It is assumed that the T1/E1 Analyzer Hardware, Software and License installations are already performed referring to the purchased Hardware Installation Guide.

MAPS™ GSM Abis Application Verification

For functional verification, 2 instances of **MAPS™ GSMAbis** application can be invoked on a single PC configured as source and destination nodes. The following steps explain MAPS™ GSMAbis configuration on the same PC in loopback mode to simulate GSM protocol supporting procedures over Abis interface.
On first instance, MAPS™ is configured as **BSC** (Base Station Controller), and on the second instance, MAPS™ is configured as **BTS** (Base Transceiver Station) nodes generating supported procedure messages.

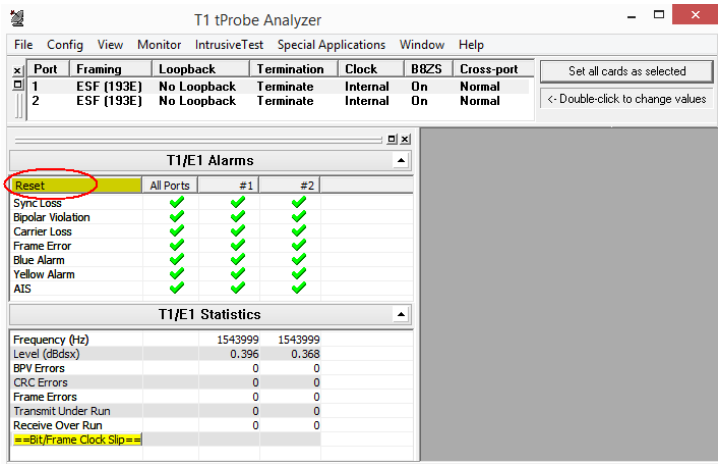
<u>Cross-connect T1/E1 Port #1 and Port #2 of the Hardware unit back-to-back using RJ48c loopback cable.</u>

RJ48c Loopback Cable

- Click on the **T1/E1 Analyzer** icon created on the desktop (or) from the installation directory, click on **UsbNGT1.exe** and launch T1/E1 Analyzer application.

<u>Note:</u> The application may take some time to get started due to hardware and software initializations.

- Verify the following **Interface** settings in the T1/E1 main GUI
  - For **T1 Analyzer**, configure Port #1 and Port #2 with the following
    Framing = ESF, Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal
  - For **E1 Analyzer**, configure Port #1 and Port #2 with the following
    Framing = CCS, Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal
- Verify the **Sync and Alarm Status** between the ports are indicated in **Green** ✔ in **T1/E1 Alarms** pane. Click **Yellow Reset** button to reset the alarms.



- From T1/E1 Analyzer main window, invoke the **WCS Server: Special Applications > Windows Client Server (WCS) > WCS Server.**
- Configure WCS as follows -
  - Listen Port = 17090 (for E1 systems); 17080 (for T1 systems)
  - Messaging = Binary

- Version = 4
- Click on **Start GL Server** button.

First MAPS™ GSMAbis (GUI) – (BSC)

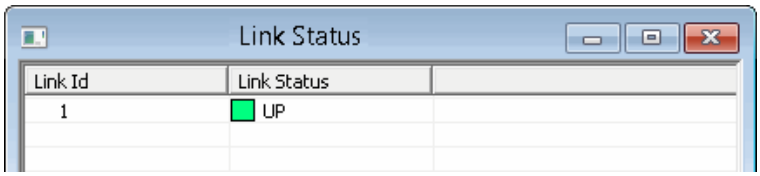
- From T1/E1 Analyzer main window, from **Special Applications** menu > select **Protocol Emulation > MAPS™ GSM Abis Interface Emulator**
- While invoking the MAPS™ GSMAbis instance, verify the following in the **Protocol Selection** window -
  - **Protocol Standard = GsmAbis**
  - **Protocol Version = GSM900**
  - **Node = BSC**
  - Click **Ok**
- This instance of MAPS™ is configured for **Call Reception**
- By default, Testbed Setup window is displayed. Click and select **TestBedDefault** and check for the following parameter default values:
  - **Physical T1 (or E1) Signaling Port Number** = 1
  - **Physical Signaling Timeslot** = 1
  - **Physical Trau Timeslot** = 2
- From MAPS GsmAbis main window, select **Configuration > Incoming Call Handler Configuration**. Verify that the **BSC_MOC.gls** script is loaded against the **CHANnelReQuireD** message. Close the window.
- In the same MAPS GsmAbis main window, select **"Editor"** menu -> invoke **Profile Editor** window.
  - Click and select **"BSC_Profiles"** file. From the left pane, select **BSCProfile001** profile. Set **Call Type = Mobile Terminated Speech Call,** and **Enable Traffic = Auto Traffic** parameter values. Click **Save** button. Exit from the window.

Second MAPS™ GSMAbis (GUI) – (BTS)

- From T1/E1 Analyzer main window, from **Special Applications** menu > select **Protocol Emulation > MAPS™ GSM Abis Interface Emulator**.
- While invoking the second MAPS™ GSMAbis instance, verify the following in the **Protocol Selection** window -
  - Protocol Standard = **GsmAbis**
  - Protocol Version = **GSM900**
  - Node = **BTS**
  - Click **Ok**
- This instance of MAPS™ is configured for **Call Generation**
- By default, Testbed Setup window is displayed. Click and select **TestBedDefault** and check for the following parameter default values:
  - Physical T1 (or E1) Signaling Port Number = 2
  - Physical Signaling Timeslot = 1
  - Physical Trau Timeslot = 2
- From MAPS GsmAbis main window, select **"Editor"** menu -> invoke **Profile Editor** window:
  - Click and select **"BTS_Profiles"** file. From the left pane, select **BTSProfile001** profile. Set **Call Type = Mobile Originated Speech Call**, and **Enable Traffic = Auto Traffic** parameter values. Click **Save** button. Exit from the window.

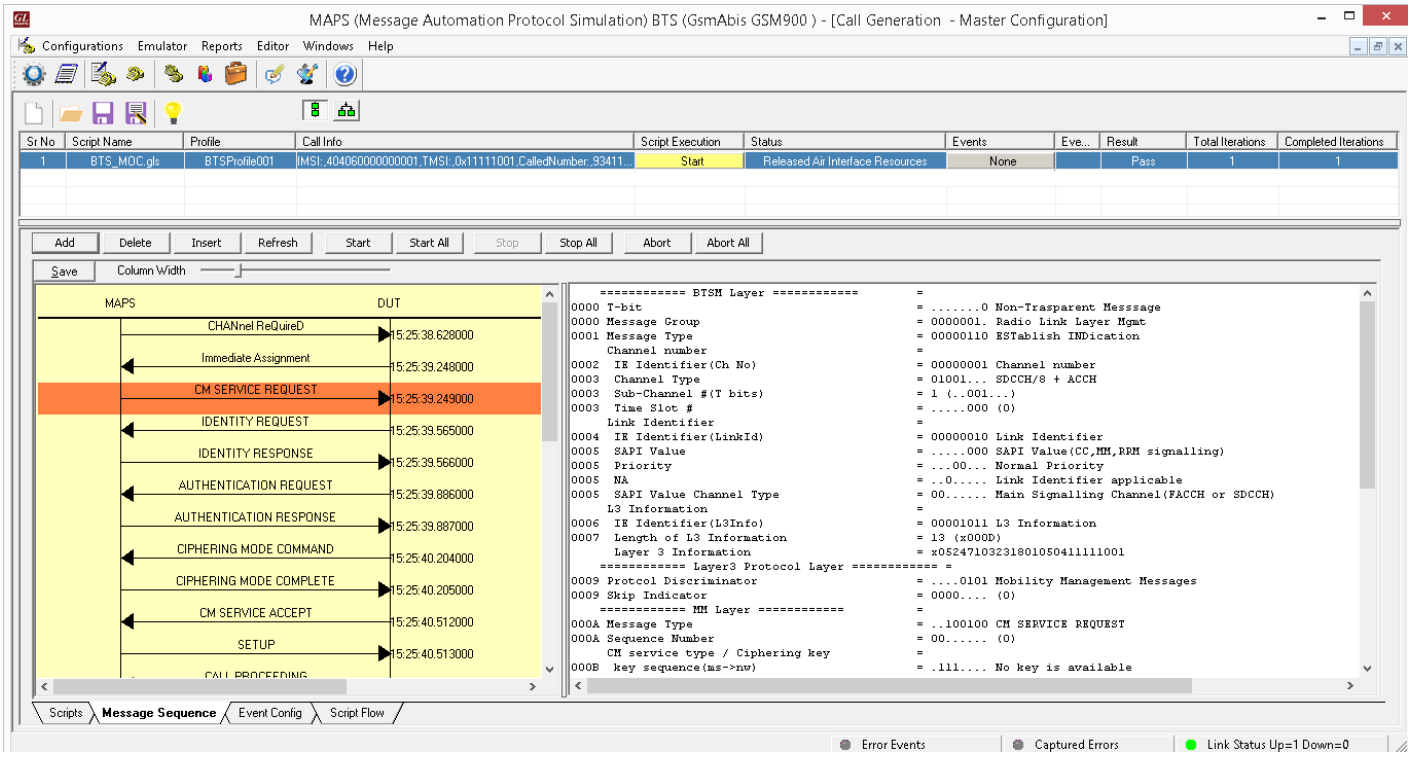
- **Start** the testbed on both the MAPS™ instances.

- **Note**: Once the test bed setup is started on both the instances of MAPS™ GSMAbis (BTS and BSC), from the main window, select **Reports** menu > invoke **Link Status** window. Verify that the **Link Status** is **UP** (indicated in Green color) before placing the call.



- In MAPS™ GSMAbis (BTS) main window, select **Emulator > Call Generation** option.
- By default, you will observe a call instance loaded with **BTS_MOC.gls** script and **BTSProfile001** profile in the window.
- Click on the yellow Start button and initiate the MOC procedure.

- In the MAPS™ GSMAbis (BSC) main window, select **Emulator > Call Reception** option. Observe that the call is automatically received in the **Call Reception** window running the Rx script.

- Wait for the call to terminate, and verify the **Message Sequence** flow 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.