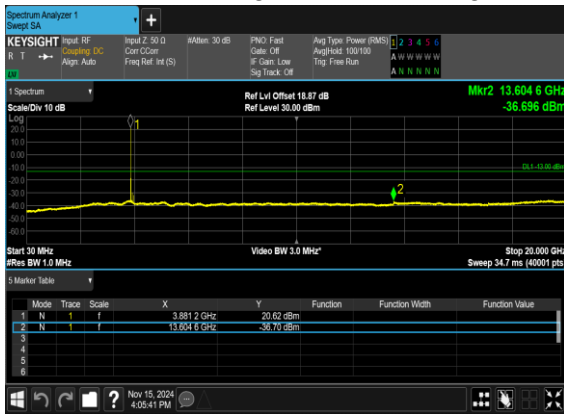
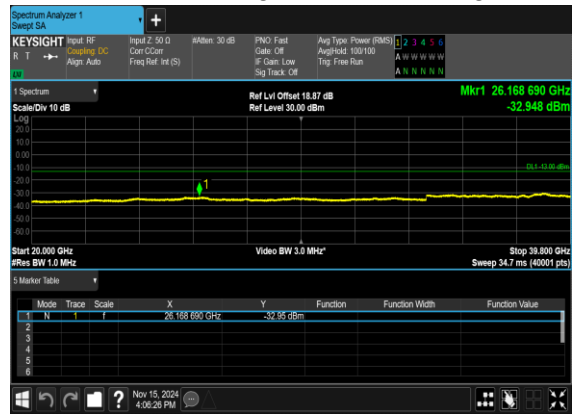




N77(100M)_CP-
OFDM_QPSK_Edge_1RB_Left_High_CH



N77(100M)_CP-
OFDM_QPSK_Edge_1RB_Left_High_CH





Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	10	647000	3705.0	CP-OFDM QPSK	1@0	see graph	PASS
77	30	10	647000	3705.0	CP-OFDM QPSK	24@0	see graph	PASS
77	30	10	665000	3975.0	CP-OFDM QPSK	1@23	see graph	PASS
77	30	10	665000	3975.0	CP-OFDM QPSK	24@0	see graph	PASS
77	30	50	648334	3725.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	50	648334	3725.01	CP-OFDM QPSK	133@0	see graph	PASS
77	30	50	663666	3954.99	CP-OFDM QPSK	1@132	see graph	PASS
77	30	50	663666	3954.99	CP-OFDM QPSK	133@0	see graph	PASS
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	PASS
77	30	100	650000	3750.0	CP-OFDM QPSK	273@0	see graph	PASS
77	30	100	662000	3930.0	CP-OFDM QPSK	1@272	see graph	PASS
77	30	100	662000	3930.0	CP-OFDM QPSK	273@0	see graph	PASS



N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



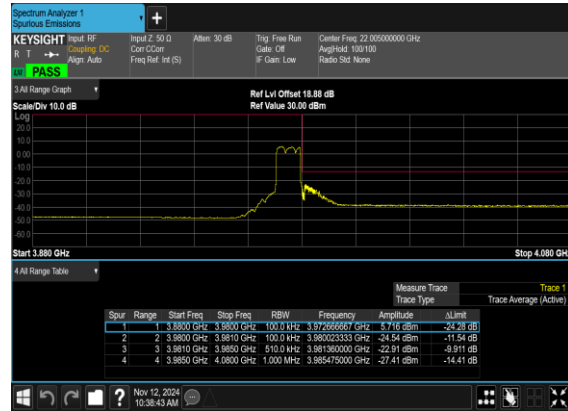
N77(10M)_CP-OFDM_QPSK_Outer_Full_Low_CH



N77(10M)_CP-OFDM_QPSK_Edge_1RB_Right_High_CH

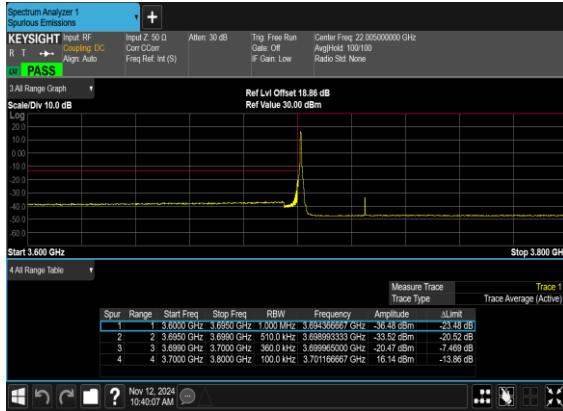


N77(10M)_CP-OFDM_QPSK_Outer_Full_High_CH

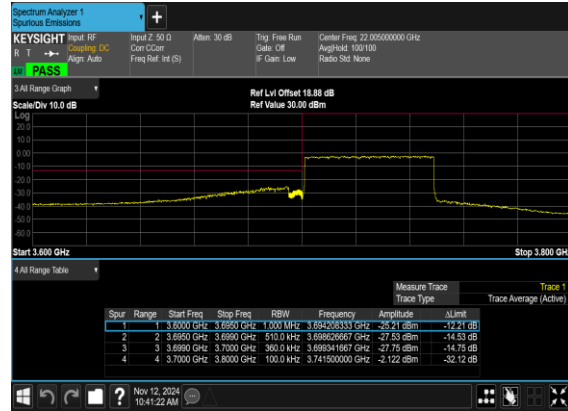




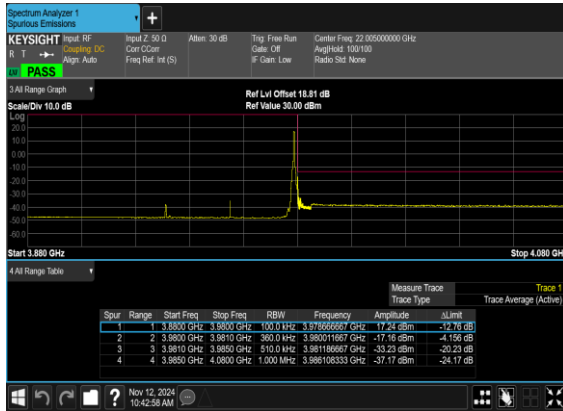
N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



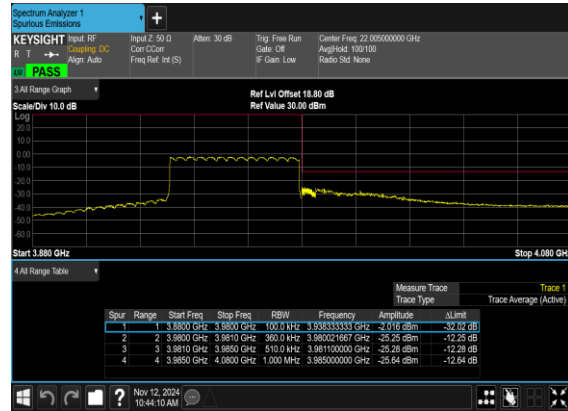
N77(50M)_CP-OFDM_QPSK_Outer_Full_Low_CH



N77(50M)_CP-OFDM_QPSK_Edge_1RB_Right_High_CH

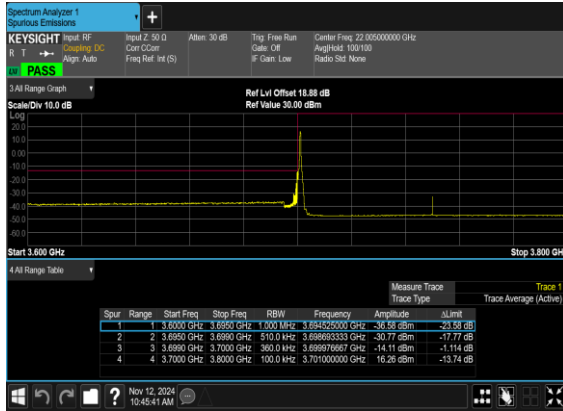


N77(50M)_CP-OFDM_QPSK_Outer_Full_High_CH

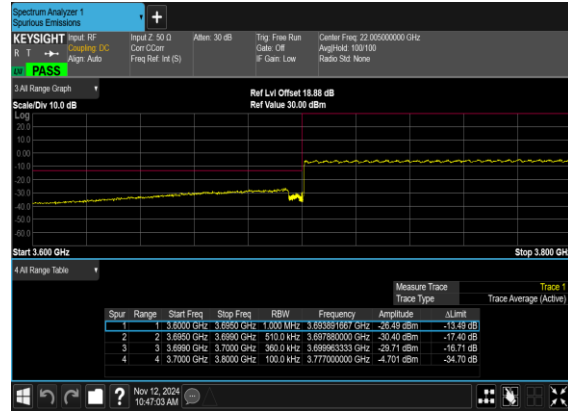




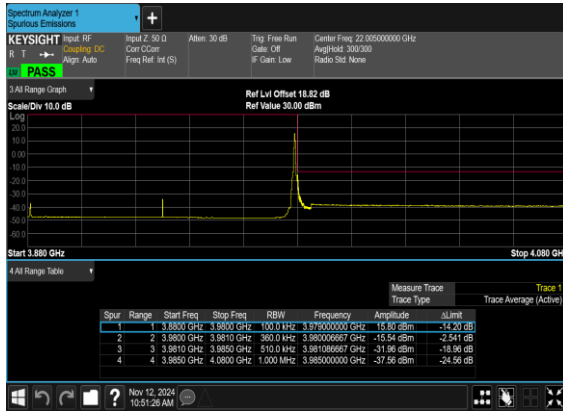
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(100M)_CP-OFDM_QPSK_Outer_Full_Low_CH



N77(100M)_CP-OFDM_QPSK_Edge_1RB_Right_High_CH



N77(100M)_CP-OFDM_QPSK_Outer_Full_High_CH





Software Version: 23.06.1602

ULMIMO P270 N78 ANT7+4

Transmitter Conducted Output Power and EIRP, (G_T - L_c)= -0.5dB

NR Band	SCS	Band Width	Arfcn	Freq (MHz)	Modulation	RB	ANT7 Power (dBm)	ANT4 Power (dBm)	Conducted Power (dBm)	EIRP (dBm)	EIRP (W)
78	30	10	647000	3705	CP-OFDM QPSK	1@1	21.72	21.62	24.68	24.18	0.2618
78	30	10	647000	3705	CP-OFDM 16 QAM	1@1	21.56	21.07	24.33	23.83	0.2415
78	30	10	650000	3750	CP-OFDM QPSK	1@1	21.82	21.52	24.68	24.18	0.2618
78	30	10	650000	3750	CP-OFDM 16 QAM	1@1	21.63	21.02	24.35	23.85	0.2427
78	30	10	653000	3795	CP-OFDM QPSK	1@1	21.88	21.72	24.81	24.31	0.2698
78	30	10	653000	3795	CP-OFDM 16 QAM	1@1	21.85	21.3	24.59	24.09	0.2564
78	30	15	647168	3707.52	CP-OFDM QPSK	1@1	21.84	21.67	24.77	24.27	0.2673
78	30	15	647168	3707.52	CP-OFDM 16 QAM	1@1	21.72	21.23	24.49	23.99	0.2506
78	30	15	650000	3750	CP-OFDM QPSK	1@1	22	21.71	24.87	24.37	0.2735
78	30	15	650000	3750	CP-OFDM 16 QAM	1@1	21.91	21.16	24.56	24.06	0.2547
78	30	15	652832	3792.48	CP-OFDM QPSK	1@1	22.09	21.83	24.97	24.47	0.2799
78	30	15	652832	3792.48	CP-OFDM 16 QAM	1@1	21.88	21.44	24.68	24.18	0.2618
78	30	20	647334	3710.01	CP-OFDM QPSK	1@1	21.89	21.62	24.77	24.27	0.2673
78	30	20	647334	3710.01	CP-OFDM 16 QAM	1@1	21.66	21.08	24.39	23.89	0.2449
78	30	20	650000	3750	CP-OFDM QPSK	1@1	21.97	21.69	24.84	24.34	0.2716
78	30	20	650000	3750	CP-OFDM 16 QAM	1@1	21.84	21.29	24.58	24.08	0.2559
78	30	20	652666	3789.99	CP-OFDM QPSK	1@1	21.89	21.86	24.89	24.39	0.2748
78	30	20	652666	3789.99	CP-OFDM 16 QAM	1@1	21.88	21.19	24.56	24.06	0.2547
78	30	25	647500	3712.5	CP-OFDM QPSK	1@1	21.79	21.83	24.82	24.32	0.2704
78	30	25	647500	3712.5	CP-OFDM 16 QAM	1@1	21.61	21.05	24.35	23.85	0.2427
78	30	25	650000	3750	CP-OFDM QPSK	1@1	21.92	21.86	24.90	24.4	0.2754
78	30	25	650000	3750	CP-OFDM 16 QAM	1@1	21.78	21.21	24.51	24.01	0.2518
78	30	25	652500	3787.5	CP-OFDM QPSK	1@1	21.93	21.94	24.95	24.45	0.2786
78	30	25	652500	3787.5	CP-OFDM 16 QAM	1@1	21.77	21.24	24.52	24.02	0.2523
78	30	30	647668	3715.02	CP-OFDM QPSK	1@1	22.03	21.81	24.93	24.43	0.2773
78	30	30	647668	3715.02	CP-OFDM 16 QAM	1@1	21.85	21.35	24.62	24.12	0.2582
78	30	30	650000	3750	CP-OFDM QPSK	1@1	22.09	21.98	25.05	24.55	0.2851
78	30	30	650000	3750	CP-OFDM 16 QAM	1@1	22.02	21.53	24.79	24.29	0.2685
78	30	30	652332	3784.98	CP-OFDM QPSK	1@1	22.06	21.71	24.90	24.4	0.2754
78	30	30	652332	3784.98	CP-OFDM 16 QAM	1@1	22.02	21.54	24.80	24.3	0.2692
78	30	40	648000	3720	CP-OFDM QPSK	1@1	22.09	21.78	24.95	24.45	0.2786
78	30	40	648000	3720	CP-OFDM 16 QAM	1@1	21.94	21.33	24.66	24.16	0.2606
78	30	40	650000	3750	CP-OFDM QPSK	1@1	22.01	22.05	25.04	24.54	0.2844
78	30	40	650000	3750	CP-OFDM 16 QAM	1@1	22.04	21.59	24.83	24.33	0.2710
78	30	40	652000	3780	CP-OFDM QPSK	1@1	22.09	21.94	25.03	24.53	0.2838
78	30	40	652000	3780	CP-OFDM 16 QAM	1@1	21.99	21.52	24.77	24.27	0.2673
78	30	50	648334	3725.01	CP-OFDM QPSK	1@1	21.8	21.64	24.73	24.23	0.2649
78	30	50	648334	3725.01	CP-OFDM 16 QAM	1@1	21.56	20.83	24.22	23.72	0.2355
78	30	50	650000	3750	CP-OFDM QPSK	1@1	21.79	21.65	24.73	24.23	0.2649



78	30	50	650000	3750	CP-OFDM 16 QAM	1@1	21.6	20.91	24.28	23.78	0.2388
78	30	50	651666	3774.99	CP-OFDM QPSK	1@1	21.83	21.31	24.59	24.09	0.2564
78	30	50	651666	3774.99	CP-OFDM 16 QAM	1@1	21.59	20.74	24.20	23.7	0.2344
78	30	60	648668	3730.02	CP-OFDM QPSK	1@1	21.6	21.57	24.60	24.1	0.2570
78	30	60	648668	3730.02	CP-OFDM 16 QAM	1@1	21.46	20.94	24.22	23.72	0.2355
78	30	60	650000	3750	CP-OFDM QPSK	1@1	21.65	21.49	24.58	24.08	0.2559
78	30	60	650000	3750	CP-OFDM 16 QAM	1@1	21.6	20.91	24.28	23.78	0.2388
78	30	60	651332	3769.98	CP-OFDM QPSK	1@1	21.65	21.53	24.60	24.1	0.2570
78	30	60	651332	3769.98	CP-OFDM 16 QAM	1@1	21.57	20.91	24.26	23.76	0.2377
78	30	70	649000	3735	CP-OFDM QPSK	1@1	21.69	21.52	24.62	24.12	0.2582
78	30	70	649000	3735	CP-OFDM 16 QAM	1@1	21.47	20.77	24.14	23.64	0.2312
78	30	70	650000	3750	CP-OFDM QPSK	1@1	21.67	21.42	24.56	24.06	0.2547
78	30	70	650000	3750	CP-OFDM 16 QAM	1@1	21.48	20.81	24.17	23.67	0.2328
78	30	70	651000	3765	CP-OFDM QPSK	1@1	21.81	21.63	24.73	24.23	0.2649
78	30	70	651000	3765	CP-OFDM 16 QAM	1@1	21.48	20.93	24.22	23.72	0.2355
78	30	80	649334	3740.01	CP-OFDM QPSK	1@1	21.64	21.39	24.53	24.03	0.2529
78	30	80	649334	3740.01	CP-OFDM 16 QAM	1@1	21.57	20.89	24.25	23.75	0.2371
78	30	80	650000	3750	CP-OFDM QPSK	1@1	21.59	21.51	24.56	24.06	0.2547
78	30	80	650000	3750	CP-OFDM 16 QAM	1@1	21.46	20.8	24.15	23.65	0.2317
78	30	80	650666	3759.99	CP-OFDM QPSK	1@1	21.57	21.49	24.54	24.04	0.2535
78	30	80	650666	3759.99	CP-OFDM 16 QAM	1@1	21.48	20.84	24.18	23.68	0.2333
78	30	90	649668	3745.02	CP-OFDM QPSK	1@1	21.68	21.42	24.56	24.06	0.2547
78	30	90	649668	3745.02	CP-OFDM 16 QAM	1@1	21.53	20.94	24.26	23.76	0.2377
78	30	90	650000	3750	CP-OFDM QPSK	1@1	21.68	21.35	24.53	24.03	0.2529
78	30	90	650000	3750	CP-OFDM 16 QAM	1@1	21.51	20.86	24.21	23.71	0.2350
78	30	90	650332	3754.98	CP-OFDM QPSK	1@1	21.59	21.39	24.50	24	0.2512
78	30	90	650332	3754.98	CP-OFDM 16 QAM	1@1	21.44	20.69	24.09	23.59	0.2286
78	30	100	650000	3750	CP-OFDM QPSK	137@68	21.69	21.62	24.67	24.17	0.2612
78	30	100	650000	3750	CP-OFDM QPSK	1@1	21.62	21.49	24.57	24.07	0.2553
78	30	100	650000	3750	CP-OFDM QPSK	1@271	22.06	22.03	25.06	24.56	0.2858
78	30	100	650000	3750	CP-OFDM 16 QAM	137@68	21.47	20.94	24.22	23.72	0.2355
78	30	100	650000	3750	CP-OFDM 16 QAM	1@1	21.53	20.84	24.21	23.71	0.2350
78	30	100	650000	3750	CP-OFDM 16 QAM	1@271	21.67	21.26	24.48	23.98	0.2500
78	30	100	650000	3750	CP-OFDM 64 QAM	137@68	19.72	19.47	22.61	22.11	0.1626
78	30	100	650000	3750	CP-OFDM 64 QAM	1@1	19.77	19.3	22.55	22.05	0.1603
78	30	100	650000	3750	CP-OFDM 64 QAM	1@271	19.87	19.57	22.73	22.23	0.1671
78	30	100	650000	3750	CP-OFDM 256 QAM	137@68	16.7	16.44	19.58	19.08	0.0809
78	30	100	650000	3750	CP-OFDM 256 QAM	1@1	16.78	16.43	19.62	19.12	0.0817
78	30	100	650000	3750	CP-OFDM 256 QAM	1@271	16.9	16.92	19.92	19.42	0.0875



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Bruce	Temperature :	23~25°C
		Relative Humidity :	41~42%

Note: Pre-scanned harmonic for the different antenna combinations, we choose the worst antenna mode to perform final test.

N77 SA / NR 100MHz / QPSK / ANT9								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7404	-46.53	-13	-33.53	-56.74	3.03	13.24	H
	11100	-47.69	-13	-34.69	-57.14	3.56	13.01	H
	14808	-57.31	-13	-44.31	-66.83	3.92	13.44	H
	7404	-52.35	-13	-39.35	-62.56	3.03	13.24	V
	11100	-47.31	-13	-34.31	-56.76	3.56	13.01	V
	14808	-57.65	-13	-44.65	-67.17	3.92	13.44	V
Middle	7584	-46.13	-13	-33.13	-56.34	3.03	13.24	H
	11376	-48.91	-13	-35.91	-58.36	3.56	13.01	H
	15180	-59.52	-13	-46.52	-69.04	3.92	13.44	H
	7584	-46.82	-13	-33.82	-57.03	3.03	13.24	V
	11376	-47.47	-13	-34.47	-56.92	3.56	13.01	V
	15180	-59.39	-13	-46.39	-68.91	3.92	13.44	V
Highest	7608	-50.18	-13	-37.18	-60.39	3.03	13.24	H
	11400	-51.42	-13	-38.42	-60.87	3.56	13.01	H
	15216	-58.66	-13	-45.66	-68.18	3.92	13.44	H
	7608	-49.49	-13	-36.49	-59.70	3.03	13.24	V
	11400	-50.12	-13	-37.12	-59.57	3.56	13.01	V
	15216	-59.48	-13	-46.48	-69.00	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



N77 UL MIMO / NR 100MHz / QPSK(Ant.7+4)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7404	-52.51	-13	-39.51	-62.72	3.03	13.24	H
	11100	-40.73	-13	-27.73	-50.18	3.56	13.01	H
	14820	-58.32	-13	-45.32	-67.84	3.92	13.44	H
	7404	-53.41	-13	-40.41	-63.62	3.03	13.24	V
	11100	-41.79	-13	-28.79	-51.24	3.56	13.01	V
	14820	-58.25	-13	-45.25	-67.77	3.92	13.44	V
Middle	7584	-55.62	-13	-42.62	-65.83	3.03	13.24	H
	11376	-42.48	-13	-29.48	-51.93	3.56	13.01	H
	15168	-58.17	-13	-45.17	-67.69	3.92	13.44	H
	7584	-49.05	-13	-36.05	-59.26	3.03	13.24	V
	11376	-44.05	-13	-31.05	-53.50	3.56	13.01	V
	15168	-57.55	-13	-44.55	-67.07	3.92	13.44	V
Highest	7764	-54.10	-13	-41.10	-64.31	3.03	13.24	H
	11640	-47.67	-13	-34.67	-57.12	3.56	13.01	H
	15528	-55.88	-13	-42.88	-65.40	3.92	13.44	H
	7764	-43.86	-13	-30.86	-54.07	3.03	13.24	V
	11640	-45.22	-13	-32.22	-54.67	3.56	13.01	V
	15528	-56.86	-13	-43.86	-66.38	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

EN-DC_41A_n77A / LTE 20MHz + NR 100MHz / QPSK (ANT1+9)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7404	-52.46	-13	-39.46	-62.67	3.03	13.24	H
	11100	-51.82	-13	-38.82	-61.27	3.56	13.01	H
	14820	-56.91	-13	-43.91	-66.43	3.92	13.44	H
	7404	-53.96	-13	-40.96	-64.17	3.03	13.24	V
	11100	-48.75	-13	-35.75	-58.20	3.56	13.01	V
	14820	-57.12	-13	-44.12	-66.64	3.92	13.44	V
Middle	7584	-56.05	-13	-43.05	-66.26	3.03	13.24	H
	11376	-56.83	-13	-43.83	-66.28	3.56	13.01	H
	15168	-55.98	-13	-42.98	-65.50	3.92	13.44	H
	7584	-52.36	-13	-39.36	-62.57	3.03	13.24	V
	11376	-58.60	-13	-45.60	-68.05	3.56	13.01	V
	15168	-58.13	-13	-45.13	-67.65	3.92	13.44	V
Highest	7764	-55.35	-13	-42.35	-65.56	3.03	13.24	H
	11640	-50.41	-13	-37.41	-59.86	3.56	13.01	H
	15540	-56.59	-13	-43.59	-66.11	3.92	13.44	H
	7764	-52.91	-13	-39.91	-63.12	3.03	13.24	V
	11640	-54.99	-13	-41.99	-64.44	3.56	13.01	V
	15528	-54.92	-13	-41.92	-64.44	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



EN-DC_13A_n77A / LTE 10MHz + NR 100MHz / QPSK (ANT0+9) – Other PA								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7404	-53.84	-13	-40.84	-64.05	3.03	13.24	H
	11112	-58.21	-13	-45.21	-67.66	3.56	13.01	H
	14820	-57.17	-13	-44.17	-66.69	3.92	13.44	H
	7404	-49.67	-13	-36.67	-59.88	3.03	13.24	V
	11112	-58.14	-13	-45.14	-67.59	3.56	13.01	V
	14820	-56.99	-13	-43.99	-66.51	3.92	13.44	V
Middle	7584	-59.49	-13	-46.49	-69.70	3.03	13.24	H
	11388	-58.17	-13	-45.17	-67.62	3.56	13.01	H
	15180	-58.56	-13	-45.56	-68.08	3.92	13.44	H
	7584	-54.86	-13	-41.86	-65.07	3.03	13.24	V
	11388	-58.13	-13	-45.13	-67.58	3.56	13.01	V
	15180	-58.39	-13	-45.39	-67.91	3.92	13.44	V
Highest	7764	-54.80	-13	-41.80	-65.01	3.03	13.24	H
	11652	-57.08	-13	-44.08	-66.53	3.56	13.01	H
	15540	-56.73	-13	-43.73	-66.25	3.92	13.44	H
	7764	-46.48	-13	-33.48	-56.69	3.03	13.24	V
	11655	-57.09	-13	-44.09	-66.54	3.56	13.01	V
	15540	-56.32	-13	-43.32	-65.84	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.