

LTE Downlink Carrier Aggregation configurations

1. DL Inter Band(2CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Max Aggregated BW
2A-4A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40
		Band 4			Yes	Yes	Yes	Yes	
	(1)	Band 2			Yes	Yes			20
		Band 4			Yes	Yes			
2A-5A	(2)	Band 2			Yes	Yes	Yes	Yes	40
		Band 4			Yes	Yes	Yes	Yes	
2A-5A	(0)	Band 2			Yes	Yes	Yes	Yes	30
		Band 5			Yes	Yes			
2A-12A	(0)	Band 2			Yes	Yes	Yes	Yes	30
		Band 12			Yes	Yes			
	(1)	Band 2			Yes	Yes	Yes	Yes	30
		Band 12		Yes	Yes	Yes			
2A-12A	(2)	Band 2			Yes	Yes			20
		Band 12			Yes	Yes			
2A-13A	(0)	Band 2			Yes	Yes	Yes	Yes	30
		Band 13				Yes			
	(1)	Band 2			Yes	Yes			20
		Band 13				Yes			
2A-13A	(2)	Band 2			Yes	Yes	Yes	Yes	20
		Band 13			Yes	Yes			
2A-14A	(0)	Band 2			Yes	Yes	Yes	Yes	30
		Band 14			Yes	Yes			
2A-29A	(0)	Band 2			Yes	Yes			20
		Band 29		Yes	Yes	Yes			
	(1)	Band 2			Yes	Yes			20
		Band 29			Yes	Yes			
2A-29A	(2)	Band 2			Yes	Yes	Yes	Yes	30
		Band 29			Yes	Yes			
2A-30A	(0)	Band 2			Yes	Yes	Yes	Yes	30
		Band 30			Yes	Yes			
2A-48A	(0)	Band 2			Yes	Yes	Yes	Yes	40
		Band 48			Yes	Yes	Yes	Yes	
2A-66A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40
		Band 66			Yes	Yes	Yes	Yes	
	(1)	Band 2			Yes	Yes			20
		Band 66			Yes	Yes			
2A-66A	(2)	Band 2			Yes	Yes	Yes	Yes	40
		Band 66			Yes	Yes	Yes	Yes	
2A-71A	(0)	Band 2			Yes	Yes	Yes	Yes	40
		Band 71			Yes	Yes	Yes	Yes	
	(1)	Band 2			Yes	Yes			20
		Band 71			Yes	Yes			
4A-5A	(0)	Band 4			Yes	Yes			20
		Band 5			Yes	Yes			
	(1)	Band 4			Yes	Yes	Yes	Yes	30
		Band 5			Yes	Yes			
4A-12A	(0)	Band 4	Yes	Yes	Yes	Yes			20
		Band 12			Yes	Yes			
	(1)	Band 4	Yes	Yes	Yes	Yes	Yes	Yes	30
		Band 12			Yes	Yes			
	(2)	Band 4			Yes	Yes	Yes	Yes	30
		Band 12		Yes	Yes	Yes			
	(3)	Band 4			Yes	Yes			20
		Band 12			Yes	Yes			
4A-12A	(4)	Band 4			Yes	Yes	Yes	Yes	30
		Band 12			Yes	Yes			
	(5)	Band 4			Yes	Yes	Yes		20
		Band 12			Yes				

2. DL Inter Band(3CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Max Aggregated BW
2A-2A-4A	(0)	Band 2			2A-2A BCS 0				60
		Band 4			Yes	Yes	Yes	Yes	
2A-2A-5A	(0)	Band 2			2A-2A BCS 0				50
		Band 5			Yes	Yes			
2A-2A-12A	(0)	Band 2			2A-2A BCS 0				50
		Band 12			Yes	Yes			
2A-2A-13A	(0)	Band 2			2A-2A BCS 0				50
		Band 13				Yes			
	(1)	Band 2			2A-2A BCS 0				50
		Band 13			Yes	Yes			
2A-2A-14A	(0)	Band 2			2A-2A BCS 0				50
		Band 14			Yes	Yes			
2A-2A-29A	(0)	Band 2			2A-2A BCS 0				50
		Band 29			Yes	Yes			
2A-2A-30A	(0)	Band 2			2A-2A BCS 0				50
		Band 30			Yes	Yes			
2A-2A-66A	(0)	Band 2			2A-2A BCS 0				60
		Band 66			Yes	Yes	Yes	Yes	
2A-2A-71A	(0)	Band 2			2A-2A BCS 0				60
		Band 71			Yes	Yes	Yes	Yes	
2A-4A-4A	(0)	Band 2			4A-4A BCS 0				60
		Band 4			Yes	Yes	Yes	Yes	
2A-4A-5A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 5			Yes	Yes			
2A-4A-12A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 12			Yes	Yes	Yes	Yes	
2A-4A-13A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 13			Yes	Yes	Yes	Yes	
2A-4A-71A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 71			Yes	Yes	Yes	Yes	
2A-5A-30A	(0)	Band 2			Yes	Yes	Yes	Yes	40
		Band 30			Yes	Yes			
2A-5A-48A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	50
		Band 5			Yes	Yes			
2A-5A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 66			Yes	Yes	Yes	Yes	
2A-12A-30A	(0)	Band 2			Yes	Yes	Yes	Yes	40
		Band 12			Yes	Yes			
2A-12A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 66			Yes	Yes	Yes	Yes	
2A-12B	(0)	Band 2			12B BCS 0				35
		Band 12			Yes	Yes	Yes	Yes	
2A-13A-48A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 13			Yes	Yes			
2A-13A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 66			Yes	Yes	Yes	Yes	

3. DL Inter Band(4CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth							Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz		
2A-2A-4A-4A	(0)	Band 2	2A-2A BCS 0							80
		Band 4	4A-4A BCS 0							
		Band 2	2A-2A BCS 0							
2A-2A-4A-5A	(0)	Band 4			Yes	Yes	Yes	Yes	70	
		Band 5			Yes	Yes				
		Band 2	2A-2A BCS 0							
2A-2A-4A-12A	(0)	Band 4			Yes	Yes	Yes	Yes	70	
		Band 12			Yes	Yes				
		Band 2	2A-2A BCS 0							
2A-2A-4A-71A	(0)	Band 4			Yes	Yes	Yes	Yes	80	
		Band 71			Yes	Yes	Yes	Yes		
		Band 2	2A-2A BCS 0							
2A-2A-5A-30A	(0)	Band 5			Yes	Yes			60	
		Band 30			Yes	Yes				
		Band 2	2A-2A BCS 0							
2A-2A-5A-66A	(0)	Band 5			Yes	Yes			70	
		Band 66			Yes	Yes	Yes	Yes		
		Band 2	2A-2A BCS 0							
2A-2A-12A-30A	(0)	Band 12			Yes	Yes			60	
		Band 30			Yes	Yes				
		Band 2	2A-2A BCS 0							
2A-2A-12A-66A	(0)	Band 12			Yes	Yes			70	
		Band 66			Yes	Yes	Yes	Yes		
2A-2A-12B	(0)	Band 2	2A-2A BCS 0							55
		Band 12	12B BCS 0							
2A-2A-13A-66A	(0)	Band 2	2A-2A BCS 0							70
		Band 13			Yes	Yes				
		Band 66			Yes	Yes	Yes	Yes		
2A-2A-14A-30A	(0)	Band 2	2A-2A BCS 0							60
		Band 14			Yes	Yes				
		Band 30			Yes	Yes				
2A-2A-14A-66A	(0)	Band 2	2A-2A BCS 0							70
		Band 14			Yes	Yes				
		Band 66			Yes	Yes	Yes	Yes		
2A-2A-29A-30A	(0)	Band 2	2A-2A BCS 0							60
		Band 29			Yes	Yes				
		Band 30			Yes	Yes				
2A-2A-29A-66A	(0)	Band 2	2A-2A BCS 0							70
		Band 29			Yes	Yes				
		Band 66			Yes	Yes	Yes	Yes		
2A-2A-30A-66A	(0)	Band 2	2A-2A BCS 0							70
		Band 30			Yes	Yes				
		Band 66			Yes	Yes	Yes	Yes		
2A-2A-66A-66A	(0)	Band 2	2A-2A BCS 0							80
		Band 66	66A-66A BCS 0							
2A-2A-66A-71A	(0)	Band 2	2A-2A BCS 0							80
		Band 66			Yes	Yes	Yes	Yes		
		Band 71			Yes	Yes	Yes	Yes		
2A-2A-66B	(0)	Band 2	2A-2A BCS 0							60
		Band 66	66B BCS 0							
2A-2A-66C	(0)	Band 2	2A-2A BCS 0							80
		Band 66	66C BCS 0							
2A-4A-4A-5A	(0)	Band 2			Yes	Yes	Yes	Yes	70	
		Band 4	4A-4A BCS 0							
		Band 5			Yes	Yes				
2A-4A-4A-12A	(0)	Band 2			Yes	Yes	Yes	Yes	70	
		Band 4	4A-4A BCS 0							
		Band 12			Yes	Yes				

LTE Downlink Carrier Aggregation configurations (Continued)

1. DL Inter Band(2CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
4A-13A	(0)	Band 4			Yes	Yes	Yes	Yes	30
		Band 13				Yes			
	(1)	Band 4			Yes				20
4A-48A	(0)	Band 13				Yes			40
		Band 4			Yes	Yes	Yes	Yes	
	(0)	Band 48			Yes	Yes	Yes	Yes	40
4A-71A	(0)	Band 4			Yes	Yes	Yes	Yes	40
		Band 71			Yes	Yes	Yes	Yes	
5A-25A	(0)	Band 5			Yes	Yes			30
		Band 25			Yes	Yes	Yes	Yes	
5A-30A	(0)	Band 5			Yes	Yes			20
		Band 30			Yes	Yes			
5A-41A	(0)	Band 5			Yes	Yes			30
		Band 41						Yes	
5A-48A	(0)	Band 5			Yes	Yes			30
		Band 48			Yes	Yes	Yes	Yes	
5A-66A	(0)	Band 5			Yes	Yes			30
		Band 66			Yes	Yes	Yes	Yes	
12A-25A	(0)	Band 12			Yes	Yes			30
		Band 25			Yes	Yes	Yes	Yes	
12A-30A	(0)	Band 12			Yes	Yes			20
		Band 30			Yes	Yes			
12A-66A	(0)	Band 12			Yes	Yes			20
		Band 66	Yes	Yes	Yes	Yes			
		Band 66	Yes	Yes	Yes	Yes			
	(1)	Band 12			Yes	Yes			30
		Band 66	Yes	Yes	Yes	Yes	Yes	Yes	
	(2)	Band 12		Yes	Yes	Yes			30
		Band 66			Yes	Yes	Yes	Yes	
	(3)	Band 12			Yes	Yes			20
		Band 66			Yes	Yes			
	(4)	Band 12			Yes	Yes			30
		Band 66			Yes	Yes	Yes	Yes	
13A-48A	(0)	Band 12			Yes	Yes			20
		Band 66			Yes	Yes	Yes	Yes	
13A-66A	(0)	Band 13			Yes	Yes			30
		Band 66			Yes	Yes	Yes	Yes	
14A-30A	(0)	Band 14			Yes	Yes			20
		Band 30			Yes	Yes			
14A-66A	(0)	Band 14			Yes	Yes			30
		Band 66			Yes	Yes	Yes	Yes	
25A-41A	(0)	Band 25			Yes	Yes	Yes	Yes	40
		Band 41			Yes	Yes	Yes	Yes	
29A-30A	(0)	Band 29			Yes	Yes			20
		Band 30			Yes	Yes			
29A-66A	(0)	Band 29			Yes	Yes			30
		Band 66			Yes	Yes	Yes	Yes	
30A-66A	(0)	Band 30			Yes	Yes			30
		Band 66			Yes	Yes	Yes	Yes	

2. DL Inter Band(3CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
2A-14A-30A	(0)	Band 2			Yes	Yes	Yes	Yes	40
		Band 14			Yes	Yes			
		Band 30			Yes	Yes			
2A-14A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 14			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-29A-30A	(0)	Band 2			Yes	Yes	Yes	Yes	40
		Band 29			Yes	Yes			
		Band 30			Yes	Yes			
2A-29A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 29			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-30A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-48A-48A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 29			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-48A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
2A-48C	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
2A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 66			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
2A-66A-71A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 66			Yes	Yes	Yes	Yes	
		Band 71			Yes	Yes	Yes	Yes	
2A-66B	(0)	Band 2			Yes	Yes	Yes	Yes	40
		Band 66			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
2A-66C	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 66			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
2C-66A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 66			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
4A-4A-5A	(0)	Band 4			Yes	Yes			50
		Band 5			Yes	Yes			
		Band 5			Yes	Yes			
4A-4A-12A	(0)	Band 4			Yes	Yes			50
		Band 12			Yes	Yes			
		Band 12			Yes	Yes			
4A-4A-13A	(0)	Band 4			Yes	Yes			50
		Band 13			Yes	Yes			
		Band 13			Yes	Yes			
4A-4A-71A	(0)	Band 4			Yes	Yes	Yes	Yes	60
		Band 71			Yes	Yes	Yes	Yes	
		Band 71			Yes	Yes	Yes	Yes	
4A-12B	(0)	Band 4			Yes	Yes	Yes	Yes	35
		Band 12			Yes	Yes	Yes	Yes	
		Band 12			Yes	Yes	Yes	Yes	
4A-48C	(0)	Band 4			Yes	Yes	Yes	Yes	60
		Band 48			Yes	Yes	Yes	Yes	
		Band 48			Yes	Yes	Yes	Yes	
5A-30A-66A	(0)	Band 5			Yes	Yes			40
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
5A-48A-66A	(0)	Band 5			Yes	Yes			50
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
5A-48C	(0)	Band 5			Yes	Yes			50
		Band 48			Yes	Yes			
		Band 48			Yes	Yes			
5A-66A-66A	(0)	Band 5			Yes	Yes			50
		Band 66			Yes	Yes			
		Band 66			Yes	Yes			

3. DL Inter Band(4CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
2A-4A-12B	(0)	Band 2			Yes	Yes	Yes	Yes	55
		Band 4			Yes	Yes	Yes	Yes	
		Band 12 12B BCS 0							
2A-5A-30A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 5			Yes	Yes			
		Band 30			Yes	Yes			
2A-5A-48C	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 5	Yes	Yes	Yes	Yes	Yes	Yes	
		Band 48 48C BCS 0							
2A-5A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 5			Yes	Yes			
		Band 66 66A-66A BCS 0							
2A-5A-66B	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 5			Yes	Yes			
		Band 66 66B BCS 0							
2A-5A-66C	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 5			Yes	Yes			
		Band 66 66C BCS 0							
2A-12A-30A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 12			Yes	Yes			
		Band 30			Yes	Yes			
2A-12A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 12			Yes	Yes			
		Band 66 66A-66A BCS 0							
2A-12A-66C	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 12			Yes	Yes			
		Band 66 66C BCS 0							
2A-12B-66A	(0)	Band 2			Yes	Yes	Yes	Yes	55
		Band 12			12B BCS 0				
		Band 66			Yes	Yes	Yes	Yes	
2A-13A-48A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 13			Yes	Yes			
		Band 48			Yes	Yes	Yes	Yes	
2A-13A-48C	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 13			Yes	Yes			
		Band 48 48C BCS 0							
2A-13A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 13			Yes	Yes			
		Band 66 66A-66A BCS 0							
2A-13A-66B	(0)	Band 2			Yes	Yes	Yes	Yes	50
		Band 13			Yes	Yes			
		Band 66 66B BCS 0							
2A-13A-66C	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 13			Yes	Yes			
		Band 66 66C BCS 0							
2A-14A-30A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 14			Yes	Yes			
		Band 30			Yes	Yes			
2A-14A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 14			Yes	Yes			
		Band 66 66A-66A BCS 0							

LTE Downlink Carrier Aggregation configurations (Continued)

2. DL Inter Band(3CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
5A-66B	(0)	Band 5			Yes	Yes			30
		Band 66			66B BCS 0				
5A-66C	(0)	Band 5	Yes	Yes					50
		Band 66			66C BCS 0				
12A-30A-66A	(0)	Band 12			Yes	Yes			40
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
12A-66A-66A	(0)	Band 12			Yes	Yes			50
		Band 66			66A-66A BCS 0				
12A-66C	(0)	Band 12			Yes	Yes			50
		Band 66			66C BCS 0				
12B-66A	(0)	Band 12			12B BCS 0				35
		Band 66			Yes	Yes	Yes	Yes	
13A-48A-66A	(0)	Band 13			Yes	Yes			50
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
13A-48B	(0)	Band 13			Yes	Yes			30
		Band 48			48B BCS 0				
13A-48C	(0)	Band 13			Yes	Yes			50
		Band 48			48C BCS 0				
13A-66A-66A	(0)	Band 13			Yes	Yes			50
		Band 66			66A-66A BCS 0				
13A-66B	(0)	Band 13			Yes	Yes			30
		Band 66			66B BCS 0				
13A-66C	(0)	Band 13			Yes	Yes			50
		Band 66			66C BCS 0				
14A-30A-66A	(0)	Band 14			Yes	Yes			40
		Band 30			Yes	Yes	Yes	Yes	
		Band 66			Yes	Yes	Yes	Yes	
14A-66A-66A	(0)	Band 14			Yes	Yes			50
		Band 66			66A-66A BCS 0				
25A-41C	(0)	Band 25			Yes	Yes	Yes	Yes	60
		Band 41			41C BCS 1				
29A-30A-66A	(0)	Band 29			Yes	Yes			40
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
29A-66A-66A	(0)	Band 29			Yes	Yes			50
		Band 66			66A-66A BCS 0				
30A-66A-66A	(0)	Band 30			Yes	Yes			50
		Band 66			66A-66A BCS 0				
48A-48A-66A	(0)	Band 48			48A-48A BCS 0				60
		Band 66			Yes	Yes	Yes	Yes	
48A-48A-71A	(0)	Band 48			48A-48A BCS 0				60
		Band 71			Yes	Yes	Yes	Yes	
48A-66A-66A	(0)	Band 48			Yes	Yes	Yes	Yes	60
		Band 66			66A-66A BCS 0				
48A-66B	(0)	Band 48			Yes	Yes	Yes	Yes	40
		Band 66			66B BCS 0				
48A-66C	(0)	Band 48			Yes	Yes	Yes	Yes	60
		Band 66			66B BCS 0				
48B-66A	(0)	Band 48			48B BCS 0				40
		Band 66			Yes	Yes	Yes	Yes	
48C-66A	(0)	Band 48			48C BCS 0				60
		Band 66			Yes	Yes	Yes	Yes	
48C-71A	(0)	Band 48			48C BCS 0				60
		Band 71			Yes	Yes	Yes	Yes	
66A-66A-71A	(0)	Band 66			66A-66A BCS 0				60
		Band 71			Yes	Yes	Yes	Yes	
66C-71A	(0)	Band 66			66C BCS 0				60
		Band 71			Yes	Yes	Yes	Yes	

3. DL Inter Band(4CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
2A-29A-30A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	60
		Band 29			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-29A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 29			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-30A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	70
		Band 30			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-48A-48A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 48			48A-48A BCS 0				
		Band 66			Yes	Yes	Yes	Yes	
2A-48A-48C	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 48			48A-48C BCS 0				
2A-48A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			66A-66A BCS 0				
2A-48C-66A	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 48			48C BCS 0				
2A-48D	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 48			48D BCS 0				
2A-66A-66A-71A	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 66			66A-66A BCS 0				
2C-66A-66A	(0)	Band 71			Yes	Yes	Yes	Yes	80
		Band 2			2C BCS 0				
2A-66C-71A	(0)	Band 66			66A-66A BCS 0				80
		Band 2			Yes	Yes	Yes	Yes	
		Band 66			66C BCS 0				
		Band 71			Yes	Yes	Yes	Yes	
4A-4A-12B	(0)	Band 4			4A-4A BCS 0				55
		Band 12			12B BCS 0				
4A-48D	(0)	Band 4			Yes	Yes	Yes	Yes	40
		Band 48			48D BCS 0				
5A-30A-66A-66A	(0)	Band 5			Yes	Yes			60
		Band 30			Yes	Yes			
		Band 66			66A-66A BCS 0				
5A-48A-66A-66A	(0)	Band 5			Yes	Yes			70
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			66A-66A BCS 0				
5A-48C-66A	(0)	Band 5			Yes	Yes			70
		Band 48			48C BCS 0				
5A-48D	(0)	Band 5			Yes	Yes	Yes	Yes	70
		Band 48			48D BCS 0				
12A-30A-66A-66A	(0)	Band 12			Yes	Yes			60
		Band 30			Yes	Yes			
		Band 66			66A-66A BCS 0				
12B-66A-66A	(0)	Band 12			12B BCS 0				50
		Band 66			66A-66A BCS 0				
13A-48A-66B	(0)	Band 13			Yes	Yes			70
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			66B BCS 0				
13A-48A-66C	(0)	Band 13			Yes	Yes			70
		Band 48			Yes	Yes	Yes	Yes	
		Band 66			66C BCS 0				
13A-48C-66A	(0)	Band 13			Yes	Yes			70
		Band 48			48C BCS 0				
		Band 66			Yes	Yes	Yes	Yes	

4. DL Inter Band(5CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
2A-2A-5A-30A-66A	(0)	Band 2			2A-2A BCS 0				80
		Band 5			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-2A-5A-66A-66A	(0)	Band 2			2A-2A BCS 0				90
		Band 5			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-2A-5A-66B	(0)	Band 2			2A-2A BCS 0				70
		Band 5			Yes	Yes			
		Band 66			66B BCS 0				
2A-2A-5A-66C	(0)	Band 2			2A-2A BCS 0				90
		Band 5			Yes	Yes			
		Band 66			66C BCS 0				
2A-2A-12A-30A-66A	(0)	Band 2			2A-2A BCS 0				80
		Band 5			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-2A-12A-66A-66A	(0)	Band 2			2A-2A BCS 0				90
		Band 12			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-2A-12B-66A	(0)	Band 2			2A-2A BCS 0				75
		Band 5			12B BCS 0				
		Band 66			Yes	Yes	Yes	Yes	
2A-2A-13A-66A-66A	(0)	Band 2			2A-2A BCS 0				90
		Band 13			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-2A-14A-30A-66A	(0)	Band 2			2A-2A BCS 0				80
		Band 14			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-2A-14A-66A-66A	(0)	Band 2			2A-2A BCS 0				90
		Band 14			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-2A-29A-30A-66A	(0)	Band 2			2A-2A BCS 0				80
		Band 29			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66			Yes	Yes	Yes	Yes	
2A-2A-29A-66A-66A	(0)	Band 2			2A-2A BCS 0				90
		Band 14			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-5A-30A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 5			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66			66A-66A BCS 0				
2A-5A-48A-66A-66A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	90
		Band 5			Yes	Yes			
		Band 48			Yes	Yes	Yes	Yes	
		Band 66	Yes	Yes	Yes	Yes	Yes	Yes	
2A-5A-48C-66A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	90
		Band 5			Yes	Yes			
		Band 48			48C BCS 0				
2A-5A-48D	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	90
		Band 5			Yes	Yes			
		Band 48			48D BCS 0				
2A-12A-30A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 12			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66			66A-66A BCS 0				

LTE Downlink Carrier Aggregation configurations (Continued)

3. DL Inter Band(4CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
13A-48D	(0)	Band 13			Yes	Yes			70
		Band 48	48D BCS 0						
14A-30A-66A-66A	(0)	Band 14			Yes	Yes			60
		Band 30			Yes	Yes			
		Band 66	66A-66A BCS 0						
25A-41D	(0)	Band 25			Yes	Yes	Yes	Yes	80
		Band 41	41D BCS 0						
29A-30A-66A-66A	(0)	Band 29			Yes	Yes			60
		Band 30			Yes	Yes			
		Band 66	66A-66A BCS 0						
48A-48A-66A-66A	(0)	Band 48	48A-48C BCS 0						80
		Band 66	66A-66A BCS 0						
48A-48C-66A	(0)	Band 48	48A-48C BCS 0						80
		Band 66			Yes	Yes	Yes	Yes	
48C-66A-66A	(0)	Band 48	48C BCS 0						80
		Band 66	66A-66A BCS 0						
48C-66B	(0)	Band 48	48C BCS 0						60
		Band 66	66B BCS 0						
48C-66C	(0)	Band 48	48C BCS 0						60
		Band 66	66C BCS 0						

4. DL Inter Band(5CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
2A-12B-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	75
		Band 12	12B BCS 0						
		Band 66	66A-66A BCS 0						
2A-13A-48C-66A	(0)	Band 2			Yes	Yes	Yes	Yes	90
		Band 13			Yes	Yes			
		Band 48	48C BCS 0						
2A-13A-48D	(0)	Band 66			Yes	Yes	Yes	Yes	90
		Band 2			Yes	Yes	Yes	Yes	
		Band 48			Yes	Yes			
2A-14A-30A-66A-66A	(0)	Band 2			Yes	Yes	Yes	Yes	80
		Band 14			Yes	Yes			
		Band 30			Yes	Yes			
		Band 66	66A-66A BCS 0						
2A-48A-48C-66A	(0)	Band 2			Yes	Yes	Yes	Yes	100
		Band 48	48A-48C BCS 0						
		Band 66			Yes	Yes	Yes	Yes	
2A-48C-48C	(0)	Band 2			Yes	Yes	Yes	Yes	100
		Band 48	48C-48C BCS 0						
2A-48C-66A-66A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	100
		Band 48	48C BCS 0						
		Band 66			Yes	Yes	Yes	Yes	
2A-48D-66A	(0)	Band 2			Yes	Yes	Yes	Yes	100
		Band 48	48D BCS 0						
		Band 66			Yes	Yes	Yes	Yes	
2A-48E	(0)	Band 2			Yes	Yes	Yes	Yes	100
		Band 48	48E BCS 0						
4A-48E	(0)	Band 2			Yes	Yes	Yes	Yes	100
		Band 48	48E BCS 0						
5A-48C-66A-66A	(0)	Band 2			Yes	Yes			90
		Band 48	48C BCS 0						
		Band 66	66A-66A BCS 0						
5A-48D-66A	(0)	Band 5			Yes	Yes			90
		Band 48	48D BCS 0						
13A-48D-66A	(0)	Band 66	Yes	Yes	Yes	Yes	Yes	Yes	90
		Band 13			Yes	Yes			
		Band 48	48D BCS 0						
13A-48E	(0)	Band 66			Yes	Yes	Yes	Yes	90
		Band 13			Yes	Yes			
48C-48C-66A	(0)	Band 48	48E BCS 0						90
		Band 48	48C-48C BCS 0						
48A-48D-66A	(0)	Band 66			Yes	Yes	Yes	Yes	100
		Band 48	48A-48D BCS 0						
	(0)	Band 66			Yes	Yes	Yes	Yes	100
		Band 48	48E BCS 0						

5. DL Inter Band(6CC)

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Bandwidth						Max Aggregated BW
			1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
2A-5A-48C-66A-66A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	110
		Band 5			Yes	Yes			
		Band 48	48C BCS 0						
		Band 66	66A-66A BCS 0						
2A-48E-66A-66A	(0)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	140
		Band 48	48E BCS 0						
		Band 66	66A-66A BCS 0						
5A-48D-66A-66A	(0)	Band 5			Yes	Yes			110
		Band 48	48D BCS 0						
		Band 66	66A-66A BCS 0						

LTE Uplink / Downlink Carrier Aggregation Intra-band configurations**6. DL Intra Band(non-contiguous)**

E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)				Max Aggregated BW
			1st Carrier	2nd Carrier	3rd Carrier	4th Carrier	
2A-2A	(0)	Band 2	5, 10, 15, 20	5, 10, 15, 20			40
4A-4A	(0)	Band 4	5, 10, 15, 20	5, 10, 15, 20			40
	(1)	Band 4	5, 10	5, 10			20
25A-25A	(0)	Band 25	5, 10	5, 10			20
	(1)	Band 25	5, 10, 15, 20	5, 10, 15, 20			40
41A-41A	(0)	Band 41	10, 15, 20	10, 15, 20			40
	(1)	Band 41	5, 10, 15, 20	5, 10, 15, 20			40
41A-41C	(0)	Band 41	5, 10, 15, 20	41C BCS 1			60
			41C BCS 1	5, 10, 15, 20			
48A-48A	(0)	Band 48	5, 10, 15, 20	5, 10, 15, 20			40
48A-48C	(0)	Band 48	5, 10, 15, 20	48C BCS 0			60
			48C BCS 0	5, 10, 15, 20			
48A-48D	(0)	Band 48	5, 10, 15, 20	48D BCS 0			80
			48D BCS 0	5, 10, 15, 20			
48C-48C	(0)	Band 48	48C BCS 0	48C BCS 0			80
48A-48E	(0)	Band 48	5, 10, 15, 20	48E BCS 0			100
			48E BCS 0	5, 10, 15, 20			
48C-48D	(0)	Band 48	48C BCS 0	48D BCS 0			100
			48D BCS 0	48C BCS 0			
66A-66A	(0)	Band 66	5, 10, 15, 20	5, 10, 15, 20			40

7. DL Intra Band(contiguous)

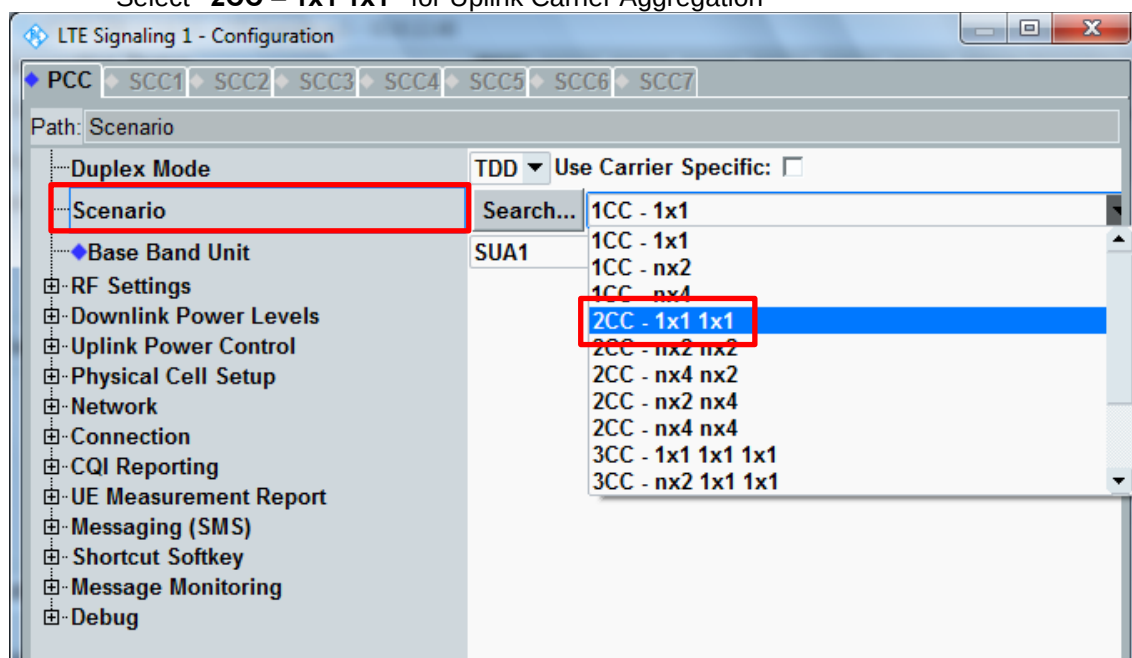
E-UTRA CA configuration	Bandwidth Combination Set	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)					Max Aggregated BW
			1st Carrier	2nd Carrier	3rd Carrier	4th Carrier	5th Carrier	
2C	(0)	Band 2	5	20				40
			10	15, 20				
			15	10, 15, 20				
			20	5, 10, 15, 20				
5B	(0)	Band 5	5, 10	10				20
			10	5				
	(1)	Band 5	3	5				8
			5	3				
12B	(0)	Band 12	5, 10	5				15
41C	(0)	Band 41	10	20				40
			15	15, 20				
			20	10, 15, 20				
	(1)	Band 41	5, 10	20				40
			15	15, 20				
			20	5, 10, 15, 20				
	(2)	Band 41	10	15, 20				40
			15	10, 15, 20				
			20	10, 15, 20				
	(3)	Band 41	10	20				40
			20	20				
			20	10, 15, 20	15, 20			
41D	(0)	Band 41	10	20	15			60
			10	15, 20	20			
			15	20	10, 15			
			15	10, 15, 20	20			
			20	15, 20	10			
			20	10, 15, 20	15, 20			
48B	(0)	Band 48	10	10				20
48C	(0)	Band 48	5, 10, 15, 20	20				40
			20	5, 10, 15				
48D	(0)	Band 48	5, 10, 15, 20	20	20			60
			20	20	5, 10, 15			
48E	(0)	Band 48	5, 10, 15, 20	20	20	20		80
			20	20	20	5, 10, 15		
66B	(0)	Band 66	5	5, 10, 15				20
			10	5, 10				
			15	5				
66C	(0)	Band 66	5	20				40
			10	15, 20				
			15	10, 15, 20				
			20	5, 10, 15, 20				

Note:

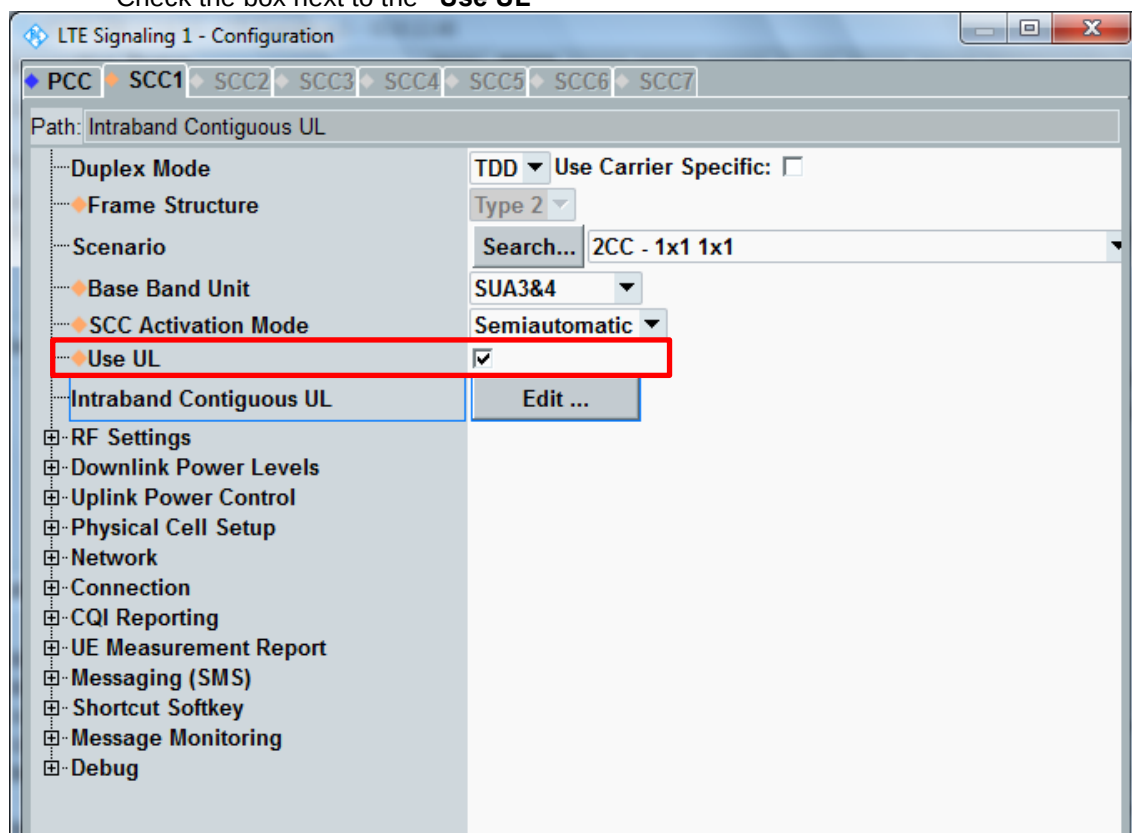
LTE CA_5B, 41C, 48C, 66B, 66C are supported in both Uplink and Downlink, other CA configurations are supported only Downlink

LTE Uplink Carrier Aggregation – Output Power measurement procedures

- Change the Scenario in the Configuration of LTE Signaling
Select **“2CC – 1x1 1x1”** for Uplink Carrier Aggregation



- Check the box next to the **“Use UL”**



- Back to the LTE Signal screen, and then select the PCC tab,
Set operating band, BW, channel and RB configurations for PCC

The screenshot shows the 'LTE Signaling 1' interface with the 'PCC' tab selected. The 'Connection Status' section on the left shows 'Cell' as 'ON', 'Packet Switched' as 'ON', 'RRC State' as 'Idle', and 'SCC1 State' as 'OFF'. The 'Event Log' shows a sequence of events from 06:13:39 to 06:13:20. The 'UE Info' section shows fields for IMEI, IMSI, Voice Domain Pr..., UE's Usage Setti..., Default Bearer, and Dedicated Bearer. The main configuration area shows the following settings:

Parameter	Value
Operating Band	Band 41
Channel	40620 Ch
Frequency	2593.0 MHz
Cell Bandwidth	20.0 MHz
RS EPRE	-85.0 dBm/15kHz
Full Cell BW Pow.	-54.2 dBm
PUSCH Open Loop Nom.Power	23 dBm
PUSCH Closed Loop Target Power	24.0 dBm
Sched.	User def. Channels
# RB	100
Start RB	0
Mod / TBSI	QPSK 5
Code Rate / TBS	0.328 8760
Throughput	3.478 Mbit/s

The right sidebar shows the 'LTE' tab selected, with 'LTE 1 TX Meas.' and 'LTE 1 RX Meas.' options. The 'Go to...' button is visible. The 'Routing' section is also present. The 'LTE Signaling' status is 'ON'.

- Select the SCC1 tab,
Set operating band, BW, channel, and RB configurations for SCC1

The screenshot shows the 'LTE Signaling 1' interface with the 'SCC1' tab selected. The 'Connection Status' section on the left shows 'Cell' as 'ON', 'Packet Switched' as 'ON', 'RRC State' as 'Idle', and 'SCC1 State' as 'OFF'. The 'Event Log' shows a sequence of events from 06:13:39 to 06:13:20. The 'UE Info' section shows fields for IMEI, IMSI, Voice Domain ..., UE's Usage S..., Default Bearer, and Dedicated Be... The main configuration area shows the following settings:

Parameter	Value
Operating Band	Band 41
Channel	40818 Ch
Frequency	2612.8 MHz
Cell Bandwidth	20.0 MHz
RS EPRE	-85.0 dBm/15kHz
Full Cell BW Pow.	-54.2 dBm
PUSCH Open Loop Nom.Power	23 dBm
PUSCH Closed Loop Target Power	24.0 dBm
Sched.	User def. Channels
# RB	100
Start RB	0
Mod / TBSI	QPSK 5
Code Rate / TBS	0.328 8760
Throughput	3.478 Mbit/s

The right sidebar shows the 'LTE' tab selected, with 'LTE 1 TX Meas.' and 'LTE 1 RX Meas.' options. The 'Go to...' button is visible. The 'Routing' section is also present. The 'LTE Signaling' status is 'ON'.

- Click the **“Connect”** button at the bottom of the screen, if necessary, turn the Airplane mode on/off in the DUT

CMW 500 V 3.8.12 - LTE Signaling 1 - X3.8.12.48

Connection Status

Cell:  Connection Established

RRC State: Connected

SCC1 State: MAC Activated

Event Log

06:16:44 State 'Connection Established'

06:16:44 EPS Dedicated Bearer Establis

06:16:43 SCC1: MAC Activated

06:16:41 SCC1: RRC Added

06:16:41 SCC1: On

06:16:30 SCC1: Off

UE Info

IMEI: 355346630026654

IMSI: 001010123456063

Voice Domain ... IMS PS Voice preferred CS

UE's Usage S... Data centric

Default Bearer IPv4 address IPv6 prefix

5 (cmw50... 192.168.48.129

Dedicated Be... TFT Port Range DL / UL

6 (->5, Def... 5005 - 5008 / 5005 - 5008

Operating Band Band 41 TDD

Downlink

Channel: 40818 Ch

Frequency: 2612.8 MHz

Cell Bandwidth: 20.0 MHz

RS EPRE: -85.0 dBm/15kHz

Full Cell BW Pow.: -54.2 dBm

PUSCH Open Loop Norm.Power: 23 dBm

PUSCH Closed Loop Target Power: 24.0 dBm

PCC <-> SCC1 Swap

PCC -> SCC1 Copy

Sched. User def. Channels Multicliuser UL

64/256-QAM

Downlink Multicliuser Uplink

RB: 100 1

Start RB: 0 0

Mod / TBSI: QPSK 5 QPSK 10

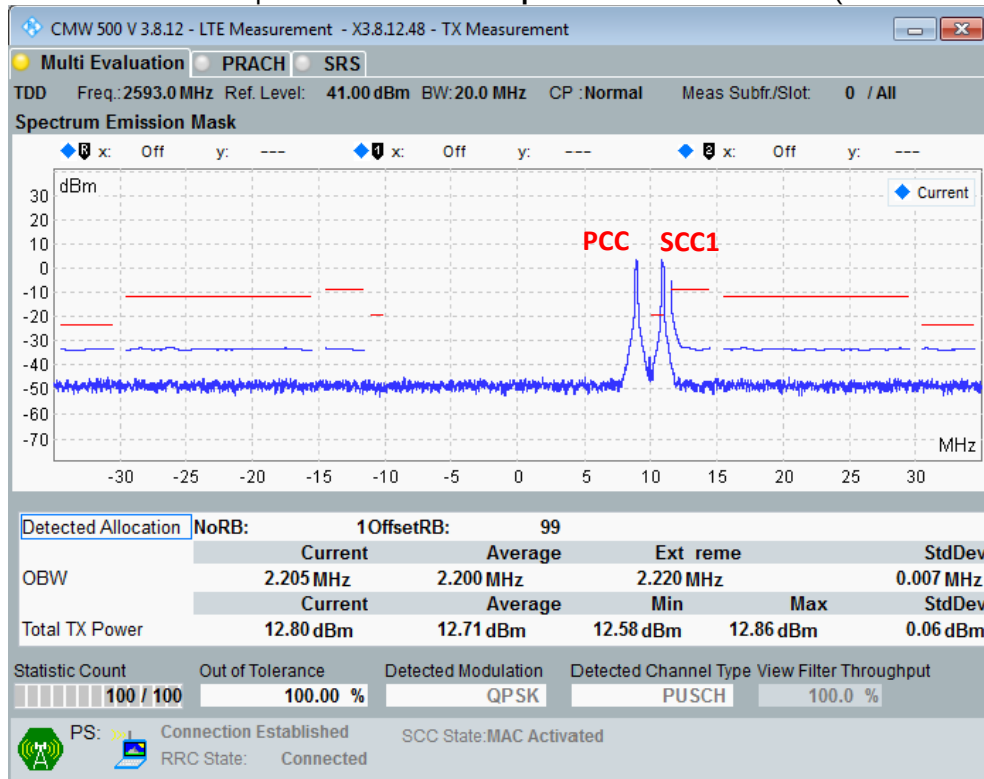
Code Rate / TBS: 0.328 8760 0.583 144

Throughput: 3.478 Mbit/s 0.057 Mbit/s

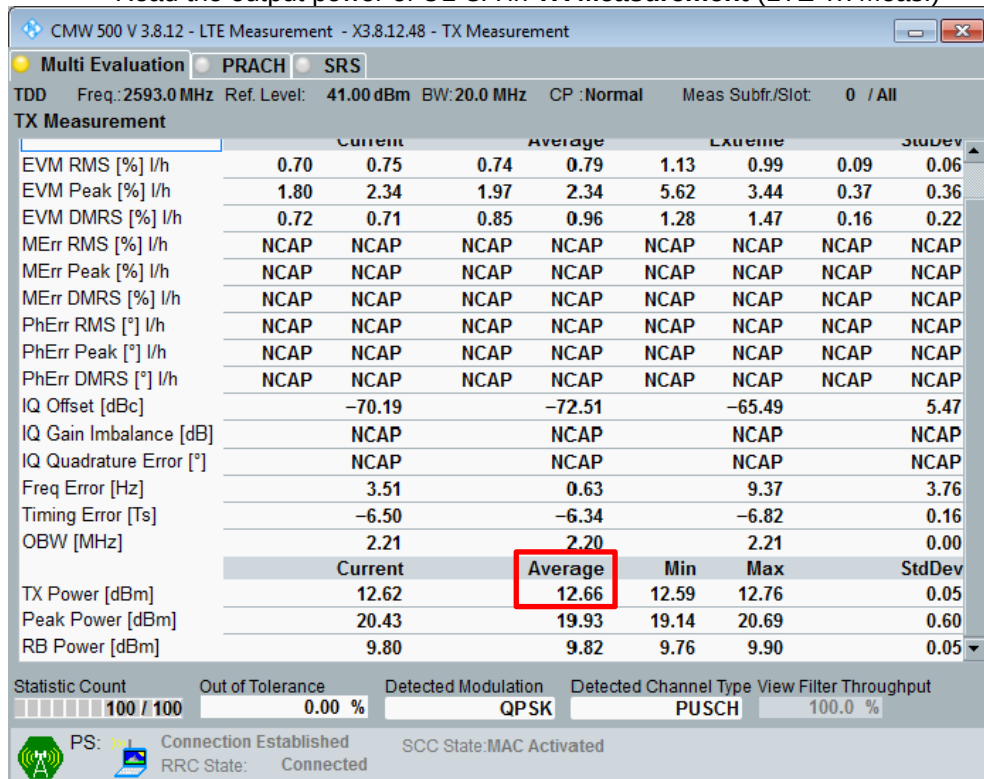
LTE Signaling ON

Detach **Disconnect** SCC1 Off Send SMS Inter/Intra-RAT ... Config ...

- Check the spectrum of UL CA in **Spectrum Emission Mask** (LTE Tx Meas.)

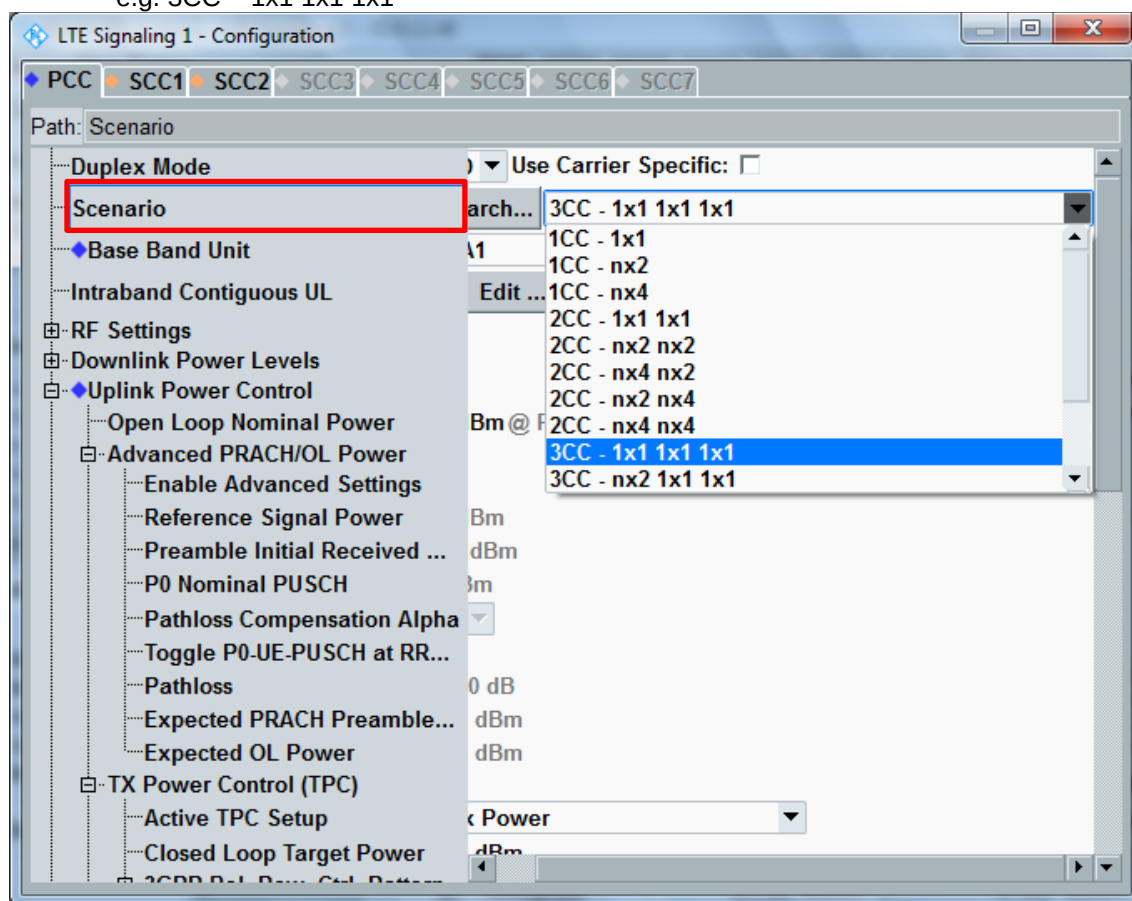


- Read the output power of UL CA in **TX Measurement** (LTE Tx Meas.)

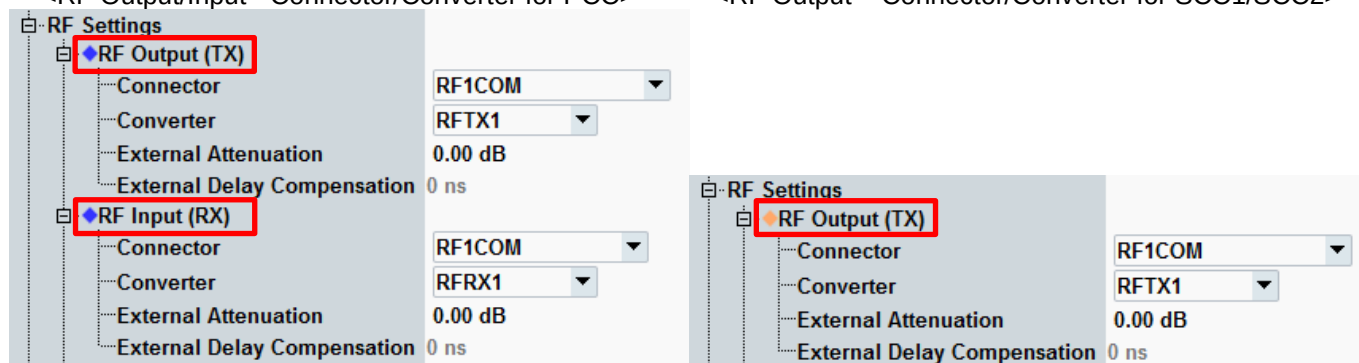


LTE Downlink Carrier Aggregation - Output Power measurement procedures

- Change the Scenario in the Configuration of LTE Signaling
e.g. 3CC – 1x1 1x1 1x1



- Set the RF Output/Input Connector and Converter for PCC/SCC1/SCC2 in each tab.
<RF Output/Input - Connector/Converter for PCC> <RF Output – Connector/Converter for SCC1/SCC2>



- Back to the LTE Signal screen, and then select the PCC tab,
Set operating band, BW, channel and RB configurations for PCC

CMW 500 V 3.8.12 - LTE Signaling 1 - X3.8.12.48

Connection Status

Cell:  Connection Established

RRC State: Connected
 SCC1 State: OFF
 SCC2 State: OFF

Event Log

06:36:17 SCC2: Off
 06:36:17 SCC2: On
 06:36:17 SCC2: RRC Added
 06:36:16 SCC1: Off
 06:36:16 SCC1: On
 06:36:16 SCC1: RRC Added
 06:36:12 SCC2: MAC Activated

UE Info

IMEI: 355346630026654
 IMSI: 001010123456063
 Voice Domain Pr...: IMS PS Voice preferred CS Voi
 UE's Usage Setti...: Data centric
 Default Bearer: IPv4 address IPv6 prefix
 ...5 (cmw500.r...: 192.168.48.129
 Dedicated Bearer: TFT Port Range DL / UL
 ...6 (->5, Default): 5005 - 5008 / 5005 - 5008

Operating Band: Band 66 FDD

Channel: 67036 Ch 132572 Ch

Frequency: 2170.0 MHz 1770.0 MHz

Cell Bandwidth: 20.0 MHz 20.0 MHz

RS EPRE: -85.0 dBm/15kHz

Full Cell BW Pow.: -54.2 dBm

PUSCH Open Loop Nom.Power: 23 dBm

PUSCH Closed Loop Target Power: 24.0 dBm

Sched.: User def. Channels

RB: 100 1

Start RB: 0 0

Mod / TBSI: QPSK 5 QPSK 10

Code Rate / TBS: 0.330 8760 0.583 144

Throughput: 8.734 Mbit/s 0.144 Mbit/s

Downlink Multicenter ☐ Uplink ☐ Multicenter ☐

64/256-QAM ☐

LTE Signaling: ON

Buttons: Detach Disconnect SCC1 activate MAC Multiple SCC Actions Send SMS Inter/Intra-RAT ... Config ...

- Select the SCC1/SCC2 tab, set operating band, BW, channel and RB configurations for SCC1/SCC2

CMW 500 V 3.8.12 - LTE Signaling 1 - X3.8.12.48

Connection Status

Cell:  Connection Established

RRC State: Connected
SCC1 State: OFF
SCC2 State: OFF

Event Log

06:36:17 SCC2: Off
06:36:17 SCC2: On
06:36:17 SCC2: RRC Added
06:36:16 SCC1: Off
06:36:16 SCC1: On
06:36:16 SCC1: RRC Added
06:36:12 SCC2: MAC Activated

UE Info

IMEI: 355346630026654
IMSI: 001010123456063
Voice Domain: IMS PS Voice preferred CS
UE's Usage S...: Data centric
Default Bearer: IPv4 address IPv6 prefix
5 (cmw50...): 192.168.48.129
Dedicated Be...: TFT Port Range DL / UL
6 (->5, Def...): 5005 - 5008 / 5005 - 5008

Operating Band: Co-location active with PCC: FDD

Channel: 66536 Ch
Frequency: 2120.0 MHz
Cell Bandwidth: 20.0 MHz
RS EPRE: -85.0 dBm/15kHz
Full Cell BW Pow.: -54.2 dBm

PCC <-> SCC1 Swap

PCC -> SCC1 Copy

Sched.: User def. Channels

Downlink: Multicli... ☐
RB: 100
Start RB: 0
Mod / TBSI: QPSK 5
Code Rate / TBS: 0.330 8760
Throughput: 8.734 Mbit/s

Buttons: Detach, Disconnect, SCC1 activate MAC, Multiple SCC Actions, Send SMS, Inter/Intra-RAT ..., Config ...

CMW 500 V 3.8.12 - LTE Signaling 1 - X3.8.12.48

Connection Status

Cell:  Connection Established

RRC State: Connected
SCC1 State: OFF
SCC2 State: OFF

Event Log

06:36:17 SCC2: Off
06:36:17 SCC2: On
06:36:17 SCC2: RRC Added
06:36:16 SCC1: Off
06:36:16 SCC1: On
06:36:16 SCC1: RRC Added
06:36:12 SCC2: MAC Activated

UE Info

IMEI: 355346630026654
IMSI: 001010123456063
Voice Domain: IMS PS Voice preferred CS
UE's Usage S...: Data centric
Default Bearer: IPv4 address IPv6 prefix
5 (cmw50...): 192.168.48.129
Dedicated Be...: TFT Port Range DL / UL
6 (->5, Def...): 5005 - 5008 / 5005 - 5008

Operating Band: Band 71 FDD

Channel: 68761 Ch
Frequency: 634.5 MHz
Cell Bandwidth: 20.0 MHz
RS EPRE: -85.0 dBm/15kHz
Full Cell BW Pow.: -54.2 dBm

PCC <-> SCC2 Swap

PCC -> SCC2 Copy

Sched.: User def. Channels

Downlink: Multicli... ☐
RB: 100
Start RB: 0
Mod / TBSI: QPSK 5
Code Rate / TBS: 0.330 8760
Throughput: 8.734 Mbit/s

Buttons: Detach, Disconnect, SCC2 activate MAC, Multiple SCC Actions, Send SMS, Inter/Intra-RAT ..., Config ...

- Connect and Activate MAC for all SCCs

The screenshot shows the CMW 500 V 3.8.12 - LTE Signaling 1 - X3.8.12.48 interface. The 'Connection Status' tab is active, showing the PCC and SCC1, SCC2, SCC3, SCC4, SCC5, SCC6, and SCC7 tabs. The 'Operating Band' is set to Band 71, and the 'Downlink' and 'Uplink' are both set to FDD. The 'Channel' is 68761 Ch, 'Frequency' is 634.5 MHz, 'Cell Bandwidth' is 20.0 MHz, 'RS EPRE' is -85.0 dBm/15kHz, and 'Full Cell BW Pow.' is -54.2 dBm. The 'Event Log' shows the following events:

- 06:36:17 SCC2: Off
- 06:36:17 SCC2: On
- 06:36:17 SCC2: RRC Added
- 06:36:16 SCC1: Off
- 06:36:16 SCC1: On
- 06:36:16 SCC1: RRC Added
- 06:36:12 SCC2: MAC Activated

The 'UE Info' tab shows the following information:

- IMEI: 355346630026654
- IMSI: 001010123456063
- Voice Domain: IMS PS Voice prefer
- UE's Usage: Data centric
- Default Bearer: IPv4 address IPv6
- 5 (cmw50...): 192.168.48.129
- Dedicated Be...: TFT Port Range DL
- 6 (->5, Def...): 5005 - 5008 / 500

The 'Multiple SCC Actions' dialog box is open, showing the following actions:

- activate MAC (highlighted in red)
- activate MAC (highlighted in red)
- SynSet A ---
- SCC1 SCC2
- SynSet B ---
- SCC1 SCC2

The 'Multiple SCC Actions' button is highlighted in red. The 'LTE' tab is active, showing the 'LTE 1 TX Meas.' and 'LTE 1 RX Meas.' tabs. The 'Go to...' button is highlighted in red. The 'Routing' tab is active, showing the 'LTE Signaling' tab. The 'Config ...' button is highlighted in red.

- Read the output power of DL CA in TX Measurement (LTE Tx Meas.)

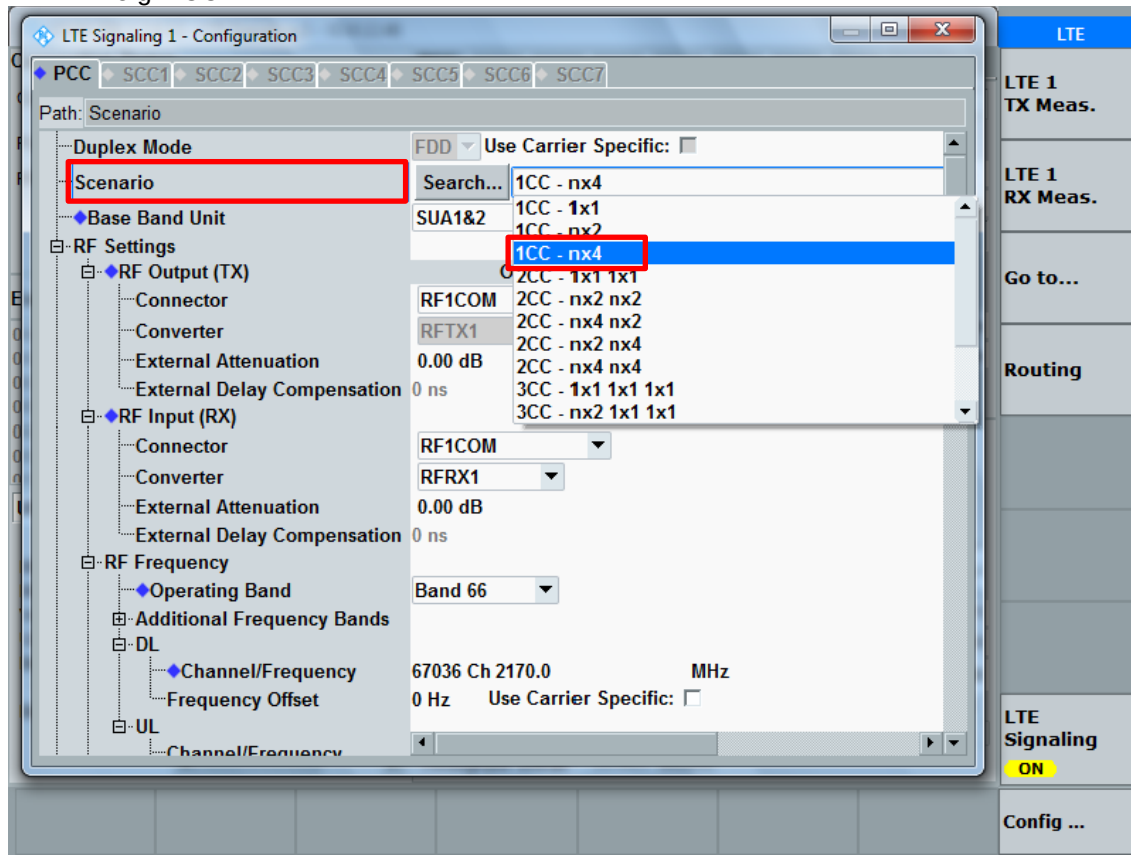
The screenshot shows the CMW 500 V 3.8.12 - LTE Measurement - X3.8.12.48 - TX Measurement interface. The 'Multi Evaluation' tab is active, showing the 'PRACH' and 'SRS' tabs. The 'FDD' frequency is 1770.0 MHz, 'Ref. Level' is 41.00 dBm, 'BW' is 20.0 MHz, 'CP' is Normal, and 'Meas Subfr/Slot' is 0 / All. The 'TX Measurement' table shows the following results:

	Current	Average	Extreme	StdDev
EVM RMS [%] I/h	0.64	0.71	0.68	0.71
EVM Peak [%] I/h	1.51	2.64	1.96	2.23
EVM DMRS [%] I/h	0.61	0.65	0.61	0.60
MErr RMS [%] I/h	NCAP	NCAP	NCAP	NCAP
MErr Peak [%] I/h	NCAP	NCAP	NCAP	NCAP
MErr DMRS [%] I/h	NCAP	NCAP	NCAP	NCAP
PhErr RMS [°] I/h	NCAP	NCAP	NCAP	NCAP
PhErr Peak [°] I/h	NCAP	NCAP	NCAP	NCAP
PhErr DMRS [°] I/h	NCAP	NCAP	NCAP	NCAP
IQ Offset [dBc]	-52.22	-52.32	-49.92	0.85
IQ Gain Imbalance [dB]	NCAP	NCAP	NCAP	NCAP
IQ Quadrature Error [°]	NCAP	NCAP	NCAP	NCAP
Freq Error [Hz]	0.51	0.09	-5.38	1.33
Timing Error [Ts]	-6.30	-5.63	-8.52	2.54
OBW [MHz]	0.27	0.27	0.32	0.02
	Current	Average	Min	Max
TX Power [dBm]	13.51	13.48	13.30	13.59
Peak Power [dBm]	18.40	18.60	17.80	19.50
RB Power [dBm]	13.48	13.46	13.37	13.50

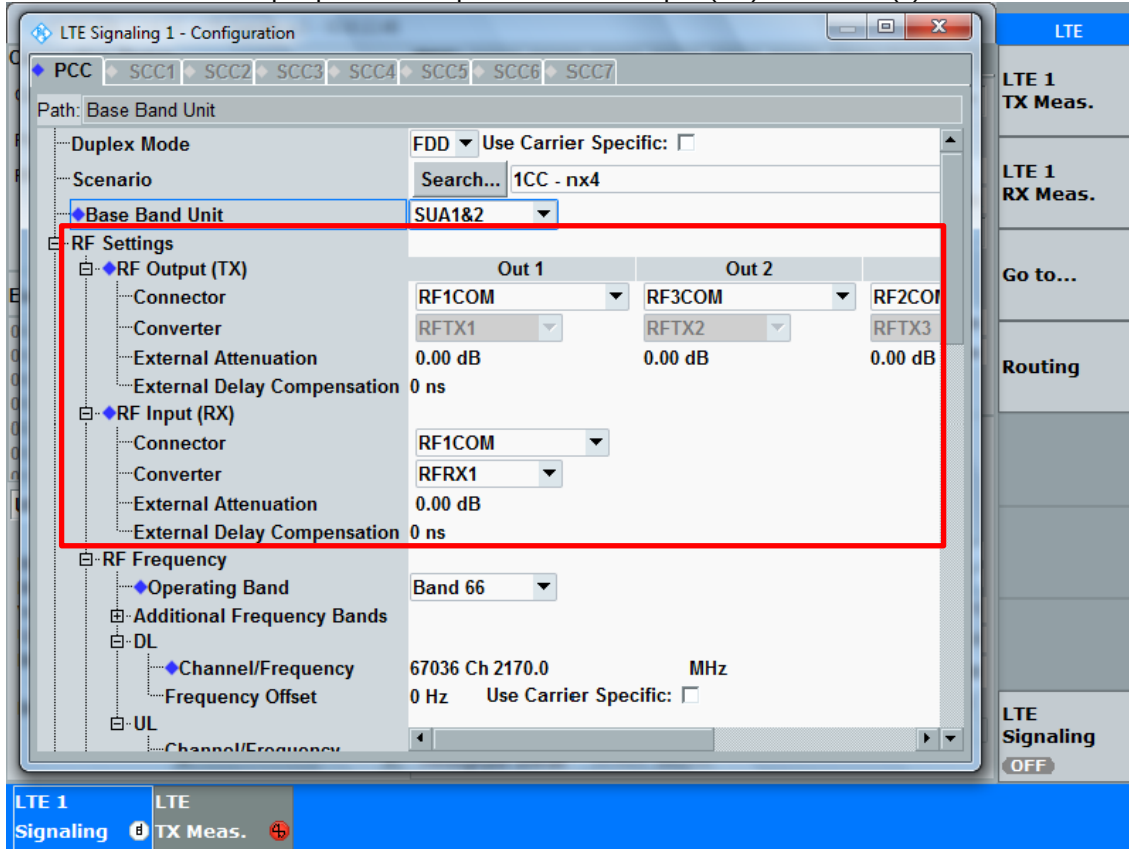
The 'Average' value for TX Power is highlighted in red. The 'Statistic Count' is 100 / 100, 'Out of Tolerance' is 0.00 %, 'Detected Modulation' is QPSK, 'Detected Channel Type' is PUSCH, and 'View Filter Throughput' is 100.0 %. The 'LTE' tab is active, showing the 'Multi Evaluation' tab. The 'Display' button is highlighted in red. The 'Signaling Parameter' tab is active, showing the 'LTE Signaling' tab. The 'Config ...' button is highlighted in red.

LTE Downlink 4x4 MIMO - Output Power measurement procedures

- Change the Scenario in the Configuration of LTE Signaling
e.g. 1CC – nx4

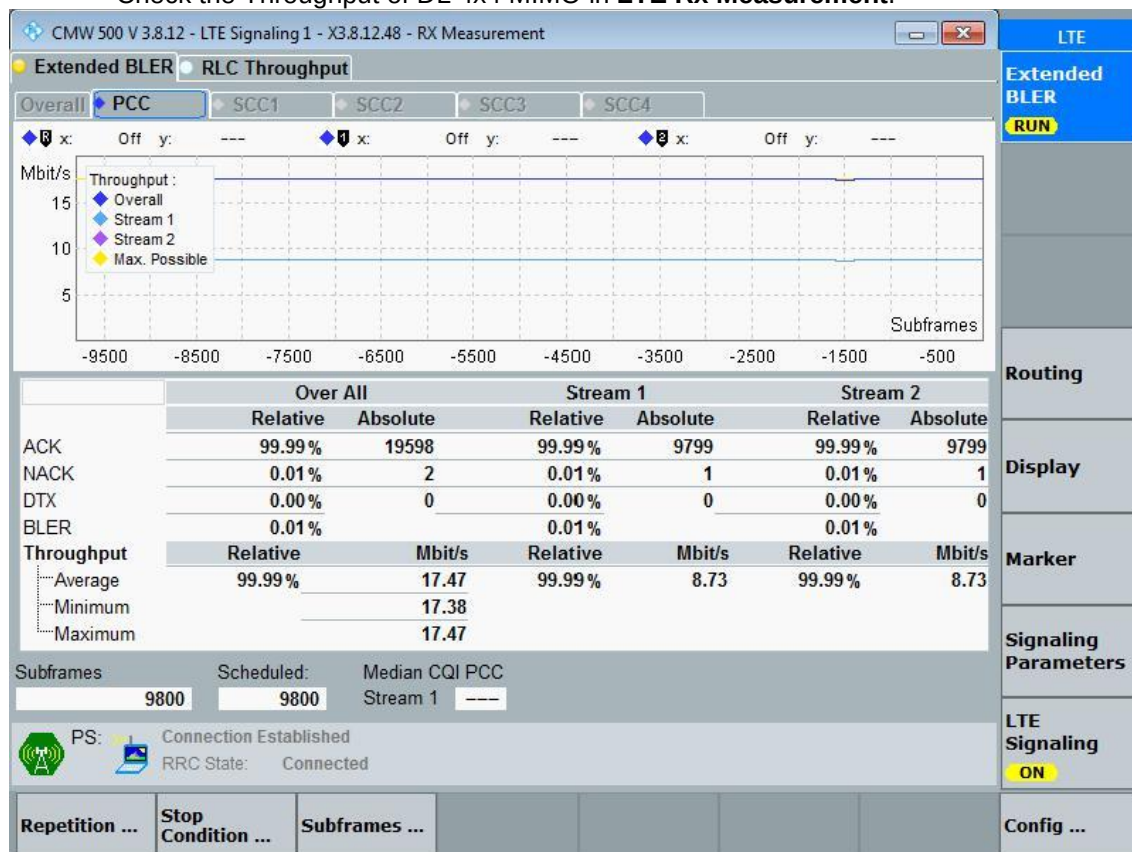


- Set the RF Output/Input Connector and Converter for PCC.
DL MIMO output ports correspond with RF Output (TX) Connector(s).

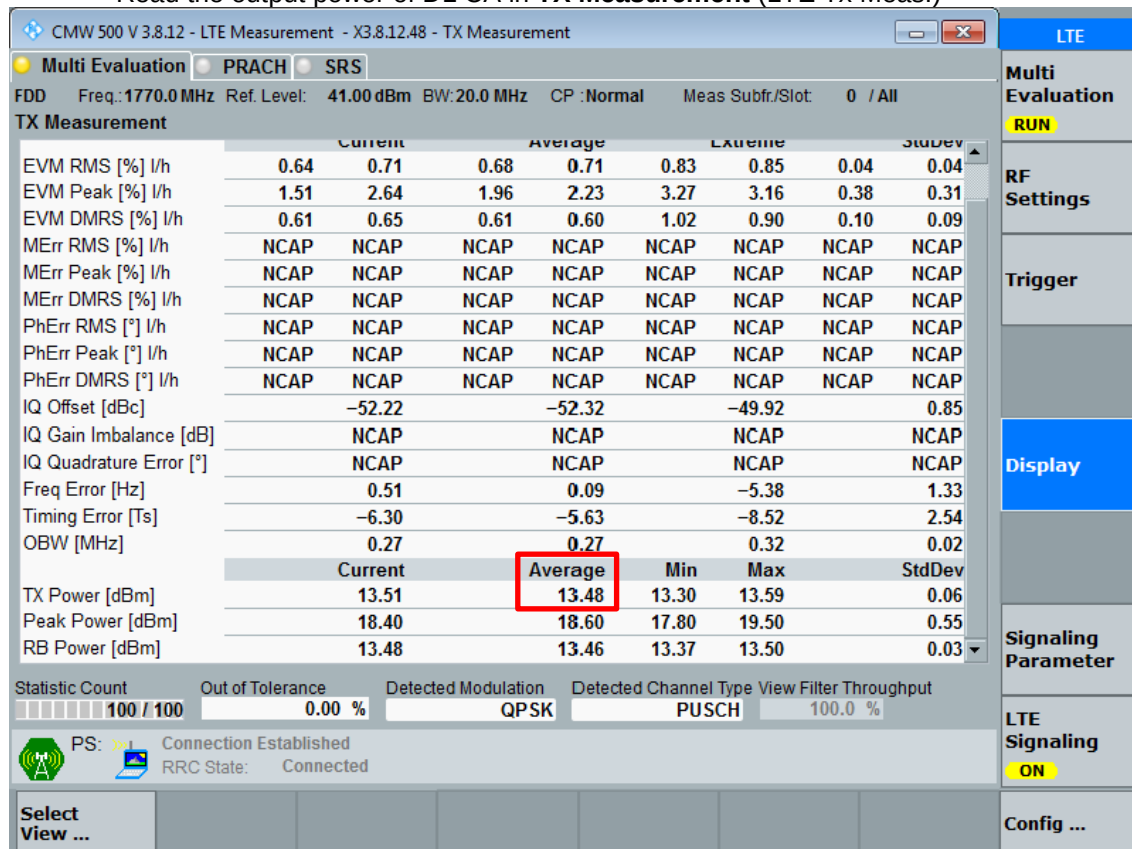


- Back to the LTE Signal screen, set operating band, BW, channel and RB configurations for PCC

- Check the Throughput of DL 4x4 MIMO in **LTE Rx Measurement**.



- Read the output power of DL CA in **TX Measurement** (LTE Tx Meas.)



LTE Uplink Carrier Aggregation Combinations**Maximum Output Power (Tune-up Limit) for LTE UL Carrier Aggregation**

UL CA shall be tested based on the worst-case SAR configuration determined from non-CA SAR testing result. The channel BW, channel number, RB Allocation, etc. would be selected to allow contiguous CA of PCC and SCC. Uplink output power for UL CA is the total power measured across the PCC and SCC.

UL CA power measurements were performed with QPSK modulation based on the worst-case standalone SAR. The tune-up limits are provided in table below. The UL CA mode power measurements represent the total power across both carriers. Measurements were made for all supported PCC bandwidths using the channel/RB combination resulting in the highest standalone output power at the least MPR (0 dB). SCCs were set to use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions (highest maximum power with MPR of 0 dB).

The standalone power measurement is the power for the PCC in the non-CA mode (i.e. single carrier power). In all cases the UL CA power is less than or equal to the standalone power, which is in accordance with the tune-up limits in table below.

According to November 2017 TCB workshop, Uplink CA SAR Test Guidance as follows;

- a) When the maximum output for UL CA is $\leq$ standalone LTE mode (without CA)
 - PCC is configured according to the highest standalone SAR configuration tested
 - SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC.
- b) When the Reported SAR for UL CA configuration, described above, is > 1.2 W/kg, UL CA SAR is also required for all required test channels (PCC based).
- c) UL CA SAR is also required for standalone SAR configurations > 1.2 W/kg when they are scaled to the UL CA power level.

SAR measurement is not required for the 16QAM and 64QAM. When the highest maximum output power for 16QAM and 64QAM is ≤ 0.25 dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.

RF Exposure conditions	Antenna	E-UTRA CA configuration (BCS)	Bands		UL																			
			PCC	SCC	PCC						SCC						MPR	Standalone	PCC + SCC					
			1st	2nd	Modulation	RB	Offset	BW	Freq	ch	Modulation	RB	Offset	BW	Freq	ch			LTE Rel.8	Aggregated BW	MPR	Tune-Up Limit	CA power (total PCC+SCC)	Delta
Head	Ant.B	CA_41C(0)(1)(2)(3)	41C	41C	QPSK	1	0	20	2593.0	40620	QPSK	1	99	20	2573.2	40422	0	23.11	40	0	23.4	22.51	0.60	16
Bodyworn & Hotspot	Ant.B	CA_41C(0)(1)(2)(3)	41C	41C	QPSK	50	0	20	2593.0	40620	QPSK	50	50	20	2573.2	40422	0	23.74	40	0	24.0	23.10	0.64	16
Head	Ant.F	CA_41C(0)(1)(2)(3)	41C	41C	QPSK	1	0	20	2680.0	41490	QPSK	1	99	20	2660.2	41292	0	19.14	40	0	20.0	18.70	-0.21	16
Bodyworn & Hotspot	Ant.F	CA_41C(0)(1)(2)(3)	41C	41C	QPSK	1	0	20	2680.0	41490	QPSK	1	99	20	2660.2	41292	0	21.70	40	0	22.5	21.20	-0.18	16
Head	Ant.B	CA_66B(0)	66B	66B	QPSK	1	0	15	1745.0	132322	QPSK	1	24	5	1735.7	132229	0	23.69	20	0	24.5	23.90	-0.21	16
Bodyworn & Hotspot	Ant.B	CA_66B(0)	66B	66B	QPSK	1	0	15	1745.0	132322	QPSK	1	24	5	1735.7	132229	0	18.90	20	0	20.0	19.03	-0.13	16
Head	Ant.F	CA_66B(0)	66B	66B	QPSK	1	0	15	1745.0	132322	QPSK	1	24	5	1735.7	132229	0	17.27	20	0	18.5	17.31	0.04	16
Bodyworn & Hotspot	Ant.F	CA_66B(0)	66B	66B	QPSK	1	0	15	1745.0	132322	QPSK	1	24	5	1735.7	132229	0	20.79	20	0	22.0	21.02	0.23	16
Head	Ant.B	CA_66C(0)	66C	66C	QPSK	1	0	20	1745.0	132322	QPSK	1	99	20	1725.2	132124	0	23.62	40	0	24.5	24.03	-0.41	16
Bodyworn & Hotspot	Ant.B	CA_66C(0)	66C	66C	QPSK	1	0	20	1770.0	132572	QPSK	1	99	20	1750.0	132374	0	18.69	40	0	20.0	18.99	-0.30	16
Head	Ant.F	CA_66C(0)	66C	66C	QPSK	50	50	20	1720.0	132072	QPSK	50	0	20	1739.8	132270	0	17.06	40	0	18.5	17.23	0.17	16
Bodyworn & Hotspot	Ant.F	CA_66C(0)	66C	66C	QPSK	1	99	20	1745.0	132322	QPSK	1	0	20	1764.8	132520	0	20.63	40	0	22.0	20.77	0.14	16
Head	Ant.F	CA_48(0)	48C	48C	QPSK	1	0	20	3690.0	56640	QPSK	1	99	20	3670.2	56442	0	18.28	40	0	19.0	18.51	-0.23	16
Bodyworn & Hotspot	Ant.F	CA_48(0)	48C	48C	QPSK	1	0	20	3690.0	56640	QPSK	1	99	20	3670.2	56442	0	22.71	40	0	23.0	22.59	0.12	16

Note:

Standalone output power values are referenced from Sec.9.3 in the SAR Part.1 Test Report.

LTE Downlink Carrier Aggregation Combinations

The DL CA power measurement conditions for various CC's combinations were determined according LTE DL CA SAR Test Exclusion guidance in TCB workshop note (April 2018). Only yellow highlighted cells need power measurement. The following power measurements were performed with a single carrier uplink; CA for this particular project only supports one (1) uplink and up to four (4) downlinks.

LTE Release 10 Carrier Aggregation

Index	2CC	Restriction	Completely Covered by Measurement Superset	Index	3CC	Restriction	Completely Covered by Measurement Superset	Index	4CC	Restriction	Completely Covered by Measurement Superset
2CC#1	2A-2A		3CC#1	3CC#1	2A-2A-4A		4CC#2	4CC#1	2A-2A-4A-4A		
2CC#2	2A-4A		3CC#1	3CC#2	2A-2A-5A		4CC#2	4CC#2	2A-2A-4A-5A		
2CC#3	2A-5A		3CC#2	3CC#3	2A-2A-12A		4CC#3	4CC#3	2A-2A-4A-12A		
2CC#4	2A-12A		3CC#3	3CC#4	2A-2A-13A		4CC#10	4CC#4	2A-2A-4A-71A		
2CC#5	2A-13A		3CC#4	3CC#5	2A-2A-14A		4CC#11	4CC#5	2A-2A-5A-30A		5CC#1
2CC#6	2A-14A		3CC#5	3CC#6	2A-2A-29A	B29 SCC only	4CC#13	4CC#6	2A-2A-5A-66A		5CC#1
2CC#7	2A-29A	B29 SCC only	3CC#6	3CC#7	2A-2A-30A		4CC#15	4CC#7	2A-2A-12A-30A		5CC#5
2CC#8	2A-30A		3CC#7	3CC#8	2A-2A-66A		4CC#6	4CC#8	2A-2A-12A-66A		5CC#5
2CC#9	2A-48A	B48 SCC only	3CC#28	3CC#9	2A-2A-71A		4CC#17	4CC#9	2A-2A-12B		5CC#3
2CC#10	2A-66A		3CC#8	3CC#10	2A-4A-4A		4CC#1	4CC#10	2A-2A-13A-66A		5CC#8
2CC#11	2A-71A		3CC#9	3CC#11	2A-4A-5A		4CC#2	4CC#11	2A-2A-14A-30A		5CC#9
2CC#12	2C		3CC#35	3CC#12	2A-4A-12A		4CC#21	4CC#12	2A-2A-14A-66A		5CC#9
2CC#13	4A-4A		3CC#10	3CC#13	2A-4A-13A			4CC#13	2A-2A-29A-30A	B29 SCC only	5CC#11
2CC#14	4A-5A		3CC#11	3CC#14	2A-4A-71A		4CC#4	4CC#14	2A-2A-29A-66A	B29 SCC only	5CC#11
2CC#15	4A-12A		3CC#12	3CC#15	2A-5A-30A		4CC#5	4CC#15	2A-2A-30A-66A		5CC#9
2CC#16	4A-13A		3CC#13	3CC#16	2A-5A-48A	B48 SCC only	4CC#24	4CC#16	2A-2A-66A-66A		5CC#10
2CC#17	4A-48A	B48 SCC only		3CC#17	2A-5A-66A		4CC#6	4CC#17	2A-2A-66A-71A		
2CC#18	4A-71A		3CC#14	3CC#18	2A-12A-30A		4CC#7	4CC#18	2A-2A-66B		5CC#3
2CC#19	5A-25A			3CC#19	2A-12A-66A		4CC#8	4CC#19	2A-2A-66C		5CC#4
2CC#20	5A-30A		3CC#15	3CC#20	2A-12B		4CC#9	4CC#20	2A-4A-4A-5A		
2CC#21	5A-41A			3CC#21	2A-13A-48A	B48 SCC only	4CC#33	4CC#21	2A-4A-4A-12A		
2CC#22	5A-48A	B48 SCC only	3CC#16	3CC#22	2A-13A-66A		4CC#10	4CC#22	2A-4A-12B		
2CC#23	5A-66A		3CC#17	3CC#23	2A-14A-30A		4CC#11	4CC#23	2A-5A-30A-66A		5CC#13
2CC#24	12A-25A			3CC#24	2A-14A-66A		4CC#12	4CC#24	2A-5A-48A-66A	B48 SCC only	5CC#14
2CC#25	12A-30A		3CC#18	3CC#25	2A-29A-30A	B29 SCC only	4CC#13	4CC#25	2A-5A-48C	B48 SCC only	5CC#15
2CC#26	12A-66A		3CC#19	3CC#26	2A-29A-66A	B29 SCC only	4CC#14	4CC#26	2A-5A-66A-66A		5CC#13
2CC#27	12B		3CC#20	3CC#27	2A-30A-66A		4CC#15	4CC#27	2A-5A-66B		5CC#3
2CC#28	13A-48A	B48 SCC only	3CC#21	3CC#28	2A-48A-48A	B48 SCC only	4CC#43	4CC#28	2A-5A-66C		5CC#4
2CC#29	13A-66A		3CC#22	3CC#29	2A-48A-66A	B48 SCC only	4CC#43	4CC#29	2A-12A-30A-66A		5CC#5
2CC#30	14A-30A		3CC#23	3CC#30	2A-48C	B48 SCC only	4CC#34	4CC#30	2A-12A-66A-66A		5CC#6
2CC#31	14A-66A		3CC#24	3CC#31	2A-66A-66A		4CC#26	4CC#31	2A-12A-66C		
2CC#32	25A-25A			3CC#32	2A-66A-71A		4CC#17	4CC#32	2A-12B-66A		5CC#7
2CC#33	25A-41A	B41 SCC only		3CC#33	2A-66B		4CC#18	4CC#33	2A-13A-48A-66A	B48 SCC only	
2CC#34	29A-30A	B29 SCC only	3CC#25	3CC#34	2A-66C		4CC#19	4CC#34	2A-13A-48C	B48 SCC only	5CC#19
2CC#35	29A-66A	B29 SCC only	3CC#26	3CC#35	2C-66A		4CC#49	4CC#35	2A-13A-66A-66A		5CC#8
2CC#36	30A-66A		3CC#27	3CC#36	4A-4A-5A		4CC#20	4CC#36	2A-13A-66B		
2CC#37	41A-41A			3CC#37	4A-4A-12A		4CC#21	4CC#37	2A-13A-66C		
2CC#38	41C			3CC#38	4A-4A-13A			4CC#38	2A-14A-30A-66A		5CC#21
2CC#39	48A-48A			3CC#39	4A-4A-71A			4CC#39	2A-14A-66A-66A		5CC#21
2CC#40	48A-66A	B48 SCC only	3CC#29	3CC#40	4A-12B		4CC#51	4CC#40	2A-29A-30A-66A	B29 SCC only	5CC#11

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation (Continued)

Index	2CC	Restriction	Completely Covered by Measurement Superset
2CC#41	48A-71A	B48 SCC only	3CC#67
2CC#42	48B		
2CC#43	48C		3CC#68
2CC#44	66A-66A		3CC#31
2CC#45	66A-71A		3CC#32
2CC#46	66B		3CC#33
2CC#47	66C		3CC#34

Index	3CC	Restriction	Completely Covered by Measurement Superset
3CC#41	4A-48C	B48 SCC only	
3CC#42	5A-30A-66A		4CC#53
3CC#43	5A-48A-66A	B48 SCC only	4CC#54
3CC#44	5A-48C	B48 SCC only	4CC#55
3CC#45	5A-66A-66A		4CC#53
3CC#46	5A-66B		4CC#27
3CC#47	5A-66C		4CC#28
3CC#48	12A-30A-66A		4CC#57
3CC#49	12A-66A-66A		4CC#57
3CC#50	12A-66C		4CC#31
3CC#51	12B-66A		4CC#58
3CC#52	13A-48A-66A	B48 SCC only	4CC#33
3CC#53	13A-48B	B48 SCC only	
3CC#54	13A-48C	B48 SCC only	4CC#61
3CC#55	13A-66A-66A		5CC#8
3CC#56	13A-66B		4CC#59
3CC#57	13A-66C		4CC#59
3CC#58	14A-30A-66A		4CC#63
3CC#59	14A-66A-66A		4CC#63
3CC#60	25A-41C	B41 SCC only	
3CC#61	29A-30A-66A	B29 SCC only	4CC#65
3CC#62	29A-66A-66A	B29 SCC only	4CC#65
3CC#63	30A-66A-66A		4CC#63
3CC#64	41A-41C		
3CC#65	41D		
3CC#66	48A-48A-66A	B48 SCC only	4CC#66
3CC#67	48A-48A-71A	B48 SCC only	
3CC#68	48A-48C		
3CC#69	48A-66A-66A	B48 SCC only	4CC#66
3CC#70	48A-66B	B48 SCC only	4CC#59
3CC#71	48A-66C	B48 SCC only	4CC#60
3CC#72	48B-66A	B48 SCC only	
3CC#73	48C-66A	B48 SCC only	4CC#67
3CC#74	48C-71A	B48 SCC only	
3CC#75	48D		4CC#68
3CC#76	66A-66A-71A		4CC#48
3CC#77	66C-71A		4CC#50

Index	4CC	Restriction	Completely Covered by Measurement Superset
4CC#41	2A-29A-66A-66A	B29 SCC only	5CC#12
4CC#42	2A-30A-66A-66A		5CC#13
4CC#43	2A-48A-48A-66A	B48 SCC only	
4CC#44	2A-48A-48C	B48 SCC only	5CC#22
4CC#45	2A-48A-66A-66A	B48 SCC only	5CC#14
4CC#46	2A-48C-66A	B48 SCC only	5CC#15
4CC#47	2A-48D	B48 SCC only	5CC#25
4CC#48	2A-66A-66A-71A		
4CC#49	2C-66A-66A		
4CC#50	2A-66C-71A		
4CC#51	4A-4A-12B		
4CC#52	4A-48D	B48 SCC only	
4CC#53	5A-30A-66A-66A		5CC#13
4CC#54	5A-48A-66A-66A	B48 SCC only	5CC#14
4CC#55	5A-48C-66A	B48 SCC only	5CC#15
4CC#56	5A-48D	B48 SCC only	5CC#16
4CC#57	12A-30A-66A-66A		5CC#17
4CC#58	12B-66A-66A		5CC#18
4CC#59	13A-48A-66B	B48 SCC only	
4CC#60	13A-48A-66C	B48 SCC only	
4CC#61	13A-48C-66A	B48 SCC only	5CC#19
4CC#62	13A-48D	B48 SCC only	5CC#20
4CC#63	14A-30A-66A-66A		5CC#21
4CC#64	25A-41D	B41 SCC only	
4CC#65	29A-30A-66A-66A	B29 SCC only	
4CC#66	48A-48A-66A-66A	B48 SCC only	
4CC#67	48A-48C-66A	B48 SCC only	5CC#22
4CC#68	48A-48D		
4CC#69	48C-48C		
4CC#70	48C-66A-66A	B48 SCC only	5CC#24
4CC#71	48C-66B	B48 SCC only	
4CC#72	48C-66C	B48 SCC only	
4CC#73	48D-66A	B48 SCC only	5CC#25
4CC#74	48E		5CC#34

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation (Continued)

Index	5CC	Restriction	Completely Covered by Measurement Superset
5CC#1	2A-2A-5A-30A-66A		
5CC#2	2A-2A-5A-66A-66A		
5CC#3	2A-2A-5A-66B		
5CC#4	2A-2A-5A-66C		
5CC#5	2A-2A-12A-30A-66A		
5CC#6	2A-2A-12A-66A-66A		
5CC#7	2A-2A-12B-66A		
5CC#8	2A-2A-13A-66A-66A		
5CC#9	2A-2A-14A-30A-66A		
5CC#10	2A-2A-14A-66A-66A		
5CC#11	2A-2A-29A-30A-66A	B29 SCC only	
5CC#12	2A-2A-29A-66A-66A	B29 SCC only	
5CC#13	2A-5A-30A-66A-66A		
5CC#14	2A-5A-48A-66A-66A	B48 SCC only	
5CC#15	2A-5A-48C-66A	B48 SCC only	6CC#1
5CC#16	2A-5A-48D	B48 SCC only	
5CC#17	2A-12A-30A-66A-66A		
5CC#18	2A-12B-66A-66A		
5CC#19	2A-13A-48C-66A	B48 SCC only	
5CC#20	2A-13A-48D	B48 SCC only	
5CC#21	2A-14A-30A-66A-66A		
5CC#22	2A-48A-48C-66A	B48 SCC only	
5CC#23	2A-48C-48C	B48 SCC only	
5CC#24	2A-48C-66A-66A	B48 SCC only	
5CC#25	2A-48D-66A	B48 SCC only	
5CC#26	2A-48E	B48 SCC only	
5CC#27	4A-48E		
5CC#28	5A-48C-66A-66A	B48 SCC only	
5CC#29	5A-48D-66A	B48 SCC only	
5CC#30	13A-48D-66A	B48 SCC only	
5CC#31	13A-48E	B48 SCC only	
5CC#32	48C-48C-66A	B48 SCC only	
5CC#33	48A-48D-66A	B48 SCC only	
5CC#34	48A-48E		
5CC#35	48C-48D		
5CC#36	48E-66A		

Index	6CC	Restriction	Completely Covered by Measurement Superset
6CC#1	2A-5A-48C-66A-66A	B48 SCC only	
6CC#2	2A-48E-66A	B48 SCC only	
6CC#3	5A-48D-66A-66A	B48 SCC only	

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO

Index	2CC	Restriction	Completely Covered by Measurement Superset	Index	3CC	Restriction	Completely Covered by Measurement Superset	Index	4CC	Restriction	Completely Covered by Measurement Superset
2CC#1	[2A]-2A		3CC#2	3CC#1	2A-2A-[4A]		4CC#1	4CC#1	2A-2A-[4A]-4A		
2CC#2	[2A]-[2A]		3CC#5	3CC#2	[2A]-2A-4A		4CC#3	4CC#2	2A-2A-[4A]-[4A]		
2CC#3	2A-[4A]		3CC#3	3CC#3	[2A]-2A-[4A]		4CC#4	4CC#3	[2A]-2A-4A-4A		
2CC#4	[2A]-4A		3CC#4	3CC#4	[2A]-[2A]-4A		4CC#6	4CC#4	[2A]-2A-[4A]-4A		
2CC#5	[2A]-[4A]		3CC#3	3CC#5	[2A]-[2A]-[4A]		4CC#7	4CC#5	[2A]-2A-[4A]-[4A]		
2CC#6	[2A]-5A		3CC#6	3CC#6	[2A]-2A-5A		4CC#10	4CC#6	[2A]-[2A]-4A-4A		
2CC#7	[2A]-12A		3CC#8	3CC#7	[2A]-[2A]-5A		4CC#12	4CC#7	[2A]-[2A]-[4A]-4A		
2CC#8	[2A]-13A		3CC#10	3CC#8	[2A]-2A-12A		4CC#15	4CC#8	[2A]-[2A]-[4A]-[4A]		
2CC#9	[2A]-14A		3CC#12	3CC#9	[2A]-[2A]-12A		4CC#17	4CC#9	2A-2A-[4A]-5A		
2CC#10	[2A]-29A	B29 SCC only	3CC#14	3CC#10	[2A]-2A-13A		4CC#47	4CC#10	[2A]-2A-4A-5A		
2CC#11	2A-[30A]		3CC#16	3CC#11	[2A]-[2A]-13A		4CC#49	4CC#11	[2A]-2A-[4A]-5A		
2CC#12	[2A]-30A		3CC#17	3CC#12	[2A]-2A-14A		4CC#52	4CC#12	[2A]-[2A]-4A-5A		
2CC#13	[2A]-[30A]		3CC#18	3CC#13	[2A]-[2A]-14A		4CC#54	4CC#13	[2A]-[2A]-[4A]-5A		
2CC#14	2A-[48A]	B48 SCC only	3CC#61	3CC#14	[2A]-2A-29A	B29 SCC only	4CC#62	4CC#14	2A-2A-[4A]-12A		
2CC#15	[2A]-48A	B48 SCC only	3CC#62	3CC#15	[2A]-[2A]-29A	B29 SCC only	4CC#64	4CC#15	[2A]-2A-4A-12A		
2CC#16	[2A]-[48A]	B48 SCC only	3CC#63	3CC#16	2A-2A-[30A]		4CC#61	4CC#16	[2A]-2A-[4A]-12A		
2CC#17	2A-[66A]		3CC#21	3CC#17	[2A]-2A-30A		4CC#62	4CC#17	[2A]-[2A]-4A-12A		
2CC#18	[2A]-66A		3CC#22	3CC#18	[2A]-2A-[30A]		4CC#63	4CC#18	[2A]-[2A]-[4A]-12A		
2CC#19	[2A]-[66A]		3CC#23	3CC#19	[2A]-[2A]-30A		4CC#64	4CC#19	2A-2A-[4A]-71A		
2CC#20	[2A]-71A		3CC#26	3CC#20	[2A]-[2A]-[30A]		4CC#65	4CC#20	[2A]-2A-4A-71A		
2CC#21	[2C]		3CC#116	3CC#21	2A-2A-[66A]		4CC#66	4CC#21	[2A]-2A-[4A]-71A		
2CC#22	[4A]-4A		3CC#118	3CC#22	[2A]-2A-66A		4CC#67	4CC#22	[2A]-[2A]-4A-71A		
2CC#23	[4A]-[4A]		3CC#119	3CC#23	[2A]-2A-[66A]		4CC#68	4CC#23	[2A]-[2A]-[4A]-71A		
2CC#24	[4A]-5A		3CC#118	3CC#24	[2A]-[2A]-66A		4CC#32	4CC#24	2A-2A-5A-[30A]		5CC#3
2CC#25	[4A]-12A		3CC#120	3CC#25	[2A]-[2A]-[66A]		4CC#33	4CC#25	[2A]-2A-5A-30A		5CC#4
2CC#26	[4A]-13A		3CC#122	3CC#26	[2A]-2A-71A		4CC#91	4CC#26	[2A]-2A-5A-[30A]		5CC#6
2CC#27	4A-[48A]	B48 SCC only		3CC#27	[2A]-[2A]-71A		4CC#93	4CC#27	[2A]-[2A]-5A-30A		5CC#8
2CC#28	[4A]-48A	B48 SCC only		3CC#28	2A-[4A]-4A		4CC#110	4CC#28	[2A]-[2A]-5A-[30A]		5CC#10
2CC#29	[4A]-[48A]	B48 SCC only		3CC#29	2A-[4A]-[4A]		4CC#111	4CC#29	2A-2A-5A-[66A]		5CC#1
2CC#30	[4A]-71A		3CC#124	3CC#30	[2A]-4A-4A		4CC#112	4CC#30	[2A]-2A-5A-66A		5CC#4
2CC#31	5A-[25A]			3CC#31	[2A]-[4A]-4A		4CC#113	4CC#31	[2A]-2A-5A-[66A]		5CC#5
2CC#32	5A-[30A]		3CC#130	3CC#32	[2A]-[4A]-[4A]		4CC#114	4CC#32	[2A]-[2A]-5A-66A		5CC#8
2CC#33	5A-[41A]			3CC#33	2A-[4A]-5A		4CC#105	4CC#33	[2A]-[2A]-5A-[66A]		5CC#9
2CC#34	5A-[48A]	B48 SCC only	3CC#135	3CC#34	[2A]-4A-5A		4CC#107	4CC#34	2A-2A-12A-[30A]		5CC#32
2CC#35	5A-[66A]		3CC#135	3CC#35	[2A]-[4A]-5A		4CC#108	4CC#35	[2A]-2A-12A-30A		5CC#33
2CC#36	12A-[25A]			3CC#36	2A-[4A]-12A		4CC#110	4CC#36	[2A]-2A-12A-[30A]		5CC#36
2CC#37	12A-[30A]		3CC#142	3CC#37	[2A]-4A-12A		4CC#112	4CC#37	[2A]-[2A]-12A-30A		5CC#37
2CC#38	12A-[66A]		3CC#144	3CC#38	[2A]-[4A]-12A		4CC#113	4CC#38	[2A]-[2A]-12A-[30A]		5CC#39
2CC#39	13A-[48A]	B48 SCC only	3CC#149	3CC#39	2A-[4A]-13A			4CC#39	2A-2A-12A-[66A]		5CC#32
2CC#40	13A-[66A]		3CC#150	3CC#40	[2A]-4A-13A			4CC#40	[2A]-2A-12A-66A		5CC#33
2CC#41	14A-[30A]		3CC#159	3CC#41	[2A]-[4A]-13A			4CC#41	[2A]-2A-12A-[66A]		5CC#34
2CC#42	14A-[66A]		3CC#159	3CC#42	2A-[4A]-71A		4CC#19	4CC#42	[2A]-[2A]-12A-66A		5CC#37
2CC#43	[25A]-25A			3CC#43	[2A]-4A-71A		4CC#20	4CC#43	[2A]-[2A]-12A-[66A]		5CC#38
2CC#44	[25A]-[25A]			3CC#44	[2A]-[4A]-71A		4CC#21	4CC#44	[2A]-2A-12B		5CC#51
2CC#45	25A-[41A]	B41 SCC only		3CC#45	2A-5A-[30A]		4CC#24	4CC#45	[2A]-[2A]-12B		5CC#52

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO (Continued)

Index	2CC	Restriction	Completely Covered by Measurement Superset	Index	3CC	Restriction	Completely Covered by Measurement Superset	Index	4CC	Restriction	Completely Covered by Measurement Superset
2CC#46	[25A]-41A	B41 SCC only		3CC#46	[2A]-5A-30A		4CC#25	4CC#46	2A-2A-13A-[66A]		5CC#54
2CC#47	[25A]-[41A]	B41 SCC only		3CC#47	[2A]-5A-[30A]		4CC#26	4CC#47	[2A]-2A-13A-66A		5CC#56
2CC#48	29A-[30A]	B29 SCC only	3CC#166	3CC#48	2A-5A-[48A]		4CC#126	4CC#48	[2A]-2A-13A-[66A]		5CC#57
2CC#49	29A-[66A]	B29 SCC only	3CC#165	3CC#49	[2A]-5A-48A		4CC#128	4CC#49	[2A]-[2A]-13A-66A		5CC#59
2CC#50	30A-[66A]		3CC#165	3CC#50	[2A]-5A-[48A]		4CC#130	4CC#50	[2A]-[2A]-13A-[66A]		5CC#60
2CC#51	[30A]-66A		3CC#166	3CC#51	2A-5A-[66A]		4CC#125	4CC#51	2A-2A-14A-[30A]		5CC#64
2CC#52	[30A]-[66A]		3CC#167	3CC#52	[2A]-5A-66A		4CC#128	4CC#52	[2A]-2A-14A-30A		5CC#65
2CC#53	[41A]-41A			3CC#53	[2A]-5A-[66A]		4CC#129	4CC#53	[2A]-2A-14A-[30A]		5CC#67
2CC#54	[41A]-[41A]			3CC#54	2A-12A-[30A]		4CC#148	4CC#54	[2A]-[2A]-14A-30A		5CC#69
2CC#55	[41C]		3CC#175	3CC#55	[2A]-12A-30A		4CC#149	4CC#55	[2A]-[2A]-14A-[30A]		5CC#71
2CC#56	[48A]-48A		3CC#180	3CC#56	[2A]-12A-[30A]		4CC#151	4CC#56	2A-2A-14A-[66A]		5CC#62
2CC#57	[48A]-[48A]		3CC#182	3CC#57	2A-12A-[66A]		4CC#148	4CC#57	[2A]-2A-14A-66A		5CC#65
2CC#58	48A-[66A]	B48 SCC only	3CC#179	3CC#58	[2A]-12A-66A		4CC#149	4CC#58	[2A]-2A-14A-[66A]		5CC#66
2CC#59	[48A]-66A	B48 SCC only	3CC#180	3CC#59	[2A]-12A-[66A]		4CC#152	4CC#59	[2A]-[2A]-14A-66A		5CC#69
2CC#60	[48A]-[66A]	B48 SCC only	3CC#183	3CC#60	[2A]-12B		4CC#44	4CC#60	[2A]-[2A]-14A-[66A]		5CC#70
2CC#61	[48A]-71A	B48 SCC only	3CC#184	3CC#61	2A-13A-[48A]	B48 SCC only	4CC#165	4CC#61	2A-2A-29A-[30A]	B29 SCC only	5CC#82
2CC#62	[48B]			3CC#62	[2A]-13A-48A	B48 SCC only	4CC#167	4CC#62	[2A]-2A-29A-30A	B29 SCC only	5CC#84
2CC#63	[48C]		3CC#186	3CC#63	[2A]-13A-[48A]	B48 SCC only	4CC#170	4CC#63	[2A]-2A-29A-[30A]	B29 SCC only	5CC#86
2CC#64	[66A]-66A		3CC#189	3CC#64	2A-13A-[66A]		4CC#164	4CC#64	[2A]-[2A]-29A-30A	B29 SCC only	5CC#88
2CC#65	[66A]-[66A]		3CC#193	3CC#65	[2A]-13A-66A		4CC#167	4CC#65	[2A]-[2A]-29A-[30A]	B29 SCC only	5CC#90
2CC#66	[66A]-71A		3CC#209	3CC#66	[2A]-13A-[66A]		4CC#168	4CC#66	2A-2A-29A-[66A]	B29 SCC only	5CC#81
2CC#67	[66B]		3CC#194	3CC#67	2A-14A-[30A]		4CC#186	4CC#67	[2A]-2A-29A-66A	B29 SCC only	5CC#84
2CC#68	[66C]		3CC#210	3CC#68	[2A]-14A-30A		4CC#188	4CC#68	[2A]-2A-29A-[66A]	B29 SCC only	5CC#85
				3CC#69	[2A]-14A-[30A]		4CC#190	4CC#69	[2A]-[2A]-29A-66A	B29 SCC only	5CC#88
				3CC#70	2A-14A-[66A]		4CC#192	4CC#70	[2A]-[2A]-29A-[66A]	B29 SCC only	5CC#89
				3CC#71	[2A]-14A-66A		4CC#194	4CC#71	2A-2A-30A-[66A]		5CC#81
				3CC#72	[2A]-14A-[66A]		4CC#195	4CC#72	2A-2A-[30A]-66A		5CC#82
				3CC#73	2A-29A-[30A]	B29 SCC only	4CC#198	4CC#73	2A-2A-[30A]-[66A]		5CC#83
				3CC#74	[2A]-29A-30A	B29 SCC only	4CC#200	4CC#74	[2A]-2A-30A-66A		5CC#84
				3CC#75	[2A]-29A-[30A]	B29 SCC only	4CC#202	4CC#75	[2A]-2A-30A-[66A]		5CC#85
				3CC#76	2A-29A-[66A]	B29 SCC only	4CC#197	4CC#76	[2A]-2A-[30A]-66A		5CC#86
				3CC#77	[2A]-29A-66A	B29 SCC only	4CC#200	4CC#77	[2A]-2A-[30A]-[66A]		5CC#87
				3CC#78	[2A]-29A-[66A]	B29 SCC only	4CC#203	4CC#78	[2A]-[2A]-30A-66A		5CC#88
				3CC#79	2A-30A-[66A]		4CC#209	4CC#79	[2A]-[2A]-30A-[66A]		5CC#89
				3CC#80	2A-[30A]-66A		4CC#211	4CC#80	[2A]-[2A]-[30A]-66A		5CC#90
				3CC#81	2A-[30A]-[66A]		4CC#212	4CC#81	[2A]-[2A]-[30A]-[66A]		5CC#91
				3CC#82	[2A]-30A-66A		4CC#214	4CC#82	2A-2A-[66A]-66A		5CC#92
				3CC#83	[2A]-30A-[66A]		4CC#215	4CC#83	2A-2A-[66A]-[66A]		5CC#93
				3CC#84	[2A]-[30A]-66A		4CC#217	4CC#84	[2A]-2A-66A-66A		5CC#94
				3CC#85	[2A]-[30A]-[66A]		4CC#218	4CC#85	[2A]-2A-[66A]-66A		5CC#95
				3CC#86	2A-[48A]-48A	B48 SCC only	4CC#221	4CC#86	[2A]-2A-[66A]-[66A]		5CC#96
				3CC#87	2A-[48A]-[48A]	B48 SCC only	4CC#223	4CC#87	[2A]-[2A]-66A-66A		5CC#97
				3CC#88	[2A]-48A-48A	B48 SCC only	4CC#225	4CC#88	[2A]-[2A]-[66A]-66A		5CC#98
				3CC#89	[2A]-[48A]-48A	B48 SCC only	4CC#227	4CC#89	[2A]-[2A]-[66A]-[66A]		5CC#99
				3CC#90	[2A]-[48A]-[48A]	B48 SCC only	4CC#229	4CC#90	2A-2A-[66A]-71A		

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO (Continued)

Index	3CC	Restriction	Completely Covered by Measurement Superset	Index	4CC	Restriction	Completely Covered by Measurement Superset	Index	5CC	Restriction	Completely Covered by Measurement Superset
3CC#91	2A-48A-[66A]	B48 SCC only	4CC#220	4CC#91	[2A]-2A-66A-71A			5CC#1	2A-2A-5A-30A-[66A]		
3CC#92	2A-[48A]-66A	B48 SCC only	4CC#221	4CC#92	[2A]-2A-[66A]-71A			5CC#2	2A-2A-5A-[30A]-66A		
3CC#93	2A-[48A]-[66A]	B48 SCC only	4CC#222	4CC#93	[2A]-[2A]-66A-71A			5CC#3	2A-2A-5A-[30A]-[66A]		
3CC#94	[2A]-48A-66A	B48 SCC only	4CC#225	4CC#94	[2A]-[2A]-[66A]-71A			5CC#4	[2A]-2A-5A-30A-66A		
3CC#95	[2A]-48A-[66A]	B48 SCC only	4CC#226	4CC#95	2A-2A-[66B]		5CC#20	5CC#5	[2A]-2A-5A-30A-[66A]		
3CC#96	[2A]-[48A]-66A	B48 SCC only	4CC#227	4CC#96	[2A]-2A-66B		5CC#21	5CC#6	[2A]-2A-5A-[30A]-66A		
3CC#97	[2A]-[48A]-[66A]	B48 SCC only	4CC#228	4CC#97	[2A]-2A-[66B]		5CC#22	5CC#7	[2A]-2A-5A-[30A]-[66A]		
3CC#98	2A-[48C]	B48 SCC only	4CC#231	4CC#98	[2A]-[2A]-66B		5CC#23	5CC#8	[2A]-[2A]-5A-30A-66A		
3CC#99	[2A]-48C	B48 SCC only	4CC#232	4CC#99	[2A]-[2A]-[66B]		5CC#24	5CC#9	[2A]-[2A]-5A-30A-[66A]		
3CC#100	[2A]-[48C]	B48 SCC only	4CC#235	4CC#100	2A-2A-[66C]		5CC#25	5CC#10	[2A]-[2A]-5A-[30A]-66A		
3CC#101	2A-[66A]-66A		4CC#238	4CC#101	[2A]-2A-66C		5CC#26	5CC#11	[2A]-[2A]-5A-[30A]-[66A]		
3CC#102	2A-[66A]-[66A]		4CC#239	4CC#102	[2A]-2A-[66C]		5CC#27	5CC#12	2A-2A-5A-[66A]-66A		
3CC#103	[2A]-66A-66A		4CC#243	4CC#103	[2A]-[2A]-66C		5CC#28	5CC#13	2A-2A-5A-[66A]-[66A]		
3CC#104	[2A]-[66A]-66A		4CC#244	4CC#104	[2A]-[2A]-[66C]		5CC#29	5CC#14	[2A]-2A-5A-66A-66A		
3CC#105	[2A]-[66A]-[66A]		4CC#245	4CC#105	2A-[4A]-4A-5A			5CC#15	[2A]-2A-5A-[66A]-66A		
3CC#106	2A-[66A]-71A		4CC#260	4CC#106	2A-[4A]-[4A]-5A			5CC#16	[2A]-2A-5A-[66A]-[66A]		
3CC#107	[2A]-66A-71A		4CC#261	4CC#107	[2A]-4A-4A-5A			5CC#17	[2A]-[2A]-5A-66A-66A		
3CC#108	[2A]-[66A]-71A		4CC#262	4CC#108	[2A]-[4A]-4A-5A			5CC#18	[2A]-[2A]-5A-[66A]-66A		
3CC#109	2A-[66B]		5CC#20	4CC#109	[2A]-[4A]-[4A]-5A			5CC#19	[2A]-[2A]-5A-[66A]-[66A]		
3CC#110	[2A]-66B		5CC#21	4CC#110	2A-[4A]-4A-12A			5CC#20	2A-2A-5A-[66B]		
3CC#111	[2A]-[66B]		5CC#22	4CC#111	2A-[4A]-[4A]-12A			5CC#21	[2A]-2A-5A-66B		
3CC#112	2A-[66C]		5CC#25	4CC#112	[2A]-4A-4A-12A			5CC#22	[2A]-2A-5A-[66B]		
3CC#113	[2A]-66C		5CC#26	4CC#113	[2A]-[4A]-4A-12A			5CC#23	[2A]-[2A]-5A-66B		
3CC#114	[2A]-[66C]		5CC#27	4CC#114	[2A]-[4A]-[4A]-12A			5CC#24	[2A]-[2A]-5A-[66B]		
3CC#115	2C-[66A]		4CC#265	4CC#115	2A-[4A]-12B			5CC#25	2A-2A-5A-[66C]		
3CC#116	[2C]-66A		4CC#266	4CC#116	[2A]-4A-12B			5CC#26	[2A]-2A-5A-66C		
3CC#117	[2C]-[66A]		4CC#267	4CC#117	[2A]-[4A]-12B			5CC#27	[2A]-2A-5A-[66C]		
3CC#118	[4A]-4A-5A		4CC#108	4CC#118	2A-5A-30A-[66A]		5CC#1	5CC#28	[2A]-[2A]-5A-66C		
3CC#119	[4A]-[4A]-5A		4CC#106	4CC#119	2A-5A-[30A]-66A		5CC#2	5CC#29	[2A]-[2A]-5A-[66C]		
3CC#120	[4A]-4A-12A		4CC#110	4CC#120	2A-5A-[30A]-[66A]		5CC#3	5CC#30	2A-2A-12A-30A-[66A]		
3CC#121	[4A]-[4A]-12A		4CC#111	4CC#121	[2A]-5A-30A-66A		5CC#4	5CC#31	2A-2A-12A-[30A]-66A		
3CC#122	[4A]-4A-13A			4CC#122	[2A]-5A-30A-[66A]		5CC#5	5CC#32	2A-2A-12A-[30A]-[66A]		
3CC#123	[4A]-[4A]-13A			4CC#123	[2A]-5A-[30A]-66A		5CC#6	5CC#33	[2A]-2A-12A-30A-66A		
3CC#124	[4A]-4A-71A			4CC#124	[2A]-5A-[30A]-[66A]		5CC#7	5CC#34	[2A]-2A-12A-30A-[66A]		
3CC#125	[4A]-[4A]-71A			4CC#125	2A-5A-48A-[66A]	B48 SCC only	5CC#111	5CC#35	[2A]-2A-12A-[30A]-66A		
3CC#126	[4A]-12B		4CC#272	4CC#126	2A-5A-[48A]-66A	B48 SCC only	5CC#113	5CC#36	[2A]-2A-12A-[30A]-[66A]		
3CC#127	4A-[48C]	B48 SCC only		4CC#127	2A-5A-[48A]-[66A]	B48 SCC only	5CC#113	5CC#37	[2A]-[2A]-12A-30A-66A		
3CC#128	[4A]-48C	B48 SCC only		4CC#128	[2A]-5A-48A-66A	B48 SCC only	5CC#116	5CC#38	[2A]-[2A]-12A-30A-[66A]		
3CC#129	[4A]-[48C]	B48 SCC only		4CC#129	[2A]-5A-48A-[66A]	B48 SCC only	5CC#117	5CC#39	[2A]-[2A]-12A-[30A]-66A		
3CC#130	5A-30A-[66A]		4CC#277	4CC#130	[2A]-5A-[48A]-66A	B48 SCC only	5CC#119	5CC#40	[2A]-[2A]-12A-[30A]-[66A]		
3CC#131	5A-[30A]-66A		4CC#279	4CC#131	[2A]-5A-[48A]-[66A]	B48 SCC only	5CC#120	5CC#41	2A-2A-12A-[66A]-66A		
3CC#132	5A-[30A]-[66A]		4CC#281	4CC#132	2A-5A-[48C]	B48 SCC only	5CC#123	5CC#42	2A-2A-12A-[66A]-[66A]		
3CC#133	5A-48A-[66A]	B48 SCC only	4CC#283	4CC#133	[2A]-5A-48C	B48 SCC only	5CC#125	5CC#43	[2A]-2A-12A-66A-66A		
3CC#134	5A-[48A]-66A	B48 SCC only	4CC#284	4CC#134	[2A]-5A-[48C]	B48 SCC only	5CC#127	5CC#44	[2A]-2A-12A-[66A]-66A		
3CC#135	5A-[48A]-[66A]	B48 SCC only	4CC#285	4CC#135	2A-5A-[66A]-66A		5CC#100	5CC#45	[2A]-2A-12A-[66A]-[66A]		

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO (Continued)

Index	3CC	Restriction	Completely Covered by Measurement Superset	Index	4CC	Restriction	Completely Covered by Measurement Superset	Index	5CC	Restriction	Completely Covered by Measurement Superset
3CC#136	5A-[48C]	B48 SCC only	4CC#288	4CC#136	2A-5A-[66A]-[66A]		5CC#101	5CC#46	[2A]-[2A]-12A-66A-66A		
3CC#137	5A-[66A]-66A		4CC#285	4CC#137	[2A]-5A-66A-66A		5CC#105	5CC#47	[2A]-[2A]-12A-[66A]-66A		
3CC#138	5A-[66A]-[66A]		4CC#286	4CC#138	[2A]-5A-[66A]-66A		5CC#106	5CC#48	[2A]-[2A]-12A-[66A]-[66A]		
3CC#139	5A-[66B]		5CC#20	4CC#139	[2A]-5A-[66A]-[66A]		5CC#107	5CC#49	2A-2A-12B-[66A]		
3CC#140	5A-[66C]		5CC#25	4CC#140	2A-5A-[66B]		5CC#20	5CC#50	[2A]-2A-12B-66A		
3CC#141	12A-30A-[66A]		4CC#150	4CC#141	[2A]-5A-66B		5CC#21	5CC#51	[2A]-2A-12B-[66A]		
3CC#142	12A-[30A]-66A		4CC#151	4CC#142	[2A]-5A-[66B]		5CC#22	5CC#52	[2A]-[2A]-12B-66A		
3CC#143	12A-[30A]-[66A]		4CC#152	4CC#143	2A-5A-[66C]		5CC#25	5CC#53	[2A]-[2A]-12B-[66A]		
3CC#144	12A-[66A]-66A		4CC#156	4CC#144	[2A]-5A-66C		5CC#26	5CC#54	2A-2A-13A-[66A]-66A		
3CC#145	12A-[66A]-[66A]		4CC#157	4CC#145	[2A]-5A-[66C]		5CC#27	5CC#55	2A-2A-13A-[66A]-[66A]		
3CC#146	12A-[66C]		4CC#160	4CC#146	2A-12A-30A-[66A]		5CC#30	5CC#56	[2A]-2A-13A-66A-66A		
3CC#147	12B-[66A]		4CC#161	4CC#147	2A-12A-[30A]-66A		5CC#31	5CC#57	[2A]-2A-13A-[66A]-66A		
3CC#148	13A-48A-[66A]	B48 SCC only	4CC#164	4CC#148	2A-12A-[30A]-[66A]		5CC#32	5CC#58	[2A]-2A-13A-[66A]-[66A]		
3CC#149	13A-[48A]-66A	B48 SCC only	4CC#165	4CC#149	[2A]-12A-30A-66A		5CC#33	5CC#59	[2A]-[2A]-13A-66A-66A		
3CC#150	13A-[48A]-[66A]	B48 SCC only	4CC#166	4CC#150	[2A]-12A-30A-[66A]		5CC#34	5CC#60	[2A]-[2A]-13A-[66A]-66A		
3CC#151	13A-[48B]	B48 SCC only		4CC#151	[2A]-12A-[30A]-66A		5CC#35	5CC#61	[2A]-[2A]-13A-[66A]-[66A]		
3CC#152	13A-[48C]	B48 SCC only	4CC#171	4CC#152	[2A]-12A-[30A]-[66A]		5CC#36	5CC#62	2A-2A-14A-30A-[66A]		
3CC#153	13A-[66A]-66A		4CC#177	4CC#153	2A-12A-[66A]-66A		5CC#41	5CC#63	2A-2A-14A-[30A]-66A		
3CC#154	13A-[66A]-[66A]		4CC#178	4CC#154	2A-12A-[66A]-[66A]		5CC#42	5CC#64	2A-2A-14A-[30A]-[66A]		
3CC#155	13A-[66B]		4CC#181	4CC#155	[2A]-12A-66A-66A		5CC#43	5CC#65	[2A]-2A-14A-30A-66A		
3CC#156	13A-[66C]		4CC#182	4CC#156	[2A]-12A-[66A]-66A		5CC#44	5CC#66	[2A]-2A-14A-30A-[66A]		
3CC#157	14A-30A-[66A]		4CC#185	4CC#157	[2A]-12A-[66A]-[66A]		5CC#45	5CC#67	[2A]-2A-14A-[30A]-66A		
3CC#158	14A-[30A]-66A		4CC#186	4CC#158	2A-12A-[66C]			5CC#68	[2A]-2A-14A-[30A]-[66A]		
3CC#159	14A-[30A]-[66A]		4CC#187	4CC#159	[2A]-12A-66C			5CC#69	[2A]-[2A]-14A-30A-66A		
3CC#160	14A-[66A]-66A		4CC#192	4CC#160	[2A]-12A-[66C]			5CC#70	[2A]-[2A]-14A-30A-[66A]		
3CC#161	14A-[66A]-[66A]		4CC#193	4CC#161	2A-12B-[66A]		5CC#49	5CC#71	[2A]-[2A]-14A-[30A]-66A		
3CC#162	25A-[41C]	B41 SCC only		4CC#162	[2A]-12B-66A		5CC#50	5CC#72	[2A]-[2A]-14A-[30A]-[66A]		
3CC#163	[25A]-41C	B41 SCC only		4CC#163	[2A]-12B-[66A]		5CC#51	5CC#73	2A-2A-14A-[66A]-66A		
3CC#164	[25A]-[41C]	B41 SCC only		4CC#164	2A-13A-48A-[66A]	B48 SCC only		5CC#74	2A-2A-14A-[66A]-[66A]		
3CC#165	29A-30A-[66A]	B29 SCC only	4CC#317	4CC#165	2A-13A-[48A]-66A	B48 SCC only		5CC#75	[2A]-2A-14A-66A-66A		
3CC#166	29A-[30A]-66A	B29 SCC only	4CC#318	4CC#166	2A-13A-[48A]-[66A]	B48 SCC only		5CC#76	[2A]-2A-14A-[66A]-66A		
3CC#167	29A-[30A]-[66A]	B29 SCC only	4CC#319	4CC#167	[2A]-13A-48A-66A	B48 SCC only		5CC#77	[2A]-2A-14A-[66A]-[66A]		
3CC#168	29A-[66A]-66A	B29 SCC only	4CC#316	4CC#168	[2A]-13A-48A-[66A]	B48 SCC only		5CC#78	[2A]-[2A]-14A-66A-66A		
3CC#169	29A-[66A]-[66A]	B29 SCC only	4CC#317	4CC#169	[2A]-13A-[48A]-66A	B48 SCC only		5CC#79	[2A]-[2A]-14A-[66A]-66A		
3CC#170	30A-[66A]-66A		4CC#316	4CC#170	[2A]-13A-[48A]-[66A]	B48 SCC only		5CC#80	[2A]-[2A]-14A-[66A]-[66A]		
3CC#171	30A-[66A]-[66A]		4CC#317	4CC#171	2A-13A-[48C]	B48 SCC only	5CC#150	5CC#81	2A-2A-29A-30A-[66A]	B29 SCC only	
3CC#172	[30A]-66A-66A		4CC#318	4CC#172	[2A]-13A-48C	B48 SCC only	5CC#151	5CC#82	2A-2A-29A-[30A]-66A	B29 SCC only	
3CC#173	[30A]-[66A]-66A		4CC#319	4CC#173	[2A]-13A-[48C]	B48 SCC only	5CC#153	5CC#83	2A-2A-29A-[30A]-[66A]	B29 SCC only	
3CC#174	[30A]-[66A]-[66A]		4CC#320	4CC#174	2A-13A-[66A]-66A		5CC#54	5CC#84	[2A]-2A-29A-30A-66A	B29 SCC only	
3CC#175	41A-[41C]			4CC#175	2A-13A-[66A]-[66A]		5CC#55	5CC#85	[2A]-2A-29A-30A-[66A]	B29 SCC only	
3CC#176	[41A]-41C			4CC#176	[2A]-13A-66A-66A		5CC#56	5CC#86	[2A]-2A-29A-[30A]-66A	B29 SCC only	
3CC#177	[41A]-[41C]			4CC#177	[2A]-13A-[66A]-66A		5CC#57	5CC#87	[2A]-2A-29A-[30A]-[66A]	B29 SCC only	
3CC#178	[41D]			4CC#178	[2A]-13A-[66A]-[66A]		5CC#58	5CC#88	[2A]-[2A]-29A-30A-66A	B29 SCC only	
3CC#179	48A-48A-[66A]	B48 SCC only	4CC#323	4CC#179	2A-13A-[66B]			5CC#89	[2A]-[2A]-29A-30A-[66A]	B29 SCC only	
3CC#180	[48A]-48A-66A	B48 SCC only	4CC#324	4CC#180	[2A]-13A-66B			5CC#90	[2A]-[2A]-29A-[30A]-66A	B29 SCC only	

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO (Continued)

Index	3CC	Restriction	Completely Covered by Measurement Superset	Index	4CC	Restriction	Completely Covered by Measurement Superset	Index	5CC	Restriction	Completely Covered by Measurement Superset
3CC#181	[48A]-48A-[66A]	B48 SCC only	4CC#325	4CC#181	[2A]-13A-[66B]			5CC#91	[2A]-[2A]-29A-[30A]-[66A]	B29 SCC only	
3CC#182	[48A]-[48A]-66A	B48 SCC only	4CC#326	4CC#182	2A-13A-[66C]			5CC#92	2A-2A-29A-[66A]-66A	B29 SCC only	
3CC#183	[48A]-[48A]-[66A]	B48 SCC only	4CC#327	4CC#183	[2A]-13A-[66C]			5CC#93	2A-2A-29A-[66A]-[66A]	B29 SCC only	
3CC#184	[48A]-48A-71A	B48 SCC only		4CC#184	[2A]-13A-[66C]			5CC#94	[2A]-2A-29A-66A-66A	B29 SCC only	
3CC#185	[48A]-[48A]-71A	B48 SCC only		4CC#185	2A-14A-30A-[66A]		5CC#62	5CC#95	[2A]-2A-29A-[66A]-66A	B29 SCC only	
3CC#186	48A-[48C]			4CC#186	2A-14A-[30A]-66A		5CC#63	5CC#96	[2A]-2A-29A-[66A]-[66A]	B29 SCC only	
3CC#187	[48A]-48C			4CC#187	2A-14A-[30A]-[66A]		5CC#64	5CC#97	[2A]-[2A]-29A-66A-66A	B29 SCC only	
3CC#188	[48A]-[48C]			4CC#188	[2A]-14A-30A-66A		5CC#65	5CC#98	[2A]-[2A]-29A-[66A]-66A	B29 SCC only	
3CC#189	48A-[66A]-66A	B48 SCC only	4CC#244	4CC#189	[2A]-14A-30A-[66A]		5CC#66	5CC#99	[2A]-[2A]-29A-[66A]-[66A]	B29 SCC only	
3CC#190	48A-[66A]-[66A]	B48 SCC only	4CC#245	4CC#190	[2A]-14A-[30A]-66A		5CC#67	5CC#100	2A-5A-30A-[66A]-66A		
3CC#191	[48A]-66A-66A	B48 SCC only	4CC#246	4CC#191	[2A]-14A-[30A]-[66A]		5CC#68	5CC#101	2A-5A-30A-[66A]-[66A]		
3CC#192	[48A]-[66A]-66A	B48 SCC only	4CC#247	4CC#192	2A-14A-[66A]-66A		5CC#73	5CC#102	2A-5A-[30A]-66A-66A		
3CC#193	[48A]-[66A]-[66A]	B48 SCC only	4CC#248	4CC#193	2A-14A-[66A]-[66A]		5CC#74	5CC#103	2A-5A-[30A]-[66A]-66A		
3CC#194	48A-[66B]	B48 SCC only	4CC#298	4CC#194	[2A]-14A-66A-66A		5CC#75	5CC#104	2A-5A-[30A]-[66A]-[66A]		
3CC#195	[48A]-66B	B48 SCC only	4CC#299	4CC#195	[2A]-14A-[66A]-66A		5CC#76	5CC#105	[2A]-5A-30A-66A-66A		
3CC#196	[48A]-[66B]	B48 SCC only	4CC#300	4CC#196	[2A]-14A-[66A]-[66A]		5CC#77	5CC#106	[2A]-5A-30A-[66A]-66A		
3CC#197	48A-[66C]	B48 SCC only	4CC#301	4CC#197	2A-29A-30A-[66A]	B29 SCC only	5CC#81	5CC#107	[2A]-5A-30A-[66A]-[66A]		
3CC#198	[48A]-66C	B48 SCC only	4CC#302	4CC#198	2A-29A-[30A]-66A	B29 SCC only	5CC#82	5CC#108	[2A]-5A-[30A]-66A-66A		
3CC#199	[48A]-[66C]	B48 SCC only	4CC#303	4CC#199	2A-29A-[30A]-[66A]	B29 SCC only	5CC#83	5CC#109	[2A]-5A-[30A]-[66A]-66A		
3CC#200	48B-[66A]	B48 SCC only		4CC#200	[2A]-29A-30A-66A	B29 SCC only	5CC#84	5CC#110	[2A]-5A-[30A]-[66A]-[66A]		
3CC#201	[48B]-66A	B48 SCC only		4CC#201	[2A]-29A-30A-[66A]	B29 SCC only	5CC#85	5CC#111	2A-5A-48A-[66A]-66A	B48 SCC only	
3CC#202	[48B]-[66A]	B48 SCC only		4CC#202	[2A]-29A-[30A]-66A	B29 SCC only	5CC#86	5CC#112	2A-5A-48A-[66A]-[66A]	B48 SCC only	
3CC#203	48C-[66A]	B48 SCC only	4CC#304	4CC#203	[2A]-29A-[30A]-[66A]	B29 SCC only	5CC#87	5CC#113	2A-5A-[48A]-66A-66A	B48 SCC only	
3CC#204	[48C]-66A	B48 SCC only	4CC#305	4CC#204	2A-29A-[66A]-66A	B29 SCC only	5CC#92	5CC#114	2A-5A-[48A]-[66A]-66A	B48 SCC only	
3CC#205	[48C]-[66A]	B48 SCC only	4CC#306	4CC#205	2A-29A-[66A]-[66A]	B29 SCC only	5CC#93	5CC#115	2A-5A-[48A]-[66A]-[66A]	B48 SCC only	
3CC#206	[48C]-71A	B48 SCC only		4CC#206	[2A]-29A-66A-66A	B29 SCC only	5CC#94	5CC#116	[2A]-5A-48A-66A-66A	B48 SCC only	
3CC#207	[48D]		4CC#336	4CC#207	[2A]-29A-[66A]-66A	B29 SCC only	5CC#95	5CC#117	[2A]-5A-48A-[66A]-66A	B48 SCC only	
3CC#208	[66A]-66A-71A		4CC#259	4CC#208	[2A]-29A-[66A]-[66A]	B29 SCC only	5CC#96	5CC#118	[2A]-5A-48A-[66A]-[66A]	B48 SCC only	
3CC#209	[66A]-[66A]-71A		4CC#260	4CC#209	2A-30A-[66A]-66A		5CC#100	5CC#119	[2A]-5A-[48A]-66A-66A	B48 SCC only	
3CC#210	[66C]-71A		4CC#269	4CC#210	2A-30A-[66A]-[66A]		5CC#101	5CC#120	[2A]-5A-[48A]-[66A]-66A	B48 SCC only	
				4CC#211	2A-[30A]-66A-66A		5CC#102	5CC#121	[2A]-5A-[48A]-[66A]-[66A]	B48 SCC only	
				4CC#212	2A-[30A]-[66A]-66A		5CC#103	5CC#122	2A-5A-48C-[66A]	B48 SCC only	6CC#2
				4CC#213	2A-[30A]-[66A]-[66A]		5CC#104	5CC#123	2A-5A-[48C]-66A	B48 SCC only	6CC#3
				4CC#214	[2A]-30A-66A-66A		5CC#105	5CC#124	2A-5A-[48C]-[66A]	B48 SCC only	6CC#4
				4CC#215	[2A]-30A-[66A]-66A		5CC#106	5CC#125	[2A]-5A-48C-66A	B48 SCC only	6CC#6
				4CC#216	[2A]-30A-[66A]-[66A]		5CC#107	5CC#126	[2A]-5A-48C-[66A]	B48 SCC only	6CC#7
				4CC#217	[2A]-[30A]-66A-66A		5CC#108	5CC#127	[2A]-5A-[48C]-66A	B48 SCC only	6CC#9
				4CC#218	[2A]-[30A]-[66A]-66A		5CC#109	5CC#128	[2A]-5A-[48C]-[66A]	B48 SCC only	6CC#10
				4CC#219	[2A]-[30A]-[66A]-[66A]		5CC#110	5CC#129	2A-5A-[48D]	B48 SCC only	
				4CC#220	2A-48A-48A-[66A]	B48 SCC only		5CC#130	[2A]-5A-48D	B48 SCC only	
				4CC#221	2A-[48A]-48A-66A	B48 SCC only		5CC#131	[2A]-5A-[48D]	B48 SCC only	
				4CC#222	2A-[48A]-48A-[66A]	B48 SCC only		5CC#132	2A-12A-30A-[66A]-66A		
				4CC#223	2A-[48A]-[48A]-66A	B48 SCC only		5CC#133	2A-12A-30A-[66A]-[66A]		
				4CC#224	2A-[48A]-[48A]-[66A]	B48 SCC only		5CC#134	2A-12A-[30A]-66A-66A		
				4CC#225	[2A]-48A-48A-66A	B48 SCC only		5CC#135	2A-12A-[30A]-[66A]-66A		

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO (Continued)

Index	4CC	Restriction	Completely Covered by Measurement Superset	Index	5CC	Restriction	Completely Covered by Measurement Superset	Index	6CC	Restriction	Completely Covered by Measurement Superset
4CC#226	[2A]-48A-48A-[66A]	B48 SCC only		5CC#136	2A-12A-[30A]-[66A]-[66A]			6CC#1	2A-5A-48C-[66A]-66A	48C SCC only	
4CC#227	[2A]-[48A]-48A-66A	B48 SCC only		5CC#137	[2A]-12A-30A-66A-66A			6CC#2	2A-5A-48C-[66A]-[66A]	48C SCC only	
4CC#228	[2A]-[48A]-48A-[66A]	B48 SCC only		5CC#138	[2A]-12A-30A-[66A]-66A			6CC#3	2A-5A-[48C]-66A-66A	48C SCC only	
4CC#229	[2A]-[48A]-[48A]-66A	B48 SCC only		5CC#139	[2A]-12A-30A-[66A]-[66A]			6CC#4	2A-5A-[48C]-[66A]-66A	48C SCC only	
4CC#230	[2A]-[48A]-[48A]-[66A]	B48 SCC only		5CC#140	[2A]-12A-[30A]-66A-66A			6CC#5	2A-5A-[48C]-[66A]-[66A]	48C SCC only	
4CC#231	2A-48A-[48C]	B48 SCC only	5CC#171	5CC#141	[2A]-12A-[30A]-[66A]-66A			6CC#6	[2A]-5A-48C-66A-66A	48C SCC only	
4CC#232	2A-[48A]-48C	B48 SCC only	5CC#172	5CC#142	[2A]-12A-[30A]-[66A]-[66A]			6CC#7	[2A]-5A-48C-[66A]-66A	48C SCC only	
4CC#233	2A-[48A]-[48C]	B48 SCC only	5CC#174	5CC#143	2A-12B-[66A]-66A			6CC#8	[2A]-5A-48C-[66A]-[66A]	48C SCC only	
4CC#234	[2A]-48A-48C	B48 SCC only	5CC#177	5CC#144	2A-12B-[66A]-[66A]			6CC#9	[2A]-5A-[48C]-66A-66A	48C SCC only	
4CC#235	[2A]-48A-[48C]	B48 SCC only	5CC#178	5CC#145	[2A]-12B-66A-66A			6CC#10	[2A]-5A-[48C]-[66A]-66A	48C SCC only	
4CC#236	[2A]-[48A]-48C	B48 SCC only	5CC#180	5CC#146	[2A]-12B-[66A]-66A			6CC#11	2A-48E-[66A]	48E SCC only	
4CC#237	[2A]-[48A]-[48C]	B48 SCC only	5CC#182	5CC#147	[2A]-12B-[66A]-[66A]			6CC#12	2A-[48E]-66A	48E SCC only	
4CC#238	2A-48A-[66A]-66A	B48 SCC only	5CC#111	5CC#148	2A-13A-48C-[66A]	B48 SCC only		6CC#13	[2A]-48E-66A	48E SCC only	
4CC#239	2A-48A-[66A]-[66A]	B48 SCC only	5CC#112	5CC#149	2A-13A-[48C]-66A	B48 SCC only		6CC#14	[2A]-48E-[66A]	48E SCC only	
4CC#240	2A-[48A]-66A-66A	B48 SCC only	5CC#113	5CC#150	2A-13A-[48C]-[66A]	B48 SCC only		6CC#15	5A-48D-[66A]-66A	48D SCC only	
4CC#241	2A-[48A]-[66A]-66A	B48 SCC only	5CC#114	5CC#151	[2A]-13A-48C-66A	B48 SCC only		6CC#16	5A-48D-[66A]-[66A]	48D SCC only	
4CC#242	2A-[48A]-[66A]-[66A]	B48 SCC only	5CC#115	5CC#152	[2A]-13A-48C-[66A]	B48 SCC only		6CC#17	5A-[48D]-66A-66A	48D SCC only	
4CC#243	[2A]-48A-66A-66A	B48 SCC only	5CC#116	5CC#153	[2A]-13A-[48C]-66A	B48 SCC only		6CC#18	5A-[48D]-[66A]-66A	48D SCC only	
4CC#244	[2A]-48A-[66A]-66A	B48 SCC only	5CC#117	5CC#154	[2A]-13A-[48C]-[66A]	B48 SCC only					
4CC#245	[2A]-48A-[66A]-[66A]	B48 SCC only	5CC#118	5CC#155	2A-13A-[48D]	B48 SCC only					
4CC#246	[2A]-[48A]-66A-66A	B48 SCC only	5CC#119	5CC#156	[2A]-13A-48D	B48 SCC only					
4CC#247	[2A]-[48A]-[66A]-66A	B48 SCC only	5CC#120	5CC#157	[2A]-13A-[48D]	B48 SCC only					
4CC#248	[2A]-[48A]-[66A]-[66A]	B48 SCC only	5CC#121	5CC#158	2A-14A-30A-[66A]-66A						
4CC#249	2A-48C-[66A]	B48 SCC only	5CC#122	5CC#159	2A-14A-30A-[66A]-[66A]						
4CC#250	2A-[48C]-66A	B48 SCC only	5CC#123	5CC#160	2A-14A-[30A]-66A-66A						
4CC#251	2A-[48C]-[66A]	B48 SCC only	5CC#124	5CC#161	2A-14A-[30A]-[66A]-66A						
4CC#252	[2A]-48C-66A	B48 SCC only	5CC#125	5CC#162	2A-14A-[30A]-[66A]-[66A]						
4CC#253	[2A]-48C-[66A]	B48 SCC only	5CC#126	5CC#163	[2A]-14A-30A-66A-66A						
4CC#254	[2A]-[48C]-66A	B48 SCC only	5CC#127	5CC#164	[2A]-14A-30A-[66A]-66A						
4CC#255	[2A]-[48C]-[66A]	B48 SCC only	5CC#128	5CC#165	[2A]-14A-30A-[66A]-[66A]						
4CC#256	2A-[48D]	B48 SCC only	5CC#129	5CC#166	[2A]-14A-[30A]-66A-66A						
4CC#257	[2A]-48D	B48 SCC only	5CC#130	5CC#167	[2A]-14A-[30A]-[66A]-66A						
4CC#258	[2A]-[48D]	B48 SCC only	5CC#131	5CC#168	[2A]-14A-[30A]-[66A]-[66A]						
4CC#259	2A-[66A]-66A-71A			5CC#169	2A-48A-48C-[66A]	B48 SCC only					
4CC#260	2A-[66A]-[66A]-71A			5CC#170	2A-48A-[48C]-66A	B48 SCC only					
4CC#261	[2A]-66A-66A-71A			5CC#171	2A-48A-[48C]-[66A]	B48 SCC only					
4CC#262	[2A]-[66A]-66A-71A			5CC#172	2A-[48A]-48C-66A	B48 SCC only					
4CC#263	[2A]-[66A]-[66A]-71A			5CC#173	2A-[48A]-48C-[66A]	B48 SCC only					
4CC#264	2C-[66A]-66A			5CC#174	2A-[48A]-[48C]-66A	B48 SCC only					
4CC#265	2C-[66A]-[66A]			5CC#175	2A-[48A]-[48C]-[66A]	B48 SCC only					
4CC#266	[2C]-66A-66A			5CC#176	[2A]-48A-48C-66A	B48 SCC only					
4CC#267	[2C]-[66A]-66A			5CC#177	[2A]-48A-48C-[66A]	B48 SCC only					
4CC#268	[2C]-[66A]-[66A]			5CC#178	[2A]-48A-[48C]-66A	B48 SCC only					
4CC#269	2A-[66C]-71A			5CC#179	[2A]-48A-[48C]-[66A]	B48 SCC only					
4CC#270	[2A]-66C-71A			5CC#180	[2A]-[48A]-48C-66A	B48 SCC only					
4CC#271	[2A]-[66C]-71A			5CC#181	[2A]-[48A]-48C-[66A]	B48 SCC only					
4CC#272	[4A]-4A-12B			5CC#182	[2A]-[48A]-[48C]-66A	B48 SCC only					
4CC#273	[4A]-[4A]-12B			5CC#183	[2A]-[48A]-[48C]-[66A]	B48 SCC only					
4CC#274	4A-[48D]	B48 SCC only		5CC#184	2A-[48C]-48C	B48 SCC only					
4CC#275	[4A]-48D	B48 SCC only		5CC#185	2A-[48C]-[48C]	B48 SCC only					

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO (Continued)

Index	4CC	Restriction	Completely Covered by Measurement Superset	Index	5CC	Restriction	Completely Covered by Measurement Superset
4CC#276	[4A]-[48D]	B48 SCC only		5CC#186	[2A]-48C-48C	B48 SCC only	
4CC#277	5A-30A-[66A]-66A		5CC#100	5CC#187	[2A]-[48C]-48C	B48 SCC only	
4CC#278	5A-30A-[66A]-[66A]		5CC#101	5CC#188	[2A]-[48C]-[48C]	B48 SCC only	
4CC#279	5A-[30A]-66A-66A		5CC#102	5CC#189	2A-48C-[66A]-66A	B48 SCC only	6CC#1
4CC#280	5A-[30A]-[66A]-66A		5CC#103	5CC#190	2A-48C-[66A]-[66A]	B48 SCC only	6CC#2
4CC#281	5A-[30A]-[66A]-[66A]		5CC#104	5CC#191	2A-[48C]-66A-66A	B48 SCC only	6CC#3
4CC#282	5A-48A-[66A]-66A	B48 SCC only	5CC#111	5CC#192	2A-[48C]-[66A]-66A	B48 SCC only	6CC#4
4CC#283	5A-48A-[66A]-[66A]	B48 SCC only	5CC#112	5CC#193	2A-[48C]-[66A]-[66A]	B48 SCC only	6CC#5
4CC#284	5A-[48A]-66A-66A	B48 SCC only	5CC#113	5CC#194	[2A]-48C-66A-66A	B48 SCC only	6CC#6
4CC#285	5A-[48A]-[66A]-66A	B48 SCC only	5CC#114	5CC#195	[2A]-48C-[66A]-66A	B48 SCC only	6CC#7
4CC#286	5A-[48A]-[66A]-[66A]	B48 SCC only	5CC#115	5CC#196	[2A]-48C-[66A]-[66A]	B48 SCC only	6CC#8
4CC#287	5A-48C-[66A]	B48 SCC only	5CC#122	5CC#197	[2A]-[48C]-66A-66A	B48 SCC only	6CC#9
4CC#288	5A-[48C]-66A	B48 SCC only	5CC#123	5CC#198	[2A]-[48C]-[66A]-66A	B48 SCC only	6CC#10
4CC#289	5A-[48C]-[66A]	B48 SCC only	5CC#124	5CC#199	[2A]-[48C]-[66A]-[66A]	B48 SCC only	
4CC#290	5A-[48D]	B48 SCC only	5CC#129	5CC#200	2A-48D-[66A]	B48 SCC only	
4CC#291	12A-30A-[66A]-66A		5CC#132	5CC#201	2A-[48D]-66A	B48 SCC only	
4CC#292	12A-30A-[66A]-[66A]		5CC#133	5CC#202	2A-[48D]-[66A]	B48 SCC only	
4CC#293	12A-[30A]-66A-66A		5CC#134	5CC#203	[2A]-48D-66A	B48 SCC only	
4CC#294	12A-[30A]-[66A]-66A		5CC#135	5CC#204	[2A]-48D-[66A]	B48 SCC only	
4CC#295	12A-[30A]-[66A]-[66A]		5CC#136	5CC#205	[2A]-[48D]-66A	B48 SCC only	
4CC#296	12B-[66A]-66A		5CC#44	5CC#206	[2A]-[48D]-[66A]	B48 SCC only	
4CC#297	12B-[66A]-[66A]		5CC#45	5CC#207	2A-[48E]	B48 SCC only	6CC#12
4CC#298	13A-48A-[66B]	B48 SCC only		5CC#208	[2A]-48E	B48 SCC only	6CC#13
4CC#299	13A-[48A]-66B	B48 SCC only		5CC#209	[2A]-[48E]	B48 SCC only	
4CC#300	13A-[48A]-[66B]	B48 SCC only		5CC#210	4A-[48E]	B48 SCC only	
4CC#301	13A-48A-[66C]	B48 SCC only		5CC#211	[4A]-48E	B48 SCC only	
4CC#302	13A-[48A]-66C	B48 SCC only		5CC#212	[4A]-[48E]	B48 SCC only	
4CC#303	13A-[48A]-[66C]	B48 SCC only		5CC#213	5A-48C-[66A]-66A	B48 SCC only	6CC#1
4CC#304	13A-48C-[66A]	B48 SCC only	5CC#152	5CC#214	5A-48C-[66A]-[66A]	B48 SCC only	6CC#2
4CC#305	13A-[48C]-66A	B48 SCC only	5CC#153	5CC#215	5A-[48C]-66A-66A	B48 SCC only	6CC#3
4CC#306	13A-[48C]-[66A]	B48 SCC only	5CC#154	5CC#216	5A-[48C]-[66A]-66A	B48 SCC only	6CC#4
4CC#307	13A-[48D]	B48 SCC only	5CC#155	5CC#217	5A-[48C]-[66A]-[66A]	B48 SCC only	6CC#5
4CC#308	14A-30A-[66A]-66A		5CC#158	5CC#218	5A-48D-[66A]	B48 SCC only	6CC#16
4CC#309	14A-30A-[66A]-[66A]		5CC#159	5CC#219	5A-[48D]-66A	B48 SCC only	6CC#17
4CC#310	14A-[30A]-66A-66A		5CC#160	5CC#220	5A-[48D]-[66A]	B48 SCC only	6CC#18
4CC#311	14A-[30A]-[66A]-66A		5CC#161	5CC#221	13A-48D-[66A]	B48 SCC only	
4CC#312	14A-[30A]-[66A]-[66A]		5CC#162	5CC#222	13A-[48D]-66A	B48 SCC only	
4CC#313	25A-[41D]	B41 SCC only		5CC#223	13A-[48D]-[66A]	B48 SCC only	
4CC#314	[25A]-41D	B41 SCC only		5CC#224	13A-[48E]	B48 SCC only	
4CC#315	[25A]-[41D]	B41 SCC only		5CC#225	48C-48C-[66A]	B48 SCC only	
4CC#316	29A-30A-[66A]-66A	B29 SCC only		5CC#226	[48C]-48C-66A	B48 SCC only	
4CC#317	29A-30A-[66A]-[66A]	B29 SCC only		5CC#227	[48C]-48C-[66A]	B48 SCC only	
4CC#318	29A-[30A]-66A-66A	B29 SCC only		5CC#228	[48C]-[48C]-66A	B48 SCC only	
4CC#319	29A-[30A]-[66A]-66A	B29 SCC only		5CC#229	[48C]-[48C]-[66A]	B48 SCC only	
4CC#320	29A-[30A]-[66A]-[66A]	B29 SCC only		5CC#230	48A-48D-[66A]	B48 SCC only	
4CC#321	48A-48A-[66A]-66A	48A SCC only		5CC#231	48A-[48D]-66A	B48 SCC only	
4CC#322	48A-48A-[66A]-[66A]	48A SCC only		5CC#232	48A-[48D]-[66A]	B48 SCC only	
4CC#323	[48A]-48A-66A-66A	48A SCC only		5CC#233	[48A]-48D-66A	B48 SCC only	
4CC#324	[48A]-48A-[66A]-66A	48A SCC only		5CC#234	[48A]-48D-[66A]	B48 SCC only	
4CC#325	[48A]-48A-[66A]-[66A]	48A SCC only		5CC#235	[48A]-[48D]-66A	B48 SCC only	
4CC#326	[48A]-[48A]-66A-66A	48A SCC only		5CC#236	[48A]-[48D]-[66A]	B48 SCC only	
4CC#327	[48A]-[48A]-[66A]-66A	48A SCC only		5CC#237	48A-[48E]		

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO (Continued)

Index	4CC	Restriction	Completely Covered by Measurement Superset
4CC#328	[48A]-[48A]-[66A]-[66A]	B48 SCC only	
4CC#329	48A-48C-[66A]	B48 SCC only	5CC#169
4CC#330	48A-[48C]-66A	B48 SCC only	5CC#170
4CC#331	48A-[48C]-[66A]	B48 SCC only	5CC#171
4CC#332	[48A]-48C-66A	B48 SCC only	5CC#172
4CC#333	[48A]-48C-[66A]	B48 SCC only	5CC#173
4CC#334	[48A]-[48C]-66A	B48 SCC only	5CC#174
4CC#335	[48A]-[48C]-[66A]	B48 SCC only	5CC#175
4CC#336	48A-[48D]		
4CC#337	[48A]-48D		
4CC#338	[48A]-[48D]		
4CC#339	[48C]-48C		
4CC#340	[48C]-[48C]		
4CC#341	48C-[66A]-66A	B48 SCC only	5CC#189
4CC#342	48C-[66A]-[66A]	B48 SCC only	5CC#190
4CC#343	[48C]-66A-66A	B48 SCC only	5CC#191
4CC#344	[48C]-[66A]-66A	B48 SCC only	5CC#192
4CC#345	[48C]-[66A]-[66A]	B48 SCC only	5CC#193
4CC#346	48C-[66B]	B48 SCC only	
4CC#347	[48C]-66B	B48 SCC only	
4CC#348	[48C]-[66B]	B48 SCC only	
4CC#349	48C-[66C]	B48 SCC only	
4CC#350	[48C]-66C	B48 SCC only	
4CC#351	[48C]-[66C]	B48 SCC only	
4CC#352	48D-[66A]	B48 SCC only	5CC#230
4CC#353	[48D]-66A	B48 SCC only	5CC#231
4CC#354	[48D]-[66A]	B48 SCC only	5CC#232
4CC#355	[48E]		5CC#237

Index	5CC	Restriction	Completely Covered by Measurement Superset
5CC#238	[48A]-48E		
5CC#239	[48A]-[48E]		
5CC#240	48C-[48D]		
5CC#241	[48C]-48D		
5CC#242	[48C]-[48D]		
5CC#243	48E-[66A]	B48 SCC only	6CC#14
5CC#244	[48E]-66A	B48 SCC only	6CC#12
5CC#245	[48E]-[66A]	B48 SCC only	

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

Single Carrier Downlink 4x4 MIMO output power results

LTE Bands	Modulation	BW (MHz)	Channel	Freq. (MHz)	RB/Offset	LTE Rel 8 Tx. Power [dBm]	DL 4x4 MIMO Tx. Power [dBm]	Delta
2	QPSK	20	18700	1860	1/0	23.9	23.8	-0.07
4	QPSK	20	20175	1732.5	1/0	23.9	23.8	-0.09
25	QPSK	20	26590	1905	1/0	23.8	23.6	-0.15
30	QPSK	10	27710	2310	1/25	22.8	22.7	-0.09
48	QPSK	20	55340	3560	1/0	22.7	22.6	-0.14
66	QPSK	20	132322	1745	1/0	24.1	24.1	-0.03

Note:

According to LTE Test Conditions in TCB workshop (May, 2017), SAR is excluded for LTE downlink 4x4 MIMO operation when uplink output with DL MIMO does not exceed highest uplink output power configuration without DL MIMO by more than 1/4 dB. And for DL MIMO with carrier aggregation, the same SAR test exclusion procedure is considered.

DL CA output power results

EUTRA CA configuration (BCS)	Bands						UL												DL														LTE Rel 10 Tx Power [dBm]	LTE Rel 10 Tx Power [dBm]	Delta													
	PCC		SCC1		SCC2		SCC3		SCC4		SCC5		PCC						SCC1						SCC2						SCC3						SCC4						SCC5					
	1st	2nd	3rd	4th	5th	6th	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)										
4A-48A	4A	48A					4	QPSK	20	20175	1732.5	1	0	4	QPSK	20	2175	2132.5	48	20	53340	3560																										
5A-25A	5A	25A					5	QPSK	10	20525	836.5	1	0	5	QPSK	10	2525	881.5	25	20	8365	3602.5																										
5A-41A	5A	41A					25	QPSK	20	26590	1505	1	0	25	QPSK	20	8590	1585	5	10	2525	881.5																										
12A-25A	12A	25A					12	QPSK	10	22520	782	1	0	12	QPSK	10	5095	737.5	25	20	8590	1585																										
12A-48A	12A	48A					25	QPSK	20	26590	1505	1	0	25	QPSK	20	8590	1585	12	10	5095	737.5																										
25A-25A	25A	25A					25	QPSK	20	26590	1505	1	0	25	QPSK	20	8590	1585	41	20	40520	2593																										
25A-41A	25A	41A					41	QPSK	20	40520	2593	1	0	41	QPSK	20	40520	2593	41	20	40520	2593																										
41C-41C	41C	41C					41	QPSK	20	40520	2593	1	0	41	QPSK	20	40520	2593	41	20	40520	2593																										
48A-48A	48A	48A					48	QPSK	20	55340	3560	1	99	48	QPSK	20	55340	3560	48	20	55340	3560																										
48B-48B	48B	48B					2	QPSK	20	18900	1880	1	0	2	QPSK	20	900	1960	4	20	2175	2132.5	13	10	5230	751																						
2A-4A-13A	2A	4A	13A				4	QPSK	20	20175	1732.5	1	0	4	QPSK	20	2175	2132.5	2	20	900	1960	13	10	5230	751																						
4A-4A-13A	4A	4A	13A				13	QPSK	10	22520	782	1	0	13	QPSK	10	5230	751	2	20	8590	1585																										
4A-4A-71A	4A	4A	71A				71	QPSK	20	20175	1732.5	1	0	71	QPSK	20	2175	2132.5	4	20	900	1960	71	20	68761	634.5																						
4A-48C	4A	48C	48C				41	QPSK	20	40520	2593	1	0	41	QPSK	20	40520	2593	41	20	40520	2593																										
13A-48B	13A	48B	48B				25	QPSK	20	26590	1505	1	0	25	QPSK	20	8590	1585	41	20	40520	2593																										
25A-41C	25A	41C	41C				41	QPSK	20	40520	2593	1	0	41	QPSK	20	40520	2593	41	20	40520	2593																										
41A-41C	41A	41C	41C				41	QPSK	20	40520	2593	1	0	41	QPSK	20	40520	2593	41	20	40520	2593																										
41A-41C	41A	41C	41C				41	QPSK	20	40520	2593	1	0	41	QPSK	20	40520	2593	41	20	40520	2593																										
41A-41C	41A	41C	41C				41	QPSK	20	40520	2593	1	0	41	QPSK	20	40520	2593	41	20	40520	2593																										
48A-48C	48A	48C	48C				48	QPSK	20	55340	3560	1	99	48	QPSK	20	55340	3560	48	20	55340	3560																										
48C-48C	48C	48C	48C				48	QPSK	20	55340	3560	1	99	48	QPSK	20	55340	3560	48	20	55340	3560																										
48B-66A	48B	66A	66A				71	QPSK	20	133222	1745	1	0	71	QPSK	20	68761	634.5	48	20	55340	3560																										
48C-71A	48C	71A	71A				71	QPSK	20	133222	1745	1	0	71	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-2A-4A-4A	2A	2A	4A	4A			4	QPSK	20	18900	1880	1	0	4	QPSK	20	900	1960	2	20	2175	2132.5	4	20	2248	2139.8																						
2A-2A-4A-5A	2A	2A	4A	5A			4	QPSK	20	18900	1880	1	0	4	QPSK	20	900	1960	2	20	2175	2132.5	4	20	2248	2139.8																						
2A-2A-4A-12A	2A	2A	4A	12A			4	QPSK	20	18900	1880	1	0	4	QPSK	20	900	1960	2	20	2175	2132.5	4	20	2248	2139.8																						
2A-2A-4A-71A	2A	2A	4A	71A			71	QPSK	20	133222	1745	1	0	71	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-2A-66A-71A	2A	2A	66A	71A			71	QPSK	20	133222	1745	1	0	71	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-4A-4A-5A	2A	4A	4A	5A			4	QPSK	20	18900	1880	1	0	4	QPSK	20	900	1960	2	20	2175	2132.5	4	20	2248	2139.8																						
2A-4A-4A-12A	2A	4A	4A	12A			4	QPSK	20	18900	1880	1	0	4	QPSK	20	900	1960	2	20	2175	2132.5	4	20	2248	2139.8																						
2A-4A-12B	2A	4A	12B	12B			12	QPSK	5	25055	701.5	1	12	12	5	25055	701.5	12	10	739	5110	12	10	739	5110																							
2A-12A-66C	2A	12A	66C	66C			66	QPSK	20	133222	1745	1	0	66	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-13A-48A-66A	2A	13A	48A	66A			66	QPSK	20	133222	1745	1	0	66	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-13A-66B	2A	13A	66B	66B			66	QPSK	20	133222	1745	1	0	66	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-13A-66C	2A	13A	66C	66C			66	QPSK	20	133222	1745	1	0	66	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-48A-48A-66A	2A	48A	48A	66A			66	QPSK	20	133222	1745	1	0	66	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-66A-66A-71A	2A	66A	66A	71A			71	QPSK	20	133222	1745	1	0	71	QPSK	20	68761	634.5	48	20	55340	3560																										
2C-66A-66A	2C	2C	66A	66A			71	QPSK	20	133222	1745	1	0	71	QPSK	20	68761	634.5	48	20	55340	3560																										
2A-66C-71A	2A	66C	66C	71A			71	QPSK	20	133222	1745	1	0	71	QPSK	20	68761	634.5	48	20	55340	3560																										
4A-4A-12B	4A	4A	12B	12B			12	QPSK	5	25055	701.5	1	12	12	5	25055	701.5	12	10	739	5110	12	10	739	5110																							
13A-48A-66B	13A	48A	66B	66B			66	QPSK	20	133222	1745	1	0	66	QPSK	20	68761	634.5	48	20	55340	3560																										

DL CA output power results (Continued)

EUTRA CA configuration (BCS)	Bands						UL						DL						LTE Rel 8																	
	PCC		SCC1		SCC2		SCC3		SCC4		SCC5		PCC		SCC1		SCC2		SCC3		SCC4		SCC5		LTE Rel 8 Tx Power [dBm]	LTE Rel 10 Tx Power [dBm]	Delta									
	1st	2nd	3rd	4th	5th	6th	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)			
2A-2A-12A-30A-66A	2A	2A	12A	30A	66A		2	QPSK	20	18900	1880	1	0	2	20	900	1960	12	10	5095	737.5	30	10	5820	2355	66	20	66786	2145	22.86	23.8	-0.06				
	12A	2A	2A	30A	66A		12	QPSK	10	23095	707.5	1	25	12	10	5095	737.5	2	20	900	1960	2	20	1100	1980	30	10	5820	2355	66	20	66786	2145	24.29	24.24	-0.05
	30A	2A	2A	12A	66A		30	QPSK	10	27710	2310	1	25	30	10	9820	2355	2	20	900	1960	2	20	1100	1980	12	10	5095	737.5	66	20	66786	2145	22.77	22.67	-0.1
	66A	2A	2A	12A	30A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	2	20	900	1960	2	20	1100	1980	12	10	5095	737.5	66	20	66786	2145	23.86	23.79	-0.09
	2A	2A	12A	66A	66A		2	QPSK	20	18900	1880	1	0	2	20	900	1960	12	10	5095	737.5	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
	12A	2A	2A	66A	66A		12	QPSK	10	23095	707.5	1	25	12	10	5095	737.5	2	20	900	1960	2	20	1100	1980	66	20	66786	2145	66	20	67036	2170	24.29	24.21	-0.08
2A-2A-12B-66A	2A	2A	12B	66A	66A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	2	20	900	1960	2	20	1100	1980	12	10	5095	737.5	66	20	66786	2145	23.86	23.81	-0.05
	2A	2A	12B	12B	66A		12	QPSK	5	23095	701.5	1	12	12	5	5035	731.5	12	10	739	5110	2	20	900	1960	2	20	1100	1980	66	20	66786	2145	24.29	24.11	-0.12
	2A	2A	12B	66A	66A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	2	20	900	1960	2	20	1100	1980	12	10	5095	737.5	66	20	66786	2145	23.86	23.81	-0.05
	2A	2A	13A	66A	66A		2	QPSK	20	18900	1880	1	0	2	20	900	1960	13	10	6250	751	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.75	-0.11
	13A	2A	2A	66A	66A		13	QPSK	10	25230	782	1	25	13	10	5230	751	2	20	900	1960	2	20	1100	1980	66	20	66786	2145	66	20	67036	2170	24.07	23.88	-0.09
	66A	2A	2A	13A	66A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
2A-2A-14A-30A-66A	2A	2A	14A	30A	66A		2	QPSK	20	18900	1880	1	0	2	20	900	1960	14	10	5330	763	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.74	-0.12
	14A	2A	2A	30A	66A		14	QPSK	10	25230	782	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1980	30	10	5820	2355	66	20	66786	2145	24.08	24.04	-0.04
	30A	2A	2A	14A	66A		30	QPSK	10	27710	2310	1	25	30	10	9820	2355	2	20	900	1960	2	20	1100	1980	14	10	5330	763	66	20	66786	2145	22.77	22.72	-0.05
	66A	2A	2A	14A	30A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	2	20	900	1960	2	20	1100	1980	14	10	5330	763	66	20	66786	2145	23.86	23.86	-0.02
	2A	2A	14A	66A	66A		2	QPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1980	14	10	5330	763	66	20	66786	2145	66	20	67036	2170	23.86	23.72	-0.14
	14A	2A	2A	66A	66A		14	QPSK	10	25230	782	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1980	66	20	66786	2145	66	20	67036	2170	24.08	23.96	-0.12
2A-2A-14A-66A-66A	66A	66A	2A	2A	14A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2	20	900	1960	2	20	1100	1980	14	10	5330	763	23.86	23.74	-0.14
	2A	2A	2A	2A	30A	66A	2	QPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1980	29	10	9715	722.5	30	10	5820	2355	66	20	66786	2145	23.86	23.75	-0.11
	30A	2A	2A	2A	2A	66A	30	QPSK	10	27710	2310	1	25	30	10	9820	2355	2	20	900	1960	2	20	1100	1980	29	10	9715	722.5	30	10	5820	2355	22.77	22.68	-0.09
	66A	2A	2A	2A	2A	66A	66	QPSK	20	132322	1745	1	0	66	20	66786	2145	2	20	900	1960	2	20	1100	1980	29	10	9715	722.5	30	10	5820	2355	23.86	23.86	-0.02
	2A	2A	2A	2A	66A	66A	2	QPSK	20	18900	1880	1	0	2	20	900	1960	29	10	9715	722.5	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
	66A	2A	2A	2A	2A	66A	66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
2A-2A-29A-30A-66A	2A	2A	2A	2A	2A	66A	66	QPSK	20	18900	1880	1	0	2	20	900	1960	29	10	9715	722.5	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.75	-0.11
	2A	2A	2A	2A	2A	66A	66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.86	-0.02
	2A	2A	2A	2A	2A	66A	66	QPSK	20	18900	1880	1	0	2	20	900	1960	29	10	9715	722.5	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
	2A	2A	2A	2A	2A	66A	66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
	2A	2A	2A	2A	2A	66A	66	QPSK	20	18900	1880	1	0	2	20	900	1960	29	10	9715	722.5	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
	2A	2A	2A	2A	2A	66A	66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.81	-0.05
2A-5A-30A-66A-66A	2A	5A	30A	66A	66A		2	QPSK	10	23095	707.5	1	0	2	10	2525	881.5	2	20	900	1960	30	10	5820	2355	66	20	66786	2145	66	20	67036	2170	23.86	23.86	-0.02
	30A	2A	5A	66A	66A		30	QPSK	10	27710	2310	1	25	30	10	9820	2355	2	20	900	1960	5	10	2525	881.5	66	20	66786	2145	66	20	67036	2170	22.77	22.66	-0.11
	66A	66A	2A	5A	30A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2	20	900	1960	5	10	2525	881.5	66	20	66786	2145	23.86	23.83	-0.03
	2A	5A	66A	66A	66A		2	QPSK	20	18900	1880	1	0	2	20	900	1960	48	20	55340	3560	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.86	-0.02
	5A	2A	48A	66A	66A		5	QPSK	10	20525	836.5	1	0	5	10	2525	881.5	2	20	900	1960	48	20	55340	3560	66	20	66786	2145	66	20	67036	2170	24.35	24.31	-0.04
	66A	66A	2A	5A	48A		66	QPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2	20	900	1960	5	10	2525	881.5	66	20	66786	2145	23.86	23.81	-0.05
2A-5A-48A-66A-66A	2A	5A	48A	66A	66A		2	QPSK	20	18900	1880	1	0	2	20	900	1960	48	20	55340	3560	66	20	66786	2145	66	20	66786	2145	66	20	67036	2170	23.86	23.86	-0.02
	5A	2A	48A	66A	66A		5	QPSK	10	20525	836.5	1	0	5	10	2525	881.5	2	20	900	1960	48	20	55340	3560	66	20	66786</								

DL CA with 4x4 MIMO output power results

[illegible]

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

E-UTRA CA configuration (BSCs)						Bands						UL				DL				LTE Rel 8				LTE Rel 10				LTE Rel 11				LTE Rel 12				LTE Rel 13				LTE Rel 14				LTE Rel 15				LTE Rel 16				LTE Rel 17				LTE Rel 18				LTE Rel 19				LTE Rel 20				LTE Rel 21				LTE Rel 22				LTE Rel 23				LTE Rel 24				LTE Rel 25				LTE Rel 26				LTE Rel 27				LTE Rel 28				LTE Rel 29				LTE Rel 30				LTE Rel 31				LTE Rel 32				LTE Rel 33				LTE Rel 34				LTE Rel 35				LTE Rel 36				LTE Rel 37				LTE Rel 38				LTE Rel 39				LTE Rel 40				LTE Rel 41				LTE Rel 42				LTE Rel 43				LTE Rel 44				LTE Rel 45				LTE Rel 46				LTE Rel 47				LTE Rel 48				LTE Rel 49				LTE Rel 50				LTE Rel 51				LTE Rel 52				LTE Rel 53				LTE Rel 54				LTE Rel 55				LTE Rel 56				LTE Rel 57				LTE Rel 58				LTE Rel 59				LTE Rel 60				LTE Rel 61				LTE Rel 62				LTE Rel 63				LTE Rel 64				LTE Rel 65				LTE Rel 66				LTE Rel 67				LTE Rel 68				LTE Rel 69				LTE Rel 70				LTE Rel 71				LTE Rel 72				LTE Rel 73				LTE Rel 74				LTE Rel 75				LTE Rel 76				LTE Rel 77				LTE Rel 78				LTE Rel 79				LTE Rel 80				LTE Rel 81				LTE Rel 82				LTE Rel 83				LTE Rel 84				LTE Rel 85				LTE Rel 86				LTE Rel 87				LTE Rel 88				LTE Rel 89				LTE Rel 90				LTE Rel 91				LTE Rel 92				LTE Rel 93				LTE Rel 94				LTE Rel 95				LTE Rel 96				LTE Rel 97				LTE Rel 98				LTE Rel 99				LTE Rel 100				LTE Rel 101				LTE Rel 102				LTE Rel 103				LTE Rel 104				LTE Rel 105				LTE Rel 106				LTE Rel 107				LTE Rel 108				LTE Rel 109				LTE Rel 110				LTE Rel 111				LTE Rel 112				LTE Rel 113				LTE Rel 114				LTE Rel 115				LTE Rel 116				LTE Rel 117				LTE Rel 118				LTE Rel 119				LTE Rel 120				LTE Rel 121				LTE Rel 122				LTE Rel 123				LTE Rel 124				LTE Rel 125				LTE Rel 126				LTE Rel 127				LTE Rel 128				LTE Rel 129				LTE Rel 130				LTE Rel 131				LTE Rel 132				LTE Rel 133				LTE Rel 134				LTE Rel 135				LTE Rel 136				LTE Rel 137				LTE Rel 138				LTE Rel 139				LTE Rel 140				LTE Rel 141				LTE Rel 142				LTE Rel 143				LTE Rel 144				LTE Rel 145				LTE Rel 146				LTE Rel 147				LTE Rel 148				LTE Rel 149				LTE Rel 150				LTE Rel 151				LTE Rel 152				LTE Rel 153				LTE Rel 154				LTE Rel 155				LTE Rel 156				LTE Rel 157				LTE Rel 158				LTE Rel 159				LTE Rel 160				LTE Rel 161				LTE Rel 162				LTE Rel 163				LTE Rel 164				LTE Rel 165				LTE Rel 166				LTE Rel 167				LTE Rel 168				LTE Rel 169				LTE Rel 170				LTE Rel 171				LTE Rel 172				LTE Rel 173				LTE Rel 174				LTE Rel 175				LTE Rel 176				LTE Rel 177				LTE Rel 178				LTE Rel 179				LTE Rel 180				LTE Rel 181				LTE Rel 182				LTE Rel 183				LTE Rel 184				LTE Rel 185				LTE Rel 186				LTE Rel 187				LTE Rel 188				LTE Rel 189				LTE Rel 190				LTE Rel 191				LTE Rel 192				LTE Rel 193				LTE Rel 194				LTE Rel 195				LTE Rel 196				LTE Rel 197				LTE Rel 198				LTE Rel 199				LTE Rel 200				LTE Rel 201				LTE Rel 202				LTE Rel 203				LTE Rel 204				LTE Rel 205				LTE Rel 206				LTE Rel 207				LTE Rel 208				LTE Rel 209				LTE Rel 210				LTE Rel 211				LTE Rel 212				LTE Rel 213				LTE Rel 214				LTE Rel 215				LTE Rel 216				LTE Rel 217				LTE Rel 218				LTE Rel 219				LTE Rel 220				LTE Rel 221				LTE Rel 222				LTE Rel 223				LTE Rel 224				LTE Rel 225				LTE Rel 226				LTE Rel 227				LTE Rel 228				LTE Rel 229				LTE Rel 230				LTE Rel 231				LTE Rel 232				LTE Rel 233				LTE Rel 234				LTE Rel 235				LTE Rel 236				LTE Rel 237				LTE Rel 238				LTE Rel 239				LTE Rel 240				LTE Rel 241				LTE Rel 242				LTE Rel 243				LTE Rel 244				LTE Rel 245				LTE Rel 246				LTE Rel 247				LTE Rel 248				LTE Rel 249				LTE Rel 250				LTE Rel 251				LTE Rel 252				LTE Rel 253				LTE Rel 254				LTE Rel 255				LTE Rel 256				LTE Rel 257				LTE Rel 258				LTE Rel 259				LTE Rel 260				LTE Rel 261				LTE Rel 262				LTE Rel 263				LTE Rel 264				LTE Rel 265				LTE Rel 266				LTE Rel 267				LTE Rel 268				LTE Rel 269				LTE Rel 270				LTE Rel 271				LTE Rel 272				LTE Rel 273				LTE Rel 274				LTE Rel 275				LTE Rel 276				LTE Rel 277				LTE Rel 278				LTE Rel 279				LTE Rel 280				LTE Rel 281				LTE Rel 282				LTE Rel 283				LTE Rel 284				LTE Rel 285				LTE Rel 286				LTE Rel 287				LTE Rel 288				LTE Rel 289				LTE Rel 290				LTE Rel 291				LTE Rel 292				LTE Rel 293				LTE Rel 294				LTE Rel 295				LTE Rel 296				LTE Rel 297				LTE Rel 298				LTE Rel 299				LTE Rel 300				LTE Rel 301				LTE Rel 302				LTE Rel 303			
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Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

[illegible]

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

e-UTRA CA configuration (BSCs)	Bands					UL					DL					SCS4					SCS5					LTE Ref #1										
	1st	2nd	3rd	4th	5th	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Tx Power (dBm)	Tx Power (dBm)	Delta	
	SCS1	SCS2	SCS3	SCS4	SCS5																															
13A-48A [66C]	13A	[66C]	[66C]	48A		13	QPSK	20	23230	1745	1	0	13	QPSK	20	66786	2145	66	20	66884	2164.8	13	520	781	48	20	66884	2164.8	48	20	66884	2164.8	24.07	23.98	-0.09	
	[66C]	[66C]	[66C]	13A	48A	66	QPSK	20	132322	1745	1	0	66	QPSK	20	66786	2145	66	20	66884	2164.8	13	520	781	48	20	66884	2164.8	48	20	66884	2164.8	24.11	24.05	-0.06	
	13A	66C	13A	[48A]		13	QPSK	10	23230	781	1	25	13	10	520	781	66	20	66786	2145	66	20	66786	2145	66	20	66884	2164.8	48	20	66884	2164.8	24.07	23.98	-0.09	
13A [48A] 66C	66C	13A	13A	[48A]		66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	24.11	24.07	-0.04
	13A	66C	[66C]	[48A]		13	QPSK	10	23230	781	1	25	13	10	520	781	66	20	66786	2145	66	20	66786	2145	66	20	66884	2164.8	48	20	66884	2164.8	24.07	24.06	-0.01	
	13A	66C	[66C]	[48A]		13	QPSK	10	23230	781	1	25	13	10	520	781	66	20	66786	2145	66	20	66786	2145	66	20	66884	2164.8	48	20	66884	2164.8	24.07	24.06	-0.01	
25A-41D	25A	[41D]	[41D]	[41D]		25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	24.11	24.07	-0.04
	[41D]	[41D]	[41D]	25A		25	QPSK	20	26900	1905	1	0	25	QPSK	20	26900	1905	1	0	25	QPSK	20	26900	1905	1	0	25	QPSK	20	26900	1905	1	0	23.96	23.97	-0.01
	[41D]	[41D]	[41D]	25A		25	QPSK	20	26900	1905	1	0	25	QPSK	20	26900	1905	1	0	25	QPSK	20	26900	1905	1	0	25	QPSK	20	26900	1905	1	0	23.96	23.97	-0.01
25A [41D] 66A	[41D]	[41D]	[41D]	25A		25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	24.11	24.07	-0.04
	25A	[41D]	[41D]	25A		25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	24.11	24.07	-0.04
	25A	[41D]	[41D]	25A		25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	25	QPSK	10	132322	1745	1	0	24.11	24.07	-0.04
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	24.02	-0.09	
	66A	66A	66A	25A		66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	24.11	24.02	-0.09
	66A	66A	66A	25A		66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	66	QPSK	10	132322	1745	1	0	24.11	23.99	-0.12
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.98	-0.13	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.98	-0.13	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
25A [30A] 66A 66A	[66A]	66A	66A	25A		30	QPSK	10	27710	2310	1	25	30	10	8620	2355	66	20	66636	2120	66	20	66636	2120	66	20	67036	2170	29	10	9715	722.5	24.11	23.97	-0.14	
	66A	66A	66A	25A		30	QPSK	10	27710	2310	1	25	3																							

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

EUTRA configuration (BCS)	Bands						UL										DL										LTE Ref 1 Tx Power [dBm]	LTE Ref 1 Tx Power [dBm]	Delta					
	PCD	SC1	SC2	SC3	SC4	SC5	PCC										SCC																	
	1st	2nd	3rd	4th	5th	6th	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)	Band	BW (MHz)	Channel	Freq. (MHz)					
[2A]-2A-5A-[66A]-66A	[2A]	2A	2A	5A	[66A]	66A	2	QPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1980	5	10	2525	881.5	66	20	6636	2120	66	20	6706	2170	-0.08
	[2A]	2A	2A	5A	[66A]	66A	2	QPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1980	5	10	2525	881.5	66	20	6636	2120	66	20	6706	2170	-0.11
	[66A]	[66A]	[2A]	2A	[66A]	66A	5	QPSK	10	20525	836.5	1	0	5	10	2525	881.5	66	20	1100	1980	66	20	6636	2120	66	20	6706	2170	24.15	24.07	-0.08		
	[66A]	[66A]	[2A]	2A	[66A]	66A	66	QPSK	20	132322	1745	1	0	66	20	6678	2145	66	20	6706	2170	2	20	1100	1980	5	10	2525	881.5	66	20	6706	2170	-0.11
	[66A]	[66A]	[2A]	2A	[66A]	66A	5	QPSK	10	20525	836.5	1	0	5	10	2525	881.5	66	20	1100	1980	66	20	6636	2120	66	20	6706	2170	24.15	24.07	-0.13		
	[2A]	2A	2A	5A	[66A]	[66A]	2	QPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1980	5	10	2525	881.5	66	20	6636	2120	66	20	6706	2170	-0.15
	[2A]	2A	2A	5A	[66A]	[66A]	2	QPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1980	5	10	2525	881.5	66	20	6636	2120	66	20	6706	2170	-0.15
	5A	[2A]	2A	5A	[66A]	[66A]	5	QPSK	10	20525	836.5	1	0	5	10	2525	881.5	66	20	1100	1980	66	20	6636	2120	66	20	6706	2170	24.15	24.05	-0.11		
	[66A]	[66A]	[2A]	2A	5A	[66A]	66	QPSK	20	132322	1745	1	0	66	20	6678	2145	66	20	6706	2170	2	20	1100	1980	5	10	2525	881.5	66	20	6706	2170	-0.14
	5A	[2A]	2A	5A	[66A]	[66A]	5	QPSK	10	20525	836.5	1	0	5	10	2525	881.5	66	20	1100	1980	66	20	6636	2120	66	20	6706	2170	24.15	23.97	-0.18		
[2A]-[2A]-5A-66A-66A	[2A]	[2A]	5A	66A	66A	66A	2	QPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1980	5	10	2525	881.5	66	20	6636	2120	66	20	6706	2170	-0.08
	[66A]	[66A]	[2A]	2A	5A	[66A]	66	QPSK	20	132322	1745	1	0	66	20	6678	2145	66	20	6706	2170	2	20	1100	1980	5	10							

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

[illegible]

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

E-UTRA CA configuration (BSCs)	Bands										UL										DL										LTE Rel 10													
	PC	SC1	SC2	SC3	SC4	SC5	UL PC					UL SCC1					UL SCC2					UL SCC3					UL SCC4					UL SCC5					UL SCC6							
	1st	2nd	3rd	4th	5th	6th	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Delta		
[2A] [2A] 14A-20A-66A	14A	[2A]	14A	2A	66A		2	UPSK	20	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	14	10	5330	763	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.02
	14A	[2A]	[2A]	14A	30A	66A	2	UPSK	20	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.02								
	20A	[2A]	[2A]	[2A]	14A	66A	30	OPSK	10	27110	2310	1	25	30	10	9620	2385	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.03								
	66A	[2A]	[2A]	[2A]	14A	66A	66	OPSK	20	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.03								
	[2A]	[2A]	14A	30A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.03												
	14A	[2A]	[2A]	30A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.03								
	[2A]	[2A]	14A	30A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.03								
	[66A]	[2A]	[2A]	14A	30A		66	OPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2	20	900	1960	2	20	1100	1960	14	10	5330	763	30	10	9620	2385	24.11	24.08	-0.03				
	14A	[2A]	[2A]	14A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.03								
	[2A]	[2A]	[2A]	14A	66A		14	OPSK	10	27110	2310	1	25	30	10	9620	2385	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.03								
[2A] [2A] 14A [30A] 66A	14A	[2A]	14A	2A	66A		2	UPSK	20	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	14	10	5330	763	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.11
	14A	[2A]	[2A]	14A	30A	66A	2	UPSK	20	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.11								
	20A	[2A]	[2A]	[2A]	14A	66A	30	OPSK	10	27110	2310	1	25	30	10	9620	2385	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.11								
	66A	[2A]	[2A]	[2A]	14A	66A	66	OPSK	20	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.11								
	[2A]	[2A]	14A	30A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.11												
	14A	[2A]	[2A]	30A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.11								
	[2A]	[2A]	14A	30A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.11								
	[66A]	[2A]	[2A]	14A	30A		66	OPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2	20	900	1960	2	20	1100	1960	14	10	5330	763	30	10	9620	2385	24.11	24.08	-0.03				
	14A	[2A]	[2A]	14A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.11								
	[2A]	[2A]	[2A]	14A	66A		14	OPSK	10	27110	2310	1	25	30	10	9620	2385	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.11								
2A-2A-14A [66A] 66A	14A	2A	[2A]	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07								
	66A	66A	2A	2A	14A		66	OPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2	20	900	1960	2	20	1100	1960	14	10	5330	763	30	10	9620	2385	24.11	24.08	-0.07				
	66A	66A	2A	2A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	2A	2A	14A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
	[66A]	[2A]	[2A]	14A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	14A	2A	2A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
	[66A]	[2A]	[2A]	14A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	2A	2A	14A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
	[66A]	[2A]	[2A]	14A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	14A	2A	2A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
2A-2A-14A [66A] 66A	14A	2A	2A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07								
	66A	66A	2A	2A	14A		66	OPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2	20	900	1960	2	20	1100	1960	14	10	5330	763	30	10	9620	2385	24.11	24.08	-0.07				
	66A	66A	2A	2A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	2A	2A	14A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
	[66A]	[2A]	[2A]	14A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	14A	2A	2A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
	[66A]	[2A]	[2A]	14A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	2A	2A	14A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
	[66A]	[2A]	[2A]	14A	66A		2	UPSK	20	18900	1880	1	0	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07												
	14A	2A	2A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	30	10	9620	2385	66	20	66786	2145	23.86	23.84	-0.07								
2A-2A-14A [66A] 66A	14A	2A	2A	66A	66A		14	OPSK	10	23330	793	1	49	14	10	5330	763	2	20	900	1960	2	20	1100	1960	14	10	5330	763	66	20	66786	2145	23.86	23.84	-0.07								
	66A	66A	2A	2A	14A		66	OPSK	20	132322	1745	1	0	66	20	66786	2145	66	20	67036	2170	2																						

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

[illegible]

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

e-UTRA CA configuration (BCS)	Bands										UL										DL										LTE Ref #	Tx Power (dBm)	LTE Ref #	Tx Power (dBm)								
	PCC	SCG1	SCG2	SCG3	SCG4	SCG5	PCC					PCC					SCG1					SCG2					SCG3					SCG4					BW (MHz)		BW (MHz)			
	1st	2nd	3rd	4th	5th	6th	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	RB Allocation	RB offset	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel	Freq. (MHz)	Band	Mode	BW (MHz)	Channel
[2A]-5A-48A-[66A]-[66A]	12A	2A	48A	66A			2	SPSK	20	18900	1880	1	0	2	20	900	1960	5	10	2525	881.5	48	20	53340	3560	66	20	56536	2120	66	20	67036	2170			2386	2375					
	5A	2A	48A	66A			5	SPSK	12	20925	836.5	1	0	5	5	5	5	10	800	1960	5	10	2525	881.5	48	20	53340	3560	66	20	67036	2170			2405	2402						
	16A	[66A]	[2A]	5A	48A		66	SPSK	20	132322	1745	1	0	66	66	66786	2145	66	20	67036	2170	2	20	900	1960	5	10	2525	881.5	48	20	53340	3560			2411	2411					
	16A	[2A]	48A	66A			2	SPSK	20	18900	1880	1	0	2	20	900	1960	5	10	2525	881.5	48	20	53340	3560	66	20	56536	2120	66	20	67036	2170			2436	2377					
	5A	12A	48A	66A			5	SPSK	12	20925	836.5	1	0	5	5	5	5	10	800	1960	5	10	2525	881.5	48	20	53340	3560	66	20	67036	2170			2437	2411						
	66A	66A	[2A]	5A	48A		66	SPSK	20	132322	1745	1	0	66	66	66786	2145	66	20	67036	2170	2	20	900	1960	5	10	2525	881.5	48	20	53340	3560			2441	2403					
[2A]-5A-[48A]-[66A]-[66A]	12A	2A	48A	66A			2	SPSK	20	18900	1880	1	0	2	20	900	1960	5	10	2525	881.5	48	20	53340	3560	66	20	56536	2120	66	20	67036	2170			2386	2375					
	5A	2A	48A	66A			5	SPSK	12	20925	836.5	1	0	5	5	5	5	10	800	1960	5	10	2525	881.5	48	20	53340	3560	66	20	67036	2170			2405	2402						
	16A	66A	[2A]	5A	48A		66	SPSK	20	132322	1745	1	0	66	66	66786	2145	66	20	67036	2170	2	20	900	1960	5	10	2525	881.5	48	20	53340	3560			2411	2411					
	16A	[2A]	48A	66A			2	SPSK	20	18900	1880	1	0	2	20	900	1960	5	10	2525	881.5	48	20	53340	3560	66	20	56536	2120	66	20	67036	2170			2436	2377					
	5A	12A	48A	66A			5	SPSK	12	20925	836.5</																															

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.

2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

DL CA with 4x4 MIMO output power results (Continued)

[illegible]

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

[illegible]

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations.

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