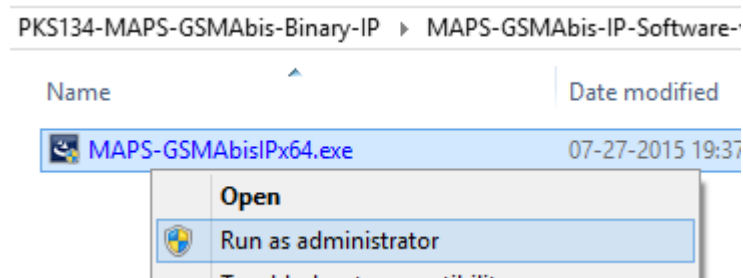


## Software and License Installation

**DO NOT CONNECT USB DONGLE TO THE PC FIRST.** Perform Software installation first, followed by License installation and then plug-in the USB hardware dongle to the PC.

- PC Requirements
  - Windows® 7 and above Operating System (**64 bit Only**).
  - Core i3 to i7 (or equivalent), 4 GB Memory, NIC, and USB 2.0 Ports.
- Plug-in the **USB Installation Stick** (pen drive) to the PC. This is provided with the shipment package by GL Communications.
- Navigate to \PKS134-MAPS-GSMABis-Binary-IP\MAPS-GSMABis-IP-Software-verXX folder, right click **MAPS-GSMABisIPx64.exe** and select **Run as Administrator**. Follow the onscreen instructions and complete the installation.



- Navigate back to root directory in USB installation stick (pen drive) to **GL-Dongle License Installer** folder, execute **GLDongleLicenseInstaller\_x64.exe**. Follow the onscreen instructions and complete the installation.
- NOW PLUG-IN the USB Dongle to the PC to the USB 2.0 port of your computer. Windows® should install all required drivers automatically. A red light should appear on the dongle indicating that the device is functioning correctly and ready to use.
- It is recommended to reboot the system after the software installation. If you had problems with installation so far, refer to [Troubleshoot](#) section explained in this document.
- You can verify if the required licenses are installed. Navigate to **C:\Program Files\GL Communications Inc\GLDONGLE** directory, execute **appl\_list.exe** and confirm that the following licenses are listed:
  - PKS134 (MAPS-ABIS Emulator over IP)
  - PKS102 (PacketGen RTP Soft Core)\* or PKS109 (HD RTP Traffic)\*
  - For other RTP Traffic Options, refer to your Purchase Order to verify if the purchased licenses are installed



*\*Note: Additional licenses may be required for optional codecs and other traffic options. Please verify that all licenses purchased are displayed using the **appl\_list.exe** utility.*

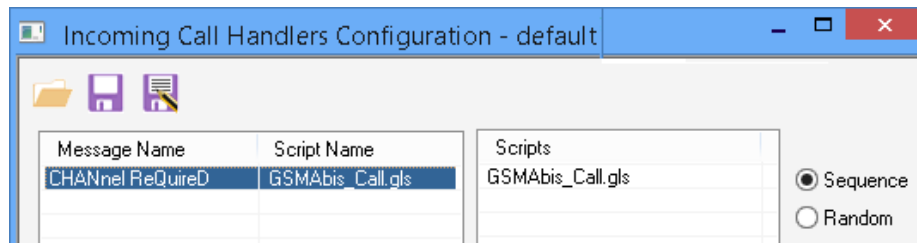
## Verification



For functional verification, 2 instances of **MAPS™ GSMABisIP** application can be invoked on a single PC. 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 to simulate GSM protocol supporting procedures over Abis interface. The following explains **MAPS™ GSMABis IP** configuration on the same PC in loopback mode.

### First MAPS™ GSM Abis IP (GUI) – (BSC)



- Click to invoke **MAPS™ GSMABisIP** application using shortcut icon on the desktop. This instance of MAPS™ is configured for **Call Reception**.
- While invoking the first MAPS™ GSMABisIP instance, verify the following in the **Protocol Selection** window -
  - Protocol Standard = **GsmAbisIp**
  - Protocol Version = **GSM900**
  - Select Node = **BSC**
  - Select Transport = **TCP**. Click **Ok**



- By default, **Testbed Setup** window is displayed. Click  and select **BSC\_Testbed** and check for the parameter default values as listed below:
  - Verify that the **Enable RTP** option is **enabled**
  - Set **BSC IP Address** to the PC IP address
  - Set **BSC Port** to **3003**
  - Set **MGW IP Address** to the PC IP address
  - Set **BTS IP Address** to the PC IP address
  - Click on the **Save**  button.
- From MAPS™ GSMAIP main window, select **Configurations > Incoming Call Handler Configuration**. Verify that the **GSMAbis\_Call.gls** script is loaded against the **CHANnelReQuireD** message. Close the window.

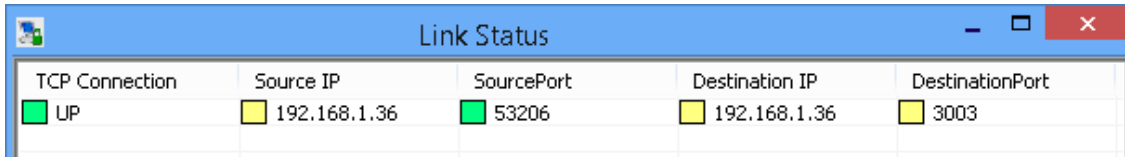







- On the MAPS™ GSM Abis IP (BSC) main window, from **Editor** menu > select **Profile Editor**. Click  and select **“MS\_Profiles”**
  - Select **MSPProfile0001** profile from left pane
  - Verify **Call Type** set to **Mobile Terminated Speech Call** to allow voice traffic over signaling
  - Scroll down to **Codec and Traffic Options**, and select **Codec** as **GSM** from the Codec list
  - Scroll down to **Traffic Configuration** > set **Traffic Type** to **Auto Traffic File**. This option allows to automatically send and receive voice files traffic.
  - Set the **Traffic Direction** to **Tx Rx type**
  - Click on the **Save**  button. Exit from the Profile Editor window.



## Second MAPS™ GSM Abis IP (GUI) – (BTS)

- Click to invoke **MAPS™ GSMAbisIP** application using shortcut icon on the desktop. This instance of MAPS™ is configured for **Call Generation**.
- While invoking the second MAPS™ GSMAbisIP instance, verify the following in the **Protocol Selection** window -
  - Protocol Standard = **GsmAbisIp**
  - Protocol Version = **GSM900**
  - Select Node = **BTS**
  - Select Transport = **TCP**. Click **Ok**
- By default, **Testbed Setup** window is displayed. Click  and select **BTS\_Testbed** and check for the parameter default values as listed below:
  - Verify that the **Enable RTP** option is **enabled**
  - Set **BTS IP Address** to the PC IP address
  - Set **MGW IP Address** to the PC IP address
  - Scroll down, and set **BSC IP Address** to the PC IP address
  - Set **BSC Port** to **3003**.
  - Click on the **Save**  button.

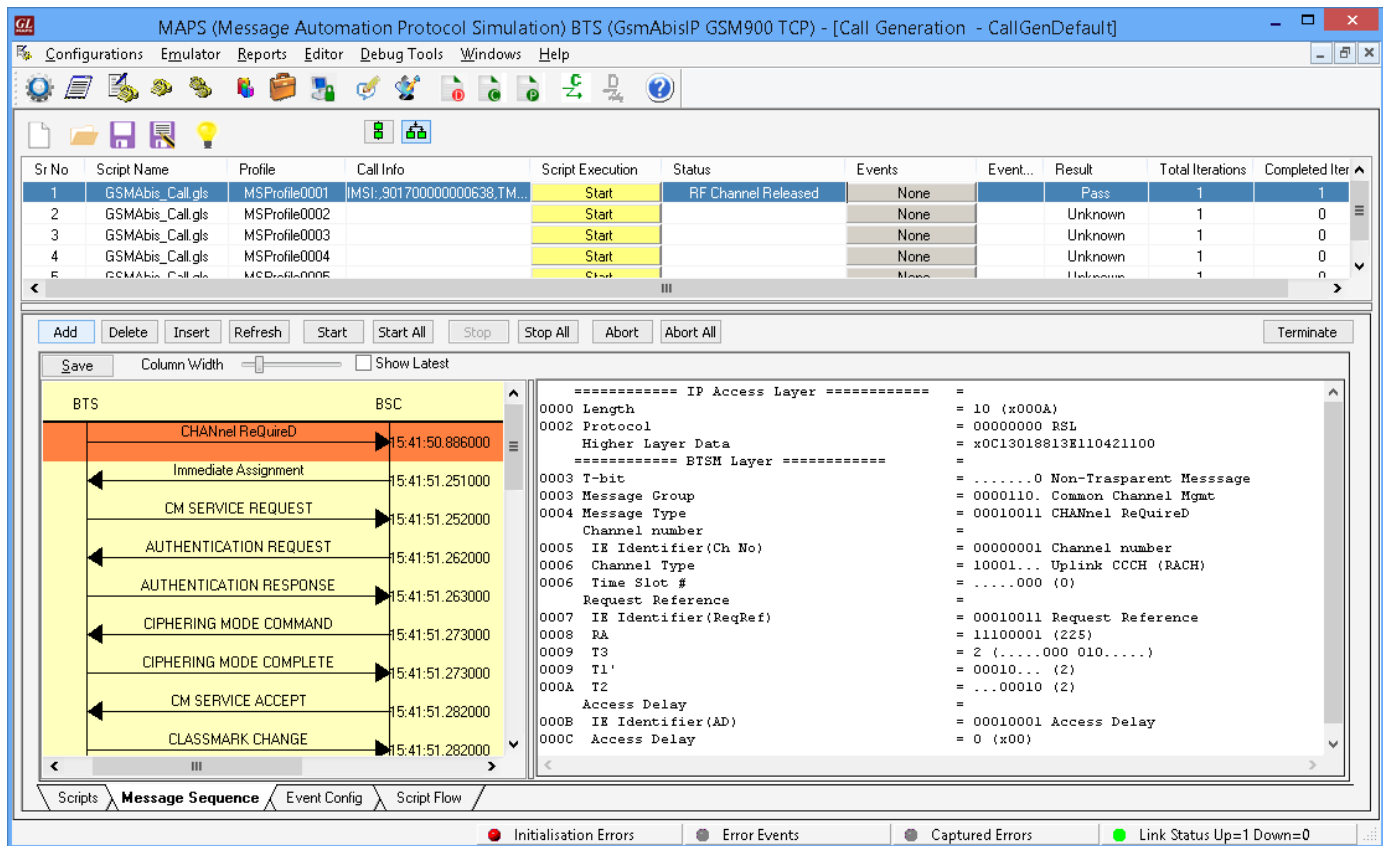
- On the MAPS™ GSM Abis IP (BTS) main window, from **Editor** menu > select **Profile Editor**. Click  and select **“MS\_Profiles”**
  - Select **MSPProfile0001** profile from left pane.
  - Verify **Call Type** is set to **Mobile Originating Speech Call** to allow voice traffic over signaling
  - Verify **Location Update Type** is set to **Normal location updating**
  - Scroll down to **Codec and Traffic Options**, and select **Codec** as **GSM** from the Codec list
  - Scroll down to **Traffic Configuration** > set **Traffic Type** to **Auto Traffic File**. This option allows to automatically send and receive voice file traffic.
  - Set the **Traffic Direction** to **Tx Rx type**
  - Click on the **Save**  button. Exit from the Profile Editor window.
- **Start** the testbed on both the MAPS™ GSM Abis IP (BTS and BSC) instances. **Note:** First start the MAPS for BSC testbed followed by MAPS for BTS testbed.
- On both the MAPS instances main window, from **Reports** menu > select **Link Status** option to verify the link status. Verify that the **TCP Link** Status is **UP** (indicated in Green color) before placing the call.



TCP Connection	Source IP	SourcePort	Destination IP	DestinationPort
 UP	 192.168.1.36	 53206	 192.168.1.36	 3003

- On both instances of MAPS™ GSM Abis IP (BSC and BTS) main GUI, click **Call Reception**  icon and observe that the **Check\_TCP\_Status.gls** script is activated.
- In the second MAPS™ BTS instance, click the **Call Generation**  icon on main window, and invoke the **Call Generation** window.
- By default, multiple call instances loaded with **GSMAbis\_Call.gls** script and **MSPProfile\*\*** profiles respectively are displayed.
- Select the first call instance in the Call Generation window, loaded with **GSMAbis\_Call.gls** script and **MSPProfile0001** profile and click **Start** button.
- Return to first instance of MAPS™ GSMAbisIP (BSC), in the **Call Reception** window, observe that the calls are automatically received running the Rx script.

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



## Troubleshoot

- **“Unknown device” error while installing USB Dongle.** If you see this error, ensure you have installed the GL Dongle License Installer software first and then plugged the USB Dongle to the PC. The USB Dongle will then be recognized as “SafeNetInc. USB Key” and appropriate drivers will get installed automatically. If problem still persists, plug the USB Dongle to a different USB2.0 port and try again.
- **“Security Error: Application is not licensed”,** if you see this error when you run MAPS™ GSMABisIP it indicates a problem with either your dongle or license file.
  - First verify that the dongle is plugged in and the red light is on
  - To use MAPS™ 64-bit version – use *GLDongleLicenseInstaller\_x64.exe* utility to install licenses
  - Navigate to *C:\Program Files\GL Communications Inc\GLDONGLE*
  - Run *haspinfohl.exe*. Verify that Status is **OK** and make a note of the Serial #.
  - Run *appl\_list.exe*. Verify that there is a line in the table reading **PKS134 MAPS-ABIS Emulator over IP** with the serial number you noted above.
  - If the dongle does not appear in *haspinfohl.exe*, verify that it appears as a USB device in the **Windows Device Manager**. If it does not appear even in the device manager, remove the dongle and plug it into a different USB port, preferably one directly on the motherboard.
- If you cannot resolve the issues, please contact GL Communications at [info@gl.com](mailto:info@gl.com) for technical support.