



HAC Receive Volume Control Test Report

For

Applicant Name: Schok, LLC.
Address: 5850 Town and Country Blvd, Suite 203 | Frisco, TX 75034
EUT Name: 5G Smartphone
Brand Name: Schok
Model Name: Schok Volt SV69S

Issued By

Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: 101/201/301, Building 1, Block 2, Tantou Industrial Park,
Tantou Community, Songgang Subdistrict, Bao'an District,
Shenzhen, China

Report Number: BTF250926R00103
Test Standards: ANSI C63.19:2019 FCC 47 CFR §20.19 TIA-5050:2018
FCC ID: 2AM9L-SV69S

Test Conclusion: Pass
Test Date: 2025-11-15 to 2025-11-24
Date of Issue: 2025-12-01

Tested By: Kris Li
Date: 2025-12-01
Reviewed By: Amenda Zhong

Reviewed By: Amenda Zhong / Project Engineer
Date: 2025-12-01

Approved By: Ryan.CJ
Date: 2025-12-01



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Revision History		
Version	Issue Date	Revisions Content
Rev_V0	2025-12-01	Original
Note:	Once the revision has been made, then previous versions reports are replaced by the latest version.	

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1. Introduction

1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	101/201/301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

1.2 Identification of the Responsible Testing Location

Test Location:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	101/201/301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
Description:	All measurement facilities used to collect the measurement data are located at 101/201/301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
FCC Registration Number	518915
Designation Number	CN1409

1.3 Laboratory Condition

Ambient Temperature:	18°C to 25°C
Ambient Relative Humidity:	32% to 49%
Ambient Pressure:	100 kPa to 102 kPa

1.4 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2. Product Information

2.1 Application Information

Company Name:	Schok, LLC.
Address:	5850 Town and Country Blvd, Suite 203 Frisco, TX 75034

2.2 Manufacturer Information

Company Name:	Schok, LLC.
Address:	5850 Town and Country Blvd, Suite 203 Frisco, TX 75034

2.3 Factory Information

Company Name:	Schok, LLC.
Address:	5850 Town and Country Blvd, Suite 203 Frisco, TX 75034

2.4 General Description of Equipment under Test (EUT)

EUT Name	5G Smartphone
Under Test Model Name	Schok Volt SV69S
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	SV69S4128_v01.01.25_USERDEBUG
Software and Firmware Version	V1.0
Dimensions (Approx.)	172*77*8mm
Weight (Approx.)	199g

2.5 Equipment under Test Ancillary Equipment

Ancillary Equipment 1	Battery	
	Model No.	Schok Volt SV69S
	Serial No.	N/A
	Rated Voltage	3.87 V

2.6 Technical Information

Network and Wireless connectivity	4G Network FDD LTE Band 2/4/5/12/13/25/26/66/71 TDD LTE Band 41 5G Network FDD NR N2/5/25/26/66/71 TDD NR N41/77 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) Bluetooth (EDR+BLE)
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2.7 Equipment under Test (EUT) Description

Operating Mode	LTE, NR, WLAN, Bluetooth	
Frequency Range	LTE Band 2	1850 MHz ~ 1910 MHz
	LTE Band 4	1710 MHz ~ 1755 MHz
	LTE Band 5	824 MHz ~ 849 MHz
	LTE Band 12	699 MHz ~ 716 MHz
	LTE Band 13	777 MHz ~ 787 MHz
	LTE Band 25	1850 MHz ~ 1915 MHz
	LTE Band 26	814 MHz ~ 824 MHz, 824 MHz ~ 849 MHz
	LTE Band 41	2496 MHz ~ 2690 MHz
	LTE Band 66	1710 MHz ~ 1780 MHz
	LTE Band 71	663 MHz ~ 698 MHz
	NR N2	1850 MHz ~ 1910 MHz
	NR N5	824 MHz ~ 849 MHz
	NR N25	1850 MHz ~ 1915 MHz
	NR N26	814 MHz ~ 849 MHz
	NR N41	2496 MHz ~ 2690 MHz
	NR N66	1710 MHz ~ 1780 MHz
	NR N71	663 MHz ~ 698 MHz
	NR N77	3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz
	802.11b/g/n(HT20)	2412 MHz ~ 2462 MHz
	802.11n(HT40)	2422 MHz ~ 2452 MHz
	802.11a /802.11n(HT20/40) /802.11ac(HT20/40/80)	U-NII-1: 5150 MHz ~ 5250 MHz, U-NII-2A: 5250 MHz ~ 5350 MHz, U-NII-2C: 5470 MHz ~ 5725 MHz, U-NII-3: 5725 MHz ~ 5850 MHz
	Bluetooth	2402 ~ 2480 MHz
Modulation Mode	LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, PI/2 BPSK QPSK, 16QAM, 64QAM, 256QAM 802.11b: DSSS 802.11a/g: OFDM 802.11n-HT20/HT40: OFDM 802.11ac-VHT20/40/80/160: OFDM BR+EDR: GFSK, $\pi/4$ -DQPSK, 8-DPSK Bluetooth LE: GFSK	

3. Summary of Test Results

3.1 Test Standards

No.	Identity	Document Title
1	ANSI C63.19-2019	American National Standard for Methods of Measurement of Compatibility between Wireless Communication Devices and Hearing Aids
2	FCC 47 CFR §20.19	Hearing Aid Compatible Mobile Headsets
3	TIA-5050:2018	Telecommunications Communications Products Receive Volume Control Requirements for Wireless (Mobile) Devices
4	KDB285076 D05v01	HACWaiverDA23-914
5	KDB285076 D04v02	Volume Control
6	KDB285076 D01v06r04	HAC Guidance

3.2 Air Interfaces / Bands Indicating Operating Modes

Air Interface	Band	Type	C63.19 RFAIL Tested	Simultaneous Transmitter	Name of Service
LTE	Band 2	VD	Yes	WLAN & BT	VoLTE
	Band 4	VD	Yes	WLAN & BT	VoLTE
	Band 5	VD	Yes	WLAN & BT	VoLTE
	Band 12	VD	Yes	WLAN & BT	VoLTE
	Band 13	VD	Yes	WLAN & BT	VoLTE
	Band 25	VD	Yes	WLAN & BT	VoLTE
	Band 26	VD	Yes	WLAN & BT	VoLTE
	Band 41	VD	Yes	WLAN & BT	VoLTE
	Band 66	VD	Yes	WLAN & BT	VoLTE
	Band 71	VD	Yes	WLAN & BT	VoLTE
NR	N2	VD	Yes	WLAN & BT	VoNR
	N5	VD	Yes	WLAN & BT	VoNR
	N25	VD	Yes	WLAN & BT	VoNR
	N26	VD	Yes	WLAN & BT	VoNR
	N41	VD	Yes	WLAN & BT	VoNR
	N66	VD	Yes	WLAN & BT	VoNR
	N71	VD	Yes	WLAN & BT	VoNR
	N77	VD	Yes	WLAN & BT	VoNR
WLAN	2.4g/5g	VD	Yes	WWAN	VoWIFI
BT	2450	DT	No	WWAN	N/A

NA: Not Applicable
VO: Voice Only
VD: CMRS and IP Voice Service over Digital Transport
DT: Digital Transport Only

Note:1. The hearing aid compatibility mode of the prototype was turned on during testing, and all tests were performed in HAC mode.
2. The non-3GPP codec of the Google Meet is not required per KDB 285076 D05, therefore 5G NR would not be tested for the volume control.

3.3 Statement of Volume Control

The lowest conversational gain found during test as bellows:

Mounting Force	Lowest Conversational Gain (dB)
2N	6.13
8N	8.98

Note:

1. This device is in compliance with compliance with HAC requirement specified in FCC 47 CFR Part 20.19 and ANSI C63.19-2019 and tested in accordance with the measurement methods and procedures specified in ANSI/TIA-5050-2018 and FCC KDB publications.
2. The 2N force is used for testing requirements related to use by persons with hearing devices and the 8N force is used for testing requirements related to use by persons without hearing devices.

4. Test Uncertainty

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances. Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %.

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations.

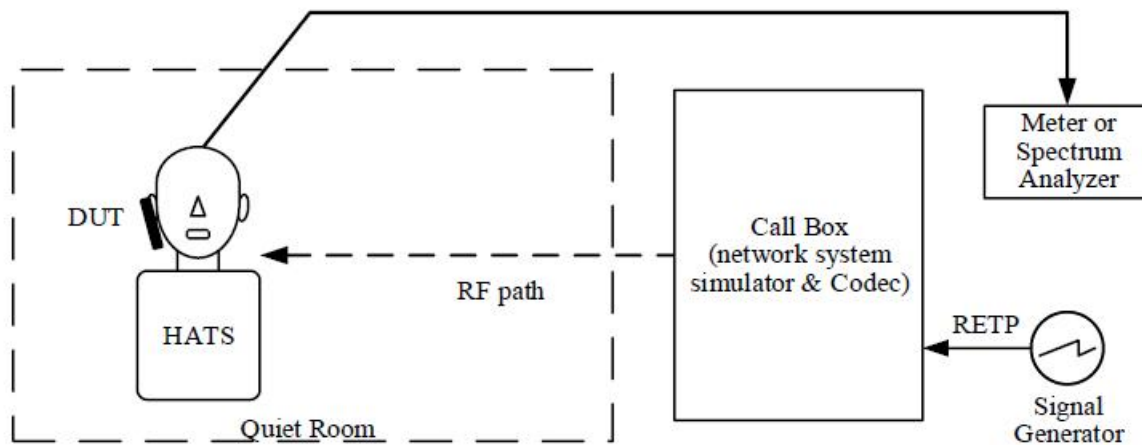
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Component	Standard Uncertainty (dB)	U ² (%)
Generator Accuracy To enable harmonic distortion measurements to 0.1%, the generator distortion must be <0.05%. This is equivalent to a standard uncertainty of 0.043 dB.	0.043	0.25
Ear Simulator Pressure Sensitivity (incl. Measurement Mic.) The uncertainty of the ear simulator as per the standards and quoted on its calibration certificate is 0.3 dB with a coverage factor of k= 2. This is equivalent to a standard uncertainty of $0.3/2 = 0.15$ dB	0.15	3.03
Microphone Preamplifier The manufacturer quotes the preamp to be within + 0.02 dB with a 95% probability or 2σ . This is equivalent to a standard uncertainty of $0.02/2 = 0.01$ dB.	0.01	0.01
Analysis System/RMS Detector Typical measurement system detector accuracy is 0.1 dB with a coverage factor of k= 2. This is equivalent to a standard uncertainty of $0.1/2 = 0.05$ dB	0.05	0.33
Effect of Positioning on Mid-Band Sensitivity For a handset, with the HATS positioning jig, the typical standard deviation estimated from a statistically significant number of measurements is +2 dB. This is equivalent to a standard uncertainty of 2 dB.	2	670.42
Time Varying Effects of the Mouth Simulator for Send & Sidetone For a receive measurement on a handset, the mouth simulator is not used (its uncertainty is zero), The standard uncertainty of 0 dB	0	0
Total Standard Uncertainty (%)	25.06	
UMAX(k=2)(%)	51.9	
UMAX(k=2)(dB)	3.6	

5. Measurement System

5.1 MEASUREMENT SET-UP

The general test arrangement is shown in Figure 1. The Call Box passes the voice channel stream to the DUT without modification. There is no gain or loss in the voice channel stream due to the Call Box interface.



NOTES:

1. Additional information related to the air interface for the various RF technologies is specified in several 3GPP documents. A list of these can be found in 3GPP TS 26.132 V14.0.0 clause 4
2. Additional information related to the test setup can be found in 3GPP TS 26.132, V14.0.0 clause 5.1.
3. The RETP (receive electrical test point) is the point in the device test arrangement where signals are applied to the DUT in the receive direction.

6. Evaluation of Test

6.1 RECEIVE VOLUME CONTROL PERFORMANCE

6.1.1 Requirement

1. With a mounting force of 8N, the DUT shall have at least one volume control setting that will produce a conversational gain of ≥ 6 dB with the output distortion and the frequency response meeting the requirements in clause 5.2.1 & 5.3.1 respectively.
2. With a mounting force of 2N, the DUT shall have at least one volume control setting that will produce a conversational gain of ≥ 6 dB with the output distortion and the frequency response meeting the requirements in clause 5.2.1 & 5.3.1 respectively.

NOTE: Other acoustic receive features may be available such as additional amplification, tone control, automatic gain control, etc. ANSI/TIA-4953-B contains performance requirements for output levels and tone control operation for amplified devices.

6.1.2 Method of Measurement

1. Configure the DUT with a mounting force of 8N and test equipment as shown in Figure 1 in an active call state with the applicable codec for the transmission mode under test.
2. Set the DUT volume control to the maximum setting.
3. If the DUT has an adjustable tone control feature, a tone control setting that meets the frequency response requirements in section 5.3.1 shall be used.
4. Apply the real speech test signal at a level of -20 dBm0 at the RETP and measure the acoustic output at the Drum Reference Point (DRP) over one complete sequence of the test signal.
5. Translate the measurement made at the DRP to the Free Field (FF) using the translation data in Annex B.
6. Over the applicable frequency band, determine the ASL in dBSPL for the resulting sound pressure level in accordance with Method B of ITU-T Recommendation P.56:
 - a. Narrowband 100 Hz through 4000 Hz.
 - b. Wideband 100 Hz through 7720 Hz.
7. Calculate the Conversational Gain by subtracting 70 dB from the measured dBSPL.
[Conversational Gain = (Measured dBSPL Level – 70 dBSPL) dB]
8. Measure the output distortion per clause 5.2. If a distortion failure occurs at the maximum volume control setting, reduce the volume control setting and repeat the measurement to determine if a setting can be found for which the conversational gain requirement is met without a distortion failure.
9. Repeat steps 2-8 with a mounting force of 2N.

6.1.3 Test Result

Refer to Part Nine test result.

Remark: The report only reflects the test data plots of worst mode (for LTE Band 5, NR N5, 2.4G WIFI)

6.1.4 Test Conclusion

PASS.

6.2 RECEIVE DISTORTION AND NOISE PERFORMANCE

6.2.1 Requirement

With a mounting force of 8N and 2N, the ratio of the stimulus signal power to the 100 Hz to 8000 Hz total A-weighted distortion and noise power shall be ≥ 20 dB when tested over the range of 1/3 octave band center frequencies:

1. Narrowband transmission mode: Each 1/3 octave band center frequency from 400 Hz to 3150 Hz.
2. Wideband transmission mode: Each 1/3 octave band center frequency from 250 Hz to 5000 Hz.

6.2.2 Method of Measurement

1. Configure the DUT with a mounting force of 8N and test equipment as shown in Figure 1 in an active call state with the applicable codec for the transmission mode under test with the volume control at the setting determined in 5.1.1.
2. Receive distortion and noise is measured using the PN-SDNR procedure as described in Annex A.
3. To ensure DUT activation, apply the real speech test signal at a level of -20 dBm0 followed immediately by the initial 1/3 octave center frequency PN test signal in Table A.1 based on the narrowband or wideband operating mode. Measure the acoustic output at the DRP over the complete sequence of the PN test signal.
4. Translate the measurement made at the DRP to the FF using the translation data in Annex B.
5. Calculate the acoustic output unweighted total signal power of the stimulus measurement band as described in A.2.
6. Calculate the notched A-weighting distortion and noise components as described in A.3.
7. Calculate the ratio of the signal power to the total A-weighted distortion and noise power using Eq A-1.
8. Repeat for each of the remaining 1/3 octave center frequencies in Table A.1 based on the narrowband or wideband operating mode.
9. Repeat steps 2-8 with a mounting force of 2N.

6.2.3 Test Result

Refer to test Annex A.

Remark: The report only reflects the test data plots of worst mode (for LTE Band 5, NR N5, 2.4G WIFI)

6.2.4 Test Conclusion

PASS.

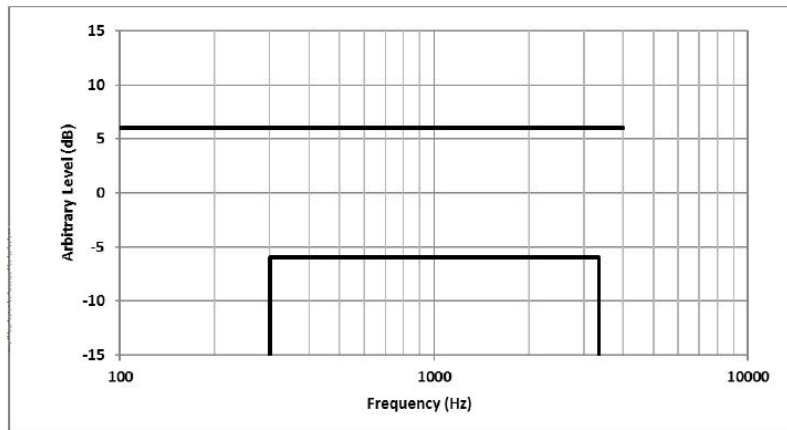
6.3 RECEIVE ACOUSTIC FREQUENCY RESPONSE PERFORMANCE

6.3.1 Requirement

1. Narrowband: The 1/12 octave band frequency response after translation to the FF or DF shall fall between the upper and lower limits given in Table 1 and shown in Figure below.

Table 1 – Narrowband Receive Frequency Response Limits

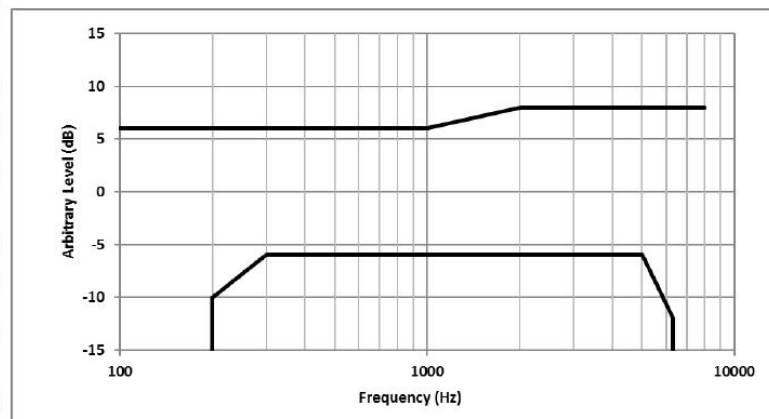
Lower Limit Frequency (Hz)	Lower Limit (dB)	Upper Limit Frequency (Hz)	Upper Limit (dB)
300	-6	100	+6
3400	-6	4000	+6



2. Wideband: The 1/12 octave band frequency response after translation to the FF or DF shall fall between the upper and lower limits given in Table 2 and shown in Figure below.

Table 2 – Wideband Receive Frequency Response Limits

Lower Limit Frequency (Hz)	Lower Limit (dB)	Upper Limit Frequency (Hz)	Upper Limit (dB)
200	-10	100	+6
300	-6	1000	+6
5000	-6	2000	+8
6300	-12	8000	+8



6.3.2 Method of Measurement

1. Configure the DUT with a mounting force of 8N and test equipment as shown in Figure 1 in an active call state with the applicable codec for the transmission mode under test with the volume control at the setting determined in 5.1.1.
2. If the DUT has an adjustable tone control feature the initial measurement is to be performed with the default tone control setting.
3. Apply the real speech test signal with a level of -20 dBm0 at the RETP.
4. Capture the frequency spectrum at the DRP of the HATS using real-time analysis with 1/12 octave bands over the frequency range from 100 Hz to 4000 Hz for narrowband measurements, or over the frequency range from 100 Hz to 8000 Hz for wideband measurements, averaged over the entire duration of the test signal.
5. Transform the DRP frequency spectrum measurement to the FF or DF (see Annex B).
6. Divide the 1/12 octave measurement data by the 1/12 octave frequency spectrum of the test signal at the RETP and present the measurement in terms of dB(Pa/V).
7. Apply the applicable frequency response limits to determine compliance.
8. If the default tone control setting does not meet the requirement, repeat the above steps for other tone control settings to determine a tone control setting that meets the requirements.
9. Repeat with a mounting force of 2N.

6.3.3 Test Result

Refer to test Annex A.

Remark: The report only reflects the test data plots of worst mode (for LTE Band 5, NR N5, 2.4G WIFI)

6.3.4 Test Conclusion

PASS.

7. Test Equipment List

Description	Manufacturer	Model	Internal number	Cal. Date	Cal. Due
WIDEBAND RADIO COMMUNICATION TESTER	ROHDE&SCHWARZ	CMW500	BTF-EM-023	2025/10/17	2026/10/16
Conditioning Amplifier	Brule&Kjaer	Type -2690--030	BTF-EM- 146	2025/2/11	2026/2/10
Head and Torso Simulator	Brule&Kjaer	Type 4128C	BTF-EM- 148	2025/2/11	2026/2/10
Sound Calibration	Brule&Kjaer	Type 4231	BTF-EM- 149	2025/2/08	2026/2/07
Anechoic Test Chamber	MEC	Type 115	BTF-EM- 150	N/A	N/A

8. Air Interfaces / Bands used for testing

Air-interface	Band	Tested Codec	Tested Rate(kbps)
VoLTE	Band 2/4/5/12/13/25/26/41/66/71	AMR-NB	4.75/12.2
		AMR-WB	6.6/23.85
		EVS-NB	5.9/24.4
		EVS-WB	5.9/24.4
VoNR	Band 2/5/25/26/41/66/71/77	AMR-NB	4.75/12.2
		AMR-WB	6.6/23.85
		EVS-NB	5.9/24.4
		EVS-WB	5.9/24.4
VoWIFI	2.4G/5G	AMR-NB	4.75/12.2
		AMR-WB	6.6/23.85
		EVS-NB	5.9/24.4
		EVS-WB	5.9/24.4

Note: We only select one codec type for the test, narrowband and wideband.

9. Test Result

9.1 Receive volume control, distortion and noise performance

Plot No.	Mode	Channel/Freq.	BW	Codec B itrate	Volume Level	Codec Type	Codec Ba ndwidth	Mounting Force (N)	Freque ncy(HZ)	Min PN-S DNR(dB)	PN-SDNR Limb(dB)	Speech Level (dBSPL)	Conversa tional Gai n	FCC CG Limit (dB)	Result
1	LTE FDD Band 2	18900/1880.0MHz	20MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.65	20.00	80.79	10.79	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.89	20.00	78.11	8.11	6.00	
				23.85	Max	AMR	WB	8N	250	21.38	20.00	79.28	9.28	6.00	
				23.85	Max	AMR	WB	2N	250	21.67	20.00	76.99	6.99	6.00	
2	LTE FDD Band 4	20175/1732.5MHz	20MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.49	20.00	80.76	10.76	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.01	20.00	77.56	7.56	6.00	
				23.85	Max	AMR	WB	8N	250	21.59	20.00	78.98	8.98	6.00	
				23.85	Max	AMR	WB	2N	250	22.08	20.00	76.96	6.96	6.00	
3	LTE FDD Band 5	20525/836.5MHz	10MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.08	20.00	81.23	11.23	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.22	20.00	78.00	8.00	6.00	
				23.85	Max	AMR	WB	8N	250	20.88	20.00	79.39	9.39	6.00	
				23.85	Max	AMR	WB	2N	250	21.11	20.00	76.13	6.13	6.00	
4	LTE FDD Band 12	23095/707.5MHz	10MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.67	20.00	80.96	10.96	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.16	20.00	80.16	10.16	6.00	
				23.85	Max	AMR	WB	8N	250	21.38	20.00	79.85	9.85	6.00	
				23.85	Max	AMR	WB	2N	250	21.78	20.00	78.46	8.46	6.00	
5	LTE FDD Band 13	23330/793.0MHz	10MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.49	20.00	81.09	11.09	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.94	20.00	79.85	9.85	6.00	
				23.85	Max	AMR	WB	8N	250	21.68	20.00	80.12	10.12	6.00	
				23.85	Max	AMR	WB	2N	250	22.29	20.00	77.95	7.95	6.00	
6	LTE FDD Band 25	26340/1880.0MHz	20MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.54	20.00	80.65	10.65	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.13	20.00	79.58	9.58	6.00	
				23.85	Max	AMR	WB	8N	250	21.64	20.00	80.08	10.08	6.00	
				23.85	Max	AMR	WB	2N	250	22.09	20.00	78.59	8.59	6.00	
7	LTE FDD Band 26	26865/831.5MHz	15MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.55	20.00	81.10	11.10	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.13	20.00	79.57	9.57	6.00	
				23.85	Max	AMR	WB	8N	250	21.66	20.00	80.56	10.56	6.00	
				23.85	Max	AMR	WB	2N	250	22.24	20.00	78.15	8.15	6.00	
8	LTE TDD Band 41	40620/2593.0MHz	20MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.58	20.00	80.66	10.66	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.09	20.00	79.26	9.26	6.00	
				23.85	Max	AMR	WB	8N	250	21.61	20.00	79.88	9.88	6.00	
				23.85	Max	AMR	WB	2N	250	22.29	20.00	77.42	7.42	6.00	
9	LTE FDD Band 66	132322/1745MHz	20MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.29	20.00	80.92	10.92	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.75	20.00	79.25	9.25	6.00	
				23.85	Max	AMR	WB	8N	250	21.48	20.00	79.34	9.34	6.00	
				23.85	Max	AMR	WB	2N	250	21.97	20.00	78.07	8.07	6.00	

Plot No.	Mode	Channel/Freq.	BW	Codec B ltrate	Volume Level	Codec Ty pe	Codec Ba ndwidth	Mounting Force (N)	Freque ncy(H Z)	Min PN-S DNR(dB)	PN-SDNR Limb(dB)	Speech Level (dBSPL)	Conversa tional Gai n	FCC CG Limit (dB)	Result
10	LTE FDD Band 71	133322/683.0MHz	20MHz_QPSK_1_0	12.20	Max	AMR	NB	8N	3150	21.52	20.00	80.47	10.47	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.96	20.00	79.62	9.62	6.00	
				23.85	Max	AMR	WB	8N	250	21.68	20.00	79.21	9.21	6.00	
				23.85	Max	AMR	WB	2N	250	22.10	20.00	77.65	7.65	6.00	
11	NR FDD Band 2	376000/1880MHz	20MHz_QPSK	12.20	Max	AMR	NB	8N	3150	21.32	20.00	81.48	11.48	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.35	20.00	80.23	10.23	6.00	
				23.85	Max	AMR	WB	8N	250	21.28	20.00	79.94	9.94	6.00	
				23.85	Max	AMR	WB	2N	250	21.82	20.00	78.16	8.16	6.00	
12	NR FDD Band 5	167300/836.5MHz	20MHz_QPSK	12.20	Max	AMR	NB	8N	3150	20.91	20.00	81.05	11.05	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.48	20.00	78.68	8.68	6.00	
				23.85	Max	AMR	WB	8N	250	20.90	20.00	79.68	9.68	6.00	
				23.85	Max	AMR	WB	2N	250	21.40	20.00	77.21	7.21	6.00	
13	NR FDD Band 25	376500/1882.5MHz	20MHz_QPSK	12.20	Max	AMR	NB	8N	3150	21.37	20.00	82.08	12.08	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.78	20.00	81.45	11.45	6.00	
				23.85	Max	AMR	WB	8N	250	21.69	20.00	81.01	11.01	6.00	
				23.85	Max	AMR	WB	2N	250	22.17	20.00	80.09	10.09	6.00	
14	NR FDD Band 26	166300/831.5MHz	20MHz_QPSK	12.20	Max	AMR	NB	8N	3150	22.01	20.00	81.74	11.74	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.68	20.00	81.21	11.21	6.00	
				23.85	Max	AMR	WB	8N	250	21.49	20.00	80.51	10.51	6.00	
				23.85	Max	AMR	WB	2N	250	22.08	20.00	79.55	9.55	6.00	
15	NR TDD Band 41	518598/2592.99MHz	100MHz_QPSK	12.20	Max	AMR	NB	8N	3150	21.73	20.00	81.48	11.48	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.36	20.00	81.06	11.06	6.00	
				23.85	Max	AMR	WB	8N	250	21.67	20.00	80.67	10.67	6.00	
				23.85	Max	AMR	WB	2N	250	22.18	20.00	79.85	9.85	6.00	
16	NR FDD Band 66	349000/1745MHz	40MHz_QPSK	12.20	Max	AMR	NB	8N	3150	21.86	20.00	81.42	11.42	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.46	20.00	81.02	11.02	6.00	
				23.85	Max	AMR	WB	8N	250	21.28	20.00	80.53	10.53	6.00	
				23.85	Max	AMR	WB	2N	250	21.75	20.00	79.75	9.75	6.00	
17	NR FDD Band 71	136100/680.5MHz	20MHz_QPSK	12.20	Max	AMR	NB	8N	3150	21.09	20.00	80.59	10.59	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.75	20.00	80.04	10.04	6.00	
				23.85	Max	AMR	WB	8N	250	21.33	20.00	79.48	9.48	6.00	
				23.85	Max	AMR	WB	2N	250	21.59	20.00	79.01	9.01	6.00	
18	NR TDD Band 77	633334/3500.01MHz	100MHz_QPSK	12.20	Max	AMR	NB	8N	3150	21.67	20.00	80.69	10.69	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	22.28	20.00	80.13	10.13	6.00	
				23.85	Max	AMR	WB	8N	250	21.39	20.00	79.35	9.35	6.00	
				23.85	Max	AMR	WB	2N	250	21.85	20.00	78.64	8.64	6.00	

Plot No.	Mode	Channel/Freq.	BW	Codec Bi rate	Volume Level	Codec Ty pe	Codec B andwidth	Mounting Force (N)	Frequ ecy(H z)	Min PN-S DNR(dB)	PN-SDNR Limb(d B)	Speech Level (dB SPL)	Conversa tional Gain	Limit (dB)	Result
19	2.4G WIFI	6/2437.0MHz	/	12.20	Max	AMR	NB	8N	3150	21.95	20.00	80.99	10.99	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.53	20.00	78.17	8.17	6.00	
				23.85	Max	AMR	WB	8N	250	21.09	20.00	79.48	9.48	6.00	
				23.85	Max	AMR	WB	2N	250	20.98	20.00	76.16	6.16	6.00	
20	5.2G WIFI	40/5200MHz	/	12.20	Max	AMR	NB	8N	3150	22.06	20.00	81.25	11.25	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.67	20.00	79.56	9.56	6.00	
				23.85	Max	AMR	WB	8N	250	21.39	20.00	79.79	9.79	6.00	
				23.85	Max	AMR	WB	2N	250	21.89	20.00	76.98	6.98	6.00	
21	5.3G WIFI	52/5260MHz	/	12.20	Max	AMR	NB	8N	3150	22.18	20.00	81.18	11.18	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.67	20.00	79.65	9.65	6.00	
				23.85	Max	AMR	WB	8N	250	21.37	20.00	80.04	10.04	6.00	
				23.85	Max	AMR	WB	2N	250	21.89	20.00	77.12	7.12	6.00	
22	5.6G WIFI	100/5500MHz	/	12.20	Max	AMR	NB	8N	3150	22.18	20.00	81.27	11.27	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.75	20.00	79.78	9.78	6.00	
				23.85	Max	AMR	WB	8N	250	21.84	20.00	80.29	10.29	6.00	
				23.85	Max	AMR	WB	2N	250	21.64	20.00	77.45	7.45	6.00	
23	5.8G WIFI	149/5745MHz	/	12.20	Max	AMR	NB	8N	3150	22.16	20.00	81.20	11.20	6.00	Pass
				12.20	Max	AMR	NB	2N	3150	21.58	20.00	80.05	10.05	6.00	
				23.85	Max	AMR	WB	8N	250	21.69	20.00	80.16	10.16	6.00	
				23.85	Max	AMR	WB	2N	250	21.25	20.00	79.38	9.38	6.00	
Note: 1. With a mounting force of 8N, the DUT shall have at least one volume control setting that will produce a conversational gain of ≥ 6 dB with the output distortion and the frequency response. 2. With a mounting force of 2N, the DUT shall have at least one volume control setting that will produce a conversational gain of ≥ 6 dB with the output distortion and the frequency response. 3. With a mounting force of 8N and 2N, the ratio of the stimulus signal power to the 100 Hz to 8000 Hz total A-weighted distortion and noise power shall be ≥ 20 dB. 4. We only select one codec type for the test, narrowband and wideband.															

9.2 Receive acoustic frequency response performance

Plot No.	Mode	Volume Level	Codec Type	Codec Bandwidth	Mounting Force (N)	Test Result
1	LTE FDD Band 2	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
2	LTE FDD Band 4	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
3	LTE FDD Band 5	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
4	LTE FDD Band 12	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
5	LTE FDD Band 13	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
6	LTE FDD Band 25	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
7	LTE FDD Band 26	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
8	LTE TDD Band 41	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
9	LTE FDD Band 66	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
10	LTE FDD Band 71	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
11	NR FDD N2	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	

Plot No.	Mode	Volume Level	Codec Type	Codec Bandwidth	Mounting Force (N)	RFR
						Test Result
12	NR FDD N5	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
13	NR FDD N25	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
14	NR FDD N26	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
15	NR TDD N41	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
16	NR FDD N66	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
17	NR FDD N71	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
18	NR TDD N77	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
19	2.4G WIFI	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
20	5.2G WIFI	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
21	5.3G WIFI	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
22	5.6G WIFI	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	
23	5.8G WIFI	Max	AMR	NB	2N	Pass
		Max	AMR	NB	8N	
		Max	AMR	WB	2N	
		Max	AMR	WB	8N	

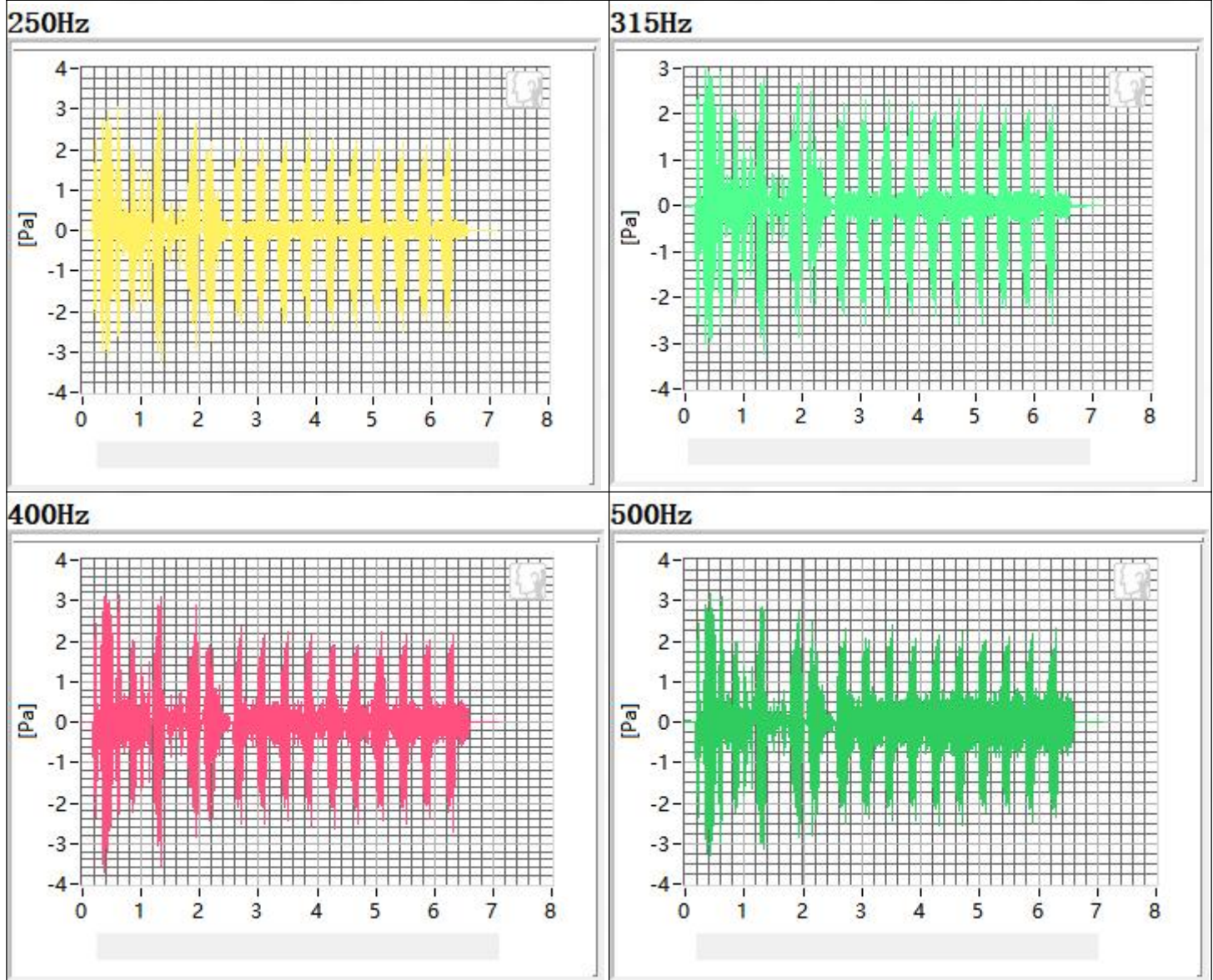
Volume Control Verification Test Results

Date of Testing	Test Location	Air Interface Equipment	Acoustical Calibrator	HATS Sens.(dB)	Ambient Noise(dBA)
15/11/2025	JB HATS R	CMW 500	B&K 4231 & UA1546	97.14	35.19
17/11/2025	JB HATS R	CMW 500	B&K 4231 & UA1546	97.12	33.34
19/11/2025	JB HATS R	CMW 500	B&K 4231 & UA1546	97.11	32.58
21/11/2025	JB HATS R	CMW 500	B&K 4231 & UA1546	97.10	34.47
24/11/2025	JB HATS R	CMW 500	B&K 4231 & UA1546	97.13	35.28
Note: A room with background noise no greater than 40 dBA.					

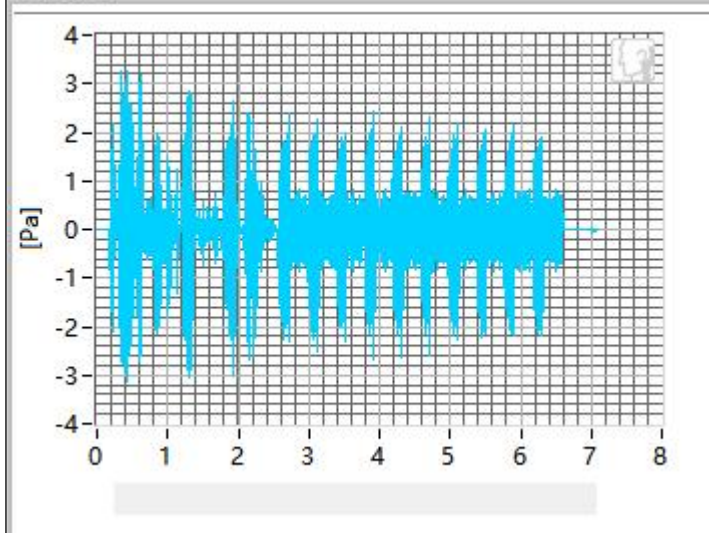
ANNEX A Test Data

1. LTE band 5 in channel 20525

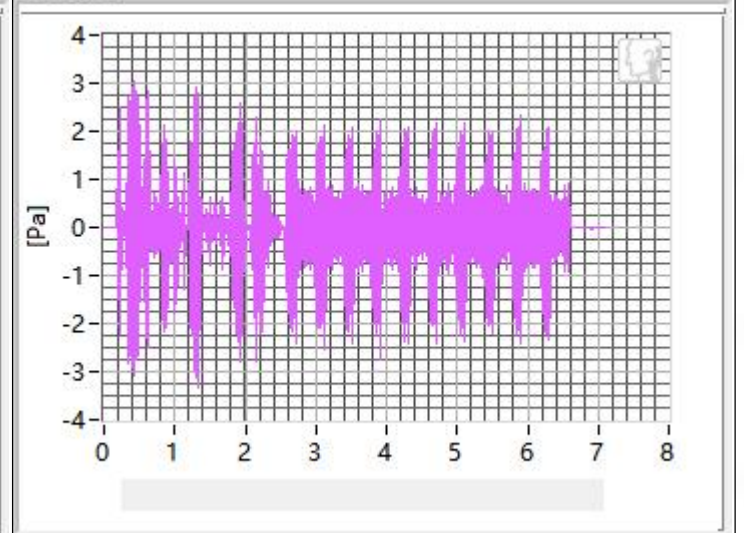
1.1 Receive Distortion and Noise 8N WB



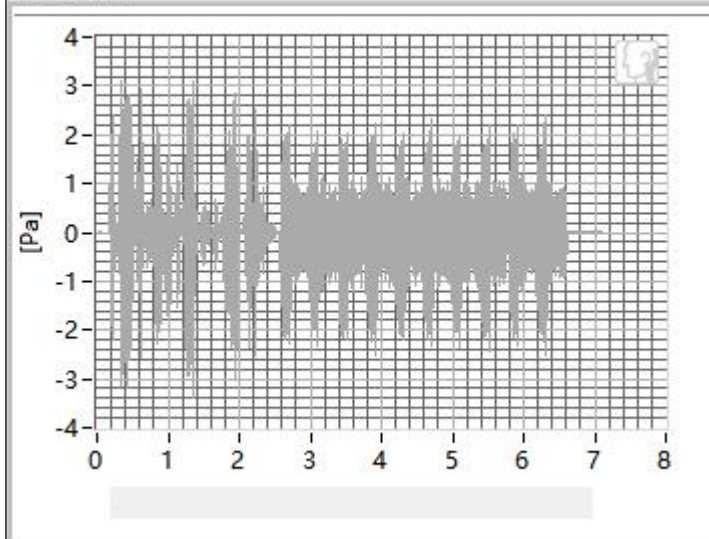
630Hz



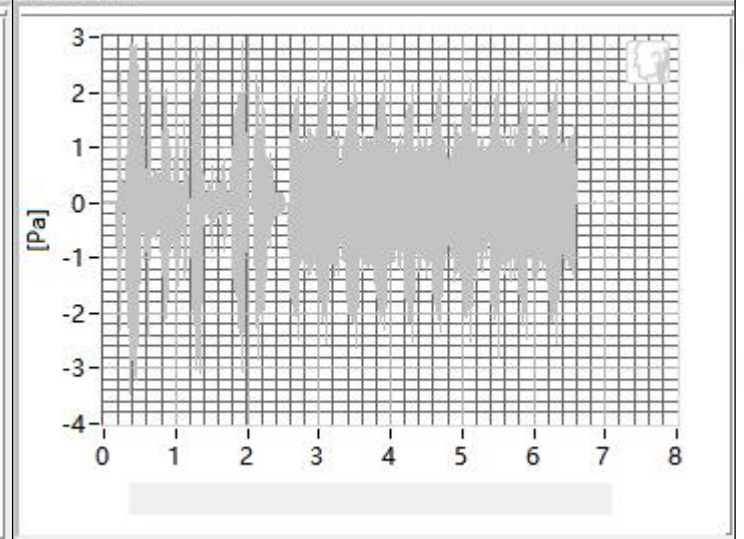
800Hz



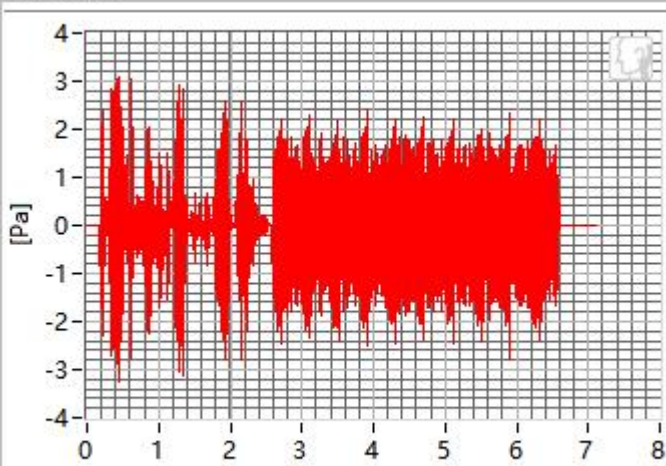
1000Hz



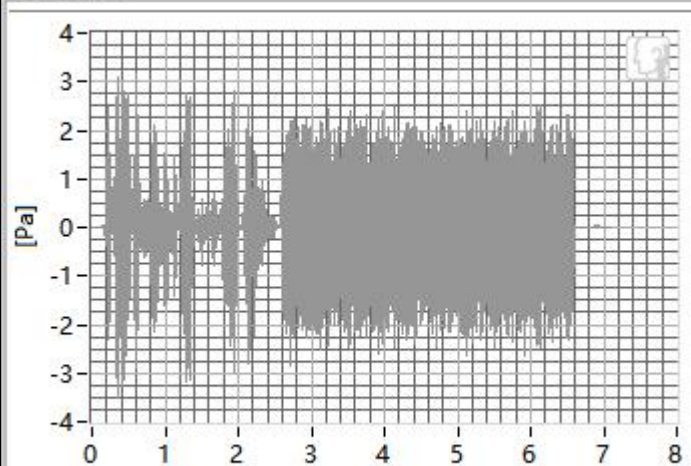
1250Hz



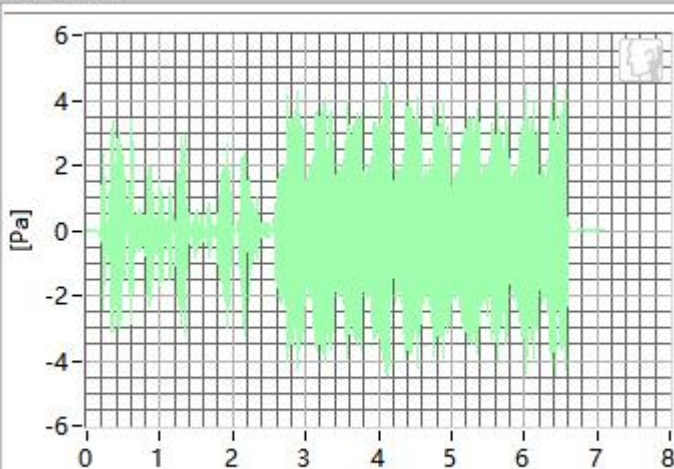
1600Hz



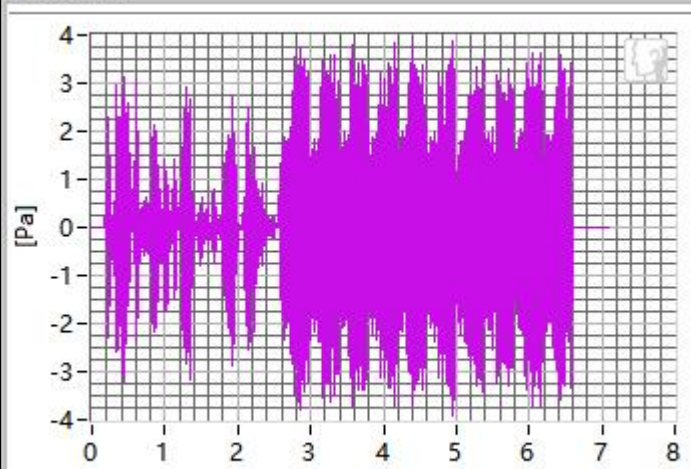
2000Hz



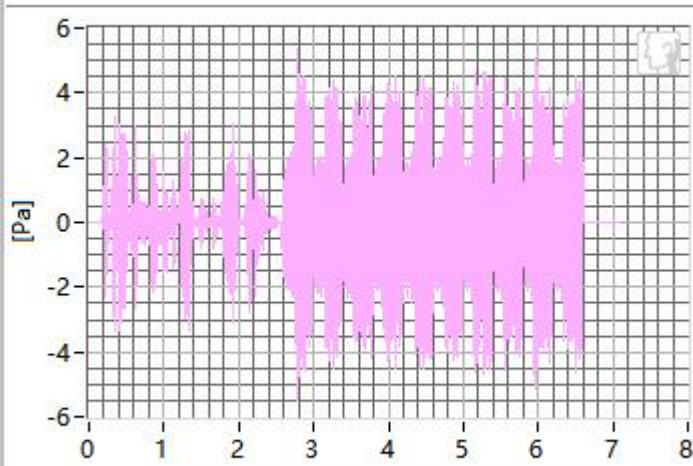
2500Hz



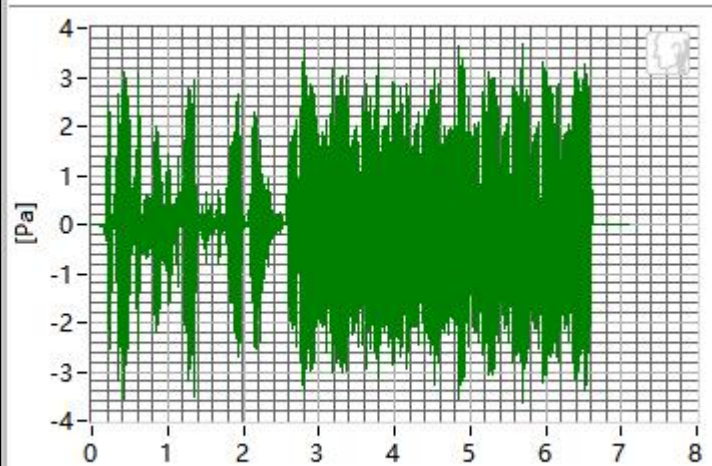
3150Hz



4000Hz



5000Hz

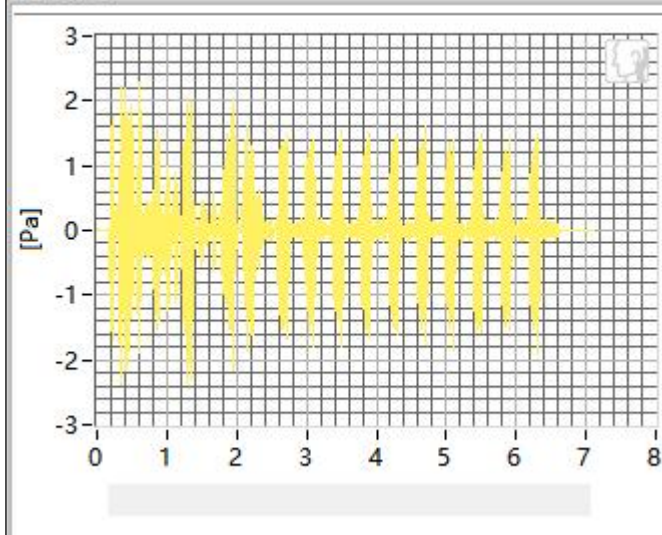


Frequency	SDNR	Frequency	SDNR
250Hz	20.88 dB	1250Hz	24.39 dB
315Hz	21.79 dB	1600Hz	25.03 dB
400Hz	23.85 dB	2000Hz	21.39 dB
500Hz	27.88 dB	2500Hz	26.51 dB
630Hz	30.43 dB	3150Hz	25.78 dB
800Hz	28.36 dB	4000Hz	26.82 dB
1000Hz	27.87 dB	5000Hz	22.13 dB

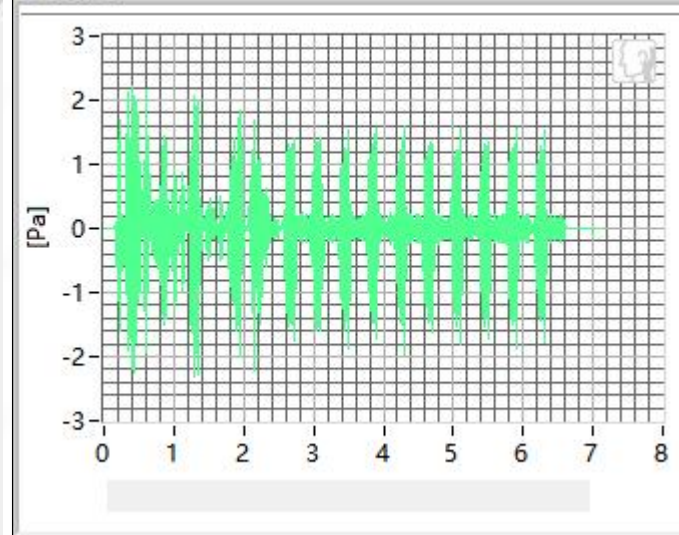
All SDNRs were greater than 20.0 dB, requirement was met. Smallest SDNR was 20.88 dB at 250 Hz.

1.2 Receive Distortion and Noise 2N WB

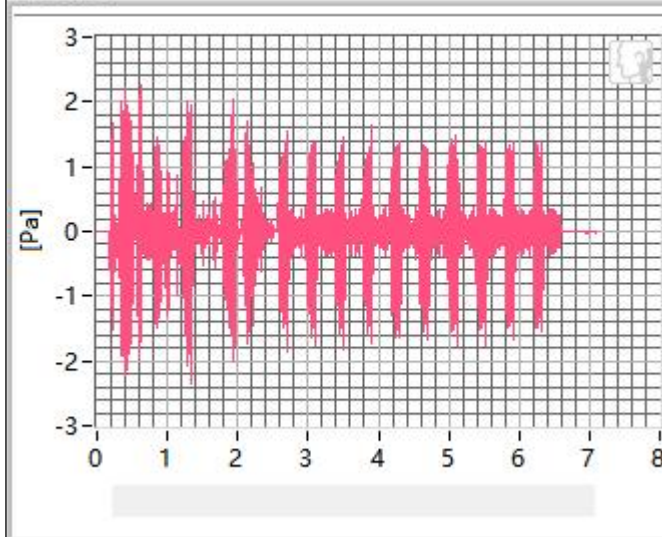
250Hz



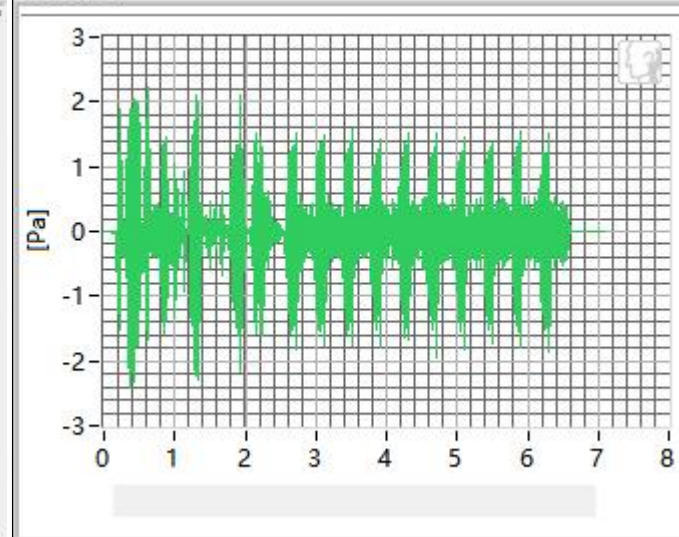
315Hz



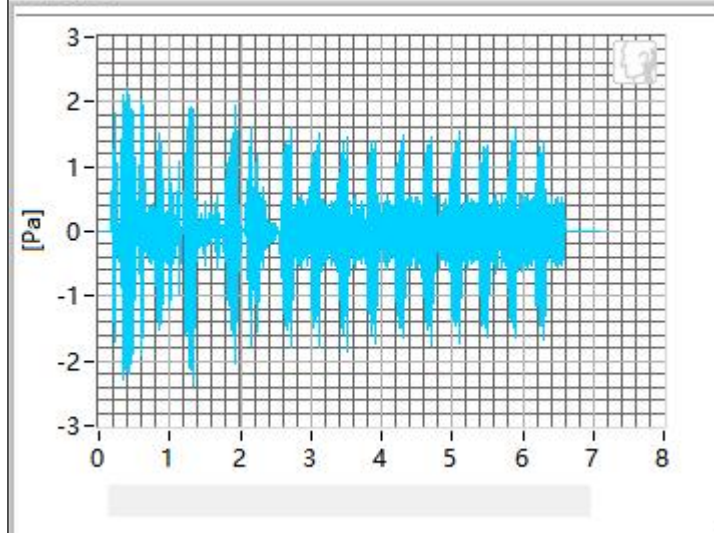
400Hz



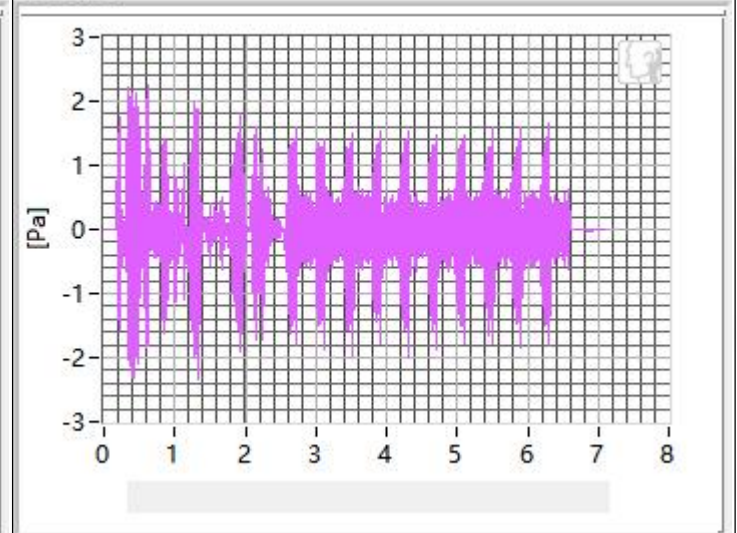
500Hz



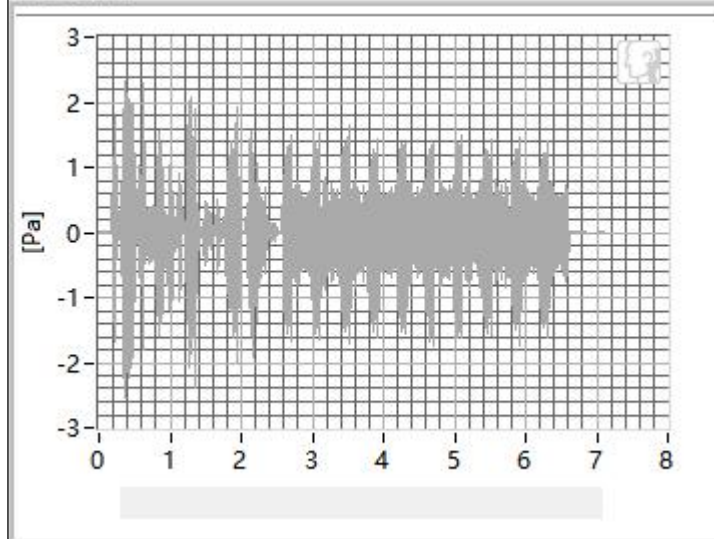
630Hz



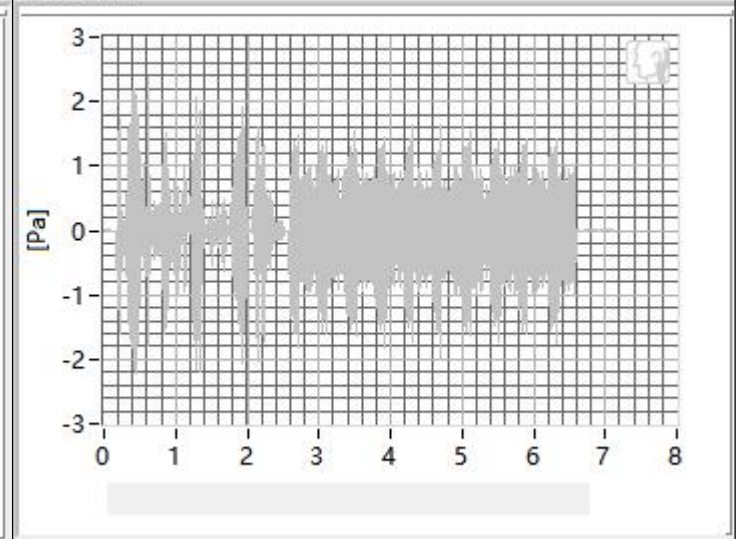
800Hz



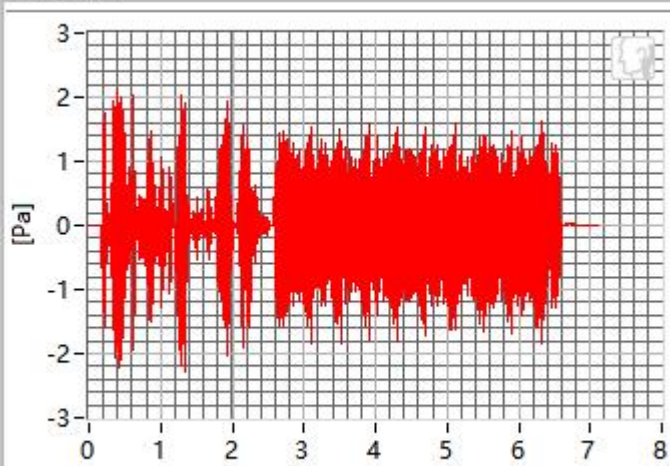
1000Hz



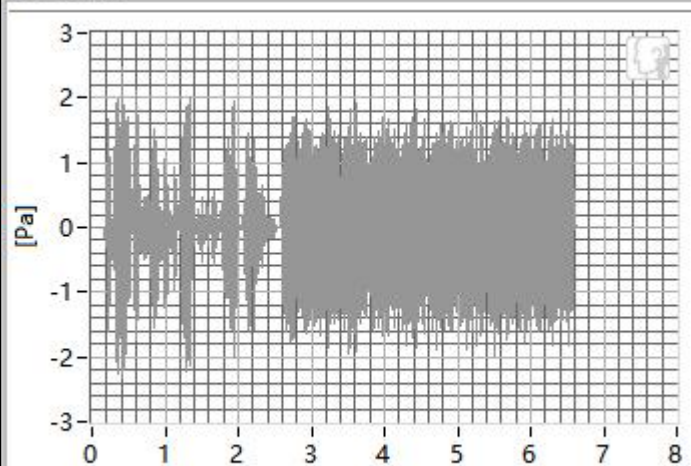
1250Hz



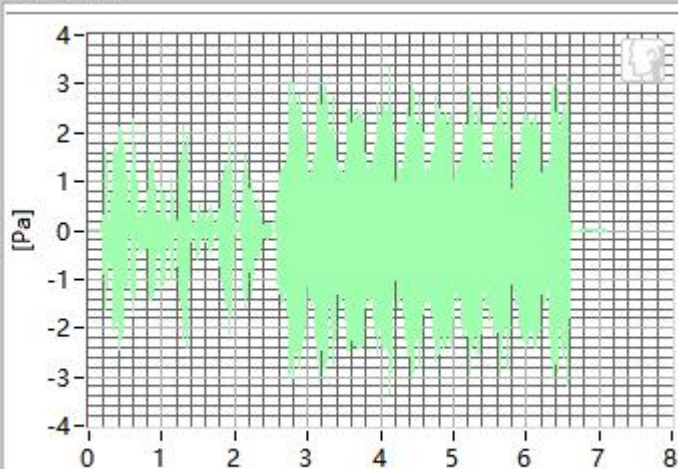
1600Hz



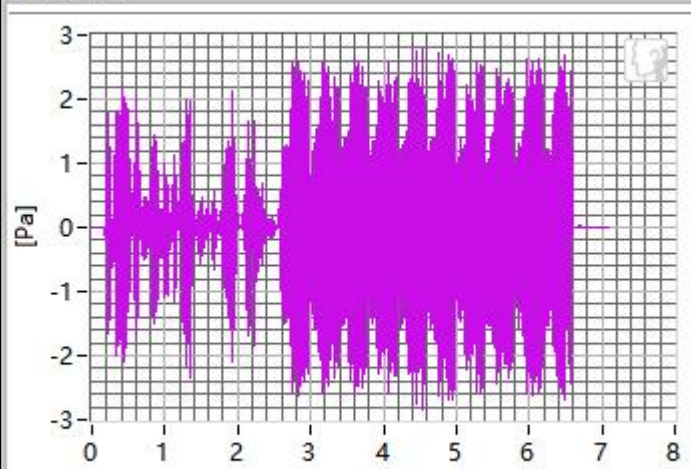
2000Hz



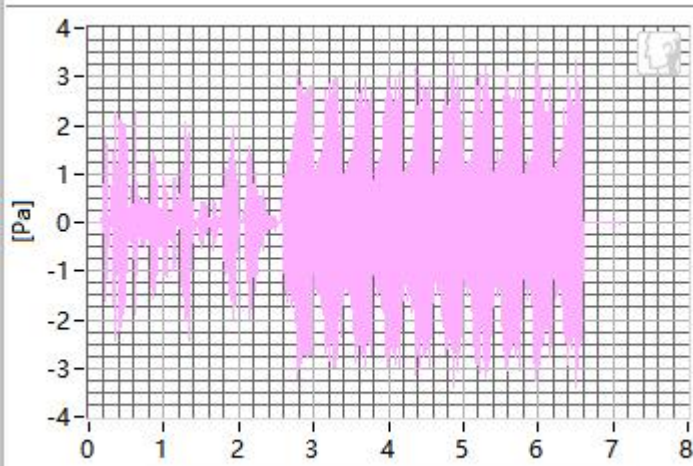
2500Hz



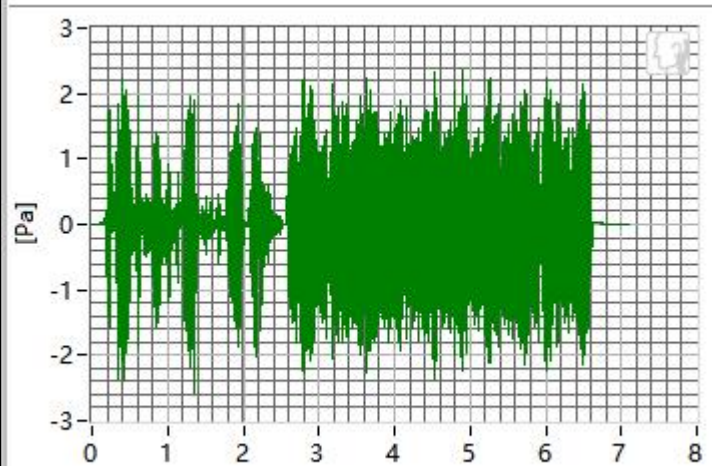
3150Hz



4000Hz



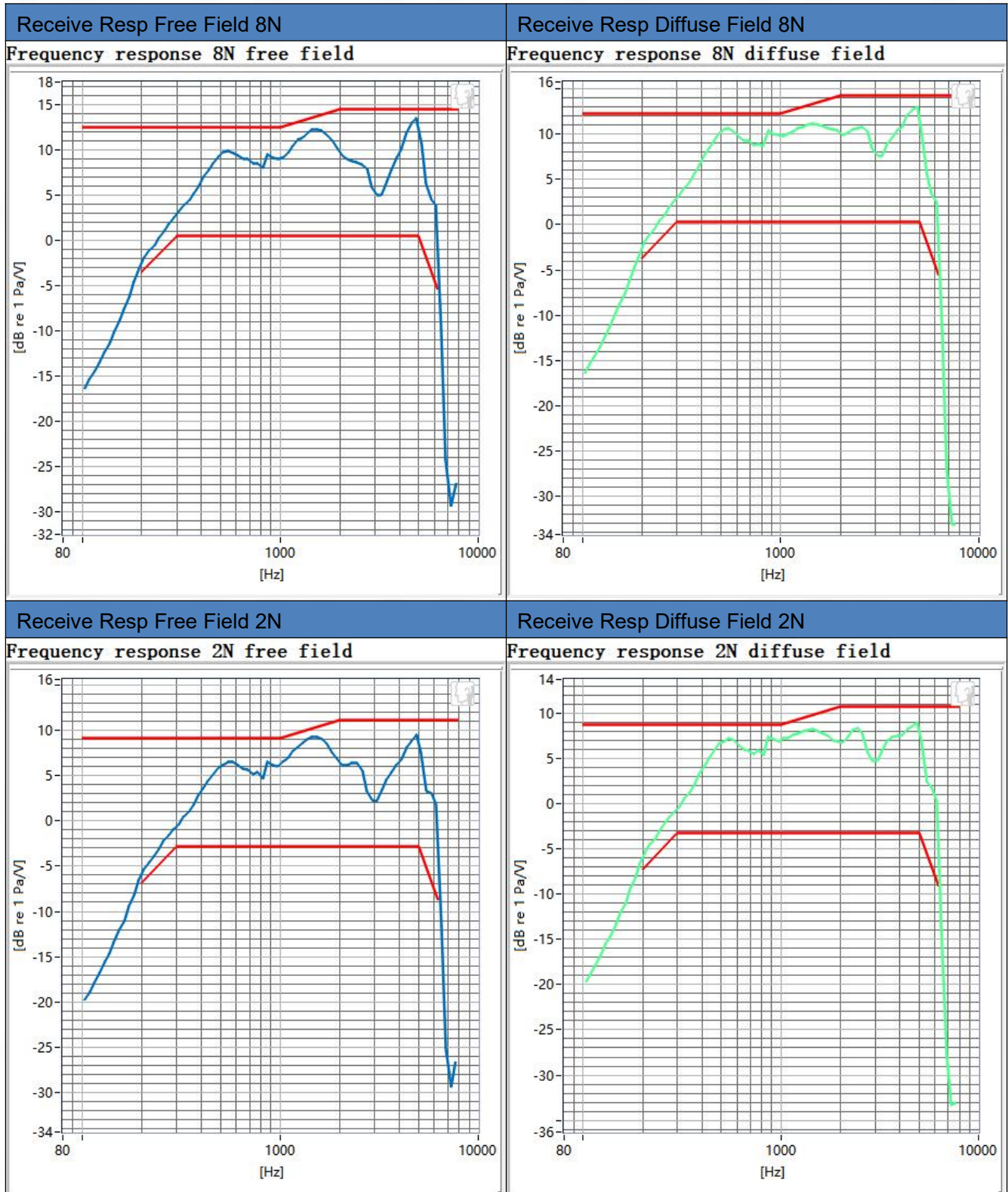
5000Hz



Frequency	SDNR	Frequency	SDNR
250Hz	21.11 dB	1250Hz	24.61 dB
315Hz	21.93 dB	1600Hz	24.61 dB
400Hz	24.17 dB	2000Hz	21.56 dB
500Hz	26.59 dB	2500Hz	27.57 dB
630Hz	31.33 dB	3150Hz	27.48 dB
800Hz	26.38 dB	4000Hz	26.50 dB
1000Hz	28.30 dB	5000Hz	22.87 dB

All SDNRs were greater than 20.0 dB, requirement was met. Smallest SDNR was 21.11 dB at 250Hz.

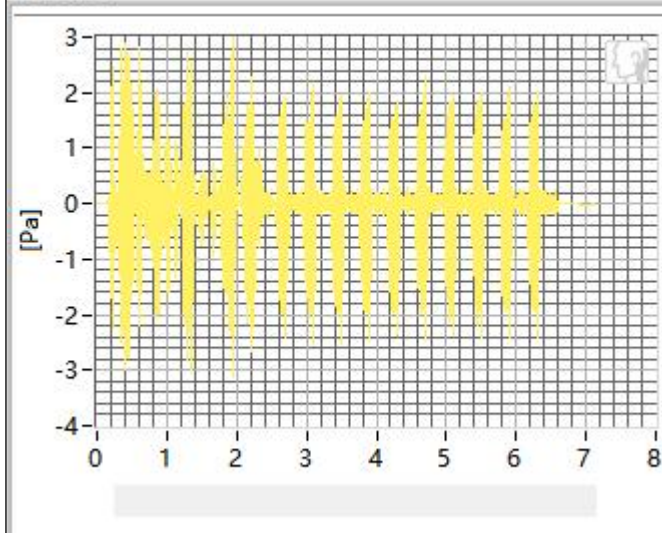
1.3 Receive Frequency Response



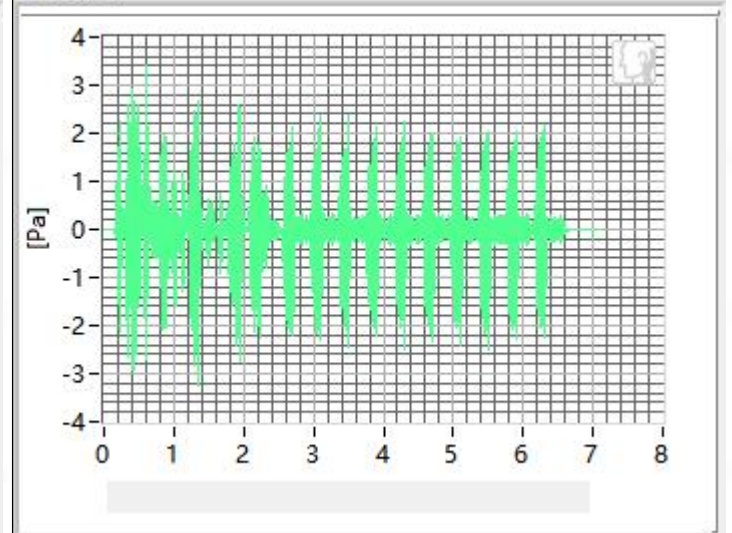
2. NR Band 5 in channel 167300

2.1 Receive Distortion and Noise 8N WB

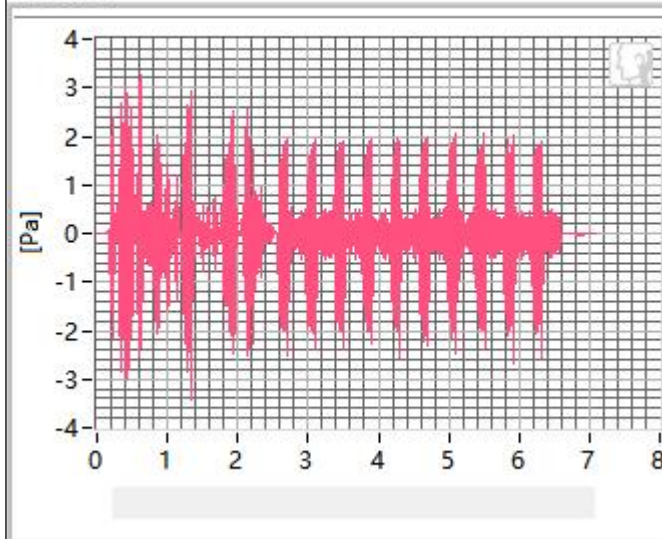
250Hz



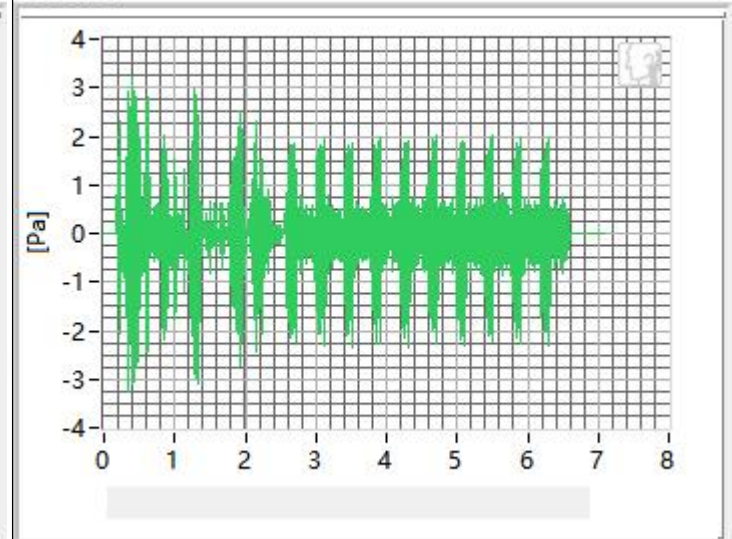
315Hz

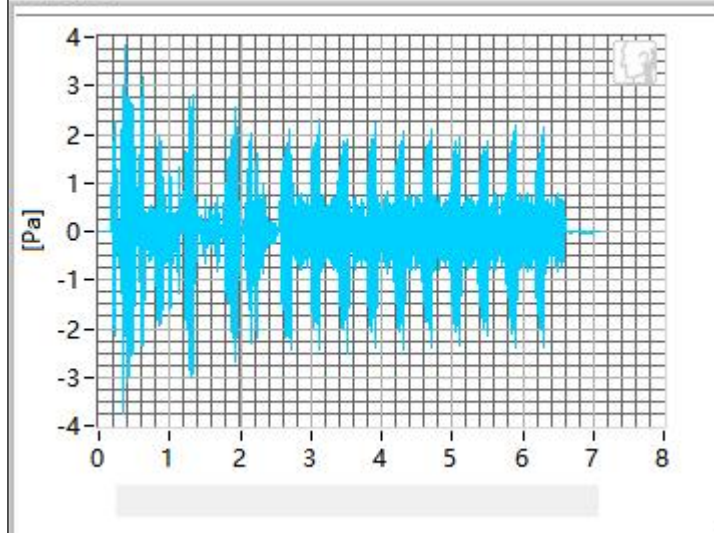
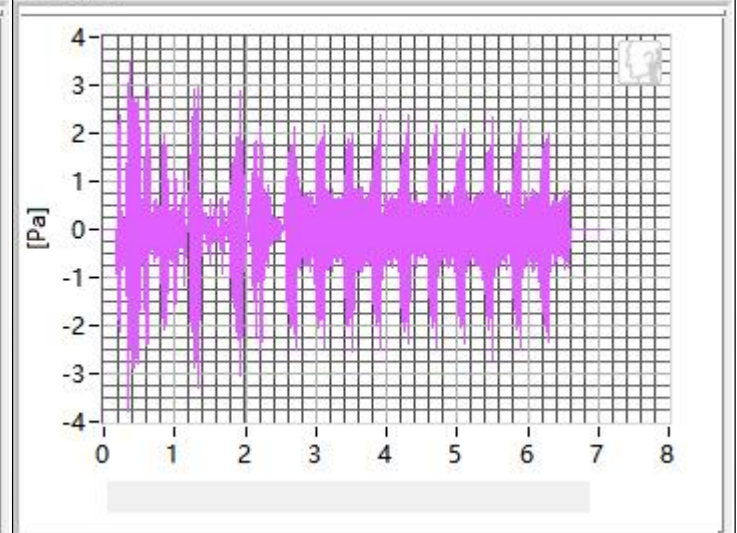
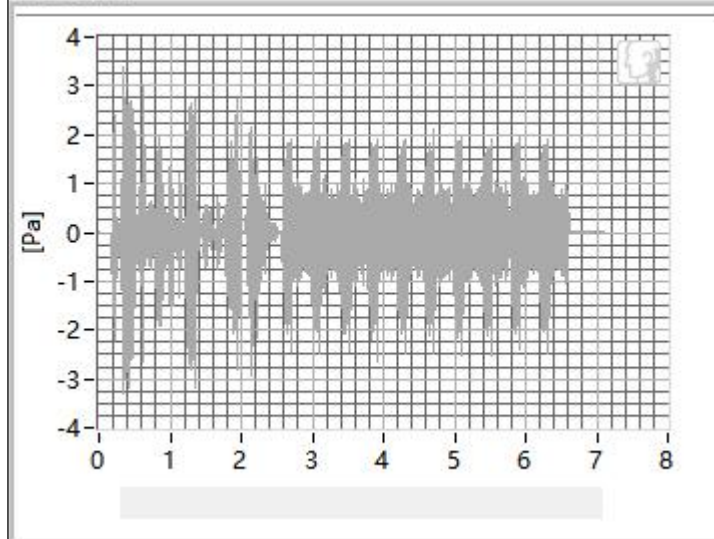
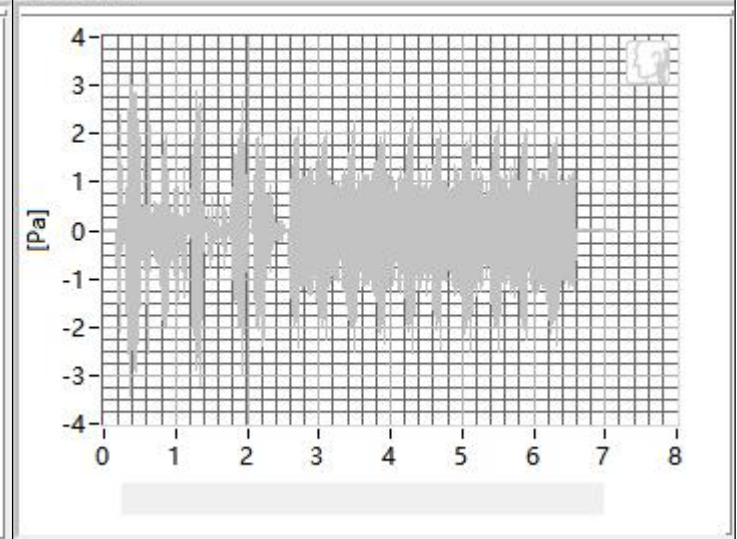


400Hz

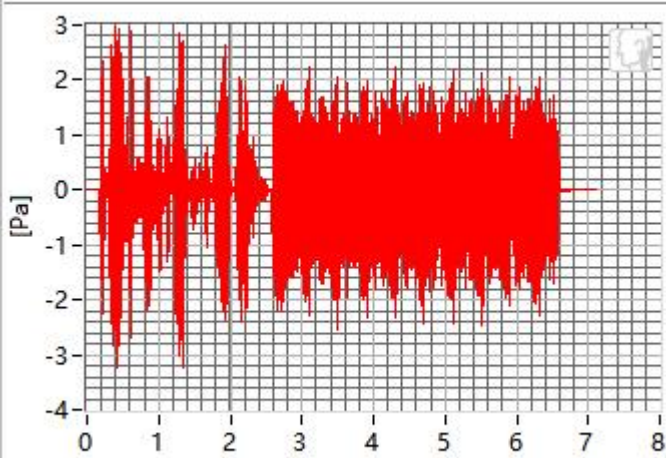


500Hz

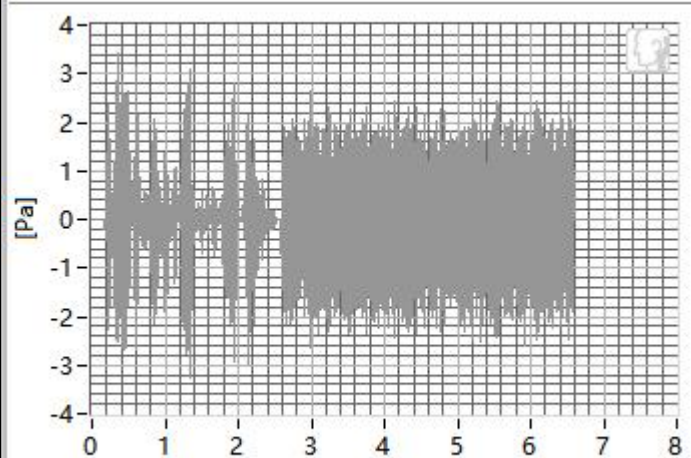


630Hz**800Hz****1000Hz****1250Hz**

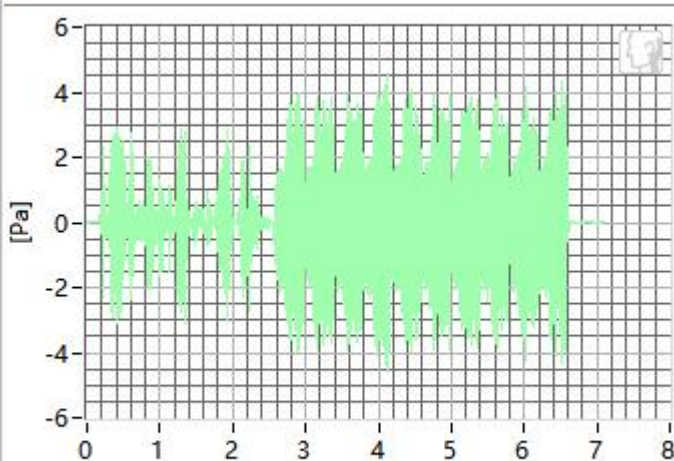
1600Hz



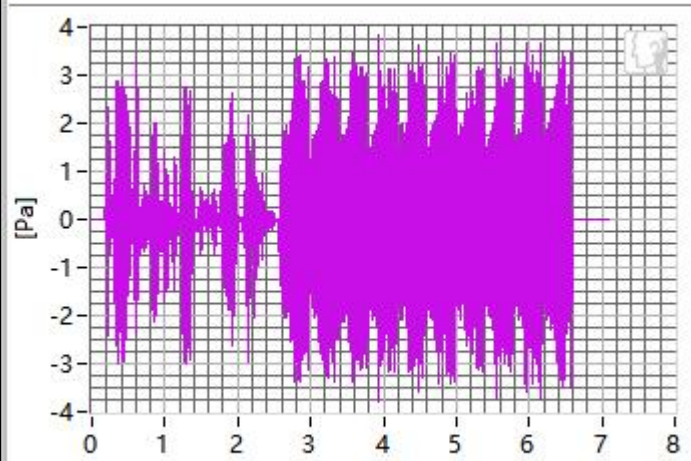
2000Hz



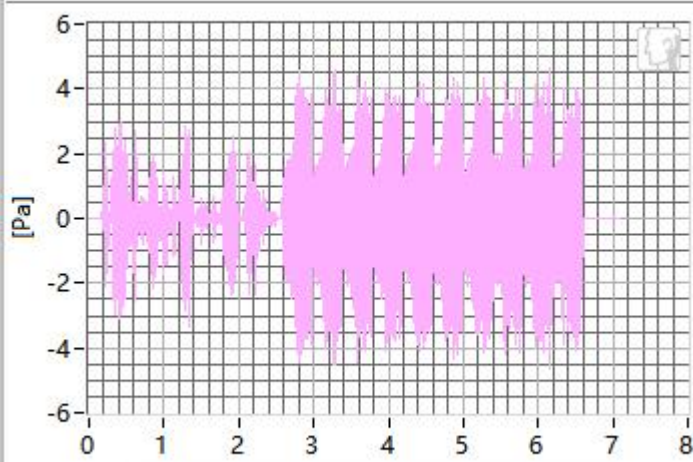
2500Hz



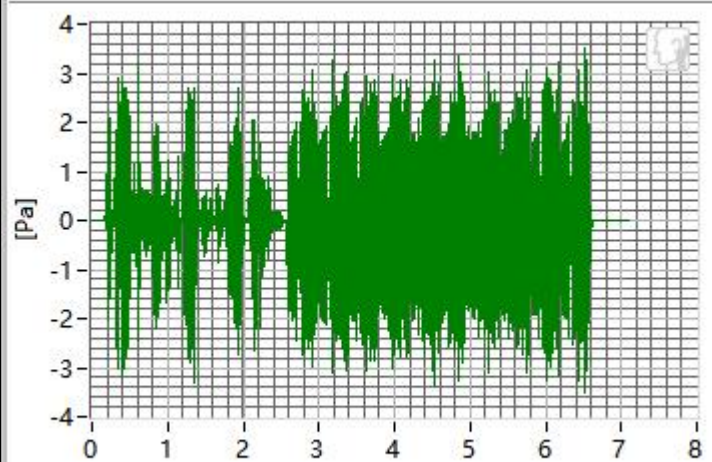
3150Hz



4000Hz



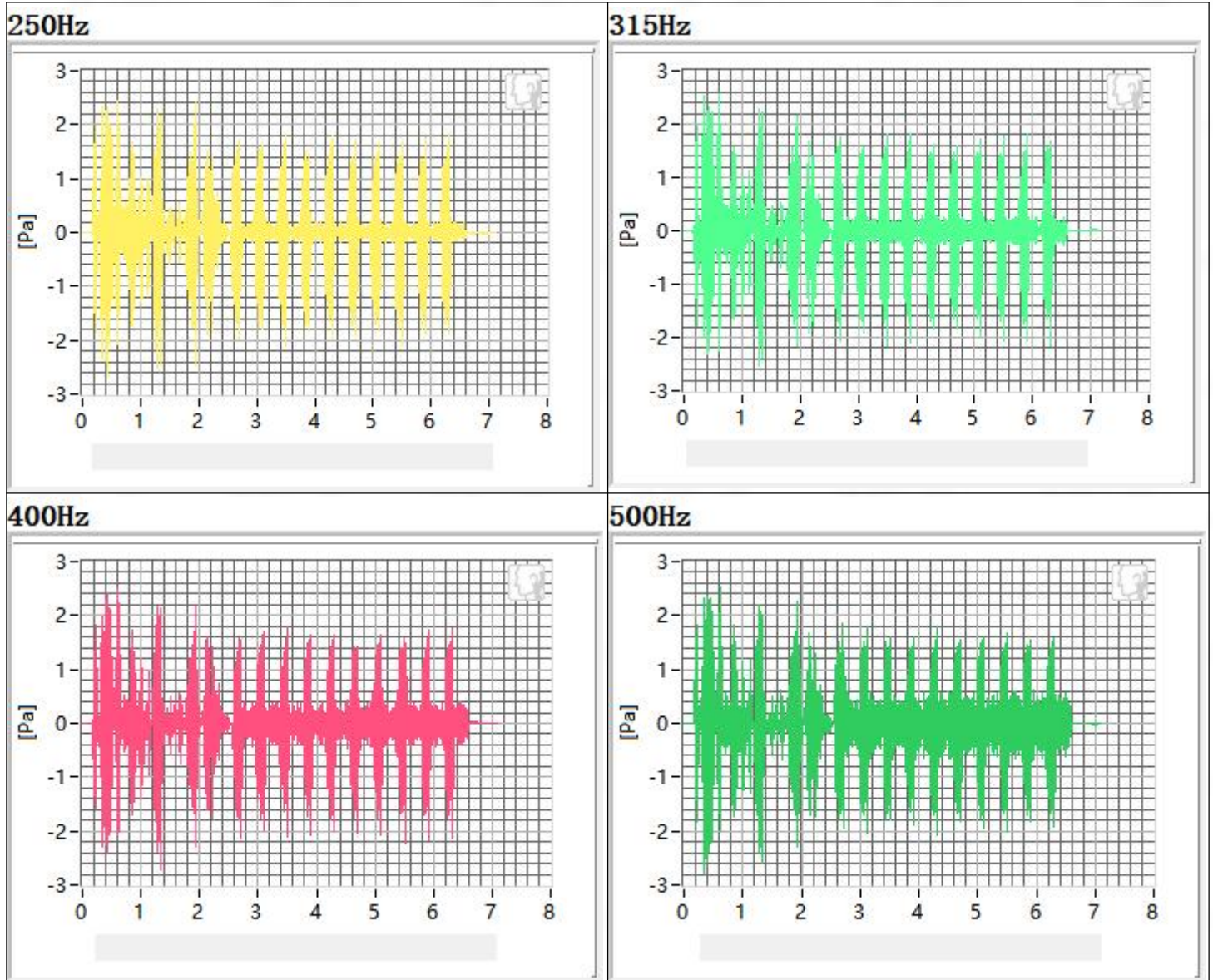
5000Hz



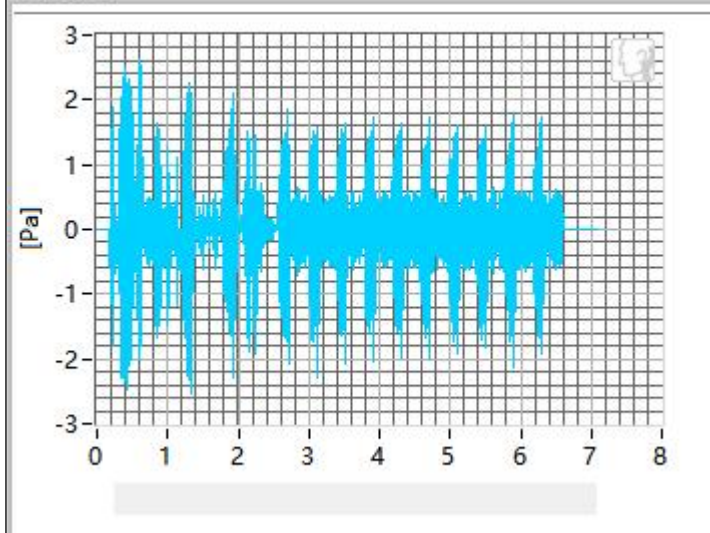
Frequency	SDNR	Frequency	SDNR
250Hz	20.90 dB	1250Hz	24.35 dB
315Hz	22.01 dB	1600Hz	24.26 dB
400Hz	23.93 dB	2000Hz	22.01 dB
500Hz	27.62 dB	2500Hz	27.06 dB
630Hz	30.61 dB	3150Hz	27.08 dB
800Hz	27.74 dB	4000Hz	28.21 dB
1000Hz	26.80 dB	5000Hz	22.85 dB

All SDNRs were greater than 20.0 dB, requirement was met. Smallest SDNR was 20.90 dB at 250 Hz.

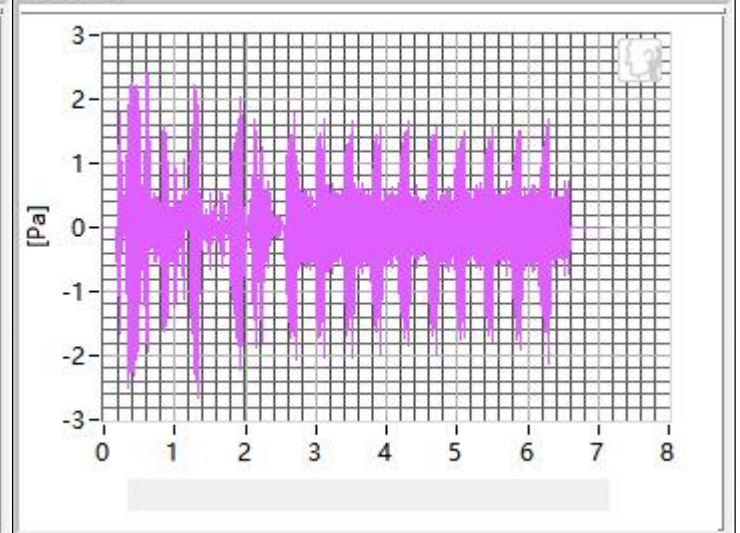
2.2 Receive Distortion and Noise 2N WB



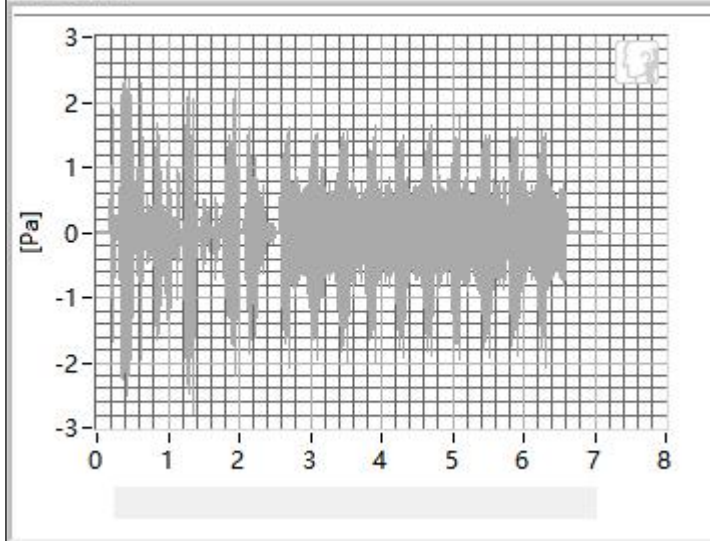
630Hz



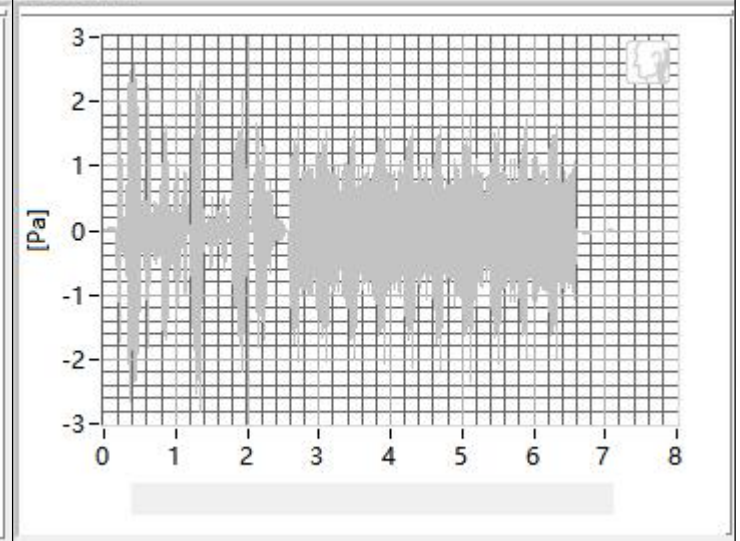
800Hz



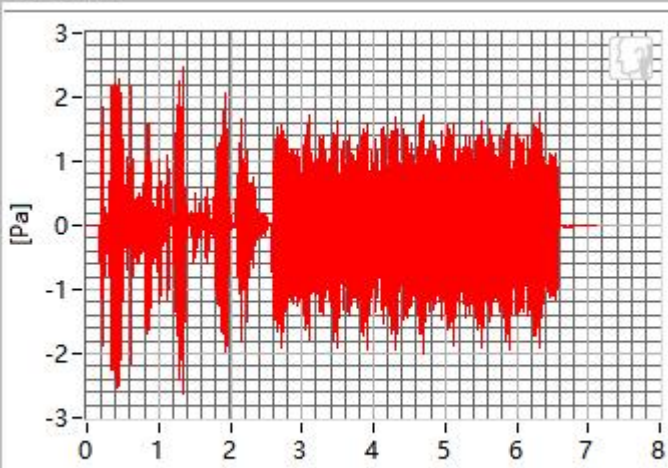
1000Hz



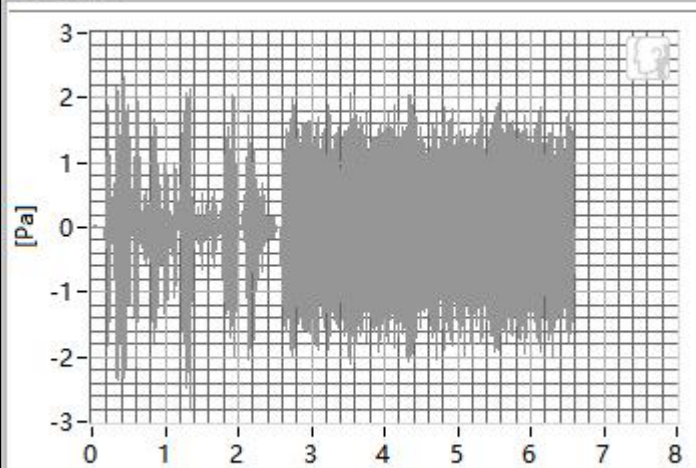
1250Hz



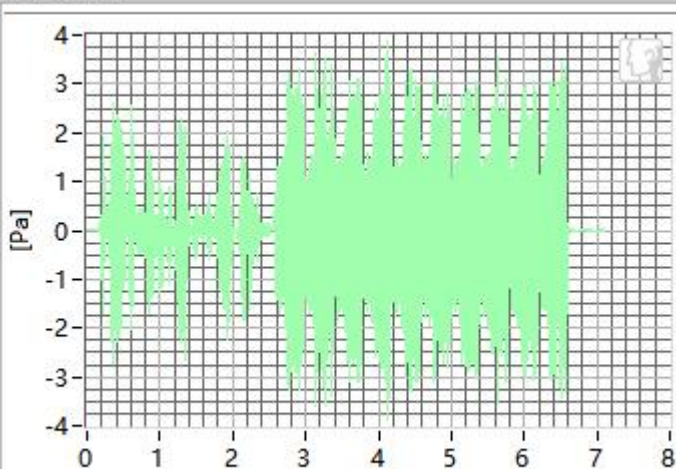
1600Hz



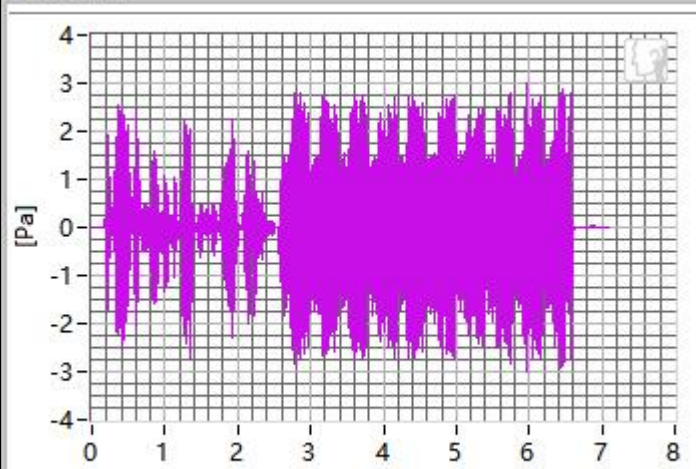
2000Hz



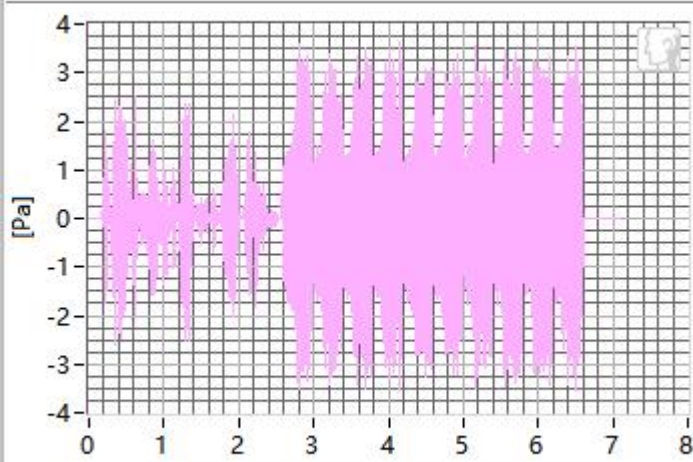
2500Hz



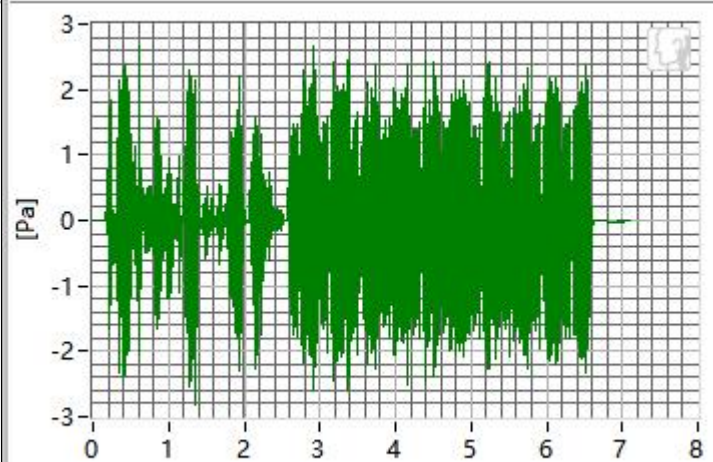
3150Hz



4000Hz



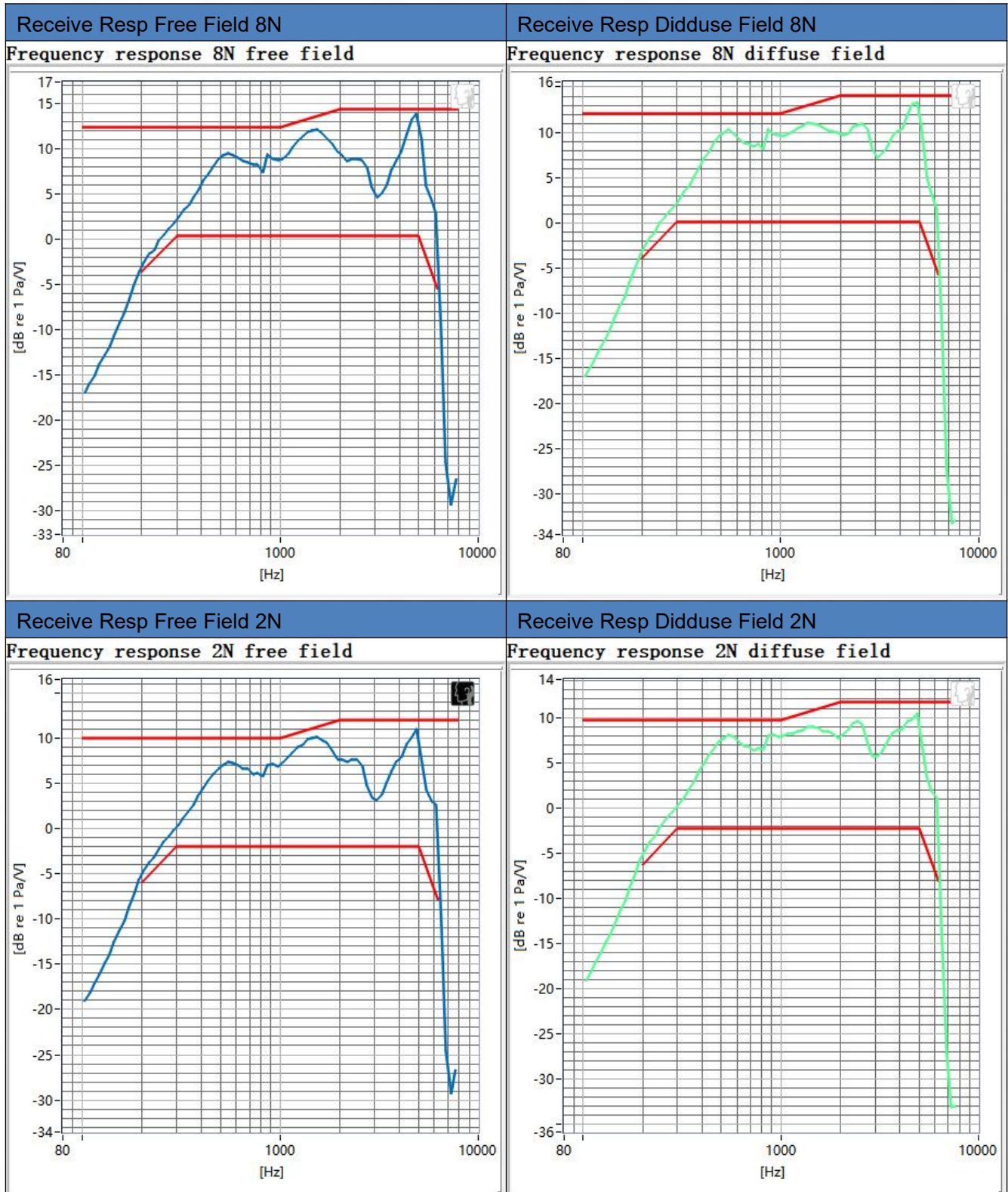
5000Hz



Frequency	SDNR	Frequency	SDNR
250Hz	21.40 dB	1250Hz	23.66 dB
315Hz	21.94 dB	1600Hz	24.42 dB
400Hz	24.15 dB	2000Hz	22.31 dB
500Hz	27.68 dB	2500Hz	27.99 dB
630Hz	30.21 dB	3150Hz	26.71 dB
800Hz	28.34 dB	4000Hz	27.85 dB
1000Hz	26.12 dB	5000Hz	23.33 dB

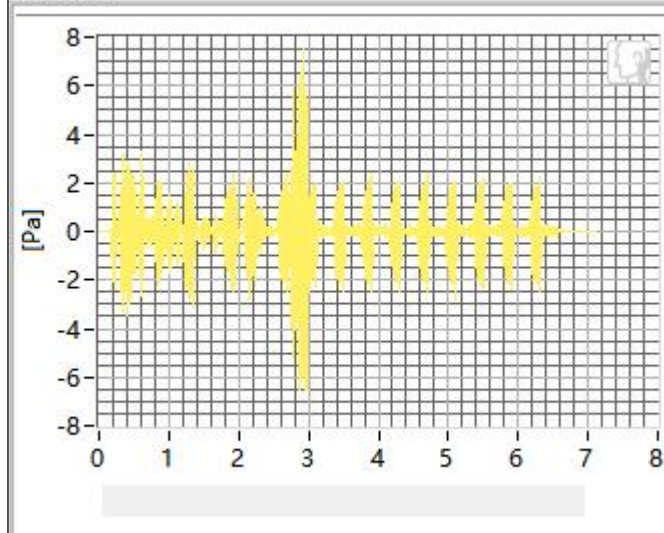
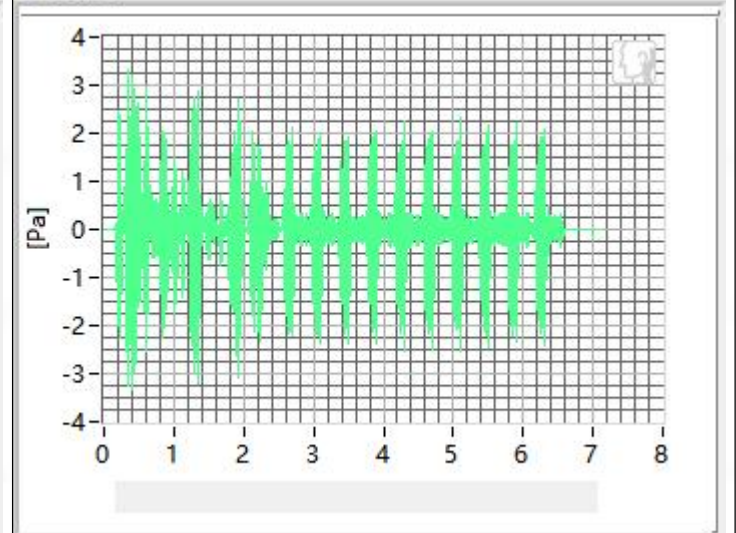
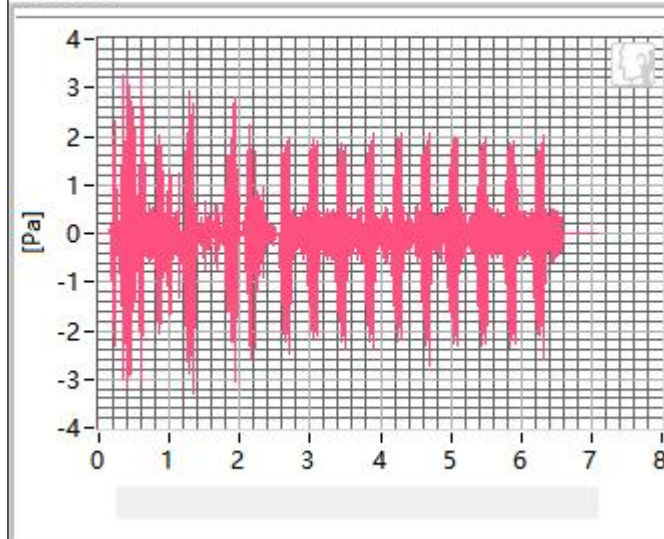
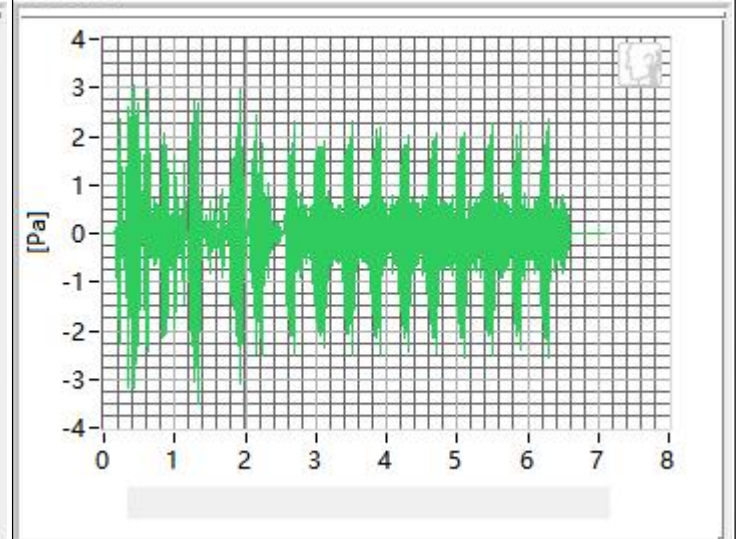
All SDNRs were greater than 20.0 dB, requirement was met. Smallest SDNR was 21.40 dB at 250Hz.

2.3 Receive Frequency Response

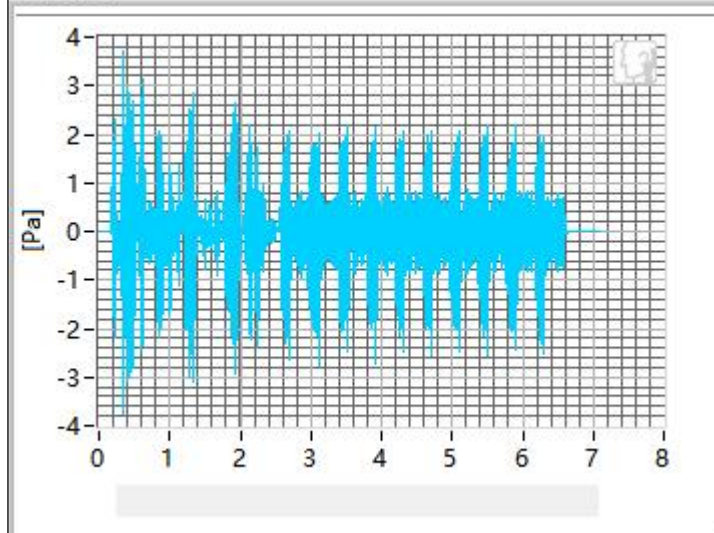


3. IEEE 802.11b ISM in channel 6

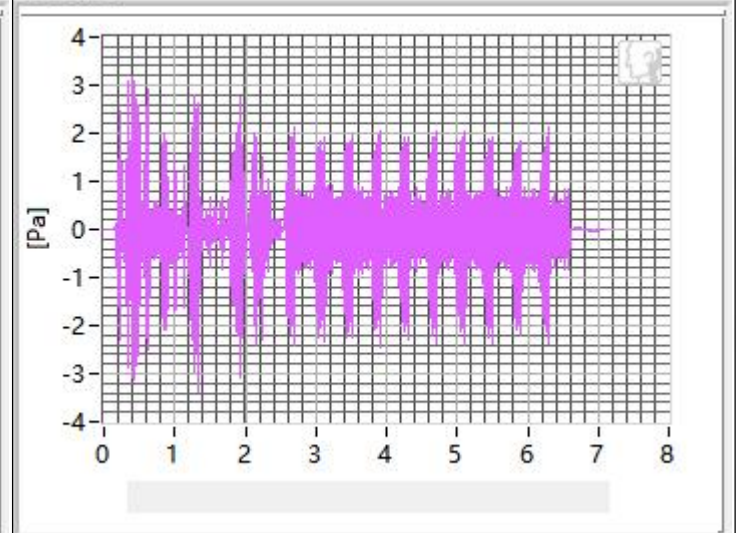
3.1 Receive Distortion and Noise 8N WB

250Hz**315Hz****400Hz****500Hz**

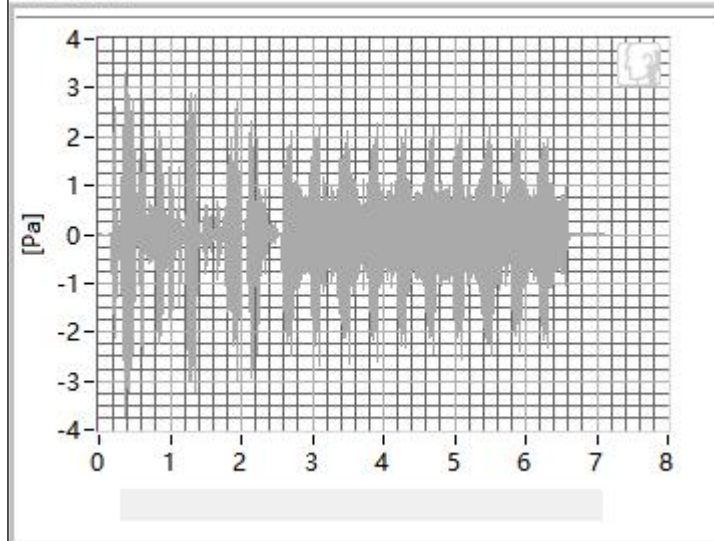
630Hz



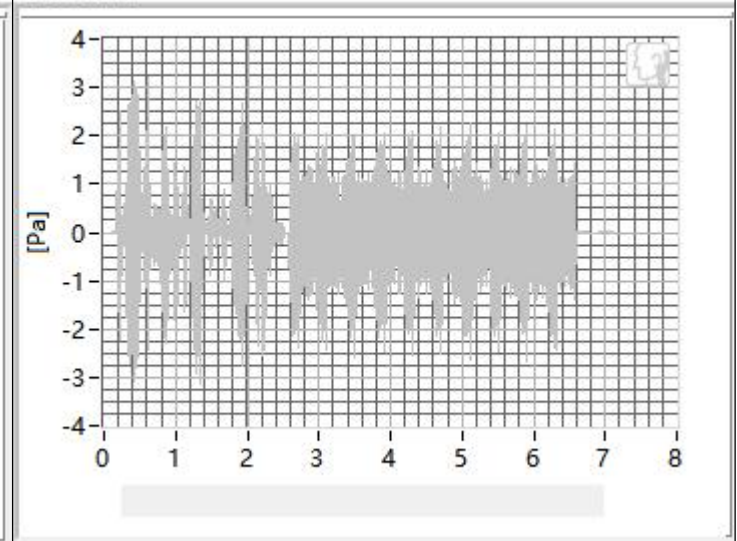
800Hz



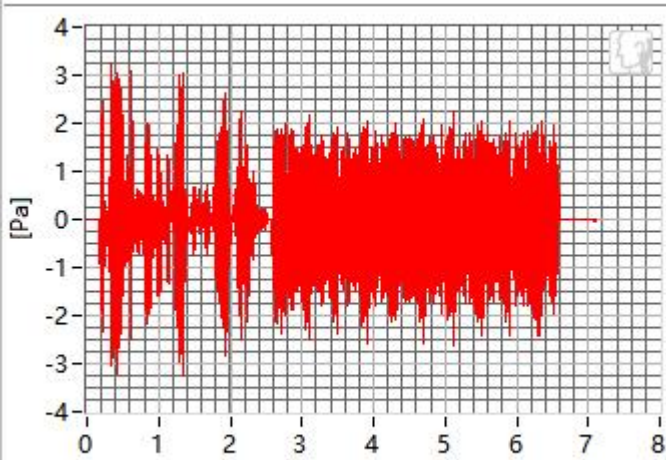
1000Hz



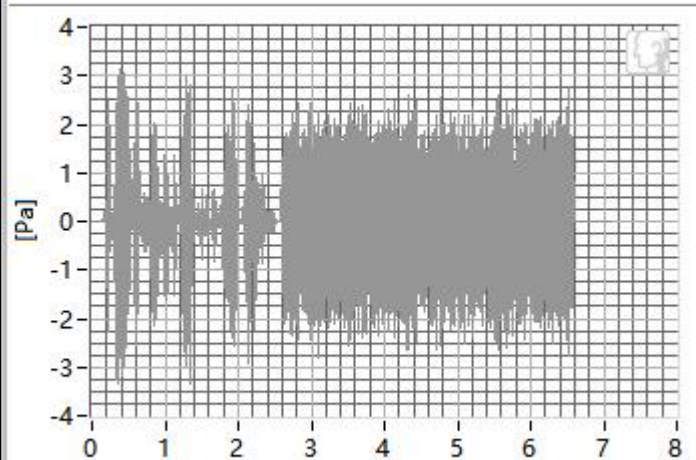
1250Hz



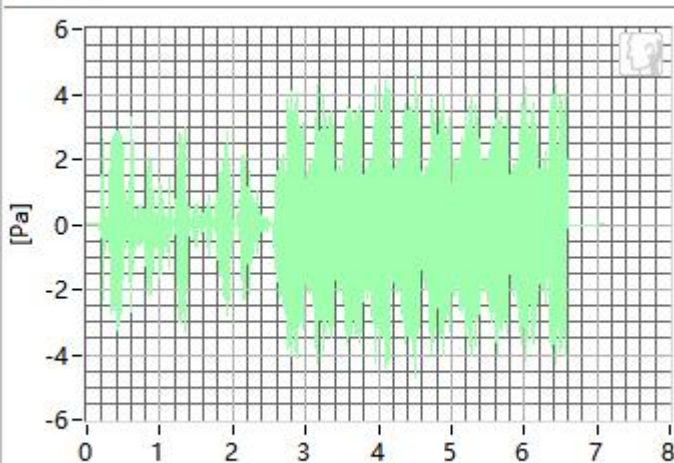
1600Hz



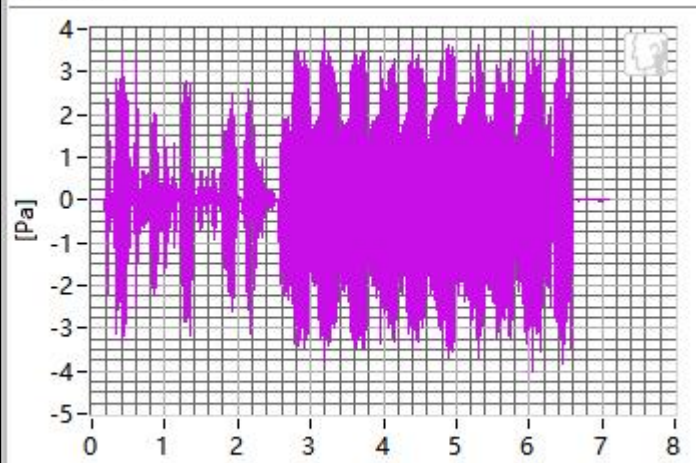
2000Hz



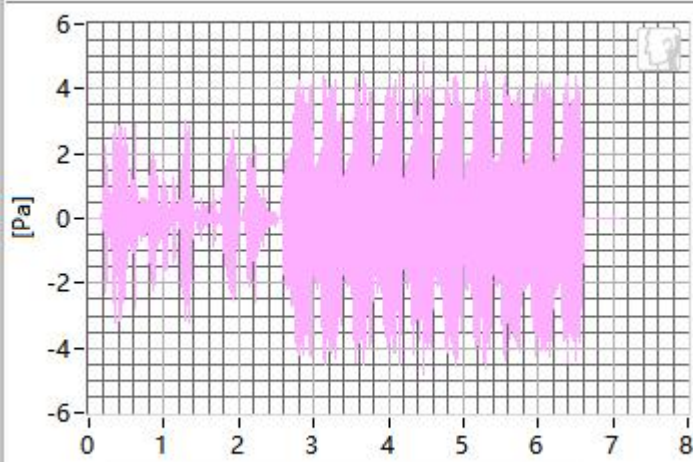
2500Hz



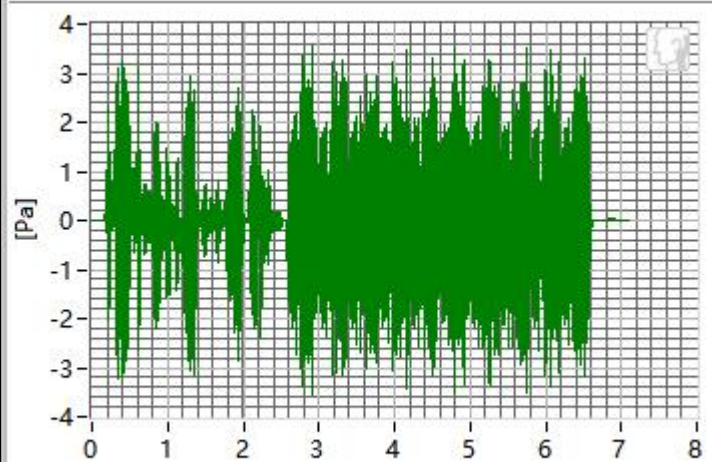
3150Hz



4000Hz



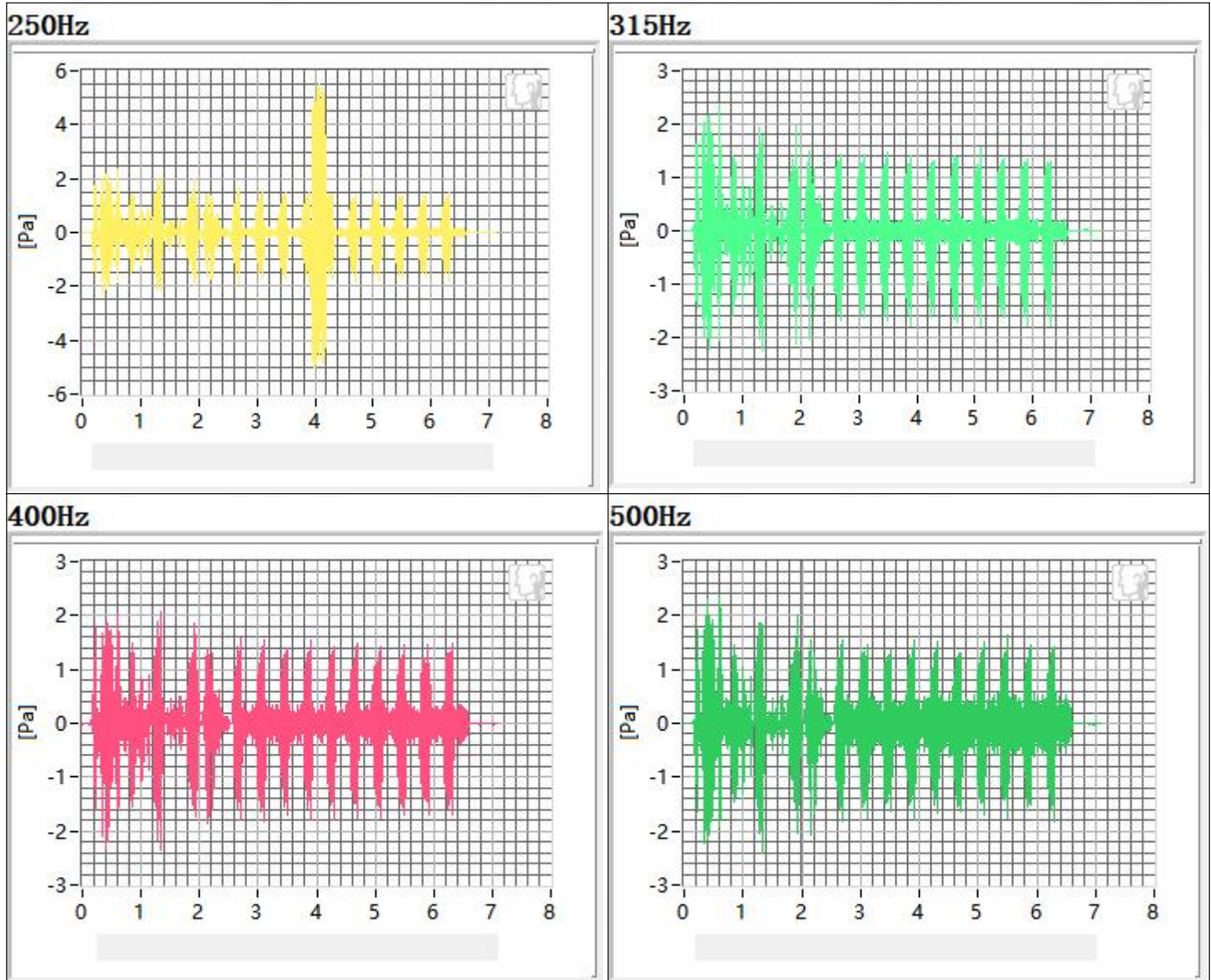
5000Hz



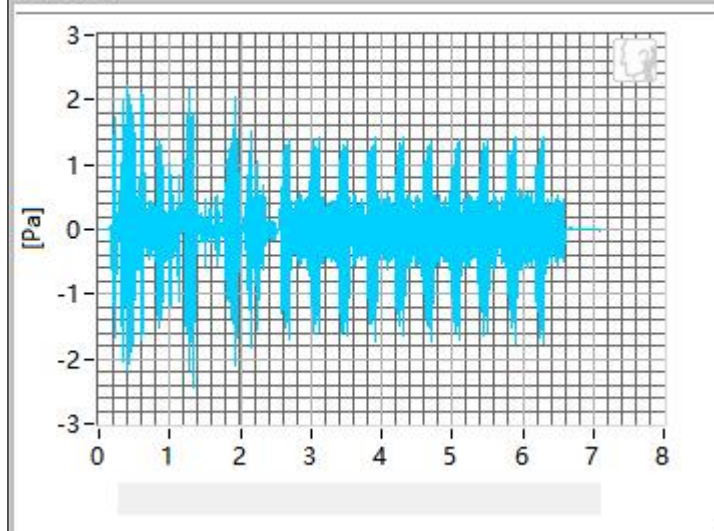
Frequency	SDNR	Frequency	SDNR
250Hz	21.09 dB	1250Hz	24.99 dB
315Hz	21.69 dB	1600Hz	24.50 dB
400Hz	23.84 dB	2000Hz	21.45 dB
500Hz	28.10 dB	2500Hz	26.40 dB
630Hz	30.74 dB	3150Hz	27.15 dB
800Hz	28.39 dB	4000Hz	27.53 dB
1000Hz	26.64 dB	5000Hz	21.86 dB

All SDNRs were greater than 20.0 dB, requirement was met. Smallest SDNR was 21.09 dB at 250Hz.

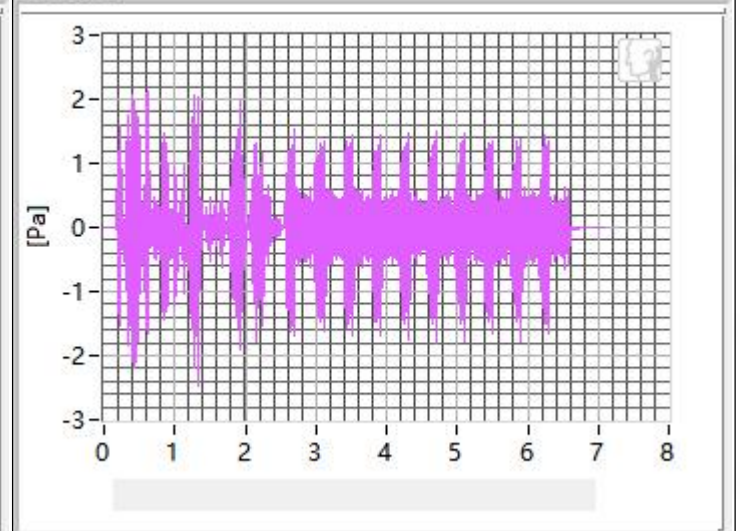
3.2 Receive Distortion and Noise 2N WB



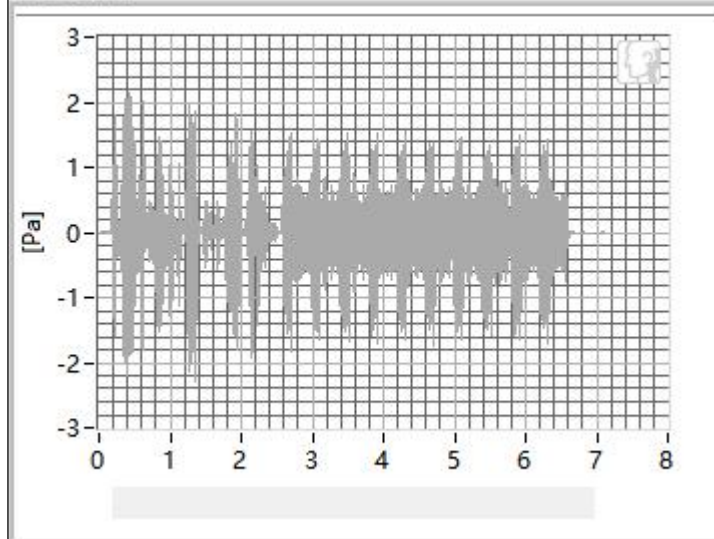
630Hz



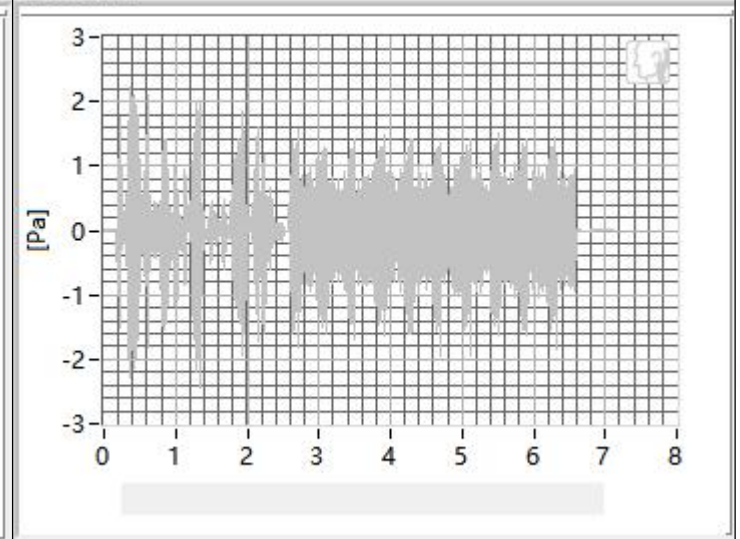
800Hz



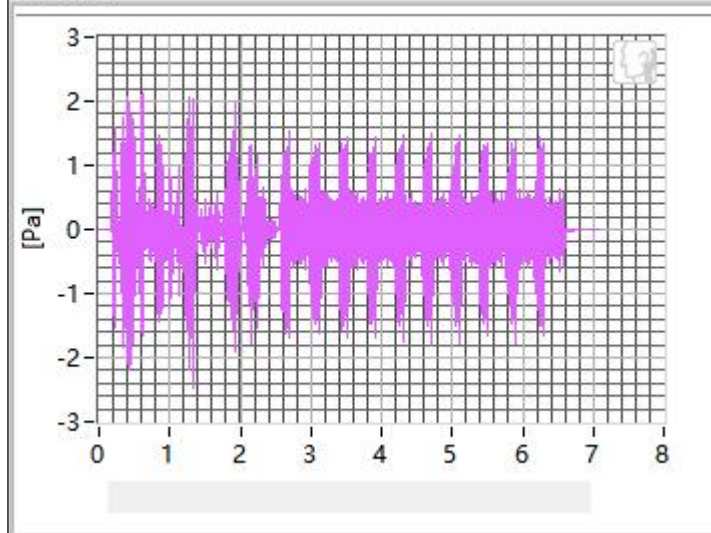
1000Hz



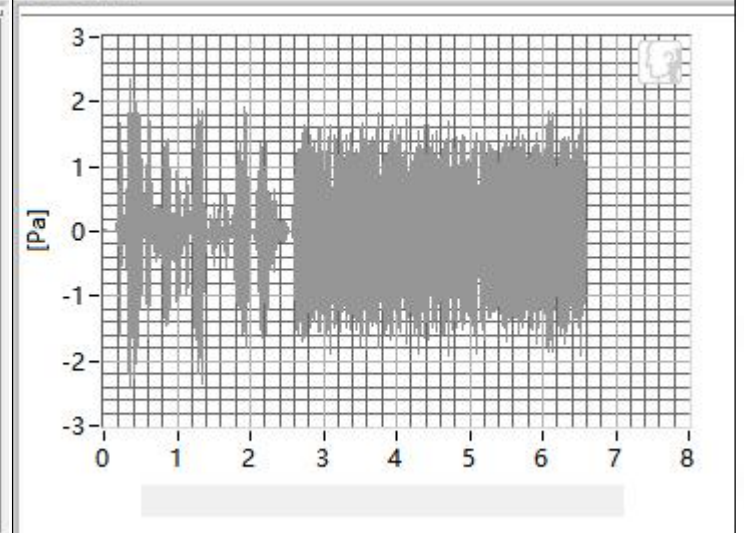
1250Hz



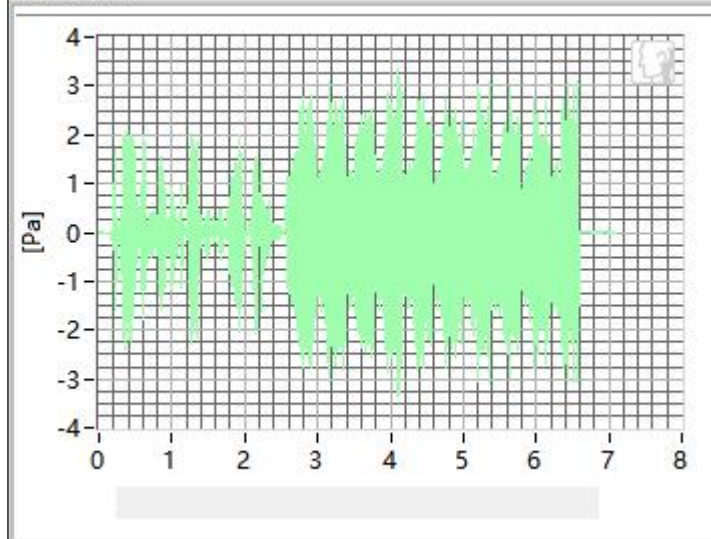
800Hz



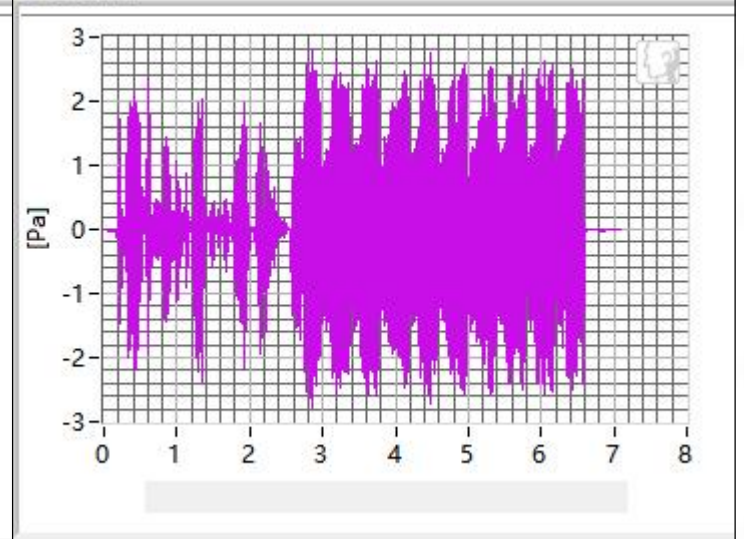
2000Hz



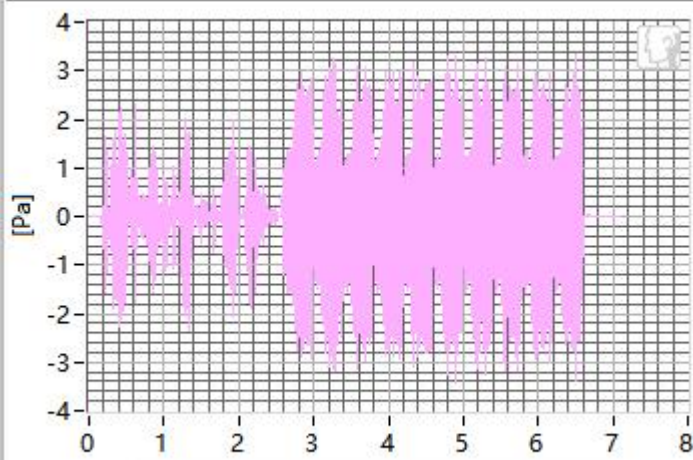
2500Hz



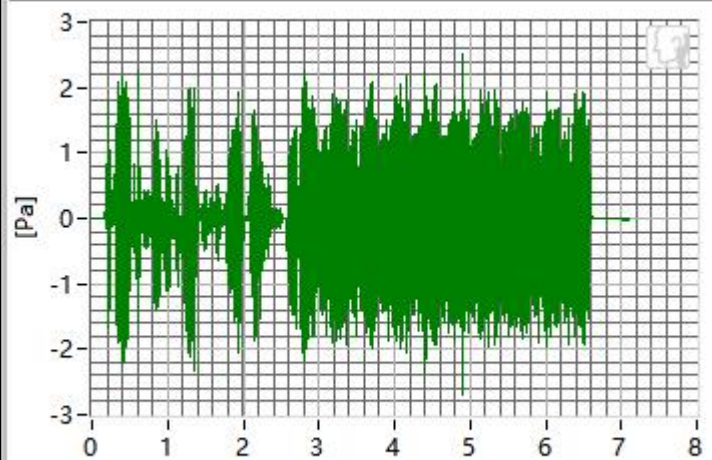
3150Hz



4000Hz



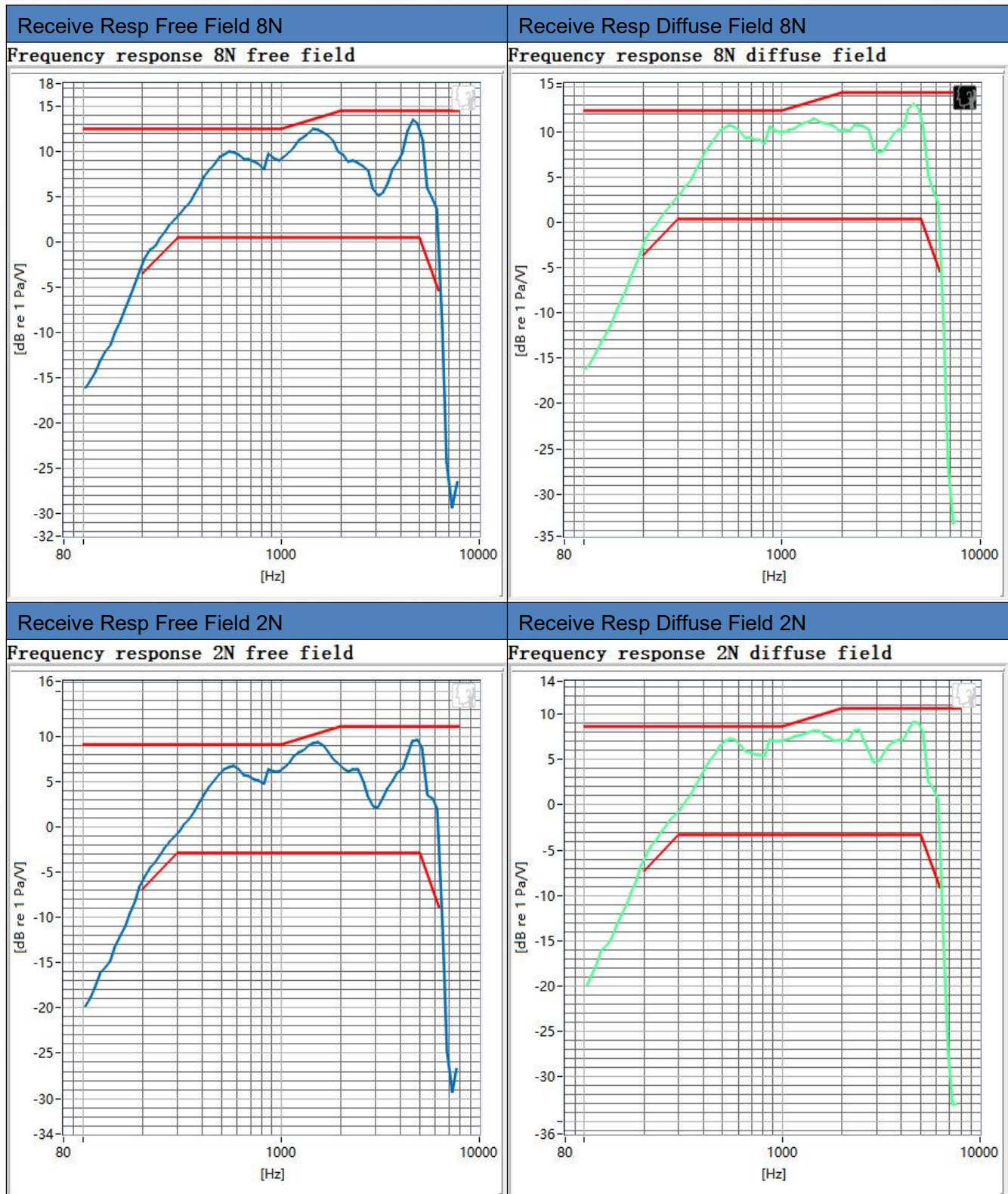
5000Hz



Frequency	SDNR	Frequency	SDNR
250Hz	20.98 dB	1250Hz	24.15 dB
315Hz	21.57 dB	1600Hz	25.03 dB
400Hz	23.99 dB	2000Hz	21.56 dB
500Hz	27.74 dB	2500Hz	27.15 dB
630Hz	30.10 dB	3150Hz	27.53 dB
800Hz	28.29 dB	4000Hz	27.58 dB
1000Hz	26.32 dB	5000Hz	22.01 dB

All SDNRs were greater than 20.0 dB, requirement was met. Smallest SDNR was 20.98 dB at 250Hz.

3.3 Receive Frequency Response



ANNEX B Test Setup Photo

Please refer to the document “ANNEX B Test Setup Photo_VC.pdf”.

ANNEX C CALIBRATION REPORT

Please refer to the document “CALIBRATION REPORT.pdf”.



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--END OF REPORT--