

10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	± 9.6 %
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	± 9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10497	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10498	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	± 9.6 %
10499	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	± 9.6 %
10500	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10501	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	± 9.6 %
10503	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	± 9.6 %
10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10505	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10507	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	± 9.6 %
10508	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	± 9.6 %
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	± 9.6 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	± 9.6 %
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	± 9.6 %
10524	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	± 9.6 %
10528	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10531	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10533	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10534	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	WLAN	8.45	± 9.6 %

10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10536	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10537	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	± 9.6 %
10538	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10542	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10545	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10547	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10552	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10553	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.13	± 9.6 %
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	WLAN	8.00	± 9.6 %
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.10	± 9.6 %
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.30	± 9.6 %
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10583	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10584	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10585	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10586	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10587	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %

10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	± 9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	± 9.6 %
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10626	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10633	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10646	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %

10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Client **PC Test**

Certificate No: **EX3-7417_Feb19**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:7417**

Calibration procedure(s) **QA CAL-01-V3 QA CAL-23-V5 QA CAL-25-V7**
 Calibration procedure for dosimetric E-field probes

Calibration date: **February 19, 2019**

02-26-2019

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-18 (No. 217-02682)	Apr-19
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-18)	In house check: Oct-19

Calibrated by:	Name	Function	Signature
	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: February 20, 2019

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Accreditation No.: **SCS 0108**

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Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization ϕ	ϕ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}:** Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E^2 -field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}:** DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR:** PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}:** A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters:** Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy):** in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset:** The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle:** The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7417

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.54	0.43	0.53	± 10.1 %
DCP (mV) ^B	98.7	97.4	100.4	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB μV	C	D dB	VR mV	Max dev.	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	144.6	± 3.3 %	± 4.7 %
		Y	0.00	0.00	1.00		149.7		
		Z	0.00	0.00	1.00		143.1		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	15.00	88.38	19.65	10.00	60.0	± 3.3 %	± 9.6 %
		Y	4.33	71.38	13.30		60.0		
		Z	7.40	77.44	14.95		60.0		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	15.00	92.19	20.43	6.99	80.0	± 2.2 %	± 9.6 %
		Y	5.53	76.01	13.64		80.0		
		Z	15.00	85.74	16.43		80.0		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	15.00	107.68	26.54	3.98	95.0	± 1.3 %	± 9.6 %
		Y	9.05	79.53	12.66		95.0		
		Z	15.00	90.71	17.41		95.0		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	15.00	127.17	33.83	2.22	120.0	± 1.2 %	± 9.6 %
		Y	0.26	60.00	4.45		120.0		
		Z	15.00	99.84	20.30		120.0		
10387-AAA	QPSK Waveform, 1 MHz	X	0.56	60.62	7.74	0.00	150.0	± 3.6 %	± 9.6 %
		Y	0.42	60.00	4.69		150.0		
		Z	0.44	60.00	5.48		150.0		
10388-AAA	QPSK Waveform, 10 MHz	X	2.27	69.09	16.46	0.00	150.0	± 1.3 %	± 9.6 %
		Y	1.94	67.43	15.43		150.0		
		Z	2.06	68.27	16.05		150.0		
10396-AAA	64-QAM Waveform, 100 kHz	X	3.15	72.71	19.95	3.01	150.0	± 2.5 %	± 9.6 %
		Y	2.04	67.08	18.19		150.0		
		Z	2.07	66.03	16.88		150.0		
10399-AAA	64-QAM Waveform, 40 MHz	X	3.52	67.53	16.10	0.00	150.0	± 2.4 %	± 9.6 %
		Y	3.32	66.83	15.68		150.0		
		Z	3.38	67.15	15.89		150.0		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.80	65.90	15.74	0.00	150.0	± 4.4 %	± 9.6 %
		Y	4.58	65.58	15.59		150.0		
		Z	4.60	65.76	15.65		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7417

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	37.6	279.10	35.33	9.45	0.00	5.09	1.69	0.14	1.01
Y	29.6	227.60	37.50	5.19	0.43	5.04	0.00	0.16	1.01
Z	28.8	214.34	35.37	6.91	0.00	5.04	0.00	0.24	1.00

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	120.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7417

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	41.9	0.89	10.36	10.36	10.36	0.54	0.99	± 12.0 %
835	41.5	0.90	10.07	10.07	10.07	0.48	0.84	± 12.0 %
1750	40.1	1.37	8.39	8.39	8.39	0.38	0.85	± 12.0 %
1900	40.0	1.40	8.11	8.11	8.11	0.39	0.84	± 12.0 %
2300	39.5	1.67	7.73	7.73	7.73	0.30	0.93	± 12.0 %
2450	39.2	1.80	7.46	7.46	7.46	0.39	0.95	± 12.0 %
2600	39.0	1.96	7.17	7.17	7.17	0.31	1.05	± 12.0 %

^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7417

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	55.5	0.96	10.35	10.35	10.35	0.63	0.84	± 12.0 %
835	55.2	0.97	10.11	10.11	10.11	0.43	0.84	± 12.0 %
1750	53.4	1.49	8.21	8.21	8.21	0.43	0.88	± 12.0 %
1900	53.3	1.52	7.86	7.86	7.86	0.43	0.87	± 12.0 %
2300	52.9	1.81	7.64	7.64	7.64	0.41	0.93	± 12.0 %
2450	52.7	1.95	7.51	7.51	7.51	0.40	0.95	± 12.0 %
2600	52.5	2.16	7.37	7.37	7.37	0.33	1.05	± 12.0 %

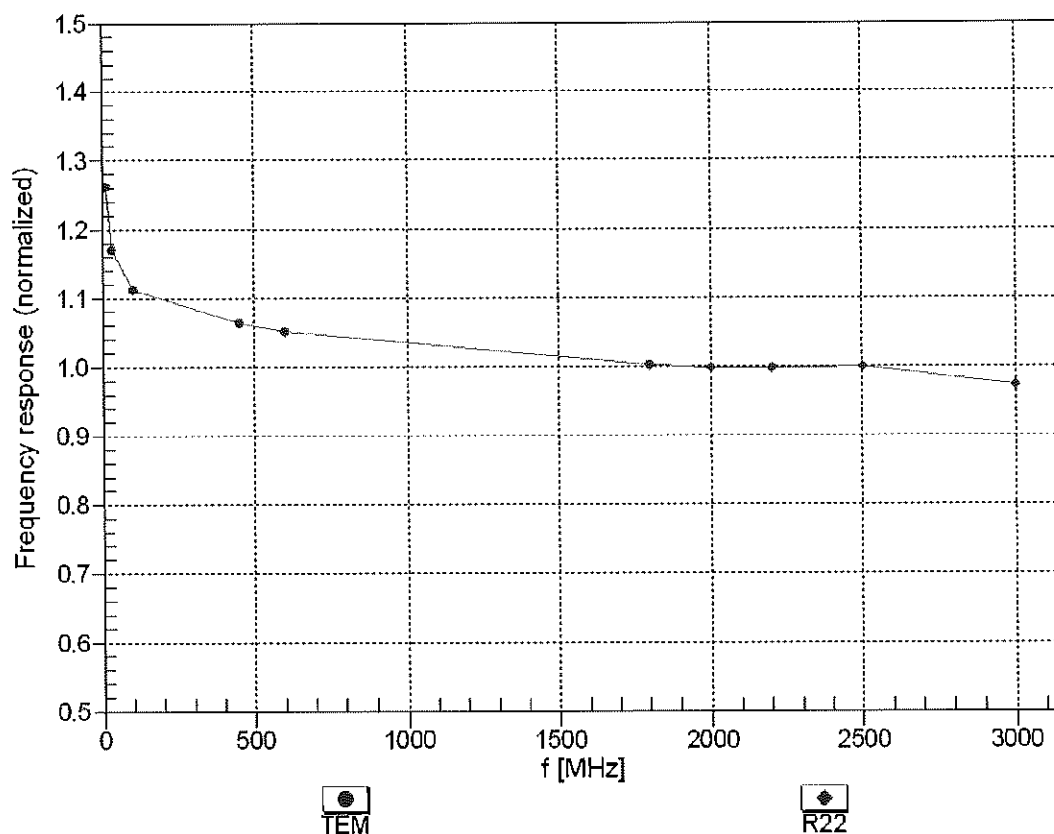
^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

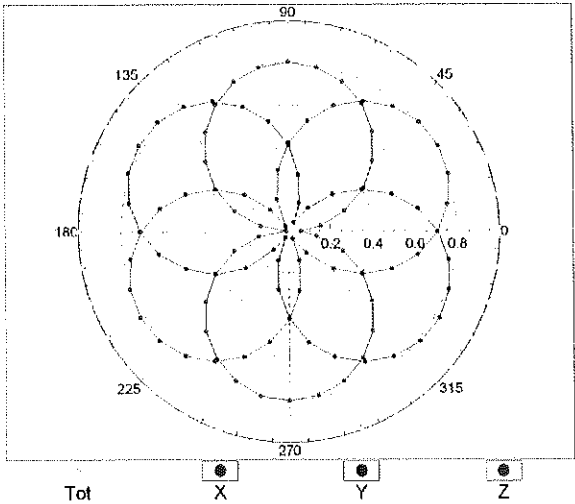
(TEM-Cell:ifi110 EXX, Waveguide: R22)



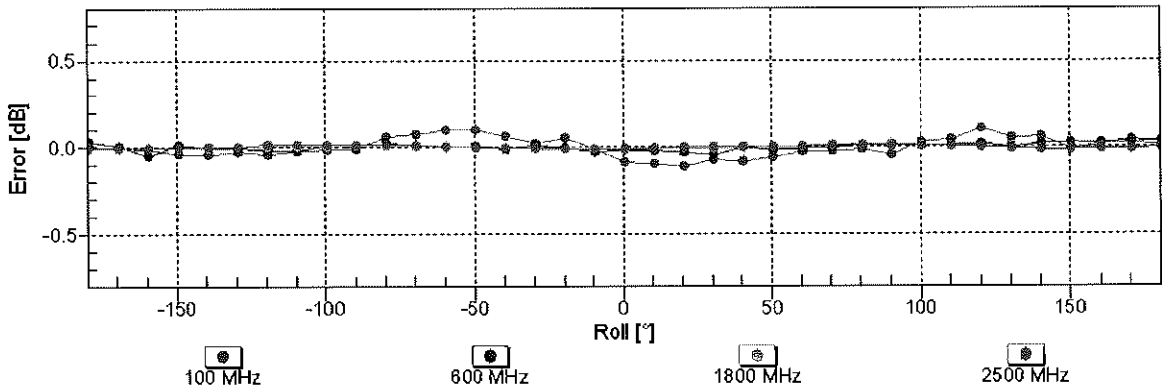
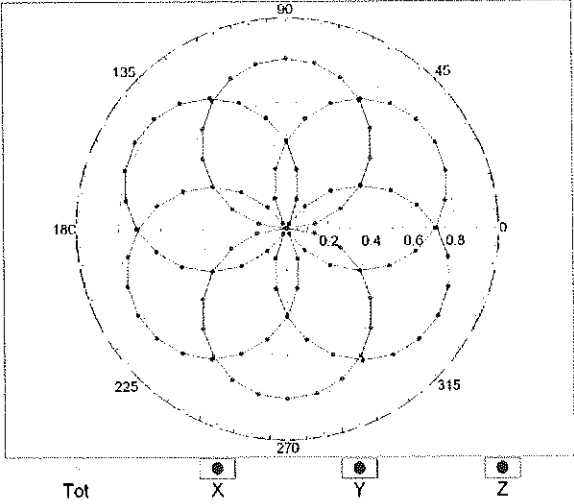
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

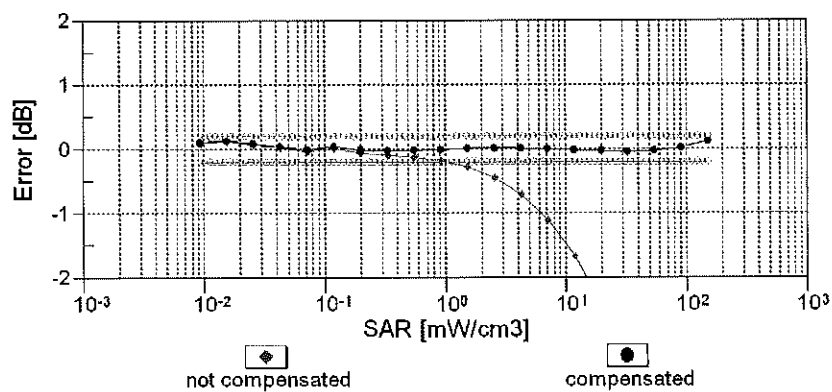
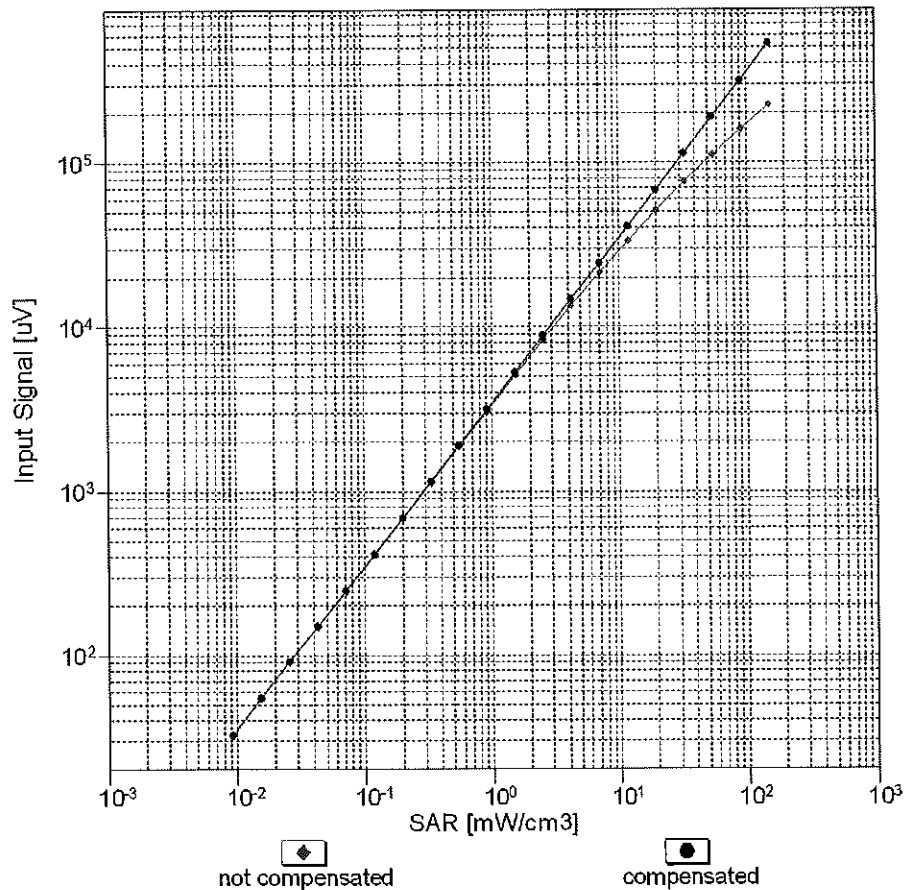


f=1800 MHz,R22



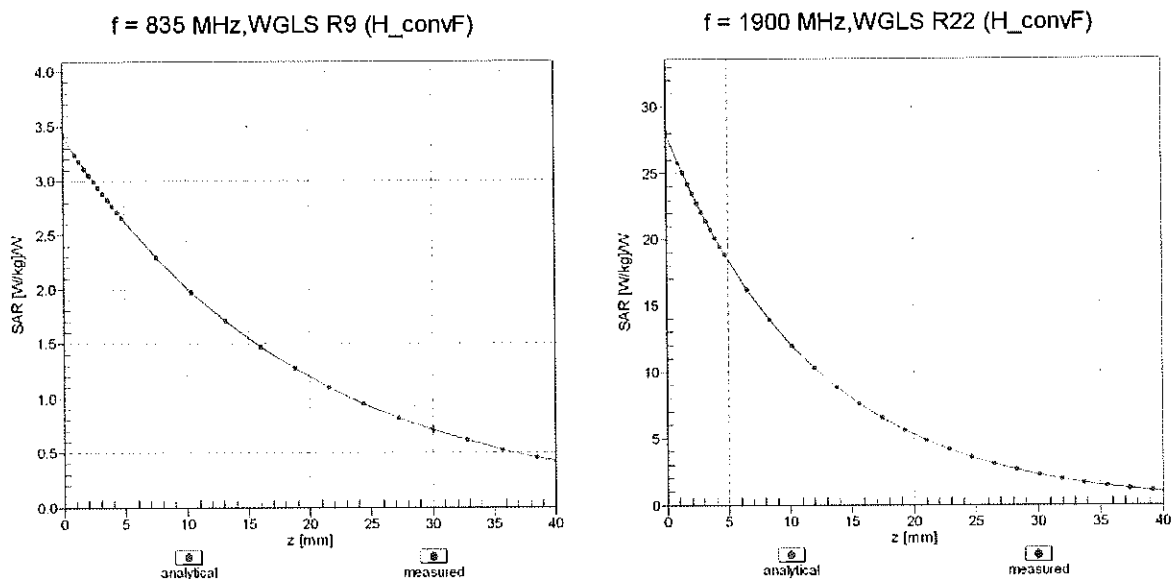
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell , $f_{\text{eval}} = 1900 \text{ MHz}$)



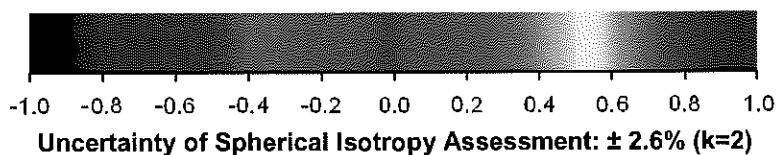
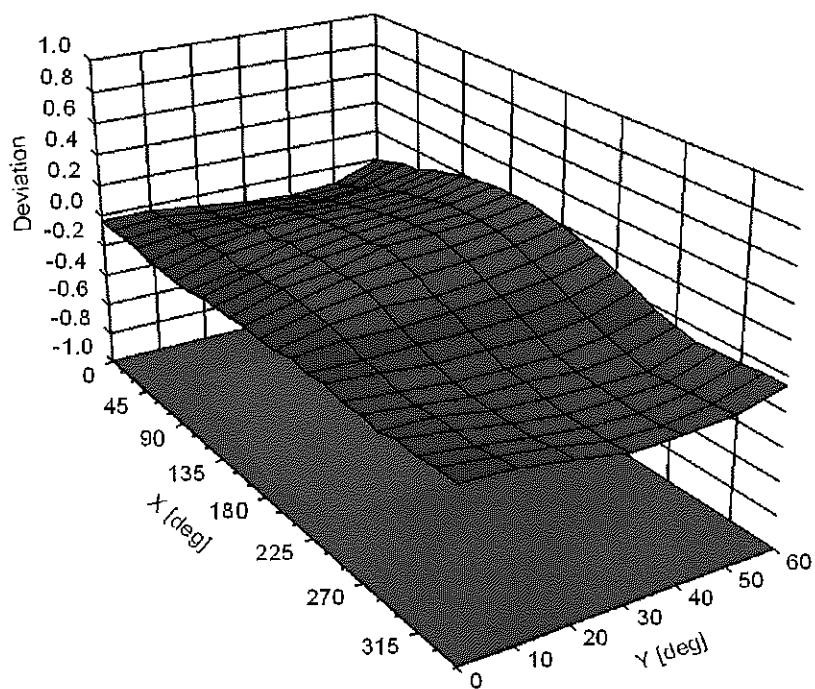
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$



Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^F (k=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %

10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %

10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %
10260	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAA	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %

10300	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	WiMAX	12.57	± 9.6 %
10303	AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	WiMAX	15.24	± 9.6 %
10306	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	± 9.6 %
10307	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	WiMAX	14.49	± 9.6 %
10308	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	WiMAX	14.58	± 9.6 %
10310	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	WiMAX	14.57	± 9.6 %
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAA	IDEN 1:3	IDEN	10.51	± 9.6 %
10314	AAA	IDEN 1:6	IDEN	13.48	± 9.6 %
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	± 9.6 %
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10317	AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10401	AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	± 9.6 %
10402	AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10410	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	± 9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10417	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	WLAN	8.19	± 9.6 %
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %

10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10456	AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	± 9.6 %
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10462	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	± 9.6 %
10463	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10464	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10465	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10466	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10467	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10468	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10469	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10470	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10471	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10472	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10473	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10479	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10482	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	± 9.6 %
10483	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	± 9.6 %
10485	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	± 9.6 %
10486	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	± 9.6 %
10487	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	± 9.6 %
10488	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.70	± 9.6 %
10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10490	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10491	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %

10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	± 9.6 %
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	± 9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10497	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10498	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	± 9.6 %
10499	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	± 9.6 %
10500	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10501	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	± 9.6 %
10503	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	± 9.6 %
10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10505	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10507	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	± 9.6 %
10508	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	± 9.6 %
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	± 9.6 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	± 9.6 %
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	± 9.6 %
10524	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	± 9.6 %
10528	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10531	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10533	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10534	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	WLAN	8.45	± 9.6 %

10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10536	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10537	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	± 9.6 %
10538	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10542	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10545	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10547	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10552	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10553	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.13	± 9.6 %
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	WLAN	8.00	± 9.6 %
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.10	± 9.6 %
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.30	± 9.6 %
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10583	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10584	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10585	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10586	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10587	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %

10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	± 9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	± 9.6 %
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10626	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10633	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10646	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %

10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %

^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 $j = \sqrt{-1}$.

3 Composition / Information on ingredients

3.2 Mixtures

Description: Aqueous solution with surfactants and inhibitors

Declarable, or hazardous components:

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28-0000	Ethanedial STOT RE 2, H373; Acute Tox. 4, H302	>1.0-4.9%
CAS: 68608-26-4 EINECS: 271-781-5 Reg.nr.: 01-2119527859-22-0000	Sodium petroleum sulfonate Eye Irrit. 2, H319	< 2.9%
CAS: 107-41-5 EINECS: 203-489-0 Reg.nr.: 01-2119539582-35-0000	Hexylene Glycol / 2-Methyl-pentane-2,4-diol Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.9%
CAS: 68920-66-1 NLP: 500-236-9 Reg.nr.: 01-2119489407-26-0000	Alkoxyated alcohol, > C₁₆ Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.0%

Additional information:

For the wording of the listed risk phrases refer to section 16.

Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.

The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

Figure D-1
Composition of the Tissue Equivalent Matter

Note: 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.

FCC ID: A3LSMN970U		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 05/30/19 - 07/03/19	DUT Type: Portable Handset			APPENDIX D: Page 1 of 3

Measurement Certificate / Material Test

Item Name: **Body Tissue Simulating Liquid (MBBL600-6000V6)**
 Product No.: **SL AAM U16 BC (Batch: 181029-1)**
 Manufacturer: **SPEAG**

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the KDB 86564 compliance standard.

Test Condition

Ambient Condition: 22°C ; 30% humidity

TSL Temperature: 22°C

Test Date: 30-Oct-18

Operator: CL

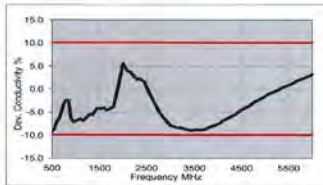
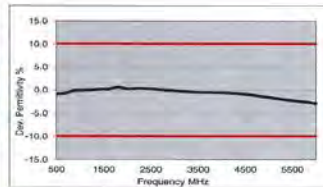
Additional Information

TSL Density

TSL Heat-capacity

Results

f (MHz)	ε'	ε''	sigma	eps	sigma	Δ-eps	Δ-sigma
800	55.1	21.3	0.96	55.3	0.97	-0.4	-2.1
825	55.1	20.8	0.96	55.2	0.98	-0.3	-2.0
850	55.1	20.9	0.99	55.1	0.99	0.0	-2.8
880	55.1	20.4	0.99	55.2	0.99	-0.1	-3.0
900	55.0	19.7	0.98	55.0	1.05	0.0	-6.7
1400	54.2	15.6	1.22	54.1	1.28	0.2	-4.7
1425	54.1	15.5	1.24	54.0	1.30	0.2	-4.6
1500	54.1	15.3	1.27	53.9	1.33	0.3	-4.5
1550	54.0	15.1	1.30	53.9	1.36	0.2	-4.4
1600	53.9	15.0	1.33	53.8	1.39	0.2	-4.3
1625	53.9	14.9	1.35	53.8	1.41	0.3	-4.3
1640	53.9	14.9	1.36	53.7	1.42	0.3	-4.2
1650	53.8	14.8	1.36	53.7	1.43	0.2	-4.8
1700	53.8	14.8	1.40	53.6	1.46	0.4	-4.1
1750	53.7	14.7	1.43	53.4	1.49	0.5	-4.0
1800	53.7	14.6	1.46	53.3	1.52	0.8	-3.9
1810	53.7	14.6	1.47	53.3	1.52	0.8	-3.3
1825	53.7	14.6	1.48	53.3	1.52	0.8	-2.6
1850	53.6	14.5	1.50	53.3	1.52	0.6	-1.3
1900	53.5	14.5	1.51	53.3	1.52	0.2	0.7
1950	53.5	14.5	1.57	53.3	1.52	0.4	3.3
2000	53.4	14.4	1.60	53.3	1.52	0.2	5.3
2050	53.4	14.4	1.64	53.2	1.57	0.3	4.5
2100	53.3	14.4	1.68	53.2	1.62	0.2	3.7
2150	53.3	14.4	1.72	53.1	1.66	0.4	3.6
2200	53.2	14.4	1.76	53.0	1.71	0.3	2.9
2250	53.1	14.4	1.81	53.0	1.76	0.2	2.8
2300	53.1	14.4	1.85	52.9	1.81	0.4	2.2
2350	53.0	14.5	1.89	52.8	1.85	0.3	2.2
2400	52.9	14.5	1.94	52.8	1.90	0.2	2.1
2450	52.9	14.5	1.98	52.7	1.95	0.4	1.5
2500	52.8	14.6	2.03	52.6	2.02	0.3	0.5
2550	52.7	14.6	2.07	52.6	2.09	0.2	-1.0
2600	52.6	14.7	2.12	52.5	2.16	0.2	-1.8



3600	51.1	15.5	3.02	51.3	3.31	-0.4	-8.8
3700	50.8	15.7	3.24	51.1	3.55	-0.5	-8.8
3800	48.1	18.2	5.27	49.0	5.30	-1.6	-0.6
4250	48.0	18.3	5.34	49.0	5.36	-1.9	-0.4
4300	47.9	18.4	5.41	48.9	5.42	-2.0	-0.2
4350	47.8	18.6	5.70	48.5	5.65	-2.2	0.8
5600	47.3	18.8	5.84	48.5	5.77	-2.3	1.3
5700	47.1	18.9	5.99	48.3	5.88	-2.5	1.8
5800	47.0	19.0	6.14	48.2	6.00	-2.6	2.3

TSL Dielectric Parameters

Figure D-2
750 – 5800 MHz Body Tissue Equivalent Matter

FCC ID: A3LSMN970U



SAR EVALUATION REPORT



Approved by:
Quality Manager

Test Dates:
05/30/19 - 07/03/19

DUT Type:
Portable Handset

APPENDIX D:
Page 2 of 3

Measurement Certificate / Material Test

Item Name: Head Tissue Simulating Liquid (HBBL600-10000V6)
Product No.: SL AAH U16 BG (Batch: 181031-2)
Manufacturer: SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

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

Test Condition

Ambient Condition 22°C ; 30% humidity

TSL Temperature 22°C

Test Date 31-Oct-18

Operator CL

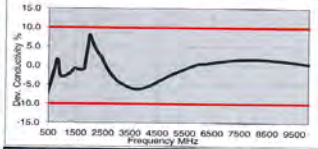
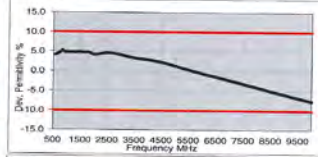
Additional Information

TSL Density

TSL Heat-capacity

Results

f (MHz)	ε'	ε''	sigma	eps	sigma	Δ-eps	Δ-sigma
800	43.8	20.5	0.91	41.7	0.90	5.1	1.4
825	43.8	20.1	0.92	41.6	0.91	5.3	1.5
850	43.6	19.9	0.93	41.5	0.91	5.4	2.0
875	43.7	19.7	0.93	41.5	0.92	5.3	1.8
900	43.5	18.9	0.95	41.5	0.97	4.8	-2.1
1400	42.6	15.0	1.17	40.6	1.18	4.7	-0.8
1450	42.5	14.8	1.19	40.5	1.20	3.9	-0.8
1600	42.2	14.3	1.27	40.3	1.28	4.7	-1.1
1625	42.2	14.2	1.29	40.3	1.30	4.8	-0.7
1640	42.2	14.2	1.30	40.3	1.31	4.8	-0.5
1650	42.1	14.2	1.30	40.2	1.31	4.6	-1.0
1700	42.1	14.0	1.35	40.2	1.34	4.8	-0.9
1750	42.0	13.9	1.36	40.1	1.37	4.8	-0.8
1800	41.9	13.9	1.39	40.0	1.40	4.7	-0.7
1810	41.9	13.8	1.40	40.0	1.40	4.7	0.0
1825	41.9	13.8	1.41	40.0	1.40	4.7	0.7
1850	41.8	13.8	1.42	40.0	1.40	4.5	1.4
1900	41.8	13.7	1.45	40.0	1.40	4.5	3.6
1950	41.7	13.7	1.48	40.0	1.40	4.3	5.7
2000	41.6	13.6	1.51	40.0	1.40	4.0	7.9
2050	41.6	13.6	1.55	39.9	1.44	4.2	7.3
2100	41.5	13.5	1.58	39.8	1.40	4.2	6.1
2150	41.4	13.5	1.62	39.7	1.33	4.2	5.7
2200	41.4	13.5	1.65	39.6	1.38	4.4	4.6
2250	41.3	13.5	1.68	39.6	1.42	4.4	4.2
2300	41.2	13.5	1.72	39.5	1.47	4.4	3.2
2350	41.1	13.5	1.76	39.4	1.71	4.4	2.9
2400	41.1	13.5	1.80	39.3	1.76	4.6	2.5
2450	41.0	13.5	1.84	39.2	1.80	4.6	2.2
2500	40.9	13.5	1.88	39.1	1.85	4.5	1.4
2550	40.8	13.5	1.92	39.1	1.91	4.4	0.6
2600	40.8	13.6	1.95	39.0	1.96	4.6	-0.2
3500	39.2	14.1	2.74	37.9	2.91	3.3	-5.8
3700	38.9	14.2	2.93	37.7	3.12	3.1	-6.1



3200	38.3	15.9	4.57	30.0	4.66	0.9	-1.7
3250	38.2	15.9	4.63	30.9	4.71	0.6	-1.6
3300	38.1	15.9	4.69	30.9	4.76	0.7	-1.4
3500	35.8	16.1	4.92	35.6	4.95	0.3	-0.9
3600	35.6	16.2	5.04	35.5	5.07	0.1	-0.6
3700	35.4	16.2	5.15	35.4	5.17	0.0	-0.3
3800	35.2	16.3	5.27	35.3	5.27	-0.2	0.0
4000	34.9	16.5	5.50	35.1	5.48	-0.6	0.5
4500	34.0	16.9	6.12	34.5	6.07	-1.4	0.9
5000	33.1	17.3	6.74	33.9	6.65	-2.3	1.3
5500	32.2	17.6	7.36	33.3	7.24	-3.2	1.6
6000	31.4	17.9	7.97	32.7	7.84	-4.1	1.7
6500	30.5	18.2	8.59	32.1	8.45	-5.0	1.6
7000	29.7	18.4	9.20	31.5	9.08	-5.9	1.3
7500	28.9	18.5	9.80	31.0	9.71	-6.8	0.9
8000	28.1	18.7	10.40	30.4	10.36	-7.6	0.4

TSL Dielectric Parameters

Figure D-3
750 – 5800 MHz Head Tissue Equivalent Matter

FCC ID: A3LSMN970U		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 05/30/19 - 07/03/19	DUT Type: Portable Handset			APPENDIX D: Page 3 of 3

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 Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	750	6/4/2019	7357	750	Head	0.894	42.979	PASS	PASS	PASS	N/A	N/A	N/A
H	835	7/13/2018	7409	835	Head	0.932	43.227	PASS	PASS	PASS	GMSK	PASS	N/A
H	835	6/6/2019	7406	835	Head	0.930	43.800	PASS	PASS	PASS	GMSK	PASS	N/A
I	1750	5/28/2019	7357	1750	Head	1.368	40.344	PASS	PASS	PASS	N/A	N/A	N/A
L	1900	5/22/2019	7308	1900	Head	1.450	38.200	PASS	PASS	PASS	GMSK	PASS	N/A
E	2300	2/6/2019	3589	2300	Head	1.724	40.930	PASS	PASS	PASS	N/A	N/A	N/A
E	2450	2/5/2019	3589	2450	Head	1.825	39.836	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
E	2600	2/7/2019	3589	2600	Head	1.964	40.460	PASS	PASS	PASS	TDD	PASS	N/A
E	3500	6/13/2019	3589	3500	Head	2.781	39.174	PASS	PASS	PASS	TDD	PASS	N/A
E	3700	6/13/2019	3589	3700	Head	2.976	38.844	PASS	PASS	PASS	TDD	PASS	N/A
H	5250	6/10/2019	7406	5250	Head	4.630	36.200	PASS	PASS	PASS	OFDM	N/A	PASS
H	5600	6/10/2019	7406	5600	Head	4.630	36.200	PASS	PASS	PASS	OFDM	N/A	PASS
H	5750	6/10/2019	7406	5750	Head	5.150	33.901	PASS	PASS	PASS	OFDM	N/A	PASS
M	750	11/2/2018	3287	750	Body	0.971	53.939	PASS	PASS	PASS	N/A	N/A	N/A
L	750	11/6/2018	7308	750	Body	0.962	53.923	PASS	PASS	PASS	N/A	N/A	N/A
D	750	7/2/2019	3914	750	Body	0.945	57.550	PASS	PASS	PASS	N/A	N/A	N/A
J	835	3/10/2019	7488	835	Body	0.988	53.868	PASS	PASS	PASS	GMSK	PASS	N/A
G	835	8/29/2018	7410	835	Body	0.956	54.177	PASS	PASS	PASS	GMSK	PASS	N/A
D	835	6/18/2019	3914	835	Body	0.945	52.698	PASS	PASS	PASS	GMSK	PASS	N/A
J	1750	2/7/2019	7488	1750	Body	1.509	51.017	PASS	PASS	PASS	N/A	N/A	N/A
I	1750	5/21/2019	7357	1750	Body	1.442	55.384	PASS	PASS	PASS	N/A	N/A	N/A
E	1900	2/5/2019	3589	1900	Body	1.584	54.248	PASS	PASS	PASS	GMSK	PASS	N/A
G	1900	8/10/2018	7410	1900	Body	1.567	52.239	PASS	PASS	PASS	GMSK	PASS	N/A
L	2300	11/6/2018	7308	2300	Body	1.894	51.522	PASS	PASS	PASS	N/A	N/A	N/A
K	2450	3/6/2019	7417	2450	Body	2.039	50.670	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
L	2450	11/6/2018	7308	2450	Body	2.022	51.315	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	3/6/2019	7417	2600	Body	2.224	50.170	PASS	PASS	PASS	TDD	PASS	N/A
D	3500	6/12/2019	3914	3500	Body	3.377	51.090	PASS	PASS	PASS	TDD	PASS	N/A
D	3700	6/12/2019	3914	3700	Body	3.593	50.776	PASS	PASS	PASS	TDD	PASS	N/A
L	5250	10/29/2018	7308	5250	Body	5.511	48.770	PASS	PASS	PASS	OFDM	N/A	PASS
L	5600	10/29/2018	7308	5600	Body	5.994	48.200	PASS	PASS	PASS	OFDM	N/A	PASS
L	5750	10/29/2018	7308	5750	Body	6.219	47.960	PASS	PASS	PASS	OFDM	N/A	PASS

FCC ID: A3LSMN970U		SAR EVALUATION REPORT		Approved by: Quality Manager
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Table E-2
SAR System Validation Summary – 10g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (ϵ_r)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	1750	5/21/2019	7357	1750	Body	1.442	55.384	PASS	PASS	PASS	N/A	N/A	N/A
E	1900	2/5/2019	3589	1900	Body	1.584	54.248	PASS	PASS	PASS	GMSK	PASS	N/A
G	1900	8/10/2018	7410	1900	Body	1.567	52.239	PASS	PASS	PASS	GMSK	PASS	N/A
J	1900	2/8/2019	7488	1900	Body	1.571	52.538	PASS	PASS	PASS	GMSK	PASS	N/A
L	2300	11/6/2018	7308	2300	Body	1.894	51.522	PASS	PASS	PASS	N/A	N/A	N/A
K	2450	3/6/2019	7417	2450	Body	2.039	50.67	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	3/6/2019	7417	2600	Body	2.224	50.17	PASS	PASS	PASS	TDD	PASS	N/A
L	5250	10/29/2018	7308	5250	Body	5.511	48.77	PASS	PASS	PASS	OFDM	N/A	PASS
L	5600	10/29/2018	7308	5600	Body	5.994	48.2	PASS	PASS	PASS	OFDM	N/A	PASS
L	5750	10/29/2018	7308	5750	Body	6.219	47.96	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: A3LSMN970U		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 05/30/19 - 07/03/19	DUT Type: Portable Handset			APPENDIX E: Page 2 of 2

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.

G.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.

G.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 low, mid, and high bands, as appropriate (see note below Table G-2 for more details).
4. Steps 1 through 3 were repeated for all distance-based power reduction mechanisms.

FCC ID: A3LSMN970U	 PCTEST ENGINEERING LABORATORY, INC.	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 05/30/19 - 07/03/19	DUT Type: Portable Handset			APPENDIX G: Page 1 of 3

G.3 Main Antenna Verification Summary

Table G-1
Power Measurement Verification for Main Antenna

Mechanism(s)		Mode/Band	Conducted Power (dBm)		
1st	2nd		Un-triggered (Max)	Mechanism #1 (Reduced)	Mechanism #2 (Reduced)
Hotspot On		GPRS 1900	30.50	27.58	
Grip		GPRS 1900	30.41	28.20	
Hotspot On	Grip	GPRS 1900	30.40	27.55	27.55
Grip	Hotspot On	GPRS 1900	30.41	28.18	27.54
Hotspot On		UMTS 1750	24.54	19.93	
Grip		UMTS 1750	24.57	19.96	
Hotspot On	Grip	UMTS 1750	24.64	19.95	19.94
Grip	Hotspot On	UMTS 1750	24.64	19.96	19.96
Hotspot On		UMTS 1900	24.28	19.31	
Grip		UMTS 1900	24.28	20.79	
Hotspot On	Grip	UMTS 1900	24.33	19.29	19.30
Grip	Hotspot On	UMTS 1900	24.32	20.80	19.27
Hotspot On		PCS CDMA	24.64	19.45	
Grip		PCS CDMA	24.59	20.69	
Hotspot On	Grip	PCS CDMA	24.53	19.41	19.43
Grip	Hotspot On	PCS CDMA	24.58	20.58	19.50
Hotspot On		LTE FDD Band 2	23.95	18.98	
Grip		LTE FDD Band 2	24.01	20.47	
Hotspot On	Grip	LTE FDD Band 2	24.00	18.99	18.98
Grip	Hotspot On	LTE FDD Band 2	23.98	20.46	18.98
Hotspot On		LTE FDD Band 4	24.00	19.46	
Grip		LTE FDD Band 4	23.95	19.45	
Hotspot On	Grip	LTE FDD Band 4	23.96	19.45	19.44
Grip	Hotspot On	LTE FDD Band 4	24.01	19.50	19.48
Hotspot On		LTE FDD Band 7	22.10	19.18	
Grip		LTE FDD Band 7	22.22	19.05	
Hotspot On	Grip	LTE FDD Band 7	22.15	19.22	19.18
Grip	Hotspot On	LTE FDD Band 7	22.13	19.11	19.14
Hotspot On		LTE FDD Band 25	24.00	19.06	
Grip		LTE FDD Band 25	24.04	20.53	
Hotspot On	Grip	LTE FDD Band 25	24.10	19.05	19.07
Grip	Hotspot On	LTE FDD Band 25	24.08	20.54	19.05
Hotspot On		LTE FDD Band 30	21.65	19.21	
Grip		LTE FDD Band 30	21.59	19.21	
Hotspot On	Grip	LTE FDD Band 30	21.63	19.22	19.32
Grip	Hotspot On	LTE FDD Band 30	21.60	19.14	19.19
Hotspot On		LTE TDD Band 38	23.52	21.56	
Grip		LTE TDD Band 38	23.59	22.10	
Hotspot On	Grip	LTE TDD Band 38	23.51	21.57	21.59
Grip	Hotspot On	LTE TDD Band 38	23.54	22.12	21.57
Hotspot On		LTE TDD Band 41 (PC3)	24.05	20.95	
Grip		LTE TDD Band 41 (PC3)	24.08	21.48	
Hotspot On	Grip	LTE TDD Band 41 (PC3)	24.03	20.94	20.94
Grip	Hotspot On	LTE TDD Band 41 (PC3)	24.07	21.44	20.99
Hotspot On		LTE TDD Band 41 (PC2)	26.72	22.11	
Grip		LTE TDD Band 41 (PC2)	26.68	23.20	
Hotspot On	Grip	LTE TDD Band 41 (PC2)	26.74	22.12	22.10
Grip	Hotspot On	LTE TDD Band 41 (PC2)	26.74	23.17	22.09
Hotspot On		LTE FDD Band 66	24.00	19.46	
Grip		LTE FDD Band 66	23.95	19.44	
Hotspot On	Grip	LTE FDD Band 66	23.97	19.47	19.46
Grip	Hotspot On	LTE FDD Band 66	23.98	19.43	19.46

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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	
Grip	Phablet - Back Side	Mid	11	13	7
Grip	Phablet - Back Side	High	11	13	7
Grip	Phablet - Front Side	Mid	7	9	5
Grip	Phablet - Front Side	High	7	9	5
Grip	Phablet - Bottom Edge	Mid	11	14	11
Grip	Phablet - Bottom Edge	High	11	14	11

*Note: Mid band refers to: CDMA BC1, UMTS B2/4, GSM 1900, LTE B2/4/25/66;
High band refers to: LTE B7/30/38/41

G.4 WIFI Verification Summary

Table G-3
Power Measurement Verification WIFI

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
		Un-triggered (Max)	Mechanism #1 (Reduced)
1st			
Held-to-Ear	802.11b	19.89	16.50
Held-to-Ear	802.11g	17.83	16.50
Held-to-Ear	802.11n (2.4GHz)	17.31	16.28
Held-to-Ear	802.11a	16.46	12.35
Held-to-Ear	802.11n (5GHz, 20MHz BW)	16.44	12.24
Held-to-Ear	802.11ac (20MHz BW)	16.28	12.16
Held-to-Ear	802.11n (5GHz, 40MHz BW)	15.65	12.56
Held-to-Ear	802.11ac (40MHz BW)	15.43	12.38
Held-to-Ear	802.11ac (80MHz BW)	14.24	12.82

*Note: MIMO and 802.11ax WIFI modes were not evaluated 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 April 2018 TCBC Workshop Notes, the following test reduction methodology was applied to determine the combinations required for conducted power measurements.

LTE DLCA Test Reduction Methodology:

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

Table 1 – Example of Exclusion Table for SISO Configurations

[illegible]

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

[illegible]

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

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1.2 LTE Downlink Only Carrier Aggregation Test Selection and Setup

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

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

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

General PCC and SCC configuration selection procedure

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

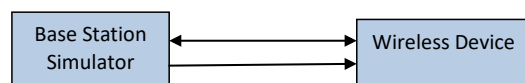


Figure 1
DL CA Power Measurement Setup

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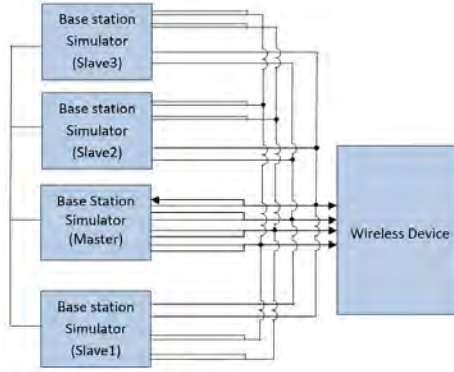


Figure 2
DL CA with DL 4x4 MIMO Power Measurement Setup

1.3 Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 71 as PCC

Table 1
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC			PCC UL# RB	PCC UL# RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC 1			SCC 2			SCC 3			Power				
				Mod.	PCC (UL) Freq. [MHz]	PCC (UL) Freq. [MHz]					SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-4A-71A	LTE B71	20	133297	680.5	QPSK	-	1	0	68761	634.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	25.11	25.07
CA 4A-4A-71A	LTE B71	20	133297	680.5	QPSK	-	1	0	68761	634.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.14	25.07
CA 2A-2A-4A-71A	LTE B71	20	133297	680.5	QPSK	-	1	0	68761	634.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	25.17	25.07
CA 2A-2A-66A-71A	LTE B71	20	133297	680.5	QPSK	-	1	0	68761	634.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.18	25.07
CA 2A-66A-66A-71A	LTE B71	20	133297	680.5	QPSK	-	1	0	68761	634.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2150	25.18	25.07
CA 2A-66C-71A	LTE B71	20	133297	680.5	QPSK	-	1	0	68761	634.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66884	2164.8	25.20	25.07

1.3.2 LTE Band 12 as PCC

Table 2
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC					SCC 1					SCC 2					SCC 3					Power	
			PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL# RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA 2A-12A (1)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	25.62	25.54	
CA 4A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.53	25.48	
CA 4A-12A (2)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.60	25.48	
CA 12A-25A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	25.50	25.48	
CA 12A-66A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.50	25.48	
CA 12A-66A (2)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.60	25.54	
CA 12A-46A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	25.53	25.48	
CA 12A-46C	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5537.7	-	-	-	-	25.51	25.48	
CA 2A-2A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	25.52	25.48	
CA 2A-2A-7A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B7	20	3100	2655	25.57	25.48	
CA 2A-2A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2265	25.55	25.48	
CA 2A-2A-12A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.52	25.48	
CA 2A-2A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B2	20	700	1940	25.55	25.48	
CA 2A-4A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	25.54	25.48	
CA 2A-4A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	25.53	25.48	
CA 2A-7A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B7	20	3100	2655	25.55	25.48	
CA 2A-12B-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B66	20	66786	2145	25.56	25.48	
CA 2A-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2160	25.54	25.48	
CA 2A-12A-66C	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66884	2164.8	25.56	25.48	
CA 4A-4A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	25.54	25.48	
CA 12A-46D	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5537.7	LTE B46	20	50863	5557.3	25.53	25.48	

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1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

Combination	PCC										SCC 1				SCC 2				SCC 3				SCC 4				Power		
	PCC Band	PCC BW [MHz]	PCC [UL] Ch	PCC [UL] Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC [DL] Channel	PCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)		
CA 2A-4A-13A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	25.35	25.51	
CA 4A-4A-13A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	2175	2132.5	LTE B4	10	2250	2150	-	-	-	-	-	-	-	-	-	25.56	25.51	
CA 2A-13A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B4	20	50605	5037.5	-	-	-	-	-	-	-	-	-	25.56	25.51	
CA 13A-6A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	66786	2145	-	-	-	-	-	-	-	-	-	25.56	25.51	
CA 2A-2A-13A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B6	20	66786	2145	-	-	-	-	-	-	25.61	25.51
CA 2A-13A-6A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	-	-	-	-	-	-	25.61	25.51
CA 2A-13A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B6	15	66786	2145	LTE B6	5	66786	2145	-	-	-	-	-	-	25.58	25.51
CA 1A-13A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	-	-	-	-	-	-	25.58	25.51
CA 13A-4A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	-	-	-	-	25.58	25.51
CA 13A-4A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.57	25.51
CA 2A-13A-4A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.56	25.51
CA 2A-13A-4A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.56	25.51
CA 2A-1A-4A-6A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.51	25.51
CA 2A-1A-4A-6A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.51	25.51
CA 13A-4A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.58	25.51
CA 13A-4A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.58	25.51
CA 13A-4A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.57	25.51
CA 2A-13A-4A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B2	20	900	1960	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.56	25.51
CA 13A-4A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.56	25.51
CA 13A-4A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.56	25.51
CA 13A-4A-6A	LTE B13	10	23230	762	QPSK	1	25	5230	761	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	LTE B4	20	50605	5037.5	-	-	-	-	-	-	25.56	25.51

1.3.4 LTE Band 14 as PCC

Table 4
Maximum Output Powers

Combination	PCC										SCC 1				SCC 2				SCC 3				SCC 4				Power	
	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC [UL] Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC [DL] Channel	PCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] 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-2A-14A-30A-6A	LTE B14	10	23330	793	QPSK	1	25	5330	793	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	6620	2335	LTE B6	20	66786	2145	25.47	25.31	
CA 2A-2A-14A-30A-6A	LTE B14	10	23330	793	QPSK	1	25	5330	793	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B6	20	66786	2145	LTE B6	20	66786	2145	25.35	25.31	
CA 2A-14A-30A-6A-6A	LTE B14	10	23330	793	QPSK	1	25	5330	793	LTE B2	20	900	1960	LTE B30	10	6620	2335	LTE B6	20	66786	2145	LTE B6	20	66786	2145	25.37	25.31	

1.3.5 LTE Band 5 as PCC

Table 5
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC				SCC 1				SCC 2				SCC 3				SCC 4				Power					
				PCC [UL] Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC [DL] Channel	PCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	LTE Tx Power with CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)		
CA 5A-5A (1)	LTE B5	3	20445	826.5	QPSK	1	14	2415	810.5	LTE B5	5	2025	819.5	-	-	-	-	-	-	-	-	-	-	-	-	-	24.43	24.54	
CA 5B (1)	LTE B5	5	20625	840.5	QPSK	1	12	2625	811.5	LTE B5	3	2686	887.6	-	-	-	-	-	-	-	-	-	-	-	-	-	24.48	24.55	
CA 5A-2A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	3100	2066	-	-	-	-	-	-	-	-	-	-	-	-	-	24.57	24.58	
CA 5A-25A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	20	8365	1982.5	-	-	-	-	-	-	-	-	-	-	-	-	-	24.57	24.58	
CA 5A-26A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	20	8600	2026	-	-	-	-	-	-	-	-	-	-	-	-	-	24.42	24.58	
CA 5A-4A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50990	5025	-	-	-	-	-	-	-	-	-	-	-	-	-	24.56	24.58	
CA 5A-4A (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50990	5037.5	-	-	-	-	-	-	-	-	-	-	-	-	-	24.59	24.58	
CA 5A-4B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50990	5025	-	-	-	-	-	-	-	-	-	-	-	-	-	24.58	24.58	
CA 2A-5A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50990	5037.5	LTE B4	20	50989	5044.8	-	-	-	-	-	-	-	-	-	24.58	24.58	
CA 2A-5A-6A (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B4	20	50989	5037.5	-	-	-	-	-	-	-	-	-	24.61	24.58	
CA 5A-6A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50965	5037.5	LTE B4	20	50989	5037.5	-	-	-	-	-	-	-	-	-	24.62	24.58	
CA 5A-6A-6A (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50965	5037.5	LTE B4	20	50989	5037.5	-	-	-	-	-	-	-	-	-	24.64	24.58	
CA 2A-2A-4A-5A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	-	-	-	-	-	-	24.64	24.58
CA 2A-2A-4A-5A (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2250	2150	-	-	-	-	-	-	24.68	24.58
CA 2A-2A-5B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	24.62	24.58
CA 2A-5A-5A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2250	2150	-	-	-	-	-	-	24.64	24.58
CA 4A-4A-5B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B4	20	2175	2132.5	LTE B4	10	2250	2150	-	-	-	-	-	-	24.58	24.58
CA 5A-5A-6A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B5	20	66786	2145	LTE B6	20	66786	2145	-	-	-	-	-	-	24.64	24.58
CA 5A-5A-6B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B5	20	66786	2145	LTE B6	20	66786	2145	-	-	-	-	-	-	24.57	24.58
CA 5A-5A-6B (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B5	20	66786	2145	LTE B6	20	66786	2145	-	-	-	-	-	-	24.64	24.58
CA 5A-4B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50990	5025	LTE B4	20	50989	5044.8	-	-	-	-	-	-	-	-	-	24.58	24.58	
CA 2A-5A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B4	20	50989	5037.5	LTE B4	20	50987	5061.7	-	-	-	-	-	-	24.60	24.58
CA 5A-4A (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50965	5037.5	LTE B4	20	50987	5037.7	LTE B4	20	50983	5557.3	-	-	-	-	-	24.62	24.58	
CA 5A-4B-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50965	5037.5	LTE B4	20	50987	5037.7	LTE B4	20	50983	5557.3	LTE B4	20	50981	5571.1	24.62	24.58		
CA 2A-2A-2A-5A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B3	10	2820	2355	LTE B6	20	66786	2145	24.58	24.58		
CA 2A-2A-5A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.76	24.58		
CA 2A-2A-5A-6B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.76	24.58		
CA 2A-2A-5A-6B (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.76	24.58		
CA 2A-5B-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.69	24.58		
CA 2A-5B-6B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.69	24.58		
CA 2A-5A-6A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.73	24.58		
CA 2A-5A-6A-6A (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.73	24.58		
CA 2A-5A-6A-6B	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.73	24.58		
CA 2A-5A-6A-6B (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B6	20	66786	2145	LTE B6	20	66786	2145	24.73	24.58		
CA 5A-4A-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50965	5037.5	LTE B4	20	50987	5037.7	LTE B4	20	50983	5557.3	LTE B4	20	50981	5571.1	24.62	24.58		
CA 5A-4A (1)	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50965	5037.5	LTE B4	20	50987	5037.7	LTE B4	20	50983	5557.3	LTE B4	20	50981	5571.1	24.62	24.58		
CA 5A-5B-6A	LTE B5	10	20455	836.5	QPSK	1	0	2525	811.5	LTE B4	20	50965	5037.5	LTE B4	20	50987	5037.7	LTE B4	20	50983	5557.3	LTE B4	20	50979	2146	24.69	24.58		

1.3.10 LTE Band 7 as PCC

Table 10
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC				SCC 1				SCC 2				SCC 3				SCC 4				Power				
			PCC [UL] Ch.	PCC [UL] Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC [DL] Channel	PCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	LTE Tx Power with DL CA Enabled [dBm]	LTE Single Carrier Tx Power [dBm]
CA 5A-7A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B5	10	2535	891.5	-	-	-	-	-	-	-	-	-	-	-	-	23.46	23.47
CA 2A-7A-7A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B7	20	2655	2630	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	23.46	23.47
CA 2A-7C	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B7	20	2655	2637.9	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	23.45	23.47
CA 4A-4A-7A (1)	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B4	20	2175	2132.5	LTE B4	20	2350	2150	-	-	-	-	-	-	-	-	23.47	23.47
CA 2A-7A-6A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B2	20	900	1960	LTE B46	20	50665	5037.5	-	-	-	-	-	-	-	-	23.49	23.47
CA 7A-4A-6A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B7	20	2655	2630	LTE B46	20	50665	5037.5	-	-	-	-	-	-	-	-	23.50	23.47
CA 7A-4B (1)	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B46	20	50665	5037.5	LTE B46	20	50667	5037.7	-	-	-	-	-	-	-	-	23.46	23.47
CA 7A-4A-6A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B46	20	50665	5037.5	LTE B46	20	50666	5037.6	-	-	-	-	-	-	-	-	23.48	23.47
CA 2A-2A-7A-12A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	6055	737.5	-	-	-	-	23.49	23.47
CA 2A-4A-7A-7A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B7	20	2655	2630	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	23.46	23.47
CA 2A-4A-7A-12A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	6055	737.5	-	-	-	-	23.50	23.47
CA 2A-7A-12B	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B2	20	900	1960	LTE B12	5	8047	732.7	-	-	-	-	-	-	-	23.47	23.47	
CA 2A-7A-6A-6A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B2	20	900	1960	LTE B46	20	60706	2145	LTE B46	20	60706	2145	-	-	-	-	23.46	23.47
CA 7A-7A-4C	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B7	20	2655	2630	LTE B46	20	50665	5037.5	LTE B46	20	50667	5037.7	-	-	-	-	23.45	23.47
CA 7A-4B (1)	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B46	20	50665	5037.5	LTE B46	20	50667	5037.7	LTE B46	20	50668	5037.8	-	-	-	-	23.46	23.47
CA 2A-2A-7A-12A-6A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	6055	737.5	-	-	-	-	23.49	23.47
CA 2A-7A-12B-6A	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B2	20	900	1960	LTE B12	5	8047	732.7	LTE B46	20	60706	2145	-	-	-	-	23.49	23.47
CA 7A-7A-4B	LTE B7	15	21100	2535	QPSK	1	74	3100	2655	LTE B46	20	50665	5037.5	LTE B46	20	50667	5037.7	LTE B46	20	50668	5037.8	-	-	-	-	23.50	23.47

1.3.11 LTE Band 48 as PCC

Table 11
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch	PCC			PCC [DL] Channel	SCC 1			SCC 2			SCC 3			SCC 4			Power						
				Mod.	PCC UL RB	PCC UL RB Offset		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 48A-48A	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	-	-	-	-	-	-	-	-	-	-	-	23.50	23.53
CA 48A-48C	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55538	3579.8	-	-	-	-	-	-	-	23.50	23.53
CA 48C-48C	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55540	3660	-	-	-	-	-	-	-	23.49	23.53
CA 48A-48C	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55538	3579.8	LTE B48	20	55538	3579.8	-	-	-	23.50	23.53
CA 48C-48A	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55540	3660	LTE B48	20	55540	3660	-	-	-	23.49	23.53
CA 48C-48C	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55540	3660	LTE B48	20	55538	3579.8	-	-	-	23.49	23.53
CA 48A-48E	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	55540	3660	LTE B48	20	55538	3579.8	LTE B48	20	55538	3579.8	-	-	-	23.49	23.53
CA 48E-48A	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55540	3660	LTE B48	20	55538	3579.8	-	-	-	23.49	23.53
CA 48C-48C	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55540	3660	LTE B48	20	55538	3579.8	-	-	-	23.48	23.53
CA 48C-48C	LTE B48	20	56207	3646.7	QPSK	1	0	56207	3646.7	LTE B48	20	56240	3660	LTE B48	20	55540	3660	LTE B48	20	55538	3579.8	-	-	-	23.47	23.53

1.3.12 LTE Band 41 PC3 as PCC

Table 12
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC			Mod.	PCC UL RB	PCC UL RB Offset	PCC [DL] Channel	SCC 1			SCC 2			SCC 3			SCC 4			Power				
				PCC [UL] Freq. [MHz]	PCC [UL] Freq. [MHz]	PCC [UL] 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]
CA 41A-41A (1)	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	39750	2506	-	-	-	-	-	-	-	-	-	-	24.76	24.53		
CA 41A-41C	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	-	-	-	-	-	24.76	24.53		
CA 41C-41A	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	41199	2650.9	LTE B41	20	39750	2506	-	-	-	-	-	-	24.78	24.53		
CA 41A-41D	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	41199	2650.9	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	-	24.78	24.53		
CA 41D-41A	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	41199	2650.9	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	-	24.78	24.53		
CA 41C-41C	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	41199	2650.9	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	-	24.77	24.53		
CA 41E-41E	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	41199	2650.9	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	-	-	24.77	24.53		
CA 41C-41D	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	41199	2650.9	LTE B41	20	41197	2670.7	LTE B41	20	39750	2506	-	-	24.49	24.53		
CA 41D-41C	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	41199	2650.9	LTE B41	20	41197	2670.7	LTE B41	20	39948	2525.8	LTE B41	20	39750	2506	24.50	24.53
CA 41F	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41	20	40911	2622.1	LTE B41	20	40713	2602.3	LTE B41	20	40515	2582.5	LTE B41	20	40317	2562.7	24.47	24.53

1.3.13 LTE Band 41 PC2 as PCC

Table 13
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC			PCC UL RB	PCC UL RB Offset	PCC [DL] Channel	PCC [DL] Freq. [MHz]	SCC 1			SCC 2			SCC 3			SCC 4			Power		
				Mod.	SCC UL RB	SCC UL RB Offset					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
CA 41A-41A (1)	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	41480	2680	-	-	-	-	-	-	-	-	-	-	24.76	24.53
CA 41A-41C	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	41292	2660.2	LTE B41 PC2	20	41480	2680	-	-	-	-	-	-	24.76	24.53
CA 41C-41A	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	40529	2560.9	LTE B41 PC2	20	41480	2680	-	-	-	-	-	-	24.95	24.53
CA 41A-41D	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	41094	2640.4	LTE B41 PC2	20	41292	2660.2	LTE B41 PC2	20	41480	2680	-	-	24.74	24.53
CA 41D-41A	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	40529	2560.9	LTE B41 PC2	20	40527	2563.7	LTE B41 PC2	20	41480	2680	-	-	24.90	24.54
CA 41C-41D	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	41292	2660.2	LTE B41 PC2	20	41292	2660.2	LTE B41 PC2	20	41480	2680	-	-	24.99	24.54
CA 41B	LTE B41 PC2	10	40529	2560.9	QPSK	1	49	40529	2560.9	LTE B41 PC2	20	40529	2560.9	LTE B41 PC2	20	40529	2560.9	LTE B41 PC2	20	40529	2560.9	-	-	24.99	24.54
CA 41C-41D	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	40529	2560.9	LTE B41 PC2	20	40529	2560.9	LTE B41 PC2	20	41480	2680	-	-	24.74	24.54
CA 41D-41C	LTE B41 PC2	10	40185	2549.5	QPSK	1	49	40185	2549.5	LTE B41 PC2	20	40529	2560.9	LTE B41 PC2	20	40527	2563.7	LTE B41 PC2	20	41480	2680	-	-	24.74	24.54

1.4 DL CA with DL 4x4 MIMO RF Conduction Powers

This device supports downlink 4x4 MIMO operations for some LTE bands. Uplink transmission is limited to a single output stream. When carrier aggregation was applicable, the general test selection and setup procedures described in Section 1.2 were applied.

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

1.4.1 LTE 4x4 MIMO DL Standalone Powers

Table 14
Maximum Output Powers

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]
66	20	132572	1770	QPSK	1	0	24.96	24.93
25	15	26365	1882.5	QPSK	1	0	24.94	24.87
7	15	21100	2535	QPSK	1	74	23.63	23.47
30	10	27710	2310	QPSK	1	25	23.10	23.04
41 PC3	10	41055	2636.5	QPSK	1	25	24.55	24.53
41 PC2	10	40185	2549.5	QPSK	1	49	27.18	27.14
48	15	55765	3602.5	QPSK	1	74	23.54	23.42

FCC ID: A3LSMN970U	 PCTEST ENGINEERING LABORATORY, INC.	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 05/30/19 – 07/03/19	DUT Type: Portable Handset			APPENDIX H: Page 7 of 16

1.4.2 LTE Band 71 as PCC

Table 15
Maximum Output Powers

Combination	PCC Band	PCC										SCC 1				SCC 2				SCC 3				Power				
		PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA [4A]-[4A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	2x2	-	-	-	-	-	-	25.21	25.07
CA [4A]-[4A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	4x4	-	-	-	-	-	-	25.23	25.07
CA [2A]-2A-[4A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	LTE B4	20	2175	2132.5	4x4	25.21	25.07	
CA [2A]-2A-[4A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B4	20	2175	2132.5	2x2	25.22	25.07	
CA [2A]-2A-[4A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B4	20	2175	2132.5	4x4	25.23	25.07	
CA [2A]-2A-[4A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B4	20	2175	2132.5	2x2	25.23	25.07	
CA [2A]-2A-[4A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B4	20	2175	2132.5	4x4	25.31	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	4x4	25.31	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	2x2	25.32	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	4x4	25.30	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B66	20	66786	2145	2x2	25.31	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B66	20	66786	2145	4x4	25.17	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	25.24	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	67236	2190	2x2	25.30	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	25.25	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	25.28	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	25.30	25.07	
CA [2A]-2A-[66A]-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	2x2	LTE B66	20	66984	2164.8	2x2	25.29	25.07	
CA [2A]-66C-71A	LTE B71	20	133297	680.5	QPSK	1	0	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	66984	2164.8	4x4	25.30	25.07	

1.4.3 LTE Band 12 as PCC

Table 16
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC				DL Ant. Config.	SCC 1				DL Ant. Config.	SCC 2				DL Ant. Config.	SCC 3				Power		
						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]	DL Ant. Config.	SCC Band	SCC BW [MHz]
CA [2A]-12A(1)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	-	-	-	-	-	25.68	25.54
CA [4A]-12A(1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	25.70	25.48
CA [4A]-12A(2)	LTE B12	5	23035	701.5	QPSK	1	7	5025	730.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	25.71	25.54
CA [12A]-66A(1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	25.70	25.48
CA [12A]-66A(2)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	25.72	25.54
CA [2A]-17A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.21	25.48
CA [2A]-17A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B7	20	3100	2655	2x2	-	-	-	-	-	25.20	25.48
CA [2A]-17A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.21	25.48
CA [17A]-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.21	25.48
CA [2A]-2A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	LTE B4	20	2175	2132.5	4x4	25.50	25.48
CA [2A]-2A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B4	20	2175	2132.5	2x2	25.45	25.48
CA [2A]-2A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B4	20	2175	2132.5	4x4	25.42	25.48
CA [2A]-2A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B4	20	2175	2132.5	4x4	25.41	25.48
CA [2A]-2A-[12A]-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	LTE B30	10	9820	2355	4x4	25.40	25.48
CA [2A]-2A-[12A]-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B30	10	9820	2355	2x2	25.52	25.48
CA [2A]-2A-[12A]-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B30	10	9820	2355	4x4	25.54	25.48
CA [2A]-2A-[12A]-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B30	10	9820	2355	2x2	25.47	25.48
CA [2A]-2A-[12A]-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	4x4	25.52	25.48
CA [2A]-2A-[12A]-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	2x2	25.48	25.48
CA [2A]-2A-[12A]-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B66	20	66786	2145	2x2	25.51	25.48
CA [2A]-2A-[12A]-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B66	20	66786	2145	4x4	25.50	25.48
CA [2A]-2A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	25.52	25.48
CA [2A]-2A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	25.48	25.48
CA [2A]-4A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	20	2350	2150	2x2	25.49	25.48
CA [2A]-4A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B4	20	2350	2150	2x2	25.51	25.48
CA [2A]-4A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	20	2350	2150	4x4	25.40	25.48
CA [2A]-4A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B4	20	2350	2150	2x2	25.48	25.48
CA [2A]-4A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B4	20	2350	2150	4x4	25.58	25.48
CA [2A]-14A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	25.45	25.48
CA [2A]-14A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	25.43	25.48
CA [2A]-14A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	25.42	25.48
CA [2A]-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B66	20	66786	2145	2x2	LTE B66	20	66786	2145	2x2	25.46	25.48
CA [2A]-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	66786	2145	2x2	25.44	25.48
CA [2A]-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	66786	2145	4x4	25.45	25.48
CA [2A]-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	66786	2145	4x4	25.45	25.48
CA [2A]-12A-66C	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	66786	2145	2x2	25.45	25.48
CA [2A]-12A-66C	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	66786	2145	4x4	25.45	25.48
CA [2A]-12A-66C	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	66786	2145	4x4	25.45	25.48
CA [4A]-14A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	20	2350	2150	4x4	25.43	25.48

1.4.4 LTE Band 13 as PCC

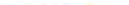
Table 17
Maximum Output Powers

[illegible]

1.4.5 LTE Band 14 as PCC

Table 18
Maximum Output Powers

Combination	PCB Part	PCB BW [MHz]	PCC [U] Ch.	PCC [U] Freq. [MHz]	Mod.	SEC 1										SEC 2										SEC 3										SEC 4										LTE Tx Power with Tx Power Lim. Enabled [dBm]	LTE Single Carrier Tx Power [dBm]
						PCC RB	PCCU RB Offset	PCC [DL] Ch.	PCC [DL] Freq. [MHz]	DL Ant. Config.	SEC BW [MHz]	SEC [DL] Ch.	SEC [DL] Freq. [MHz]	DL Ant. Config.	SEC BW [MHz]	SEC [DL] Ch.	SEC [DL] Freq. [MHz]	DL Ant. Config.	SEC BW [MHz]	SEC [DL] Ch.	SEC [DL] Freq. [MHz]	DL Ant. Config.	SEC BW [MHz]	SEC [DL] Ch.	SEC [DL] Freq. [MHz]	DL Ant. Config.	SEC BW [MHz]	SEC [DL] Ch.	SEC [DL] Freq. [MHz]	DL Ant. Config.																	
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20	900	1560	4x4	LTE B14	20	700	1560	2x2	LTE B14	20	900	1560	2x2	LTE B14	20	900	1560	2x2	25.26	25.23																
CA [2A]-2A-1A-1A [6A]	LTE B14	21330	793	QPSK	1	25	5330	793	2x2	LTE B14	20																																				

FCC ID: A3LSMN970U	 SAR EVALUATION REPORT 	Reviewed by: Quality Manager
Test Dates: 05/30/19 – 07/03/19	DUT Type: Portable Handset	APPENDIX H: Page 9 of 16

Maximum Output Powers

[illegible]

1.4.11 LTE Band 7 as PCC

Table 25
Maximum Output Powers

[illegible]

1.4.12 LTE Band 48 as PCC

Table 26
Maximum Output Powers

[illegible]

FCC ID: A3LSMN970U	 PCTEST ANALYTICAL LABORATORY, INC.	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 05/30/19 – 07/03/19	DUT Type: Portable Handset	APPENDIX H: Page 14 of 16		

1.4.13 LTE Band 41 PC3 as PCC

Table 27
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC [UL] Freq. [MHz]	Mod.	PCC		DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC 1		DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC 2		DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC 3		DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC 4		DL Ant. Config.	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
					PCC UL RB	PCC UL RB Offset				PCC [DL] Freq. [MHz]	SCC [DL] Ch.				SCC [DL] Freq. [MHz]	SCC [DL] Ch.				SCC [DL] Freq. [MHz]	SCC [DL] Ch.				SCC [DL] Freq. [MHz]	SCC [DL] Ch.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
CA 41A-41A (1)	LTE B41	10	41055	2636.5	QPSK	1	25	41055	2636.5	4x4	LTE B41	20	39750	2506	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1.4.14 LTE Band 41 PC2 as PCC

Table 28
Maximum Output Powers

Combination	PCC										SCC 1						SCC 2						SCC 3						SCC 4						Power				
	PCC Band	PCC BW [MHz]	PCC [UL] Freq. [MHz]	PCC [UL] Mod.	PCC UL RB	PCC UL RB Offset	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.	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	DL Ant. Config.	LTE Tx Power with CA Enabled [dBm]	LTE Single Carrier Tx Power [dBm]				
CA 41A-41A (1)	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.12	27.14		
CA 41A-41A (1)	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.12	27.14		
CA 41A-41A (1)	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.12	27.14		
CA 41A-41C	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14	
CA 41C-41A	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14	
CA 41A-41C	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14	
CA 41C-41A	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14	
CA 41A-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14	
CA 41D-41A	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14	
CA 41A-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41D-41A	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41A-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41D-41A	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41D-41C	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41D-41C	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41D-41C	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	2x2	LTE B41 PC2	20	41490	2680	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	4x4	LTE B41 PC2	20	41292	2660.2	4x4	LTE B41 PC2	20	41490	2680	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.26	27.14
CA 41C-41D	LTE B41 PC2	10	41055	2549.5	QPSK	1	49	41055	2549.5	2x2	LTE B41 PC2	20	40529	2561.9	4x4	LTE B41 PC2	20	41490	2680																				

1.5 Downlink Carrier Aggregation with Uplink Carrier Aggregation enabled

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

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

1.5.1 UL CA with DL Carrier Aggregation RF Conducted Powers

Table 29
Maximum Output Powers

[illegible]

1.5.2 UL CA with DL 4x4 MIMO RF Conducted Powers

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

Table 30
Maximum Output Powers

PCC																			SCC 1																			Power	
Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC [UL] Freq. [MHz]	Mod.	PCC UL/R RB	PCC UL RB Offset	PCC [DL] Ch.	PCC [DL] Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC [UL] Ch.	SCC [UL] Freq. [MHz]	Mod.	SCC UL/R RB	SCC UL RB Offset	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	DL Ant. Config.	ULCA TxPower with add'l CA config. active on DL [dBm]	ULCA Tx Power [dBm]																	
CA {66B}	LTE B66	10	132622	1775	QPSK	1	0	67086	2175	4x4	LTE B66	20	132523	1765.1	QPSK	1	49	66987	2165.1	4x4	23.73	23.80																	
CA {66C}	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	4x4	LTE B66	20	132374	1750.2	QPSK	1	99	66838	2150.2	4x4	24.30	24.32																	
Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC [UL] Freq. [MHz]	Mod.	PCC UL/R RB	PCC UL RB Offset	PCC [DL] Ch.	PCC [DL] Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC [UL] Ch.	SCC [UL] Freq. [MHz]	Mod.	SCC UL/R RB	SCC UL RB Offset	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	DL Ant. Config.	ULCA TxPower with add'l CA config. active on DL [dBm]	ULCA Tx Power [dBm]																	
CA {40C1}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.80	23.80																	
CA {40C1A4}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.75	23.75																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.70	23.70																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.65	23.65																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.60	23.60																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.55	23.55																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.50	23.50																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.45	23.45																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.40	23.40																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.35	23.35																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.30	23.30																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.25	23.25																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.20	23.20																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.15	23.15																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.10	23.10																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.05	23.05																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	23.00	23.00																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.95	22.95																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.90	22.90																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.85	22.85																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.80	22.80																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.75	22.75																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.70	22.70																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.65	22.65																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.60	22.60																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.55	22.55																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.50	22.50																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.45	22.45																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.40	22.40																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.35	22.35																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.30	22.30																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.25	22.25																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.20	22.20																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.15	22.15																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.10	22.10																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.05	22.05																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	22.00	22.00																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.95	21.95																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.90	21.90																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.85	21.85																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.80	21.80																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.75	21.75																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.70	21.70																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.65	21.65																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.60	21.60																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.55	21.55																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.50	21.50																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.45	21.45																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.40	21.40																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.35	21.35																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.30	21.30																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.25	21.25																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.20	21.20																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.15	21.15																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1	0	40620	2593	4x4	LTE B40	20	40620	2579.3	QPSK	1	99	40620	2579.3	4x4	21.10	21.10																	
CA {40C1A4A}	LTE B40	20	40620	2593	QPSK	1																																	

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APPENDIX I: IEEE 802.11AX RU SAR EXCLUSION

1.1 IEEE 802.11ax RU SAR Exclusion

To make the most efficient use of the additional available subcarriers (data tones), IEEE 802.11ax can utilize Orthogonal Frequency-Division Multiple Access (OFDMA) which divides the existing 802.11 channels into smaller subchannels called Resource Units (RUs). Possible RU sizes are: 26T, 52T, 106T, 242T, 484T and 996T.

Per April 2019 TCB Workshop Notes, 802.11ax was considered a higher order 802.11 mode when compared to a/b/g/n/ac to apply KDB Publication 248227 D01v02r02 for OFDM mode selection. Therefore, SAR tests were not required for 802.11ax based on the maximum allowed output powers of OFDM modes and the reported SAR values. Per FCC Guidance, maximum conducted powers were performed for each RU size to demonstrate that the output powers would not be higher than the other OFDM 802.11 modes.

1.2 IEEE 802.11ax RU Target Powers

1.2.1 Maximum 802.11ax RU WLAN Output Power

Tones		SISO (ANT1/2) /in dBm				MIMO (ALL) /in dBm			
		2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz	2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz
26T	Maximum	14	11	11	11	14	11	11	11
	Nominal	13	10	10	10	13	10	10	10
52T	Maximum	15	13	12	11	15	13	12	11
	Nominal	14	12	11	10	14	12	11	10
106T	Maximum	16	15	13	12	16	15	13	12
	Nominal	15	14	12	11	15	14	12	11
242T	Maximum	17 Ch. 11: 16	16	14	13	17 Ch. 11: 16	16	14	13
	Nominal	16 Ch. 11: 15	15	13	12	16 Ch. 11: 15	15	13	12
484T	Maximum			14	13			14	13
	Nominal			13	12			13	12
996T	Maximum				13				13
	Nominal				12				12

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1.2.2 Reduced 802.11ax RU WLAN Output Power – Receiver Active

Tones		SISO (ANT1/2) /in dBm				MIMO (ALL) /in dBm			
		2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz	2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz
26T	Maximum	14	11	11	11	14	11	11	11
	Nominal	13	10	10	10	13	10	10	10
52T	Maximum	15	13	12	11	15	13	12	11
	Nominal	14	12	11	10	14	12	11	10
106T	Maximum	16	14	13	12	16	15	13	12
	Nominal	15	13	12	11	15	14	12	11
242T	Maximum	17 Ch. 11: 16	14	14	13	17 Ch. 11: 16	16	14	13
	Nominal	16 Ch. 11: 15	13	13	12	16 Ch. 11: 15	15	13	12
484T	Maximum			14	13			14	13
	Nominal			13	12			13	12
996T	Maximum				13				13
	Nominal				12				12

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1.2.3 Maximum 802.11ax RU WLAN Output Power During Conditions with Simultaneous 2.4 GHz WLAN and 5 GHz WLAN

Tones		SISO (ANT1/2) /in dBm				MIMO (ALL) /in dBm			
		2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz	2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz
26T	Maximum	14	11	11	11	14	11	11	11
	Nominal	13	10	10	10	13	10	10	10
52T	Maximum	15	13	12	11	15	13	12	11
	Nominal	14	12	11	10	14	12	11	10
106T	Maximum	16	14	13	12	16	15	13	12
	Nominal	15	13	12	11	15	14	12	11
242T	Maximum	17 Ch. 11: 16	14	14	13	17 Ch. 11: 16	16	14	13
	Nominal	16 Ch. 11: 15	13	13	12	16 Ch. 11: 15	15	13	12
484T	Maximum			14	13			14	13
	Nominal			13	12			13	12
996T	Maximum				13				13
	Nominal				12				12

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1.2.4 Reduced 802.11ax RU WLAN Output Power During Conditions with Simultaneous 2.4 GHz WLAN and 5 GHz WLAN – Receiver Active

Tones		SISO (ANT1/2) /in dBm				MIMO (ALL) /in dBm			
		2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz	2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz
26T	Maximum	14	11	11	11	14	11	11	11
	Nominal	13	10	10	10	13	10	10	10
52T	Maximum	14	13	12	11	15	13	12	11
	Nominal	13	12	11	10	14	12	11	10
106T	Maximum	14	14	13	12	16	15	13	12
	Nominal	13	13	12	11	15	14	12	11
242T	Maximum	14	14	14	13	17 Ch. 11: 16	16	14	13
	Nominal	13	13	13	12	16 Ch. 11: 15	15	13	12
484T	Maximum			14	13			14	13
	Nominal			13	12			13	12
996T	Maximum				13				13
	Nominal				12				12

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1.3 IEEE 802.11ax Measured Powers

Table 1
Maximum 2.4 GHz 802.11ax RU Output Power – Ant 1

26 Tones	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
	2412	1	26T	0	13.98
				4	13.94
				8	13.98
	2437	6	26T	0	13.82
				4	13.56
				8	13.77
	2462	11	26T	0	13.95
				4	13.99
				8	13.73
	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
52 Tones	2412	1	52T	37	14.92
				38	14.42
				40	14.64
	2437	6	52T	37	14.94
				38	14.89
				40	14.67
	2462	11	52T	37	14.99
				38	14.89
				40	14.67
	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
106 Tones	2412	1	106T	53	15.56
				54	15.50
	2437	6	106T	53	15.41
				54	15.80
	2462	11	106T	53	15.99
				54	15.96
	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
242 Tones	2412	1	242T	61	16.23
	2437	6	242T	61	16.78
	2462	11	242T	61	15.53
	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)

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Table 2
Maximum 2.4 GHz 802.11ax RU Output Power – Ant 2

26 Tones	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
	2412	1	26T	0	13.65
				4	13.61
				8	13.60
	2437	6	26T	0	13.71
				4	13.75
				8	13.99
	2462	11	26T	0	13.38
				4	13.98
				8	13.75
	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
52 Tones	2412	1	52T	37	14.84
				38	14.30
				40	14.84
	2437	6	52T	37	14.90
				38	14.91
				40	14.79
	2462	11	52T	37	14.91
				38	14.88
				40	14.71
106 Tones	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
	2412	1	106T	53	15.61
				54	15.67
	2437	6	106T	53	15.99
				54	15.70
	2462	11	106T	53	15.72
				54	15.82
242 Tones	Freq [MHz]	Channel	Tones	RU Index	Avg Conducted Powers (dBm)
	2412	1	242T	61	16.85
	2437	6	242T	61	16.91
	2462	11	242T	61	15.72

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Table 3
Maximum 5 GHz 802.11ax RU Output Power – Ant 1

26 Tones	20MHz BW	Band	Freq [MHz]	Channel	Tones	Avg Conducted Power (dBm)				
						RU Index				
						0	4	8		
26 Tones	20MHz BW	1	5180	36	26T	10.47	10.91	10.93		
			5200	40	26T	10.72	10.96	10.95		
			5240	48	26T	10.78	10.69	10.94		
			5260	52	26T	10.65	10.90	10.57		
		2A	5280	56	26T	10.65	10.99	10.84		
			5320	64	26T	10.91	10.60	10.98		
			5500	100	26T	10.87	10.94	10.71		
			5600	120	26T	10.60	10.94	10.61		
		2C	5720	144	26T	10.86	10.99	10.75		
			5745	149	26T	10.82	10.71	10.89		
			5785	157	26T	10.77	10.67	10.65		
			5825	165	26T	10.98	10.72	10.94		
52 Tones	20MHz BW	Band	Freq [MHz]	Channel	Tones	Avg Conducted Power (dBm)				
						RU Index				
						37	39	40		
52 Tones	20MHz BW	1	5180	36	52T	12.86	12.53	12.91		
			5200	40	52T	12.90	12.45	12.97		
			5240	48	52T	12.98	12.45	12.53		
			5260	52	52T	12.77	12.96	12.77		
		2A	5280	56	52T	12.90	12.99	12.94		
			5320	64	52T	12.99	12.43	12.99		
			5500	100	52T	12.72	12.87	12.72		
			5600	120	52T	12.61	12.89	12.72		
		2C	5720	144	52T	12.72	12.80	12.70		
			5745	149	52T	12.63	12.64	12.90		
			5785	157	52T	12.75	12.55	12.70		
			5825	165	52T	12.99	12.64	12.90		
106 Tones	20MHz BW	Band	Freq [MHz]	Channel	Tones	Avg Conducted Power (dBm)				
						RU Index				
						53	54	N/A		
106 Tones	20MHz BW	1	5180	36	106T	14.93	14.99			
			5200	40	106T	14.89	14.96			
			5240	48	106T	14.81	14.85			
			5260	52	106T	14.78	14.89			
		2A	5280	56	106T	14.92	14.95			
			5320	64	106T	14.95	14.92			
			5500	100	106T	14.94	14.91			
			5600	120	106T	14.90	14.89			
		2C	5720	144	106T	14.65	14.98			
			5745	149	106T	14.69	14.95			
			5785	157	106T	14.91	14.89			
			5825	165	106T	14.89	14.85			
242 Tones	20MHz BW	Band	Freq [MHz]	Channel	Tones	Avg Conducted Power (dBm)				
						RU Index				
						61	N/A	N/A		
242 Tones	20MHz BW	1	5180	36	242T	15.92				
			5200	40	242T	15.97				
			5240	48	242T	15.99				
			5260	52	242T	15.72				
		2A	5280	56	242T	15.92				
			5320	64	242T	15.97				
			5500	100	242T	15.87				
			5600	120	242T	15.79				
		2C	5720	144	242T	15.91				
			5745	149	242T	15.99				
			5785	157	242T	15.80				
			5825	165	242T	15.86				
484 Tones	20MHz BW	Band	Freq [MHz]	Channel	Tones	Avg Conducted Power (dBm)				
						RU Index				
						65	N/A	N/A		
26 Tones	40MHz BW	1	5190	38	26T	10.61	10.70	10.65		
			5230	46	26T	10.73	10.92	10.80		
			5270	54	26T	10.55	10.98	10.53		
			5310	62	26T	10.66	10.72	10.61		
		2A	5510	102	26T	10.70	10.63	10.71		
			5590	118	26T	10.99	10.99	10.95		
			5710	142	26T	10.96	10.78	10.69		
			5755	151	26T	10.65	10.60	10.96		
		3	5795	159	26T	10.70	10.82	10.78		
			Avg Conducted Power (dBm)			RU Index				
			37	40	44					
		52 Tones	40MHz BW	1	5190	38	52T	11.80	11.76	11.92
5230	46				52T	11.95	11.99	11.58		
5270	54				52T	11.79	11.61	11.75		
5310	62				52T	11.86	11.80	11.76		
2A	5510			102	52T	11.84	11.62	11.99		
	5590			118	52T	11.76	11.96	11.67		
	5710			142	52T	11.94	11.72	11.81		
	5755			151	52T	11.92	11.62	11.71		
3	5795			159	52T	11.58	11.85	11.91		
	Avg Conducted Power (dBm)			RU Index						
	53			54	56					
106 Tones	40MHz BW			1	5190	38	106T	12.65	12.75	12.81
		5230	46		106T	12.76	12.95	12.85		
		5270	54		106T	12.61	12.53	12.64		
		5310	62		106T	12.76	12.65	12.97		
		2A	5510	102	106T	12.90	12.57	12.99		
			5590	118	106T	12.76	12.87	12.70		
			5710	142	106T	12.99	12.71	12.91		
			5755	151	106T	12.95	12.99	12.86		
		3	5795	159	106T	12.92	12.73	12.94		
			Avg Conducted Power (dBm)			RU Index				
			61	62	N/A					
		242 Tones	40MHz BW	1	5190	38	242T	13.91	13.85	
5230	46				242T	13.98	13.99			
5270	54				242T	13.82	13.89			
5310	62				242T	13.96	13.93			
2A	5510			102	242T	13.54	13.70			
	5590			118	242T	13.96	13.86			
	5710			142	242T	13.67	13.57			
	5755			151	242T	13.77	13.76			
3	5795			159	242T	13.72	13.71			
	Avg Conducted Power (dBm)			RU Index						
	65			N/A	N/A					
484 Tones	40MHz BW			1	5190	38	484T	13.67		
		5230	46		484T	13.85				
		5270	54		484T	13.51				
		5310	62		484T	13.62				
		2A	5510	102	484T	13.88				
			5590	118	484T	13.76				
			5710	142	484T	13.99				
			5755	151	484T	13.86				
		3	5795	159	484T	13.99				
			Avg Conducted Power (dBm)			RU Index				
			67	N/A	N/A					
		26 Tones	80MHz BW	1	5210	42	26T	10.61	10.83	10.84
5290	58				26T	10.73	10.52	10.96		
5530	106				26T	10.87	10.86	10.55		
5610	122				26T	10.66	10.55	10.92		
2A	5690			138	26T	10.52	10.88	10.62		
	5775			155	26T	10.75	10.69	10.56		
	Avg Conducted Power (dBm)			RU Index						
	37			44	52					
52 Tones	80MHz BW			1	5210	42	52T	10.79	10.68	10.87
					5290	58	52T	10.95	10.94	10.66
					5530	106	52T	10.91	10.78	10.91
					5610	122	52T	10.81	10.58	10.67
		2C	5690	138	52T	10.70	10.97	10.85		
			5775	155	52T	10.98	10.55	10.76		
			Avg Conducted Power (dBm)			RU Index				
			53	56	60					
		106 Tones	80MHz BW	1	5210	42	106T	11.39	11.69	11.96
					5290	58	106T	11.73	11.56	11.90
					5530	106	106T	11.61	11.80	11.97
					5610	122	106T	11.52	11.64	11.75
2C	5690			138	106T	11.71	11.51	11.60		
	5775			155	106T	11.53	11.72	11.69		
	Avg Conducted Power (dBm)			RU Index						
	61			62	64					
242 Tones	80MHz BW			1	5210	42	242T	12.69	12.88	12.70
					5290	58	242T	12.99	12.71	12.50
					5530	106	242T	12.70	12.87	12.68
					5610	122	242T	12.53	12.76	12.53
		2C	5690	138	242T	12.81	12.96	12.68		
			5775	155	242T	12.71	12.95	12.58		
			Avg Conducted Power (dBm)			RU Index				
			65	66	N/A					
		484 Tones	80MHz BW	1	5210	42	484T	12.97	12.54	
					5290	58	484T	12.95	12.80	
					5530	106	484T	12.86	12.98	
					5610	122	484T	12.86	12.82	
2C	5690			138	484T	12.73	12.62			
	5775			155	484T	12.61	12.99			
	Avg Conducted Power (dBm)			RU Index						
	67			N/A	N/A					
996 Tones	80MHz BW			1	5210	42	996T	12.87		
					5290	58	996T	12.76		
					5530	106	996T	12.96		
					5610	122	996T	12.69		
		2C	5690	138	996T	12.55				
			5775	155	996T	12.78				
			Avg Conducted Power (dBm)			RU Index				
			67	N/A	N/A					

Table 4
Maximum 5 GHz 802.11ax RU Output Power – Ant 2

26 Tones	20MHz BW	Band	Freq [MHz]	Channel	Tones	Avg Conducted Power (dBm)		
						RU Index		
						0	4	8
						0	4	8
1	2A	2C	5180	36	26T	10.62	10.67	10.58
			5200	40	26T	10.51	10.72	10.47
			5240	48	26T	10.98	10.73	10.60
			5280	52	26T	10.51	10.72	10.41
			5290	56	26T	10.53	10.84	10.53
			5320	64	26T	10.60	10.81	10.56
			5500	100	26T	10.82	10.99	10.67
			5600	120	26T	10.97	10.84	10.55
			5720	144	26T	10.48	10.51	10.71
			5745	149	26T	10.96	10.94	10.65
3	2A	2C	5785	157	26T	10.71	10.98	10.57
			5825	165	26T	10.85	10.51	10.61
			5180	36	52T	12.96	12.56	12.94
			5200	40	52T	12.99	12.62	12.98
			5240	48	52T	12.96	12.52	12.99
			5280	52	52T	12.57	12.65	12.48
			5290	56	52T	12.47	12.69	12.60
			5320	64	52T	12.64	12.67	12.70
			5500	100	52T	12.76	12.90	12.70
			5600	120	52T	12.78	12.80	12.56
3	2A	2C	5720	144	52T	12.40	12.40	12.72
			5745	149	52T	12.82	12.75	12.53
			5785	157	52T	12.64	12.77	12.55
			5825	165	52T	12.87	12.85	12.66
			5180	36	106T	14.99	14.43	
			5200	40	106T	14.47	14.45	
			5240	48	106T	14.52	14.60	
			5280	52	106T	14.56	14.62	
			5290	56	106T	14.64	14.66	
			5320	64	106T	14.64	14.64	
3	2A	2C	5500	100	106T	14.79	14.72	
			5600	120	106T	14.86	14.68	
			5720	144	106T	14.45	14.84	
			5745	149	106T	14.78	14.60	
			5785	157	106T	14.71	14.49	
			5825	165	106T	14.83	14.67	
			5180	36	242T	15.81		
			5200	40	242T	15.80		
			5240	48	242T	15.86		
			5280	52	242T	15.98		
3	2A	2C	5290	56	242T	15.93		
			5320	64	242T	15.53		
			5500	100	242T	15.70		
			5600	120	242T	15.58		
			5720	144	242T	15.62		
			5745	149	242T	15.86		
			5785	157	242T	15.80		
			5825	165	242T	15.57		
			5180	36	484T	13.60		
			5200	40	484T	13.67		
3	2A	2C	5270	54	484T	13.65		
			5310	62	484T	13.71		
			5510	102	484T	13.92		
			5590	118	484T	13.63		
			5710	142	484T	13.42		
			5755	151	484T	13.94		
			5795	159	484T	13.68		
			5180	36	996T	12.74		
			5290	58	996T	12.57		
			5530	106	996T	12.65		
3	2A	2C	5610	122	996T	12.95		
			5690	138	996T	12.77		
			5775	155	996T	12.63		
			5180	36	26T	10.66	10.85	10.58
			5290	58	26T	10.68	10.73	10.52
			5530	106	26T	10.59	10.58	10.70
			5610	122	26T	10.81	10.82	10.48
			5690	138	26T	10.64	10.59	10.72
			5775	155	26T	10.67	10.65	10.66
			5180	36	52T	10.81	10.59	10.76
			5290	58	52T	10.65	10.64	10.66
3	2A	2C	5530	106	52T	10.76	10.90	10.93
			5610	122	52T	10.58	10.60	10.60
			5690	138	52T	10.52	10.85	10.69
			5775	155	52T	10.74	10.81	10.76
			5180	36	106T	11.81	11.99	11.69
			5290	58	106T	11.84	11.69	11.76
			5530	106	106T	11.87	11.96	11.97
			5610	122	106T	11.69	11.67	11.76
			5690	138	106T	11.54	11.52	11.52
			5775	155	106T	11.75	11.86	11.88
3	2A	2C	5180	36	242T	12.66	12.96	12.63
			5290	58	242T	12.66	12.94	12.63
			5530	106	242T	12.99	12.99	12.93
			5610	122	242T	12.76	12.85	12.71
			5690	138	242T	12.70	12.64	12.92
			5775	155	242T	12.86	12.94	12.85
			5180	36	484T	12.89	12.62	
			5290	58	484T	12.87	12.61	
			5530	106	484T	12.86	12.87	
			5610	122	484T	12.66	12.60	
3	2A	2C	5690	138	484T	12.80	12.78	
			5775	155	484T	12.65	12.58	
			5180	36	996T	12.74		
			5290	58	996T	12.57		
			5530	106	996T	12.65		
			5610	122	996T	12.95		
			5690	138	996T	12.77		
			5775	155	996T	12.63		
			5180	36	26T	10.66	10.85	10.58
			5290	58	26T	10.68	10.73	10.52
			5530	106	26T	10.59	10.58	10.70
			5610	122	26T	10.81	10.82	10.48
			5690	138	26T	10.64	10.59	10.72
			5775	155	26T	10.67	10.65	10.66
			5180	36	52T	10.81	10.59	10.76
			5290	58	52T	10.65	10.64	10.66
			5530	106	52T	10.76	10.90	10.93
			5610	122	52T	10.58	10.60	10.60
			5690	138	52T	10.52	10.85	10.69
			5775	155	52T	10.74	10.81	10.76
			5180	36	106T	11.81	11.99	11.69
			5290	58	106T	11.84	11.69	11.76
			5530	106	106T	11.87	11.96	11.97
			5610	122	106T	11.69	11.67	11.76
			5690	138	106T	11.54	11.52	11.52
			5775	155	106T	11.75	11.86	11.88
			5180	36	242T	12.66	12.96	12.63
			5290	58	242T	12.66	12.94	12.63
			5530	106	242T	12.99	12.99	12.93
			5610	122	242T	12.76	12.85	12.71
			5690	138	242T	12.70	12.64	12.92
			5775	155	242T	12.86	12.94	12.85
			5180	36	484T	12.89	12.62	
			5290	58	484T	12.87	12.61	
			5530	106	484T	12.86	12.87	
			5610	122	484T	12.66	12.60	
			5690	138	484T	12.80	12.78	
			5775	155	484T	12.65	12.58	
			5180	36	996T	12.74		
			5290	58	996T	12.57		
			5530	106	996T	12.65		
			5610	122	996T	12.95		
			5690	138	996T	12.77		
			5775	155	996T	12.63		

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