



Appendix A. Volume Control Evaluation Results

<Evaluation results for KDB 285076 D05 2.a>

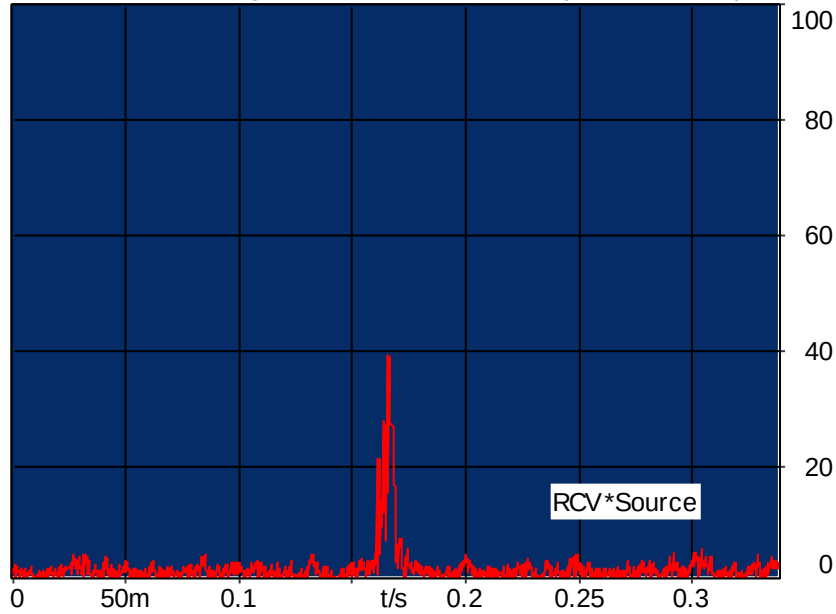
#1 LTE B106 EVS WB 24.4Kbps

SMD	Status	Single Value Description	Single Value
Overall Receive Delay WB	Done	Delay (Cross) [ms]	166.8
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	87.56
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	77.12
5.2 RCV Distortion and Noise - 250 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.35
5.2 RCV Distortion and Noise - 315 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	40.70
5.2 RCV Distortion and Noise - 400 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.24
5.2 RCV Distortion and Noise - 500 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.79
5.2 RCV Distortion and Noise - 630 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.33
5.2 RCV Distortion and Noise - 800 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.98
5.2 RCV Distortion and Noise - 1000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.72
5.2 RCV Distortion and Noise - 1250 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.67
5.2 RCV Distortion and Noise - 1600 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.57
5.2 RCV Distortion and Noise - 2000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.53
5.2 RCV Distortion and Noise - 2500 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.96
5.2 RCV Distortion and Noise - 3150 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.33
5.2 RCV Distortion and Noise - 4000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.87
5.2 RCV Distortion and Noise - 5000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.28
Report - Receive Distortion and Noise (Conversational Gain) 8N WB	Ok	Minimum SDNR [dB], (occured at 2000Hz)	22.53
5.2 RCV Distortion and Noise - 250 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.97
5.2 RCV Distortion and Noise - 315 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.56
5.2 RCV Distortion and Noise - 400 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.19
5.2 RCV Distortion and Noise - 500 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.19
5.2 RCV Distortion and Noise - 630 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.18
5.2 RCV Distortion and Noise - 800 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.14
5.2 RCV Distortion and Noise - 1000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.54
5.2 RCV Distortion and Noise - 1250 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.58
5.2 RCV Distortion and Noise - 1600 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.28
5.2 RCV Distortion and Noise - 2000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.07
5.2 RCV Distortion and Noise - 2500 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.32
5.2 RCV Distortion and Noise - 3150 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.28
5.2 RCV Distortion and Noise - 4000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.65
5.2 RCV Distortion and Noise - 5000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.73
Report - Receive Distortion and Noise (Conversational Gain) 2N WB	Ok	Minimum SDNR [dB], (occured at 2000Hz)	22.07
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 2883.7 Hz	1.35
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 272.2 Hz	3.15
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	3.01
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 6117.2 Hz	3.27

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

Cross correlation avg. FFT Size:131072 Overlap:0.0% Envelope | %



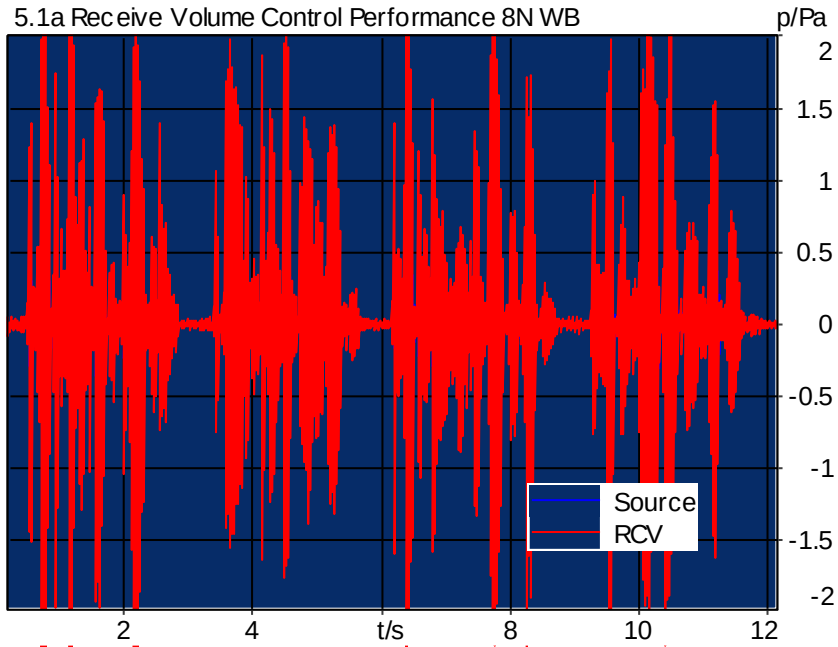
Channel	Delay	Correlation
RCV*Source	166.8 ms	39.26 %

2025-12-24 下午 04:56 ACQUA 6.1.110

5.1a Receive Volume Control Performance 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband

5.1a Receive Volume Control Performance 8N WB



Channel	Speech level	Activity	
RCV	87.56 dB[SPL]	52.93%	Ok

Ok

2025-12-24 下午 04:56 ACQUA 6.1.110

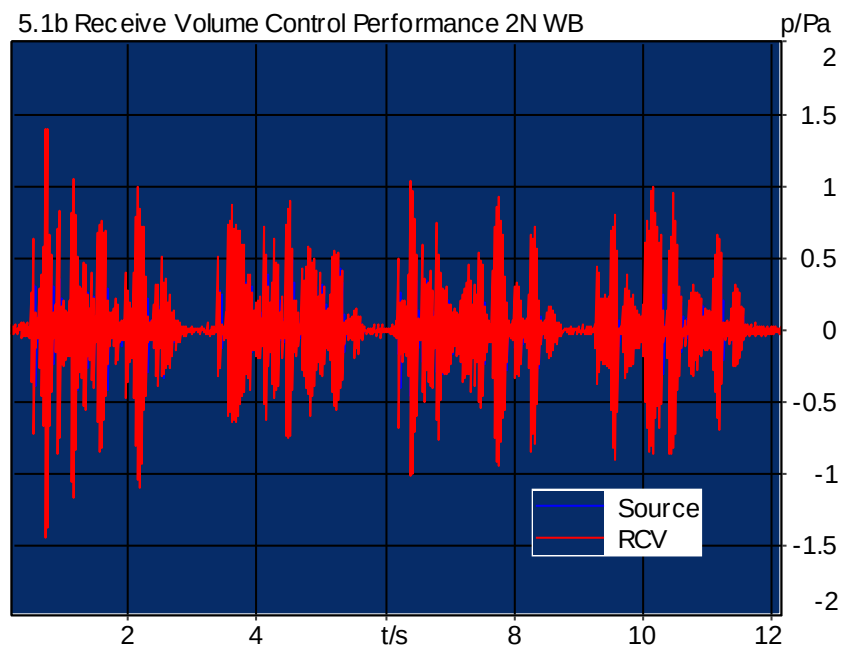
Limits

lower
76.00 dB[SPL]

5.1b Receive Volume Control Performance 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband

5.1b Receive Volume Control Performance 2N WB



Channel	Speech level	Activity	
RCV	77.12 dB[SPL]	100.00%	Ok

Ok

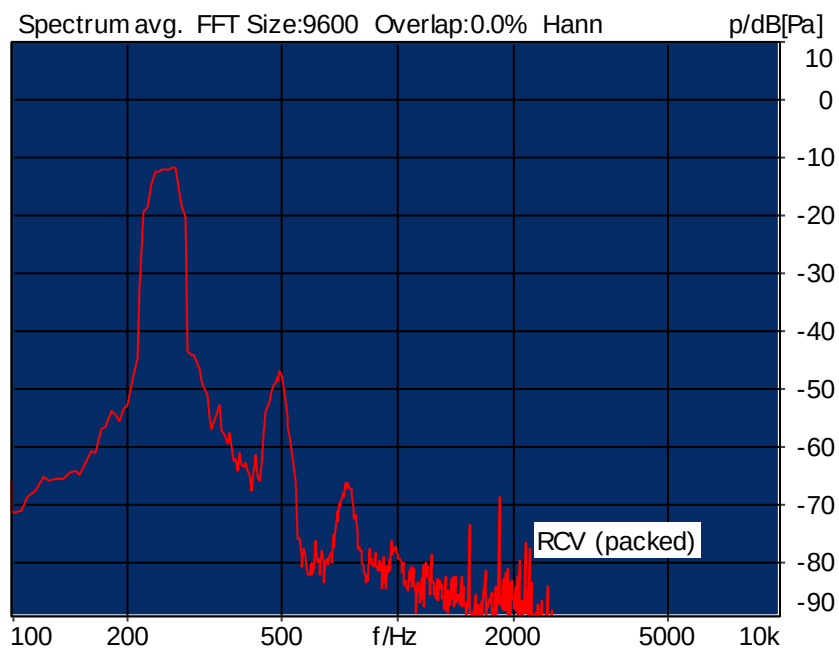
2025-12-24 下午 04:57 ACQUA 6.1.110

Limits

lower
76.00 dB[SPL]

5.2 RCV Distortion and Noise - 250 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 38.35 dB (1.21%) Ok

Ok

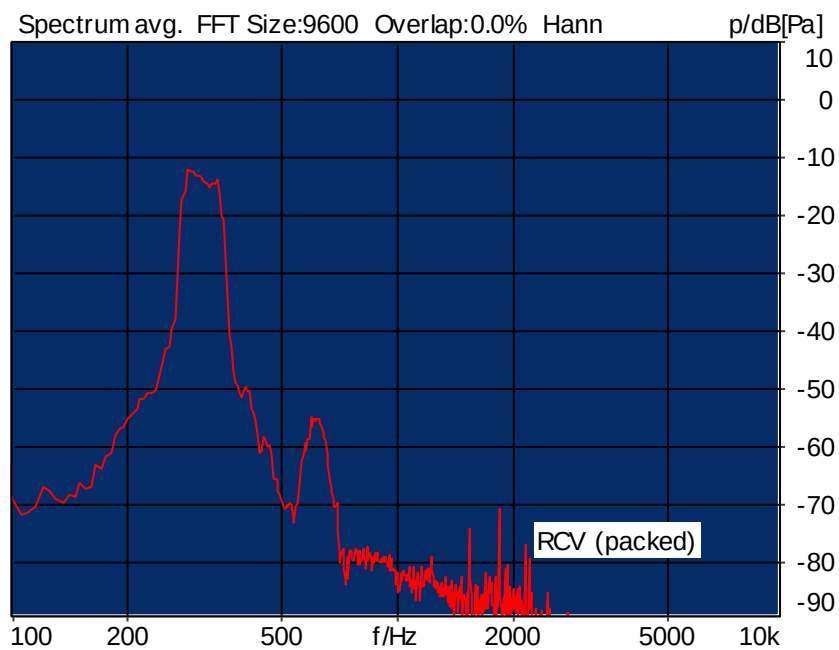
2025-12-24 下午 04:58 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 315 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 40.70 dB (0.92%) Ok

Ok

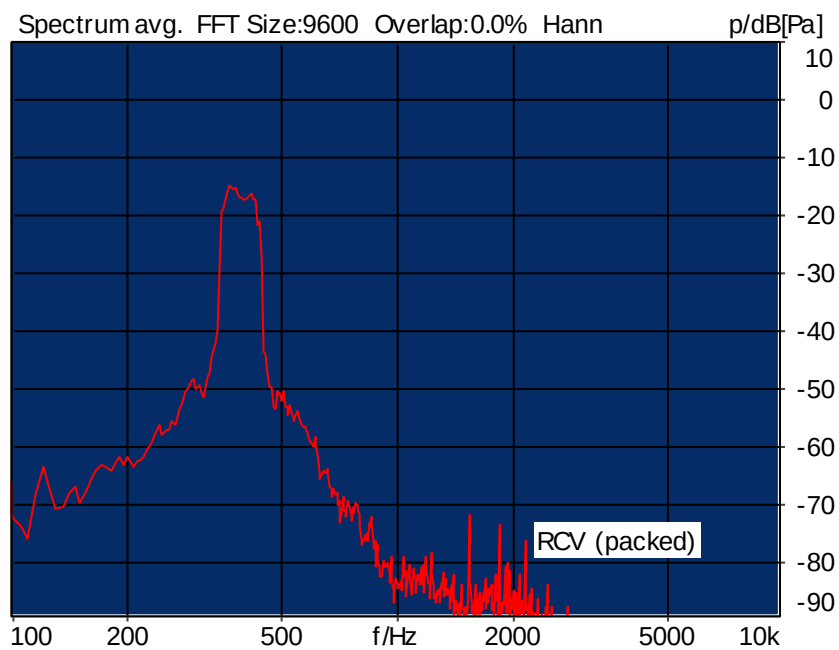
2025-12-24 下午 04:58 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 400 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 37.24 dB (1.37%) Ok

Ok

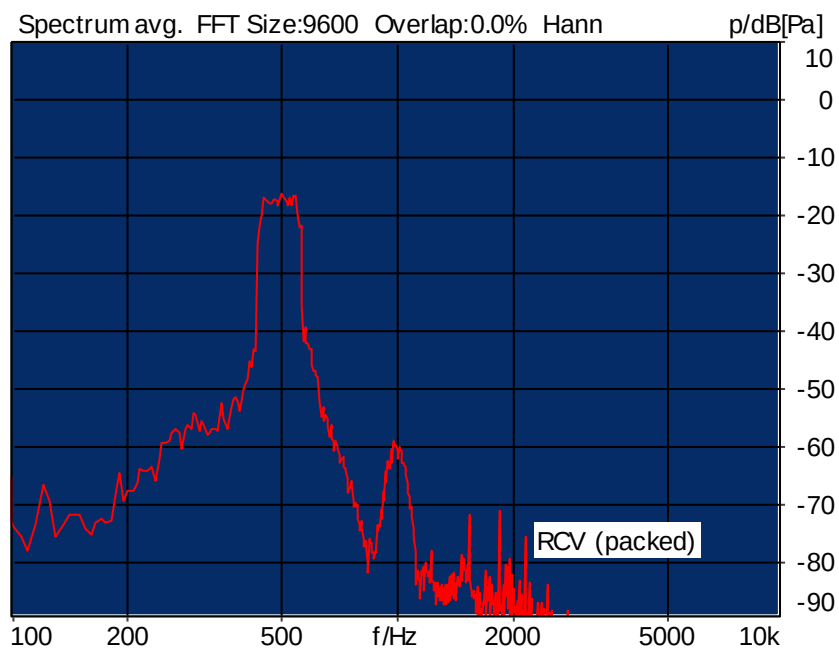
2025-12-24 下午 04:59 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 500 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 34.79 dB (1.82%) Ok

Ok

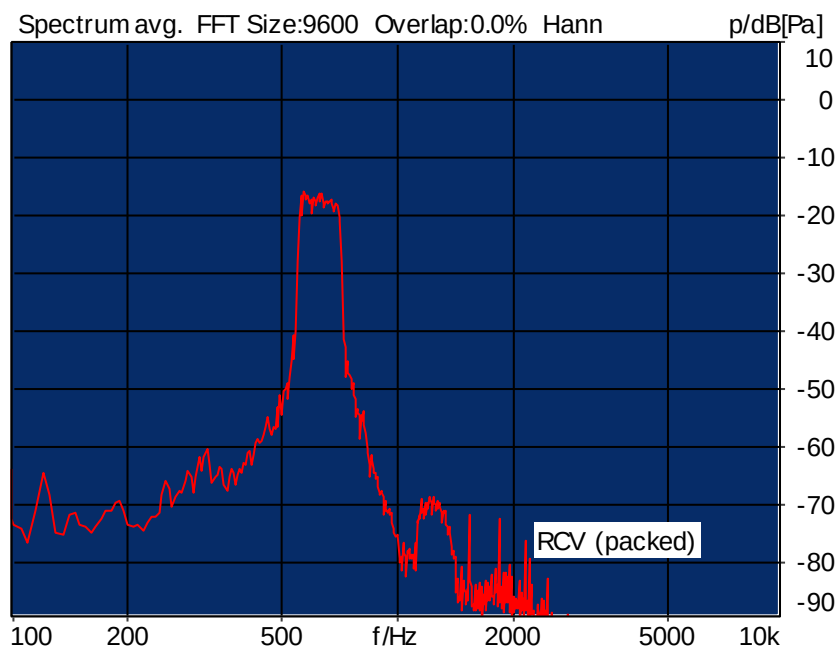
2025-12-24 下午 04:59 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 630 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 36.33 dB (1.53%) Ok

Ok

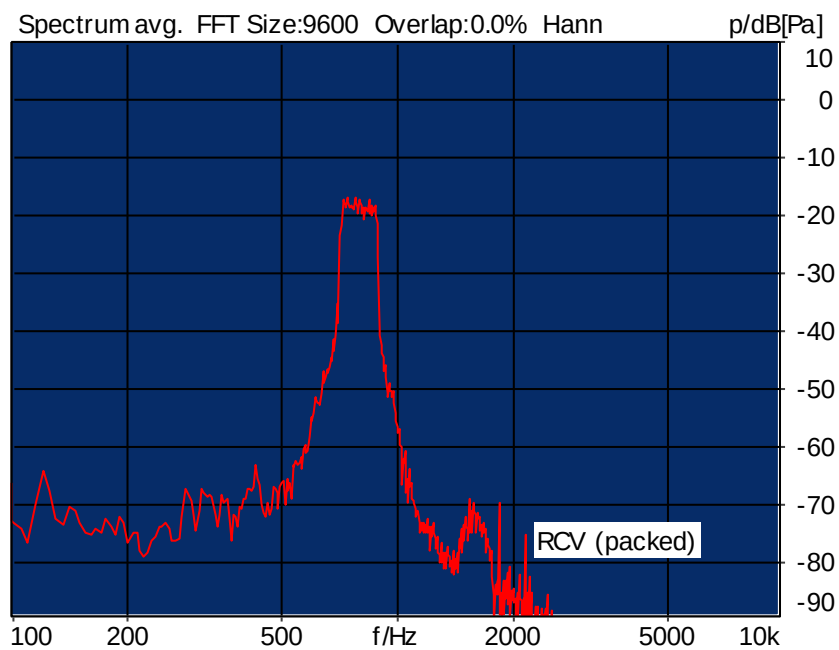
2025-12-24 下午 05:00 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 800 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 32.98 dB (2.24%) Ok

Ok

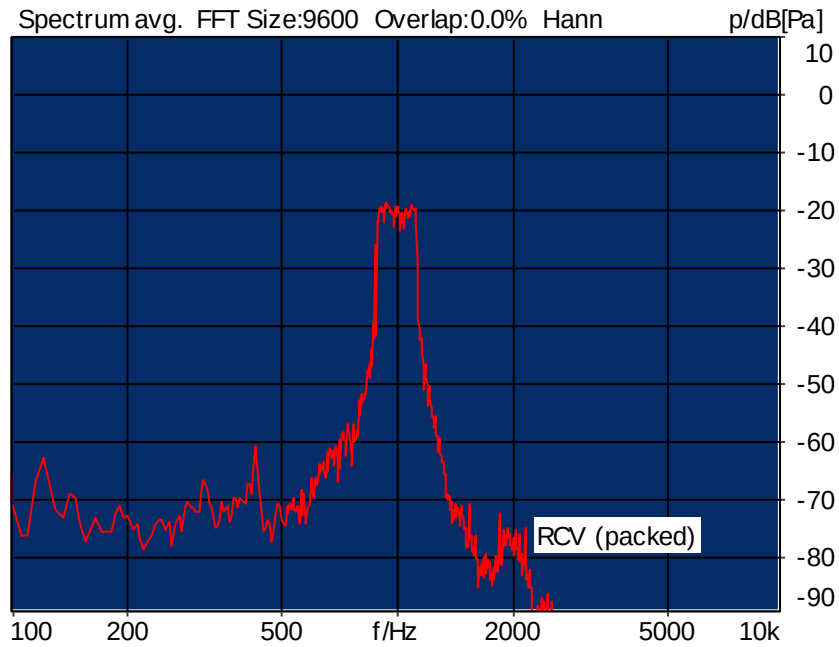
2025-12-24 下午 05:00 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 1000 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 31.72 dB (2.60%) Ok

Ok

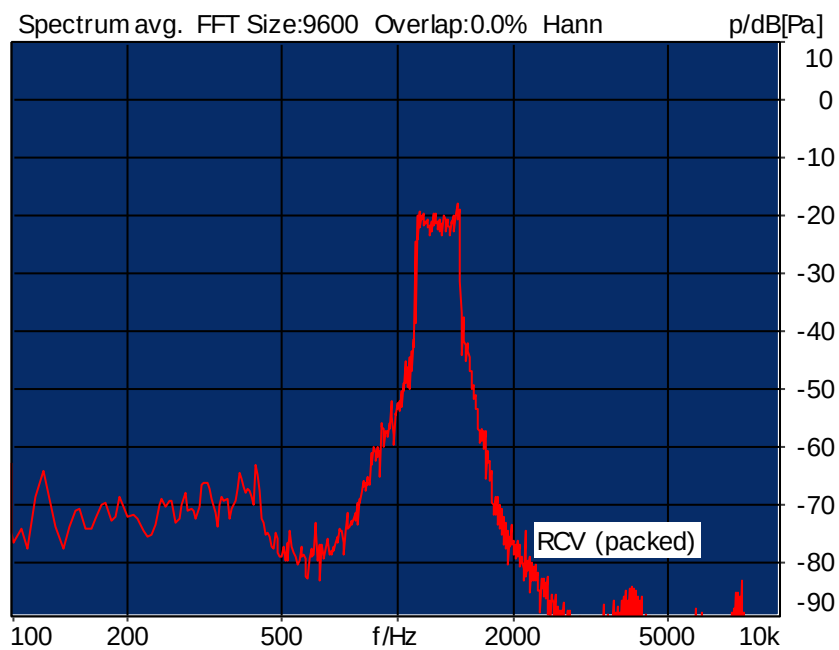
2025-12-24 下午 05:01 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 1250 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 22.67 dB (7.35%) Ok

Ok

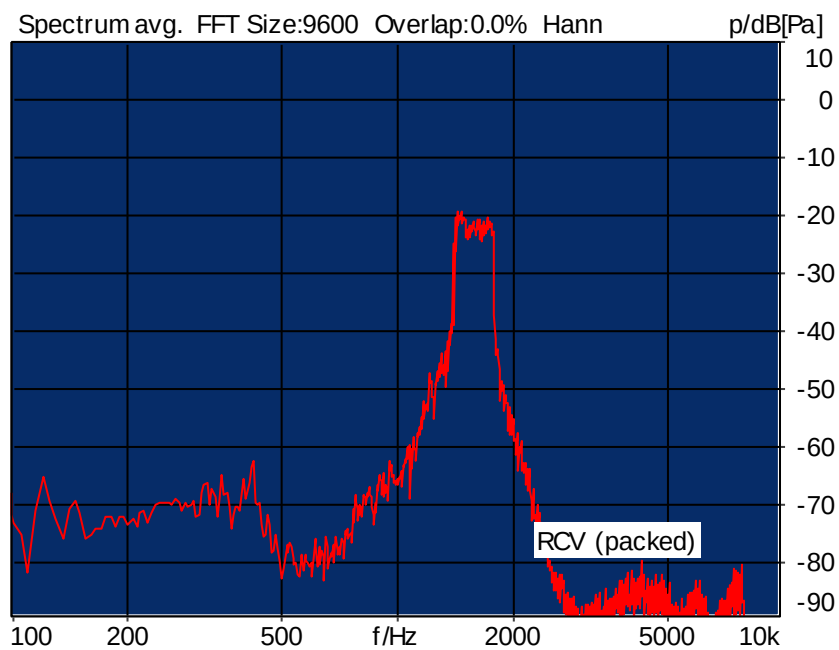
2025-12-24 下午 05:01 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 1600 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 25.57 dB (5.27%) Ok

Ok

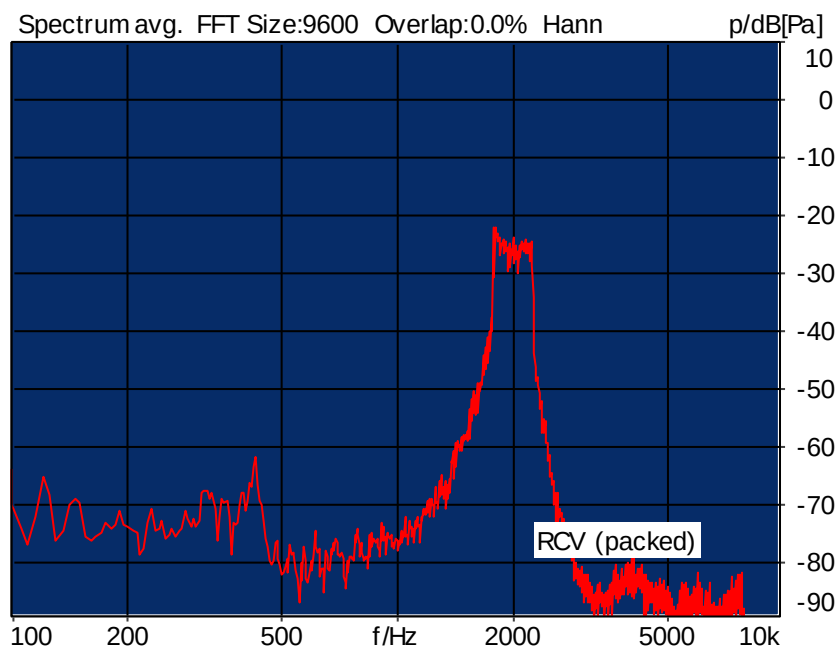
2025-12-24 下午 05:02 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 2000 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 22.53 dB (7.47%) Ok

Ok

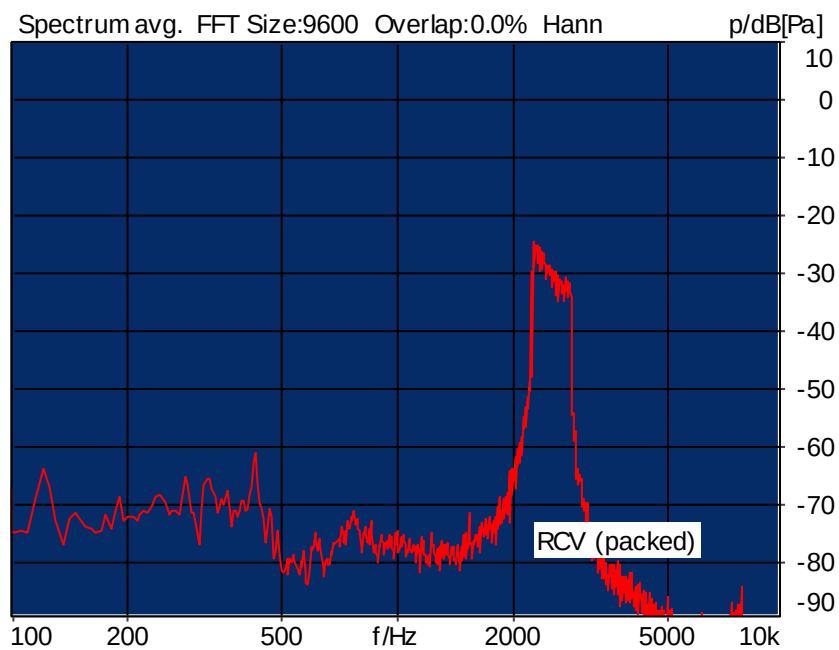
2025-12-24 下午 05:02 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 2500 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 28.96 dB (3.56%) Ok

Ok

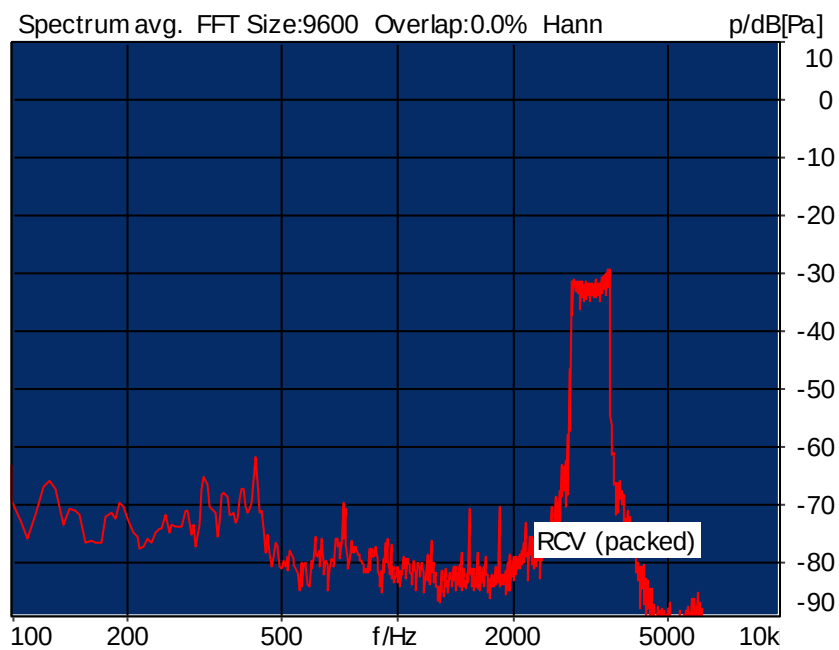
2025-12-24 下午 05:03 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 3150 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 32.33 dB (2.42%) Ok

Ok

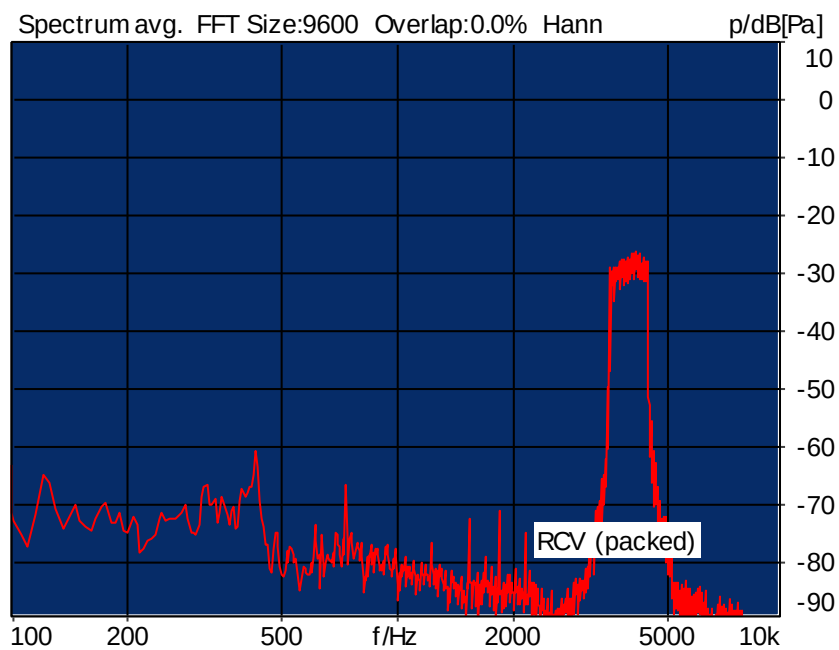
2025-12-24 下午 05:03 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 4000 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 35.87 dB (1.61%) Ok

Ok

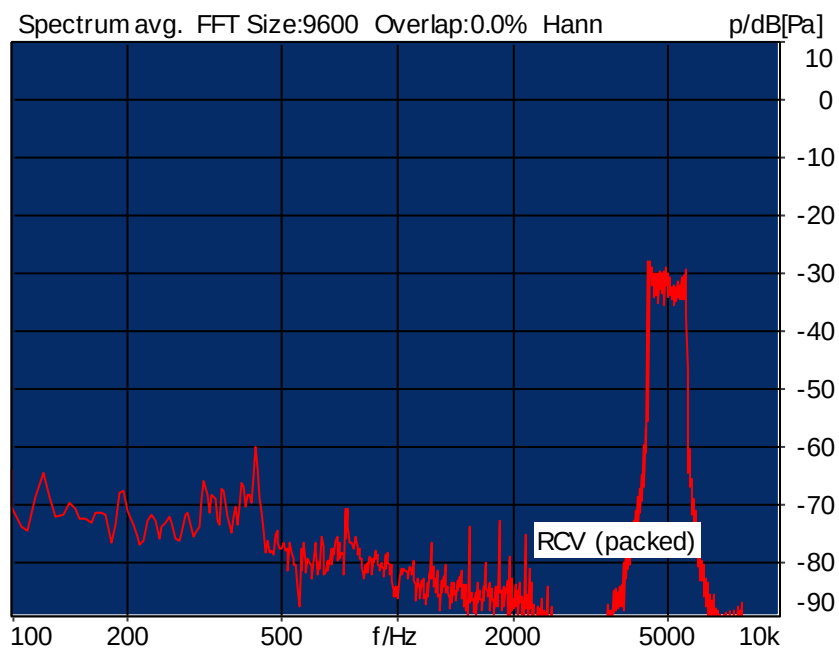
2025-12-24 下午 05:04 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 5000 Hz 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range



Distortion (Noise) RCV (packed): 35.28 dB (1.72%) Ok

Ok

2025-12-24 下午 05:04 ACQUA 6.1.110

Limits

lower
20.00 dB

Report - Receive Distortion and Noise (Conversational Gain) 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N change frequency range

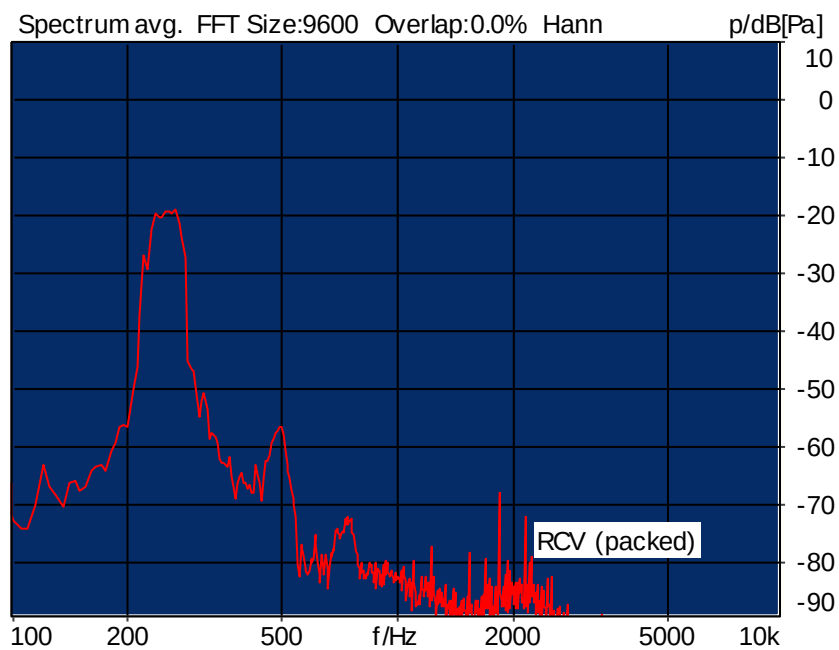
Region	Frequency	SDNR
1	250Hz	38.35 dB
2	315Hz	40.70 dB
3	400Hz	37.24 dB
4	500Hz	34.79 dB
5	630Hz	36.33 dB
6	800Hz	32.98 dB
7	1000Hz	31.72 dB
8	1250Hz	22.67 dB
9	1600Hz	25.57 dB
10	2000Hz	22.53 dB
11	2500Hz	28.96 dB
12	3150Hz	32.33 dB
13	4000Hz	35.87 dB
14	5000Hz	35.28 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 22.53dB at 2000Hz.

2025-12-24 下午 05:04 ACQUA

5.2 RCV Distortion and Noise - 250 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 37.97 dB (1.26%) Ok

Ok

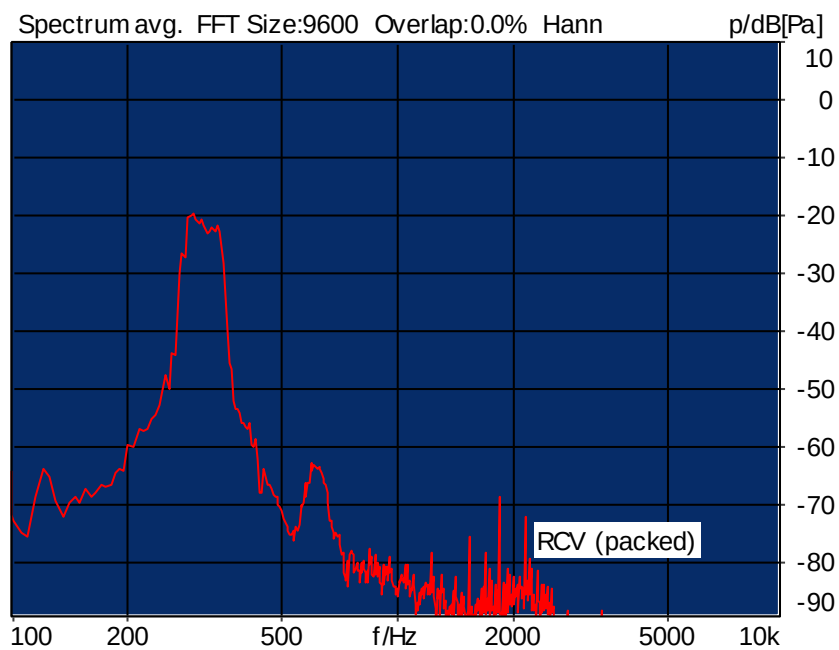
2025-12-24 下午 05:05 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 315 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 38.56 dB (1.18%) Ok

Ok

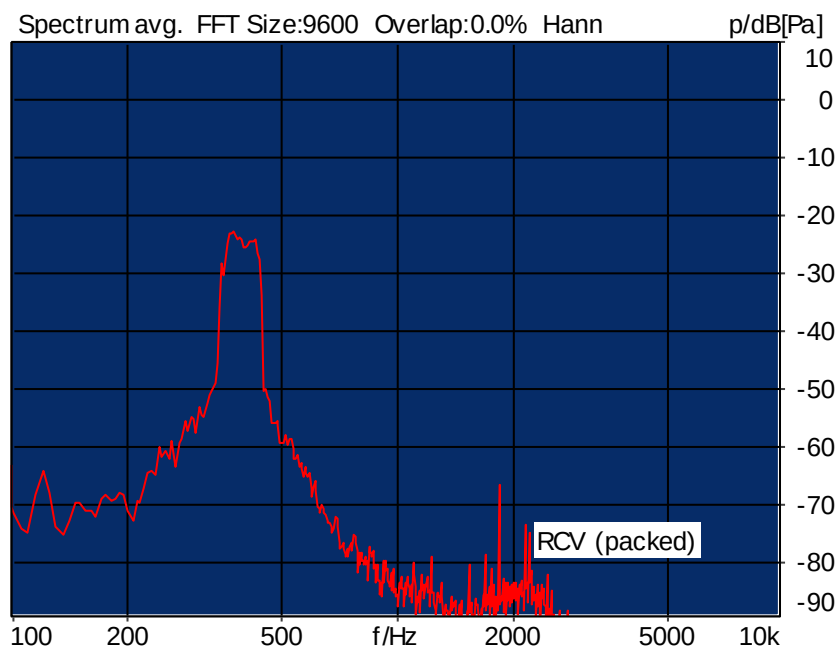
2025-12-24 下午 05:06 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 400 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 35.19 dB (1.74%) Ok

Ok

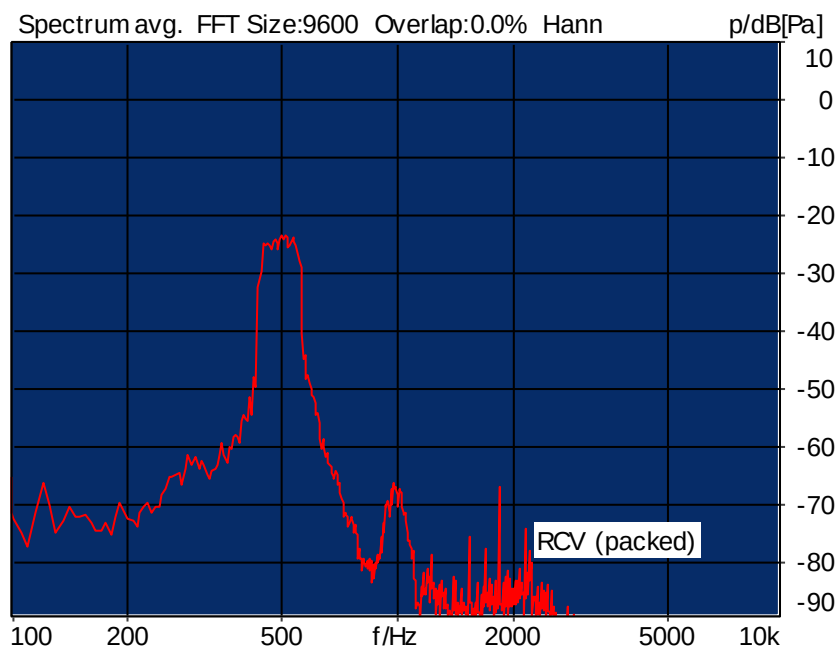
2025-12-24 下午 05:06 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 500 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 33.19 dB (2.19%) Ok

Ok

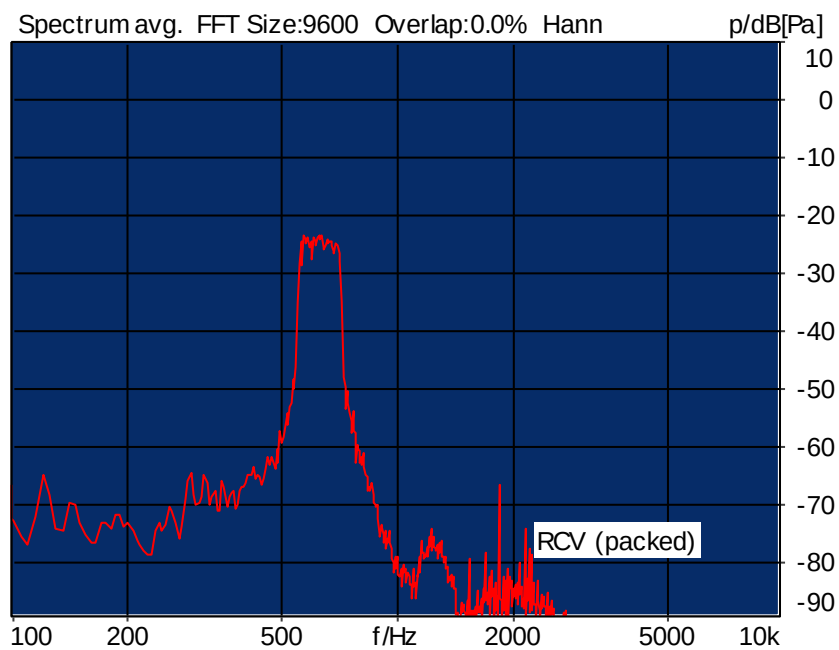
2025-12-24 下午 05:07 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 630 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 35.18 dB (1.74%) Ok

Ok

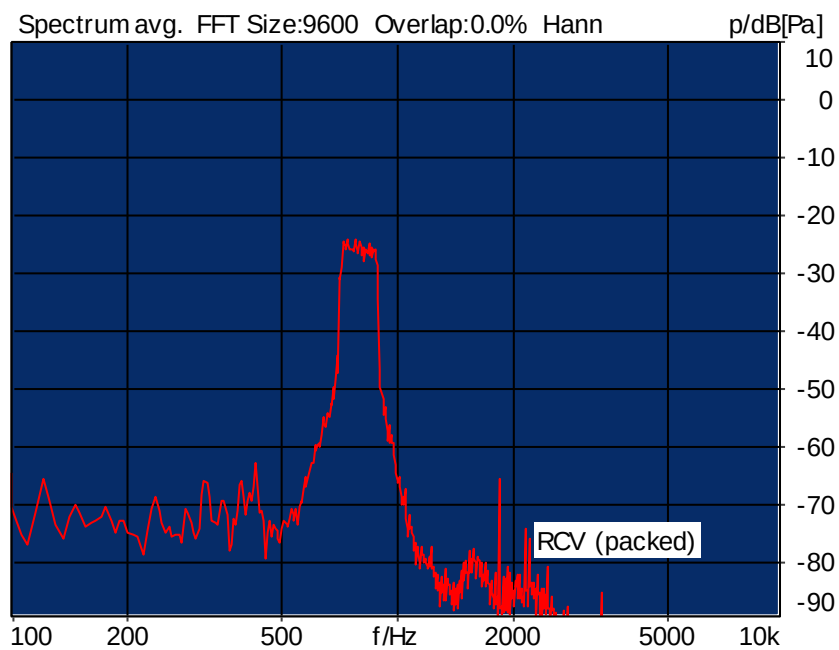
2025-12-24 下午 05:07 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 800 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 33.14 dB (2.20%) Ok

Ok

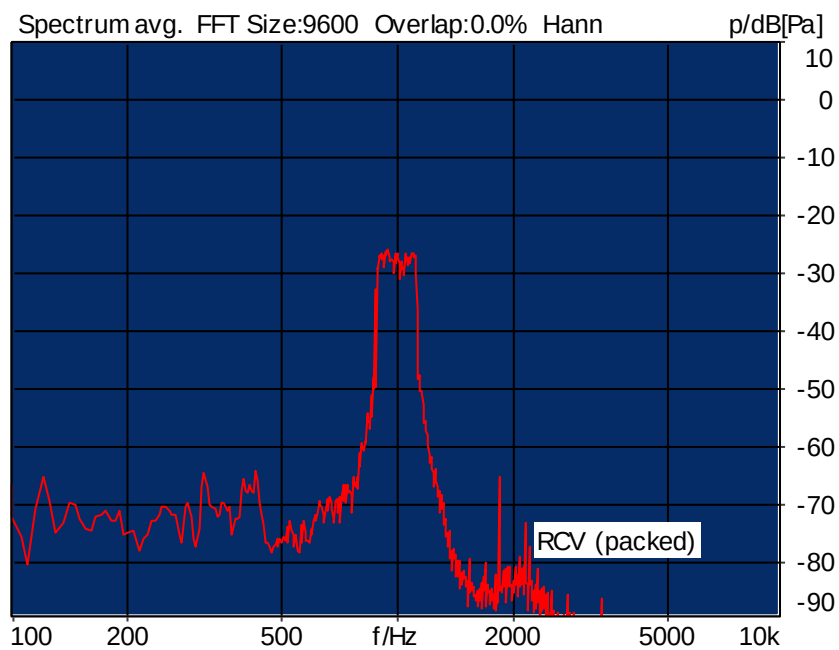
2025-12-24 下午 05:08 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 1000 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 31.54 dB (2.65%) Ok

Ok

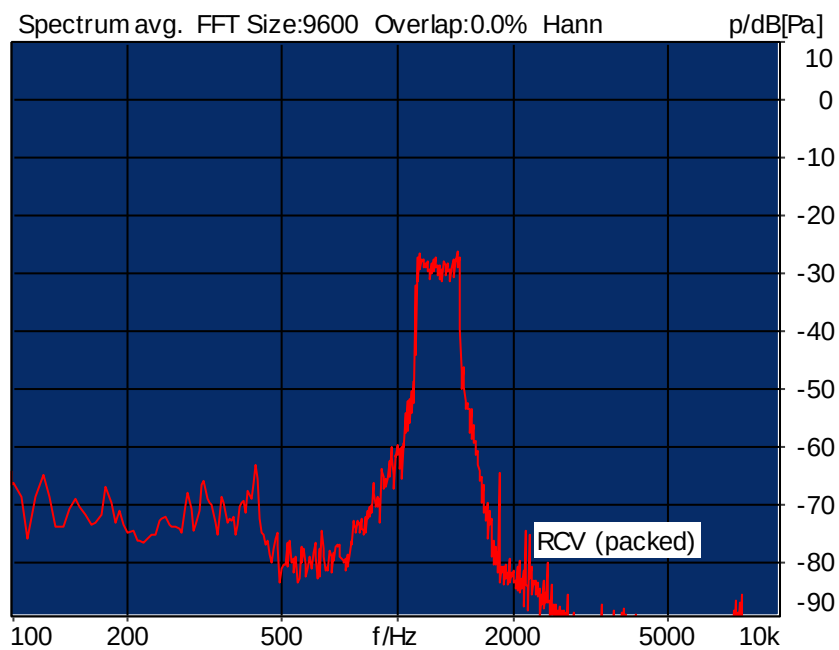
2025-12-24 下午 05:08 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 1250 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 23.58 dB (6.62%) Ok

Ok

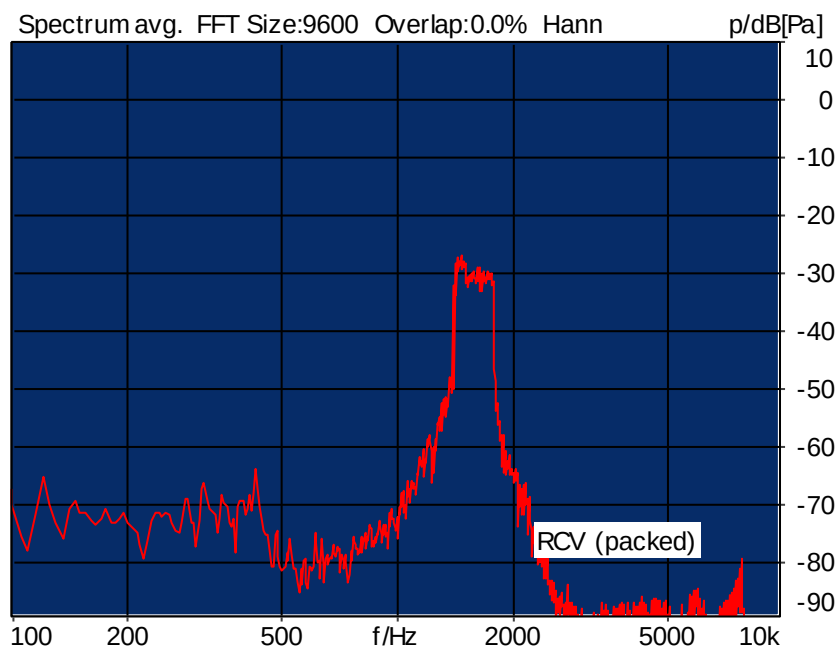
2025-12-24 下午 05:09 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 1600 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 25.28 dB (5.45%) Ok

Ok

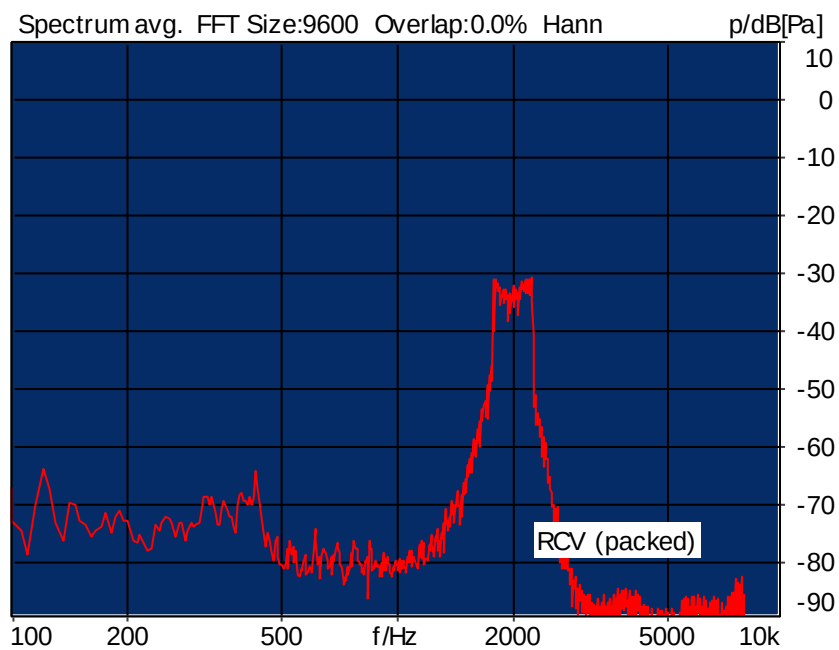
2025-12-24 下午 05:09 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 2000 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 22.07 dB (7.88%) Ok

Ok

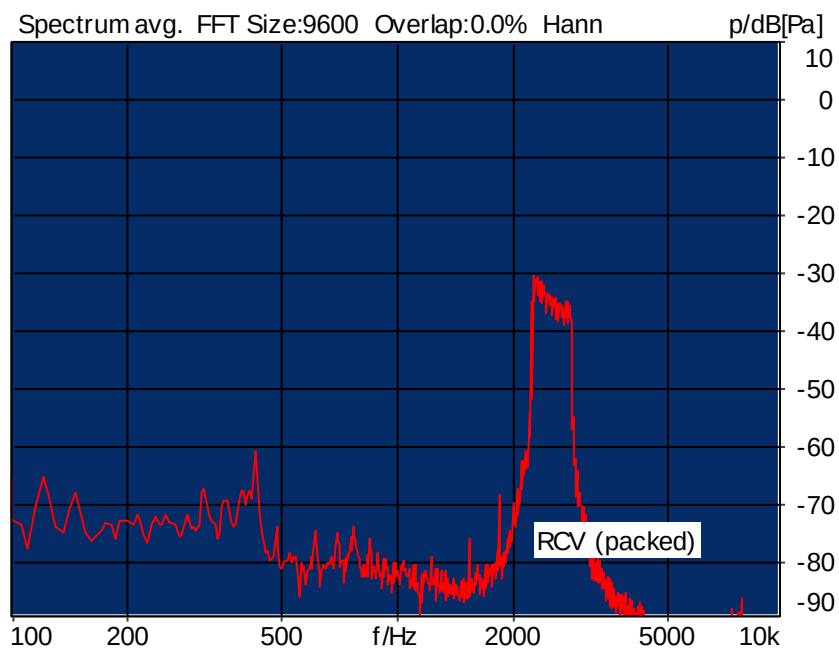
2025-12-24 下午 05:10 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 2500 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 30.32 dB (3.05%) Ok

Ok

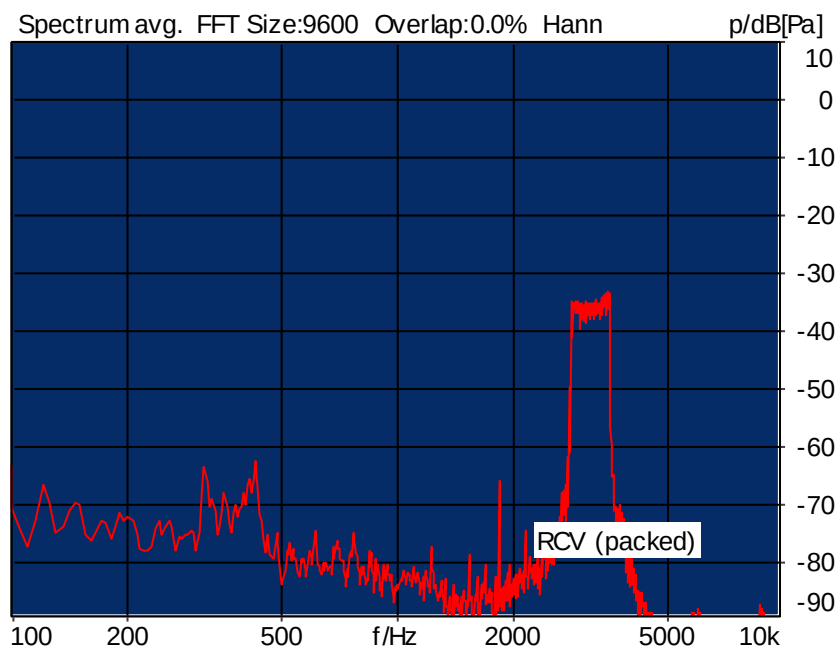
2025-12-24 下午 05:10 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 3150 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 32.28 dB (2.43%) Ok

Ok

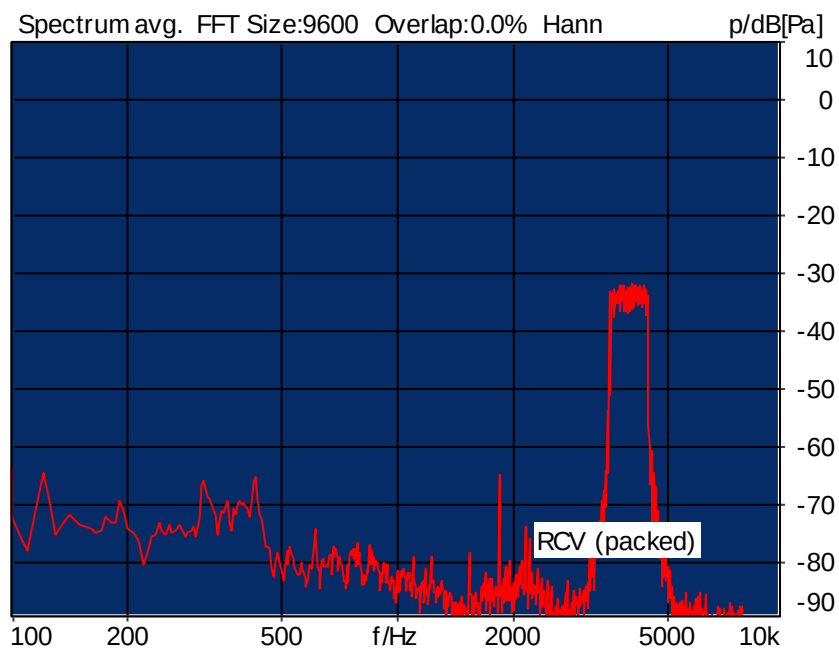
2025-12-24 下午 05:11 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 4000 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 34.65 dB (1.85%) Ok

Ok

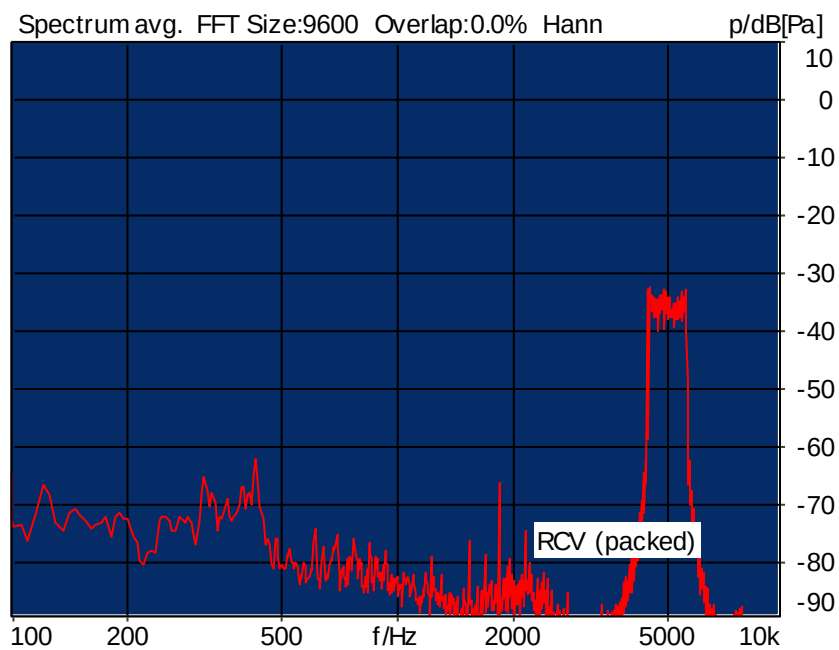
2025-12-24 下午 05:11 ACQUA 6.1.110

Limits

lower
20.00 dB

5.2 RCV Distortion and Noise - 5000 Hz 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range



Distortion (Noise) RCV (packed): 34.73 dB (1.83%) Ok

Ok

2025-12-24 下午 05:12 ACQUA 6.1.110

Limits

lower
20.00 dB



Report - Receive Distortion and Noise (Conversational Gain) 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N change frequency range

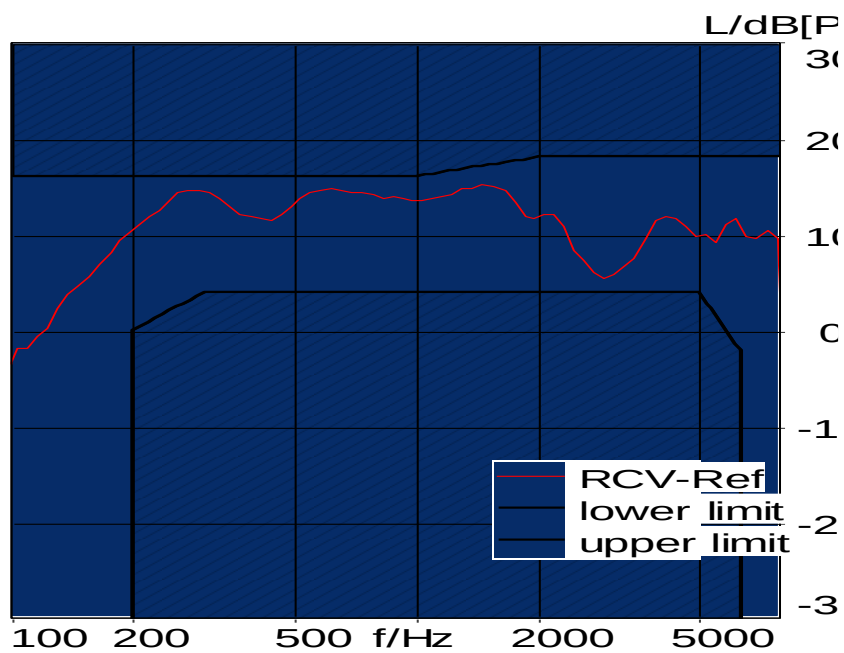
Region	Frequency	SDNR
1	250Hz	37.97 dB
2	315Hz	38.56 dB
3	400Hz	35.19 dB
4	500Hz	33.19 dB
5	630Hz	35.18 dB
6	800Hz	33.14 dB
7	1000Hz	31.54 dB
8	1250Hz	23.58 dB
9	1600Hz	25.28 dB
10	2000Hz	22.07 dB
11	2500Hz	30.32 dB
12	3150Hz	32.28 dB
13	4000Hz	34.65 dB
14	5000Hz	34.73 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 22.07dB at 2000Hz.

2025-12-24 下午 05:12 ACQUA

5.3 Frequency Response 8N FF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance

1.35 dB at 2883.7 Hz Ok

Ok

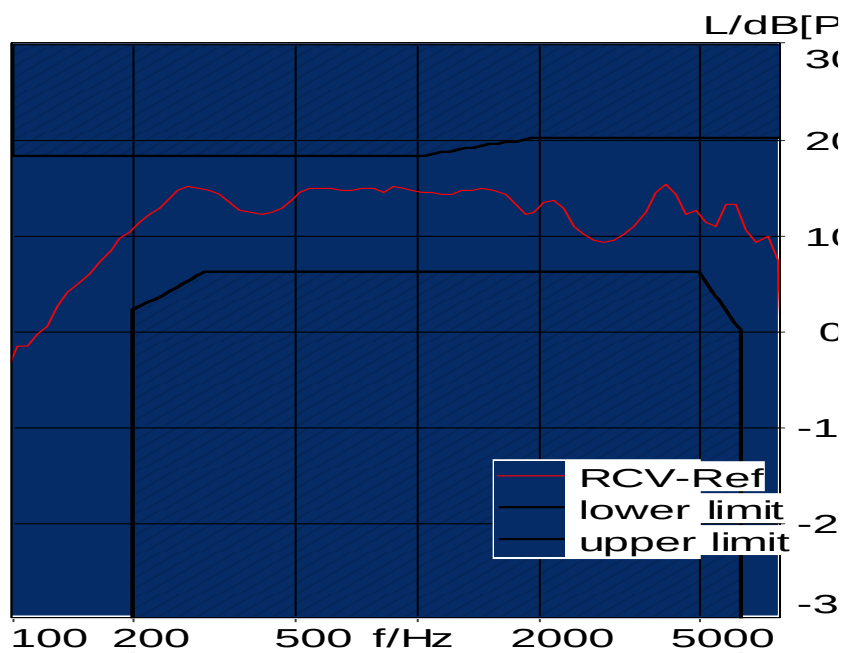
2025-12-24 下午 05:12 ACQUA 6.1.110

Limits

lower
Fit into tolerance

5.3 Frequency Response 8N DF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance

3.15 dB at 272.2 Hz Ok

Ok

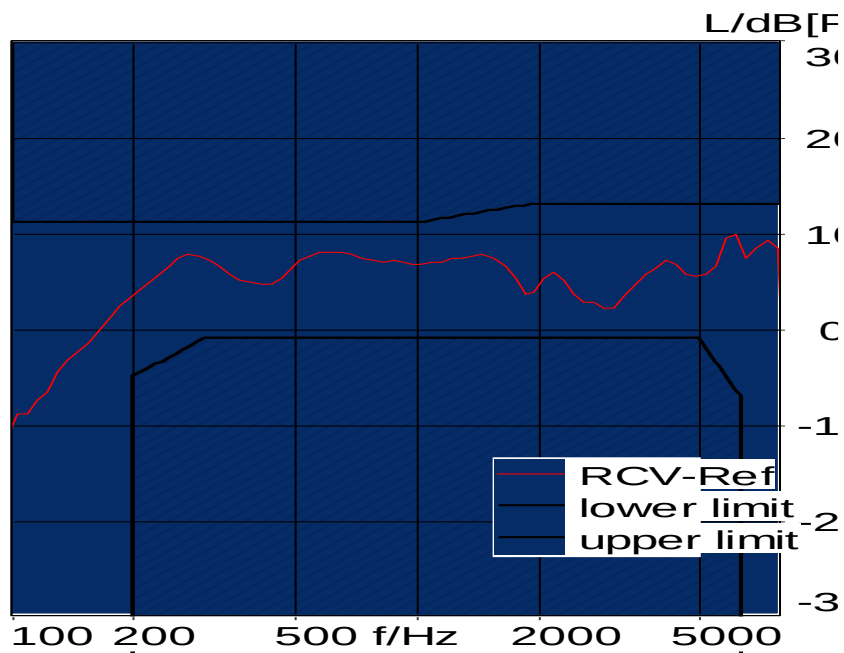
2025-12-24 下午 05:13 ACQUA 6.1.110

Limits

lower
Fit into tolerance

5.3 Frequency Response 2N FF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance

3.01 dB at 611.7 Hz Ok

Ok

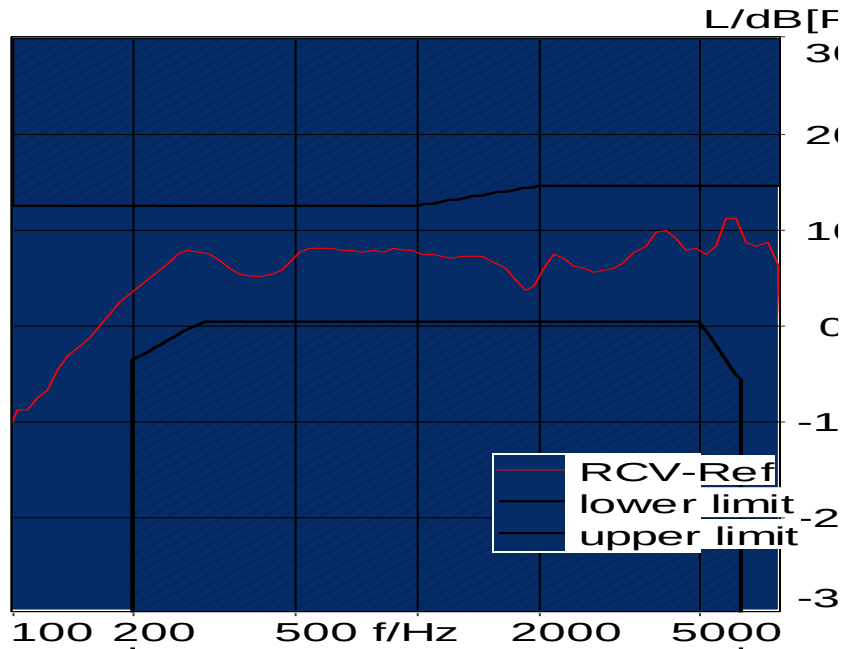
2025-12-24 下午 05:14 ACQUA 6.1.110

Limits

lower
Fit into tolerance

5.3 Frequency Response 2N DF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance

3.27 dB at 6117.2 Hz Ok

Ok

2025-12-24 下午 05:14 ACQUA 6.1.110

Limits

lower
Fit into tolerance



Appendix A. Volume Control Evaluation Results

<Evaluation results for KDB 285076 D05 2.b>



#2 LTE Band 106 EVS NB 24.4kbps

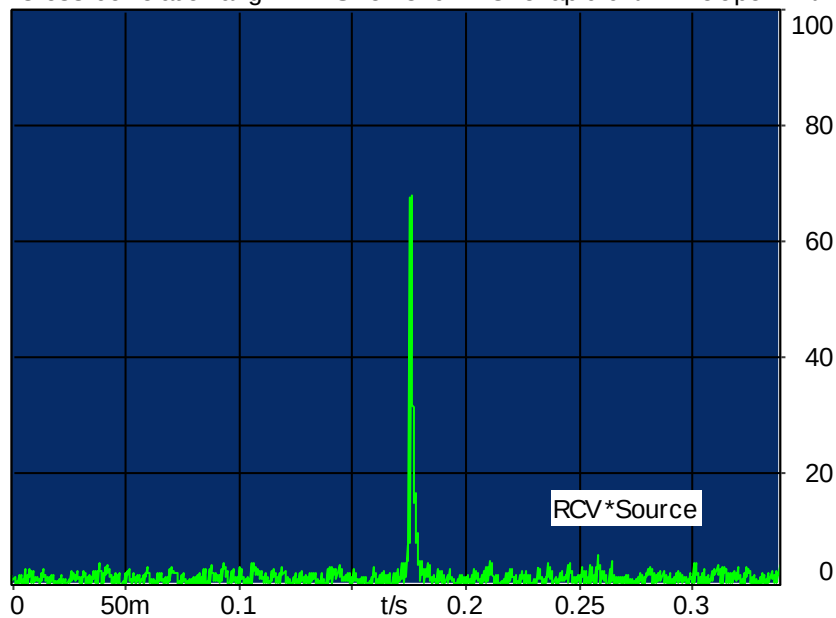
SMD	Status	Single Value Description	Single Value
Overall Receive Delay NB	Done	Delay (Cross) [ms]	176.1
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	90.60
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	96.39

Overall Receive Delay NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ Preparation - Delay measurement

411111-01 #1

Cross correlation avg. FFT Size:131072 Overlap:0.0% Envelope I %



Channel	Delay	Correlation
RCV*Source	176.1 ms	67.93 %

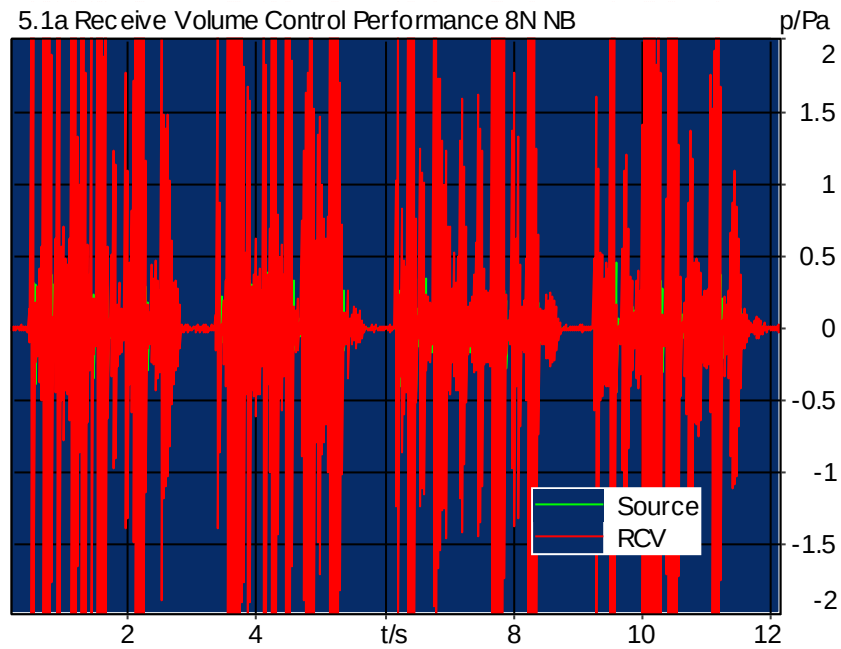
2026-01-05 下午 11:58 ACQUA 6.1.110

5.1a Receive Volume Control Performance 8N NB

TIA-5050 (2018-01) \ Measurements \ Narrowband

411111-01 #1

5.1a Receive Volume Control Performance 8N NB



Channel	Speech level	Activity	
RCV	90.60 dB[SPL]	57.70%	Ok

Ok

2026-01-06 上午 12:24 ACQUA 6.1.110

Limits

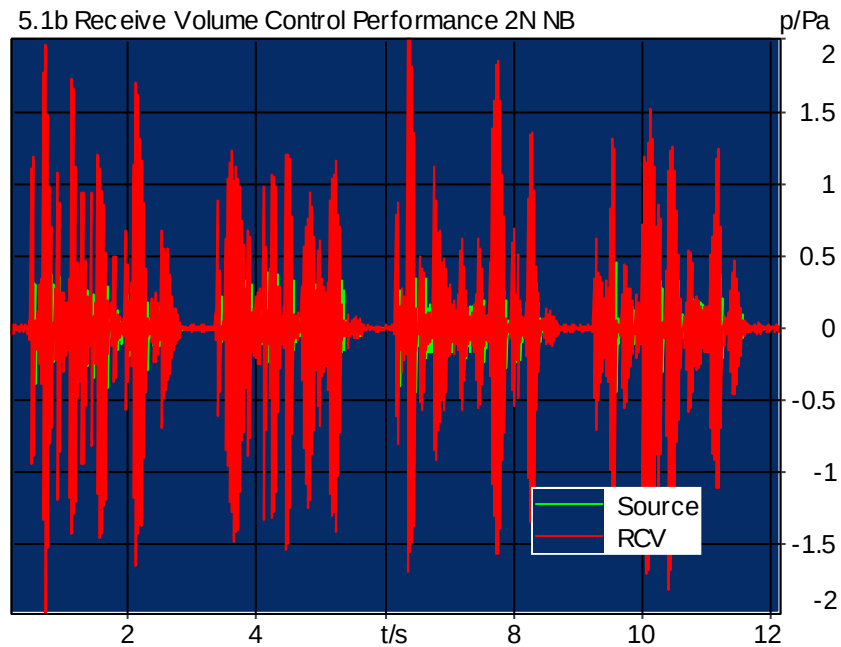
lower
76.00 dB[SPL]

5.1b Receive Volume Control Performance 2N NB

TIA-5050 (2018-01) \ Measurements \ Narrowband

411111-01 #1

5.1b Receive Volume Control Performance 2N NB



Channel	Speech level	Activity	
RCV	96.39 dB[SPL]	2.46%	Ok

Ok

2026-01-06 上午 12:11 ACQUA 6.1.110

Limits

lower
76.00 dB[SPL]