

FIELD STRENGTH MEASUREMENT TO VERIFY OKUMURA MODEL

This project report is presented in partial fulfillment for the award of Bachelor of

Engineering (Hons) (Electrical)

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In the name of ALLAH
The Compassionate, the Merciful,
Praise be to ALLAH, Lord of the Universe,
And Peace and Prayers be open
His Final Prophet and Messenger

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ABSTRACT

The main objective of the project is to observe the effectiveness of the surrounding object relating to the signal received in the open space and places with high-rises building and also to test whether The Okumura Model of field strength measurement is available or is suitable to be used in Malaysia TV Station

From the analysis of the calculation by Okumura Module and the propagation measurement by Okumura, we have the easiest way how to solve the problem while measuring the strength of the TV signal to the TV Station.

The whole project actually discussed how the Okumura Modules will be eliminated using the procedure made by RTM. Beside that we can study the propagation measurement that are very complex and diverse because of the separation between the receiver and the transmitter. In addition the signal propagation by diffraction, scattering detected. To measure the signal strength. The Okumura modules focusing in the three main major. There are refer to the structure of the globe, the weather of the environment and the distance of the location to the Transmitter.

This report explains and describes the general principles and physical realization due the function of the Field Strength Measurement.

The main objective is to overcome poor television transmission signal problems faced by the general public. The International Broadcasting Standard for transmission to the designated location is maintained with the aid of equipment like the Field Strength Measurement. Futhermore good systems management, good equipment maintenance and well-trained staff have helped upkeep this standard.

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CHAPTER 1

INTRODUCTION

The objective of this project is to study whether Okumura Model of field strength measurement can be practiced in RTM Malaysia.

The first task is to observe the field propagation measured by RTM is the same with Mr. Okumura theory. The Okumura theory based on the three main major to measure the strength of measurement :-

- i) The structure of the globe
- ii) The weather of the environment
- iii) The distance from the Transmitter

The next study is to find out that detailed propagation facts over various situations of on irregular terrain and environmental can be observed properly.

Finally the study and research of Okumura Model is compared to the experiment done by RTM Kajang.

1.1 Overview

This report described the assumption and methods used in soft wright implementation of the "Okumura" model for radio propagation. As described in "Field Strength and its variability in VHF and UHF Land- Mobile Radio Service".