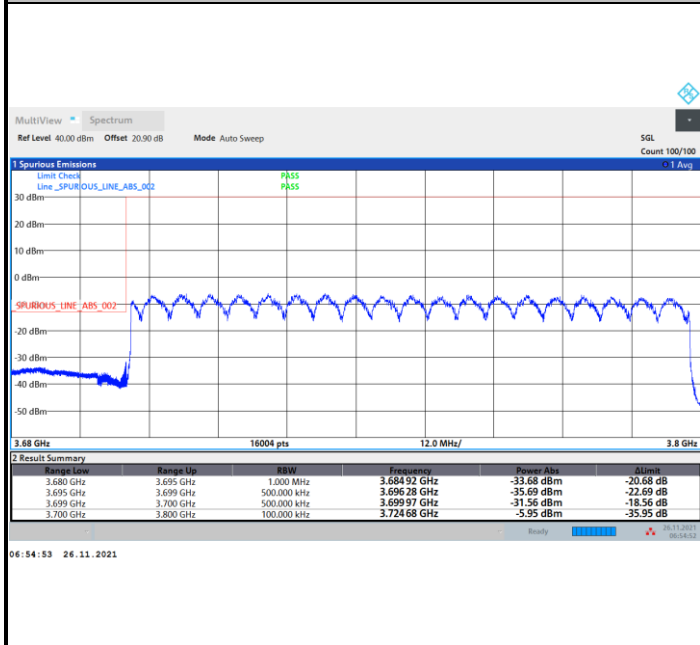


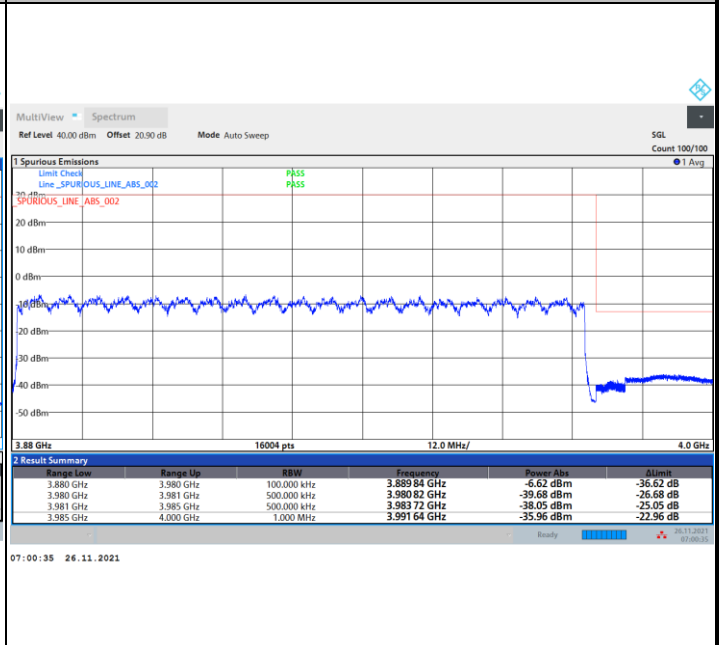


FR1 n77 / 100MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB

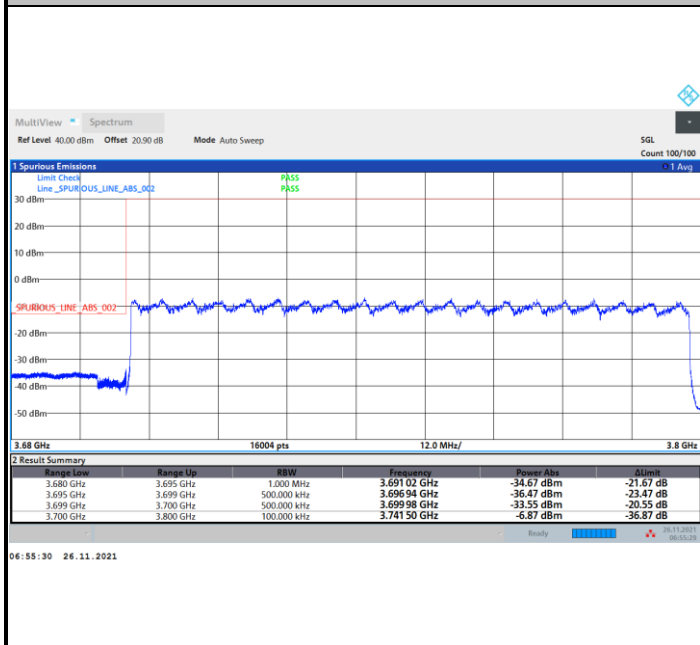


Highest Band Edge / Full RB

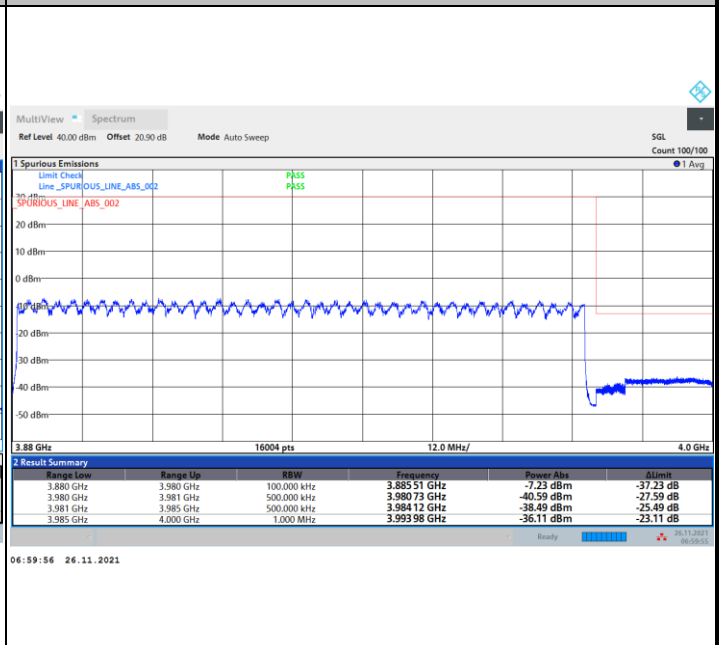


FR1 n77 / 100MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB



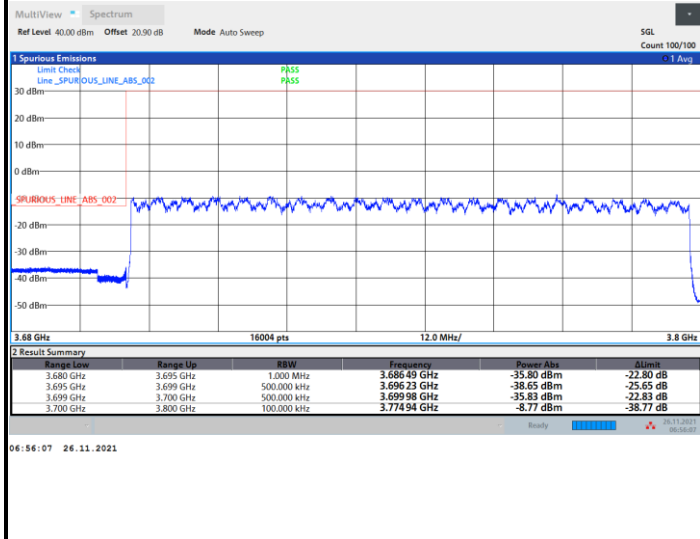
Highest Band Edge / Full RB



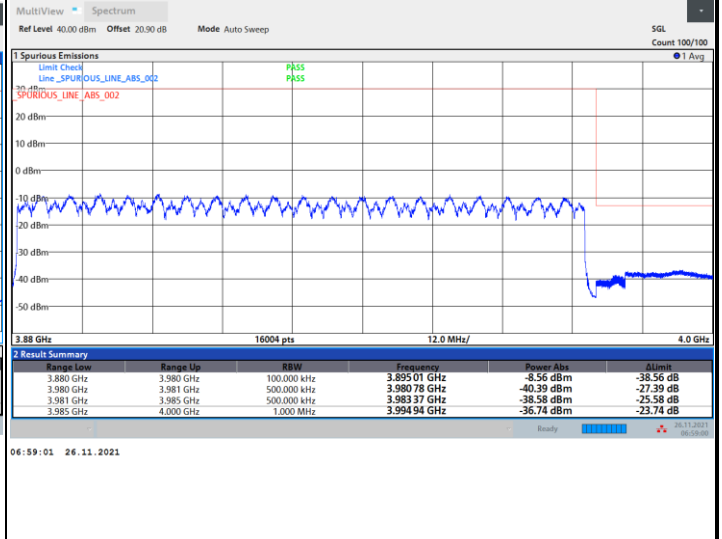


FR1 n77 / 100MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

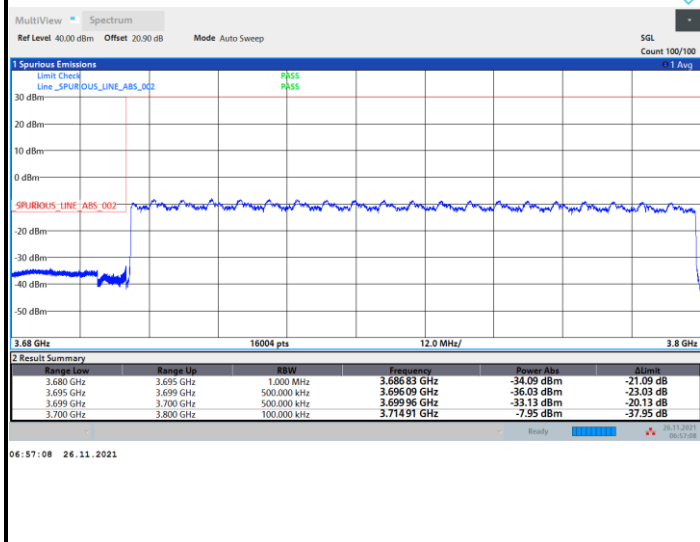


Highest Band Edge / Full RB

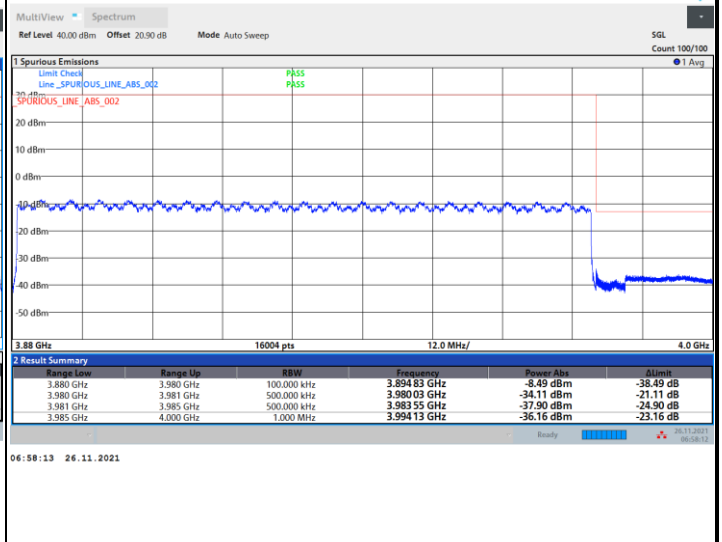


FR1 n77 / 100MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge



Highest Band Edge



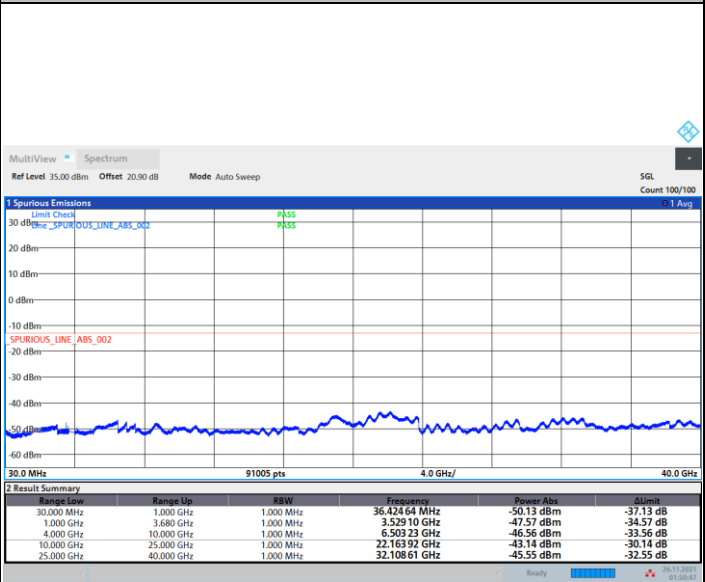
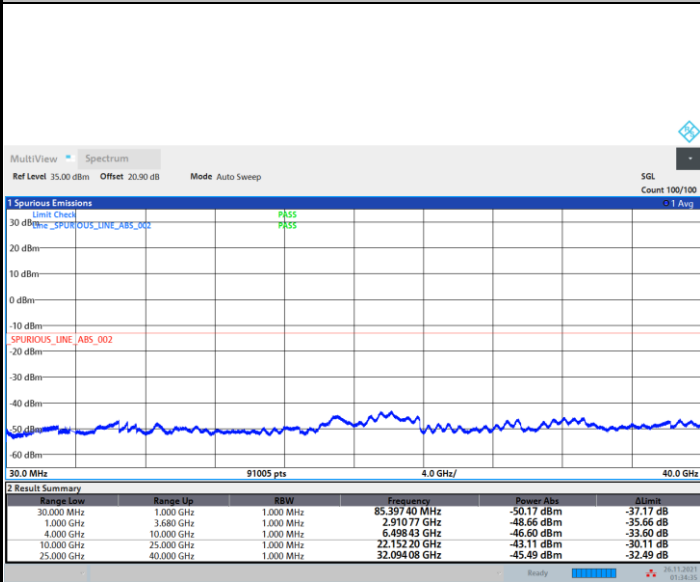


Conducted Spurious Emission

FR1 n77 / 10MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel

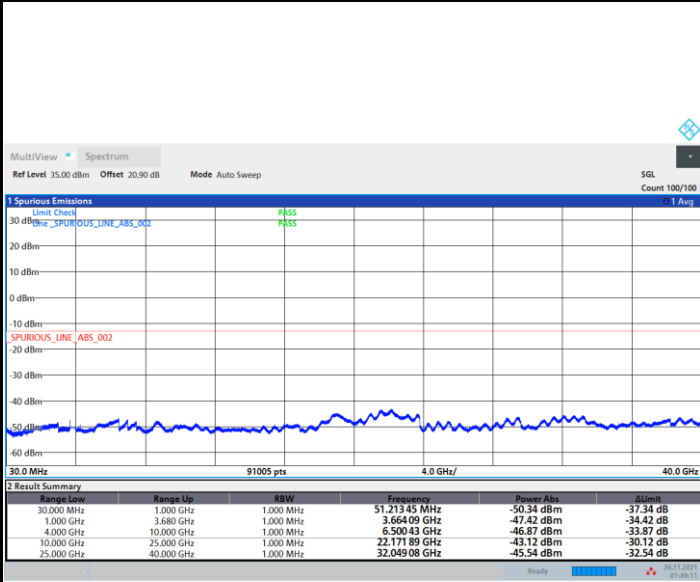
Middle Channel



01:34:36 26.11.2021

01:50:48 26.11.2021

Highest Channel



01:49:12 26.11.2021



Frequency Stability

Test Conditions		FR1 n77 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0018	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0027	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0017	
-10	Normal Voltage	0.0022	
-20	Normal Voltage	0.0007	
-30	Normal Voltage	0.0011	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0015	

Note:

- 1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.40 V. ; Maximum Voltage =4.40 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

<Internal Ant. 1>

5G NR n77

5G NR n77 / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7403	-44.11	-13	-31.11	-71.49	-51.28	1.94	11.26	H
	11104	-41.14	-13	-28.14	-72.82	-47.41	2.61	11.02	H
	14805	-33.60	-13	-20.60	-71.46	-40.49	2.94	11.98	H
	18510	-50.74	-13	-37.74	-69.13	-64.59	1.90	17.90	H
	22207	-52.79	-13	-39.79	-75.25	-67.41	2.05	18.82	H
	25914	-50.95	-13	-37.95	-77.06	-65.93	1.95	19.08	H
									H
	7403	-44.65	-13	-31.65	-71.87	-51.82	1.94	11.26	V
	11104	-41.40	-13	-28.40	-72.92	-47.67	2.61	11.02	V
	14805	-35.43	-13	-22.43	-71.35	-42.32	2.94	11.98	V
	18510	-54.82	-13	-41.82	-72.35	-68.67	1.90	17.90	V
	22207	-49.19	-13	-36.19	-71.67	-63.81	2.05	18.82	V
	25914	-50.03	-13	-37.03	-77.24	-65.01	1.95	19.08	V
									V



5G NR n77 / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7663	-45.27	-13	-32.27	-71.69	-52.24	2.01	11.13	H
	11494	-40.41	-13	-27.41	-72.6	-47.31	2.44	11.49	H
	15325	-33.03	-13	-20.03	-70.87	-42.60	3.09	14.81	H
	19154	-49.91	-13	-36.91	-69.1	-64.00	1.82	18.05	H
	22983	-43.96	-13	-30.96	-68.2	-58.05	1.98	18.22	H
	26824	-46.49	-13	-33.49	-73.32	-60.91	2.17	18.74	H
									H
	7663	-45.31	-13	-32.31	-71.6	-52.28	2.01	11.13	V
	11494	-39.89	-13	-26.89	-71.93	-46.79	2.44	11.49	V
	15325	-34.47	-13	-21.47	-70.89	-44.04	3.09	14.81	V
	19154	-47.69	-13	-34.69	-66.19	-61.78	1.82	18.05	V
	22983	-45.23	-13	-32.23	-69.49	-59.32	1.98	18.22	V
	26824	-44.62	-13	-31.62	-72.93	-59.04	2.17	18.74	V
									V
Highest	7923	-44.94	-13	-31.94	-72	-51.93	2.05	11.18	H
	11884	-39.46	-13	-26.46	-72.27	-47.32	2.56	12.58	H
	15845	-33.02	-13	-20.02	-71.18	-44.98	3.06	17.17	H
	19809	-41.46	-13	-28.46	-61.41	-55.78	1.93	18.40	H
	23772	-36.83	-13	-23.83	-61.85	-50.70	1.98	18.00	H
	27734	-45.89	-13	-32.89	-72.13	-60.74	2.29	19.29	H
									H
	7923	-45.23	-13	-32.23	-72.08	-52.22	2.05	11.18	V
	11884	-38.75	-13	-25.75	-72.03	-46.61	2.56	12.58	V
	15845	-32.84	-13	-19.84	-71.22	-44.80	3.06	17.17	V
	19809	-42.60	-13	-29.60	-61.95	-56.92	1.93	18.40	V
	23772	-38.98	-13	-25.98	-64.4	-52.85	1.98	18.00	V
	27734	-40.38	-13	-27.38	-67.94	-55.23	2.29	19.29	V
									V

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



<Ant. 2+1>

EN-DC 2A-n77A

EN-DC 2A-n77A / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7663	-45.18	-13	-32.18	-71.6	-52.15	2.01	11.13	H
	11495	-40.27	-13	-27.27	-72.46	-47.17	2.44	11.49	H
	15324	-33.28	-13	-20.28	-71.13	-42.85	3.09	14.80	H
	19154	-51.16	-13	-38.16	-70.35	-65.25	1.82	18.05	H
	22983	-44.33	-13	-31.33	-68.57	-58.42	1.98	18.22	H
	26818	-50.57	-13	-37.57	-77.41	-64.98	2.17	18.74	H
									H
	7663	-45.56	-13	-32.56	-71.85	-52.53	2.01	11.13	V
	11495	-40.01	-13	-27.01	-72.05	-46.91	2.44	11.49	V
	15324	-34.52	-13	-21.52	-70.95	-44.09	3.09	14.80	V
	19154	-49.63	-13	-36.63	-68.13	-63.72	1.82	18.05	V
	22987	-46.67	-13	-33.67	-70.93	-60.75	1.98	18.21	V
	26813	-48.11	-13	-35.11	-76.44	-62.52	2.18	18.74	V
									V

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



EN-DC 66A-n77A

EN-DC 66A-n77A / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7663	-45.39	-13	-32.39	-71.81	-52.36	2.01	11.13	H
	11496	-40.19	-13	-27.19	-72.38	-47.09	2.44	11.50	H
	15324	-33.44	-13	-20.44	-71.29	-43.01	3.09	14.80	H
	19154	-52.65	-13	-39.65	-71.84	-66.74	1.82	18.05	H
	22983	-44.80	-13	-31.80	-69.04	-58.89	1.98	18.22	H
	26813	-50.28	-13	-37.28	-77.12	-64.69	2.18	18.74	H
									H
	7663	-45.47	-13	-32.47	-71.76	-52.44	2.01	11.13	V
	11496	-40.51	-13	-27.51	-72.55	-47.41	2.44	11.50	V
	15324	-34.12	-13	-21.12	-70.55	-43.69	3.09	14.80	V
	19154	-51.18	-13	-38.18	-69.68	-65.27	1.82	18.05	V
	22983	-44.59	-13	-31.59	-68.85	-58.68	1.98	18.22	V
	26813	-49.18	-13	-36.18	-77.51	-63.59	2.18	18.74	V
									V

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



EN-DC 30A-n77A

EN-DC 30A-n77A / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7663	-45.45	-13	-32.45	-71.87	-52.42	2.01	11.13	H
	11496	-40.23	-13	-27.23	-72.42	-47.13	2.44	11.50	H
	15324	-33.33	-13	-20.33	-71.18	-42.90	3.09	14.80	H
	19154	-48.39	-13	-35.39	-67.58	-62.48	1.82	18.05	H
	22987	-42.98	-13	-29.98	-67.22	-57.06	1.98	18.21	H
	26813	-50.46	-13	-37.46	-77.3	-64.87	2.18	18.74	H
									H
	7663	-45.58	-13	-32.58	-71.87	-52.55	2.01	11.13	V
	11496	-39.66	-13	-26.66	-71.7	-46.56	2.44	11.50	V
	15324	-34.66	-13	-21.66	-71.09	-44.23	3.09	14.80	V
	19154	-50.30	-13	-37.30	-68.8	-64.39	1.82	18.05	V
	22987	-45.56	-13	-32.56	-69.82	-59.64	1.98	18.21	V
	26813	-48.58	-13	-35.58	-76.9	-62.99	2.18	18.74	V
									V

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



<Internal Ant. 2>

<Ant. 1+2>

EN-DC 5A-n77A

EN-DC 5A-n77A / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7406	-44.68	-13	-31.68	-72.03	-51.84	1.94	11.25	H
	11107	-41.39	-13	-28.39	-73.08	-47.66	2.61	11.03	H
	14808	-33.85	-13	-20.85	-71.73	-40.75	2.94	11.99	H
	18510	-55.57	-13	-42.57	-73.96	-69.42	1.90	17.90	H
	22207	-48.76	-13	-35.76	-71.22	-63.38	2.05	18.82	H
	25914	-49.32	-13	-36.32	-75.43	-64.30	1.95	19.08	H
									H
	7406	-44.72	-13	-31.72	-71.92	-51.88	1.94	11.25	V
	11107	-41.44	-13	-28.44	-72.96	-47.71	2.61	11.03	V
	14808	-34.95	-13	-21.95	-70.88	-41.85	2.94	11.99	V
	18510	-55.86	-13	-42.86	-73.39	-69.71	1.90	17.90	V
	22207	-51.84	-13	-38.84	-74.32	-66.46	2.05	18.82	V
	25914	-47.40	-13	-34.40	-74.61	-62.38	1.95	19.08	V
									V
Middle	7663	-45.32	-13	-32.32	-71.74	-52.29	2.01	11.13	H
	11496	-40.27	-13	-27.27	-72.46	-47.17	2.44	11.50	H
	15324	-32.88	-13	-19.88	-70.73	-42.45	3.09	14.80	H
	19154	-54.12	-13	-41.12	-73.31	-68.21	1.82	18.05	H
	22987	-43.88	-13	-30.88	-68.12	-57.96	1.98	18.21	H
	26813	-47.08	-13	-34.08	-73.93	-61.49	2.18	18.74	H
									H
	7663	-45.36	-13	-32.36	-71.65	-52.33	2.01	11.13	V
	11496	-40.40	-13	-27.40	-72.44	-47.30	2.44	11.50	V
	15324	-34.75	-13	-21.75	-71.18	-44.32	3.09	14.80	V
	19154	-55.19	-13	-42.19	-73.69	-69.28	1.82	18.05	V
	22987	-39.20	-13	-26.20	-63.46	-53.28	1.98	18.21	V
	26813	-44.62	-13	-31.62	-72.95	-59.03	2.18	18.74	V
									V



EN-DC 5A-n77A / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	7926	-45.01	-13	-32.01	-72.07	-52.00	2.05	11.19	H
	11884	-39.28	-13	-26.28	-72.09	-47.14	2.56	12.58	H
	15846	-33.17	-13	-20.17	-71.33	-45.13	3.06	17.18	H
	19809	-53.69	-13	-40.69	-73.64	-68.01	1.93	18.40	H
	23772	-37.13	-13	-24.13	-62.15	-51.00	1.98	18.00	H
	27734	-42.38	-13	-29.38	-68.61	-57.23	2.29	19.29	H
									H
	7926	-44.94	-13	-31.94	-71.8	-51.93	2.05	11.19	V
	11884	-38.44	-13	-25.44	-71.73	-46.30	2.56	12.58	V
	15846	-33.05	-13	-20.05	-71.43	-45.01	3.06	17.18	V
	19809	-53.89	-13	-40.89	-73.24	-68.21	1.93	18.40	V
	23772	-31.25	-13	-18.25	-56.67	-45.12	1.98	18.00	V
	27734	-42.14	-13	-29.14	-69.7	-56.99	2.29	19.29	V
									V

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



EN-DC 12A-n77A

EN-DC 12A-n77A / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7665	-44.81	-13	-31.81	-71.23	-51.78	2.01	11.13	H
	11496	-40.26	-13	-27.26	-72.45	-47.16	2.44	11.50	H
	15324	-33.05	-13	-20.05	-70.9	-42.62	3.09	14.80	H
	19154	-54.01	-13	-41.01	-73.2	-68.10	1.82	18.05	H
	22987	-40.17	-13	-27.17	-64.41	-54.25	1.98	18.21	H
	26813	-48.39	-13	-35.39	-75.23	-62.80	2.18	18.74	H
									H
	7665	-44.98	-13	-31.98	-71.27	-51.95	2.01	11.13	V
	11496	-40.02	-13	-27.02	-72.06	-46.92	2.44	11.50	V
	15324	-34.39	-13	-21.39	-70.82	-43.96	3.09	14.80	V
	19154	-54.42	-13	-41.42	-72.92	-68.51	1.82	18.05	V
	22987	-44.33	-13	-31.33	-68.59	-58.41	1.98	18.21	V
	26813	-37.69	-13	-24.69	-66.02	-52.10	2.18	18.74	V
									V

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



EN-DC 14A-n77A

EN-DC 14A-n77A / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7665	-44.94	-13	-31.94	-71.36	-51.91	2.01	11.13	H
	11495	-40.35	-13	-27.35	-72.54	-47.25	2.44	11.49	H
	15324	-33.25	-13	-20.25	-71.1	-42.82	3.09	14.80	H
	19154	-54.05	-13	-41.05	-73.24	-68.14	1.82	18.05	H
	22983	-38.85	-13	-25.85	-63.09	-52.94	1.98	18.22	H
	26824	-42.26	-13	-29.26	-69.09	-56.68	2.17	18.74	H
									H
	7663	-45.53	-13	-32.53	-71.82	-52.50	2.01	11.13	V
	11495	-40.25	-13	-27.25	-72.29	-47.15	2.44	11.49	V
	15324	-34.33	-13	-21.33	-70.76	-43.90	3.09	14.80	V
	19154	-53.23	-13	-40.23	-71.73	-67.32	1.82	18.05	V
	22983	-38.09	-13	-25.09	-62.35	-52.18	1.98	18.22	V
	26824	-39.89	-13	-26.89	-68.2	-54.31	2.17	18.74	V
									V

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



<Internal Ant. 5>

5G NR n77 (SRS)

5G NR n77 / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7686	-45.38	-13	-32.38	-71.81	-52.35	2.02	11.14	H
	11529	-39.77	-13	-26.77	-72.01	-46.75	2.45	11.58	H
	15373	-32.82	-13	-19.82	-70.56	-42.70	3.10	15.14	H
	19209	-48.01	-13	-35.01	-67.2	-62.12	1.85	18.11	H
	23050	-40.59	-13	-27.59	-64.92	-54.64	1.98	18.18	H
	26902	-46.65	-13	-33.65	-73.37	-61.10	2.12	18.72	H
									H
	7686	-45.62	-13	-32.62	-71.89	-52.59	2.02	11.14	V
	11529	-40.17	-13	-27.17	-72.31	-47.15	2.45	11.58	V
	15373	-34.58	-13	-21.58	-71.08	-44.46	3.10	15.14	V
	19209	-49.51	-13	-36.51	-68.02	-63.62	1.85	18.11	V
	23050	-41.52	-13	-28.52	-65.88	-55.57	1.98	18.18	V
	26902	-46.36	-13	-33.36	-74.56	-60.81	2.12	18.72	V
									V

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



<Internal Ant. 6>

5G NR n77 (SRS)

5G NR n77 / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7686	-45.41	-13	-32.41	-71.84	-52.38	2.02	11.14	H
	11529	-39.79	-13	-26.79	-72.03	-46.77	2.45	11.58	H
	15373	-33.21	-13	-20.21	-70.95	-43.09	3.10	15.14	H
	19209	-49.49	-13	-36.49	-68.68	-63.60	1.85	18.11	H
	23050	-40.65	-13	-27.65	-64.98	-54.70	1.98	18.18	H
	26902	-48.40	-13	-35.40	-75.12	-62.85	2.12	18.72	H
									H
	7686	-45.25	-13	-32.25	-71.52	-52.22	2.02	11.14	V
	11529	-39.87	-13	-26.87	-72.01	-46.85	2.45	11.58	V
	15373	-34.66	-13	-21.66	-71.16	-44.54	3.10	15.14	V
	19209	-49.85	-13	-36.85	-68.36	-63.96	1.85	18.11	V
	23050	-40.04	-13	-27.04	-64.4	-54.09	1.98	18.18	V
	26902	-46.63	-13	-33.63	-74.83	-61.08	2.12	18.72	V
									V

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