

Experiment 3: Underwater Acoustic Modem Performance Test in Good Hydrological Conditions

Model: UAM-08160H

Version: —

Document Type: Performance Test

Experiment Location

Xianghongdian Reservoir, Lu'an City, Anhui Province, China

Experimental Data Record

Configure the C01-6 and C01-5 acoustic communication devices into a point-to-point working mode. Test the communication distance and received signal-to-noise ratio (SNR) under good hydrological conditions. During the test, the acoustic communication devices on the two vessels shall send test messages (all "U") to each other. Successful reception of a test message shall be considered a successful communication. The communication validity shall be determined based on the success rate of multiple transmissions. Record the GPS coordinates of the test points, the effective packet success rate, and the corresponding received SNR.

Table 1 GPS coordinates of test points

Name	latitude	Longitude
A	31.567379	116.048178
B	31.552208	116.110867
Distance	6.174km	

Received raw data

Group 1:

A to B with 6kbps rate, total of 115 data packets, Send Power level 7(max 16), Received level 7(max 12)

Packet loss rate: 0

Bit Error Rate: 0

Average Received SNR: 65.37dB

Group 2:

B to A with 6kbps rate, total of 624 data packets, Send Power level 3(max 16), Received level 7(max 12)

Packet loss rate: 5.76%

Bit Error Rate: 2.25%

Average Received SNR: 33.08dB

Group 3:

A to B with 3kbps rate, total of 58 data packets, Send Power level 1(max 16), Received level 7(max 12)

Packet loss rate: 0

Bit Error Rate: 0

Average Received SNR: 44.36dB