



Certificate of Calibration

Ocean Sonics, Ltd.

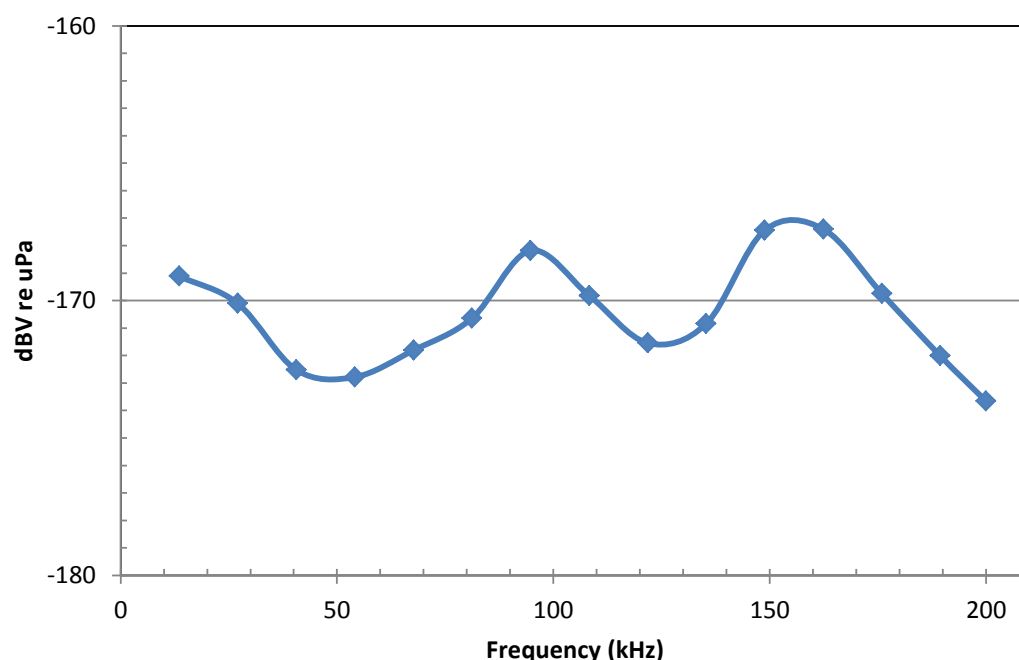
Calibration Certificate Number

C3036

Test Result: 10 kHz to 100 kHz: -170.5 ± 2.3
10 kHz to 200 kHz: -170.5 ± 3.1

| | | | |
|----------------------|------------------------|------------------------|------------------------------|
| Model Number | SB35-ETH | Projector Manufacturer | Ocean Sonics |
| Serial Number | 1272 | Projector Model | TH2-SER-4F |
| Manufacture Date | 9-Dec-2013 | Projector Serial | 2206 |
| Measurement Date | 11-Dec-2013 | Measurement Distance | 0.5 m |
| Certificate Date | 11-Dec-2013 | 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 | 22 | Preamp Model | 300415-01-X1 |
| Calibrated By | M. Ceekala | Preamp Serial | 78 |
| Work Order Number | 1052 | Preamp Gain | 30 dB |
| Test Type | RX Sensitivity | ADC Manufacturer | Ocean Sonics |
| Test Procedure | Gated FFT | ADC Model Number | 04-300422-01 |
| Test Location | Tank #1, 0.5 m | ADC Serial Number | 93 |

Receive Sensitivity



| Frequency kHz | Sensitivity dBV re μ Pa |
|---------------|-----------------------------|
| 13.5 | -169.1 |
| 27.1 | -170.1 |
| 40.6 | -172.5 |
| 54.1 | -172.8 |
| 67.7 | -171.8 |
| 81.2 | -170.6 |
| 94.7 | -168.2 |
| 108.3 | -169.8 |
| 121.8 | -171.5 |
| 135.3 | -170.8 |
| 148.8 | -167.4 |
| 162.4 | -167.4 |
| 175.9 | -169.7 |
| 189.4 | -172.0 |
| 200.0 | -173.7 |