

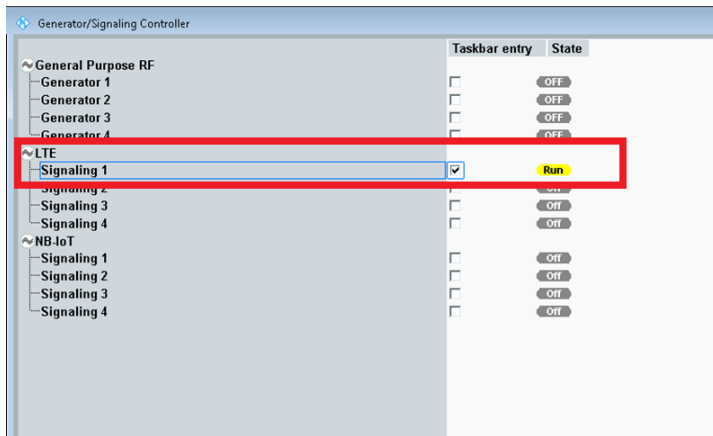
LTE Test Setup CMW500

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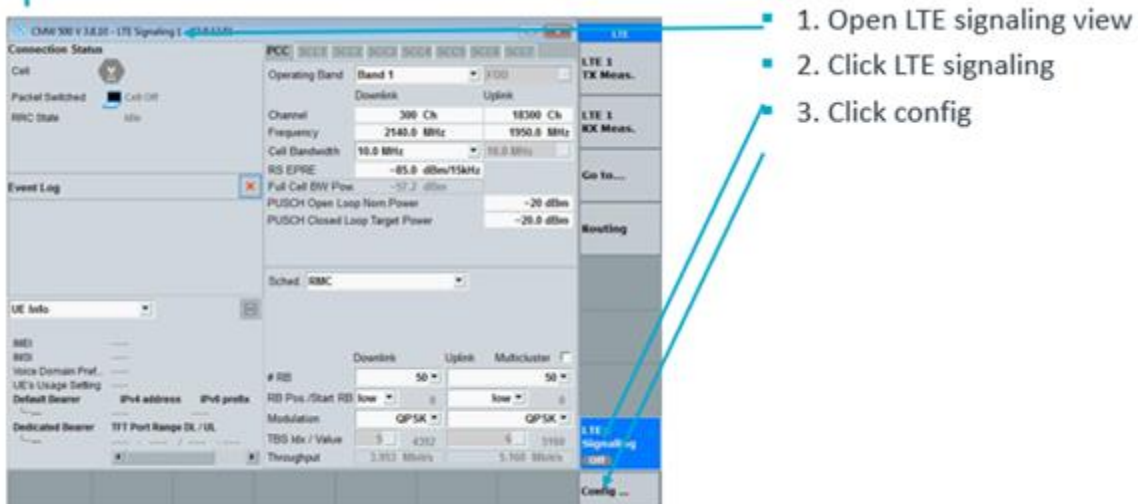
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Configuring CMW500

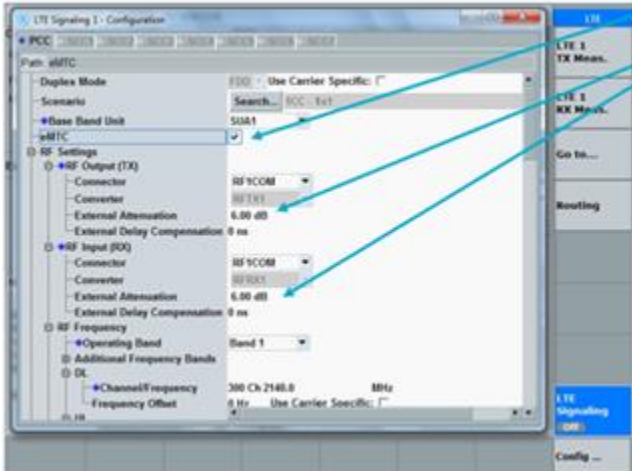
Firstly, need to set up CMW500 as a signal generator. For LTE-M1, from the main screen tick the checkbox for LTE Signaling 1.



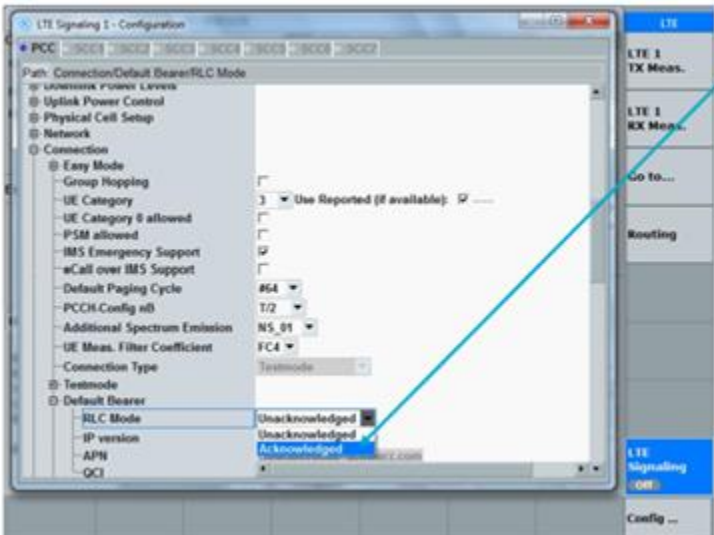
This will then open the Signal Controller window, and the next step is to configure it for LTE callbox testing via Config button.



The main settings are as follows

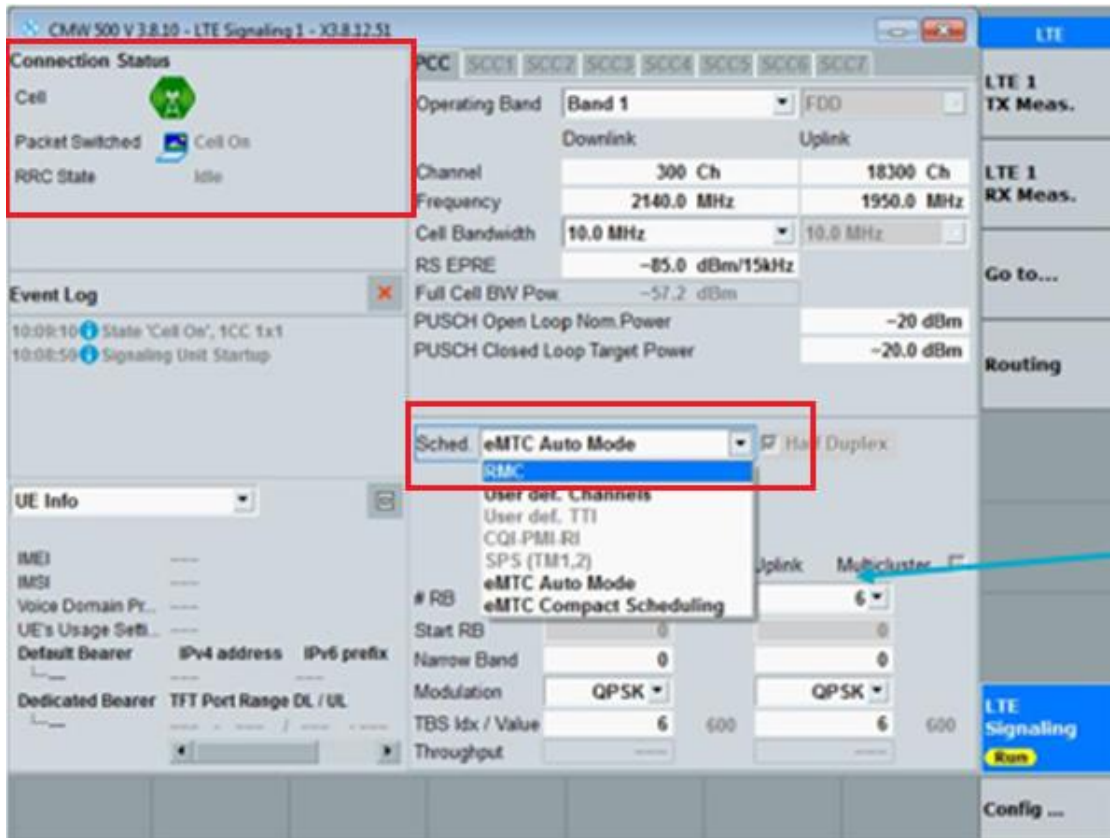


- 1. Tick eMTC
- 2. Set correct attenuations for RF output TX (downlink) and RF input RX (uplink)



- 3. Connection/Default Bearer/RLC Mode ->Set to Acknowledged
- Close config

Once these 3 parameters are changed, can close config and start Signaling (right click on LTE Signaling > Run). Once Signaling is on, change eMTC Auto Mode to RMC. In the upper right corner of the window, it should show "Cell On" and "Idle" for RRC State.

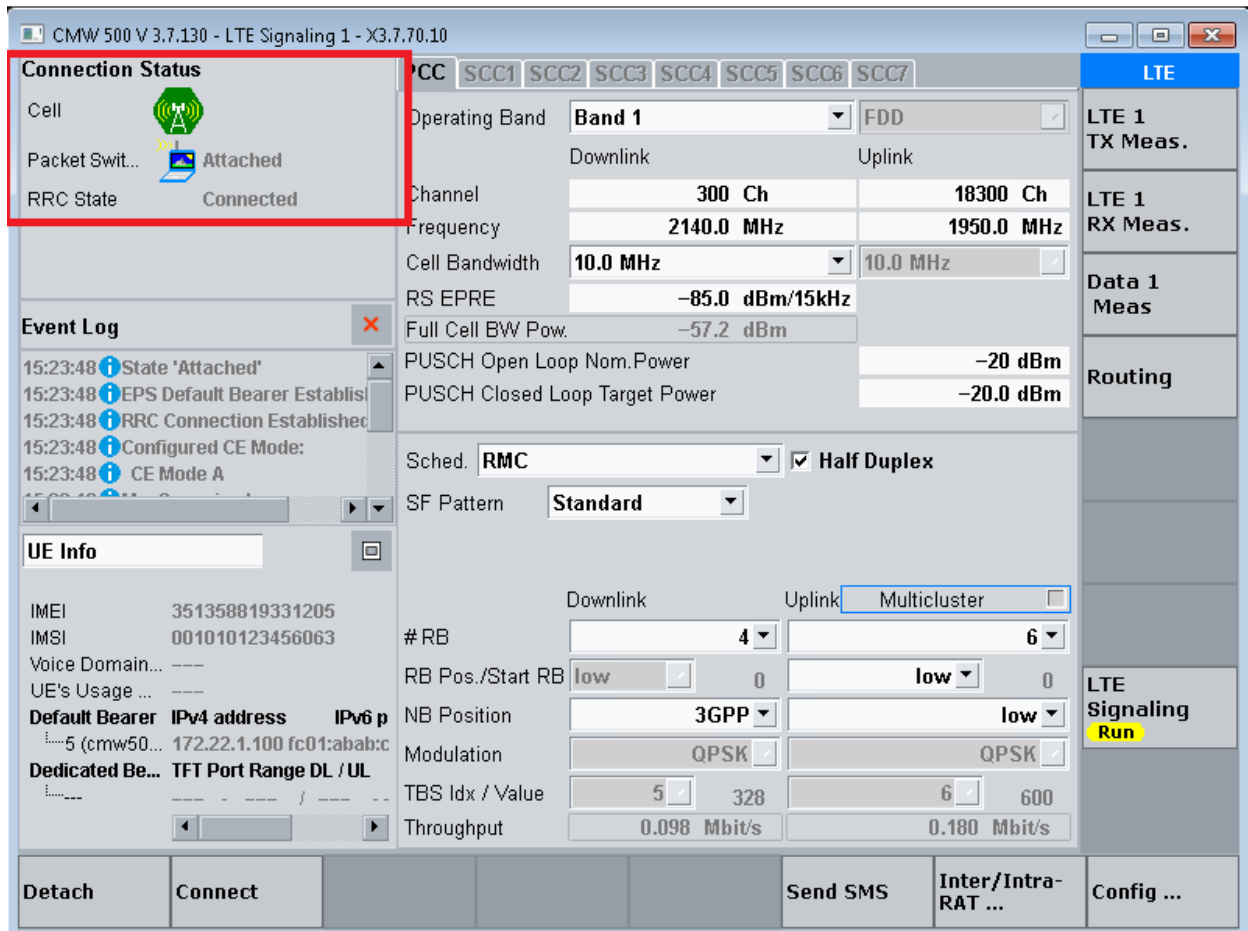


Now the CMW 500 is ready for the DUT to attach to the cell.



Connect DUT to CMW500

Once the device is set to the correct communication protocol, then can get the device to tether to the CMW 500 by using the "AT+CFUN=1" command. (To disconnect, use "AT+CFUN=4".)

When the "AT+CFUN=1" command is sent, if the CMW500 signaling is active, then the CMW500 should show the Packet Switch as "Attached" and the RRC State as "Connected" on the instrument (see below).



The screenshot displays the CMW500 V 3.7.130 - LTE Signaling 1 - X3.7.70.10 interface. A red box highlights the **Connection Status** section, which shows:

- Cell: 
- Packet Swit...:  Attached
- RRC State: Connected

The **Event Log** shows the following sequence of events:

- 15:23:48 State 'Attached'
- 15:23:48 EPS Default Bearer Establish...
- 15:23:48 RRC Connection Established
- 15:23:48 Configured CE Mode:
- 15:23:48 CE Mode A

The **UE Info** section displays the following details:

- IMEI: 351358819331205
- IMSI: 001010123456063
- Voice Domain...: ---
- UE's Usage...: ---
- Default Bearer IPv4 address IPv6 p...: 5 (cmw50... 172.22.1.100 fc01:abab:c...
- Dedicated Be... TFT Port Range DL / UL: --- / ---

The main configuration area shows the following parameters:

- Operating Band: Band 1 (FDD)
- Channel: 300 Ch (Downlink), 18300 Ch (Uplink)
- Frequency: 2140.0 MHz (Downlink), 1950.0 MHz (Uplink)
- Cell Bandwidth: 10.0 MHz (Downlink), 10.0 MHz (Uplink)
- RS EPRE: -85.0 dBm/15kHz (Downlink)
- Full Cell BW Pow.: -57.2 dBm (Downlink)
- PUSCH Open Loop Nom.Power: -20 dBm (Downlink)
- PUSCH Closed Loop Target Power: -20.0 dBm (Downlink)
- Sched.: RMC (Half Duplex checked)
- SF Pattern: Standard
- # RB: 4 (Downlink), 6 (Uplink)
- RB Pos./Start RB: low (Downlink), low (Uplink)
- NB Position: 3GPP (Downlink), low (Uplink)
- Modulation: QPSK (Downlink), QPSK (Uplink)
- TBS Idx / Value: 5 / 328 (Downlink), 6 / 600 (Uplink)
- Throughput: 0.098 Mbit/s (Downlink), 0.180 Mbit/s (Uplink)

The **LTE Signaling** section on the right shows **Run** in yellow. The bottom navigation bar includes buttons for Detach, Connect, Send SMS, Inter/Intra-RAT..., and Config ...