



Certificate of Calibration

Ocean Sonics, Ltd.

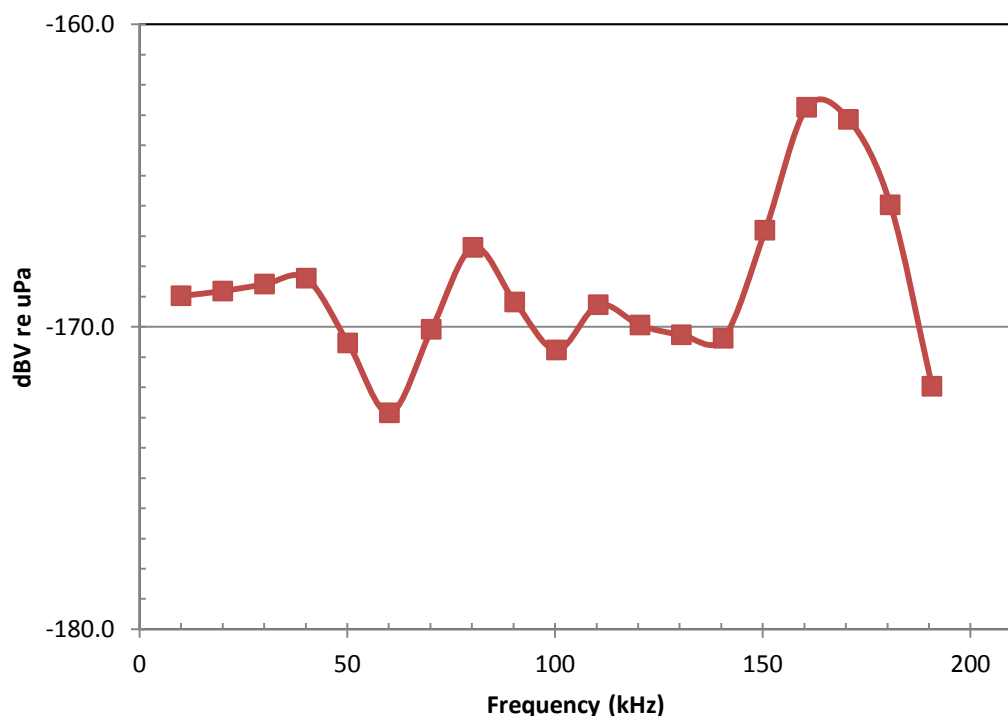
Calibration Certificate Number

C3062

Test Result: 10 kHz to 100.4 kHz: -170.1 ± 2.7
10 kHz to 190.7 kHz: -167.8 ± 5.1

| | | | |
|----------------------|------------------------|------------------------|------------------------------|
| Model Number | SB35-ETH | Projector Manufacturer | Ocean Sonics |
| Serial Number | 1270 | Projector Model | TH2-SER-4F |
| Manufacture Date | 9-Dec-2013 | Projector Serial | 2210 |
| Measurement Date | 6-May-2014 | Measurement Distance | 1 m |
| Certificate Date | 6-May-2014 | Projector Mode | Wideband |
| Sensitivity @ 26 Hz | -169.0 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 | 820 | Preamp Manufacturer | Ocean Sonics |
| Software Release | 24 | Preamp Model | 300415-01 |
| Calibrated By | M.Ceekala | Preamp Serial | 110 |
| Work Order Number | W1080 | 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 | -169.0 |
| 20.1 | -168.8 |
| 30.1 | -168.6 |
| 40.2 | -168.4 |
| 50.2 | -170.5 |
| 60.2 | -172.9 |
| 70.3 | -170.1 |
| 80.3 | -167.4 |
| 90.4 | -169.2 |
| 100.4 | -170.8 |
| 110.4 | -169.3 |
| 120.5 | -169.9 |
| 130.5 | -170.3 |
| 140.5 | -170.4 |
| 150.6 | -166.8 |
| 160.6 | -162.7 |
| 170.7 | -163.1 |
| 180.7 | -166.0 |
| 190.7 | -172.0 |