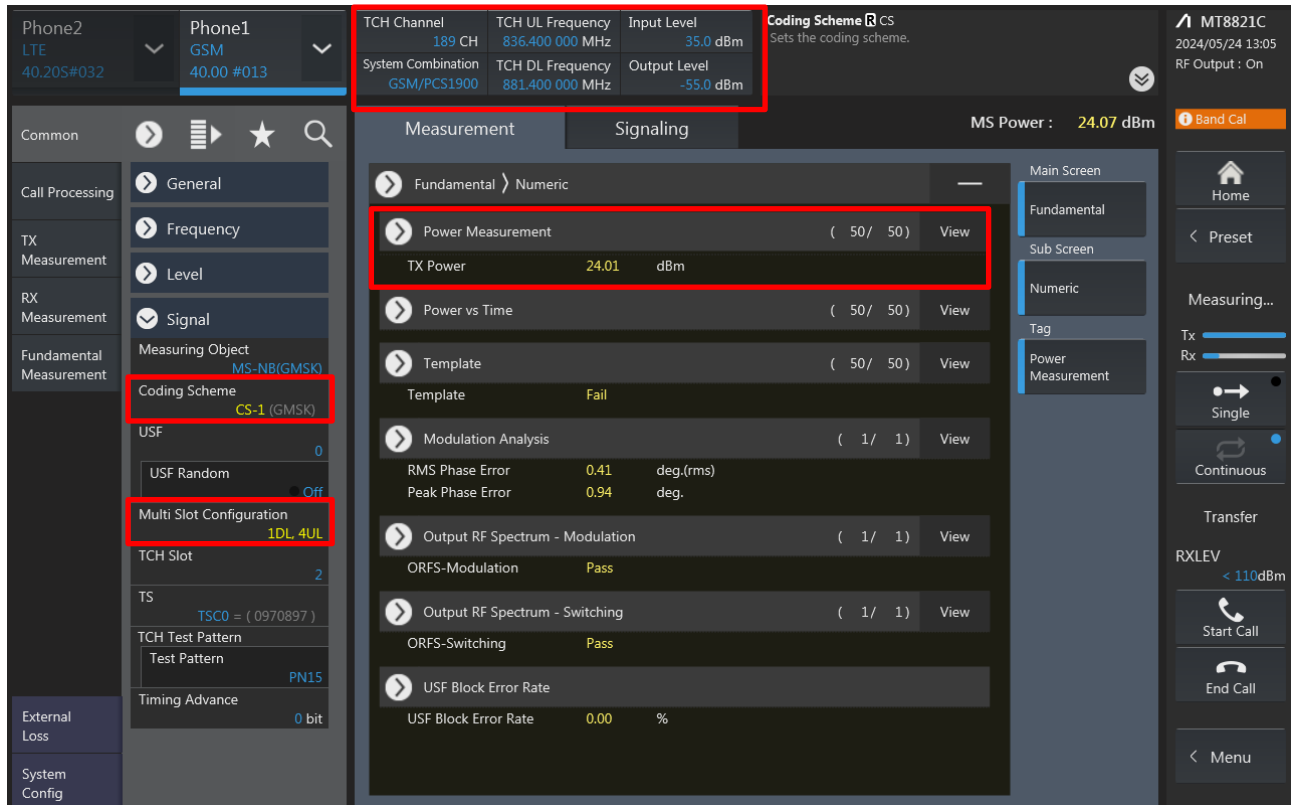


Power measurement connection diagram:

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.

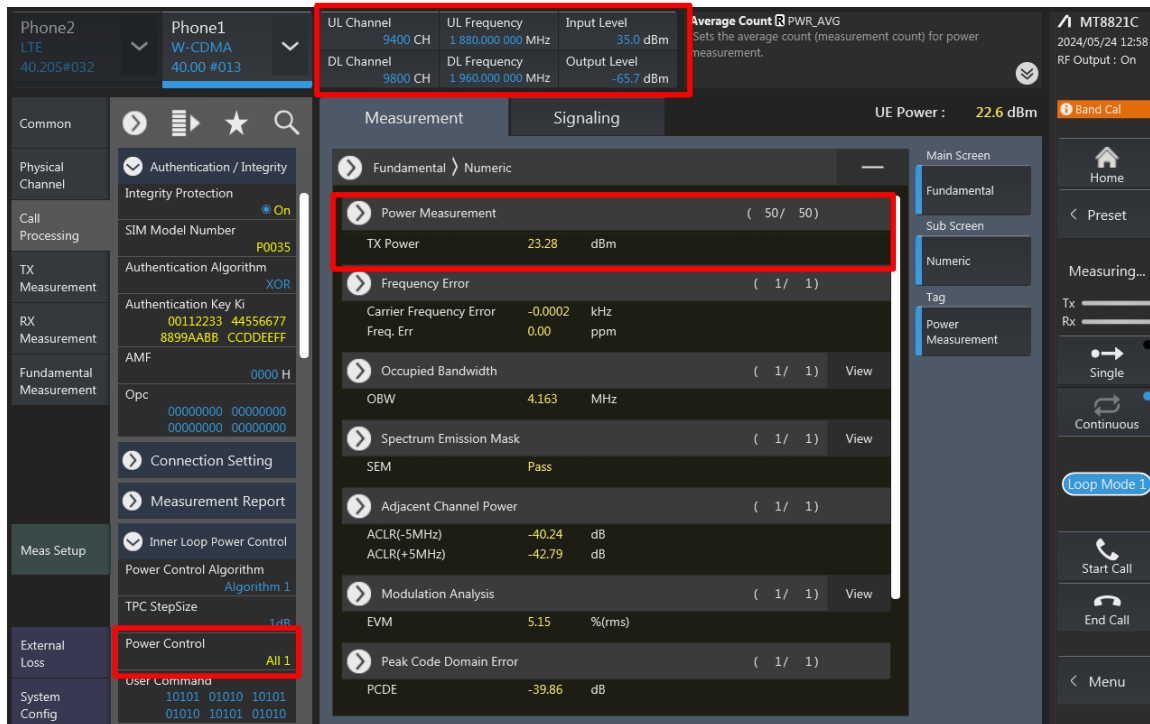
<GSM>



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

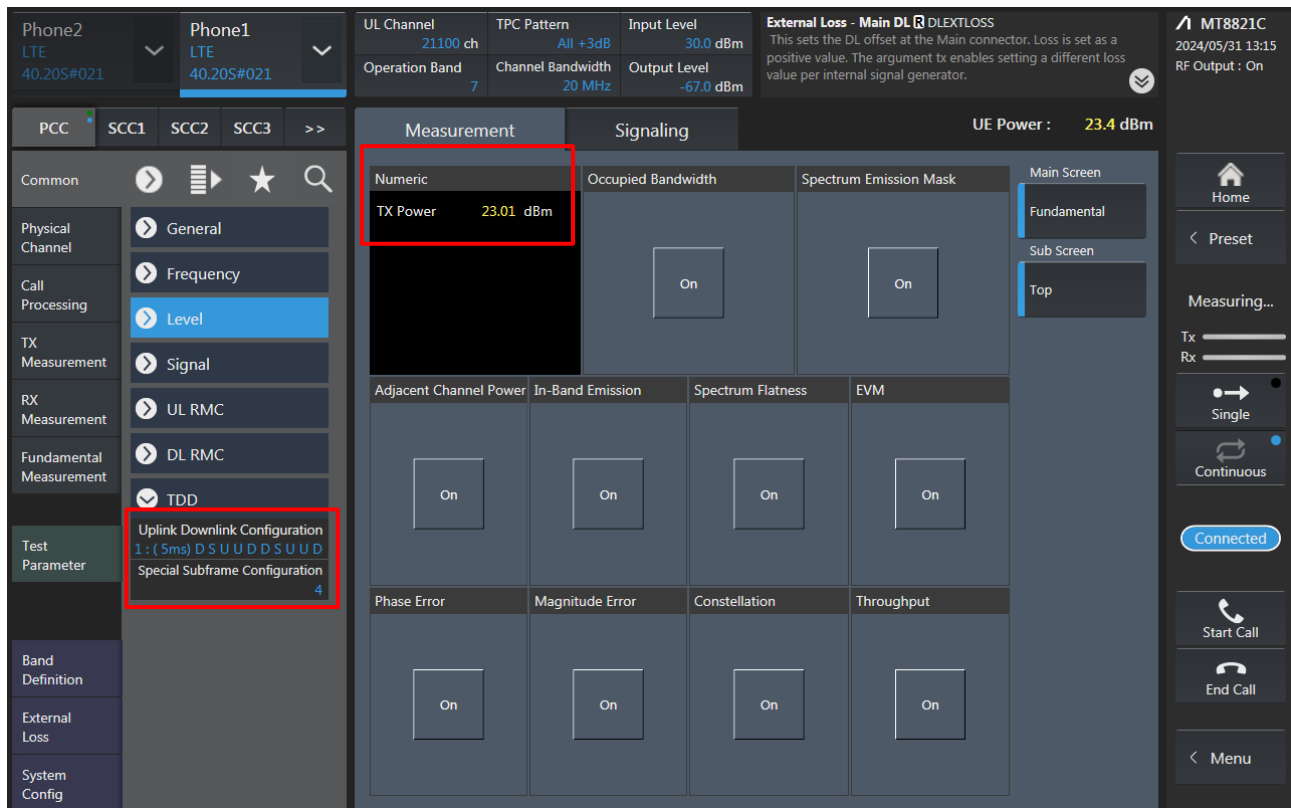
- Top Bar:** Shows Phone2 (LTE, 40.205#032) and Phone1 (GSM, 40.00 #013). It also displays TCH Channel (189 CH), TCH UL Frequency (836.400 000 MHz), Input Level (35.0 dBm), TCH DL Frequency (881.400 000 MHz), and Output Level (-55.0 dBm). The Coding Scheme is set to CS.
- Left Sidebar:** Contains navigation 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, Measuring Object (MS-NB(GMSK)), Coding Scheme (CS-1 (GMSK)), USF, USF Random (Off), Multi Slot Configuration (1DL, 4UL), TCH Slot (2), TS (TSCO = (0970897)), TCH Test Pattern (PN15), and Timing Advance (0 bit).
- 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' (Fail), 'Modulation Analysis' (RMS Phase Error: 0.41 deg.(rms), Peak Phase Error: 0.94 deg.), 'Output RF Spectrum - Modulation' (ORFS-Modulation: Pass), 'Output RF Spectrum - Switching' (ORFS-Switching: Pass), and 'USF Block Error Rate' (USF Block Error Rate: 0.00 %).
- 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 as 'On'.

<WCDMA>



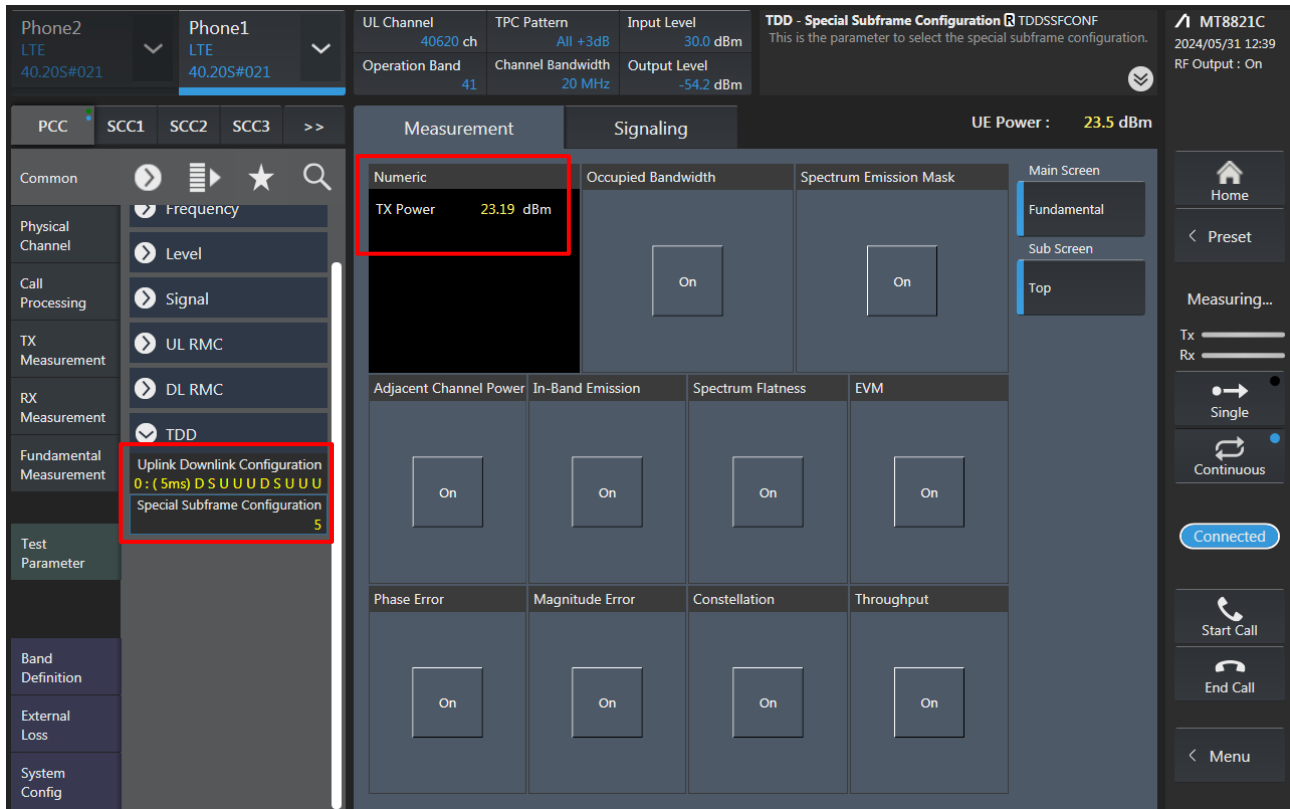
The screenshot shows the WCDMA measurement interface. The top bar displays 'Phone2 LTE 40.20S#032' and 'Phone1 W-CDMA 40.00 #013'. The 'Measurement' tab is active, showing 'Fundamental' and 'Numeric' views. The 'Power Measurement' section is highlighted with a red box, showing 'TX Power' as 23.28 dBm. The 'Occupied Bandwidth' section shows 'OBW' as 4.163 MHz. The 'Adjacent Channel Power' section shows 'ACLR(-5MHz)' as -40.24 dB and 'ACLR(+5MHz)' as -42.79 dB. The 'Modulation Analysis' section shows 'EVM' as 5.15 % (rms). The 'Peak Code Domain Error' section shows 'PCDE' as -39.86 dB. The 'UE Power' is 22.6 dBm. The 'Band Cal' button is visible on the right. The 'Common' sidebar on the left includes 'Physical Channel', 'Call Processing', 'TX Measurement', 'RX Measurement', 'Fundamental Measurement', 'Meas Setup', 'External Loss', 'System Config', and 'Power Control' (highlighted with a red box).

<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 'Numeric' and 'Occupied Bandwidth' views. The 'TX Power' is 23.01 dBm. The 'Occupied Bandwidth' section shows 'OBW' as 4.163 MHz. The 'Adjacent Channel Power' section shows 'ACLR(-5MHz)' as -40.24 dB and 'ACLR(+5MHz)' as -42.79 dB. The 'Modulation Analysis' section shows 'EVM' as 5.15 % (rms). The 'Peak Code Domain Error' section shows 'PCDE' as -39.86 dB. The 'UE Power' is 23.4 dBm. The 'Band Cal' button is visible on the right. The 'Common' sidebar on the left includes 'Physical Channel', 'Call Processing', 'TX Measurement', 'RX Measurement', 'Fundamental Measurement', 'Meas Setup', 'External Loss', 'System Config', and 'Power Control' (highlighted with a red box). The 'Test Parameter' section shows 'Uplink Downlink Configuration 1: (5ms) D S U U D D S U U D' and 'Special Subframe Configuration 4'.

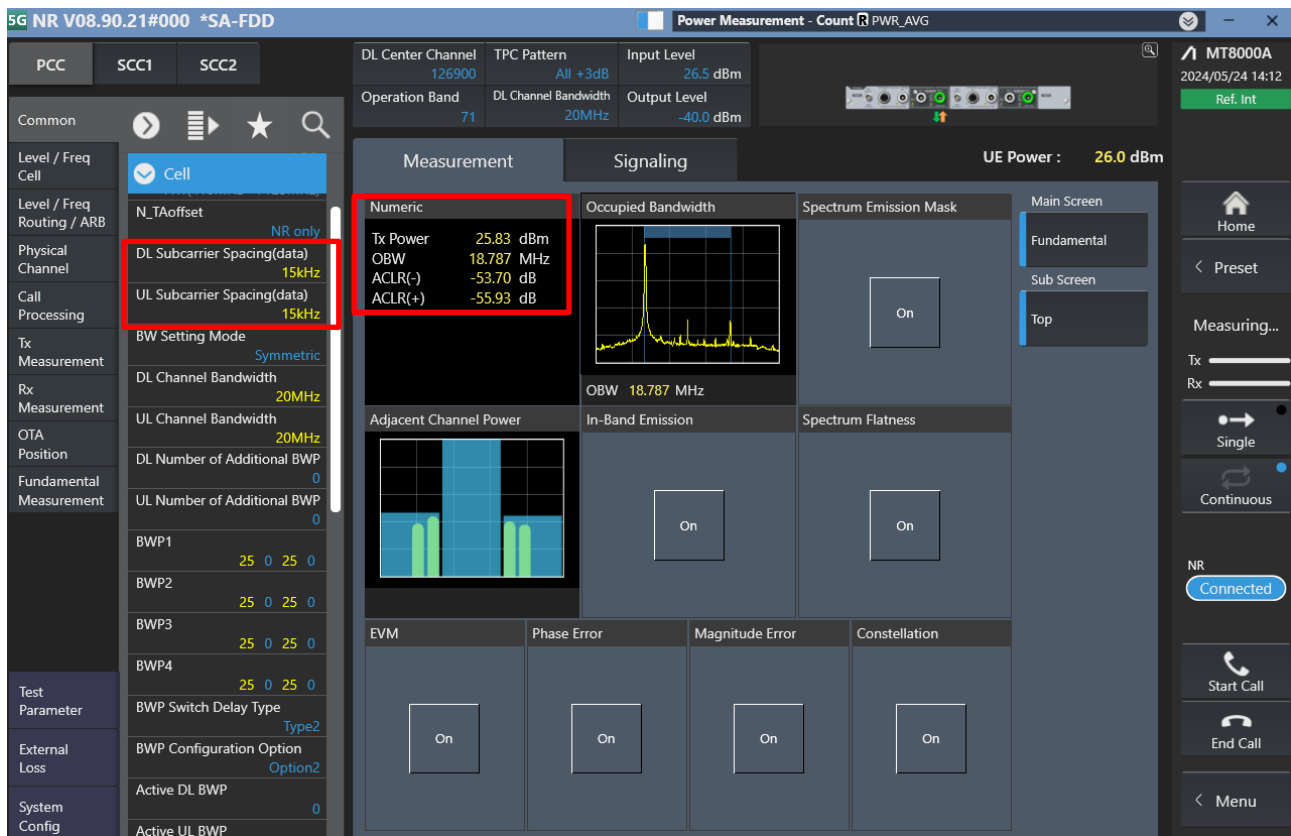
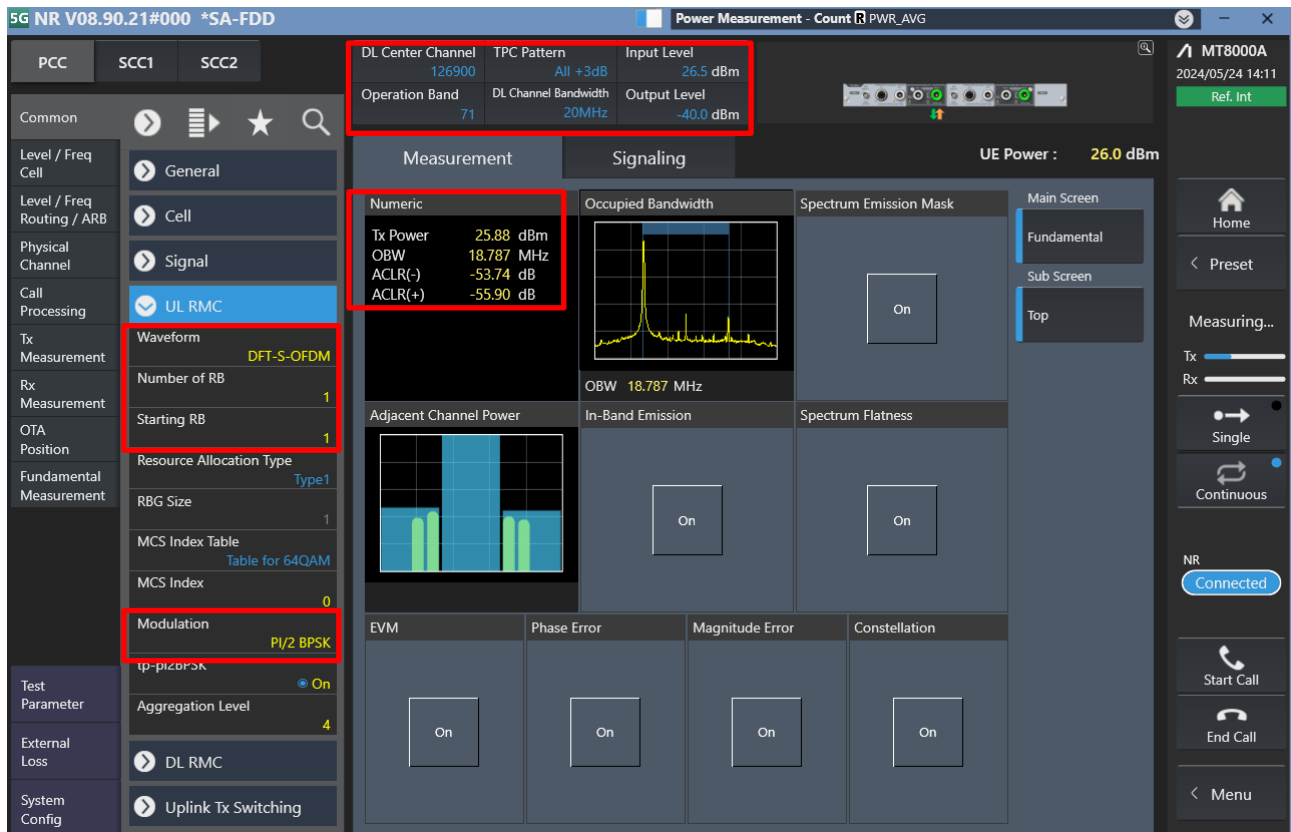
<LTE TDD Power class 3>

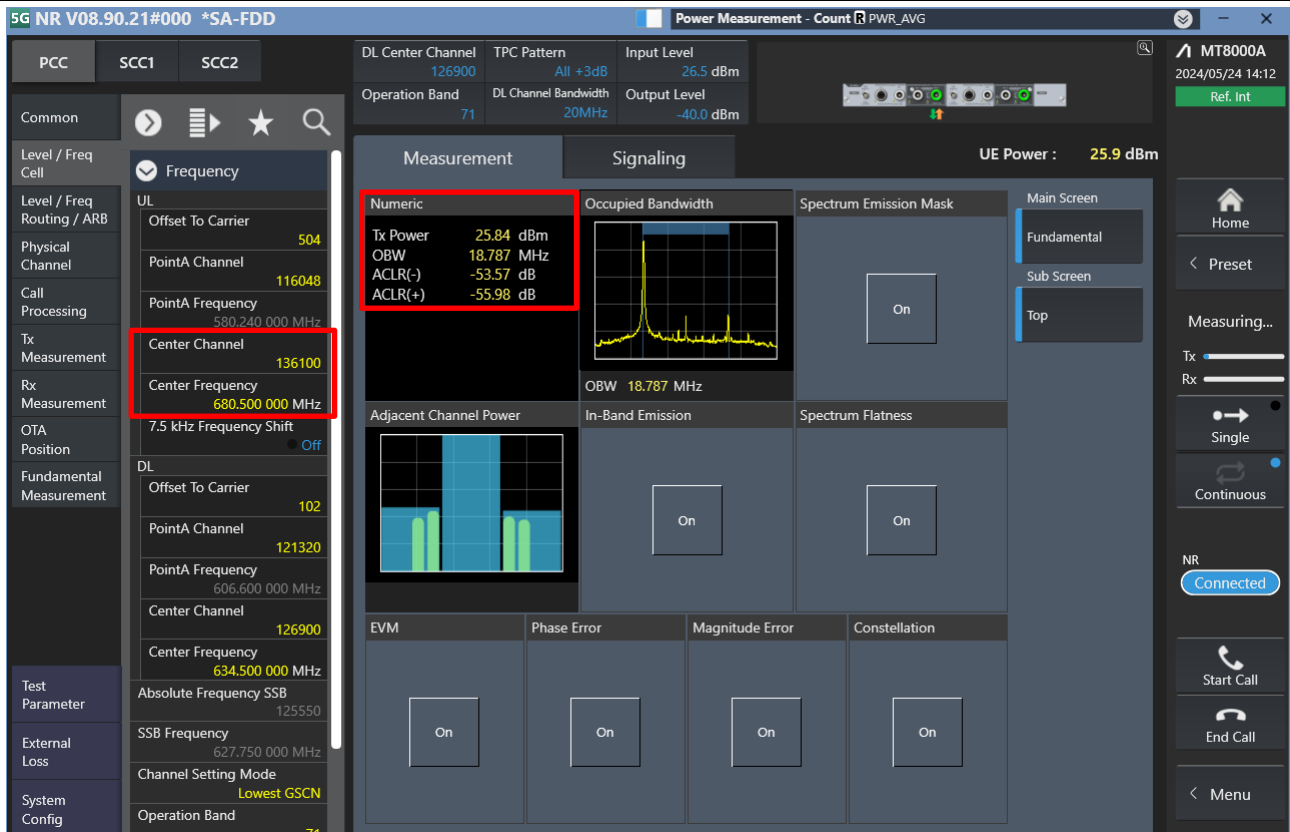


The screenshot displays the SPORTON LAB. LTE TDD Power class 3 configuration interface. The interface is divided into several sections:

- 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 measurement results and configuration options. The 'Measurement' section shows 'TX Power' as 23.19 dBm. The 'Signaling' section shows 'Occupied Bandwidth' and 'Spectrum Emission Mask' as 'On'. The 'Fundamental Measurement' section shows 'Uplink Downlink Configuration' as '0 : (5ms) D S U U U D S U U U' and 'Special Subframe Configuration' as '5'.
- Right Sidebar:** Contains a 'Home' button, a 'Preset' button, and a 'Measuring...' section with 'Tx' and 'Rx' sliders. It also includes a 'Connected' status indicator and buttons for 'Start Call' and 'End Call'.

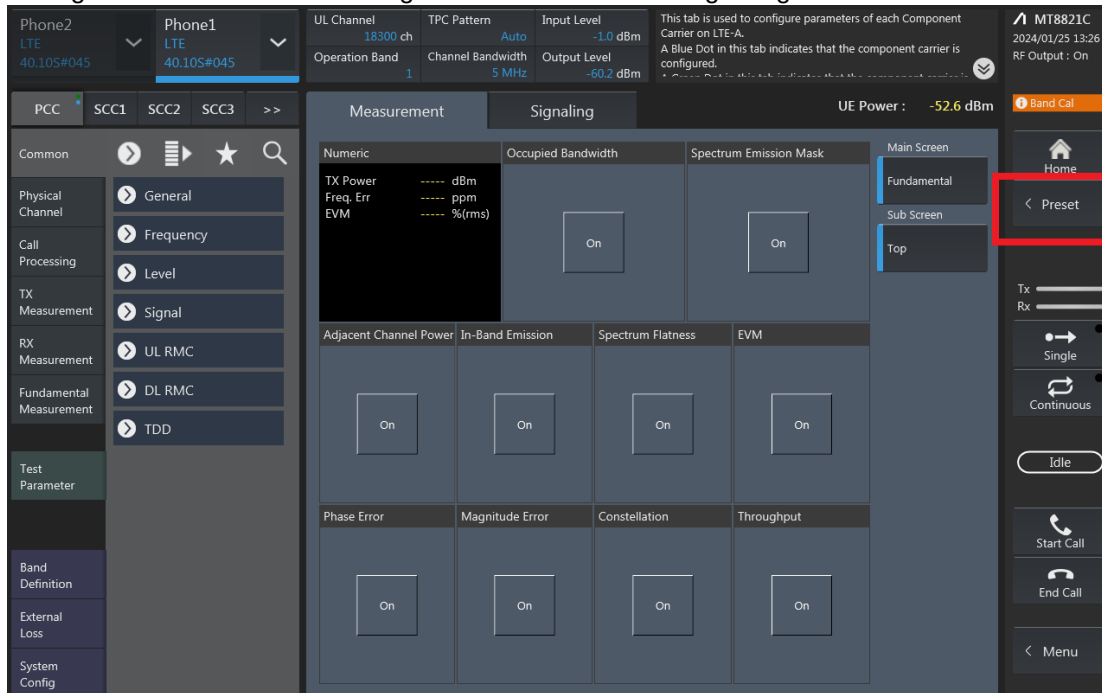
<5G NR FR1>





LTE Uplink and Downlink Carrier Aggregation configurations:

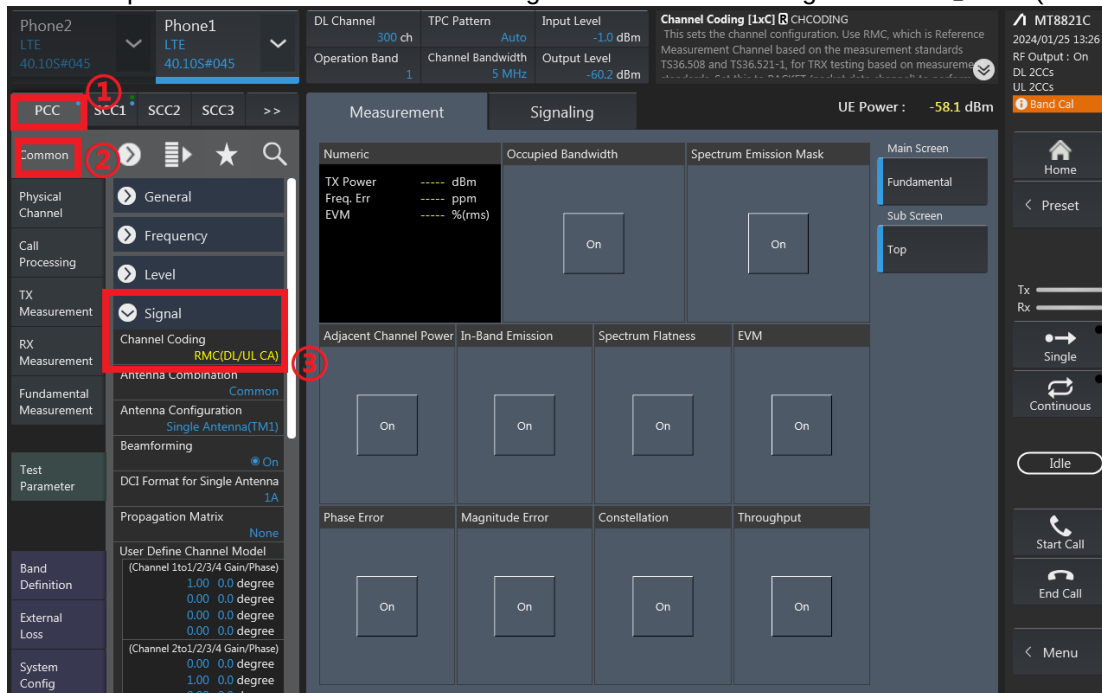
1. Change the Scenario in the Configuration of Phone1 LTE Signaling and Preset.



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

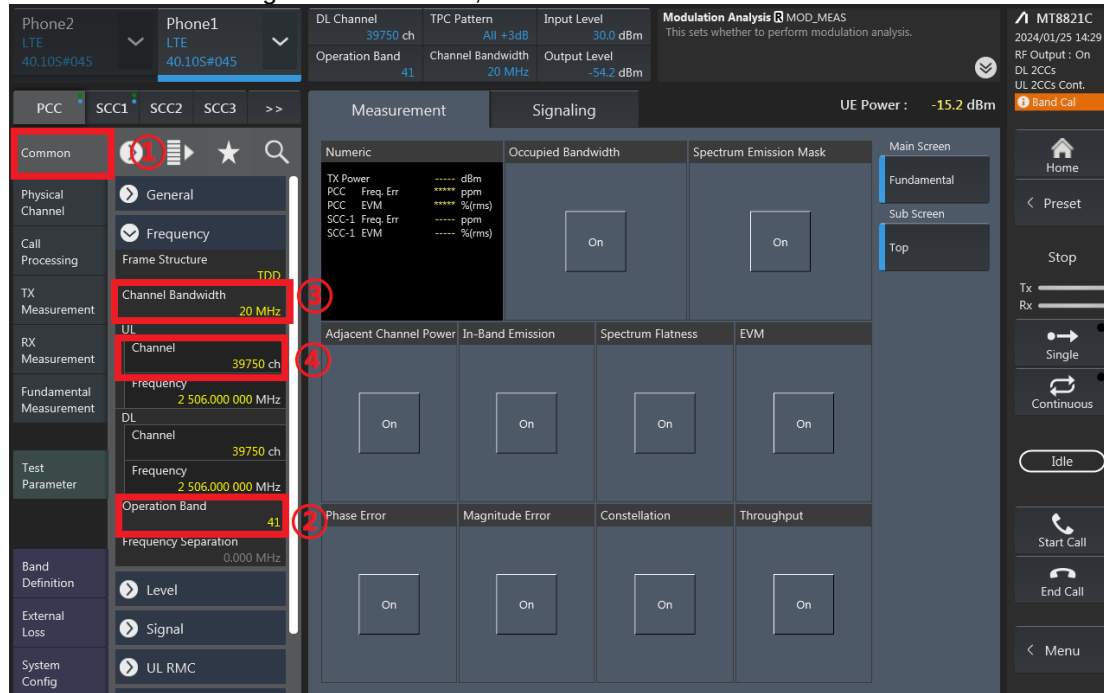
For example, Uplink Carrier Aggregation:

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

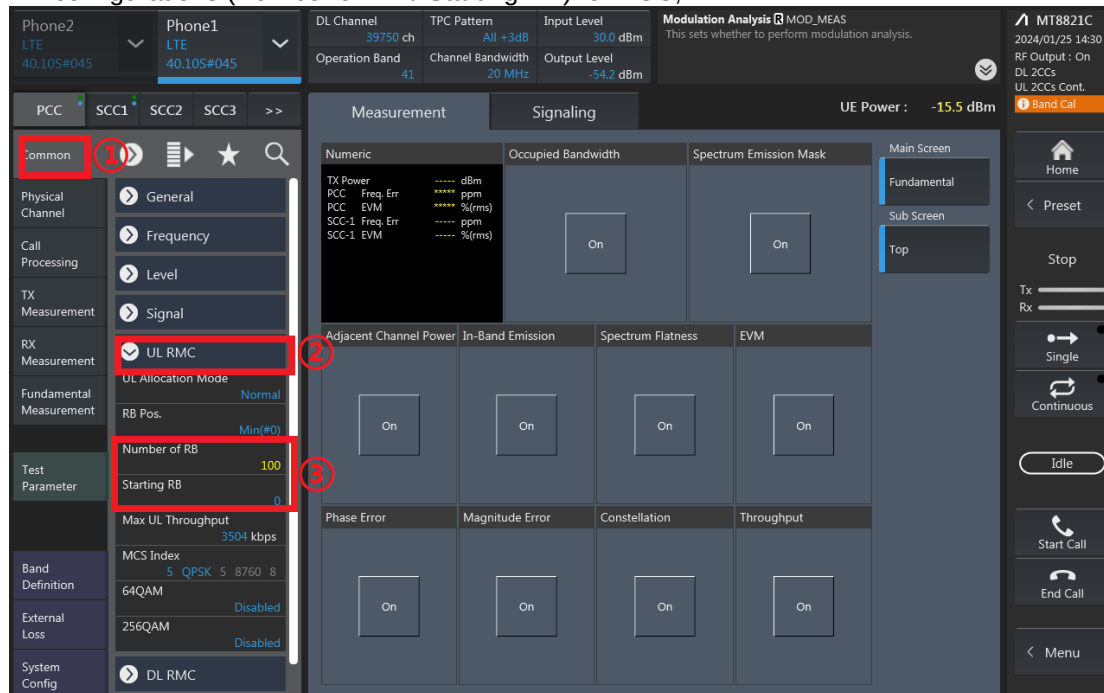


3. PCC parameter Settings: on the screen, and then select the PCC tab and Set operating band, BW,

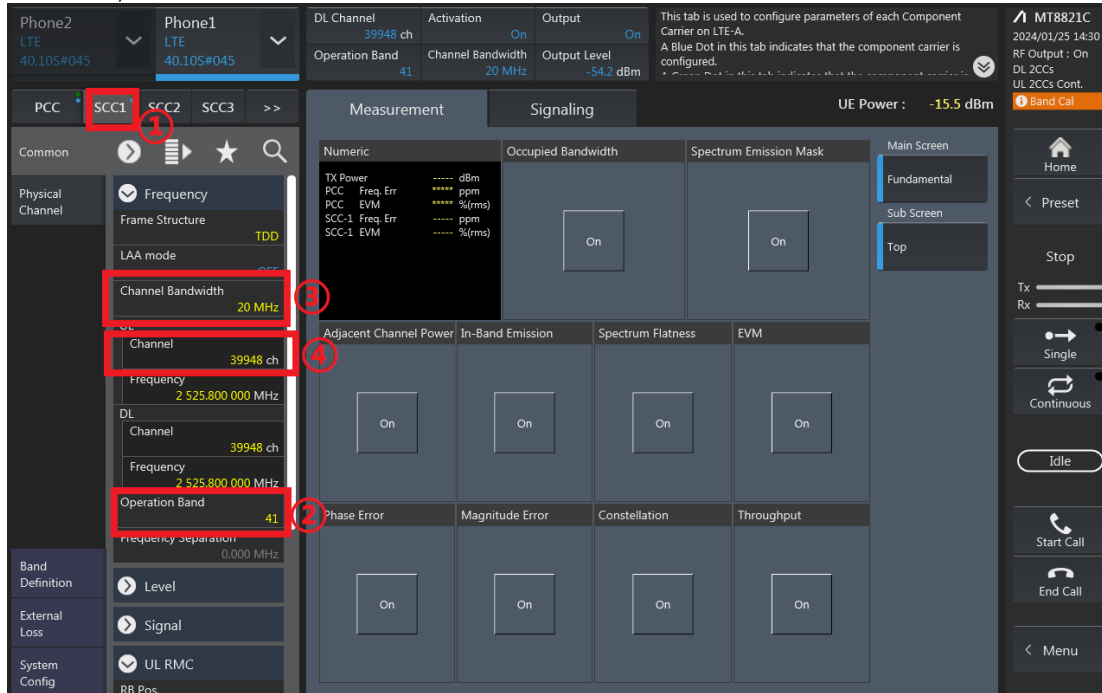
channel and RB configurations for PCC;



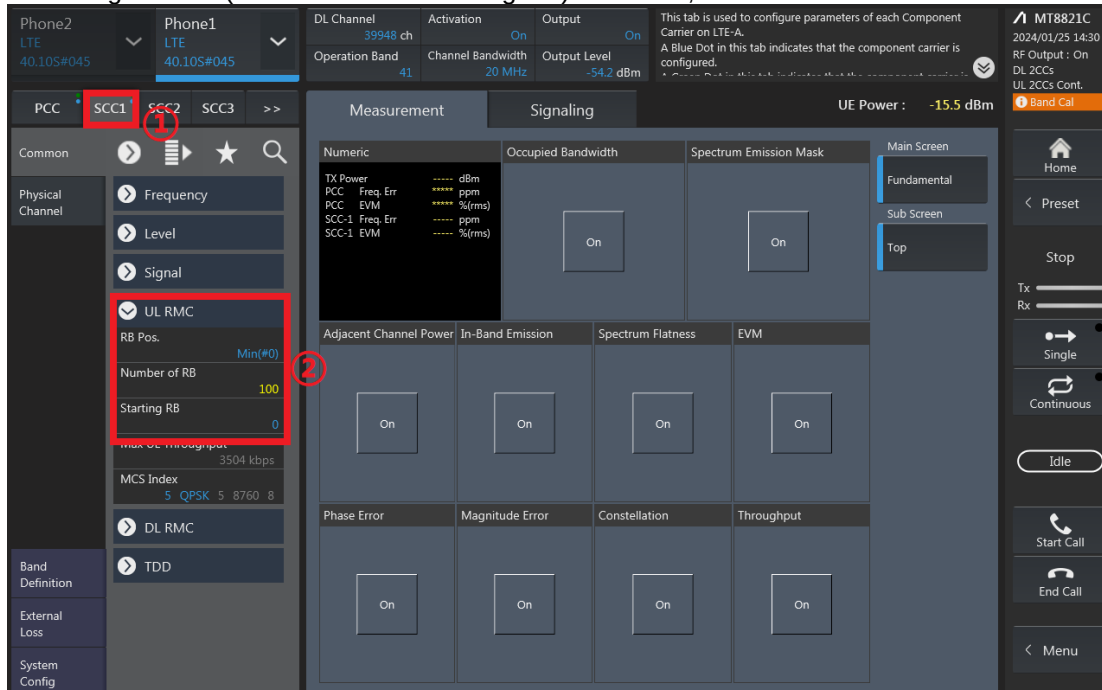
RB configurations (Number of RB / Starting RB) for PCC;



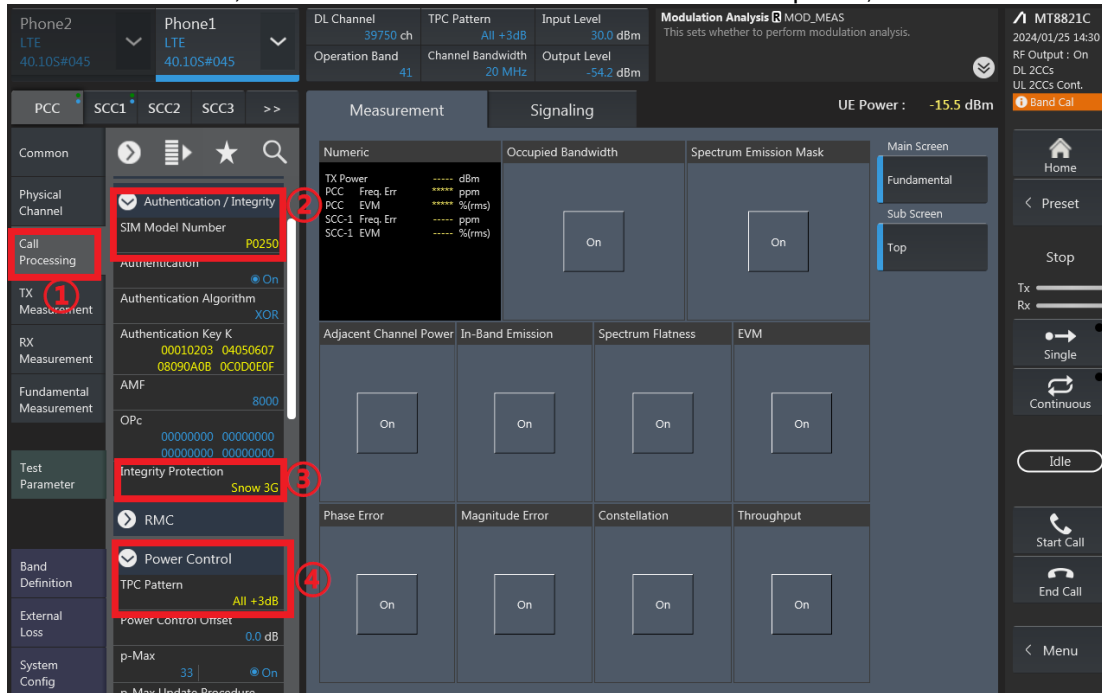
4. SCC parameter Settings: Select the SCC1 tab, Set operating band, BW, channel, and RB configurations for SCC1;



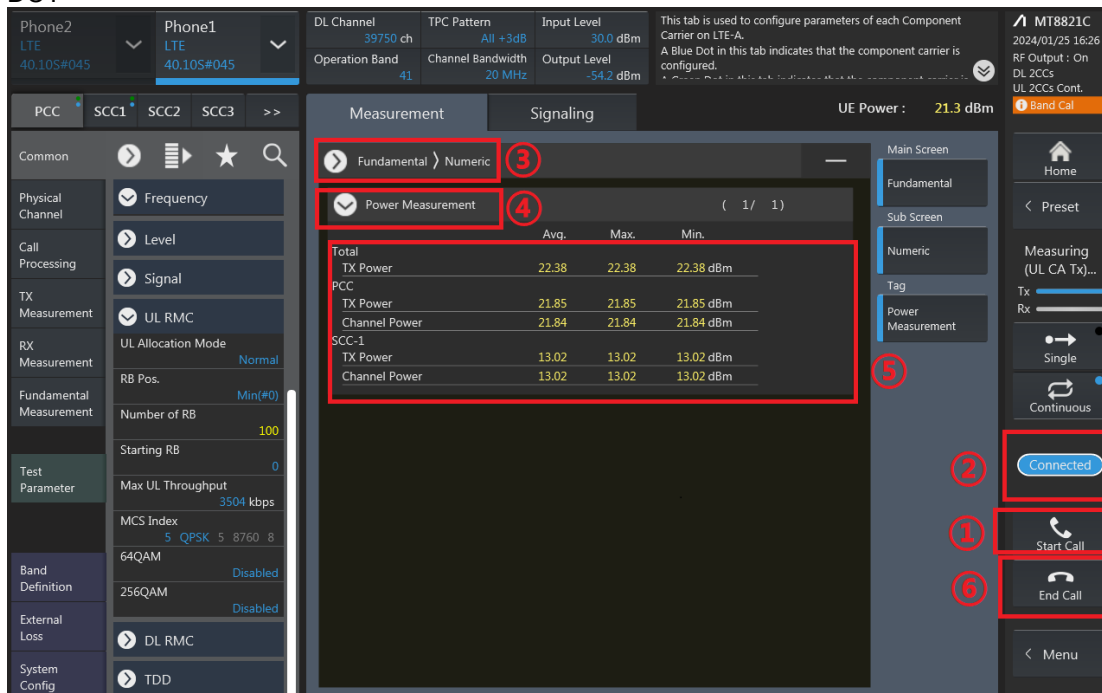
RB configurations (Number of RB / Starting RB) for SCC1;



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 DLCA test method is similar to intra-band ULCA.

UL CA Power

CA_38C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	Full Power	23.18
37901	38099	QPSK	1	0	0	0	1	0	Full Power	23.12
38150	37952	QPSK	1	0	0	0	1	0	Full Power	22.97
37850	38048	QPSK	1	0	0	0	1	0	DS15	23.18
37901	38099	QPSK	1	0	0	0	1	0	DS15	23.12
38150	37952	QPSK	1	0	0	0	1	0	DS15	22.97
37850	38048	QPSK	1	0	0	0	1	0	DS16	23.18
37901	38099	QPSK	1	0	0	0	1	0	DS16	23.12
38150	37952	QPSK	1	0	0	0	1	0	DS16	22.97
37850	38048	QPSK	1	0	0	0	1	0	DS17	23.18
37901	38099	QPSK	1	0	0	0	1	0	DS17	23.12
38150	37952	QPSK	1	0	0	0	1	0	DS17	22.97
37850	38048	QPSK	1	0	0	0	1	0	DS18	23.18
37901	38099	QPSK	1	0	0	0	1	0	DS18	23.12
38150	37952	QPSK	1	0	0	0	1	0	DS18	22.97
37850	38048	QPSK	1	0	0	0	1	0	DS19	22.75
37901	38099	QPSK	1	0	0	0	1	0	DS19	22.61
38150	37952	QPSK	1	0	0	0	1	0	DS19	22.67

CA_38C_Ant 3										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	Full Power	23.68
37901	38099	QPSK	1	0	0	0	1	0	Full Power	23.59
38150	37952	QPSK	1	0	0	0	1	0	Full Power	23.55
37850	38048	QPSK	1	0	0	0	1	0	DS15	17.80
37901	38099	QPSK	1	0	0	0	1	0	DS15	17.66
38150	37952	QPSK	1	0	0	0	1	0	DS15	17.72
37850	38048	QPSK	1	0	0	0	1	0	DS16	16.83
37901	38099	QPSK	1	0	0	0	1	0	DS16	16.70
38150	37952	QPSK	1	0	0	0	1	0	DS16	16.75
37850	38048	QPSK	1	0	0	0	1	0	DS17	23.68
37901	38099	QPSK	1	0	0	0	1	0	DS17	23.59
38150	37952	QPSK	1	0	0	0	1	0	DS17	23.55
37850	38048	QPSK	1	0	0	0	1	0	DS18	22.88
37901	38099	QPSK	1	0	0	0	1	0	DS18	22.75
38150	37952	QPSK	1	0	0	0	1	0	DS18	22.79
37850	38048	QPSK	1	0	0	0	1	0	DS19	20.35
37901	38099	QPSK	1	0	0	0	1	0	DS19	20.25
38150	37952	QPSK	1	0	0	0	1	0	DS19	20.27

CA_38C_Ant 4										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	Full Power	23.75
37901	38099	QPSK	1	0	0	0	1	0	Full Power	23.70
38150	37952	QPSK	1	0	0	0	1	0	Full Power	23.69
37850	38048	QPSK	1	0	0	0	1	0	DS15	18.56
37901	38099	QPSK	1	0	0	0	1	0	DS15	18.44
38150	37952	QPSK	1	0	0	0	1	0	DS15	18.40
37850	38048	QPSK	1	0	0	0	1	0	DS16	18.13
37901	38099	QPSK	1	0	0	0	1	0	DS16	18.05
38150	37952	QPSK	1	0	0	0	1	0	DS16	18.08
37850	38048	QPSK	1	0	0	0	1	0	DS17	22.62
37901	38099	QPSK	1	0	0	0	1	0	DS17	22.54
38150	37952	QPSK	1	0	0	0	1	0	DS17	22.57
37850	38048	QPSK	1	0	0	0	1	0	DS18	21.57
37901	38099	QPSK	1	0	0	0	1	0	DS18	21.50
38150	37952	QPSK	1	0	0	0	1	0	DS18	21.48
37850	38048	QPSK	1	0	0	0	1	0	DS19	20.36
37901	38099	QPSK	1	0	0	0	1	0	DS19	20.25
38150	37952	QPSK	1	0	0	0	1	0	DS19	20.21

CA_41C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	Full Power	23.45
40185	39987	QPSK	1	0	0	0	1	0	Full Power	23.22
40620	40422	QPSK	1	0	0	0	1	0	Full Power	23.19
41055	40857	QPSK	1	0	0	0	1	0	Full Power	23.12
41490	41292	QPSK	1	0	0	0	1	0	Full Power	23.20
39750	39948	QPSK	1	0	0	0	1	0	DS15	23.45
40185	39987	QPSK	1	0	0	0	1	0	DS15	23.22
40620	40422	QPSK	1	0	0	0	1	0	DS15	23.19
41055	40857	QPSK	1	0	0	0	1	0	DS15	23.12
41490	41292	QPSK	1	0	0	0	1	0	DS15	23.20
39750	39948	QPSK	1	0	0	0	1	0	DS16	23.45
40185	39987	QPSK	1	0	0	0	1	0	DS16	23.22
40620	40422	QPSK	1	0	0	0	1	0	DS16	23.19
41055	40857	QPSK	1	0	0	0	1	0	DS16	23.12
41490	41292	QPSK	1	0	0	0	1	0	DS16	23.20
39750	39948	QPSK	1	0	0	0	1	0	DS17	23.45
40185	39987	QPSK	1	0	0	0	1	0	DS17	23.22
40620	40422	QPSK	1	0	0	0	1	0	DS17	23.19
41055	40857	QPSK	1	0	0	0	1	0	DS17	23.12
41490	41292	QPSK	1	0	0	0	1	0	DS17	23.20
39750	39948	QPSK	1	0	0	0	1	0	DS18	23.45
40185	39987	QPSK	1	0	0	0	1	0	DS18	23.22
40620	40422	QPSK	1	0	0	0	1	0	DS18	23.19
41055	40857	QPSK	1	0	0	0	1	0	DS18	23.12
41490	41292	QPSK	1	0	0	0	1	0	DS18	23.20
39750	39948	QPSK	1	0	0	0	1	0	DS19	22.84
40185	39987	QPSK	1	0	0	0	1	0	DS19	22.78
40620	40422	QPSK	1	0	0	0	1	0	DS19	22.69
41055	40857	QPSK	1	0	0	0	1	0	DS19	22.91
41490	41292	QPSK	1	0	0	0	1	0	DS19	22.77

CA_41C_Ant 3											
Combination 20MHz+20MHz (100RB+100RB)											
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset					
39750	39948	QPSK	1	0	0	0	1	0	Full Power	23.80	24.50
40185	39987	QPSK	1	0	0	0	1	0	Full Power	23.52	24.50
40620	40422	QPSK	1	0	0	0	1	0	Full Power	23.70	24.50
41055	40857	QPSK	1	0	0	0	1	0	Full Power	23.66	24.50
41490	41292	QPSK	1	0	0	0	1	0	Full Power	23.61	24.50
39750	39948	QPSK	1	0	0	0	1	0	DS15	17.86	18.50
40185	39987	QPSK	1	0	0	0	1	0	DS15	17.76	18.50
40620	40422	QPSK	1	0	0	0	1	0	DS15	17.63	18.50
41055	40857	QPSK	1	0	0	0	1	0	DS15	17.90	18.50
41490	41292	QPSK	1	0	0	0	1	0	DS15	17.82	18.50
39750	39948	QPSK	1	0	0	0	1	0	DS16	16.85	17.50
40185	39987	QPSK	1	0	0	0	1	0	DS16	16.75	17.50
40620	40422	QPSK	1	0	0	0	1	0	DS16	16.83	17.50
41055	40857	QPSK	1	0	0	0	1	0	DS16	16.91	17.50
41490	41292	QPSK	1	0	0	0	1	0	DS16	16.70	17.50
39750	39948	QPSK	1	0	0	0	1	0	DS17	23.80	24.50
40185	39987	QPSK	1	0	0	0	1	0	DS17	23.52	24.50
40620	40422	QPSK	1	0	0	0	1	0	DS17	23.70	24.50
41055	40857	QPSK	1	0	0	0	1	0	DS17	23.66	24.50
41490	41292	QPSK	1	0	0	0	1	0	DS17	23.61	24.50
39750	39948	QPSK	1	0	0	0	1	0	DS18	23.08	23.50
40185	39987	QPSK	1	0	0	0	1	0	DS18	23.10	23.50
40620	40422	QPSK	1	0	0	0	1	0	DS18	23.06	23.50
41055	40857	QPSK	1	0	0	0	1	0	DS18	23.01	23.50
41490	41292	QPSK	1	0	0	0	1	0	DS18	22.98	23.50
39750	39948	QPSK	1	0	0	0	1	0	DS19	20.48	21.00
40185	39987	QPSK	1	0	0	0	1	0	DS19	20.31	21.00
40620	40422	QPSK	1	0	0	0	1	0	DS19	20.26	21.00
41055	40857	QPSK	1	0	0	0	1	0	DS19	20.52	21.00
41490	41292	QPSK	1	0	0	0	1	0	DS19	20.42	21.00

DL power

Full Power															
2CC															
Configure	CA Configuration (BCS)	PCC							SCC				Power		
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)	
Inter-Band	CA_5A-7A	Band 5	10	829	20450	QPSK	1	0	Band 7	20	2655	3100	24.06	24.20	
	CA_2A-48A	Band 2	20	1880	18900	QPSK	1	0	Band 48	20	3690	56640	23.40	23.55	
	CA_4A-48A	Band 4	20	1732.5	20175	QPSK	1	0	Band 48	20	3690	56640	23.31	23.41	
	CA_5A-48A	Band 5	10	829	20450	QPSK	1	0	Band 48	20	3690	56640	24.02	24.20	
	CA_26A-41A	Band 26	15	831.5	26865	QPSK	1	0	Band 41	20	2506	39750	24.07	24.21	
	CA_2A-7A	Band 2	20	1880	18900	QPSK	1	0	Band 7	20	2655.00	3100	23.35	23.55	
	CA_2A-17A	Band 17	10	710	23790	QPSK	1	0	Band 2	10	1960.00	900	24.01	24.11	
Intra-Band	CA_4A-17A	Band 17	10	710	23790	QPSK	1	0	Band 4	10	2132.50	2175	23.94	24.11	
	Non-Contiguous	CA_7A-7A	Band 7	20	2535	21100	QPSK	1	0	Band 7	20	2680	3350	23.94	24.10
		CA_41A-41A	Band 41	20	2593	40620	QPSK	1	0	Band 41	20	2506	39750	23.96	24.13
		CA_48A-48A	Band 48	20	3560	55340	QPSK	1	0	Band 48	20	3660	56340	24.18	24.26
	Contiguous	CA_66B	Band 66	10	1750.1	132373	QPSK	1	0	Band 66	10	2160	66936	23.26	23.45
		CA_38C	Band 38	20	2580	37850	QPSK	1	0	Band 38	20	2599.8	38048	23.73	23.83
		CA_48C	Band 48	20	3560	55340	QPSK	1	0	Band 48	20	3579.8	55538	24.09	24.26

3CC																			
Configure		CA Configuration (BCS)	PCC						SCC1				SCC2				Power		
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		CA_7C-66A	Band 7	20	2535	21100	QPSK	1	0	Band 7	20	2674.8	3298	Band 66	20	2155	66886	23.95	24.10
		CA_5A-7C	Band 5	10	829	20450	QPSK	1	0	Band 7	20	2655	3100	Band 7	20	2674.8	3298	24.10	24.20
		CA_4A-7C	Band 4	20	1732.5	20175	QPSK	1	0	Band 7	20	2655	3100	Band 7	20	2674.8	3298	23.27	23.41
		CA_2A-2A-4A	Band 2	20	1880	18900	QPSK	1	0	Band 2	5	1932.5	625	Band 4	10	2132.5	2175	23.40	23.55
		CA_2A-2A-5A	Band 2	20	1880	18900	QPSK	1	0	Band 2	5	1932.5	625	Band 5	10	881.5	2525	23.46	23.55
		CA_2A-2A-66A	Band 2	20	1880	18900	QPSK	1	0	Band 2	5	1932.5	625	Band 66	20	2155	66886	23.43	23.55
		CA_2A-4A-4A	Band 2	20	1880	18900	QPSK	1	0	Band 4	20	2132.5	2175	Band 4	5	2152.5	2375	23.44	23.55
		CA_2A-4A-5A	Band 2	20	1880	18900	QPSK	1	0	Band 4	20	2132.5	2175	Band 5	10	881.5	2525	23.47	23.55
		CA_2A-66C	Band 2	20	1880	18900	QPSK	1	0	Band 66	20	2155	66886	Band 66	20	2174.8	67084	23.44	23.55
		CA_4A-4A-5A	Band 4	20	1732.5	20175	QPSK	1	0	Band 4	5	2152.5	2375	Band 5	10	881.5	2525	23.22	23.41
		CA_5A-66A-66A	Band 5	10	829	20450	QPSK	1	0	Band 66	20	2120	66536	Band 66	20	2190	67236	24.00	24.20
		CA_48A-66A-66A	Band 48	20	3560	55340	QPSK	1	0	Band 66	20	2120	66536	Band 66	20	2190	67236	24.08	24.26
		CA_12A-66A-66A	Band 12	10	707.5	23095	QPSK	1	0	Band 66	20	2120	66536	Band 66	20	2190	67236	24.11	24.17
		CA_12A-66C	Band 12	10	707.5	23095	QPSK	1	0	Band 66	20	2155	66886	Band 66	20	2174.8	67084	24.09	24.17
		CA_2A-12A-66A	Band 2	20	1880	18900	QPSK	1	0	Band 12	10	737.5	5095	Band 66	20	2155	66886	23.41	23.55
		CA_2A-4A-12A	Band 2	20	1880	18900	QPSK	1	0	Band 4	20	2132.5	2175	Band 12	10	737.5	5095	23.35	23.55
		CA_2C-66A	Band 2	20	1870.1	18801	QPSK	1	0	Band 2	20	1969.9	999	Band 66	20	2155	66886	23.44	23.55
		CA_4A-4A-12A	Band 4	20	1732.5	20175	QPSK	1	0	Band 4	5	2152.5	2375	Band 12	10	737.5	5095	23.28	23.41
		CA_2A-5A-66A	Band 2	20	1880	18900	QPSK	1	0	Band 5	10	881.5	2525	Band 66	20	2155	66886	23.48	23.55
		CA_7A-66A-66A	Band 7	20	2535	21100	QPSK	1	0	Band 66	20	2120	66536	Band 66	20	2190	67236	24.02	24.10
Intra-Band	Non-Contiguous	CA_41A-41C	Band 41	20	2549.5	40185	QPSK	1	0	Band 41	20	2660.2	41292	Band 41	20	2680	41490	24.02	24.13
	Contiguous	CA_41D	Band 41	20	2549.5	40185	QPSK	1	0	Band 41	20	2640.4	41094	Band 41	20	2660.2	41292	24.06	24.13