VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama" Belagavi – 590 010

PROJECT REPORT ON

"DESIGN AND SIMULATION OF TUNABLE CAPACITOR USING MEMS COMSOL"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

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CERTIFICATE

Certified that the project work entitled "**Design and simulation of Tunable Capacitor using MEMS COMSOL**" *is a bonafide work carried out by*

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in partial fulfillment for the award of BACHELOR OF ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2015–2016. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

Signature of the Guide	**Signature of the H.O.D**	**Signature of the Principal**
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ABSTRACT

High quality tunable MEMS parallel plate capacitors have been widely used in phase shifters, oscillators and tunable filters for wireless communication. As electrostatic actuation and air dielectrics have led to devices with low power consumption and high quality factors, an electrostatically actuated MEMS tunable capacitor with two flexible plates have been introduced.

A tunable capacitor with two parallel plates with supports have been designed and fabricated in this project. The capacitance can be varied by varying the distance between the parallel plates.