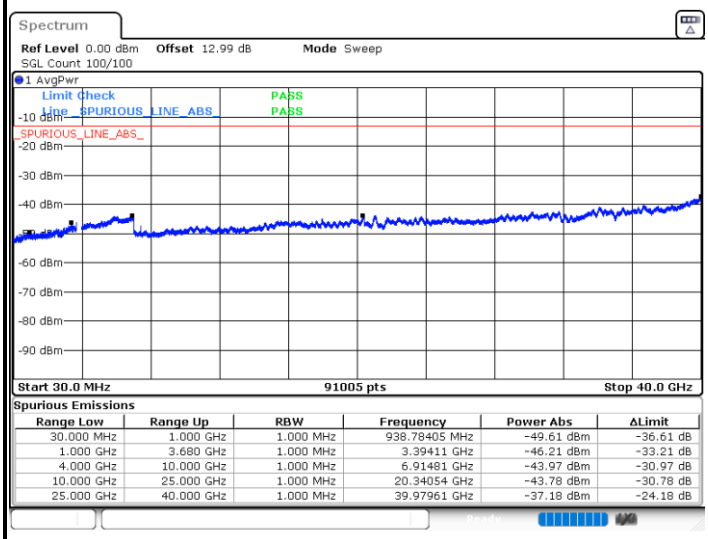
FR1 n78 / 90MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

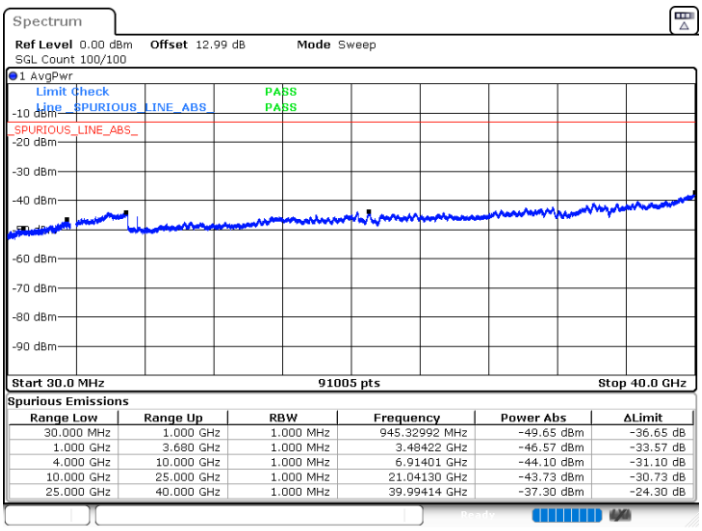


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	938.78405 MHz	-49.61 dBm	-36.61 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.39411 GHz	-46.21 dBm	-33.21 dB
4.000 GHz	10.000 GHz	1.000 MHz	6.91481 GHz	-43.97 dBm	-30.97 dB
10.000 GHz	25.000 GHz	1.000 MHz	20.34054 GHz	-43.78 dBm	-30.78 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.97961 GHz	-37.18 dBm	-24.18 dB

Date: 30.MAY.2022 16:58:04

Middle Channel / 1RB1

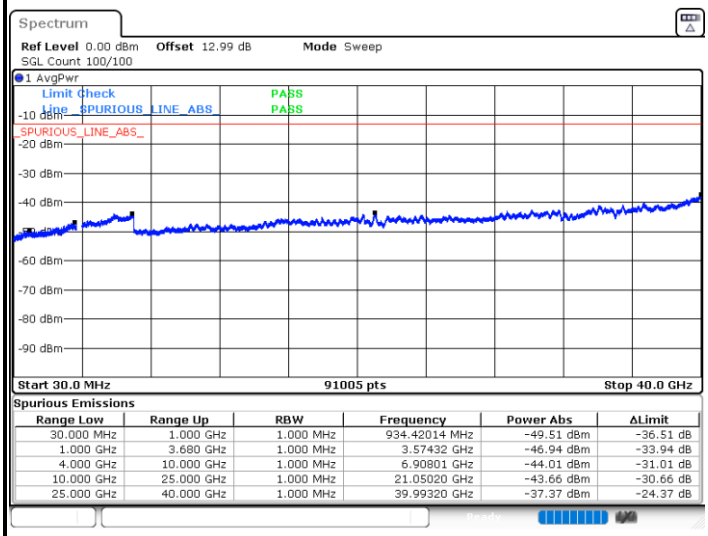


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	945.32992 MHz	-49.65 dBm	-36.65 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.48422 GHz	-46.57 dBm	-33.57 dB
4.000 GHz	10.000 GHz	1.000 MHz	6.91401 GHz	-44.10 dBm	-31.10 dB
10.000 GHz	25.000 GHz	1.000 MHz	21.04130 GHz	-43.73 dBm	-30.73 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99414 GHz	-37.30 dBm	-24.30 dB

Date: 30.MAY.2022 16:59:32

Highest Channel / 1RB1



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	934.42014 MHz	-49.51 dBm	-36.51 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.57432 GHz	-46.94 dBm	-33.94 dB
4.000 GHz	10.000 GHz	1.000 MHz	6.90801 GHz	-44.01 dBm	-31.01 dB
10.000 GHz	25.000 GHz	1.000 MHz	21.05020 GHz	-43.66 dBm	-30.66 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99320 GHz	-37.37 dBm	-24.37 dB

Date: 30.MAY.2022 17:00:51

Frequency Stability

Test Conditions		FR1 n77 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0012	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0026	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0010	
0	Normal Voltage	0.0014	
-10	Normal Voltage	0.0021	
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0030	
20	Maximum Voltage	0.0066	
20	Normal Voltage	0.0036	
20	Battery End Point	0.0031	

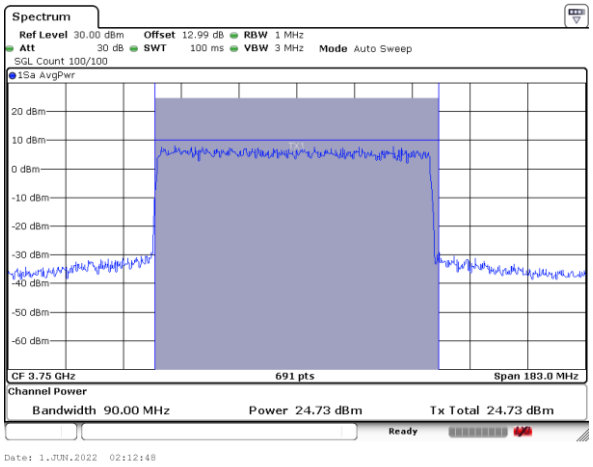
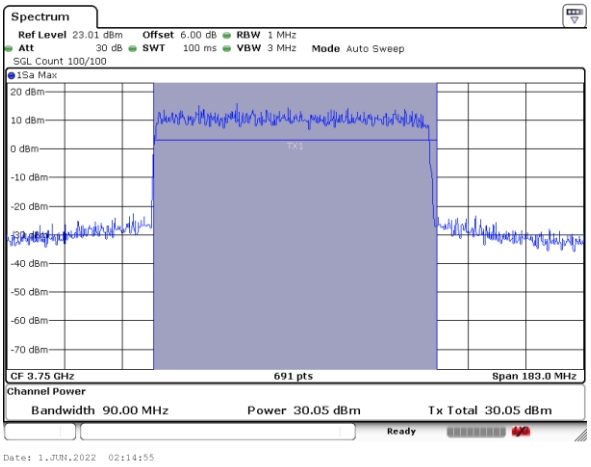
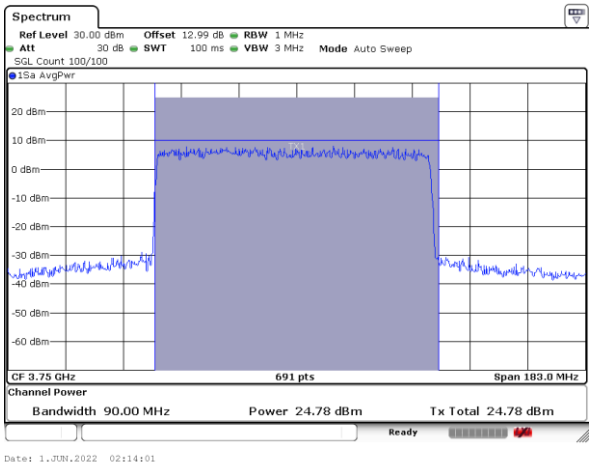
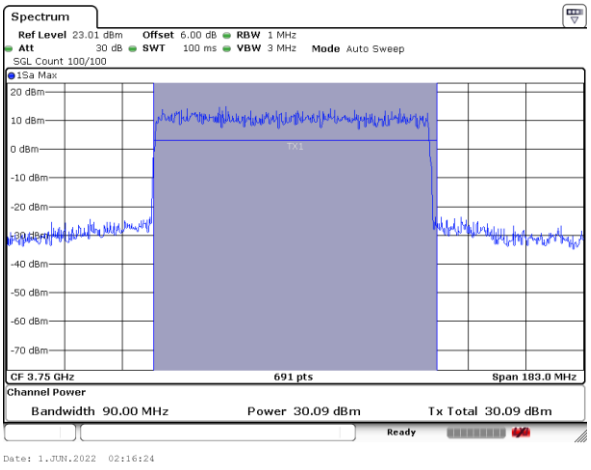
Note:

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.55 V. ; Maximum Voltage =4.45V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

FR1 n78

Peak-to-Average Ratio

Mode	FR1 n78 / 100MHz / DFT-S OFDM		
Mod.	100M		Limit: 13dB
RB Size	BPSK	QPSK	Result
Middle CH	5.32	5.31	PASS

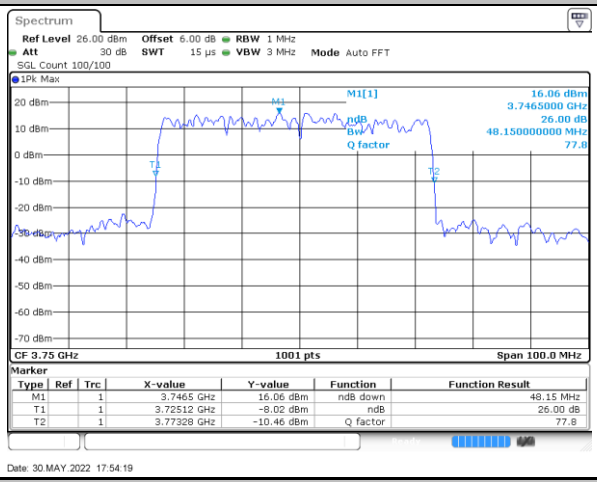
BPSK-A	BPSK-P
	
QPSK-A	**QPSK-P**
	

26dB Bandwidth

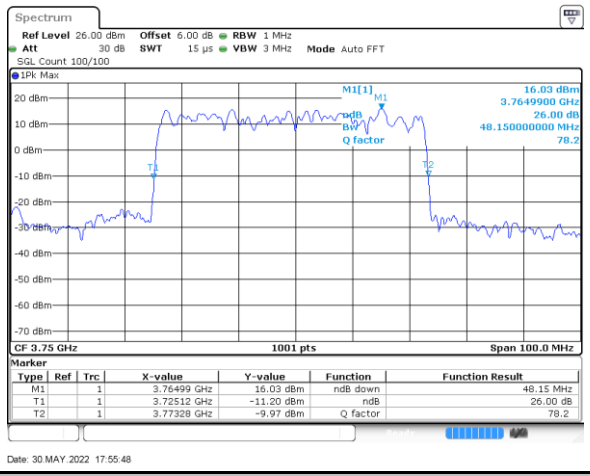
Mode	FR1 n78 : 26dB BW(MHz) / DFT-S OFDM				
BW	50M				
Mod.	-	QPSK	16QAM	64QAM	256QAM
Middle CH	-	48.15	48.15	48.05	48.15
BW	70M				
Mod.	-	QPSK	16QAM	64QAM	256QAM
Middle CH	-	68.93	68.45	69.05	68.69
BW	90M				
Mod.	-	QPSK	16QAM	64QAM	256QAM
Middle CH	-	91.35	91.17	91.35	91.71

50M

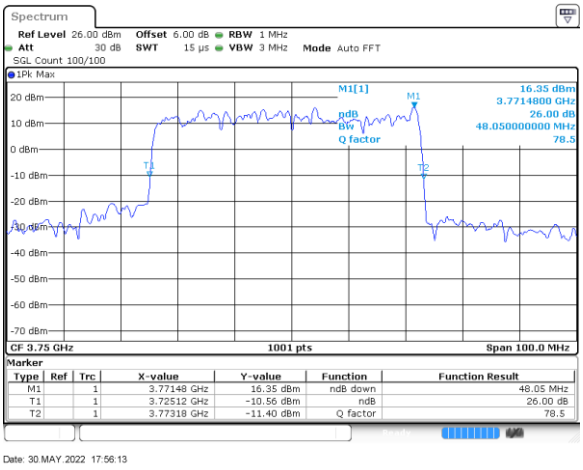
QPSK



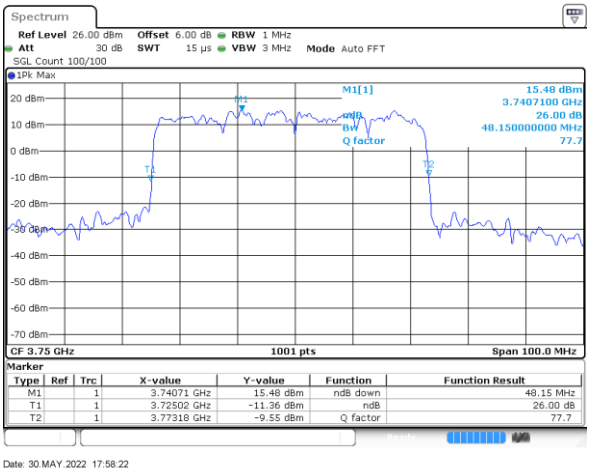
16QAM



64QAM

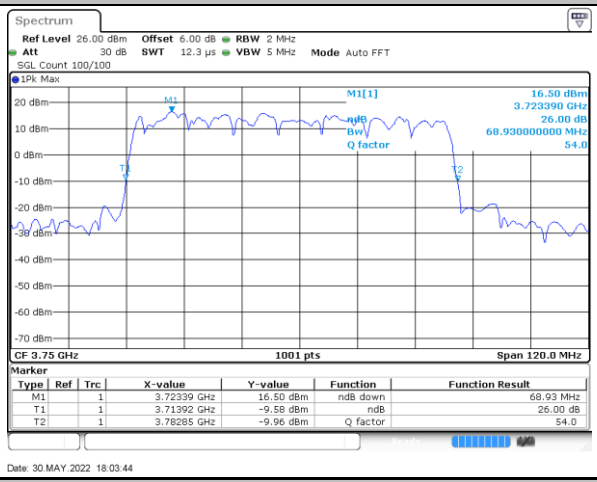


256QAM

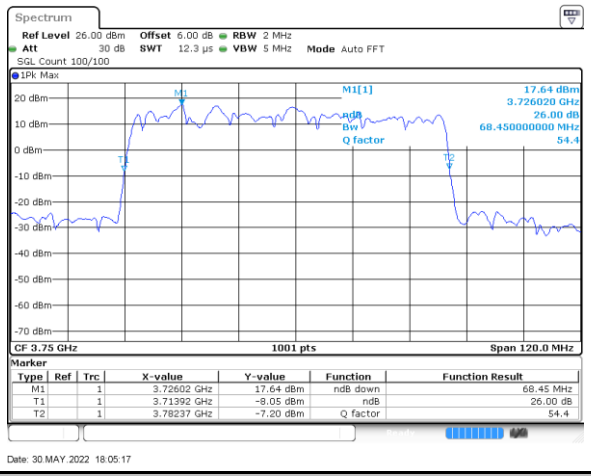


70M

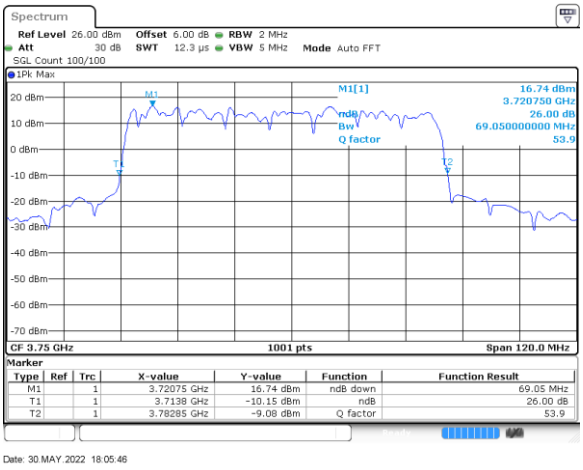
QPSK



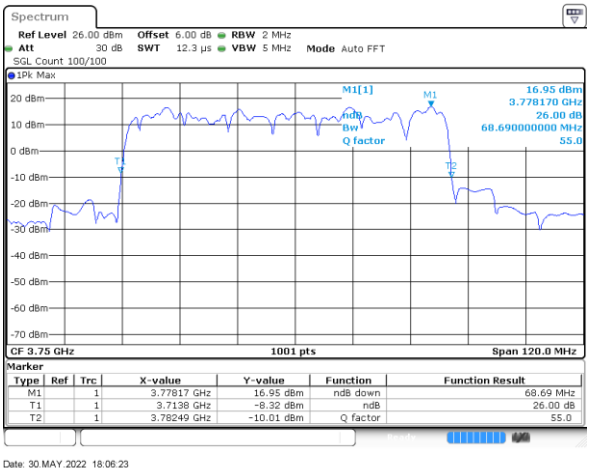
16QAM



64QAM

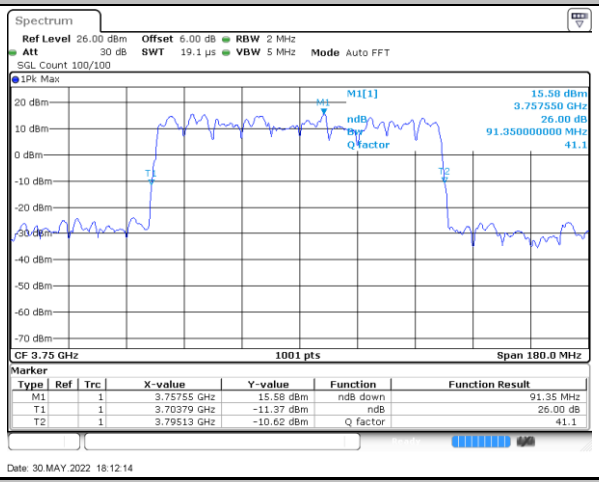


256QAM

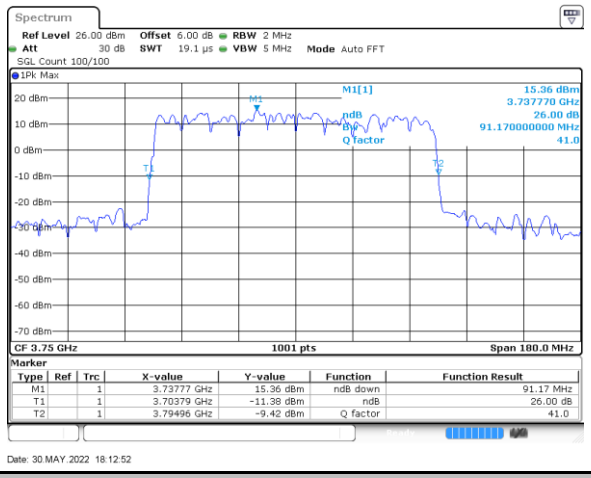


90M

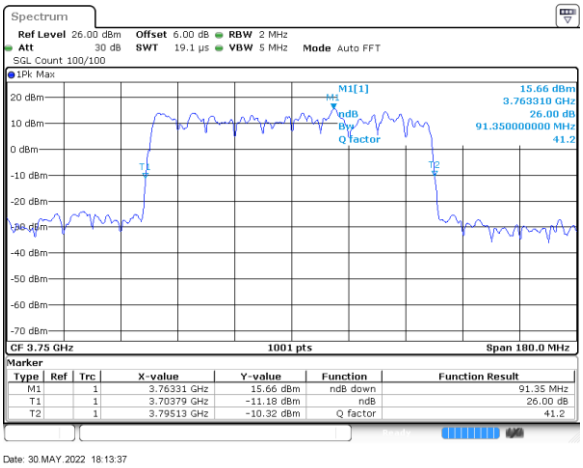
QPSK



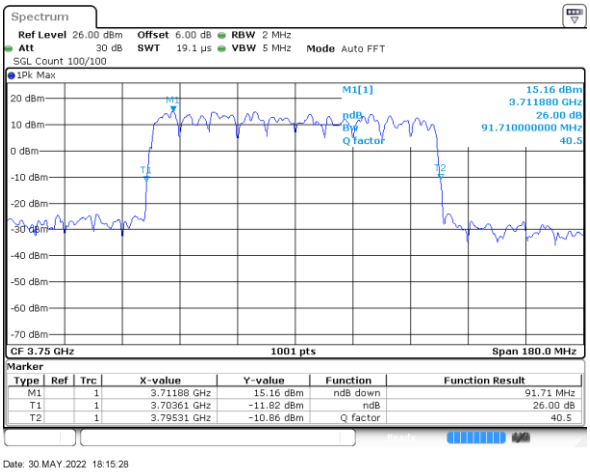
16QAM



64QAM



256QAM

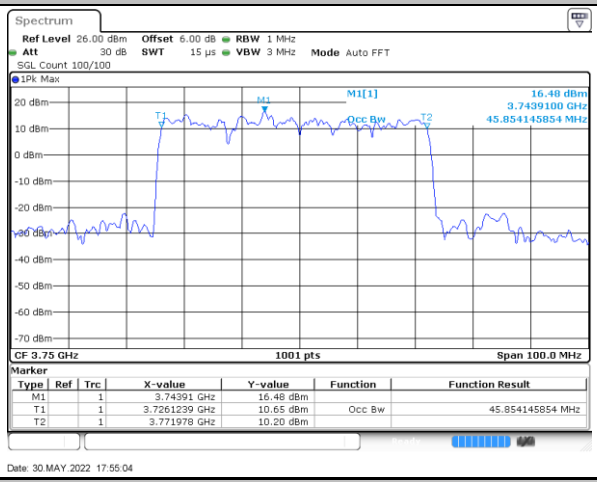


Occupied Bandwidth

Mode	FR1 n78: OB BW(MHz) / DFT-S OFDM				
BW	50M				
Mod.	-	QPSK	16QAM	64QAM	256QAM
Middle CH	-	45.85	45.75	45.95	46.05
BW	70M				
Mod.	-	QPSK	16QAM	64QAM	256QAM
Middle CH	-	64.86	65.09	64.98	65.57
BW	90M				
Mod.	-	QPSK	16QAM	64QAM	256QAM
Middle CH	-	86.31	86.85	86.49	86.49

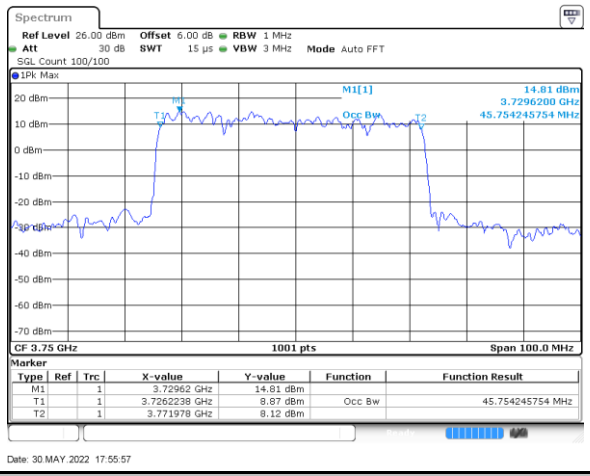
50M

QPSK



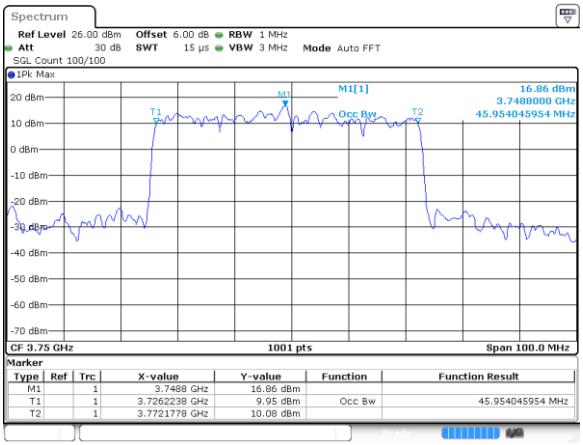
Date: 30.MAY.2022 17:55:04

16QAM



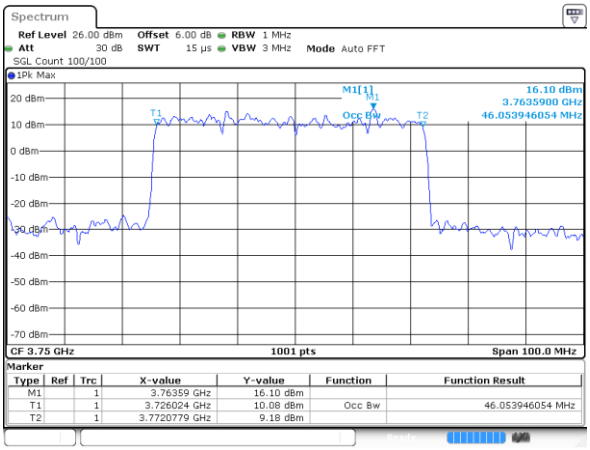
Date: 30.MAY.2022 17:55:57

64QAM



Date: 30.MAY.2022 17:58:03

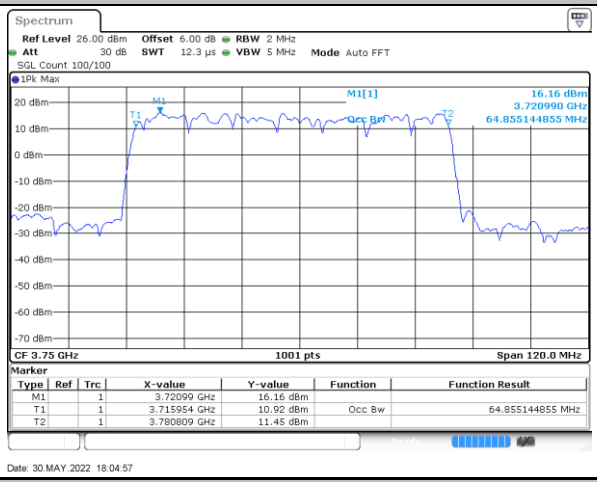
256QAM



Date: 30.MAY.2022 17:58:31

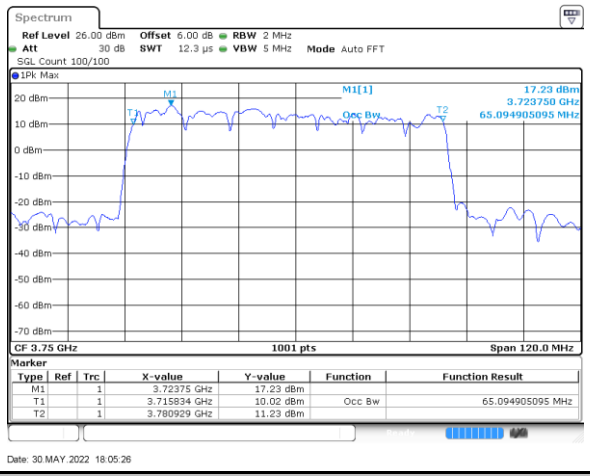
70M

QPSK



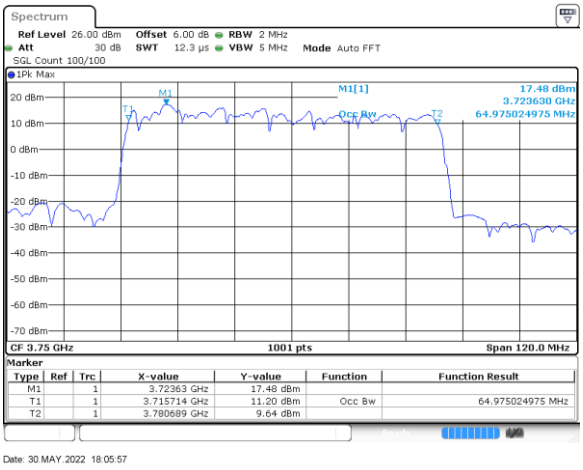
Date: 30.MAY.2022 18:04:57

16QAM



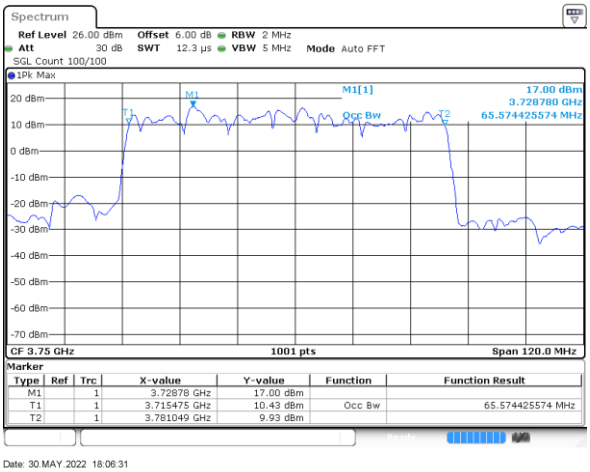
Date: 30.MAY.2022 18:05:26

64QAM



Date: 30.MAY.2022 18:05:57

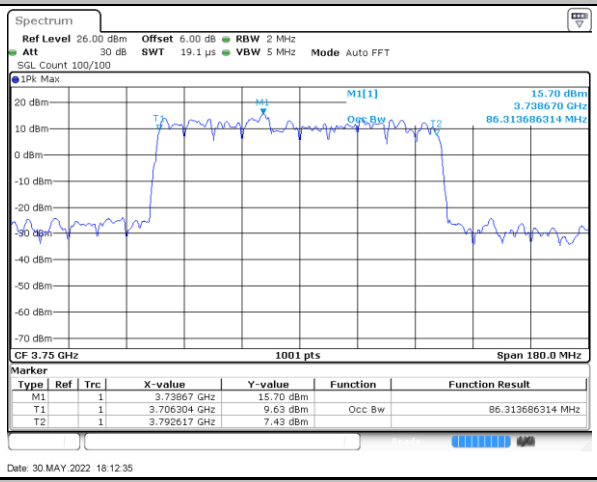
256QAM



Date: 30.MAY.2022 18:06:31

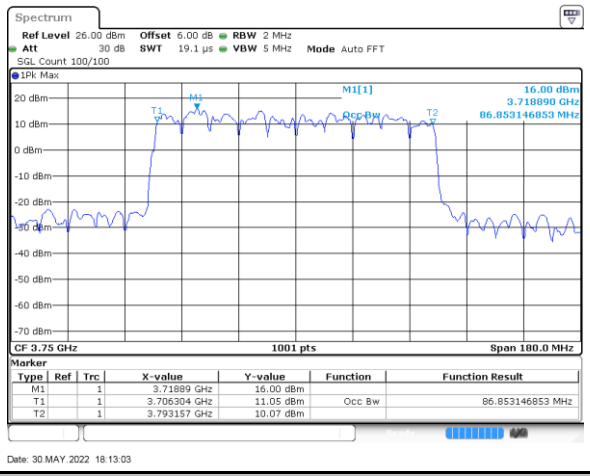
90M

QPSK



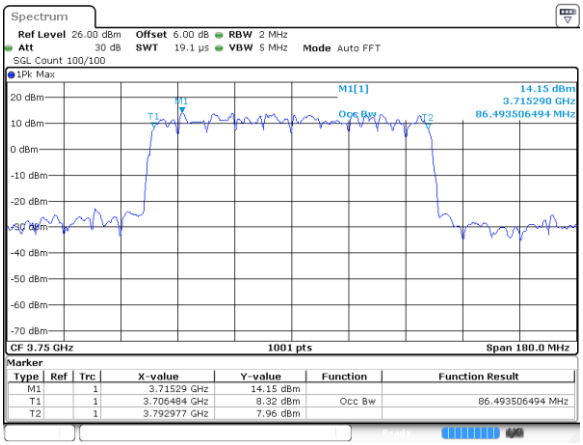
Date: 30.MAY.2022 18:12:35

16QAM



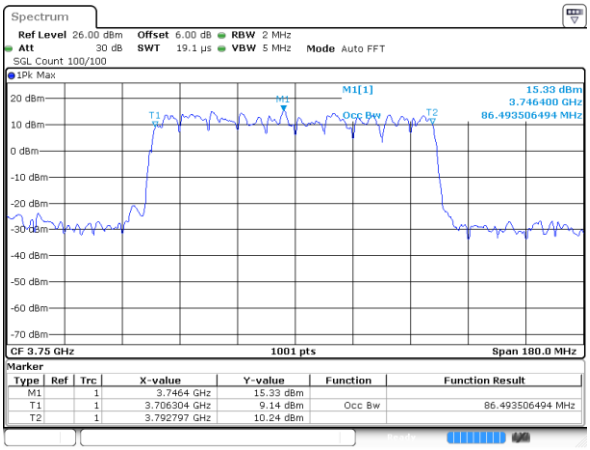
Date: 30.MAY.2022 18:13:03

64QAM



Date: 30.MAY.2022 18:13:50

256QAM

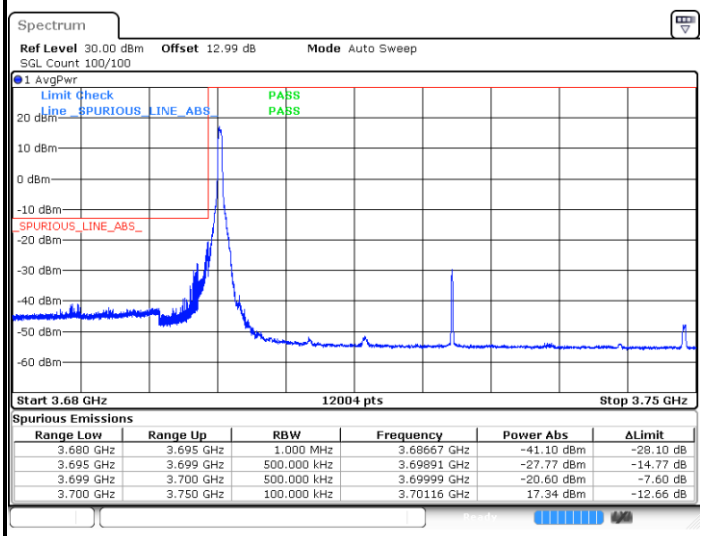


Date: 30.MAY.2022 18:15:39

Conducted Band Edge

FR1 n78/ 50MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

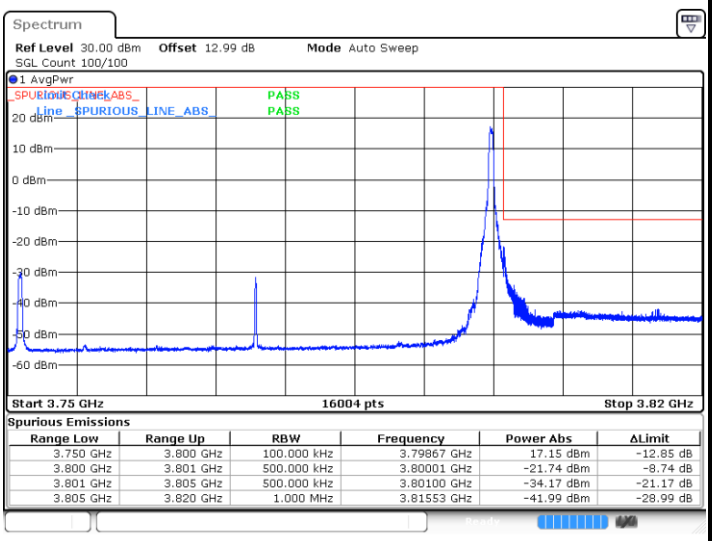


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.68667 GHz	-41.10 dBm	-28.10 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69891 GHz	-27.77 dBm	-14.77 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.69999 GHz	-20.60 dBm	-7.60 dB
3.700 GHz	3.750 GHz	100.000 kHz	3.70116 GHz	17.34 dBm	-12.66 dB

Date: 31.MAY.2022 11:46:17

Highest Band Edge / 1RBmax

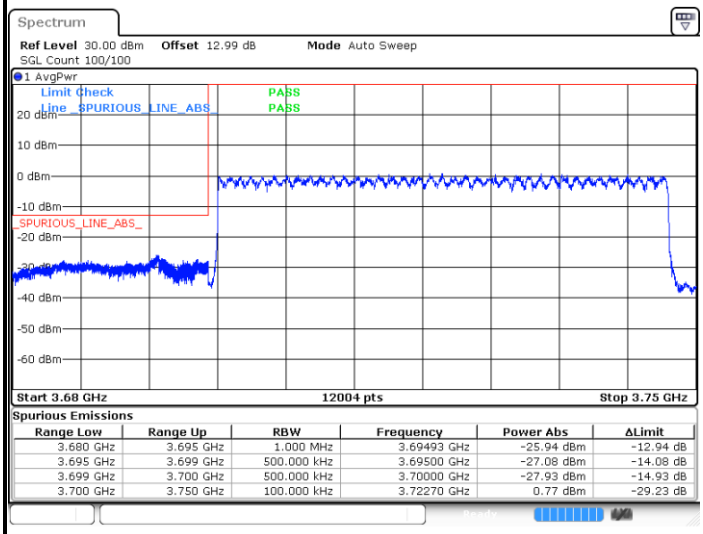


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.750 GHz	3.800 GHz	100.000 kHz	3.79867 GHz	17.15 dBm	-12.85 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80001 GHz	-21.74 dBm	-8.74 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80100 GHz	-34.17 dBm	-21.17 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.81553 GHz	-41.99 dBm	-28.99 dB

Date: 31.MAY.2022 12:05:47

Lowest Band Edge / Full RB

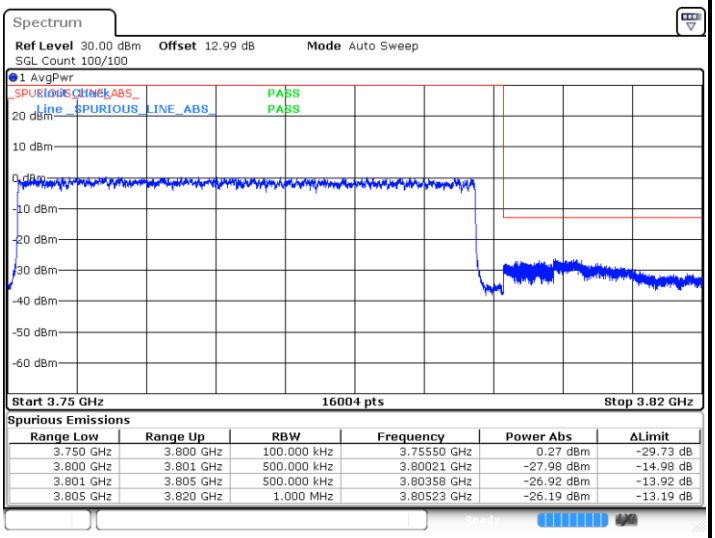


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69493 GHz	-25.94 dBm	-12.94 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69500 GHz	-27.08 dBm	-14.08 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.70000 GHz	-27.93 dBm	-14.93 dB
3.700 GHz	3.750 GHz	100.000 kHz	3.72270 GHz	0.77 dBm	-29.23 dB

Date: 31.MAY.2022 12:02:11

Highest Band Edge / Full RB



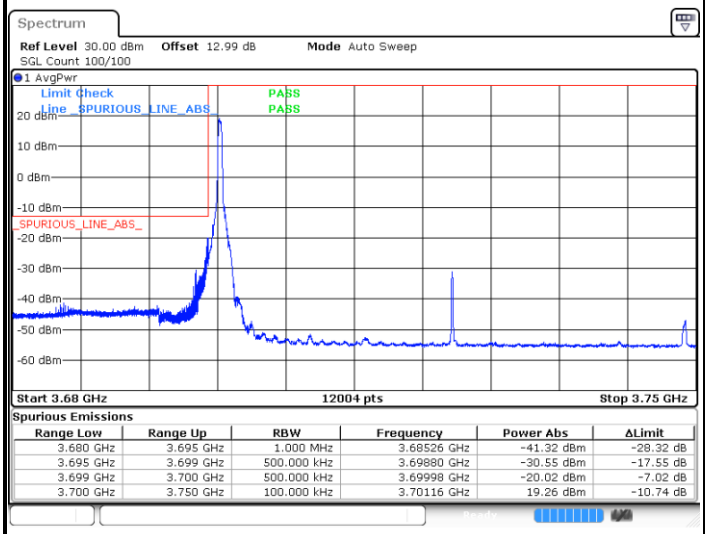
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.750 GHz	3.800 GHz	100.000 kHz	3.75550 GHz	0.27 dBm	-29.73 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80021 GHz	-27.98 dBm	-14.98 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80358 GHz	-26.92 dBm	-13.92 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80523 GHz	-26.19 dBm	-13.19 dB

Date: 31.MAY.2022 12:08:24

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

Lowest Band Edge / 1RB0

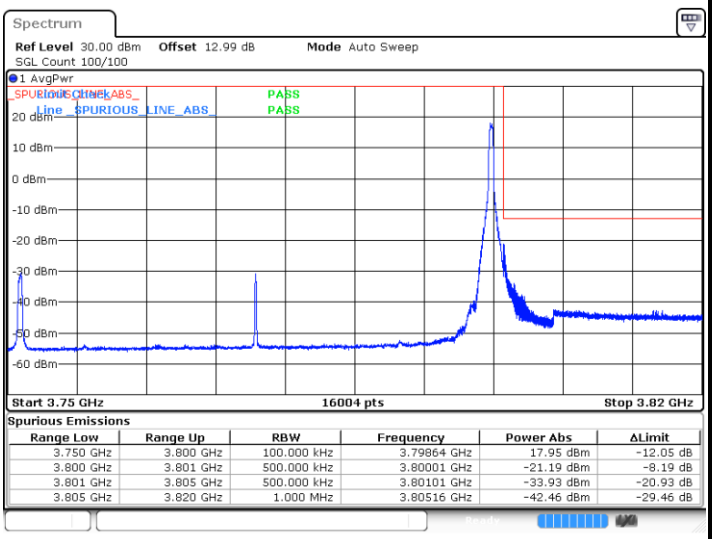


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69526 GHz	-41.32 dBm	-28.32 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69880 GHz	-30.55 dBm	-17.55 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.69998 GHz	-20.02 dBm	-7.02 dB
3.700 GHz	3.750 GHz	100.000 kHz	3.70116 GHz	19.26 dBm	-10.74 dB

Date: 31.MAY.2022 11:53:56

Highest Band Edge / 1RBmax

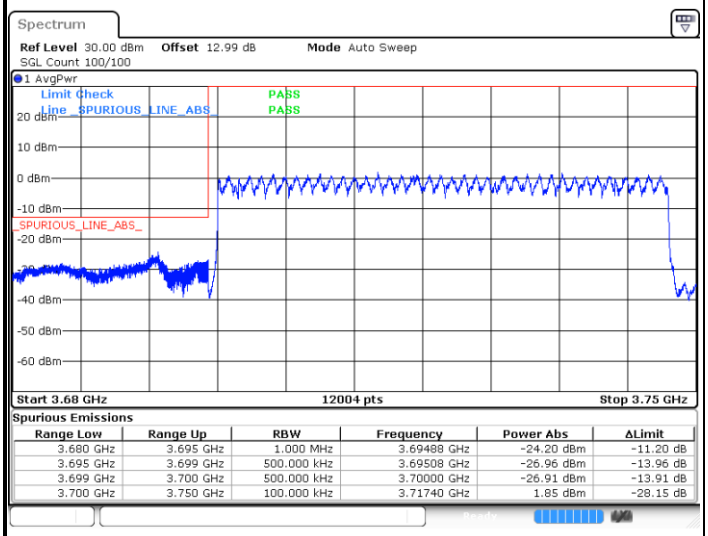


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.750 GHz	3.800 GHz	100.000 kHz	3.79864 GHz	17.95 dBm	-12.05 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80001 GHz	-21.19 dBm	-8.19 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80101 GHz	-33.93 dBm	-20.93 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80516 GHz	-42.46 dBm	-29.46 dB

Date: 31.MAY.2022 12:06:31

Lowest Band Edge / Full RB

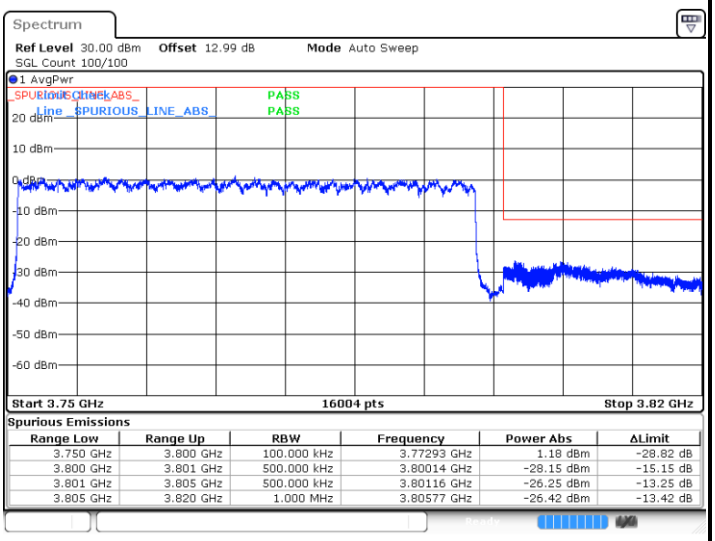


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69488 GHz	-24.20 dBm	-11.20 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69508 GHz	-26.96 dBm	-13.96 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.70000 GHz	-26.91 dBm	-13.91 dB
3.700 GHz	3.750 GHz	100.000 kHz	3.71740 GHz	1.85 dBm	-28.15 dB

Date: 31.MAY.2022 11:56:38

Highest Band Edge / Full RB



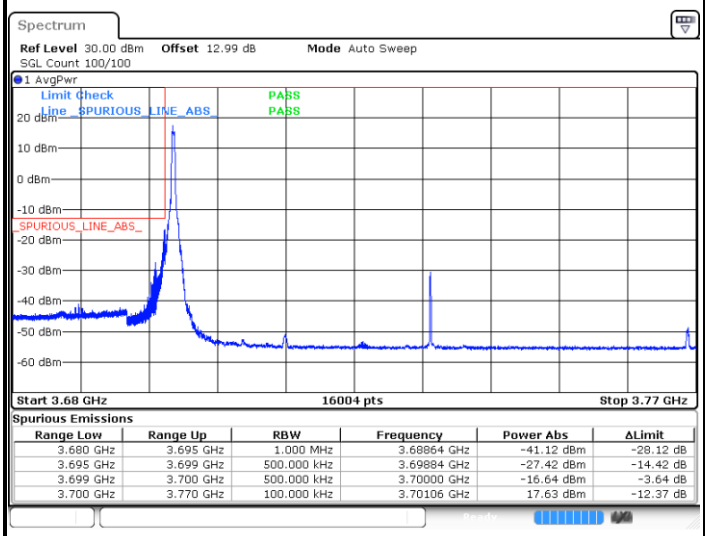
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.750 GHz	3.800 GHz	100.000 kHz	3.77293 GHz	1.18 dBm	-28.82 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80014 GHz	-28.15 dBm	-15.15 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80116 GHz	-26.25 dBm	-13.25 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80577 GHz	-26.42 dBm	-13.42 dB

Date: 31.MAY.2022 12:07:33

FR1 n78/ 70MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

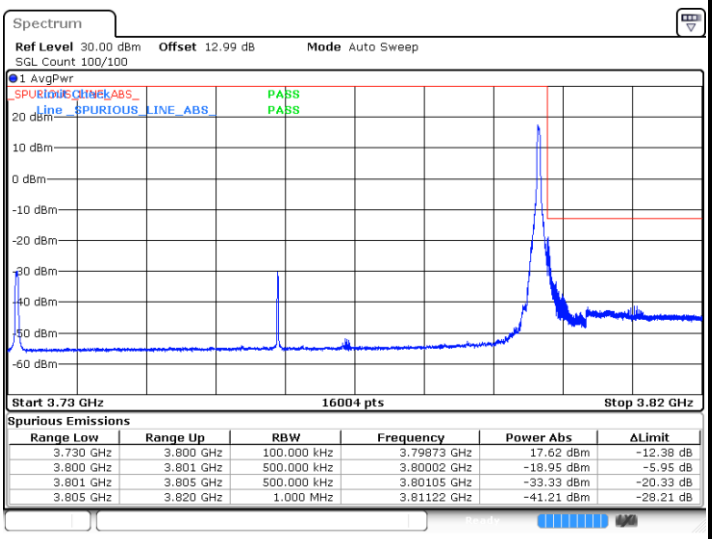


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69864 GHz	-41.12 dBm	-28.12 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69884 GHz	-27.42 dBm	-14.42 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.70000 GHz	-16.64 dBm	-3.64 dB
3.700 GHz	3.770 GHz	100.000 kHz	3.70106 GHz	17.63 dBm	-12.37 dB

Date: 31.MAY.2022 12:26:13

Highest Band Edge / 1RBmax

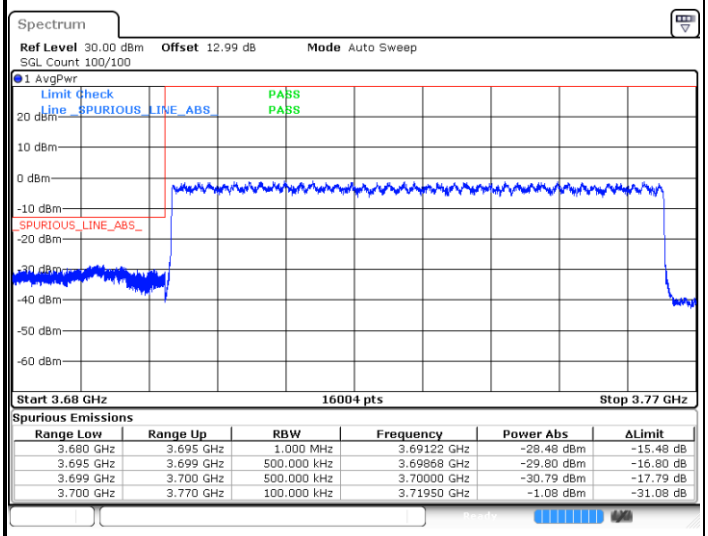


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.730 GHz	3.800 GHz	100.000 kHz	3.79873 GHz	17.62 dBm	-12.38 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80002 GHz	-18.95 dBm	-5.95 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80105 GHz	-33.33 dBm	-20.33 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.81122 GHz	-41.21 dBm	-28.21 dB

Date: 31.MAY.2022 12:30:17

Lowest Band Edge / Full RB

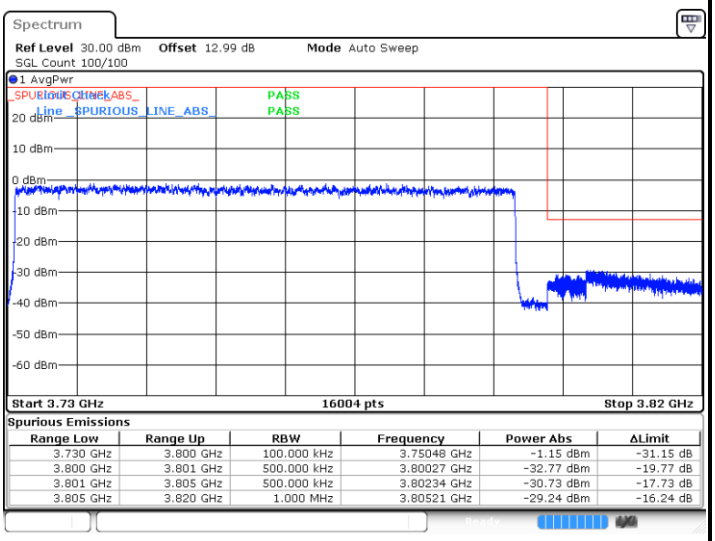


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69122 GHz	-28.48 dBm	-15.48 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69868 GHz	-29.80 dBm	-16.80 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.70000 GHz	-30.79 dBm	-17.79 dB
3.700 GHz	3.770 GHz	100.000 kHz	3.71950 GHz	-1.08 dBm	-31.08 dB

Date: 31.MAY.2022 12:28:59

Highest Band Edge / Full RB



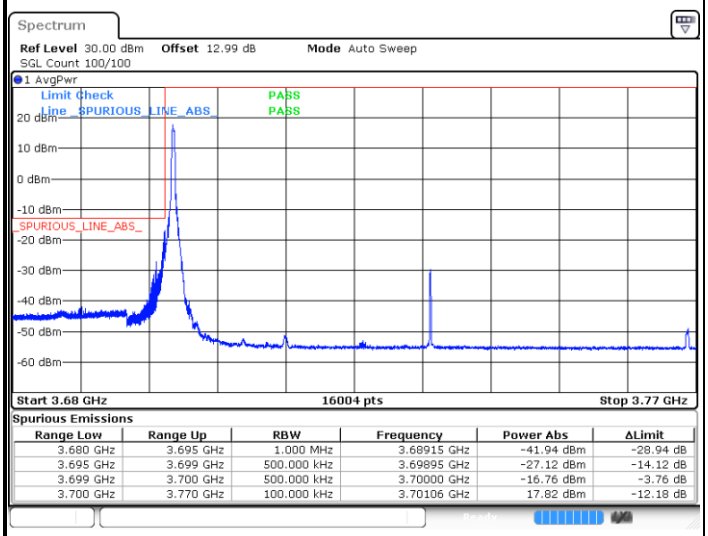
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.730 GHz	3.800 GHz	100.000 kHz	3.75048 GHz	-1.15 dBm	-31.15 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80027 GHz	-32.77 dBm	-19.77 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80234 GHz	-30.73 dBm	-17.73 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80521 GHz	-29.24 dBm	-16.24 dB

Date: 31.MAY.2022 12:31:51

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

Lowest Band Edge / 1RB0

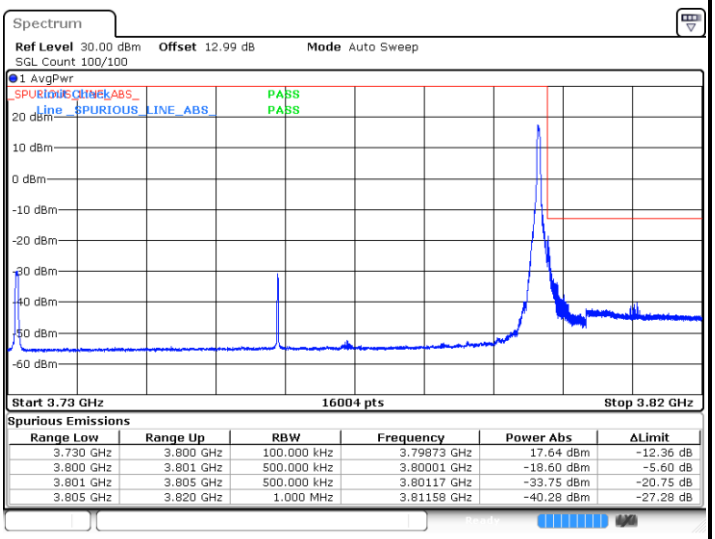


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.68915 GHz	-41.94 dBm	-28.94 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69895 GHz	-27.12 dBm	-14.12 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.70000 GHz	-16.76 dBm	-3.76 dB
3.700 GHz	3.770 GHz	100.000 kHz	3.70106 GHz	17.82 dBm	-12.18 dB

Date: 31.MAY.2022 12:26:54

Highest Band Edge / 1RBmax

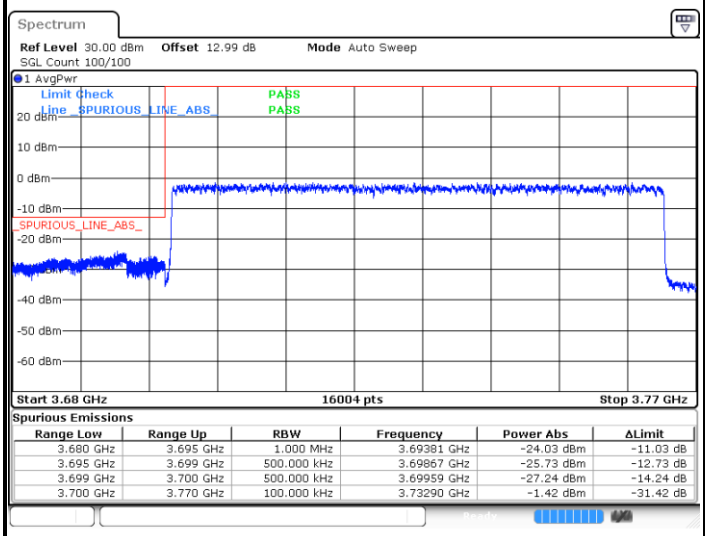


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.730 GHz	3.800 GHz	100.000 kHz	3.79873 GHz	17.64 dBm	-12.36 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80001 GHz	-18.60 dBm	-5.60 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80117 GHz	-33.75 dBm	-20.75 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.81158 GHz	-40.28 dBm	-27.28 dB

Date: 31.MAY.2022 12:30:57

Lowest Band Edge / Full RB

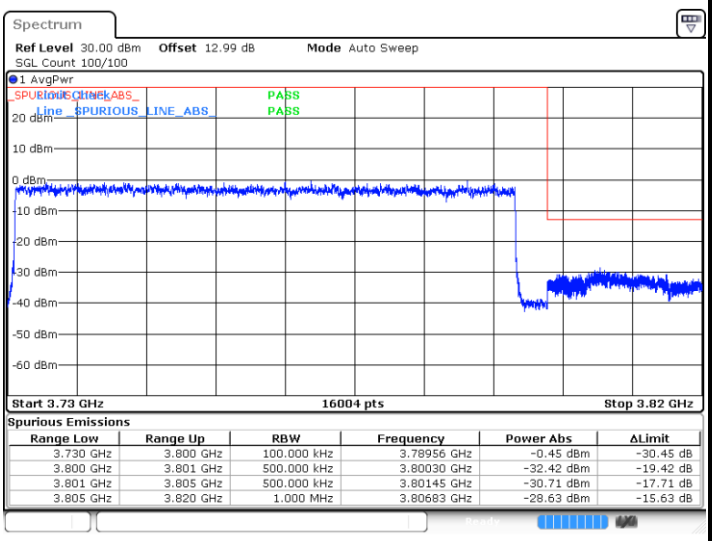


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69381 GHz	-24.03 dBm	-11.03 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69867 GHz	-25.73 dBm	-12.73 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.69959 GHz	-27.24 dBm	-14.24 dB
3.700 GHz	3.770 GHz	100.000 kHz	3.73290 GHz	-1.42 dBm	-31.42 dB

Date: 31.MAY.2022 12:28:16

Highest Band Edge / Full RB



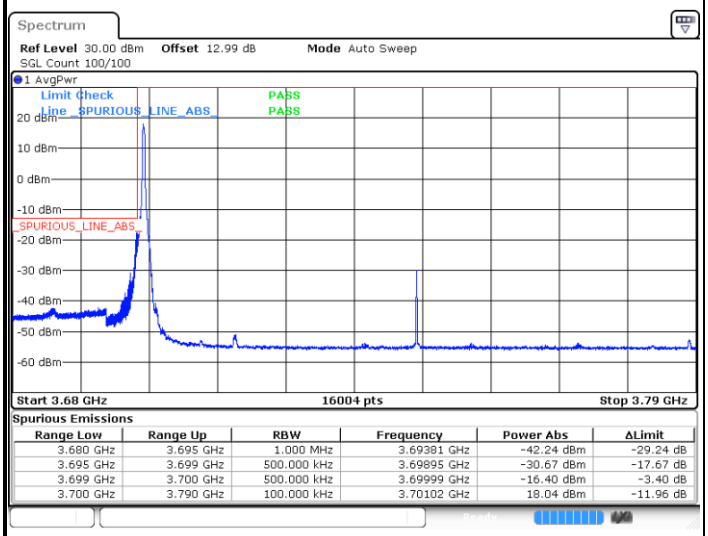
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.730 GHz	3.800 GHz	100.000 kHz	3.78956 GHz	-0.45 dBm	-30.45 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80030 GHz	-32.42 dBm	-19.42 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80145 GHz	-30.71 dBm	-17.71 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80683 GHz	-28.63 dBm	-15.63 dB

Date: 31.MAY.2022 12:32:33

FR1 n78 / 90MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

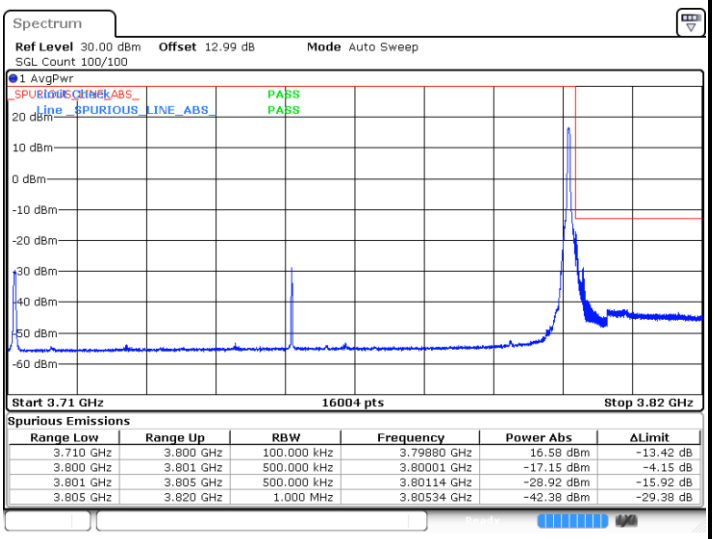


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69381 GHz	-42.24 dBm	-29.24 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69895 GHz	-30.67 dBm	-17.67 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.69999 GHz	-16.40 dBm	-3.40 dB
3.700 GHz	3.790 GHz	100.000 kHz	3.70102 GHz	18.04 dBm	-11.96 dB

Date: 31.MAY.2022 12:34:07

Highest Band Edge / 1RBmax

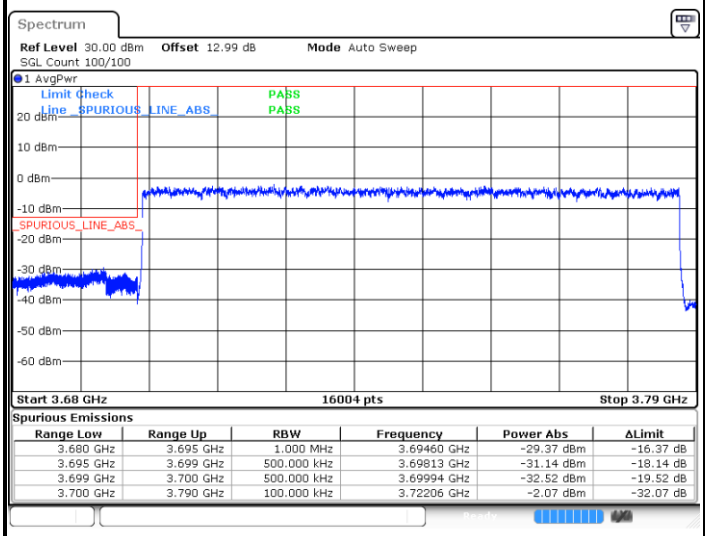


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.710 GHz	3.800 GHz	100.000 kHz	3.79880 GHz	16.58 dBm	-13.42 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80001 GHz	-17.15 dBm	-4.15 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80114 GHz	-28.92 dBm	-15.92 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80534 GHz	-42.38 dBm	-29.38 dB

Date: 31.MAY.2022 12:37:51

Lowest Band Edge / Full RB

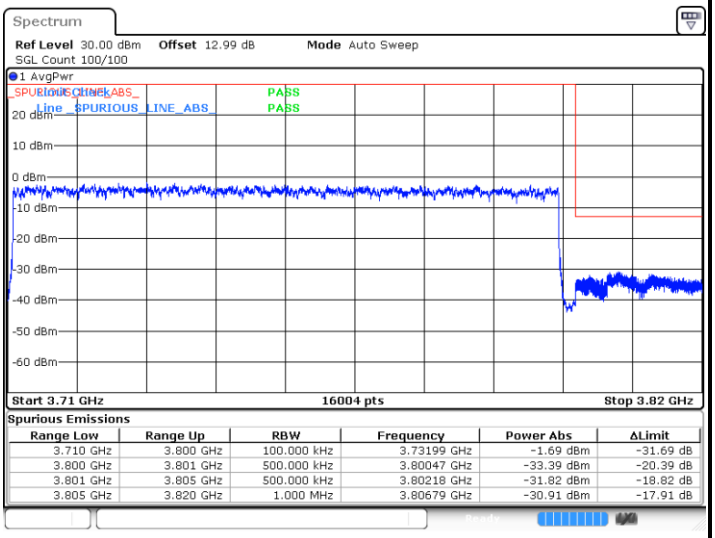


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69460 GHz	-29.37 dBm	-16.37 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69813 GHz	-31.14 dBm	-18.14 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.69994 GHz	-32.52 dBm	-19.52 dB
3.700 GHz	3.790 GHz	100.000 kHz	3.72206 GHz	-2.07 dBm	-32.07 dB

Date: 31.MAY.2022 12:36:48

Highest Band Edge / Full RB



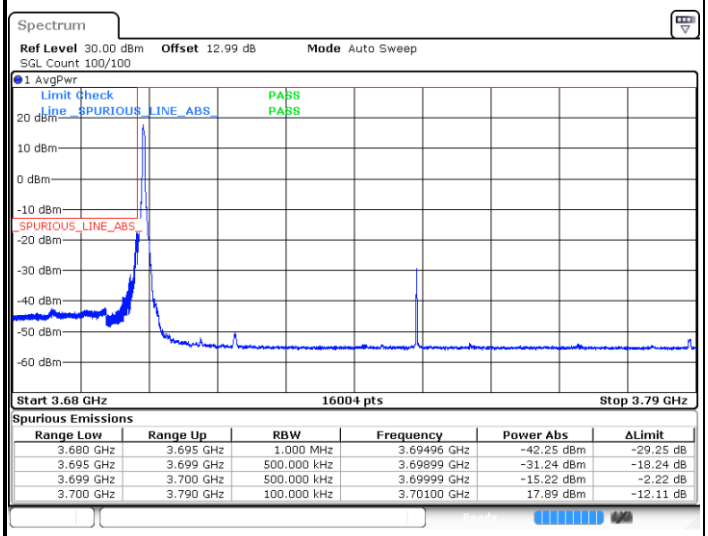
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.710 GHz	3.800 GHz	100.000 kHz	3.73199 GHz	-1.69 dBm	-31.69 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80047 GHz	-33.39 dBm	-20.39 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80218 GHz	-31.82 dBm	-18.82 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80679 GHz	-30.91 dBm	-17.91 dB

Date: 31.MAY.2022 12:40:05

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

Lowest Band Edge / 1RB0

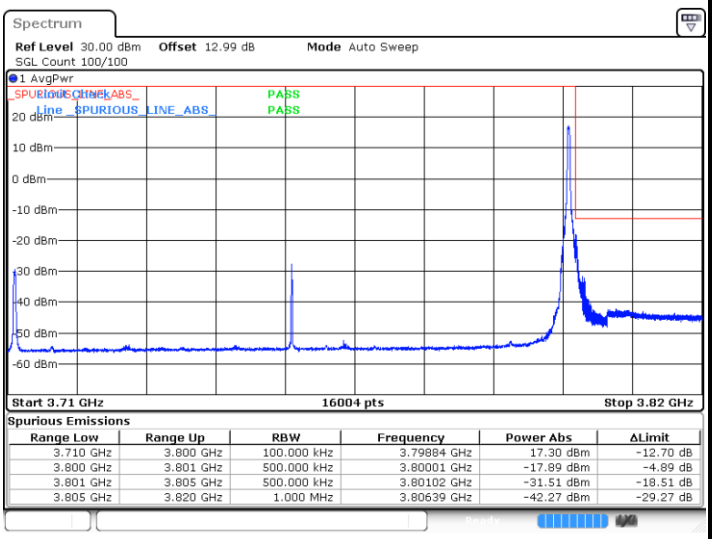


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69496 GHz	-42.25 dBm	-29.25 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69899 GHz	-31.24 dBm	-18.24 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.69999 GHz	-15.22 dBm	-2.22 dB
3.700 GHz	3.790 GHz	100.000 kHz	3.70100 GHz	17.89 dBm	-12.11 dB

Date: 31.MAY.2022 12:34:46

Highest Band Edge / 1RBmax

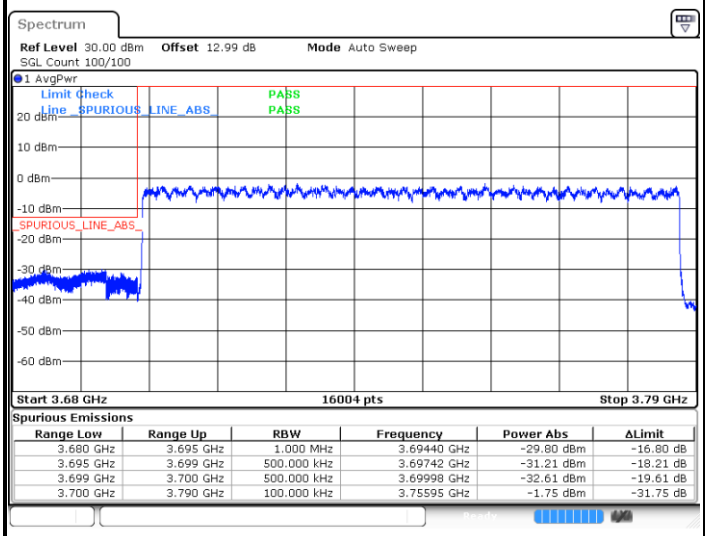


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.710 GHz	3.800 GHz	100.000 kHz	3.79884 GHz	17.30 dBm	-12.70 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80001 GHz	-17.89 dBm	-4.89 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80102 GHz	-31.51 dBm	-18.51 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80639 GHz	-42.27 dBm	-29.27 dB

Date: 31.MAY.2022 12:38:41

Lowest Band Edge / Full RB

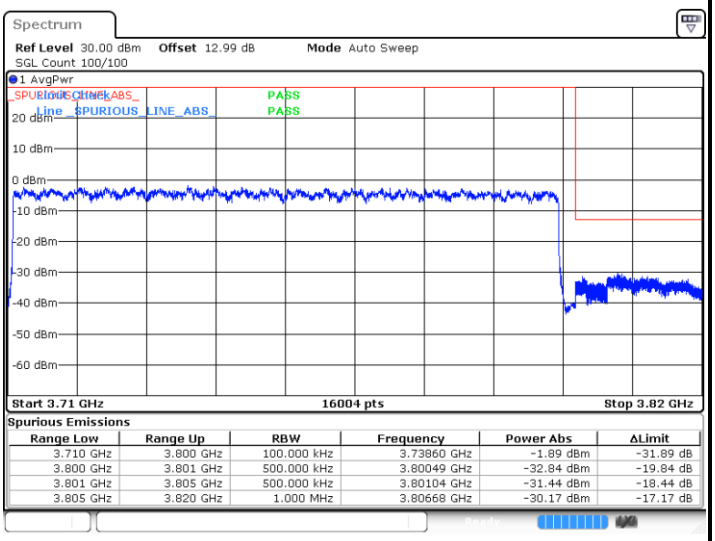


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.680 GHz	3.695 GHz	1.000 MHz	3.69440 GHz	-29.80 dBm	-16.80 dB
3.695 GHz	3.699 GHz	500.000 kHz	3.69742 GHz	-31.21 dBm	-18.21 dB
3.699 GHz	3.700 GHz	500.000 kHz	3.69998 GHz	-32.61 dBm	-19.61 dB
3.700 GHz	3.790 GHz	100.000 kHz	3.75595 GHz	-1.75 dBm	-31.75 dB

Date: 31.MAY.2022 12:35:26

Highest Band Edge / Full RB



Spurious Emissions

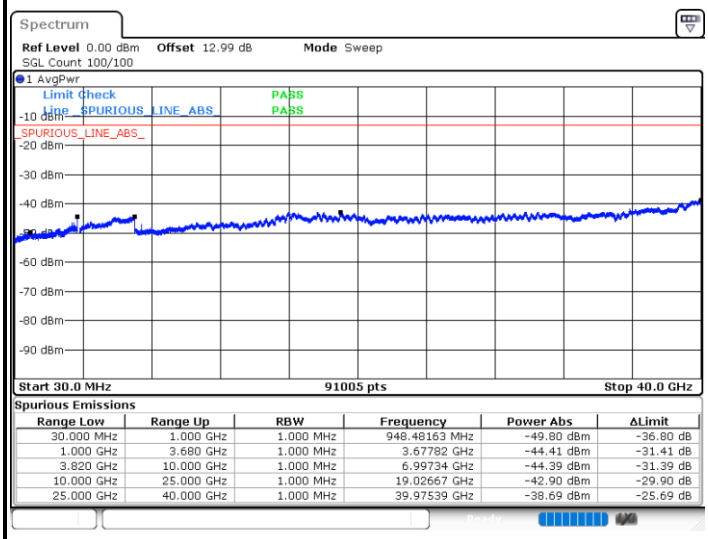
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.710 GHz	3.800 GHz	100.000 kHz	3.73860 GHz	-1.89 dBm	-31.89 dB
3.800 GHz	3.801 GHz	500.000 kHz	3.80049 GHz	-32.84 dBm	-19.84 dB
3.801 GHz	3.805 GHz	500.000 kHz	3.80104 GHz	-31.44 dBm	-18.44 dB
3.805 GHz	3.820 GHz	1.000 MHz	3.80668 GHz	-30.17 dBm	-17.17 dB

Date: 31.MAY.2022 12:39:26

Conducted Spurious Emission

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

Lowest Channel / 1RB1

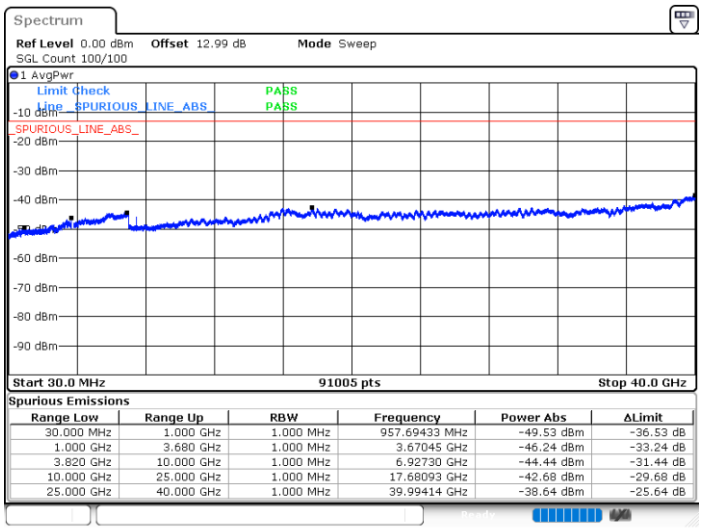


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	948.48163 MHz	-49.80 dBm	-36.80 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.67782 GHz	-44.41 dBm	-31.41 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99734 GHz	-44.39 dBm	-31.39 dB
10.000 GHz	25.000 GHz	1.000 MHz	19.02667 GHz	-42.90 dBm	-29.90 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.97539 GHz	-38.69 dBm	-25.69 dB

Date: 1.JUN.2022 00:50:55

Middle Channel / 1RB1

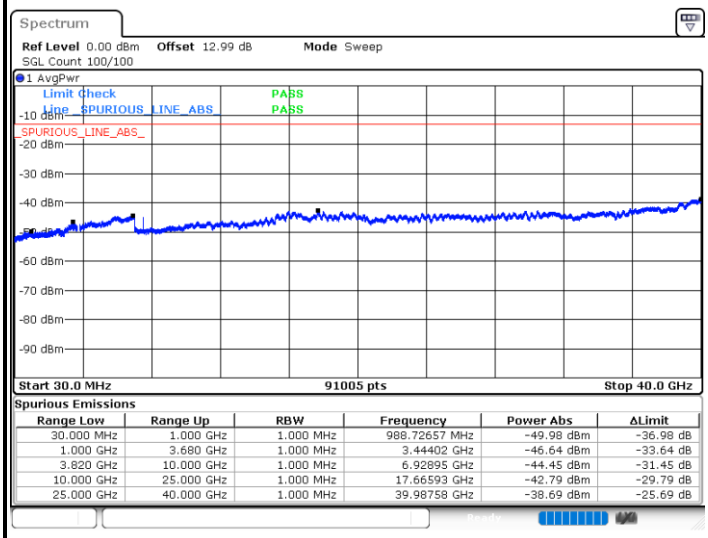


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	957.69433 MHz	-49.53 dBm	-36.53 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.67045 GHz	-46.24 dBm	-33.24 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.92730 GHz	-44.44 dBm	-31.44 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.68093 GHz	-42.68 dBm	-29.68 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99414 GHz	-38.64 dBm	-25.64 dB

Date: 1.JUN.2022 00:54:37

Highest Channel / 1RB1



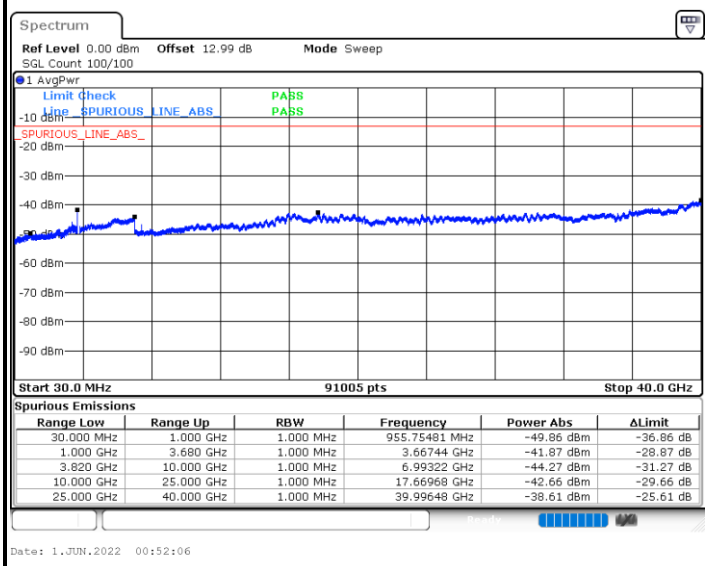
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	988.72657 MHz	-49.98 dBm	-36.98 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.44402 GHz	-46.64 dBm	-33.64 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.92895 GHz	-44.45 dBm	-31.45 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66593 GHz	-42.79 dBm	-29.79 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.98758 GHz	-38.69 dBm	-25.69 dB

Date: 1.JUN.2022 00:55:59

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

Lowest Channel / 1RB1

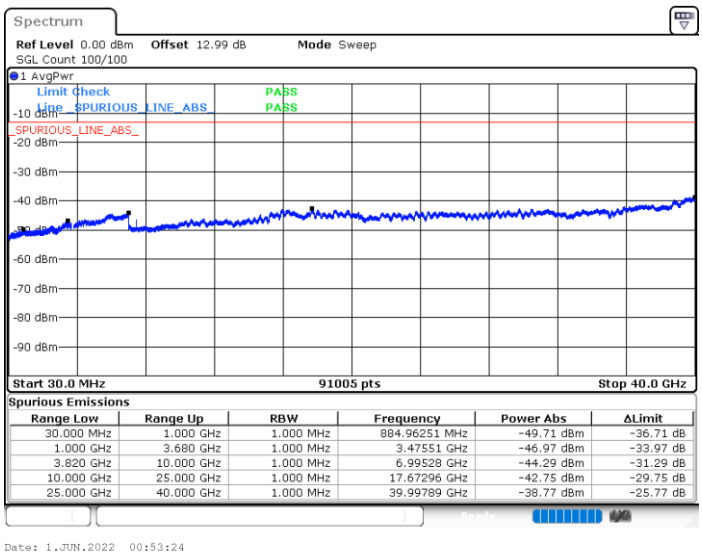


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	955.75481 MHz	-49.86 dBm	-36.86 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.66744 GHz	-41.87 dBm	-28.87 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99322 GHz	-44.27 dBm	-31.27 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66968 GHz	-42.66 dBm	-29.66 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99648 GHz	-38.61 dBm	-25.61 dB

Date: 1.JUN.2022 00:52:06

Middle Channel / 1RB1

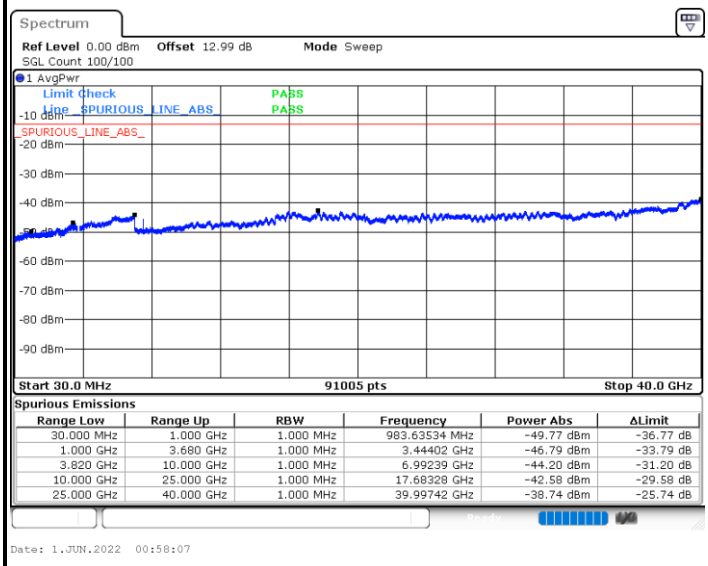


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	884.96251 MHz	-49.71 dBm	-36.71 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47551 GHz	-46.97 dBm	-33.97 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99528 GHz	-44.29 dBm	-31.29 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67296 GHz	-42.75 dBm	-29.75 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99789 GHz	-38.77 dBm	-25.77 dB

Date: 1.JUN.2022 00:53:24

Highest Channel / 1RB1



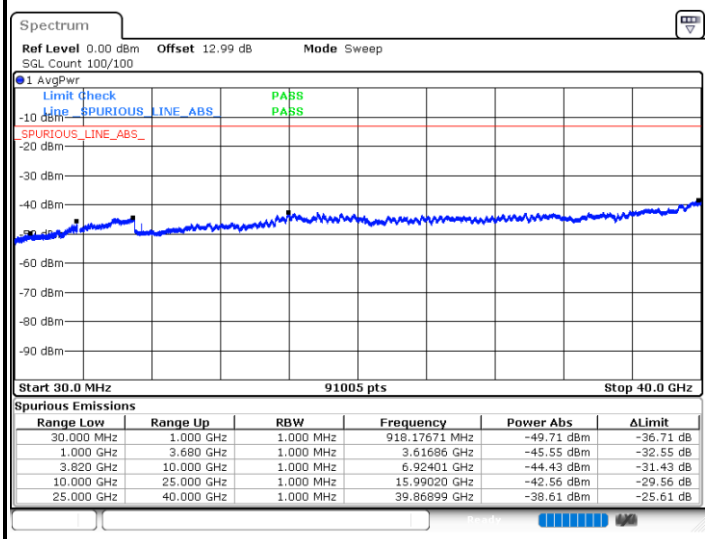
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.63534 MHz	-49.77 dBm	-36.77 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.44402 GHz	-46.79 dBm	-33.79 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99239 GHz	-44.20 dBm	-31.20 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.68328 GHz	-42.58 dBm	-29.58 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99742 GHz	-38.74 dBm	-25.74 dB

Date: 1.JUN.2022 00:58:07

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

Lowest Channel / 1RB1

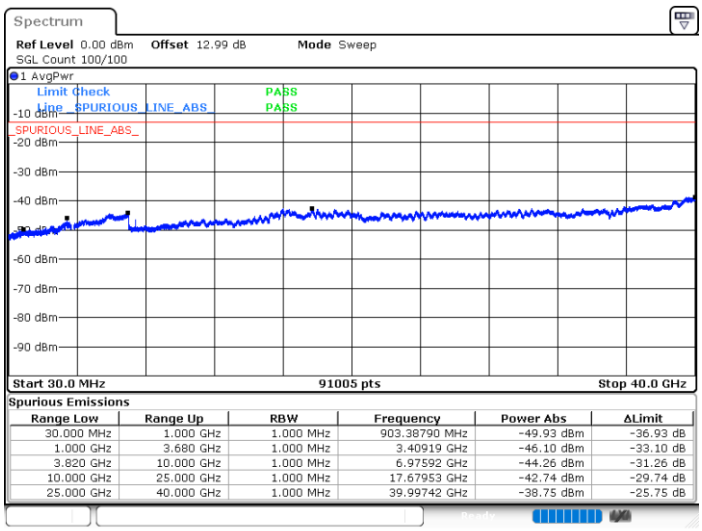


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	918.17671 MHz	-49.71 dBm	-36.71 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.61686 GHz	-45.55 dBm	-32.55 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.92401 GHz	-44.43 dBm	-31.43 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.99020 GHz	-42.56 dBm	-29.56 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.86899 GHz	-38.61 dBm	-25.61 dB

Date: 1.JUN.2022 00:40:22

Middle Channel / 1RB1

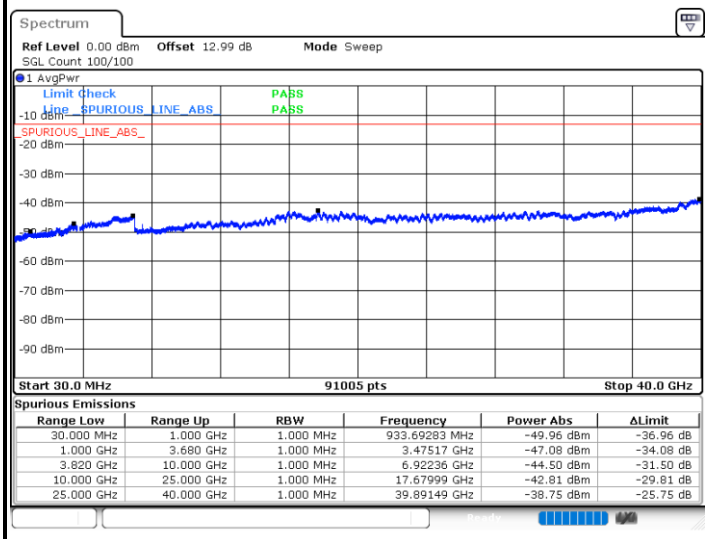


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	903.38790 MHz	-49.93 dBm	-36.93 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.40919 GHz	-46.10 dBm	-33.10 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.97592 GHz	-44.26 dBm	-31.26 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67953 GHz	-42.74 dBm	-29.74 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99742 GHz	-38.75 dBm	-25.75 dB

Date: 1.JUN.2022 00:43:12

Highest Channel / 1RB1



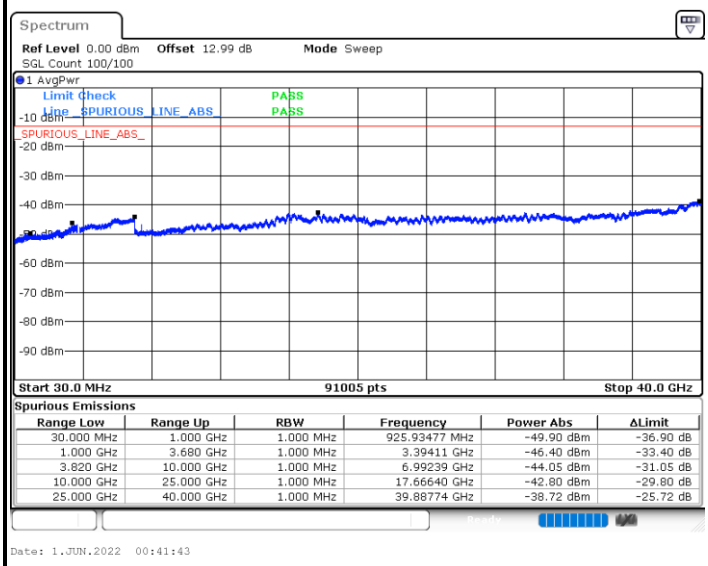
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	933.69283 MHz	-49.96 dBm	-36.96 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.08 dBm	-34.08 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.92236 GHz	-44.50 dBm	-31.50 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67999 GHz	-42.81 dBm	-29.81 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.89149 GHz	-38.75 dBm	-25.75 dB

Date: 1.JUN.2022 00:46:58

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

Lowest Channel / 1RB1

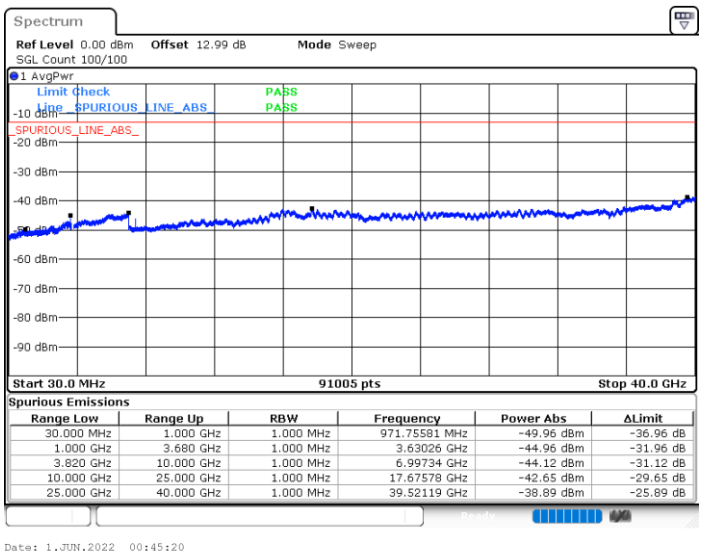


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	925.93477 MHz	-49.90 dBm	-36.90 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.39411 GHz	-46.40 dBm	-33.40 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99239 GHz	-44.05 dBm	-31.05 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66640 GHz	-42.80 dBm	-29.80 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.88774 GHz	-38.72 dBm	-25.72 dB

Date: 1.JUN.2022 00:41:43

Middle Channel / 1RB1

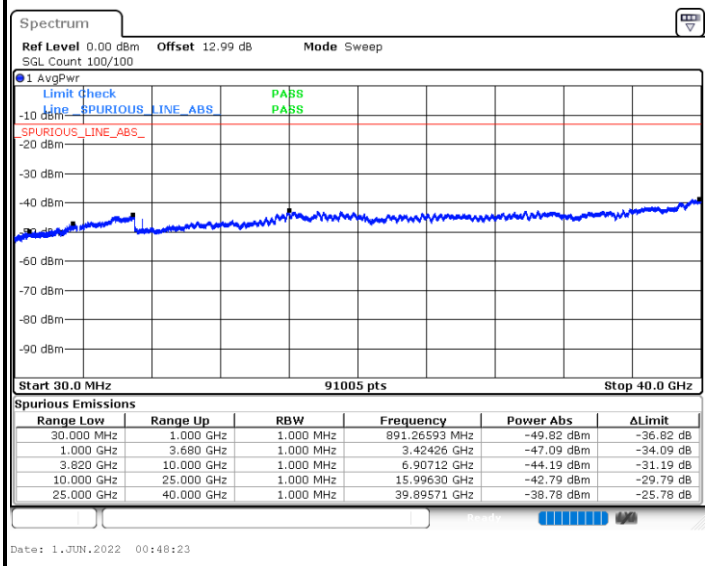


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	971.75581 MHz	-49.96 dBm	-36.96 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.63026 GHz	-44.96 dBm	-31.96 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99734 GHz	-44.12 dBm	-31.12 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.67578 GHz	-42.65 dBm	-29.65 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.52119 GHz	-38.89 dBm	-25.89 dB

Date: 1.JUN.2022 00:45:20

Highest Channel / 1RB1



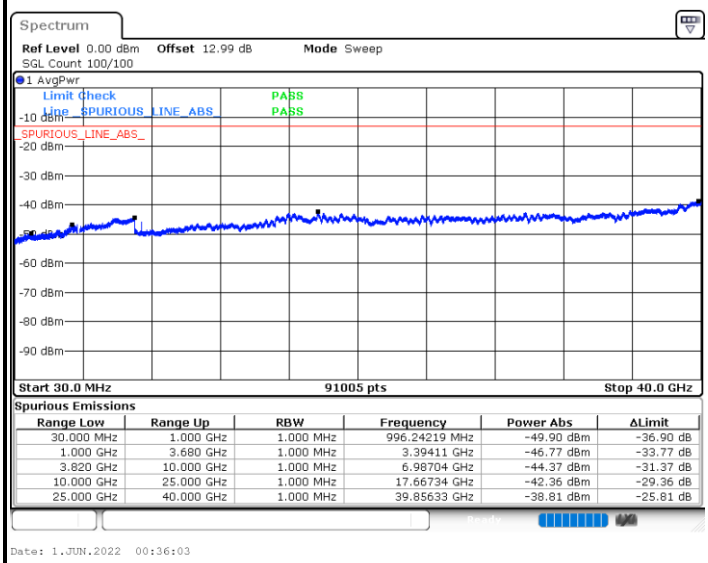
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	891.26593 MHz	-49.82 dBm	-36.82 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.42426 GHz	-47.09 dBm	-34.09 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.90712 GHz	-44.19 dBm	-31.19 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.99630 GHz	-42.79 dBm	-29.79 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.89571 GHz	-38.78 dBm	-25.78 dB

Date: 1.JUN.2022 00:48:23

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

Lowest Channel / 1RB1

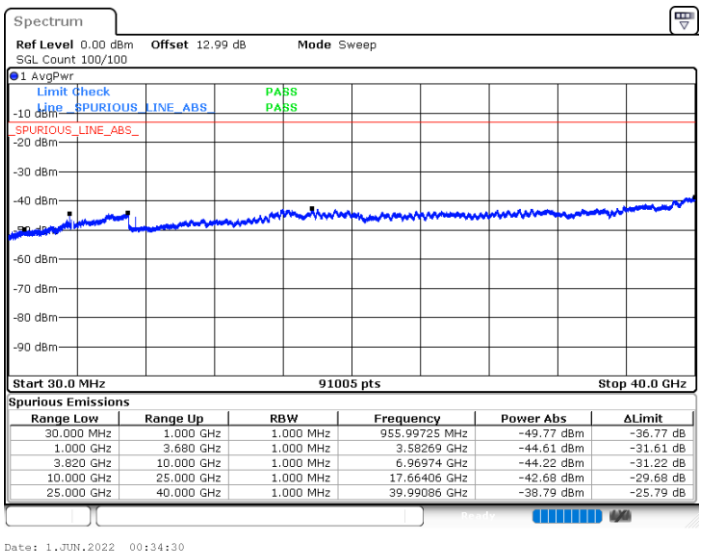


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.24219 MHz	-49.90 dBm	-36.90 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.39411 GHz	-46.77 dBm	-33.77 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.98704 GHz	-44.37 dBm	-31.37 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66734 GHz	-42.36 dBm	-29.36 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.85633 GHz	-38.81 dBm	-25.81 dB

Date: 1.JUN.2022 00:36:03

Middle Channel / 1RB1

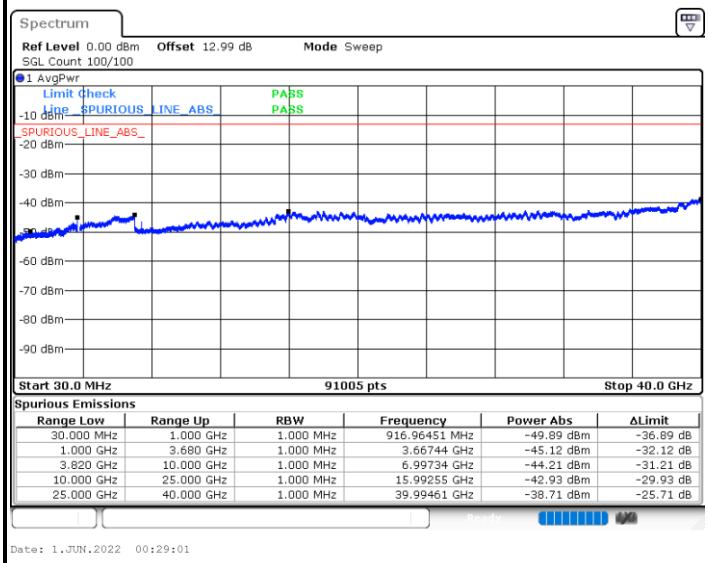


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	955.99725 MHz	-49.77 dBm	-36.77 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.58269 GHz	-44.61 dBm	-31.61 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.96974 GHz	-44.22 dBm	-31.22 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66406 GHz	-42.68 dBm	-29.68 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99086 GHz	-38.79 dBm	-25.79 dB

Date: 1.JUN.2022 00:34:30

Highest Channel / 1RB1



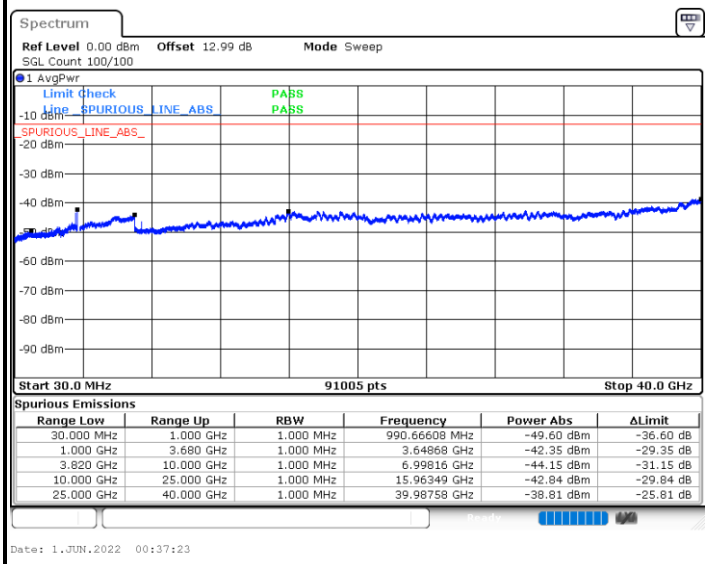
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	916.96451 MHz	-49.89 dBm	-36.89 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.66744 GHz	-45.12 dBm	-32.12 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99734 GHz	-44.21 dBm	-31.21 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.99255 GHz	-42.93 dBm	-29.93 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99461 GHz	-38.71 dBm	-25.71 dB

Date: 1.JUN.2022 00:29:01

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

Lowest Channel / 1RB1

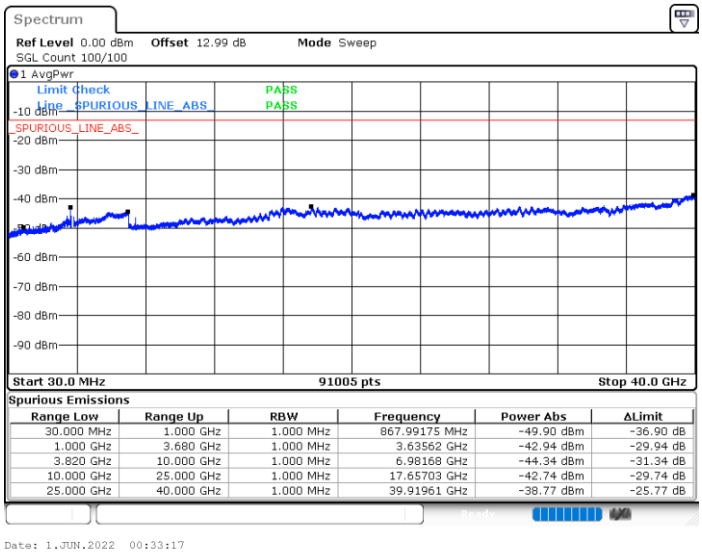


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	990.66608 MHz	-49.60 dBm	-36.60 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.64868 GHz	-42.35 dBm	-29.35 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99816 GHz	-44.15 dBm	-31.15 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.96349 GHz	-42.84 dBm	-29.84 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.98758 GHz	-38.81 dBm	-25.81 dB

Date: 1.JUN.2022 00:37:23

Middle Channel / 1RB1

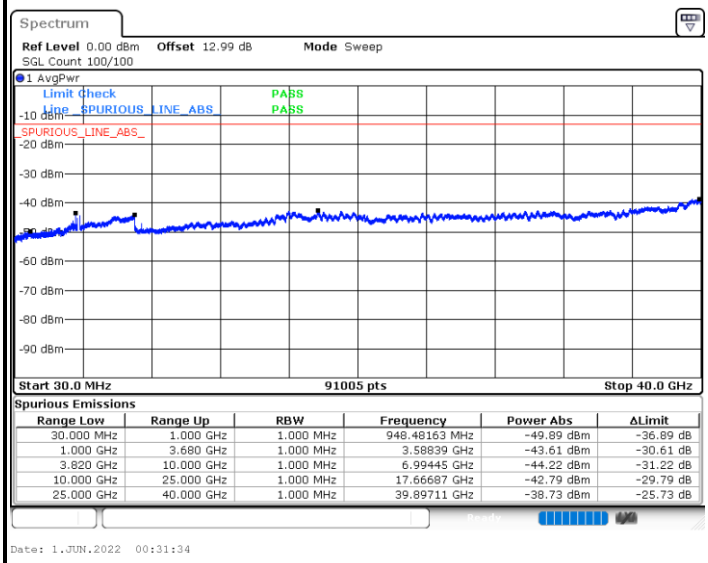


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	867.99175 MHz	-49.90 dBm	-36.90 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.63562 GHz	-42.94 dBm	-29.94 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.98168 GHz	-44.34 dBm	-31.34 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.65703 GHz	-42.74 dBm	-29.74 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.91961 GHz	-38.77 dBm	-25.77 dB

Date: 1.JUN.2022 00:33:17

Highest Channel / 1RB1



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	948.48163 MHz	-49.89 dBm	-36.89 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.58839 GHz	-43.61 dBm	-30.61 dB
3.820 GHz	10.000 GHz	1.000 MHz	6.99445 GHz	-44.22 dBm	-31.22 dB
10.000 GHz	25.000 GHz	1.000 MHz	17.66687 GHz	-42.79 dBm	-29.79 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.89711 GHz	-38.73 dBm	-25.73 dB

Date: 1.JUN.2022 00:31:34

Frequency Stability

Test Conditions		FR1 n78 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 50MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0022	PASS
40	Normal Voltage	0.0032	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0027	
0	Normal Voltage	0.0024	
-10	Normal Voltage	0.0011	
-20	Normal Voltage	0.0026	
-30	Normal Voltage	0.0040	
20	Maximum Voltage	0.0066	
20	Normal Voltage	0.0026	
20	Battery End Point	0.0037	

Note:

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.55 V. ; Maximum Voltage =4.45V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Carry Xu	Temperature :	23~25℃
		Relative Humidity :	41~42%

Note: Pre-scanned harmonic for the different antenna combinations, we choose the worst antenna mode to perform final test.

n77 SA / NR 100MHz / QPSK / ANT3								
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)
Lowest	7404	-28.20	-13	-15.20	-38.68	2.76	13.24	H
	11100	-48.00	-13	-35.00	-57.59	3.42	13.01	H
	14808	-42.81	-13	-29.81	-52.42	3.83	13.44	H
	7404	-44.45	-13	-31.45	-54.89	2.80	13.24	V
	11100	-46.78	-13	-33.78	-56.33	3.46	13.01	V
	14808	-50.41	-13	-37.41	-59.97	3.88	13.44	V
Middle	7584	-25.67	-13	-12.67	-36.15	2.76	13.24	H
	11376	-48.89	-13	-35.89	-58.48	3.42	13.01	H
	15168	-45.33	-13	-32.33	-54.94	3.83	13.44	H
	7584	-36.51	-13	-23.51	-46.95	2.80	13.24	V
	11376	-48.04	-13	-35.04	-57.59	3.46	13.01	V
	15168	-47.75	-13	-34.75	-57.31	3.88	13.44	V
Highest	7764	-23.25	-13	-10.25	-33.73	2.76	13.24	H
	11640	-44.62	-13	-31.62	-54.21	3.42	13.01	H
	15528	-46.78	-13	-33.78	-56.39	3.83	13.44	H
	7764	-23.80	-13	-10.80	-34.24	2.80	13.24	V
	11640	-41.17	-13	-28.17	-50.72	3.46	13.01	V
	15528	-50.75	-13	-37.75	-60.31	3.88	13.44	V

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

EN-DC_7A_n77A / LTE 20MHz + NR 100MHz / QPSK / ANT0(LTE) & ANT3(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)
Lowest	7404	-29.08	-13	-16.08	-39.56	2.76	13.24	H
	11100	-54.79	-13	-41.79	-64.38	3.42	13.01	H
	14808	-42.18	-13	-29.18	-51.79	3.83	13.44	H
	7404	-38.91	-13	-25.91	-49.35	2.80	13.24	V
	11100	-50.82	-13	-37.82	-60.37	3.46	13.01	V
	14808	-55.00	-13	-42.00	-64.56	3.88	13.44	V
Middle	7584	-26.34	-13	-13.34	-36.82	2.76	13.24	H
	11376	-59.70	-13	-46.70	-69.29	3.42	13.01	H
	15168	-52.36	-13	-39.36	-61.97	3.83	13.44	H
	7584	-42.27	-13	-29.27	-52.71	2.80	13.24	V
	11376	-47.22	-13	-34.22	-56.77	3.46	13.01	V
	15168	-51.39	-13	-38.39	-60.95	3.88	13.44	V
Highest	7764	-23.17	-13	-10.17	-33.65	2.76	13.24	H
	11640	-47.24	-13	-34.24	-56.83	3.42	13.01	H
	15528	-44.02	-13	-31.02	-53.63	3.83	13.44	H
	7764	-37.02	-13	-24.02	-47.46	2.80	13.24	V
	11640	-51.32	-13	-38.32	-60.87	3.46	13.01	V
	15528	-52.91	-13	-39.91	-62.47	3.88	13.44	V

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