

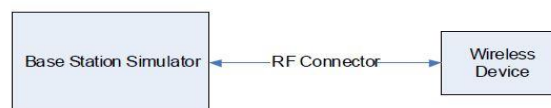
## Appendix I. – Down-link CA Power Measurement / 5G NR Call Box Setup

## 1. LTE Down-link Carrier Aggregation Conducted Powers

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by test product implementation. For those configurations required by April 2018 TCBC Workshop notes, conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only.

### Downlink Carrier aggregation:

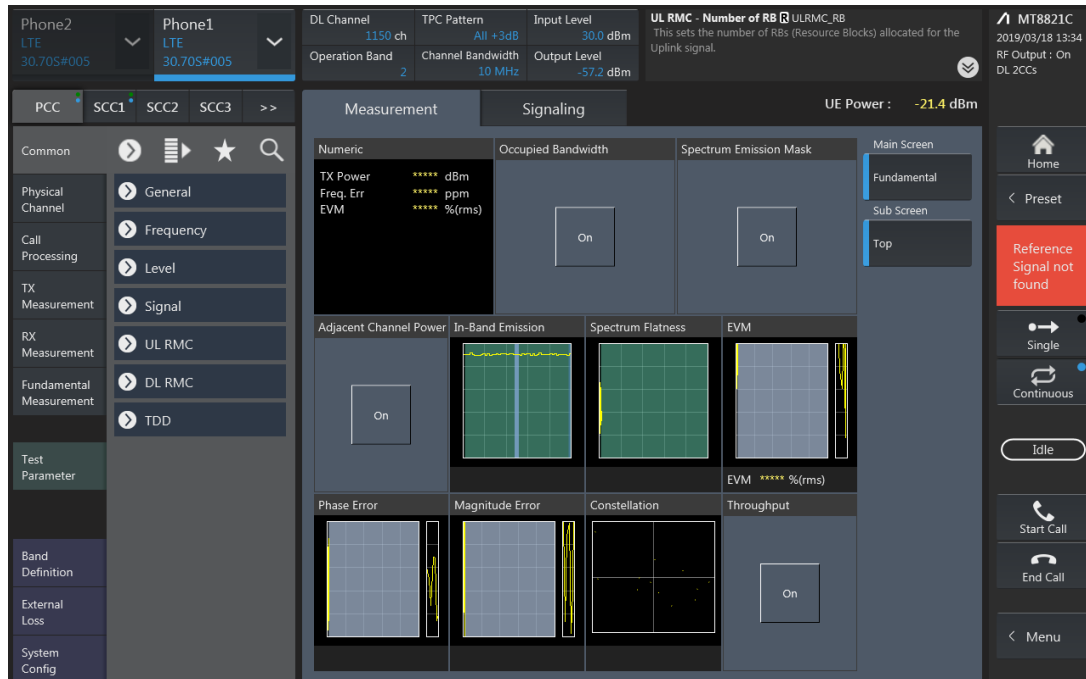
1. This device only supports downlink carrier aggregation. For every supported combination of downlink carrier aggregation, power measurements were performed with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.
2. All control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
3. Per FCC KDB publication 941225 D05A v01r02, Section C)3)b)ii), PCC uplink channel was selected at downlink carrier aggregation combinations. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
4. For continuous intra-band carrier aggregation, the downlink channel spacing between the component carriers was set to multiple of 300kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521.
5. For non-continuous intra-band carrier aggregation, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
6. All selected downlink channels remained fully within the downlink transmission band of the respective component carrier.



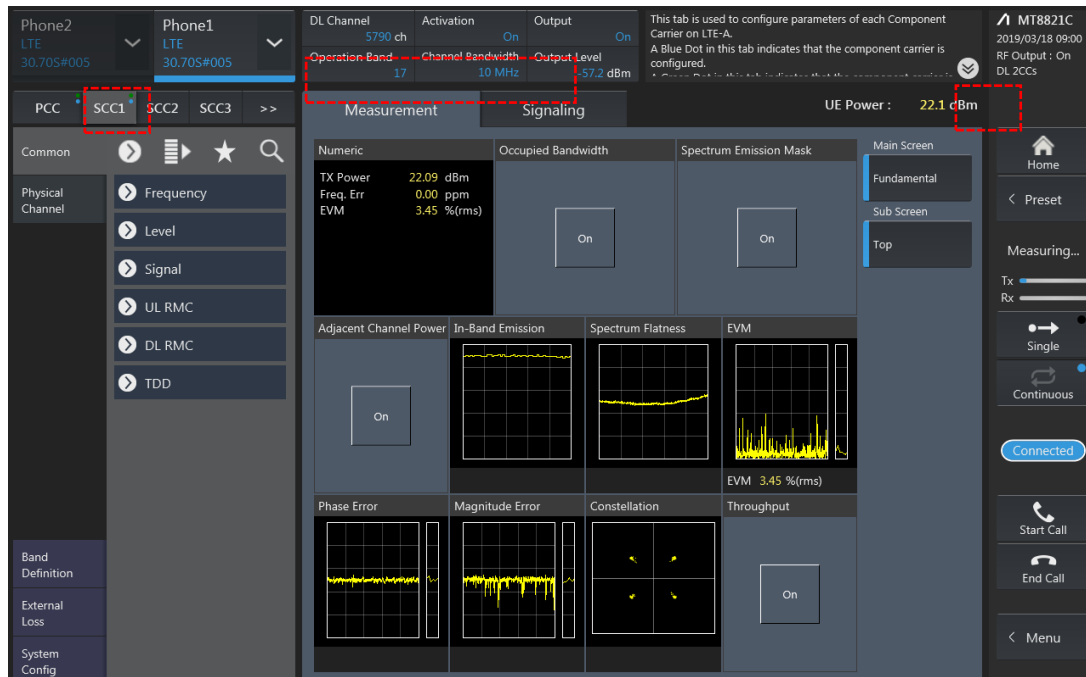
Power Measurement setup

## LTE Down Link 2CA Call Setup

### PCC Setting (Channel/ RB/ BW/ Modulation)



### SCC Setting (Channel/ RB/ BW/ Modulation) and call Connection

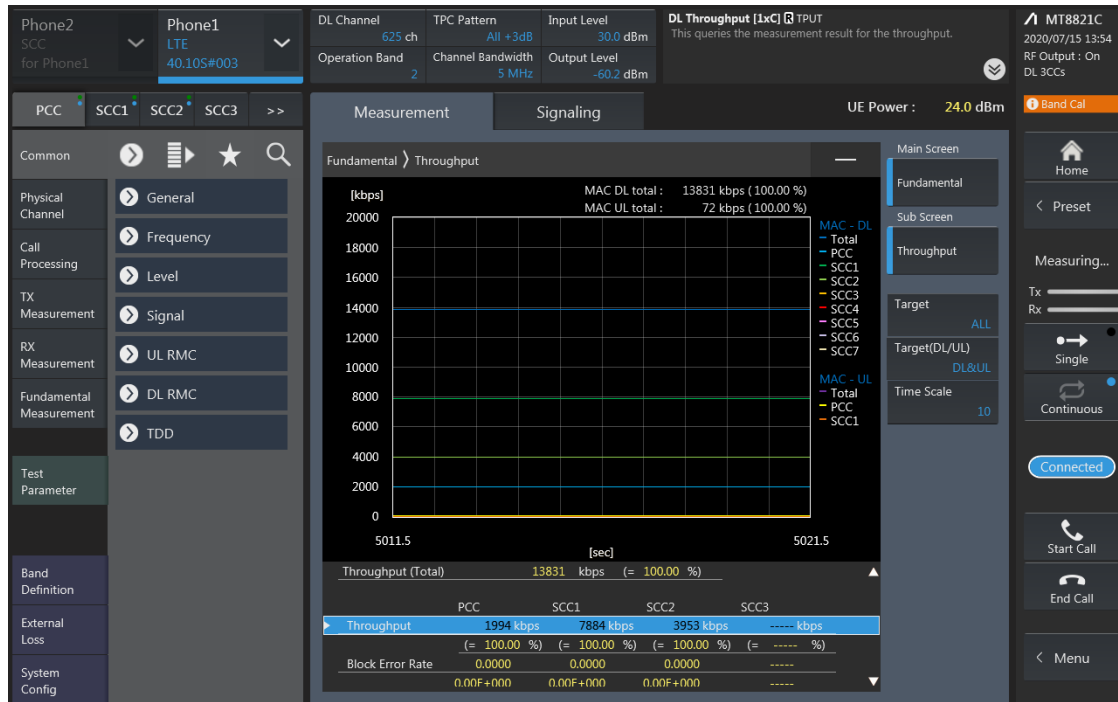


### 2CA Downlink Carrier aggregation Maximum conducted Powers

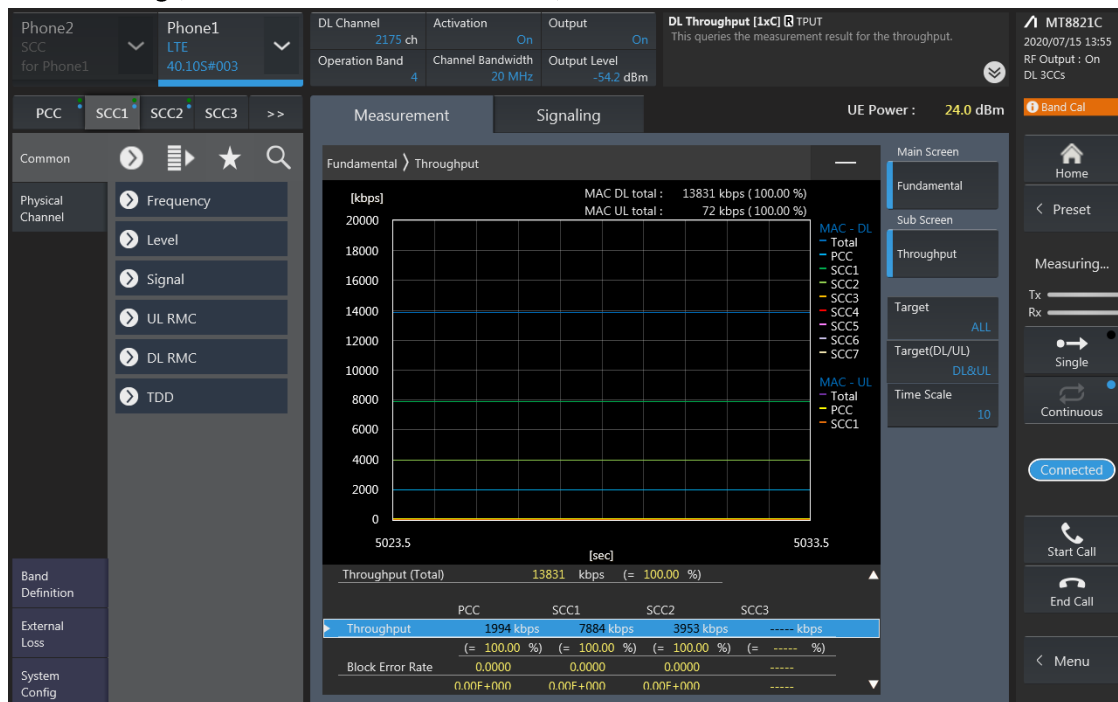
Combination	PCC									SCC				Tx Power		Deviaion (dB) (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled(dBm) (2)	
2A-2A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	2	20	700	1940	22.65	22.62	-0.03
2C	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	2	20	1058	1975.8	22.65	22.84	0.19
2A-12A(0,1,2)	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	12	10	5095	737.5	22.65	22.44	-0.21
2A-12A(0,1)	12	5	23155	713.5	5155	743.5	QPSK	1	0	2	20	900	1960	23.98	24	0.02
2A-12A(2)	12	5	23155	713.5	5155	743.5	QPSK	1	0	2	10	900	1960	23.98	24.08	0.1
2A-17A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	17	10	5790	740	22.65	22.67	0.02
2A-17A	17	10	23790	710	5790	740	QPSK	1	24	2	10	900	1960	23.81	23.84	0.03
2A-26A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	26	15	8865	876.5	22.65	22.7	0.05
2A-26A	26	5	26715	816.5	8715	861.5	QPSK	1	0	2	20	900	1960	23.84	24.06	0.22
4A-17A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	17	10	5790	740	22.7	22.47	-0.23
4A-17A	17	10	23790	710	5790	740	QPSK	1	24	4	10	2175	2132.5	23.81	23.91	0.1
5A-41A	5	10	20525	836.5	2525	881.5	QPSK	1	24	41	20	40620	2593	24.2	24.22	0.02
12A-25A	12	5	23155	713.5	5155	743.5	QPSK	1	0	25	20	8365	1962.5	23.98	24.1	0.12
12A-25A	25	20	26590	1905	8590	1985	QPSK	1	0	12	10	5095	737.5	22.64	22.75	0.11
26A-41A	26	5	26715	816.5	8715	861.5	QPSK	1	0	41	20	40620	2593	23.84	23.9	0.06
41A-41A PC3(1)	41	5	40185	2549.5	40185	2549.5	QPSK	1	24	41	20	41490	2680	24.15	24.19	0.04
41A-41A PC3(0)	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	41490	2680	24.12	24.31	0.19
41A-41A PC2(0,1)	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	39750	2506	24.51	24.6	0.09
66B	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	66	15	66554	2141.8	22.78	22.83	0.05
66C	66	5	131997	1712.5	66461	2112.5	QPSK	1	0	66	20	66578	2124.2	22.78	22.77	-0.01

## LTE Down Link 3CA Call Setup

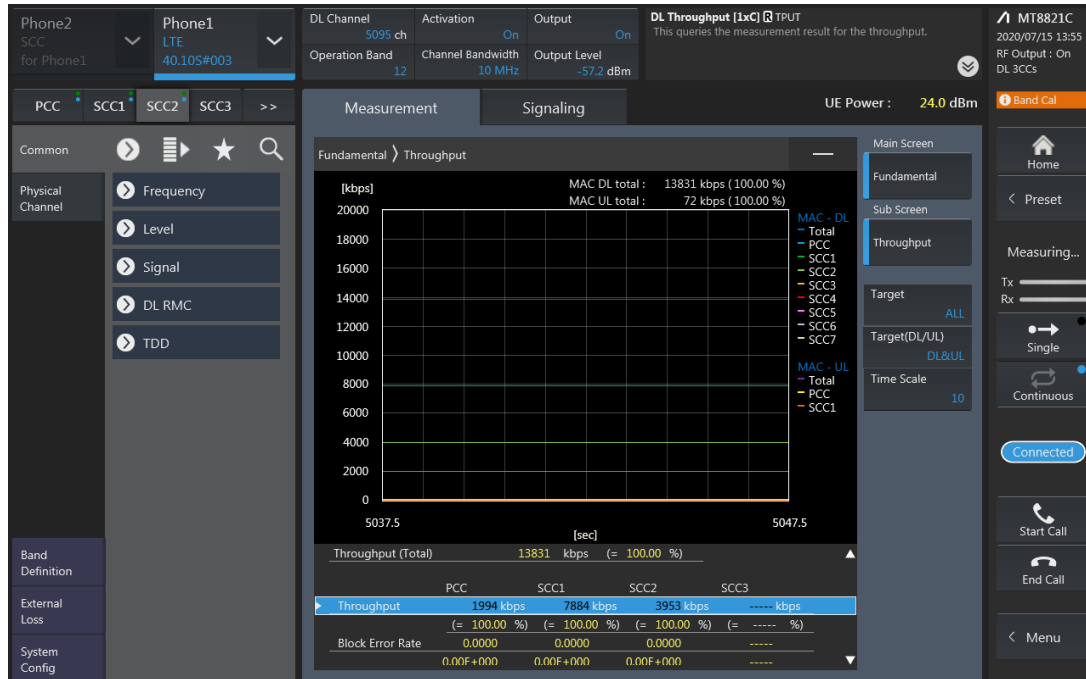
### PCC Setting (Channel/ RB/ BW/ Modulation)



### SCC1 Setting (Channel/ RB/ BW/ Modulation) and call Connection



## SCC2 Setting (Channel/ RB/ BW/ Modulation) and call Connection

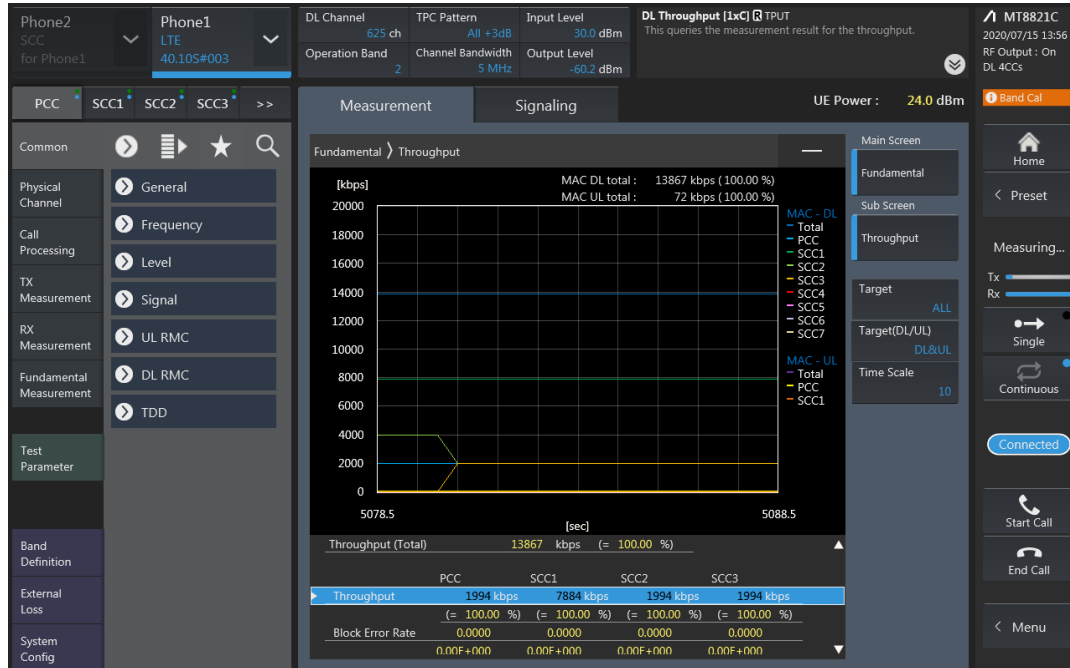


### 3CA Downlink Carrier aggregation conducted Powers

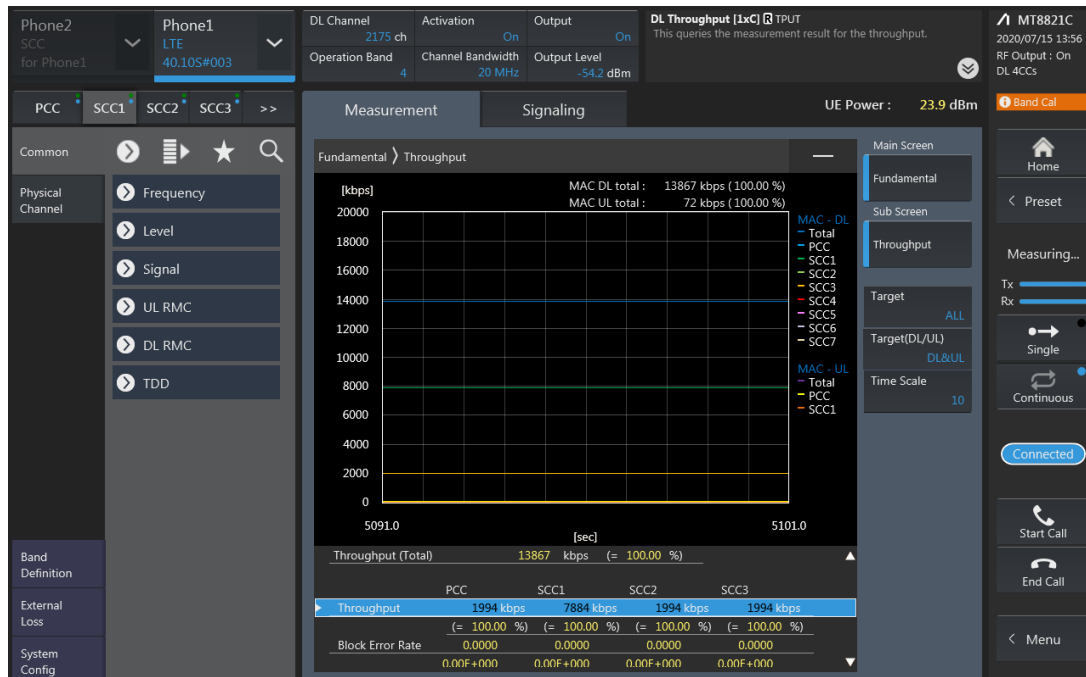
Combination	PCC									SCC				SCC				Tx Power		Deviation (dB) (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	Offset	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
2A-4A-5A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	4	20	2175	2132.5	5	10	2525	881.5	22.65	22.8	0.15
2A-4A-5A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	2	20	900	1960	5	10	2525	881.5	22.7	22.51	-0.19
2A-4A-5A	5	10	20525	836.5	2525	881.5	QPSK	1	24	2	20	900	1960	4	20	2175	2132.5	24.2	24.31	0.11
2A-4A-13A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	4	20	2175	2132.5	13	10	5230	751	22.65	22.52	-0.13
2A-4A-13A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	2	20	900	1960	13	10	5230	751	22.7	22.64	-0.06
2A-4A-13A	13	5	23205	779.5	5205	748.5	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.92	23.92	0
2A-5A-66A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	5	10	2525	881.5	66	20	66786	2145	22.65	22.58	-0.07
2A-5A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	24	2	20	900	1960	66	20	66786	2145	24.2	24.36	0.16
2A-5A-66A	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	2	20	900	1960	5	10	2525	881.5	22.78	23	0.22
2A-66A-66A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	66	20	66786	2145	66	20	67236	2190	22.65	22.57	-0.08
2A-66A-66A	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	66	20	67236	2190	2	20	900	1960	22.78	22.76	-0.02
4A-4A-5A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	4	20	2300	2145	5	10	2525	881.5	22.7	22.81	0.11
4A-4A-5A	5	10	20525	836.5	2525	881.5	QPSK	1	24	4	20	2175	2132.5	4	10	2000	2115	24.2	24.31	0.11
4A-4A-12A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	4	20	2300	2145	12	10	5095	737.5	22.7	22.52	-0.18
4A-4A-12A	12	5	23155	713.5	5155	743.5	QPSK	1	0	4	20	2175	2132.5	4	10	2000	2115	23.98	24.12	0.14
5A-66A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	24	66	20	66786	2145	66	20	67236	2190	24.2	23.98	-0.22
5A-66A-66A	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	66	20	67236	2190	5	10	2525	881.5	22.78	22.72	-0.06
12A-66A-66A	12	5	23155	713.5	5155	743.5	QPSK	1	0	66	20	66786	2145	66	20	67236	2190	23.98	23.83	-0.15
12A-66A-66A	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	66	20	67236	2190	12	10	5095	737.5	22.78	22.93	0.15
26A-41C	26	5	26715	816.5	8715	861.5	QPSK	1	0	41	20	40620	2593	41	20	40422	2573.2	23.84	24.01	0.17
41A-41C PC3(0)	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	41292	2660.2	41	20	41490	2680	24.15	24.09	-0.06
41A-41C PC3(0)	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40356	2566.6	41	20	41490	2680	24.15	24.3	0.15
41A-41C PC3(1)	41	5	40185	2549.5	40185	2549.5	QPSK	1	24	41	20	41292	2660.2	41	20	41490	2680	24.15	24	-0.15
41A-41C PC3(1)	41	5	40185	2549.5	40185	2549.5	QPSK	1	24	41	20	40302	2561.2	41	20	41490	2680	24.12	24.02	-0.1
41A-41C PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	39750	2506	41	20	39948	2525.8	24.51	24.65	0.14
41A-41C PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	39750	2506	24.51	24.43	-0.08

## LTE Down Link 4CA Call Setup

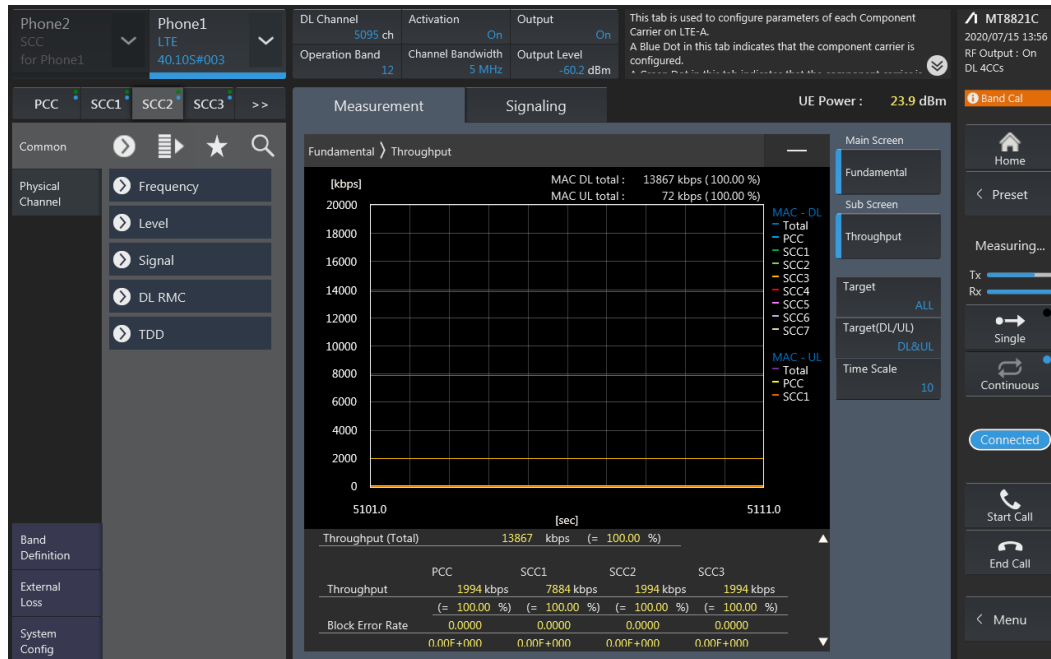
### PCC Setting (Channel/ RB/ BW/ Modulation)



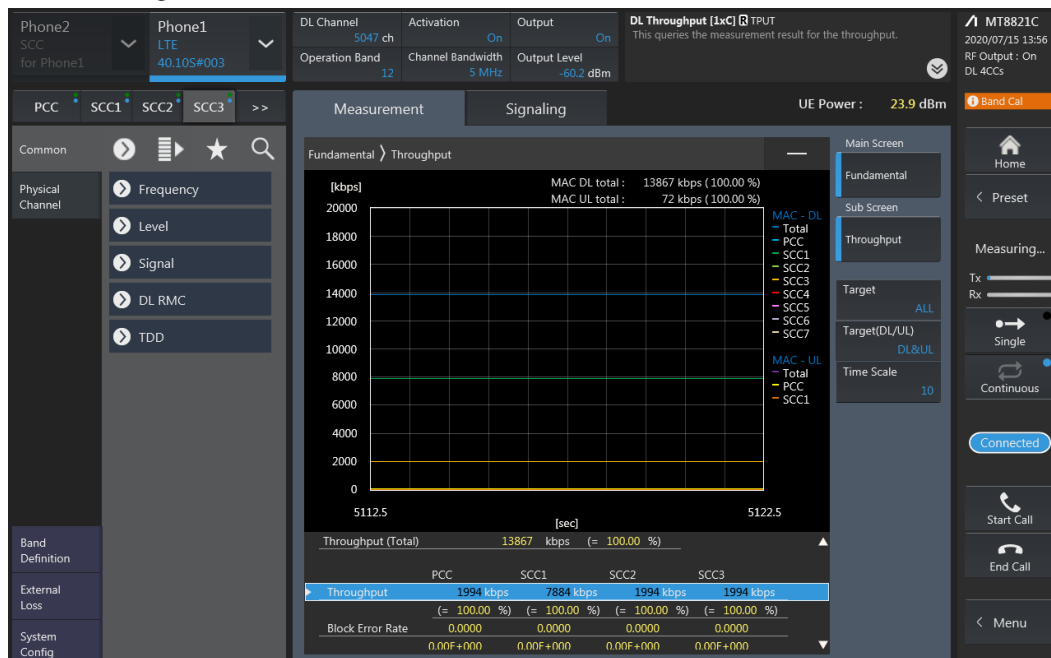
### SCC1 Setting (Channel/ RB/ BW/ Modulation) and call Connection



### SCC2 Setting (Channel/ RB/ BW/ Modulation) and call Connection



### SCC3 Setting (Channel/ RB/ BW/ Modulation) and call Connection

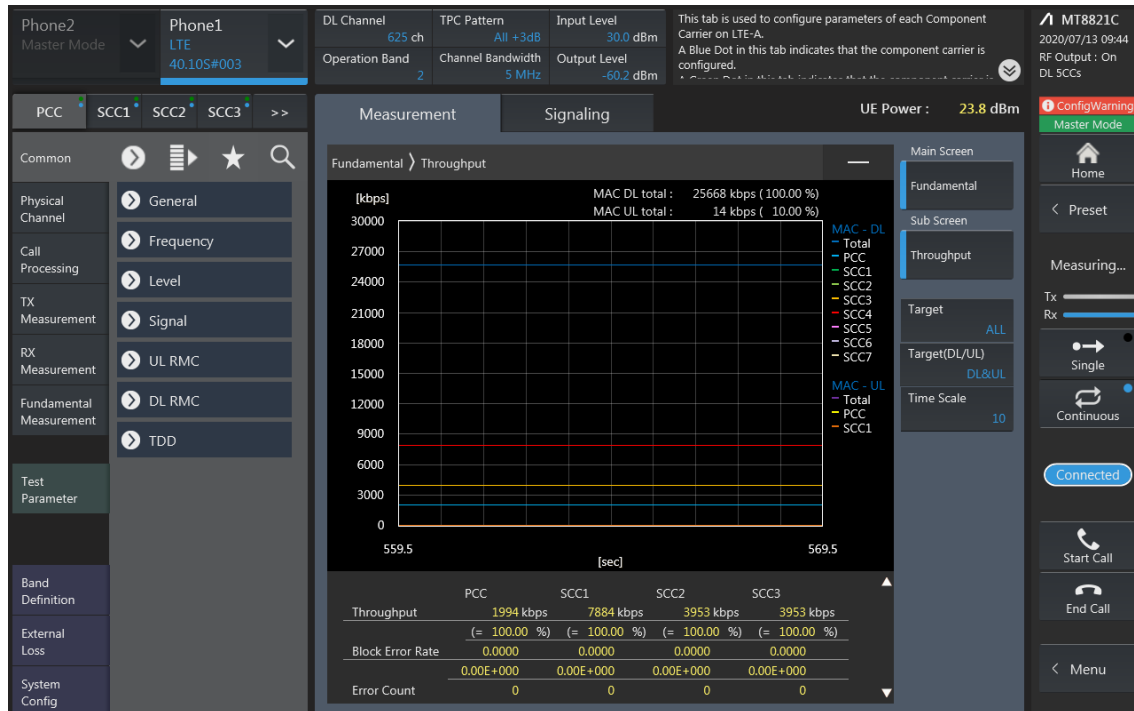


### 4CA Downlink Carrier aggregation conducted Powers

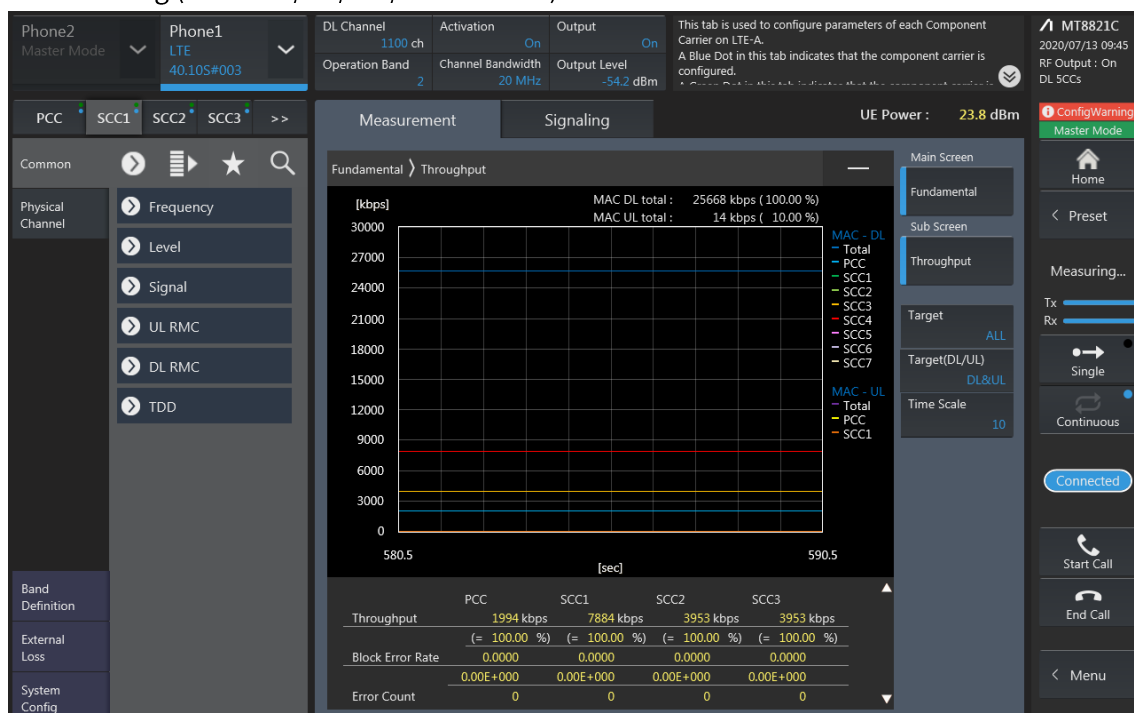
Combination	PCC									SCC				SCC				SCC				Tx Power		
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	Deviation (dB) (2)-(1)
41A-41D PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	401094	2640.4	41	20	41292	2660.2	41	20	41490	2680	24.12	24.2	0.08
41A-41D PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40014	2532.4	41	20	39816	2512.6	41	20	41490	2680	24.12	23.92	-0.2
41A-41D PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40146	2545.6	41	20	39948	2525.8	41	20	39750	2506	24.51	24.32	-0.19
41A-41D PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	40659	2596.9	41	20	39750	2506	24.51	24.41	-0.1
41C-41C PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40356	2566.6	41	20	41490	2680	41	20	41292	2660.2	24.12	24.2	0.08
41C-41C PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	39750	2506	41	20	39948	2525.8	24.51	24.63	0.12
41E PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40383	2569.3	41	20	40581	2589.1	41	20	40779	2608.9	24.12	24.32	0.2
41E PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	40659	2596.9	41	20	40461	2577.1	24.51	24.36	-0.15

## LTE Down Link 5CA Call Setup

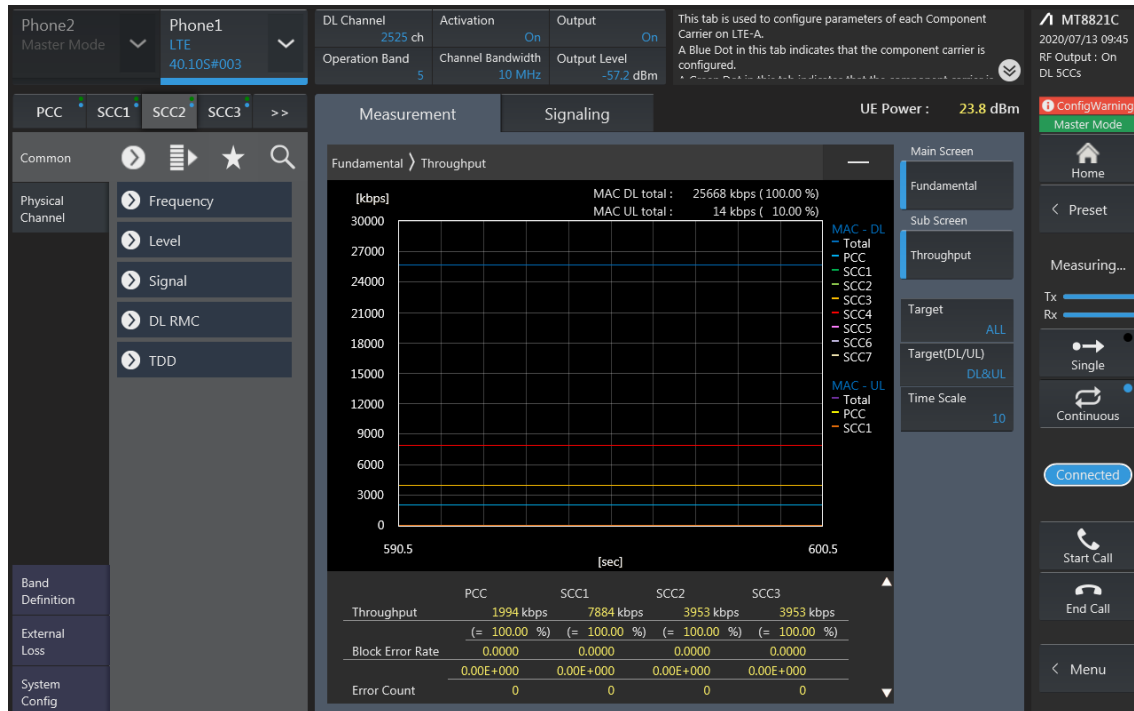
### PCC Setting: Channel /RB/BW/Modulation



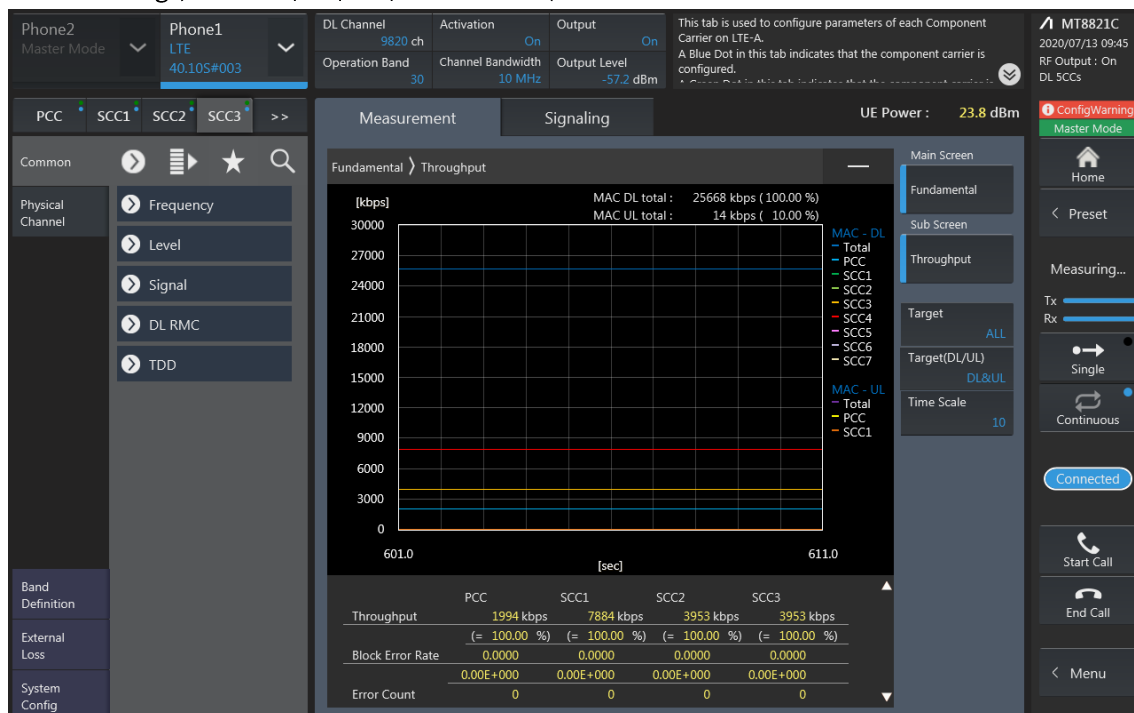
### SCC1 Setting (Channel /RB/BW/Modulation )and call Connection



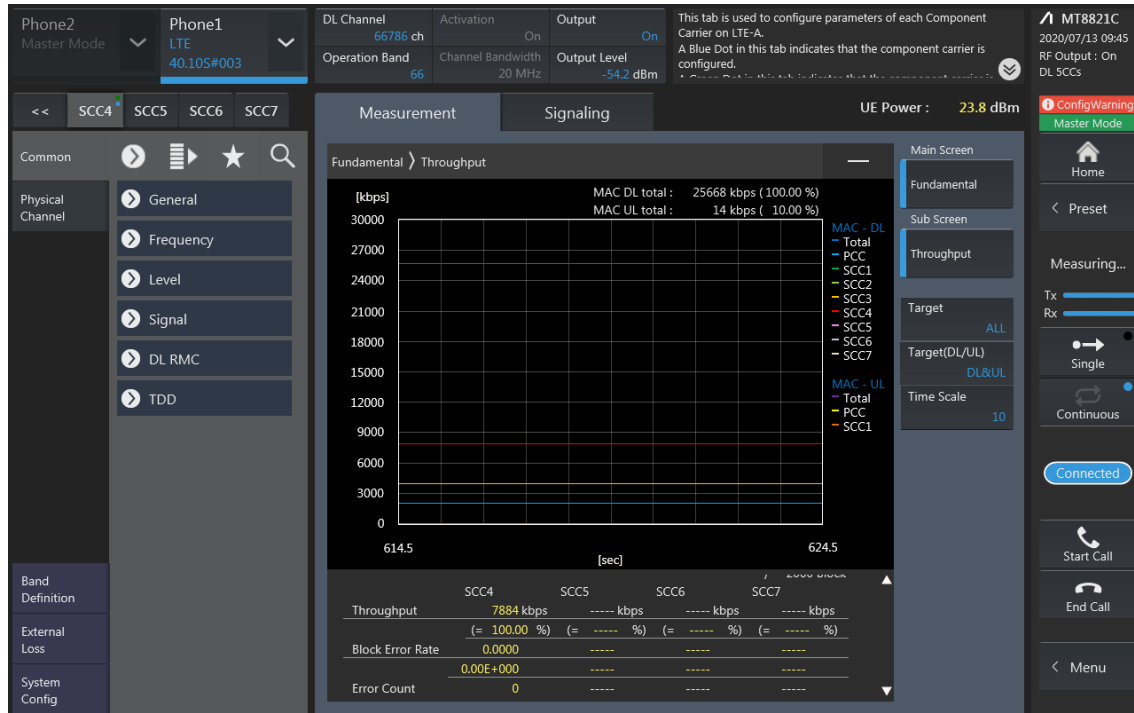
### SCC2 Setting (Channel /RB/BW/Modulation)and call Connection



### SCC3 Setting (Channel /RB/BW/Modulation )and call Connection



## SCC4 Setting (Channel /RB/BW/Modulation )and call Connection

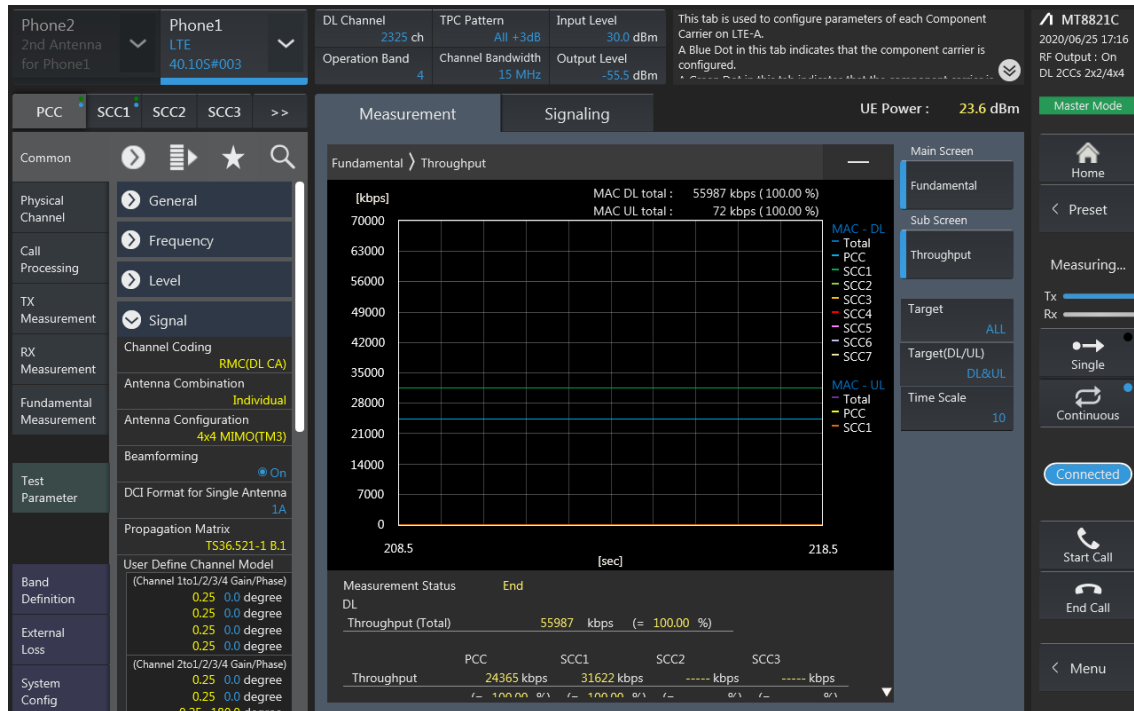


### 5CA Downlink Carrier aggregation Maximum conducted Powers

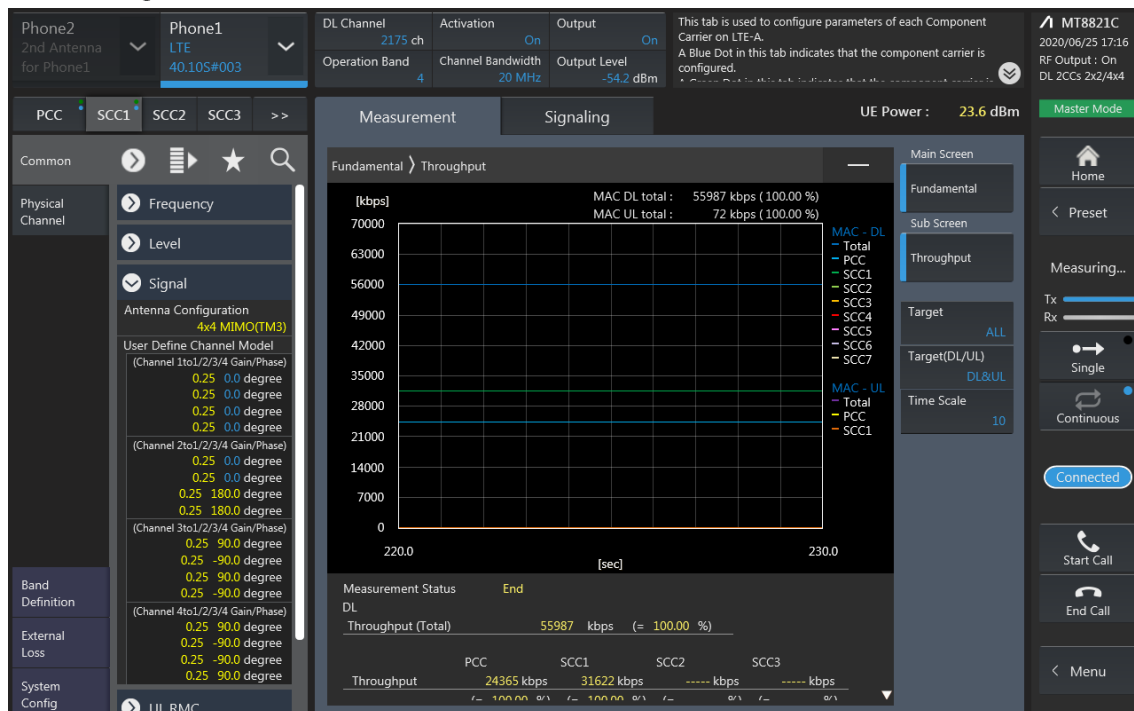
Combination	PCC									SCC			SCC			SCC			SCC			Tx Power		Deviation (dB) (2)-(1)				
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW		SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)
41C-41D PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40356	2566.6	41	20	41490	2680	41	20	41292	2660.2	41	20	41094	2640.4	24.12	23.97	-0.15
41C-41D PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40356	2566.6	41	20	40554	2586.4	41	20	41292	2660.2	41	20	41490	2680	24.12	24.15	0.03
41C-41D PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	39750	2506	41	20	39948	2525.8	41	20	40146	2545.6	23.74	23.64	-0.1
41C-41D PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	40659	2596.9	41	20	39750	2506	41	20	39948	2525.8	23.74	23.75	0.01

## LTE Down Link 2CA 4x4 MIMO Call Setup

### PCC Setting : Channel/ RB/ BW/ Modulation



### SCC Setting : Channel/ RB/ BW/ Modulation and call Connection

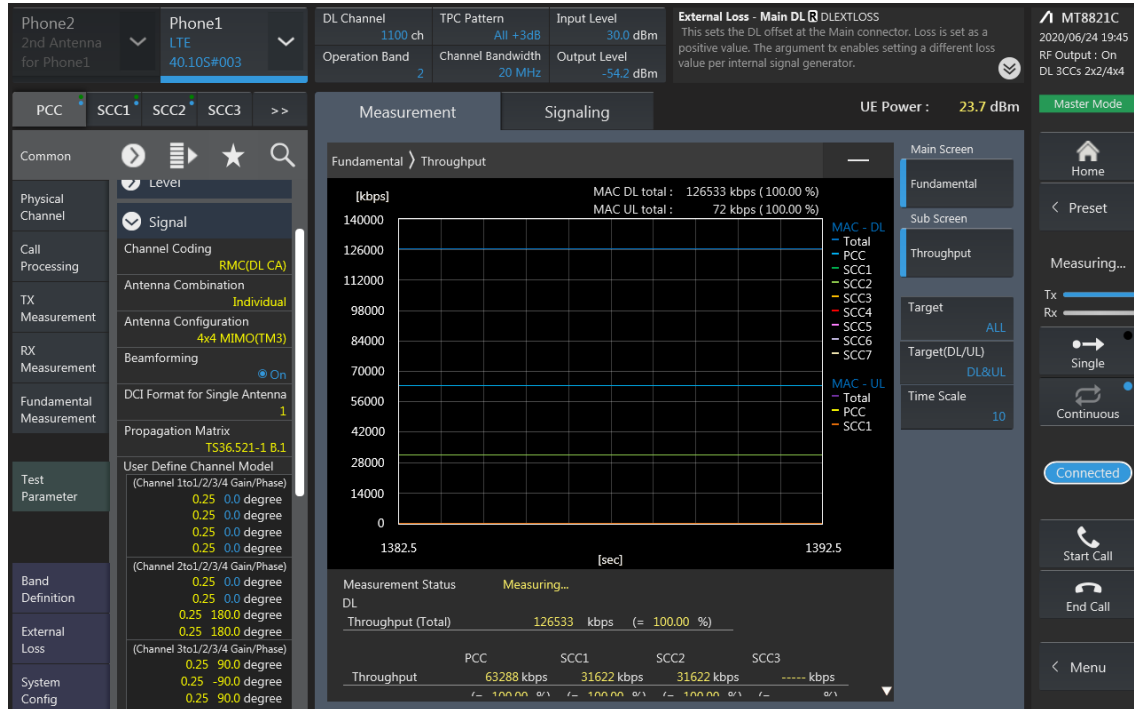


### LTE Downlink 2CA 4X4 MIMO Maximum Conducted Power

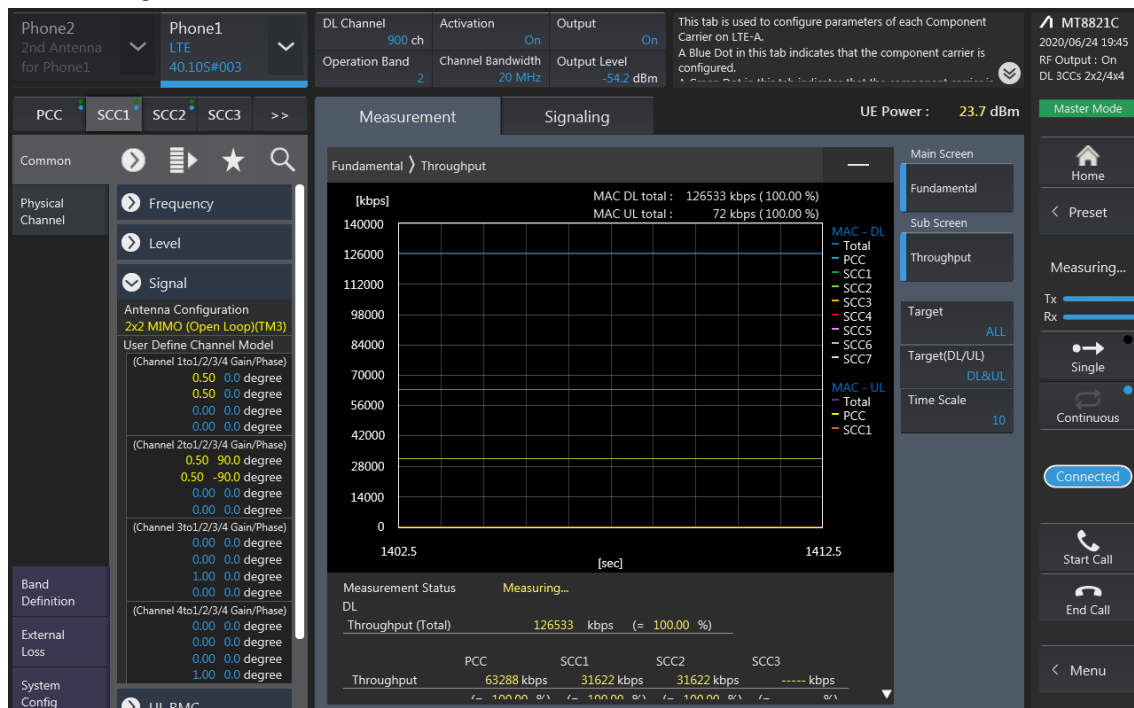
Combination	PCC									SCC				Tx Power		Deviation (dB) (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
[4A]-17A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	17	10	5790	740	22.7	22.65	-0.05
[4A]-17A	17	10	23790	710	5790	740	QPSK	1	24	4	10	2175	2132.5	23.81	23.72	-0.09
5A-[41A]	5	10	20525	836.5	2525	881.5	QPSK	1	24	41	20	40620	2593	24.2	24.16	-0.04
26A-[41A]	26	5	26715	816.5	8715	861.5	QPSK	1	0	41	20	40620	2593	23.84	23.97	0.13
[41A]-[41A] PC3(1)	41	5	40185	2549.5	40185	2549.5	QPSK	1	24	41	20	41490	2680	24.15	24.35	0.2
[41A]-[41A] PC3(0)	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	41490	2680	24.12	24.08	-0.04
[41A]-[41A] PC2(0,1)	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	39750	2506	24.51	24.5	-0.01

## LTE Down Link 3CA 4x4 MIMO Call Setup

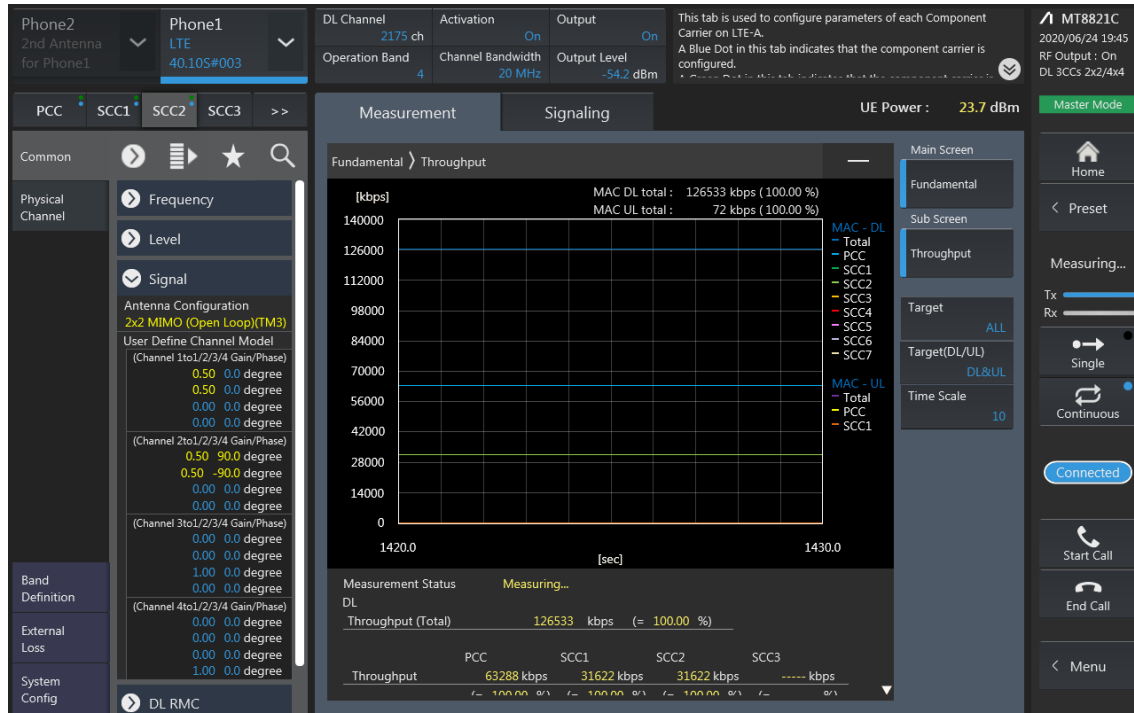
### PCC Setting: Channel /RB/BW/Modulation



### CC1 Setting : Channel /RB/BW/Modulation



## SCC2 Setting (Channel /RB/BW/Modulation )and call Connection

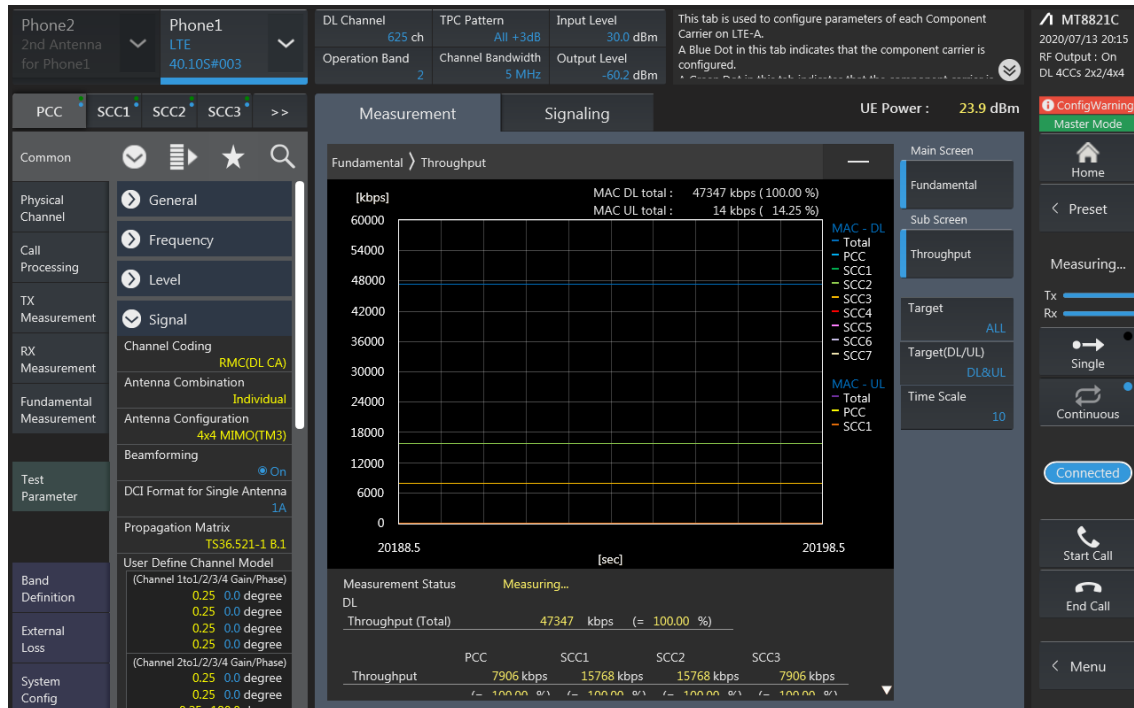


### LTE Downlink 3CA 4X4 MIMO Maximum Conducted Power

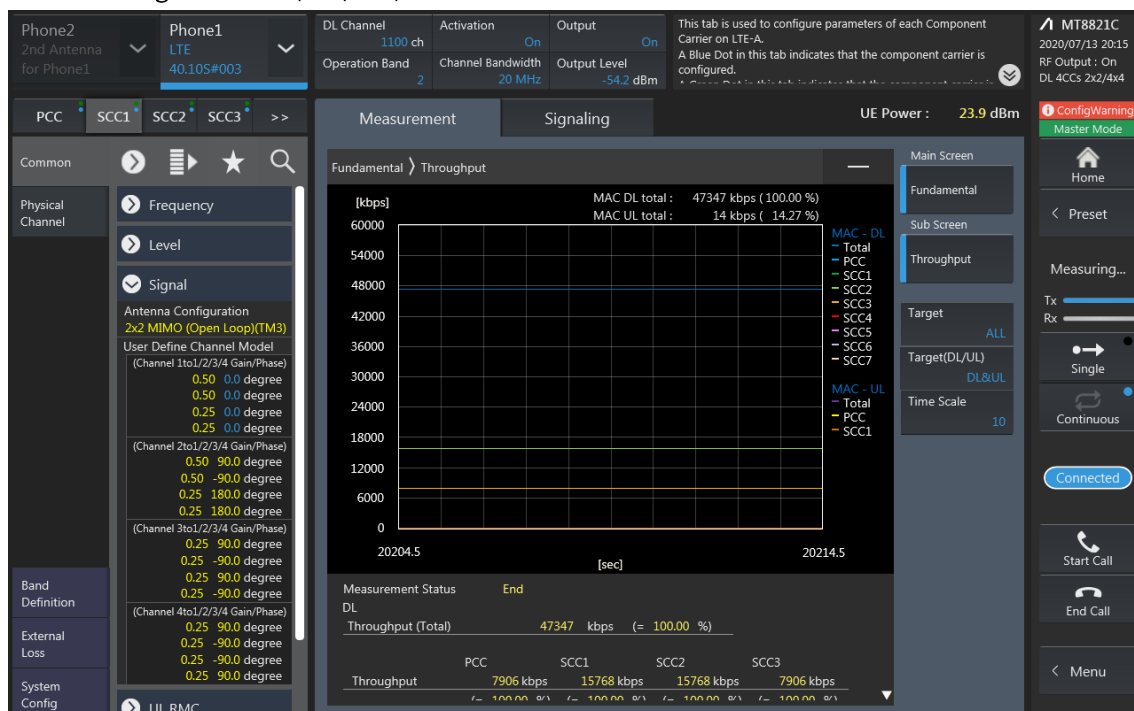
Combination	PCC									SCC				SCC				Tx Power		Deviation (dB) (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	Offset	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
2A-[4A]-5A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	4	20	2175	2132.5	5	10	2525	881.5	22.65	22.61	-0.04
2A-[4A]-5A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	2	20	900	1960	5	10	2525	881.5	22.7	22.74	0.04
2A-[4A]-5A	5	10	20525	836.5	2525	881.5	QPSK	1	24	2	20	900	1960	4	20	2175	2132.5	24.2	24.16	-0.04
2A-[4A]-13A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	4	20	2175	2132.5	13	10	5230	751	22.65	22.58	-0.07
2A-[4A]-13A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	2	20	900	1960	13	10	5230	751	22.7	22.71	0.01
2A-[4A]-13A	13	5	23205	779.5	5205	748.5	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.92	23.98	0.06
2A-5A-[66A]	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	5	10	2525	881.5	66	20	66786	2145	22.65	22.7	0.05
2A-5A-[66A]	5	10	20525	836.5	2525	881.5	QPSK	1	24	2	20	900	1960	66	20	66786	2145	24.2	24.41	0.21
2A-5A-[66A]	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	2	20	900	1960	5	10	2525	881.5	22.78	22.9	0.12
2A-[66A]-[66A]	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	66	20	66786	2145	66	20	67236	2190	22.65	22.54	-0.11
2A-[66A]-[66A]	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	66	20	67236	2190	2	20	900	1960	22.78	22.69	-0.09
[4A]-[4A]-5A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	4	20	2300	2145	5	10	2525	881.5	22.7	22.69	-0.01
[4A]-[4A]-5A	5	10	20525	836.5	2525	881.5	QPSK	1	24	4	20	2175	2132.5	4	10	2000	2115	24.2	24.11	-0.09
[4A]-[4A]-12A	4	5	19975	1712.5	1975	2112.5	QPSK	1	24	4	20	2300	2145	12	10	5095	737.5	22.7	22.78	0.08
[4A]-[4A]-12A	12	5	23155	713.5	5155	743.5	QPSK	1	0	4	20	2175	2132.5	4	10	2000	2115	23.98	24.18	0.2
5A-[66A]-[66A]	5	10	20525	836.5	2525	881.5	QPSK	1	24	66	20	66786	2145	66	20	67236	2190	24.2	24.41	0.21
5A-[66A]-[66A]	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	66	20	67236	2190	5	10	2525	881.5	22.78	22.75	-0.03
12A-[66A]-[66A]	12	5	23155	713.5	5155	743.5	QPSK	1	0	66	20	66786	2145	66	20	67236	2190	23.98	24.09	0.11
12A-[66A]-[66A]	66	5	131997	1712.5	66461	2132.5	QPSK	1	0	66	20	67236	2190	12	10	5095	737.5	22.78	22.95	0.17
26A-[41C]	26	5	26715	816.5	8715	861.5	QPSK	1	0	41	20	40620	2593	41	20	40422	2573.2	23.84	24	0.16
[41A]-[41C] PC3(0)	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	41292	2660.2	41	20	41490	2680	24.15	24.22	0.07
[41A]-[41C] PC3(0)	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40356	2566.6	41	20	41490	2680	24.15	24.26	0.11
[41A]-[41C] PC3(1)	41	5	40185	2549.5	40185	2549.5	QPSK	1	24	41	20	41292	2660.2	41	20	41490	2680	24.15	24.24	0.09
[41A]-[41C] PC3(1)	41	5	40185	2549.5	40185	2549.5	QPSK	1	24	41	20	40302	2561.2	41	20	41490	2680	24.12	24.18	0.06
[41A]-[41C] PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	39750	2506	41	20	39948	2525.8	24.51	24.65	0.14
[41A]-[41C] PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	39750	2506	24.51	24.67	0.16

## LTE Down Link 4CA 4x4 MIMO Call Setup

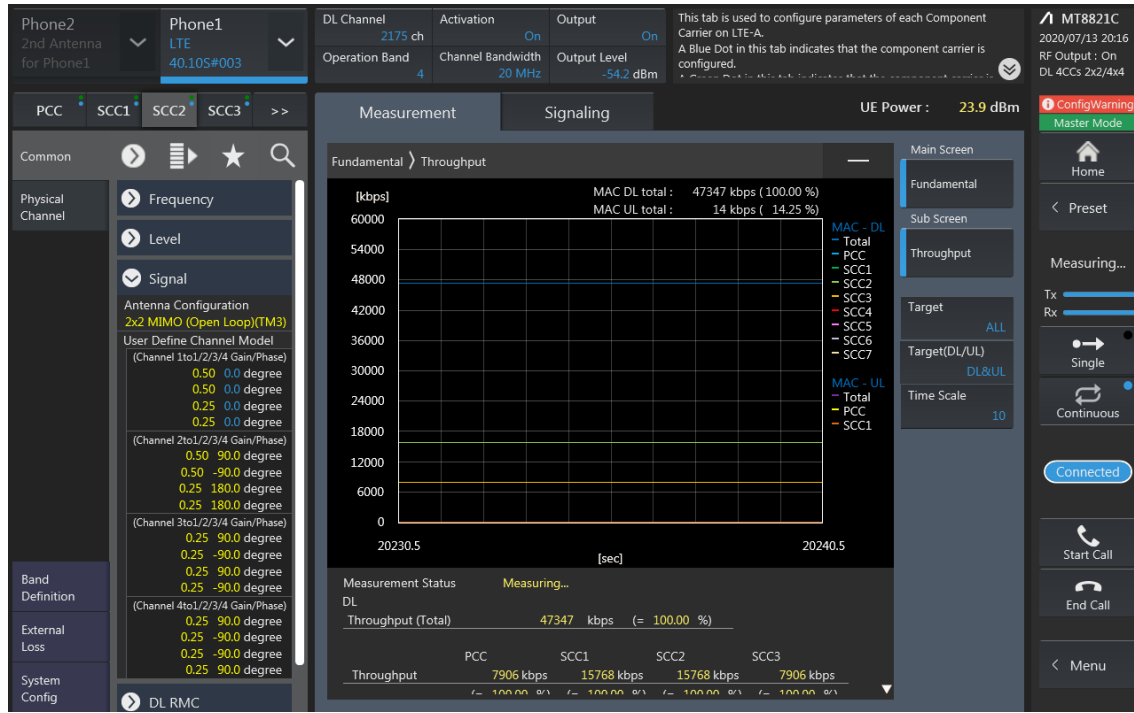
### PCC Setting: Channel /RB/BW/Modulation



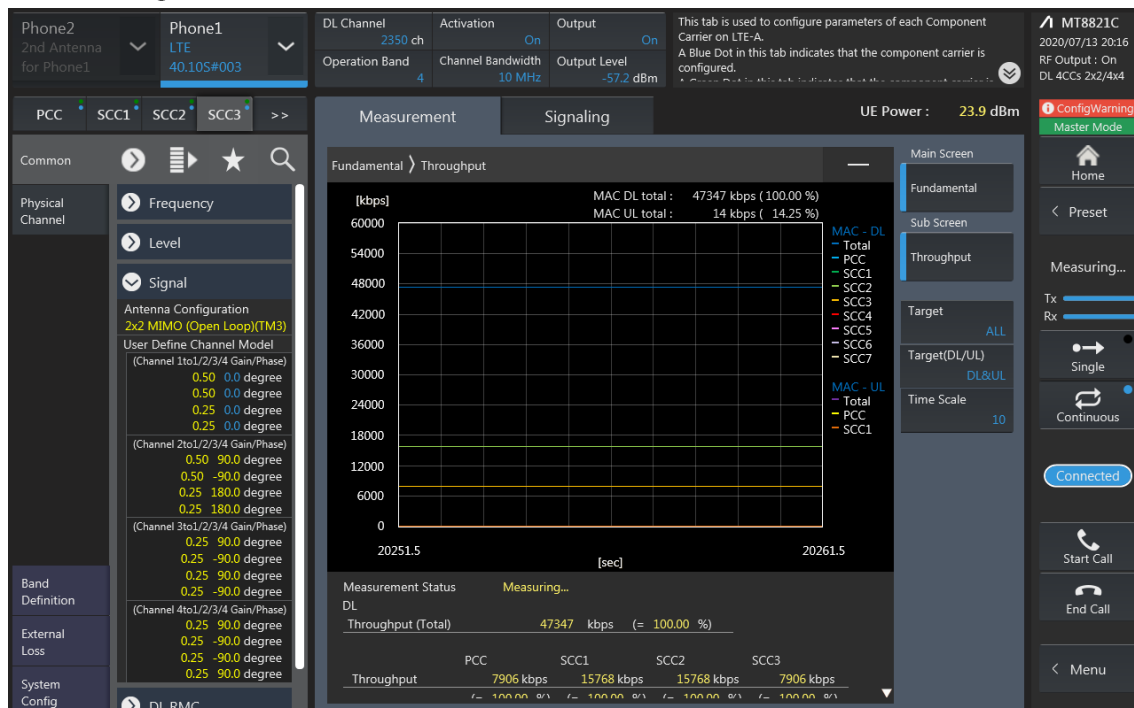
### SCC1 Setting : Channel /RB/BW/Modulation



### SCC2 Setting (Channel /RB/BW/Modulation ) and call Connection



### SCC3 Setting (Channel /RB/BW/Modulation ) and call Connection



### LTE Downlink 4CA 4X4 MIMO Maximum Conducted Power

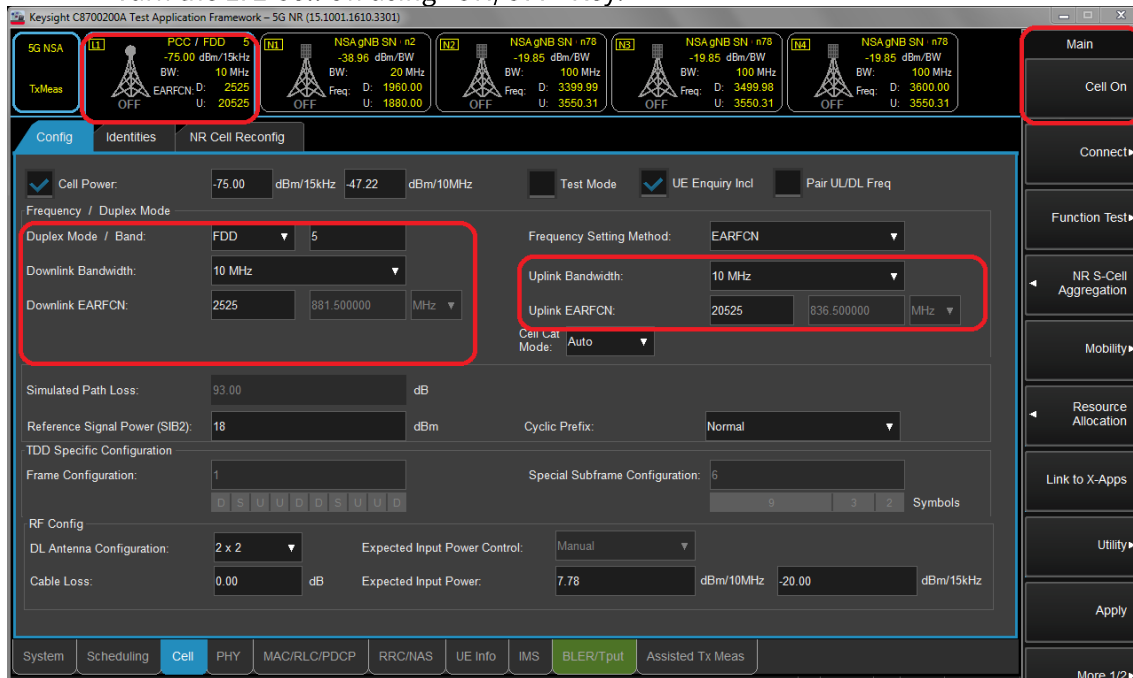
Combination	PCC									SCC				SCC				SCC				Tx Power		Deviation (dB) (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
[41A]-[41D] PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	41094	2640.4	41	20	41292	2660.2	41	20	41490	2680	24.12	24.17	0.05
[41A]-[41D] PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40014	2532.4	41	20	39816	2512.6	41	20	41490	2680	24.12	23.98	-0.14
[41A]-[41D] PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40146	2545.6	41	20	39948	2525.8	41	20	39750	2506	24.51	24.37	-0.14
[41A]-[41D] PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	40659	2596.9	41	20	39750	2506	24.51	24.37	-0.14
[41C]-[41C] PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40356	2566.6	41	20	41490	2680	41	20	41292	2660.2	24.12	23.91	-0.21
[41C]-[41C] PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	39750	2506	41	20	39948	2525.8	24.51	24.63	0.12
[41E] PC3	41	15	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40356	2566.6	41	20	40581	2589.1	41	20	40779	2608.9	24.12	24.23	0.11
[41E] PC2	41	20	41055	2636.5	41055	2636.5	QPSK	1	0	41	20	40857	2616.7	41	20	40659	2596.9	41	20	40461	2577.1	24.51	24.59	0.08

## 2. 5G NR Call Box Setup

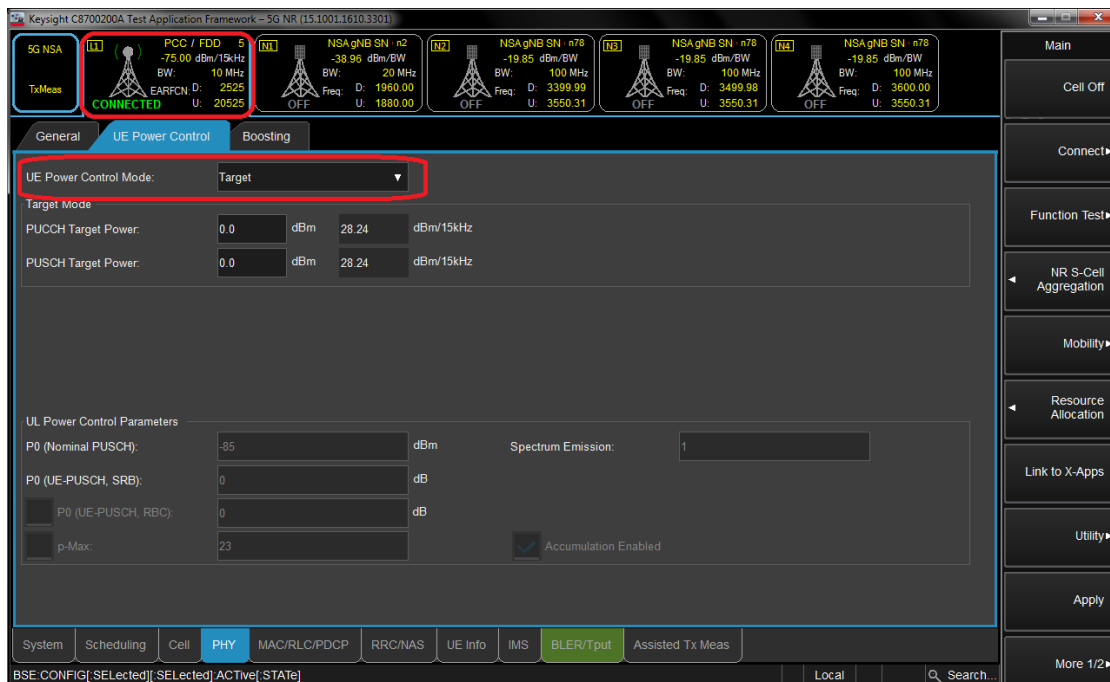
Procedure used to establish output Power measurement for NR Bands

Select operating band, BW and Channel.

- Click Cell on button in the right of Test application screen.
- Turn the LTE Cell On using “ON/OFF” Key.

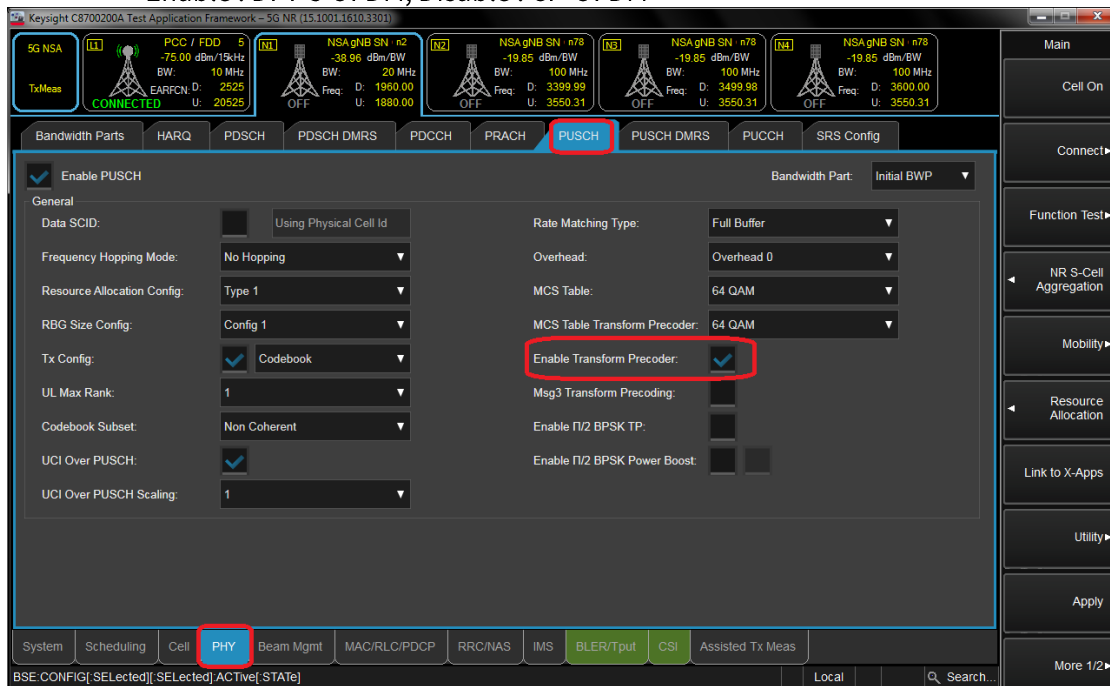


- Turn the Airplane Mode On and then turn the Airplane mode off.
- Select All down bits for UL Power control Mode in LTE.

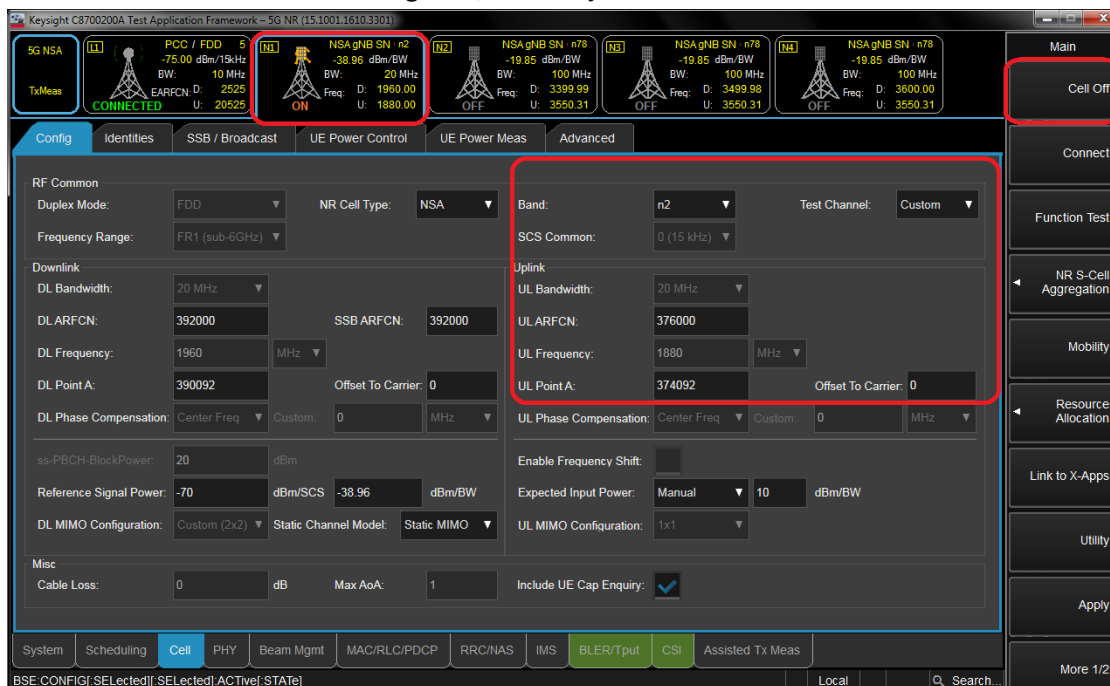


## Setup for NR Band

- Select waveform for Setting NR Band (PHY->PUSCH->Enable Transform Precoder)  
- Enable : DFT-s-OFDM, Disable : CP-OFDM

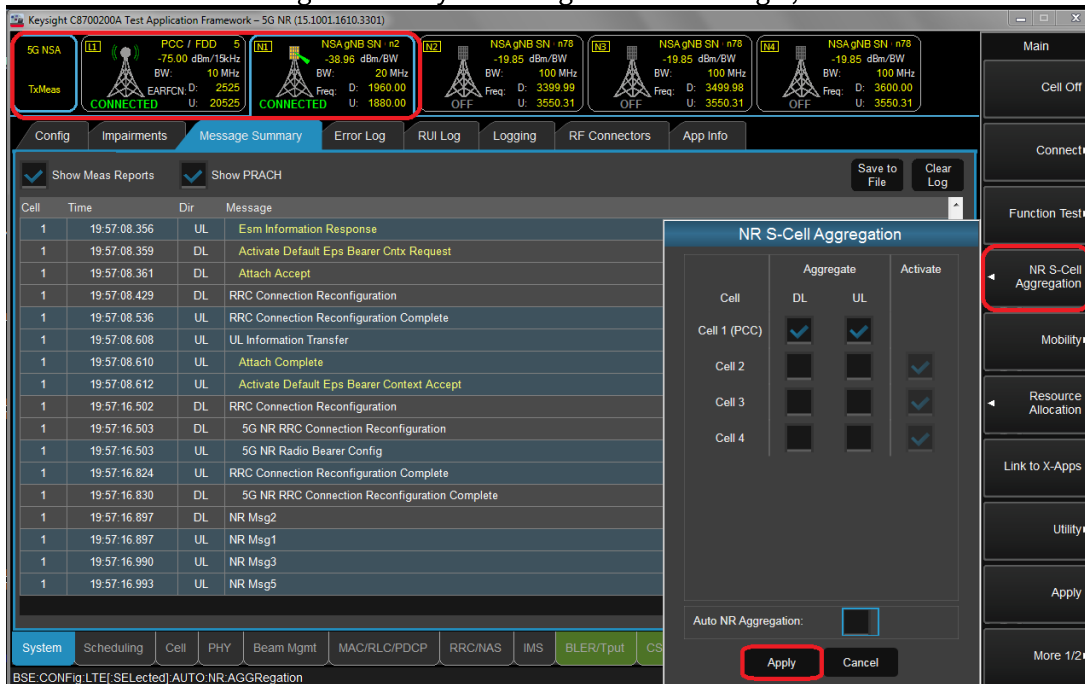


- Select operating band, BW, SCS and Channel.
- Turn the NR Cell On using “ON/OFF” Key.



### Connect NR S-Cell Aggregation

- Click NR S-Cell Aggregation
- Check the Cell 1's DL and UL box(PCC) and then Click Apply.
- Check the message summary If message shows NR Msg 5, It is connected.



Keysight C8700200A Test Application Framework - 5G NR (15.1001.1610.3301)

5G NSA (PCC/FDD) 5 NSA gNB SN #2 NSA gNB SN #78 NSA gNB SN #78 NSA gNB SN #78

TxMeas CONNECTED CONNECTED OFF OFF OFF OFF

Config Impairments Message Summary Error Log RUI Log Logging RF Connectors App Info

Show Meas Reports Show PRACH Save to File Clear Log

Cell	Time	Dir	Message
1	19:57:08.356	UL	Esm Information Response
1	19:57:08.359	DL	Activate Default Eps Bearer Context Request
1	19:57:08.361	DL	Attach Accept
1	19:57:08.429	DL	RRC Connection Reconfiguration
1	19:57:08.536	UL	RRC Connection Reconfiguration Complete
1	19:57:08.608	UL	UL Information Transfer
1	19:57:08.610	UL	Attach Complete
1	19:57:08.612	UL	Activate Default Eps Bearer Context Accept
1	19:57:16.502	DL	RRC Connection Reconfiguration
1	19:57:16.503	DL	5G NR RRC Connection Reconfiguration
1	19:57:16.503	UL	5G NR Radio Bearer Config
1	19:57:16.824	UL	RRC Connection Reconfiguration Complete
1	19:57:16.830	DL	5G NR RRC Connection Reconfiguration Complete
1	19:57:16.897	DL	NR Msg2
1	19:57:16.897	UL	NR Msg1
1	19:57:16.990	UL	NR Msg3
1	19:57:16.993	UL	NR Msg5

NR S-Cell Aggregation

Cell	DL	UL	Activate
Cell 1 (PCC)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cell 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cell 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cell 4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Auto NR Aggregation: ☐

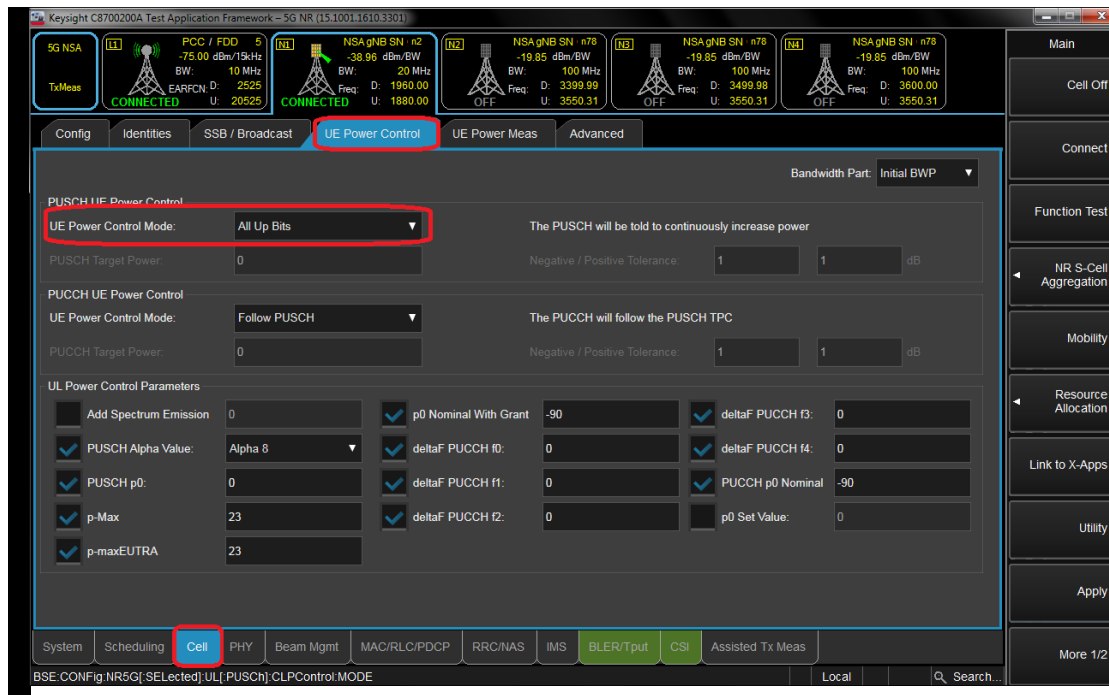
Apply Cancel

System Scheduling Cell PHY Beam Mgmt MAC/RLC/PDCP RRC/NAS IMS BLER/Tput CS

BSE CONFIG LTE[Selected] AUTO NR AGGREGATION

### Max Power setting

- Click "Cell" in the bottom of screen.
- Click "UE Power control" then change UE Power control mode to All Up bits.



Selecting Start RB/Count/MCS

- Select the each test configuring (Start RB, Count, MCS).



View Tx Power

- Click "Link to X-Apps." (Please refer to Figure-7)
- Select "Channel Power".

