



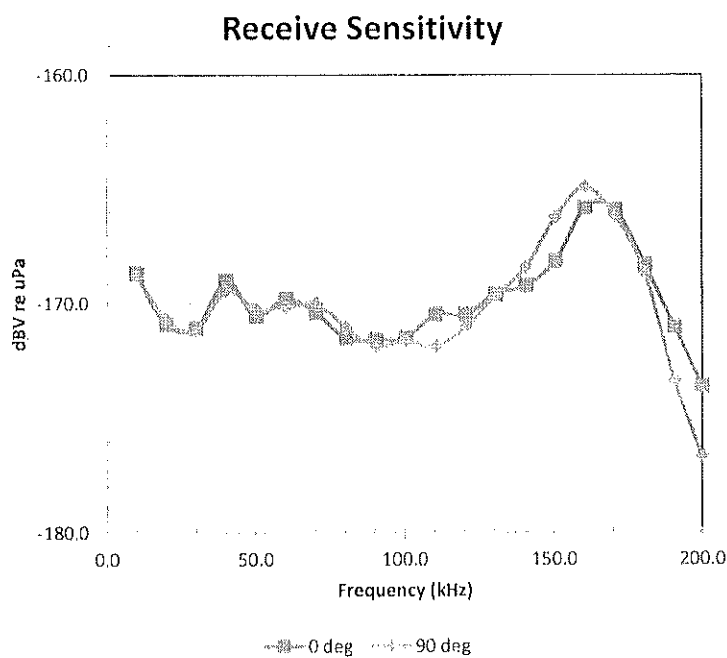
Certificate of Calibration

Ocean Sonics, Ltd.

Calibration Certificate Number: **C7086**

Test Result: 10 kHz to 100 kHz: -170.3 ± 1.6
10 kHz to 200 kHz: -170.8 ± 5.9

Model Number	SB35-ETH	Projector Manufacturer	Ocean Sonics
Serial Number	1389	Projector Model	TH2-SER-4F
Manufacture Date	21-May-2015	Projector Serial	2225
Measurement Date	8-Mar-2023	Measurement Distance	1 m
Certificate Date	8-Mar-2023	Output Level	129.7 dB re μ Pa @ 1 m
Sensitivity @ 26 Hz	-168.9 dB re V / μ Pa	Tone Burst	100.0 us / 300 ms
Case Type	Titanium	Reference Manufacturer	Ocean Sonics
Element Manufacturer	GeoSpectrum	Reference Model	RB9-ETH
Element Model	M24HF	Reference Serial	2080
Element Serial	1773	Primary Calibration	20-Jan-2020
Preamplifier Model	04-300419-01	Preamplifier Manufacturer	Ocean Sonics
Calibrated By	D.Lee	Preamplifier Model	04-300449-01
Work Order Number	W45-135	Preamplifier Serial	M58
Test Type	RX Sensitivity	Preamplifier Gain	36 dB
Test Procedure	Complex RMS	ADC Manufacturer	Ocean Sonics
Test Location	Tank #3, 1 m	ADC Model Number	04-300426-01
Water Temperature	16 °C	ADC Serial Number	M59



Frequency	Sensitivity [dBV re μ Pa]	
kHz	0 deg	90 deg
10.0	-168.7	-168.8
20.1	-170.9	-170.7
30.1	-171.1	-171.2
40.2	-169.0	-169.4
50.2	-170.6	-170.2
60.2	-169.8	-170.2
70.3	-170.4	-170.0
80.3	-171.6	-171.0
90.4	-171.6	-171.9
100.4	-171.5	-171.7
110.4	-170.5	-171.9
120.5	-170.5	-171.1
130.5	-169.6	-169.7
140.5	-169.2	-168.4
150.6	-168.2	-166.3
160.6	-165.8	-164.9
170.7	-165.9	-166.2
180.7	-168.3	-168.7
190.7	-171.1	-173.4
200.0	-173.6	-176.7