# Measurement Protocol

| | |
|---|---|
| Measurement Object | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:04 |
| Responsible Person | audio |

# Status Overview

| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay WB | Done | Delay (Cross) [ms] | 168.6 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.1a Receive Volume Control Performance 8N WB | Ok | Corrected Speech Level [dB[SPL]] | 22.59 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.1b Receive Volume Control Performance 2N WB | Ok | Corrected Speech Level [dB[SPL]] | 17.34 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.19 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 315 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.22 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 400 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.61 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.27 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 630 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 35.21 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 800 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.50 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 1000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.21 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 1250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.11 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 1600 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.08 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 2000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.90 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 2500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.42 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 3150 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 25.23 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 4000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.68 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 5000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.52 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2500Hz) | 21.42 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.94 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 315 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.09 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 400 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.76 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.12 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 630 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.78 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |

| | | | | |
|---|---|---|---|---|
| 5.2 RCV Distortion and Noise - 800 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.50 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 1000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.03 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 1250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.28 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 1600 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.81 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 2000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.17 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 2500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.21 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 3150 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.10 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 4000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 29.36 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.2 RCV Distortion and Noise - 5000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 35.41 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2000Hz) | 22.17 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.3 Frequency Response 8N FF | Not Ok | Min. dist. to tolerance scheme [dB], 3058.6 Hz | -1.52 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.3 Frequency Response 8N DF | Ok | Min. dist. to tolerance scheme [dB], 5443.6 Hz | 0.56 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.3 Frequency Response 2N FF | Ok | Min. dist. to tolerance scheme [dB], 5443.6 Hz | 0.15 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |
| 5.3 Frequency Response 2N DF | Ok | Min. dist. to tolerance scheme [dB], 3245.6 Hz | 1.31 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH633334 |

Overall Receive Delay WB 5
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5.2 RCV Distortion and Noise - 400 Hz WB 9
5.2 RCV Distortion and Noise - 500 Hz WB 10
5.2 RCV Distortion and Noise - 630 Hz WB 11
5.2 RCV Distortion and Noise - 800 Hz WB 12
5.2 RCV Distortion and Noise - 1000 Hz WB 13
5.2 RCV Distortion and Noise - 1250 Hz WB 14
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5.2 RCV Distortion and Noise - 1250 Hz WB 28
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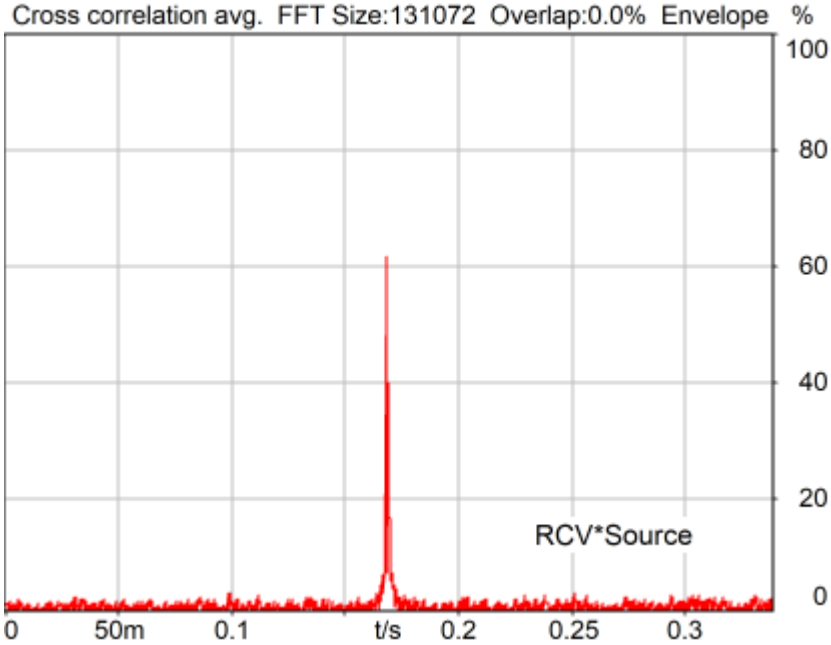
## Overall Receive Delay WB

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




| Channel | Delay |
|---|---|
| **RCV*Source** | 168.6 ms |

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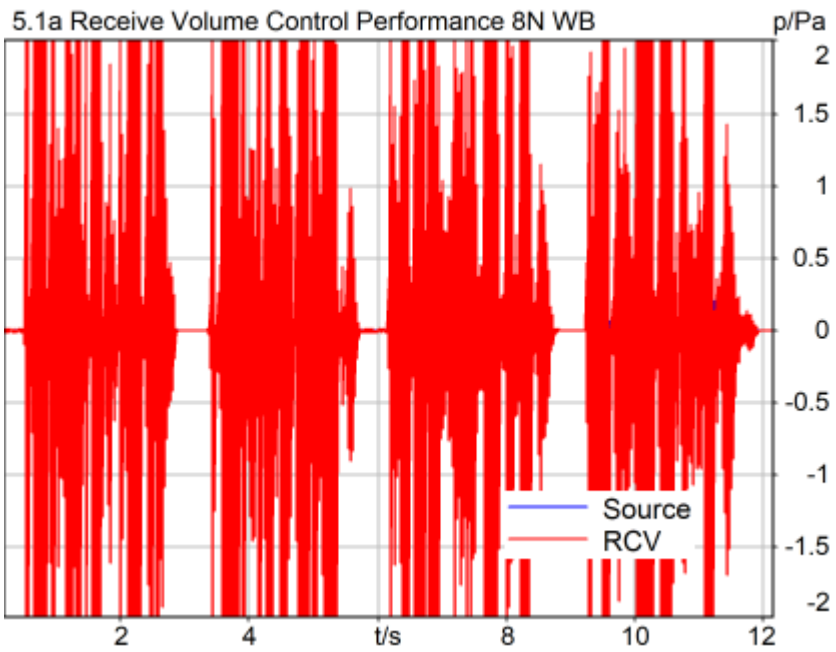
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N WB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.59 dB[SPL] | 84.11% | 22.59 dB[SPL] | Ok |

**Ok**

2025/2/14 11:12 ACQUA 6.0.200

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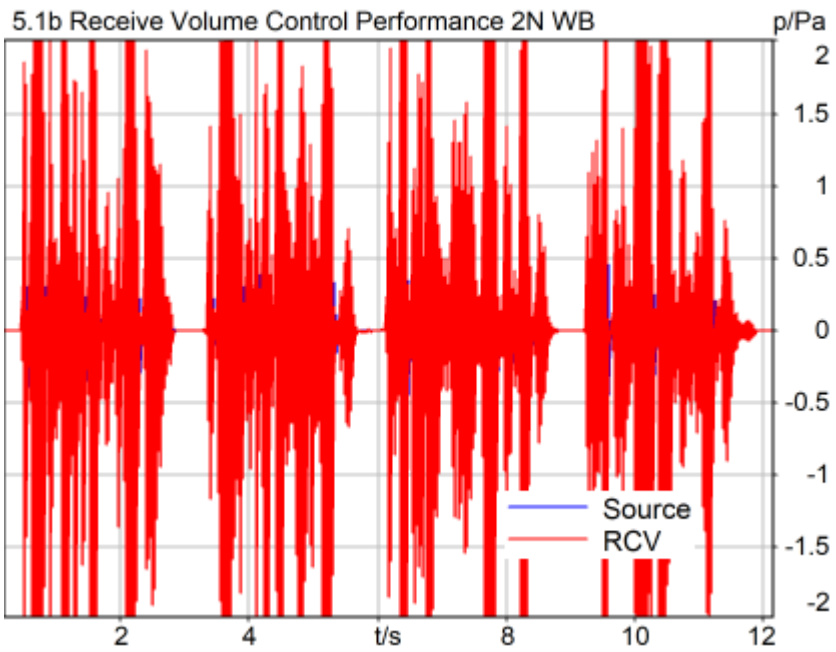
**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N WB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.34 dB[SPL] | 84.20% | 17.34 dB[SPL] | Ok |

**Ok**

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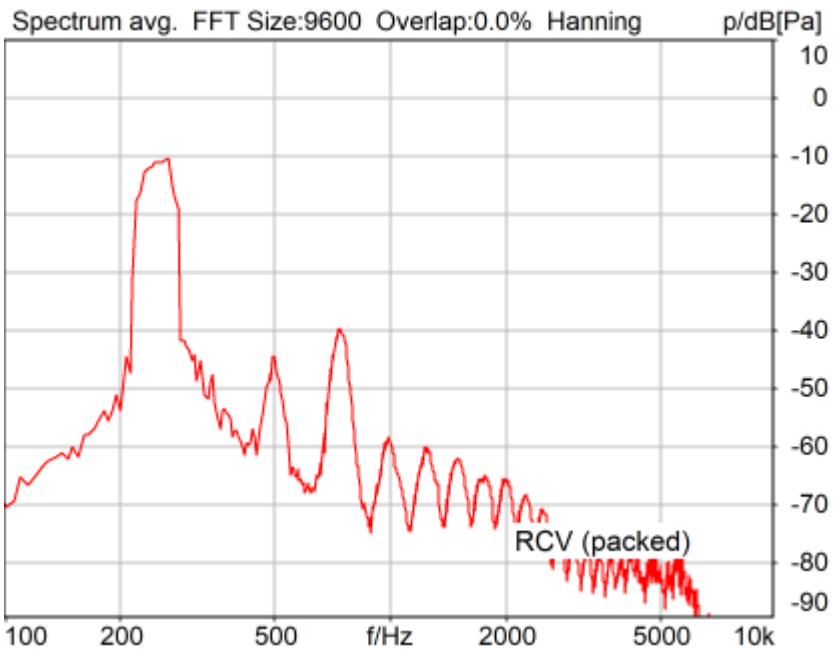
**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 250 Hz WB

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




Distortion (Noise) RCV (packed): 28.19 dB (3.90%) Ok

**Ok**

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Unmodified HEAD acoustics Measurement Descriptor

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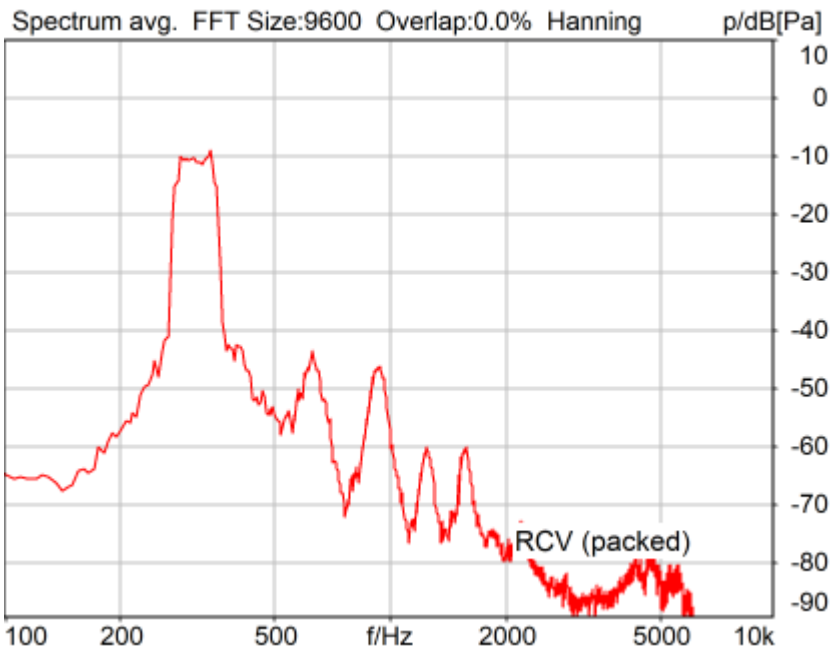
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 315 Hz WB

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




Distortion (Noise) RCV (packed): 32.22 dB (2.45%) Ok

**Ok**

2025/2/14 11:13 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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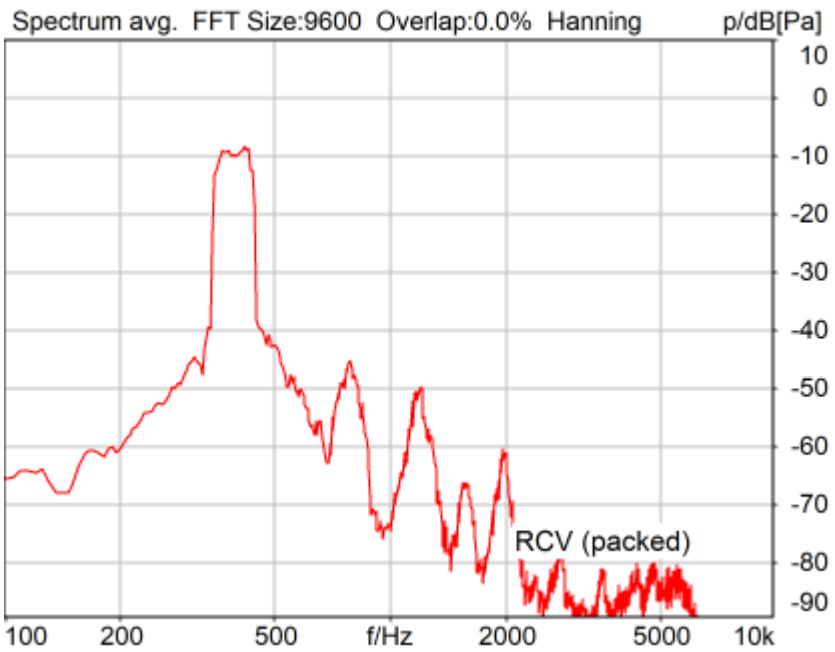
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 400 Hz WB

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




Distortion (Noise) RCV (packed): 33.61 dB (2.09%) Ok

**Ok**

2025/2/14 11:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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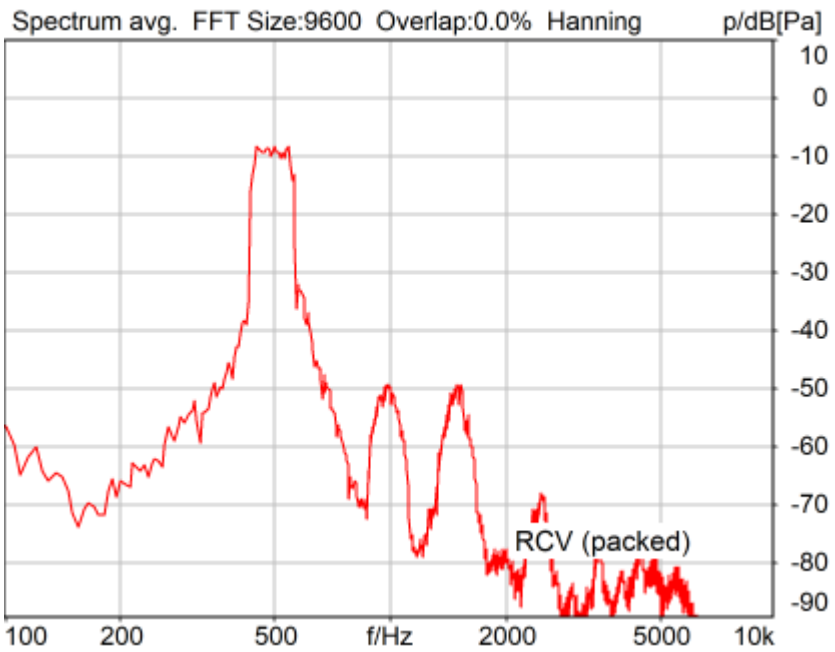
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz WB

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




Distortion (Noise) RCV (packed): 33.27 dB (2.17%) Ok

**Ok**

2025/2/14 11:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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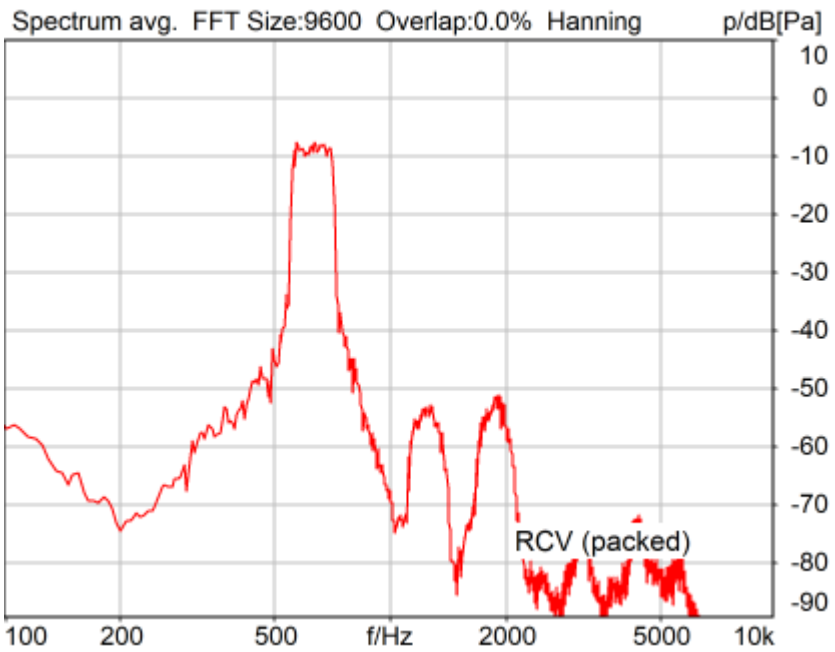
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz WB

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




Distortion (Noise) RCV (packed): 35.21 dB (1.74%) Ok

**Ok**

2025/2/14 11:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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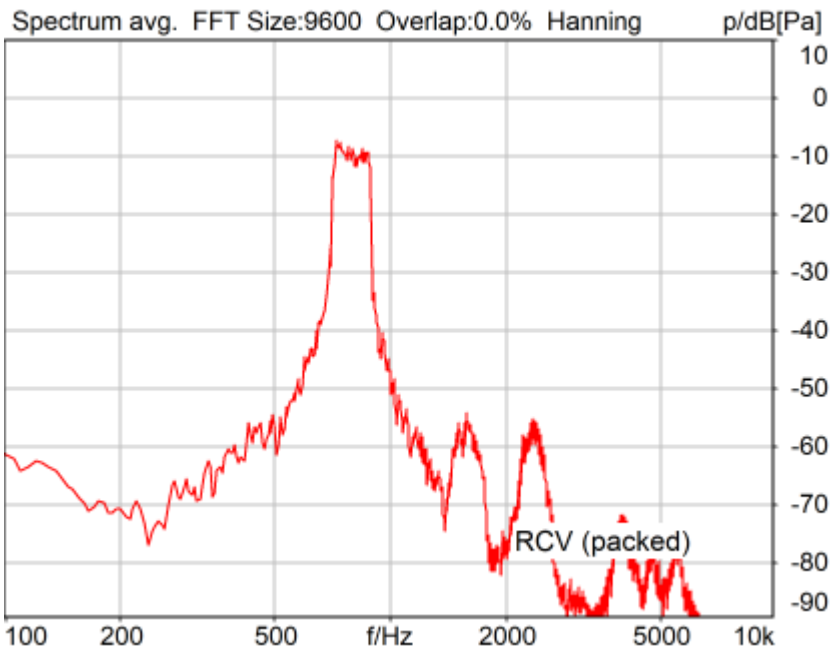
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz WB

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




Distortion (Noise) RCV (packed): 33.50 dB (2.11%) Ok

**Ok**

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Unmodified HEAD acoustics Measurement Descriptor

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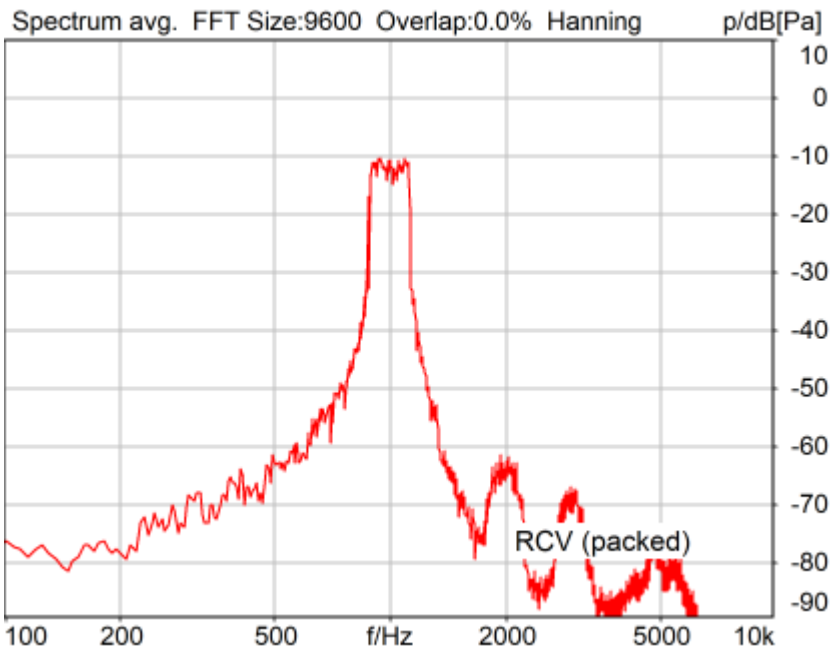
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz WB

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




Distortion (Noise) RCV (packed): 32.21 dB (2.45%) Ok

**Ok**

2025/2/14 11:15 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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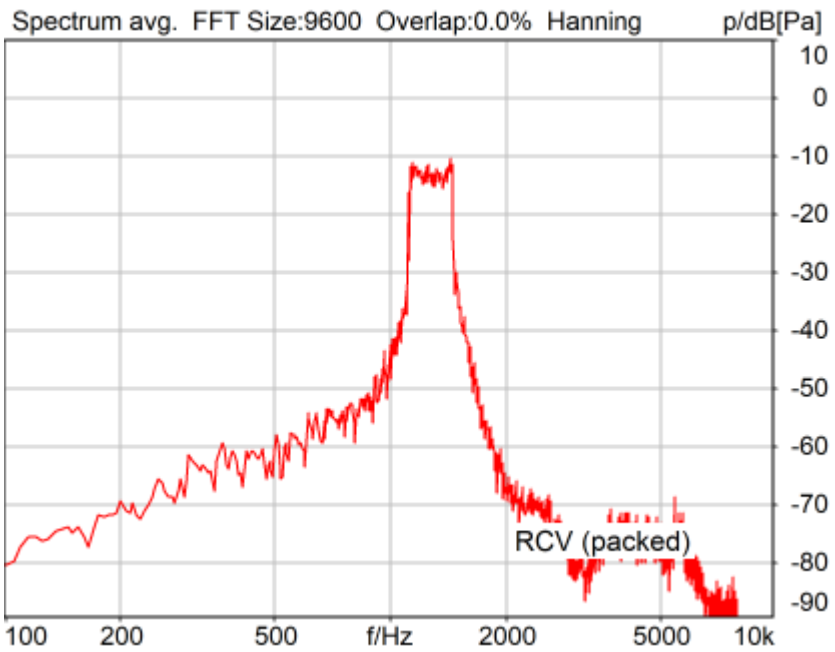
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz WB

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




Distortion (Noise) RCV (packed): 23.11 dB (6.99%) Ok

**Ok**

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Unmodified HEAD acoustics Measurement Descriptor

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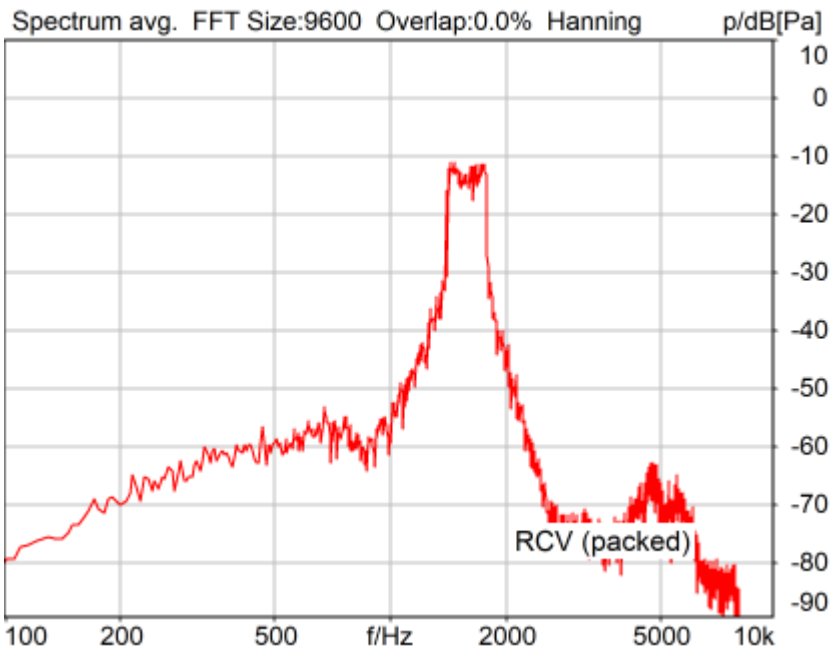
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz WB

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




Distortion (Noise) RCV (packed): 24.08 dB (6.25%) Ok

**Ok**

2025/2/14 11:16 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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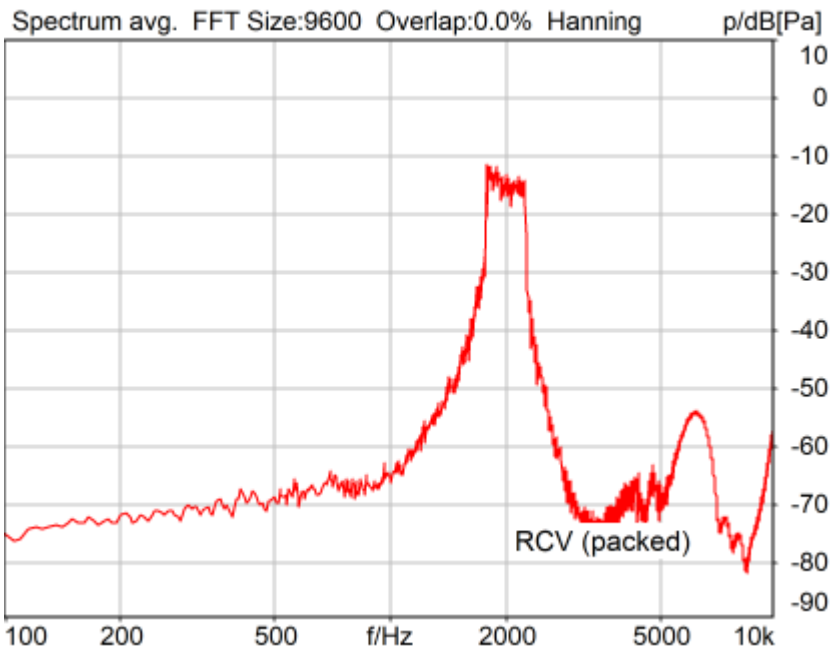
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz WB

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




Distortion (Noise) RCV (packed): 21.90 dB (8.03%) Ok

**Ok**

2025/2/14 11:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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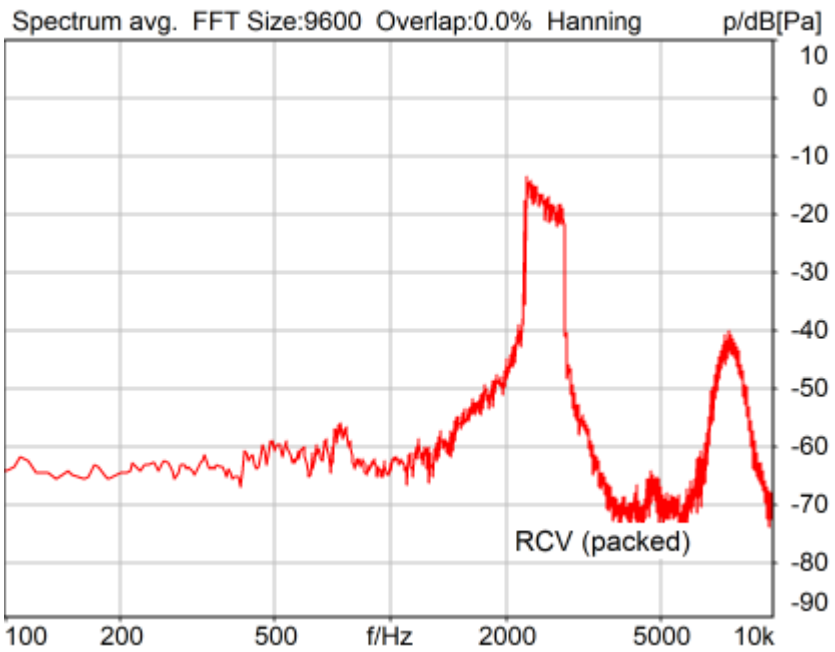
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz WB

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




Distortion (Noise) RCV (packed): 21.42 dB (8.49%) Ok

**Ok**

2025/2/14 11:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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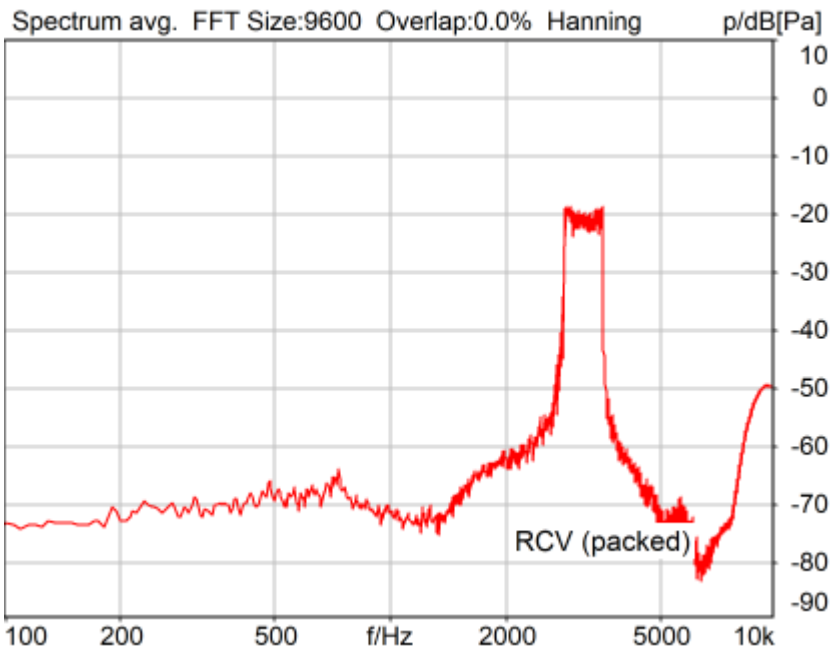
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz WB

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




Distortion (Noise) RCV (packed): 25.23 dB (5.47%) Ok

**Ok**

2025/2/14 11:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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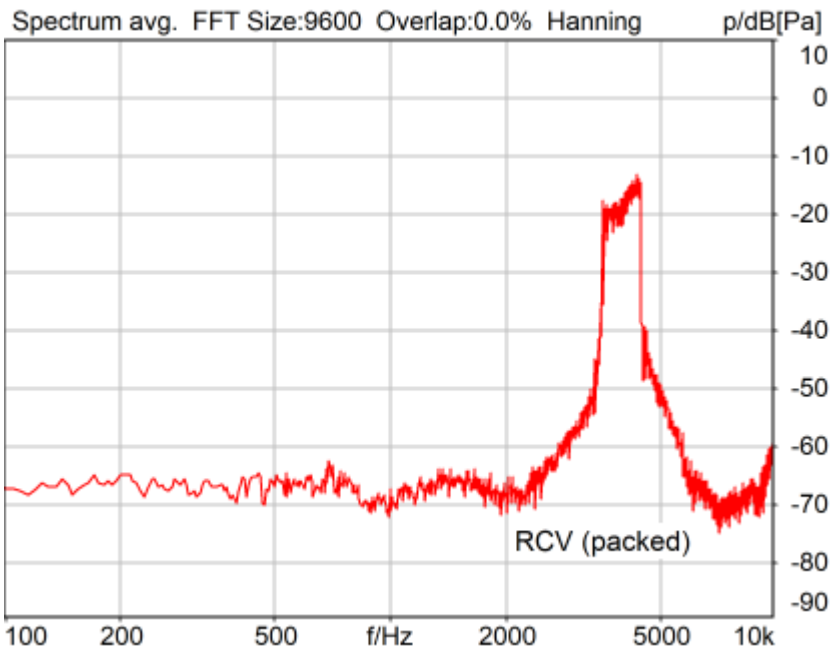
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 4000 Hz WB

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




Distortion (Noise) RCV (packed): 23.68 dB (6.55%) Ok

**Ok**

2025/2/14 11:18 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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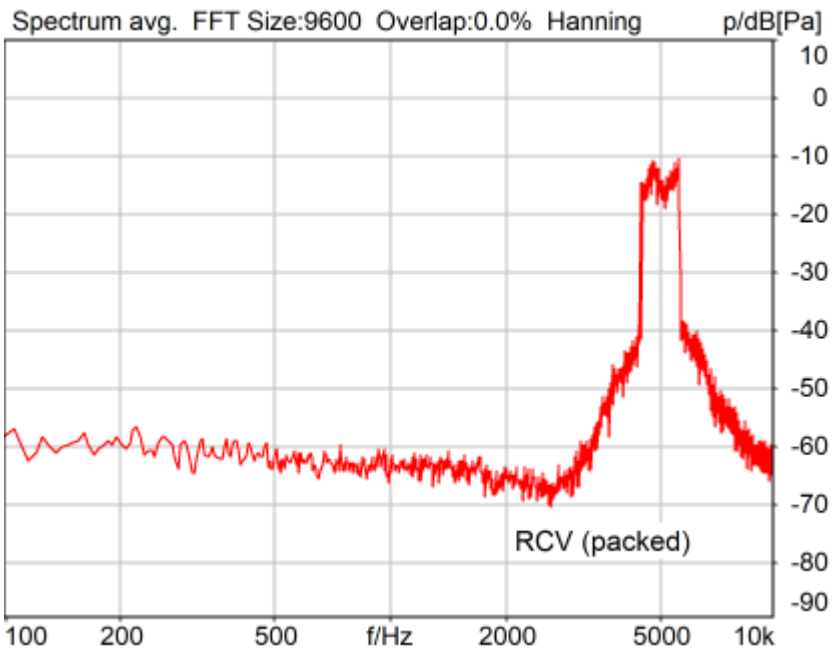
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 5000 Hz WB

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




Distortion (Noise) RCV (packed): 22.52 dB (7.48%) Ok

**Ok**

2025/2/14 11:18 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

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

| Region | Frequency | SDNR |
|---|---|---|
| 1 | 250Hz | 28.19 dB |
| 2 | 315Hz | 32.22 dB |
| 3 | 400Hz | 33.61 dB |
| 4 | 500Hz | 33.27 dB |
| 5 | 630Hz | 35.21 dB |
| 6 | 800Hz | 33.50 dB |
| 7 | 1000Hz | 32.21 dB |
| 8 | 1250Hz | 23.11 dB |
| 9 | 1600Hz | 24.08 dB |
| 10 | 2000Hz | 21.90 dB |

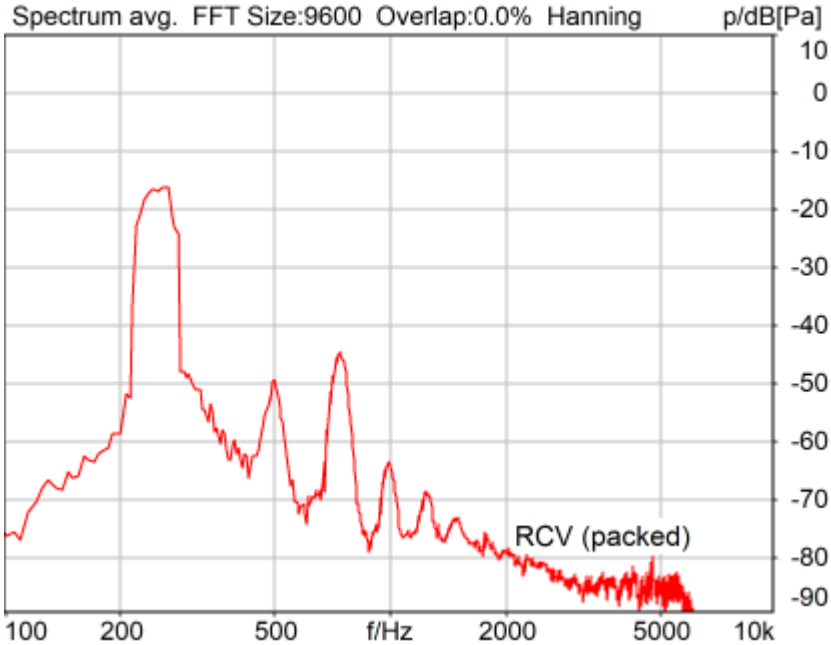
| | | |
|---|---|---|
| 11 | 2500Hz | 21.42 dB |
| 12 | 3150Hz | 25.23 dB |
| 13 | 4000Hz | 23.68 dB |
| 14 | 5000Hz | 22.52 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 21.42dB at 2500Hz.

2025/2/14 11:19 ACQUA

## 5.2 RCV Distortion and Noise - 250 Hz WB

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




Distortion (Noise) RCV (packed): 27.94 dB (4.01%) Ok

**Ok**

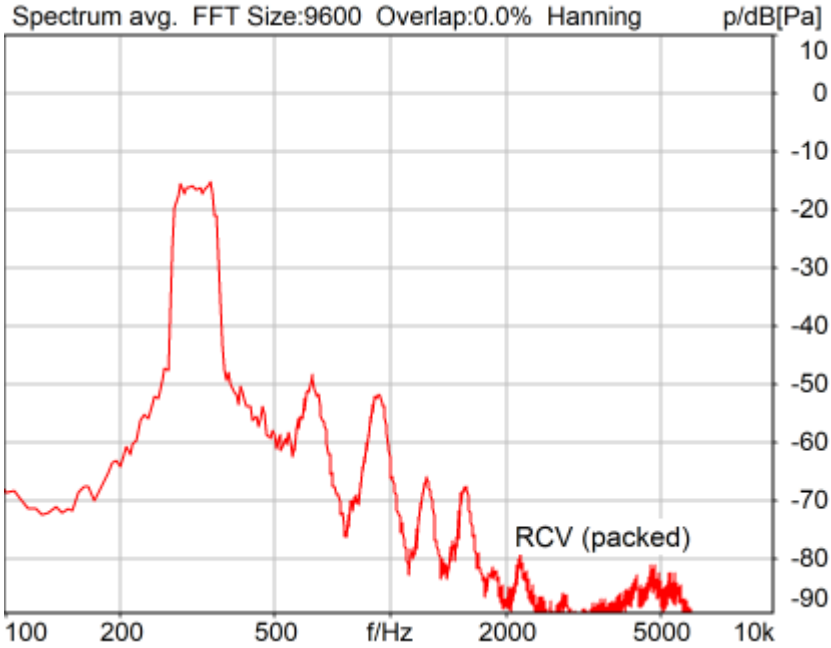
2025/2/14 11:29 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 315 Hz WB

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




Distortion (Noise) RCV (packed): 32.09 dB (2.49%) Ok

**Ok**

2025/2/14 11:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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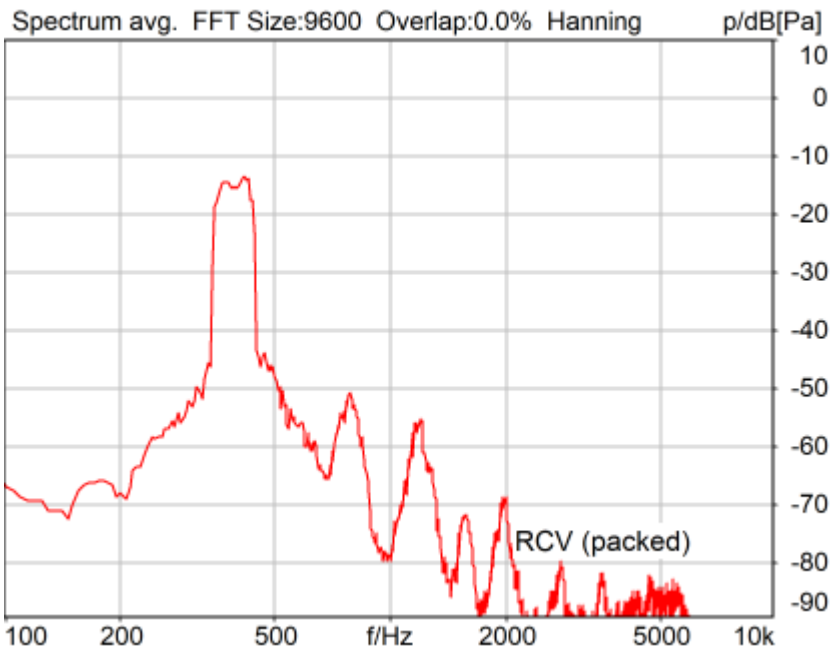
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 400 Hz WB

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




Distortion (Noise) RCV (packed): 33.76 dB (2.05%) Ok

**Ok**

2025/2/14 11:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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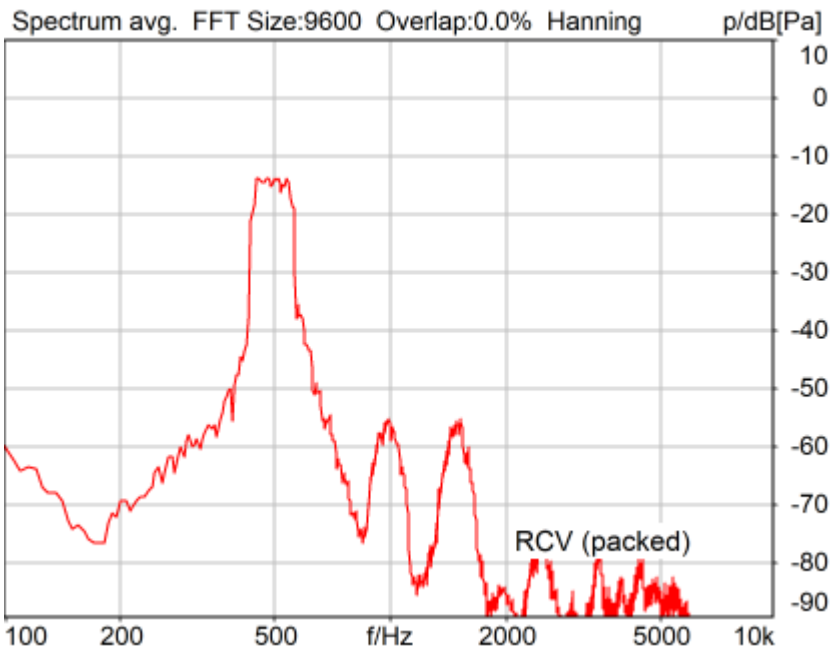
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz WB

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




Distortion (Noise) RCV (packed): 33.12 dB (2.21%) Ok

**Ok**

2025/2/14 11:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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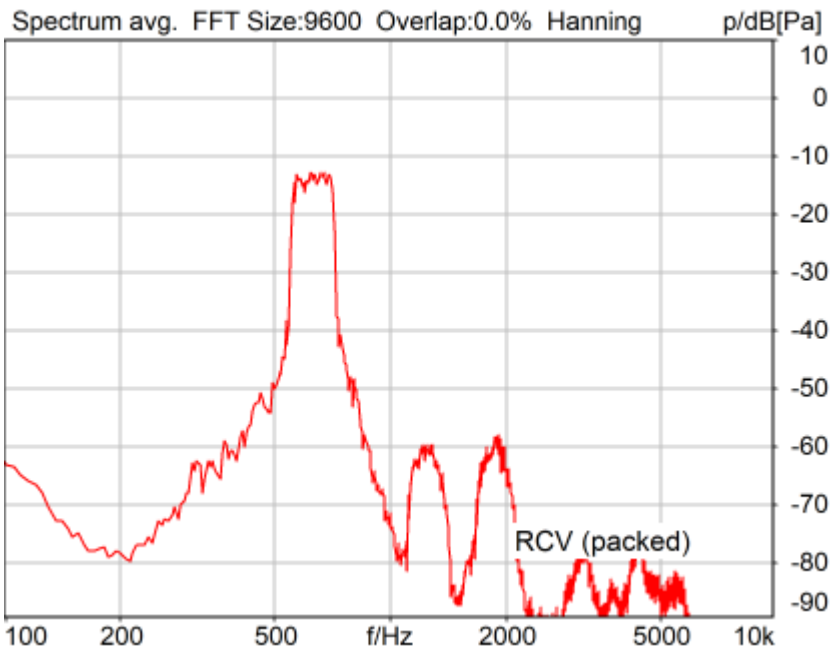
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz WB

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




Distortion (Noise) RCV (packed): 34.78 dB (1.82%) Ok

**Ok**

2025/2/14 11:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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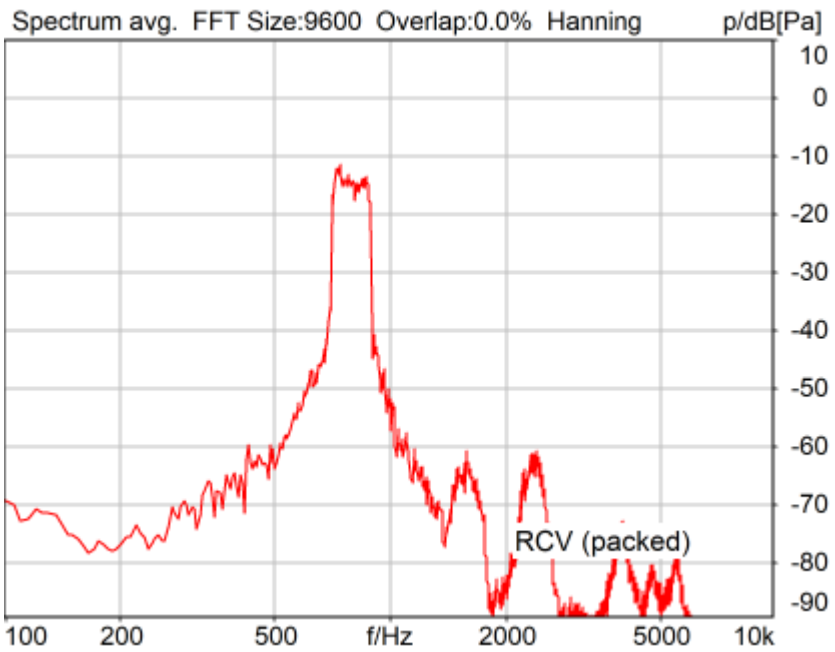
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz WB

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




Distortion (Noise) RCV (packed): 34.50 dB (1.88%) Ok

**Ok**

2025/2/14 11:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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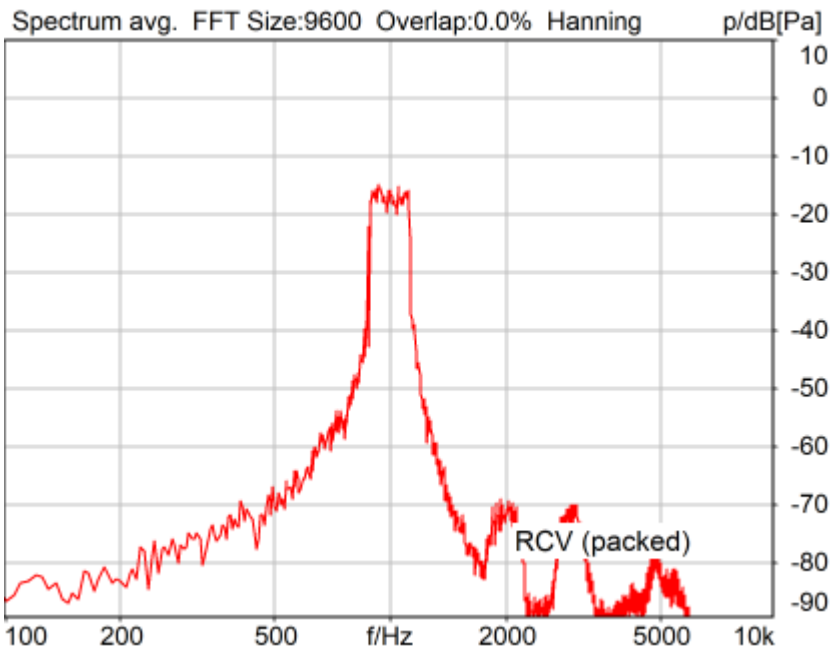
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz WB

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




Distortion (Noise) RCV (packed): 32.03 dB (2.50%) Ok

**Ok**

2025/2/14 11:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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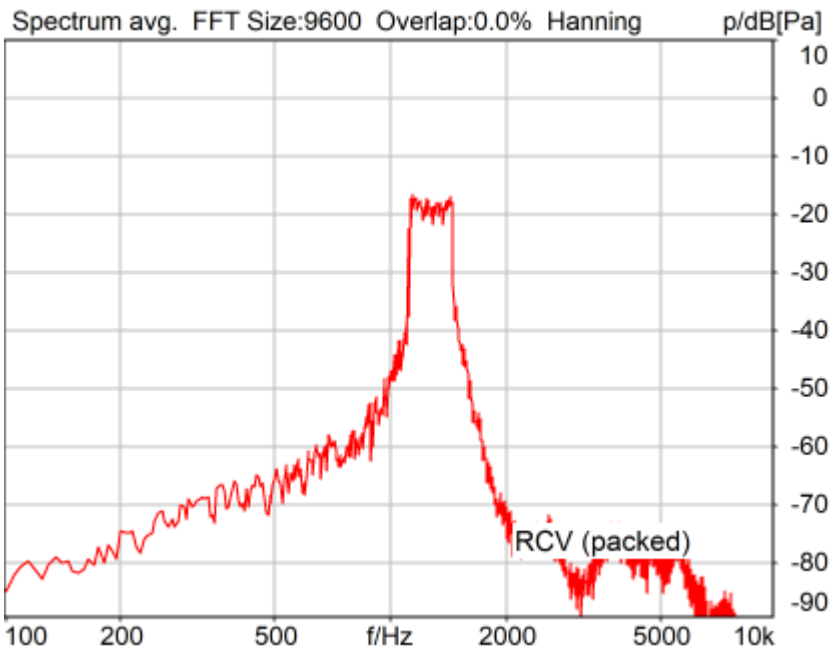
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz WB

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




Distortion (Noise) RCV (packed): 23.28 dB (6.86%) Ok

**Ok**

2025/2/14 11:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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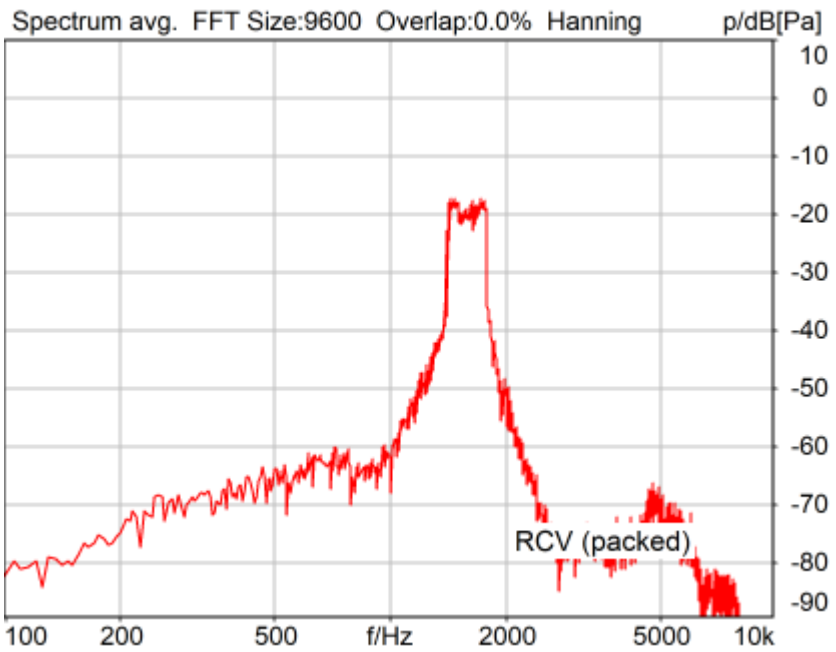
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz WB

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




Distortion (Noise) RCV (packed): 24.81 dB (5.75%) Ok

**Ok**

2025/2/14 11:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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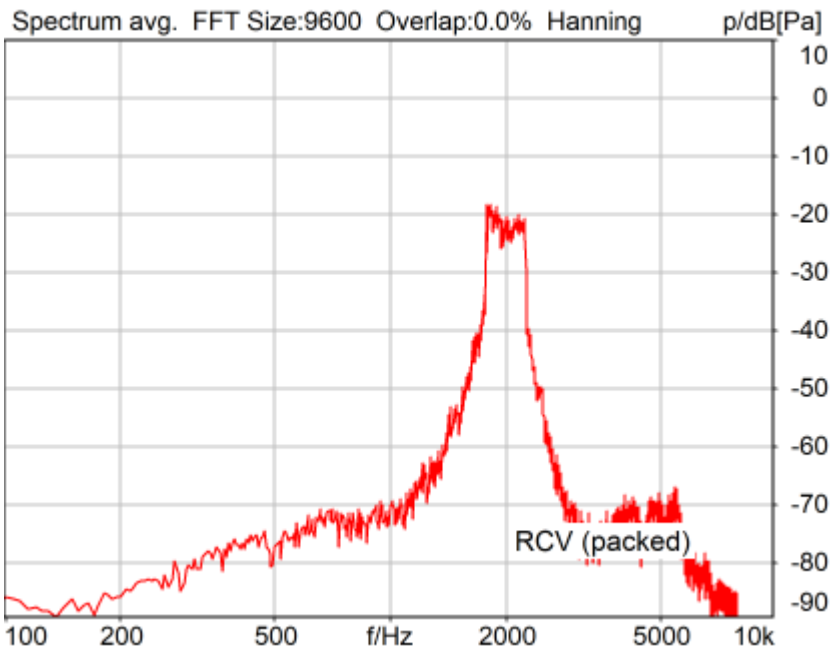
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz WB

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




Distortion (Noise) RCV (packed): 22.17 dB (7.79%) Ok

**Ok**

2025/2/14 11:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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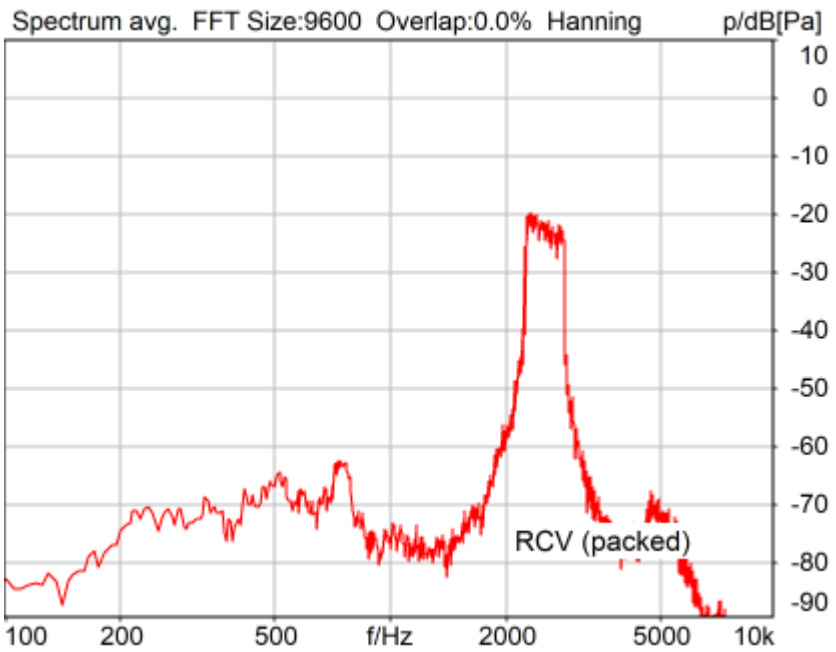
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz WB

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




Distortion (Noise) RCV (packed): 28.21 dB (3.89%) Ok

**Ok**

2025/2/14 11:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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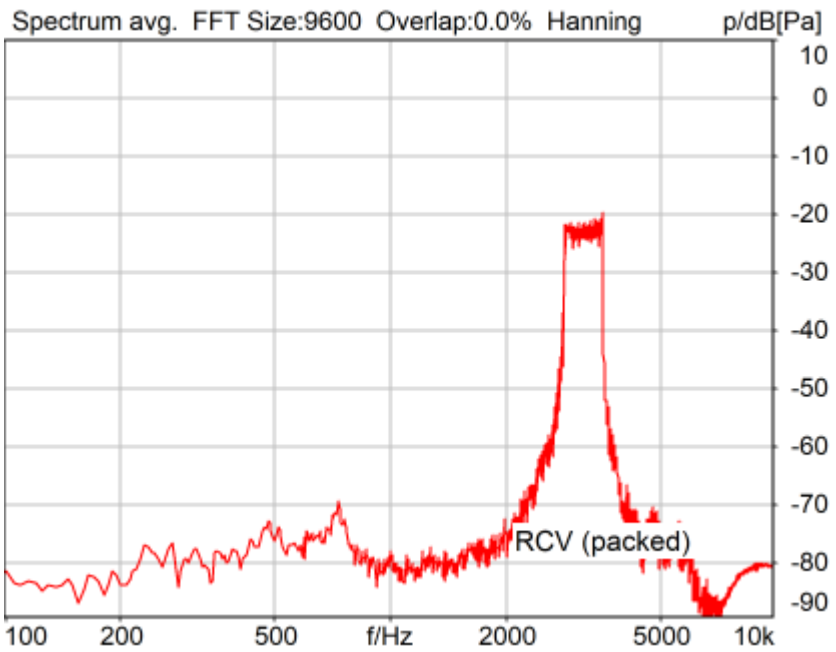
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz WB

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




Distortion (Noise) RCV (packed): 31.10 dB (2.79%) Ok

**Ok**

2025/2/14 11:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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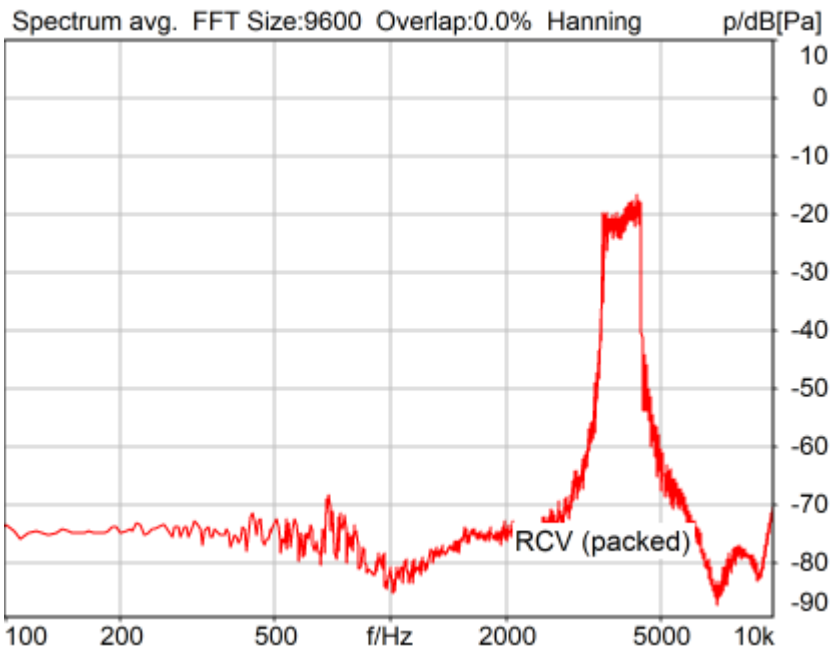
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 4000 Hz WB

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




Distortion (Noise) RCV (packed): 29.36 dB (3.41%) Ok

**Ok**

2025/2/14 11:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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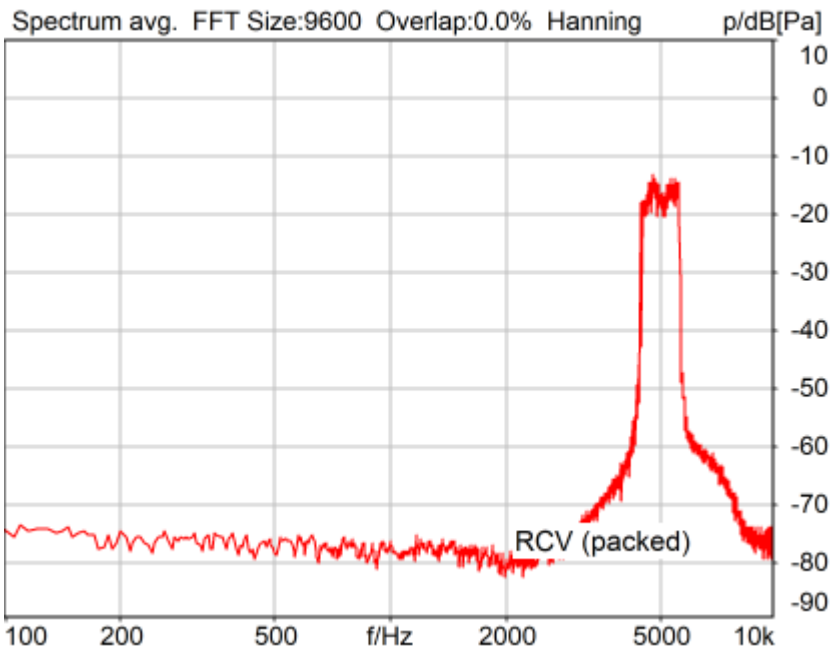
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 5000 Hz WB

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




Distortion (Noise) RCV (packed): 35.41 dB (1.70%) Ok

**Ok**

2025/2/14 11:35 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

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

| Region | Frequency | SDNR |
|---|---|---|
| 1 | 250Hz | 27.94 dB |
| 2 | 315Hz | 32.09 dB |
| 3 | 400Hz | 33.76 dB |
| 4 | 500Hz | 33.12 dB |
| 5 | 630Hz | 34.78 dB |
| 6 | 800Hz | 34.50 dB |
| 7 | 1000Hz | 32.03 dB |
| 8 | 1250Hz | 23.28 dB |
| 9 | 1600Hz | 24.81 dB |
| 10 | 2000Hz | 22.17 dB |

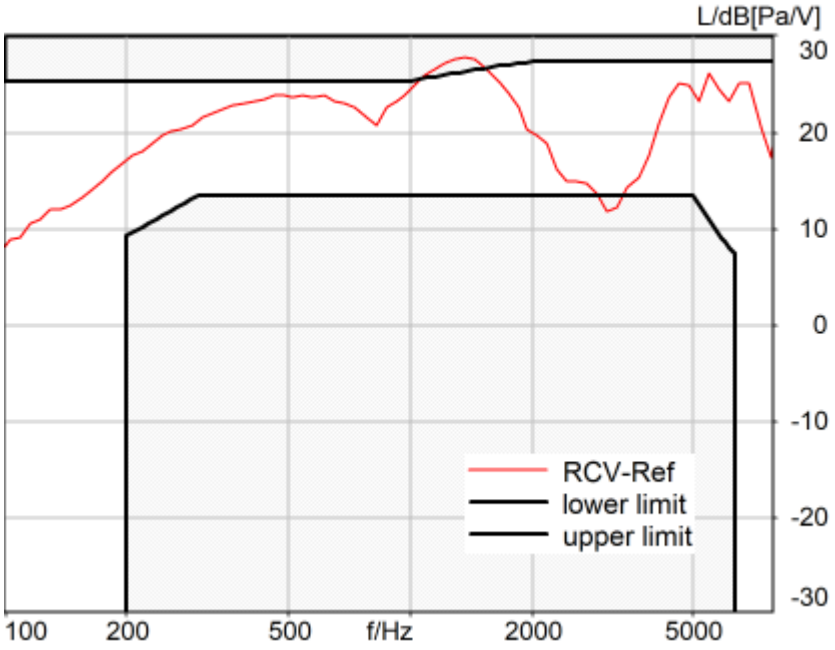
| | | |
|---|---|---|
| 11 | 2500Hz | 28.21 dB |
| 12 | 3150Hz | 31.10 dB |
| 13 | 4000Hz | 29.36 dB |
| 14 | 5000Hz | 35.41 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 22.17dB at 2000Hz.

2025/2/14 11:59 ACQUA

## 5.3 Frequency Response 8N FF

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




Absolute minimal distance
-1.52 dB at 3058.6 Hz Not Ok

**Not Ok**

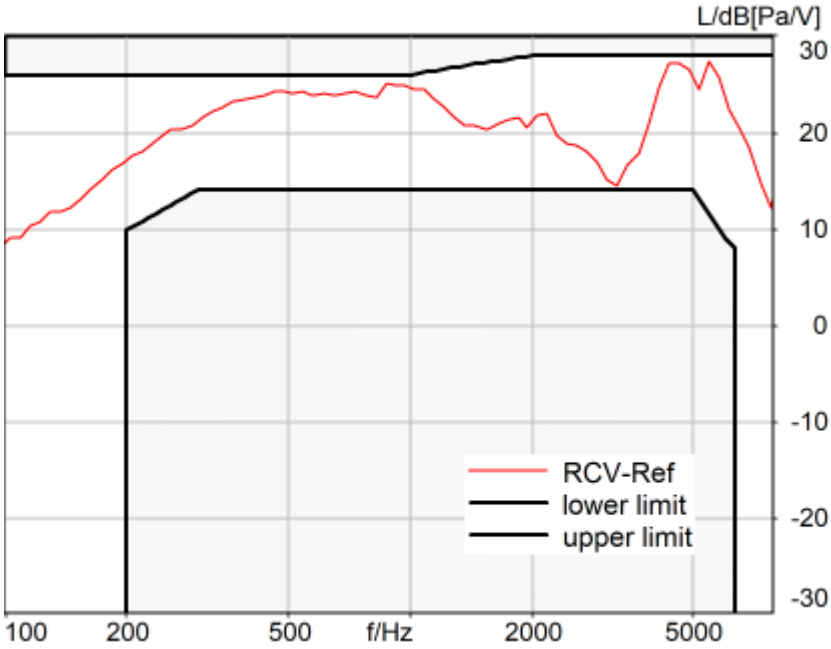
2025/2/14 11:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF

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




Absolute minimal distance
0.56 dB at 5443.6 Hz Ok

**Ok**

2025/2/14 11:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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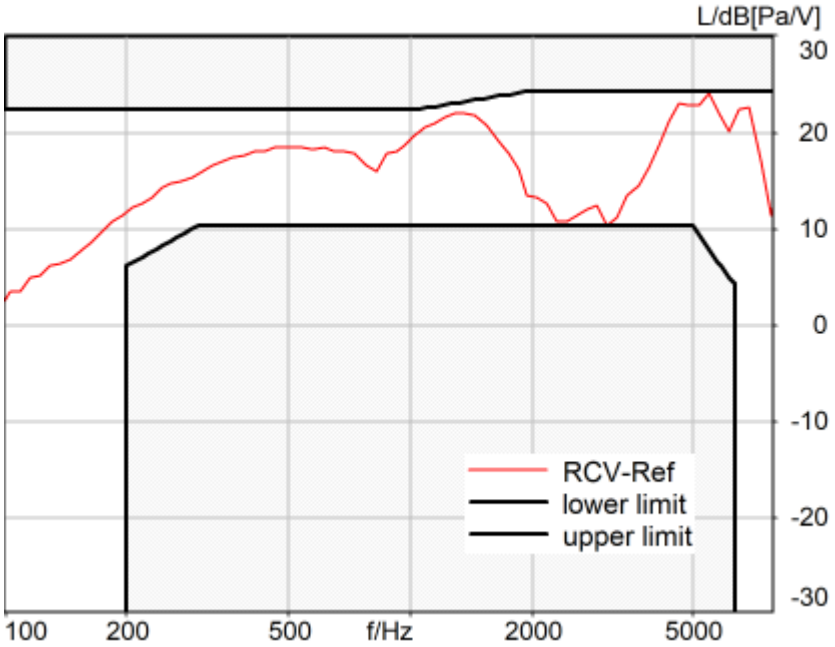
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF

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




Absolute minimal distance
0.15 dB at 5443.6 Hz Ok

**Ok**

2025/2/14 11:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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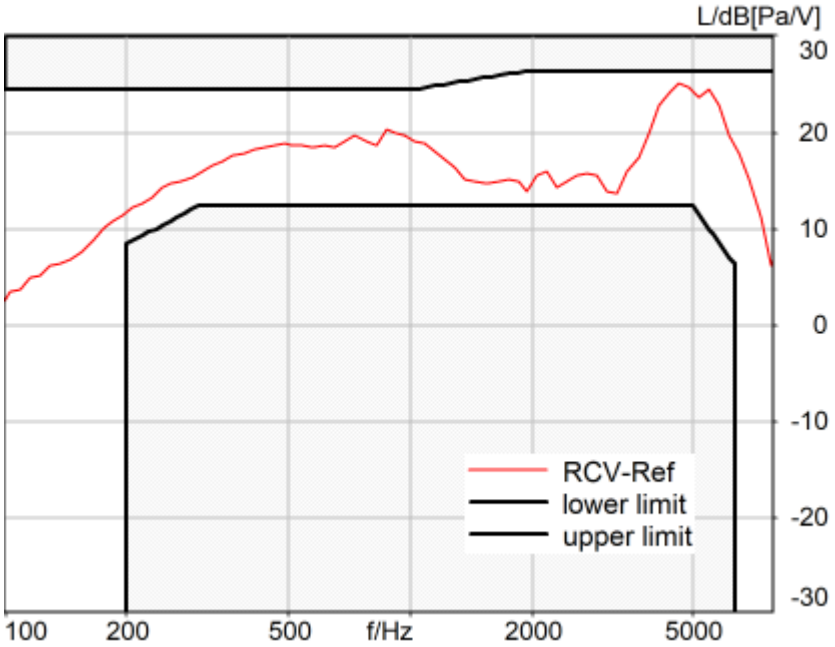
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF

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




Absolute minimal distance
1.31 dB at 3245.6 Hz Ok

**Ok**

2025/2/14 11:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:05 |
| Responsible Person | audio |

# Status Overview

| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay WB | Done | Delay (Cross) [ms] | 150.7 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.1a Receive Volume Control Performance 8N WB | Ok | Corrected Speech Level [dB[SPL]] | 22.30 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.1b Receive Volume Control Performance 2N WB | Ok | Corrected Speech Level [dB[SPL]] | 17.36 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.81 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 315 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.15 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 400 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.96 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.81 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 630 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 35.01 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 800 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.53 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 1000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.32 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 1250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.28 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 1600 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.34 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 2000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.04 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 2500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.85 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 3150 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 25.34 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 4000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.22 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 5000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.74 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2500Hz) | 21.85 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.97 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 315 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.69 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 400 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.75 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.06 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 630 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 35.16 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |

| | | | | |
|---|---|---|---|---|
| 5.2 RCV Distortion and Noise - 800 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 35.81 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 1000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.70 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 1250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.50 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 1600 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.35 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 2000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.72 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 2500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.58 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 3150 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.92 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 4000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.91 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.2 RCV Distortion and Noise - 5000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.40 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2000Hz) | 21.72 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.3 Frequency Response 8N FF | Not Ok | Min. dist. to tolerance scheme [dB], 1360.9 Hz | -1.20 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.3 Frequency Response 8N DF | Ok | Min. dist. to tolerance scheme [dB], 5443.6 Hz | 0.70 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.3 Frequency Response 2N FF | Ok | Min. dist. to tolerance scheme [dB], 3245.6 Hz | 0.49 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |
| 5.3 Frequency Response 2N DF | Ok | Min. dist. to tolerance scheme [dB], 5443.6 Hz | 0.89 | n77_DFT-QPSK100M_1_1_EVS WB 24.4kbps_CH656000 |

Overall Receive Delay WB 5
5.1a Receive Volume Control Performance 8N WB 5
5.1b Receive Volume Control Performance 2N WB 6
5.2 RCV Distortion and Noise - 250 Hz WB 7
5.2 RCV Distortion and Noise - 315 Hz WB 8
5.2 RCV Distortion and Noise - 400 Hz WB 9
5.2 RCV Distortion and Noise - 500 Hz WB 10
5.2 RCV Distortion and Noise - 630 Hz WB 11
5.2 RCV Distortion and Noise - 800 Hz WB 12
5.2 RCV Distortion and Noise - 1000 Hz WB 13
5.2 RCV Distortion and Noise - 1250 Hz WB 14
5.2 RCV Distortion and Noise - 1600 Hz WB 15
5.2 RCV Distortion and Noise - 2000 Hz WB 16
5.2 RCV Distortion and Noise - 2500 Hz WB 17
5.2 RCV Distortion and Noise - 3150 Hz WB 18
5.2 RCV Distortion and Noise - 4000 Hz WB 19
5.2 RCV Distortion and Noise - 5000 Hz WB 20
Report - Receive Distortion and Noise (Conversational Gain) 21
5.2 RCV Distortion and Noise - 250 Hz WB 22
5.2 RCV Distortion and Noise - 315 Hz WB 23
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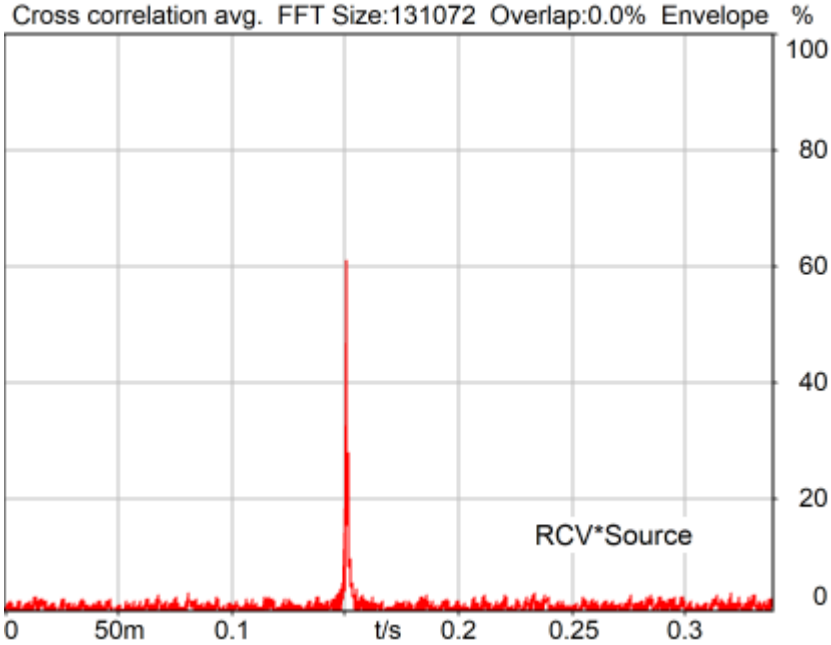
## Overall Receive Delay WB

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

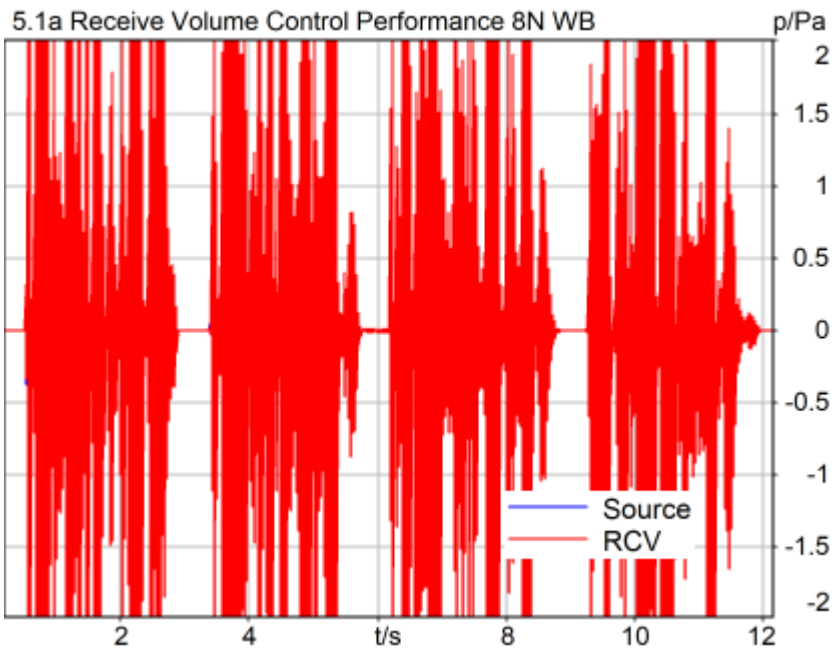



| Channel | Delay |
|---|---|
| **RCV*Source** | 150.7 ms |

2025/2/12 12:19 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N WB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.30 dB[SPL] | 84.10% | 22.30 dB[SPL] | Ok |

**Ok**

2025/2/12 12:19 ACQUA 6.0.200

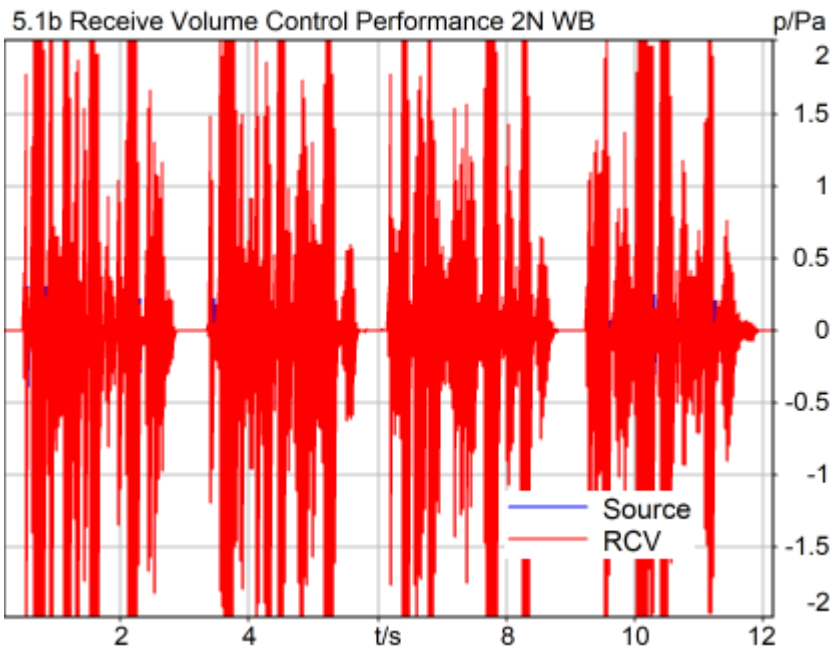
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N WB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.36 dB[SPL] | 84.04% | 17.36 dB[SPL] | Ok |

**Ok**

2025/2/12 12:31 ACQUA 6.0.200

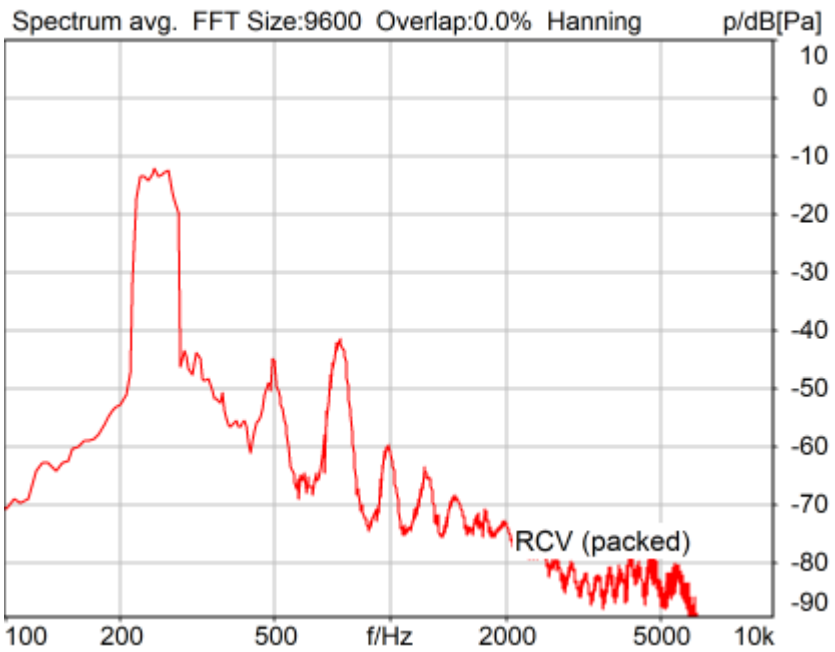
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 250 Hz WB

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




Distortion (Noise) RCV (packed): 28.81 dB (3.63%) Ok

**Ok**

2025/2/12 12:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

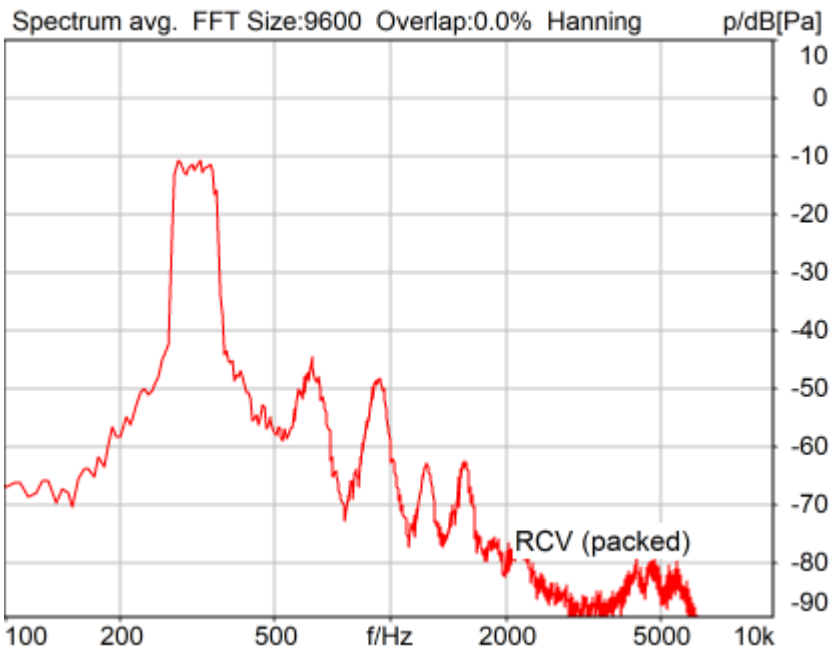
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 315 Hz WB

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




Distortion (Noise) RCV (packed): 33.15 dB (2.20%) Ok

**Ok**

2025/2/12 12:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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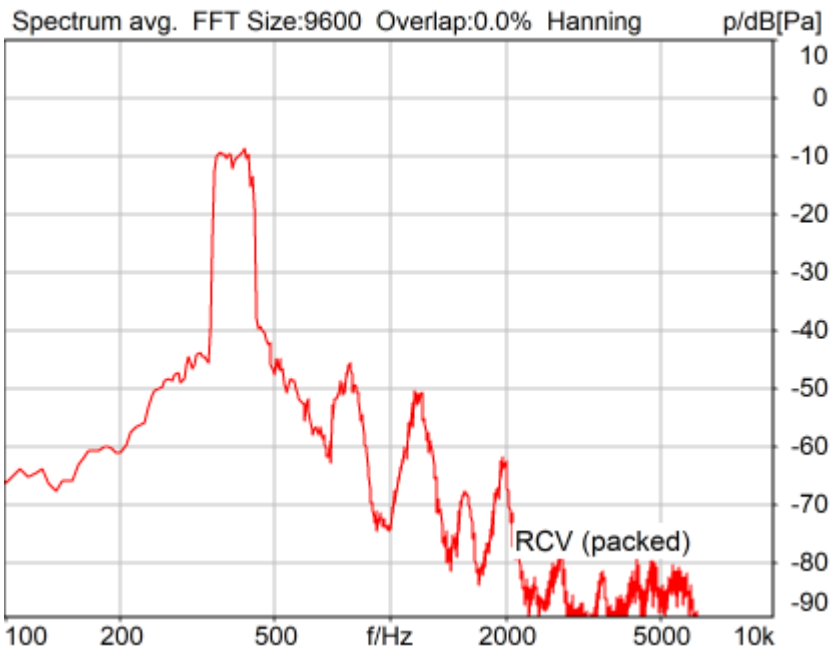
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 400 Hz WB

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




Distortion (Noise) RCV (packed): 33.96 dB (2.00%) Ok

**Ok**

2025/2/12 12:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

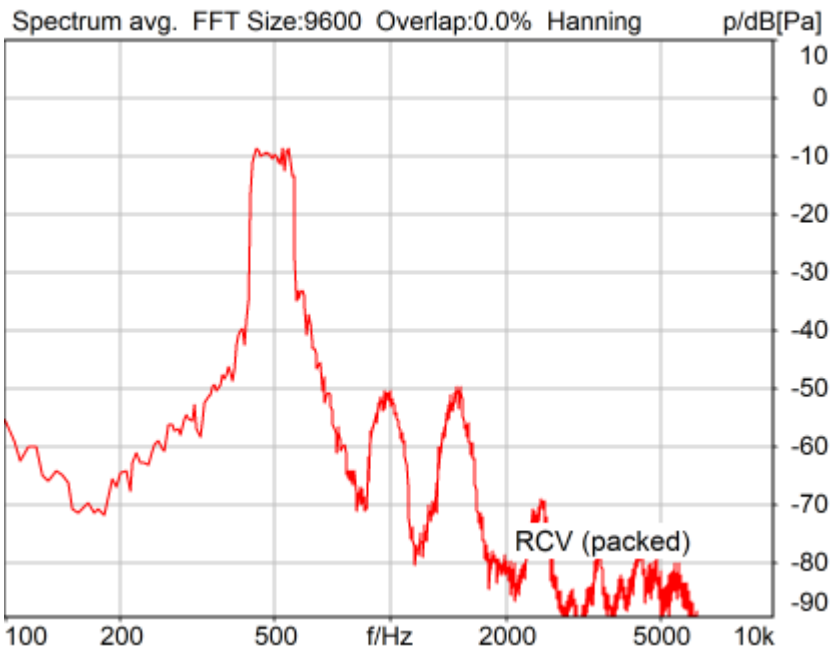
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz WB

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




Distortion (Noise) RCV (packed): 32.81 dB (2.29%) Ok

**Ok**

2025/2/12 12:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

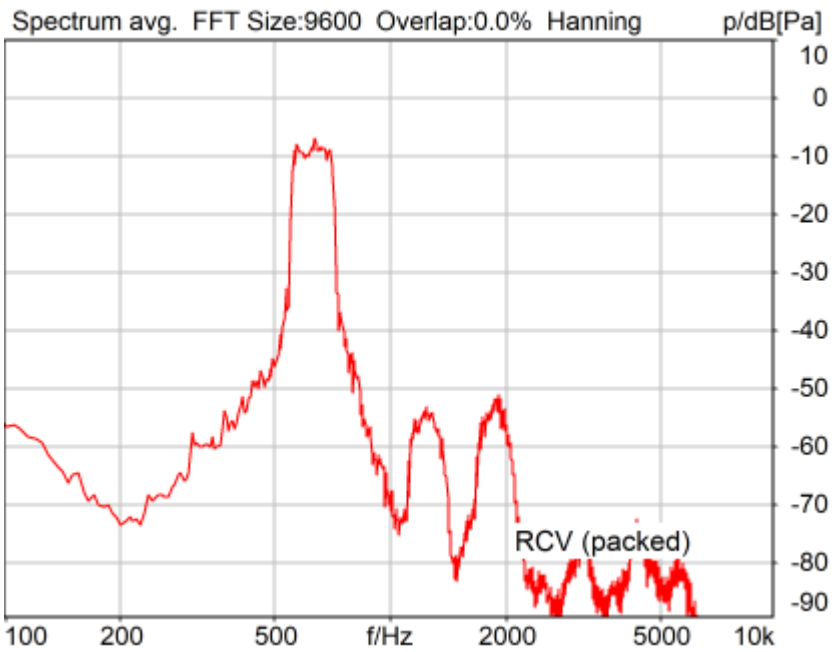
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz WB

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




Distortion (Noise) RCV (packed): 35.01 dB (1.78%) Ok

**Ok**

2025/2/12 12:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

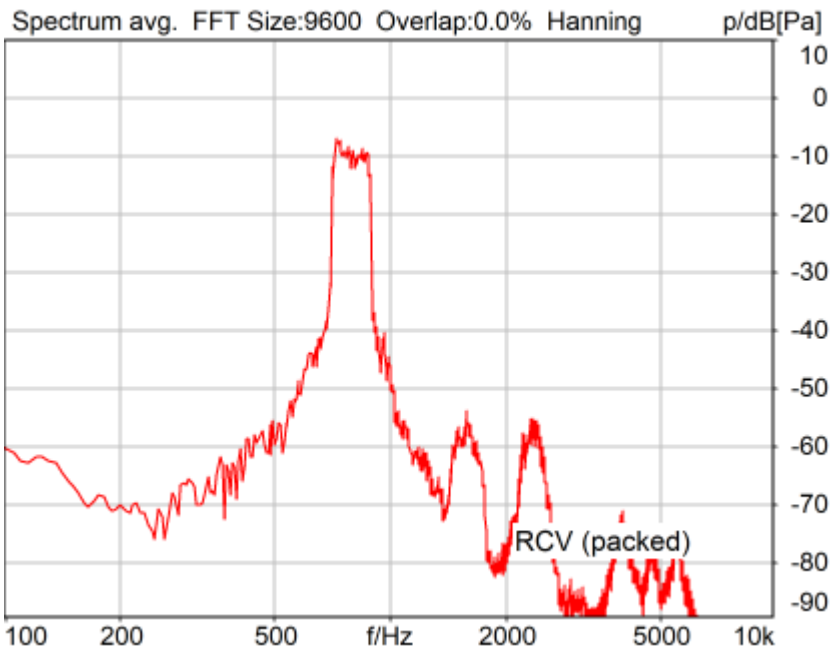
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz WB

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




Distortion (Noise) RCV (packed): 34.53 dB (1.88%) Ok

**Ok**

2025/2/12 12:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

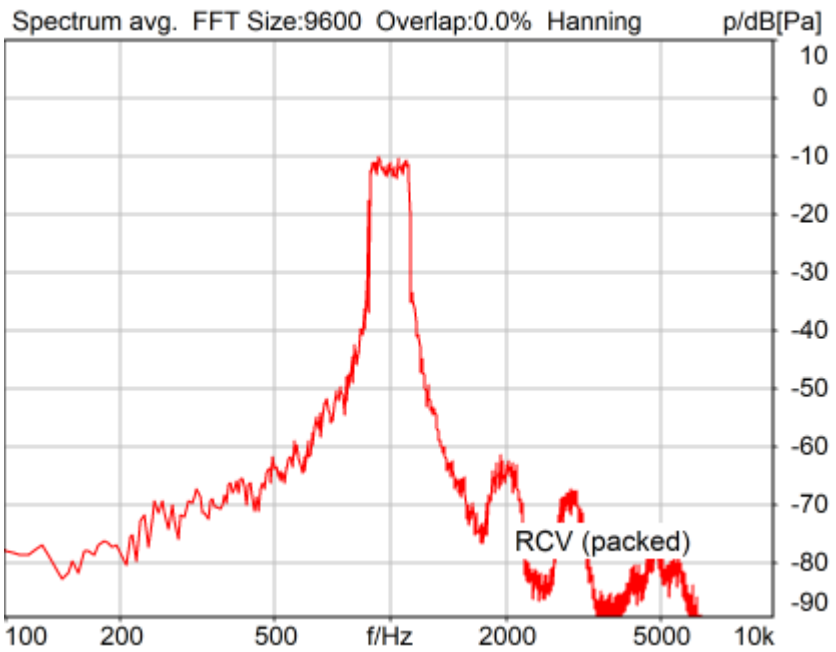
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz WB

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




Distortion (Noise) RCV (packed): 32.32 dB (2.42%) Ok

**Ok**

2025/2/12 12:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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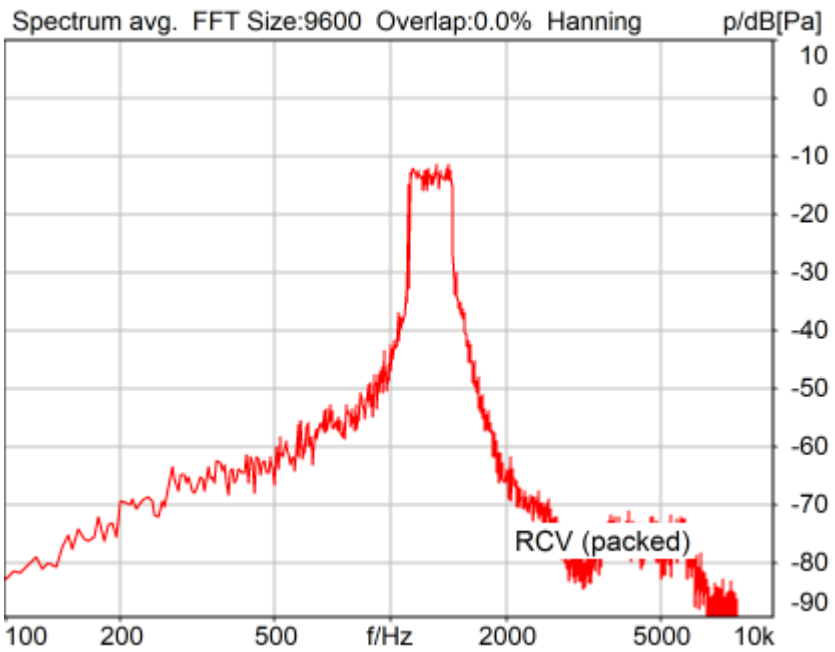
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz WB

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




Distortion (Noise) RCV (packed): 23.28 dB (6.86%) Ok

**Ok**

2025/2/12 12:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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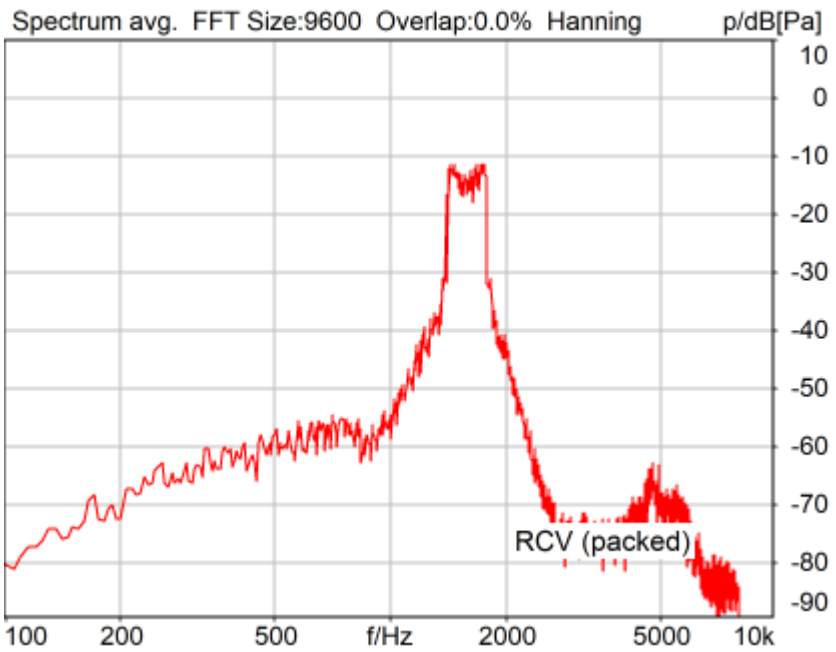
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz WB

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




Distortion (Noise) RCV (packed): 24.34 dB (6.07%) Ok

**Ok**

2025/2/12 12:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

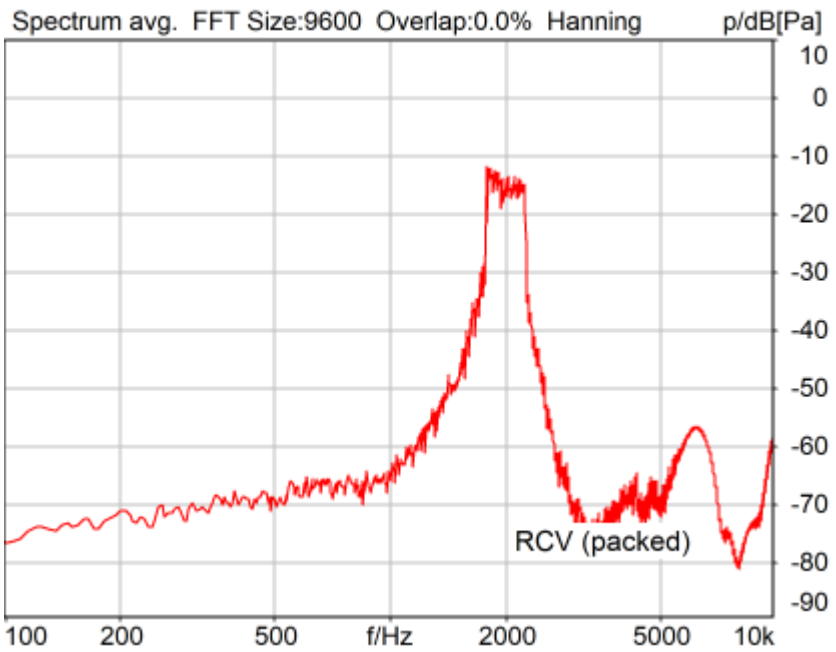
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz WB

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




Distortion (Noise) RCV (packed): 22.04 dB (7.91%) Ok

**Ok**

2025/2/12 12:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

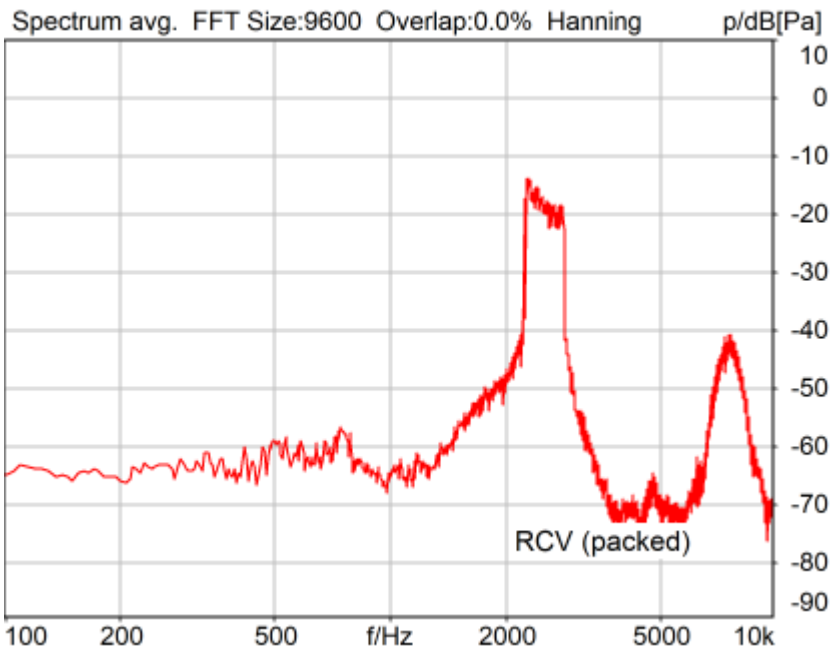
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz WB

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




Distortion (Noise) RCV (packed): 21.85 dB (8.08%) Ok

**Ok**

2025/2/12 12:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

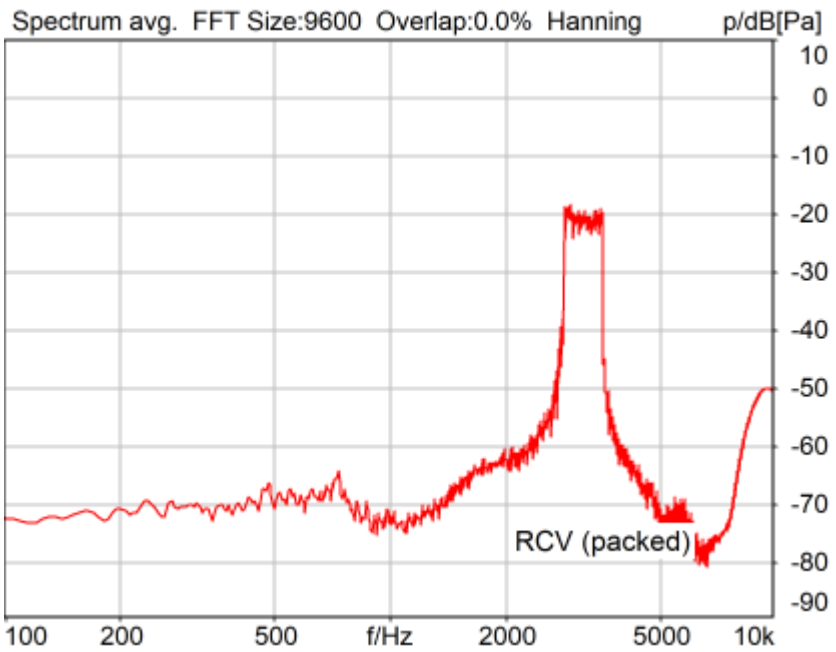
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz WB

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




Distortion (Noise) RCV (packed): 25.34 dB (5.41%) Ok

**Ok**

2025/2/12 12:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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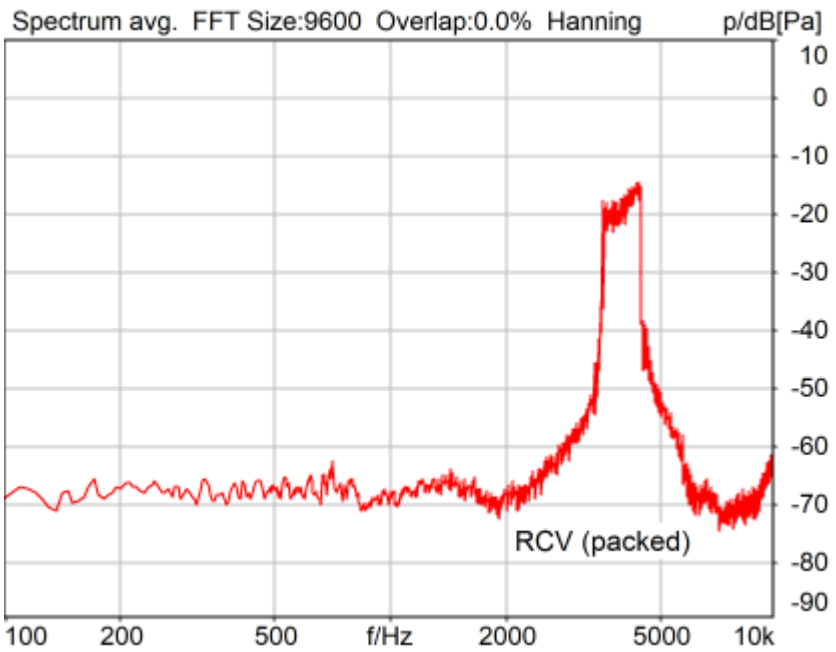
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 4000 Hz WB

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




Distortion (Noise) RCV (packed): 24.22 dB (6.15%) Ok

**Ok**

2025/2/12 12:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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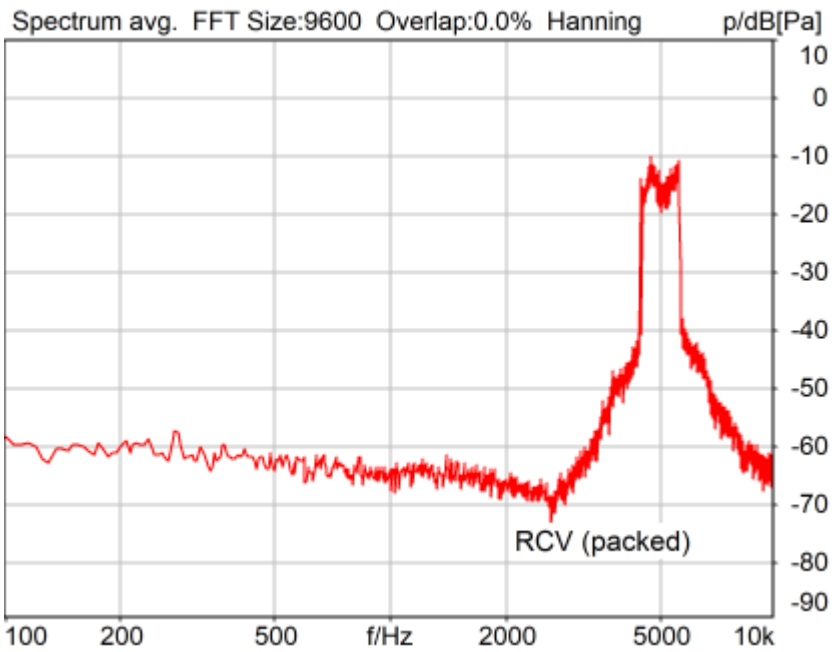
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 5000 Hz WB

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




Distortion (Noise) RCV (packed): 23.74 dB (6.50%) Ok

**Ok**

2025/2/12 12:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

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

| Region | Frequency | SDNR |
|---|---|---|
| 1 | 250Hz | 28.81 dB |
| 2 | 315Hz | 33.15 dB |
| 3 | 400Hz | 33.96 dB |
| 4 | 500Hz | 32.81 dB |
| 5 | 630Hz | 35.01 dB |
| 6 | 800Hz | 34.53 dB |
| 7 | 1000Hz | 32.32 dB |
| 8 | 1250Hz | 23.28 dB |
| 9 | 1600Hz | 24.34 dB |
| 10 | 2000Hz | 22.04 dB |

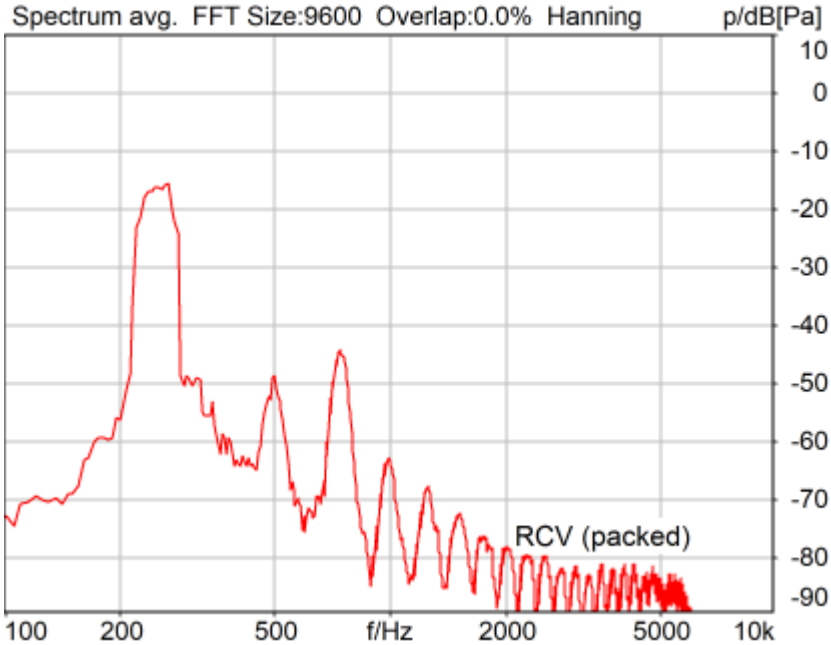
| | | |
|---|---|---|
| 11 | 2500Hz | 21.85 dB |
| 12 | 3150Hz | 25.34 dB |
| 13 | 4000Hz | 24.22 dB |
| 14 | 5000Hz | 23.74 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 21.85dB at 2500Hz.

2025/2/12 12:25 ACQUA

## 5.2 RCV Distortion and Noise - 250 Hz WB

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




Distortion (Noise) RCV (packed): 27.97 dB (4.00%) Ok

**Ok**

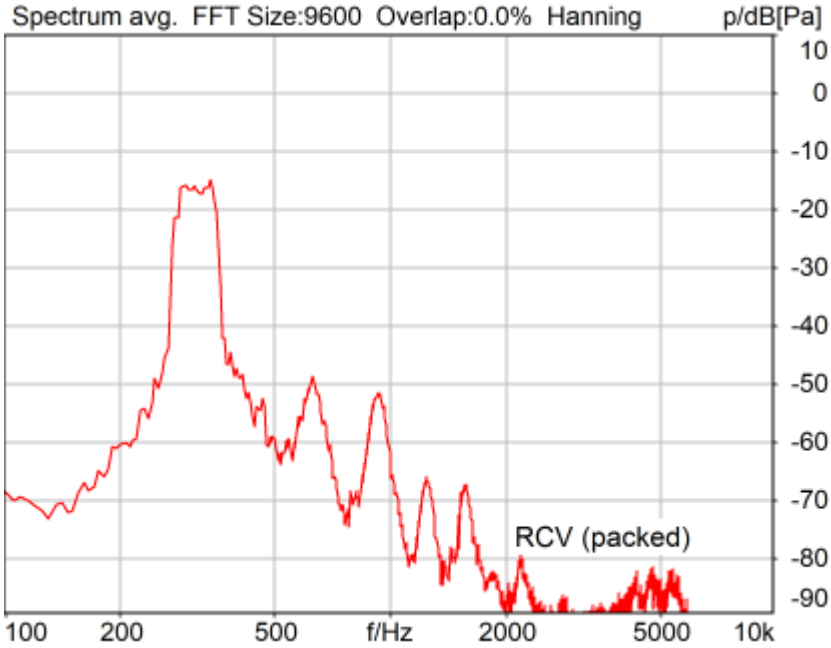
2025/2/12 12:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 315 Hz WB

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




Distortion (Noise) RCV (packed): 31.69 dB (2.60%) Ok

**Ok**

2025/2/12 12:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

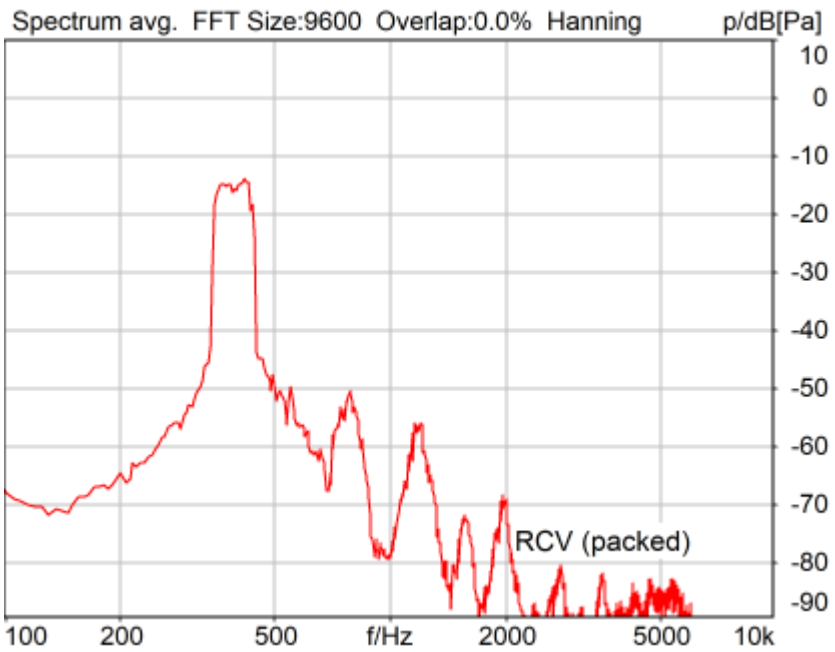
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 400 Hz WB

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




Distortion (Noise) RCV (packed): 33.75 dB (2.05%) Ok

**Ok**

2025/2/12 12:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

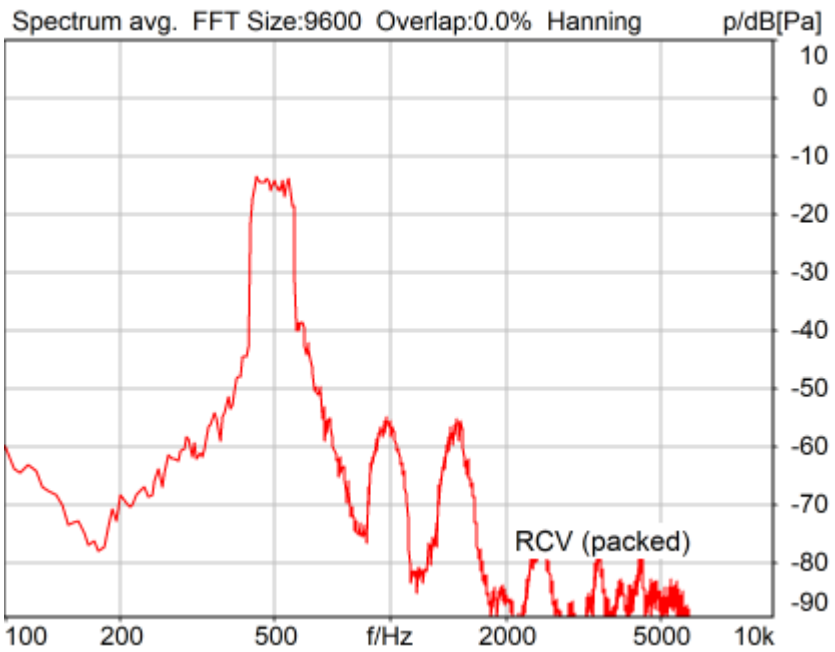
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz WB

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




Distortion (Noise) RCV (packed): 33.06 dB (2.22%) Ok

**Ok**

2025/2/12 12:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

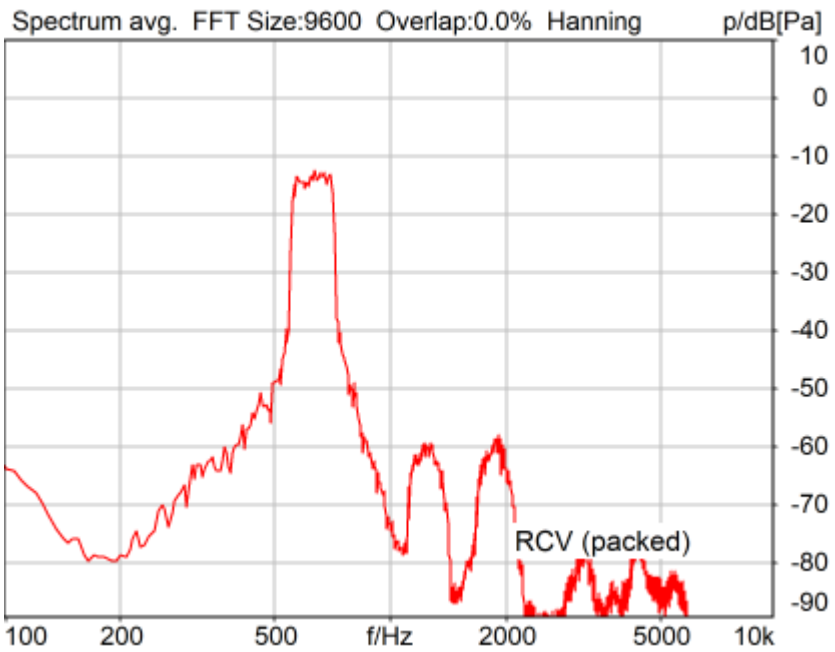
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz WB

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




Distortion (Noise) RCV (packed): 35.16 dB (1.75%) Ok

**Ok**

2025/2/12 12:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

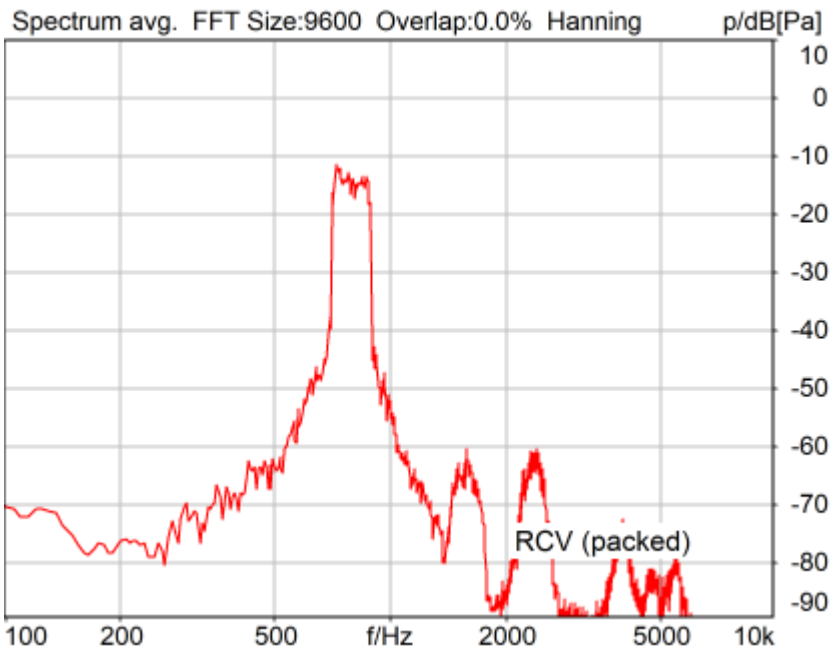
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz WB

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




Distortion (Noise) RCV (packed): 35.81 dB (1.62%) Ok

**Ok**

2025/2/12 12:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

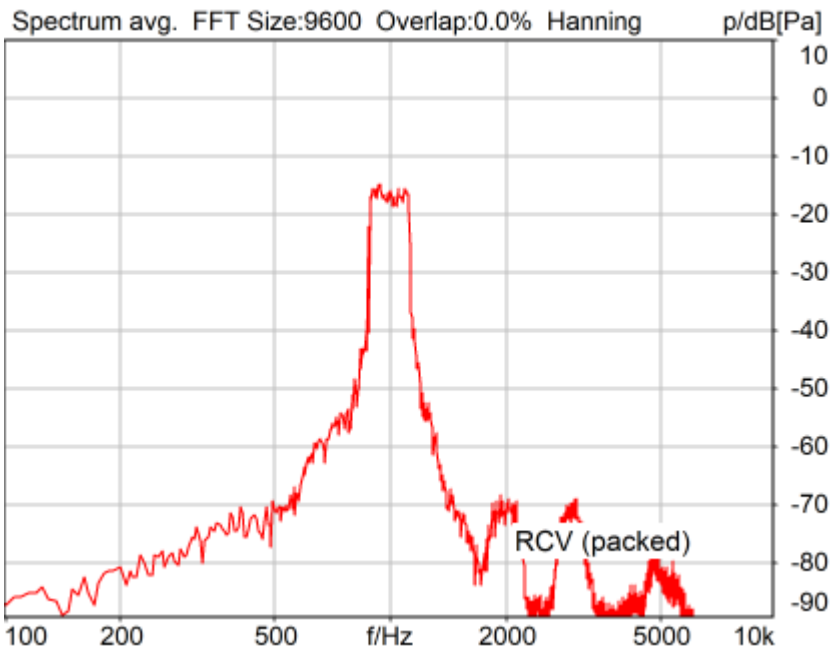
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz WB

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




Distortion (Noise) RCV (packed): 32.70 dB (2.32%) Ok

**Ok**

2025/2/12 12:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

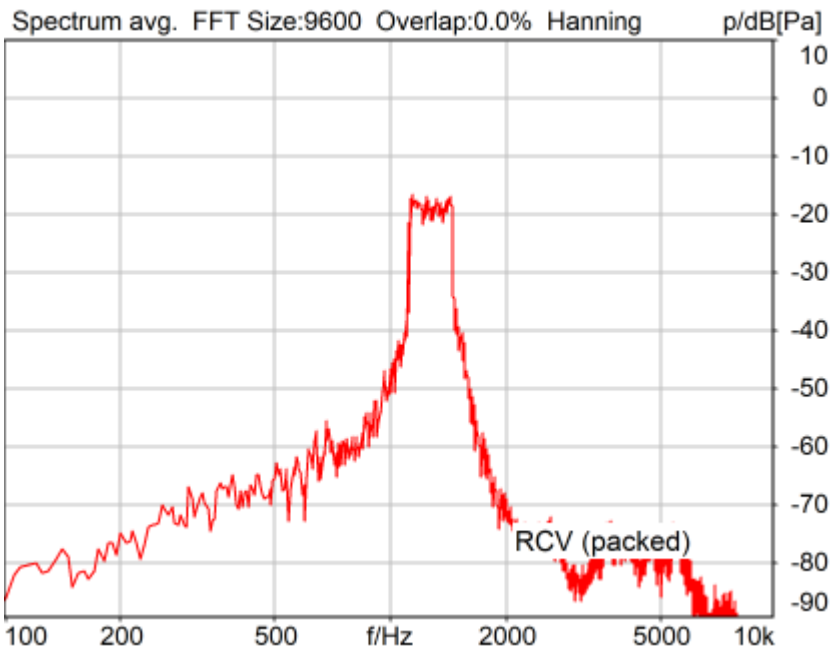
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz WB

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




Distortion (Noise) RCV (packed): 23.50 dB (6.68%) Ok

**Ok**

2025/2/12 12:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

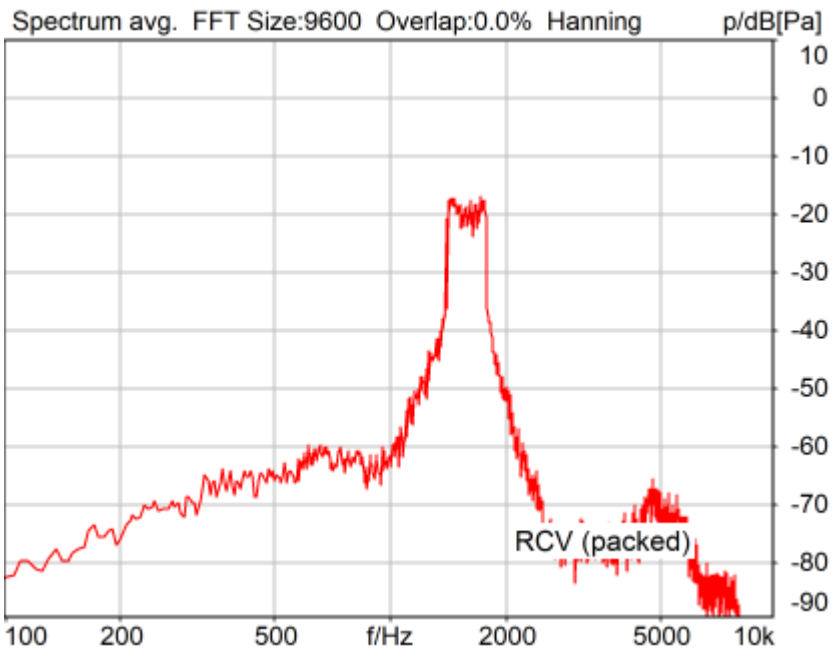
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz WB

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




Distortion (Noise) RCV (packed): 24.35 dB (6.06%) Ok

**Ok**

2025/2/12 12:35 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

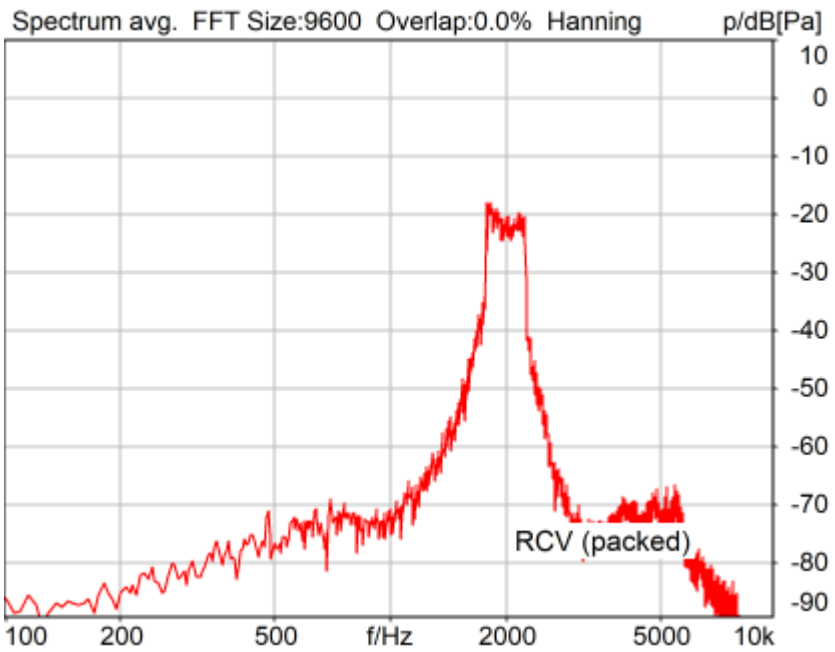
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz WB

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




Distortion (Noise) RCV (packed): 21.72 dB (8.21%) Ok

**Ok**

2025/2/12 12:35 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

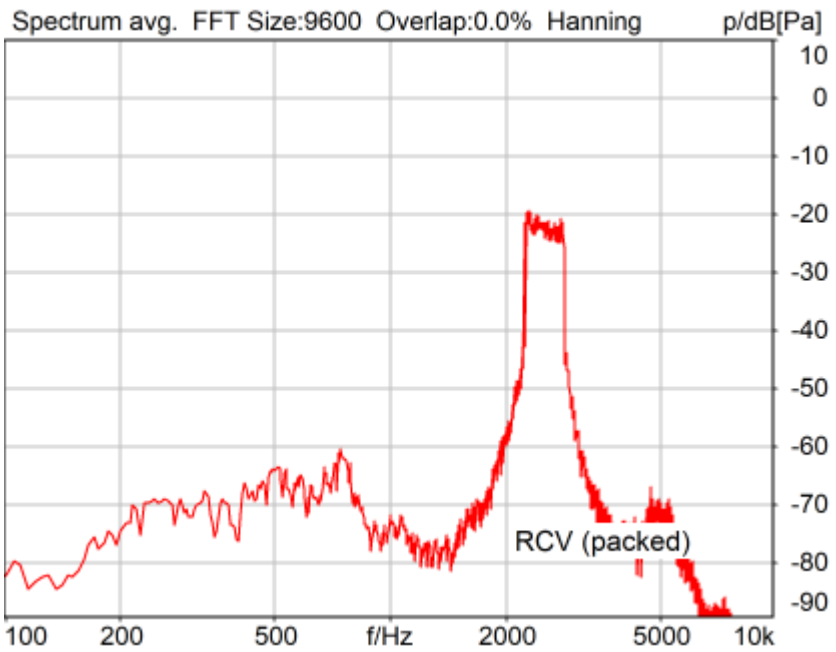
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz WB

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




Distortion (Noise) RCV (packed): 28.58 dB (3.72%) Ok

**Ok**

2025/2/12 12:36 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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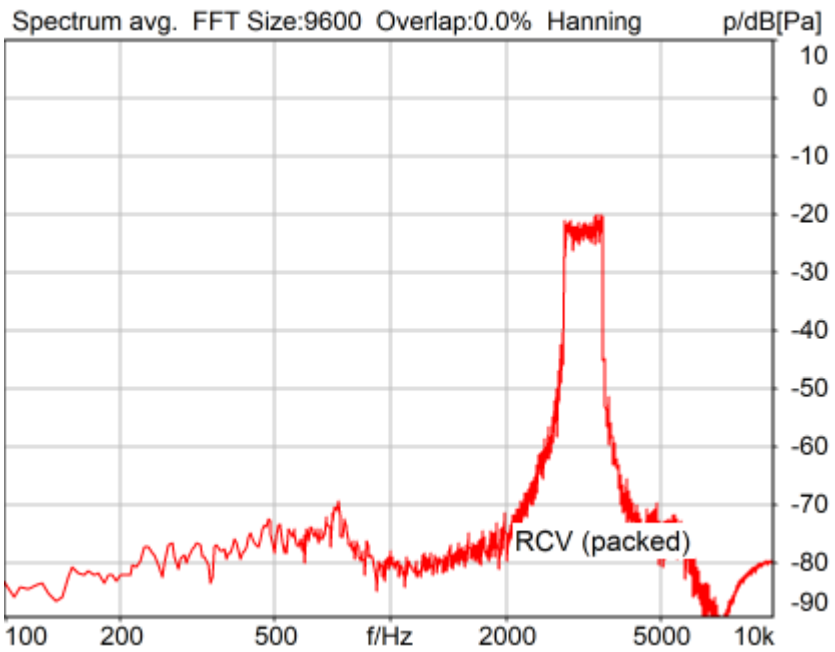
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz WB

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




Distortion (Noise) RCV (packed): 30.92 dB (2.84%) Ok

**Ok**

2025/2/12 12:36 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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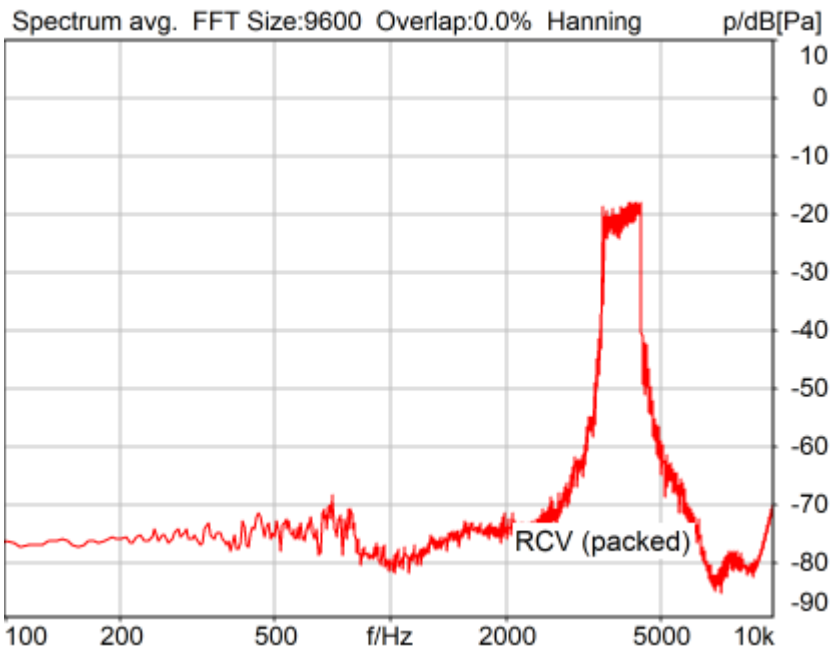
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 4000 Hz WB

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




Distortion (Noise) RCV (packed): 27.91 dB (4.02%) Ok

**Ok**

2025/2/12 12:36 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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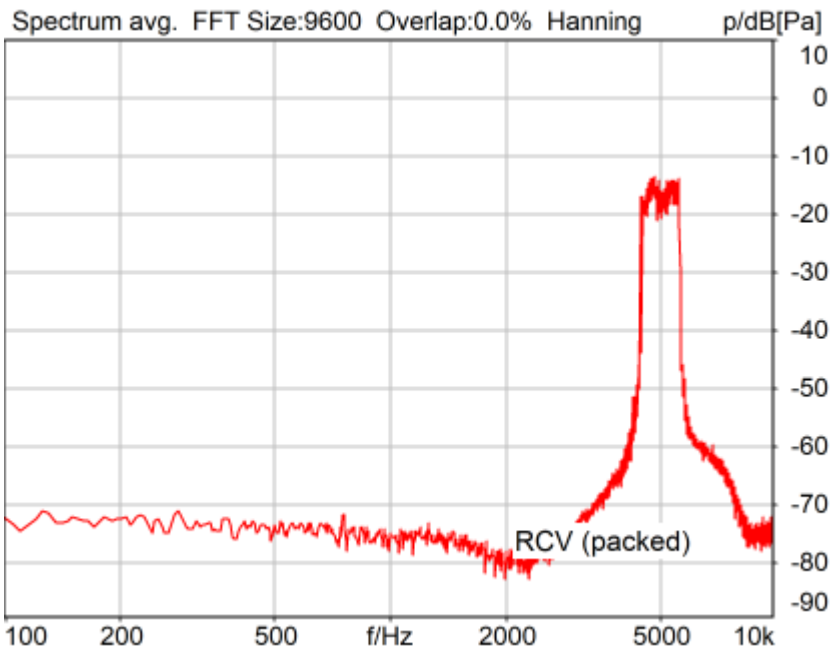
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 5000 Hz WB

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




Distortion (Noise) RCV (packed): 34.40 dB (1.90%) Ok

**Ok**

2025/2/12 12:37 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

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

| Region | Frequency | SDNR |
|---|---|---|
| 1 | 250Hz | 27.97 dB |
| 2 | 315Hz | 31.69 dB |
| 3 | 400Hz | 33.75 dB |
| 4 | 500Hz | 33.06 dB |
| 5 | 630Hz | 35.16 dB |
| 6 | 800Hz | 35.81 dB |
| 7 | 1000Hz | 32.70 dB |
| 8 | 1250Hz | 23.50 dB |
| 9 | 1600Hz | 24.35 dB |
| 10 | 2000Hz | 21.72 dB |

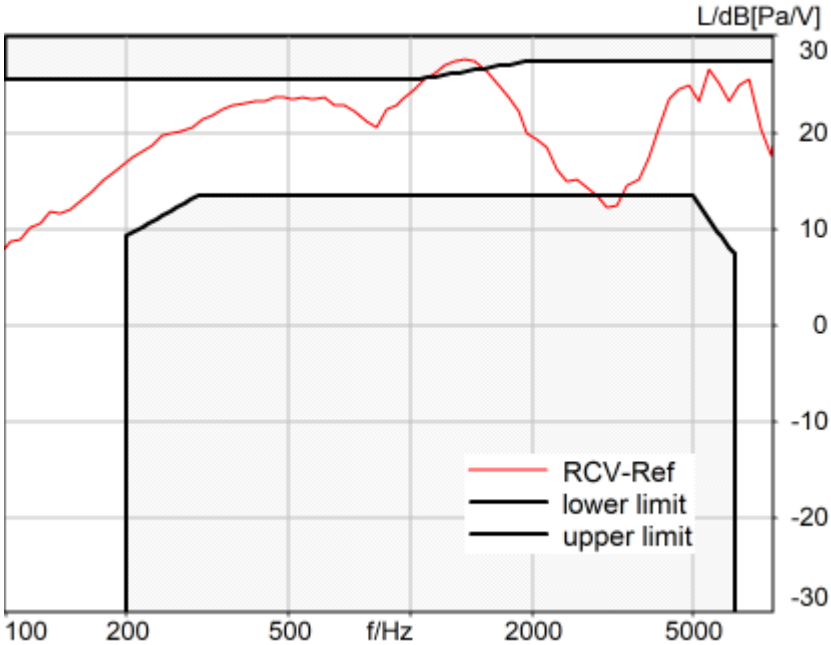
| | | |
|---|---|---|
| 11 | 2500Hz | 28.58 dB |
| 12 | 3150Hz | 30.92 dB |
| 13 | 4000Hz | 27.91 dB |
| 14 | 5000Hz | 34.40 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 21.72dB at 2000Hz.

2025/2/12 12:37 ACQUA

## 5.3 Frequency Response 8N FF

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




Absolute minimal distance
-1.20 dB at 1360.9 Hz Not Ok

**Not Ok**

2025/2/12 12:27 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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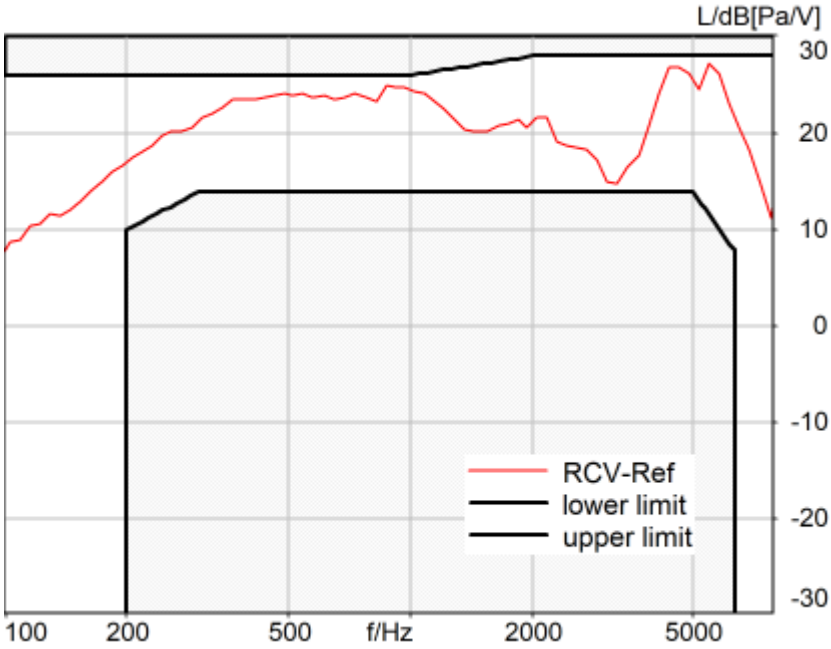
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF

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




Absolute minimal distance
0.70 dB at 5443.6 Hz Ok

**Ok**

2025/2/12 12:27 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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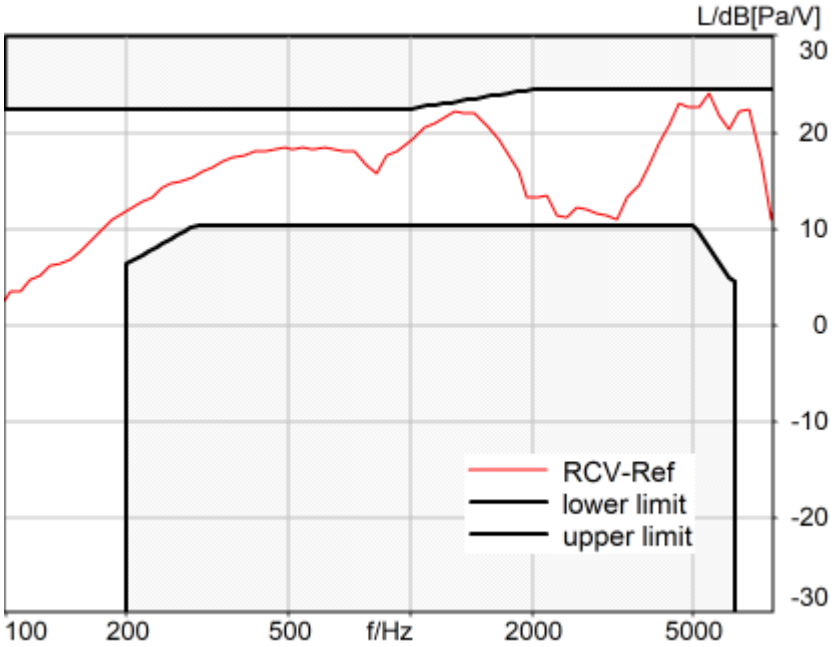
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF

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




Absolute minimal distance
0.49 dB at 3245.6 Hz Ok

**Ok**

2025/2/12 12:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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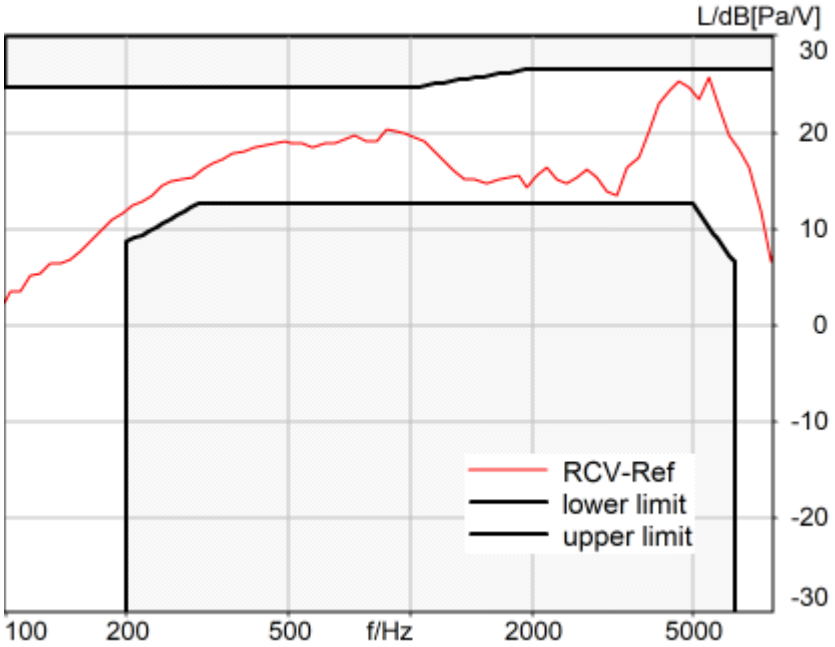
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF

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




Absolute minimal distance
0.89 dB at 5443.6 Hz Ok

**Ok**

2025/2/12 12:29 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:06 |
| Responsible Person | audio |

## Status Overview

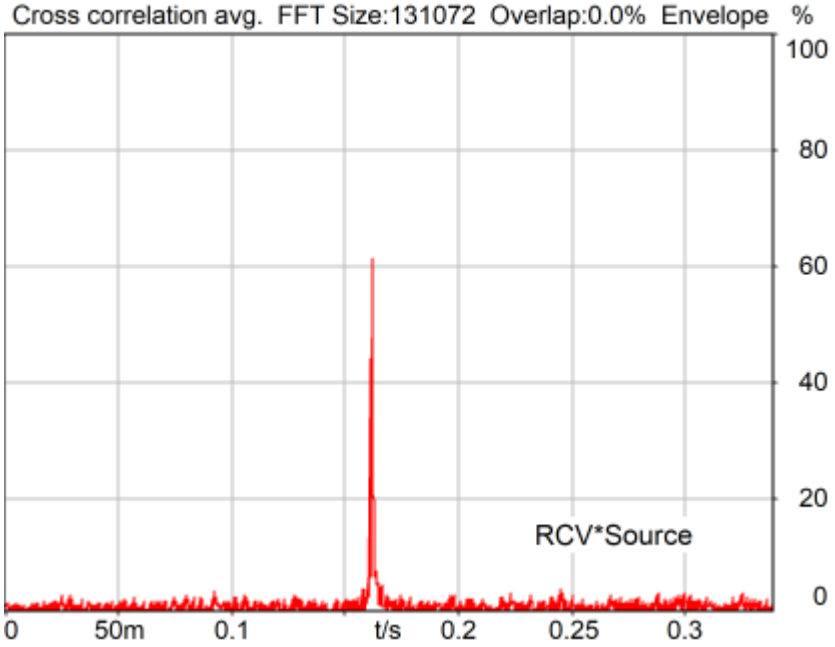
| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay NB | Done | Delay (Cross) [ms] | 162.4 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.1a Receive Volume Control Performance 8N NB | Ok | Corrected Speech Level [dB[SPL]] | 22.32 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.1b Receive Volume Control Performance 2N NB | Ok | Corrected Speech Level [dB[SPL]] | 17.26 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.37 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.00 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 630 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.86 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.69 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.27 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.03 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.44 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.23 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 20.67 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.37 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2500Hz) | 20.67 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.34 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.08 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - | Ok | Distortion (Noise) [dB], | 33.20 | WIFI 2.4G_802.11b |

| | | | | |
|---|---|---|---|---|
| 630 Hz NB | | 0.0 dB | | 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.26 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.97 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.33 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.28 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.26 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.61 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.67 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2000Hz) | 22.26 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.3 Frequency Response 8N FF HANB | Not Ok | Min. dist. to tolerance scheme [dB], 1447.5 Hz | -2.25 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.3 Frequency Response 8N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 873.9 Hz | 0.69 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.3 Frequency Response 2N FF HANB | Ok | Min. dist. to tolerance scheme [dB], 1285.9 Hz | 0.26 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |
| 5.3 Frequency Response 2N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 3245.6 Hz | 2.16 | WIFI 2.4G_802.11b 1Mbps_EVS NB 24.4kbps_CH6 |

Overall Receive Delay NB 5
5.1a Receive Volume Control Performance 8N NB 5
5.1b Receive Volume Control Performance 2N NB 6
5.2 RCV Distortion and Noise - 400 Hz NB 7
5.2 RCV Distortion and Noise - 500 Hz NB 8
5.2 RCV Distortion and Noise - 630 Hz NB 9
5.2 RCV Distortion and Noise - 800 Hz NB 10
5.2 RCV Distortion and Noise - 1000 Hz NB 11
5.2 RCV Distortion and Noise - 1250 Hz NB 12
5.2 RCV Distortion and Noise - 1600 Hz NB 13
5.2 RCV Distortion and Noise - 2000 Hz NB 14
5.2 RCV Distortion and Noise - 2500 Hz NB 15
5.2 RCV Distortion and Noise - 3150 Hz NB 16
Report - Receive Distortion and Noise (Conversational Gain) 17
5.2 RCV Distortion and Noise - 400 Hz NB 18
5.2 RCV Distortion and Noise - 500 Hz NB 18
5.2 RCV Distortion and Noise - 630 Hz NB 19
5.2 RCV Distortion and Noise - 800 Hz NB 20
5.2 RCV Distortion and Noise - 1000 Hz NB 21
5.2 RCV Distortion and Noise - 1250 Hz NB 22
5.2 RCV Distortion and Noise - 1600 Hz NB 23
5.2 RCV Distortion and Noise - 2000 Hz NB 24
5.2 RCV Distortion and Noise - 2500 Hz NB 25
5.2 RCV Distortion and Noise - 3150 Hz NB 26
Report - Receive Distortion and Noise (Conversational Gain) 27
5.3 Frequency Response 8N FF HANB 28
5.3 Frequency Response 8N DF HANB 29
5.3 Frequency Response 2N FF HANB 29
5.3 Frequency Response 2N DF HANB 30

## Overall Receive Delay NB

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

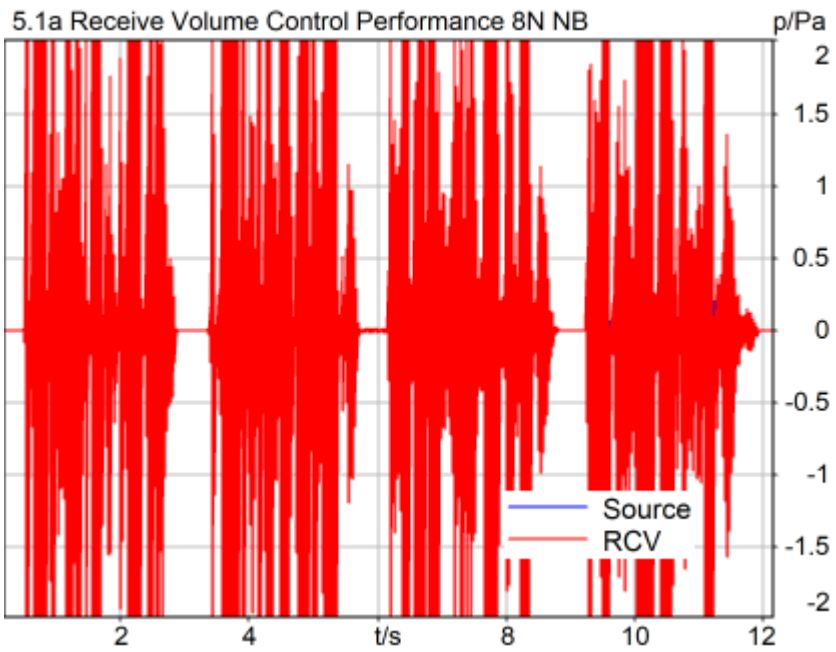



| Channel | Delay |
|---|---|
| **RCV*Source** | 162.4 ms |

2025/1/17 13:11 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.32 dB[SPL] | 84.10% | 22.32 dB[SPL] | Ok |

**Ok**

2025/1/17 13:12 ACQUA 6.0.200

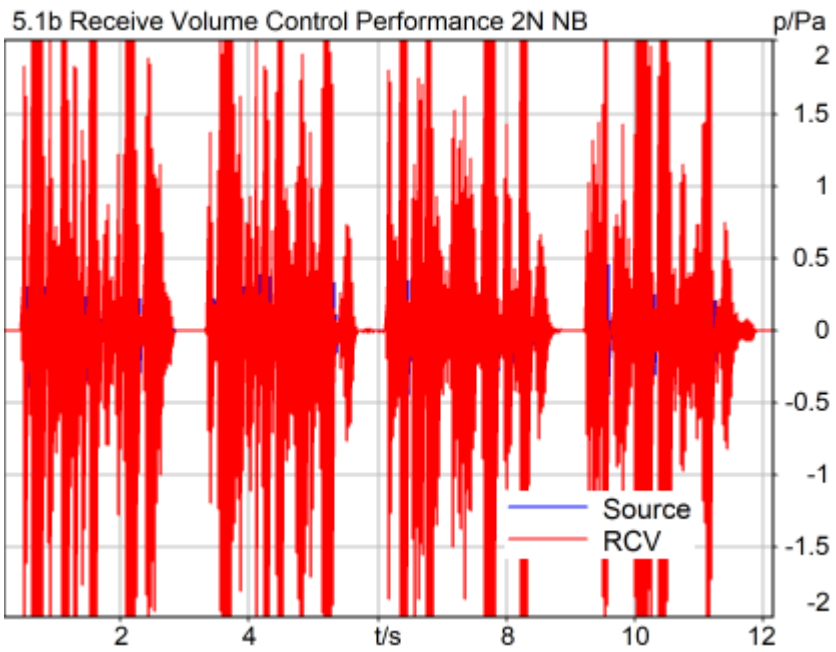
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.26 dB[SPL] | 84.20% | 17.26 dB[SPL] | Ok |

**Ok**

2025/1/17 13:22 ACQUA 6.0.200

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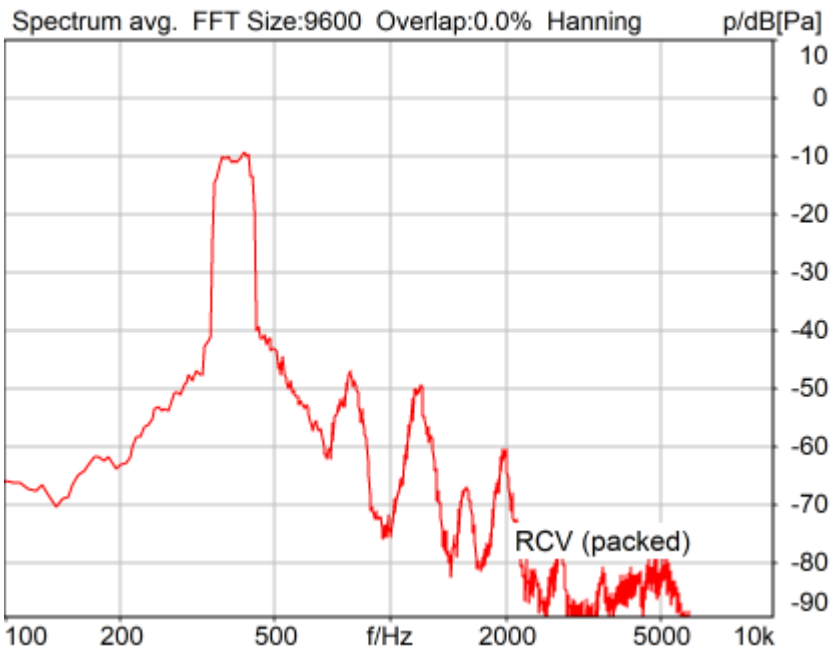
**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 33.37 dB (2.15%) Ok

**Ok**

2025/1/17 13:12 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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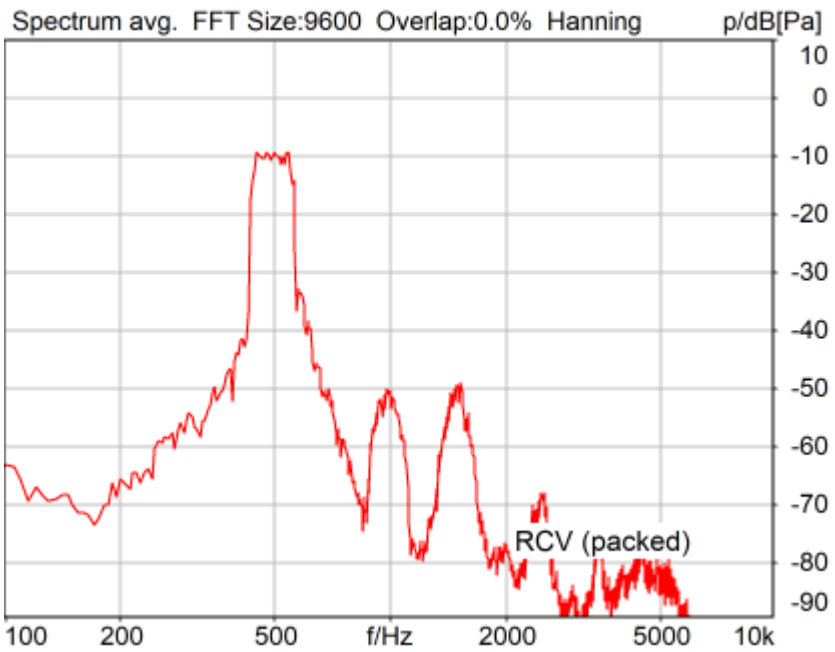
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 33.00 dB (2.24%) Ok

**Ok**

2025/1/17 13:13 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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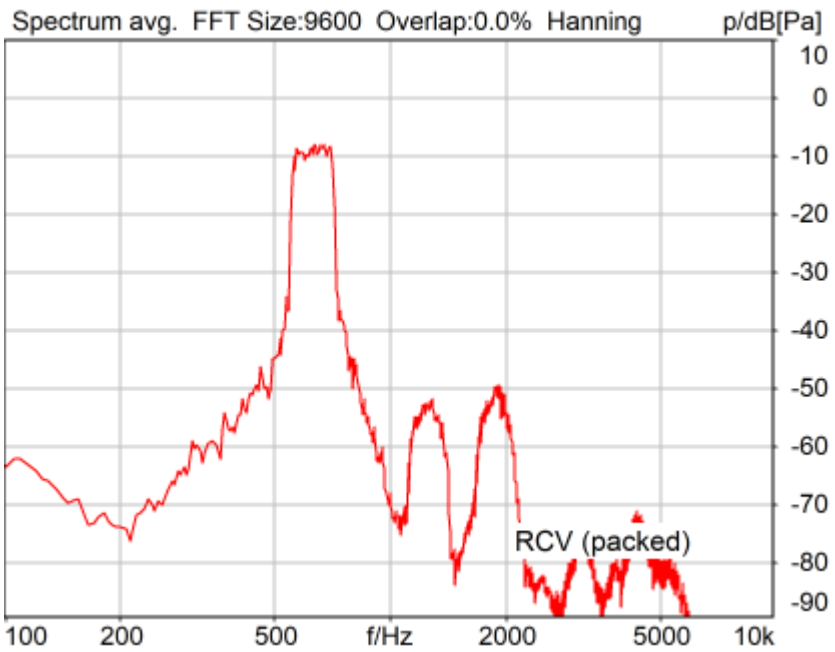
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 33.86 dB (2.03%) Ok

**Ok**

2025/1/17 13:13 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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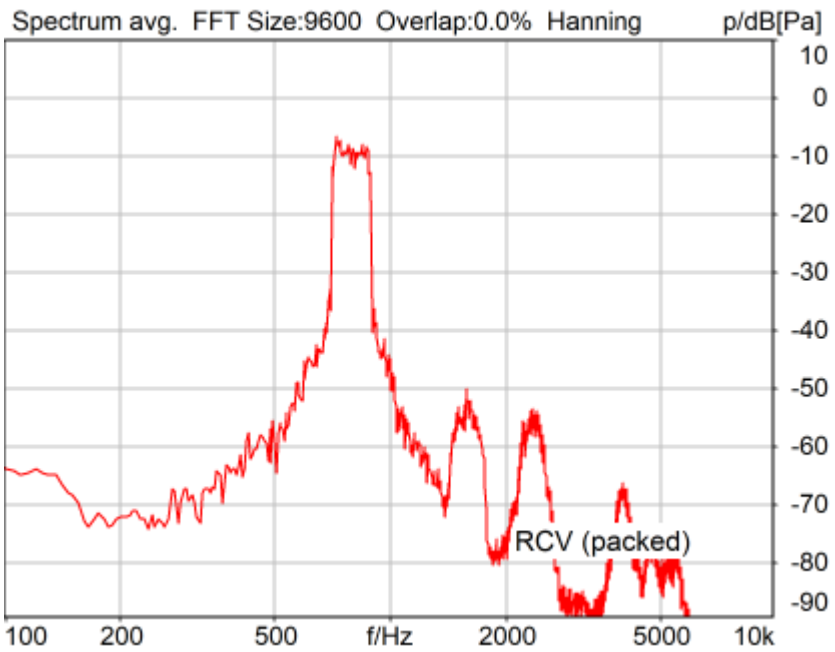
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 34.69 dB (1.84%) Ok

**Ok**

2025/1/17 13:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

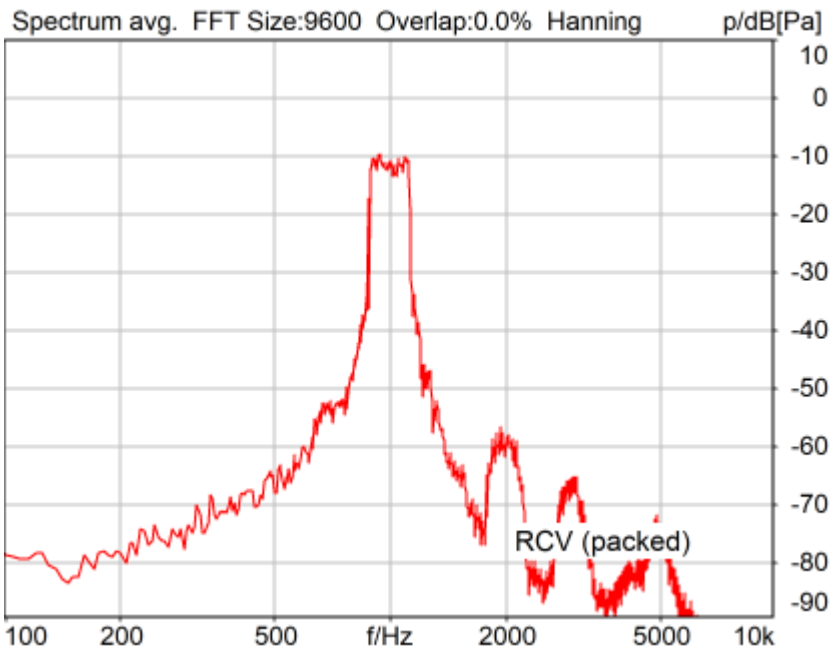
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 32.27 dB (2.43%) Ok

**Ok**

2025/1/17 13:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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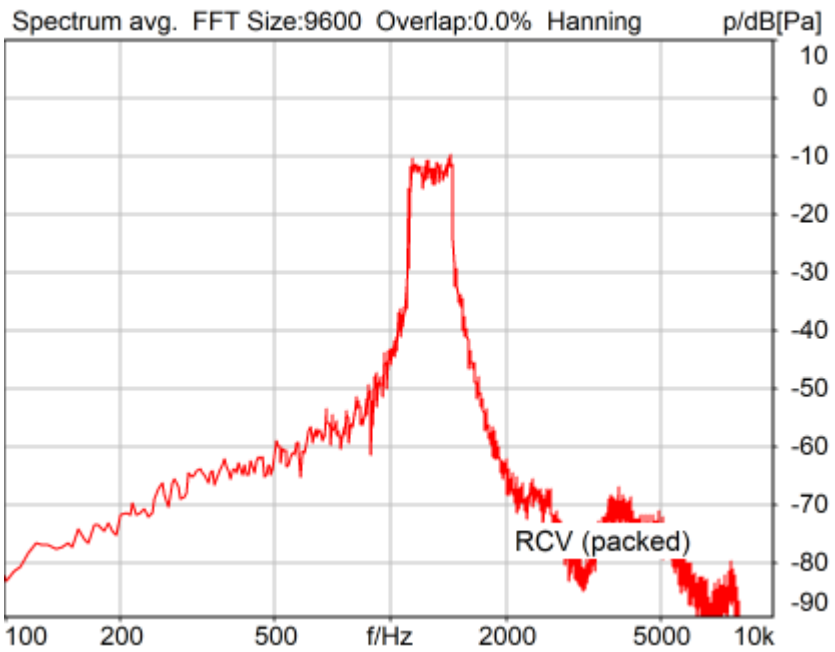
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 23.03 dB (7.05%) Ok

**Ok**

2025/1/17 13:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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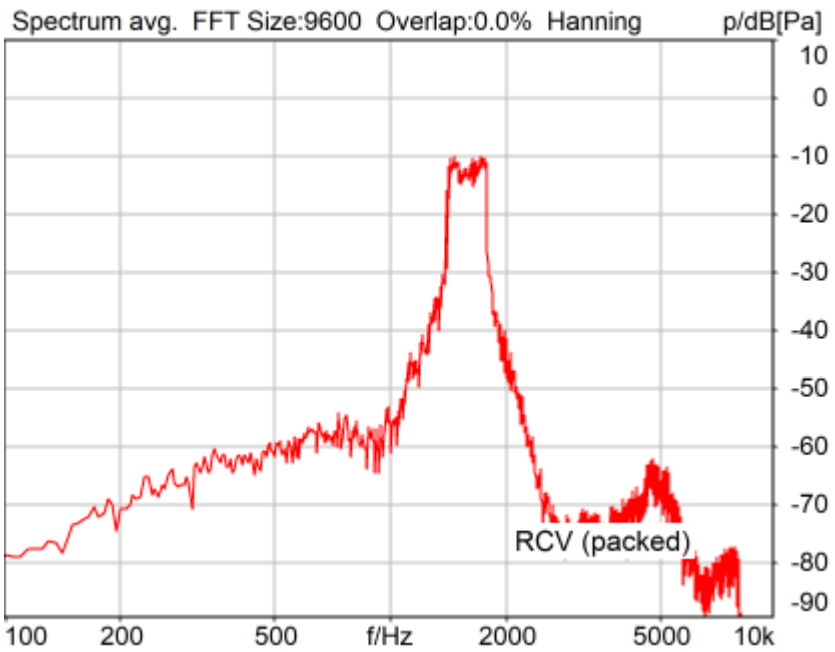
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.44 dB (6.00%) Ok

**Ok**

2025/1/17 13:15 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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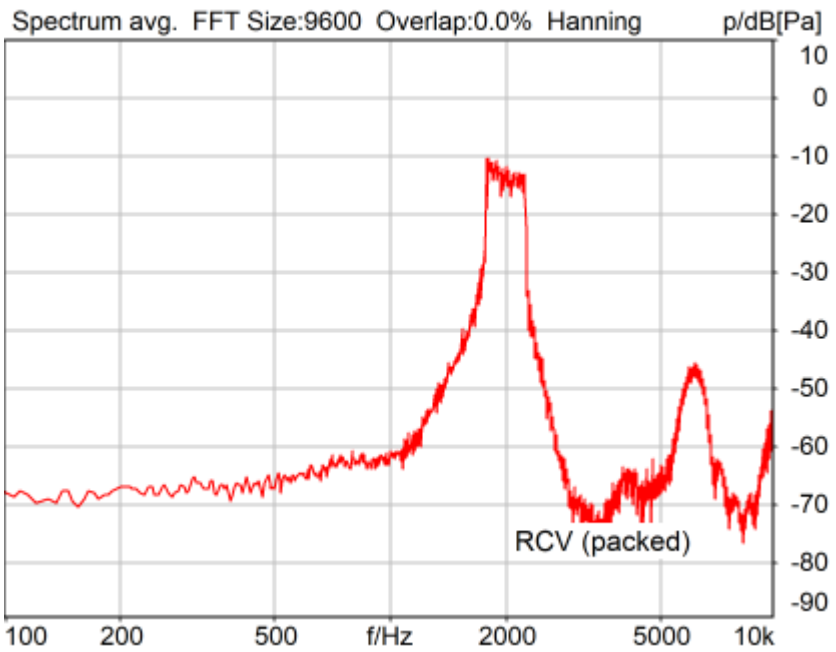
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 22.23 dB (7.74%) Ok

**Ok**

2025/1/17 13:15 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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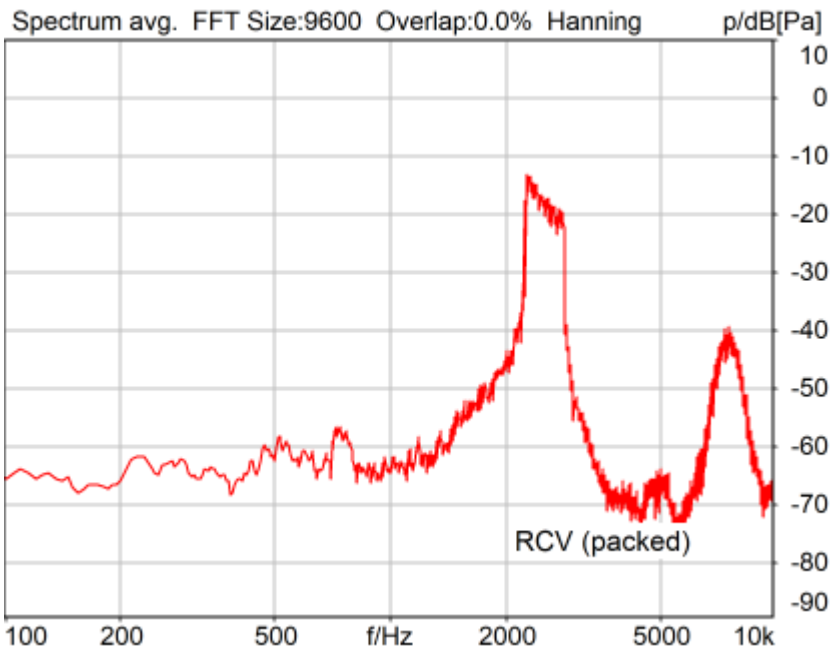
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 20.67 dB (9.25%) Ok

**Ok**

2025/1/17 13:16 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

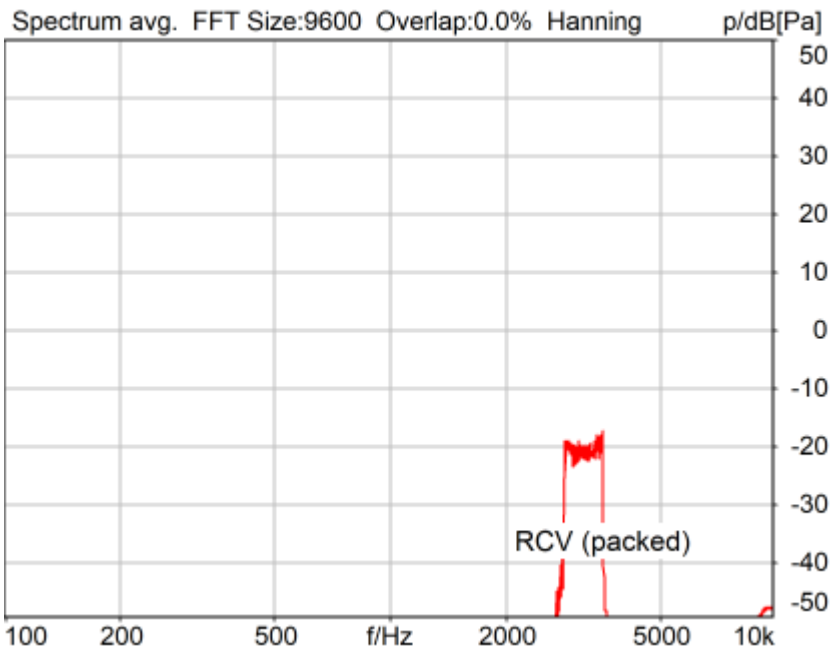
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.37 dB (6.04%) Ok

**Ok**

2025/1/17 13:16 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

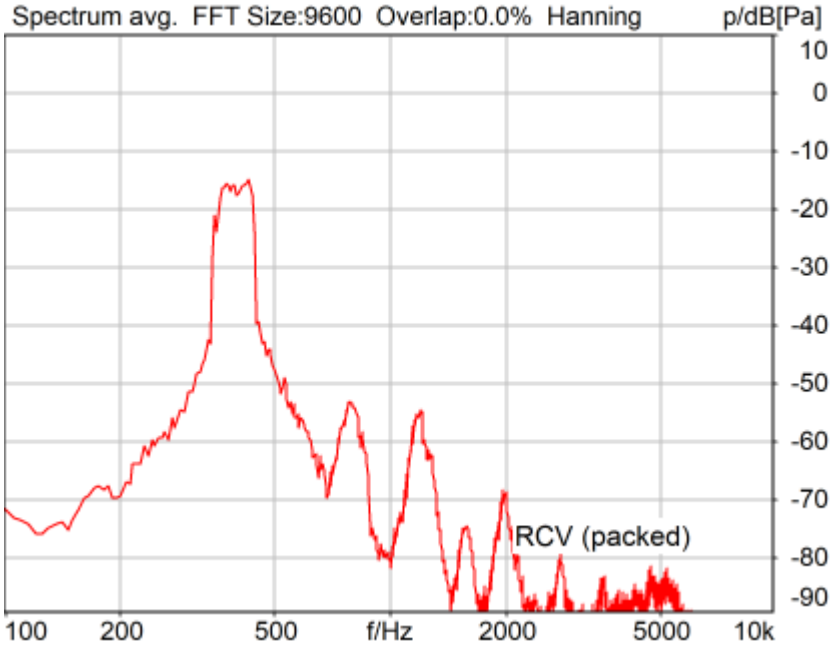
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 33.37 dB |
| 2 | 500Hz | 33.00 dB |
| 3 | 630Hz | 33.86 dB |
| 4 | 800Hz | 34.69 dB |
| 5 | 1000Hz | 32.27 dB |
| 6 | 1250Hz | 23.03 dB |
| 7 | 1600Hz | 24.44 dB |
| 8 | 2000Hz | 22.23 dB |
| 9 | 2500Hz | 20.67 dB |
| 10 | 3150Hz | 24.37 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 20.67dB at 2500Hz.

2025/1/17 13:17 ACQUA

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 32.34 dB (2.42%) Ok

**Ok**

2025/1/17 13:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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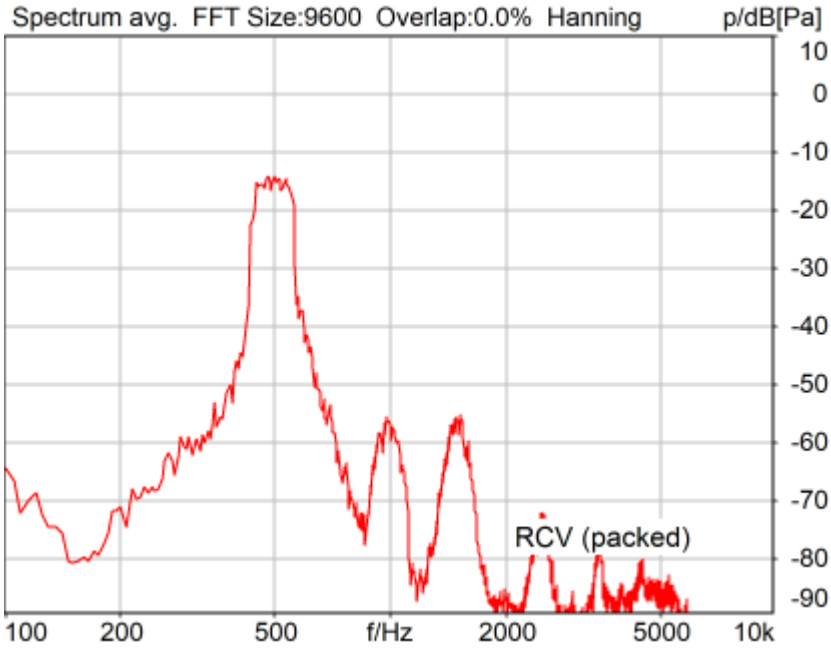
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 32.08 dB (2.49%) Ok

**Ok**

2025/1/17 13:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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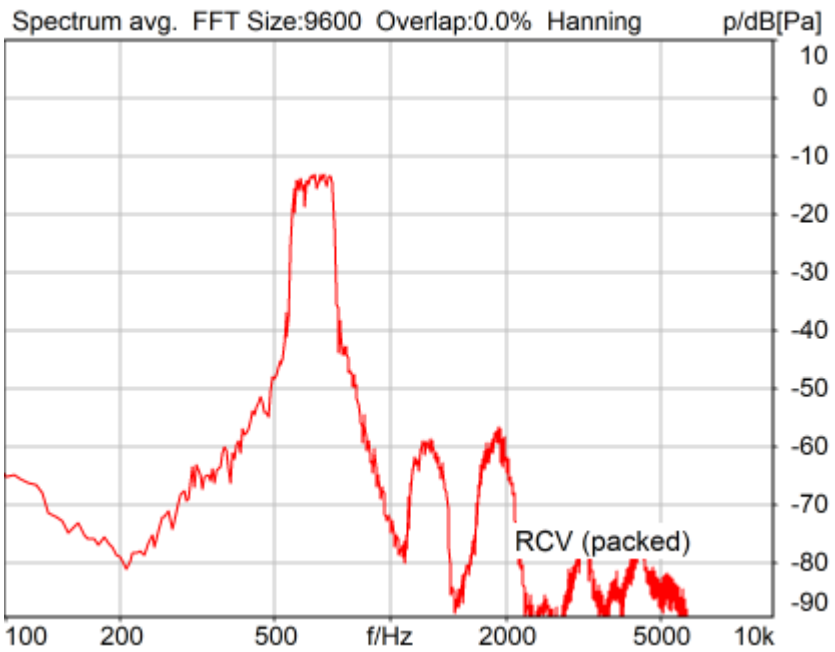
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 33.20 dB (2.19%) Ok

**Ok**

2025/1/17 13:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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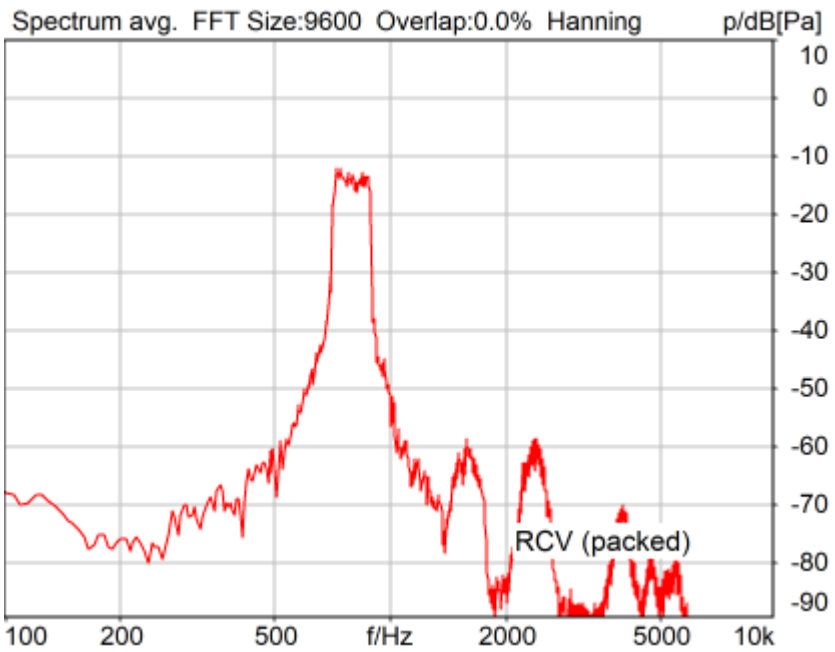
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 33.26 dB (2.17%) Ok

**Ok**

2025/1/17 13:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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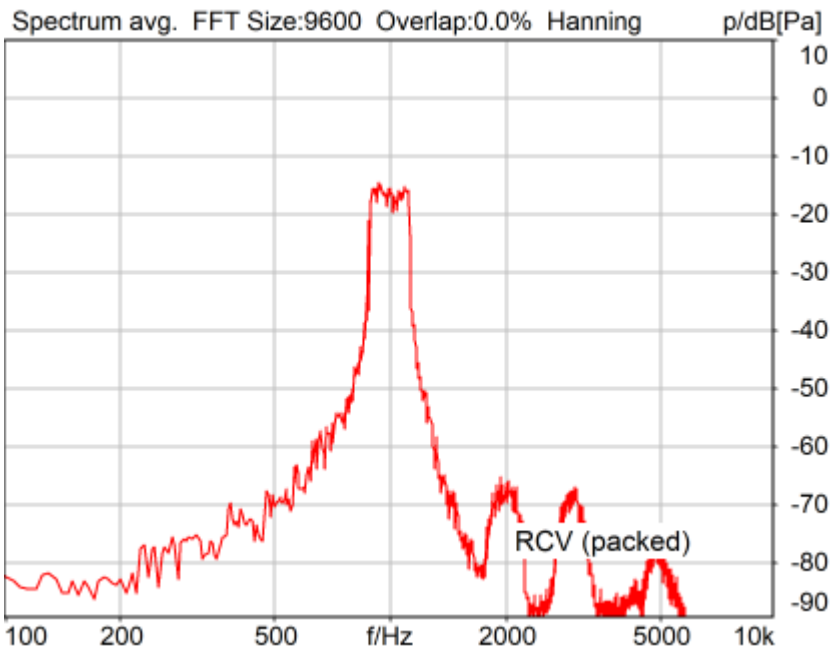
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 31.97 dB (2.52%) Ok

**Ok**

2025/1/17 13:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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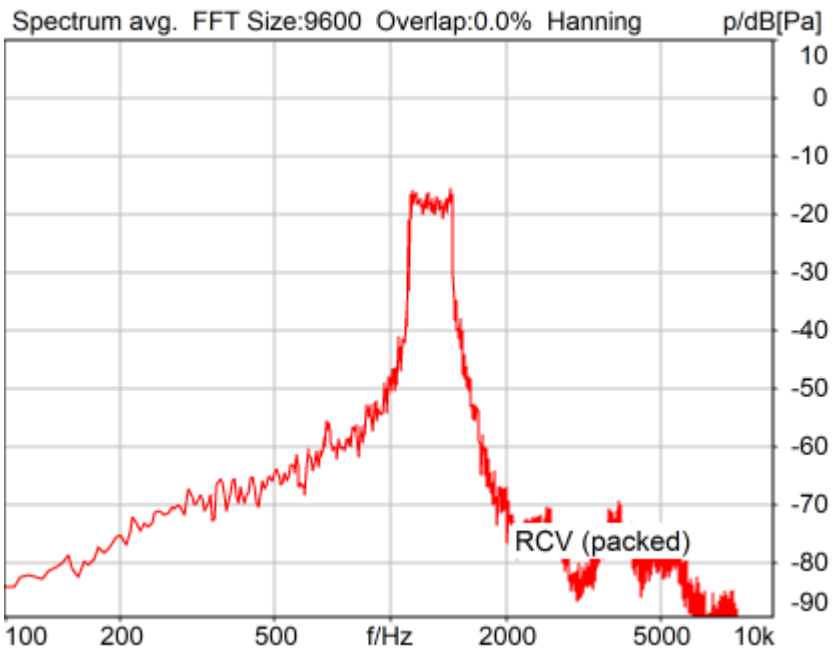
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 23.33 dB (6.82%) Ok

**Ok**

2025/1/17 13:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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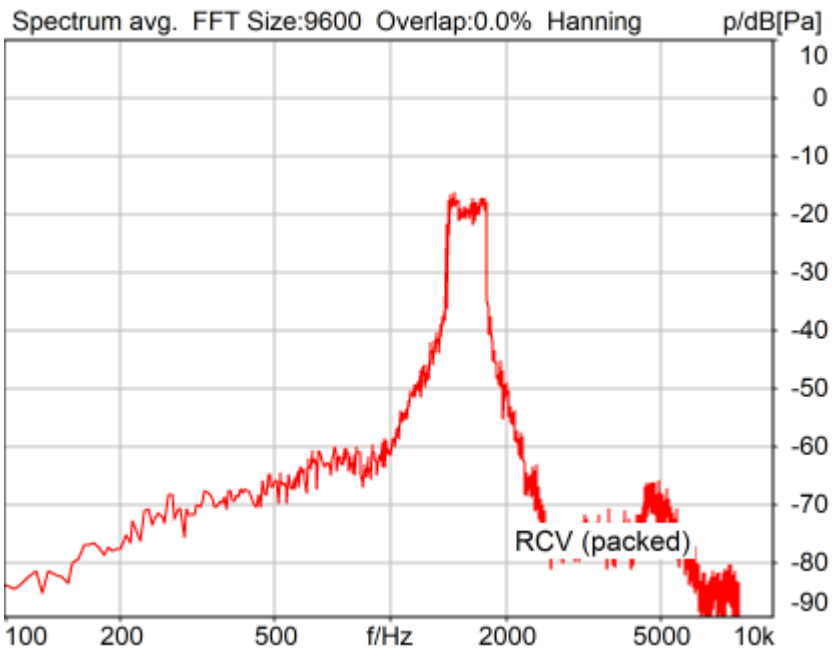
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 24.28 dB (6.11%) Ok

**Ok**

2025/1/17 13:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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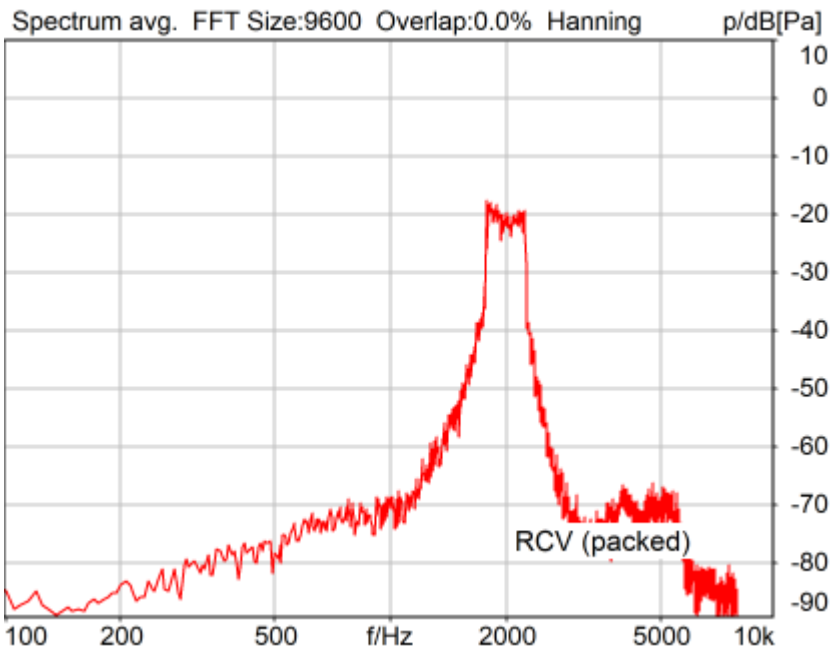
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 22.26 dB (7.71%) Ok

**Ok**

2025/1/17 13:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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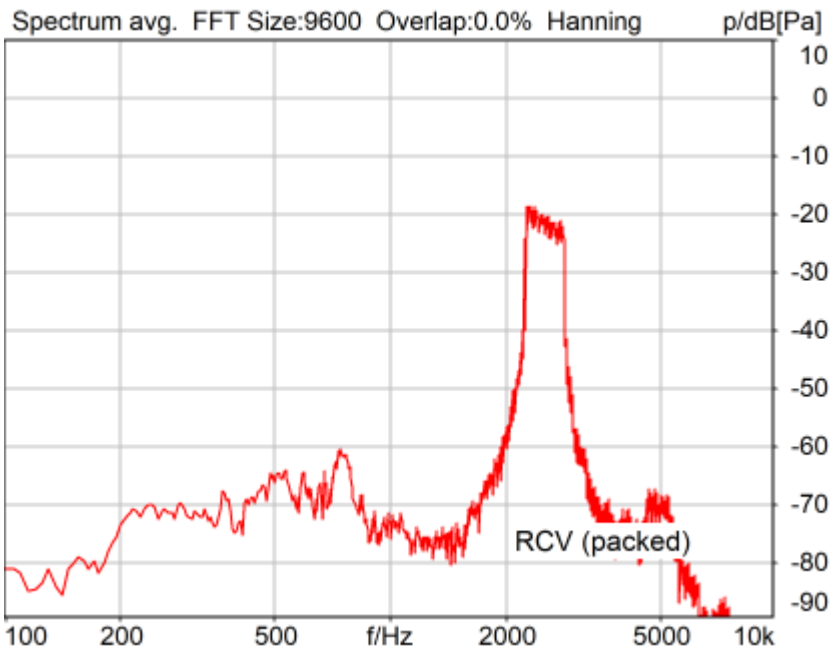
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 28.61 dB (3.71%) Ok

**Ok**

2025/1/17 13:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

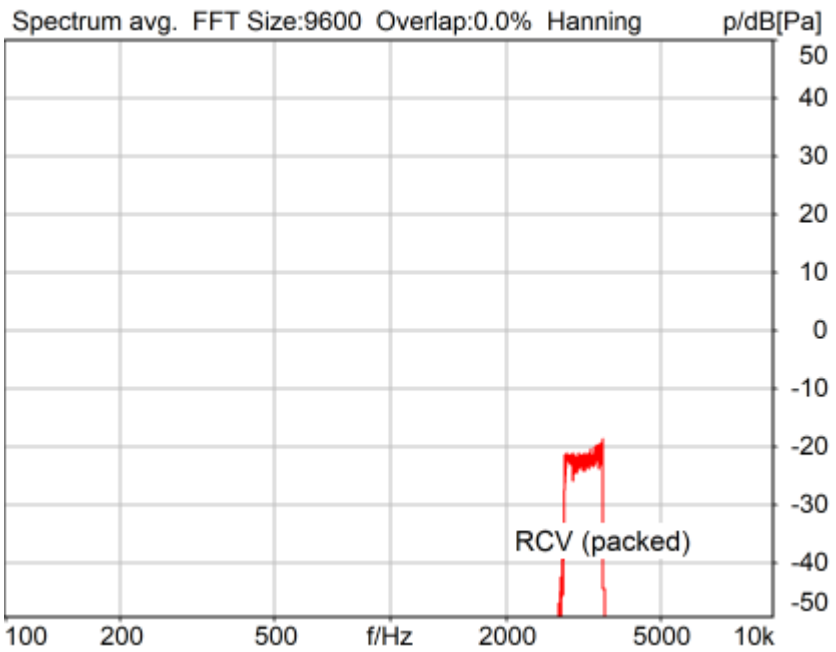
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 30.67 dB (2.93%) Ok

**Ok**

2025/1/17 13:26 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N

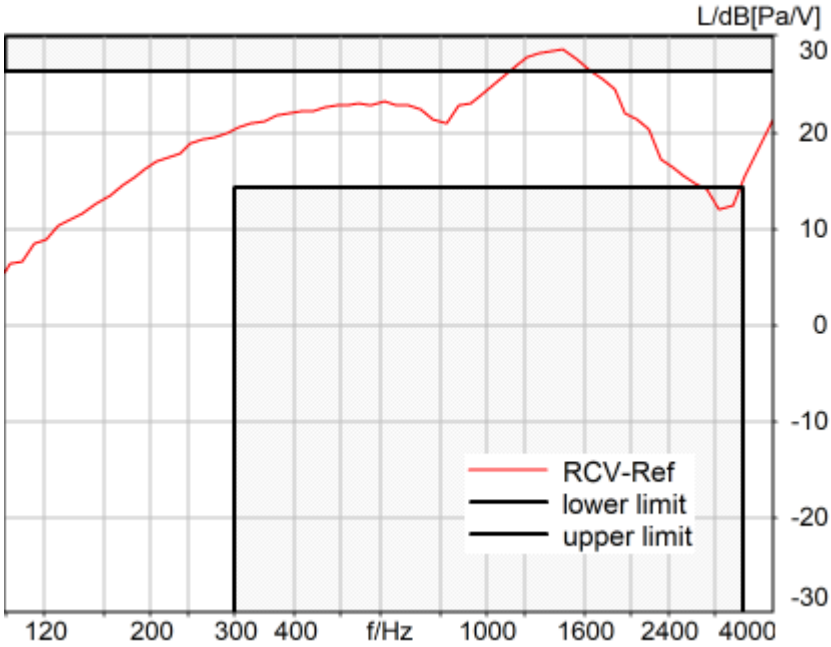
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 32.34 dB |
| 2 | 500Hz | 32.08 dB |
| 3 | 630Hz | 33.20 dB |
| 4 | 800Hz | 33.26 dB |
| 5 | 1000Hz | 31.97 dB |
| 6 | 1250Hz | 23.33 dB |
| 7 | 1600Hz | 24.28 dB |
| 8 | 2000Hz | 22.26 dB |
| 9 | 2500Hz | 28.61 dB |
| 10 | 3150Hz | 30.67 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 22.26dB at 2000Hz.

2025/1/17 13:27 ACQUA

## 5.3 Frequency Response 8N FF HANB

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




Absolute minimal distance
-2.25 dB at 1447.5 Hz Not Ok

**Not Ok**

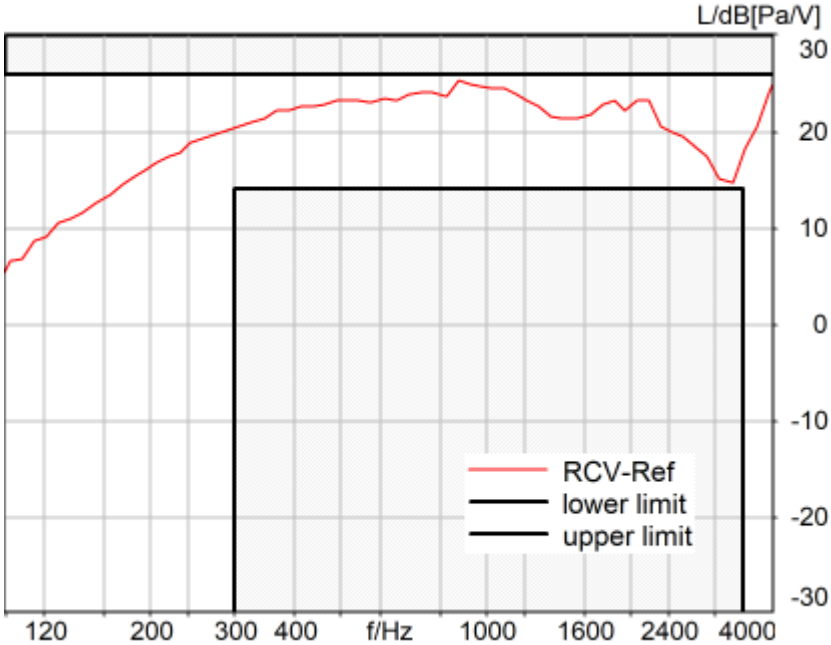
2025/1/17 13:19 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF HANB

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




Absolute minimal distance
0.69 dB at 873.9 Hz Ok

**Ok**

2025/1/17 13:19 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

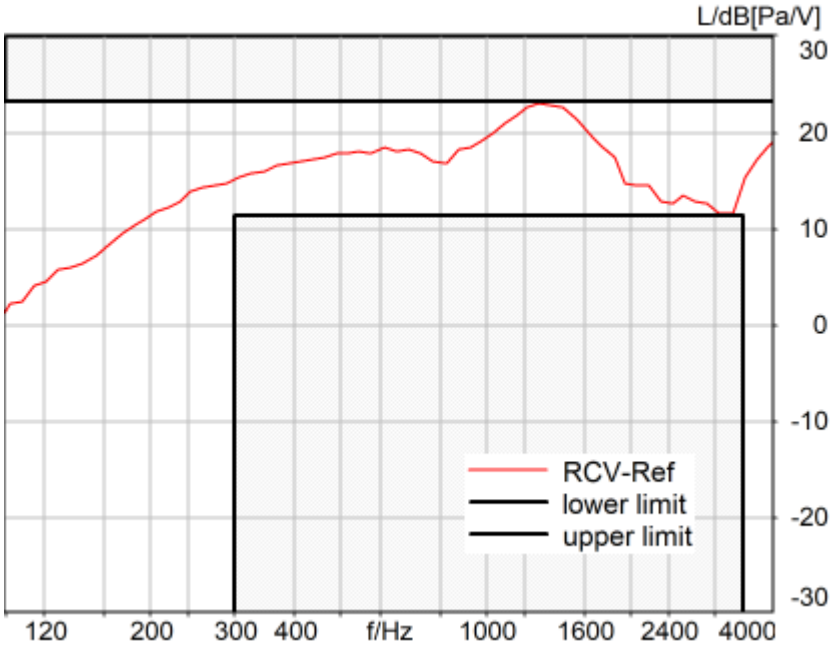
---

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF HANB

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




Absolute minimal distance
0.26 dB at 1285.9 Hz Ok

**Ok**

2025/1/17 13:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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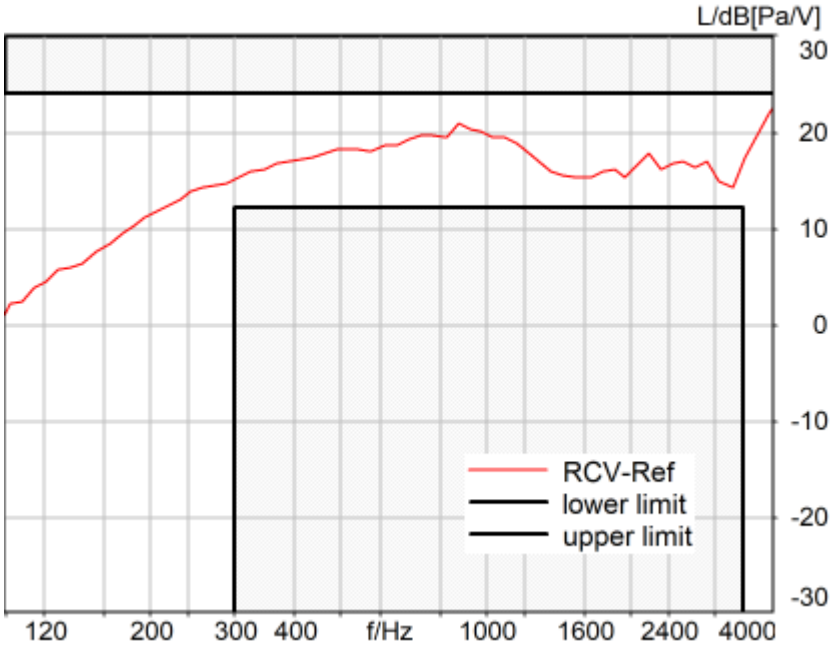
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF HANB

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




Absolute minimal distance
2.16 dB at 3245.6 Hz Ok

**Ok**

2025/1/17 13:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:07 |
| Responsible Person | audio |

## Status Overview

| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay WB | Done | Delay (Cross) [ms] | 170.1 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.1a Receive Volume Control Performance 8N WB | Ok | Corrected Speech Level [dB[SPL]] | 22.43 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.1b Receive Volume Control Performance 2N WB | Ok | Corrected Speech Level [dB[SPL]] | 17.41 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.07 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 315 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.83 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 400 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.92 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.17 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 630 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.06 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 800 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.28 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.69 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.89 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1600 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.42 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.54 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 20.96 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 3150 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.42 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 4000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.15 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - | Ok | Distortion (Noise) [dB], | 21.77 | WIFI 2.4G_802.11b |

| | | | | |
|---|---|---|---|---|
| 5000 Hz WB | | 0.0 dB | | 1Mbps_EVS WB 24.4kbps_CH6 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2500Hz) | 20.96 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.11 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 315 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.08 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 400 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.20 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.00 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 630 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.46 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 800 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.35 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.46 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1250 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.30 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 1600 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.90 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.49 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 2500 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.93 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 3150 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.34 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 4000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.30 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.2 RCV Distortion and Noise - 5000 Hz WB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.88 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 1250Hz) | 22.30 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.3 Frequency Response 8N FF | Not Ok | Min. dist. to tolerance scheme [dB], 3058.6 Hz | -1.68 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.3 Frequency Response 8N | Ok | Min. dist. to tolerance | 0.20 | WIFI 2.4G_802.11b |

| | | | | |
|---|---|---|---|---|
| DF | | scheme [dB], 5443.6 Hz | | 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.3 Frequency Response 2N FF | Ok | Min. dist. to tolerance scheme [dB], 1285.9 Hz | 0.28 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |
| 5.3 Frequency Response 2N DF | Ok | Min. dist. to tolerance scheme [dB], 4620.1 Hz | 0.87 | WIFI 2.4G_802.11b 1Mbps_EVS WB 24.4kbps_CH6 |

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5.1a Receive Volume Control Performance 8N WB 6
5.1b Receive Volume Control Performance 2N WB 7
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5.2 RCV Distortion and Noise - 315 Hz WB 9
5.2 RCV Distortion and Noise - 400 Hz WB 10
5.2 RCV Distortion and Noise - 500 Hz WB 11
5.2 RCV Distortion and Noise - 630 Hz WB 12
5.2 RCV Distortion and Noise - 800 Hz WB 13
5.2 RCV Distortion and Noise - 1000 Hz WB 14
5.2 RCV Distortion and Noise - 1250 Hz WB 15
5.2 RCV Distortion and Noise - 1600 Hz WB 16
5.2 RCV Distortion and Noise - 2000 Hz WB 17
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5.2 RCV Distortion and Noise - 400 Hz WB 24
5.2 RCV Distortion and Noise - 500 Hz WB 25
5.2 RCV Distortion and Noise - 630 Hz WB 26
5.2 RCV Distortion and Noise - 800 Hz WB 27
5.2 RCV Distortion and Noise - 1000 Hz WB 28
5.2 RCV Distortion and Noise - 1250 Hz WB 29
5.2 RCV Distortion and Noise - 1600 Hz WB 30
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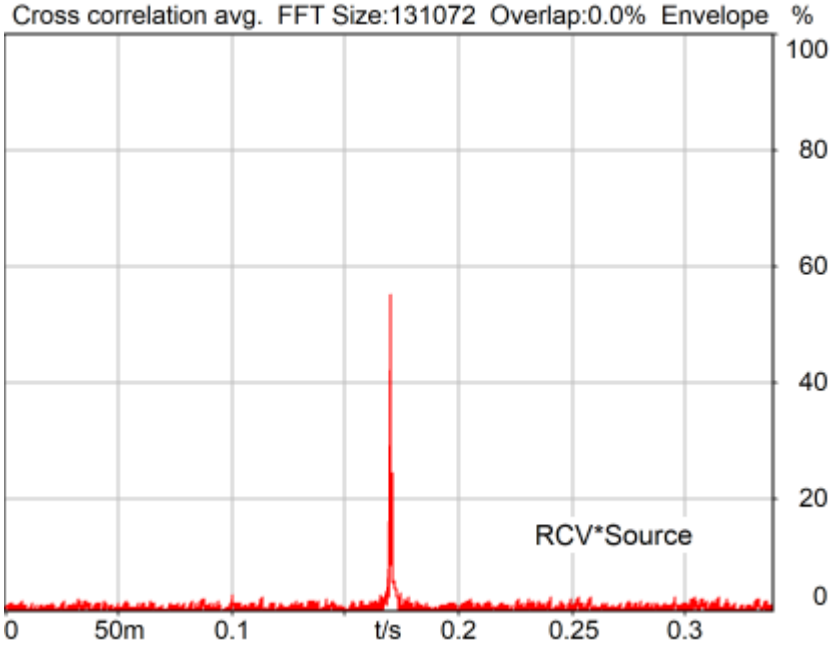
## Overall Receive Delay WB

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

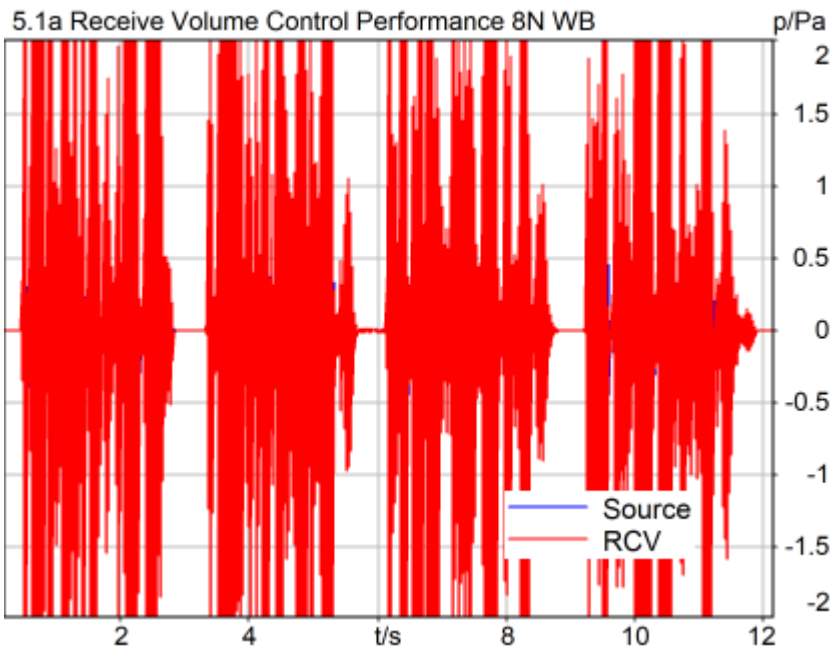



| Channel | Delay |
|---|---|
| **RCV*Source** | 170.1 ms |

2025/1/17 13:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N WB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.43 dB[SPL] | 84.15% | 22.43 dB[SPL] | Ok |

**Ok**

2025/1/17 13:41 ACQUA 6.0.200

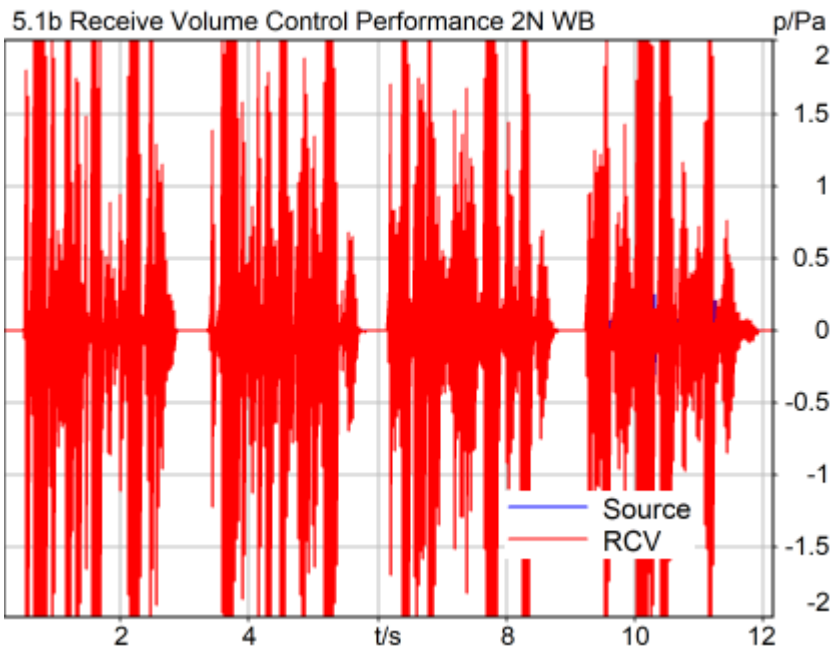
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N WB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.41 dB[SPL] | 83.90% | 17.41 dB[SPL] | Ok |

**Ok**

2025/1/17 13:31 ACQUA 6.0.200

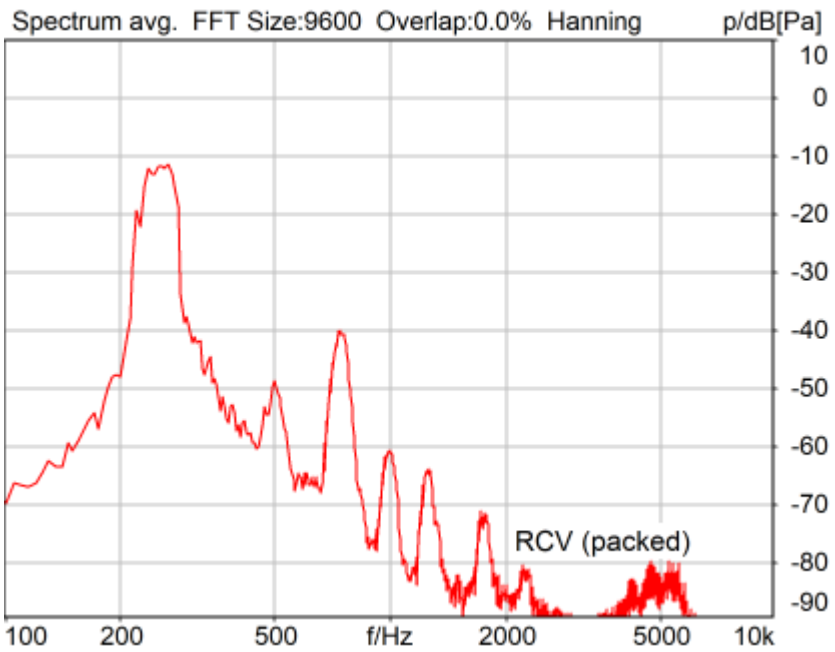
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 250 Hz WB

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




Distortion (Noise) RCV (packed): 28.07 dB (3.95%) Ok

**Ok**

2025/1/17 13:42 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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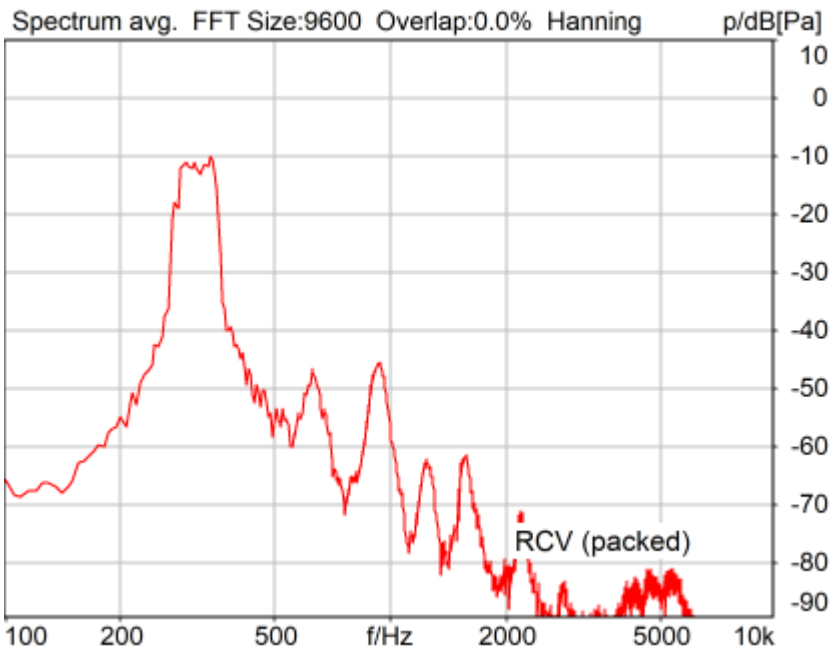
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 315 Hz WB

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




Distortion (Noise) RCV (packed): 31.83 dB (2.56%) Ok

**Ok**

2025/1/17 13:42 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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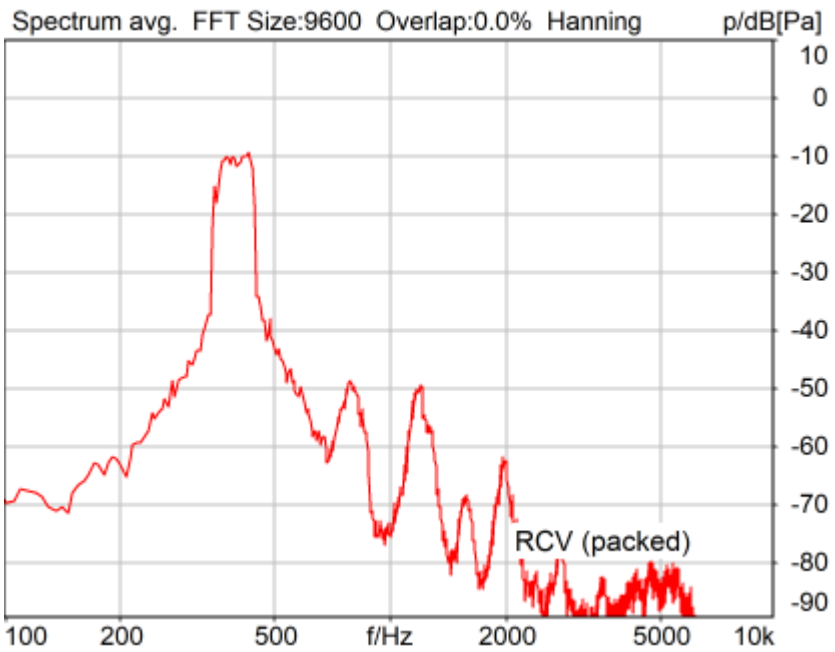
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 400 Hz WB

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




Distortion (Noise) RCV (packed): 32.92 dB (2.26%) Ok

**Ok**

2025/1/17 13:43 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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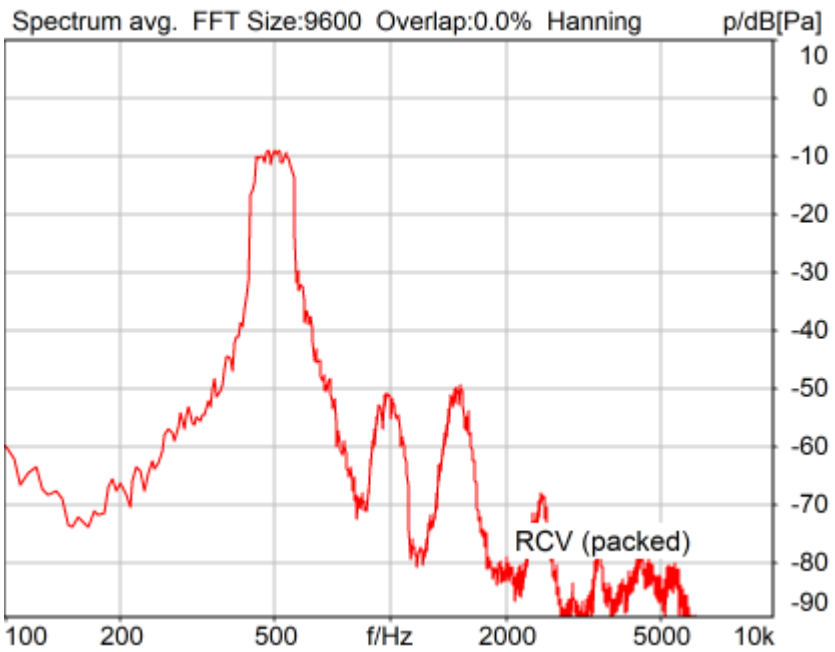
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz WB

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




Distortion (Noise) RCV (packed): 32.17 dB (2.46%) Ok

**Ok**

2025/1/17 13:43 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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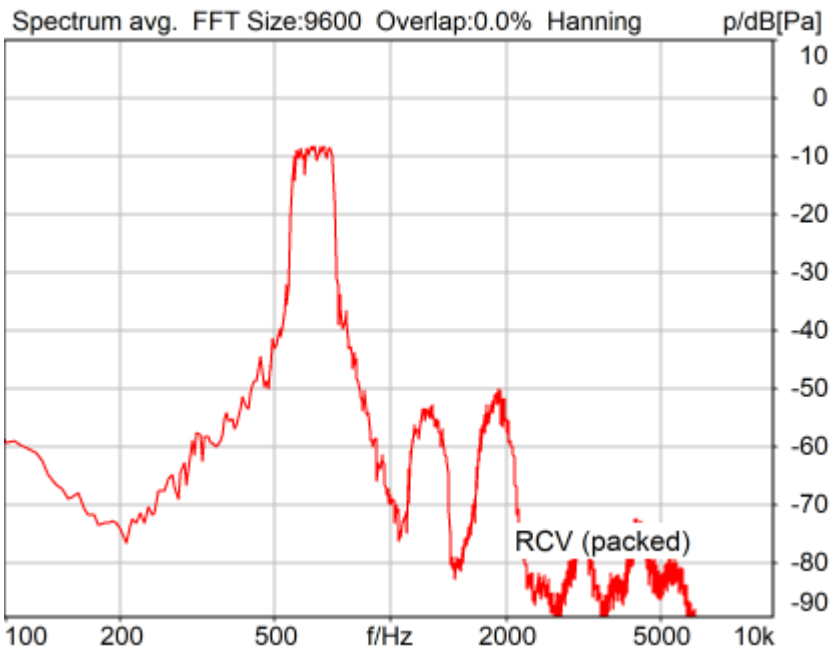
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz WB

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




Distortion (Noise) RCV (packed): 33.06 dB (2.22%) Ok

**Ok**

2025/1/17 13:43 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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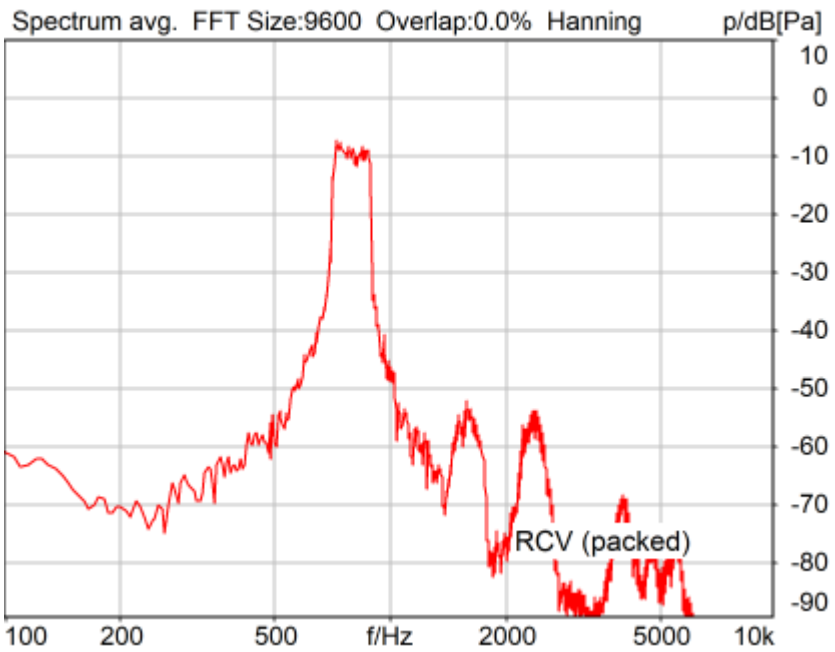
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz WB

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




Distortion (Noise) RCV (packed): 33.28 dB (2.17%) Ok

**Ok**

2025/1/17 13:44 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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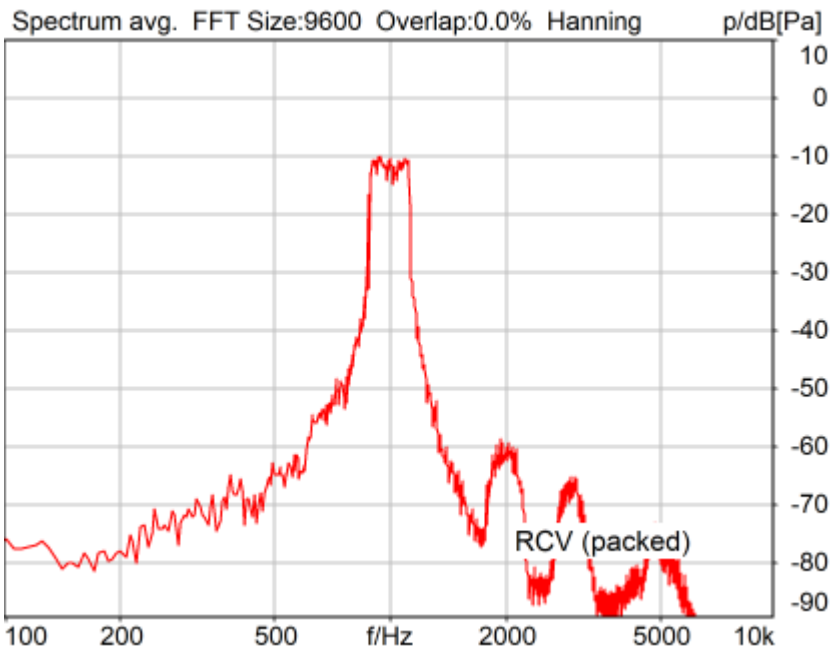
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz WB

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




Distortion (Noise) RCV (packed): 31.69 dB (2.60%) Ok

**Ok**

2025/1/17 13:44 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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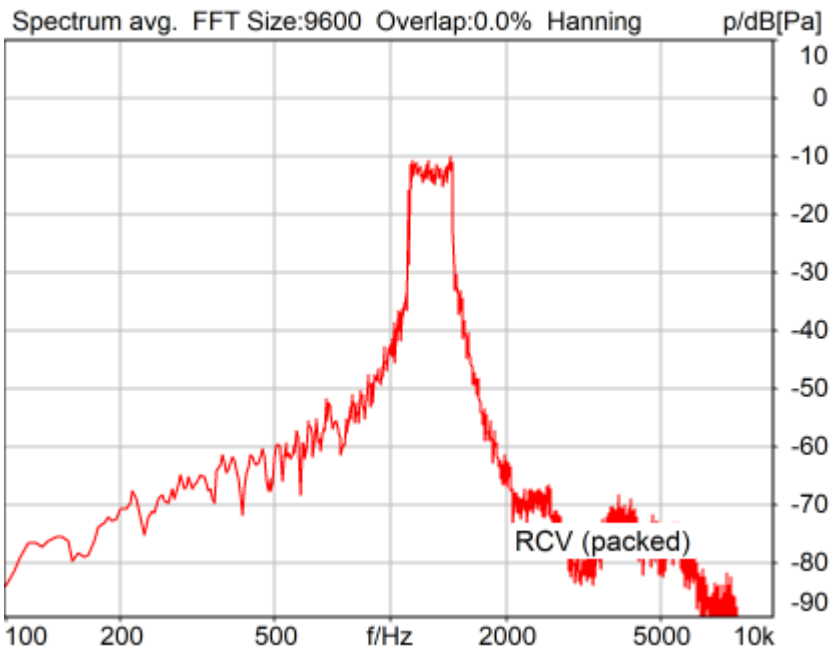
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz WB

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




Distortion (Noise) RCV (packed): 22.89 dB (7.17%) Ok

**Ok**

2025/1/17 13:44 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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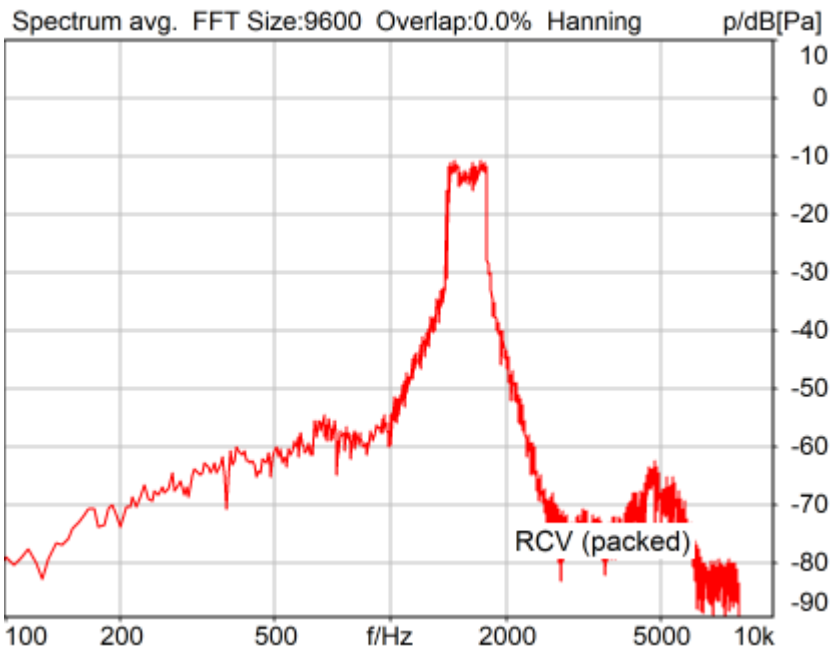
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz WB

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




Distortion (Noise) RCV (packed): 24.42 dB (6.01%) Ok

**Ok**

2025/1/17 13:45 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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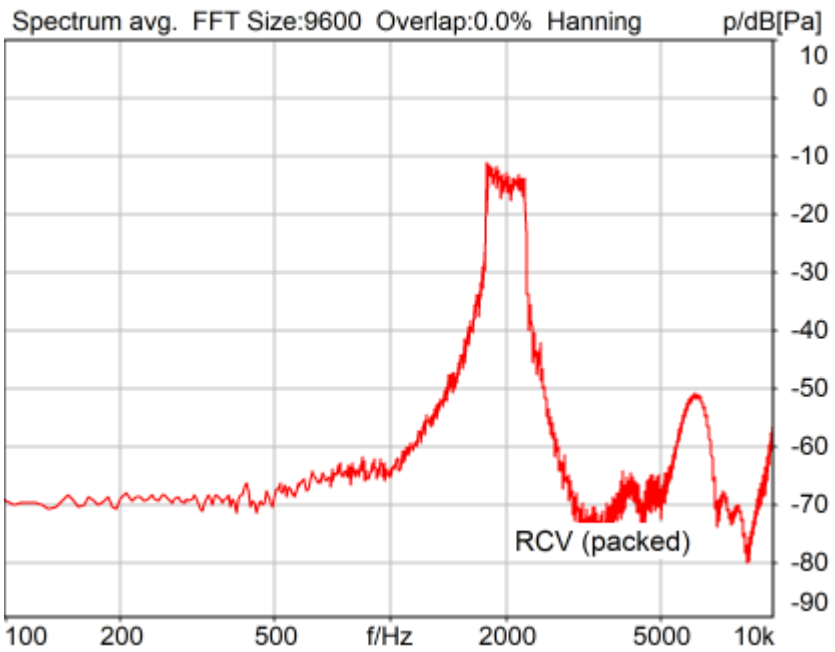
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz WB

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




Distortion (Noise) RCV (packed): 22.54 dB (7.47%) Ok

**Ok**

2025/1/17 13:45 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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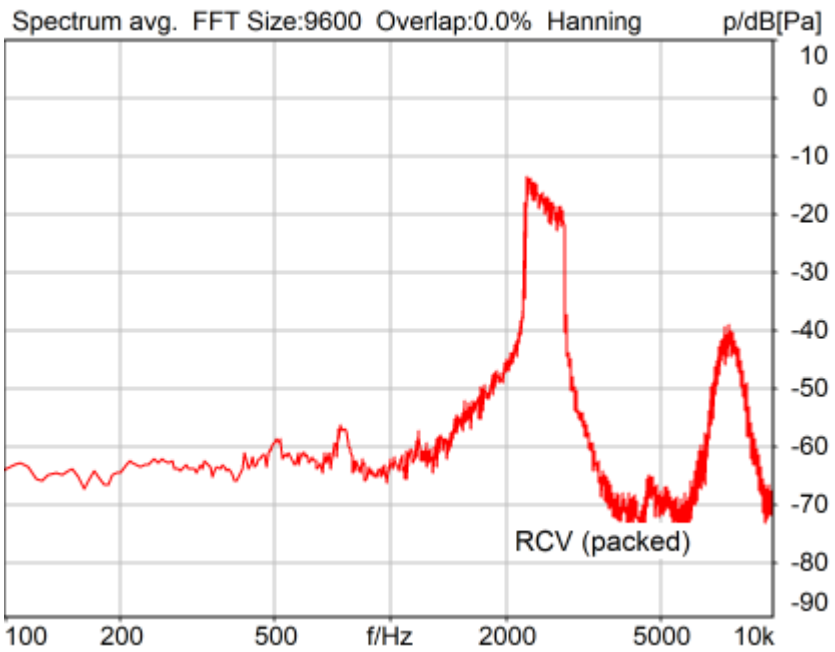
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz WB

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




Distortion (Noise) RCV (packed): 20.96 dB (8.96%) Ok

**Ok**

2025/1/17 13:46 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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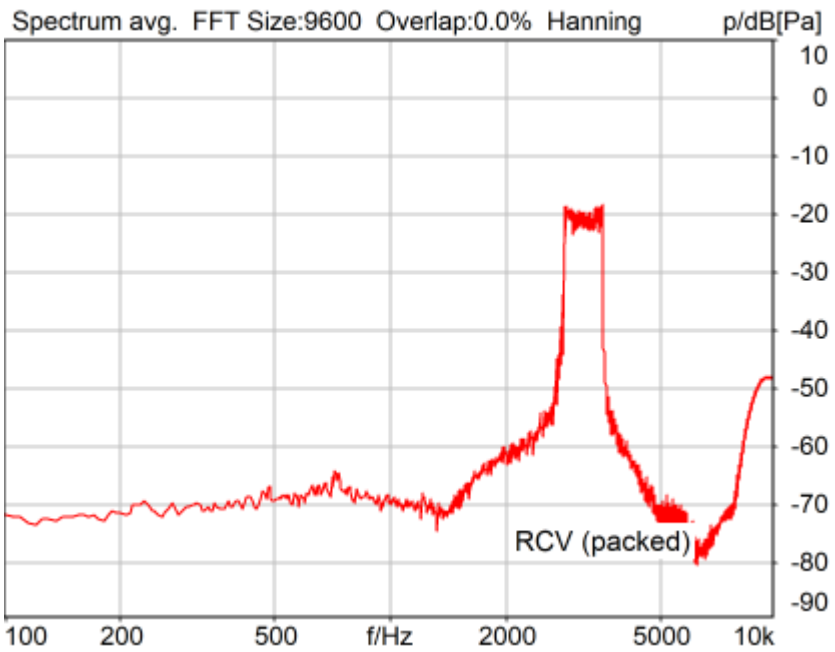
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz WB

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




Distortion (Noise) RCV (packed): 24.42 dB (6.01%) Ok

**Ok**

2025/1/17 13:46 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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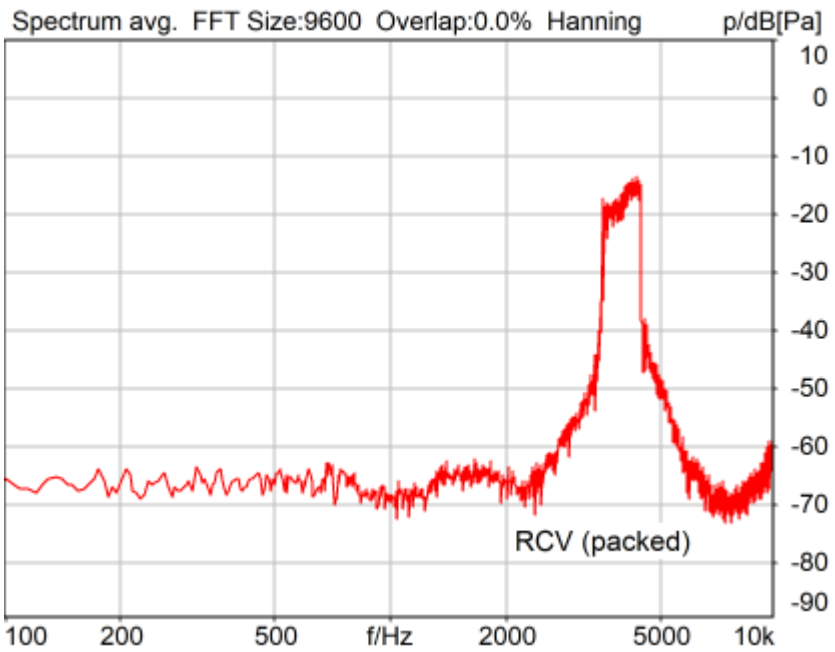
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 4000 Hz WB

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




Distortion (Noise) RCV (packed): 22.15 dB (7.81%) Ok

**Ok**

2025/1/17 13:46 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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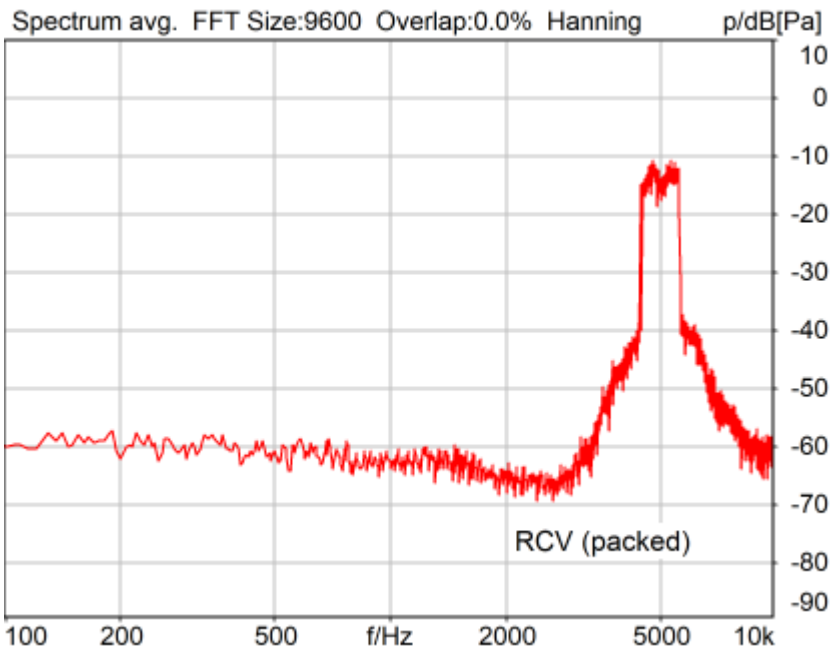
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 5000 Hz WB

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




Distortion (Noise) RCV (packed): 21.77 dB (8.15%) Ok

**Ok**

2025/1/17 13:47 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

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

| Region | Frequency | SDNR |
|---|---|---|
| 1 | 250Hz | 28.07 dB |
| 2 | 315Hz | 31.83 dB |
| 3 | 400Hz | 32.92 dB |
| 4 | 500Hz | 32.17 dB |
| 5 | 630Hz | 33.06 dB |
| 6 | 800Hz | 33.28 dB |
| 7 | 1000Hz | 31.69 dB |
| 8 | 1250Hz | 22.89 dB |
| 9 | 1600Hz | 24.42 dB |
| 10 | 2000Hz | 22.54 dB |

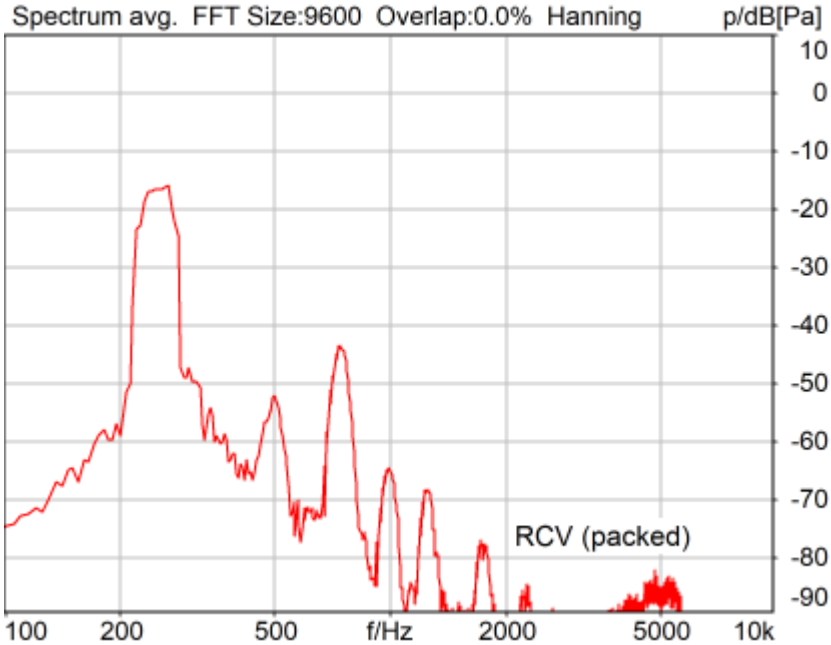
| | | |
|---|---|---|
| 11 | 2500Hz | 20.96 dB |
| 12 | 3150Hz | 24.42 dB |
| 13 | 4000Hz | 22.15 dB |
| 14 | 5000Hz | 21.77 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 20.96dB at 2500Hz.

2025/1/17 13:47 ACQUA

## 5.2 RCV Distortion and Noise - 250 Hz WB

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




Distortion (Noise) RCV (packed): 27.11 dB (4.41%) Ok

**Ok**

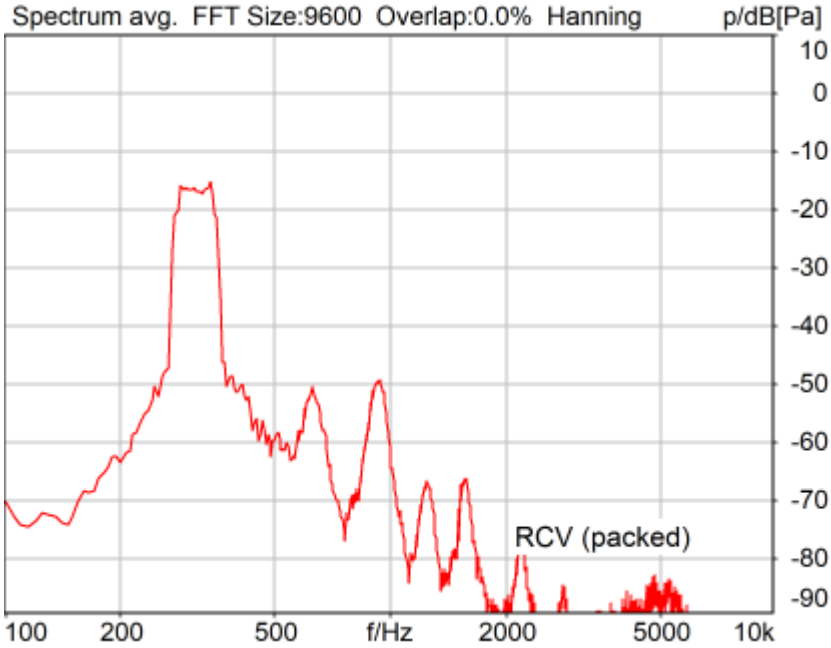
2025/1/17 13:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 315 Hz WB

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




Distortion (Noise) RCV (packed): 31.08 dB (2.79%) Ok

**Ok**

2025/1/17 13:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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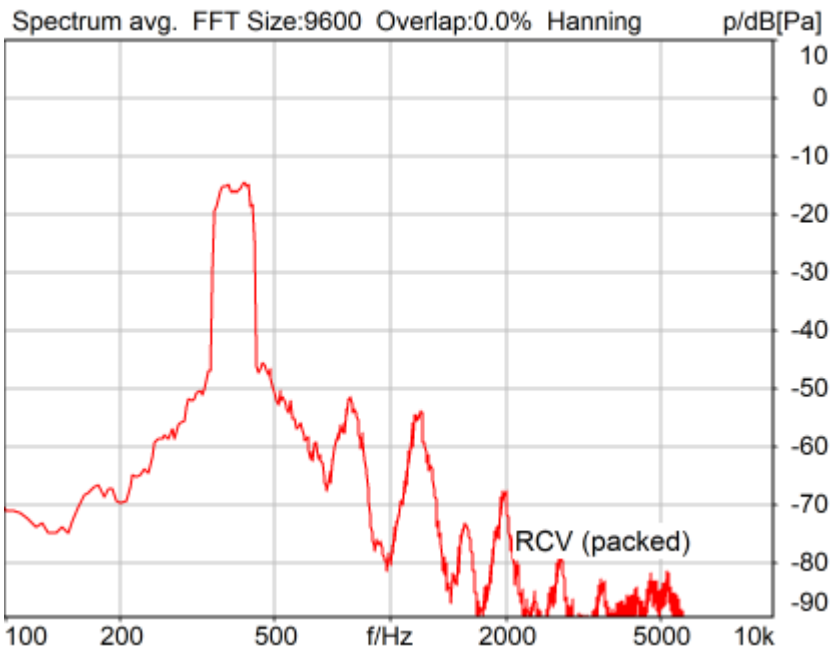
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 400 Hz WB

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




Distortion (Noise) RCV (packed): 33.20 dB (2.19%) Ok

**Ok**

2025/1/17 13:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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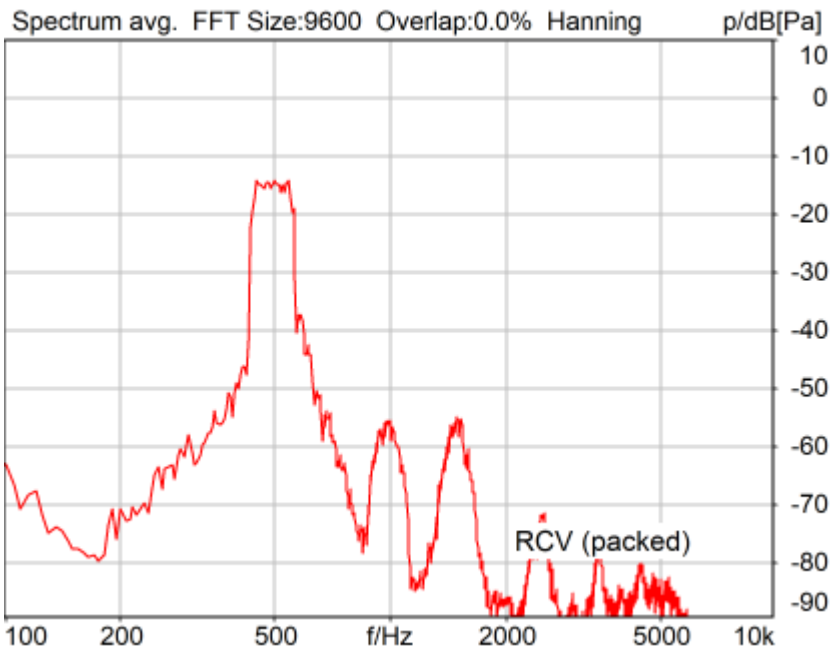
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz WB

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




Distortion (Noise) RCV (packed): 33.00 dB (2.24%) Ok

**Ok**

2025/1/17 13:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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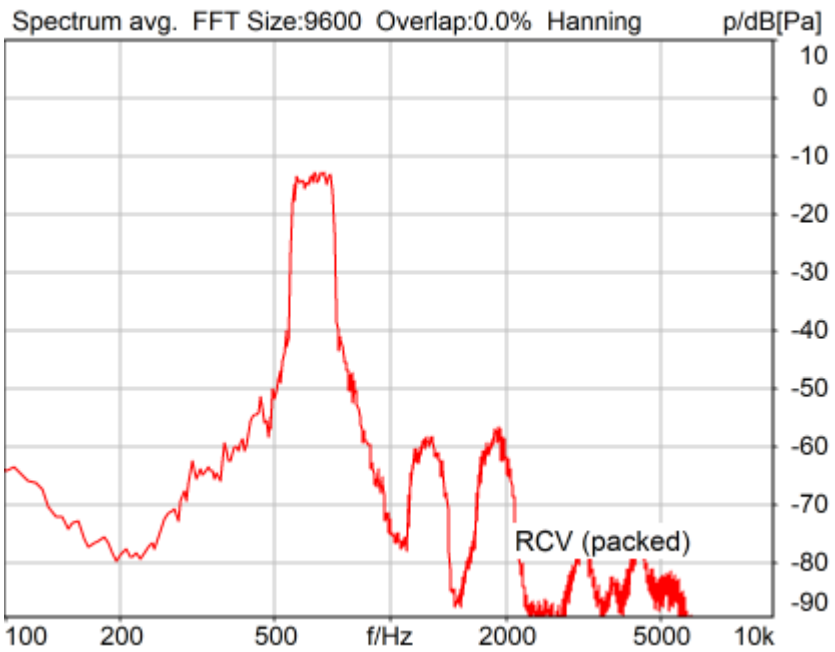
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz WB

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




Distortion (Noise) RCV (packed): 34.46 dB (1.89%) Ok

**Ok**

2025/1/17 13:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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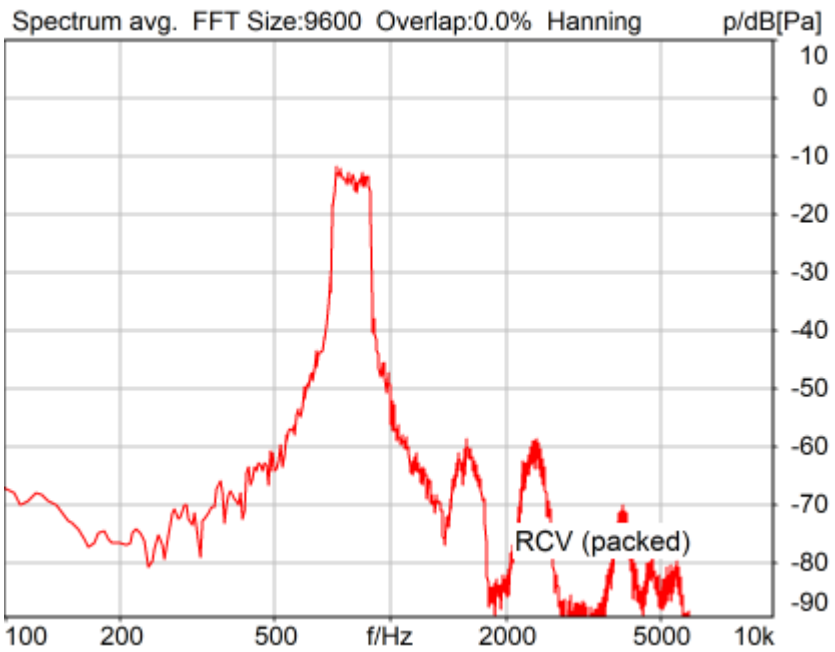
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz WB

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




Distortion (Noise) RCV (packed): 33.35 dB (2.15%) Ok

**Ok**

2025/1/17 13:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

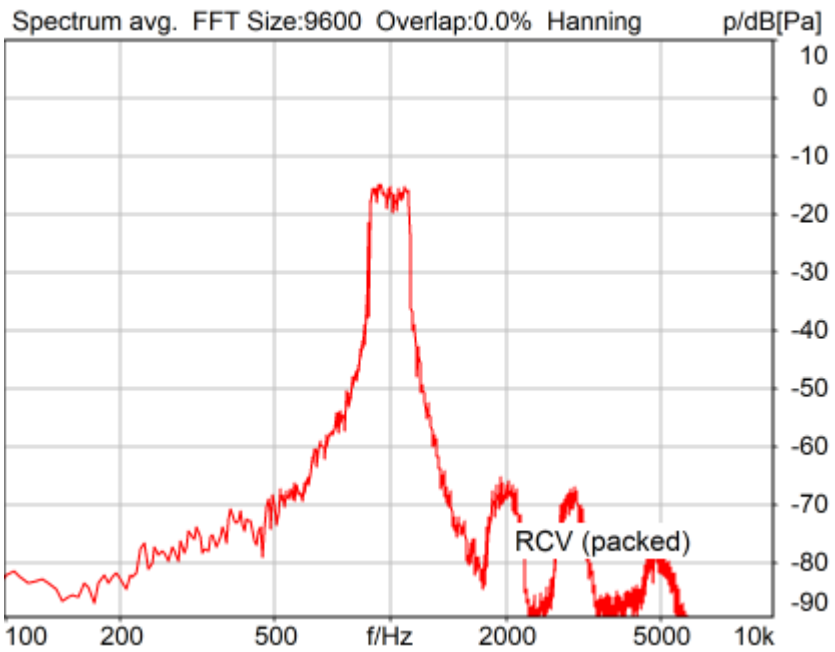
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz WB

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




Distortion (Noise) RCV (packed): 31.46 dB (2.67%) Ok

**Ok**

2025/1/17 13:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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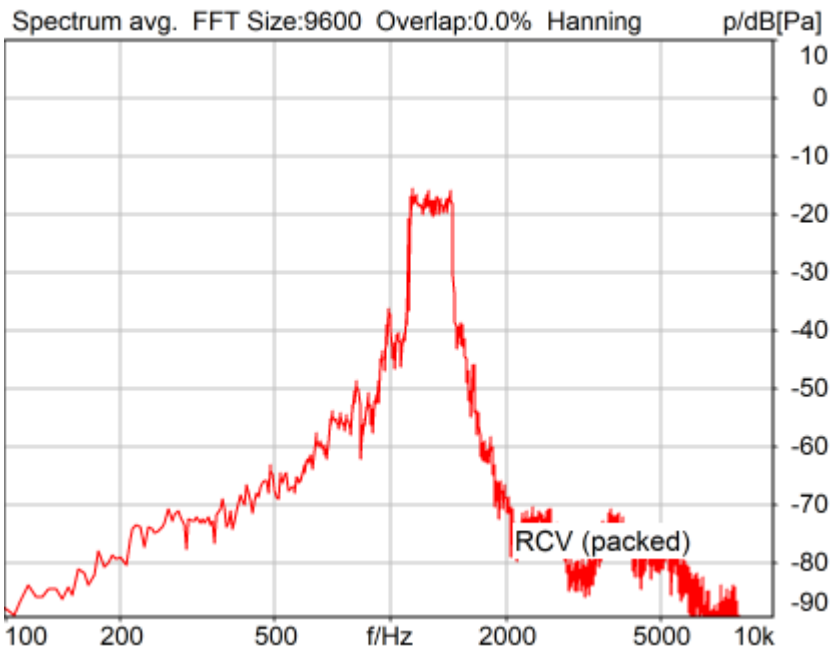
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz WB

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




Distortion (Noise) RCV (packed): 22.30 dB (7.68%) Ok

**Ok**

2025/1/17 13:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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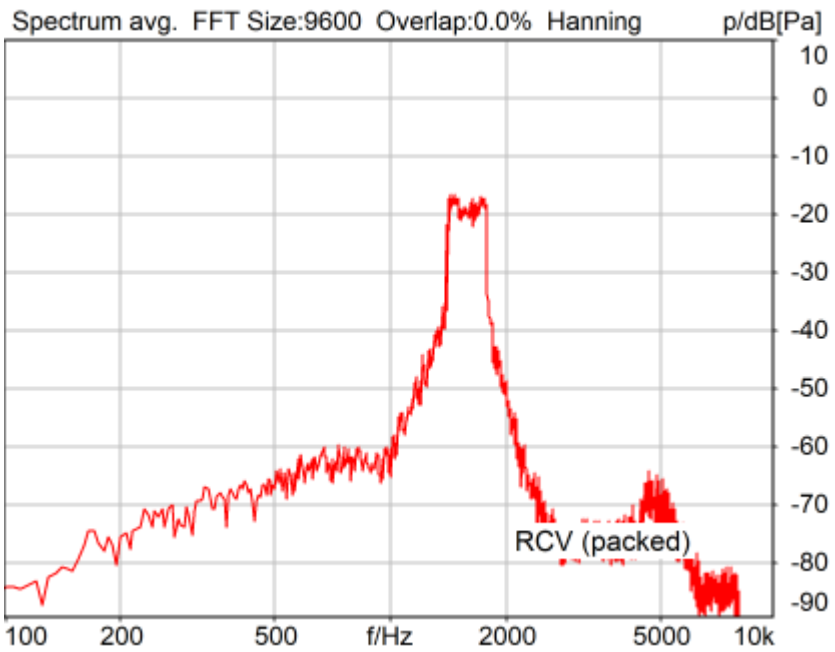
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz WB

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




Distortion (Noise) RCV (packed): 23.90 dB (6.38%) Ok

**Ok**

2025/1/17 13:34 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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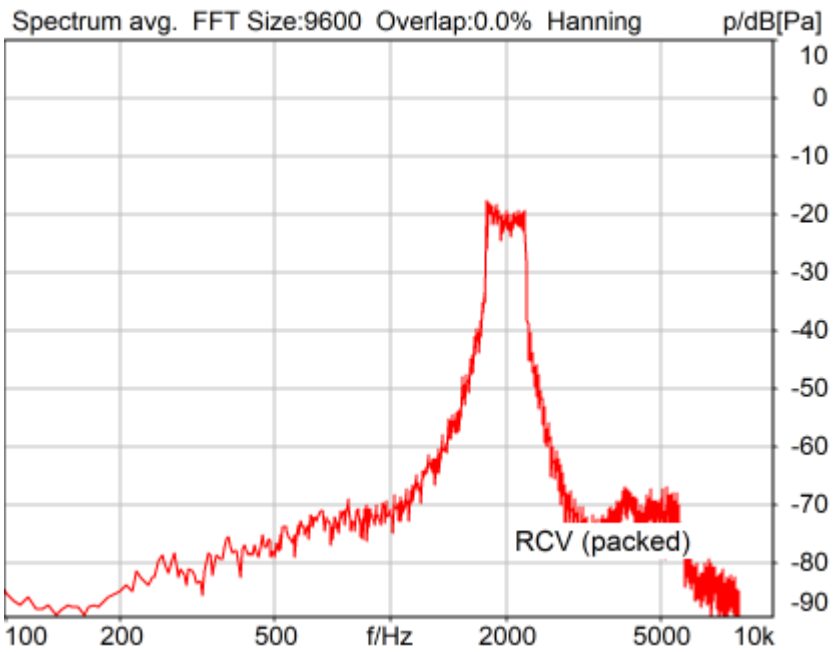
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz WB

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




Distortion (Noise) RCV (packed): 22.49 dB (7.51%) Ok

**Ok**

2025/1/17 13:35 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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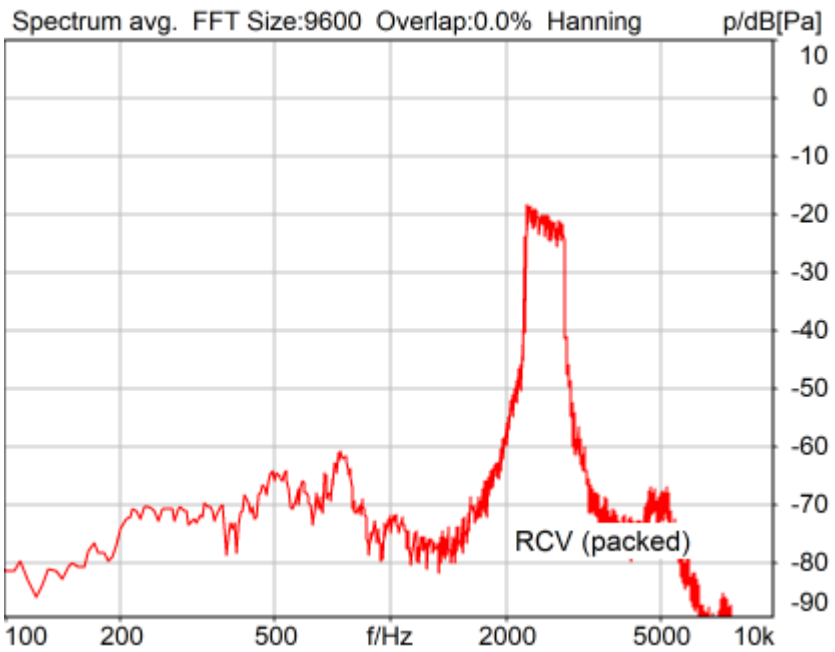
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz WB

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




Distortion (Noise) RCV (packed): 28.93 dB (3.58%) Ok

**Ok**

2025/1/17 13:35 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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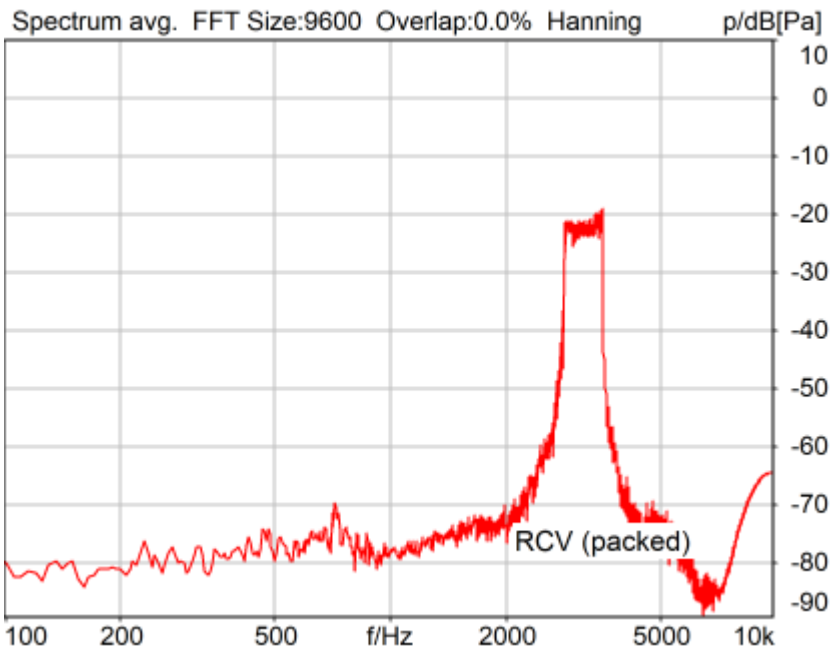
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz WB

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




Distortion (Noise) RCV (packed): 30.34 dB (3.04%) Ok

**Ok**

2025/1/17 13:36 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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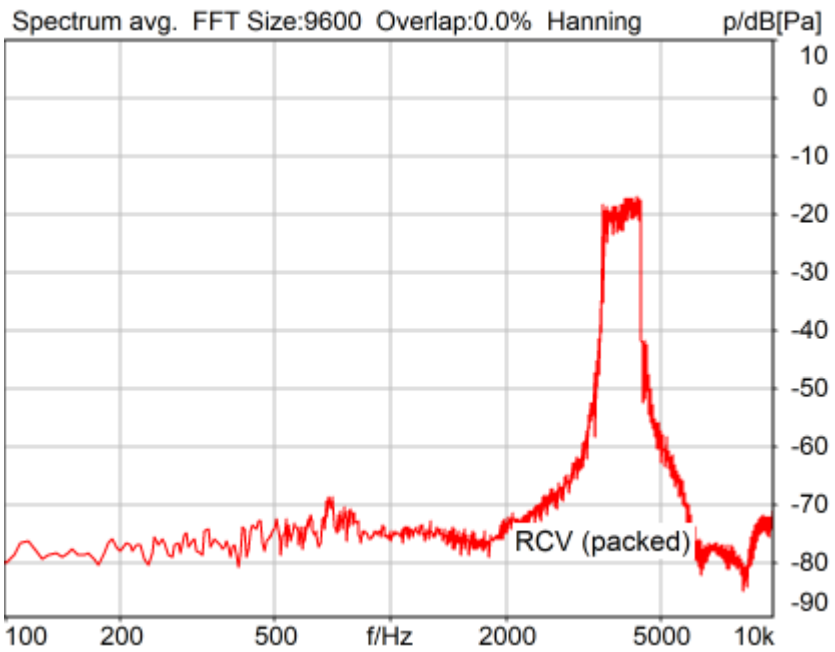
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 4000 Hz WB

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




Distortion (Noise) RCV (packed): 27.30 dB (4.32%) Ok

**Ok**

2025/1/17 13:36 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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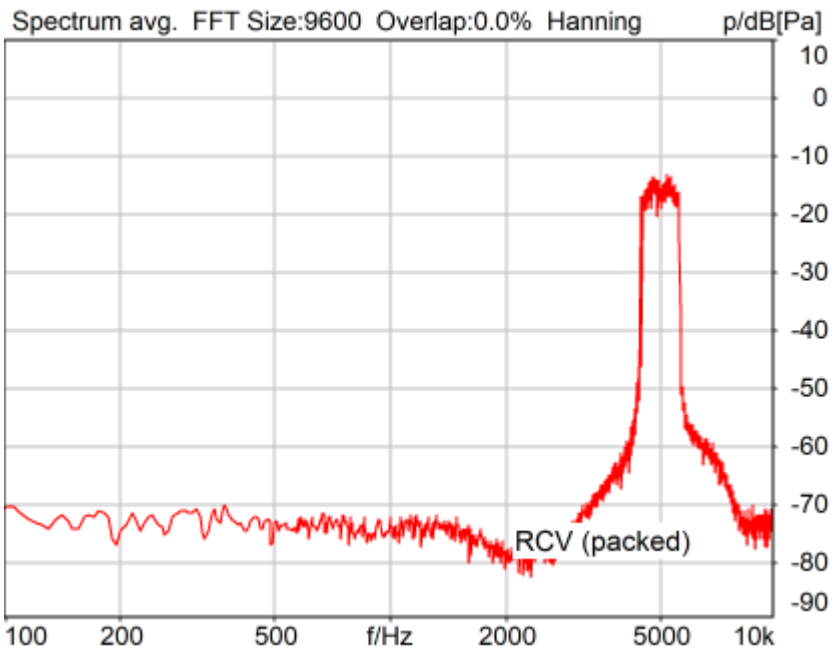
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 5000 Hz WB

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




Distortion (Noise) RCV (packed): 34.88 dB (1.80%) Ok

**Ok**

2025/1/17 13:36 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

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

| Region | Frequency | SDNR |
|---|---|---|
| 1 | 250Hz | 27.11 dB |
| 2 | 315Hz | 31.08 dB |
| 3 | 400Hz | 33.20 dB |
| 4 | 500Hz | 33.00 dB |
| 5 | 630Hz | 34.46 dB |
| 6 | 800Hz | 33.35 dB |
| 7 | 1000Hz | 31.46 dB |
| 8 | 1250Hz | 22.30 dB |
| 9 | 1600Hz | 23.90 dB |
| 10 | 2000Hz | 22.49 dB |

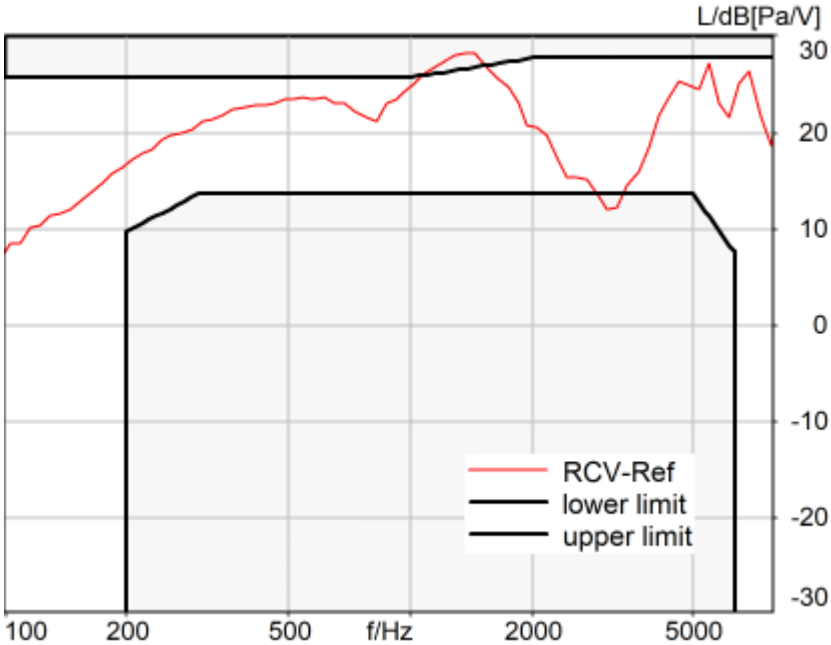
| | | |
|---|---|---|
| 11 | 2500Hz | 28.93 dB |
| 12 | 3150Hz | 30.34 dB |
| 13 | 4000Hz | 27.30 dB |
| 14 | 5000Hz | 34.88 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 22.30dB at 1250Hz.

2025/1/17 13:36 ACQUA

## 5.3 Frequency Response 8N FF

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




Absolute minimal distance
-1.68 dB at 3058.6 Hz Not Ok

**Not Ok**

2025/1/17 13:40 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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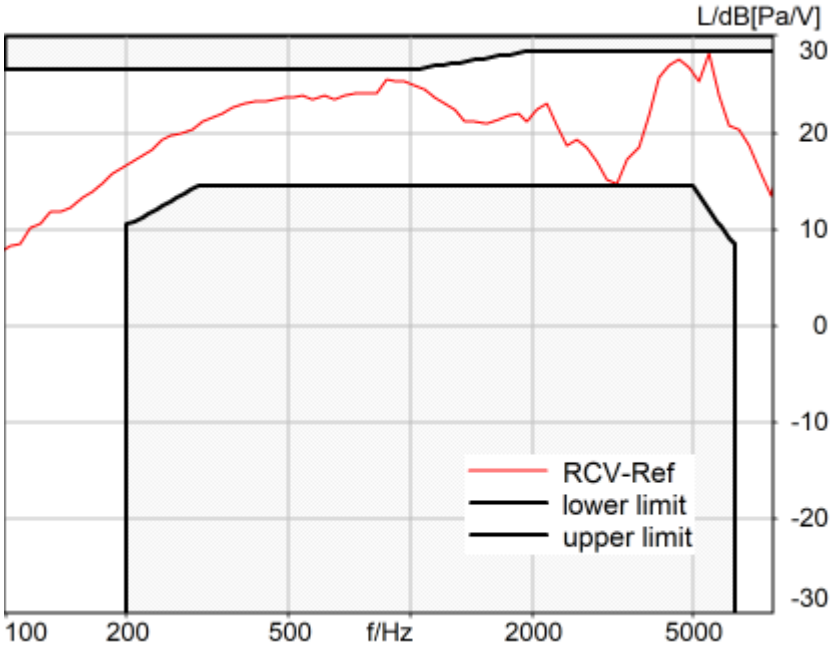
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF

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




Absolute minimal distance
0.20 dB at 5443.6 Hz Ok

**Ok**

2025/1/17 13:39 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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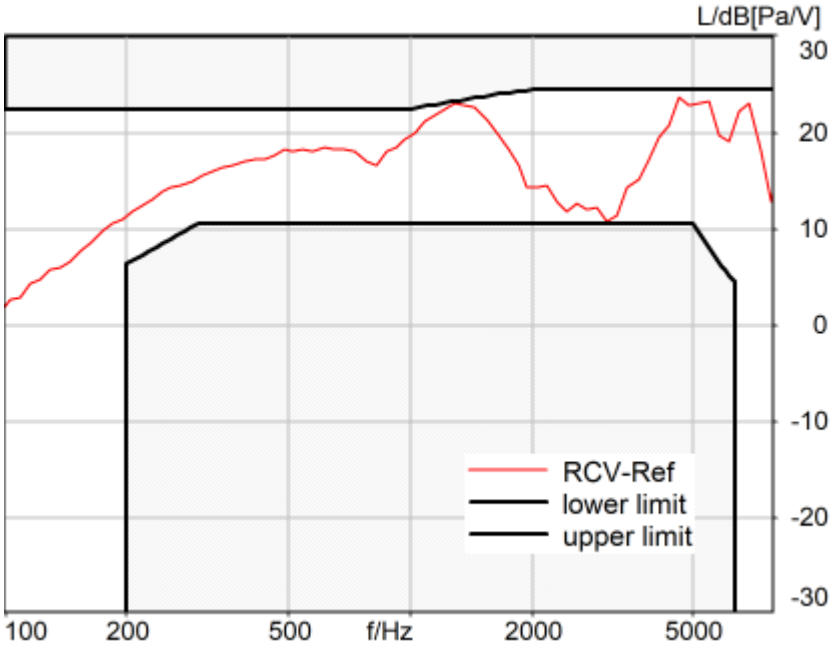
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF

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




Absolute minimal distance
0.28 dB at 1285.9 Hz Ok

**Ok**

2025/1/17 13:38 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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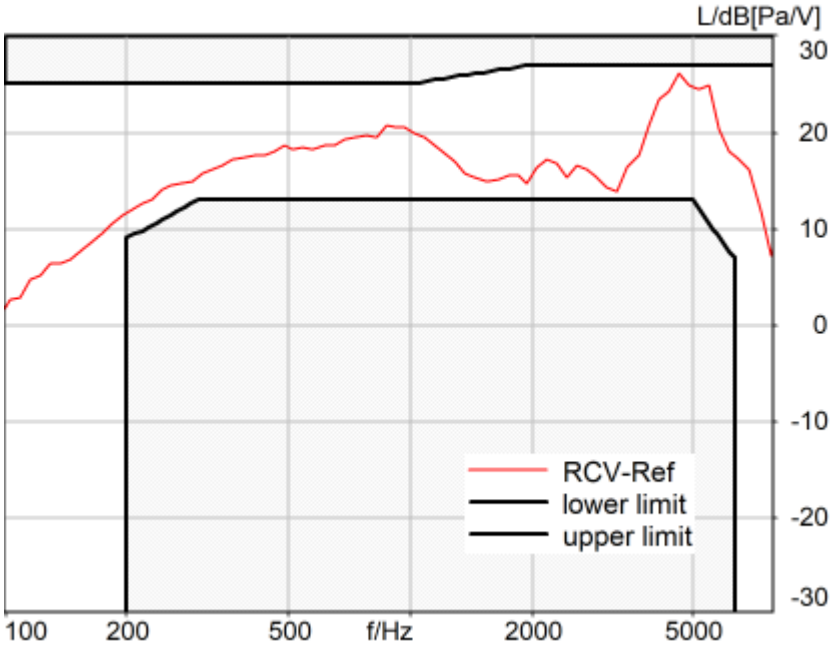
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF

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




Absolute minimal distance
0.87 dB at 4620.1 Hz Ok

**Ok**

2025/1/17 13:38 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:07 |
| Responsible Person | audio |

## Status Overview

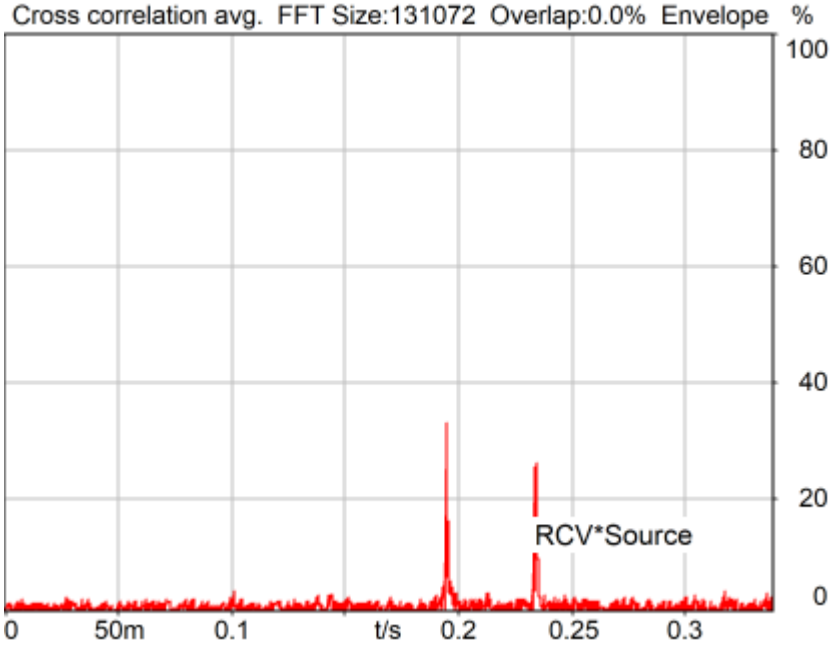
| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay NB | Done | Delay (Cross) [ms] | 194.8 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.1a Receive Volume Control Performance 8N NB | Ok | Corrected Speech Level [dB[SPL]] | 22.40 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.1b Receive Volume Control Performance 2N NB | Ok | Corrected Speech Level [dB[SPL]] | 17.27 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.81 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.74 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 630 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.54 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.41 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.35 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.26 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.15 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.83 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.14 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.54 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2500Hz) | 21.14 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.26 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.85 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - | Ok | Distortion (Noise) [dB], | 34.07 | WIFI 5G_802.11a |

| | | | | |
|---|---|---|---|---|
| 630 Hz NB | | 0.0 dB | | 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.24 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.23 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.40 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.84 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.88 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.34 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.36 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2000Hz) | 21.88 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.3 Frequency Response 8N FF HANB | Not Ok | Min. dist. to tolerance scheme [dB], 1360.9 Hz | -2.16 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.3 Frequency Response 8N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 873.9 Hz | 0.59 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.3 Frequency Response 2N FF HANB | Ok | Min. dist. to tolerance scheme [dB], 1285.9 Hz | 0.22 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |
| 5.3 Frequency Response 2N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 3882.4 Hz | 2.38 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH40 |

Overall Receive Delay NB 5
5.1a Receive Volume Control Performance 8N NB 5
5.1b Receive Volume Control Performance 2N NB 6
5.2 RCV Distortion and Noise - 400 Hz NB 7
5.2 RCV Distortion and Noise - 500 Hz NB 8
5.2 RCV Distortion and Noise - 630 Hz NB 9
5.2 RCV Distortion and Noise - 800 Hz NB 10
5.2 RCV Distortion and Noise - 1000 Hz NB 11
5.2 RCV Distortion and Noise - 1250 Hz NB 12
5.2 RCV Distortion and Noise - 1600 Hz NB 13
5.2 RCV Distortion and Noise - 2000 Hz NB 14
5.2 RCV Distortion and Noise - 2500 Hz NB 15
5.2 RCV Distortion and Noise - 3150 Hz NB 16
Report - Receive Distortion and Noise (Conversational Gain) 17
5.2 RCV Distortion and Noise - 400 Hz NB 18
5.2 RCV Distortion and Noise - 500 Hz NB 18
5.2 RCV Distortion and Noise - 630 Hz NB 19
5.2 RCV Distortion and Noise - 800 Hz NB 20
5.2 RCV Distortion and Noise - 1000 Hz NB 21
5.2 RCV Distortion and Noise - 1250 Hz NB 22
5.2 RCV Distortion and Noise - 1600 Hz NB 23
5.2 RCV Distortion and Noise - 2000 Hz NB 24
5.2 RCV Distortion and Noise - 2500 Hz NB 25
5.2 RCV Distortion and Noise - 3150 Hz NB 26
Report - Receive Distortion and Noise (Conversational Gain) 27
5.3 Frequency Response 8N FF HANB 28
5.3 Frequency Response 8N DF HANB 29
5.3 Frequency Response 2N FF HANB 29
5.3 Frequency Response 2N DF HANB 30

## Overall Receive Delay NB

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

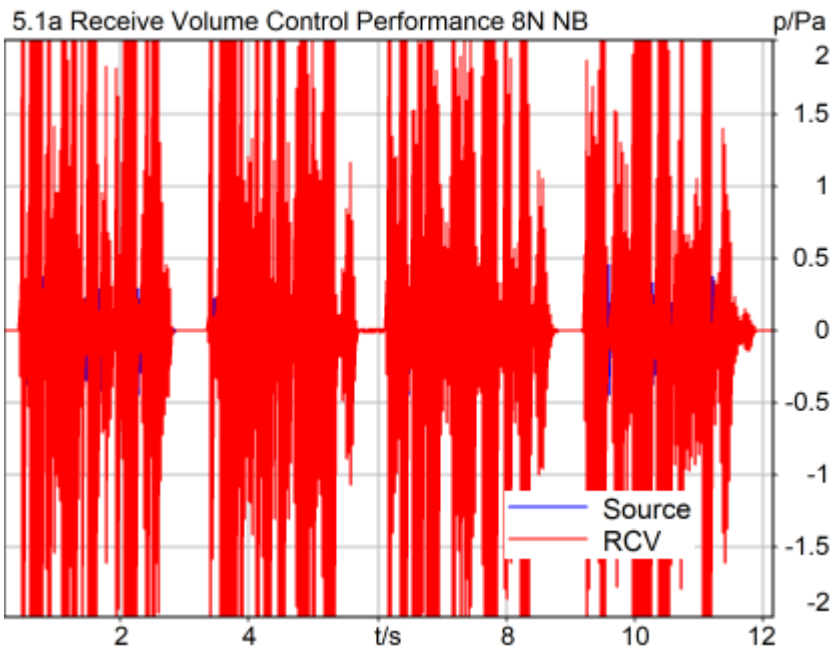



| Channel | Delay |
|---|---|
| **RCV*Source** | 194.8 ms |

2025/1/17 14:18 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.40 dB[SPL] | 84.34% | 22.40 dB[SPL] | Ok |

**Ok**

2025/1/17 14:28 ACQUA 6.0.200

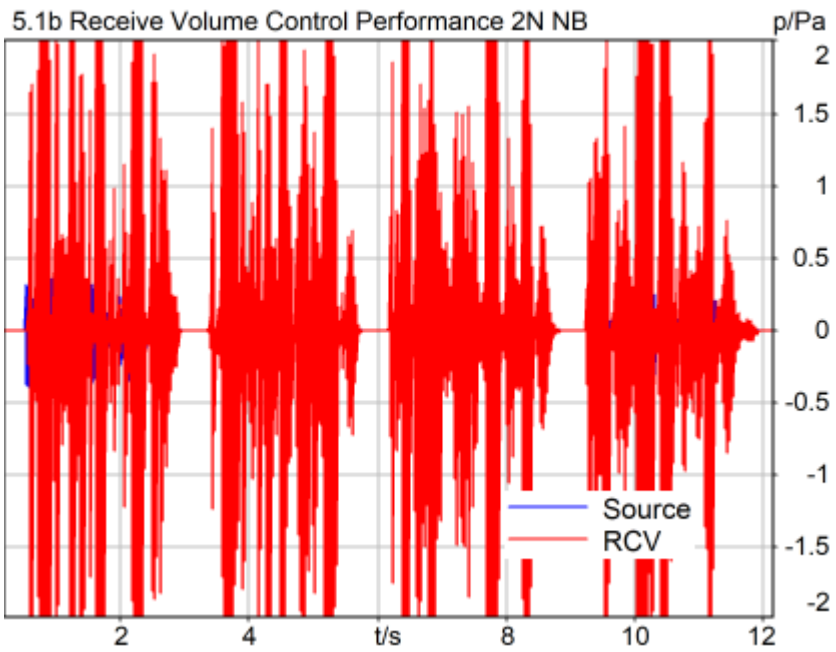
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.27 dB[SPL] | 84.34% | 17.27 dB[SPL] | Ok |

**Ok**

2025/1/17 14:18 ACQUA 6.0.200

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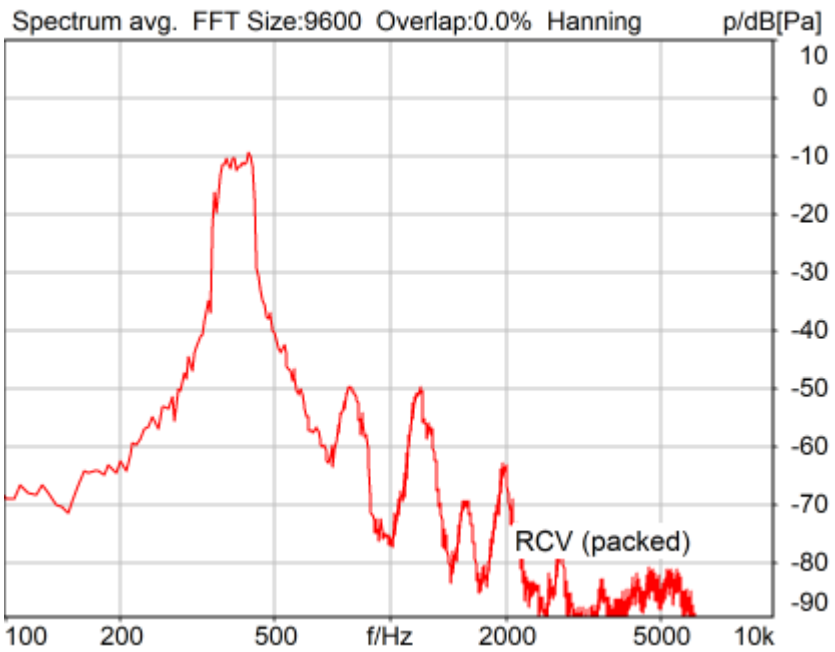
**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 31.81 dB (2.57%) Ok

**Ok**

2025/1/17 14:28 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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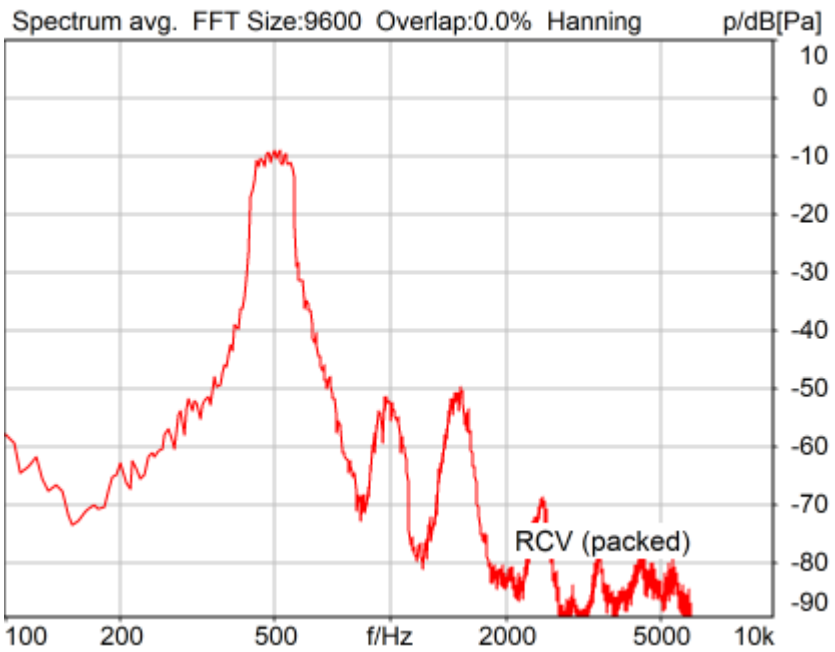
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 30.74 dB (2.90%) Ok

**Ok**

2025/1/17 14:28 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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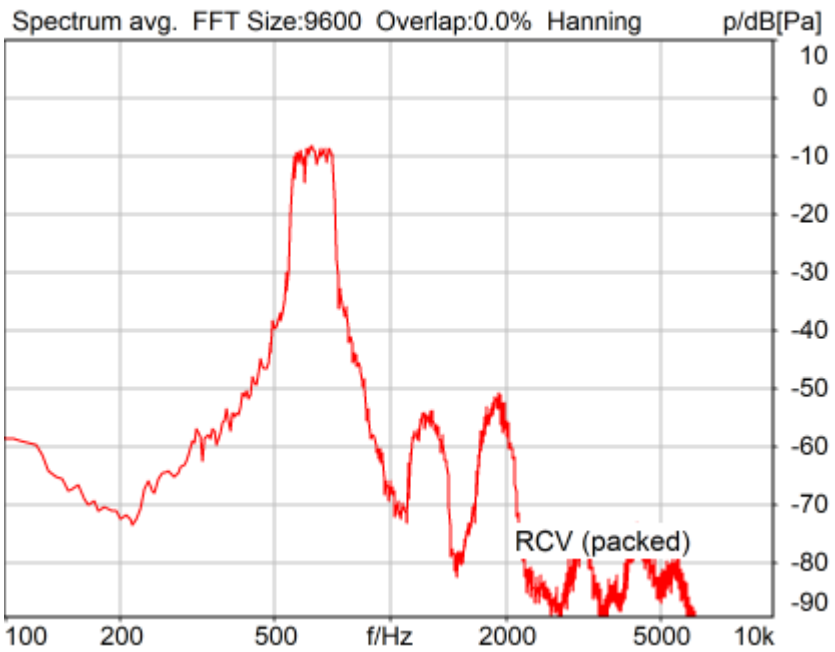
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




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

**Ok**

2025/1/17 14:29 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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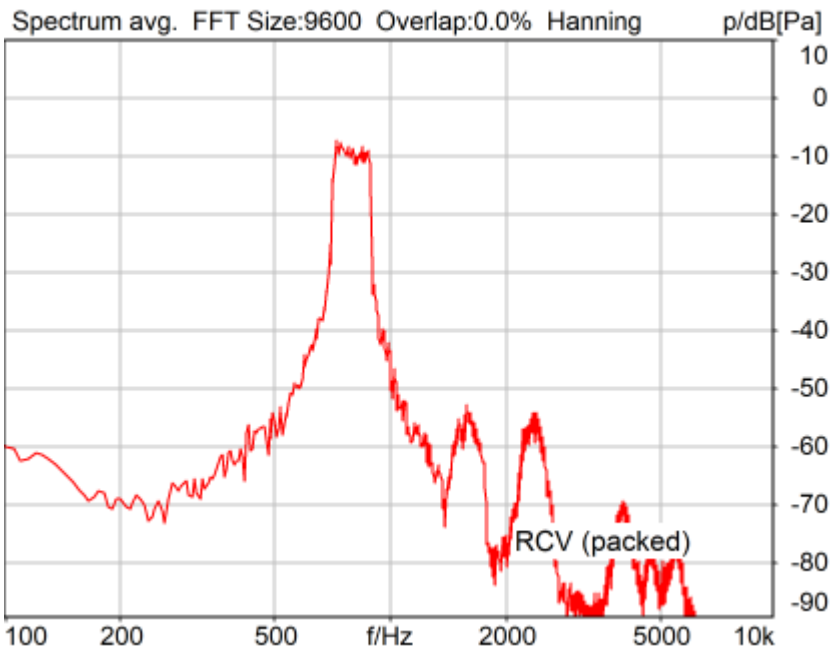
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 32.41 dB (2.40%) Ok

**Ok**

2025/1/17 14:29 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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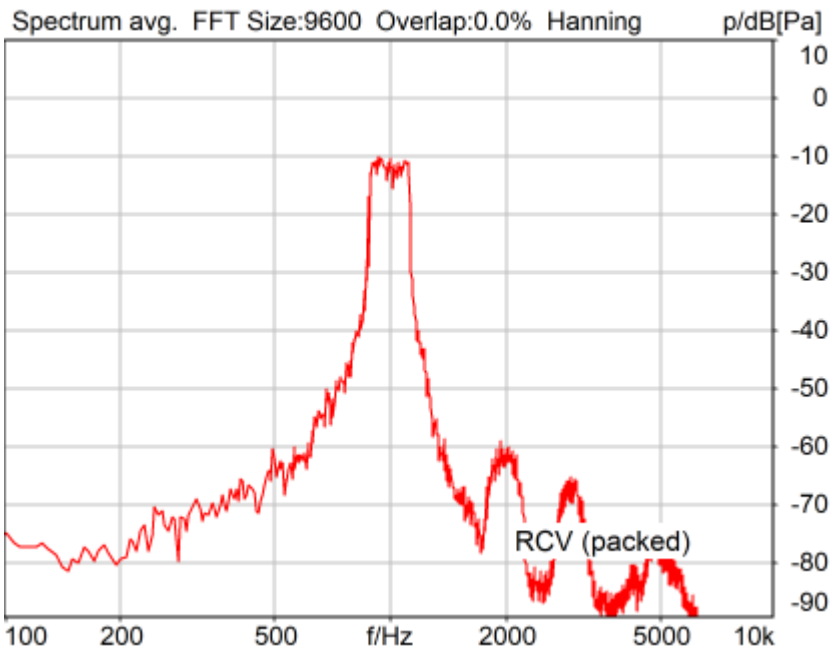
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 31.35 dB (2.71%) Ok

**Ok**

2025/1/17 14:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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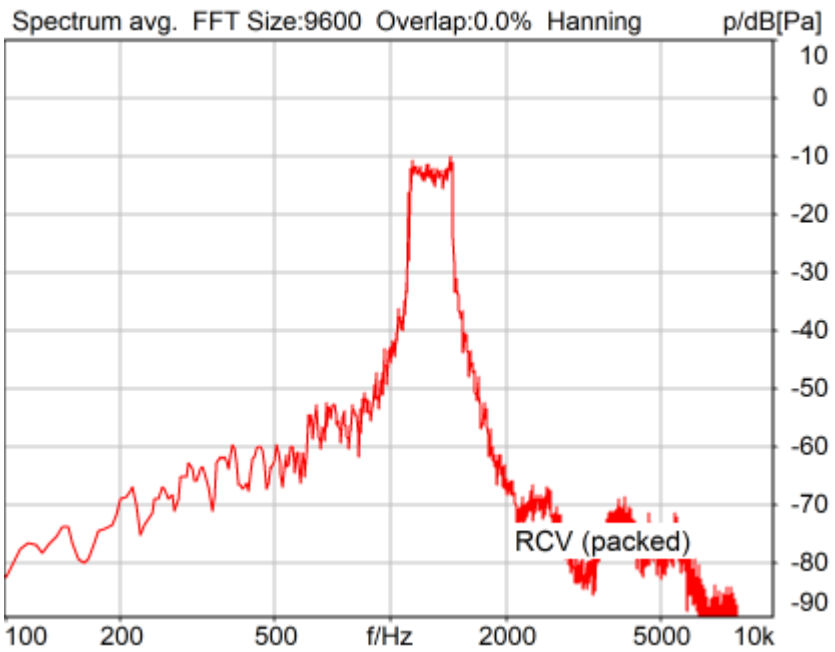
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 23.26 dB (6.87%) Ok

**Ok**

2025/1/17 14:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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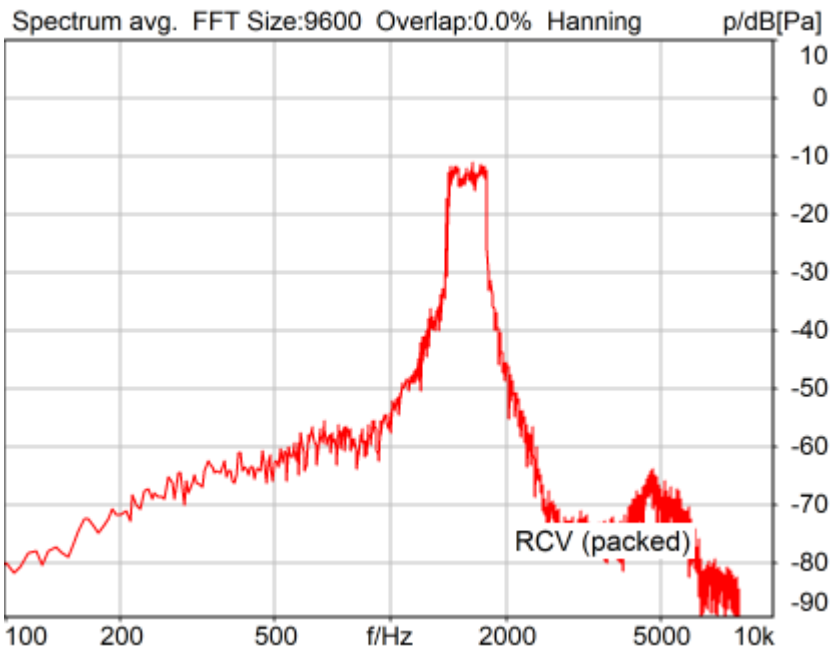
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.15 dB (6.20%) Ok

**Ok**

2025/1/17 14:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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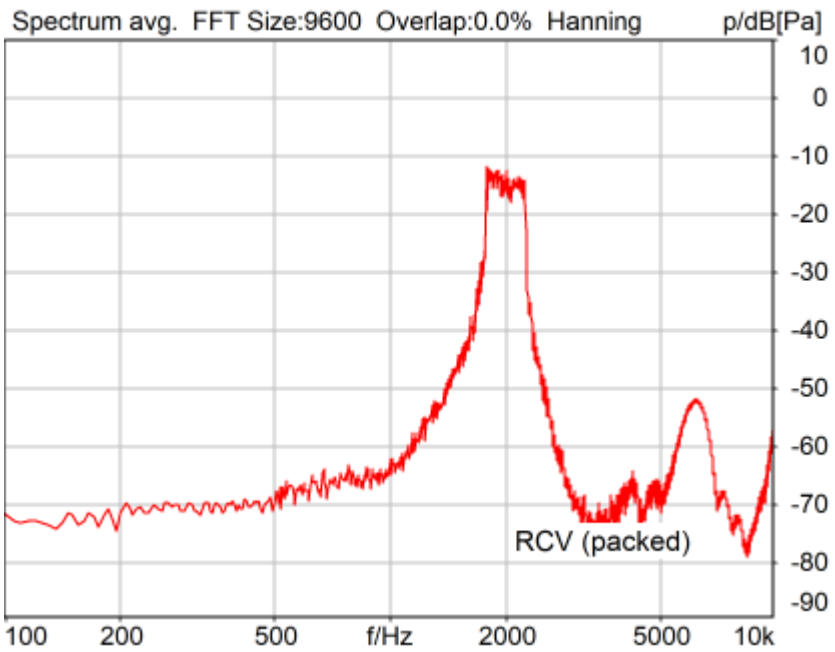
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 21.83 dB (8.10%) Ok

**Ok**

2025/1/17 14:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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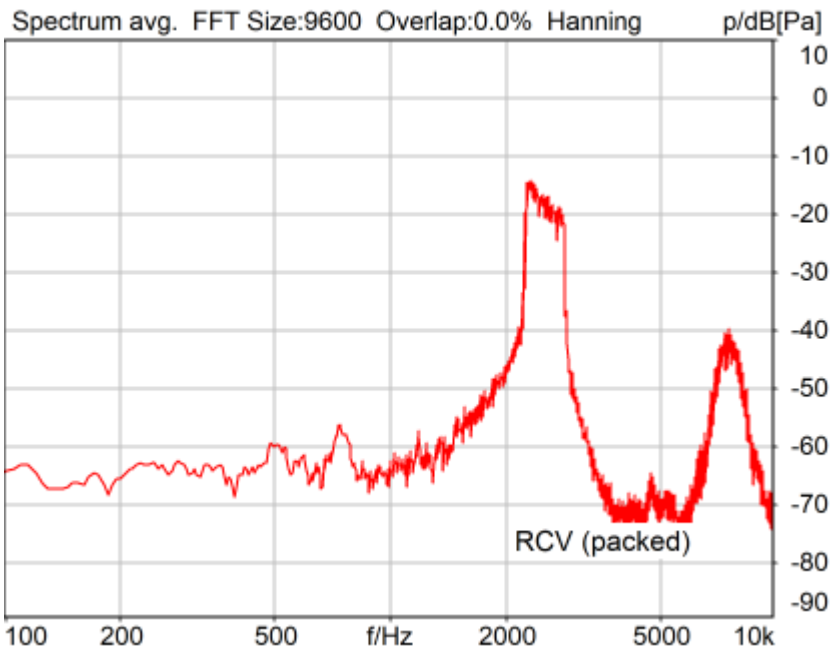
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 21.14 dB (8.77%) Ok

**Ok**

2025/1/17 14:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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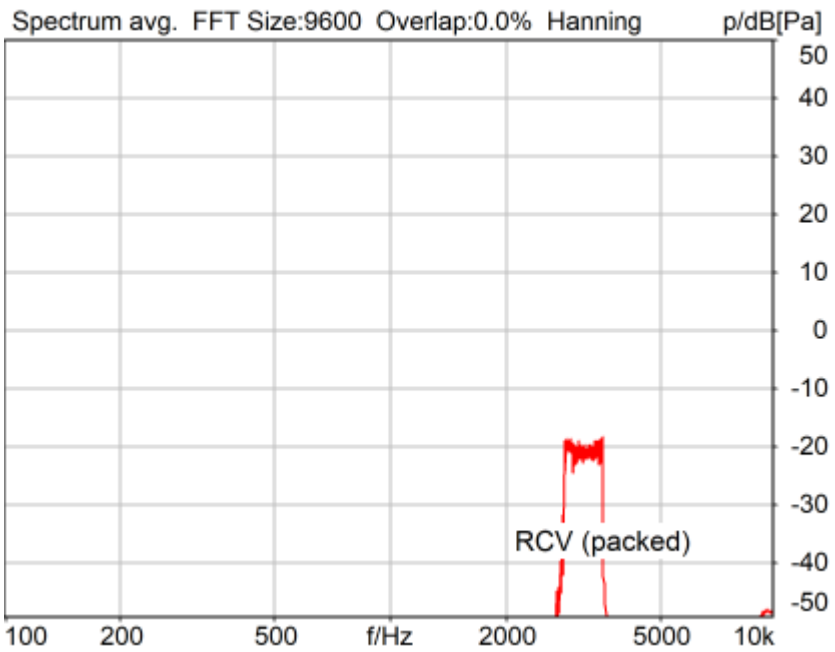
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.54 dB (5.93%) Ok

**Ok**

2025/1/17 14:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

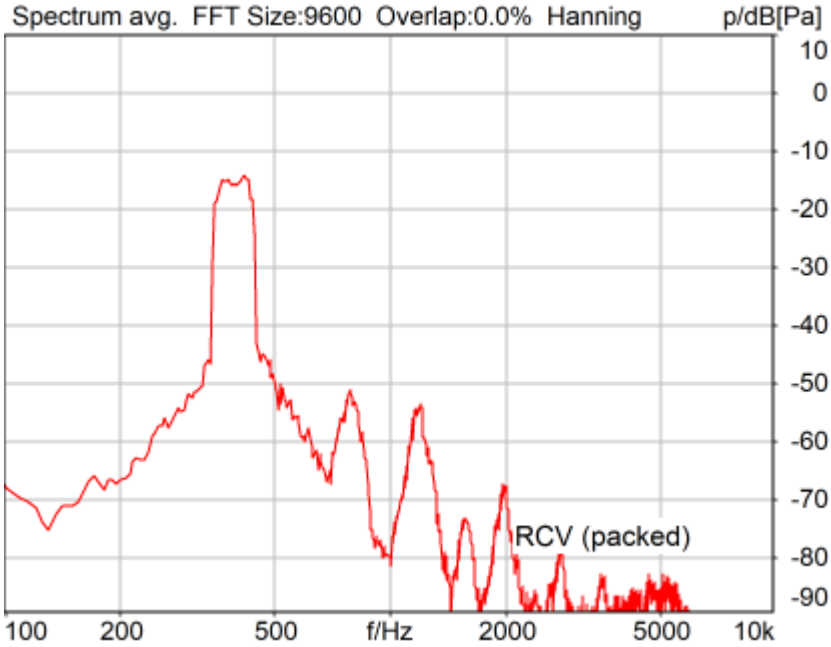
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 31.81 dB |
| 2 | 500Hz | 30.74 dB |
| 3 | 630Hz | 31.54 dB |
| 4 | 800Hz | 32.41 dB |
| 5 | 1000Hz | 31.35 dB |
| 6 | 1250Hz | 23.26 dB |
| 7 | 1600Hz | 24.15 dB |
| 8 | 2000Hz | 21.83 dB |
| 9 | 2500Hz | 21.14 dB |
| 10 | 3150Hz | 24.54 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 21.14dB at 2500Hz.

2025/1/17 14:32 ACQUA

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 33.26 dB (2.17%) Ok

**Ok**

2025/1/17 14:19 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

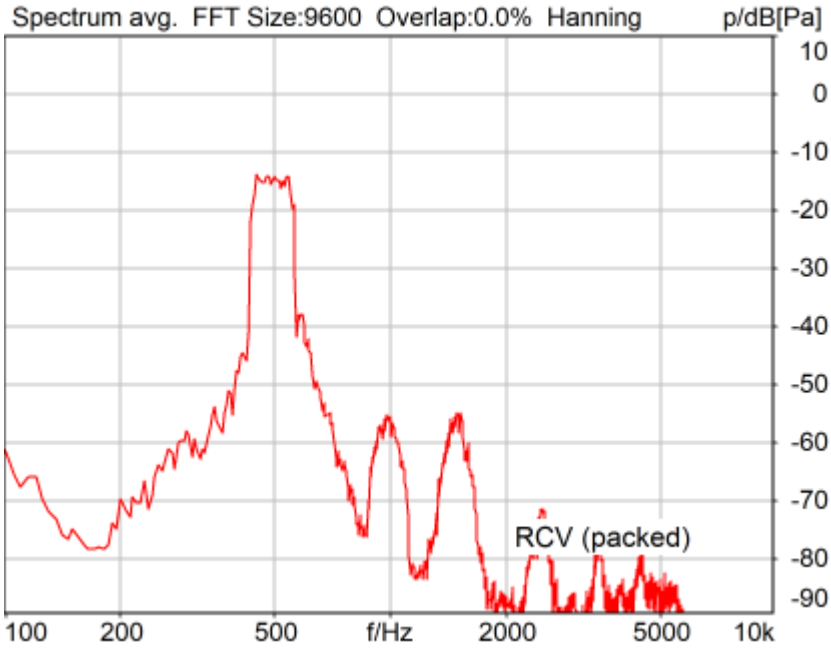
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 32.85 dB (2.28%) Ok

**Ok**

2025/1/17 14:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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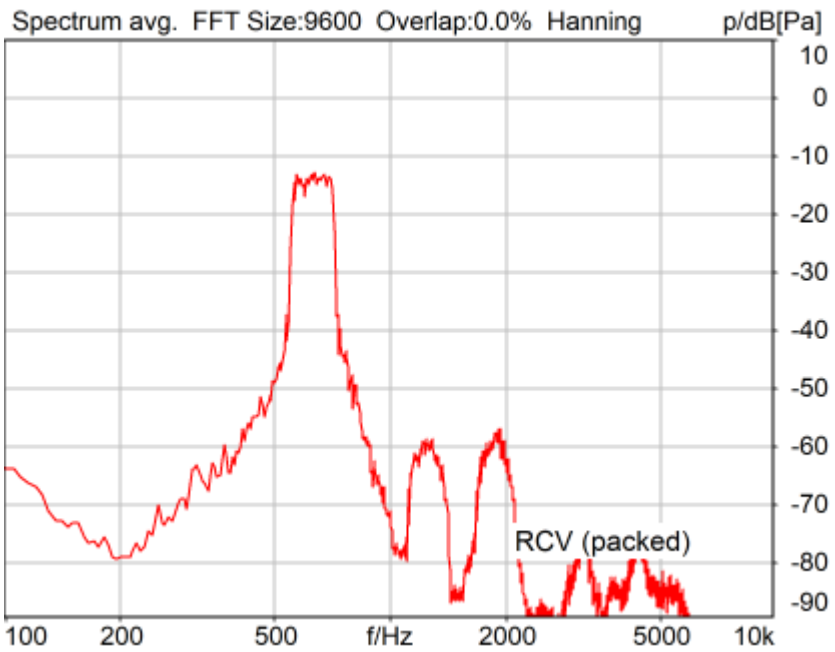
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 34.07 dB (1.98%) Ok

**Ok**

2025/1/17 14:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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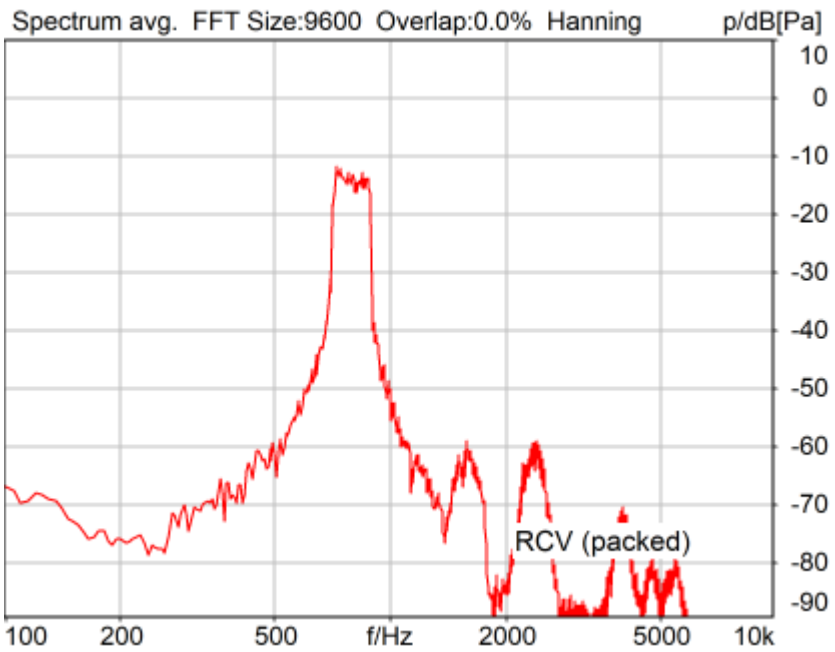
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 33.24 dB (2.18%) Ok

**Ok**

2025/1/17 14:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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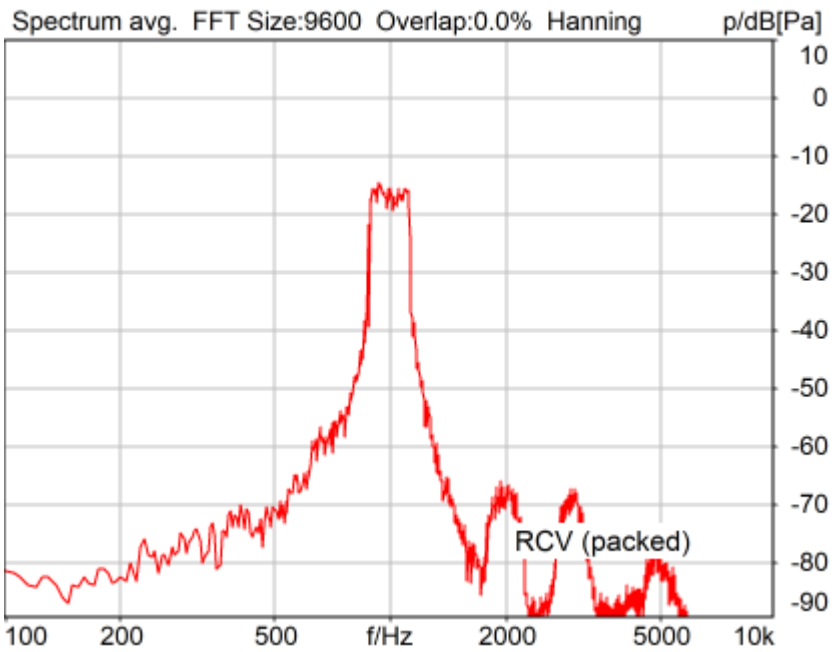
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 32.23 dB (2.45%) Ok

**Ok**

2025/1/17 14:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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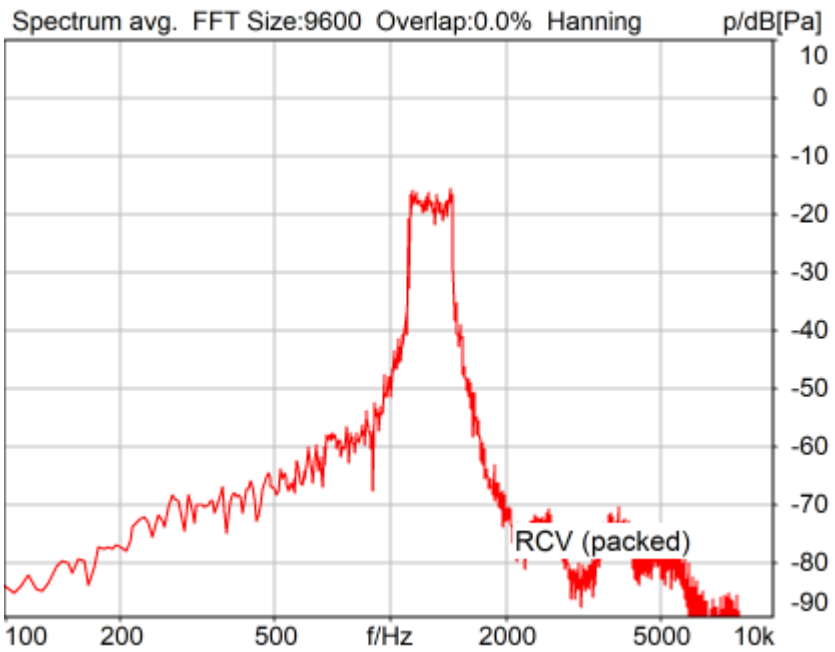
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 23.40 dB (6.76%) Ok

**Ok**

2025/1/17 14:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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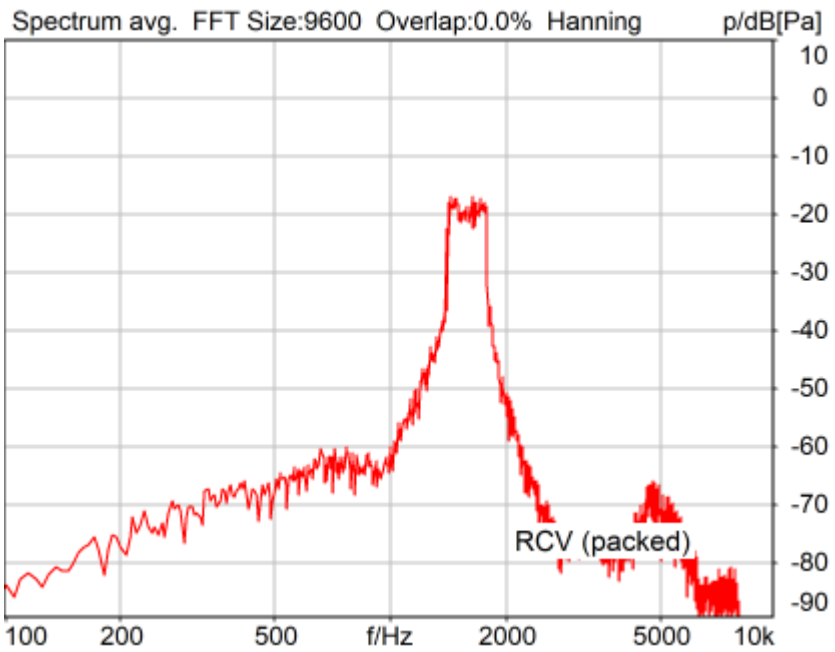
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 23.84 dB (6.43%) Ok

**Ok**

2025/1/17 14:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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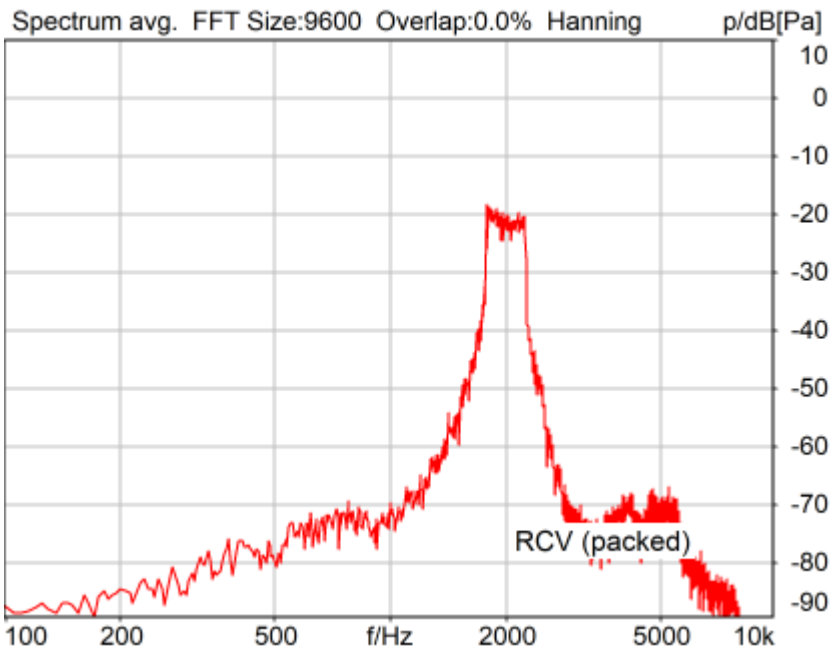
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 21.88 dB (8.06%) Ok

**Ok**

2025/1/17 14:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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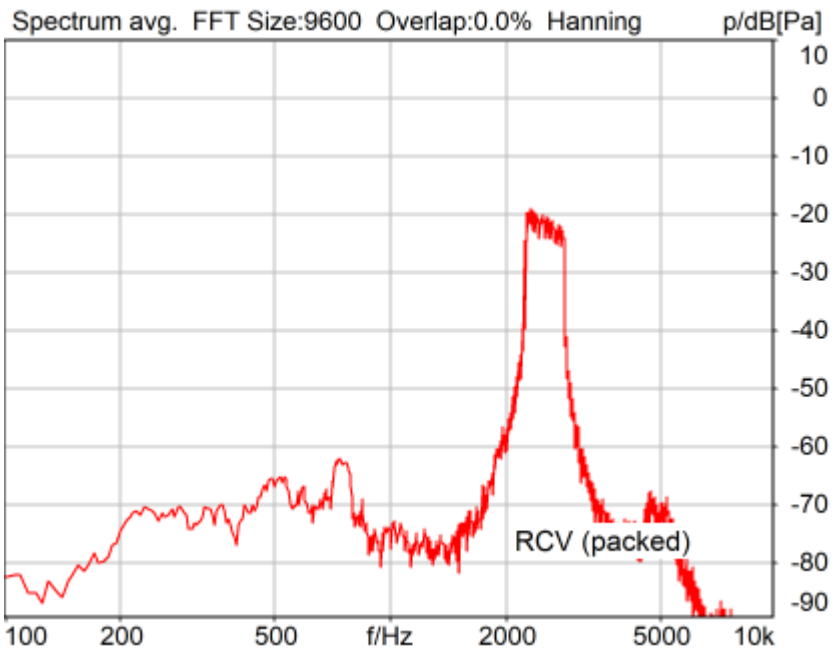
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 28.34 dB (3.83%) Ok

**Ok**

2025/1/17 14:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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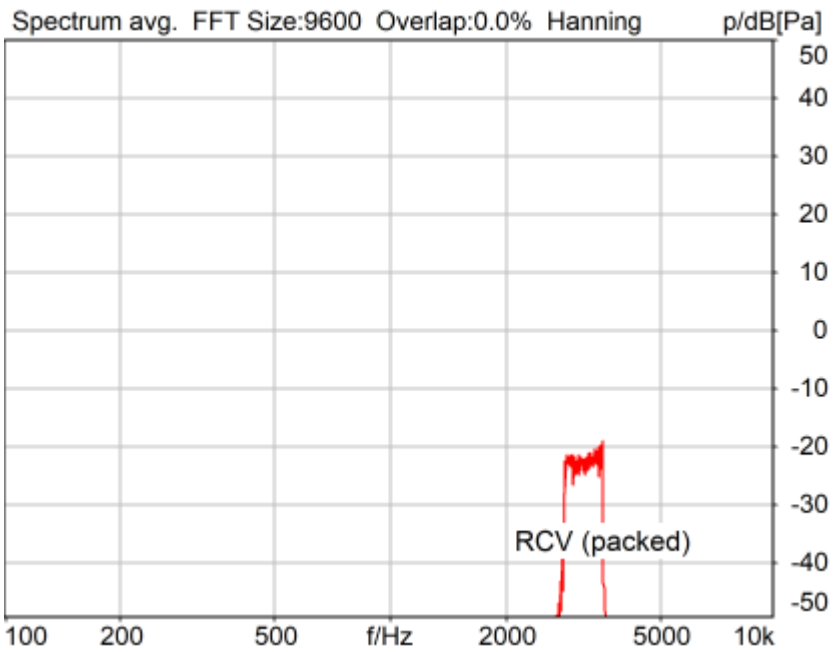
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 30.36 dB (3.03%) Ok

**Ok**

2025/1/17 14:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N

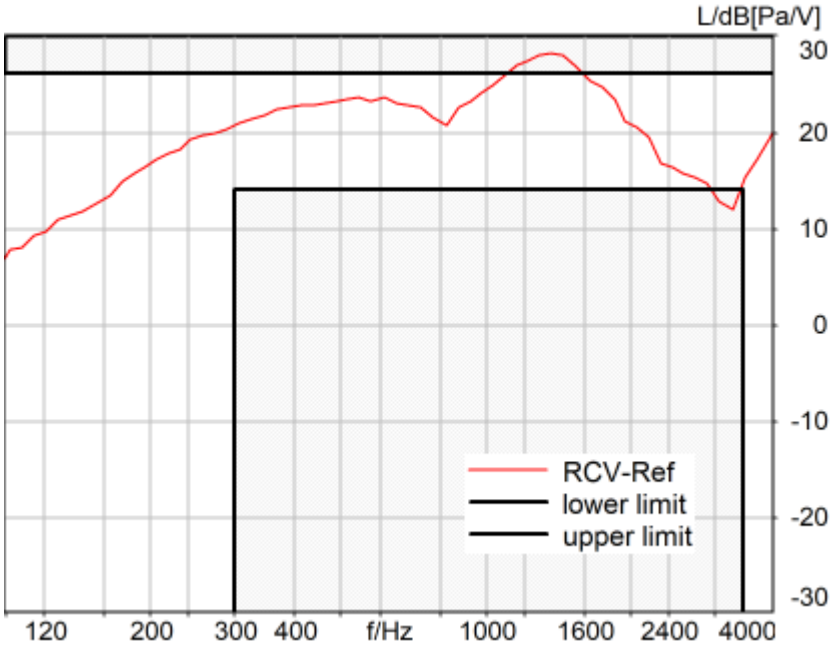
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 33.26 dB |
| 2 | 500Hz | 32.85 dB |
| 3 | 630Hz | 34.07 dB |
| 4 | 800Hz | 33.24 dB |
| 5 | 1000Hz | 32.23 dB |
| 6 | 1250Hz | 23.40 dB |
| 7 | 1600Hz | 23.84 dB |
| 8 | 2000Hz | 21.88 dB |
| 9 | 2500Hz | 28.34 dB |
| 10 | 3150Hz | 30.36 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 21.88dB at 2000Hz.

2025/1/17 14:23 ACQUA

## 5.3 Frequency Response 8N FF HANB

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




Absolute minimal distance
-2.16 dB at 1360.9 Hz Not Ok

**Not Ok**

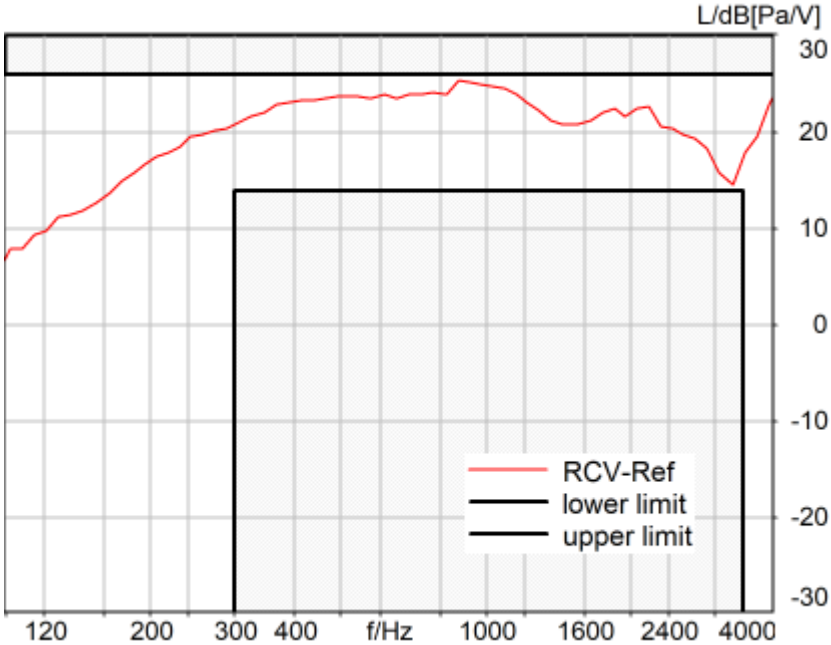
2025/1/17 14:27 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF HANB

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




Absolute minimal distance
0.59 dB at 873.9 Hz Ok

**Ok**

2025/1/17 14:26 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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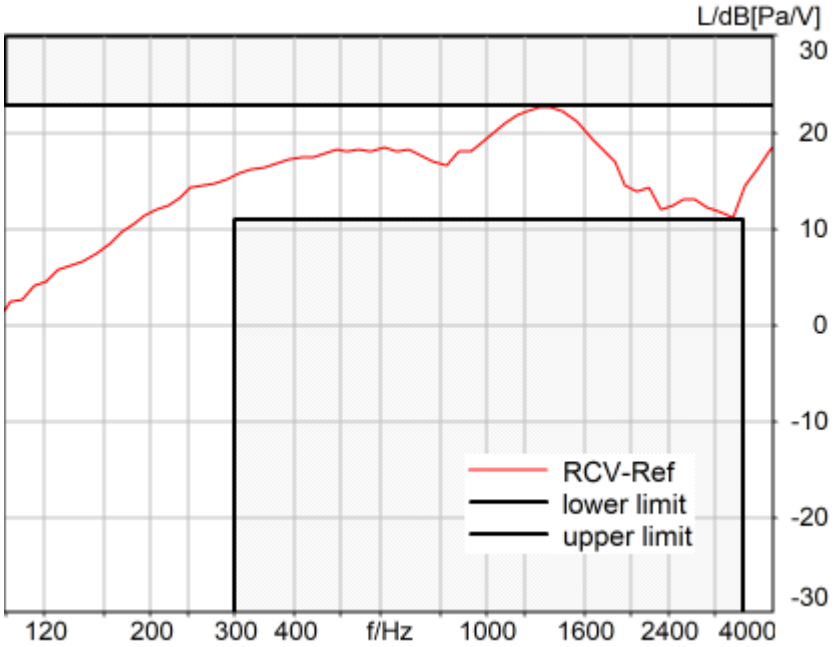
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF HANB

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




Absolute minimal distance
0.22 dB at 1285.9 Hz Ok

**Ok**

2025/1/17 14:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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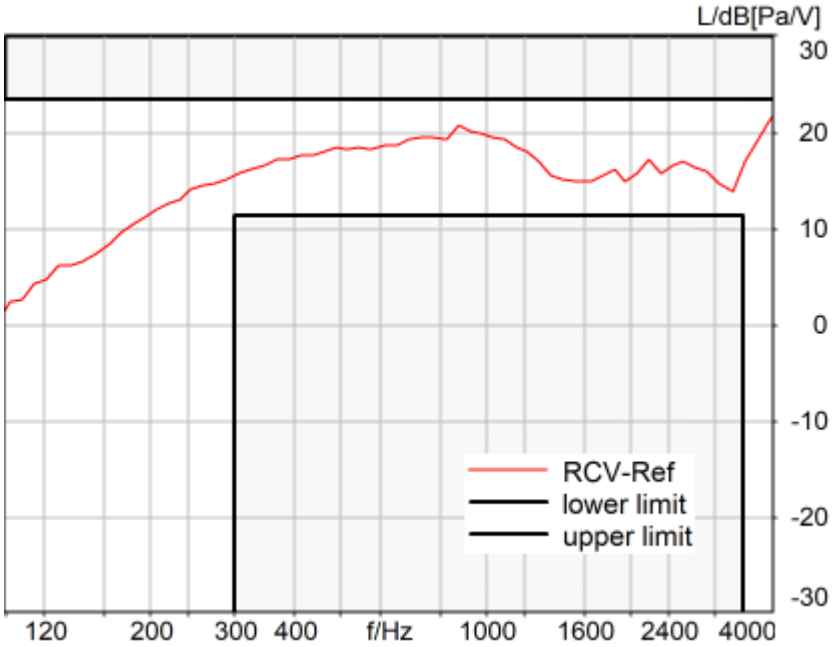
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF HANB

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




Absolute minimal distance
2.38 dB at 3882.4 Hz Ok

**Ok**

2025/1/17 14:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:09 |
| Responsible Person | audio |

## Status Overview

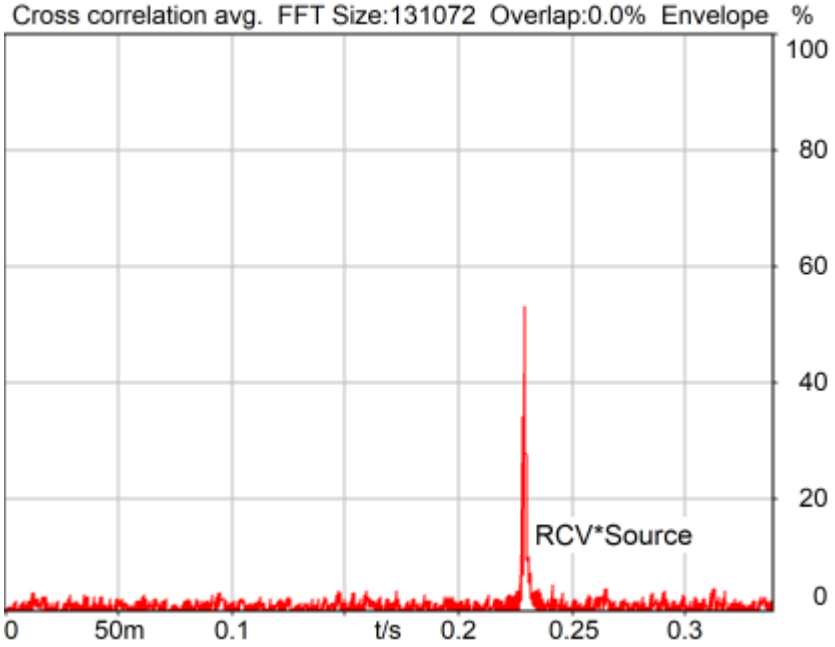
| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay NB | Done | Delay (Cross) [ms] | 229.5 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.1a Receive Volume Control Performance 8N NB | Ok | Corrected Speech Level [dB[SPL]] | 22.43 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.1b Receive Volume Control Performance 2N NB | Ok | Corrected Speech Level [dB[SPL]] | 17.17 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.62 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.73 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 630 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.89 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.54 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.27 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 20.28 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 25.05 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.46 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.49 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 25.69 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 1250Hz) | 20.28 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.95 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.83 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - | Ok | Distortion (Noise) [dB], | 28.30 | WIFI 5G_802.11a |

| | | | | |
|---|---|---|---|---|
| 630 Hz NB | | 0.0 dB | | 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 29.39 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.48 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.00 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.16 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.46 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.93 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 29.56 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 1250Hz) | 21.00 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.3 Frequency Response 8N FF HANB | Not Ok | Min. dist. to tolerance scheme [dB], 1285.9 Hz | -1.77 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.3 Frequency Response 8N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 873.9 Hz | 0.72 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.3 Frequency Response 2N FF HANB | Ok | Min. dist. to tolerance scheme [dB], 1360.9 Hz | 0.37 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |
| 5.3 Frequency Response 2N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 3882.4 Hz | 2.53 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60 |

Overall Receive Delay NB 5
5.1a Receive Volume Control Performance 8N NB 5
5.1b Receive Volume Control Performance 2N NB 6
5.2 RCV Distortion and Noise - 400 Hz NB 7
5.2 RCV Distortion and Noise - 500 Hz NB 8
5.2 RCV Distortion and Noise - 630 Hz NB 9
5.2 RCV Distortion and Noise - 800 Hz NB 10
5.2 RCV Distortion and Noise - 1000 Hz NB 11
5.2 RCV Distortion and Noise - 1250 Hz NB 12
5.2 RCV Distortion and Noise - 1600 Hz NB 13
5.2 RCV Distortion and Noise - 2000 Hz NB 14
5.2 RCV Distortion and Noise - 2500 Hz NB 15
5.2 RCV Distortion and Noise - 3150 Hz NB 16
Report - Receive Distortion and Noise (Conversational Gain) 17
5.2 RCV Distortion and Noise - 400 Hz NB 18
5.2 RCV Distortion and Noise - 500 Hz NB 18
5.2 RCV Distortion and Noise - 630 Hz NB 19
5.2 RCV Distortion and Noise - 800 Hz NB 20
5.2 RCV Distortion and Noise - 1000 Hz NB 21
5.2 RCV Distortion and Noise - 1250 Hz NB 22
5.2 RCV Distortion and Noise - 1600 Hz NB 23
5.2 RCV Distortion and Noise - 2000 Hz NB 24
5.2 RCV Distortion and Noise - 2500 Hz NB 25
5.2 RCV Distortion and Noise - 3150 Hz NB 26
Report - Receive Distortion and Noise (Conversational Gain) 27
5.3 Frequency Response 8N FF HANB 28
5.3 Frequency Response 8N DF HANB 29
5.3 Frequency Response 2N FF HANB 29
5.3 Frequency Response 2N DF HANB 30

## Overall Receive Delay NB

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

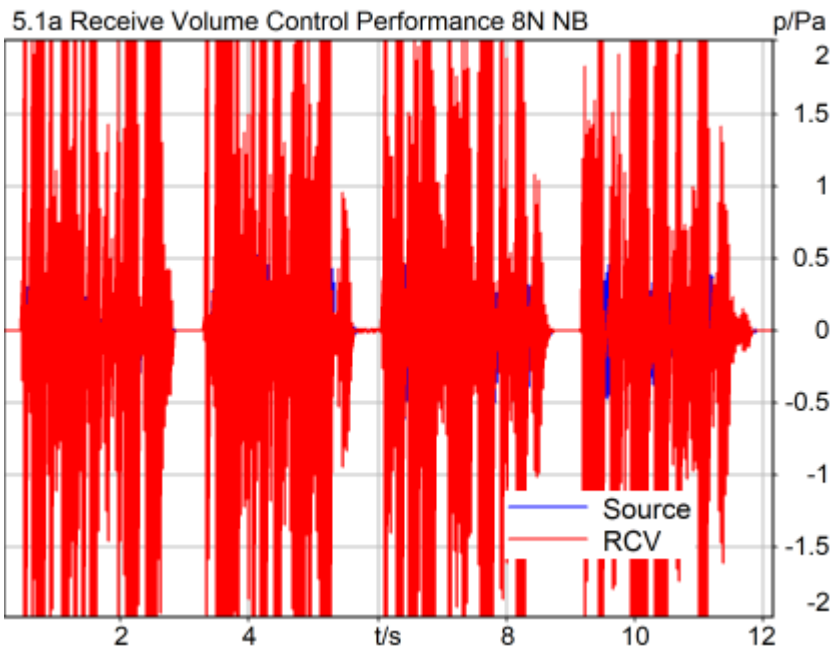



| Channel | Delay |
|---|---|
| **RCV*Source** | 229.5 ms |

2025/1/17 15:07 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.43 dB[SPL] | 84.00% | 22.43 dB[SPL] | Ok |

**Ok**

2025/1/17 15:07 ACQUA 6.0.200

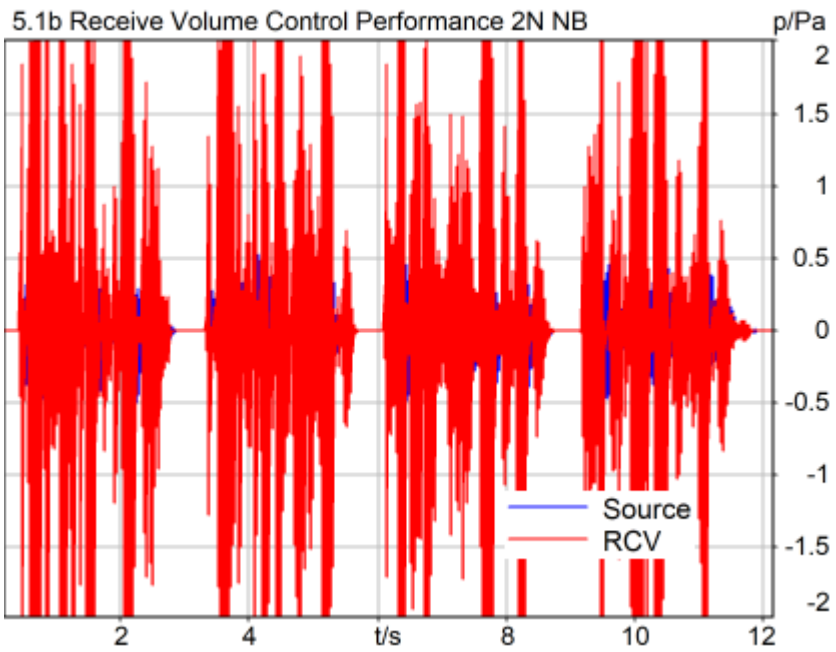
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.17 dB[SPL] | 84.10% | 17.17 dB[SPL] | Ok |

**Ok**

2025/1/17 15:16 ACQUA 6.0.200

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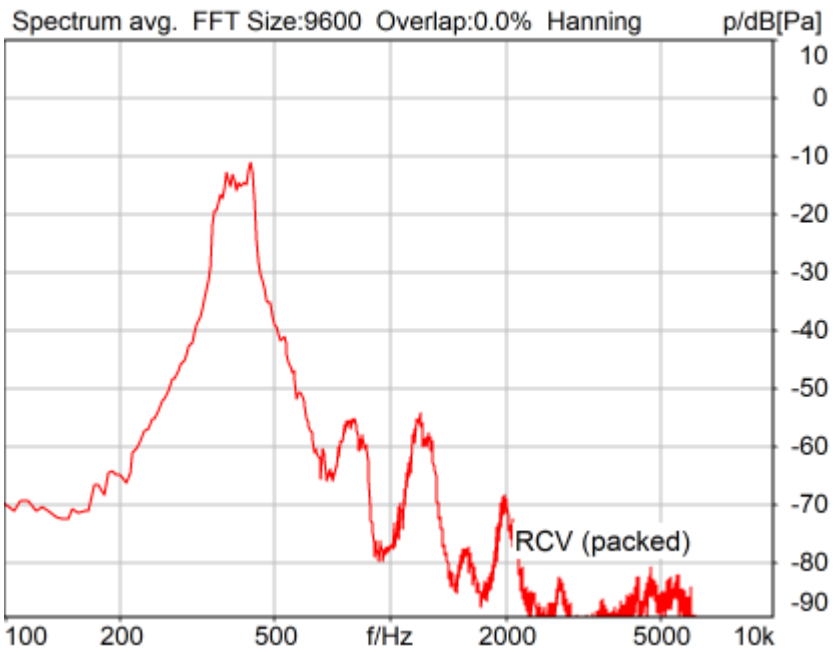
**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 28.62 dB (3.71%) Ok

**Ok**

2025/1/17 15:07 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

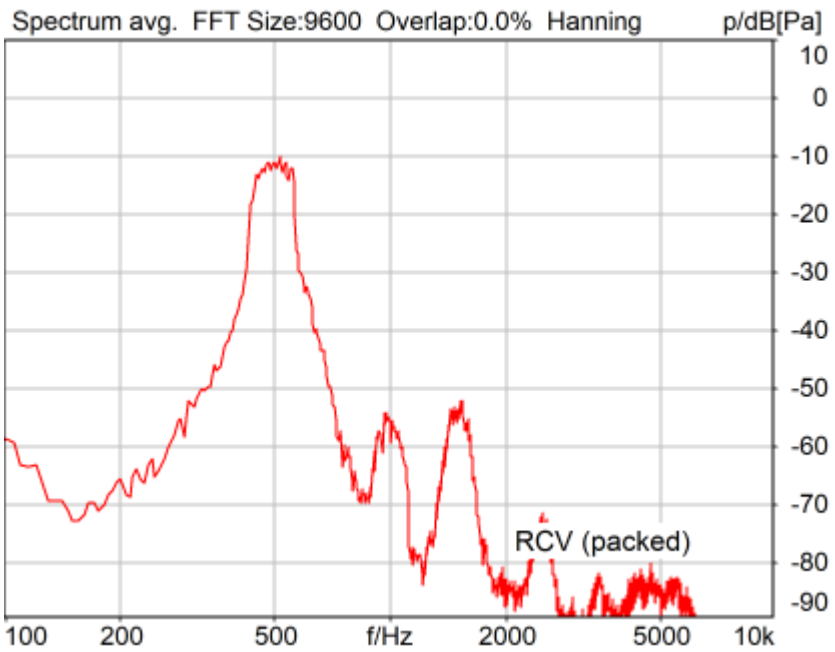
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 27.73 dB (4.11%) Ok

**Ok**

2025/1/17 15:08 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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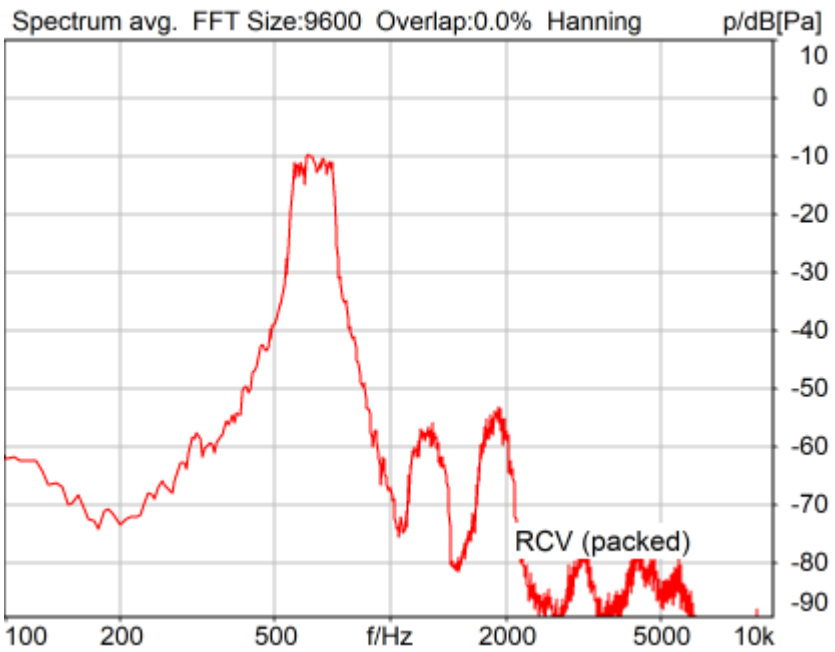
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 28.89 dB (3.59%) Ok

**Ok**

2025/1/17 15:08 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

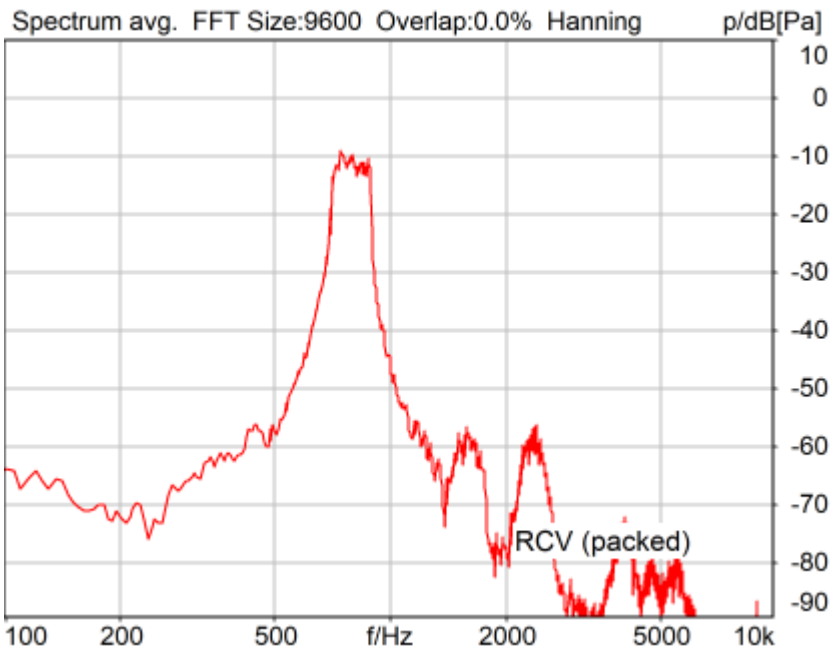
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 28.54 dB (3.74%) Ok

**Ok**

2025/1/17 15:09 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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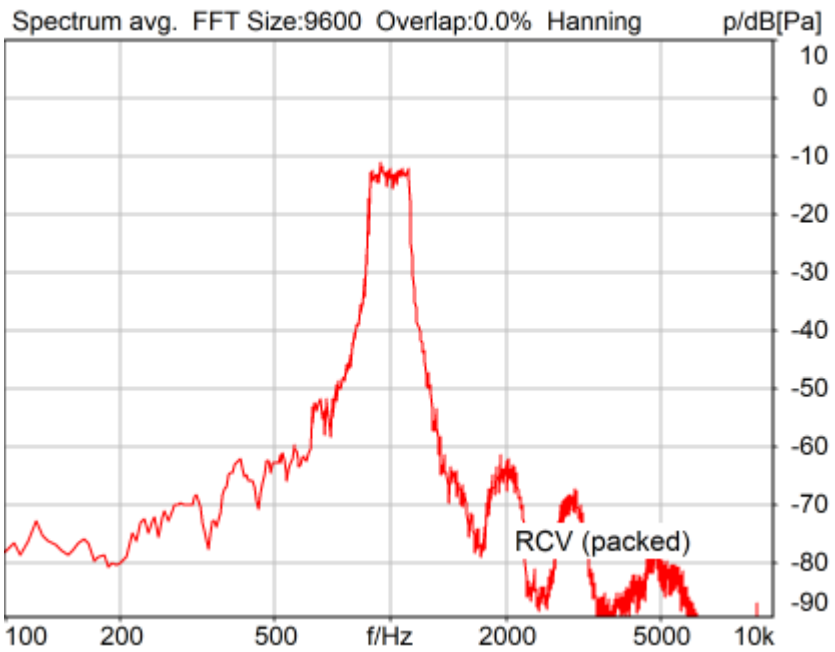
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 28.27 dB (3.86%) Ok

**Ok**

2025/1/17 15:09 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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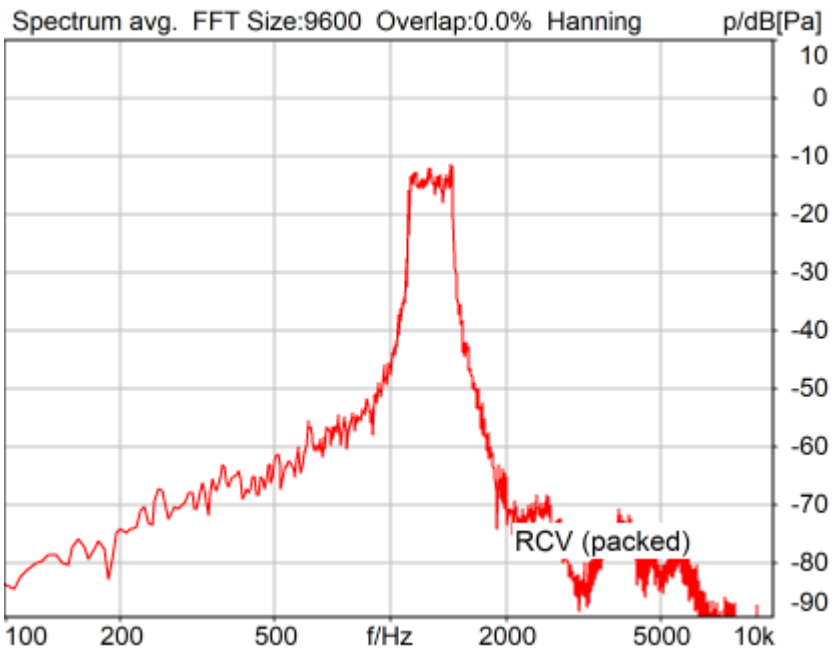
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 20.28 dB (9.68%) Ok

**Ok**

2025/1/17 15:09 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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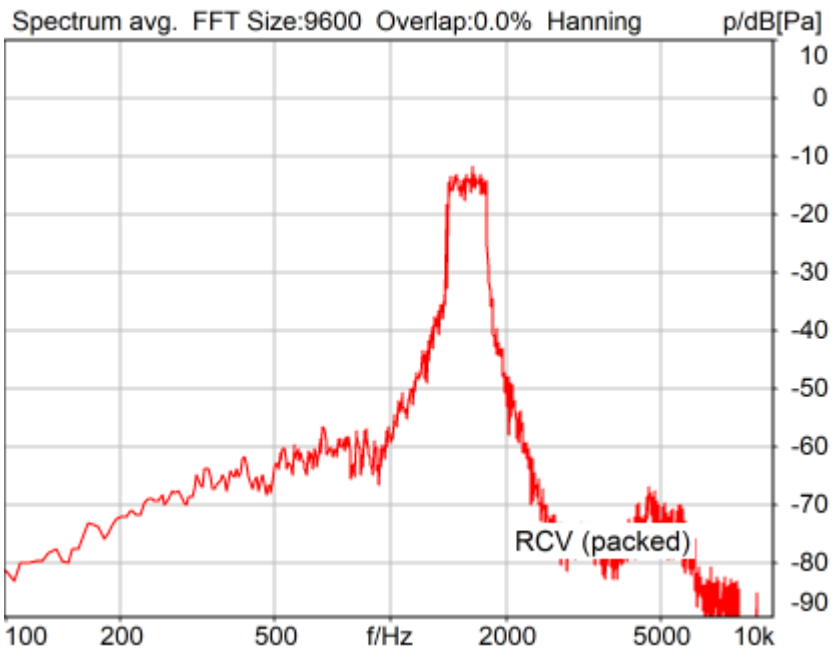
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 25.05 dB (5.59%) Ok

**Ok**

2025/1/17 15:10 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

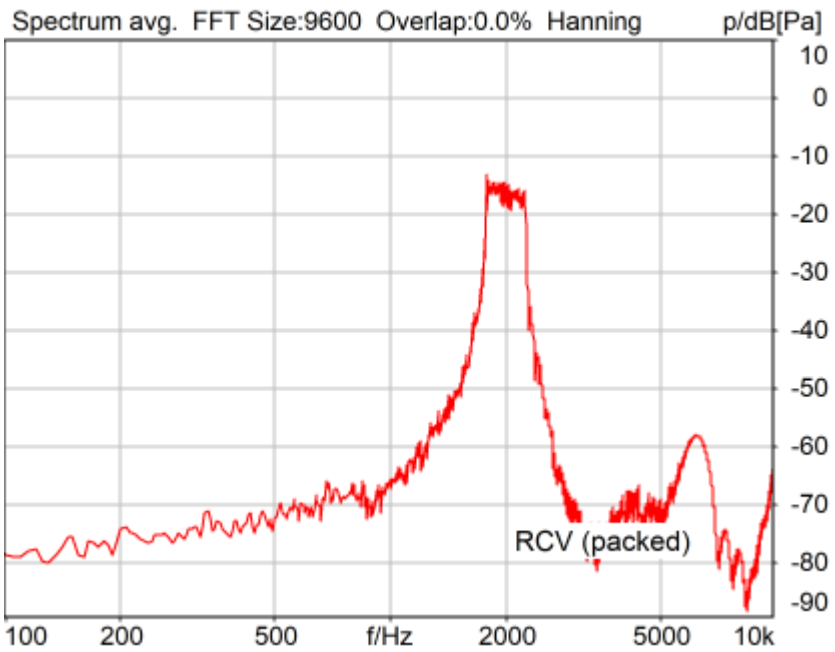
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 22.46 dB (7.53%) Ok

**Ok**

2025/1/17 15:10 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

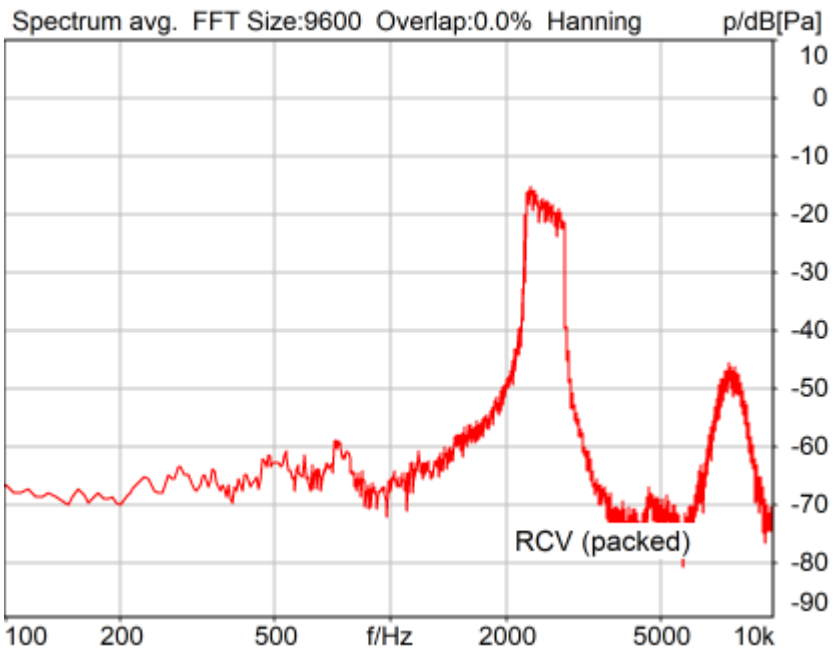
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 23.49 dB (6.69%) Ok

**Ok**

2025/1/17 15:10 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

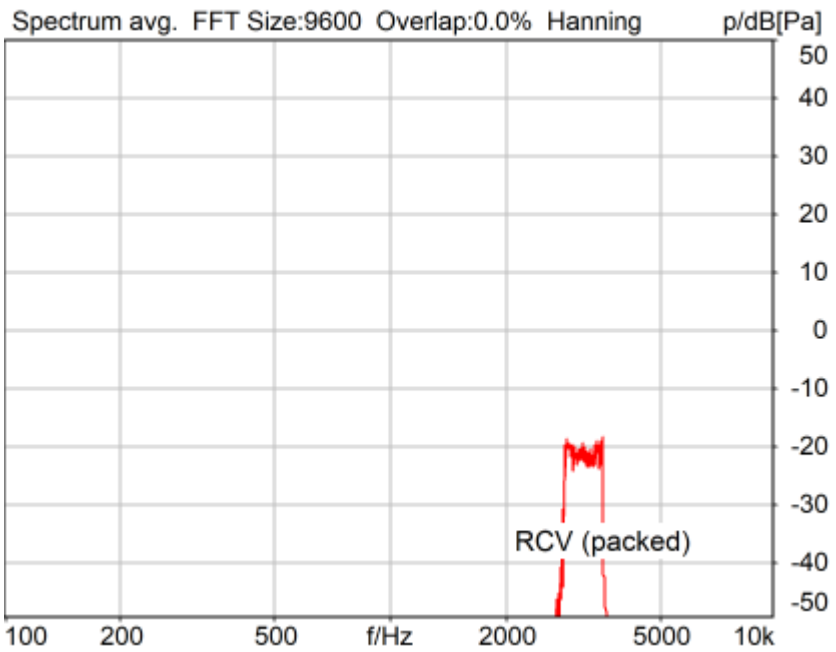
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 25.69 dB (5.19%) Ok

**Ok**

2025/1/17 15:11 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

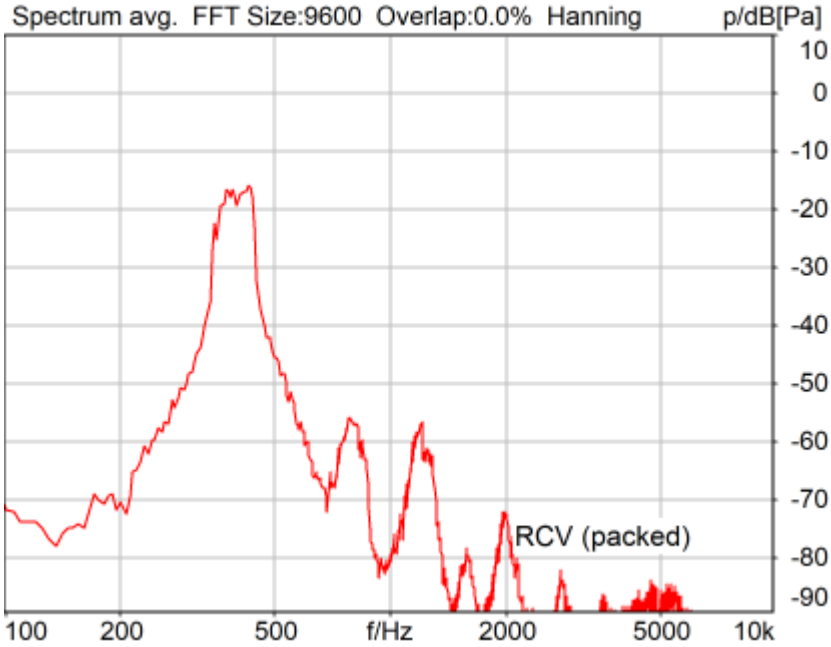
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 28.62 dB |
| 2 | 500Hz | 27.73 dB |
| 3 | 630Hz | 28.89 dB |
| 4 | 800Hz | 28.54 dB |
| 5 | 1000Hz | 28.27 dB |
| 6 | 1250Hz | 20.28 dB |
| 7 | 1600Hz | 25.05 dB |
| 8 | 2000Hz | 22.46 dB |
| 9 | 2500Hz | 23.49 dB |
| 10 | 3150Hz | 25.69 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 20.28dB at 1250Hz.

2025/1/17 15:11 ACQUA

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 30.95 dB (2.83%) Ok

**Ok**

2025/1/17 15:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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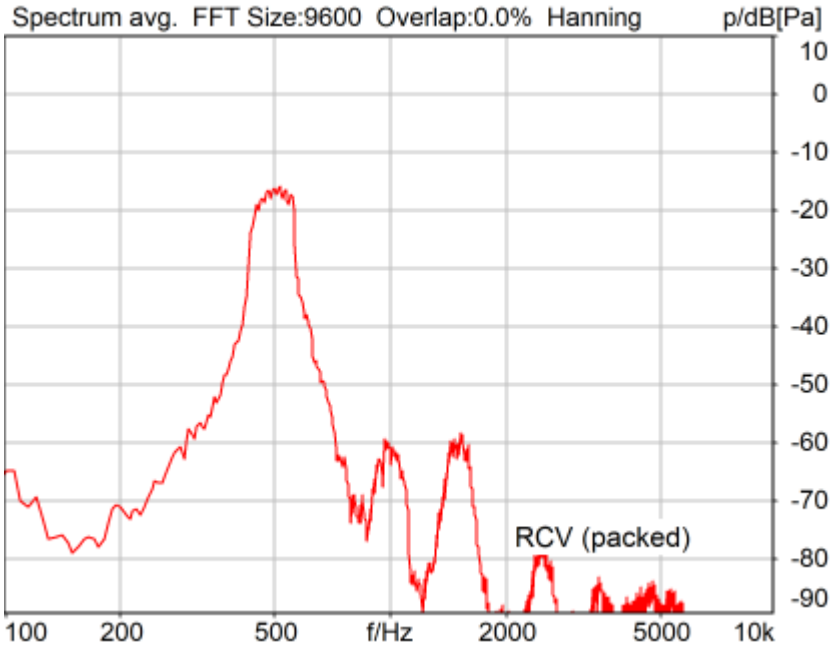
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 27.83 dB (4.06%) Ok

**Ok**

2025/1/17 15:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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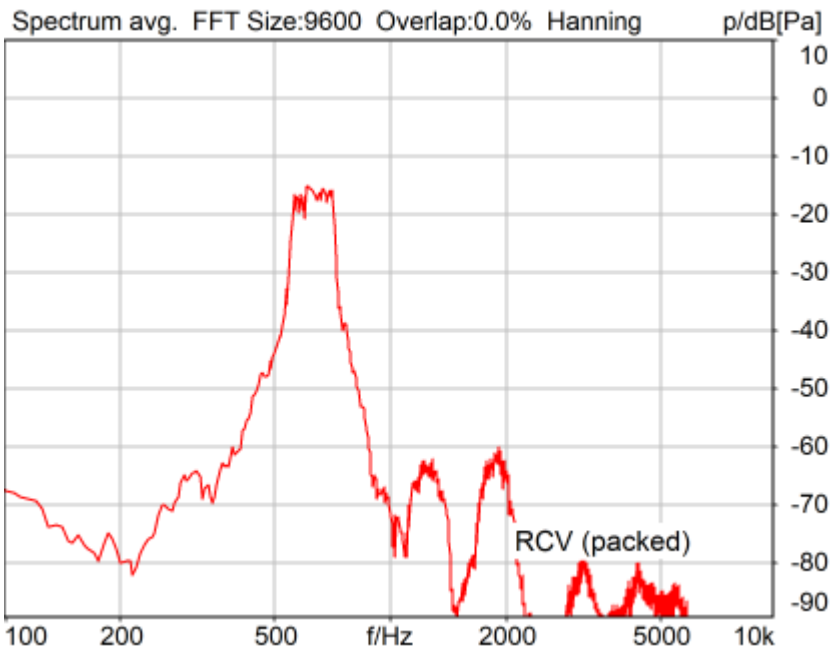
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 28.30 dB (3.84%) Ok

**Ok**

2025/1/17 15:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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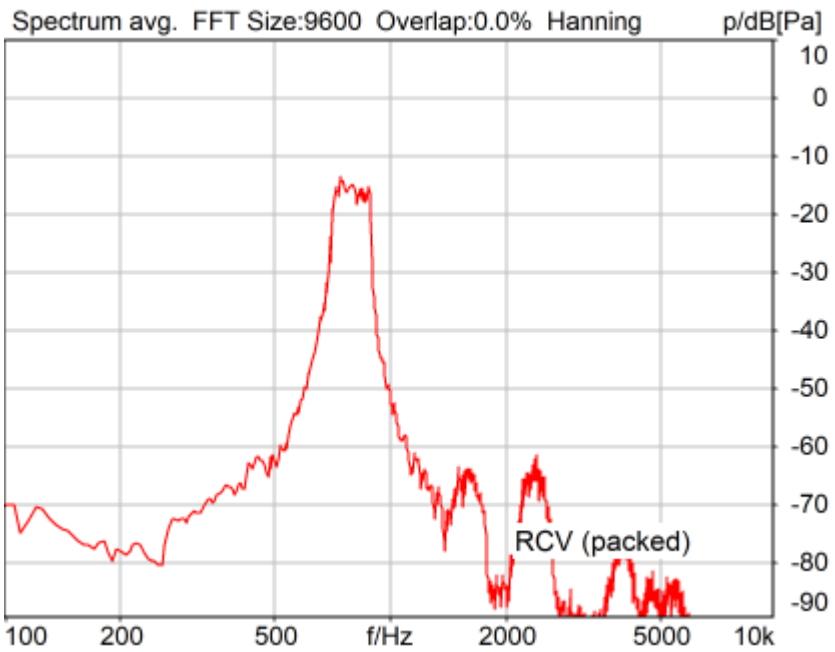
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 29.39 dB (3.39%) Ok

**Ok**

2025/1/17 15:18 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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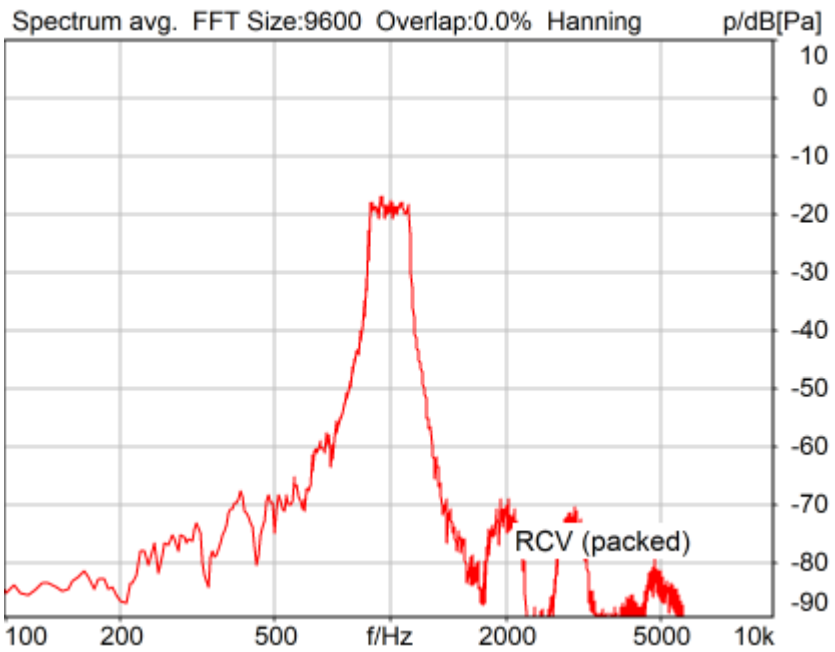
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 27.48 dB (4.23%) Ok

**Ok**

2025/1/17 15:18 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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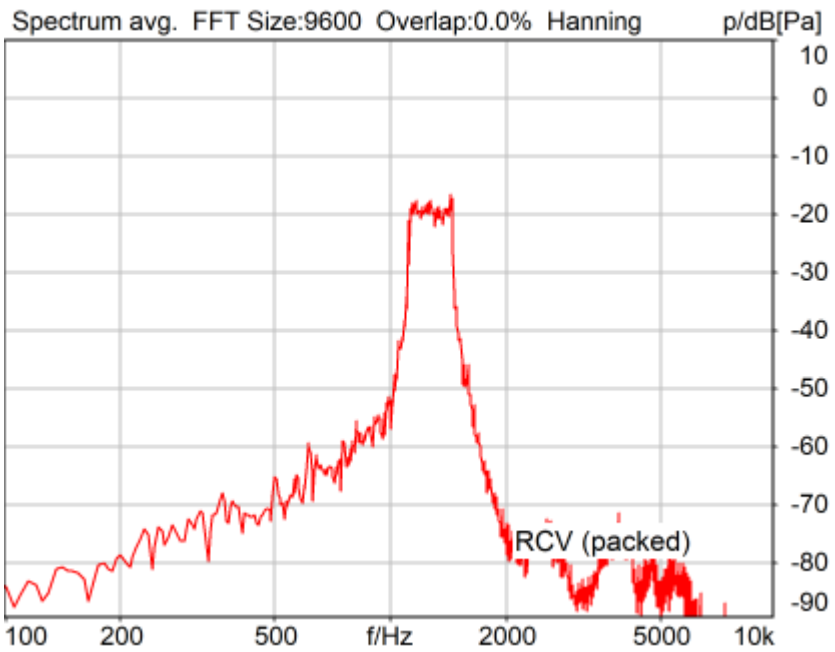
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 21.00 dB (8.91%) Ok

**Ok**

2025/1/17 15:19 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

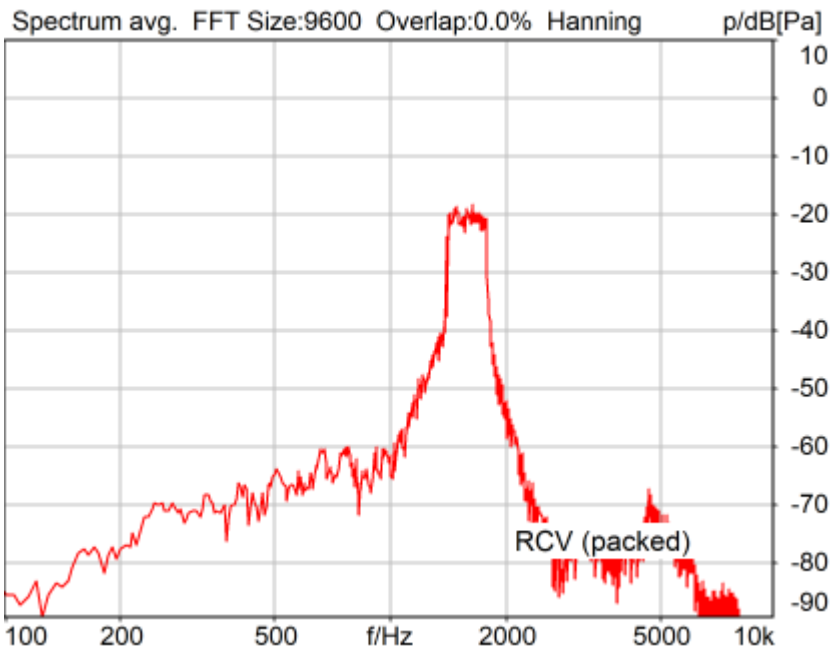
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 24.16 dB (6.19%) Ok

**Ok**

2025/1/17 15:19 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

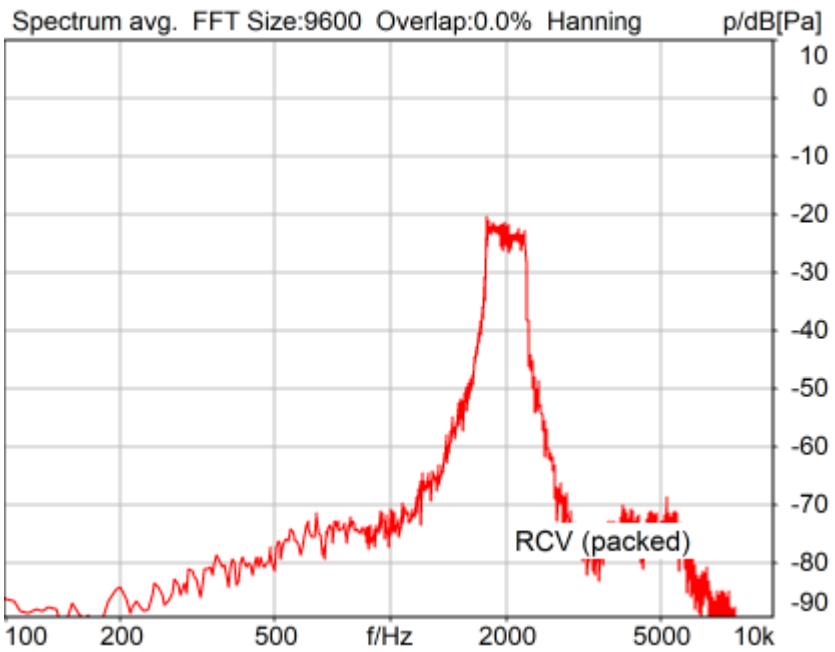
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 21.46 dB (8.45%) Ok

**Ok**

2025/1/17 15:19 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

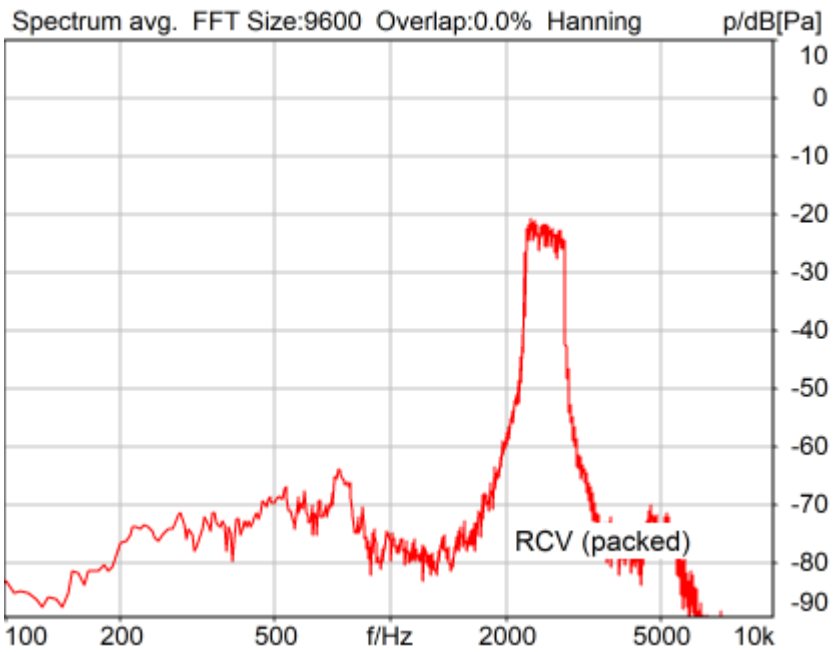
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 27.93 dB (4.01%) Ok

**Ok**

2025/1/17 15:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

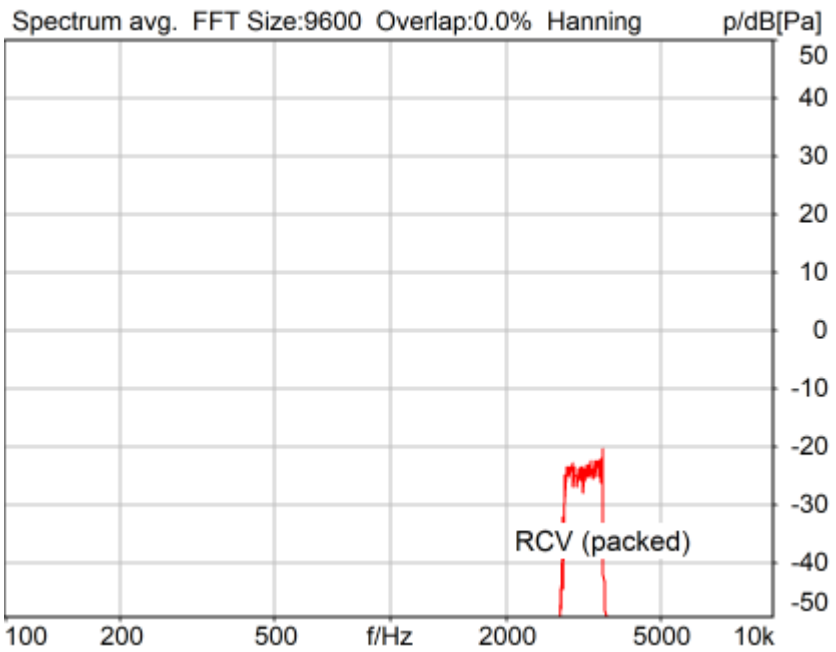
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 29.56 dB (3.33%) Ok

**Ok**

2025/1/17 15:20 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N

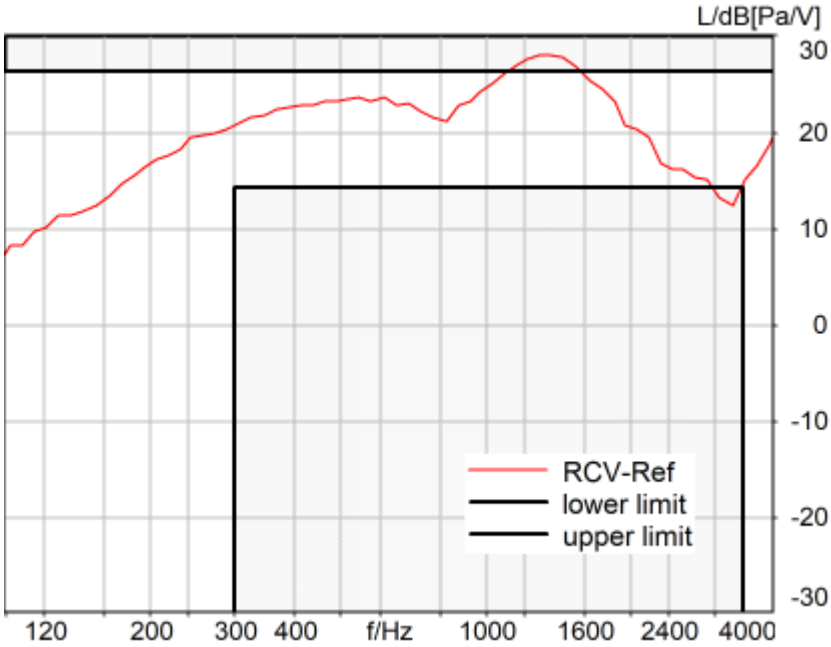
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 30.95 dB |
| 2 | 500Hz | 27.83 dB |
| 3 | 630Hz | 28.30 dB |
| 4 | 800Hz | 29.39 dB |
| 5 | 1000Hz | 27.48 dB |
| 6 | 1250Hz | 21.00 dB |
| 7 | 1600Hz | 24.16 dB |
| 8 | 2000Hz | 21.46 dB |
| 9 | 2500Hz | 27.93 dB |
| 10 | 3150Hz | 29.56 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 21.00dB at 1250Hz.

2025/1/17 15:20 ACQUA

## 5.3 Frequency Response 8N FF HANB

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




Absolute minimal distance
-1.77 dB at 1285.9 Hz Not Ok

**Not Ok**

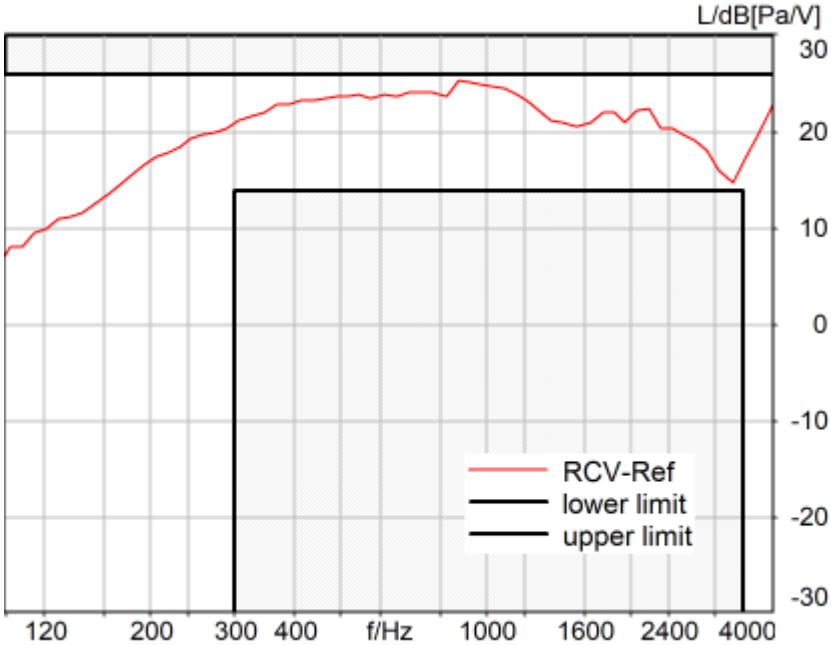
2025/1/17 15:13 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF HANB

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




Absolute minimal distance
0.72 dB at 873.9 Hz Ok

**Ok**

2025/1/17 15:13 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

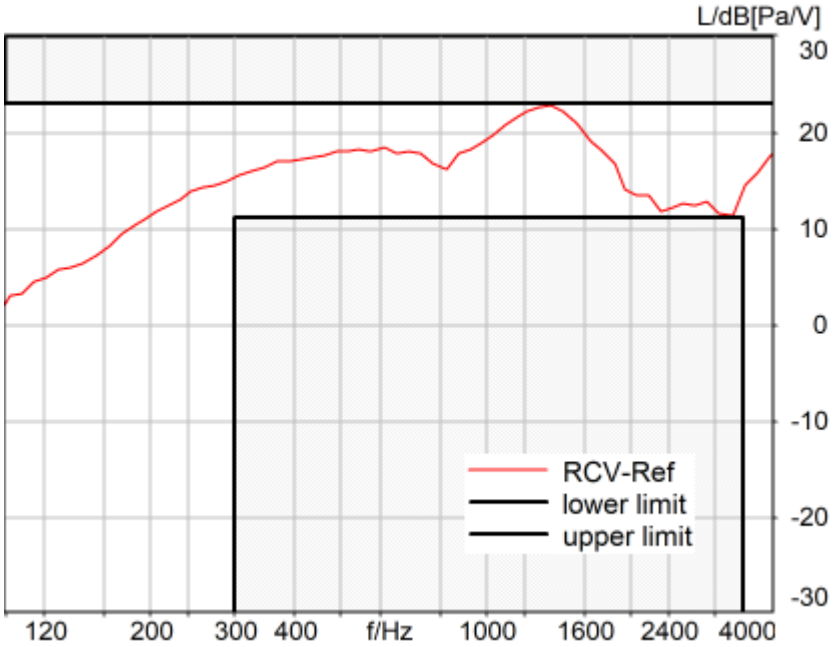
---

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF HANB

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




Absolute minimal distance
0.37 dB at 1360.9 Hz Ok

**Ok**

2025/1/17 15:15 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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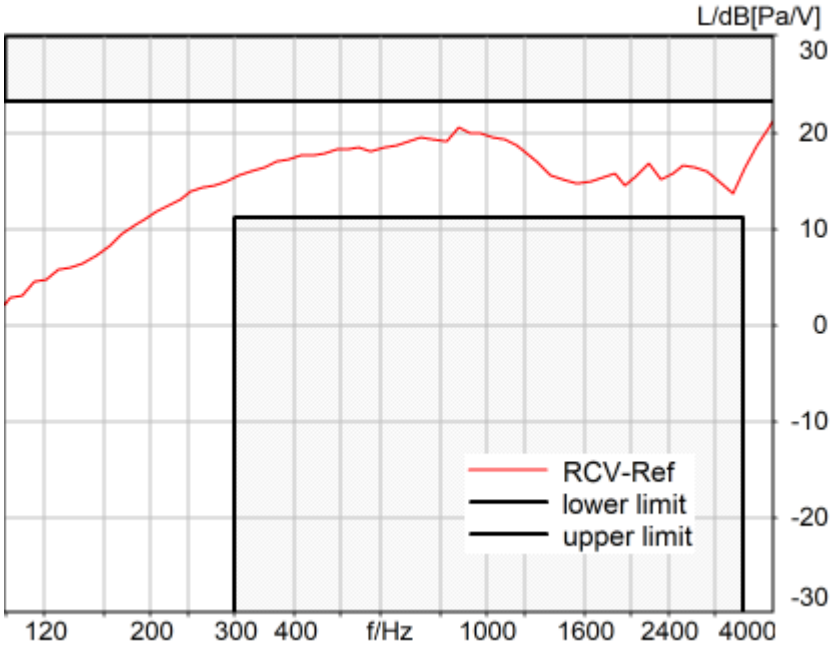
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF HANB

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




Absolute minimal distance
2.53 dB at 3882.4 Hz Ok

**Ok**

2025/1/17 15:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/14 15:46 |
| Responsible Person | audio |

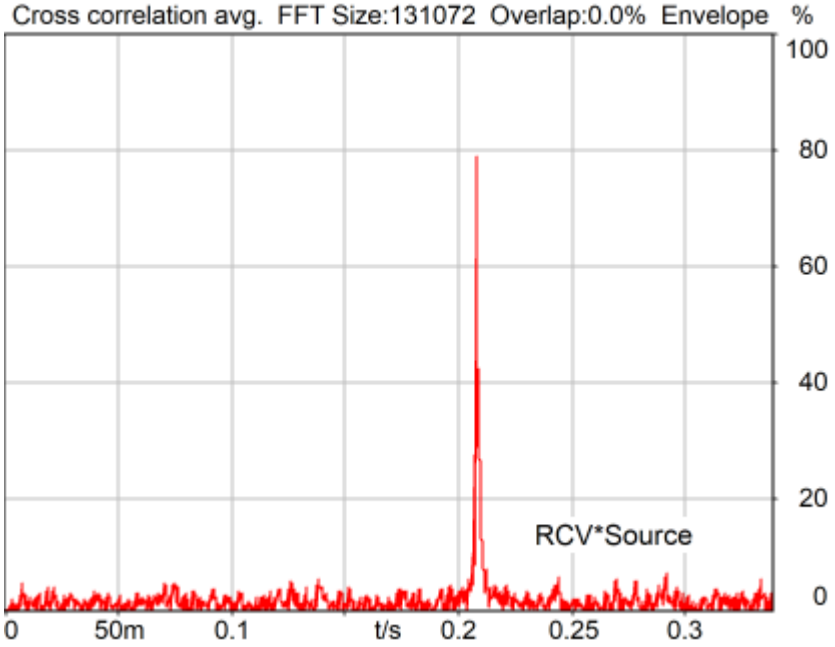
# Status Overview

| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay NB | Done | Delay (Cross) [ms] | 208.5 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.1a Receive Volume Control Performance 8N NB | Ok | Corrected Speech Level [dB[SPL]] | 21.94 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.61 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 29.80 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 630 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.20 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.74 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.19 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.21 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.52 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.52 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.32 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 26.95 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 1250Hz) | 22.21 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |
| 5.3 Frequency Response 8N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 873.9 Hz | 0.92 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH60_Sample2 |

Overall Receive Delay NB 4
5.1a Receive Volume Control Performance 8N NB 4
5.2 RCV Distortion and Noise - 400 Hz NB 5
5.2 RCV Distortion and Noise - 500 Hz NB 6
5.2 RCV Distortion and Noise - 630 Hz NB 7
5.2 RCV Distortion and Noise - 800 Hz NB 8
5.2 RCV Distortion and Noise - 1000 Hz NB 9
5.2 RCV Distortion and Noise - 1250 Hz NB 10
5.2 RCV Distortion and Noise - 1600 Hz NB 11
5.2 RCV Distortion and Noise - 2000 Hz NB 12
5.2 RCV Distortion and Noise - 2500 Hz NB 13
5.2 RCV Distortion and Noise - 3150 Hz NB 14
Report - Receive Distortion and Noise (Conversational Gain) 15
5.3 Frequency Response 8N DF HANB 16

## Overall Receive Delay NB

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

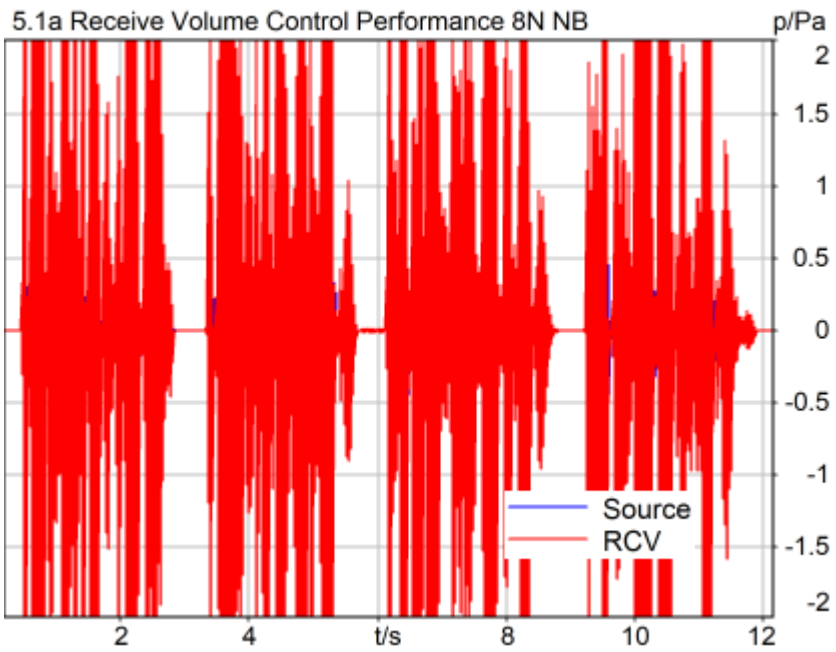



| Channel | Delay |
|---|---|
| **RCV*Source** | 208.5 ms |

2025/3/12 14:55 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 91.94 dB[SPL] | 83.70% | 21.94 dB[SPL] | Ok |

**Ok**

2025/3/12 14:57 ACQUA 6.0.200

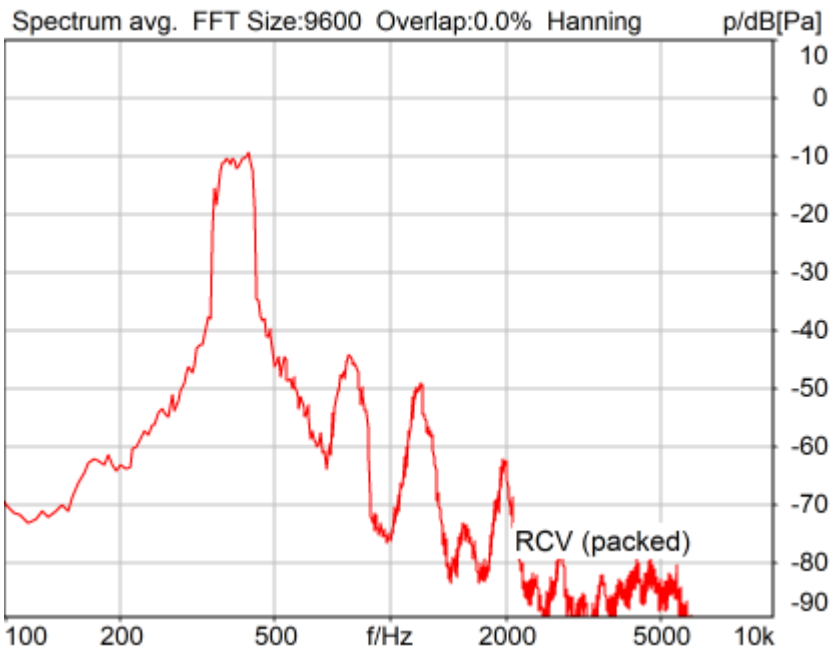
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 31.61 dB (2.63%) Ok

**Ok**

2025/3/12 14:59 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

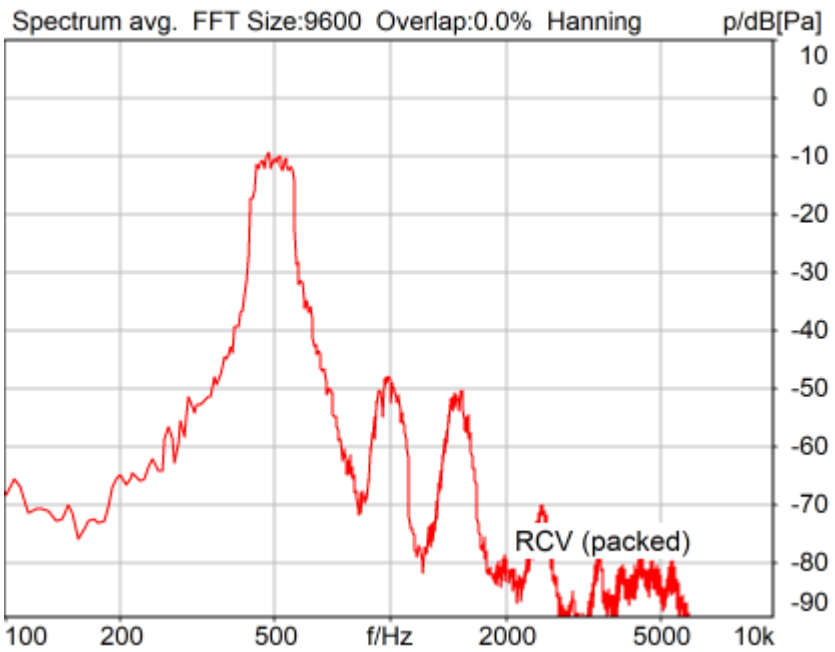
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 29.80 dB (3.23%) Ok

**Ok**

2025/3/12 14:59 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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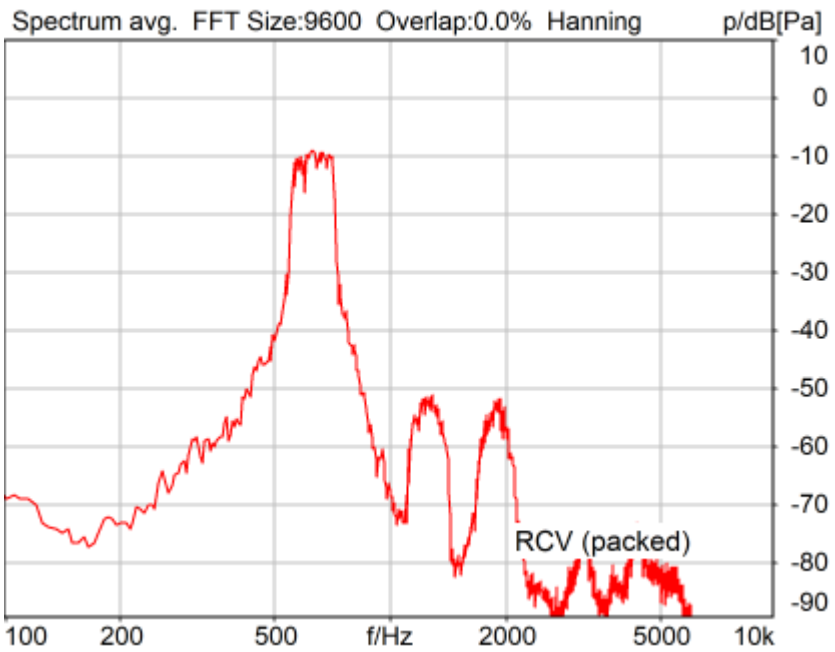
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 31.20 dB (2.75%) Ok

**Ok**

2025/3/12 15:00 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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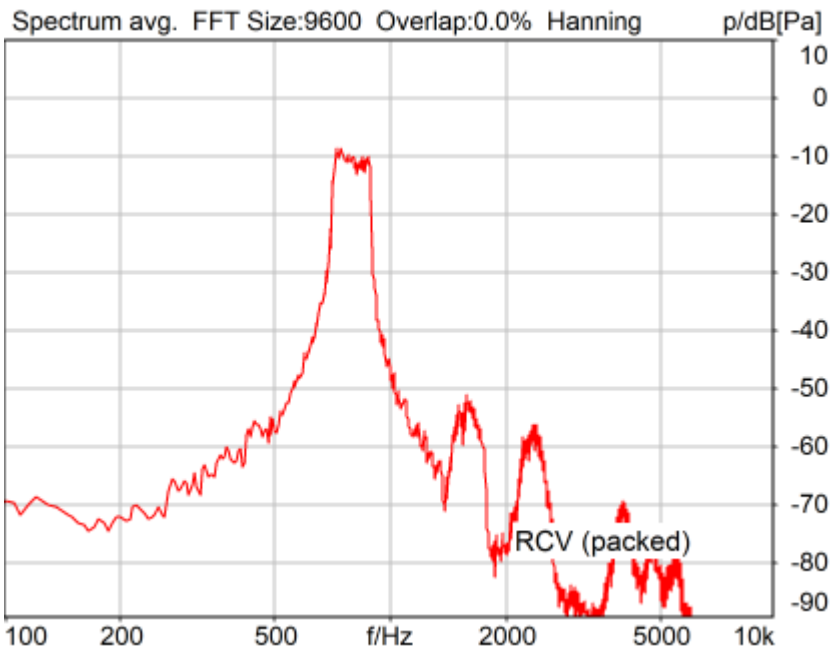
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 30.74 dB (2.90%) Ok

**Ok**

2025/3/12 15:00 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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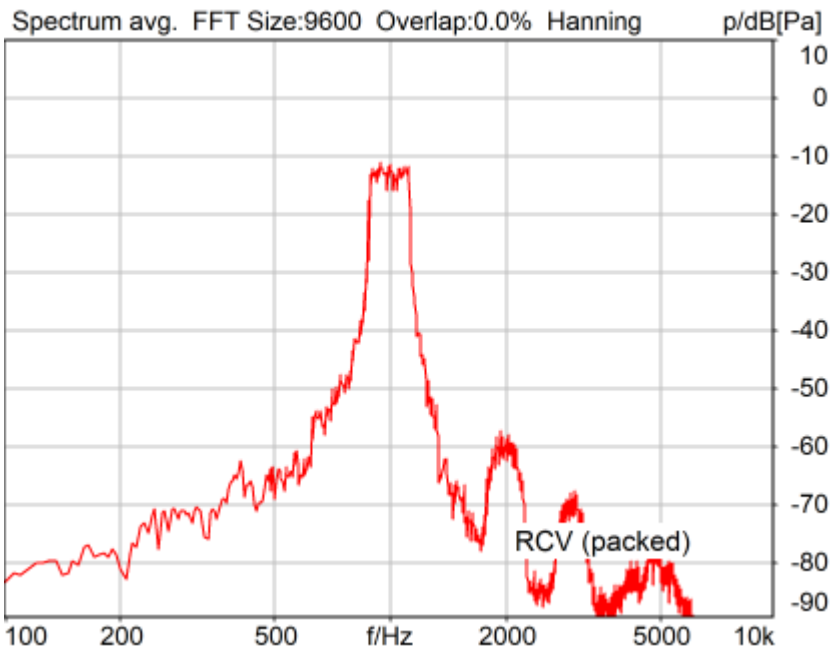
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 30.19 dB (3.09%) Ok

**Ok**

2025/3/12 15:01 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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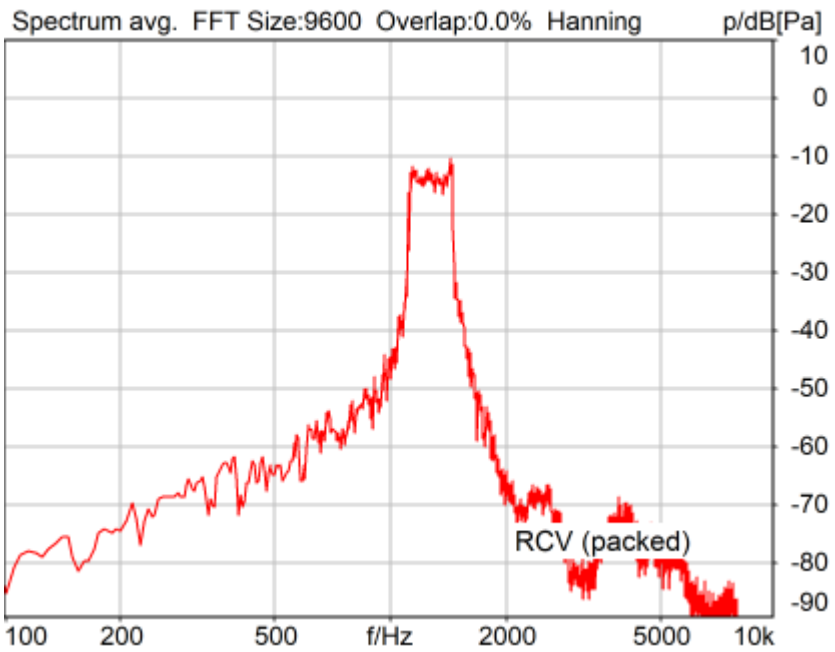
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 22.21 dB (7.76%) Ok

**Ok**

2025/3/12 15:01 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

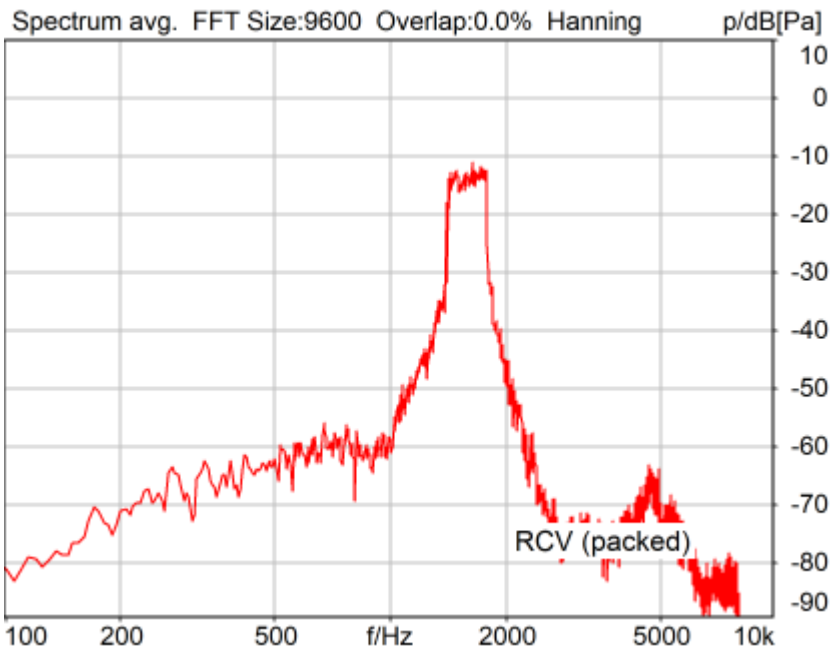
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.52 dB (5.94%) Ok

**Ok**

2025/3/12 15:02 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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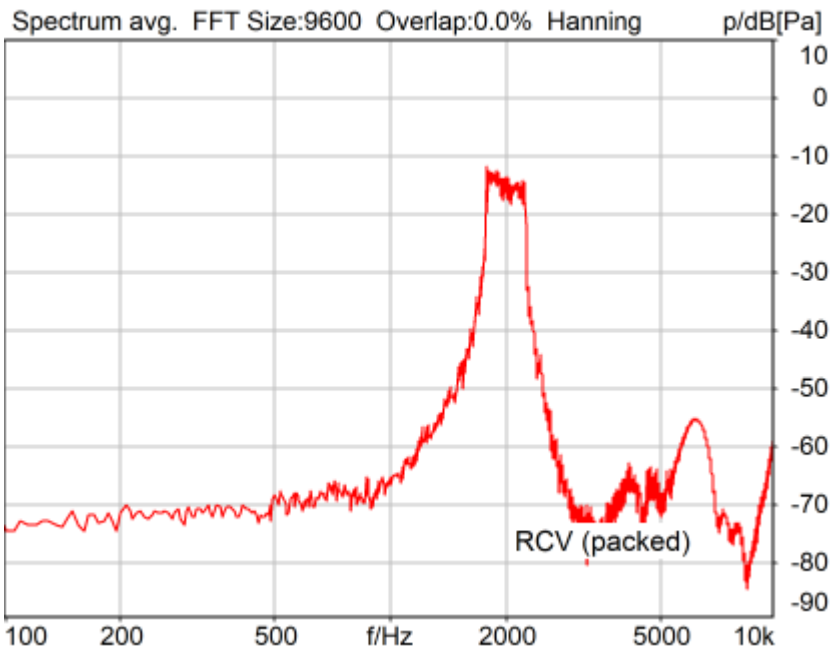
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 22.52 dB (7.48%) Ok

**Ok**

2025/3/12 15:02 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

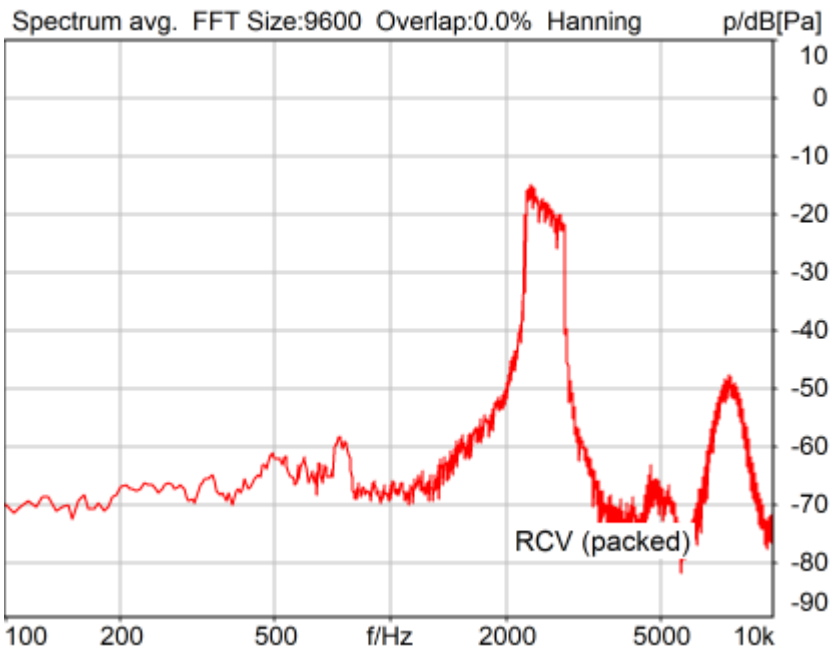
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.32 dB (6.08%) Ok

**Ok**

2025/3/12 15:02 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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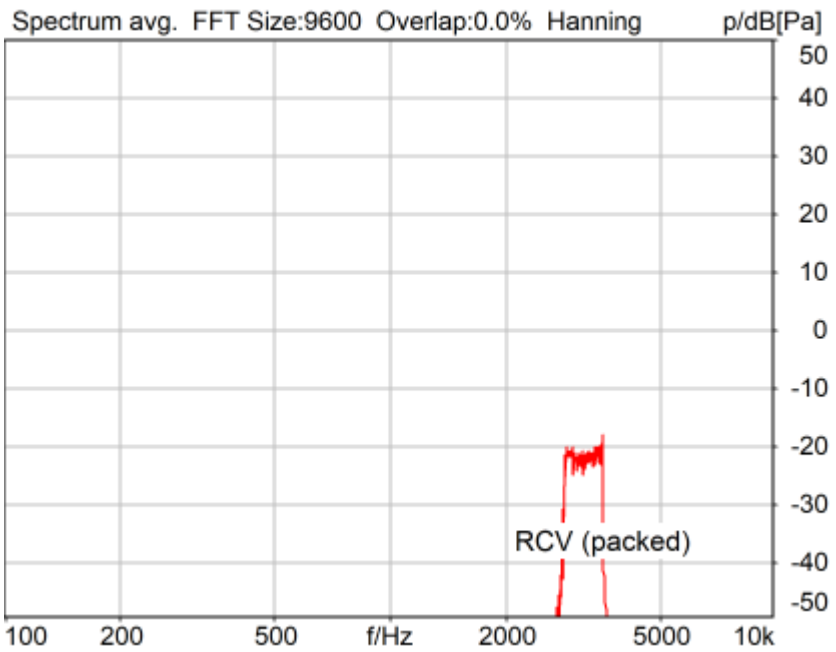
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 26.95 dB (4.49%) Ok

**Ok**

2025/3/12 15:03 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

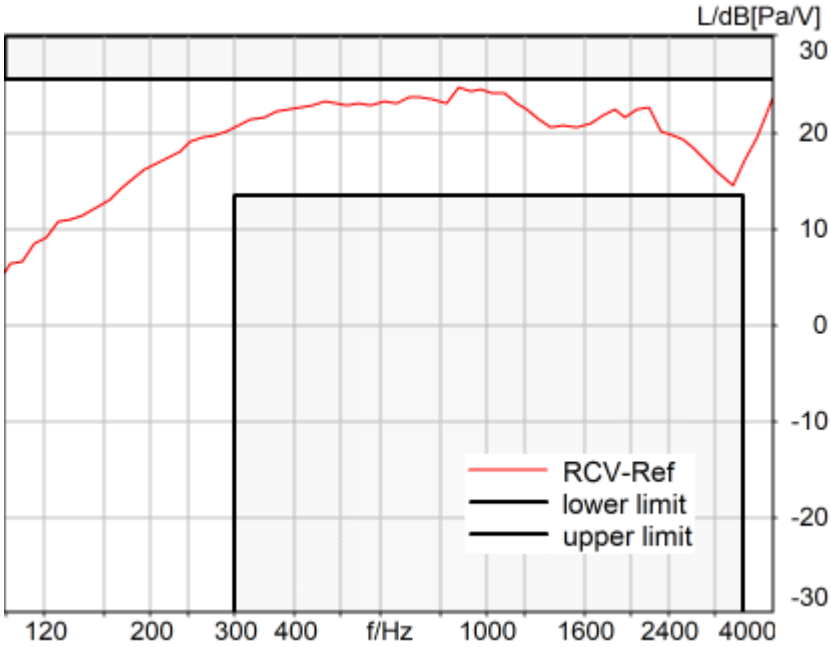
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 31.61 dB |
| 2 | 500Hz | 29.80 dB |
| 3 | 630Hz | 31.20 dB |
| 4 | 800Hz | 30.74 dB |
| 5 | 1000Hz | 30.19 dB |
| 6 | 1250Hz | 22.21 dB |
| 7 | 1600Hz | 24.52 dB |
| 8 | 2000Hz | 22.52 dB |
| 9 | 2500Hz | 24.32 dB |
| 10 | 3150Hz | 26.95 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 22.21dB at 1250Hz.

2025/3/12 15:03 ACQUA

## 5.3 Frequency Response 8N DF HANB

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




Absolute minimal distance
0.92 dB at 873.9 Hz Ok

**Ok**

2025/3/12 15:06 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:10 |
| Responsible Person | audio |

# Status Overview

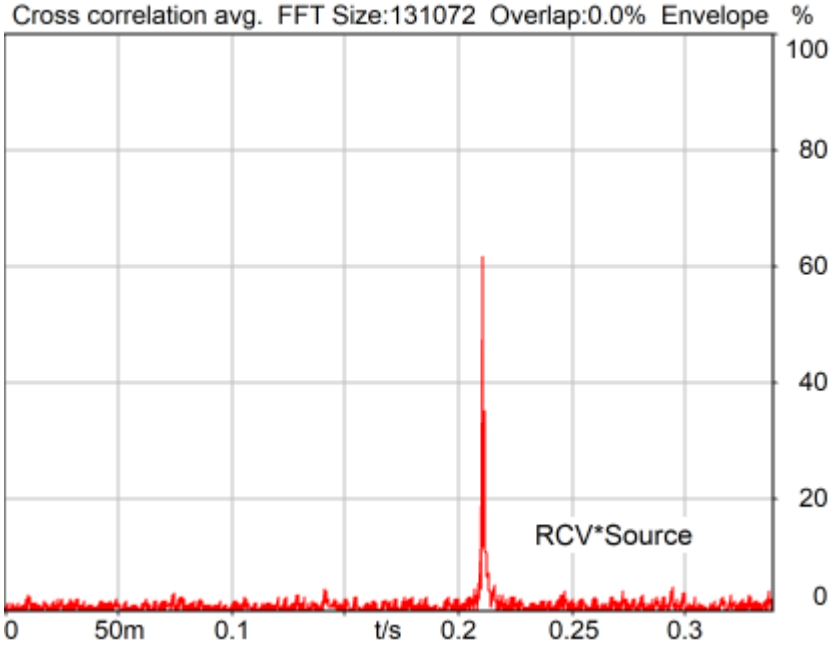
| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay NB | Done | Delay (Cross) [ms] | 211.4 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.1a Receive Volume Control Performance 8N NB | Ok | Corrected Speech Level [dB[SPL]] | 22.29 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.1b Receive Volume Control Performance 2N NB | Ok | Corrected Speech Level [dB[SPL]] | 17.41 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.96 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.26 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 630 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.81 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 29.85 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.23 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.26 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.91 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.17 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 22.72 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 26.00 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2000Hz) | 22.17 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.66 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.13 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - | Ok | Distortion (Noise) [dB], | 31.31 | WIFI 5G_802.11a |

| | | | | |
|---|---|---|---|---|
| 630 Hz NB | | 0.0 dB | | 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 31.17 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.00 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.68 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.67 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.98 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 27.88 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.39 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 1250Hz) | 21.68 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.3 Frequency Response 8N FF HANB | Not Ok | Min. dist. to tolerance scheme [dB], 1360.9 Hz | -1.61 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.3 Frequency Response 8N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 3245.6 Hz | 0.57 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.3 Frequency Response 2N FF HANB | Ok | Min. dist. to tolerance scheme [dB], 1285.9 Hz | 0.08 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |
| 5.3 Frequency Response 2N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 3882.4 Hz | 2.10 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH132 |

Overall Receive Delay NB 5
5.1a Receive Volume Control Performance 8N NB 5
5.1b Receive Volume Control Performance 2N NB 6
5.2 RCV Distortion and Noise - 400 Hz NB 7
5.2 RCV Distortion and Noise - 500 Hz NB 8
5.2 RCV Distortion and Noise - 630 Hz NB 9
5.2 RCV Distortion and Noise - 800 Hz NB 10
5.2 RCV Distortion and Noise - 1000 Hz NB 11
5.2 RCV Distortion and Noise - 1250 Hz NB 12
5.2 RCV Distortion and Noise - 1600 Hz NB 13
5.2 RCV Distortion and Noise - 2000 Hz NB 14
5.2 RCV Distortion and Noise - 2500 Hz NB 15
5.2 RCV Distortion and Noise - 3150 Hz NB 16
Report - Receive Distortion and Noise (Conversational Gain) 17
5.2 RCV Distortion and Noise - 400 Hz NB 18
5.2 RCV Distortion and Noise - 500 Hz NB 18
5.2 RCV Distortion and Noise - 630 Hz NB 19
5.2 RCV Distortion and Noise - 800 Hz NB 20
5.2 RCV Distortion and Noise - 1000 Hz NB 21
5.2 RCV Distortion and Noise - 1250 Hz NB 22
5.2 RCV Distortion and Noise - 1600 Hz NB 23
5.2 RCV Distortion and Noise - 2000 Hz NB 24
5.2 RCV Distortion and Noise - 2500 Hz NB 25
5.2 RCV Distortion and Noise - 3150 Hz NB 26
Report - Receive Distortion and Noise (Conversational Gain) 27
5.3 Frequency Response 8N FF HANB 28
5.3 Frequency Response 8N DF HANB 29
5.3 Frequency Response 2N FF HANB 29
5.3 Frequency Response 2N DF HANB 30

## Overall Receive Delay NB

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

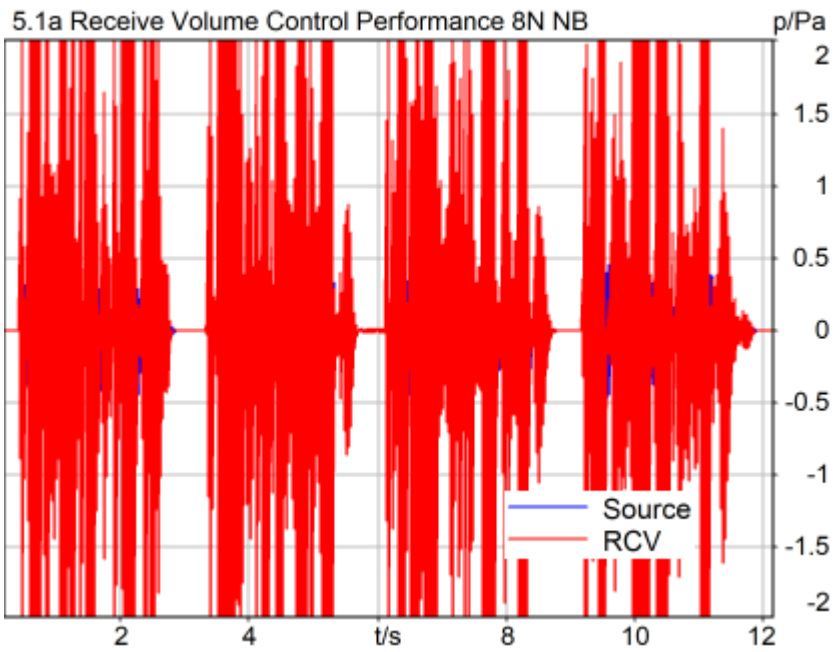



| Channel | Delay |
|---|---|
| **RCV*Source** | 211.4 ms |

2025/1/17 16:21 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.29 dB[SPL] | 84.17% | 22.29 dB[SPL] | Ok |

**Ok**

2025/1/17 16:30 ACQUA 6.0.200

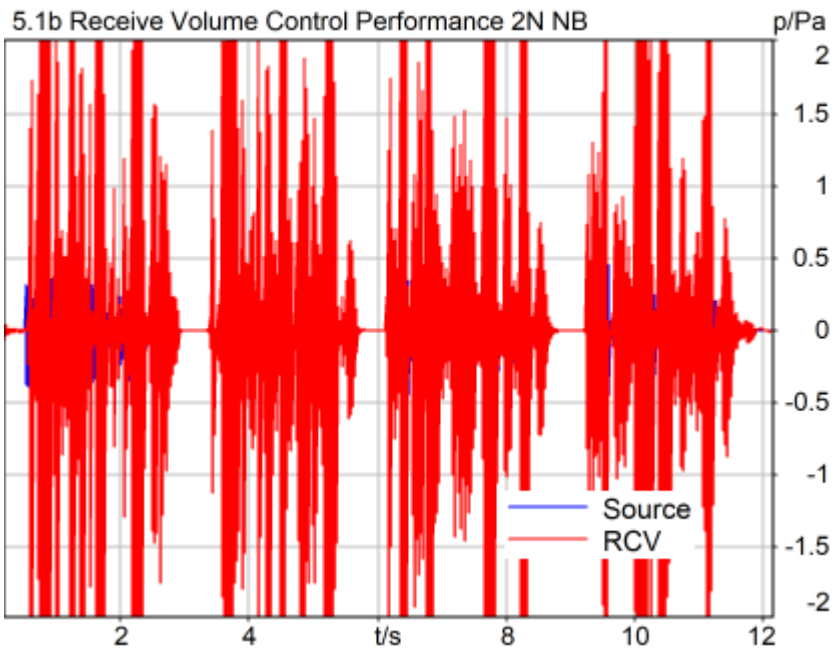
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.41 dB[SPL] | 84.11% | 17.41 dB[SPL] | Ok |

**Ok**

2025/1/17 16:21 ACQUA 6.0.200

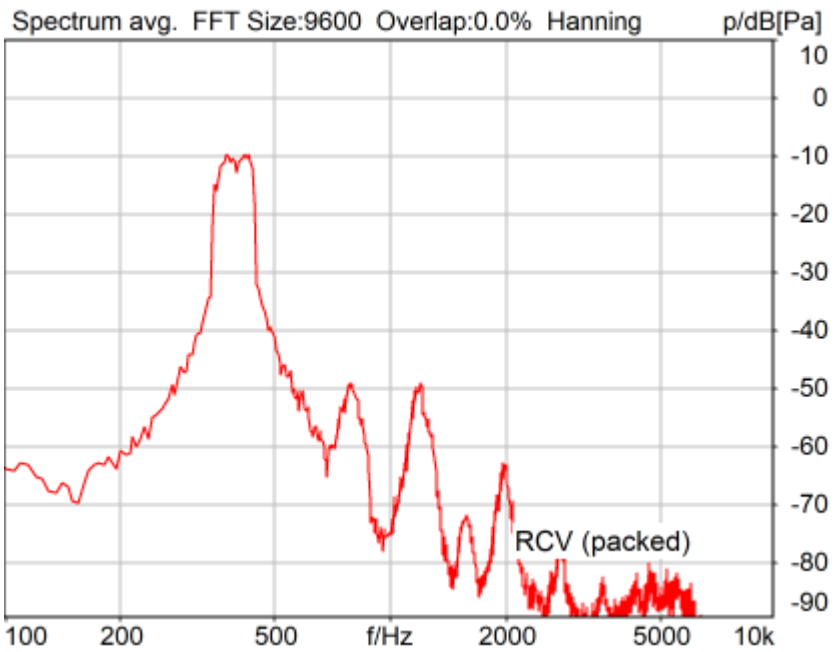
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 32.96 dB (2.25%) Ok

**Ok**

2025/1/17 16:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

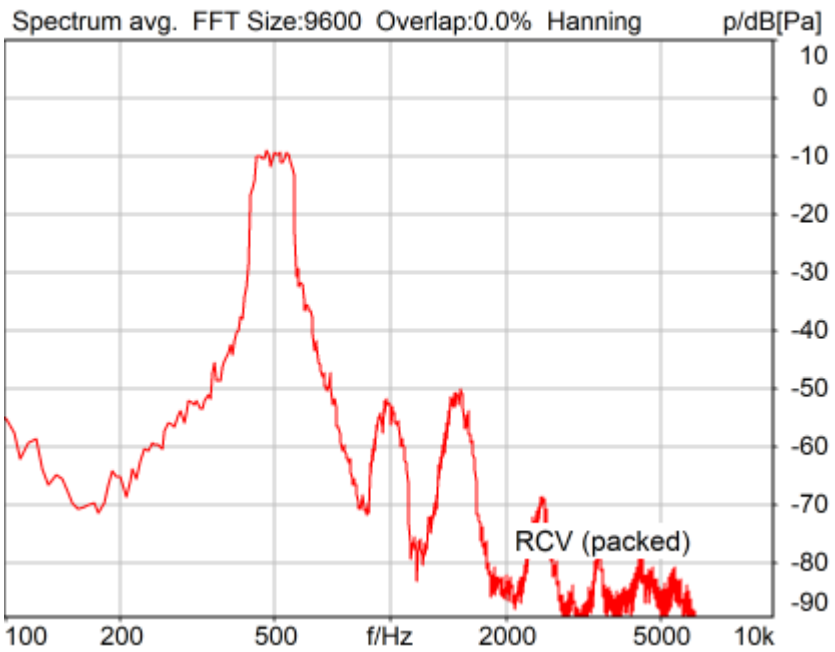
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 31.26 dB (2.74%) Ok

**Ok**

2025/1/17 16:30 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

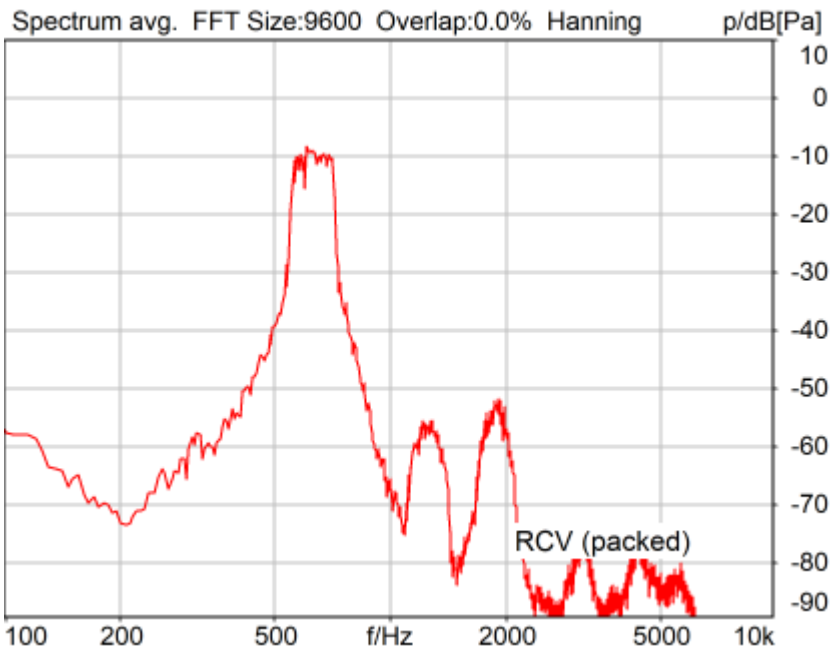
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 30.81 dB (2.88%) Ok

**Ok**

2025/1/17 16:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

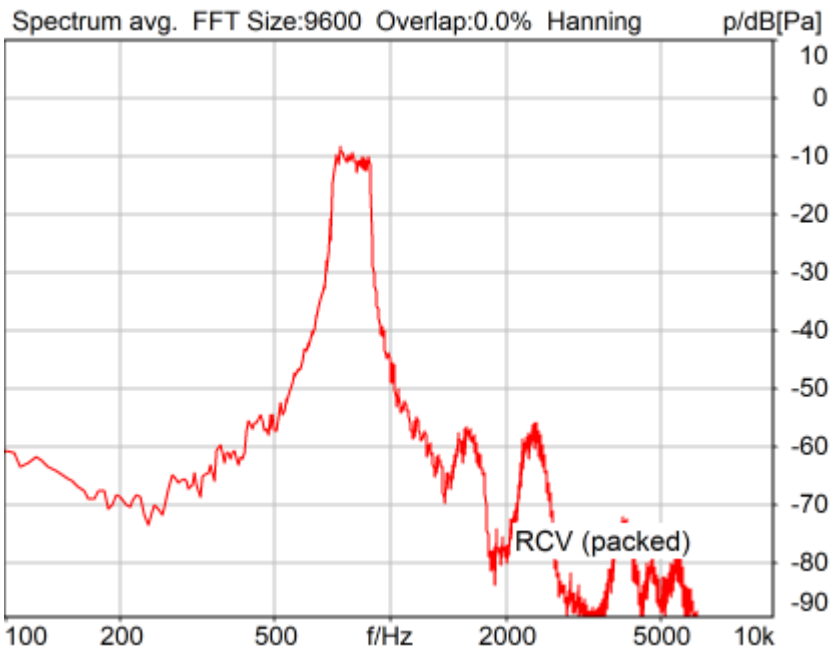
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 29.85 dB (3.22%) Ok

**Ok**

2025/1/17 16:31 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

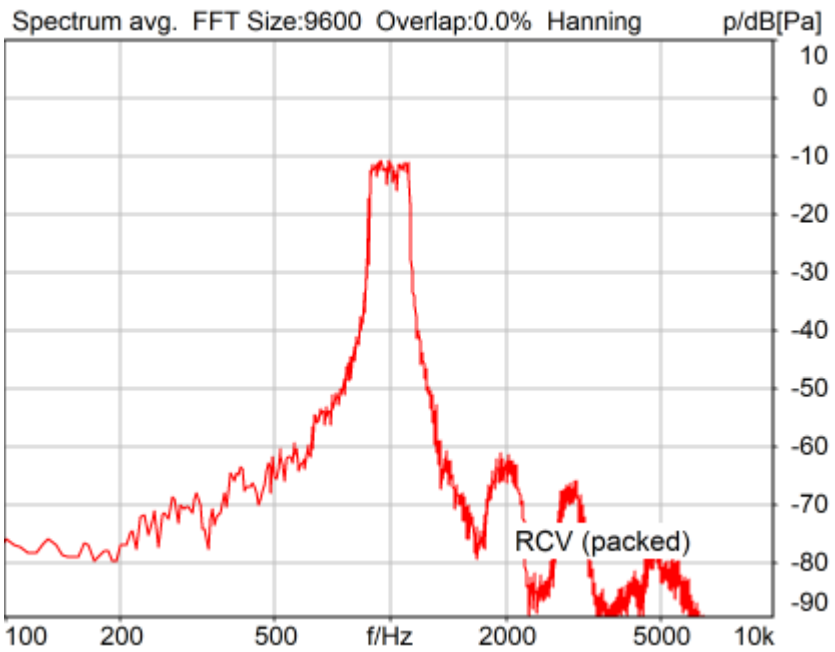
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 31.23 dB (2.75%) Ok

**Ok**

2025/1/17 16:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

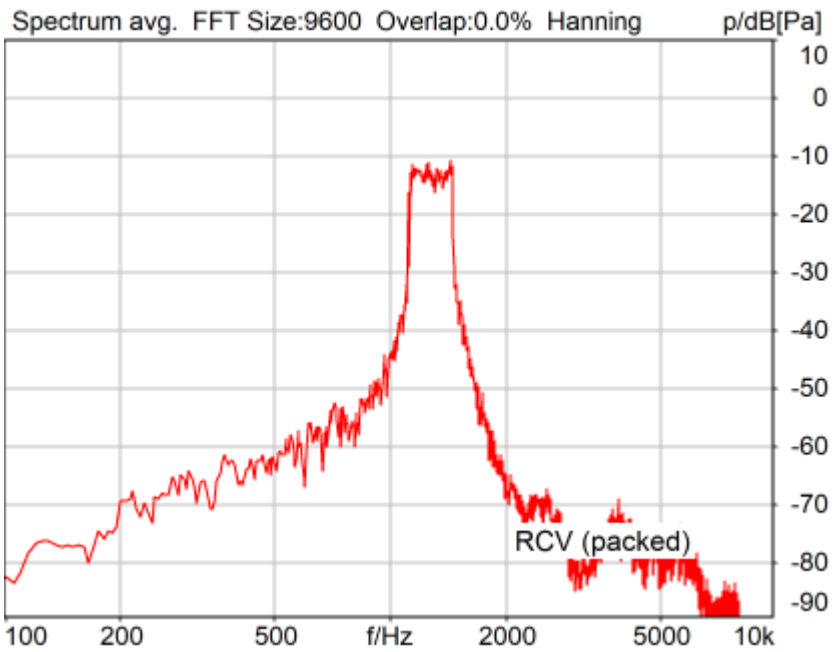
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 23.26 dB (6.87%) Ok

**Ok**

2025/1/17 16:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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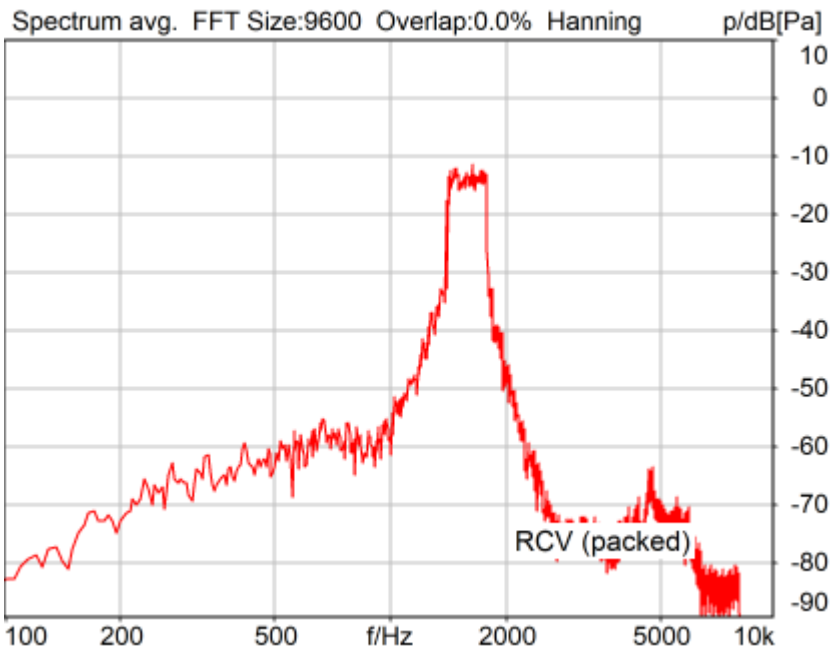
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 23.91 dB (6.38%) Ok

**Ok**

2025/1/17 16:32 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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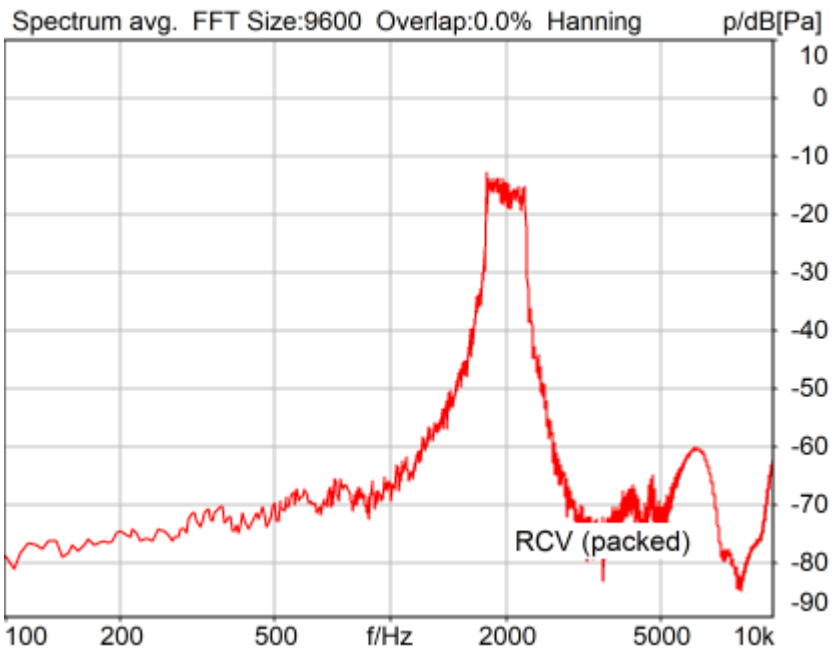
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 22.17 dB (7.79%) Ok

**Ok**

2025/1/17 16:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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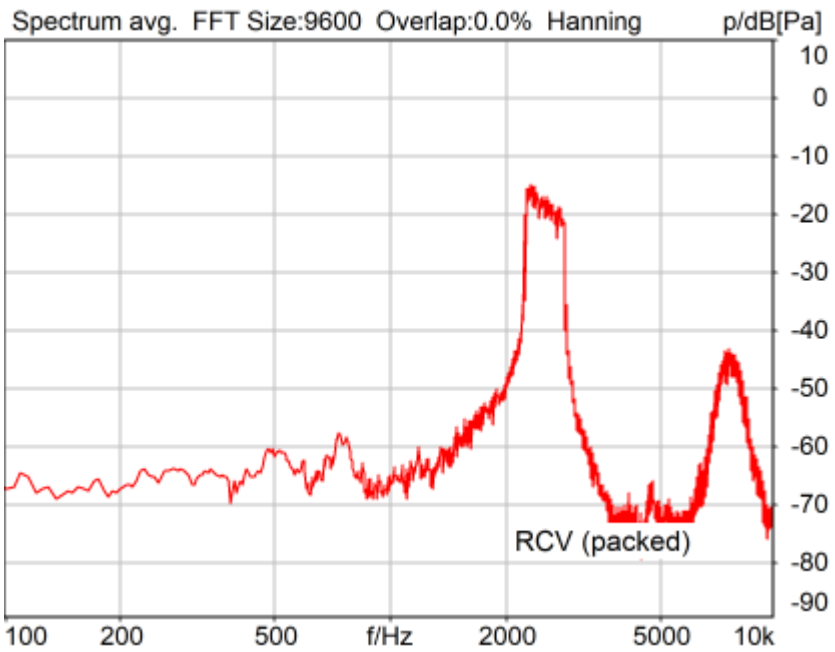
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 22.72 dB (7.31%) Ok

**Ok**

2025/1/17 16:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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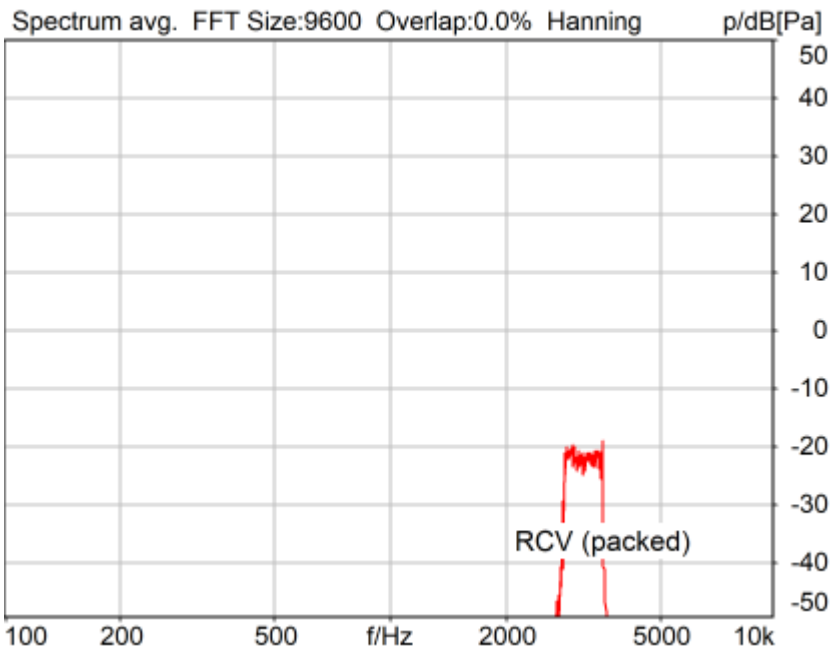
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 26.00 dB (5.01%) Ok

**Ok**

2025/1/17 16:33 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

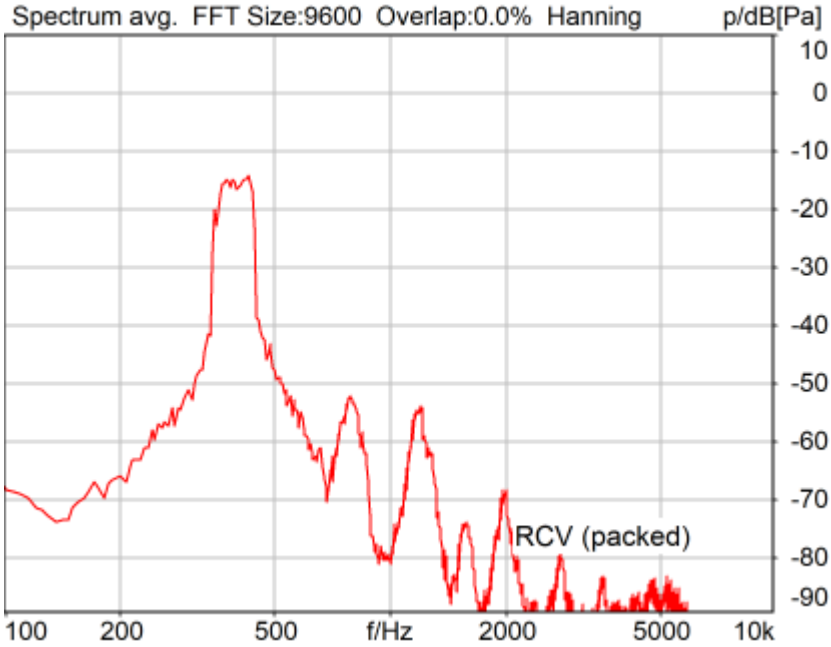
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 32.96 dB |
| 2 | 500Hz | 31.26 dB |
| 3 | 630Hz | 30.81 dB |
| 4 | 800Hz | 29.85 dB |
| 5 | 1000Hz | 31.23 dB |
| 6 | 1250Hz | 23.26 dB |
| 7 | 1600Hz | 23.91 dB |
| 8 | 2000Hz | 22.17 dB |
| 9 | 2500Hz | 22.72 dB |
| 10 | 3150Hz | 26.00 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 22.17dB at 2000Hz.

2025/1/17 16:33 ACQUA

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 32.66 dB (2.33%) Ok

**Ok**

2025/1/17 16:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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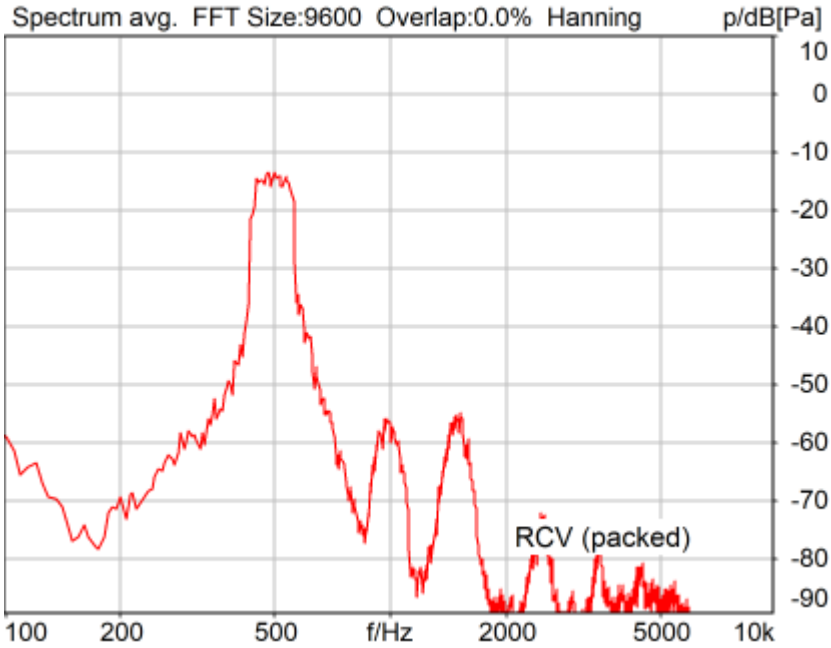
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 32.13 dB (2.48%) Ok

**Ok**

2025/1/17 16:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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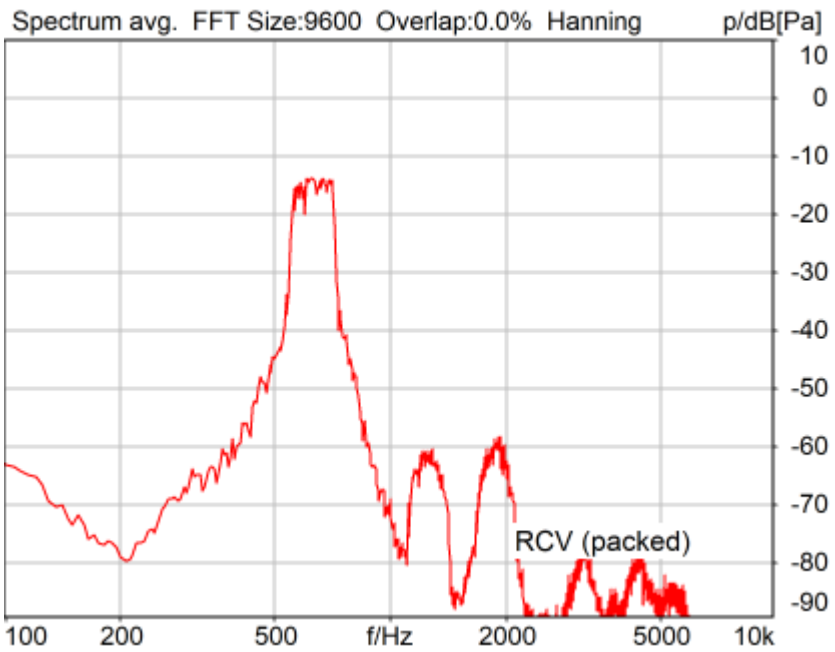
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 31.31 dB (2.72%) Ok

**Ok**

2025/1/17 16:22 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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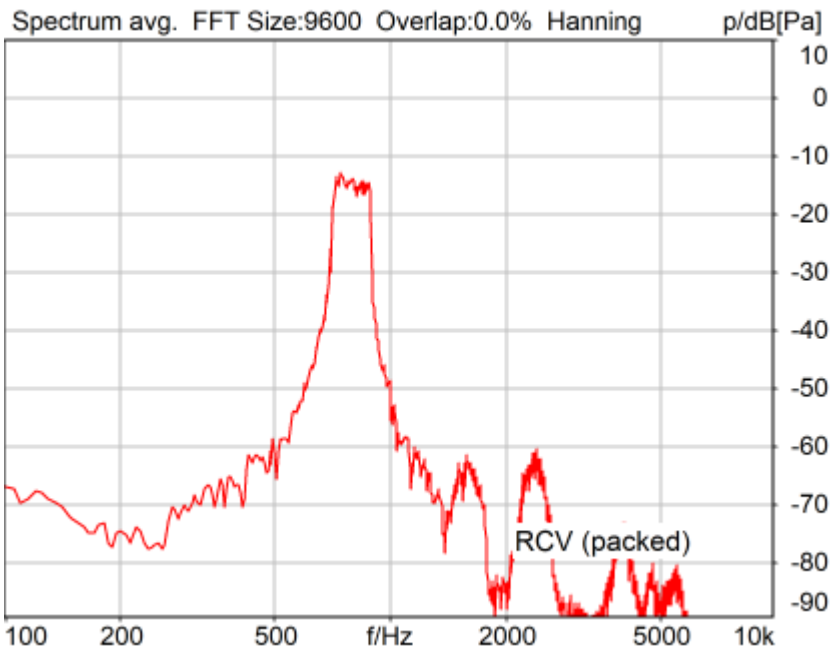
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 31.17 dB (2.76%) Ok

**Ok**

2025/1/17 16:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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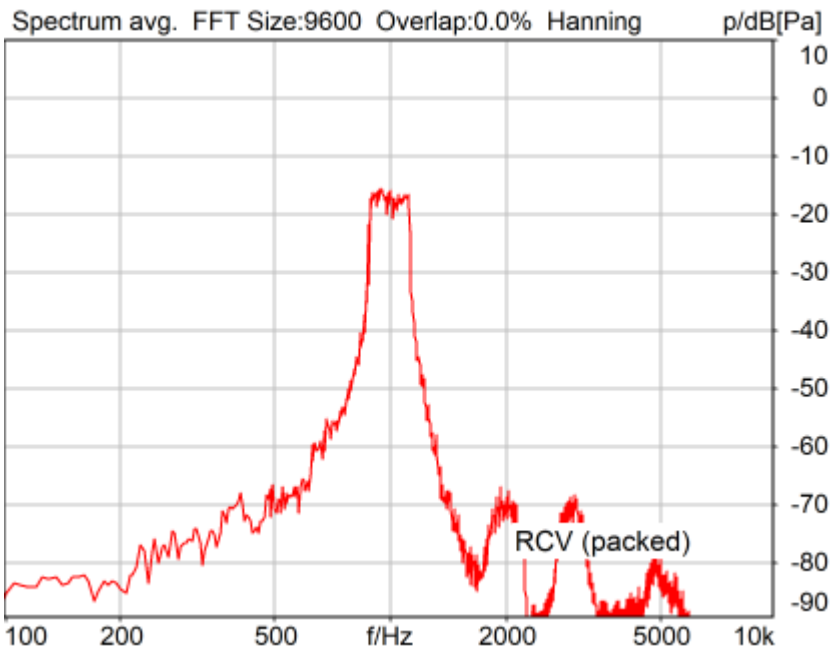
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 30.00 dB (3.16%) Ok

**Ok**

2025/1/17 16:23 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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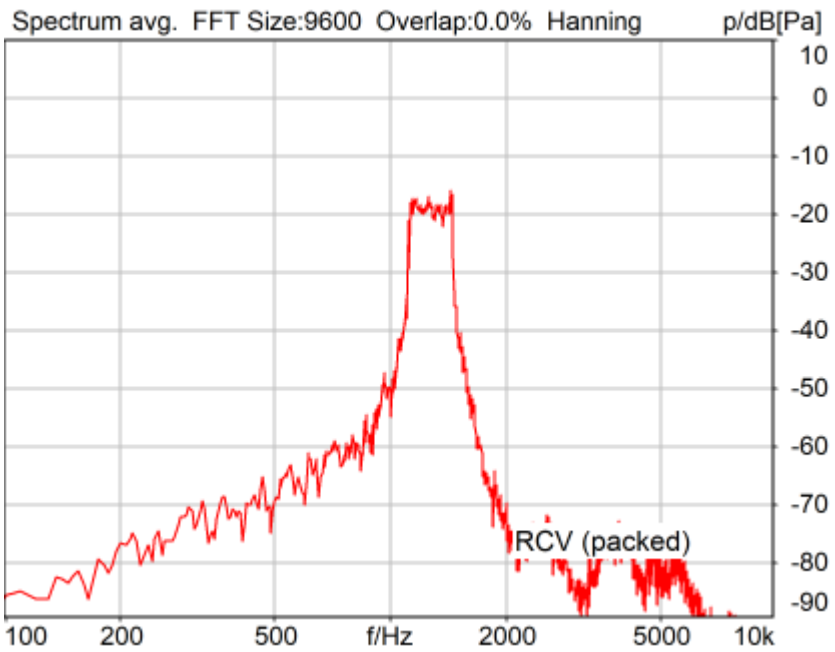
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 21.68 dB (8.24%) Ok

**Ok**

2025/1/17 16:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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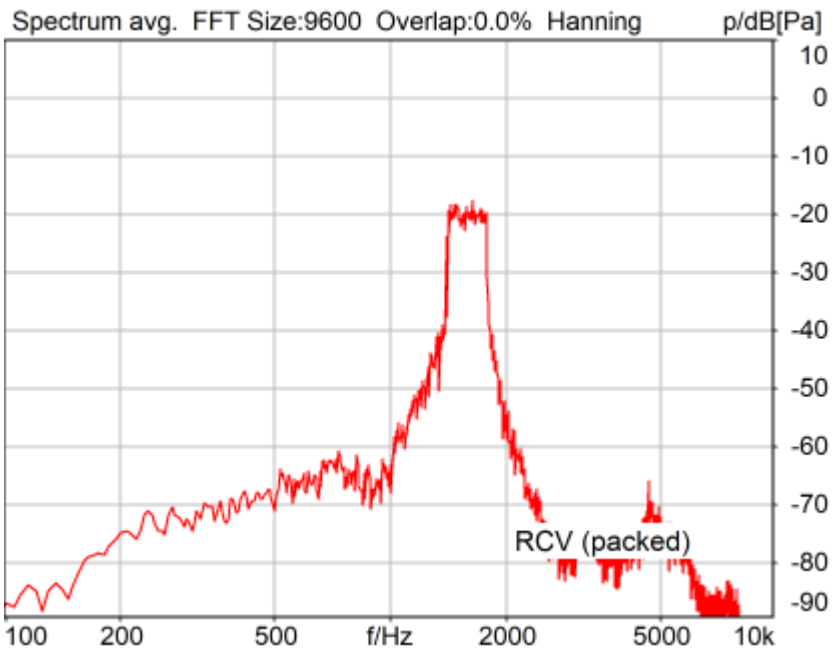
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 24.67 dB (5.84%) Ok

**Ok**

2025/1/17 16:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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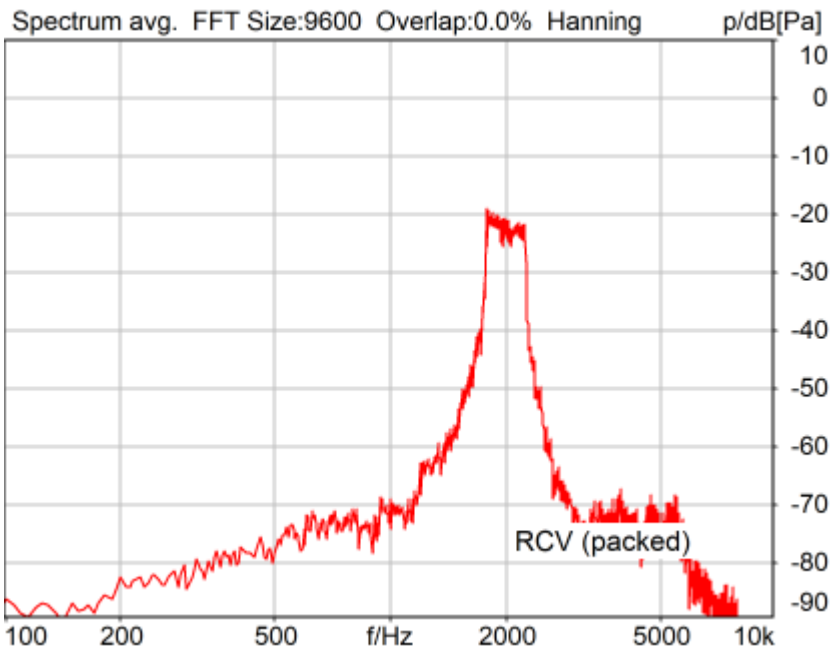
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 21.98 dB (7.96%) Ok

**Ok**

2025/1/17 16:24 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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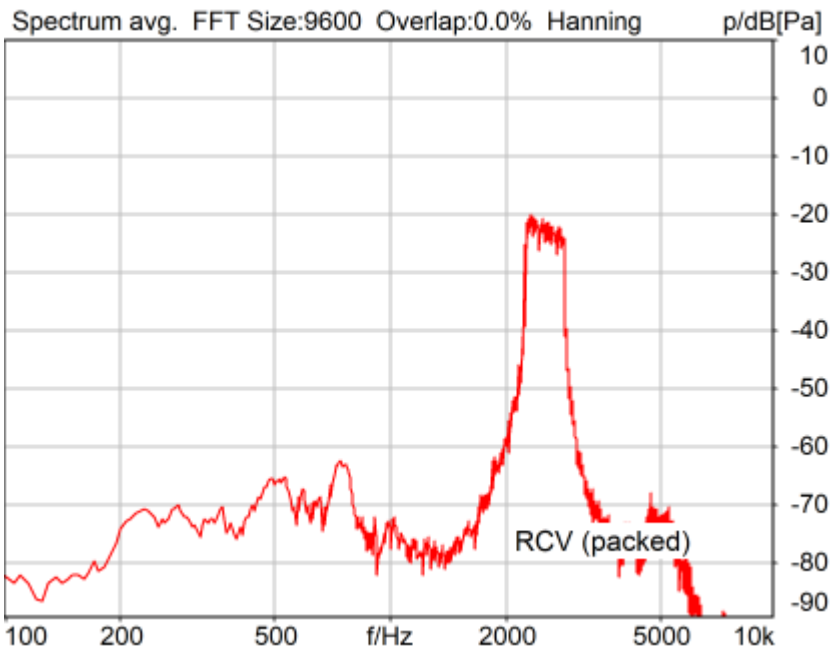
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 27.88 dB (4.03%) Ok

**Ok**

2025/1/17 16:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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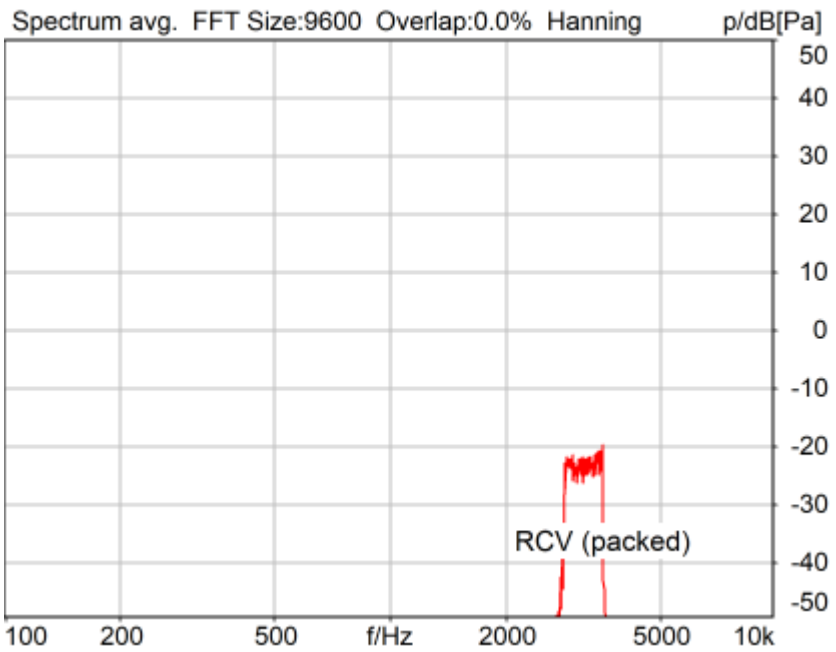
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 30.39 dB (3.02%) Ok

**Ok**

2025/1/17 16:25 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N

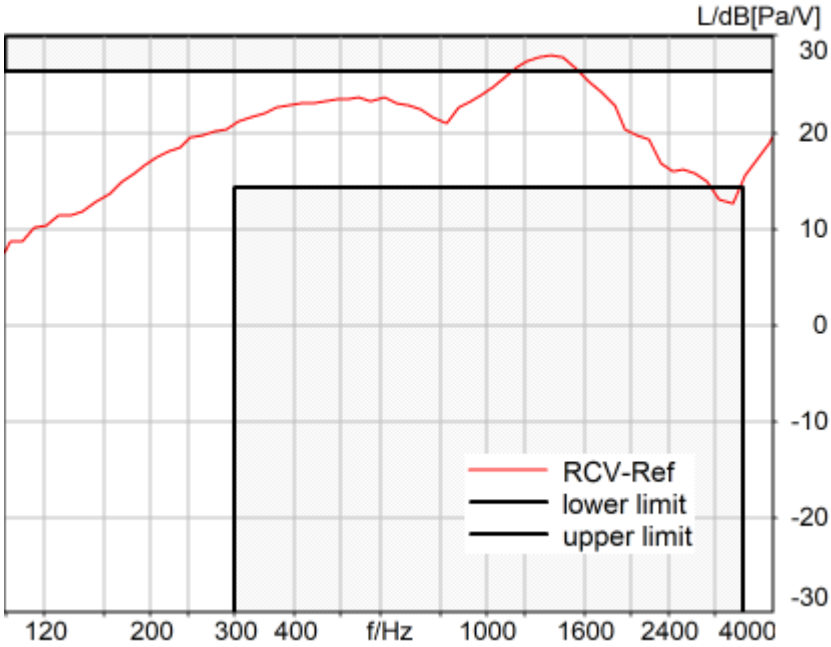
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 32.66 dB |
| 2 | 500Hz | 32.13 dB |
| 3 | 630Hz | 31.31 dB |
| 4 | 800Hz | 31.17 dB |
| 5 | 1000Hz | 30.00 dB |
| 6 | 1250Hz | 21.68 dB |
| 7 | 1600Hz | 24.67 dB |
| 8 | 2000Hz | 21.98 dB |
| 9 | 2500Hz | 27.88 dB |
| 10 | 3150Hz | 30.39 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 21.68dB at 1250Hz.

2025/1/17 16:25 ACQUA

## 5.3 Frequency Response 8N FF HANB

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




Absolute minimal distance
-1.61 dB at 1360.9 Hz Not Ok

**Not Ok**

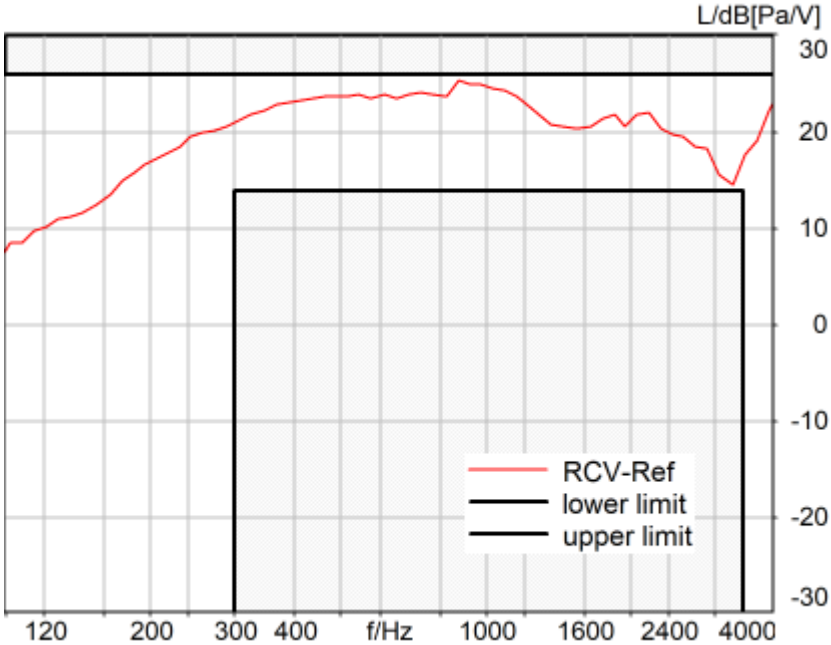
2025/1/17 16:28 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF HANB

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




Absolute minimal distance
0.57 dB at 3245.6 Hz Ok

**Ok**

2025/1/17 16:28 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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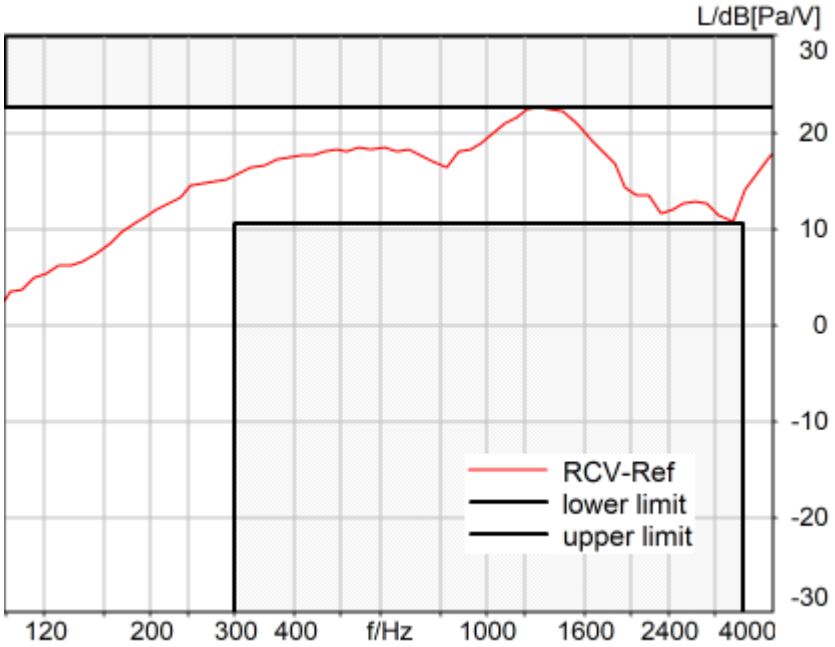
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF HANB

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




Absolute minimal distance
0.08 dB at 1285.9 Hz Ok

**Ok**

2025/1/17 16:26 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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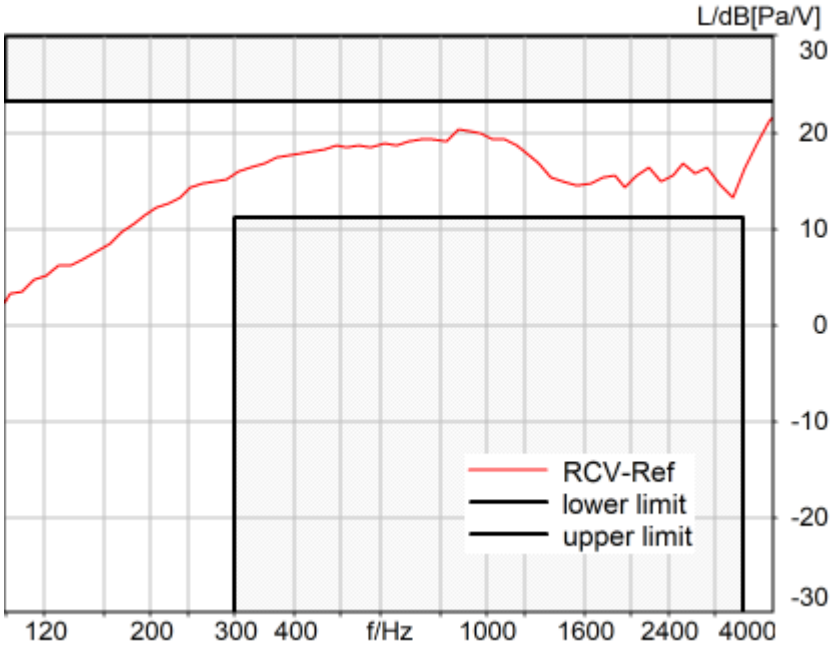
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF HANB

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




Absolute minimal distance
2.10 dB at 3882.4 Hz Ok

**Ok**

2025/1/17 16:27 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

# Measurement Protocol

| | |
|---|---|
| Measurement Object | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |

| | |
|---|---|
| Project | TIA-5050 (2018-01) |
| Report Generation Date | 2025/3/11 17:11 |
| Responsible Person | audio |

# Status Overview

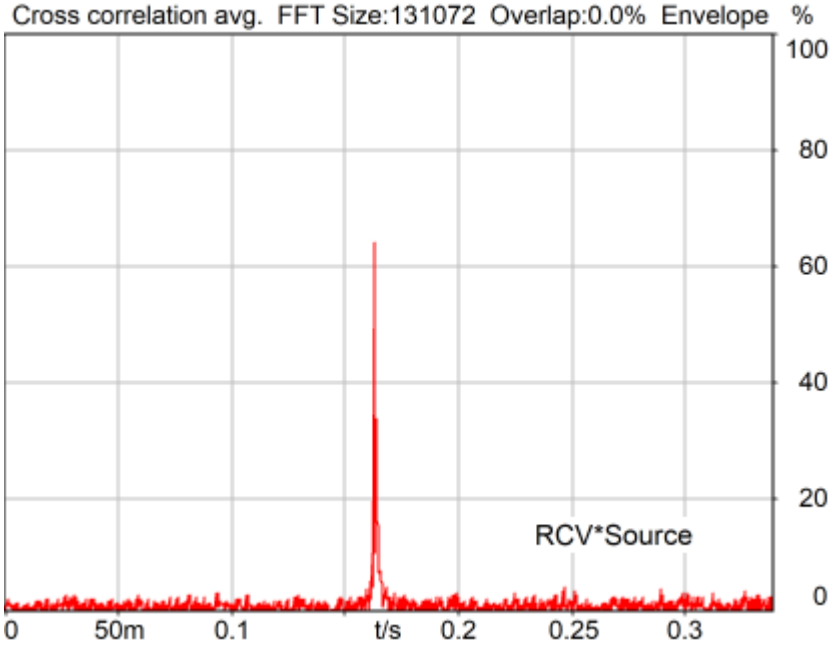
| SMD | Status | Single Value Description | Single Value | Object |
|---|---|---|---|---|
| Overall Receive Delay NB | Done | Delay (Cross) [ms] | 163.9 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.1a Receive Volume Control Performance 8N NB | Ok | Corrected Speech Level [dB[SPL]] | 22.74 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.1b Receive Volume Control Performance 2N NB | Ok | Corrected Speech Level [dB[SPL]] | 17.08 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.65 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.13 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 630 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 35.02 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 35.15 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.57 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.32 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.03 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 21.32 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 20.80 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.45 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2500Hz) | 20.80 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 400 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 33.63 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 30.49 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - | Ok | Distortion (Noise) [dB], | 34.56 | WIFI 5G_802.11a |

| | | | | |
|---|---|---|---|---|
| 630 Hz NB | | 0.0 dB | | 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 800 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 34.34 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 1000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 32.10 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 1250 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 23.67 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 1600 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 24.77 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 2000 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 20.86 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 2500 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 28.17 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.2 RCV Distortion and Noise - 3150 Hz NB | Ok | Distortion (Noise) [dB], 0.0 dB | 29.86 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| Report - Receive Distortion and Noise (Conversational Gain) | Ok | Minimum SDNR [dB], (occured at 2000Hz) | 20.86 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.3 Frequency Response 8N FF HANB | Not Ok | Min. dist. to tolerance scheme [dB], 1360.9 Hz | -2.03 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.3 Frequency Response 8N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 873.9 Hz | 0.73 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.3 Frequency Response 2N FF HANB | Ok | Min. dist. to tolerance scheme [dB], 1360.9 Hz | 0.73 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |
| 5.3 Frequency Response 2N DF HANB | Ok | Min. dist. to tolerance scheme [dB], 3245.6 Hz | 2.52 | WIFI 5G_802.11a 6M_EVS NB 24.4kbps_CH157 |

Overall Receive Delay NB 5
5.1a Receive Volume Control Performance 8N NB 5
5.1b Receive Volume Control Performance 2N NB 6
5.2 RCV Distortion and Noise - 400 Hz NB 7
5.2 RCV Distortion and Noise - 500 Hz NB 8
5.2 RCV Distortion and Noise - 630 Hz NB 9
5.2 RCV Distortion and Noise - 800 Hz NB 10
5.2 RCV Distortion and Noise - 1000 Hz NB 11
5.2 RCV Distortion and Noise - 1250 Hz NB 12
5.2 RCV Distortion and Noise - 1600 Hz NB 13
5.2 RCV Distortion and Noise - 2000 Hz NB 14
5.2 RCV Distortion and Noise - 2500 Hz NB 15
5.2 RCV Distortion and Noise - 3150 Hz NB 16
Report - Receive Distortion and Noise (Conversational Gain) 17
5.2 RCV Distortion and Noise - 400 Hz NB 18
5.2 RCV Distortion and Noise - 500 Hz NB 18
5.2 RCV Distortion and Noise - 630 Hz NB 19
5.2 RCV Distortion and Noise - 800 Hz NB 20
5.2 RCV Distortion and Noise - 1000 Hz NB 21
5.2 RCV Distortion and Noise - 1250 Hz NB 22
5.2 RCV Distortion and Noise - 1600 Hz NB 23
5.2 RCV Distortion and Noise - 2000 Hz NB 24
5.2 RCV Distortion and Noise - 2500 Hz NB 25
5.2 RCV Distortion and Noise - 3150 Hz NB 26
Report - Receive Distortion and Noise (Conversational Gain) 27
5.3 Frequency Response 8N FF HANB 28
5.3 Frequency Response 8N DF HANB 29
5.3 Frequency Response 2N FF HANB 29
5.3 Frequency Response 2N DF HANB 30

## Overall Receive Delay NB

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

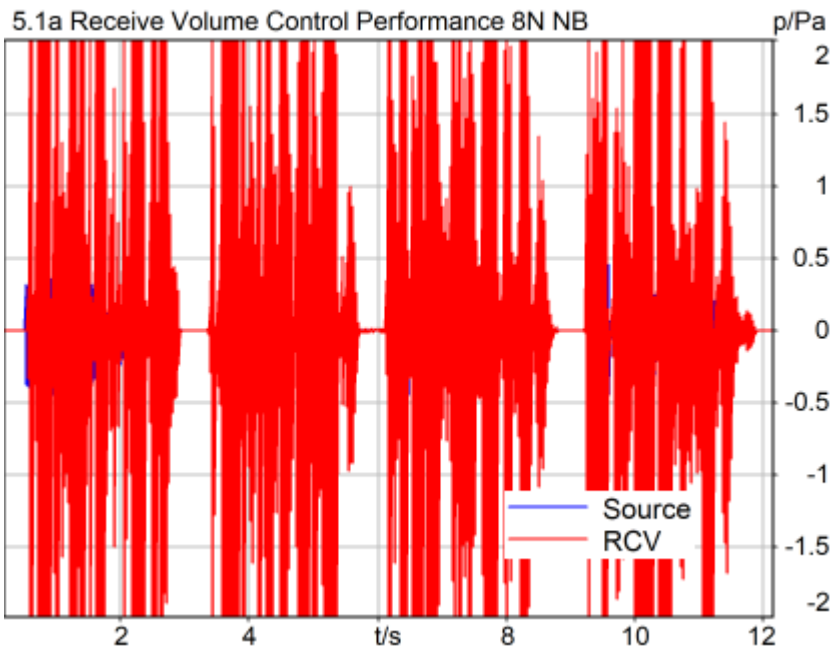



| Channel | Delay |
|---|---|
| **RCV*Source** | 163.9 ms |

2025/2/26 16:13 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

## 5.1a Receive Volume Control Performance 8N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 92.74 dB[SPL] | 84.34% | 22.74 dB[SPL] | Ok |

**Ok**

2025/2/26 16:13 ACQUA 6.0.200

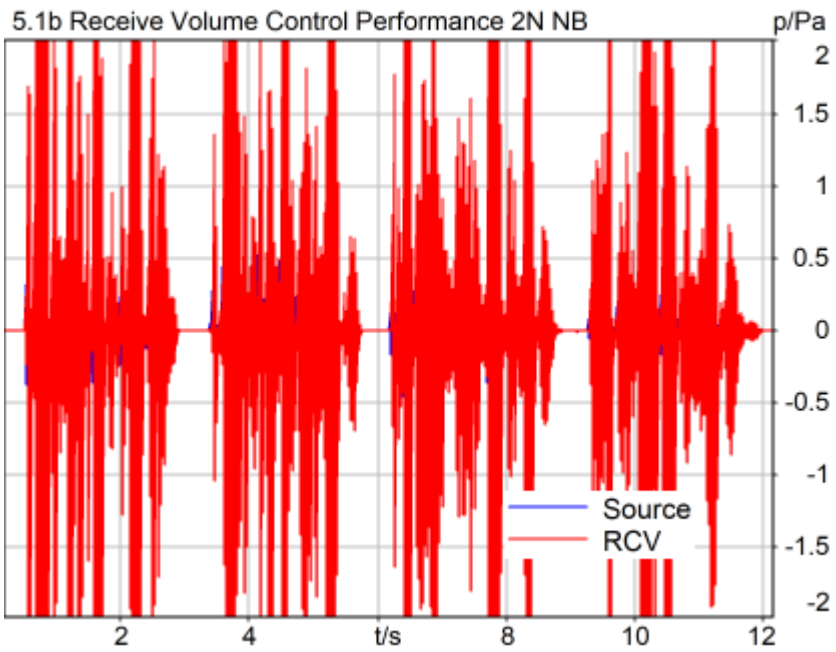
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.1b Receive Volume Control Performance 2N NB

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




**Correction**

X - 70

| Channel | Speech level | Activity | Corrected speech level | |
|---|---|---|---|---|
| **RCV** | 87.08 dB[SPL] | 83.92% | 17.08 dB[SPL] | Ok |

**Ok**

2025/2/26 16:01 ACQUA 6.0.200

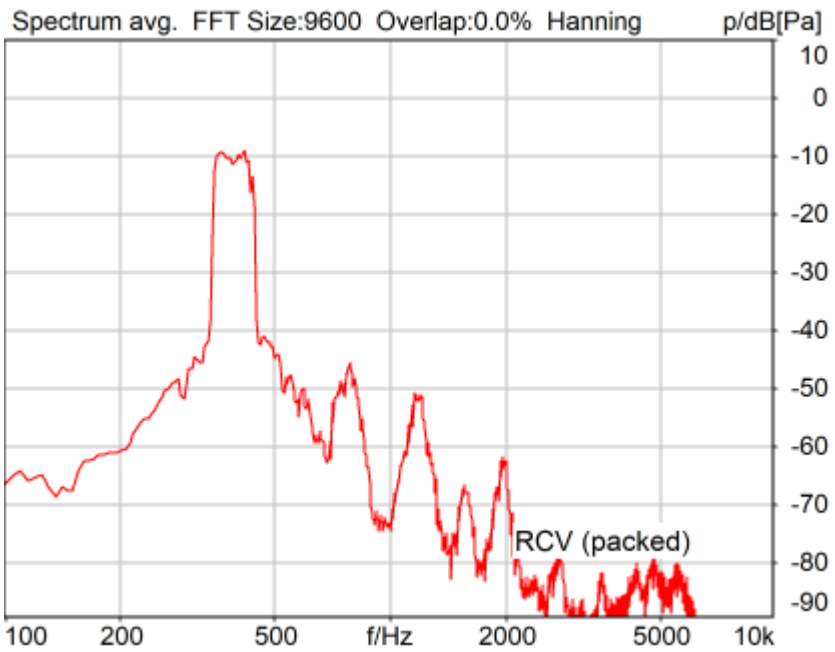
---

**Limits**

| | lower |
|---|---|
| Run 1 | 6.00 dB20uPa |

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 33.65 dB (2.08%) Ok

**Ok**

2025/2/26 16:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

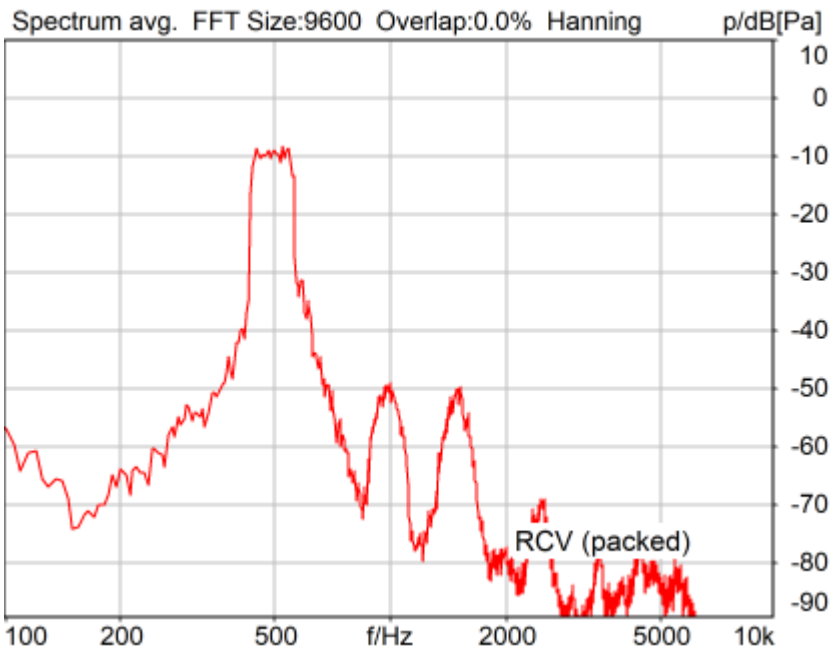
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 32.13 dB (2.48%) Ok

**Ok**

2025/2/26 16:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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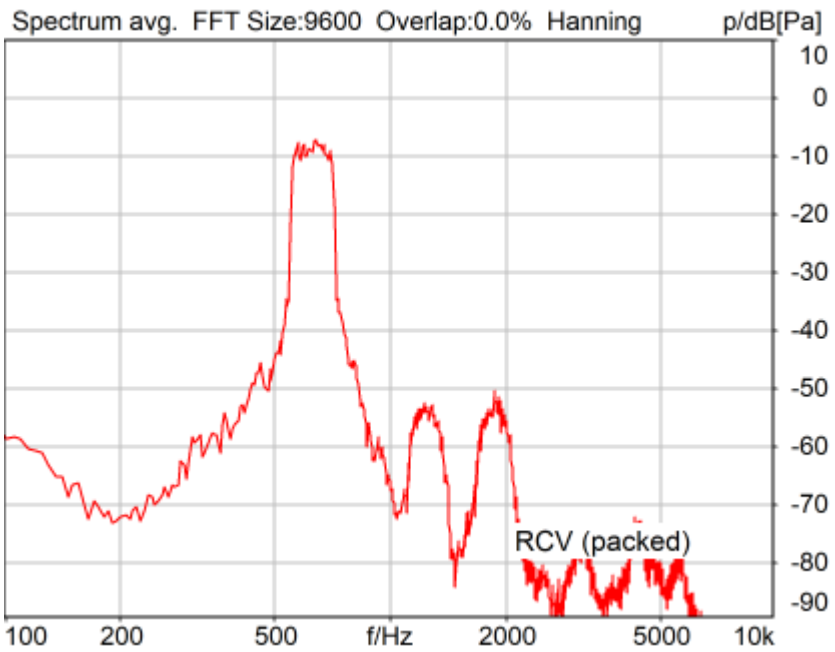
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 35.02 dB (1.78%) Ok

**Ok**

2025/2/26 16:14 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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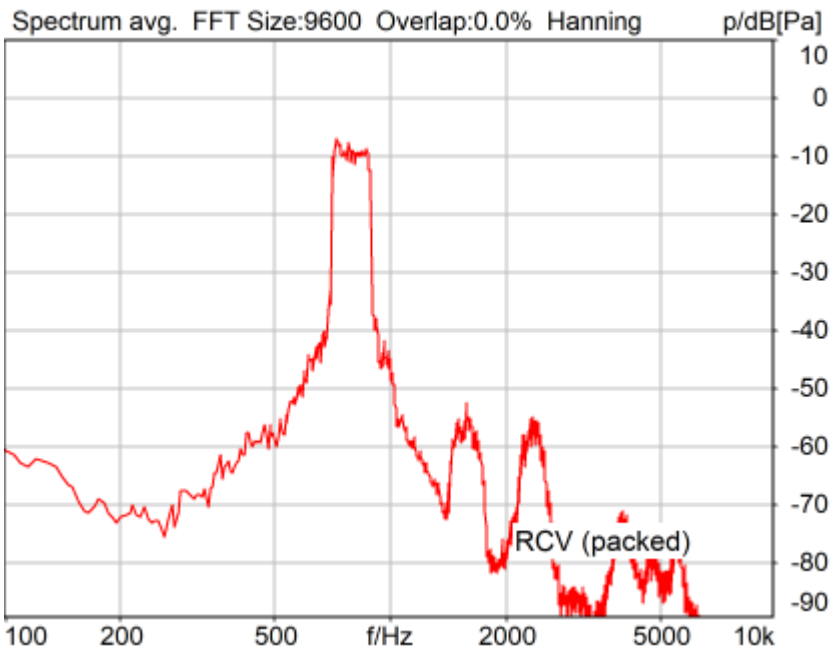
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 35.15 dB (1.75%) Ok

**Ok**

2025/2/26 16:15 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

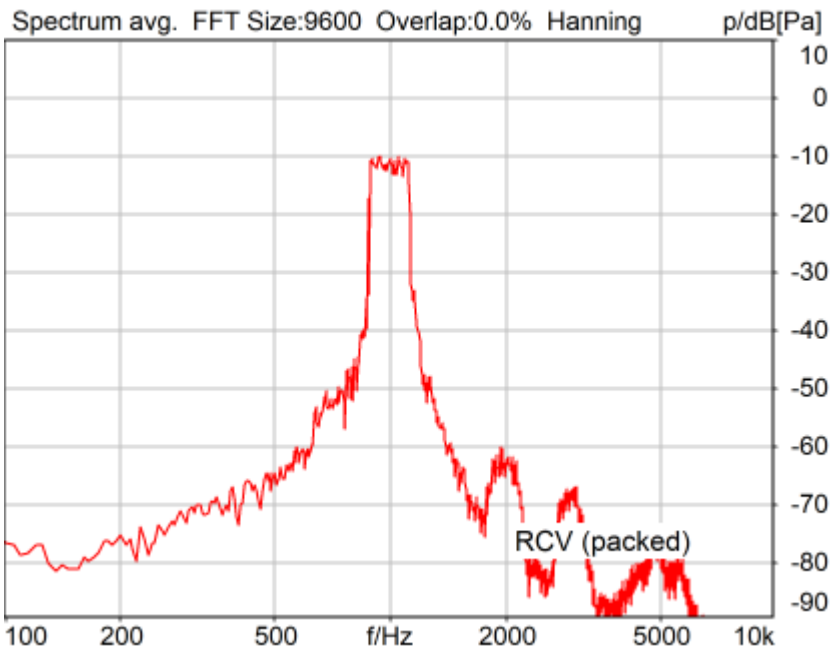
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 32.57 dB (2.35%) Ok

**Ok**

2025/2/26 16:15 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

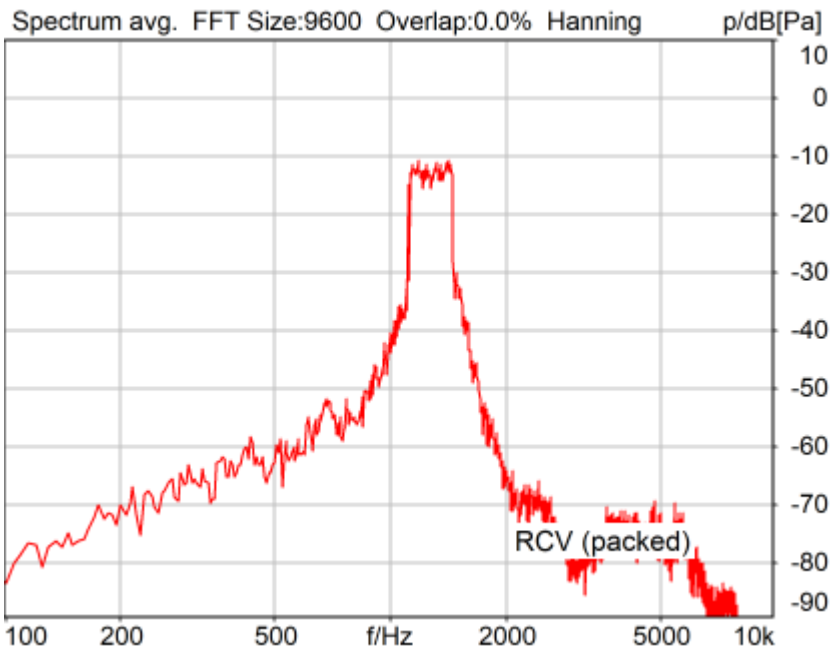
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 23.32 dB (6.82%) Ok

**Ok**

2025/2/26 16:16 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

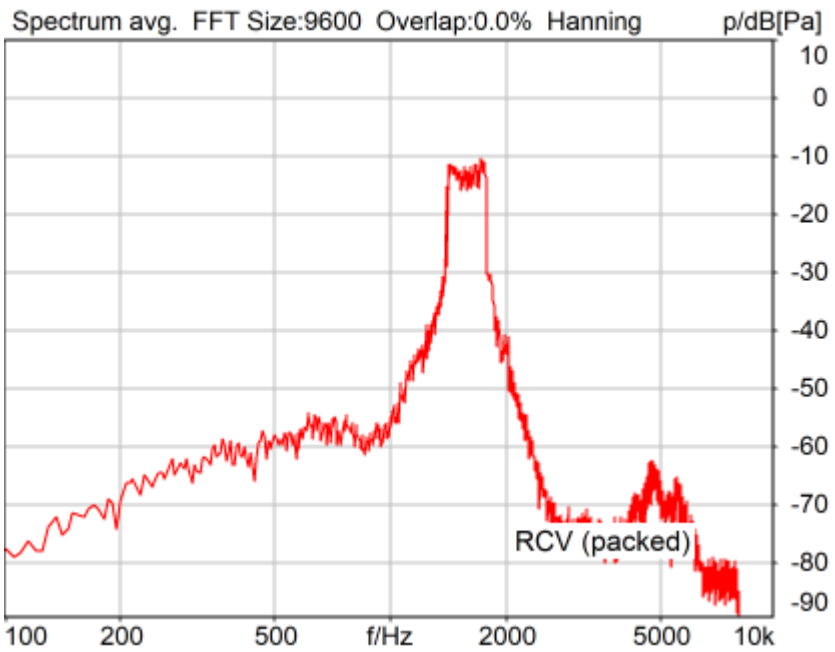
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.03 dB (6.29%) Ok

**Ok**

2025/2/26 16:16 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

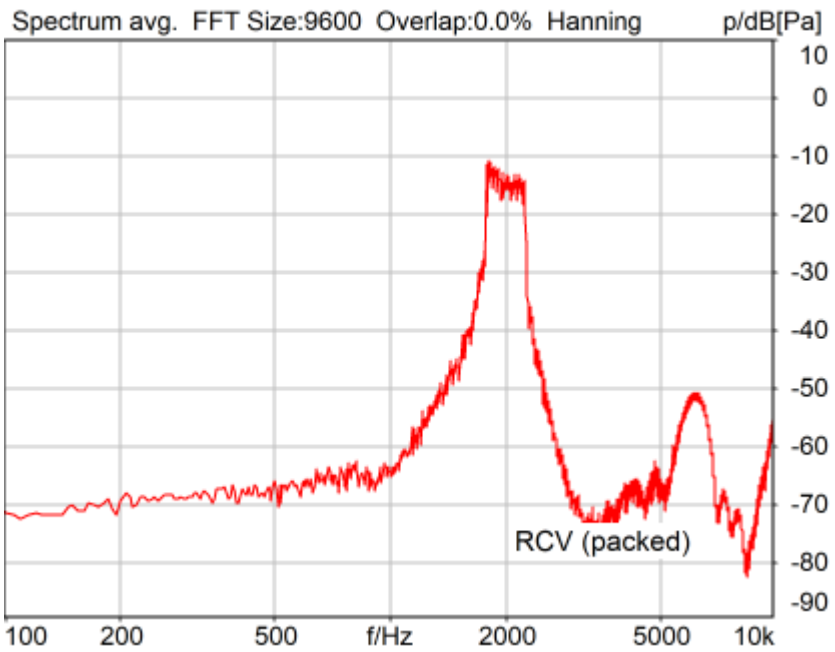
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 21.32 dB (8.59%) Ok

**Ok**

2025/2/26 16:16 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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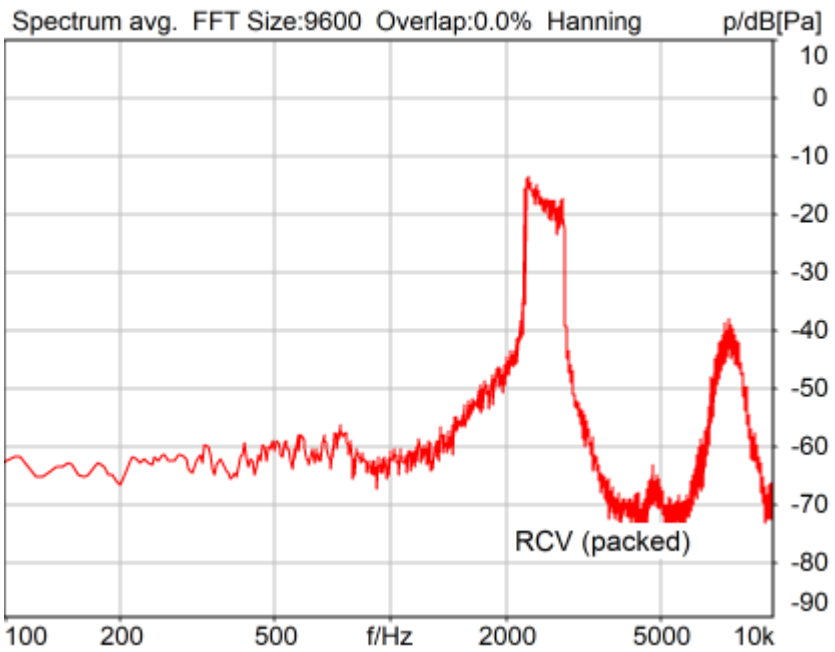
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 20.80 dB (9.12%) Ok

**Ok**

2025/2/26 16:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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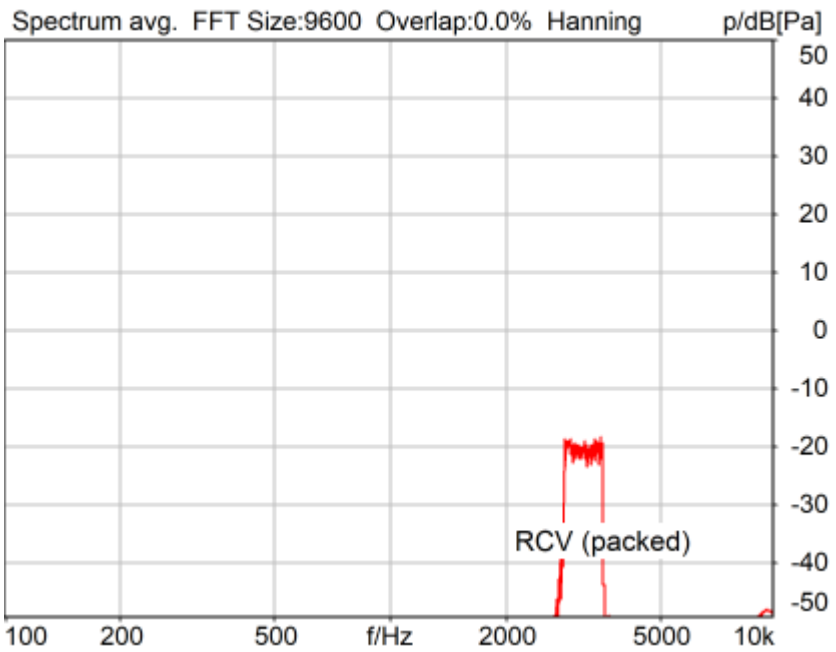
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N




Distortion (Noise) RCV (packed): 24.45 dB (5.99%) Ok

**Ok**

2025/2/26 16:17 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

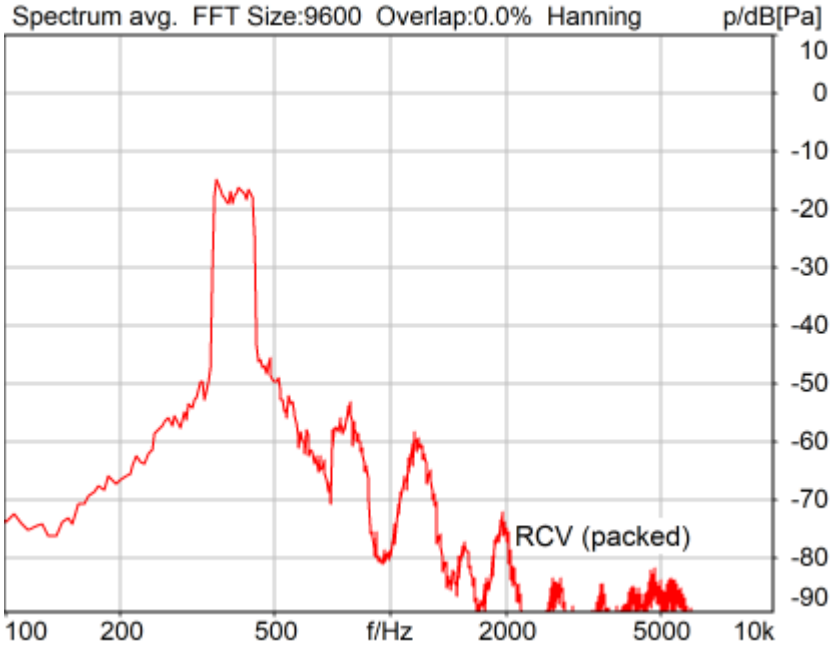
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 33.65 dB |
| 2 | 500Hz | 32.13 dB |
| 3 | 630Hz | 35.02 dB |
| 4 | 800Hz | 35.15 dB |
| 5 | 1000Hz | 32.57 dB |
| 6 | 1250Hz | 23.32 dB |
| 7 | 1600Hz | 24.03 dB |
| 8 | 2000Hz | 21.32 dB |
| 9 | 2500Hz | 20.80 dB |
| 10 | 3150Hz | 24.45 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 20.80dB at 2500Hz.

2025/2/26 16:18 ACQUA

## 5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 33.63 dB (2.08%) Ok

**Ok**

2025/2/26 16:02 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

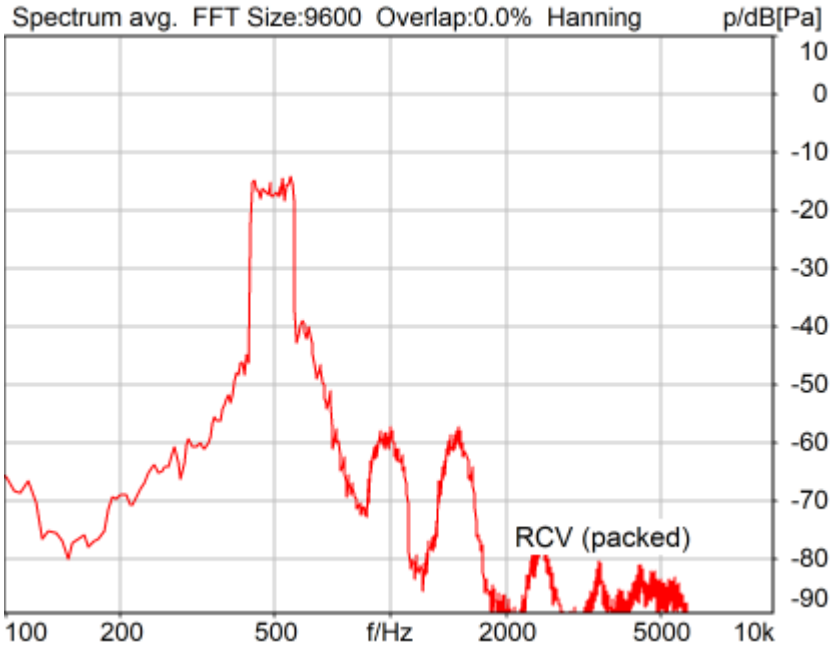
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 30.49 dB (2.99%) Ok

**Ok**

2025/2/26 16:02 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

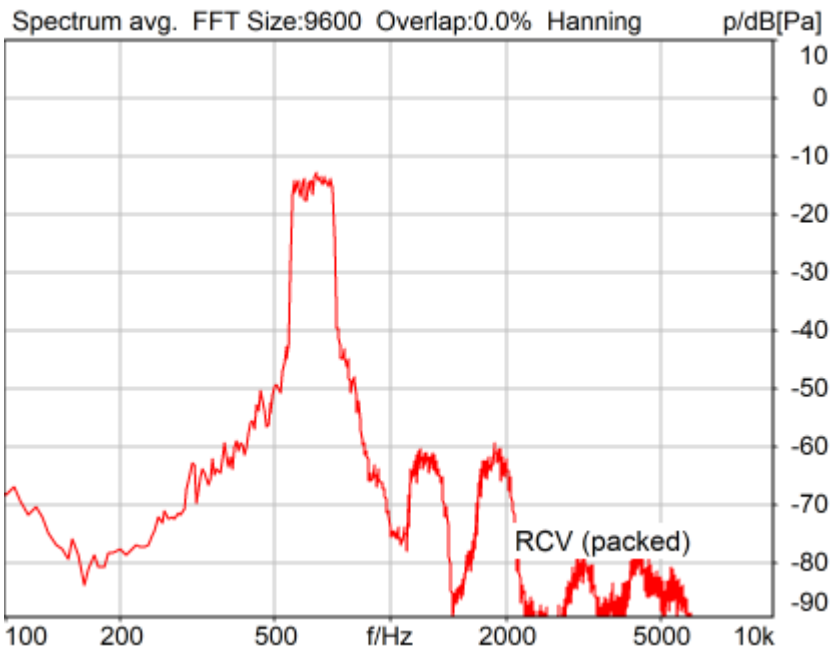
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 34.56 dB (1.87%) Ok

**Ok**

2025/2/26 16:03 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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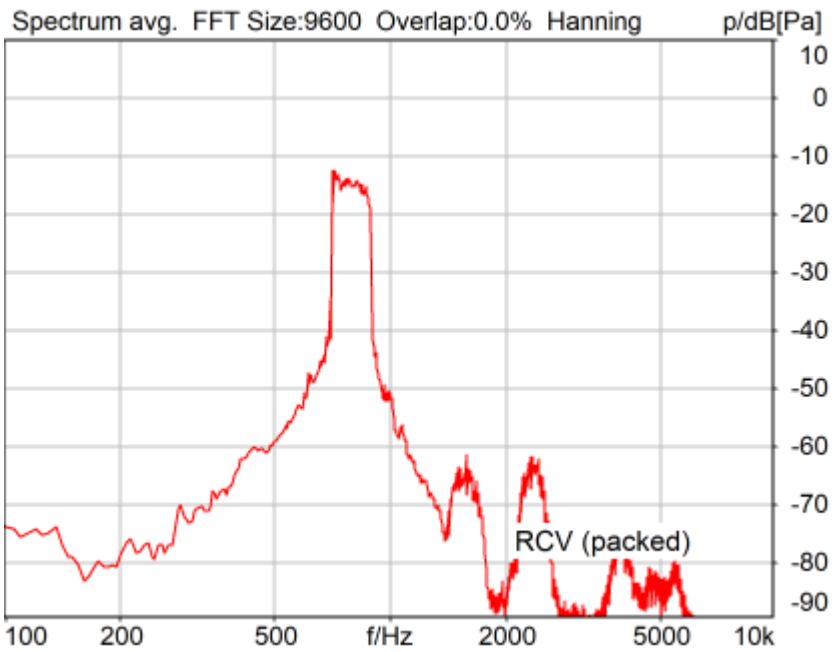
**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 34.34 dB (1.92%) Ok

**Ok**

2025/2/26 16:03 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

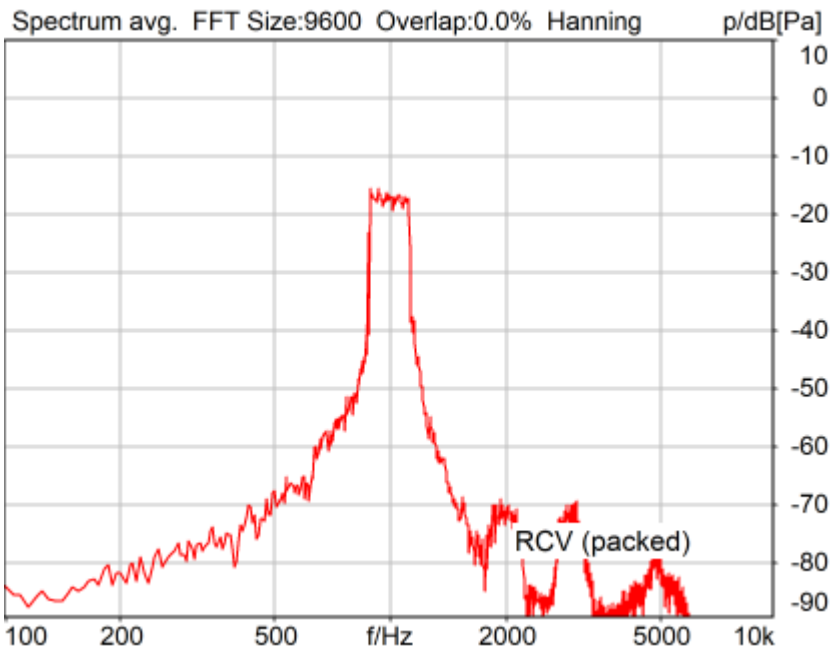
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 32.10 dB (2.48%) Ok

**Ok**

2025/2/26 16:03 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

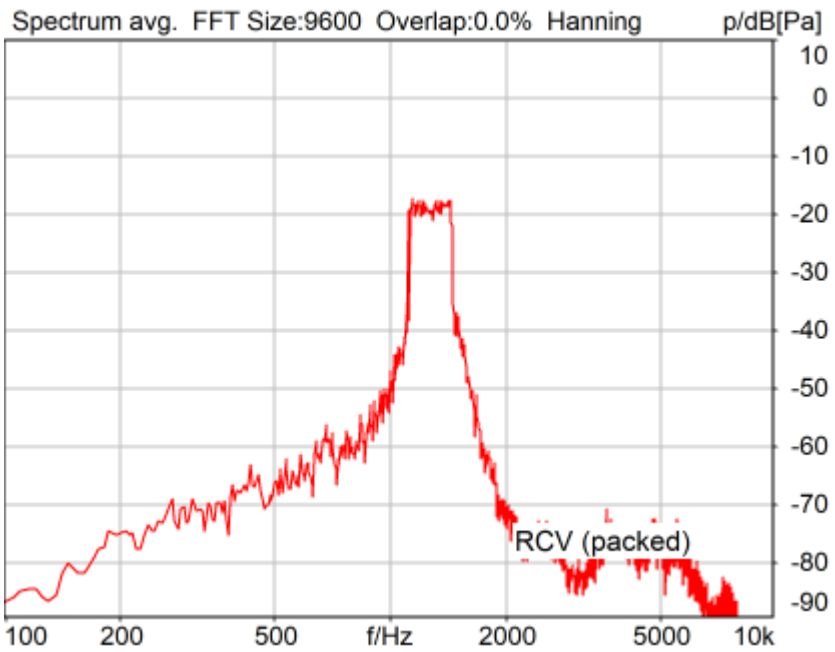
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 23.67 dB (6.55%) Ok

**Ok**

2025/2/26 16:04 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

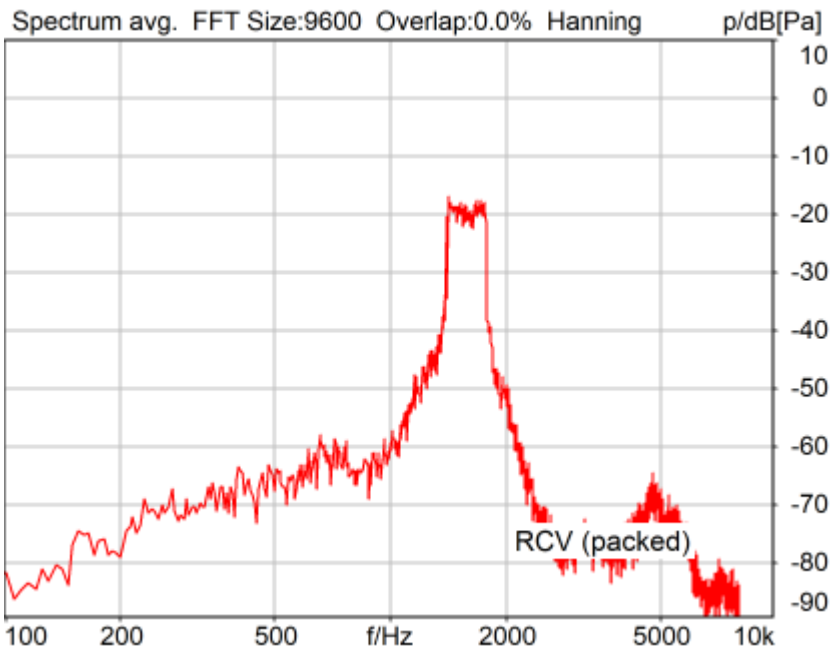
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 24.77 dB (5.78%) Ok

**Ok**

2025/2/26 16:04 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

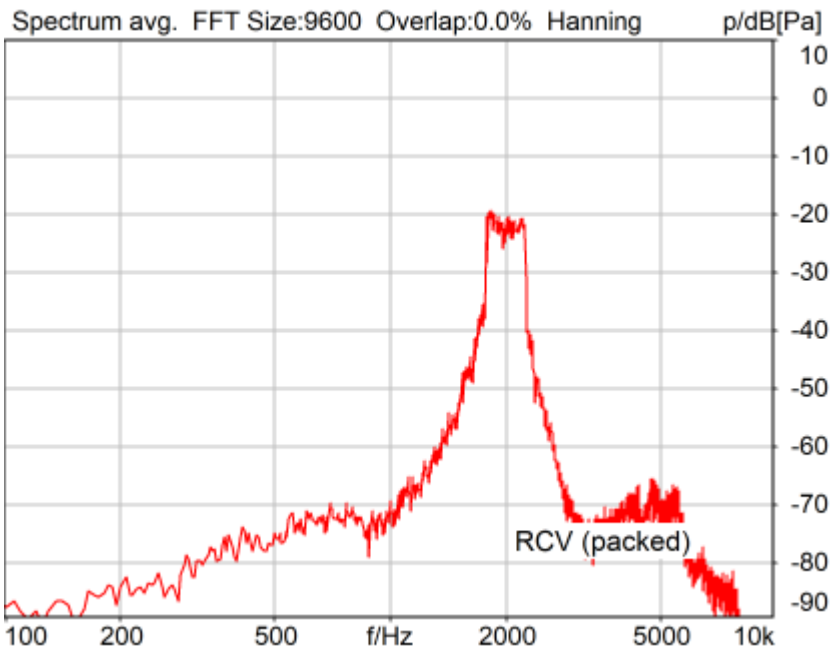
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 20.86 dB (9.06%) Ok

**Ok**

2025/2/26 16:05 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

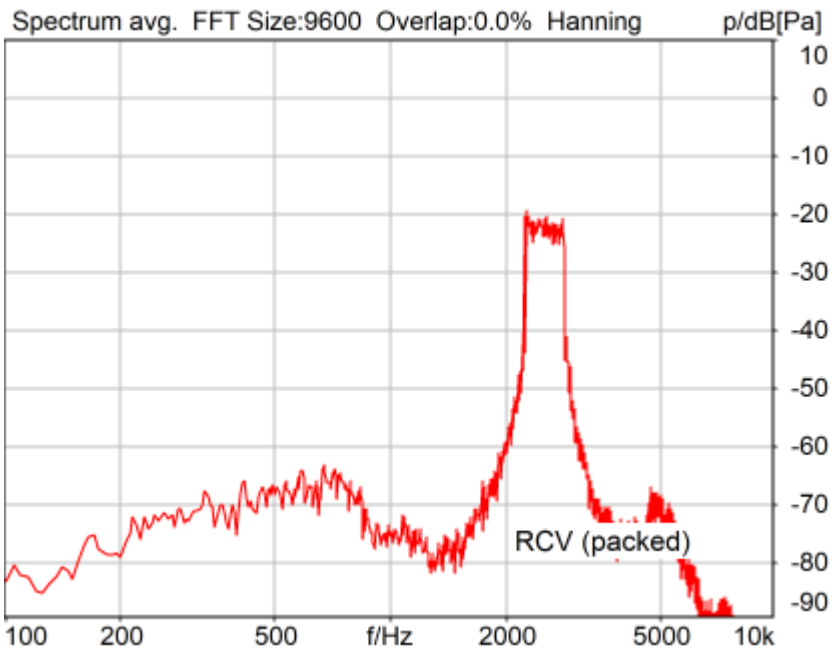
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 28.17 dB (3.90%) Ok

**Ok**

2025/2/26 16:05 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

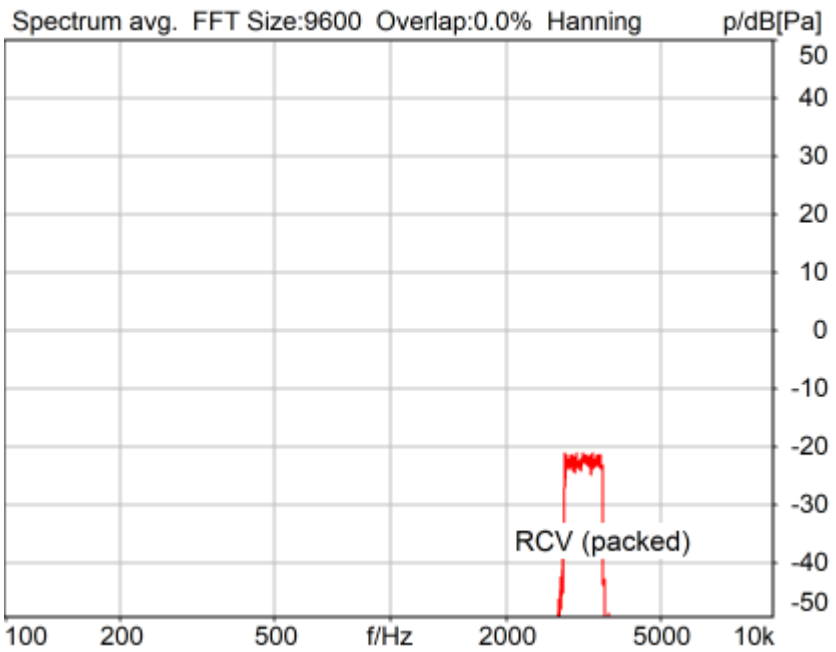
---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## 5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N




Distortion (Noise) RCV (packed): 29.86 dB (3.21%) Ok

**Ok**

2025/2/26 16:05 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

---

**Limits**

| | lower |
|---|---|
| Run 1 | 20.00 dB |

## Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 2N

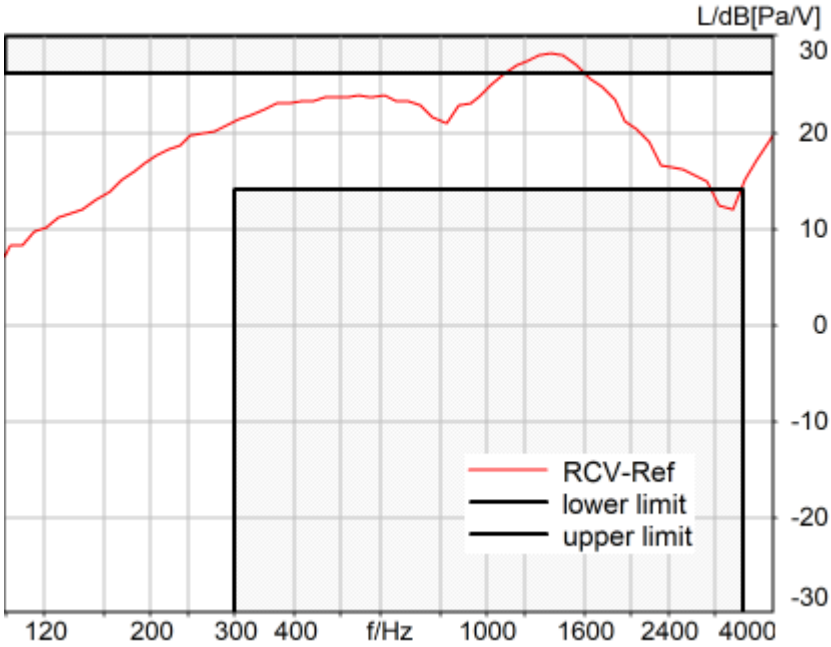
| Region | Frequency | SDNR |
|---|---|---|
| 1 | 400Hz | 33.63 dB |
| 2 | 500Hz | 30.49 dB |
| 3 | 630Hz | 34.56 dB |
| 4 | 800Hz | 34.34 dB |
| 5 | 1000Hz | 32.10 dB |
| 6 | 1250Hz | 23.67 dB |
| 7 | 1600Hz | 24.77 dB |
| 8 | 2000Hz | 20.86 dB |
| 9 | 2500Hz | 28.17 dB |
| 10 | 3150Hz | 29.86 dB |

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 20.86dB at 2000Hz.

2025/2/26 16:07 ACQUA

## 5.3 Frequency Response 8N FF HANB

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




Absolute minimal distance
-2.03 dB at 1360.9 Hz Not Ok

**Not Ok**

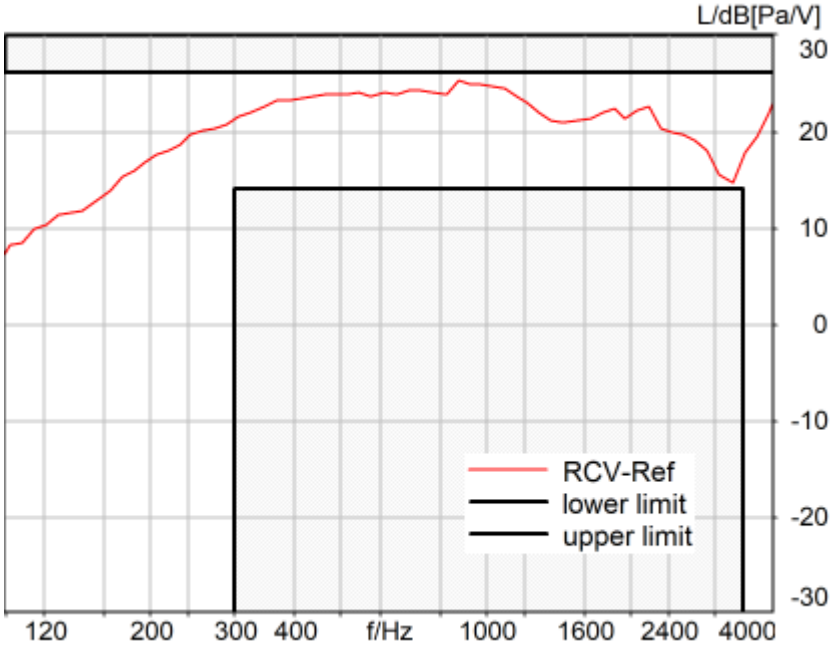
2025/2/26 16:11 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 8N DF HANB

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




Absolute minimal distance
0.73 dB at 873.9 Hz Ok

**Ok**

2025/2/26 16:10 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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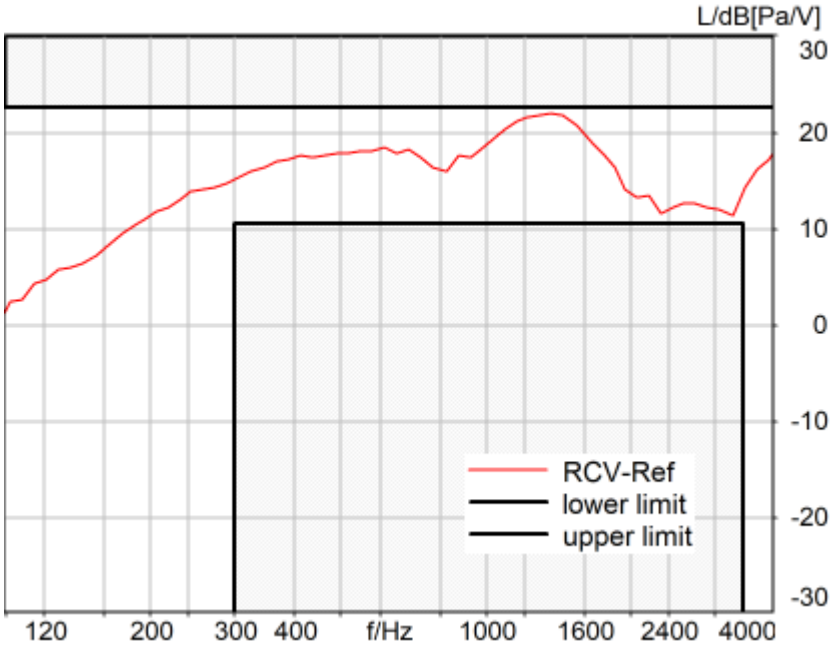
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N FF HANB

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




Absolute minimal distance
0.73 dB at 1360.9 Hz Ok

**Ok**

2025/2/26 16:09 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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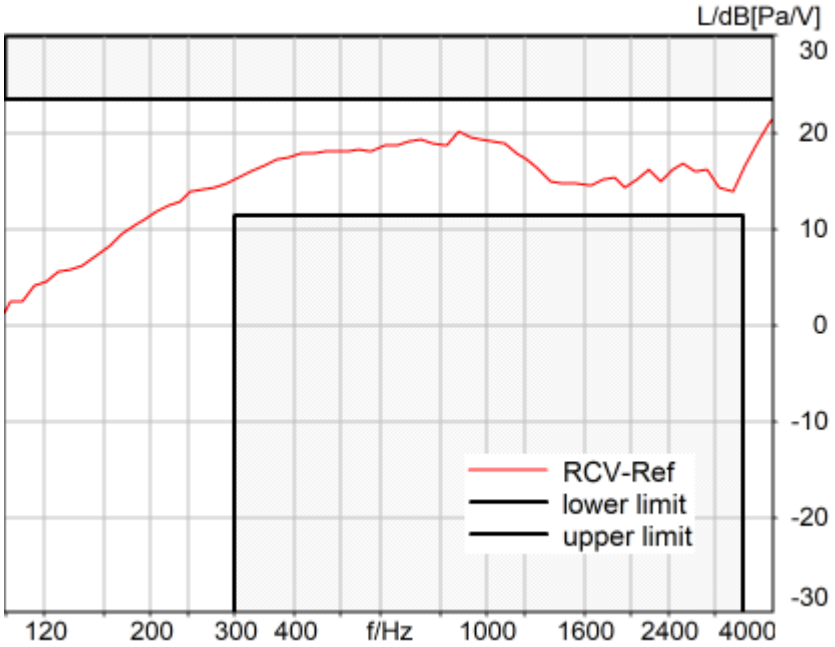
**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |

## 5.3 Frequency Response 2N DF HANB

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




Absolute minimal distance
2.52 dB at 3245.6 Hz Ok

**Ok**

2025/2/26 16:09 ACQUA 6.0.200
Unmodified HEAD acoustics Measurement Descriptor

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**Limits**

| | lower |
|---|---|
| Run 1 | Fit into tolerance |