
Measurement Protocol

Measurement Object	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_2N
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Project	4N2802
Report Generation Date	24/12/07 19:00
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	166.1	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	81.94	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.09	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.68	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.29	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.03	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.01	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.11	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.24	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.26	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.79	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.12	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.19	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.18	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.21	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.84	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	24.09	LTE Band

ACQUA Report
WB 128kbps_Ch21100_2N

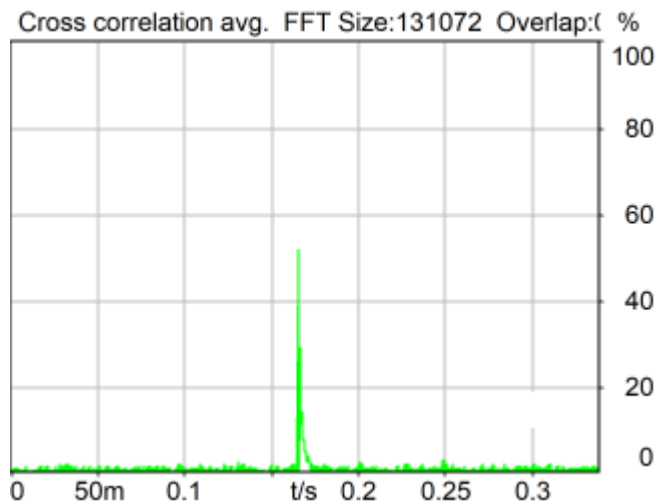
Title: LTE Band 7_20M_QPSK_1RB_0Offset_EVS

and Noise (Conversational Gain)		(occured at 250Hz)		7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 4369.4 Hz	1.86	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_Ch21100_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 4369.4 Hz	0.68	LTE Band 7_20M_QPSK_1RB_0Offset_EV S WB 128kbps_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

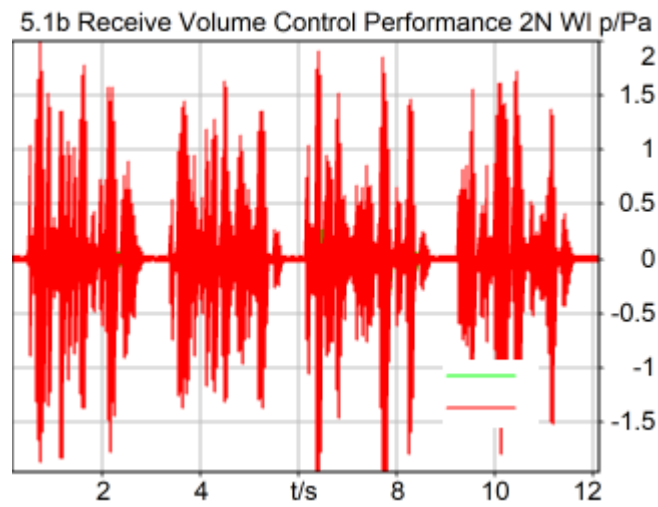


Delay (Cross): 166.1 ms

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5.1b Receive Volume Control Performance 2N WB

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



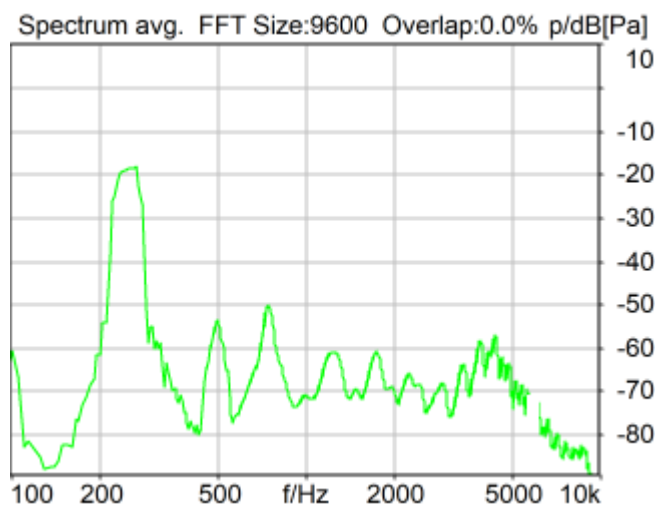
Speech Level RCV: 81.94 dB[SPL], Act.: 81.65% Ok

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



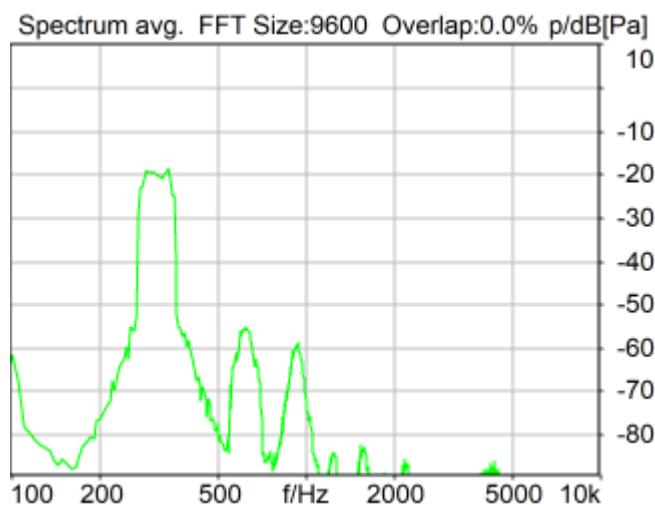
Distortion (Noise) RCV (packed): 24.09 dB (6.24%) Ok

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



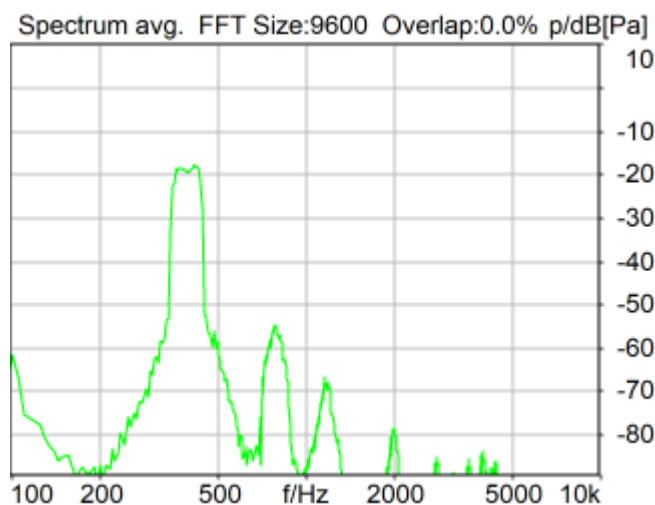
Distortion (Noise) RCV (packed): 35.68 dB (1.64%) Ok

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



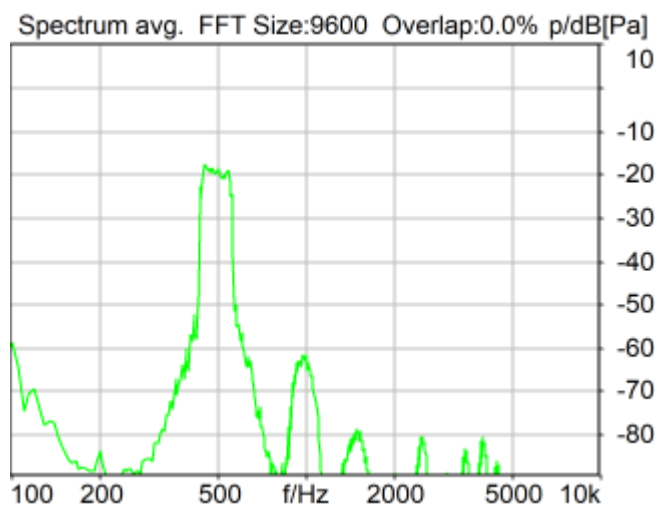
Distortion (Noise) RCV (packed): 37.29 dB (1.37%) Ok

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



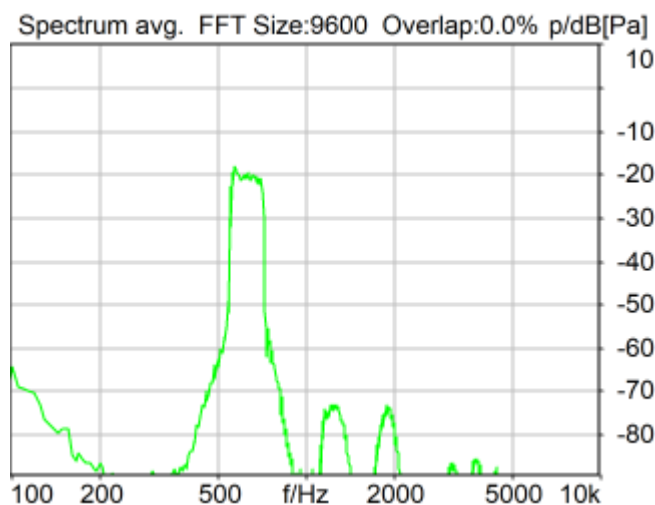
Distortion (Noise) RCV (packed): 41.03 dB (0.89%) Ok

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



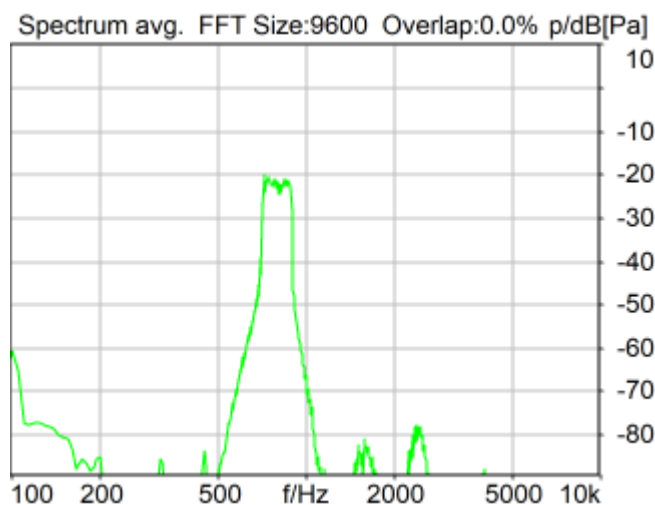
Distortion (Noise) RCV (packed): 44.01 dB (0.63%) Ok

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): 38.11 dB (1.24%) Ok

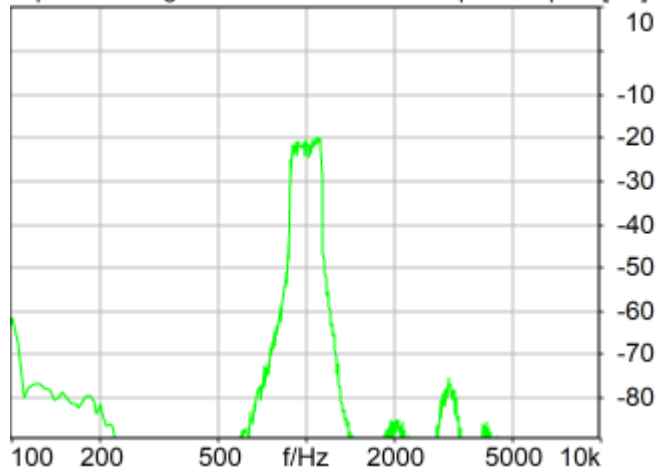
Ok

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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 2N

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



Distortion (Noise) RCV (packed): 38.24 dB (1.23%) Ok

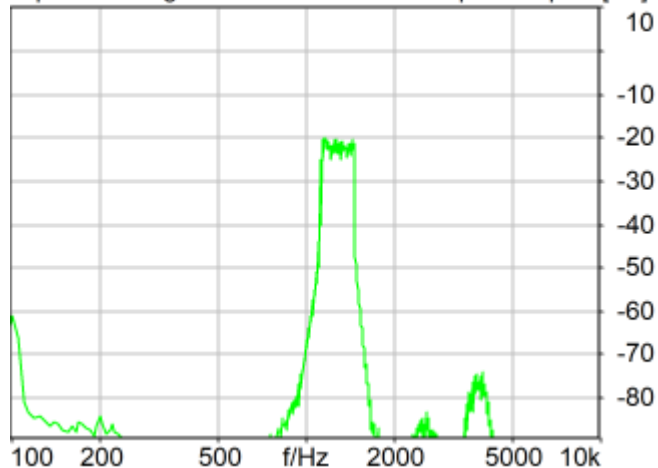
Ok

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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 2N

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



Distortion (Noise) RCV (packed): 30.26 dB (3.07%) Ok

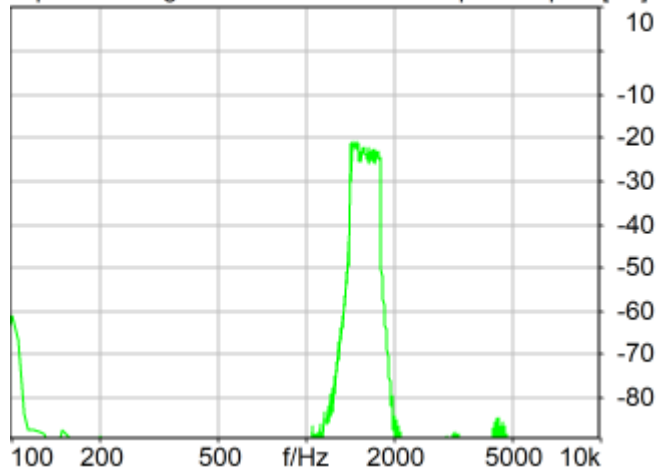
Ok

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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 2N

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



Distortion (Noise) RCV (packed): 39.79 dB (1.02%) Ok

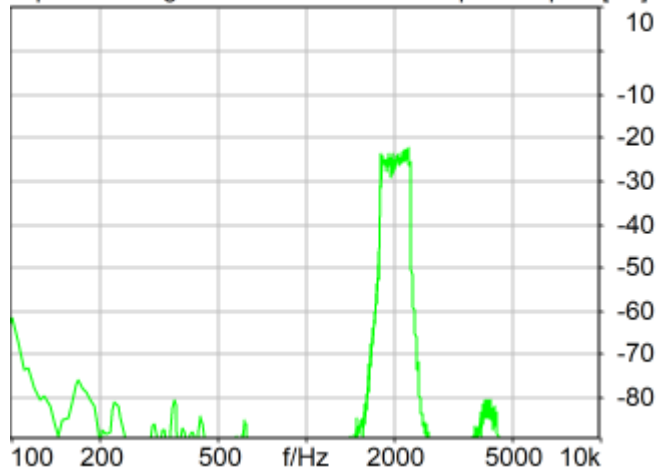
Ok

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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 2N

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



Distortion (Noise) RCV (packed): 38.12 dB (1.24%) Ok

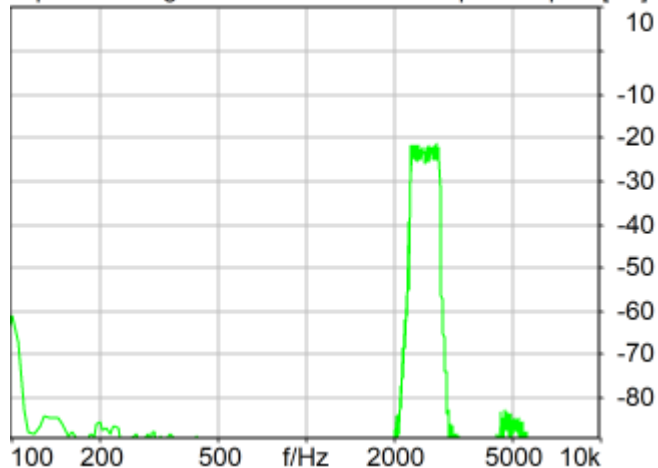
Ok

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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 2N

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



Distortion (Noise) RCV (packed): 42.19 dB (0.78%) Ok

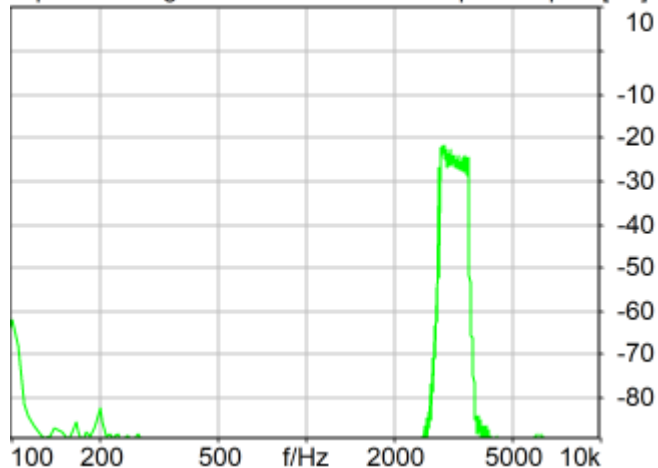
Ok

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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 2N

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



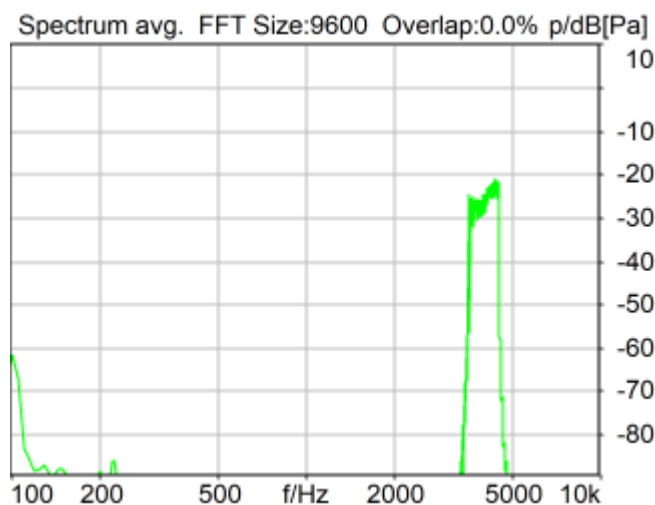
Distortion (Noise) RCV (packed): 42.18 dB (0.78%) Ok

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 2N



Distortion (Noise) RCV (packed): 44.21 dB (0.62%) Ok

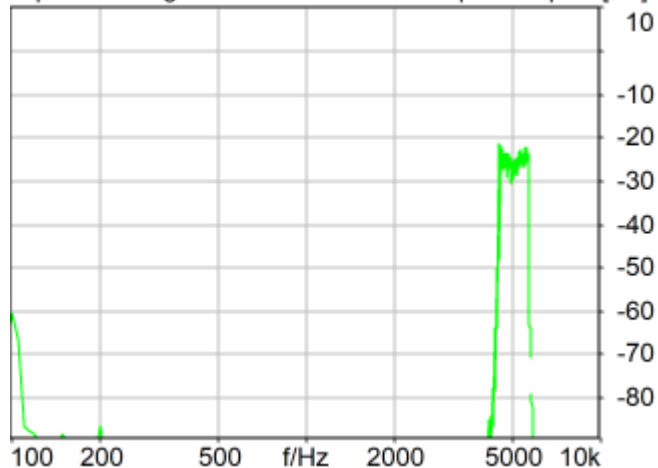
Ok

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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 2N

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



Distortion (Noise) RCV (packed): 43.84 dB (0.64%) 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 2N

Region	Frequency	SDNR
1	250Hz	24.09 dB
2	315Hz	35.68 dB
3	400Hz	37.29 dB
4	500Hz	41.03 dB
5	630Hz	44.01 dB
6	800Hz	38.11 dB
7	1000Hz	38.24 dB
8	1250Hz	30.26 dB
9	1600Hz	39.79 dB
10	2000Hz	38.12 dB
11	2500Hz	42.19 dB
12	3150Hz	42.18 dB
13	4000Hz	44.21 dB
14	5000Hz	43.84 dB

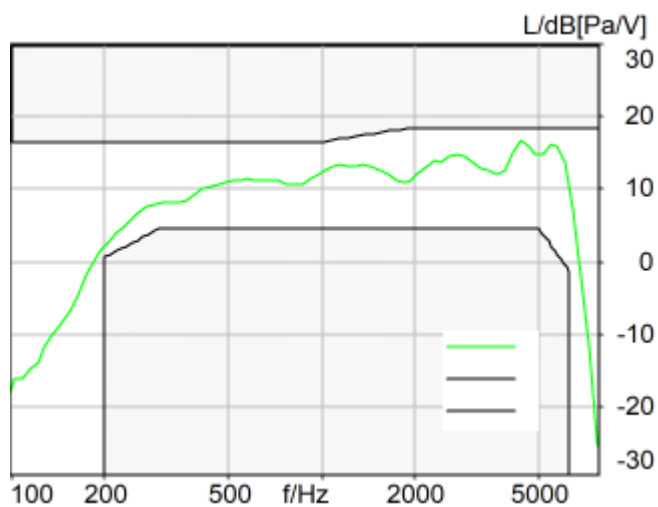
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 24.09dB at 250Hz.

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5.3 Frequency Response 2N FF

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



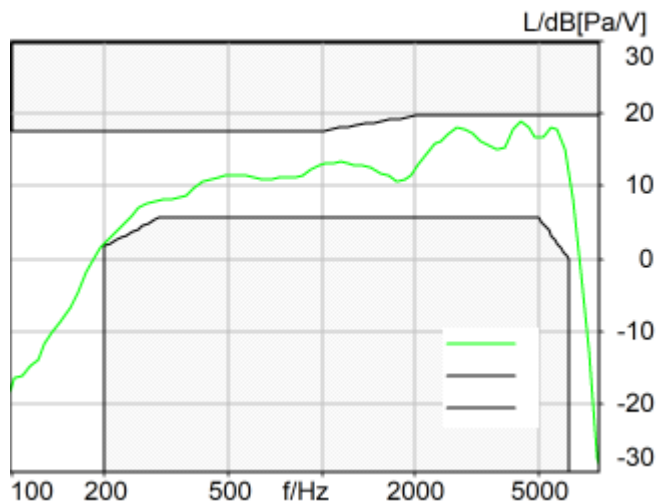
Absolute minimal distance
1.86 dB at 4369.4 Hz Ok

Ok

24/12/07 18:59 ACQUA 5.1.200

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.68 dB at 4369.4 Hz Ok

Ok

24/12/07 19:00 ACQUA 5.1.200

Measurement Protocol

Measurement Object	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24.4kbps_Ch166300_8N
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Project	4N2802
Report Generation Date	24/12/15 16:56
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	294.8	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	84.46	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	35.82	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.25	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	27.33	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.58	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	42.67	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.74	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	43.61	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	46.87	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.18	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	41.20	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N
Report - Receive Distortion and Noise (Conversational)	Ok	Minimum SDNR [dB], (occured at 630Hz)	27.33	FR1 n26_20M_QPSK_1RB_1Offset_EVS NB 24. 4kbps_Ch166300_8N

ACQUA Report
NB 24.4kbps_Ch166300_8N

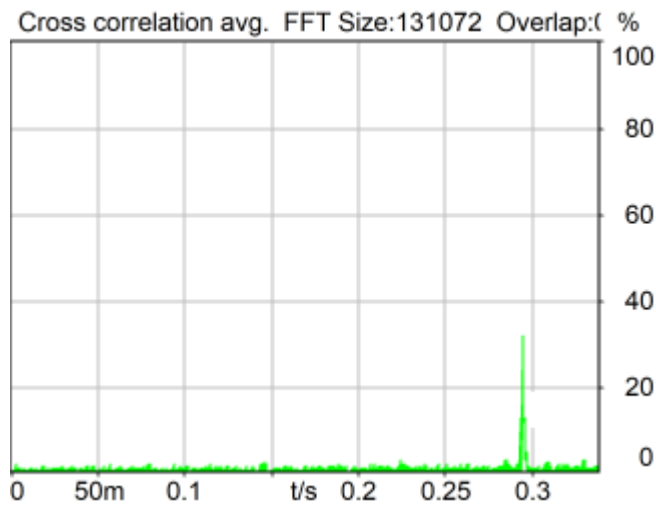
Title: FR1 n26_20M_QPSK_1RB_1Offset_EVS

Gain)				EVS NB 24. 4kbps_Ch166300_8N
5.3 Frequency Response 8N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 1360.9 Hz	0.13	FR1 n26_20M_QPSK_1RB_1Offset_ EVS NB 24. 4kbps_Ch166300_8N
5.3 Frequency Response 8N DF HANB	Not Ok	Min. dist. to tolerance scheme [dB], 2057.5 Hz	-0.32	FR1 n26_20M_QPSK_1RB_1Offset_ EVS NB 24. 4kbps_Ch166300_8N

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

Overall Receive Delay NB

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

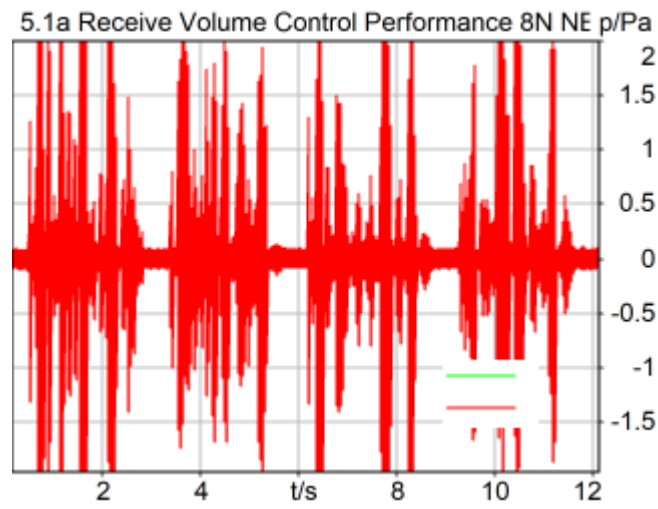


Delay (Cross): 294.8 ms

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5.1a Receive Volume Control Performance 8N NB

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



Speech Level RCV: 84.46 dB[SPL], Act.: 80.10% Ok

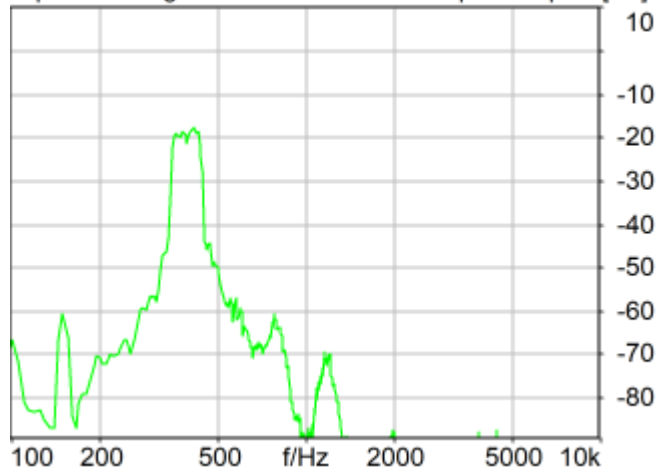
Ok

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5.2 RCV Distortion and Noise - 400 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]



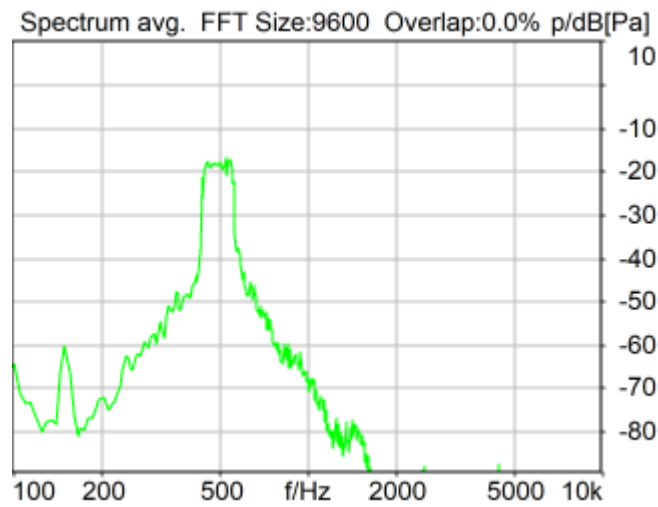
Distortion (Noise) RCV (packed): 35.82 dB (1.62%) Ok

Ok

24/12/15 16:34 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz NB

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



Distortion (Noise) RCV (packed): 30.25 dB (3.07%) Ok

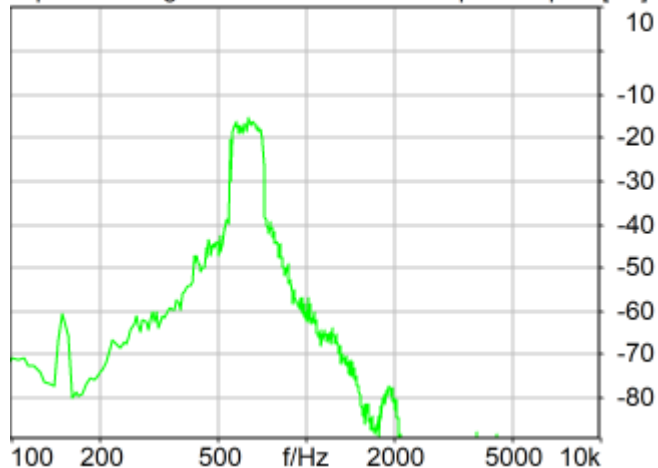
Ok

24/12/15 16:35 ACQUA 5.1.200

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]



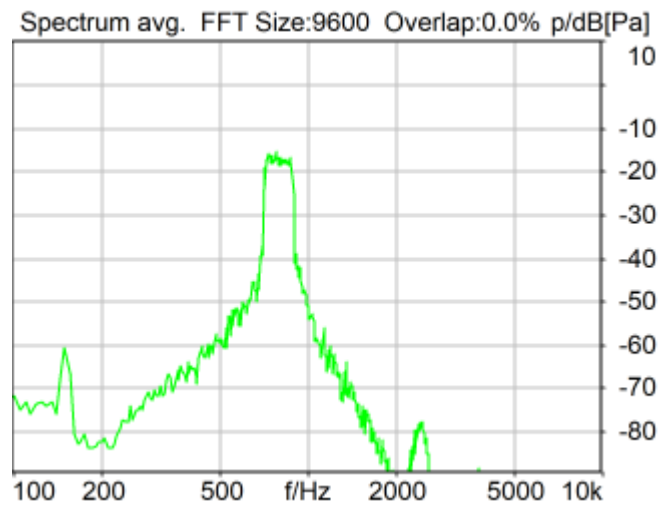
Distortion (Noise) RCV (packed): 27.33 dB (4.30%) Ok

Ok

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5.2 RCV Distortion and Noise - 800 Hz NB

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



Distortion (Noise) RCV (packed): 30.58 dB (2.96%) Ok

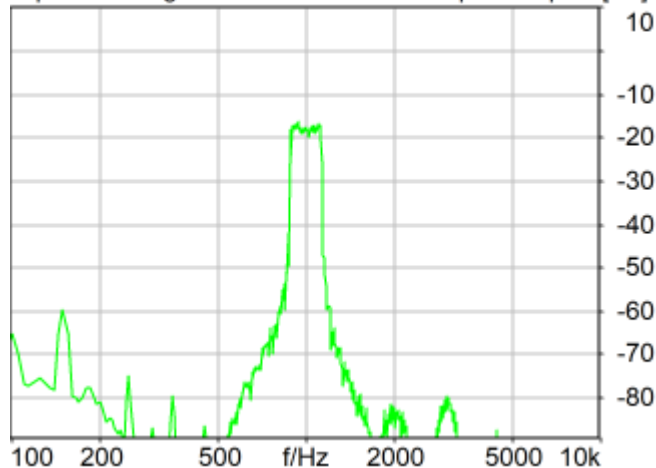
Ok

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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): 42.67 dB (0.74%) Ok

Ok

24/12/15 16:36 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 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): 28.74 dB (3.66%) Ok

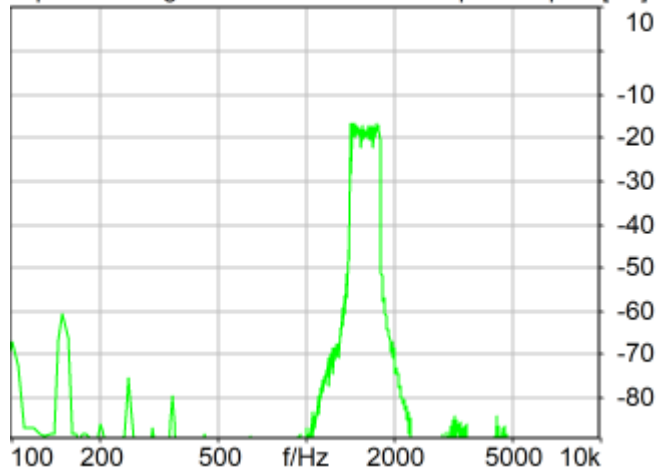
Ok

24/12/15 16:37 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 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]



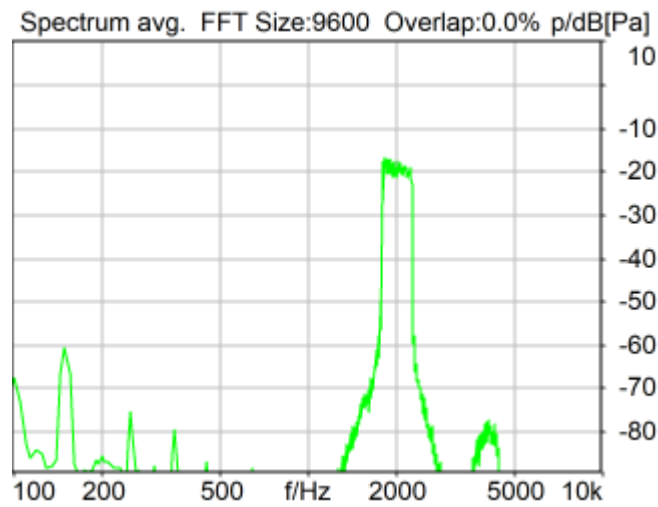
Distortion (Noise) RCV (packed): 43.61 dB (0.66%) Ok

Ok

24/12/15 16:37 ACQUA 5.1.200

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): 46.87 dB (0.45%) Ok

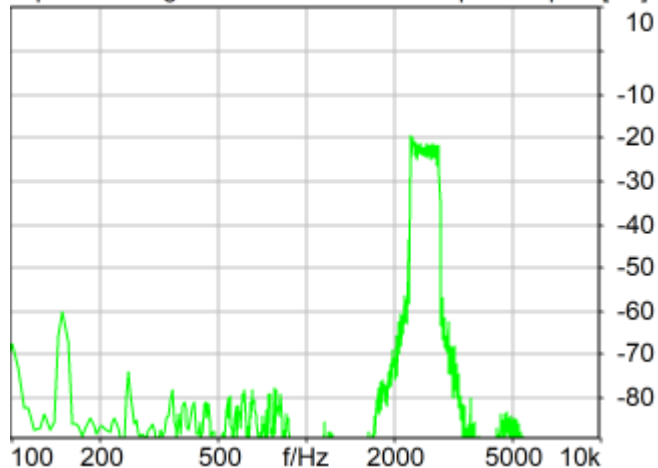
Ok

24/12/15 16:38 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 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): 40.18 dB (0.98%) Ok

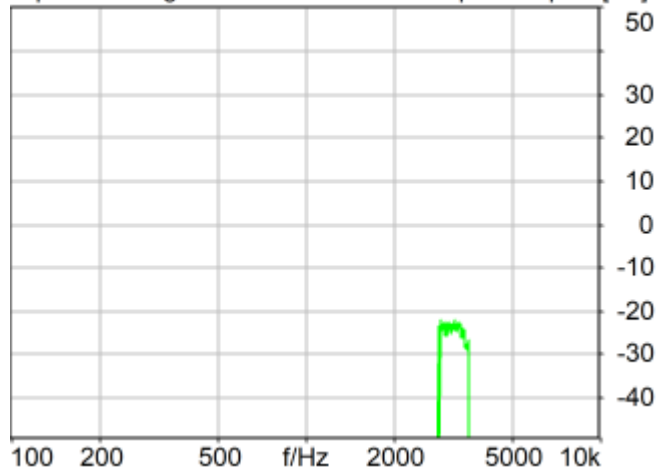
Ok

24/12/15 16:38 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 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): 41.20 dB (0.87%) Ok

Ok

24/12/15 16:39 ACQUA 5.1.200

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	35.82 dB
2	500Hz	30.25 dB
3	630Hz	27.33 dB
4	800Hz	30.58 dB
5	1000Hz	42.67 dB
6	1250Hz	28.74 dB
7	1600Hz	43.61 dB
8	2000Hz	46.87 dB
9	2500Hz	40.18 dB
10	3150Hz	41.20 dB

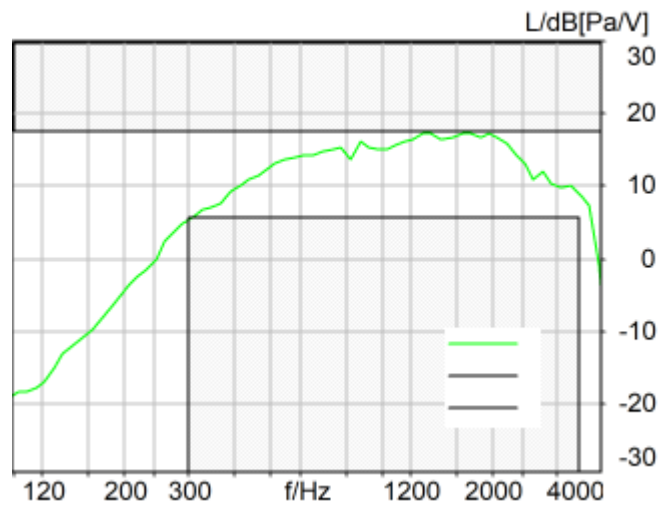
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 27.33dB at 630Hz.

24/12/15 16:48 ACQUA

5.3 Frequency Response 8N FF HANB

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



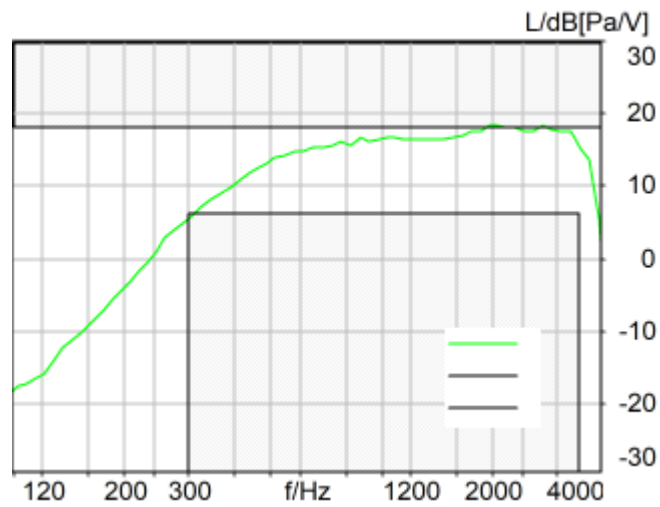
Absolute minimal distance
0.13 dB at 1360.9 Hz Ok

Ok

24/12/15 16:55 ACQUA 5.1.200

5.3 Frequency Response 8N DF HANB

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



Absolute minimal distance
-0.32 dB at 2057.5 Hz Not Ok

Not Ok

24/12/15 16:49 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
--------------------	--

Project	4N2802
Report Generation Date	24/12/16 15:37
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	204.2	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	80.98	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.45	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.60	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.54	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.59	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.44	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.99	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.44	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.45	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.73	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.27	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.90	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.13	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.59	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.61	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	22.45	WLAN2.4GHz_802.11b

ACQUA Report
128kbps_Ch6_2N

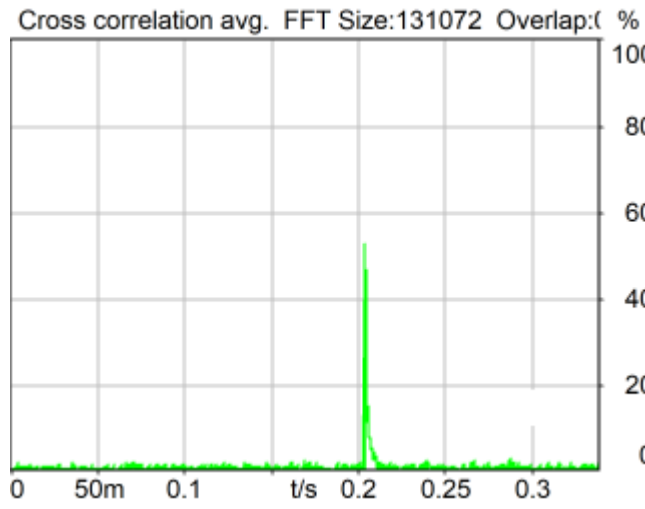
Title: WLAN2.4GHz_802.11b 1Mbps_EVS WB

and Noise (Conversational Gain)		(occured at 1250Hz)		1Mbps_EVS WB 128kbps_Ch6_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 4369.4 Hz	1.67	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 4369.4 Hz	0.57	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_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

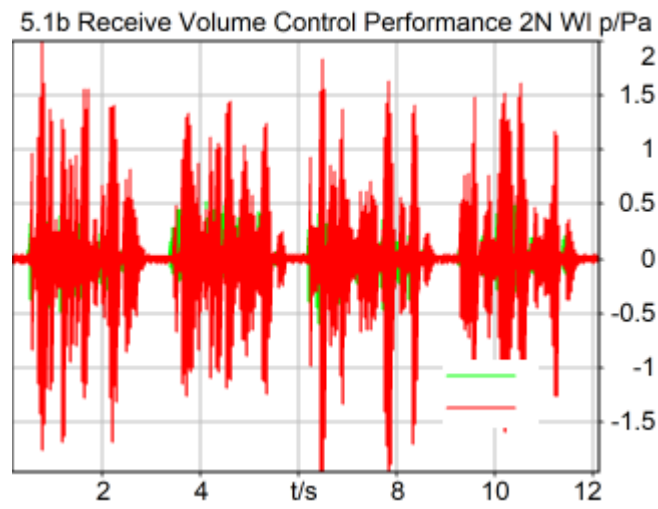


Delay (Cross): 204.2 ms

24/12/16 15:29 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N WB

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



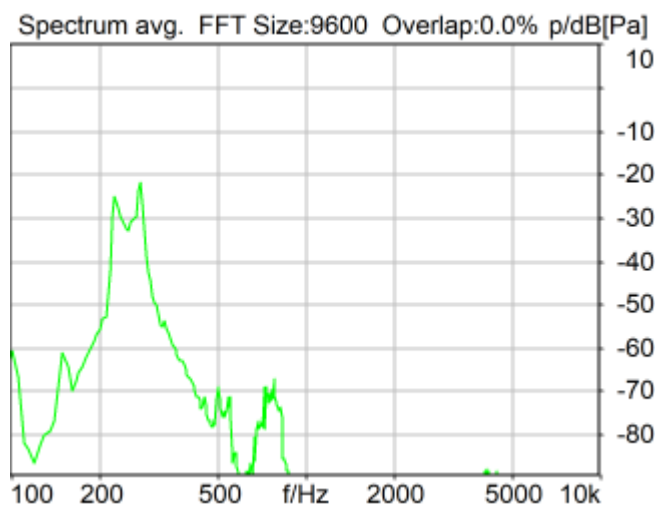
Speech Level RCV: 80.98 dB[SPL], Act.: 83.48% Ok

Ok

24/12/16 15:29 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 2N



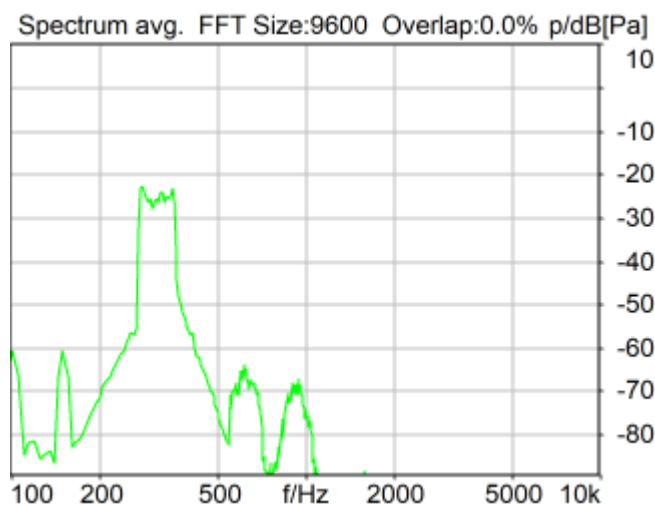
Distortion (Noise) RCV (packed): 34.45 dB (1.90%) Ok

Ok

24/12/16 15:29 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 2N



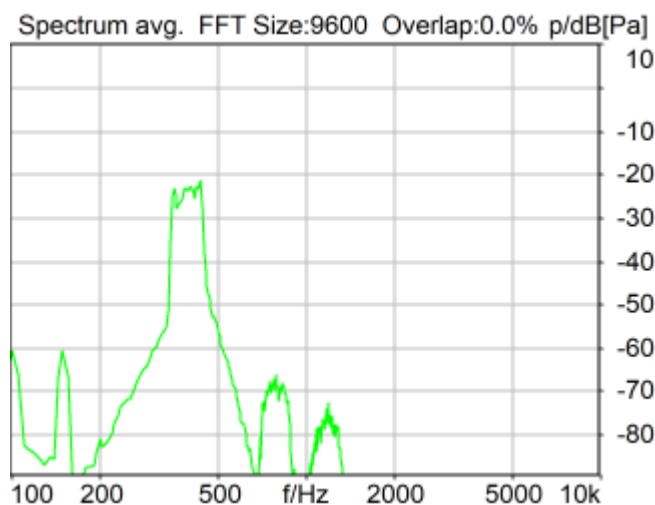
Distortion (Noise) RCV (packed): 36.60 dB (1.48%) Ok

Ok

24/12/16 15:30 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 2N



Distortion (Noise) RCV (packed): 36.54 dB (1.49%) Ok

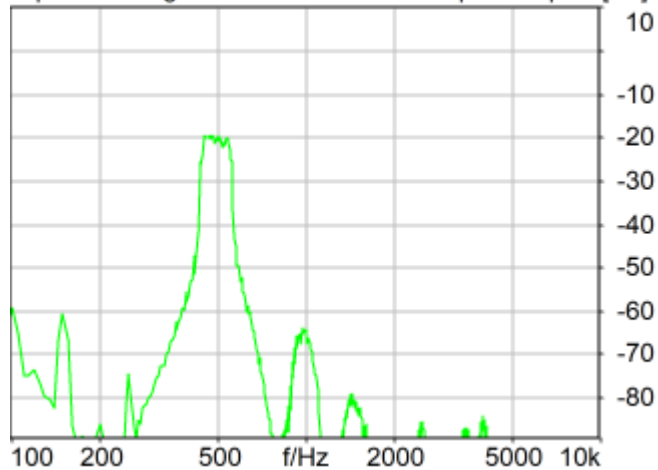
Ok

24/12/16 15:30 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 2N

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



Distortion (Noise) RCV (packed): 38.59 dB (1.18%) Ok

Ok

24/12/16 15:31 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 2N

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



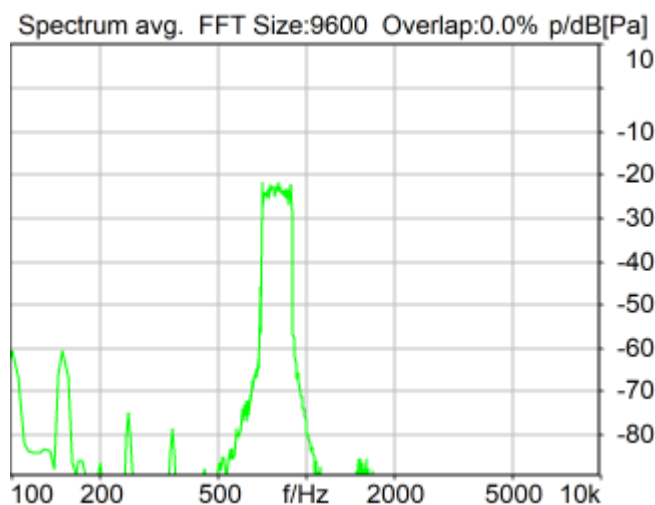
Distortion (Noise) RCV (packed): 30.44 dB (3.01%) Ok

Ok

24/12/16 15:31 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 2N



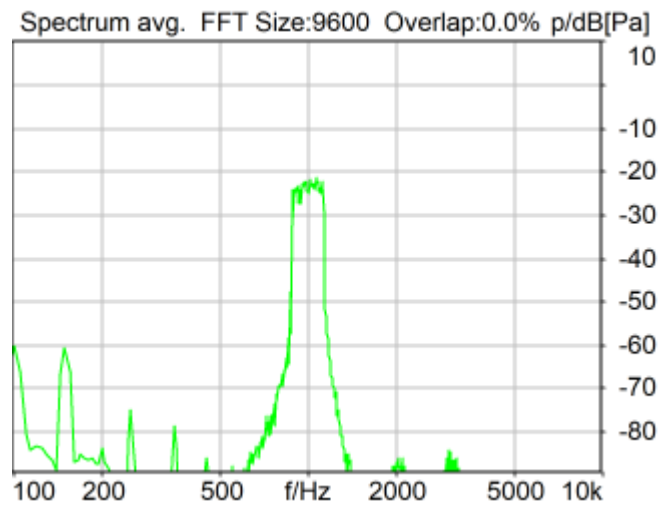
Distortion (Noise) RCV (packed): 47.99 dB (0.40%) Ok

Ok

24/12/16 15:31 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): 43.44 dB (0.67%) Ok

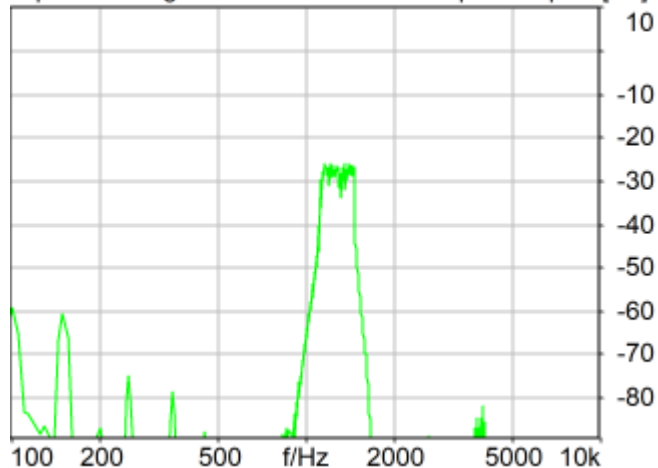
Ok

24/12/16 15:32 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

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



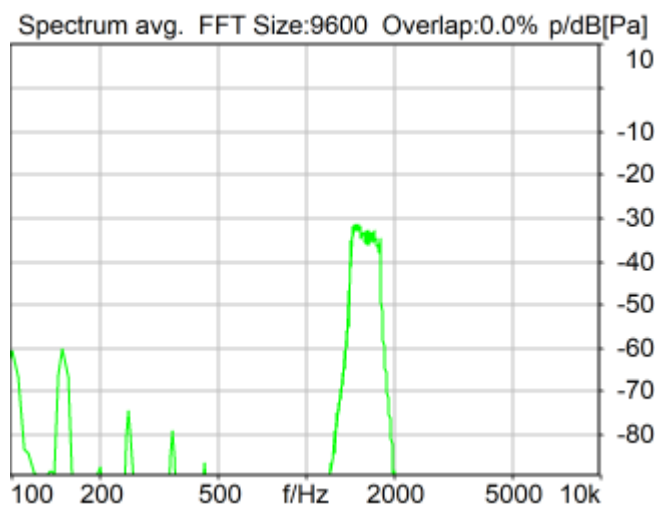
Distortion (Noise) RCV (packed): 22.45 dB (7.54%) Ok

Ok

24/12/16 15:37 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): 32.73 dB (2.31%) Ok

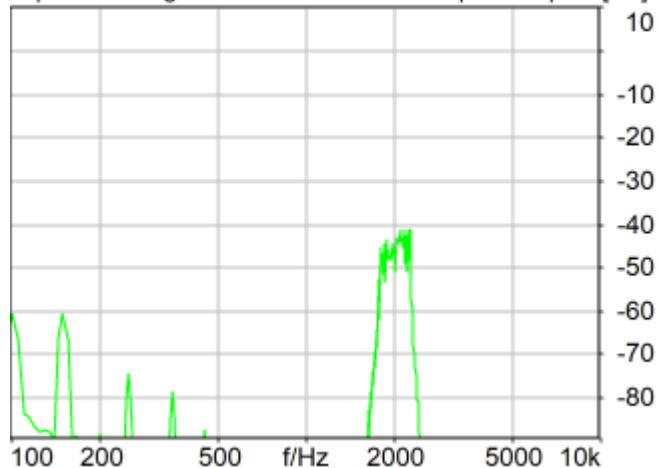
Ok

24/12/16 15:33 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

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



Distortion (Noise) RCV (packed): 27.27 dB (4.33%) Ok

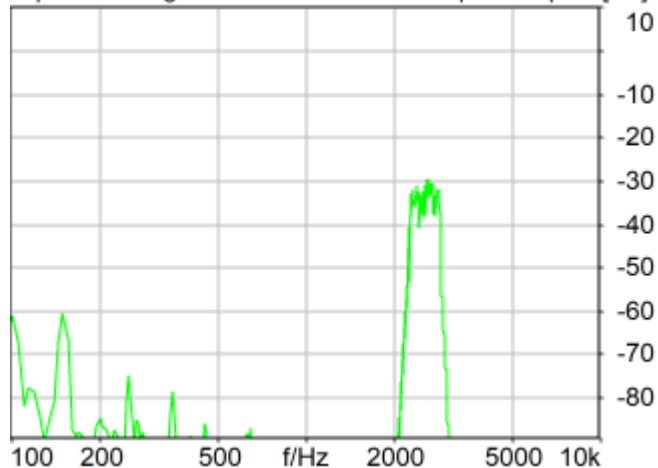
Ok

24/12/16 15:33 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

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



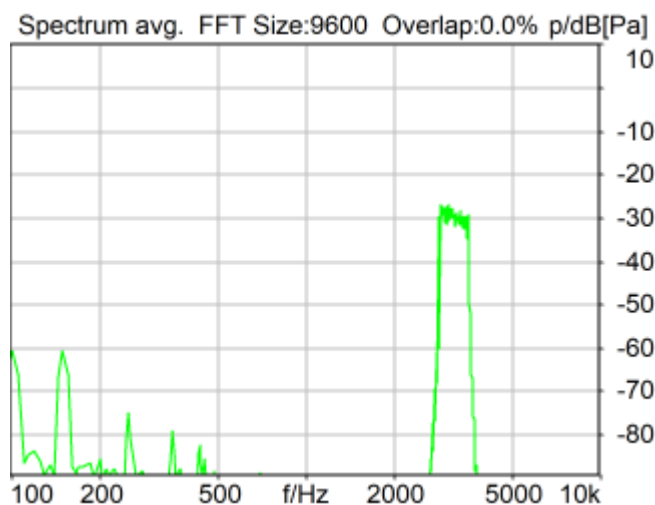
Distortion (Noise) RCV (packed): 30.90 dB (2.85%) Ok

Ok

24/12/16 15:34 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



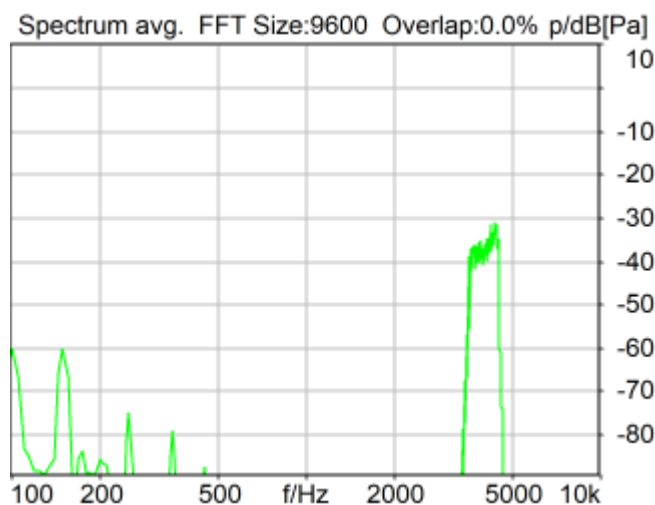
Distortion (Noise) RCV (packed): 41.13 dB (0.88%) Ok

Ok

24/12/16 15:34 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



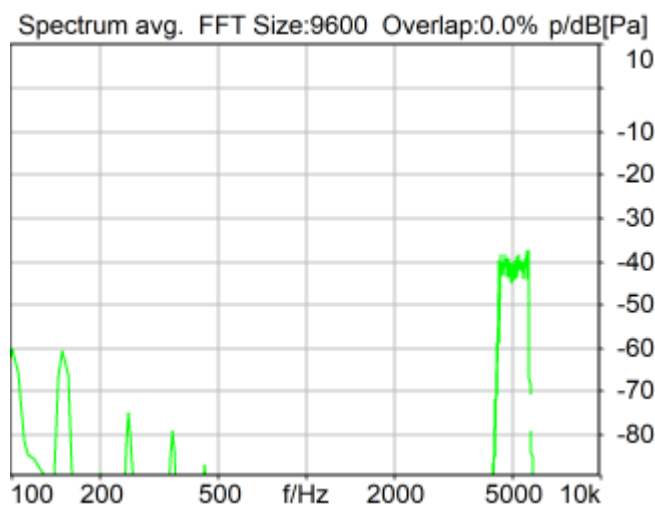
Distortion (Noise) RCV (packed): 34.59 dB (1.87%) Ok

Ok

24/12/16 15:35 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): 33.61 dB (2.09%) Ok

Ok

24/12/16 15:35 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	34.45 dB
2	315Hz	36.60 dB
3	400Hz	36.54 dB
4	500Hz	38.59 dB
5	630Hz	30.44 dB
6	800Hz	47.99 dB
7	1000Hz	43.44 dB
8	1600Hz	32.73 dB
9	2000Hz	27.27 dB
10	2500Hz	30.90 dB
11	3150Hz	41.13 dB
12	4000Hz	34.59 dB
13	5000Hz	33.61 dB
14	1250Hz	22.45 dB

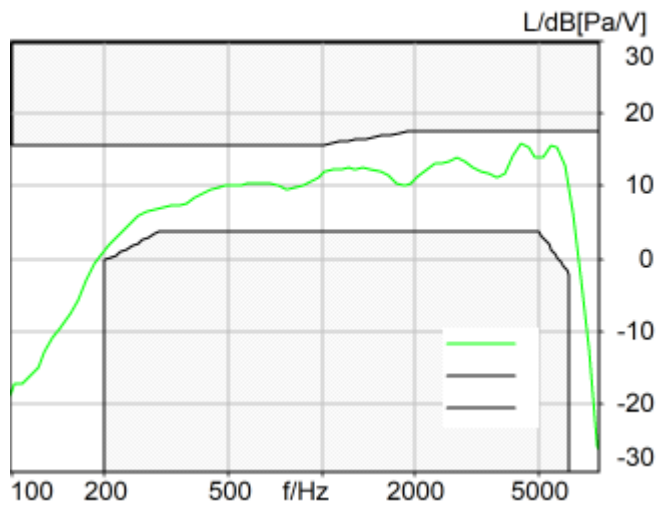
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.45dB at 1250Hz.

24/12/16 15:37 ACQUA

5.3 Frequency Response 2N FF

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



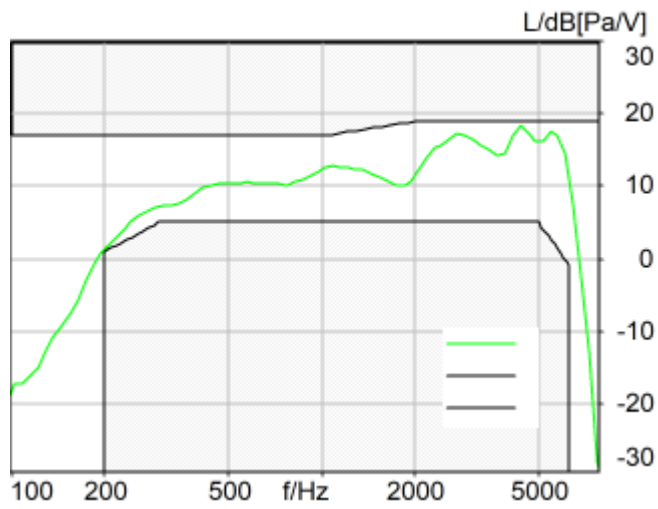
Absolute minimal distance
1.67 dB at 4369.4 Hz Ok

Ok

24/12/16 15:36 ACQUA 5.1.200

5.3 Frequency Response 2N DF

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



Absolute minimal distance
0.57 dB at 4369.4 Hz Ok

Ok

24/12/16 15:36 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
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Project	4N2802
Report Generation Date	24/12/16 15:51
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	365.2	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	85.87	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.50	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.18	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.40	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	40.54	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.36	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.79	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.56	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.20	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.19	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.88	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.10	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.35	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.87	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.15	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	22.88	WLAN2.4GHz_802.11b

ACQUA Report
128kbps_Ch6_8N

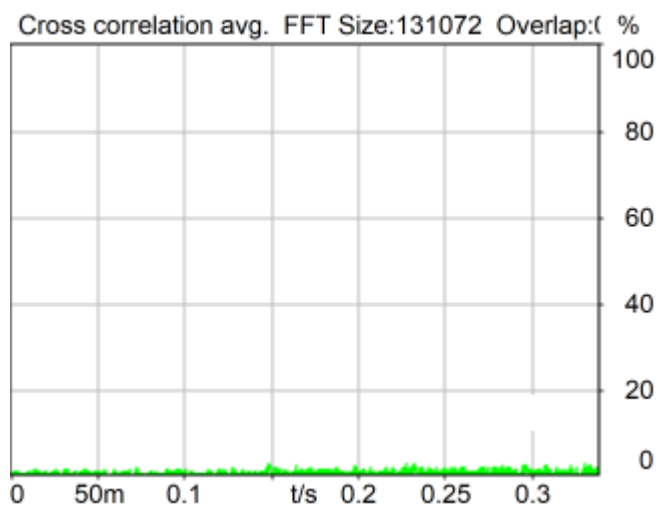
Title: WLAN2.4GHz_802.11b 1Mbps_EVS WB

and Noise (Conversational Gain)		(occured at 2000Hz)		1Mbps_EVS WB 128kbps_Ch6_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 5443.6 Hz	2.19	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_Ch6_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 5443.6 Hz	1.21	WLAN2.4GHz_802.11b 1Mbps_EVS WB 128kbps_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

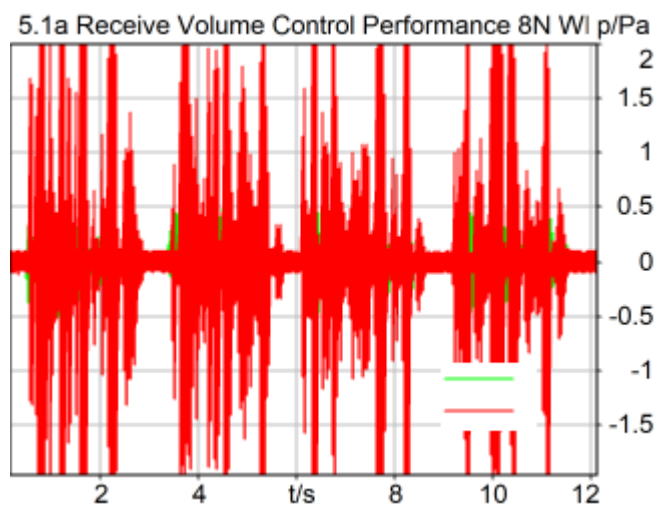


Delay (Cross): 365.2 ms

24/12/16 15:39 ACQUA 5.1.200

5.1a Receive Volume Control Performance 8N WB

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



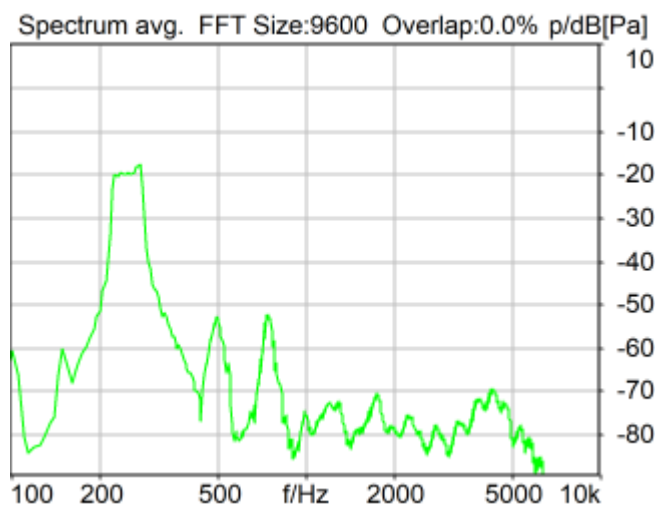
Speech Level RCV: 85.87 dB[SPL], Act.: 80.89% Ok

Ok

24/12/16 15:40 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



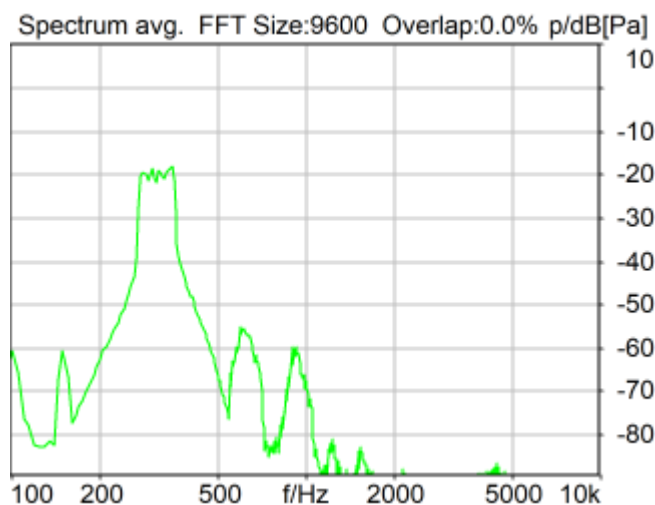
Distortion (Noise) RCV (packed): 31.50 dB (2.66%) Ok

Ok

24/12/16 15:40 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



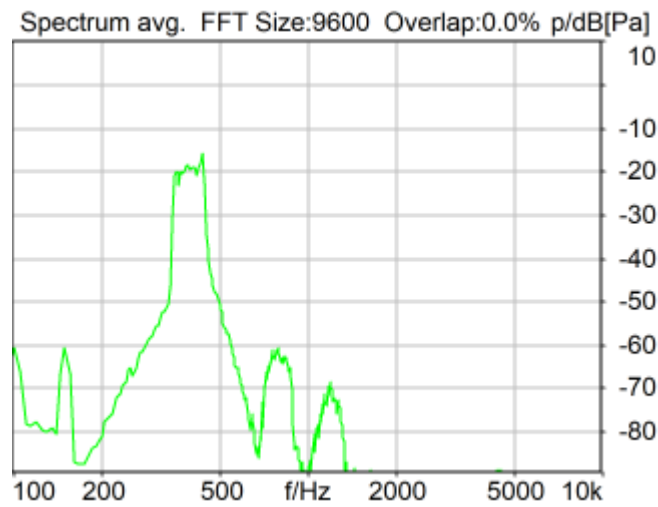
Distortion (Noise) RCV (packed): 33.18 dB (2.19%) Ok

Ok

24/12/16 15:40 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



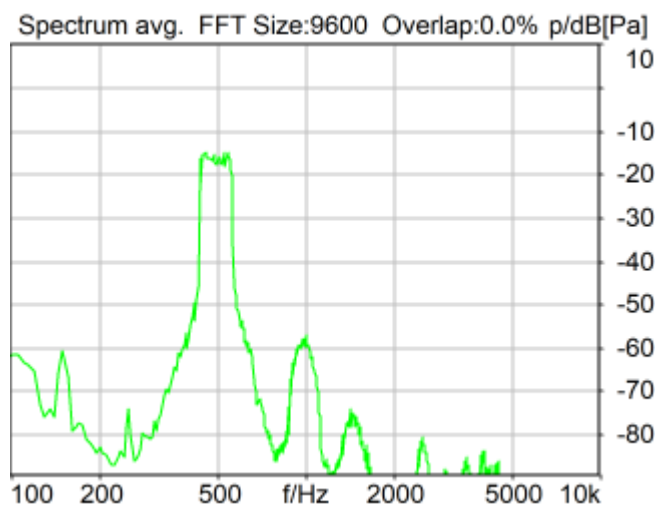
Distortion (Noise) RCV (packed): 36.40 dB (1.51%) Ok

Ok

24/12/16 15:41 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



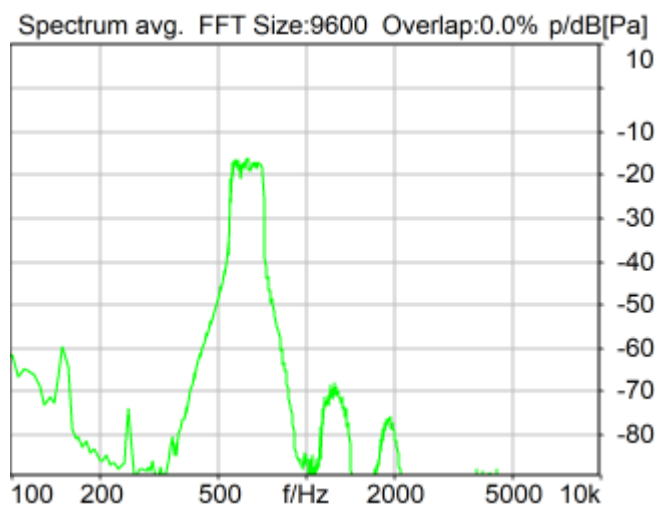
Distortion (Noise) RCV (packed): 40.54 dB (0.94%) Ok

Ok

24/12/16 15:41 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



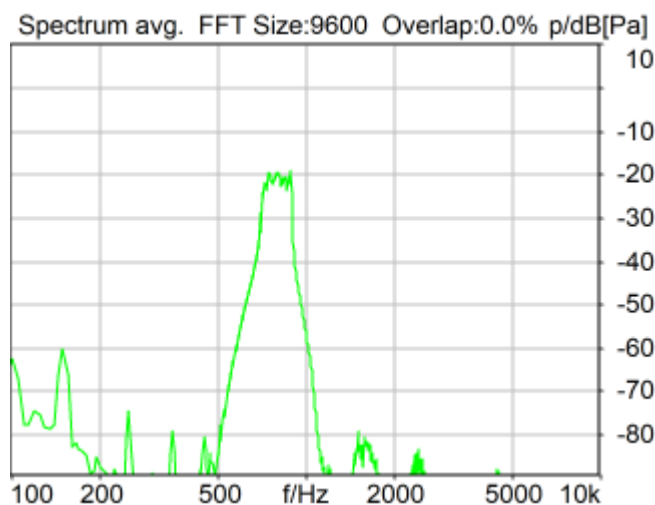
Distortion (Noise) RCV (packed): 35.36 dB (1.71%) Ok

Ok

24/12/16 15:42 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): 28.79 dB (3.64%) Ok

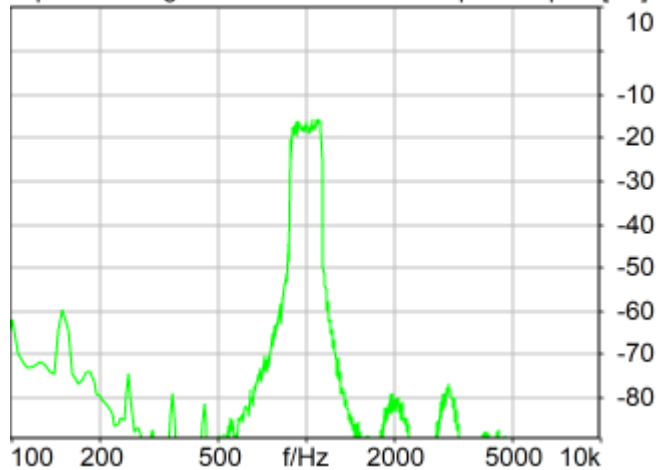
Ok

24/12/16 15:42 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

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



Distortion (Noise) RCV (packed): 43.56 dB (0.66%) Ok

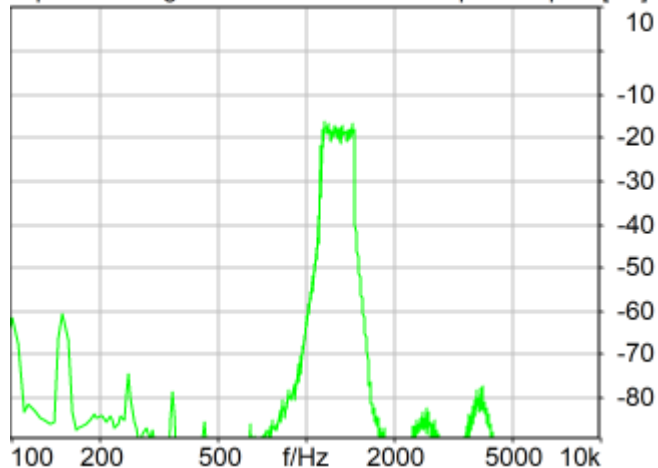
Ok

24/12/16 15:43 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

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



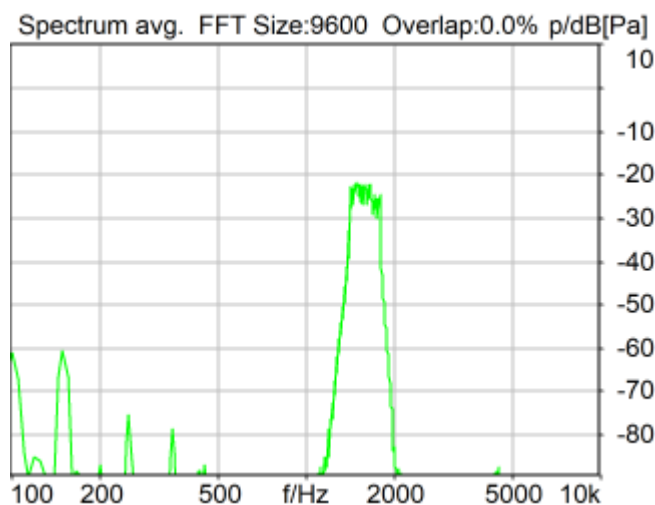
Distortion (Noise) RCV (packed): 27.20 dB (4.37%) Ok

Ok

24/12/16 15:43 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



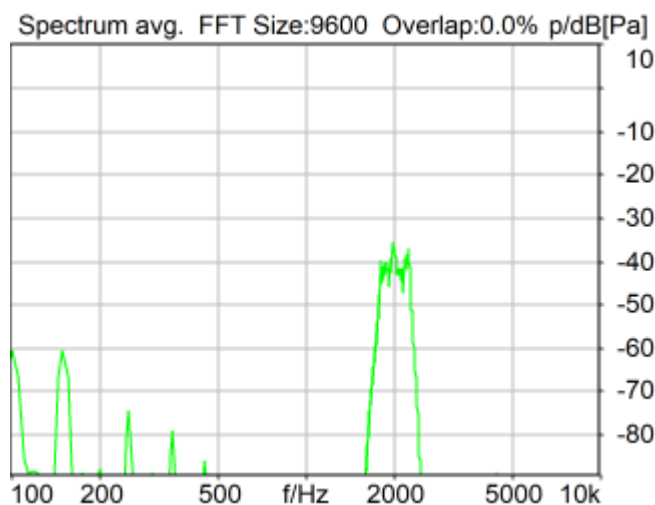
Distortion (Noise) RCV (packed): 29.19 dB (3.47%) Ok

Ok

24/12/16 15:44 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): 22.88 dB (7.18%) Ok

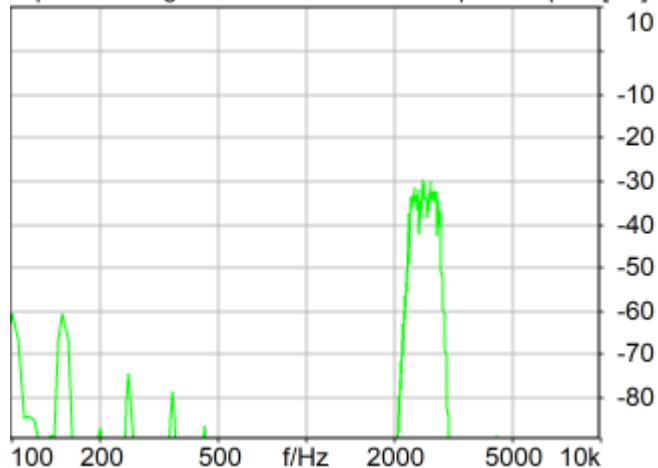
Ok

24/12/16 15:44 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

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



Distortion (Noise) RCV (packed): 26.10 dB (4.96%) Ok

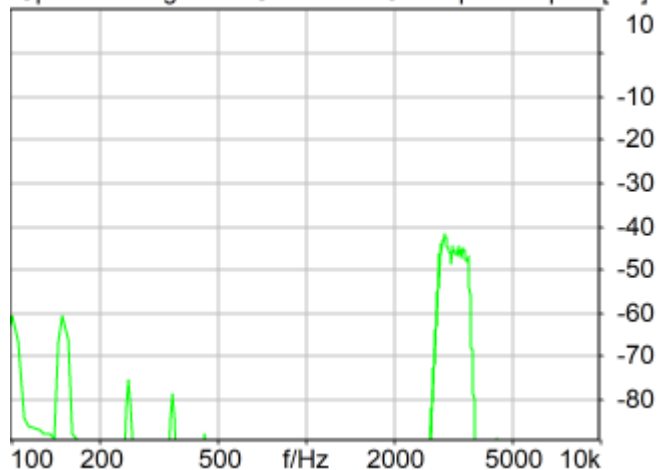
Ok

24/12/16 15:45 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

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



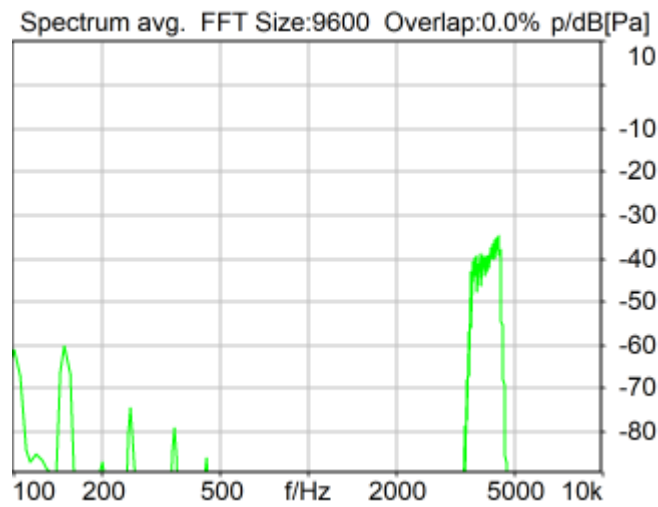
Distortion (Noise) RCV (packed): 23.35 dB (6.80%) Ok

Ok

24/12/16 15:45 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



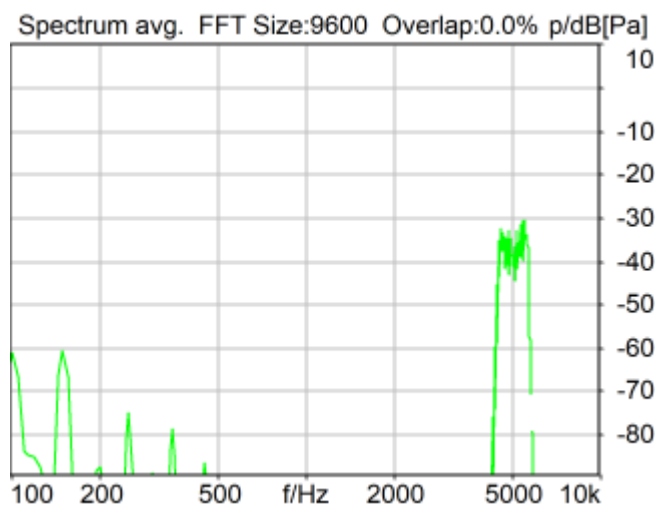
Distortion (Noise) RCV (packed): 27.87 dB (4.04%) Ok

Ok

24/12/16 15:45 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): 28.15 dB (3.91%) Ok

Ok

24/12/16 15:46 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	31.50 dB
2	315Hz	33.18 dB
3	400Hz	36.40 dB
4	500Hz	40.54 dB
5	630Hz	35.36 dB
6	800Hz	28.79 dB
7	1000Hz	43.56 dB
8	1250Hz	27.20 dB
9	1600Hz	29.19 dB
10	2000Hz	22.88 dB
11	2500Hz	26.10 dB
12	3150Hz	23.35 dB
13	4000Hz	27.87 dB
14	5000Hz	28.15 dB

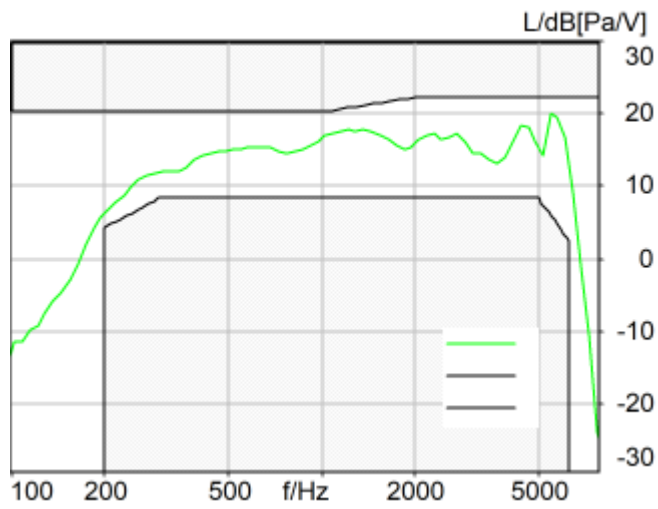
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.88dB at 2000Hz.

24/12/16 15:46 ACQUA

5.3 Frequency Response 8N FF

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



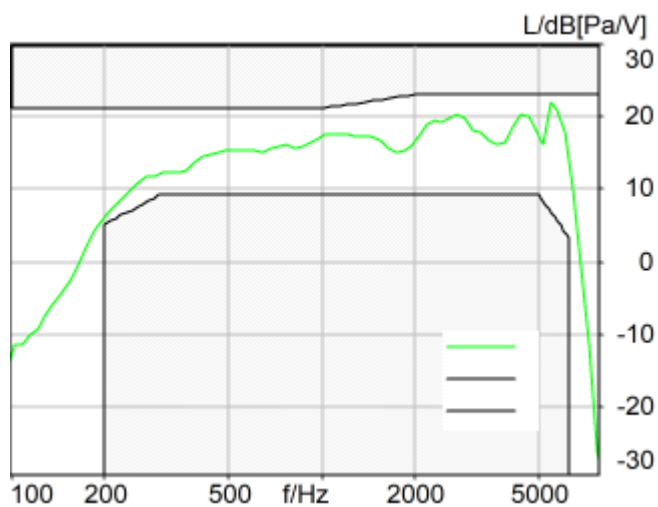
Absolute minimal distance
2.19 dB at 5443.6 Hz Ok

Ok

24/12/16 15:46 ACQUA 5.1.200

5.3 Frequency Response 8N DF

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



Absolute minimal distance
1.21 dB at 5443.6 Hz Ok

Ok

24/12/16 15:47 ACQUA 5.1.200

Measurement Protocol

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

Project	4N2802
Report Generation Date	24/12/09 11:46
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	201.9	GSM850_GSM Voice_AMR NB 4. 75kbps_Ch189_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	79.06	GSM850_GSM Voice_AMR NB 4. 75kbps_Ch189_2N

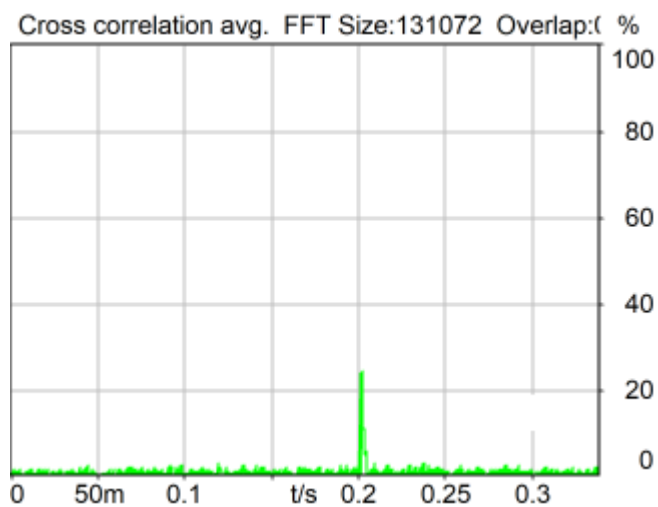
ACQUA Report
75kbps_Ch189_2N

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



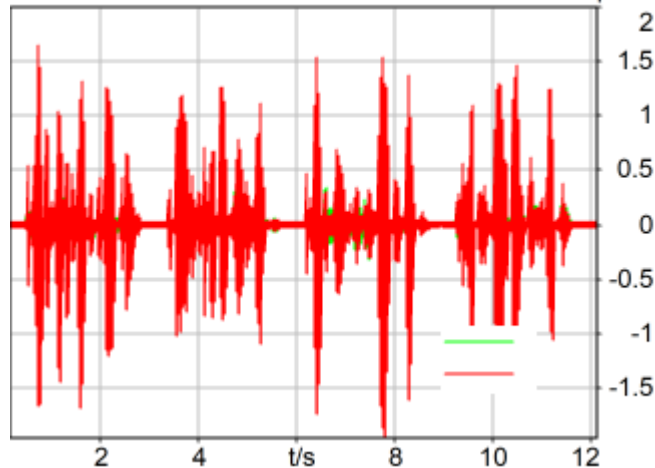
Delay (Cross): 201.9 ms

24/12/09 11:45 ACQUA 5.1.200

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: 79.06 dB[SPL], Act.: 79.33% Ok

Ok

24/12/09 11:45 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WCDMA V_Voice_AMR NB 4.75kbps_Ch4182_2N
--------------------	---

Project	4N2802
Report Generation Date	24/12/09 14:10
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	204.1	WCDMA V_Voice_AMR NB 4. 75kbps_Ch4182_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	79.14	WCDMA V_Voice_AMR NB 4. 75kbps_Ch4182_2N

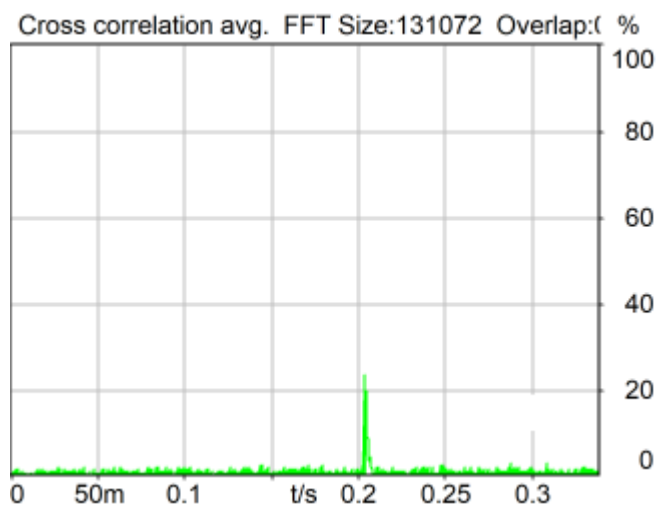
ACQUA Report
75kbps_Ch4182_2N

Title: WCDMA V_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

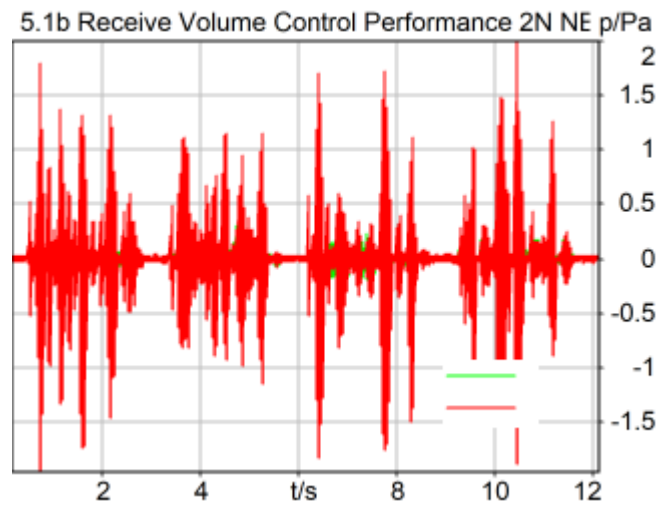


Delay (Cross): 204.1 ms

24/12/09 14:09 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 79.14 dB[SPL], Act.: 79.43% Ok

Ok

24/12/09 14:09 ACQUA 5.1.200

Measurement Protocol

Measurement Object	LTE Band 41_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch40620_2N
--------------------	---

Project	4N2802
Report Generation Date	24/12/10 9:28
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	305.6	LTE Band 41_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch40620_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	79.35	LTE Band 41_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch40620_2N

ACQUA Report

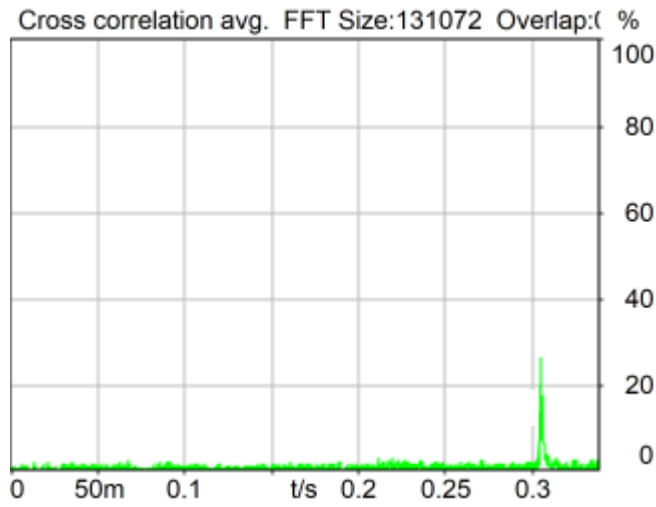
Title: LTE Band

41_20M_QPSK_1RB_0Offset_AMR NB 4.75kbps_Ch40620_2N

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

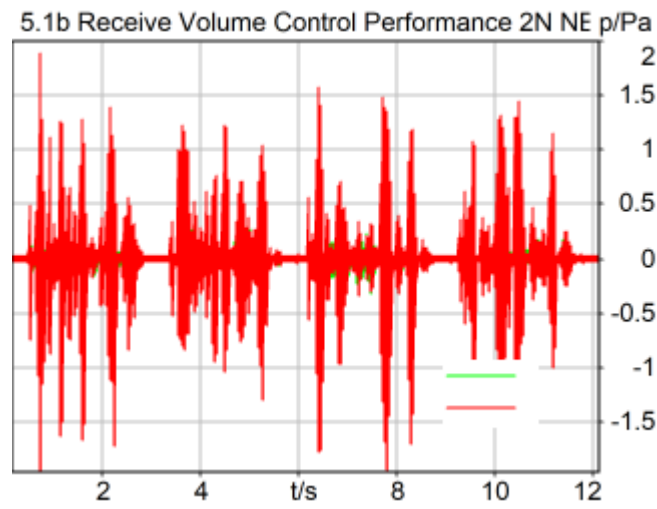


Delay (Cross): 305.6 ms

24/12/10 9:27 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 79.35 dB[SPL], Act.: 78.88% Ok

Ok

24/12/10 9:28 ACQUA 5.1.200

Measurement Protocol

Measurement Object	FR1 n41_100M_QPSK_1RB_1Offset_AMR NB 4.75kbps_Ch518598_2N
--------------------	---

Project	4N2802
Report Generation Date	24/12/17 19:52
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	301.9	FR1 n41_100M_QPSK_1RB_1Offset_AMR NB 4.75kbps_Ch518598_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	78.74	FR1 n41_100M_QPSK_1RB_1Offset_AMR NB 4.75kbps_Ch518598_2N

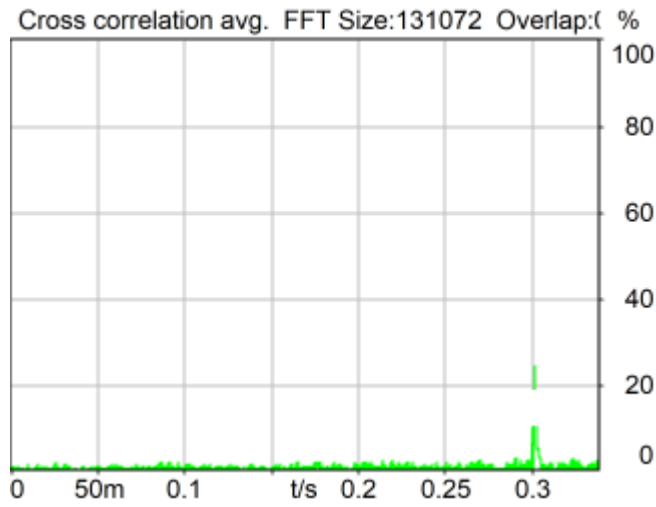
ACQUA Report
NB 4.75kbps_Ch518598_2N

Title: FR1 n41_100M_QPSK_1RB_1Offset_AMR

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



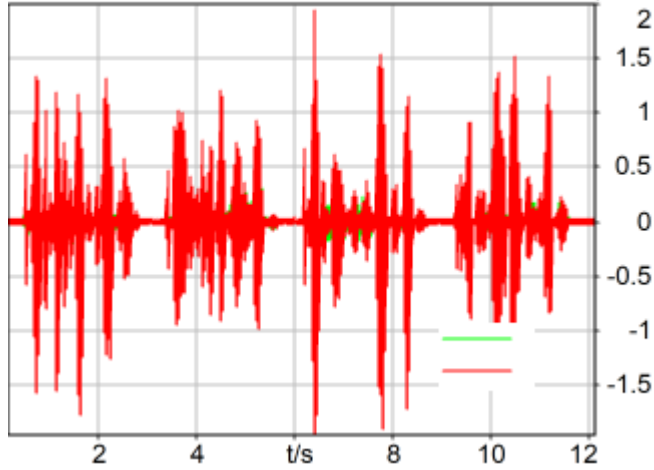
Delay (Cross): 301.9 ms

24/12/17 19:51 ACQUA 5.1.200

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: 78.74 dB[SPL], Act.: 79.31% Ok

Ok

24/12/17 19:51 ACQUA 5.1.200

Measurement Protocol

Measurement Object	FR1 n41_100M_QPSK_1RB_1Offset_AMR NB 4.75kbps_Ch518598_8N
--------------------	---

Project	4N2802
Report Generation Date	24/12/17 20:12
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	284.4	FR1 n41_100M_QPSK_1RB_1Offset_AMR NB 4.75kbps_Ch518598_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	83.55	FR1 n41_100M_QPSK_1RB_1Offset_AMR NB 4.75kbps_Ch518598_8N

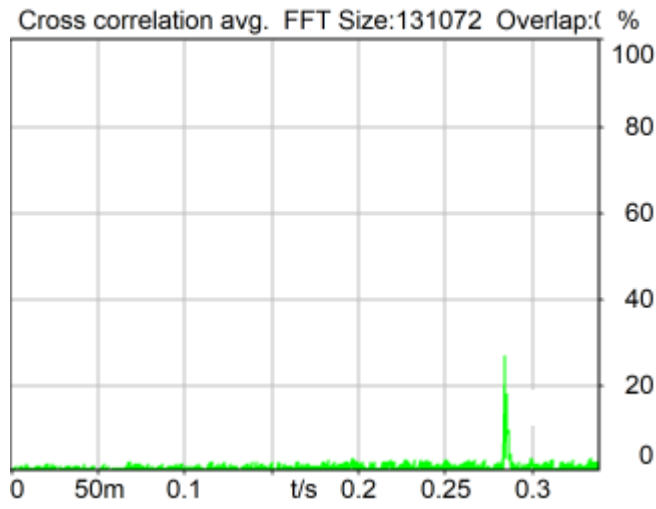
ACQUA Report
NB 4.75kbps_Ch518598_8N

Title: FR1 n41_100M_QPSK_1RB_1Offset_AMR

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

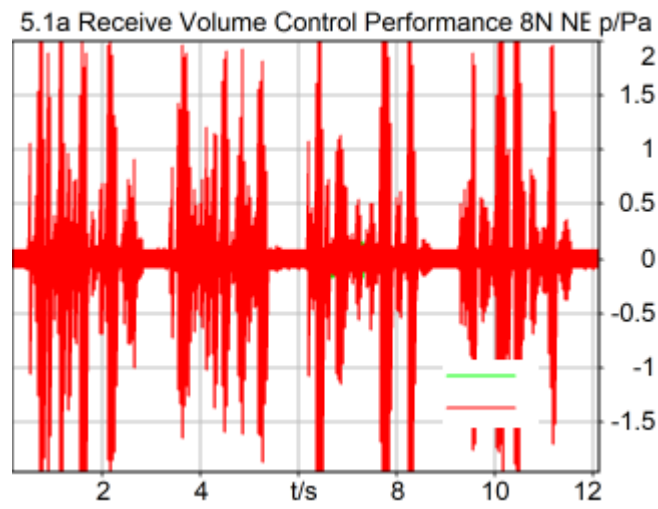


Delay (Cross): 284.4 ms

24/12/17 20:11 ACQUA 5.1.200

5.1a Receive Volume Control Performance 8N NB

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



Speech Level RCV: 83.55 dB[SPL], Act.: 79.80% Ok

Ok

24/12/17 20:11 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN2.4GHz_802.11b 1Mbps_AMR NB 4.75kbps_Ch6_2N
--------------------	---

Project	4N2802
Report Generation Date	24/12/25 13:14
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	170.9	WLAN2.4GHz_802.11b 1Mbps_AMR NB 4.75kbps_Ch6_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	79.11	WLAN2.4GHz_802.11b 1Mbps_AMR NB 4.75kbps_Ch6_2N

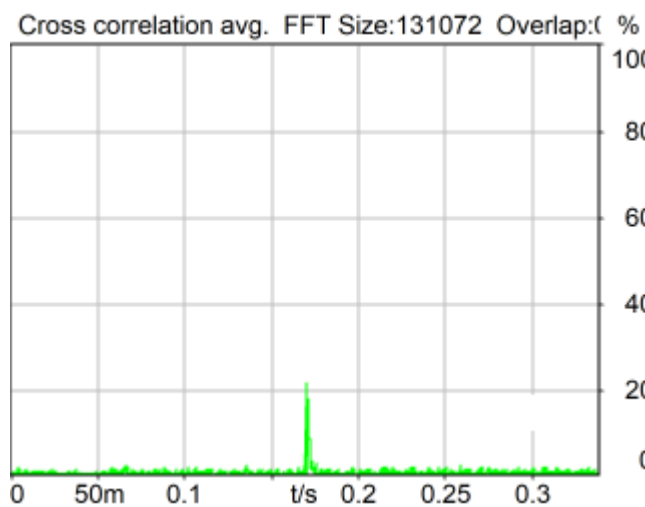
ACQUA Report
75kbps_Ch6_2N

Title: WLAN2.4GHz_802.11b 1Mbps_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



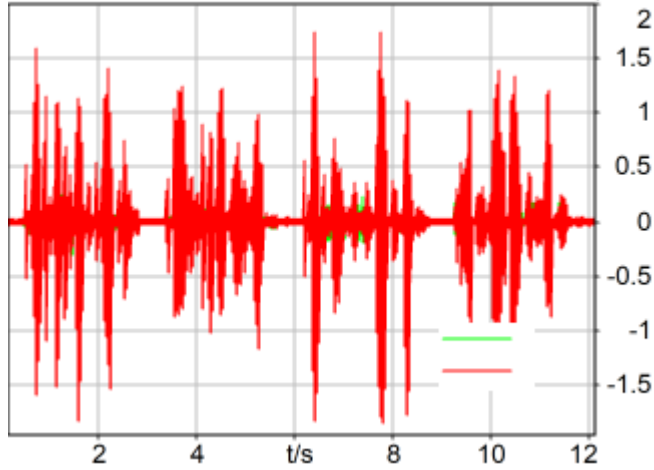
Delay (Cross): 170.9 ms

24/12/25 13:13 ACQUA 5.1.200

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: 79.11 dB[SPL], Act.: 78.83% Ok

Ok

24/12/25 13:13 ACQUA 5.1.200