NTIA REPORT 83-117

BACKGROUND STUDY ON EFFICIENT USE OF THE 2700-2900 MHz BAND

ROBERT L. HINKLE

U.S. DEPARTMENT OF COMMERCE
Malcolm Baldrige, Secretary

Susan G. Stuebing, Acting Assistant Secretary
for Communications and Information

APRIL 1983

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

LIST OF TABLES

ABSTRACT

In early 1980, NTIA, through the Interdepartment Radio Advisory Committee (IRAC) Spectrum Planning Subcommittee (SPS), became cognizant of several new major radar systems being developed by Government agencies in the 2700-2900 MHz band. In light of the long history of EMC problems in this band, NTIA recommended to the IRAC that several tasks be undertaken to ensure that the new systems are engineered properly to enhance their accommodation in the 2700-2900 MHz band. The associated tasks identified by NTIA were assigned by the IRAC to the IRAC Technical Subcommittee (TSC) and in turn were referred to the TSC Working Group 1.

This report provides background information and summarizes the findings on the referred tasks. Equipment characteristics, radar deployment patterns, usage of the band based on Radio Spectrum Measurement System (RSMS) van measurements, and projected usage of the band in the 1980's were discussed. Also the accommodation of new systems planned for the band was studied. Based on the projected growth in the band and present and projected radar deployment patterns, recommendations were made to the IRAC which would enhance the accommodation of new systems planned for the band.

KEY WORDS

2700-2900 MHz Band
Radar Spectrum Engineering Criteria (RSEC)
Interference

ACKNOWLEDGEMENT

The completion of this investigation of tasks assigned by the Interdepartment Radio Advisory Committee (IRAC) required the contributions of many individuals. The investigation was conducted by the IRAC Technical Subcommittee (TSC) Working Group 1. Members of TSC Working Group 1 consisted of representatives from the following Government agencies: NTIA, FAA, DOC, Army, Navy and Air Force.

In addition, this investigation could not have been as detailed without the support given by Robert Matheson, John Smilley, Frank Saunders and Vincent Lawrence of NTIA's Radio Spectrum Measurement System (RSMS) van team. They conducted the RSMS measurements contained herein, coordinated the location and scope of the measurements with appropriate Government field personnel, and reduced the measured data to a form usable for analysis.