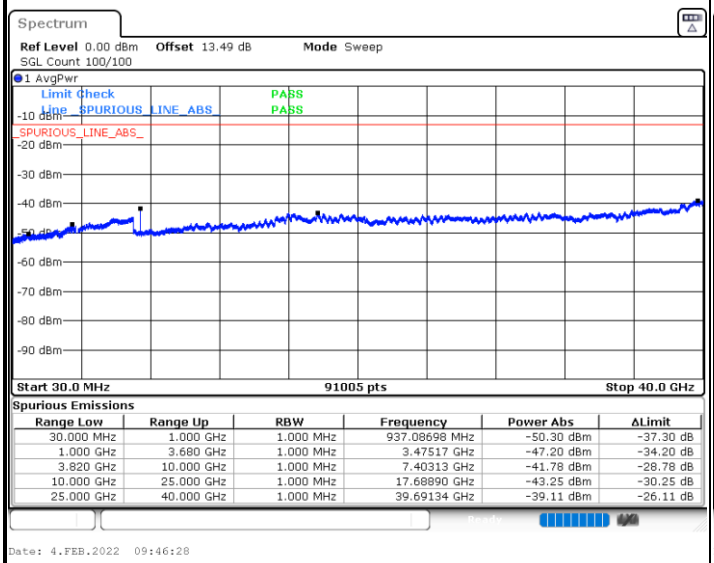
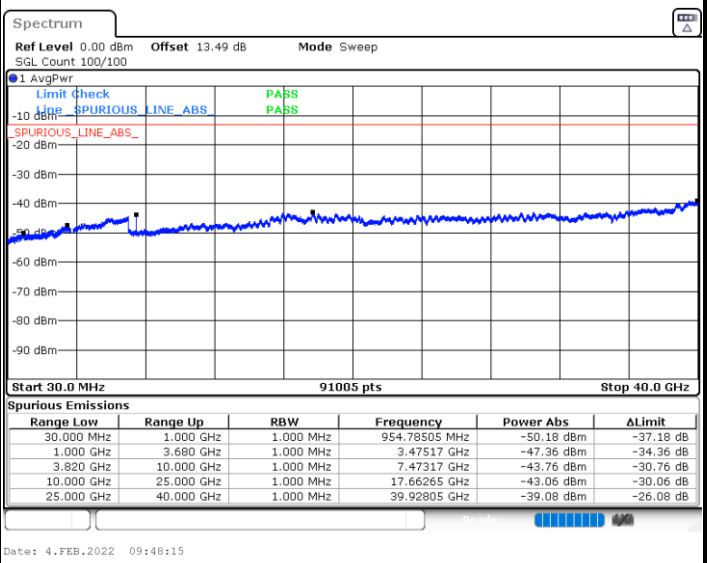
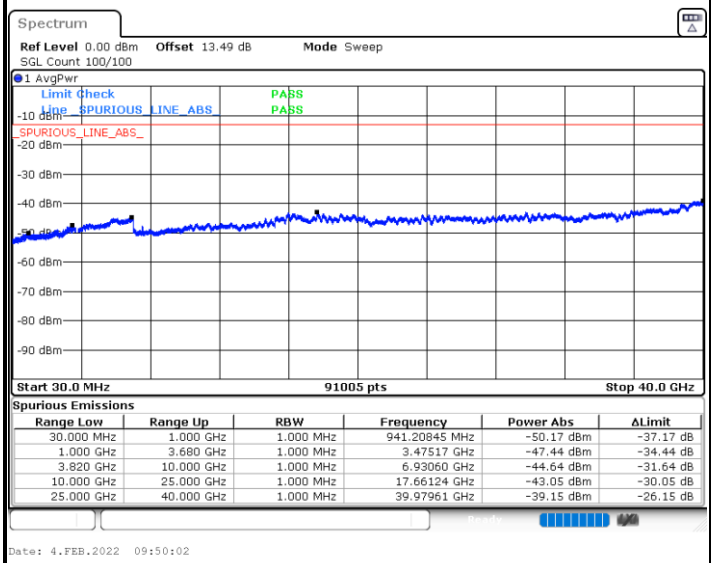
FR1 n78 / 30MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	
	

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	937.08698 MHz	-50.30 dBm	-37.30 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.20 dBm	-34.20 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.40313 GHz	-41.78 dBm	-28.78 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.68890 GHz	-43.25 dBm	-30.25 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.69134 GHz	-39.11 dBm	-26.11 dB

Date: 4.FEB.2022 09:46:28

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	954.78505 MHz	-50.18 dBm	-37.18 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.36 dBm	-34.36 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.47317 GHz	-43.76 dBm	-30.76 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66265 GHz	-43.06 dBm	-30.06 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.92805 GHz	-39.08 dBm	-26.08 dB

Date: 4.FEB.2022 09:48:15

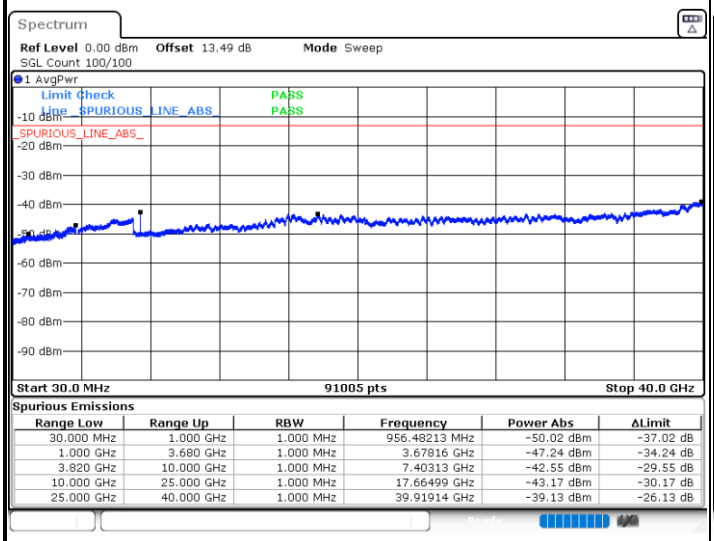
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	941.20845 MHz	-50.17 dBm	-37.17 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.44 dBm	-34.44 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.93060 GHz	-44.64 dBm	-31.64 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66124 GHz	-43.05 dBm	-30.05 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.97961 GHz	-39.15 dBm	-26.15 dB

Date: 4.FEB.2022 09:50:02

FR1 n78 / 40MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

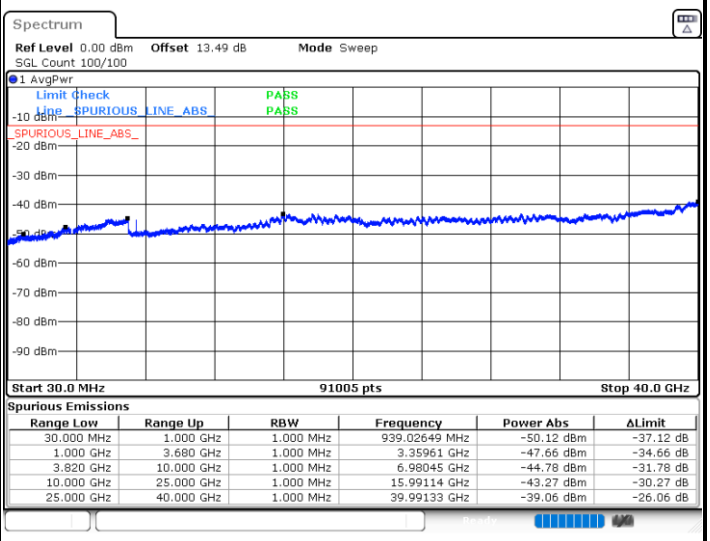


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	956.48213 MHz	-50.02 dBm	-37.02 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.67816 GHz	-47.24 dBm	-34.24 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.40313 GHz	-42.55 dBm	-29.55 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66499 GHz	-43.17 dBm	-30.17 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.91914 GHz	-39.13 dBm	-26.13 dB

Date: 4.FEB.2022 15:08:04

Middle Channel / 1RB1

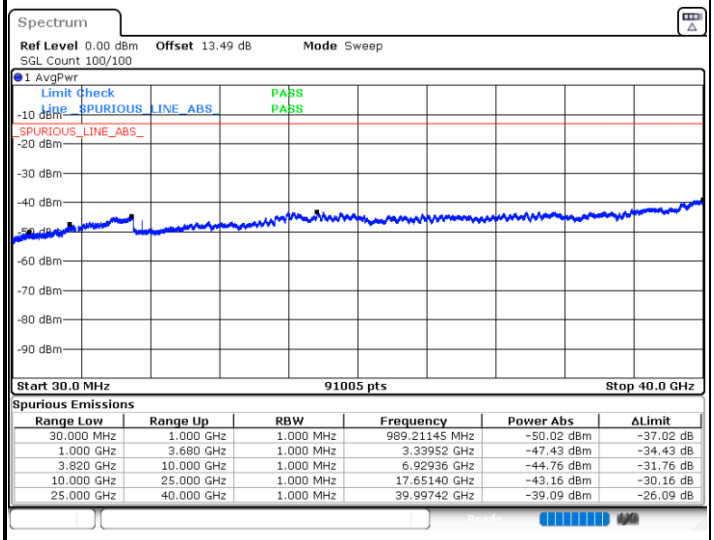


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	939.02649 MHz	-50.12 dBm	-37.12 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.35961 GHz	-47.66 dBm	-34.66 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.98045 GHz	-44.78 dBm	-31.78 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.99114 GHz	-43.27 dBm	-30.27 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99133 GHz	-39.06 dBm	-26.06 dB

Date: 4.FEB.2022 15:13:24

Highest Channel / 1RB1

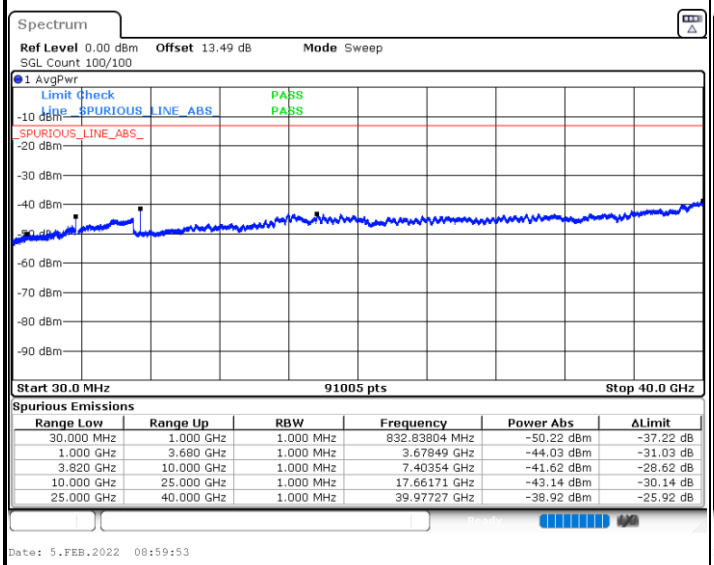


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	989.21145 MHz	-50.02 dBm	-37.02 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.33952 GHz	-47.43 dBm	-34.43 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.92936 GHz	-44.76 dBm	-31.76 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65140 GHz	-43.16 dBm	-30.16 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99742 GHz	-39.09 dBm	-26.09 dB

Date: 4.FEB.2022 15:16:23

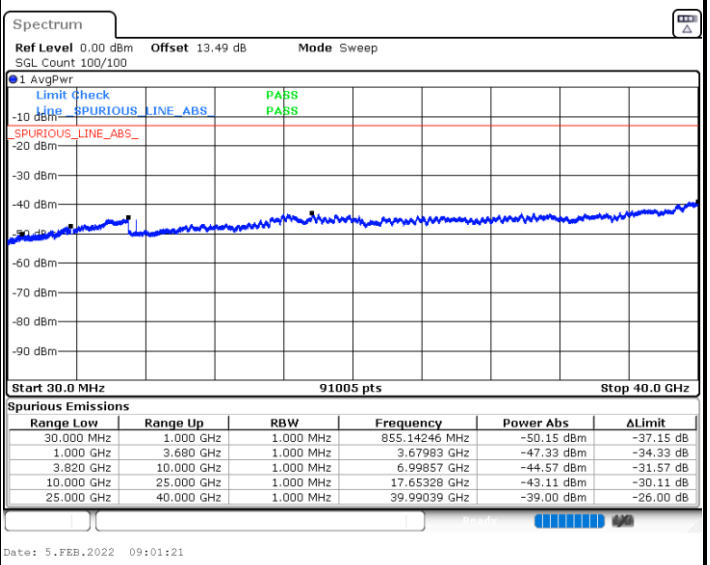
FR1 n78 / 50MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
Highest Channel / 1RB1	



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	832.83804 MHz	-50.22 dBm	-37.22 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.67849 GHz	-44.03 dBm	-31.03 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.40354 GHz	-41.62 dBm	-28.62 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66171 GHz	-43.14 dBm	-30.14 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.97727 GHz	-38.92 dBm	-25.92 dB

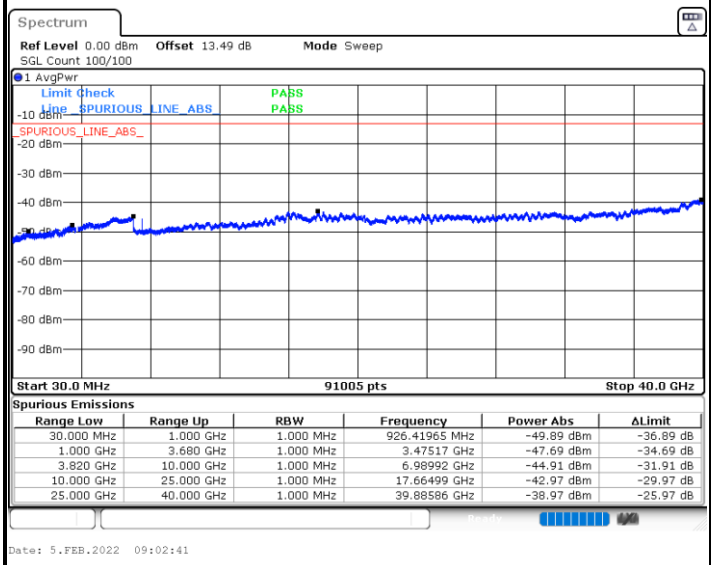
Date: 5.FEB.2022 08:59:53



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	855.14246 MHz	-50.15 dBm	-37.15 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.67983 GHz	-47.33 dBm	-34.33 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99857 GHz	-44.57 dBm	-31.57 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65328 GHz	-43.11 dBm	-30.11 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99039 GHz	-39.00 dBm	-26.00 dB

Date: 5.FEB.2022 09:01:21



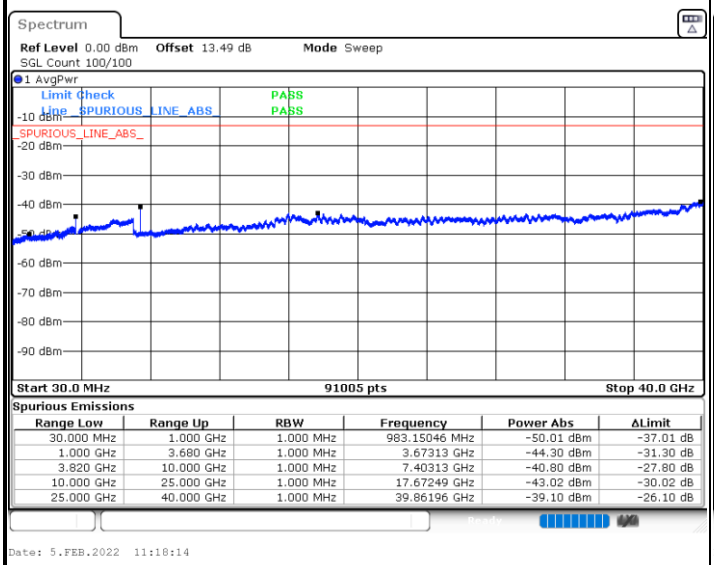
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	926.41965 MHz	-49.89 dBm	-36.89 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.69 dBm	-34.69 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.98992 GHz	-44.91 dBm	-31.91 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66499 GHz	-42.97 dBm	-29.97 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.88586 GHz	-38.97 dBm	-25.97 dB

Date: 5.FEB.2022 09:02:41

FR1 n78 / 60MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

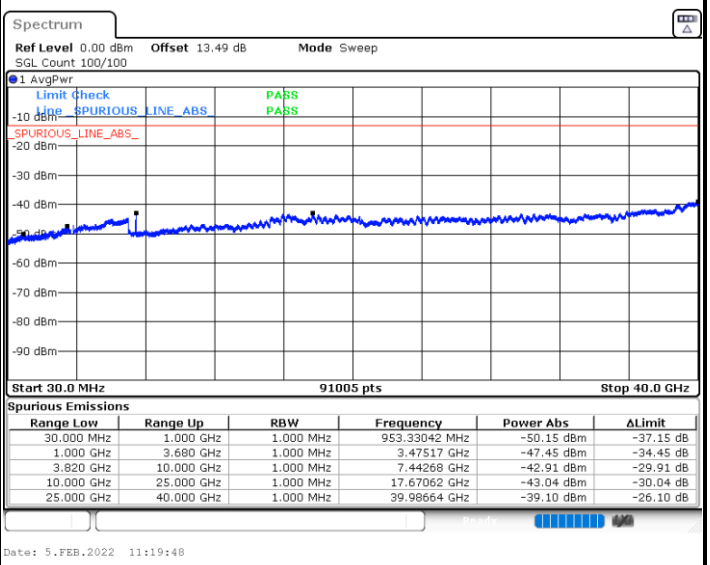


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.15046 MHz	-50.01 dBm	-37.01 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.67313 GHz	-44.30 dBm	-31.30 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.40313 GHz	-40.80 dBm	-27.80 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67249 GHz	-43.02 dBm	-30.02 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.86196 GHz	-39.10 dBm	-26.10 dB

Date: 5.FEB.2022 11:18:14

Middle Channel / 1RB1

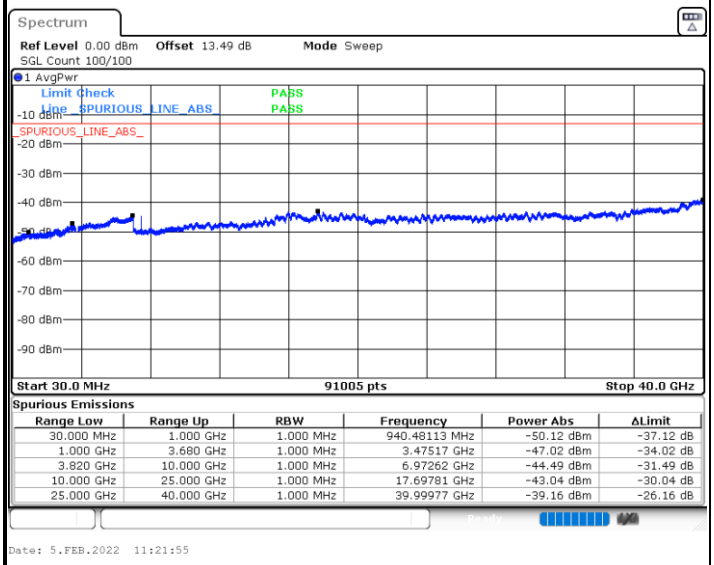


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	953.33042 MHz	-50.15 dBm	-37.15 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.45 dBm	-34.45 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.44268 GHz	-42.91 dBm	-29.91 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67062 GHz	-43.04 dBm	-30.04 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.98664 GHz	-39.10 dBm	-26.10 dB

Date: 5.FEB.2022 11:19:48

Highest Channel / 1RB1



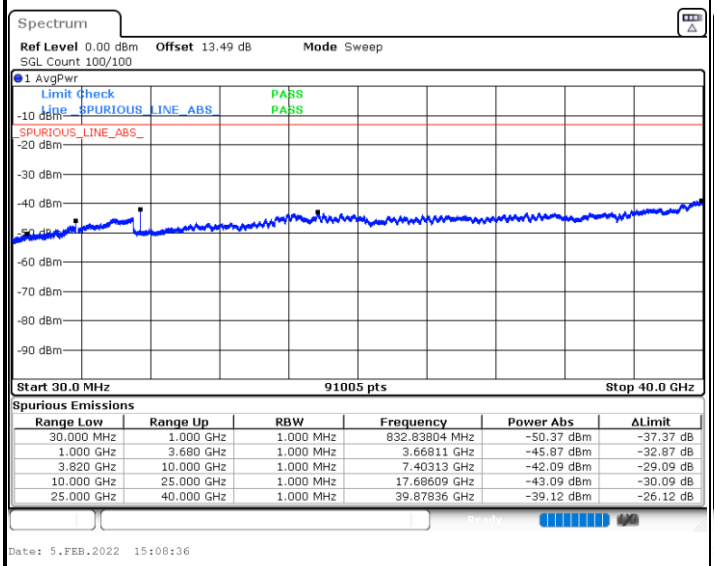
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	940.48113 MHz	-50.12 dBm	-37.12 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.02 dBm	-34.02 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.97262 GHz	-44.49 dBm	-31.49 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.69781 GHz	-43.04 dBm	-30.04 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99977 GHz	-39.16 dBm	-26.16 dB

Date: 5.FEB.2022 11:21:55

FR1 n78 / 70MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

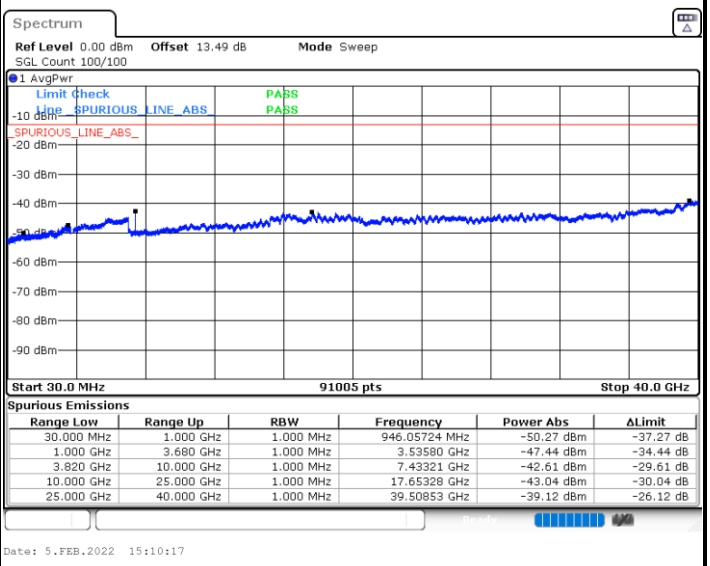


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	832.83804 MHz	-50.37 dBm	-37.37 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.66811 GHz	-45.87 dBm	-32.87 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.40313 GHz	-42.09 dBm	-29.09 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.68609 GHz	-43.09 dBm	-30.09 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.87836 GHz	-39.12 dBm	-26.12 dB

Date: 5.FEB.2022 15:08:36

Middle Channel / 1RB1

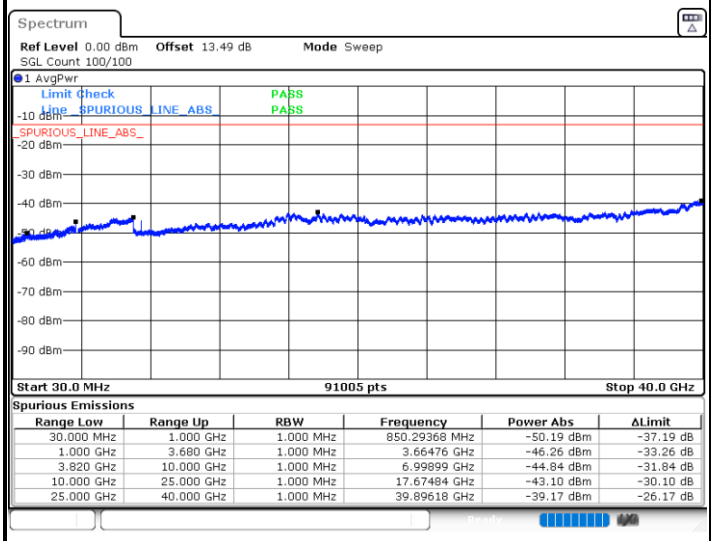


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	946.05724 MHz	-50.27 dBm	-37.27 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.53580 GHz	-47.44 dBm	-34.44 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.43321 GHz	-42.61 dBm	-29.61 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65328 GHz	-43.04 dBm	-30.04 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.50853 GHz	-39.12 dBm	-26.12 dB

Date: 5.FEB.2022 15:10:17

Highest Channel / 1RB1



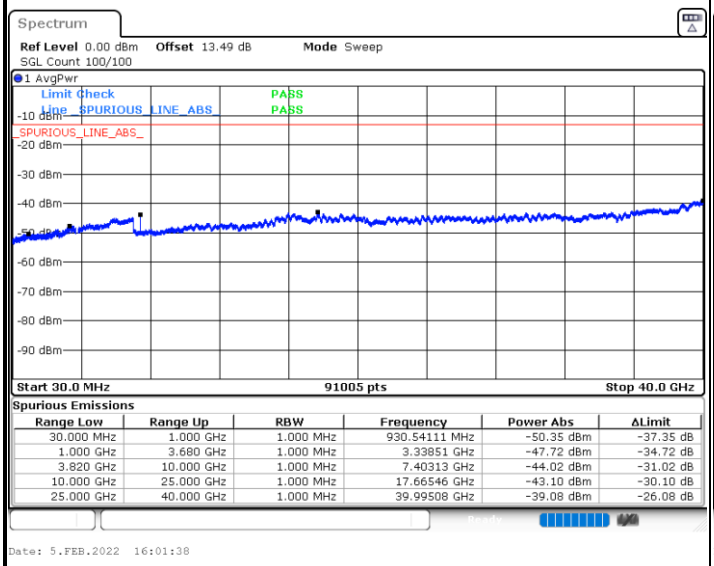
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	850.29368 MHz	-50.19 dBm	-37.19 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.66476 GHz	-46.26 dBm	-33.26 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99899 GHz	-44.84 dBm	-31.84 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67484 GHz	-43.10 dBm	-30.10 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.89618 GHz	-39.17 dBm	-26.17 dB

Date: 5.FEB.2022 15:11:38

FR1 n78 / 80MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

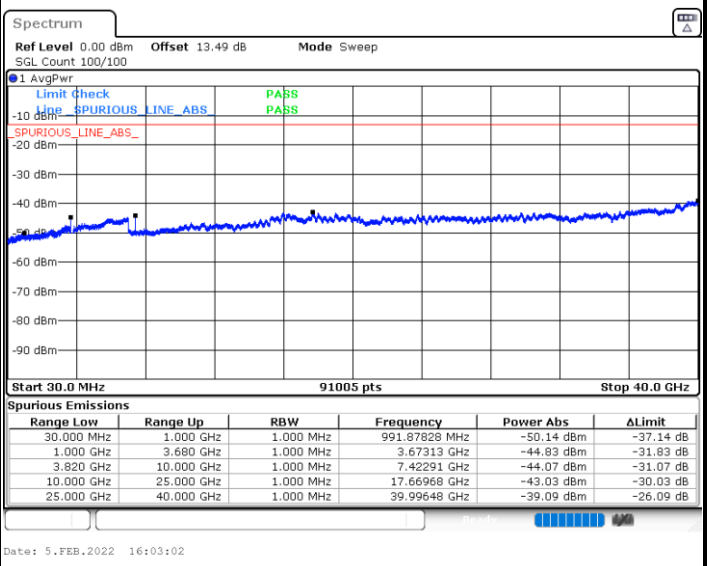


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	930.54111 MHz	-50.35 dBm	-37.35 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.33851 GHz	-47.72 dBm	-34.72 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.40313 GHz	-44.02 dBm	-31.02 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66546 GHz	-43.10 dBm	-30.10 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99508 GHz	-39.08 dBm	-26.08 dB

Date: 5.FEB.2022 16:01:38

Middle Channel / 1RB1

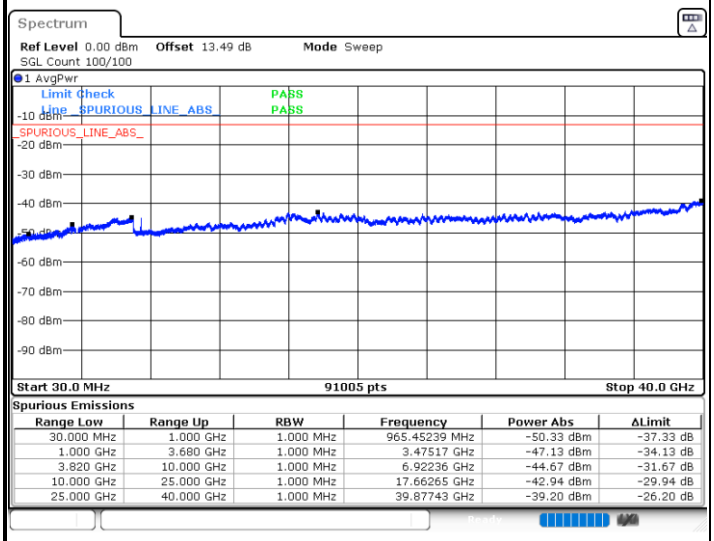


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.87828 MHz	-50.14 dBm	-37.14 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.67313 GHz	-44.83 dBm	-31.83 dB
3.820 GHz	10.000 GHz	1.000 MHz	7.42291 GHz	-44.07 dBm	-31.07 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66968 GHz	-43.03 dBm	-30.03 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99648 GHz	-39.09 dBm	-26.09 dB

Date: 5.FEB.2022 16:03:02

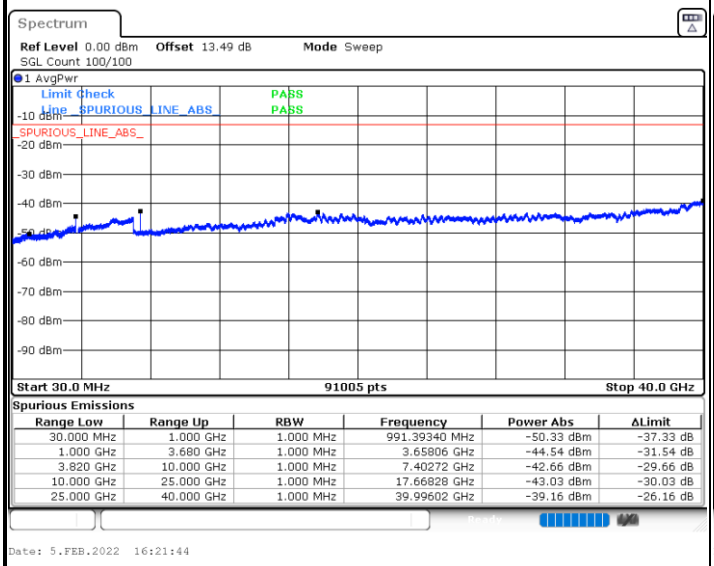
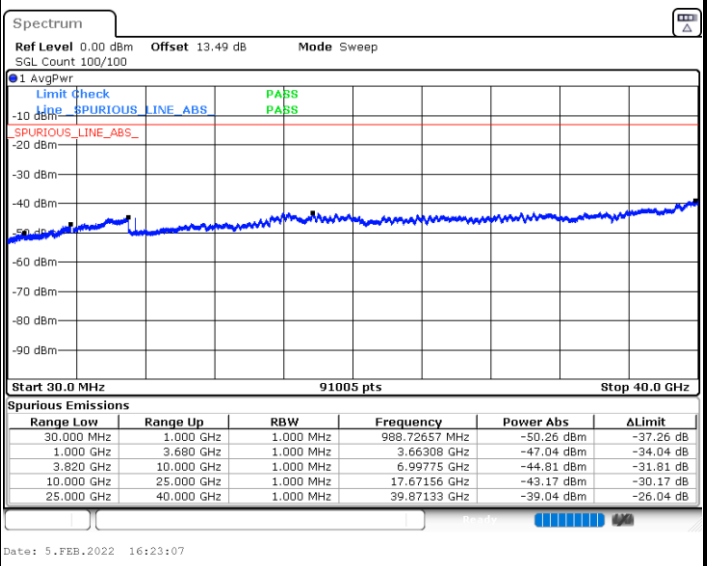
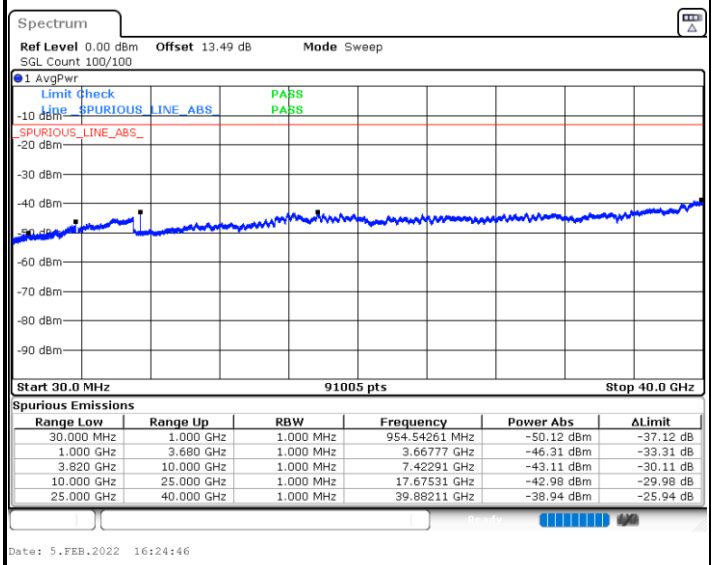
Highest Channel / 1RB1



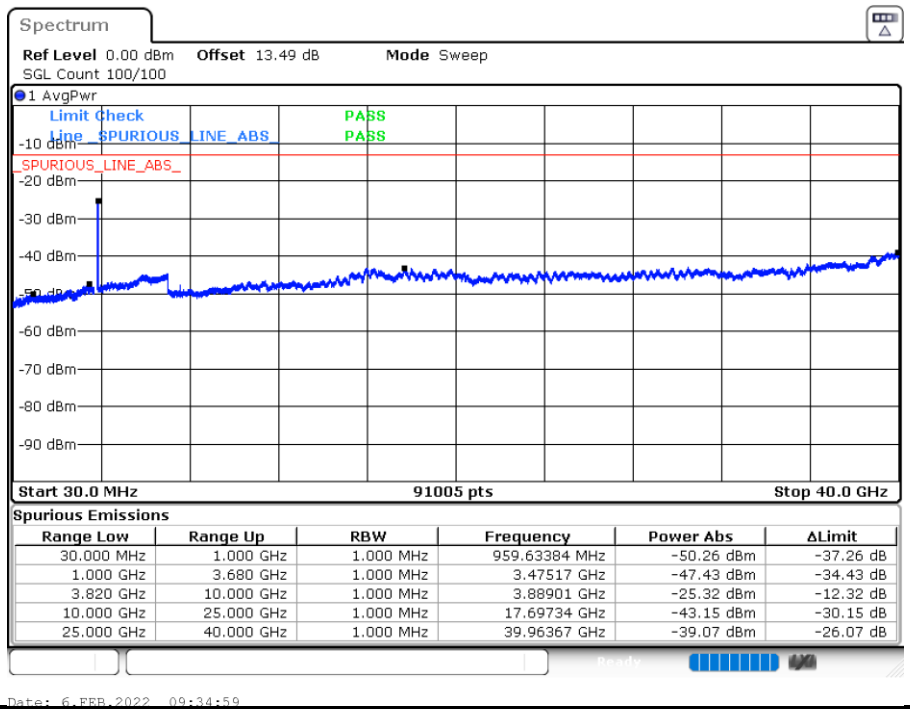
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	965.45239 MHz	-50.33 dBm	-37.33 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.13 dBm	-34.13 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.92236 GHz	-44.67 dBm	-31.67 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66265 GHz	-42.94 dBm	-29.94 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.87743 GHz	-39.20 dBm	-26.20 dB

Date: 5.FEB.2022 16:05:16

FR1 n78 / 90MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	
	

FR1 n78 / 100MHz / DFT-S OFDM / QPSK
Middle Channel / 1RB1



Frequency Stability

Test Conditions		FR1 n78 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 100MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0026	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0015	
-10	Normal Voltage	0.0031	
-20	Normal Voltage	0.0037	
-30	Normal Voltage	0.0032	
20	Maximum Voltage	0.0021	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0035	

Note:

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Chris Chen	Temperature :	22~23℃
		Relative Humidity :	41~42%

Note: Pre-scanned harmonic for testing, we choose the worst antenna mode to test.

SA n77 / 100MHz / QPSK / ANT10								
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)
Middle	7584	-53.02	-13	-40.02	-63.50	2.76	13.24	H
	11376	-59.62	-13	-46.62	-69.21	3.42	13.01	H
	15168	-54.23	-13	-41.23	-63.84	3.83	13.44	H
	7584	-59.51	-13	-46.51	-69.95	2.80	13.24	V
	11376	-61.23	-13	-48.23	-70.78	3.46	13.01	V
	15168	-50.28	-13	-37.28	-59.84	3.88	13.44	V

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

EN-DC_41A_n77A / LTE 10MHz + NR 100MHz / QPSK / ANT4(LTE) & ANT10(NR)								
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)
Middle	7584	-57.31	-13	-44.31	-67.79	2.76	13.24	H
	11388	-61.34	-13	-48.34	-70.93	3.42	13.01	H
	15168	-52.60	-13	-39.60	-62.21	3.83	13.44	H
	7584	-56.76	-13	-43.76	-67.20	2.80	13.24	V
	11388	-62.08	-13	-49.08	-71.63	3.46	13.01	V
	15168	-49.79	-13	-36.79	-59.35	3.88	13.44	V

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

SA n78 / 100MHz / QPSK / ANT10								
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)
Middle	7404	-57.47	-13	-44.47	-67.95	2.76	13.24	H
	11100	-59.76	-13	-46.76	-69.35	3.42	13.01	H
	14808	-57.59	-13	-44.59	-67.20	3.83	13.44	H
	7404	-60.10	-13	-47.10	-70.54	2.80	13.24	V
	11100	-59.66	-13	-46.66	-69.21	3.46	13.01	V
	14808	-53.80	-13	-40.80	-63.36	3.88	13.44	V

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

EN-DC_2A_n78A / LTE 10MHz + NR 100MHz / QPSK / ANT4(LTE) & ANT10(NR)								
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)
Middle	7404	-58.06	-13	-45.06	-68.54	2.76	13.24	H
	11112	-62.05	-13	-49.05	-71.64	3.42	13.01	H
	14808	-55.91	-13	-42.91	-65.52	3.83	13.44	H
	7404	-60.32	-13	-47.32	-70.76	2.80	13.24	V
	11112	-62.09	-13	-49.09	-71.64	3.46	13.01	V
	14808	-53.91	-13	-40.91	-63.47	3.88	13.44	V

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

EN-DC_5A_n78A / LTE 10MHz + NR 100MHz / QPSK / ANT1(LTE) & ANT10(NR)								
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)
Middle	7404	-59.43	-13	-46.43	-69.91	2.76	13.24	H
	11106	-59.74	-13	-46.74	-69.33	3.42	13.01	H
	14808	-55.44	-13	-42.44	-65.05	3.83	13.44	H
	7404	-57.74	-13	-44.74	-68.18	2.80	13.24	V
	11106	-61.85	-13	-48.85	-71.40	3.46	13.01	V
	14808	-52.26	-13	-39.26	-61.82	3.88	13.44	V

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

EN-DC_7A_n78A / LTE 10MHz + NR 100MHz / QPSK / ANT4(LTE) & ANT10(NR)								
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)
Middle	7416	-64.02	-13	-51.02	-74.50	2.76	13.24	H
	11112	-61.08	-13	-48.08	-70.67	3.42	13.01	H
	14820	-61.22	-13	-48.22	-70.83	3.83	13.44	H
	7416	-64.23	-13	-51.23	-74.67	2.80	13.24	V
	11112	-61.35	-13	-48.35	-70.90	3.46	13.01	V
	14820	-61.42	-13	-48.42	-70.98	3.88	13.44	V

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

EN-DC_38A_n78A / LTE 10MHz + NR 100MHz / QPSK / ANT4(LTE) & ANT10(NR)								
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)
Middle	7416	-63.46	-13	-50.46	-73.94	2.76	13.24	H
	11112	-61.56	-13	-48.56	-71.15	3.42	13.01	H
	14820	-61.45	-13	-48.45	-71.06	3.83	13.44	H
	7416	-63.84	-13	-50.84	-74.28	2.80	13.24	V
	11112	-61.75	-13	-48.75	-71.30	3.46	13.01	V
	14820	-61.27	-13	-48.27	-70.83	3.88	13.44	V

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

EN-DC_41A_n78A / LTE 10MHz + NR 100MHz / QPSK / ANT4(LTE) & ANT10(NR)								
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)
Middle	7416	-64.04	-13	-51.04	-74.52	2.76	13.24	H
	11112	-61.82	-13	-48.82	-71.41	3.42	13.01	H
	14820	-61.56	-13	-48.56	-71.17	3.83	13.44	H
	7416	-64.01	-13	-51.01	-74.45	2.80	13.24	V
	11112	-61.55	-13	-48.55	-71.10	3.46	13.01	V
	14820	-61.59	-13	-48.59	-71.15	3.88	13.44	V

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

EN-DC_66A_n78A / LTE 10MHz + NR 100MHz / QPSK / ANT4(LTE) & ANT10(NR)								
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)
Middle	7416	-62.69	-13	-49.69	-73.17	2.76	13.24	H
	11112	-60.22	-13	-47.22	-69.81	3.42	13.01	H
	14820	-60.33	-13	-47.33	-69.94	3.83	13.44	H
	7416	-62.80	-13	-49.80	-73.24	2.80	13.24	V
	11112	-60.50	-13	-47.50	-70.05	3.46	13.01	V
	14820	-60.27	-13	-47.27	-69.83	3.88	13.44	V

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