GSM Modem(SIM900A)

Features:

1) Can make or receive call
2) Can send or receive SMS.
3) Has network functionality.
4) Can GET or POST data from or to a web server.
5) Supports TCP or UDP connection.
6) Supports FTP connection

Hardware description

1) SIM900A
2) USB to TTL Communicator
3) Set of wires to connect the SIM900A with TTL communicator. The ground and supply voltage connection is straight forward whereas the Rx and Tx pins need to be connected in crisscross way.

Software Description

SIM900A is a modern industry standard GSM modem. Which can be bought at http://elementzonline.com/. The Software layout looks like the follows.

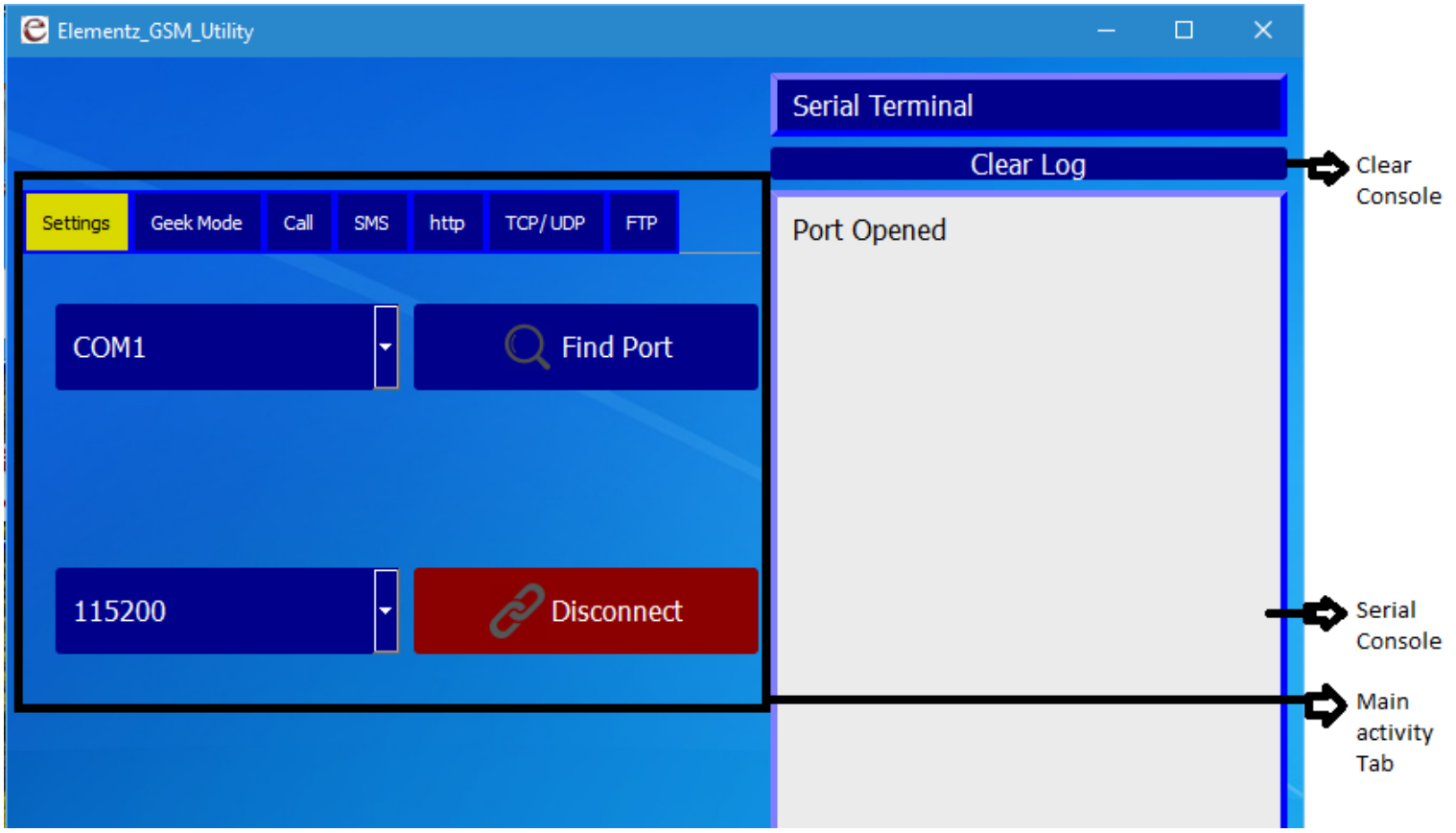

Fig 1.1:Layout of the window

The first tab **settings** is for connecting the hardware to the utility. Before that baud rate of the GSM module is needed which most of the cases can be found in the package itself. After giving the proper port and baud rate hit the button **connect** for connection. The port no can be found in "my pc→properties→device manager"

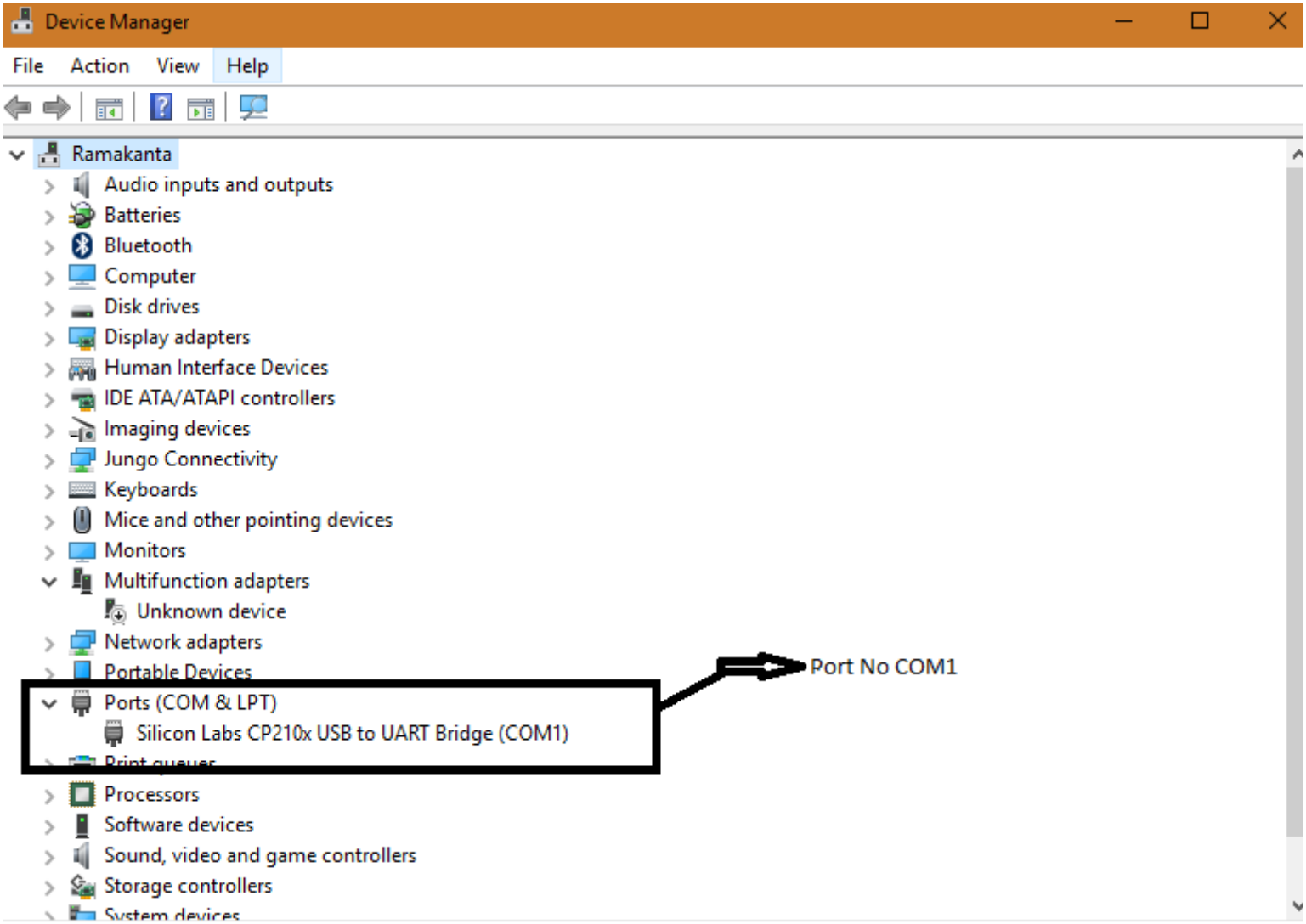

Fig 1.2: finding Port no

After successfully connecting the hardware any operation can be done. The Tab **Geek mode** is for those who have complete understanding about AT command set. The next tab is **call tab**. This tab is dedicated to make call or decline call these operation s can be done using the buttons **call** and **end call** respectively.this utility can receive call as well.when there is any incoming call a popup will appear giving u two option either **attend** or **decline** .As the priority of the incoming call is set high, no other operations can be done until a button among those two are choosen. The screenshot of those are shown below.

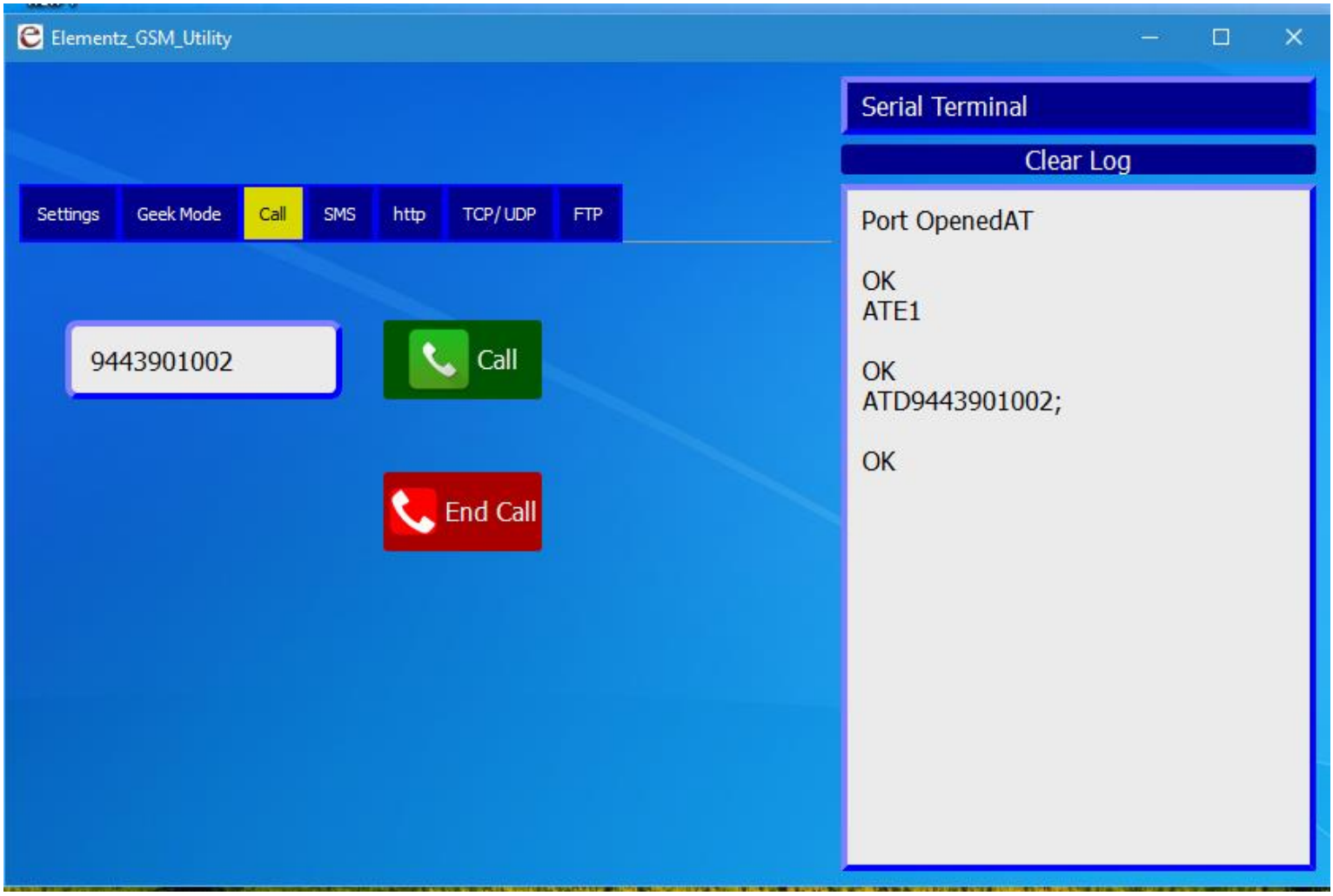

Fig 1.3: Making Call

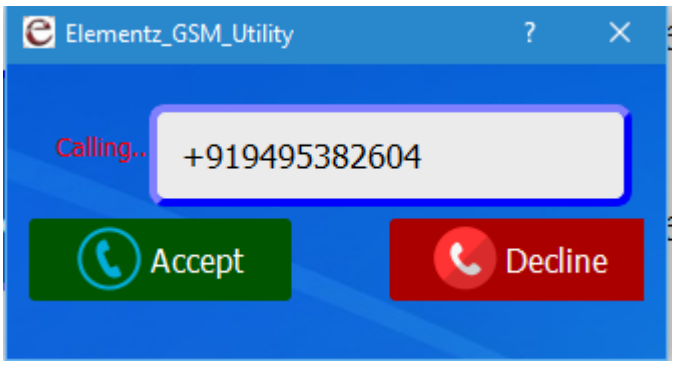

Fig 1.4: Incoming Call

The next tab is for sending **SMS**. With this tab sms can be sent. When the message is typed at the text edit field a box above the text edit will show count how many character is entered. Depends on the ISP the no of character to be sent is fixed. In India currently 140 character is the maximum limit for sending sms. All the tabs designed such as when the proper text is inserted at the specified field then only the respective buttons will be activated otherwise it will remain is inactive state. The next tab is for http requests. For this the first prerequisite is **APN name** and **server address**. Notably the **APN name** varies from **ISP** to **ISP.** For the **GET** request the downloaded data will be shown in the text edit field. Whereas for **POST** Method the data which needed to be pushed is to be written in the text edit field. The screenshot below shows the functionality.

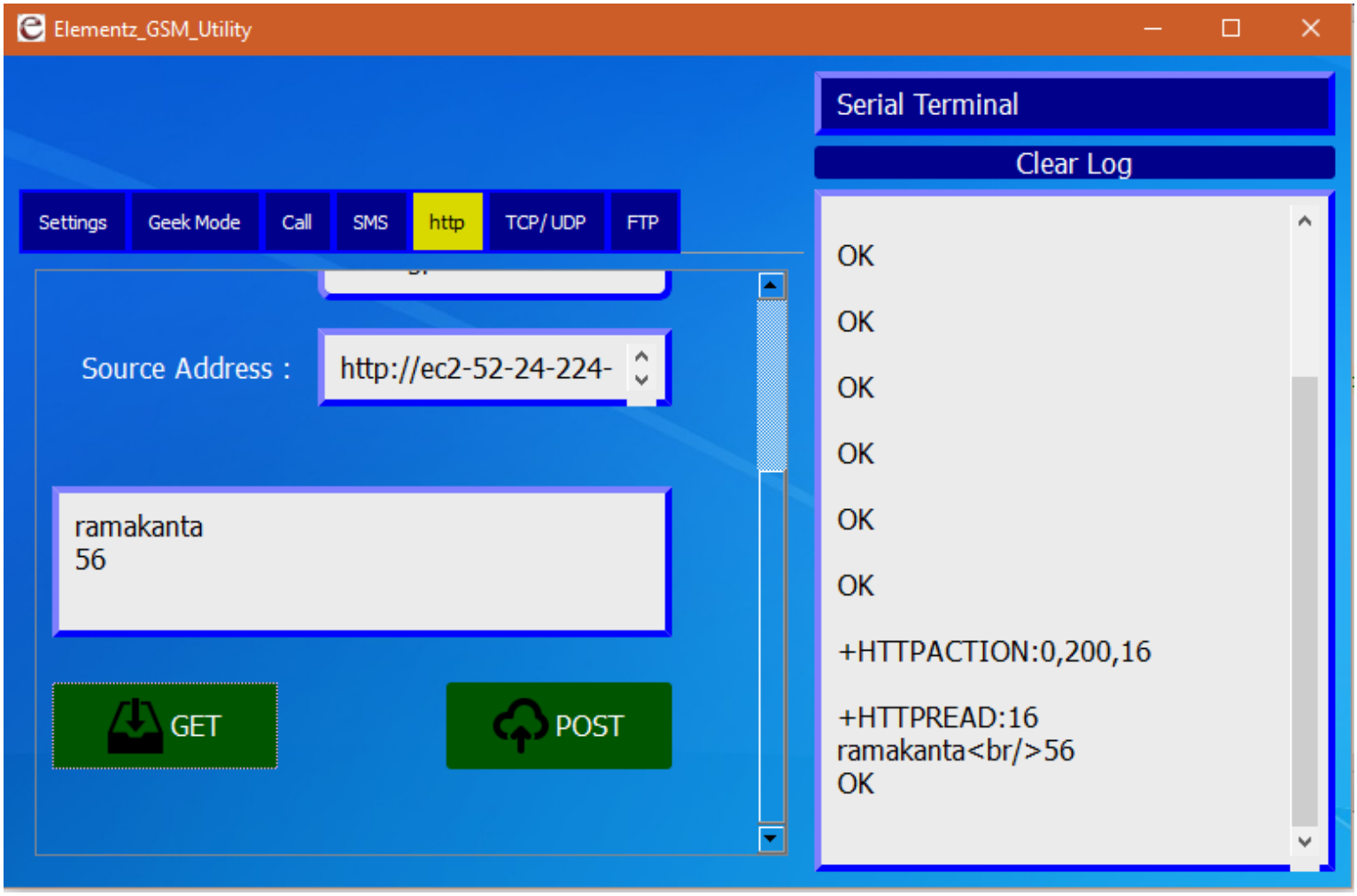

Fig 1.5: HTTP Request

The next tab is for **TCP-UDP** connection. For this a **TCP UDP** server is needed. Here first we need to give **APN name** then the **server IP** and next the **port no.** when connection is made then data can be sent through the text edit field and received through **Console editor.** The screenshot is as follows.

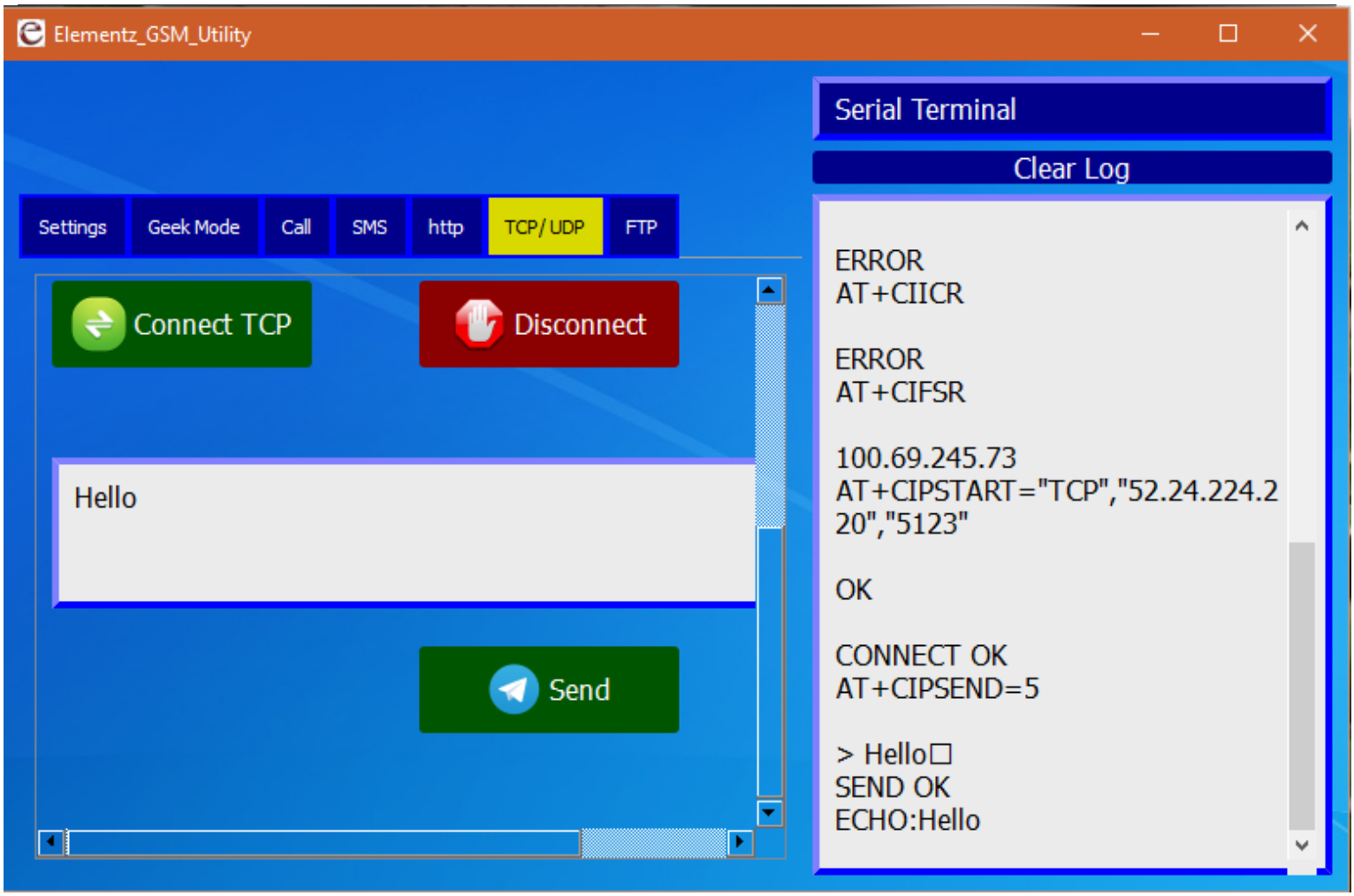

Fig 1.6: TCP UDP Connection

The next tab is for **FTP** Connection. For **FTP** Connection again we need **APN name.** Here **server IP, Username** and **Password** are also needed to file to be uploaded or downloaded. After successfully filling all the field press the button **Connect** which helps to log in to the server. The next field is file to be uploaded or downloaded or download. Specify the name of the file and in the next field mention the full directory of the file. And if **GET** is pressed the data will be shown and for post mention the data in the text edit field and press **POST** and the data will be posted.