DSO 904: SOUND LEVEL MEASUREMENTS

--Preliminary Results

INSTRUMENTATION:

Precision Sound Level Meter B & K Type 2231 Serial No. 1575194
Octave Filter Set B & K Type 1625 Serial No. 1581549

CALIBRATION:

Pistonphone B & K Type 4228 Serial No. 1570787; adapter DP 0776
Calibration was conducted at Kennedy Space Center prior to mission (5/14/91)
Calibration with the same pistonphone was conducted post mission at Johnson Space Center (7/2/91)
Postflight calibration displayed a reference signal 0.1 dB lower than preflight

MEASUREMENTS†:

Measurement No.	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
1	62.71	62.16	59.68	59.42	59.41	59.55	60.09	55.92	49.16	64.7
2	64.34	61.54	63.65	57.79	57.62	58.80	53.63	46.22	41.51	61.8
3	63.63	64.16	63.14	71.27	66.06	64.97	62.24	57.88	52.07	69.7
4	65.09	64.00	65.30	69.70	66.77	68.25	65.87	62.41	58.08	72.6
5	63.75	65.71	64.03	61.32	62.63	62.06	64.64	55.81	48.13	67.6
6	62.65	59.07	57.4	57.77	59.28	58.29	60.96	55.12	48.92	63.0

†Values are calculated from one-third octave data and are reported in octave band center frequencies.

REMARKS*:

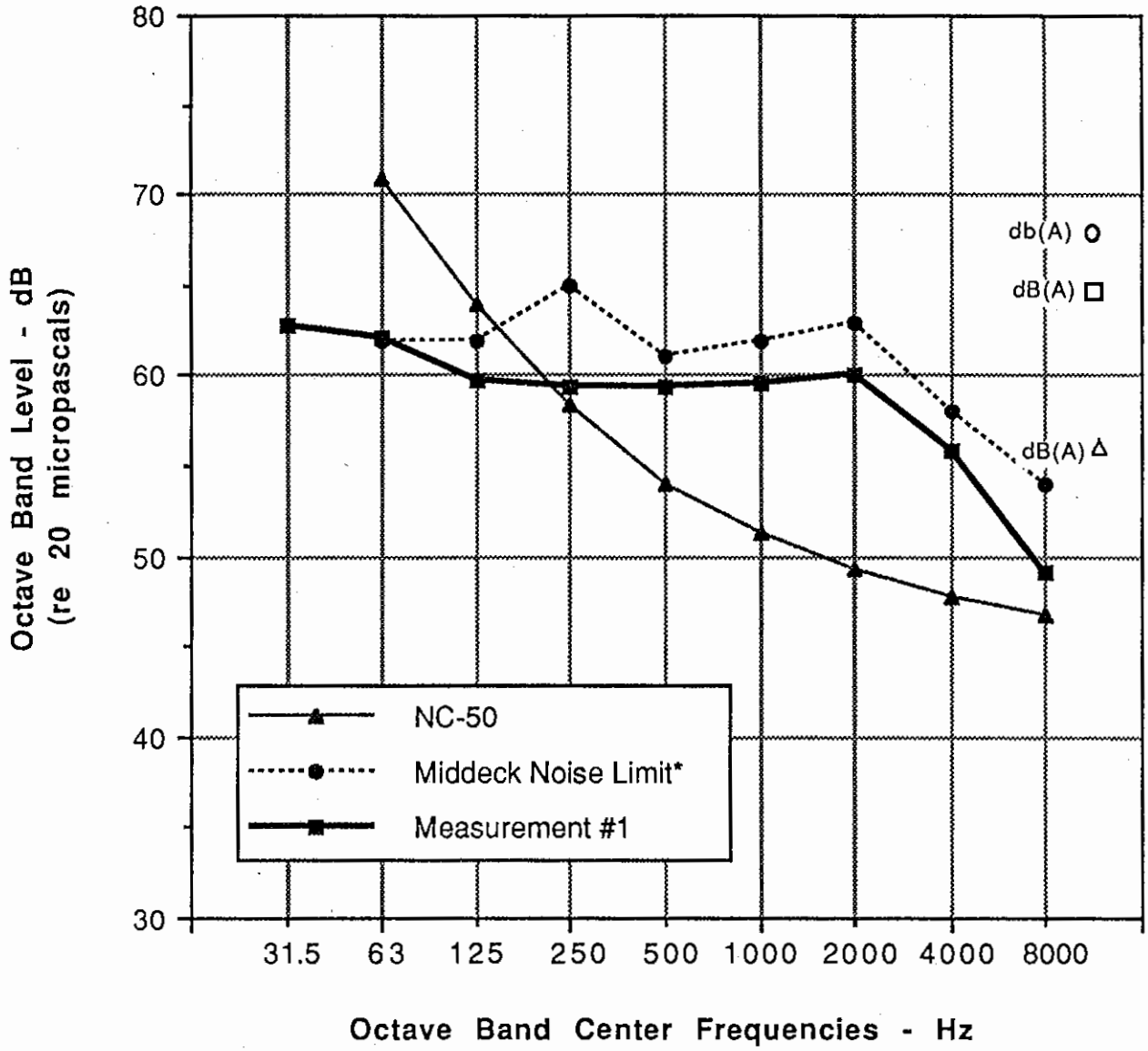
Measurement #	Location	FSD	SI Correction	MET	Conditions
1	Middeck (Center)	90.6	Diffuse	4/1:23	OR/F off, AEM's on
2	Flightdeck (Center)	90.6	Free Field	3/2:47	Nominal Operations
3	Spacelab (Center)	90.6	Diffuse	3/5:09	R/F--one compressor on
4	Spacelab (4' from R/F)	90.6	Diffuse	5/22:29	R/F--both compressors on
5	Middeck (1' from AEM's)	90.6	Free Field	4/5:50	OR/F on, AEM's on
6	Middeck (Center)	80.6	Diffuse	5/00:20	OR/F off, AEM's off

*Time and Frequency weightings for all measurements were Slow Linear.

NOTE: Exact locations of each measurement will be distributed when they become available. A final report is currently scheduled to be issued October 1991. For further information contact Susan Adam (NASA) at (713) 483-3725 or Anton Koros (LESC) at (713) 333-7822.

Center of Middeck--Measurement #1

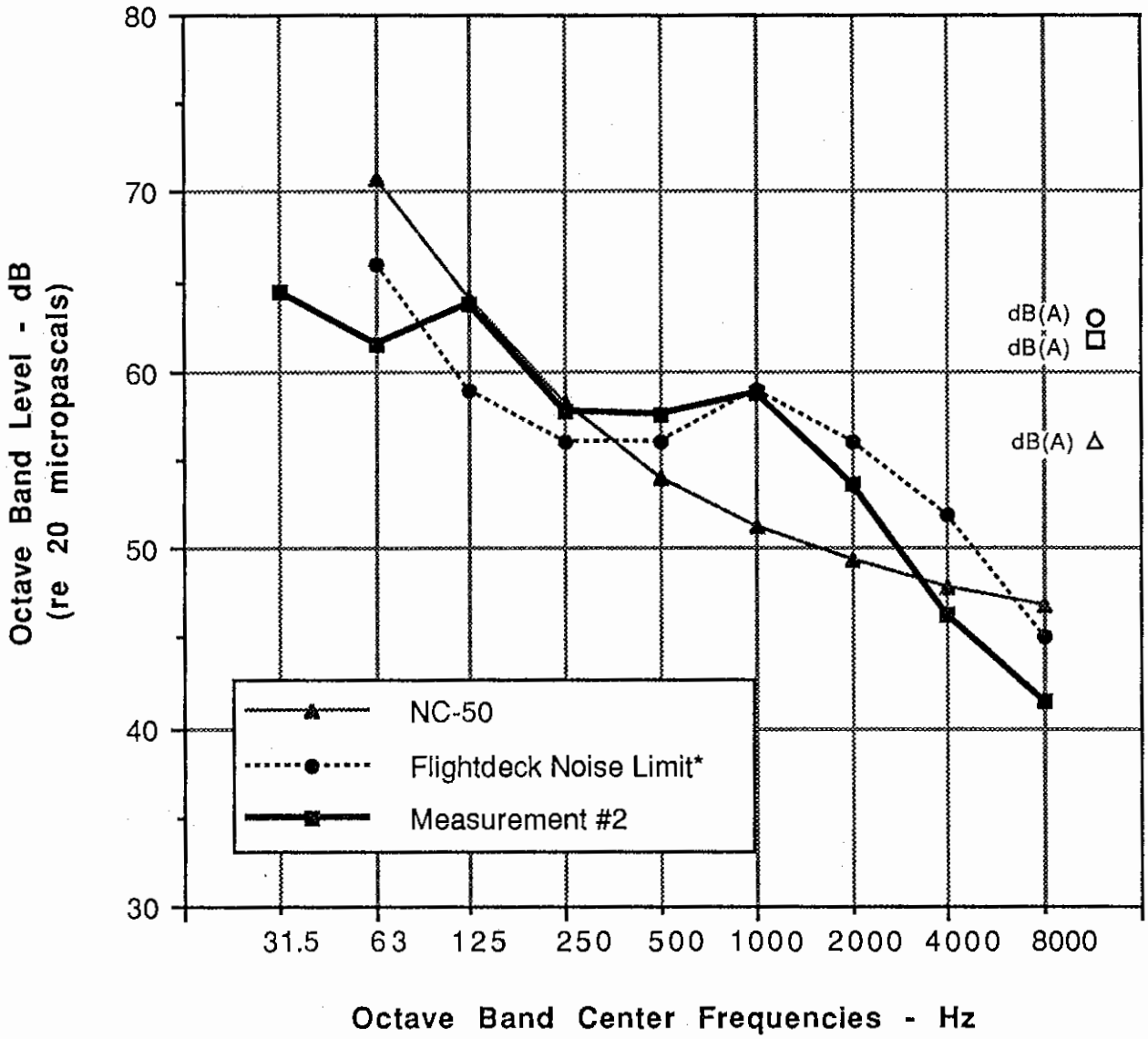
(OR/F off, AEM's on)



*Reference: NSTS 21,000-IDD-MDK

Center of Flightdeck--Measurement #2

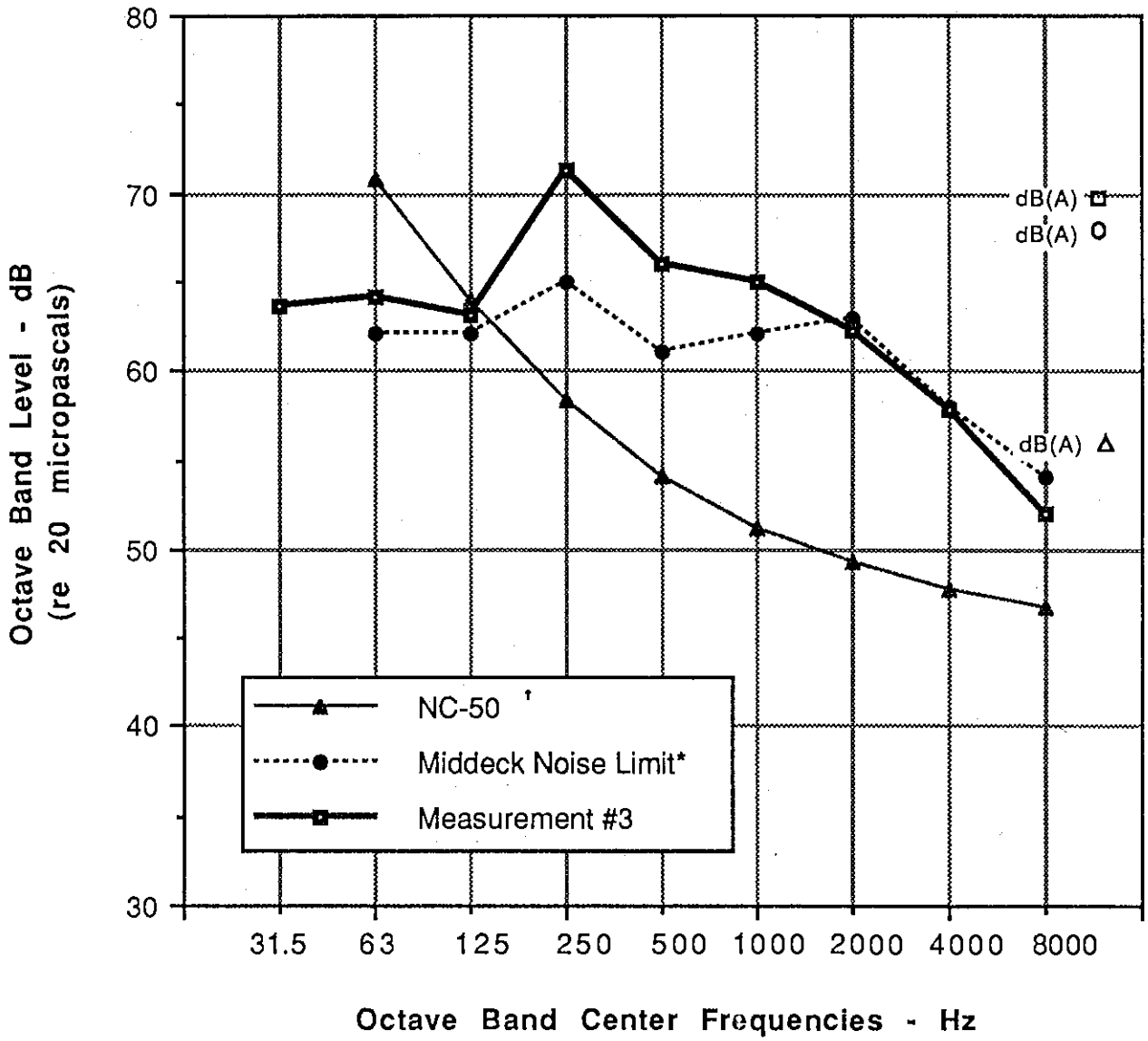
(Nominal Operations--Free Field)



*Reference: NSTS 21,000-IDD-MDK

Center of Spacelab--Measurement #3

(R/F--one compressor on)

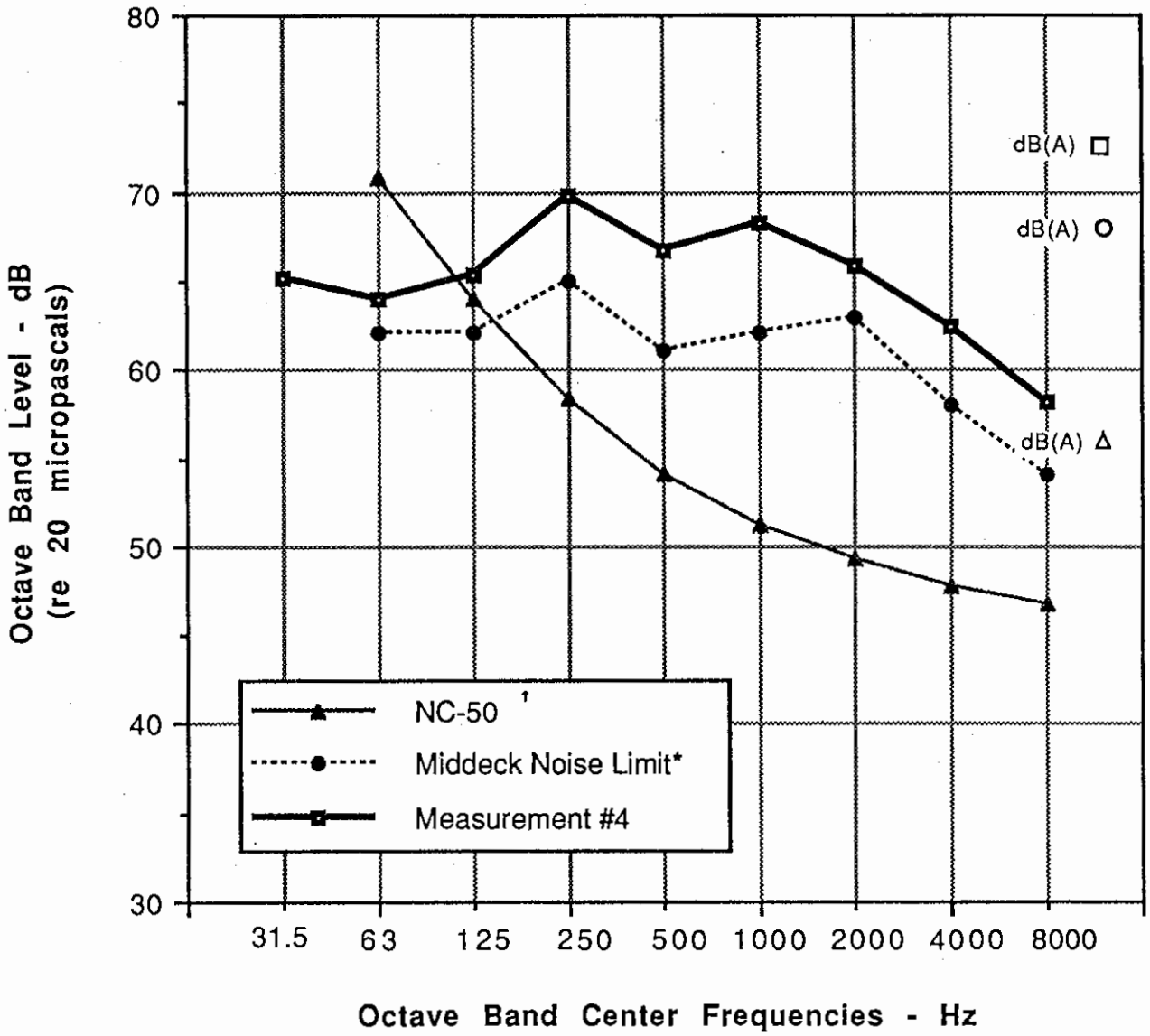


† Reference: COL-MBER-000-TN-O420-1

*Reference: NSTS 21,000-IDD-MDK

Center of Spacelab--Measurement #4

(R/F--both compressors on)

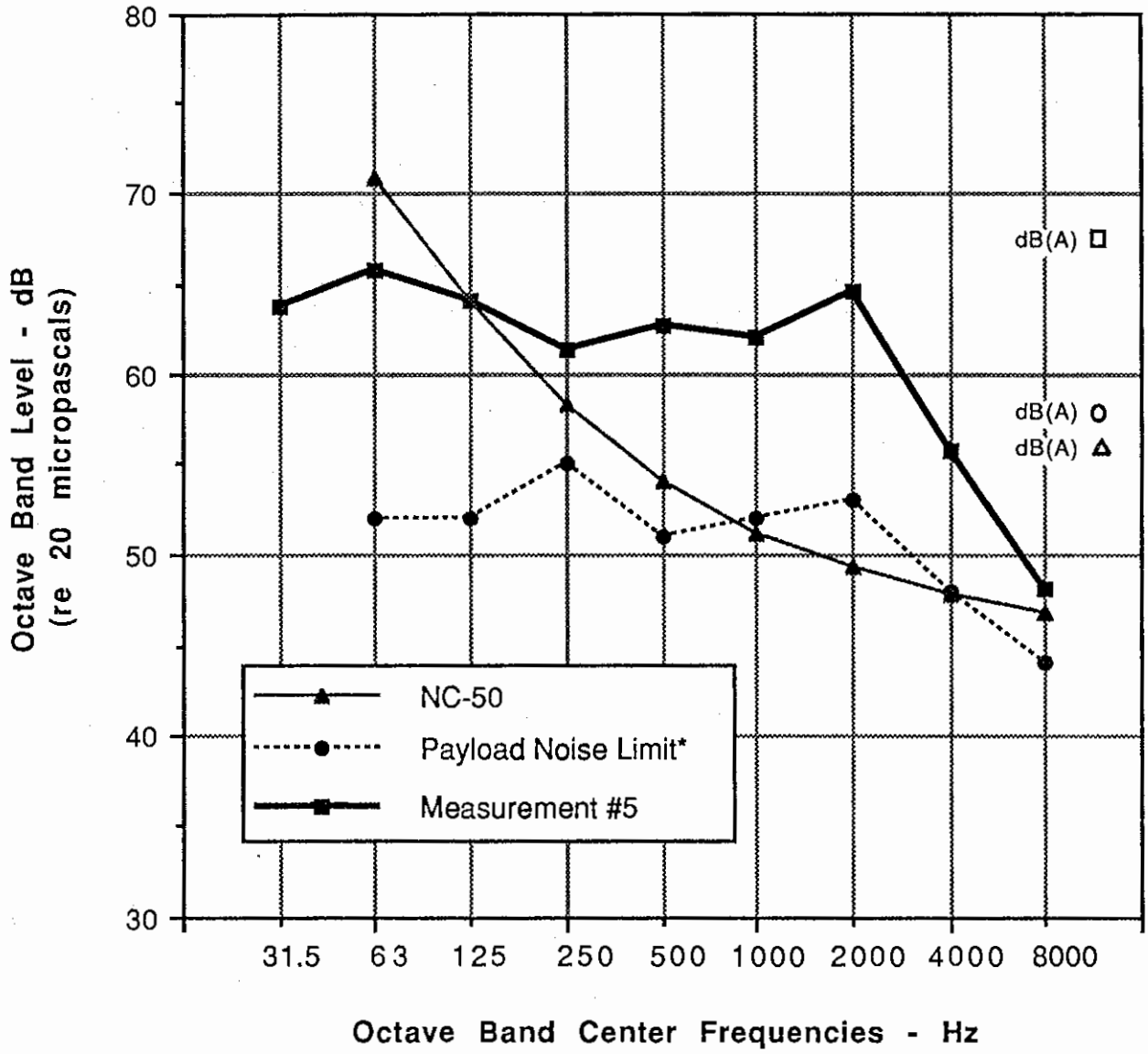


†Reference: COL-MBER-000-TN-O420-1

*Reference: NSTS 21,000-IDD-MDK

Middeck--Measurement #5

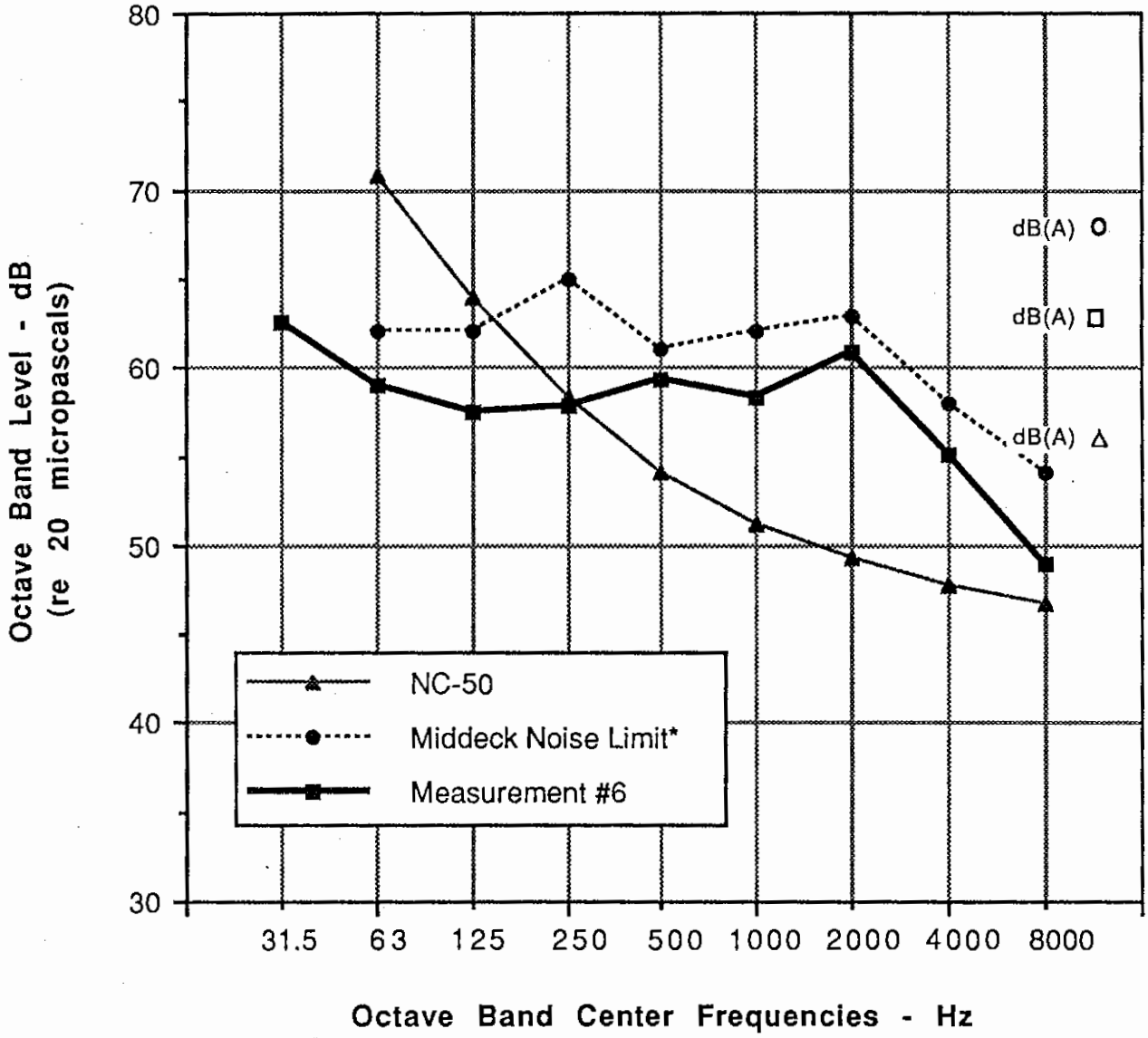
(1' From AEM's--Free Field)



*Reference: NSTS 21,000-IDD-MDK

Center of Middeck--Measurement #6

(OR/F off, AEM's off)



*Reference: NSTS 21,000-IDD-MDK