



## Certificate of Calibration

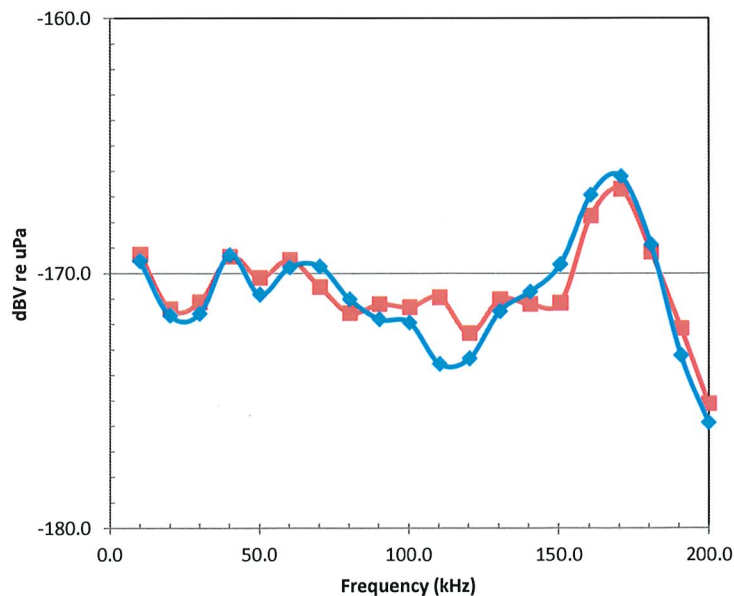
Ocean Sonics, Ltd.

Calibration Certificate Number: **C5361**

Test Result: 10 kHz to 100 kHz:  $-170.6 \pm 1.3$   
10 kHz to 200 kHz:  $-171.0 \pm 4.8$

Model Number	SB35-ETH	Projector Manufacturer	Ocean Sonics
Serial Number	1363	Projector Model	TH2-SER-4F
Manufacture Date		Projector Serial	2225
Measurement Date	27-Oct-2020	Measurement Distance	1 m
Certificate Date	27-Oct-2020	Output Level	130.2 dB re uPa @ 1 m
Sensitivity @ 26 Hz	-168.8 dB re V / uPa	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	1772	Primary Calibration	20-Jan-2020
Preamp Model	04-300419-01	Preamp Manufacturer	Ocean Sonics
Calibrated By	Cody Ellis	Preamp Model	04-300449-01
Work Order Number	R309	Preamp Serial	M58
Test Type	RX Sensitivity	Preamp 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

Receive Sensitivity



Frequency	Sensitivity [dBV re uPa]	
kHz	0 deg	90 deg
10.0	-169.3	-169.5
20.1	-171.4	-171.7
30.1	-171.1	-171.6
40.2	-169.4	-169.3
50.2	-170.2	-170.8
60.2	-169.5	-169.8
70.3	-170.6	-169.7
80.3	-171.6	-171.0
90.4	-171.2	-171.8
100.4	-171.3	-171.9
110.4	-171.0	-173.6
120.5	-172.4	-173.3
130.5	-171.0	-171.5
140.5	-171.2	-170.7
150.6	-171.2	-169.7
160.6	-167.8	-166.9
170.7	-166.7	-166.2
180.7	-169.2	-168.9
190.7	-172.2	-173.2
200.0	-175.1	-175.9