

Appendix H. – DL CA Power Measurement

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:

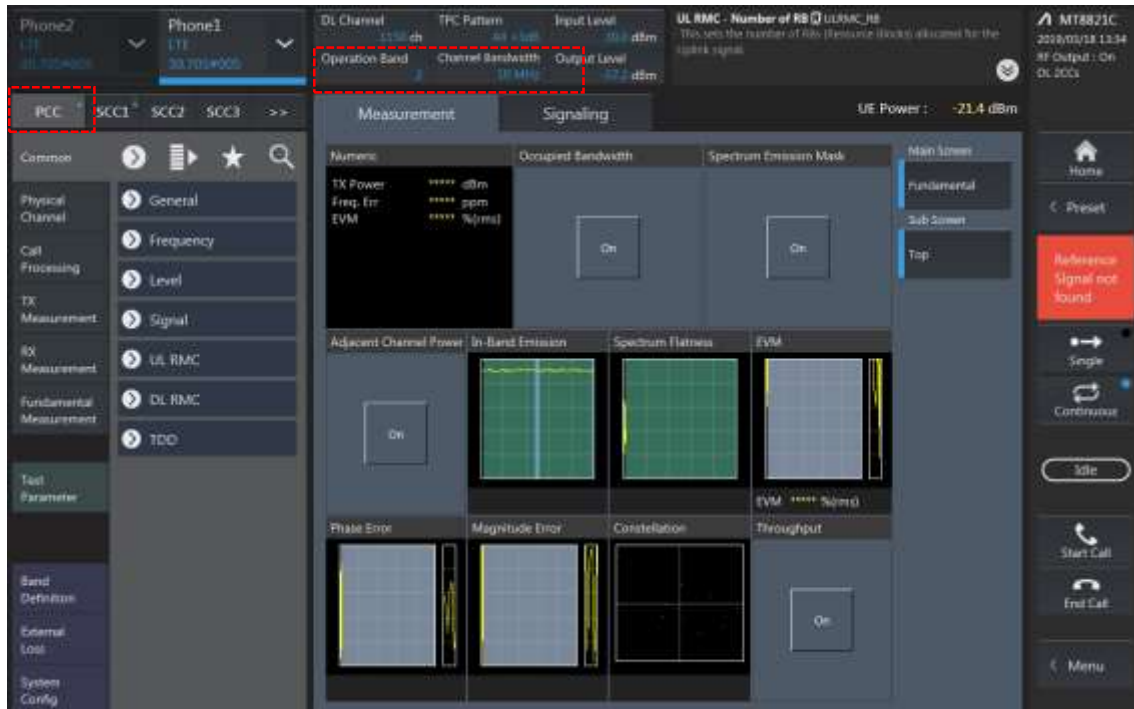
1. This device only supports downlink carrier aggregation. For every supported combination of downlink carrier aggregation, power measurements were performed with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation 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.



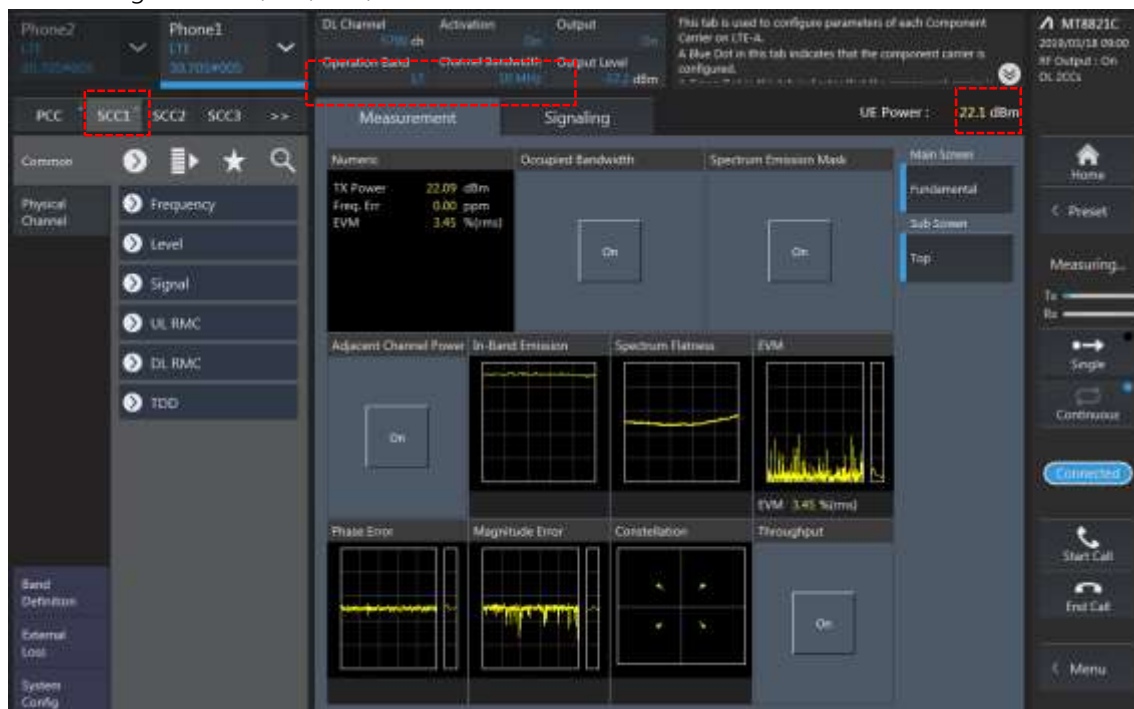
Power Measurement setup

LTE Down Link 2CA Call Setup

PCC Setting : Channel/ RB/ BW/ Modulation



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

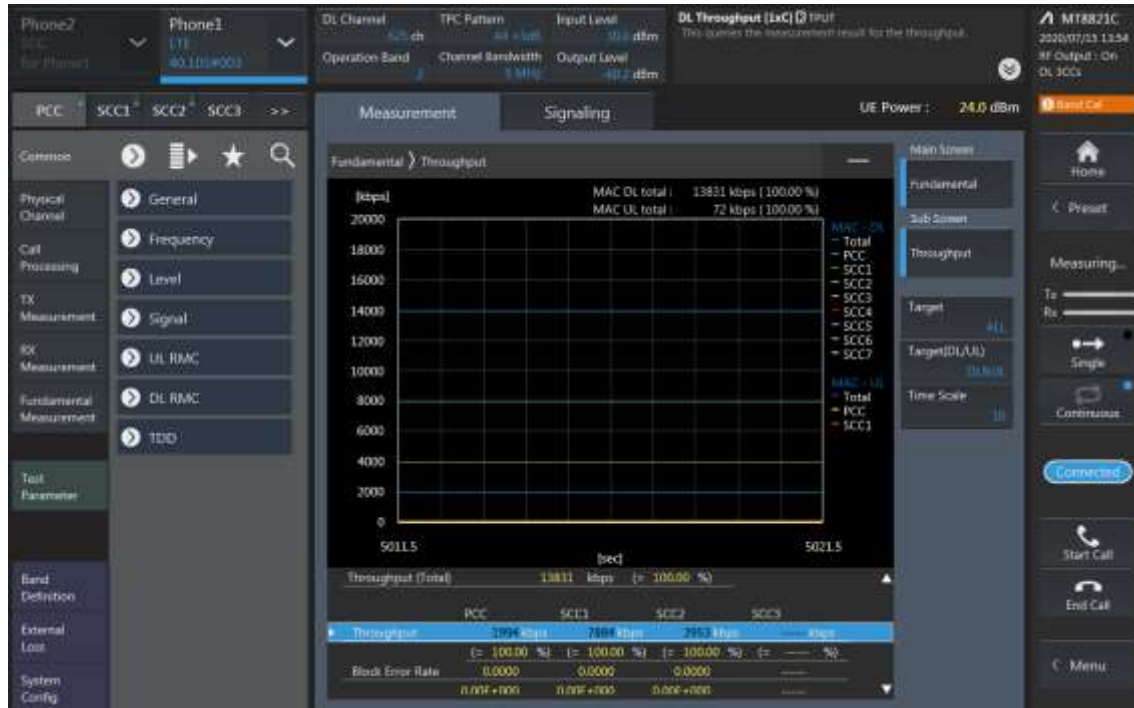


2CA Downlink Carrier aggregation Maximum conducted Powers

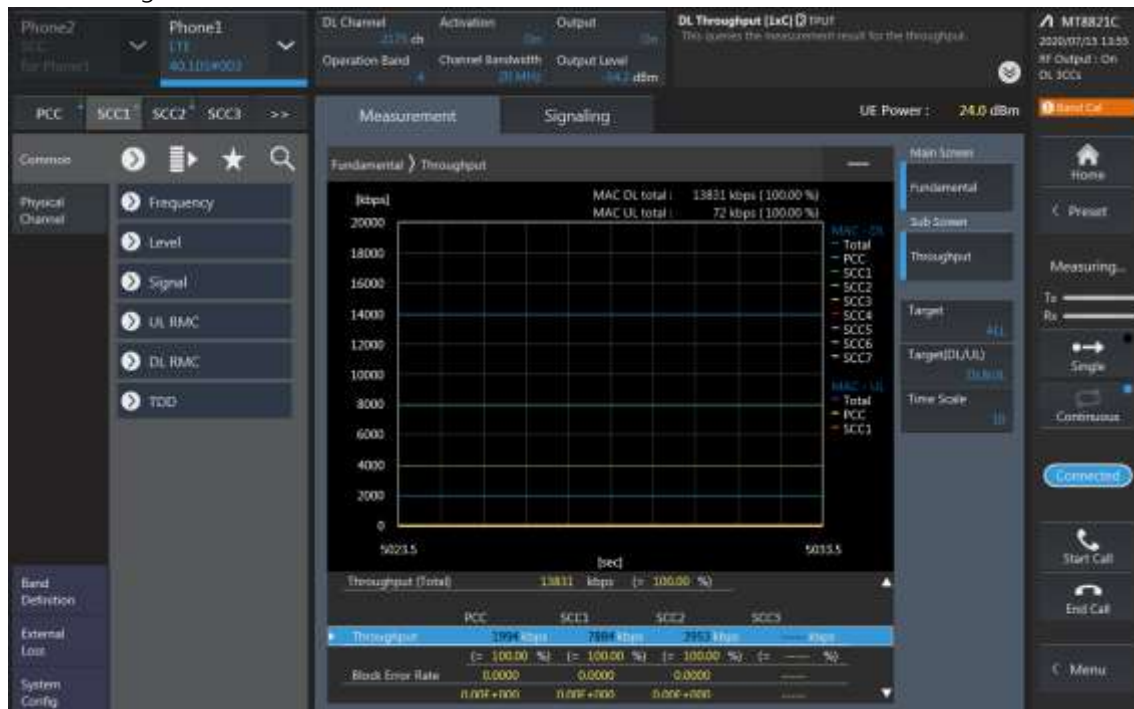
Combination	PCC									SCC				Tx Power		Delta (2)-(1)
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modul ation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
38C	38	20	37850	2580	37850	2580	QPSK	1	0	38	20	38048	2602.5	23.64	23.60	-0.04
2A-14A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	14	10	5330	763	23.41	23.44	0.03
2A-14A	14	10	23330	793	5330	763	QPSK	1	0	2	20	900	1960	23.78	23.71	-0.07
2A-17A	2	10	19150	1905	1150	1985	QPSK	1	0	17	10	5790	740	23.30	23.41	0.11
2A-17A	17	5	23790	710	5790	740	QPSK	1	0	2	10	900	1960	23.74	23.71	-0.03
4A-17A	4	10	20000	1715	2000	2115	QPSK	1	0	17	10	5790	740	23.24	23.38	0.14
4A-17A	17	5	23790	710	5790	740	QPSK	1	0	4	10	2175	2132.5	23.74	23.72	-0.02
5A-25A	5	5	20625	846.5	2625	891.5	QPSK	1	12	25	20	8590	1985	23.44	23.54	0.10
5A-25A	25	15	26615	1907.5	8615	1987.5	QPSK	1	74	5	10	2525	881.5	23.08	23.26	0.18
5A-38A	5	5	20625	846.5	2625	891.5	QPSK	1	0	38	20	38000	2595	23.44	23.54	0.10
5A-41A	5	5	20625	846.5	2625	891.5	QPSK	1	0	41	20	40620	2593	23.44	23.55	0.11
7A-42A	7	20	20850	2510	2850	2630	QPSK	1	0	42	20	43340	3575	23.21	23.38	0.17
12A-25A	12	10	23095	707.5	5095	727.5	QPSK	1	0	25	20	8590	1985	23.62	23.66	0.04
12A-25A	25	15	26615	1907.5	8615	1987.5	QPSK	1	74	12	10	2095	737.5	23.08	23.21	0.13
12A-46A	12	10	23095	707.5	5095	727.5	QPSK	1	0	46	20	50690	5540	23.62	23.60	-0.02
25A-41A	25	15	26615	1907.5	8615	1987.5	QPSK	1	74	41	20	40620	2593	23.08	23.21	0.13
26A-41A	26	15	26865	831.5	8865	876.5	QPSK	1	0	41	20	40620	2593	23.55	23.70	0.15
26A-46A	26	15	26865	831.5	8865	876.5	QPSK	1	0	46	20	50690	5540	23.55	23.42	-0.13
41A-41A(0,1)	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	41490	2680	23.94	23.92	-0.02
41A-42A	41	20	39750	2506	39750	2506	QPSK	1	0	42	20	43340	3575	23.94	23.91	-0.03
41A-42A	42	20	43340	3575	43340	3575	QPSK	1	0	41	20	40620	2593	18.42	18.43	0.01
42A-42A(0,1)	42	20	43490	3590	43490	3590	QPSK	1	0	42	20	41690	3410	18.24	18.26	0.02

LTE Down Link 3CA Call Setup

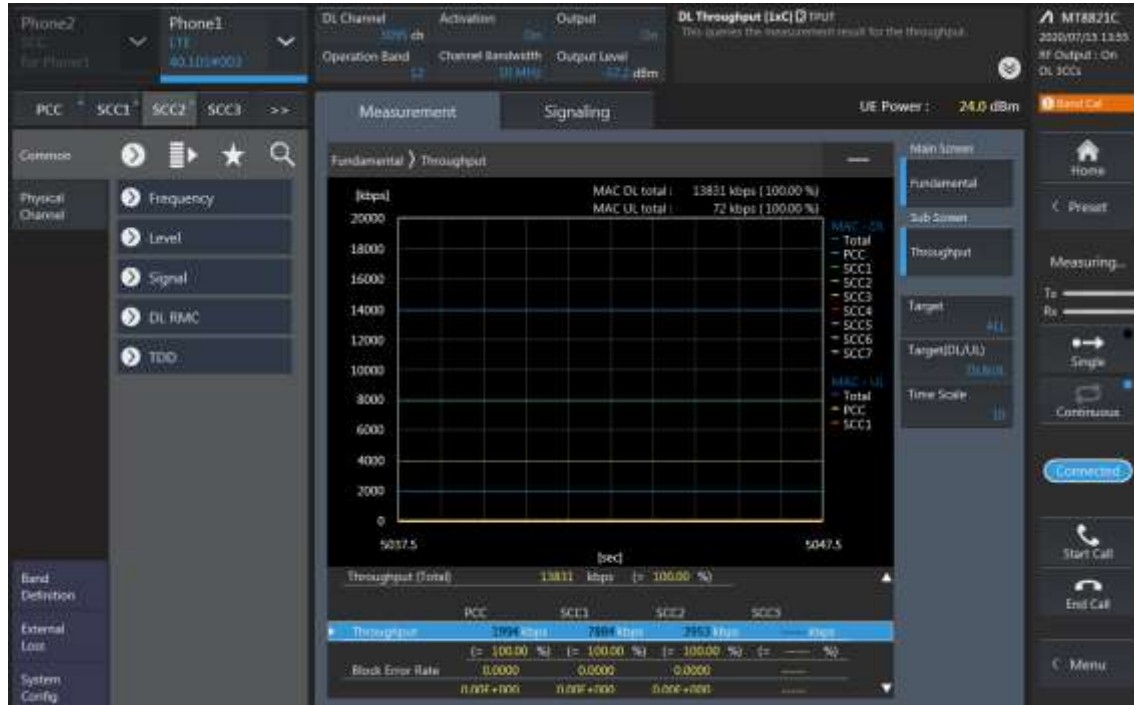
PCC Setting: Channel /RB/BW/Modulation



SCC1 Setting : Channel /RB/BW/Modulation



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



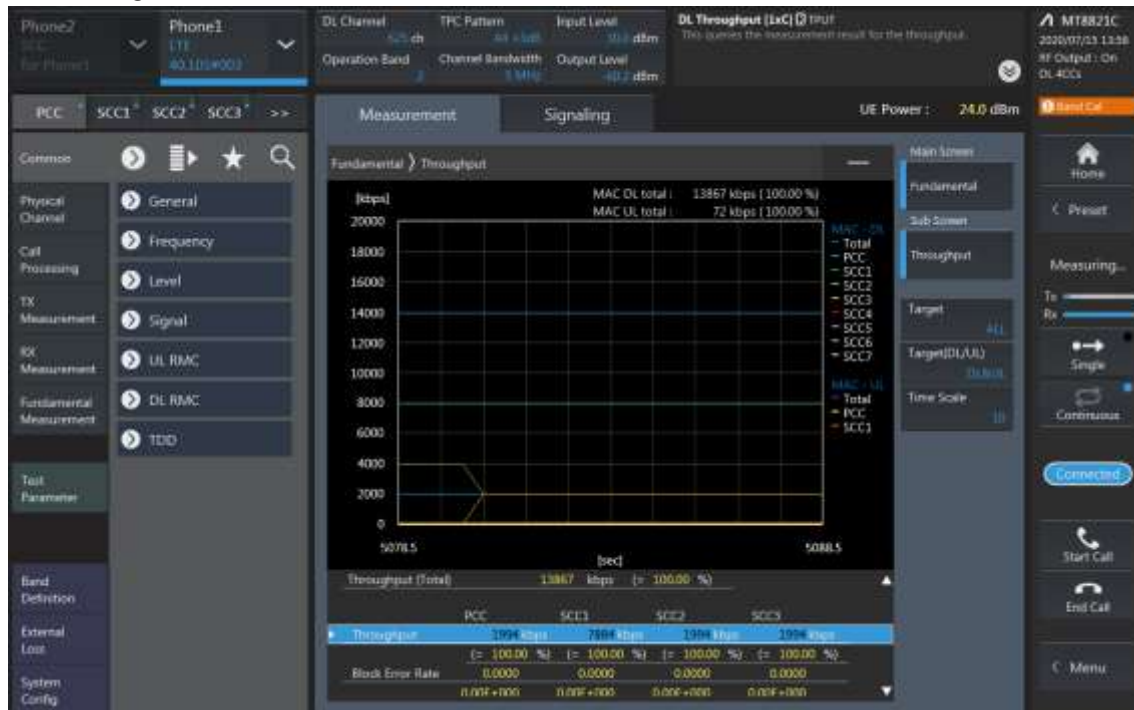
3CA Downlink Carrier aggregation conducted Powers

Combination	PCC									SCC				SCC				Tx Power		Delta (2)-(1)
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
2C-5A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	945	1965.4	5	10	2525	881.5	23.41	23.53	0.12
2C-5A	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	801	1950.1	2	20	999	1969.9	23.44	23.24	-0.20
2C-12A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	945	1965.4	12	10	2095	737.5	23.41	23.27	-0.14
2C-12A	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	801	1950.1	2	20	999	1969.9	23.62	23.56	-0.06
2C-29A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	945	1965.4	29	10	9715	722.5	23.41	23.59	0.18
5A-7B	5	5	20625	846.5	2625	891.5	QPSK	1	12	7	15	3076	2652.6	7	5	3169	2661.9	23.44	23.56	0.12
5A-7B	7	15	20825	2507.5	2825	2627.5	QPSK	1	0	7	5	3425	2687.5	5	10	2525	881.5	23.21	23.31	0.10
5A-7C	5	5	20625	846.5	2625	891.5	QPSK	1	12	7	20	3001	2645.1	7	20	3199	2664.9	23.44	23.42	-0.02
5A-7C	7	20	20850	2510	2850	2630	QPSK	1	0	7	20	3048	2649.8	5	10	2525	881.5	23.21	23.03	-0.18
12A-46C	12	10	23095	707.5	5095	727.5	QPSK	1	0	46	20	50692	5540.2	46	20	50890	5560	23.62	23.72	0.10
25A-41C	25	15	26615	1907.5	8615	1987.5	QPSK	1	74	41	20	39750	2506	41	20	39948	2525.8	23.08	22.98	-0.10
26A-41C	26	15	26865	831.5	8865	876.5	QPSK	1	0	41	20	39750	2506	41	20	39948	2525.8	23.55	23.57	0.02
41A-41C	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	41292	2660.2	41	20	41490	2680	23.94	24.08	0.14
41A-41C	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	39948	2525.8	41	20	41490	2680	23.94	24.00	0.06
41A-42C	41	20	39750	2506	39750	2506	QPSK	1	0	42	10	43140	3555	42	10	43239	3564.9	23.94	23.88	-0.06
41A-42C	42	10	43140	3555	43140	3555	QPSK	1	0	42	20	43284	3569.4	41	20	40620	2593	18.26	18.10	-0.16
41C-42A	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	39948	2525.8	42	20	43340	3575	23.94	23.98	0.04
41C-42A	42	20	43340	3575	43340	3575	QPSK	1	0	41	20	39750	2506	41	20	39948	2525.8	18.42	18.24	-0.18
42A-42C	42	10	43140	3555	43140	3555	QPSK	1	0	42	20	43284	3569.4	42	20	43482	3589.2	18.26	18.16	-0.10
2A-2A-29A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	29	10	9715	722.5	23.41	23.25	-0.16
2A-2A-46A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	46	20	50890	5560	23.41	23.21	-0.20
2A-4A-13A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2175	2132.5	13	10	5230	751	23.41	23.47	0.06
2A-4A-13A	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	13	10	5230	751	23.27	23.35	0.08
2A-4A-13A	13	10	23230	782	5230	751	QPSK	25	12	2	20	700	1940	4	20	2175	2132.5	22.93	22.77	-0.16
2A-4A-29A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2175	2132.5	29	10	9715	722.5	23.41	23.31	-0.10
2A-4A-29A	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	29	10	9715	722.5	23.27	23.27	0.00
2A-5A-46A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	10	2525	881.5	46	20	50890	5560	23.41	23.33	-0.08
2A-5A-46A	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	900	1960	46	20	50890	5560	23.44	23.38	-0.06
2A-7A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	7	20	3100	2655	66	20	66786	2145	23.41	23.55	0.14
2A-7A-66A	7	20	20850	2510	2850	2630	QPSK	1	0	2	20	900	1960	66	20	66786	2145	23.21	23.17	-0.04
2A-7A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	1960	7	20	3100	2655	23.40	23.24	-0.16
Combination	PCC									SCC				SCC				Tx Power		Delta (2)-(1)
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
2A-13A-46A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	46	20	50890	5560	23.41	23.25	-0.16
2A-13A-46A	13	5	23230	782	5230	751	QPSK	1	0	2	20	900	1960	46	20	50890	5560	23.91	23.83	-0.08
2A-29A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	29	10	9715	722.5	66	20	66786	2145	23.41	23.43	0.02
2A-29A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	1960	29	10	9715	722.5	23.40	23.60	0.20
4A-4A-7A	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	7	20	3100	2655	23.27	23.27	0.00
4A-4A-7A	7	20	20850	2510	2850	2630	QPSK	1	0	4	20	2050	2120	4	20	2300	2145	23.21	23.13	-0.08
4A-4A-13A	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	13	10	5230	751	23.27	23.21	-0.06
4A-4A-13A	13	10	23230	782	5230	751	QPSK	1	0	4	20	2050	2120	4	20	2300	2145	22.93	23.07	0.14

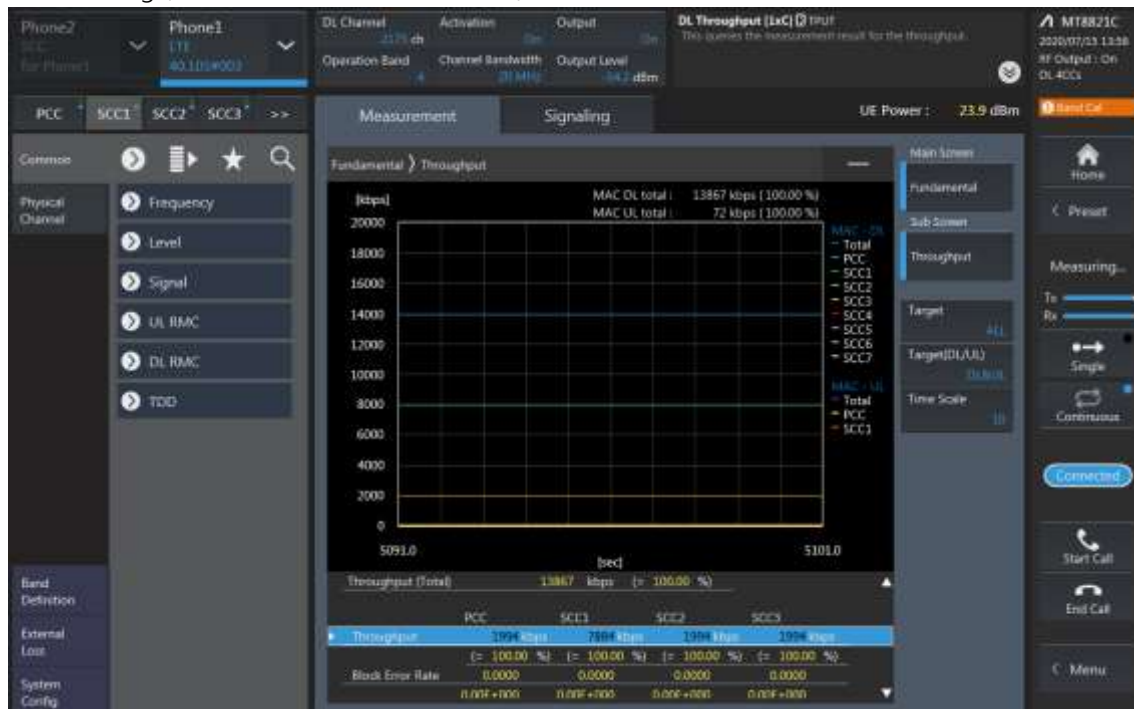
4A-4A-29A	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	29	10	9715	722.5	23.27	23.35	0.08
4A-46A-46A	4	20	20050	1720	2050	2120	QPSK	1	0	46	20	46890	5160	46	20	54340	5905	23.24	23.38	0.14
5A-7A-7A	5	5	20625	846.5	2625	891.5	QPSK	1	12	7	20	2850	2630	7	20	3350	2680	23.44	23.46	0.02
5A-7A-7A	7	20	20850	2510	2850	2630	QPSK	1	0	7	20	3350	2680	5	10	2525	881.5	23.21	23.35	0.14
5A-7A-46A	5	5	20625	846.5	2625	891.5	QPSK	1	12	7	20	3100	2655	46	20	54340	5905	23.44	23.42	-0.02
5A-7A-46A	7	20	20850	2510	2850	2630	QPSK	1	0	5	10	2525	881.5	46	20	54340	5905	23.21	23.07	-0.14
5A-46A-66A	5	5	20625	846.5	2625	891.5	QPSK	1	12	46	20	54340	5905	66	20	66786	2145	23.44	23.56	0.12
5A-46A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	5	10	2525	881.5	46	20	54340	5905	23.40	23.24	-0.16
14A-66A-66A	14	10	23330	793	5330	763	QPSK	1	0	66	20	66536	2120	66	20	67236	2190	23.78	23.88	0.10
14A-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	14	10	5330	763	23.40	23.22	-0.18
25A-25A-26A	25	15	26615	1907.5	8615	1987.5	QPSK	1	74	25	20	8140	1940	26	5	8865	876.5	23.08	23.04	-0.04

LTE Down Link 4CA Call Setup

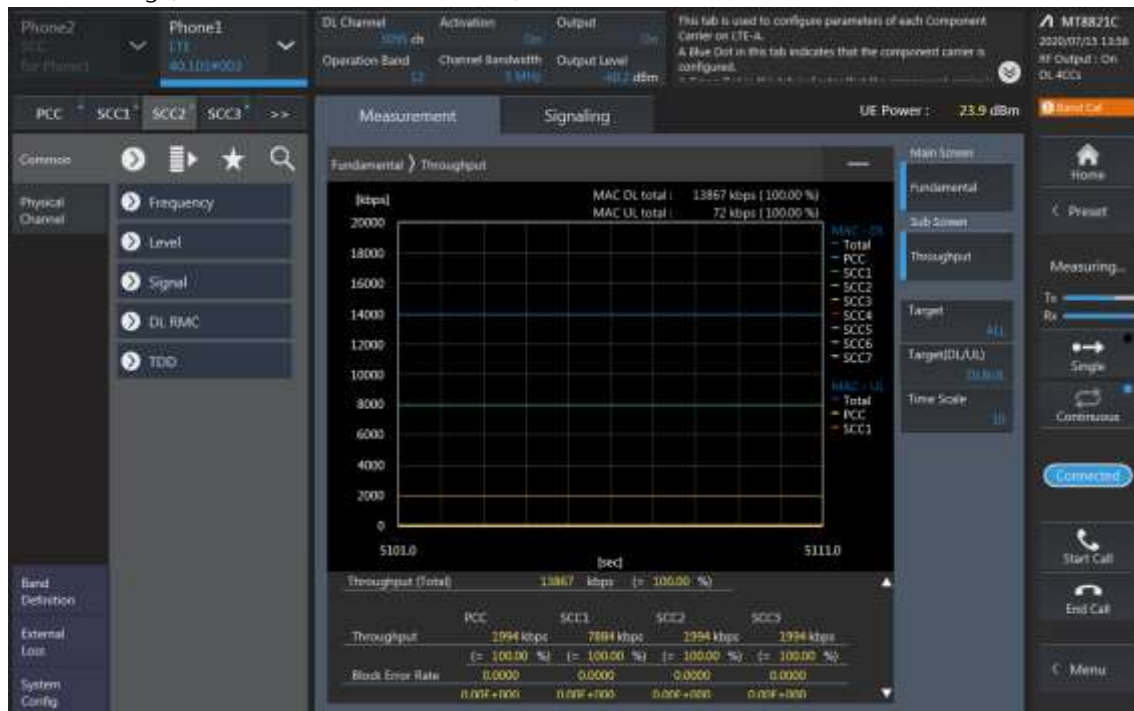
PCC Setting: Channel /RB/BW/Modulation



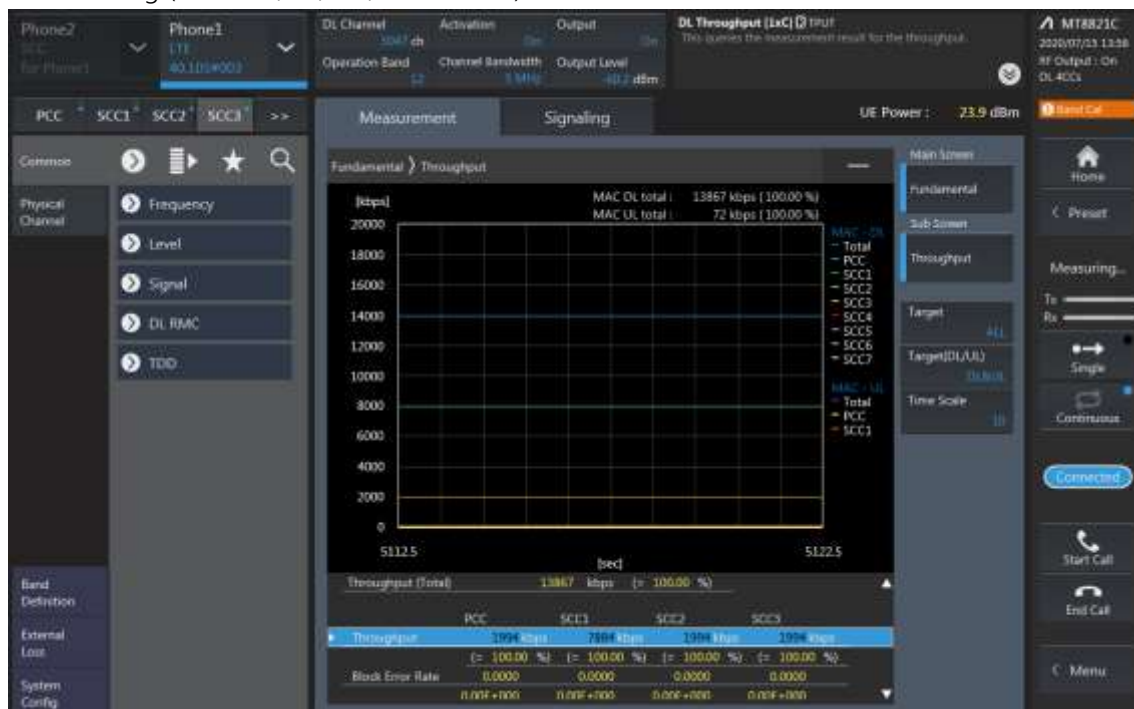
SCC1 Setting (Channel /RB/BW/Modulation)and call Connection



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		Delta (2)-(1)
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
41E	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	39948	2525.8	41	20	40150	2546	41	20	40348	2565.8	23.94	23.84	-0.10
2C-5B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	945	1965.4	5	5	2478	876.8	5	10	2550	884	23.41	23.33	-0.08
2C-5B	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	2	20	801	1950.1	2	20	999	1969.9	23.44	23.26	-0.18
5A-46D	5	5	20625	846.5	2625	891.5	QPSK	1	12	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.44	23.28	-0.16
5A-66D	5	5	20625	846.5	2625	891.5	QPSK	1	12	66	20	66840	2150.4	66	20	67038	2170.2	66	20	67236	2190	23.44	23.48	0.04
5A-66D	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	66	20	66880	2154.4	5	10	2575	886.5	23.40	23.50	0.10
12A-46D	12	10	23095	707.5	5095	727.5	QPSK	1	0	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.62	23.52	-0.10
25A-41D	25	15	26615	1907.5	8615	1987.5	QPSK	1	74	41	20	40422	2573.2	41	20	40620	2593	41	20	40818	2612.8	23.08	22.88	-0.20
41A-41D	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	41094	2640.4	41	20	41292	2660.2	41	20	41490	2680	23.94	23.84	-0.10
41A-42D	41	20	39750	2506	39750	2506	QPSK	1	0	42	10	43140	3555	42	20	43284	3569.4	42	20	43482	3589.2	23.94	23.84	-0.10
41C-41C	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	39948	2525.8	41	20	41292	2660.2	41	20	41490	2680	23.94	23.84	-0.10
41C-42C	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	39948	2525.8	42	10	43140	3555	42	20	43284	3569.4	23.94	24.02	0.08
41C-42C	42	10	43140	3555	43140	3555	QPSK	1	0	42	20	43284	3569.4	41	20	39750	2506	41	20	39948	2525.8	18.26	18.44	0.18
41D-42A	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	39948	2525.8	41	20	40146	2545.6	42	20	43340	3575	23.94	23.76	-0.18
41D-42A	42	20	43340	3575	43340	3575	QPSK	1	0	41	20	40422	2573.2	41	20	40620	2593	41	20	40818	2612.8	18.42	18.24	-0.18
2A-2A-5B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	5	5	2478	876.8	5	10	2550	884	23.41	23.29	-0.12
2A-2A-5B	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	2	20	700	1940	2	20	1100	1980	23.44	23.36	-0.08
2A-2A-46C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	46	20	50692	5540.2	46	20	50890	5560	23.41	23.25	-0.16
2A-4A-5B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2175	2132.5	5	5	2478	876.8	5	10	2550	884	23.41	23.35	-0.06
2A-4A-5B	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	5	5	2478	876.8	5	10	2550	884	23.27	23.25	-0.02
2A-4A-5B	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	2	20	900	1960	4	20	2175	2132.5	23.44	23.38	-0.06
2A-4A-7B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2175	2132.5	7	15	3076	2652.6	7	5	3169	2661.9	23.41	23.35	-0.06
2A-4A-7B	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	7	15	3076	2652.6	7	5	3169	2661.9	23.27	23.33	0.06
2A-4A-7B	7	15	20825	2507.5	2825	2627.5	QPSK	1	0	7	5	2918	2636.8	2	20	900	1960	4	20	2175	2132.5	23.12	22.98	-0.14
2A-4A-7C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2175	2132.5	7	20	3001	2645.1	7	20	3199	2664.9	23.41	23.61	0.20
2A-4A-7C	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	7	20	3001	2645.1	7	20	3199	2664.9	23.27	23.25	-0.02
2A-4A-7C	7	20	20850	2510	2850	2630	QPSK	1	0	7	20	3048	2649.8	2	20	900	1960	4	20	2175	2132.5	23.21	23.15	-0.06
2A-4A-12B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2175	2132.5	12	5	5048	732.8	12	10	5120	740	23.41	23.27	-0.14
2A-4A-12B	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	12	5	5048	732.8	12	10	5120	740	23.27	23.07	-0.20
2A-4A-12B	12	5	23155	713.5	5155	743.5	QPSK	1	0	12	5	5107	738.7	2	20	900	1960	4	20	2175	2132.5	23.58	23.52	-0.06
2A-5A-46C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	10	2525	881.5	46	20	50692	5540.2	46	20	50890	5560	23.41	23.41	0.00
Combination	PCC									SCC				SCC				SCC				Tx Power		Delta (2)-(1)
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
2A-5A-46C	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	900	1960	46	20	50692	5540.2	46	20	50890	5560	23.44	23.24	-0.20
2A-12A-66B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	12	10	5095	737.5	66	10	66837	2150.1	66	10	66936	2160	23.41	23.21	-0.20
2A-12A-66B	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	700	1940	66	10	66987	2165.1	66	10	67086	2175	23.62	23.62	0.00
2A-12A-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	2	20	700	1940	12	10	5095	737.5	23.25	23.31	0.06
2A-12A-66C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	12	10	5095	737.5	66	20	66787	2145.1	66	20	66985	2164.9	23.41	23.39	-0.02
2A-12A-66C	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	700	1940	66	20	66838	2150.2	66	20	67036	2170	23.62	23.60	-0.02
2A-12A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	2	20	900	1960	12	10	5095	737.5	23.40	23.26	-0.14
2A-12B-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	12	5	5048	732.8	12	10	5120	740	66	20	66786	2145	23.41	23.51	0.10
2A-12B-66A	12	5	23035	701.5	5035	731.5	QPSK	1	0	12	5	5083	736.3	2	20	700	1940	66	20	67036	2170	23.55	23.49	-0.06
2A-12B-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	1960	12	5	5048	732.8	12	10	5120	740	23.40	23.50	0.10
2A-13A-46C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	46	20	50692	5540.2	46	20	50890	5560	23.41	23.43	0.02

2A-13A-46C	13	5	23230	782	5230	751	QPSK	1	0	2	20	900	1960	46	20	50692	5540.2	46	20	50890	5560	23.91	23.93	0.02
4A-4A-5B	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	5	5	2478	876.8	5	10	2550	884	23.27	23.15	-0.12
4A-4A-5B	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	4	20	2050	2120	4	20	2300	2145	23.44	23.42	-0.02
4A-4A-12B	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	12	5	5048	732.8	12	10	5120	740	23.27	23.07	-0.20
4A-4A-12B	12	5	23155	713.5	5155	743.5	QPSK	1	0	12	5	5107	738.7	4	20	2050	2120	4	20	2300	2145	23.58	23.66	0.08
4A-46A-46C	4	10	20000	1715	2000	2115	QPSK	1	0	46	20	46890	5160	46	20	54142	5885.2	46	20	54340	5905	23.27	23.39	0.12
5A-7A-46C	5	5	20625	846.5	2625	891.5	QPSK	1	12	7	20	3100	2655	46	20	54142	5885.2	46	20	54340	5905	23.44	23.40	-0.04
5A-7A-46C	7	20	20850	2510	2850	2630	QPSK	1	0	5	10	2525	881.5	46	20	54142	5885.2	46	20	54340	5905	23.21	23.13	-0.08
5A-46C-66A	5	5	20625	846.5	2625	891.5	QPSK	1	12	46	20	54142	5885.2	46	20	54340	5905	66	20	66786	2145	23.44	23.60	0.16
5A-46C-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	5	10	2525	881.5	46	20	54142	5885.2	46	20	54340	5905	23.40	23.52	0.12
5A-66A-66B	5	5	20625	846.5	2625	891.5	QPSK	1	12	66	20	66536	2120	66	10	67187	2185.1	66	10	67286	2195	23.44	23.52	0.08
5A-66A-66B	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	5	10	2525	881.5	66	10	66987	2165.1	66	10	67086	2175	23.40	23.50	0.10
5A-66A-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	5	10	2525	881.5	66	20	67036	2170	23.25	23.21	-0.04
5A-66A-66C	5	5	20625	846.5	2625	891.5	QPSK	1	12	66	20	66536	2120	66	20	67038	2170.2	66	20	67236	2190	23.44	23.28	-0.16
5A-66A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	5	10	2525	881.5	66	20	66838	2150.2	66	20	67036	2170	23.40	23.56	0.16
5A-66A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	5	10	2525	881.5	66	20	67036	2170	23.40	23.50	0.10
5B-66A-66A	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	66	20	66536	2120	66	20	67236	2190	23.44	23.40	-0.04
5B-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	5	5	2478	876.8	5	10	2550	884	23.40	23.42	0.02
13A-46C-66A	13	5	23230	782	5230	751	QPSK	1	0	46	20	50692	5540.2	46	20	50890	5560	66	20	66786	2145	23.91	23.79	-0.12
13A-46C-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	13	10	5230	751	46	20	50692	5540.2	46	20	50890	5560	23.40	23.34	-0.06

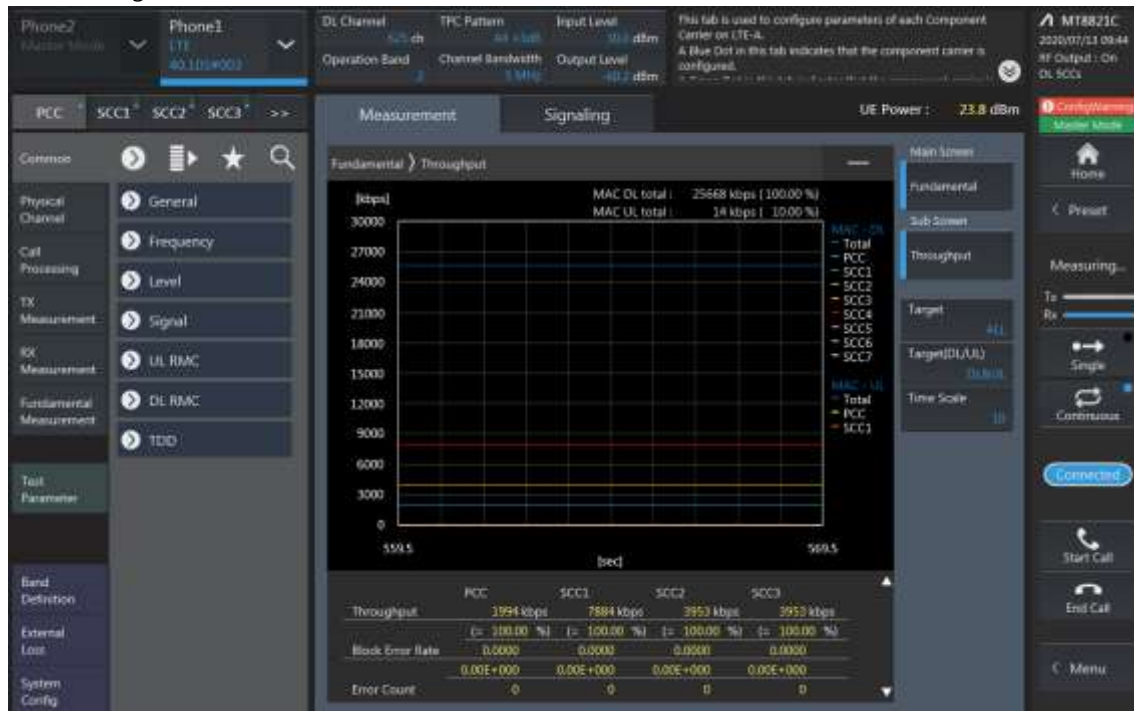
Combination	PCC									SCC				SCC				SCC				Tx Power		Delta (2)-(1)
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
13A-48A-66B	13	5	23230	782	5230	751	QPSK	1	0	48	20	56640	3690	66	10	66987	2165.1	66	10	67086	2175	23.91	23.91	0.00
13A-48A-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	13	10	5230	751	48	20	55340	3560	23.25	23.19	-0.06
13A-48A-66C	13	5	23230	782	5230	751	QPSK	1	0	48	20	56640	3690	66	20	66838	2150.2	66	20	67036	2170	23.91	23.85	-0.06
13A-48A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	13	10	5230	751	48	20	55340	3560	23.40	23.32	-0.08
13A-48C-66A	13	5	23230	782	5230	751	QPSK	1	0	48	20	56442	3670.2	48	20	56640	3690	66	20	67036	2170	23.91	24.11	0.20
13A-48C-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	13	10	5230	751	48	20	55891	3615.1	48	20	56089	3634.9	23.40	23.46	0.06
48A-48A-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	48	20	55340	3560	48	20	56640	3690	23.25	23.07	-0.18
48A-48A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	48	20	55340	3560	48	20	56640	3690	23.40	23.36	-0.04
2A-2A-4A-4A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	4	20	2050	2120	4	20	2300	2145	23.41	23.55	0.14
2A-2A-4A-4A	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	2	20	700	1940	2	20	1100	1980	23.27	23.17	-0.10
2A-2A-4A-5A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	4	20	2050	2120	5	10	2525	881.5	23.41	23.37	-0.04
2A-2A-4A-5A	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	700	1940	2	20	1100	1980	5	10	2525	881.5	23.27	23.09	-0.18
2A-2A-4A-5A	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	700	1940	2	20	1100	1980	4	20	2050	2120	23.44	23.28	-0.16
2A-2A-4A-12A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	4	20	2050	2120	12	10	5095	737.5	23.41	23.25	-0.16
2A-2A-4A-12A	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	700	1940	2	20	1100	1980	12	10	5095	737.5	23.27	23.09	-0.18
2A-2A-4A-12A	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	700	1940	2	20	1100	1980	4	20	2050	2120	23.62	23.62	0.00
2A-2A-5A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	5	10	2525	881.5	66	20	66786	2145	23.41	23.35	-0.06
2A-2A-5A-66A	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	700	1940	2	20	1100	1980	66	20	66786	2145	23.44	23.64	0.20
2A-2A-5A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	700	1940	2	20	1100	1980	5	10	2525	881.5	23.40	23.28	-0.12
2A-2A-12A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	12	10	2095	737.5	66	20	66786	2145	23.41	23.21	-0.20
2A-2A-12A-66A	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	700	1940	2	20	1100	1980	66	20	67036	2170	23.62	23.68	0.06
2A-2A-12A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	700	1940	2	20	1100	1980	12	10	2095	737.5	23.40	23.48	0.08
2A-2A-13A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	13	10	5230	751	66	20	66786	2145	23.41	23.23	-0.18
2A-2A-13A-66A	13	5	23230	782	5230	751	QPSK	1	0	2	20	700	1940	2	20	1100	1980	66	20	67036	2170	23.91	23.89	-0.02
2A-2A-13A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	700	1940	2	20	1100	1980	13	10	5230	751	23.40	23.54	0.14
2A-2A-66A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	66	20	66536	2120	66	20	67236	2190	23.41	23.27	-0.14
2A-2A-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	2	20	700	1940	2	20	1100	1980	23.40	23.42	0.02
2A-4A-4A-5A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2050	2120	4	20	2300	2145	5	10	2525	881.5	23.41	23.45	0.04
2A-4A-4A-5A	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	2	20	900	1960	5	10	2525	881.5	23.27	23.19	-0.08
2A-4A-4A-5A	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	900	1960	4	20	2050	2120	4	20	2300	2145	23.44	23.44	0.00

2A-4A-4A-12A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2050	2120	4	20	2300	2145	12	10	2095	737.5	23.41	23.47	0.06
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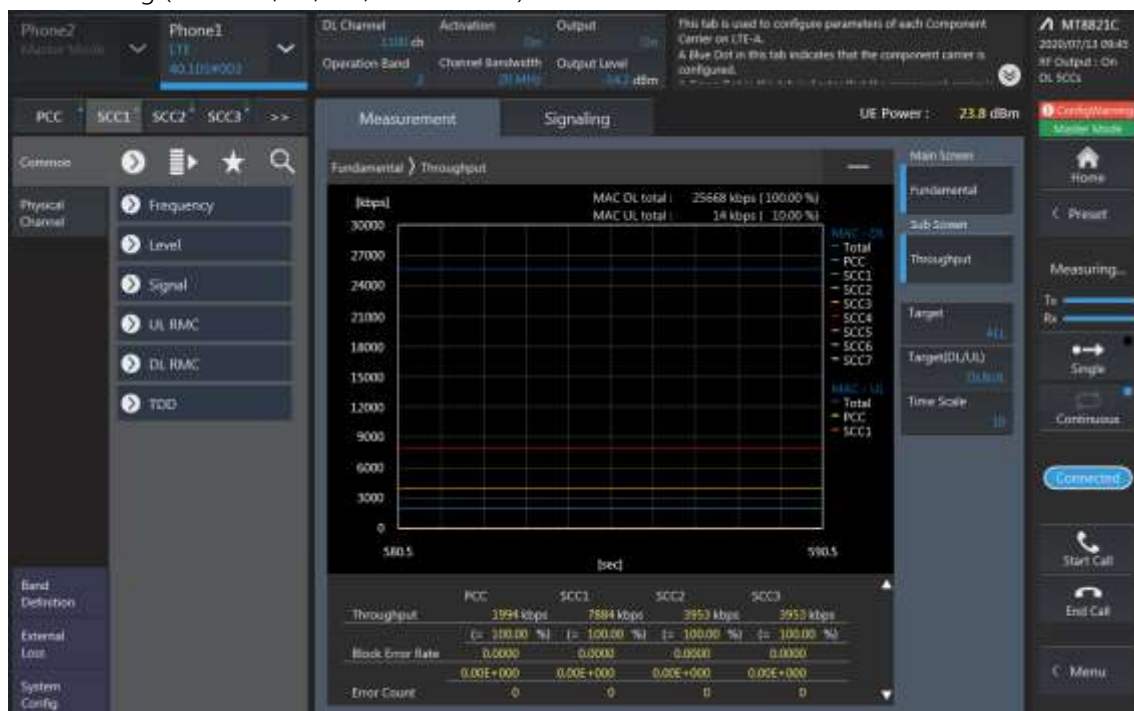
Combination	PCC									SCC				SCC				SCC				Tx Power		Delta (2)-(1)
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)	
2A-4A-4A-12A	4	20	20050	1720	2050	2120	QPSK	1	0	4	20	2300	2145	2	20	900	1960	12	10	2095	737.5	23.27	23.15	-0.12
2A-4A-4A-12A	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	900	1960	4	20	2050	2120	4	20	2300	2145	23.62	23.42	-0.20
2A-4A-7A-7A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2050	2120	7	20	2850	2630	7	20	3350	2680	23.41	23.49	0.08
2A-4A-7A-7A	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	7	20	2850	2630	7	20	3350	2680	23.27	23.09	-0.18
2A-4A-7A-7A	7	20	20850	2510	2850	2630	QPSK	1	0	7	20	3350	2680	2	20	900	1960	4	20	2175	2132.5	23.21	23.35	0.14
2A-4A-7A-12A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2050	2120	7	20	3100	2655	12	10	5095	737.5	23.41	23.59	0.18
2A-4A-7A-12A	4	20	20050	1720	2050	2120	QPSK	1	0	2	20	900	1960	7	20	3100	2655	12	10	2095	737.5	23.27	23.45	0.18
2A-4A-7A-12A	7	20	20850	2510	2850	2630	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	12	10	2095	737.5	23.21	23.27	0.06
2A-4A-7A-12A	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	7	20	3100	2655	23.62	23.70	0.08
2A-5A-66A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	10	2525	881.5	66	20	66536	2120	66	20	67236	2190	23.41	23.41	0.00
2A-5A-66A-66A	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	900	1960	66	20	66536	2120	66	20	67236	2190	23.44	23.50	0.06
2A-5A-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	2	20	900	1960	5	10	2525	881.5	23.40	23.34	-0.06
2A-12A-66A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	12	10	5095	737.5	66	20	66536	2120	66	20	67236	2190	23.41	23.51	0.10
2A-12A-66A-66A	12	10	23095	707.5	5095	727.5	QPSK	1	0	2	20	900	1960	66	20	66536	2120	66	20	67236	2190	23.62	23.70	0.08
2A-12A-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	2	20	900	1960	12	10	2095	737.5	23.40	23.42	0.02
2A-13A-66A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	66	20	66536	2120	66	20	67236	2190	23.41	23.45	0.04
2A-13A-66A-66A	13	5	23230	782	5230	751	QPSK	1	0	2	20	900	1960	66	20	66536	2120	66	20	67236	2190	23.91	23.87	-0.04
2A-13A-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	2	20	900	1960	13	10	5230	751	23.40	23.22	-0.18
2A-46A-46A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	46	20	46890	5160	46	20	54340	5905	66	20	66786	2145	23.41	23.61	0.20
2A-46A-46A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	1960	46	20	46890	5160	46	20	54340	5905	23.40	23.26	-0.14
2A-48A-48A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	48	20	55340	3560	48	20	56640	3690	66	20	66786	2145	23.41	23.33	-0.08
2A-48A-48A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	1960	48	20	55340	3560	48	20	56640	3690	23.40	23.60	0.20
13A-48A-48A-66A	13	5	23230	782	5230	751	QPSK	1	0	48	20	55340	3560	48	20	56640	3690	66	20	67036	2170	23.91	24.03	0.12
13A-48A-48A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	13	10	5230	751	48	20	55340	3560	48	20	56640	3690	23.40	23.36	-0.04
48A-48A-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	48	20	55340	3560	48	20	56640	3690	23.40	23.42	0.02

LTE Down Link 5CA Call Setup

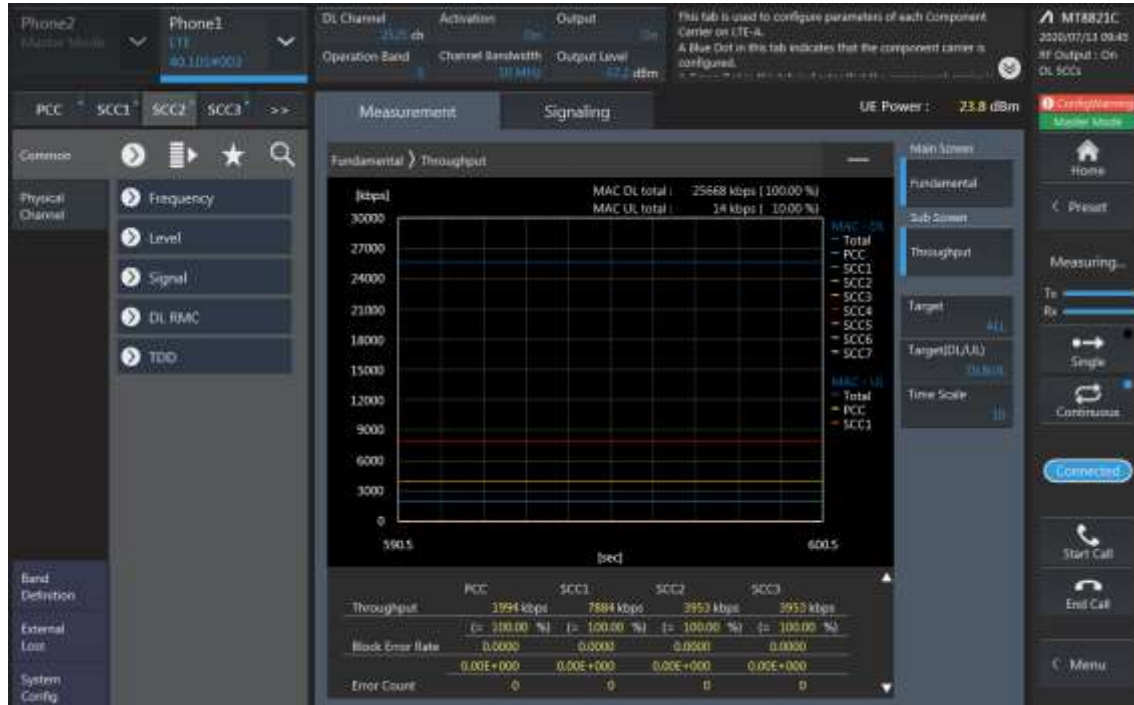
PCC Setting: Channel /RB/BW/Modulation



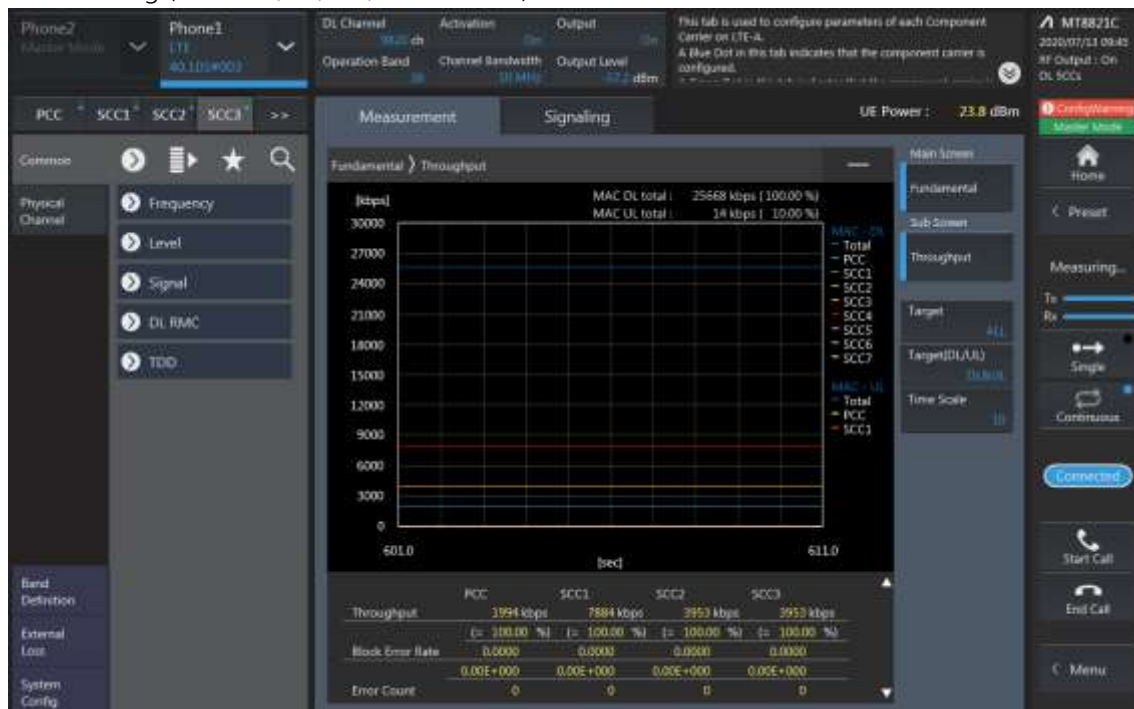
SCC1 Setting (Channel /RB/BW/Modulation)and call Connection



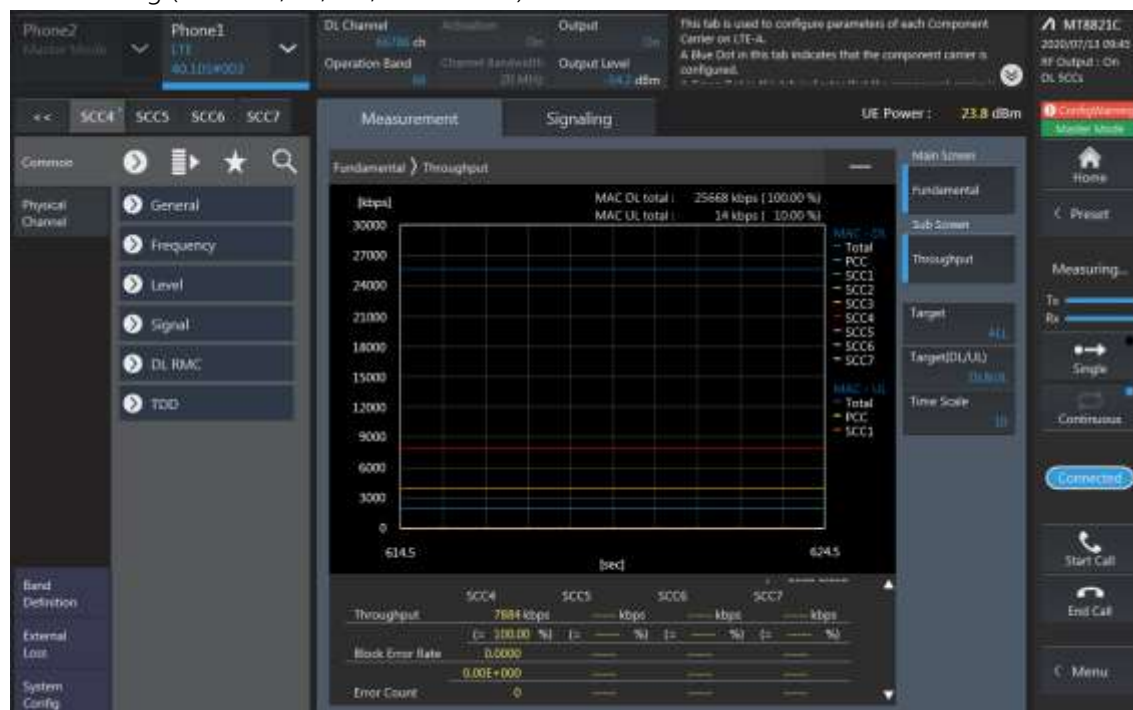
SCC2 Setting (Channel /RB/BW/Modulation)and call Connection



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



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



5CA Downlink Carrier aggregation conducted Powers

Combination	PCC									SCC				SCC				SCC				SCC				Tx Power	
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)
2A-48E	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	48	20	55340	3560	48	20	55538	3579.8	48	20	55736	3599.6	48	20	55934	3619.4	23.41	23.45
13A-48E	13	5	23230	782	5230	751	QPSK	1	0	48	20	55340	3560	48	20	55538	3579.8	48	20	55736	3599.6	48	20	55934	3619.4	23.91	24.11
48E-66A	66	5	131997	1712.5	66461	2112.5	QPSK	1	0	48	20	55538	3579.8	48	20	55736	3599.6	48	20	55934	3619.4	48	20	56132	3639.2	23.40	23.48
2A-2A-46D	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.41	23.35
2A-5A-46D	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	10	2525	881.5	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.41	23.37
2A-5A-46D	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	900	19600	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.44	23.62
2A-5B-66B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	5	2478	876.8	5	10	2550	884	66	10	66837	2150.1	66	10	66936	2160	23.41	23.25
2A-5B-66B	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	2	20	900	19600	66	10	66837	2150.1	66	10	66936	2160	23.44	23.38
2A-5B-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	2	20	900	19600	5	5	2478	876.8	5	10	2550	884	23.25	23.45
2A-5B-66C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	10	2476	876.6	5	10	2575	886.5	66	20	66787	2145.1	66	20	66985	2164.9	23.41	23.55
2A-5B-66C	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	2	20	900	19600	66	20	66787	2145.1	66	20	66985	2164.9	23.44	23.62
2A-5B-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	2	20	900	19600	5	5	2478	876.8	5	10	2550	884	23.40	23.58
2A-13A-46D	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.41	23.21
2A-13A-46D	13	5	23230	782	5230	751	QPSK	1	0	2	20	700	1940	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.91	23.97
2A-13A-66D	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	66	20	66840	2150.4	66	20	67038	2170.2	66	20	67236	2190	23.41	23.49
2A-13A-66D	13	5	23230	782	5230	751	QPSK	1	0	2	20	700	1940	66	20	66840	2150.4	66	20	67038	2170.2	66	20	67236	2190	23.91	23.83
2A-13A-66D	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	66	20	66880	2154.4	2	20	900	19600	13	10	5230	751	23.40	23.20
2A-46D-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	66	20	66786	2145	23.41	23.49
2A-46D-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	19600	46	20	53942	5865.2	46	20	54140	5885	46	20	54338	5904.8	23.40	23.40
2A-48D-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	48	20	55340	3560	48	20	55538	3579.8	48	20	55736	3599.6	66	20	66786	2145	23.41	23.21
2A-48D-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	19600	48	20	55340	3560	48	20	55538	3579.8	48	20	55736	3599.6	23.40	23.22
5A-7A-46D	5	5	20625	846.5	2625	891.5	QPSK	1	12	7	20	2850	2630	46	20	50492	5520.2	46	20	50690	5540	46	20	50888	5559.8	23.44	23.34
5A-7A-46D	7	20	20850	2510	2850	2630	QPSK	1	0	5	10	2525	881.5	46	20	50492	5520.2	46	20	50690	5540	46	20	50888	5559.8	23.21	23.27
5A-46D-66A	5	5	20625	846.5	2625	891.5	QPSK	1	12	46	20	50492	5520.2	46	20	50690	5540	46	20	50888	5559.8	66	5	66461	2112.5	23.44	23.56
5A-46D-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	5	10	2525	881.5	46	20	50492	5520.2	46	20	50690	5540	46	20	50888	5559.8	23.40	23.50
5B-66A-66B	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	66	5	66461	2112.5	66	5	67263	2192.7	66	5	67311	2197.5	23.44	23.40
5B-66A-66B	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	10	66987	2165.1	66	10	67086	2175	5	5	2478	876.8	5	10	2550	884	23.40	23.22
13A-46D-66A	13	5	23230	782	5230	751	QPSK	1	0	46	20	50492	5520.2	46	20	50690	5540	46	20	50888	5559.8	66	5	66461	2112.5	23.91	23.77
13A-46D-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	13	10	5230	751	46	20	50492	5520.2	46	20	50690	5540	46	20	50888	5559.8	23.40	23.42

Combination	PCC									SCC				SCC				SCC				SCC				Tx Power	
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)
13A-48C-48C	13	5	23230	782	5230	751	QPSK	1	0	48	20	55340	3560	48	20	55538	3579.8	48	20	56442	3670.2	48	20	56640	3690	23.91	24.05
13A-48C-66B	13	5	23230	782	5230	751	QPSK	1	0	48	20	55891	3615.1	48	20	56089	3634.9	66	10	66987	2165.1	66	10	67086	2175	23.91	23.91
13A-48C-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	13	10	5230	751	48	5	56523	3678.3	48	20	56640	3690	23.25	23.37
13A-48C-66C	13	5	23230	782	5230	751	QPSK	1	0	48	5	56523	3678.3	48	20	56640	3690	66	10	66489	2115.3	66	15	66609	2127.3	23.91	23.85
13A-48C-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	13	10	5230	751	48	5	56523	3678.3	48	20	56640	3690	23.40	23.20
13A-48D-66A	13	5	23230	782	5230	751	QPSK	1	0	48	5	56325	3658.5	48	20	56442	3670.2	48	20	56640	3690	66	20	66786	2145	23.91	23.85
13A-48D-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	13	10	5230	751	48	5	56325	3658.5	48	20	56442	3670.2	48	20	56640	3690	23.40	23.48
48A-48C-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	48	5	55273	3553.3	48	20	55390	3565	48	20	56640	3690	23.25	23.23
48A-48C-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	48	20	56640	3690	48	5	55273	3553.3	48	20	55390	3565	23.40	23.20
48C-48C-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	48	20	55891	3615.1	48	20	56089	3634.9	48	20	56442	3670.2	48	20	56640	3690	23.40	23.58

2A-2A-5A-66B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	5	10	2525	881.5	66	10	66837	2150.1	66	10	66936	2160	23.41	23.31
2A-2A-5A-66B	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	700	1940	2	20	1100	1980	66	10	66837	2150.1	66	10	66936	2160	23.44	23.34
2A-2A-5A-66B	66	10	132022	1715	66486	2115	QPSK	1	0	66	10	66585	2124.9	2	20	700	1940	2	20	1100	1980	5	10	2525	881.5	23.25	23.35
2A-2A-5A-66C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	5	10	2525	881.5	66	20	66787	2145.1	66	20	66985	2164.9	23.41	23.51
2A-2A-5A-66C	5	5	20625	846.5	2625	891.5	QPSK	1	12	2	20	700	1940	2	20	1100	1980	66	20	66787	2145.1	66	20	66985	2164.9	23.44	23.64
2A-2A-5A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	2	5	625	1932.5	2	5	1175	1987.5	5	10	2525	881.5	23.40	23.48
2A-2A-12B-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	12	5	5048	732.8	12	10	5120	740	66	20	66786	2145	23.41	23.49
2A-2A-12B-66A	12	5	23035	701.5	5035	731.5	QPSK	1	0	12	10	5107	738.7	2	5	625	1932.5	2	5	1175	1987.5	66	20	66786	2145	23.55	23.53
2A-2A-12B-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	5	625	1932.5	2	5	1175	1987.5	12	5	5038	731.8	12	10	5110	739	23.40	23.58
2A-2A-66A-66B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	66	20	66536	2120	66	10	67187	2185.1	66	10	67286	2195	23.41	23.45
2A-2A-66A-66B	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	10	66987	2165.1	66	10	67086	2175	2	20	700	1940	2	20	1100	1980	23.40	23.48
2A-2A-66A-66B	66	10	132022	1715	2115	66486	QPSK	1	0	66	10	66585	2124.9	66	20	67036	2170	2	20	700	1940	2	20	1100	1980	23.25	23.21
2A-2A-66A-66C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	66	20	66536	2120	66	20	67038	2170.2	66	20	67236	2190	23.41	23.27
2A-2A-66A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66838	2150.2	66	20	67036	2170	2	20	700	1940	2	20	1100	1980	23.40	23.52
2A-2A-66A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	15	66661	2132.5	66	20	67036	2170	2	5	625	1932.5	2	5	1175	1987.5	23.40	23.50
2A-5B-66A-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	5	2478	876.8	5	10	2550	884	66	20	66536	2120	66	20	67236	2190	23.41	23.51
2A-5B-66A-66A	5	5	20625	846.5	2625	891.5	QPSK	1	12	5	10	2553	884.3	2	20	900	19600	66	20	66536	2120	66	20	67236	2190	23.44	23.62
2A-5B-66A-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	67036	2170	2	20	900	19600	5	5	2478	876.8	5	10	2550	884	23.40	23.32
2A-13A-66A-66B	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	66	20	66536	2120	66	10	67187	2185.1	66	10	67286	2195	23.41	23.51

Combination	PCC									SCC				SCC				SCC				SCC				Tx Power	
	Band	BW	PCC UL Ch.	PCC UL Freq.	PCC DL Ch.	PCC DL Freq.	Modulation	RB	RB offset	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	Band	BW	SCC DL Ch.	SCC DL Freq.	LTE Single Carrier Tx Power (dBm) (1)	LTE Tx Power with DL CA Enabled (dBm) (2)
2A-13A-66A-66B	13	5	23230	782	5230	751	QPSK	1	0	2	20	900	19600	66	20	66536	2120	66	10	67187	2185.1	66	10	67286	2195	23.91	24.11
2A-13A-66A-66B	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	10	66987	2165.1	66	10	67086	2175	2	20	900	1960	13	10	5230	751	23.27	23.27
2A-13A-66A-66B	66	10	132022	1715	2115	66486	QPSK	1	0	66	10	66585	2124.9	66	20	67036	2170	2	20	900	19600	13	10	5230	751	23.25	23.37
2A-13A-66A-66C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	66	20	66536	2120	66	20	67038	2170.2	66	20	67236	2190	23.41	23.27
2A-13A-66A-66C	13	5	23230	782	5230	751	QPSK	1	0	2	20	900	1960	66	20	66536	2120	66	20	67038	2170.2	66	20	67236	2190	23.91	23.71
2A-13A-66A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66838	2150.2	66	20	67036	2170	2	20	900	19600	13	10	5230	751	23.40	23.22
2A-13A-66A-66C	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	66	20	66682	2134.6	66	20	67036	2170	2	20	900	1960	13	10	5230	751	23.40	23.26
2A-46A-46C-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	46	20	46890	5160	46	20	54142	5885.2	46	20	54340	5905	66	20	66786	2145	23.41	23.23
2A-46A-46C-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	1960	46	20	46890	5160	46	20	54142	5885.2	46	20	54340	5905	23.40	23.36
2A-48A-48C-66A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	48	20	55340	3560	48	20	56442	3670.2	48	20	56640	3690	66	20	66786	2145	23.41	23.29
2A-48A-48C-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	2	20	900	1960	48	20	56640	3690	48	5	55273	3553.3	48	20	55390	3565	23.40	23.54
13A-48A-48C-66A	13	5	23230	782	5230	751	QPSK	1	0	48	20	56640	3690	48	5	55273	3553.3	48	20	55390	3565	66	20	66786	2145	23.91	23.77
13A-48A-48C-66A	66	15	132047	1717.5	66511	2117.5	QPSK	1	0	13	10	5230	751	48	20	56640	3690	48	5	55273	3553.3	48	20	55390	3565	23.40	23.28