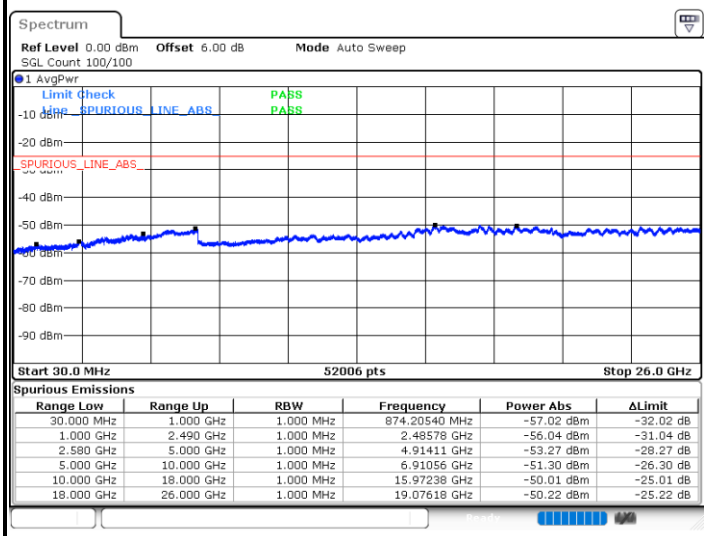
Conducted Spurious Emission

FR1 n7 / 5MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1

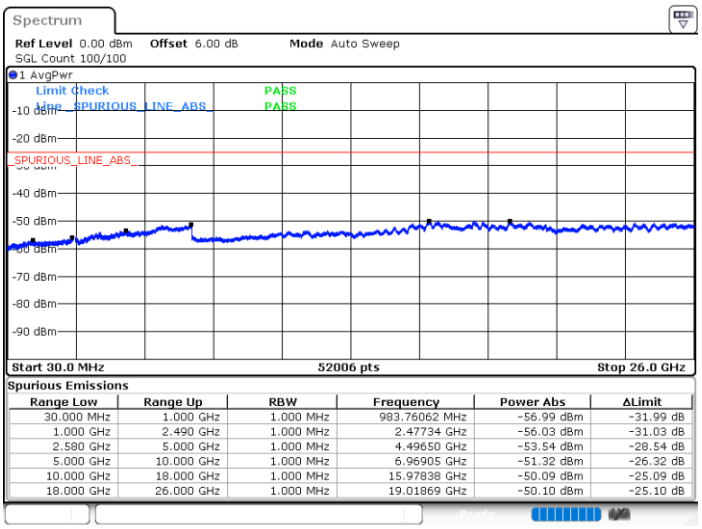


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	874.20540 MHz	-57.02 dBm	-32.02 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48578 GHz	-56.04 dBm	-31.04 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.91411 GHz	-53.27 dBm	-28.27 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.91056 GHz	-51.30 dBm	-26.30 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.97238 GHz	-50.01 dBm	-25.01 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.07618 GHz	-50.22 dBm	-25.22 dB

Date: 14.SEP.2022 08:33:16

Middle Channel / 1RB1

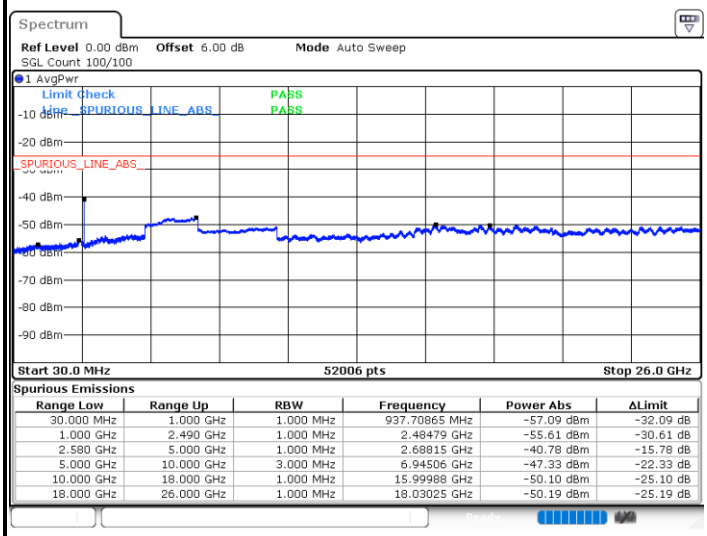


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.76062 MHz	-56.99 dBm	-31.99 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.47734 GHz	-56.03 dBm	-31.03 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.49650 GHz	-53.54 dBm	-28.54 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.96905 GHz	-51.32 dBm	-26.32 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.97838 GHz	-50.09 dBm	-25.09 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.01869 GHz	-50.10 dBm	-25.10 dB

Date: 14.SEP.2022 08:32:07

Highest Channel / 1RB1



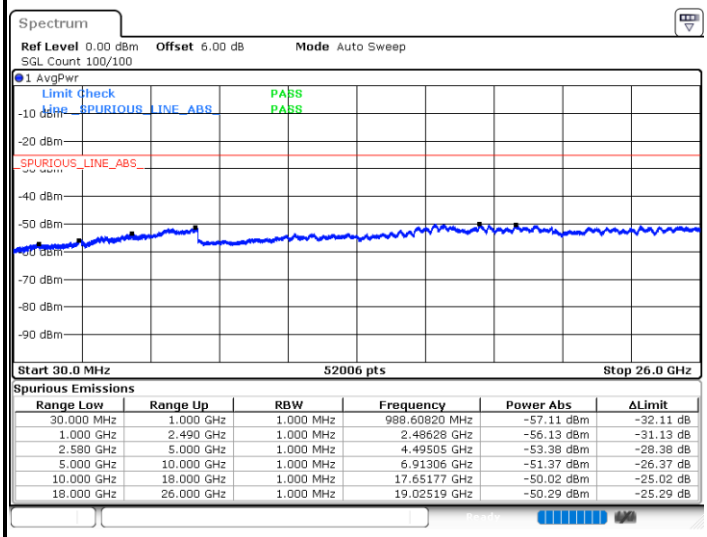
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	937.70865 MHz	-57.09 dBm	-32.09 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48479 GHz	-55.61 dBm	-30.61 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.68815 GHz	-40.78 dBm	-15.78 dB
5.000 GHz	10.000 GHz	3.000 MHz	6.94506 GHz	-47.33 dBm	-22.33 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.99988 GHz	-50.10 dBm	-25.10 dB
18.000 GHz	26.000 GHz	1.000 MHz	18.03025 GHz	-50.19 dBm	-25.19 dB

Date: 14.SEP.2022 08:43:23

FR1 n7 / 5MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

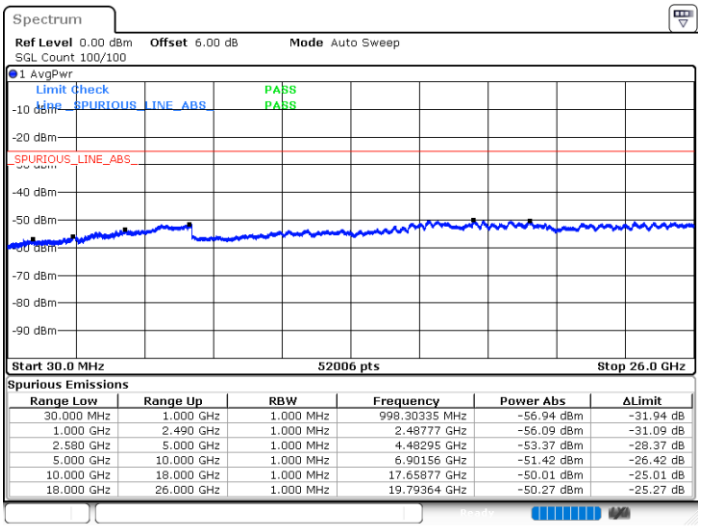


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	988.60820 MHz	-57.11 dBm	-32.11 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48628 GHz	-56.13 dBm	-31.13 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.49505 GHz	-53.38 dBm	-28.38 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.91306 GHz	-51.37 dBm	-26.37 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.65177 GHz	-50.02 dBm	-25.02 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.02519 GHz	-50.29 dBm	-25.29 dB

Date: 14.SEP.2022 08:34:20

Middle Channel / 1RB1

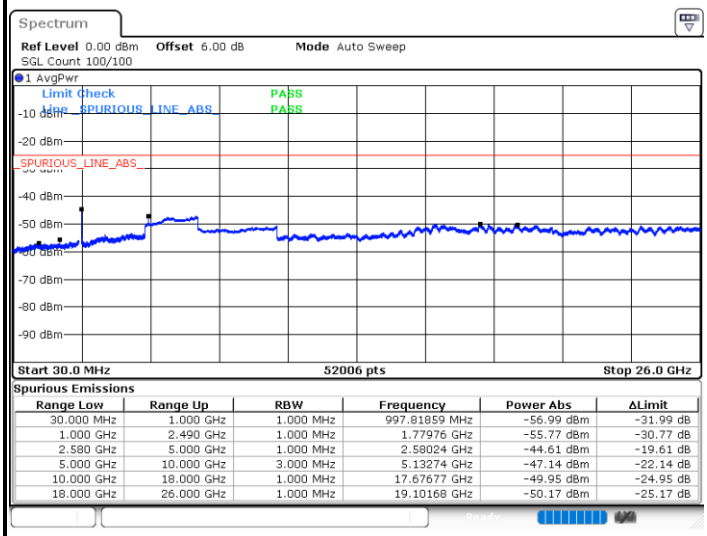


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	998.30335 MHz	-56.94 dBm	-31.94 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48777 GHz	-56.09 dBm	-31.09 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.48295 GHz	-53.37 dBm	-28.37 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.90156 GHz	-51.42 dBm	-26.42 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.65877 GHz	-50.01 dBm	-25.01 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.79364 GHz	-50.27 dBm	-25.27 dB

Date: 14.SEP.2022 08:30:32

Highest Channel / 1RB1



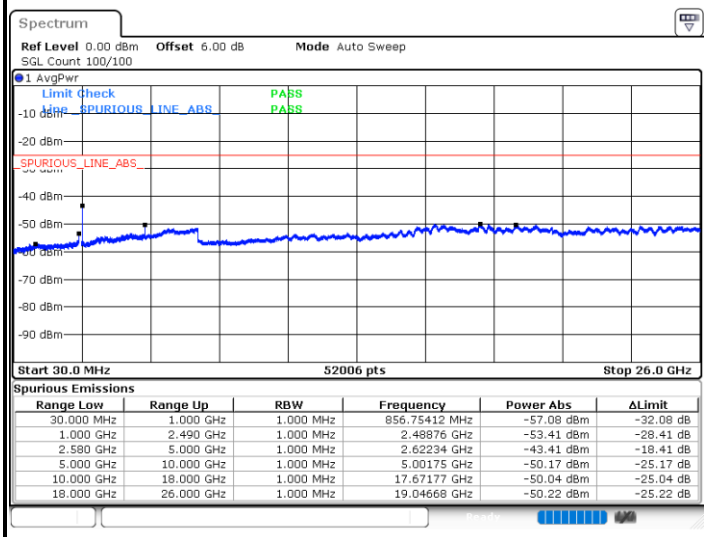
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	997.81859 MHz	-56.99 dBm	-31.99 dB
1.000 GHz	2.490 GHz	1.000 MHz	1.77976 GHz	-55.77 dBm	-30.77 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.58024 GHz	-44.61 dBm	-19.61 dB
5.000 GHz	10.000 GHz	3.000 MHz	5.13274 GHz	-47.14 dBm	-22.14 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.67677 GHz	-49.95 dBm	-24.95 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.10168 GHz	-50.17 dBm	-25.17 dB

Date: 14.SEP.2022 08:44:15

FR1 n7 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1

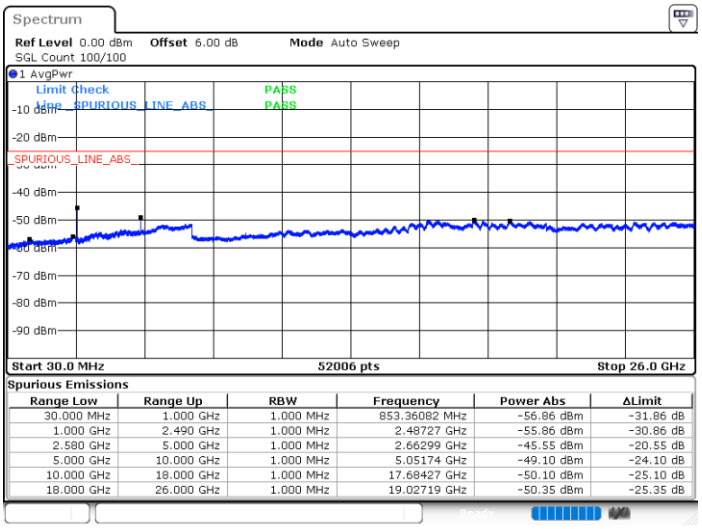


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	856.75412 MHz	-57.08 dBm	-32.08 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48876 GHz	-53.41 dBm	-28.41 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.62234 GHz	-43.41 dBm	-18.41 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.00175 GHz	-50.17 dBm	-25.17 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.67177 GHz	-50.04 dBm	-25.04 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.04668 GHz	-50.22 dBm	-25.22 dB

Date: 14.SEP.2022 07:47:21

Middle Channel / 1RB1

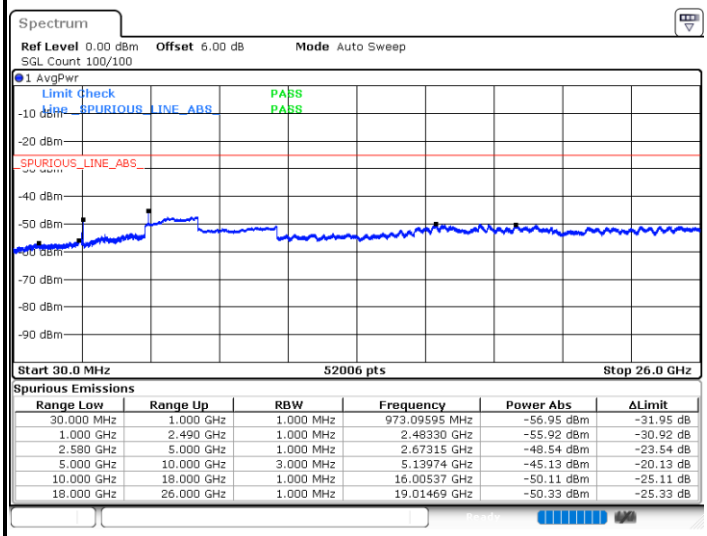


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	853.36082 MHz	-56.86 dBm	-31.86 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48727 GHz	-55.86 dBm	-30.86 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.66299 GHz	-45.55 dBm	-20.55 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.05174 GHz	-49.10 dBm	-24.10 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.68427 GHz	-50.10 dBm	-25.10 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.02719 GHz	-50.35 dBm	-25.35 dB

Date: 14.SEP.2022 07:43:41

Highest Channel / 1RB1



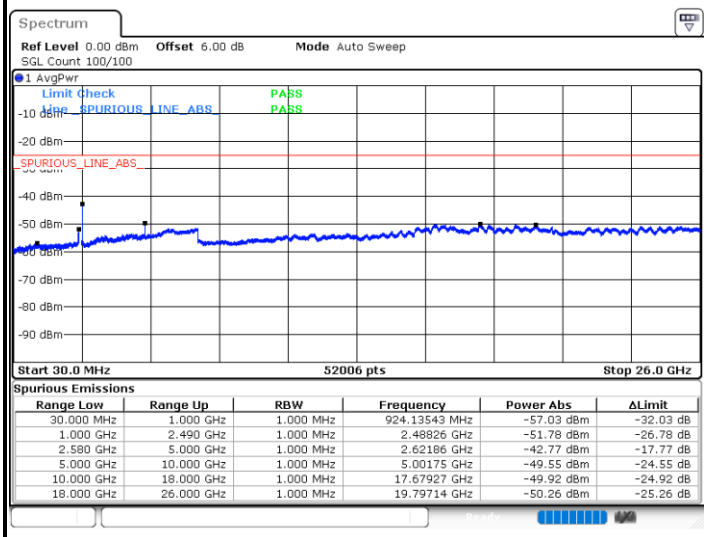
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	973.09595 MHz	-56.95 dBm	-31.95 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48330 GHz	-55.92 dBm	-30.92 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.67315 GHz	-48.54 dBm	-23.54 dB
5.000 GHz	10.000 GHz	3.000 MHz	5.13974 GHz	-45.13 dBm	-20.13 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.00537 GHz	-50.11 dBm	-25.11 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.01469 GHz	-50.33 dBm	-25.33 dB

Date: 14.SEP.2022 07:57:37

FR1 n7 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

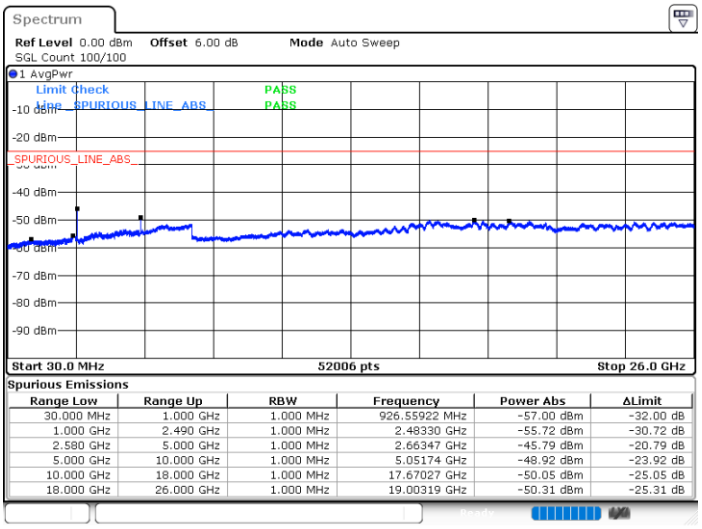


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	924.13543 MHz	-57.03 dBm	-32.03 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48826 GHz	-51.78 dBm	-26.78 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.62186 GHz	-42.77 dBm	-17.77 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.00175 GHz	-49.55 dBm	-24.55 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.67927 GHz	-49.92 dBm	-24.92 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.79714 GHz	-50.26 dBm	-25.26 dB

Date: 14.SEP.2022 07:46:27

Middle Channel / 1RB1

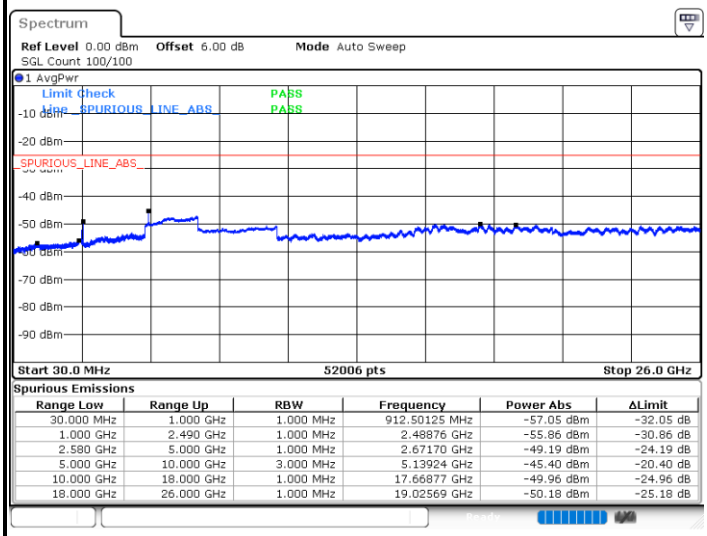


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	926.55922 MHz	-57.00 dBm	-32.00 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48330 GHz	-55.72 dBm	-30.72 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.66347 GHz	-45.79 dBm	-20.79 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.05174 GHz	-48.92 dBm	-23.92 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.67027 GHz	-50.05 dBm	-25.05 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.00319 GHz	-50.31 dBm	-25.31 dB

Date: 14.SEP.2022 07:45:11

Highest Channel / 1RB1



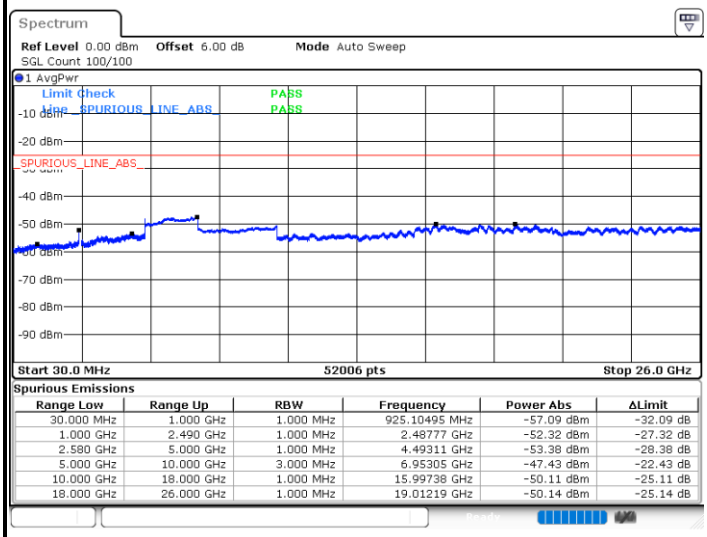
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	912.50125 MHz	-57.05 dBm	-32.05 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48876 GHz	-55.86 dBm	-30.86 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.67170 GHz	-49.19 dBm	-24.19 dB
5.000 GHz	10.000 GHz	3.000 MHz	5.13924 GHz	-45.40 dBm	-20.40 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.66877 GHz	-49.96 dBm	-24.96 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.02569 GHz	-50.18 dBm	-25.18 dB

Date: 14.SEP.2022 07:58:57

FR1 n7 / 40MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1

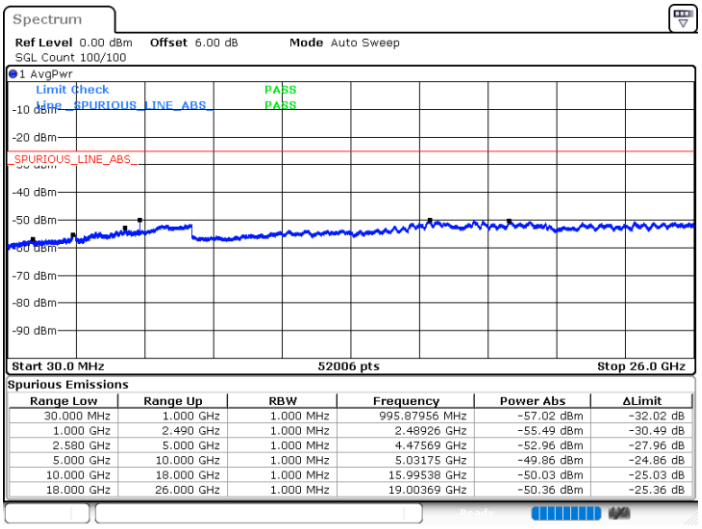


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	925.10495 MHz	-57.09 dBm	-32.09 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48777 GHz	-52.32 dBm	-27.32 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.49311 GHz	-53.38 dBm	-28.38 dB
5.000 GHz	10.000 GHz	3.000 MHz	6.95305 GHz	-47.43 dBm	-22.43 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.99738 GHz	-50.11 dBm	-25.11 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.01219 GHz	-50.14 dBm	-25.14 dB

Date: 14.SEP.2022 07:21:19

Middle Channel / 1RB1

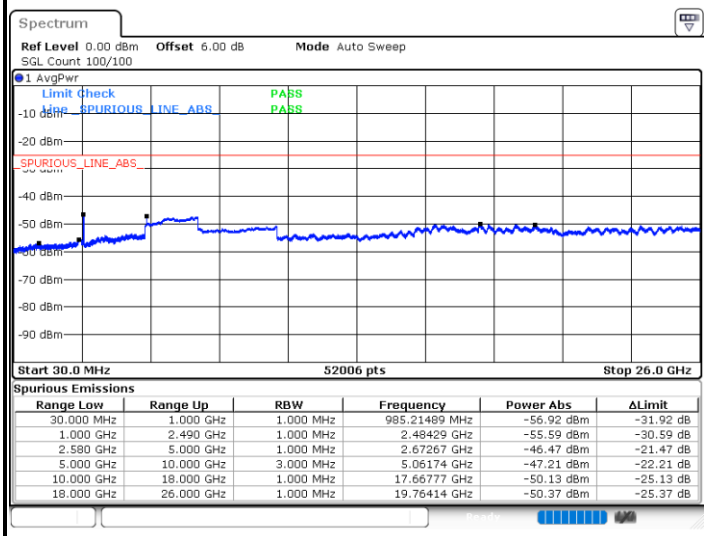


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.87956 MHz	-57.02 dBm	-32.02 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48926 GHz	-55.49 dBm	-30.49 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.47569 GHz	-52.96 dBm	-27.96 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.03175 GHz	-49.86 dBm	-24.86 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.99538 GHz	-50.03 dBm	-25.03 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.00369 GHz	-50.36 dBm	-25.36 dB

Date: 14.SEP.2022 06:48:30

Highest Channel / 1RB1



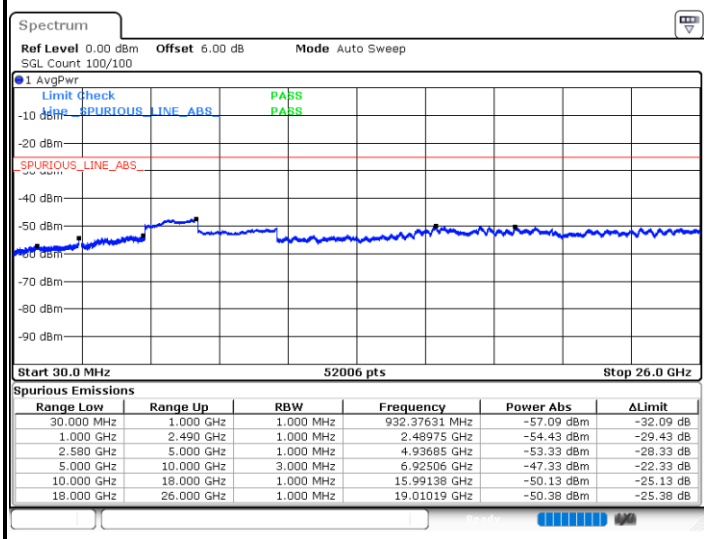
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.21489 MHz	-56.92 dBm	-31.92 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48429 GHz	-55.59 dBm	-30.59 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.67267 GHz	-46.47 dBm	-21.47 dB
5.000 GHz	10.000 GHz	3.000 MHz	5.06174 GHz	-47.21 dBm	-22.21 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.66777 GHz	-50.13 dBm	-25.13 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.76414 GHz	-50.37 dBm	-25.37 dB

Date: 14.SEP.2022 07:31:35

FR1 n7 / 40MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

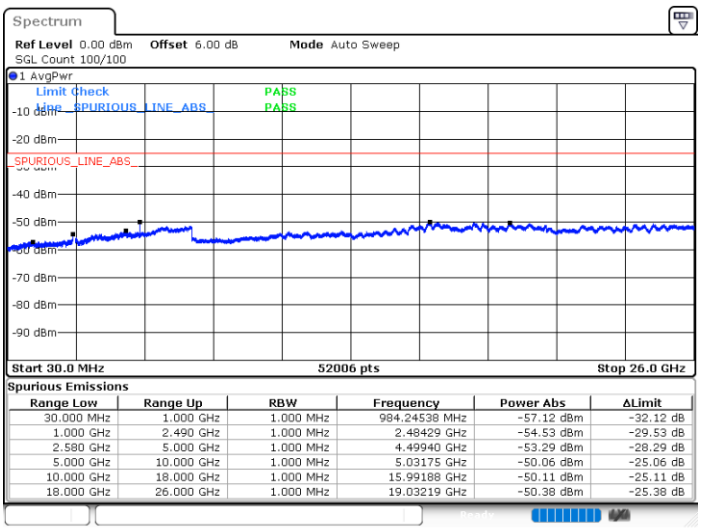


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	932.37631 MHz	-57.09 dBm	-32.09 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48975 GHz	-54.43 dBm	-29.43 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.93685 GHz	-53.33 dBm	-28.33 dB
5.000 GHz	10.000 GHz	3.000 MHz	6.92506 GHz	-47.33 dBm	-22.33 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.99138 GHz	-50.13 dBm	-25.13 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.01019 GHz	-50.38 dBm	-25.38 dB

Date: 14.SEP.2022 07:20:27

Middle Channel / 1RB1

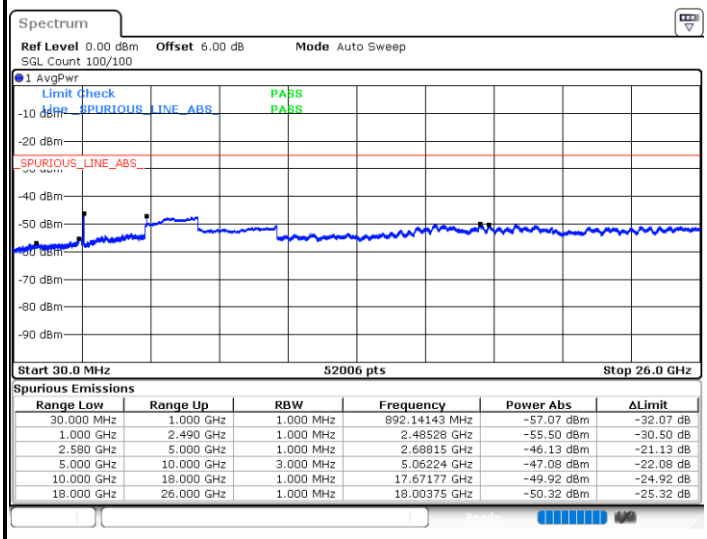


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	984.24538 MHz	-57.12 dBm	-32.12 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48429 GHz	-54.53 dBm	-29.53 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.49940 GHz	-53.29 dBm	-28.29 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.03175 GHz	-50.06 dBm	-25.06 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.99188 GHz	-50.11 dBm	-25.11 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.03219 GHz	-50.38 dBm	-25.38 dB

Date: 14.SEP.2022 06:50:12

Highest Channel / 1RB1



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	892.14143 MHz	-57.07 dBm	-32.07 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48528 GHz	-55.50 dBm	-30.50 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.68815 GHz	-46.13 dBm	-21.13 dB
5.000 GHz	10.000 GHz	3.000 MHz	5.06224 GHz	-47.08 dBm	-22.08 dB
10.000 GHz	18.000 GHz	1.000 MHz	17.67177 GHz	-49.92 dBm	-24.92 dB
18.000 GHz	26.000 GHz	1.000 MHz	18.00375 GHz	-50.32 dBm	-25.32 dB

Date: 14.SEP.2022 07:32:38

Frequency Stability

Test Conditions		FR1 n7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0102	PASS
40	Normal Voltage	0.0001	
30	Normal Voltage	0.0035	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0014	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0001	
-20	Normal Voltage	0.0031	
-30	Normal Voltage	0.0011	
20	Maximum Voltage	0.0025	
20	Normal Voltage	0.0002	
20	Battery End Point	0.0011	

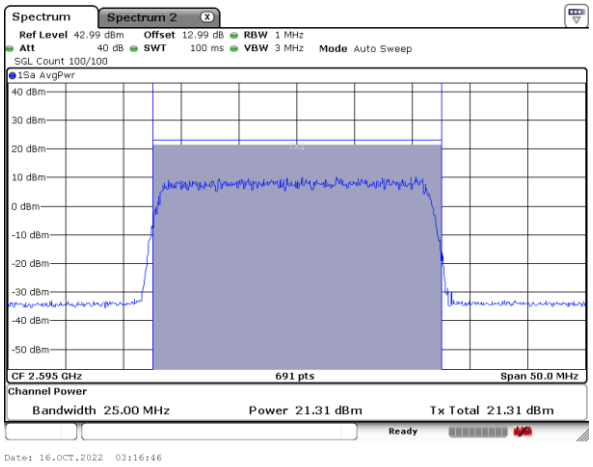
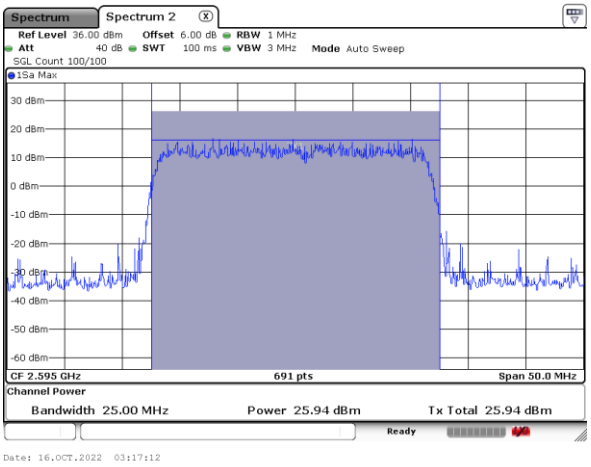
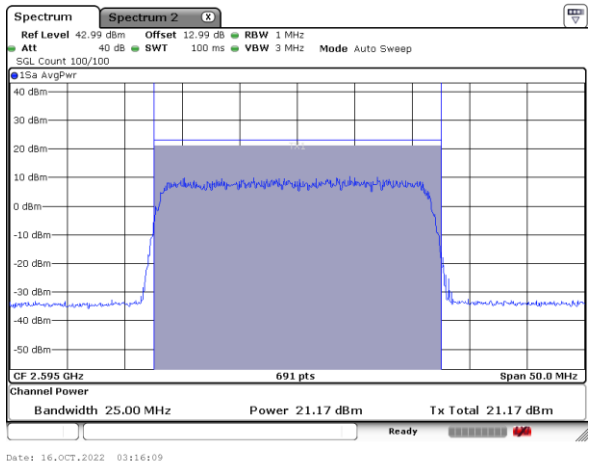
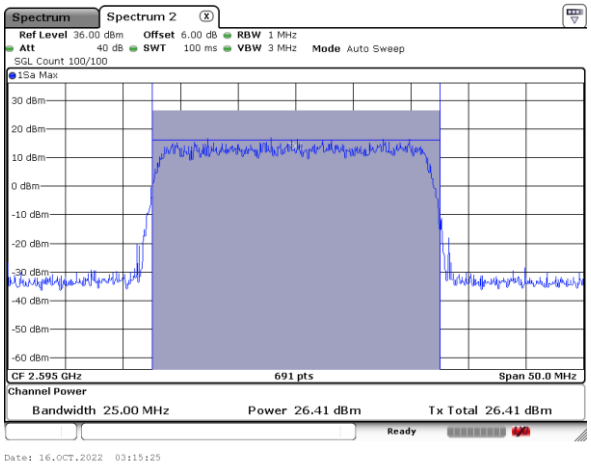
Note:

1. Normal Voltage =3.89 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.48 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

FR1 n38

Peak-to-Average Ratio

Mode	FR1 n38 /25MHz / DFT-S OFDM		
Mod.	25M		Limit: 13dB
RB Size	BPSK	QPSK	Result
Middle CH	4.63	5.27	PASS

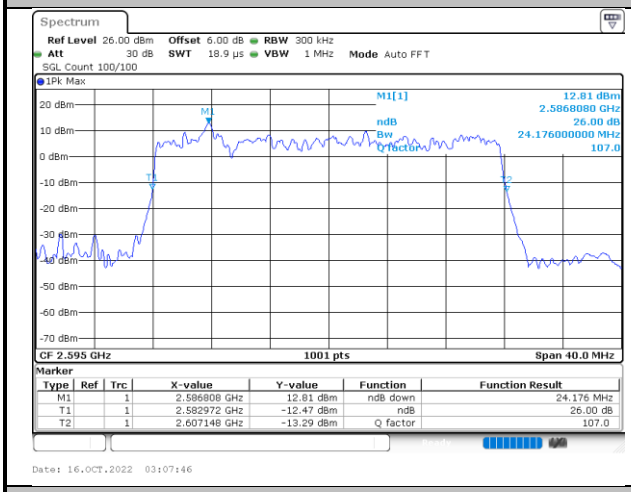
BPSK-A	BPSK-P
	
QPSK-A	**QPSK-P**
	

26dB Bandwidth

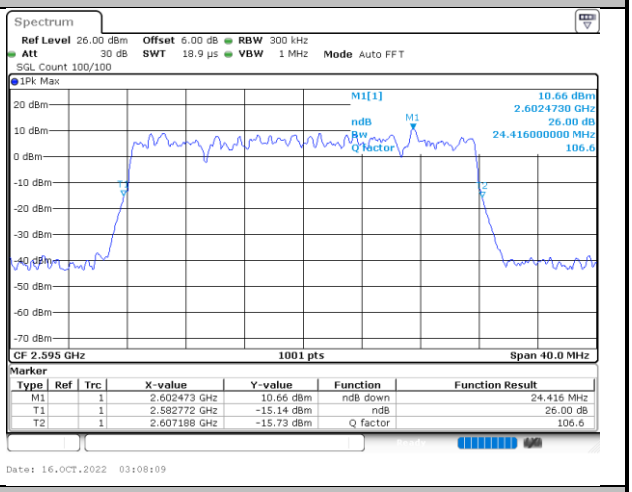
Mode	FR1 n38 : 26dB BW(MHz) / DFT-S OFDM			
BW	25M			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	24.18	24.42	24.26	24.02

25M

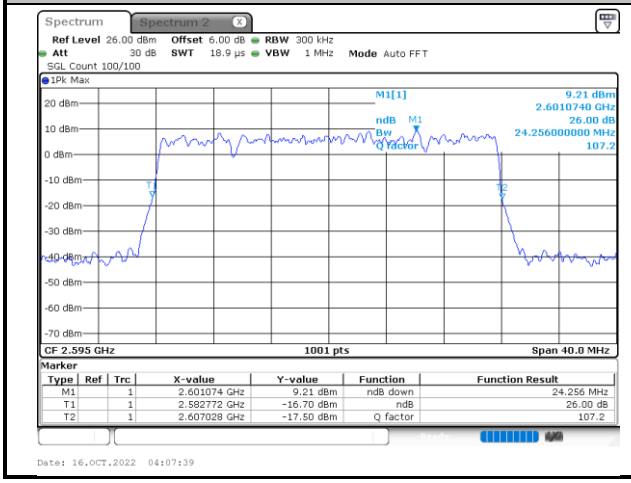
QPSK



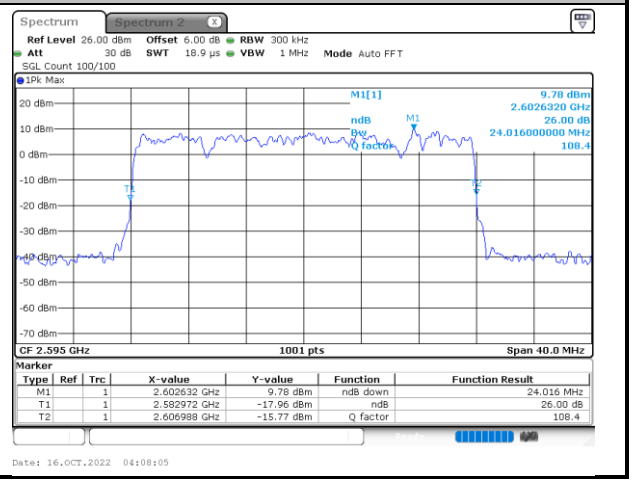
16QAM



64QAM



256QAM

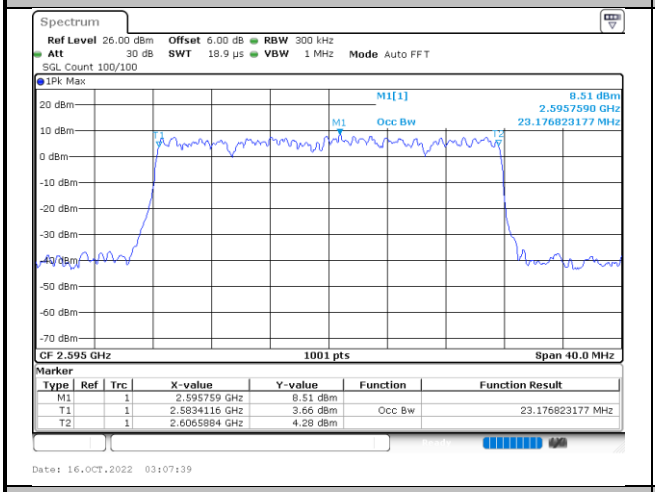


Occupied Bandwidth

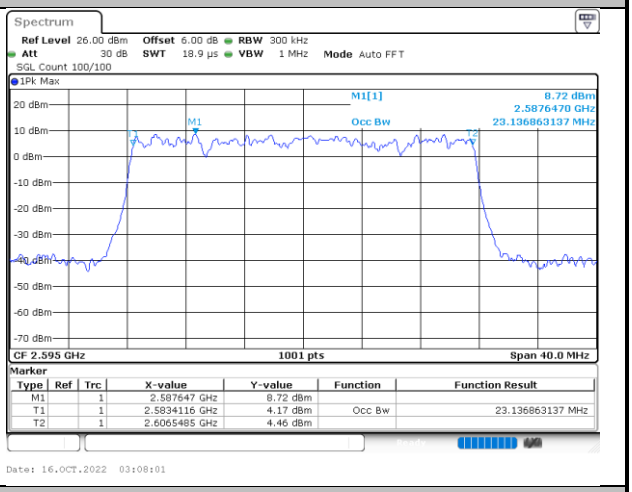
Mode	FR1 n38: OB BW(MHz) / DFT-S OFDM			
BW	25M			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	23.18	23.14	23.14	23.17

25M

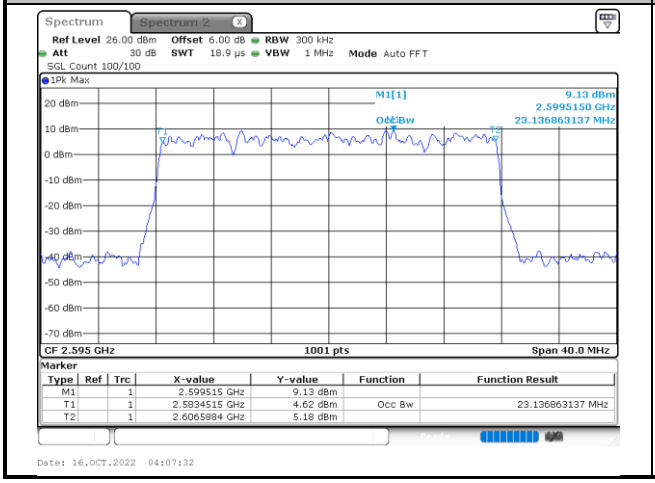
QPSK



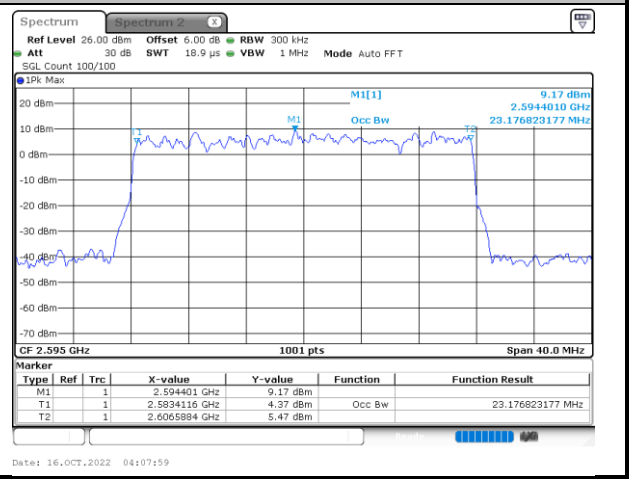
16QAM



64QAM



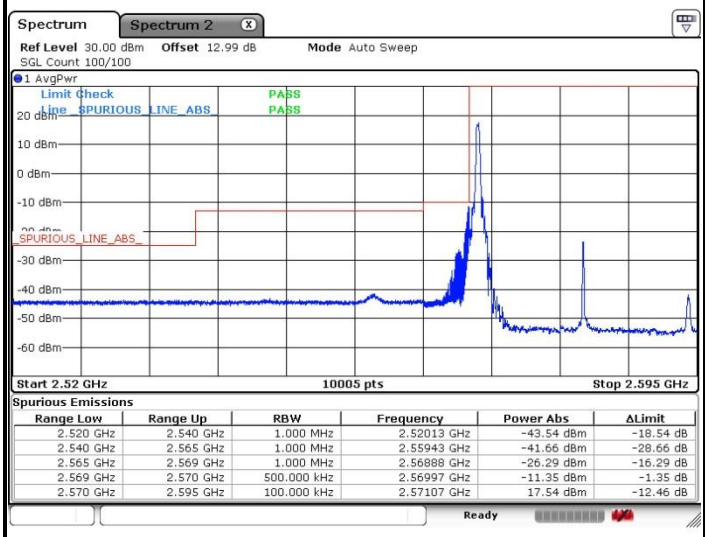
256QAM



Conducted Band Edge

FR1 n38/ 25MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

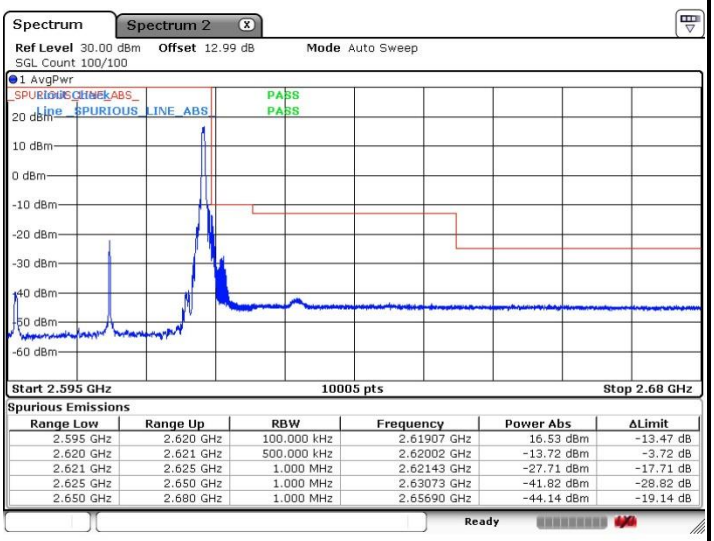


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.520 GHz	2.540 GHz	1.000 MHz	2.52013 GHz	-43.54 dBm	-18.54 dB
2.540 GHz	2.565 GHz	1.000 MHz	2.55943 GHz	-41.66 dBm	-28.66 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56888 GHz	-26.29 dBm	-16.29 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.56997 GHz	-11.35 dBm	-1.35 dB
2.570 GHz	2.595 GHz	100.000 kHz	2.57107 GHz	17.54 dBm	-12.46 dB

Date: 16.OCT.2022 03:34:37

Highest Band Edge / 1RBmax

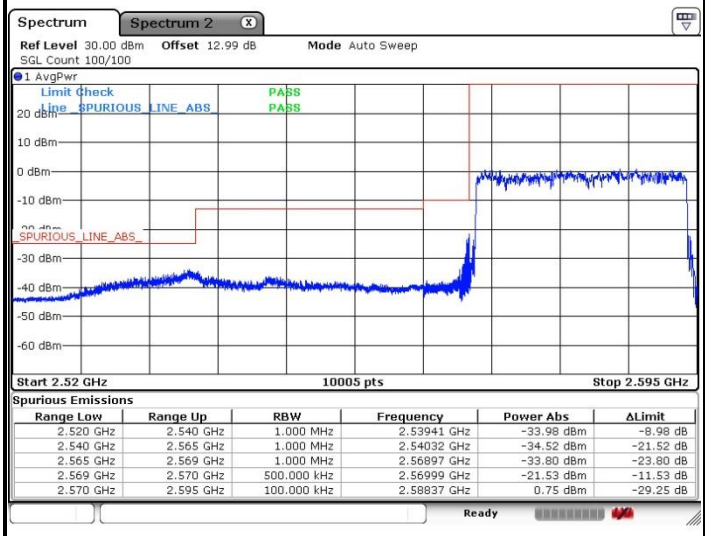


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	100.000 kHz	2.61907 GHz	16.53 dBm	-13.47 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62002 GHz	-13.72 dBm	-3.72 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62143 GHz	-27.71 dBm	-17.71 dB
2.625 GHz	2.650 GHz	1.000 MHz	2.63073 GHz	-41.82 dBm	-28.82 dB
2.650 GHz	2.680 GHz	1.000 MHz	2.65690 GHz	-44.14 dBm	-19.14 dB

Date: 16.OCT.2022 03:41:53

Lowest Band Edge / Full RB

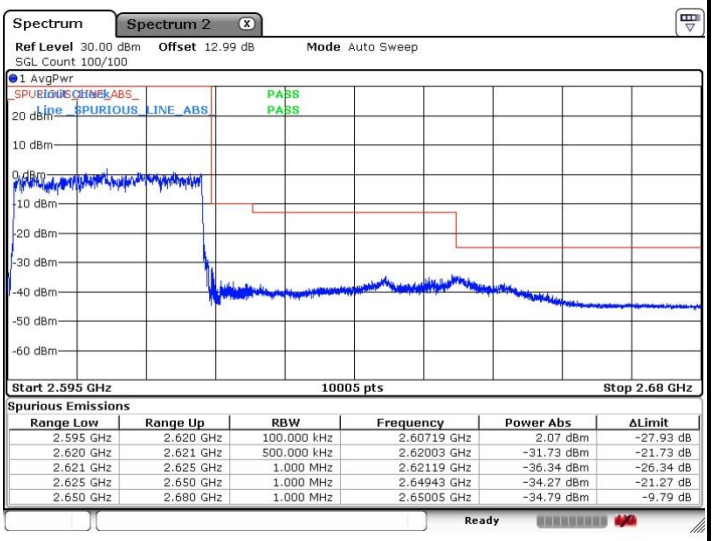


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.520 GHz	2.540 GHz	1.000 MHz	2.53941 GHz	-33.98 dBm	-8.98 dB
2.540 GHz	2.565 GHz	1.000 MHz	2.54032 GHz	-34.52 dBm	-21.52 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56897 GHz	-33.80 dBm	-23.80 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.56999 GHz	-21.53 dBm	-11.53 dB
2.570 GHz	2.595 GHz	100.000 kHz	2.58837 GHz	0.75 dBm	-29.25 dB

Date: 16.OCT.2022 03:35:05

Highest Band Edge / Full RB



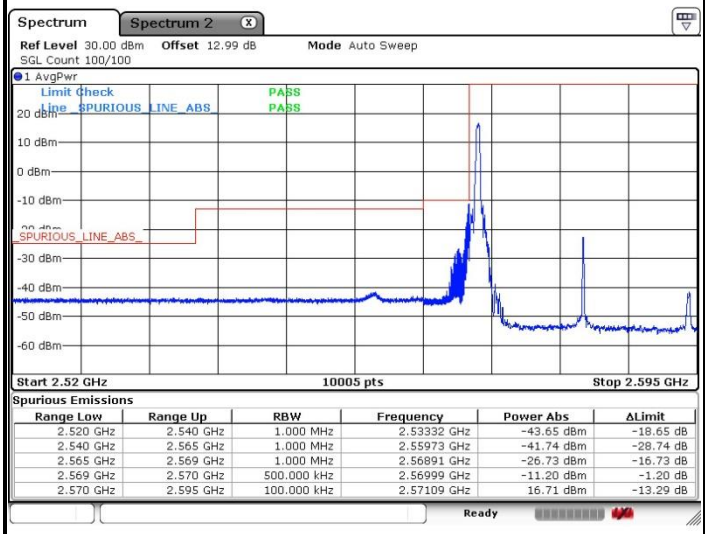
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	100.000 kHz	2.60719 GHz	2.07 dBm	-27.93 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62003 GHz	-31.73 dBm	-21.73 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62119 GHz	-36.34 dBm	-26.34 dB
2.625 GHz	2.650 GHz	1.000 MHz	2.64943 GHz	-34.27 dBm	-21.27 dB
2.650 GHz	2.680 GHz	1.000 MHz	2.65005 GHz	-34.79 dBm	-9.79 dB

Date: 16.OCT.2022 03:41:19

FR1 n38 / 25MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0

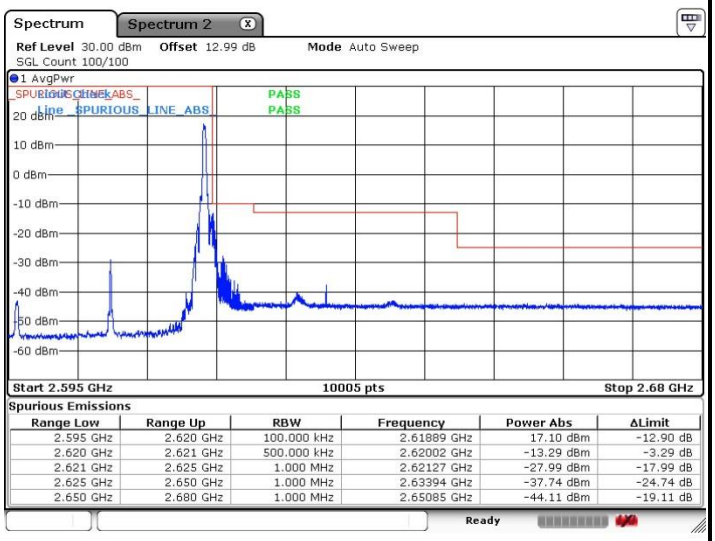


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.520 GHz	2.540 GHz	1.000 MHz	2.53332 GHz	-43.65 dBm	-18.65 dB
2.540 GHz	2.565 GHz	1.000 MHz	2.55973 GHz	-41.74 dBm	-28.74 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56891 GHz	-26.73 dBm	-16.73 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.56999 GHz	-11.20 dBm	-1.20 dB
2.570 GHz	2.595 GHz	100.000 kHz	2.57109 GHz	16.71 dBm	-13.29 dB

Date: 16.OCT.2022 03:34:10

Highest Band Edge / 1RBmax

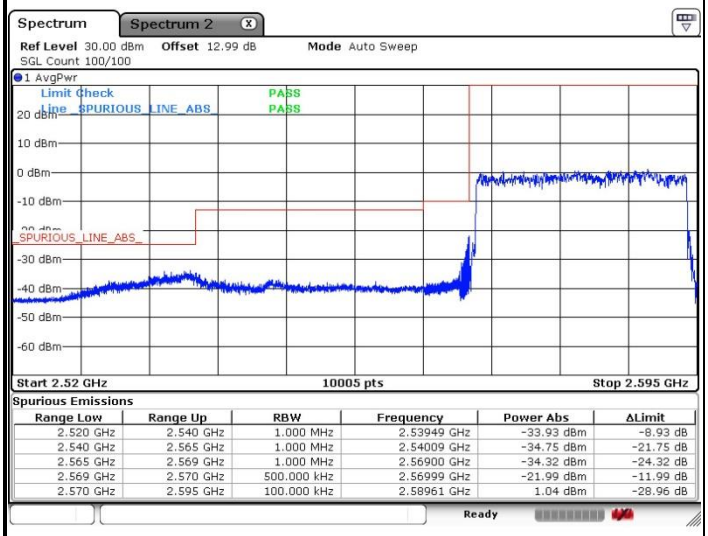


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	100.000 kHz	2.61889 GHz	17.10 dBm	-12.90 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62002 GHz	-13.29 dBm	-3.29 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62127 GHz	-27.99 dBm	-17.99 dB
2.625 GHz	2.650 GHz	1.000 MHz	2.63394 GHz	-37.74 dBm	-24.74 dB
2.650 GHz	2.680 GHz	1.000 MHz	2.65085 GHz	-44.11 dBm	-19.11 dB

Date: 16.OCT.2022 03:42:32

Lowest Band Edge / Full RB

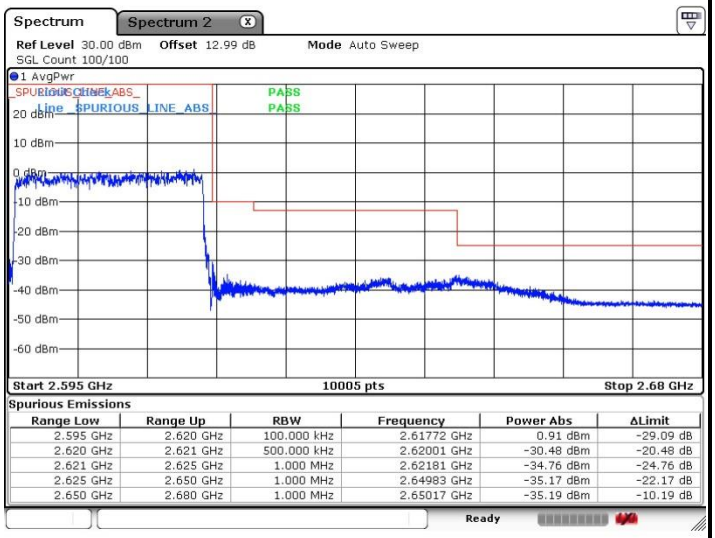


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.520 GHz	2.540 GHz	1.000 MHz	2.53949 GHz	-33.93 dBm	-8.93 dB
2.540 GHz	2.565 GHz	1.000 MHz	2.54009 GHz	-34.75 dBm	-21.75 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56900 GHz	-34.32 dBm	-24.32 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.56999 GHz	-21.99 dBm	-11.99 dB
2.570 GHz	2.595 GHz	100.000 kHz	2.58961 GHz	1.04 dBm	-28.96 dB

Date: 16.OCT.2022 03:35:20

Highest Band Edge / Full RB



Spurious Emissions

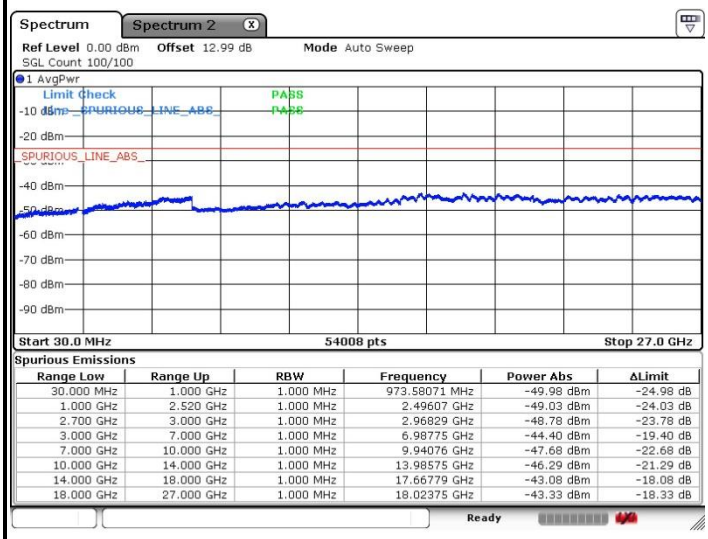
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	100.000 kHz	2.61772 GHz	0.91 dBm	-29.09 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62001 GHz	-30.48 dBm	-20.48 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62181 GHz	-34.76 dBm	-24.76 dB
2.625 GHz	2.650 GHz	1.000 MHz	2.64983 GHz	-35.17 dBm	-22.17 dB
2.650 GHz	2.680 GHz	1.000 MHz	2.65017 GHz	-35.19 dBm	-10.19 dB

Date: 16.OCT.2022 03:40:29

Conducted Spurious Emission

FR1 n38 / 25MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1

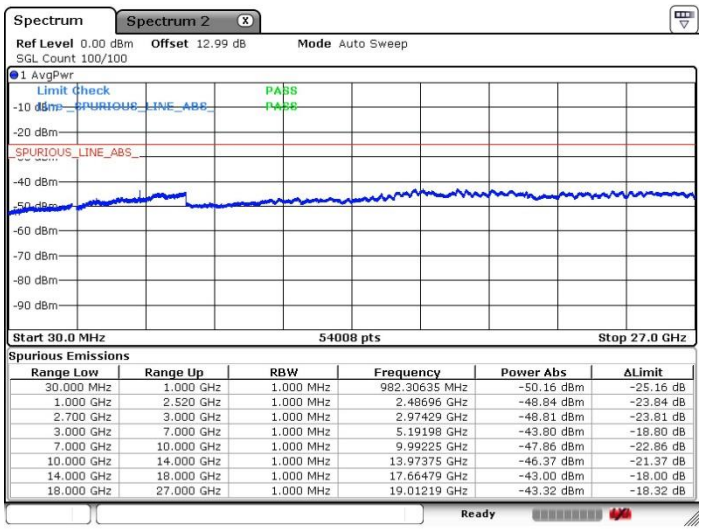


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	973.58071 MHz	-49.98 dBm	-24.98 dB
1.000 GHz	2.520 GHz	1.000 MHz	2.49607 GHz	-49.03 dBm	-24.03 dB
2.700 GHz	3.000 GHz	1.000 MHz	2.96829 GHz	-48.78 dBm	-23.78 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98775 GHz	-44.40 dBm	-19.40 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.94076 GHz	-47.68 dBm	-22.68 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.98575 GHz	-46.29 dBm	-21.29 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.66779 GHz	-43.08 dBm	-18.08 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.02375 GHz	-43.33 dBm	-18.33 dB

Date: 16.OCT.2022 03:49:42

Middle Channel / 1RB1

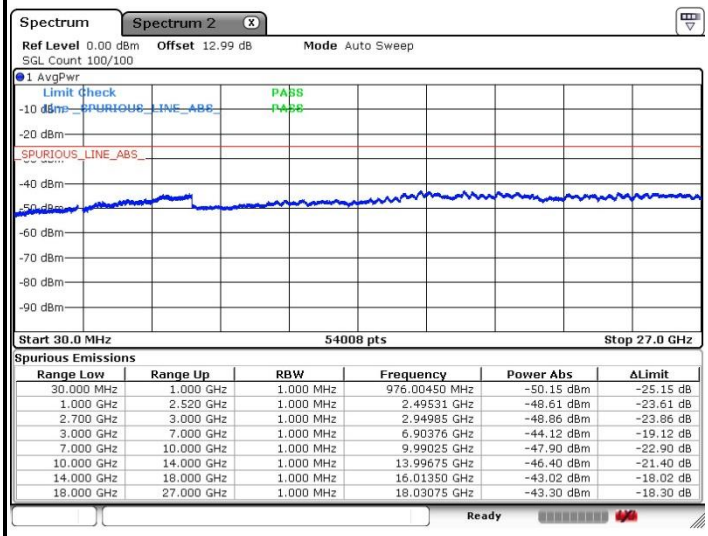


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	982.30635 MHz	-50.16 dBm	-25.16 dB
1.000 GHz	2.520 GHz	1.000 MHz	2.48696 GHz	-48.84 dBm	-23.84 dB
2.700 GHz	3.000 GHz	1.000 MHz	2.97429 GHz	-48.81 dBm	-23.81 dB
3.000 GHz	7.000 GHz	1.000 MHz	5.19198 GHz	-43.80 dBm	-18.80 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.99225 GHz	-47.86 dBm	-22.86 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.97375 GHz	-46.37 dBm	-21.37 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.66479 GHz	-43.00 dBm	-18.00 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.01219 GHz	-43.32 dBm	-18.32 dB

Date: 16.OCT.2022 03:48:50

Highest Channel / 1RB1



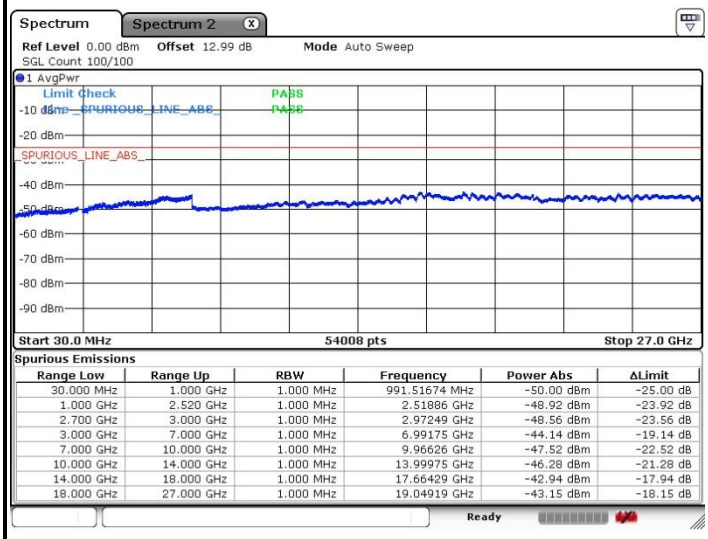
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.00450 MHz	-50.15 dBm	-25.15 dB
1.000 GHz	2.520 GHz	1.000 MHz	2.49531 GHz	-48.61 dBm	-23.61 dB
2.700 GHz	3.000 GHz	1.000 MHz	2.94985 GHz	-48.86 dBm	-23.86 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.90376 GHz	-44.12 dBm	-19.12 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.99025 GHz	-47.90 dBm	-22.90 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.99675 GHz	-46.40 dBm	-21.40 dB
14.000 GHz	18.000 GHz	1.000 MHz	16.01350 GHz	-43.02 dBm	-18.02 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.03075 GHz	-43.30 dBm	-18.30 dB

Date: 16.OCT.2022 03:47:54

FR1 n38 / 25MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

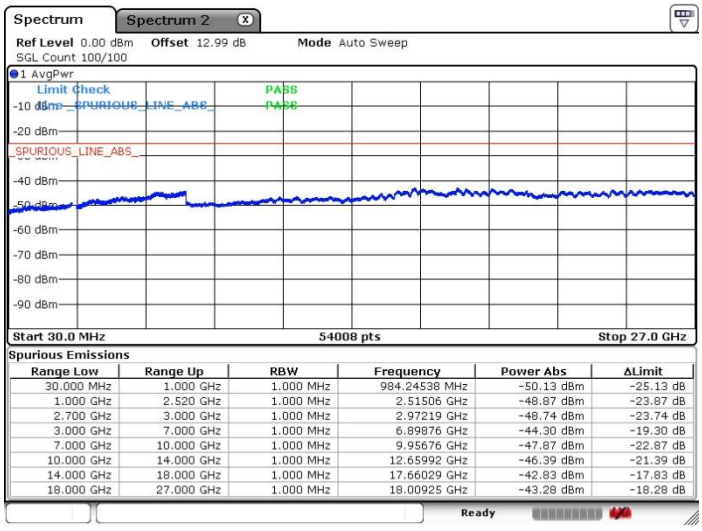


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.51674 MHz	-50.00 dBm	-25.00 dB
1.000 GHz	2.520 GHz	1.000 MHz	2.51886 GHz	-48.92 dBm	-23.92 dB
2.700 GHz	3.000 GHz	1.000 MHz	2.97249 GHz	-48.56 dBm	-23.56 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99175 GHz	-44.14 dBm	-19.14 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.96626 GHz	-47.52 dBm	-22.52 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.99975 GHz	-46.28 dBm	-21.28 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.66429 GHz	-42.94 dBm	-17.94 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.04919 GHz	-43.15 dBm	-18.15 dB

Date: 16.OCT.2022 04:24:00

Middle Channel / 1RB1

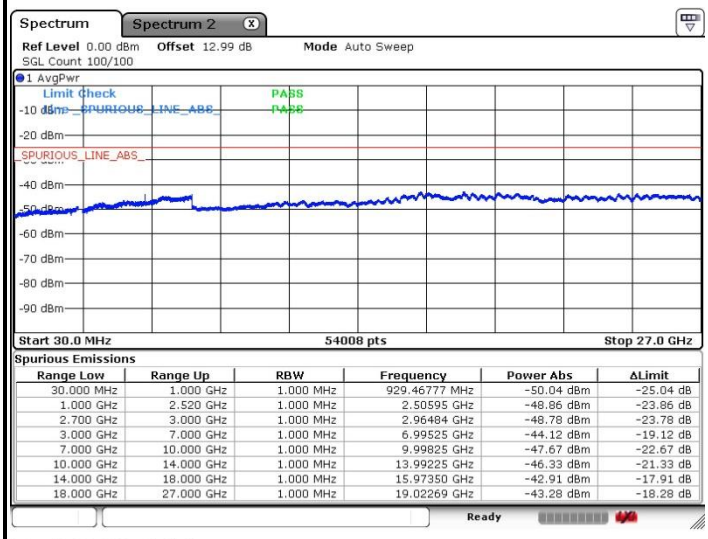


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	984.24538 MHz	-50.13 dBm	-25.13 dB
1.000 GHz	2.520 GHz	1.000 MHz	2.51506 GHz	-48.87 dBm	-23.87 dB
2.700 GHz	3.000 GHz	1.000 MHz	2.97219 GHz	-48.74 dBm	-23.74 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.89876 GHz	-44.30 dBm	-19.30 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.95676 GHz	-47.87 dBm	-22.87 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.65992 GHz	-46.39 dBm	-21.39 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.66029 GHz	-42.83 dBm	-17.83 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.00925 GHz	-43.28 dBm	-18.28 dB

Date: 16.OCT.2022 04:21:08

Highest Channel / 1RB1



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	929.46777 MHz	-50.04 dBm	-25.04 dB
1.000 GHz	2.520 GHz	1.000 MHz	2.50595 GHz	-48.86 dBm	-23.86 dB
2.700 GHz	3.000 GHz	1.000 MHz	2.96484 GHz	-48.78 dBm	-23.78 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99525 GHz	-44.12 dBm	-19.12 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.99825 GHz	-47.67 dBm	-22.67 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.99225 GHz	-46.33 dBm	-21.33 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.97350 GHz	-42.91 dBm	-17.91 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.02269 GHz	-43.28 dBm	-18.28 dB

Date: 16.OCT.2022 04:23:12

Frequency Stability

Test Conditions		FR1 n38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 25MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0023	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0024	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0034	
0	Normal Voltage	0.0027	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0019	
-30	Normal Voltage	0.0023	
20	Maximum Voltage	0.0017	
20	Normal Voltage	0.0031	
20	Battery End Point	0.0002	

Note:

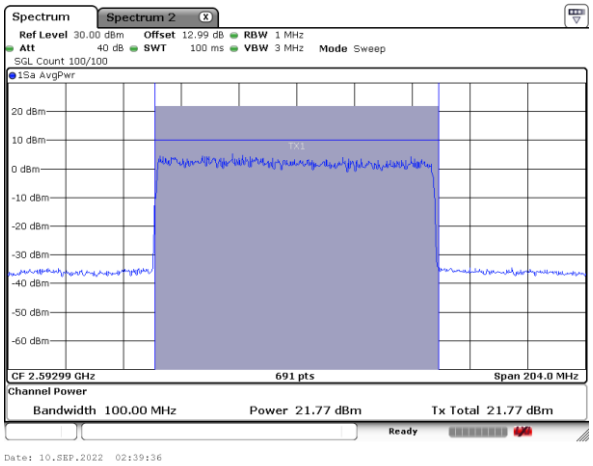
1. Normal Voltage =3.89 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.48V.
2. The frequency fundamental emissions stay within the authorized frequency block.

FR1 n41

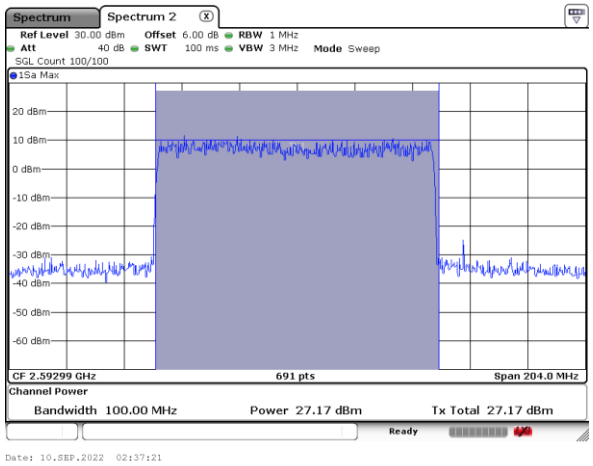
Peak-to-Average Ratio

Mode	FR1 n41 / 100MHz / DFT-S OFDM					
Mod.	100M					Limit: 13dB
RB Size	BPSK	QPSK				Result
Middle CH	5.4	5.18				PASS

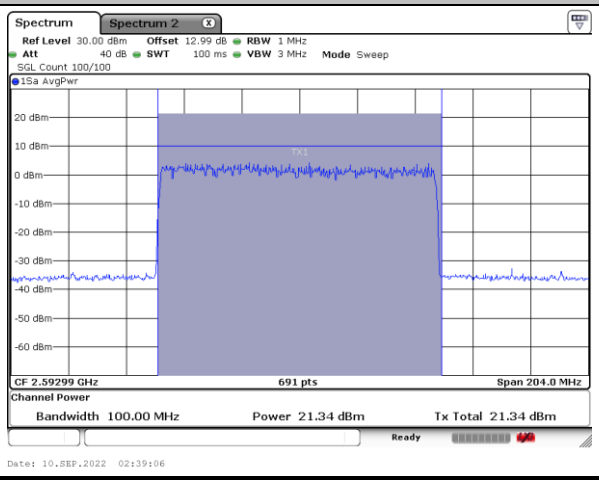
BPSK-A



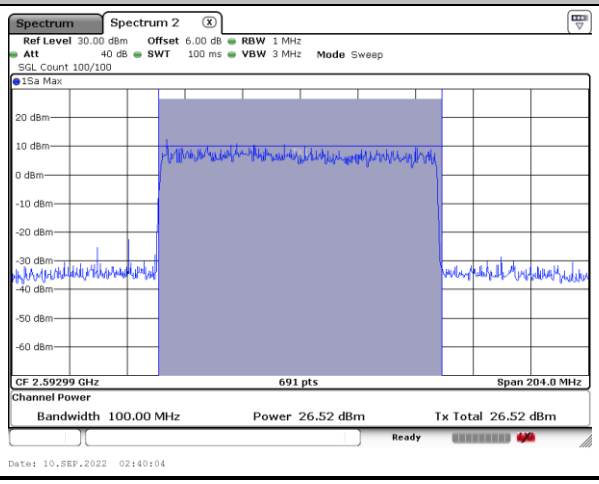
BPSK-P



QPSK-A



QPSK-P

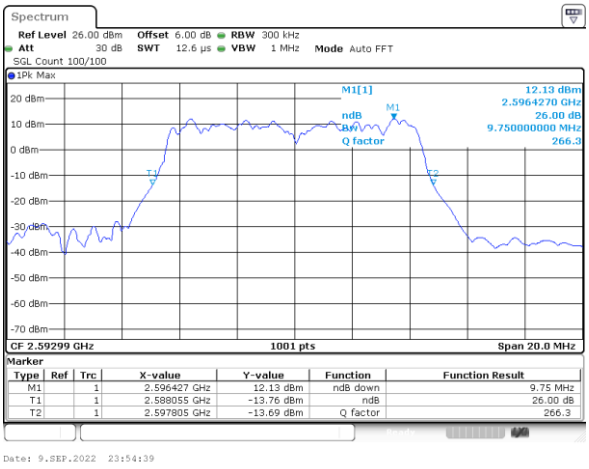


26dB Bandwidth

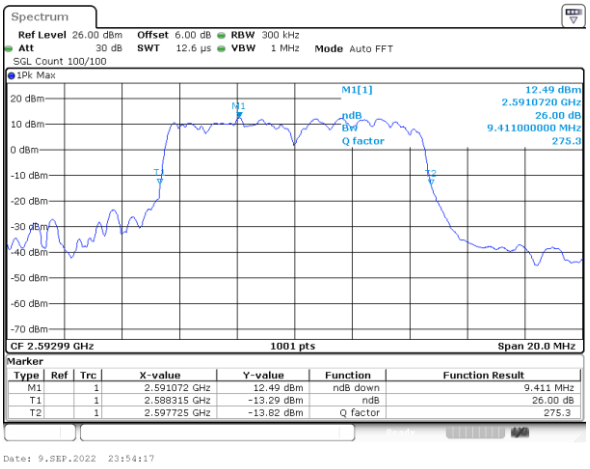
Mode	FR1 n41 : 26dB BW(10 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	9.75	9.41	9.57	9.53
Mode	FR1 n41 : 26dB BW(15 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	14.51	14.27	14.66	14.30
Mode	FR1 n41 : 26dB BW(20 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	19.30	19.22	19.38	19.18
Mode	FR1 n41 : 26dB BW(30 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	28.89	28.89	28.89	28.71
Mode	FR1 n41 : 26dB BW(40 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	40.28	40.20	39.88	40.28
Mode	FR1 n41 : 26dB BW(50 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	49.75	49.75	49.75	49.75
Mode	FR1 n41 : 26dB BW(60 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	60.18	60.54	60.30	60.66
Mode	FR1 n41 : 26dB BW(70 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	70.37	70.13	70.13	70.01
Mode	FR1 n41 : 26dB BW(80 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	82.32	82.16	82.16	82.32
Mode	FR1 n41 : 26dB BW(90 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	91.89	92.43	92.07	92.25
Mode	FR1 n41 : 26dB BW(100 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	102.3	102.5	102.5	102.5

10MHz CP

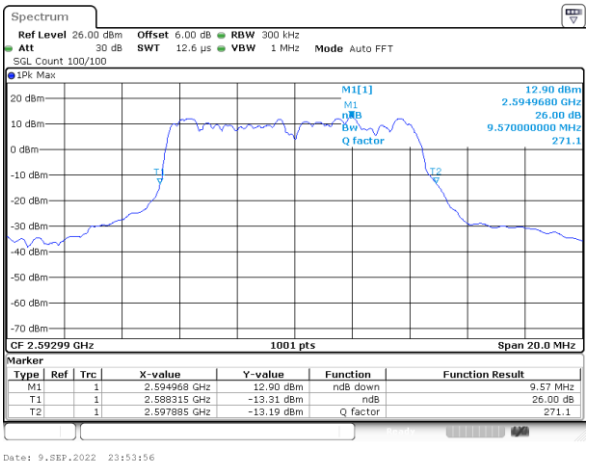
QPSK



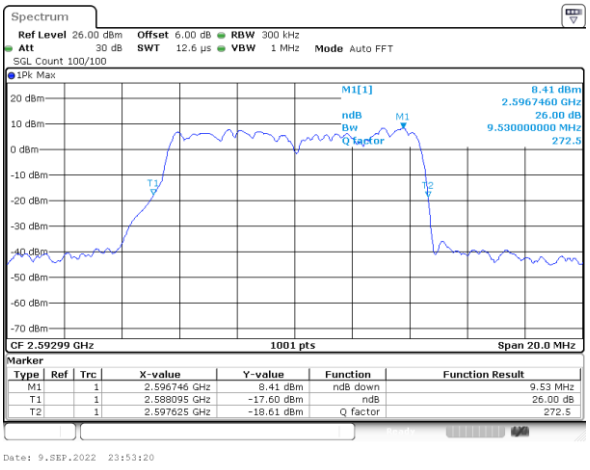
16QAM



64QAM

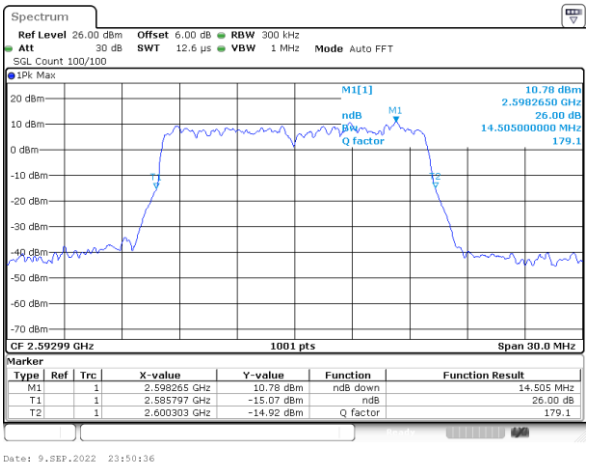


256QAM

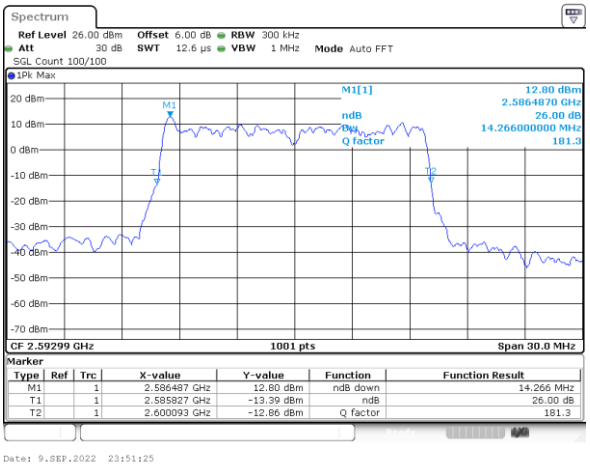


15MHz CP

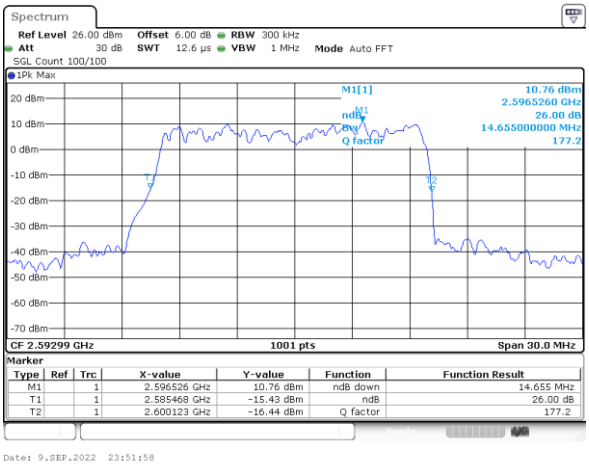
QPSK



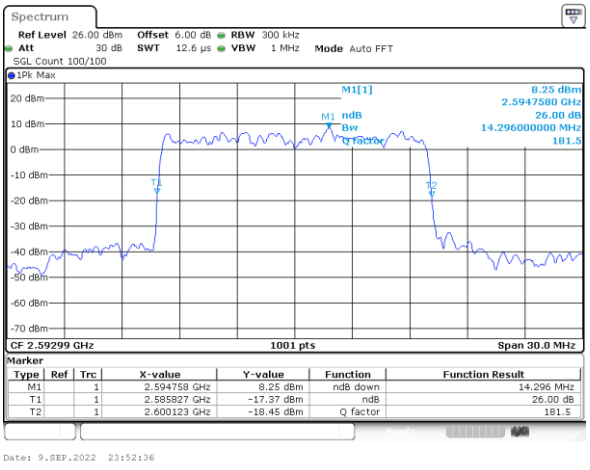
16QAM



64QAM

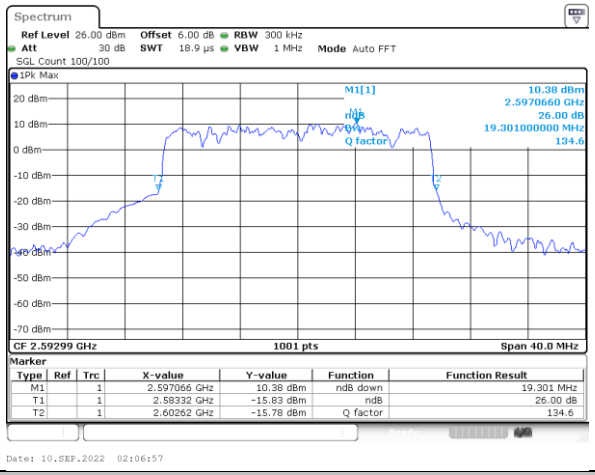


256QAM

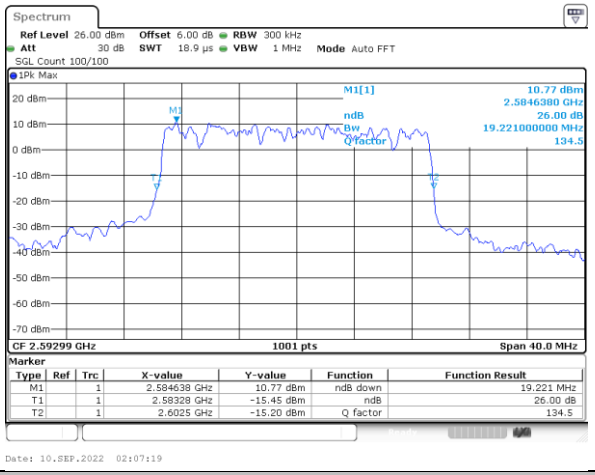


20MHz CP

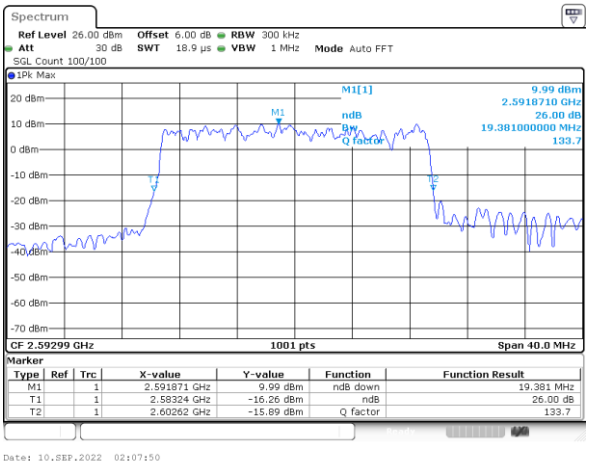
QPSK



16QAM



64QAM



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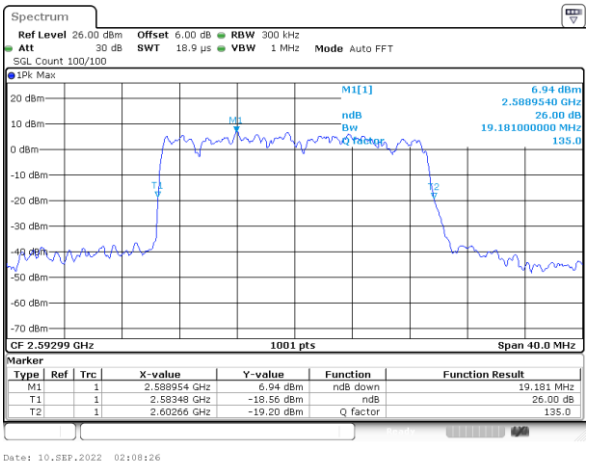
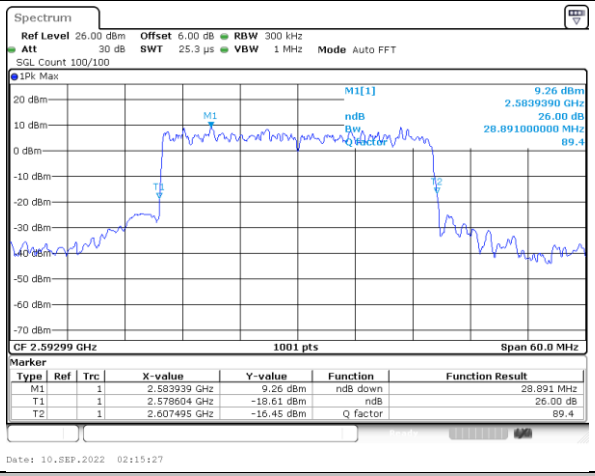
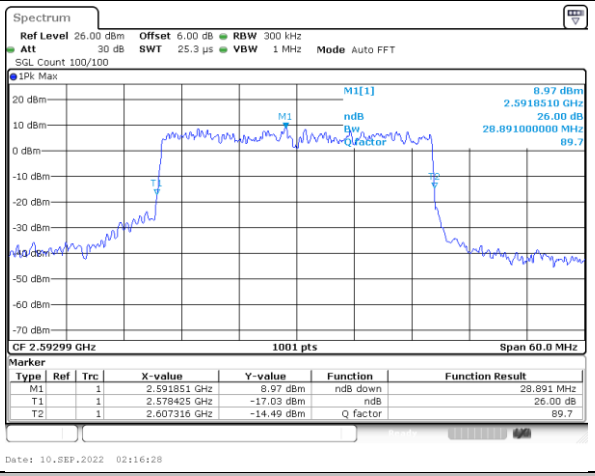


30MHz CP

QPSK



16QAM



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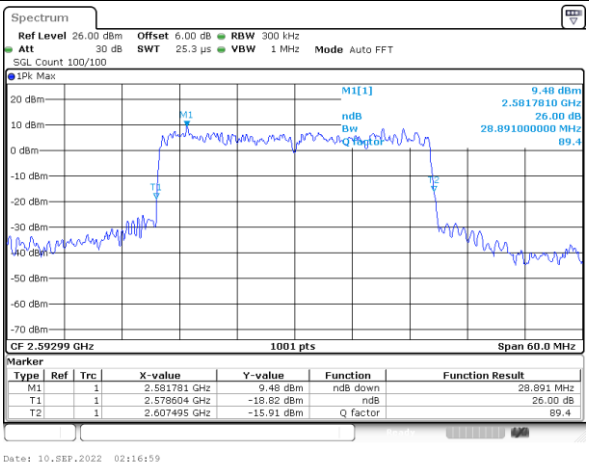

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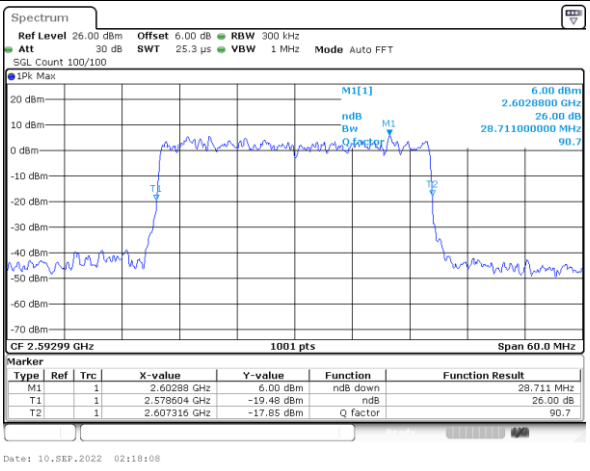
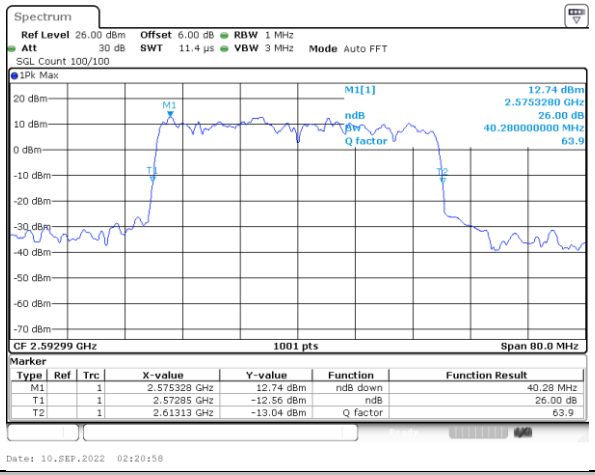


40MHz CP

QPSK



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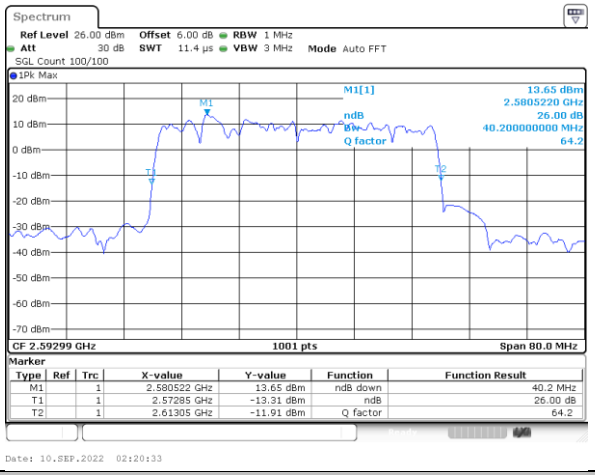

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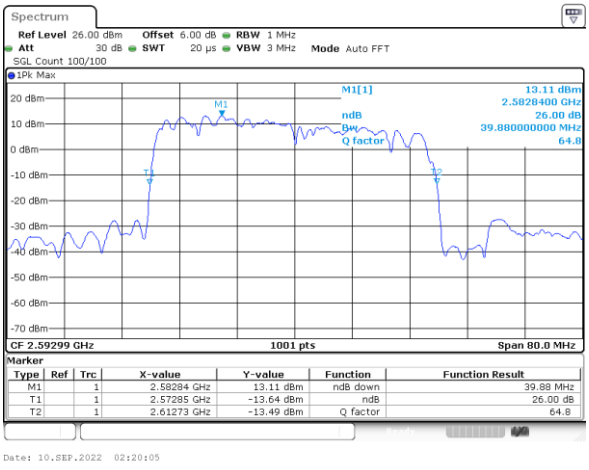

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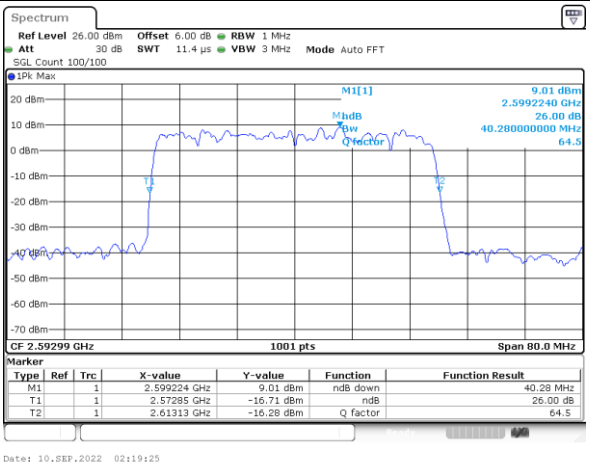
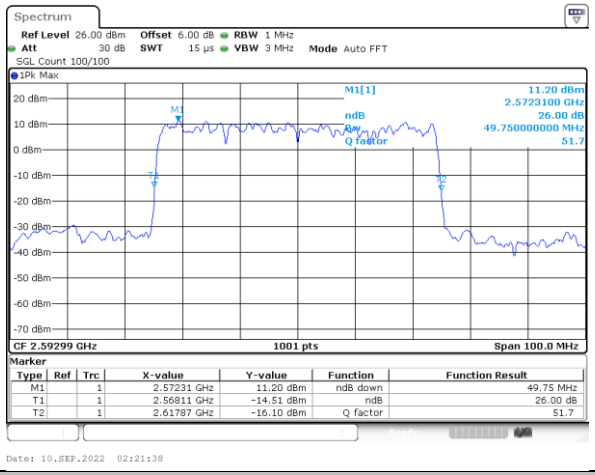


50MHz CP

QPSK



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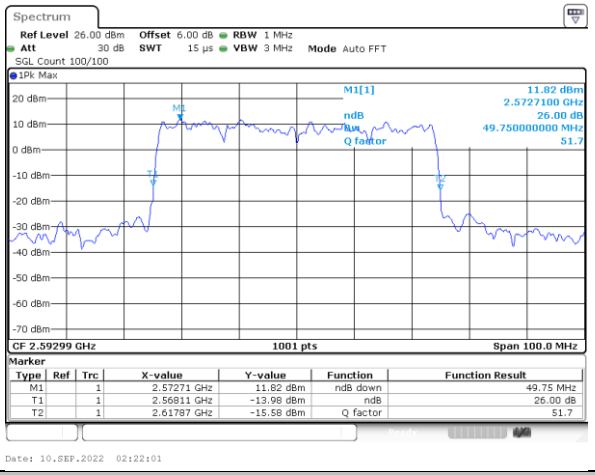
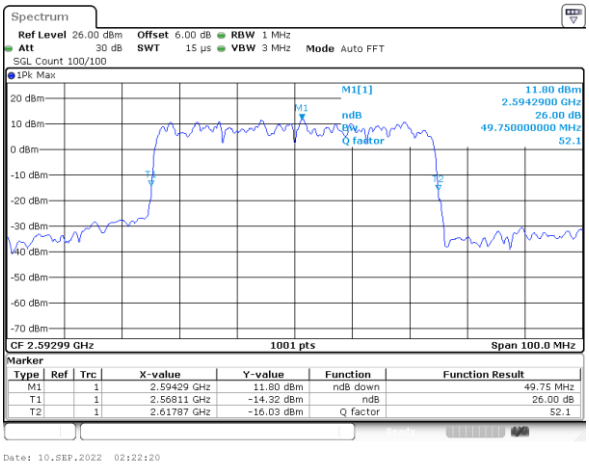


64QAM



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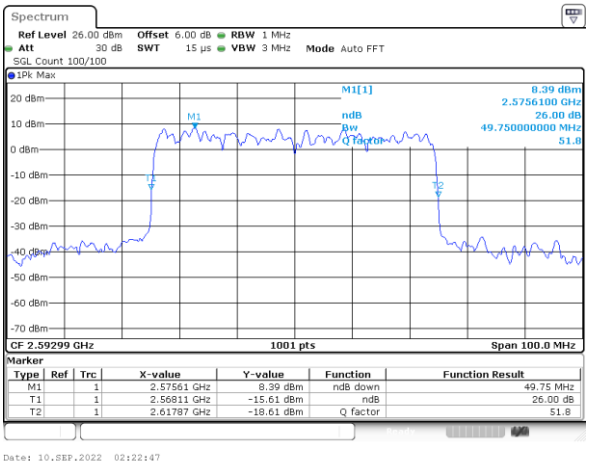
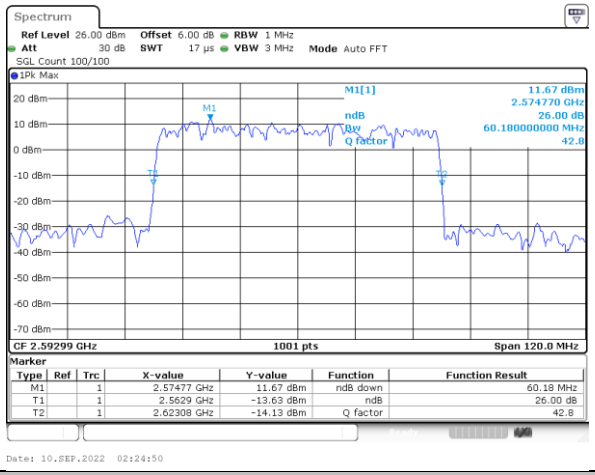


60MHz CP

QPSK



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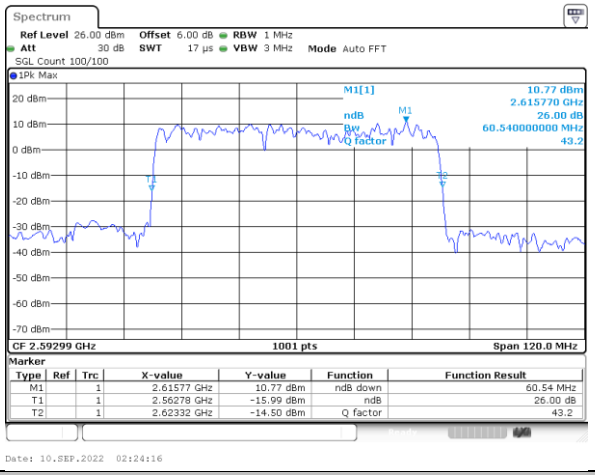
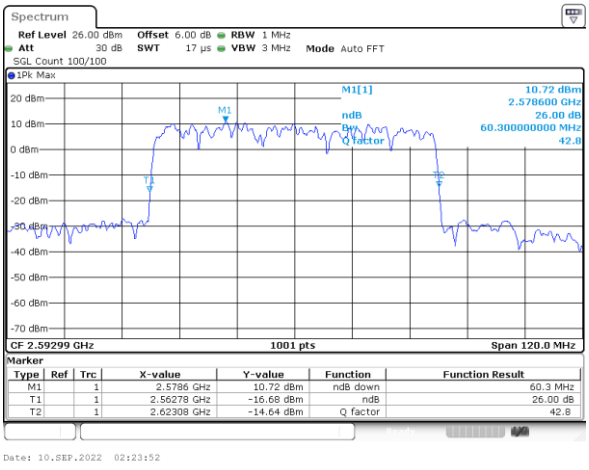
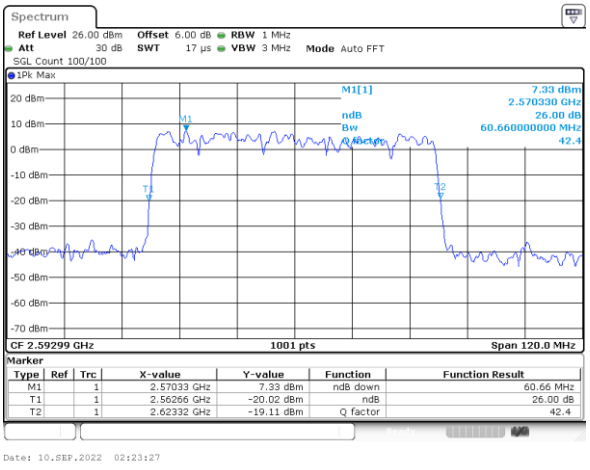


64QAM

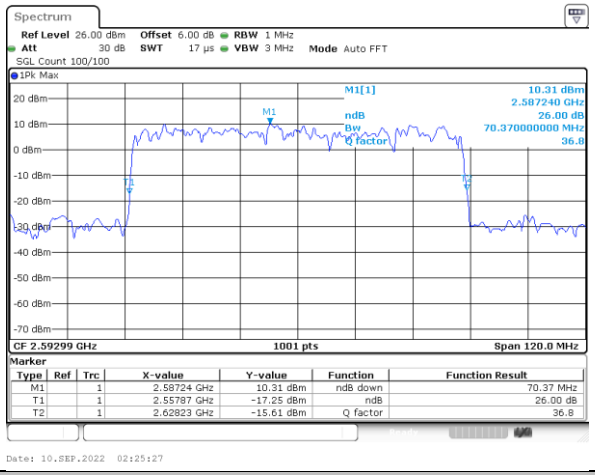


256QAM

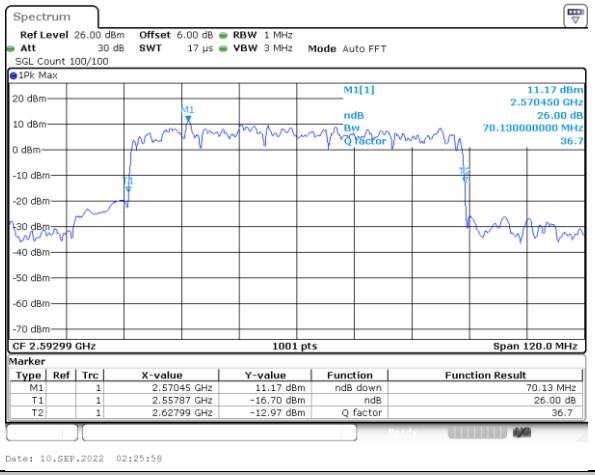


70MHz CP

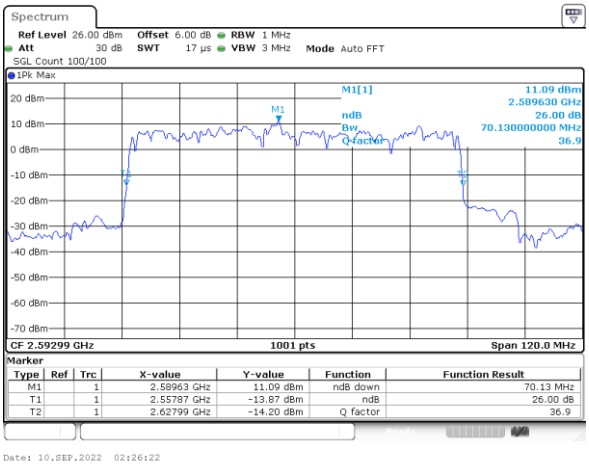
QPSK



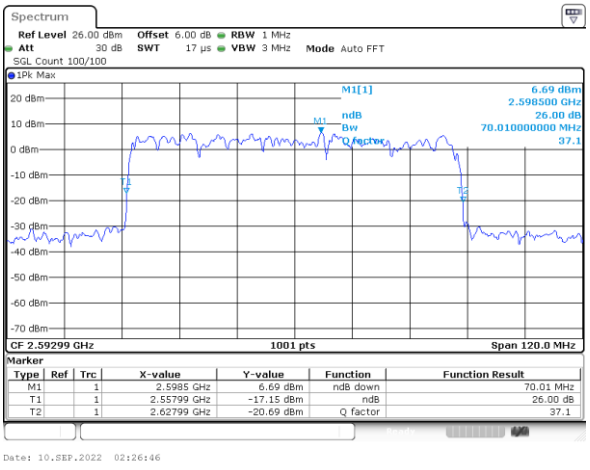
16QAM



64QAM

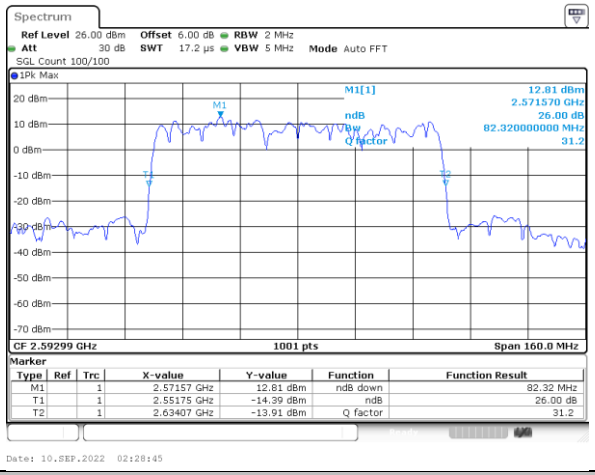


256QAM



80MHz CP

QPSK



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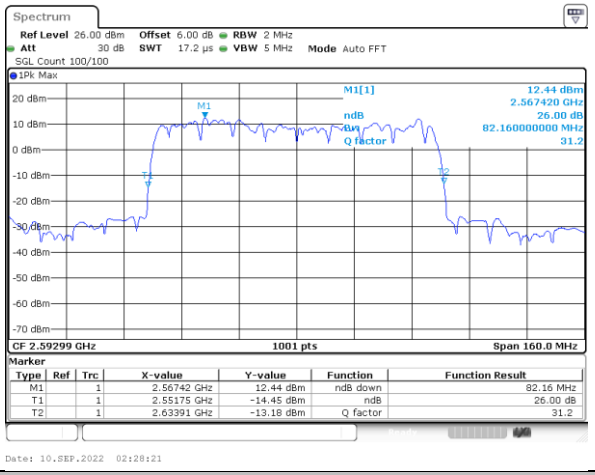

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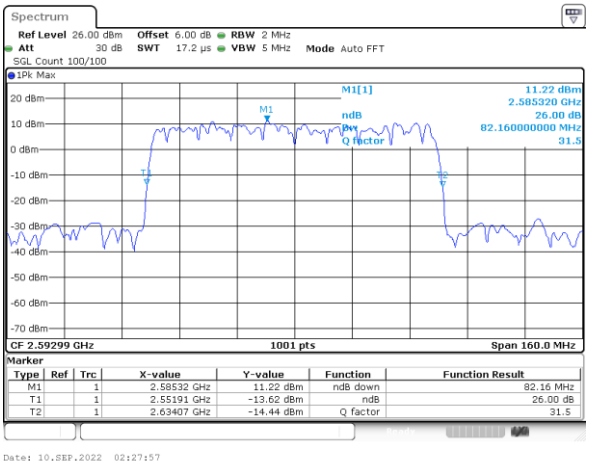

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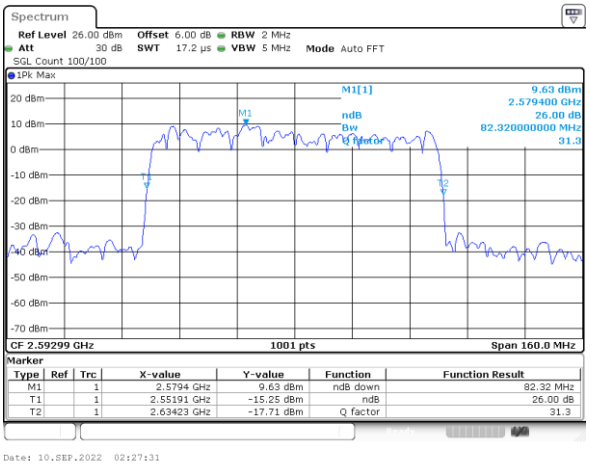
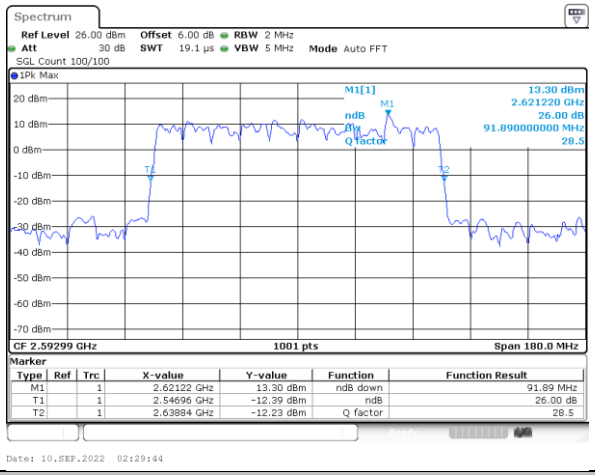


90MHz CP

QPSK



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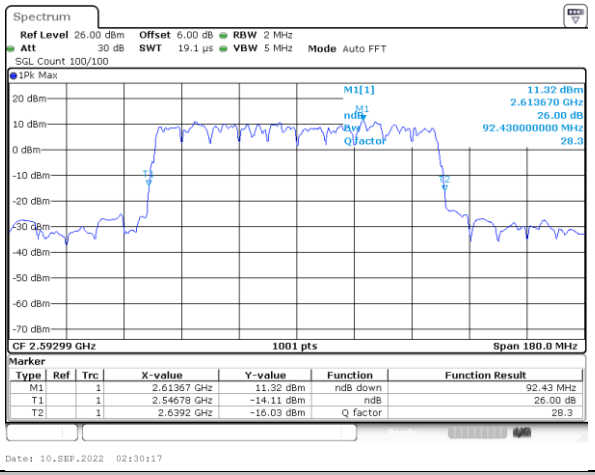
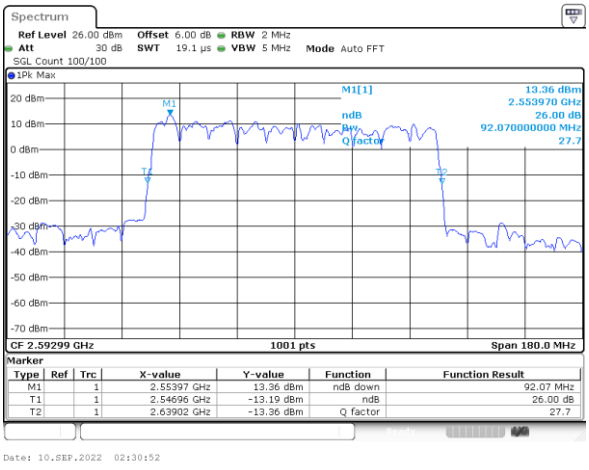


64QAM



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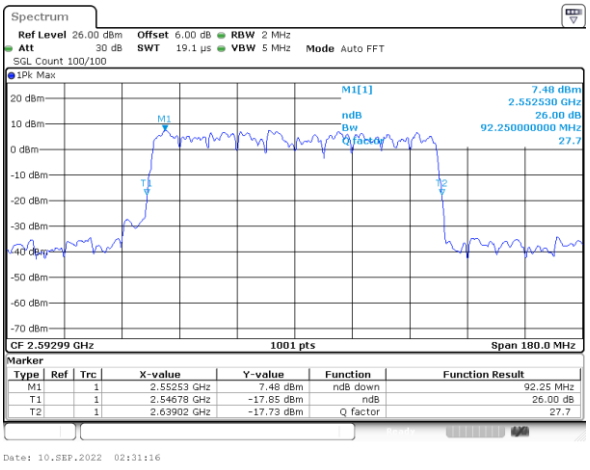
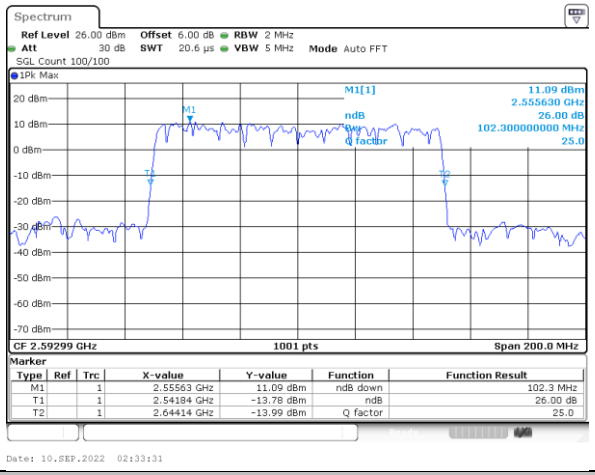


100MHz CP

QPSK



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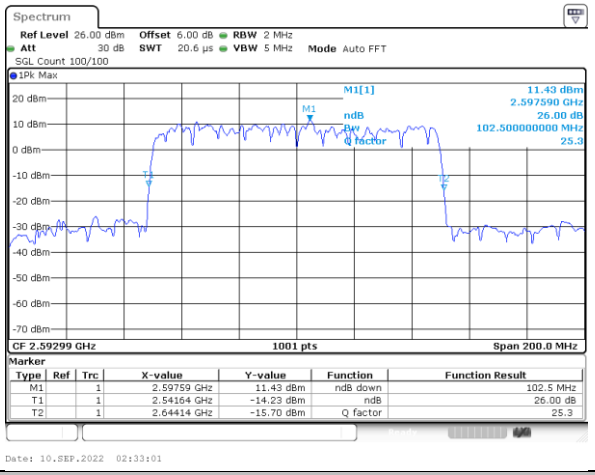
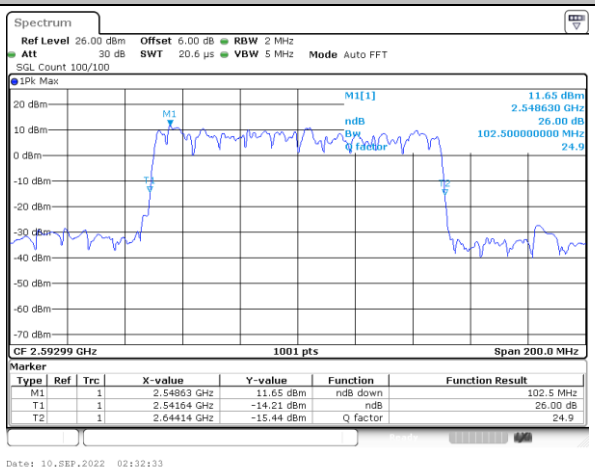
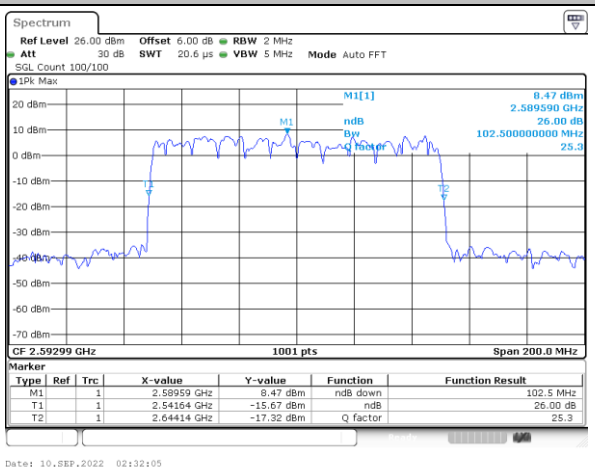


64QAM



256QAM

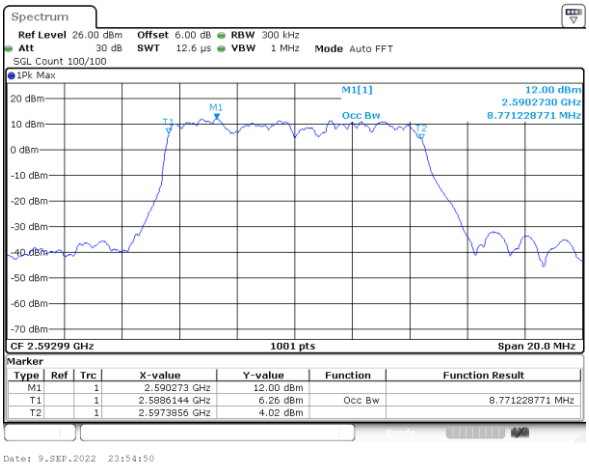


Occupied Bandwidth

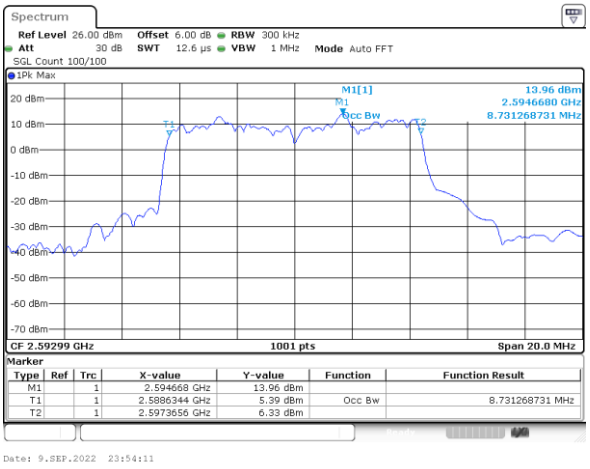
Mode	FR1 n41 : OB BW(10 MHz) / DFT-S OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	8.77	8.73	8.85	8.59
Mode	FR1 n41 : OB BW(15 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	13.70	13.55	13.67	13.67
Mode	FR1 n41 : OB BW(20 MHz) / DFT-S OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	18.22	18.30	18.26	18.30
Mode	FR1 n41 : OB BW(30 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	27.81	27.93	27.81	27.87
Mode	FR1 n41 : OB BW(40 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	37.40	37.88	38.12	38.20
Mode	FR1 n41 : OB BW(50 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	47.45	47.55	47.85	47.35
Mode	FR1 n41 : OB BW(60 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	57.78	57.78	58.02	57.66
Mode	FR1 n41 : OB BW(70 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	67.37	67.61	67.61	66.89
Mode	FR1 n41 : OB BW(80 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	78.32	78.00	78.00	77.84
Mode	FR1 n41 : OB BW(90 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	87.21	87.57	87.57	87.21
Mode	FR1 n41 : OB BW(100 MHz) / CP OFDM			
Mod.	QPSK	16QAM	64QAM	256QAM
Middle CH	97.10	97.30	97.50	97.90

10MHz CP

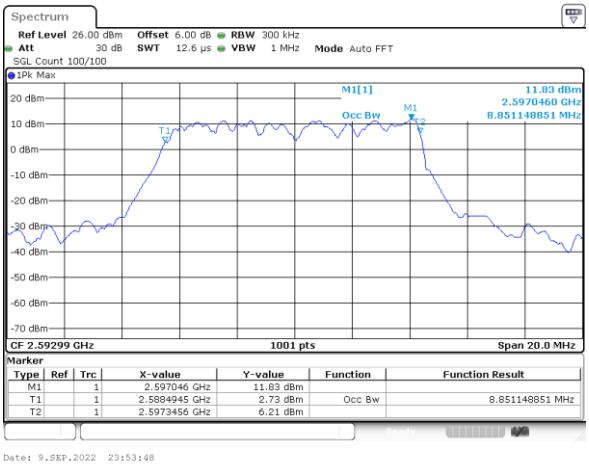
QPSK



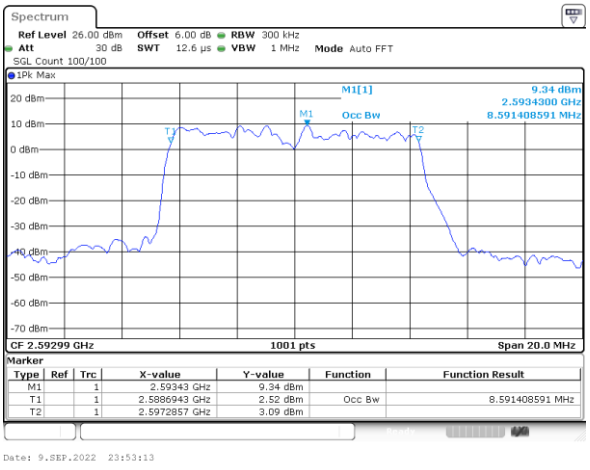
16QAM



64QAM

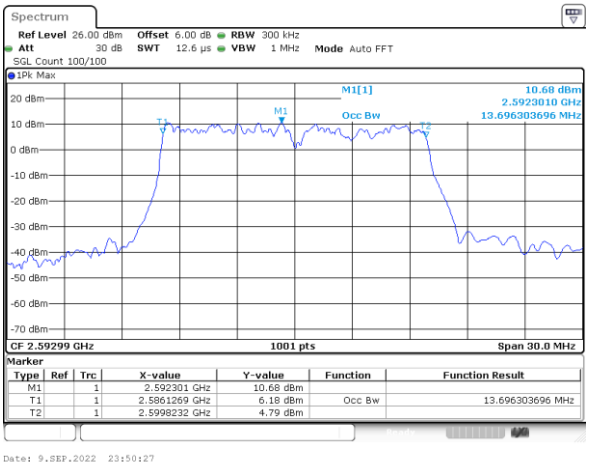


256QAM

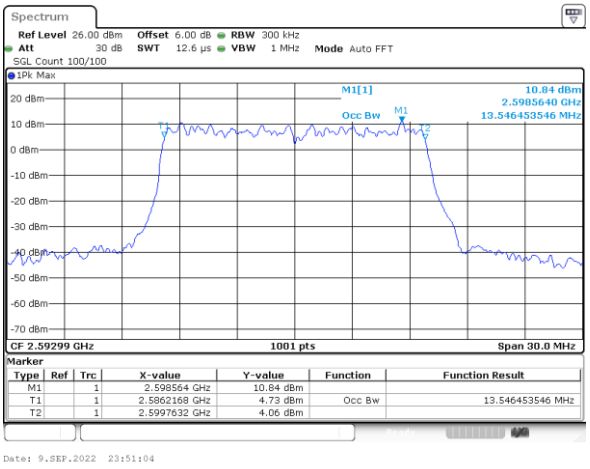


15MHz CP

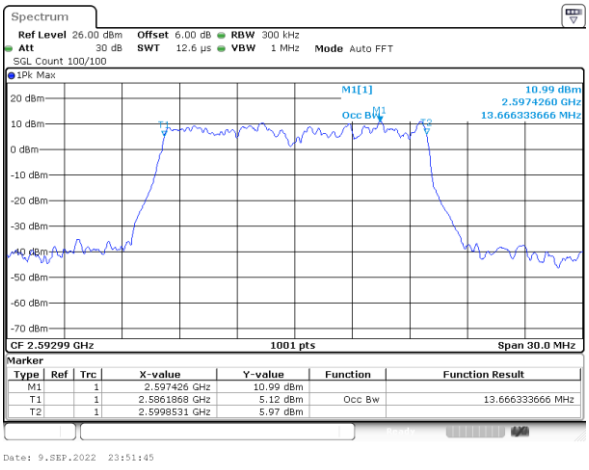
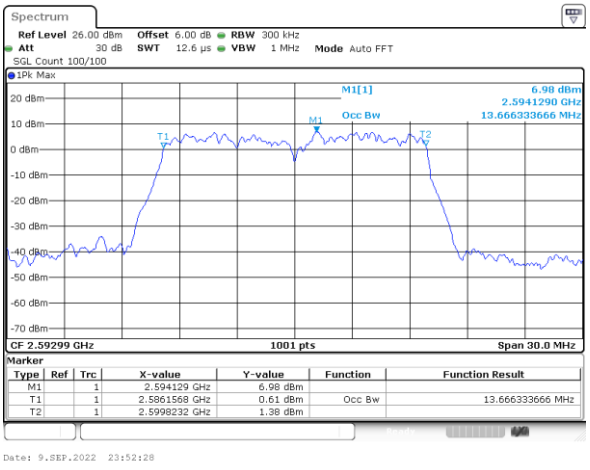
QPSK



16QAM



64QAM



256QAM