



Certificate of Calibration

Ocean Sonics, Ltd.

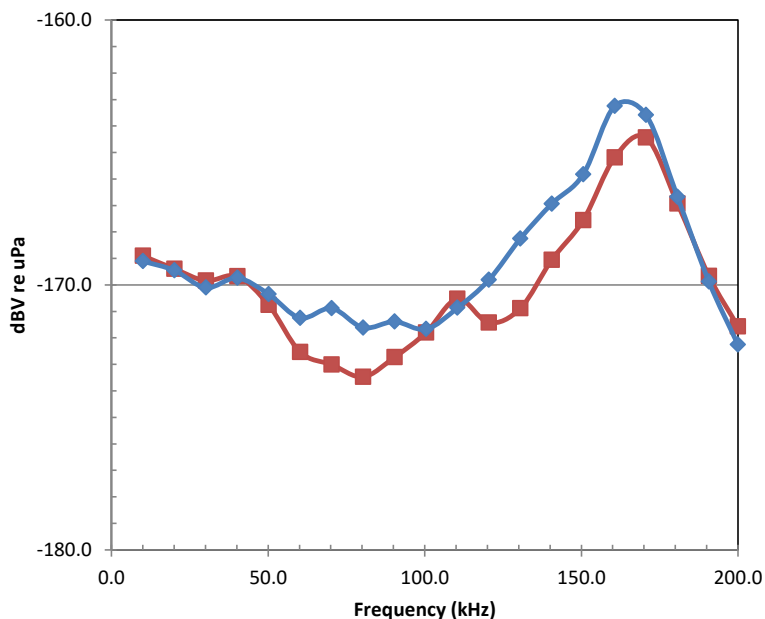
Calibration Certificate Number: **C4275**

Test Result: 10 kHz to 100 kHz: -171.2 ± 2.3
10 kHz to 200 kHz: -168.4 ± 5.1

Model Number SB35-ETH
Serial Number 1272
Manufacture Date 11-Oct-2017
Measurement Date 6-Nov-2017
Certificate Date 6-Nov-2017
Sensitivity @ 26 Hz -169.7 dB re V / uPa
Case Type Titanium
Element Manufacturer GeoSpectrum
Element Model M24HF
Element Serial 841
Preamp Model 04-300435-01
Calibrated By S.MacLean
Work Order Number W1591
Test Type RX Sensitivity
Test Procedure Complex RMS
Test Location Tank #2, 1 m
Water Temperature 17 °C

Projector Manufacturer Ocean Sonics
Projector Model TH2-SER-4F
Projector Serial 2210
Measurement Distance 1 m
Output Level 125.6 dB re uPa @ 1 m
Tone Burst 100.0 us / 300 ms
Reference Manufacturer Ocean Sonics
Reference Model RB9-ETH
Reference Serial 1492
Primary Calibration 22-Dec-2015
Preamp Manufacturer Ocean Sonics
Preamp Model 04-300434-01
Preamp Serial 473
Preamp Gain 36 dB
ADC Manufacturer Ocean Sonics
ADC Model Number 04-300423-01
ADC Serial Number 473

Receive Sensitivity



Frequency	Sensitivity [dBV re uPa]	
kHz	0 deg	90 deg
10.0	-168.9	-169.1
20.1	-169.4	-169.5
30.1	-169.8	-170.1
40.2	-169.7	-169.7
50.2	-170.8	-170.3
60.2	-172.5	-171.2
70.3	-173.0	-170.9
80.3	-173.5	-171.6
90.4	-172.7	-171.4
100.4	-171.8	-171.7
110.4	-170.5	-170.9
120.5	-171.4	-169.8
130.5	-170.9	-168.3
140.5	-169.1	-166.9
150.6	-167.6	-165.8
160.6	-165.2	-163.2
170.7	-164.4	-163.6
180.7	-166.9	-166.7
190.7	-169.7	-169.9
200.0	-171.6	-172.3