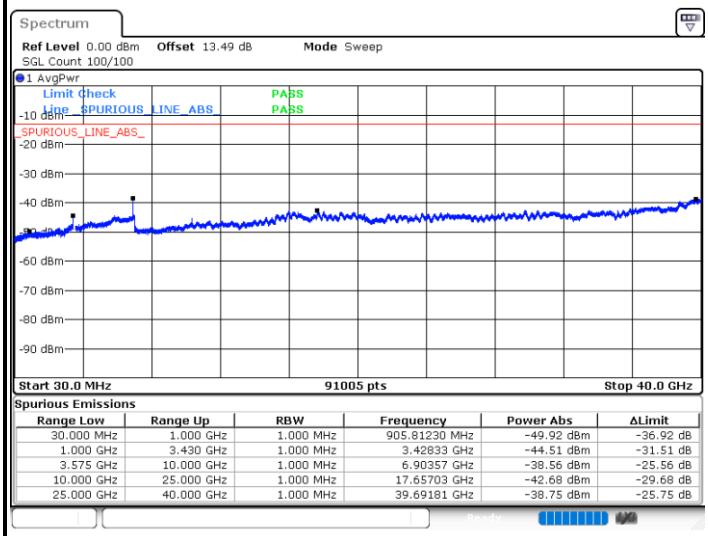
FR1 n78 / 50MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

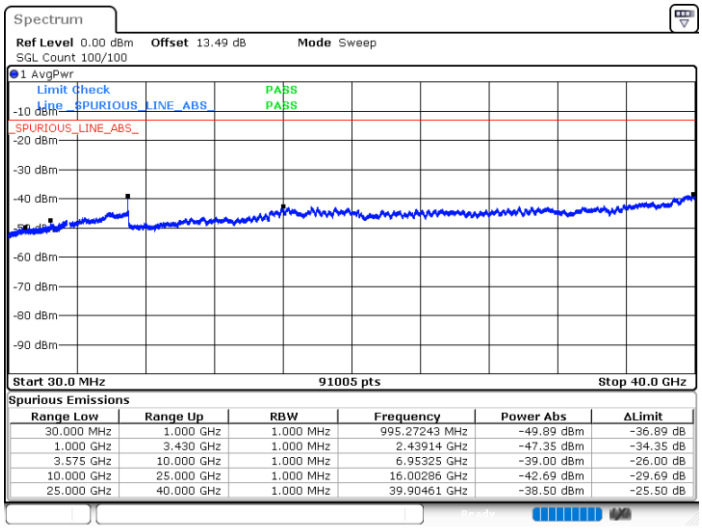


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	905.81230 MHz	-49.92 dBm	-36.92 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.42833 GHz	-44.51 dBm	-31.51 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.90357 GHz	-38.56 dBm	-25.56 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65703 GHz	-42.68 dBm	-29.68 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.69181 GHz	-38.75 dBm	-25.75 dB

Date: 7.MAR.2022 21:35:56

Middle Channel / 1RB1

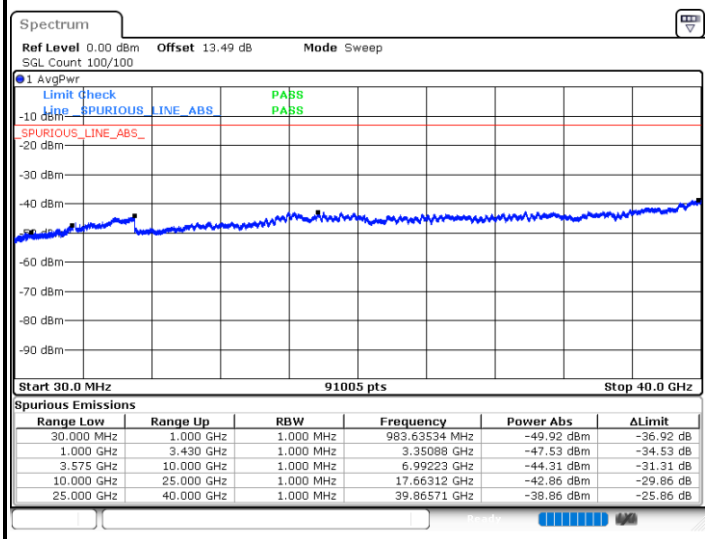


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.27243 MHz	-49.89 dBm	-36.89 dB
1.000 GHz	3.430 GHz	1.000 MHz	2.43914 GHz	-47.35 dBm	-34.35 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.95325 GHz	-39.00 dBm	-26.00 dB
10.000 GHz	25.000 GHz	1.000 MHz	16.00286 GHz	-42.69 dBm	-29.69 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.90461 GHz	-38.50 dBm	-25.50 dB

Date: 7.MAR.2022 21:37:31

Highest Channel / 1RB1



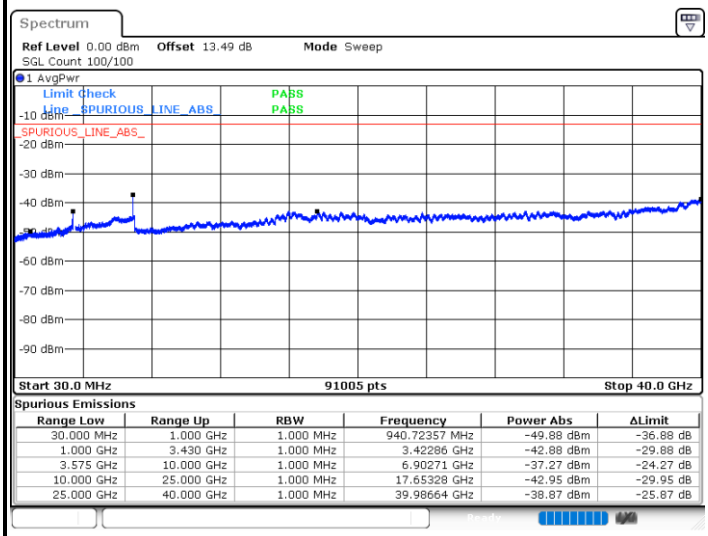
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.63534 MHz	-49.92 dBm	-36.92 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.35088 GHz	-47.53 dBm	-34.53 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.99223 GHz	-44.31 dBm	-31.31 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66312 GHz	-42.86 dBm	-29.86 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.86571 GHz	-38.86 dBm	-25.86 dB

Date: 7.MAR.2022 21:38:59

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

Lowest Channel / 1RB1

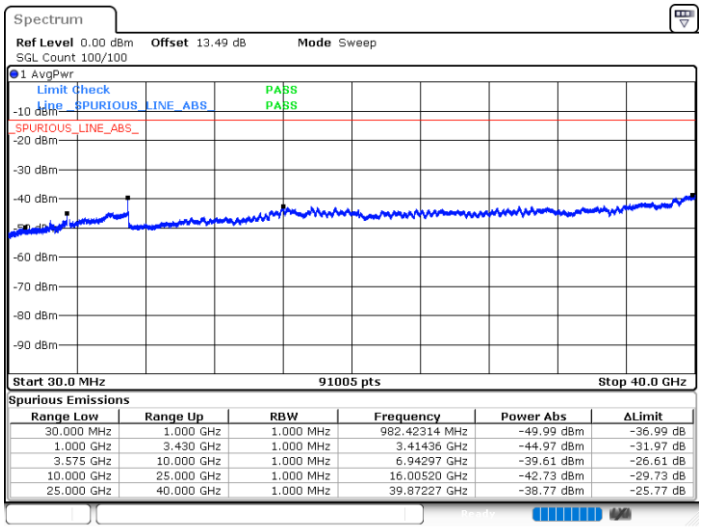


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	940.72357 MHz	-49.88 dBm	-36.88 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.42286 GHz	-42.88 dBm	-29.88 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.90271 GHz	-37.27 dBm	-24.27 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65328 GHz	-42.95 dBm	-29.95 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.98664 GHz	-38.87 dBm	-25.87 dB

Date: 8.MAR.2022 01:46:12

Middle Channel / 1RB1

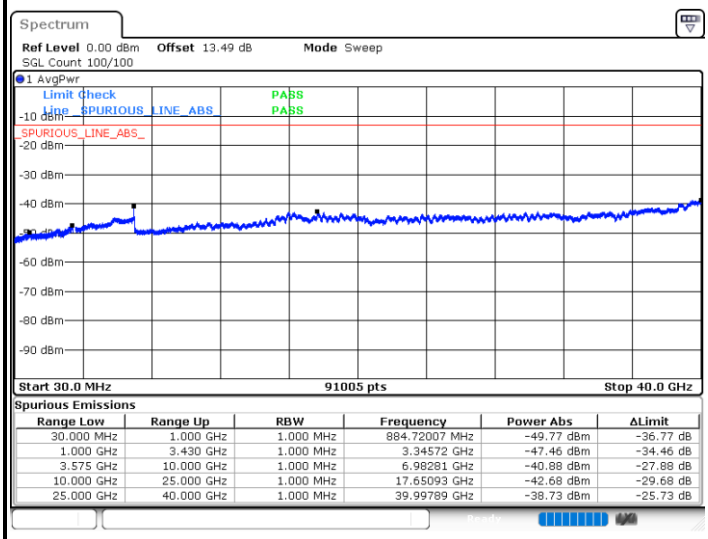


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	982.42314 MHz	-49.99 dBm	-36.99 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.41436 GHz	-44.97 dBm	-31.97 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.94297 GHz	-39.61 dBm	-26.61 dB
10.000 GHz	25.000 GHz	1.000 MHz	16.00520 GHz	-42.73 dBm	-29.73 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.87227 GHz	-38.77 dBm	-25.77 dB

Date: 8.MAR.2022 01:47:53

Highest Channel / 1RB1



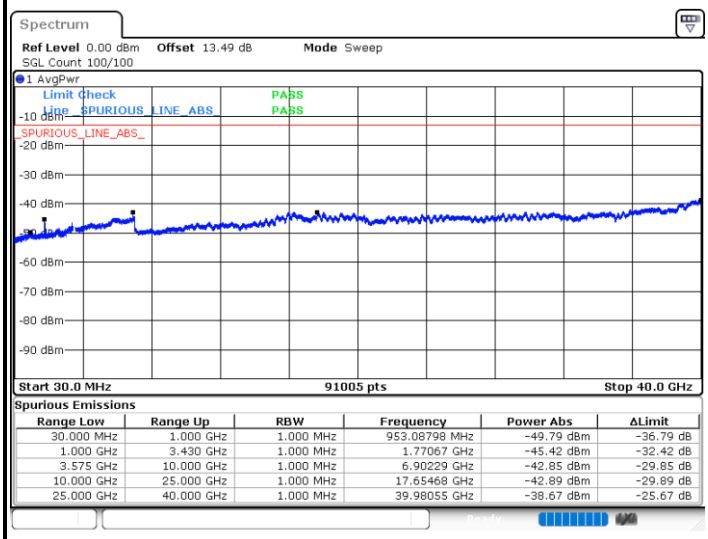
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	884.72007 MHz	-49.77 dBm	-36.77 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.34572 GHz	-47.46 dBm	-34.46 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.98281 GHz	-40.88 dBm	-27.88 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65093 GHz	-42.68 dBm	-29.68 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99789 GHz	-38.73 dBm	-25.73 dB

Date: 8.MAR.2022 01:49:10

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

Lowest Channel / 1RB1

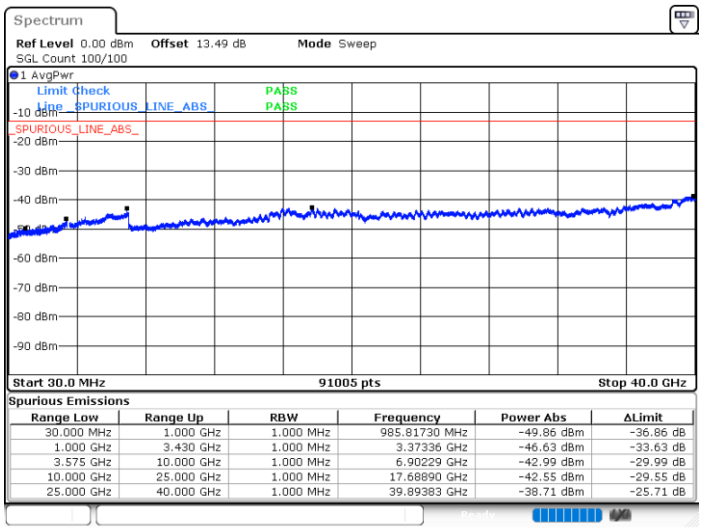


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	953.08798 MHz	-49.79 dBm	-36.79 dB
1.000 GHz	3.430 GHz	1.000 MHz	1.77067 GHz	-45.42 dBm	-32.42 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.90229 GHz	-42.85 dBm	-29.85 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65468 GHz	-42.89 dBm	-29.89 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.98055 GHz	-38.67 dBm	-25.67 dB

Date: 8.MAR.2022 08:48:42

Middle Channel / 1RB1

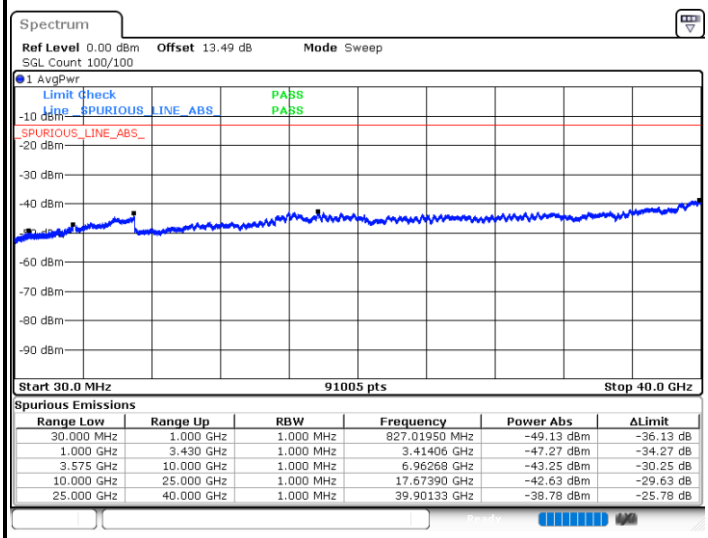


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.81730 MHz	-49.86 dBm	-36.86 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.37336 GHz	-46.63 dBm	-33.63 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.90229 GHz	-42.99 dBm	-29.99 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.68890 GHz	-42.55 dBm	-29.55 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.89383 GHz	-38.71 dBm	-25.71 dB

Date: 8.MAR.2022 08:39:19

Highest Channel / 1RB1



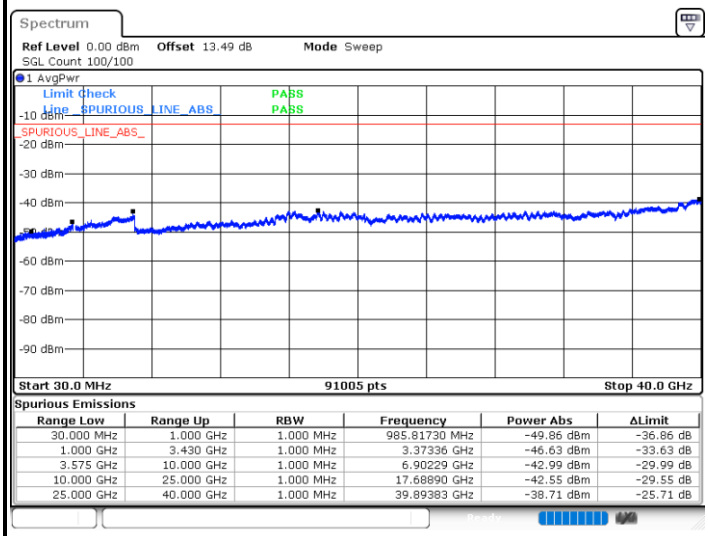
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	827.01950 MHz	-49.13 dBm	-36.13 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.41406 GHz	-47.27 dBm	-34.27 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.96268 GHz	-43.25 dBm	-30.25 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67390 GHz	-42.63 dBm	-29.63 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.90133 GHz	-38.78 dBm	-25.78 dB

Date: 8.MAR.2022 09:11:45

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

Lowest Channel / 1RB1

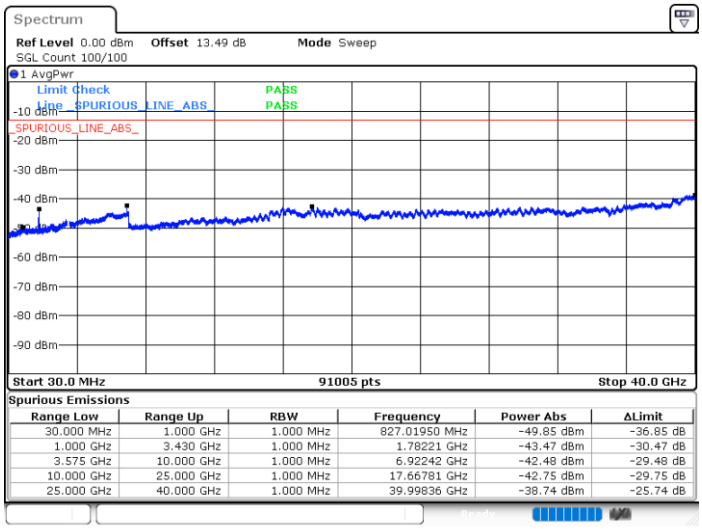


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.81730 MHz	-49.86 dBm	-36.86 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.37336 GHz	-46.63 dBm	-33.63 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.90229 GHz	-42.99 dBm	-29.99 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.68890 GHz	-42.55 dBm	-29.55 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.89383 GHz	-38.71 dBm	-25.71 dB

Date: 8.MAR.2022 08:39:19

Middle Channel / 1RB1

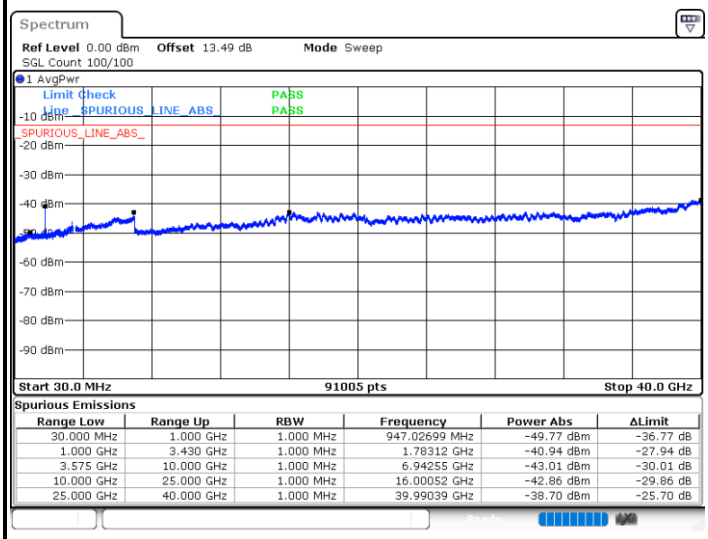


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	827.01950 MHz	-49.85 dBm	-36.85 dB
1.000 GHz	3.430 GHz	1.000 MHz	1.78221 GHz	-43.47 dBm	-30.47 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.92242 GHz	-42.48 dBm	-29.48 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66781 GHz	-42.75 dBm	-29.75 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99836 GHz	-38.74 dBm	-25.74 dB

Date: 8.MAR.2022 08:37:25

Highest Channel / 1RB1



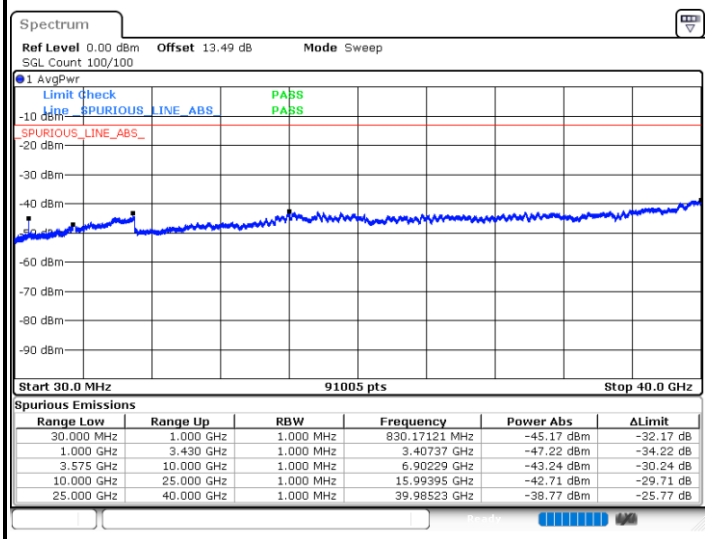
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	947.02699 MHz	-49.77 dBm	-36.77 dB
1.000 GHz	3.430 GHz	1.000 MHz	1.78312 GHz	-40.94 dBm	-27.94 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.94255 GHz	-43.01 dBm	-30.01 dB
10.000 GHz	25.000 GHz	1.000 MHz	16.00052 GHz	-42.86 dBm	-29.86 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99039 GHz	-38.70 dBm	-25.70 dB

Date: 8.MAR.2022 08:35:52

FR1 n78 / 90MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

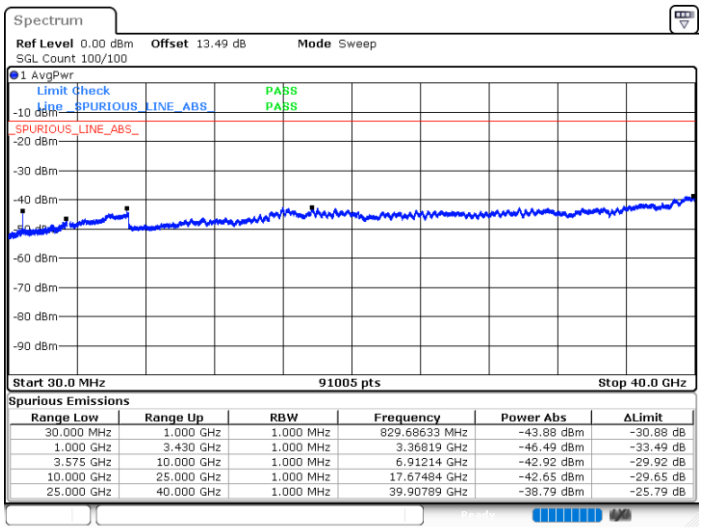


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	830.17121 MHz	-45.17 dBm	-32.17 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.40737 GHz	-47.22 dBm	-34.22 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.90229 GHz	-43.24 dBm	-30.24 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.99395 GHz	-42.71 dBm	-29.71 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.98523 GHz	-38.77 dBm	-25.77 dB

Date: 8.MAR.2022 09:27:08

Middle Channel / 1RB1

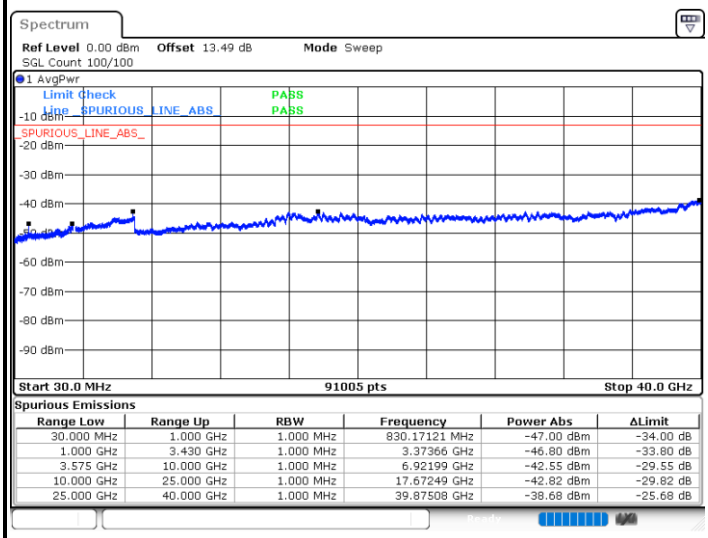


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	829.68633 MHz	-43.88 dBm	-30.88 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.36819 GHz	-46.49 dBm	-33.49 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.91214 GHz	-42.92 dBm	-29.92 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67484 GHz	-42.65 dBm	-29.65 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.90789 GHz	-38.79 dBm	-25.79 dB

Date: 8.MAR.2022 09:25:48

Highest Channel / 1RB1

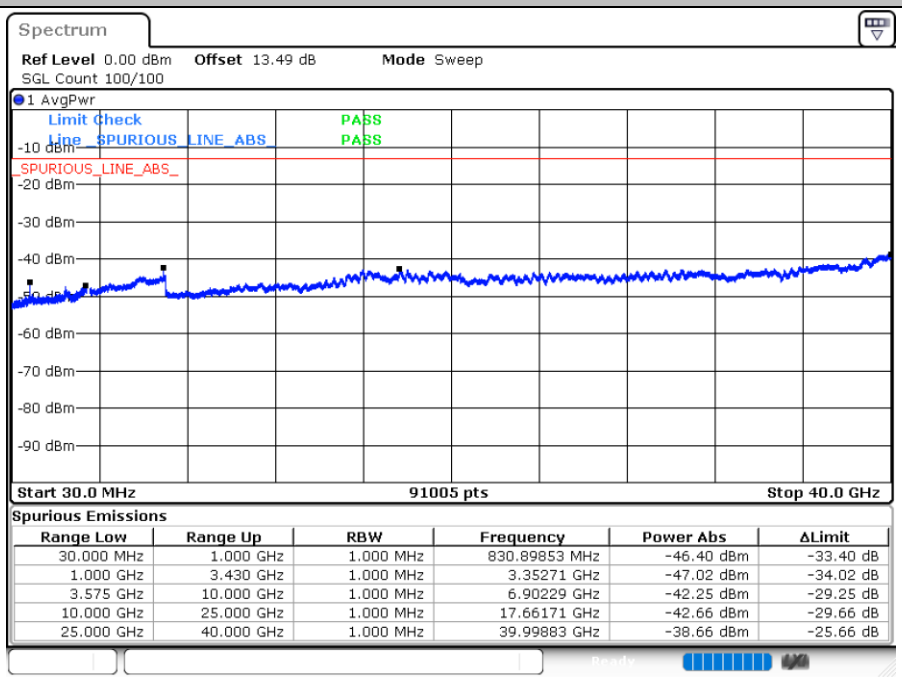


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	830.17121 MHz	-47.00 dBm	-34.00 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.37366 GHz	-46.80 dBm	-33.80 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.92199 GHz	-42.55 dBm	-29.55 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67249 GHz	-42.82 dBm	-29.82 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.87508 GHz	-38.68 dBm	-25.68 dB

Date: 8.MAR.2022 09:43:23

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



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	830.89853 MHz	-46.40 dBm	-33.40 dB
1.000 GHz	3.430 GHz	1.000 MHz	3.35271 GHz	-47.02 dBm	-34.02 dB
3.575 GHz	10.000 GHz	1.000 MHz	6.90229 GHz	-42.25 dBm	-29.25 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66171 GHz	-42.66 dBm	-29.66 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99883 GHz	-38.66 dBm	-25.66 dB

Date: 8.MAR.2022 09:52:55

Frequency Stability

Test Conditions		FR1 n78 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 100MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0003	PASS
40	Normal Voltage	0.0009	
30	Normal Voltage	0.0017	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0023	
-10	Normal Voltage	0.0034	
-20	Normal Voltage	0.0003	
-30	Normal Voltage	0.0028	
20	Maximum Voltage	0.0031	
20	Normal Voltage	0.0039	
20	Battery End Point	0.0021	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 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%

SA n78 / 100MHz / QPSK / ANT4								
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	6900	-61.89	-13	-48.89	-72.37	2.76	13.24	H
	10356	-56.50	-13	-43.50	-66.09	3.42	13.01	H
	13812	-58.82	-13	-45.82	-68.43	3.83	13.44	H
	6900	-62.55	-13	-49.55	-72.99	2.80	13.24	V
	10356	-51.68	-13	-38.68	-61.23	3.46	13.01	V
	13812	-58.84	-13	-45.84	-68.40	3.88	13.44	V

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

EN-DC_7A_n78A / LTE 20MHz + NR 100MHz / QPSK / ANT1(LTE) & ANT4(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	6912	-64.39	-13	-51.39	-74.87	2.76	13.24	H
	10356	-57.94	-13	-44.94	-67.53	3.42	13.01	H
	13800	-57.92	-13	-44.92	-67.53	3.83	13.44	H
	6912	-63.46	-13	-50.46	-73.90	2.80	13.24	V
	10356	-59.66	-13	-46.66	-69.21	3.46	13.01	V
	13800	-60.10	-13	-47.10	-69.66	3.88	13.44	V

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

EN-DC_38A_n78A / LTE 20MHz + NR 100MHz / QPSK / ANT1(LTE) & ANT4(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	6912	-64.48	-13	-51.48	-74.96	2.76	13.24	H
	10356	-53.62	-13	-40.62	-63.21	3.42	13.01	H
	13800	-57.01	-13	-44.01	-66.62	3.83	13.44	H
	6912	-63.57	-13	-50.57	-74.01	2.80	13.24	V
	10356	-55.64	-13	-42.64	-65.19	3.46	13.01	V
	13800	-59.16	-13	-46.16	-68.72	3.88	13.44	V

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

EN-DC_41A_n78A / LTE 20MHz + NR 100MHz / QPSK / ANT1(LTE) & ANT4(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	6912	-63.39	-13	-50.39	-73.87	2.76	13.24	H
	10356	-56.14	-13	-43.14	-65.73	3.42	13.01	H
	13800	-52.01	-13	-39.01	-61.62	3.83	13.44	H
	6912	-63.15	-13	-50.15	-73.59	2.80	13.24	V
	10356	-58.27	-13	-45.27	-67.82	3.46	13.01	V
	13800	-59.58	-13	-46.58	-69.14	3.88	13.44	V

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