

**RTCA Special Committee 186, Working Group 5**

**ADS-B UAT MOPS**

**Meeting #5**

**UAT Co-site Interference Testing**

**Presented by Tom Pagano  
FAA Technical Center  
Action Item 3-20**

**SUMMARY**

**Originally there was a TLAT question as to interference effects of on-board transmitters on a UAT receiver – for modeling purposes. Due to high power transmissions of on-board transponder, 1090 MHz ATCRBS and Mode S replies were deemed potential interferes. We established a bench configuration to measure UAT receiver performance with ATCRBS overlaps since these are the predominant transmission.**

# UAT Co-site Interference Testing

FAA WJ Hughes Technical Center

# Outline

- Background
- Test Configuration
- Preliminary results
- Current results
- Status

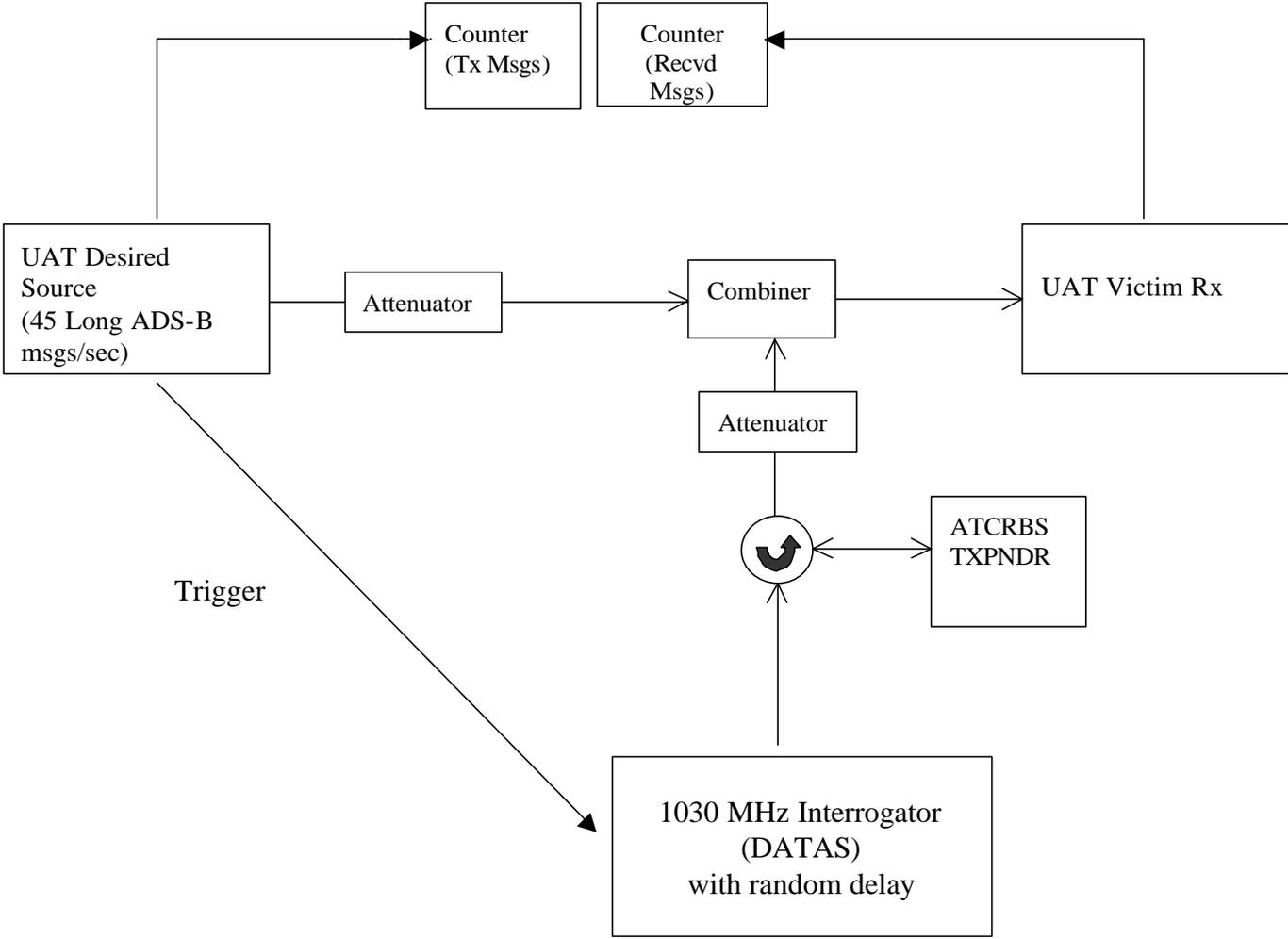
# Background

- Initially a TLAT question as to interference effects of on-board transmitters on UAT receiver - for modeling purposes
- Due to high power transmissions of on-board transponder, 1090 MHz ATCRBS and Mode S replies were deemed potential interferers
- Established laboratory bench configuration to measure UAT receiver performance with ATCRBS overlaps since these are the predominant transmission

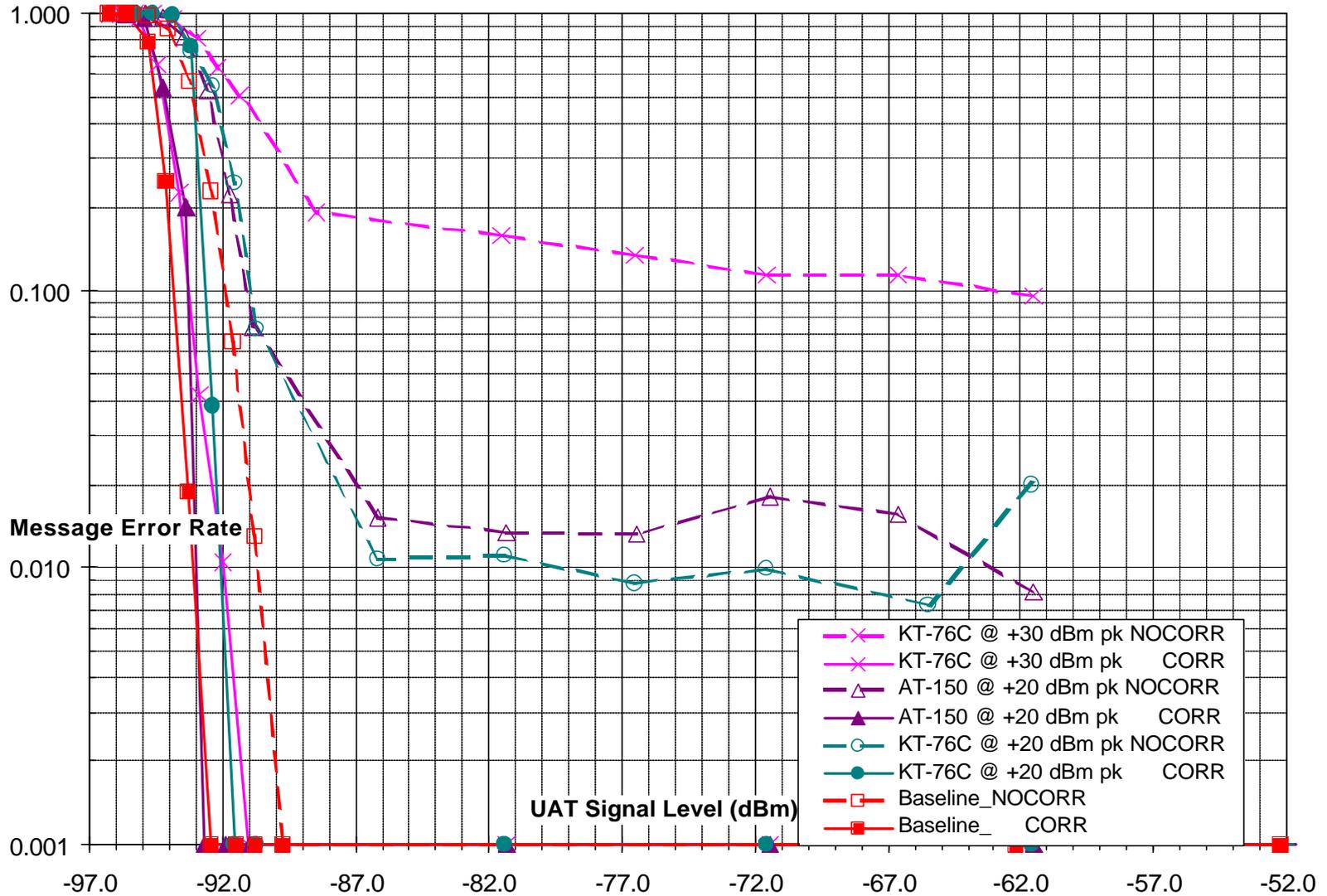
## Units Tested

- ATCRBS Transponders
  - Bendix King KT-76C
  - Narco AT-150
- Mode S Transponder
  - Honeywell XS-950 Data Link

# Test Setup for Assessing ATCRBS Co-site interference to the UAT Receiver

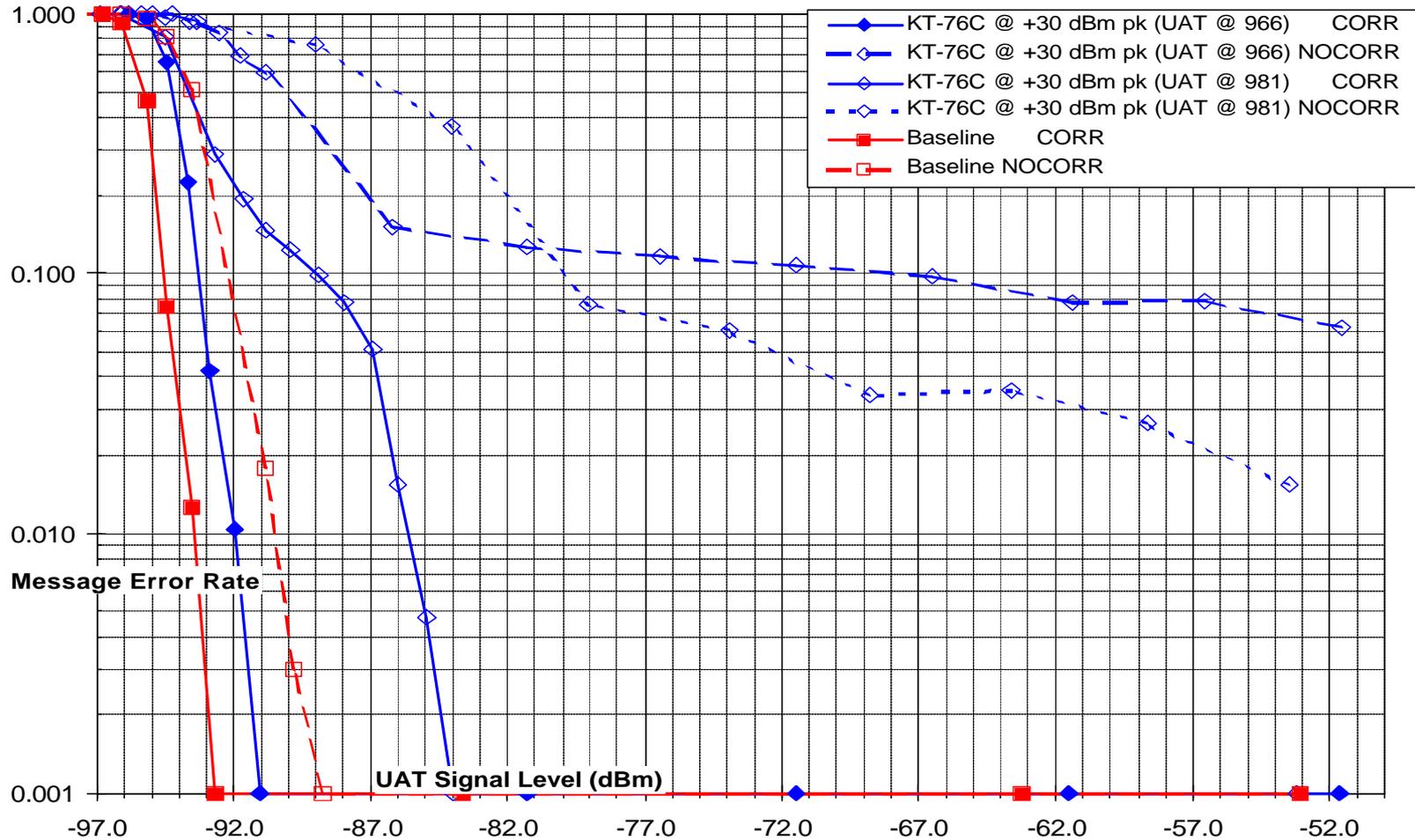


# ATCRBS Transponders - Co-site Interference Measurements on 966 MHz UAT Receiver



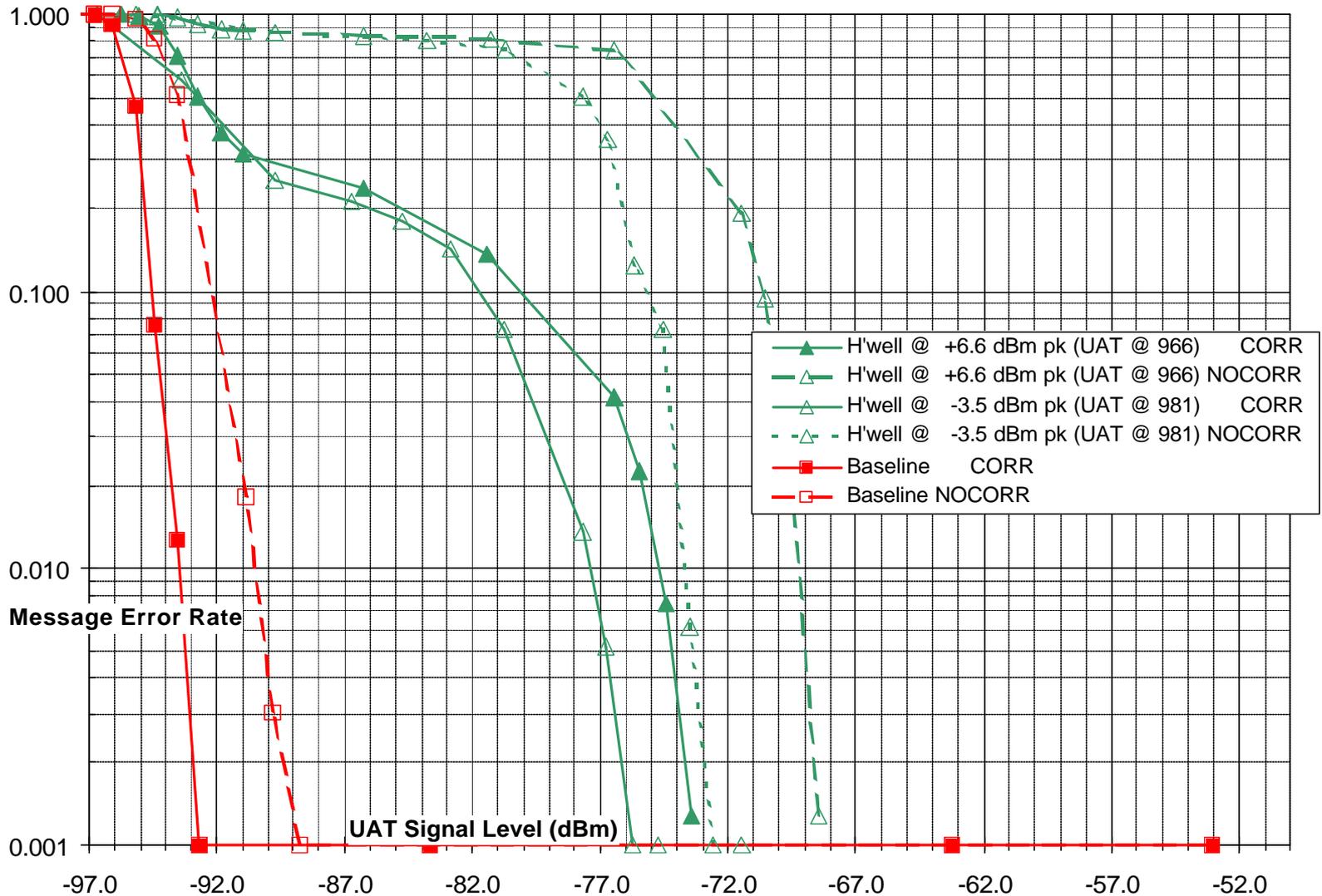
# KT-76C ATCRBS Transponder Co-site Interference Measurements

## Comparison of 966 MHz and 981 MHz UAT Receivers

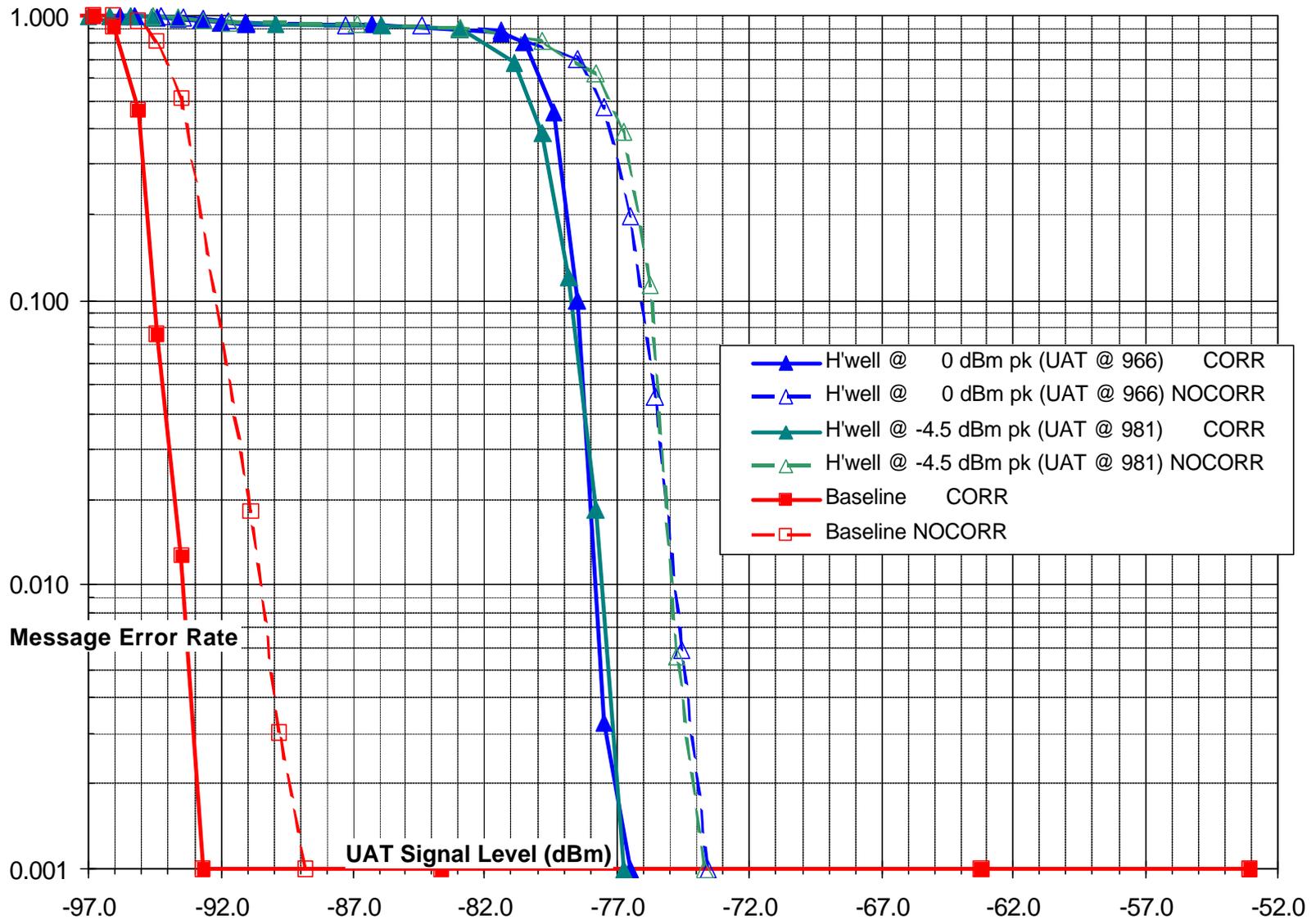


# Honeywell Mode S Transponder - ATCRBS Reply vs UAT

## Comparison of 966 MHz and 981 MHz Receivers



# Honeywell Mode S Transponder - Mode S Reply Comparison of 966 MHz and 981 MHz Receivers



## Status

- Completed 981 MHz Capstone Unit Receiver Testing
- Data indicates similar results to testing performed on 966 MHz units
  - No significant immunity difference
  - Co-site impact of 1090 MHz ATCRBS and Mode S more evident since frequency gap is less