

Exh. 77 ML 03

1.0 Introduction

The purpose of this study is to evaluate the interference environment in the Upper 700 MHz and 1.9 GHz bands for Northrop Grumman site locations in Herndon, VA at the 2411 Dulles Corner Park location, and in Chantilly, VA at the 4805 Stonecroft Blvd. location. Recommendations from this evaluation are expected to identify the best band segments to operate a demonstration system of new high-speed wireless data applications at these locations without causing interference to incumbents, and while minimizing interference into the demonstration system. Comsearch uses the latest database information for the bands of interest, on-site Radio Frequency Interference (RFI) measurements, and predicted interference calculations from incumbent transmitter data to perform the evaluation and make recommendations.

The results of our evaluation are presented for each site individually as the focus of the Herndon site is the Upper 700 MHz band, while for the Chantilly site it is the 1.9 GHz band. Each site is broken down into the incumbent identification and interference analysis, RFI measurement results, and recommendations. All supporting data, maps, and calculations are included either within the report sections or the appendices.

4.0 Conclusions and Recommendations

4.1 Herndon Site

Based on the TV station interference analysis and on-site measurements performed on the rooftop, Comsearch recommends the use of 1.25 MHz paired frequencies centered on 800.625 MHz for the base transmit, and 770.625 for the mobile transmit. This recommendation is made to comply with the interference protection criteria for the incumbent TV stations as established in the FCC rules. Use of other segments would most likely require concurrence with existing TV stations and/or measurements to validate desired to undesired signal strengths in their service area.

The measurement results in section 2.3 also indicated that there were only a few segments of the band without considerable signal sources measured, and that an elevated noise floor existed for the band. Successful operation of a high-speed wireless data application will be very much dependent on the sensitivity and performance of the equipment in this environment.

4.2 Chantilly Site

Based on the information presented in section 3 above, Comsearch recommends that Northrop use the 1915-1920 MHz portion of the unlicensed PCS band for their trial site in Chantilly, VA. This provides a 5 MHz guard band to the licensed PCS C block and a 10 MHz guard band to the licensed PCS A block. This allocation also provides protection from any unlicensed PCS devices as determined through UTAM, Inc. the official coordinator for the UPCS band. No remaining microwave systems are predicted to cause any interference to the Chantilly site due to their significant distance from Chantilly, VA. Also, no significant signal sources were identified in this range based on the rooftop RFI measurement sweeps.