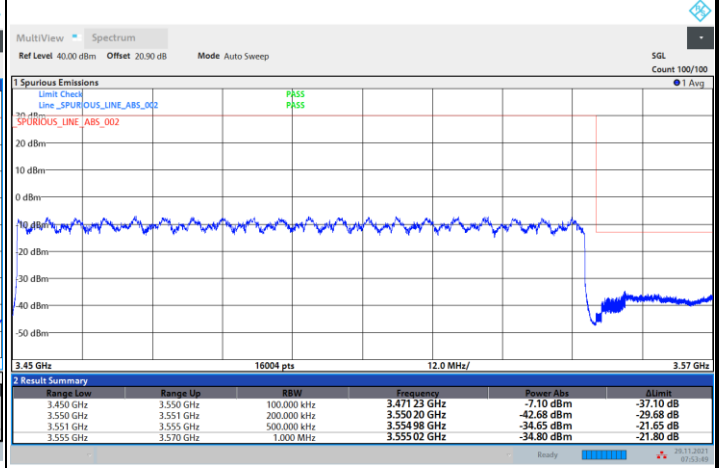
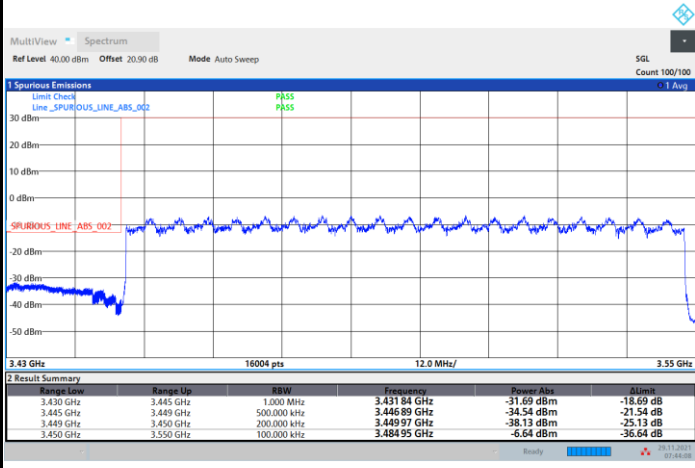




FR1 n77 / 100MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

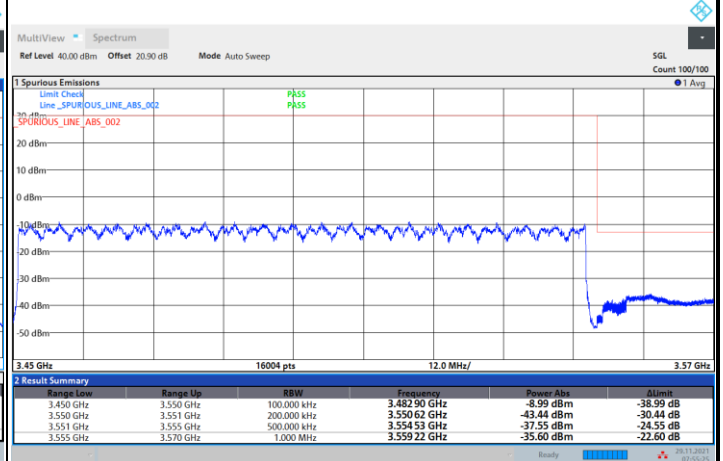
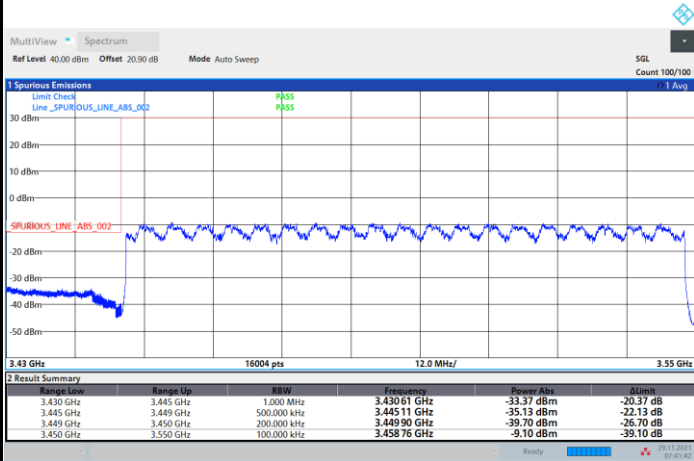




FR1 n77 / 100MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

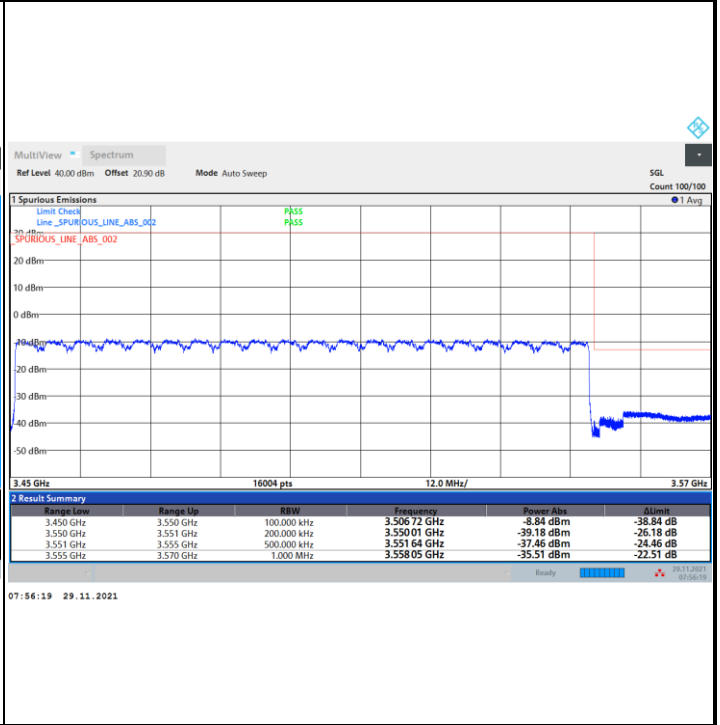
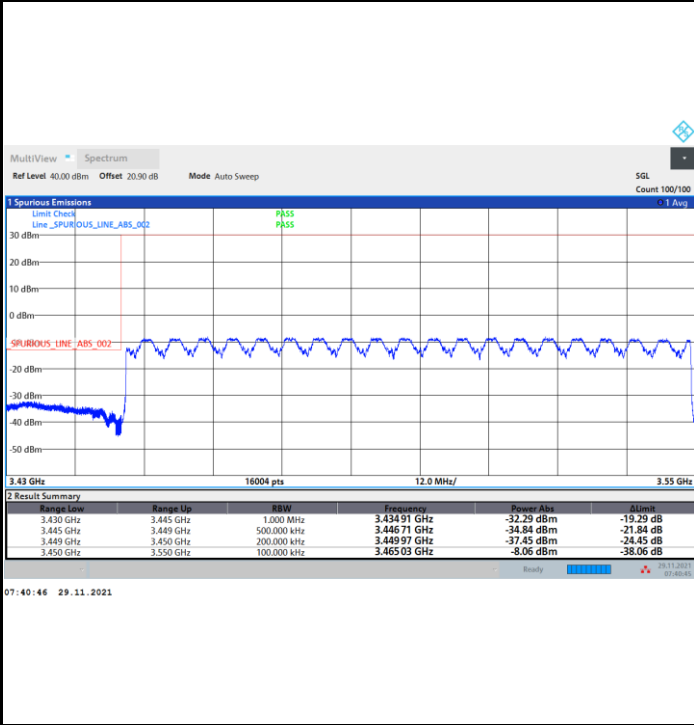




FR1 n77 / 100MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge



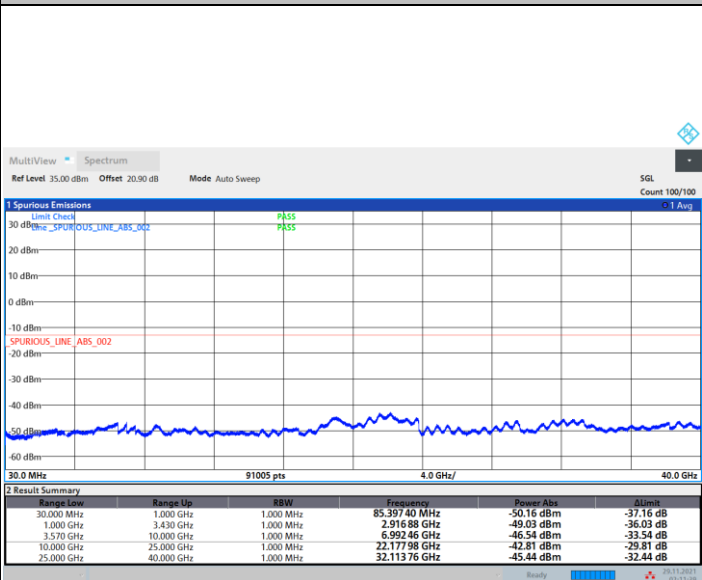
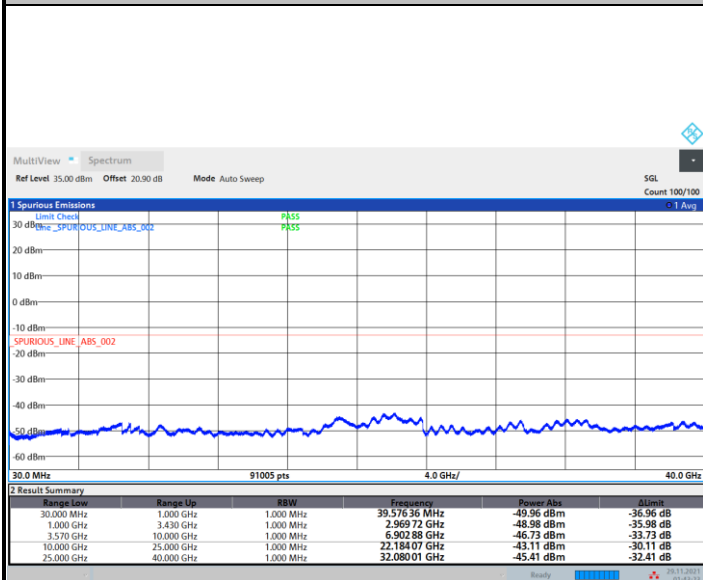


# Conducted Spurious Emission

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

Lowest Channel

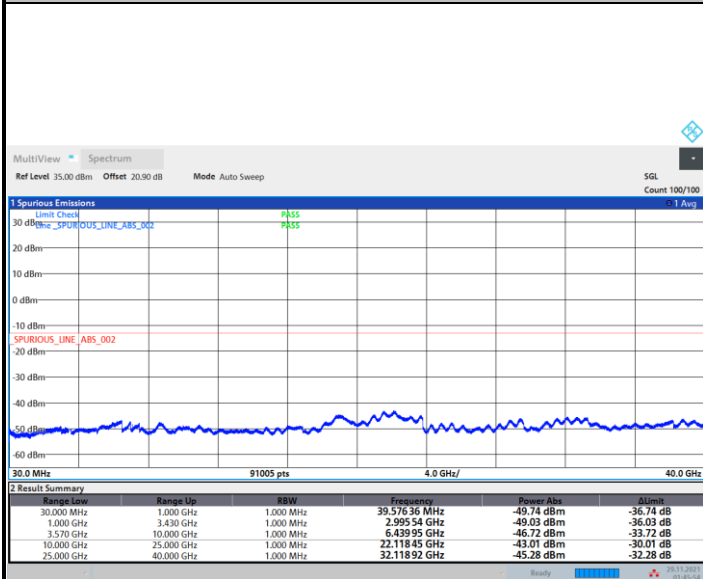
Middle Channel



01:43:24 29.11.2021

02:11:40 29.11.2021

Highest Channel



01:45:55 29.11.2021



Frequency Stability

Test Conditions		FR1 n77 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0047	
0	Normal Voltage	0.0023	
-10	Normal Voltage	0.0037	
-20	Normal Voltage	0.0036	
-30	Normal Voltage	0.0020	
20	Maximum Voltage	0.0033	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0013	

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	6902	-45.51	-13	-32.51	-72.01	-53.66	1.73	12.04	H
	10354	-41.83	-13	-28.83	-71.92	-48.30	2.39	11.02	H
	13806	-34.65	-13	-21.65	-72.69	-42.04	2.85	12.39	H
	20708	-49.01	-13	-36.01	-71.44	-63.44	2.06	18.64	H
	24159	-51.03	-13	-38.03	-75.97	-64.73	2.00	17.84	H
	27612	-50.51	-13	-37.51	-76.97	-65.36	2.24	19.24	H
									H
	6902	-44.57	-13	-31.57	-70.63	-52.72	1.73	12.04	V
	10354	-41.81	-13	-28.81	-71.93	-48.28	2.39	11.02	V
	13806	-33.92	-13	-20.92	-72.32	-41.31	2.85	12.39	V
	20708	-51.97	-13	-38.97	-73.88	-66.40	2.06	18.64	V
	24159	-50.61	-13	-37.61	-76.37	-64.31	2.00	17.84	V
	27612	-49.61	-13	-36.61	-77.37	-64.46	2.24	19.24	V
									V



Middle	6983	-44.45	-13	-31.45	-71.32	-52.50	1.72	11.92	H
	10474	-41.63	-13	-28.63	-72.09	-48.01	2.39	10.92	H
	13965	-35.51	-13	-22.51	-73.09	-42.72	2.88	12.24	H
	20952	-51.52	-13	-38.52	-74.08	-65.98	2.08	18.69	H
	24438	-51.83	-13	-38.83	-76.63	-65.22	2.02	17.56	H
	27934	-51.07	-13	-38.07	-76.92	-65.92	2.37	19.37	H
									H
	6983	-45.12	-13	-32.12	-71.5	-53.17	1.72	11.92	V
	10474	-41.69	-13	-28.69	-71.92	-48.07	2.39	10.92	V
	13965	-35.44	-13	-22.44	-73.21	-42.65	2.88	12.24	V
	20952	-51.20	-13	-38.20	-73.4	-65.66	2.08	18.69	V
	24438	-50.20	-13	-37.20	-76.28	-63.59	2.02	17.56	V
	27934	-49.92	-13	-36.92	-77.14	-64.77	2.37	19.37	V
									V
Highest	7065	-45.09	-13	-32.09	-72.21	-52.98	1.76	11.80	H
	10594	-41.93	-13	-28.93	-72.66	-48.24	2.44	10.90	H
	14124	-35.04	-13	-22.04	-72.34	-41.92	2.87	11.90	H
	21185	-50.94	-13	-37.94	-73.06	-65.47	2.02	18.70	H
	24715	-52.63	-13	-39.63	-77.39	-66.27	2.05	17.84	H
	28245	-51.04	-13	-38.04	-76.52	-66.04	2.35	19.50	H
									H
	7065	-44.92	-13	-31.92	-71.61	-52.81	1.76	11.80	V
	10594	-41.99	-13	-28.99	-72.46	-48.30	2.44	10.90	V
	14124	-35.35	-13	-22.35	-72.55	-42.23	2.87	11.90	V
	21185	-53.25	-13	-40.25	-75.16	-67.78	2.02	18.70	V
	24715	-51.14	-13	-38.14	-77.18	-64.78	2.05	17.84	V
	28245	-49.72	-13	-36.72	-76.84	-64.72	2.35	19.50	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	6981	-44.93	-13	-31.93	-71.78	-52.98	1.72	11.93	H
	10472	-41.72	-13	-28.72	-72.18	-48.10	2.39	10.92	H
	13968	-35.51	-13	-22.51	-73.09	-42.72	2.88	12.23	H
	20952	-46.62	-13	-33.62	-69.18	-61.08	2.08	18.69	H
	24438	-47.27	-13	-34.27	-72.07	-60.66	2.02	17.56	H
	27934	-50.57	-13	-37.57	-76.42	-65.42	2.37	19.37	H
									H
	6981	-45.28	-13	-32.28	-71.65	-53.33	1.72	11.93	V
	10472	-41.99	-13	-28.99	-72.22	-48.37	2.39	10.92	V
	13968	-35.07	-13	-22.07	-72.84	-42.28	2.88	12.23	V
	20952	-47.87	-13	-34.87	-70.07	-62.33	2.08	18.69	V
	24438	-45.34	-13	-32.34	-71.42	-58.73	2.02	17.56	V
	27934	-49.93	-13	-36.93	-77.15	-64.78	2.37	19.37	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	6981	-45.02	-13	-32.02	-71.87	-53.07	1.72	11.93	H
	10472	-41.78	-13	-28.78	-72.24	-48.16	2.39	10.92	H
	13968	-35.44	-13	-22.44	-73.02	-42.65	2.88	12.23	H
	20952	-50.98	-13	-37.98	-73.54	-65.44	2.08	18.69	H
	24438	-51.67	-13	-38.67	-76.47	-65.06	2.02	17.56	H
	27934	-51.54	-13	-38.54	-77.39	-66.39	2.37	19.37	H
									H
	6981	-45.32	-13	-32.32	-71.69	-53.37	1.72	11.93	V
	10472	-42.00	-13	-29.00	-72.23	-48.38	2.39	10.92	V
	13968	-35.31	-13	-22.31	-73.08	-42.52	2.88	12.23	V
	20952	-51.93	-13	-38.93	-74.13	-66.39	2.08	18.69	V
	24438	-50.71	-13	-37.71	-76.79	-64.10	2.02	17.56	V
	27934	-50.01	-13	-37.01	-77.23	-64.86	2.37	19.37	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	6981	-44.80	-13	-31.80	-71.65	-52.85	1.72	11.93	H
	10472	-41.40	-13	-28.40	-71.86	-47.78	2.39	10.92	H
	13968	-35.17	-13	-22.17	-72.75	-42.38	2.88	12.23	H
	20952	-52.19	-13	-39.19	-74.75	-66.65	2.08	18.69	H
	24438	-50.43	-13	-37.43	-75.23	-63.82	2.02	17.56	H
	27930	-51.22	-13	-38.22	-77.07	-66.07	2.37	19.37	H
									H
	6981	-44.90	-13	-31.90	-71.27	-52.95	1.72	11.93	V
	10472	-41.67	-13	-28.67	-71.9	-48.05	2.39	10.92	V
	13968	-35.15	-13	-22.15	-72.92	-42.36	2.88	12.23	V
	20952	-51.89	-13	-38.89	-74.09	-66.35	2.08	18.69	V
	24438	-49.30	-13	-36.30	-75.38	-62.69	2.02	17.56	V
	27930	-49.79	-13	-36.79	-77.01	-64.64	2.37	19.37	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	6902	-44.90	-13	-31.90	-71.4	-53.05	1.73	12.04	H
	10351	-42.11	-13	-29.11	-72.18	-48.59	2.39	11.02	H
	13806	-34.22	-13	-21.22	-72.26	-41.61	2.85	12.39	H
	20707	-53.44	-13	-40.44	-75.86	-67.87	2.06	18.64	H
	24159	-43.11	-13	-30.11	-68.05	-56.81	2.00	17.84	H
	27610	-50.70	-13	-37.70	-77.16	-65.55	2.24	19.24	H
									H
	6902	-45.73	-13	-32.73	-71.79	-53.88	1.73	12.04	V
	10351	-41.89	-13	-28.89	-72.01	-48.37	2.39	11.02	V
	13806	-34.12	-13	-21.12	-72.52	-41.51	2.85	12.39	V
	20707	-54.04	-13	-41.04	-75.95	-68.47	2.06	18.64	V
	24159	-43.54	-13	-30.54	-69.3	-57.24	2.00	17.84	V
	27610	-48.39	-13	-35.39	-76.16	-63.24	2.24	19.24	V
									V



Middle	6981	-45.02	-13	-32.02	-71.87	-53.07	1.72	11.93	H
	10472	-41.63	-13	-28.63	-72.09	-48.01	2.39	10.92	H
	13968	-35.55	-13	-22.55	-73.13	-42.76	2.88	12.23	H
	20947	-52.54	-13	-39.54	-75.1	-67.00	2.08	18.69	H
	24438	-35.09	-13	-22.09	-59.89	-48.48	2.02	17.56	H
	27930	-51.07	-13	-38.07	-76.92	-65.92	2.37	19.37	H
									H
	6981	-45.47	-13	-32.47	-71.84	-53.52	1.72	11.93	V
	10472	-42.04	-13	-29.04	-72.27	-48.42	2.39	10.92	V
	13968	-35.24	-13	-22.24	-73.01	-42.45	2.88	12.23	V
	20947	-53.21	-13	-40.21	-75.41	-67.67	2.08	18.69	V
	24438	-37.98	-13	-24.98	-64.06	-51.37	2.02	17.56	V
	27930	-49.20	-13	-36.20	-76.42	-64.05	2.37	19.37	V
									V
Highest	7065	-42.44	-13	-29.44	-69.56	-50.33	1.76	11.80	H
	10593	-42.09	-13	-29.09	-72.82	-48.40	2.44	10.90	H
	14124	-35.37	-13	-22.37	-72.67	-42.25	2.87	11.90	H
	21187	-52.45	-13	-39.45	-74.57	-66.98	2.02	18.70	H
	24718	-33.59	-13	-20.59	-58.35	-47.24	2.05	17.85	H
	28250	-51.59	-13	-38.59	-77.06	-66.59	2.35	19.50	H
									H
	7065	-43.25	-13	-30.25	-69.94	-51.14	1.76	11.80	V
	10593	-42.23	-13	-29.23	-72.7	-48.54	2.44	10.90	V
	14124	-35.50	-13	-22.50	-72.7	-42.38	2.87	11.90	V
	21187	-53.66	-13	-40.66	-75.57	-68.19	2.02	18.70	V
	24718	-34.12	-13	-21.12	-60.16	-47.77	2.05	17.85	V
	28250	-49.75	-13	-36.75	-76.87	-64.75	2.35	19.50	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	6981	-44.10	-13	-31.10	-70.95	-52.15	1.72	11.93	H
	10472	-41.39	-13	-28.39	-71.85	-47.77	2.39	10.92	H
	13968	-35.56	-13	-22.56	-73.14	-42.77	2.88	12.23	H
	20947	-52.70	-13	-39.70	-75.26	-67.16	2.08	18.69	H
	24438	-36.91	-13	-23.91	-61.71	-50.30	2.02	17.56	H
	27930	-51.21	-13	-38.21	-77.06	-66.06	2.37	19.37	H
									H
	6981	-44.22	-13	-31.22	-70.59	-52.27	1.72	11.93	V
	10472	-41.33	-13	-28.33	-71.56	-47.71	2.39	10.92	V
	13968	-35.30	-13	-22.30	-73.07	-42.51	2.88	12.23	V
	20947	-53.31	-13	-40.31	-75.51	-67.77	2.08	18.69	V
	24438	-36.02	-13	-23.02	-62.1	-49.41	2.02	17.56	V
	27930	-49.74	-13	-36.74	-76.96	-64.59	2.37	19.37	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	6981	-43.72	-13	-30.72	-70.57	-51.77	1.72	11.93	H
	10472	-41.80	-13	-28.80	-72.26	-48.18	2.39	10.92	H
	13968	-35.65	-13	-22.65	-73.23	-42.86	2.88	12.23	H
	20947	-52.26	-13	-39.26	-74.82	-66.72	2.08	18.69	H
	24438	-35.20	-13	-22.20	-60	-48.59	2.02	17.56	H
	27930	-50.56	-13	-37.56	-76.41	-65.41	2.37	19.37	H
									H
	6981	-43.96	-13	-30.96	-70.33	-52.01	1.72	11.93	V
	10472	-42.07	-13	-29.07	-72.3	-48.45	2.39	10.92	V
	13968	-35.37	-13	-22.37	-73.14	-42.58	2.88	12.23	V
	20947	-53.21	-13	-40.21	-75.41	-67.67	2.08	18.69	V
	24438	-34.89	-13	-21.89	-60.97	-48.28	2.02	17.56	V
	27930	-49.57	-13	-36.57	-76.79	-64.42	2.37	19.37	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	7006	-44.76	-13	-31.76	-71.73	-52.78	1.72	11.89	H
	10509	-41.22	-13	-28.22	-71.79	-47.58	2.39	10.90	H
	14013	-35.24	-13	-22.24	-72.7	-42.38	2.88	12.17	H
	21019	-45.93	-13	-32.93	-68.47	-60.41	2.07	18.70	H
	24522	-44.85	-13	-31.85	-69.61	-58.20	2.03	17.54	H
	28026	-50.67	-13	-37.67	-76.37	-65.54	2.39	19.41	H
									H
	7006	-45.55	-13	-32.55	-72.03	-53.57	1.72	11.89	V
	10509	-41.59	-13	-28.59	-71.87	-47.95	2.39	10.90	V
	14013	-34.58	-13	-21.58	-72.18	-41.72	2.88	12.17	V
	21019	-47.19	-13	-34.19	-69.41	-61.67	2.07	18.70	V
	24522	-46.07	-13	-33.07	-72.21	-59.42	2.03	17.54	V
	28026	-49.64	-13	-36.64	-76.75	-64.51	2.39	19.41	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	7006	-44.86	-13	-31.86	-71.83	-52.88	1.72	11.89	H
	10509	-41.16	-13	-28.16	-71.73	-47.52	2.39	10.90	H
	14013	-34.94	-13	-21.94	-72.4	-42.08	2.88	12.17	H
	21019	-49.72	-13	-36.72	-71.94	-64.20	2.07	18.70	H
	24522	-50.50	-13	-37.50	-76.64	-63.85	2.03	17.54	H
	28026	-49.80	-13	-36.80	-76.91	-64.67	2.39	19.41	H
									H
	7006	-45.54	-13	-32.54	-72.02	-53.56	1.72	11.89	V
	10509	-41.36	-13	-28.36	-71.64	-47.72	2.39	10.90	V
	14013	-35.09	-13	-22.09	-72.69	-42.23	2.88	12.17	V
	21019	-51.09	-13	-38.09	-73.63	-65.57	2.07	18.70	V
	24522	-52.03	-13	-39.03	-76.79	-65.38	2.03	17.54	V
	28026	-50.94	-13	-37.94	-76.64	-65.81	2.39	19.41	V
									V

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