



Certificate of Calibration

Ocean Sonics, Ltd.

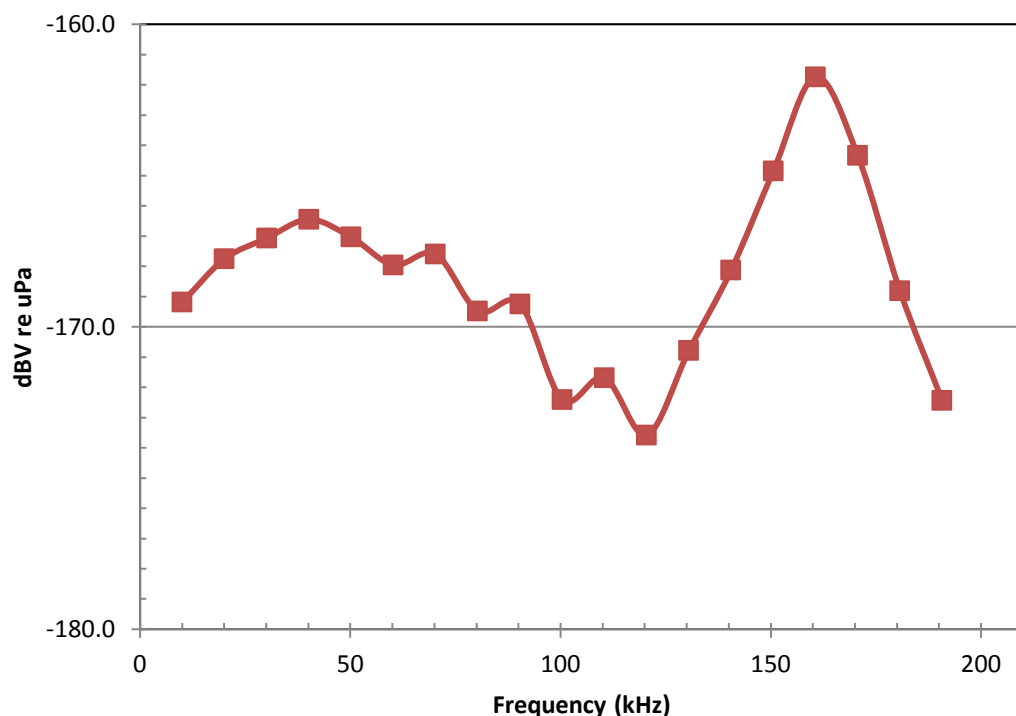
Calibration Certificate Number

C3064

Test Result: 10 kHz to 100 kHz: -168.0 ± 1.5
10 kHz to 190.7 kHz: -167.7 ± 5.9

Model Number	SB35-ETH	Projector Manufacturer	Ocean Sonics
Serial Number	1272	Projector Model	TH2-SER-4F
Manufacture Date	9-Dec-2013	Projector Serial	2210
Measurement Date	8-May-2014	Measurement Distance	1 m
Certificate Date	8-May-2014	Projector Mode	Wideband
Sensitivity @ 26 Hz	-169.7 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	841	Preamp Manufacturer	Ocean Sonics
Software Release	26	Preamp Model	300415-01
Calibrated By	M.Ceekala	Preamp Serial	110
Work Order Number	W1086	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	-169.2
20.1	-167.8
30.1	-167.1
40.2	-166.4
50.2	-167.0
60.2	-168.0
70.3	-167.6
80.3	-169.5
90.4	-169.2
100.4	-172.4
110.4	-171.7
120.5	-173.6
130.5	-170.8
140.5	-168.1
150.6	-164.9
160.6	-161.7
170.7	-164.3
180.7	-168.8
190.7	-172.4