

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.

Table I-1 – Example of Exclusion Table for SISO Configurations

Index	BCC	Supported Channel Bandwidth (MHz)				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
20249	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20250	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20251	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20252	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20253	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20254	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20255	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20256	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20257	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20258	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20259	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20260	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20261	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20262	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20263	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20264	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20265	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20266	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20267	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20268	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20269	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20270	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20271	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20272	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20273	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20274	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20275	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20276	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20277	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20278	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20279	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20280	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20281	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20282	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20283	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20284	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20285	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20286	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20287	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20288	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20289	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20290	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20291	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20292	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20293	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20294	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20295	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20296	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20297	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20298	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes
20299	CA_2A-5A	5, 10, 15, 20	5, 10, 15, 20				Yes

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

Index	2CC	Supported Channel Bandwidth (MHz)				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
2CC#M0	CA_1(2A)	5, 10, 15, 20	5, 10, 15, 20			2CC#M0	
2CC#M1	CA_1(2A)	5, 10, 15, 20	5, 10, 15, 20			2CC#M1	CA_1(2A)-2A-4A
2CC#M2	CA_1(2A)	5, 10, 15, 20	5, 10, 15, 20			2CC#M2	CA_1(2A)-2A-5A
2CC#M3	CA_1(2A)-12A	5, 10, 15, 20	5, 10, 15, 20			2CC#M3	CA_1(2A)-2A-12A
2CC#M4	CA_1(2A)-12A	5, 10, 15, 20	5, 10, 15, 20			2CC#M4	CA_1(2A)-2A-13A
2CC#M5	CA_1(2A)-14A (2)	5, 10, 15, 20	5, 10, 15, 20			2CC#M5	CA_1(2A)-2A-14A
2CC#M6	CA_1(2A)-5A	5, 10, 15, 20	5, 10			2CC#M6	CA_1(2A)-6A
2CC#M7	CA_1(2A)-13A (1)	5, 10, 15, 20	5, 10			2CC#M7	CA_1(2A)-6A
2CC#M8	CA_1(2A)-13A	5, 10, 15, 20	10			2CC#M8	CA_1(2A)-6A
2CC#M9	CA_1(2A)-13A	5, 10	5, 10			2CC#M9	CA_1(2A)-2A-6A
2CC#M10	CA_1(2A)-27A	5, 10, 15, 20	5, 10			2CC#M10	CA_1(2A)-2A-16A
2CC#M11	CA_1(2A)-30A	5, 10	5, 10			2CC#M11	CA_1(2A)-2A-71A
2CC#M12	CA_1(2A)-6A (2)	5, 10, 15, 20	5, 10, 15, 20			2CC#M12	CA_1(2A)-4A-29A
2CC#M13	CA_1(2A)-6A (2)	5, 10, 15, 20	5, 10, 15, 20			2CC#M13	CA_1(2A)-4A-71A
2CC#M14	CA_1(2A)-6A (2)	5, 10, 15, 20	5, 10, 15, 20			2CC#M14	CA_1(2A)-6A (2)
2CC#M15	CA_1(2A)-71A	5, 10, 15, 20	5, 10, 15, 20			2CC#M15	CA_1(2A)-5A-6A
2CC#M16	CA_1(2A)-5A	5, 10	5, 10, 15, 20			2CC#M16	CA_1(2A)-5A-16A
2CC#M17	CA_1(2A)-6A (4)	5, 10	5, 10, 15, 20			2CC#M17	CA_1(2A)-12A-16A
2CC#M18	CA_1(2A)-6A (4)	5, 10	5, 10, 15, 20			2CC#M18	CA_1(2A)-13A-6A
2CC#M19	CA_1(2A)-6A (4)	5, 10	5, 10, 15, 20			2CC#M19	CA_1(2A)-13A-16A
2CC#M20	CA_1(2A)-6A (4)	5, 10	5, 10, 15, 20			2CC#M20	CA_1(2A)-30A-16A
2CC#M21	CA_1(6A)	5, 10, 15, 20	5, 10, 15, 20			2CC#M21	CA_1(2A)-6A
2CC#M22	CA_1(6A)-6A	5, 10, 15, 20	5, 10, 15, 20			2CC#M22	CA_1(6A)-6A
2CC#M23	CA_1(6A)-6A	5, 10, 15, 20	5, 10, 15, 20			2CC#M23	CA_1(2A)-16A
2CC#M24	CA_1(2A)-6A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M24	CA_1(2A)-6A
2CC#M25	CA_1(2A)-6A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M25	CA_1(2A)-6A
2CC#M26	CA_1(2A)-16A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M26	CA_1(2A)-6A
2CC#M27	CA_1(2A)-6A-6A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M27	CA_1(2A)-6A-6A
2CC#M28	CA_1(2A)-6A-6A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M28	CA_1(2A)-6A-6A
2CC#M29	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M29	CA_1(2A)-6A-71A
2CC#M30	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M30	CA_1(2A)-6A-71A
2CC#M31	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M31	CA_1(2A)-6A-71A
2CC#M32	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M32	CA_1(2A)-6A-71A
2CC#M33	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M33	CA_1(2A)-6A-71A
2CC#M34	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M34	CA_1(2A)-6A-71A
2CC#M35	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M35	CA_1(2A)-6A-71A
2CC#M36	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M36	CA_1(2A)-6A-71A
2CC#M37	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M37	CA_1(2A)-6A-71A
2CC#M38	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M38	CA_1(2A)-6A-71A
2CC#M39	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M39	CA_1(2A)-6A-71A
2CC#M40	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M40	CA_1(2A)-6A-71A
2CC#M41	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M41	CA_1(2A)-6A-71A
2CC#M42	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M42	CA_1(2A)-6A-71A
2CC#M43	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M43	CA_1(2A)-6A-71A
2CC#M44	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M44	CA_1(2A)-6A-71A
2CC#M45	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M45	CA_1(2A)-6A-71A
2CC#M46	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M46	CA_1(2A)-6A-71A
2CC#M47	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M47	CA_1(2A)-6A-71A
2CC#M48	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M48	CA_1(2A)-6A-71A
2CC#M49	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M49	CA_1(2A)-6A-71A
2CC#M50	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M50	CA_1(2A)-6A-71A
2CC#M51	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M51	CA_1(2A)-6A-71A
2CC#M52	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M52	CA_1(2A)-6A-71A
2CC#M53	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M53	CA_1(2A)-6A-71A
2CC#M54	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M54	CA_1(2A)-6A-71A
2CC#M55	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M55	CA_1(2A)-6A-71A
2CC#M56	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M56	CA_1(2A)-6A-71A
2CC#M57	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M57	CA_1(2A)-6A-71A
2CC#M58	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M58	CA_1(2A)-6A-71A
2CC#M59	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M59	CA_1(2A)-6A-71A
2CC#M60	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M60	CA_1(2A)-6A-71A
2CC#M61	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M61	CA_1(2A)-6A-71A
2CC#M62	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M62	CA_1(2A)-6A-71A
2CC#M63	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M63	CA_1(2A)-6A-71A
2CC#M64	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M64	CA_1(2A)-6A-71A
2CC#M65	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M65	CA_1(2A)-6A-71A
2CC#M66	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M66	CA_1(2A)-6A-71A
2CC#M67	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M67	CA_1(2A)-6A-71A
2CC#M68	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M68	CA_1(2A)-6A-71A
2CC#M69	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M69	CA_1(2A)-6A-71A
2CC#M70	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M70	CA_1(2A)-6A-71A
2CC#M71	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M71	CA_1(2A)-6A-71A
2CC#M72	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M72	CA_1(2A)-6A-71A
2CC#M73	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M73	CA_1(2A)-6A-71A
2CC#M74	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M74	CA_1(2A)-6A-71A
2CC#M75	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M75	CA_1(2A)-6A-71A
2CC#M76	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M76	CA_1(2A)-6A-71A
2CC#M77	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M77	CA_1(2A)-6A-71A
2CC#M78	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M78	CA_1(2A)-6A-71A
2CC#M79	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M79	CA_1(2A)-6A-71A
2CC#M80	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M80	CA_1(2A)-6A-71A
2CC#M81	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M81	CA_1(2A)-6A-71A
2CC#M82	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M82	CA_1(2A)-6A-71A
2CC#M83	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M83	CA_1(2A)-6A-71A
2CC#M84	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M84	CA_1(2A)-6A-71A
2CC#M85	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M85	CA_1(2A)-6A-71A
2CC#M86	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M86	CA_1(2A)-6A-71A
2CC#M87	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M87	CA_1(2A)-6A-71A
2CC#M88	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M88	CA_1(2A)-6A-71A
2CC#M89	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M89	CA_1(2A)-6A-71A
2CC#M90	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M90	CA_1(2A)-6A-71A
2CC#M91	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M91	CA_1(2A)-6A-71A
2CC#M92	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M92	CA_1(2A)-6A-71A
2CC#M93	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M93	CA_1(2A)-6A-71A
2CC#M94	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M94	CA_1(2A)-6A-71A
2CC#M95	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M95	CA_1(2A)-6A-71A
2CC#M96	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M96	CA_1(2A)-6A-71A
2CC#M97	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M97	CA_1(2A)-6A-71A
2CC#M98	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M98	CA_1(2A)-6A-71A
2CC#M99	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M99	CA_1(2A)-6A-71A
2CC#M100	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M100	CA_1(2A)-6A-71A
2CC#M101	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M101	CA_1(2A)-6A-71A
2CC#M102	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M102	CA_1(2A)-6A-71A
2CC#M103	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M103	CA_1(2A)-6A-71A
2CC#M104	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M104	CA_1(2A)-6A-71A
2CC#M105	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M105	CA_1(2A)-6A-71A
2CC#M106	CA_1(2A)-6A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		2CC#M106	CA_1(2A)-6A-71A
2CC#M107	CA_1(2A)-6A-71A	5, 10, 15,					

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.

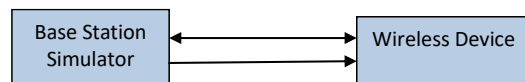


Figure I-1
DL CA Power Measurement Setup

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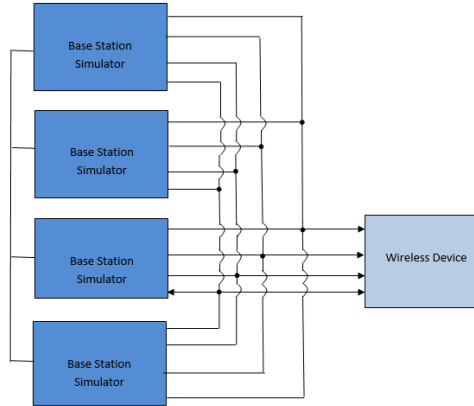


Figure I-2
DL CA with DL 4x4 MIMO Power Measurement Setup

I.2 Downlink Carrier Aggregation RF Conducted Powers

I.2.1 LTE Band 12 as PCC

Table I-3
Maximum Output Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC BW [MHz]	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	-	-	-	-	24.45	24.42
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	24.46	24.42
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	24.46	24.42
CA_12A-66A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	24.47	24.42
CA_12A-66A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	24.47	24.42
CA_4A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	24.49	24.42
CA_12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.37	24.42

I.2.2 LTE Band 13 as PCC

Table I-4
Maximum Output Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC BW [MHz]	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-13A (2)	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	-	-	-	-	24.97	25.10
CA_2A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.96	25.10

I.2.3 LTE Band 26 as PCC

Table I-5
Maximum Output Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC BW [MHz]	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-26A	LTE B26	15	26865	831.5	QPSK	1	0	8865	876.5	LTE B2	20	900	1960	-	-	-	-	24.79	24.70
CA_26A-41A	LTE B26	15	26865	831.5	QPSK	1	0	8865	876.5	LTE B41	20	40620	2593	-	-	-	-	24.81	24.70
CA_26A-41C	LTE B26	15	26865	831.5	QPSK	1	0	8865	876.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	24.71	24.70

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I.2.4 LTE Band 66 as PCC

Table I-6
Maximum Output Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC BW [MHz]	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx. Power (dBm)
CA_2A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B2	20	900	1960	-	-	-	-	23.11	23.22
CA_12A-66A (1)	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B12	10	5095	737.5	-	-	-	-	23.12	23.22
CA_12A-66A (2)	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B12	10	5095	737.5	-	-	-	-	23.12	23.22
CA_66B	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B66	15	66554	2121.8	-	-	-	-	23.08	23.22
CA_2A-5A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	23.09	23.22
CA_2A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	23.11	23.22
CA_5A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B66	20	67236	2190	LTE B5	10	2525	881.5	23.04	23.22
CA_5A-66C	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B66	20	66578	2124.2	LTE B5	10	2525	881.5	23.20	23.22
CA_12A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	LTE B66	20	67236	2190	LTE B12	10	5095	737.5	23.21	23.22

I.2.5 LTE Band 41 as PCC

Table I-7
Maximum Output Powers

Combination	PCC								SCC 1				SCC 2				SCC 3				Power			
	PCC Band	PCC BW [MHz]	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA_5A-41A	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	-	24.16	24.17
CA_26A-41A	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B26	15	8865	876.5	-	-	-	-	-	-	-	-	-	24.16	24.17
CA_41A-41A (1)	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	39750	2506	-	-	-	-	-	-	-	-	-	24.15	24.17
CA_26A-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	40857	2616.7	LTE B26	15	8865	876.5	-	-	-	-	-	24.01	24.17
CA_41A-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	-	-	-	-	24.00	24.17
CA_41C-41A	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	40857	2616.7	LTE B41	20	39750	2506	-	-	-	-	-	24.02	24.17
CA_41A-41D	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	40146	2545.5	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	24.03	24.17
CA_41D-41A	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	40857	2616.7	LTE B41	20	40659	2596.9	LTE B41	20	40961	2565.9	-	24.15	24.17
CA_41C-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	40857	2616.7	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	24.16	24.17
CA_41E	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	LTE B41	20	40857	2616.7	LTE B41	20	40659	2596.9	LTE B41	20	40961	2571.1	-	24.08	24.17

I.3 DL CA with DL 4x4 MIMO RF Conduction Powers

This device supports downlink 4x4 MIMO operations for some LTE bands. Uplink transmission is limited to a single output stream. When carrier aggregation was applicable, the general test selection and setup procedures described in Section I.1 were applied.

Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

I.3.1 LTE 4x4 MIMO DL Standalone Powers

Table I-8
Maximum Output Powers

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]	Target Power [dBm]
66	5	131997	1712.5	QPSK	1	24	23.26	23.22	23.0
41	20	41055	2636.5	QPSK	1	0	23.94	24.17	24.0

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I.3.2 LTE Band 12 as PCC

Table I-9
Maximum Output Powers

Combination	PCC										SCC 1				SCC 2				Power			
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx Power with DL CA Enabled	LTE Single Carrier Tx Power (dBm)
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	24.47	24.42
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	24.47	24.42
CA_12A-66A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	24.51	24.42
CA_12A-66A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	24.51	24.42
CA_4A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	2x2	24.51	24.42
CA_4A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	4x4	24.52	24.42
CA_12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.47	24.42
CA_12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	24.50	24.42

I.3.3 LTE Band 13 as PCC

Table I-10
Maximum Output Powers

Combination	PCC										SCC 1				SCC 2				Power			
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	24.97	25.10

I.3.4 LTE Band 26 as PCC

Table I-11
Maximum Output Powers

Combination	PCC										SCC 1					Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_26A-41A	LTE B26	15	26865	831.5	QPSK	1	0	8865	876.5	2x2	LTE B41	20	40620	2593	4x4	24.75	24.70

I.3.5 LTE Band 66 as PCC

Table I-12
Maximum Output Powers

Combination	PCC Band	PCC									SCC 1					SCC 2					Power	
		PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx Power with DL CA Enabled	LTE Single Carrier Tx Power (dBm)
CA_12A-66A (1)	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	23.27	23.22
CA_12A-66A (2)	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	23.27	23.22
CA_66B	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	15	66554	2121.8	4x4	-	-	-	-	-	23.30	23.22
CA_2A-5A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B2	20	900	1960	2x2	LTE B5	10	2525	881.5	2x2	23.29	23.22
CA_2A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	20	67236	2190	2x2	LTE B2	20	900	1960	2x2	23.22	23.22
CA_2A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	2x2	LTE B66	20	67236	2190	4x4	LTE B2	20	900	1960	2x2	23.30	23.22
CA_2A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	20	67236	2190	4x4	LTE B2	20	900	1960	2x2	23.29	23.22
CA_5A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	20	67236	2190	2x2	LTE B5	10	2525	881.5	2x2	23.27	23.22
CA_5A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	2x2	LTE B66	20	67236	2190	4x4	LTE B5	10	2525	881.5	2x2	23.28	23.22
CA_5A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	20	67236	2190	4x4	LTE B5	10	2525	881.5	2x2	23.25	23.22
CA_5A-66C	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	20	66578	2124.2	4x4	LTE B5	10	2525	881.5	2x2	23.26	23.22
CA_12A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	20	67236	2190	2x2	LTE B12	10	5095	737.5	2x2	23.24	23.22
CA_12A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	2x2	LTE B66	20	67236	2190	4x4	LTE B12	10	5095	737.5	2x2	23.23	23.22
CA_12A-66A-66A	LTE B66	5	131997	1712.5	QPSK	1	24	66461	2112.5	4x4	LTE B66	20	67236	2190	4x4	LTE B12	10	5095	737.5	2x2	23.25	23.22

I.3.6 LTE Band 41 as PCC

Table I-13
Maximum Output Powers

Combination	PCC Band	PCC										SCC 1				SCC 2				SCC 3				Power			
		PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx Power with DL CA Enabled	LTE Single Carrier Tx Power (dBm)
CA_26A-41A)	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B26	15	8865	876.5	2x2	-	-	-	-	-	-	-	-	-	-	24.16	24.17
CA_41A-41A (1)	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	39750	2506	2x2	-	-	-	-	-	-	-	-	-	-	24.15	24.17
CA_41A-41A (1)	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	2x2	LTE B41	20	39750	2506	4x4	-	-	-	-	-	-	-	-	-	-	24.18	24.17
CA_41A-41A (1)	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	39750	2506	4x4	-	-	-	-	-	-	-	-	-	-	24.21	24.17
CA_41A-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	39948	2525.8	2x2	LTE B41	20	39750	2506	2x2	-	-	-	-	-	23.99	24.17
CA_41A-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	2x2	LTE B41	20	40857	2616.7	2x2	LTE B41	20	39750	2506	4x4	-	-	-	-	-	24.22	24.17
CA_41A-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	2x2	LTE B41	20	39948	2525.8	4x4	LTE B41	20	39750	2506	4x4	-	-	-	-	-	24.02	24.17
CA_41C-41A	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	40857	2616.7	4x4	LTE B41	20	39750	2506	2x2	-	-	-	-	-	24.22	24.17
CA_41A-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	39948	2525.8	4x4	LTE B41	20	39750	2506	4x4	-	-	-	-	-	24.11	24.17
CA_41C-41A	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	40857	2616.7	4x4	LTE B41	20	39750	2506	4x4	-	-	-	-	-	24.15	24.17
CA_41D	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	40857	2616.7	4x4	LTE B41	20	40659	2596.9	4x4	-	-	-	-	-	24.17	24.17
CA_41A-41D	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	40146	2545.6	2x2	LTE B41	20	39948	2525.8	2x2	LTE B41	20	39750	2506	2x2	24.20	24.17
CA_41D-41A	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	2x2	LTE B41	20	40857	2616.7	2x2	LTE B41	20	40659	2596.9	2x2	LTE B41	20	39750	2506	4x4	24.18	24.17
CA_41C-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	40857	2616.7	4x4	LTE B41	20	39948	2525.8	2x2	LTE B41	20	39750	2506	2x2	24.19	24.17
CA_41C-41C	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	2x2	LTE B41	20	40857	2616.7	2x2	LTE B41	20	39948	2525.8	4x4	LTE B41	20	39750	2506	4x4	24.23	24.17
CA_41E	LTE B41	20	41055	2636.5	QPSK	1	0	41055	2636.5	4x4	LTE B41	20	40857	2616.7	4x4	LTE B41	20	40659	2596.9	4x4	LTE B41	20	40461	2577.1	4x4	24.09	24.17

FCC ID: A3LSMA356E	SAR EVALUATION REPORT	Approved by: Technical Manager
DUT Type: Portable Handset		APPENDIX I: Page 5 of 5