**MainWindow:**

* Click on MainWindow in QtDesigner.
* Select and drag the frame from widget box.
* Select and drag another two frames.
* First frame contains ATEC Project label (Title) and label (DateTime). This is also known as **Header** frame
* Second frame contains ATEC Tabs. Name it as **Tab Menu** frame**.**
* Third frame contains Parameters, Graphs and Plots. This is also known as **MainBody** frame**.**
* **Header** frame has two frames, two horizontalspacers, and label (for title) arranged in horizontal layout
* One frame contains label (for logo).
* Another frame contains label (for date).
* Set Maximum height of Header frame to 50 in Qtdesigner.
* Select header frame and arranged in Grid layout.
* **TabMenu** framehasone frame(menu\_widget). It contains label (login), Pushbuttons (**System**, **SubSystem**, **ComplexEmitter**, **NetworkSetting**, **Reports**, **View**, **Calibration** and **Help**).
* Set Maximum height of menu\_widget frame to 54.
* Select menu\_widget frame and arranged in Grid layout.
* Set Maximum height of tabmenu frame to 81.
* Select TabMenu and arranged in GridLayout.
* **MainBody** frame has one frame **(status**), two stacked widgtes (stackwidget, stackwidget\_2).
  + stackwidget has number of pages. Each page contains any widgets.
* **status** frame has another frame (**CNT\_STATUS**).
* **CNT\_STATUS** frame has four frames (**SG\_Frame**, **STS\_MSG\_Frame**, **Servo\_Pos\_Frame**, **Test\_Seq\_Params\_Frame**) and widget (**widget\_gauge**)
* **SG\_Frame** contains two labels (Frequency, Amplitude), two lineEdits and arranged in grid layout
* SG\_Frame arranged in grid layout.
* **STS\_MSG\_Frame** contains two labels (one for title, another for display for message) and arranged in grid layout.
* **Servo\_Pos\_Frame** contains two labels (title (Servo), Position) and one lineEdit and arranged in grid layout.
* Servo\_Pos\_Frame arranged in grid layout.
* **Test\_Seq\_Params\_Frame** contains label and listwidget and arranged in gridlayout.
* CNT\_STATUS arranged in grid layout.
* status frame set to maximum width 200.
* status frame arranged in grid layout.
* Mainwindow arranged in gridlayout.

**SYSTEM:**

Click on stackwidget and select insert page. Name it as system\_parameters. Set to maximum height 120.

* system\_parameters contains frames (**frame\_system, frame\_mode, frame\_signaltype, frame\_configuration, frame\_parameters, DialogueBox, frame\_buttons**) and PushButton (**PB\_OP\_Status**) and **horizontal spacer**.
* **frame\_system** has label (system), RadioButtons (ESM, RFPS, Warner, RWR) and arranged in grid layout
* set frame\_system maximum **width** to 200.
* frame\_system arranged in grid layout.
* **frame\_mode** has label (mode), Radio Buttons (Injection, Radiation, BTE) and arranged in in grid layout.
* Set frame\_mode maximum **width** to 100.
* frame\_mode arranged in grid layout.
* **frame\_ signaltype** has label (signal type), Radio Buttons (CW, Pulse) and arranged in in grid layout.
* Set frame\_signaltype maximum **width** to 100.
* frame\_signaltype arranged in grid layout.
* **frame\_configuration** has label (configuration), Radio Buttons (Frequency, Amplitude, Sensitivity, PW, PRI, DOA) and arranged in grid layout.
* frame\_configuration arranged in grid layout.
* **frame\_parameters** has labels (**Start, Stop, Step, PosAngle, Amplitude, SetPower, PW, PRI**), lineEdits, comboBoxes (**PW, PRI**), PushButtons (Add) and arranged in grid layout.
* Set frame\_parameters maximum **width** to 540.
* frame\_parameters arranged in grid layout.
* **DialogueBox** has listwidget.
* Set DialogueBox maximum **width** to 280.
* DialogueBox arranged in grid layout.
* **frame\_buttons** has PushButtons (**Start, Pause, Abort**) and arranged in grid layout.
* Set frame\_buttons maximum **width** to 60.
* frame\_buttons arranged in grid layout.
* Set spacer between PushButton (OP\_Status) and frame\_buttons.
* Set System\_parameters to grid layout.

Click on another stackwidget and select insert page. Name it as system\_graphs.

* System\_graphs contains frame (**MainFrame**) and progressbar.
* Insert 4 frames inside the MainFrame.
* Insert table widget (**SysESMTable**)in one frame
* Convert it into Grid Layout
* Insert table widget (**SysRFPSTable**) in another frame
* Convert it into Grid Layout
* Select the 2 Table frames and click on the vertical lay out
* Insert Widget in one frame and name it as **Sys Error Graph.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Insert widget in the last frame and name it as **Sys Polar plot.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Select the 2 Widget promoted frames and click on the vertical layout
* Now Select both vertical layouts and convert it into Grid Layout
* Set system\_graphs to gridlayout.

**COMPLEX EMITTER:**

Click on stackwidget and select insert page. Name it as ComplexEmiiter\_Parameters.

* ComplexEmiiter\_Parameters contains frames (**frame\_agility, frame\_complexparameters, frame\_values**) and **horizontal spacer**.
* frame\_ agilitycontainsRadioButtons (**Frequency Agility, Intra Pulse Modulations, PRI Agility, PW Agility**) and arranged in grid layout.
* frame\_agility arranged in grid layout.
* frame\_parameterscontainslabels (**NoofAgile, Pattern, PRI Agility, Jitter%, Deviation**), lineEdits and arranged in grid layout.
* Frame\_parameters arranged in grid layout.
* frame\_valuescontainslabels (**start, stop, step**), lineEdits and arranged in grid layout.
* Frame\_values arranged in grid layout.
* Select frame\_ agility, frame\_ parameters, frame\_ values, and arranged in grid layout.
* Set ComplexEmiiter\_Parameters to gridlayout.

Click on another stackwidget and select insert page. Name it as system\_graphs.

* ComplexEmitter\_Graphs contains frame (**Emitter** **MainFrame**) and progressbar.
* Insert 4 frames inside the Emitter MainFrame.
* Insert table widget (**EmitterESMTable**) in one frame
* Convert it into Grid Layout
* Insert table widget (**EmitterRFPSTable**) in another frame
* Convert it into Grid Layout
* Select the 2 Table frames and click on the vertical lay out
* Insert Widget in one frame and name it as **Emitter Error Graph.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Insert widget in the last frame and name it as **Emitter Polar Plot.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Select the 2 Widget promoted frames and click on the vertical layout
* Now Select both vertical layouts and convert it into Grid Layout
* Set ComplexEmitter\_Graphs to gridlayout.

**SUBSYSTEM:**

Click on stackwidget and select insert page. Name it as Subsystem\_Parameters.

* Subsystem\_Parameters contains frames (**frame\_subsys, frame\_subsys\_mode, frame\_subsys\_parameters,** **frame\_subsys\_Rec,** **frame\_subsys\_buttons**) and horizontal spacer.
* frame\_subsyscontainsRadioButtons (**Antenna, Digital Rx, Microwave Rx, wideband Rx**) and arranged in grid layout.
* frame\_subsys arranged in grid layout.
* frame\_subsys\_mode contains RadioButtons (**Amplitude**, **Phase**) and arranged in grid layout.
* Frame\_subsys\_mode arranged in grid layout.
* frame\_subsys\_parameters contains labels (**Start, Stop, Step, IF Frequency, Polarization**), lineEdits, ComboBoxes and arranged in grid layout.
* frame\_subsys\_parameters arranged in grid layout.
* frame\_subsys\_Rec contains RadioButtons (**Digital Rx, Wideband Rx**), PushButtons (**Read Data, Load Data**) and arranged in grid layout.
* frame\_subsys\_Rec arranged in grid layout.
* frame\_subsys\_buttons has PushButtons (**Start, Pause, Abort**) and arranged in grid layout.
* frame\_subsys\_buttons arranged in grid layout.
* Set Subsystem\_Parameters to gridlayout.

Click on another stackwidget and select insert page. Name it as Subsystem\_Graphs.

* Subsystem\_Graphs contains frame (**SubSys** **MainFrame**) and progressbar.
* Insert 4 frames inside the SubSys MainFrame.
* Insert table widget (**SubSys\_ESMTable**) in one frame
* Convert it into Grid Layout
* Insert table widget (**SubSys\_RFPSTable**) in another frame
* Convert it into Grid Layout
* Select the 2 Table frames and click on the vertical layout.
* Insert Widget in one frame and name it as **SubSys\_ErrorGraph.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Insert widget in the last frame and name it as **SubSys\_PolarPlot.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Select the 2 Widget promoted frames and click on the vertical layout.
* Now Select both vertical layouts and convert it into Grid Layout.
* Set Subsystem\_Graphs to gridlayout.

**NETWORK SETTING:**

Click on stackwidget and select insert page. Name it as Network\_Parameters.

* Network\_Parameters contains frames (**frame\_net\_test, frame\_net\_inst, frame\_net\_params,** **frame\_net\_com**) and horizontal spacer.
* frame\_net\_test containsRadioButtons (**ESMP, RFPS, WBLRU, DIGITALRx, ATE, SIGNALGENERATOR**) and arranged in grid layout.
* frame\_net\_test arranged in grid layout.
* frame\_net\_inst containsRadioButtons (**Spectrum Analyzer, PSG, Servo, VNA, FieldFoxUnit**) and arranged in grid layout.
* frame\_net\_inst arranged in grid layout.
* frame\_net\_params contains labels (**Start, Stop, Step**), lineEdits and arranged in grid layout.
* frame\_net\_params arranged in grid layout.
* frame\_net\_com contains labels (**IpAddress, Port, Speed**), lineEdits and arranged in grid layout.
* frame\_net\_com arranged in grid layout.
* Set Network\_Parameters to gridlayout

Click on another stackwidget and select insert page. Name it as Network\_Graphs.

* Network\_Graphs contains frame (**Net\_mainframe**) and progressbar.
* Insert 4 frames inside the Net\_mainframe.
* Insert table widget (**Network\_ESMTable**) in one frame
* Convert it into Grid Layout
* Insert table widget (**Network\_RFPSTable**) in another frame
* Convert it into Grid Layout
* Select the 2 Table frames and click on the vertical layout.
* Insert Widget in one frame and name it as **Network\_ErrorGraph.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Insert widget in the last frame and name it as **Network\_PolarPlot.**
* Promote the widget into Graphics Layout Widget
* Convert it into Grid Layout
* Select the 2 Widget promoted frames and click on the vertical layout.
* Now Select both vertical layouts and convert it into Grid Layout.
* Set Network\_Graphs to grid layout.

**REPORTS:**

Click on stackwidget and select insert page. Name it as Reports\_Parameters.

* Reports\_Parameters contains frames (**frame\_Rep\_Date,** **frame\_Rep\_Type**), PushButton (**This PC**) and horizontal spacer.
* frame\_Rep\_Date contains labels (**Date of Filter**, **From, To**), dateEdit and arranged in grid layout.
* frame\_Rep\_Date arranged in grid layout.
* frame\_Rep\_Type contains labels (**Test, System**), comboBoxes, PushButtons (**Get, Clear**) and arranged in grid layout.
* Frame\_Rep\_Type arranged in grid layout.
* Set Reports\_Parameters to grid layout.

Click on another stackwidget and select insert page. Name it as Reports\_Graphs.

* Reports\_Graphs contains frame (**Report\_mainframe**), PushButton (**Plot**) and progressbar.
* Insert 3 frames inside the Report\_mainframe.
* Insert table widget (**Reports\_Table**) in one frame.
* Convert it into Grid Layout.
* Insert PushButtons (**Save, Print**) in another frame.
* Convert it into Grid Layout.
* Select the 2 frames and click on the vertical layout.
* Insert Widget in one frame and name it as **Reports\_ErrorGraph.**
* Promote the widget into Graphics Layout Widget.
* Convert it into Grid Layout.
* Select the Widget promoted frame and click on the vertical layout.
* Now Select both vertical layouts and convert it into Grid Layout.
* Set Reports\_Graphs to grid layout.

**VIEW:**

Click on stackwidget and select insert page. Name it as View\_parameters.

* View\_parameters contains frames (**frame\_view\_test, frame\_view\_markers, frame\_view\_zoom**) and horizontal spacer.
* frame\_view\_test has RadioButtons (ESM Tracks, RFPS, Error Graphs, PolarPlot, Scatter Plots, Histogram) and arranged in grid layout.
* Set frame\_view\_zoom to grid layout.
* frame\_view\_markers has label **(Markers**).
* Set frame\_view\_markers to grid layout.
* frame\_view\_zoom contains PushButton (**ZOOM**).
* Set frame\_view\_zoom to grid layout.
* Set View\_parameters to grid layout.

Click on another stackwidget and select insert page. Name it as View\_Graphs.

* View\_Graphs contains one frame (**view\_mainframe**). The frame has QMdiArea widget (**mdiArea**).
* Right click on the MdiArea Widget
* Select **Add Subwindow**.
* Now, the Subwindow will be displayed. Name it as subwindow\_ESMP.
* subwindow\_ESMP has frame and label. In frame, add tablewidget (**View\_ESMTable**) and arranged in grid layout.
* Set Subwindow\_ESMP to grid layout.
* click on the MdiArea Widget
* Select **Add Subwindow**
* Now, the Subwindow will be displayed. Name it as subwindow\_RFPS.
* subwindow\_RFPS has frame and label. In frame, add tablewidget (**View\_RFPSTable**) and arranged in grid layout.
* Set Subwindow\_RFPS to grid layout.
* click on the MdiArea Widget.
* Select **Add Subwindow.**
* Now, the Subwindow will be displayed. Name it as subwindow\_Error.
* subwindow\_Error has frame and label. In frame, insert widget and name it as **View\_ErrorGraph**.
* Promote the widget into Graphics layout widget and convert frame into grid layout.
* Set subwindow\_Error to grid layout.
* click on the MdiArea Widget.
* Select **Add Subwindow.**
* Now, the Subwindow will be displayed. Name it as subwindow\_Polar.
* subwindow\_Polar has frame and label. In frame, insert widget and name it as **View\_PolarPlot**.
* Promote the widget into Graphics layout widget and convert frame into grid layout.
* Set Subwindow\_Polar to grid layout.
* click on the MdiArea Widget.
* Select **Add Subwindow.**
* Now, the Subwindow will be displayed. Name it as subwindow\_Scatter.
* subwindow\_Scatter has frame and label. In frame, insert widget and name it as **View\_ScatterPlot**.
* Promote the widget into Graphics layout widget and convert frame into grid layout.
* Set subwindow\_Scatter to grid layout.
* click on the MdiArea Widget.
* Select **Add Subwindow.**
* Now, the Subwindow will be displayed. Name it as subwindow\_Hist.
* subwindow\_Hist has frame and label. In frame, insert widget and name it as **view\_hist.**
* Promote the widget into Graphics layout widget and convert frame into grid layout.
* Set subwindow\_Hist to grid layout.
* In the Object Inspector, Select the MdiArea widget, Right click on it and choose whether tile or cascade windows according to requirement.
* Set view\_mainframe to grid layout.
* Set View\_Graphs to grid layout.
* Set centralwidget to grid layout.

**STYLESHEET:**

* search the stylesheet option for selected widget in property editor.
* Click on the three dots. It will display dialog box.
* Click on Add color tab.
* Select Background color from color tab and choose the color.
* Click ok.
* Select color from Add color tab and choose the color.
* Click ok.

**ICONS:**

* Search the **icon** option for selected widget (**PushButton**) in property editor from QtDesigner.
* Click on the arrow and select **choose file** option. It will display dialog box.
* Select image file and Click Open.
* Search the **pixmap** option for selected widget (**Label**) in property editor from QtDesigner.
* Click on the arrow and select **choose file** option. It will display dialog box.
* Select image file and Click Open.
* Click Scaled Contents.

**TOOLTIPS:**

* Search the **tooltip** option for selected widget in property editor from QtDesigner.
* Enter text.

**SHORTCUTS:**

* Click on any Button which you want to assign keys from keyboard.
* Search **shortcut** option in property editor from QtDesigner.
* Insert the shortcut key at the Value.

**Font:**

* Search the **font** option for selected widget in property editor from QtDesigner.
* Select **Family, PointSize, Bold.**

**ALIGNMENT:**

* Search **alignment** option in property editor from QtDesigner.
* It has two options**: Horizontal and Vertical**.
* Select Horizontal: AlignHCenter.