



## Certificate of Calibration

Ocean Sonics, Ltd.

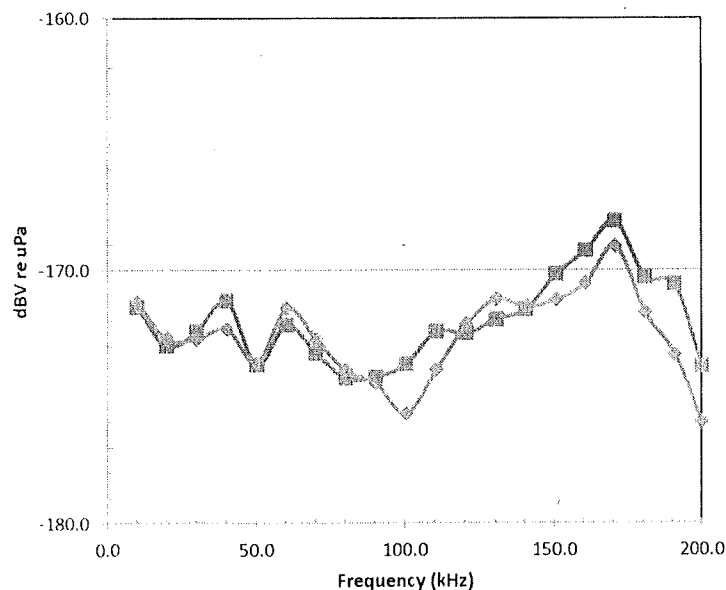
Calibration Certificate Number: **C6045**

Test Result: 10 kHz to 100 kHz:  $-173.4 \pm 2.2$   
10 kHz to 200 kHz:  $-172.0 \pm 4.0$

Model Number SB35-ETH  
Serial Number 1248  
Manufacture Date 11-Oct-2017  
Measurement Date 18-Nov-2021  
Certificate Date 18-Nov-2021  
Sensitivity @ 26 Hz  $-170.1 \text{ dB re V / uPa}$   
Case Type Titanium  
Element Manufacturer GeoSpectrum  
Element Model M24HF  
Element Serial F000225  
Preamp Model 04-300435-09  
Calibrated By Donggeun  
Work Order Number W1234  
Test Type RX Sensitivity  
Test Procedure Complex RMS  
Test Location Tank #3, 1 m  
Water Temperature 16 °C

Projector Manufacturer Ocean Sonics  
Projector Model TH2-SER-4F  
Projector Serial 2225  
Measurement Distance 1 m  
Output Level 130.2 dB re uPa @ 1 m  
Tone Burst 100.0 us / 300 ms  
Reference Manufacturer Ocean Sonics  
Reference Model RB9-ETH  
Reference Serial 2080  
Primary Calibration 20-Jan-2020  
Preamp Manufacturer Ocean Sonics  
Preamp Model 04-300449-01  
Preamp Serial M58  
Preamp Gain 36 dB  
ADC Manufacturer Ocean Sonics  
ADC Model Number 04-300426-01  
ADC Serial Number M59

Receive Sensitivity



Frequency	Sensitivity [dBV re uPa]	
kHz	0 deg	90 deg
10.0	-171.5	-171.3
20.1	-173.0	-172.7
30.1	-172.4	-172.7
40.2	-171.2	-172.3
50.2	-173.7	-173.7
60.2	-172.2	-171.5
70.3	-173.3	-172.7
80.3	-174.3	-173.9
90.4	-174.2	-174.5
100.4	-173.7	-175.7
110.4	-172.4	-173.9
120.5	-172.5	-172.1
130.5	-171.9	-171.2
140.5	-171.5	-171.4
150.6	-170.2	-171.2
160.6	-169.2	-170.5
170.7	-168.1	-169.1
180.7	-170.3	-171.7
190.7	-170.6	-173.3
200.0	-173.8	-176.0