



Appendix A. Volume Control Evaluation Results

<Evaluation results for KDB 285076 D05 2.a>

#1 WiFi 6GHz EVS WB 24.4kbps

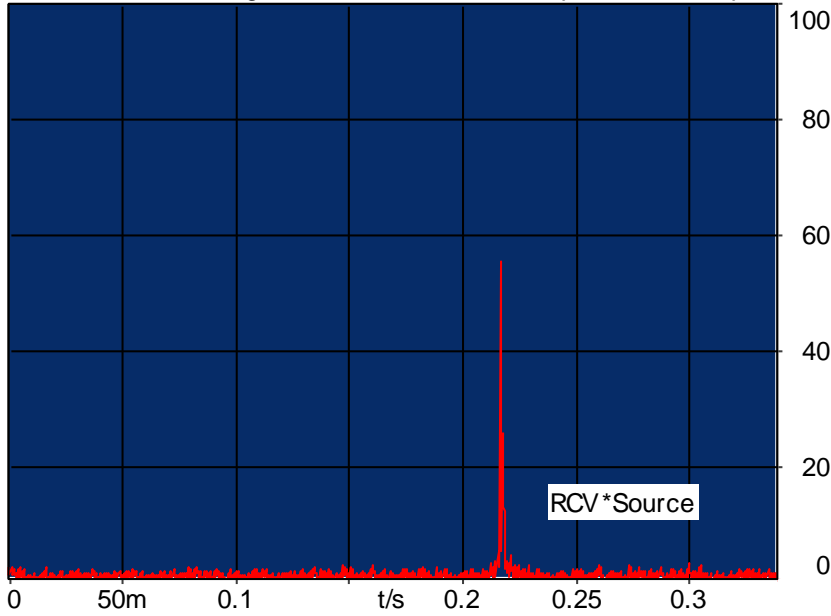
SMD	Status	Single Value Description	Single Value
Overall Receive Delay WB	Done	Delay (Cross) [ms]	217.1
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	90.44
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	84.53
5.2 RCV Distortion and Noise - 250 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.30
5.2 RCV Distortion and Noise - 315 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.01
5.2 RCV Distortion and Noise - 400 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.80
5.2 RCV Distortion and Noise - 500 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.58
5.2 RCV Distortion and Noise - 630 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.18
5.2 RCV Distortion and Noise - 800 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.49
5.2 RCV Distortion and Noise - 1000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.37
5.2 RCV Distortion and Noise - 1250 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.27
5.2 RCV Distortion and Noise - 1600 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.26
5.2 RCV Distortion and Noise - 2000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.56
5.2 RCV Distortion and Noise - 2500 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.92
5.2 RCV Distortion and Noise - 3150 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.91
5.2 RCV Distortion and Noise - 4000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.49
5.2 RCV Distortion and Noise - 5000 Hz 8N WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.53
Report - Receive Distortion and Noise (Conversational Gain) 8N WB	Ok	Minimum SDNR [dB], (occured at 1250Hz)	21.27
5.2 RCV Distortion and Noise - 250 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.31
5.2 RCV Distortion and Noise - 315 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.99
5.2 RCV Distortion and Noise - 400 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.31
5.2 RCV Distortion and Noise - 500 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.03
5.2 RCV Distortion and Noise - 630 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.15
5.2 RCV Distortion and Noise - 800 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.00
5.2 RCV Distortion and Noise - 1000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.25
5.2 RCV Distortion and Noise - 1250 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.47
5.2 RCV Distortion and Noise - 1600 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.93
5.2 RCV Distortion and Noise - 2000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.00
5.2 RCV Distortion and Noise - 2500 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.79
5.2 RCV Distortion and Noise - 3150 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.93
5.2 RCV Distortion and Noise - 4000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.82
5.2 RCV Distortion and Noise - 5000 Hz 2N WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.03
Report - Receive Distortion and Noise (Conversational Gain) 2N WB	Ok	Minimum SDNR [dB], (occured at 1250Hz)	21.47
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 689.1 Hz	1.01
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 4369.4 Hz	0.11



Overall Receive Delay WB

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

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

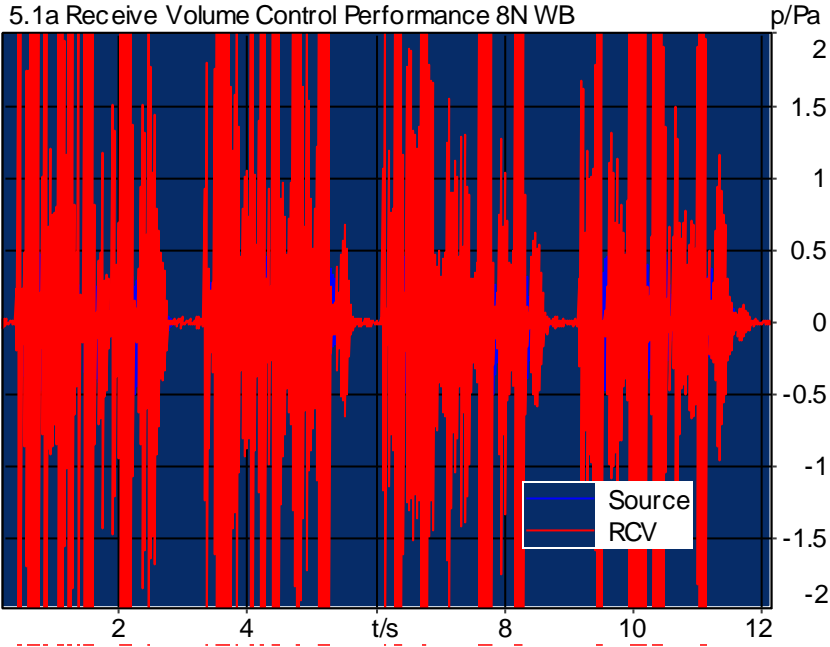


Channel	Delay	Correlation
RCV*Source	217.1 ms	55.54 %

2025-05-28 下午 10:08 ACQUA 6.1.110

5.1a Receive Volume Control Performance 8N WB

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



Channel	Speech level	Activity	
RCV	90.44 dB[SPL]	82.16%	Ok

Ok

2025-05-28 下午 11:33 ACQUA 6.1.110

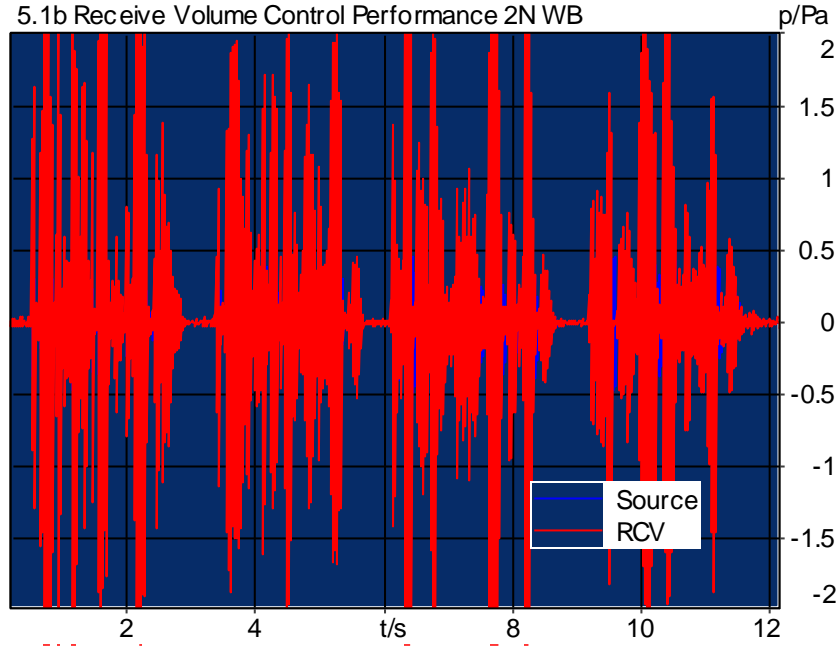
Limits

lower
76.00 dB[SPL]



5.1b Receive Volume Control Performance 2N WB

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



Channel	Speech level	Activity	
RCV	84.53 dB[SPL]	84.10%	Ok

Ok

2025-05-28 下午 11:12 ACQUA 6.1.110

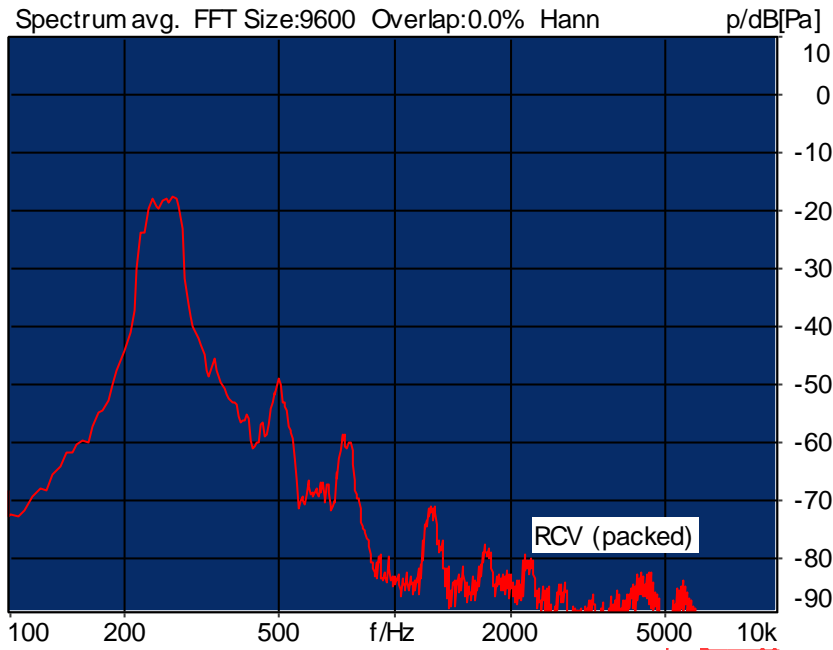
Limits

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): 31.30 dB (2.72%) Ok

Ok

2025-05-28 下午 11:25 ACQUA 6.1.110

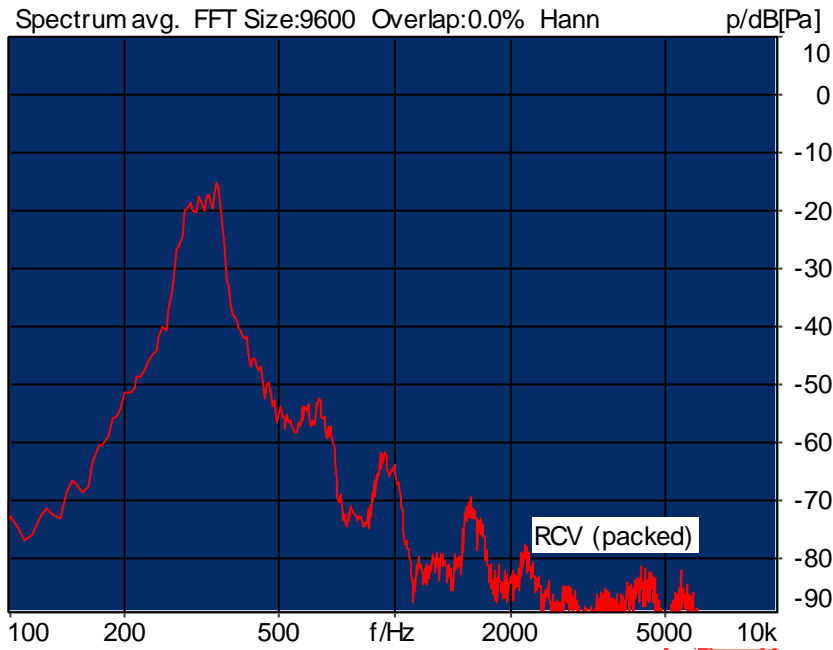
Limits

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): 29.01 dB (3.54%) Ok

Ok

2025-05-28 下午 11:25 ACQUA 6.1.110

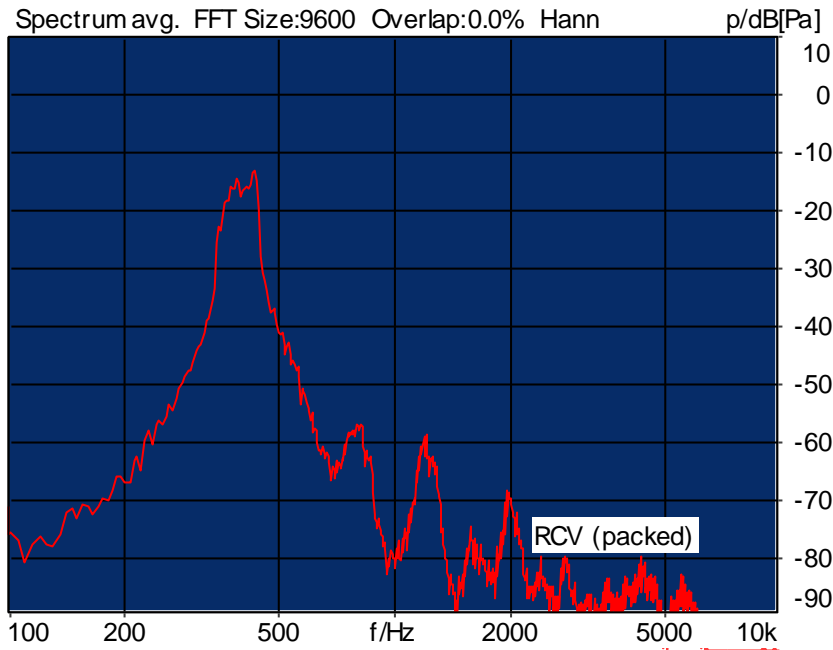
Limits

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): 28.80 dB (3.63%) Ok

Ok

2025-05-28 下午 11:26 ACQUA 6.1.110

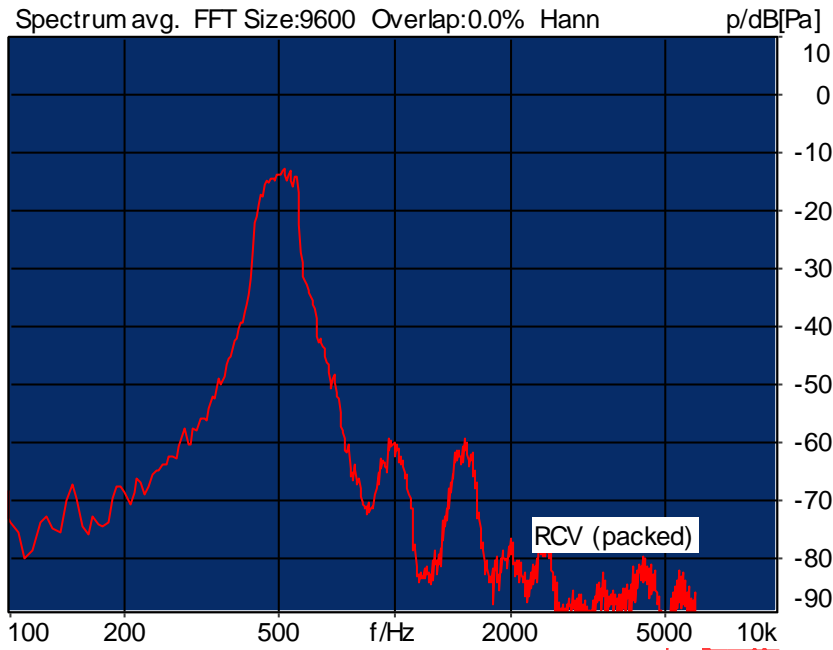
Limits

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): 27.58 dB (4.18%) Ok

Ok

2025-05-28 下午 11:26 ACQUA 6.1.110

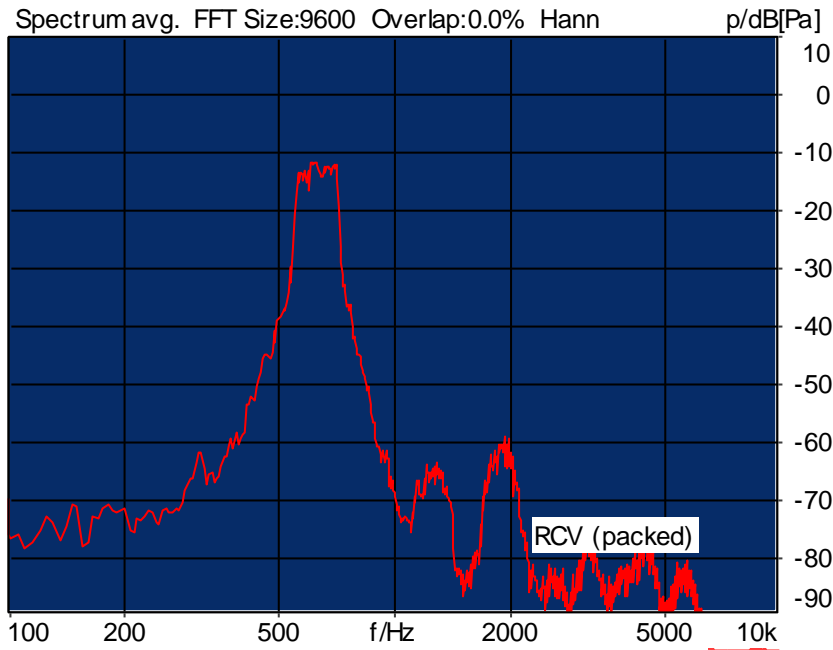
Limits

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): 29.18 dB (3.48%) Ok

Ok

2025-05-28 下午 11:27 ACQUA 6.1.110

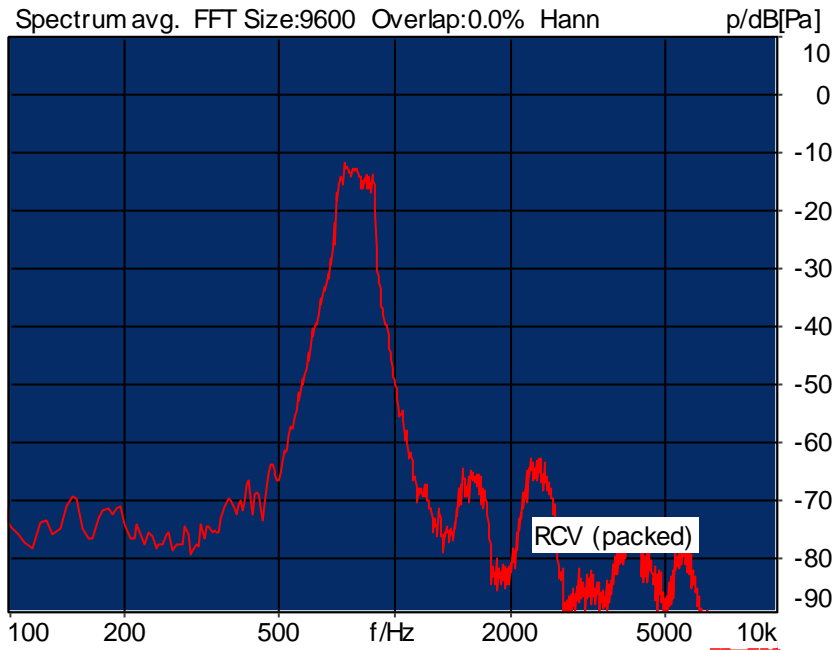
Limits

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): 26.49 dB (4.74%) Ok

Ok

2025-05-28 下午 11:27 ACQUA 6.1.110

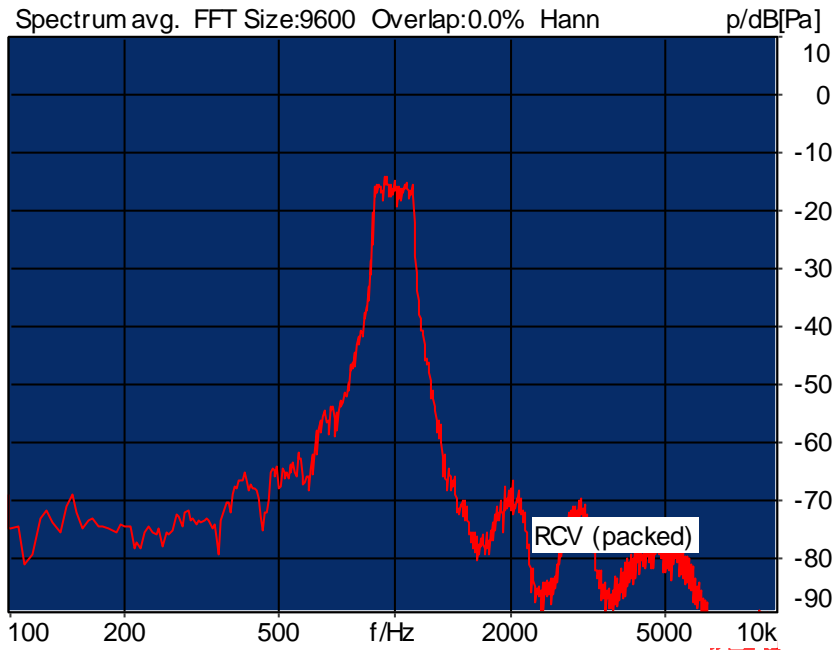
Limits

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): 27.37 dB (4.28%) Ok

Ok

2025-05-28 下午 11:28 ACQUA 6.1.110

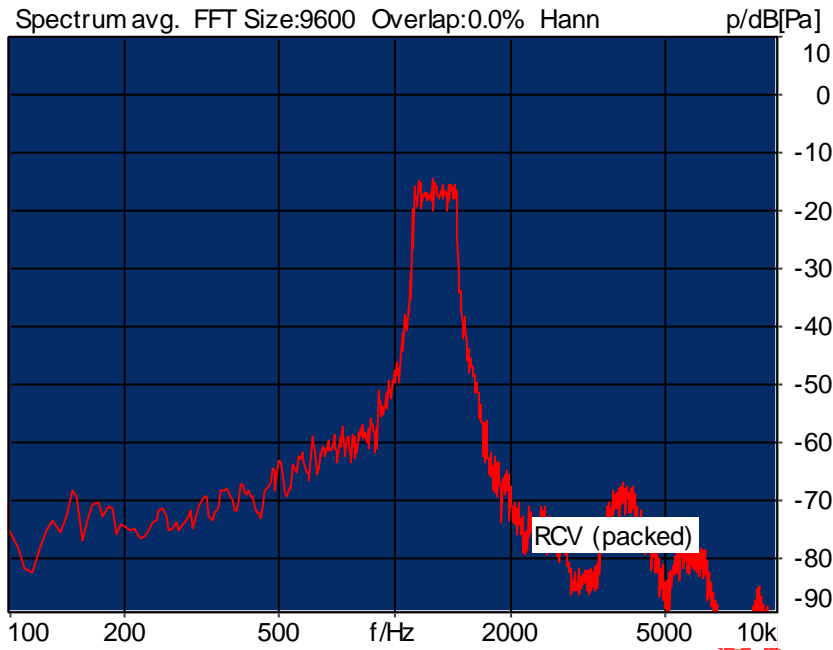
Limits

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): 21.27 dB (8.64%) Ok

Ok

2025-05-28 下午 11:35 ACQUA 6.1.110

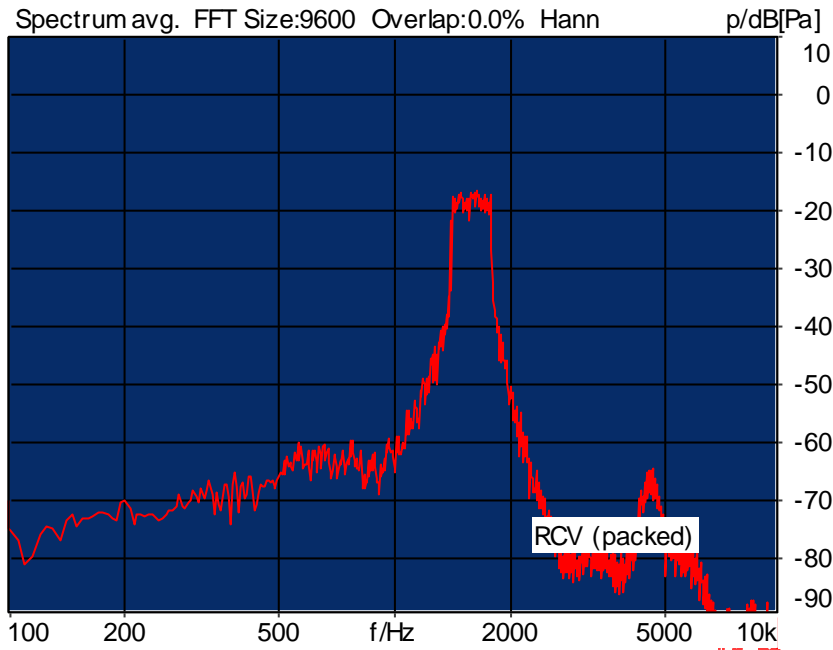
Limits

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): 24.26 dB (6.12%) Ok

Ok

2025-05-28 下午 11:29 ACQUA 6.1.110

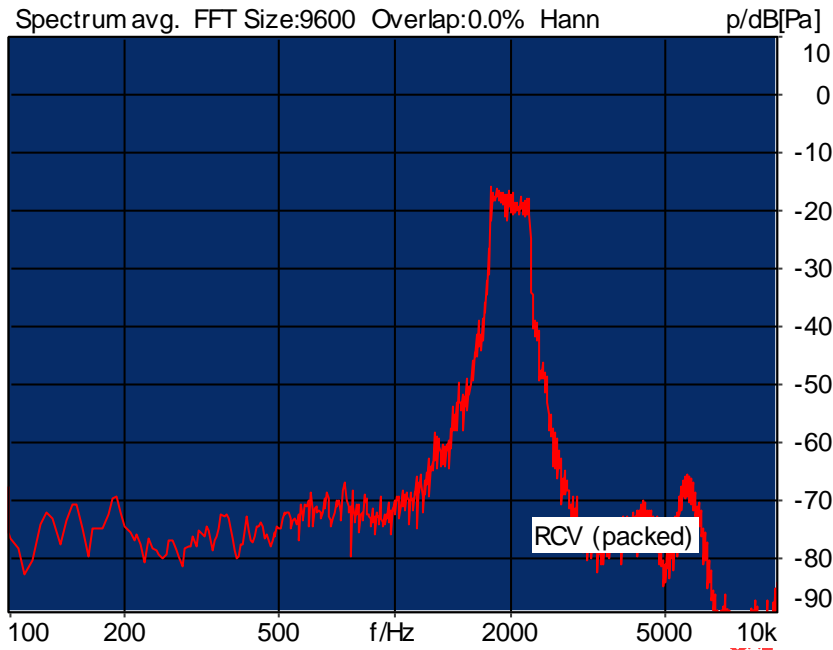
Limits

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): 22.56 dB (7.45%) Ok

Ok

2025-05-28 下午 11:30 ACQUA 6.1.110

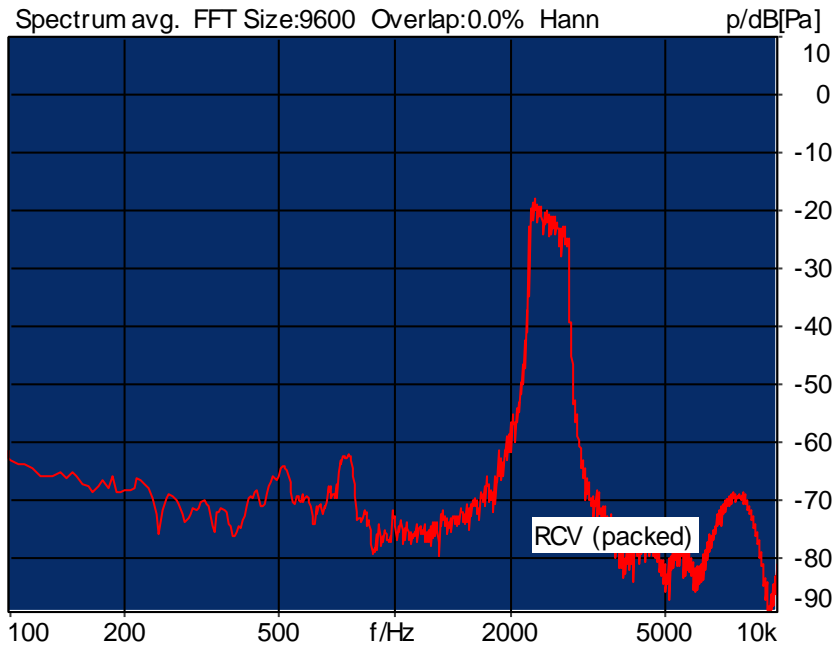
Limits

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): 27.92 dB (4.02%) Ok

Ok

2025-05-28 下午 11:30 ACQUA 6.1.110

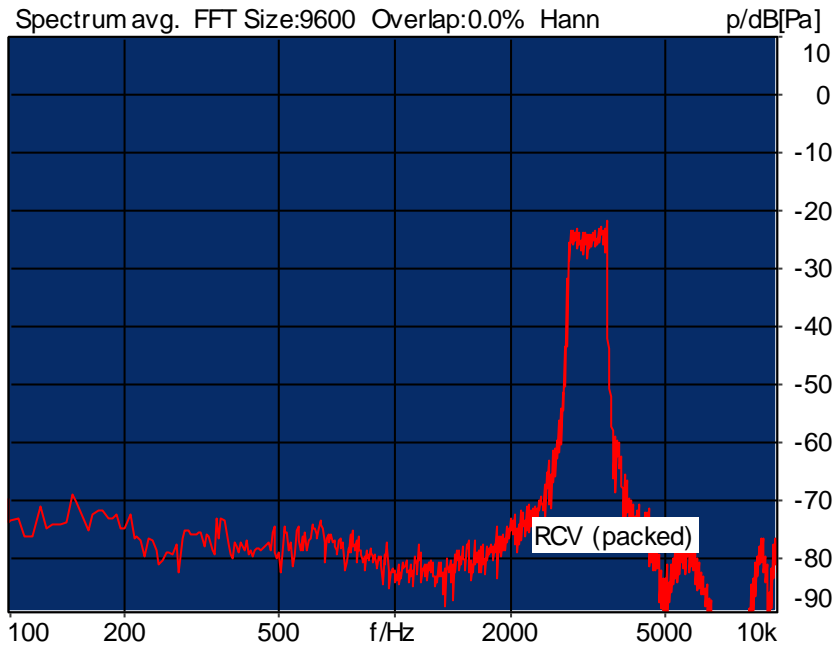
Limits

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): 29.91 dB (3.20%) Ok

Ok

2025-05-28 下午 11:31 ACQUA 6.1.110

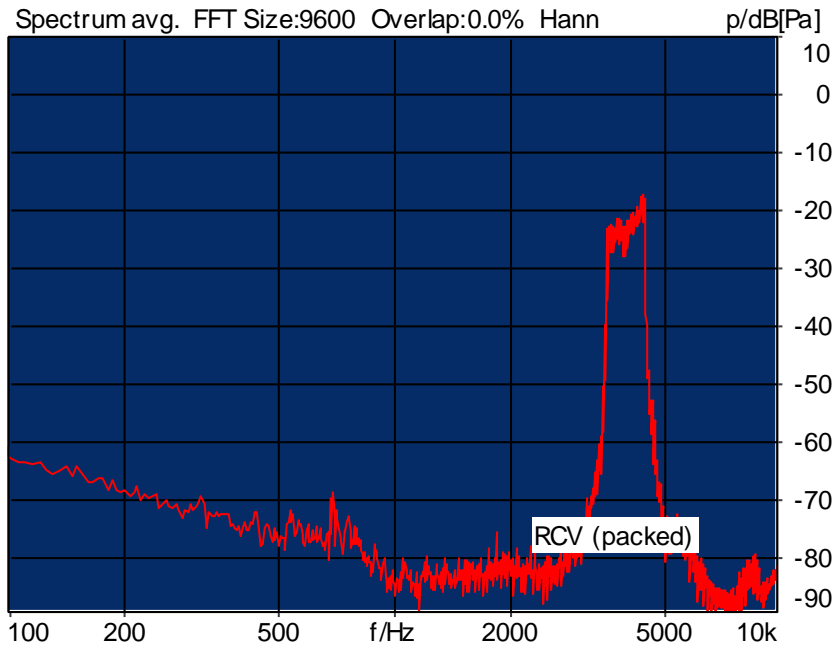
Limits

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): 32.49 dB (2.37%) Ok

Ok

2025-05-28 下午 11:31 ACQUA 6.1.110

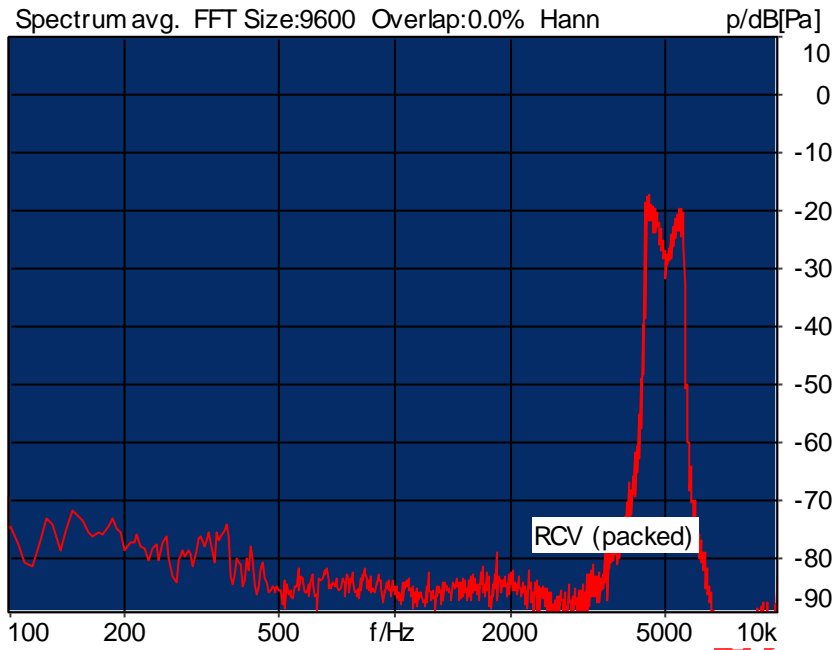
Limits

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): 33.53 dB (2.11%) Ok

Ok

2025-05-28 下午 11:32 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	31.30 dB
2	315Hz	29.01 dB
3	400Hz	28.80 dB
4	500Hz	27.58 dB
5	630Hz	29.18 dB
6	800Hz	26.49 dB
7	1000Hz	27.37 dB
8	1600Hz	24.26 dB
9	2000Hz	22.56 dB
10	2500Hz	27.92 dB
11	3150Hz	29.91 dB
12	4000Hz	32.49 dB
13	5000Hz	33.53 dB
14	1250Hz	21.27 dB

All SDNRs were greater than 20.0 dB, requirement was met.

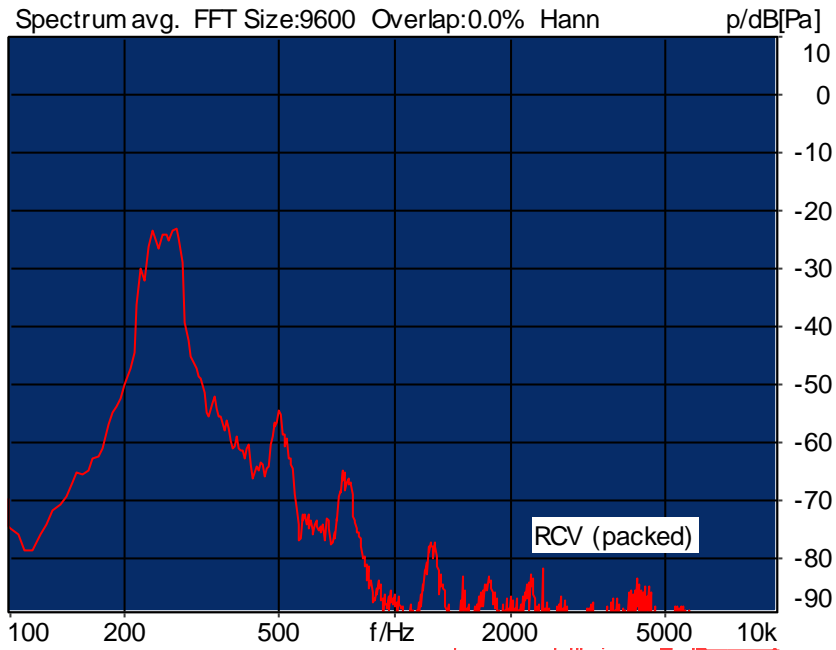
Smallest SDNR was 21.27dB at 1250Hz.

2025-05-28 下午 11:35 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): 31.31 dB (2.72%) Ok

Ok

2025-05-28 下午 10:09 ACQUA 6.1.110

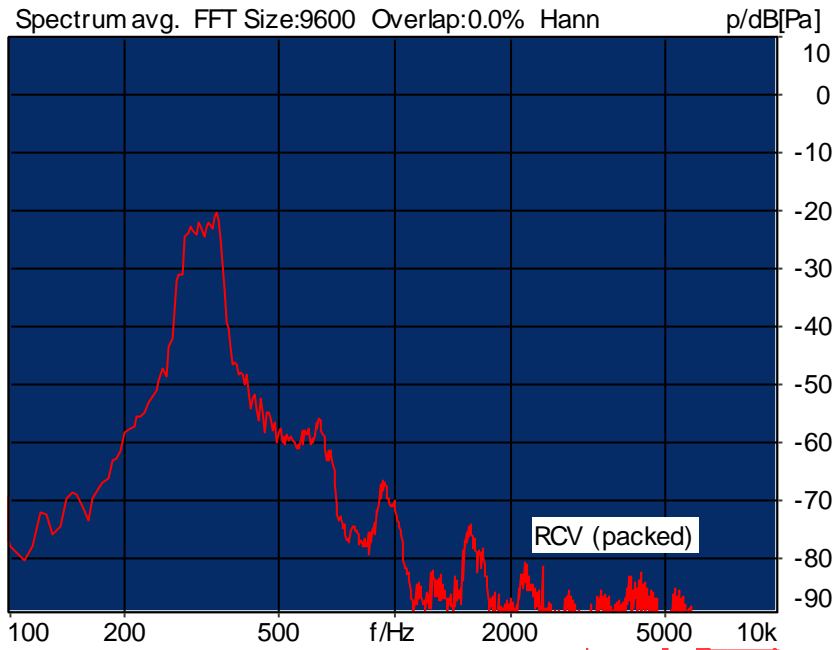
Limits

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): 29.99 dB (3.17%) Ok

Ok

2025-05-28 下午 10:09 ACQUA 6.1.110

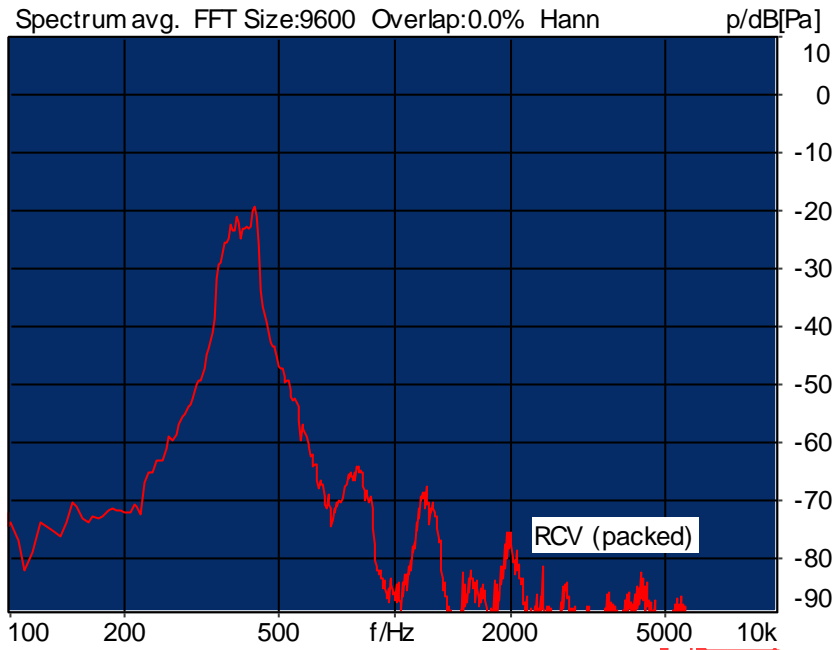
Limits

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): 28.31 dB (3.84%) Ok

Ok

2025-05-28 下午 10:10 ACQUA 6.1.110

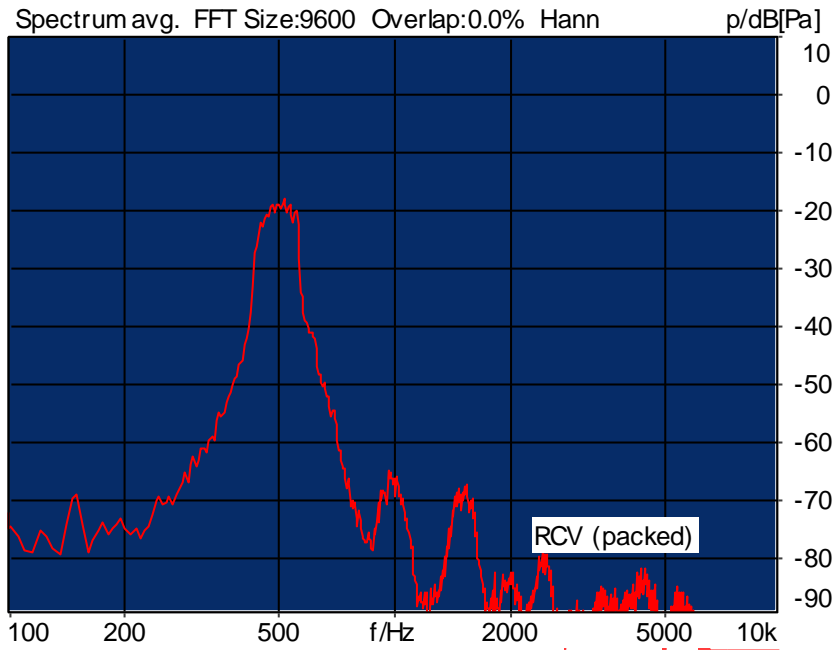
Limits

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): 28.03 dB (3.97%) Ok

Ok

2025-05-28 下午 10:10 ACQUA 6.1.110

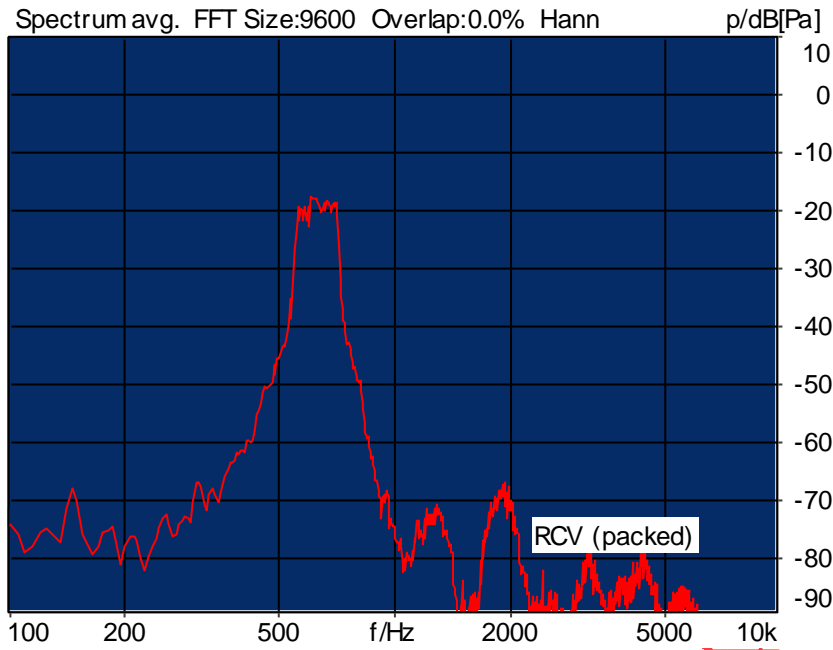
Limits

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): 29.15 dB (3.49%) Ok

Ok

2025-05-28 下午 10:11 ACQUA 6.1.110

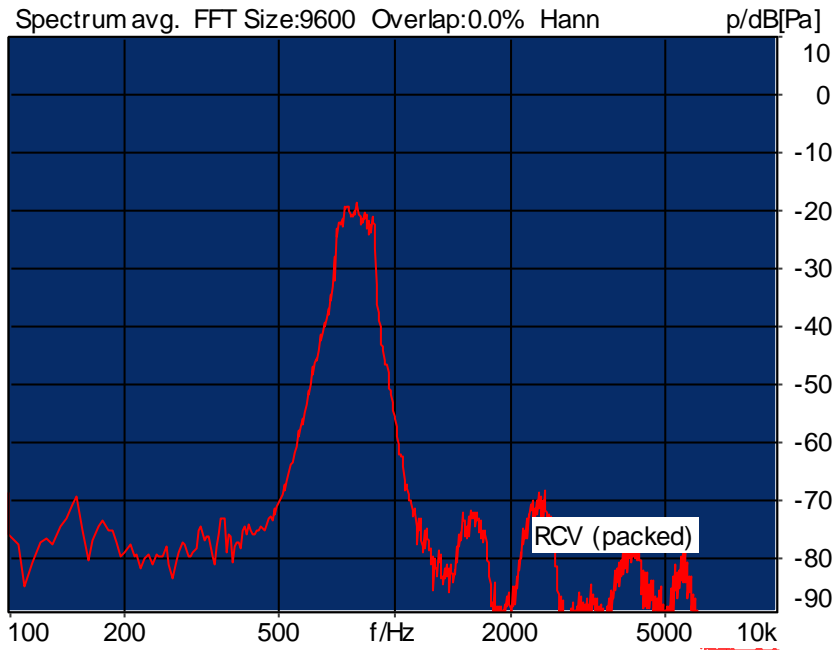
Limits

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): 26.00 dB (5.01%) Ok

Ok

2025-05-28 下午 10:11 ACQUA 6.1.110

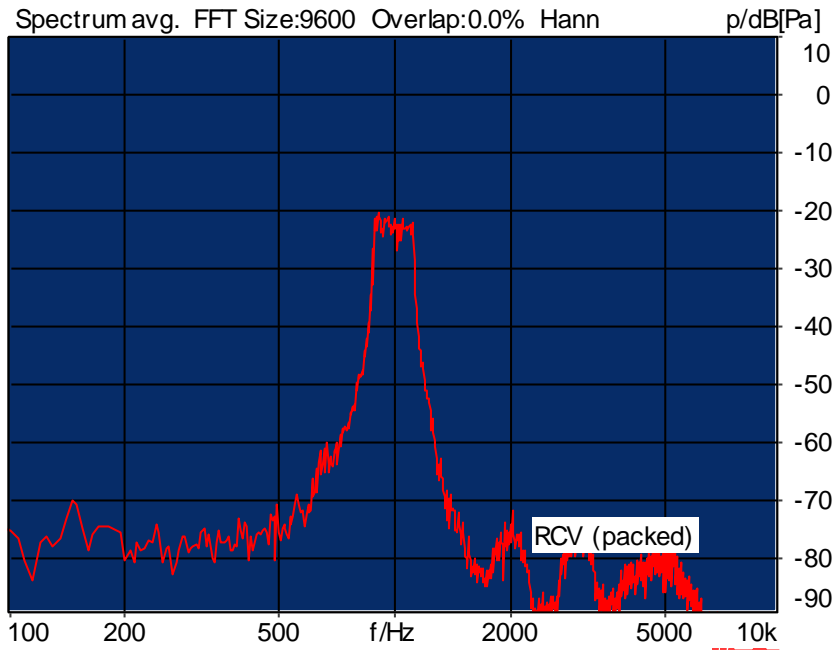
Limits

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): 27.25 dB (4.34%) Ok

Ok

2025-05-28 下午 10:12 ACQUA 6.1.110

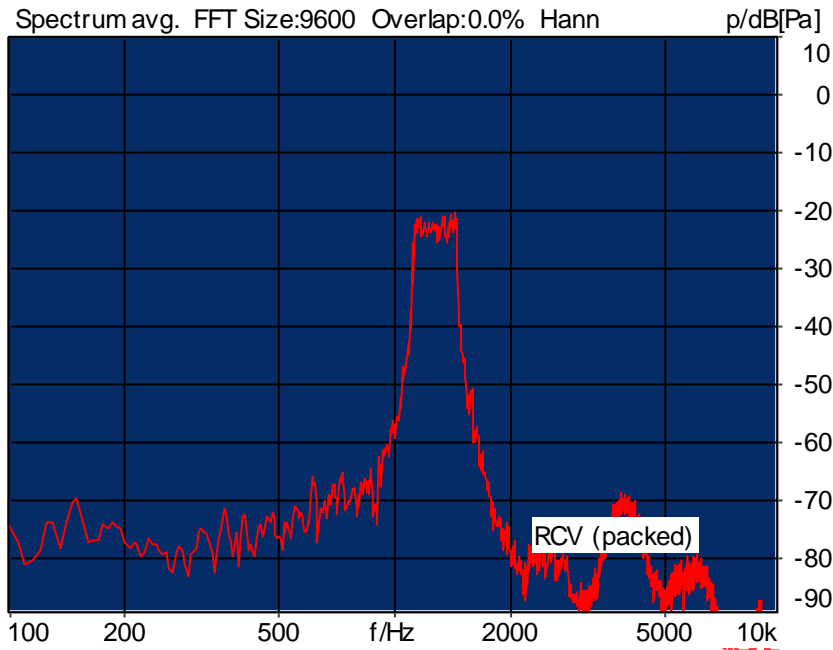
Limits

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): 21.47 dB (8.45%) Ok

Ok

2025-05-28 下午 10:12 ACQUA 6.1.110

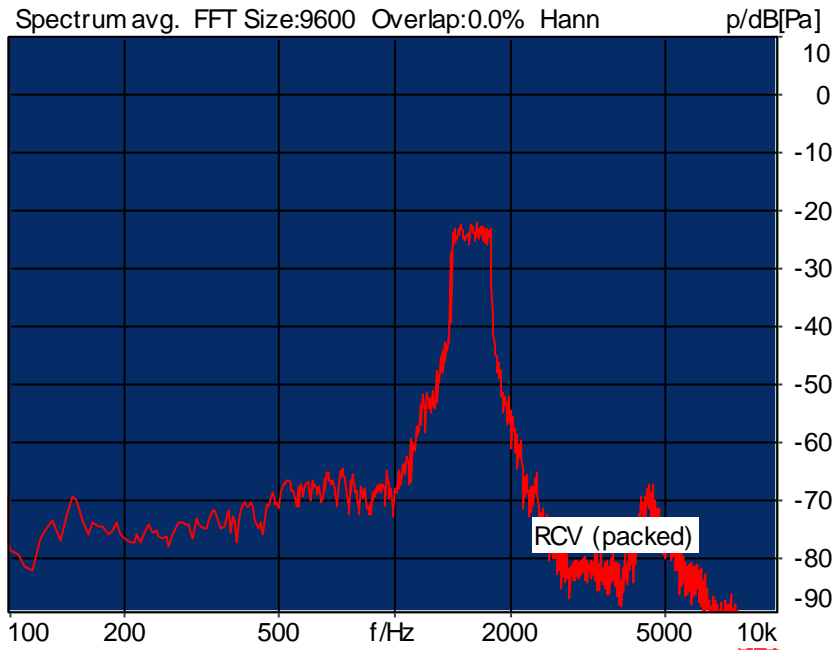
Limits

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): 23.93 dB (6.36%) Ok

Ok

2025-05-28 下午 10:13 ACQUA 6.1.110

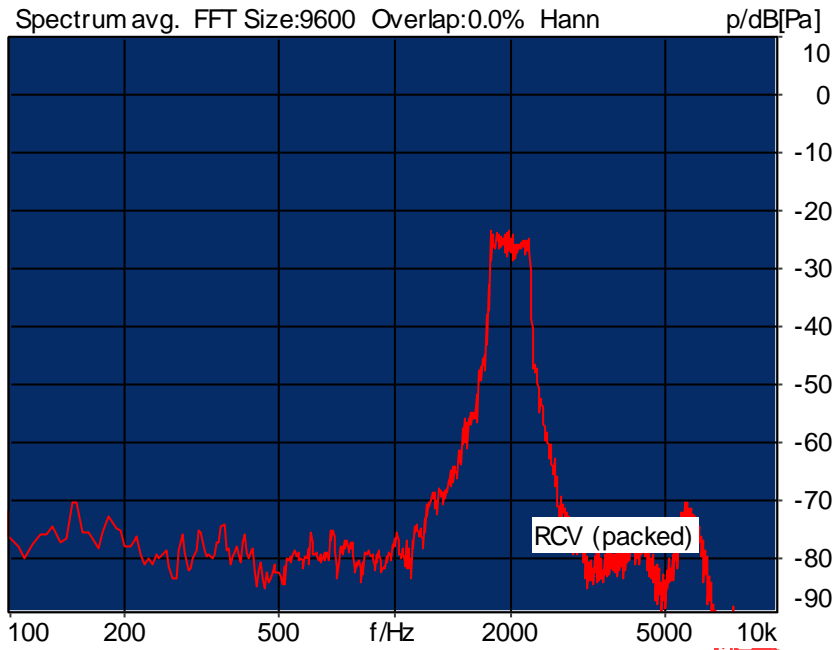
Limits

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): 23.00 dB (7.08%) Ok

Ok

2025-05-28 下午 10:13 ACQUA 6.1.110

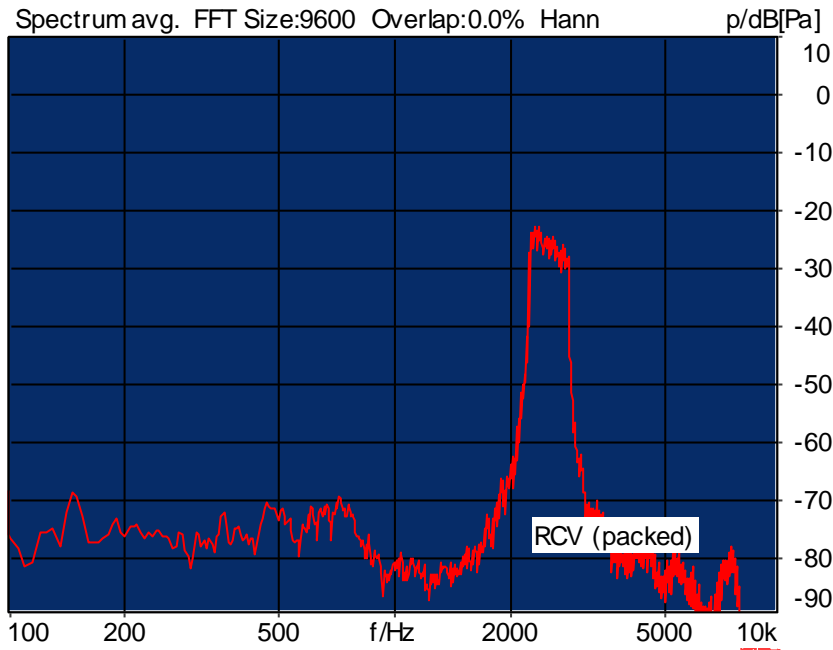
Limits

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): 28.79 dB (3.63%) Ok

Ok

2025-05-28 下午 10:14 ACQUA 6.1.110

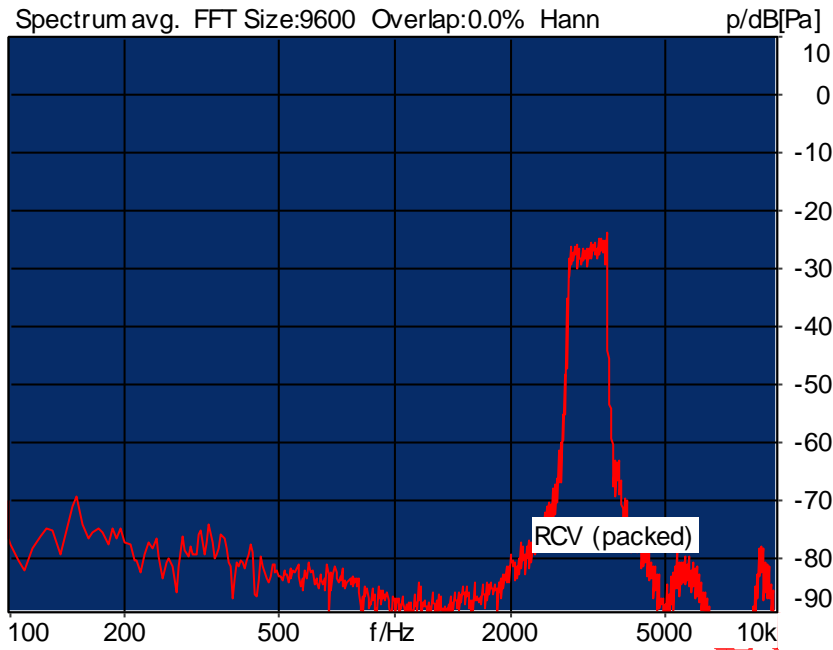
Limits

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): 30.93 dB (2.84%) Ok

Ok

2025-05-28 下午 10:15 ACQUA 6.1.110

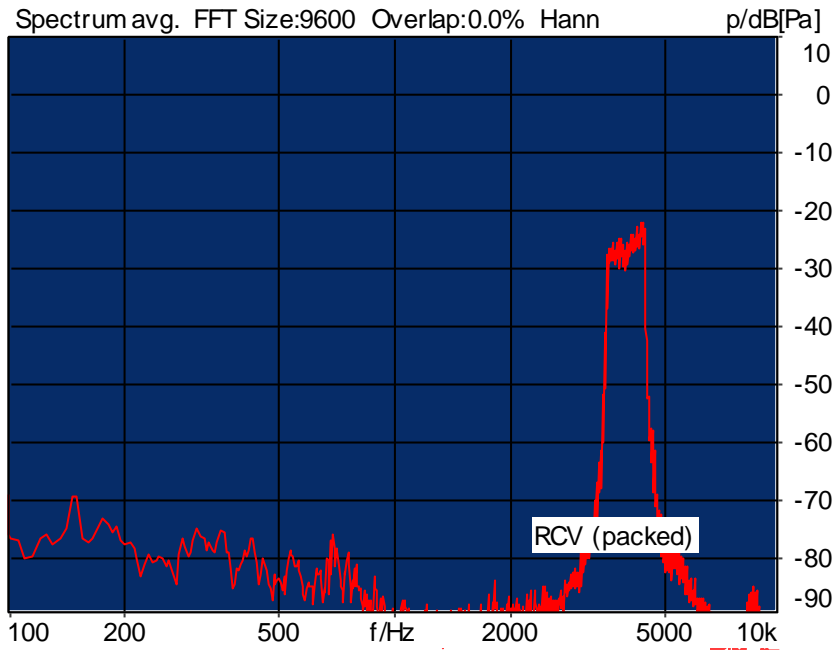
Limits

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): 31.82 dB (2.57%) Ok

Ok

2025-05-28 下午 10:15 ACQUA 6.1.110

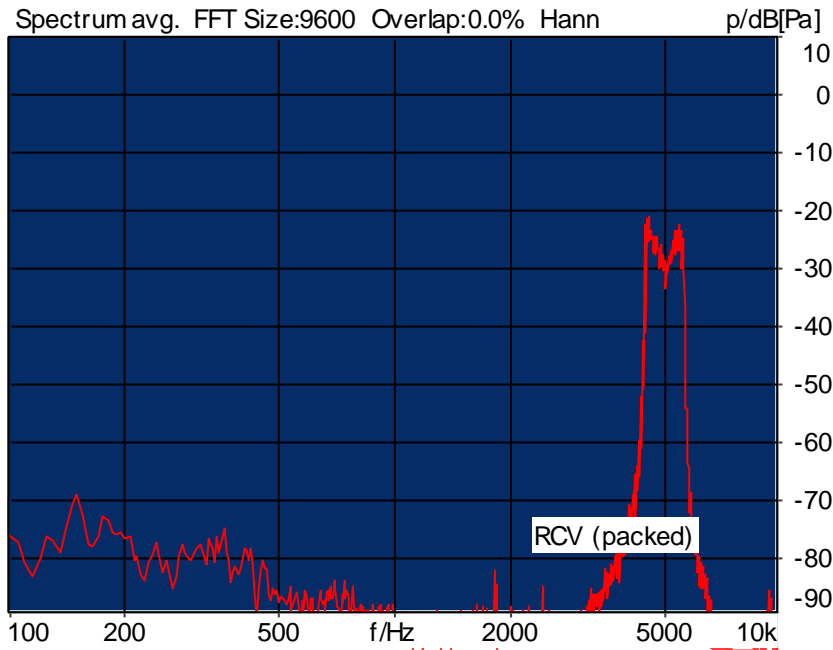
Limits

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): 33.03 dB (2.23%) Ok

Ok

2025-05-28 下午 10:16 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	31.31 dB
2	315Hz	29.99 dB
3	400Hz	28.31 dB
4	500Hz	28.03 dB
5	630Hz	29.15 dB
6	800Hz	26.00 dB
7	1000Hz	27.25 dB
8	1250Hz	21.47 dB
9	1600Hz	23.93 dB
10	2000Hz	23.00 dB
11	2500Hz	28.79 dB
12	3150Hz	30.93 dB
13	4000Hz	31.82 dB
14	5000Hz	33.03 dB

All SDNRs were greater than 20.0 dB, requirement was met.

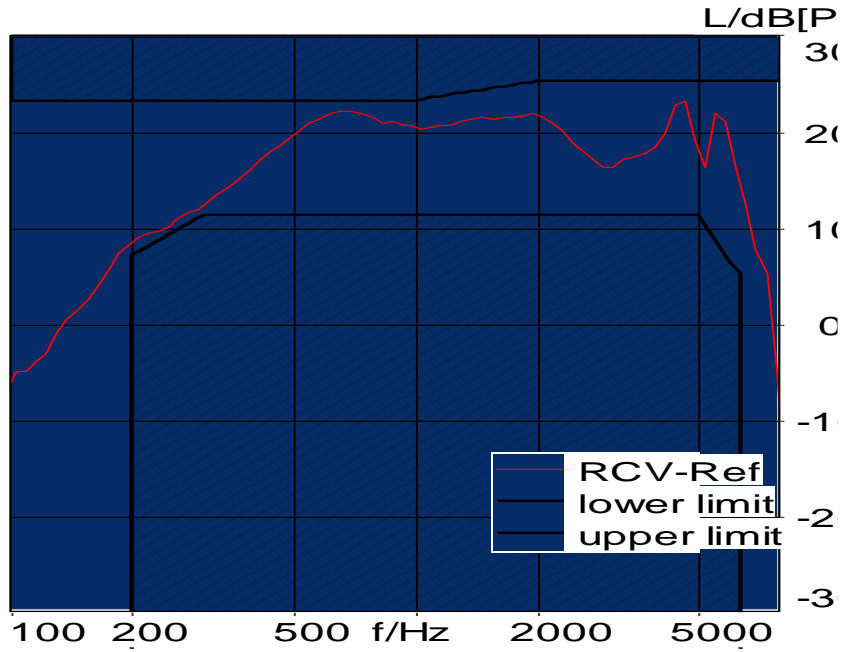
Smallest SDNR was 21.47dB at 1250Hz.

2025-05-28 下午 10:16 ACQUA



5.3 Frequency Response 8N FF

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



Absolute minimal distance

1.01 dB at 689.1 Hz Ok

Ok

2025-05-28 下午 11:36 ACQUA 6.1.110

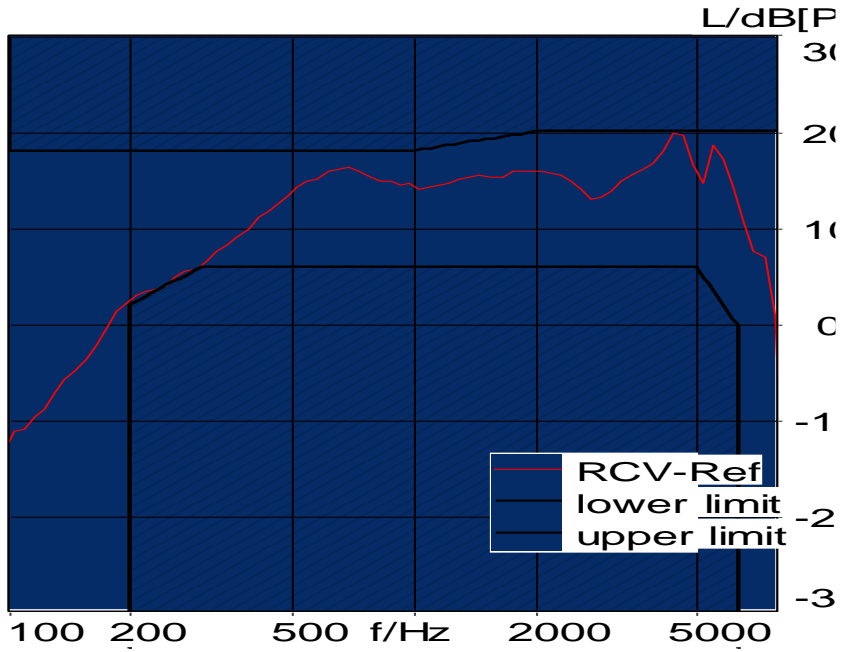
Limits

lower
Fit into tolerance



5.3 Frequency Response 2N FF

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



Absolute minimal distance

0.11 dB at 4369.4 Hz Ok

Ok

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Limits

lower
Fit into tolerance



<Evaluation results for KDB 285076 D05 2.b>

#2 WiFi 6GHz AMR NB 4.75kbps

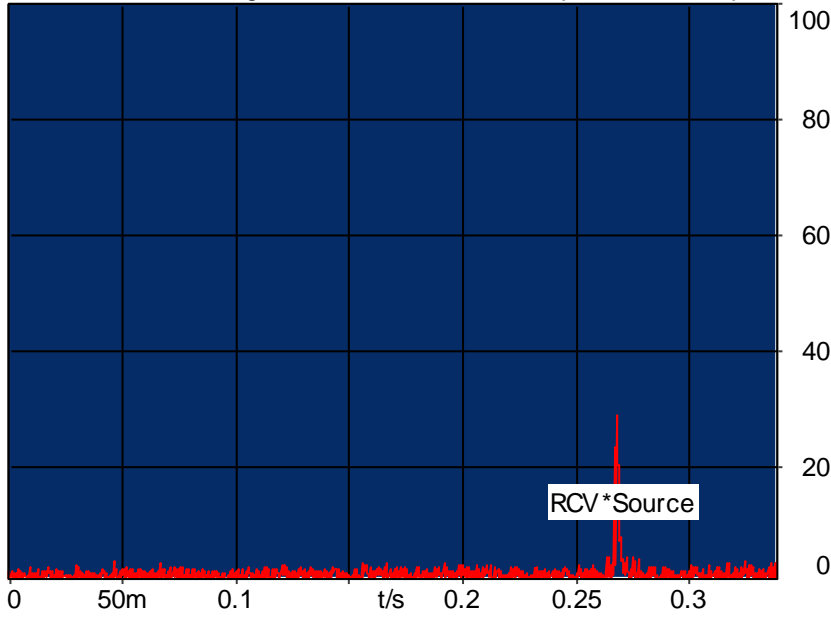
SMD	Status	Single Value Description	Single Value
Overall Receive Delay NB	Done	Delay (Cross) [ms]	267.9
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	89.98
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	83.84



Overall Receive Delay NB

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

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



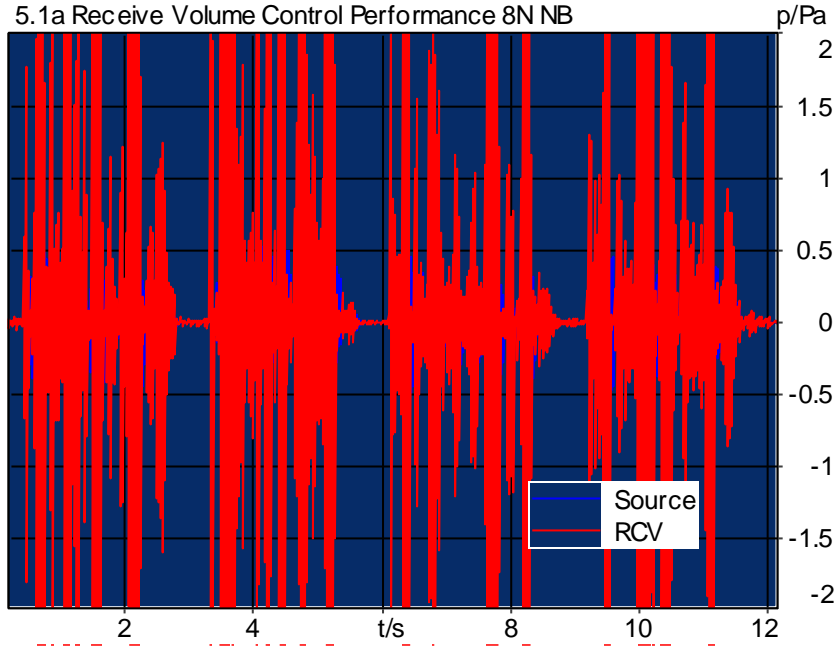
Channel	Delay	Correlation
RCV*Source	267.9 ms	28.89 %

2025-05-29 上午 12:50 ACQUA 6.1.110



5.1a Receive Volume Control Performance 8N NB

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



Channel	Speech level	Activity	
RCV	89.98 dB[SPL]	80.09%	Ok

Ok

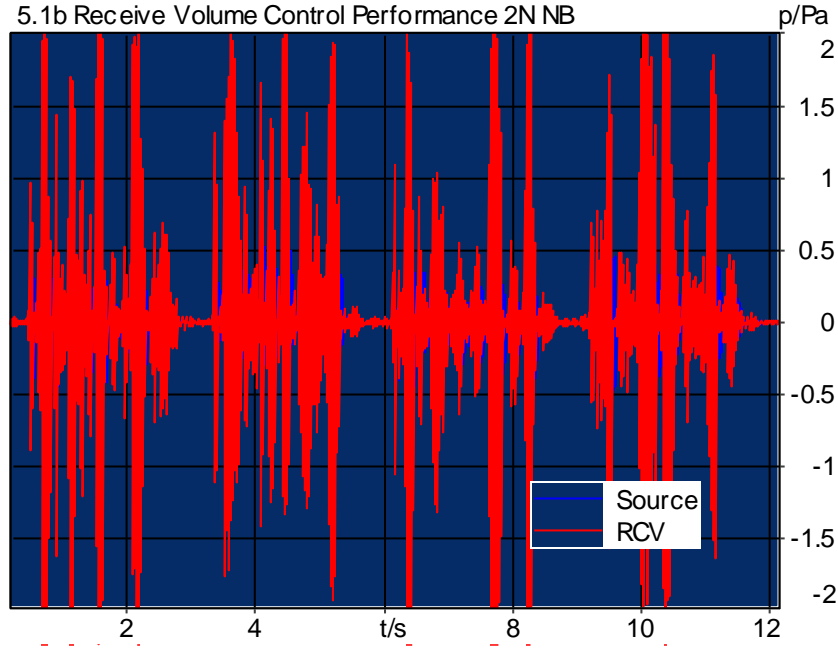
2025-05-29 上午 12:52 ACQUA 6.1.110

Limits

lower
76.00 dB[SPL]

5.1b Receive Volume Control Performance 2N NB

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



Channel	Speech level	Activity	
RCV	83.84 dB[SPL]	79.83%	Ok

Ok

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Limits

lower
76.00 dB[SPL]