

# FREQUENTLY ASKED QUESTIONS

ETERNITY PE/GE/ME/LE

What  
When  
Which  
Where  
How  
Who  
Why



**Date:** 29<sup>th</sup> July, 2015

**Version:** V1R1

**Author:** Smital Patel

## How to carry out an AC Impedance Test on CO Trunk?

ETERNITY supports the AC Impedance test over the CO Trunks for:

- Clear
- Audible and
- Echo free speech

AC Impedance test helps you to set the most appropriate values for the CO Trunk parameters:

- AC Impedance
- CO Termination and
- CO Line Type

You can conduct an AC Impedance test,

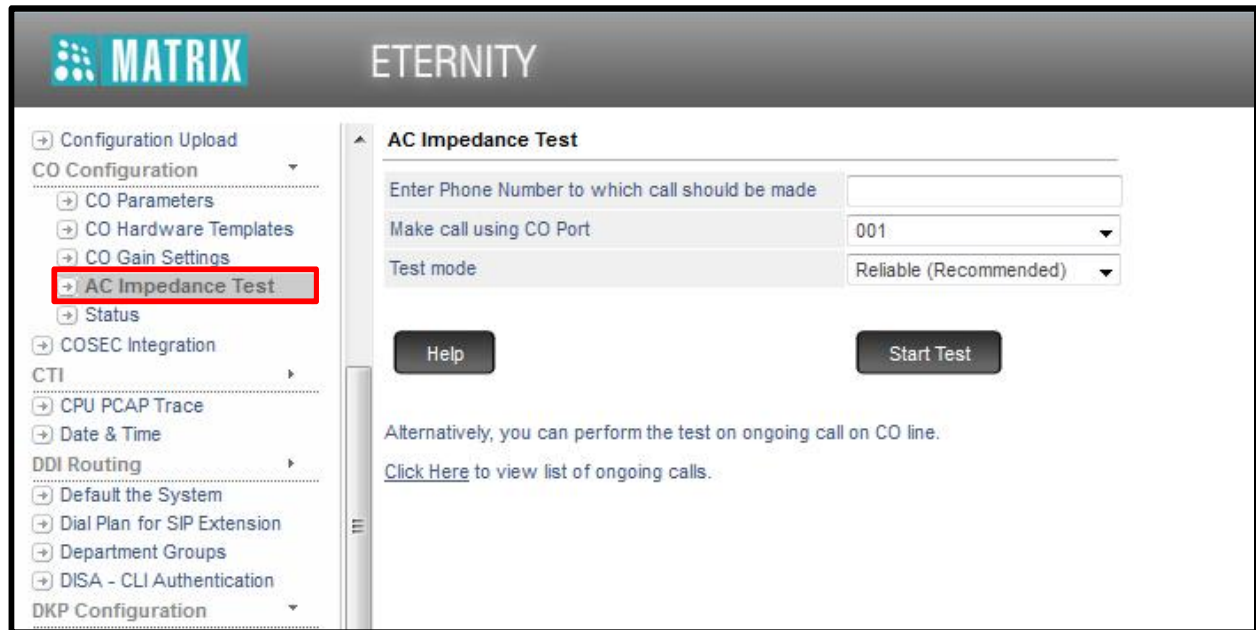
- By making an outgoing call **or**
- On an ongoing incoming call

Select any of the Two different test modes from the dropdown list:

- **Reliable** (Carried out on the basis of most commonly used AC Impedances and takes Approximately 10 minutes to complete)
- **Accurate** (Carried out on the basis of all the possible AC Impedances and takes Approximately 1 Hour 20 minutes to complete)

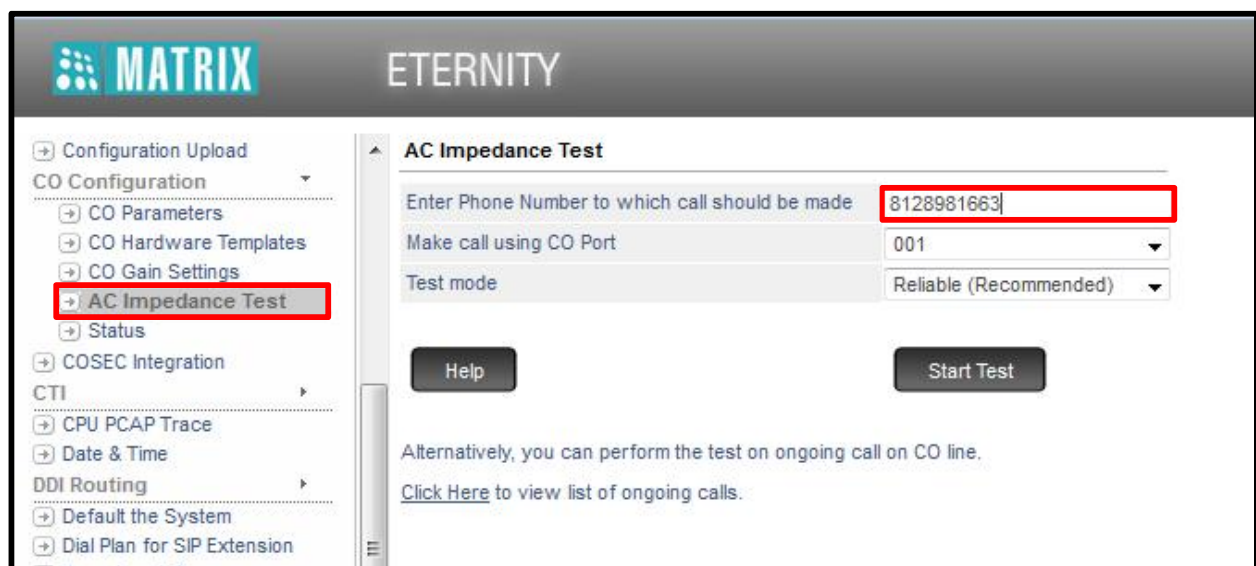
## How to carry out the AC Impedance Test?

**Step1:** Go to CO Configuration → AC Impedance Test




The screenshot shows the MATRIX ETERNITY web interface. On the left sidebar, the 'AC Impedance Test' option under 'CO Configuration' is highlighted with a red box. The main content area displays the 'AC Impedance Test' configuration form. The form includes a text input field for 'Enter Phone Number to which call should be made', a dropdown menu for 'Make call using CO Port' (set to 001), and another dropdown menu for 'Test mode' (set to Reliable (Recommended)). There are 'Help' and 'Start Test' buttons. Below the form, there is a note: 'Alternatively, you can perform the test on ongoing call on CO line. [Click Here to view list of ongoing calls.](#)'

**Step2:** Enter the phone number on which you want to make a test call



The screenshot shows the MATRIX ETERNITY web interface. On the left sidebar, the 'AC Impedance Test' option under 'CO Configuration' is highlighted with a red box. The main content area displays the 'AC Impedance Test' configuration form. The 'Enter Phone Number to which call should be made' field is now filled with the number '8128981663' and is highlighted with a red box. The 'Make call using CO Port' dropdown is set to 001, and the 'Test mode' dropdown is set to Reliable (Recommended). There are 'Help' and 'Start Test' buttons. Below the form, there is a note: 'Alternatively, you can perform the test on ongoing call on CO line. [Click Here to view list of ongoing calls.](#)'

 ... It's recommended to use a mobile number for the test call. Use a mobile number only if the mobile phone has **Mute** function.

**Step3:** Select the CO Port number on which the test is to be conducted

The screenshot shows the MATRIX ETERNITY web interface. On the left sidebar, the 'AC Impedance Test' menu item is highlighted with a red box. The main content area is titled 'AC Impedance Test' and contains the following fields:

- Enter Phone Number to which call should be made: 8128981663
- Make call using CO Port: 001 (highlighted with a red box)
- Test mode: Reliable (Recommended) (highlighted with a red box)

There are 'Help' and 'Start Test' buttons. Below the form, there is a note: 'Alternatively, you can perform the test on ongoing call on CO line. [Click Here](#) to view list of ongoing calls.'

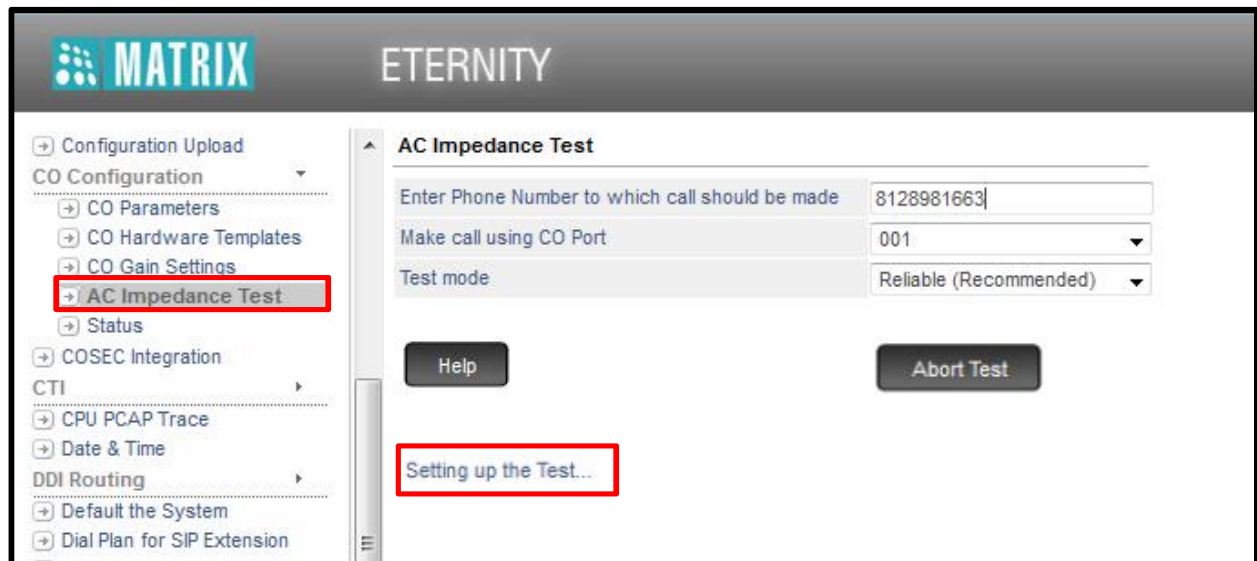
**Step4:** Set the **Test Mode** as either Reliable (Recommended) or Accurate and Click on the **“Start Test”** button.

The screenshot shows the MATRIX ETERNITY web interface. On the left sidebar, the 'AC Impedance Test' menu item is highlighted with a red box. The main content area is titled 'AC Impedance Test' and contains the following fields:

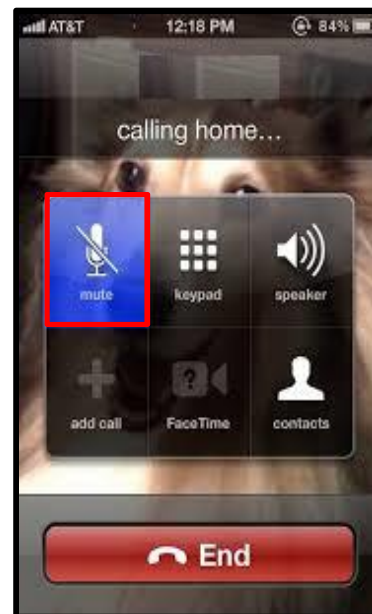
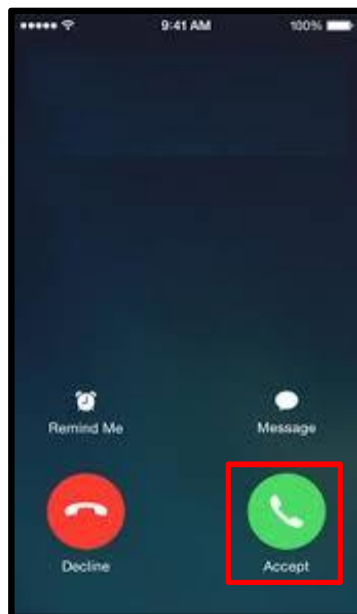
- Enter Phone Number to which call should be made: 8128981663
- Make call using CO Port: 001
- Test mode: Reliable (Recommended) (highlighted with a red box)

The 'Start Test' button is highlighted with a red box. Below the form, there is a note: 'Alternatively, you can perform the test on ongoing call on CO line. [Click Here](#) to view list of ongoing calls.'

**Step5:** System will make a call on the configured number using the CO trunk. The Web Page will display “**Setting up the Test.....**” message on the screen



**Step6:** On receiving the test call from the CO Trunk, answer it. You will get MOH (Music on Hold) after 10 seconds of answering the call. On getting the MOH, **Mute** the Microphone







**Step7:** On completion of the test, the system will automatically disconnect the call and the web page will display "**Test completed**" message. It will also display the best setting for the AC Impedance settings.

The screenshot displays the MATRIX ETERNITY web interface. On the left is a navigation menu with categories like Configuration, Access Codes, BRI Configuration, Call Cost Calculation, CO Configuration, and CTI. The main content area is titled "AC Impedance Test" and contains several input fields: "Enter Phone Number to which call should be made" (8128981663), "Make call using CO Port" (001), and "Test mode" (Reliable (Recommended)). There are "Help" and "Start Test" buttons. Below these, a message states: "Alternatively, you can perform the test on ongoing call on CO line. [Click Here](#) to view list of ongoing calls." A red box highlights the text "Test completed". Below this, another red box highlights a table of "Suggested Impedance Settings":

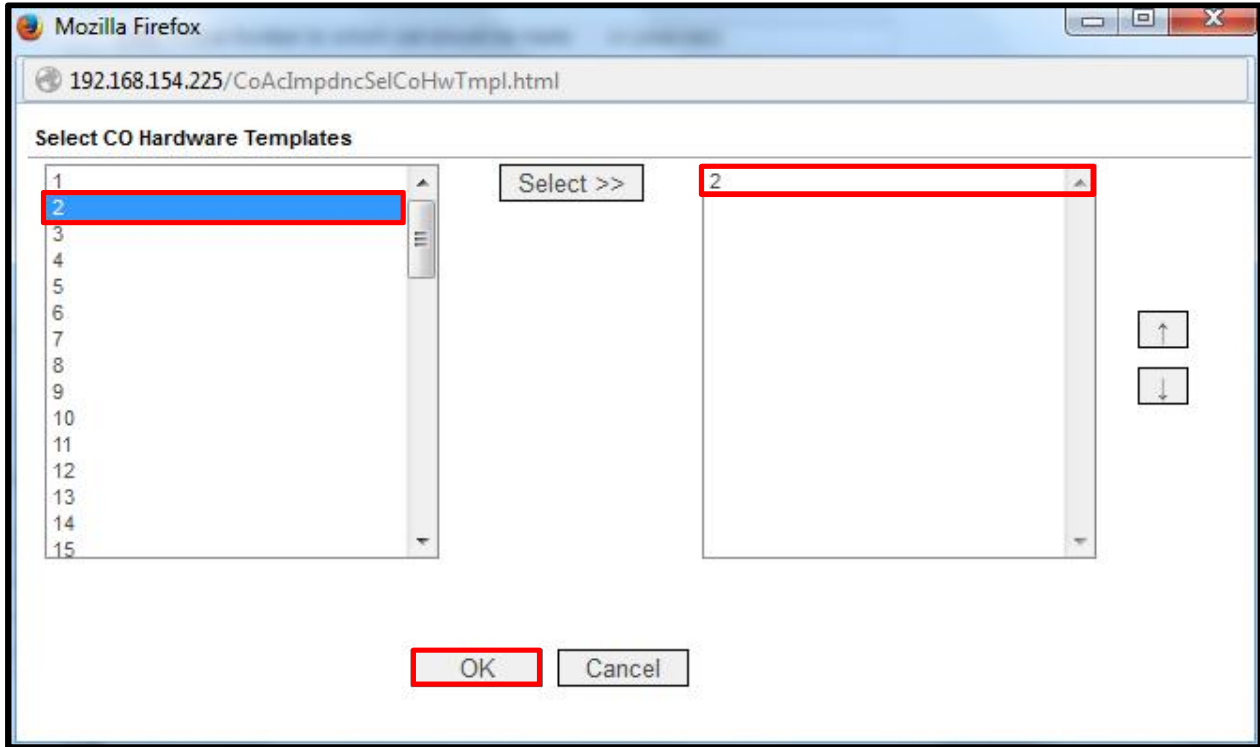
Suggested Impedance Settings	
AC Impedance	320 Ω + (1050 Ω    230 nF)
CO Termination	300 Ω + 1000 Ω + 220 nF
CO Line Type	2000 ft 24AWG
Return Loss	29.68dB

At the bottom, there is a dropdown menu for "Apply to CO Hardware Template" (set to "Double-click to select...") with an "Apply" button, and a "Generate Test Report" button.

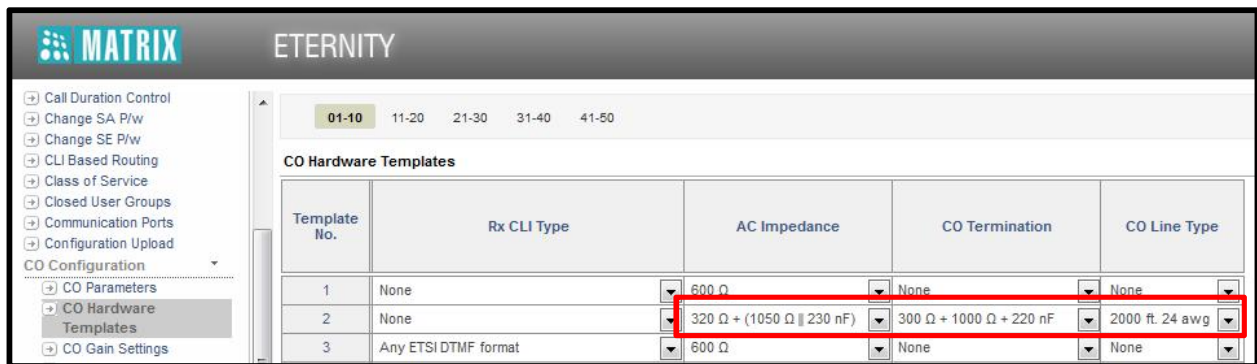
 ... If the Return Loss after the Reliable AC Impedance test is less than 25 dB then it is recommended to carry out Accurate AC Impedance test.

 ... The possible cause of low return loss may be ADSL Splitter used on CO Line. In such cases it is advisable to carry out an AC Impedance test by changing the ADSL Splitter or by removing the ADSL Splitter.

**Step8:** To Apply the result to CO Trunk, double click on “double click to select” tab, you will find page as shown below. Select hardware template on which you want to set this AC impedance results, click on OK to apply setting.



**Step9:** Verify the above parameters set to CO hardware template after following Step8



**Disclaimer:** The information contained in this e-mail and/or attachment may contain confidential or privileged information. Unauthorized use, disclosure or copying is strictly prohibited and may constitute unlawful act and can possibly attract legal action, civil and/or criminal. The contents of this message need not necessarily reflect or endorse the views of Matrix Comsec on any subject matter. Any action taken or omitted on this message is not entirely at your risk and the originator of this message nor does Matrix Comsec take any responsibility or liability towards the same. If you are not the intended recipient, please notify us immediately and permanently delete the message.