

Master Thesis

Measurement of the Directional Characteristics

of Antennas in the Testbed

Submitted on: -- March 2023

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In Gujarat, India

Master - Thesis

For, Mr Chirag Patel

Measurement of the directional characteristic of antennas in the testbed

Messtechnische Erfassung der Richtcharakteristik von Antennen im Testbed

Focus:

* Setting up testbeds to record radiation patterns from antennas
* Programming of software to control the stepper motors and measurement technology
* Creation of a user interface including data acquisition, display, and backup
* Simulative and practical investigation of the directional characteristics of monopoles, dipoles, and dipole arrays
* Determination of factors influencing the radiation characteristics
* Antenna matching networks

Date of issue:

Date of submission:

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**Task Statement**

Measurement of the directional characteristic of antennas in the testbed

To accomplish the master of engineering degree in Information and Electrical engineering at the Hochschule of Wismar. The acknowledgement of radiation pattern examination of various antennas facilitates the main technology with improved accuracy and flexibility. The adequacy of the testing process for the postgraduates’ educational support. The project aims to develop a testbed with an application in the MatLab environment to keep the records and update the graphs according to the directional characteristics of mono and dipole antennas of different sizes. That includes additional parameters such as impedance and standing wave ratio for the specific measuring range with adjustable time and step size to set the high resolution in the results. Moreover, any affecting factors to the radiation patterns must be discussed including the countermeasures.

**Abstract**

**Index**