PLAGIAT MERUPAKAN TINDAKAN TIDAK TERPUJI

INTISARI

Banyaknya jumlah stasiun radio FM dan keterbatasan alokasi frekuensi radio FM mengharuskan penggunaan alokasi frekuensi radio tersebut diatur sesuai dengan yang berlaku dari *International Telecommunication Union* (ITU). Dengan adanya aturan tersebut, spektrum frekuensi radio juga memerlukan pengawasan secara periodik sekaligus untuk penertiban penggunaannya. Penertiban dilakukan secara periodik supaya penggunaan spektrum frekuensi tetap sesuai dengan aturan yang berlaku. Penelitian ini akan dibuat suatu sistem pemetaan dan pengawasan spektrum frekuensi radio FM berbasis Sistem Informasi Geografis (SIG) untuk pengukuran spektrum frekuensi radio FM.

Sistem pengukuran spektrum frekuensi radio FM ini terdiri dari dua proses utama yaitu komunikasi *spectrum analyzer* (SPA) dengan laptop dan pengolahan data dari SPA yang ditampilkan dengan program visual. Komunikasi SPA dengan laptop digunakan untuk memperoleh *file* *.dat. Pengolahan data digunakan untuk mengonversi *file* *.dat menjadi *file* *.xls.

Program pengukuran spektrum frekuensi radio FM berhasil direalisasikan. Komunikasi antara SPA Advantest dengan laptop belum berhasil dilakukan, sehingga *file* *.dat diperoleh secara manual. Oleh sebab itu, penambahan komunikasi antara SPA GwInstek dengan laptop dilakukan supaya menghasilkan *file* *.txt dan *.bmp atau *.jpg. Progam SPA Advantest berhasil mengolah *file* *.dat menjadi *.xls. Tampilan akhir gambar dari program SPA Advantest adalah *chart* hasil pengolahan *file* *.xls. Program SPA GwInstek berhasil mengolah *file* *.txt menjadi *file* *.xls. Tampilan akhir gambar dari program SPA GwInstek adalah *file* *.bmp atau *.jpg hasil pengukuran SPA GwInstek.

Kata kunci : pengukuran, spektrum frekuensi, *spectrum analyzer*, Advantest, GwInstek

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ABSTRACT

The increase of FM radio station and the alocation of the radio's frequency which is limited makes the use of that radio's frequency organized according to International Telecommunication Union (ITU). Deals with the rule the spectrum of radio's frequency needs regularly control to keep it in good order of using. The control is done regularly so that the using of frequency spectrum is in order based on the present rule. This research will make a mapping system and a control of FM radio's frequency spectrum which is based on Geographical Information System (GIS) for the measurement of FM radio's frequency spectrum.

The system of FM radio's frequency spectrum consists of two main process. First is spectrum analyzer (SPA) communication with laptop. The second is the tabulation of the data from SPA which is displied with visual program. The communication of SPA with laptop is used to get file *.dat. The tabulation of data is used to convert the file *.dat into file *.xls.

The program of the FM radio's measurement was successfully done. The communication between SPA Advantest with laptop has not done yet, therefore file *.dat was obtained manually. Refers to that fact an extra communication between SPA GwInstek with laptop was done in order to produce file *.txt and *.bmp or *.jpg. SPA Advantest program was able to process file *.dat. into *.xls. The last display of the picture from SPA Advantest program was chart as a result of the process of *.xls. SPA GwInstek program was able to process file *.txt into *.xls. The last display of the picture from SPA GwInstek program was file *.bmp or *.jpg as a result of SPA GwInstek's measurement

Keywords : measurement, frequency spectrum, spectrum analyzer, Advantest, GwInstek