
Measurement Protocol

Measurement Object	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/21 20:46

Status Overview

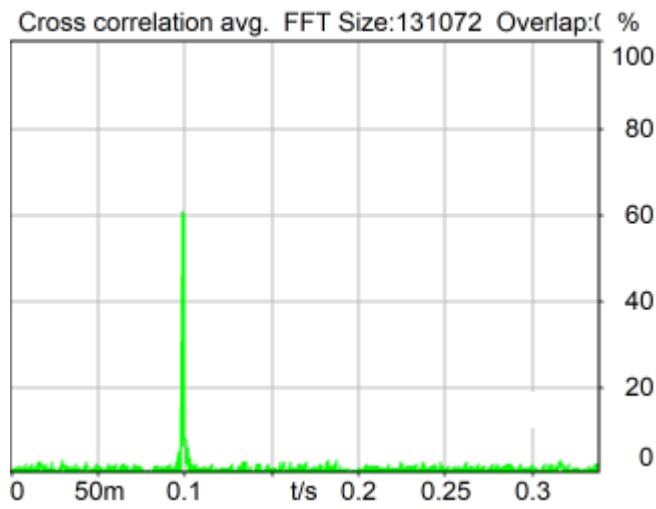
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	99.7	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	84.38	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.52	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.50	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.43	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.40	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.39	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.76	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.28	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.70	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.83	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.30	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	46.11	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.10	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.83	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	46.79	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
Report - Receive Distortion	Ok	Minimum SDNR	21.52	LTE Band

and Noise (Conversational Gain)		[dB], (occured at 250Hz)		26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.16	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 2432.3 Hz	0.73	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

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



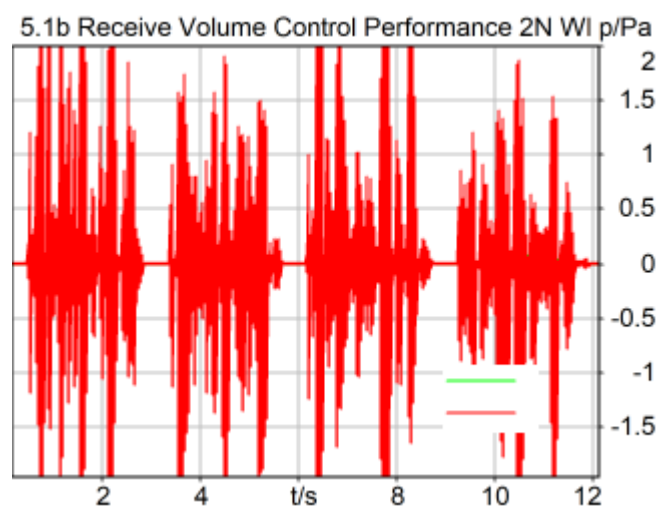
Delay (Cross): 99.7 ms

2023/11/13 1:30 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 84.38 dB[SPL], Act.: 80.99% Ok

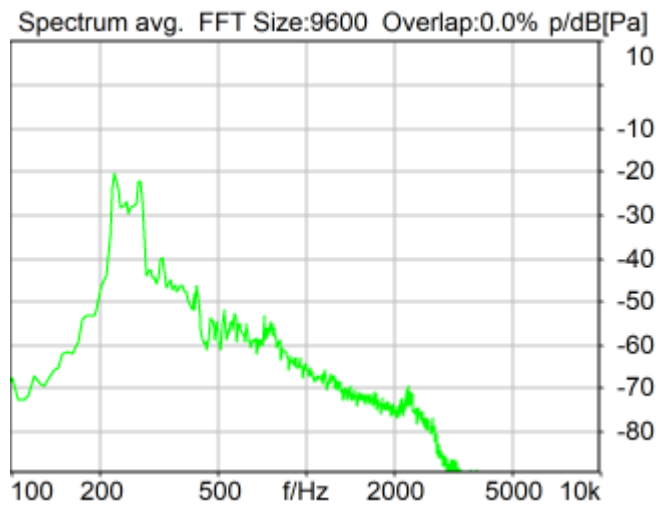
Ok

2023/11/13 1:31 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 21.52 dB (8.39%) Ok

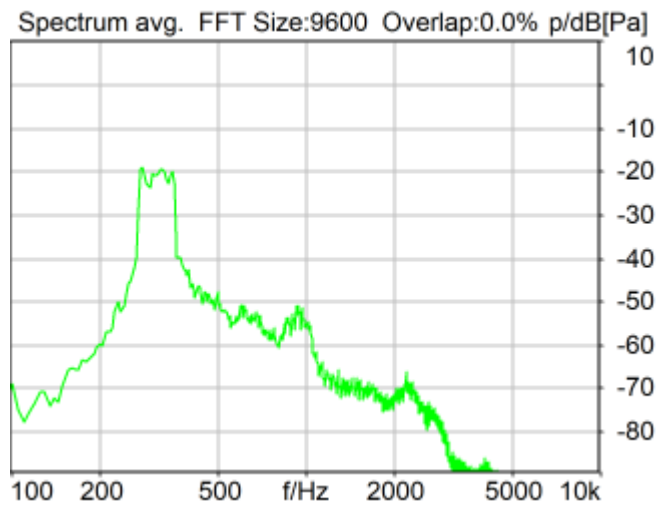
Ok

2023/11/13 1:31 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.50 dB (5.96%) Ok

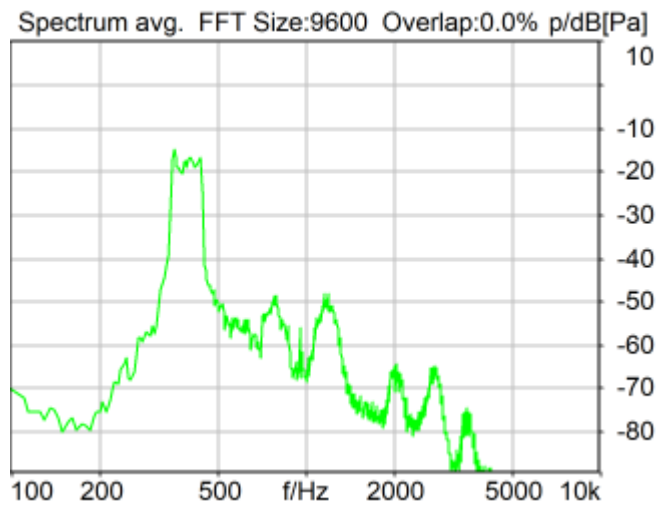
Ok

2023/11/13 1:31 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.43 dB (4.25%) Ok

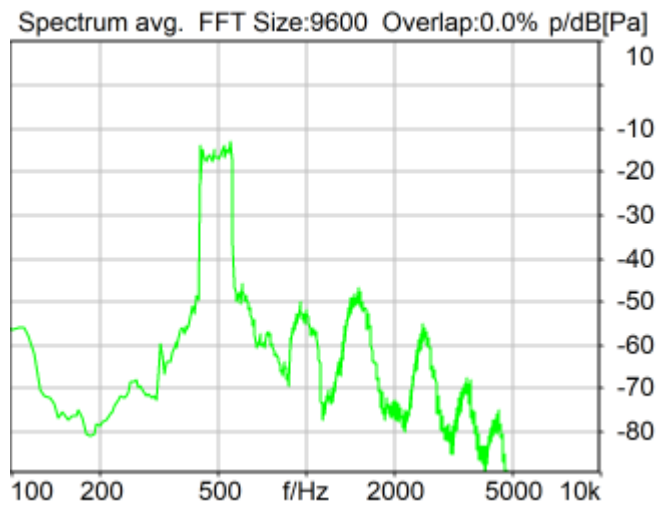
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 28.40 dB (3.80%) Ok

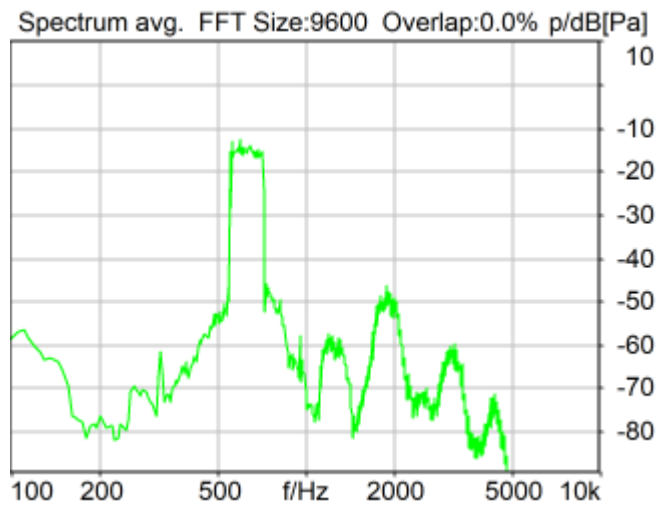
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 29.39 dB (3.39%) Ok

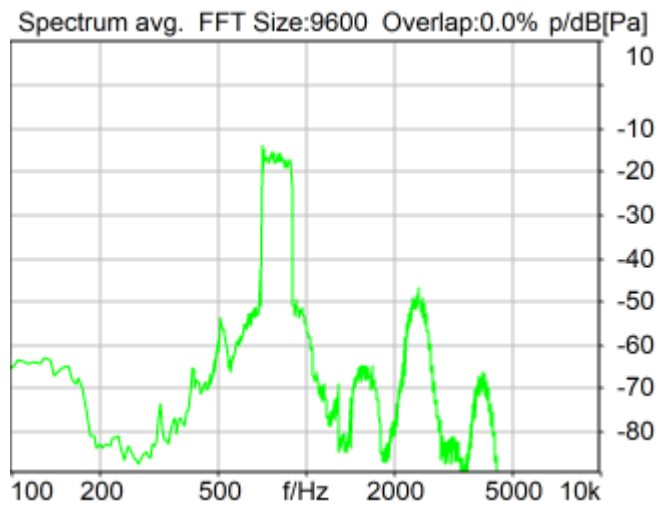
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 28.76 dB (3.65%) Ok

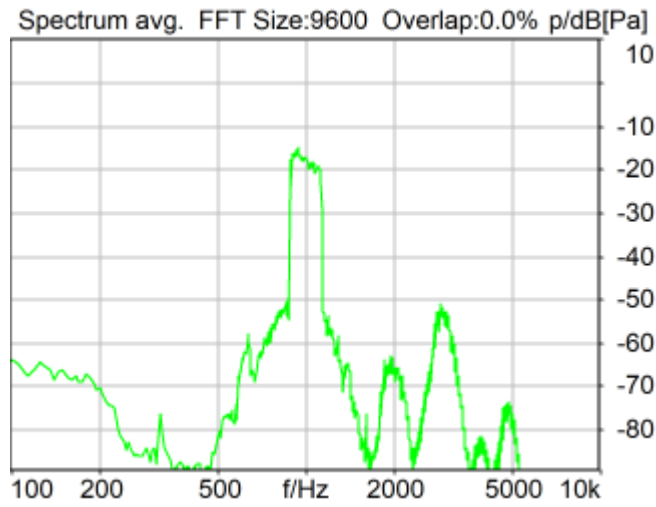
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 31.28 dB (2.73%) Ok

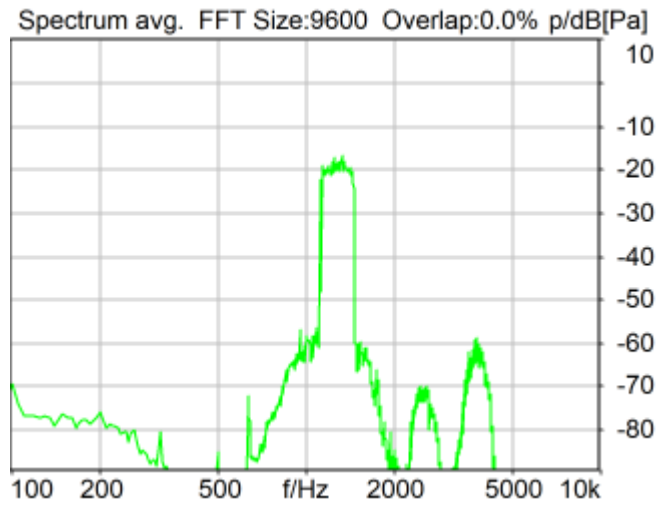
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 33.70 dB (2.07%) Ok

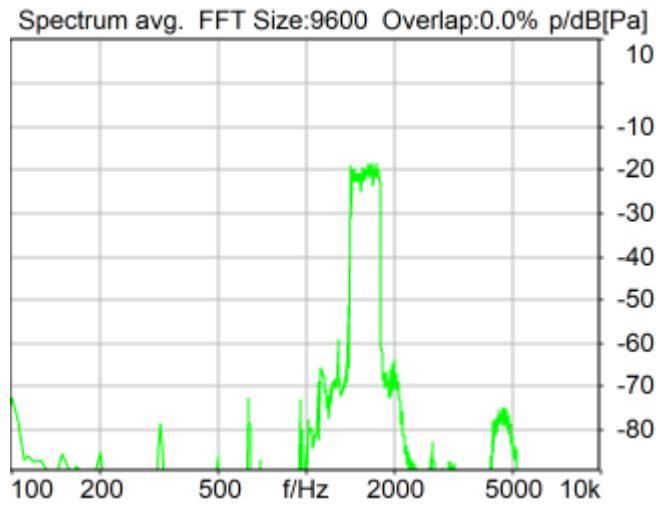
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 44.83 dB (0.57%) Ok

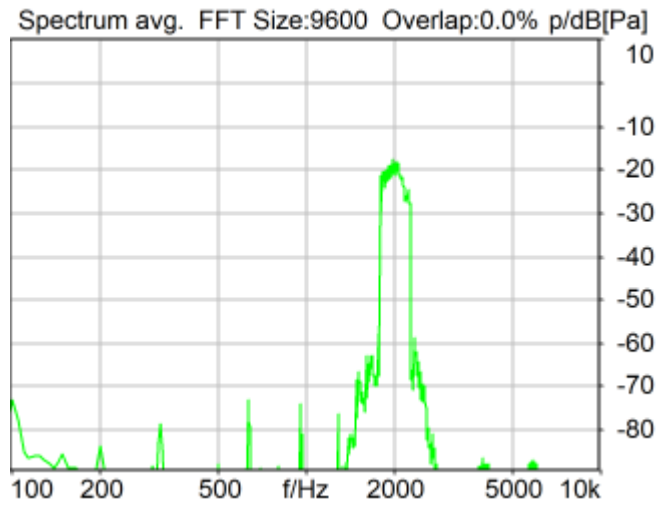
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 43.30 dB (0.68%) Ok

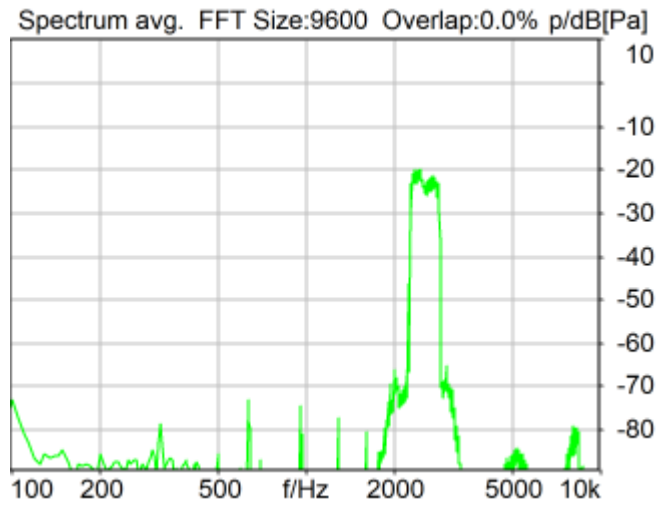
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 46.11 dB (0.49%) Ok

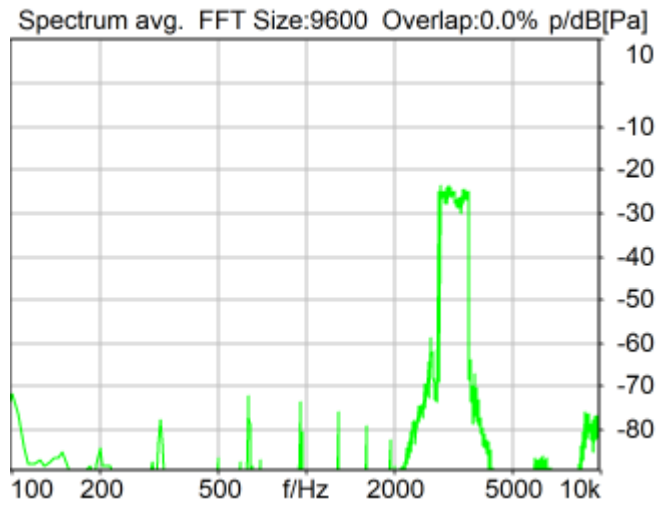
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 41.10 dB (0.88%) Ok

Ok

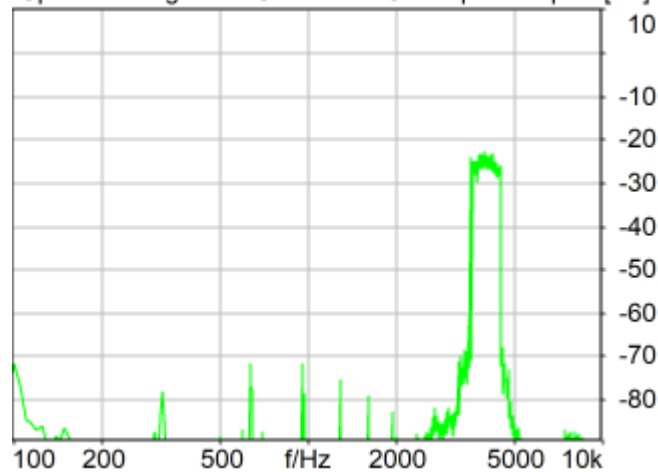
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Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 4000 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 45.83 dB (0.51%) Ok

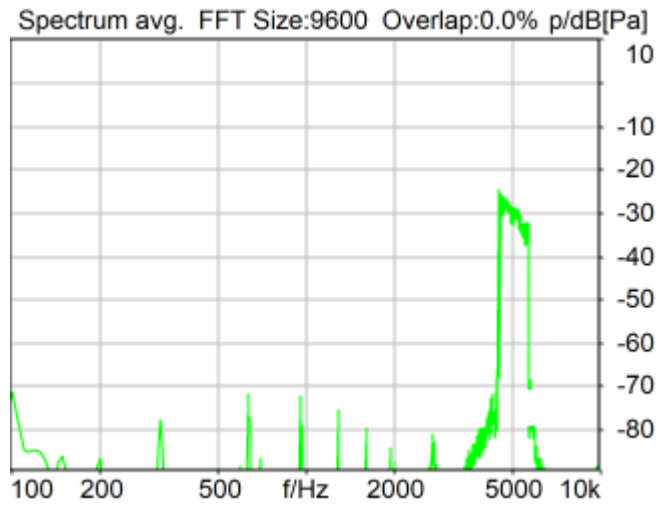
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 46.79 dB (0.46%) Ok

Ok

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Unmodified HEAD acoustics Measurement Descriptor

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	21.52 dB
2	315Hz	24.50 dB
3	400Hz	27.43 dB
4	500Hz	28.40 dB
5	630Hz	29.39 dB
6	800Hz	28.76 dB
7	1000Hz	31.28 dB
8	1250Hz	33.70 dB
9	1600Hz	44.83 dB
10	2000Hz	43.30 dB
11	2500Hz	46.11 dB
12	3150Hz	41.10 dB
13	4000Hz	45.83 dB
14	5000Hz	46.79 dB

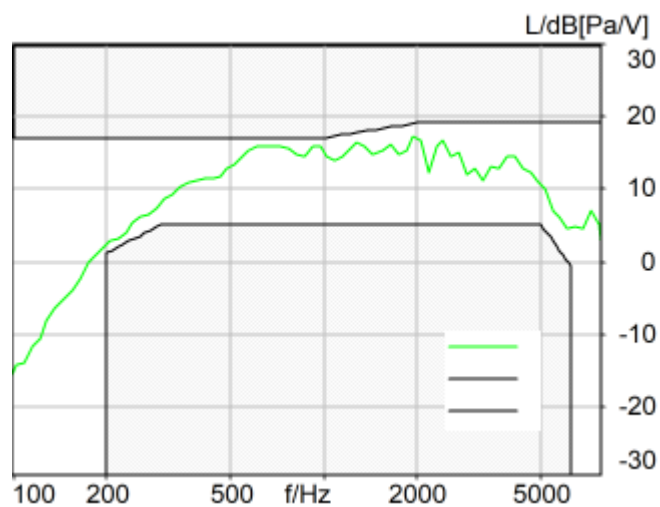
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 21.52dB at 250Hz.

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5.3 Frequency Response 2N FF

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



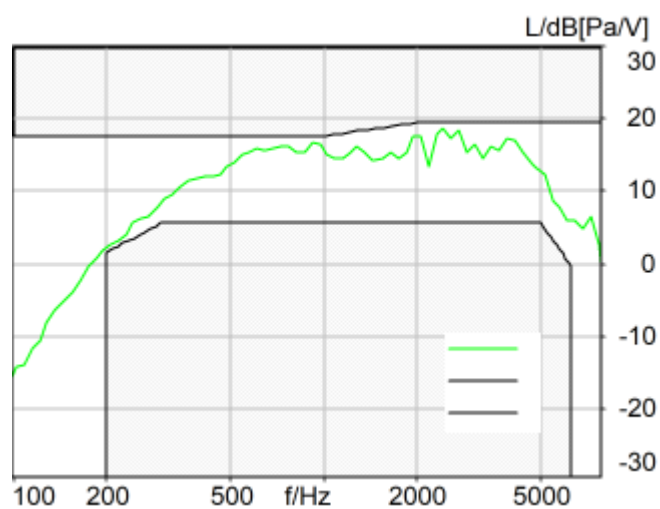
Absolute minimal distance
1.16 dB at 611.7 Hz Ok

Ok

2023/11/13 1:42 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.73 dB at 2432.3 Hz Ok

Ok

2023/11/13 1:42 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_8N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/21 20:47

Status Overview

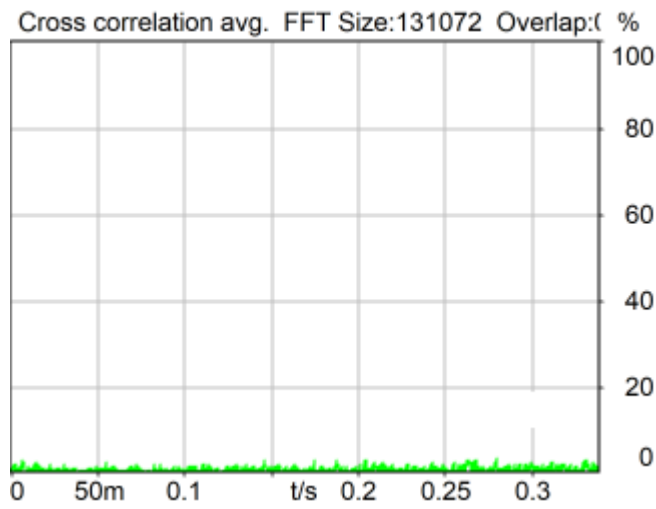
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	479.9	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	88.25	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.80	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.85	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.02	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.79	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.63	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.86	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.61	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.47	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.47	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.51	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.49	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.13	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.51	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.22	LTE Band 26_15M_QPSK_75RB_0Offset_E VS WB 64Kbps_Ch26865_8N
Report - Receive Distortion	Ok	Minimum SDNR	23.80	LTE Band

and Noise (Conversational Gain)		[dB], (occured at 250Hz)		26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.29	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 974.0 Hz	1.03	LTE Band 26_15M_QPSK_75RB_0Offset_EVS WB 64Kbps_Ch26865_8N

Overall Receive Delay WB	6
5.1a Receive Volume Control Performance 8N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 8N FF	23
5.3 Frequency Response 8N DF	24

Overall Receive Delay WB

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



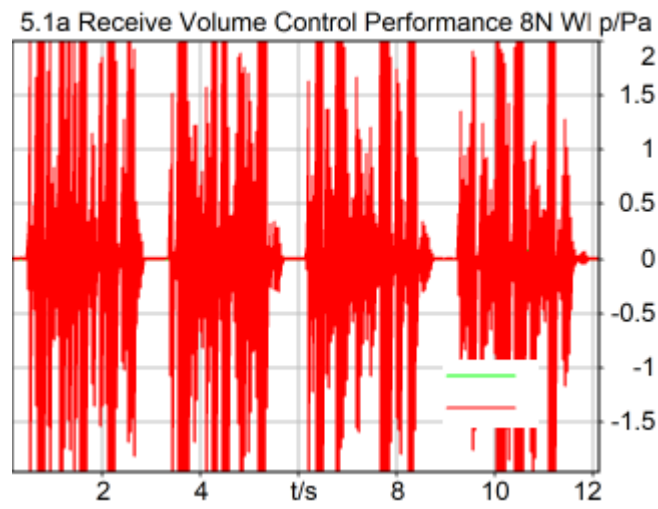
Delay (Cross): 479.9 ms

2023/11/13 1:45 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N WB

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



Speech Level RCV: 88.25 dB[SPL], Act.: 80.82% Ok

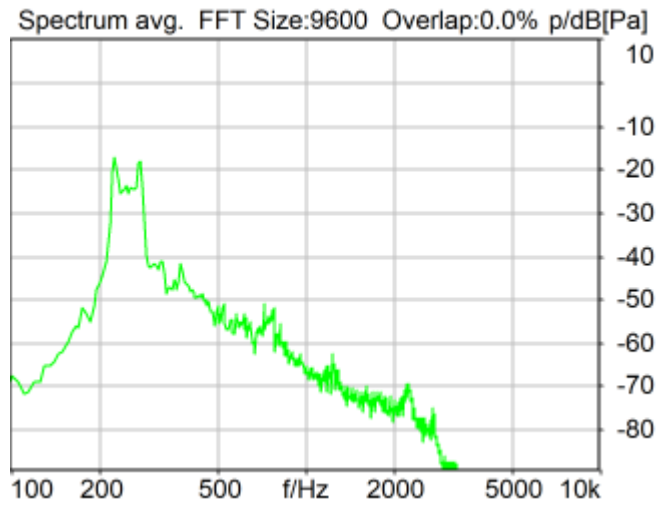
Ok

2023/11/13 1:46 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.80 dB (6.46%) Ok

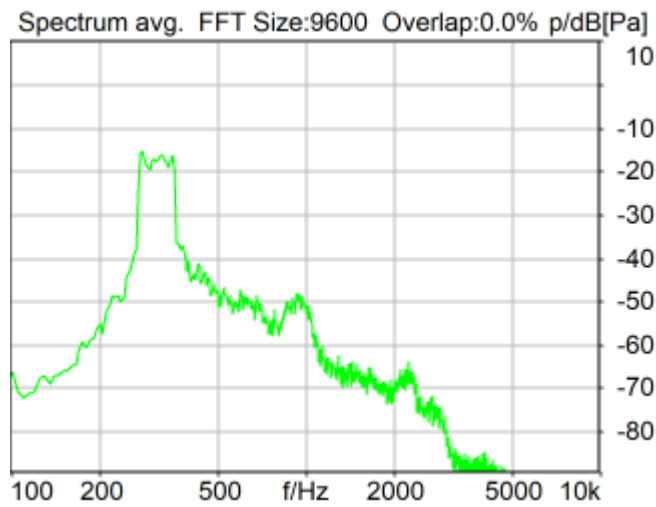
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 24.85 dB (5.72%) Ok

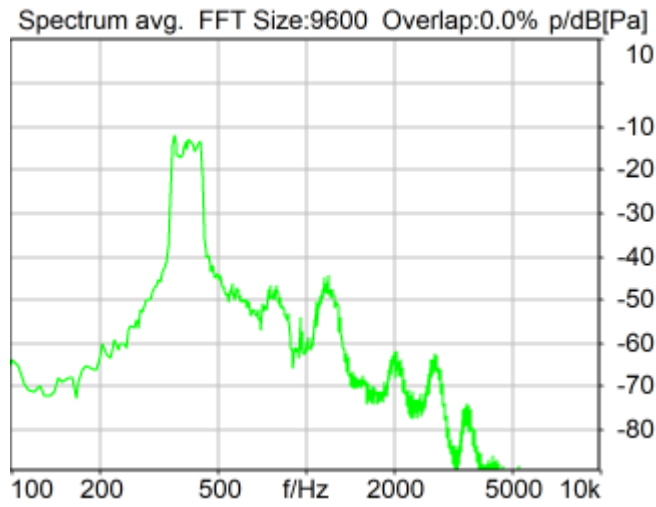
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 27.02 dB (4.46%) Ok

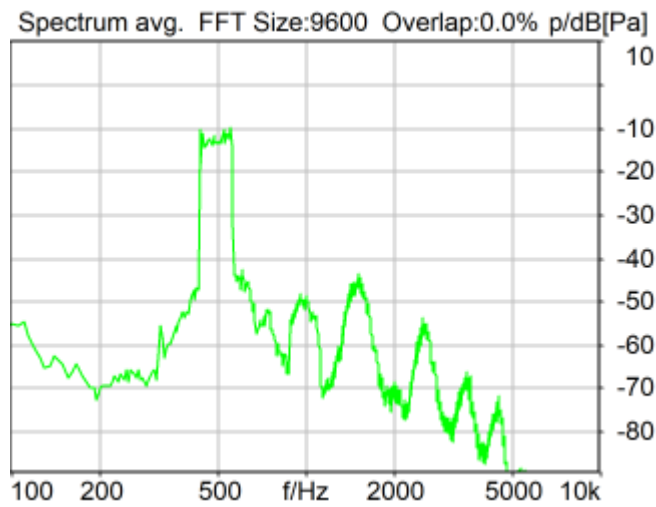
Ok

2023/11/13 1:47 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.79 dB (3.64%) Ok

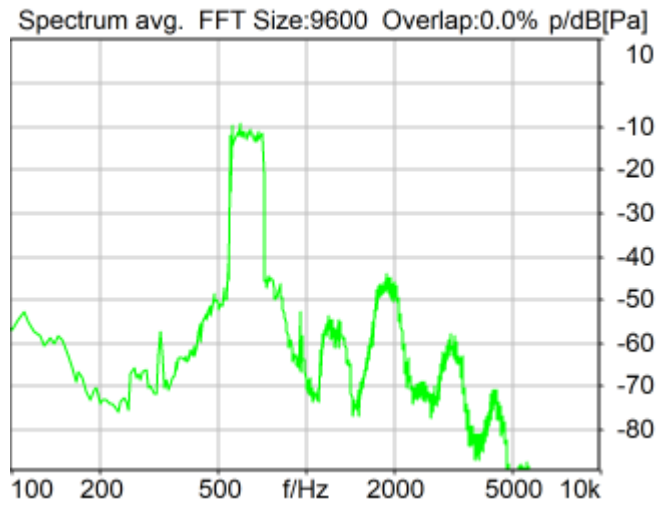
Ok

2023/11/13 1:47 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.63 dB (3.30%) Ok

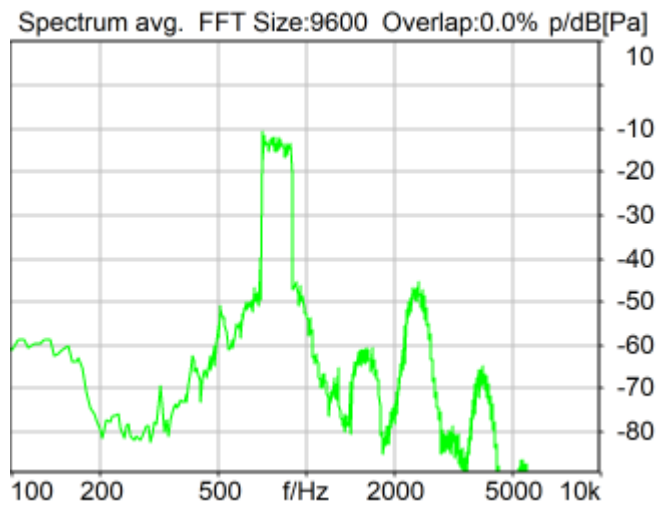
Ok

2023/11/13 1:48 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.86 dB (3.21%) Ok

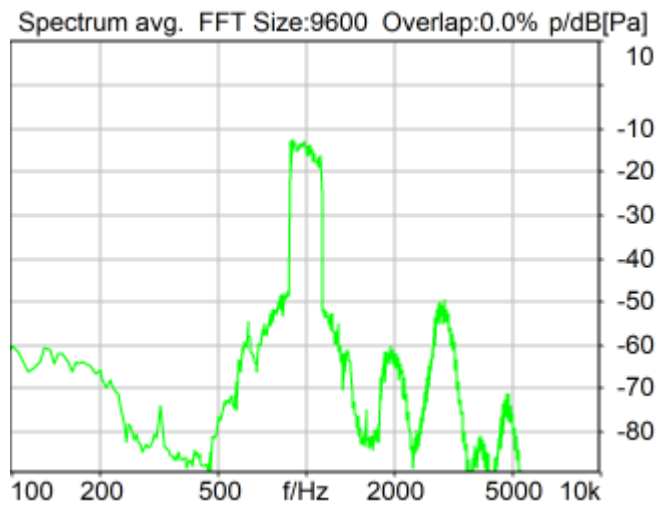
Ok

2023/11/13 1:48 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 32.61 dB (2.34%) Ok

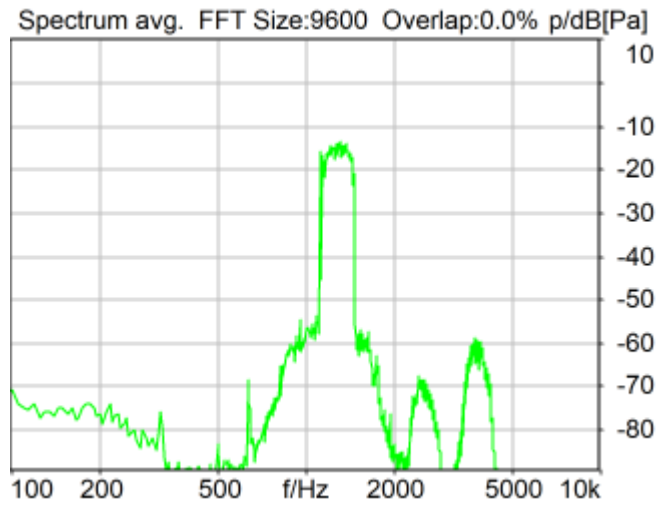
Ok

2023/11/13 1:48 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 34.47 dB (1.89%) Ok

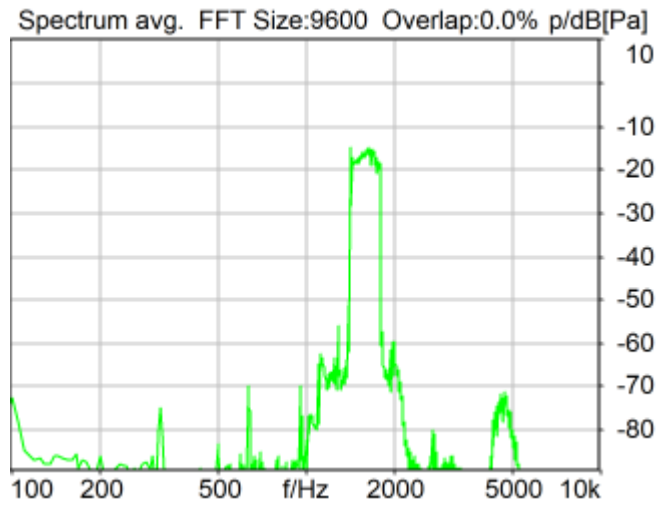
Ok

2023/11/13 1:49 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.47 dB (0.53%) Ok

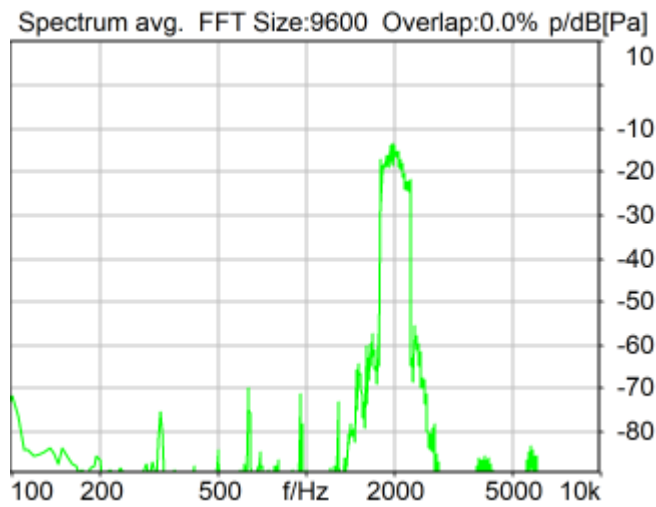
Ok

2023/11/13 1:49 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 43.51 dB (0.67%) Ok

Ok

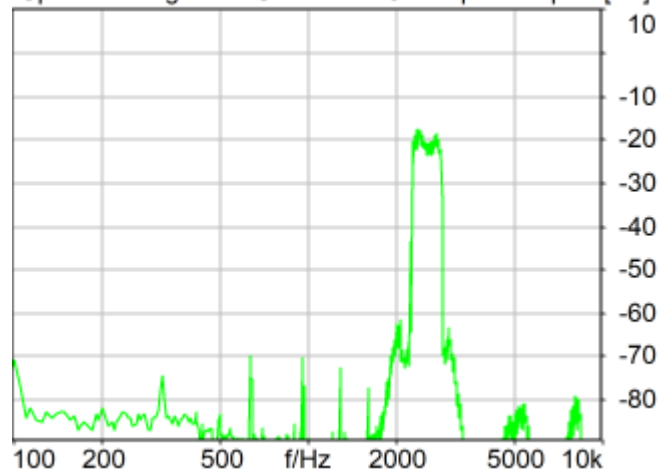
2023/11/13 1:50 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 2500 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 45.49 dB (0.53%) Ok

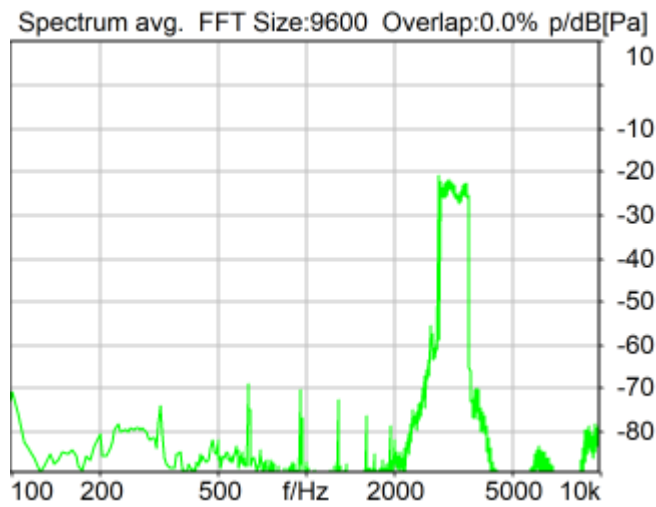
Ok

2023/11/13 1:50 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 39.13 dB (1.11%) Ok

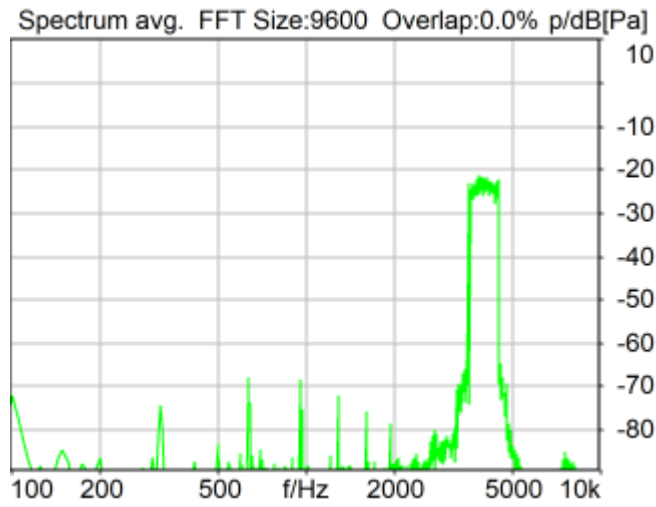
Ok

2023/11/13 1:50 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.51 dB (0.53%) Ok

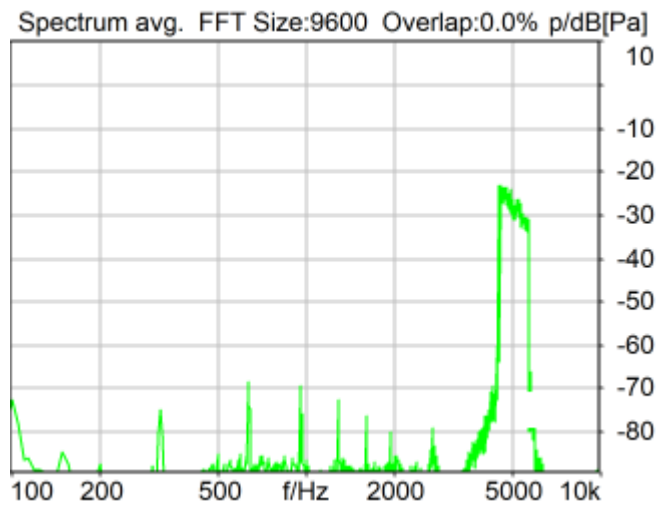
Ok

2023/11/13 1:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 47.22 dB (0.44%) Ok

Ok

2023/11/13 1:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	23.80 dB
2	315Hz	24.85 dB
3	400Hz	27.02 dB
4	500Hz	28.79 dB
5	630Hz	29.63 dB
6	800Hz	29.86 dB
7	1000Hz	32.61 dB
8	1250Hz	34.47 dB
9	1600Hz	45.47 dB
10	2000Hz	43.51 dB
11	2500Hz	45.49 dB
12	3150Hz	39.13 dB
13	4000Hz	45.51 dB
14	5000Hz	47.22 dB

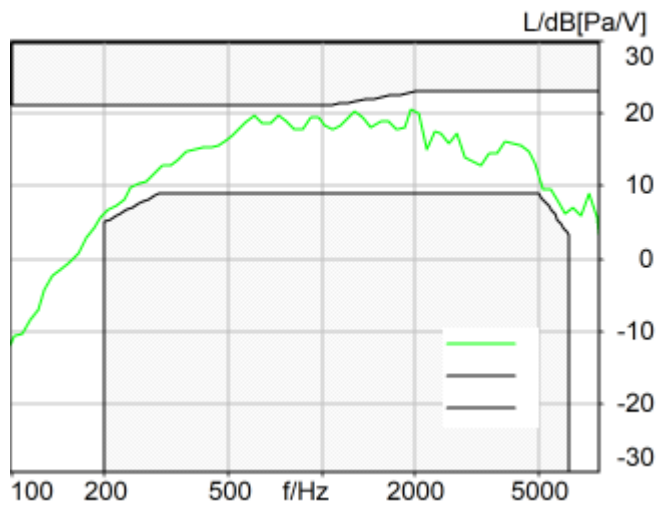
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 23.80dB at 250Hz.

2023/11/13 1:52 ACQUA

5.3 Frequency Response 8N FF

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



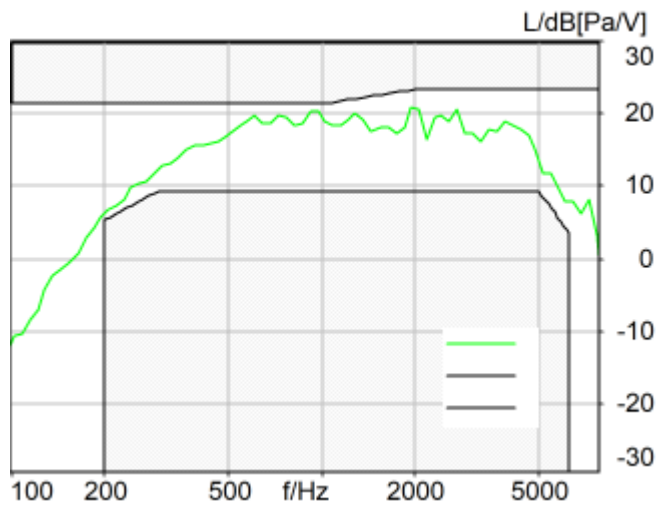
Absolute minimal distance
1.29 dB at 611.7 Hz Ok

Ok

2023/11/13 1:52 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF

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



Absolute minimal distance
1.03 dB at 974.0 Hz Ok

Ok

2023/11/13 1:53 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
--------------------	--

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 3:19

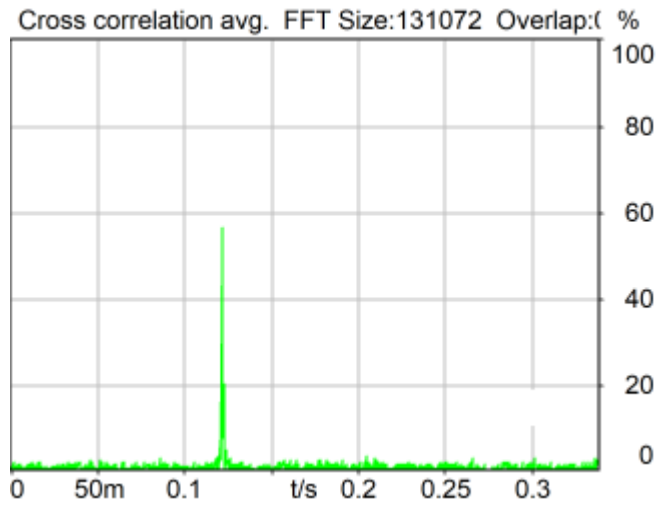
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	121.7	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	86.08	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.97	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.40	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.30	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.06	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.01	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	29.75	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.23	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.69	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.49	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.08	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 400Hz)	25.97	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.3 Frequency Response 2N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	0.37	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N
5.3 Frequency Response 2N DF HANB	Not Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	-0.18	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_2N

Overall Receive Delay 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
5.3 Frequency Response 2N FF HANB	18
5.3 Frequency Response 2N DF HANB	19

Overall Receive Delay NB

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



Delay (Cross): 121.7 ms

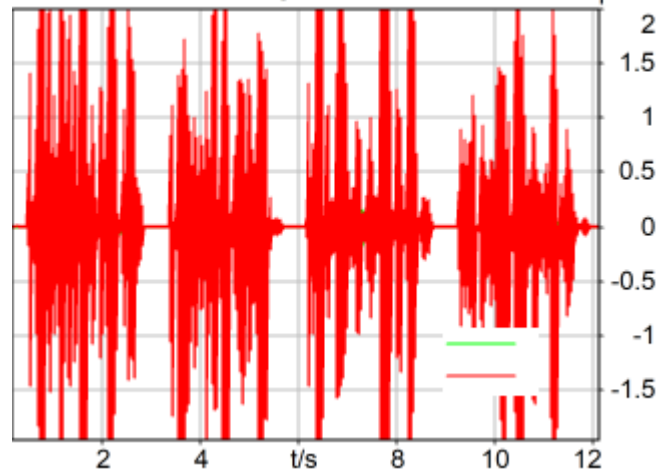
2023/11/13 3:13 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N NB

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

5.1b Receive Volume Control Performance 2N NE p/Pa



Speech Level RCV: 86.08 dB[SPL], Act.: 81.08% Ok

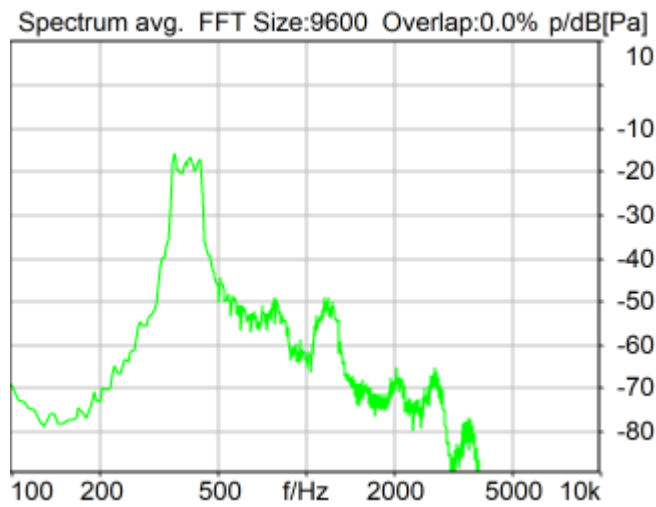
Ok

2023/11/13 3:13 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.97 dB (5.03%) Ok

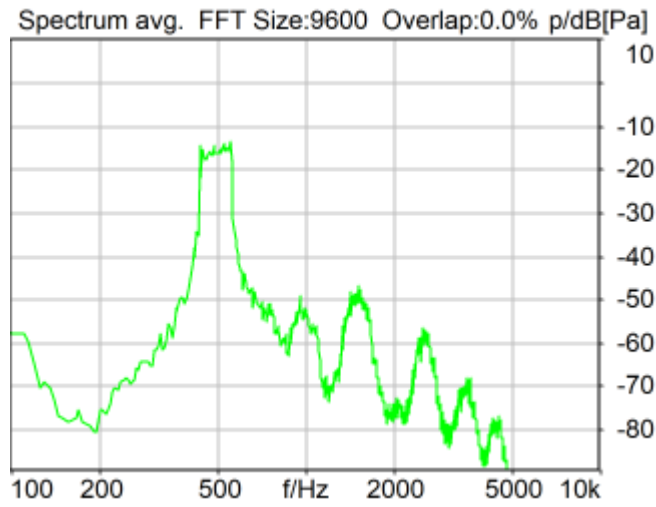
Ok

2023/11/13 3:14 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.40 dB (4.26%) Ok

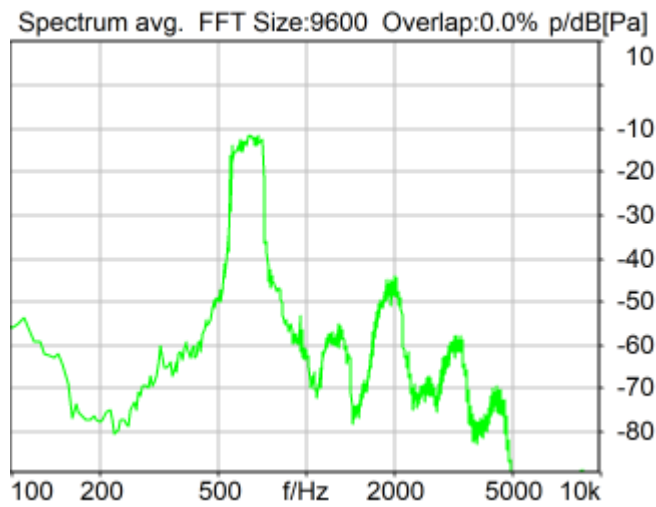
Ok

2023/11/13 3:14 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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

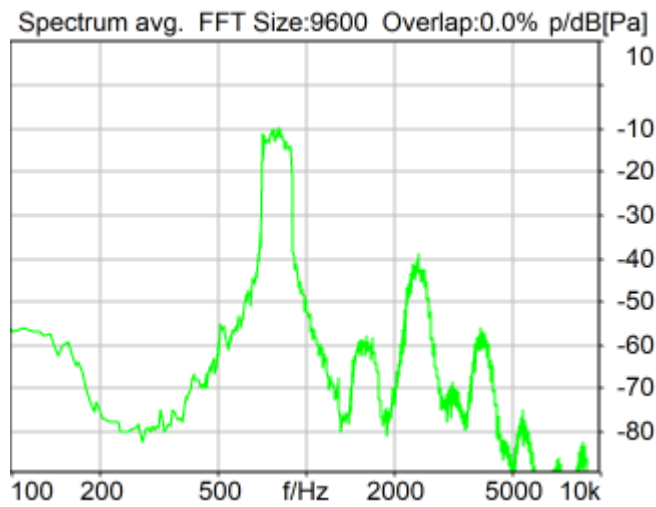
Ok

2023/11/13 3:15 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.06 dB (4.98%) Ok

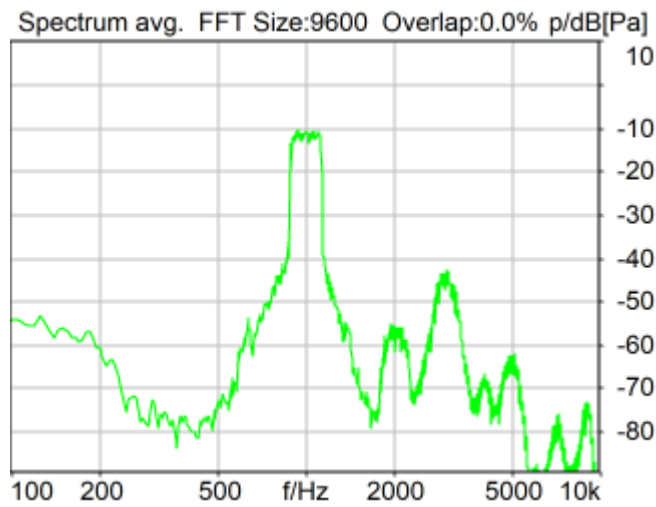
Ok

2023/11/13 3:15 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.01 dB (3.98%) Ok

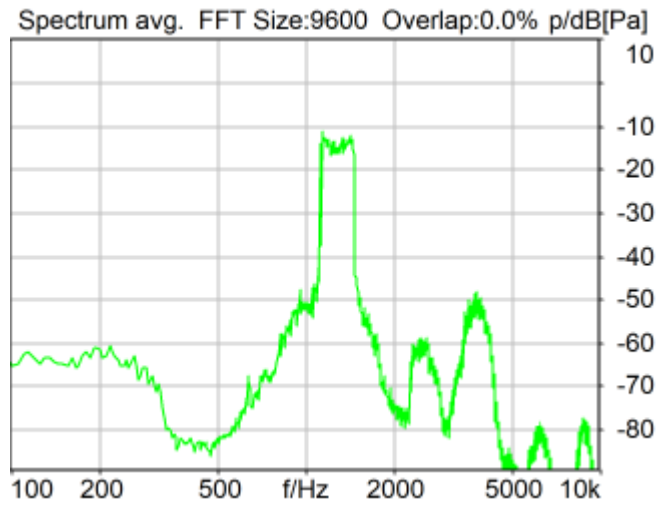
Ok

2023/11/13 3:15 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.75 dB (3.26%) Ok

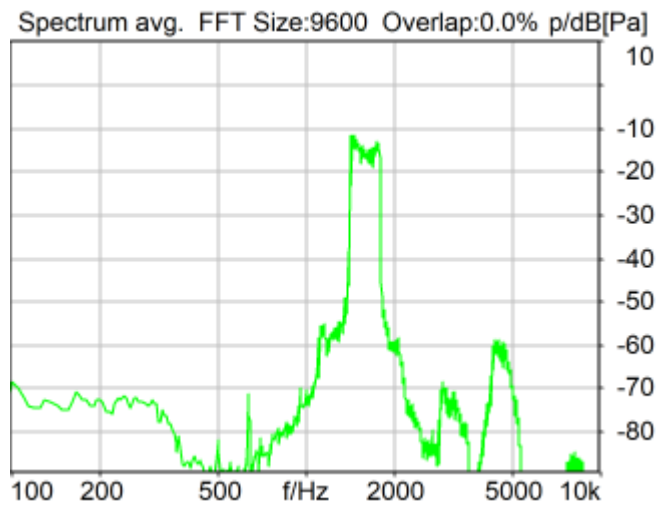
Ok

2023/11/13 3:16 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.23 dB (1.23%) Ok

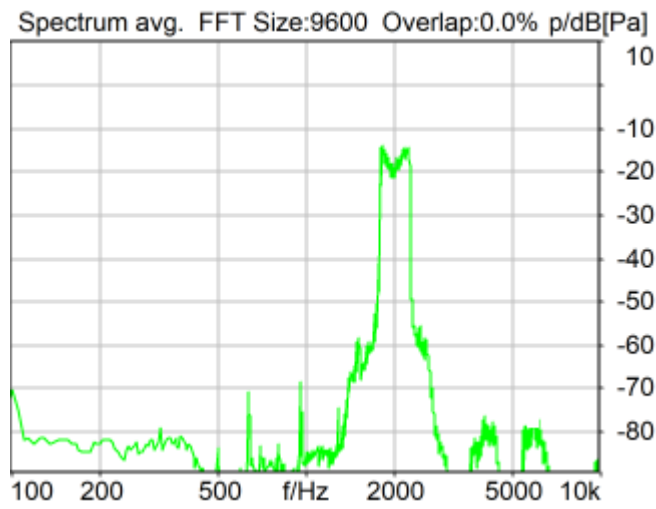
Ok

2023/11/13 3:16 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 39.69 dB (1.04%) Ok

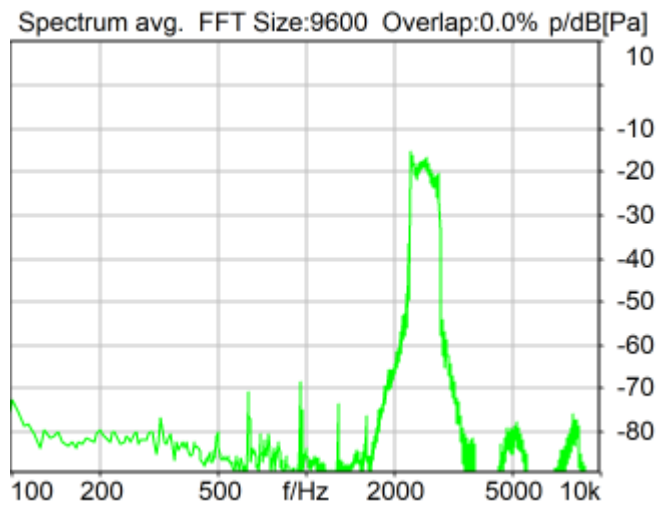
Ok

2023/11/13 3:17 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.49 dB (1.19%) Ok

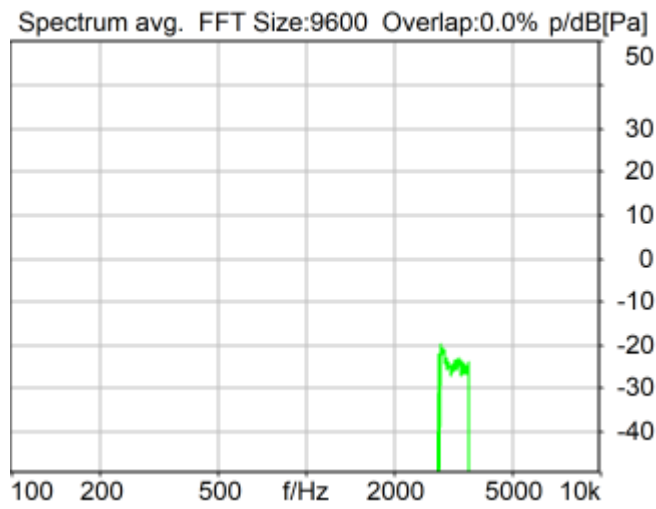
Ok

2023/11/13 3:17 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.08 dB (1.25%) Ok

Ok

2023/11/13 3:17 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

Report - Receive Distortion and Noise (Conversational Gain)

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

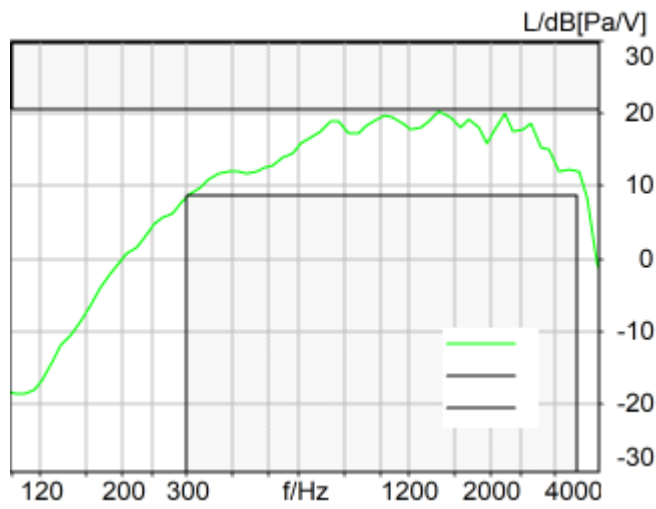
Region	Frequency	SDNR
1	400Hz	25.97 dB
2	500Hz	27.40 dB
3	630Hz	28.30 dB
4	800Hz	26.06 dB
5	1000Hz	28.01 dB
6	1250Hz	29.75 dB
7	1600Hz	38.23 dB
8	2000Hz	39.69 dB
9	2500Hz	38.49 dB
10	3150Hz	38.08 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 25.97dB at 400Hz.

2023/11/13 3:17 ACQUA

5.3 Frequency Response 2N FF HANB

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



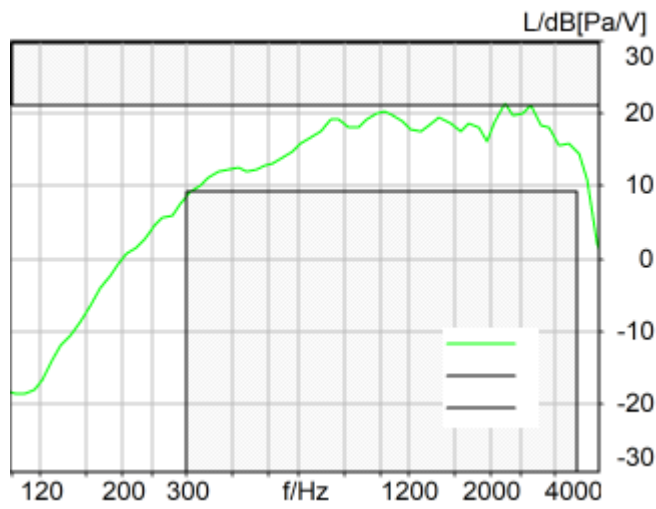
Absolute minimal distance
0.37 dB at 1447.5 Hz Ok

Ok

2023/11/13 3:18 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF HANB

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



Absolute minimal distance
-0.18 dB at 2177.4 Hz Not Ok

Not Ok

2023/11/13 3:18 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
--------------------	--

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 3:31

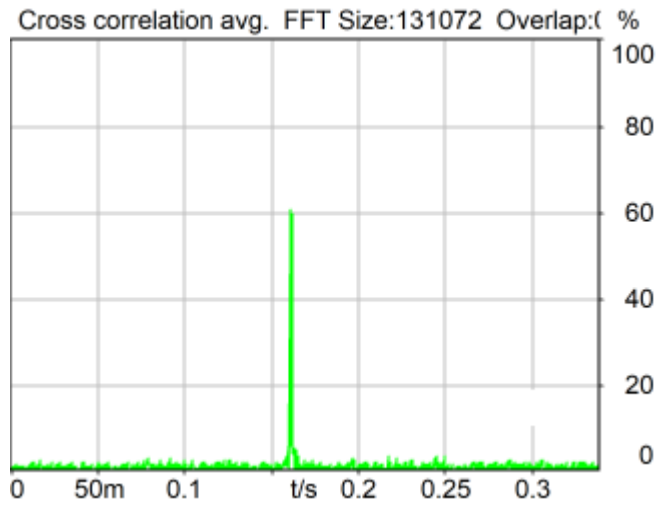
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	161.5	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	90.14	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	24.48	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.19	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.04	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.27	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.21	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.01	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.41	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	33.92	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.33	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.20	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 400Hz)	24.48	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.3 Frequency Response 8N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	0.65	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N
5.3 Frequency Response 8N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	0.23	LTE Band 66_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch132322_8N

Overall Receive Delay NB	5
5.1a Receive Volume Control Performance 8N 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
5.3 Frequency Response 8N FF HANB	18
5.3 Frequency Response 8N DF HANB	19

Overall Receive Delay NB

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



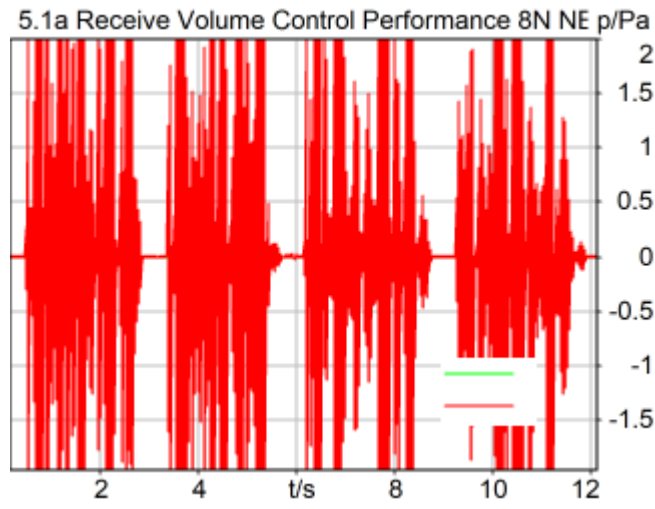
Delay (Cross): 161.5 ms

2023/11/13 3:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N NB

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



Speech Level RCV: 90.14 dB[SPL], Act.: 80.80% Ok

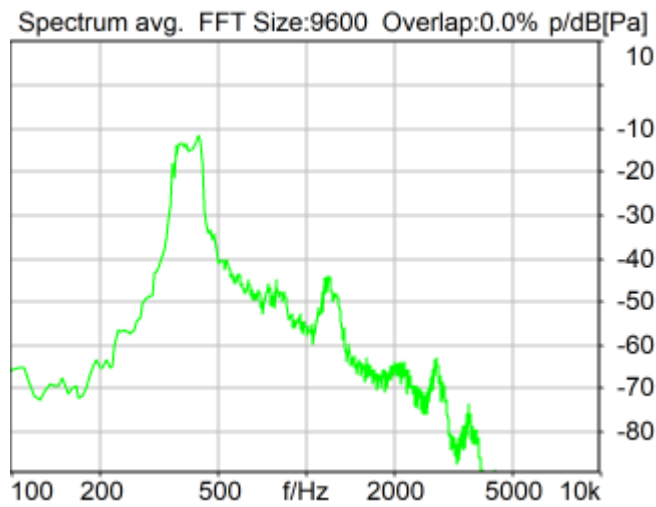
Ok

2023/11/13 3:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.48 dB (5.97%) Ok

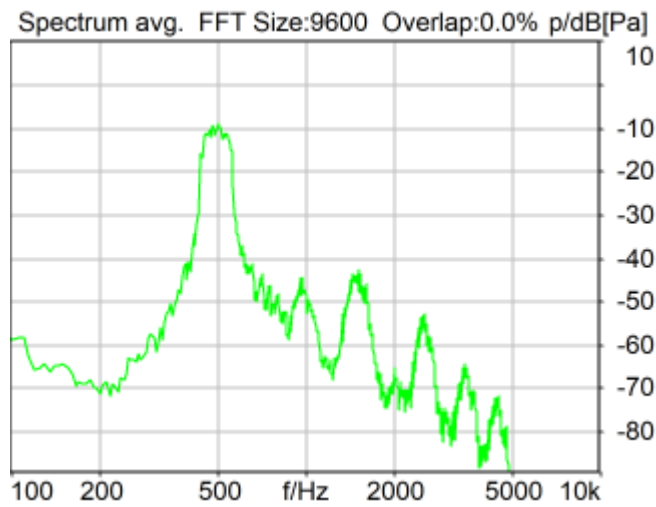
Ok

2023/11/13 3:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.19 dB (4.37%) Ok

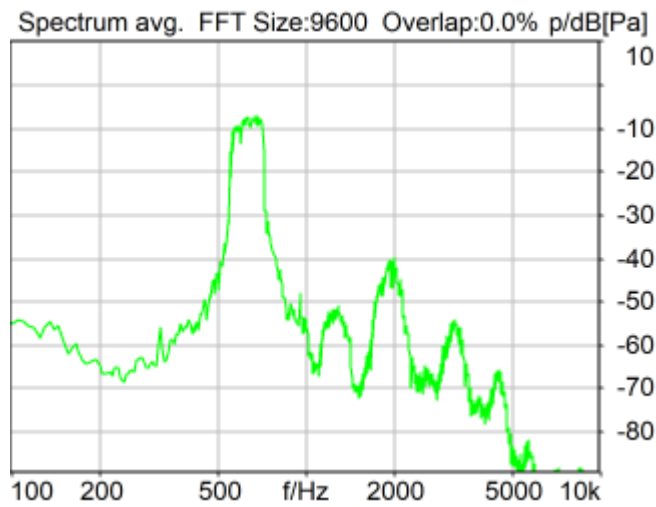
Ok

2023/11/13 3:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.04 dB (3.96%) Ok

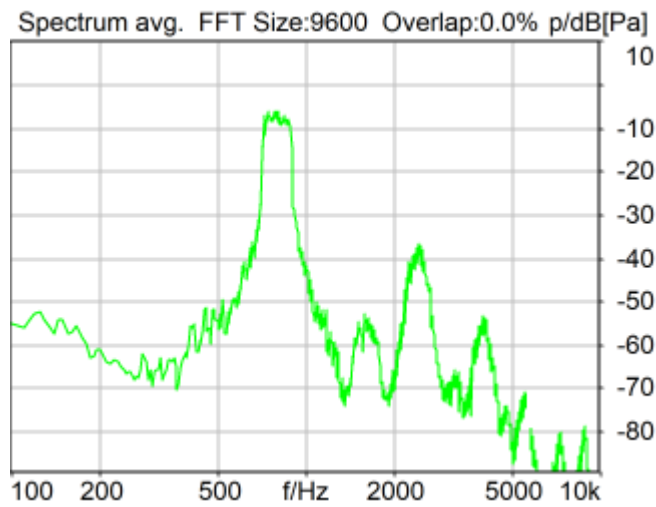
Ok

2023/11/13 3:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.27 dB (4.86%) Ok

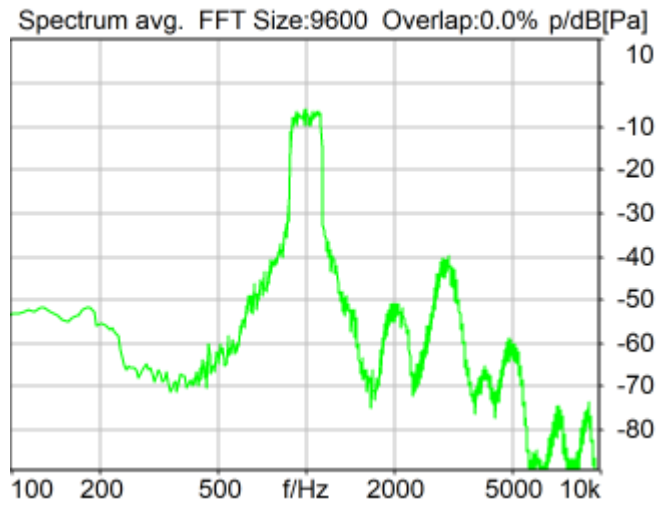
Ok

2023/11/13 3:24 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.21 dB (3.88%) Ok

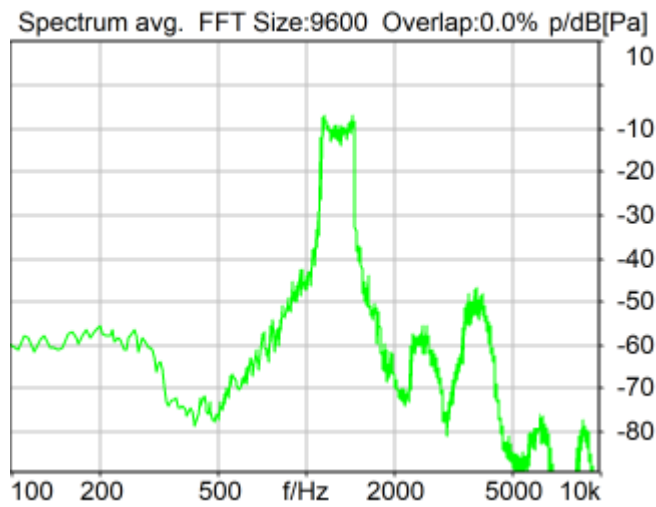
Ok

2023/11/13 3:24 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.01 dB (5.01%) Ok

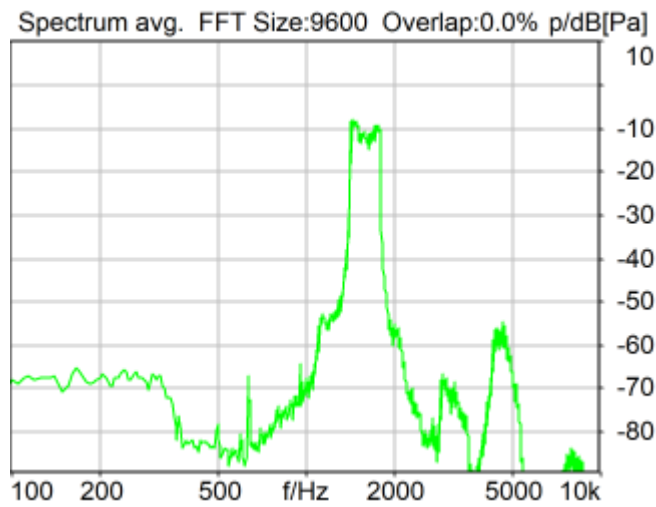
Ok

2023/11/13 3:25 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 36.41 dB (1.51%) Ok

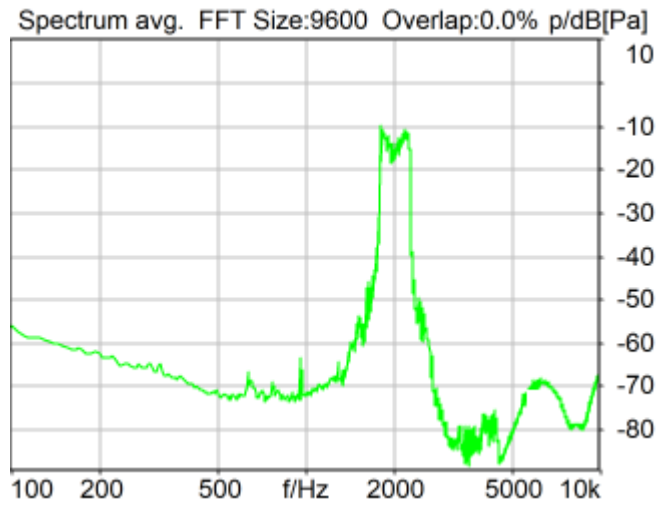
Ok

2023/11/13 3:25 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 33.92 dB (2.01%) Ok

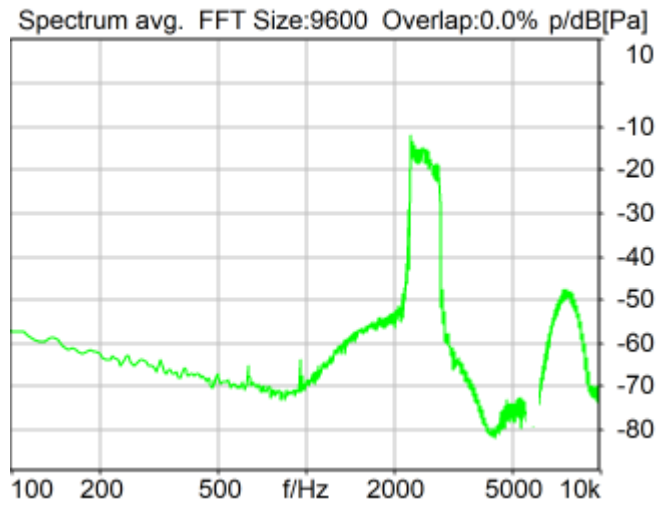
Ok

2023/11/13 3:25 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.33 dB (4.30%) Ok

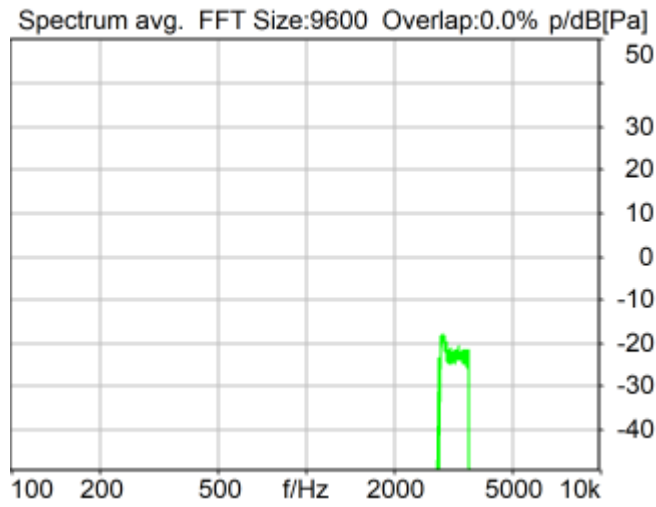
Ok

2023/11/13 3:26 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.20 dB (1.38%) Ok

Ok

2023/11/13 3:26 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

Report - Receive Distortion and Noise (Conversational Gain)

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

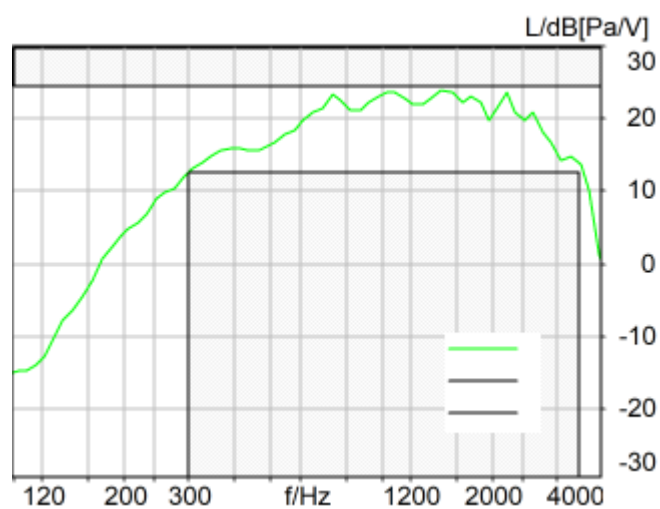
Region	Frequency	SDNR
1	400Hz	24.48 dB
2	500Hz	27.19 dB
3	630Hz	28.04 dB
4	800Hz	26.27 dB
5	1000Hz	28.21 dB
6	1250Hz	26.01 dB
7	1600Hz	36.41 dB
8	2000Hz	33.92 dB
9	2500Hz	27.33 dB
10	3150Hz	37.20 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 24.48dB at 400Hz.

2023/11/13 3:30 ACQUA

5.3 Frequency Response 8N FF HANB

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



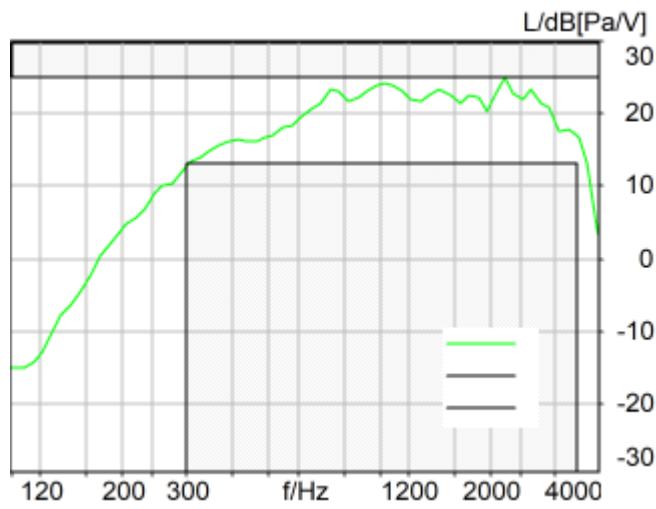
Absolute minimal distance
0.65 dB at 1447.5 Hz Ok

Ok

2023/11/13 3:30 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF HANB

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



Absolute minimal distance
0.23 dB at 2177.4 Hz Ok

Ok

2023/11/13 3:30 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 2:31

Status Overview

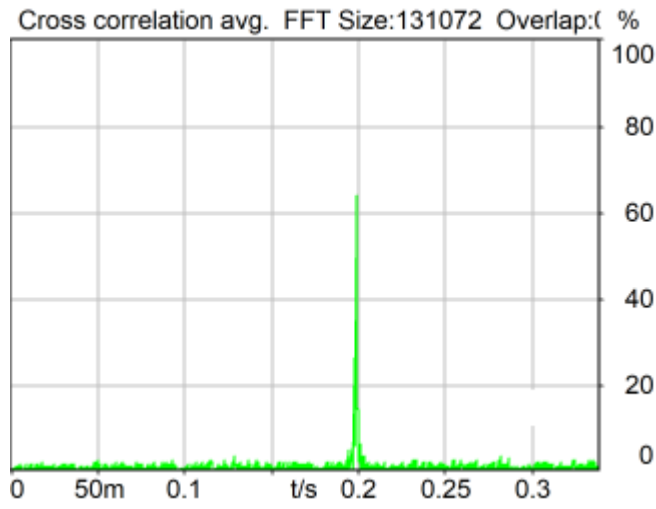
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	198.5	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	84.56	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.17	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.84	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.44	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.32	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.95	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.77	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.03	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.04	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.34	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.03	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.48	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.63	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.55	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.99	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
Report - Receive Distortion	Ok	Minimum SDNR	22.04	LTE Band

and Noise (Conversational Gain)		[dB], (occured at 1250Hz)		66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 217.7 Hz	1.07	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 2432.3 Hz	0.61	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

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



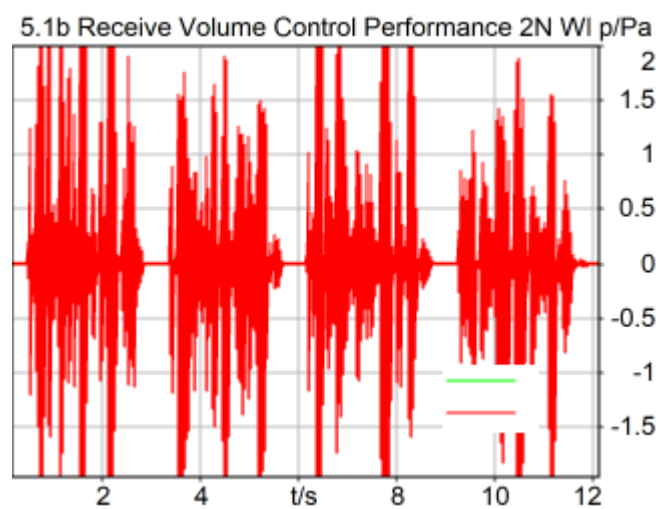
Delay (Cross): 198.5 ms

2023/11/13 2:18 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 84.56 dB[SPL], Act.: 80.72% Ok

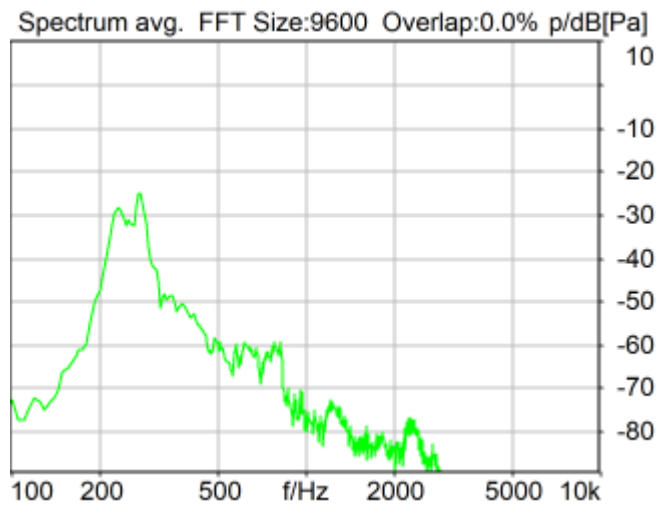
Ok

2023/11/13 2:19 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.17 dB (6.94%) Ok

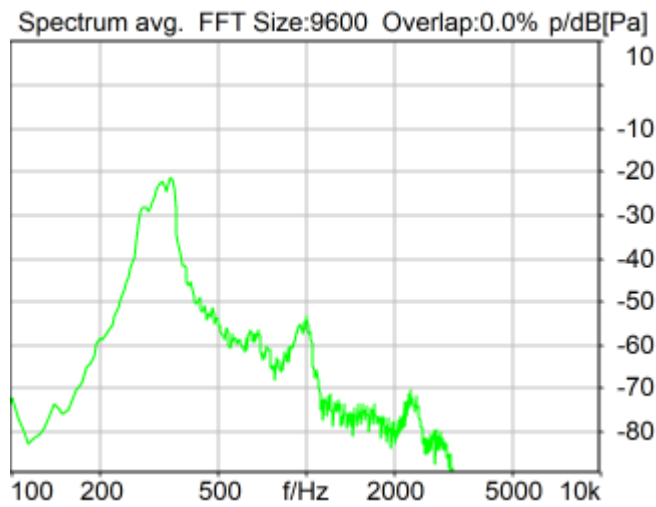
Ok

2023/11/13 2:19 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.84 dB (5.73%) Ok

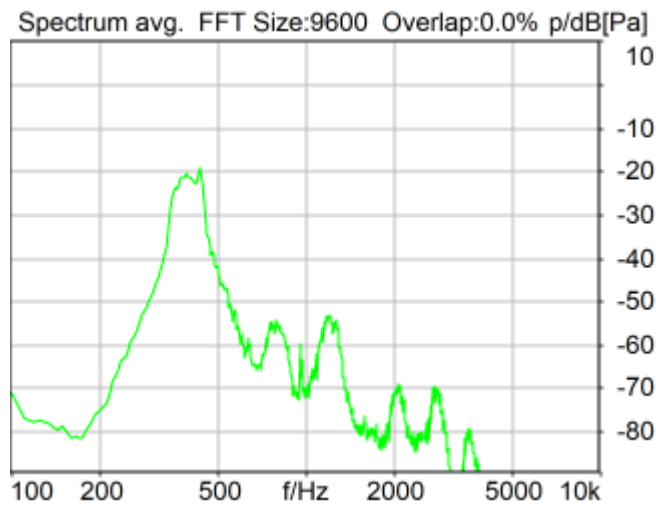
Ok

2023/11/13 2:19 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.44 dB (6.00%) Ok

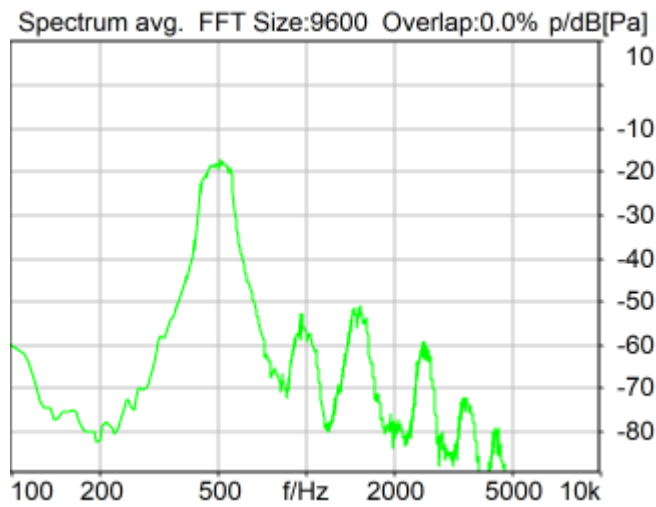
Ok

2023/11/13 2:20 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 500 Hz WB

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



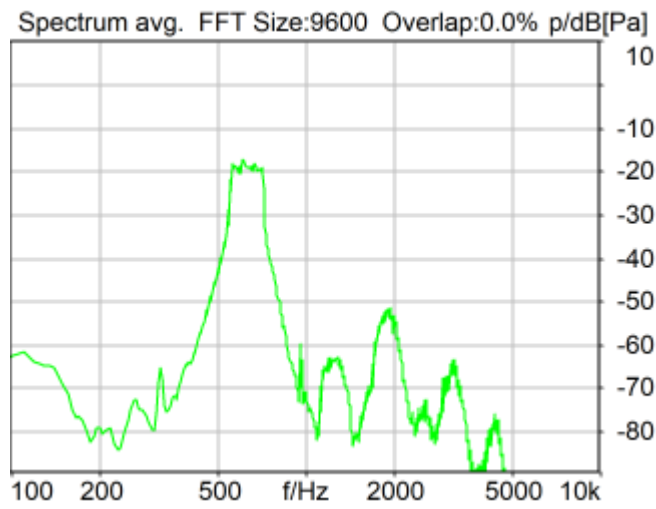
Distortion (Noise) RCV (packed): 25.32 dB (5.42%) Ok

Ok

2023/11/13 2:20 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

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): 25.95 dB (5.04%) Ok

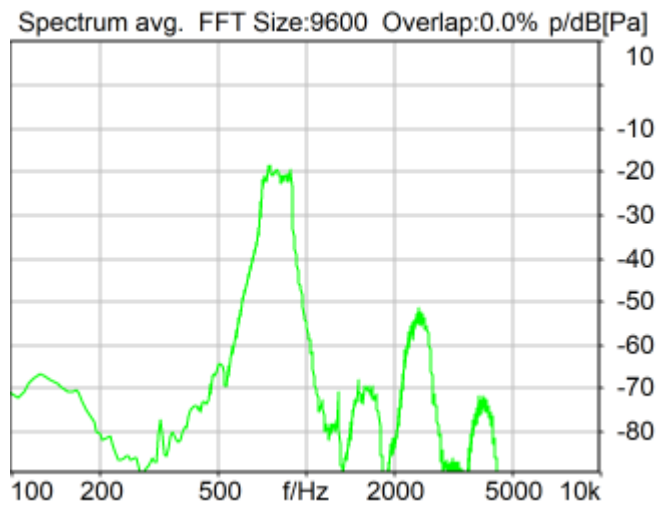
Ok

2023/11/13 2:21 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.77 dB (5.77%) Ok

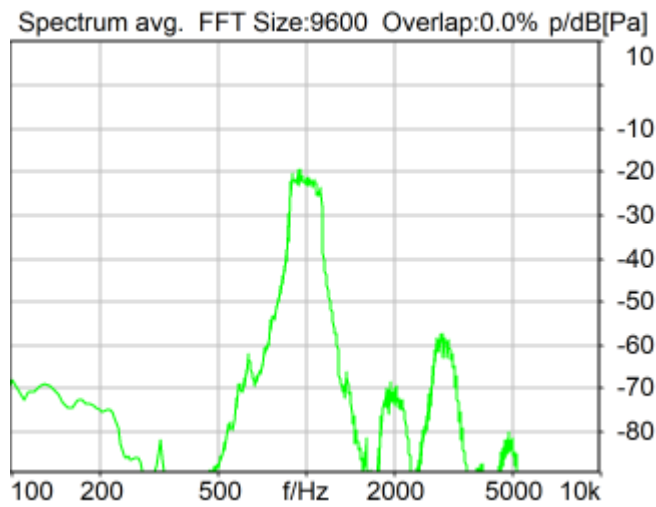
Ok

2023/11/13 2:21 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.03 dB (5.00%) Ok

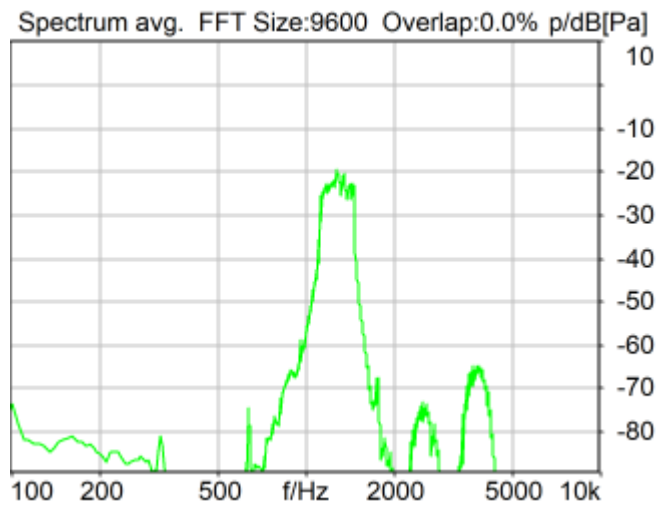
Ok

2023/11/13 2:21 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 22.04 dB (7.91%) Ok

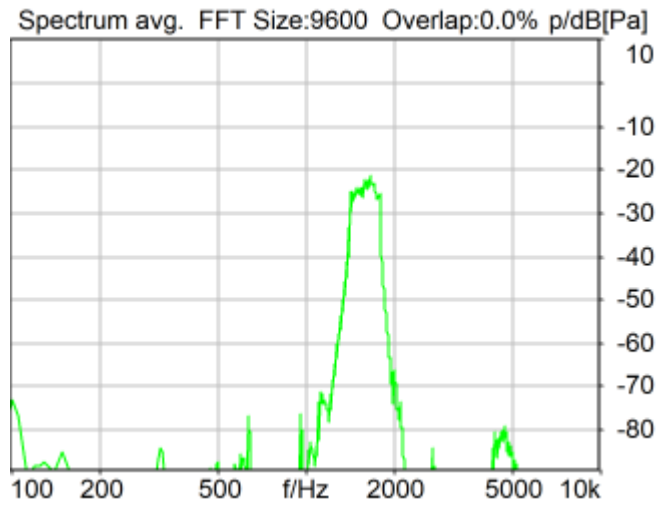
Ok

2023/11/13 2:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.34 dB (3.83%) Ok

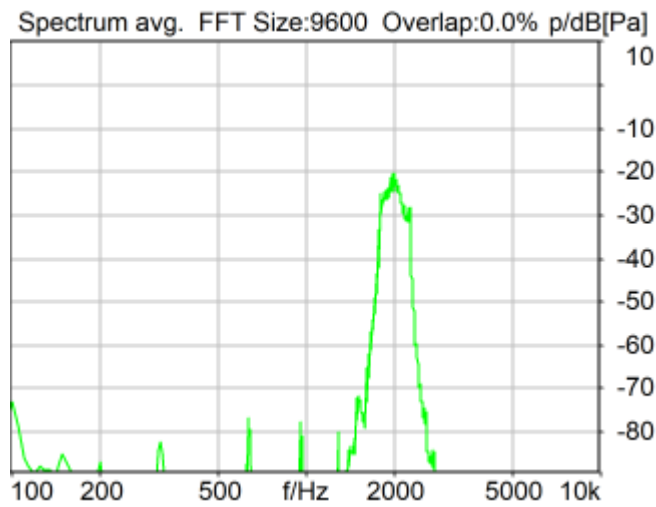
Ok

2023/11/13 2:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.03 dB (3.54%) Ok

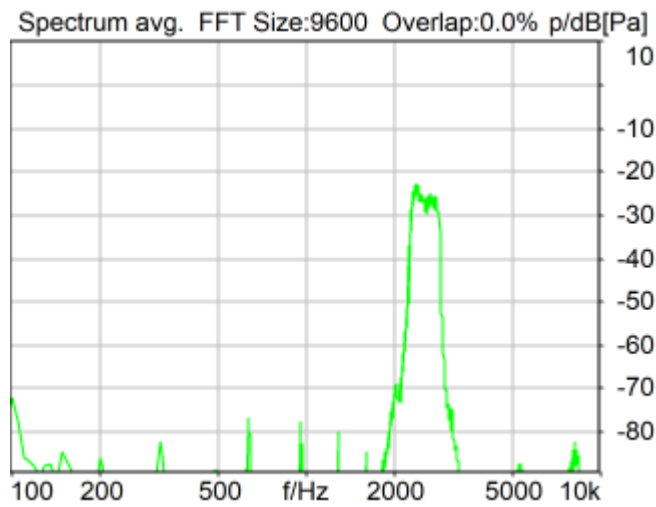
Ok

2023/11/13 2:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 34.48 dB (1.89%) Ok

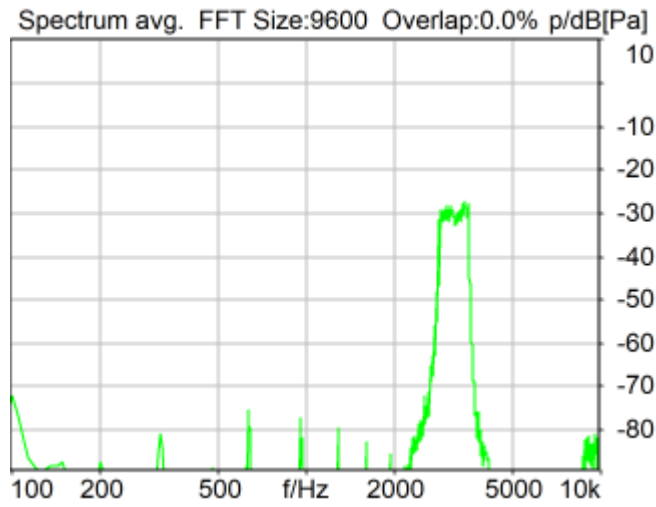
Ok

2023/11/13 2:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 30.63 dB (2.94%) Ok

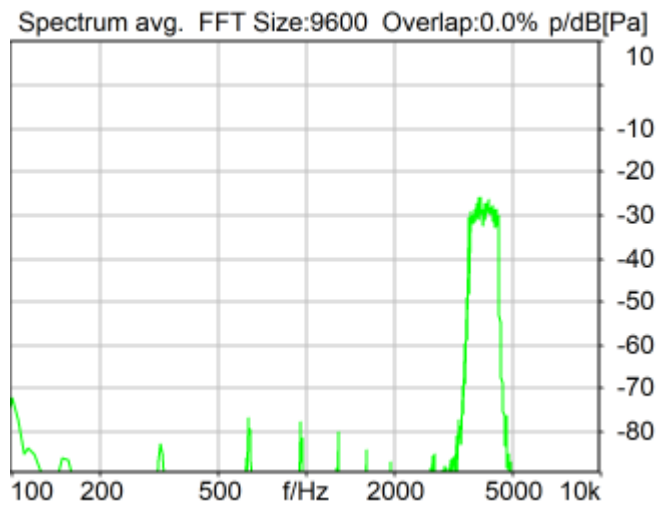
Ok

2023/11/13 2:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 33.55 dB (2.10%) Ok

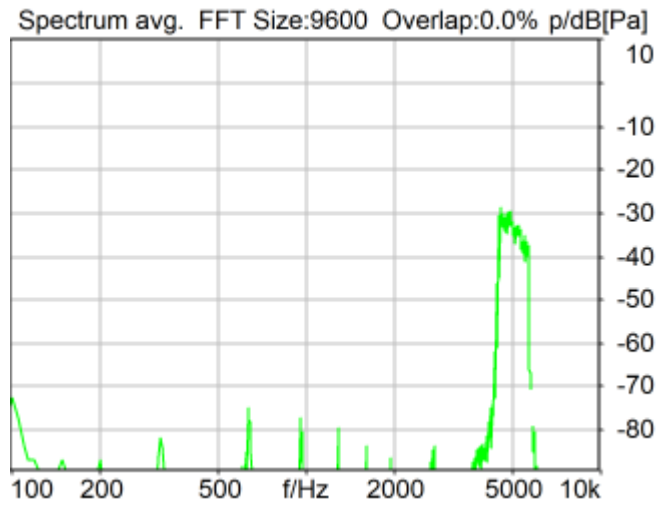
Ok

2023/11/13 2:24 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 33.99 dB (2.00%) Ok

Ok

2023/11/13 2:24 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	23.17 dB
2	315Hz	24.84 dB
3	400Hz	24.44 dB
4	500Hz	25.32 dB
5	630Hz	25.95 dB
6	800Hz	24.77 dB
7	1000Hz	26.03 dB
8	1250Hz	22.04 dB
9	1600Hz	28.34 dB
10	2000Hz	29.03 dB
11	2500Hz	34.48 dB
12	3150Hz	30.63 dB
13	4000Hz	33.55 dB
14	5000Hz	33.99 dB

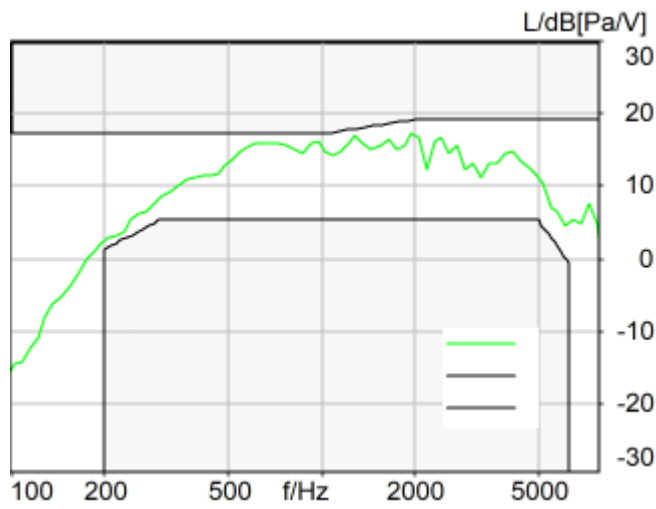
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.04dB at 1250Hz.

2023/11/13 2:30 ACQUA

5.3 Frequency Response 2N FF

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



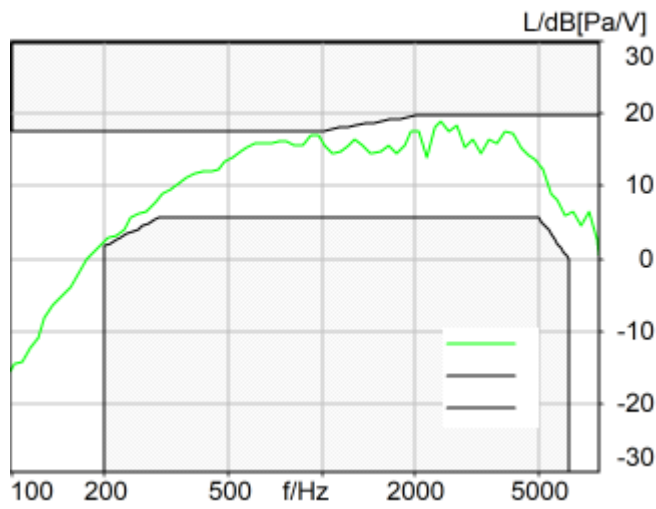
Absolute minimal distance
1.07 dB at 217.7 Hz Ok

Ok

2023/11/13 2:30 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.61 dB at 2432.3 Hz Ok

Ok

2023/11/13 2:30 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 2:10

Status Overview

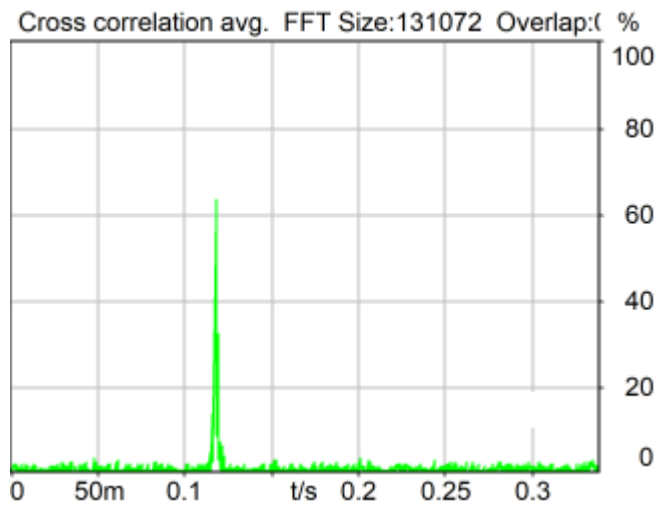
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	118.2	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	88.19	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.15	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.89	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.37	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.80	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.40	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.42	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.27	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.17	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.99	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.21	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.71	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.58	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.86	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.33	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
Report - Receive Distortion	Ok	Minimum SDNR	23.15	LTE Band

and Noise (Conversational Gain)		[dB], (occured at 250Hz)		66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 1285.9 Hz	1.29	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 924.0 Hz	0.91	LTE Band 66_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch132322_8N

Overall Receive Delay WB	6
5.1a Receive Volume Control Performance 8N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 8N FF	23
5.3 Frequency Response 8N DF	24

Overall Receive Delay WB

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



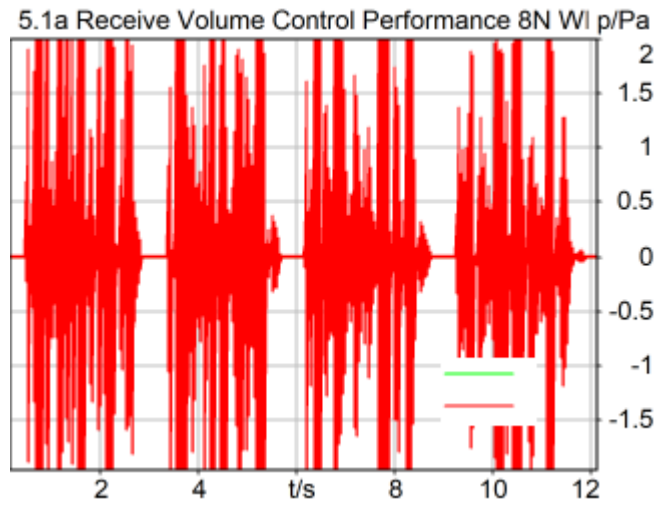
Delay (Cross): 118.2 ms

2023/11/13 2:01 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N WB

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



Speech Level RCV: 88.19 dB[SPL], Act.: 80.77% Ok

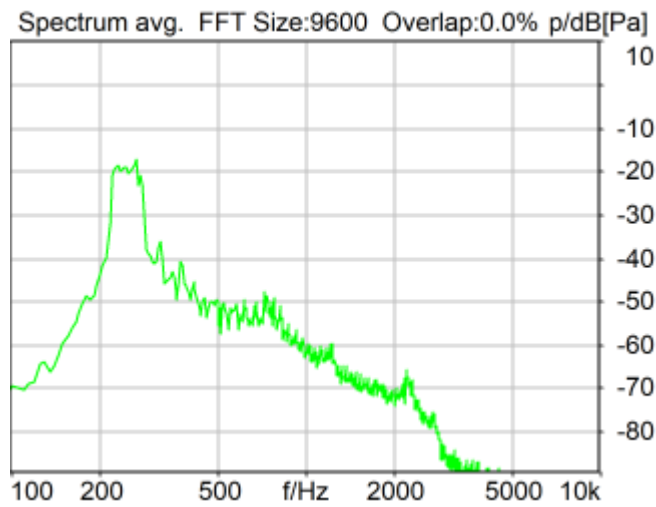
Ok

2023/11/13 2:01 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.15 dB (6.96%) Ok

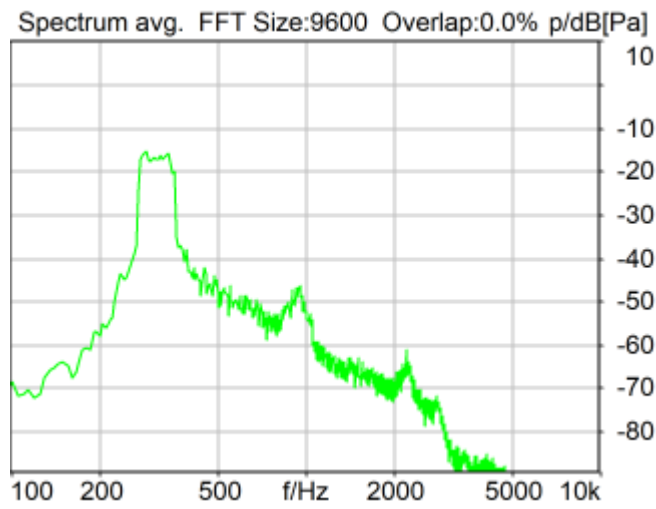
Ok

2023/11/13 2:02 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.89 dB (5.69%) Ok

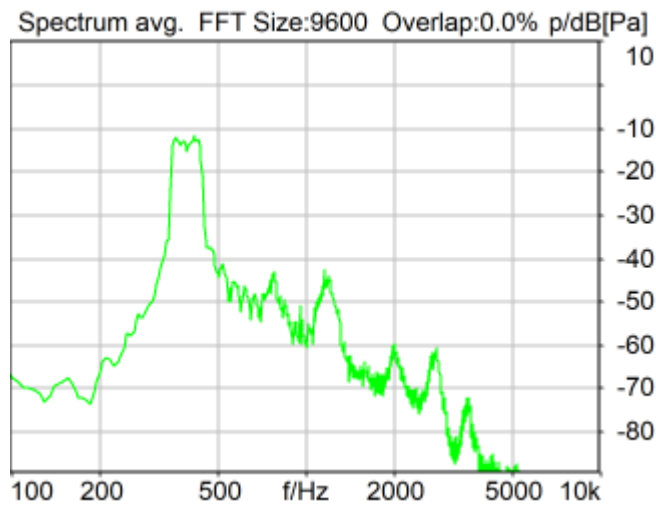
Ok

2023/11/13 2:02 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.37 dB (4.80%) Ok

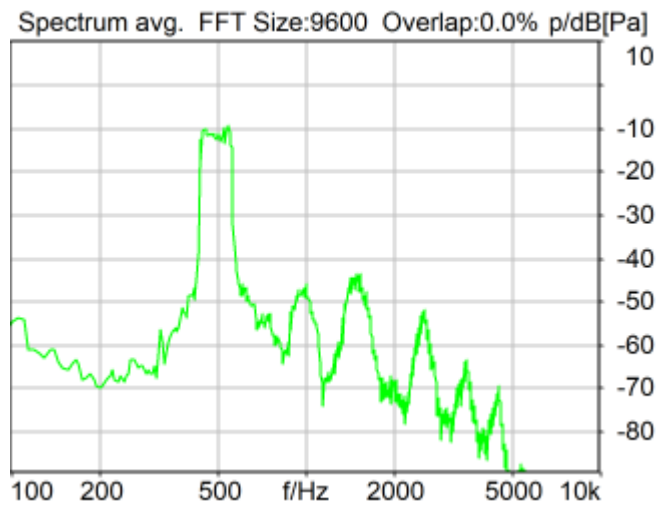
Ok

2023/11/13 2:03 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.80 dB (3.63%) Ok

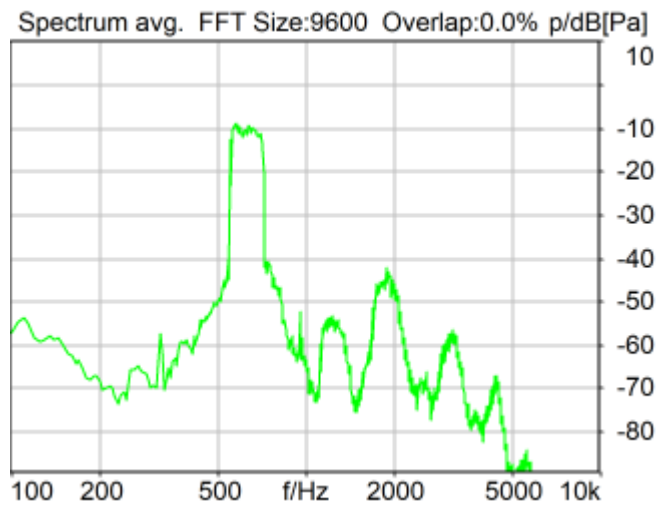
Ok

2023/11/13 2:03 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.40 dB (3.39%) Ok

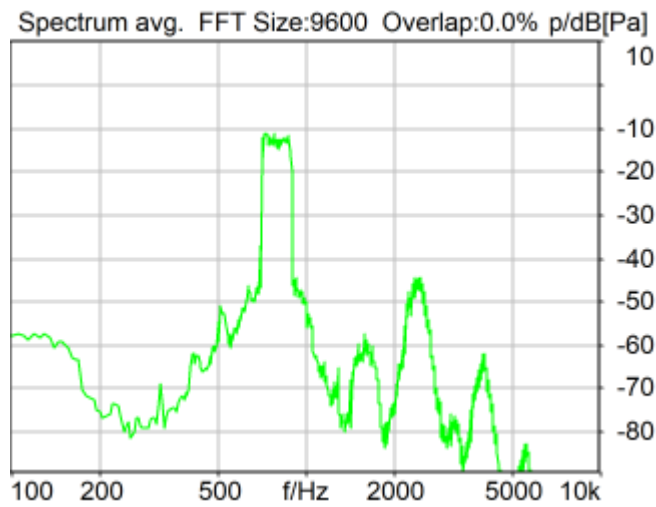
Ok

2023/11/13 2:03 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.42 dB (3.38%) Ok

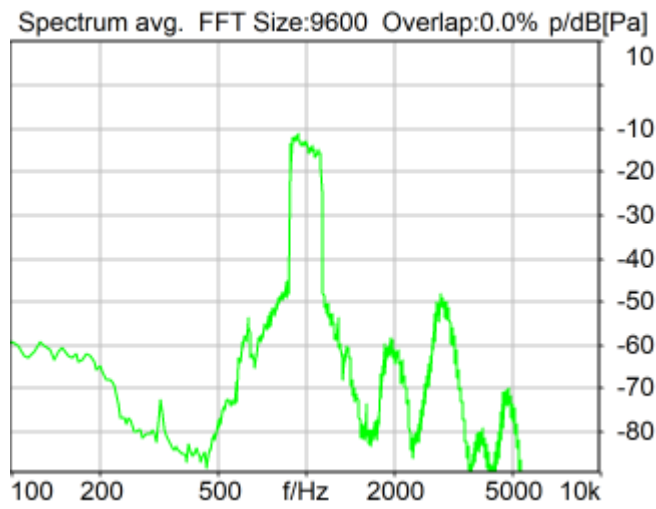
Ok

2023/11/13 2:04 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 32.27 dB (2.44%) Ok

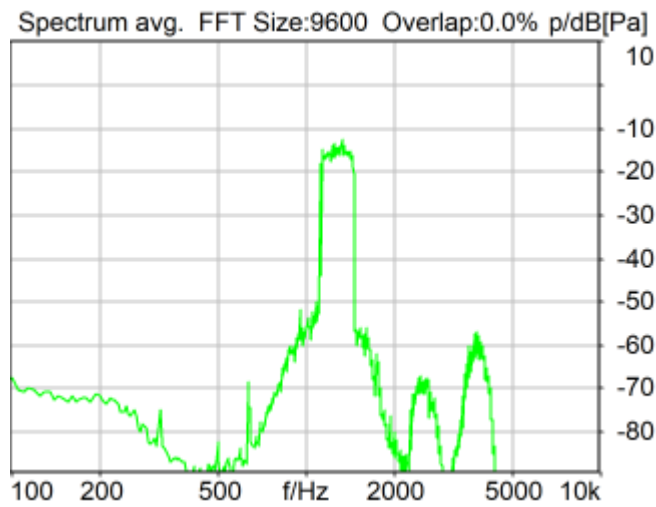
Ok

2023/11/13 2:04 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 34.17 dB (1.96%) Ok

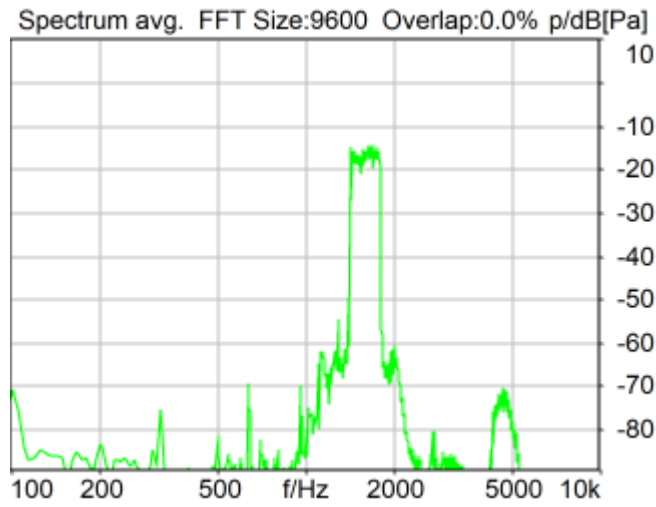
Ok

2023/11/13 2:05 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 44.99 dB (0.56%) Ok

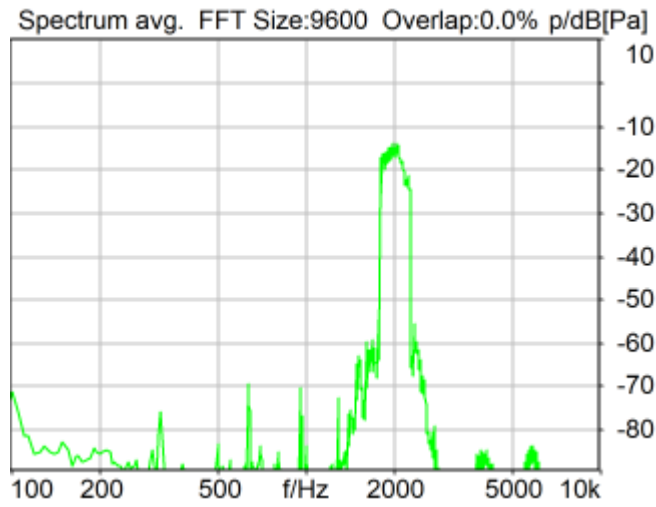
Ok

2023/11/13 2:05 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 44.21 dB (0.62%) Ok

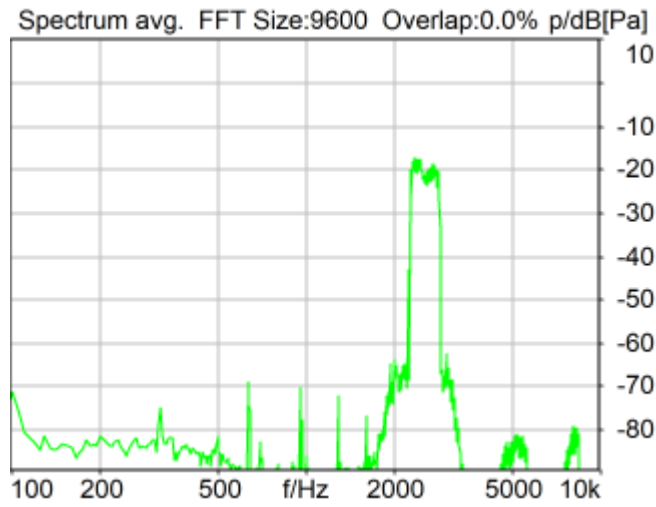
Ok

2023/11/13 2:05 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.71 dB (0.52%) Ok

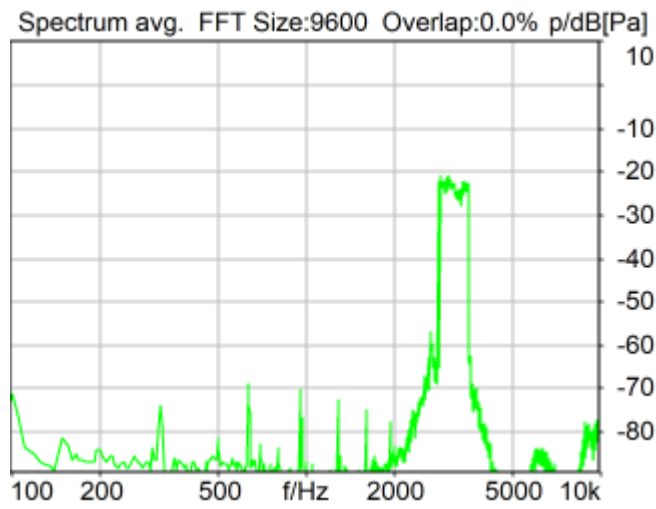
Ok

2023/11/13 2:06 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 41.58 dB (0.83%) Ok

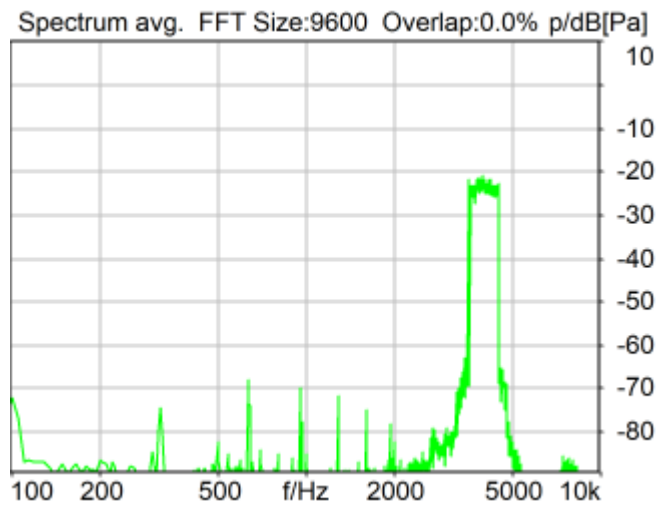
Ok

2023/11/13 2:06 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 44.86 dB (0.57%) Ok

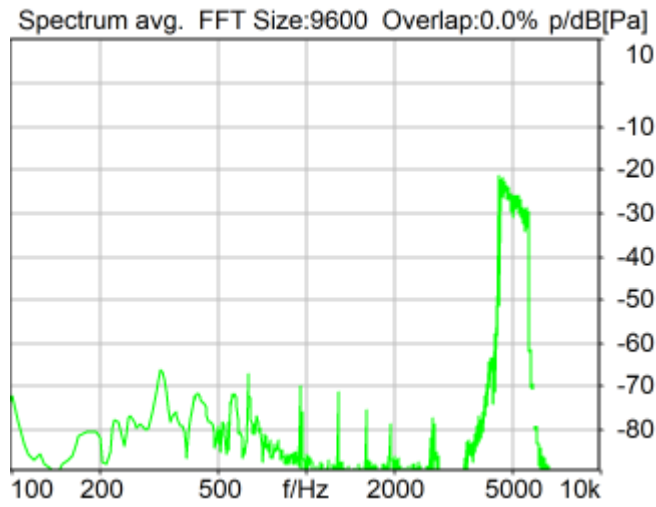
Ok

2023/11/13 2:07 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.33 dB (1.21%) Ok

Ok

2023/11/13 2:07 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	23.15 dB
2	315Hz	24.89 dB
3	400Hz	26.37 dB
4	500Hz	28.80 dB
5	630Hz	29.40 dB
6	800Hz	29.42 dB
7	1000Hz	32.27 dB
8	1250Hz	34.17 dB
9	1600Hz	44.99 dB
10	2000Hz	44.21 dB
11	2500Hz	45.71 dB
12	3150Hz	41.58 dB
13	4000Hz	44.86 dB
14	5000Hz	38.33 dB

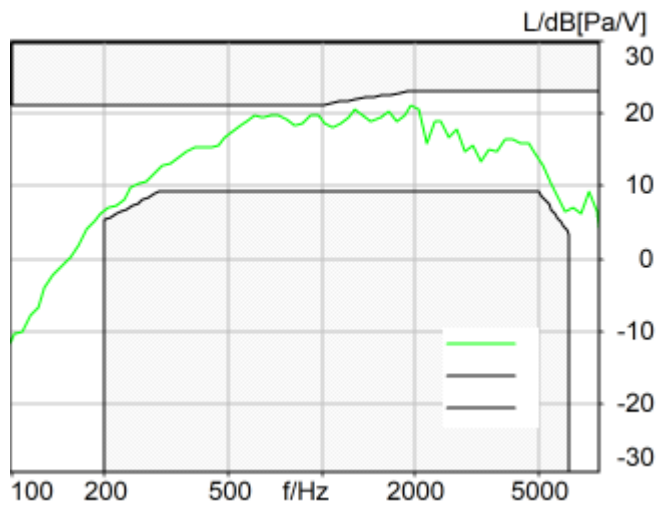
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 23.15dB at 250Hz.

2023/11/13 2:09 ACQUA

5.3 Frequency Response 8N FF

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



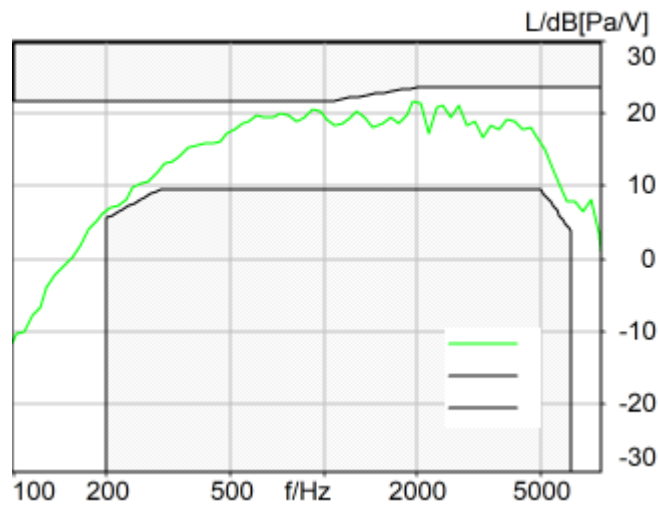
Absolute minimal distance
1.29 dB at 1285.9 Hz Ok

Ok

2023/11/13 2:09 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF

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



Absolute minimal distance
0.91 dB at 924.0 Hz Ok

Ok

2023/11/13 2:09 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 7 20M QPSK 100RB 0Offset EVS NB 24.4Kbps_Ch21100_2N
--------------------	--

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 3:44

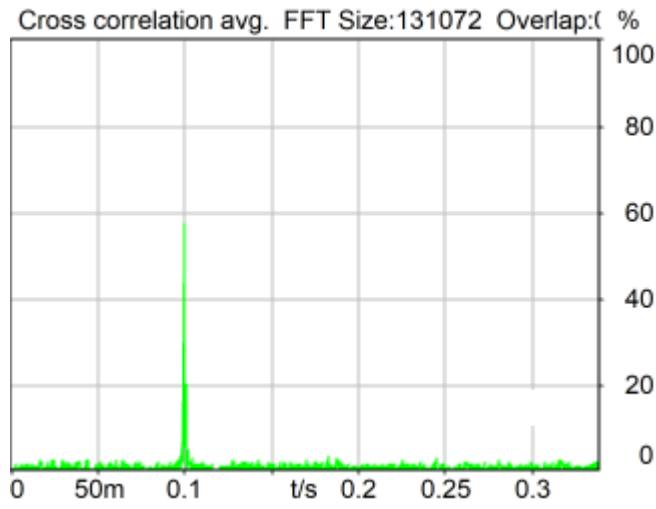
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	100.3	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	86.12	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	24.90	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.67	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.28	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.70	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.97	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	29.96	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.38	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.83	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	41.07	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.77	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 400Hz)	24.90	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.3 Frequency Response 2N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	0.31	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N
5.3 Frequency Response 2N DF HANB	Not Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	-0.24	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_2N

Overall Receive Delay 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
5.3 Frequency Response 2N FF HANB	18
5.3 Frequency Response 2N DF HANB	19

Overall Receive Delay NB

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



Delay (Cross): 100.3 ms

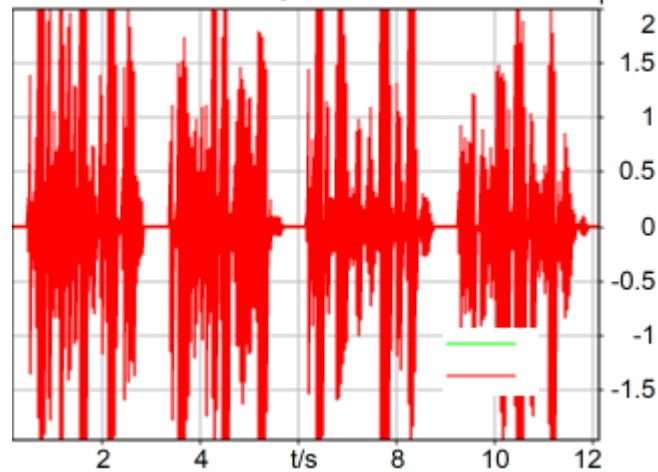
2023/11/13 3:38 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N NB

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

5.1b Receive Volume Control Performance 2N NE p/Pa



Speech Level RCV: 86.12 dB[SPL], Act.: 80.85% Ok

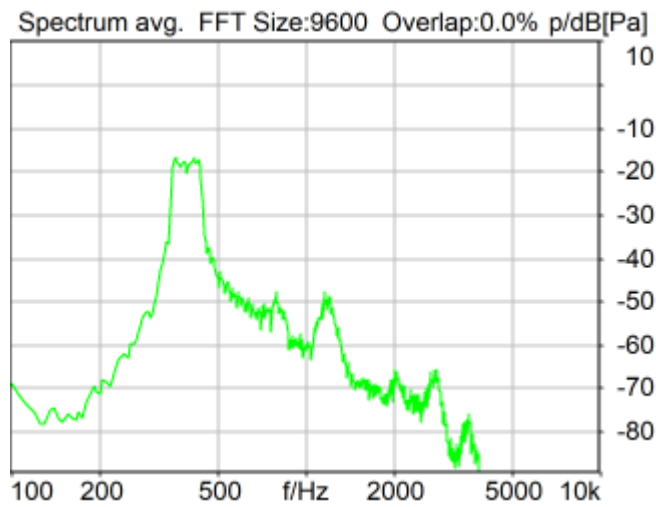
Ok

2023/11/13 3:38 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.90 dB (5.69%) Ok

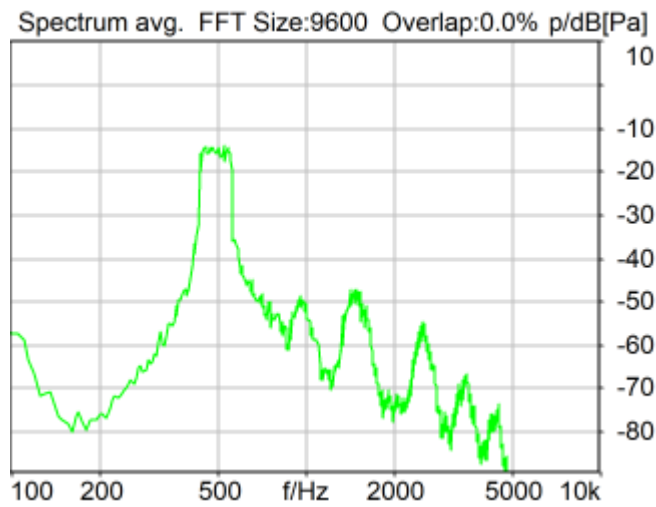
Ok

2023/11/13 3:39 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.67 dB (4.64%) Ok

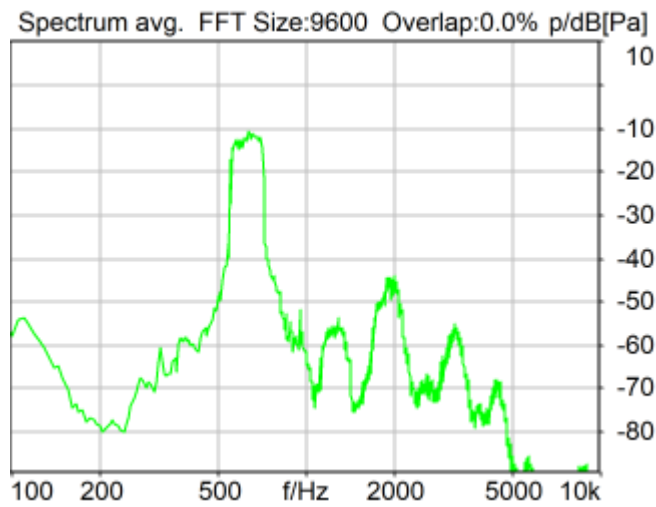
Ok

2023/11/13 3:39 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.28 dB (3.85%) Ok

Ok

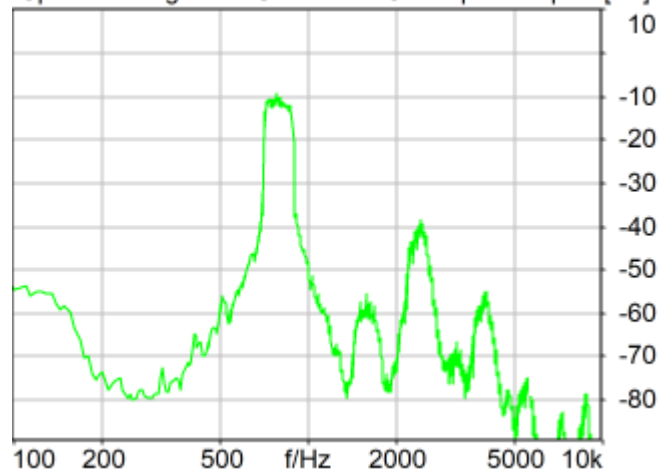
2023/11/13 3:40 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 800 Hz NB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 25.70 dB (5.19%) Ok

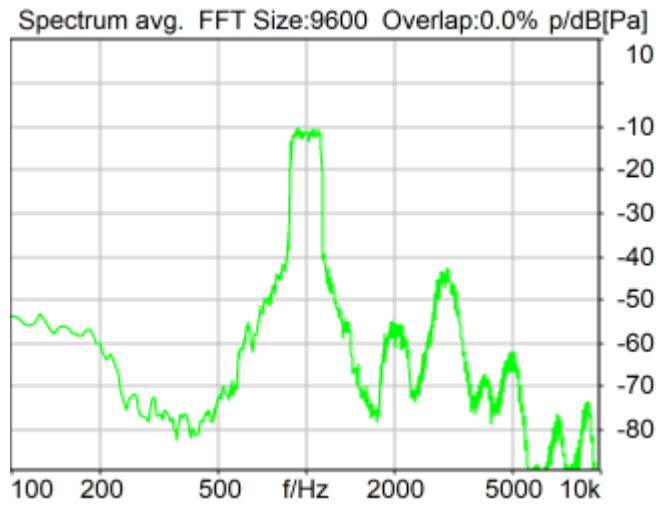
Ok

2023/11/13 3:40 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.97 dB (4.00%) Ok

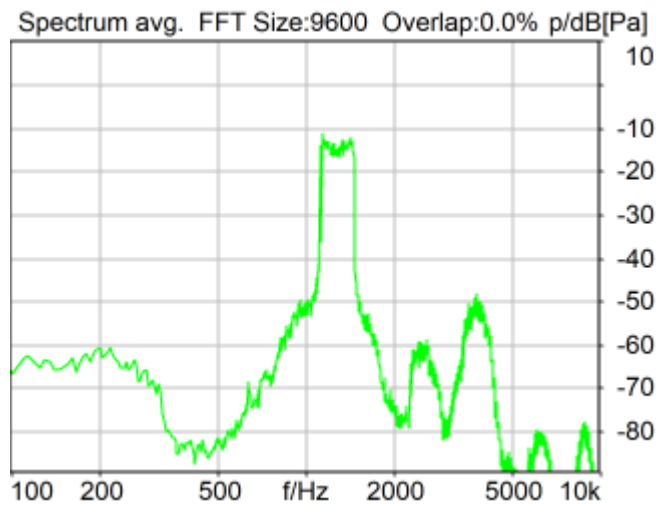
Ok

2023/11/13 3:40 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.96 dB (3.18%) Ok

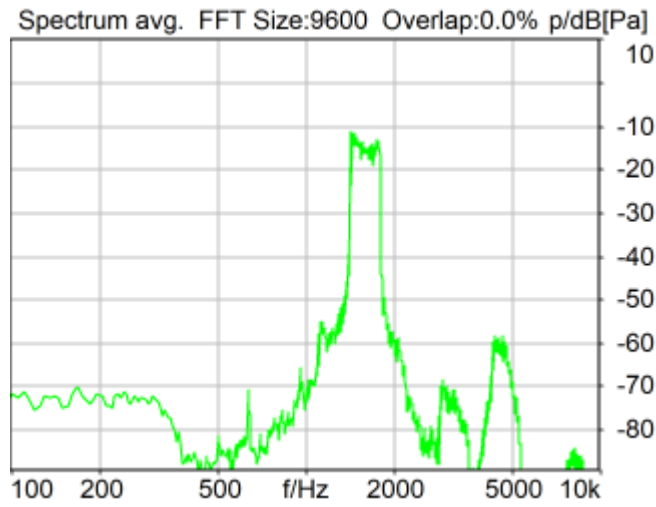
Ok

2023/11/13 3:41 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.38 dB (1.35%) Ok

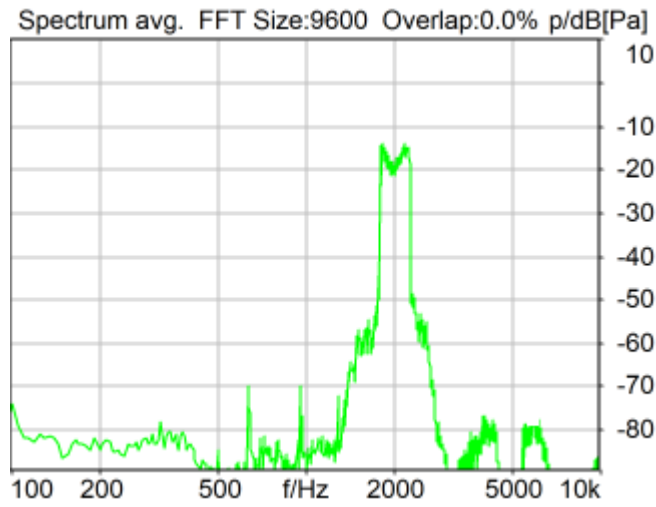
Ok

2023/11/13 3:41 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 36.83 dB (1.44%) Ok

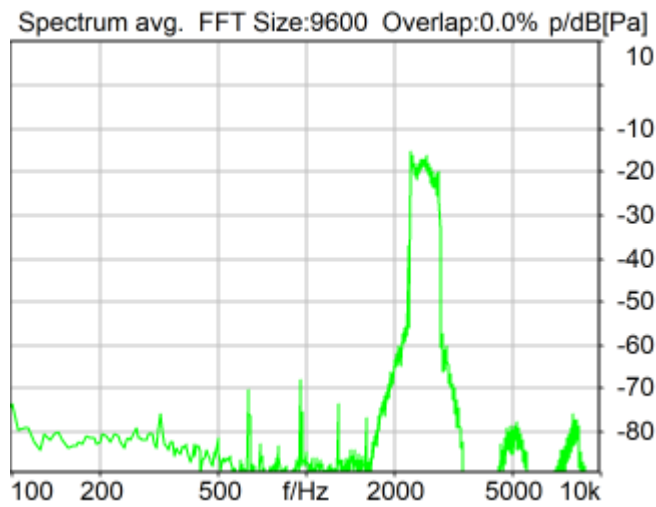
Ok

2023/11/13 3:42 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 41.07 dB (0.88%) Ok

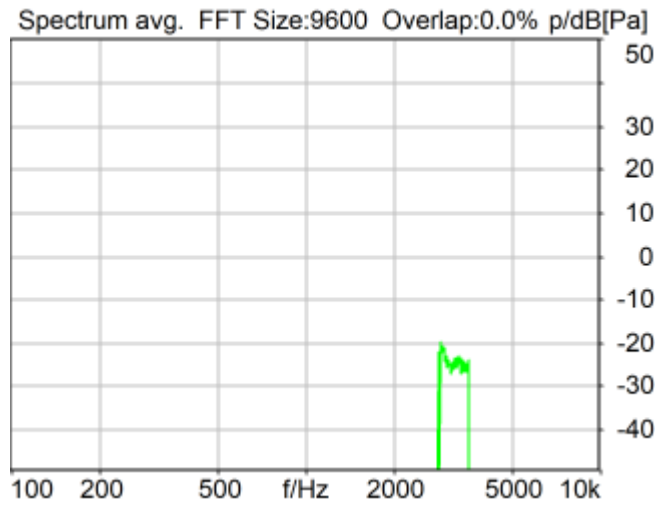
Ok

2023/11/13 3:42 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.77 dB (1.29%) Ok

Ok

2023/11/13 3:42 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

Report - Receive Distortion and Noise (Conversational Gain)

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

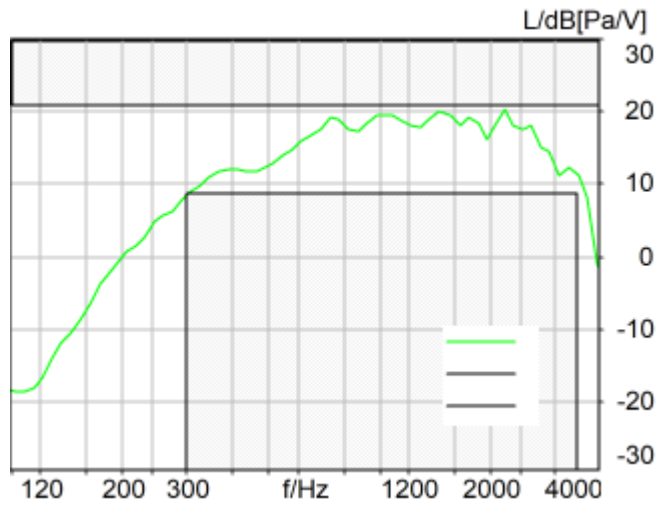
Region	Frequency	SDNR
1	400Hz	24.90 dB
2	500Hz	26.67 dB
3	630Hz	28.28 dB
4	800Hz	25.70 dB
5	1000Hz	27.97 dB
6	1250Hz	29.96 dB
7	1600Hz	37.38 dB
8	2000Hz	36.83 dB
9	2500Hz	41.07 dB
10	3150Hz	37.77 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 24.90dB at 400Hz.

2023/11/13 3:43 ACQUA

5.3 Frequency Response 2N FF HANB

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



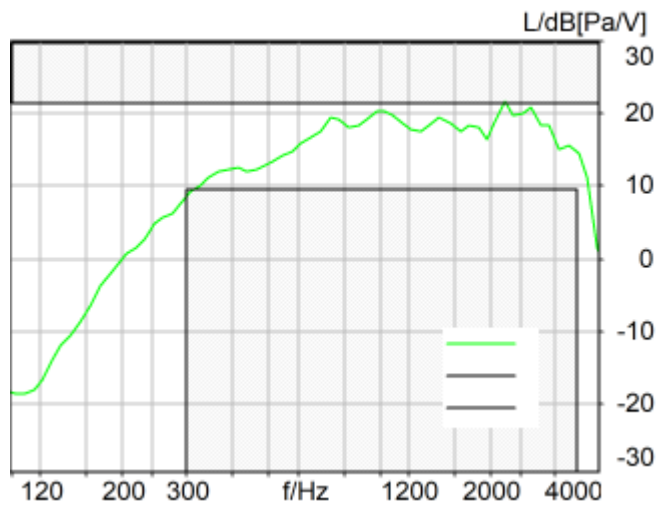
Absolute minimal distance
0.31 dB at 2177.4 Hz Ok

Ok

2023/11/13 3:43 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF HANB

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



Absolute minimal distance
-0.24 dB at 2177.4 Hz Not Ok

Not Ok

2023/11/13 3:43 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 7 20M QPSK 100RB 0Offset EVS NB 24.4Kbps_Ch21100_8N
--------------------	--

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 3:56

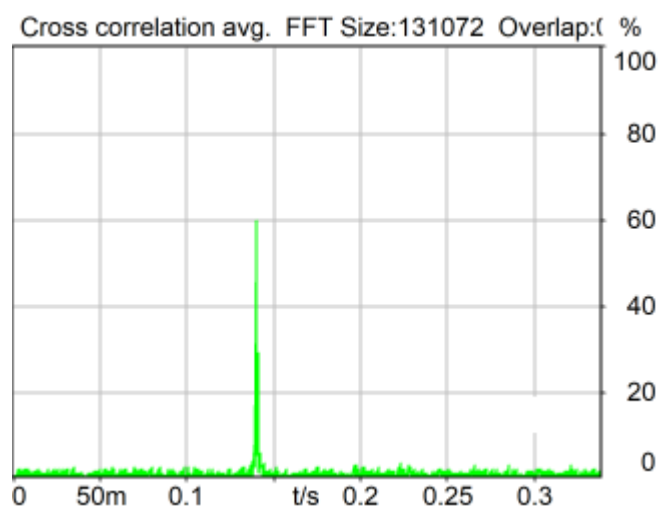
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	140.7	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	89.84	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.44	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.17	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.41	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.76	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.80	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.03	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	35.74	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.06	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.07	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.33	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 400Hz)	25.44	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.3 Frequency Response 8N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	0.50	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N
5.3 Frequency Response 8N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	0.23	LTE Band 7_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch21100_8N

Overall Receive Delay NB	5
5.1a Receive Volume Control Performance 8N 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
5.3 Frequency Response 8N FF HANB	18
5.3 Frequency Response 8N DF HANB	19

Overall Receive Delay NB

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



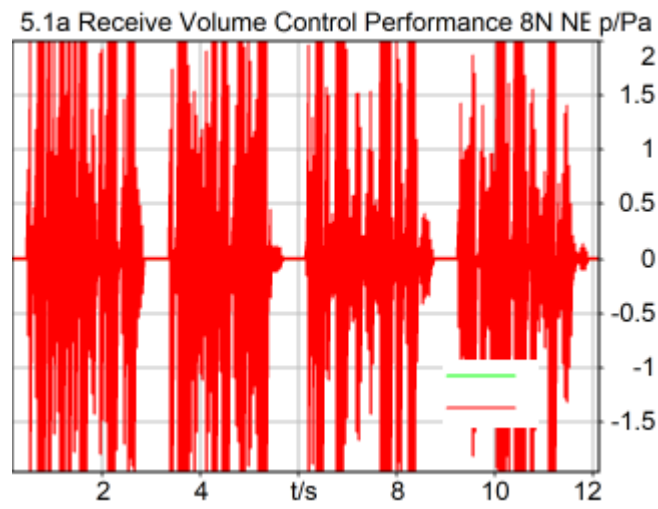
Delay (Cross): 140.7 ms

2023/11/13 3:49 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N NB

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



Speech Level RCV: 89.84 dB[SPL], Act.: 81.95% Ok

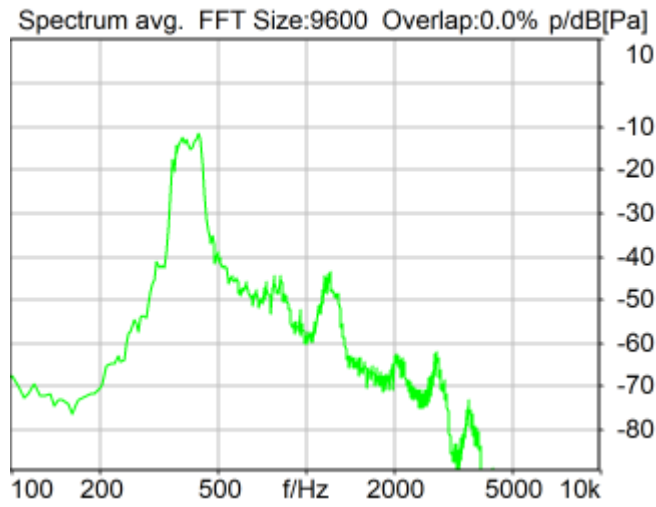
Ok

2023/11/13 3:49 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.44 dB (5.35%) Ok

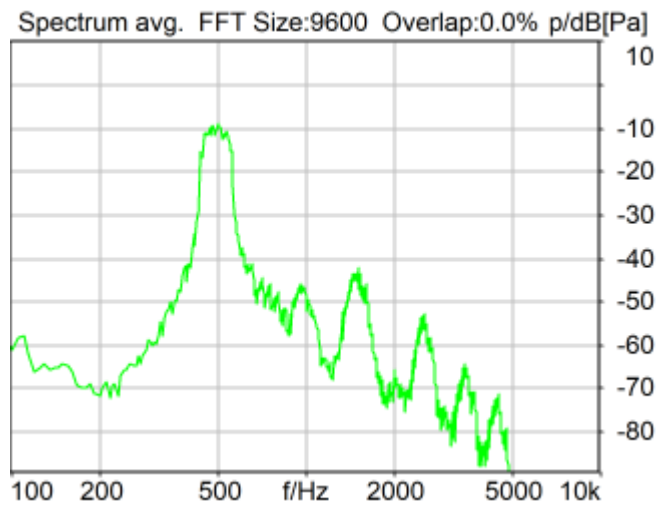
Ok

2023/11/13 3:49 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.17 dB (4.38%) Ok

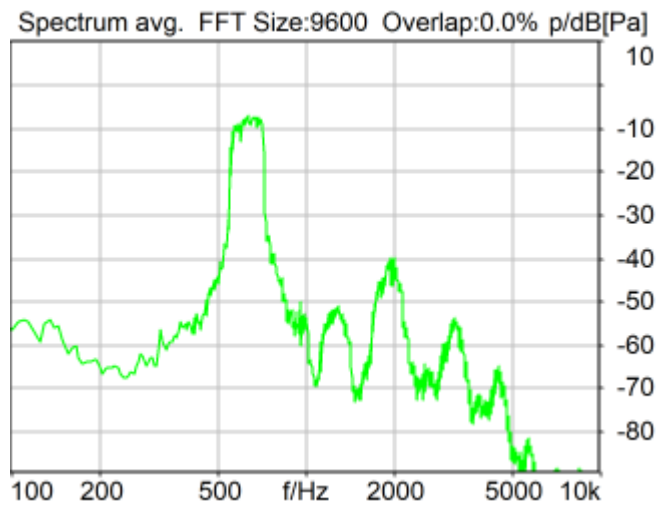
Ok

2023/11/13 3:50 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.41 dB (3.80%) Ok

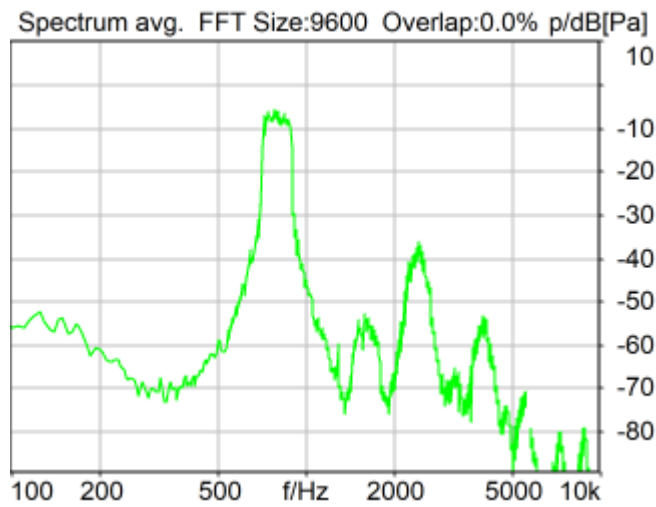
Ok

2023/11/13 3:50 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.76 dB (4.59%) Ok

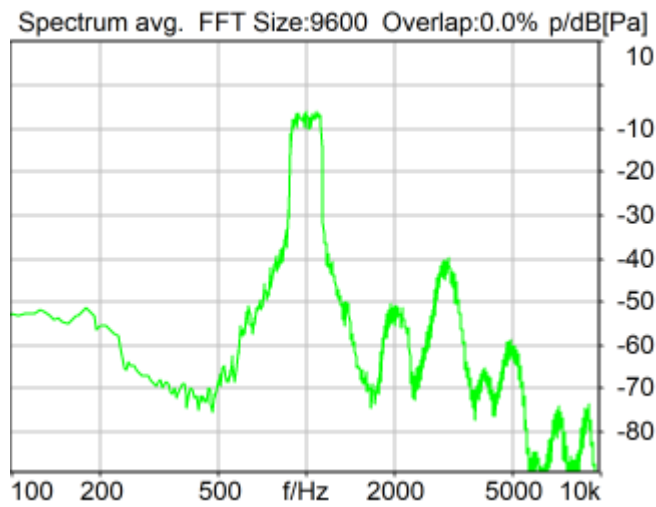
Ok

2023/11/13 3:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.80 dB (3.63%) Ok

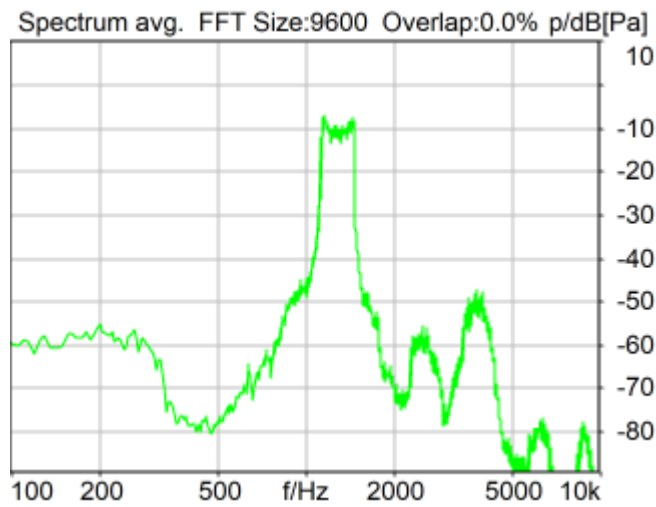
Ok

2023/11/13 3:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.03 dB (4.45%) Ok

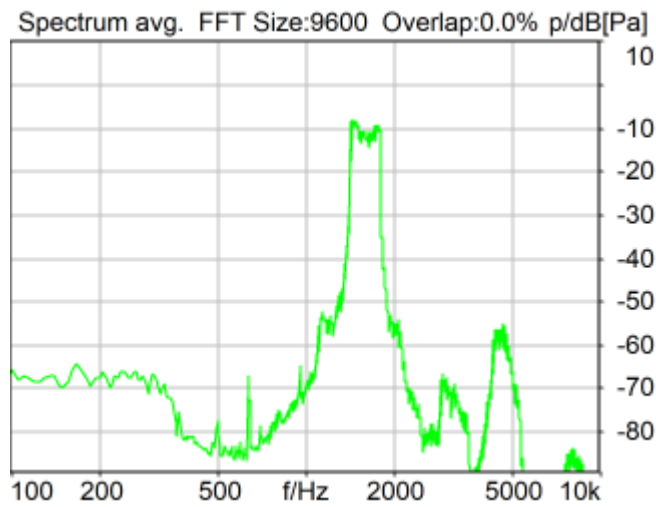
Ok

2023/11/13 3:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 35.74 dB (1.63%) Ok

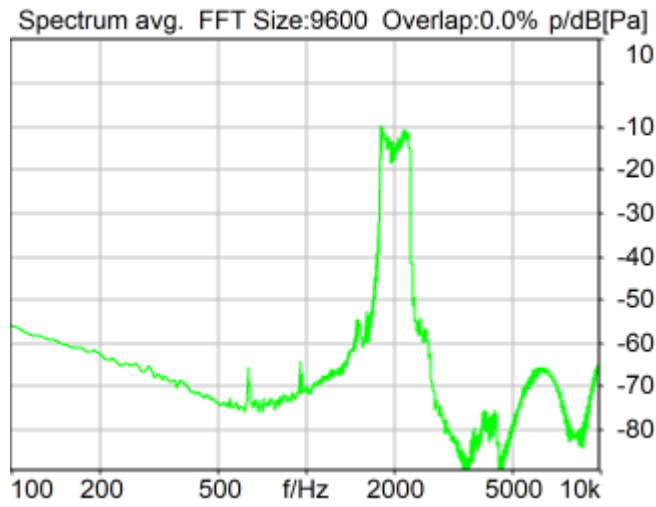
Ok

2023/11/13 3:52 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 36.06 dB (1.57%) Ok

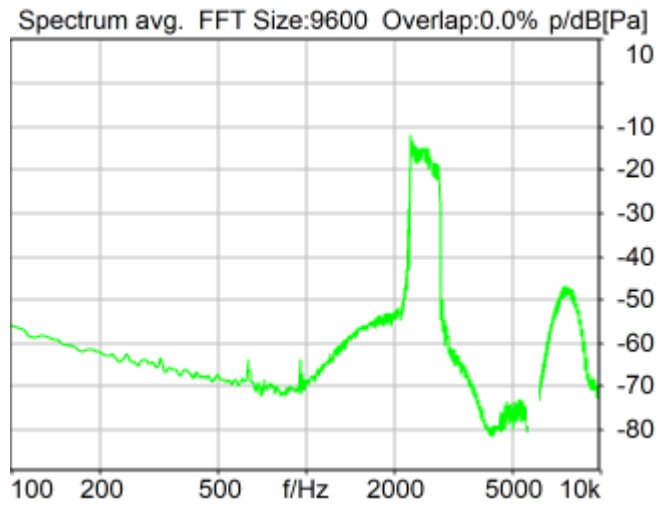
Ok

2023/11/13 3:52 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.07 dB (4.43%) Ok

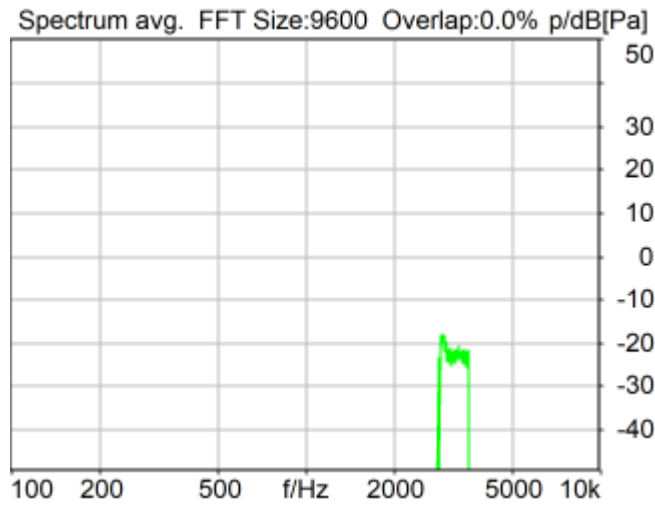
Ok

2023/11/13 3:53 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 36.33 dB (1.53%) Ok

Ok

2023/11/13 3:53 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

Report - Receive Distortion and Noise (Conversational Gain)

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

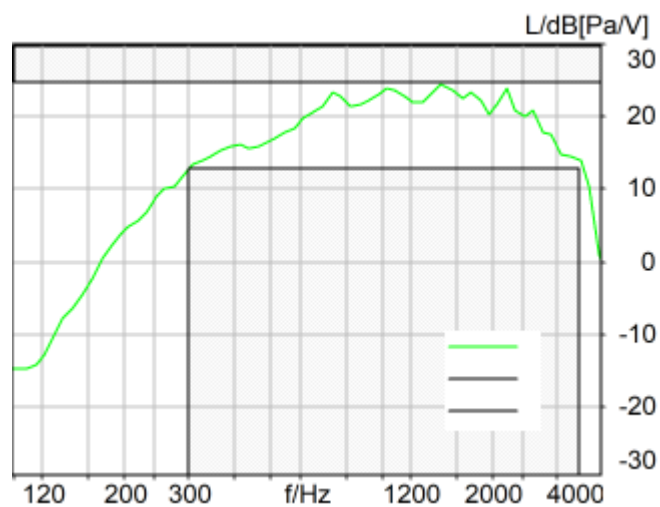
Region	Frequency	SDNR
1	400Hz	25.44 dB
2	500Hz	27.17 dB
3	630Hz	28.41 dB
4	800Hz	26.76 dB
5	1000Hz	28.80 dB
6	1250Hz	27.03 dB
7	1600Hz	35.74 dB
8	2000Hz	36.06 dB
9	2500Hz	27.07 dB
10	3150Hz	36.33 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 25.44dB at 400Hz.

2023/11/13 3:54 ACQUA

5.3 Frequency Response 8N FF HANB

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



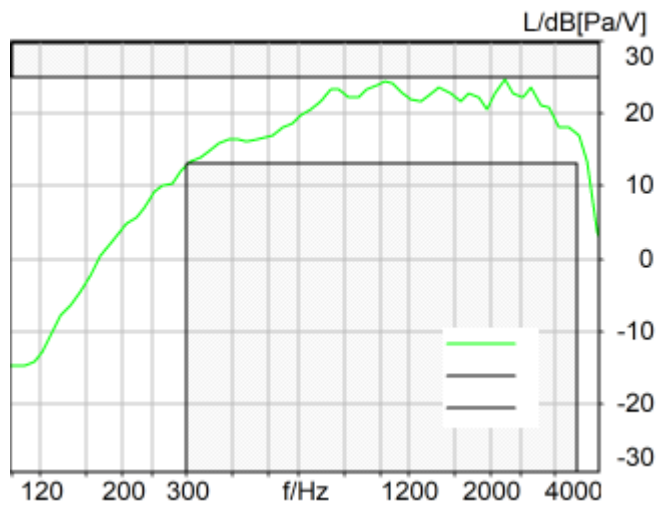
Absolute minimal distance
0.50 dB at 305.9 Hz Ok

Ok

2023/11/13 3:54 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF HANB

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



Absolute minimal distance
0.23 dB at 2177.4 Hz Ok

Ok

2023/11/13 3:54 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 7 20M QPSK 100RB 0Offset EVS WB 64Kbps_Ch21100_2N
--------------------	--

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 3:12

Status Overview

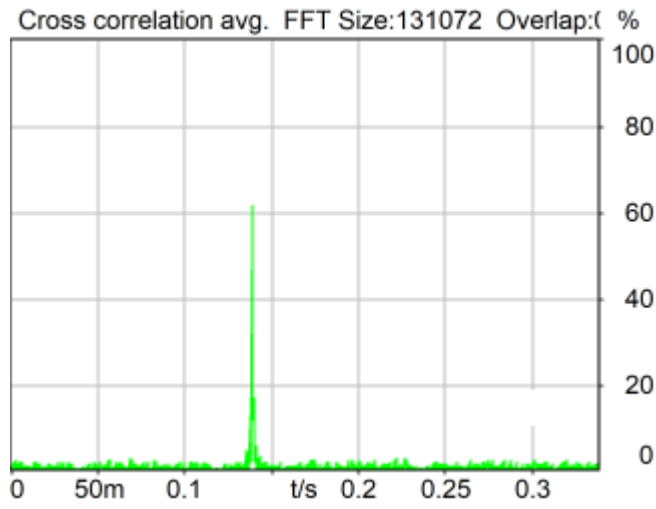
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	139.4	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	84.26	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.94	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.47	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.36	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.20	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.19	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.09	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.66	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.59	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.55	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.79	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	46.39	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.66	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.44	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.88	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
Report - Receive Distortion	Ok	Minimum SDNR	22.94	LTE Band

and Noise (Conversational Gain)		[dB], (occured at 250Hz)		7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 731.5 Hz	1.12	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 2432.3 Hz	0.67	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

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



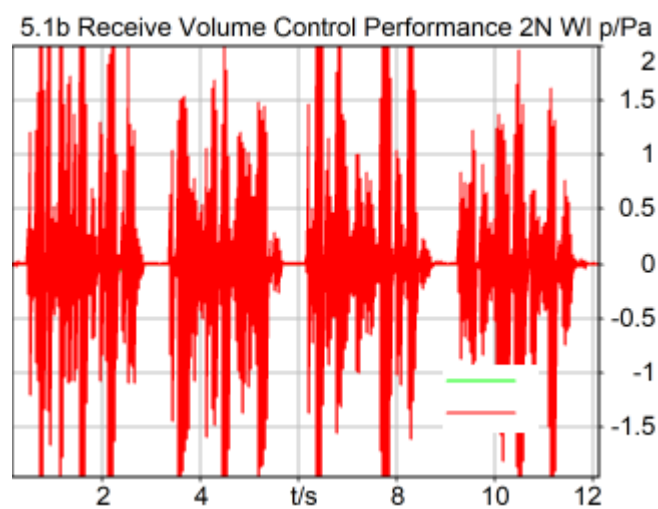
Delay (Cross): 139.4 ms

2023/11/13 2:43 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 84.26 dB[SPL], Act.: 82.21% Ok

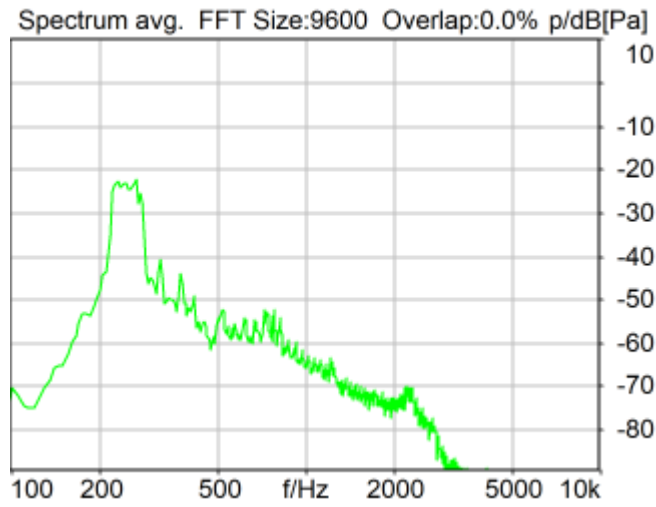
Ok

2023/11/13 2:43 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 22.94 dB (7.13%) Ok

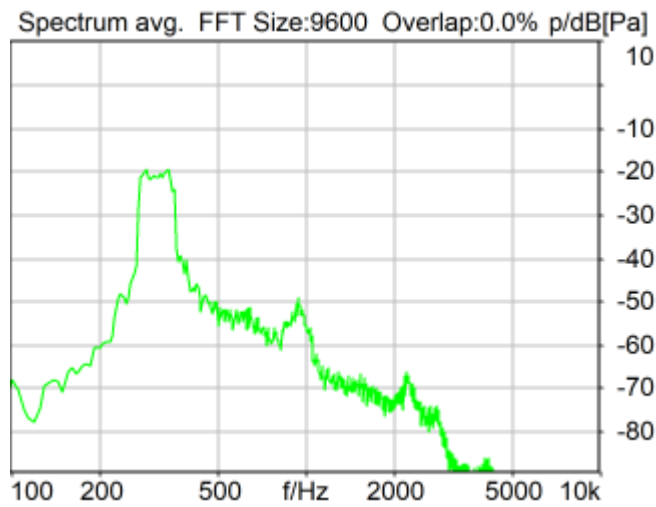
Ok

2023/11/13 2:43 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.47 dB (5.98%) Ok

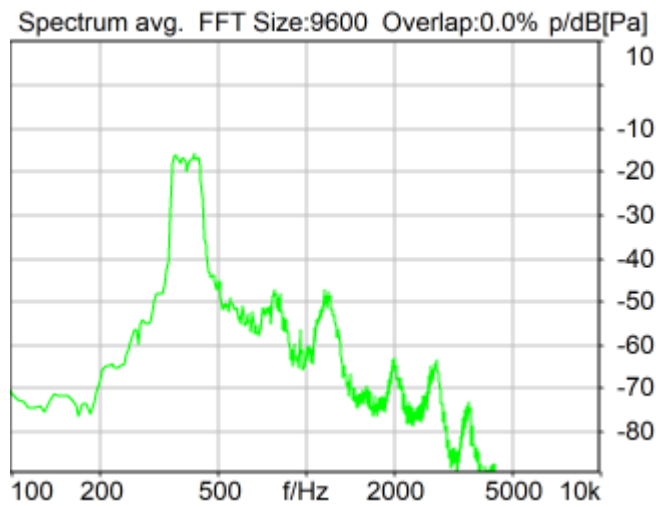
Ok

2023/11/13 2:44 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.36 dB (4.81%) Ok

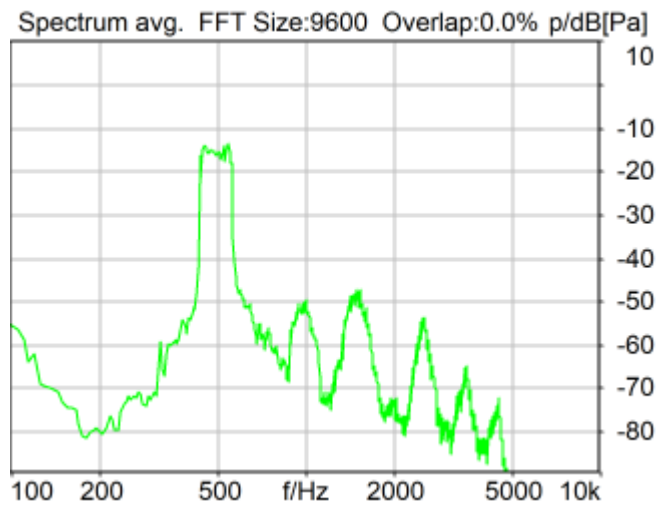
Ok

2023/11/13 2:44 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.20 dB (3.89%) Ok

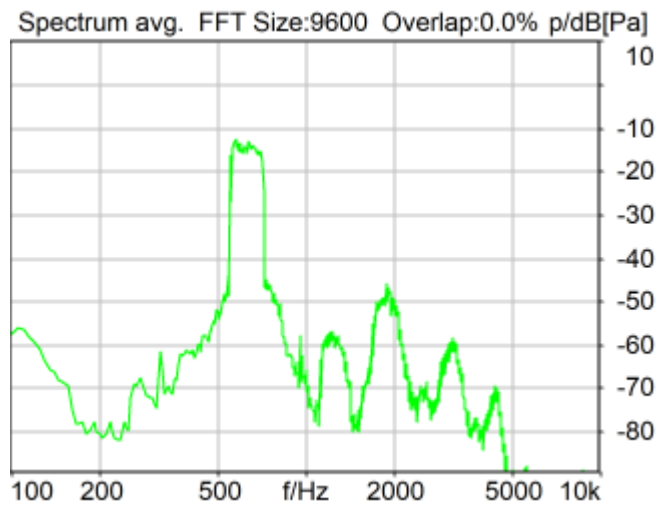
Ok

2023/11/13 2:44 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.19 dB (3.47%) Ok

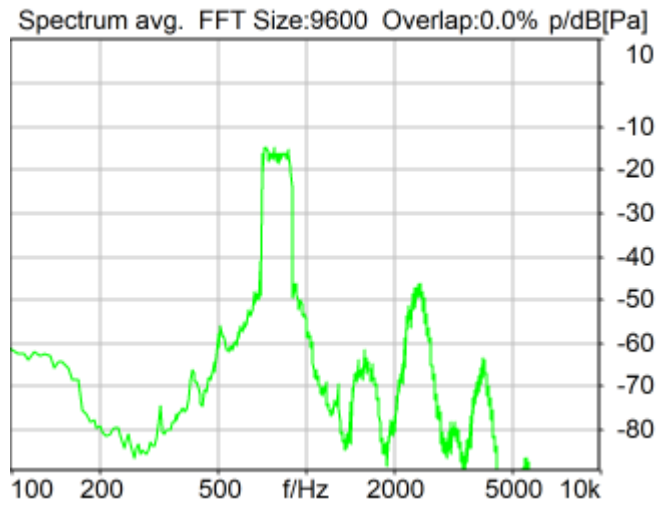
Ok

2023/11/13 2:45 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.09 dB (3.94%) Ok

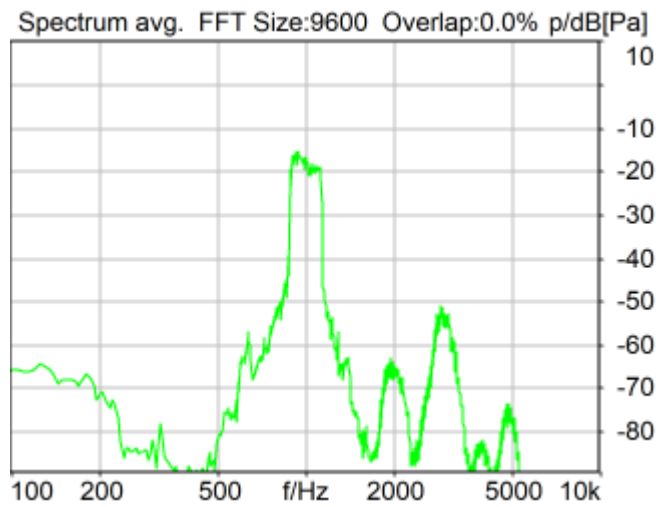
Ok

2023/11/13 2:45 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 30.66 dB (2.93%) Ok

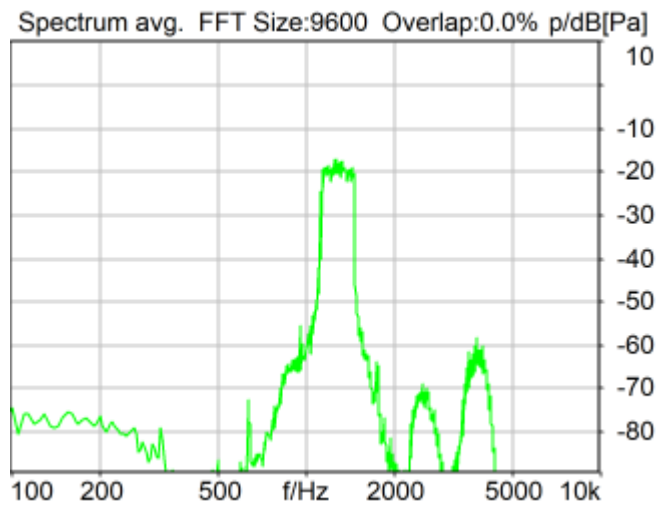
Ok

2023/11/13 2:46 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 30.59 dB (2.95%) Ok

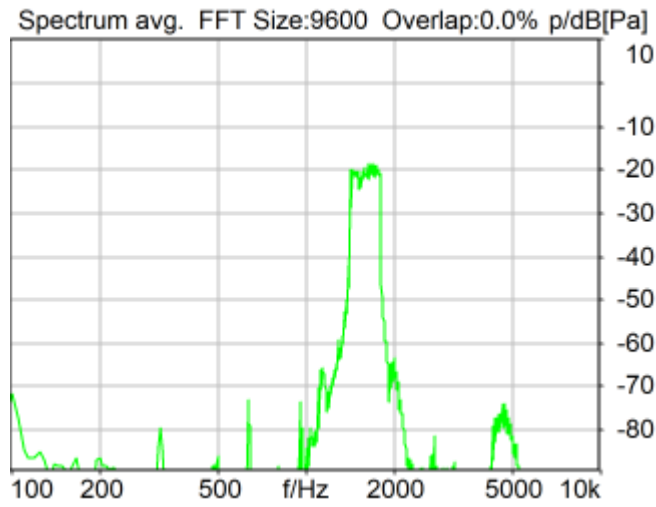
Ok

2023/11/13 2:46 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.55 dB (1.18%) Ok

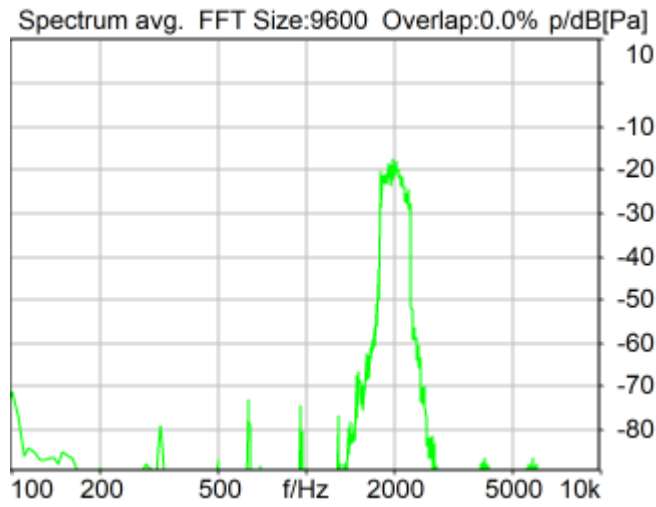
Ok

2023/11/13 2:46 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.79 dB (1.29%) Ok

Ok

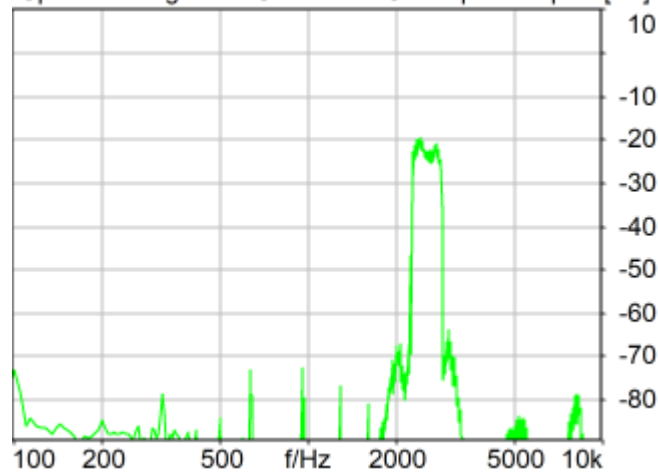
2023/11/13 2:47 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 2500 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 46.39 dB (0.48%) Ok

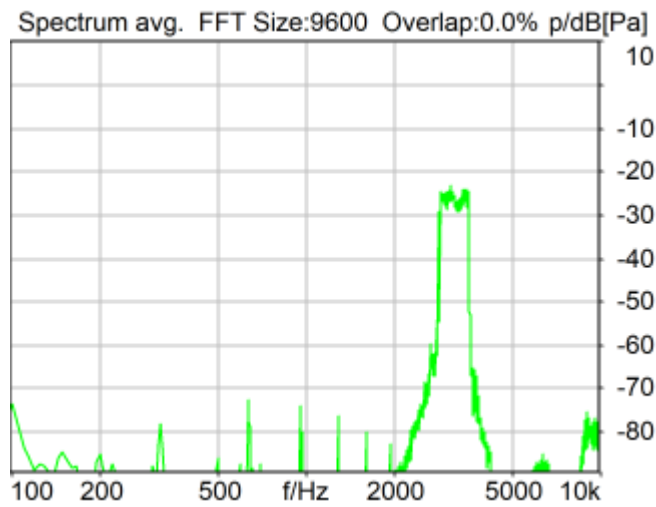
Ok

2023/11/13 2:47 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.66 dB (1.17%) Ok

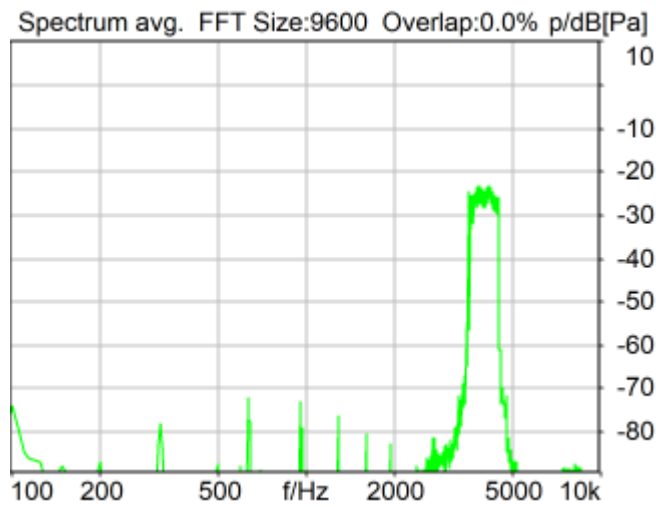
Ok

2023/11/13 2:48 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 42.44 dB (0.76%) Ok

Ok

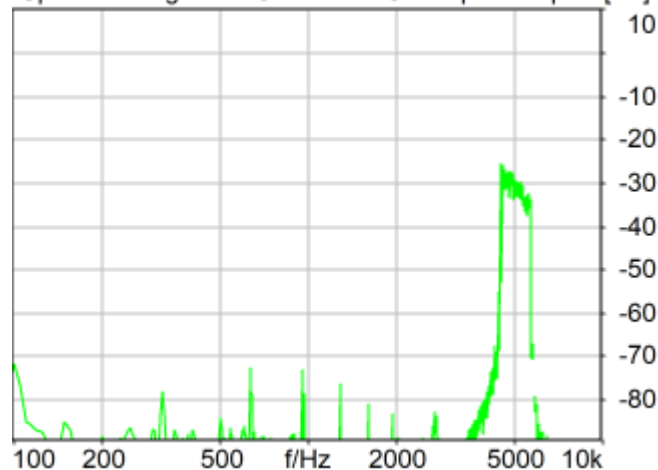
2023/11/13 2:48 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 5000 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 41.88 dB (0.81%) Ok

Ok

2023/11/13 2:48 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	22.94 dB
2	315Hz	24.47 dB
3	400Hz	26.36 dB
4	500Hz	28.20 dB
5	630Hz	29.19 dB
6	800Hz	28.09 dB
7	1000Hz	30.66 dB
8	1250Hz	30.59 dB
9	1600Hz	38.55 dB
10	2000Hz	37.79 dB
11	2500Hz	46.39 dB
12	3150Hz	38.66 dB
13	4000Hz	42.44 dB
14	5000Hz	41.88 dB

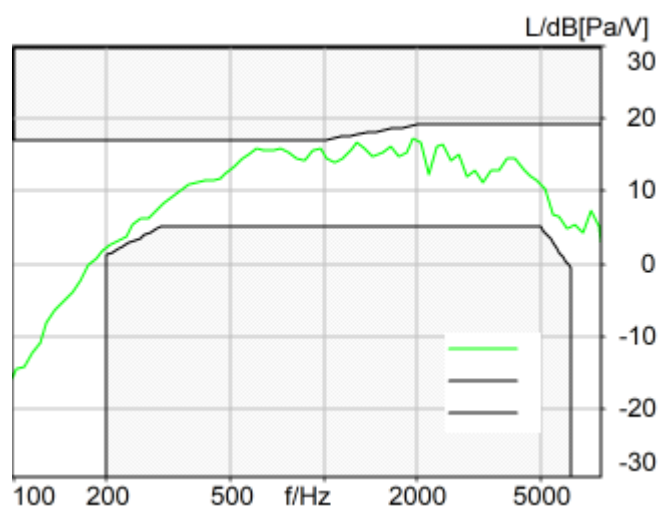
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.94dB at 250Hz.

2023/11/13 2:51 ACQUA

5.3 Frequency Response 2N FF

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



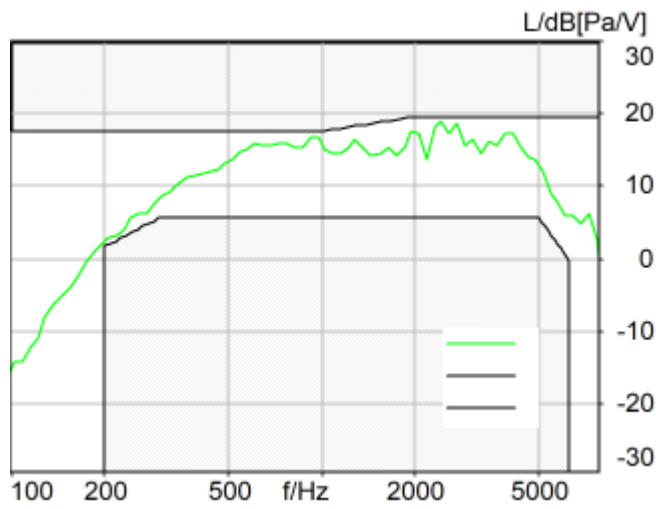
Absolute minimal distance
1.12 dB at 731.5 Hz Ok

Ok

2023/11/13 2:51 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.67 dB at 2432.3 Hz Ok

Ok

2023/11/13 2:51 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 7 20M QPSK 100RB 0Offset EVS WB 64Kbps_Ch21100_8N
--------------------	--

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 3:11

Status Overview

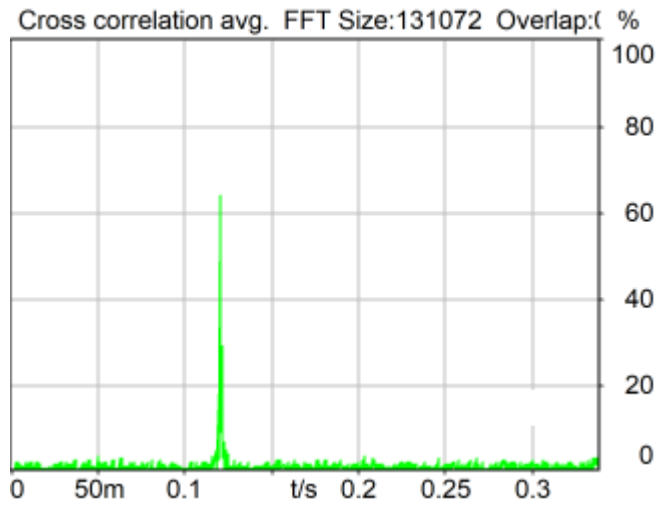
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	120.5	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	88.23	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.85	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.49	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.16	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.65	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.42	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.37	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.25	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.32	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.92	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.76	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.20	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.29	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.26	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.12	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
Report - Receive Distortion	Ok	Minimum SDNR	22.85	LTE Band

and Noise (Conversational Gain)		[dB], (occured at 250Hz)		7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 731.5 Hz	1.22	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 924.0 Hz	0.92	LTE Band 7_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch21100_8N

Overall Receive Delay WB	6
5.1a Receive Volume Control Performance 8N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 8N FF	23
5.3 Frequency Response 8N DF	24

Overall Receive Delay WB

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



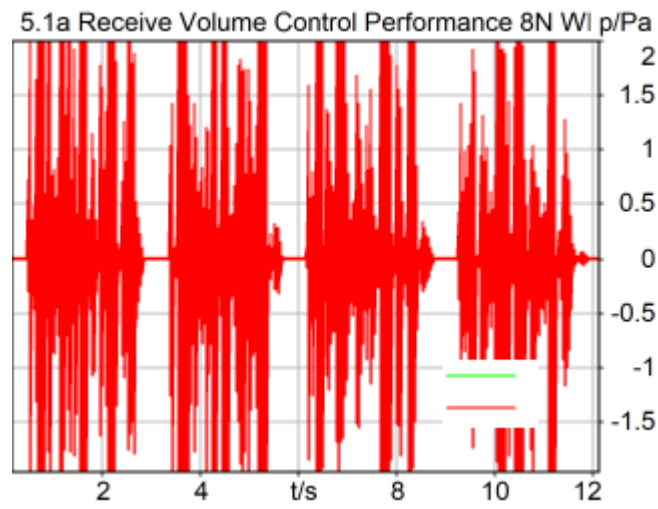
Delay (Cross): 120.5 ms

2023/11/13 2:56 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N WB

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



Speech Level RCV: 88.23 dB[SPL], Act.: 80.74% Ok

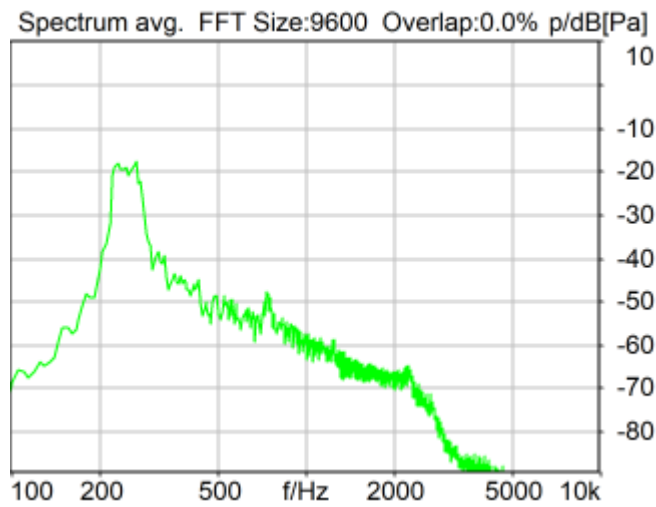
Ok

2023/11/13 2:56 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 22.85 dB (7.20%) Ok

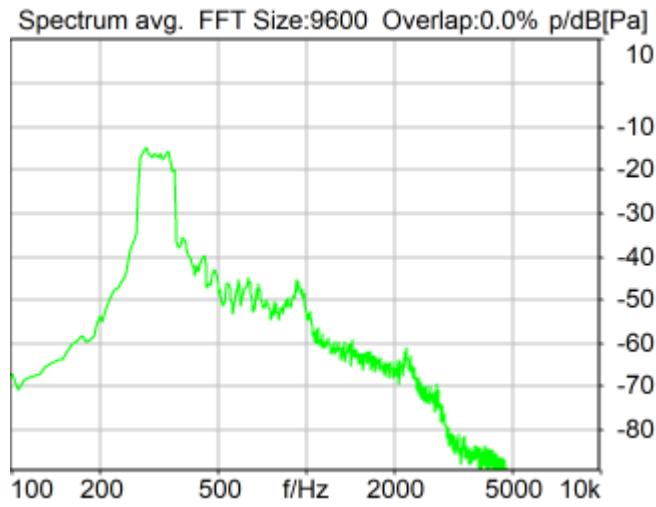
Ok

2023/11/13 2:56 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.49 dB (6.69%) Ok

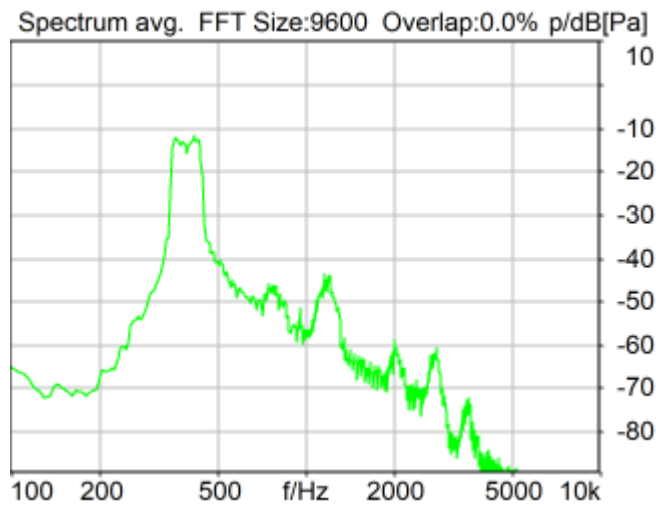
Ok

2023/11/13 2:57 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.16 dB (4.92%) Ok

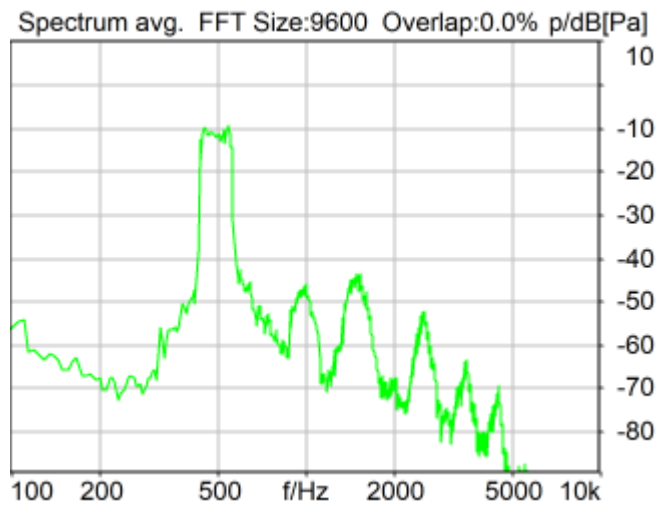
Ok

2023/11/13 2:57 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.65 dB (3.69%) Ok

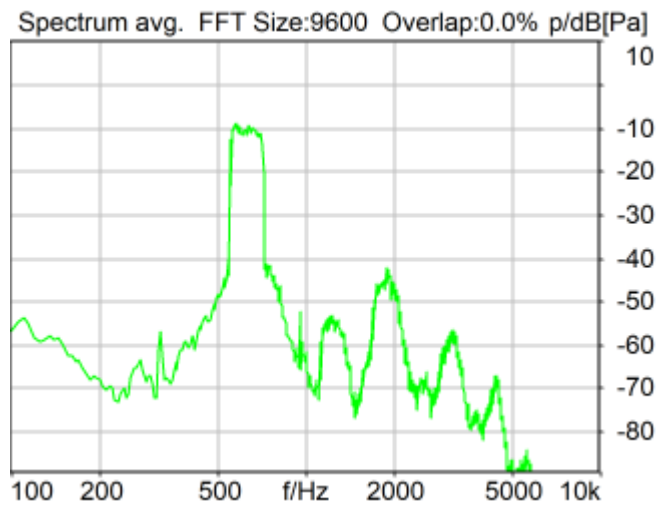
Ok

2023/11/13 2:57 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.42 dB (3.38%) Ok

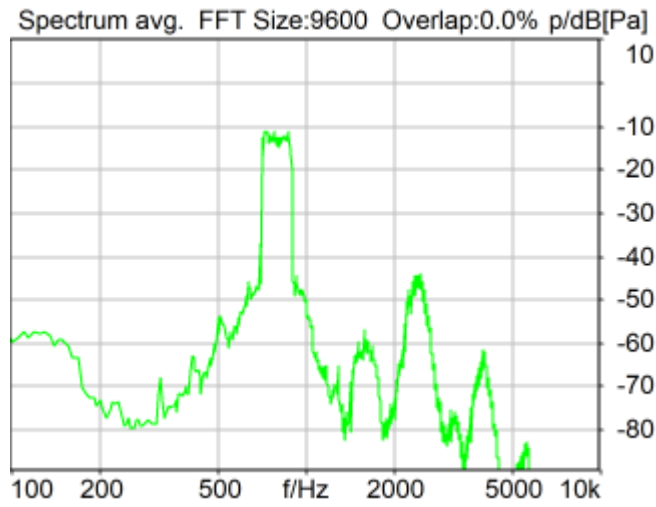
Ok

2023/11/13 2:58 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.37 dB (3.40%) Ok

Ok

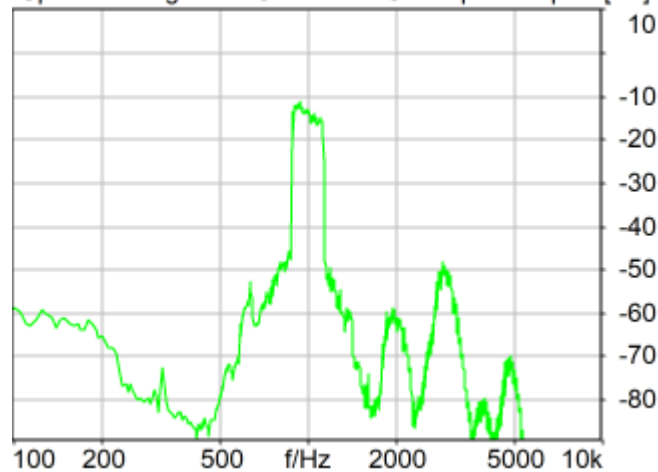
2023/11/13 2:58 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 1000 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 32.25 dB (2.44%) Ok

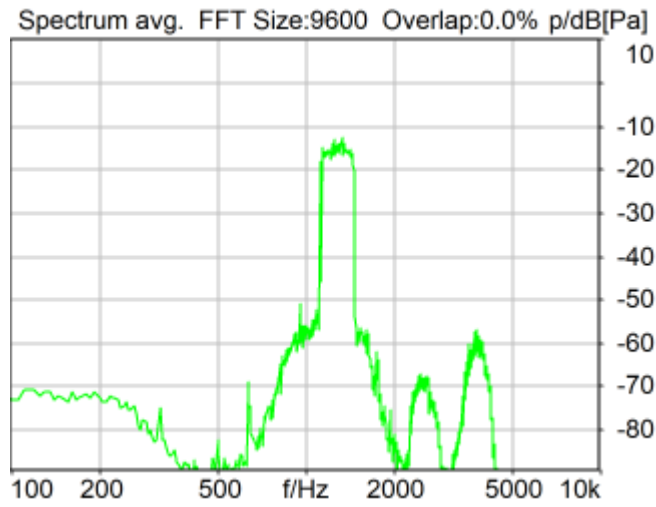
Ok

2023/11/13 2:59 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 34.32 dB (1.92%) Ok

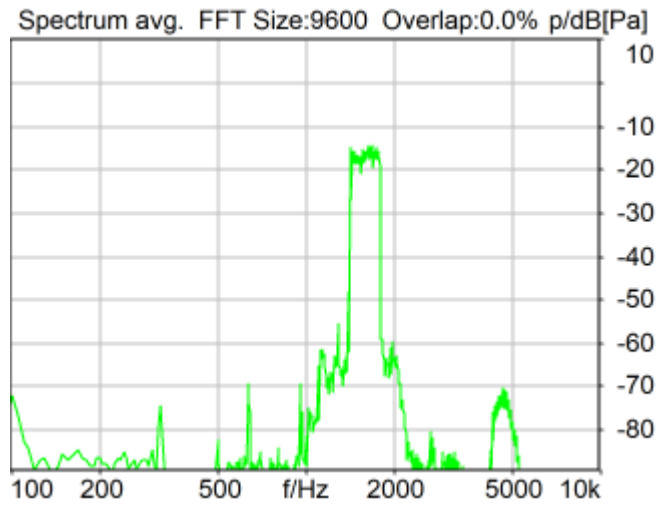
Ok

2023/11/13 2:59 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 44.92 dB (0.57%) Ok

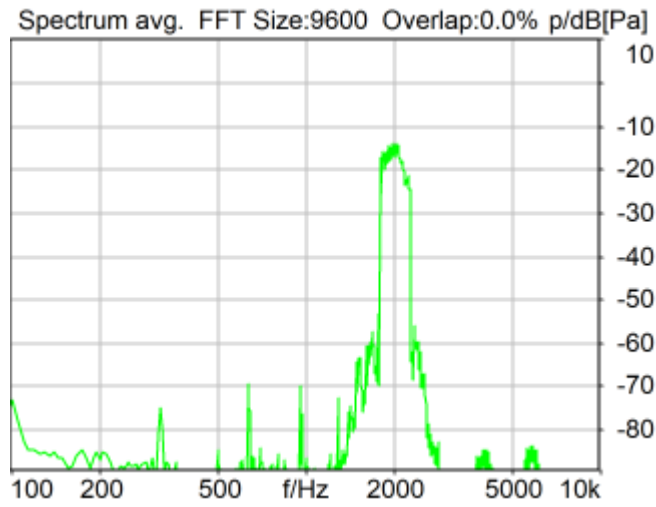
Ok

2023/11/13 3:00 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 43.76 dB (0.65%) Ok

Ok

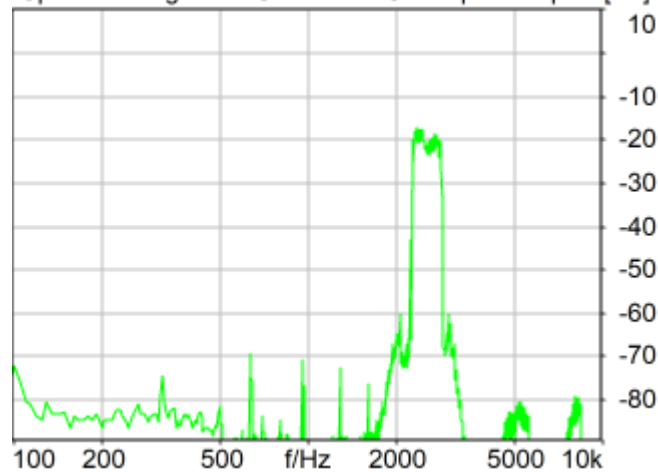
2023/11/13 3:00 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 2500 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 45.20 dB (0.55%) Ok

Ok

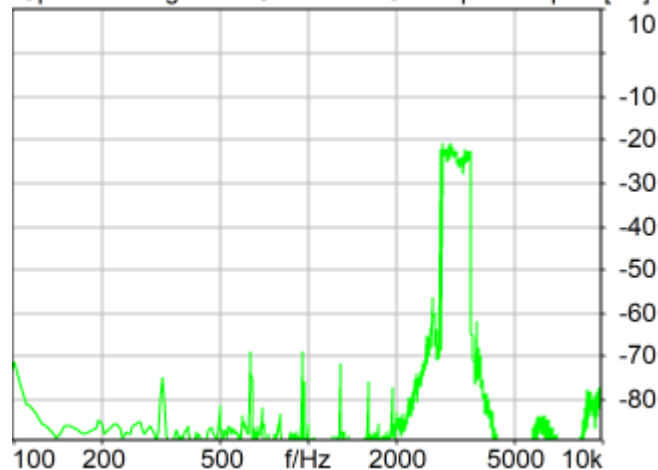
2023/11/13 3:00 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 3150 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 41.29 dB (0.86%) Ok

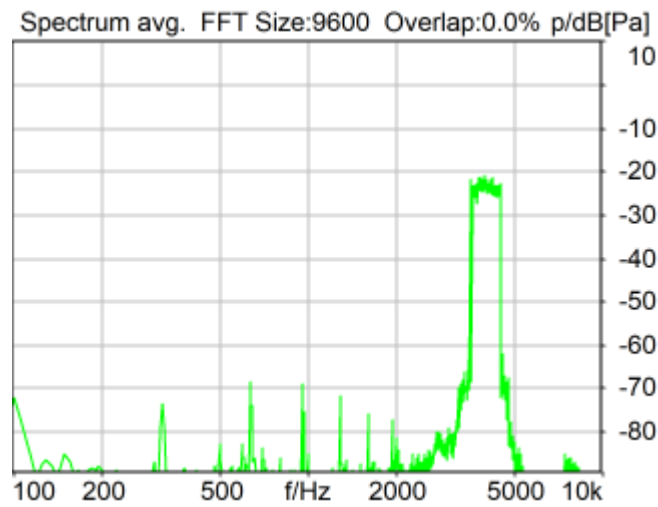
Ok

2023/11/13 3:01 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.26 dB (0.55%) Ok

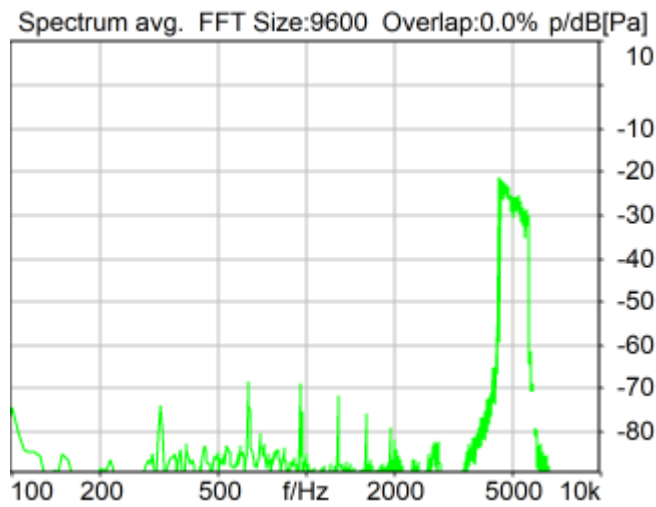
Ok

2023/11/13 3:01 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 43.12 dB (0.70%) Ok

Ok

2023/11/13 3:02 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

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	22.85 dB
2	315Hz	23.49 dB
3	400Hz	26.16 dB
4	500Hz	28.65 dB
5	630Hz	29.42 dB
6	800Hz	29.37 dB
7	1000Hz	32.25 dB
8	1250Hz	34.32 dB
9	1600Hz	44.92 dB
10	2000Hz	43.76 dB
11	2500Hz	45.20 dB
12	3150Hz	41.29 dB
13	4000Hz	45.26 dB
14	5000Hz	43.12 dB

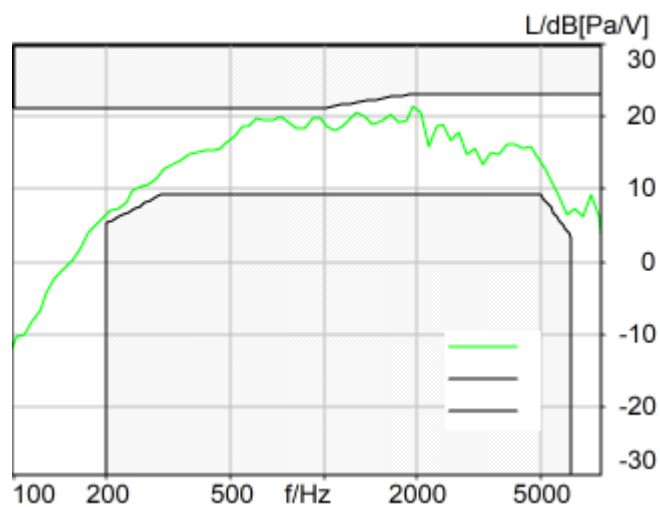
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.85dB at 250Hz.

2023/11/13 3:02 ACQUA

5.3 Frequency Response 8N FF

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



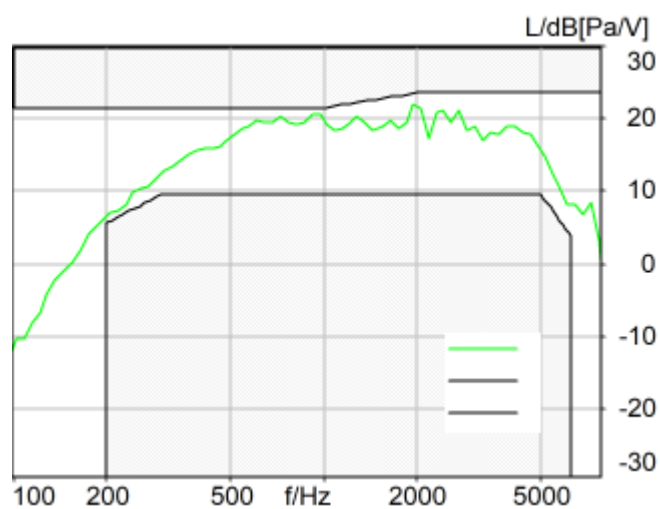
Absolute minimal distance
1.22 dB at 731.5 Hz Ok

Ok

2023/11/13 3:02 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF

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



Absolute minimal distance
0.92 dB at 924.0 Hz Ok

Ok

2023/11/13 3:02 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 6:13

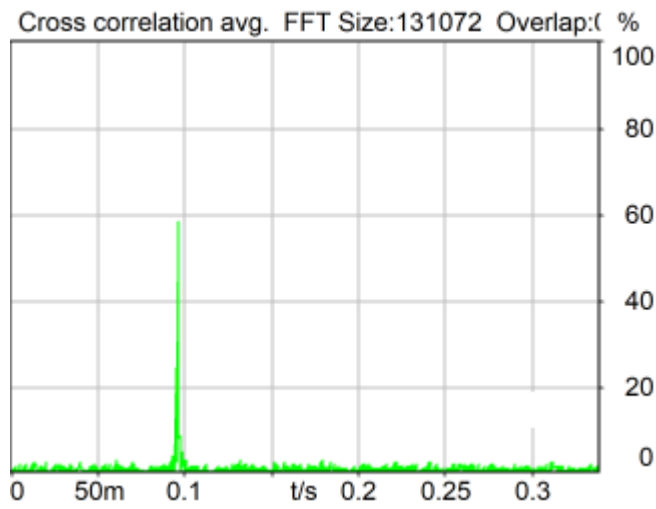
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	96.5	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	90.15	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.03	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.55	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.86	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.04	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	29.12	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.53	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.47	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.52	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.23	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.76	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 400Hz)	25.03	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.3 Frequency Response 8N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	0.34	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N
5.3 Frequency Response 8N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	0.14	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_8N

Overall Receive Delay NB	5
5.1a Receive Volume Control Performance 8N 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
5.3 Frequency Response 8N FF HANB	18
5.3 Frequency Response 8N DF HANB	19

Overall Receive Delay NB

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



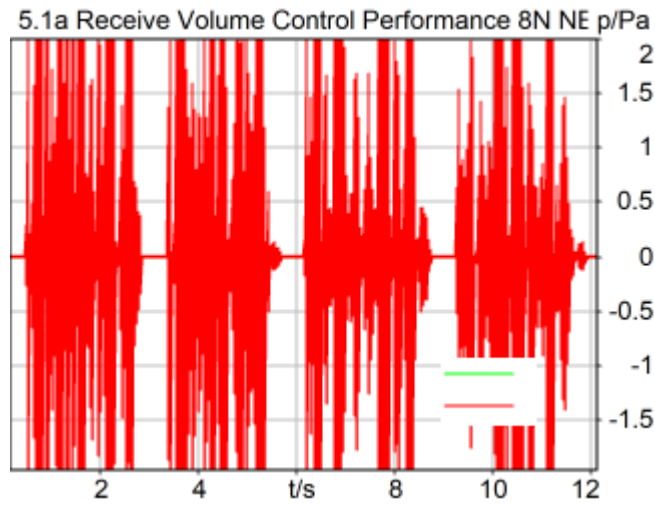
Delay (Cross): 96.5 ms

2023/11/13 6:07 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N NB

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



Speech Level RCV: 90.15 dB[SPL], Act.: 80.77% Ok

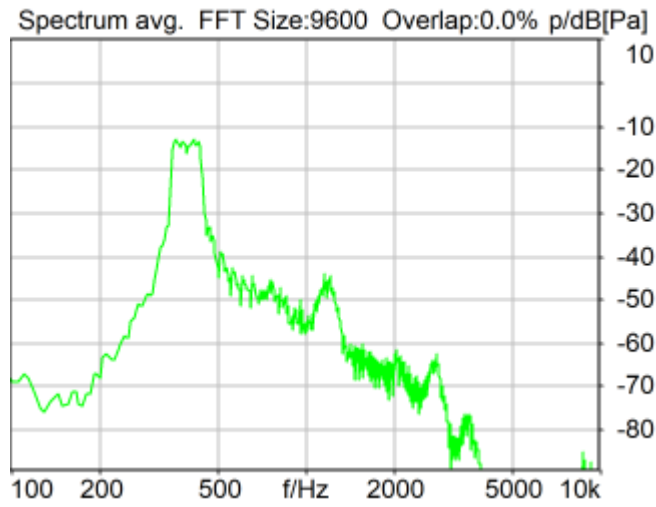
Ok

2023/11/13 6:07 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.03 dB (5.60%) Ok

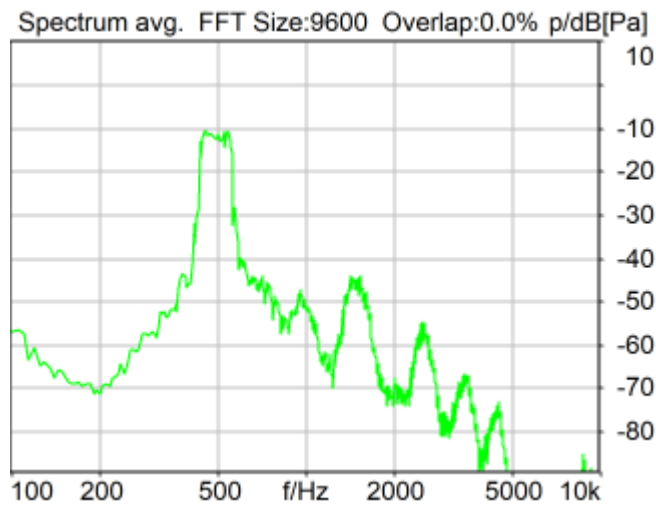
Ok

2023/11/13 6:07 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.55 dB (4.19%) Ok

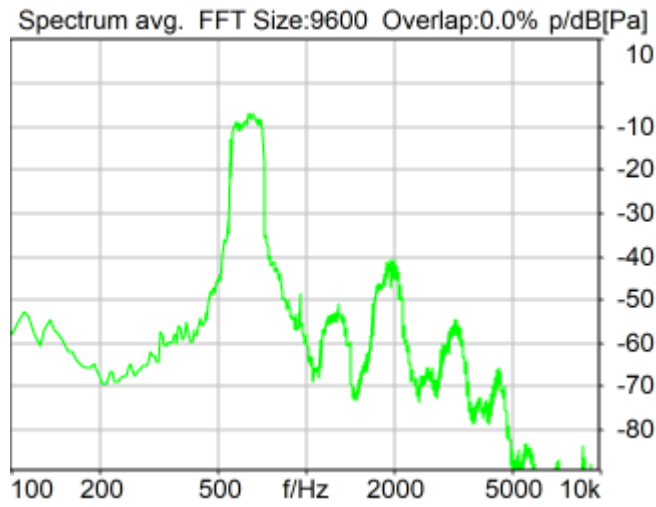
Ok

2023/11/13 6:08 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.86 dB (3.60%) Ok

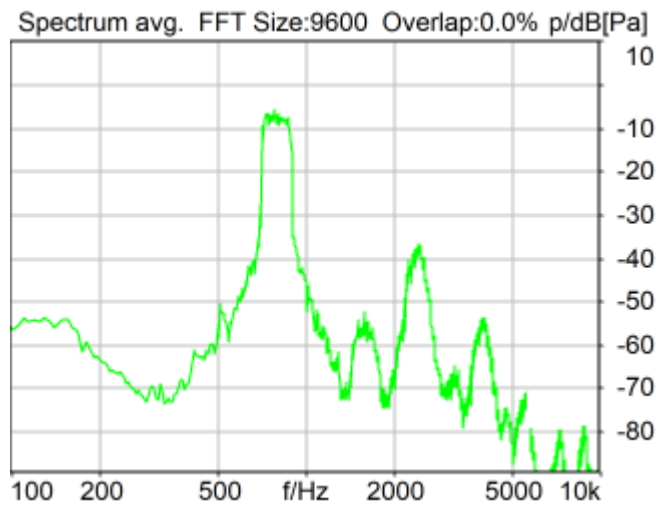
Ok

2023/11/13 6:08 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.04 dB (4.44%) Ok

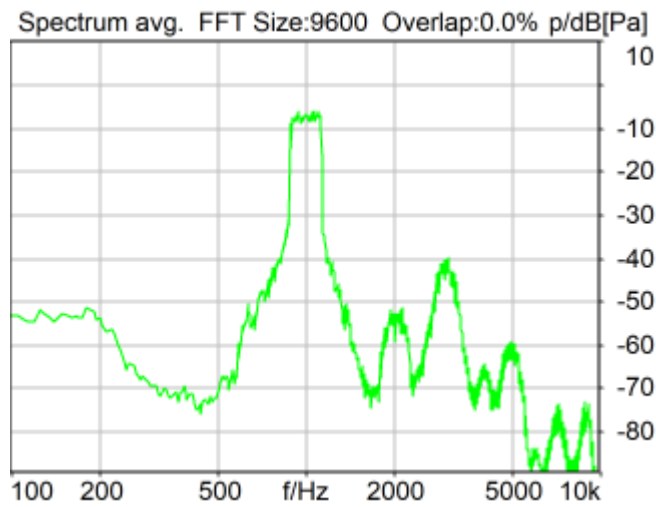
Ok

2023/11/13 6:09 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.12 dB (3.50%) Ok

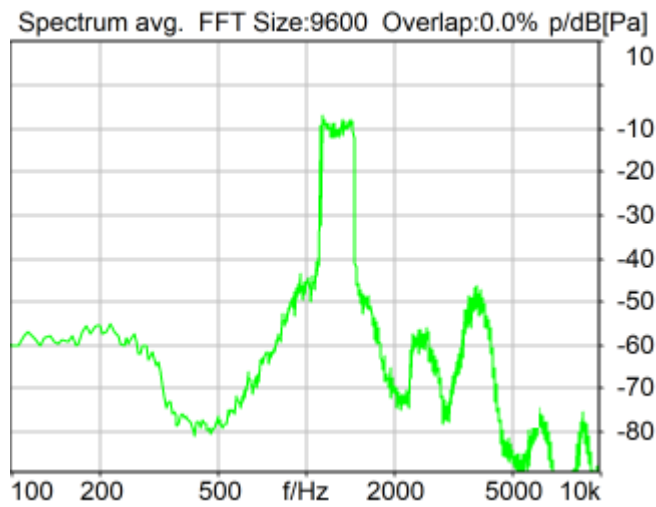
Ok

2023/11/13 6:09 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 30.53 dB (2.98%) Ok

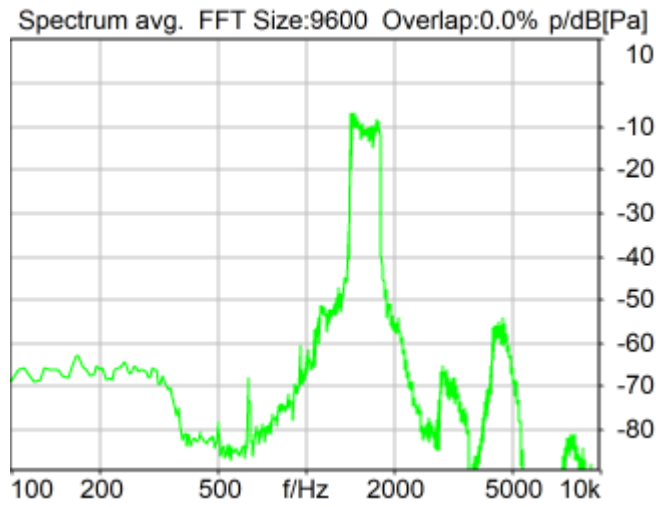
Ok

2023/11/13 6:09 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.47 dB (1.34%) Ok

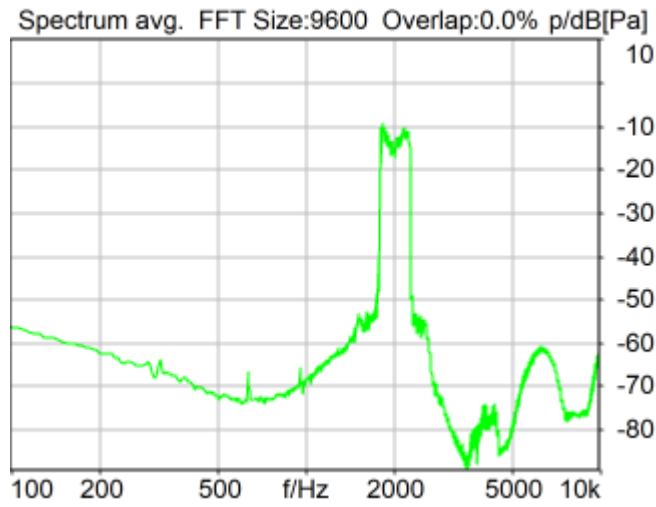
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 37.52 dB (1.33%) Ok

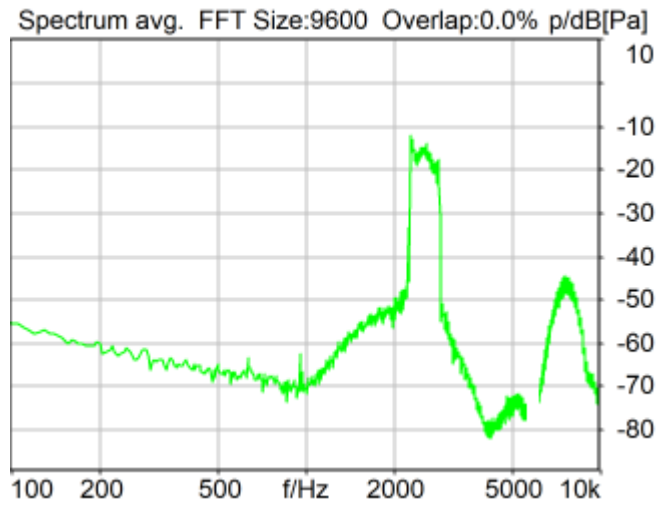
Ok

2023/11/13 6:10 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.23 dB (4.88%) Ok

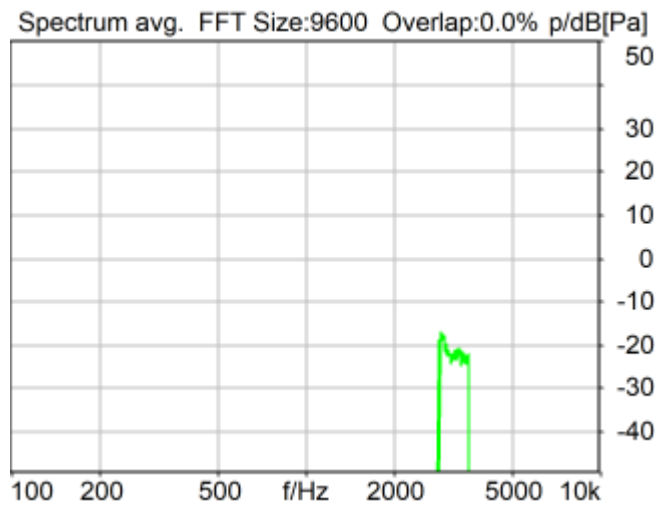
Ok

2023/11/13 6:11 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.76 dB (1.29%) Ok

Ok

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Unmodified HEAD acoustics Measurement Descriptor

Report - Receive Distortion and Noise (Conversational Gain)

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

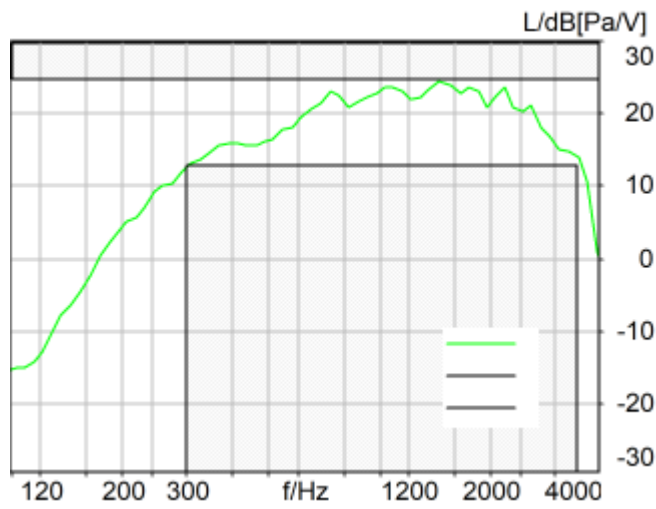
Region	Frequency	SDNR
1	400Hz	25.03 dB
2	500Hz	27.55 dB
3	630Hz	28.86 dB
4	800Hz	27.04 dB
5	1000Hz	29.12 dB
6	1250Hz	30.53 dB
7	1600Hz	37.47 dB
8	2000Hz	37.52 dB
9	2500Hz	26.23 dB
10	3150Hz	37.76 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 25.03dB at 400Hz.

2023/11/13 6:11 ACQUA

5.3 Frequency Response 8N FF HANB

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



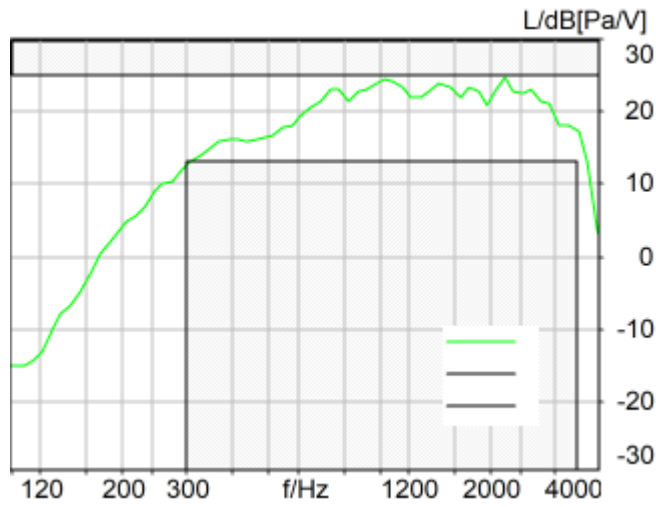
Absolute minimal distance
0.34 dB at 1447.5 Hz Ok

Ok

2023/11/13 6:11 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF HANB

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



Absolute minimal distance
0.14 dB at 2177.4 Hz Ok

Ok

2023/11/13 6:12 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 6:44

Status Overview

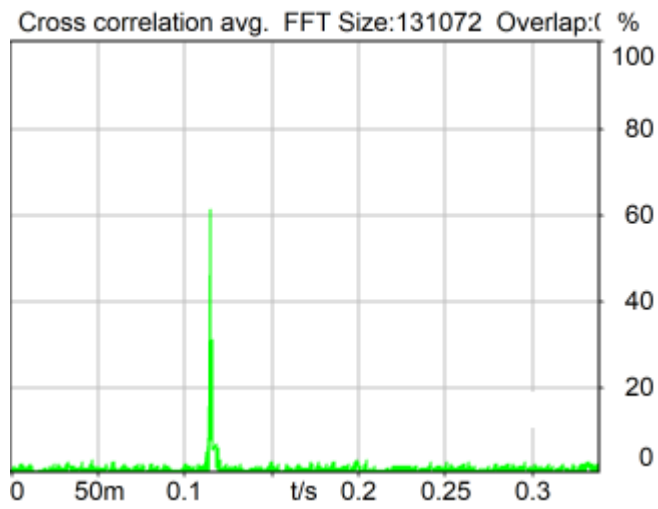
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	116.1	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	84.37	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.54	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.60	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.89	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.22	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.45	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.15	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.52	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.71	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.59	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.15	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	46.21	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.53	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.81	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.72	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
Report - Receive Distortion	Ok	Minimum SDNR	22.54	LTE Band 41

and Noise (Conversational Gain)		[dB], (occured at 250Hz)		PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 217.7 Hz	1.10	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 2432.3 Hz	0.62	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

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



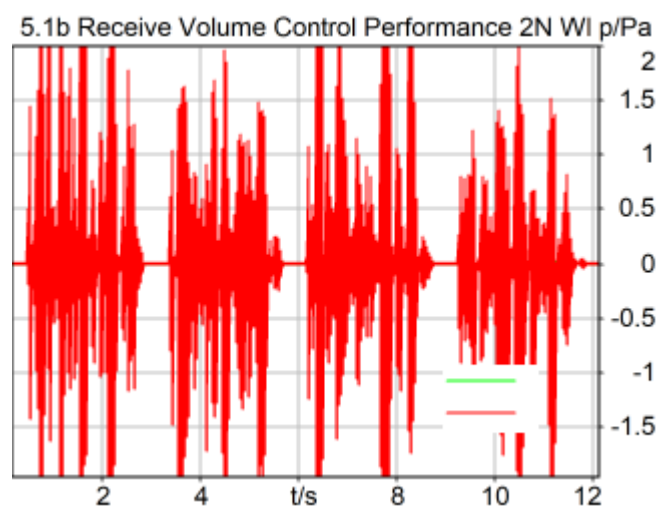
Delay (Cross): 116.1 ms

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Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 84.37 dB[SPL], Act.: 82.33% Ok

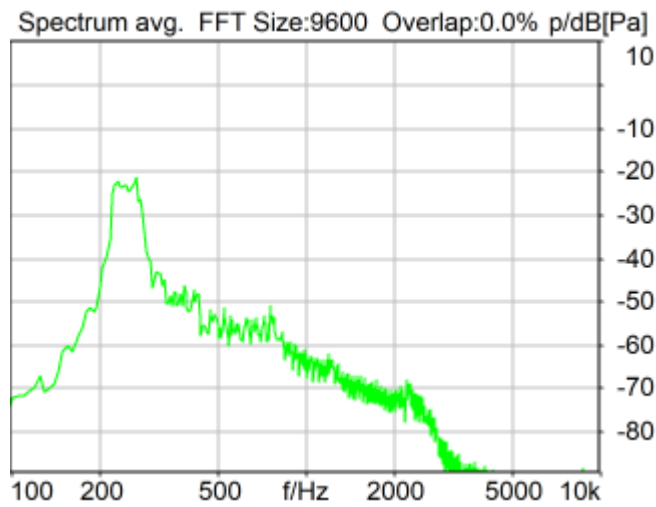
Ok

2023/11/13 6:37 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 22.54 dB (7.46%) Ok

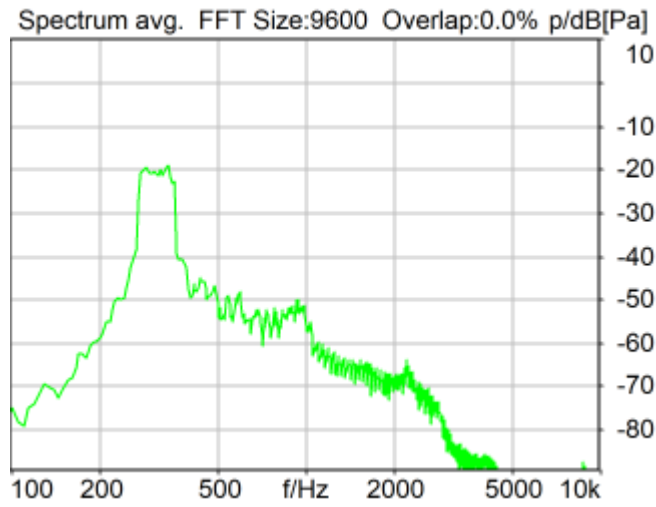
Ok

2023/11/13 6:37 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.60 dB (6.60%) Ok

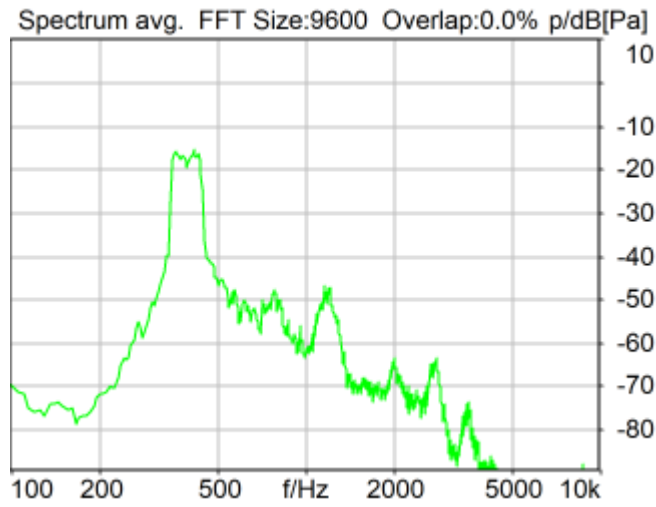
Ok

2023/11/13 6:38 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.89 dB (5.08%) Ok

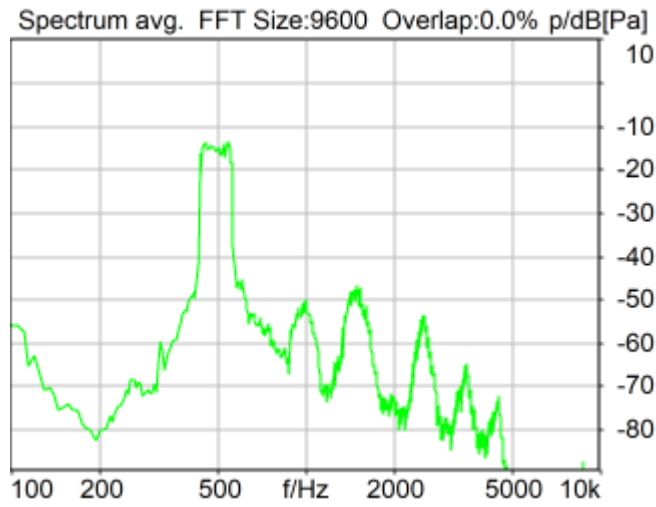
Ok

2023/11/13 6:38 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.22 dB (3.88%) Ok

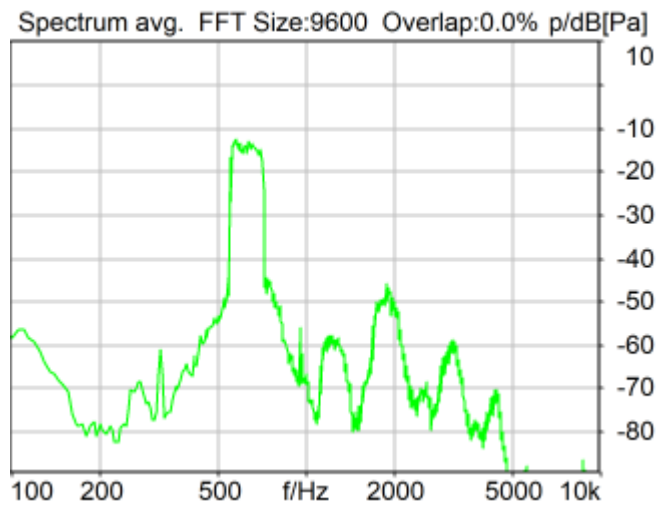
Ok

2023/11/13 6:39 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.45 dB (3.37%) Ok

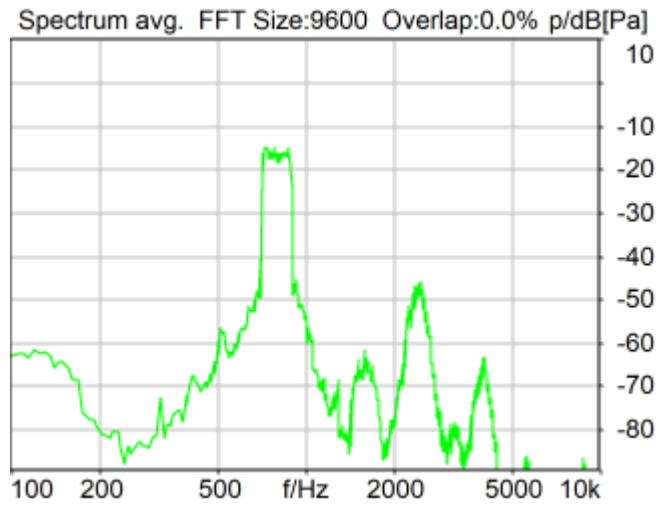
Ok

2023/11/13 6:39 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.15 dB (3.91%) Ok

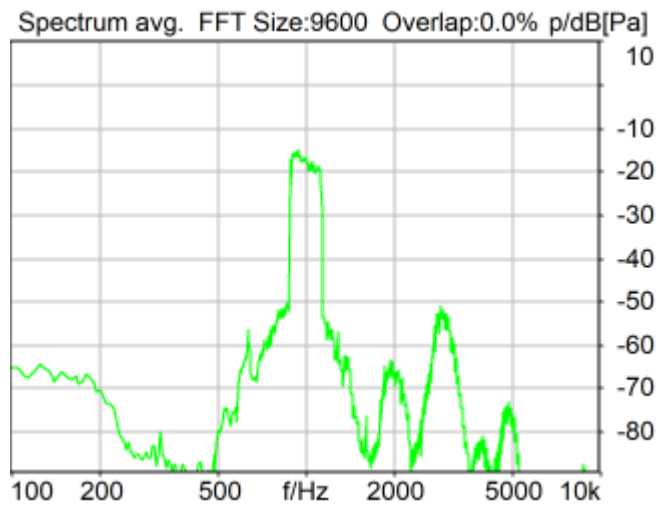
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 31.52 dB (2.65%) Ok

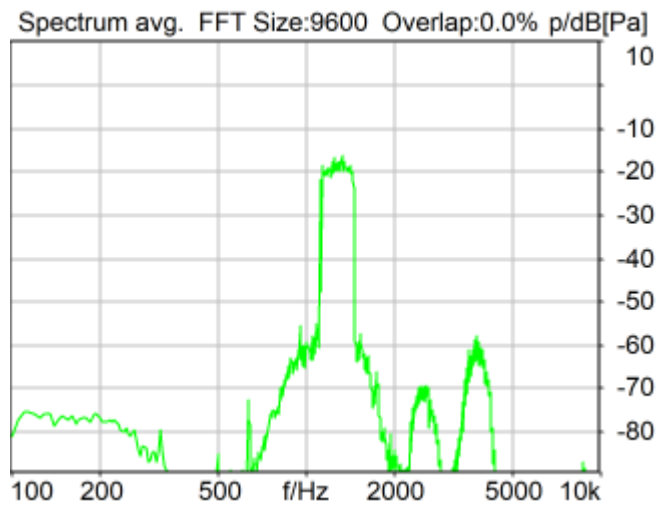
Ok

2023/11/13 6:40 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 33.71 dB (2.06%) Ok

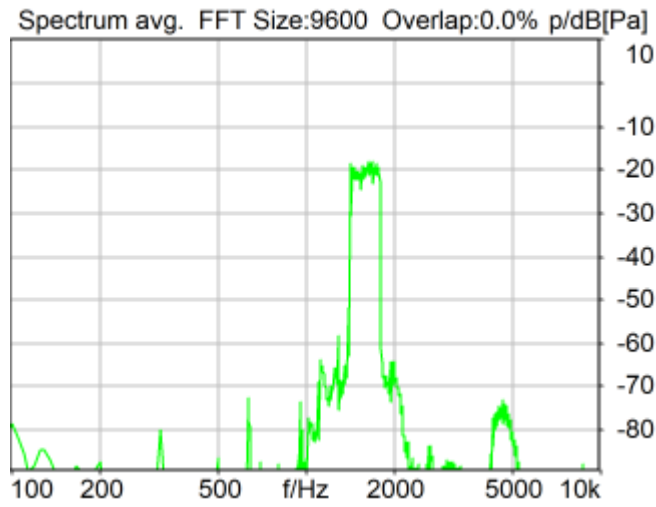
Ok

2023/11/13 6:40 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 44.59 dB (0.59%) Ok

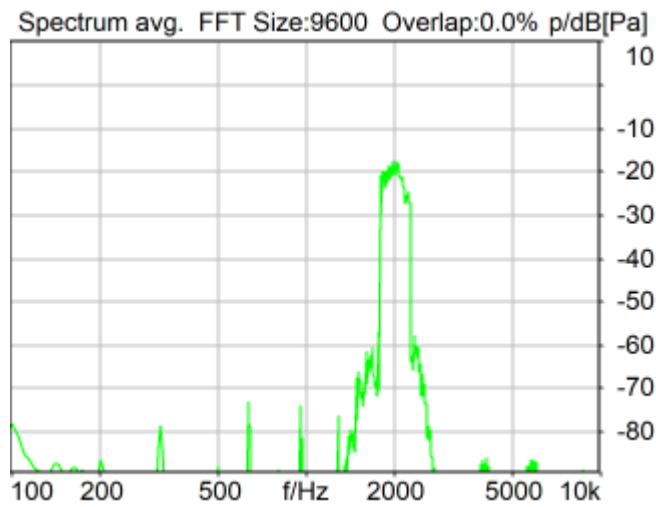
Ok

2023/11/13 6:41 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 42.15 dB (0.78%) Ok

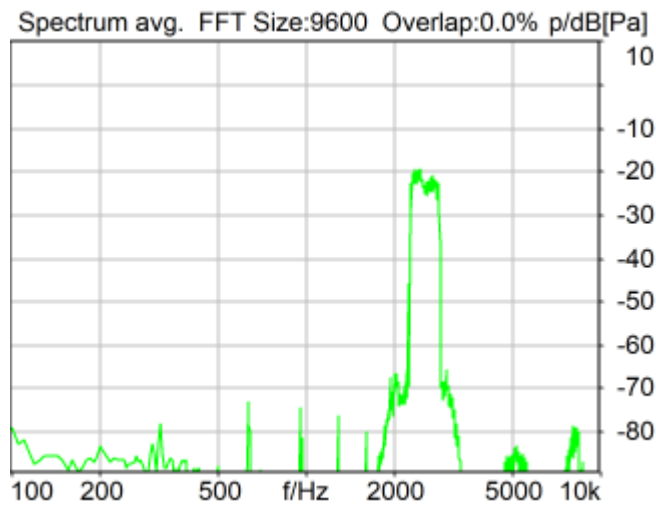
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 46.21 dB (0.49%) Ok

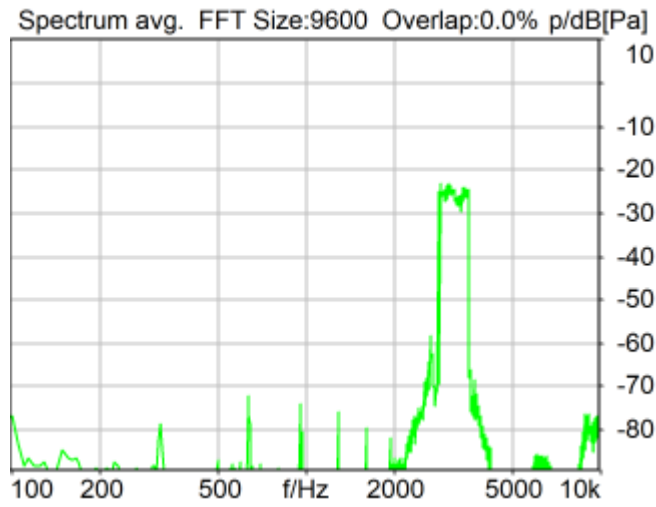
Ok

2023/11/13 6:41 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 41.53 dB (0.84%) Ok

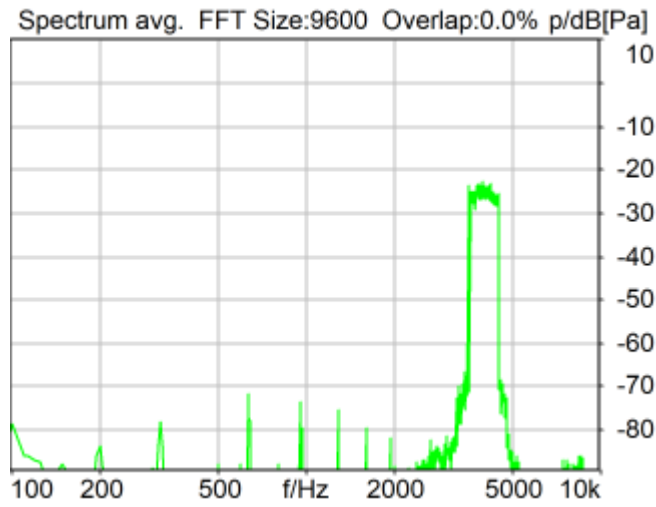
Ok

2023/11/13 6:42 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.81 dB (0.51%) Ok

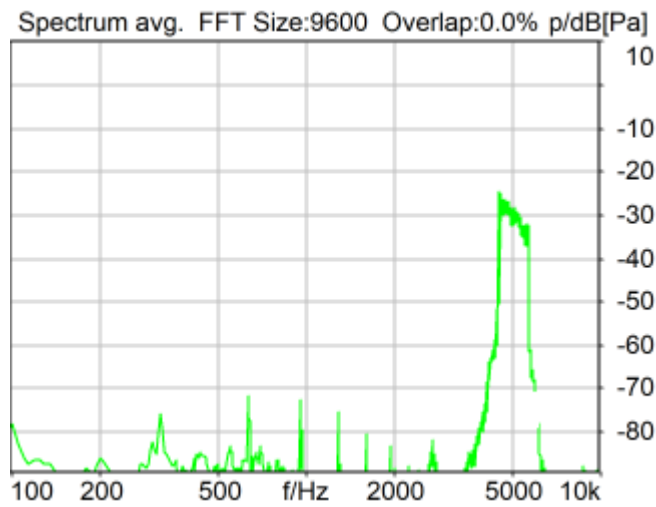
Ok

2023/11/13 6:42 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 34.72 dB (1.84%) Ok

Ok

2023/11/13 6:43 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	22.54 dB
2	315Hz	23.60 dB
3	400Hz	25.89 dB
4	500Hz	28.22 dB
5	630Hz	29.45 dB
6	800Hz	28.15 dB
7	1000Hz	31.52 dB
8	1250Hz	33.71 dB
9	1600Hz	44.59 dB
10	2000Hz	42.15 dB
11	2500Hz	46.21 dB
12	3150Hz	41.53 dB
13	4000Hz	45.81 dB
14	5000Hz	34.72 dB

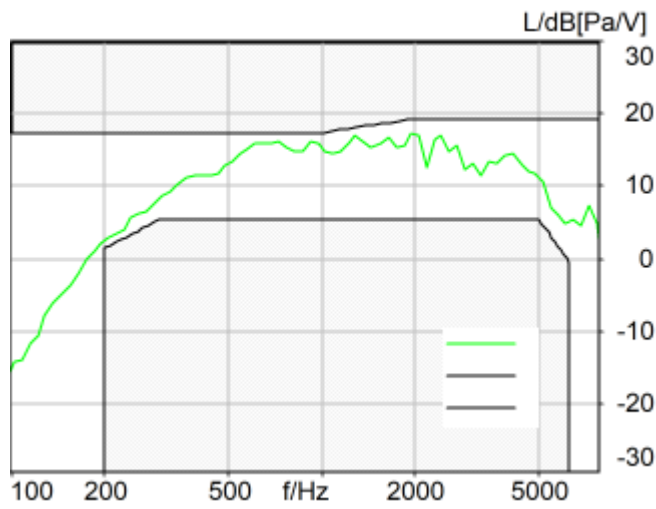
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.54dB at 250Hz.

2023/11/13 6:43 ACQUA

5.3 Frequency Response 2N FF

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



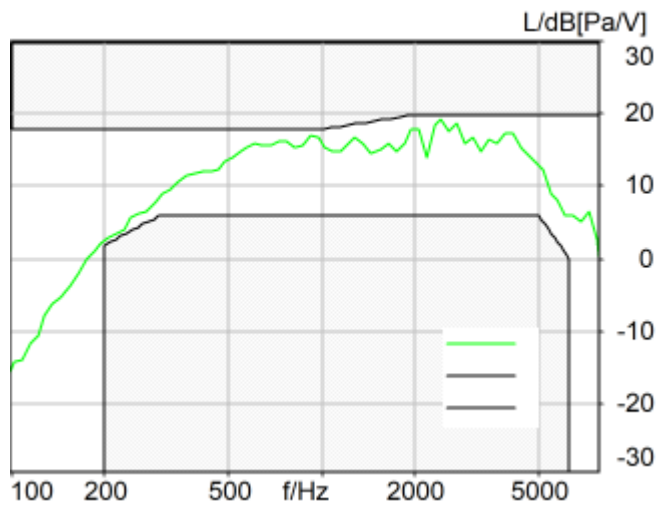
Absolute minimal distance
1.10 dB at 217.7 Hz Ok

Ok

2023/11/13 6:43 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.62 dB at 2432.3 Hz Ok

Ok

2023/11/13 6:43 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
--------------------	--

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 6:35

Status Overview

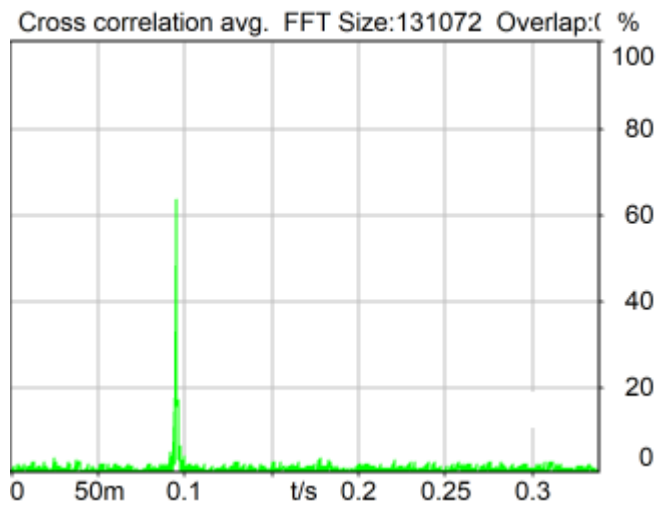
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	95.4	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	88.20	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.58	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.29	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.37	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.64	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.76	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.37	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.34	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.13	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.74	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.54	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.74	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.64	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.82	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.56	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
Report - Receive Distortion	Ok	Minimum SDNR	22.58	LTE Band 41

and Noise (Conversational Gain)		[dB], (occured at 250Hz)		PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 1285.9 Hz	1.14	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 924.0 Hz	0.84	LTE Band 41 PC2_20M_QPSK_100RB_0Offset_EVS WB 64Kbps_Ch40620_8N

Overall Receive Delay WB	6
5.1a Receive Volume Control Performance 8N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 8N FF	23
5.3 Frequency Response 8N DF	24

Overall Receive Delay WB

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



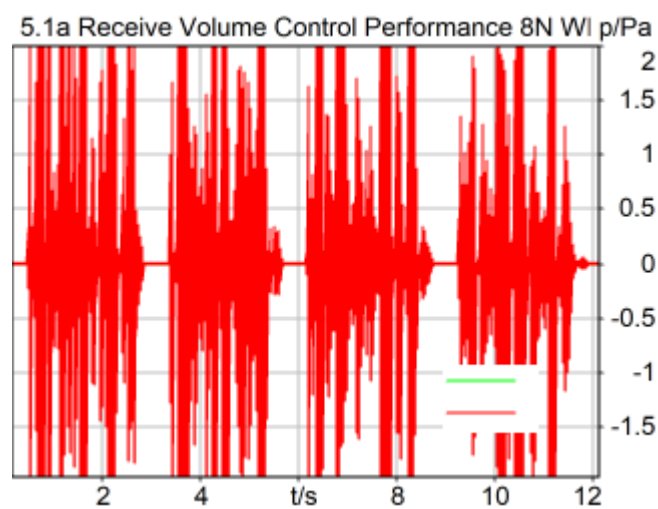
Delay (Cross): 95.4 ms

2023/11/13 6:17 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N WB

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



Speech Level RCV: 88.20 dB[SPL], Act.: 80.79% Ok

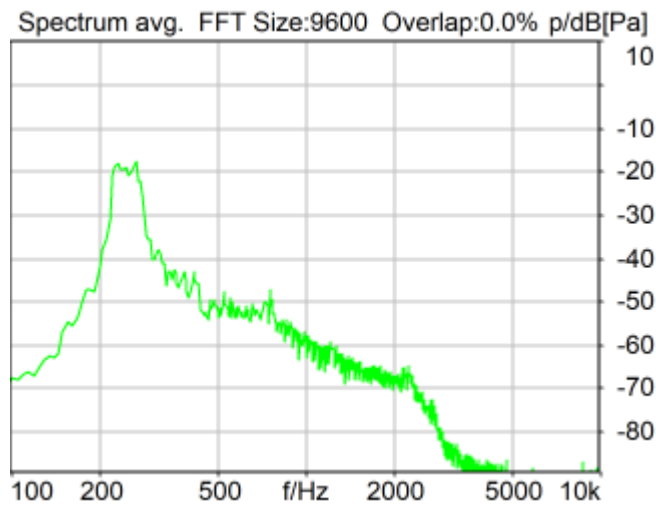
Ok

2023/11/13 6:18 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 22.58 dB (7.43%) Ok

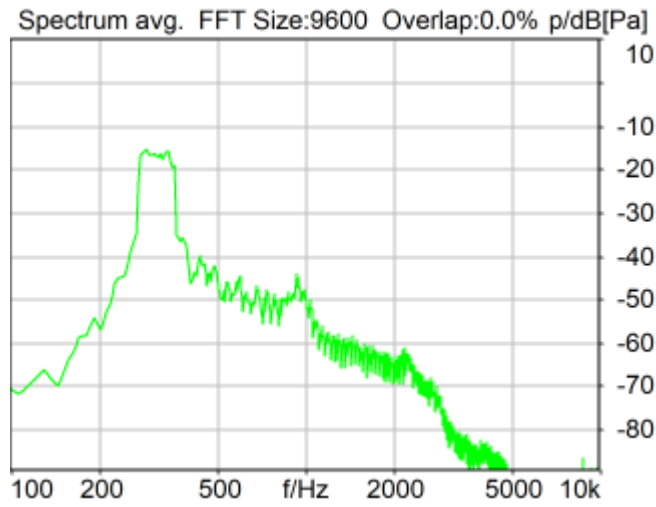
Ok

2023/11/13 6:18 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.29 dB (6.85%) Ok

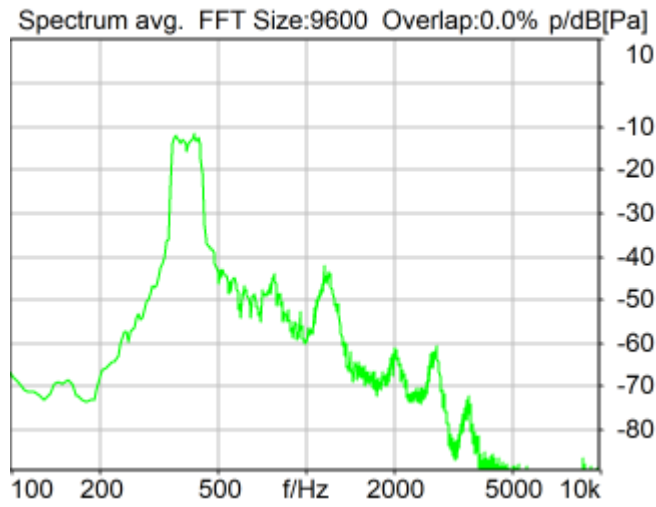
Ok

2023/11/13 6:18 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.37 dB (4.80%) Ok

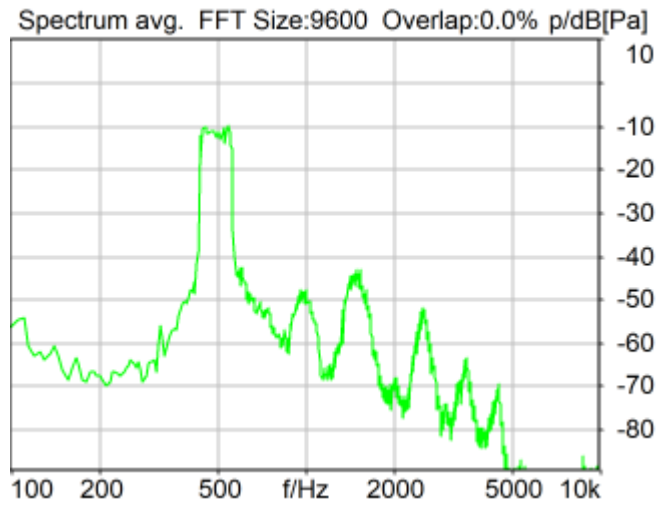
Ok

2023/11/13 6:19 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.64 dB (3.70%) Ok

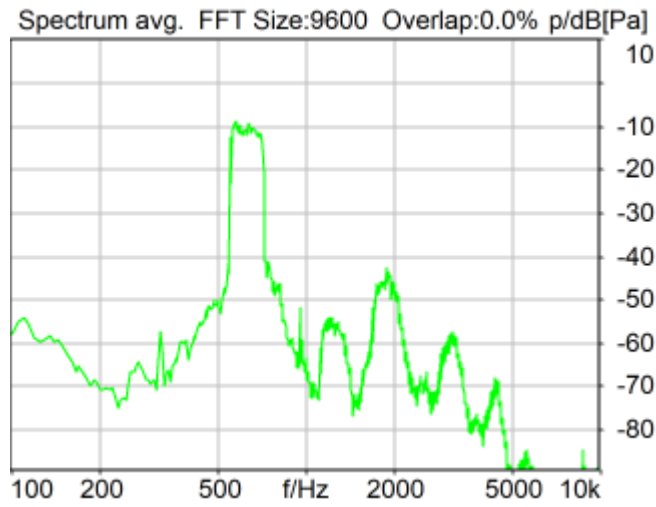
Ok

2023/11/13 6:19 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.76 dB (3.25%) Ok

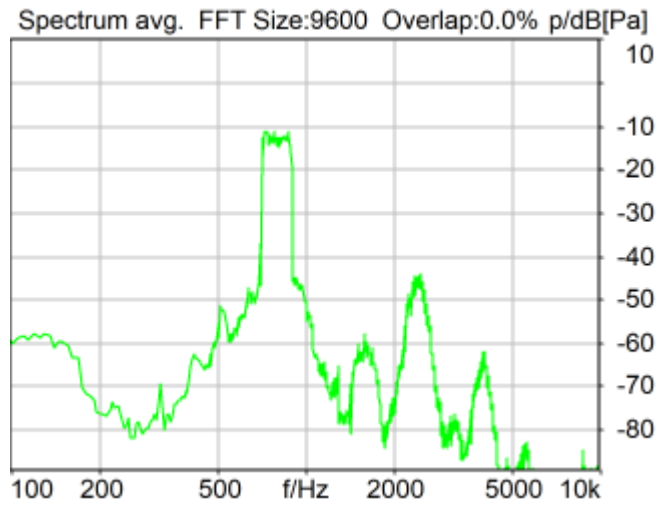
Ok

2023/11/13 6:20 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.37 dB (3.40%) Ok

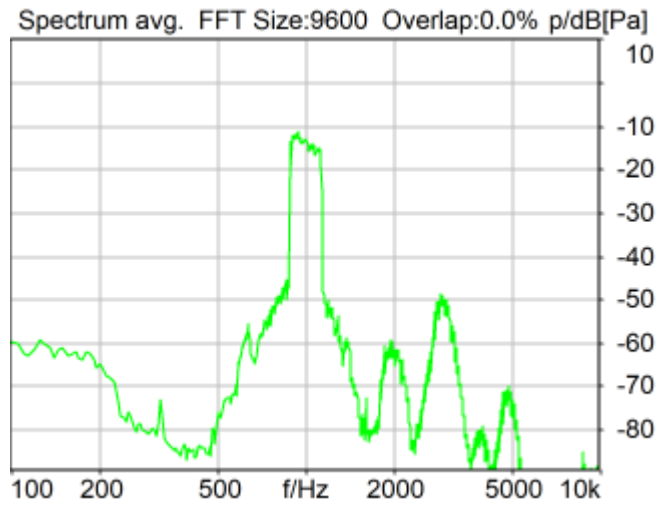
Ok

2023/11/13 6:20 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 32.34 dB (2.42%) Ok

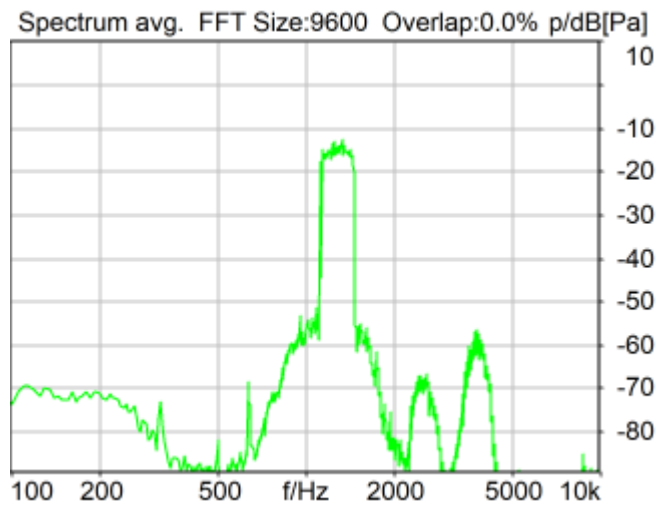
Ok

2023/11/13 6:20 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 34.13 dB (1.97%) Ok

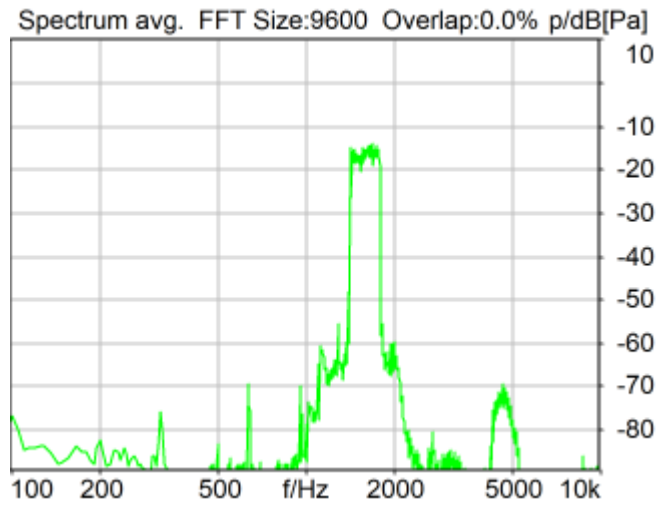
Ok

2023/11/13 6:21 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 44.74 dB (0.58%) Ok

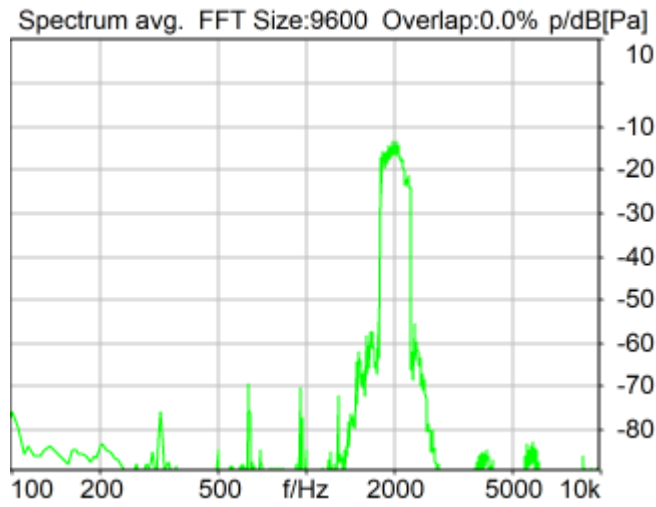
Ok

2023/11/13 6:21 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 43.54 dB (0.67%) Ok

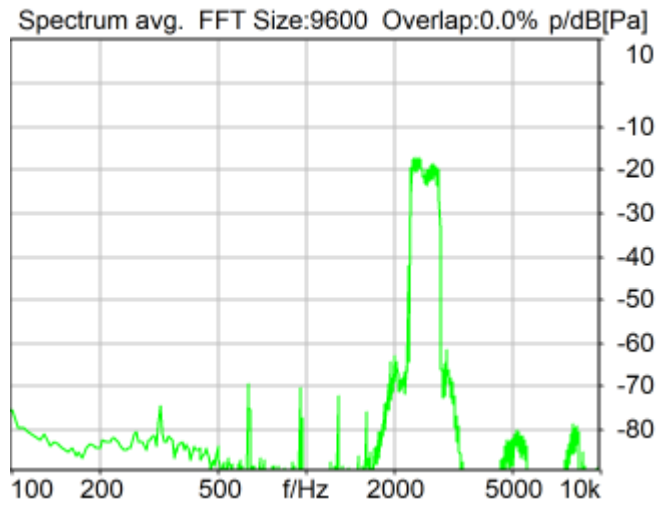
Ok

2023/11/13 6:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.74 dB (0.52%) Ok

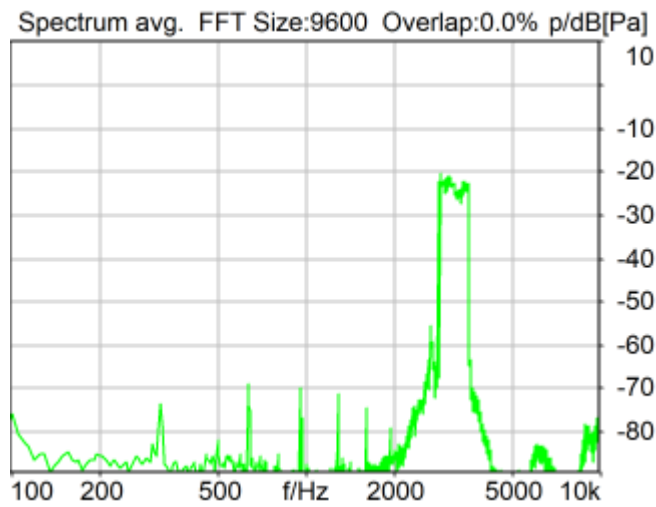
Ok

2023/11/13 6:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 41.64 dB (0.83%) Ok

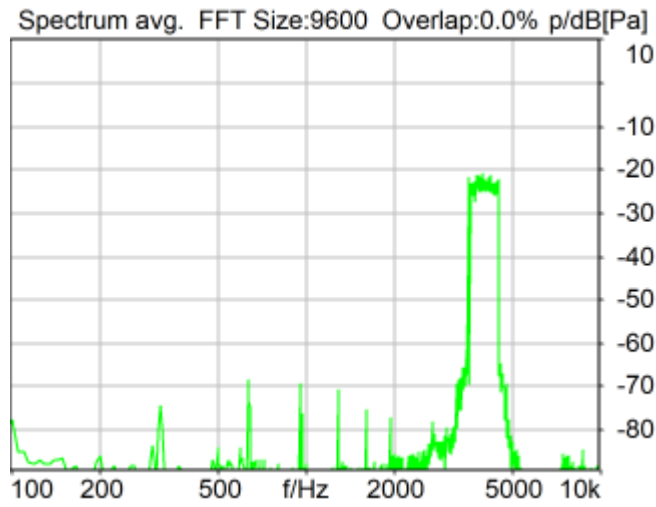
Ok

2023/11/13 6:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 44.82 dB (0.57%) Ok

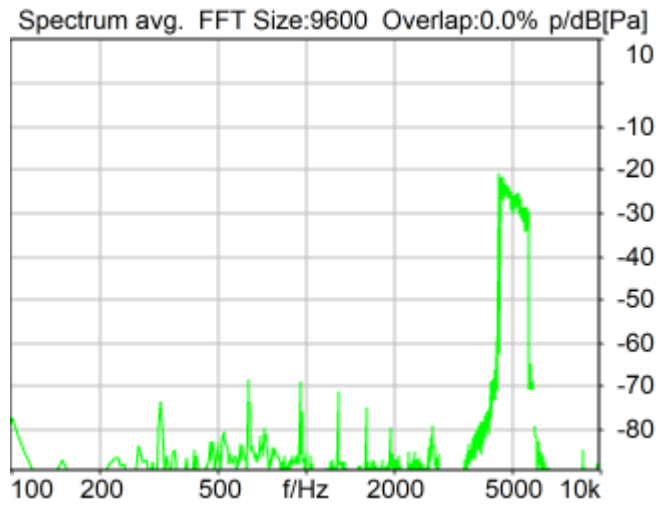
Ok

2023/11/13 6:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.56 dB (0.53%) Ok

Ok

2023/11/13 6:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	22.58 dB
2	315Hz	23.29 dB
3	400Hz	26.37 dB
4	500Hz	28.64 dB
5	630Hz	29.76 dB
6	800Hz	29.37 dB
7	1000Hz	32.34 dB
8	1250Hz	34.13 dB
9	1600Hz	44.74 dB
10	2000Hz	43.54 dB
11	2500Hz	45.74 dB
12	3150Hz	41.64 dB
13	4000Hz	44.82 dB
14	5000Hz	45.56 dB

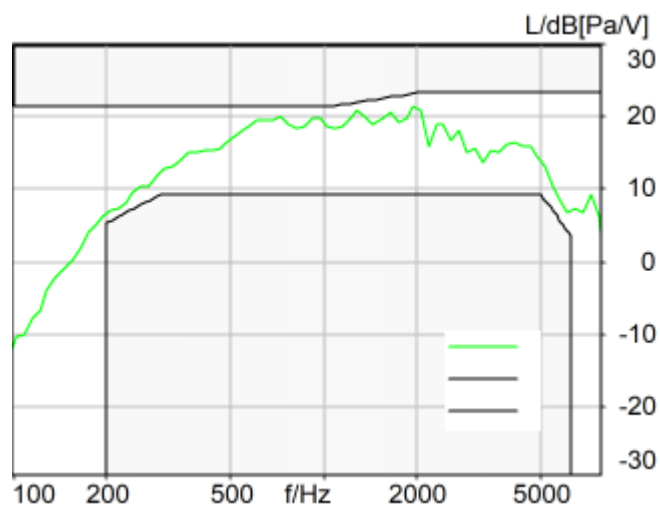
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.58dB at 250Hz.

2023/11/13 6:34 ACQUA

5.3 Frequency Response 8N FF

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



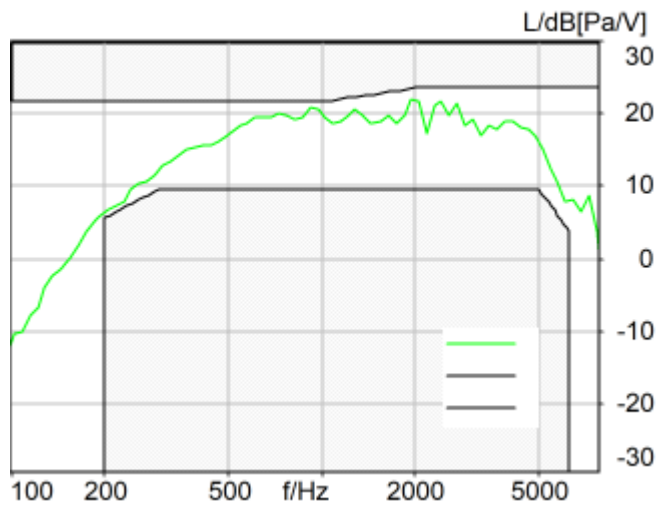
Absolute minimal distance
1.14 dB at 1285.9 Hz Ok

Ok

2023/11/13 6:34 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF

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



Absolute minimal distance
0.84 dB at 924.0 Hz Ok

Ok

2023/11/13 6:35 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	LTE Band 41-PC2_20M_QPSK_100RB_0Offset_EVS NB 24.4Kbps_Ch40620_2N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/20 17:46

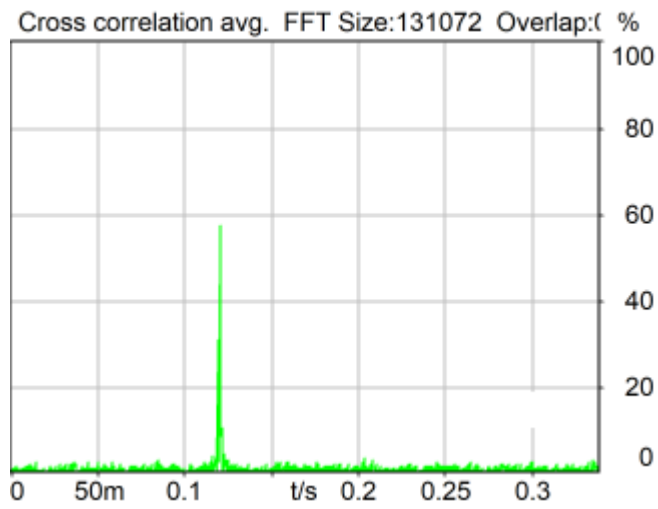
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	120.1	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	86.14	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	24.71	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.42	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.42	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.50	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.02	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	29.55	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.66	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.08	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.33	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.77	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.3 Frequency Response 2N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	0.13	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N
5.3 Frequency Response 2N DF HANB	Not Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	-0.42	LTE Band 41-PC2_20M_QPSK_100RB_0Offset EVS NB 24.4Kbps_Ch40620_2N

Overall Receive Delay 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
5.3 Frequency Response 2N FF HANB	17
5.3 Frequency Response 2N DF HANB	18

Overall Receive Delay NB

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



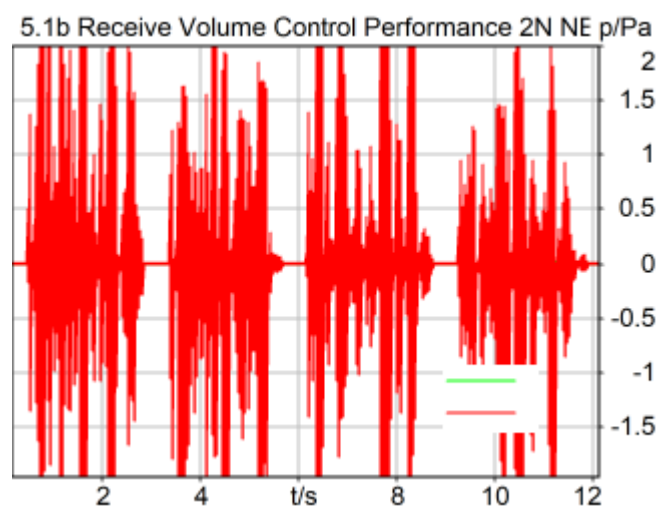
Delay (Cross): 120.1 ms

2023/11/10 14:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 86.14 dB[SPL], Act.: 82.25% Ok

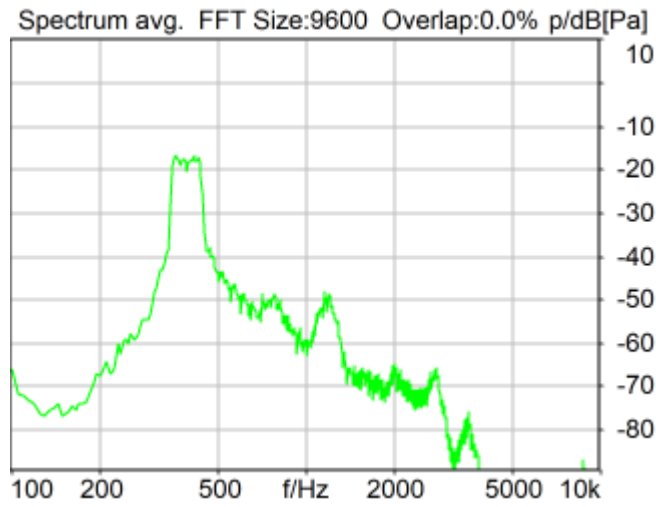
Ok

2023/11/10 14:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.71 dB (5.81%) Ok

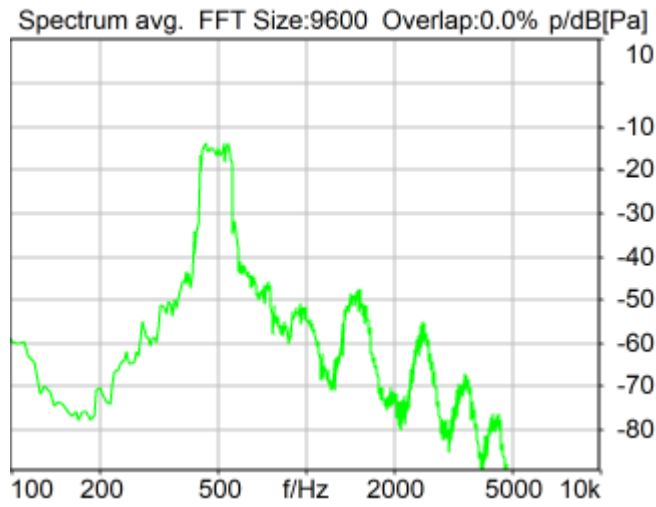
Ok

2023/11/10 14:22 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.42 dB (4.78%) Ok

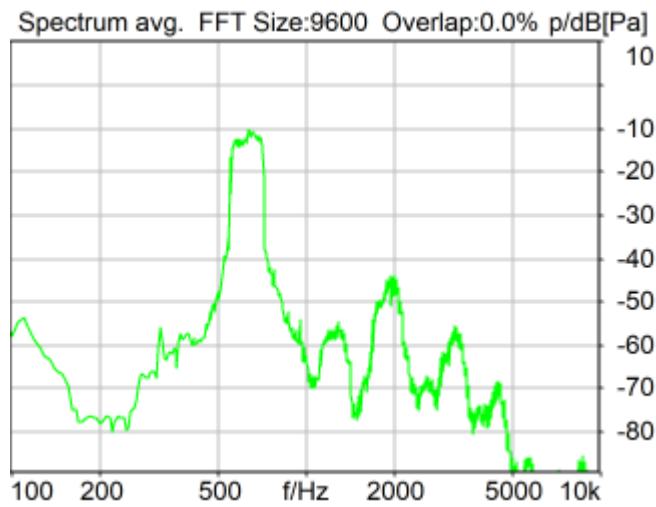
Ok

2023/11/10 14:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.42 dB (3.79%) Ok

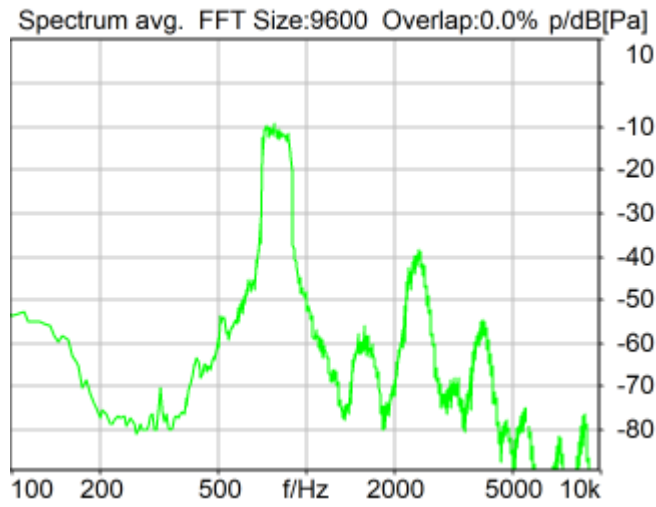
Ok

2023/11/10 14:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.50 dB (5.31%) Ok

Ok

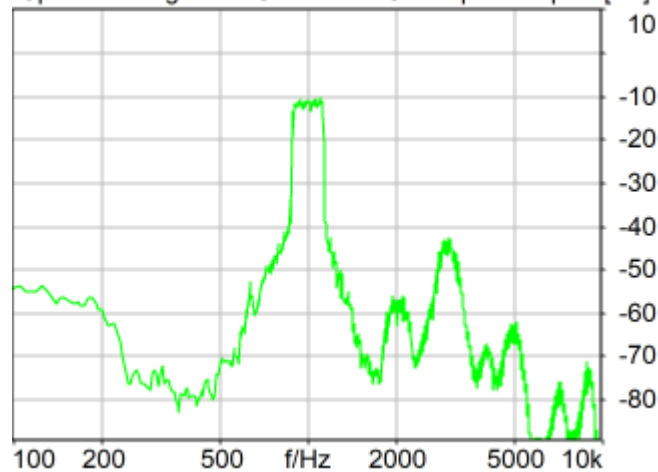
2023/11/10 14:23 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 1000 Hz NB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 28.02 dB (3.97%) Ok

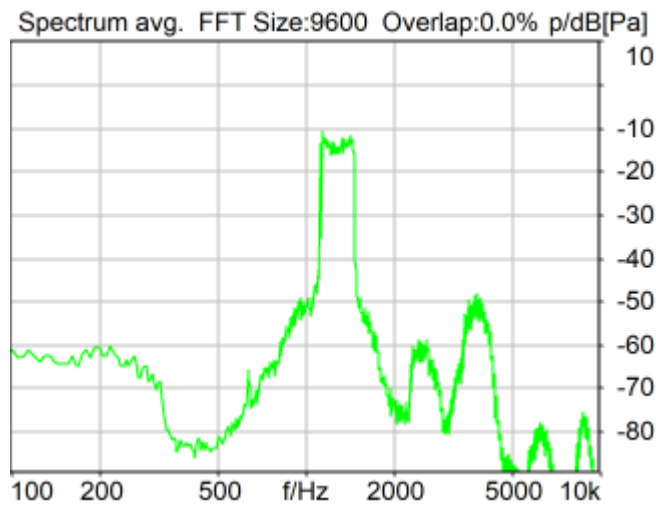
Ok

2023/11/10 14:24 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.55 dB (3.33%) Ok

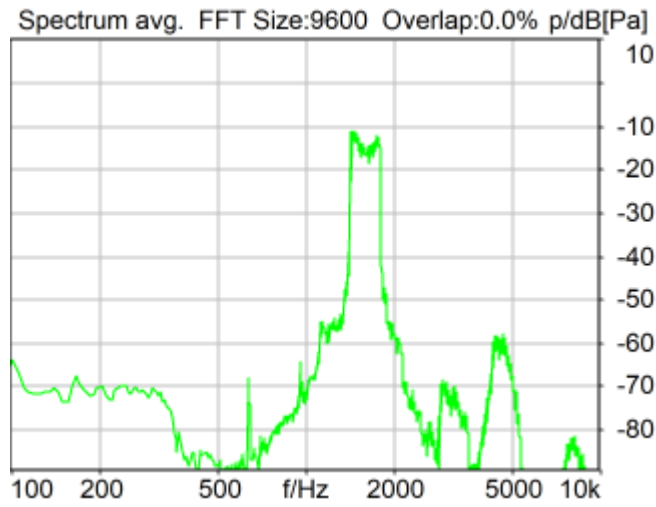
Ok

2023/11/10 14:24 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 36.66 dB (1.47%) Ok

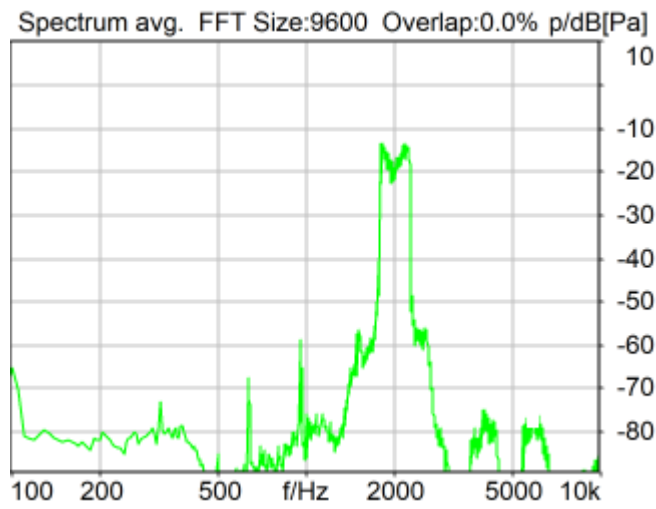
Ok

2023/11/10 14:25 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 39.08 dB (1.11%) Ok

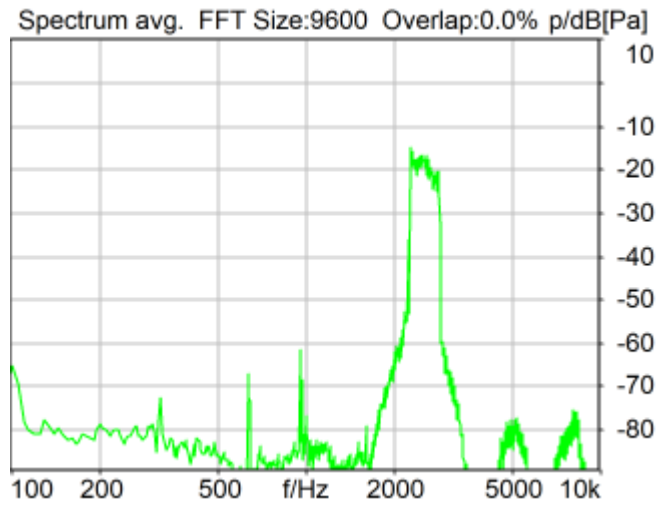
Ok

2023/11/10 14:25 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 40.33 dB (0.96%) Ok

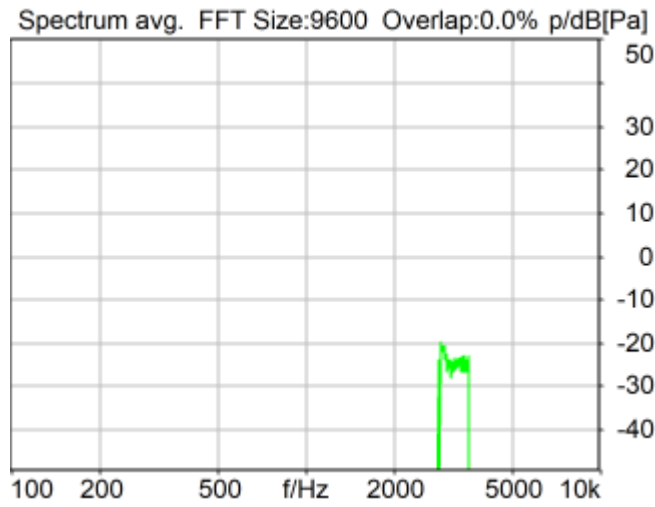
Ok

2023/11/10 14:26 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.77 dB (1.29%) Ok

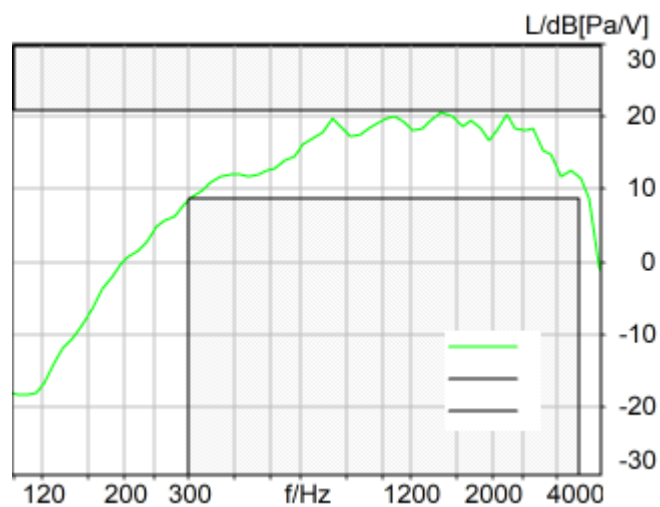
Ok

2023/11/10 14:26 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N FF HANB

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



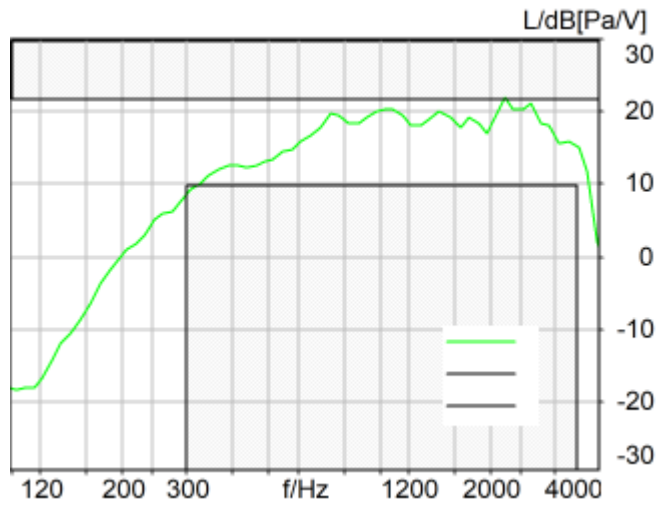
Absolute minimal distance
0.13 dB at 1447.5 Hz Ok

Ok

2023/11/10 14:26 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF HANB

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



Absolute minimal distance
-0.42 dB at 2177.4 Hz Not Ok

Not Ok

2023/11/10 14:27 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
--------------------	---

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 11:15

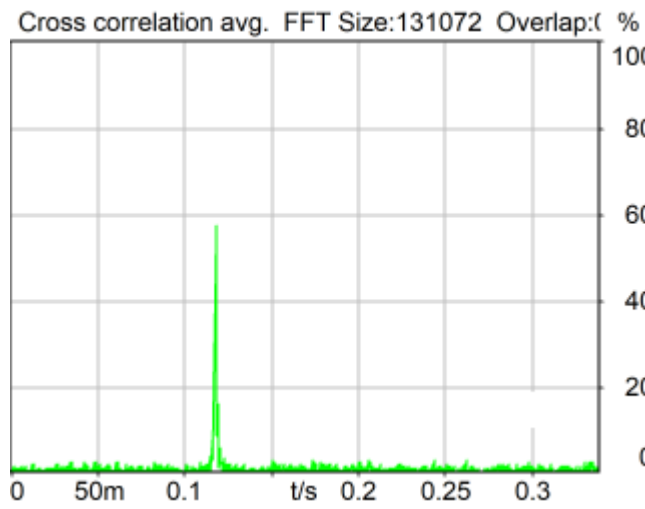
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	118.1	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	86.31	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.84	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	23.87	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	29.37	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	24.95	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.48	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.26	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.11	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.53	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.82	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.96	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 500Hz)	23.87	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.3 Frequency Response 2N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	0.34	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1
5.3 Frequency Response 2N DF HANB	Not Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	-0.05	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_2N-1

Overall Receive Delay 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
5.3 Frequency Response 2N FF HANB	18
5.3 Frequency Response 2N DF HANB	19

Overall Receive Delay NB

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



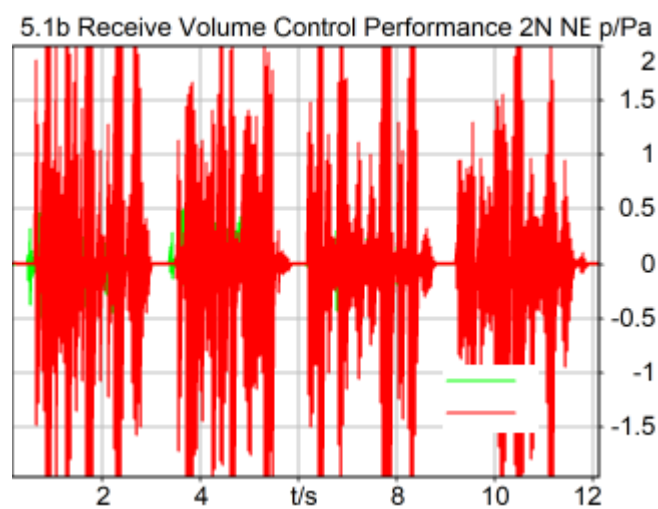
Delay (Cross): 118.1 ms

2023/11/13 11:08 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 86.31 dB[SPL], Act.: 80.97% Ok

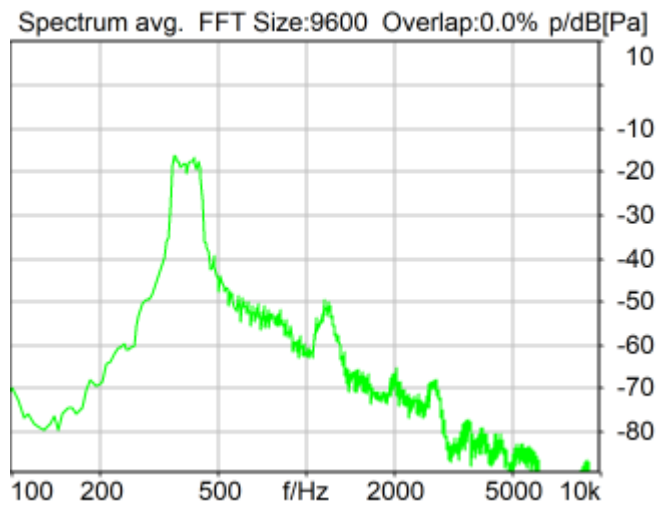
Ok

2023/11/13 11:09 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.84 dB (5.11%) Ok

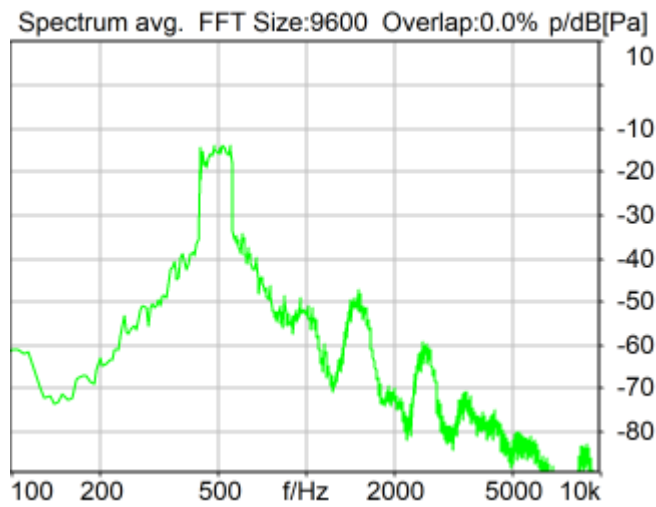
Ok

2023/11/13 11:09 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.87 dB (6.41%) Ok

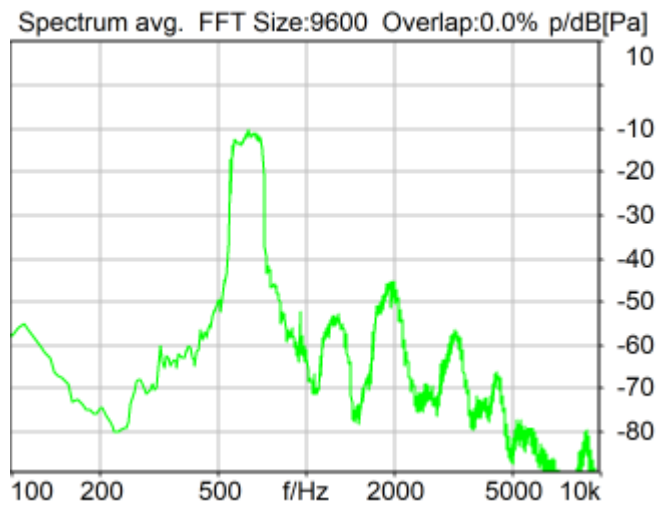
Ok

2023/11/13 11:10 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.37 dB (3.40%) Ok

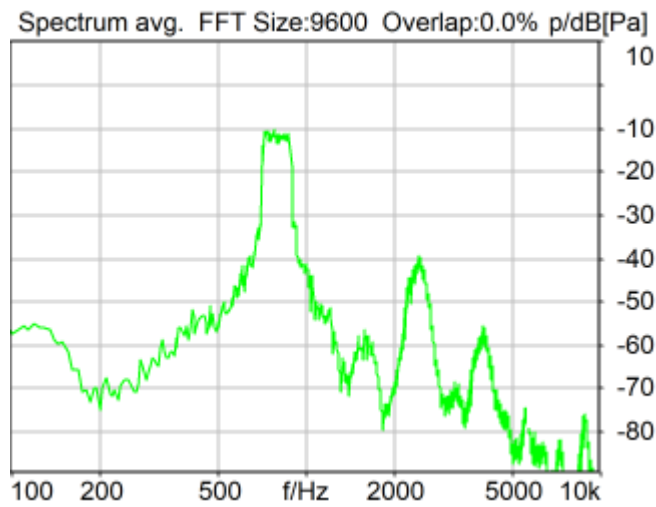
Ok

2023/11/13 11:10 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 24.95 dB (5.65%) Ok

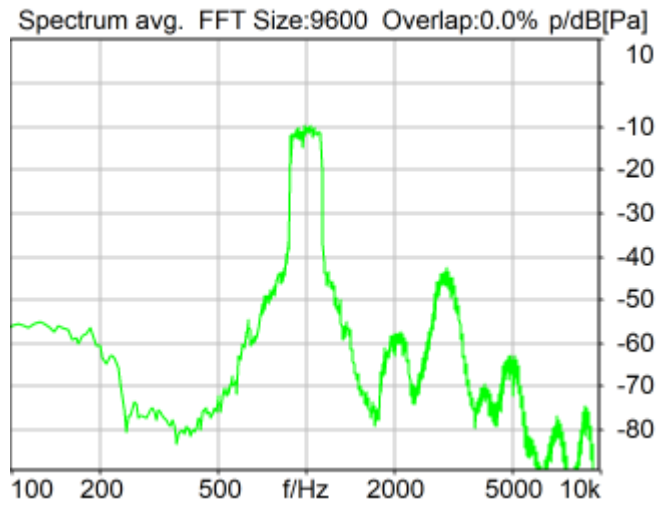
Ok

2023/11/13 11:10 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.48 dB (3.77%) Ok

Ok

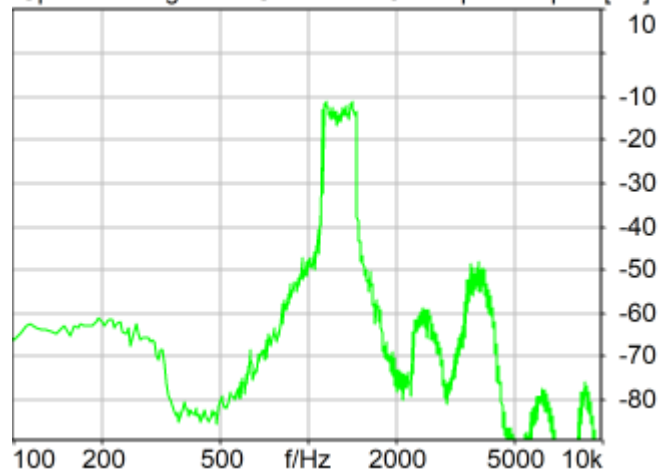
2023/11/13 11:11 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 1250 Hz NB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 28.26 dB (3.87%) Ok

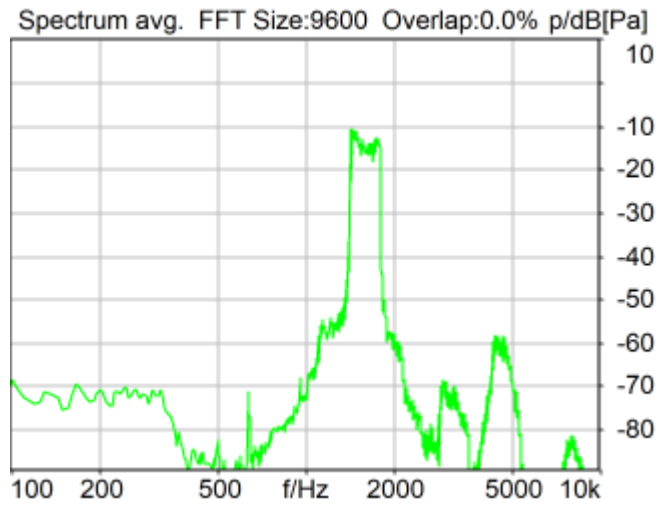
Ok

2023/11/13 11:11 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.11 dB (1.24%) Ok

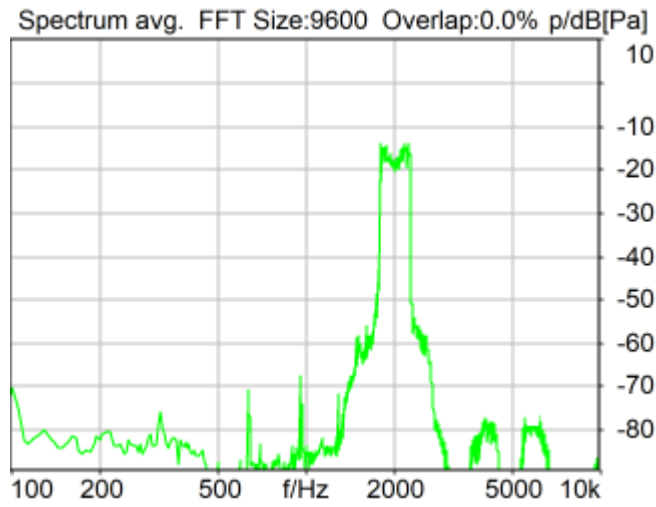
Ok

2023/11/13 11:12 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.53 dB (1.18%) Ok

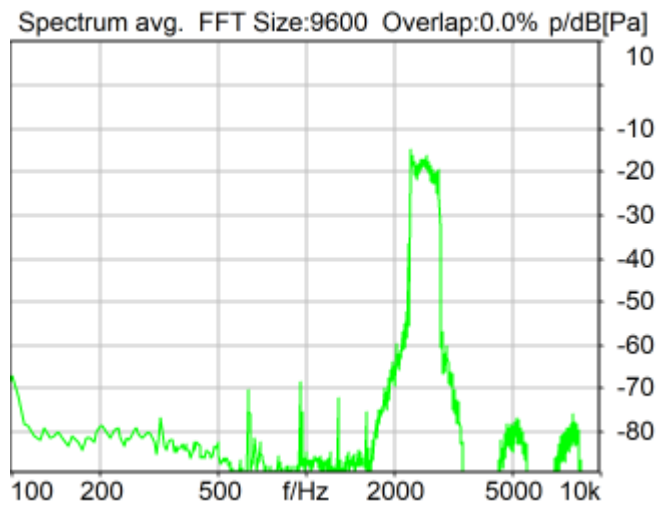
Ok

2023/11/13 11:12 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 40.82 dB (0.91%) Ok

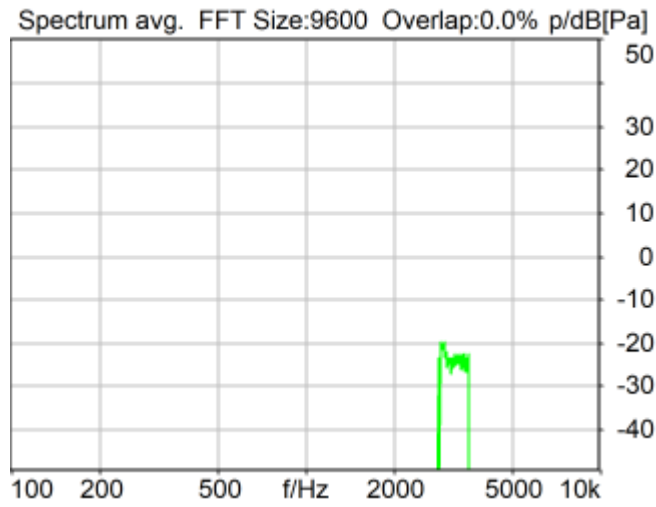
Ok

2023/11/13 11:12 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.96 dB (1.27%) Ok

Ok

2023/11/13 11:13 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	25.84 dB
2	500Hz	23.87 dB
3	630Hz	29.37 dB
4	800Hz	24.95 dB
5	1000Hz	28.48 dB
6	1250Hz	28.26 dB
7	1600Hz	38.11 dB
8	2000Hz	38.53 dB
9	2500Hz	40.82 dB
10	3150Hz	37.96 dB

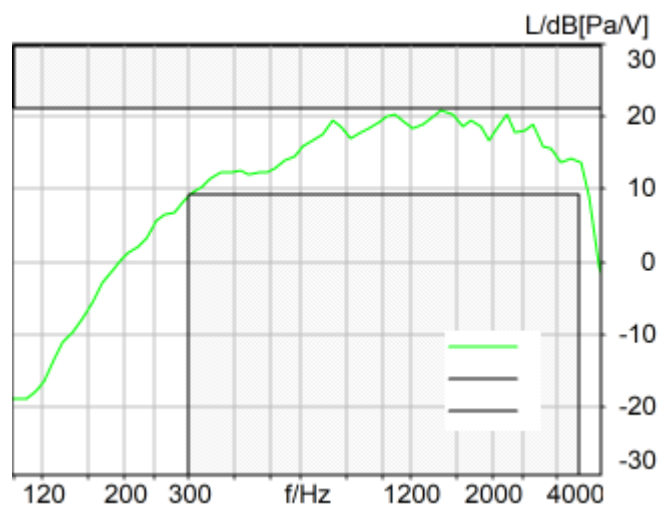
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 23.87dB at 500Hz.

2023/11/13 11:13 ACQUA

5.3 Frequency Response 2N FF HANB

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



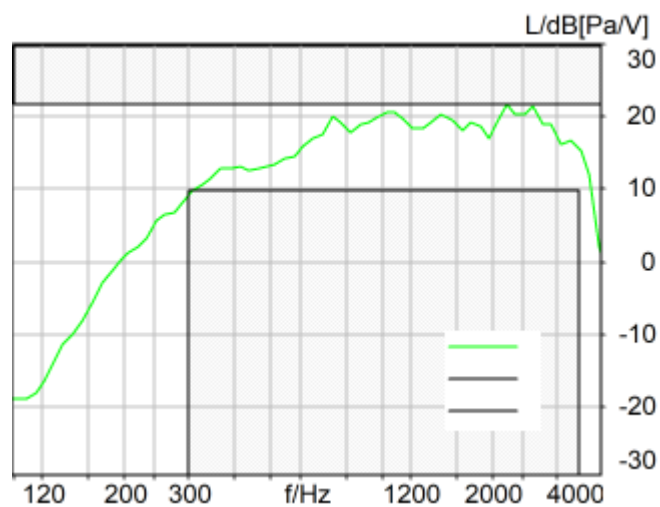
Absolute minimal distance
0.34 dB at 1447.5 Hz Ok

Ok

2023/11/13 11:13 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF HANB

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



Absolute minimal distance
-0.05 dB at 2177.4 Hz Not Ok

Not Ok

2023/11/13 11:13 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
--------------------	---

Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 14:48

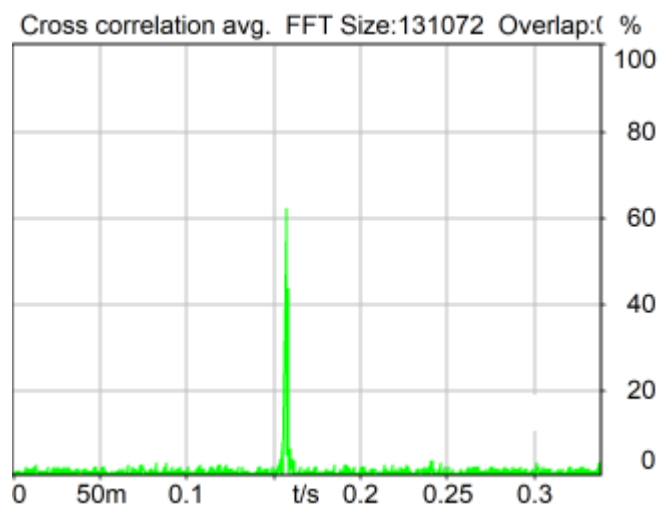
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	157.8	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	90.41	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.10	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.60	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.90	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.22	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	29.19	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.47	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.23	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.01	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	34.77	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.30	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 400Hz)	25.10	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.3 Frequency Response 8N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	0.21	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1
5.3 Frequency Response 8N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 2177.4 Hz	0.00	WLAN2.4G_Voice_11b 1Mbps_EVS NB 24.4kbps_Ch6_8N-1

Overall Receive Delay NB	5
5.1a Receive Volume Control Performance 8N 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
5.3 Frequency Response 8N FF HANB	18
5.3 Frequency Response 8N DF HANB	19

Overall Receive Delay NB

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



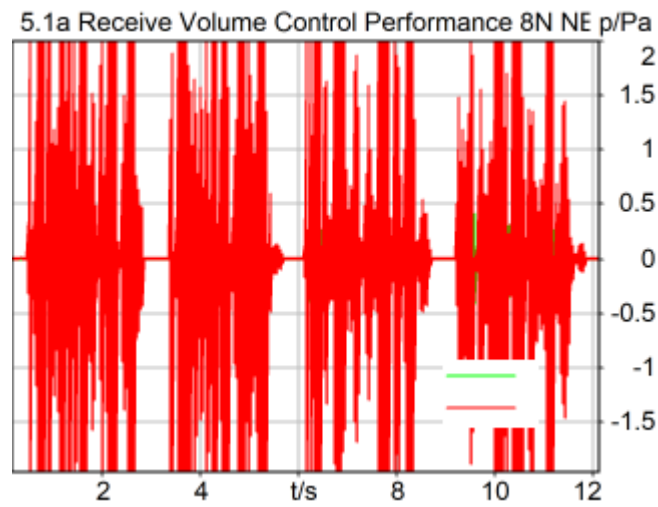
Delay (Cross): 157.8 ms

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Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N NB

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



Speech Level RCV: 90.41 dB[SPL], Act.: 82.42% Ok

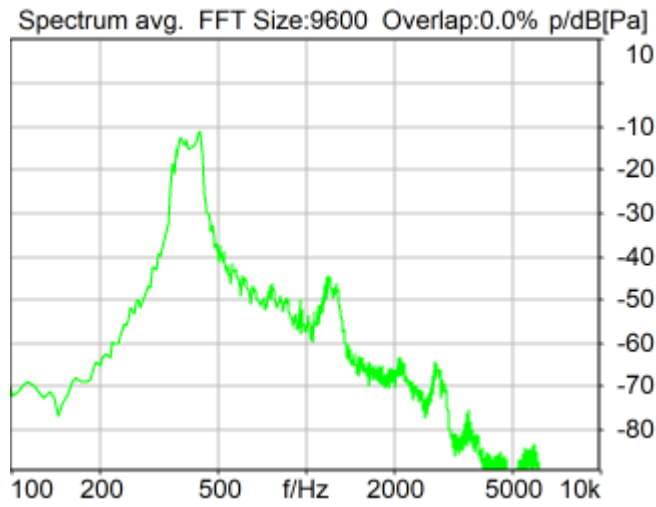
Ok

2023/11/13 14:28 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.10 dB (5.56%) Ok

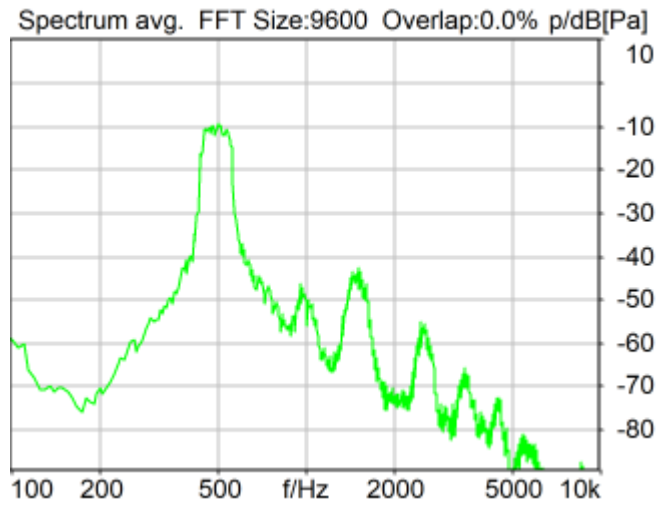
Ok

2023/11/13 14:29 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.60 dB (4.17%) Ok

Ok

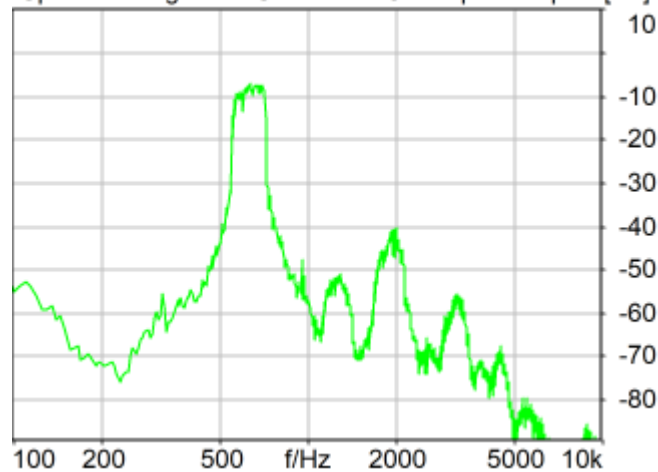
2023/11/13 14:29 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 630 Hz NB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 28.90 dB (3.59%) Ok

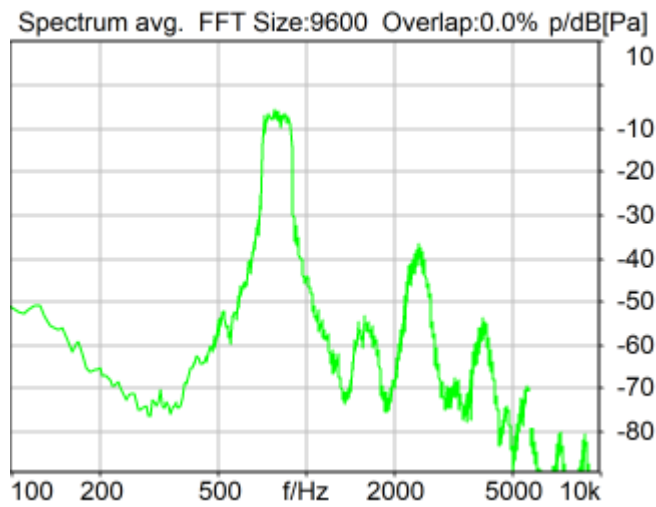
Ok

2023/11/13 14:30 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.22 dB (4.35%) Ok

Ok

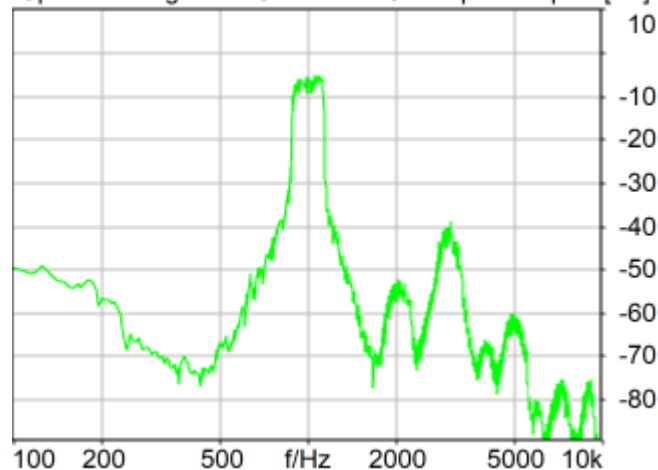
2023/11/13 14:30 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 1000 Hz NB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 29.19 dB (3.47%) Ok

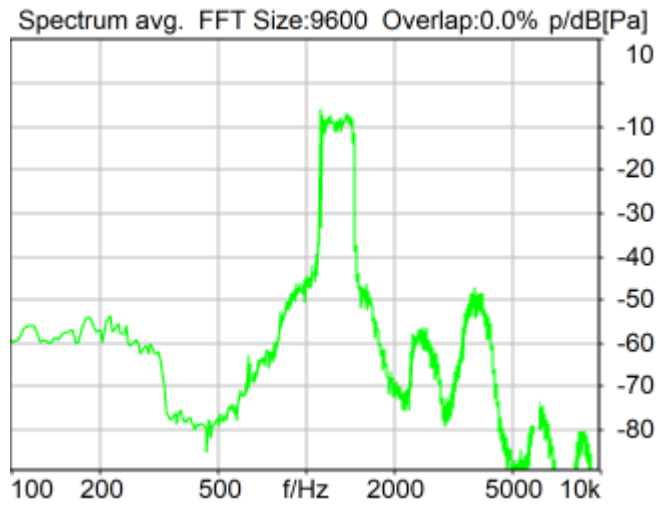
Ok

2023/11/13 14:30 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 30.47 dB (3.00%) Ok

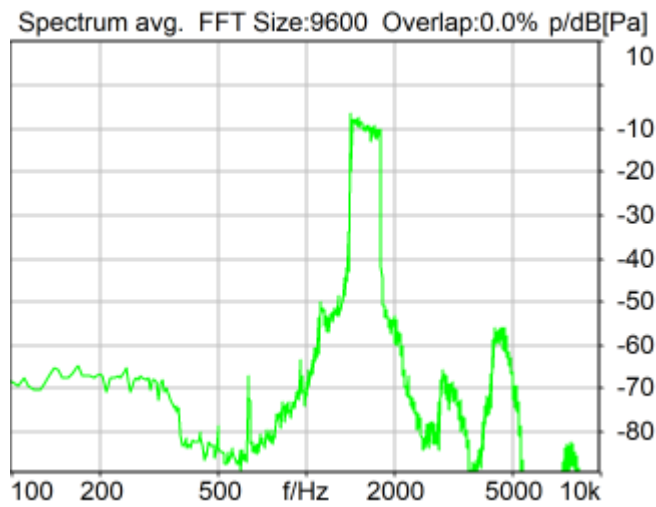
Ok

2023/11/13 14:31 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 39.23 dB (1.09%) Ok

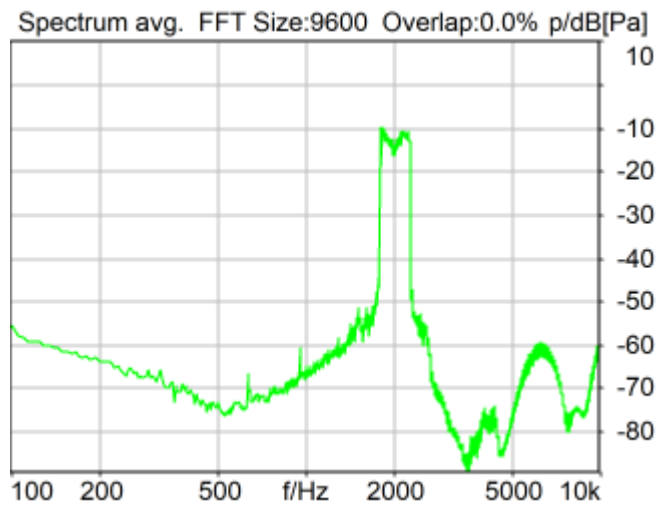
Ok

2023/11/13 14:31 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 37.01 dB (1.41%) Ok

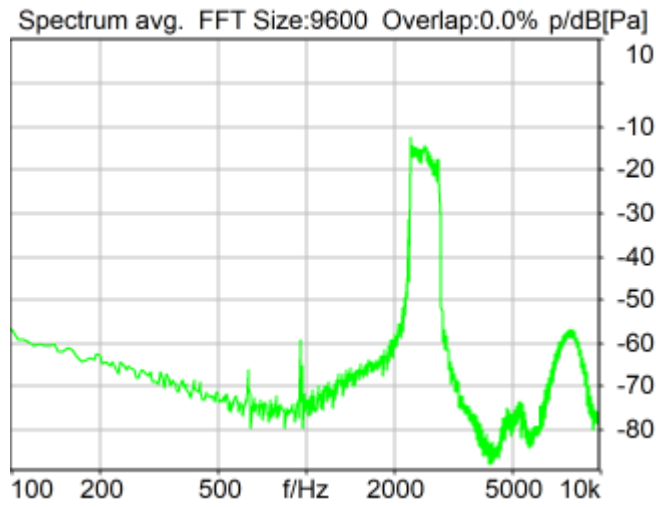
Ok

2023/11/13 14:32 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 34.77 dB (1.83%) Ok

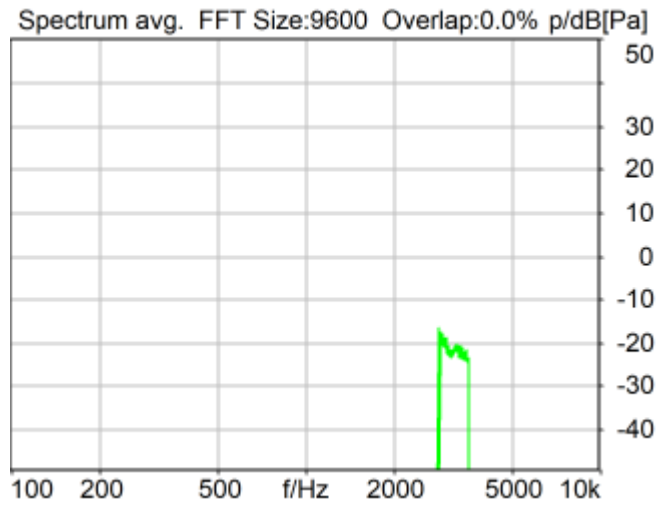
Ok

2023/11/13 14:32 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.30 dB (1.22%) Ok

Ok

2023/11/13 14:32 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

Report - Receive Distortion and Noise (Conversational Gain)

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

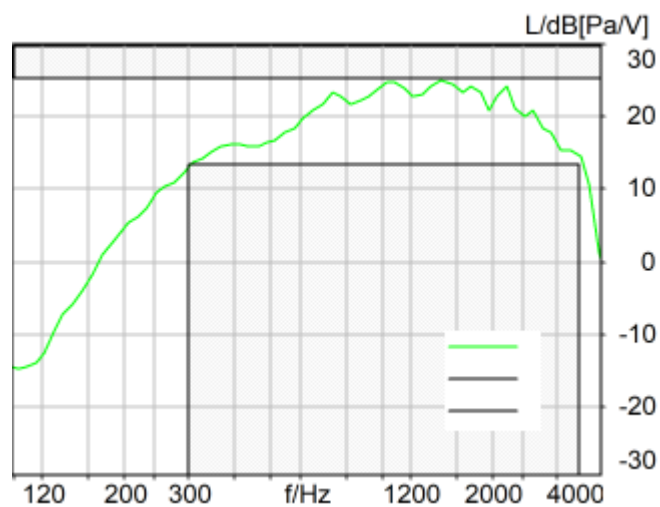
Region	Frequency	SDNR
1	400Hz	25.10 dB
2	500Hz	27.60 dB
3	630Hz	28.90 dB
4	800Hz	27.22 dB
5	1000Hz	29.19 dB
6	1250Hz	30.47 dB
7	1600Hz	39.23 dB
8	2000Hz	37.01 dB
9	2500Hz	34.77 dB
10	3150Hz	38.30 dB

All SDNRs were greater than 20.0 dB, requirement was met.
Smallest SDNR was 25.10dB at 400Hz.

2023/11/13 14:47 ACQUA

5.3 Frequency Response 8N FF HANB

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



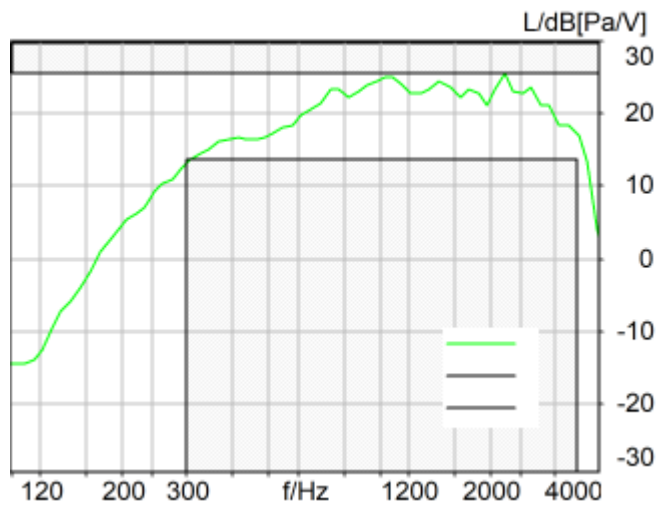
Absolute minimal distance
0.21 dB at 1447.5 Hz Ok

Ok

2023/11/13 14:47 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF HANB

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



Absolute minimal distance
0.00 dB at 2177.4 Hz Ok

Ok

2023/11/13 14:48 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 15:04

Status Overview

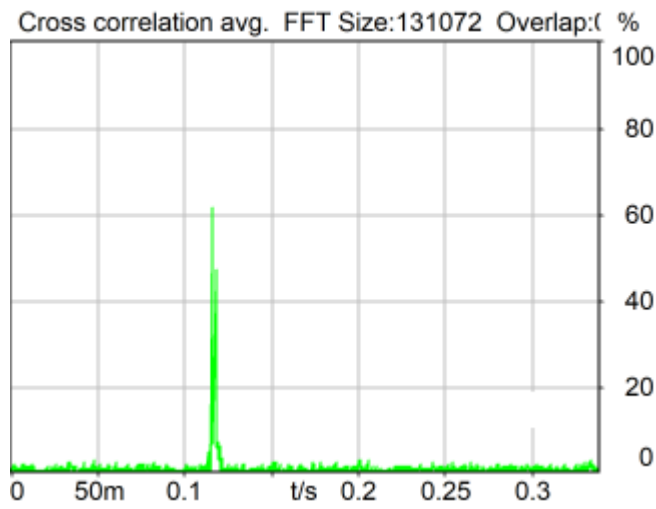
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	117.5	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	84.66	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.89	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.45	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.68	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.10	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.13	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.78	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.97	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.72	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.85	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.81	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.84	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.49	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.32	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.82	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	22.89	WLAN2.4G_Voice_11b

and Noise (Conversational Gain)		(occured at 250Hz)		1Mbps_EVS WB 64kbps_Ch6_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 1285.9 Hz	1.02	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 2432.3 Hz	0.75	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

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



Delay (Cross): 117.5 ms

2023/11/13 14:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 84.66 dB[SPL], Act.: 80.64% Ok

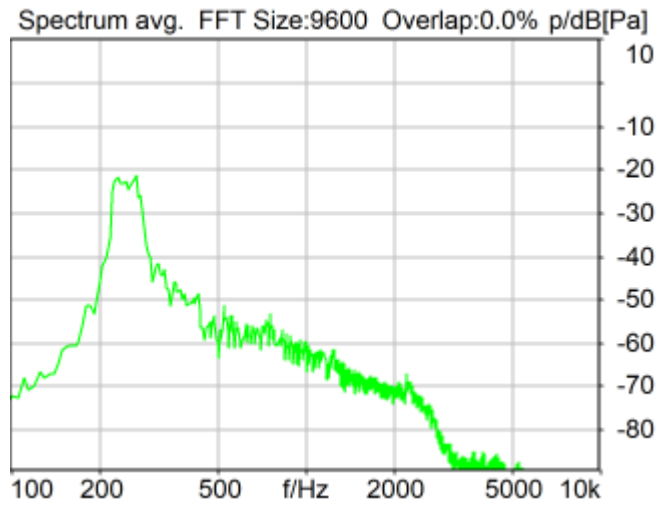
Ok

2023/11/13 14:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 22.89 dB (7.17%) Ok

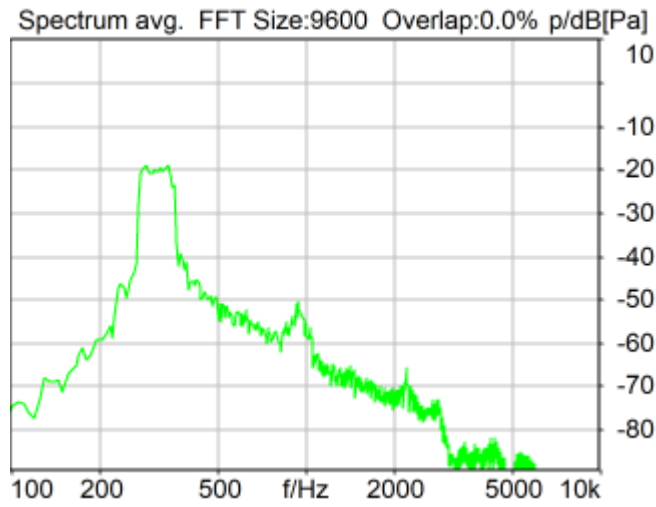
Ok

2023/11/13 14:51 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.45 dB (5.34%) Ok

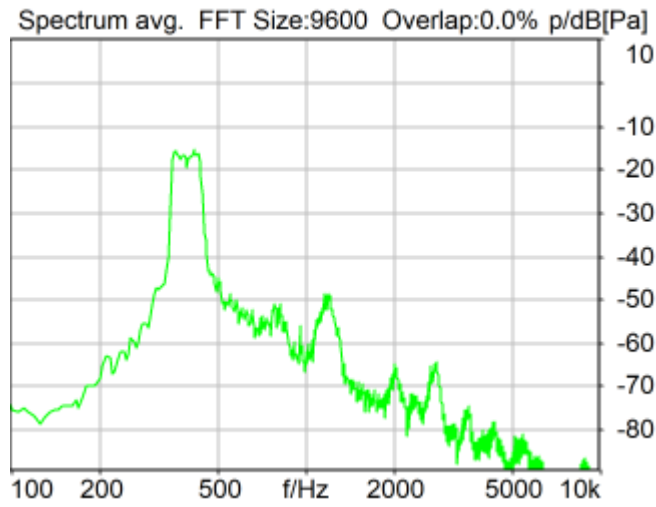
Ok

2023/11/13 14:52 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 27.68 dB (4.13%) Ok

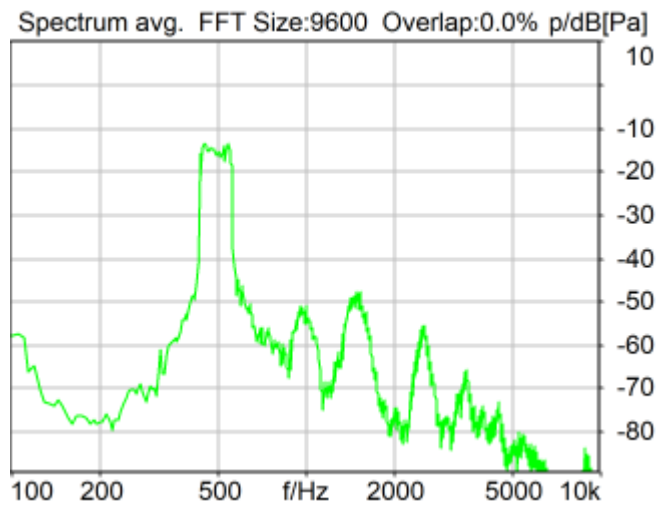
Ok

2023/11/13 14:52 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 29.10 dB (3.51%) Ok

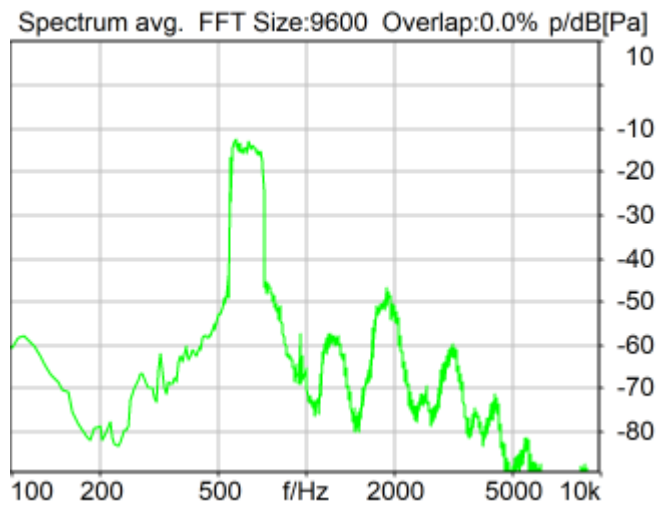
Ok

2023/11/13 14:53 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 30.13 dB (3.12%) Ok

Ok

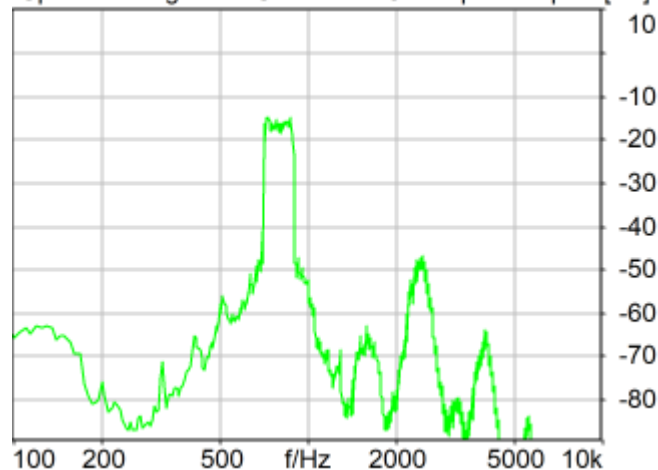
2023/11/13 14:53 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 800 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 28.78 dB (3.64%) Ok

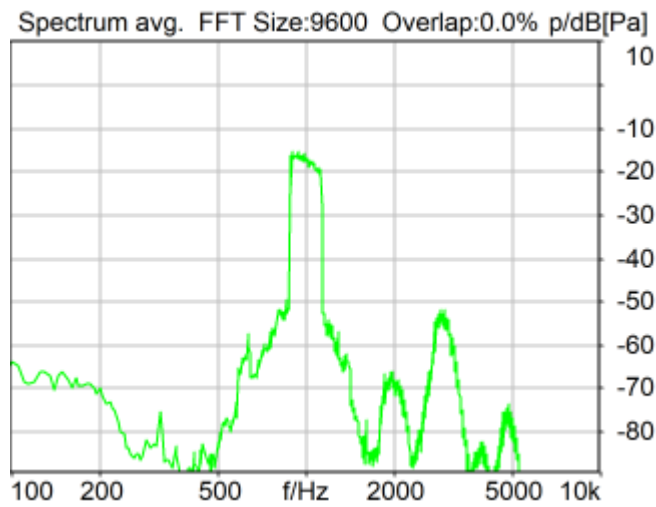
Ok

2023/11/13 14:53 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 31.97 dB (2.52%) Ok

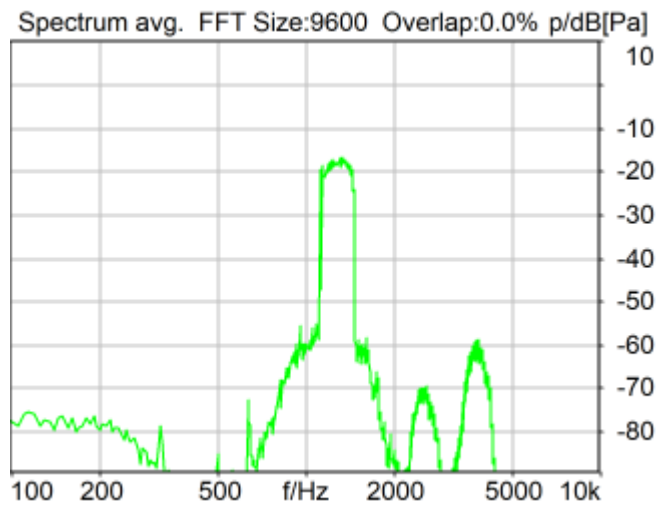
Ok

2023/11/13 14:54 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 33.72 dB (2.06%) Ok

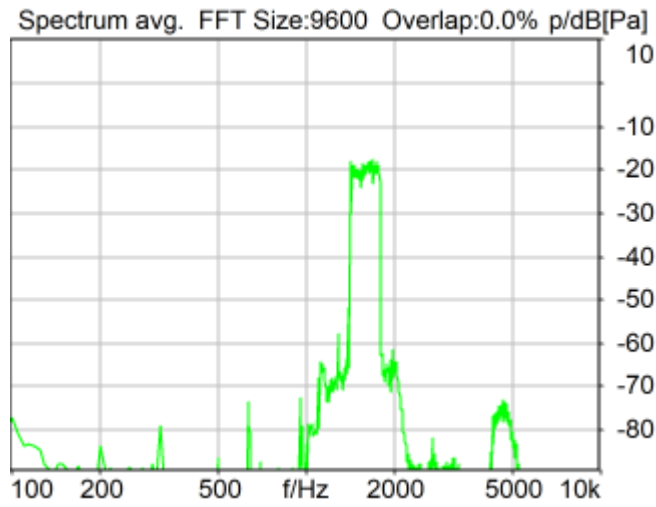
Ok

2023/11/13 14:54 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 43.85 dB (0.64%) Ok

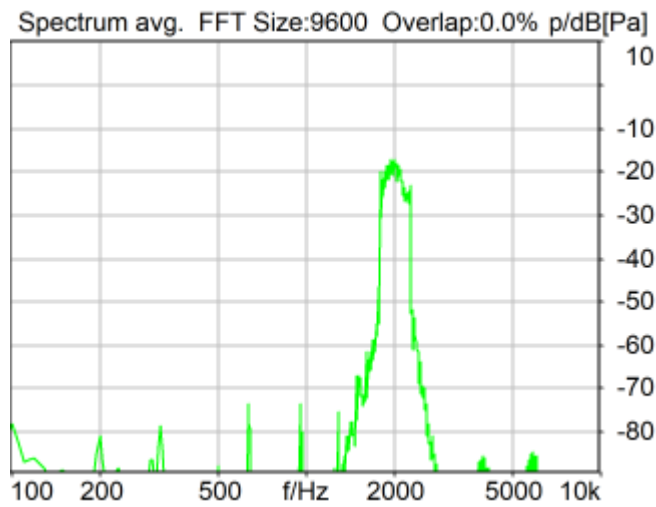
Ok

2023/11/13 14:55 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 38.81 dB (1.15%) Ok

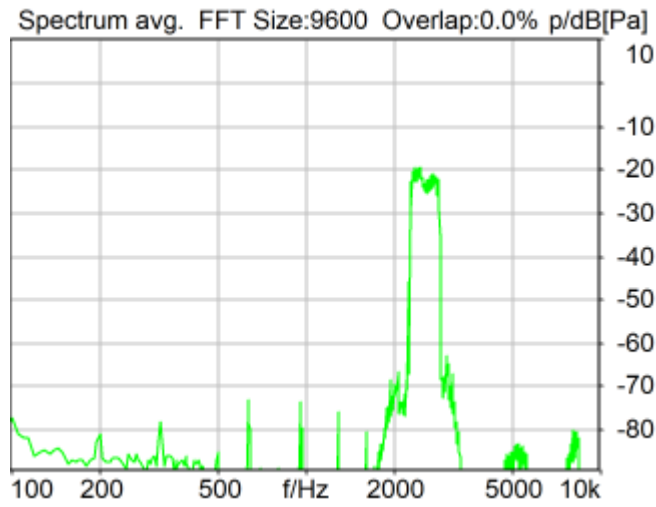
Ok

2023/11/13 14:55 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 45.84 dB (0.51%) Ok

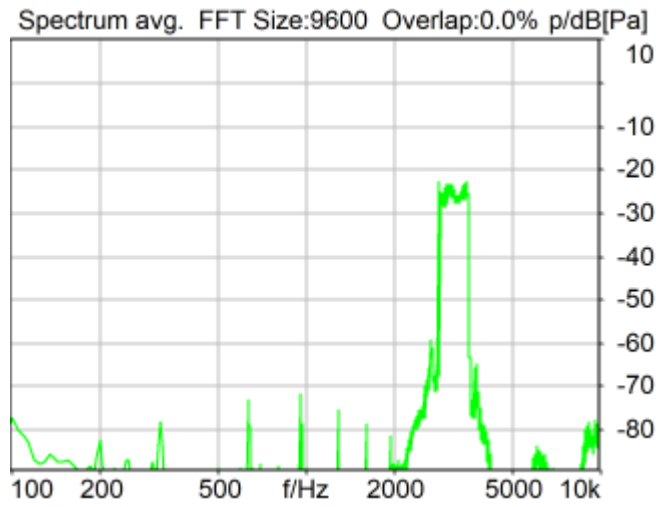
Ok

2023/11/13 14:55 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 41.49 dB (0.84%) Ok

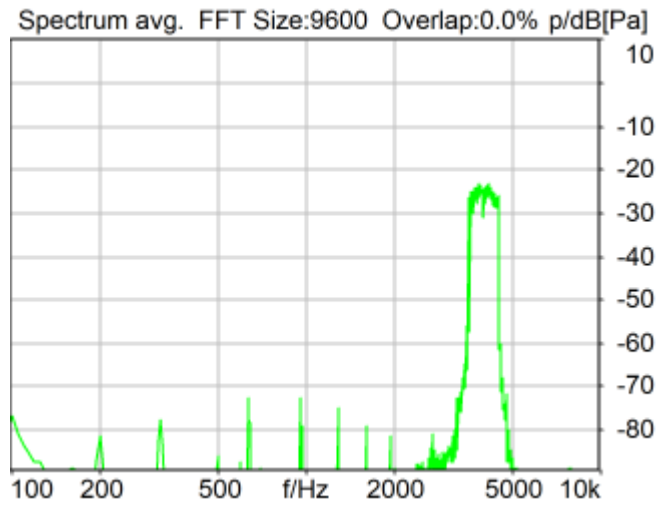
Ok

2023/11/13 14:56 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 41.32 dB (0.86%) Ok

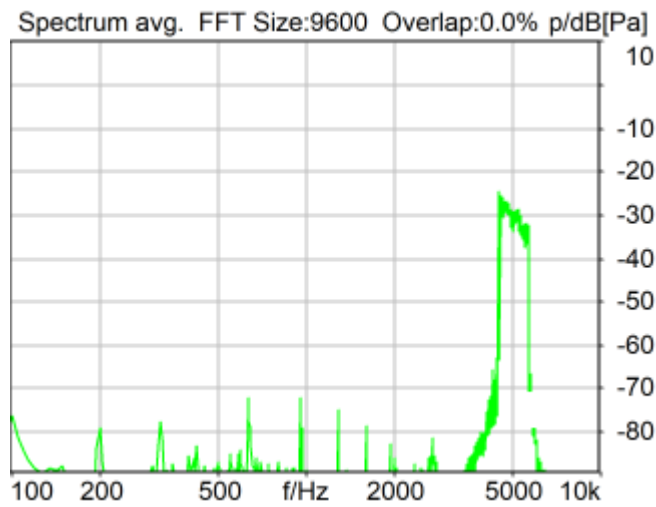
Ok

2023/11/13 14:56 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 43.82 dB (0.64%) Ok

Ok

2023/11/13 14:57 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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	22.89 dB
2	315Hz	25.45 dB
3	400Hz	27.68 dB
4	500Hz	29.10 dB
5	630Hz	30.13 dB
6	800Hz	28.78 dB
7	1000Hz	31.97 dB
8	1250Hz	33.72 dB
9	1600Hz	43.85 dB
10	2000Hz	38.81 dB
11	2500Hz	45.84 dB
12	3150Hz	41.49 dB
13	4000Hz	41.32 dB
14	5000Hz	43.82 dB

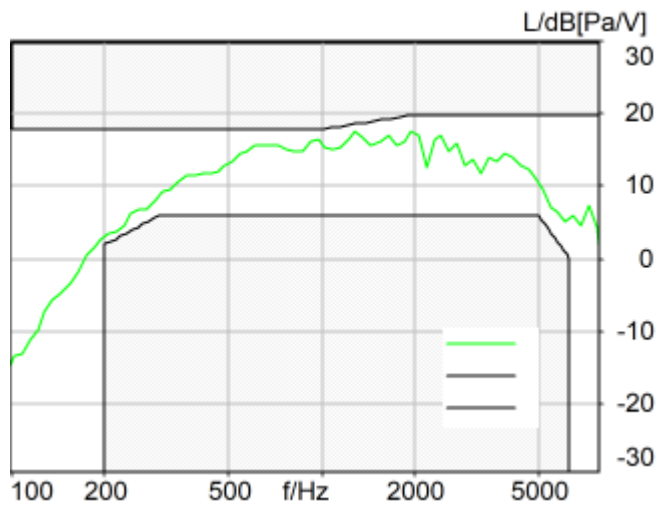
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.89dB at 250Hz.

2023/11/13 14:59 ACQUA

5.3 Frequency Response 2N FF

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



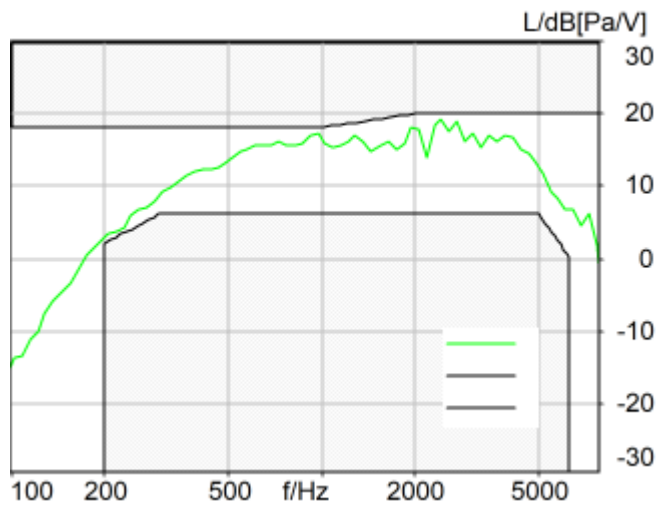
Absolute minimal distance
1.02 dB at 1285.9 Hz Ok

Ok

2023/11/13 14:59 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.75 dB at 2432.3 Hz Ok

Ok

2023/11/13 15:00 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor

Measurement Protocol

Measurement Object	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
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Project	3O1004 of TIA-5050 (2018-01)
Report Generation Date	2023/11/13 15:20

Status Overview

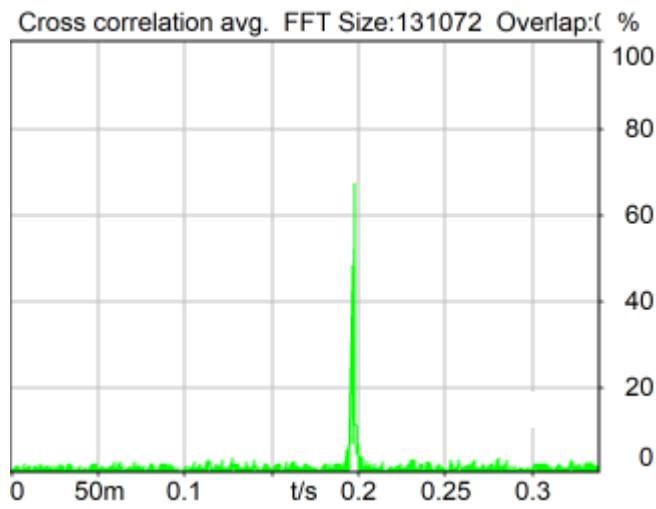
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	197.2	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	88.65	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.01	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.90	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.60	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.70	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.17	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.06	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.05	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.94	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.13	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.15	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.75	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.47	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.22	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.12	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	23.01	WLAN2.4G_Voice_11b

and Noise (Conversational Gain)		(occured at 250Hz)		1Mbps_EVS WB 64kbps_Ch6_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 1285.9 Hz	1.01	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 217.7 Hz	0.89	WLAN2.4G_Voice_11b 1Mbps_EVS WB 64kbps_Ch6_8N

Overall Receive Delay WB	6
5.1a Receive Volume Control Performance 8N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
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
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 8N FF	23
5.3 Frequency Response 8N DF	24

Overall Receive Delay WB

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



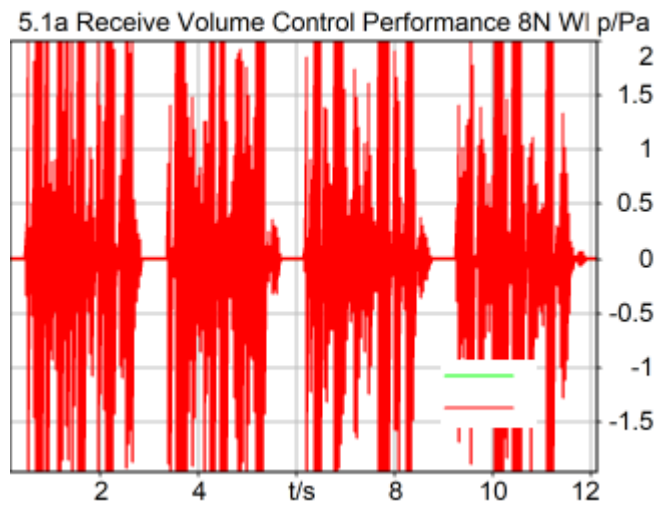
Delay (Cross): 197.2 ms

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Unmodified HEAD acoustics Measurement Descriptor

5.1a Receive Volume Control Performance 8N WB

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



Speech Level RCV: 88.65 dB[SPL], Act.: 80.88% Ok

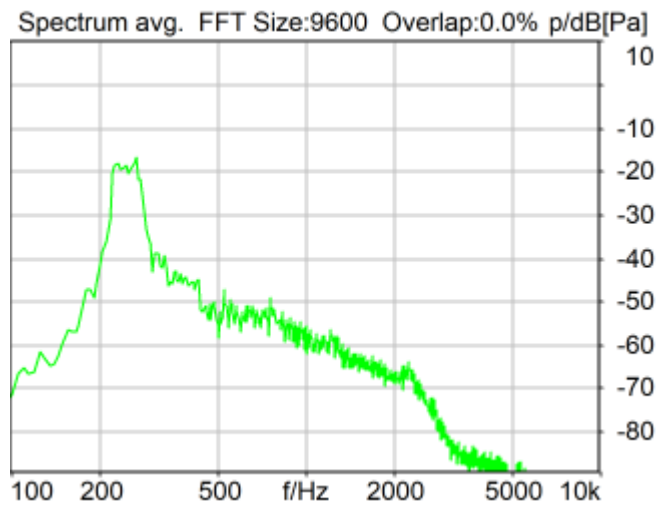
Ok

2023/11/13 15:06 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 23.01 dB (7.07%) Ok

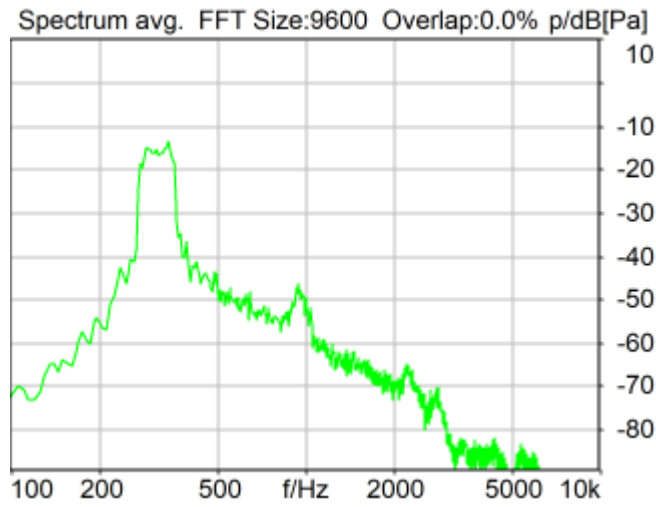
Ok

2023/11/13 15:06 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 25.90 dB (5.07%) Ok

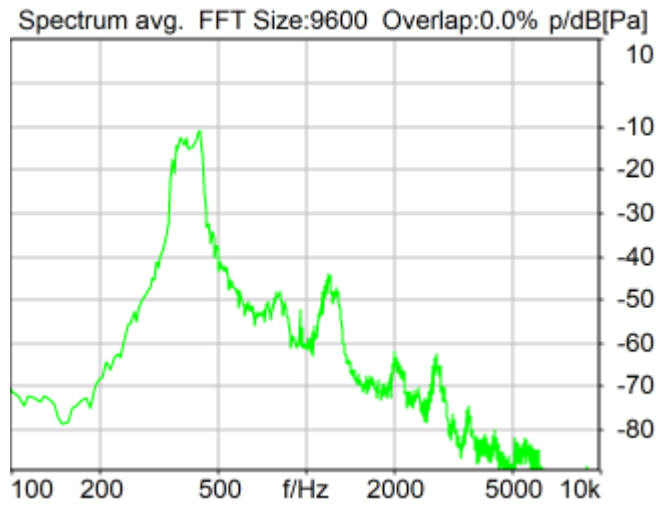
Ok

2023/11/13 15:06 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 26.60 dB (4.68%) Ok

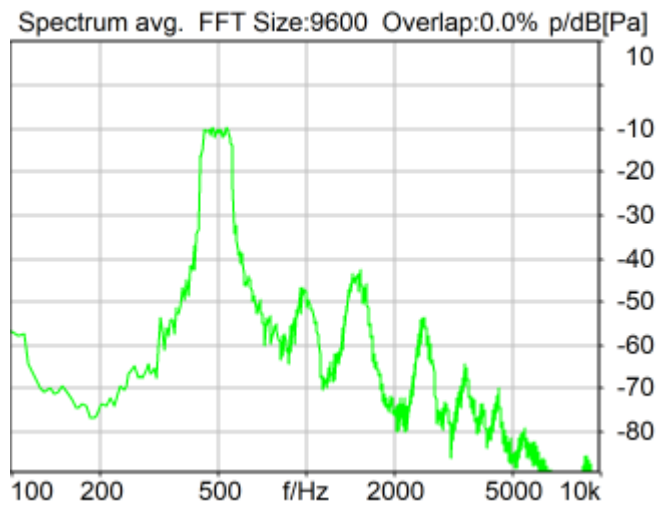
Ok

2023/11/13 15:07 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 28.70 dB (3.67%) Ok

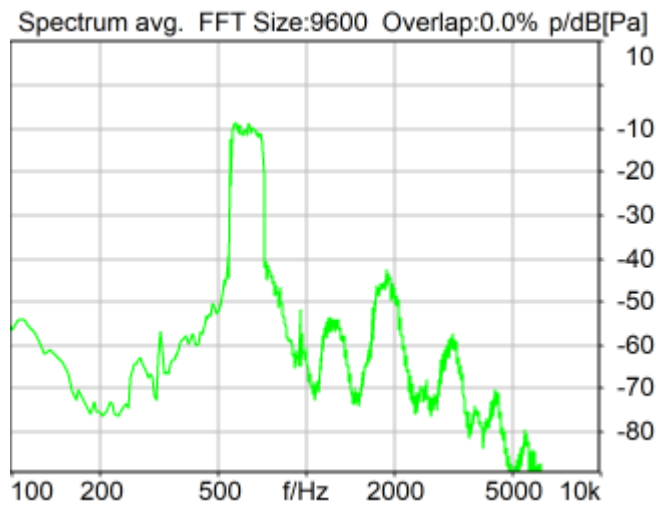
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 30.17 dB (3.10%) Ok

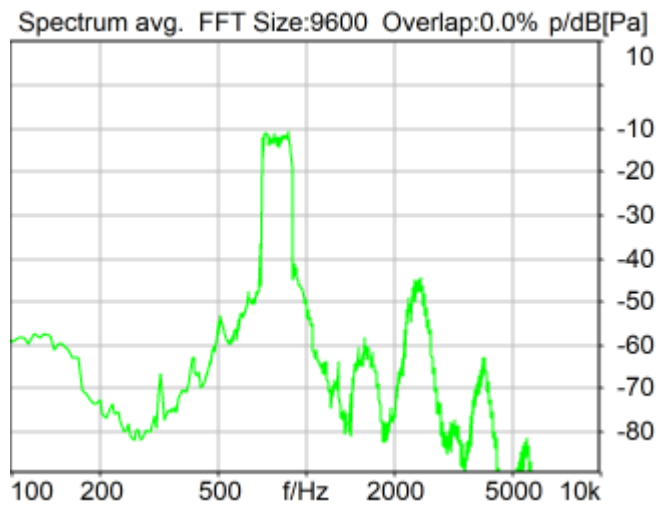
Ok

2023/11/13 15:08 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 30.06 dB (3.14%) Ok

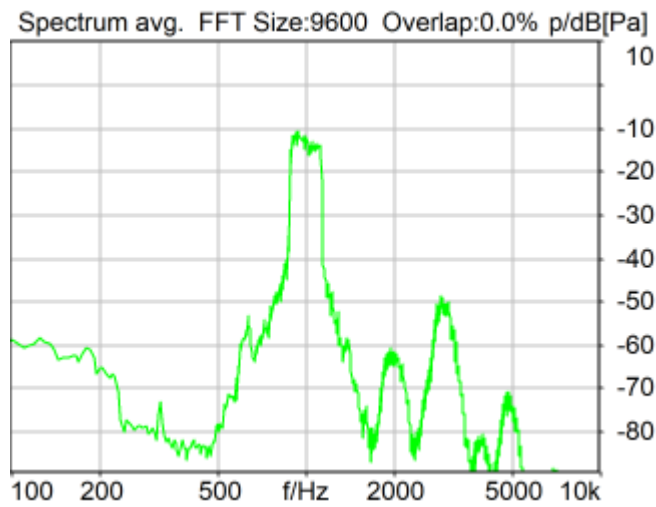
Ok

2023/11/13 15:08 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 32.05 dB (2.50%) Ok

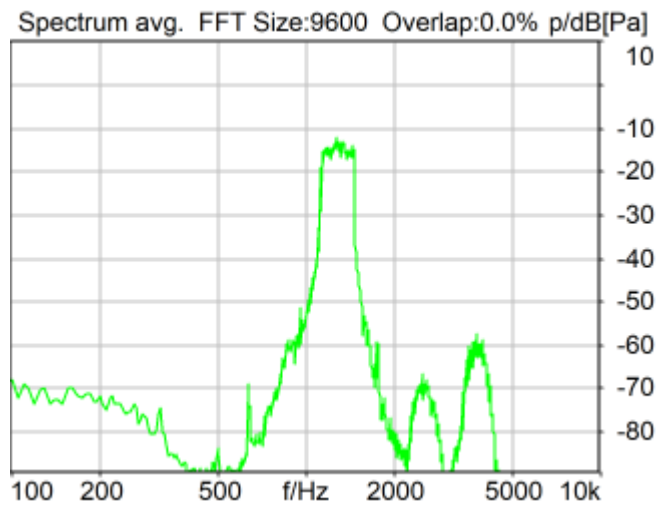
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 26.94 dB (4.50%) Ok

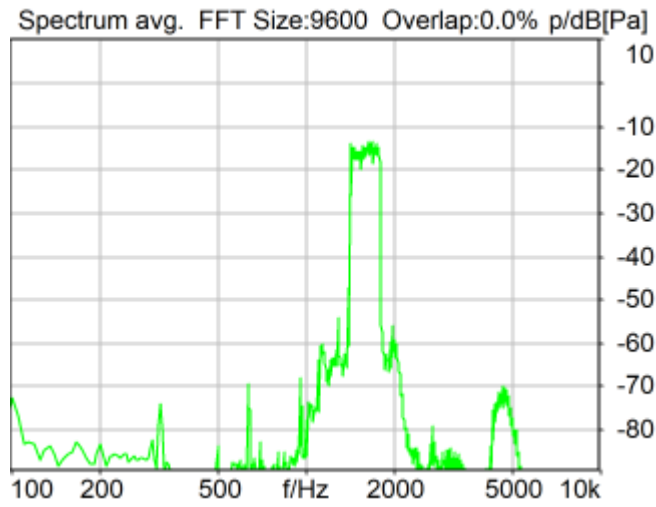
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 44.13 dB (0.62%) Ok

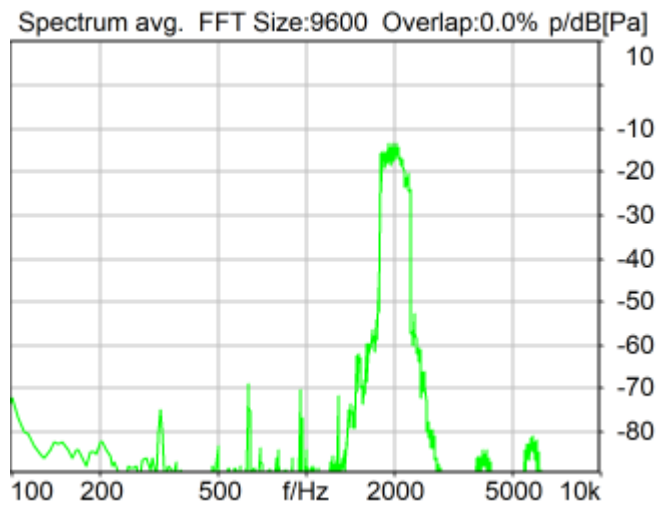
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 42.15 dB (0.78%) Ok

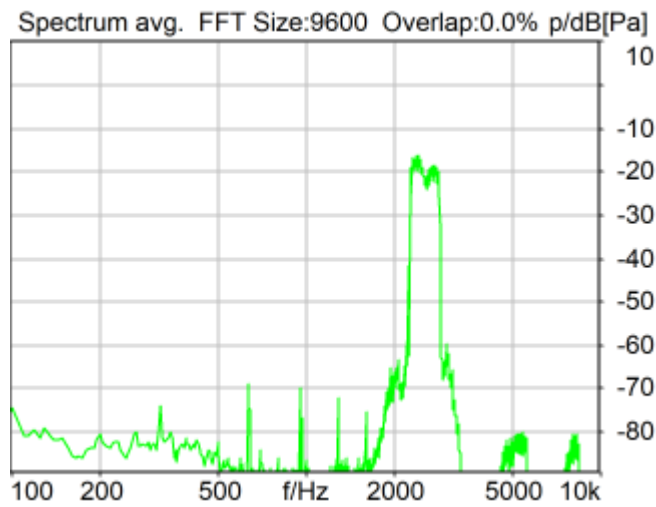
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 44.75 dB (0.58%) Ok

Ok

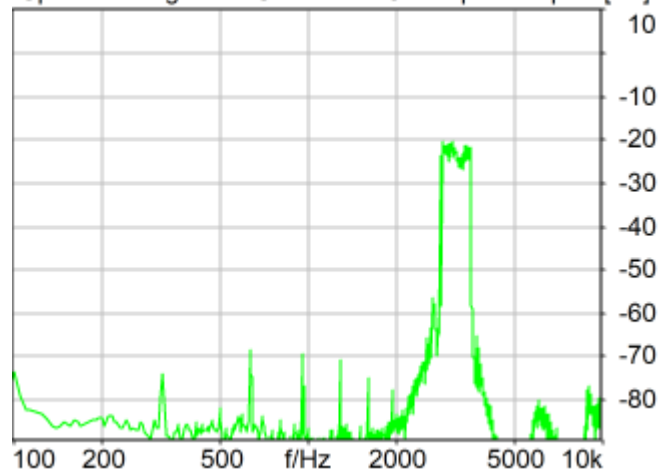
2023/11/13 15:10 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

5.2 RCV Distortion and Noise - 3150 Hz WB

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

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 41.47 dB (0.84%) Ok

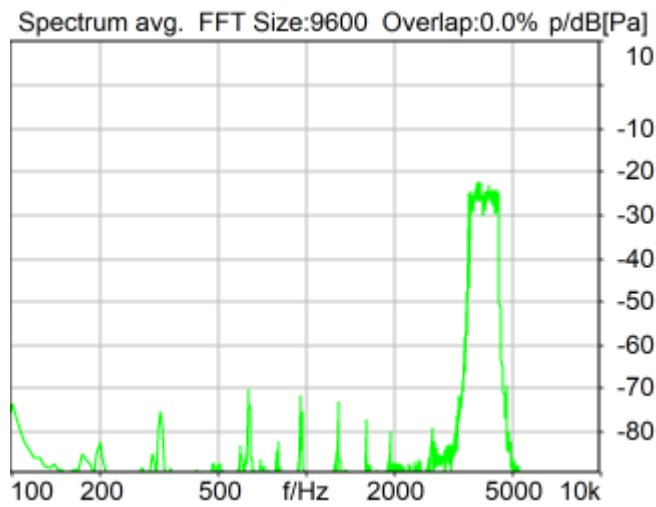
Ok

2023/11/13 15:10 ACQUA 5.1.200

Unmodified HEAD acoustics Measurement Descriptor

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): 35.22 dB (1.73%) Ok

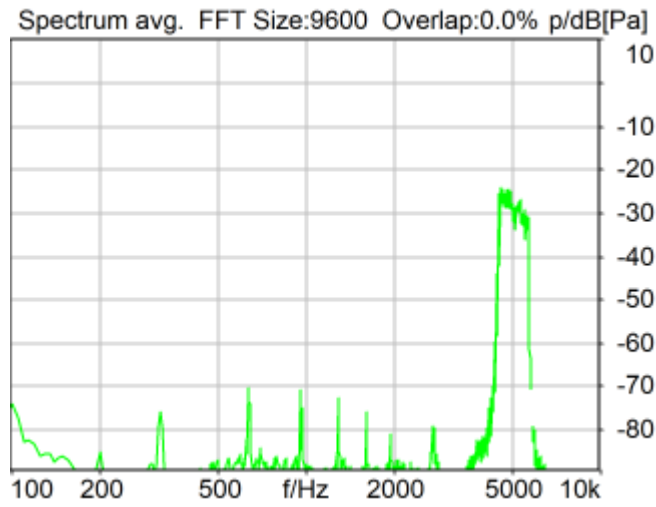
Ok

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Unmodified HEAD acoustics Measurement Descriptor

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): 36.12 dB (1.56%) Ok

Ok

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Unmodified HEAD acoustics Measurement Descriptor

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	23.01 dB
2	315Hz	25.90 dB
3	400Hz	26.60 dB
4	500Hz	28.70 dB
5	630Hz	30.17 dB
6	800Hz	30.06 dB
7	1000Hz	32.05 dB
8	1250Hz	26.94 dB
9	1600Hz	44.13 dB
10	2000Hz	42.15 dB
11	2500Hz	44.75 dB
12	3150Hz	41.47 dB
13	4000Hz	35.22 dB
14	5000Hz	36.12 dB

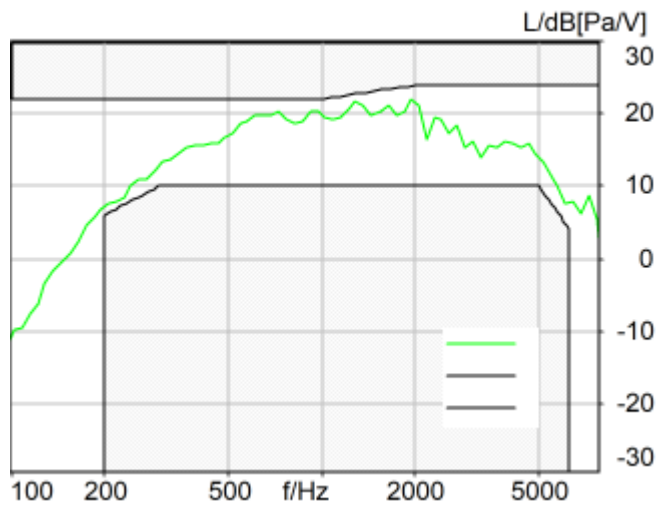
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 23.01dB at 250Hz.

2023/11/13 15:13 ACQUA

5.3 Frequency Response 8N FF

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



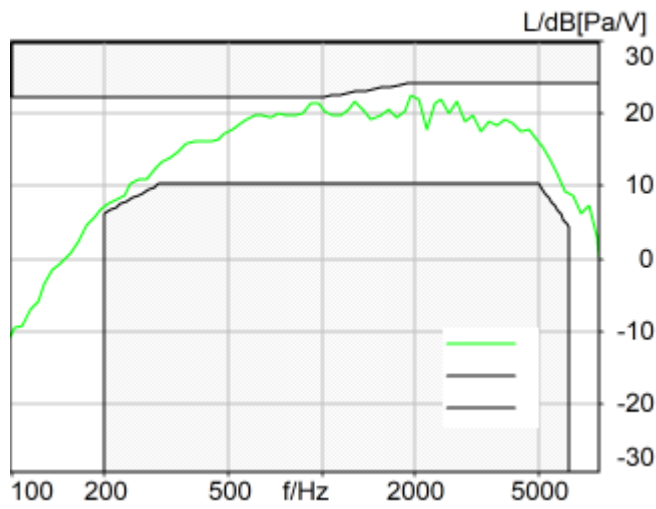
Absolute minimal distance
1.01 dB at 1285.9 Hz Ok

Ok

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Unmodified HEAD acoustics Measurement Descriptor

5.3 Frequency Response 8N DF

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



Absolute minimal distance
0.89 dB at 217.7 Hz Ok

Ok

2023/11/13 15:13 ACQUA 5.1.200
Unmodified HEAD acoustics Measurement Descriptor