

## APPENDIX H: DOWNLINK LTE CA RF CONDUCTED POWERS

### H.1 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 component 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 H-1 – Example of Exclusion Table for SISO Configurations

Index	3CC	Supported Channel Bandwidth [MHz]			Restriction	Completely Covered by Measurement Superset	Index			ACC	Supported Channel Bandwidth [MHz]			Restriction	Completely Covered by Measurement Superset	
		CC1	CC2	CC3			Index	CC1	CC2		CC1	CC2	CC3			
ICC #21	CA_2A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #49	CA_2A-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #22	CA_2A-2A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #50	CA_2A-2A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #23	CA_2A-2A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #51	CA_2A-2A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #24	CA_2A-2A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #52	CA_2A-2A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #25	CA_2A-2A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #53	CA_2A-2A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #26	CA_2A-2A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #54	CA_2A-2A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #27	CA_2A-2A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #55	CA_2A-2A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #28	CA_2A-2A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #56	CA_2A-2A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #29	CA_2A-2A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #57	CA_2A-2A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #30	CA_2A-2A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #58	CA_2A-2A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #31	CA_2A-2A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #59	CA_2A-2A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #32	CA_2A-2A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #60	CA_2A-2A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #33	CA_2A-2A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #61	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #34	CA_2A-2A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #62	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #35	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #63	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #36	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #64	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #37	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #65	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #38	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #66	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #39	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #67	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #40	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #68	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #41	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #69	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #42	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #70	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #43	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #71	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #44	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #72	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #45	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #73	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #46	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #74	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #47	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #75	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #48	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #76	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #49	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #77	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #50	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #78	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #51	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #79	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #52	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #80	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #53	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #81	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #54	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #82	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #55	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #83	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
ICC #56	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5, 10, 15, 20	5, 10, 15, 20	No			ICC #84	CA_2A-2A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-4A-2A	5,							

## H.2 LTE Downlink Only Carrier Aggregation Test Selection and Setup

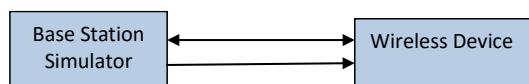
SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by the product implementation. For those configurations required by April 2018 TCBC Workshop Notes, conducted power measurements with LTE Carrier Aggregation (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.

This device supports LAA with downlink carrier aggregation only. It uses carrier aggregation in the downlink to combine LTE in the unlicensed spectrum (i.e. LTE Band 46) with LTE in the licensed band (served as PCC). All uplink communications and acknowledgements on the PCC remain identical to specifications when downlink carrier aggregation is inactive.

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.

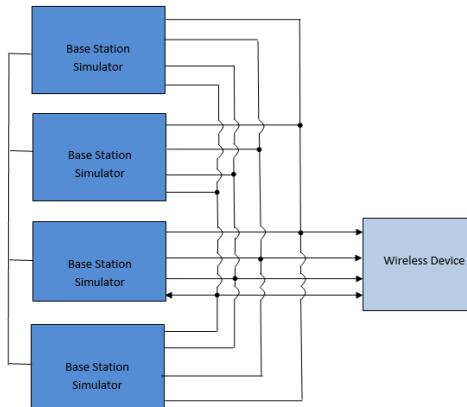
General PCC and SCC configuration selection procedure

- 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 Section 9 of the main body report, Appendix A1 and A2, and appendix I. 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 H-1**  
**DL CA Power Measurement Setup**

FCC ID: C3K1995	 <b>PCTEST</b> Proud to be part of 	SAR EVALUATION REPORT	 Microsoft	Reviewed by: Quality Manager
Test Dates: 06/21/2021– 09/09/2021	DUT Type: Portable Handset			APPENDIX H: Page 2 of 19



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

### H.3 Downlink Carrier Aggregation RF Conducted Powers

#### H.3.1

#### LTE Band 71 South Antenna Measured $P_{max}$ as PCC

**Table H-3**  
**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) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled [dBm]	LTE Single Carrier Tx Power [dBm]		
CA_4A-4A-71A	LTE B71	5	133147	665.5	QPSK	1	0	686111	619.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	24.70		
CA_2A-66A-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	686111	619.5	LTE B2	20	900	1960	LTE B66	20	66705	2145	LTE B66	20	67235	2100	24.69
CA_2A-46G-71A	LTE B71	5	133147	665.5	QPSK	1	0	686111	619.5	LTE B2	20	900	1960	LTE B66	20	66705	2145	LTE B66	20	66984	2164.8	24.71
CA_2A-2A-4A-71A	LTE B71	5	133147	665.5	QPSK	1	0	686111	619.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	24.72
CA_2A-2A-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	686111	619.5	LTE B2	20	900	1960	LTE B66	20	66705	2145	LTE B66	20	66786	2145	24.74

#### H.3.2

#### LTE Band 12 South Antenna Measured $P_{max}$ as PCC

**Table H-4**  
**Maximum Output Powers**

Combination	PCC						SCC 1			SCC 2			SCC 3			SCC 4			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) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled [dBm]	LTE Single Carrier Tx Power [dBm]							
CA_3A-43A-(1)	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	24.65					
CA_4A-12A-(1)	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	24.63					
CA_4A-12A-(2)	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	24.63					
CA_12A-25A	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	24.66					
CA_12A-46G-(1)	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	24.65					
CA_12A-66A-(1)	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B66	20	66705	2145	-	-	-	-	-	-	-	-	24.67					
CA_12A-66A-(2)	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B66	20	66705	2145	-	-	-	-	-	-	-	-	24.70					
CA_12A-66G	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B66	20	66705	2145	-	-	-	-	-	-	-	-	24.65					
CA_12A-66G-(1)	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B66	20	66705	2145	-	-	-	-	-	-	-	-	24.67					
CA_2A-4A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	-	-	-	24.68		
CA_2A-4A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B4	20	2175	2132.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	-	-	-	24.68		
CA_4A-4A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B30	10	9820	2355	-	-	-	24.65		
CA_2A-12A-30A-66A	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	50	9820	2355	2145	LTE B66	20	67235	2100	24.85
CA_2A-12A-30A-66A	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.69	
CA_2A-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	0	6205	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67235	2100	24.71	

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### H.3.3

## LTE Band 13 South Antenna Measured P<sub>max</sub> as PCC

**Table H-5**  
**Maximum Output Powers**

### H.3.4

## LTE Band 14 South Antenna Measured P<sub>max</sub> as PCC

**Table H-6**  
**Maximum Output Powers**

Combination	PCC						SCC 1						SCC 2						SCC 3						SCC 4						Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL Freq.	PCC UL BW Offset	FCC (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 DKx [dBm]	LTE Single Carrier Tx Power [dBm]					
CA_2A-14A-20A-66A-66A	LTE B14	10	23320	793	OPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B20	30	9820	2355	LTE B66	20	68786	2145	LTE B66	20	67236	2140	24.30	24.52					
CA_2A-14A-66A-66A-66A	LTE B14	10	23320	793	OPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B66	20	66536	2120	LTE B66	20	67678	2145	LTE B66	20	67236	2190	24.46	24.52					
CA_2A-14A-30A-66A-66A	LTE B14	10	23320	793	OPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B20	20	700	1940	LTE B30	10	2820	2355	LTE B66	20	66786	2145	24.54	24.52					
CA_2A-14A-66A-66A	LTE B14	10	23320	793	OPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B20	20	700	1940	LTE B66	20	67678	2145	LTE B66	20	67236	2190	24.47	24.52					

### H.3.5

## LTE Band 5 South Antenna Measured P<sub>max</sub> as PCC

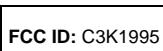
**Table H-7**  
**Maximum Output Powers**

### H.3.6

## LTE Band 26 South Antenna Measured P<sub>max</sub> as PCC

**Table H-8**  
**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_25A-26A	LTE B26	1.4	26697	814.7	QPSK	3	2	8697	859.7	LTE B25	20	8365	1962.5	-	-	-	-	24.62	24.54
CA_25A-25A-26A	LTE B26	3	26705	815.5	QPSK	1	0	8705	860.5	LTE B25	20	8365	1962.5	LTE B25	20	8590	1985	24.55	24.50



SAR EVALUATION REPORT



**Reviewed by:**  
Quality Manager

**Test Dates:**  
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**DUT Type:**

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H.3.7

## LTE Band 66 South Antenna Measured P<sub>max</sub> as PCC

**Table H-9**  
**Maximum Output Powers**

H.3.8

## LTE Band 25 South Antenna Measured P<sub>max</sub> as PCC

**Table H-10**  
**Maximum Output Powers**

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 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]			
CA_25A-25A	LTE B25	5	26005	1852.5	QPSK	1	0	8065	1932.5	LTE B25	10	8065	797.5	-	-	-	-	-	-	-	-	24.41	24.40		
CA_25A-26A	LTE B25	5	26005	1852.5	QPSK	1	0	8065	1932.5	LTE B26	15	8065	870.5	-	-	-	-	-	-	-	-	24.39	24.40		
CA_25A-41A	LTE B25	5	26005	1852.5	QPSK	1	0	8065	1932.5	LTE B41	20	40620	2593	-	-	-	-	-	-	-	-	24.40	24.40		
CA_25A-41C	LTE B25	5	26005	1852.5	QPSK	1	0	8065	1932.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	-	-	-	-	-	24.42	24.40	
CA_25A-25A-26A	LTE B25	5	26005	1852.5	QPSK	1	0	8065	1932.5	LTE B25	20	8590	1985	LTE B26	5	8865	876.5	-	-	-	-	-	24.43	24.40	
CA_25A-41D	LTE B25	5	26005	1852.5	QPSK	1	0	8065	1932.5	LTE B41	20	40422	2573.2	LTE B41	20	40620	2593	LTE B41	20	40818	2612.8	24.34	24.40		

H3.9

## LTE Band 30 South Antenna Measured P<sub>max</sub> as PCC

**Table H-11**  
**Maximum Output Powers**

FCC ID: C3K1995	 Proud to be part of	SAR EVALUATION REPORT		Reviewed by: Quality Manager
<b>Test Dates:</b> 06/21/2021– 09/09/2021	<b>DUT Type:</b> Portable Handset			APPENDIX H: Page 5 of 19

### H.3.1

## LTE Band 7 South Antenna Measured P<sub>max</sub> as PCC

Table H-12  
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 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_7A-46C (1)	LTE B7	5	21100	2535	QPSK	1	12	3100	2655	LTE B46	20	50665	6537.5	LTE B46	20	50467	5517.7	-	-	-	-	24.51	24.49
CA_2A-4A-7A-7A	LTE B7	5	21100	2535	QPSK	1	12	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.55	24.49
CA_2A-7A-7A-13A	LTE B7	5	21100	2535	QPSK	1	12	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B13	10	5230	751	24.59	24.49
CA_2A-7A-7A-66A	LTE B7	5	21100	2535	QPSK	1	12	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B6	10	66786	2145	24.47	24.49
CA_2A-7C-66A	LTE B7	15	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2929	2637.5	LTE B2	20	900	1960	LTE B6	20	66786	2145	24.50	24.42

### H.3.2

## LTE Band 41 South Antenna Measured P<sub>max</sub> as PCC

Table H-13  
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 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_25A-41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B25	20	8965	1962.5	-	-	-	-	-	-	-	-	24.60	24.49
CA_41A-41A (1)	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	24.58	24.49
CA_25A-41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41	20	40329	2563.9	LTE B25	20	8365	1962.5	-	-	-	-	24.60	24.49
CA_41A-41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	24.56	24.49
CA_41C-41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41	20	40329	2563.9	LTE B41	20	41490	2680	-	-	-	-	24.61	24.49
CA_25A-41D	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41	20	40329	2563.9	LTE B41	20	40527	2563.9	LTE B25	20	8365	1962.5	24.61	24.49

### H.3.1

## LTE Band 48 South Antenna Measured P<sub>max</sub> as PCC

Table H-14  
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 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_4A-48A	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B4	20	2175	2125.9	LTE B48	20	4770	2125.9	-	-	-	-	22.59	22.67
CA_4B-4B-48A	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	6537.5	LTE B48	20	66785	2145	-	-	-	-	23.69	23.67
CA_2A-4A-48A-66A	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	6537.5	LTE B48	20	66785	2145	-	-	-	-	23.69	23.67
CA_2A-4B-48A-66A	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	6537.5	LTE B48	20	66785	2145	-	-	-	-	23.74	23.67
CA_4A-4B-48A-66A	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	6537.5	LTE B48	20	66785	2145	-	-	-	-	23.74	23.67
CA_4B-4B-48A-66A	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	6537.5	LTE B48	20	66785	2145	-	-	-	-	23.74	23.67
CA_13A-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B13	10	5230	751	LTE B48	20	66785	2145	LTE B66	20	65594	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	50665	5037.5	LTE B48	20	50467	5517.7	LTE B66	20	66785	2145	22.84	22.67
CA_4B-4B-48C-66C	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48													

## H.4 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 H.2 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.

### H.4.1 LTE 4x4 MIMO DL Standalone Powers

Table H-15  
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]
66	15	132047	1717.5	QPSK	1	36	24.10	24.17
25	5	26065	1852.5	QPSK	1	0	24.48	24.40
7	5	21100	2535	QPSK	1	12	24.47	24.49
30	5	27710	2310	QPSK	1	12	22.80	22.63
41	10	40185	2549.5	QPSK	1	0	24.60	24.58
48	20	56640	3690	QPSK	8	0	22.74	22.67

### H.4.2 LTE Band 71 South Antenna Measured P<sub>max</sub> as PCC

Table H-16  
Maximum Output Powers

Combination	PCC Band	PCC						SCC 1				SCC 2				SCC 3				Power							
		PCC BW [MHz]	PCC Freq. [MHz]	PCC (UL) Ch.	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 [4A]-[4A]-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	2x2	-	-	-	-	24.66	24.70	
CA [4A]-[4A]-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	4x4	-	-	-	-	24.68	24.70	
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	67236	2190	2x2	24.68	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.70	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611	619.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.66	24.70
CA [2A]-[66A]-66A-71A	LTE B71	5	133147	665.5	QPSK	1	0	68611																			

H.4.3

## LTE Band 12 South Antenna Measured P<sub>max</sub> as PCC

**Table H-17**  
**Maximum Output Powers**



## SAR EVALUATION REPORT



**Reviewed by:**  
Quality Manager

FCC ID: C3K1995	 <b>PCTEST®</b> Proud to be part of	SAR EVALUATION REPORT		Reviewed by: Quality Manager
<b>Test Dates:</b> 06/21/2021– 09/09/2021	<b>DUT Type:</b> Portable Handset			APPENDIX H: Page 8 of 19

H.4.4

## LTE Band 13 South Antenna Measured P<sub>max</sub> as PCC

**Table H-18**  
**Maximum Output Powers**

H.4.5

## LTE Band 14 South Antenna Measured P<sub>max</sub> as PCC

**Table H-19**  
**Maximum Output Powers**

FCC ID: C3K1995		SAR EVALUATION REPORT		Reviewed by: Quality Manager
<b>Test Dates:</b> 06/21/2021– 09/09/2021	<b>DUT Type:</b> Portable Handset			APPENDIX H: Page 10 of 19

H.4.6

## LTE Band 5 South Antenna Measured P<sub>max</sub> as PCC

**Table H-20**  
**Maximum Output Powers**

H47

LTE Band 26 South Antenna Measured  $P_{max}$  as PCC

**Table H-21**  
**Maximum Output Powers**

		Maximum Output Powers																				
		PCC							SCC 1					SCC 2				Power				
Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC [UL] Freq. [MHz]	Mod.	PCC ULL# RB	PCC ULL 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 [25A]-26A	LTE B26	1.4	26697	814.7	QPSK	3	2	8697	859.7	2x2	LTE B25	20	8365	1962.5	4x4	-	-	-	-	-	24.58

FCC ID: C3K1995	 <b>PC TEST®</b> Proud to be part of element	SAR EVALUATION REPORT		Reviewed by: Quality Manager
<b>Test Dates:</b> 06/21/2021 – 09/09/2021	<b>DUT Type:</b> Portable Handset			APPENDIX H: Page 11 of 19

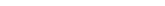
H-4-8

## LTE Band 66 South Antenna Measured P<sub>max</sub> as PCC

**Table H-22**  
**Maximum Output Powers**

FCC ID: C3K1995	 Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
<b>Test Dates:</b> 06/21/2021 – 09/09/2021	<b>DUT Type:</b> Portable Handset			APPENDIX H: Page 12 of 19

FCC ID: C3K1995		SAR EVALUATION REPORT		Reviewed by: Quality Manager
<b>Test Dates:</b> 06/21/2021 – 09/09/2021	<b>DUT Type:</b> Portable Handset			APPENDIX H: Page 13 of 19

FCC ID: C3K1995	 Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
<b>Test Dates:</b> 06/21/2021 – 09/09/2021	<b>DUT Type:</b> Portable Handset			APPENDIX H: Page 14 of 19
21 PCTEST				REV 21.3 M

H.4.9

LTE Band 25 South Antenna Measured P<sub>max</sub> as PCC

**Table H-23**  
**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 ULM RB	PCC UL RBF 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 Power with DL CA enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA_12A-[25A]	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	-	-	-	-	24.43	24.40		
CA_[25A]-26A	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B26	15	8865	876.5	2x2	-	-	-	-	-	-	-	-	-	24.41	24.40		
CA_[25A]-41A	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B41	20	40620	2593.5	2x2	-	-	-	-	-	-	-	-	-	24.44	24.40		
CA_[25A]-41A	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B41	20	40620	2593.5	2x2	-	-	-	-	-	-	-	-	-	24.44	24.40		
CA_[25A]-41A	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B41	20	40620	2593.5	2x2	-	-	-	-	-	-	-	-	-	24.44	24.40		
CA_[25A]-41C	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B41	20	40620	2593.5	2x2	LTE B41	20	40422	2573.2	2x2	-	-	-	-	-	24.43	24.40	
CA_[25A]-41C	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B41	20	40620	2593.5	4x4	LTE B41	20	40422	2573.2	4x4	-	-	-	-	-	24.43	24.40	
CA_[25A]-41C	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B41	20	40620	2593.5	4x4	LTE B41	20	40422	2573.2	4x4	-	-	-	-	-	24.43	24.40	
CA_[25A]-26A	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B25	20	8590	1985.5	2x2	LTE B26	5	8865	876.5	2x2	-	-	-	-	-	24.47	24.40	
CA_[25A]-26A	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B25	20	8590	1985.5	4x4	LTE B26	5	8865	876.5	2x2	-	-	-	-	-	24.46	24.40	
CA_[25A]-26A	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	4x4	LTE B25	20	8590	1985.5	4x4	LTE B26	5	8865	876.5	2x2	-	-	-	-	-	24.46	24.40	
CA_[25A]-41D	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	2x2	LTE B41	20	40422	2573.2	2x2	LTE B41	20	40620	2593.5	2x2	LTE B41	20	40818	2612.8	2x2	24.37	24.40	
CA_[25A]-41D	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	2x2	LTE B41	20	40422	2573.2	4x4	LTE B41	20	40620	2593.5	4x4	LTE B41	20	40818	2612.8	4x4	24.40	24.40	
CA_[25A]-41D	LTE B25	5	26065	1852.5	QPSK	1	0	8065	1932.5	2x2	LTE B41	20	40422	2573.2	4x4	LTE B41	20	40620	2593.5	4x4	LTE B41	20	40818	2612.8	4x4	24.41	24.40	

H.4.10

## LTE Band 30 South Antenna Measured P<sub>max</sub> as PCC

**Table H-24**  
**Maximum Output Powers**

FCC ID: C3K1995		SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates:	DUT Type:	06/21/2021– 09/09/2021	Portable Handset	APPENDIX H: Page 15 of 19

H.4.1

## LTE Band 7 South Antenna Measured P<sub>max</sub> as PCC

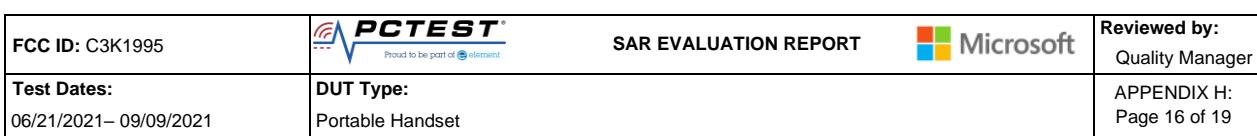
**Table H-25**  
**Maximum Output Powers**

H.4.2

## LTE Band 41 South Antenna Measured P<sub>max</sub> as PCC

**Table H-26**  
**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 RF Offset	PCC UL 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 DA Enabled	LTE Single Carrier Tx Power [dBm]						
CA_25A 41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	2x2	LTE B25	20	8365	1962.5	4x4	-	-	-	-	-	-	-	-	-	24.62	24.58						
CA_25A 41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B25	20	8365	1962.5	2x2	-	-	-	-	-	-	-	-	-	24.65	24.58						
CA_25A 41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B25	20	8365	1962.5	4x4	-	-	-	-	-	-	-	-	-	24.67	24.58						
CA_41A 41A 1	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	24.60	24.58						
CA_41A 41A 1	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	2x2	LTE B41	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	24.64	24.58						
CA_41A 41A 1	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	24.63	24.58						
CA_25A 41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	2x2	LTE B41	20	40329	2563.9	2x2	LTE B25	20	8365	1962.5	4x4	-	-	-	-	-	24.66	24.58					
CA_25A 41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40329	2563.9	4x4	LTE B25	20	8365	1962.5	2x2	-	-	-	-	-	24.47	24.58					
CA_25A 41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40185	2549.5	4x4	LTE B25	20	8365	1962.5	2x2	-	-	-	-	-	24.49	24.58					
CA_41A 41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40185	2549.5	2x2	LTE B41	20	41490	2680	2x2	-	-	-	-	-	24.43	24.58					
CA_41A 41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	2x2	LTE B41	20	40185	2549.5	4x4	LTE B41	20	41490	2680	2x2	-	-	-	-	-	24.47	24.58					
CA_41A 41C	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	2x2	LTE B41	20	40185	2549.5	4x4	LTE B41	20	41490	2680	4x4	-	-	-	-	-	24.49	24.58					
CA_41C 41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40185	2549.5	2x2	LTE B41	20	40329	2563.9	4x4	LTE B41	20	41490	2680	2x2	-	-	-	-	-	24.48	24.58
CA_41C 41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40185	2549.5	4x4	LTE B41	20	41490	2680	4x4	-	-	-	-	-	24.50	24.58					
CA_41C 41A	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40185	2549.5	4x4	LTE B41	20	41490	2680	4x4	-	-	-	-	-	24.47	24.58					
CA_25A 41D	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	2x2	LTE B41	20	40329	2563.9	2x2	LTE B41	20	40527	2583.7	2x2	LTE B25	20	8365	1962.5	4x4	-	-	-	-	-	24.65	24.58
CA_25A 41D	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40329	2563.9	4x4	LTE B41	20	40527	2583.7	4x4	LTE B25	20	8365	1962.5	2x2	-	-	-	-	-	24.64	24.58
CA_25A 41D	LTE B41	10	40185	2549.5	QPSK	1	0	40185	2549.5	4x4	LTE B41	20	40329	2563.9	4x4	LTE B41	20	40527	2583.7	4x4	LTE B25	20	8365	1962.5	4x4	-	-	-	-	-	24.60	24.58



H.4.3

## LTE Band 48 South Antenna Measured P<sub>max</sub> as PCC

**Table H-27**  
**Maximum Output Powers**



SAR EVALUATION REPORT



**Reviewed by:**  
Quality Manager

FCC ID: C3K1995	 Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 06/21/2021– 09/09/2021	DUT Type: Portable Handset			APPENDIX H: Page 17 of 19

FCC ID: C3K1995	 <b>PCTEST®</b> Proud to be part of  Element	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 06/21/2021 – 09/09/2021	DUT Type: Portable Handset			APPENDIX H: Page 18 of 19

## H.5 Downlink Carrier Aggregation with CA\_41C Uplink Carrier Aggregation enabled

This device supports uplink carrier aggregation (ULCA) with additional Carrier Aggregation configurations active in the downlink. Power measurements were performed with ULCA active and additional CA configurations active in the downlink for the configuration per Fall 2017 TCB Workshop Notes.

Per FCC Guidance, additional SAR measurements for these configurations were not required since their maximum output power was not more than 0.25 dB higher than the maximum output power for with only ULCA active.

### H.5.1

### DL Carrier Aggregation RF Conducted Powers

**Table H-28**  
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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Channel	PCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)	
CA_41D	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	LTE B48	20	56244	3650.4	-	-	-	-	-	-	-	-	-	21.45	23.60			
CA_48D-66A	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	0	0	QPSK	8	92	56642	3670.2	LTE B48	20	56244	3650.4	LTE B48	20	56776	2145	21.45	23.60								
CA_41E	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	LTE B48	20	0	0	QPSK	8	92	56642	3670.2	LTE B48	20	56244	3650.4	LTE B48	20	56046	3630.6	24.57	23.60								
<b>PCC</b>																																			Power	
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Channel	PCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)	
	CA_41C-41A	LTE B41	20	39750	2506	QPSK	1	99	39750	2506	LTE B41	20	39948	2525.8	QPSK	1	0	39948	2525.8	LTE B41	20	41190	2680	25.03	25.20											
CA_41D	LTE B41	20	39750	2506	QPSK	1	99	39750	2506	LTE B41	20	39948	2525.8	QPSK	1	0	39948	2525.8	LTE B41	20	40146	2545.6	24.99	25.20												

### H.5.2

### DL Carrier Aggregation with DL 4x4 MIMO RF Conducted Powers

Note: 4x4 DL MIMO is only operating in the downlink. Uplink transmission is limited to a single output stream for each component carrier of ULCA.

**Table H-29**  
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) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
CA_[66C]	LTE B66	20	132072	1720	QPSK	1	99	66536	2120	4x4	LTE B66	20	132270	1739.8	QPSK	1	0	66734	2139.8	4x4	25.00	25.00	<b>SCC 1</b>						<b>Power</b>									
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[7C]	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	4x4	LTE B7	20	20902	2515.2	QPSK	1	99	2902	2635.2	4x4	24.37	24.37	<b>SCC 2</b>						<b>Power</b>								
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[48C]	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	4x4	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	4x4	-	-	<b>SCC 1</b>						<b>Power</b>								
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[48D]	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	4x4	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	4x4	23.58	23.60	<b>SCC 2</b>						<b>Power</b>								
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[48E]	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	4x4	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	4x4	23.58	23.60	<b>SCC 3</b>						<b>Power</b>								
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[48F]	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	4x4	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	4x4	23.58	23.60	<b>SCC 1</b>						<b>Power</b>								
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[48G]	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	4x4	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	4x4	23.58	23.60	<b>SCC 2</b>						<b>Power</b>								
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[48H]	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	4x4	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	4x4	23.58	23.60	<b>SCC 3</b>						<b>Power</b>								
Combination	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC (UL) Ch.	SCC (UL) Freq. [MHz]	Mod.	SCC UL# RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	Tx-Power with add'l CA config. active (dBm)	ULCA Tx Power (dBm)
	CA_[48I]	LTE B48	20	56640	3690	QPSK	8	0	56640	3690	4x4	LTE B48	20	56642	3670.2	QPSK	8	92	56642	3670.2	4x4	23.58	23.60	<b>SCC 1</b>														