



Certificate of Calibration

Ocean Sonics, Ltd.

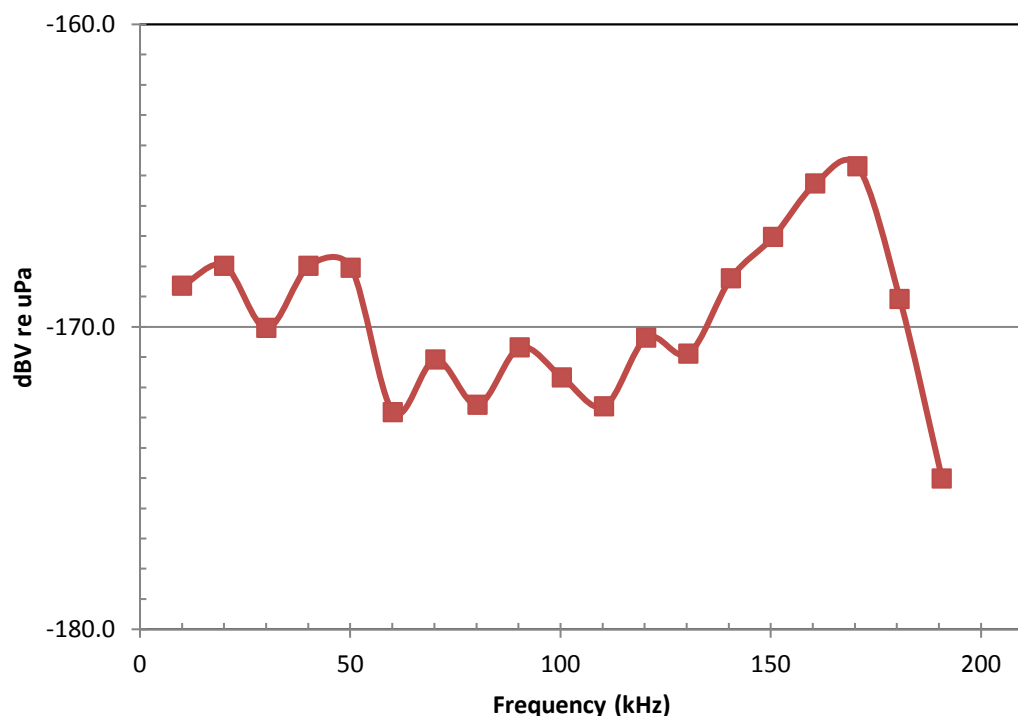
Calibration Certificate Number

C3074

Test Result: 10 kHz to 100 kHz: -170.4 ± 2.4
10 kHz to 190.7 kHz: -169.9 ± 5.2

Model Number	SB35-ETH	Projector Manufacturer	Ocean Sonics
Serial Number	1292	Projector Model	TH2-SER-4F
Manufacture Date	7-May-2014	Projector Serial	2210
Measurement Date	20-May-2014	Measurement Distance	1 m
Certificate Date	20-May-2014	Projector Mode	Wideband
Sensitivity @ 26 Hz	-170.1 dBV re μ Pa	Output Level	131.5 dB re μ Pa @ 1.0 m
Case Type	Titanium	Reference Manufacturer	Reson
Element Manufacturer	GeoSpectrum	Reference Model	TC4034-1
Element Model	M24HF	Reference Serial	4211050
Element Serial	906	Preamp Manufacturer	Ocean Sonics
Software Release	27	Preamp Model	300415-01
Calibrated By	M.Ceekala	Preamp Serial	110
Work Order Number	W1088	Preamp Gain	30 dB
Test Type	RX Sensitivity	ADC Manufacturer	Ocean Sonics
Test Procedure	Gated DFT	ADC Model Number	04-300422-01
Test Location	Tank #2, 1 m	ADC Serial Number	93

Receive Sensitivity



Frequency kHz	Sensitivity dBV re μ Pa
10.0	-168.6
20.1	-168.0
30.1	-170.0
40.2	-168.0
50.2	-168.0
60.2	-172.8
70.3	-171.1
80.3	-172.6
90.4	-170.7
100.4	-171.7
110.4	-172.6
120.5	-170.4
130.5	-170.9
140.5	-168.4
150.6	-167.0
160.6	-165.3
170.7	-164.7
180.7	-169.1
190.7	-175.0