VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"MINIATURIZED CNC PLOTTER FOR PCB DESIGN USING ARDUINO"

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

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

Name	USN
ABHIJEET S	4AL15EC400
MANJUSHREE D	4AL15EC413
POORNESH K R	4AL15EC415
VANISHRI	4AL15EC431

Under the Guidance of
Mr. Sudhakara H M
Sr. Assistant Professor
Department of E&C Engineering

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY
MOODBIDRI – 574 225.

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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225

(Affiliated to VTU, **BELAGAVI**)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled **"MINIATURIZED CNC PLOTTER FOR PCB DESIGN USING ARDUINO"** is a bonafide work carried out by

ABHIJEET S	**4AL14EC400**
MANJUSHREE D	**4AL14EC413**
POORNESH K R	**4AL15EC415**
VANISHRI	**4AL15EC431**

in partial fulfillment for the award of **BACHELOR** of ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year **2017–2018**. 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.

24/5/2018	D.V.T 24/05/18	
Signature of the Guide	**Signature of the H.O.D**	**Signature of the Principal**
Mr. Sudhakara H M	**Dr. D.V.Manjunatha**	**Dr. Peter Fernandes**

H. O. D.
Dept. Of Electronics & Communication
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

PRINCIPAL
Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K.

EXTERNAL VIVA

Name of the Examiners	Signature with date
1.....	.....
2.....	.....

ABSTRACT

Computer numerical control plotter machine is a 3D controlled 2D plotting machines which uses a pen to draw text or image on any given solid surface. It can be used for the purposes such as PCB Design, logo design, etc. This project is based on computer numerical control plotter machine. The increasing demand for the use of computer numerical control plotters in universities and laboratories, a cheap and less complex design is an absolute need. The parts used for the plotter in our project are easily available at a very low price and spare parts are also used. The construction is very simple and robust.

The advancement of technology, demand for computer numerical control plotter machines in educational institutions and laboratories is rapidly rising. Low cost manufacture of printed circuit board has become a basic need in electronics laboratories, for electronics engineering students and for electronics hobbyists. This project represents an affordable model of a computer numerical control plotter machine which is able to draw a circuit layout on PCB or any other solid surface using simple algorithm and available components. At first the user needs to convert any image file or text file into G code using Inkspace software and then feed it to the machine using Processing software. asrduino uno with an ATmega328P microcontroller which is used as the control device for this project. The microcontroller converts G code into a set of machine language instruction to be sent to the motor driver of the computer numerical control plotter.