

APPENDIX F: DOWNLINK LTE CA RF CONDUCTED POWERS

1.1 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 1 – Example of Exclusion Table for SISO Configurations

Index	2CC	Supported Channel Bandwidth (MHz)		Restriction	Completely Covered by Measurement Superset	Index	3CC	Supported Channel Bandwidth (MHz)			Completely Covered by Measurement Superset
		CC1	CC2					CC1	CC2	CC3	
CCC #4	CA_2C	5, 10, 15, 20	5, 10, 15, 20		CCC #4	CCC #4	CA_3C-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #5	CA_2A-2C	5, 10, 15, 20	5, 10, 15, 20		CCC #5	CCC #5	CA_3C-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #6	CA_2A-2A	5, 10, 15, 20	5, 10, 15, 20		CCC #6	CCC #6	CA_3C-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #7	CA_2A-2A-4A	5, 10, 15, 20	5, 10, 15, 20		CCC #7	CCC #7	CA_3C-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #8	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #8	CCC #8	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #9	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #9	CCC #9	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #10	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #10	CCC #10	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #11	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #11	CCC #11	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #12	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #12	CCC #12	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #13	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #13	CCC #13	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #14	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #14	CCC #14	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #15	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #15	CCC #15	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #16	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #16	CCC #16	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #17	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #17	CCC #17	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #18	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #18	CCC #18	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #19	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #19	CCC #19	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #20	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #20	CCC #20	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #21	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #21	CCC #21	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #22	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #22	CCC #22	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #23	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #23	CCC #23	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #24	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #24	CCC #24	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #25	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #25	CCC #25	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #26	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #26	CCC #26	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #27	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #27	CCC #27	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #28	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #28	CCC #28	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #29	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #29	CCC #29	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #30	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #30	CCC #30	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #31	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #31	CCC #31	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #32	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #32	CCC #32	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #33	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #33	CCC #33	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #34	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #34	CCC #34	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #35	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #35	CCC #35	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #36	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #36	CCC #36	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #37	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #37	CCC #37	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #38	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #38	CCC #38	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #39	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #39	CCC #39	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #40	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #40	CCC #40	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #41	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #41	CCC #41	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #42	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #42	CCC #42	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #43	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #43	CCC #43	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #44	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #44	CCC #44	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #45	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #45	CCC #45	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #46	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #46	CCC #46	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #47	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #47	CCC #47	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #48	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #48	CCC #48	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #49	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #49	CCC #49	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #50	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #50	CCC #50	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #51	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #51	CCC #51	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #52	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #52	CCC #52	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #53	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #53	CCC #53	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #54	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #54	CCC #54	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #55	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #55	CCC #55	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #56	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #56	CCC #56	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #57	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #57	CCC #57	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #58	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #58	CCC #58	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #59	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #59	CCC #59	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #60	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #60	CCC #60	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #61	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #61	CCC #61	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #62	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #62	CCC #62	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #63	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #63	CCC #63	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	No
CCC #64	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		CCC #64	CCC #64	CA_3C-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20		

1.2 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. 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.

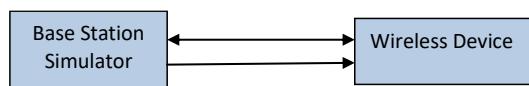
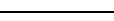


Figure 1
DL CA Power Measurement Setup

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset			APPENDIX F: Page 2 of 16

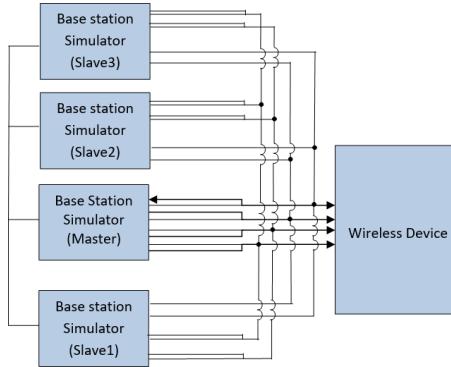


Figure 2
DL CA with DL 4x4 MIMO Power Measurement Setup

1.3 Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 71 as PCC

Table 1
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 ULPF RB	PCC UL/RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC (DL) BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) 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-4A-71A	LTE B71	15	133297	680.5	QPSK	1	74	68761	634.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.21	25.10
CA_4B-4B-71A	LTE B71	15	133297	680.5	QPSK	1	74	68761	634.5	LTE B48	20	55990	3625	LTE B48	20	56940	3650	-	-	-	-	25.03	25.10
CA_4B-4B-71A	LTE B71	15	133297	680.5	QPSK	1	74	68761	634.5	LTE B48	20	55990	3625	LTE B48	20	56188	3644.8	-	-	-	-	25.00	25.10
CA_2A-2A-71A	LTE B71	15	133297	680.5	QPSK	1	74	68761	634.5	LTE B2	20	900	1980	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	25.20	25.10
CA_2A-66A-66A-71A	LTE B71	15	133297	680.5	QPSK	1	74	68761	634.5	LTE B2	20	900	1980	LTE B2	20	700	1940	LTE B6	20	66786	2145	25.16	25.10
CA_2A-66A-66A-71A	LTE B71	15	133297	680.5	QPSK	1	74	68761	634.5	LTE B2	20	900	1980	LTE B6	20	66786	2145	LTE B6	20	67236	2190	25.12	25.10
CA_2A-66C-71A	LTE B71	15	133297	680.5	QPSK	1	74	68761	634.5	LTE B2	20	900	1980	LTE B6	20	66786	2145	LTE B6	20	66984	2164.8	25.21	25.10

1.3.2 LTE Band 12 as PCC

Table 2
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 ULPF RB	PCC UL/RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC (DL) BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) 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-12A (1)	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B2	20	900	1980	-	-	-	-	-	-	-	-	-	-	-	25.18	25.10	
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	25.16	25.10	
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	25.16	25.10	
CA_12A-25A	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	-	-	-	25.11	25.10	
CA_12A-46A	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B46	20	50965	9537.5	-	-	-	-	-	-	-	-	-	-	-	25.15	25.10	
CA_12A-46A (1)	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B2	20	900	1980	-	-	-	-	-	-	-	-	-	-	-	25.15	25.10	
CA_12A-46A (2)	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B6	20	66786	2145	-	-	-	-	-	-	-	-	-	-	-	25.15	25.10	
CA_12A-46C	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B46	20	50965	9537.5	LTE B46	20	50467	5557.7	-	-	-	-	-	-	-	25.27	25.16	
CA_2A-2A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B2	20	900	1980	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	-	-	-	-	25.12	25.10
CA_2A-4A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B2	20	900	1980	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.19	25.16
CA_2A-4A-12B	LTE B12	5	23095	707.5	QPSK	1	12	6095	737.5	LTE B12	5	6047	732.7	LTE B12	20	900	1980	LTE B4	20	2175	2132.5	-	-	-	-	25.22	25.07
CA_2A-4A-12C	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B12	20	900	1980	LTE B12	20	66786	2145	LTE B12	20	66984	2164.8	-	-	-	-	25.13	25.10
CA_4A-4A-12B	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B12	1	5047	732.7	LTE B12	1	5047	732.7	LTE B4	10	2350	2150	-	-	-	-	25.21	25.07
CA_12A-46D	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B46	20	50965	9537.5	LTE B46	20	50467	5557.7	LTE B46	20	50983	5557.3	-	-	-	-	25.26	25.06
CA_2A-12A-30A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B2	20	900	1980	LTE B2	20	700	1940	LTE B30	10	9820	2355	LTE B66	20	66786	2145	25.19	25.16
CA_2A-12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B2	20	900	1980	LTE B2	20	700	1940	LTE B46	20	66786	2145	LTE B66	20	67236	2190	25.21	25.16
CA_2A-12A-28A-66A	LTE B12	5	23095	707.5	QPSK	1	12	6095	737.5	LTE B12	5	5047	732.7	LTE B12	20	900	1980	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.18	25.07
CA_2A-12A-30A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	25	6095	737.5	LTE B2	20	900	1980	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.22	25.16
CA_2A-28A-66A	LTE B12	5	23095	707.5	QPSK	1	12	6095	737.5	LTE B12	5	5047	732.7	LTE B12	20	900	1980	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.18	25.07

FCC ID: A3LSMG996U	 SAR EVALUATION REPORT	 Reviewed by: Quality Manager
Test Dates: 09/16/20 - 12/01/20	DUT Type: Portable Handset	APPENDIX F: Page 3 of 16

1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

1.3.4 LTE Band 14 as PCC

Table 4
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# 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]	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 Sing. Carrier Power (dBm)							
CA_2A-2A-14A-30A-60A	LTE B14	10	23330	793	QPSK	1	49	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	980	2355	LTE B66	20	66786	2145	25.36	25.16	25.36	25.16	25.36	25.16	25.37	25.16									
CA_2A-2A-14A-60A-60A	LTE B14	10	23330	793	QPSK	1	49	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.36	25.16	25.36	25.16	25.36	25.16	25.37	25.16									
CA_2A-14A-60A-60A	LTE B14	10	23330	793	QPSK	1	49	5330	763	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.36	25.16	25.36	25.16	25.36	25.16	25.37	25.16									

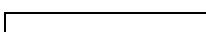
1.3.5 LTE Band 5 as PCC

Table 5
Maximum Output Powers

1.3.6 LTE Band 26 as PCC

Table 6
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 ULF RB	PCC ULR 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 DLCA Enabled [dBm]	LTE Single Carrier Power [dBm]
CA_25A-25A-26A	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	LTE B25	20	8365	1962.5	LTE B26	20	8580	1985	-	-	-	-	-	25.11
CA_25A-26A-41A	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	LTE B26	20	8365	1962.5	LTE B41	20	40620	2593	-	-	-	-	-	25.09
CA_26A-41C	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	-	-	-	-	-	25.14
CA_25A-26A-41C	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	LTE B25	20	8140	1940	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	25.13	25.11



Reviewed by:
Quality Manager

Test Dates:

DUT Type:
Portable Handset

APPENDIX F
Page 4 of 16

1.3.7 LTE Band 66 as PCC

Table 7
Maximum Output Powers

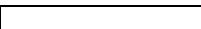
1.3.8 | LTE Band 35 as RCC

Table 8
Maximum Output Powers

		Maximum Output Powers																								Power					
		PCC						SCC 1						SCC 2			SCC 3			SCC 4											
Combination	PCC Band	PCC BW [MHz]	PCC UL Ch.	PCC UL Freq. [MHz]	PCC Freq. [MHz]	Mod.	PCC UL/FB	PCC UL/RB Offset	PCC DL Channel	PCC [DL] Freq. [MHz]	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 [dBm]	LTE Single Carrier Tx Power [dBm]		
	CA_2G-2G	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	10	2050	891.5	-	-	-	-	-	-	-	-	-	-	-	-	-	24.70	24.70		
CA_12A-2G	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	10	2050	737.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.30	24.30		
CA_25A-4G	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B40	20	20665	9537.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.70	24.70		
CA_25A-25A-2G	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	20	20590	1985.5	LTE B26	5	8865	876.5	-	-	-	-	-	-	-	-	-	-	-	-	24.15	24.03
CA_25A-25A-11A	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	20	20590	1985.5	LTE B41	20	40620	2593.5	-	-	-	-	-	-	-	-	-	-	-	-	24.15	24.03
CA_25A-25A-11C	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	20	20590	1985.5	LTE B41	20	40620	2593.5	-	-	-	-	-	-	-	-	-	-	-	-	24.15	24.03
CA_25A-24C	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B41	20	40620	2593.5	LTE B41	20	40422	2573.2	-	-	-	-	-	-	-	-	-	-	-	24.05	24.03	
CA_25A-4G-C	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B40	20	20665	5037.5	LTE B46	20	50467	5517.7	-	-	-	-	-	-	-	-	-	-	-	24.05	24.03	
CA_25A-25A-4HC	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	20	20590	1985.5	LTE B41	20	40620	2593.5	LTE B41	20	40422	2573.2	-	-	-	-	-	-	-	24.10	24.03	
CA_25A-25A-4C	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	20	20590	1985.5	LTE B41	20	40620	2593.5	LTE B41	20	40422	2573.2	-	-	-	-	-	-	-	24.05	24.03	
CA_25A-4G-B	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B40	20	20665	5037.5	LTE B46	20	50467	5517.7	LTE B46	20	50467	5517.7	-	-	-	-	-	-	-	24.05	24.03	
CA_25A-25A-21D	LTE B25	20	26140	1860	QPSK	1	0	S140	1940	LTE B25	20	20590	1985.5	LTE B41	20	40422	2573.2	LTE B41	20	40620	2593.5	LTE B41	20	40818	2012.8	24.07	24.03				

1.3.9 LTE Band 30 as PCC

Table 9
Maximum Output Powers



Reviewed by:

Test Dates:
09/16/20 – 12/01/20

DUT Type:

SAR EVALUATION REPORT

APPENDIX F:
Page 5 of 16

1.3.10 LTE Band 41 as PCC

Table 10
Maximum Output Powers

Combination	PCC										SCC 1										SCC 2										Power	
	PCC Band	PCC BW [MHz]	PCC (U) Ch.	PCC (U) 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_41A-41A (1)	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	41400	2680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.55	24.56		
CA_41A-41C	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	41292	2602.2	LTE B41	20	41400	2680	-	-	-	-	-	-	-	-	-	-	-	-	24.53	24.56	
CA_41C-41A	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	40794	2607.4	LTE B41	20	41400	2680	-	-	-	-	-	-	-	-	-	-	-	-	24.56	24.56	
CA_41A-41D	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	41094	2640.4	LTE B41	20	41292	2602	LTE B41	20	41400	2680	-	-	-	-	-	-	-	-	24.54	24.56	
CA_41D-41A	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	40476	2602.2	LTE B41	20	40794	2607.4	LTE B41	20	41400	2680	-	-	-	-	-	-	-	-	24.53	24.56	
CA_41C-41D	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	40476	2576.6	LTE B41	20	41292	2602	LTE B41	20	41400	2680	-	-	-	-	-	-	-	-	24.52	24.56	
CA_41E-41C	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	40449	2579.9	LTE B41	20	40791	2601.1	LTE B41	20	40899	2629.9	-	-	-	-	-	-	-	-	24.30	24.36	
CA_41D-41D	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	40476	2576.6	LTE B41	20	41094	2640.4	LTE B41	20	41292	2602	LTE B41	20	41400	2680	-	-	24.60	24.56			
CA_41D-41C	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	40476	2578.6	LTE B41	20	40764	2607.4	LTE B41	20	41292	2602	LTE B41	20	41400	2680	-	-	24.62	24.56			

1.3.11 LTE Band 48 as PCC

Table 11
Maximum Output Powers

Combination	PCC										SCC 1										SCC 2										Power	
	PCC Band	PCC BW [MHz]	PCC (U) Ch.	PCC (U) 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]	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_48A-48A	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.80	22.74	
CA_48A-48C	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3560	LTE B48	20	55538	3579.8	-	-	-	-	-	-	-	-	-	-	-	-	22.76	22.74	
CA_48C-48A	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3690.6	LTE B48	20	55340	3650	-	-	-	-	-	-	-	-	-	-	-	-	22.75	22.74	
CA_48A-48D	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3560	LTE B48	20	55538	3579.8	LTE B48	20	55736	3599.6	-	-	-	-	-	-	-	-	22.80	22.74	
CA_48D-48A	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3608.6	LTE B48	20	55538	3599.6	LTE B48	20	55736	3599.6	-	-	-	-	-	-	-	-	22.80	22.74	
CA_48A-48B	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3690.6	LTE B48	20	55538	3650.8	LTE B48	20	55736	3679.8	-	-	-	-	-	-	-	-	22.78	22.74	
CA_48B-48A	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3690.6	LTE B48	20	55538	3650.8	LTE B48	20	55736	3679.8	-	-	-	-	-	-	-	-	22.78	22.74	
CA_48A-48E	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3560	LTE B48	20	55538	3579.8	LTE B48	20	55736	3599.6	-	-	-	-	-	-	-	-	22.80	22.74	
CA_48E-48A	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3608.6	LTE B48	20	55538	3650.8	LTE B48	20	55736	3679.8	-	-	-	-	-	-	-	-	22.78	22.74	
CA_48C-48D	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3690.6	LTE B48	20	55538	3650.8	LTE B48	20	55736	3679.8	-	-	-	-	-	-	-	-	22.78	22.74	
CA_48D-48C	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3690.6	LTE B48	20	55538	3650.8	LTE B48	20	55736	3679.8	-	-	-	-	-	-	-	-	22.78	22.74	
CA_48B-48F	LTE B48	10	56690	3695	QPSK	25	12	56690	3695	LTE B48	20	55340	3608.6	LTE B48	20	55538	3650.8	LTE B48	20	55736	3679.8	-	-	-	-	-	-	-	-	22.78	22.74	

1.4 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 1.2 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.

1.4.1 LTE 4x4 MIMO DL Standalone Powers

Table 12
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	10	132022	1715	QPSK	1	25	23.88	23.90
25	20	26140	1860	QPSK	1	0	24.05	24.03
30	10	27710	2310	QPSK	1	25	23.23	23.24
41	10	40620	2593	QPSK	1	25	24.55	24.56
48	10	56690	3695	QPSK	25	12	22.72	22.74

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT	 Reviewed by: Quality Manager
Test Dates: 09/16/20 - 12/01/20	DUT Type: Portable Handset		APPENDIX F: Page 6 of 16

1.4.2 LTE Band 71 as PCC

Table 13
Maximum Output Powers

1.4.3 LTE Band 12 as PCC

Table 14
Maximum Output Powers



SAR EVALUATION REPORT



Reviewed by:
Quality Manager

FCC ID: A3LSMG996U	 PCTEST® Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset			APPENDIX F: Page 7 of 16

1.4.4 LTE Band 13 as PCC

Table 15
Maximum Output Powers

1.4.5 LTE Band 14 as PCC

Table 16
Maximum Output Powers

FCC ID: A3LSMG996U	 Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset			APPENDIX F: Page 8 of 16

1.4.6 LTE Band 5 as PCC

Table 17
Maximum Output Powers

FCC ID: A3LSMG996U	 PCTEST® Proud to be part of element	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset			APPENDIX F: Page 9 of 16

1.4.7 LTE Band 26 as PCC

Table 18
Maximum Output Powers

Combination	PCC										SCC 1										SCC 2										Power			
	PCC Band	PCC BW [MHz]	PCC	PCC (UL) Freq. [MHz]	Mod.	PCC UL/RB Offset	PCC UL RB	PCC UL/DL Offset	PCC	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx Power with DL CA Enabled	LTE Single Carrier Tx Power [dBm]						
CA_25A[25A-26A]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1962.5	4x4	LTE B25	20	8590	1985	2x2	-	-	-	-	-	-	-	-	25.15	25.11				
CA_25A[25A-26A]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1962.5	4x4	LTE B25	20	8590	1985	4x4	-	-	-	-	-	-	-	-	24.44	25.11				
CA_25A[26A-41A]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1962.5	4x4	LTE B41	20	40620	2593	2x2	-	-	-	-	-	-	-	-	25.15	25.11				
CA_25A[26A-41A]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1962.5	2x2	LTE B41	20	40620	2593	4x4	-	-	-	-	-	-	-	-	24.29	25.11				
CA_26A[26A-41C]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1962.5	4x4	LTE B41	20	40620	2593	4x4	-	-	-	-	-	-	-	-	24.60	25.11				
CA_26A[26A-41C]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1962.5	4x4	LTE B41	20	40620	2593	4x4	-	-	-	-	-	-	-	-	24.84	25.11				
CA_25A[26A-41C]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1962.5	4x4	LTE B41	20	40422	2573.2	4x4	-	-	-	-	-	-	-	-	25.08	25.11				
CA_25A[26A-41C]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1940	4x4	LTE B41	20	40620	2593	2x2	LTE B41	20	40422	2573.2	4x4	-	-	-	-	-	-	-	25.12	25.11
CA_25A[26A-41C]	LTE B26	5	26865	831.5	QPSK	1	24	8865	876.5	2x2	LTE B25	20	8365	1940	4x4	LTE B41	20	40620	2593	4x4	LTE B41	20	40422	2573.2	4x4	-	-	-	-	-	-	-	25.11	25.11

1.4.8 LTE Band 66 as PCC

Table 19
Maximum Output Powers

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset			APPENDIX F: Page 10 of 16

FCC ID: A3LSMG996U	 Proud to be part of element	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset			APPENDIX F: Page 11 of 16

FCC ID: A3LSMG996U	 Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset			APPENDIX F: Page 12 of 16

1.4.9 LTE Band 25 as PCC

Table 20
Maximum Output Powers



SAR EVALUATION REPORT



Reviewed by:
Quality Manager

Test Dates:
09/16/20 – 12/01/20

DUT Type:
Portable Ham

APPENDIX F:
Page 13 of 16

1.4.10 LTE Band 30 as PCC

Table 21
Maximum Output Powers



SAR EVALUATION REPORT



Reviewed by:
Quality Manager

Test Dates:

DUT Type:

Portable Handset

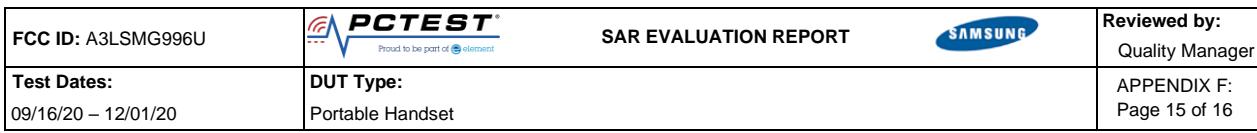
APPENDIX F:
Page 14 of 16

1.4.11 LTE Band 41 as PCC

Table 22
Maximum Output Powers

1.4.12 LTE Band 48 as PCC

Table 23
Maximum Output Powers



1.5 Downlink Carrier Aggregation with 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.

1.5.1 DL Carrier Aggregation RF Conducted Powers

Table 24
Maximum Output Powers

1.5.2 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 25
Maximum Output Powers

System Configuration Summary																		
PCC		SCC 1								Power								
(UL) Frequency [MHz]	Modulation	PCC UL/RB	PCC ULL/RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	DL Ant. Config.	SCC Band	SCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL/RB	PCC UL/RB Offset	SCC (DL) Channel	SCC (DL) Frequency [MHz]	DL Ant. Config.	ULCA Tx-Power with add'l CA config, active on DL [dBm]	LTE Single Carrier Tx Power (dBm)
1745	QPSK	1	49	66786	2145	4x4	LTE B66	10	132233	1735.1	QPSK	1	49	66678	2135.1	4x4	24.20	24.20
1745	QPSK	1	0	66786	2145	4x4	LTE B66	20	132124	1735.2	QPSK	1	99	66588	2135.2	4x4	24.50	24.50
PCC		SCC								Power								
(UL) Frequency [Hz]	Modulation	PCC UL/RB	PCC ULL/RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	DL Ant. Config.	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL/RB	PCC UL/RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	ULCA Tx-Power with add'l CA config, active on DL [dBm]	LTE Single Carrier Tx Power (dBm)
3	QPSK	1	99	408120	2593	4x4	LTE B41	20	40818	2612.8	QPSK	1	0	40818	2612.8	4x4	24.99	24.99

CA_4Bc) LTE B48 20 56640 3690 QPSK 50 0 56640 3690 4x4 LTE B48 20 56442 3670.2 QPSK 1 0 56442 3670.2 4x4 22.38 22.38



SAR EVALUATION REPORT



Reviewed by:
Quality Manager

Test Dates: 09/16/20 – 12/01/20	DUT Type: Portable Handset	APPENDIX F: Page 16 of 16
---	--------------------------------------	------------------------------