



## Senior Design Project

# Determining the Radio Link Losses in different medium and Field Measurement in the Context of Bangladesh

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**Faculty Advisor:**

**Dr. Riasat Khan**

**Assistant Professor**

**ECE Department**

**Summer, 2021**

# LETTER OF TRANSMITAL

August, 2021

To

Dr. Mohammad Rezaul Bari

Chairman,

Department of Electrical and Computer Engineering

North South University, Dhaka

Subject: **Submission of Capstone Project Report on “Determining the Radio Link Losses in different medium and Field Measurement in the Context of Bangladesh.”**

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Dear Sir,

With due respect, we would like to submit our **Capstone Project Report** on “**Determining the Radio Link Losses in different medium and Field Measurement in the Context of Bangladesh**” as a part of our BSc program. This project was very much valuable to us as it helped us gain experience from practical field and apply in real life. We tried to the maximum competence to meet all the dimensions required from this report.

We will be highly obliged if you kindly receive this report and provide your valuable judgment. It would be our immense pleasure if you find this report useful and informative to have an apparent perspective on the issue.

Sincerely Yours,

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**Mohammad Akib Javed Mojumder**  
ECE Department  
North South University, Bangladesh

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**Sheikh Shah Newaz**  
ECE Department  
North South University, Bangladesh

.....  
**Md. Nihal Al Rafi**  
ECE Department  
North South University, Bangladesh

# APPROVAL

**Mohammad Akib Javed Mojumder** (ID # **1531175043**), **Sheikh Shah Newaz** (ID # **1632206043**) and **Md. Nihal Al Rafi** (ID # **1721703043**) and from Electrical and Computer Engineering Department of North South University, have worked on the Senior Design Project titled “**Determining the Radio Link Losses in different medium and Field Measurement in the Context of Bangladesh**” under the supervision of Dr. Riasat Khan partial fulfillment of the requirement for the degree of Bachelors of Science in Engineering and has been accepted as satisfactory.

**Supervisor’s Signature**

Riasat Khan

**Dr. Riasat Khan**

**Assistant Professor**

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh.

**Chairman’s Signature**

**Dr. Mohammad Rezaul Bari**

**Associate Professor**

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh.

## **DECLARATION**

This is to certify that this Project is our original work. No part of this work has been submitted elsewhere partially or fully for the award of any other degree or diploma. Any material reproduced in this project has been properly acknowledged.

Students' names & Signatures

**1. Mohammad Akib Javed Mojumder**

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**2. Sheikh Shah Newaz**

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**3. Md. Nihal Al Rafi**

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## ACKNOWLEDGEMENTS

By kindness of the Almighty we have successfully completed our capstone senior design project entitled **“Determining the Radio Link Losses in different medium and Field Measurement in the Context of Bangladesh.”**

Our deep gratitude goes first to my faculty advisor Dr. Riasat Khan, who expertly guided us in our senior design project throughout the whole EEE499A and EEE499B. His guidance helped us in all type of research, writings and completing the project.

Our sincere thanks also goes to North South University, Dhaka, Bangladesh for giving us such a platform where we can have an industrial level experience as a part of our academics.

We would also like to thank my friends Ajan, Shanto, and Sadip for helping us in this project.

Last but not the least, we would like to thank our family as their inspiration and guidance kept us focused and motivated.

## **ABSTRACT**

### **Determining the Radio Link Losses in different medium and Field Measurement in the Context of Bangladesh**

**This paper contains estimated information about the different purpose behind radio link path loss and why it is essential to identify this explanation and how radio link path loss influence the systems, the best approach to tackles those issues. Radio link path loss happens due to various when an item shows up in the way. As needs are, radio path loss figuring is utilized in many radio and wireless devices for deciding signal quality in different areas. These remote review devices are, as a rule, progressively helps to figure out how signal qualities will be, before introducing the hardware. In spite of the fact that expectation can be genuinely exact for the free space condition, for genuine earthly applications, it seems difficult as there were numerous problems to consider, and it isn't generally conceivable to gain a precise rating of the impacts that we will have. This analyzing help to design better radio transmission system with less distortion and loss. Hence the accuracy of information will not be flawless because of the complexity of the obstacles. Here is some field measurement in the context of Bangladesh radio link. Our result shows the way of improvement if we avoid the various factor that cause radio link path loss.**