

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.01	69.18	18.93	3.01	150.0	± 9.6 %
		Y	3.27	69.56	19.01		150.0	
		Z	2.51	66.67	17.63		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	4.22	75.53	21.45	3.01	150.0	± 9.6 %
		Y	4.57	75.42	21.28		150.0	
		Z	3.08	71.23	19.63		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	3.48	71.51	18.77	3.01	150.0	± 9.6 %
		Y	3.80	71.51	18.70		150.0	
		Z	2.63	68.05	17.17		150.0	
10187-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.02	69.24	19.00	3.01	150.0	± 9.6 %
		Y	3.28	69.61	19.07		150.0	
		Z	2.52	66.73	17.71		150.0	
10188-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.35	76.17	21.80	3.01	150.0	± 9.6 %
		Y	4.72	76.08	21.65		150.0	
		Z	3.15	71.69	19.93		150.0	
10189-AAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.56	71.93	19.04	3.01	150.0	± 9.6 %
		Y	3.88	71.93	18.97		150.0	
		Z	2.67	68.37	17.41		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.54	66.68	16.24	0.00	150.0	± 9.6 %
		Y	4.59	66.47	16.13		150.0	
		Z	4.40	66.85	16.19		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.70	66.99	16.36	0.00	150.0	± 9.6 %
		Y	4.77	66.80	16.26		150.0	
		Z	4.55	67.09	16.33		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.74	67.02	16.38	0.00	150.0	± 9.6 %
		Y	4.81	66.83	16.27		150.0	
		Z	4.58	67.11	16.34		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.54	66.74	16.25	0.00	150.0	± 9.6 %
		Y	4.60	66.55	16.16		150.0	
		Z	4.39	66.85	16.19		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.72	67.01	16.37	0.00	150.0	± 9.6 %
		Y	4.78	66.83	16.27		150.0	
		Z	4.56	67.10	16.33		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.75	67.04	16.39	0.00	150.0	± 9.6 %
		Y	4.81	66.85	16.28		150.0	
		Z	4.58	67.11	16.34		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.49	66.76	16.22	0.00	150.0	± 9.6 %
		Y	4.55	66.56	16.12		150.0	
		Z	4.34	66.89	16.16		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.71	66.98	16.36	0.00	150.0	± 9.6 %
		Y	4.78	66.81	16.26		150.0	
		Z	4.55	67.06	16.32		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.75	66.96	16.37	0.00	150.0	± 9.6 %
		Y	4.82	66.78	16.27		150.0	
		Z	4.59	67.05	16.33		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.08	67.12	16.48	0.00	150.0	± 9.6 %
		Y	5.14	67.00	16.39		150.0	
		Z	4.96	67.13	16.45		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.38	67.33	16.60	0.00	150.0	± 9.6 %
		Y	5.45	67.20	16.51		150.0	
		Z	5.23	67.33	16.56		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.13	67.23	16.46	0.00	150.0	± 9.6 %
		Y	5.19	67.11	16.37		150.0	
		Z	4.99	67.25	16.44		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.82	66.29	15.44	0.00	150.0	± 9.6 %
		Y	2.85	65.89	15.31		150.0	
		Z	2.69	66.42	15.13		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	40.58	118.73	35.31	6.02	65.0	± 9.6 %
		Y	36.88	113.76	33.77		65.0	
		Z	6.94	88.26	25.92		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	36.33	114.29	33.35	6.02	65.0	± 9.6 %
		Y	31.30	108.87	31.78		65.0	
		Z	6.95	87.06	24.80		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	13.65	104.05	33.59	6.02	65.0	± 9.6 %
		Y	18.81	107.23	34.08		65.0	
		Z	4.50	82.80	25.97		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	36.18	116.36	34.59	6.02	65.0	± 9.6 %
		Y	33.58	111.82	33.15		65.0	
		Z	6.61	87.25	25.49		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	32.38	112.10	32.69	6.02	65.0	± 9.6 %
		Y	28.70	107.19	31.24		65.0	
		Z	6.54	85.97	24.36		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	12.84	102.68	33.09	6.02	65.0	± 9.6 %
		Y	17.62	105.78	33.56		65.0	
		Z	4.35	82.09	25.62		65.0	
10232-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	36.15	116.36	34.59	6.02	65.0	± 9.6 %
		Y	33.55	111.82	33.15		65.0	
		Z	6.59	87.23	25.48		65.0	
10233-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	32.28	112.07	32.68	6.02	65.0	± 9.6 %
		Y	28.65	107.18	31.24		65.0	
		Z	6.52	85.93	24.35		65.0	
10234-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	12.22	101.47	32.58	6.02	65.0	± 9.6 %
		Y	16.65	104.42	33.04		65.0	
		Z	4.24	81.51	25.28		65.0	
10235-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	36.31	116.46	34.62	6.02	65.0	± 9.6 %
		Y	33.66	111.90	33.18		65.0	
		Z	6.60	87.26	25.49		65.0	
10236-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	33.06	112.44	32.77	6.02	65.0	± 9.6 %
		Y	29.12	107.43	31.30		65.0	
		Z	6.60	86.11	24.40		65.0	
10237-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	12.90	102.82	33.13	6.02	65.0	± 9.6 %
		Y	17.72	105.93	33.61		65.0	
		Z	4.35	82.12	25.64		65.0	
10238-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	36.09	116.34	34.59	6.02	65.0	± 9.6 %
		Y	33.52	111.82	33.15		65.0	
		Z	6.58	87.20	25.47		65.0	

10239-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	32.17	112.03	32.67	6.02	65.0	± 9.6 %
		Y	28.59	107.16	31.23		65.0	
		Z	6.49	85.89	24.34		65.0	
10240-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	12.85	102.75	33.11	6.02	65.0	± 9.6 %
		Y	17.65	105.86	33.59		65.0	
		Z	4.34	82.09	25.63		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	8.52	83.40	26.72	6.98	65.0	± 9.6 %
		Y	9.34	83.46	26.63		65.0	
		Z	6.49	79.39	24.77		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	7.72	81.29	25.79	6.98	65.0	± 9.6 %
		Y	8.22	80.66	25.42		65.0	
		Z	5.72	76.85	23.63		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.95	76.72	24.82	6.98	65.0	± 9.6 %
		Y	6.41	76.67	24.65		65.0	
		Z	4.75	73.34	22.98		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	6.67	78.45	19.67	3.98	65.0	± 9.6 %
		Y	8.20	80.91	21.14		65.0	
		Z	3.50	69.23	14.35		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	6.39	77.48	19.23	3.98	65.0	± 9.6 %
		Y	7.92	80.07	20.76		65.0	
		Z	3.42	68.65	14.03		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	8.15	85.97	22.95	3.98	65.0	± 9.6 %
		Y	9.24	86.80	23.49		65.0	
		Z	4.03	75.23	17.77		65.0	
10247-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	5.50	76.42	20.00	3.98	65.0	± 9.6 %
		Y	6.26	77.49	20.66		65.0	
		Z	3.95	71.61	16.94		65.0	
10248-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	5.40	75.54	19.60	3.98	65.0	± 9.6 %
		Y	6.16	76.66	20.28		65.0	
		Z	3.89	70.88	16.59		65.0	
10249-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	9.66	89.43	25.19	3.98	65.0	± 9.6 %
		Y	10.35	89.11	25.13		65.0	
		Z	5.64	80.91	21.33		65.0	
10250-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	6.21	78.20	22.44	3.98	65.0	± 9.6 %
		Y	6.93	79.00	22.73		65.0	
		Z	4.95	74.96	20.57		65.0	
10251-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	5.85	75.76	21.03	3.98	65.0	± 9.6 %
		Y	6.49	76.44	21.31		65.0	
		Z	4.69	72.73	19.17		65.0	
10252-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	8.41	86.24	25.10	3.98	65.0	± 9.6 %
		Y	9.13	86.11	24.91		65.0	
		Z	5.95	81.04	22.79		65.0	
10253-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.81	74.45	20.83	3.98	65.0	± 9.6 %
		Y	6.39	75.11	21.05		65.0	
		Z	4.88	72.13	19.42		65.0	
10254-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	6.16	75.32	21.51	3.98	65.0	± 9.6 %
		Y	6.77	75.99	21.73		65.0	
		Z	5.19	73.05	20.14		65.0	

10255-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.96	80.42	23.12	3.98	65.0	± 9.6 %
		Y	7.59	80.64	23.06		65.0	
		Z	5.51	77.21	21.58		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	4.89	73.41	16.49	3.98	65.0	± 9.6 %
		Y	6.68	77.30	18.76		65.0	
		Z	2.46	64.75	10.88		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	4.63	72.26	15.89	3.98	65.0	± 9.6 %
		Y	6.35	76.13	18.19		65.0	
		Z	2.42	64.27	10.52		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	5.50	79.01	19.45	3.98	65.0	± 9.6 %
		Y	7.01	81.77	20.90		65.0	
		Z	2.56	68.30	13.54		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	5.80	77.14	20.90	3.98	65.0	± 9.6 %
		Y	6.53	78.01	21.38		65.0	
		Z	4.38	73.08	18.36		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	5.78	76.67	20.70	3.98	65.0	± 9.6 %
		Y	6.51	77.60	21.22		65.0	
		Z	4.39	72.73	18.19		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	8.27	86.47	24.62	3.98	65.0	± 9.6 %
		Y	9.00	86.40	24.57		65.0	
		Z	5.46	80.05	21.57		65.0	
10262-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	6.19	78.15	22.39	3.98	65.0	± 9.6 %
		Y	6.92	78.95	22.69		65.0	
		Z	4.94	74.88	20.51		65.0	
10263-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.84	75.72	21.02	3.98	65.0	± 9.6 %
		Y	6.48	76.42	21.31		65.0	
		Z	4.68	72.71	19.16		65.0	
10264-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	8.30	85.98	24.99	3.98	65.0	± 9.6 %
		Y	9.03	85.88	24.80		65.0	
		Z	5.88	80.81	22.67		65.0	
10265-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	5.96	75.09	21.13	3.98	65.0	± 9.6 %
		Y	6.59	75.82	21.35		65.0	
		Z	4.95	72.53	19.70		65.0	
10266-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	6.33	75.99	21.86	3.98	65.0	± 9.6 %
		Y	6.97	76.70	22.07		65.0	
		Z	5.31	73.56	20.51		65.0	
10267-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	7.45	81.44	23.28	3.98	65.0	± 9.6 %
		Y	8.11	81.58	23.17		65.0	
		Z	5.81	77.97	21.72		65.0	
10268-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	6.50	74.59	21.27	3.98	65.0	± 9.6 %
		Y	7.11	75.29	21.47		65.0	
		Z	5.58	72.49	20.14		65.0	
10269-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	6.45	74.07	21.10	3.98	65.0	± 9.6 %
		Y	7.04	74.76	21.30		65.0	
		Z	5.59	72.11	20.01		65.0	
10270-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.83	77.38	21.77	3.98	65.0	± 9.6 %
		Y	7.44	77.78	21.79		65.0	
		Z	5.71	75.01	20.64		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.62	66.75	15.42	0.00	150.0	± 9.6 %
		Y	2.61	66.15	15.17		150.0	
		Z	2.54	67.07	15.23		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.67	68.55	15.99	0.00	150.0	± 9.6 %
		Y	1.61	67.31	15.31		150.0	
		Z	1.61	68.63	15.84		150.0	
10277-CAA	PHS (QPSK)	X	1.74	60.91	6.37	9.03	50.0	± 9.6 %
		Y	2.31	62.75	8.24		50.0	
		Z	1.34	59.32	4.61		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	9.23	83.71	19.86	9.03	50.0	± 9.6 %
		Y	16.13	92.59	23.80		50.0	
		Z	2.80	66.68	11.50		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	9.55	84.14	20.09	9.03	50.0	± 9.6 %
		Y	16.22	92.62	23.87		50.0	
		Z	2.90	67.01	11.74		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.55	69.78	14.51	0.00	150.0	± 9.6 %
		Y	1.48	68.23	14.09		150.0	
		Z	1.19	67.52	12.47		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.89	66.83	13.08	0.00	150.0	± 9.6 %
		Y	0.85	65.35	12.57		150.0	
		Z	0.74	65.55	11.46		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.27	72.61	16.13	0.00	150.0	± 9.6 %
		Y	1.03	68.80	14.67		150.0	
		Z	1.20	72.32	14.93		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	2.34	81.60	20.09	0.00	150.0	± 9.6 %
		Y	1.43	73.64	17.27		150.0	
		Z	3.93	87.90	20.92		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	16.32	98.49	29.02	9.03	50.0	± 9.6 %
		Y	11.98	92.39	27.58		50.0	
		Z	18.77	96.90	26.52		50.0	
10297-AAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.80	70.02	16.88	0.00	150.0	± 9.6 %
		Y	2.77	69.27	16.41		150.0	
		Z	2.65	69.87	16.82		150.0	
10298-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.62	68.28	14.44	0.00	150.0	± 9.6 %
		Y	1.62	67.40	14.26		150.0	
		Z	1.32	66.56	12.71		150.0	
10299-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.59	69.34	14.00	0.00	150.0	± 9.6 %
		Y	2.92	70.30	15.01		150.0	
		Z	1.54	64.05	10.22		150.0	
10300-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.92	64.86	11.14	0.00	150.0	± 9.6 %
		Y	2.24	65.95	12.27		150.0	
		Z	1.26	61.60	8.20		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.85	66.06	17.86	4.17	50.0	± 9.6 %
		Y	4.97	65.84	17.76		50.0	
		Z	4.42	65.27	17.23		50.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.22	66.19	18.31	4.96	50.0	± 9.6 %
		Y	5.38	66.17	18.31		50.0	
		Z	4.86	65.76	17.88		50.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.96	65.79	18.13	4.96	50.0	± 9.6 %
		Y	5.14	65.84	18.17		50.0	
		Z	4.61	65.34	17.65		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.78	65.69	17.62	4.17	50.0	± 9.6 %
		Y	4.94	65.66	17.62		50.0	
		Z	4.45	65.35	17.22		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	4.24	66.91	19.40	6.02	35.0	± 9.6 %
		Y	4.54	67.57	19.86		35.0	
		Z	3.84	65.89	18.29		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.62	66.22	19.11	6.02	35.0	± 9.6 %
		Y	4.86	66.59	19.39		35.0	
		Z	4.26	65.53	18.31		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.50	66.31	19.05	6.02	35.0	± 9.6 %
		Y	4.77	66.81	19.39		35.0	
		Z	4.12	65.47	18.17		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.47	66.49	19.18	6.02	35.0	± 9.6 %
		Y	4.73	66.98	19.51		35.0	
		Z	4.09	65.63	18.30		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.68	66.45	19.27	6.02	35.0	± 9.6 %
		Y	4.93	66.86	19.56		35.0	
		Z	4.28	65.63	18.41		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.56	66.25	19.08	6.02	35.0	± 9.6 %
		Y	4.81	66.65	19.36		35.0	
		Z	4.20	65.54	18.28		35.0	
10311-AAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.16	69.26	16.50	0.00	150.0	± 9.6 %
		Y	3.13	68.60	16.08		150.0	
		Z	3.01	69.09	16.45		150.0	
10313-AAA	IDEN 1:3	X	8.00	86.23	21.34	6.99	70.0	± 9.6 %
		Y	8.53	85.21	20.95		70.0	
		Z	3.31	75.28	17.31		70.0	
10314-AAA	IDEN 1:6	X	12.68	100.31	29.33	10.00	30.0	± 9.6 %
		Y	13.31	98.73	28.67		30.0	
		Z	5.19	85.23	24.17		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.10	64.07	15.53	0.17	150.0	± 9.6 %
		Y	1.10	63.56	15.08		150.0	
		Z	1.08	63.95	15.31		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.75	16.41	0.17	150.0	± 9.6 %
		Y	4.66	66.58	16.32		150.0	
		Z	4.43	66.78	16.29		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.75	16.41	0.17	150.0	± 9.6 %
		Y	4.66	66.58	16.32		150.0	
		Z	4.43	66.78	16.29		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.69	67.06	16.37	0.00	150.0	± 9.6 %
		Y	4.77	66.86	16.25		150.0	
		Z	4.51	67.11	16.31		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.41	67.26	16.54	0.00	150.0	± 9.6 %
		Y	5.45	67.06	16.42		150.0	
		Z	5.18	66.94	16.33		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.65	67.49	16.51	0.00	150.0	± 9.6 %
		Y	5.72	67.43	16.45		150.0	
		Z	5.51	67.47	16.48		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.55	69.78	14.51	0.00	115.0	± 9.6 %
		Y	1.48	68.23	14.09		115.0	
		Z	1.19	67.52	12.47		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.55	69.78	14.51	0.00	115.0	± 9.6 %
		Y	1.48	68.23	14.09		115.0	
		Z	1.19	67.52	12.47		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	120.41	29.76	0.00	100.0	± 9.6 %
		Y	19.72	99.25	25.38		100.0	
		Z	22.86	100.95	24.14		100.0	
10410-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	125.71	31.88	3.23	80.0	± 9.6 %
		Y	100.00	124.16	31.78		80.0	
		Z	8.15	91.76	22.46		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.03	63.26	14.92	0.00	150.0	± 9.6 %
		Y	1.02	62.63	14.41		150.0	
		Z	1.03	63.39	14.88		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.54	66.72	16.31	0.00	150.0	± 9.6 %
		Y	4.59	66.51	16.19		150.0	
		Z	4.40	66.84	16.26		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.54	66.72	16.31	0.00	150.0	± 9.6 %
		Y	4.59	66.51	16.19		150.0	
		Z	4.40	66.84	16.26		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	X	4.53	66.89	16.33	0.00	150.0	± 9.6 %
		Y	4.58	66.66	16.20		150.0	
		Z	4.40	67.05	16.32		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	X	4.55	66.83	16.33	0.00	150.0	± 9.6 %
		Y	4.60	66.61	16.21		150.0	
		Z	4.41	66.98	16.30		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.66	66.83	16.34	0.00	150.0	± 9.6 %
		Y	4.72	66.62	16.23		150.0	
		Z	4.52	66.95	16.31		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.82	67.13	16.45	0.00	150.0	± 9.6 %
		Y	4.90	66.96	16.35		150.0	
		Z	4.65	67.21	16.40		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.75	67.09	16.43	0.00	150.0	± 9.6 %
		Y	4.82	66.90	16.32		150.0	
		Z	4.58	67.17	16.38		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.35	67.37	16.60	0.00	150.0	± 9.6 %
		Y	5.42	67.27	16.52		150.0	
		Z	5.19	67.35	16.55		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.36	67.42	16.62	0.00	150.0	± 9.6 %
		Y	5.42	67.27	16.52		150.0	
		Z	5.21	67.42	16.58		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.37	67.38	16.60	0.00	150.0	± 9.6 %
		Y	5.43	67.25	16.50		150.0	
		Z	5.18	67.23	16.48		150.0	
10430-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.24	70.83	18.17	0.00	150.0	± 9.6 %
		Y	4.26	70.25	18.02		150.0	
		Z	4.20	71.89	18.27		150.0	
10431-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.21	67.30	16.30	0.00	150.0	± 9.6 %
		Y	4.28	67.03	16.19		150.0	
		Z	4.03	67.45	16.18		150.0	
10432-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.51	67.15	16.38	0.00	150.0	± 9.6 %
		Y	4.58	66.93	16.27		150.0	
		Z	4.34	67.27	16.32		150.0	
10433-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.76	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.83	66.94	16.34		150.0	
		Z	4.59	67.20	16.40		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.34	71.72	18.14	0.00	150.0	± 9.6 %
		Y	4.35	71.03	17.99		150.0	
		Z	4.31	72.81	18.12		150.0	
10435-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	125.48	31.77	3.23	80.0	± 9.6 %
		Y	100.00	123.97	31.69		80.0	
		Z	7.63	90.76	22.11		80.0	
10447-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.51	67.35	15.60	0.00	150.0	± 9.6 %
		Y	3.58	66.99	15.55		150.0	
		Z	3.28	67.36	15.16		150.0	
10448-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.06	67.09	16.17	0.00	150.0	± 9.6 %
		Y	4.12	66.80	16.05		150.0	
		Z	3.89	67.25	16.05		150.0	
10449-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.33	66.98	16.28	0.00	150.0	± 9.6 %
		Y	4.39	66.75	16.16		150.0	
		Z	4.18	67.10	16.22		150.0	
10450-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.53	66.89	16.30	0.00	150.0	± 9.6 %
		Y	4.58	66.69	16.19		150.0	
		Z	4.39	66.98	16.26		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.39	67.51	15.20	0.00	150.0	± 9.6 %
		Y	3.48	67.19	15.21		150.0	
		Z	3.10	67.22	14.48		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.22	67.91	16.74	0.00	150.0	± 9.6 %
		Y	6.28	67.83	16.68		150.0	
		Z	6.11	67.90	16.72		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.80	65.37	16.02	0.00	150.0	± 9.6 %
		Y	3.83	65.15	15.90		150.0	
		Z	3.74	65.57	15.99		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.21	66.83	14.57	0.00	150.0	± 9.6 %
		Y	3.31	66.55	14.68		150.0	
		Z	2.82	66.01	13.39		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.29	65.14	15.57	0.00	150.0	± 9.6 %
		Y	4.36	64.71	15.51		150.0	
		Z	4.04	65.27	15.07		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.96	69.26	16.86	0.00	150.0	± 9.6 %
		Y	0.88	67.02	15.53		150.0	
		Z	0.94	69.35	16.76		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	131.25	34.47	3.29	80.0	± 9.6 %
		Y	100.00	128.59	33.89		80.0	
		Z	3.16	81.29	20.28		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	18.15	90.54	19.55	3.23	80.0	± 9.6 %
		Y	100.00	110.06	25.23		80.0	
		Z	0.71	60.00	7.72		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.32	68.92	12.27	3.23	80.0	± 9.6 %
		Y	12.78	85.50	18.46		80.0	
		Z	0.72	60.00	7.06		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.50	33.02	3.23	80.0	± 9.6 %
		Y	100.00	126.31	32.66		80.0	
		Z	2.43	77.27	18.20		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	7.48	81.44	16.98	3.23	80.0	± 9.6 %
		Y	53.06	102.63	23.42		80.0	
		Z	0.71	60.00	7.65		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.86	66.75	11.37	3.23	80.0	± 9.6 %
		Y	7.10	79.26	16.56		80.0	
		Z	0.72	60.00	7.01		80.0	
10467-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.82	33.16	3.23	80.0	± 9.6 %
		Y	100.00	126.57	32.78		80.0	
		Z	2.60	78.29	18.60		80.0	
10468-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	9.21	83.60	17.62	3.23	80.0	± 9.6 %
		Y	76.07	106.68	24.37		80.0	
		Z	0.70	60.00	7.67		80.0	
10469-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.87	66.82	11.40	3.23	80.0	± 9.6 %
		Y	7.22	79.45	16.62		80.0	
		Z	0.72	60.00	7.01		80.0	
10470-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.87	33.17	3.23	80.0	± 9.6 %
		Y	100.00	126.61	32.79		80.0	
		Z	2.61	78.33	18.61		80.0	
10471-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	9.03	83.37	17.54	3.23	80.0	± 9.6 %
		Y	75.72	106.57	24.32		80.0	
		Z	0.70	60.00	7.66		80.0	
10472-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.85	66.72	11.34	3.23	80.0	± 9.6 %
		Y	7.17	79.36	16.58		80.0	
		Z	0.72	60.00	6.99		80.0	
10473-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.83	33.15	3.23	80.0	± 9.6 %
		Y	100.00	126.57	32.77		80.0	
		Z	2.60	78.28	18.59		80.0	
10474-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	8.86	83.19	17.49	3.23	80.0	± 9.6 %
		Y	73.20	106.22	24.25		80.0	
		Z	0.70	60.00	7.66		80.0	
10475-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.84	66.67	11.33	3.23	80.0	± 9.6 %
		Y	7.07	79.22	16.54		80.0	
		Z	0.72	60.00	6.99		80.0	

10477-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	7.55	81.52	16.98	3.23	80.0	± 9.6 %
		Y	56.45	103.26	23.54		80.0	
		Z	0.70	60.00	7.63		80.0	
10478-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.82	66.56	11.27	3.23	80.0	± 9.6 %
		Y	6.95	79.03	16.47		80.0	
		Z	0.72	60.00	6.98		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	10.99	93.23	25.61	3.23	80.0	± 9.6 %
		Y	9.79	90.18	24.96		80.0	
		Z	4.54	80.48	20.41		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	12.16	88.23	21.88	3.23	80.0	± 9.6 %
		Y	11.98	87.55	22.28		80.0	
		Z	2.88	70.37	14.48		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	8.71	82.91	19.80	3.23	80.0	± 9.6 %
		Y	9.82	84.02	20.80		80.0	
		Z	2.18	66.77	12.57		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.05	77.33	19.19	2.23	80.0	± 9.6 %
		Y	4.17	76.68	19.19		80.0	
		Z	2.07	68.66	14.58		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.93	75.57	17.70	2.23	80.0	± 9.6 %
		Y	6.34	78.50	19.36		80.0	
		Z	1.80	63.38	11.04		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.47	74.01	17.11	2.23	80.0	± 9.6 %
		Y	5.79	76.98	18.82		80.0	
		Z	1.76	62.89	10.79		80.0	
10485-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.05	77.49	20.34	2.23	80.0	± 9.6 %
		Y	4.20	76.76	20.09		80.0	
		Z	2.71	72.24	17.50		80.0	
10486-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.54	71.63	17.34	2.23	80.0	± 9.6 %
		Y	3.76	71.58	17.54		80.0	
		Z	2.51	67.51	14.60		80.0	
10487-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.49	71.03	17.07	2.23	80.0	± 9.6 %
		Y	3.74	71.08	17.31		80.0	
		Z	2.49	67.04	14.35		80.0	
10488-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.92	74.84	20.03	2.23	80.0	± 9.6 %
		Y	4.21	74.77	19.87		80.0	
		Z	2.99	71.49	18.31		80.0	
10489-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.58	70.14	18.01	2.23	80.0	± 9.6 %
		Y	3.82	70.22	18.04		80.0	
		Z	3.03	68.36	16.75		80.0	
10490-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.66	69.89	17.90	2.23	80.0	± 9.6 %
		Y	3.90	69.97	17.95		80.0	
		Z	3.10	68.21	16.67		80.0	
10491-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.00	72.50	19.16	2.23	80.0	± 9.6 %
		Y	4.28	72.62	19.08		80.0	
		Z	3.25	70.05	17.90		80.0	
10492-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.86	68.99	17.79	2.23	80.0	± 9.6 %
		Y	4.11	69.18	17.85		80.0	
		Z	3.37	67.61	16.86		80.0	

10493-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.92	68.82	17.72	2.23	80.0	± 9.6 %
		Y	4.17	69.02	17.78		80.0	
		Z	3.43	67.50	16.80		80.0	
10494-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.43	74.41	19.78	2.23	80.0	± 9.6 %
		Y	4.75	74.52	19.68		80.0	
		Z	3.49	71.39	18.37		80.0	
10495-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.90	69.39	18.01	2.23	80.0	± 9.6 %
		Y	4.16	69.65	18.06		80.0	
		Z	3.39	67.86	17.06		80.0	
10496-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.97	69.05	17.88	2.23	80.0	± 9.6 %
		Y	4.22	69.30	17.94		80.0	
		Z	3.47	67.65	16.99		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.87	72.14	16.05	2.23	80.0	± 9.6 %
		Y	3.23	72.92	16.83		80.0	
		Z	1.19	62.14	10.12		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.73	63.11	10.85	2.23	80.0	± 9.6 %
		Y	2.27	65.45	12.56		80.0	
		Z	1.15	60.00	7.68		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.65	62.30	10.28	2.23	80.0	± 9.6 %
		Y	2.18	64.69	12.05		80.0	
		Z	1.17	60.00	7.51		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.87	75.87	20.03	2.23	80.0	± 9.6 %
		Y	4.07	75.40	19.81		80.0	
		Z	2.80	71.83	17.80		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.57	71.05	17.60	2.23	80.0	± 9.6 %
		Y	3.78	70.97	17.70		80.0	
		Z	2.79	68.23	15.59		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.61	70.84	17.44	2.23	80.0	± 9.6 %
		Y	3.84	70.79	17.56		80.0	
		Z	2.82	68.03	15.41		80.0	
10503-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.87	74.62	19.92	2.23	80.0	± 9.6 %
		Y	4.15	74.55	19.77		80.0	
		Z	2.95	71.29	18.21		80.0	
10504-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.57	70.04	17.95	2.23	80.0	± 9.6 %
		Y	3.80	70.13	17.99		80.0	
		Z	3.01	68.26	16.69		80.0	
10505-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.64	69.79	17.85	2.23	80.0	± 9.6 %
		Y	3.88	69.88	17.89		80.0	
		Z	3.09	68.12	16.62		80.0	
10506-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.39	74.26	19.71	2.23	80.0	± 9.6 %
		Y	4.71	74.37	19.61		80.0	
		Z	3.46	71.26	18.30		80.0	
10507-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.89	69.33	17.97	2.23	80.0	± 9.6 %
		Y	4.14	69.59	18.03		80.0	
		Z	3.38	67.80	17.02		80.0	

10508-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.95	68.98	17.84	2.23	80.0	± 9.6 %
		Y	4.21	69.23	17.90		80.0	
		Z	3.46	67.59	16.95		80.0	
10509-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.62	72.40	18.91	2.23	80.0	± 9.6 %
		Y	4.92	72.59	18.86		80.0	
		Z	3.86	70.20	17.85		80.0	
10510-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.34	68.87	17.84	2.23	80.0	± 9.6 %
		Y	4.61	69.18	17.91		80.0	
		Z	3.85	67.53	17.06		80.0	
10511-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.39	68.57	17.74	2.23	80.0	± 9.6 %
		Y	4.65	68.86	17.81		80.0	
		Z	3.92	67.35	17.00		80.0	
10512-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.95	74.43	19.59	2.23	80.0	± 9.6 %
		Y	5.29	74.60	19.52		80.0	
		Z	3.97	71.52	18.28		80.0	
10513-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.24	69.19	17.98	2.23	80.0	± 9.6 %
		Y	4.52	69.55	18.06		80.0	
		Z	3.73	67.67	17.13		80.0	
10514-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.25	68.69	17.82	2.23	80.0	± 9.6 %
		Y	4.51	69.03	17.90		80.0	
		Z	3.78	67.33	17.02		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.99	63.46	15.00	0.00	150.0	± 9.6 %
		Y	0.98	62.78	14.45		150.0	
		Z	0.99	63.59	14.96		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.69	72.54	18.63	0.00	150.0	± 9.6 %
		Y	0.56	68.11	16.08		150.0	
		Z	0.67	72.15	18.45		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.85	65.62	15.80	0.00	150.0	± 9.6 %
		Y	0.82	64.42	14.91		150.0	
		Z	0.84	65.62	15.72		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.53	66.80	16.29	0.00	150.0	± 9.6 %
		Y	4.59	66.58	16.17		150.0	
		Z	4.39	66.94	16.26		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.71	67.02	16.40	0.00	150.0	± 9.6 %
		Y	4.78	66.84	16.30		150.0	
		Z	4.54	67.11	16.34		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.56	66.98	16.32	0.00	150.0	± 9.6 %
		Y	4.63	66.80	16.22		150.0	
		Z	4.40	67.05	16.26		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.49	66.97	16.31	0.00	150.0	± 9.6 %
		Y	4.56	66.79	16.20		150.0	
		Z	4.33	67.02	16.25		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.56	67.08	16.40	0.00	150.0	± 9.6 %
		Y	4.62	66.86	16.28		150.0	
		Z	4.38	67.14	16.34		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.44	66.96	16.26	0.00	150.0	± 9.6 %
		Y	4.50	66.72	16.12		150.0	
		Z	4.31	67.14	16.26		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.50	67.00	16.37	0.00	150.0	± 9.6 %
		Y	4.57	66.78	16.25		150.0	
		Z	4.33	67.10	16.33		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.49	66.06	15.96	0.00	150.0	± 9.6 %
		Y	4.54	65.82	15.83		150.0	
		Z	4.36	66.21	15.95		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.65	66.41	16.10	0.00	150.0	± 9.6 %
		Y	4.72	66.20	15.98		150.0	
		Z	4.49	66.49	16.07		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.58	66.37	16.05	0.00	150.0	± 9.6 %
		Y	4.64	66.16	15.92		150.0	
		Z	4.42	66.47	16.01		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.59	66.39	16.08	0.00	150.0	± 9.6 %
		Y	4.65	66.18	15.96		150.0	
		Z	4.43	66.48	16.04		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.59	66.39	16.08	0.00	150.0	± 9.6 %
		Y	4.65	66.18	15.96		150.0	
		Z	4.43	66.48	16.04		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.58	66.48	16.09	0.00	150.0	± 9.6 %
		Y	4.65	66.29	15.97		150.0	
		Z	4.40	66.51	16.02		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.44	66.34	16.02	0.00	150.0	± 9.6 %
		Y	4.51	66.14	15.90		150.0	
		Z	4.28	66.37	15.96		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.60	66.44	16.07	0.00	150.0	± 9.6 %
		Y	4.66	66.22	15.94		150.0	
		Z	4.44	66.56	16.05		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.13	66.46	16.12	0.00	150.0	± 9.6 %
		Y	5.19	66.32	16.03		150.0	
		Z	4.99	66.46	16.09		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.20	66.64	16.21	0.00	150.0	± 9.6 %
		Y	5.25	66.49	16.10		150.0	
		Z	5.03	66.59	16.15		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.07	66.60	16.17	0.00	150.0	± 9.6 %
		Y	5.12	66.44	16.06		150.0	
		Z	4.92	66.60	16.13		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.12	66.56	16.15	0.00	150.0	± 9.6 %
		Y	5.18	66.41	16.05		150.0	
		Z	4.98	66.58	16.13		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.21	66.56	16.19	0.00	150.0	± 9.6 %
		Y	5.28	66.45	16.11		150.0	
		Z	5.05	66.54	16.15		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.14	66.58	16.22	0.00	150.0	± 9.6 %
		Y	5.20	66.45	16.12		150.0	
		Z	4.98	66.51	16.15		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.12	66.46	16.14	0.00	150.0	± 9.6 %
		Y	5.18	66.32	16.05		150.0	
		Z	4.96	66.43	16.09		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.27	66.53	16.19	0.00	150.0	± 9.6 %
		Y	5.33	66.40	16.10		150.0	
		Z	5.12	66.52	16.15		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.34	66.55	16.23	0.00	150.0	± 9.6 %
		Y	5.41	66.44	16.14		150.0	
		Z	5.19	66.58	16.21		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.45	66.57	16.12	0.00	150.0	± 9.6 %
		Y	5.49	66.44	16.03		150.0	
		Z	5.33	66.54	16.08		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.64	66.98	16.28	0.00	150.0	± 9.6 %
		Y	5.69	66.86	16.18		150.0	
		Z	5.50	66.96	16.25		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.50	66.75	16.18	0.00	150.0	± 9.6 %
		Y	5.56	66.68	16.11		150.0	
		Z	5.36	66.66	16.11		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.57	66.80	16.19	0.00	150.0	± 9.6 %
		Y	5.64	66.72	16.12		150.0	
		Z	5.44	66.76	16.16		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.80	67.67	16.61	0.00	150.0	± 9.6 %
		Y	5.91	67.72	16.59		150.0	
		Z	5.58	67.38	16.44		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.54	66.80	16.21	0.00	150.0	± 9.6 %
		Y	5.59	66.67	16.11		150.0	
		Z	5.42	66.83	16.21		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.54	66.82	16.18	0.00	150.0	± 9.6 %
		Y	5.59	66.72	16.10		150.0	
		Z	5.36	66.63	16.07		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.46	66.64	16.10	0.00	150.0	± 9.6 %
		Y	5.51	66.51	16.00		150.0	
		Z	5.34	66.66	16.08		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.54	66.66	16.14	0.00	150.0	± 9.6 %
		Y	5.59	66.56	16.06		150.0	
		Z	5.39	66.61	16.09		150.0	
10554-AAB	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.86	66.92	16.20	0.00	150.0	± 9.6 %
		Y	5.89	66.81	16.12		150.0	
		Z	5.75	66.87	16.15		150.0	
10555-AAB	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.98	67.22	16.33	0.00	150.0	± 9.6 %
		Y	6.03	67.12	16.25		150.0	
		Z	5.84	67.10	16.25		150.0	
10556-AAB	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.00	67.27	16.35	0.00	150.0	± 9.6 %
		Y	6.05	67.16	16.27		150.0	
		Z	5.88	67.20	16.30		150.0	
10557-AAB	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.96	67.16	16.31	0.00	150.0	± 9.6 %
		Y	6.02	67.08	16.25		150.0	
		Z	5.84	67.08	16.25		150.0	

10558-AAB	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.01	67.32	16.41	0.00	150.0	± 9.6 %
		Y	6.07	67.25	16.34		150.0	
		Z	5.85	67.15	16.31		150.0	
10560-AAB	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.01	67.17	16.37	0.00	150.0	± 9.6 %
		Y	6.06	67.10	16.31		150.0	
		Z	5.87	67.07	16.30		150.0	
10561-AAB	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.93	67.15	16.40	0.00	150.0	± 9.6 %
		Y	5.98	67.06	16.32		150.0	
		Z	5.80	67.05	16.32		150.0	
10562-AAB	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.04	67.49	16.57	0.00	150.0	± 9.6 %
		Y	6.12	67.48	16.53		150.0	
		Z	5.85	67.23	16.41		150.0	
10563-AAB	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.18	67.55	16.56	0.00	150.0	± 9.6 %
		Y	6.43	68.00	16.75		150.0	
		Z	5.95	67.17	16.35		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.86	66.88	16.45	0.46	150.0	± 9.6 %
		Y	4.92	66.69	16.36		150.0	
		Z	4.71	66.96	16.39		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.08	67.30	16.76	0.46	150.0	± 9.6 %
		Y	5.16	67.15	16.67		150.0	
		Z	4.90	67.36	16.69		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.91	67.15	16.58	0.46	150.0	± 9.6 %
		Y	4.99	67.00	16.50		150.0	
		Z	4.74	67.18	16.50		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.94	67.52	16.92	0.46	150.0	± 9.6 %
		Y	5.01	67.38	16.84		150.0	
		Z	4.77	67.57	16.87		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.83	66.96	16.38	0.46	150.0	± 9.6 %
		Y	4.90	66.77	16.27		150.0	
		Z	4.63	66.92	16.25		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.90	67.63	17.00	0.46	150.0	± 9.6 %
		Y	4.96	67.44	16.88		150.0	
		Z	4.75	67.78	17.00		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.93	67.48	16.92	0.46	150.0	± 9.6 %
		Y	5.00	67.29	16.82		150.0	
		Z	4.76	67.58	16.89		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.18	64.69	15.93	0.46	130.0	± 9.6 %
		Y	1.20	64.37	15.58		130.0	
		Z	1.13	64.22	15.49		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.19	65.27	16.29	0.46	130.0	± 9.6 %
		Y	1.21	64.91	15.92		130.0	
		Z	1.14	64.74	15.83		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	2.77	92.16	26.12	0.46	130.0	± 9.6 %
		Y	1.86	83.27	22.47		130.0	
		Z	1.57	83.20	23.00		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.31	71.26	19.39	0.46	130.0	± 9.6 %
		Y	1.31	70.26	18.63		130.0	
		Z	1.20	70.00	18.67		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.67	16.51	0.46	130.0	± 9.6 %
		Y	4.71	66.50	16.43		130.0	
		Z	4.47	66.69	16.39		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.83	16.58	0.46	130.0	± 9.6 %
		Y	4.73	66.66	16.49		130.0	
		Z	4.50	66.89	16.47		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	67.11	16.74	0.46	130.0	± 9.6 %
		Y	4.94	66.97	16.66		130.0	
		Z	4.67	67.12	16.61		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.76	67.25	16.83	0.46	130.0	± 9.6 %
		Y	4.84	67.12	16.76		130.0	
		Z	4.57	67.26	16.72		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.57	16.17	0.46	130.0	± 9.6 %
		Y	4.61	66.44	16.10		130.0	
		Z	4.33	66.48	15.99		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.57	66.63	16.21	0.46	130.0	± 9.6 %
		Y	4.66	66.47	16.12		130.0	
		Z	4.36	66.53	16.01		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.65	67.30	16.78	0.46	130.0	± 9.6 %
		Y	4.73	67.15	16.70		130.0	
		Z	4.48	67.34	16.69		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.47	66.35	15.97	0.46	130.0	± 9.6 %
		Y	4.56	66.21	15.89		130.0	
		Z	4.26	66.25	15.78		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.67	16.51	0.46	130.0	± 9.6 %
		Y	4.71	66.50	16.43		130.0	
		Z	4.47	66.69	16.39		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.83	16.58	0.46	130.0	± 9.6 %
		Y	4.73	66.66	16.49		130.0	
		Z	4.50	66.89	16.47		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	67.11	16.74	0.46	130.0	± 9.6 %
		Y	4.94	66.97	16.66		130.0	
		Z	4.67	67.12	16.61		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.76	67.25	16.83	0.46	130.0	± 9.6 %
		Y	4.84	67.12	16.76		130.0	
		Z	4.57	67.26	16.72		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.57	16.17	0.46	130.0	± 9.6 %
		Y	4.61	66.44	16.10		130.0	
		Z	4.33	66.48	15.99		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.57	66.63	16.21	0.46	130.0	± 9.6 %
		Y	4.66	66.47	16.12		130.0	
		Z	4.36	66.53	16.01		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.65	67.30	16.78	0.46	130.0	± 9.6 %
		Y	4.73	67.15	16.70		130.0	
		Z	4.48	67.34	16.69		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.47	66.35	15.97	0.46	130.0	± 9.6 %
		Y	4.56	66.21	15.89		130.0	
		Z	4.26	66.25	15.78		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.79	66.72	16.61	0.46	130.0	± 9.6 %
		Y	4.86	66.57	16.53		130.0	
		Z	4.63	66.78	16.50		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.94	67.05	16.74	0.46	130.0	± 9.6 %
		Y	5.02	66.91	16.66		130.0	
		Z	4.75	67.07	16.63		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.86	66.96	16.62	0.46	130.0	± 9.6 %
		Y	4.94	66.83	16.55		130.0	
		Z	4.67	66.95	16.49		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.91	67.12	16.77	0.46	130.0	± 9.6 %
		Y	5.00	66.98	16.70		130.0	
		Z	4.72	67.12	16.65		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.88	67.08	16.67	0.46	130.0	± 9.6 %
		Y	4.96	66.94	16.59		130.0	
		Z	4.69	67.10	16.56		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.82	67.08	16.68	0.46	130.0	± 9.6 %
		Y	4.90	66.94	16.60		130.0	
		Z	4.62	67.07	16.55		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.77	66.98	16.56	0.46	130.0	± 9.6 %
		Y	4.85	66.85	16.49		130.0	
		Z	4.57	66.94	16.41		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.75	67.19	16.80	0.46	130.0	± 9.6 %
		Y	4.83	67.08	16.74		130.0	
		Z	4.56	67.16	16.67		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.46	67.23	16.81	0.46	130.0	± 9.6 %
		Y	5.53	67.13	16.74		130.0	
		Z	5.31	67.22	16.74		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.59	67.67	17.00	0.46	130.0	± 9.6 %
		Y	5.69	67.62	16.95		130.0	
		Z	5.40	67.56	16.88		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.48	67.41	16.88	0.46	130.0	± 9.6 %
		Y	5.56	67.33	16.83		130.0	
		Z	5.31	67.36	16.79		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.59	67.49	16.85	0.46	130.0	± 9.6 %
		Y	5.65	67.34	16.75		130.0	
		Z	5.41	67.42	16.75		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.65	67.74	17.10	0.46	130.0	± 9.6 %
		Y	5.74	67.66	17.04		130.0	
		Z	5.48	67.71	17.02		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.49	67.31	16.87	0.46	130.0	± 9.6 %
		Y	5.53	67.10	16.74		130.0	
		Z	5.37	67.37	16.83		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.58	67.57	17.01	0.46	130.0	± 9.6 %
		Y	5.65	67.44	16.92		130.0	
		Z	5.40	67.46	16.88		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.32	66.88	16.52	0.46	130.0	± 9.6 %
		Y	5.42	66.88	16.50		130.0	
		Z	5.18	66.90	16.45		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.63	66.06	16.24	0.46	130.0	± 9.6 %
		Y	4.69	65.87	16.14		130.0	
		Z	4.48	66.14	16.16		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.81	66.46	16.41	0.46	130.0	± 9.6 %
		Y	4.89	66.28	16.31		130.0	
		Z	4.62	66.47	16.30		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.70	66.31	16.25	0.46	130.0	± 9.6 %
		Y	4.78	66.14	16.15		130.0	
		Z	4.52	66.31	16.13		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.75	66.46	16.40	0.46	130.0	± 9.6 %
		Y	4.83	66.29	16.31		130.0	
		Z	4.57	66.47	16.29		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.67	66.27	16.25	0.46	130.0	± 9.6 %
		Y	4.74	66.11	16.17		130.0	
		Z	4.48	66.27	16.14		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.68	66.43	16.31	0.46	130.0	± 9.6 %
		Y	4.76	66.26	16.21		130.0	
		Z	4.47	66.40	16.18		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.68	66.30	16.19	0.46	130.0	± 9.6 %
		Y	4.76	66.16	16.10		130.0	
		Z	4.47	66.22	16.03		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.62	66.47	16.40	0.46	130.0	± 9.6 %
		Y	4.70	66.33	16.32		130.0	
		Z	4.44	66.44	16.27		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.67	66.12	16.05	0.46	130.0	± 9.6 %
		Y	4.75	65.95	15.95		130.0	
		Z	4.48	66.11	15.92		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.28	66.50	16.42	0.46	130.0	± 9.6 %
		Y	5.35	66.40	16.35		130.0	
		Z	5.12	66.44	16.33		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.35	66.70	16.50	0.46	130.0	± 9.6 %
		Y	5.42	66.55	16.40		130.0	
		Z	5.16	66.57	16.37		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.24	66.70	16.51	0.46	130.0	± 9.6 %
		Y	5.30	66.57	16.42		130.0	
		Z	5.08	66.64	16.42		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.25	66.50	16.35	0.46	130.0	± 9.6 %
		Y	5.33	66.41	16.28		130.0	
		Z	5.09	66.45	16.26		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.34	66.53	16.41	0.46	130.0	± 9.6 %
		Y	5.42	66.46	16.35		130.0	
		Z	5.16	66.45	16.31		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.34	66.65	16.59	0.46	130.0	± 9.6 %
		Y	5.41	66.55	16.51		130.0	
		Z	5.17	66.56	16.48		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.35	66.81	16.66	0.46	130.0	± 9.6 %
		Y	5.42	66.71	16.59		130.0	
		Z	5.16	66.65	16.52		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.23	66.36	16.32	0.46	130.0	± 9.6 %
		Y	5.30	66.25	16.24		130.0	
		Z	5.05	66.22	16.17		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.42	66.55	16.47	0.46	130.0	± 9.6 %
		Y	5.50	66.45	16.40		130.0	
		Z	5.25	66.47	16.36		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.75	67.41	16.95	0.46	130.0	± 9.6 %
		Y	5.89	67.51	16.98		130.0	
		Z	5.34	66.63	16.50		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.59	66.56	16.38	0.46	130.0	± 9.6 %
		Y	5.64	66.46	16.31		130.0	
		Z	5.45	66.47	16.28		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.82	67.13	16.63	0.46	130.0	± 9.6 %
		Y	5.88	67.03	16.55		130.0	
		Z	5.67	67.05	16.54		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.61	66.64	16.32	0.46	130.0	± 9.6 %
		Y	5.68	66.59	16.27		130.0	
		Z	5.44	66.46	16.18		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.69	66.69	16.34	0.46	130.0	± 9.6 %
		Y	5.78	66.69	16.31		130.0	
		Z	5.54	66.62	16.26		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.09	68.10	17.05	0.46	130.0	± 9.6 %
		Y	6.25	68.29	17.11		130.0	
		Z	5.78	67.54	16.72		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	5.99	67.90	17.13	0.46	130.0	± 9.6 %
		Y	6.12	67.99	17.15		130.0	
		Z	5.75	67.56	16.92		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.79	67.18	16.78	0.46	130.0	± 9.6 %
		Y	5.85	67.07	16.70		130.0	
		Z	5.67	67.21	16.76		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.68	66.80	16.43	0.46	130.0	± 9.6 %
		Y	5.74	66.74	16.37		130.0	
		Z	5.48	66.57	16.27		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.66	66.82	16.49	0.46	130.0	± 9.6 %
		Y	5.73	66.76	16.44		130.0	
		Z	5.50	66.72	16.40		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.54	66.19	15.93	0.46	130.0	± 9.6 %
		Y	5.62	66.14	15.87		130.0	
		Z	5.36	66.00	15.77		130.0	
10636-AAB	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.00	66.92	16.46	0.46	130.0	± 9.6 %
		Y	6.05	66.85	16.41		130.0	
		Z	5.88	66.82	16.36		130.0	
10637-AAB	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.16	67.31	16.64	0.46	130.0	± 9.6 %
		Y	6.21	67.23	16.58		130.0	
		Z	6.00	67.12	16.50		130.0	
10638-AAB	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.16	67.28	16.60	0.46	130.0	± 9.6 %
		Y	6.21	67.20	16.54		130.0	
		Z	6.02	67.18	16.51		130.0	

10639-AAB	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.13	67.21	16.61	0.46	130.0	± 9.6 %
		Y	6.20	67.17	16.57		130.0	
		Z	5.98	67.06	16.49		130.0	
10640-AAB	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.13	67.23	16.57	0.46	130.0	± 9.6 %
		Y	6.21	67.21	16.53		130.0	
		Z	5.95	66.98	16.40		130.0	
10641-AAB	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.19	67.17	16.55	0.46	130.0	± 9.6 %
		Y	6.24	67.06	16.48		130.0	
		Z	6.04	67.04	16.44		130.0	
10642-AAB	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.22	67.37	16.82	0.46	130.0	± 9.6 %
		Y	6.28	67.33	16.77		130.0	
		Z	6.06	67.23	16.70		130.0	
10643-AAB	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.06	67.09	16.58	0.46	130.0	± 9.6 %
		Y	6.12	67.02	16.52		130.0	
		Z	5.91	66.93	16.45		130.0	
10644-AAB	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.20	67.52	16.82	0.46	130.0	± 9.6 %
		Y	6.31	67.59	16.83		130.0	
		Z	5.97	67.13	16.57		130.0	
10645-AAB	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.41	67.77	16.91	0.46	130.0	± 9.6 %
		Y	6.76	68.49	17.23		130.0	
		Z	6.10	67.18	16.56		130.0	
10646-AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	32.54	128.38	44.23	9.30	60.0	± 9.6 %
		Y	33.21	124.21	42.28		60.0	
		Z	8.58	97.27	34.21		60.0	
10647-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	24.86	122.50	42.74	9.30	60.0	± 9.6 %
		Y	27.83	120.75	41.46		60.0	
		Z	7.33	94.04	33.20		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	0.71	63.99	11.07	0.00	150.0	± 9.6 %
		Y	0.72	63.38	11.01		150.0	
		Z	0.57	62.72	9.40		150.0	
10652-AAB	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.64	67.29	16.91	2.23	80.0	± 9.6 %
		Y	3.79	67.25	16.93		80.0	
		Z	3.31	66.63	16.20		80.0	
10653-AAB	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.13	66.44	16.95	2.23	80.0	± 9.6 %
		Y	4.30	66.53	16.99		80.0	
		Z	3.84	65.89	16.44		80.0	
10654-AAB	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.11	66.04	16.93	2.23	80.0	± 9.6 %
		Y	4.26	66.17	16.97		80.0	
		Z	3.86	65.50	16.46		80.0	
10655-AAB	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.17	66.02	16.96	2.23	80.0	± 9.6 %
		Y	4.32	66.18	17.01		80.0	
		Z	3.93	65.42	16.50		80.0	

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

APPENDIX D: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity ϵ' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

**Table D-I
Composition of the Tissue Equivalent Matter**

Frequency (MHz)	750	750	835	835	1750	1750	1900	1900	2450-2600	2450-2600	5200-5800	5200-5800
Tissue	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Ingredients (% by weight)												
Bactericide	See page 2-3	See page 2	0.1	0.1					See page 4		See page 5	
DGBE					47	31	44.92	29.44		26.7		
HEC			1	1								
NaCl			1.45	0.94	0.4	0.2	0.18	0.39		0.1		
Sucrose			57	44.9								
Polysorbate (Tween) 80												20
Water			40.45	53.06	52.6	68.8	54.9	70.17				80

FCC ID ZNFG710VM	PCTEST <small>ENGINEERING LABORATORY, INC.</small>	SAR EVALUATION REPORT	LG	Approved by: Quality Manager
Test Dates: 04/02/18 - 04/15/18	DUT Type: Portable Handset			APPENDIX D: Page 1 of 5

2 Composition / Information on ingredients

The Item is composed of the following ingredients:

H ₂ O	Water, 35 – 58%
Sucrose	Sugar, white, refined, 40 – 60%
NaCl	Sodium Chloride, 0 – 6%
Hydroxyethyl-cellulose	Medium Viscosity (CAS# 9004-62-0), <0.3%
Preventol-D7	Preservative: aqueous preparation, (CAS# 55965-84-9), containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyl-3(2H)-isothiazolone, 0.1 – 0.7%

Relevant for safety; Refer to the respective Safety Data Sheet*.

Figure D-1
Composition of 750 MHz Head and Body Tissue Equivalent Matter

Note: 750MHz liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

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s p e a g

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Measurement Certificate / Material Test

Item Name	Body Tissue Simulating Liquid (MSL750V2)
Product No.	SL AAM 075 AA (Batch: 170608-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation

Validation results were within $\pm 2.5\%$ towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

Ambient Environment temperatur (22 \pm 3)^oC and humidity < 70%.
TSL Temperature 22^oC
Test Date 20-Jun-17
Operator CL

Additional Information

TSL Density 1.212 g/cm³
TSL Heat-capacity 3.006 kJ/(kg^oK)

f (MHz)	Measured			Target		Diff.to Target [%]	
	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	57.3	25.02	0.84	56.1	0.95	2.2	-12.2
625	57.1	24.67	0.86	56.0	0.95	1.9	-10.1
650	56.8	24.32	0.88	55.9	0.96	1.6	-8.0
675	56.6	24.02	0.90	55.8	0.96	1.3	-5.8
700	56.3	23.71	0.92	55.7	0.96	1.1	-3.8
725	56.1	23.48	0.95	55.6	0.96	0.8	-1.5
750	55.9	23.25	0.97	55.5	0.96	0.6	0.7
775	55.6	23.04	0.99	55.4	0.97	0.3	2.9
800	55.4	22.82	1.02	55.3	0.97	0.1	5.0
825	55.2	22.65	1.04	55.2	0.98	-0.1	6.3
838	55.1	22.56	1.05	55.2	0.98	-0.3	6.9
850	54.9	22.47	1.06	55.2	0.99	-0.4	7.5
875	54.7	22.34	1.09	55.1	1.02	-0.7	6.7
900	54.5	22.21	1.11	55.0	1.05	-0.9	5.9
925	54.3	22.08	1.14	55.0	1.06	-1.3	6.9
950	54.1	21.95	1.16	54.9	1.08	-1.6	7.9
975	53.8	21.86	1.19	54.9	1.09	-1.9	9.1
1000	53.6	21.76	1.21	54.8	1.10	-2.2	10.2

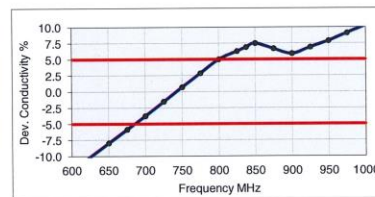
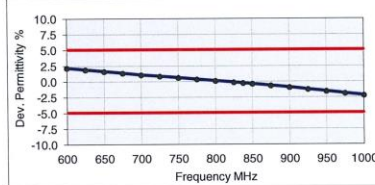




Figure D-2
750MHz Body Tissue Equivalent Matter

FCC ID ZNFG710VM		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 04/02/18 - 04/15/18	DUT Type: Portable Handset			APPENDIX D: Page 2 of 5

Measurement Certificate / Material Test

Item Name	Head Tissue Simulating Liquid (HSL750V2)
Product No.	SL AAH 075 AA (Batch: 170612-4)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Setup ValidationValidation results were within $\pm 2.5\%$ towards the target values of Methanol.**Target Parameters**

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	20-Jun-17
Operator	CL

Additional Information

TSL Density	1.284 g/cm ³
TSL Heat-capacity	2.701 kJ/(kg*K)

f [MHz]	Measured			Target		Diff. to Target [%]	
	e'	e''	sigma	eps	sigma	Δ -eps	Δ -sigma
600	45.6	22.97	0.77	42.7	0.88	6.7	-13.1
625	45.2	22.73	0.79	42.6	0.88	6.2	-10.6
650	44.9	22.49	0.81	42.5	0.89	5.6	-8.2
675	44.5	22.27	0.84	42.3	0.89	5.1	-5.8
700	44.2	22.05	0.86	42.2	0.89	4.6	-3.5
725	43.8	21.88	0.88	42.1	0.89	4.2	-1.0
750	43.5	21.72	0.91	41.9	0.89	3.8	1.4
775	43.2	21.55	0.93	41.8	0.90	3.4	3.7
800	42.9	21.38	0.95	41.7	0.90	2.9	6.0
825	42.6	21.24	0.97	41.6	0.91	2.4	7.5
838	42.5	21.17	0.99	41.5	0.91	2.2	8.2
850	42.3	21.09	1.00	41.5	0.92	2.0	8.9
875	42.0	20.98	1.02	41.5	0.94	1.2	8.3
900	41.7	20.87	1.05	41.5	0.97	0.5	7.7
925	41.5	20.76	1.07	41.5	0.98	0.0	8.7
950	41.2	20.64	1.09	41.4	0.99	-0.6	9.7
975	40.9	20.55	1.11	41.4	1.00	-1.1	10.9
1000	40.6	20.46	1.14	41.3	1.01	-1.7	12.1

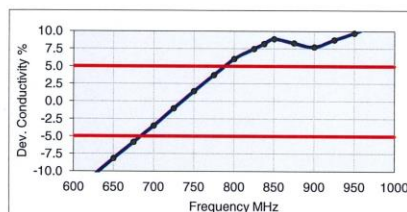
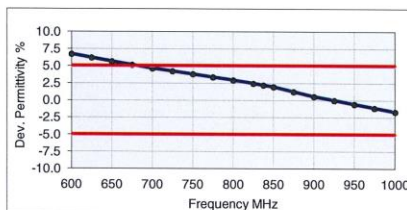




Figure D-3
750MHz Head Tissue Equivalent Matter

FCC ID ZNFG710VM		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 04/02/18 - 04/15/18	DUT Type: Portable Handset			APPENDIX D: Page 3 of 5

3 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	50 – 73 %	
Non-ionic detergents	25 – 50 %	polyoxyethylenesorbitan monolaurate
NaCl	0 – 2 %	
Preservative	0.05 – 0.1 %	Preventol-D7

Safety relevant ingredients:

CAS-No. 55965-84-9	< 0.1 %	aqueous preparation, containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyl-3(2H)-isothiazolone
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CAS-No. 9005-64-5	<50 %	polyoxyethylenesorbitan monolaurate
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According to international guidelines, the product is not a dangerous mixture and therefore not required to be marked by symbols.

Figure D-4
Composition of 2.4-2.6 GHz Head Tissue Equivalent Matter

Note: 2.4-2.6 GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

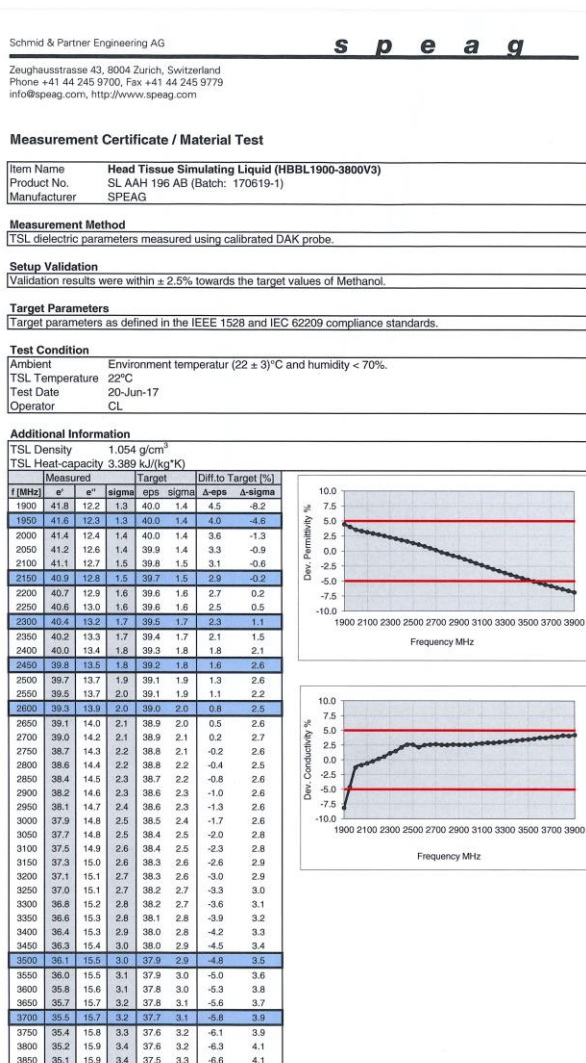


Figure D-5
2.4-2.6 GHz Head Tissue Equivalent Matter

FCC ID ZNFG710VM		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 04/02/18 - 04/15/18	DUT Type: Portable Handset			APPENDIX D: Page 4 of 5

2 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	50 – 65%
Mineral oil	10 – 30%
Emulsifiers	8 – 25%
Sodium salt	0 – 1.5%

Figure D-6

Composition of 5 GHz Head Tissue Equivalent Matter

Note: 5GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

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Measurement Certificate / Material Test

Item Name	Head Tissue Simulating Liquid (HBBL3500-5800V5)
Product No.	SL AAH 502 AG (Batch: 170613-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation

Validation results were within $\pm 2.5\%$ towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

Ambient Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature 22°C
Test Date 20-Jun-17
Operator CL

Additional Information

TSL Density 0.985 g/cm³
TSL Heat-capacity 3.383 kJ/(kg·K)

f [MHz]	Measured			Target			Diff to Target [%]	
	ϵ'	ϵ''	sigma	eps	sigma	$\Delta\text{-eps}$	$\Delta\text{-sigma}$	
3400	38.6	15.03	2.84	38.0	2.81	1.5	1.1	
3500	38.5	15.00	2.92	37.9	2.91	1.5	0.3	
3600	38.3	14.98	3.00	37.8	3.02	1.3	-0.5	
3700	38.2	14.96	3.08	37.7	3.12	1.3	-1.2	
3800	38.1	14.96	3.16	37.6	3.22	1.4	-1.9	
3900	38.0	14.95	3.24	37.5	3.32	1.4	-2.5	
4000	37.9	14.95	3.33	37.4	3.43	1.5	-2.8	
4100	37.8	14.96	3.41	37.2	3.53	1.5	-3.3	
4200	37.6	15.00	3.50	37.1	3.63	1.3	-3.6	
4300	37.5	15.05	3.60	37.0	3.73	1.3	-3.5	
4400	37.4	15.11	3.70	36.9	3.84	1.4	-3.5	
4500	37.2	15.18	3.80	36.8	3.94	1.1	-3.5	
4600	37.1	15.24	3.90	36.7	4.04	1.2	-3.5	
4700	37.0	15.29	4.00	36.6	4.14	1.2	-3.4	
4800	36.8	15.35	4.10	36.4	4.25	1.0	-3.4	
4850	36.8	15.35	4.14	36.4	4.30	1.1	-3.6	
4900	36.7	15.38	4.19	36.3	4.35	1.0	-3.6	
4950	36.6	15.39	4.24	36.3	4.40	0.9	-3.6	
5000	36.5	15.42	4.29	36.2	4.45	0.8	-3.6	
5050	36.5	15.43	4.34	36.2	4.50	0.9	-3.6	
5100	36.4	15.46	4.39	36.1	4.55	0.8	-3.6	
5150	36.3	15.48	4.43	36.0	4.60	0.7	-3.8	
5200	36.2	15.50	4.48	36.0	4.66	0.6	-3.8	
5250	36.1	15.53	4.54	35.9	4.71	0.5	-3.5	
5300	36.1	15.55	4.58	35.9	4.76	0.6	-3.7	
5350	36.0	15.56	4.63	35.8	4.81	0.5	-3.7	
5400	35.9	15.57	4.68	35.8	4.86	0.4	-3.7	
5450	35.9	15.59	4.73	35.7	4.91	0.6	-3.7	
5500	35.8	15.61	4.78	35.6	4.96	0.4	-3.7	
5550	35.7	15.65	4.83	35.6	5.01	0.3	-3.7	
5600	35.6	15.66	4.88	35.5	5.07	0.2	-3.7	
5650	35.6	15.70	4.93	35.5	5.12	0.4	-3.6	
5700	35.5	15.72	4.98	35.4	5.17	0.2	-3.6	
5750	35.4	15.76	5.04	35.4	5.22	0.1	-3.4	
5800	35.4	15.78	5.09	35.3	5.27	0.3	-3.4	
5850	35.3	15.81	5.14	35.3	5.34	0.0	-3.7	
5900	35.3	15.82	5.19	35.3	5.40	0.0	-3.9	

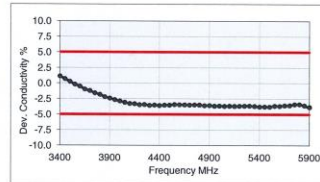
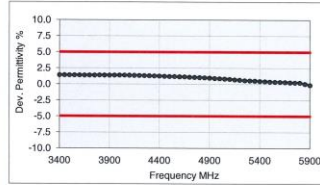




Figure D-7

5GHz Head Tissue Equivalent Matter

FCC ID ZNFG710VM		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 04/02/18 - 04/15/18	DUT Type: Portable Handset			APPENDIX D: Page 5 of 5

APPENDIX E: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.



Table E-1
SAR System Validation Summary – 1g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND.	PERM.	CW VALIDATION			MOD. VALIDATION		
							(σ)	(ϵ_r)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
J	750	4/12/2018	3914	ES3DV3	750	Head	0.904	41.090	PASS	PASS	PASS	N/A	N/A	N/A
E	835	3/5/2018	3213	ES3DV3	835	Head	0.925	43.335	PASS	PASS	PASS	GMSK	PASS	N/A
H	1750	8/30/2017	7410	EX3DV4	1750	Head	1.395	38.864	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	3/15/2018	3914	EX3DV4	1900	Head	1.439	39.507	PASS	PASS	PASS	GMSK	PASS	N/A
G	2450	10/16/2017	3332	ES3DV3	2450	Head	1.880	38.615	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
G	2600	10/16/2017	3332	ES3DV3	2600	Head	2.051	38.039	PASS	PASS	PASS	TDD	PASS	N/A
H	5250	1/31/2018	3589	EX3DV4	5250	Head	4.516	36.066	PASS	PASS	PASS	OFDM	N/A	PASS
H	5600	1/31/2018	3589	EX3DV4	5600	Head	4.869	35.597	PASS	PASS	PASS	OFDM	N/A	PASS
H	5750	1/31/2018	3589	EX3DV4	5750	Head	5.112	35.351	PASS	PASS	PASS	OFDM	N/A	PASS
I	750	3/6/2018	3287	ES3DV3	750	Body	0.951	56.970	PASS	PASS	PASS	N/A	N/A	N/A
E	835	3/16/2018	3213	ES3DV3	835	Body	0.968	53.713	PASS	PASS	PASS	GMSK	PASS	N/A
I	1750	3/12/2018	3287	ES3DV3	1750	Body	1.462	52.350	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	3/9/2018	3914	EX3DV4	1900	Body	1.533	53.731	PASS	PASS	PASS	GMSK	PASS	N/A
K	2450	4/3/2018	3319	ES3DV3	2450	Body	2.043	51.130	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	4/3/2018	3319	ES3DV3	2600	Body	2.225	50.665	PASS	PASS	PASS	TDD	PASS	N/A
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS
D	5750	10/24/2017	7308	EX3DV4	5750	Body	6.135	47.546	PASS	PASS	PASS	OFDM	N/A	PASS

Table E-2
SAR System Validation Summary – 10g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND.	PERM.	CW VALIDATION			MOD. VALIDATION		
							(σ)	(ϵ_r)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	1750	3/12/2018	3287	ES3DV3	1750	Body	1.462	52.350	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	3/9/2018	3914	EX3DV4	1900	Body	1.533	53.731	PASS	PASS	PASS	GMSK	PASS	N/A
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

FCC ID ZNFG710VM		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 04/02/18 - 04/15/18	DUT Type: Portable Handset			APPENDIX E: Page 1 of 1

APPENDIX G: POWER REDUCTION VERIFICATION

Per the May 2017 TCBC Workshop Notes, demonstration of proper functioning of the power reduction mechanisms is required to support the corresponding SAR configurations. The verification process was divided into two parts: (1) evaluation of output power levels for individual or multiple triggering mechanisms and (2) evaluation of the triggering distances for proximity-based sensors.

1.1 Power Verification Procedure



The power verification was performed according to the following procedure:

1. A base station simulator was used to establish a conducted RF connection and the output power was monitored. The power measurements were confirmed to be within expected tolerances for all states before and after a power reduction mechanism was triggered.
2. Step 1 was repeated for all relevant modes and frequency bands for the mechanism being investigated.
3. Steps 1 and 2 were repeated for all individual power reduction mechanisms and combinations thereof. For the combination cases, one mechanism was switched to a 'triggered' state at a time; powers were confirmed to be within tolerances after each additional mechanism was activated.

1.2 Distance Verification Procedure

The distance verification procedure was performed according to the following procedure:

1. A base station simulator was used to establish an RF connection and to monitor the power levels. The device being tested was placed below the relevant section of the phantom with the relevant side or edge of the device facing toward the phantom.
2. The device was moved toward and away from the phantom to determine the distance at which the mechanism triggers and the output power is reduced, per KDB Publication 616217 D04v01r02 and FCC Guidance. Each applicable test position was evaluated. The distances were confirmed to be the same or larger (more conservative) than the minimum distances provided by the manufacturer.
3. Steps 1 and 2 were repeated for all relevant frequency bands.
4. Steps 1 through 3 were repeated for all distance-based power reduction mechanisms.

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1.3 Main Antenna Verification Summary

**Table G-1
Power Measurement Verification for Main Antenna**

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
		Un-triggered (Max)	Mechanism #1 (Reduced)
Proximity Sensor	UMTS B4	25.18	24.12
Proximity Sensor	UMTS B2	25.27	24.33
Proximity Sensor	CDMA BC1	24.75	23.78
Proximity Sensor	LTE B4	25.12	24.13
Proximity Sensor	LTE B66	25.19	24.16
Proximity Sensor	LTE B2	24.86	23.75
Proximity Sensor	LTE B25	24.93	24.01

**Table G-2
Distance Measurement Verification for Main Antenna**

Mechanism(s)	Test Condition	Band	Distance Measurements (mm)		Minimum Distance per Manufacturer (mm)
			Moving Toward	Moving Away	
Proximity Sensor	Phablet - Back Side	Mid	8	11	6
Proximity Sensor	Phablet - Front Side	Mid	4	6	3
Proximity Sensor	Phablet - Bottom Edge	Mid	8	10	7



*Note: Mid band refers to: CDMA BC1, UMTS B2/4, LTE B2/4/25/66

1.4 WIFI Verification Summary

**Table G-3
Power Measurement Verification WIFI**

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
		Un-triggered (Max)	Mechanism #1 (Reduced)
Held-to-Ear	802.11b	20.13	16.98
Held-to-Ear	802.11g	18.95	16.63
Held-to-Ear	802.11n (2.4GHz)	17.65	16.55

*Note: 802.11ac (2.4 GHz) was not capable of being measured due to equipment limitations.

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APPENDIX H: 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 FCC Guidance, 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 1 – Example of Exclusion Table for SISO Configurations

Index	ACC	Supported Channel Bandwidth (MHz)				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
CCC#1	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#1	No
CCC#2	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#2	No
CCC#3	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#3	No
CCC#4	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#4	No
CCC#5	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#5	No
CCC#6	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#6	No
CCC#7	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#7	No
CCC#8	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#8	No
CCC#9	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#9	No
CCC#10	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#10	No
CCC#11	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#11	No
CCC#12	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#12	No
CCC#13	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#13	No
CCC#14	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#14	No
CCC#15	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#15	No
CCC#16	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#16	No
CCC#17	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#17	No
CCC#18	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#18	No
CCC#19	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#19	No
CCC#20	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#20	No
CCC#21	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#21	No
CCC#22	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#22	No
CCC#23	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#23	No
CCC#24	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#24	No
CCC#25	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#25	No
CCC#26	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#26	No
CCC#27	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#27	No
CCC#28	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#28	No
CCC#29	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#29	No
CCC#30	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#30	No
CCC#31	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#31	No
CCC#32	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#32	No
CCC#33	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#33	No
CCC#34	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#34	No
CCC#35	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#35	No
CCC#36	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#36	No
CCC#37	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#37	No
CCC#38	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#38	No
CCC#39	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#39	No
CCC#40	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#40	No
CCC#41	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#41	No
CCC#42	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#42	No
CCC#43	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#43	No
CCC#44	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#44	No
CCC#45	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#45	No
CCC#46	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#46	No
CCC#47	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#47	No
CCC#48	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#48	No
CCC#49	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#49	No
CCC#50	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#50	No
CCC#51	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#51	No
CCC#52	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#52	No
CCC#53	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#53	No
CCC#54	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#54	No
CCC#55	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#55	No
CCC#56	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#56	No
CCC#57	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#57	No
CCC#58	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#58	No
CCC#59	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#59	No
CCC#60	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#60	No
CCC#61	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#61	No
CCC#62	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#62	No
CCC#63	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#63	No
CCC#64	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#64	No
CCC#65	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#65	No
CCC#66	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#66	No
CCC#67	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#67	No
CCC#68	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#68	No
CCC#69	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#69	No
CCC#70	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#70	No
CCC#71	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#71	No
CCC#72	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#72	No
CCC#73	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#73	No
CCC#74	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#74	No
CCC#75	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#75	No
CCC#76	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#76	No
CCC#77	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#77	No
CCC#78	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#78	No
CCC#79	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#79	No
CCC#80	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#80	No
CCC#81	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#81	No
CCC#82	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#82	No
CCC#83	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#83	No
CCC#84	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#84	No
CCC#85	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#85	No
CCC#86	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#86	No
CCC#87	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#87	No
CCC#88	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#88	No
CCC#89	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#89	No
CCC#90	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#90	No
CCC#91	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#91	No
CCC#92	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#92	No
CCC#93	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#93	No
CCC#94	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#94	No
CCC#95	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#95	No
CCC#96	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#96	No
CCC#97	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#97	No
CCC#98	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#98	No
CCC#99	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#99	No
CCC#100	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#100	No

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

Index	ACC	Supported Channel Bandwidth (MHz)			Restriction	Completely Covered by Measurement Superset	
		CC1	CC2	CC3			
CCC#M1	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M1	No
CCC#M2	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M2	No
CCC#M3	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M3	No
CCC#M4	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M4	No
CCC#M5	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M5	No
CCC#M6	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M6	No
CCC#M7	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M7	No
CCC#M8	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M8	No
CCC#M9	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M9	No
CCC#M10	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M10	No
CCC#M11	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M11	No
CCC#M12	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M12	No
CCC#M13	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M13	No
CCC#M14	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M14	No
CCC#M15	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M15	No
CCC#M16	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M16	No
CCC#M17	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M17	No
CCC#M18	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M18	No
CCC#M19	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M19	No
CCC#M20	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M20	No
CCC#M21	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M21	No
CCC#M22	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M22	No
CCC#M23	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M23	No
CCC#M24	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M24	No
CCC#M25	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M25	No
CCC#M26	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M26	No
CCC#M27	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M27	No
CCC#M28	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M28	No
CCC#M29	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M29	No
CCC#M30	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M30	No
CCC#M31	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M31	No
CCC#M32	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M32	No
CCC#M33	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M33	No
CCC#M34	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M34	No
CCC#M35	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M35	No
CCC#M36	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M36	No
CCC#M37	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M37	No
CCC#M38	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M38	No
CCC#M39	CA_2A	5, 10, 15, 20	5, 10, 15, 20			CCC#M39	No
CCC#M40	CA_2A	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 FCC Guidance, 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 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.

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.
- When a device supports LTE capabilities with overlapping transmission frequency ranges, the standalone powers from the band with a larger transmission frequency range can be used to select measurement configurations for the band with the fully covered transmission frequency range.

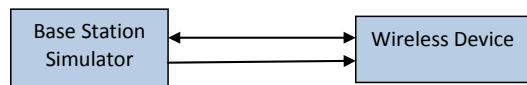


Figure 1
SISO CA Power Measurement Setup

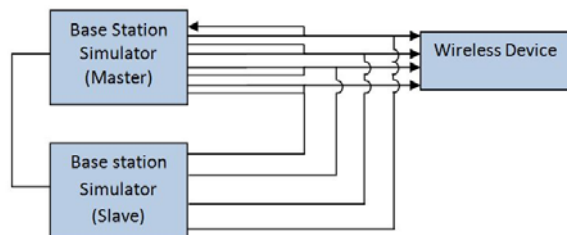




Figure 2
4x4 DL MIMO CA Power Measurement Setup

FCC ID: ZNFG710VM	 PCTEST ENGINEERING LABORATORY, INC.	SAR EVALUATION REPORT	 LG	Reviewed by: Quality Manager
Test Dates: 04/02/18 – 04/15/18	DUT Type: Portable Handset			APPENDIX H: Page 2 of 14

1.3 SISO Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 12 as PCC

Table 1
Maximum Output Powers

Combination	PCC										SCC1			SCC2			SCC3			Power			
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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_12A-25A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	25.29	25.10
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.24	25.10
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.24	25.10
CA_2A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	25.30	25.10
CA_12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2345	LTE B66	20	67236	2190	-	-	-	-	25.23	25.10
CA_2A-2A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	-	-	-	-	25.26	25.10
CA_4A-12B	LTE B12	5	23035	701.5	QPSK	1	24	5035	731.5	LTE B12	10	5107	738.7	LTE B4	20	2175	2132.5	-	-	-	-	25.10	25.09
CA_2A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	25.27	25.10
CA_2A-2A-12B	LTE B12	5	23035	701.5	QPSK	1	24	5035	731.5	LTE B12	5	5083	736.3	LTE B2	20	900	1960	LTE B2	20	700	1940	25.26	25.09

1.3.2 LTE Band 13 as PCC

Table 2
Maximum Output Powers

Combination	PCC										SCC1			SCC2			SCC3			Power			
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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_4A-4A-13A	LTE B13	10	23230	762	QPSK	1	25	5230	751	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.06	25.07
CA_2A-4A-13A	LTE B13	10	23230	762	QPSK	1	25	5230	751	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	25.09	25.07
CA_2A-13A-66C	LTE B13	5	23230	762	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2345	LTE B66	20	66884	2344.8	25.30	25.30
CA_2A-13A-66A-66A	LTE B13	5	23230	762	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B66	15	66786	2345	LTE B66	20	67236	2190	25.18	25.30
CA_2A-13A-66B	LTE B13	5	23230	762	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B66	15	66786	2345	LTE B66	20	66879	2344.3	25.17	25.30
CA_2A-2A-13A-66A	LTE B13	5	23230	762	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2345	25.17	25.30

1.3.3 LTE Band 5 as PCC

Table 3
Maximum Output Powers

Combination	PCC										SCC1			SCC2			SCC3			SCC4			Power				
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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_5A-25A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	-	-	-	-	25.34	25.34
CA_2A-4A-4A-5A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2350	2150	-	-	-	-	25.30	25.34
CA_5B-86A-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	66786	2345	LTE B66	20	67236	2190	-	-	-	-	25.33	25.34
CA_2A-2A-4A-5A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.30	25.34
CA_2A-4A-5B	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	25.30	25.34
CA_2A-2A-5A-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2345	-	-	-	-	25.30	25.34
CA_2A-5A-66A-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B66	20	66786	2345	LTE B66	20	67236	2190	-	-	-	-	25.30	25.34
CA_2A-5A-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B66	20	66786	2345	-	-	-	-	25.30	25.34
CA_4A-4A-5B	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	5	2453	874.3	LTE B4	20	2175	2132.5	LTE B4	20	2350	2150	-	-	-	-	25.31	25.34
CA_2A-2A-5A-66B	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B66	15	66786	2345	LTE B66	20	66879	2344.3	25.17	25.34				
CA_2A-5B-66C	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B66	20	66786	2345	LTE B66	20	66884	2344.8	25.30	25.34
CA_2A-2A-5A-66C	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2345	LTE B66	20	66884	2344.8	25.31	25.34

1.3.4 LTE Band 26 as PCC

Table 4
Maximum Output Powers

Combination	PCC										SCC1			SCC2			Power		
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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_26A-41A	LTE B26	10	26865	831.5	QPSK	1	25	8865	876.5	LTE B41	20	40620	2593	-	-	-	-	25.22	25.22
CA_26A-26A	LTE B26	3	26865	831.5	QPSK	1	7	8865	876.5	LTE B25	20	8365	1962.5	-	-	-	-	25.29	25.29
CA_26A-41C	LTE B26	10	26865	831.5	QPSK	1	25	8865	876.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	25.18	25.22

1.3.5 LTE Band 4 as PCC

Table 5
Maximum Output Powers

Combination	PCC										SCC1			SCC2			SCC3			Power			
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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_4A-12A (1)	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	25.19	25.20
CA_4A-12A (2)	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	25.19	25.20
CA_2A-4A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	25.20	25.20
CA_4A-12B	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B12	5	5095	737.5	LTE B12	10	5047	732.7	-	-	-	-	25.18	25.20
CA_2A-4A-12A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	25.19	25.20
CA_4A-4A-13A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B4	20	2300	2145	LTE B13	10	5230	751	-	-	-	-	25.16	25.20
CA_2A-4A-13A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B2	20	900	1960	LTE B2	20	700	1940	-	-	-	-	25.17	25.20
CA_2A-2A-4A-4A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B4	20	2300	2145	LTE B2	20	900	1960	LTE B2	20	700	1940	25.20	25.20
CA_2A-4A-4A-5A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B4	20	2300	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	25.19	25.20
CA_2A-2A-4A-5A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	10	2525	881.5	25.19	25.20
CA_2A-4A-5B	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	25.15	25.20
CA_4A-4A-5B	LTE B4	20	20050																				

Table 10
Reduced Output Powers

Combination	PCC										SCC 1				SCC 2				SCC 3				SCC 4				Power				
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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 CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)				
CA 2A-66A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.48	24.50		
CA 2A-4A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.48	24.50		
CA 2A-19A(1)	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.48	24.50		
CA 2A-12A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.48	24.50		
CA 2A-4A-12A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	24.47	24.50	
CA 2A-4A-13A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B4	20	2175	2132.5	LTE B11	10	5200	751	-	-	-	-	-	-	-	-	-	-	-	24.49	24.50	
CA 2A-13A-66C	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B11	10	5200	751	LTE B66	20	66786	2145	LTE B66	20	66884	2164.8	-	-	-	-	-	-	-	24.47	24.50	
CA 2A-12A-4A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	LTE B4	20	2150	2130	-	-	-	-	-	-	-	24.43	24.50	
CA 2A-12A-66A-66C	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67238	2190	-	-	-	-	-	-	-	24.45	24.50	
CA 2A-4A-4A-5A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B4	20	2175	2132.5	LTE B4	20	2150	2130	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	24.48	24.50
CA 2A-13A-66A-66C	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B11	10	5200	751	LTE B66	20	66786	2145	LTE B66	20	67238	2190	-	-	-	-	-	-	-	24.46	24.50	
CA 2A-2A-12B	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B12	5	5095	737.5	LTE B12	5	5047	737.7	-	-	-	-	-	-	-	24.46	24.50	
CA 2A-2A-4A-5A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	24.46	24.50	
CA 2A-4A-1B	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	LTE B5	10	2463	874.3	-	-	-	-	-	-	-	24.48	24.50	
CA 2A-13A-66B	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B11	10	5200	751	LTE B66	20	66786	2145	LTE B66	20	66879	2154.3	-	-	-	-	-	-	-	24.42	24.50	
CA 2A-12A-13A-66A	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B11	10	5200	751	LTE B66	20	66786	2145	-	-	-	-	-	-	-	24.48	24.50	
CA 2A-12A-13A-66B	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B11	10	5200	751	LTE B66	20	66786	2145	-	-	-	-	-	-	-	24.48	24.50	
CA 2A-12A-13A-66C	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B11	10	5200	751	LTE B66	20	66786	2145	-	-	-	-	-	-	-	24.47	24.50	
CA 2A-5A-66A-66C	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67238	2190	-	-	-	-	-	-	-	24.45	24.50	
CA 2A-5A-66B	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	-	-	-	-	-	-	-	24.47	24.50	
CA 2A-5A-66C	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66786	2145	-	-	-	-	-	-	-	24.45	24.50	
CA 2A-2A-5A-66C	LTE B2	10	1892.5	1882.5	16QAM	1	25	925	1862.5	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	24.47	24.50	

1.3.8 LTE Band 25 as PCC

Table 11
Maximum Output Powers

Combination	PCC										SCC 1				SCC 2				SCC 3				Power							
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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 CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)							
CA 12A-25A	LTE B25	5	2666.5	1912.5	QPSK	1	0	866.5	1992.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	-	25.48	25.44		
CA 25A-41A	LTE B25	5	2666.5	1912.5	QPSK	1	0	866.5	1992.5	LTE B41	20	40620	2593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.37	25.44	
CA 25A-25A (1)	LTE B25	5	2666.5	1912.5	QPSK	1	0	866.5	1992.5	LTE B25	20	8140	1940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.47	25.44	
CA 25A-26A	LTE B25	5	2666.5	1912.5	QPSK	1	0	866.5	1992.5	LTE B26	15	8805	876.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.46	25.44	
CA 5A-25A	LTE B25	5	2666.5	1912.5	QPSK	1	0	866.5	1992.5	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.47	25.44	
CA 25A-41C	LTE B25	5	2666.5	1912.5	QPSK	1	0	866.5	1992.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	-	-	-	-	-	-	-	-	-	-	-	25.25	25.44
CA 25A-41D	LTE B25	5	2666.5	1912.5	QPSK	1	0	866.5	1992.5	LTE B41	20	40422	2573.2	LTE B41	20	40620	2593	LTE B41	20	40818	2613.8	-	-	-	-	-	-	-	25.24	25.44

Table 12
Reduced Output Powers

Combination	PCC										SCC 1				SCC 2				SCC 3				Power							
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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 CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)							
CA 12A-25A	LTE B25	10	2636.5	1882.5	16QAM	1	25	836.5	1962.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.43	24.50	
CA 25A-41A	LTE B25	10	2636.5	1882.5	16QAM	1	25	836.5	1962.5	LTE B41	20	40620	2593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.39	24.50	
CA 25A-25A (1)	LTE B25	10	2636.5	1882.5	16QAM	1	25	836.5	1962.5	LTE B25	20	8140	1940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.47	24.50
CA 25A-26A	LTE B25	10	2636.5	1882.5	16QAM	1	25	836.5	1962.5	LTE B26	15	8805	876.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.44	24.50
CA 5A-25A	LTE B25	10	2636.5	1882.5	16QAM	1	25	836.5	1962.5	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.41	24.50
CA 25A-41C	LTE B25	10	2636.5	1882.5	16QAM	1	25	836.5	1962.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	-	-	-	-	-	-	-	-	-	-	-	24.41	24.50
CA 25A-41D	LTE B25	10	2636.5	1882.5	16QAM	1	25	836.5	1962.5	LTE B41	20	40422	2573.2	LTE B41	20	40620	2593	LTE B41	20	40818	2613.8	-	-	-	-	-	-	-	24.43	24.50

1.3.9 LTE Band 41 PC3 as PCC

Table 13
Maximum Output Powers

Combination	PCC										SCC 1				SCC 2				SCC 3				Power						
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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 CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)						
CA 41A-41A (1)	LTE B41	15	3970	2506	QPSK	1	0	3970	2506	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.00	25.13
CA 41C-41A	LTE B41	15	3970	2506	QPSK	1	0	3970	2506	LTE B41	20	39921	2524.1	LTE B41	20	41													

1.4 4x4 Downlink 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 DL MIMO Standalone Powers

Table 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]	Target Power [dBm]
4	20	20050	1720	QPSK	1	99	25.10	25.20	24.7
66	20	132072	1720	QPSK	1	99	25.11	25.20	24.7
2	5	19175	1907.5	QPSK	1	0	25.42	25.44	25.0
25	5	26665	1912.5	QPSK	1	0	25.41	25.44	25.0
41	15	39750	2506	QPSK	1	0	25.12	25.13	24.7
41 PC2	20	41055	2636.5	QPSK	1	50	27.59	27.60	27.2



Table 16
Reduced 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]
4	10	20000	1715	QPSK	25	12	24.10	24.20	23.7
66	10	132022	1715	QPSK	25	12	24.12	24.20	23.7
2	10	18925	1882.5	16QAM	1	25	24.45	24.50	24.0
25	10	26365	1882.5	16QAM	1	25	24.32	24.50	24.0

1.4.2 LTE Band 13 as PCC

Table 17
Maximum Output Powers

Combination	PCC										SCC 1										SCC 2										SCC 3										Power	
	PCC Band	PCC BW [MHz]	PCC (DL) Ch.	PCC (DL) 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.	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 (2x) 13-13A	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										
CA (2x) 13-13B	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										
CA (2x) 13A-13B	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										
CA (2x) 13A-13A	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										
CA (2x) 13B-13B	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										
CA (2x) 13A-13B	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										
CA (2x) 13B-13A	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										
CA (2x) 13A-13B	13	5	20000	1720	QPSK	1	12	20000	1720	2x4 MIMO	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	13	5	20000	1720	2x	24.10	24.10										

FCC ID: ZNFG710VM	 PCTEST ENGINEERING LABORATORY, INC.	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 04/02/18 – 04/15/18	DUT Type: Portable Handset	APPENDIX H: Page 6 of 14		

1.4.3 LTE Band 5 as PCC

Table 18
Maximum Output Powers

Combination	PCC										SCC1				SCC2				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 5A-166C	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	66884	2164.8	4x4 MIMO	25.21	25.34
CA [2A]-4A-5A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	25.32	25.34
CA [4A]-4A-5A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B4	10	2350	2150	2x2 MIMO	25.28	25.34
CA [2A]-2A-5A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	25.31	25.34
CA [2A]-4A-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B66	20	66786	2145	2x2 MIMO	25.30	25.34
CA 5A-166A-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	67236	2160	2x2 MIMO	25.31	25.34
CA 2A-5A-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.28	25.34
CA 5A-166B	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	2x2 MIMO	LTE B66	15	66786	2145	4x4 MIMO	LTE B66	5	66879	2154.3	4x4 MIMO	25.27	25.34

1.4.4 LTE Band 4 as PCC

Table 19
Maximum Output Powers

Combination	PCC										SCC1				SCC2				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	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	-	-	-	-	-	25.10	25.20
CA [2A]-4A-13A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.13	25.20
CA [4A]-4A-13A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	4x4 MIMO	LTE B4	20	2300	2145	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.12	25.20
CA [2A]-4A-5A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.15	25.20
CA [4A]-4A-5A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	4x4 MIMO	LTE B4	20	2300	2145	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.10	25.20
CA 4A-[4A]-5A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	2x2 MIMO	LTE B4	20	2300	2145	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.14	25.20
CA 4A-[4A]-13A	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	2x2 MIMO	LTE B4	20	2300	2145	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.13	25.20

Table 20
Reduced Output Powers

Combination	PCC										SCC1				SCC2				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	LTE B4	10	20000	1715	QPSK	25	12	2000	2115	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	-	-	-	-	-	24.04	24.20
CA [2A]-4A-13A	LTE B4	10	20000	1715	QPSK	25	12	2000	2115	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.09	24.20
CA [4A]-4A-13A	LTE B4	10	20000	1715	QPSK	25	12	2000	2115	4x4 MIMO	LTE B4	20	2300	2145	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.04	24.20
CA [2A]-4A-5A	LTE B4	10	20000	1715	QPSK	25	12	2000	2115	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.10	24.20
CA [4A]-4A-5A	LTE B4	10	20000	1715	QPSK	25	12	2000	2115	4x4 MIMO	LTE B4	20	2300	2145	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.05	24.20
CA 4A-[4A]-5A	LTE B4	10	20000	1715	QPSK	25	12	2000	2115	2x2 MIMO	LTE B4	20	2300	2145	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.03	24.20
CA 4A-[4A]-13A	LTE B4	10	20000	1715	QPSK	25	12	2000	2115	2x2 MIMO	LTE B4	20	2300	2145	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.00	24.20

1.4.5 LTE Band 66 as PCC

Table 21
Maximum Output Powers

Combination	PCC										SCC1				SCC2				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]-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	-	-	-	-	-	25.09	25.20
CA [66A]-66C	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	67038	2120.2	4x4 MIMO	LTE B66	20	67236	2130	4x4 MIMO	25.10	25.20
CA [2A]-13A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.12	25.20
CA [2A]-66A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	2x2 MIMO	LTE B66	20	67236	2130	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	25.18	25.20
CA 2A-13A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.10	25.20
CA [2A]-66C	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	66734	2139.8	4x4 MIMO	LTE B66	20	67236	2130	4x4 MIMO	25.15	25.20
CA [66C]-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	2x2 MIMO	LTE B66	20	67236	2130	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.14	25.20
CA 5A-66A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	2x2 MIMO	LTE B66	20	67236	2130	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.11	25.20
CA 13A-66A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	67236	2130	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.15	25.20
CA [2A]-66B	LTE B66	20	13072	1720	QPSK	1	25	67086	2125	2x2 MIMO	LTE B66	20	66987	2165.1	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	25.18	25.20
CA 2A-2A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B2	20	700	1940	2x2 MIMO	25.19	25.20
CA [66A]-66C	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	67038	2120.2	2x2 MIMO	LTE B66	20	67236	2130	2x2 MIMO	25.11	25.20
CA [66C]-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	66734	2139.8	4x4 MIMO	LTE B66	20	67236	2130	2x2 MIMO	25.18	25.20
CA [13A]-66B	LTE B66	20	13072	1720	QPSK	1	25	67086	2125	4x4 MIMO	LTE B66	10	66987	2165.1	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	25.17	25.20
CA [2A]-5A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	2x2 MIMO	LTE B66	20	66734	2139.8	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.13	25.20
CA [2A]-66A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	67236	2130	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	25.11	25.20
CA [66A]-66C	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	67236	2130	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	25.16	25.20
CA [2A]-2A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B2	20	700	1940	2x2 MIMO	25.17	25.20
CA 2A-5A-66A	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.16	25.20
CA [2A]-66C	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	4x4 MIMO	LTE B66	20	66734	2139.8	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	25.18	25.20
CA 5A-[66B]	LTE B66	10	13022	1720	QPSK	1	25	67086	2125	4x4 MIMO	LTE B66	10	66987	2165.1	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	25.17	25.20
CA 5A-[66B]	LTE B66	10	13022	1720	QPSK	1	25	67086	2125	4x4 MIMO	LTE B66	10	66987	2165.1	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.18	25.20
CA 66C-[66A]	LTE B66	20	13072	1720	QPSK	1	99	6636	2120	2x2 MIMO	LTE B66	20	66734	2139.8								

Table 26
Reduced 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 {25A}-{25A} (1)	LTE B25	10	26365	1882.5	16QAM	1	25	8365	1962.5	4x4 MIMO	LTE B25	20	8140	1940	4x4 MIMO	24.35	24.50

1.4.8 LTE Band 41 PC3 as PCC

Table 27
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 {41A}-41A (1)	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	4x4 MIMO	LTE B41	20	41490	2680	2x2 MIMO	-	-	-	-	-	-	25.19	25.13
CA {41A}-41A (1)	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	2x2 MIMO	LTE B41	20	41490	2680	4x4 MIMO	-	-	-	-	-	-	25.14	25.13
CA {41A}-41A (1)	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	4x4 MIMO	LTE B41	20	41490	2680	4x4 MIMO	-	-	-	-	-	-	25.13	25.13
CA {41A}-41C	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	4x4 MIMO	LTE B41	20	41292	2660.2	2x2 MIMO	LTE B41	20	41490	2680	2x2 MIMO	-	25.12	25.13
CA {41C}-41A	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	2x2 MIMO	LTE B41	20	39921	2523.1	2x2 MIMO	LTE B41	20	41490	2680	4x4 MIMO	-	25.14	25.13
CA {41C}-41C	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	2x2 MIMO	LTE B41	20	41292	2660.2	4x4 MIMO	LTE B41	20	41490	2680	4x4 MIMO	-	25.11	25.13
CA {41D}	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	4x4 MIMO	LTE B41	20	39921	2523.1	4x4 MIMO	LTE B41	20	40119	2542.9	4x4 MIMO	-	25.16	25.13
CA {41C}-41A	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	4x4 MIMO	LTE B41	20	39921	2523.1	4x4 MIMO	LTE B41	20	41490	2680	2x2 MIMO	-	25.12	25.13

1.4.9 LTE Band 41 PC2 as PCC



Table 28
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 {41A}-41A (1)	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	4x4 MIMO	LTE B41 PC2	20	39750	2506	2x2 MIMO	-	-	-	-	-	-	27.56	27.60
CA {41A}-41A (1)	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	2x2 MIMO	LTE B41 PC2	20	39750	2506	4x4 MIMO	-	-	-	-	-	-	27.58	27.60
CA {41A}-41A (1)	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	4x4 MIMO	LTE B41 PC2	20	39750	2506	4x4 MIMO	-	-	-	-	-	-	27.59	27.60
CA {41A}-41C	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	4x4 MIMO	LTE B41 PC2	20	39948	2525.8	2x2 MIMO	LTE B41 PC2	20	39750	2506	2x2 MIMO	-	27.58	27.60
CA {41C}-41A	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	2x2 MIMO	LTE B41 PC2	20	40857	2616.7	2x2 MIMO	LTE B41 PC2	20	39750	2506	4x4 MIMO	-	27.60	27.60
CA {41C}-41C	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	2x2 MIMO	LTE B41 PC2	20	39948	2525.8	4x4 MIMO	LTE B41 PC2	20	39750	2506	4x4 MIMO	-	27.58	27.60
CA {41D}	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	4x4 MIMO	LTE B41 PC2	20	40857	2616.7	4x4 MIMO	LTE B41 PC2	20	40659	2596.9	4x4 MIMO	-	27.59	27.60
CA {41C}-41A	LTE B41 PC2	20	41055	2636.5	QPSK	1	50	41055	2636.5	4x4 MIMO	LTE B41 PC2	20	40857	2616.7	4x4 MIMO	LTE B41 PC2	20	39750	2506	2x2 MIMO	-	27.58	27.60

1.5 LAA Downlink Carrier Aggregation

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. Due to the wide downlink bandwidth, each Band 46 sub-band, represented by subscripts A, B, C, and D, was evaluated independently. The general test selection and setup procedures described in Section 1.2 were applied.

Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the 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.

FCC ID: ZNFG710VM	 PCTEST ENGINEERING LABORATORY, INC.	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 04/02/18 – 04/15/18	DUT Type: Portable Handset			APPENDIX H: Page 9 of 14

1.5.1 SISO LAA Downlink Carrier Aggregation RF Conducted Powers

1.5.1.1 LTE Band 13 as PCC

Table 29
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] Ch.	PCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA_13A-46A-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	47290	5200	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.37	25.39	
CA_13A-46A-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	48290	5300	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.38	25.39	
CA_13A-46A-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	51290	5600	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.40	25.39	
CA_13A-46A-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	53140	5785	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.37	25.39	
CA_13A-46C-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	47290	5200	LTE B46a	20	47488	5219.8	LTE B66	20	66786	2145	-	-	-	-	25.41	25.39	
CA_13A-46C-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	48290	5300	LTE B46a	20	48488	5319.8	LTE B66	20	66786	2145	-	-	-	-	25.36	25.39	
CA_13A-46C-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	51290	5600	LTE B46a	20	51488	5619.8	LTE B66	20	66786	2145	-	-	-	-	25.38	25.39	
CA_13A-46C-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	53140	5785	LTE B46a	20	53338	5804.8	LTE B66	20	66786	2145	-	-	-	-	25.41	25.39	
CA_2A-13A-46D	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B46a	20	47290	5200	LTE B46a	20	47488	5219.8	LTE B46a	20	47092	5180.2	25.39	25.39	
CA_2A-13A-46D	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B46a	20	48290	5300	LTE B46a	20	48488	5319.8	LTE B46a	20	48092	5280.2	25.36	25.39	
CA_2A-13A-46D	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B46a	20	51290	5600	LTE B46a	20	51488	5619.8	LTE B46a	20	51092	5580.2	25.38	25.39	
CA_2A-13A-46D	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B46a	20	53140	5785	LTE B46a	20	53338	5804.8	LTE B46a	20	52942	5765.2	25.39	25.39	
CA_13A-46D-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	47290	5200	LTE B46a	20	47488	5219.8	LTE B46a	20	47092	5180.2	LTE B66	20	66786	2145	25.38	25.39	
CA_13A-46D-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	48290	5300	LTE B46a	20	48488	5319.8	LTE B46a	20	48092	5280.2	LTE B66	20	66786	2145	25.38	25.39	
CA_13A-46D-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	51290	5600	LTE B46a	20	51488	5619.8	LTE B46a	20	51092	5580.2	LTE B66	20	66786	2145	25.39	25.39	
CA_13A-46D-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B46a	20	53140	5785	LTE B46a	20	53338	5804.8	LTE B46a	20	52942	5765.2	LTE B66	20	66786	2145	25.40	25.39	

1.5.1.2 LTE Band 5 as PCC

Table 30
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] Ch.	PCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA_5A-46A (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	47290	5200	-	-	-	-	-	-	-	-	-	-	-	-	25.31	25.34	
CA_5A-46A (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	48290	5300	-	-	-	-	-	-	-	-	-	-	-	-	25.30	25.34	
CA_5A-46A (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	51290	5600	-	-	-	-	-	-	-	-	-	-	-	-	25.29	25.34	
CA_5A-46A (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	53140	5785	-	-	-	-	-	-	-	-	-	-	-	-	25.28	25.34	
CA_5A-46C (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	47290	5200	LTE B46a	20	47488	5219.8	-	-	-	-	-	-	-	-	25.30	25.34	
CA_5A-46C (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	48290	5300	LTE B46a	20	48488	5319.8	-	-	-	-	-	-	-	-	25.29	25.34	
CA_5A-46C (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	51290	5600	LTE B46a	20	51488	5619.8	-	-	-	-	-	-	-	-	25.26	25.34	
CA_5A-46C (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	53140	5785	LTE B46a	20	53338	5804.8	-	-	-	-	-	-	-	-	25.24	25.34	
CA_5A-46D (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	47290	5200	LTE B46a	20	47488	5219.8	LTE B46a	20	47092	5180.2	-	-	-	-	25.31	25.34	
CA_5A-46D (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	48290	5300	LTE B46a	20	48488	5319.8	LTE B46a	20	48092	5280.2	-	-	-	-	25.26	25.34	
CA_5A-46D (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	51290	5600	LTE B46a	20	51488	5619.8	LTE B46a	20	51092	5580.2	-	-	-	-	25.24	25.34	
CA_5A-46D (1)	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	53140	5785	LTE B46a	20	53338	5804.8	LTE B46a	20	52942	5765.2	-	-	-	-	25.25	25.34	
CA_2A-5A-46D	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B46a	20	47290	5200	LTE B46a	20	47488	5219.8	LTE B46a	20	47092	5180.2	25.28	25.34	
CA_2A-5A-46D	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B46a	20	48290	5300	LTE B46a	20	48488	5319.8	LTE B46a	20	48092	5280.2	25.25	25.34	
CA_2A-5A-46D	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B46a	20	51290	5600	LTE B46a	20	51488	5619.8	LTE B46a	20	51092	5580.2	25.24	25.34	
CA_2A-5A-46D	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B46a	20	53140	5785	LTE B46a	20	53338	5804.8	LTE B46a	20	52942	5765.2	25.27	25.34	
CA_5A-46D-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	47290	5200	LTE B46a	20	47488	5219.8	LTE B46a	20	47092	5180.2	LTE B66	20	66786	2145	25.29	25.34	
CA_5A-46D-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	48290	5300	LTE B46a	20	48488	5319.8	LTE B46a	20	48092	5280.2	LTE B66	20	66786	2145	25.25	25.34	
CA_5A-46D-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	51290	5600	LTE B46a	20	51488	5619.8	LTE B46a	20	51092	5580.2	LTE B66	20	66786	2145	25.25	25.34	
CA_5A-46D-66A	LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B46a	20	53140	5785	LTE B46a	20	53338	5804.8	LTE B46a	20	52942	5765.2	LTE B66	20	66786	2145	25.25	25.34	



1.5.1.3 LTE Band 4 as PCC

Table 31
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]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)				
CA_4A-46A-46C	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B46a	20	47090	5180	LTE B46a	20	53540	5825	-	-	-	-	-	-	-	25.19	25.20	
CA_4A-46A-46C	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B46a	20	47090	5180	LTE B46a	20	53540	5825	LTE B46a	20	53342	5805.2	-	-	-	-	25.09	25.20
CA_4A-46A-46C	LTE B4	20	20050	1720	QPSK	1	99	2050	2120	LTE B46a	20	53540	5825	LTE B46a	20	47090	5180	LTE B46a	20	47288	5199.8	-	-	-	-	25.13	25.20
CA_4A-46D	LTE B4</																										

**Table 36
Reduced 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 [DU] Ch.	PCC [DU] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DU] Ch.	SCC [DU] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DU] Ch.	SCC [DU] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DU] Ch.	SCC [DU] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DU] Ch.	SCC [DU] Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-46A-46A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	47090	5180	LTE B46s	20	53540	5825	-	-	-	-	-	-	-	-	24.35	24.50
CA_2A-46A-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	47290	5200	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	24.31	24.50
CA_2A-46A-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	48290	5300	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	24.30	24.50
CA_2A-46A-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	51290	5600	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	24.34	24.50
CA_2A-46A-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	53140	5785	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	24.33	24.50
CA_2A-46A-46C	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	47090	5180	LTE B46s	20	53540	5825	LTE B46s	20	53342	5805.2	-	-	-	-	24.38	24.50
CA_2A-46A-46C	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	53540	5825	LTE B46s	20	47090	5180	LTE B46s	20	47288	5199.8	-	-	-	-	24.35	24.50
CA_2A-5A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B5	10	2525	881.5	LTE B46s	20	47290	5200	LTE B46s	20	47488	5219.8	LTE B46s	20	47092	5180.2	24.35	24.50
CA_2A-5A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B5	10	2525	881.5	LTE B46s	20	48290	5300	LTE B46s	20	48488	5319.8	LTE B46s	20	48092	5280.2	24.33	24.50
CA_2A-5A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B5	10	2525	881.5	LTE B46s	20	51290	5600	LTE B46s	20	51488	5619.8	LTE B46s	20	51092	5580.2	24.36	24.50
CA_2A-5A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B5	10	2525	881.5	LTE B46s	20	53140	5785	LTE B46s	20	53338	5804.8	LTE B46s	20	52942	5765.2	24.30	24.50
CA_2A-13A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B13	10	5230	751	LTE B46s	20	47290	5200	LTE B46s	20	47488	5219.8	LTE B46s	20	47092	5180.2	24.41	24.50
CA_2A-13A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B13	10	5230	751	LTE B46s	20	48290	5300	LTE B46s	20	48488	5319.8	LTE B46s	20	48092	5280.2	24.46	24.50
CA_2A-13A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B13	10	5230	751	LTE B46s	20	51290	5600	LTE B46s	20	51488	5619.8	LTE B46s	20	51092	5580.2	24.40	24.50
CA_2A-13A-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B13	10	5230	751	LTE B46s	20	53140	5785	LTE B46s	20	53338	5804.8	LTE B46s	20	52942	5765.2	24.32	24.50
CA_2A-46D-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	47290	5200	LTE B46s	20	47488	5219.8	LTE B46s	20	47092	5180.2	LTE B66	20	66786	2145	24.31	24.50
CA_2A-46D-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	48290	5300	LTE B46s	20	48488	5319.8	LTE B46s	20	48092	5280.2	LTE B66	20	66786	2145	24.30	24.50
CA_2A-46D-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	51290	5600	LTE B46s	20	51488	5619.8	LTE B46s	20	51092	5580.2	LTE B66	20	66786	2145	24.32	24.50
CA_2A-46D-66A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	LTE B46s	20	53140	5785	LTE B46s	20	53338	5804.8	LTE B46s	20	52942	5765.2	LTE B66	20	66786	2145	24.31	24.50

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1.5.2.3 LTE Band 2 as PCC

Table 41
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 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 (dBm)	LTE Single Carrier Tx Power (dBm)	
CA [2A]-46A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	47290	5200	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	25.36	25.44	
CA [2A]-46A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	48290	5300	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	25.37	25.44	
CA [2A]-46A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	51290	5600	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	25.35	25.44	
CA [2A]-46A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	53140	5785	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	25.39	25.44	
CA [2A]-46C	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	47290	5200	2x2 MIMO	LTE B46c	20	47488	5219.8	2x2 MIMO	-	-	-	-	-	-	25.37	25.44
CA [2A]-46C	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	48290	5300	2x2 MIMO	LTE B46c	20	48488	5319.8	2x2 MIMO	-	-	-	-	-	-	25.35	25.44
CA [2A]-46C	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	51290	5600	2x2 MIMO	LTE B46c	20	51488	5619.8	2x2 MIMO	-	-	-	-	-	-	25.34	25.44
CA [2A]-46C	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	53140	5785	2x2 MIMO	LTE B46c	20	53338	5804.8	2x2 MIMO	-	-	-	-	-	-	25.38	25.44
CA [2A]-46D	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	47290	5200	2x2 MIMO	LTE B46c	20	47488	5219.8	2x2 MIMO	LTE B46c	20	47092	5180.2	2x2 MIMO	25.39	25.44	
CA [2A]-46D	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	48290	5300	2x2 MIMO	LTE B46c	20	48488	5319.8	2x2 MIMO	LTE B46c	20	48092	5280.2	2x2 MIMO	25.37	25.44	
CA [2A]-46D	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	51290	5600	2x2 MIMO	LTE B46c	20	51488	5619.8	2x2 MIMO	LTE B46c	20	51092	5580.2	2x2 MIMO	25.36	25.44	
CA [2A]-46D	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B46c	20	53140	5785	2x2 MIMO	LTE B46c	20	53338	5804.8	2x2 MIMO	LTE B46c	20	52942	5765.2	2x2 MIMO	25.38	25.44	

Table 42
Reduced 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 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 (dBm)	LTE Single Carrier Tx Power (dBm)	
CA [2A]-46A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	47290	5200	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	24.31	24.50	
CA [2A]-46A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	48290	5300	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	24.33	24.50	
CA [2A]-46A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	51290	5600	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	24.36	24.50	
CA [2A]-46A	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	53140	5785	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	24.35	24.50	
CA [2A]-46C	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	47290	5200	2x2 MIMO	LTE B46c	20	47488	5219.8	2x2 MIMO	-	-	-	-	-	-	24.40	24.50
CA [2A]-46C	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	48290	5300	2x2 MIMO	LTE B46c	20	48488	5319.8	2x2 MIMO	-	-	-	-	-	-	24.35	24.50
CA [2A]-46C	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	51290	5600	2x2 MIMO	LTE B46c	20	51488	5619.8	2x2 MIMO	-	-	-	-	-	-	24.32	24.50
CA [2A]-46C	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	53140	5785	2x2 MIMO	LTE B46c	20	53338	5804.8	2x2 MIMO	-	-	-	-	-	-	24.30	24.50
CA [2A]-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	47290	5200	2x2 MIMO	LTE B46c	20	47488	5219.8	2x2 MIMO	LTE B46c	20	47092	5180.2	2x2 MIMO	24.30	24.50	
CA [2A]-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	48290	5300	2x2 MIMO	LTE B46c	20	48488	5319.8	2x2 MIMO	LTE B46c	20	48092	5280.2	2x2 MIMO	24.31	24.50	
CA [2A]-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	51290	5600	2x2 MIMO	LTE B46c	20	51488	5619.8	2x2 MIMO	LTE B46c	20	51092	5580.2	2x2 MIMO	24.34	24.50	
CA [2A]-46D	LTE B2	10	18925	1882.5	16QAM	1	25	925	1962.5	4x4 MIMO	LTE B46c	20	53140	5785	2x2 MIMO	LTE B46c	20	53338	5804.8	2x2 MIMO	LTE B46c	20	52942	5765.2	2x2 MIMO	24.30	24.50	

1.6 Downlink Carrier Aggregation with CA_41C Uplink Carrier Aggregation enabled

This device supports uplink carrier aggregation (ULCA) for CA_41C with additional component carrier configurations active in the downlink. Power measurements were performed with ULCA CA_41C active and additional CA configurations active in the downlink for the configuration required for ULCA CA_41C 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 ULCA with only CA_41C active.

1.6.1 SISO Carrier Aggregation RF Conducted Powers

Table 43
Maximum Output Powers



Combination	PCC							SCC1				SCC2				Power					
	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	DL Ant. Config.	CA_41C ULCA Tx Power with DLCA enabled (dBm)	CA_41C ULCA Tx Power (dBm)
CA 41D	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	LTE B41	20	40146	2545.6	-	25.08	25.12

1.6.2 4x4 DL MIMO Carrier Aggregation 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 CA_41C.

Table 44
Maximum Output Powers

Combination	PCC							SCC1				SCC2				Power							
	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	DL Ant. Config.	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	DL Ant. Config.	SCC Band	SCC Bandwidth [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	DL Ant. Config.	CA_41C ULCA Tx Power with DLCA enabled (dBm)	CA_41C ULCA Tx Power (dBm)
CA 41C	LTE B41	20	39750	2506	QPSK	1	99	4x4 MIMO	LTE B41	20	39948	2525.8	QPSK	1	0	4x4 MIMO	-	-	-	-	-	25.06	25.12
CA 41D	LTE B41	20	39750	2506	QPSK	1	99	4x4 MIMO	LTE B41	20	39948	2525.8	QPSK	1	0	4x4 MIMO	LTE B41	20	39948	2525.8	4x4 MIMO	25.01	25.12

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