

Measurement Protocol

Measurement Object	23T04Z80629 VoLTE EVS	23T04Z80629 VoLTE AMR
Description	FCC Volume control	FCC Volume control
Model Name	B160V	b160v
Sample Number	UT78a	UT78a
IMEI	356197680005216	356197680005216
Test Band	VoLTE Band2	VoLTE Band2
Test Date	20231213-20231217	20231213-20231217
Tester	Zhu Hongye	Zhu Hongye
Test System (ACQUA System)	ACQUA V5.1.200,CMW500 (SN:170430),Labcore (SN:77000136)	ACQUA V5.1.200,CMW500 (SN:170430),Labcore (SN:77000136)
HATS Type	HEAD HATS (HMS II.3, SN: 12306194(torso13740182))(0,0,5)	HEAD HATS (HMS II.3, SN: 12306194(torso13740182))(0,0,5)
Environment	Temp.15~35 'C, 20~75%RH, Acoustic Chamber	Temp.15~35 'C, 20~75%RH, Acoustic Chamber
Location	The NO.52 of Huayuan North Road	The NO.52 of Huayuan North Road

Project	TIA 5050 v1
Report Generation Date	2023/12/17 13:54
Responsible Person	STA

Status Overview

SMD	Status	Single Value Description	Single Value	Object
5.1 Receive Volume Control Performance 8N QPSK, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.82	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N QPSK, RB Size=1, RB Offset=49; Table-2	Done	Speech Level [dB[SPL]]	84.63	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.60	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 16QAM, RB Size=1, RB Offset=49; Table-2	Done	Speech Level [dB[SPL]]	84.62	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 16QAM, RB Size=50, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.62	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 20MHz, QPSK, RB Size=100, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.53	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 20MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.48	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 20MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.55	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 15MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.47	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 15MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.44	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 5MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.57	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 8N 5MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	84.41	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N	Ok	Calculated Value [dB]	14.82	23T04Z80629

QPSK, RB Size=1, RB Offset=0; Table-2				VoLTE EVS
5.1.1 -1 Conversation Gain 8N QPSK, RB Size=1, RB Offset=49; Table-2	Ok	Calculated Value [dB]	14.63	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 16QAM, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.60	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 16QAM, RB Size=1, RB Offset=49; Table-2	Ok	Calculated Value [dB]	14.62	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 16QAM, RB Size=50, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.62	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 20MHz, QPSK, RB Size=100, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.53	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 20MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.48	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 20MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.55	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 15MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.47	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 15MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.44	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 5MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.57	23T04Z80629 VoLTE EVS
5.1.1 -1 Conversation Gain 8N 5MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	14.41	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.91	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB QPSK, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.88	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.34	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 16QAM, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.30	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 16QAM, RB Size=50, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.73	23T04Z80629 VoLTE EVS

Receive path - distortion and noise 400Hz WB&NB 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.75	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.51	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.25	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 15MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.90	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	28.37	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	28.29	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 400Hz WB&NB 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.37	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	21.71	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB QPSK,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.91	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.89	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 16QAM,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.06	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 16QAM,RB Size=50,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.37	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.62	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 20MHz,QPSK,RB Size=1,RB	Done	Distortion (Noise) [dB], 0.0 dB	24.43	23T04Z80629 VoLTE EVS

Offset=0; Table-2				
Receive path - distortion and noise 500Hz WB&NB 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.26	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 15MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.04	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.21	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.57	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 500Hz WB&NB 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.13	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.35	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB QPSK,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.81	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.71	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 16QAM,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.82	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 16QAM,RB Size=50,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.76	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.01	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.53	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.10	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB	Done	Distortion (Noise) [dB], 0.0 dB	24.37	23T04Z80629 VoLTE EVS

15MHz,QPSK,RB Size=1,RB Offset=0; Table-2				
Receive path - distortion and noise 630Hz WB&NB 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	25.39	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.50	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 630Hz WB&NB 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.32	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.20	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB QPSK,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	23.59	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	22.10	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 16QAM,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	22.44	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 16QAM,RB Size=50,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.34	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	23.56	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	22.59	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	23.32	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 15MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	23.78	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.02	23T04Z80629 VoLTE EVS
Receive path - distortion and noise	Done	Distortion (Noise) [dB], 0.0	23.11	23T04Z80629

800Hz WB&NB 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2		dB		VoLTE EVS
Receive path - distortion and noise 800Hz WB&NB 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	23.95	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	32.48	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB QPSK,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.40	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.00	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 16QAM,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	28.72	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 16QAM,RB Size=50,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	31.13	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.46	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.56	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.03	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 15MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.98	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.69	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.61	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1000Hz WB&NB 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.68	23T04Z80629 VoLTE EVS

Receive path - distortion and noise 1250Hz WB&NB QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.92	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB QPSK, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.35	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.60	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 16QAM, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.20	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 16QAM, RB Size=50, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	31.09	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 20MHz, QPSK, RB Size=100, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.19	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 20MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.80	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 20MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.55	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 15MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.45	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 15MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.99	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 5MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	31.45	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1250Hz WB&NB 5MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.69	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.45	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB QPSK, RB Size=1, RB Offset=49;	Done	Distortion (Noise) [dB], 0.0 dB	35.45	23T04Z80629 VoLTE EVS

Table-2				
Receive path - distortion and noise 1600Hz WB&NB 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.54	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 16QAM, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.48	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 16QAM, RB Size=50, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.52	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 20MHz, QPSK, RB Size=100, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.17	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 20MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.68	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 20MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	32.87	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 15MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.36	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 15MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.89	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 5MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.55	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 1600Hz WB&NB 5MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.17	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.47	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB QPSK, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.69	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.21	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB	Done	Distortion (Noise) [dB], 0.0 dB	34.94	23T04Z80629 VoLTE EVS

16QAM, RB Size=1, RB Offset=49; Table-2				
Receive path - distortion and noise 2000Hz WB&NB 16QAM, RB Size=50, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.85	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 20MHz, QPSK, RB Size=100, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.61	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 20MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.34	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 20MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.99	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 15MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.55	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 15MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.91	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 5MHz, QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	34.33	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2000Hz WB&NB 5MHz, 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	35.77	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB QPSK, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	32.36	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB QPSK, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.03	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 16QAM, RB Size=1, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	32.05	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 16QAM, RB Size=1, RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	31.83	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 16QAM, RB Size=50, RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.34	23T04Z80629 VoLTE EVS
Receive path - distortion and noise	Done	Distortion (Noise) [dB], 0.0	33.03	23T04Z80629

2500Hz WB&NB 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2		dB		VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	31.93	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	32.13	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 15MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	32.79	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.97	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	31.90	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 2500Hz WB&NB 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	31.82	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.93	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB QPSK,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	26.13	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.80	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 16QAM,RB Size=1,RB Offset=49; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.97	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 16QAM,RB Size=50,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.23	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	27.81	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.39	23T04Z80629 VoLTE EVS

Receive path - distortion and noise 3150Hz WB&NB 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.90	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 15MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	30.69	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	29.72	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	28.58	23T04Z80629 VoLTE EVS
Receive path - distortion and noise 3150Hz WB&NB 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Done	Distortion (Noise) [dB], 0.0 dB	24.16	23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise QPSK,RB Size=1,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise QPSK,RB Size=1,RB Offset=49; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 16QAM,RB Size=1,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 16QAM,RB Size=1,RB Offset=49; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 16QAM,RB Size=50,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 15MHz,QPSK,RB Size=1,RB	Ok			23T04Z80629 VoLTE EVS

Offset=0; Table-2				
5.2 Receive path – distortion and noise 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 5MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.2 Receive path – distortion and noise 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Ok			23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance QPSK,RB Size=1,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.44	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance QPSK,RB Size=1,RB Offset=49; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.81	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 16QAM,RB Size=1,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.12	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 16QAM,RB Size=1,RB Offset=49; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.26	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 16QAM,RB Size=50,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.51	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 20MHz,QPSK,RB Size=100,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	3.18	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 20MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	3.20	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 20MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.85	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 15MHz,QPSK,RB Size=1,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.57	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance 15MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	3.06	23T04Z80629 VoLTE EVS
5.3 Receive Acoustic Frequency response Performance	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.49	23T04Z80629 VoLTE EVS

5MHz,QPSK,RB Size=1,RB Offset=0; Table-2				
5.3 Receive Acoustic Frequency response Performance 5MHz,16QAM,RB Size=1,RB Offset=0; Table-2	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	2.72	23T04Z80629 VoLTE EVS
5.1 Receive Volume Control Performance 2N QPSK,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.63	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N QPSK,RB Size=1,RB Offset=49; Table-2	Done	Speech Level [dB[SPL]]	80.68	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 16QAM,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.68	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 16QAM,RB Size=1,RB Offset=49; Table-2	Done	Speech Level [dB[SPL]]	80.44	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 16QAM,RB Size=50,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.60	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 20MHz,QPSK ,RB Size=100,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.56	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 20MHz,QPSK ,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.51	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 20MHz,16QAM ,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.39	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 15MHz,QPSK ,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.52	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 15MHz,16QAM ,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.51	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 5MHz,QPSK ,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.52	23T04Z80629 VoLTE AMR
5.1 Receive Volume Control Performance 2N 5MHz,16QAM ,RB Size=1,RB Offset=0; Table-2	Done	Speech Level [dB[SPL]]	80.57	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N	Ok	Calculated Value [dB]	10.63	23T04Z80629

QPSK, RB Size=1, RB Offset=0; Table-2				VoLTE AMR
5.1.1 -1 Conversation Gain 2N QPSK, RB Size=1, RB Offset=49; Table-2	Ok	Calculated Value [dB]	10.68	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 16QAM, RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.68	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 16QAM, RB Size=1, RB Offset=49; Table-2	Ok	Calculated Value [dB]	10.44	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 16QAM, RB Size=50, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.60	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 20MHz, QPSK , RB Size=100, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.56	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 20MHz, QPSK , RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.51	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 20MHz, 16QAM , RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.39	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 15MHz, QPSK , RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.52	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 15MHz, 16QAM , RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.51	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 5MHz, QPSK , RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.52	23T04Z80629 VoLTE AMR
5.1.1 -1 Conversation Gain 2N 5MHz, 16QAM , RB Size=1, RB Offset=0; Table-2	Ok	Calculated Value [dB]	10.57	23T04Z80629 VoLTE AMR

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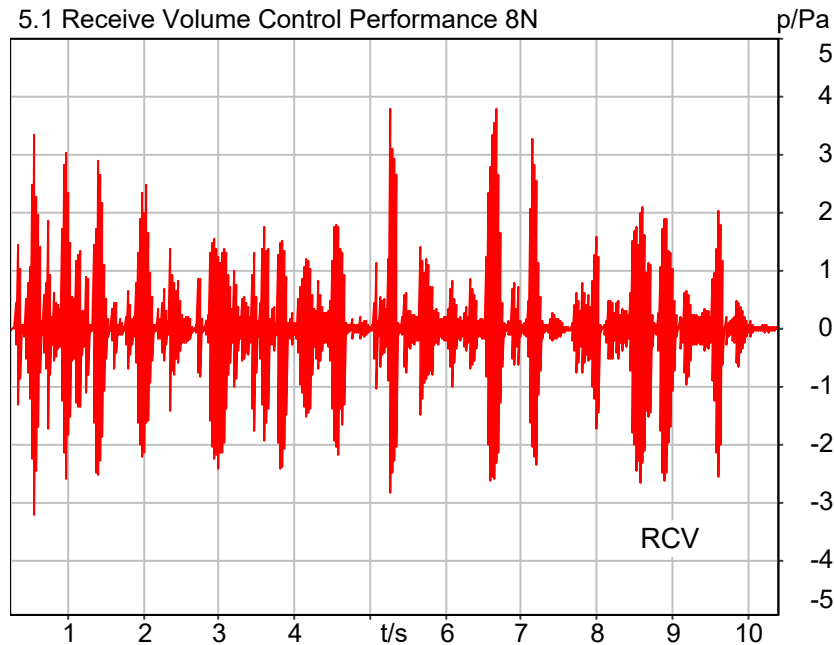
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB

QPSK, RB Size=1, RB Offset=0; Table-2

5.1 Receive Volume Control Performance 8N



Speech Level RCV: 84.82 dB[SPL], Act.: 92.96%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB

Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms

Range length 10200.00 ms

Bandpass filter Narrow Band

Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

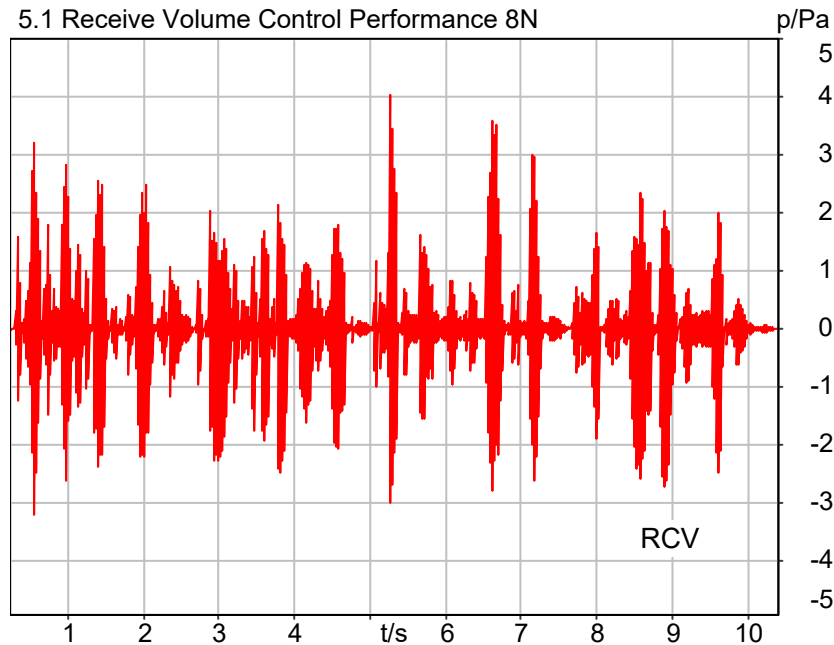
Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB

QPSK,RB Size=1,RB Offset=49; Table-2

5.1 Receive Volume Control Performance 8N



Speech Level RCV: 84.63 dB[SPL], Act.: 93.39%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB

Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms

Range length 10200.00 ms

Bandpass filter Narrow Band

Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

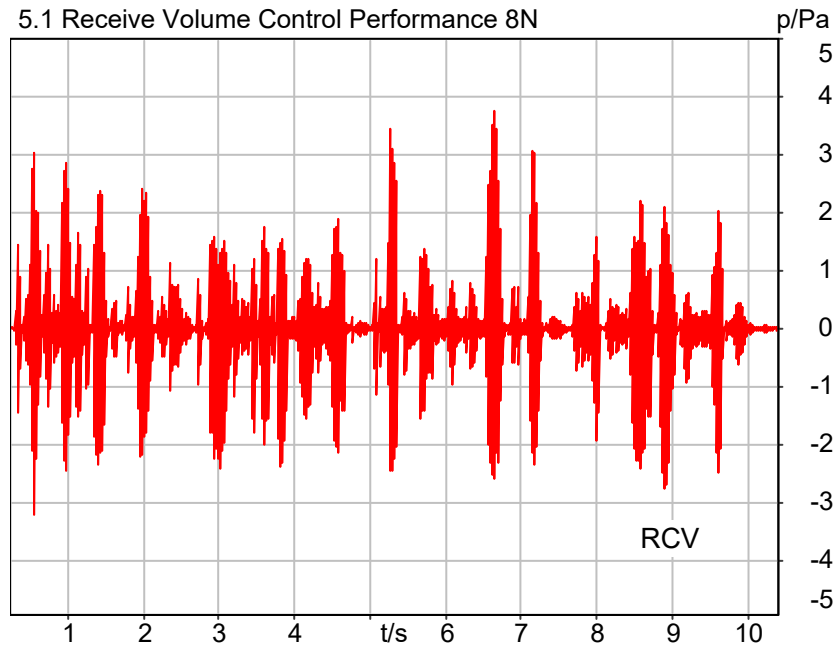
Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB

16QAM, RB Size=1, RB Offset=0; Table-2

5.1 Receive Volume Control Performance 8N



Speech Level RCV: 84.60 dB[SPL], Act.: 93.50%

2023/12/17 10:48 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB

Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms

Range length 10200.00 ms

Bandpass filter Narrow Band

Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

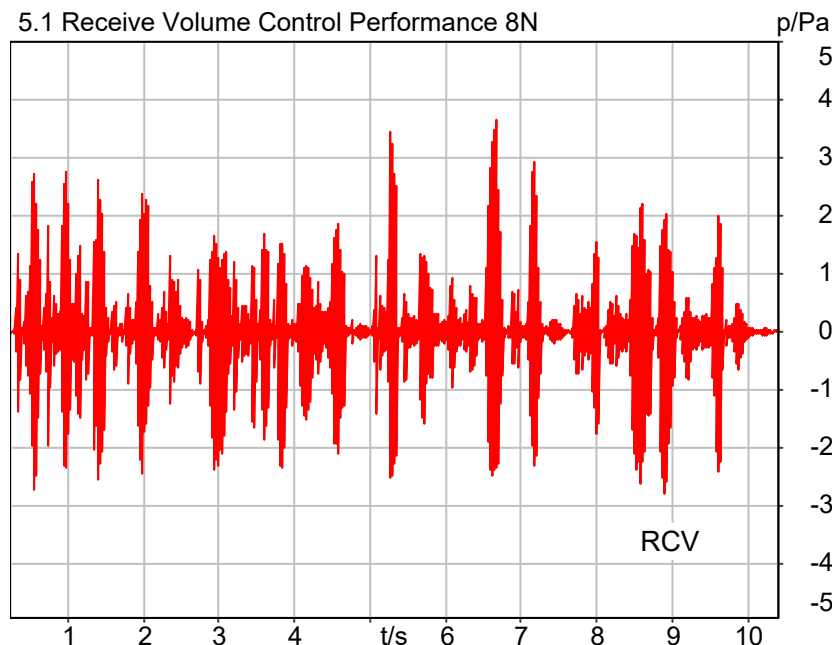
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=1, RB Offset=49; Table-2



Speech Level RCV: 84.62 dB[SPL], Act.: 93.45%

2023/12/17 10:53 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

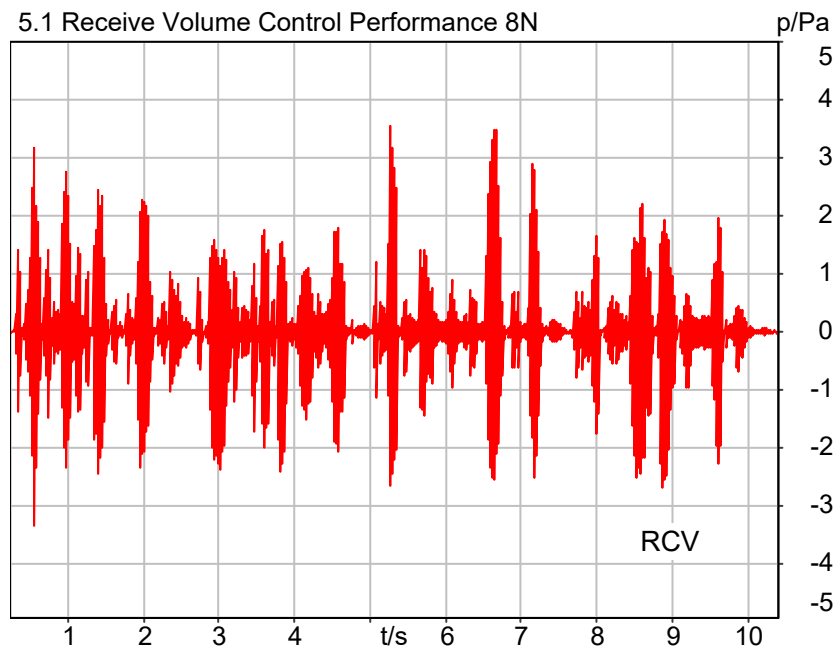
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=50, RB Offset=0; Table-2



Speech Level RCV: 84.62 dB[SPL], Act.: 93.56%

2023/12/17 10:59 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

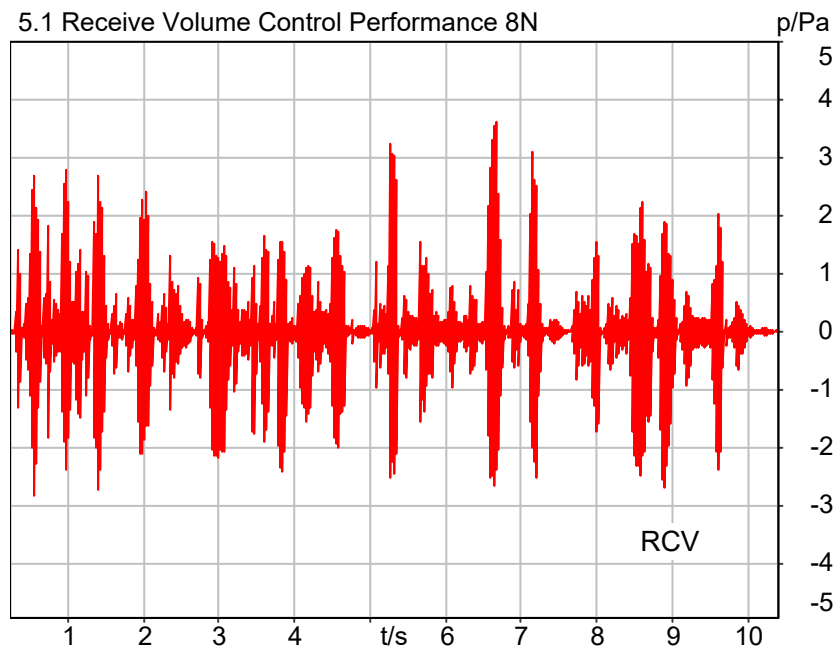
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Speech Level RCV: 84.53 dB[SPL], Act.: 93.40%

2023/12/17 11:05 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

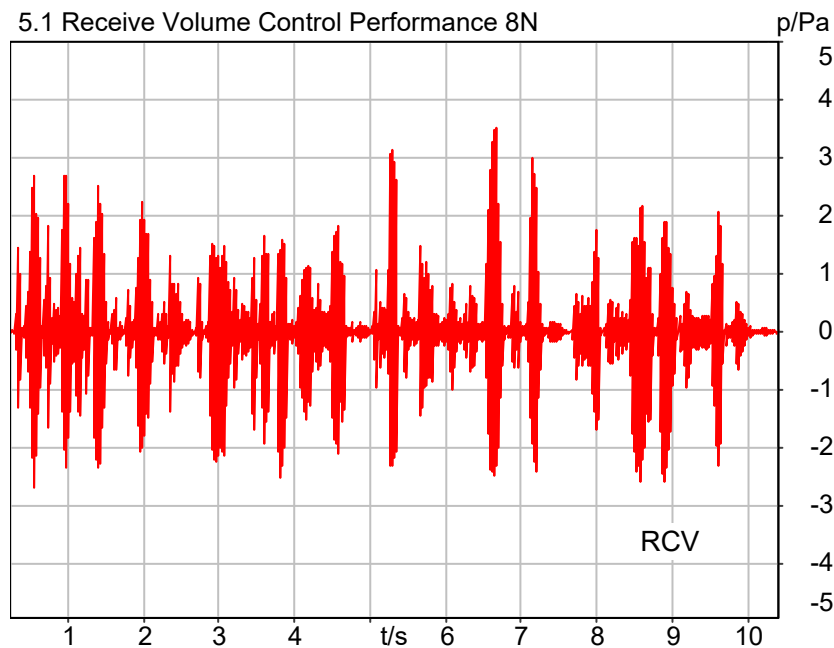
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 84.48 dB[SPL], Act.: 93.43%

2023/12/17 11:11 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

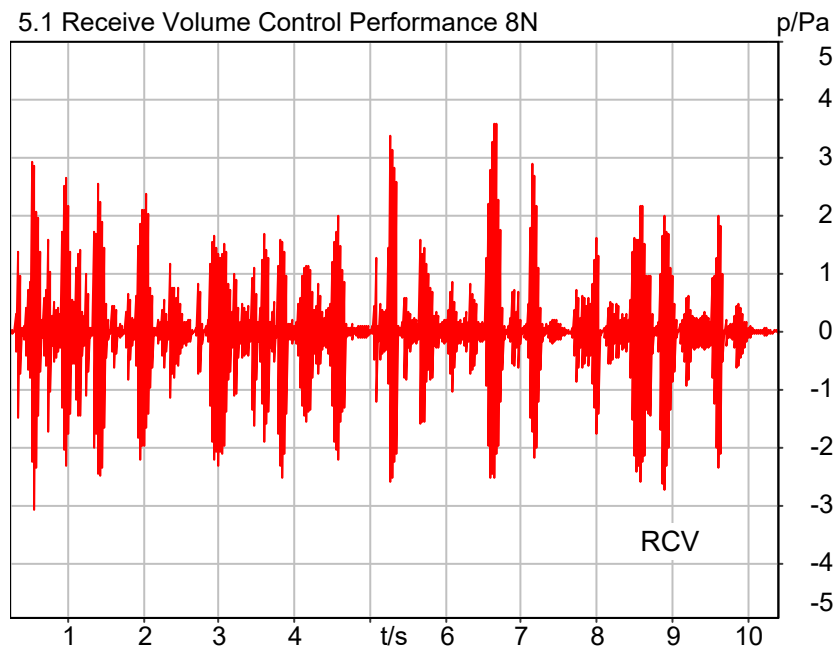
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 84.55 dB[SPL], Act.: 93.47%

2023/12/17 11:17 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

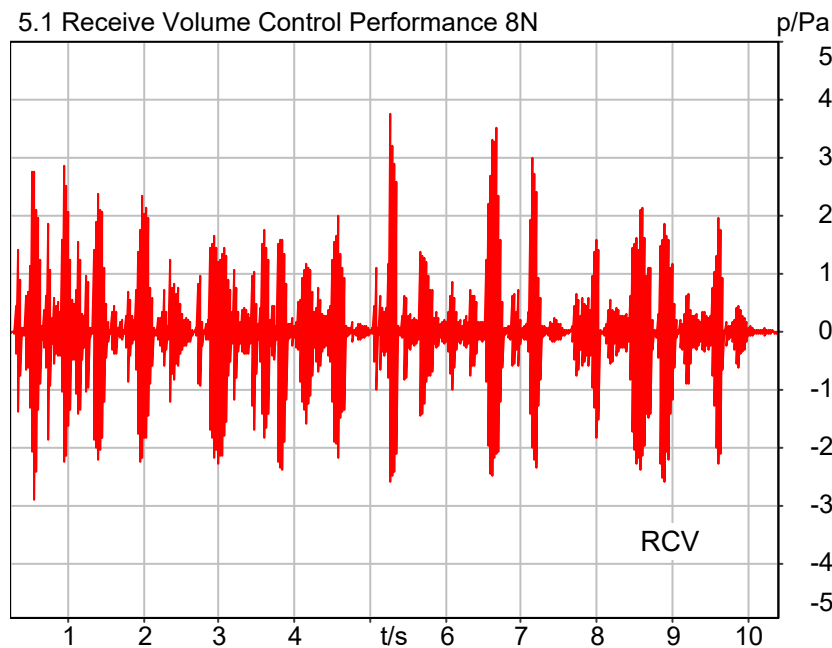
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 84.47 dB[SPL], Act.: 93.50%

2023/12/17 11:24 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

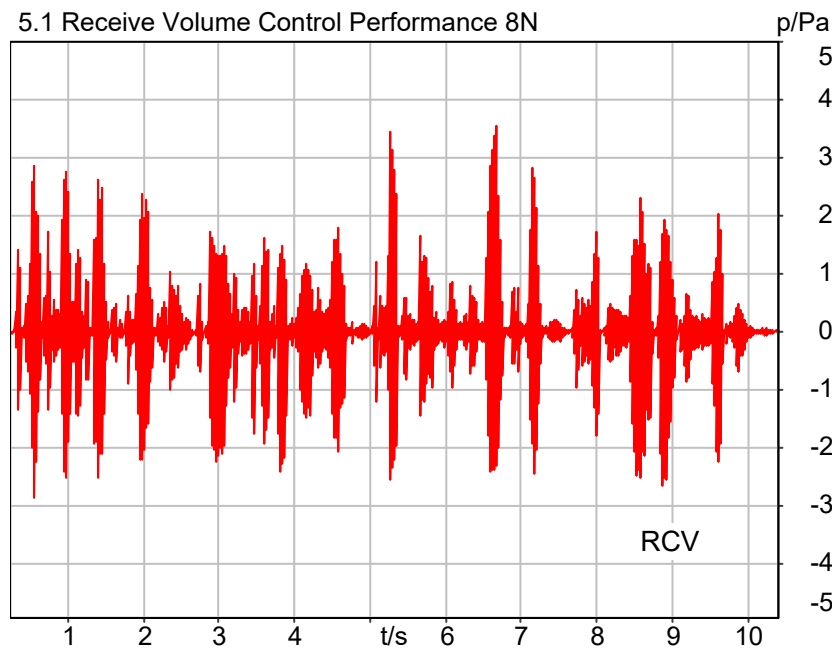
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 84.44 dB[SPL], Act.: 93.49%

2023/12/17 11:33 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

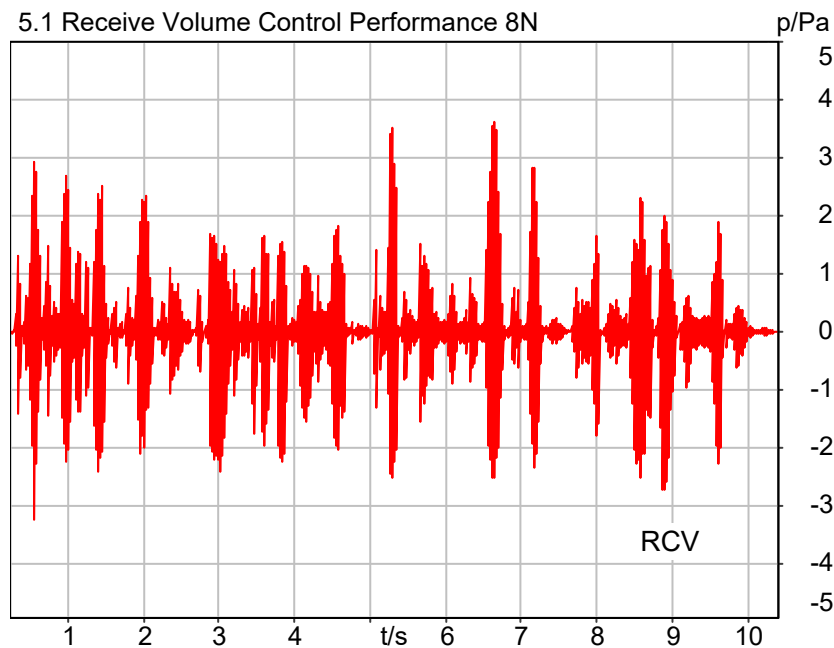
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 84.57 dB[SPL], Act.: 93.53%

2023/12/17 11:40 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

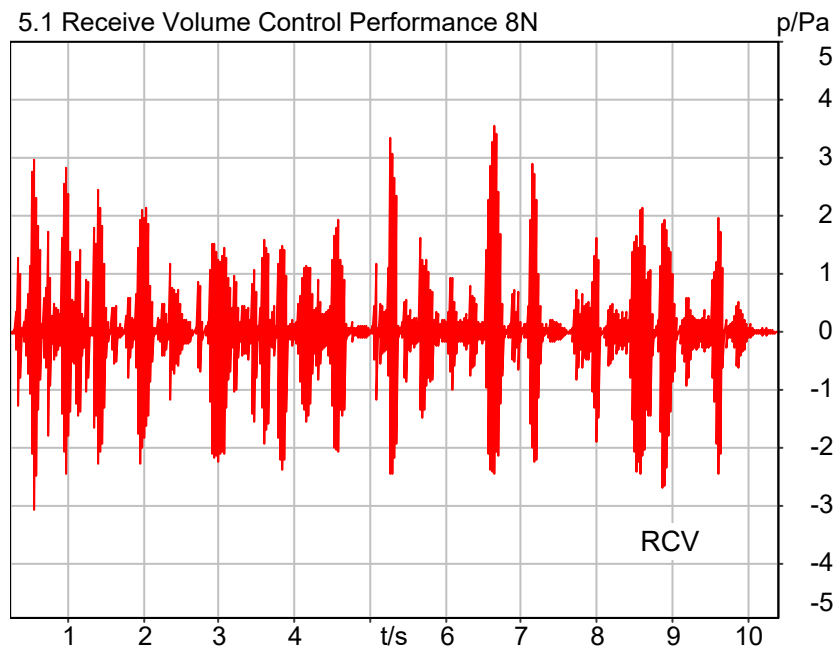
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 84.41 dB[SPL], Act.: 93.39%

2023/12/17 11:47 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode	Bypass
------------	--------

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
----------	----------	------------	----------

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB

QPSK, RB Size=1, RB Offset=0; Table-2

Correction

rcv_vol_nb	84.820 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.82 dB Ok

Ok

2023/12/17 10:36 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB

QPSK, RB Size=1, RB Offset=49; Table-2

Correction

rcv_vol_nb	84.630 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.63 dB Ok

Ok

2023/12/17 10:42 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=1, RB Offset=0; Table-2

Correction

rcv_vol_nb	84.600 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.60 dB Ok

Ok

2023/12/17 10:48 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=1, RB Offset=49; Table-2

Correction

rcv_vol_nb	84.620 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.62 dB Ok

Ok

2023/12/17 10:53 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=50, RB Offset=0; Table-2

Correction

rcv_vol_nb	84.620 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.62 dB Ok

Ok

2023/12/17 10:59 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2

Correction

rcv_vol_nb	84.530 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.53 dB Ok

Ok

2023/12/17 11:05 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	84.480 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.48 dB Ok

Ok

2023/12/17 11:11 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	84.550 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
------------	----------------	------------	----------	--

rcv_vol_nb-70

Calculated Value: 14.55 dB Ok

Ok

2023/12/17 11:17 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	84.470 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.47 dB Ok

Ok

2023/12/17 11:24 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	84.440 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.44 dB Ok

Ok

2023/12/17 11:33 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	84.570 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
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rcv_vol_nb-70

Calculated Value: 14.57 dB Ok

Ok

2023/12/17 11:40 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 8N (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	84.410 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 8N
------------	----------------	------------	----------	--

rcv_vol_nb-70

Calculated Value: 14.41 dB Ok

Ok

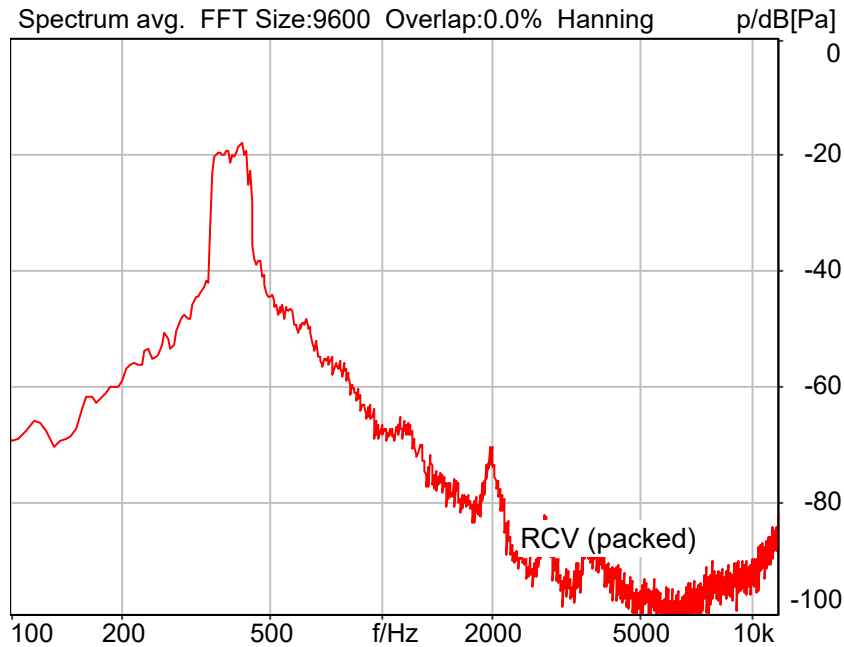
2023/12/17 11:47 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



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

2023/12/17 10:36 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	320.0 Hz
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

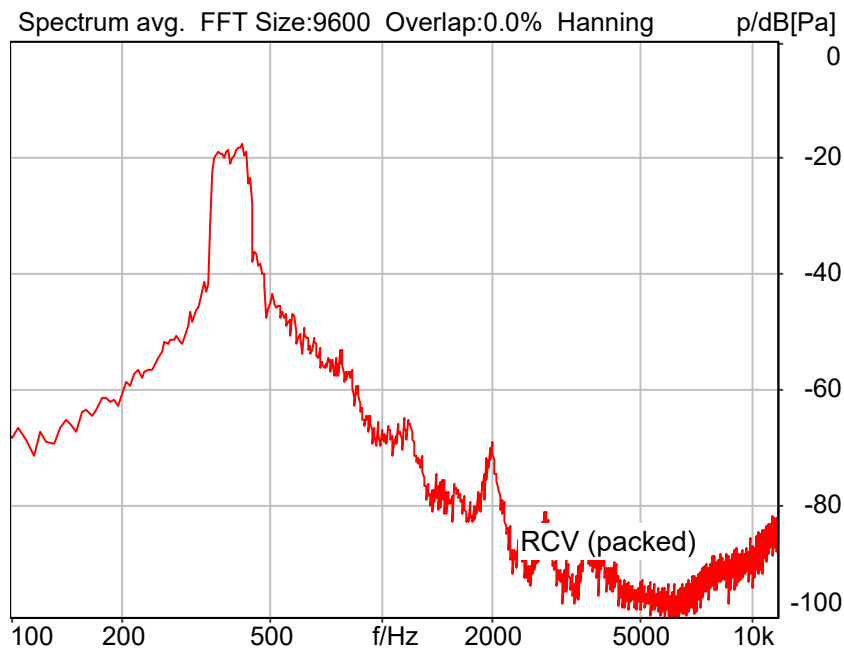
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 26.88 dB (4.53%)

2023/12/17 10:43 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	320.0 Hz
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

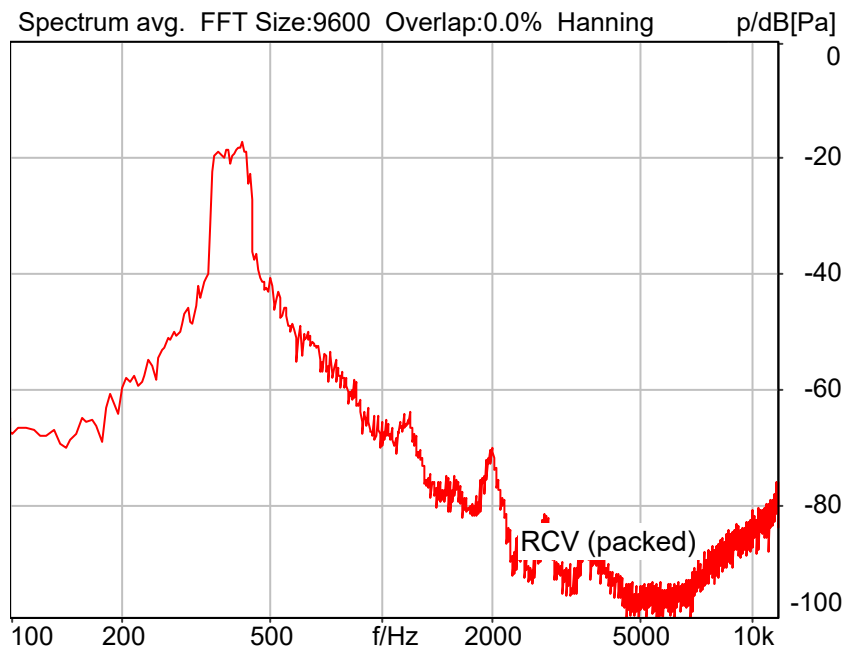
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 26.34 dB (4.82%)

2023/12/17 10:48 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

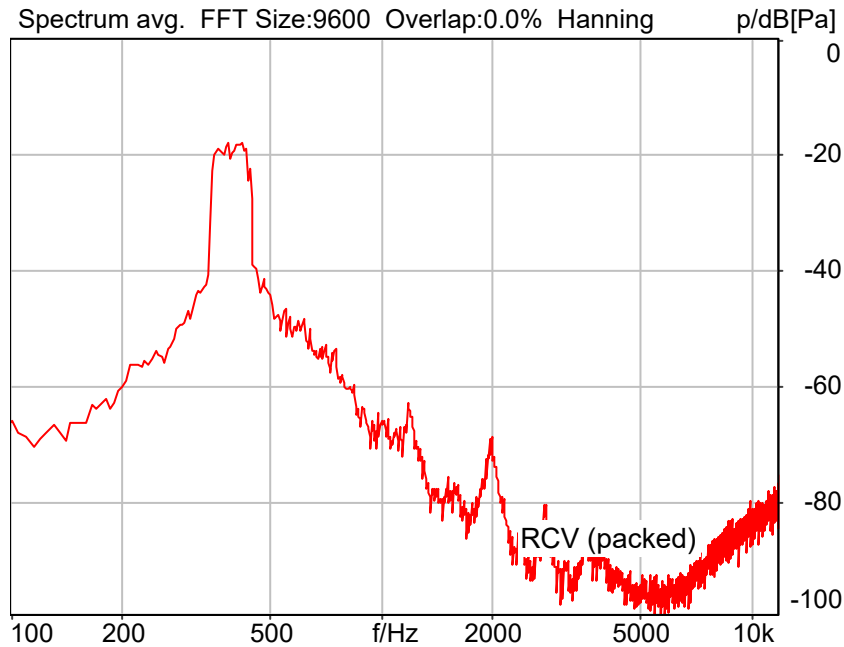
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 27.30 dB (4.32%)

2023/12/17 10:53 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

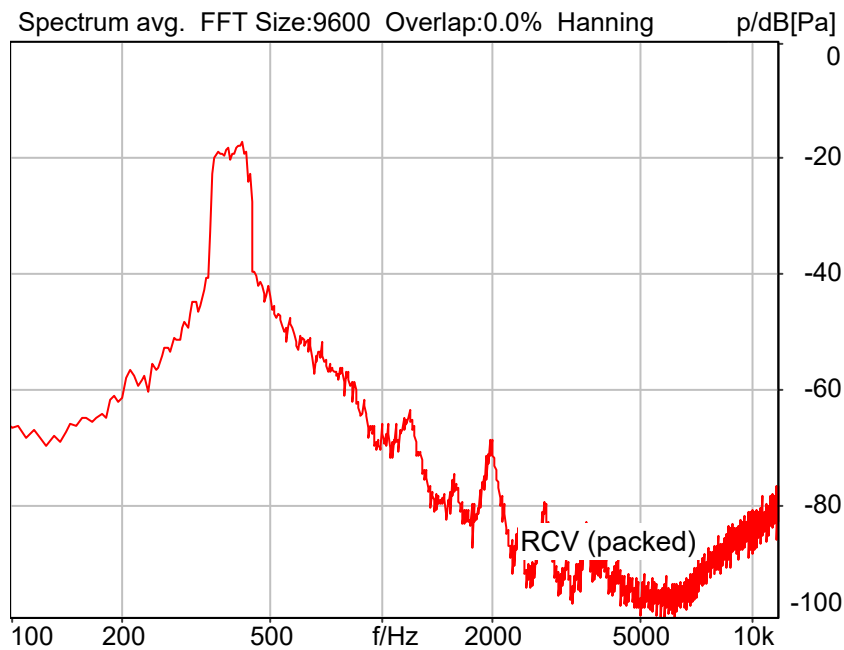
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.73 dB (4.11%)

2023/12/17 10:59 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

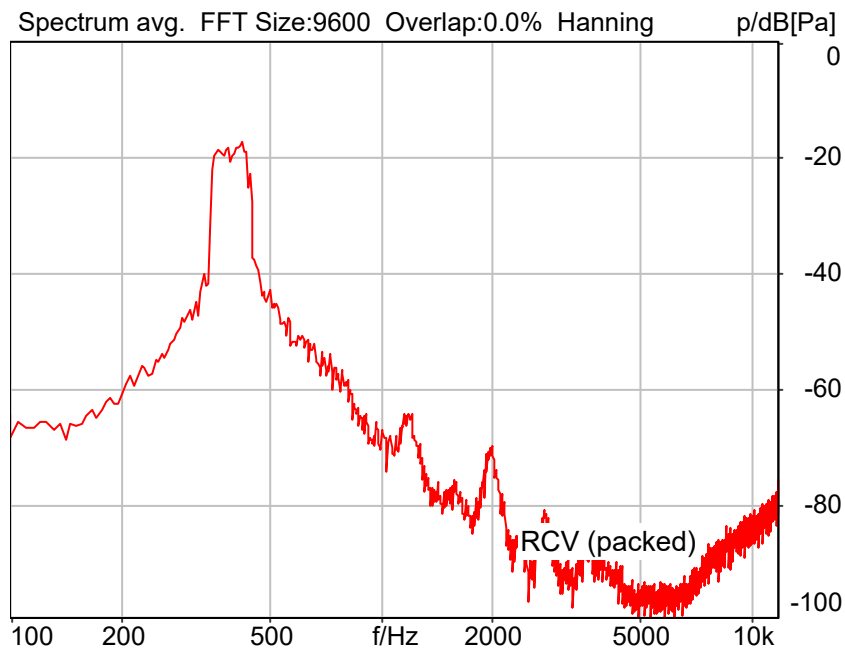
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.75 dB (4.10%)

2023/12/17 11:05 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

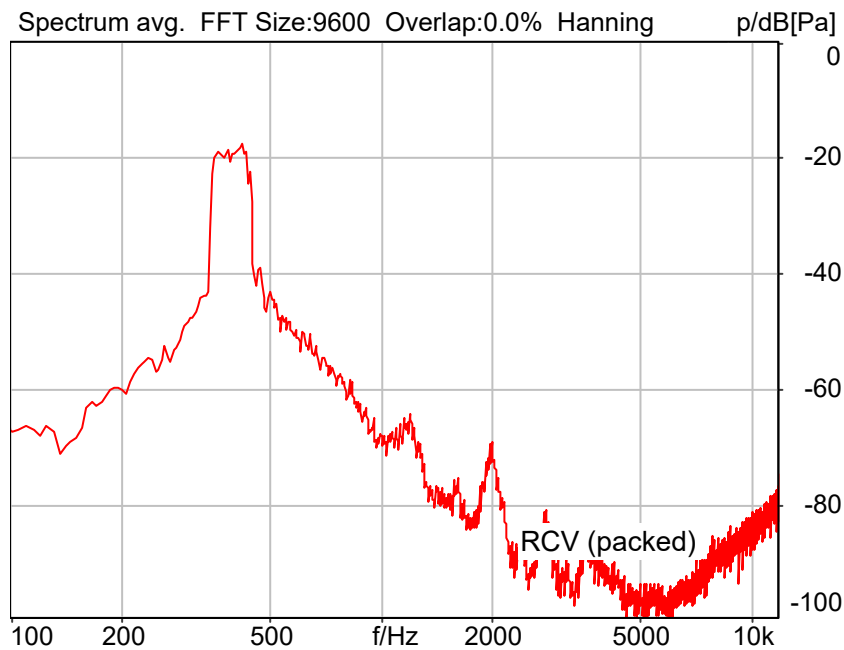
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.51 dB (4.21%)

2023/12/17 11:11 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	320.0 Hz
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

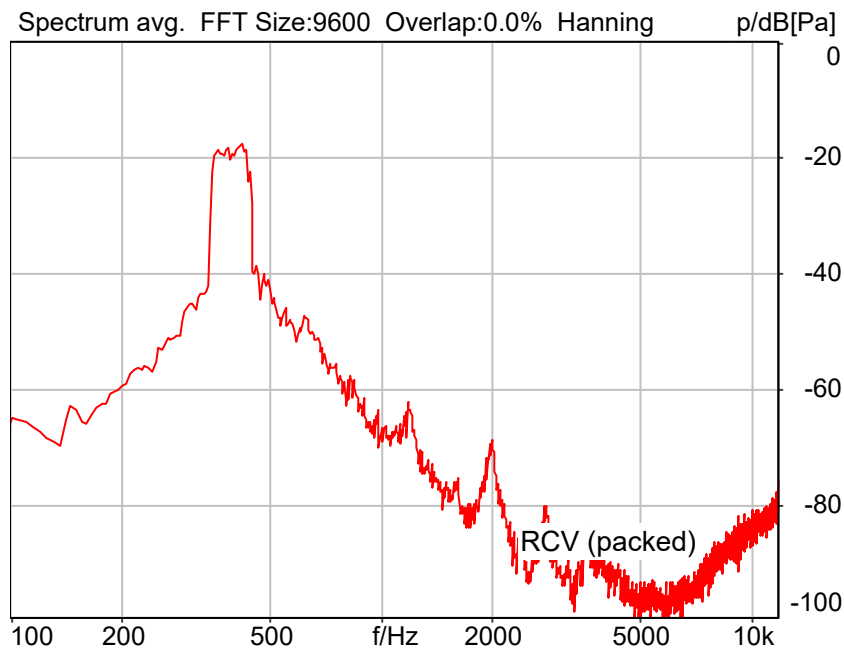
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 26.25 dB (4.87%)

2023/12/17 11:17 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

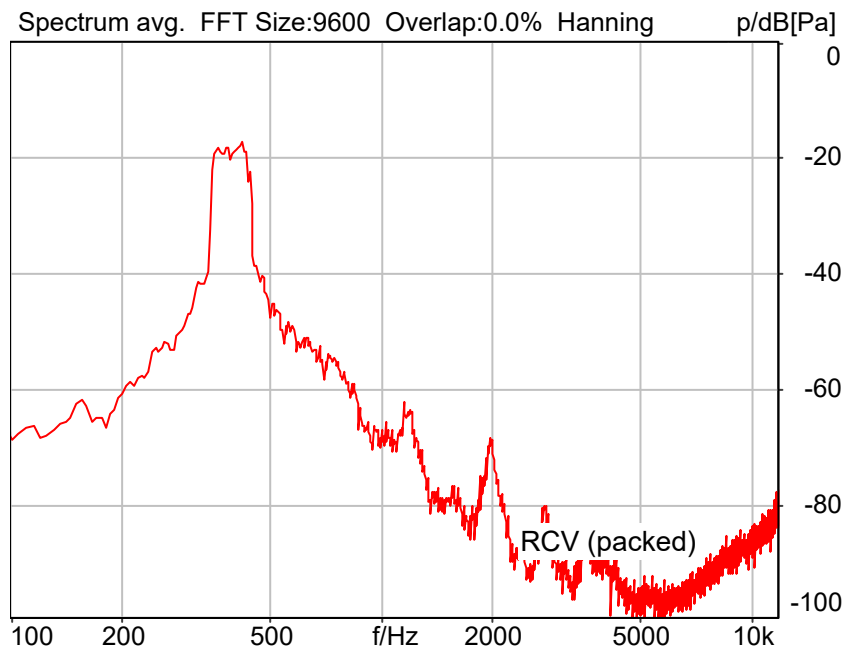
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.90 dB (4.02%)

2023/12/17 11:25 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	320.0 Hz
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

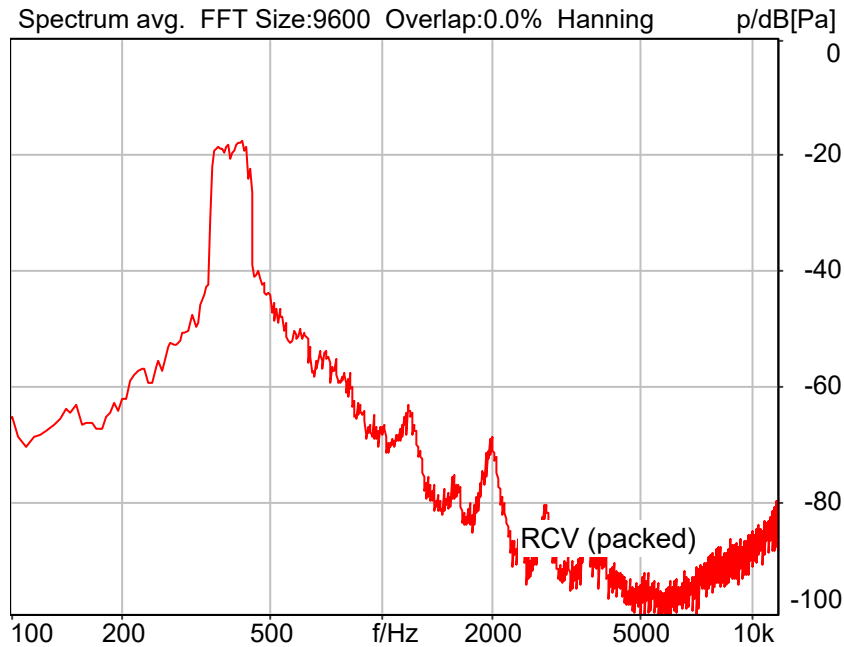
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 28.37 dB (3.81%)

2023/12/17 11:33 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

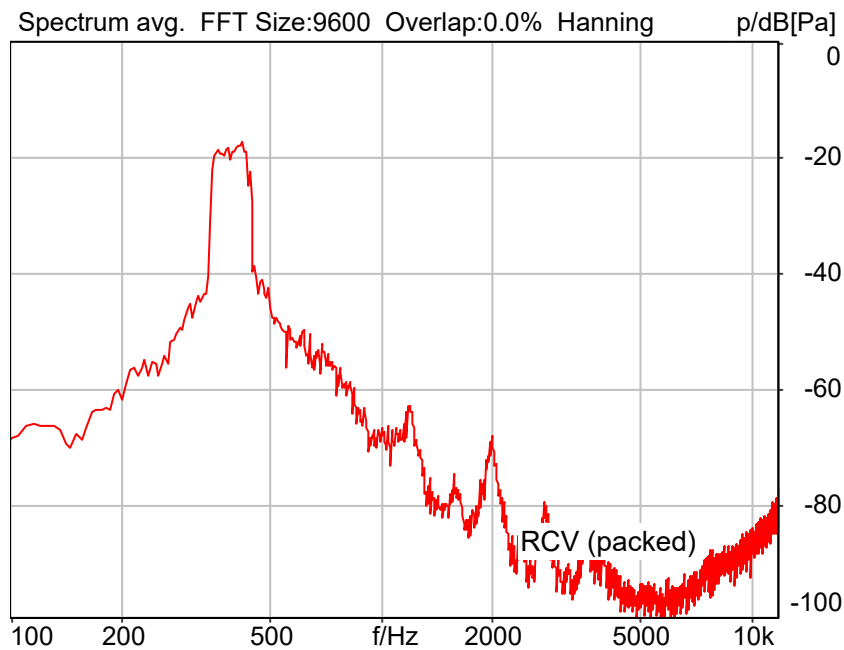
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 28.29 dB (3.85%)

2023/12/17 11:40 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

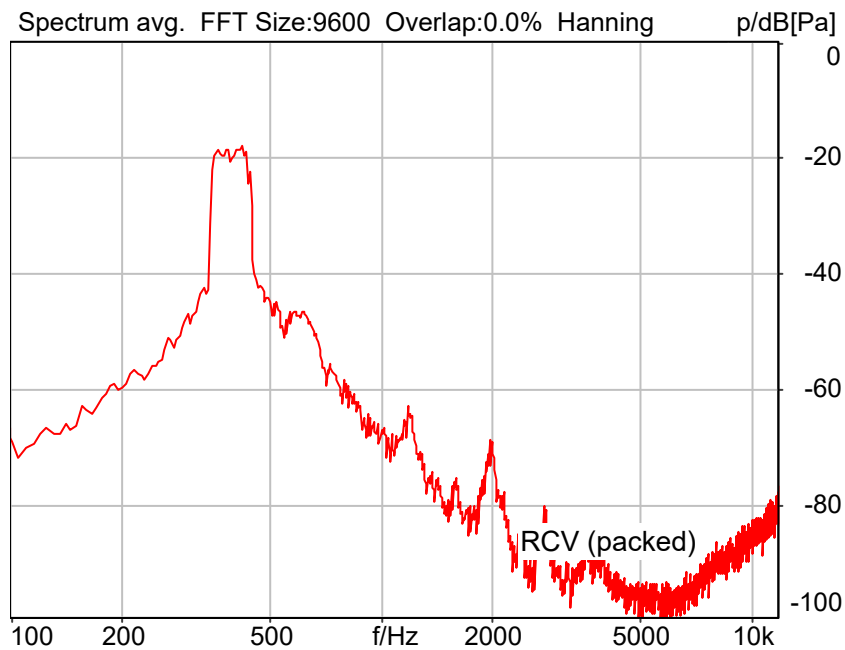
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 400Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 26.37 dB (4.80%)

2023/12/17 11:47 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_400hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	320.0 Hz
Stimulus min.	320.0 Hz	Stimulus max.	480.0 Hz

Analysis min.	100.0 Hz	Analysis max.	315.0 Hz
Analysis (2) min.	485.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO26_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

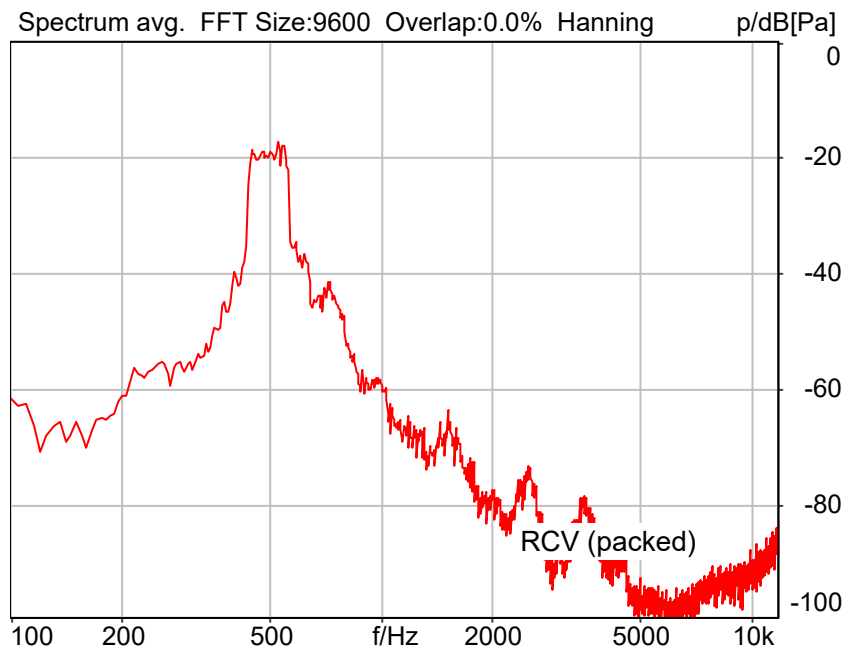
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 21.71 dB (8.21%)

2023/12/17 10:37 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	410.0 Hz
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

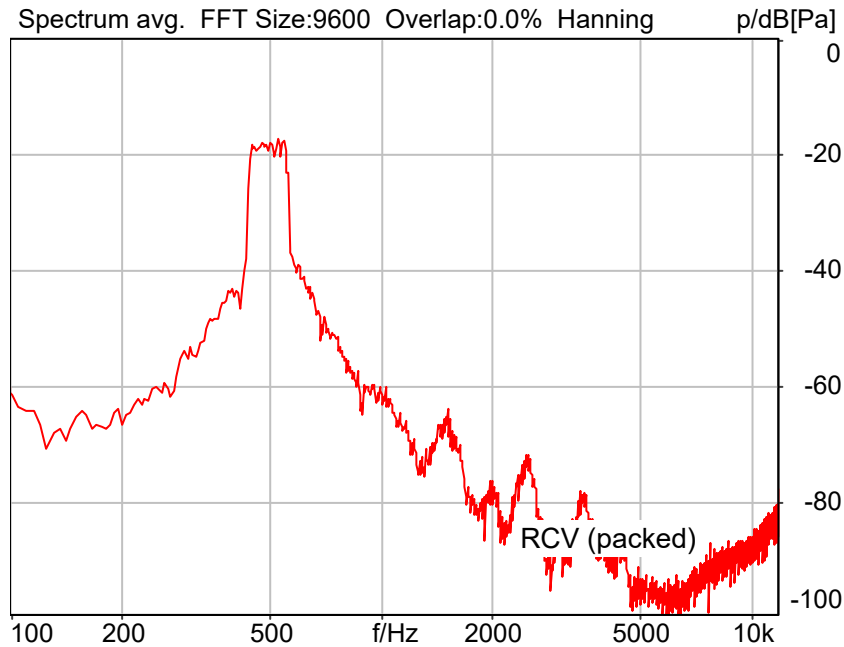
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2



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

2023/12/17 10:43 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

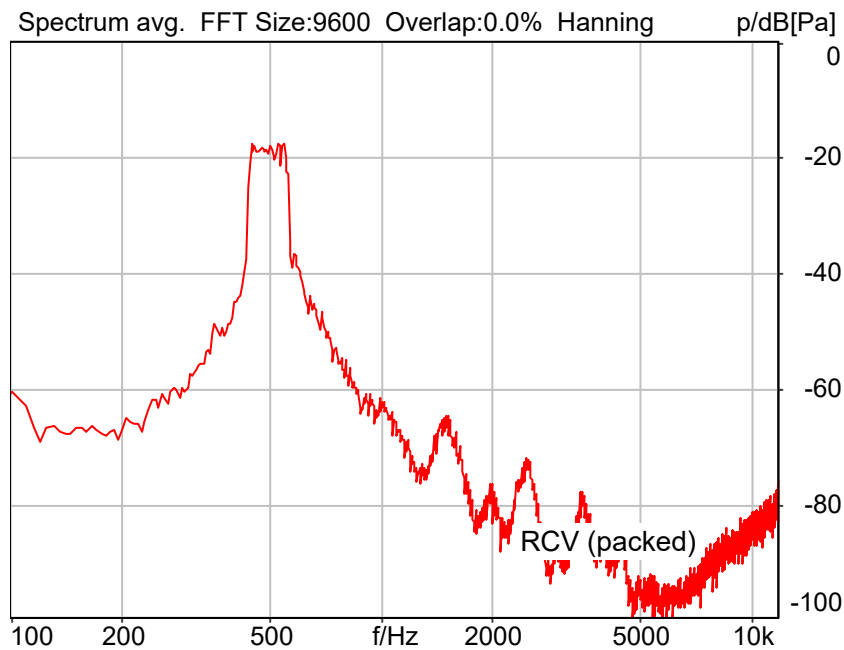
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 26.89 dB (4.53%)

2023/12/17 10:49 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Stimulus min.	410.0 Hz
Frequency base	Transformation	Stimulus max.	595.0 Hz
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

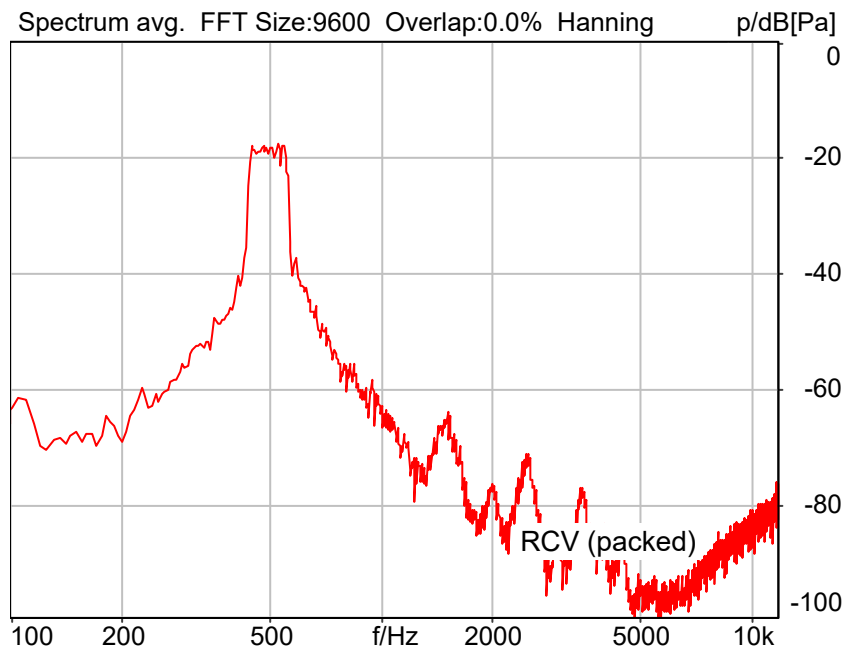
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 27.06 dB (4.43%)

2023/12/17 10:53 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

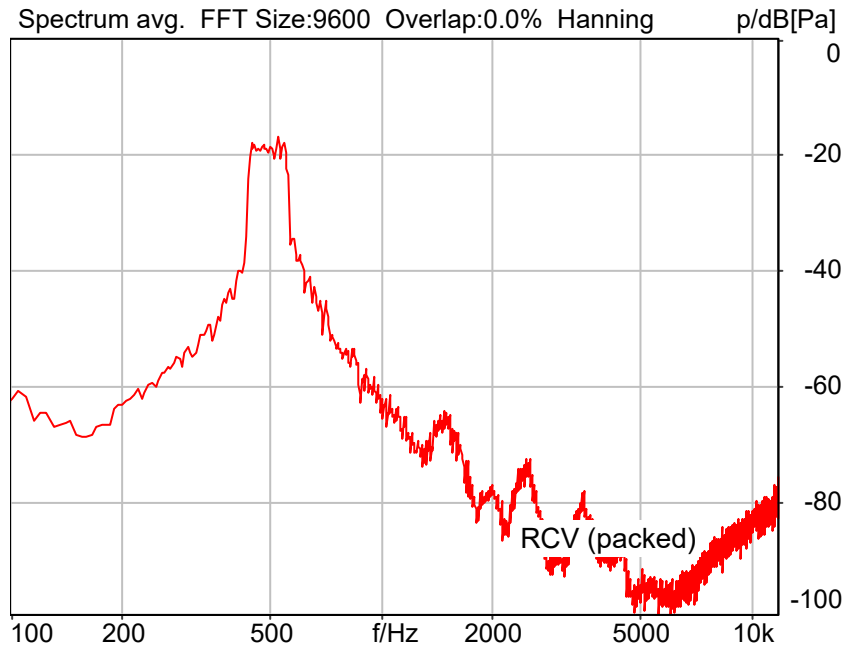
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.37 dB (6.05%)

2023/12/17 11:00 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	410.0 Hz
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

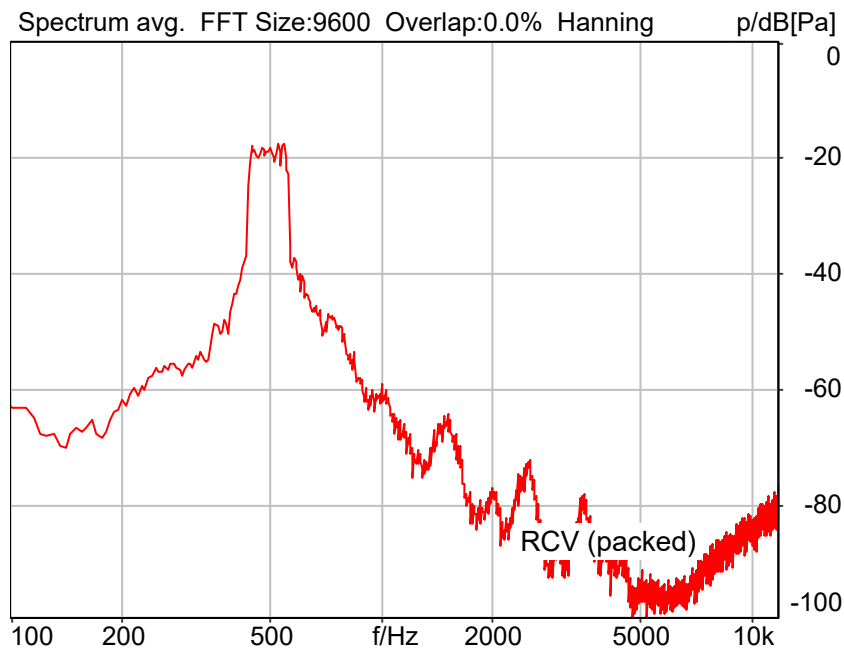
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.62 dB (5.24%)

2023/12/17 11:06 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	410.0 Hz
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

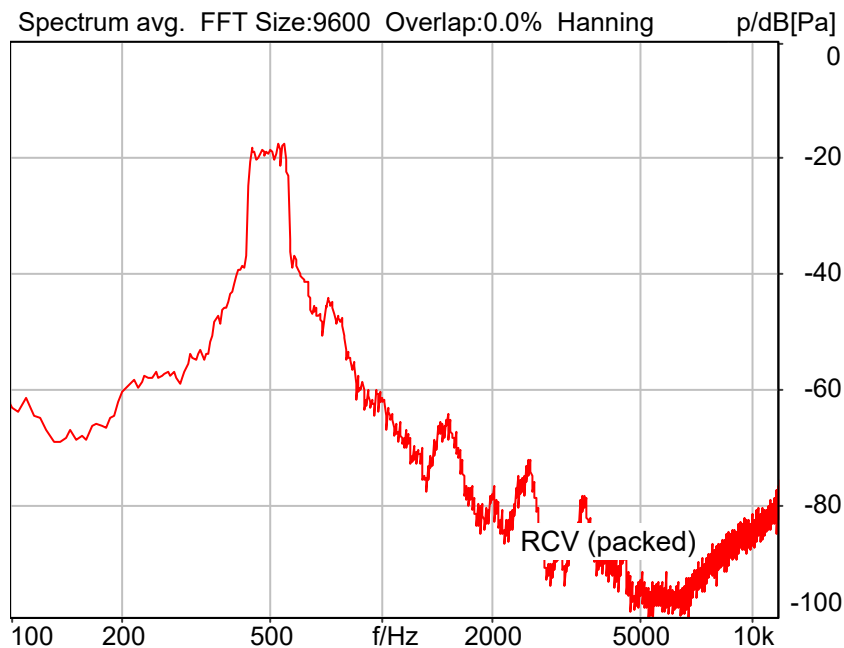
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.43 dB (6.00%)

2023/12/17 11:12 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	410.0 Hz
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

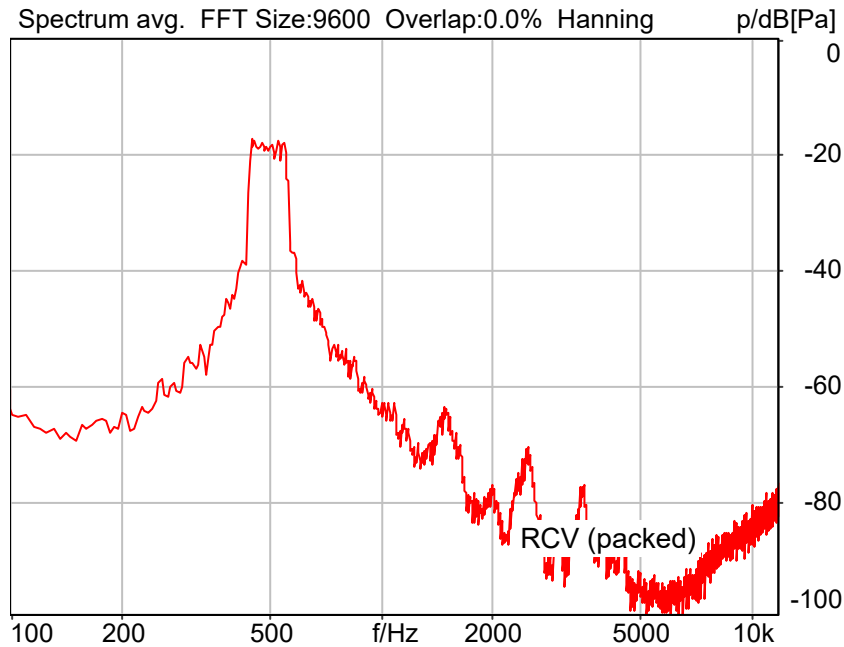
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.26 dB (4.34%)

2023/12/17 11:17 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

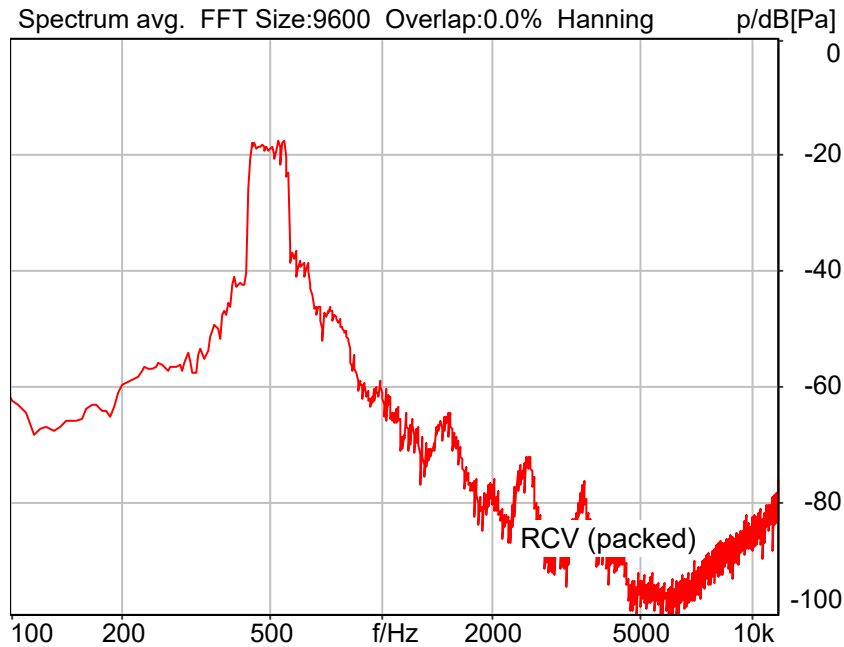
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.04 dB (6.28%)

2023/12/17 11:25 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

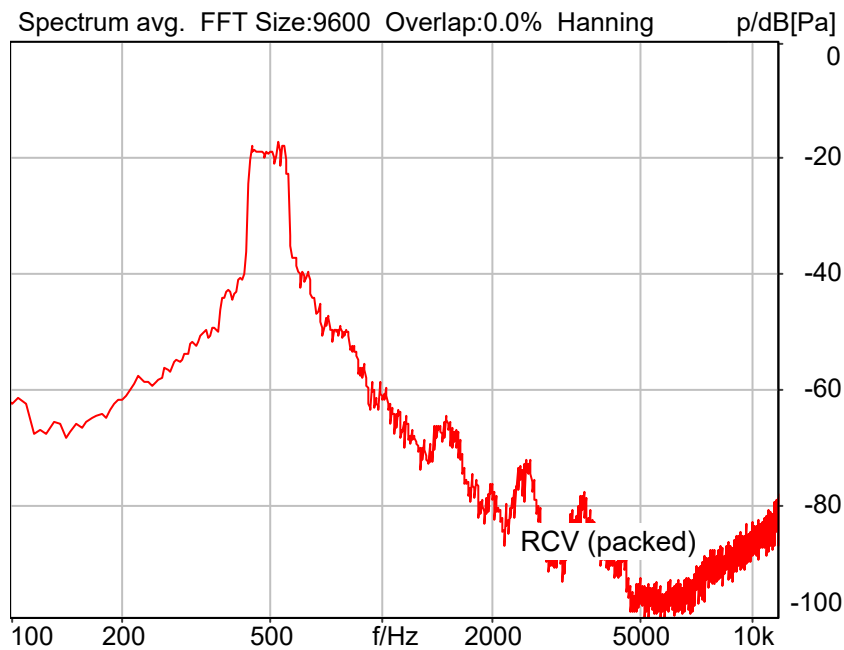
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.21 dB (6.16%)

2023/12/17 11:33 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	410.0 Hz
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

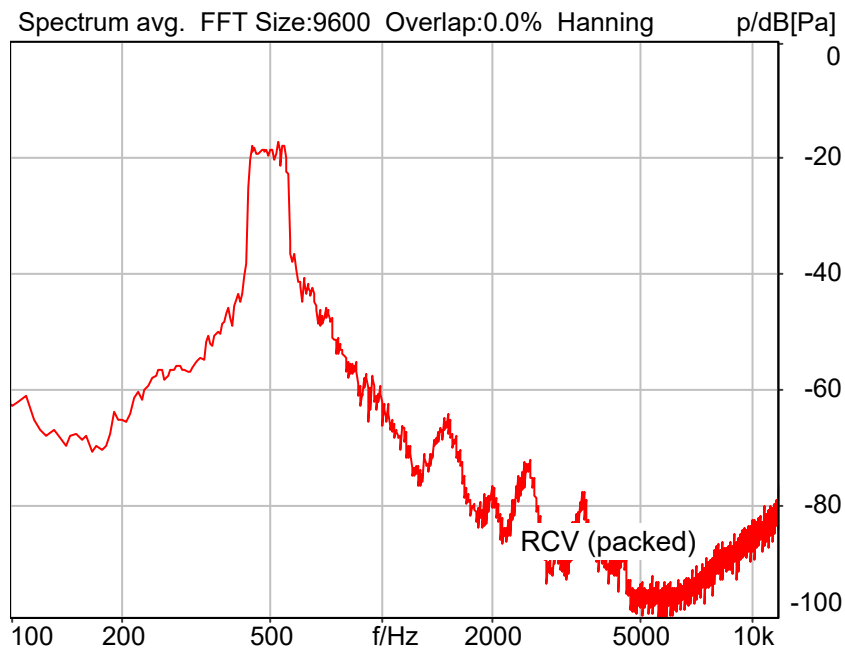
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.57 dB (5.27%)

2023/12/17 11:41 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

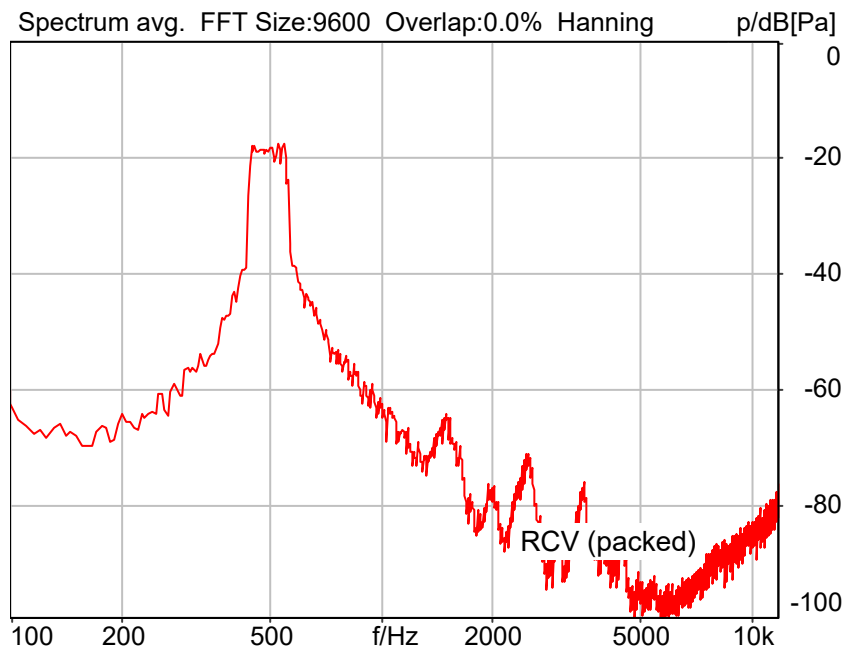
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.13 dB (4.40%)

2023/12/17 11:47 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	410.0 Hz	Stimulus max.	595.0 Hz

Analysis min.	100.0 Hz	Analysis max.	405.0 Hz
Analysis (2) min.	600.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO27_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

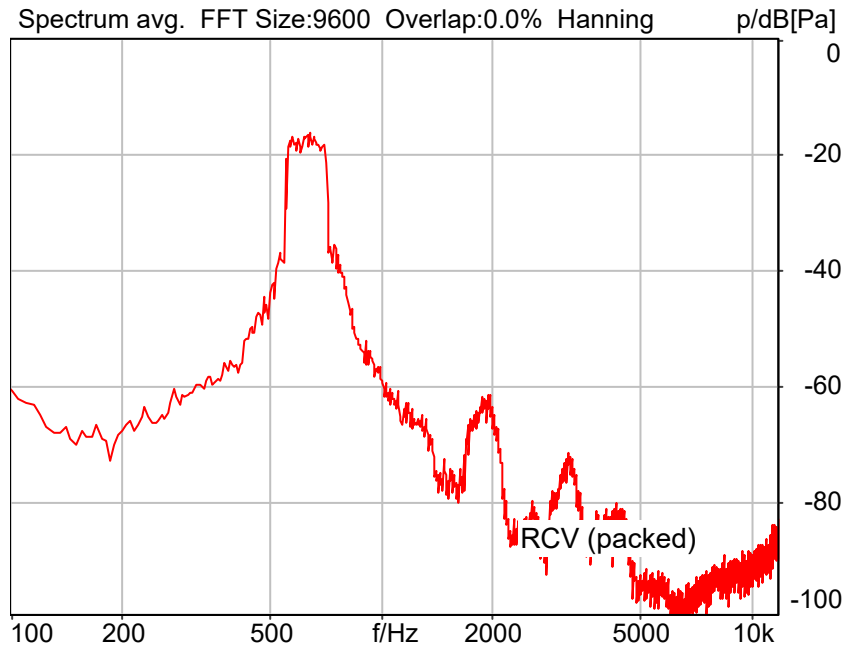
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.35 dB (5.40%)

2023/12/17 10:37 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	525.0 Hz
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

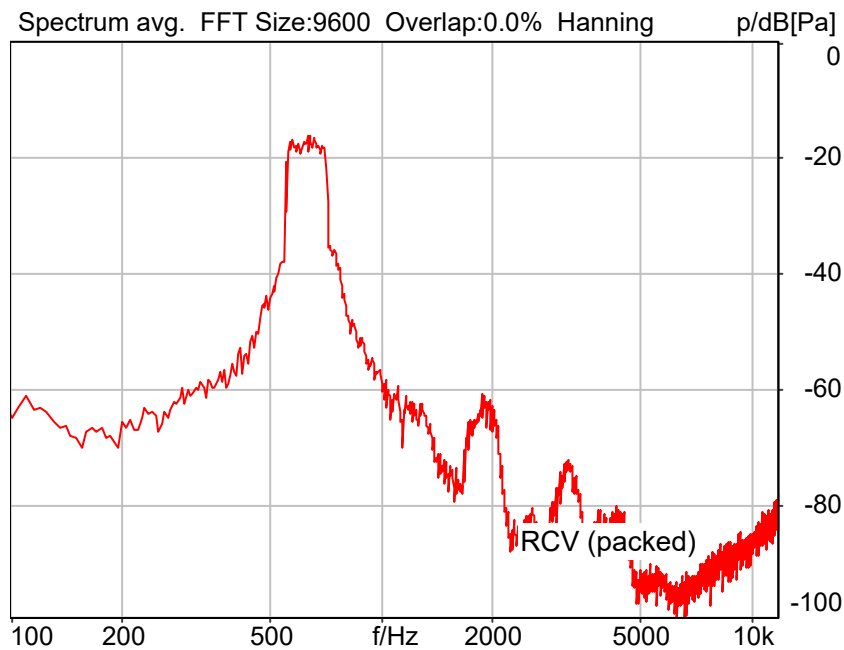
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 25.81 dB (5.12%)

2023/12/17 10:43 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

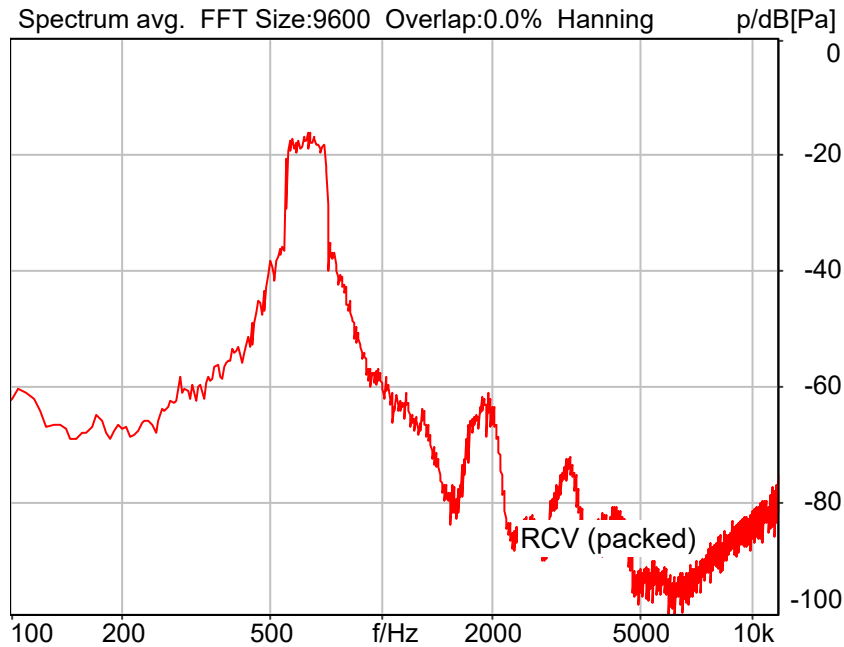
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.71 dB (5.18%)

2023/12/17 10:49 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	525.0 Hz
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

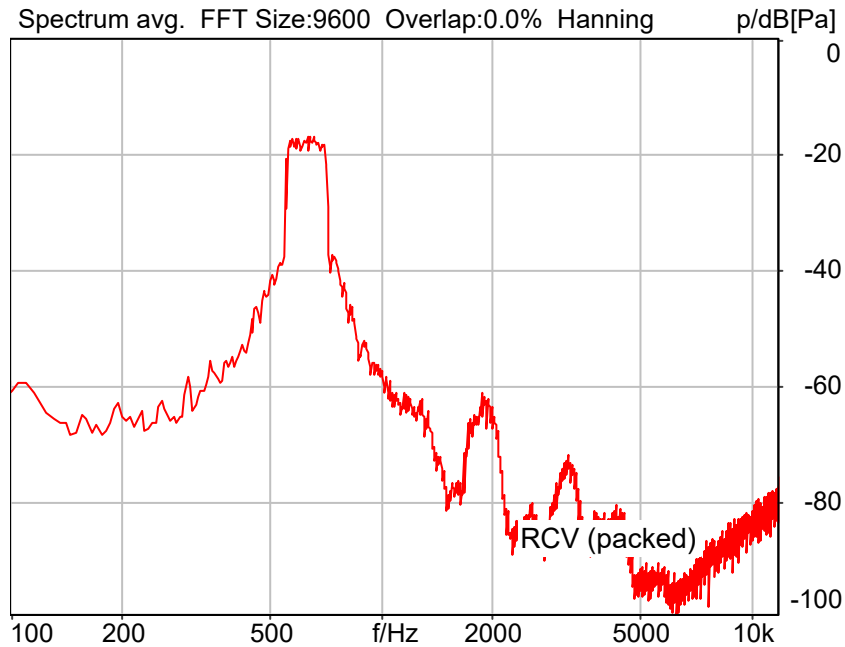
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 25.82 dB (5.12%)

2023/12/17 10:54 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

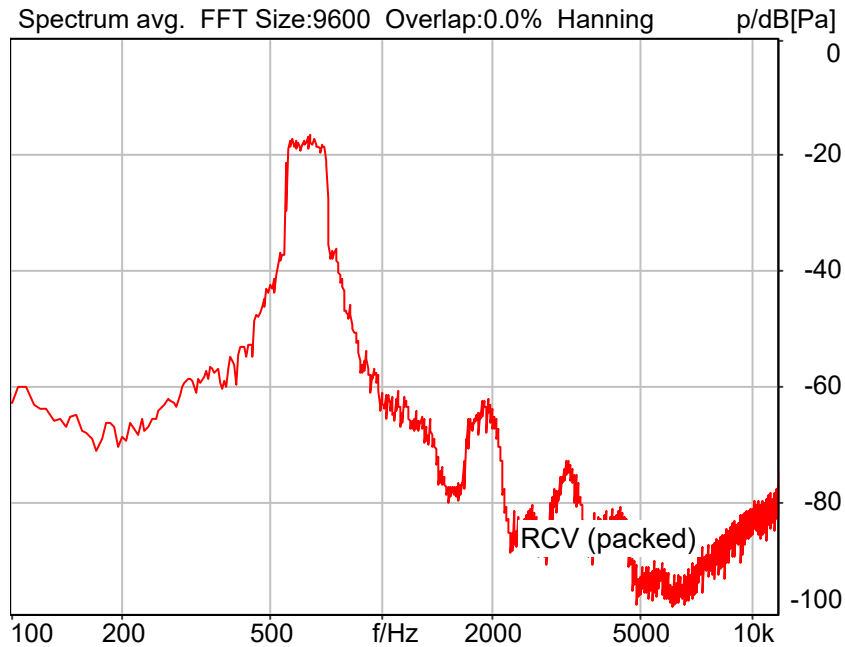
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.76 dB (5.15%)

2023/12/17 11:00 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

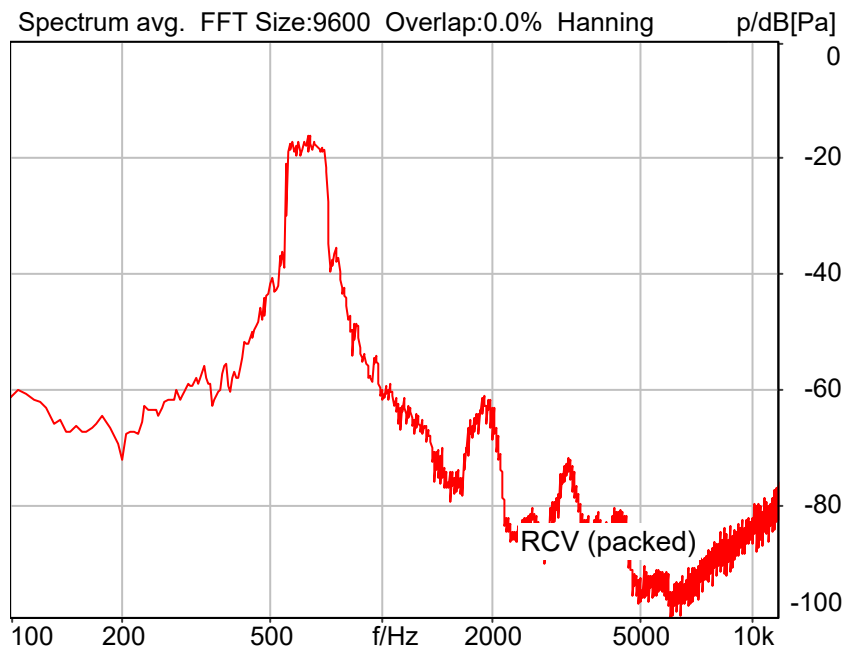
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.01 dB (5.62%)

2023/12/17 11:06 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	525.0 Hz
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

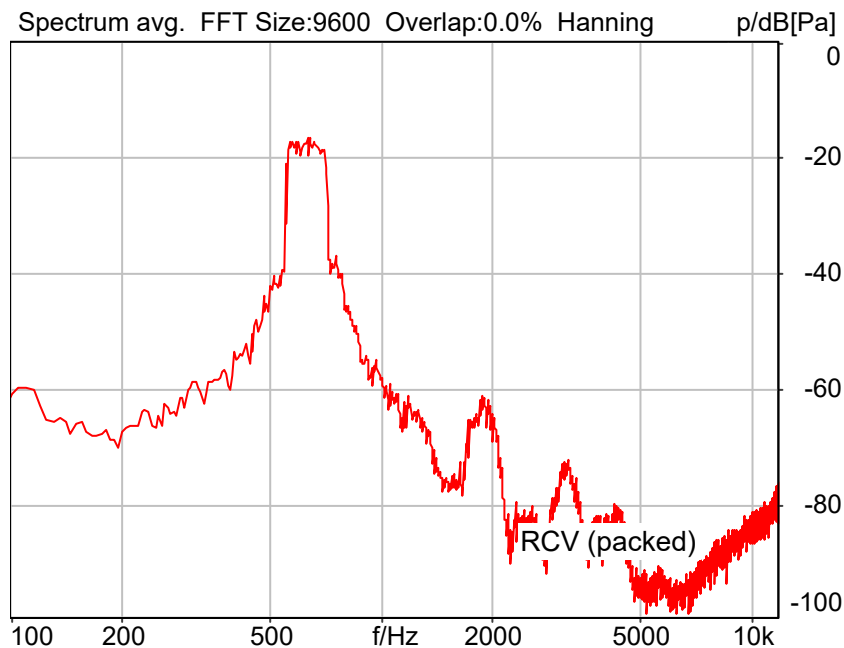
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.53 dB (5.29%)

2023/12/17 11:12 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

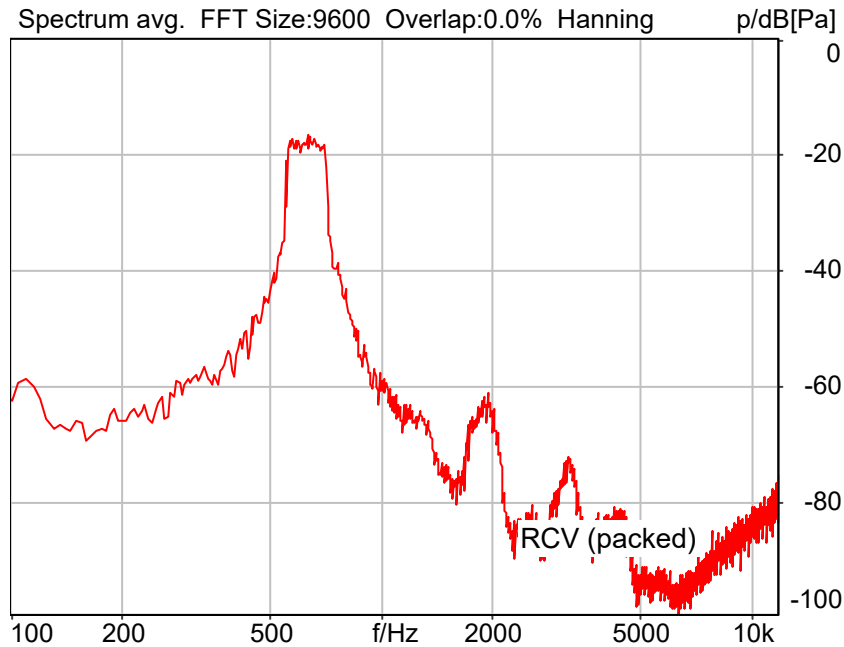
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:18 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

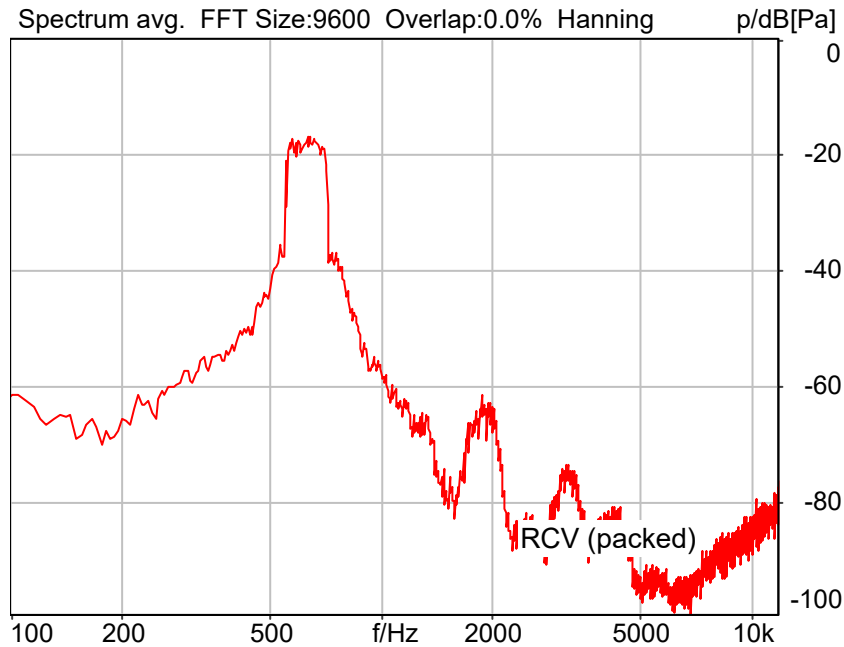
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.37 dB (6.05%)

2023/12/17 11:25 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	525.0 Hz
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

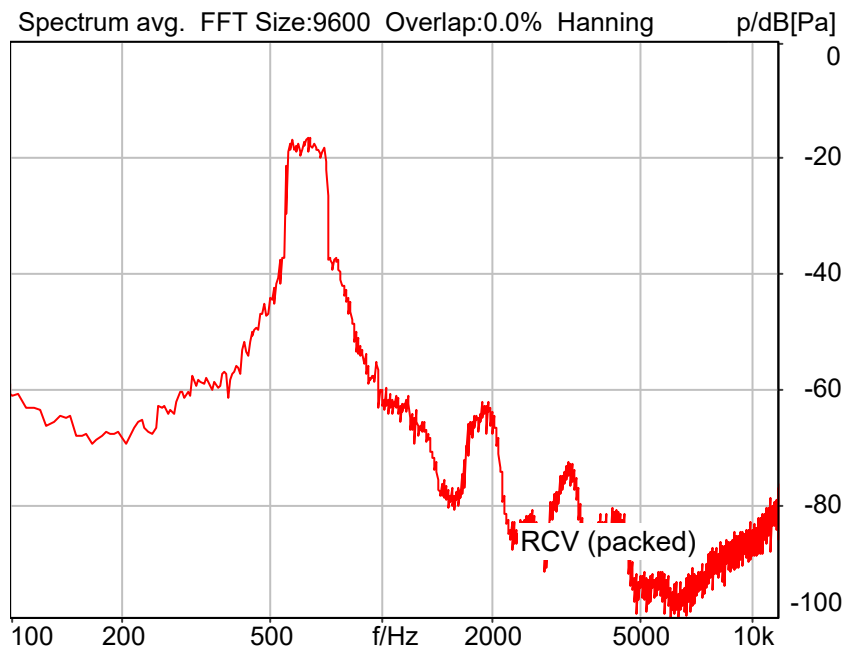
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 25.39 dB (5.37%)

2023/12/17 11:34 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

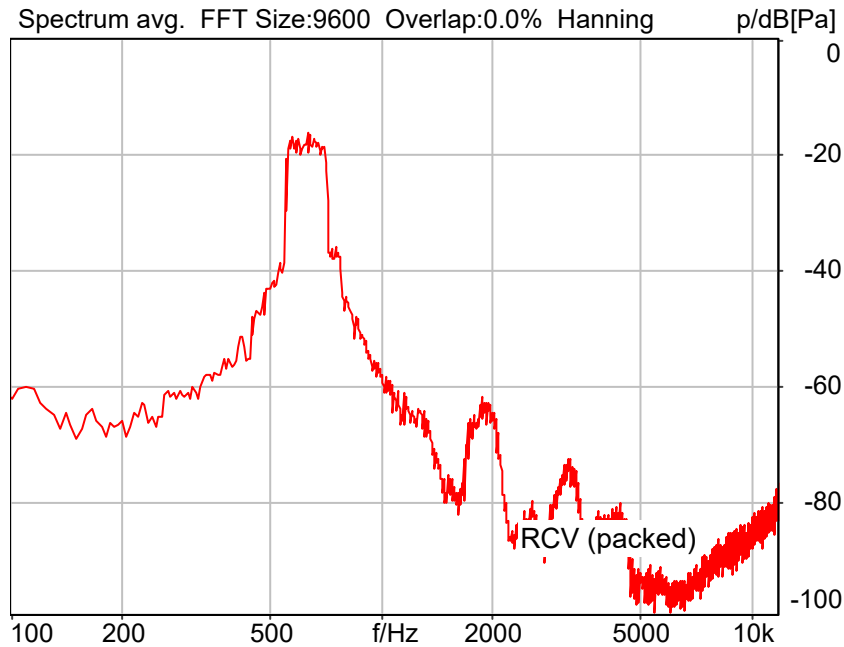
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.50 dB (5.96%)

2023/12/17 11:41 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

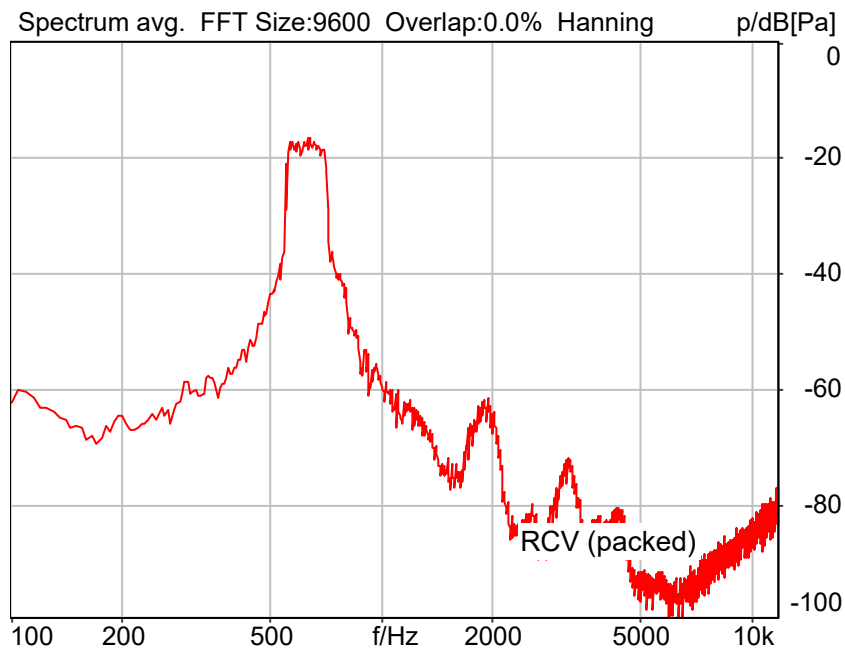
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 630Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 26.32 dB (4.83%)

2023/12/17 11:48 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_630hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	525.0 Hz	Stimulus max.	745.0 Hz

Analysis min.	100.0 Hz	Analysis max.	520.0 Hz
Analysis (2) min.	750.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO28_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

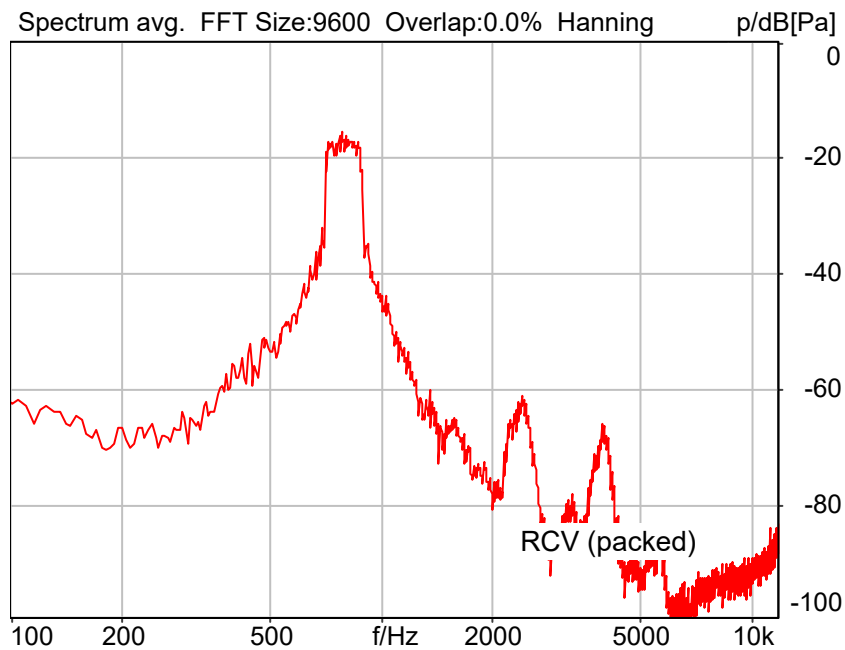
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.20 dB (6.17%)

2023/12/17 10:38 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	675.0 Hz
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

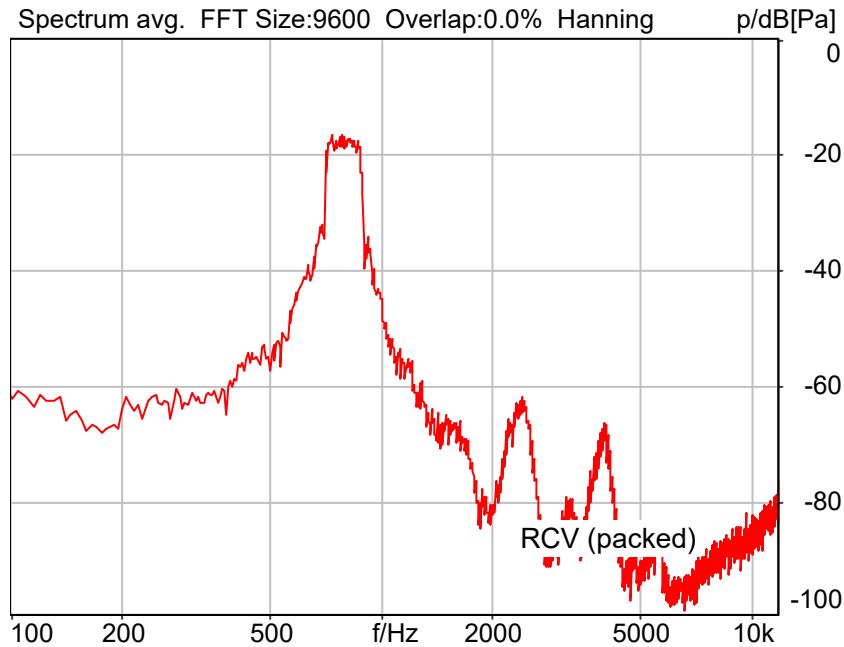
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 23.59 dB (6.61%)

2023/12/17 10:44 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

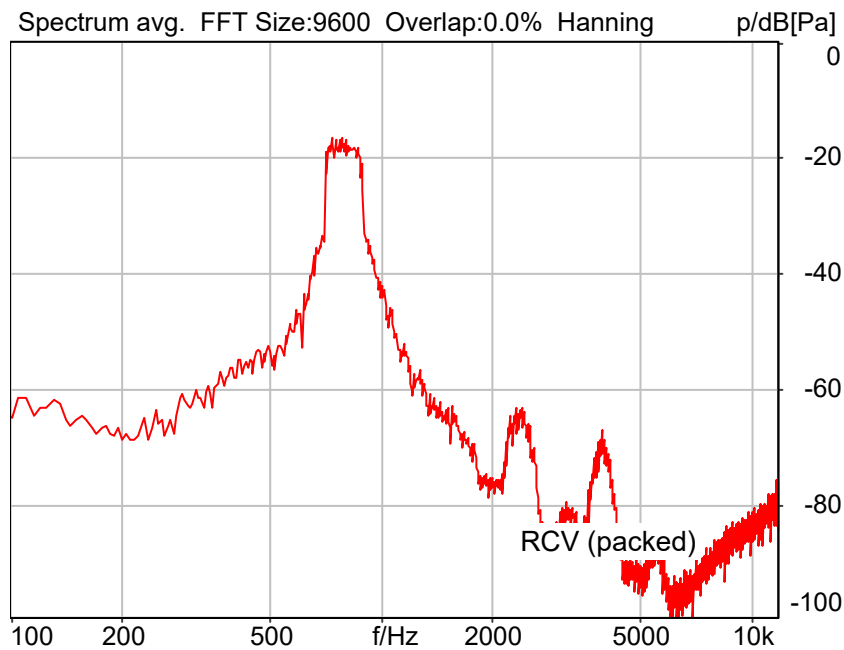
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 22.10 dB (7.85%)

2023/12/17 10:49 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	675.0 Hz
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

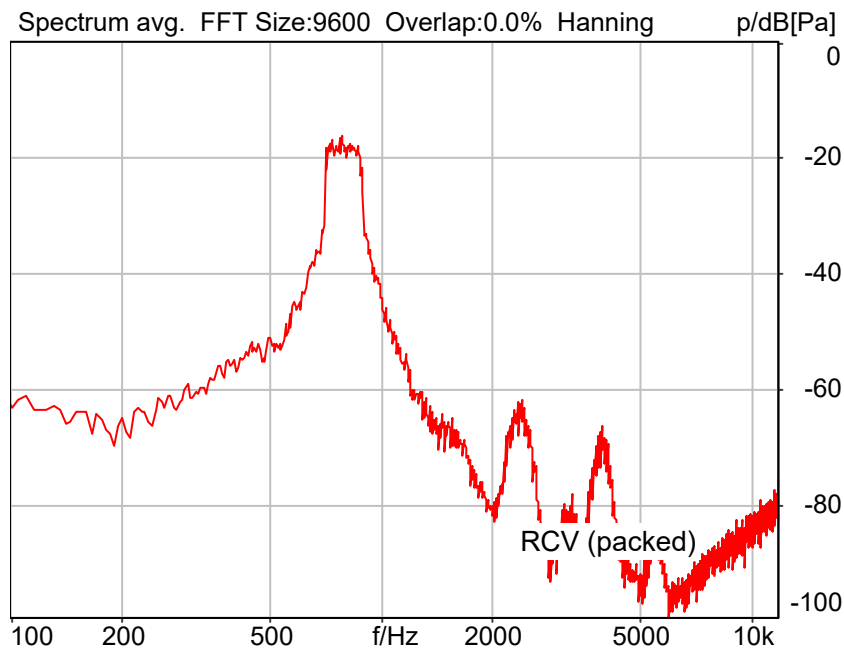
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 22.44 dB (7.55%)

2023/12/17 10:57 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

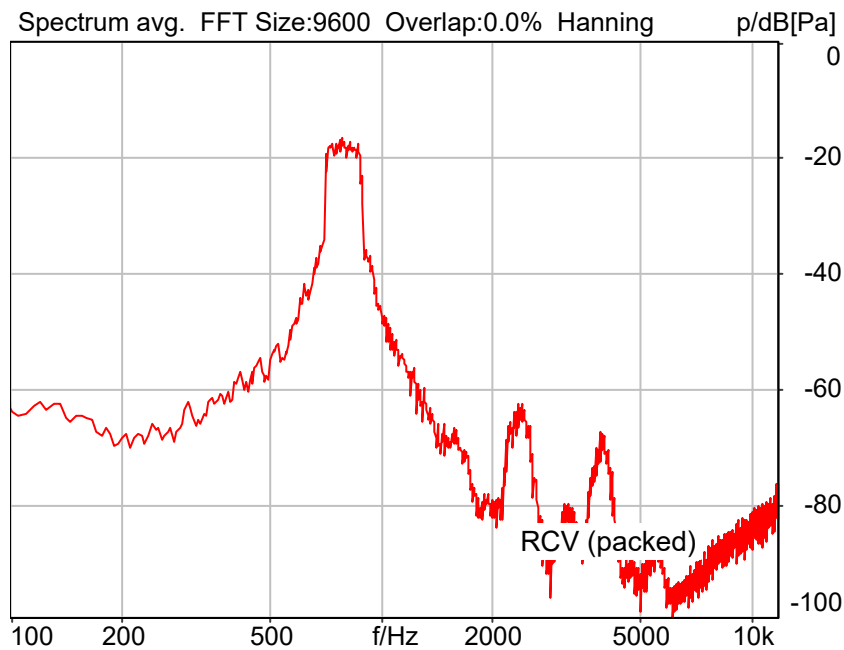
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.34 dB (6.07%)

2023/12/17 11:00 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

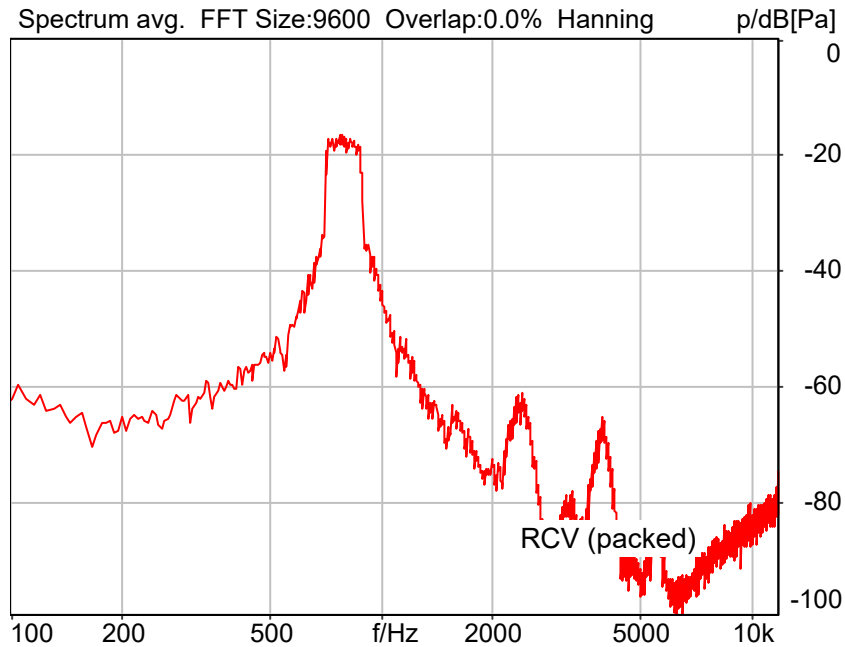
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 23.56 dB (6.64%)

2023/12/17 11:06 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	675.0 Hz
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

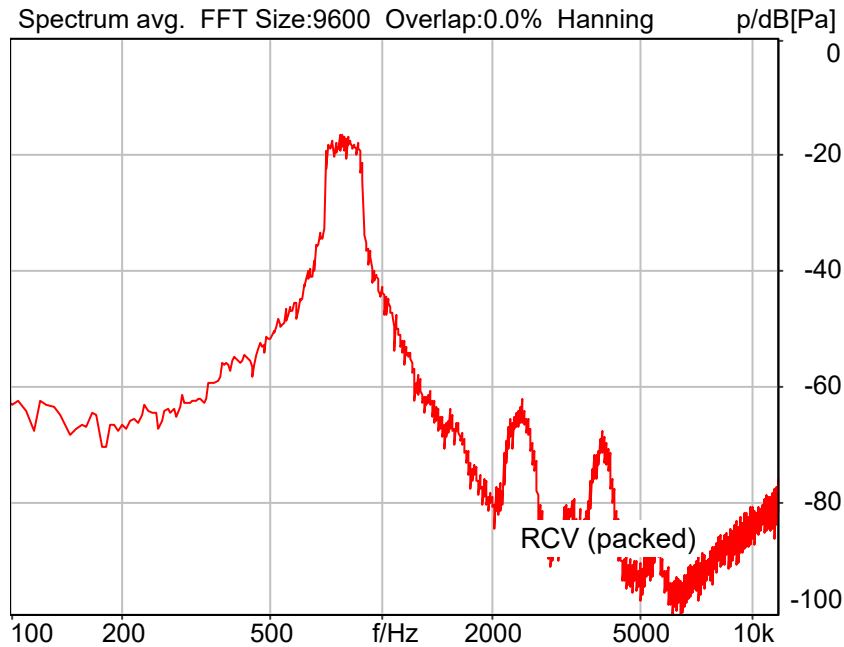
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 22.59 dB (7.42%)

2023/12/17 11:13 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

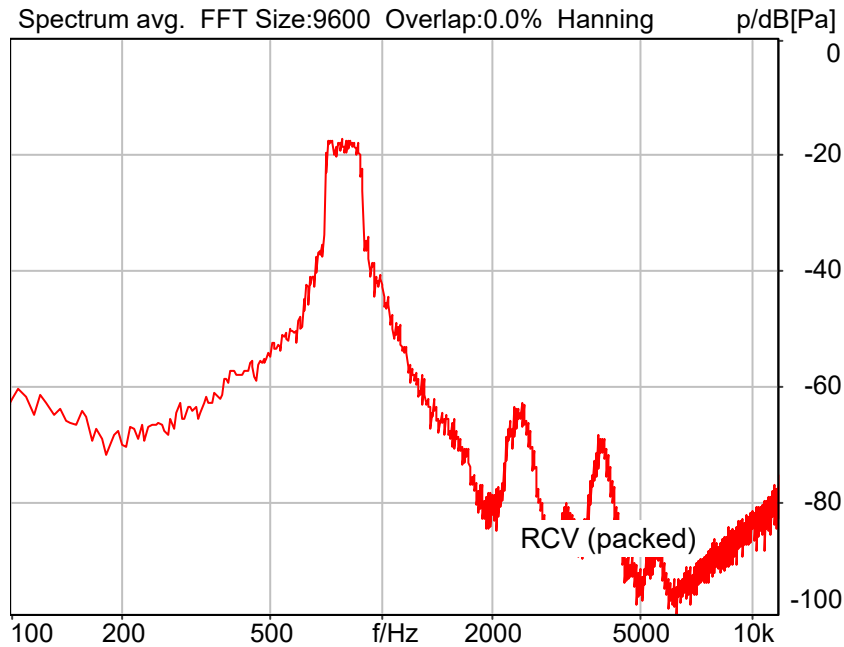
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 23.32 dB (6.82%)

2023/12/17 11:18 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

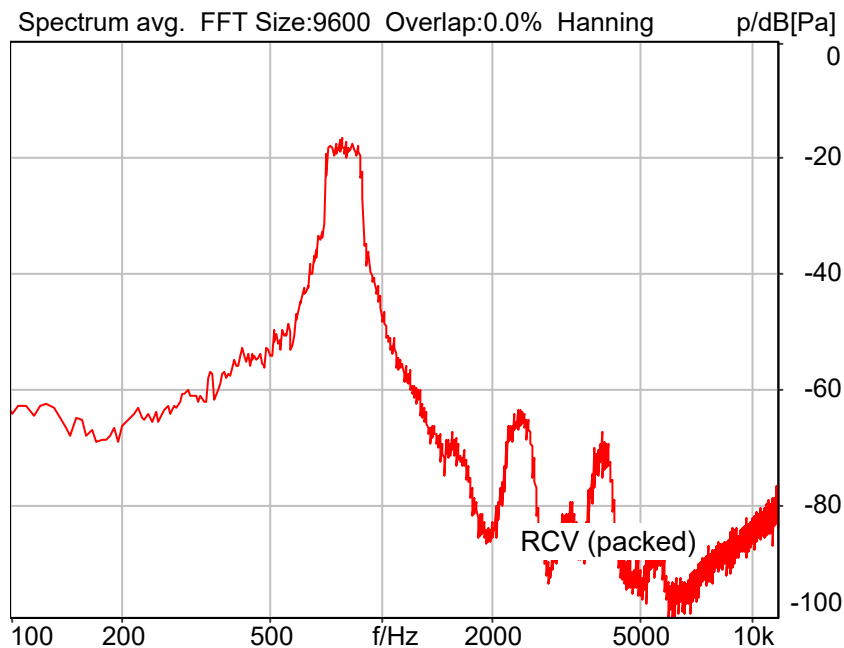
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 23.78 dB (6.47%)

2023/12/17 11:26 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

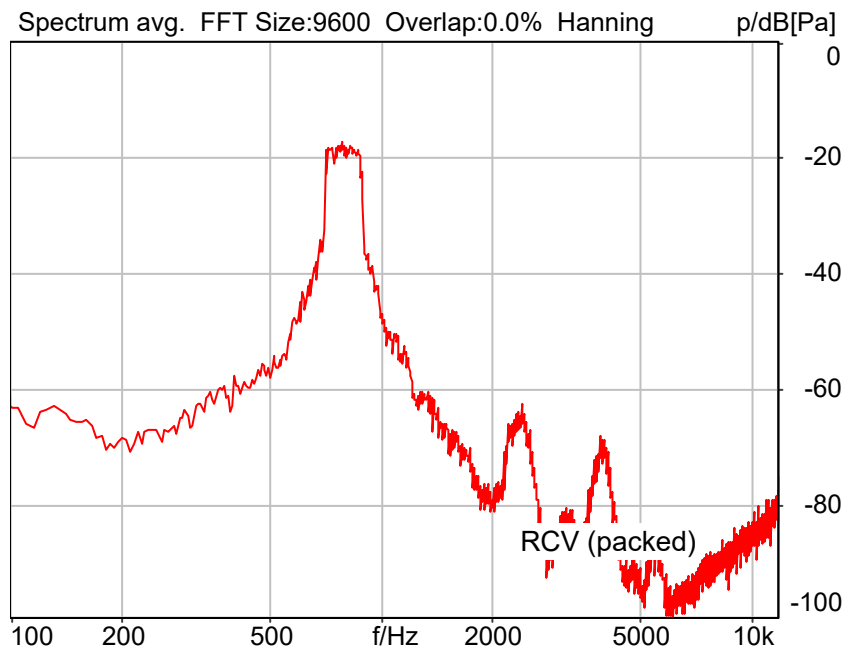
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.02 dB (6.29%)

2023/12/17 11:34 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

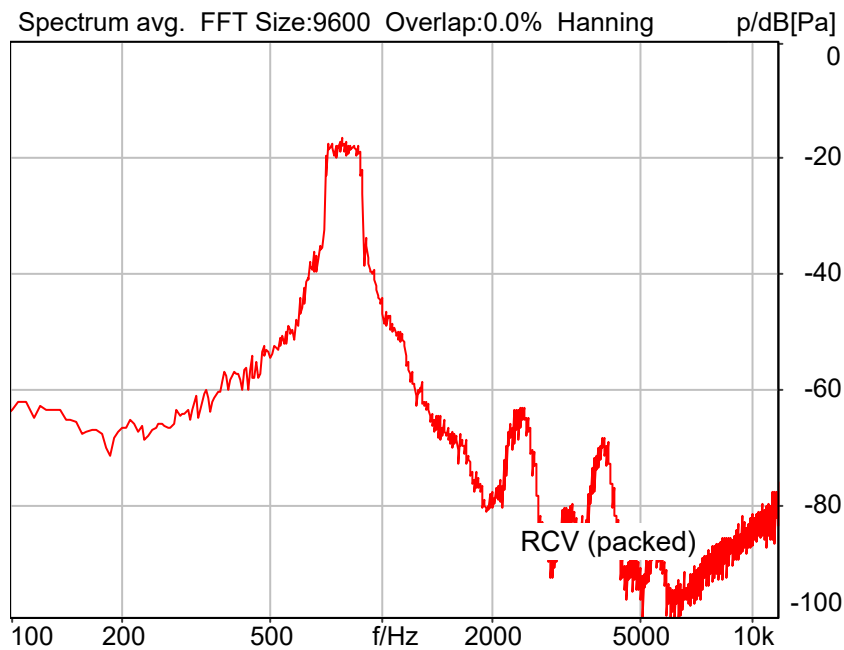
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 23.11 dB (6.99%)

2023/12/17 11:48 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

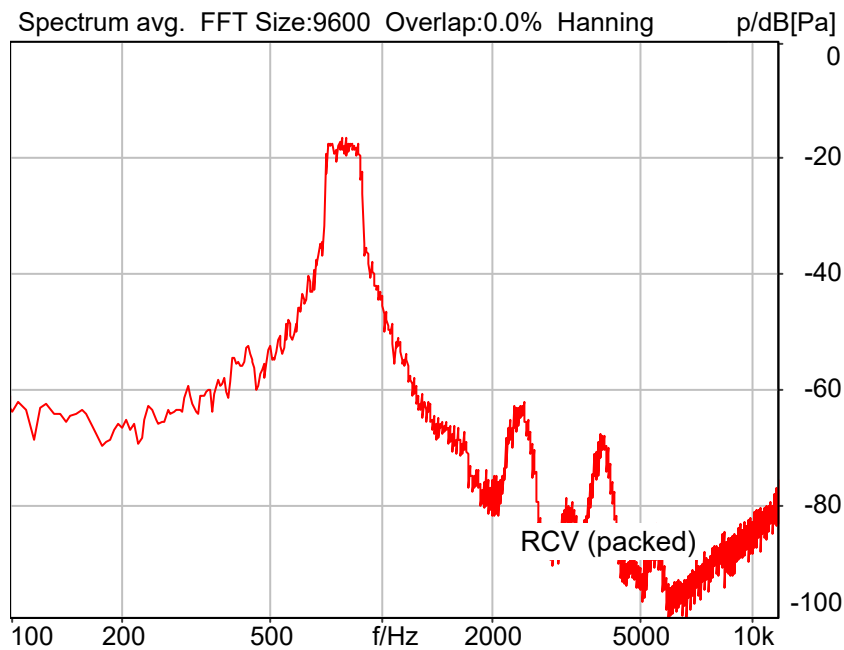
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 800Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 23.95 dB (6.34%)

2023/12/17 11:52 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_800hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	675.0 Hz	Stimulus max.	925.0 Hz

Analysis min.	100.0 Hz	Analysis max.	670.0 Hz
Analysis (2) min.	930.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO29_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

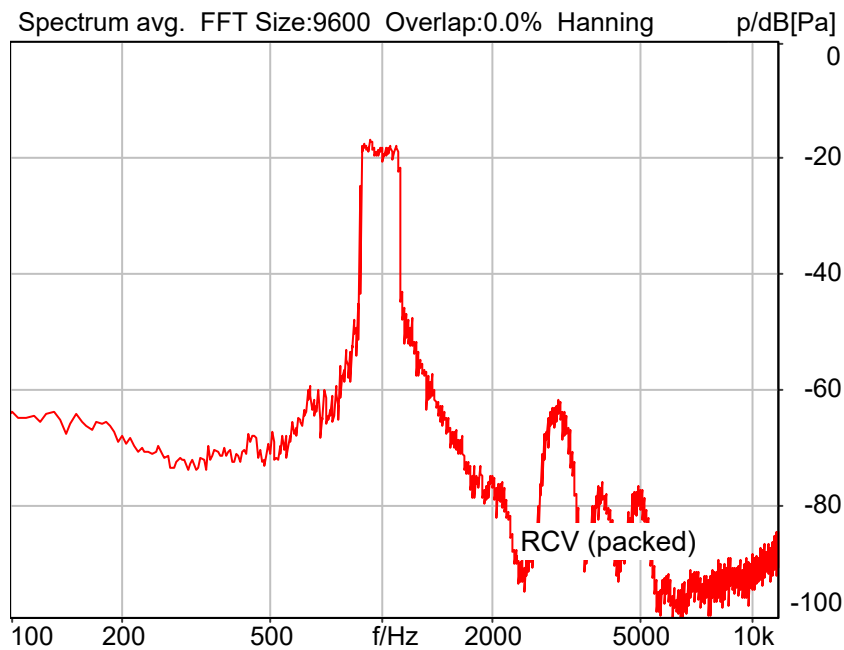
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 32.48 dB (2.38%)

2023/12/17 10:38 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

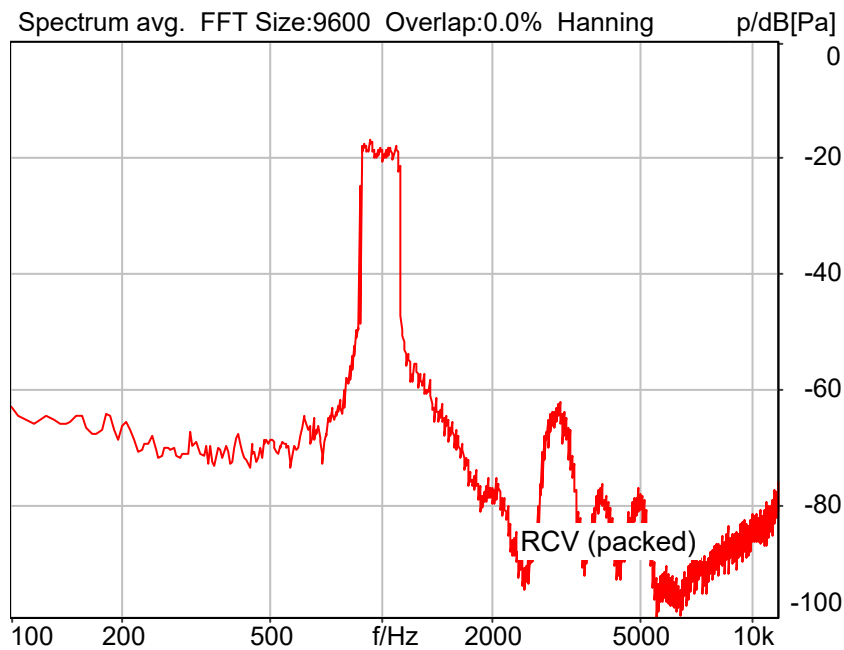
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 35.40 dB (1.70%)

2023/12/17 10:44 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

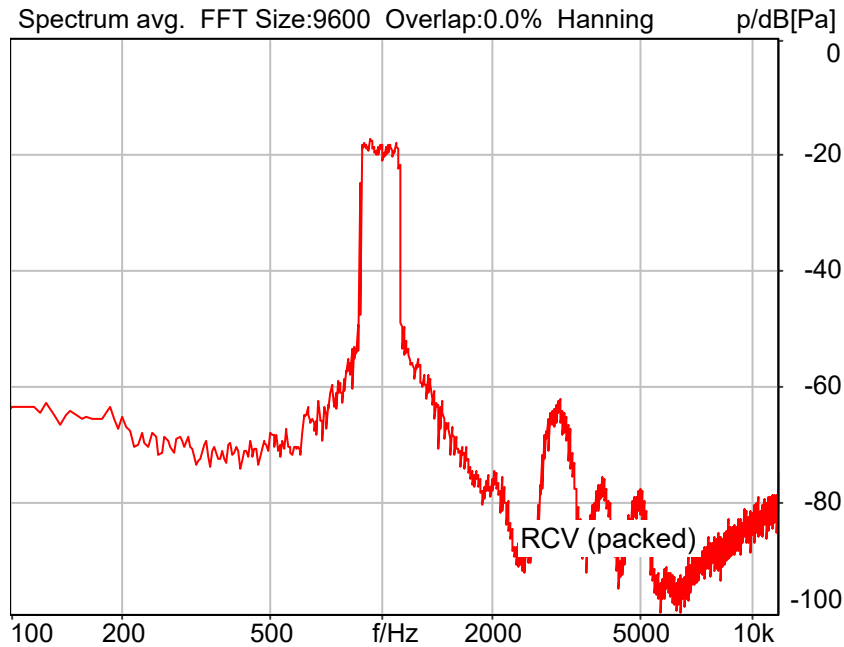
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.00 dB (1.78%)

2023/12/17 10:50 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

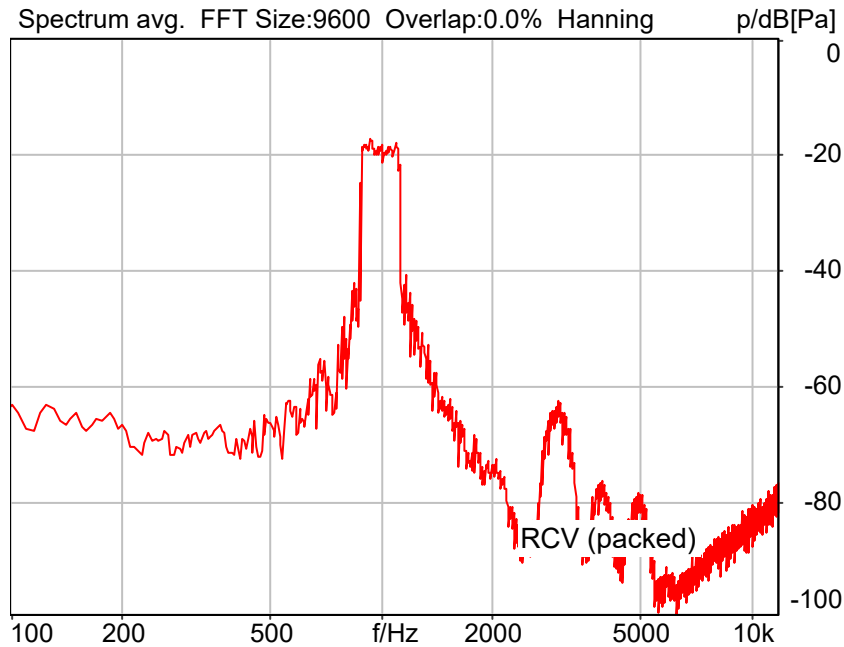
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 28.72 dB (3.66%)

2023/12/17 10:55 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

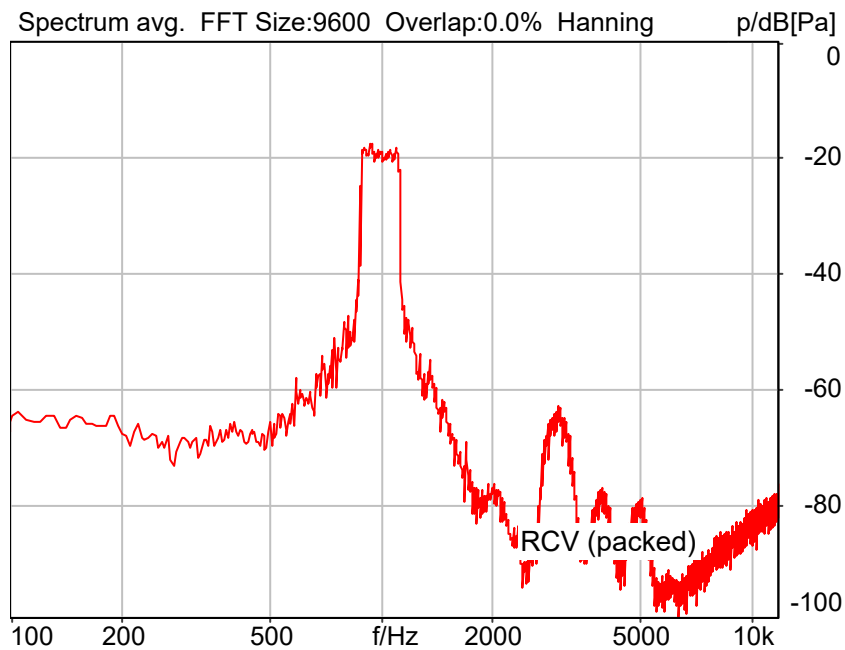
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 31.13 dB (2.78%)

2023/12/17 11:01 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

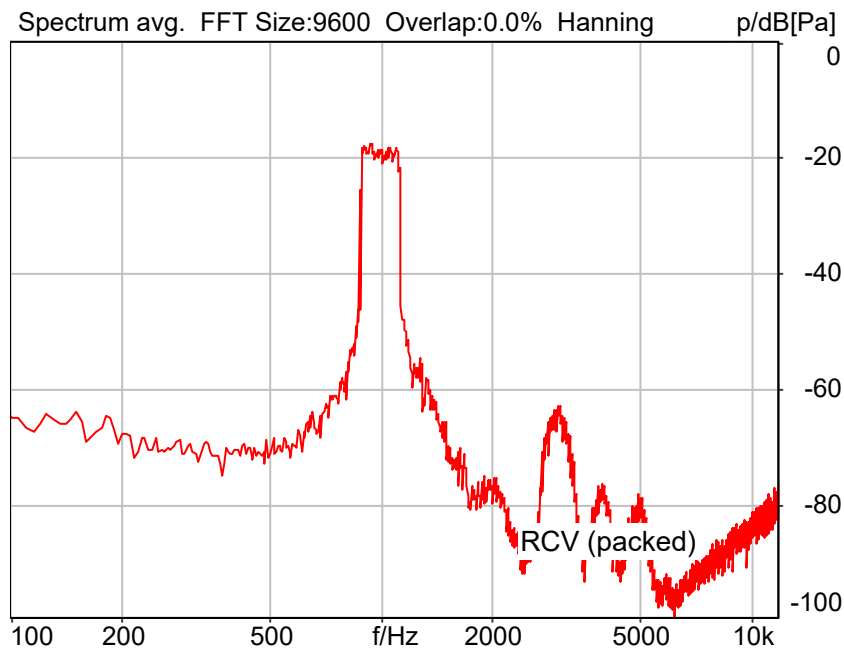
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.46 dB (1.89%)

2023/12/17 11:07 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

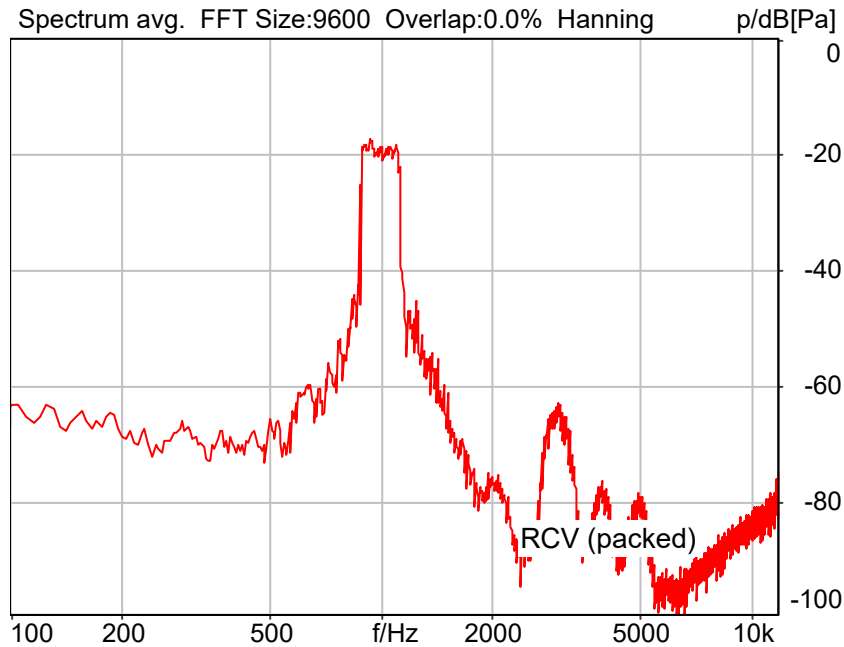
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 29.56 dB (3.33%)

2023/12/17 11:13 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	855.0 Hz
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

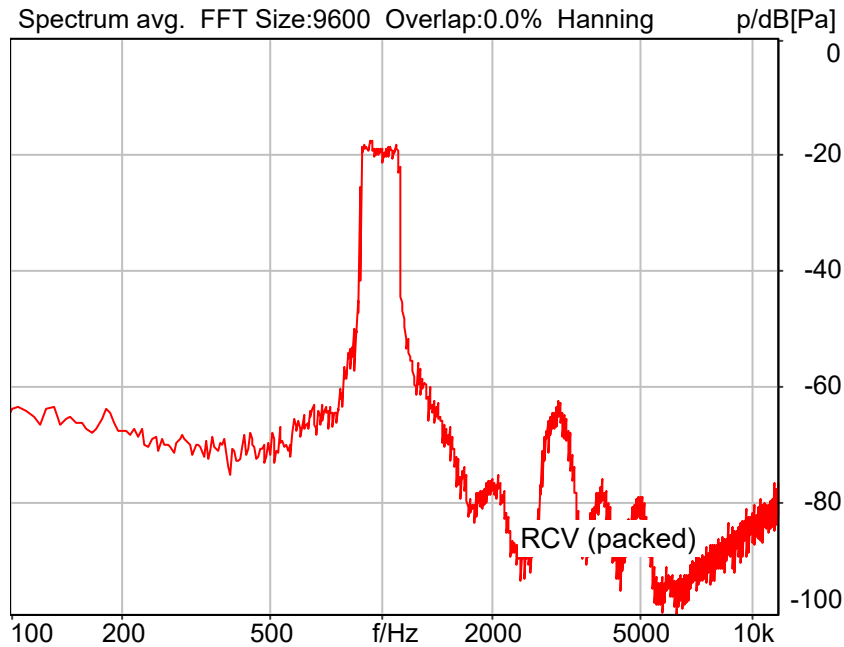
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.03 dB (1.77%)

2023/12/17 11:19 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

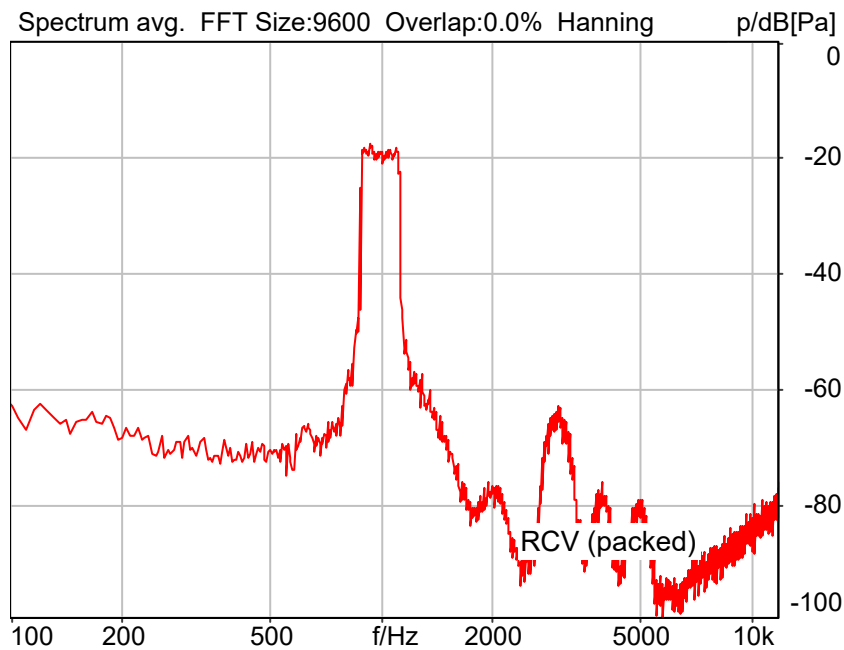
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.98 dB (1.59%)

2023/12/17 11:26 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

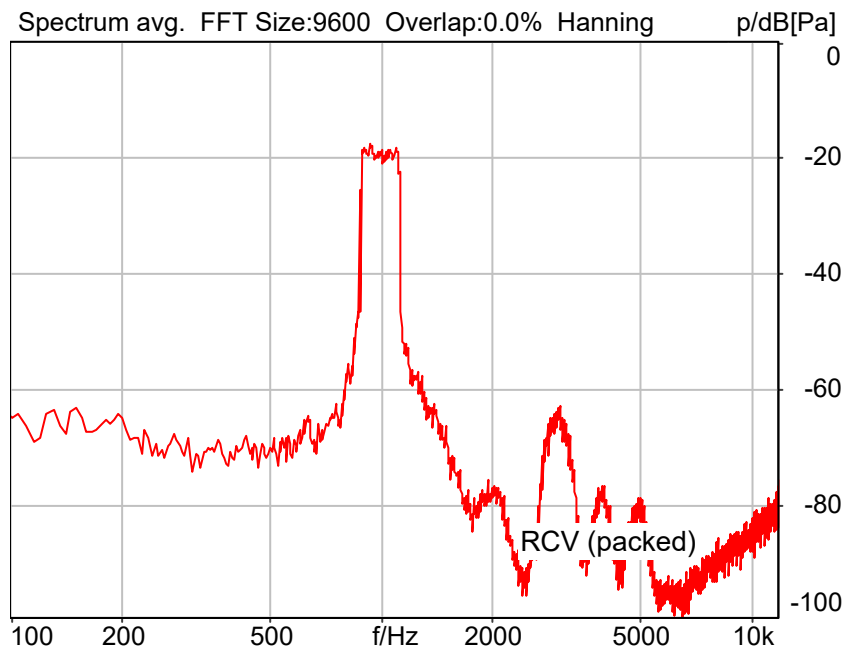
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.69 dB (1.64%)

2023/12/17 11:34 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

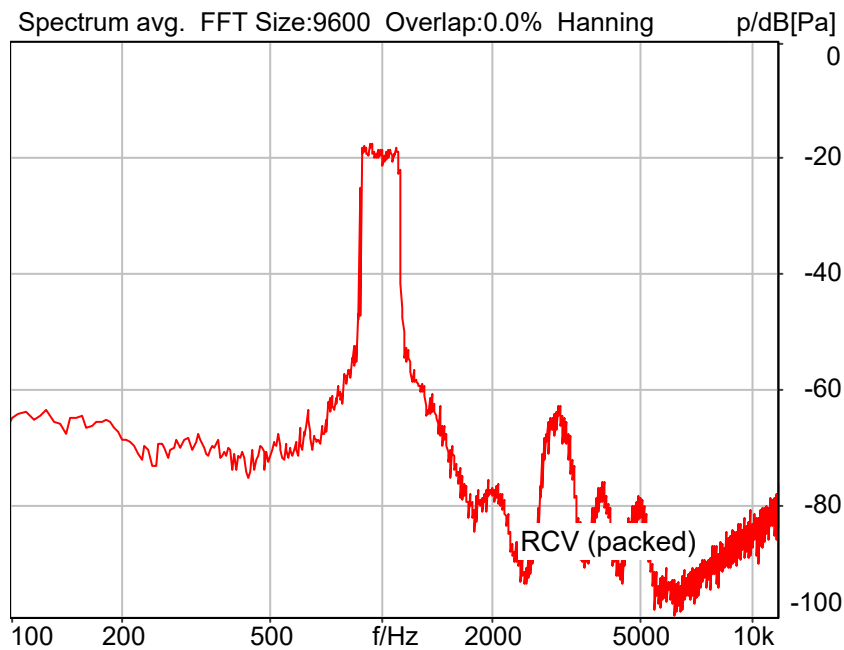
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.61 dB (1.66%)

2023/12/17 11:42 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

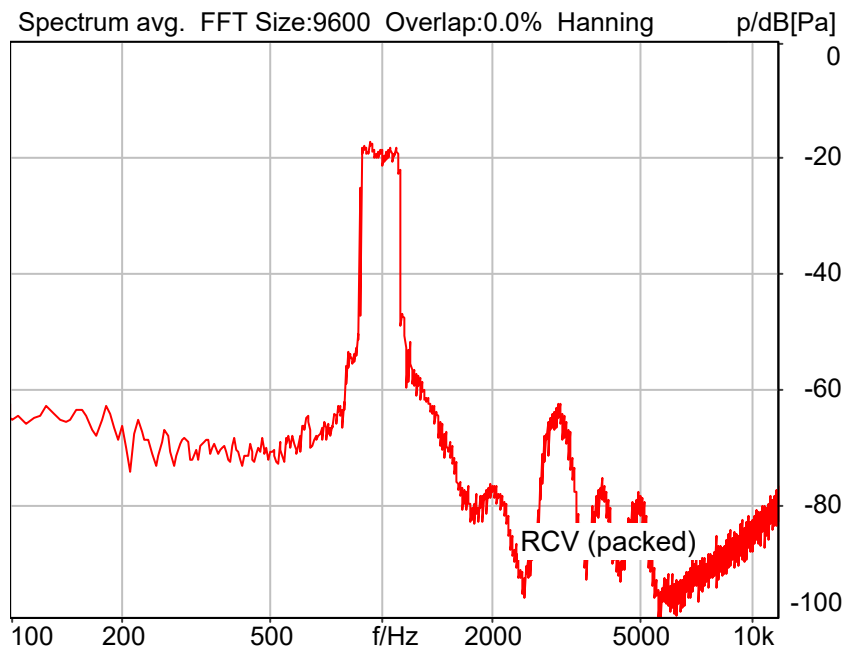
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:48 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	855.0 Hz	Stimulus max.	1155.0 Hz

Analysis min.	100.0 Hz	Analysis max.	850.0 Hz
Analysis (2) min.	1160.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO30_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

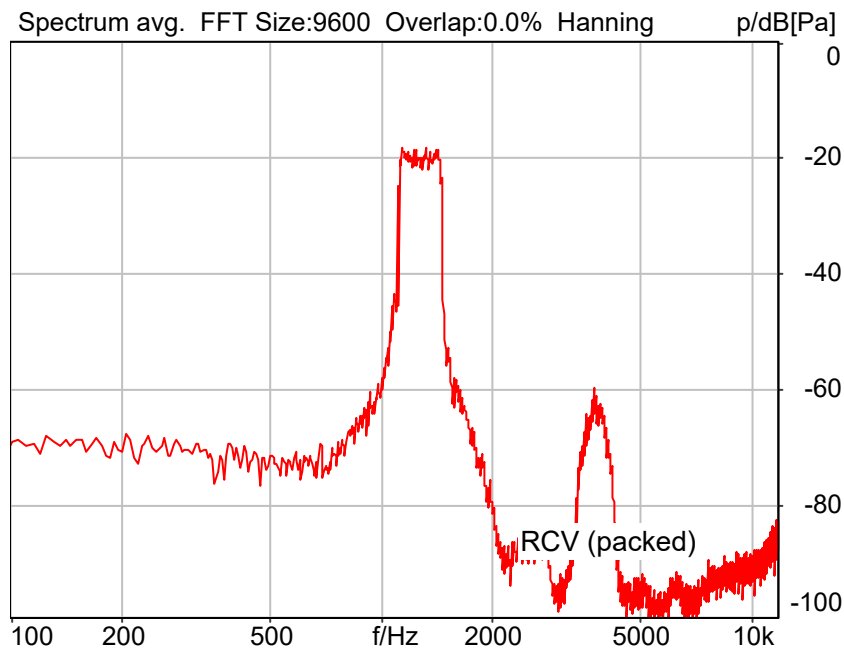
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 29.92 dB (3.19%)

2023/12/17 10:38 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

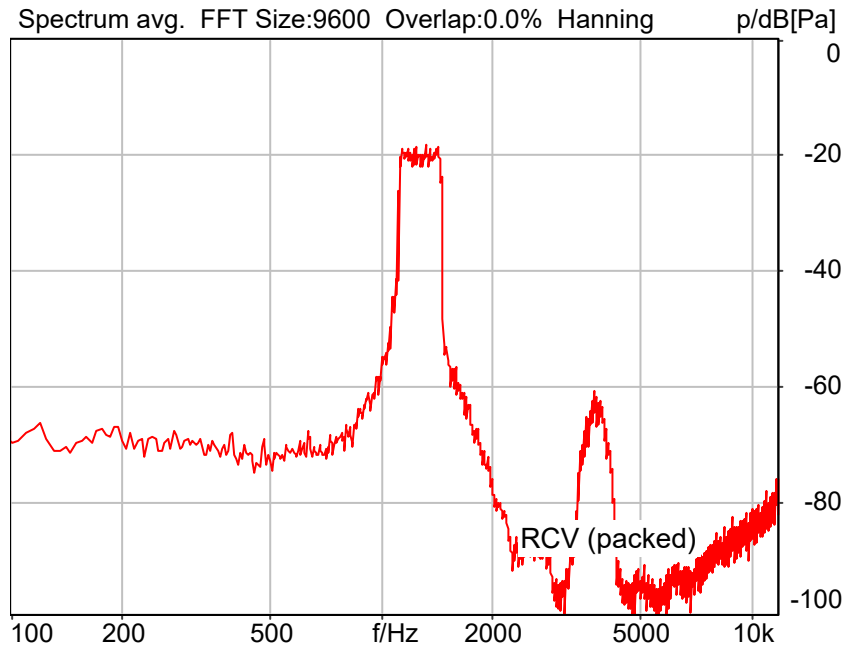
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 30.35 dB (3.04%)

2023/12/17 10:45 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

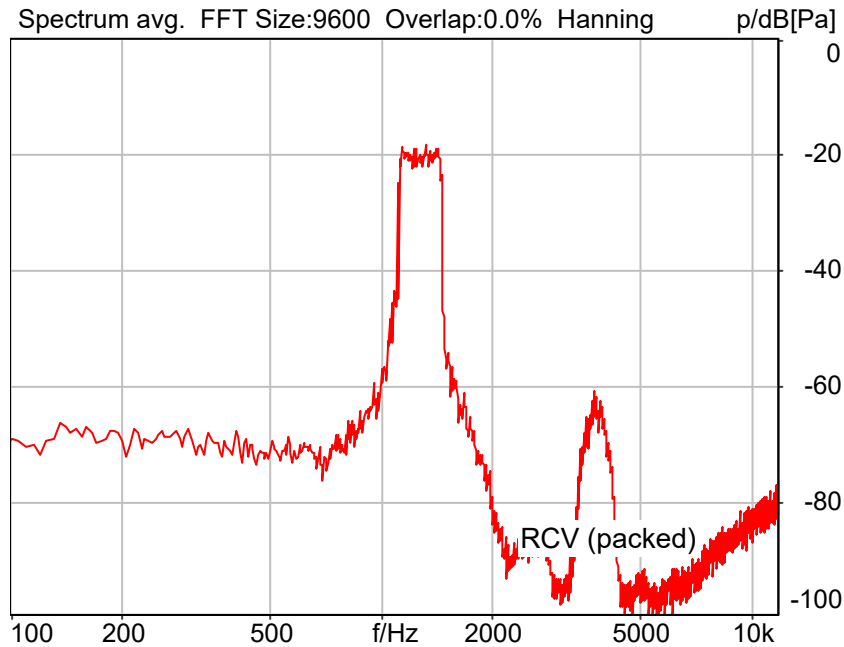
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 30.60 dB (2.95%)

2023/12/17 10:50 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

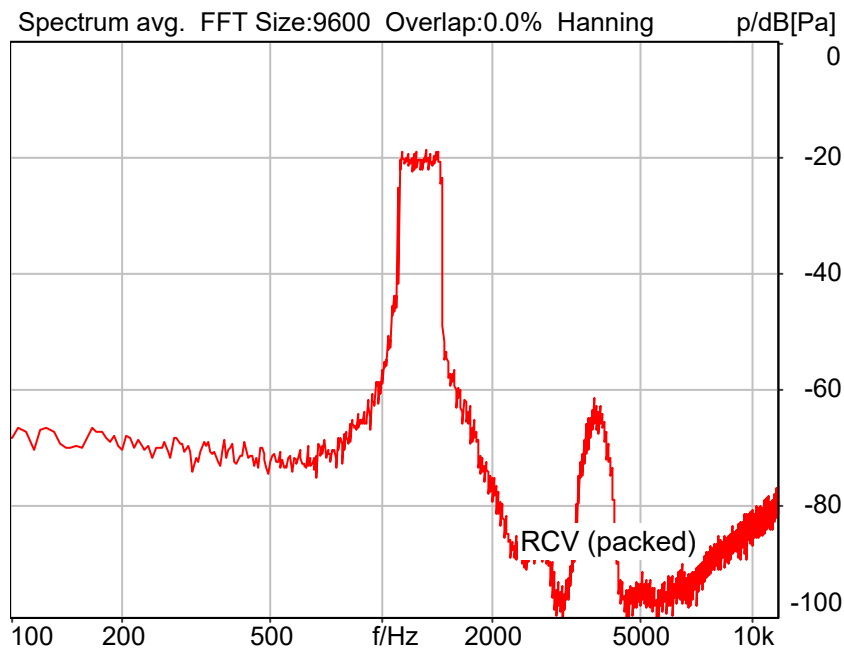
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 30.20 dB (3.09%)

2023/12/17 10:55 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

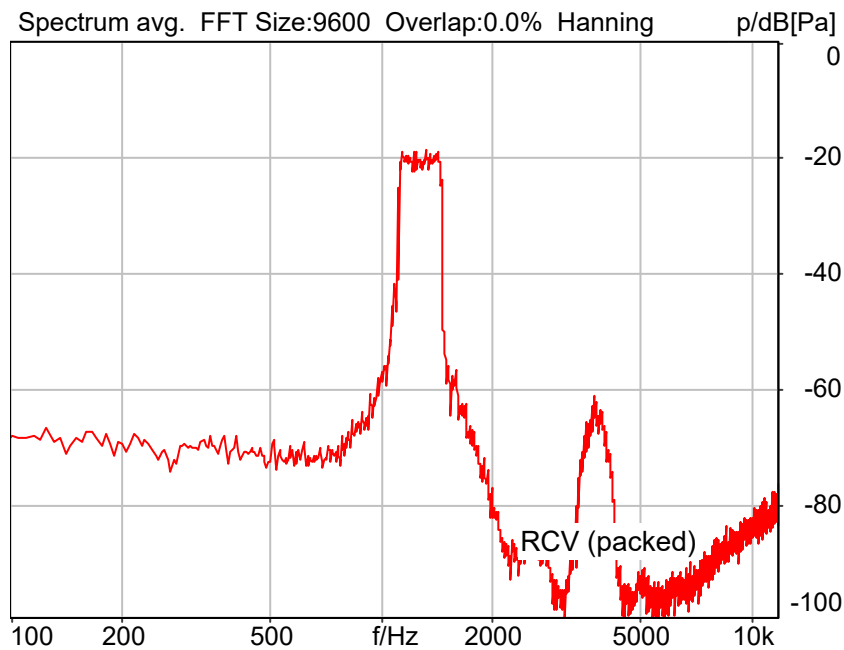
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 31.09 dB (2.79%)

2023/12/17 11:01 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

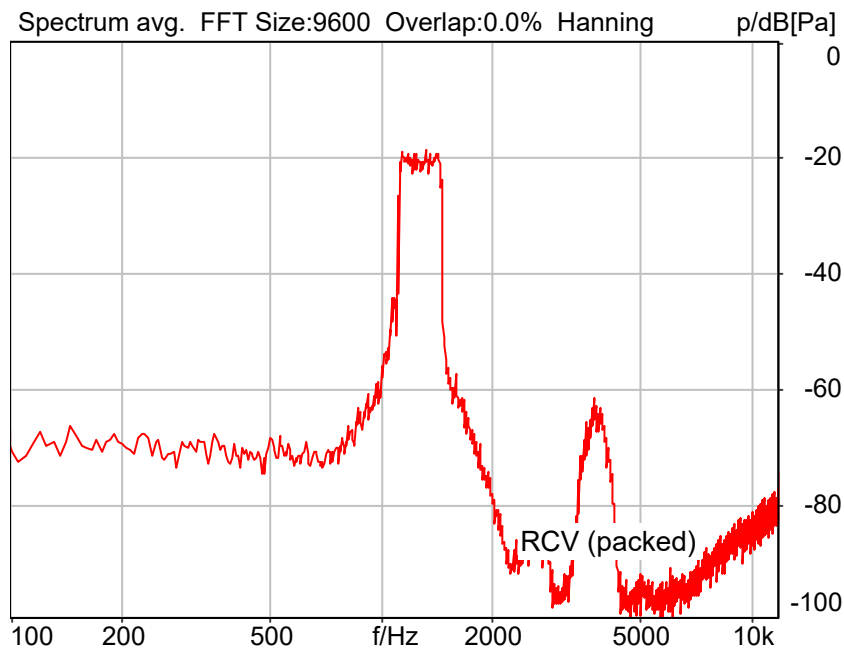
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 30.19 dB (3.10%)

2023/12/17 11:07 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1085.0 Hz
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

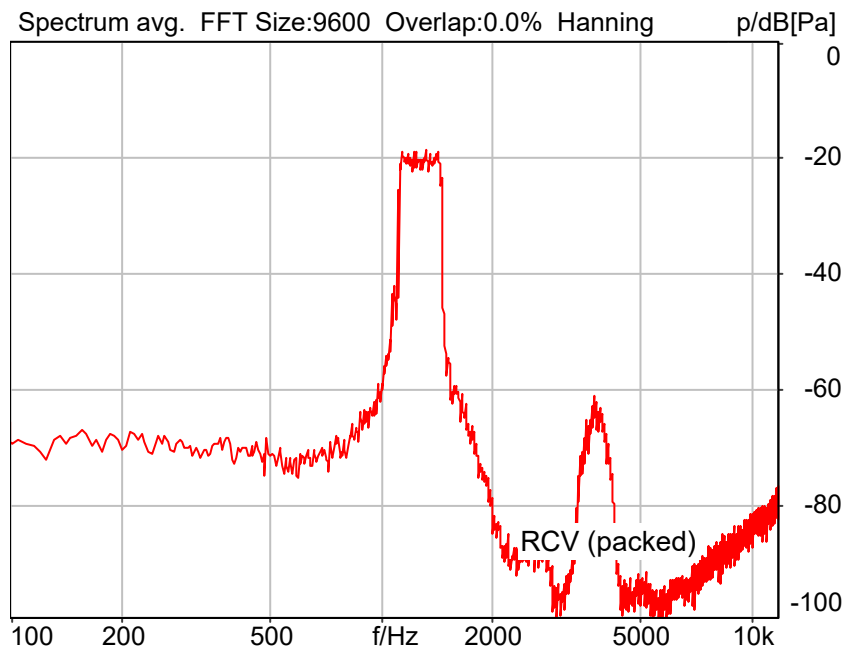
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 29.80 dB (3.24%)

2023/12/17 11:13 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

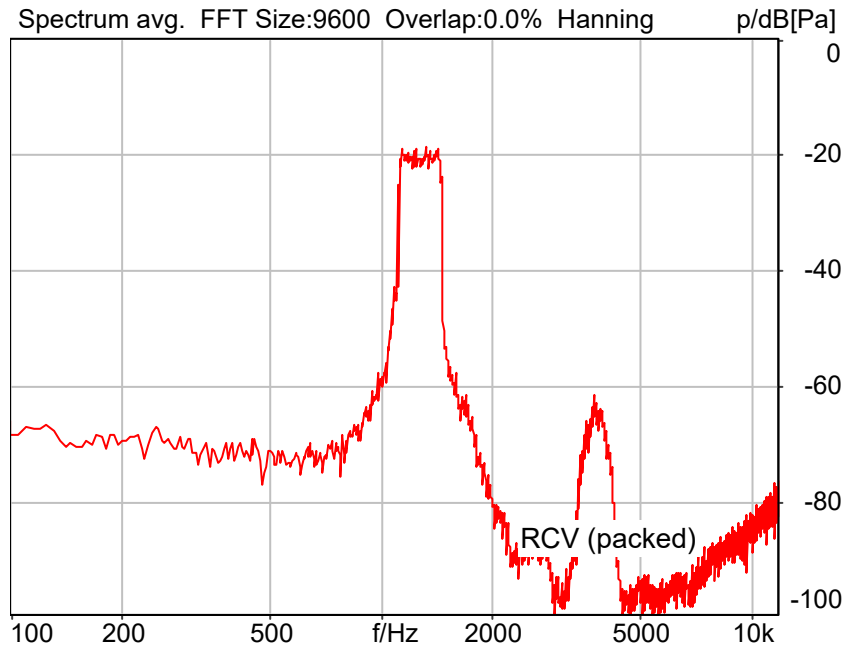
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 30.55 dB (2.97%)

2023/12/17 11:19 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1085.0 Hz
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

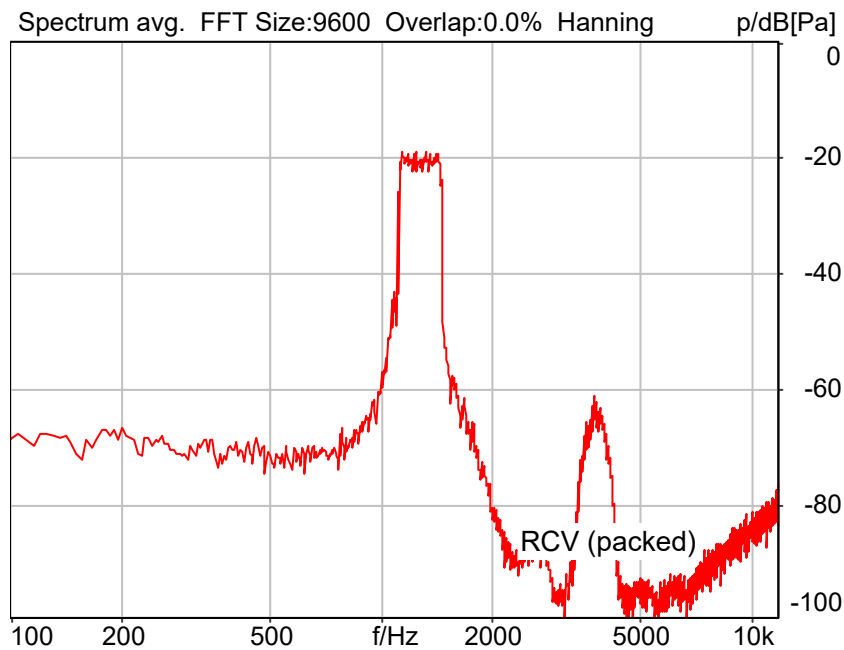
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:26 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

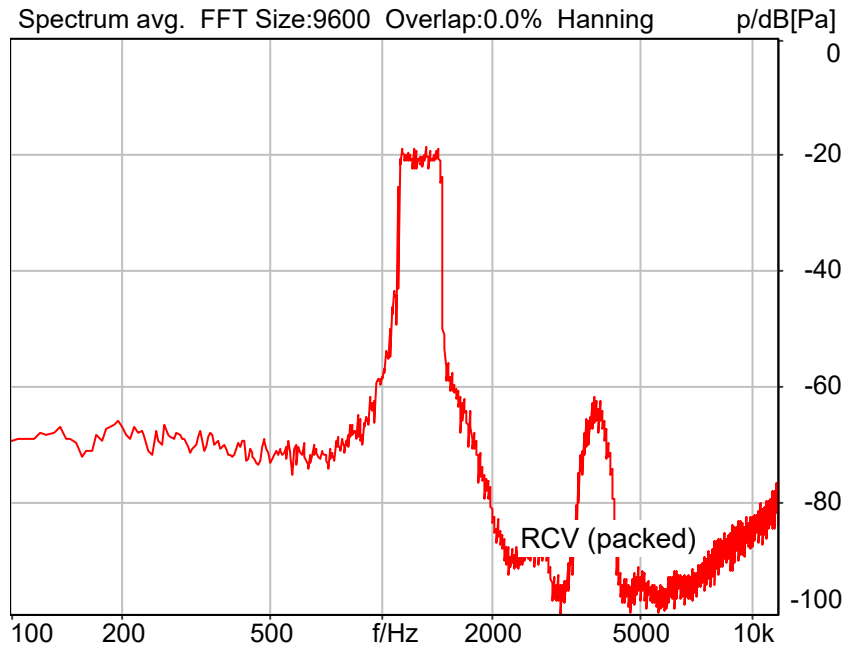
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:35 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1085.0 Hz
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

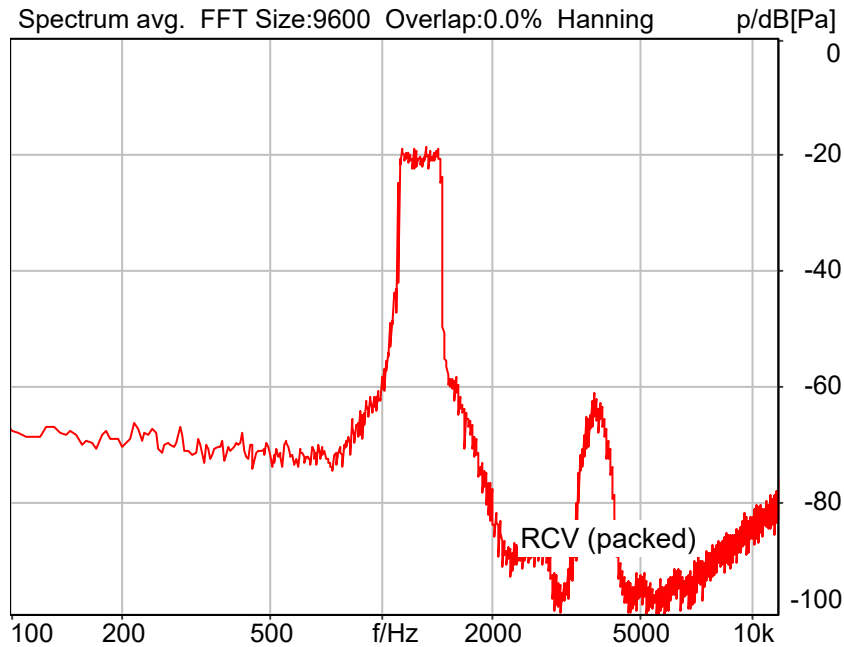
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:42 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

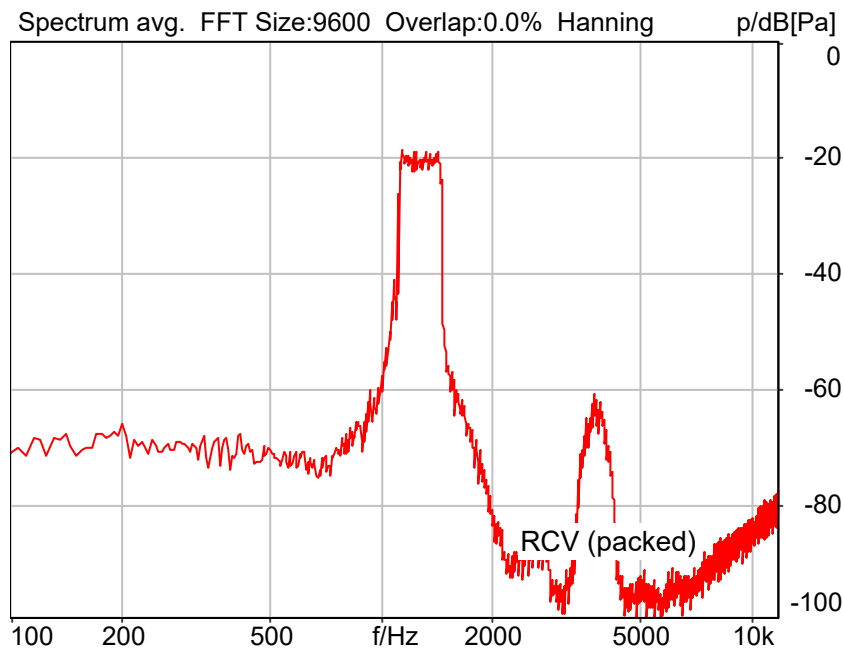
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1250Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 30.69 dB (2.92%)

2023/12/17 11:49 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1250hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1085.0 Hz	Stimulus max.	1450.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1080.0 Hz
Analysis (2) min.	1455.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO31_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

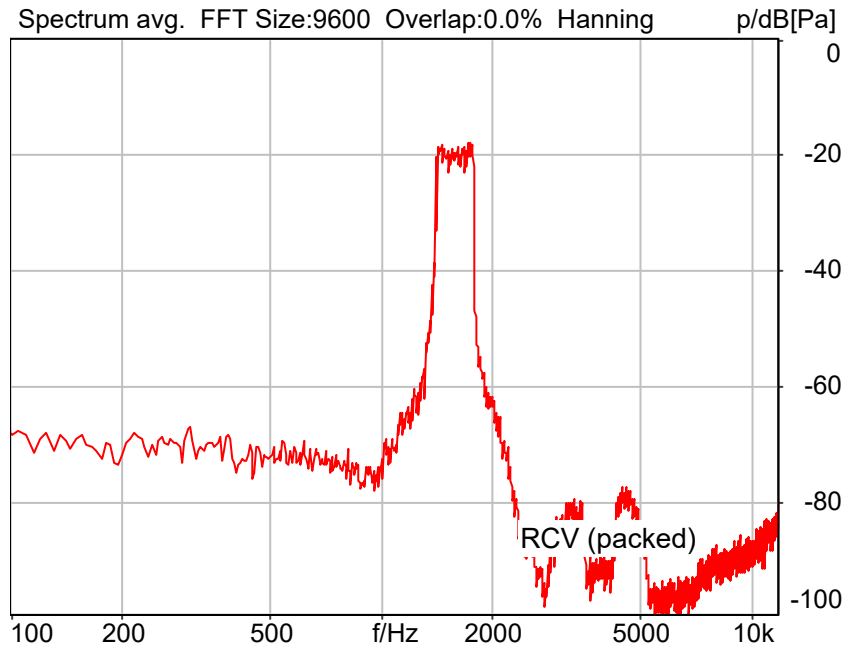
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.45 dB (1.69%)

2023/12/17 10:39 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1375.0 Hz
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

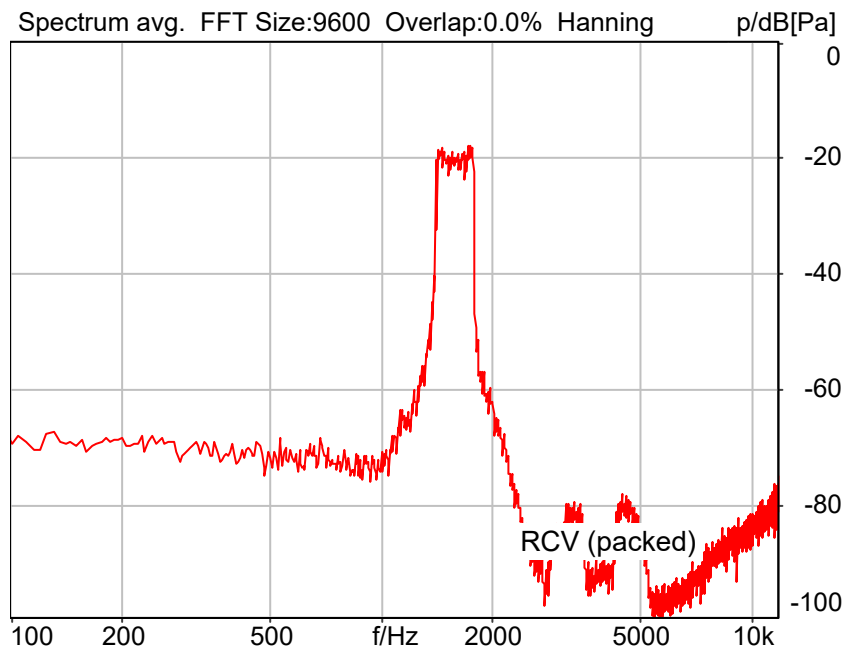
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 35.45 dB (1.69%)

2023/12/17 10:45 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1375.0 Hz
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

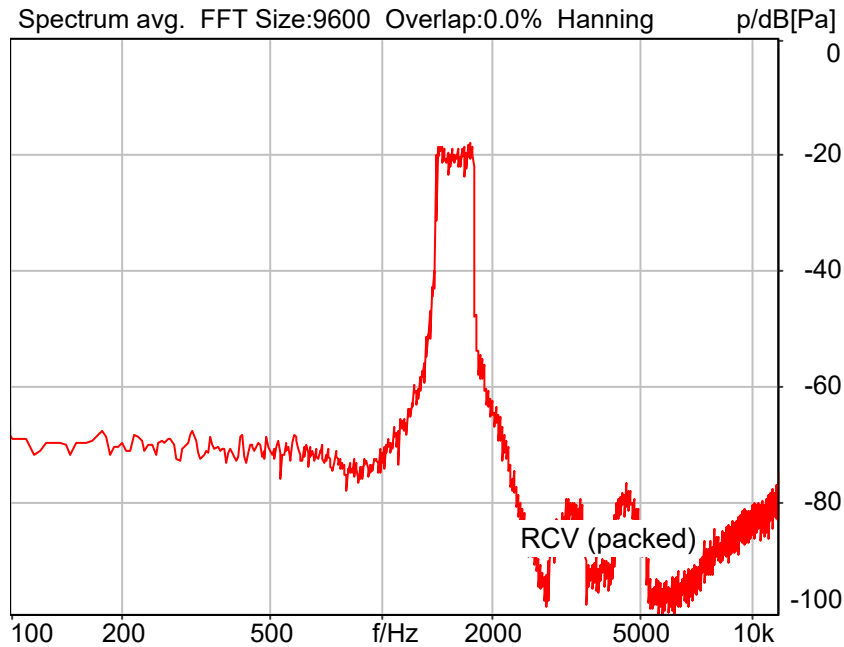
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.54 dB (1.87%)

2023/12/17 10:50 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

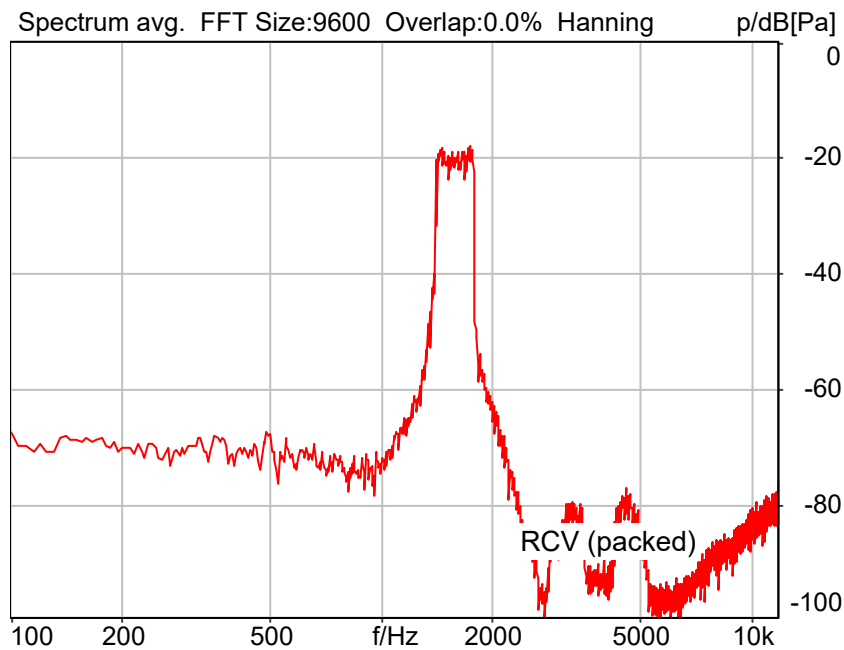
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 34.48 dB (1.89%)

2023/12/17 10:55 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1375.0 Hz
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

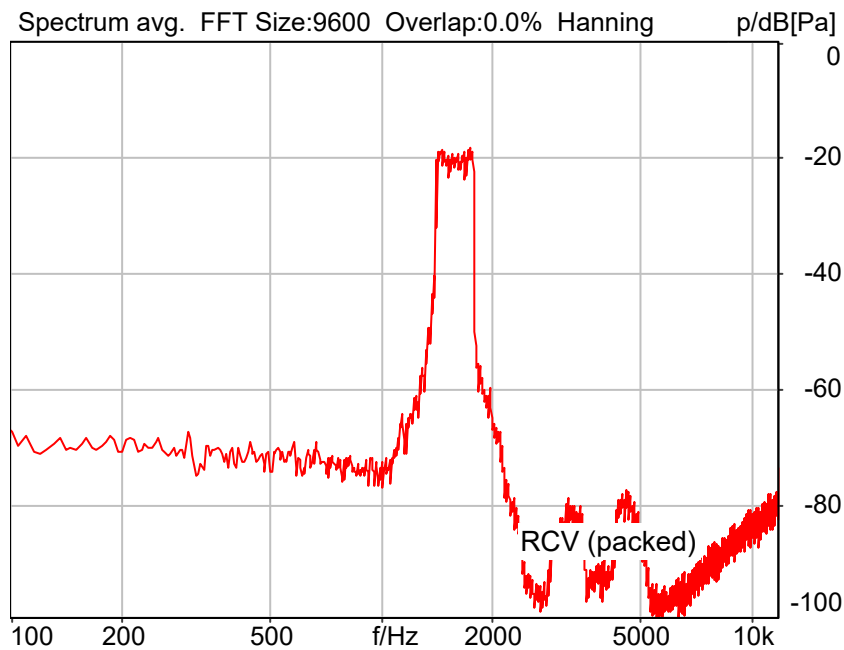
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.52 dB (1.67%)

2023/12/17 11:02 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1375.0 Hz
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

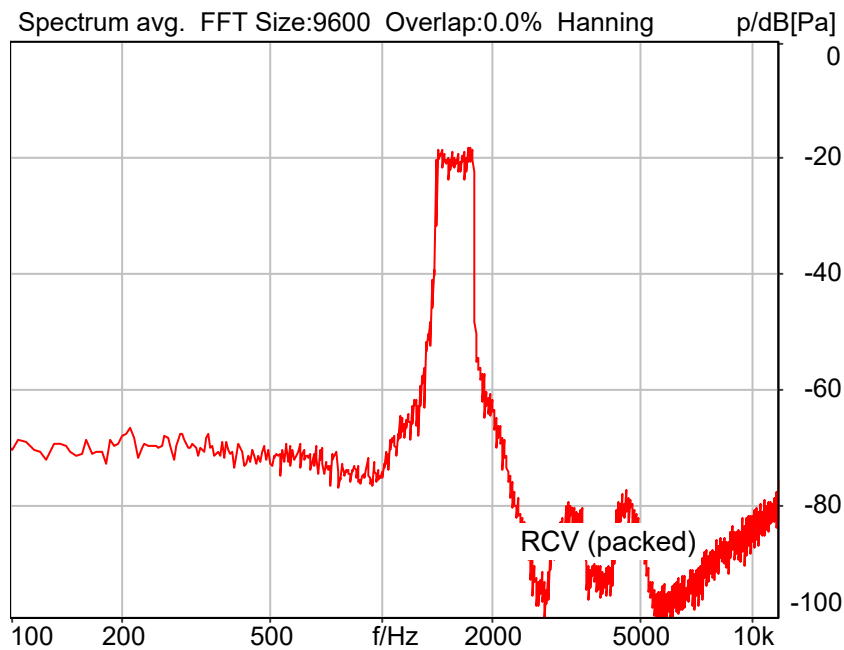
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.17 dB (1.74%)

2023/12/17 11:08 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

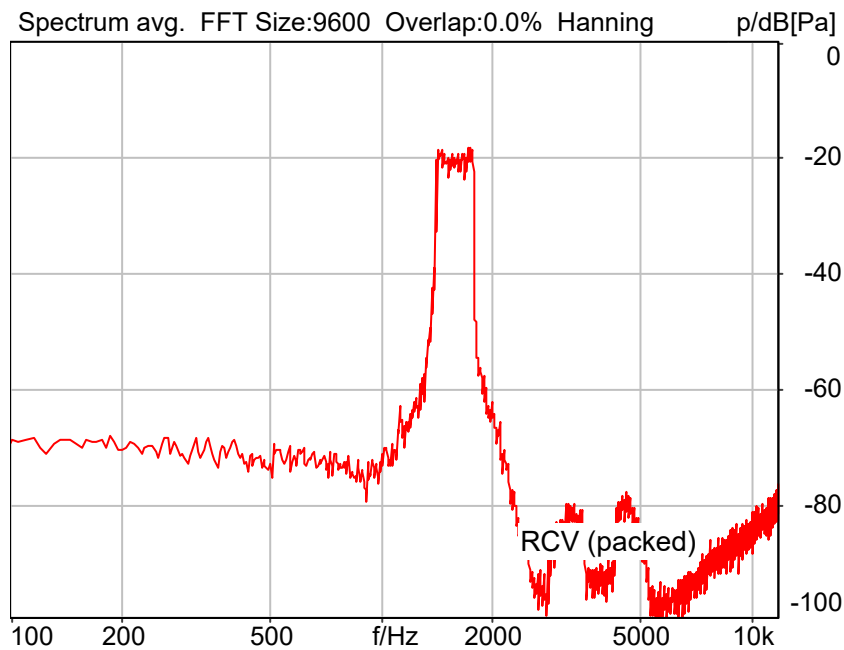
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:14 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

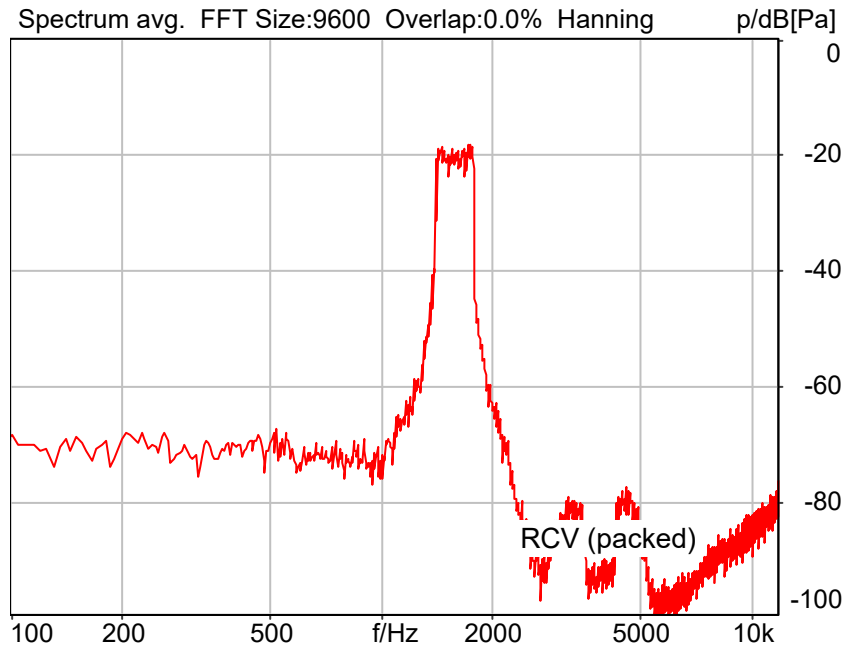
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 32.87 dB (2.27%)

2023/12/17 11:19 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

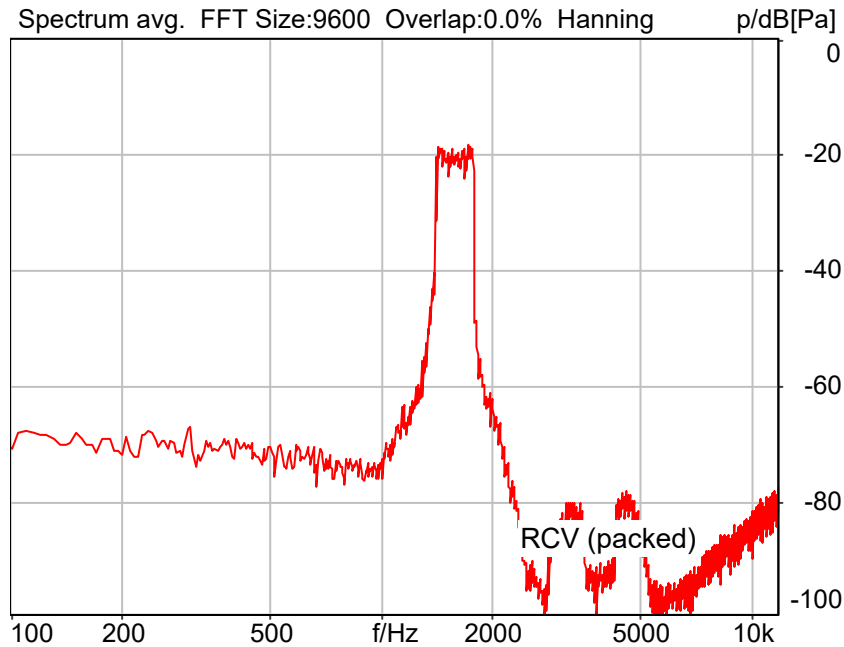
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.36 dB (1.92%)

2023/12/17 11:27 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1375.0 Hz
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

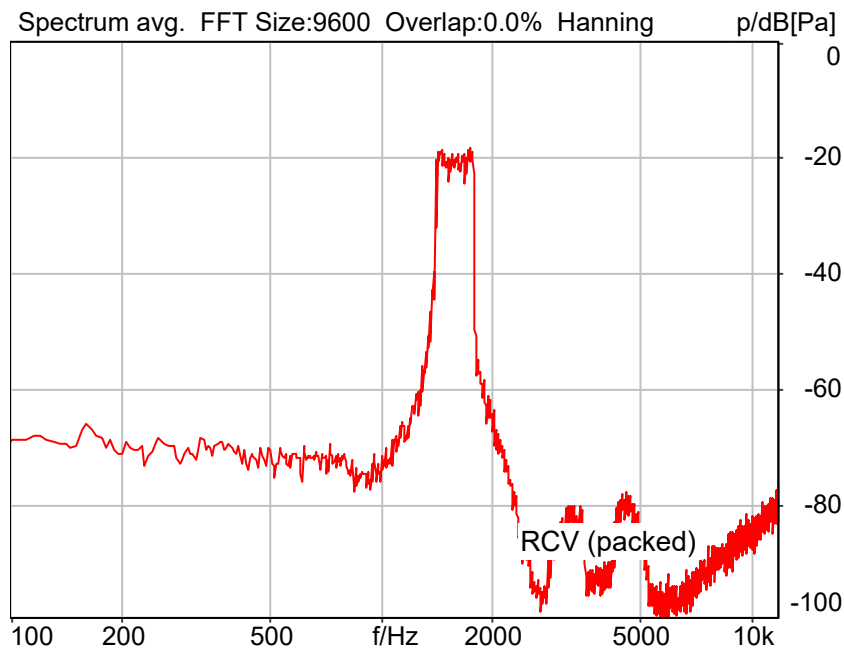
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.89 dB (1.80%)

2023/12/17 11:35 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

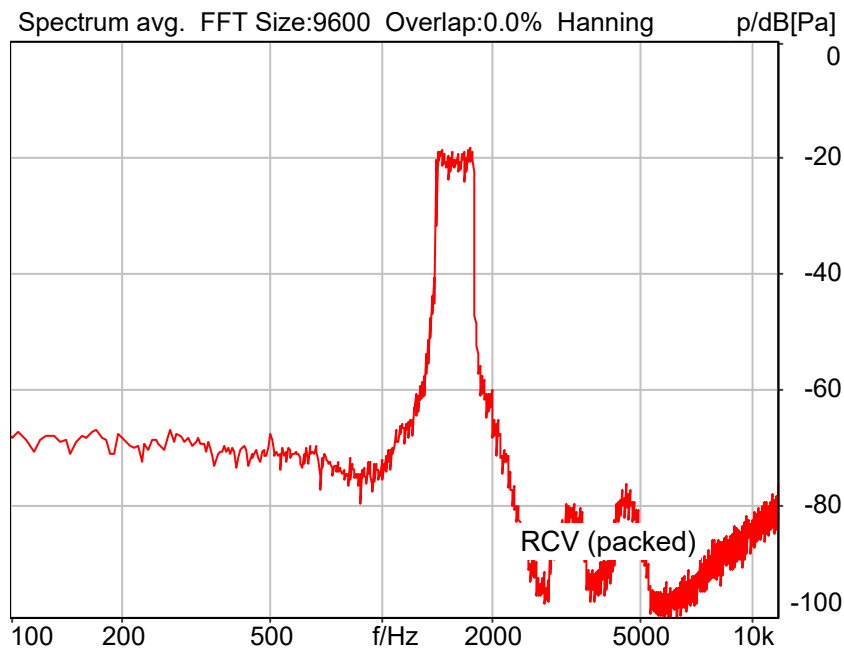
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.55 dB (1.67%)

2023/12/17 11:43 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1375.0 Hz
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

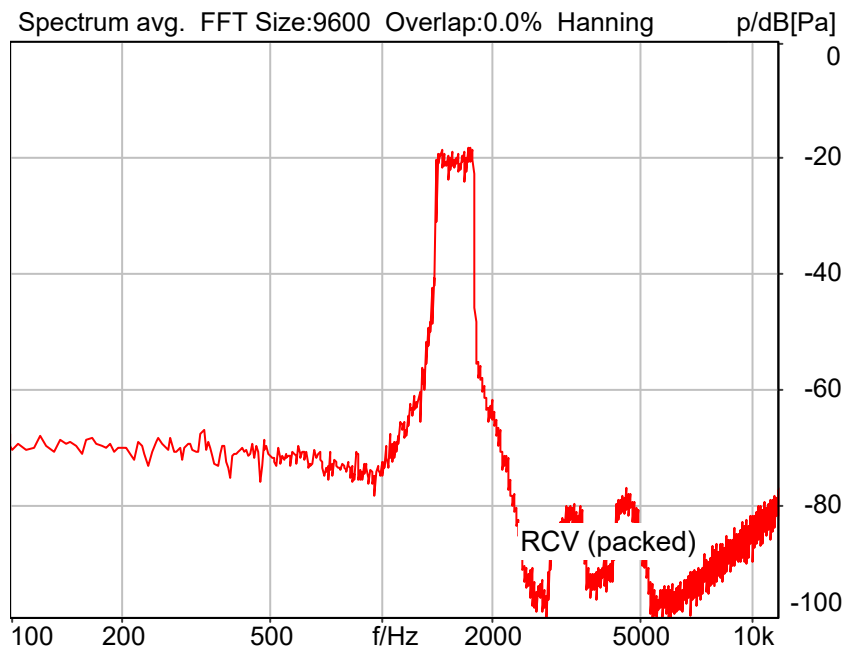
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 1600Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.17 dB (1.74%)

2023/12/17 11:49 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_1600hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1375.0 Hz	Stimulus max.	1815.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1370.0 Hz
Analysis (2) min.	1820.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO32_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

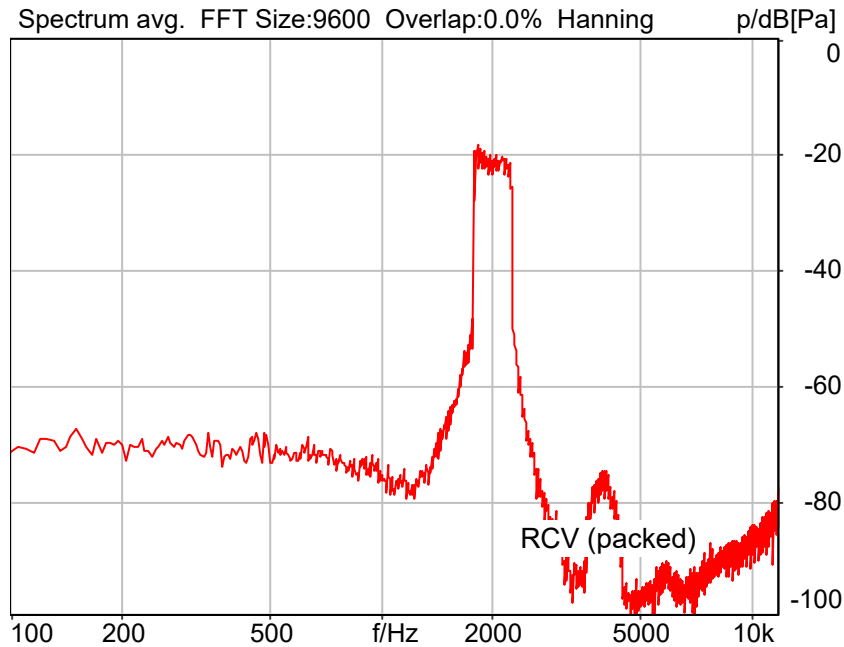
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.47 dB (1.69%)

2023/12/17 10:39 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

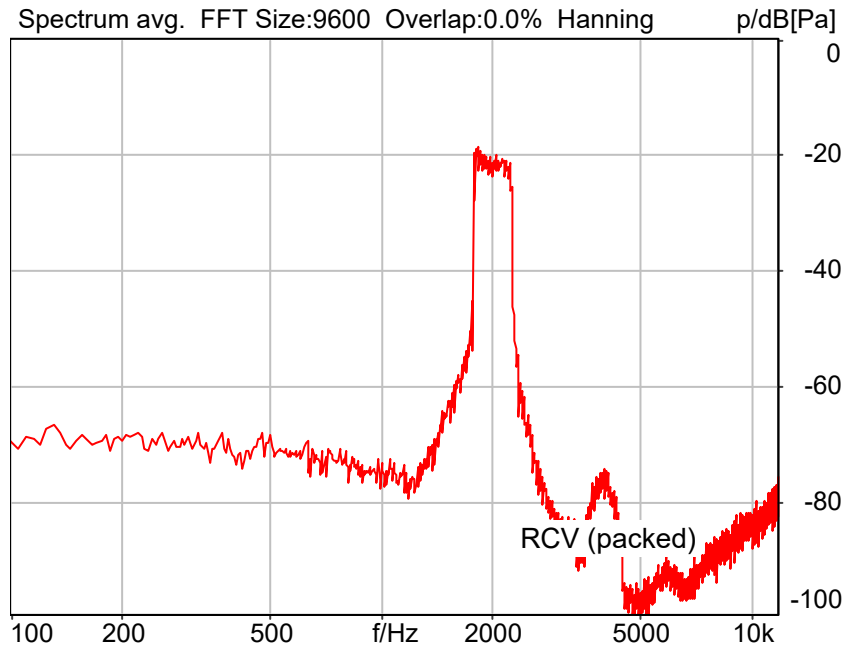
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 34.69 dB (1.84%)

2023/12/17 10:45 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

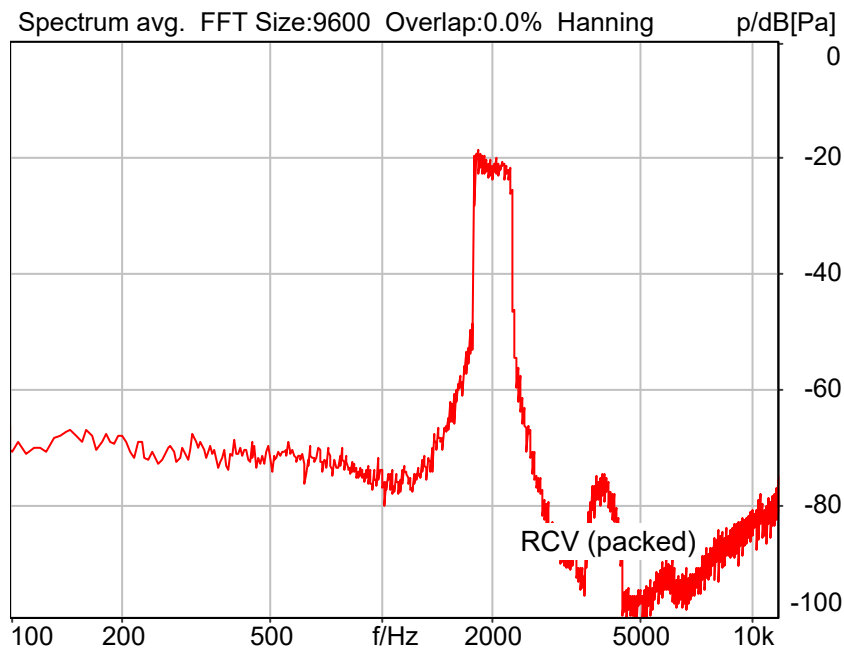
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.21 dB (1.74%)

2023/12/17 10:51 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1745.0 Hz
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

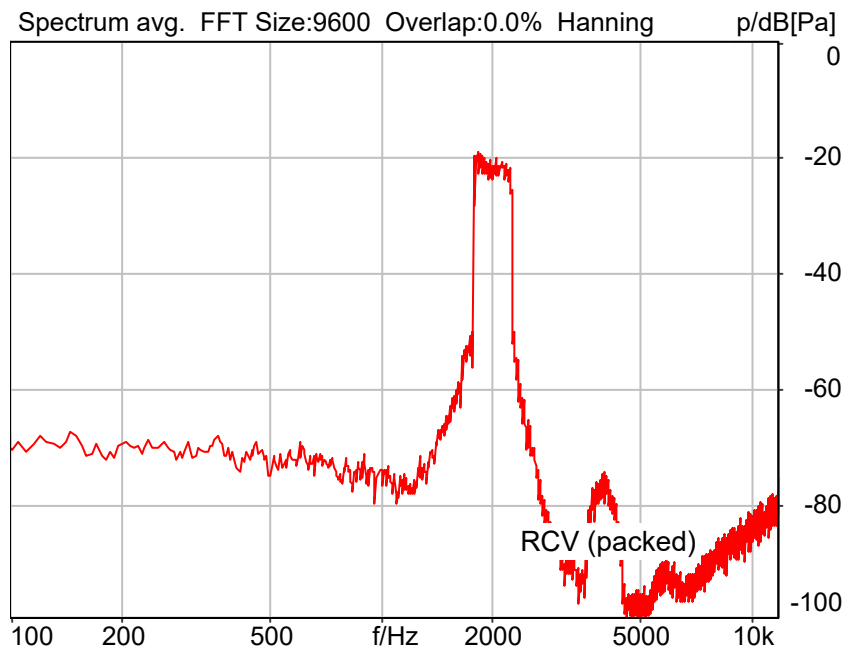
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 34.94 dB (1.79%)

2023/12/17 10:56 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

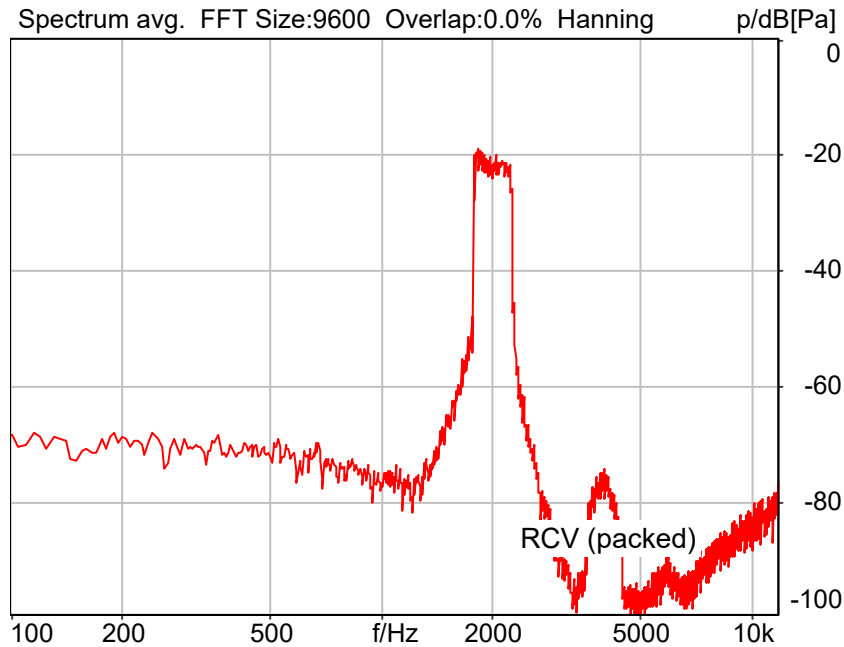
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.85 dB (1.81%)

2023/12/17 11:02 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

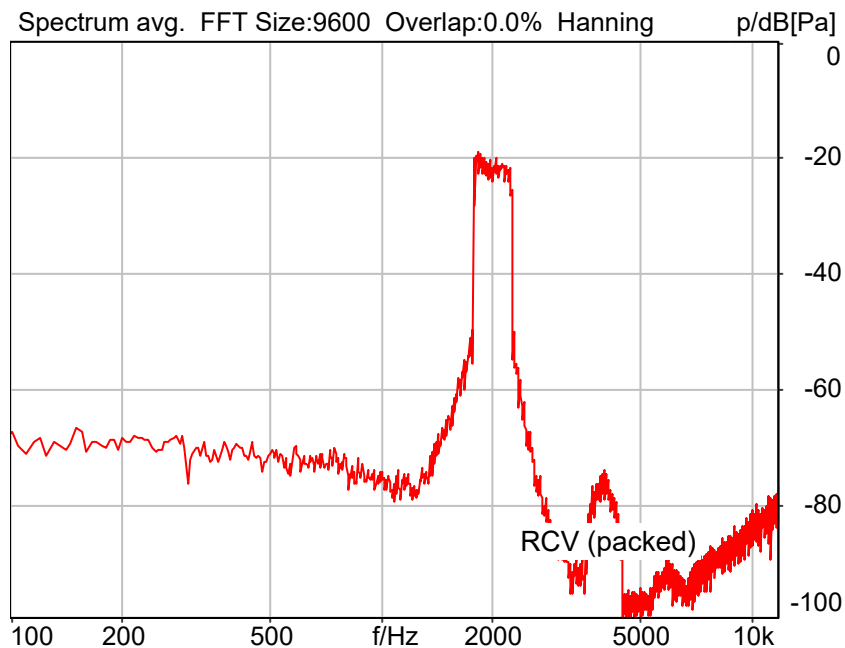
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.61 dB (1.66%)

2023/12/17 11:08 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

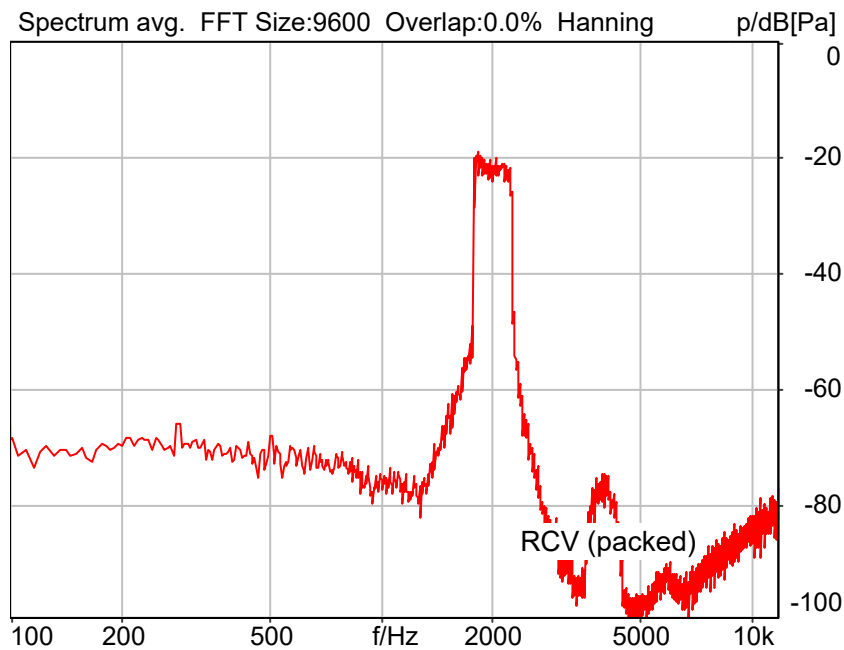
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:14 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

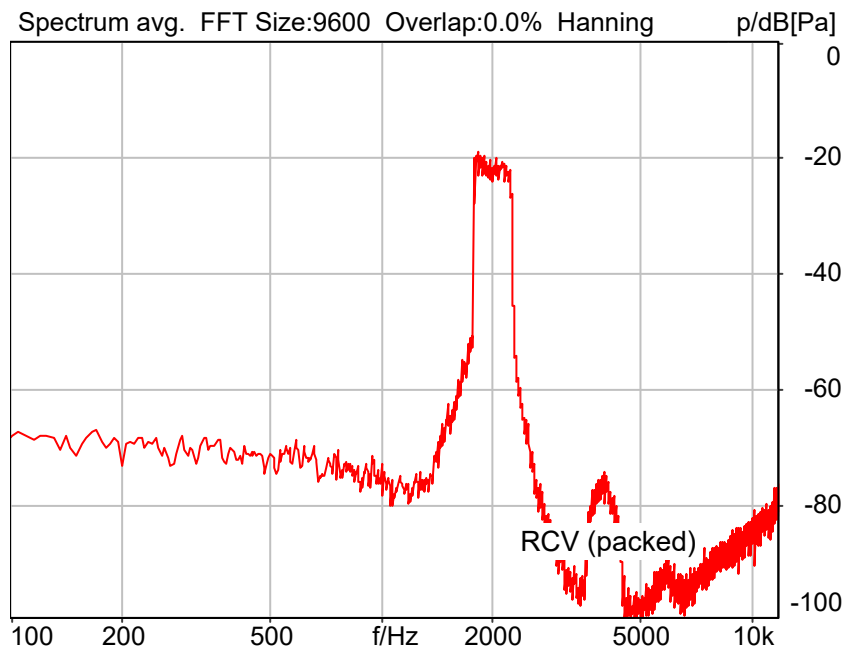
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.99 dB (1.78%)

2023/12/17 11:20 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

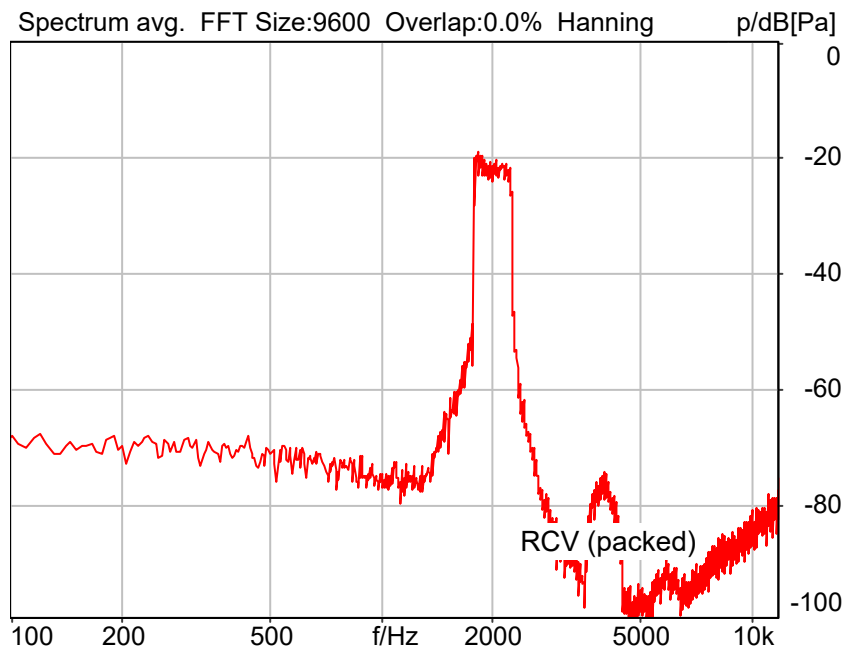
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.55 dB (1.87%)

2023/12/17 11:27 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

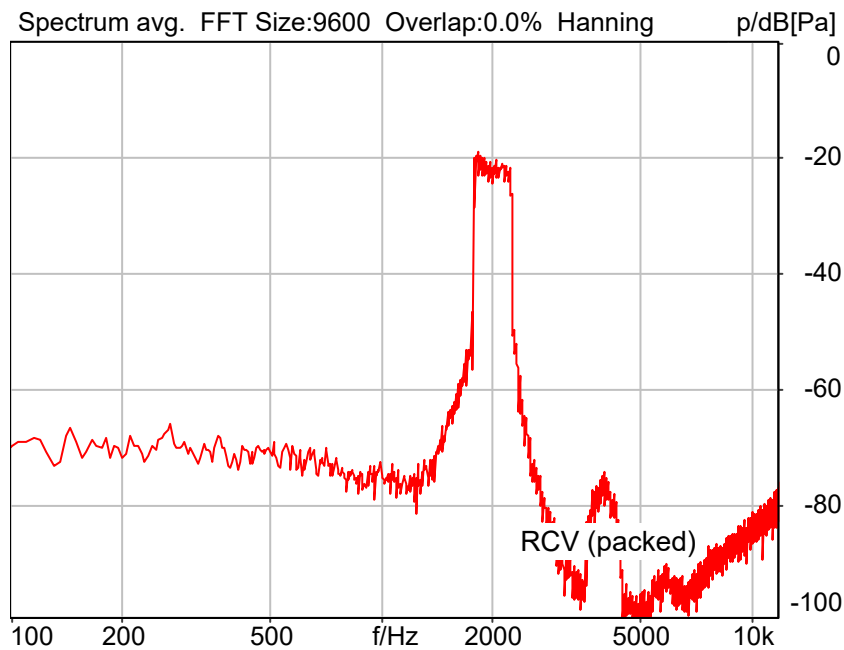
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.91 dB (1.80%)

2023/12/17 11:36 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

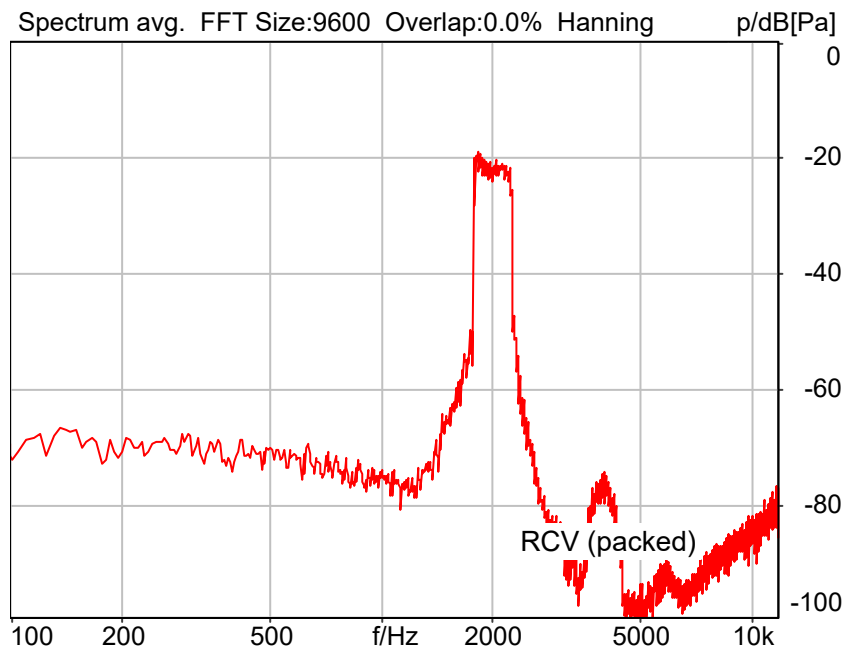
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 34.33 dB (1.92%)

2023/12/17 11:43 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	1745.0 Hz
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

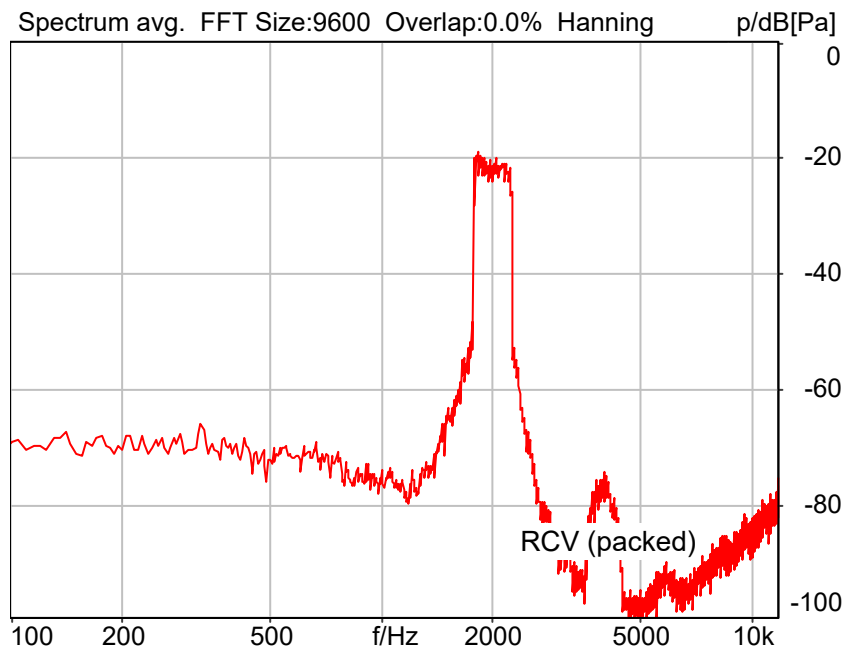
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2000Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 35.77 dB (1.63%)

2023/12/17 11:49 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2000hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	1745.0 Hz	Stimulus max.	2275.0 Hz

Analysis min.	100.0 Hz	Analysis max.	1740.0 Hz
Analysis (2) min.	2280.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO33_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

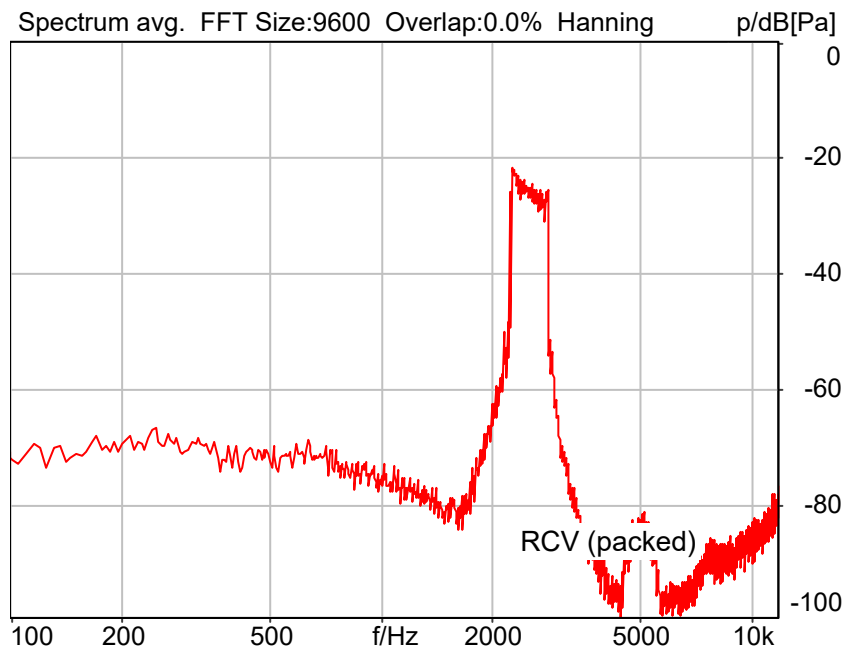
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 32.36 dB (2.41%)

2023/12/17 10:39 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

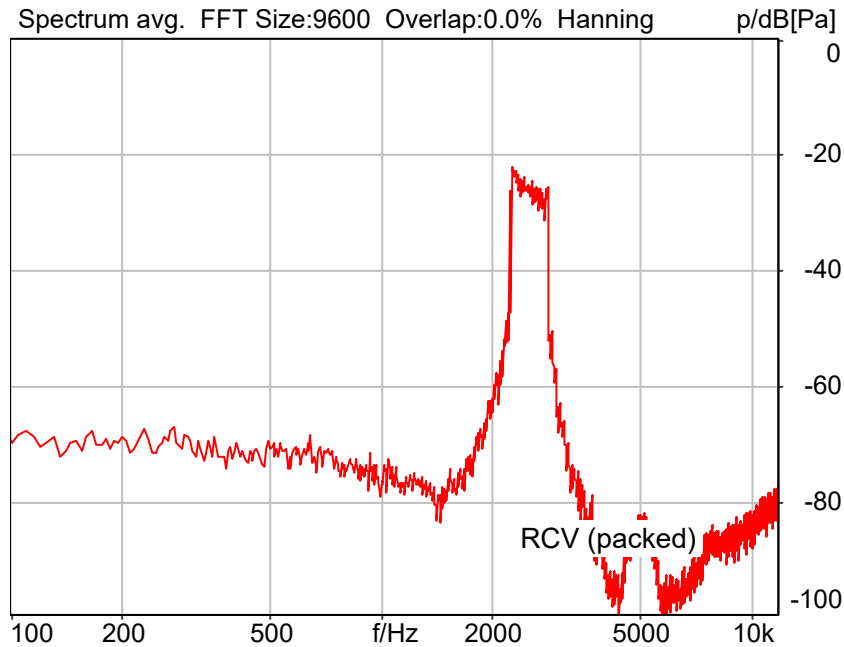
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 30.03 dB (3.15%)

2023/12/17 10:46 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

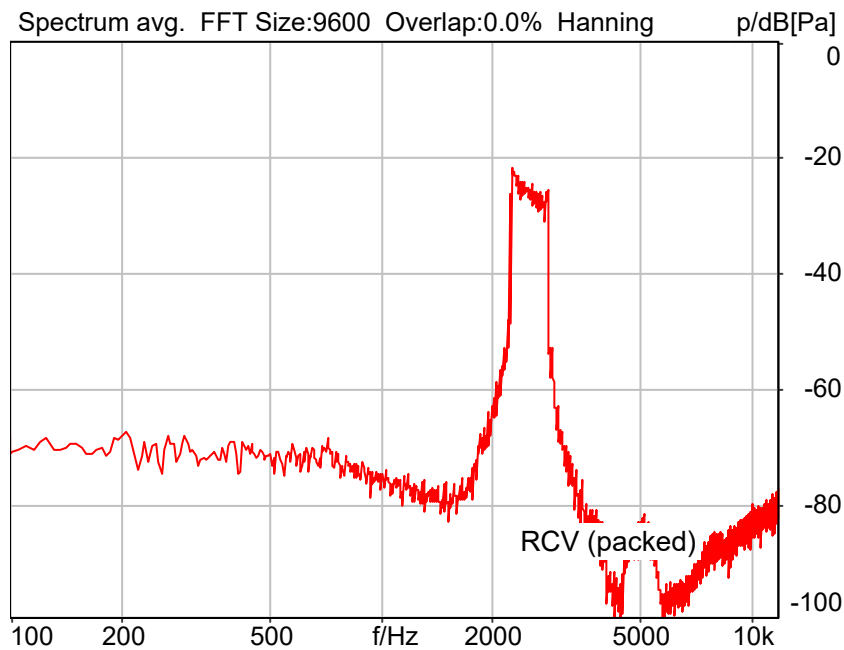
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2



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

2023/12/17 10:51 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

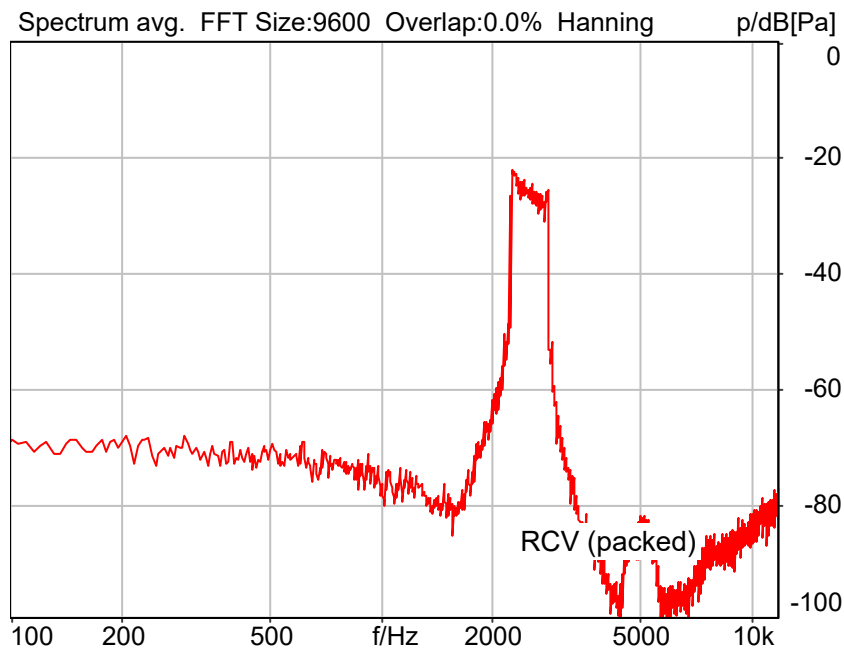
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 31.83 dB (2.56%)

2023/12/17 10:56 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	2205.0 Hz
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

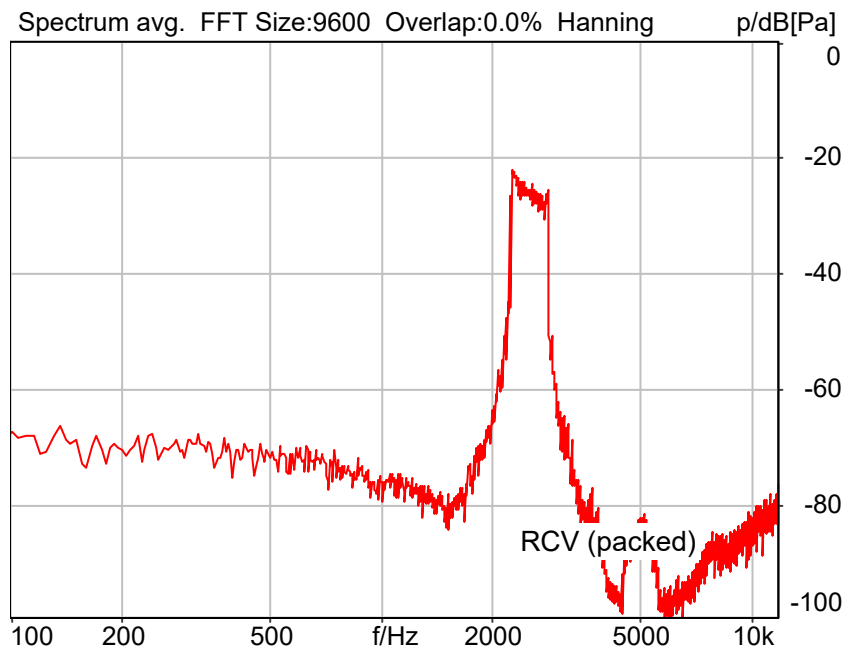
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



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

2023/12/17 11:02 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

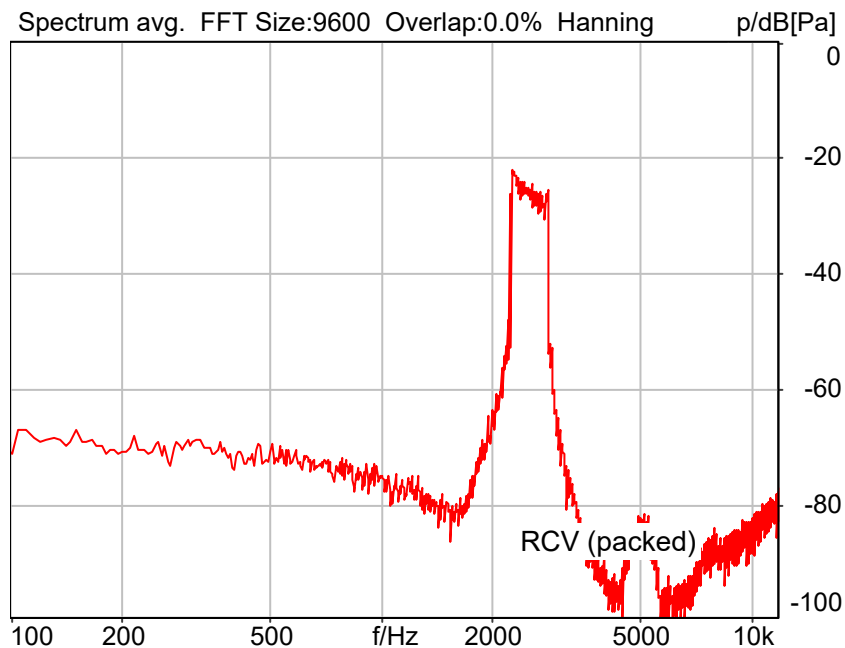
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 33.03 dB (2.23%)

2023/12/17 11:08 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

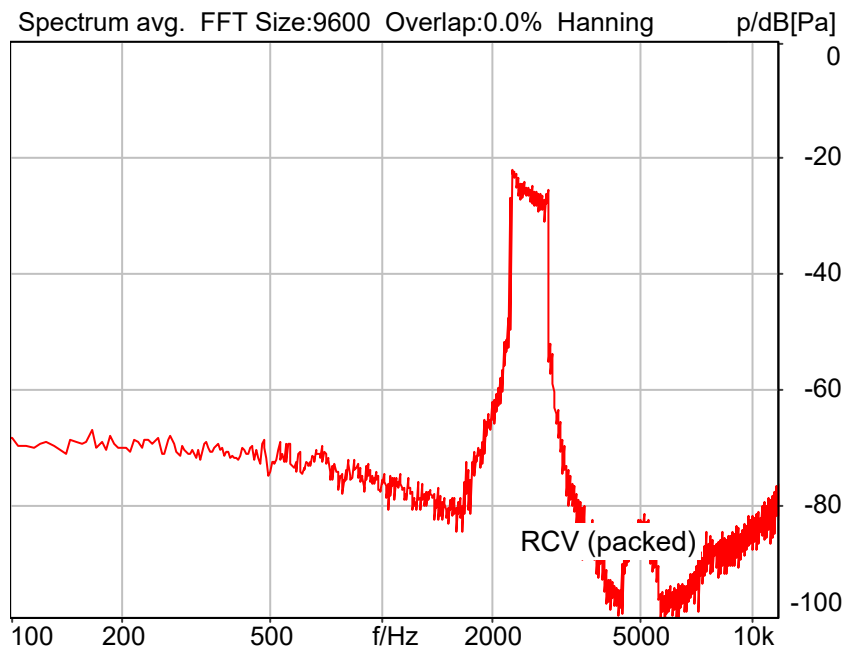
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:14 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

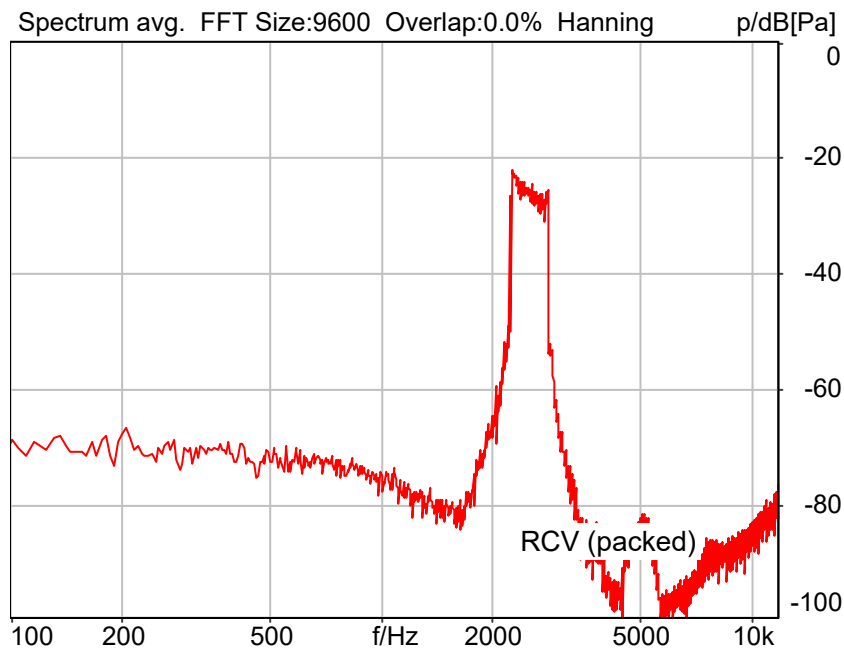
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 32.13 dB (2.47%)

2023/12/17 11:20 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

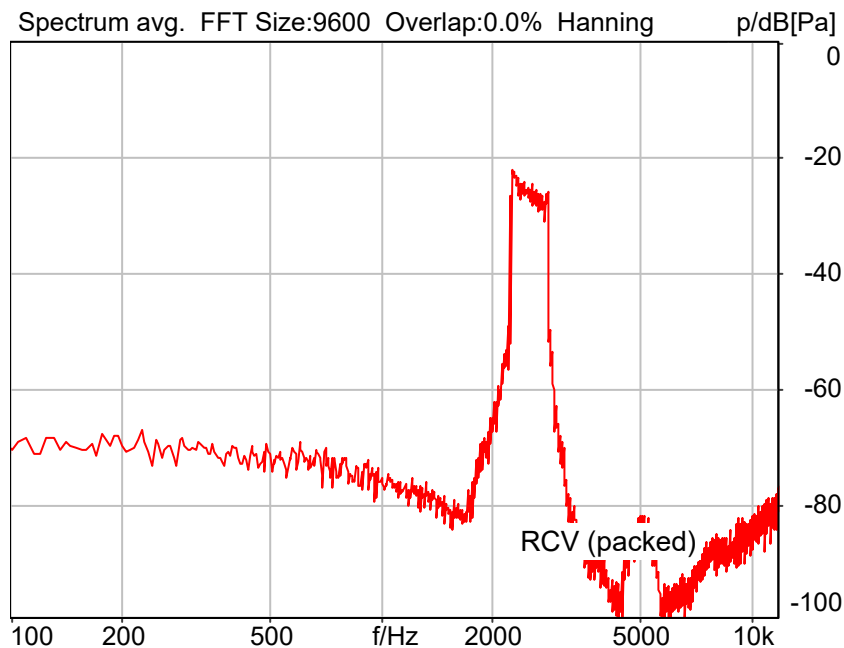
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 32.79 dB (2.29%)

2023/12/17 11:28 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

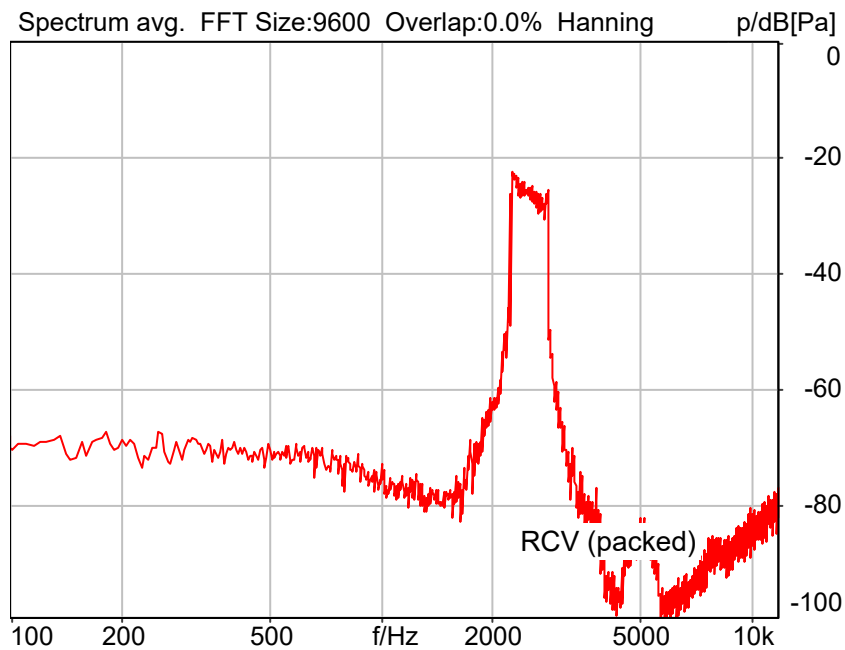
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 29.97 dB (3.17%)

2023/12/17 11:36 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

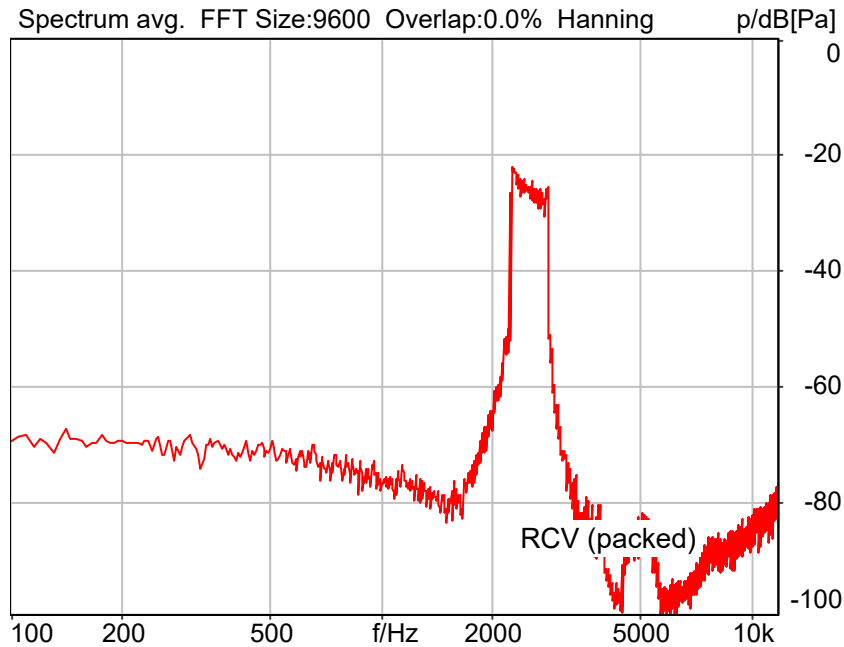
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 31.90 dB (2.54%)

2023/12/17 11:43 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

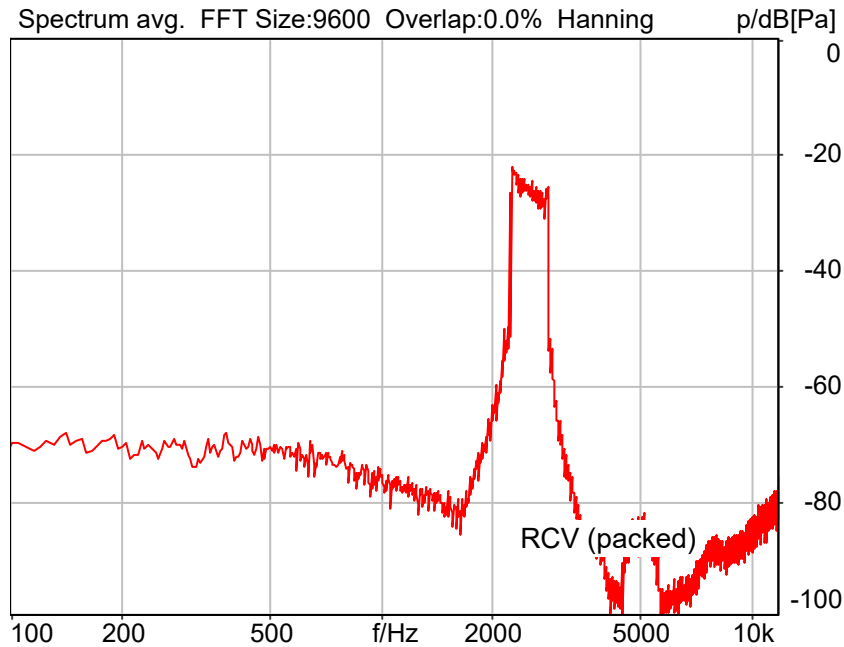
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 2500Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 31.82 dB (2.57%)

2023/12/17 11:50 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_2500hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2205.0 Hz	Stimulus max.	2855.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2200.0 Hz
Analysis (2) min.	2860.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO34_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

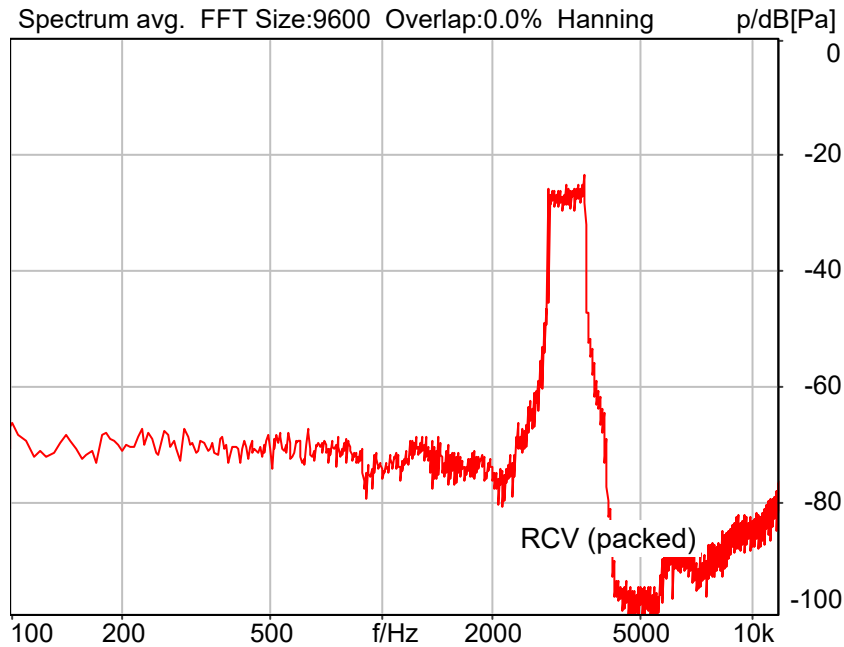
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
QPSK, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.93 dB (4.01%)

2023/12/17 10:40 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat
Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))
Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

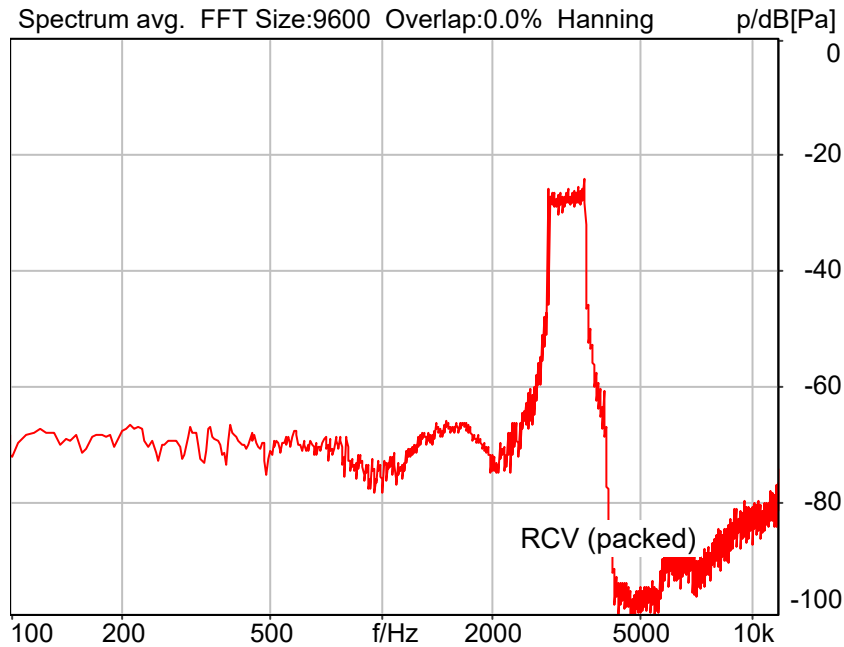
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 26.13 dB (4.94%)

2023/12/17 10:46 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

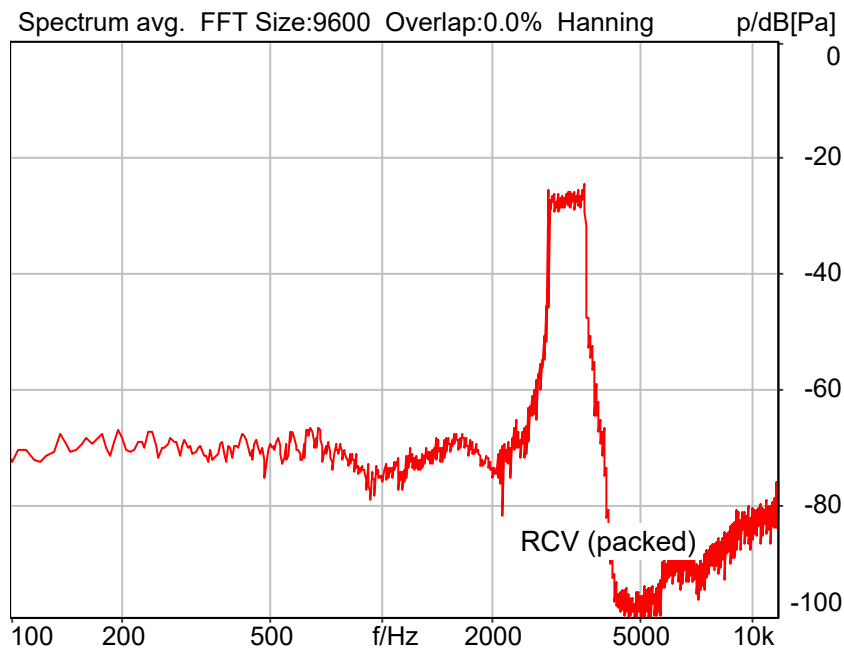
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.80 dB (4.07%)

2023/12/17 10:51 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

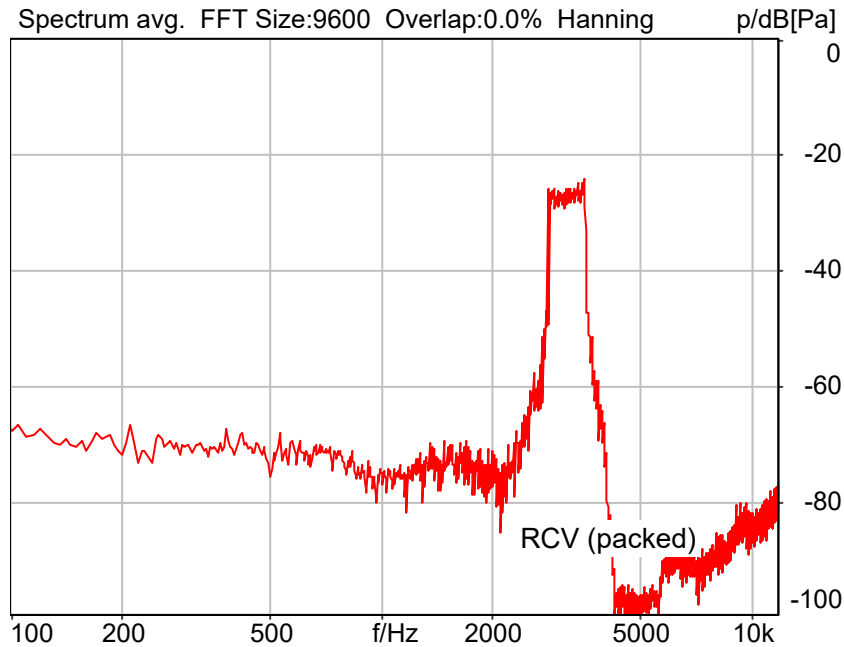
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=1, RB Offset=49; Table-2



Distortion (Noise) RCV (packed): 27.97 dB (3.99%)

2023/12/17 10:56 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

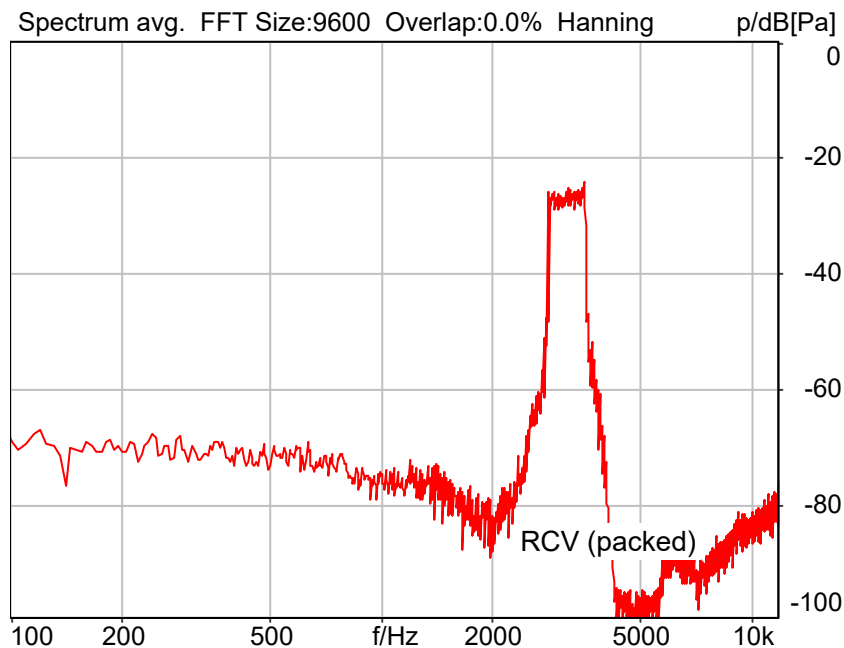
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
16QAM, RB Size=50, RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 29.23 dB (3.46%)

2023/12/17 11:03 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

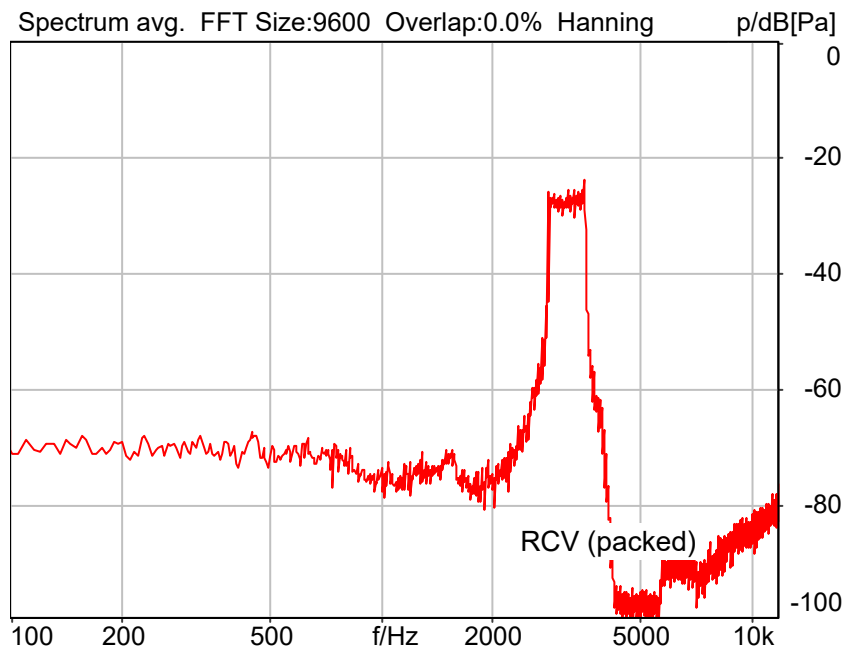
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 27.81 dB (4.07%)

2023/12/17 11:09 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

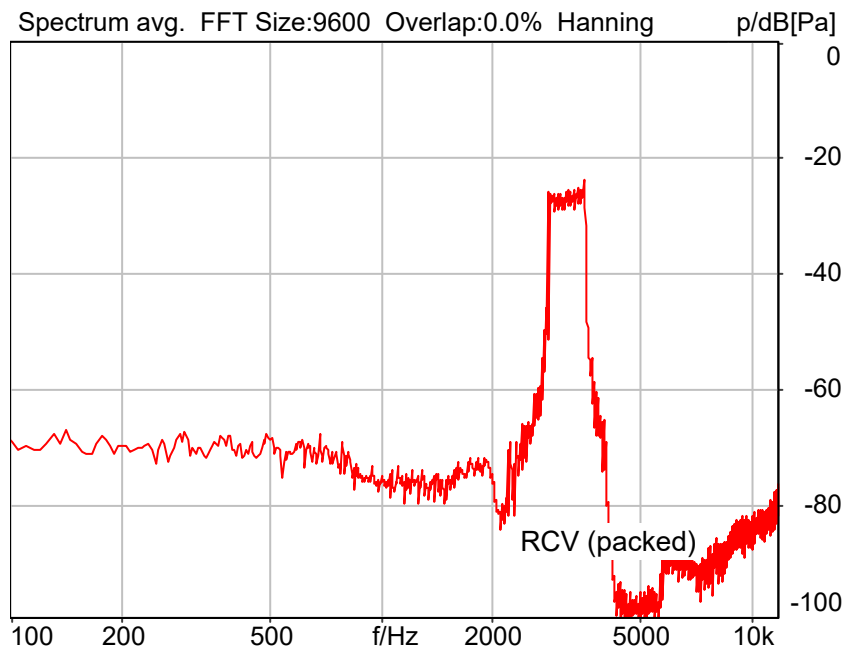
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 29.39 dB (3.39%)

2023/12/17 11:15 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	2785.0 Hz
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

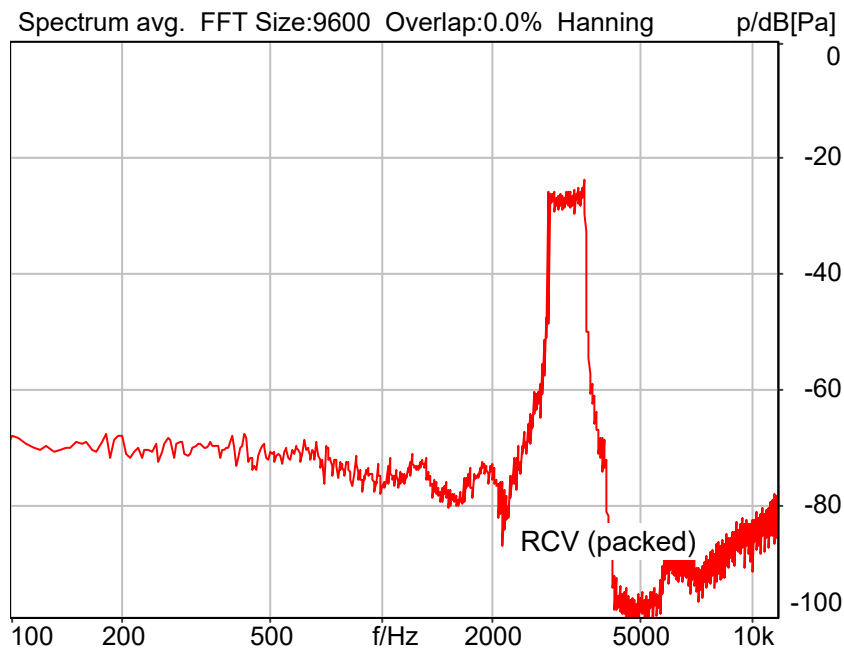
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



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

2023/12/17 11:20 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

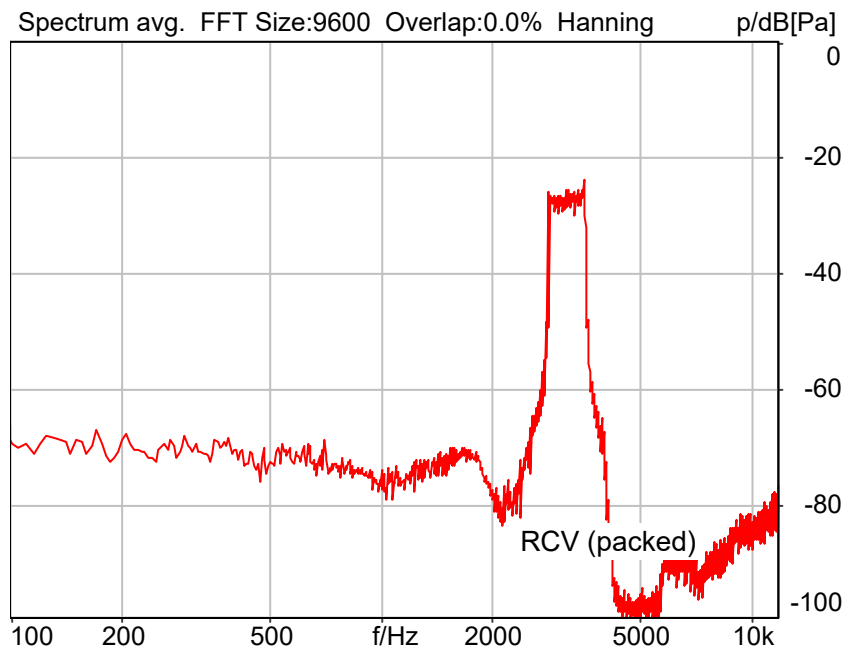
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 30.69 dB (2.92%)

2023/12/17 11:28 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

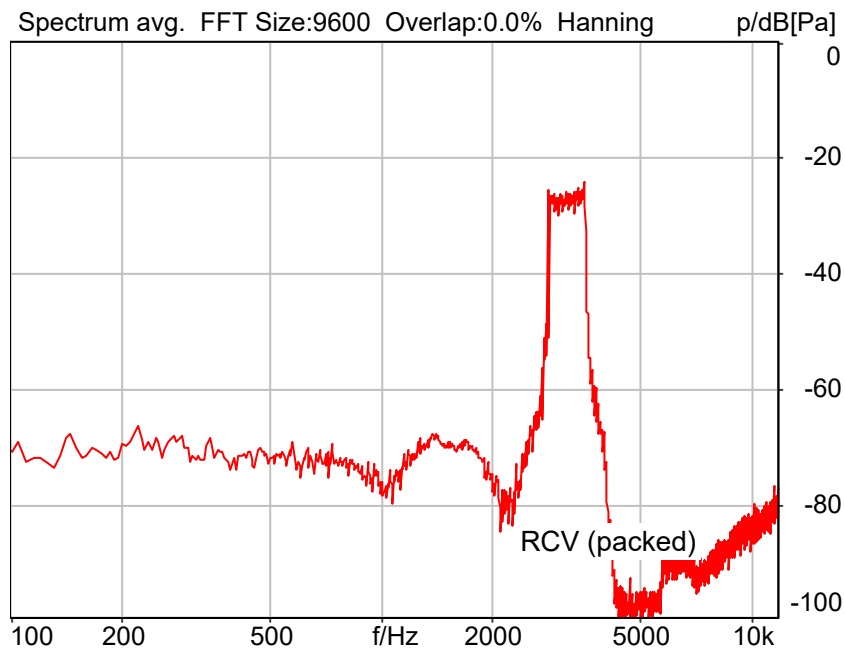
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 29.72 dB (3.27%)

2023/12/17 11:36 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

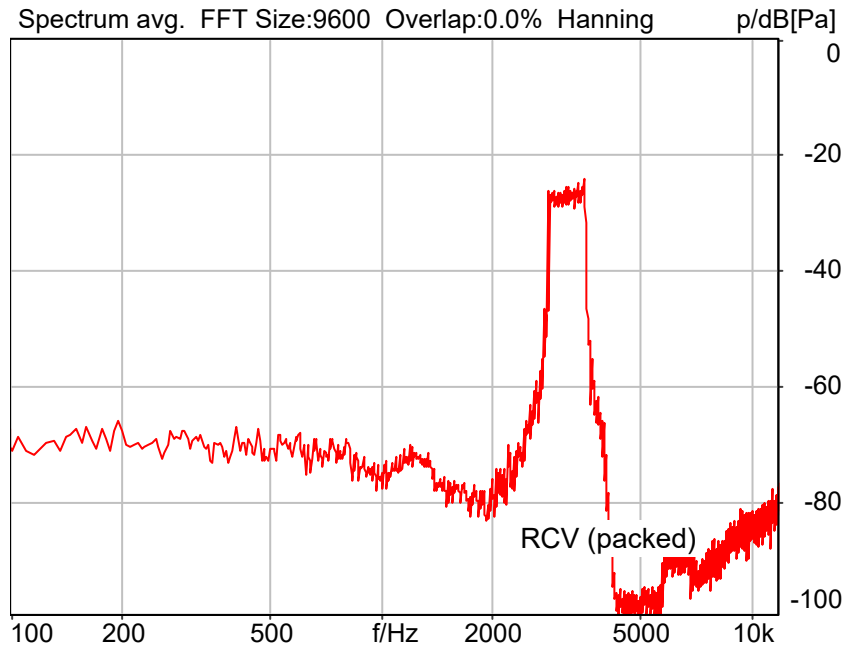
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 28.58 dB (3.73%)

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Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2		
Range start	13550.00 ms	Range length	200.00 ms
Number of seq.	10	Sequence length	400.00 ms
Use FIR Filter	Ch2	FIR filter	drp2ff_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	Transformation		
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting		
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

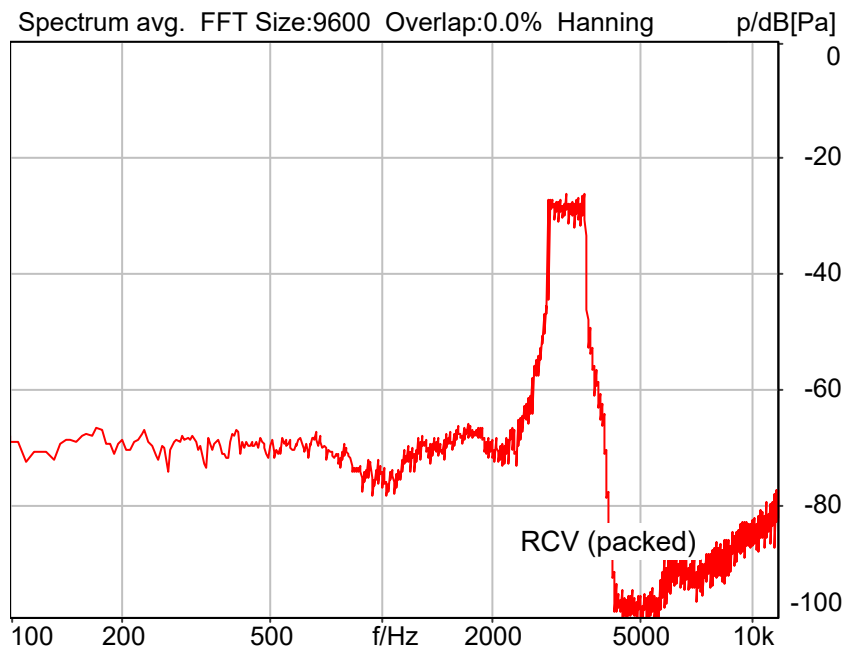
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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Receive path - distortion and noise 3150Hz WB&NB (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Distortion (Noise) RCV (packed): 24.16 dB (6.20%)

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Meas. Setting STD:DRP/ERP OFF

Source: act_rpn_b250ms_3150hz_sr20dbm0_v02.dat

Level adj. Ch1 -90.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction	Out 2 -> In 2	Range length	200.00 ms
Range start	13550.00 ms	Sequence length	400.00 ms
Number of seq.	10	FIR filter	drp2ff_ieee1652
Use FIR Filter	Ch2	DRP/ERP Ch.2:	Off
DRP/ERP Ch.1:	Off	Frequency base	Transformation
FFT size	9600	Overlap	0 %
Window function.	Hanning	Smooth	Off
dB weighting	A Weighting	Stimulus min.	2785.0 Hz
Stimulus min.	2785.0 Hz	Stimulus max.	3585.0 Hz

Analysis min.	100.0 Hz	Analysis max.	2780.0 Hz
Analysis (2) min.	3590.0 Hz	Analysis (2) max.	8000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
 Store to variable ISO35_16_SDNR

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
 Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
 In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
 In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	25.91	20	320...480 Hz	Pass
4	iso27_16_SDNR	21.71	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.35	20	525...745 Hz	Pass
6	iso29_16_SDNR	24.2	20	675...925 Hz	Pass
7	iso30_16_SDNR	32.48	20	855...1155 Hz	Pass
8	iso31_16_SDNR	29.92	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	35.45	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	35.47	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	32.36	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	27.93	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

QPSK, RB Size=1, RB Offset=49; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	26.88	20	320...480 Hz	Pass
4	iso27_16_SDNR	25.91	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.81	20	525...745 Hz	Pass
6	iso29_16_SDNR	23.59	20	675...925 Hz	Pass
7	iso30_16_SDNR	35.4	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.35	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	35.45	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	34.69	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	30.03	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	26.13	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	26.34	20	320...480 Hz	Pass
4	iso27_16_SDNR	26.89	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.71	20	525...745 Hz	Pass
6	iso29_16_SDNR	22.1	20	675...925 Hz	Pass
7	iso30_16_SDNR	35.0	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.6	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	34.54	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	35.21	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	32.05	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	27.8	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=1, RB Offset=49; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	27.3	20	320...480 Hz	Pass
4	iso27_16_SDNR	27.06	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.82	20	525...745 Hz	Pass
6	iso29_16_SDNR	22.44	20	675...925 Hz	Pass
7	iso30_16_SDNR	28.72	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.2	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	34.48	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	34.94	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	31.83	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	27.97	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

16QAM, RB Size=50, RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	27.73	20	320...480 Hz	Pass
4	iso27_16_SDNR	24.37	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.76	20	525...745 Hz	Pass
6	iso29_16_SDNR	24.34	20	675...925 Hz	Pass
7	iso30_16_SDNR	31.13	20	855...1155 Hz	Pass
8	iso31_16_SDNR	31.09	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	35.52	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	34.85	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	29.34	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	29.23	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

20MHz,QPSK,RB Size=100,RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	27.75	20	320...480 Hz	Pass
4	iso27_16_SDNR	25.62	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.01	20	525...745 Hz	Pass
6	iso29_16_SDNR	23.56	20	675...925 Hz	Pass
7	iso30_16_SDNR	34.46	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.19	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	35.17	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	35.61	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	33.03	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	27.81	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

20MHz,QPSK,RB Size=1,RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	27.51	20	320...480 Hz	Pass
4	iso27_16_SDNR	24.43	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.53	20	525...745 Hz	Pass
6	iso29_16_SDNR	22.59	20	675...925 Hz	Pass
7	iso30_16_SDNR	29.56	20	855...1155 Hz	Pass
8	iso31_16_SDNR	29.8	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	35.68	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	35.34	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	31.93	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	29.39	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

20MHz,16QAM,RB Size=1,RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	26.25	20	320...480 Hz	Pass
4	iso27_16_SDNR	27.26	20	410...595 Hz	Pass
5	iso28_16_SDNR	26.1	20	525...745 Hz	Pass
6	iso29_16_SDNR	23.32	20	675...925 Hz	Pass
7	iso30_16_SDNR	35.03	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.55	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	32.87	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	34.99	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	32.13	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	30.9	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

15MHz,QPSK,RB Size=1,RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	27.9	20	320...480 Hz	Pass
4	iso27_16_SDNR	24.04	20	410...595 Hz	Pass
5	iso28_16_SDNR	24.37	20	525...745 Hz	Pass
6	iso29_16_SDNR	23.78	20	675...925 Hz	Pass
7	iso30_16_SDNR	35.98	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.45	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	34.36	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	34.55	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	32.79	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	30.69	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise

15MHz,16QAM,RB Size=1,RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	28.37	20	320...480 Hz	Pass
4	iso27_16_SDNR	24.21	20	410...595 Hz	Pass
5	iso28_16_SDNR	25.39	20	525...745 Hz	Pass
6	iso29_16_SDNR	24.02	20	675...925 Hz	Pass
7	iso30_16_SDNR	35.69	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.99	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	34.89	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	34.91	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	29.97	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	29.72	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	28.29	20	320...480 Hz	Pass
4	iso27_16_SDNR	25.57	20	410...595 Hz	Pass
5	iso28_16_SDNR	24.5	20	525...745 Hz	Pass
6	iso29_16_SDNR	23.11	20	675...925 Hz	Pass
7	iso30_16_SDNR	35.61	20	855...1155 Hz	Pass
8	iso31_16_SDNR	31.45	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	35.55	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	34.33	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	31.9	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	28.58	20	2785...3585 Hz	Pass

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5.2 Receive path – distortion and noise (23T04Z80629 VoLTE EVS)

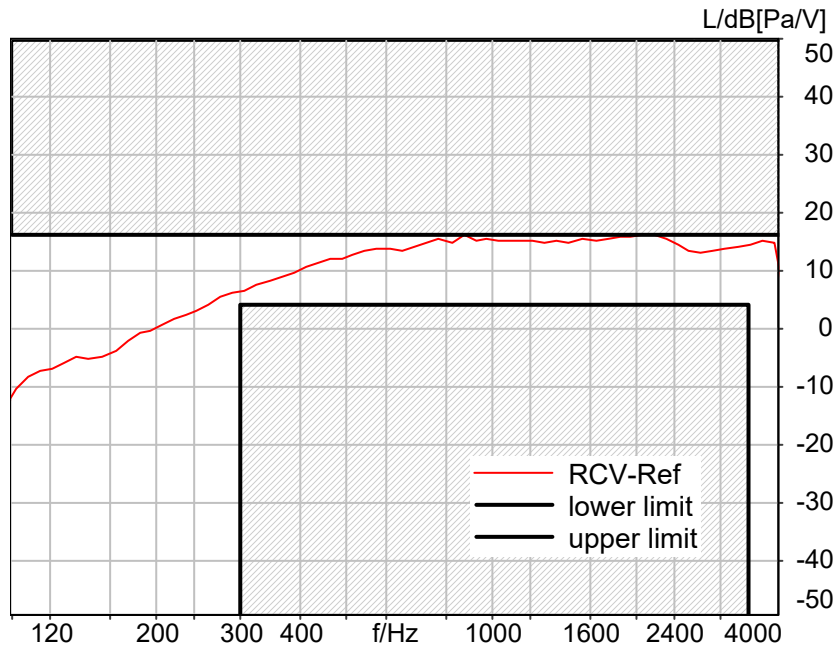
ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB \ 5.2 Receive path – distortion and noise
5MHz, 16QAM, RB Size=1, RB Offset=0; Table-2

ID	Variable Name	Distortion Value	LowerLimit	Frequency Range	Pass/Fail
3	iso26_16_SDNR	26.37	20	320...480 Hz	Pass
4	iso27_16_SDNR	27.13	20	410...595 Hz	Pass
5	iso28_16_SDNR	26.32	20	525...745 Hz	Pass
6	iso29_16_SDNR	23.95	20	675...925 Hz	Pass
7	iso30_16_SDNR	35.68	20	855...1155 Hz	Pass
8	iso31_16_SDNR	30.69	20	1085...1450 Hz	Pass
9	iso32_16_SDNR	35.17	20	1375...1815 Hz	Pass
10	iso33_16_SDNR	35.77	20	1745...2275 Hz	Pass
11	iso34_16_SDNR	31.82	20	2205...2855 Hz	Pass
12	iso35_16_SDNR	24.16	20	2785...3585 Hz	Pass

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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
QPSK,RB Size=1,RB Offset=0; Table-2



Absolute minimal distance
2.44 dB at 305.9 Hz Ok

Ok

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Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: **ieee_male_dual_nb.dat**

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 123.9000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

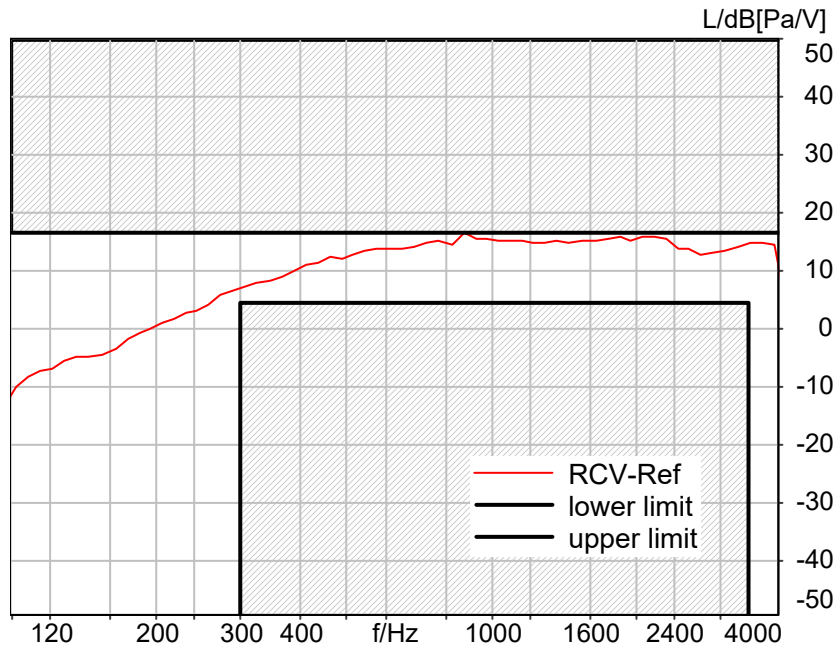
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
QPSK,RB Size=1,RB Offset=49; Table-2



Absolute minimal distance
2.81 dB at 305.9 Hz Ok

Ok

2023/12/17 10:46 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 135.5000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

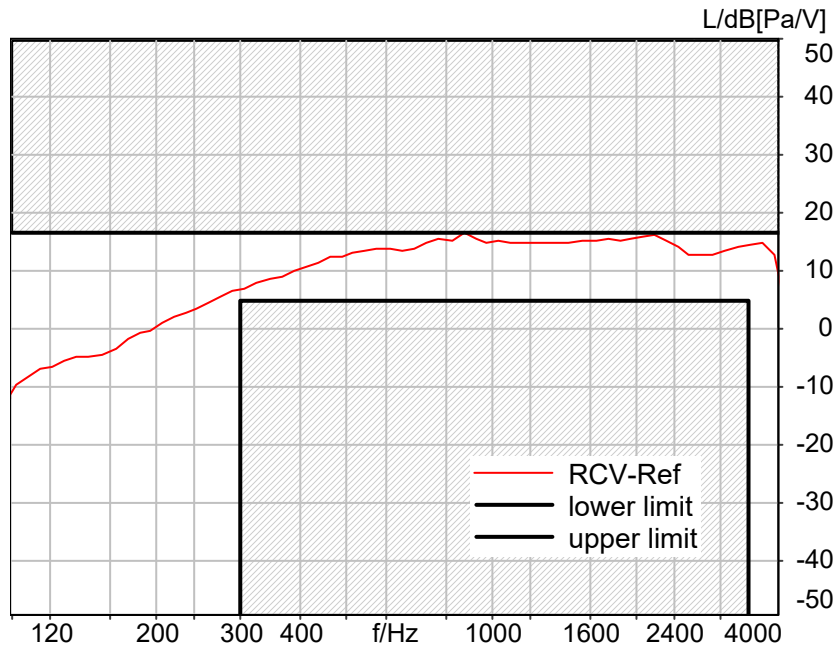
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=1, RB Offset=0; Table-2



Absolute minimal distance
2.12 dB at 305.9 Hz Ok

Ok

2023/12/17 10:52 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: **ieee_male_dual_nb.dat**

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 136.0000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

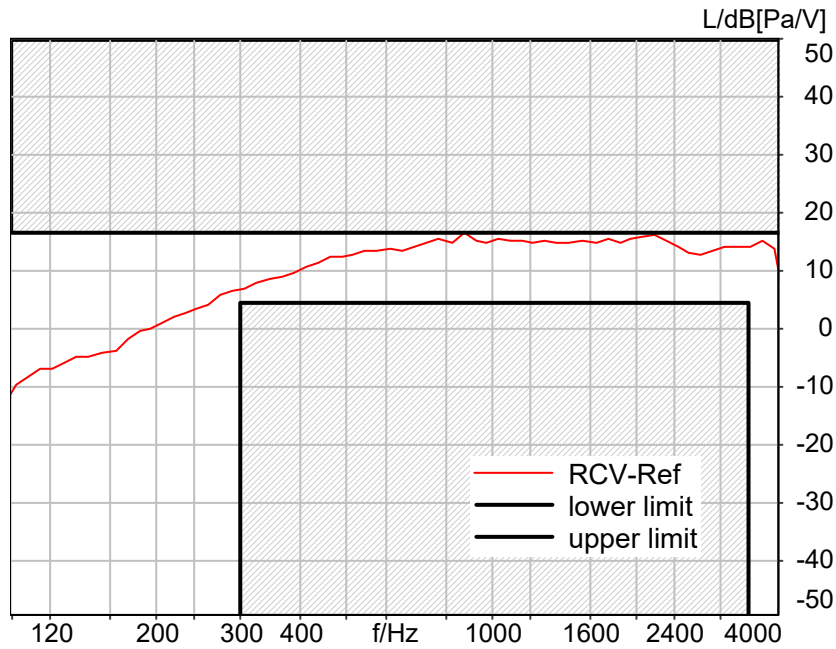
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=1, RB Offset=49; Table-2



Absolute minimal distance
2.26 dB at 305.9 Hz Ok

Ok

2023/12/17 10:57 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: **ieee_male_dual_nb.dat**

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 137.0000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

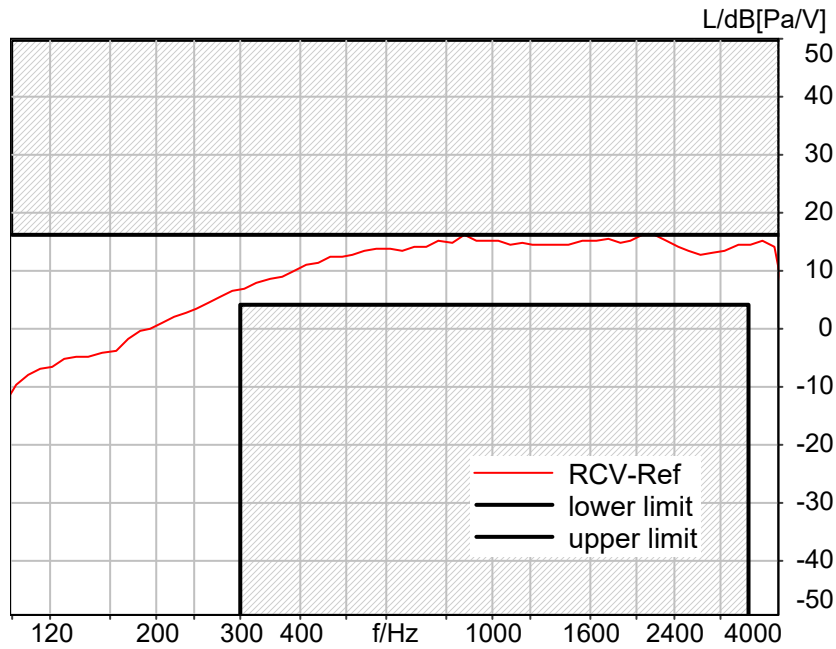
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
16QAM, RB Size=50, RB Offset=0; Table-2



Absolute minimal distance
2.51 dB at 305.9 Hz Ok

Ok

2023/12/17 11:03 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

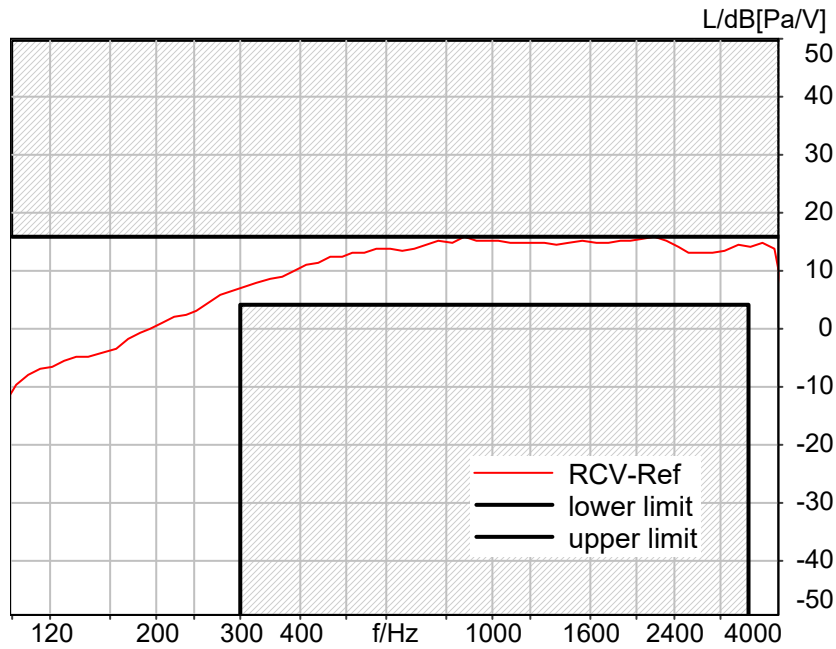
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,QPSK,RB Size=100,RB Offset=0; Table-2



Absolute minimal distance
3.18 dB at 305.9 Hz Ok

Ok

2023/12/17 11:09 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 136.3000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

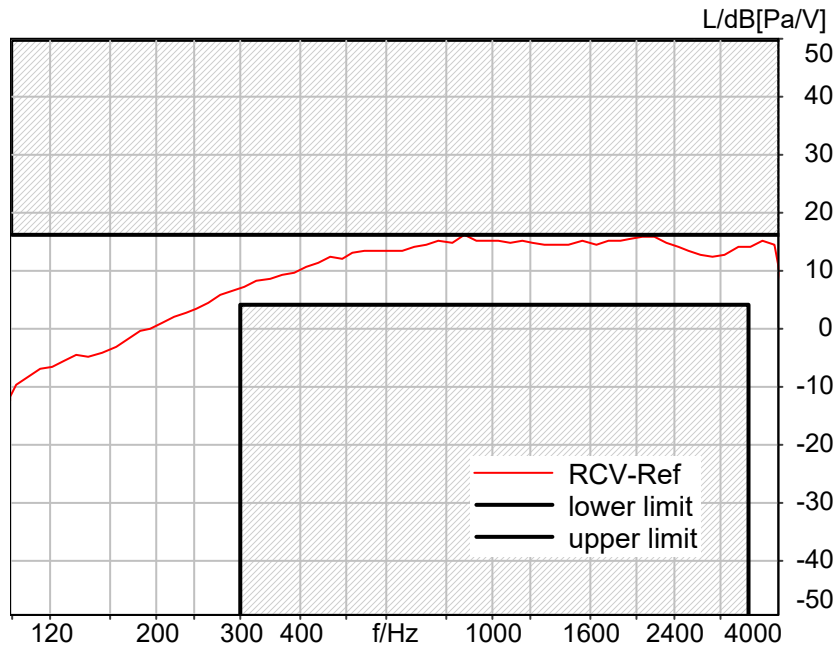
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Absolute minimal distance
3.20 dB at 305.9 Hz Ok

Ok

2023/12/17 11:15 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: **ieee_male_dual_nb.dat**

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 143.3000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

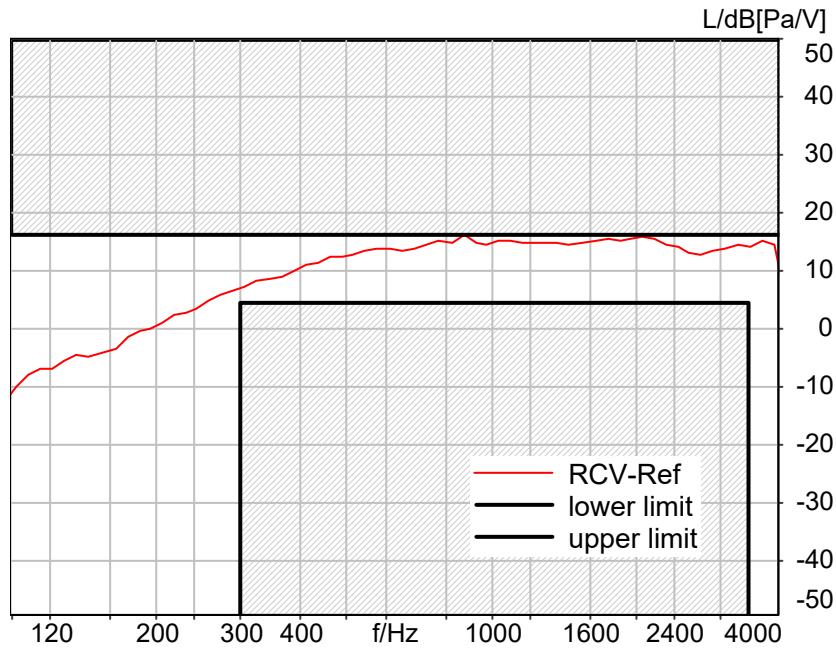
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
20MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Absolute minimal distance
2.85 dB at 305.9 Hz Ok

Ok

2023/12/17 11:21 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: **ieee_male_dual_nb.dat**

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 136.9000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

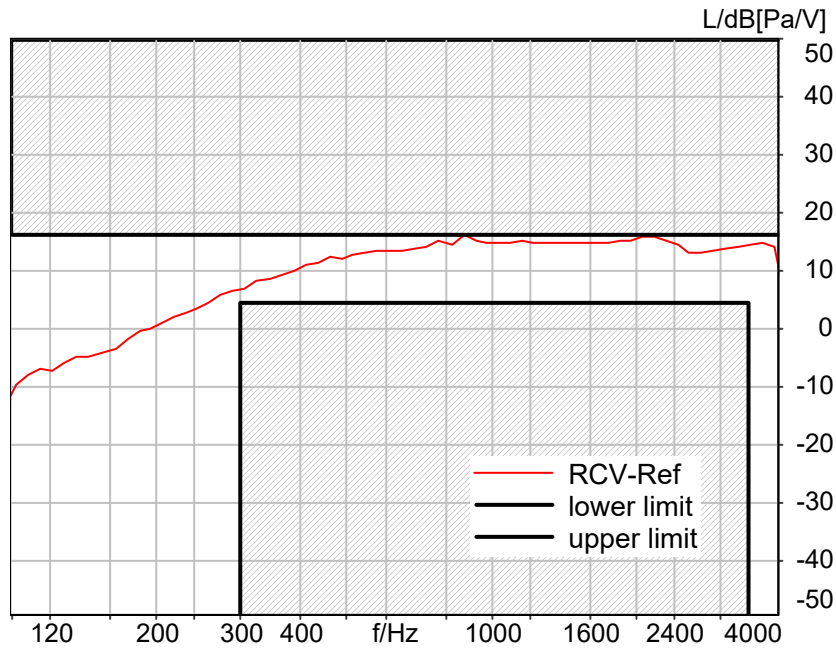
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
15MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Absolute minimal distance
2.57 dB at 305.9 Hz Ok

Ok

2023/12/17 11:28 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: **ieee_male_dual_nb.dat**

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 142.0000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

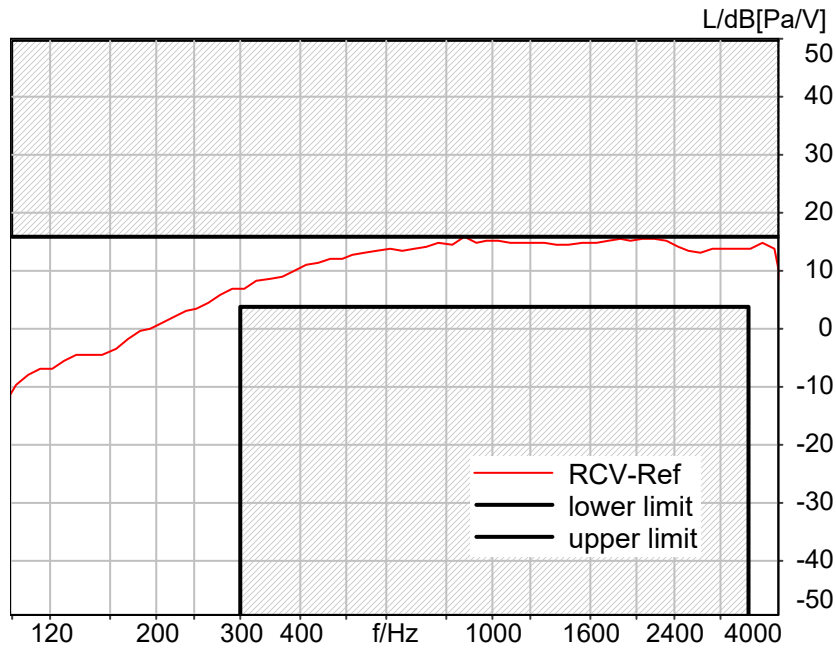
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
15MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Absolute minimal distance
3.06 dB at 305.9 Hz Ok

Ok

2023/12/17 11:37 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: **ieee_male_dual_nb.dat**

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 136.6000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

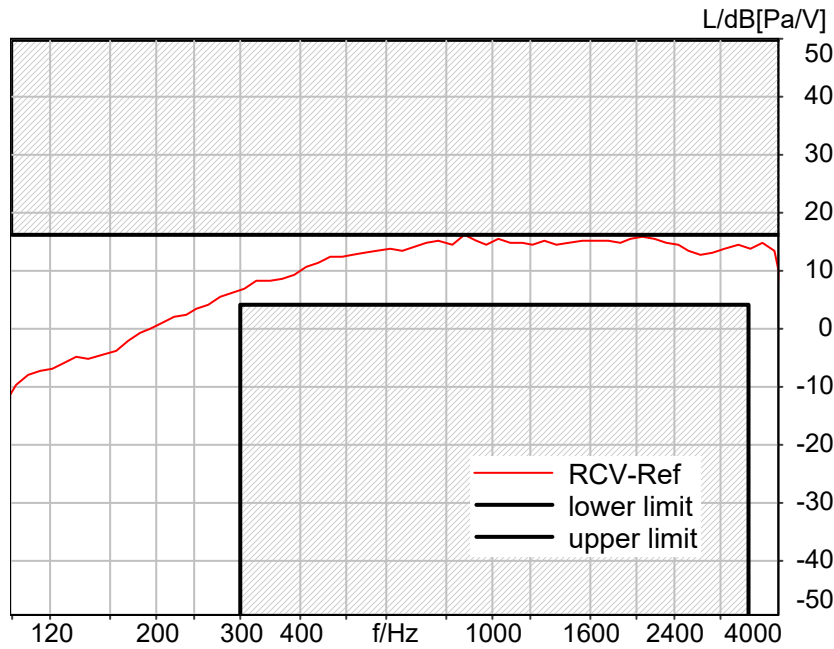
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
5MHz,QPSK,RB Size=1,RB Offset=0; Table-2



Absolute minimal distance
2.49 dB at 305.9 Hz Ok

Ok

2023/12/17 11:44 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

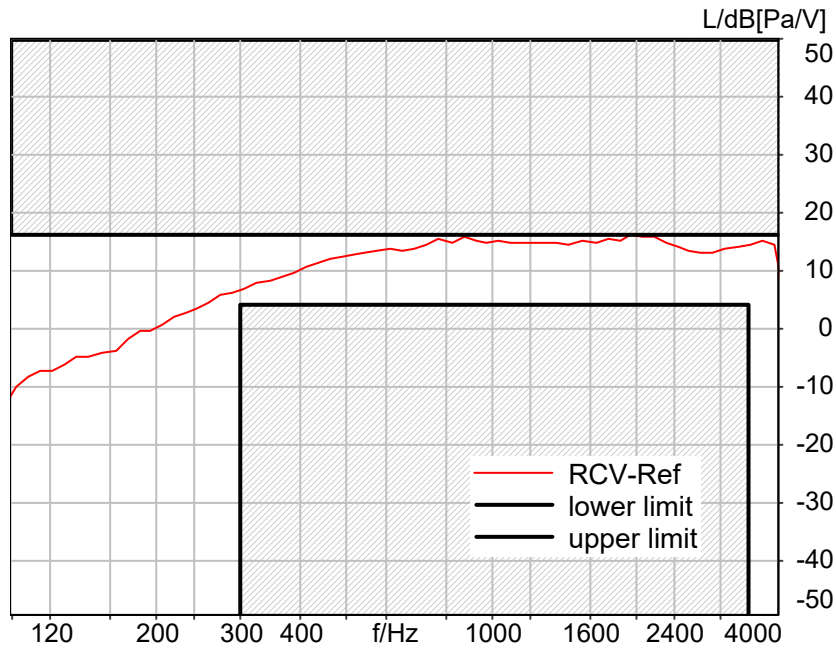
Block mode Bypass

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.3 Receive Acoustic Frequency response Performance (23T04Z80629 VoLTE EVS)

ANSI/TIA 5050-2018 \ 8N HAC OFF \ NB
5MHz,16QAM,RB Size=1,RB Offset=0; Table-2



Absolute minimal distance
2.72 dB at 305.9 Hz Ok

Ok

2023/12/17 11:50 ACQUA 5.1.200

Limits

	lower
Run 1	Fit into tolerance

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Use FIR Filter	Ch2	FIR filter	drp2df_ieee1652
DRP/ERP Ch.1:	Off	DRP/ERP Ch.2:	Off
Frequency base	12th octave	DIN Row	Row A
Method	FFT		
FFT size	16384	Overlap	75 %
Window function.	Hanning		
Reference file	rcv_nb_ref1.fft		
Tol. scheme file	nb_fr_tol.tol	Min. freq. for tol.	100.0 Hz
Auto adjust	To upper scheme	Max. freq. for tol.	4000.0 Hz

Special Features

Compensate delay 137.6000 ms (D_RCV_NB, Delay (Cross))
Store to file rcv_fr

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 -> Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 -> Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <- BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <- BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode Bypass

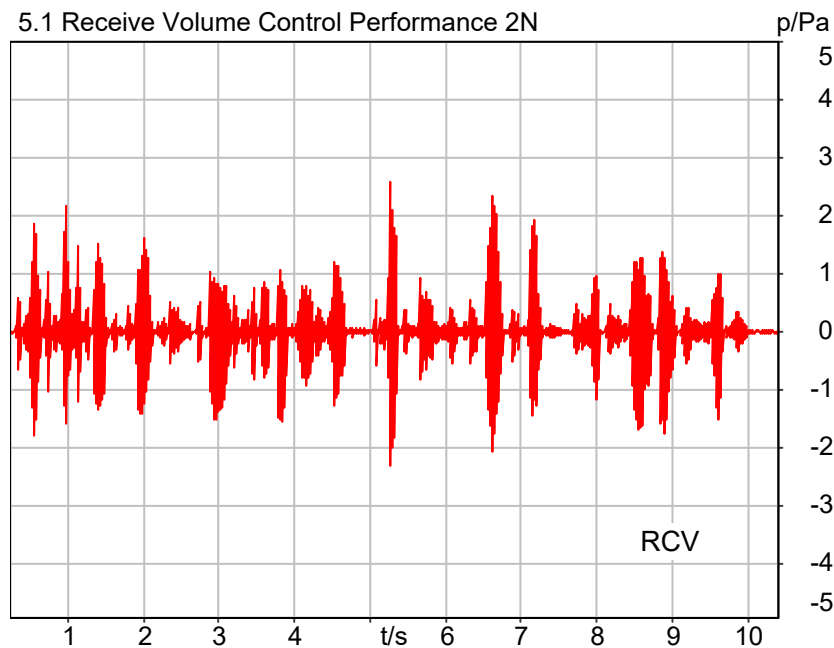
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB

QPSK, RB Size=1, RB Offset=0; Table-2



Speech Level RCV: 80.63 dB[SPL], Act.: 93.04%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB

Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms

Range length 10200.00 ms

Bandpass filter Narrow Band

Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 137.9000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

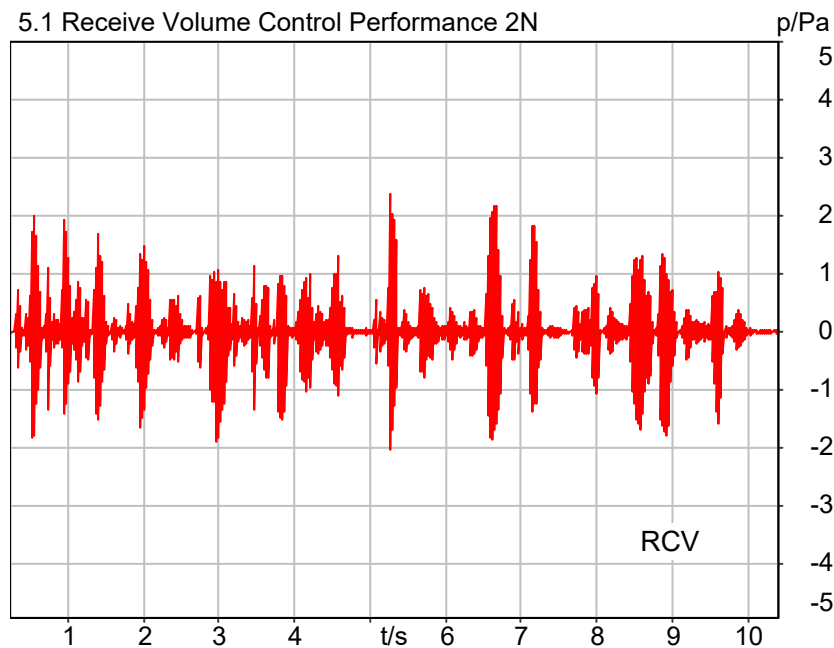
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
QPSK, RB Size=1, RB Offset=49; Table-2



Speech Level RCV: 80.68 dB[SPL], Act.: 92.90%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 121.8000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

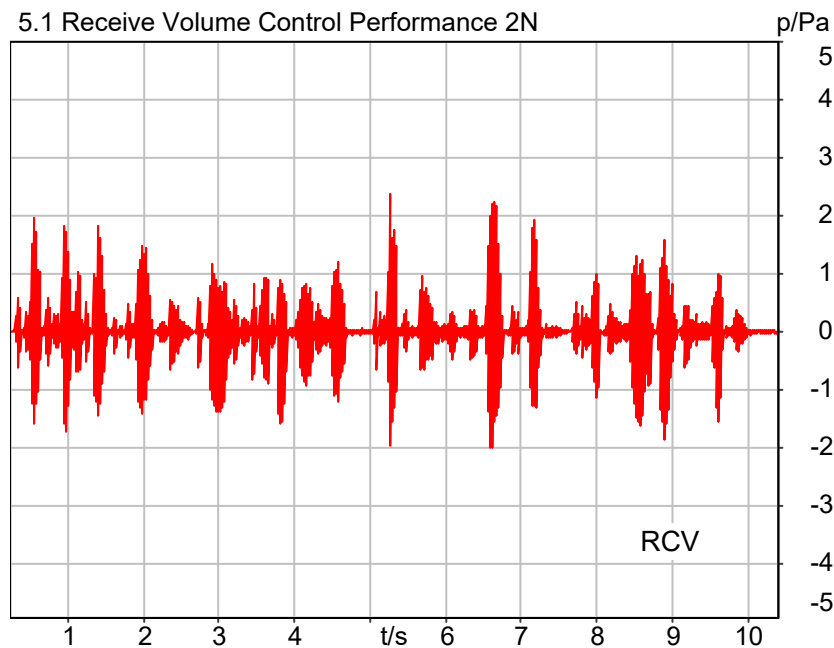
Block mode	Bypass
------------	--------

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
16QAM, RB Size=1, RB Offset=0; Table-2



Speech Level RCV: 80.68 dB[SPL], Act.: 92.27%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 132.8000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

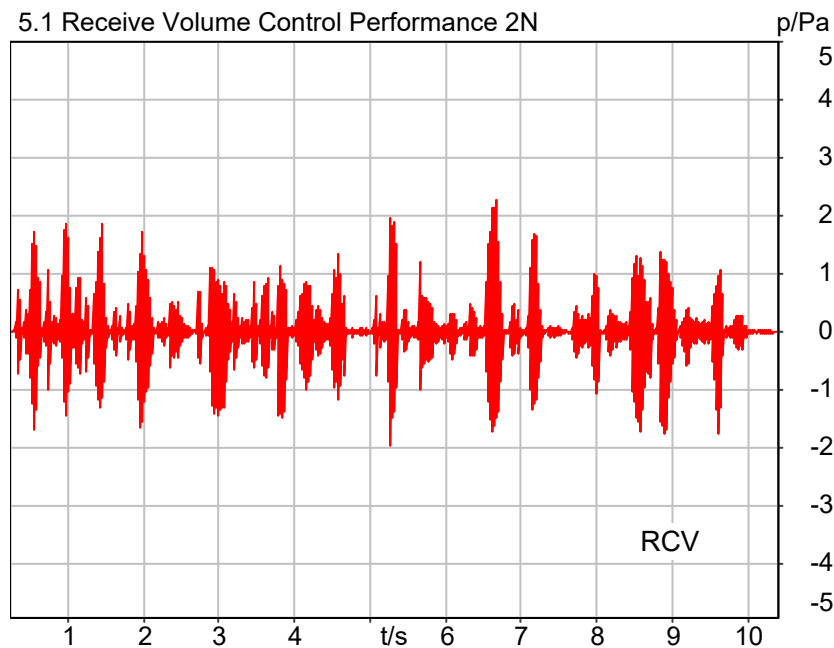
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
16QAM, RB Size=1, RB Offset=49; Table-2



Speech Level RCV: 80.44 dB[SPL], Act.: 93.31%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 135.2000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

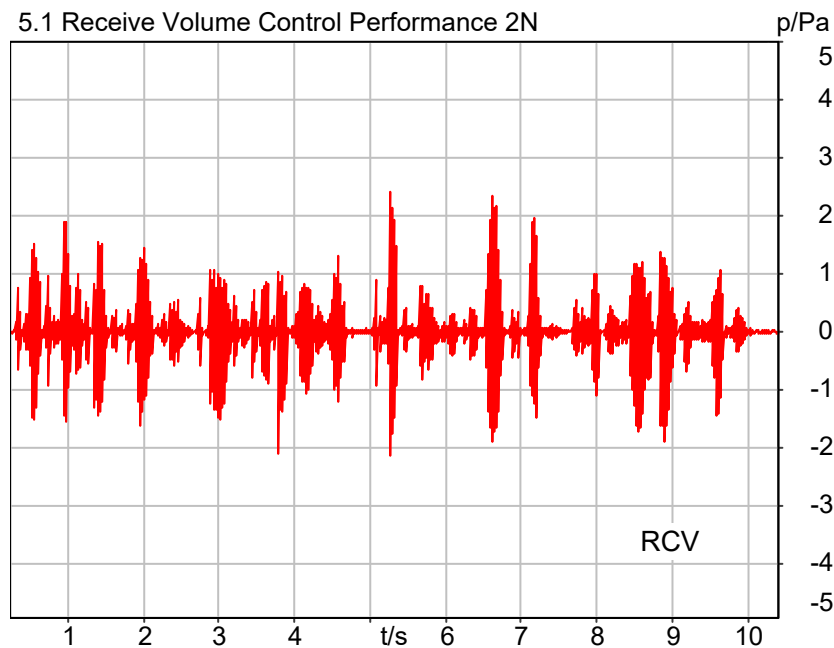
Block mode	Bypass
------------	--------

Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
16QAM, RB Size=50, RB Offset=0; Table-2



Speech Level RCV: 80.60 dB[SPL], Act.: 93.19%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 136.2000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

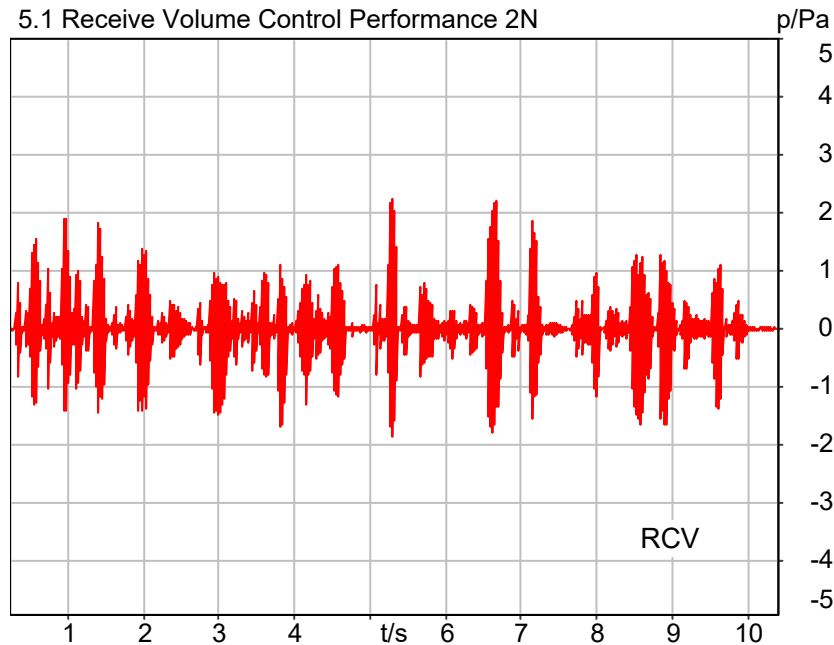
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
20MHz,QPSK ,RB Size=100,RB Offset=0; Table-2



Speech Level RCV: 80.56 dB[SPL], Act.: 93.22%

2023/12/17 13:38 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 133.0000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

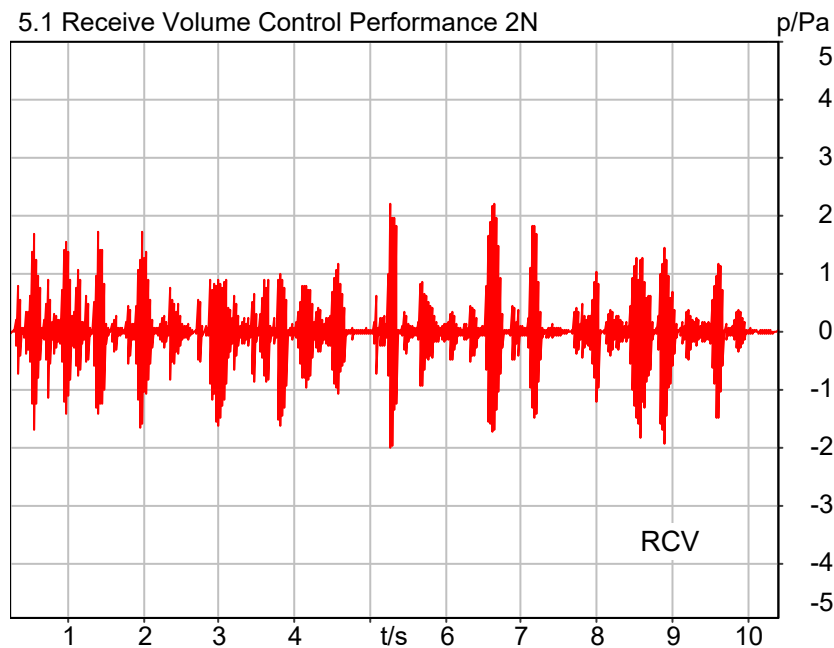
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
20MHz,QPSK ,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 80.51 dB[SPL], Act.: 93.33%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 130.1000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode	Bypass
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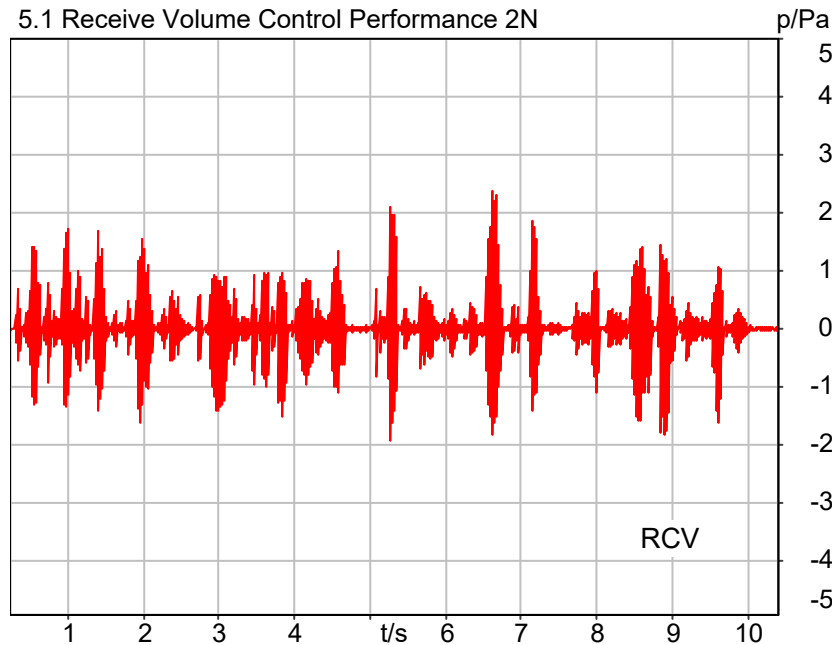
Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB

20MHz, 16QAM, RB Size=1, RB Offset=0; Table-2



Speech Level RCV: 80.39 dB[SPL], Act.: 93.23%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB

Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms

Range length 10200.00 ms

Bandpass filter Narrow Band

Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 135.2000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

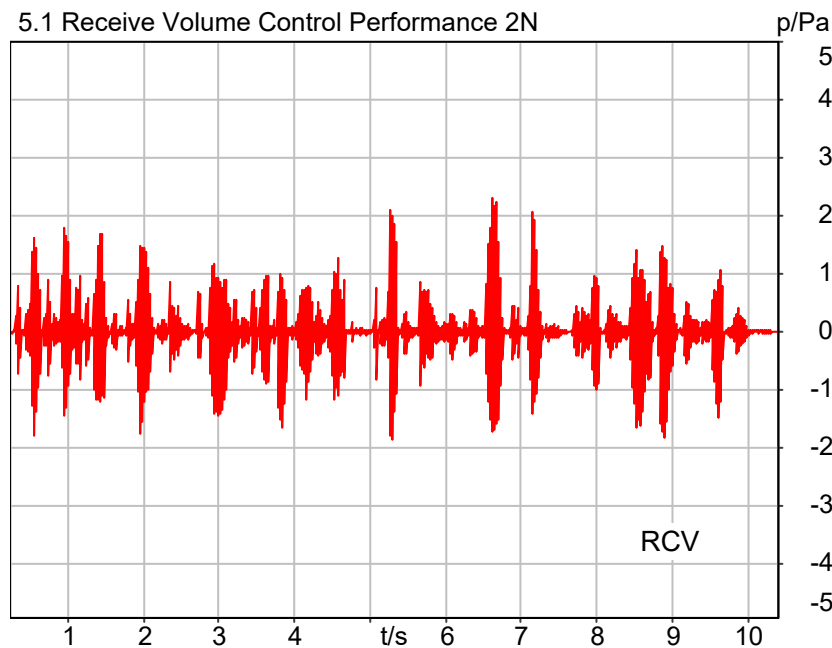
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
15MHz,QPSK ,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 80.52 dB[SPL], Act.: 93.33%

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Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 130.5000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

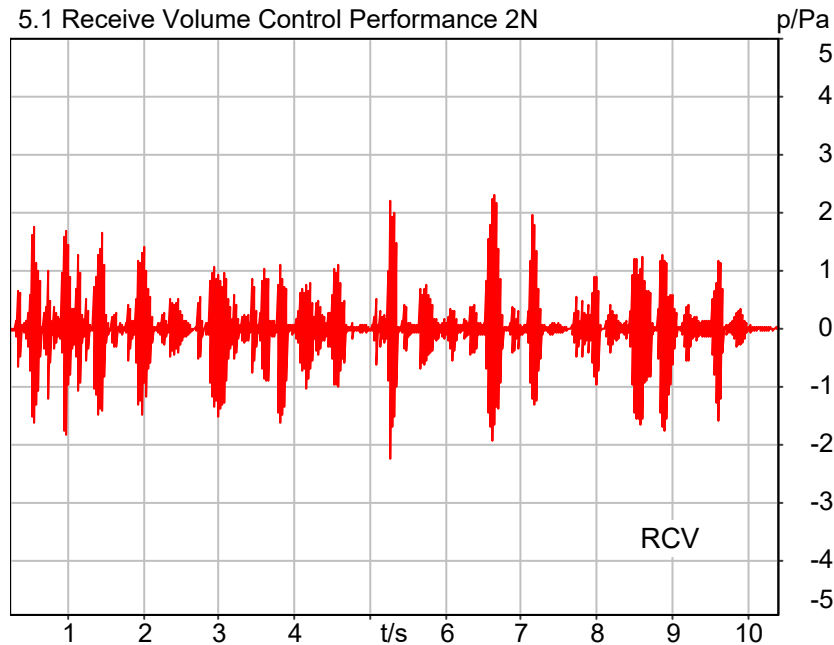
Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB

15MHz, 16QAM, RB Size=1, RB Offset=0; Table-2

5.1 Receive Volume Control Performance 2N



Speech Level RCV: 80.51 dB[SPL], Act.: 93.09%

2023/12/17 13:45 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB

Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms

Range length 10200.00 ms

Bandpass filter Narrow Band

Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 137.8000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
-------------	---------	-------------	---------

Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

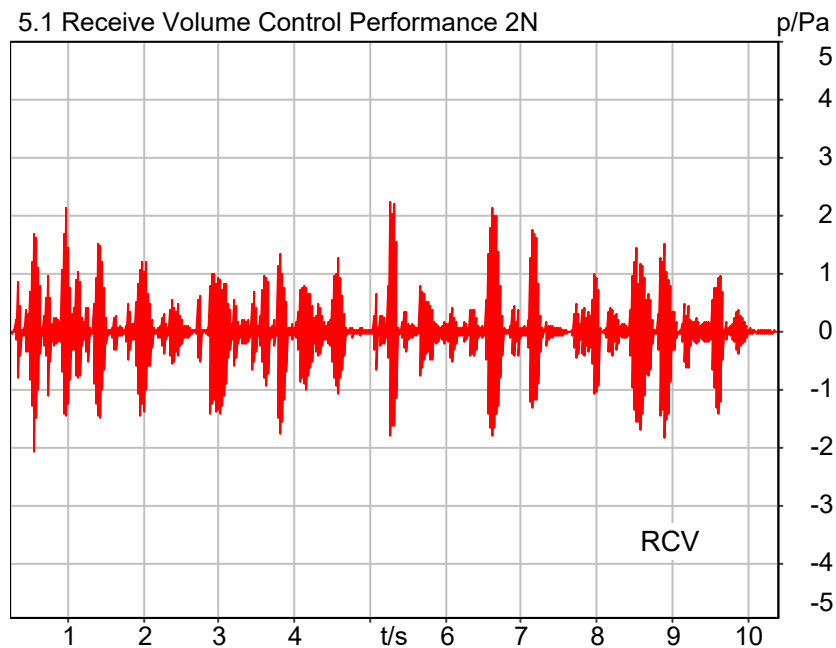
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
5MHz,QPSK ,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 80.52 dB[SPL], Act.: 93.29%

2023/12/17 13:47 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 132.5000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)

Channel In 1 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

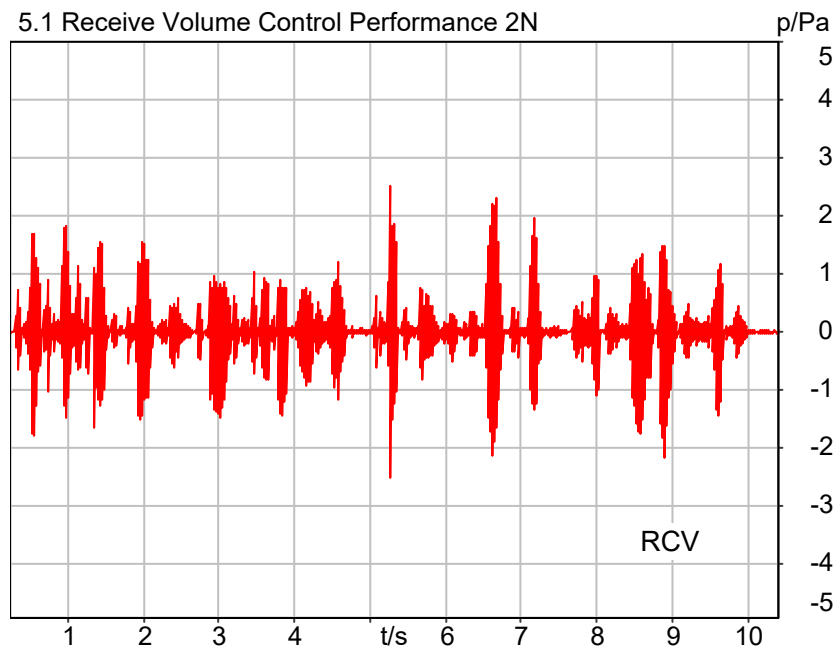
Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1 Receive Volume Control Performance 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
5MHz,16QAM ,RB Size=1,RB Offset=0; Table-2



Speech Level RCV: 80.57 dB[SPL], Act.: 93.41%

2023/12/17 13:48 ACQUA 5.1.200

Meas. Setting STD:DRP/ERP OFF

Source: ieee_male_dual_nb.dat

Level adj. Ch1 -90.0 dB Level adj. Ch2 -4.0 dB

Calibration

Input ch.2: 1.37 dB 2023/11/29 (HATS 3 (HMS II.3))

Output ch.2: 0.00 dB (Radio Tester 1 (CMW500))

Output Equalization/Filter

Mouth Eq. Ch.1: HATS 3 (HMS II.3)

Analysis

Direction Out 2 -> In 2

Range start 250.00 ms Range length 10200.00 ms

Bandpass filter Narrow Band Margin (15.9dB nom) 15.90 dB

Special Features

Compensate delay 135.7000 ms (D_RCV_NB, Delay (Cross))

Store to variable rcv_vol_nb

Hardware Config Settings

Used Setting STD:Mobile test both channels

labCORE Settings

labCORE Serial	77000136	Nickname	
Firmware	3.2.46	Sync Source	Internal
Clock Pitch	0.00 ppm		

labCORE Routing

Out Channel 1 ->	Power Amp. 1/2 1 -> HATS 3 (HMS II.3) Speaker
Out Channel 2 ->	Analog Out 1/2 1 -> Radio Tester 1 (CMW500) In
In Channel 1 <-	BEQ Filter 1 L <- Mic Amp. 1..4 In 1 <- HATS 3 (HMS II.3) Mic. Left
In Channel 2 <-	BEQ Filter 1 R <- Mic Amp. 1..4 In 2 <- HATS 3 (HMS II.3) Mic. Right

Analog In Mainboard Settings (Analog In 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Analog Out Mainboard Settings (Analog Out 1/2)

Range Ch. 1	0.00 dB	Range Ch. 2	0.00 dB
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Microphone Settings (Mic Amp. 1..4)**Channel In 1 Settings**

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 2 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	200V	Supply Voltage	±60V

Channel In 3 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

Channel In 4 Settings

Range	114 dB[SPL] @ 12.5 mV/Pa	Highpass	20Hz
Polarisation Voltage	Off	Supply Voltage	±60V

BEQ Settings (BEQ Filter 1)

Block mode	Bypass
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Artificial Head Settings (HATS 3 (HMS II.3))

Ser. Nr.	12306194	Pinna Type	Type 3.3
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5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB

QPSK, RB Size=1, RB Offset=0; Table-2

Correction

rcv_vol_nb	80.630 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.63 dB Ok

Ok2023/12/17 13:31 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
QPSK, RB Size=1, RB Offset=49; Table-2

Correction

rcv_vol_nb	80.680 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.68 dB Ok

Ok

2023/12/17 13:32 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
16QAM, RB Size=1, RB Offset=0; Table-2

Correction

rcv_vol_nb	80.680 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.68 dB Ok

Ok

2023/12/17 13:33 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
16QAM, RB Size=1, RB Offset=49; Table-2

Correction

rcv_vol_nb	80.440 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
------------	----------------	------------	----------	--

rcv_vol_nb-70

Calculated Value: 10.44 dB Ok

Ok

2023/12/17 13:35 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
16QAM, RB Size=50, RB Offset=0; Table-2

Correction

rcv_vol_nb	80.600 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.60 dB Ok

Ok

2023/12/17 13:36 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB

20MHz,QPSK ,RB Size=100,RB Offset=0; Table-2

Correction

rcv_vol_nb	80.560 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.56 dB Ok

Ok

2023/12/17 13:38 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
20MHz,QPSK ,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	80.510 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.51 dB Ok

Ok

2023/12/17 13:39 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
20MHz, 16QAM ,RB Size=1, RB Offset=0; Table-2

Correction

rcv_vol_nb	80.390 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.39 dB Ok

Ok

2023/12/17 13:40 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
15MHz,QPSK ,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	80.520 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
------------	----------------	------------	----------	--

rcv_vol_nb-70

Calculated Value: 10.52 dB Ok

Ok

2023/12/17 13:44 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
15MHz,16QAM ,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	80.510 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
------------	----------------	------------	----------	--

rcv_vol_nb-70

Calculated Value: 10.51 dB Ok

Ok

2023/12/17 13:45 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
5MHz,QPSK ,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	80.520 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
------------	----------------	------------	----------	--

rcv_vol_nb-70

Calculated Value: 10.52 dB Ok

Ok

2023/12/17 13:47 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB

5.1.1 -1 Conversation Gain 2N (23T04Z80629 VoLTE AMR)

ANSI/TIA 5050-2018 \ 2N HAC ON \ NB
5MHz,16QAM ,RB Size=1,RB Offset=0; Table-2

Correction

rcv_vol_nb	80.570 dB[SPL]	2023/12/17	Measured	5.1 Receive Volume Control Performance 2N
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rcv_vol_nb-70

Calculated Value: 10.57 dB Ok

Ok

2023/12/17 13:48 ACQUA 5.1.200

Limits

	lower
Run 1	6.00 dB