

## ABSTRAK

*Pada World Radio Conference 2003 (WRC-03), The International Telecommunications Union (ITU) merekomendasikan alokasi baru untuk sharing frekuensi, 5470 – 5725 MHz. Sebagaimana diketahui beberapa system berjalan seperti Radar cuaca, Radar Satelite dan radar militer memiliki potensi untuk terinterferensi dengan alokasi baru ini. Sehingga untuk meminimalisir potensi gangguan pada radar sistem tersebut maka ditetapkan suatu algoritma yang disebut Dynamic Frequency Selection (DFS). Penelitian ini dilakukan untuk mengetahui potensi Interferensi Frekuensi operasional Radar Cuaca C-Band di Indonesia dengan menerapkan metode Silent Mode pada radar cuaca untuk mendapatkan data sumber interferensi, pengukuran frekuensi di lingkungan operasional radar dan upaya proteksinya dengan melakukan analisis teknik terhadap spesifikasi operasional radar C-Band yang di Operasikan BMKG dengan parameter algoritma DFS sehingga dapat diketahui efektifitas kinerja DFS-ETSI dalam memproteksi Radar C-Band BMKG. Selain itu juga dilakukan diskusi dan analisis regulasi dan peraturan perundang-undangan dalam tataran internasional dan nasional khususnya terkait operasional Radar C-Band. Sehingga diketahui adanya kelemahan pada algoritma DFS Standar ETSI EN301 893 yang tidak sesuai dengan karakteristik Parameter operasional Radar cuaca BMKG dan disampaikan saran perubahan serta usulan proteksi radar C-Band kepada regulator telekomunikasi di Indonesia.*

Kata Kunci : Radar Cuaca, Meteorologi, Interferensi, Frekuensi, C-Band, ITU, ETSI, DFS.



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## Abstract

At the World Radio Conference 2003 (WRC-03), The International Telecommunications Union (ITU) recommends new allocations for sharing frequencies, 5470-5725 MHz. As we know the system is running like a weather radar, Satellite and military radar has the potential to interference with this new allocation. To minimize potential interference with radar systems, then established an algorithm called Dynamic Frequency Selection (DFS). This study was conducted to determine potential operational Frequency Interference C-Band Weather Radar in Indonesia by applying the method of Silent Mode on weather radar to get the data sources of interference, measurement frequency radar in the operational environment and its protection efforts by conducting an engineering analysis of the operational specification C-Band radar that in BMKG Operate with DFS algorithm parameters so as to know the effectiveness of performance-ETSI DFS in protecting the C-Band Weather Radar operate by BMKG. It also conducted a discussion and analysis of regulations and legislation in the national and international level, especially related operational C-Band Radar. So the discovery of a weakness in the algorithm DFS ETSI EN301 893 standards that do not conform to the characteristics of the weather radar operational parameters and delivered BMKG suggestions and proposed changes in C-band radar protection to Indonesian telecommunications regulator.

Keywords: Weather Radar, Meteorology, Interference, Frequency, C-Band, ITU, ETSI, DFS,

