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## **Measurement Protocol**

Measurement Object	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
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Project	482618
Report Generation Date	24/09/05 9:40
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	111.5	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	94.69	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.58	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.23	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.99	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.38	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.10	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	46.02	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	50.13	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.96	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	53.77	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.55	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.68	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	46.99	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.14	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	50.37	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	20.58	LTE Band

ACQUA Report  
WB 128kbps\_Ch21100\_8N

Title: LTE Band 7\_20M\_QPSK\_1RB\_0Offset\_EVS

and Noise (Conversational Gain)		, (occured at 250Hz)		7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 230.2 Hz	1.55	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 544.4 Hz	1.59	LTE Band 7_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch21100_8N

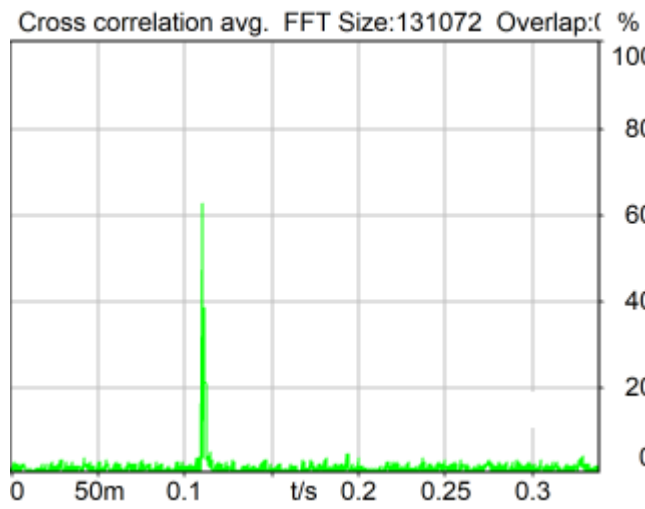
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Overall Receive Delay WB	6
5.1a Receive Volume Control Performance 8N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
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

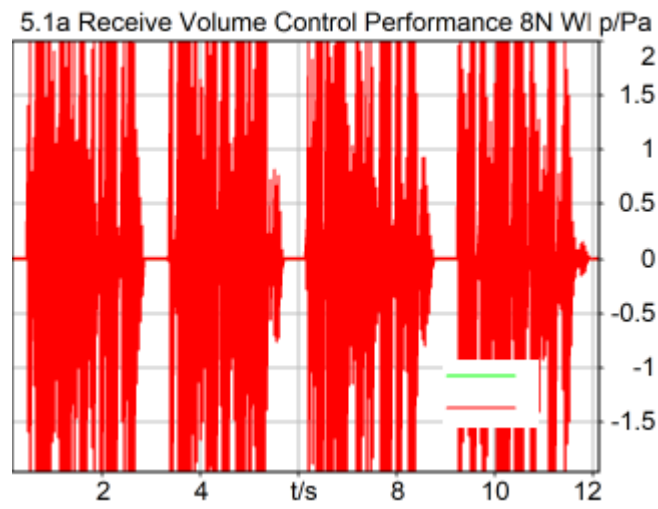


Delay (Cross): 111.5 ms

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## 5.1a Receive Volume Control Performance 8N WB

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



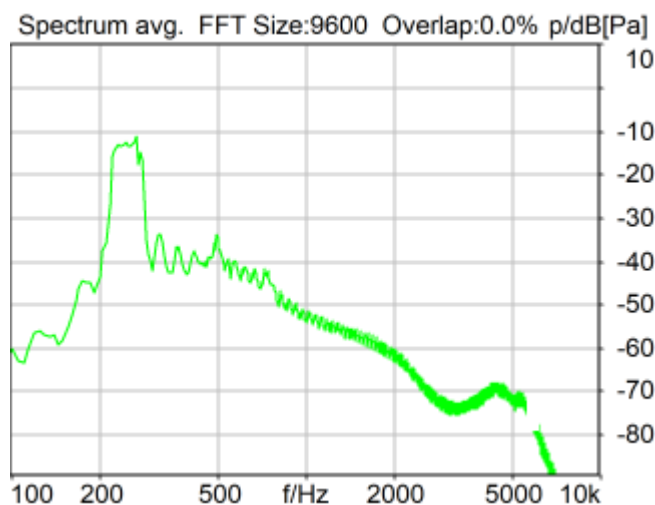
Speech Level RCV: 94.69 dB[SPL], Act.: 83.72% Ok

**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): 20.58 dB (9.36%) Ok

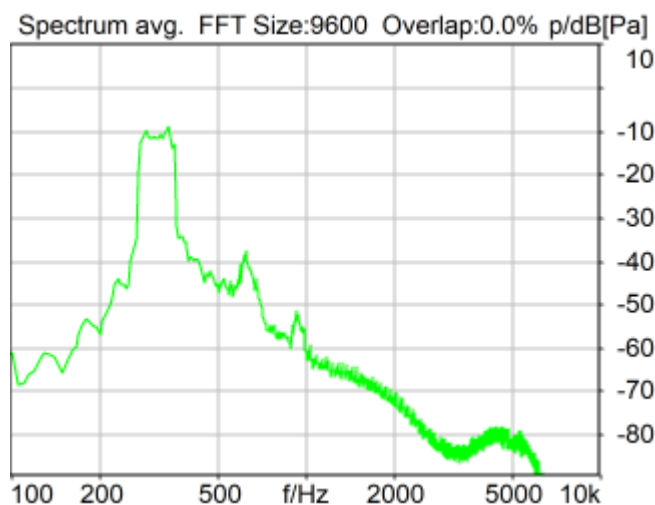
Ok

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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



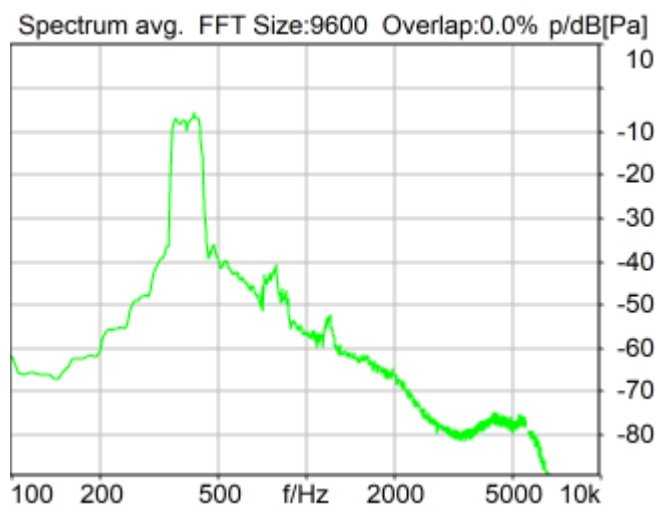
Distortion (Noise) RCV (packed): 28.23 dB (3.88%) Ok

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



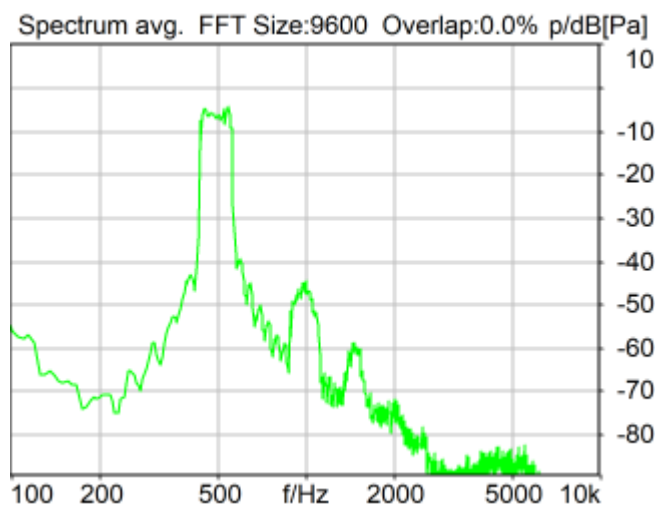
Distortion (Noise) RCV (packed): 30.99 dB (2.82%) Ok

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



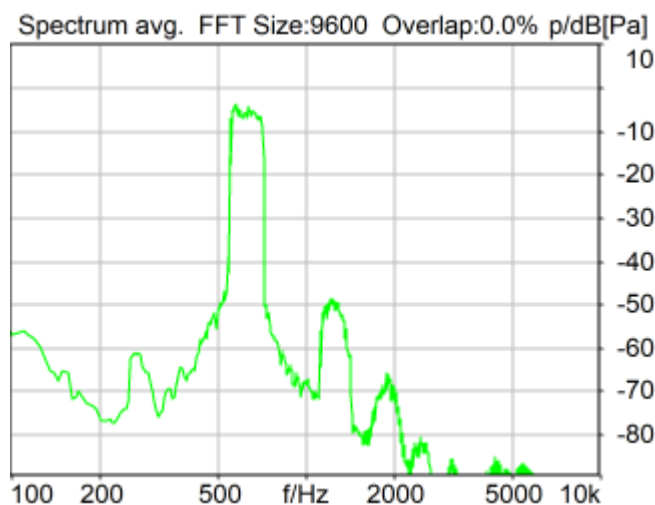
Distortion (Noise) RCV (packed): 37.38 dB (1.35%) Ok

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



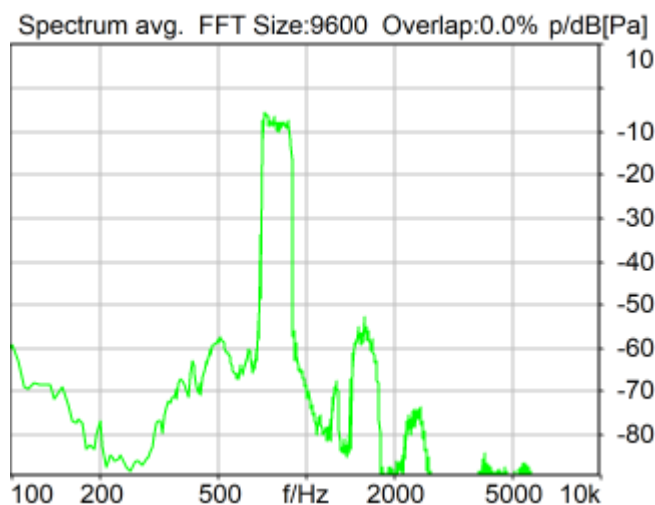
Distortion (Noise) RCV (packed): 42.10 dB (0.79%) Ok

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): 46.02 dB (0.50%) Ok

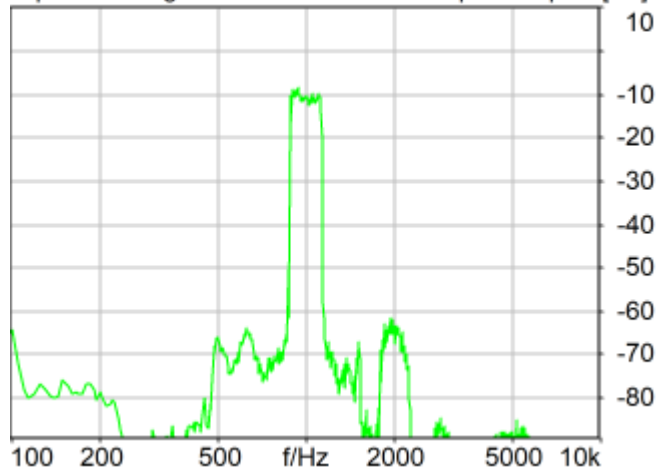
Ok

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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

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



Distortion (Noise) RCV (packed): 50.13 dB (0.31%) 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

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



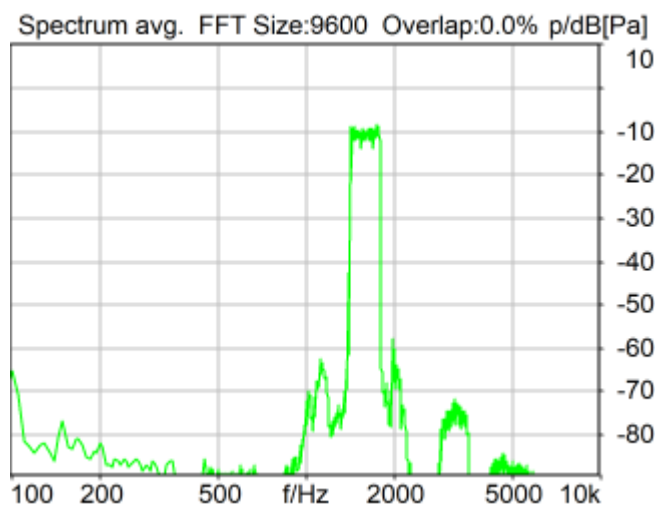
Distortion (Noise) RCV (packed): 33.96 dB (2.00%) Ok

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): 53.77 dB (0.20%) Ok

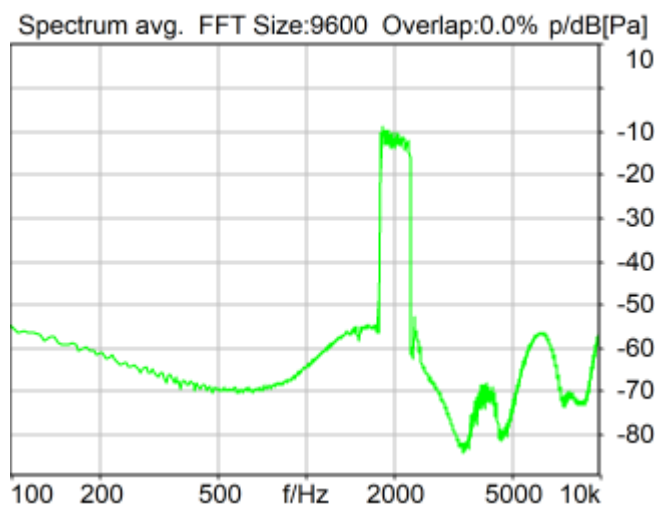
Ok

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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



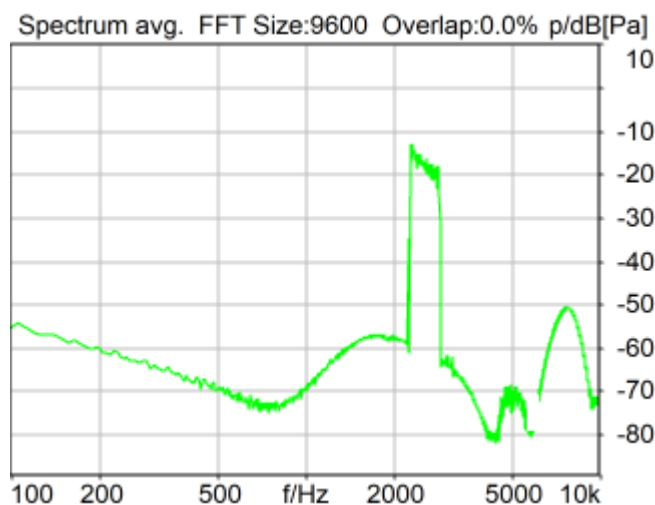
Distortion (Noise) RCV (packed): 36.55 dB (1.49%) Ok

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): 29.68 dB (3.28%) Ok

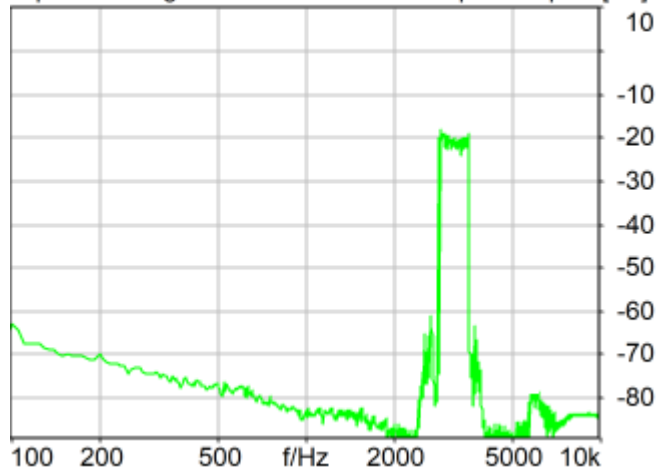
Ok

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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

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



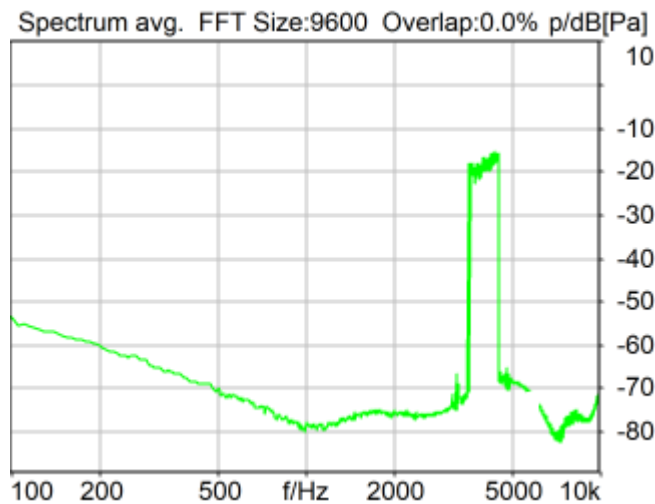
Distortion (Noise) RCV (packed): 46.99 dB (0.45%) Ok

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): 39.14 dB (1.10%) Ok

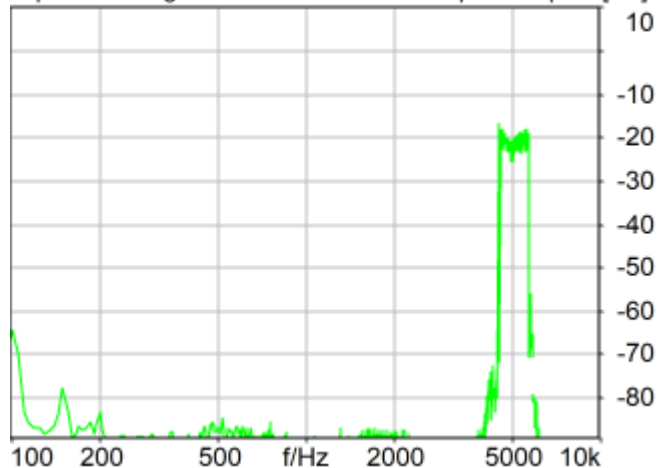
Ok

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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

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



Distortion (Noise) RCV (packed): 50.37 dB (0.30%) 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	20.58 dB
2	315Hz	28.23 dB
3	400Hz	30.99 dB
4	500Hz	37.38 dB
5	630Hz	42.10 dB
6	800Hz	46.02 dB
7	1000Hz	50.13 dB
8	1250Hz	33.96 dB
9	1600Hz	53.77 dB
10	2000Hz	36.55 dB
11	2500Hz	29.68 dB
12	3150Hz	46.99 dB
13	4000Hz	39.14 dB
14	5000Hz	50.37 dB

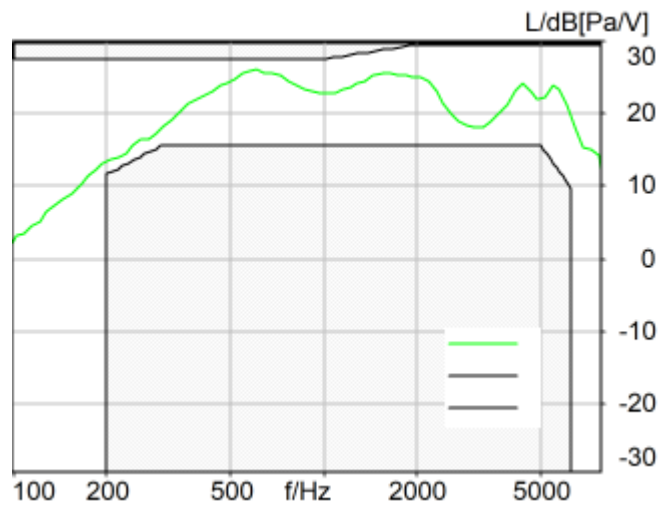
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.58dB at 250Hz.

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### **5.3 Frequency Response 8N FF**

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



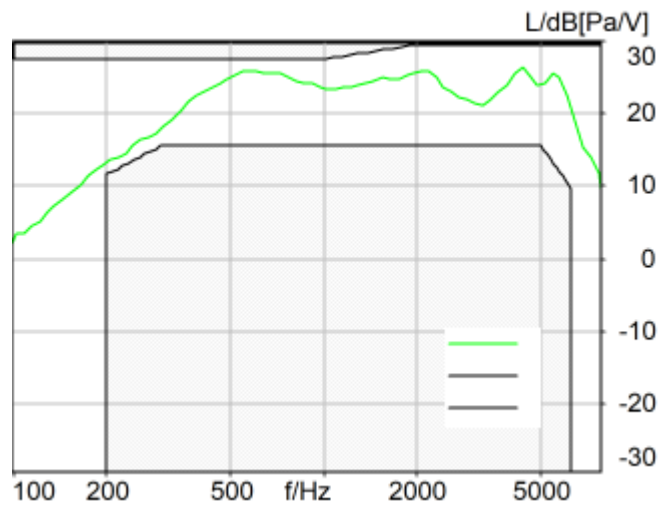
Absolute minimal distance  
1.55 dB at 230.2 Hz Ok

**Ok**

24/09/05 9:39 ACQUA 5.1.200

### **5.3 Frequency Response 8N DF**

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



Absolute minimal distance  
1.59 dB at 544.4 Hz Ok

**Ok**

24/09/05 9:40 ACQUA 5.1.200



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## Measurement Protocol

Measurement Object	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
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Project	482618
Report Generation Date	24/09/04 13:47
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	105.7	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	90.19	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.28	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.36	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.91	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.49	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.16	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.85	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	50.05	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.97	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	53.22	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	48.11	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	50.72	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.96	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	57.66	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.69	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	20.28	LTE Band

ACQUA Report  
26\_15M\_QPSK\_1RB\_0Offset\_EVS WB 128kbps\_Ch26865\_2N

Title: LTE Band

and Noise (Conversational Gain)		, (occured at 250Hz)		26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.73	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 230.2 Hz	1.40	LTE Band 26_15M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch26865_2N

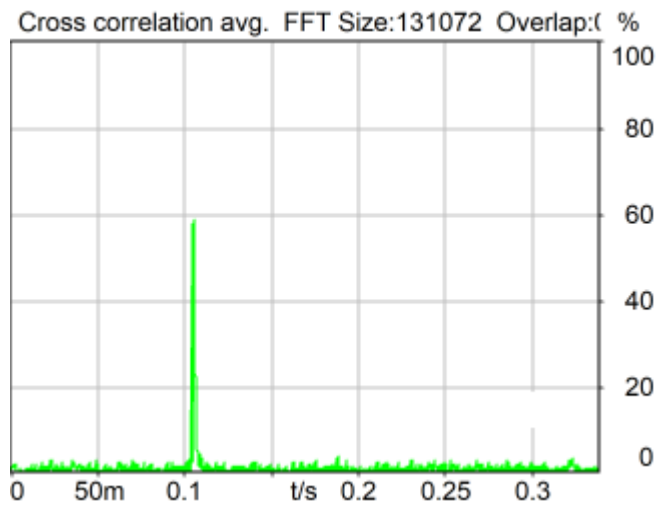
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Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
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

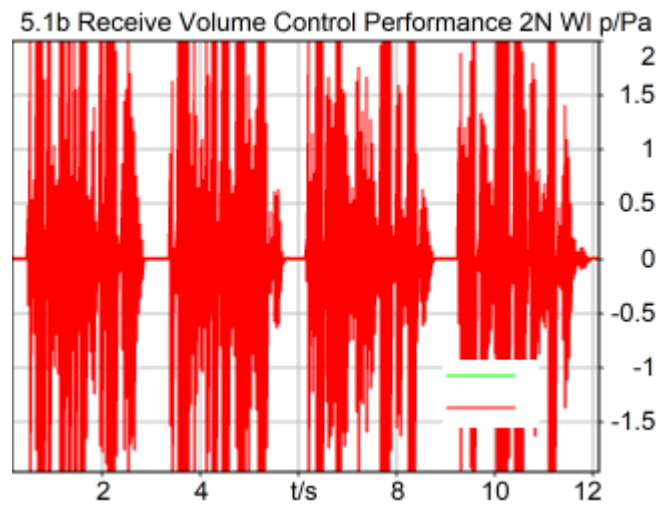


Delay (Cross): 105.7 ms

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## 5.1b Receive Volume Control Performance 2N WB

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



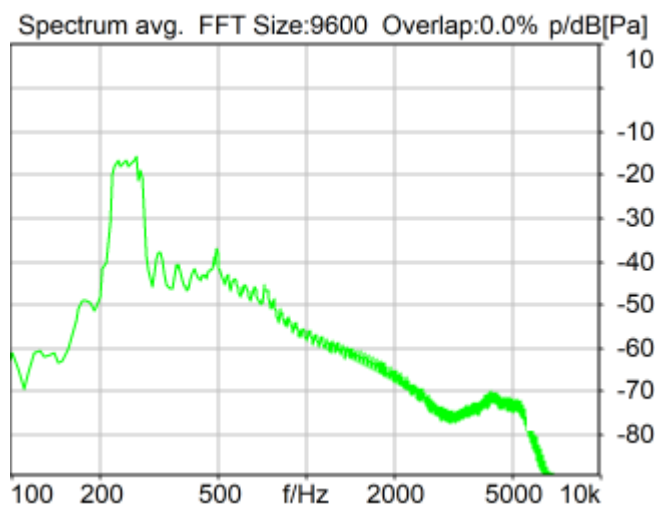
Speech Level RCV: 90.19 dB[SPL], Act.: 84.05% Ok

**Ok**

24/09/04 13:40 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 2N



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

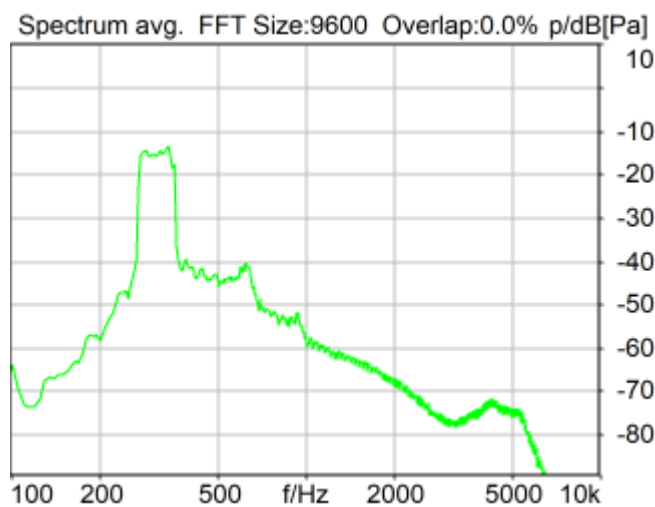
Ok

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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



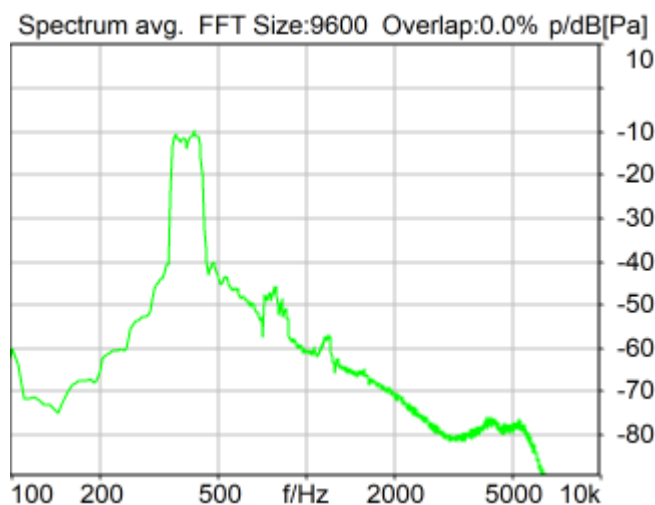
Distortion (Noise) RCV (packed): 24.36 dB (6.06%) Ok

Ok

24/09/04 13:41 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



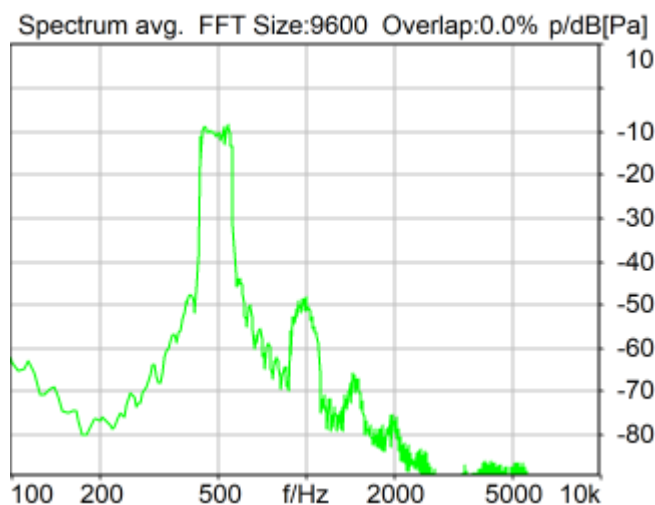
Distortion (Noise) RCV (packed): 30.91 dB (2.85%) Ok

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



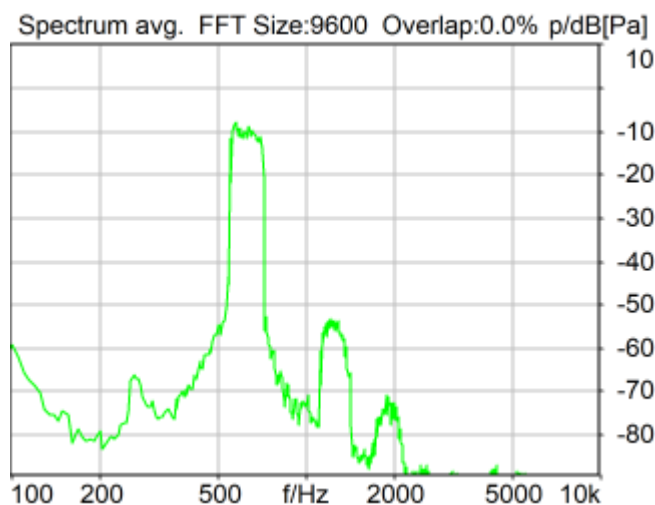
Distortion (Noise) RCV (packed): 37.49 dB (1.34%) Ok

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



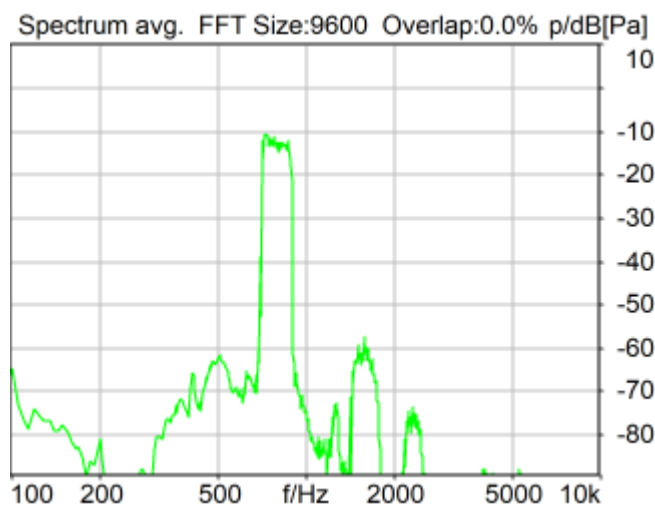
Distortion (Noise) RCV (packed): 42.16 dB (0.78%) Ok

Ok

24/09/04 13:42 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 2N



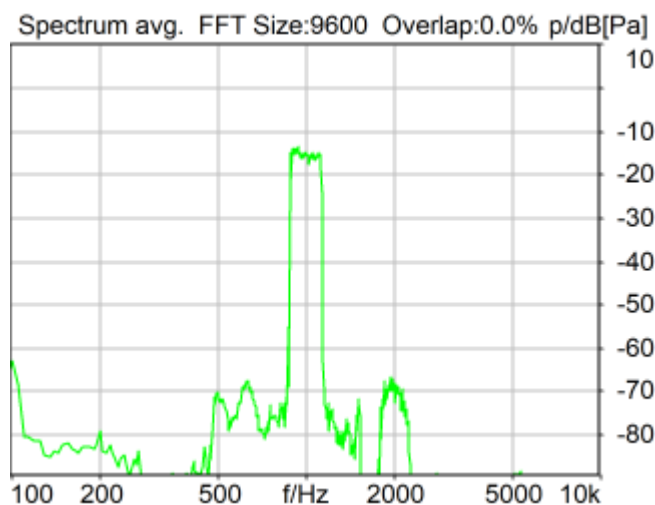
Distortion (Noise) RCV (packed): 45.85 dB (0.51%) Ok

Ok

24/09/04 13:43 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



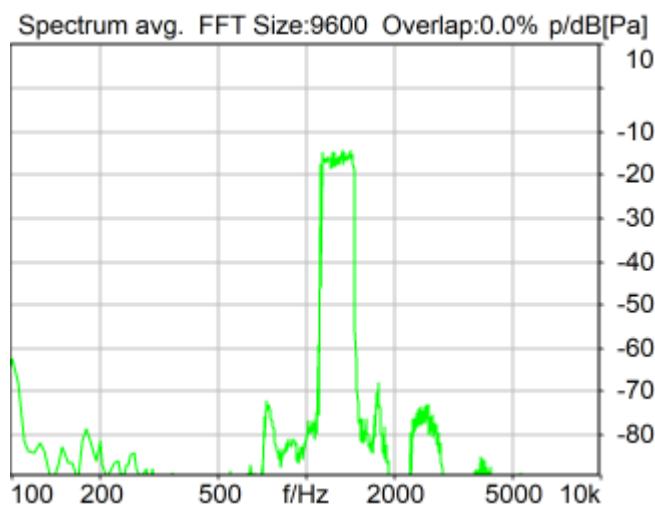
Distortion (Noise) RCV (packed): 50.05 dB (0.31%) Ok

Ok

24/09/04 13:43 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 2N



Distortion (Noise) RCV (packed): 33.97 dB (2.00%) Ok

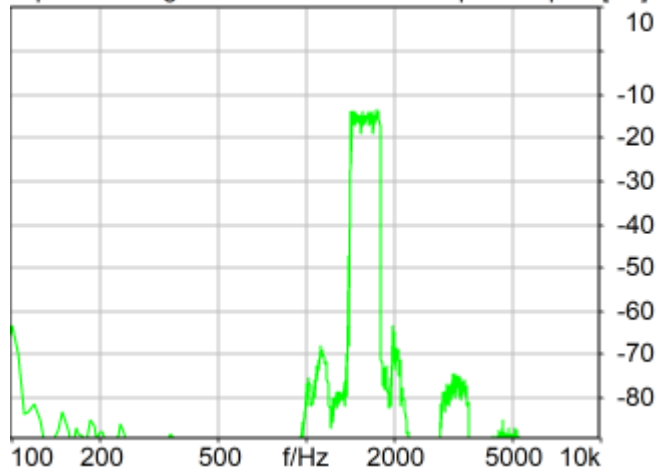
Ok

24/09/04 13:43 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 2N

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



Distortion (Noise) RCV (packed): 53.22 dB (0.22%) Ok

Ok

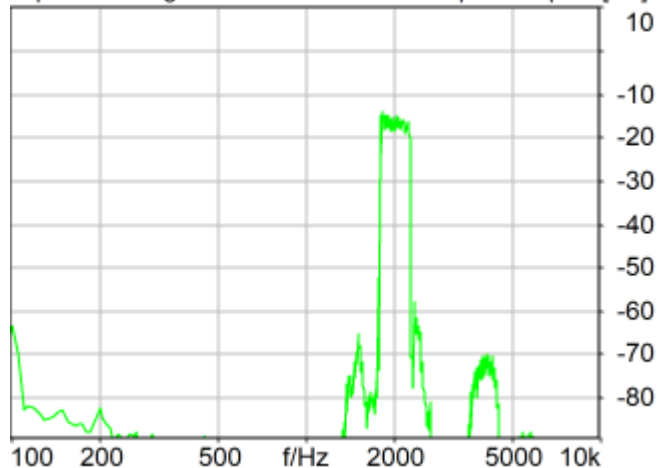
24/09/04 13:44 ACQUA 5.1.200



## 5.2 RCV Distortion and Noise - 2000 Hz WB

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

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



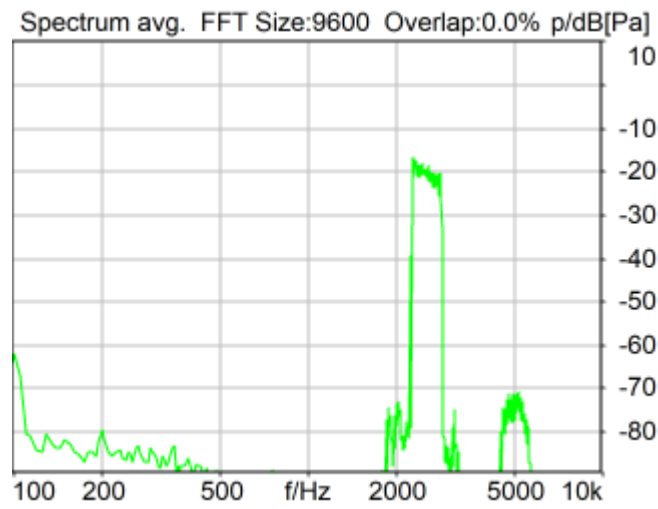
Distortion (Noise) RCV (packed): 48.11 dB (0.39%) Ok

Ok

24/09/04 13:44 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 2N



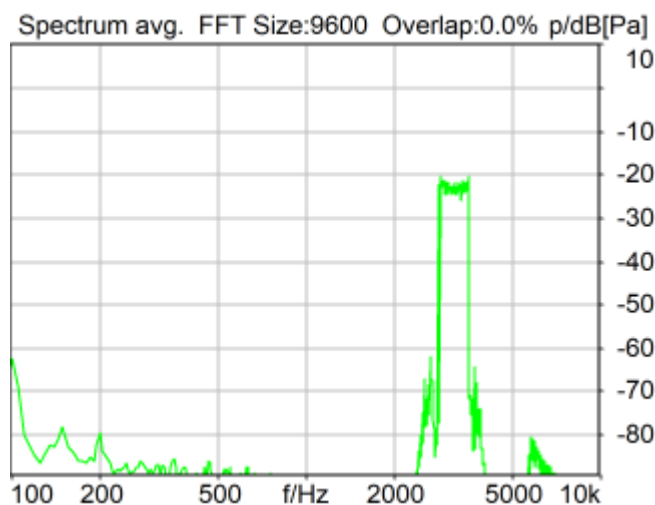
Distortion (Noise) RCV (packed): 50.72 dB (0.29%) Ok

**Ok**

24/09/04 13:45 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 2N



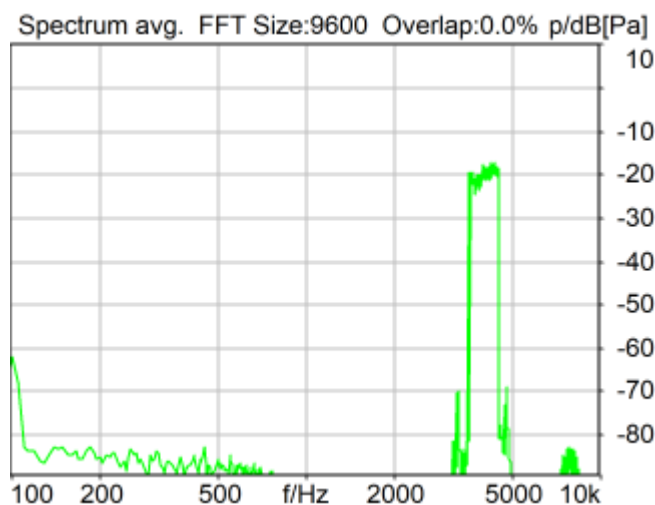
Distortion (Noise) RCV (packed): 47.96 dB (0.40%) Ok

Ok

24/09/04 13:45 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 2N



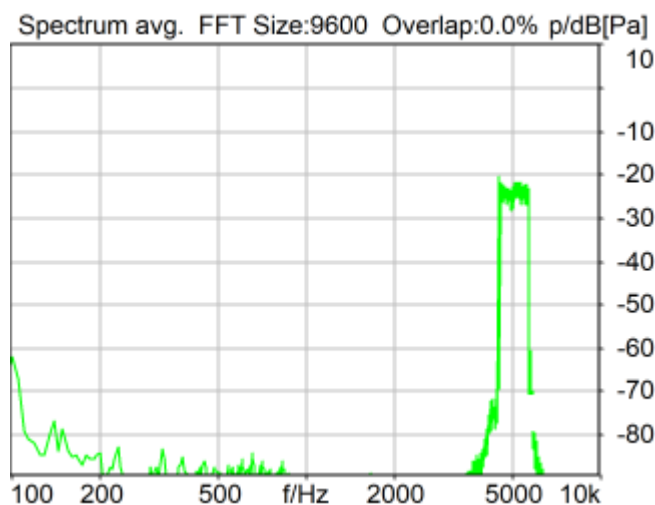
Distortion (Noise) RCV (packed): 57.66 dB (0.13%) Ok

Ok

24/09/04 13:46 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): 49.69 dB (0.33%) Ok

Ok

24/09/04 13:46 ACQUA 5.1.200

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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	20.28 dB
2	315Hz	24.36 dB
3	400Hz	30.91 dB
4	500Hz	37.49 dB
5	630Hz	42.16 dB
6	800Hz	45.85 dB
7	1000Hz	50.05 dB
8	1250Hz	33.97 dB
9	1600Hz	53.22 dB
10	2000Hz	48.11 dB
11	2500Hz	50.72 dB
12	3150Hz	47.96 dB
13	4000Hz	57.66 dB
14	5000Hz	49.69 dB

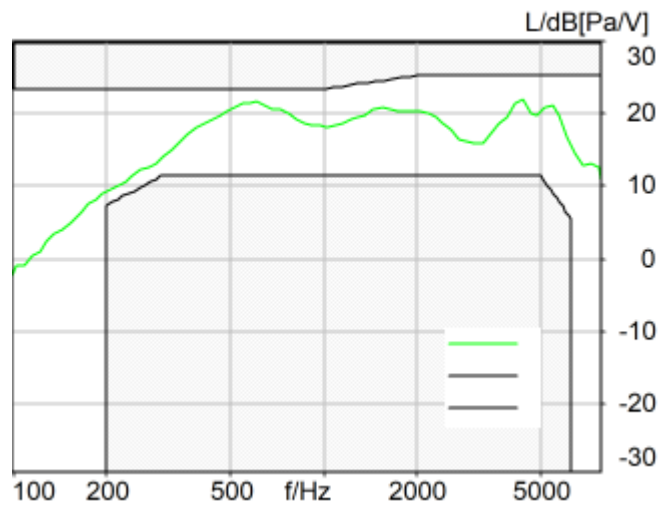
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.28dB at 250Hz.

24/09/04 13:46 ACQUA

### 5.3 Frequency Response 2N FF

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



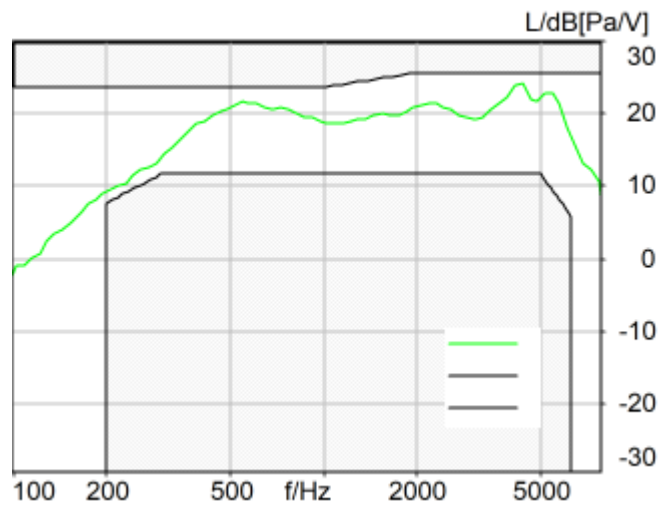
Absolute minimal distance  
1.73 dB at 611.7 Hz Ok

**Ok**

24/09/04 13:46 ACQUA 5.1.200

### 5.3 Frequency Response 2N DF

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



Absolute minimal distance  
1.40 dB at 230.2 Hz Ok

**Ok**

24/09/04 13:47 ACQUA 5.1.200



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## **Measurement Protocol**

Measurement Object	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
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Project	482618
Report Generation Date	24/09/10 9:09
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	238.2	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	90.66	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.63	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.69	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.52	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.64	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.65	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.63	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	48.00	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.76	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	53.10	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	50.43	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.55	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.44	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	54.90	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	54.33	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	20.63	FR1

ACQUA Report  
WB 128kbps\_Ch136100\_2N

Title: FR1 n71\_30M\_QPSK\_1RB\_1Offset\_EVS

and Noise (Conversational Gain)		, (occured at 250Hz)		n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.38	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 230.2 Hz	1.15	FR1 n71_30M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch136100_2N

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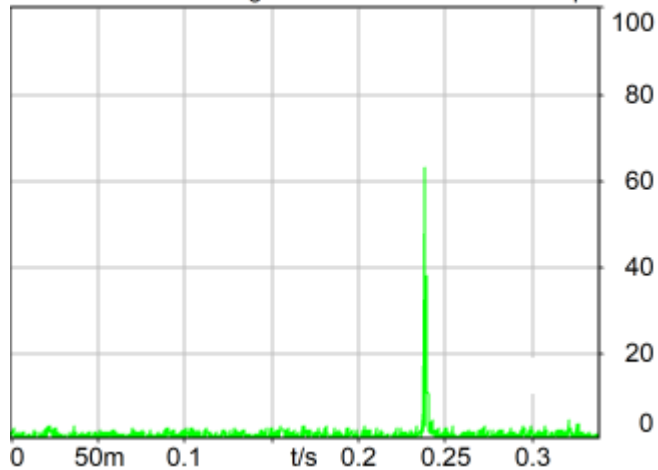
Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV 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

Cross correlation avg. FFT Size:131072 Overlap:( %

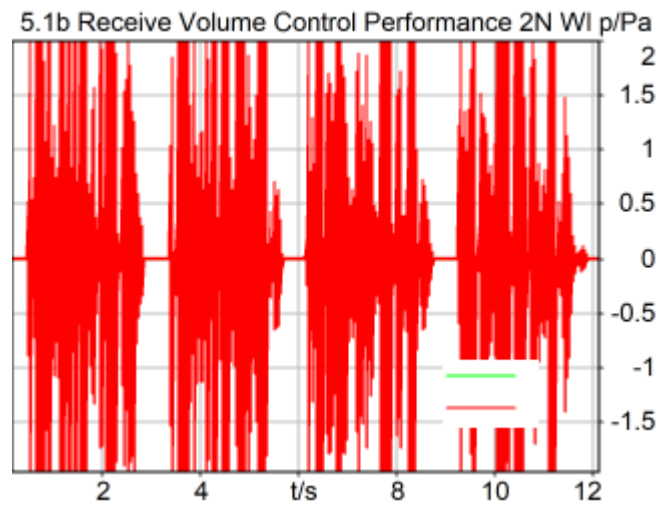


Delay (Cross): 238.2 ms

24/09/10 9:00 ACQUA 5.1.200

## 5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 90.66 dB[SPL], Act.: 84.39% Ok

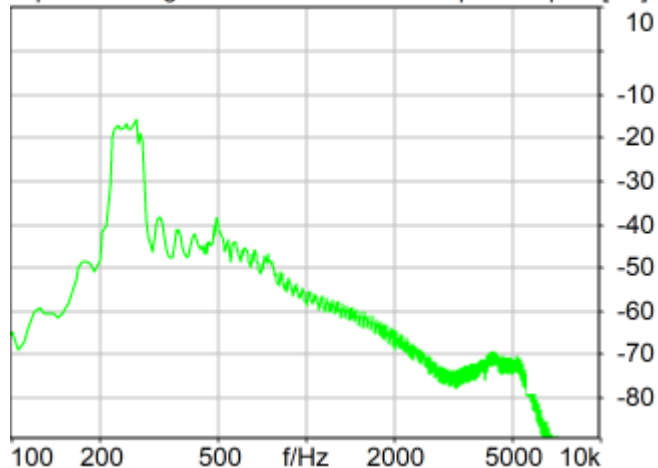
**Ok**

24/09/10 9:01 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

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



Distortion (Noise) RCV (packed): 20.63 dB (9.30%) Ok

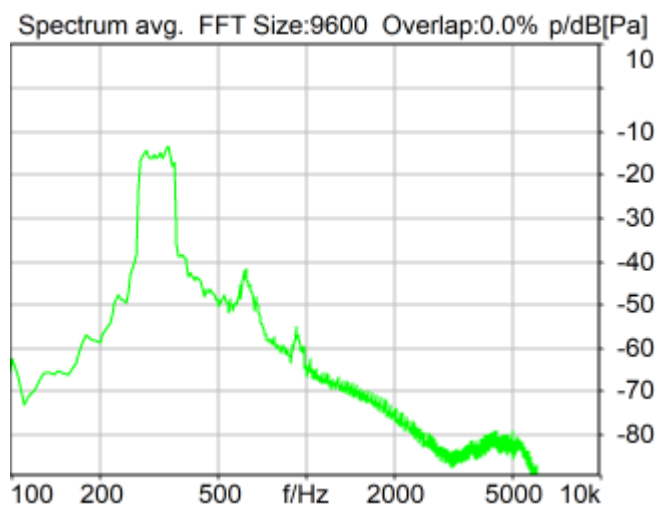
Ok

24/09/10 9:01 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



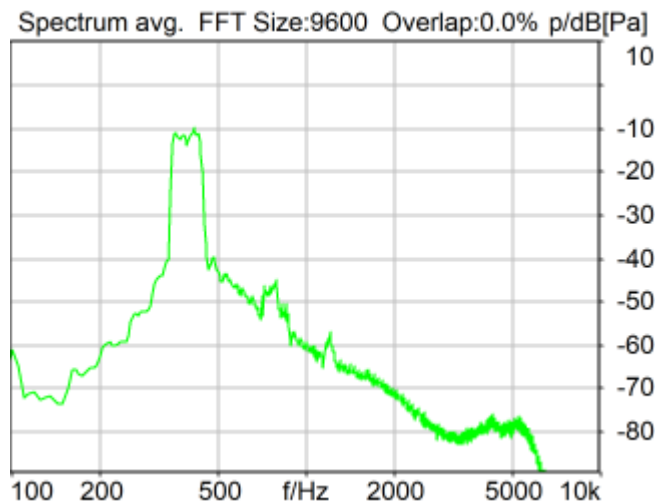
Distortion (Noise) RCV (packed): 27.69 dB (4.13%) Ok

Ok

24/09/10 9:02 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



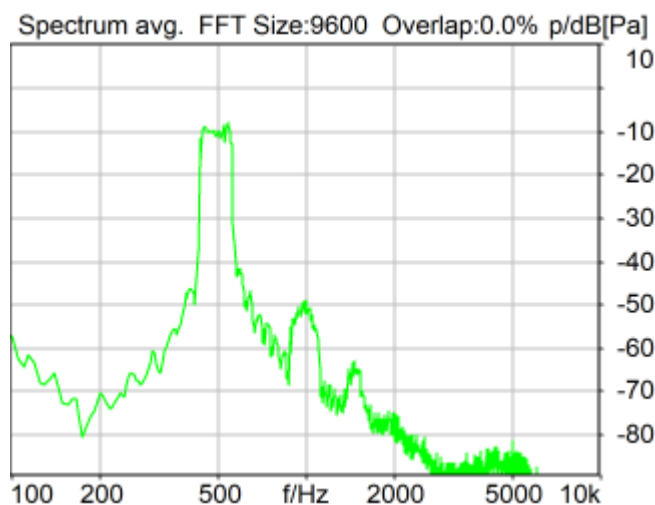
Distortion (Noise) RCV (packed): 30.52 dB (2.98%) Ok

Ok

24/09/10 9:02 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



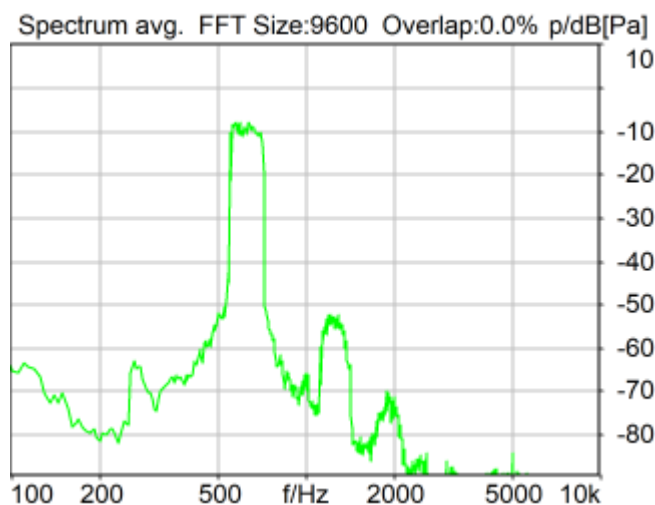
Distortion (Noise) RCV (packed): 36.64 dB (1.47%) Ok

Ok

24/09/10 9:03 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



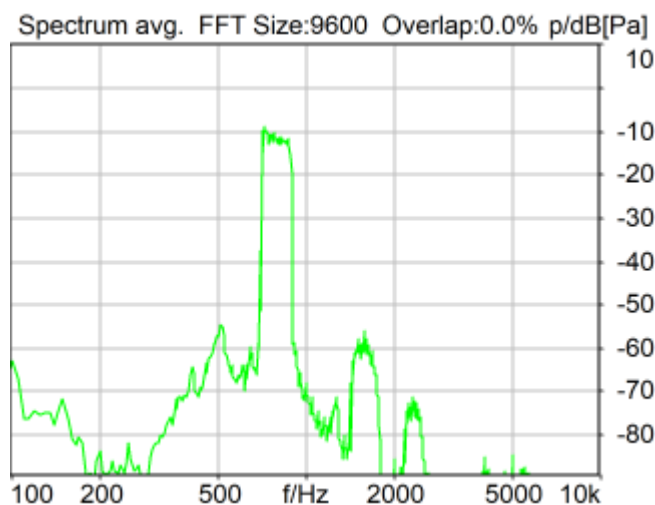
Distortion (Noise) RCV (packed): 41.65 dB (0.83%) Ok

Ok

24/09/10 9:03 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): 44.63 dB (0.59%) Ok

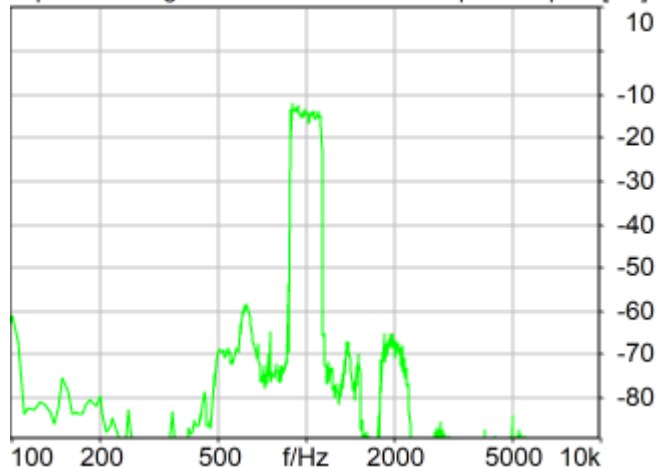
Ok

24/09/10 9:03 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

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



Distortion (Noise) RCV (packed): 48.00 dB (0.40%) Ok

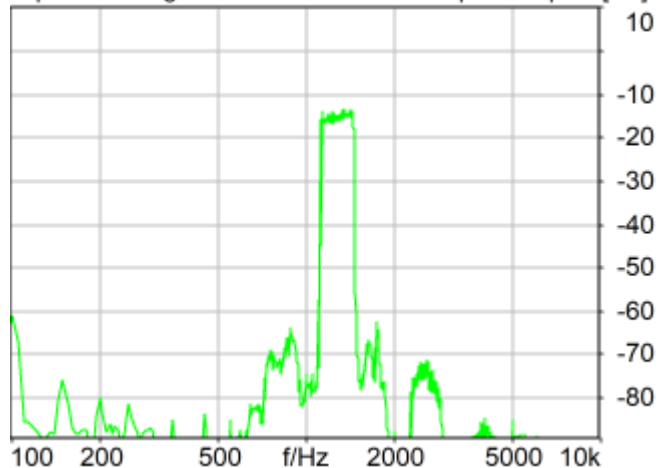
Ok

24/09/10 9:04 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): 33.76 dB (2.05%) Ok

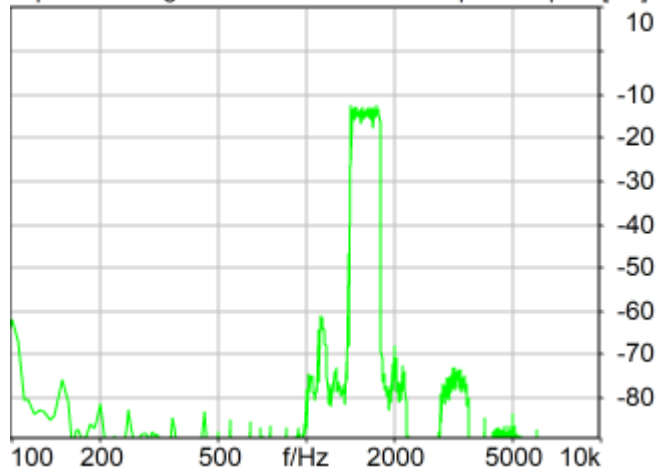
Ok

24/09/10 9:04 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

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



Distortion (Noise) RCV (packed): 53.10 dB (0.22%) Ok

Ok

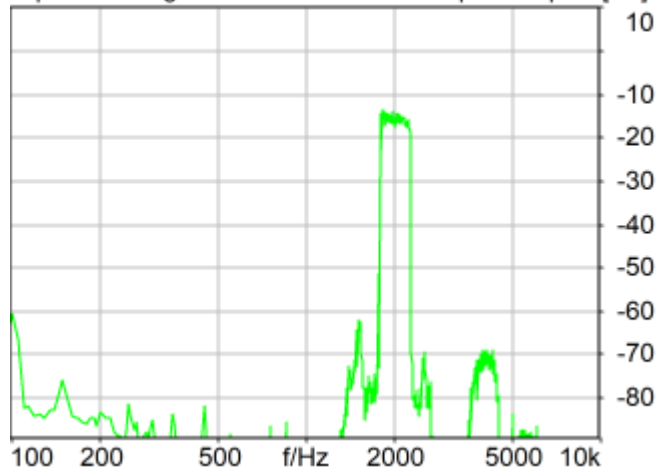
24/09/10 9:05 ACQUA 5.1.200



## 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]



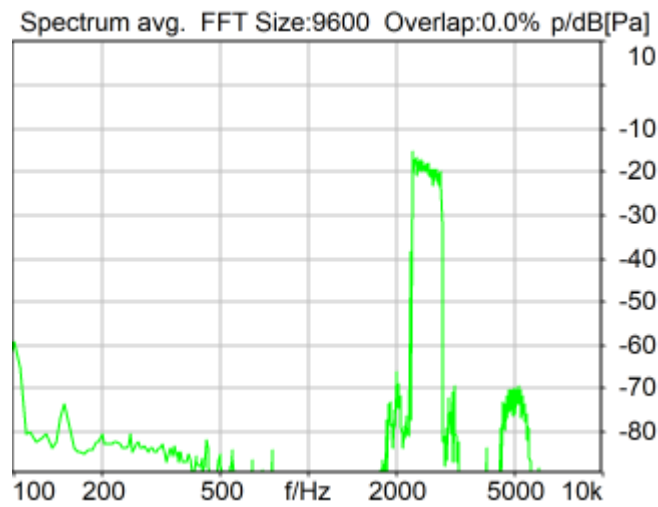
Distortion (Noise) RCV (packed): 50.43 dB (0.30%) Ok

Ok

24/09/10 9:05 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



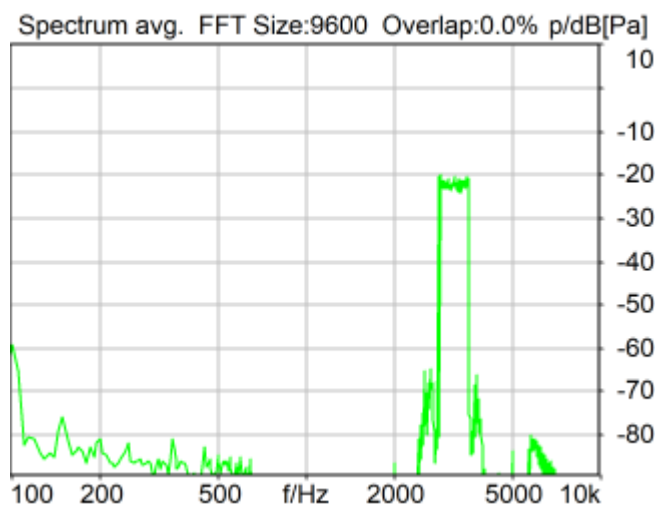
Distortion (Noise) RCV (packed): 49.55 dB (0.33%) Ok

Ok

24/09/10 9:06 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



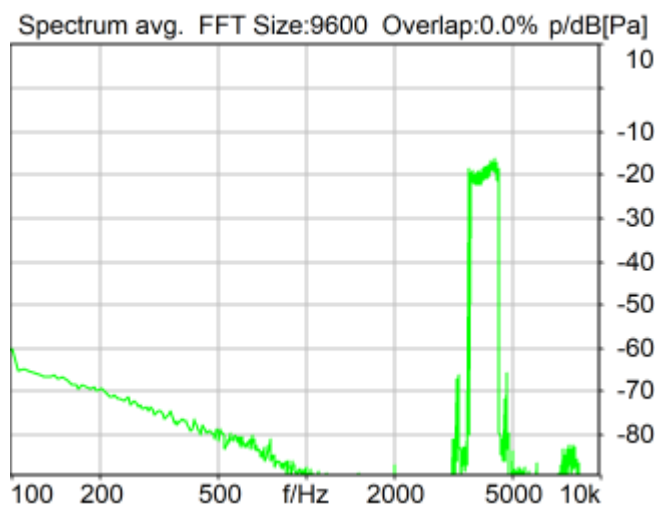
Distortion (Noise) RCV (packed): 49.44 dB (0.34%) Ok

Ok

24/09/10 9:06 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): 54.90 dB (0.18%) Ok

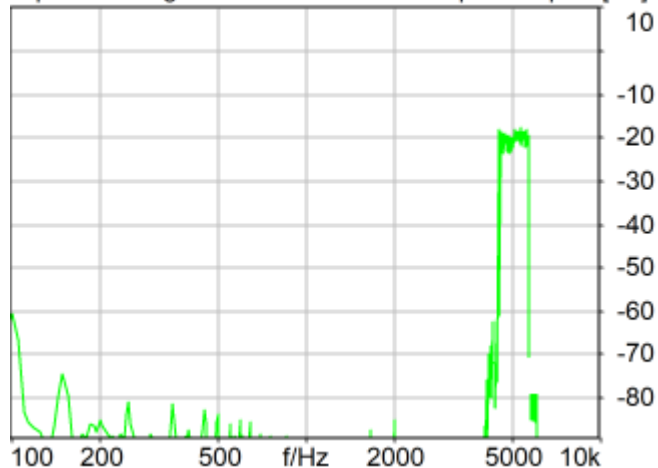
Ok

24/09/10 9:07 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

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



Distortion (Noise) RCV (packed): 54.33 dB (0.19%) Ok

Ok

24/09/10 9:07 ACQUA 5.1.200

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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	20.63 dB
2	315Hz	27.69 dB
3	400Hz	30.52 dB
4	500Hz	36.64 dB
5	630Hz	41.65 dB
6	800Hz	44.63 dB
7	1000Hz	48.00 dB
8	1250Hz	33.76 dB
9	1600Hz	53.10 dB
10	2000Hz	50.43 dB
11	2500Hz	49.55 dB
12	3150Hz	49.44 dB
13	4000Hz	54.90 dB
14	5000Hz	54.33 dB

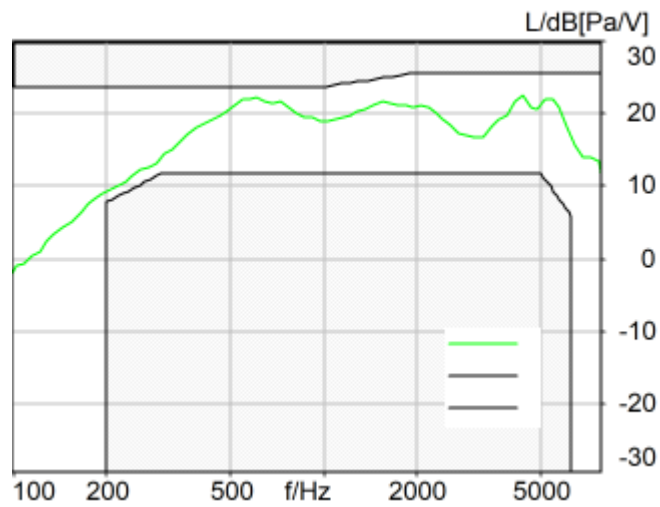
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.63dB at 250Hz.

24/09/10 9:07 ACQUA

### 5.3 Frequency Response 2N FF

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



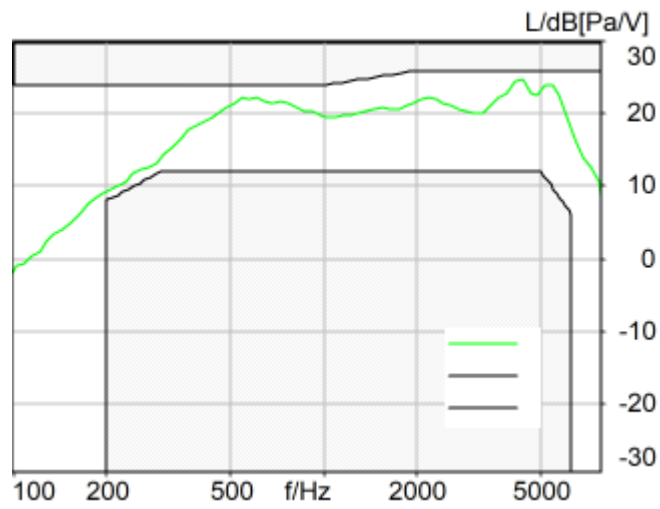
Absolute minimal distance  
1.38 dB at 611.7 Hz Ok

**Ok**

24/09/10 9:08 ACQUA 5.1.200

### **5.3 Frequency Response 2N DF**

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



Absolute minimal distance  
1.15 dB at 230.2 Hz Ok

**Ok**

24/09/10 9:08 ACQUA 5.1.200



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## **Measurement Protocol**

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
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Project	482618
Report Generation Date	24/09/05 16:30
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	229.1	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	94.79	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.77	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.06	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.86	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.07	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.60	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.67	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.67	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.75	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.90	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.05	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.40	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.26	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.58	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.04	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	20.75	WLAN5GHz_802.11a

ACQUA Report  
128kbps\_Ch157\_8N

Title: WLAN5GHz\_802.11a 6Mbps\_EVS WB

and Noise (Conversational Gain)		(occured at 1250Hz)		6Mbps_EVS WB 128kbps_Ch157_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 230.2 Hz	1.06	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 731.5 Hz	1.11	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_8N

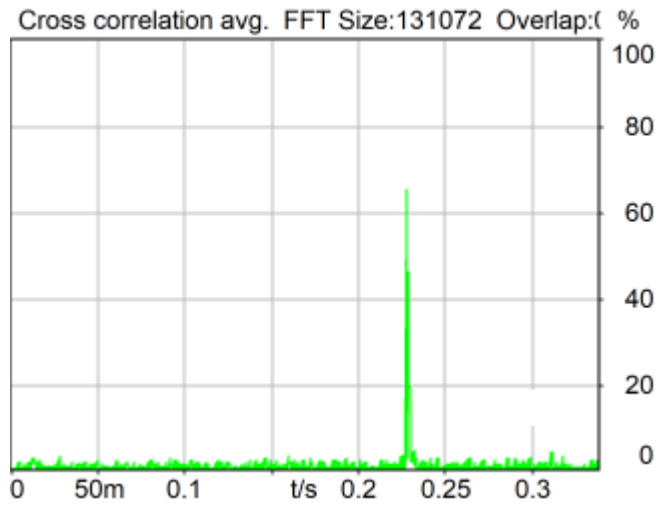
---

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): 229.1 ms

24/09/05 16:20 ACQUA 5.1.200

## 5.1a Receive Volume Control Performance 8N WB

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



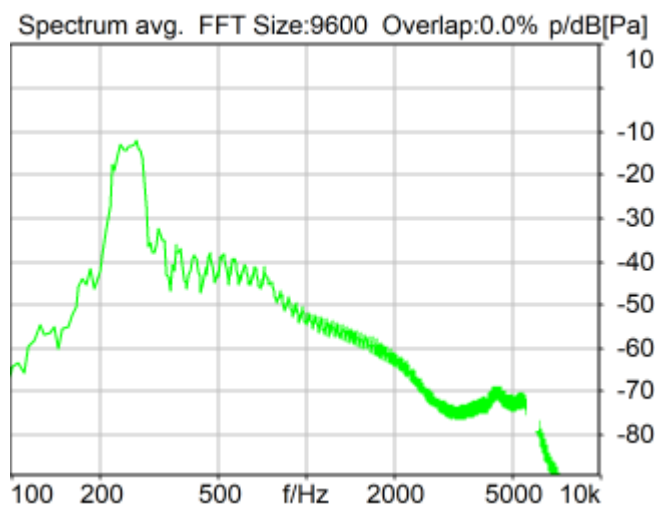
Speech Level RCV: 94.79 dB[SPL], Act.: 82.19% Ok

**Ok**

24/09/05 16:21 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): 20.77 dB (9.16%) Ok

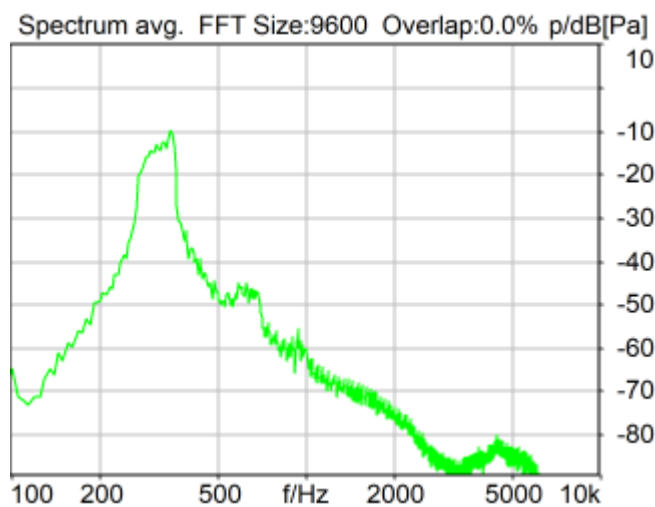
Ok

24/09/05 16:21 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): 28.06 dB (3.95%) Ok

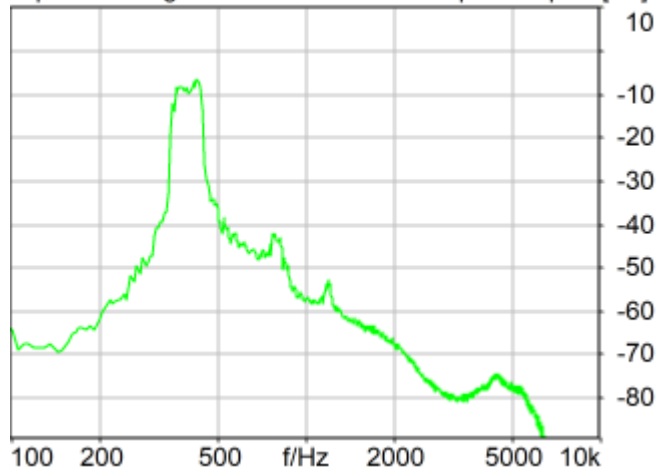
Ok

24/09/05 16:22 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

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



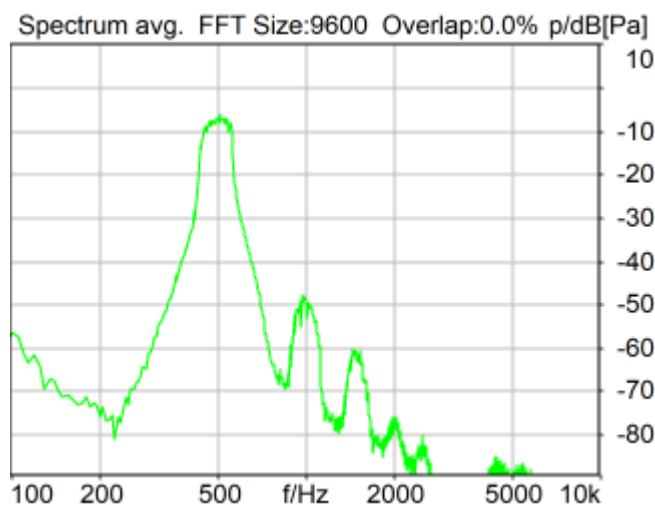
Distortion (Noise) RCV (packed): 29.86 dB (3.21%) Ok

Ok

24/09/05 16:22 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



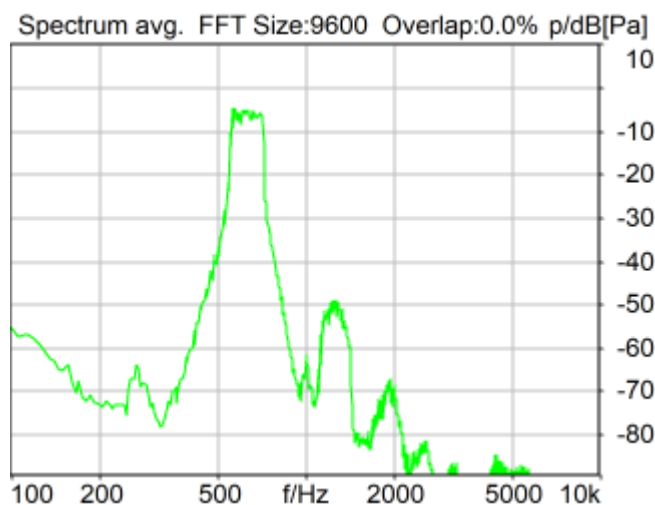
Distortion (Noise) RCV (packed): 30.07 dB (3.14%) Ok

Ok

24/09/05 16:23 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



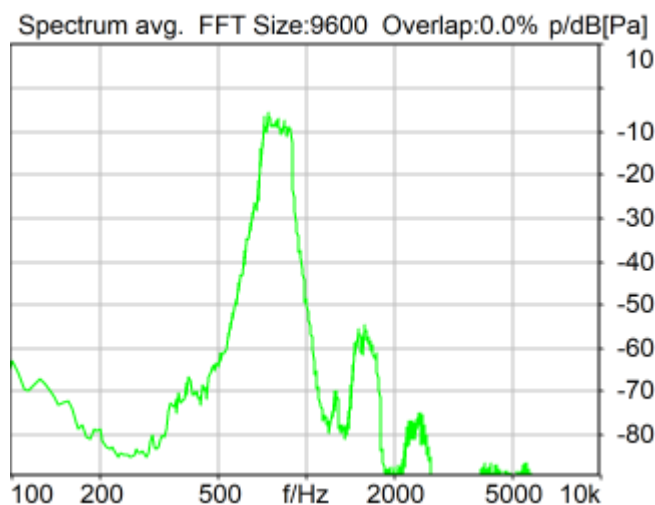
Distortion (Noise) RCV (packed): 34.60 dB (1.86%) Ok

Ok

24/09/05 16:23 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): 28.67 dB (3.69%) Ok

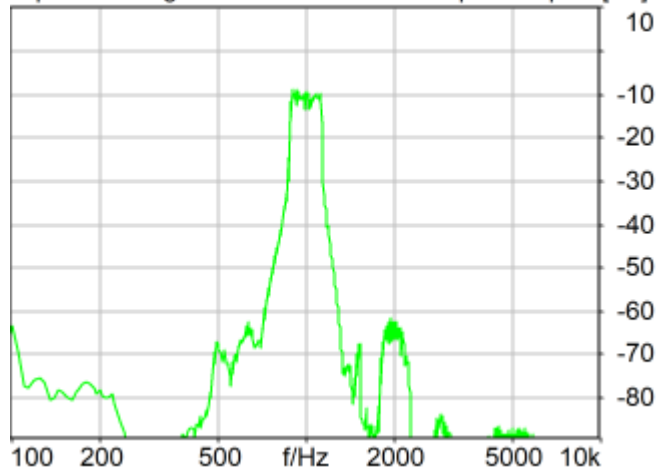
Ok

24/09/05 16:24 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]



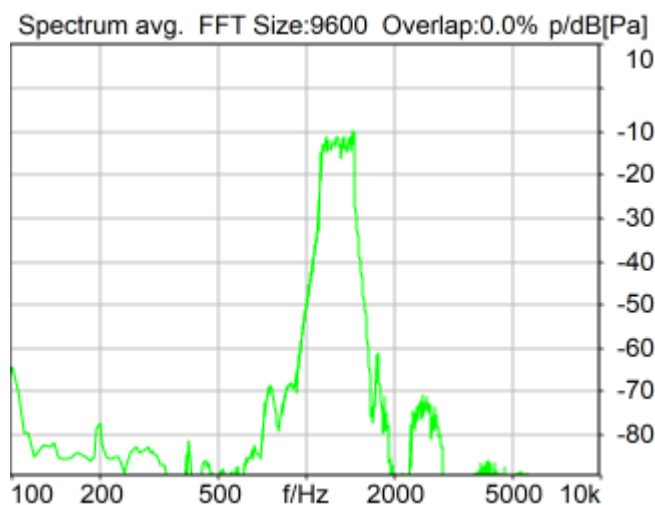
Distortion (Noise) RCV (packed): 32.67 dB (2.32%) Ok

Ok

24/09/05 16:24 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



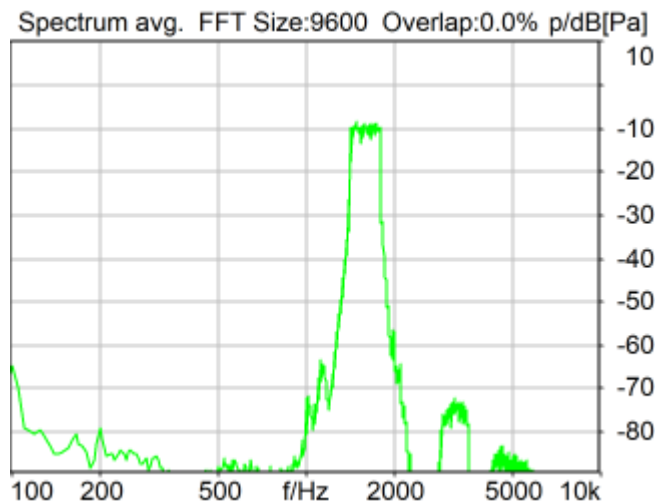
Distortion (Noise) RCV (packed): 20.75 dB (9.17%) Ok

Ok

24/09/05 16:24 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): 35.90 dB (1.60%) Ok

Ok

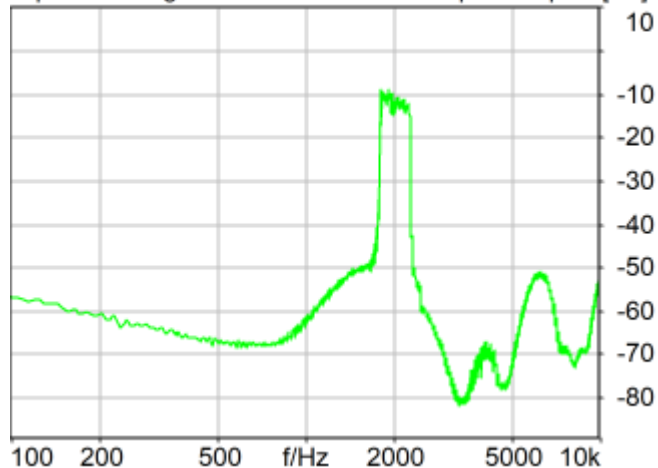
24/09/05 16:25 ACQUA 5.1.200



## 5.2 RCV Distortion and Noise - 2000 Hz WB

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

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



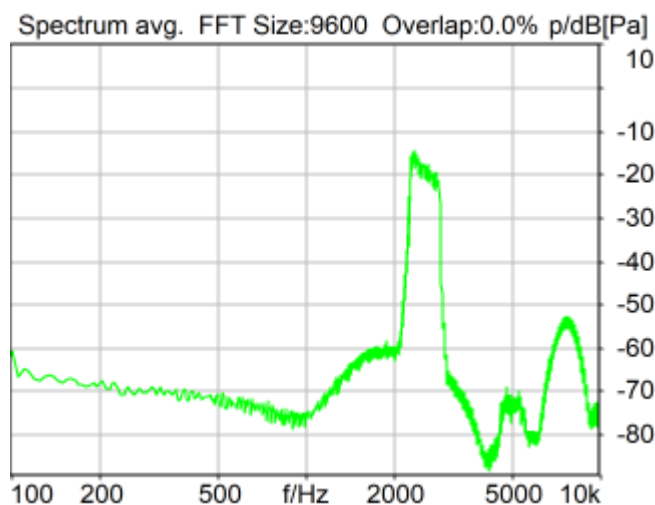
Distortion (Noise) RCV (packed): 32.05 dB (2.50%) Ok

Ok

24/09/05 16:25 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



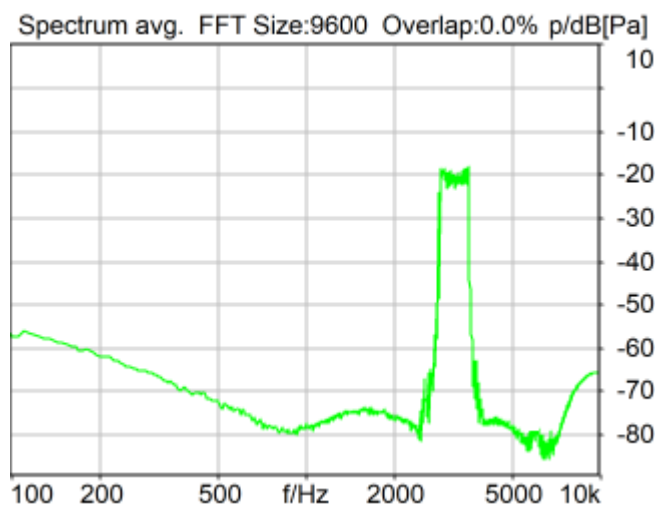
Distortion (Noise) RCV (packed): 28.40 dB (3.80%) Ok

Ok

24/09/05 16:26 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



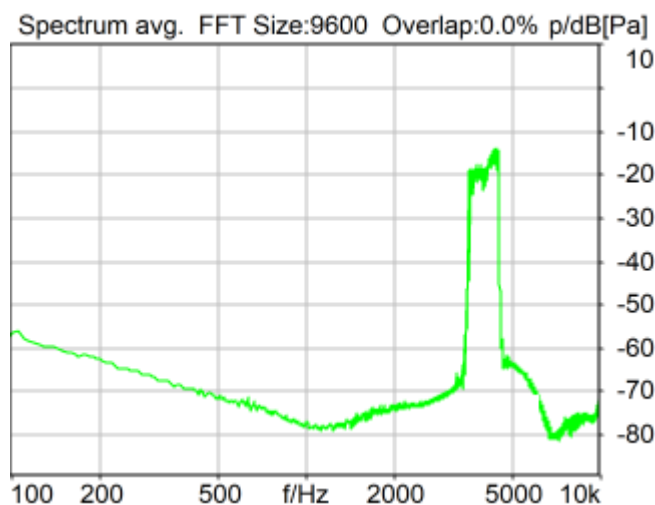
Distortion (Noise) RCV (packed): 37.26 dB (1.37%) Ok

Ok

24/09/05 16:26 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



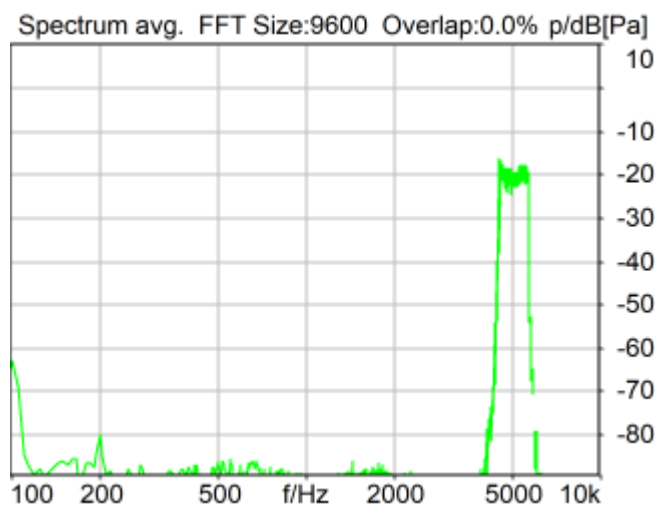
Distortion (Noise) RCV (packed): 34.58 dB (1.87%) Ok

Ok

24/09/05 16:27 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): 39.04 dB (1.12%) Ok

Ok

24/09/05 16:27 ACQUA 5.1.200

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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	20.77 dB
2	315Hz	28.06 dB
3	400Hz	29.86 dB
4	500Hz	30.07 dB
5	630Hz	34.60 dB
6	800Hz	28.67 dB
7	1000Hz	32.67 dB
8	1250Hz	20.75 dB
9	1600Hz	35.90 dB
10	2000Hz	32.05 dB
11	2500Hz	28.40 dB
12	3150Hz	37.26 dB
13	4000Hz	34.58 dB
14	5000Hz	39.04 dB

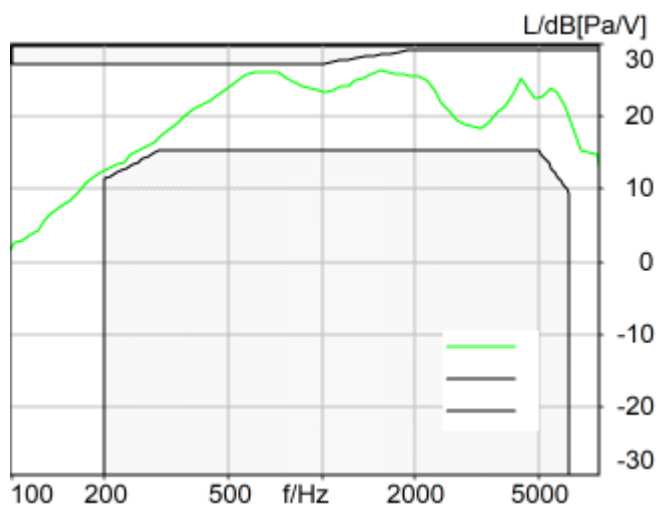
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.75dB at 1250Hz.

24/09/05 16:28 ACQUA

### 5.3 Frequency Response 8N FF

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



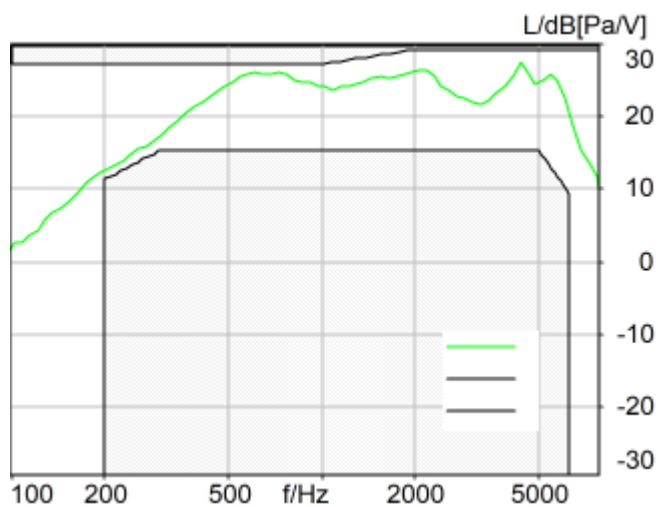
Absolute minimal distance  
1.06 dB at 230.2 Hz Ok

**Ok**

24/09/05 16:29 ACQUA 5.1.200

### 5.3 Frequency Response 8N DF

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



Absolute minimal distance  
1.11 dB at 731.5 Hz Ok

Ok

24/09/05 16:29 ACQUA 5.1.200



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## **Measurement Protocol**

Measurement Object	GSM1900_GSM Voice_AMR WB 6.60kbps_Ch661_2N
--------------------	--

Project	482618
Report Generation Date	24/09/05 10:42
Responsible Person	AC01-KS

---

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	202.5	GSM1900_GSM Voice_AMR WB 6.60kbps_Ch661_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	89.75	GSM1900_GSM Voice_AMR WB 6.60kbps_Ch661_2N

ACQUA Report  
60kbps\_Ch661\_2N

Title: GSM1900\_GSM Voice\_AMR WB 6.

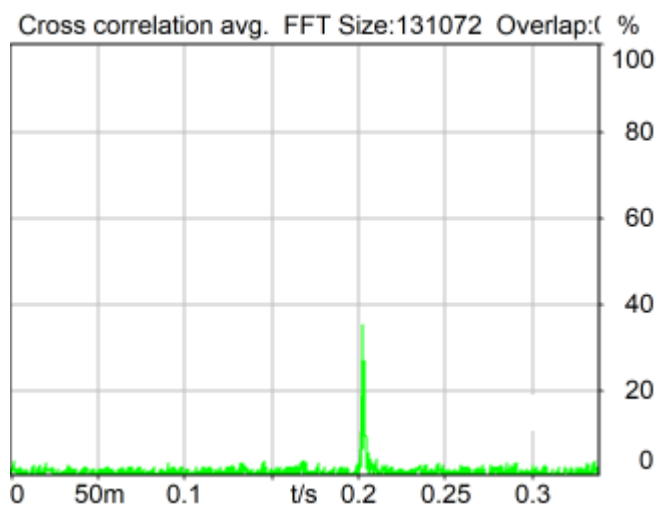
---

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



## Overall Receive Delay WB

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

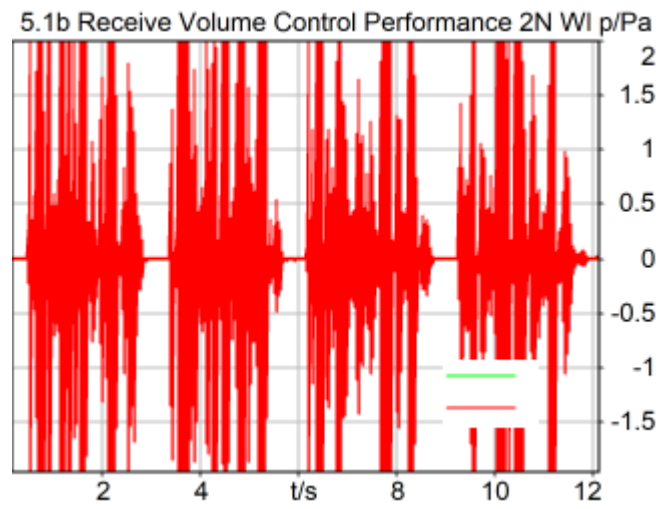


Delay (Cross): 202.5 ms

24/09/05 10:41 ACQUA 5.1.200

## 5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 89.75 dB[SPL], Act.: 80.22% Ok

**Ok**

24/09/05 10:42 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	WCDMA II_Voice_AMR WB 6.60kbps_Ch9400_2N
--------------------	--

Project	482618
Report Generation Date	24/09/05 11:16
Responsible Person	AC01-KS

---

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	198.0	WCDMA II_Voice_AMR WB 6. 60kbps_Ch9400_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	89.53	WCDMA II_Voice_AMR WB 6. 60kbps_Ch9400_2N



ACQUA Report  
60kbps\_Ch9400\_2N

Title: WCDMA II\_Voice\_AMR WB 6.

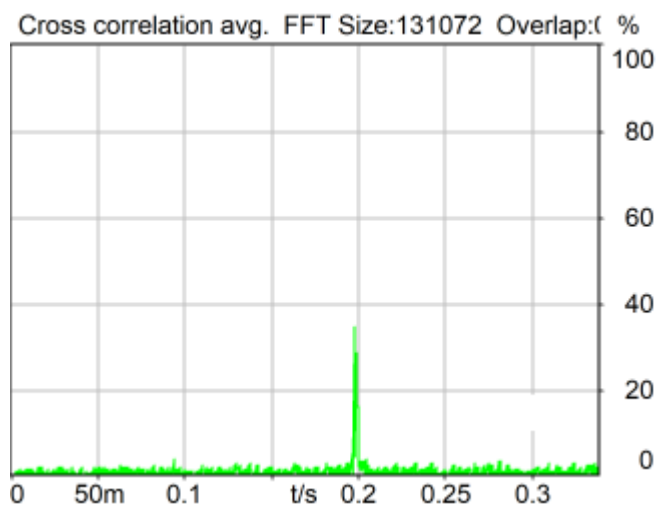
---

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



### Overall Receive Delay WB

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

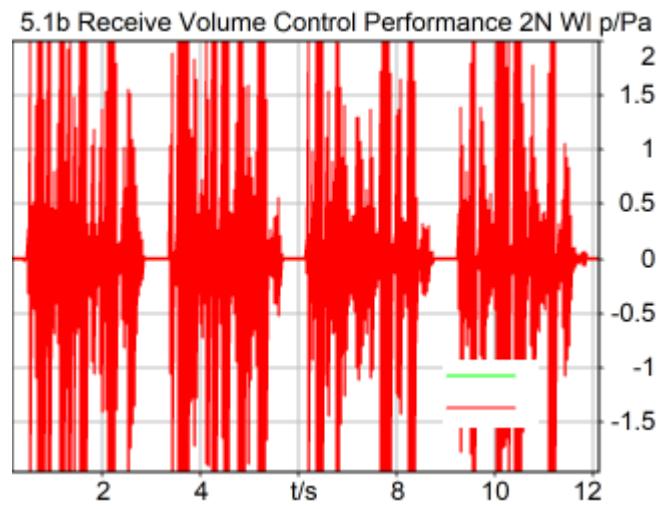


Delay (Cross): 198.0 ms

24/09/05 11:16 ACQUA 5.1.200

## 5.1b Receive Volume Control Performance 2N WB

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



Speech Level RCV: 89.53 dB[SPL], Act.: 81.42% Ok

**Ok**

24/09/05 11:16 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
--------------------	---

Project	482618
Report Generation Date	24/08/30 11:29
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	108.6	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	87.43	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.39	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.50	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.24	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.35	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.94	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	48.57	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	51.67	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.30	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	54.83	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.09	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	51.84	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.44	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	55.32	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	48.06	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	26.39	LTE Band

ACQUA Report  
 66\_20M\_QPSK\_1RB\_0Offset\_EVS WB 128kbps\_Ch132322\_2N

Title: LTE Band

and Noise (Conversational Gain)		, (occured at 250Hz)		66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 5767.3 Hz	1.52	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 5767.3 Hz	0.64	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N

---

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV Distortion and Noise - 800 Hz WB	13
5.2 RCV Distortion and Noise - 1000 Hz WB	14
5.2 RCV Distortion and Noise - 1250 Hz WB	15
5.2 RCV Distortion and Noise - 1600 Hz WB	16
5.2 RCV Distortion and Noise - 2000 Hz WB	17
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

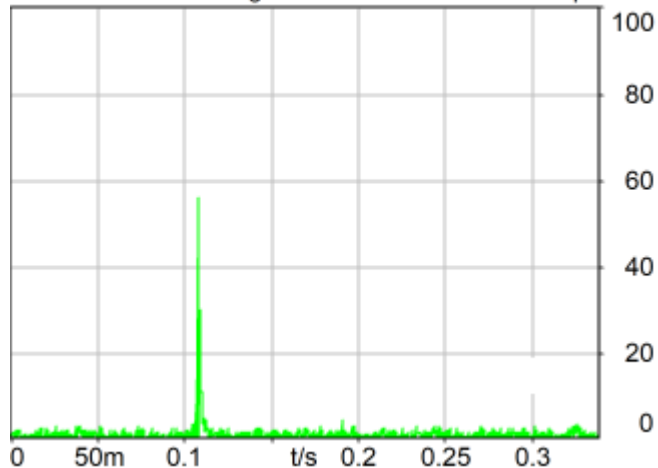




### Overall Receive Delay WB

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

Cross correlation avg. FFT Size:131072 Overlap:( %

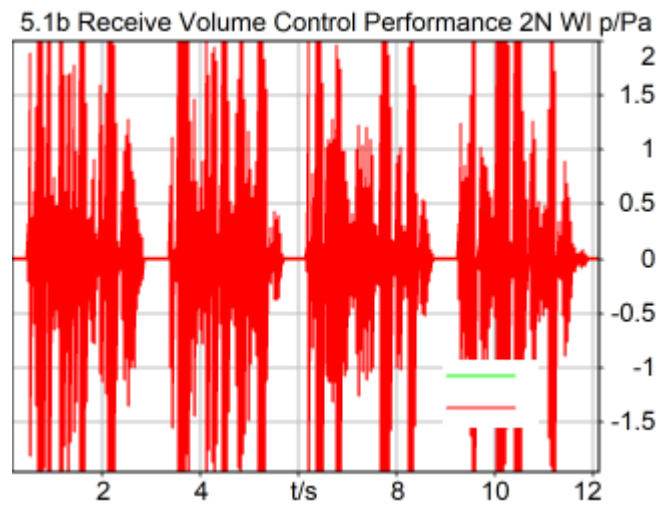


Delay (Cross): 108.6 ms

24/08/30 11:21 ACQUA 5.1.200

## 5.1b Receive Volume Control Performance 2N WB

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



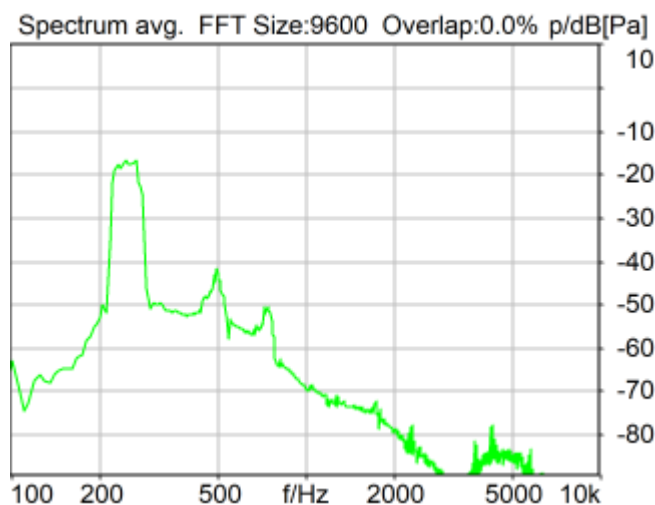
Speech Level RCV: 87.43 dB[SPL], Act.: 82.78% Ok

**Ok**

24/08/30 11:22 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



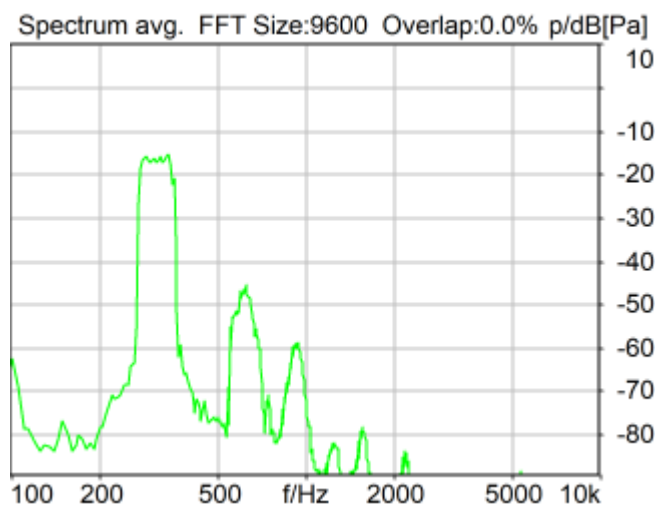
Distortion (Noise) RCV (packed): 26.39 dB (4.79%) Ok

Ok

24/08/30 11:22 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



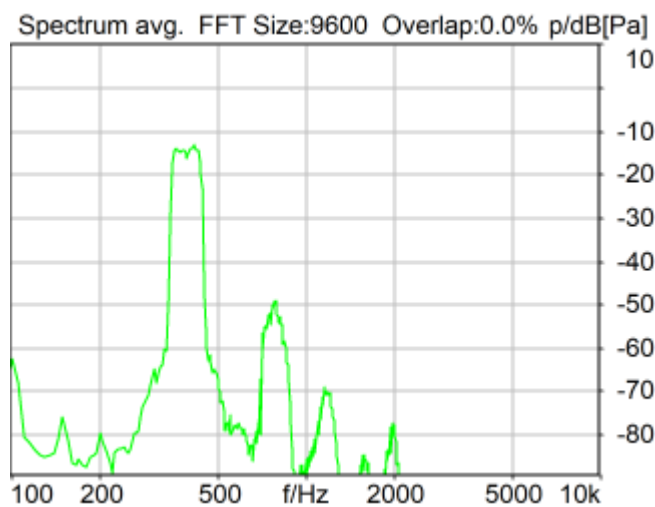
Distortion (Noise) RCV (packed): 32.50 dB (2.37%) Ok

Ok

24/08/30 11:22 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



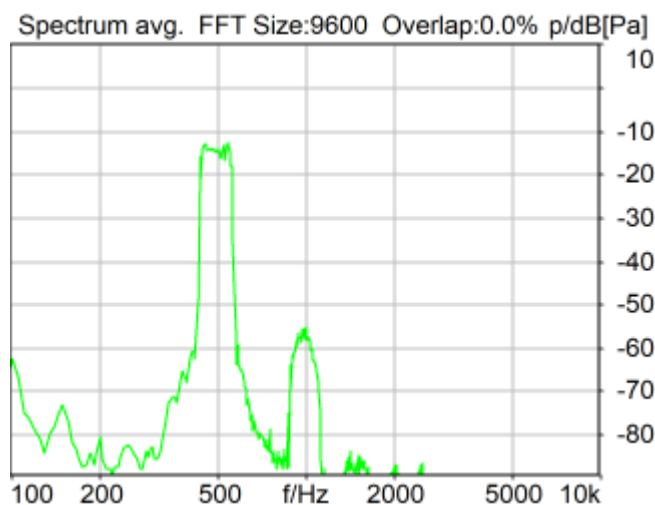
Distortion (Noise) RCV (packed): 37.24 dB (1.37%) Ok

Ok

24/08/30 11:23 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



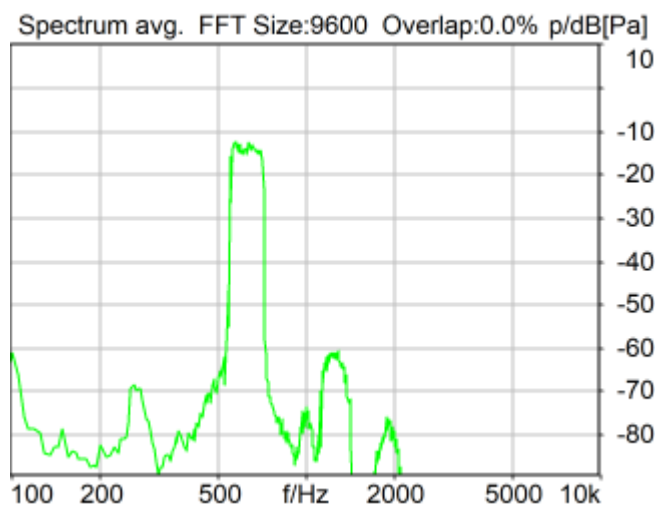
Distortion (Noise) RCV (packed): 42.35 dB (0.76%) Ok

Ok

24/08/30 11:23 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



Distortion (Noise) RCV (packed): 45.94 dB (0.50%) Ok

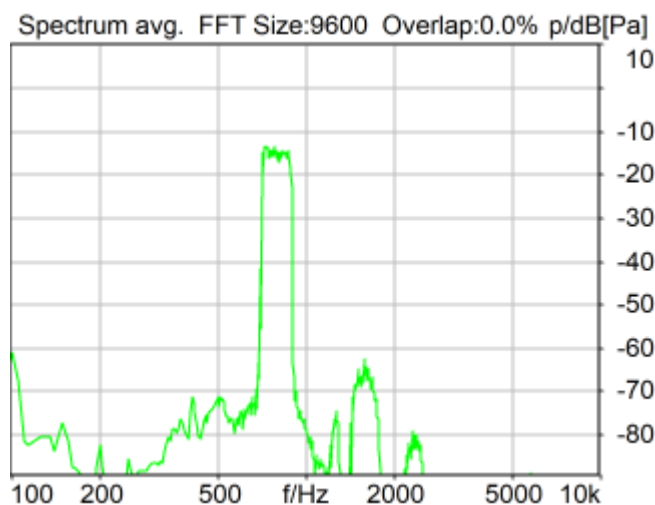
Ok

24/08/30 11:24 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



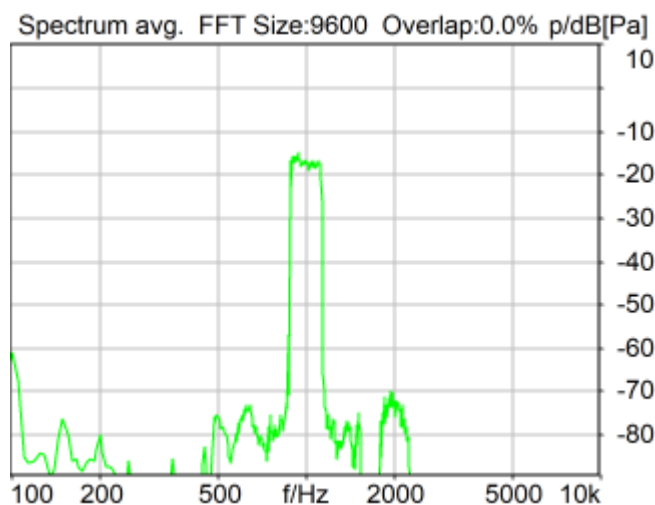
Distortion (Noise) RCV (packed): 48.57 dB (0.37%) Ok

Ok

24/08/30 11:24 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



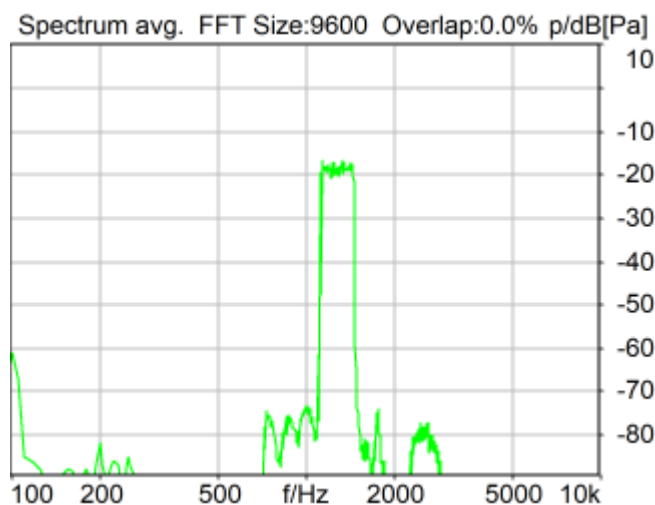
Distortion (Noise) RCV (packed): 51.67 dB (0.26%) Ok

Ok

24/08/30 11:25 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



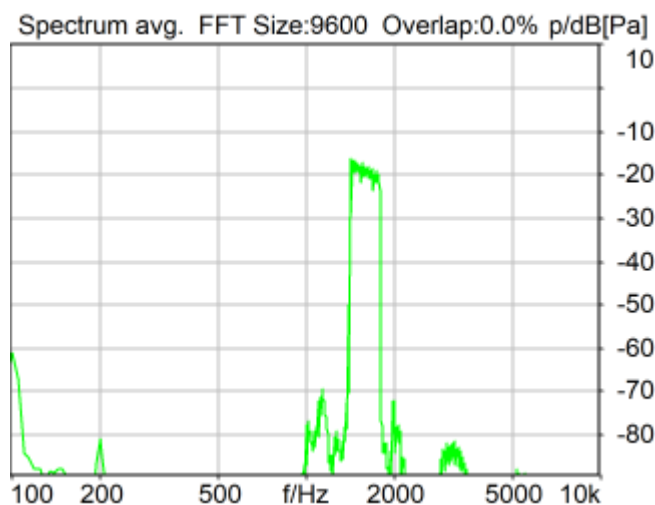
Distortion (Noise) RCV (packed): 34.30 dB (1.93%) Ok

Ok

24/08/30 11:25 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



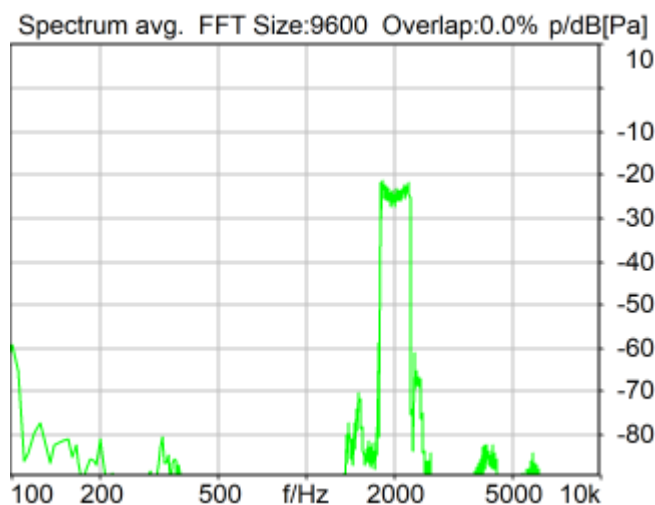
Distortion (Noise) RCV (packed): 54.83 dB (0.18%) Ok

Ok

24/08/30 11:26 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): 45.09 dB (0.56%) Ok

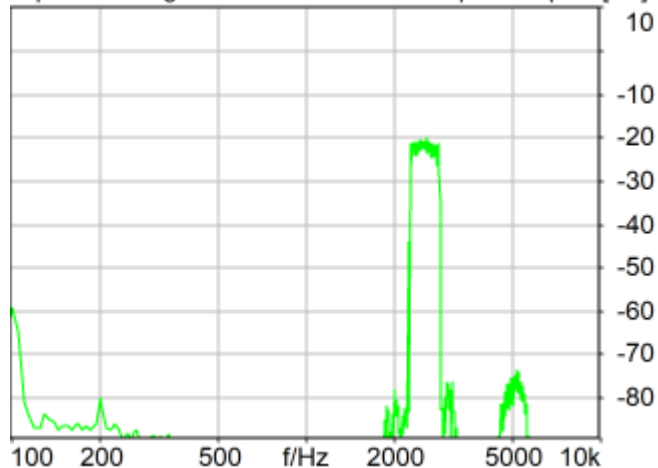
Ok

24/08/30 11:26 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): 51.84 dB (0.26%) Ok

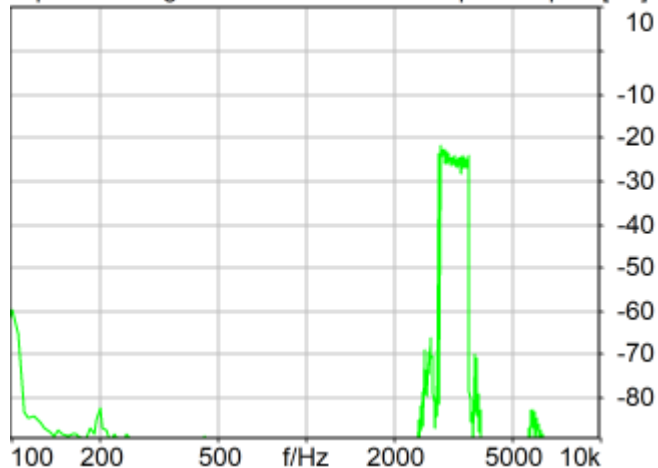
Ok

24/08/30 11:26 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

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



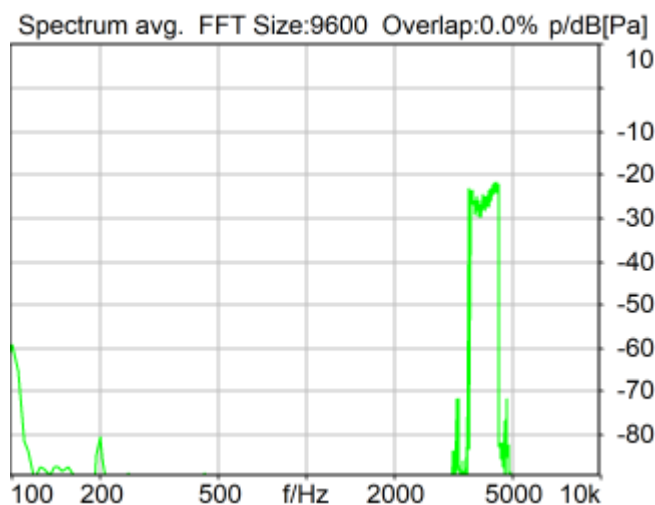
Distortion (Noise) RCV (packed): 49.44 dB (0.34%) Ok

Ok

24/08/30 11:27 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): 55.32 dB (0.17%) Ok

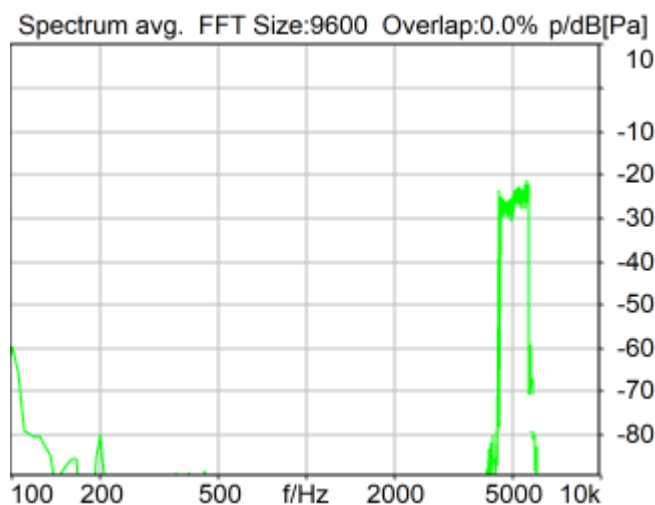
Ok

24/08/30 11:27 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): 48.06 dB (0.40%) Ok

Ok

24/08/30 11:28 ACQUA 5.1.200

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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	26.39 dB
2	315Hz	32.50 dB
3	400Hz	37.24 dB
4	500Hz	42.35 dB
5	630Hz	45.94 dB
6	800Hz	48.57 dB
7	1000Hz	51.67 dB
8	1250Hz	34.30 dB
9	1600Hz	54.83 dB
10	2000Hz	45.09 dB
11	2500Hz	51.84 dB
12	3150Hz	49.44 dB
13	4000Hz	55.32 dB
14	5000Hz	48.06 dB

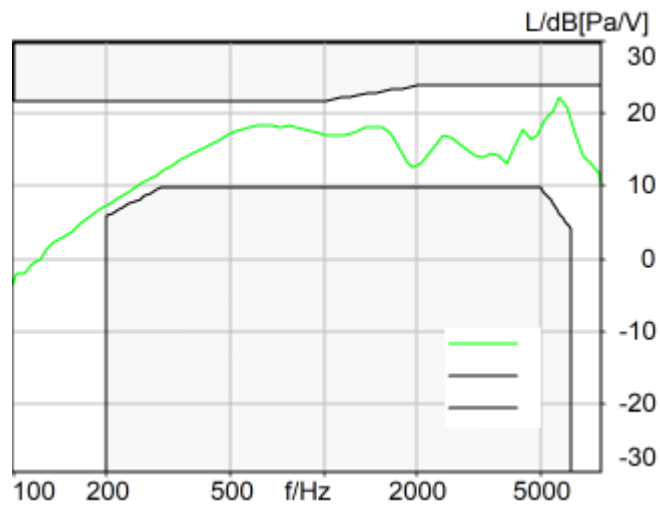
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 26.39dB at 250Hz.

24/08/30 11:28 ACQUA

### 5.3 Frequency Response 2N FF

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



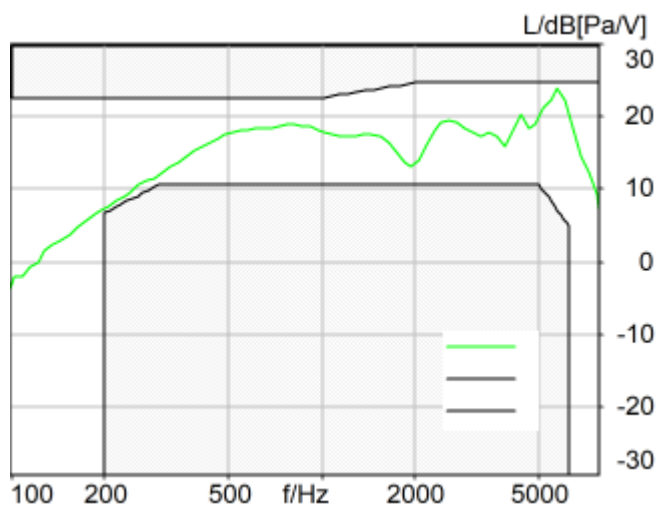
Absolute minimal distance  
1.52 dB at 5767.3 Hz Ok

**Ok**

24/08/30 11:28 ACQUA 5.1.200

### 5.3 Frequency Response 2N DF

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



Absolute minimal distance  
0.64 dB at 5767.3 Hz Ok

Ok

24/08/30 11:29 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
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Project	482618
Report Generation Date	24/08/30 10:42
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	109.7	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	91.81	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.91	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.25	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.17	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.09	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.89	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.13	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	51.66	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.22	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	55.34	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.98	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	51.87	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.45	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	54.66	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.01	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	25.91	LTE Band

ACQUA Report

Title: LTE Band

71\_20M\_QPSK\_1RB\_0Offset\_EVS WB 128kbps\_Ch133297\_8N

and Noise (Conversational Gain)		, (occured at 250Hz)		71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 5767.3 Hz	1.84	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 5767.3 Hz	1.44	LTE Band 71_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch133297_8N

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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

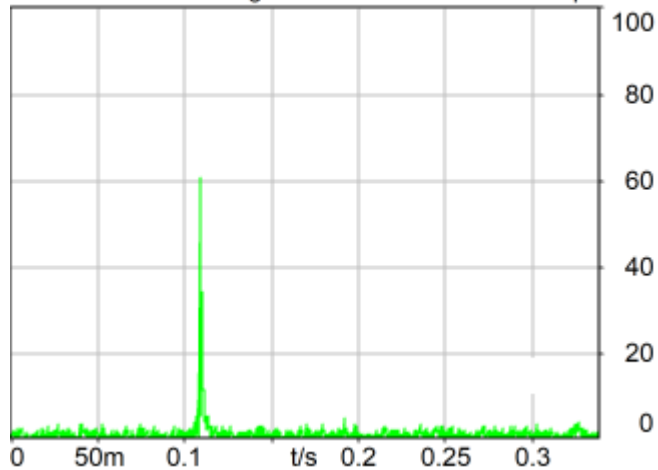




## Overall Receive Delay WB

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

Cross correlation avg. FFT Size:131072 Overlap:( %

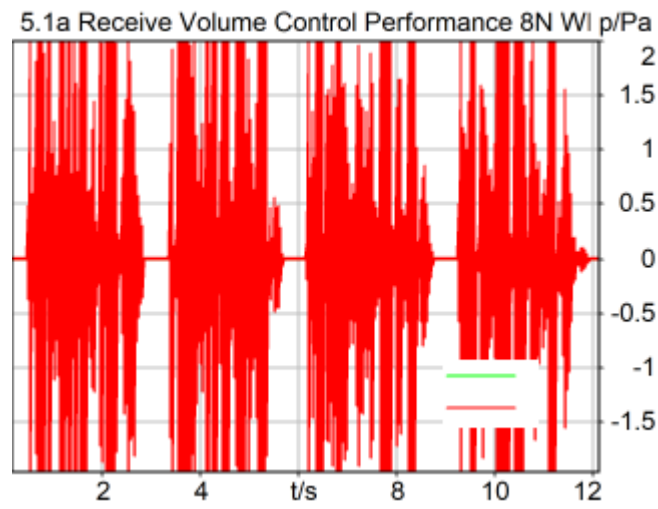


Delay (Cross): 109.7 ms

24/08/30 9:33 ACQUA 5.1.200

## 5.1a Receive Volume Control Performance 8N WB

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



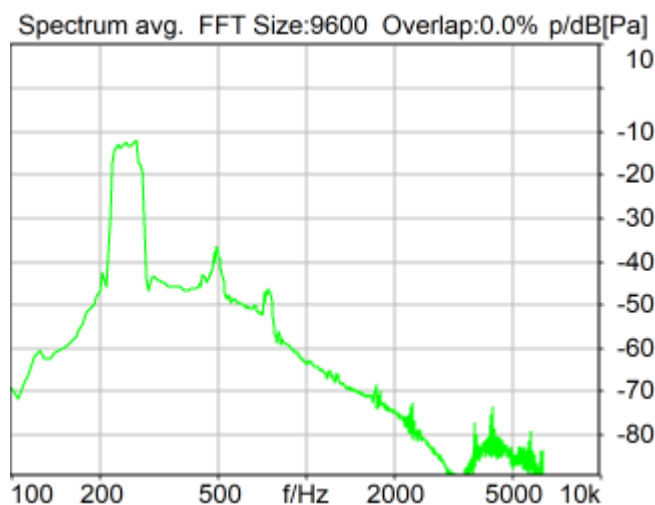
Speech Level RCV: 91.81 dB[SPL], Act.: 81.77% Ok

**Ok**

24/08/30 9:34 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



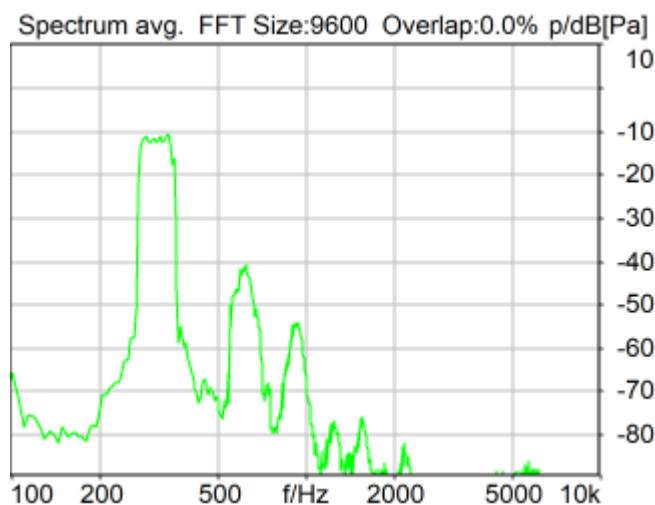
Distortion (Noise) RCV (packed): 25.91 dB (5.06%) Ok

Ok

24/08/30 9:34 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



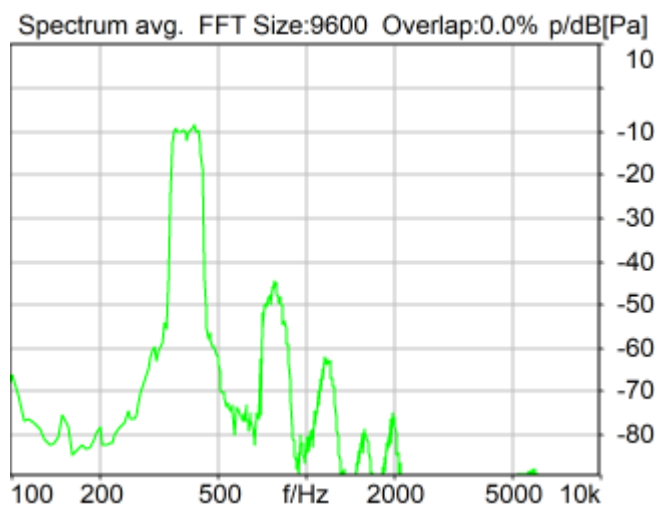
Distortion (Noise) RCV (packed): 32.25 dB (2.44%) Ok

Ok

24/08/30 9:35 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): 37.17 dB (1.39%) Ok

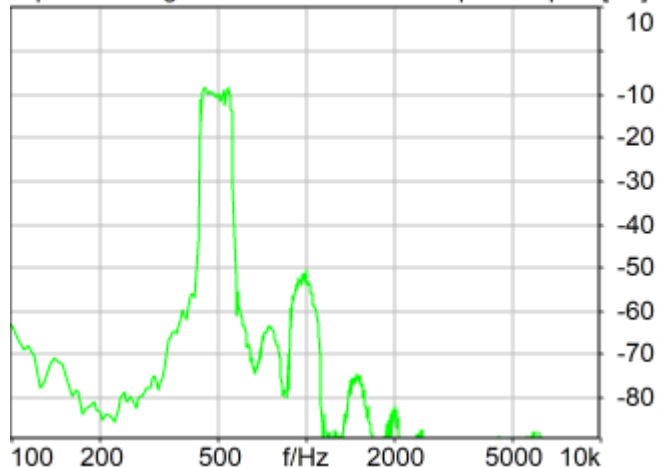
Ok

24/08/30 9:35 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

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



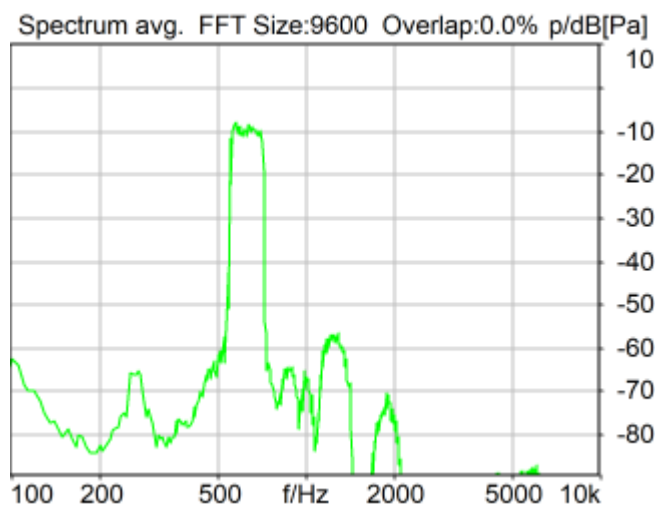
Distortion (Noise) RCV (packed): 42.09 dB (0.79%) Ok

Ok

24/08/30 9:35 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): 45.89 dB (0.51%) Ok

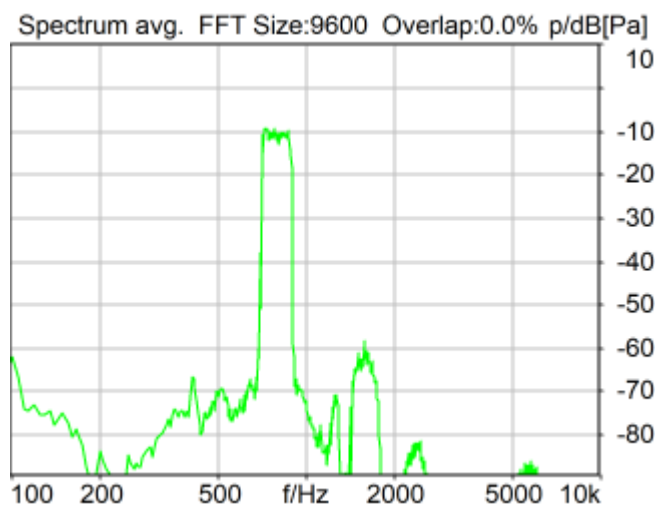
Ok

24/08/30 9:36 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): 49.13 dB (0.35%) Ok

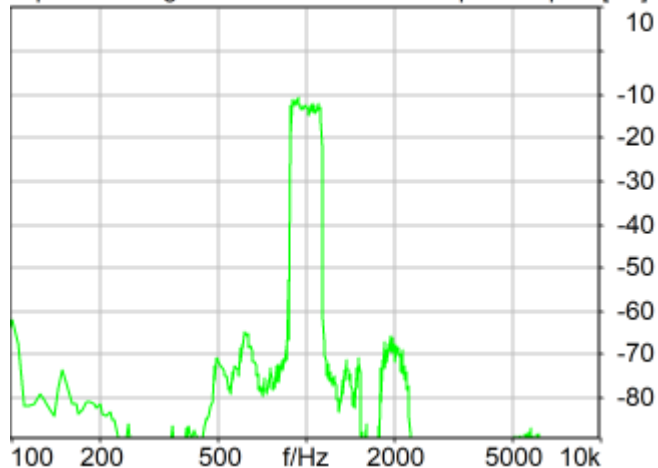
Ok

24/08/30 9:36 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]



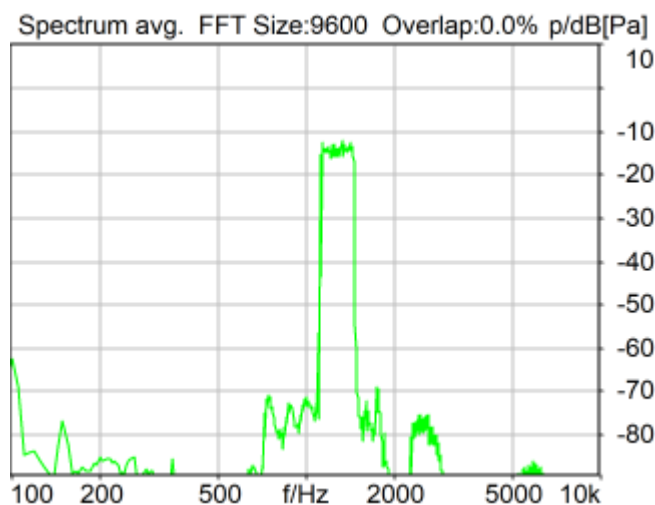
Distortion (Noise) RCV (packed): 51.66 dB (0.26%) Ok

Ok

24/08/30 9:37 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



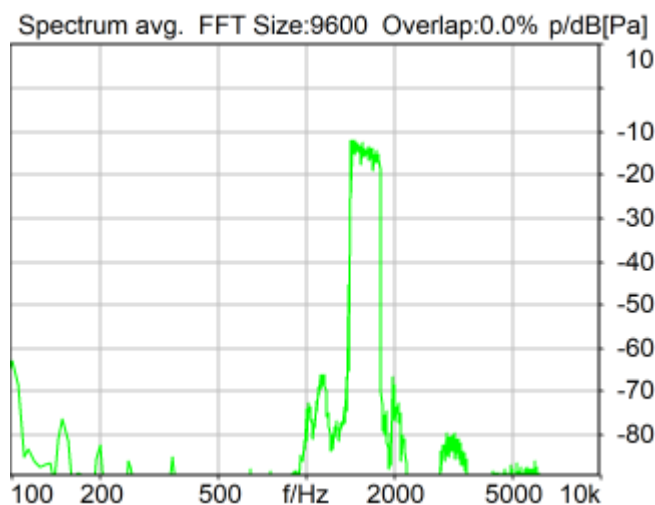
Distortion (Noise) RCV (packed): 34.22 dB (1.95%) Ok

Ok

24/08/30 9:37 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 8N



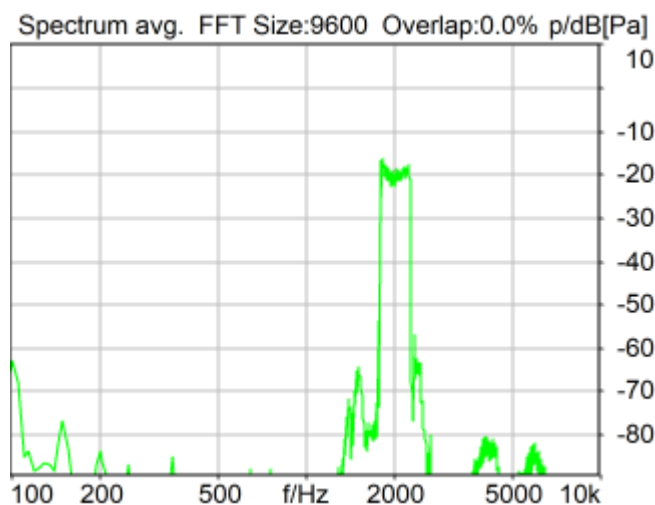
Distortion (Noise) RCV (packed): 55.34 dB (0.17%) Ok

Ok

24/08/30 9:38 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



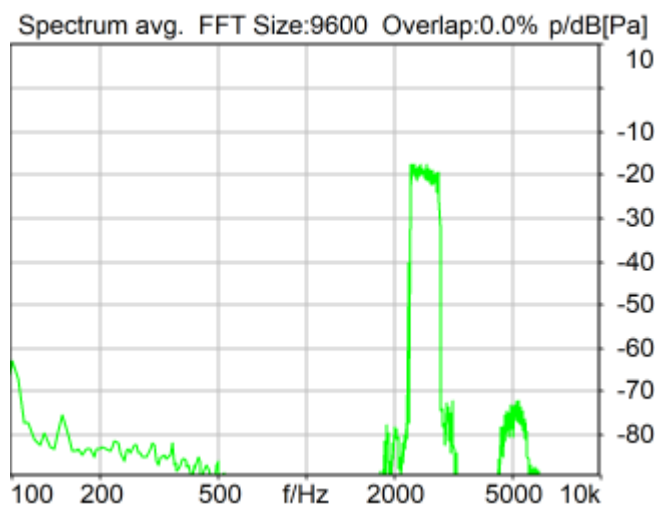
Distortion (Noise) RCV (packed): 45.98 dB (0.50%) Ok

Ok

24/08/30 9:38 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



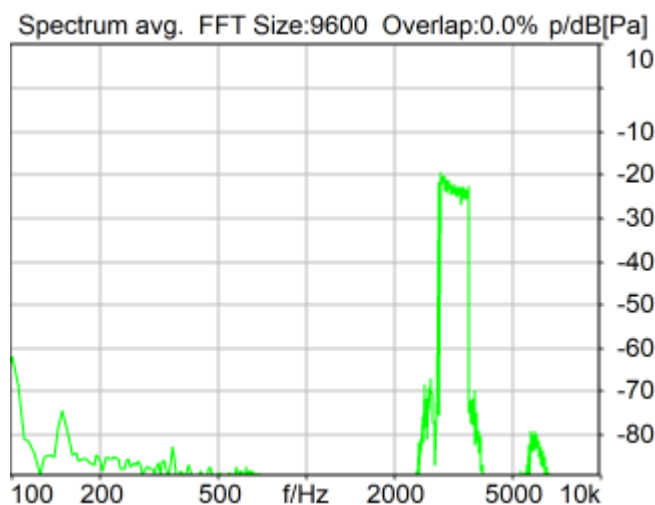
Distortion (Noise) RCV (packed): 51.87 dB (0.25%) Ok

Ok

24/08/30 9:39 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



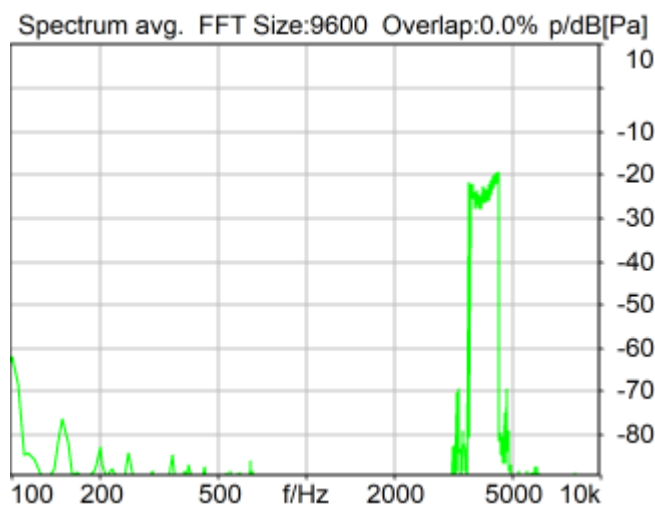
Distortion (Noise) RCV (packed): 49.45 dB (0.34%) Ok

Ok

24/08/30 9:39 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): 54.66 dB (0.18%) Ok

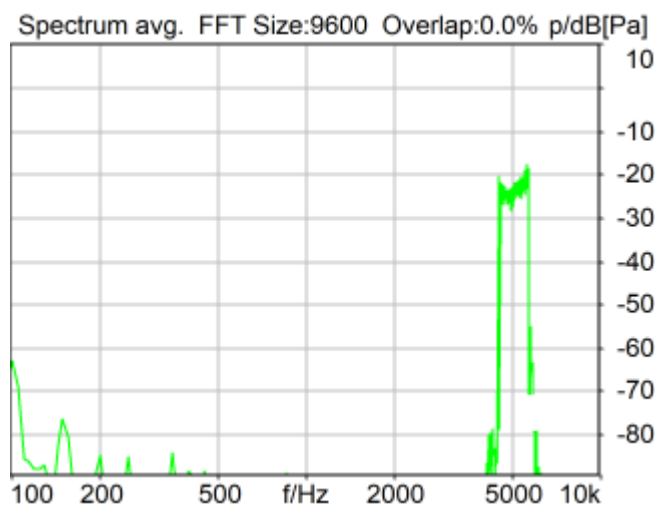
Ok

24/08/30 9:40 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): 47.01 dB (0.45%) Ok

Ok

24/08/30 9:40 ACQUA 5.1.200

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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	25.91 dB
2	315Hz	32.25 dB
3	400Hz	37.17 dB
4	500Hz	42.09 dB
5	630Hz	45.89 dB
6	800Hz	49.13 dB
7	1000Hz	51.66 dB
8	1250Hz	34.22 dB
9	1600Hz	55.34 dB
10	2000Hz	45.98 dB
11	2500Hz	51.87 dB
12	3150Hz	49.45 dB
13	4000Hz	54.66 dB
14	5000Hz	47.01 dB

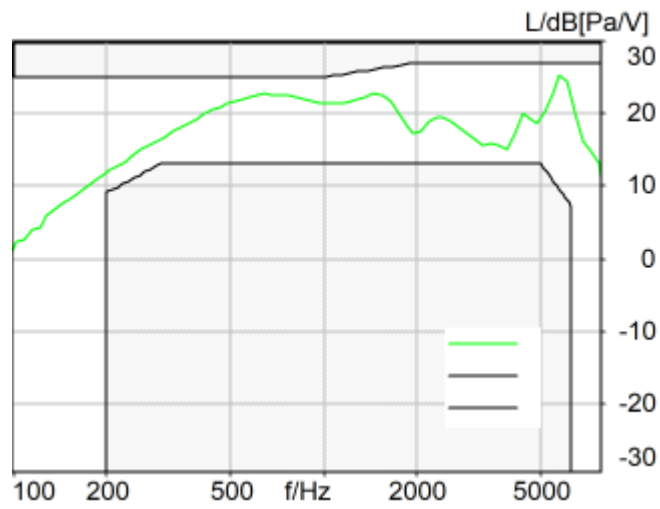
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 25.91dB at 250Hz.

24/08/30 9:57 ACQUA

### 5.3 Frequency Response 8N FF

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



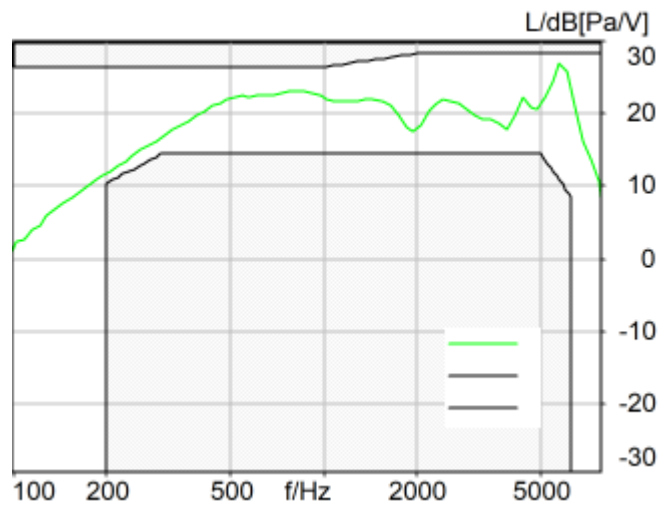
Absolute minimal distance  
1.84 dB at 5767.3 Hz Ok

**Ok**

24/08/30 9:57 ACQUA 5.1.200

### 5.3 Frequency Response 8N DF

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



Absolute minimal distance  
1.44 dB at 5767.3 Hz Ok

**Ok**

24/08/30 9:57 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
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Project	482618
Report Generation Date	24/09/11 16:22
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	228.7	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	90.13	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.05	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.90	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.08	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.55	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.22	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.43	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.57	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.96	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	53.04	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	50.07	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.91	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.38	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	56.06	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	56.17	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	23.05	FR1

ACQUA Report  
WB 128kbps\_Ch656000\_2N

Title: FR1 n77\_100M\_QPSK\_1RB\_1Offset\_EVS

and Noise (Conversational Gain)		(occured at 250Hz)		n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.34	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 4369.4 Hz	0.96	FR1 n77_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch656000_2N

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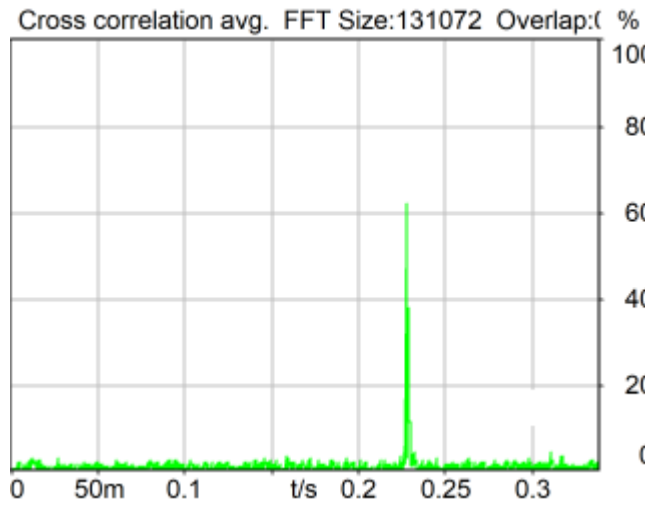
Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV 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

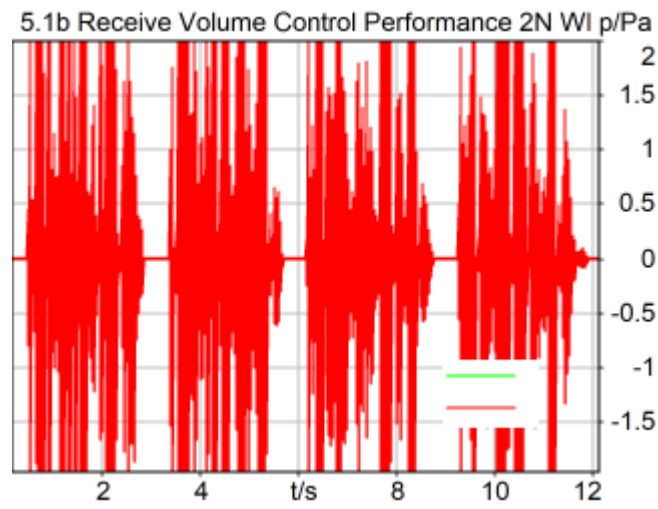


Delay (Cross): 228.7 ms

24/09/09 14:37 ACQUA 5.1.200

## 5.1b Receive Volume Control Performance 2N WB

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



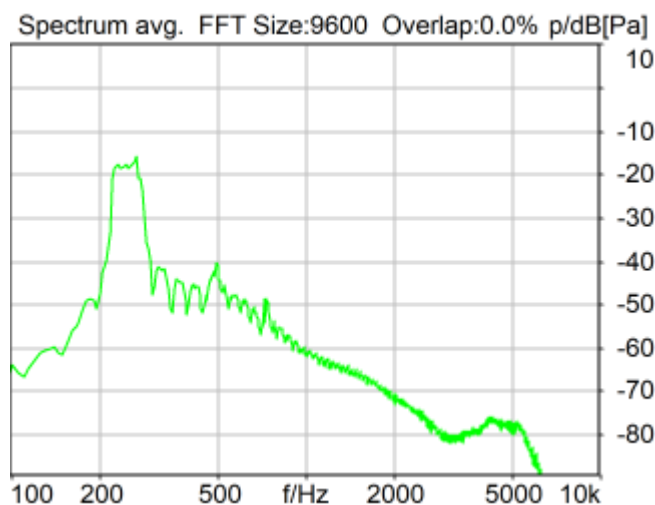
Speech Level RCV: 90.13 dB[SPL], Act.: 83.93% Ok

**Ok**

24/09/09 14:37 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



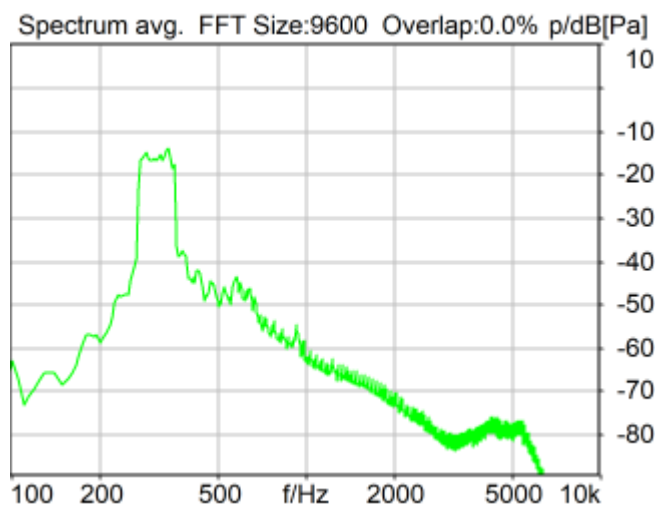
Distortion (Noise) RCV (packed): 23.05 dB (7.04%) Ok

Ok

24/09/09 14:37 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



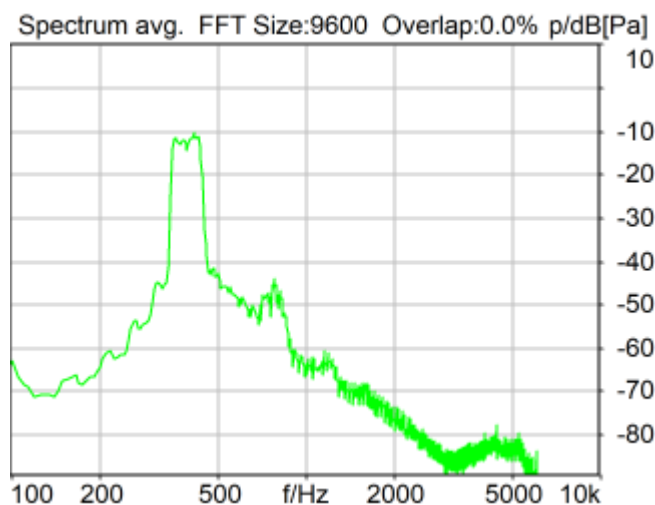
Distortion (Noise) RCV (packed): 26.90 dB (4.52%) Ok

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



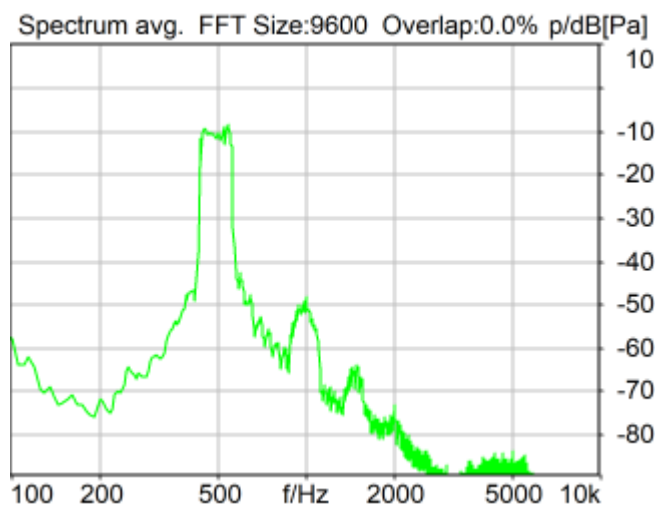
Distortion (Noise) RCV (packed): 31.08 dB (2.79%) Ok

Ok

24/09/09 14:38 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



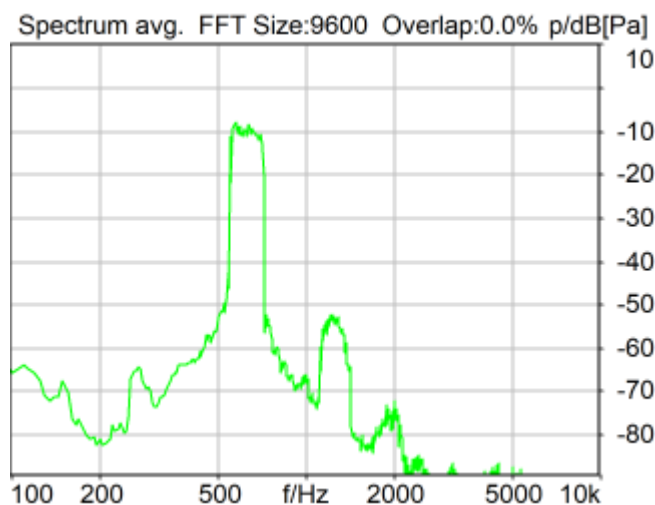
Distortion (Noise) RCV (packed): 36.55 dB (1.49%) Ok

Ok

24/09/09 14:39 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



Distortion (Noise) RCV (packed): 41.22 dB (0.87%) Ok

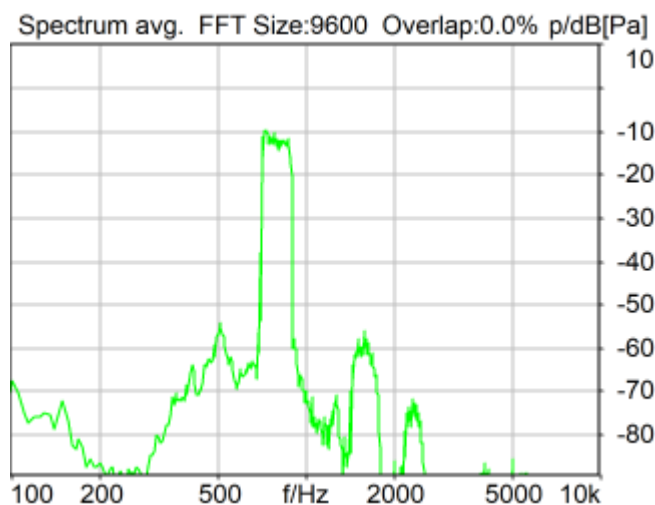
Ok

24/09/09 14:39 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



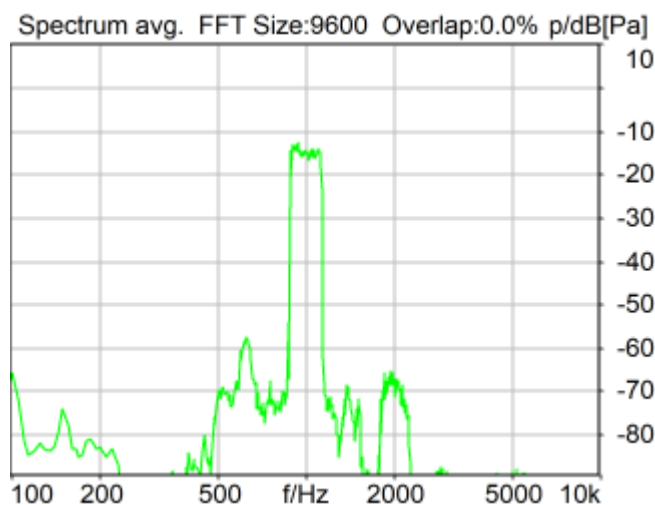
Distortion (Noise) RCV (packed): 44.43 dB (0.60%) Ok

Ok

24/09/09 14:40 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



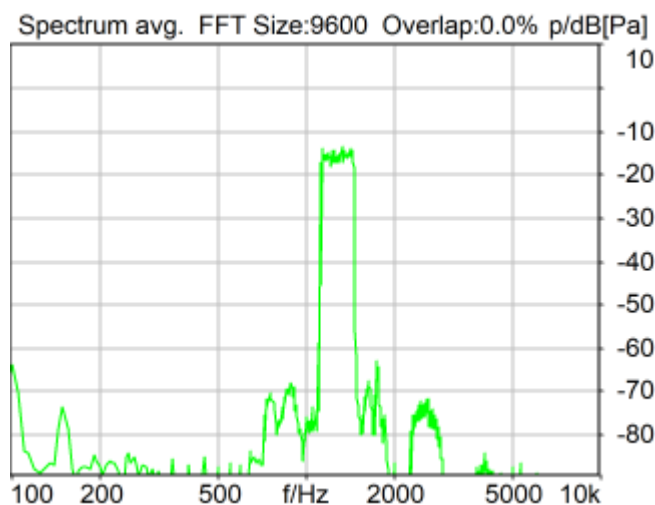
Distortion (Noise) RCV (packed): 47.57 dB (0.42%) Ok

Ok

24/09/09 14:40 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): 33.96 dB (2.00%) Ok

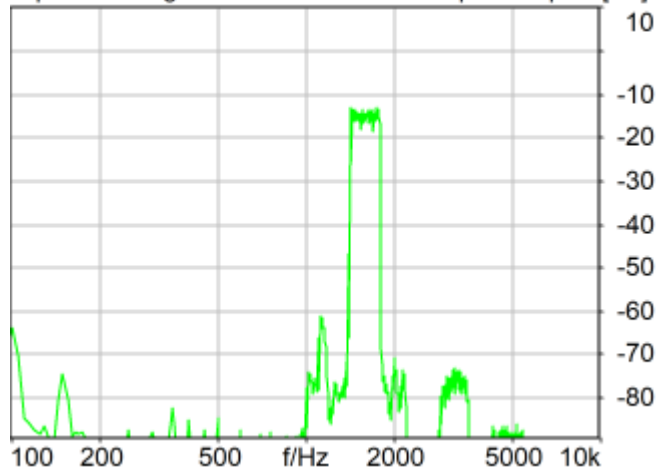
Ok

24/09/09 14:40 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

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



Distortion (Noise) RCV (packed): 53.04 dB (0.22%) Ok

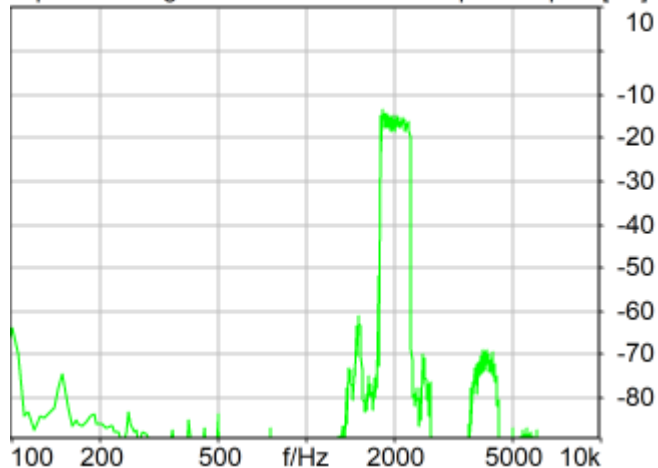
Ok

24/09/09 14:41 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]



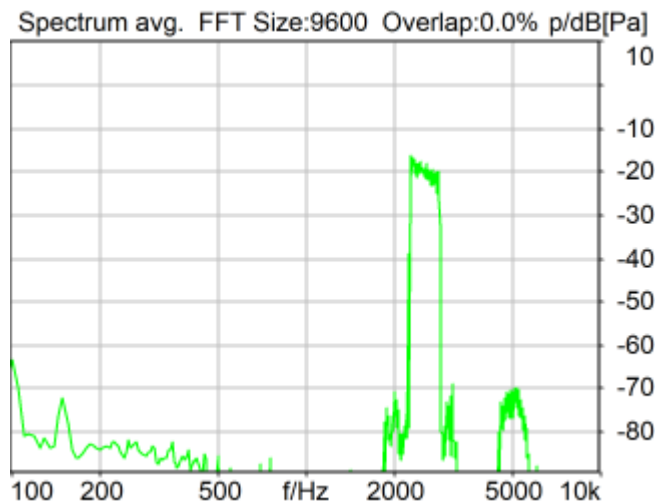
Distortion (Noise) RCV (packed): 50.07 dB (0.31%) Ok

Ok

24/09/09 14:41 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



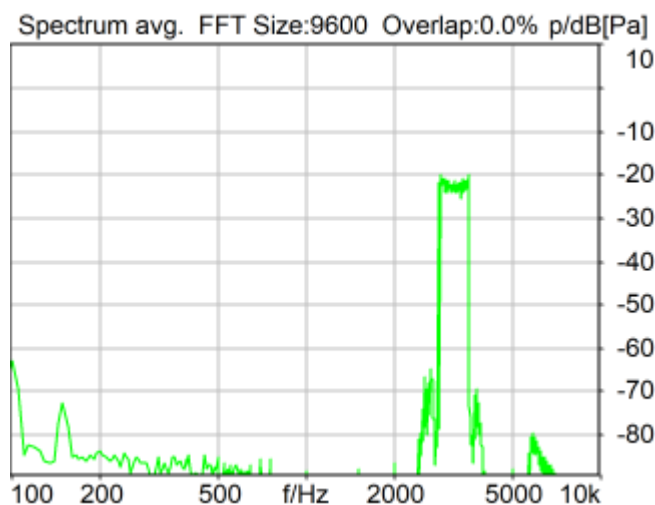
Distortion (Noise) RCV (packed): 49.91 dB (0.32%) Ok

Ok

24/09/09 14:42 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



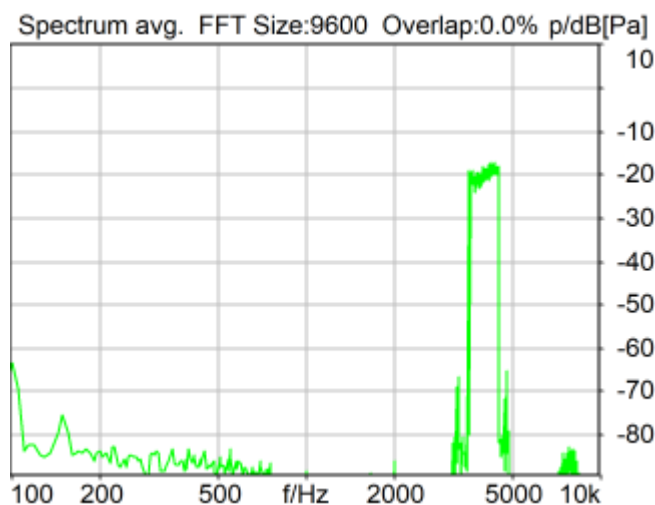
Distortion (Noise) RCV (packed): 49.38 dB (0.34%) Ok

Ok

24/09/09 14:42 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): 56.06 dB (0.16%) Ok

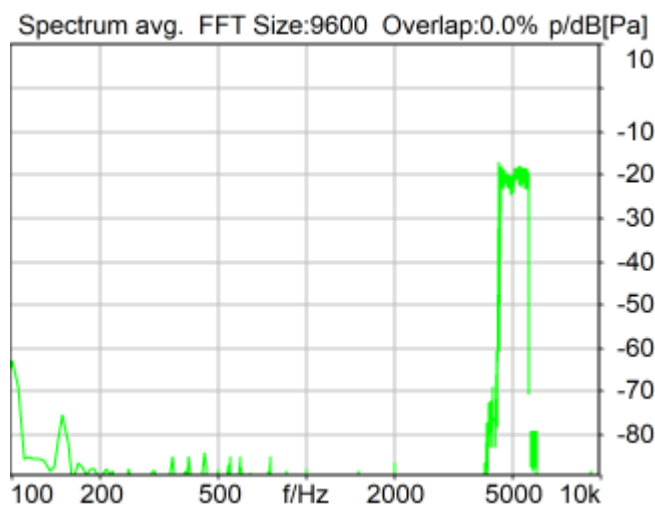
Ok

24/09/09 14:43 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): 56.17 dB (0.16%) Ok

Ok

24/09/09 14:43 ACQUA 5.1.200

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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	23.05 dB
2	315Hz	26.90 dB
3	400Hz	31.08 dB
4	500Hz	36.55 dB
5	630Hz	41.22 dB
6	800Hz	44.43 dB
7	1000Hz	47.57 dB
8	1250Hz	33.96 dB
9	1600Hz	53.04 dB
10	2000Hz	50.07 dB
11	2500Hz	49.91 dB
12	3150Hz	49.38 dB
13	4000Hz	56.06 dB
14	5000Hz	56.17 dB

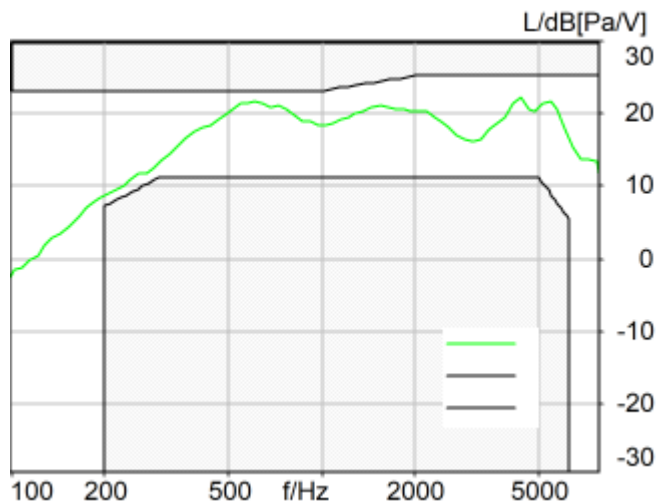
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 23.05dB at 250Hz.

24/09/09 14:43 ACQUA

### 5.3 Frequency Response 2N FF

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



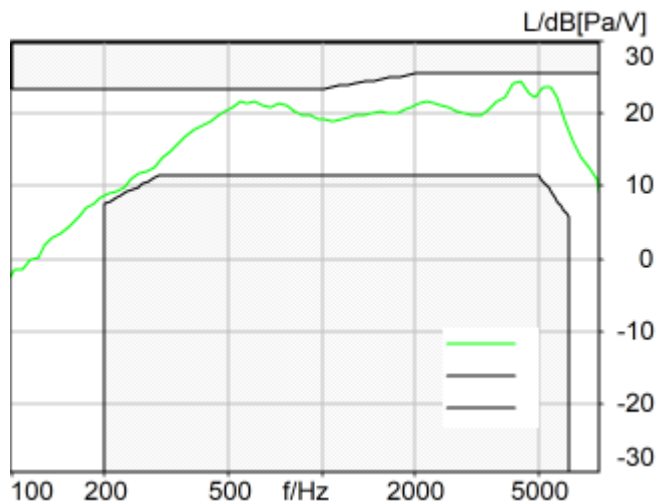
Absolute minimal distance  
1.34 dB at 611.7 Hz Ok

Ok

24/09/09 14:43 ACQUA 5.1.200

### 5.3 Frequency Response 2N DF

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



Absolute minimal distance  
0.96 dB at 4369.4 Hz Ok

Ok

24/09/09 14:44 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
--------------------	--

Project	482618
Report Generation Date	24/09/05 16:19
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	209.2	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL] ]	90.05	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.08	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.97	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.14	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.08	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.87	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.31	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.47	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.71	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	40.26	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.86	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.73	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.73	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.25	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.39	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	22.08	WLAN5GHz_802.11a

ACQUA Report  
128kbps\_Ch157\_2N

Title: WLAN5GHz\_802.11a 6Mbps\_EVS WB

and Noise (Conversational Gain)		(occured at 250Hz)		6Mbps_EVS WB 128kbps_Ch157_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.01	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 4369.4 Hz	0.46	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch157_2N

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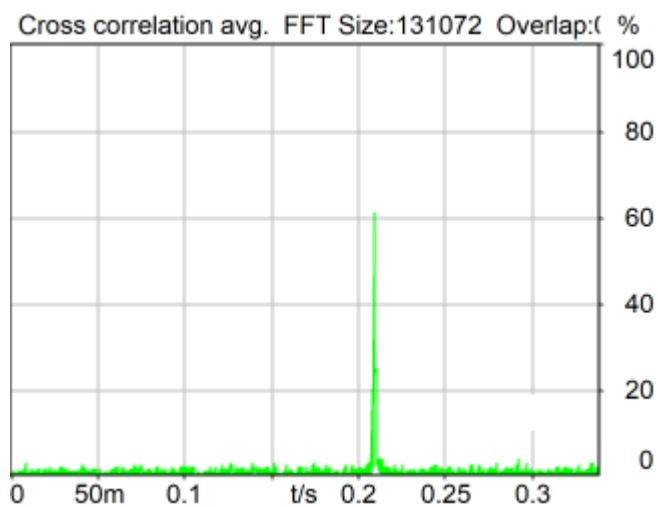
Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV 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

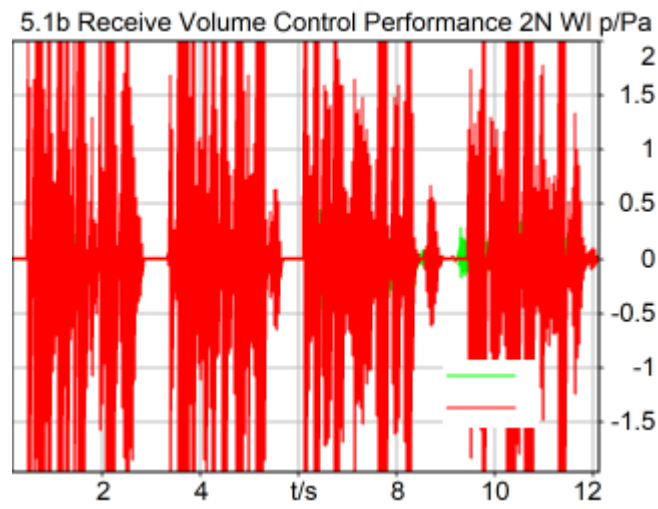


Delay (Cross): 209.2 ms

24/09/05 16:11 ACQUA 5.1.200

## **5.1b Receive Volume Control Performance 2N WB**

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



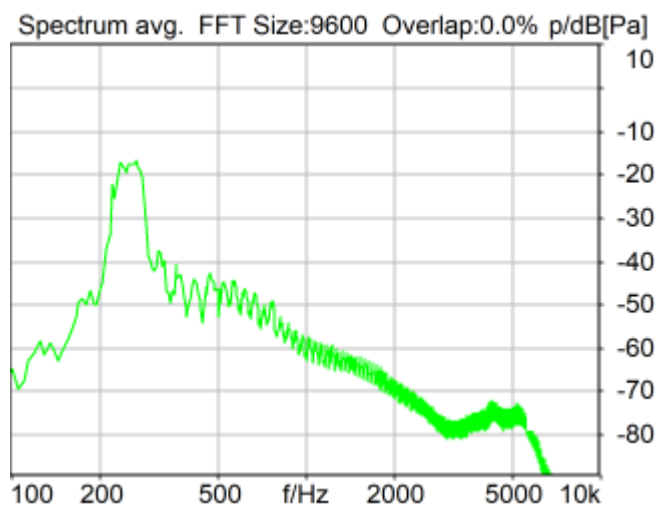
Speech Level RCV: 90.05 dB[SPL], Act.: 85.00% Ok

**Ok**

24/09/05 16:11 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



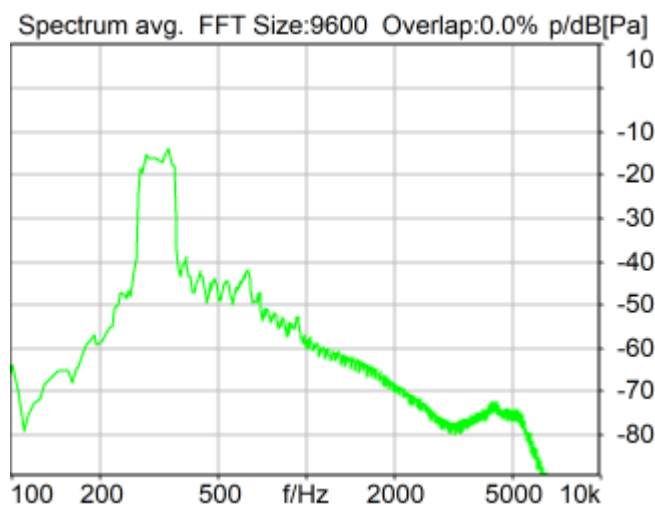
Distortion (Noise) RCV (packed): 22.08 dB (7.87%) Ok

Ok

24/09/05 16:11 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



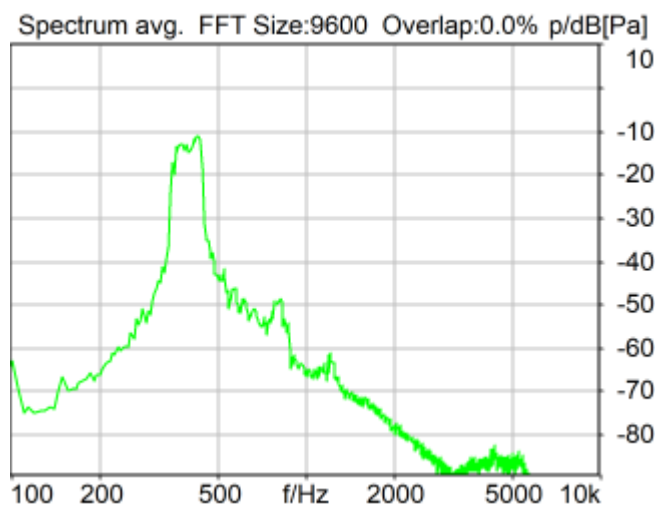
Distortion (Noise) RCV (packed): 24.97 dB (5.65%) Ok

Ok

24/09/05 16:12 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



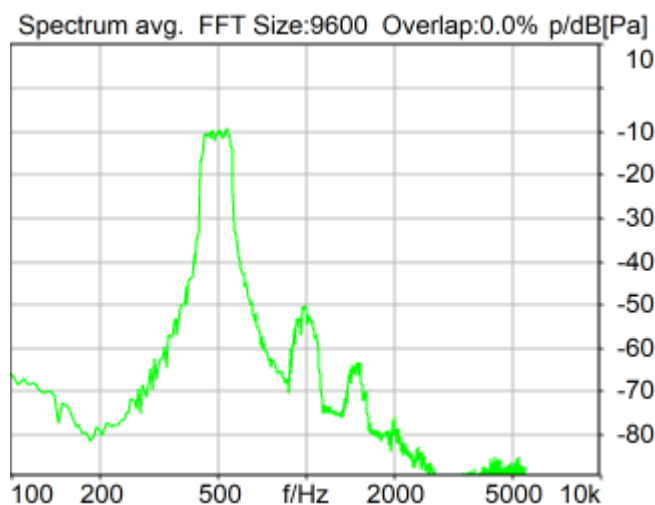
Distortion (Noise) RCV (packed): 31.14 dB (2.77%) Ok

Ok

24/09/05 16:12 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



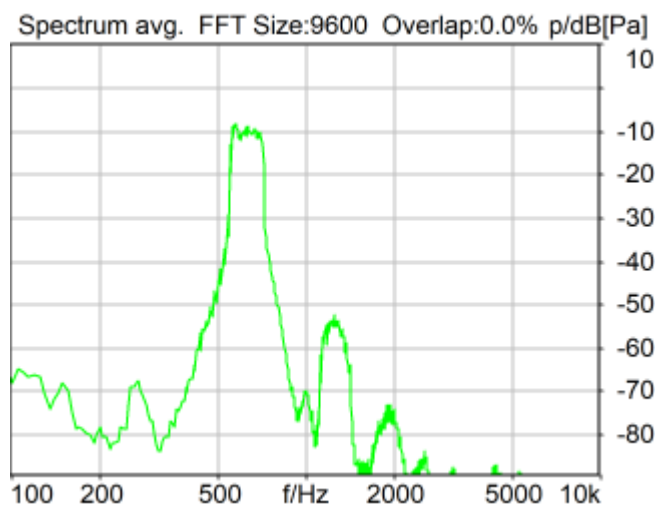
Distortion (Noise) RCV (packed): 36.08 dB (1.57%) Ok

Ok

24/09/05 16:13 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



Distortion (Noise) RCV (packed): 36.87 dB (1.43%) Ok

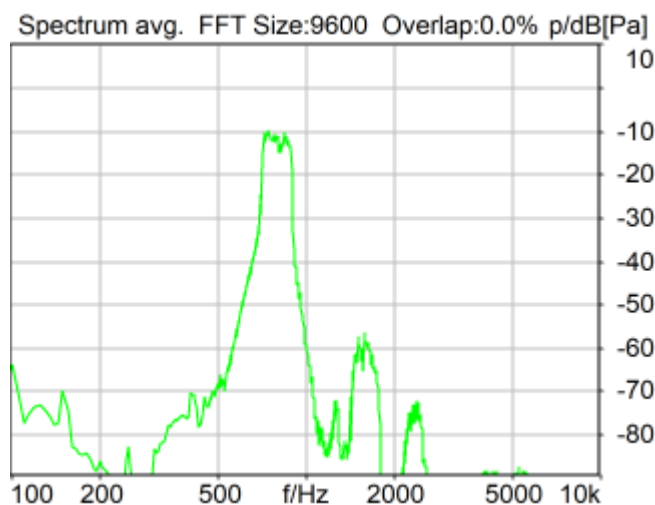
Ok

24/09/05 16:13 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



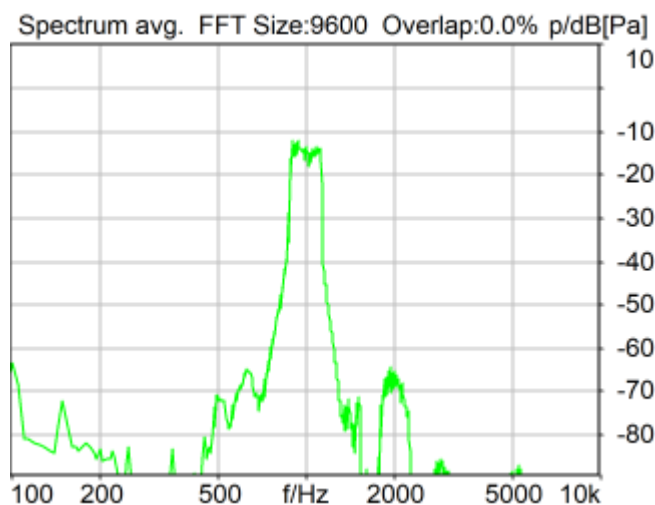
Distortion (Noise) RCV (packed): 35.31 dB (1.72%) Ok

Ok

24/09/05 16:14 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



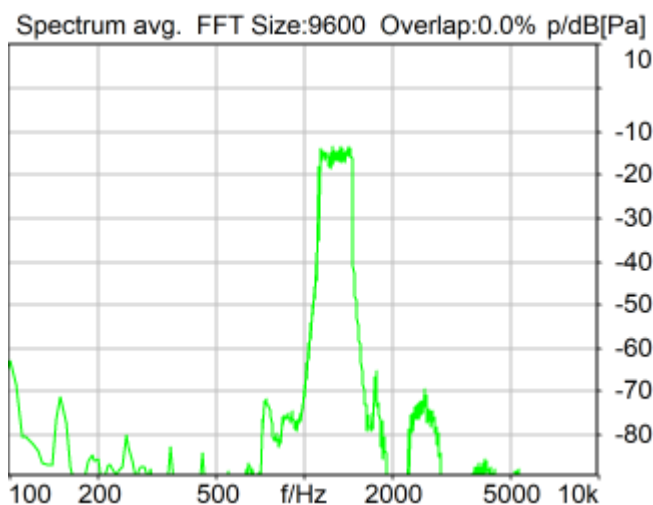
Distortion (Noise) RCV (packed): 36.47 dB (1.50%) Ok

Ok

24/09/05 16:14 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): 29.71 dB (3.27%) Ok

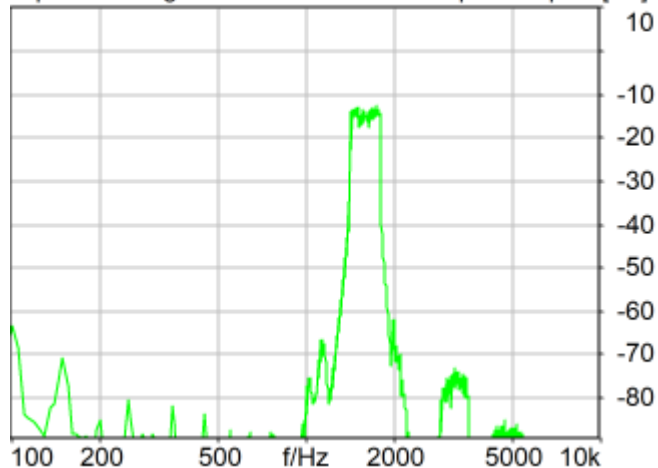
Ok

24/09/05 16:15 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

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



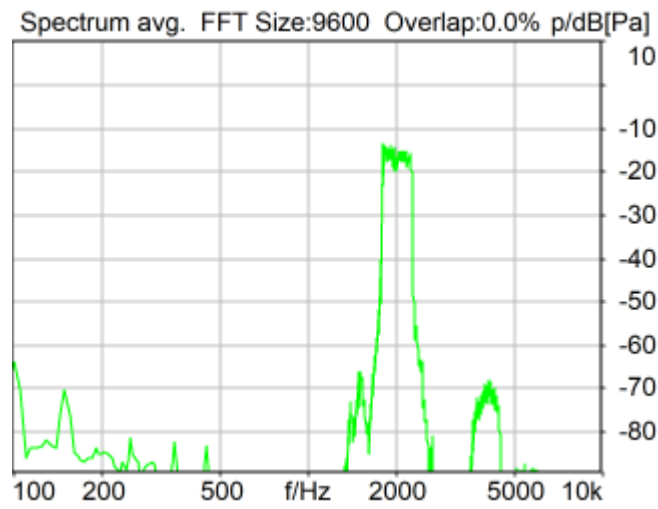
Distortion (Noise) RCV (packed): 40.26 dB (0.97%) Ok

Ok

24/09/05 16:15 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



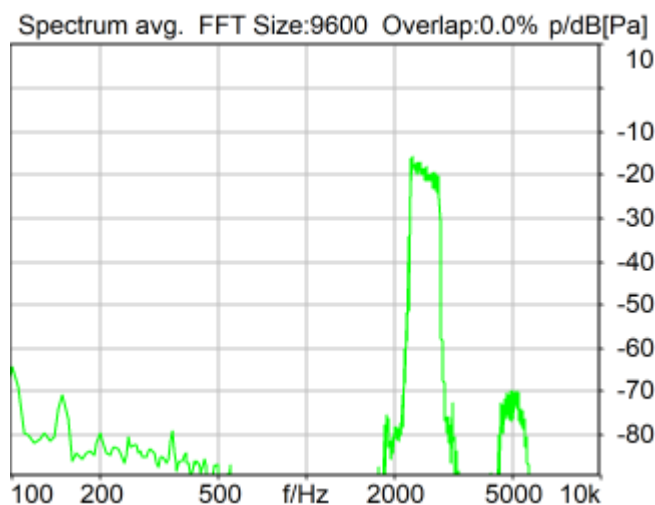
Distortion (Noise) RCV (packed): 43.86 dB (0.64%) Ok

Ok

24/09/05 16:16 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



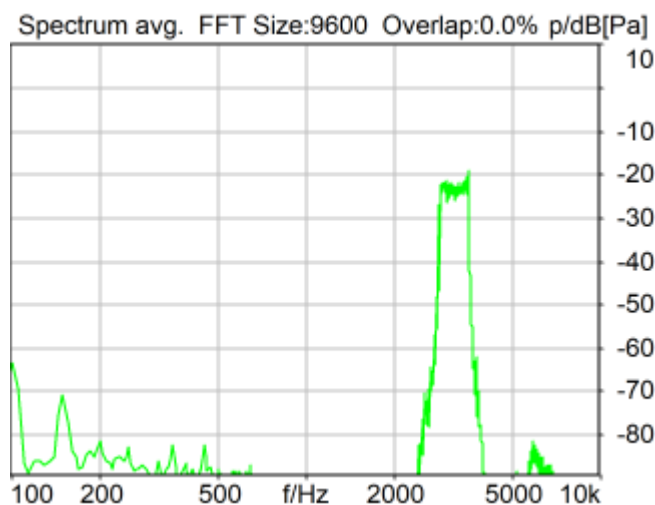
Distortion (Noise) RCV (packed): 43.73 dB (0.65%) Ok

Ok

24/09/05 16:16 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



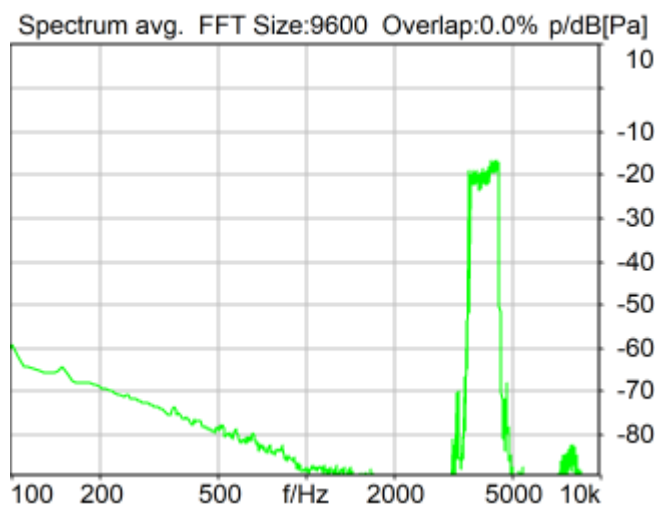
Distortion (Noise) RCV (packed): 35.73 dB (1.64%) Ok

Ok

24/09/05 16:16 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): 44.25 dB (0.61%) Ok

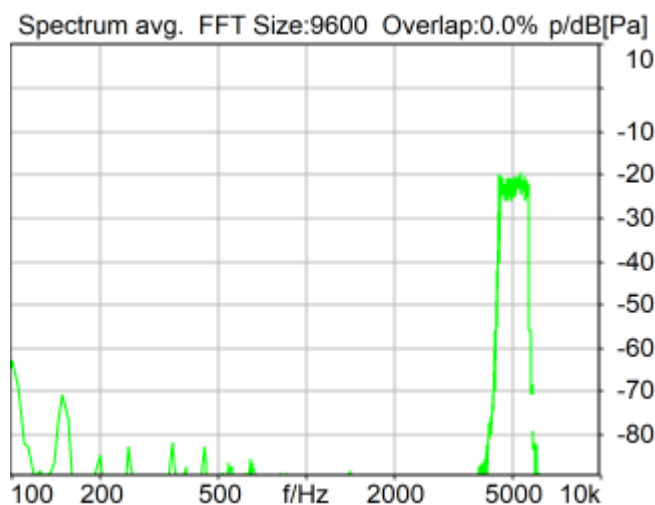
Ok

24/09/05 16:17 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): 38.39 dB (1.20%) Ok

Ok

24/09/05 16:17 ACQUA 5.1.200

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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	22.08 dB
2	315Hz	24.97 dB
3	400Hz	31.14 dB
4	500Hz	36.08 dB
5	630Hz	36.87 dB
6	800Hz	35.31 dB
7	1000Hz	36.47 dB
8	1250Hz	29.71 dB
9	1600Hz	40.26 dB
10	2000Hz	43.86 dB
11	2500Hz	43.73 dB
12	3150Hz	35.73 dB
13	4000Hz	44.25 dB
14	5000Hz	38.39 dB

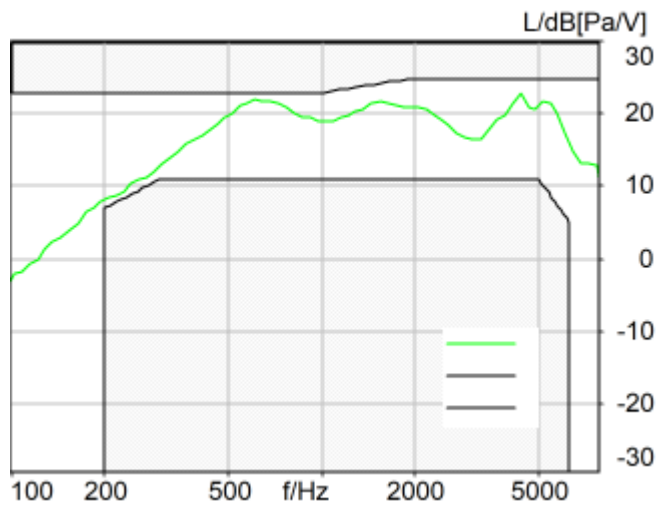
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.08dB at 250Hz.

24/09/05 16:17 ACQUA

### **5.3 Frequency Response 2N FF**

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



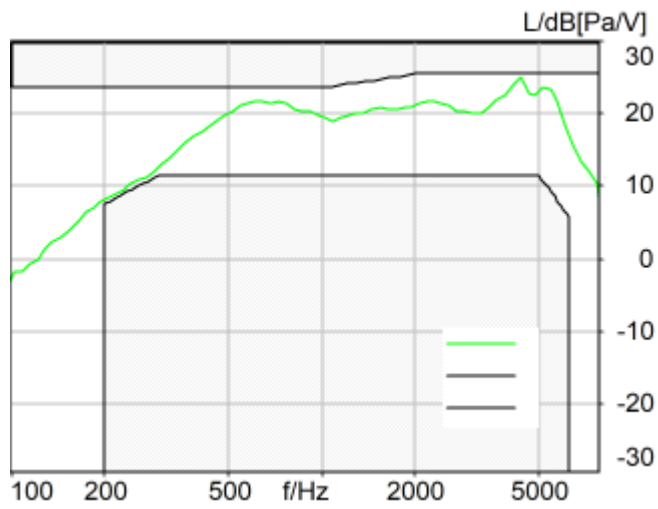
Absolute minimal distance  
1.01 dB at 611.7 Hz Ok

**Ok**

24/09/05 16:18 ACQUA 5.1.200

### **5.3 Frequency Response 2N DF**

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



Absolute minimal distance  
0.46 dB at 4369.4 Hz Ok

**Ok**

24/09/05 16:18 ACQUA 5.1.200