

If this is the first time-use of MAPS™ ED137 Telephone application, then it is recommended to follow all the steps explained in MAPS-ED137-Telephone-Quick-Install-Guide to install MAPS™ ED137 Telephone application before proceeding with the steps below.

Verification

For **self-test** of MAPS™ ED137-Telephone application, you may prepare a **single PC with 2 NIC cards**, one as source and other as destination. Ensure that both NIC cards are within the same subnet, assigned proper free IP addresses available in the subnet, and connected to a switch. If the system is connected to a LAN, contact your system administrator to avoid IP address conflicts before you perform the steps below. If the PC has only one NIC card, then the MAPS™ ED137-Telephone can be tested against any DUT in the network in a similar manner, with destination IP address and port set to that of the DUT's.

Both the NIC cards should be connected to Switch (or) connected Back-to-Back using Ethernet Cable.

For illustration purposes, we assume the IP address for the NIC cards are configured as in the following:

- NIC1 IP address is 192.xx.xx.36, and configured as CWP1
- NIC2 IP address is 192.xx.xx.37, and configured as CWP2

Invoke two instances of **MAPS™ ED137-Telephone** application on the test PC. The configurations below allow first instance of MAPS™ ED137-Telephone to use NIC 1 IP address as CWP1 [Controller Working Position] and the NIC 2 IP address as CWP2 [Controller Working Position] endpoint. Similarly, the second instance of MAPS™ ED137-Telephone to use NIC 2 IP address as source and the NIC 1 IP address as destination endpoint to simulate Telephone calls.



Note:

- ED137 call generator can be any real CWP device supporting ED137 signaling and traffic. In this test scenario, we have used MAPS™ ED137 Telephone (CWP) application to generate and receive calls. Calls can be generated from any of the CWP terminals.

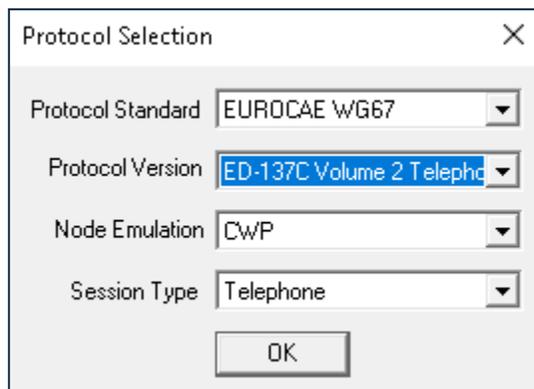
Configuring MAPS-ED137 Telephone (CWP1) instance on NIC1

- Click on **MAPSED137Telephone** shortcut icon created on the desktop and invoke the application. This instance of **MAPS-ED137-Telephone** is configured as CWP1 (**Call Generator**).
- Configure the following in the **Protocol Selection** window.

- Select **Protocol Standard** as EUROCAE WG67
- Select **Protocol Version** as ED-137C Volume 2 Telephone

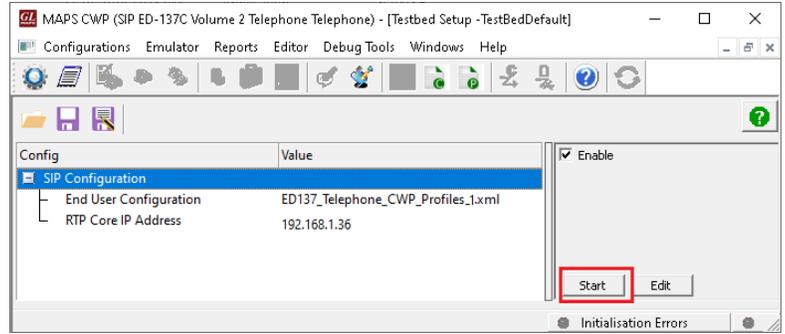
Note: MAPS™ ED137 Telephone supports both **ED137_2B** and **ED137_2C** versions. Select appropriate version from the drop-down for respective version call simulation.

- Select **Node Emulation** as CWP
- Select **Session Type** as Telephone. Click on **OK**



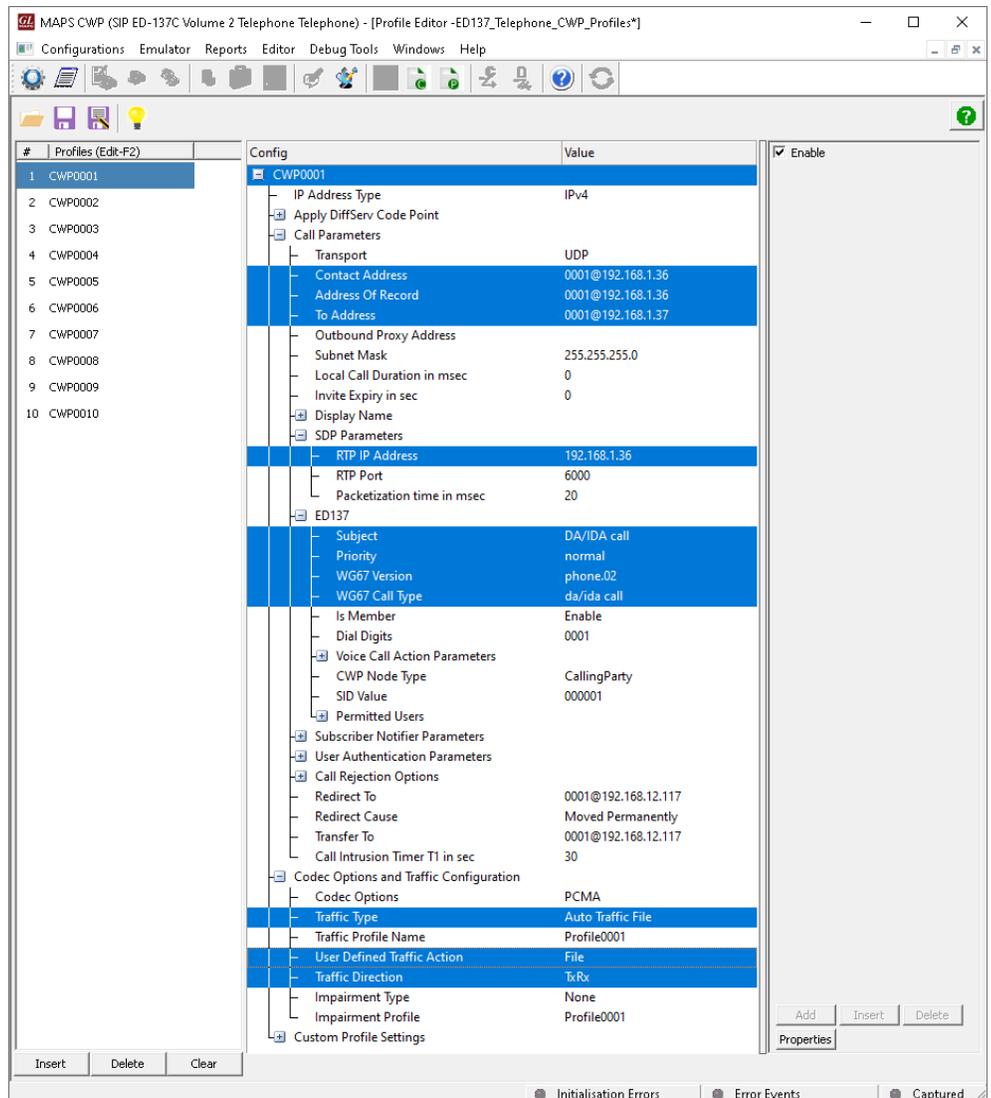
The screenshot shows a dialog box titled "Protocol Selection" with a close button (X) in the top right corner. It contains four dropdown menus and an OK button at the bottom. The first dropdown, "Protocol Standard", is set to "EUROCAE WG67". The second dropdown, "Protocol Version", is set to "ED-137C Volume 2 Telephone". The third dropdown, "Node Emulation", is set to "CWP". The fourth dropdown, "Session Type", is set to "Telephone".

- By default, **TestBed Setup** window loaded with “**TestBedDefault**” configuration file. Verify the following settings:
 - Change **End User Configuration** filename to **ED137_Telephone_CWP_Profiles_1.xml**.
 - Set the **RTP Core IP Address** to NIC1 IP Address (192.xx.xx.36)
 - Click on **Save As** icon  and save the changes with **TestBedDefault_1** filename.



- Select **Editor** → **Profile Editor** to invoke the profile editor window. By default, “ED137_Telephone_CWP_Profiles” profile is loaded. Select **CWP0001** profile from the left pane and edit the parameters as per the test requirements.

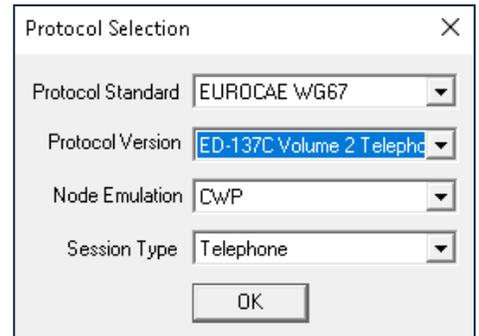
- Edit **Contact Address** → 0001@192.xx.xx.36 (Enter the NIC1 SIP URI here) (Unique IP Addresses set for CWP00** profiles automatically creates Virtual IP Addresses on the system for the NIC interface)
- Edit **Address of Record** → 0001@192.xx.xx.36 (Enter the NIC 1 SIP URI here)
- Edit **To Address** → 0001@192.xx.xx.37 (Enter the destination NIC 2 or DUT SIP URI here)
- Edit **RTP IP Address** → 192.xx.xx.36 (Enter the NIC 1 IP Address here)
- Set **Subject** → DA/IDA Call
- Set **Priority** → normal
- Set **WG67** → phone.02
- Set **WG67 Call Type** → da/ida Call
- Set **Traffic Type** → Auto Traffic File
- Set **User Defined Traffic Action** → File
- Set **Traffic Direction** → TxRx
- Click on **Save As** icon  and save the changes with “ED137_Telephone_CWP_Profiles_1” filename. Exit from the profile editor window.



Refer to [MAPS™ ED137-Telephone Reference User’s Manual](#) for step-by-step procedure to configure multiple CWPs.

Configuring MAPS-ED137-Telephone (CWP2) instance on NIC2

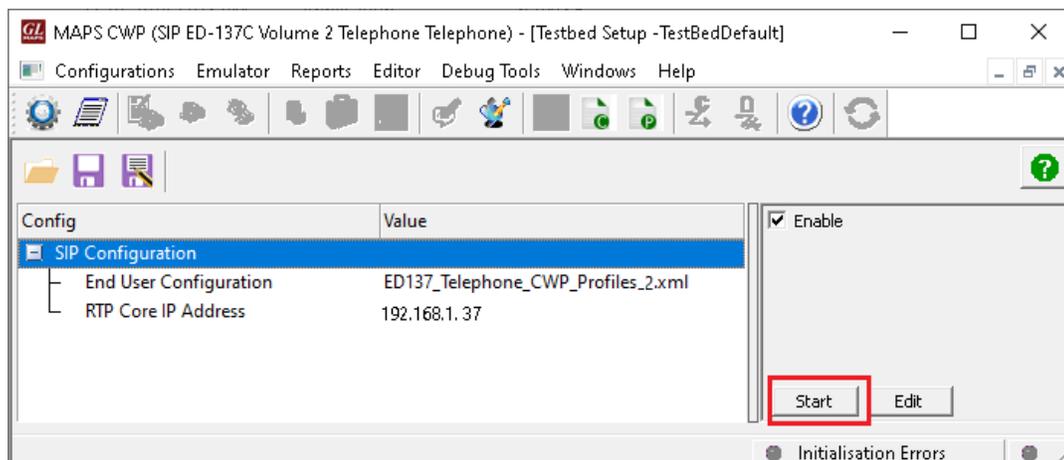
- Click on **MAPSED137Telephone** shortcut icon created on the desktop and invoke the application. This instance of **MAPS-ED137-Telephone** configured as **CWP2 (Call Receiver)**.
- While invoking the first MAPSED137Telephone instance, verify the following in the Protocol Selection window -



- Select **Protocol Standard** as EUROCAE WG67
- Select **Protocol Version** as ED-137B Volume 2 Telephone

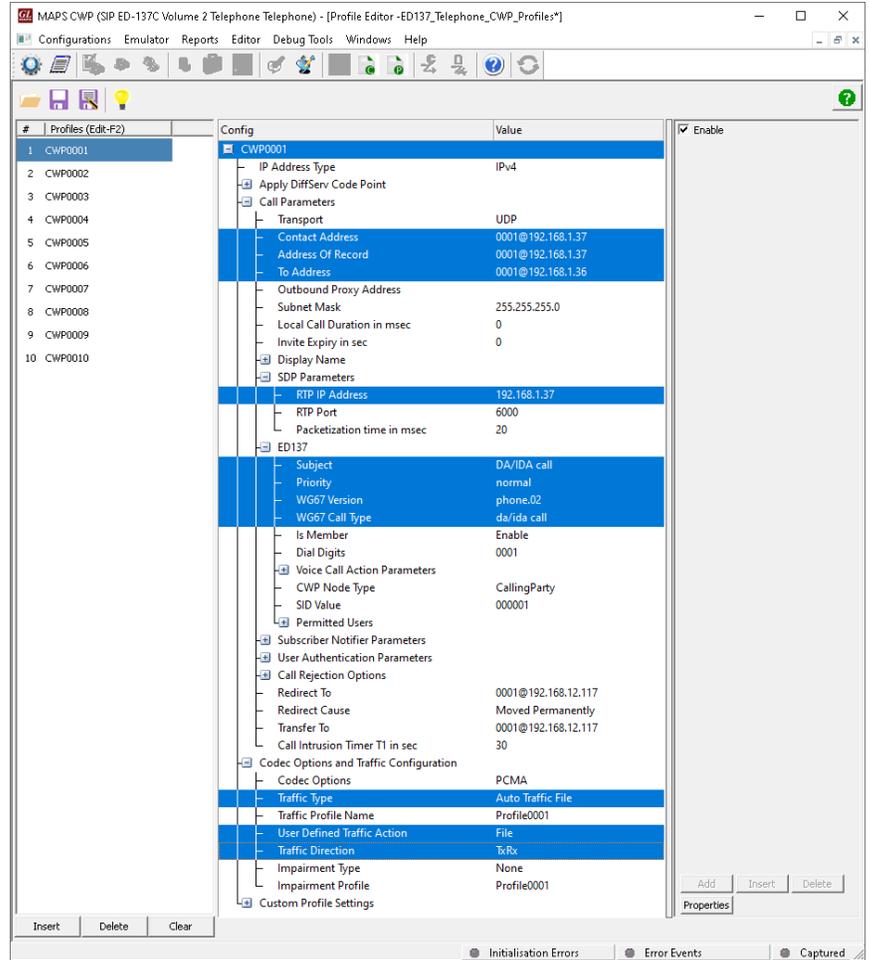
Note: MAPS™ ED137 Telephone supports both **ED137_2B** and **ED137_2C** versions. Select appropriate version from the drop-down for respective version call simulation.

- Select **Node Emulation** as CWP
 - Select **Session Type** as Telephone. Click on **OK**
- By default, **Testbed Setup** window loaded with “**TestBedDefault**” configuration file. Verify the following settings:
 - Change **End User Configuration** filename to **ED137_Telephone_CWP_Profiles_2.xml**
 - Set the **RTP Core IP Address** to NIC2 IP Address (192.xx.xx.37)
 - Click on **Save As** icon  and save the changes with **TestBedDefault_2** filename



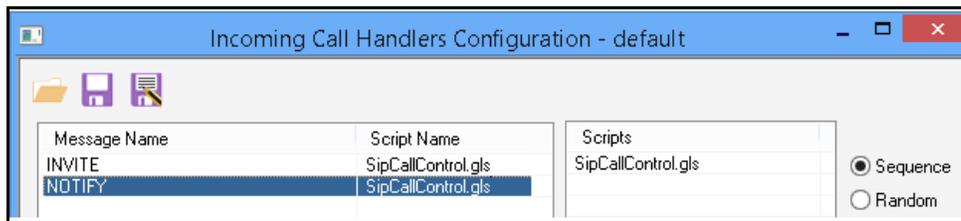
- From **MAPSED137Telephone (CWP2)** main window, select **Editor** → **Profile Editor** to invoke the profile editor window. By default, “**ED137_Telephone_CWP_Profiles**” profile is loaded. Select **CWP0001** from the left pane and edit the parameters as per the test requirements.

- Edit **Contact Address** → 0001@192.xx.xx.37 (Enter the NIC2 SIP URI here) (Unique IP Addresses set for CWP00** profiles automatically creates Virtual IP Addresses on the system for the NIC interface)
- Edit **Address of Record** → 0001@192.xx.xx.37 (Enter the NIC2 SIP URI here)
- Edit **To Address** → 0001@192.xx.xx.36 (Enter the destination NIC1 or DUT SIP URI here)
- Edit **RTP IP Address** → 192.xx.xx.37 (Enter the NIC2 IP Address here)
- Set **Subject** → **DA/IDA Call**
- Set **Priority** → **normal**
- Set **WG67** → **phone.02**
- Set **WG67 Call Type** → **da/ida call**
- Set **Traffic Type** → **Auto Traffic File**
- Set **User Defined Traffic Action** → **File**
- Set **Traffic Direction** → **TxRx**

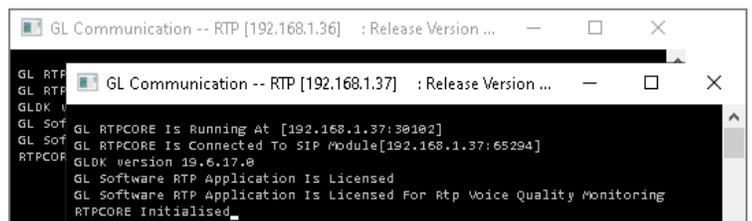


- Click on **Save As** icon  and save the changes with “**ED137_Telephone_CWP_Profiles_2**” filename. Exit from the profile editor window.

- On the same **MAPSED137Telephone (CWP2)** main window, select **Configuration** → **Incoming Call Handler Configuration** window. Verify that **SipCallControl.gls** script is loaded against the **INVITE** message. Close the window.



- Start** both the MAPS™ Testbed setup and wait for RTP-Core console window to appear in the taskbar. If the SIP/RTP Core console does not invoke with the MAPS™ TestBed start-up, refer to Troubleshoot section in the [MAPS-ED137-Telephone-Quick-Install-Guide](#).

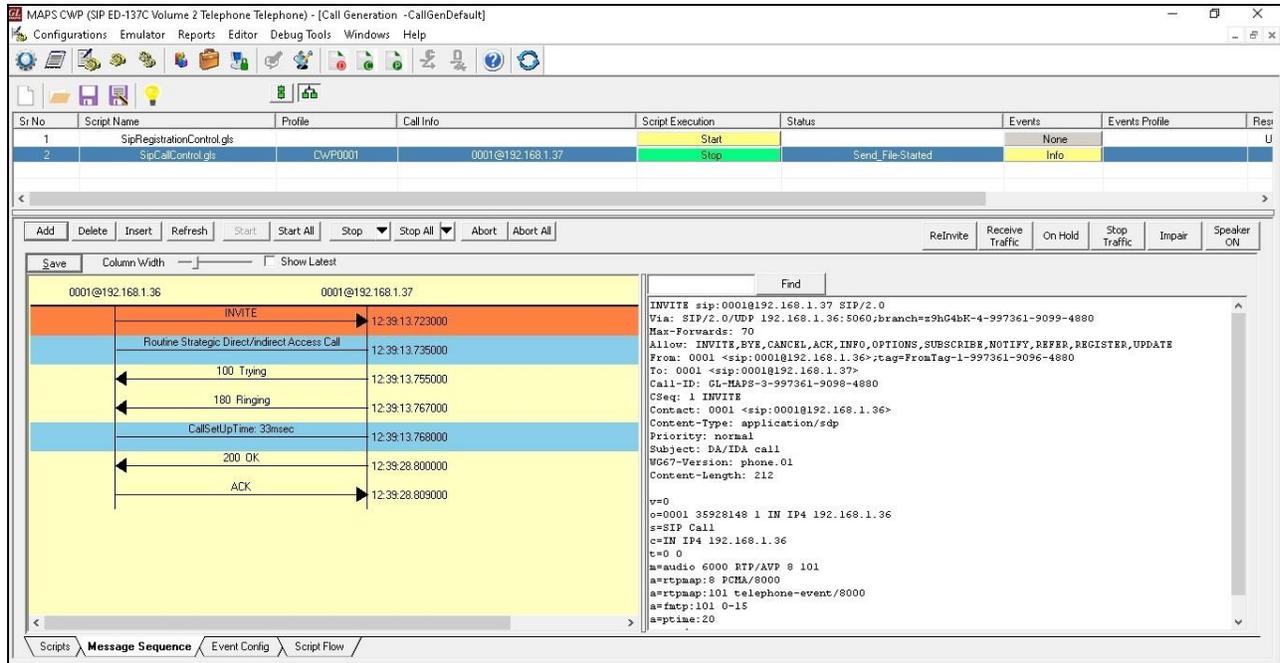


- On **MAPSED137Telephone [CWP1]** main window, click on **Call Generation** icon  to invoke the **Call Generation** window.
- By default, user can observe two entries in this window. First one is loaded with **SipRegistrationControl.gls** script for **CWP0001**, this will register **CWP0001** if **Registrar Address** is configured in profile. Second entry is loaded with **SipCallControl.gls** script that places call to another end using **CWP0001** and click **Start** button to execute the script.

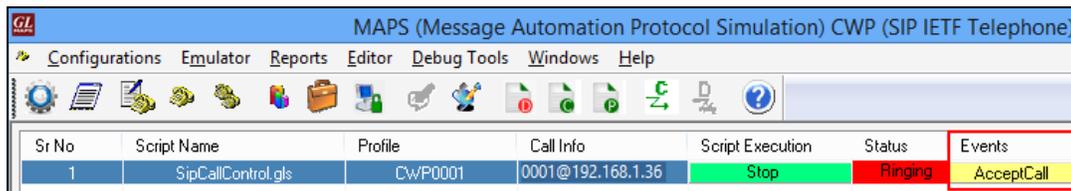


Note:

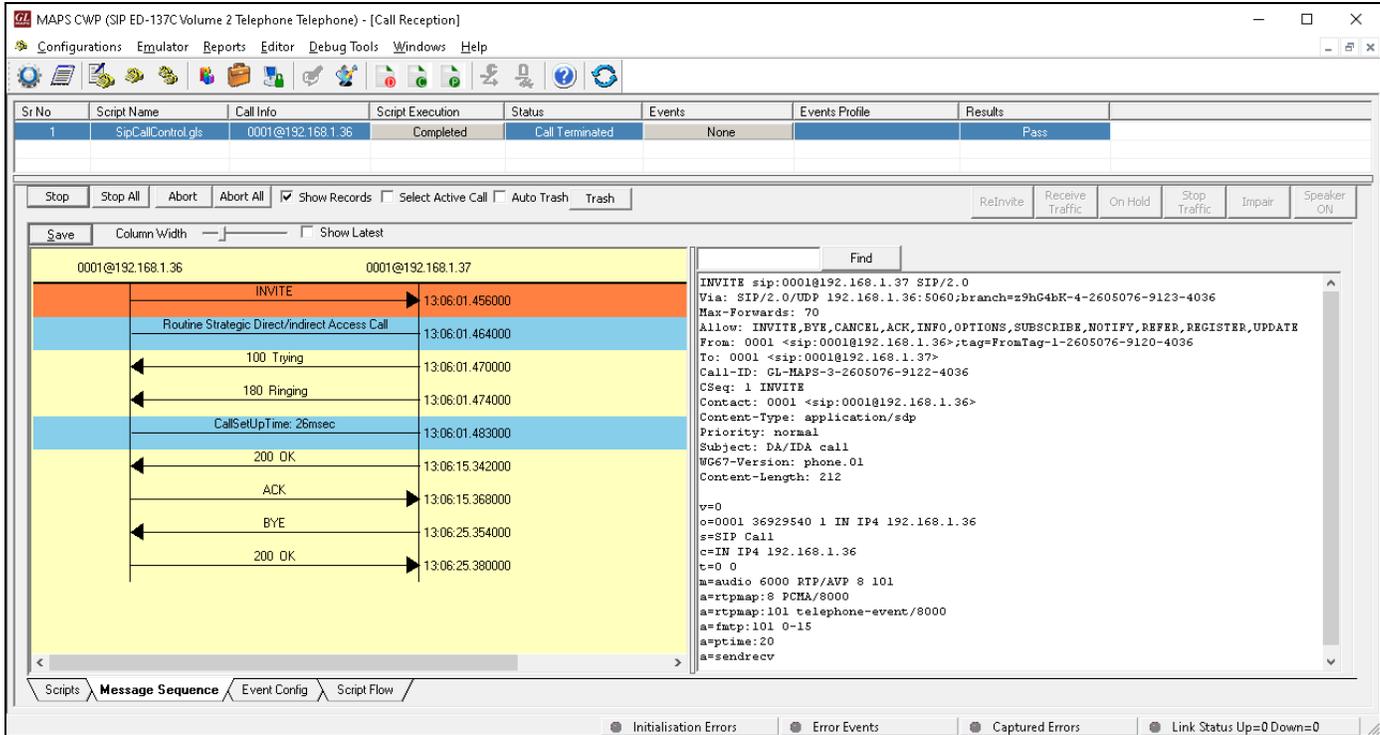
- By default, if the profiles are not selected in the **Profile** column, then double-click the profile column and select the configured profile **CWP0001** from the drop-down list.



- Return to **MAPSED137Telephone [CWP2]** instance, click on **Call Reception** icon  and click on **Accept Call** to receive the call, observe that the calls status is **Ringling**.



- Click on **Stop** to terminate the call and verify the **Message Sequence Flow** by selecting the call objects at both generation and reception end.
- Select any message in the ladder diagram and observe the respective decode message on the right pane for the respective message.



The screenshot shows the MAPS CWP interface for a SIP ED-137C Volume 2 Telephone Telephone - [Call Reception]. The interface includes a menu bar (Configurations, Emulator, Reports, Editor, Debug Tools, Windows, Help) and a toolbar. A table at the top displays call details:

Sr No	Script Name	Call Info	Script Execution	Status	Events	Events Profile	Results
1	SipCallControl.gls	0001@192.168.1.36	Completed	Call Terminated	None		Pass

Below the table is a control bar with buttons: Stop, Stop All, Abort, Abort All, Show Records, Select Active Call, Auto Trash, Trash, ReInvite, Receive Traffic, On Hold, Stop Traffic, Impair, Speaker ON. The main area is divided into two panes. The left pane shows a message sequence flow diagram between 0001@192.168.1.36 and 0001@192.168.1.37. The right pane shows the decoded message details for the selected message.

Message Sequence Flow:

- 0001@192.168.1.36 → INVITE → 13:06:01.456000
- 0001@192.168.1.37 → Routine Strategic Direct/Indirect Access Call → 13:06:01.464000
- 0001@192.168.1.36 ← 100 Trying → 13:06:01.470000
- 0001@192.168.1.36 ← 180 Ringing → 13:06:01.474000
- 0001@192.168.1.36 → CallSetUpTime: 26msec → 13:06:01.483000
- 0001@192.168.1.37 ← 200 OK → 13:06:15.342000
- 0001@192.168.1.36 → ACK → 13:06:15.368000
- 0001@192.168.1.37 ← BYE → 13:06:25.354000
- 0001@192.168.1.36 → 200 OK → 13:06:25.380000

Decoded Message Details:

```

INVITE sip:0001@192.168.1.37 SIP/2.0
Via: SIP/2.0/UDP 192.168.1.36:5060;branch=z9hG4bK-4-2605076-9123-4036
Max-Forwards: 70
Allow: INVITE,BYE,CANCEL,ACK,INFO,OPTIONS,SUBSCRIBE,NOTIFY,REFER,REGISTER,UPDATE
From: 0001 <sip:0001@192.168.1.36>;tag=FromTag-1-2605076-9120-4036
To: 0001 <sip:0001@192.168.1.37>
Call-ID: GL-MAPS-3-2605076-9122-4036
CSeq: 1 INVITE
Contact: 0001 <sip:0001@192.168.1.36>
Content-Type: application/sdp
Priority: normal
Subject: DA/IDA call
WG67-Version: phone.01
Content-Length: 212

v=0
o=0001 36929540 1 IN IP4 192.168.1.36
s=SIP Call
c=IN IP4 192.168.1.36
t=0 0
m=audio 6000 RTP/AVP 8 101
a=rtpmap:8 PCMA/8000
a=rtpmap:101 telephone-event/8000
a=fmtp:101 0-15
aptime:20
a=sendrecv
    
```

- This completes the functional verification of **MAPS™ ED137 Telephone** application.
- For any queries, contact **GL Communications Inc.**