

ACQUA Report
WB 24.4kbps_Ch20525_8N

Title: 01_LTE Band 5_10M_QPSK_1RB_0Offset_EVS

Measurement Protocol

Measurement Object	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
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Project	590811
Report Generation Date	25/09/27 18:11
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	132.4	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	85.49	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.89	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.07	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.36	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.06	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.84	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.64	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.39	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.29	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.99	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.30	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.06	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.50	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.60	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.47	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	21.89	LTE Band

ACQUA Report
WB 24.4kbps_Ch20525_8N

Title: LTE Band 5_10M_QPSK_1RB_0Offset_EVS

and Noise (Conversational Gain)		(occured at 250Hz)		5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 5443.6 Hz	1.86	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 5443.6 Hz	0.87	LTE Band 5_10M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch20525_8N

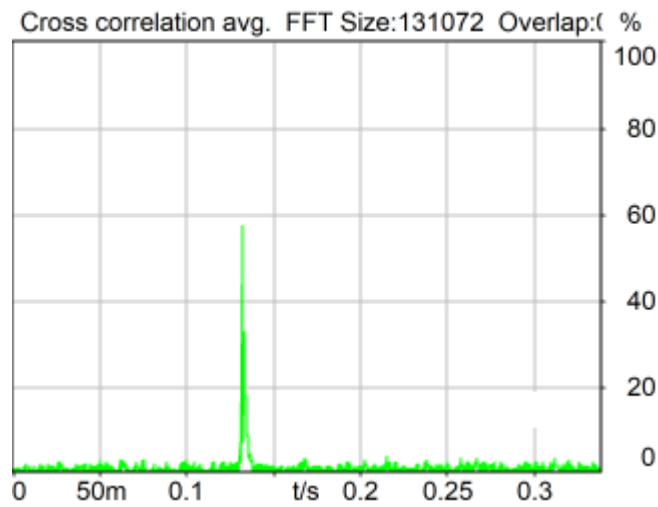
ACQUA Report
WB 24.4kbps_Ch20525_8N

Title: LTE Band 5_10M_QPSK_1RB_0Offset_EVS

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

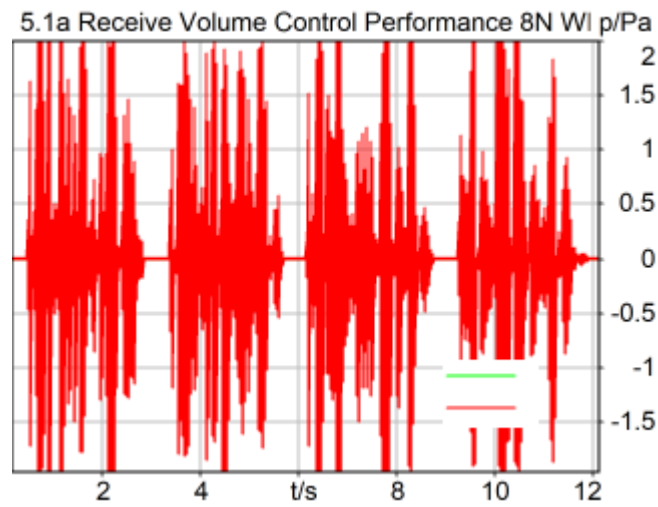


Delay (Cross): 132.4 ms

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5.1a Receive Volume Control Performance 8N WB

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



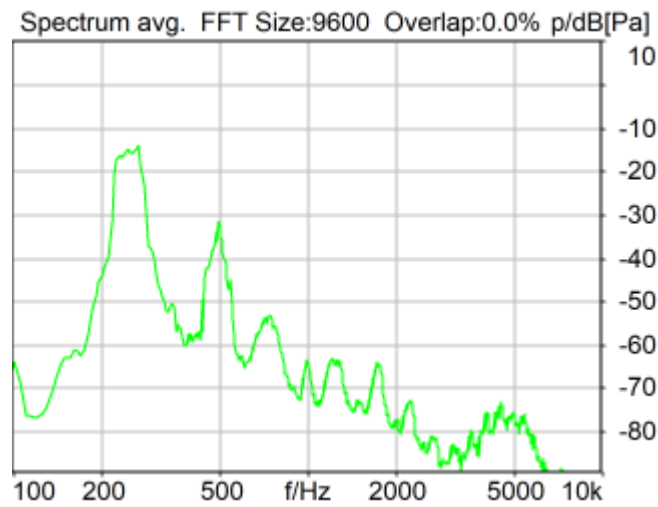
Speech Level RCV: 85.49 dB[SPL], Act.: 84.32% Ok

Ok

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5.2 RCV Distortion and Noise - 250 Hz WB

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



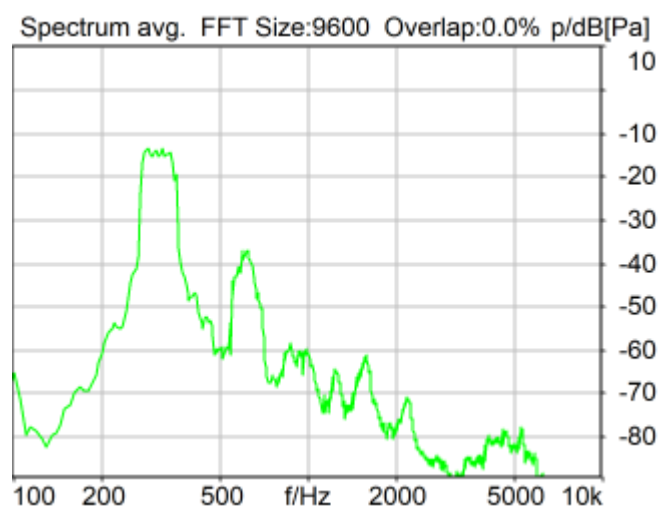
Distortion (Noise) RCV (packed): 21.89 dB (8.04%) Ok

Ok

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5.2 RCV Distortion and Noise - 315 Hz WB

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



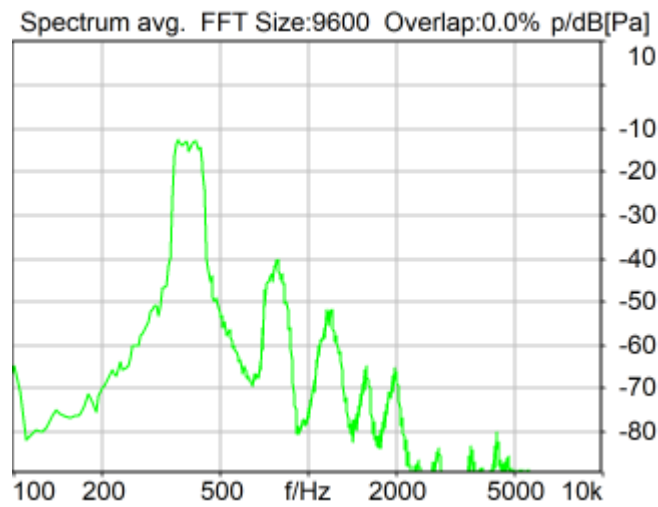
Distortion (Noise) RCV (packed): 25.07 dB (5.58%) Ok

Ok

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5.2 RCV Distortion and Noise - 400 Hz WB

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



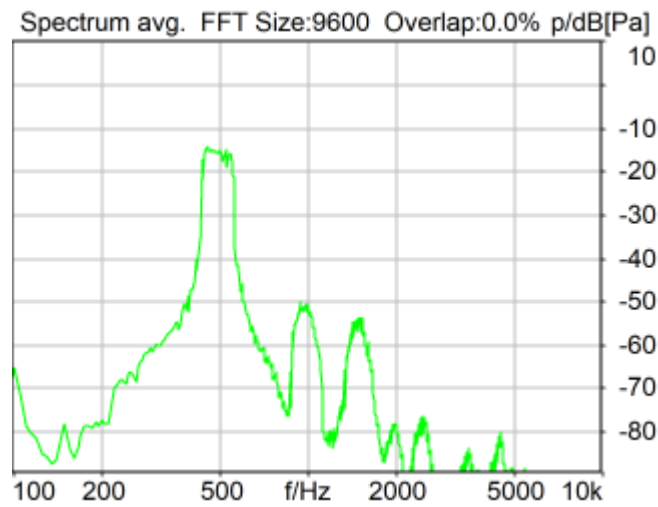
Distortion (Noise) RCV (packed): 28.36 dB (3.82%) Ok

Ok

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5.2 RCV Distortion and Noise - 500 Hz WB

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



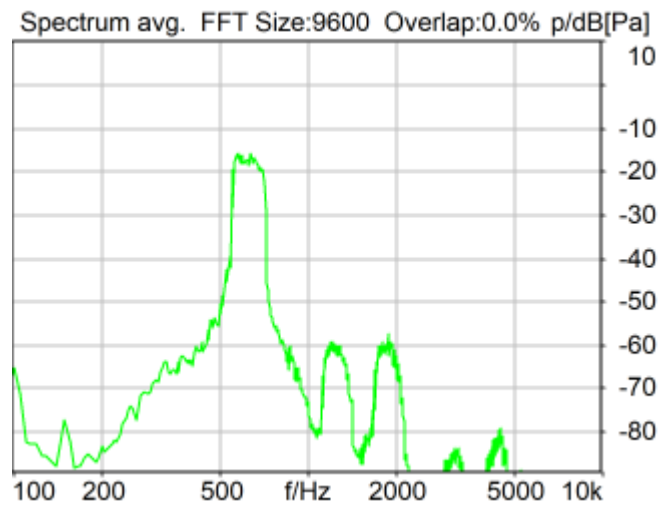
Distortion (Noise) RCV (packed): 32.06 dB (2.49%) Ok

Ok

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5.2 RCV Distortion and Noise - 630 Hz WB

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



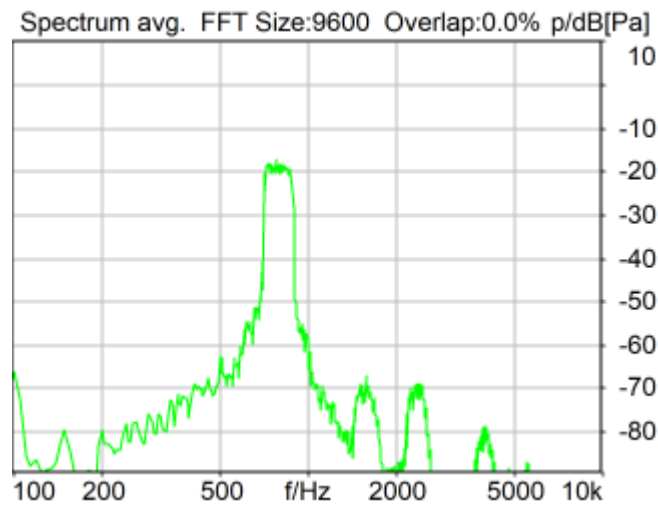
Distortion (Noise) RCV (packed): 34.84 dB (1.81%) Ok

Ok

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5.2 RCV Distortion and Noise - 800 Hz WB

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



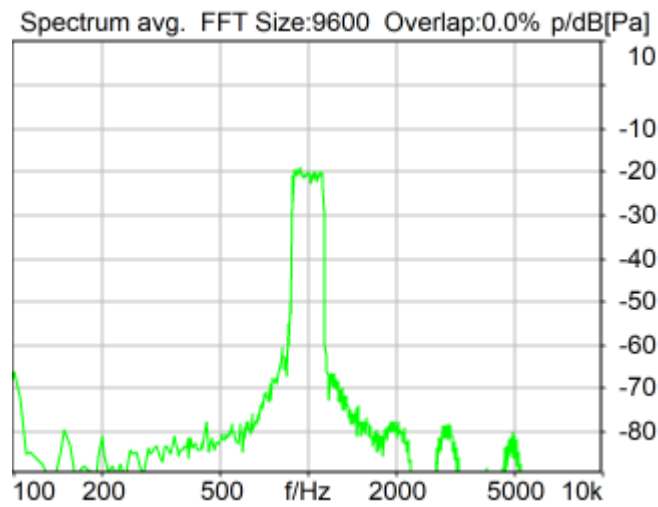
Distortion (Noise) RCV (packed): 37.64 dB (1.31%) Ok

Ok

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5.2 RCV Distortion and Noise - 1000 Hz WB

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



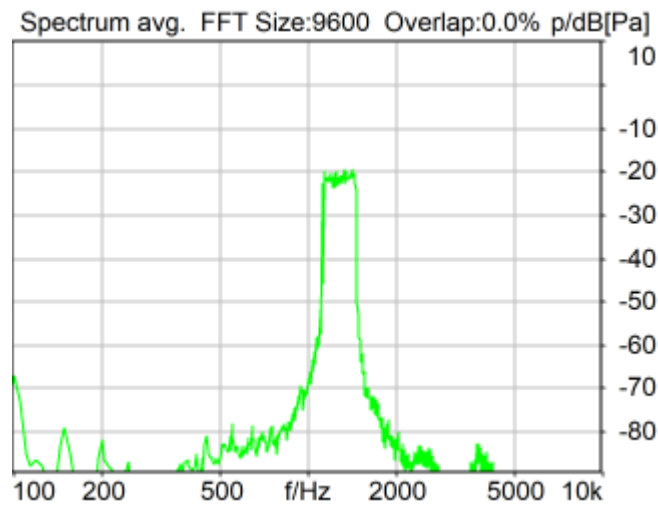
Distortion (Noise) RCV (packed): 44.39 dB (0.60%) Ok

Ok

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5.2 RCV Distortion and Noise - 1250 Hz WB

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



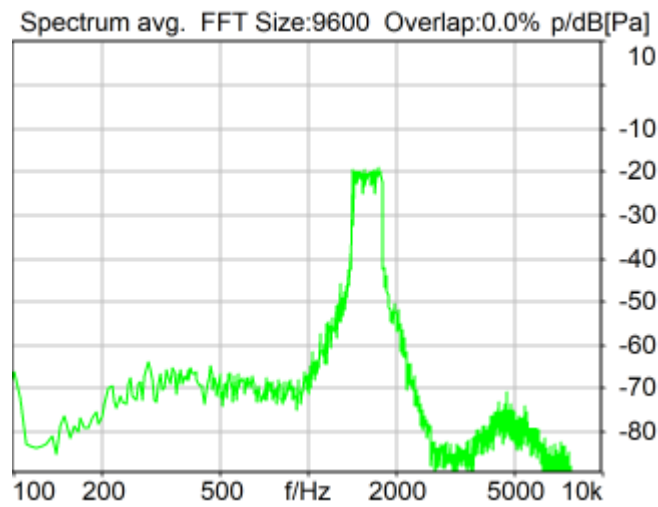
Distortion (Noise) RCV (packed): 33.29 dB (2.16%) Ok

Ok

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5.2 RCV Distortion and Noise - 1600 Hz WB

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



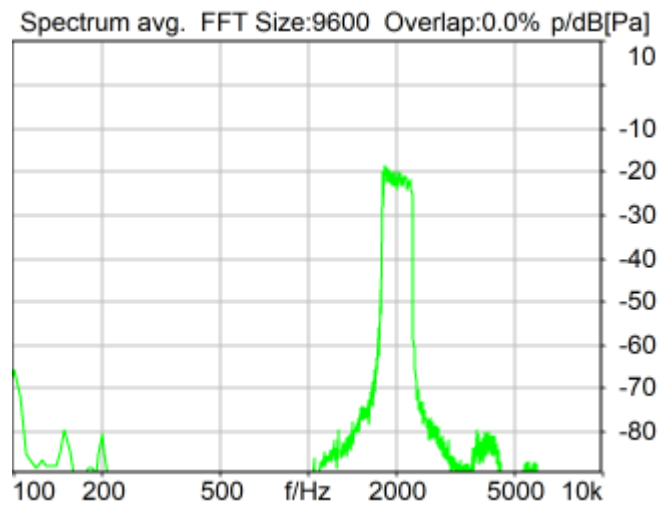
Distortion (Noise) RCV (packed): 27.99 dB (3.99%) Ok

Ok

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5.2 RCV Distortion and Noise - 2000 Hz WB

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



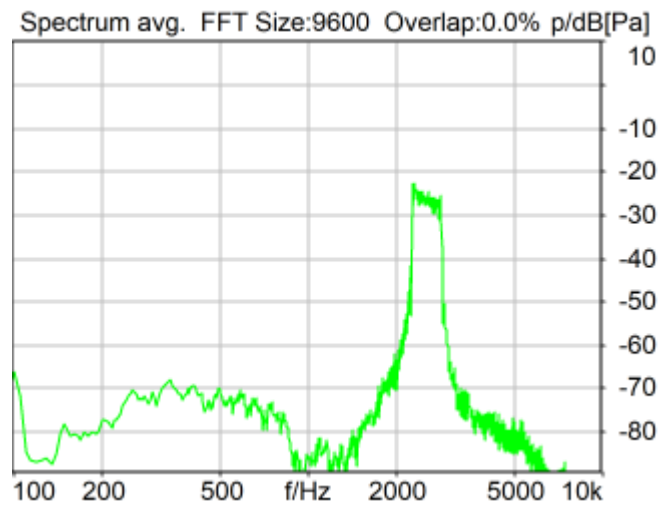
Distortion (Noise) RCV (packed): 45.30 dB (0.54%) Ok

Ok

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5.2 RCV Distortion and Noise - 2500 Hz WB

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



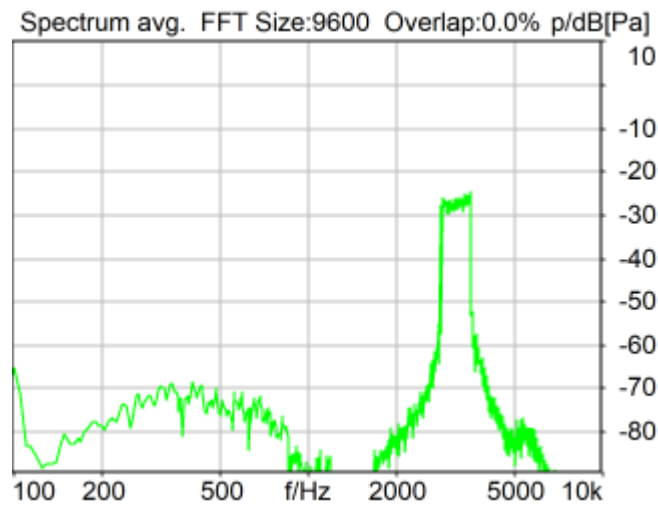
Distortion (Noise) RCV (packed): 30.06 dB (3.14%) Ok

Ok

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5.2 RCV Distortion and Noise - 3150 Hz WB

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



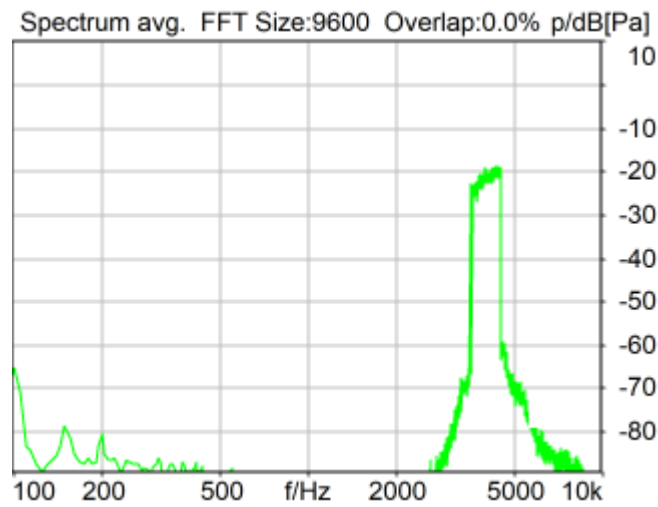
Distortion (Noise) RCV (packed): 33.50 dB (2.11%) Ok

Ok

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5.2 RCV Distortion and Noise - 4000 Hz WB

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



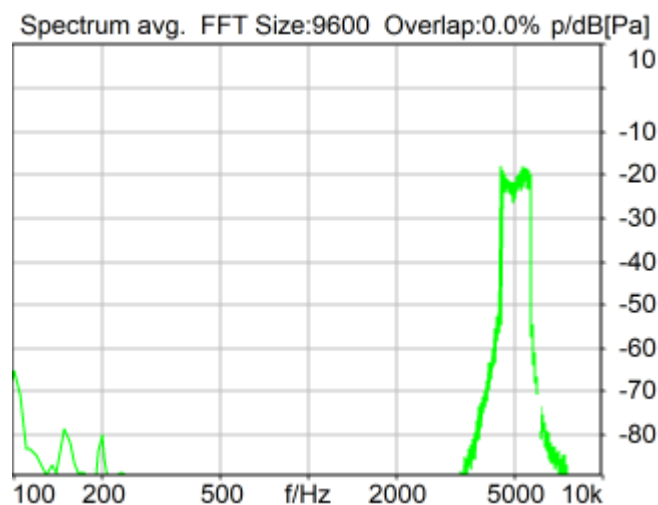
Distortion (Noise) RCV (packed): 43.60 dB (0.66%) Ok

Ok

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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): 39.47 dB (1.06%) Ok

Ok

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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	21.89 dB
2	315Hz	25.07 dB
3	400Hz	28.36 dB
4	500Hz	32.06 dB
5	630Hz	34.84 dB
6	800Hz	37.64 dB
7	1000Hz	44.39 dB
8	1250Hz	33.29 dB
9	1600Hz	27.99 dB
10	2000Hz	45.30 dB
11	2500Hz	30.06 dB
12	3150Hz	33.50 dB
13	4000Hz	43.60 dB
14	5000Hz	39.47 dB

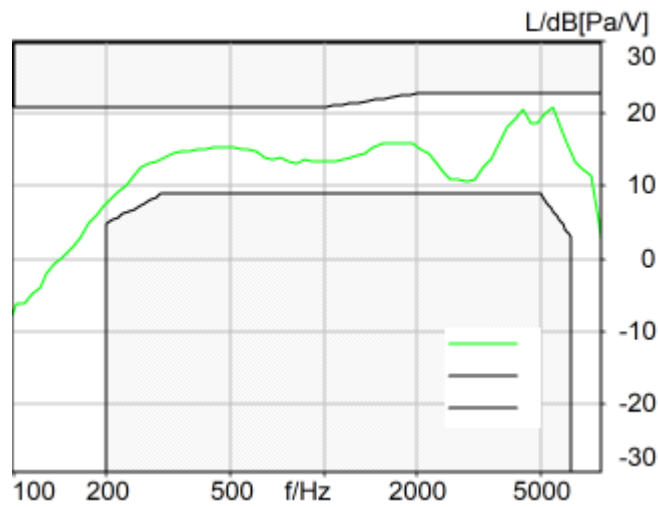
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 21.89dB at 250Hz.

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5.3 Frequency Response 8N FF

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



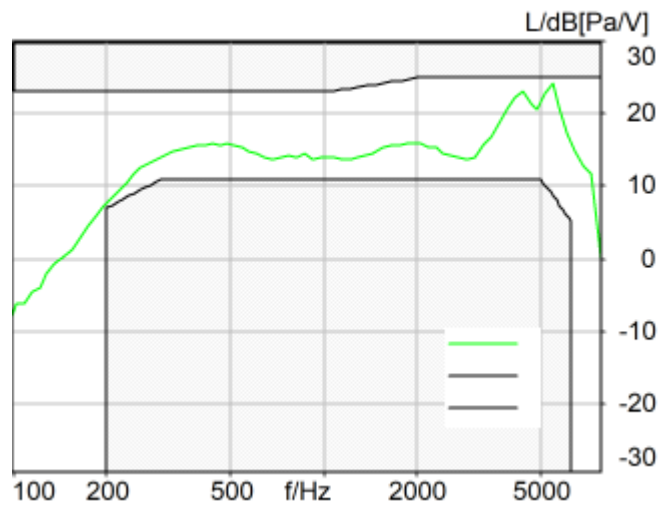
Absolute minimal distance
1.86 dB at 5443.6 Hz Ok

Ok

25/09/27 18:10 ACQUA 5.1.200

5.3 Frequency Response 8N DF

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



Absolute minimal distance
0.87 dB at 5443.6 Hz Ok

Ok

25/09/27 18:10 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS WB 24.4kbps_Ch116_2N
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Project	590811
Report Generation Date	25/09/28 17:00
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	133.0	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	81.61	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.85	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.28	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.91	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.93	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.62	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.97	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.77	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.55	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.11	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.30	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.64	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	40.57	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.69	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	40.91	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	21.85	WLAN5GHz_802.11a

ACQUA Report
4kbps_Ch116_2N

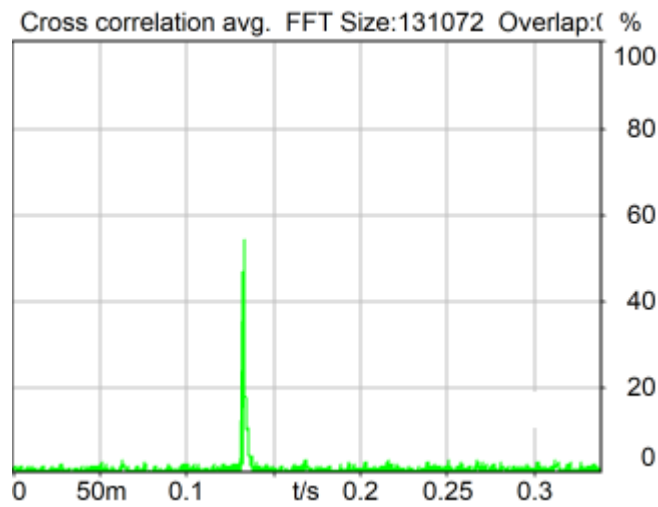
Title: WLAN5GHz_802.11a 6Mbps_EVS WB 24.

and Noise (Conversational Gain)		(occured at 250Hz)		6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 5143.7 Hz	1.03	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 5143.7 Hz	0.01	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch116_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

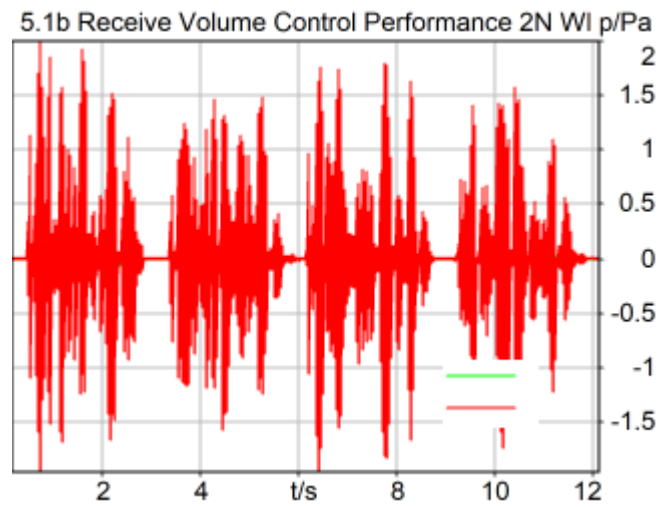


Delay (Cross): 133.0 ms

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5.1b Receive Volume Control Performance 2N WB

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



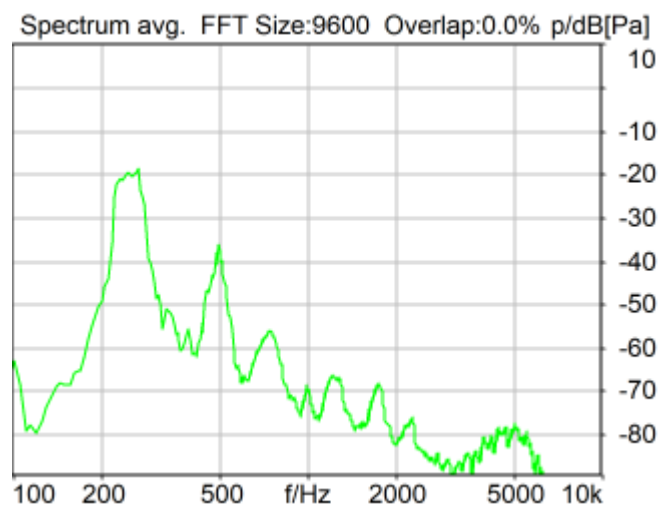
Speech Level RCV: 81.61 dB[SPL], Act.: 84.57% Ok

Ok

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5.2 RCV Distortion and Noise - 250 Hz WB

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



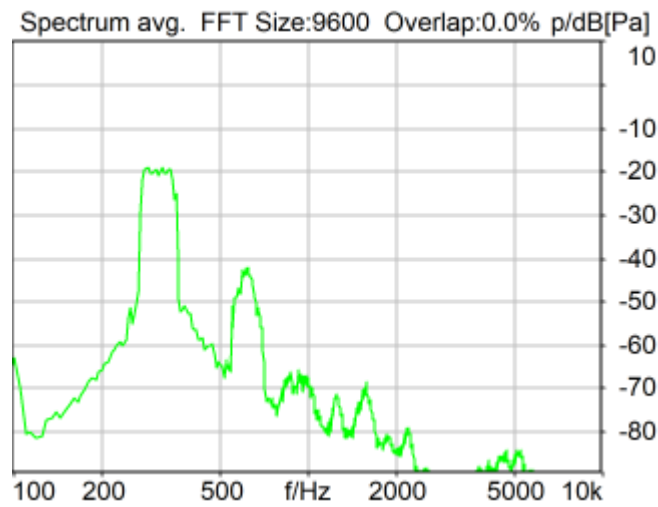
Distortion (Noise) RCV (packed): 21.85 dB (8.09%) Ok

Ok

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5.2 RCV Distortion and Noise - 315 Hz WB

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



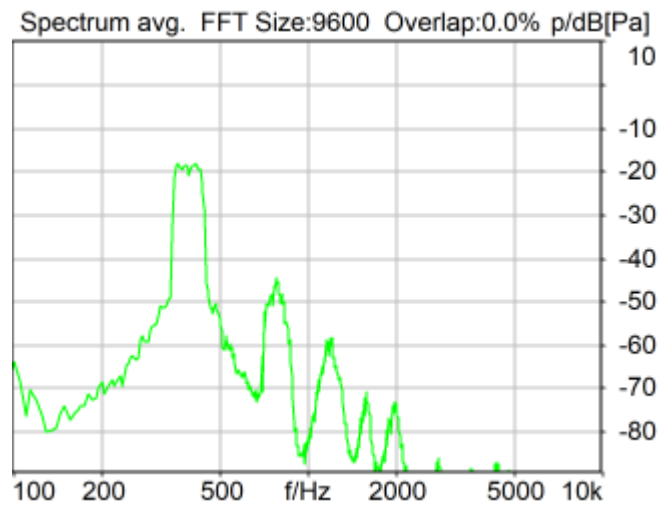
Distortion (Noise) RCV (packed): 25.28 dB (5.44%) Ok

Ok

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5.2 RCV Distortion and Noise - 400 Hz WB

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



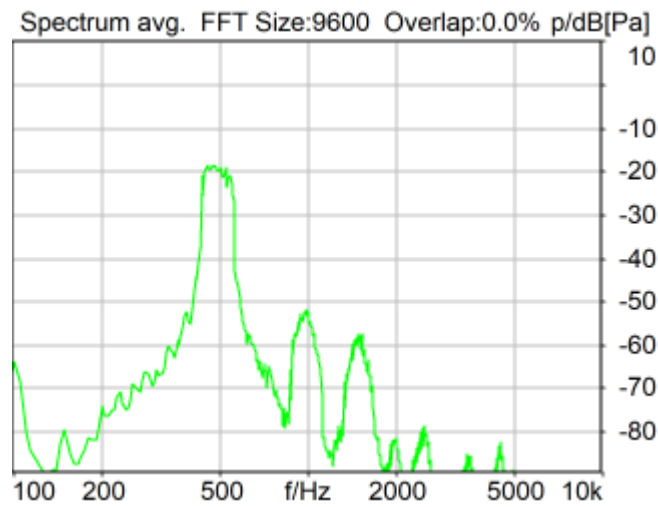
Distortion (Noise) RCV (packed): 27.91 dB (4.02%) Ok

Ok

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5.2 RCV Distortion and Noise - 500 Hz WB

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



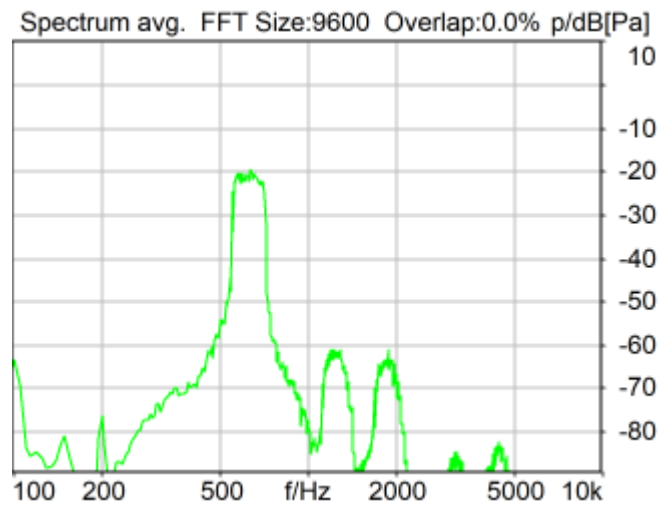
Distortion (Noise) RCV (packed): 30.93 dB (2.84%) Ok

Ok

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5.2 RCV Distortion and Noise - 630 Hz WB

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



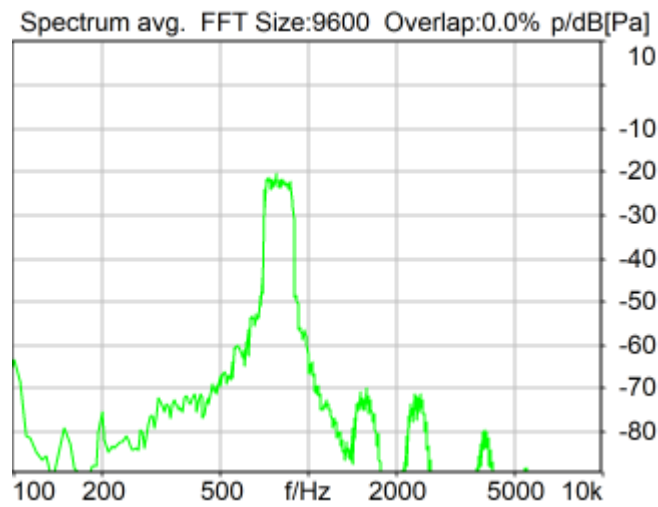
Distortion (Noise) RCV (packed): 34.62 dB (1.86%) Ok

Ok

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5.2 RCV Distortion and Noise - 800 Hz WB

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



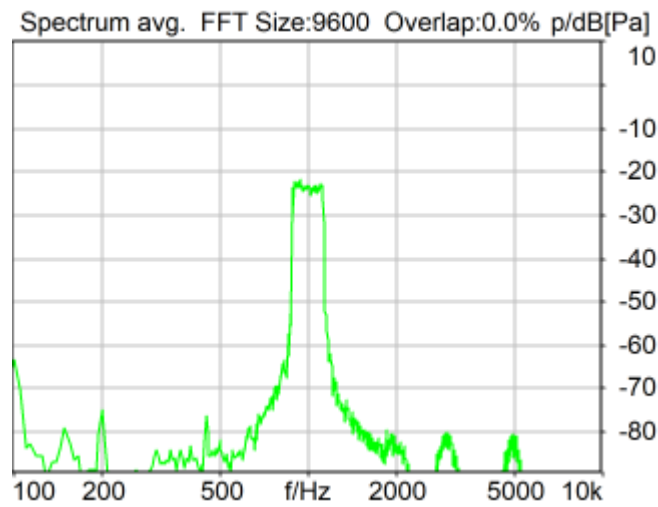
Distortion (Noise) RCV (packed): 34.97 dB (1.78%) Ok

Ok

25/09/28 16:55 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz WB

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



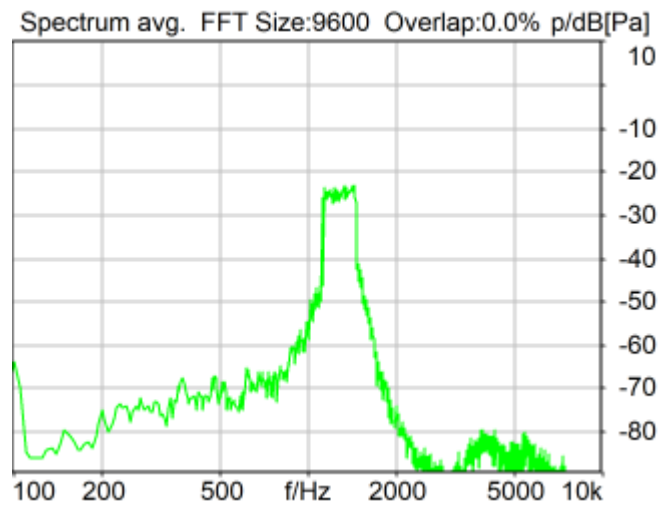
Distortion (Noise) RCV (packed): 41.77 dB (0.82%) Ok

Ok

25/09/28 16:55 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz WB

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



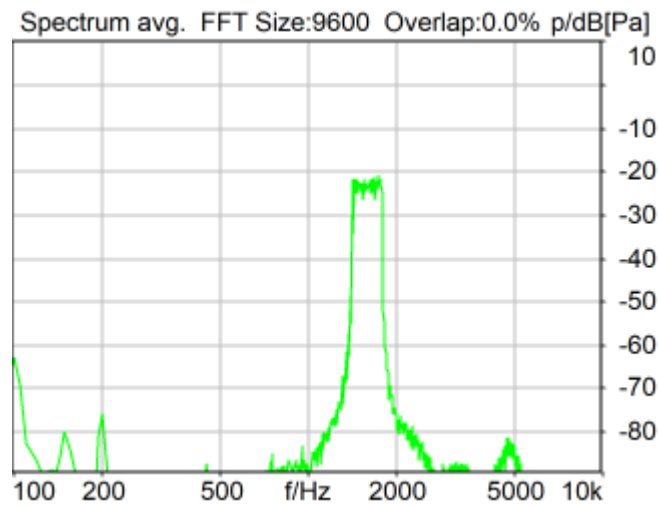
Distortion (Noise) RCV (packed): 22.55 dB (7.46%) Ok

Ok

25/09/28 16:56 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz WB

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



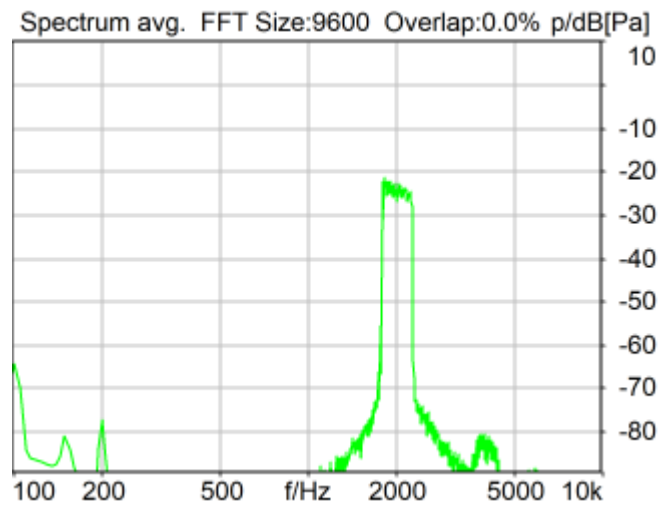
Distortion (Noise) RCV (packed): 44.11 dB (0.62%) Ok

Ok

25/09/28 16:56 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz WB

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



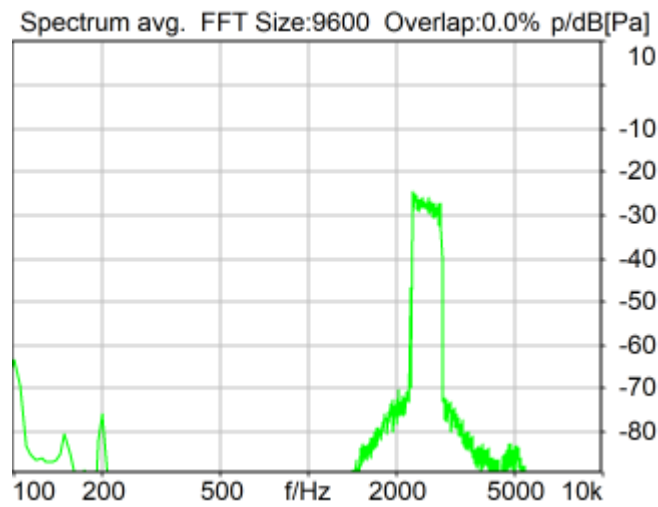
Distortion (Noise) RCV (packed): 47.30 dB (0.43%) Ok

Ok

25/09/28 16:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz WB

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



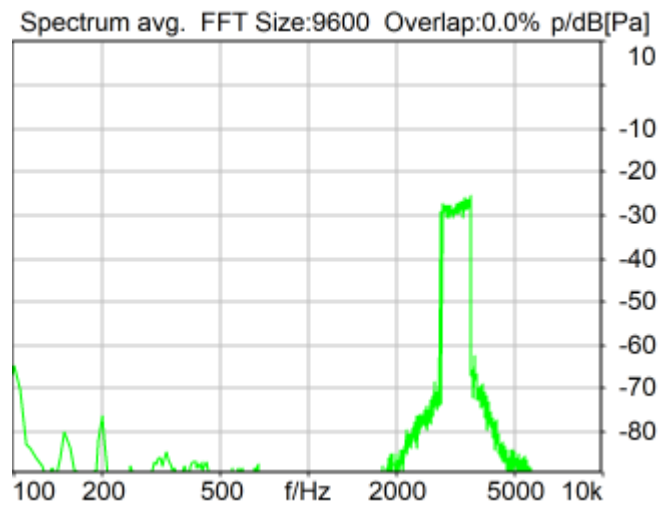
Distortion (Noise) RCV (packed): 43.64 dB (0.66%) Ok

Ok

25/09/28 16:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz WB

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



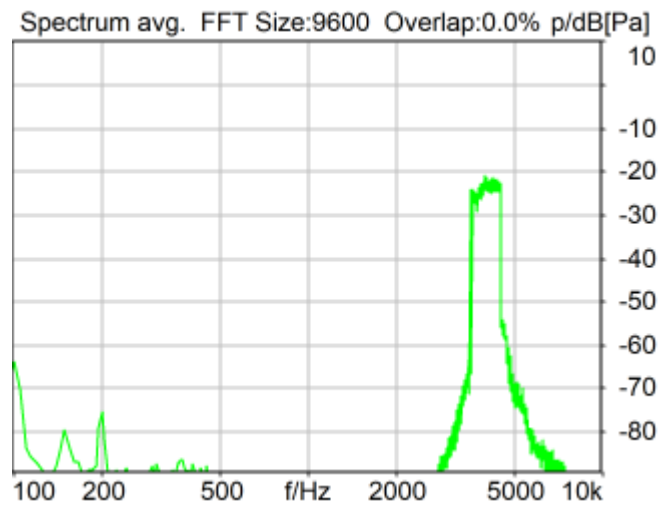
Distortion (Noise) RCV (packed): 40.57 dB (0.94%) Ok

Ok

25/09/28 16:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 4000 Hz WB

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



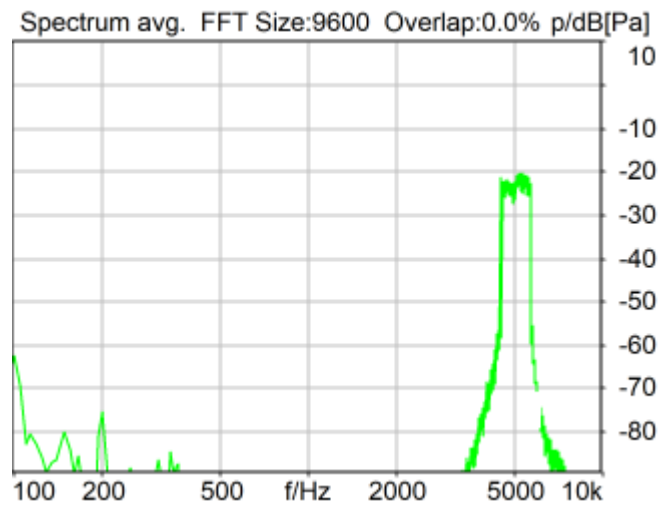
Distortion (Noise) RCV (packed): 37.69 dB (1.31%) Ok

Ok

25/09/28 16:58 ACQUA 5.1.200

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): 40.91 dB (0.90%) Ok

Ok

25/09/28 16:59 ACQUA 5.1.200

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	21.85 dB
2	315Hz	25.28 dB
3	400Hz	27.91 dB
4	500Hz	30.93 dB
5	630Hz	34.62 dB
6	800Hz	34.97 dB
7	1000Hz	41.77 dB
8	1250Hz	22.55 dB
9	1600Hz	44.11 dB
10	2000Hz	47.30 dB
11	2500Hz	43.64 dB
12	3150Hz	40.57 dB
13	4000Hz	37.69 dB
14	5000Hz	40.91 dB

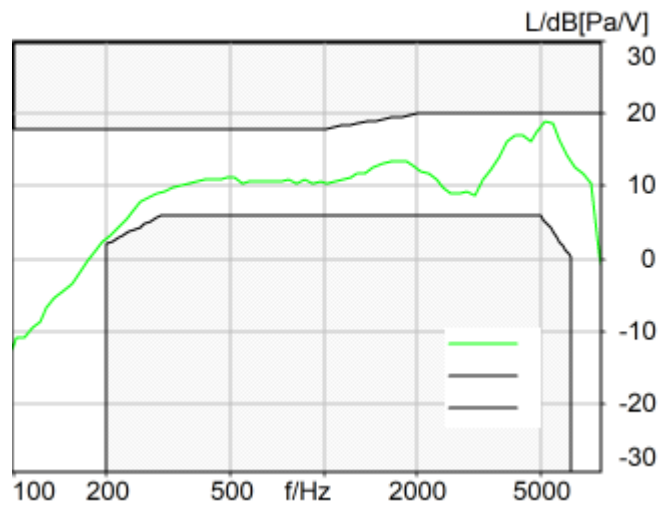
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 21.85dB at 250Hz.

25/09/28 16:59 ACQUA

5.3 Frequency Response 2N FF

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



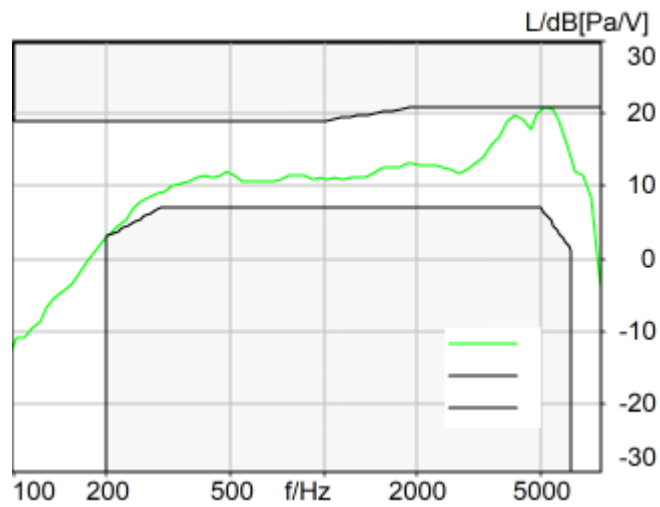
Absolute minimal distance
1.03 dB at 5143.7 Hz Ok

Ok

25/09/28 16:59 ACQUA 5.1.200

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.01 dB at 5143.7 Hz Ok

Ok

25/09/28 16:59 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS WB 24.4kbps_Ch157_8N
--------------------	---

Project	590811
Report Generation Date	25/09/28 16:03
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	135.6	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	85.80	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.81	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.54	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.40	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.61	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.30	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.73	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	40.69	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.45	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.15	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.42	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.70	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.18	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.52	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.64	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	21.81	WLAN5GHz_802.11a

ACQUA Report
4kbps_Ch157_8N

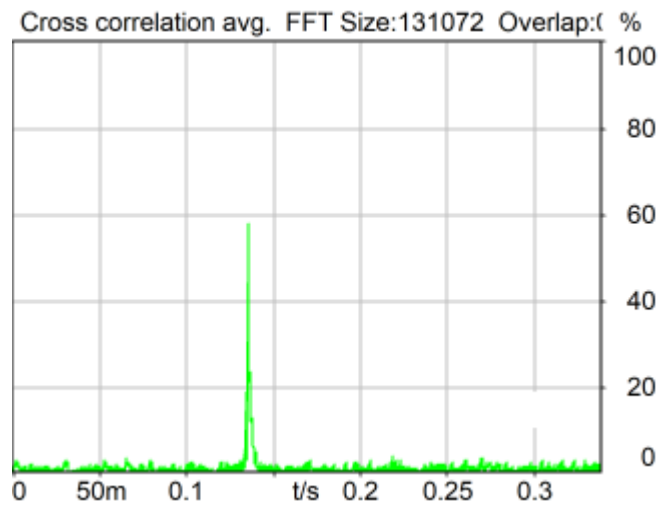
Title: WLAN5GHz_802.11a 6Mbps_EVS WB 24.

and Noise (Conversational Gain)		(occured at 250Hz)		6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 5143.7 Hz	1.54	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 205.7 Hz	0.33	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch157_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

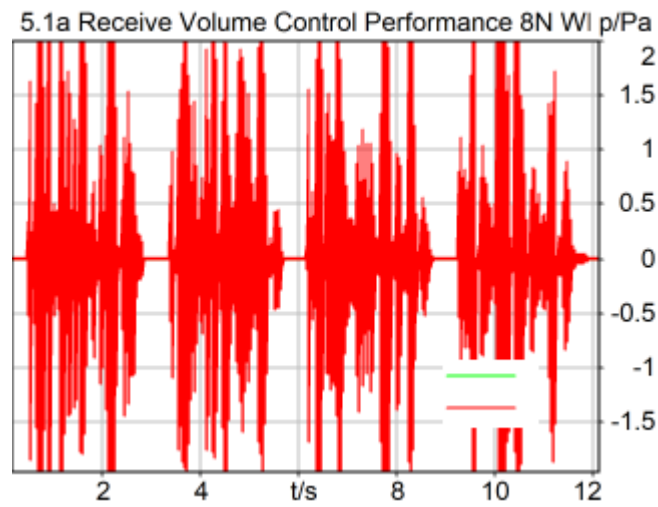


Delay (Cross): 135.6 ms

25/09/28 15:54 ACQUA 5.1.200

5.1a Receive Volume Control Performance 8N WB

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



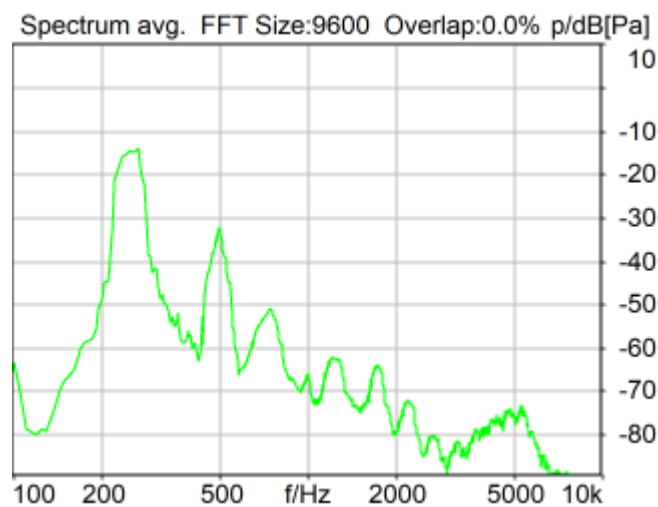
Speech Level RCV: 85.80 dB[SPL], Act.: 83.71% Ok

Ok

25/09/28 15:54 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 250 Hz WB

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



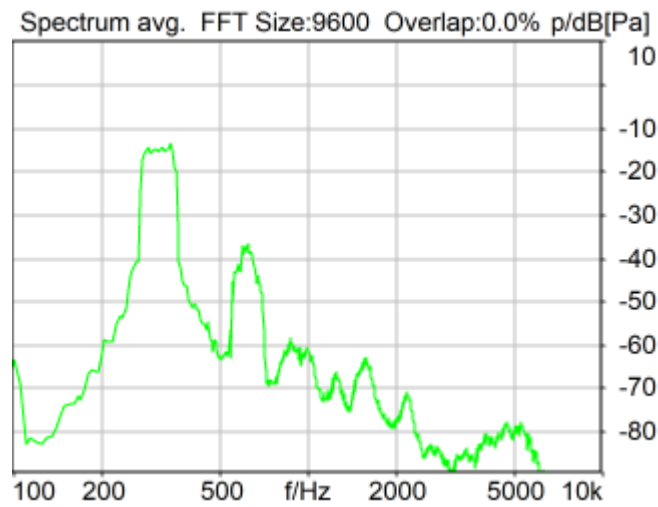
Distortion (Noise) RCV (packed): 21.81 dB (8.12%) Ok

Ok

25/09/28 15:55 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 315 Hz WB

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



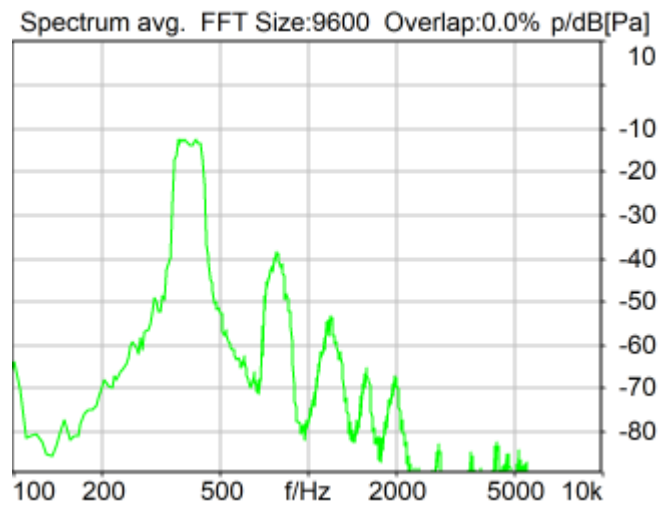
Distortion (Noise) RCV (packed): 24.54 dB (5.93%) Ok

Ok

25/09/28 15:55 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz WB

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



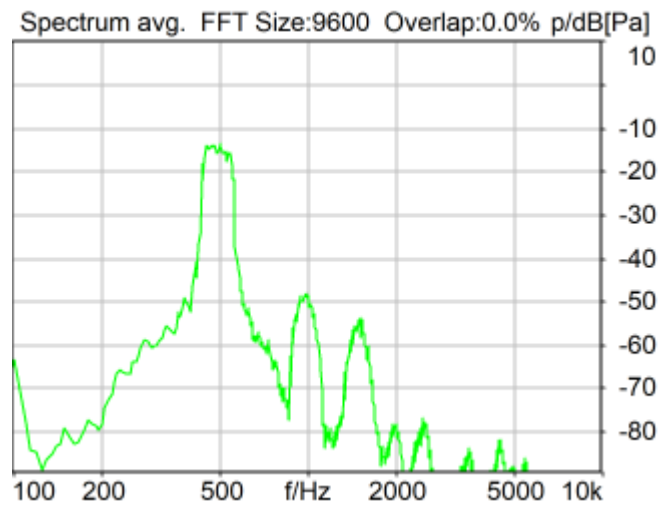
Distortion (Noise) RCV (packed): 27.40 dB (4.26%) Ok

Ok

25/09/28 15:55 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz WB

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



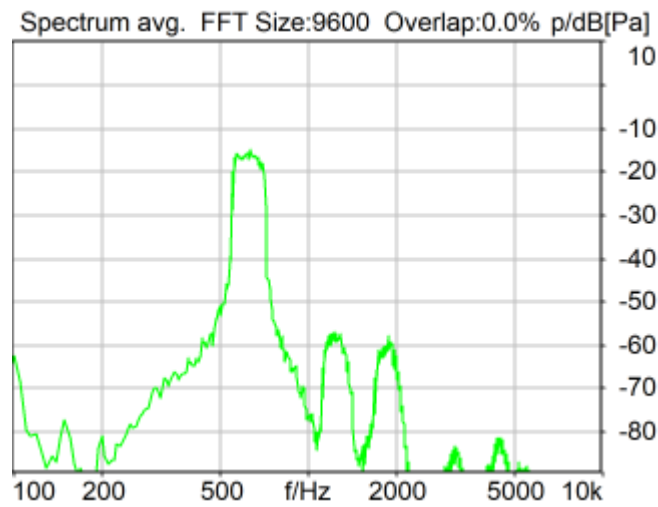
Distortion (Noise) RCV (packed): 31.61 dB (2.63%) Ok

Ok

25/09/28 15:56 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz WB

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



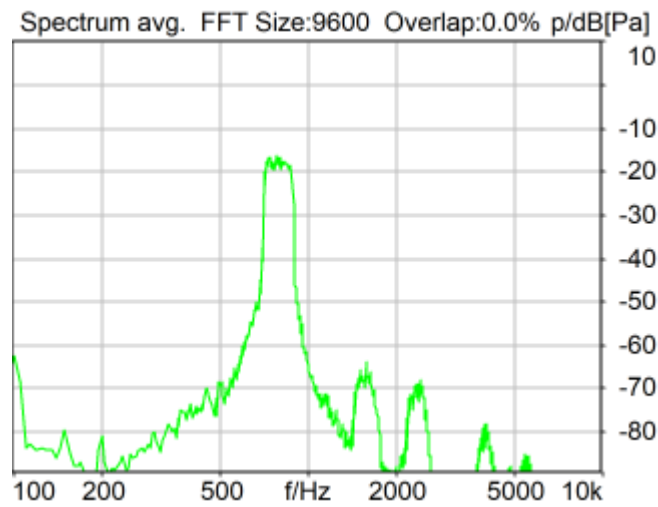
Distortion (Noise) RCV (packed): 35.30 dB (1.72%) Ok

Ok

25/09/28 15:56 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz WB

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



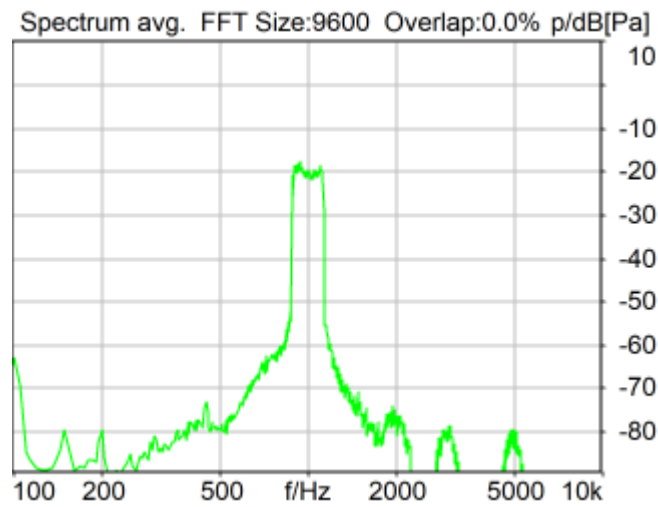
Distortion (Noise) RCV (packed): 38.73 dB (1.16%) Ok

Ok

25/09/28 15:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz WB

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



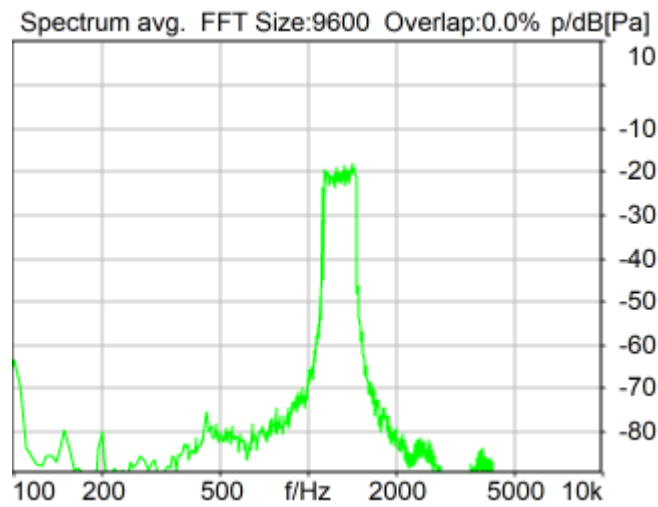
Distortion (Noise) RCV (packed): 40.69 dB (0.92%) Ok

Ok

25/09/28 15:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz WB

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



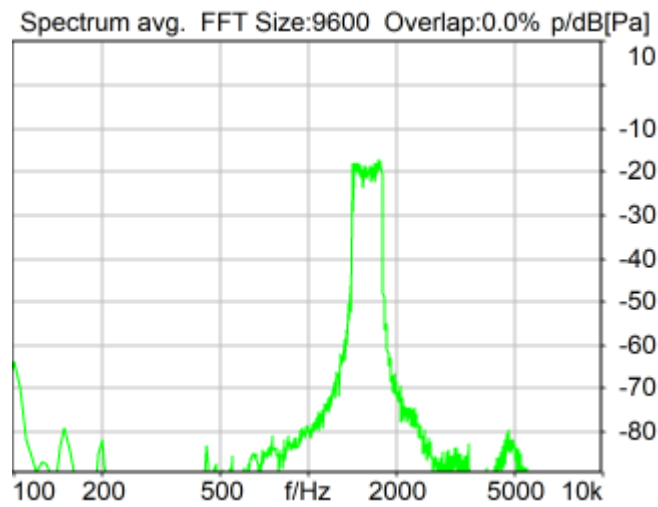
Distortion (Noise) RCV (packed): 31.45 dB (2.68%) Ok

Ok

25/09/28 15:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz WB

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



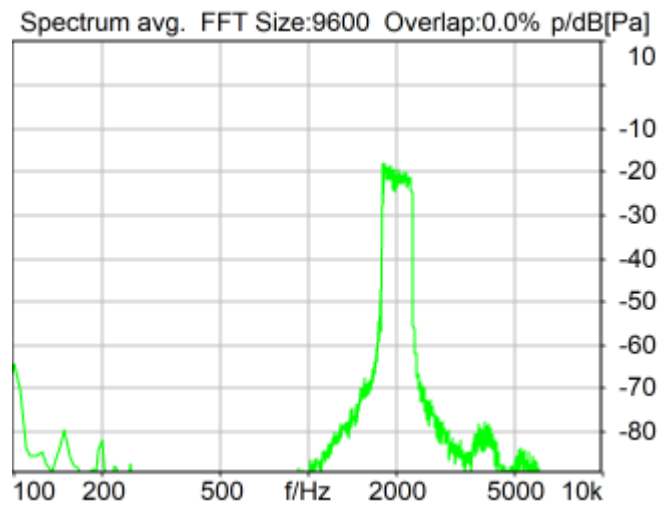
Distortion (Noise) RCV (packed): 41.15 dB (0.88%) Ok

Ok

25/09/28 15:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz WB

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



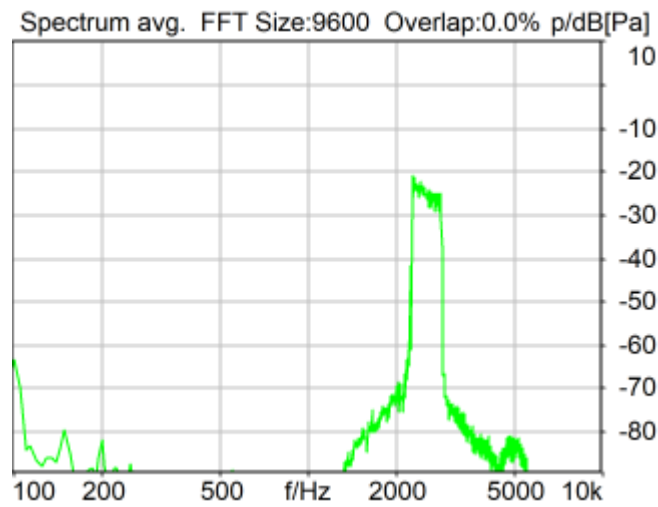
Distortion (Noise) RCV (packed): 42.42 dB (0.76%) Ok

Ok

25/09/28 15:59 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz WB

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



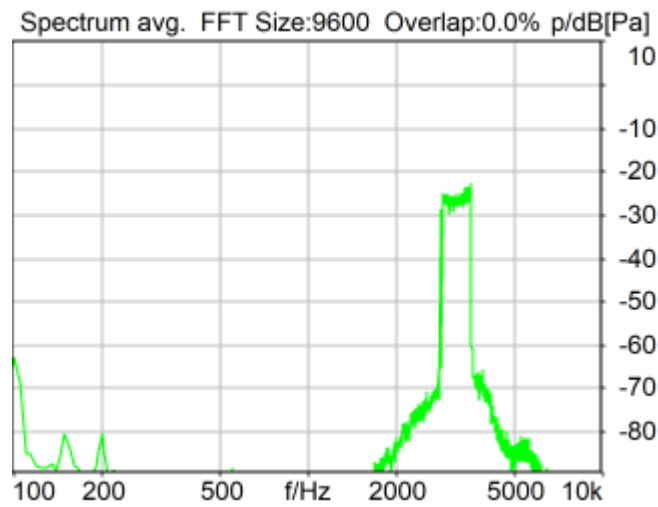
Distortion (Noise) RCV (packed): 42.70 dB (0.73%) Ok

Ok

25/09/28 15:59 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz WB

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



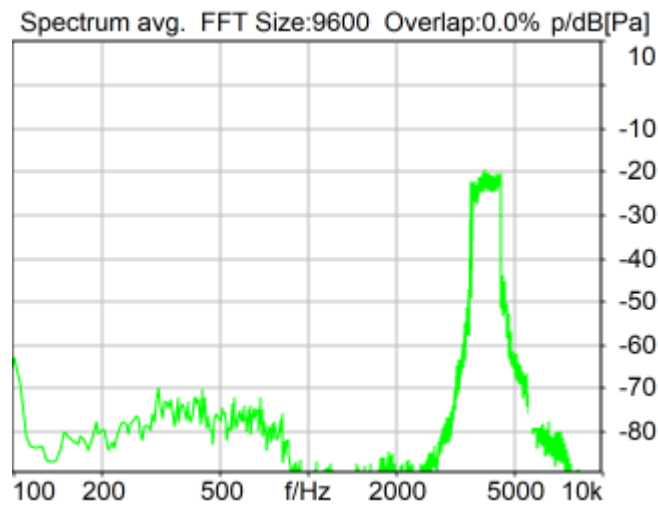
Distortion (Noise) RCV (packed): 41.18 dB (0.87%) Ok

Ok

25/09/28 16:00 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 4000 Hz WB

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



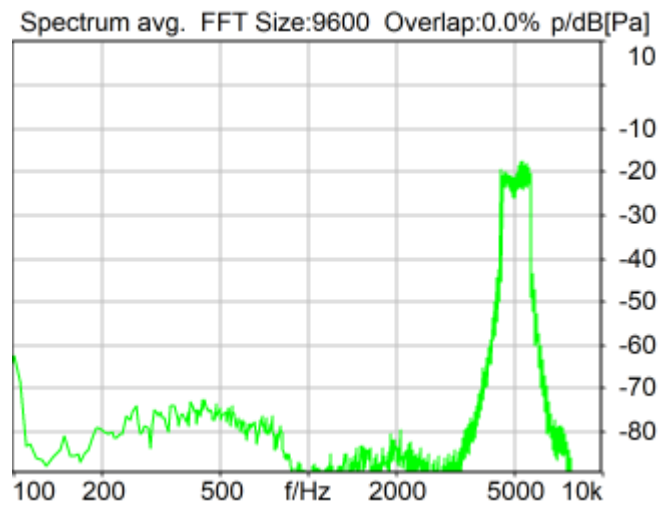
Distortion (Noise) RCV (packed): 29.52 dB (3.34%) Ok

Ok

25/09/28 16:00 ACQUA 5.1.200

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): 30.64 dB (2.94%) Ok

Ok

25/09/28 16:01 ACQUA 5.1.200

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	21.81 dB
2	315Hz	24.54 dB
3	400Hz	27.40 dB
4	500Hz	31.61 dB
5	630Hz	35.30 dB
6	800Hz	38.73 dB
7	1000Hz	40.69 dB
8	1250Hz	31.45 dB
9	1600Hz	41.15 dB
10	2000Hz	42.42 dB
11	2500Hz	42.70 dB
12	3150Hz	41.18 dB
13	4000Hz	29.52 dB
14	5000Hz	30.64 dB

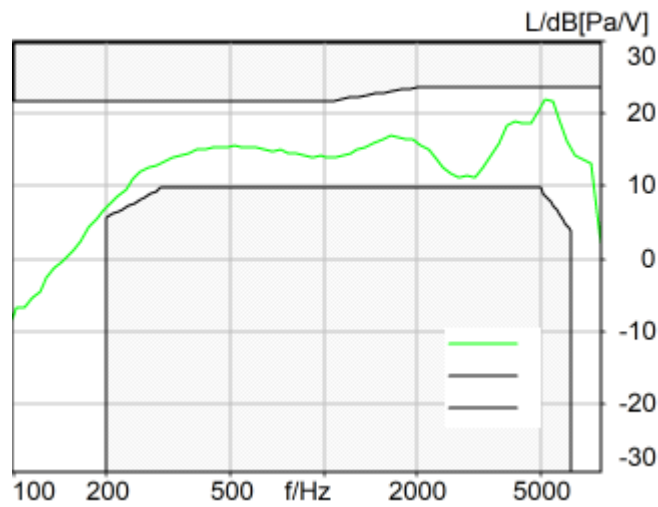
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 21.81dB at 250Hz.

25/09/28 16:01 ACQUA

5.3 Frequency Response 8N FF

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



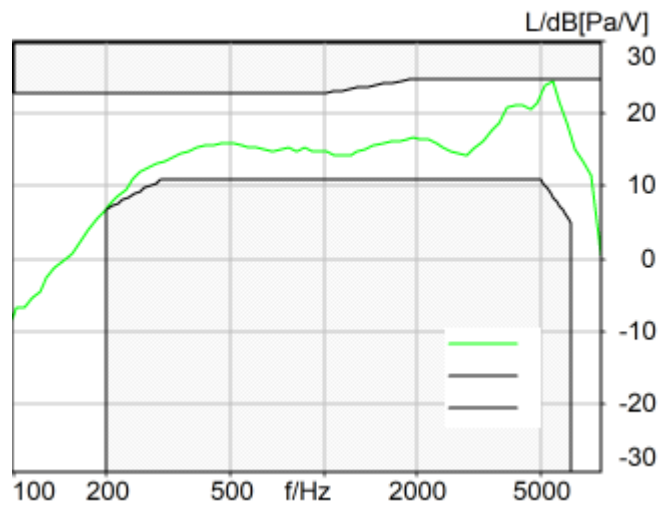
Absolute minimal distance
1.54 dB at 5143.7 Hz Ok

Ok

25/09/28 16:01 ACQUA 5.1.200

5.3 Frequency Response 8N DF

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



Absolute minimal distance
0.33 dB at 205.7 Hz Ok

Ok

25/09/28 16:01 ACQUA 5.1.200

Measurement Protocol

Measurement Object	GSM850_GSM Voice_AMR NB 4.75kbps_Ch189_2N
--------------------	---

Project	590811
Report Generation Date	25/09/29 11:43
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	193.0	GSM850_GSM Voice_AMR NB 4. 75kbps_Ch189_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	78.66	GSM850_GSM Voice_AMR NB 4. 75kbps_Ch189_2N

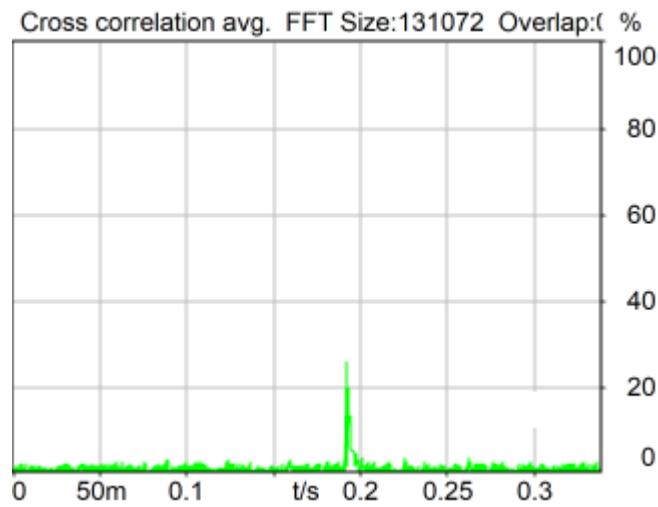
ACQUA Report
75kbps_Ch189_2N

Title: GSM850_GSM Voice_AMR NB 4.

Overall Receive Delay NB	5
5.1b Receive Volume Control Performance 2N NB	6

Overall Receive Delay NB

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

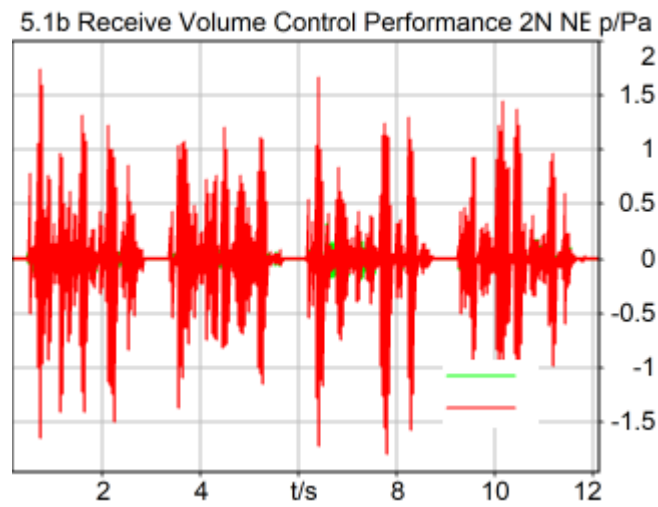


Delay (Cross): 193.0 ms

25/09/29 11:17 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 78.66 dB[SPL], Act.: 80.35% Ok

Ok

25/09/29 11:17 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WCDMA II_Voice_AMR NB 4.75kbps_Ch9400_2N
--------------------	--

Project	590811
Report Generation Date	25/09/29 14:03
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	199.5	WCDMA II_Voice_AMR NB 4. 75kbps_Ch9400_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	78.66	WCDMA II_Voice_AMR NB 4. 75kbps_Ch9400_2N

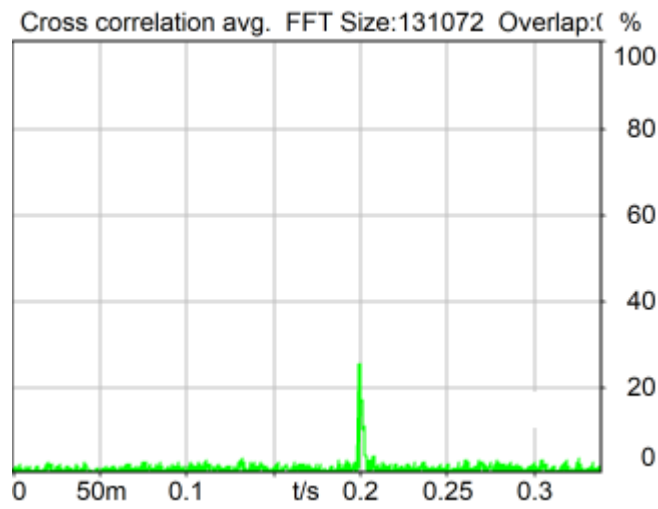
ACQUA Report
75kbps_Ch9400_2N

Title: WCDMA II_Voice_AMR NB 4.

Overall Receive Delay NB	5
5.1b Receive Volume Control Performance 2N NB	6

Overall Receive Delay NB

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

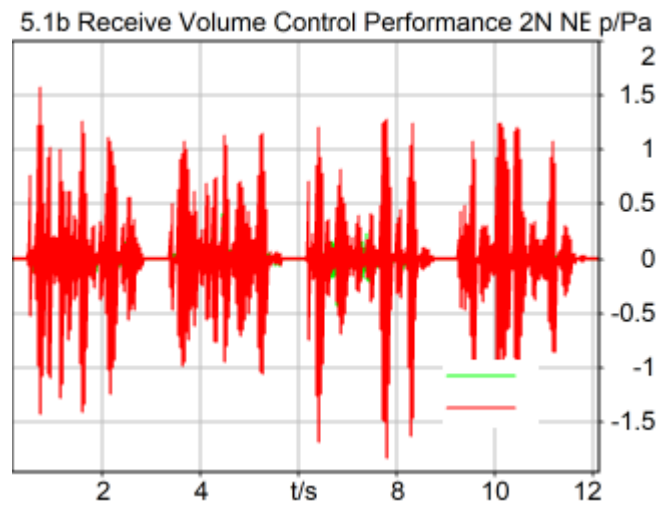


Delay (Cross): 199.5 ms

25/09/29 14:02 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 78.66 dB[SPL], Act.: 80.22% Ok

Ok

25/09/29 14:02 ACQUA 5.1.200

ACQUA Report
2_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch18900_2N

Title: 06_LTE Band

Measurement Protocol

Measurement Object	LTE Band 2_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch18900_2N
--------------------	--

Project	590811
Report Generation Date	25/09/29 16:03
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	144.4	LTE Band 2_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch18900_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	78.41	LTE Band 2_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch18900_2N

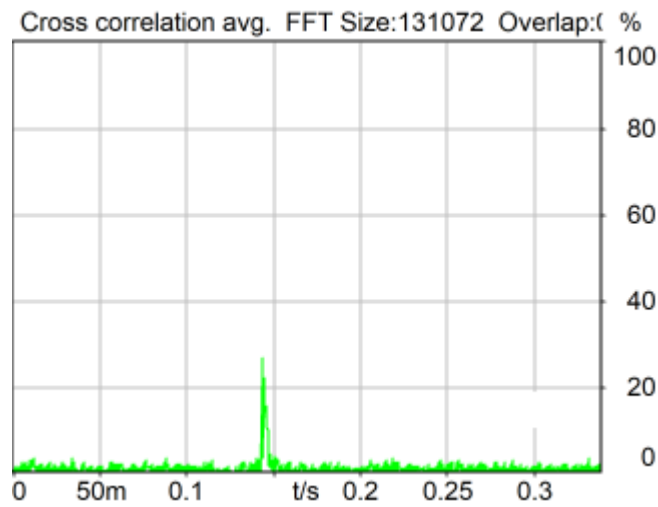
ACQUA Report
2_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch18900_2N

Title: LTE Band

Overall Receive Delay NB	5
5.1b Receive Volume Control Performance 2N NB	6

Overall Receive Delay NB

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

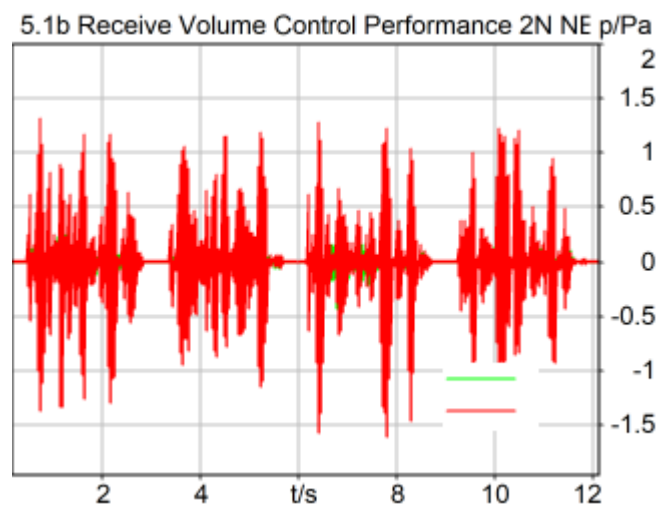


Delay (Cross): 144.4 ms

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5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 78.41 dB[SPL], Act.: 80.23% Ok

Ok

25/09/29 16:03 ACQUA 5.1.200

ACQUA Report
5_10M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch20525_8N

Title: 07_LTE Band

Measurement Protocol

Measurement Object	LTE Band 5_10M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch20525_8N
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Project	590811
Report Generation Date	25/09/29 18:50
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	140.1	LTE Band 5_10M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch20525_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	82.55	LTE Band 5_10M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch20525_8N

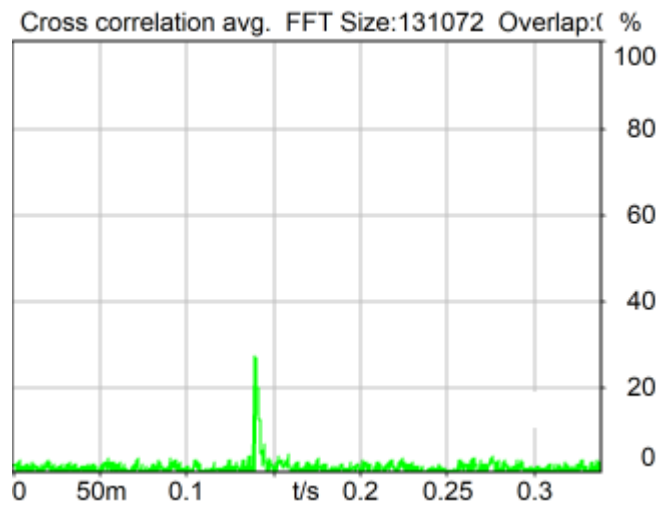
ACQUA Report
5_10M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch20525_8N

Title: LTE Band

Overall Receive Delay NB	5
5.1a Receive Volume Control Performance 8N NB	6

Overall Receive Delay NB

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

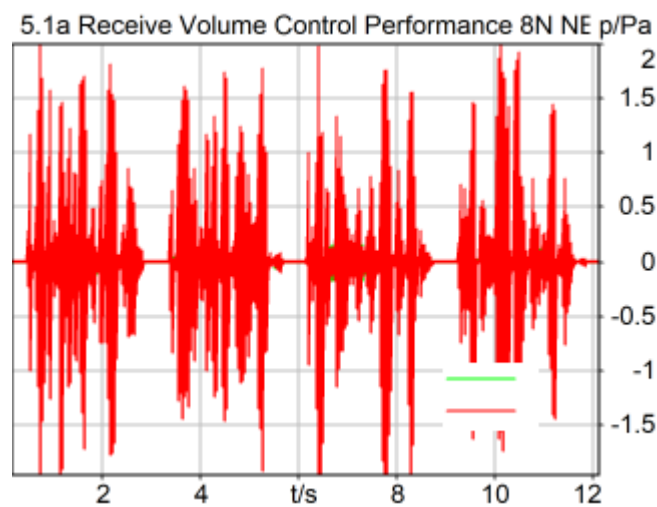


Delay (Cross): 140.1 ms

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5.1a Receive Volume Control Performance 8N NB

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



Speech Level RCV: 82.55 dB[SPL], Act.: 80.54% Ok

Ok

25/09/29 18:49 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN5GHz_802.11a 6Mbps_AMR NB 4.75kbps_Ch116_2N
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Project	590811
Report Generation Date	25/09/28 18:09
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	141.6	WLAN5GHz_802.11a 6Mbps_AMR NB 4.75kbps_Ch116_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	78.62	WLAN5GHz_802.11a 6Mbps_AMR NB 4.75kbps_Ch116_2N

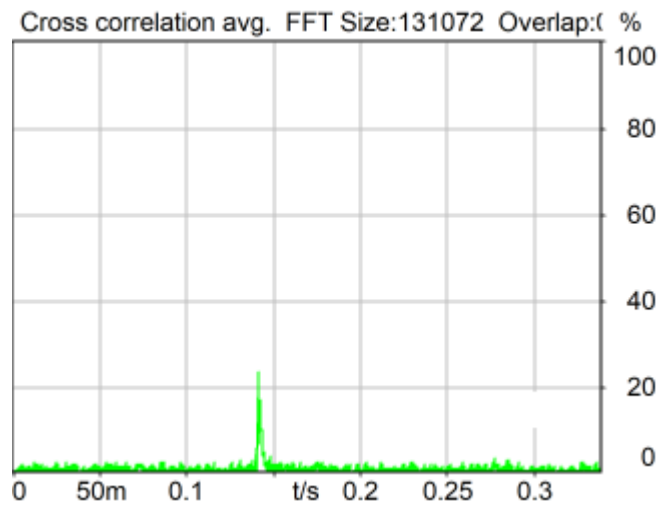
ACQUA Report
75kbps_Ch116_2N

Title: WLAN5GHz_802.11a 6Mbps_AMR NB 4.

Overall Receive Delay NB	5
5.1b Receive Volume Control Performance 2N NB	6

Overall Receive Delay NB

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

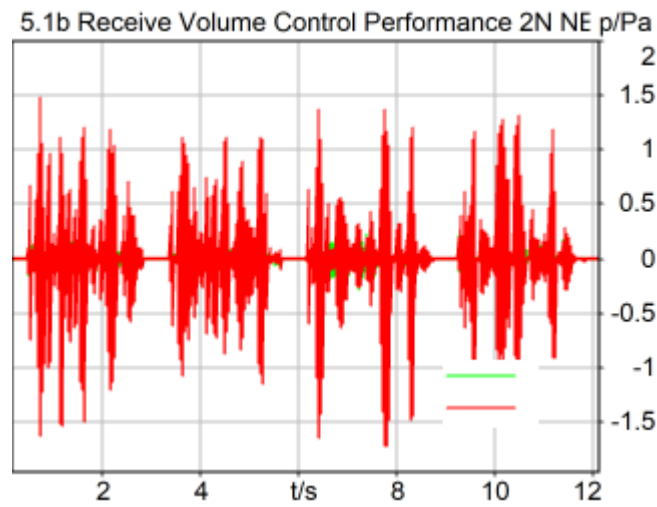


Delay (Cross): 141.6 ms

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5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 78.62 dB[SPL], Act.: 80.08% Ok

Ok

25/09/28 18:09 ACQUA 5.1.200