



Certificate of Calibration

Ocean Sonics, Ltd.

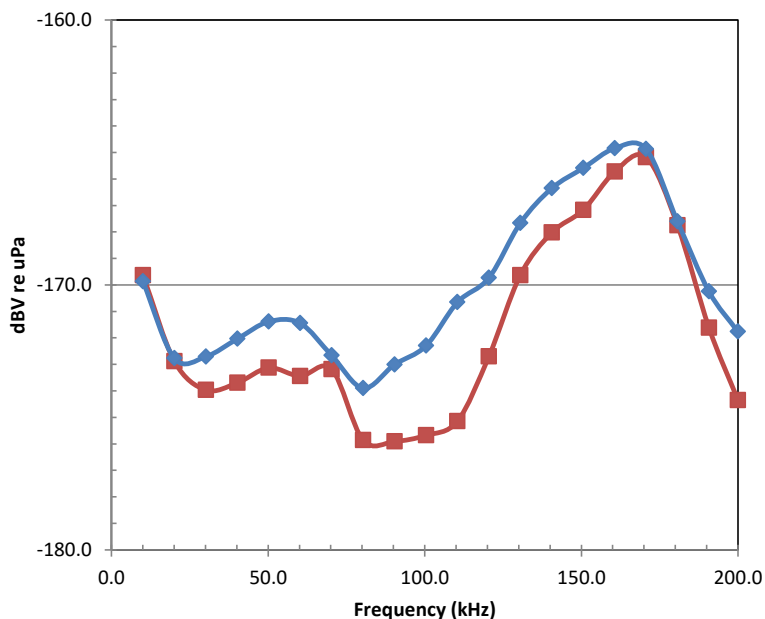
Calibration Certificate Number: **C4261**

Test Result: 10 kHz to 100 kHz: -172.8 ± 3.1
10 kHz to 200 kHz: -170.4 ± 5.5

Model Number SB35-ETH
Serial Number 1248
Manufacture Date 11-Oct-2017
Measurement Date 30-Oct-2017
Certificate Date 30-Oct-2017
Sensitivity @ 26 Hz -170.5 dB re V / uPa
Case Type Titanium
Element Manufacturer GeoSpectrum
Element Model M24HF
Element Serial 746
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 126.4 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	90 deg	180 deg
10.0	-169.6	-169.9
20.1	-172.9	-172.8
30.1	-174.0	-172.7
40.2	-173.7	-172.0
50.2	-173.1	-171.4
60.2	-173.4	-171.4
70.3	-173.2	-172.7
80.3	-175.9	-173.9
90.4	-175.9	-173.0
100.4	-175.7	-172.3
110.4	-175.1	-170.7
120.5	-172.7	-169.7
130.5	-169.6	-167.7
140.5	-168.0	-166.4
150.6	-167.2	-165.6
160.6	-165.7	-164.8
170.7	-165.2	-164.9
180.7	-167.8	-167.6
190.7	-171.6	-170.2
200.0	-174.4	-171.8