

## Electronic Countermeasures (ECM) & Electronic Support Measures (ESM)

Provide testing of AN/SLQ-32(V), AN/WLR-1(V) and other electronic warfare systems:

- The ULM-4 system provides two different testing capabilities.
- ECM - An automated, comprehensive test of the AN/SLQ-32(V) electronic attack (EA) systems in an "at-sea" environment.
- ESM - Provides a quality signal source for determining receiver bearing accuracy of the AN/SLQ-32 passive variants and antenna manual bearing accuracy of the AN/WLR-1H(V)5.
- Provides real-time feedback for problem correction.
- Analysis and a formal report are provided.



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- **Antenna Radiation Pattern (ARP)**
- **Tactical Data Links**
- **Communication Analysis**
- **Electronic Countermeasures (ECM)**
- **Electronic Support Measures (ESM)**





## Antenna Radiation Pattern (ARP)

Measurements are performed on all communications, radar and fire control antenna systems. ARPs provide information on the communication systems such as transmitter and coupler performance, tuning capability and transmission line termination. The program is also capable of graphically depicting blockages or “blind zones” that will impact a radar system’s ability to detect a target:

- System Performance
- Topside blockage discovery
- Antenna switchover ability
- Pointing angle error
- Radiation cutouts verification
- Antenna coverage overlap



## Tactical Data Links

All data links can be tested while the ship is pier side or underway:

- Complete “end-to-end” testing
- Operator and technician training
- Reliable “link partner” for airborne, land-based and shipboard tactical data systems testing



### Link-16/SAT TADIL A/J

- Site dependant
- End to end testing of entire systems

### Link-11

- Capability of both HF and UHF bands
- Parameter analysis
- Event frame to frame analysis

### Link-4A

- Verification of 2-way communications
- Verify processing of Link-4A tactical messages



## Communication Analysis (HF/VHF/UHF)

Provide shipboard personnel with an overall assessment of the communications suite:

- Fault Isolation
- Secure voice verification
- Transmitter and receiver degradation
- Signal quality measurements/assurance
- Operator equipment training
- Informal report available upon request