

APPENDIX I: LTE DOWNLINK ONLY CARRIER AGGREGATION TEST REDUCTION METHODOLOGY

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. Per April 2018 TCBC Workshop Notes, the following test reduction methodology was applied to determine the combinations required for conducted power measurements.

LTE DLCA Test Reduction Methodology:

- The supported combinations were arranged by the number of component carriers in columns.
- Any limitations on the PCC or SCC for each combination were identified alongside the combination (e.g. CA_2A-2A-4A-12A, but B12 can only be configured as a SCC).
- Power measurements were performed for "supersets" (LTE CA combinations with multiple components carriers) and any "subsets" (LTE CA combinations with fewer component carriers) that were not completely covered by the supersets.
- Only subsets that have the exact same components as a superset were excluded for measurement.
- When there were certain restrictions on component carriers that existed in the superset that were not applied for the subset, the subset configuration was additionally evaluated.
- Both inter-band and intra-band downlink carrier aggregation scenarios were considered.
- Downlink CA combinations for SISO and 4x4 Downlink MIMO operations were measured independently, per May 2017 TCBC Workshop notes.

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Table I-2 – Example of Exclusion Table for 4x4 Downlink MIMO Configurations



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Note: [CC] indicates component carrier with 4x4 DL MIMO antenna configuration

I.1 LTE Downlink Only Carrier Aggregation Test Selection and Setup

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by the product implementation. For those configurations required by April 2018 TCBC Workshop Notes, conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the maximum average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive. All bands required for SAR testing per FCC KDB procedures were considered. Based on the measured maximum powers below, no additional SAR tests were required for DLCA SAR configurations.

General PCC and SCC configuration selection procedure

- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C)3)b)ii) of KDB 941225 D05 V01r02. All LTE bandwidth conducted powers needed for PCC uplink configuration selection can be found in the RF Conducted Powers Section and LTE/NR Lower Bandwidth RF Conducted Power Appendix. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
- All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.

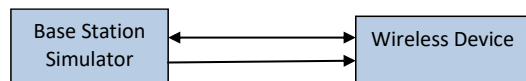


Figure I-1
DL CA Power Measurement Setup

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I.2.2 LTE Band 13 as PCC

**Table I-5
Maximum Output Powers**

Combination	PCC Band	PCC BW [MHz]	PCC						SCC 1				SCC 2				SCC 3				SCC 4				Power												
			PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)										
CA_2A-4A-13A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.28	23.89				
CA_2A-1A-4A-13A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.28	23.89				
CA_4A-4A-13A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B4	20	2175	2132.5	LTE B4	10	2380	2160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.65	23.89				
CA_13A-4B	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B4B	10	5590	3625	LTE B4B	10	5609	3634.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.91	23.89				
CA_13A-4B-6A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B4B	20	5590	3625	LTE B6B	20	6678	2145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.99	23.89			
CA_2A-13A-4B	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B4B	20	5590	3625	LTE B4B	20	5618	3644.8	-	-	-	-	-	-	-	-	-	-	-	23.23	23.89			
CA_2A-13A-4B-6A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B4B	20	5590	3625	LTE B6B	20	6678	2145	-	-	-	-	-	-	-	-	-	-	-	23.30	23.89			
CA_2A-13A-6B	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B6B	15	6678	2145	LTE B6B	5	6678	2145	-	-	-	-	-	-	-	-	-	-	-	23.18	23.89			
CA_2A-13A-6B-6C	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B6B	20	6678	2145	LTE B6B	20	6684	2164.8	-	-	-	-	-	-	-	-	-	-	-	-	23.61	23.89		
CA_13A-4B-6B	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B4B	20	5590	3625	LTE B6B	15	6678	2145	LTE B6B	5	6678	2145	-	-	-	-	-	-	-	-	-	-	-	-	23.28	23.89		
CA_13A-4B-6C	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B4B	20	5590	3625	LTE B6B	20	6678	2145	LTE B6B	20	6684	2164.8	-	-	-	-	-	-	-	-	-	-	-	-	-	23.91	23.89	
CA_13A-6B-6B	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B6B	20	6678	2145	LTE B6B	5	67168	2183.2	LTE B6B	15	67261	2192.6	-	-	-	-	-	-	-	-	-	-	-	-	23.62	23.89		
CA_13A-6B-6C	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B6B	20	6678	2145	LTE B6B	20	67208	2170.2	LTE B6B	20	67236	2190	-	-	-	-	-	-	-	-	-	-	-	-	23.62	23.89		
CA_13A-6B-6C	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B6B	20	6678	2145	LTE B6B	20	6684	2164.8	LTE B6B	20	6688	2192.2	-	-	-	-	-	-	-	-	-	-	-	-	-	23.65	23.89	
CA_2A-2A-7A-13A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B7	20	3100	2655	LTE B7	20	3850	2630	-	-	-	-	-	-	-	-	23.50	23.89		
CA_2A-2A-7C-13A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	-	-	-	-	-	-	-	-	23.49	23.89		
CA_2A-2A-13A-6B-6A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B6B	20	6678	2145	LTE B6B	20	67236	2190	-	-	-	-	-	-	-	-	-	-	23.98	23.89
CA_2A-7A-7A-13A-6A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	20	2850	2630	LTE B6B	20	6678	2145	-	-	-	-	-	-	-	-	-	23.46	23.89	
CA_2A-7C-13A-6A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	LTE B6B	20	6678	2145	-	-	-	-	-	-	-	-	23.53	23.89		
CA_2A-13A-4B	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B4B	20	5590	3625	LTE B4B	20	5618	3644.8	LTE B4B	20	5638	3644.8	-	-	-	-	-	-	-	-	-	-	23.33	23.89
CA_2A-13A-4B-6A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B2	20	900	1960	LTE B4B	20	5590	3625	LTE B4B	20	5618	3644.8	LTE B6B	20	6678	2145	-	-	-	-	-	-	-	-	-	23.93	23.89	
CA_13A-4B	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B4B	20	5590	3625	LTE B4B	20	5638	3644.8	LTE B4B	20	5638	3644.8	LTE B4B	20	5638	3644.8	-	-	-	-	-	-	-	-	-	24.01	23.89	
CA_13A-4B-6A	LTE B13	10	2320	782	QPSK	1	25	5200	751	LTE B4B	20	5590	3625	LTE B4B	20	5638	3644.8	LTE B4B	20	5638	3644.8	LTE B6B	20	6678	2145	-	-	-	-	-	-	-	-	24.00	23.89		

I.2.3 LTE Band 14 as PCC

**Table I-6
Maximum Output Powers**

Combination	PCC Band	PCC BW [MHz]	PCC						SCC 1				SCC 2				SCC 3				SCC 4				Power										
			PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)								
CA_2A-2A-1A-13A-6A	LTE B14	10	2330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	8620	2355	LTE B6B	20	6678	2145	-	-	-	-	-	-	-	23.72	23.90	
CA_2A-2A-1A-6A-6A	LTE B14	10	2330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B6B	20	6678	2145	LTE B6B	20	67236	2190	-	-	-	-	-	-	-	-	23.75	23.90
CA_2A-1A-1A-6A-6A	LTE B14	10	2330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B30	10	8620	2355	LTE B6B	20	6678	2145	LTE B6B	20	67236	2190	-	-	-	-	-	-	-	-	23.87	23.90

I.2.4 LTE Band 26 as PCC

**Table I-7
Maximum Output Powers**

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC		SCC 1				Power	
								PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-26A	LTE B26	15	26865	831.5	QPSK	1	74	8865	876.5	LTE B25	20	8365	1962.5	24.20	24.25
CA_26A-41A	LTE B26	15	26865	831.5	QPSK	1	74	8865	876.5	LTE B41	20	40620	2593	24.23	24.25

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I.2.1 LTE Band 7 as PCC

Table I-10
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC				SCC 1				SCC 2				SCC 3				SCC 4				LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)										
				PCC (UL) Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]			SCC (DL) Channel	SCC (DL) Freq. [MHz]								
CA_5A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99			
CA_4A-5A-7A (1)	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99		
CA_7A-12B	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99		
CA_2A-5A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	-	-	-	24.00	23.99	
CA_3A-5A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	2850	2630	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99	
CA_2A-4A-7C	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2902	2635.2	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	24.00	23.99	
CA_2A-4A-7A-12A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	6995	737.5	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99	
CA_2A-7A-7A-23A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	2850	2630	LTE B2	20	900	1960	LTE B20	10	9715	722.5	-	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99
CA_5A-7A-66A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	-	-	-	-	-	-	-	-	24.01	23.99
CA_7A-7A-25A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B25	20	8365	1962.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99
CA_7C-66A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2902	2635.2	LTE B65	20	8365	1962.5	LTE B66	20	67236	2190	-	-	-	-	-	-	-	-	-	-	-	-	24.01	23.99
CA_7A-7A-25A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B29	10	9715	722.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	-	-	-	-	24.01	23.99
CA_7C-66A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2902	2635.2	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	-	-	-	-	-	-	-	-	23.99	23.99
CA_2A-2A-7A-7A-13A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B13	10	5330	763	LTE B66	20	66786	2145	5330	751	24.01	23.99		
CA_2A-7A-7C-13A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	3152	2660.2	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B13	10	5330	763	LTE B66	20	66786	2145	5330	751	24.06	23.99		
CA_2A-2A-7A-12A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5995	737.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.07	24.07	23.99	23.99		
CA_2A-7A-7A-66A-71A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B71	10	68761	634.5	LTE B66	20	66786	2145	68761	634.5	23.99	23.99		
CA_2A-5A-7A-7A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.03	24.03	23.99	23.99		
CA_2A-5A-7C-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	3152	2660.2	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.02	24.02	23.99	23.99		
CA_2A-7A-7A-13A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2902	2635.2	LTE B13	10	5330	763	LTE B66	20	66786	2145	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.07	24.07	23.99	23.99		
CA_2A-7C-13A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2902	2635.2	LTE B13	10	5330	763	LTE B66	20	66786	2145	LTE B13	10	5330	763	LTE B66	20	66786	2145	24.08	24.08	23.99	23.99		
CA_2A-7A-7A-25A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B29	10	9715	722.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.08	24.08	23.99	23.99		
CA_2A-7A-7C-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.08	24.08	23.99	23.99		
CA_2A-7A-25A-66A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B25	20	8365	1962.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.02	24.02	23.99	23.99		
CA_2A-7A-25A-66A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	LTE B25	20	8365	1962.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.01	24.01	23.99	23.99		
CA_7C-25A-25A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2902	2635.2	LTE B25	20	8365	1962.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	LTE B66	20	66786	2145	24.01	24.01	23.99	23.99		

I.2.2 LTE Band 30 as PCC

Table I-11
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC				SCC 1				SCC 2				SCC 3				SCC 4				LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)										
				PCC (UL) Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]			SCC (DL) Channel	SCC (DL) Freq. [MHz]								
CA_2A-4A-5A-30A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	-	-	22.82	22.80		
CA_2A-4A-12A-30A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B12	10	2175	2132.5	LTE B12	10	6995	737.5	-	-	-	-	-	-	-	-	-	-	-	22.80	22.80	
CA_2A-4A-25A-30A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	-	-	-	-	-	-	-	-	-	-	-	-	22.80	22.80
CA_2A-30A-66A-66A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B29	10	9715	722.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	-	-	-	-	-	-	-	22.80	22.80	
CA_2A-2A-30A-66A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	22.89	22.80				
CA_2A-2A-12A-30A-66A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B12	10	2175	2132.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	LTE B66	20	66786	2145	22.87	22.80				
CA_2A-2A-14A-30A-66A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B14	10	5330	763	LTE B66	20	66786	2145	LTE B66	20	66786	2145	22.86	22.80				
CA_2A-2A-30A-66A-66A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B20	10	9715	722.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	22.89	22.80				
CA_2A-2A-30A-66A-66A	LTE B30	10	27710	2310	QPSK	1	25	9820	2365	LTE B2	20	900	1960	LTE B66	20	66786	2145																		

