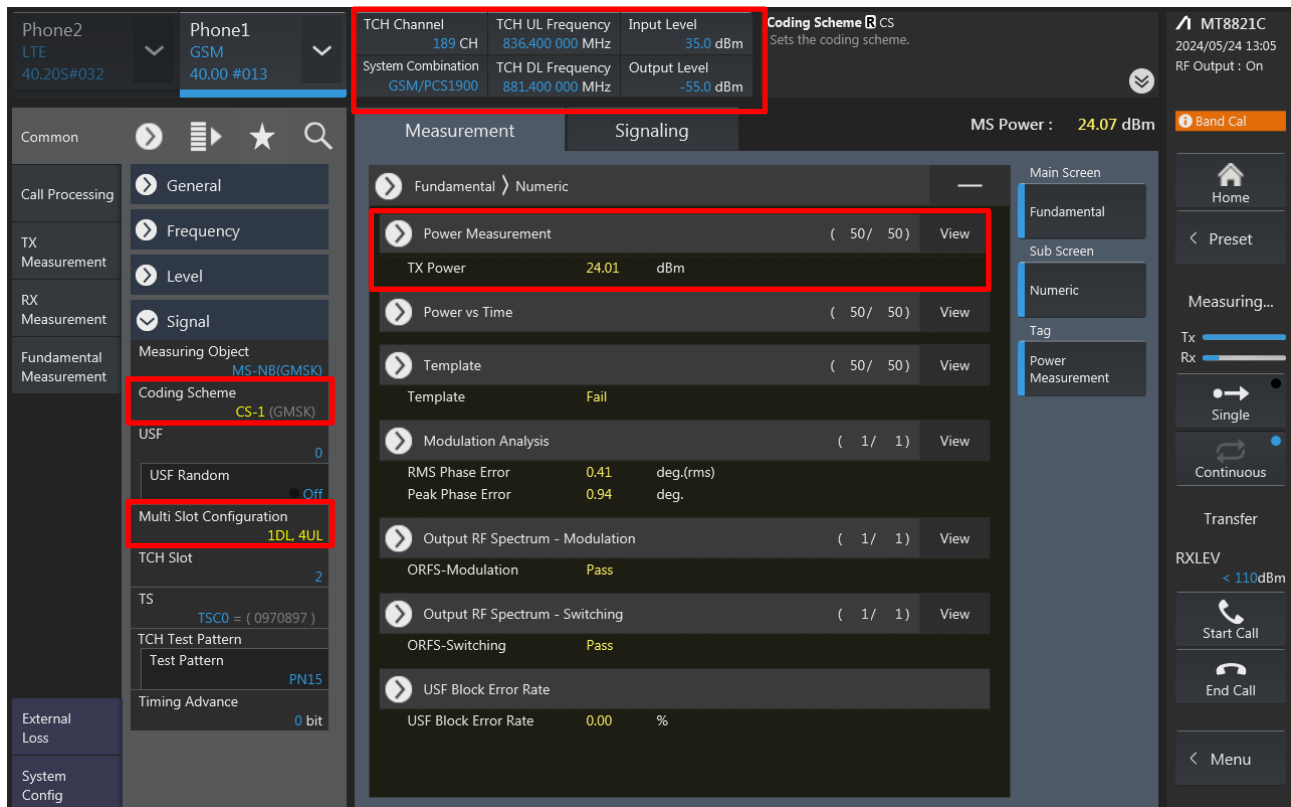


### Power measurement connection diagram:

The power measurement for 2G/3G/LTE/5G FR1/UL and DL CA is to establish a connection between device and call box, and via call box to configure Bands, channel, BWs, RB size, carrier aggregation of CA, frequency channels, SCS and maximum output power. Hereunder is screenshot call box connection information for 2G/3G/LTE/5G FR1/UL and DL CA.

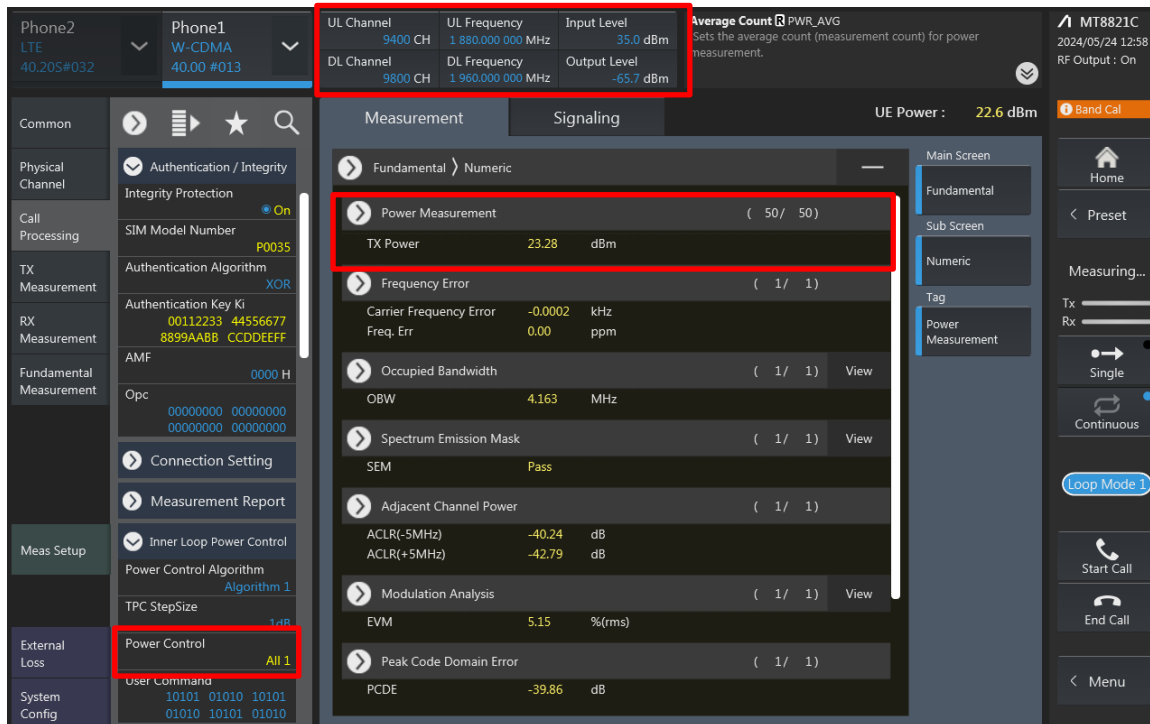
#### <GSM>



The screenshot displays the SPORTON LAB. software interface for GSM power measurement. The interface is divided into several sections:

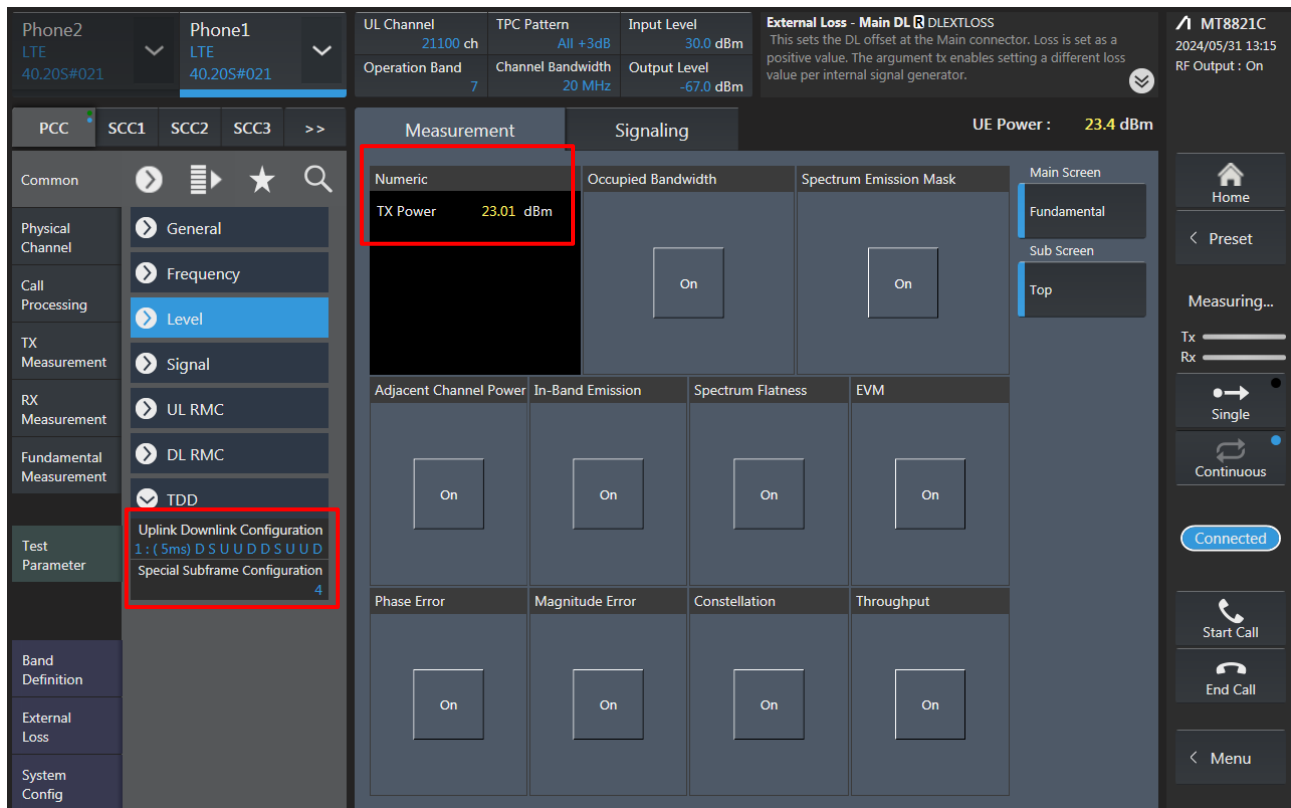
- Top Bar:** Shows Phone2 (LTE, 40.205#032) and Phone1 (GSM, 40.00 #013). It also displays TCH Channel (189 CH), TCH UL Frequency (836.400 000 MHz), Input Level (35.0 dBm), TCH DL Frequency (881.400 000 MHz), and Output Level (-55.0 dBm). The Coding Scheme is set to CS.
- Left Sidebar:** Contains navigation options like Common, Call Processing, TX Measurement, RX Measurement, Fundamental Measurement, and External Loss. The 'Fundamental Measurement' section is expanded, showing options like General, Frequency, Level, Signal, and Coding Scheme (CS-1 (GMSK)).
- Main Area:** Displays the 'Measurement' tab with a 'Fundamental' sub-tab. The 'Power Measurement' section shows TX Power at 24.01 dBm. Other sections include 'Power vs Time', 'Template', 'Modulation Analysis', 'Output RF Spectrum - Modulation', 'Output RF Spectrum - Switching', and 'USF Block Error Rate'.
- Right Sidebar:** Shows the 'Main Screen' with options for Fundamental, Sub Screen, Numeric, and Tag. It also displays the 'MS Power' as 24.07 dBm and the 'Band Cal' status.

### <WCDMA>



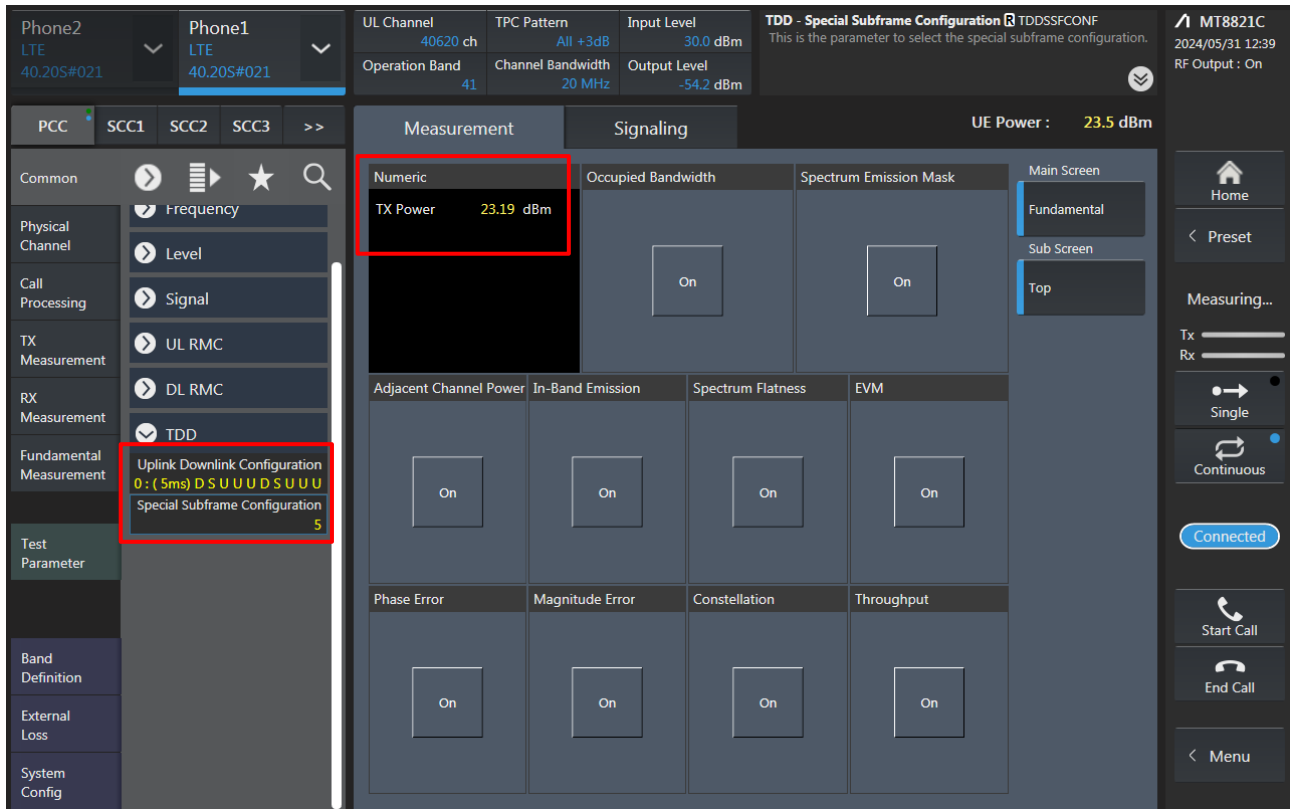
The screenshot shows the WCDMA measurement interface. The top bar displays 'Phone2 LTE 40.20S#032' and 'Phone1 W-CDMA 40.00 #013'. The 'Measurement' tab is active, showing a list of metrics. A red box highlights the 'Power Measurement' section, which includes 'TX Power' at 23.28 dBm. The 'Fundamental' section shows 'Carrier Frequency Error' at -0.0002 kHz and 'Freq. Err' at 0.00 ppm. The 'Occupied Bandwidth' section shows 'OBW' at 4.163 MHz. The 'Spectrum Emission Mask' section shows 'SEM' as 'Pass'. The 'Adjacent Channel Power' section shows 'ACLR(-5MHz)' at -40.24 dB and 'ACLR(+5MHz)' at -42.79 dB. The 'Modulation Analysis' section shows 'EVM' at 5.15 % (rms). The 'Peak Code Domain Error' section shows 'PCDE' at -39.86 dB. The 'UE Power' is 22.6 dBm. The 'Main Screen' shows 'Fundamental' and 'Sub Screen' options. The 'Tag' shows 'Power Measurement'. The 'Loop Mode' is set to 'Loop Mode 1'. The 'Start Call' and 'End Call' buttons are visible on the right side.

### <LTE>



The screenshot shows the LTE measurement interface. The top bar displays 'Phone2 LTE 40.20S#021' and 'Phone1 LTE 40.20S#021'. The 'Measurement' tab is active, showing a list of metrics. A red box highlights the 'Power Measurement' section, which includes 'TX Power' at 23.01 dBm. The 'Occupied Bandwidth' section shows 'OBW' as 'On'. The 'Spectrum Emission Mask' section shows 'SEM' as 'On'. The 'Adjacent Channel Power' section shows 'ACLR(-5MHz)' as 'On' and 'ACLR(+5MHz)' as 'On'. The 'In-Band Emission' section shows 'IBE' as 'On'. The 'Spectrum Flatness' section shows 'SF' as 'On'. The 'EVM' section shows 'EVM' as 'On'. The 'Phase Error' section shows 'PE' as 'On'. The 'Magnitude Error' section shows 'ME' as 'On'. The 'Constellation' section shows 'C' as 'On'. The 'Throughput' section shows 'T' as 'On'. The 'UE Power' is 23.4 dBm. The 'Main Screen' shows 'Fundamental' and 'Sub Screen' options. The 'Tag' shows 'Top'. The 'Loop Mode' is set to 'Connected'. The 'Start Call' and 'End Call' buttons are visible on the right side.

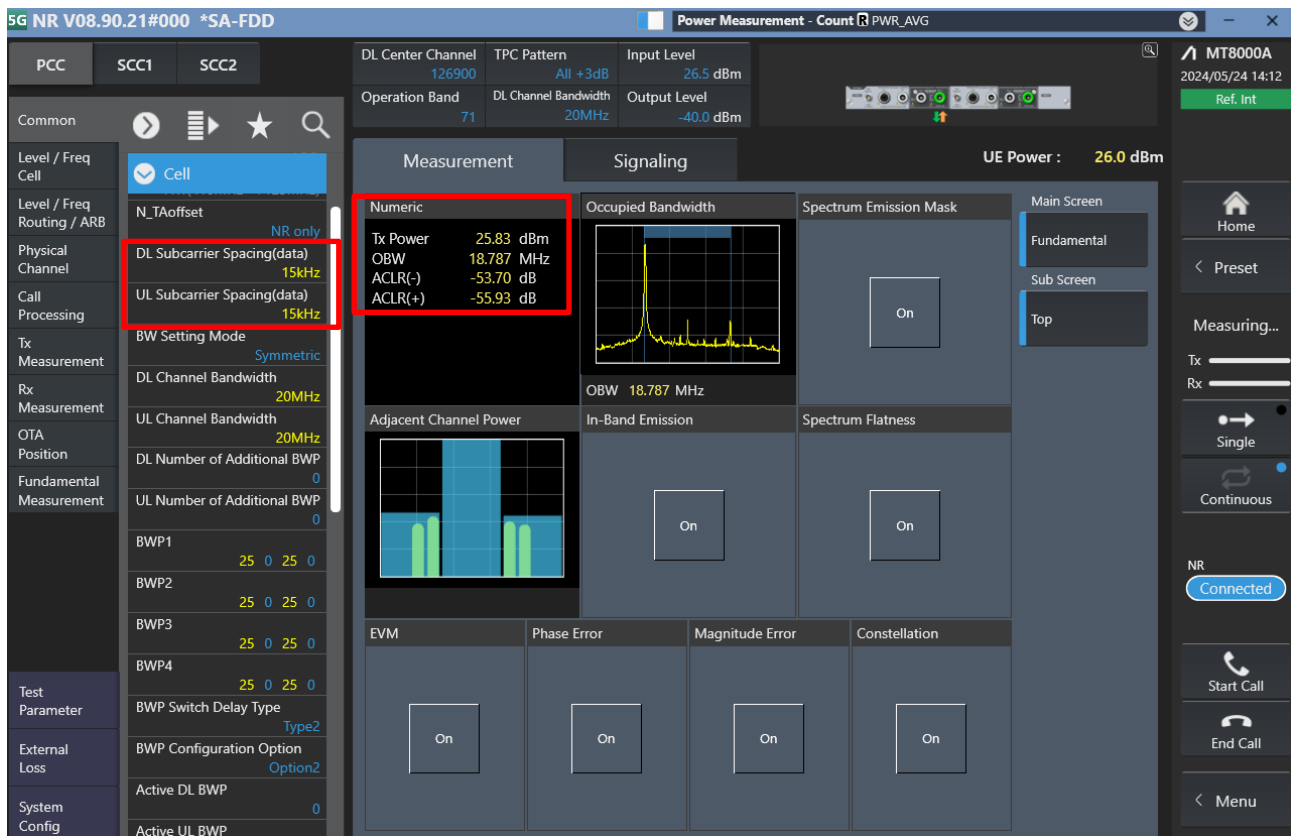
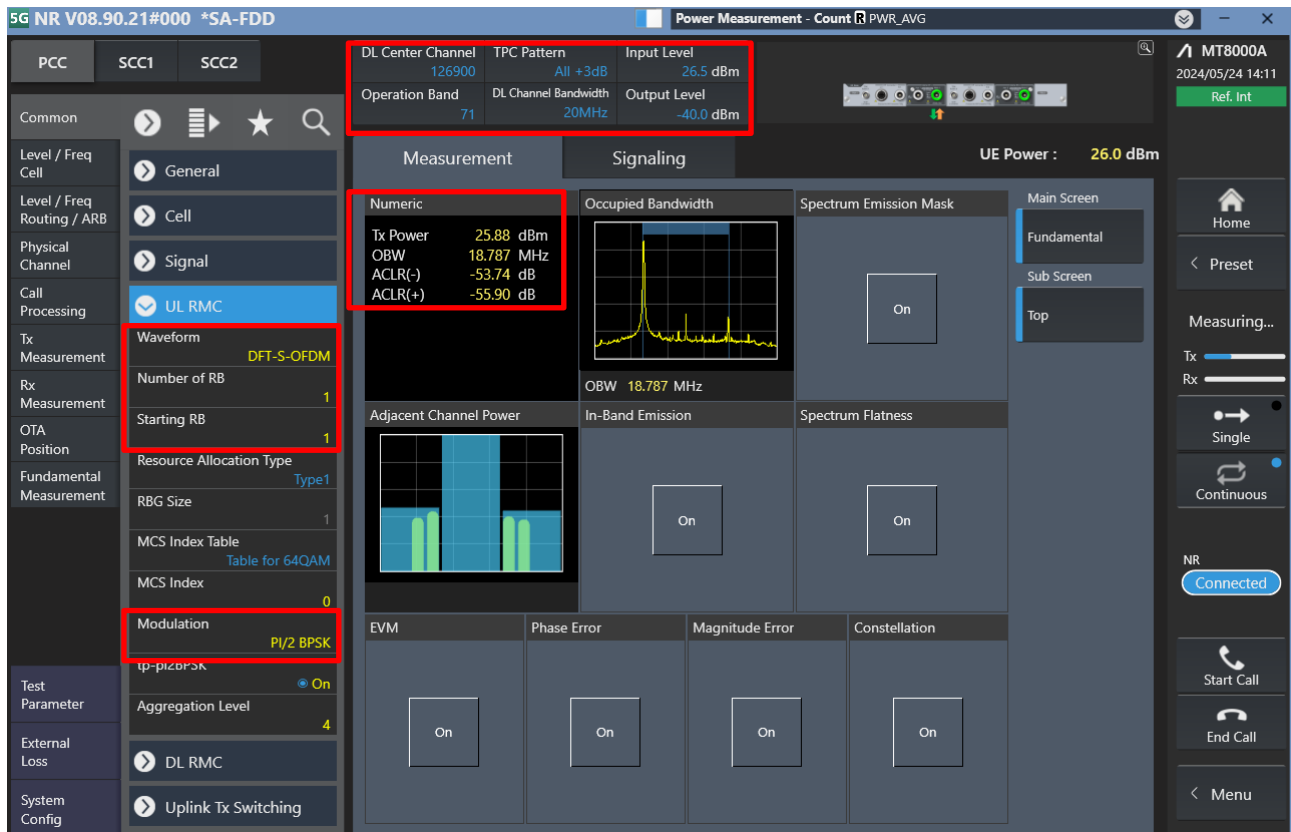
### <LTE TDD Power class 3>

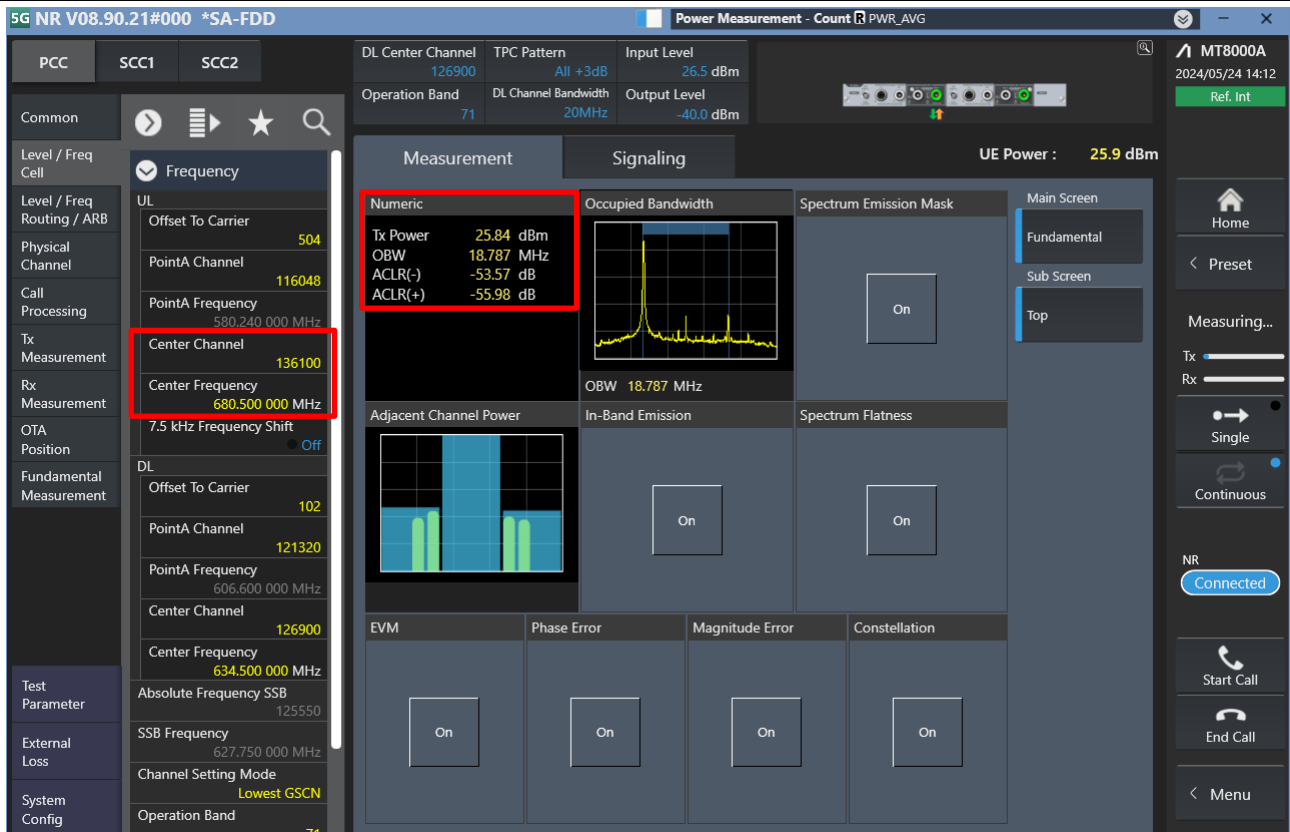


The screenshot displays the SPORTON LAB. LTE TDD Power class 3 configuration interface. The interface is divided into several sections:

- Top Bar:** Shows Phone2 (LTE, 40.20S#021) and Phone1 (LTE, 40.20S#021). It also displays UL Channel (40620 ch), TPC Pattern (All +3dB), Input Level (30.0 dBm), and TDD - Special Subframe Configuration (TDDSSFCNF). The UE Power is set to 23.5 dBm.
- Left Sidebar:** Contains various configuration options including PCC, SCC1, SCC2, SCC3, and a search icon. The 'Fundamental Measurement' section is expanded, showing 'TDD' as the selected option.
- Main Area:** Displays a grid of measurement options. The 'TX Power' is highlighted with a red box and shows a value of 23.19 dBm. Other options include Occupied Bandwidth, Spectrum Emission Mask, Adjacent Channel Power, In-Band Emission, Spectrum Flatness, EVM, Phase Error, Magnitude Error, Constellation, and Throughput. Each option has an 'On' button.
- Right Sidebar:** Includes a 'Home' button, a 'Preset' button, a 'Measuring...' section with 'Tx' and 'Rx' sliders, and a 'Connected' status indicator.

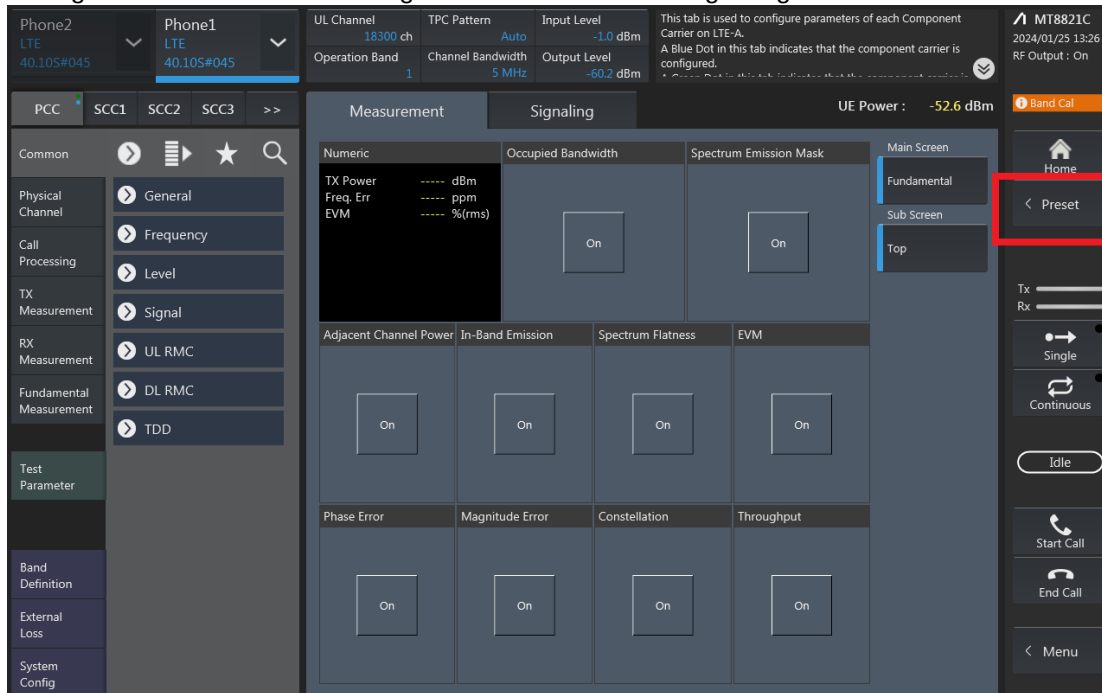
# <5G NR FR1>





## LTE Uplink and Downlink Carrier Aggregation configurations:

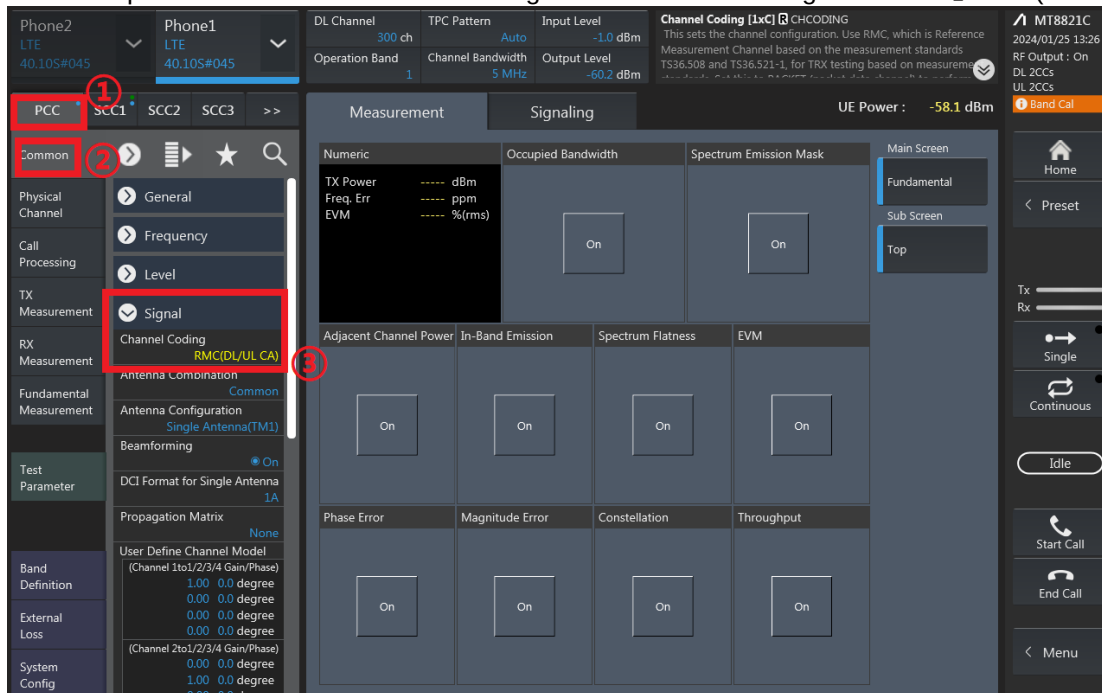
### 1. Change the Scenario in the Configuration of Phone1 LTE Signaling and Preset.



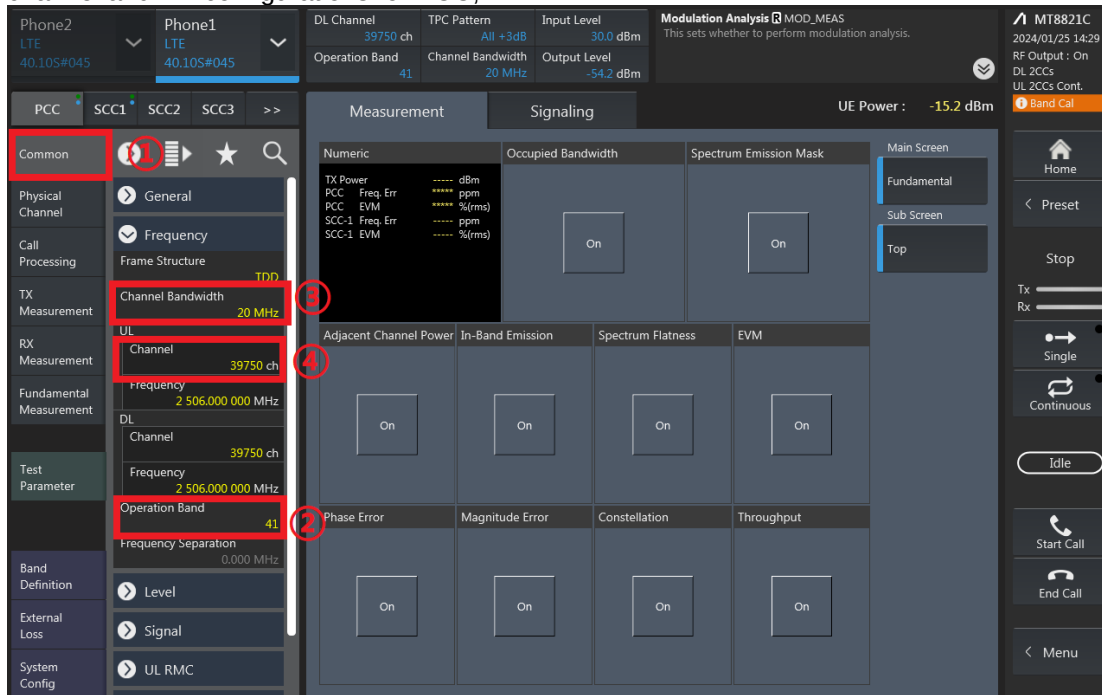
### 2. If Select "RMC (DL/UL CA)" for Uplink Carrier Aggregation; If Select "RMC (DL CA)" for Downlink Carrier Aggregation.

For example, Uplink Carrier Aggregation:

Detailed operation: PCC → Common → Signal → Channel Coding → Select 【RMC (DL/UL CA)】



3. PCC parameter Settings: on the screen, and then select the PCC tab and Set operating band, BW, channel and RB configurations for PCC;



Phone2 LTE 40.10S#045 Phone1 LTE 40.10S#045

DL Channel 39750 ch TPC Pattern All +3dB Input Level 30.0 dBm Modulation Analysis MOD\_MEAS This sets whether to perform modulation analysis.

Operation Band 41 Channel Bandwidth 20 MHz Output Level -54.2 dBm

MT8821C 2024/01/25 14:29 RF Output : On DL 2CCs UL 2CCs Cont.

PCC SCC1 SCC2 SCC3 >>

Measurement Signaling UE Power : -15.2 dBm

Common

Physical Channel General

Call Processing Frequency

TX Measurement Channel Bandwidth 20 MHz

RX Measurement Channel 39750 ch

Fundamental Measurement Frequency 2 506.000 000 MHz

Test Parameter Channel 39750 ch Frequency 2 506.000 000 MHz Operation Band 41 Frequency Separation 0.000 MHz

Band Definition Level

External Loss Signal

System Config UL RMC

Numeric Occupied Bandwidth Spectrum Emission Mask

TX Power PCC Freq. Err. dBm PCC EVM ppm PCC-1 Freq. Err. ppm PCC-1 EVM ppm

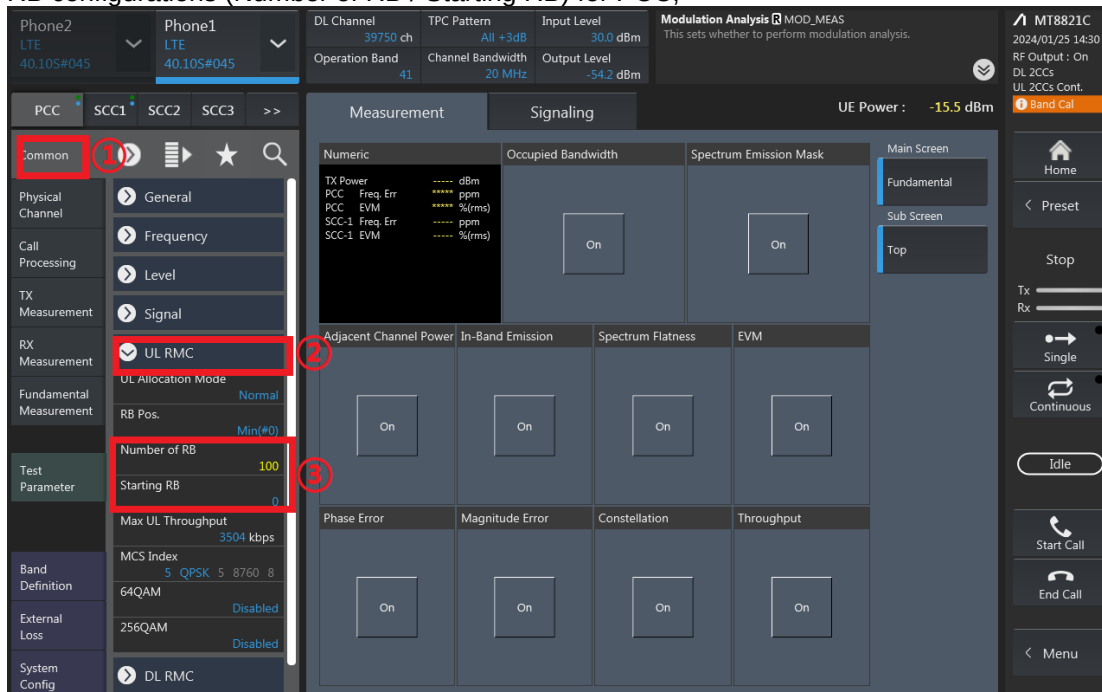
Adjacent Channel Power In-Band Emission Spectrum Flatness EVM

Phase Error Magnitude Error Constellation Throughput

Main Screen Fundamental Sub Screen Top

Home Preset Stop Tx Rx Single Continuous Idle Start Call End Call Menu

RB configurations (Number of RB / Starting RB) for PCC;



Phone2 LTE 40.10S#045 Phone1 LTE 40.10S#045

DL Channel 39750 ch TPC Pattern All +3dB Input Level 30.0 dBm Modulation Analysis MOD\_MEAS This sets whether to perform modulation analysis.

Operation Band 41 Channel Bandwidth 20 MHz Output Level -54.2 dBm

MT8821C 2024/01/25 14:30 RF Output : On DL 2CCs UL 2CCs Cont.

PCC SCC1 SCC2 SCC3 >>

Measurement Signaling UE Power : -15.5 dBm

Common

Physical Channel General

Call Processing Frequency

TX Measurement Level

RX Measurement Signal

Fundamental Measurement UL RMC

Test Parameter UL Allocation Mode Normal RB Pos. Min(#0) Number of RB 100 Starting RB 0 Max UL Throughput 3504 kbps MCS Index 5 QPSK 5 8760 8 64QAM 256QAM Disabled Disabled

Band Definition DL RMC

Numeric Occupied Bandwidth Spectrum Emission Mask

TX Power PCC Freq. Err. dBm PCC EVM ppm PCC-1 Freq. Err. ppm PCC-1 EVM ppm

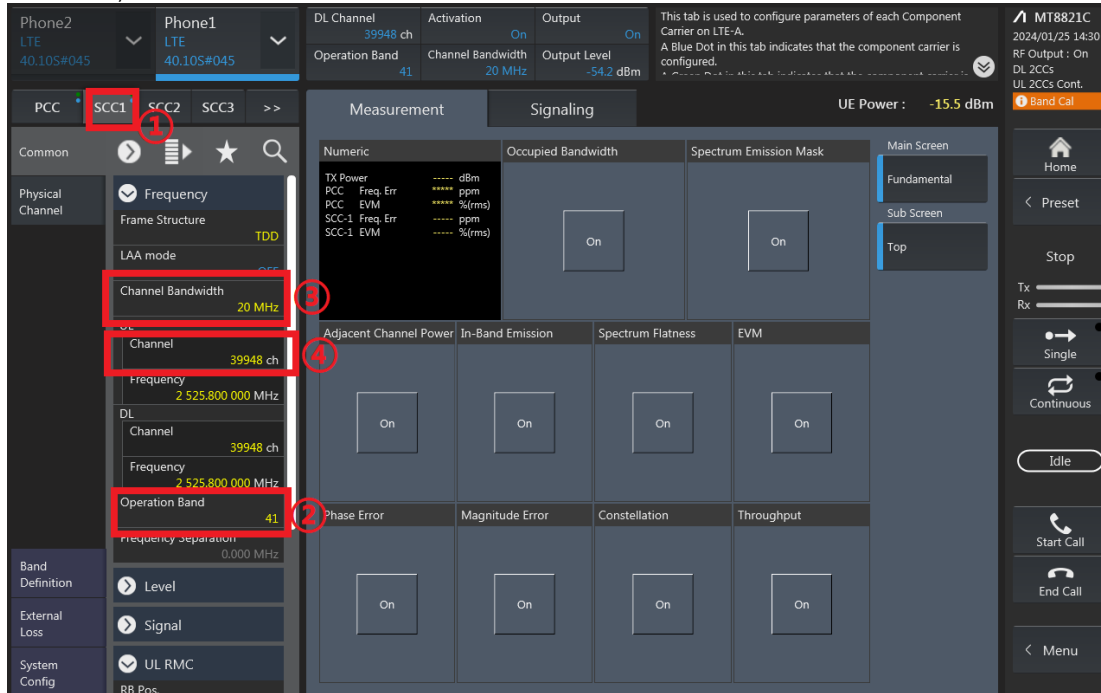
Adjacent Channel Power In-Band Emission Spectrum Flatness EVM

Phase Error Magnitude Error Constellation Throughput

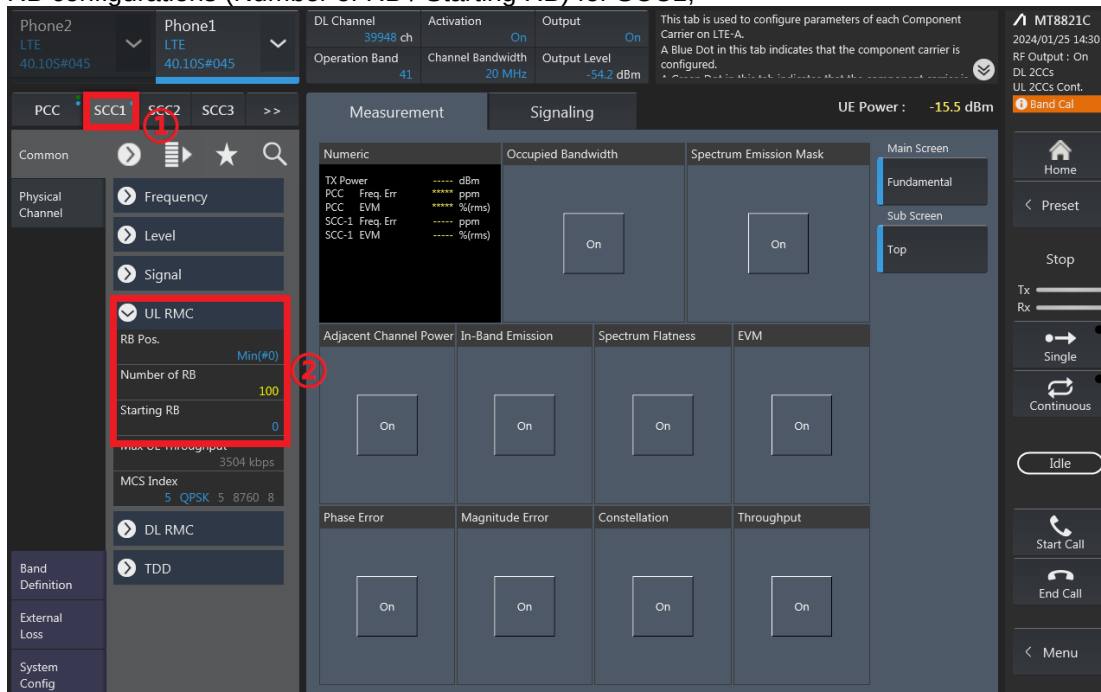
Main Screen Fundamental Sub Screen Top

Home Preset Stop Tx Rx Single Continuous Idle Start Call End Call Menu

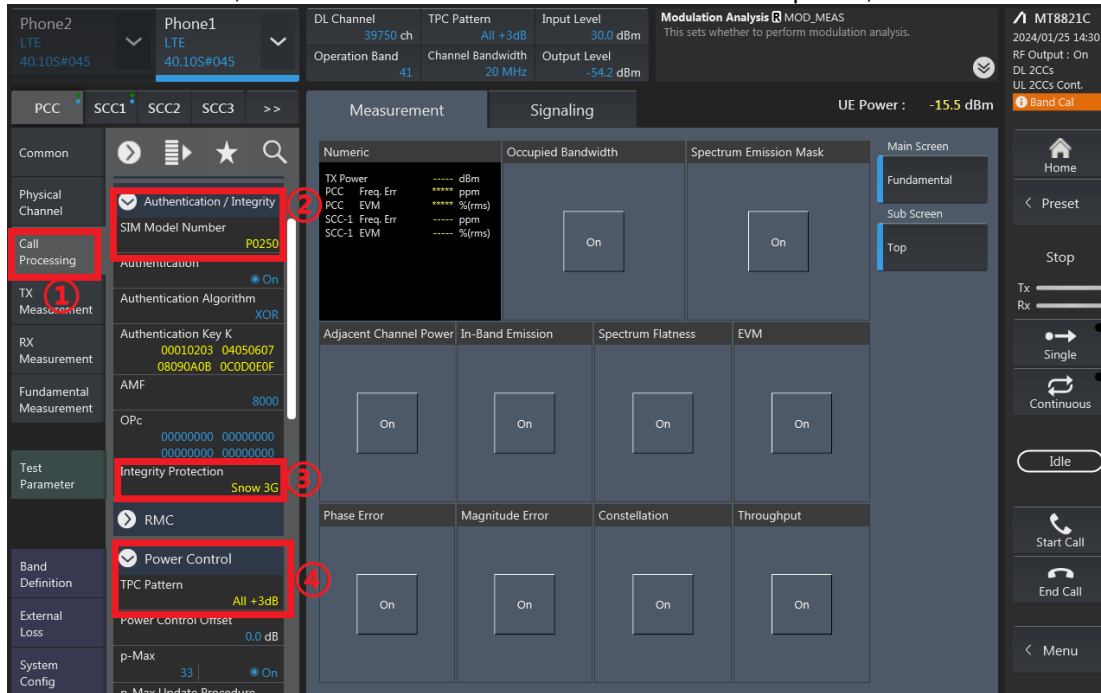
4. SCC parameter Settings: Select the SCC1 tab, Set operating band, BW, channel, and RB configurations for SCC1;



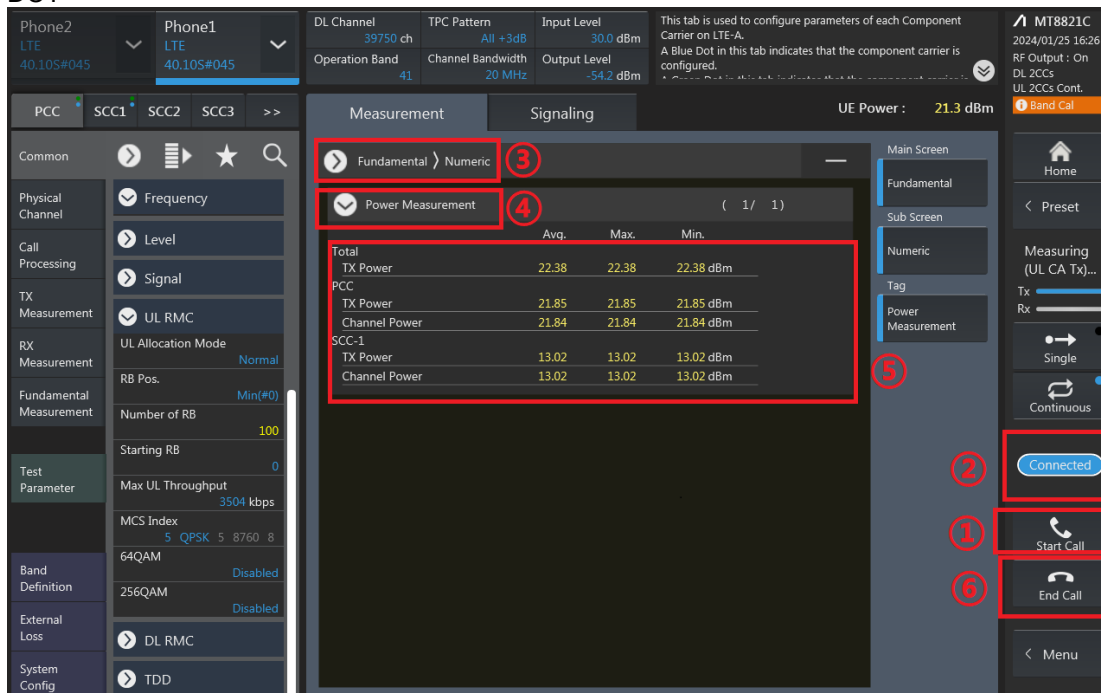
RB configurations (Number of RB / Starting RB) for SCC1;



5. Select the PCC tab, then set “SIM Model Number” and select max power;



6. Click the “Connect” button at the Right of the screen, if necessary, turn the Airplane mode on/off in the DUT



7. The inter-band DLCA test method is similar to intra-band ULCA, and DLCA test method is similar to intra-band ULCA too.

UL CA\_Power  
UL CA\_Full & Default Power

| CA_7C Ant 1                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 23.22                | 24.50               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 23.24                | 24.50               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 23.13                | 24.50               |

| CA_38C Ant 1                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 23.31                | 24.50               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 23.35                | 24.50               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 23.27                | 24.50               |

| CA_7C Ant 4                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 22.31                | 24.00               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 22.37                | 24.00               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 22.27                | 24.00               |

| CA_38C Ant 4                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 22.44                | 24.00               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 22.55                | 24.00               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 22.49                | 24.00               |

## UL CA\_DSI1

| CA_7C Ant 1                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 23.22                | 24.50               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 23.24                | 24.50               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 23.13                | 24.50               |

| CA_38C Ant 1                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 23.31                | 24.50               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 23.35                | 24.50               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 23.27                | 24.50               |

| CA_7C Ant 4                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 16.24                | 18.00               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 16.31                | 18.00               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 16.21                | 18.00               |

| CA_38C Ant 4                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 18.40                | 20.00               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 18.46                | 20.00               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 18.41                | 20.00               |

## UL CA\_DS12

| CA_7C Ant 1                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 23.22                | 24.50               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 23.24                | 24.50               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 23.13                | 24.50               |

| CA_38C Ant 1                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 23.31                | 24.50               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 23.35                | 24.50               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 23.27                | 24.50               |

| CA_7C Ant 4                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 22.31                | 24.00               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 22.37                | 24.00               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 22.27                | 24.00               |

| CA_38C Ant 4                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 22.44                | 24.00               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 22.55                | 24.00               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 22.49                | 24.00               |

## UL CA\_DSI3

| CA_7C Ant 1                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 18.61                | 20.00               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 18.67                | 20.00               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 18.63                | 20.00               |

| CA_38C Ant 1                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 19.30                | 20.50               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 19.46                | 20.50               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 19.35                | 20.50               |

| CA_7C Ant 4                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 22.31                | 24.00               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 22.37                | 24.00               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 22.27                | 24.00               |

| CA_38C Ant 4                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 22.44                | 24.00               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 22.55                | 24.00               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 22.49                | 24.00               |

## UL CA\_DSI4

| CA_7C Ant 1                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 18.61                | 20.00               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 18.67                | 20.00               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 18.63                | 20.00               |

| CA_38C Ant 1                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 19.30                | 20.50               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 19.46                | 20.50               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 19.35                | 20.50               |

| CA_7C Ant 4                           |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 99        | 1       | 0         | 16.24                | 18.00               |
| 21100                                 | 21298       | QPSK       | 1       | 99        | 1       | 0         | 16.31                | 18.00               |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 16.21                | 18.00               |

| CA_38C Ant 4                          |             |            |         |           |         |           |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Measured Power (dBm) | Tune up Power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 99        | 1       | 0         | 18.40                | 20.00               |
| 37901                                 | 38099       | QPSK       | 1       | 99        | 1       | 0         | 18.46                | 20.00               |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 18.41                | 20.00               |

## Downlink CA Power

| 2CA DL     |         |     |             |         |         |      |     |           |                          |         |             |         |         |                          |
|------------|---------|-----|-------------|---------|---------|------|-----|-----------|--------------------------|---------|-------------|---------|---------|--------------------------|
| CA List    | PCC     |     |             |         |         |      |     |           |                          |         | SCC         |         |         |                          |
|            | LTE     | BW  | BW          | UL      | UL      | Mod. | ULF | UL        | DL Antenna Configuration | LTE     | BW          | DL      | DL      | DL Antenna Configuration |
|            | Band    | Ant | Freq. (MHz) | Channel | Channel |      | RB  | RB Offset |                          | Band    | Freq. (MHz) | Channel | Channel |                          |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         |                          |
| CA_2A-2A   | Band 2  | 1   | 20M         | 1880    | 1890    | QPSK | 1   | 0         |                          | Band 2  | 5M          | 1987.5  | 1175    |                          |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 22.61                    |
| CA_2A-4A   | Band 2  | 1   | 20M         | 1880    | 1890    | QPSK | 1   | 0         |                          | Band 4  | 20M         | 2132.5  | 2175    | 4x4MMMO                  |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 22.61                    |
| CA_2C      | Band 4  | 1   | 20M         | 1732.5  | 20175   | QPSK | 1   | 0         | 4x4MMMO                  | Band 2  | 20M         | 1980    | 900     |                          |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 23.72                    |
| CA_4C      | Band 2  | 2   | 20M         | 1880    | 1890    | QPSK | 1   | 0         |                          | Band 2  | 20M         | 1979.8  | 1098    |                          |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 22.85                    |
| CA_4A-5A   | Band 4  | 1   | 20M         | 1732.5  | 20175   | QPSK | 1   | 0         | 4x4MMMO                  | Band 5  | 10M         | 881.5   | 2525    |                          |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 23.72                    |
|            | Band 5  | 4   | 10M         | 836.5   | 2525    | QPSK | 1   | 0         |                          | Band 4  | 20M         | 2132.5  | 2175    | 4x4MMMO                  |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 24.34                    |
| CA_38C     | Band 38 | 1   | 20M         | 2580    | 37850   | QPSK | 1   | 0         | 4x4MMMO                  | Band 38 | 20M         | 2599.8  | 38048   | 4x4MMMO                  |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 23.35                    |
| CA_41C     | Band 41 | 1   | 20M         | 2593    | 40620   | QPSK | 1   | 0         | 4x4MMMO                  | Band 41 | 20M         | 2512.8  | 40818   | 4x4MMMO                  |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 23.38                    |
| CA_66A-66A | Band 66 | 1   | 20M         | 1745    | 132322  | QPSK | 1   | 0         | 4x4MMMO                  | Band 66 | 5M          | 2197.5  | 87311   | 4x4MMMO                  |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 23.66                    |
| CA_66B     | Band 66 | 1   | 15M         | 1745    | 132322  | QPSK | 1   | 0         | 4x4MMMO                  | Band 66 | 5M          | 2164.3  | 69979   | 4x4MMMO                  |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 23.66                    |
| CA_66C     | Band 66 | 1   | 20M         | 1745    | 132322  | QPSK | 1   | 0         | 4x4MMMO                  | Band 66 | 20M         | 2164.8  | 69984   | 4x4MMMO                  |
|            |         |     |             |         |         |      |     |           |                          |         |             |         |         | 23.66                    |

| 3CA DL         |         |     |       |             |         |      |     |           |                          |         |       |             |         |                          |         |       |             |         |                          |
|----------------|---------|-----|-------|-------------|---------|------|-----|-----------|--------------------------|---------|-------|-------------|---------|--------------------------|---------|-------|-------------|---------|--------------------------|
| 3CA List       | POC     |     |       |             |         |      |     |           | SOC1                     |         |       |             |         | SOC2                     |         |       |             | Power   |                          |
|                | LTE     | BW  | BW    | UL          | UL      | Mod. | UL# | UL        | DL Antenna Configuration | LTE     | BW    | DL          | DL      | DL Antenna Configuration | LTE     | BW    | DL          | DL      | DL Antenna Configuration |
|                | Band    | Ant | (MHz) | Freq. (MHz) | Channel |      | RB  | RB Offset |                          | Band    | (MHz) | Freq. (MHz) | Channel |                          | Band    | (MHz) | Freq. (MHz) | Channel |                          |
| CA_2A-7A-7A    | Band 2  | 2   | 20M   | 1880        | 18900   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 20M   | 2655        | 3100    | 4x4MIMO                  | Band 7  | 5M    | 2687.5      | 3425    | 4x4MIMO                  |
|                | Band 7  | 3   | 20M   | 2535        | 21100   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 5M    | 2687.5      | 3425    | 4x4MIMO                  | Band 2  | 20M   | 1880        | 900     | 4x4MIMO                  |
| CA_2A-7C       | Band 2  | 2   | 20M   | 1880        | 18900   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 20M   | 2655        | 3100    | 4x4MIMO                  | Band 7  | 20M   | 2554.8      | 3298    | 4x4MIMO                  |
|                | Band 7  | 3   | 20M   | 2535        | 21100   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 20M   | 2554.8      | 3298    | 4x4MIMO                  | Band 2  | 20M   | 1880        | 900     | 4x4MIMO                  |
| CA_4A-7C       | Band 4  | 1   | 20M   | 1732.5      | 30175   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 20M   | 2655        | 3100    | 4x4MIMO                  | Band 7  | 20M   | 2554.8      | 3298    | 4x4MIMO                  |
|                | Band 7  | 3   | 20M   | 2535        | 21100   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 20M   | 2554.8      | 3298    | 4x4MIMO                  | Band 4  | 20M   | 2132.5      | 2175    | 4x4MIMO                  |
| CA_5A-7C       | Band 5  | 4   | 10M   | 836.5       | 20525   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 20M   | 2655        | 3100    | 4x4MIMO                  | Band 7  | 20M   | 2554.8      | 3298    | 4x4MIMO                  |
|                | Band 7  | 1   | 20M   | 2535        | 21100   | QPSK | 1   | 0         | 4x4MIMO                  | Band 7  | 20M   | 2554.8      | 3298    | 4x4MIMO                  | Band 5  | 10M   | 881.5       | 2525    | 4x4MIMO                  |
| CA_41A-41A-41A | Band 41 | 1   | 20M   | 2593        | 40620   | QPSK | 1   | 0         | 4x4MIMO                  | Band 41 | 9M    | 2687.5      | 41565   | 4x4MIMO                  | Band 41 | 20M   | 2306        | 39750   | 4x4MIMO                  |
|                | Band 41 | 1   | 20M   | 2593        | 40620   | QPSK | 1   | 0         | 4x4MIMO                  | Band 41 | 20M   | 2612.8      | 40818   | 4x4MIMO                  | Band 41 | 20M   | 2632.6      | 41016   | 4x4MIMO                  |
| CA_41D         | Band 2  | 2   | 20M   | 1880        | 18900   | QPSK | 1   | 0         | 4x4MIMO                  | Band 2  | 9M    | 1987.5      | 1175    | 4x4MIMO                  | Band 5  | 10M   | 881.5       | 2525    | 4x4MIMO                  |
|                | Band 5  | 1   | 10M   | 836.5       | 20525   | QPSK | 1   | 0         | 4x4MIMO                  | Band 2  | 20M   | 1880        | 900     | 4x4MIMO                  | Band 2  | 5M    | 1987.5      | 1175    | 4x4MIMO                  |
| CA_2A-2A-5A    | Band 2  | 2   | 20M   | 1880        | 18900   | QPSK | 1   | 0         | 4x4MIMO                  | Band 2  | 20M   | 1880        | 900     | 4x4MIMO                  | Band 2  | 5M    | 1987.5      | 1175    | 4x4MIMO                  |
|                | Band 5  | 1   | 10M   | 836.5       | 20525   | QPSK | 1   | 0         | 4x4MIMO                  | Band 2  | 20M   | 1880        | 900     | 4x4MIMO                  | Band 2  | 5M    | 1987.5      | 1175    | 4x4MIMO                  |