

Abstract - Unexpected Discoveries in Shipboard Electromagnetic Compatibility, A report on the work of RTCM SC137, September 2020, Joseph Hersey, JOECEL Engineering and Consulting LLC.

The US Coast Guard first became aware of electromagnetic interference to shipboard VHF radiotelephone and Automatic Identification Systems (AIS) from light emitting diode (LED) navigation lights and other luminaries in 2018, and RTCM Special Committee 137 was established in 2019 to address the problem. Since that time, SC137 has evaluated IEC 60945 and other EMC standards, studied necessary protection criteria for VHF radio and AIS and other shipboard safety receivers including NAVTEX, NAVDAT and GNSS, coordinated work with ITU-R, IMO and CIRM, developed an EMC demonstration test plan, and started work on a preliminary draft standard. In performing this work, there have been numerous unexpected and surprising discoveries in the past year. This presentation will report on some of those discoveries as well as the work to date.