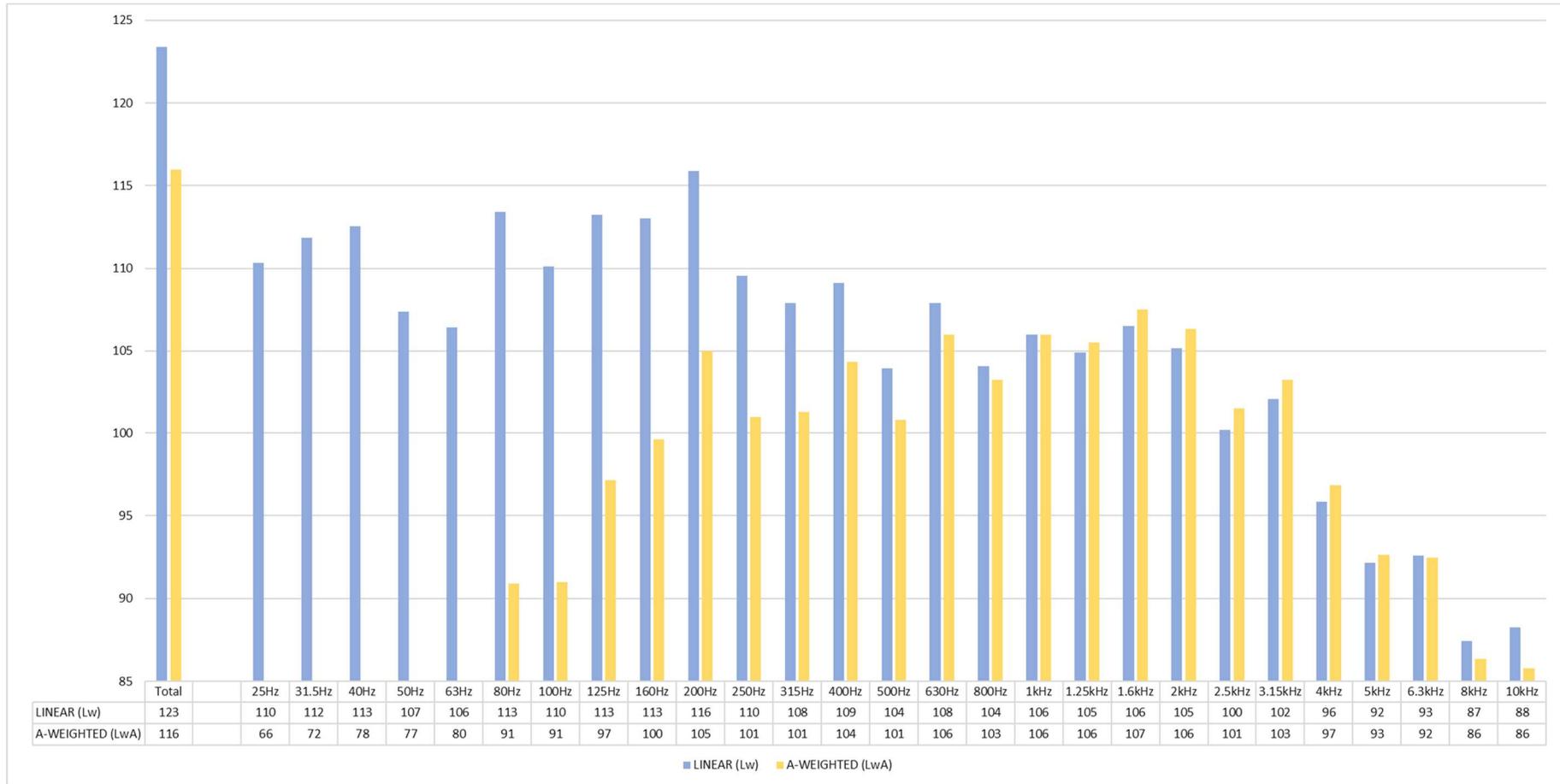


Figure I22: TK828 Dynamic Test Downhill

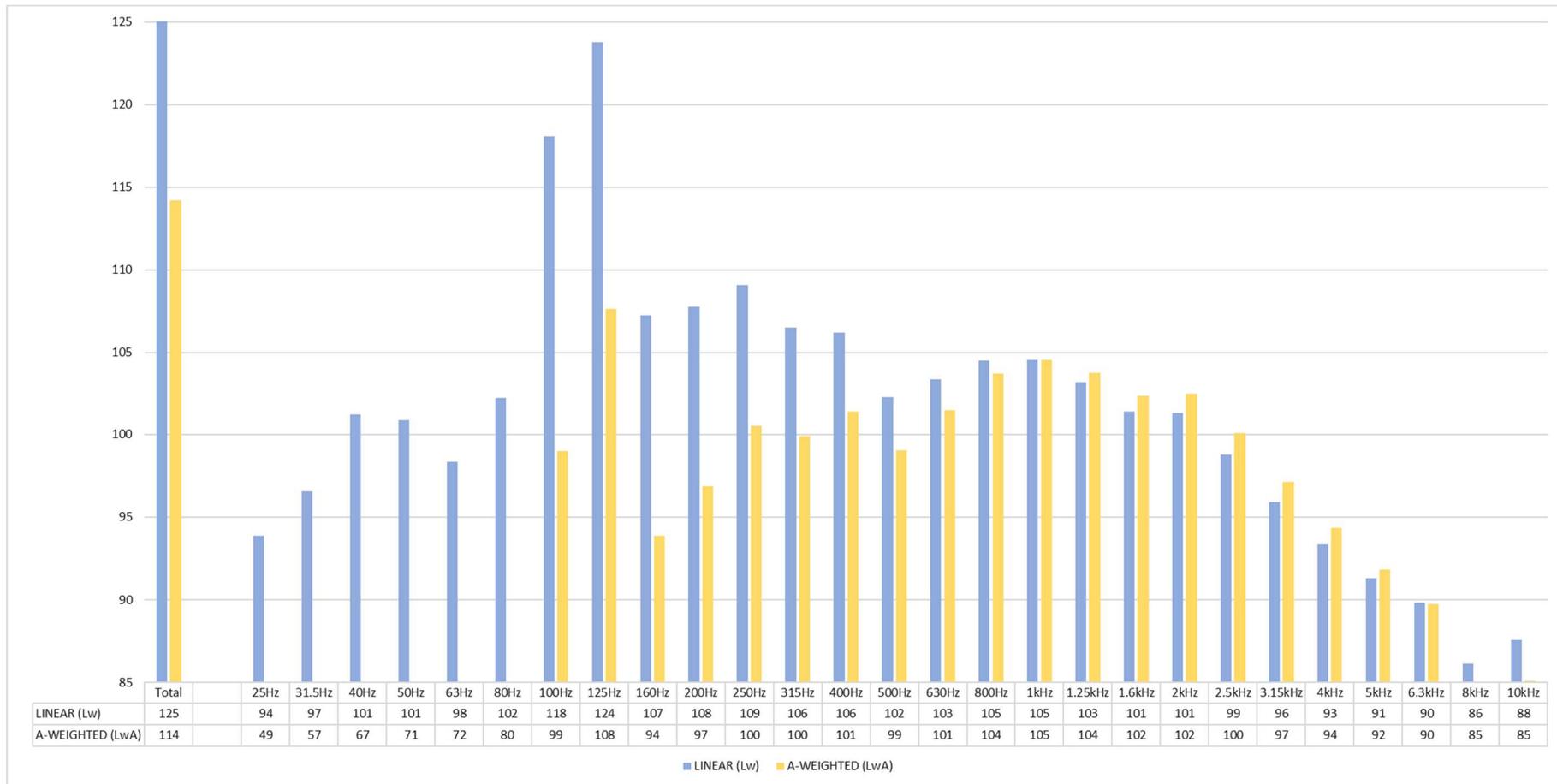


Figure 123: TK829 Stationary Test

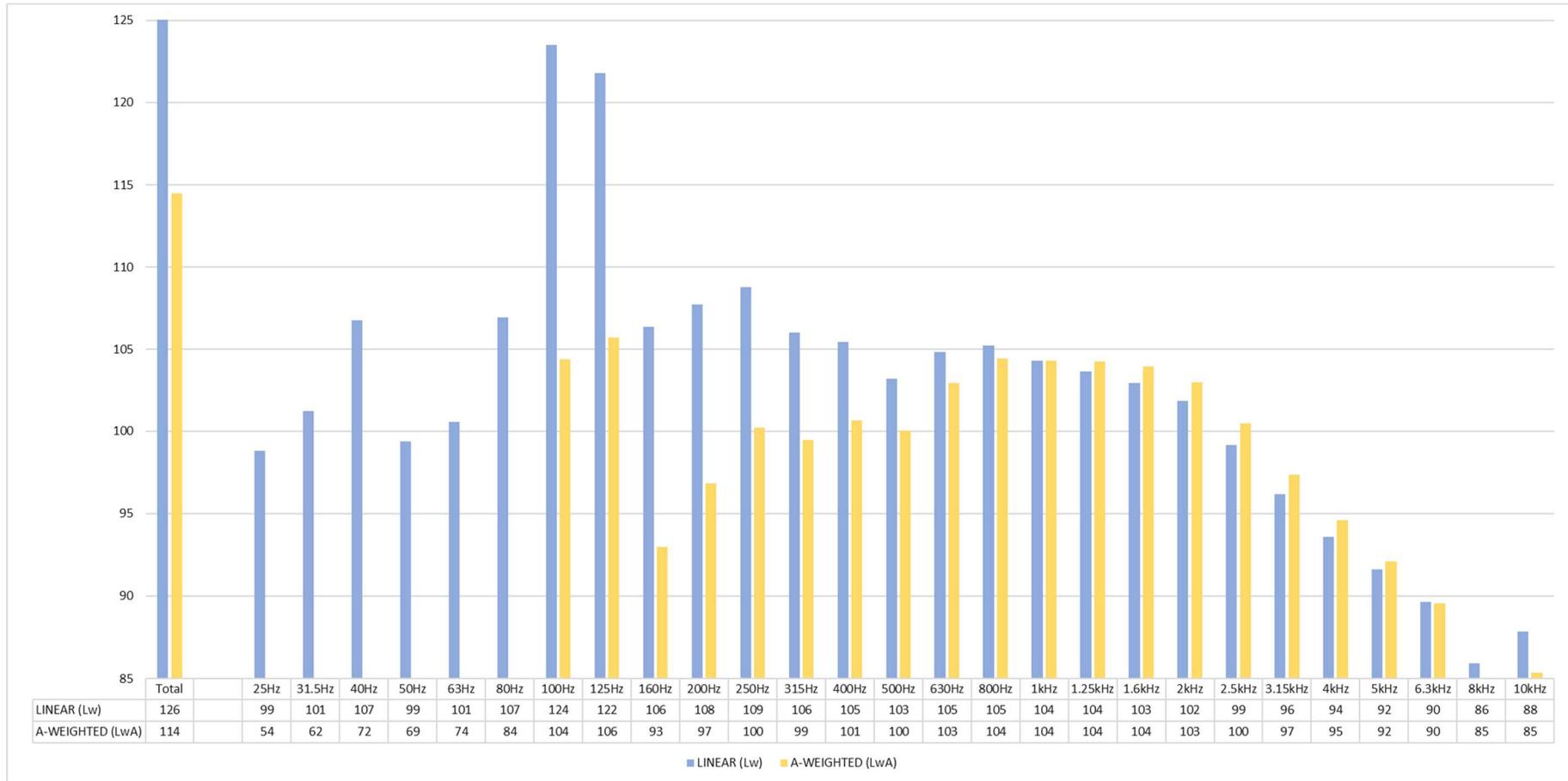


Figure I24: TK829 Dynamic Test Uphill

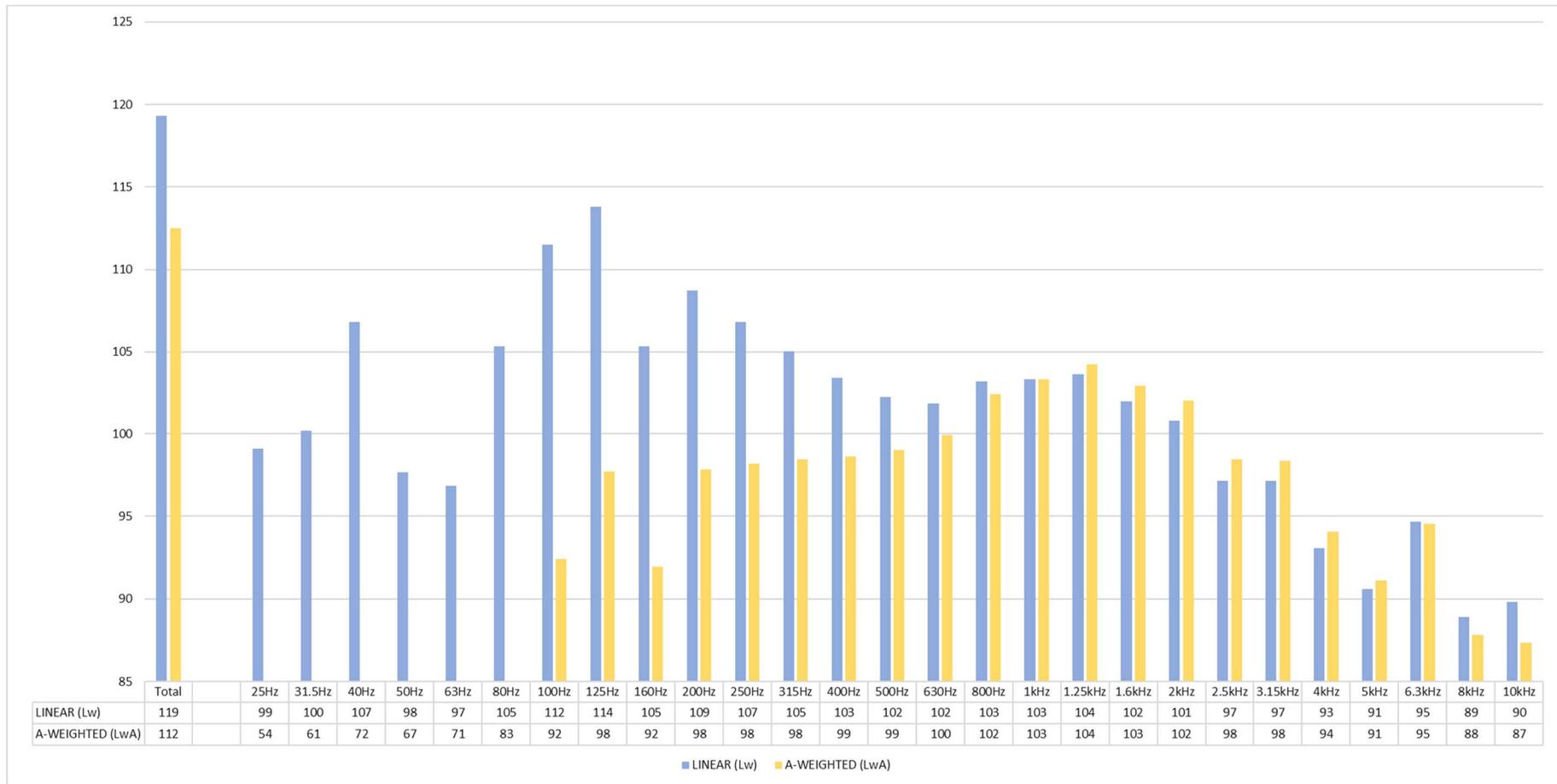


Figure 125: TK829 Dynamic Test Downhill

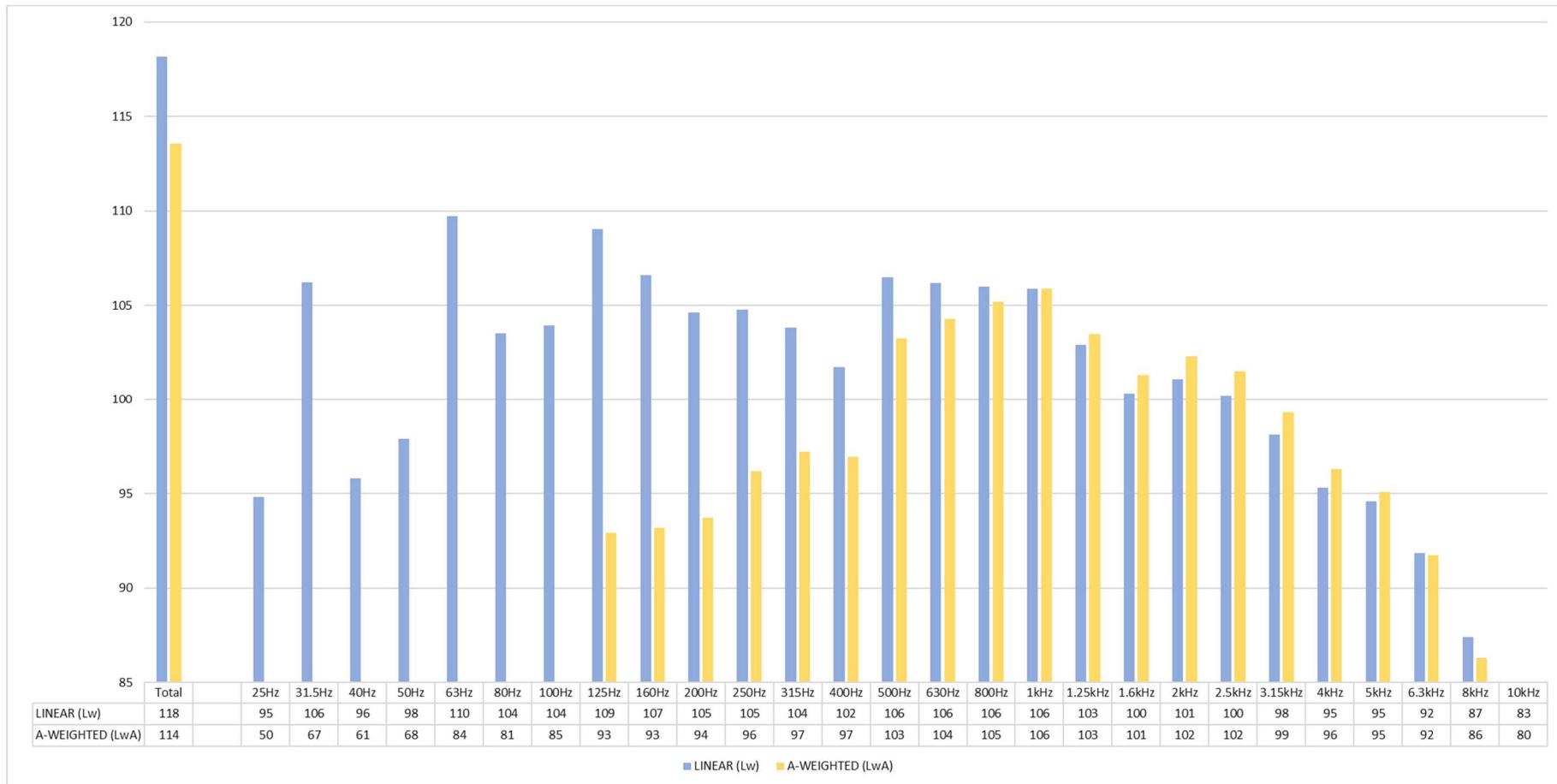


Figure I26: WC045 Stationary Test

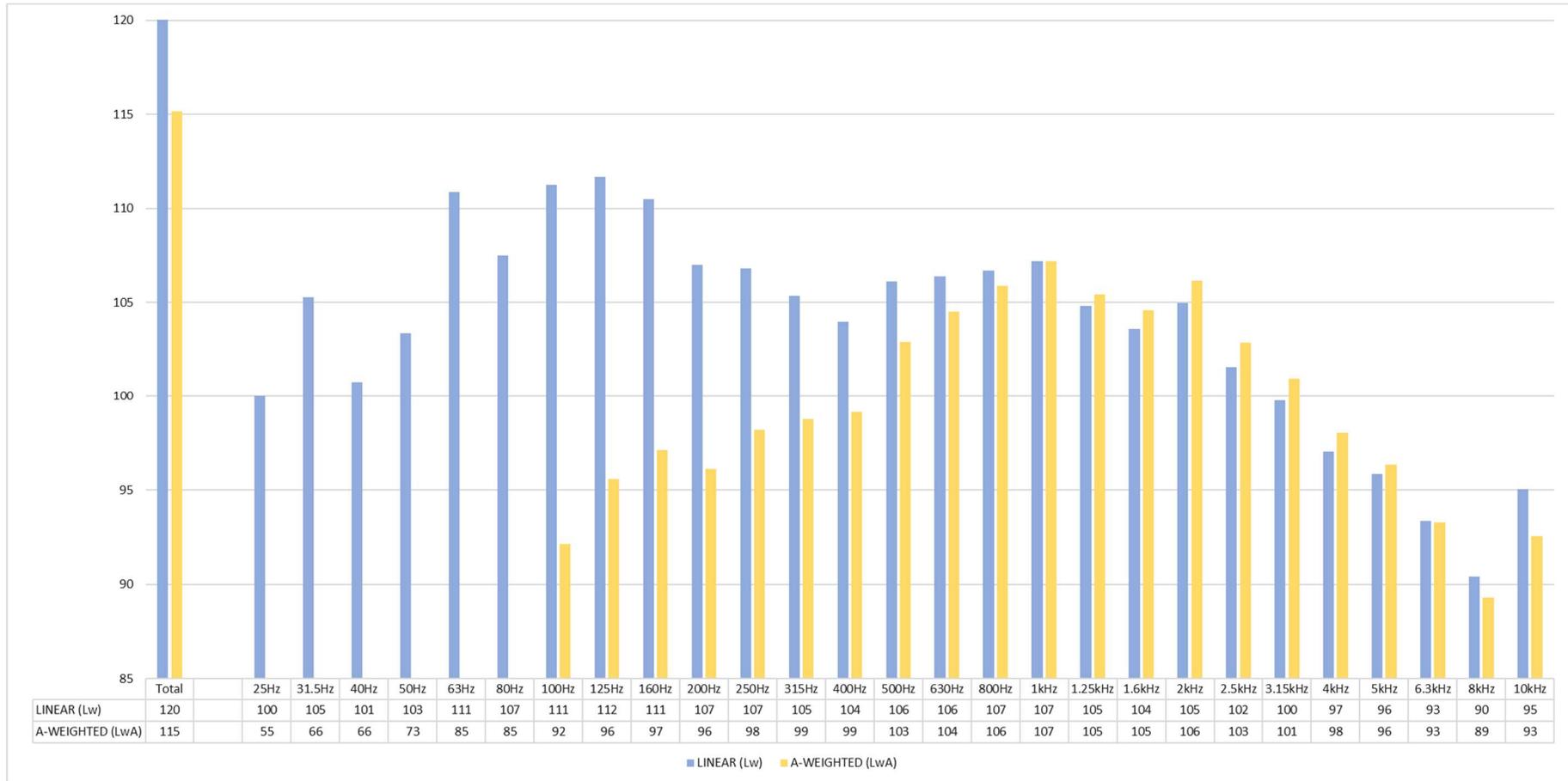


Figure I27: WC045 Dynamic Test Uphill

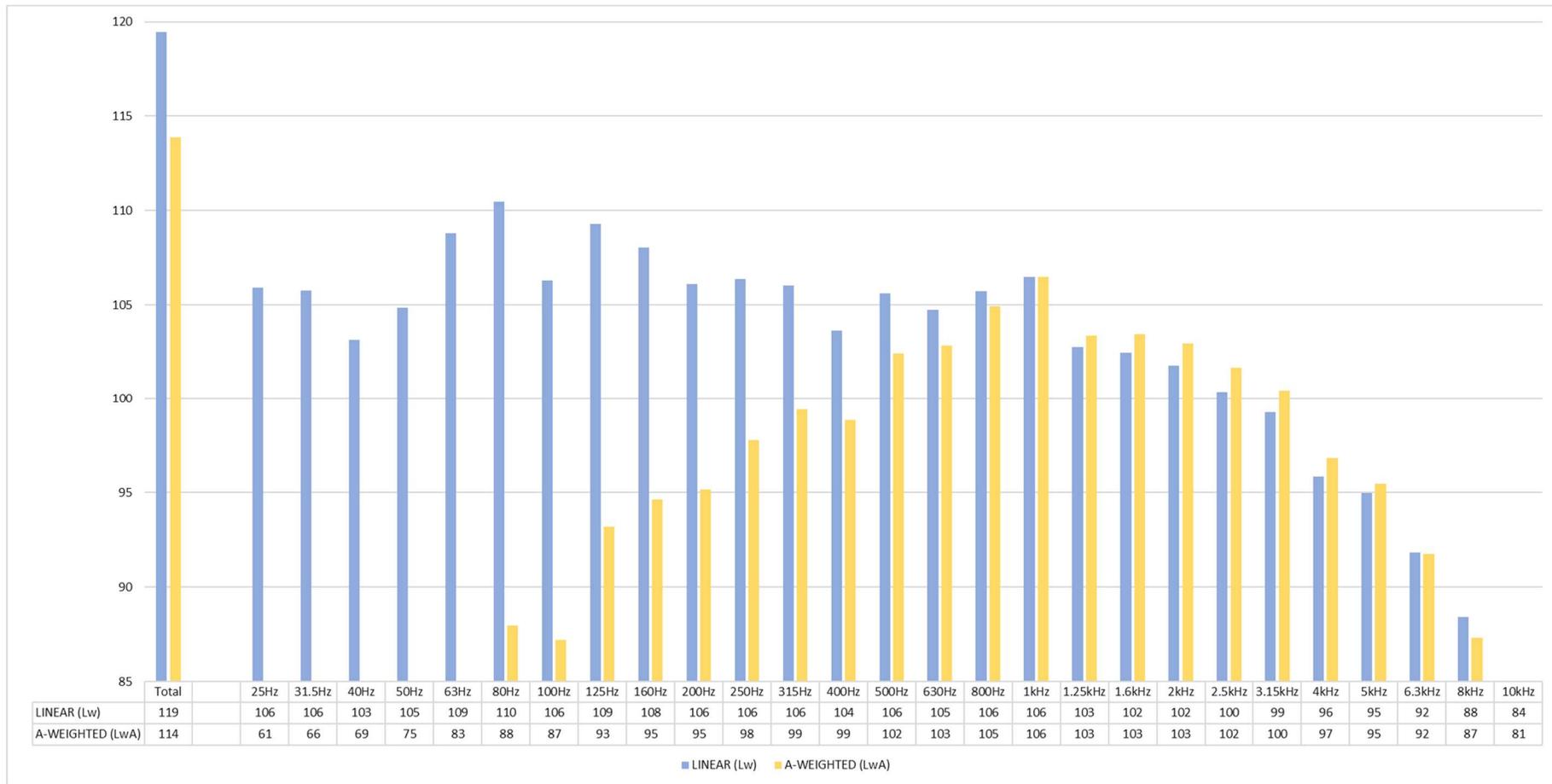


Figure 128: WC045 Dynamic Test Downhill

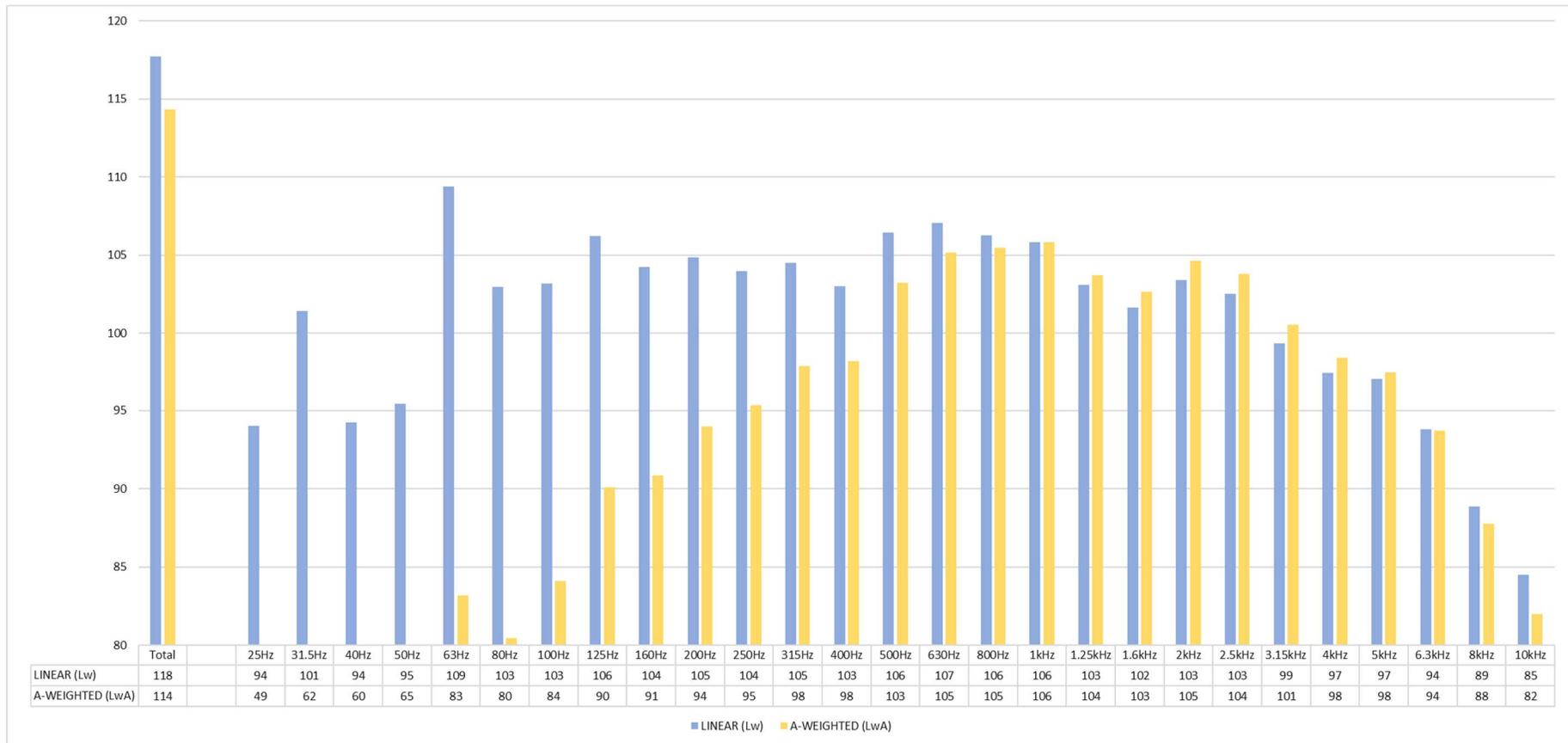


Figure I29: WC046 Stationary Test

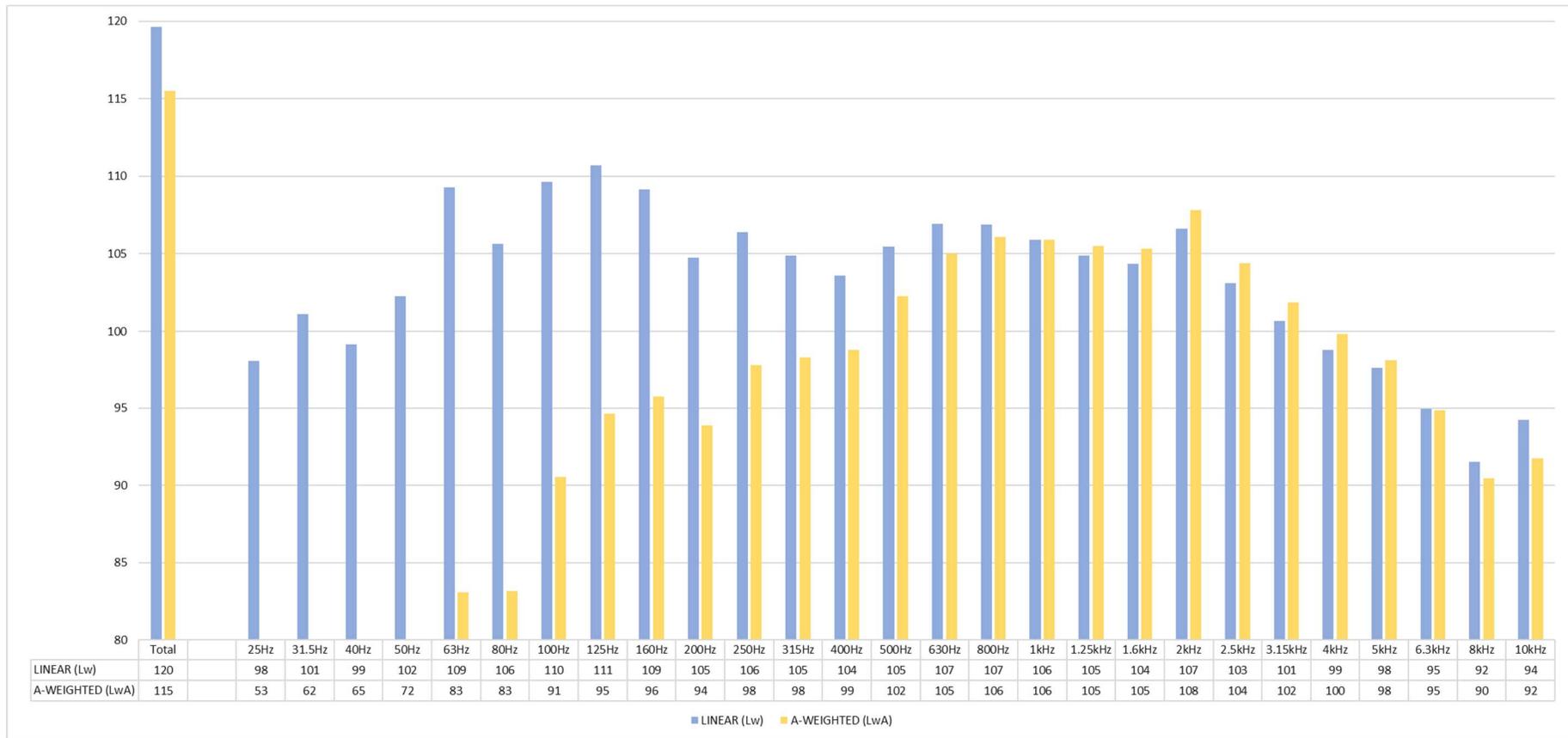


Figure 130: WC046 Dynamic Test Uphill

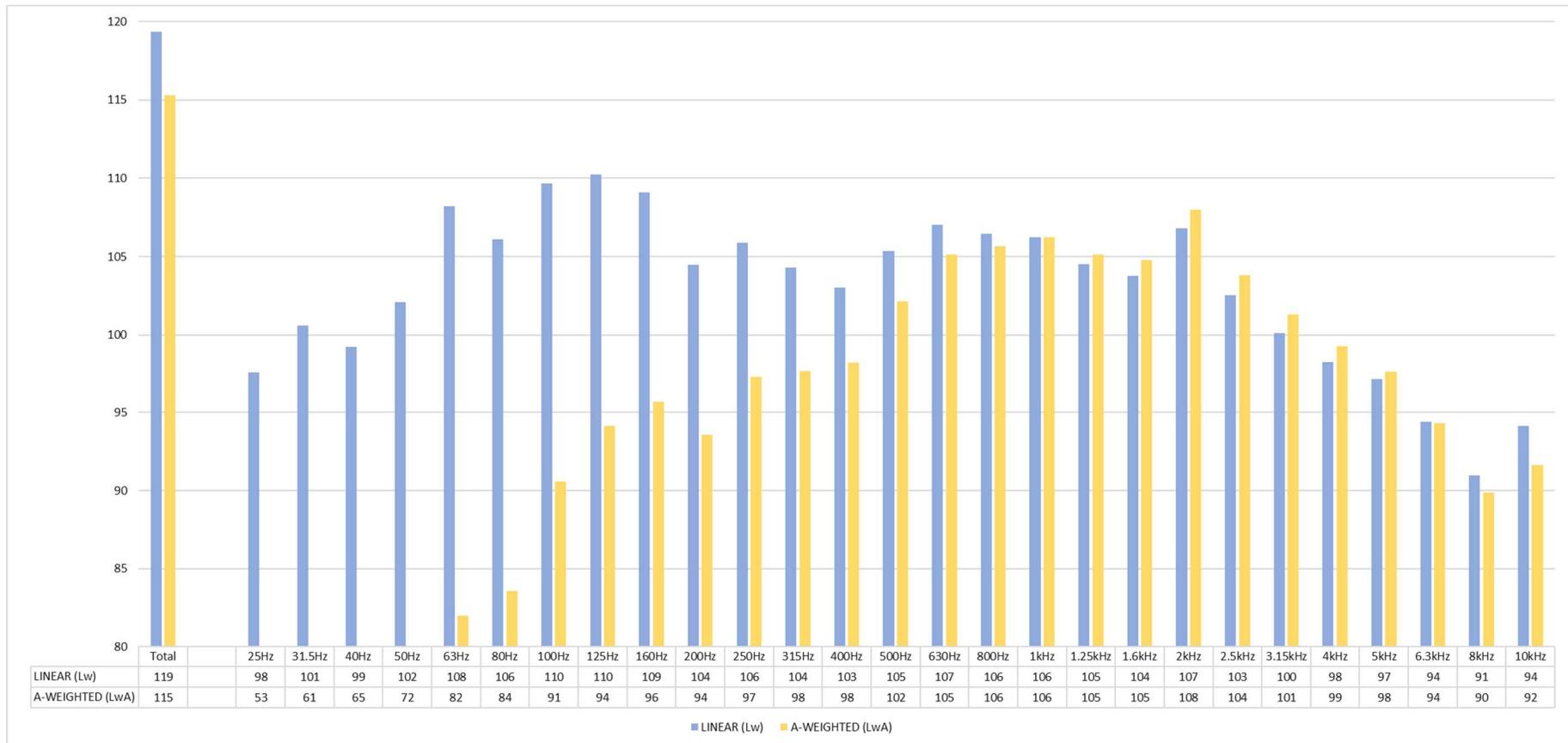


Figure I31: WC046 Dynamic Test Downhill

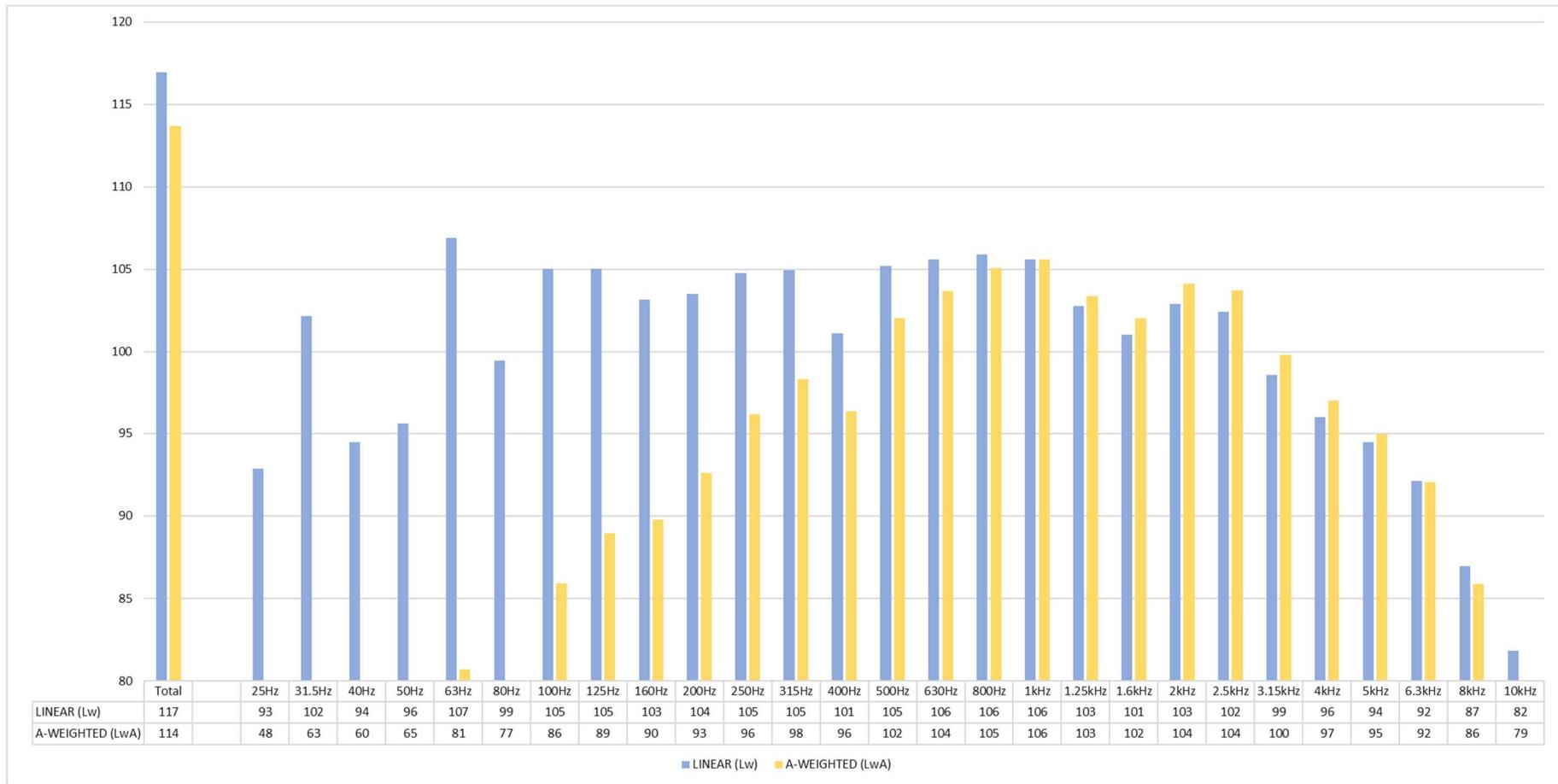


Figure I32: WC047 Stationary Test

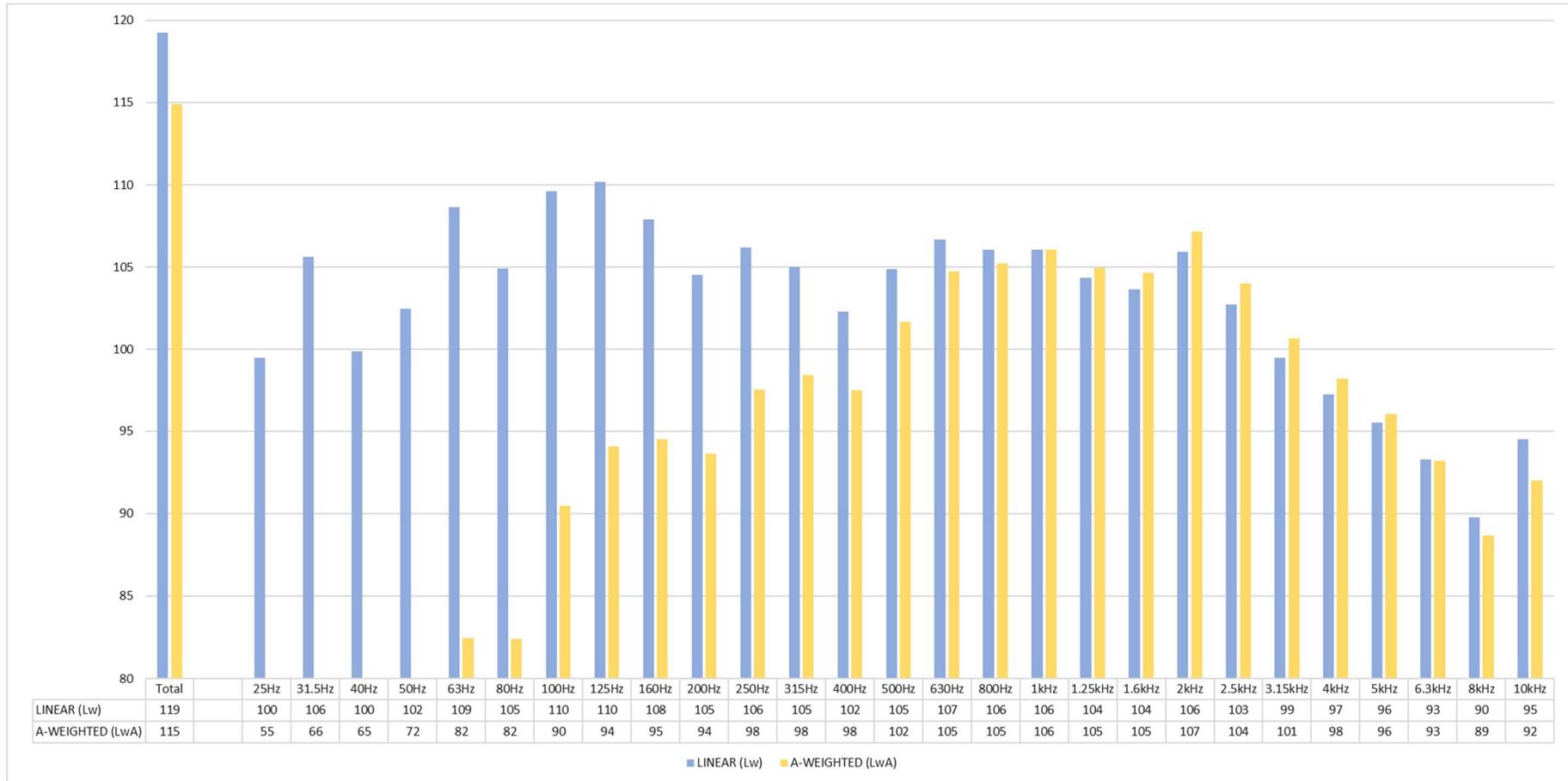


Figure I33: WC047 Dynamic Test Uphill

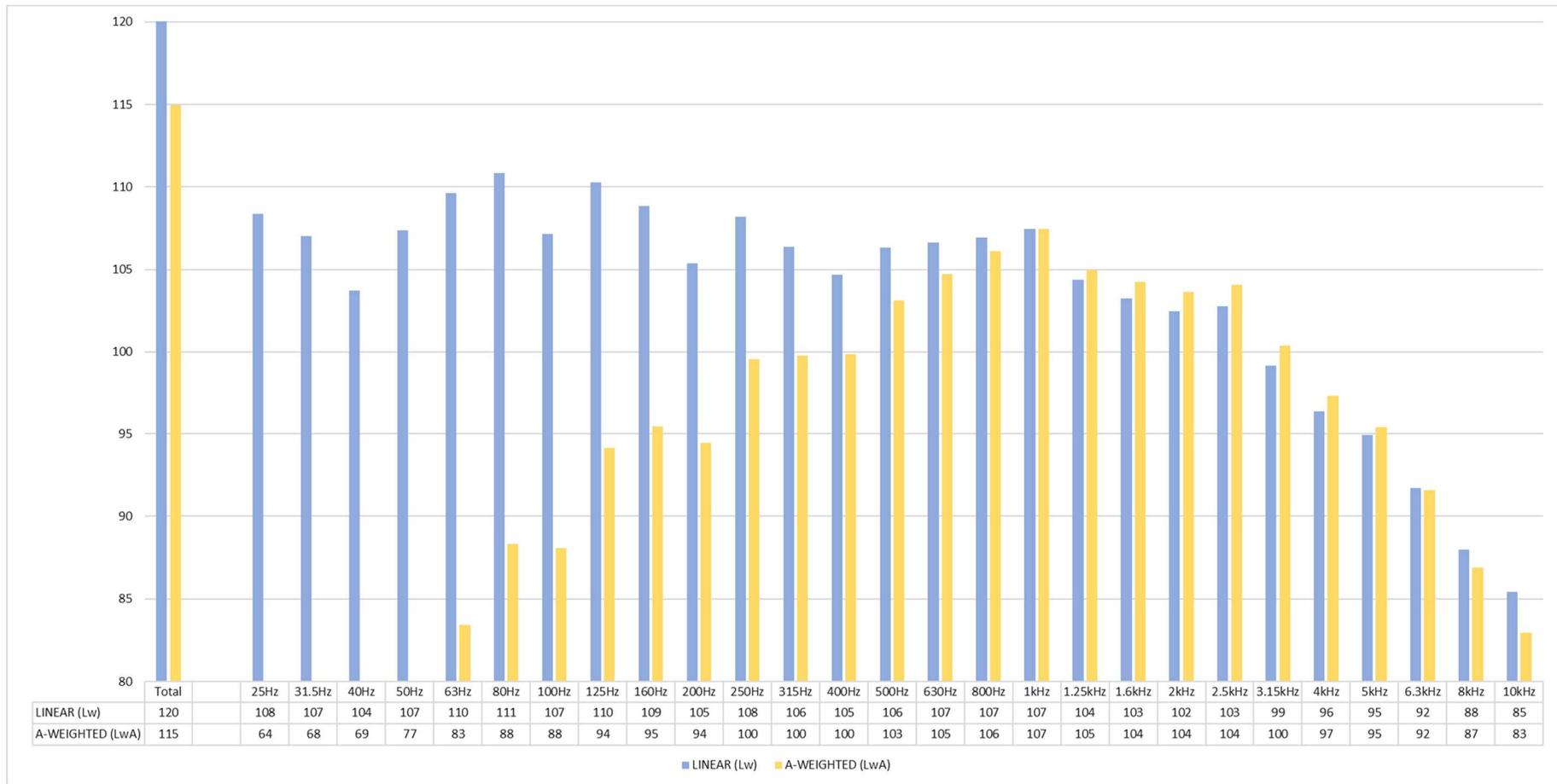


Figure 134: WC047 Dynamic Test Downhill

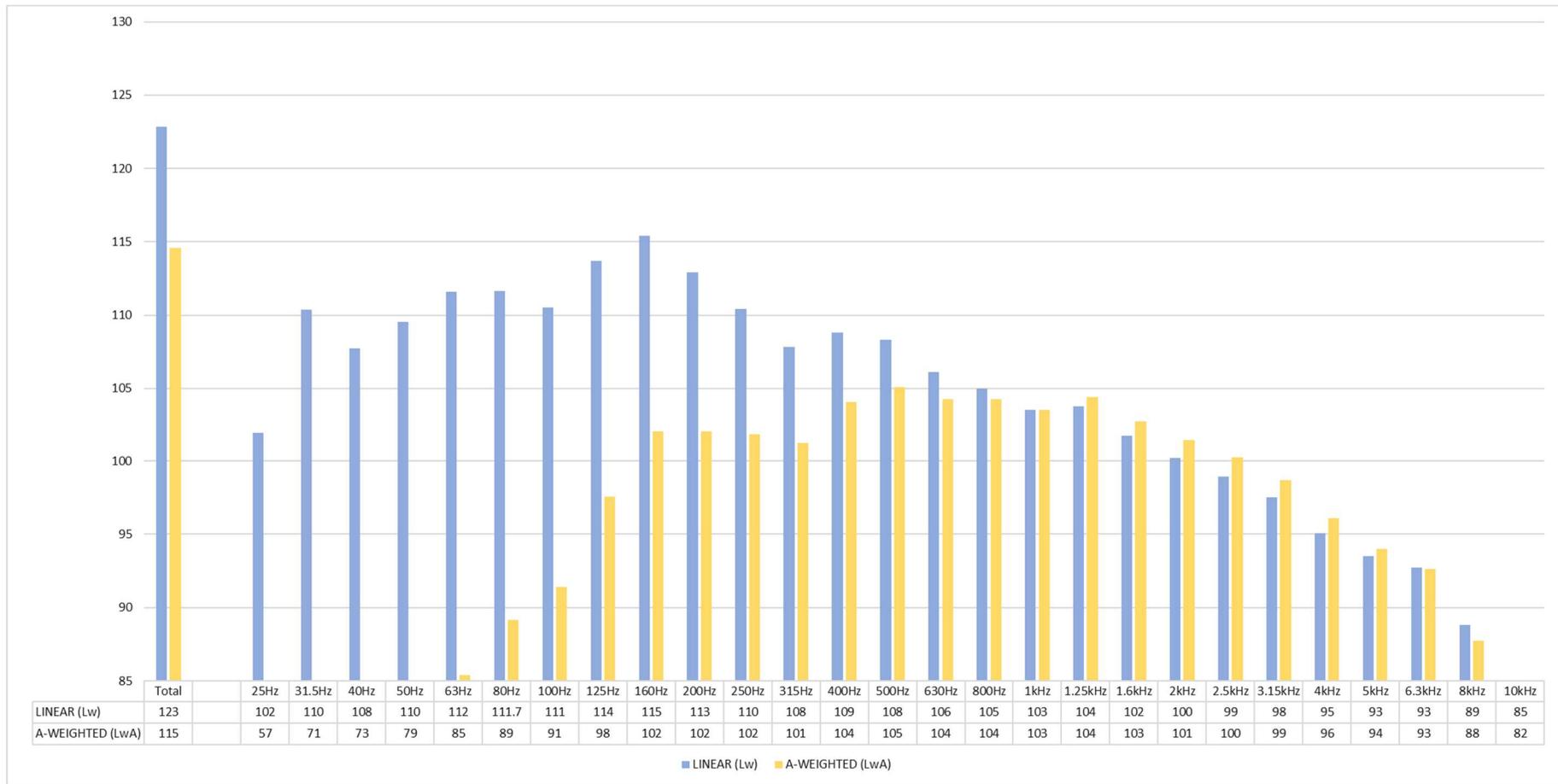


Figure I35: WC029 Stationary Test

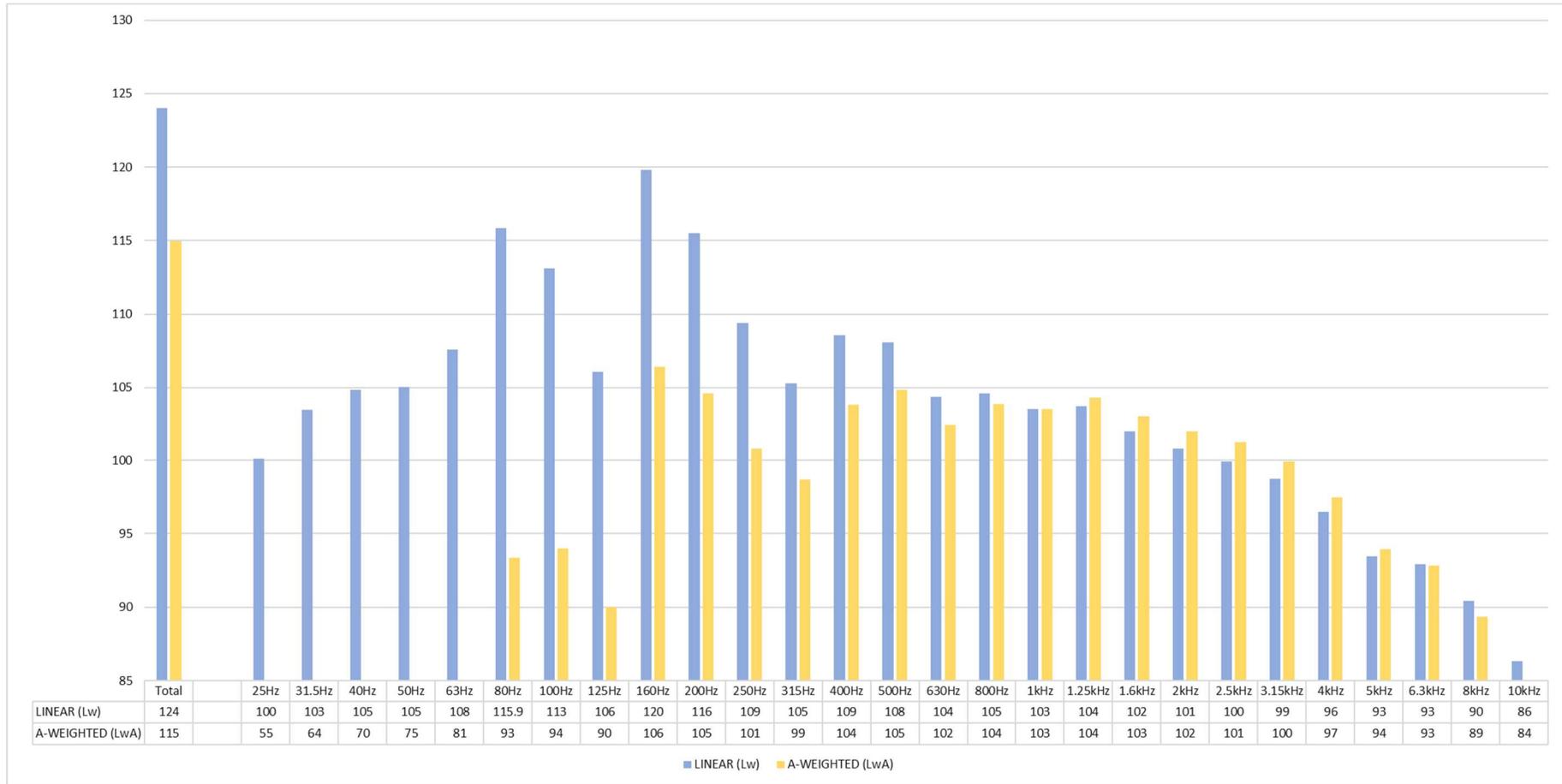


Figure 136: WC029 Dynamic Test Uphill

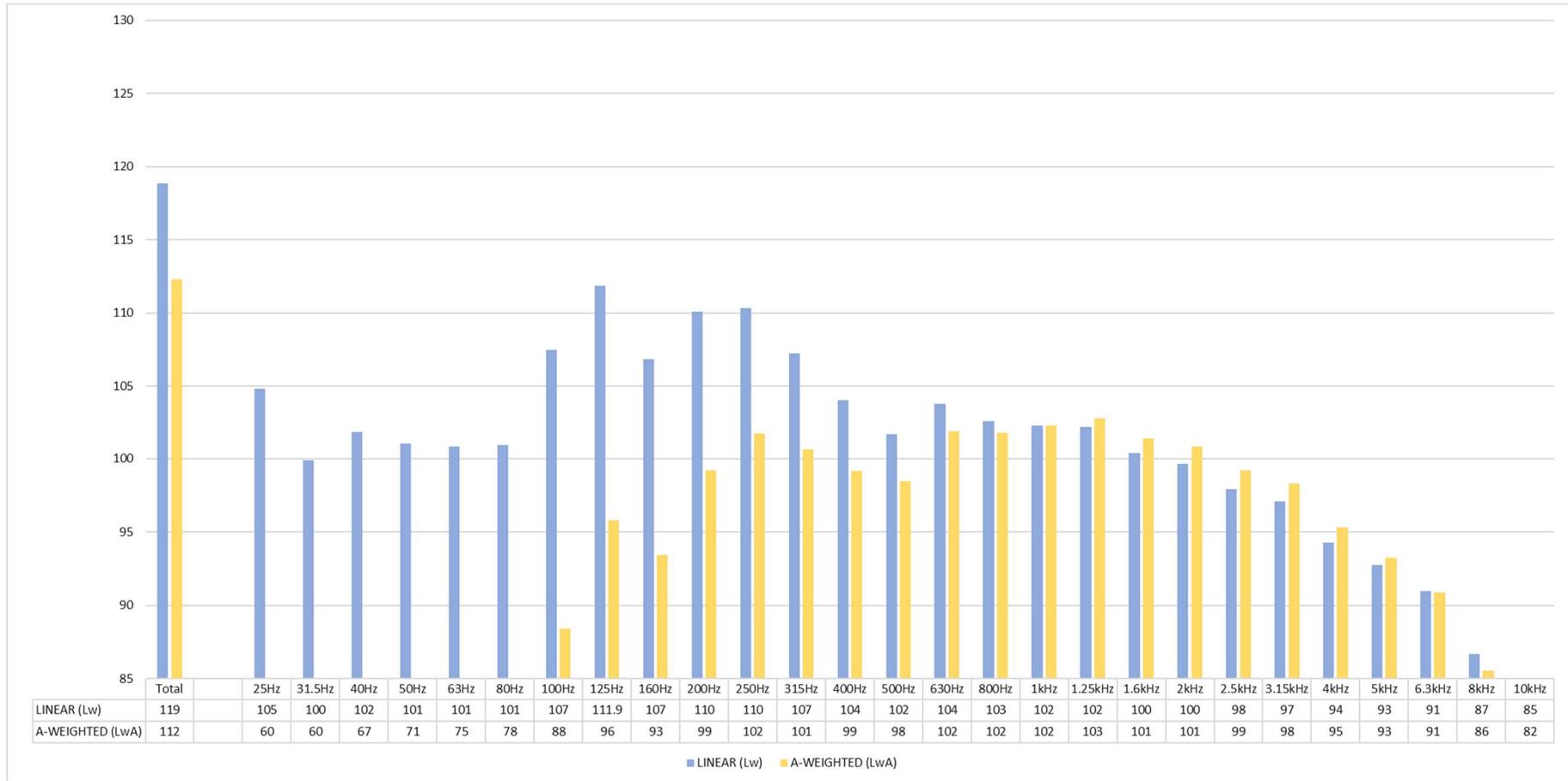


Figure I37: WC029 Dynamic Test Downhill