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## Measurement Protocol

Measurement Object	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
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Project	462605
Report Generation Date	24/08/01 21:59
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	120.3	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	90.82	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.97	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.99	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.88	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.21	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.20	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.05	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.40	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.27	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.47	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.59	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.20	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.36	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.49	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.44	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	20.27	LTE Band

ACQUA Report

Title: LTE Band

41\_20M\_QPSK\_1RB\_0Offset\_EVS WB 24.4kbps\_Ch40620\_8N

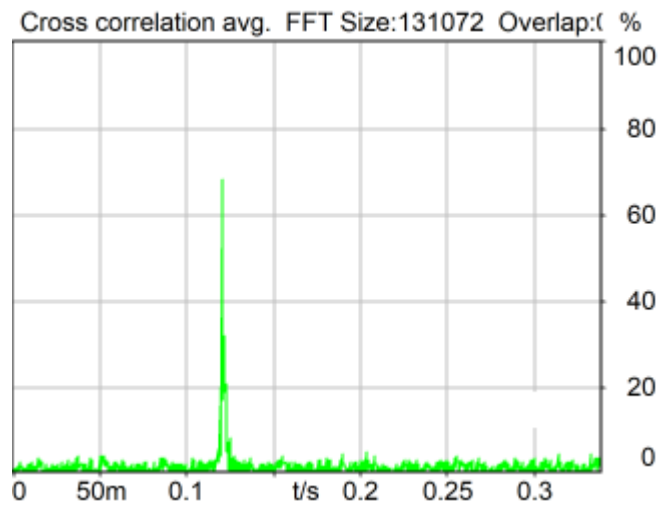
and Noise (Conversational Gain)		, (occured at 1250Hz)		41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 1547.5 Hz	0.22	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 2057.5 Hz	1.77	LTE Band 41_20M_QPSK_1RB_0Offset_EVS WB 24.4kbps_Ch40620_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

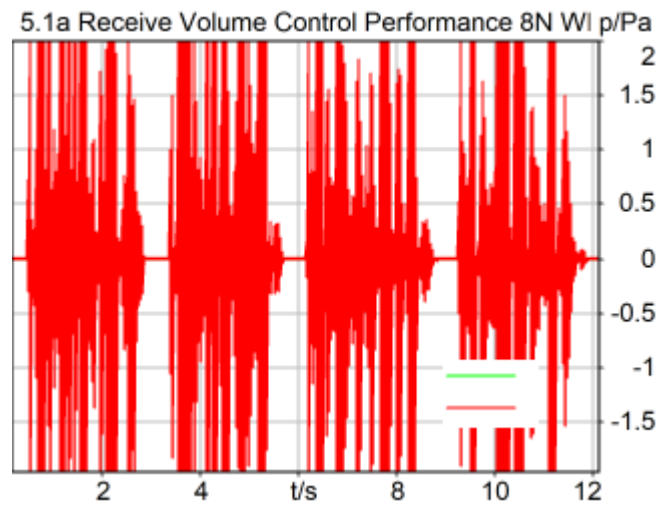


Delay (Cross): 120.3 ms

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## 5.1a Receive Volume Control Performance 8N WB

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



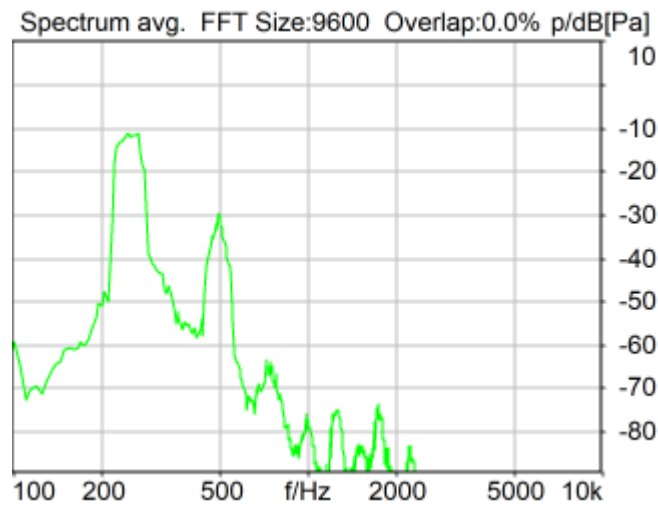
Speech Level RCV: 90.82 dB[SPL], Act.: 80.57% Ok

Ok

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## **5.2 RCV Distortion and Noise - 250 Hz WB**

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



Distortion (Noise) RCV (packed): 22.97 dB (7.10%) Ok

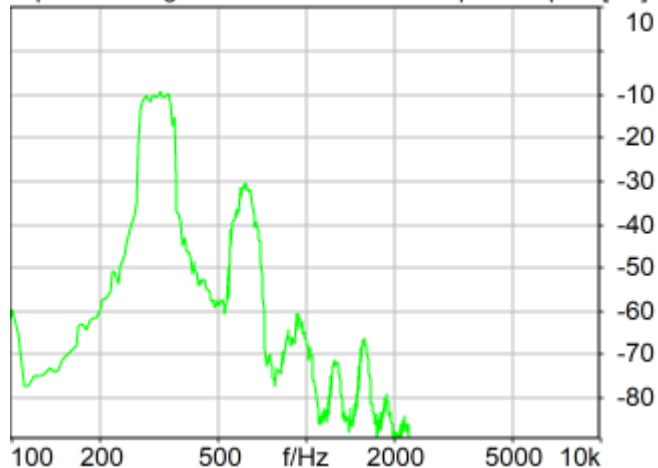
**Ok**

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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

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



Distortion (Noise) RCV (packed): 22.99 dB (7.08%) Ok

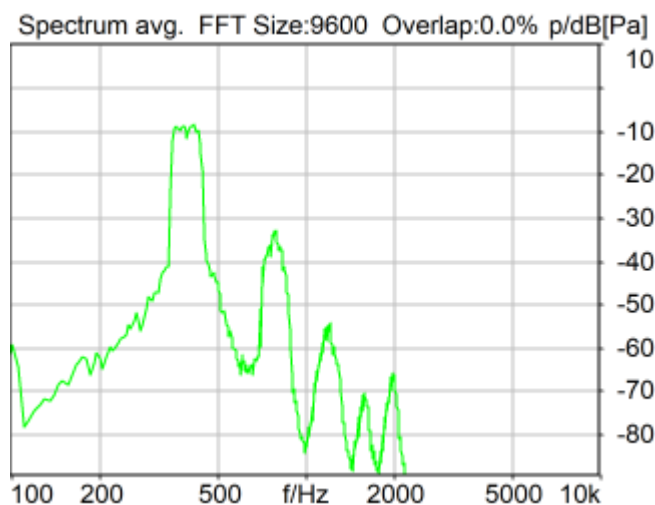
Ok

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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): 25.88 dB (5.08%) Ok

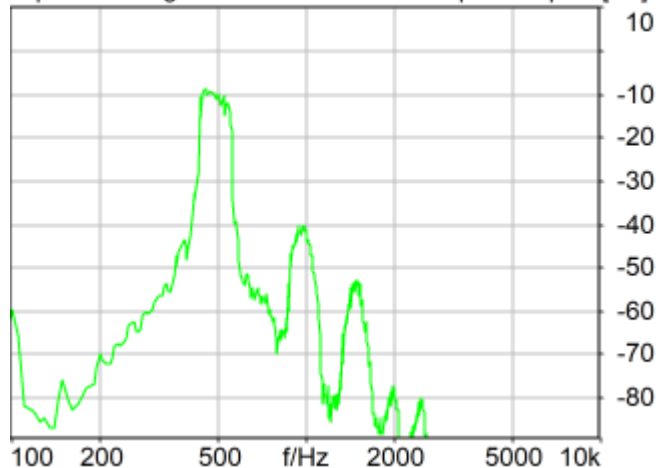
Ok

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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

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



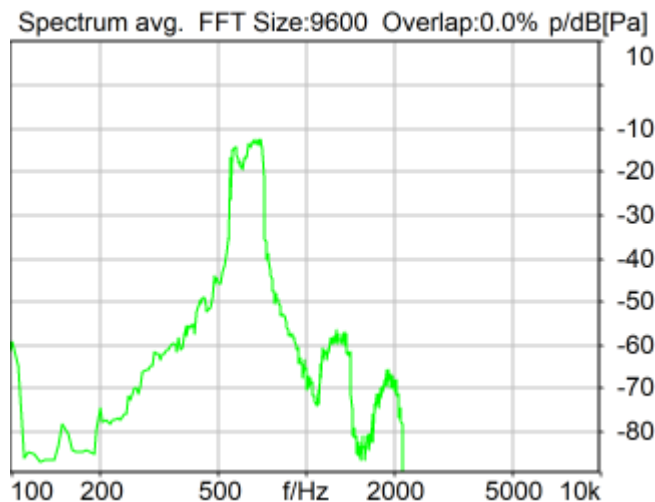
Distortion (Noise) RCV (packed): 30.21 dB (3.09%) Ok

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



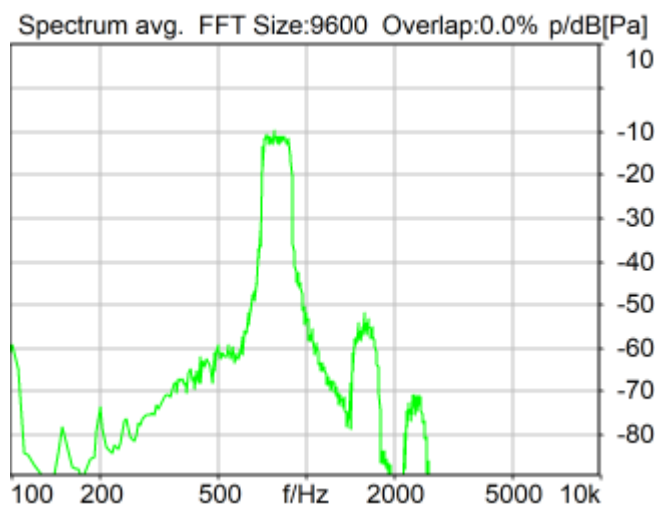
Distortion (Noise) RCV (packed): 33.20 dB (2.19%) Ok

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



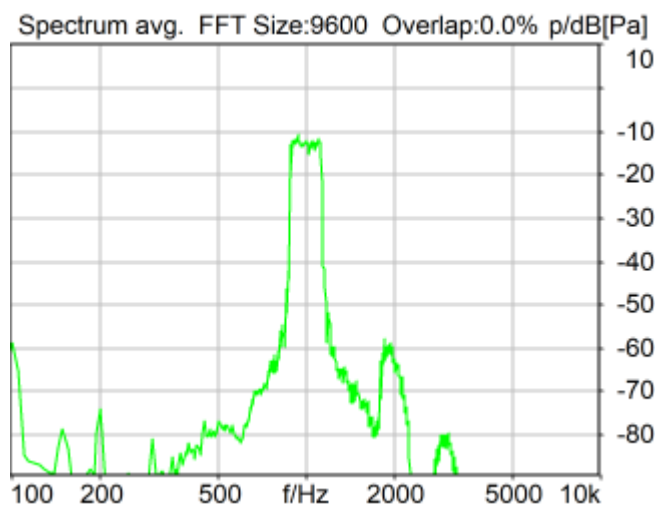
Distortion (Noise) RCV (packed): 36.05 dB (1.57%) Ok

Ok

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### 5.2 RCV Distortion and Noise - 1000 Hz WB

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



Distortion (Noise) RCV (packed): 42.40 dB (0.76%) Ok

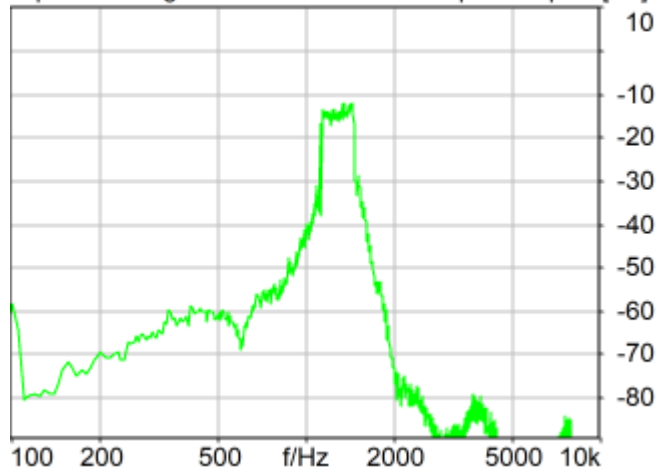
Ok

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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): 20.27 dB (9.70%) Ok

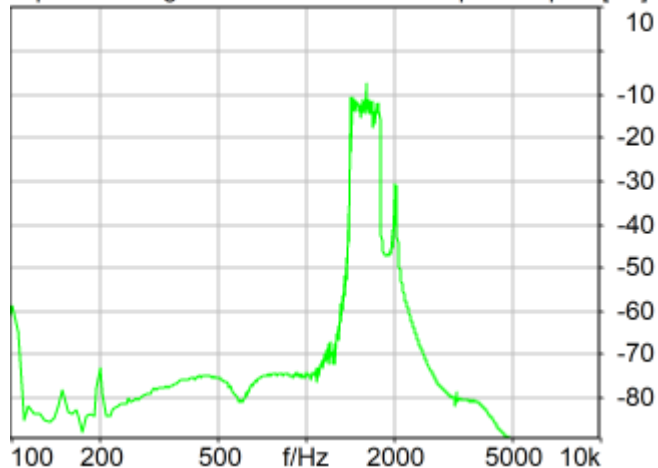
Ok

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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

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



Distortion (Noise) RCV (packed): 27.47 dB (4.23%) Ok

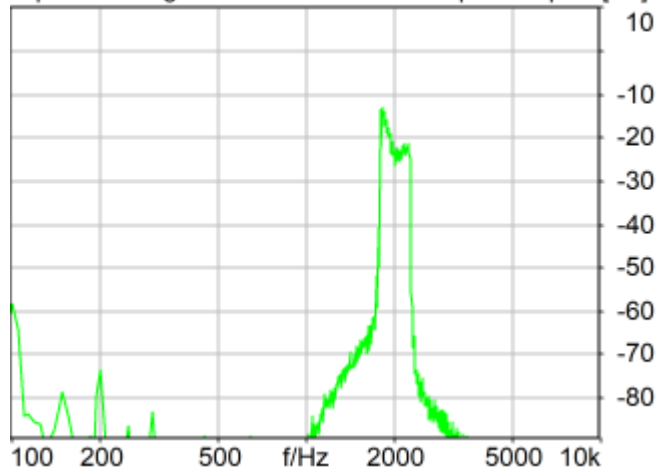
Ok

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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

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



Distortion (Noise) RCV (packed): 43.59 dB (0.66%) Ok

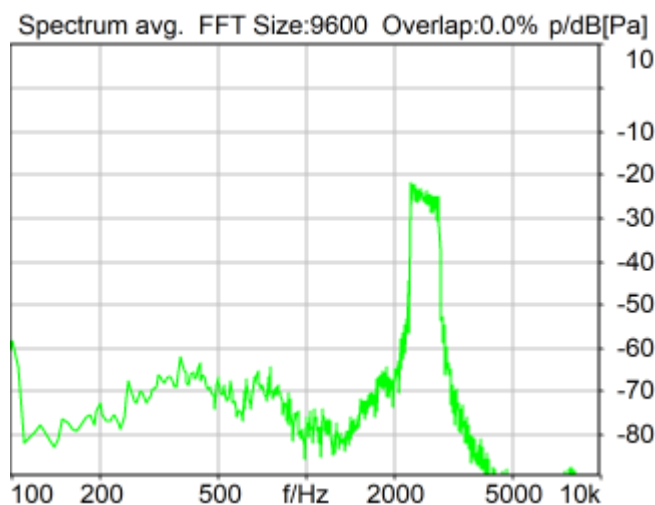
Ok

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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



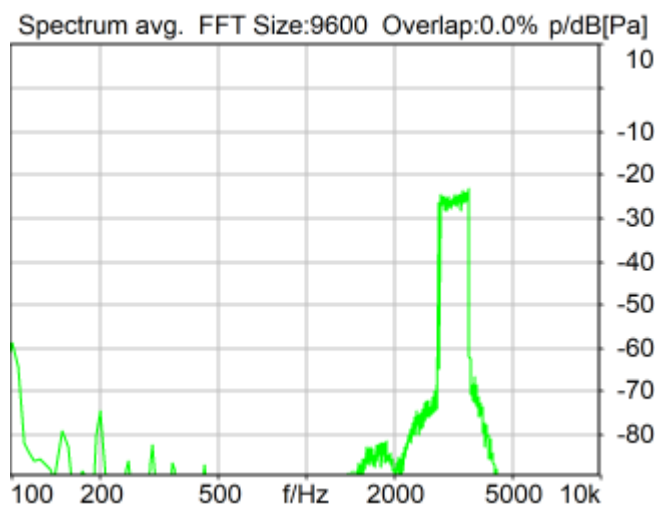
Distortion (Noise) RCV (packed): 33.20 dB (2.19%) Ok

Ok

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### 5.2 RCV Distortion and Noise - 3150 Hz WB

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



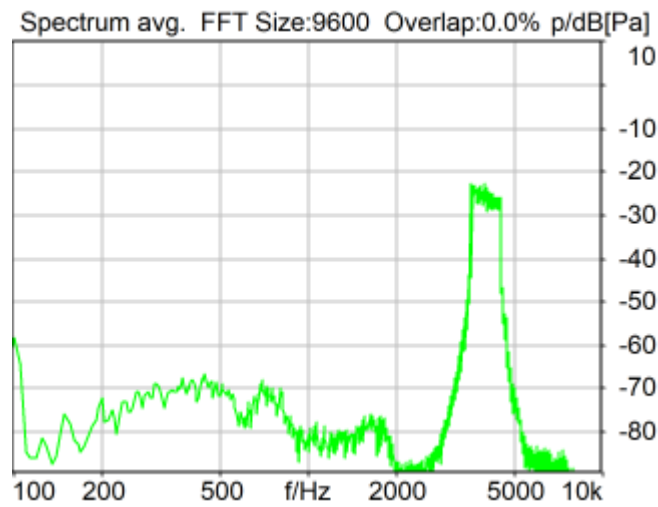
Distortion (Noise) RCV (packed): 44.36 dB (0.61%) Ok

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



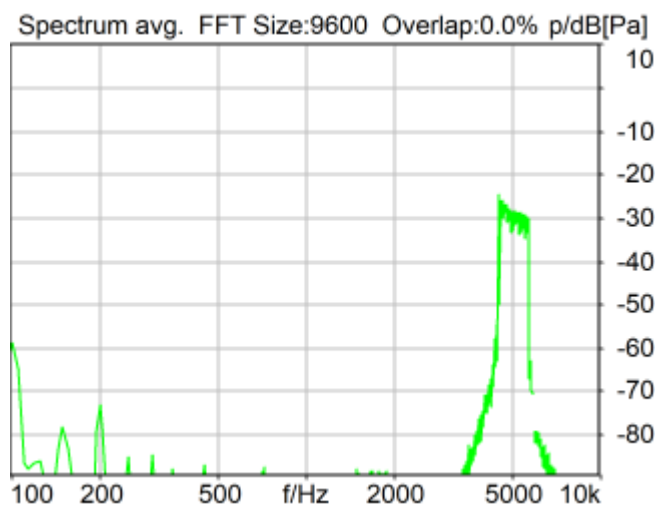
Distortion (Noise) RCV (packed): 28.49 dB (3.76%) Ok

**Ok**

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### 5.2 RCV Distortion and Noise - 5000 Hz WB

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



Distortion (Noise) RCV (packed): 38.44 dB (1.20%) 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	22.97 dB
2	315Hz	22.99 dB
3	400Hz	25.88 dB
4	500Hz	30.21 dB
5	630Hz	33.20 dB
6	800Hz	36.05 dB
7	1000Hz	42.40 dB
8	1250Hz	20.27 dB
9	1600Hz	27.47 dB
10	2000Hz	43.59 dB
11	2500Hz	33.20 dB
12	3150Hz	44.36 dB
13	4000Hz	28.49 dB
14	5000Hz	38.44 dB

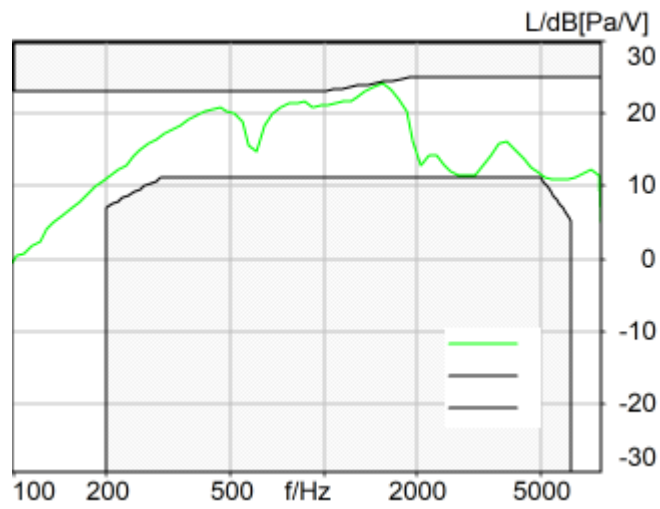
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.27dB at 1250Hz.

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

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



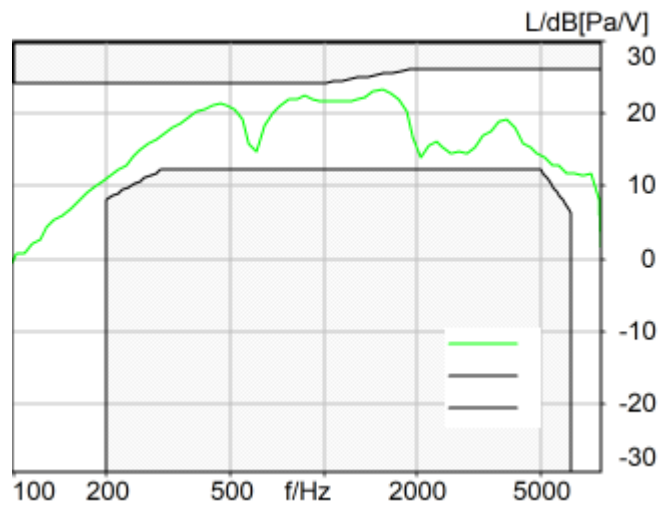
Absolute minimal distance  
0.22 dB at 1547.5 Hz Ok

**Ok**

24/08/01 21:58 ACQUA 5.1.200

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

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



Absolute minimal distance  
1.77 dB at 2057.5 Hz Ok

**Ok**

24/08/01 21:58 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
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Project	462605
Report Generation Date	24/08/08 23:15
Responsible Person	AC01-KS



**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	292.2	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	87.42	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.71	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.14	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.38	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.25	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.65	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.14	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.02	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.30	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.00	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.35	FR1 n41_100M_DFT-QPSK_1RB_1Offset_EVS WB 24.4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.15	FR1 n41_100M_DFT-QPSK_1RB_1Offset

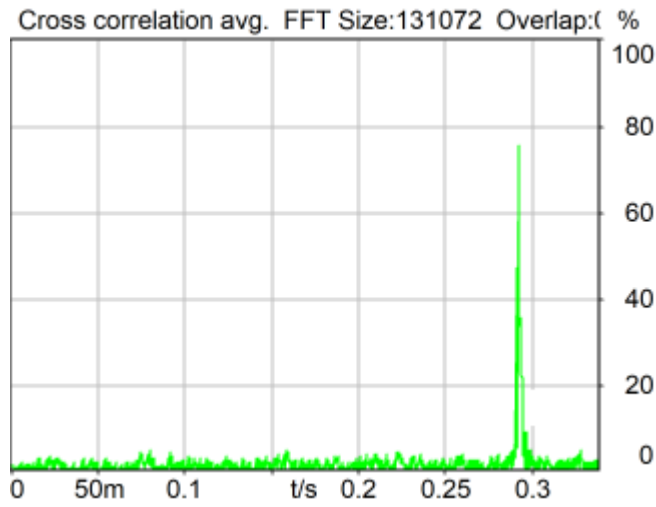
				set_EVS WB 24. 4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.57	FR1 n41_100M_DFT-QPSK_1RB_1Off set_EVS WB 24. 4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.06	FR1 n41_100M_DFT-QPSK_1RB_1Off set_EVS WB 24. 4kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.77	FR1 n41_100M_DFT-QPSK_1RB_1Off set_EVS WB 24. 4kbps_Ch518598_2N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 2000Hz)	21.35	FR1 n41_100M_DFT-QPSK_1RB_1Off set_EVS WB 24. 4kbps_Ch518598_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	2.33	FR1 n41_100M_DFT-QPSK_1RB_1Off set_EVS WB 24. 4kbps_Ch518598_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 462.0 Hz	2.48	FR1 n41_100M_DFT-QPSK_1RB_1Off set_EVS WB 24. 4kbps_Ch518598_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): 292.2 ms

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## 5.1b Receive Volume Control Performance 2N WB

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



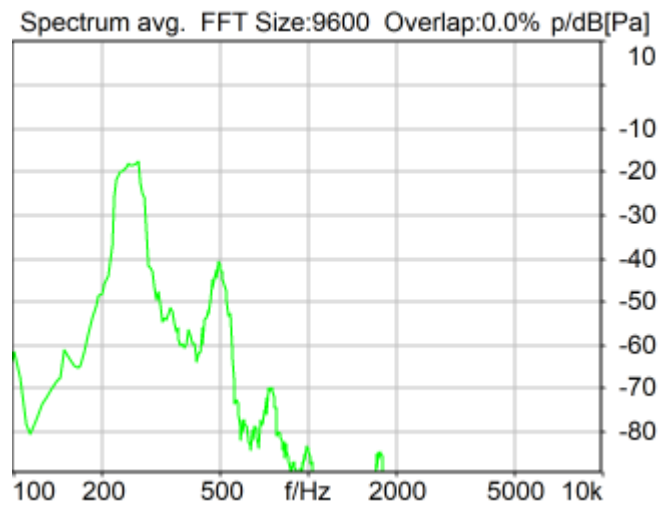
Speech Level RCV: 87.42 dB[SPL], Act.: 80.33% Ok

**Ok**

24/08/06 5:23 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



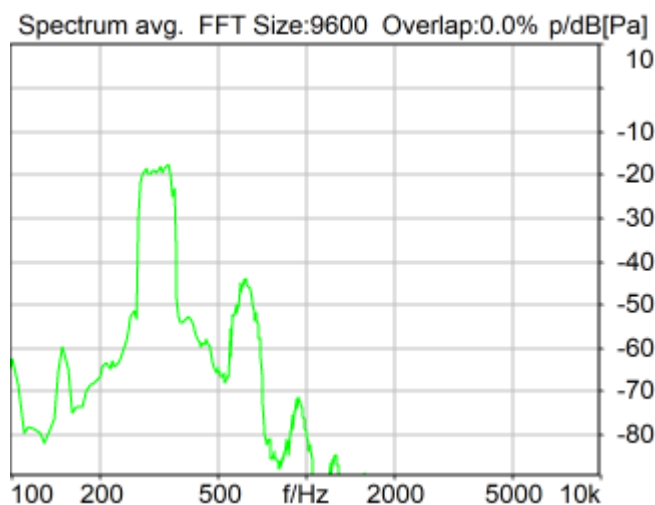
Distortion (Noise) RCV (packed): 26.71 dB (4.62%) Ok

**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



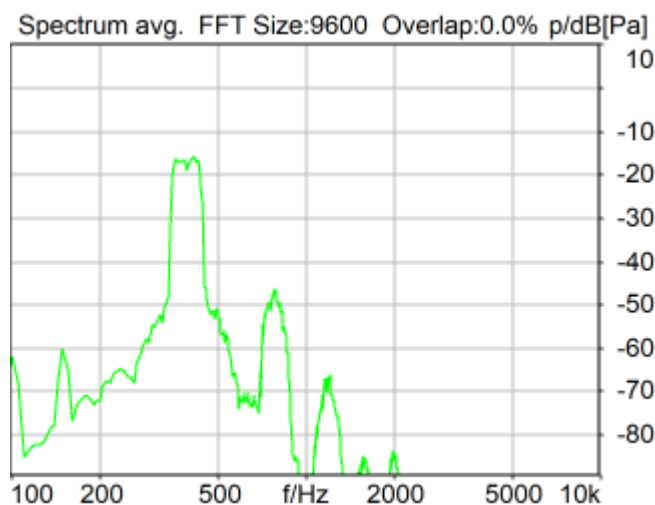
Distortion (Noise) RCV (packed): 28.14 dB (3.92%) Ok

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): 31.38 dB (2.70%) Ok

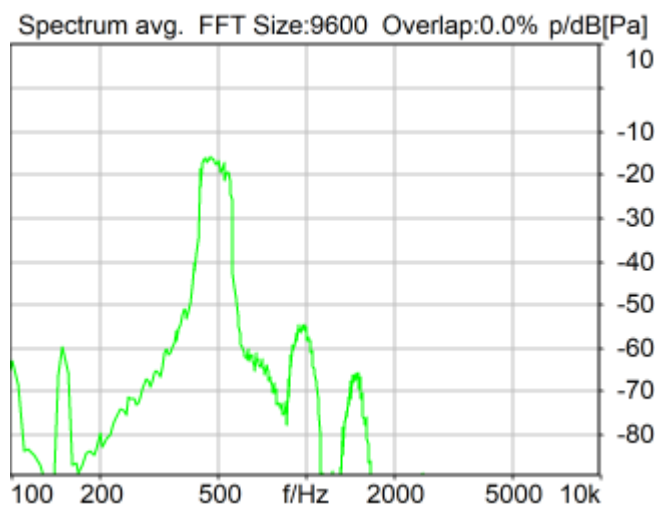
Ok

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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



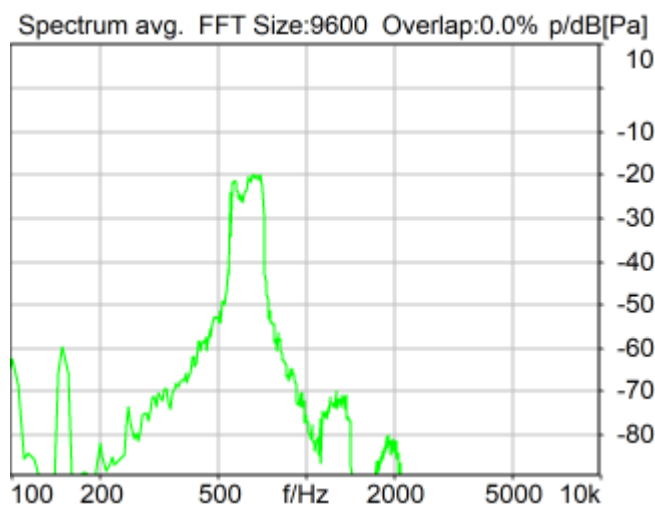
Distortion (Noise) RCV (packed): 36.25 dB (1.54%) Ok

Ok

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### 5.2 RCV Distortion and Noise - 630 Hz WB

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



Distortion (Noise) RCV (packed): 34.65 dB (1.85%) Ok

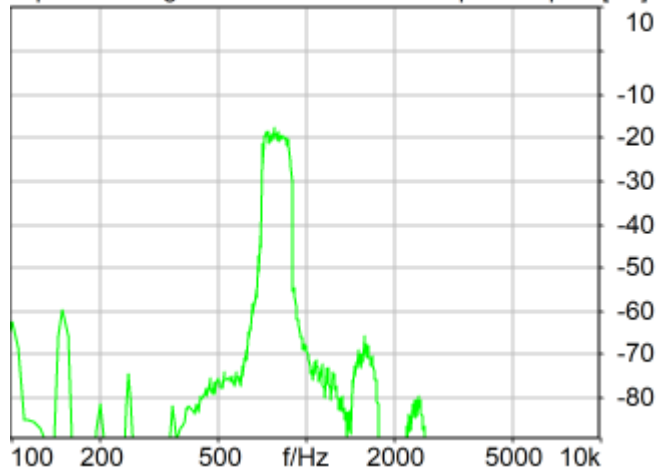
Ok

24/08/06 5:26 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

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



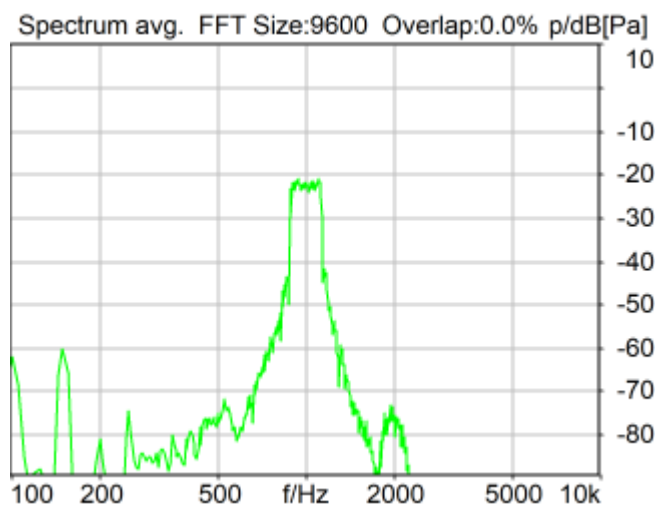
Distortion (Noise) RCV (packed): 43.14 dB (0.70%) Ok

Ok

24/08/06 5:26 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



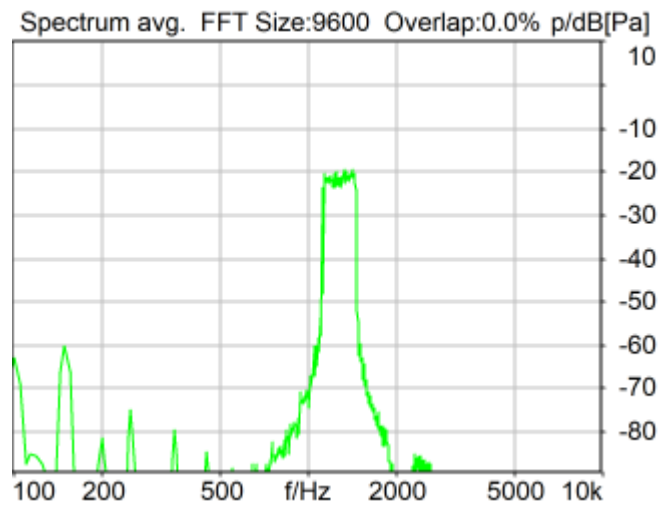
Distortion (Noise) RCV (packed): 29.02 dB (3.54%) Ok

Ok

24/08/06 5:27 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



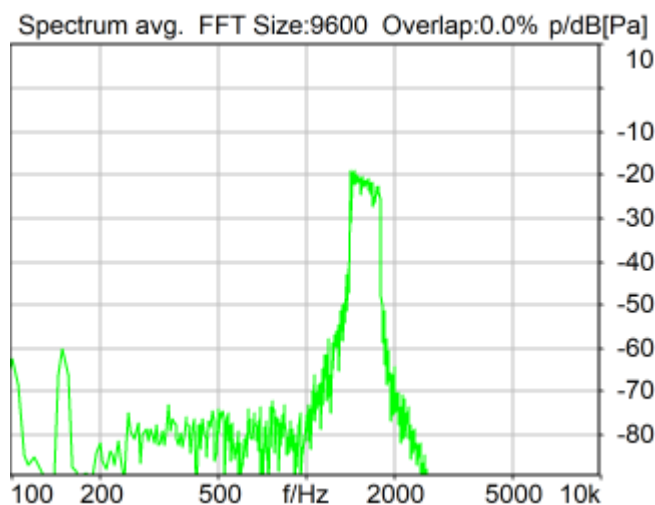
Distortion (Noise) RCV (packed): 33.30 dB (2.16%) Ok

**Ok**

24/08/06 5:27 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



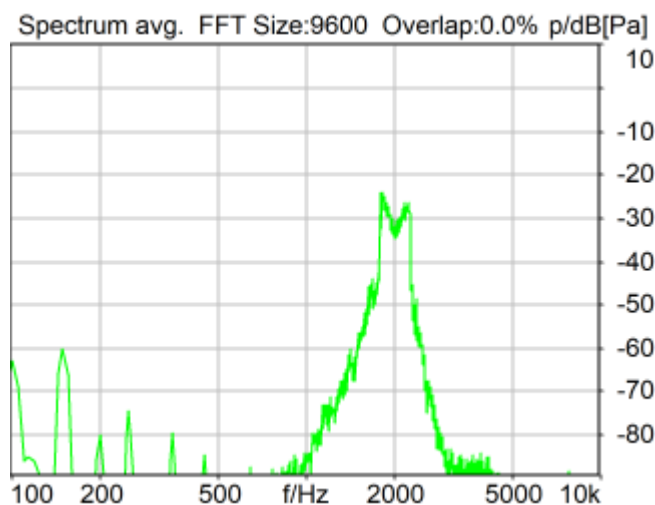
Distortion (Noise) RCV (packed): 34.00 dB (1.99%) Ok

Ok

24/08/06 5:28 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



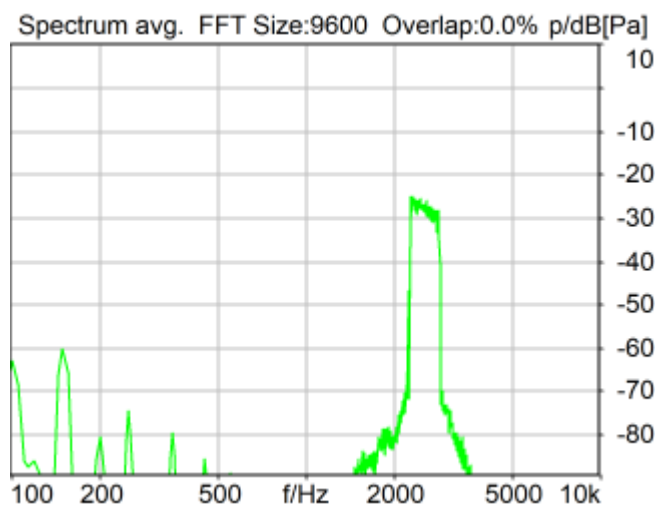
Distortion (Noise) RCV (packed): 21.35 dB (8.56%) Ok

Ok

24/08/06 5:28 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): 45.15 dB (0.55%) Ok

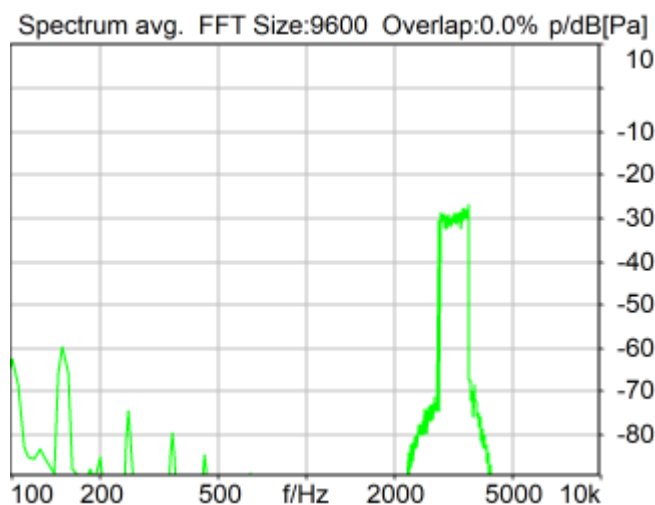
Ok

24/08/06 5:29 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



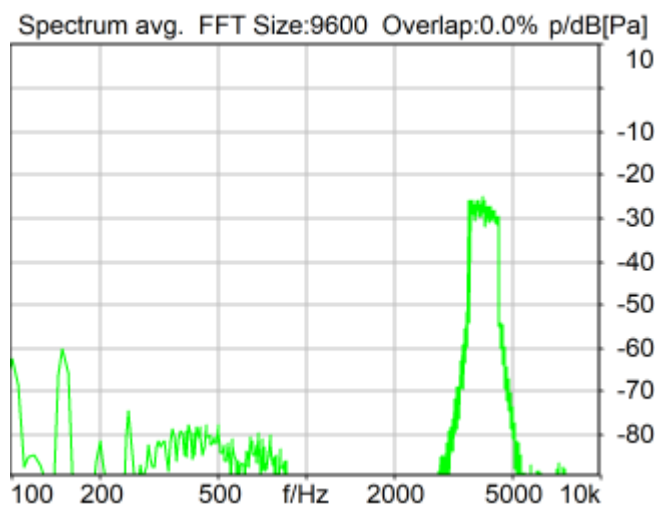
Distortion (Noise) RCV (packed): 42.57 dB (0.74%) Ok

Ok

24/08/06 5:29 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



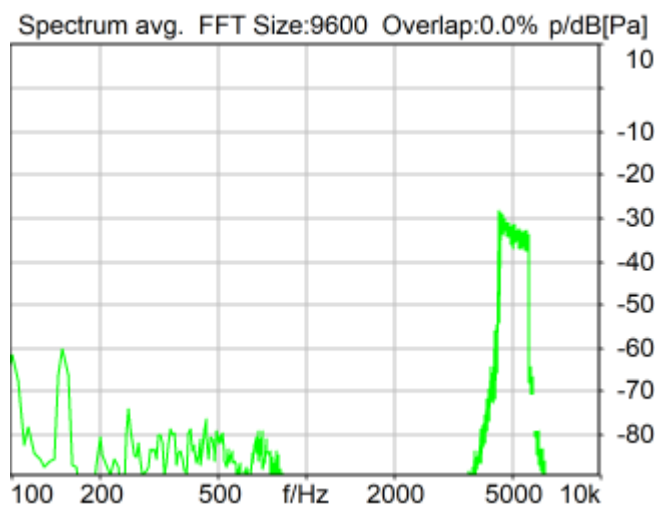
Distortion (Noise) RCV (packed): 32.06 dB (2.49%) Ok

Ok

24/08/06 5:30 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): 34.77 dB (1.83%) Ok

Ok

24/08/06 5:30 ACQUA 5.1.200

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

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

Region	Frequency	SDNR
1	250Hz	26.71 dB
2	315Hz	28.14 dB
3	400Hz	31.38 dB
4	500Hz	36.25 dB
5	630Hz	34.65 dB
6	800Hz	43.14 dB
7	1000Hz	29.02 dB
8	1250Hz	33.30 dB
9	1600Hz	34.00 dB
10	2000Hz	21.35 dB
11	2500Hz	45.15 dB
12	3150Hz	42.57 dB
13	4000Hz	32.06 dB
14	5000Hz	34.77 dB

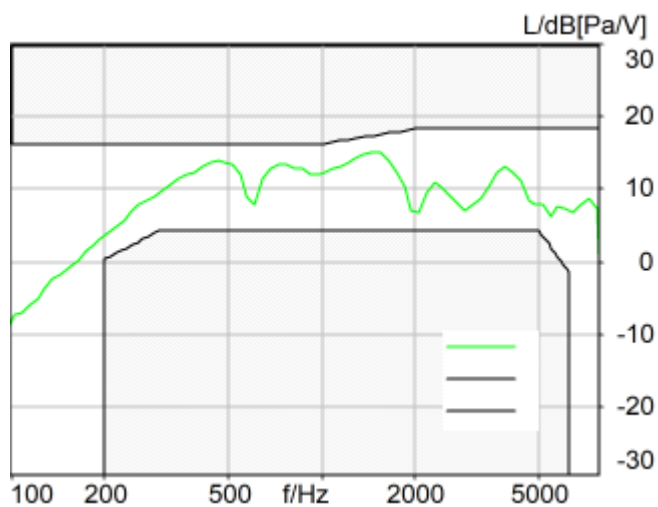
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 21.35dB at 2000Hz.

24/08/06 5:47 ACQUA

### 5.3 Frequency Response 2N FF

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



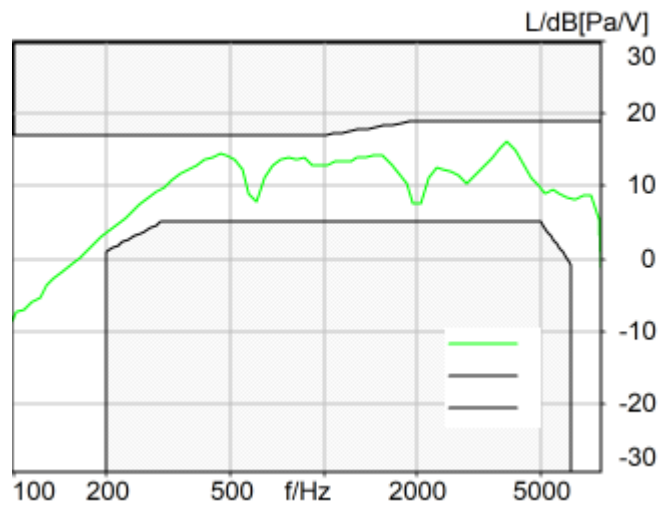
Absolute minimal distance  
2.33 dB at 1447.5 Hz Ok

**Ok**

24/08/06 5:48 ACQUA 5.1.200

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

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



Absolute minimal distance  
2.48 dB at 462.0 Hz Ok

**Ok**

24/08/06 5:48 ACQUA 5.1.200

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## Measurement Protocol

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS WB 24.4kbps_Ch40_2N
--------------------	--

Project	462605
Report Generation Date	24/08/08 21:17
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	241.5	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	84.41	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.09	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.30	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.80	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.31	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	24.89	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.99	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.37	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.77	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.61	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.55	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.93	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.60	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.91	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.77	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	20.77	WLAN5GHz_802.11a



ACQUA Report  
4kbps\_Ch40\_2N

Title: WLAN5GHz\_802.11a 6Mbps\_EVS WB 24.

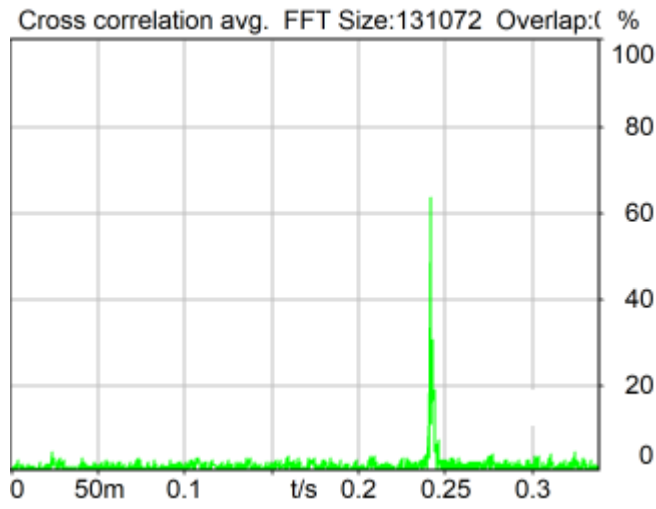
and Noise (Conversational Gain)		(occured at 1250Hz)		6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 1447.5 Hz	2.30	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 3882.4 Hz	2.12	WLAN5GHz_802.11a 6Mbps_EVS WB 24. 4kbps_Ch40_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): 241.5 ms

24/08/08 21:10 ACQUA 5.1.200

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

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



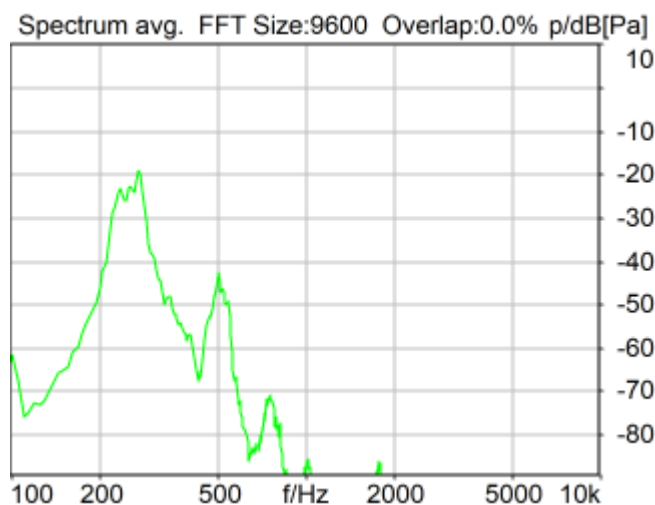
Speech Level RCV: 84.41 dB[SPL], Act.: 80.47% Ok

Ok

24/08/08 21:10 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



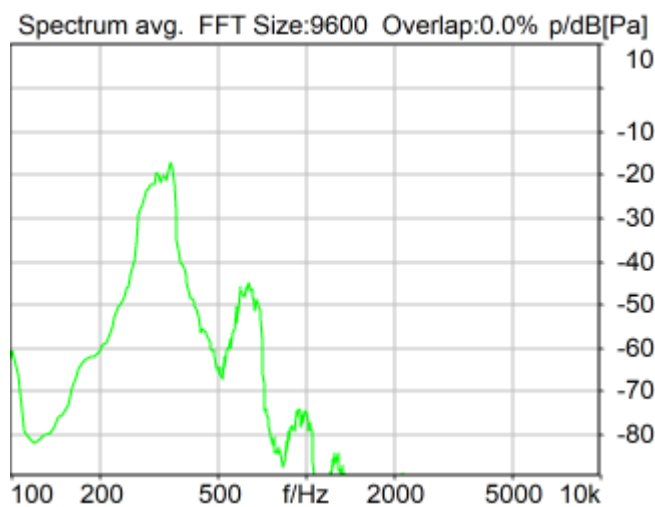
Distortion (Noise) RCV (packed): 25.09 dB (5.57%) Ok

Ok

24/08/08 21:11 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



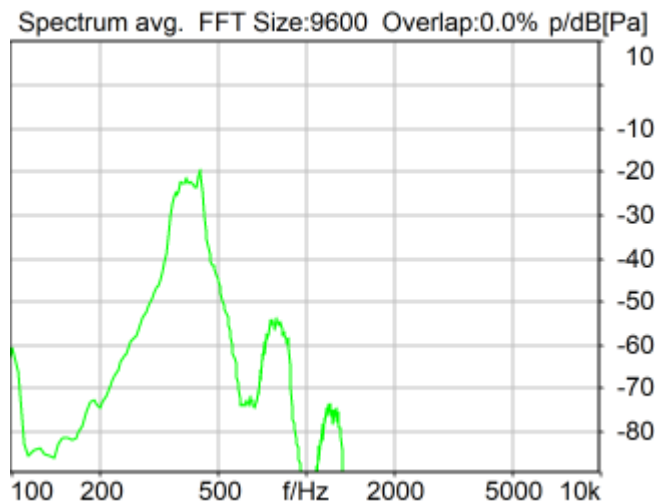
Distortion (Noise) RCV (packed): 26.30 dB (4.84%) Ok

Ok

24/08/08 21:11 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



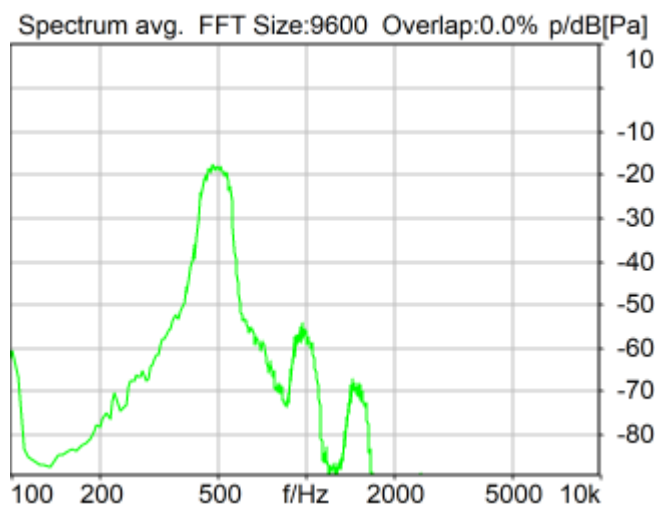
Distortion (Noise) RCV (packed): 26.80 dB (4.57%) Ok

Ok

24/08/08 21:12 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): 32.31 dB (2.42%) Ok

Ok

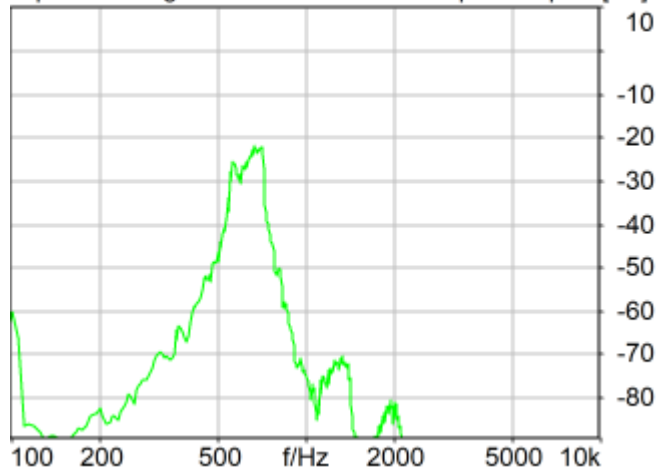
24/08/08 21:12 ACQUA 5.1.200



## 5.2 RCV Distortion and Noise - 630 Hz WB

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

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



Distortion (Noise) RCV (packed): 24.89 dB (5.70%) Ok

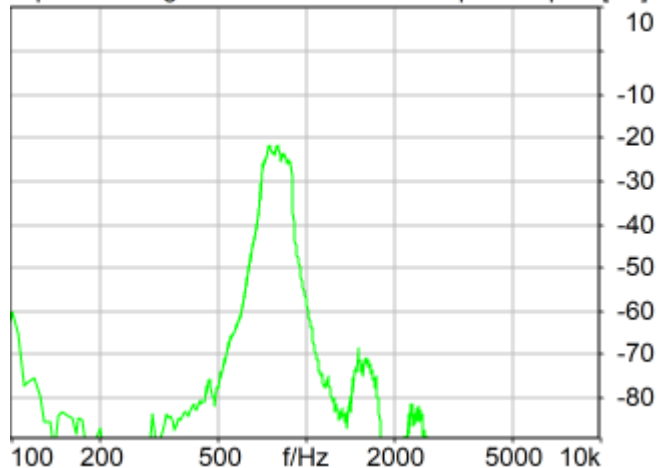
Ok

24/08/08 21:13 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

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



Distortion (Noise) RCV (packed): 27.99 dB (3.98%) Ok

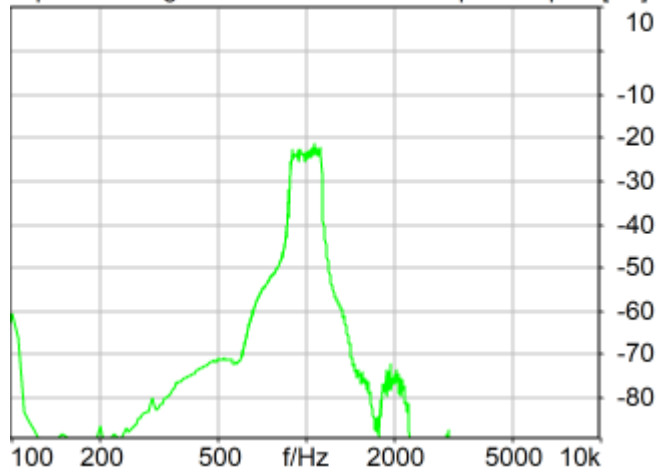
Ok

24/08/08 21:13 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): 26.37 dB (4.80%) Ok

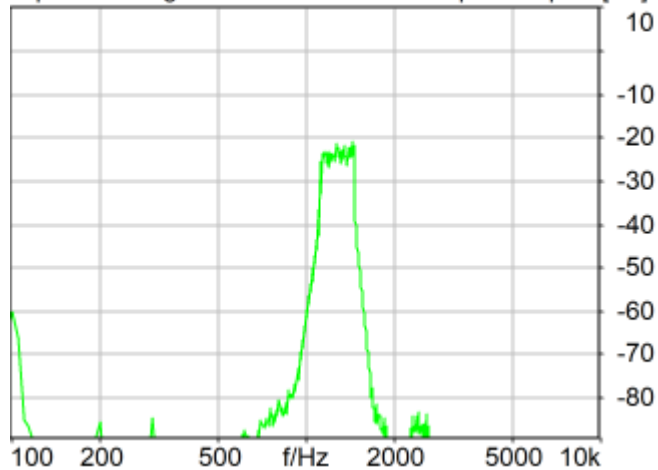
Ok

24/08/08 21:13 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]



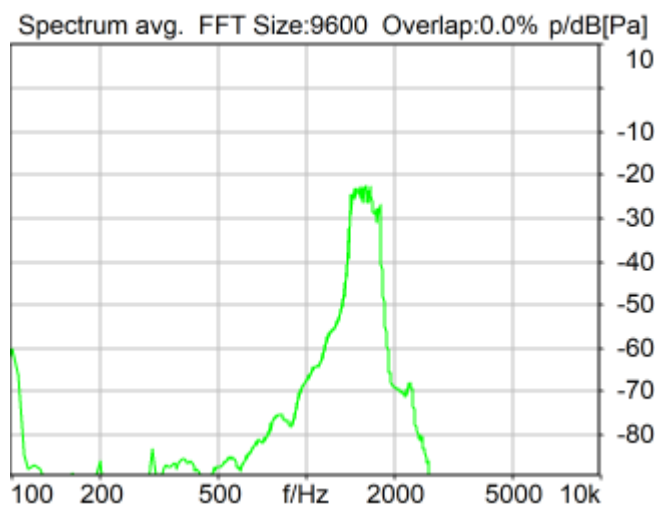
Distortion (Noise) RCV (packed): 20.77 dB (9.15%) Ok

Ok

24/08/08 21:14 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): 26.61 dB (4.67%) Ok

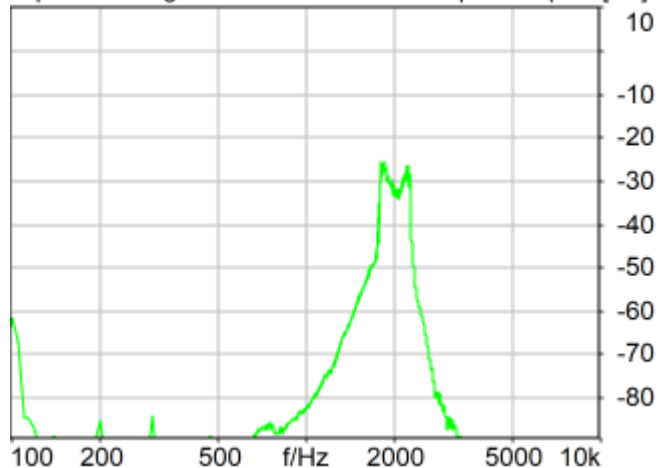
Ok

24/08/08 21:14 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): 21.55 dB (8.37%) Ok

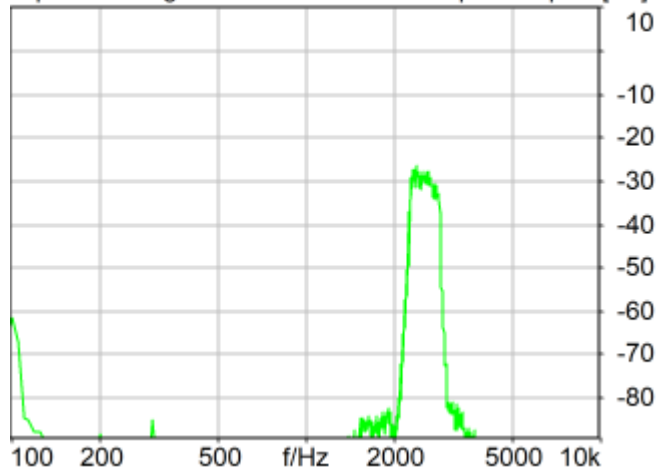
Ok

24/08/08 21:15 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): 31.93 dB (2.53%) Ok

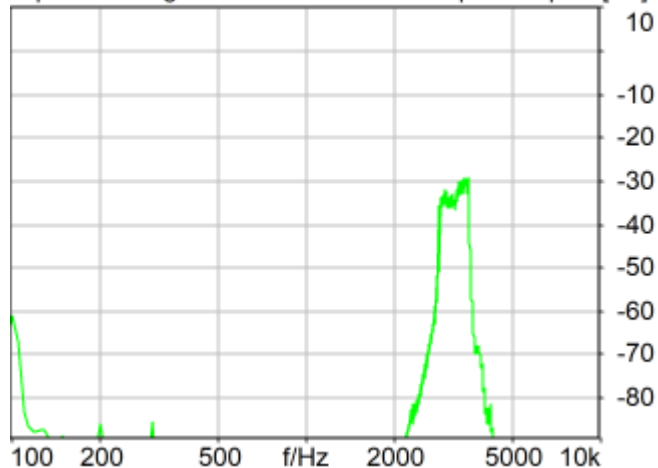
Ok

24/08/08 21:15 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): 28.60 dB (3.72%) Ok

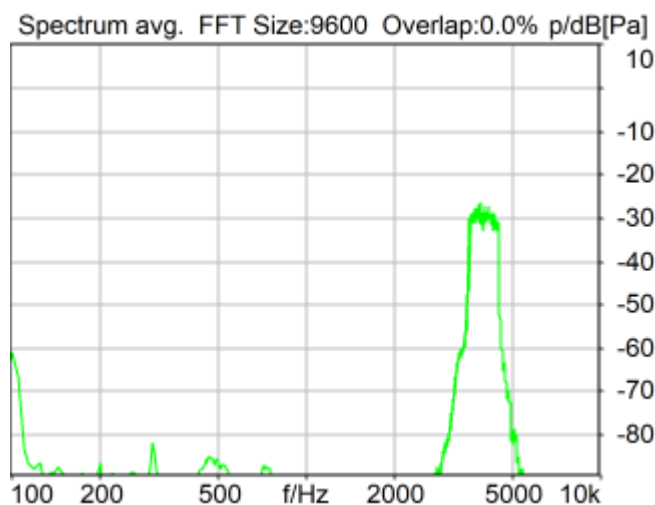
Ok

24/08/08 21:16 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



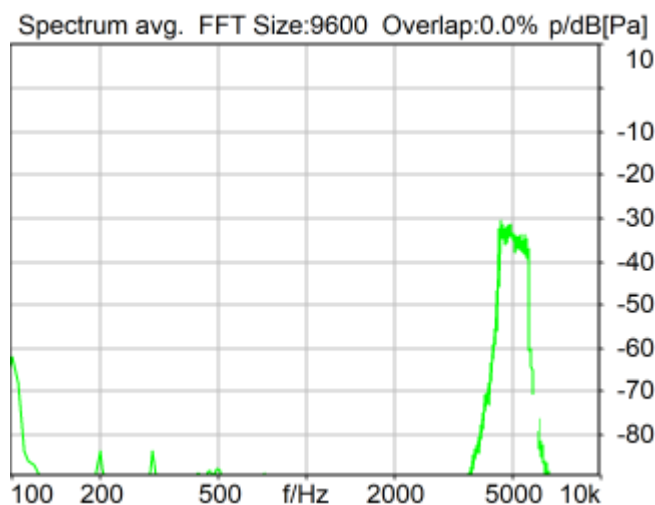
Distortion (Noise) RCV (packed): 29.91 dB (3.19%) Ok

Ok

24/08/08 21:16 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): 27.77 dB (4.09%) Ok

Ok

24/08/08 21:16 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	25.09 dB
2	315Hz	26.30 dB
3	400Hz	26.80 dB
4	500Hz	32.31 dB
5	630Hz	24.89 dB
6	800Hz	27.99 dB
7	1000Hz	26.37 dB
8	1250Hz	20.77 dB
9	1600Hz	26.61 dB
10	2000Hz	21.55 dB
11	2500Hz	31.93 dB
12	3150Hz	28.60 dB
13	4000Hz	29.91 dB
14	5000Hz	27.77 dB

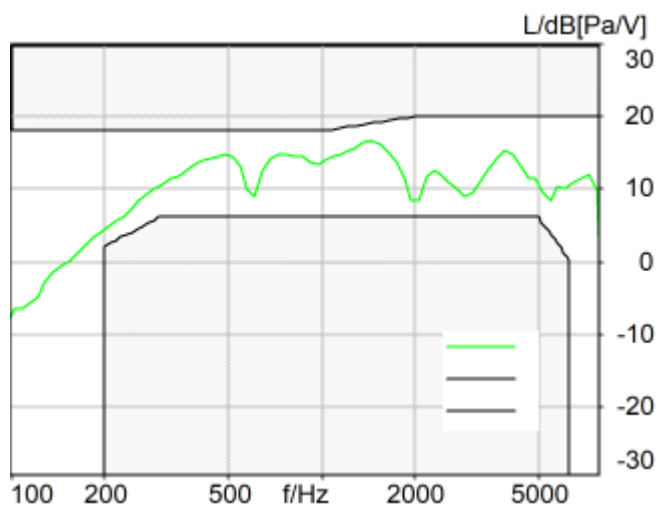
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.77dB at 1250Hz.

24/08/08 21:17 ACQUA

### 5.3 Frequency Response 2N FF

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



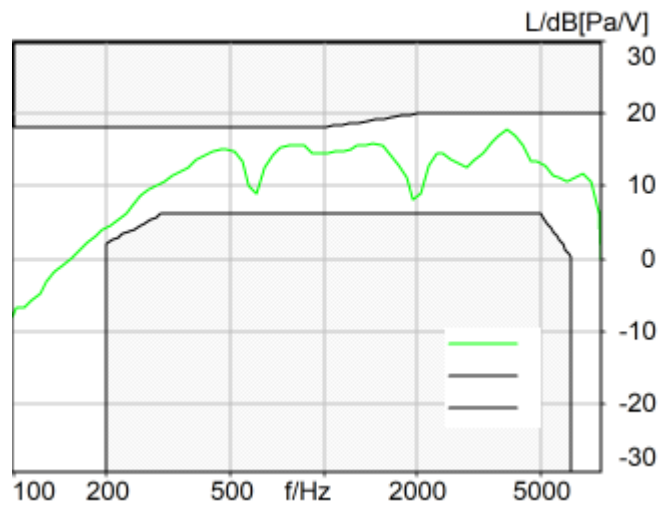
Absolute minimal distance  
2.30 dB at 1447.5 Hz Ok

Ok

24/08/08 21:17 ACQUA 5.1.200

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

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



Absolute minimal distance  
2.12 dB at 3882.4 Hz Ok

**Ok**

24/08/08 21:17 ACQUA 5.1.200

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## **Measurement Protocol**

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

Project	462605
Report Generation Date	24/08/04 4:23
Responsible Person	AC01-KS

---

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	220.3	WCDMA II_Voice_AMR NB 4. 75kbps_Ch9400_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	79.78	WCDMA II_Voice_AMR NB 4. 75kbps_Ch9400_2N

ACQUA Report  
75kbps\_Ch9400\_2N

Title: WCDMA II\_Voice\_AMR NB 4.

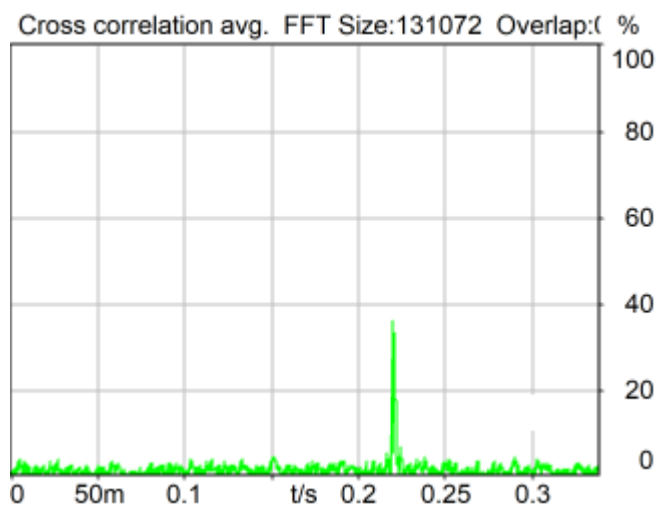
---

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



### Overall Receive Delay NB

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

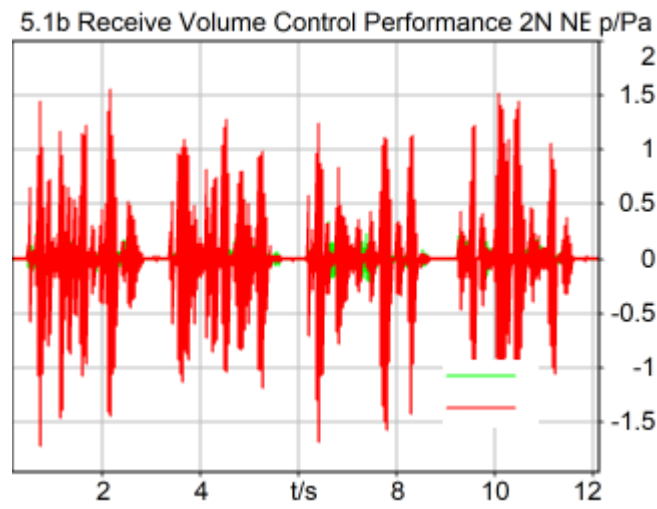


Delay (Cross): 220.3 ms

24/08/04 4:22 ACQUA 5.1.200

## 5.1b Receive Volume Control Performance 2N NB

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



Speech Level RCV: 79.78 dB[SPL], Act.: 79.95% Ok

**Ok**

24/08/04 4:23 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
--------------------	---

Project	462605
Report Generation Date	24/08/01 21:25
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	165.8	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	79.99	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.45	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	31.93	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.39	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.65	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.59	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	26.53	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.04	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.68	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.45	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.74	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 1250Hz)	26.53	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.3 Frequency Response 2N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.48	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N
5.3 Frequency Response 2N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 576.7 Hz	1.90	LTE Band 41_20M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch40620_2N

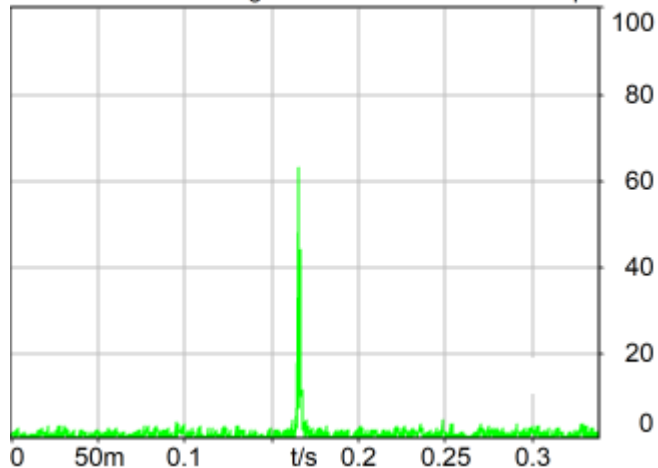
---

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

### Overall Receive Delay NB

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

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

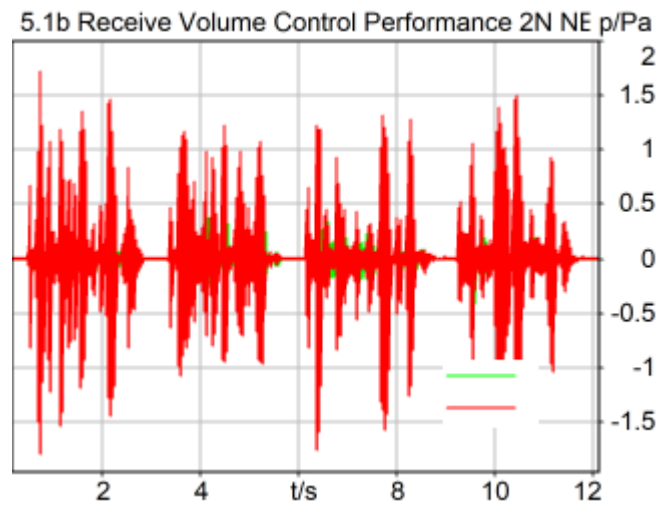


Delay (Cross): 165.8 ms

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## 5.1b Receive Volume Control Performance 2N NB

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



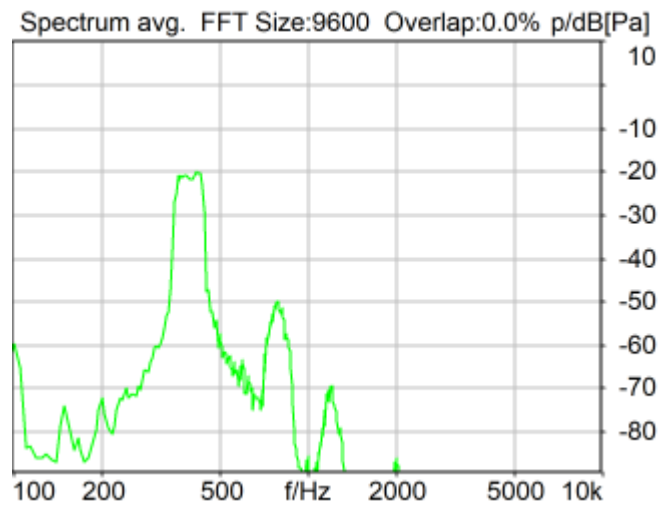
Speech Level RCV: 79.99 dB[SPL], Act.: 79.82% Ok

**Ok**

24/08/01 21:19 ACQUA 5.1.200

## **5.2 RCV Distortion and Noise - 400 Hz NB**

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



Distortion (Noise) RCV (packed): 30.45 dB (3.00%) Ok

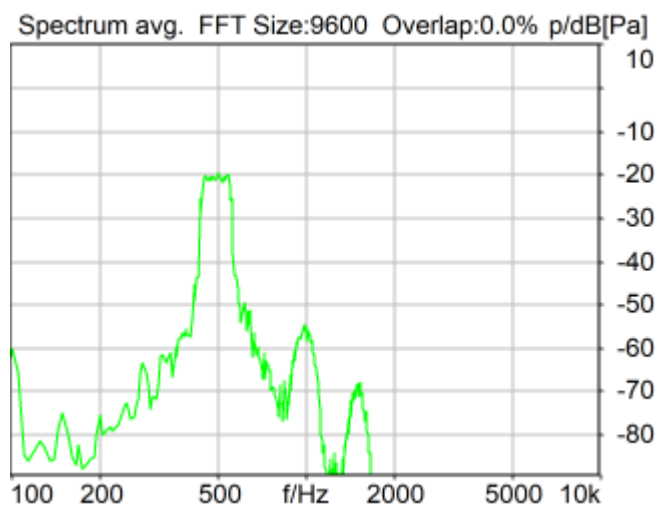
**Ok**

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### 5.2 RCV Distortion and Noise - 500 Hz NB

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



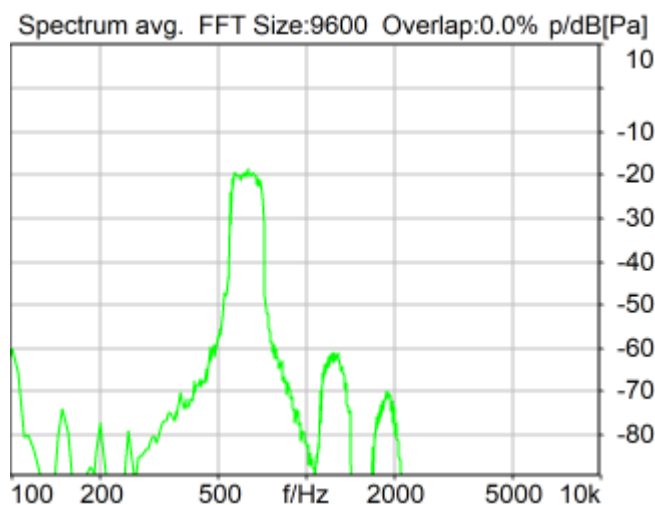
Distortion (Noise) RCV (packed): 31.93 dB (2.53%) Ok

Ok

24/08/01 21:20 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 630 Hz NB

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



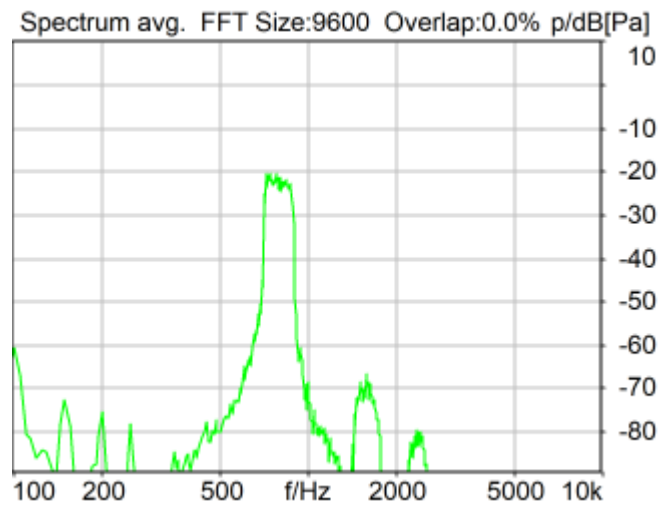
Distortion (Noise) RCV (packed): 37.39 dB (1.35%) Ok

Ok

24/08/01 21:20 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 800 Hz NB

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



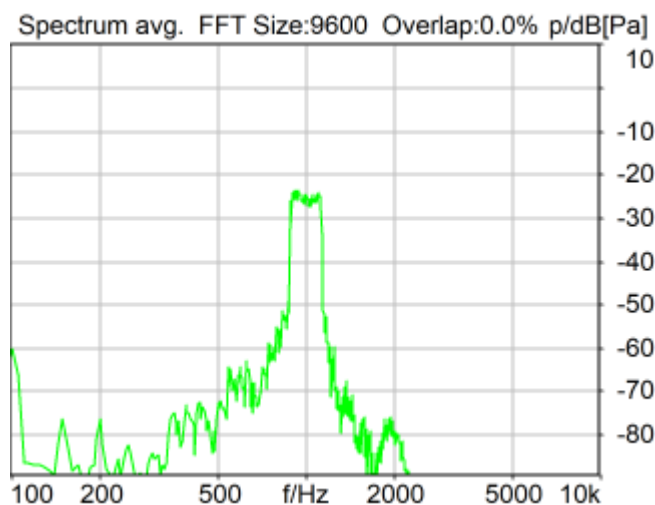
Distortion (Noise) RCV (packed): 40.65 dB (0.93%) Ok

Ok

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### 5.2 RCV Distortion and Noise - 1000 Hz NB

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



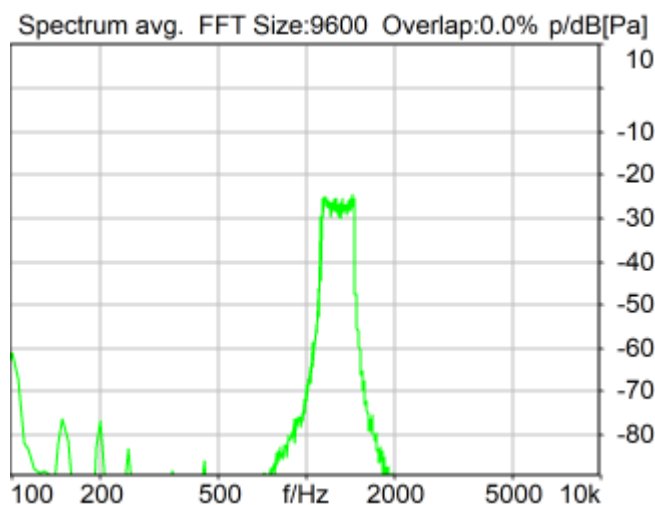
Distortion (Noise) RCV (packed): 32.59 dB (2.35%) Ok

Ok

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### 5.2 RCV Distortion and Noise - 1250 Hz NB

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



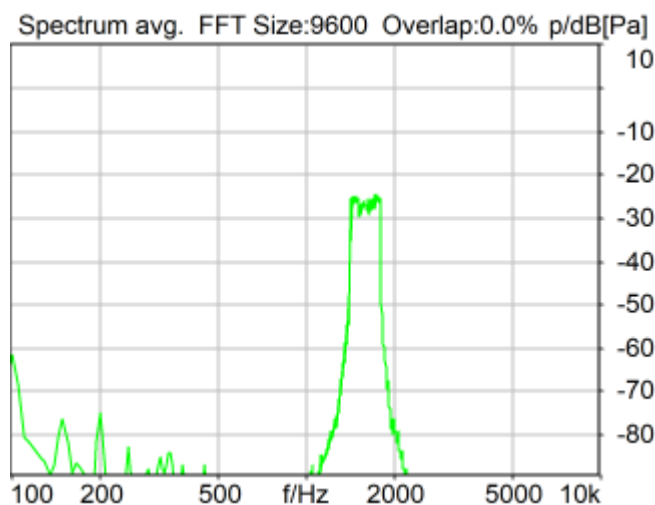
Distortion (Noise) RCV (packed): 26.53 dB (4.71%) Ok

Ok

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### 5.2 RCV Distortion and Noise - 1600 Hz NB

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



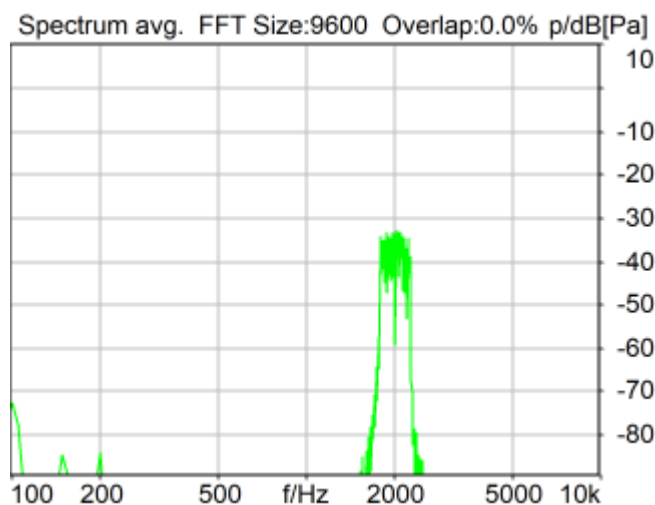
Distortion (Noise) RCV (packed): 39.04 dB (1.12%) Ok

Ok

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### 5.2 RCV Distortion and Noise - 2000 Hz NB

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



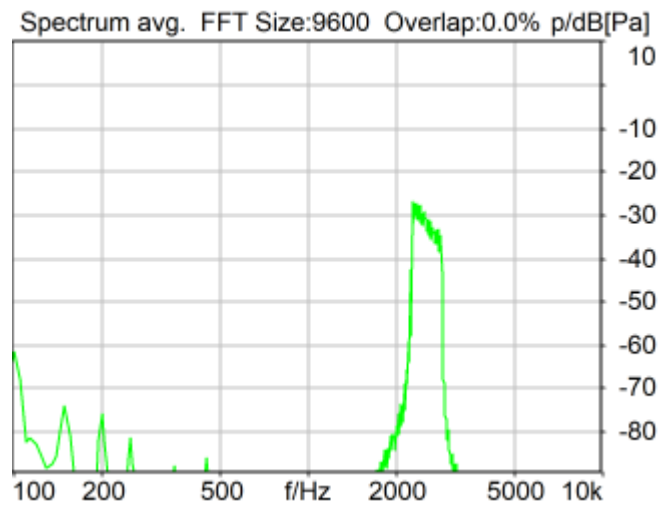
Distortion (Noise) RCV (packed): 39.68 dB (1.04%) Ok

Ok

24/08/01 21:23 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 2500 Hz NB

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



Distortion (Noise) RCV (packed): 39.45 dB (1.07%) Ok

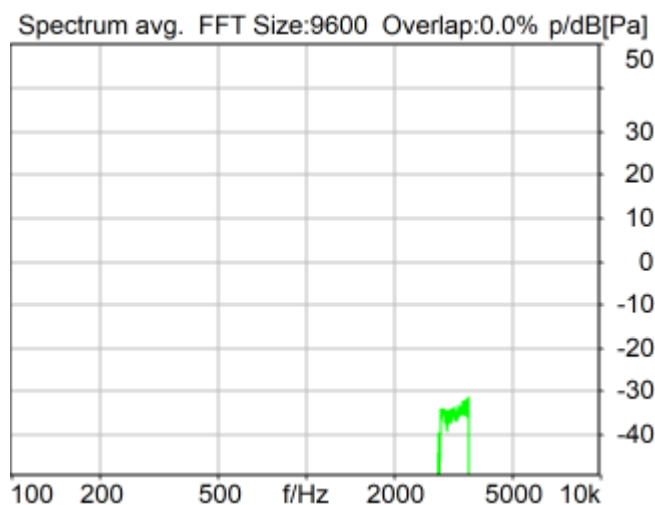
Ok

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### 5.2 RCV Distortion and Noise - 3150 Hz NB

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



Distortion (Noise) RCV (packed): 39.74 dB (1.03%) Ok

Ok

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

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

Region	Frequency	SDNR
1	400Hz	30.45 dB
2	500Hz	31.93 dB
3	630Hz	37.39 dB
4	800Hz	40.65 dB
5	1000Hz	32.59 dB
6	1250Hz	26.53 dB
7	1600Hz	39.04 dB
8	2000Hz	39.68 dB
9	2500Hz	39.45 dB
10	3150Hz	39.74 dB

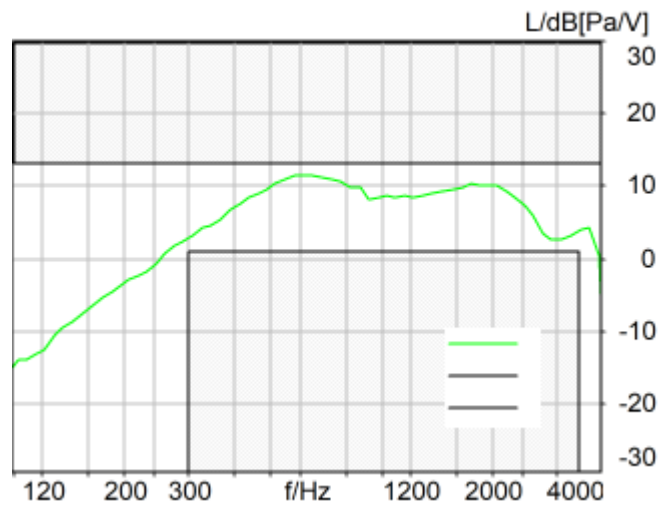
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 26.53dB at 1250Hz.

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### 5.3 Frequency Response 2N FF HANB

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



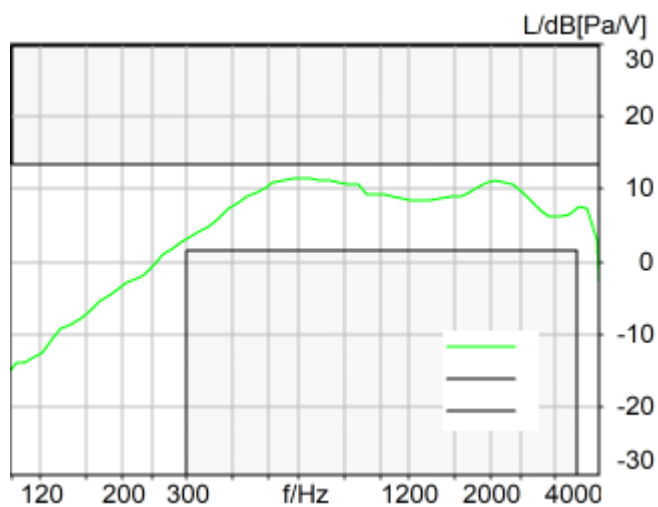
Absolute minimal distance  
1.48 dB at 611.7 Hz Ok

Ok

24/08/01 21:24 ACQUA 5.1.200

### 5.3 Frequency Response 2N DF HANB

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



Absolute minimal distance  
1.90 dB at 576.7 Hz Ok

Ok

24/08/01 21:24 ACQUA 5.1.200

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## Measurement Protocol

Measurement Object	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24.4Kbps_Ch158600_8N
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Project	462605
Report Generation Date	24/08/07 0:27
Responsible Person	AC01-KS

**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	298.7	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	84.63	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	31.62	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.54	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.99	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.33	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	42.16	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	31.29	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	43.11	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.49	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	41.76	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	42.81	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N
Report - Receive Distortion and Noise (Conversational)	Ok	Minimum SDNR [dB], (occured at 630Hz)	30.99	FR1 n14_10M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch158600_8N

ACQUA Report  
NB 24.4Kbps\_Ch158600\_8N

Title: FR1 n14\_10M\_QPSK\_1RB\_1Offset\_EVS

Gain)				EVS NB 24. 4Kbps_Ch158600_8N
5.3 Frequency Response 8N FF HANB	Not Ok	Min. dist. to tolerance scheme [dB], 1747.8 Hz	-1.14	FR1 n14_10M_QPSK_1RB_1Offset_ EVS NB 24. 4Kbps_Ch158600_8N
5.3 Frequency Response 8N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 576.7 Hz	1.03	FR1 n14_10M_QPSK_1RB_1Offset_ EVS NB 24. 4Kbps_Ch158600_8N

ACQUA Report  
NB 24.4Kbps\_Ch158600\_8N

Title: FR1 n14\_10M\_QPSK\_1RB\_1Offset\_EVS

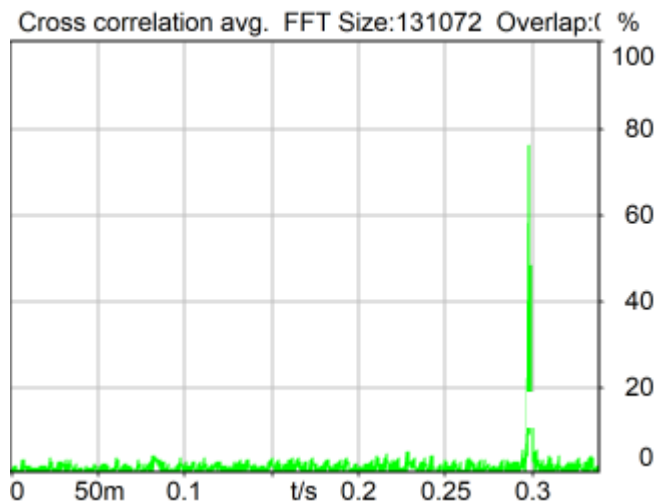
---

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



### Overall Receive Delay NB

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

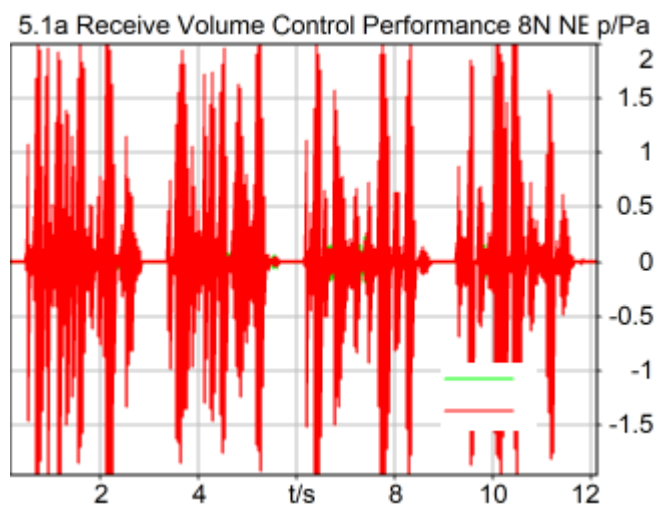


Delay (Cross): 298.7 ms

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### 5.1a Receive Volume Control Performance 8N NB

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



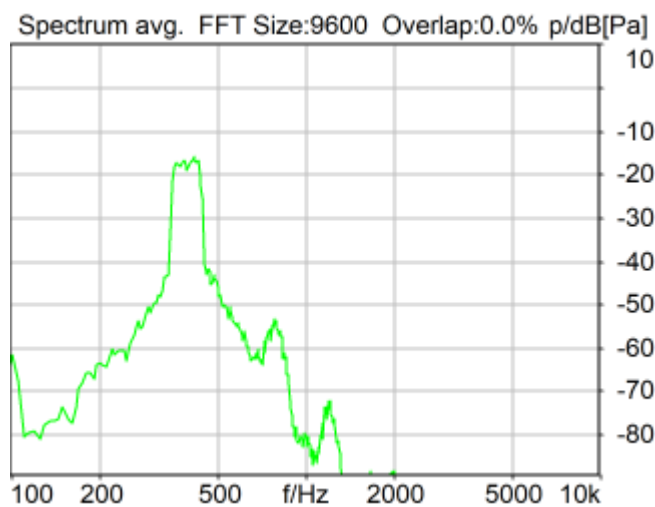
Speech Level RCV: 84.63 dB[SPL], Act.: 80.14% Ok

Ok

24/08/07 0:22 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 400 Hz NB

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



Distortion (Noise) RCV (packed): 31.62 dB (2.62%) Ok

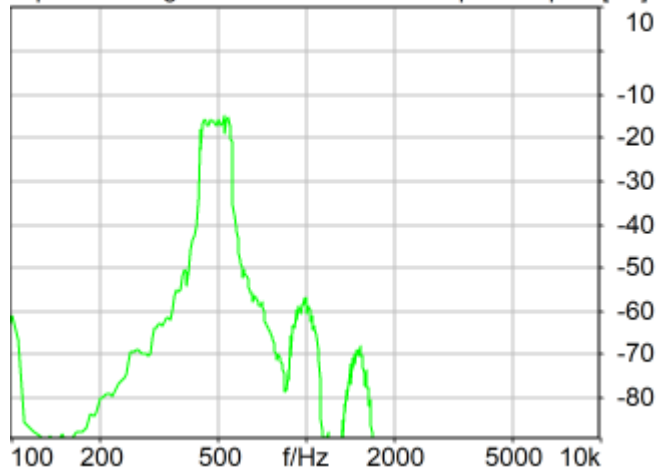
Ok

24/08/07 0:22 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 500 Hz NB

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

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



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

Ok

24/08/07 0:22 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 630 Hz NB

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

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



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

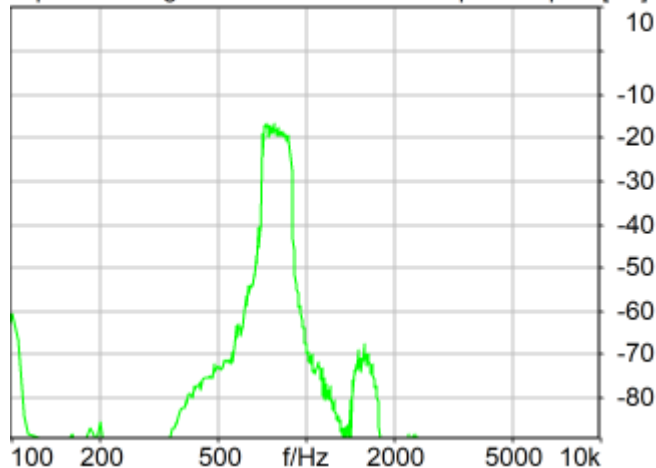
Ok

24/08/07 0:23 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 800 Hz NB

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

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



Distortion (Noise) RCV (packed): 40.33 dB (0.96%) Ok

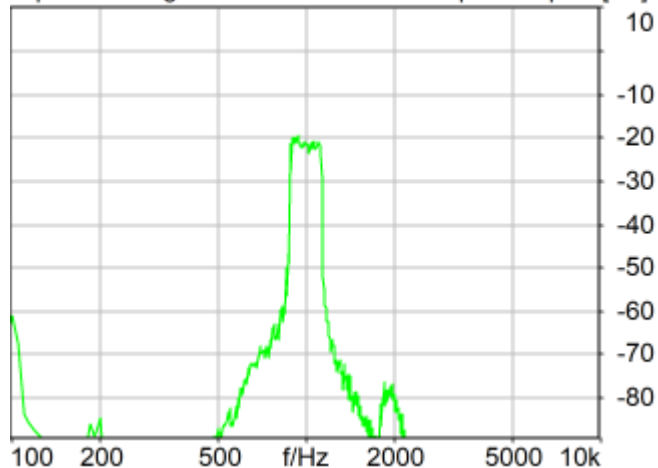
Ok

24/08/07 0:23 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 1000 Hz NB

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

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



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

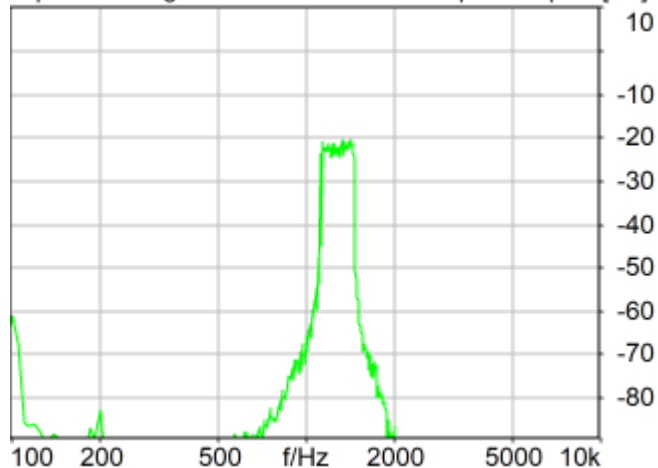
Ok

24/08/07 0:24 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 1250 Hz NB

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

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



Distortion (Noise) RCV (packed): 31.29 dB (2.73%) Ok

Ok

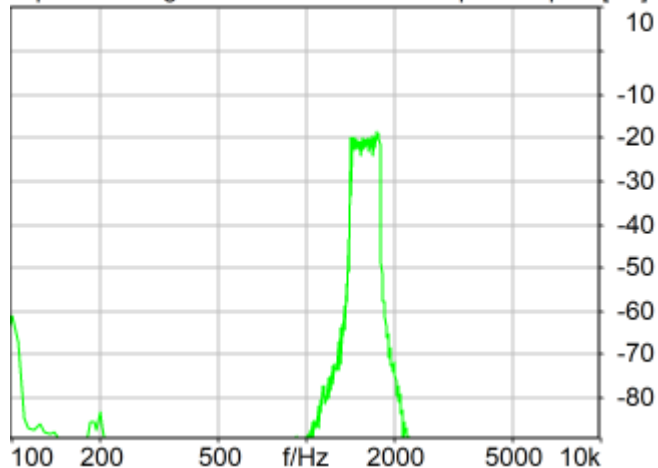
24/08/07 0:24 ACQUA 5.1.200



### 5.2 RCV Distortion and Noise - 1600 Hz NB

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

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



Distortion (Noise) RCV (packed): 43.11 dB (0.70%) Ok

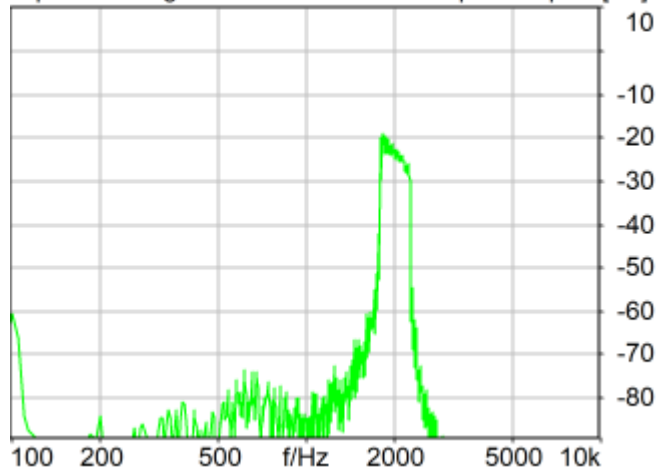
Ok

24/08/07 0:25 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 2000 Hz NB

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

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



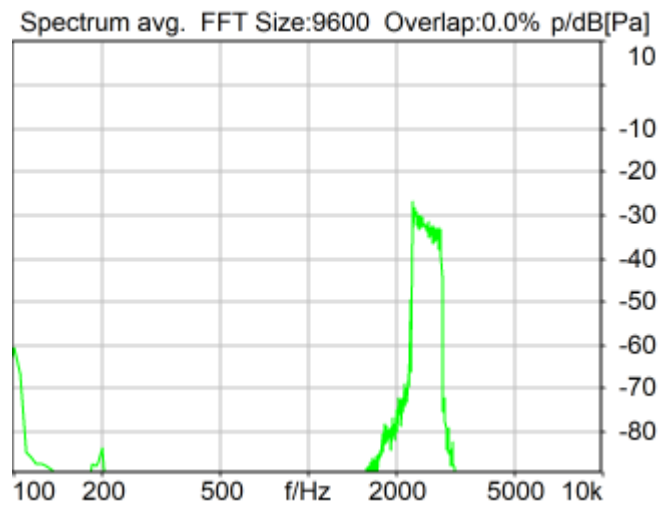
Distortion (Noise) RCV (packed): 38.49 dB (1.19%) Ok

Ok

24/08/07 0:25 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 2500 Hz NB

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



Distortion (Noise) RCV (packed): 41.76 dB (0.82%) Ok

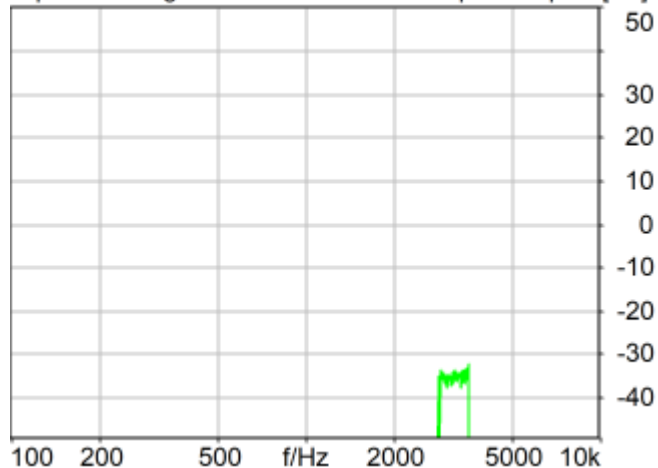
**Ok**

24/08/07 0:26 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 3150 Hz NB

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

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



Distortion (Noise) RCV (packed): 42.81 dB (0.72%) Ok

Ok

24/08/07 0:26 ACQUA 5.1.200

---

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

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

Region	Frequency	SDNR
1	400Hz	31.62 dB
2	500Hz	36.54 dB
3	630Hz	30.99 dB
4	800Hz	40.33 dB
5	1000Hz	42.16 dB
6	1250Hz	31.29 dB
7	1600Hz	43.11 dB
8	2000Hz	38.49 dB
9	2500Hz	41.76 dB
10	3150Hz	42.81 dB

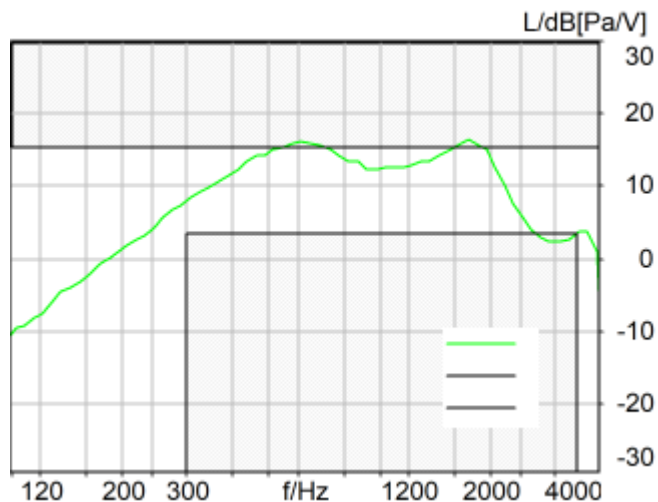
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 30.99dB at 630Hz.

24/08/07 0:26 ACQUA

### 5.3 Frequency Response 8N FF HANB

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



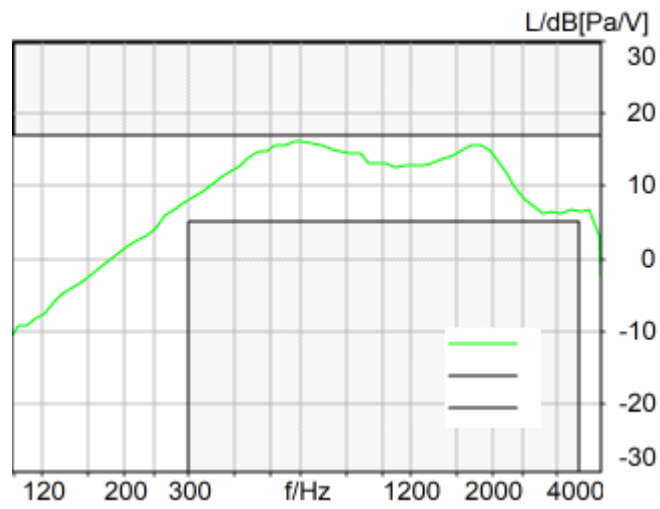
Absolute minimal distance  
-1.14 dB at 1747.8 Hz Not Ok

**Not Ok**

24/08/07 0:26 ACQUA 5.1.200

### 5.3 Frequency Response 8N DF HANB

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



Absolute minimal distance  
1.03 dB at 576.7 Hz Ok

Ok

24/08/07 0:27 ACQUA 5.1.200

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## Measurement Protocol

Measurement Object	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24.4Kbps_Ch136100_2N
--------------------	--

Project	462605
Report Generation Date	24/08/07 1:05
Responsible Person	AC01-KS



**Status Overview**

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	289.4	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	77.83	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	35.75	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	37.86	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.84	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	41.17	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	39.34	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.95	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	42.66	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	45.59	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	43.88	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	43.72	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N
Report - Receive Distortion and Noise (Conversational)	Ok	Minimum SDNR [dB], (occured at 630Hz)	32.84	FR1 n71_30M_QPSK_1RB_1Offset_EVS NB 24. 4Kbps_Ch136100_2N

ACQUA Report  
NB 24.4Kbps\_Ch136100\_2N

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

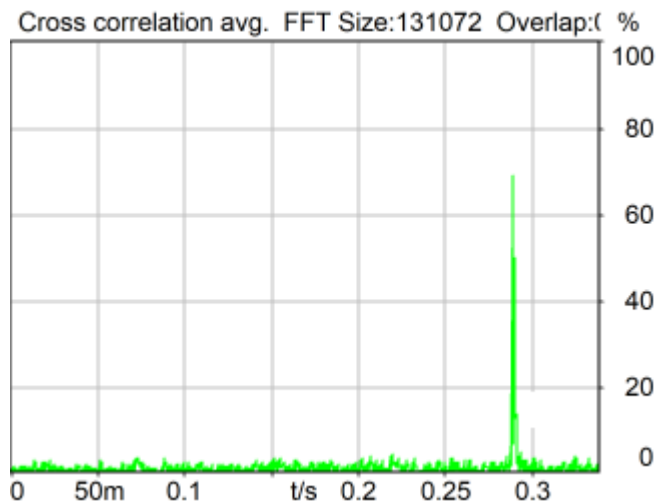
Gain)				EVS NB 24. 4Kbps_Ch136100_2N
5.3 Frequency Response 2N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 3058.6 Hz	1.24	FR1 n71_30M_QPSK_1RB_1Offset_ EVS NB 24. 4Kbps_Ch136100_2N
5.3 Frequency Response 2N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 576.7 Hz	1.85	FR1 n71_30M_QPSK_1RB_1Offset_ EVS NB 24. 4Kbps_Ch136100_2N

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

### Overall Receive Delay NB

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



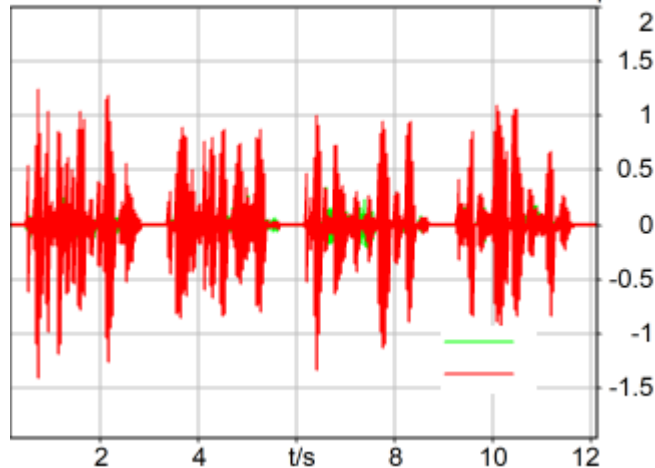
Delay (Cross): 289.4 ms

24/08/07 0:59 ACQUA 5.1.200

### 5.1b Receive Volume Control Performance 2N NB

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

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



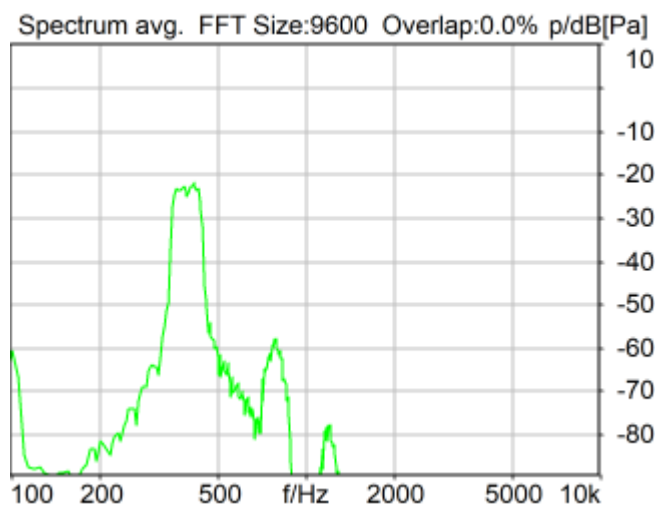
Speech Level RCV: 77.83 dB[SPL], Act.: 79.67% Ok

Ok

24/08/07 1:00 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 400 Hz NB

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



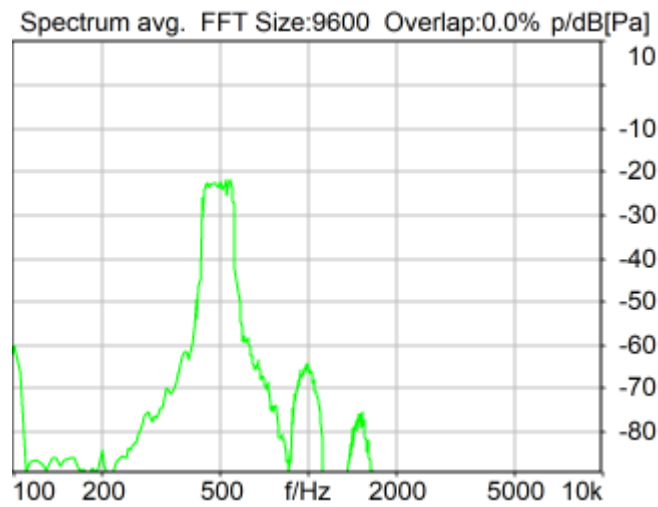
Distortion (Noise) RCV (packed): 35.75 dB (1.63%) Ok

Ok

24/08/07 1:00 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 500 Hz NB

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



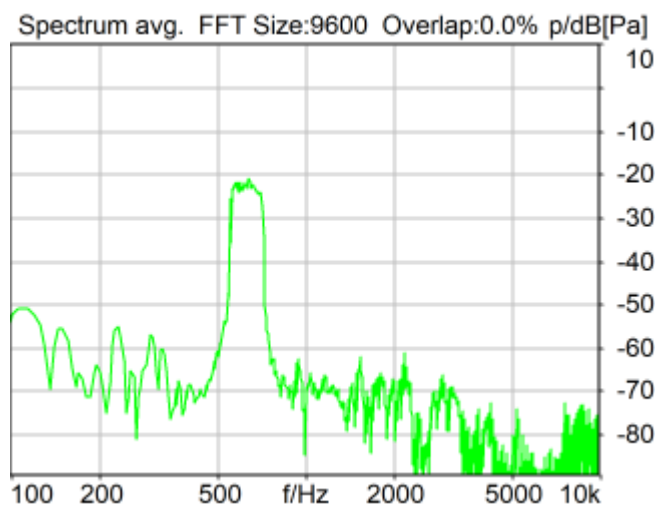
Distortion (Noise) RCV (packed): 37.86 dB (1.28%) Ok

Ok

24/08/07 1:00 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 630 Hz NB

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



Distortion (Noise) RCV (packed): 32.84 dB (2.28%) Ok

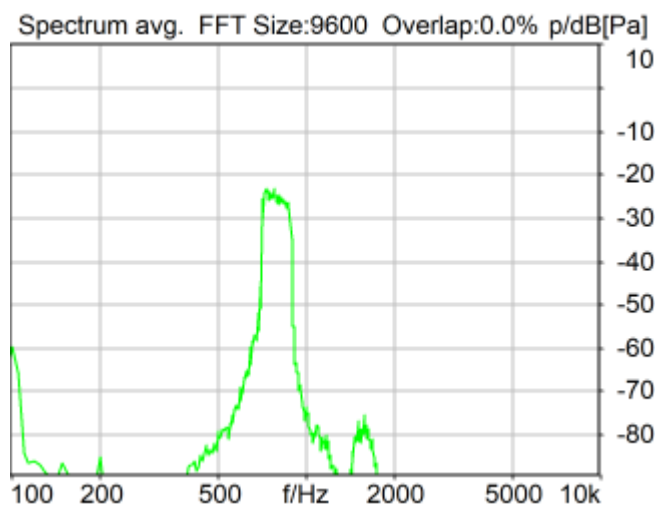
Ok

24/08/07 1:01 ACQUA 5.1.200



### 5.2 RCV Distortion and Noise - 800 Hz NB

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



Distortion (Noise) RCV (packed): 41.17 dB (0.87%) Ok

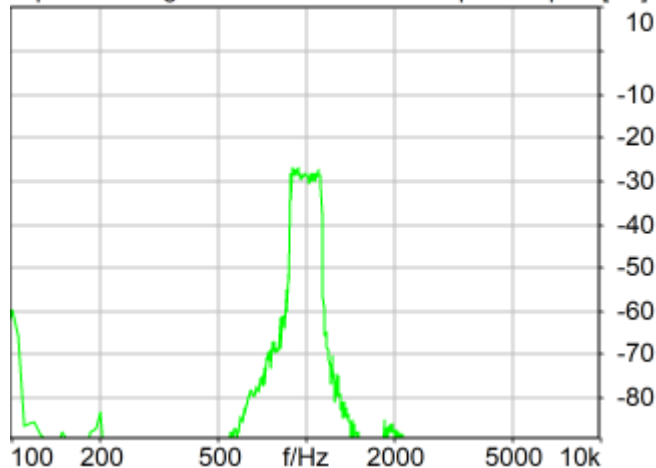
Ok

24/08/07 1:01 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 1000 Hz NB

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

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



Distortion (Noise) RCV (packed): 39.34 dB (1.08%) Ok

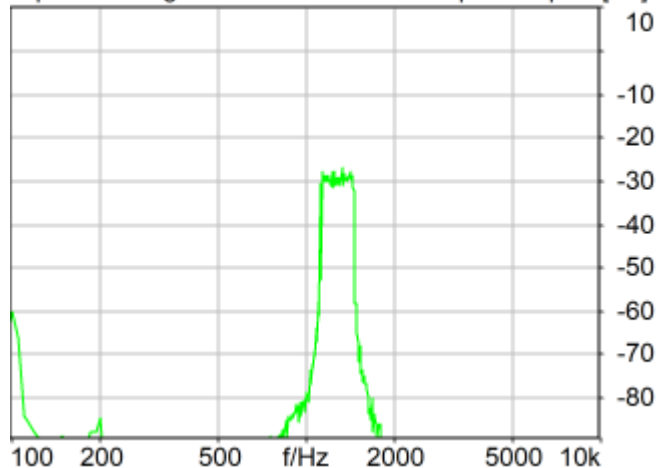
Ok

24/08/07 1:02 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 1250 Hz NB

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

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



Distortion (Noise) RCV (packed): 32.95 dB (2.25%) Ok

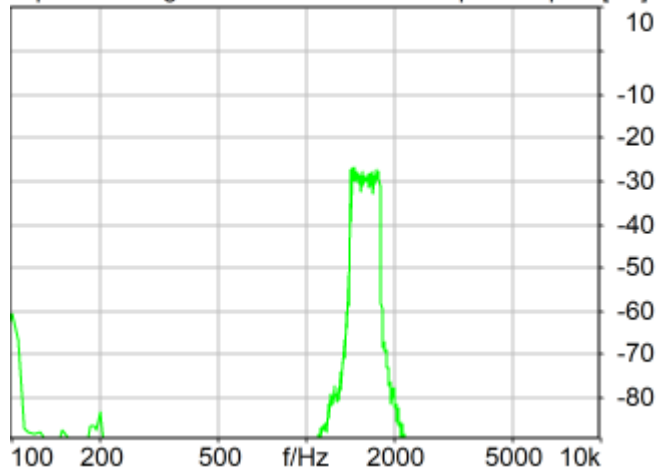
Ok

24/08/07 1:02 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 1600 Hz NB

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

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



Distortion (Noise) RCV (packed): 42.66 dB (0.74%) Ok

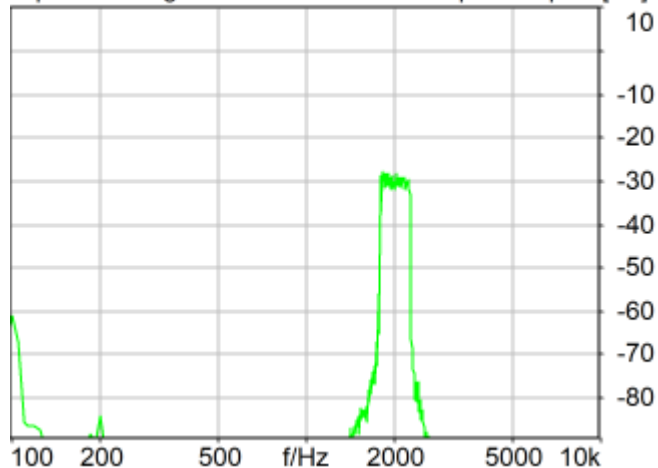
Ok

24/08/07 1:03 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 2000 Hz NB

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

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



Distortion (Noise) RCV (packed): 45.59 dB (0.53%) Ok

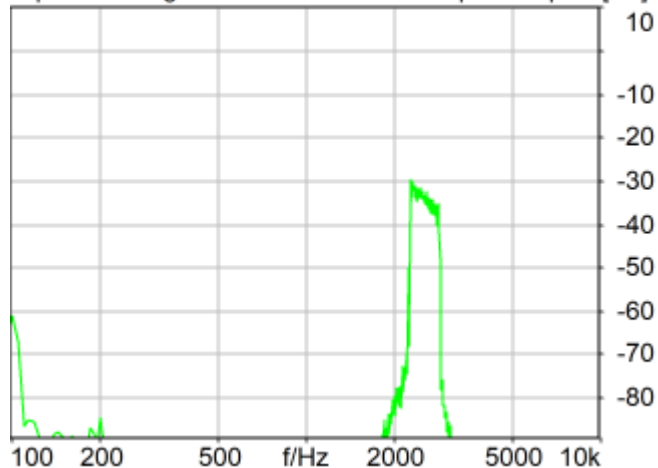
Ok

24/08/07 1:03 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 2500 Hz NB

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

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



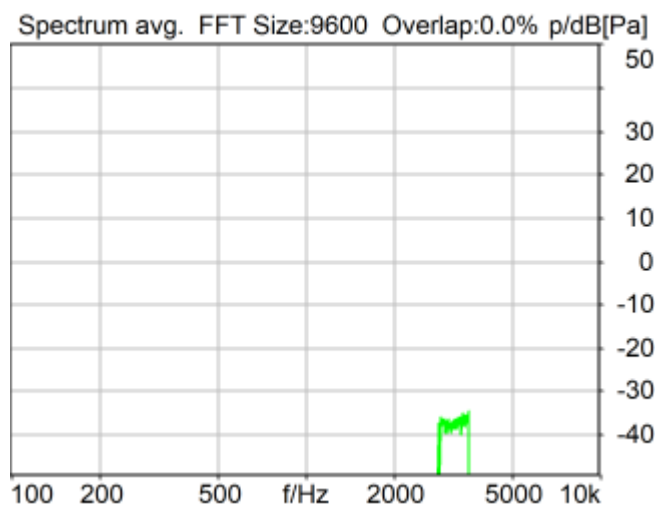
Distortion (Noise) RCV (packed): 43.88 dB (0.64%) Ok

Ok

24/08/07 1:04 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 3150 Hz NB

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



Distortion (Noise) RCV (packed): 43.72 dB (0.65%) Ok

Ok

24/08/07 1:04 ACQUA 5.1.200

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

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

Region	Frequency	SDNR
1	400Hz	35.75 dB
2	500Hz	37.86 dB
3	630Hz	32.84 dB
4	800Hz	41.17 dB
5	1000Hz	39.34 dB
6	1250Hz	32.95 dB
7	1600Hz	42.66 dB
8	2000Hz	45.59 dB
9	2500Hz	43.88 dB
10	3150Hz	43.72 dB

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

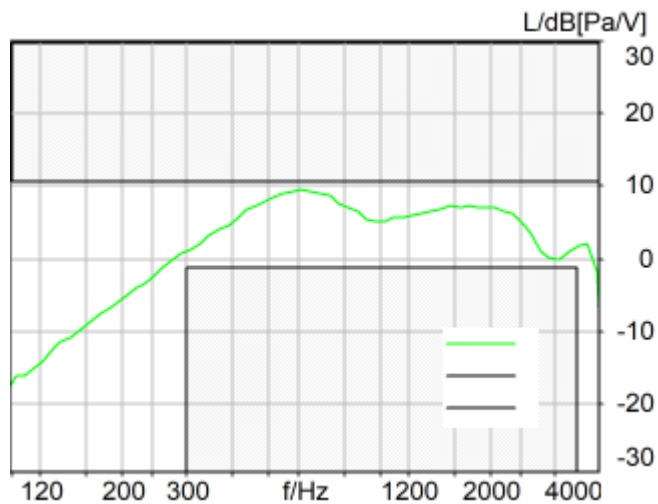
Smallest SDNR was 32.84dB at 630Hz.

24/08/07 1:04 ACQUA



### 5.3 Frequency Response 2N FF HANB

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



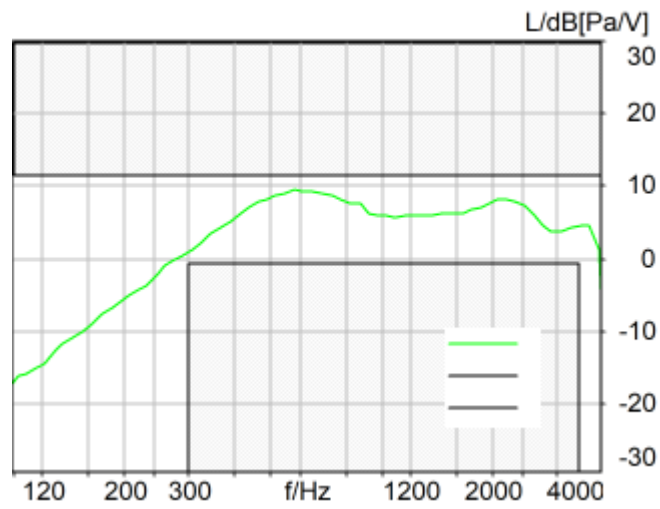
Absolute minimal distance  
1.24 dB at 3058.6 Hz Ok

Ok

24/08/07 1:04 ACQUA 5.1.200

### 5.3 Frequency Response 2N DF HANB

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



Absolute minimal distance  
1.85 dB at 576.7 Hz Ok

Ok

24/08/07 1:05 ACQUA 5.1.200

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## **Measurement Protocol**

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS NB 24.4kbps_Ch40_2N
--------------------	--

Project	462605
Report Generation Date	24/08/08 21:01
Responsible Person	AC01-KS

**Status Overview**

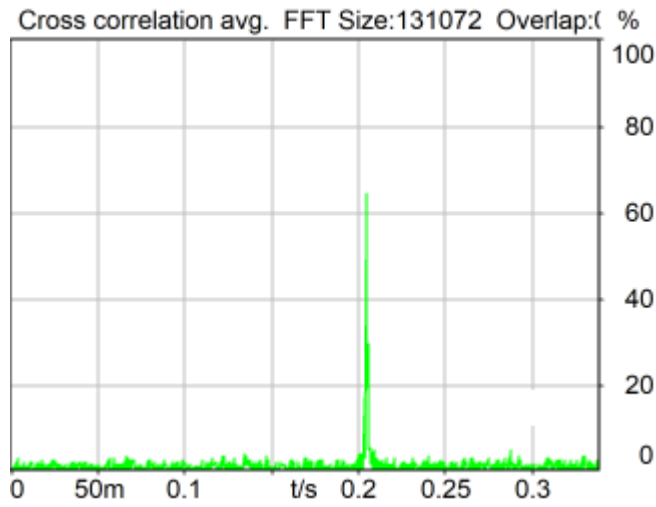
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	204.6	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.1b Receive Volume Control Performance 2N NB	Ok	Speech Level [dB[SPL]]	80.71	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.55	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	35.34	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	34.43	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	31.95	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	29.34	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	22.06	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.66	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.05	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.27	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	33.63	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 1250Hz)	22.06	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.3 Frequency Response 2N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.03	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N
5.3 Frequency Response 2N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.55	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch40_2N

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

## Overall Receive Delay NB

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

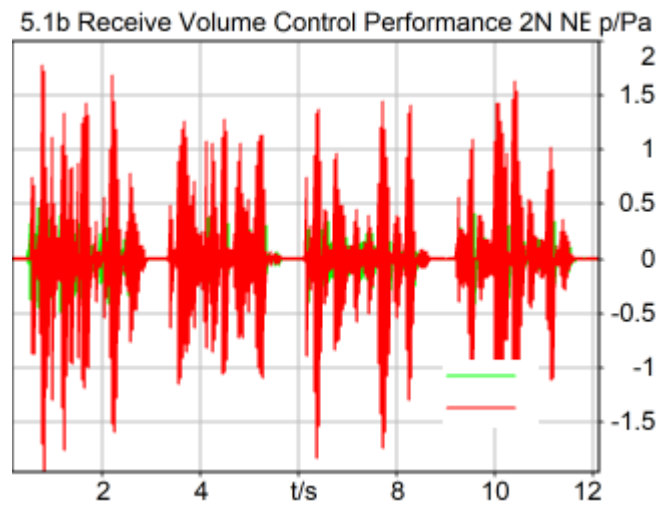


Delay (Cross): 204.6 ms

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## 5.1b Receive Volume Control Performance 2N NB

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



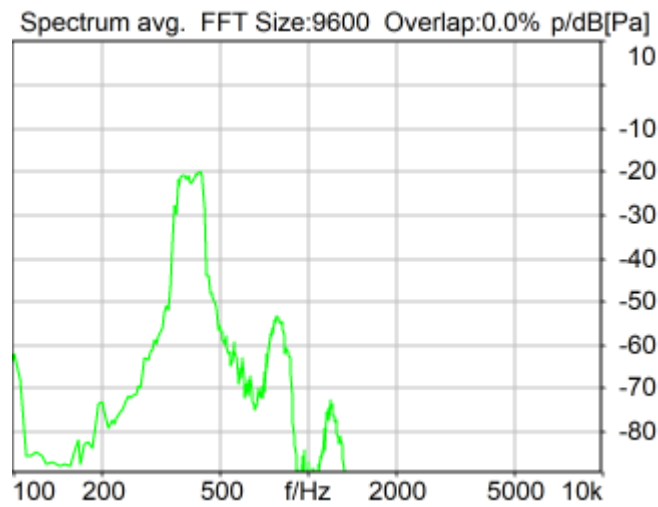
Speech Level RCV: 80.71 dB[SPL], Act.: 79.61% Ok

**Ok**

24/08/08 20:55 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 400 Hz NB

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



Distortion (Noise) RCV (packed): 32.55 dB (2.36%) Ok

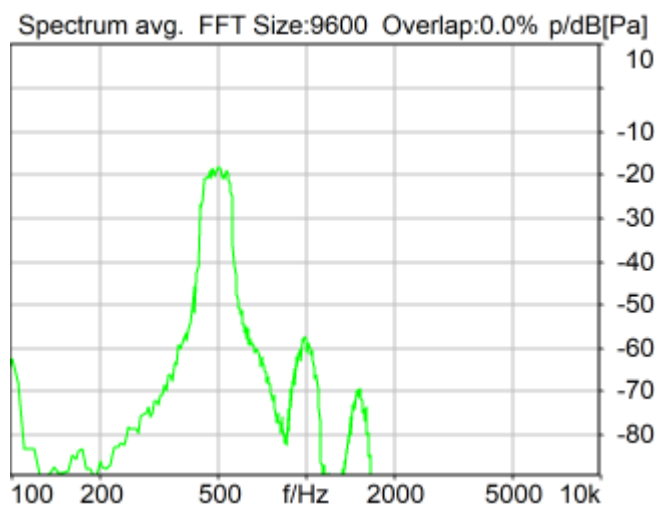
Ok

24/08/08 20:56 ACQUA 5.1.200



### 5.2 RCV Distortion and Noise - 500 Hz NB

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



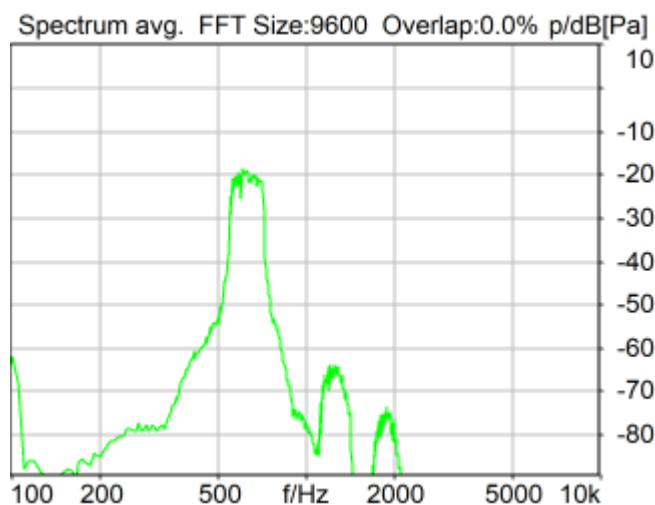
Distortion (Noise) RCV (packed): 35.34 dB (1.71%) Ok

Ok

24/08/08 20:56 ACQUA 5.1.200

### 5.2 RCV Distortion and Noise - 630 Hz NB

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



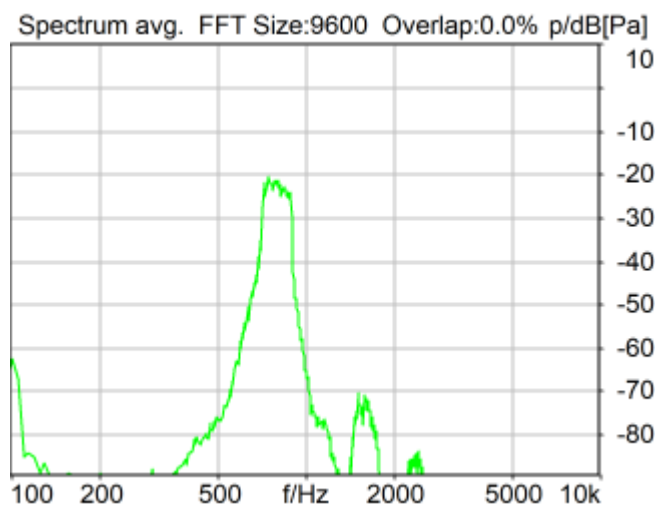
Distortion (Noise) RCV (packed): 34.43 dB (1.90%) Ok

Ok

24/08/08 20:56 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 800 Hz NB

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



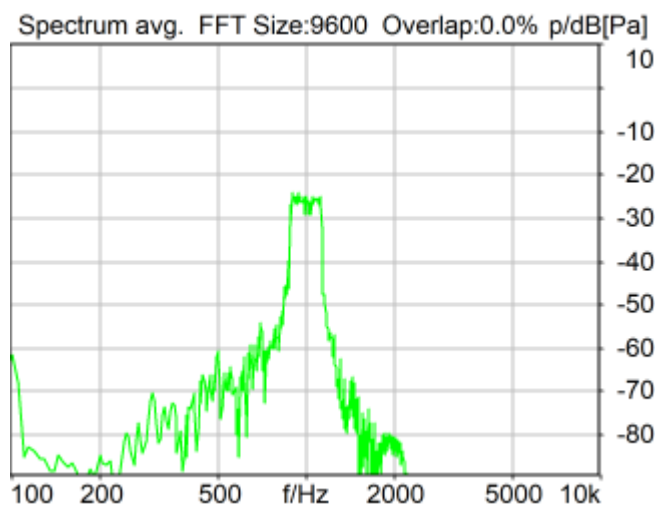
Distortion (Noise) RCV (packed): 31.95 dB (2.53%) Ok

Ok

24/08/08 20:57 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 1000 Hz NB

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



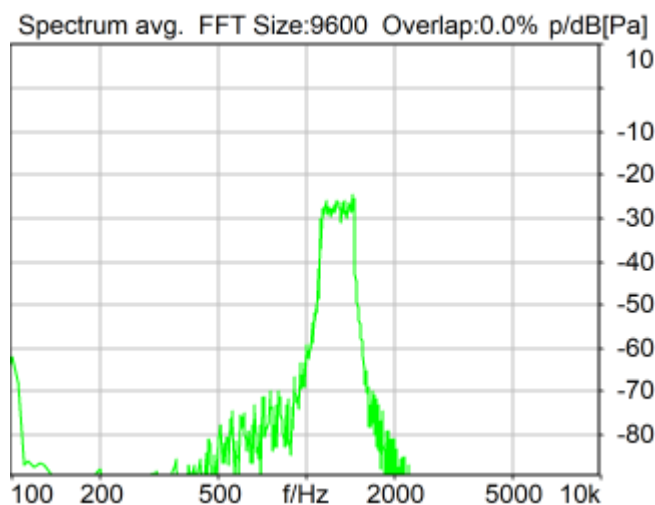
Distortion (Noise) RCV (packed): 29.34 dB (3.41%) Ok

Ok

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## 5.2 RCV Distortion and Noise - 1250 Hz NB

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



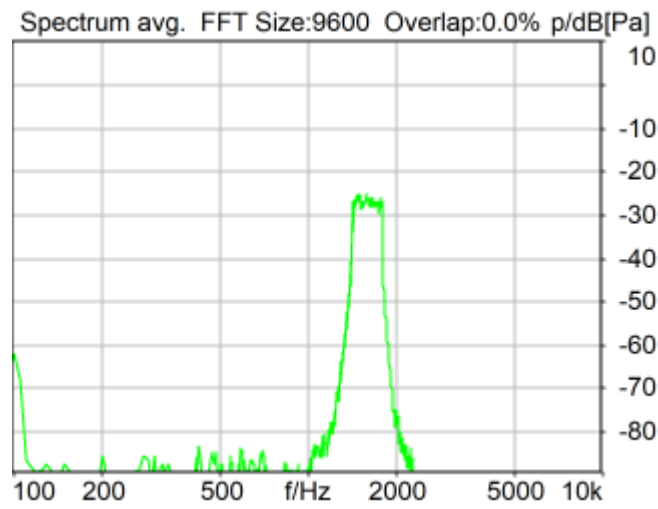
Distortion (Noise) RCV (packed): 22.06 dB (7.89%) Ok

Ok

24/08/08 20:58 ACQUA 5.1.200

## **5.2 RCV Distortion and Noise - 1600 Hz NB**

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



Distortion (Noise) RCV (packed): 32.66 dB (2.33%) Ok

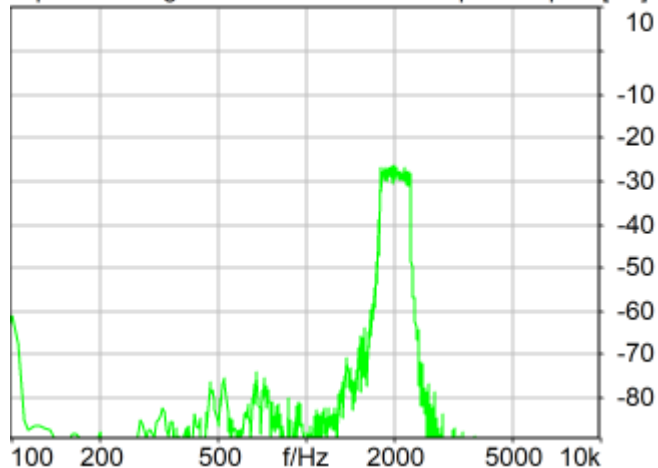
**Ok**

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## 5.2 RCV Distortion and Noise - 2000 Hz NB

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

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



Distortion (Noise) RCV (packed): 30.05 dB (3.14%) Ok

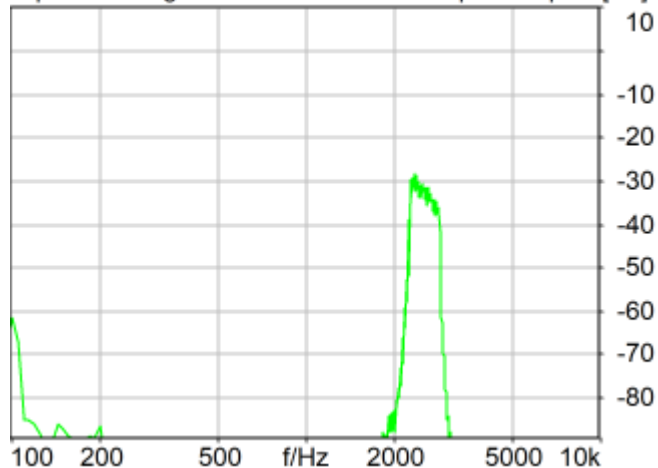
Ok

24/08/08 20:59 ACQUA 5.1.200

## 5.2 RCV Distortion and Noise - 2500 Hz NB

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

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



Distortion (Noise) RCV (packed): 32.27 dB (2.44%) Ok

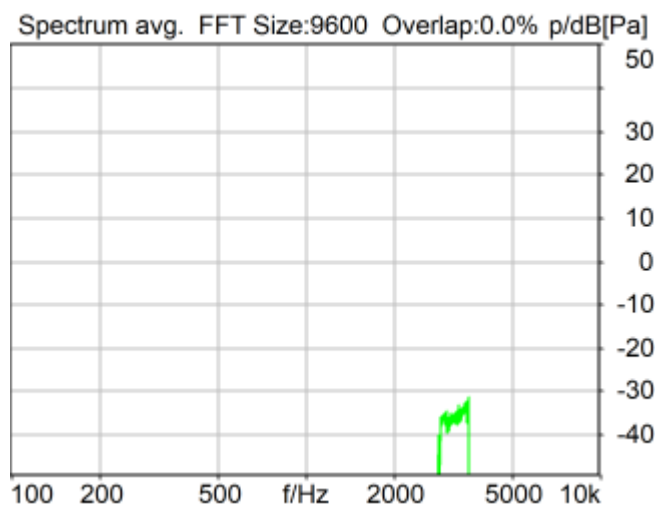
Ok

24/08/08 20:59 ACQUA 5.1.200



### 5.2 RCV Distortion and Noise - 3150 Hz NB

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



Distortion (Noise) RCV (packed): 33.63 dB (2.08%) Ok

Ok

24/08/08 21:00 ACQUA 5.1.200

---

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

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

Region	Frequency	SDNR
1	400Hz	32.55 dB
2	500Hz	35.34 dB
3	630Hz	34.43 dB
4	800Hz	31.95 dB
5	1000Hz	29.34 dB
6	1250Hz	22.06 dB
7	1600Hz	32.66 dB
8	2000Hz	30.05 dB
9	2500Hz	32.27 dB
10	3150Hz	33.63 dB

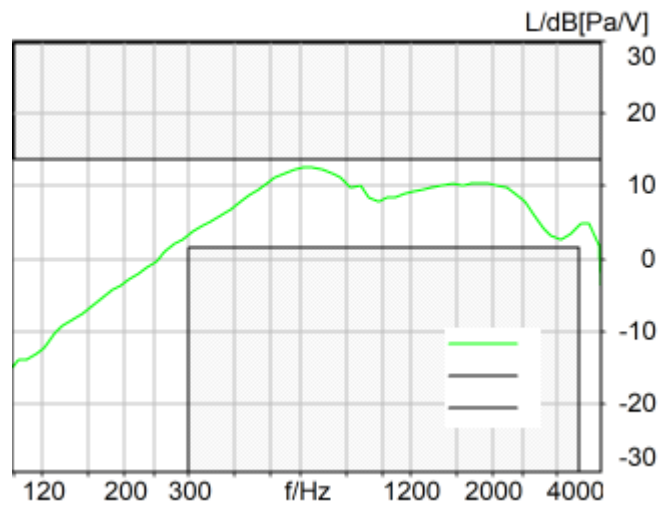
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.06dB at 1250Hz.

24/08/08 21:00 ACQUA

### 5.3 Frequency Response 2N FF HANB

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



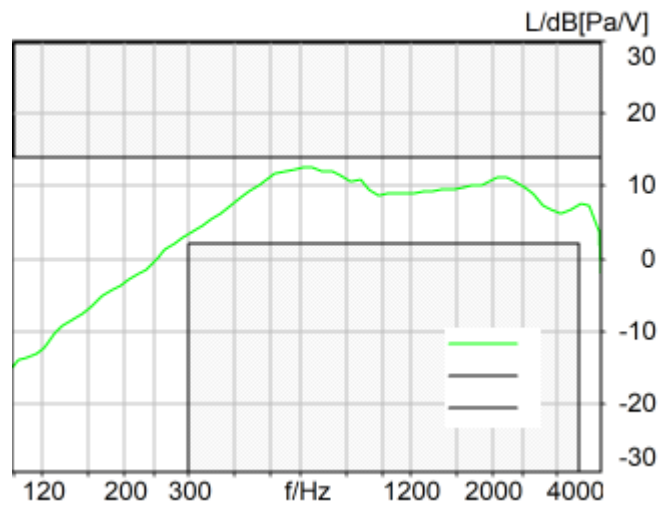
Absolute minimal distance  
1.03 dB at 611.7 Hz Ok

Ok

24/08/08 21:00 ACQUA 5.1.200

### 5.3 Frequency Response 2N DF HANB

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



Absolute minimal distance  
1.55 dB at 611.7 Hz Ok

**Ok**

24/08/08 21:00 ACQUA 5.1.200