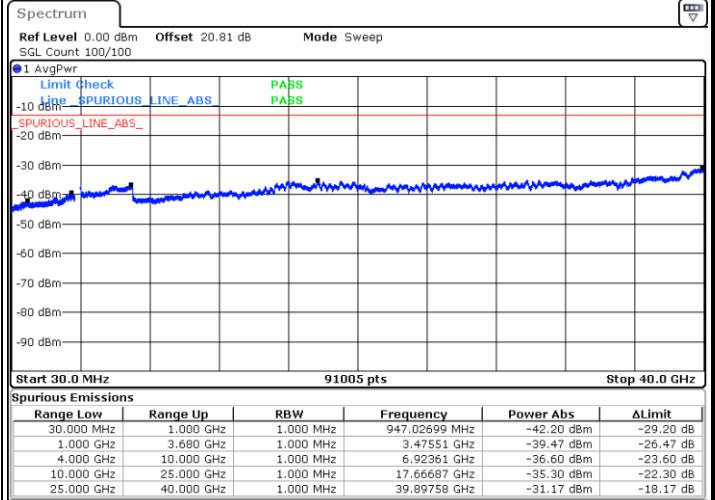
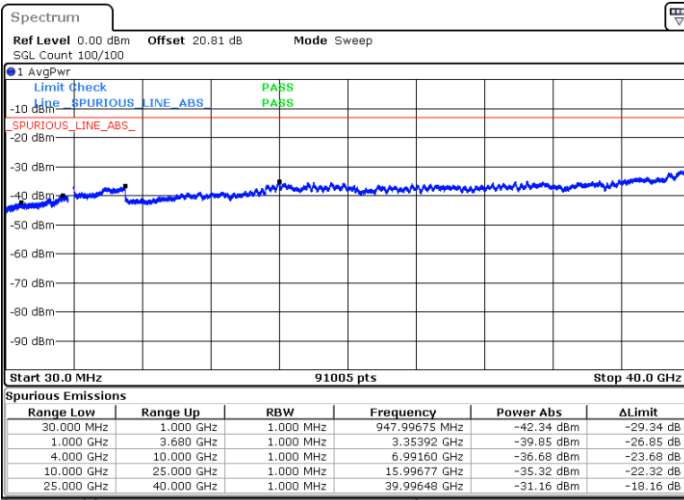




FR1 n77 / 70MHz / CP

Highest Band Edge / FULLRB/QPSK

Highest Band Edge / FULLRB/16QAM

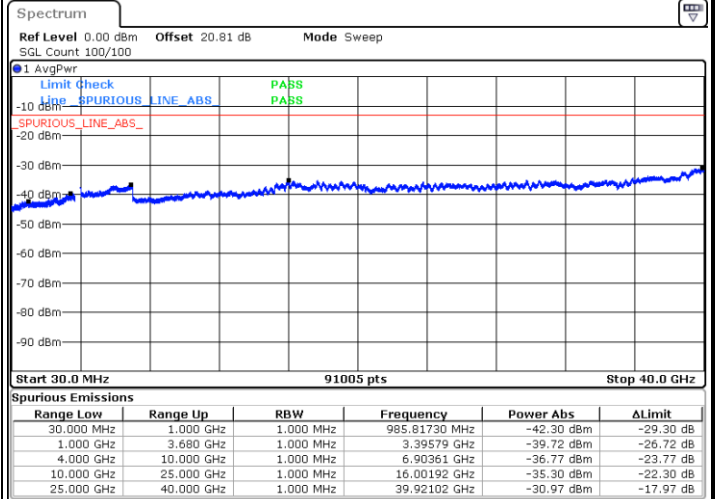
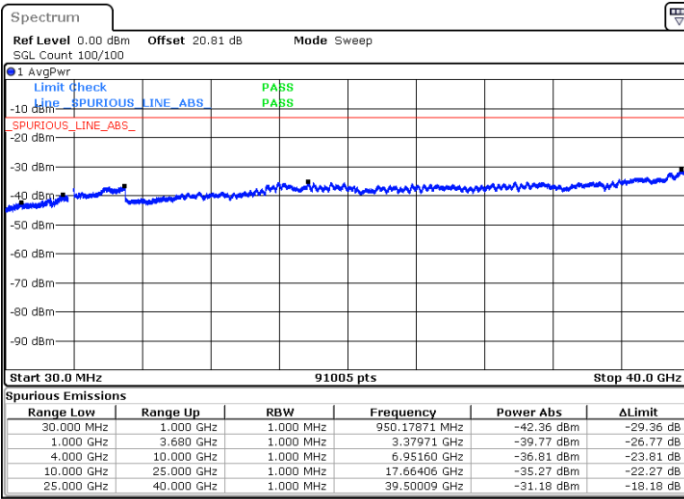


Date: 1.APR.2023 05:31:28

Date: 1.APR.2023 05:33:30

Highest Band Edge / FULLRB/64QAM

Highest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 05:35:06

Date: 1.APR.2023 05:36:56

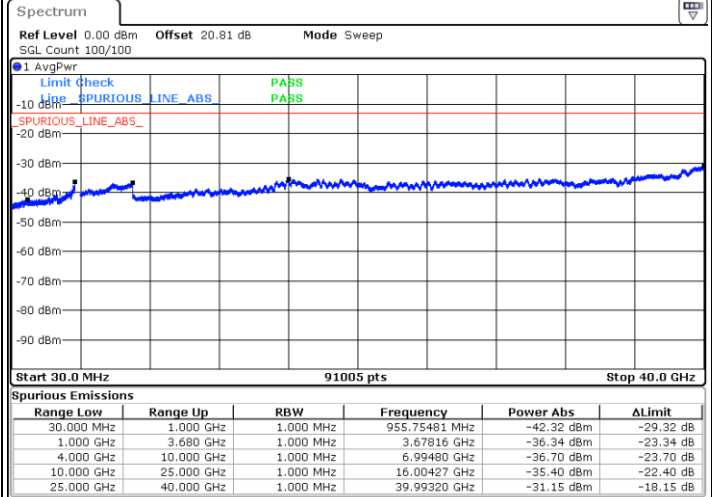
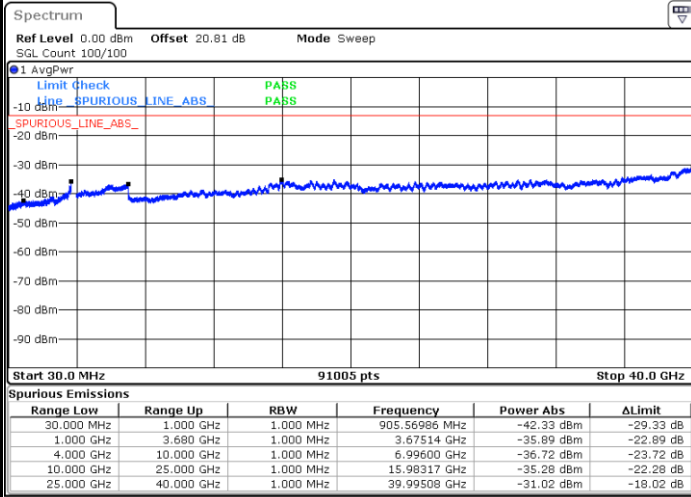


80M-ANT1

FR1 n77 / 80MHz / CP

Lowest Band Edge / FULLRB/QPSK

Lowest Band Edge / FULLRB/16QAM

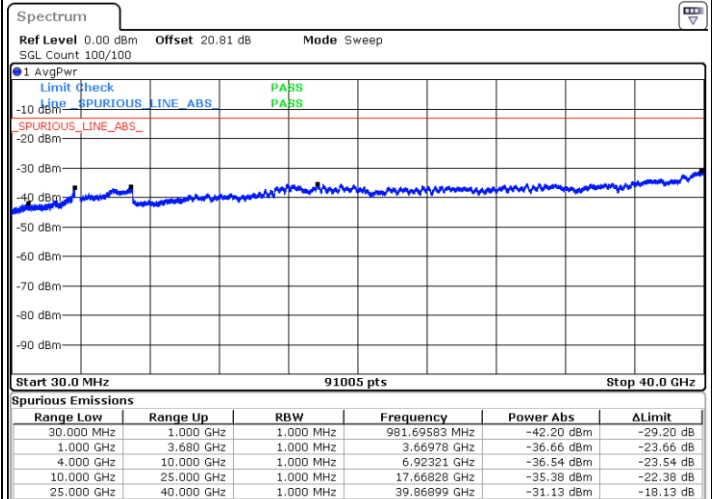
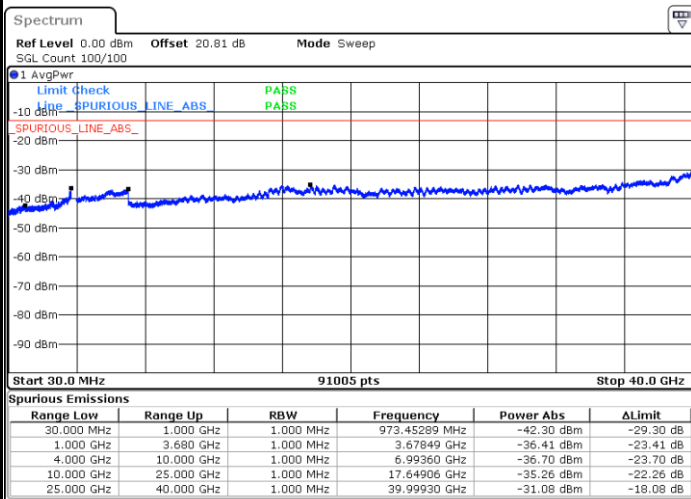


Date: 1.APR.2023 08:33:27

Date: 1.APR.2023 08:31:13

Lowest Band Edge / FULLRB/64QAM

Lowest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 08:38:17

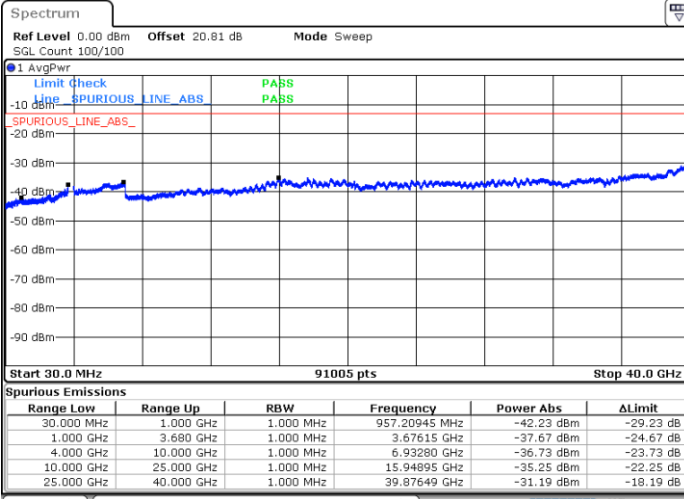
Date: 1.APR.2023 08:40:32



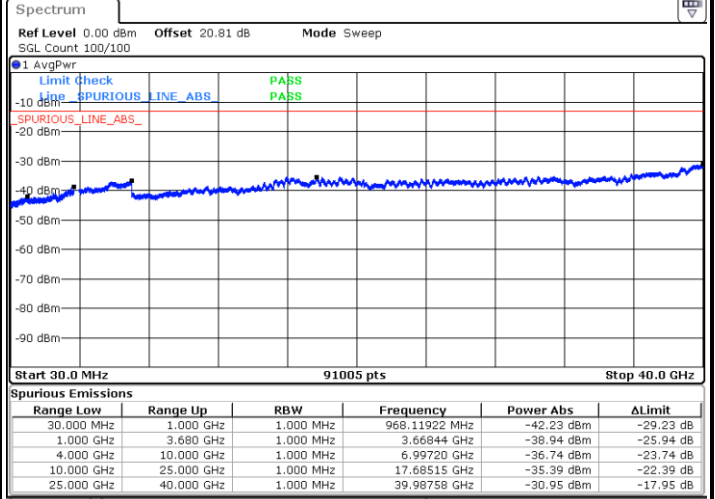
FR1 n77 / 80MHz / CP

Middle Band Edge / FULLRB/QPSK

Middle Band Edge / FULLRB/16QAM



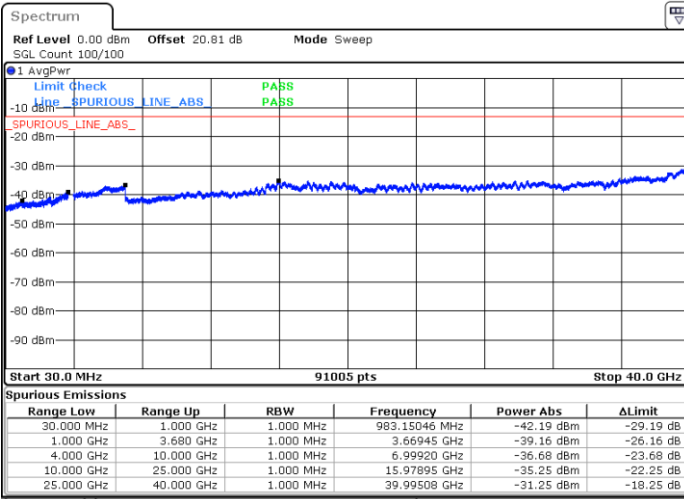
Date: 1.APR.2023 07:54:43



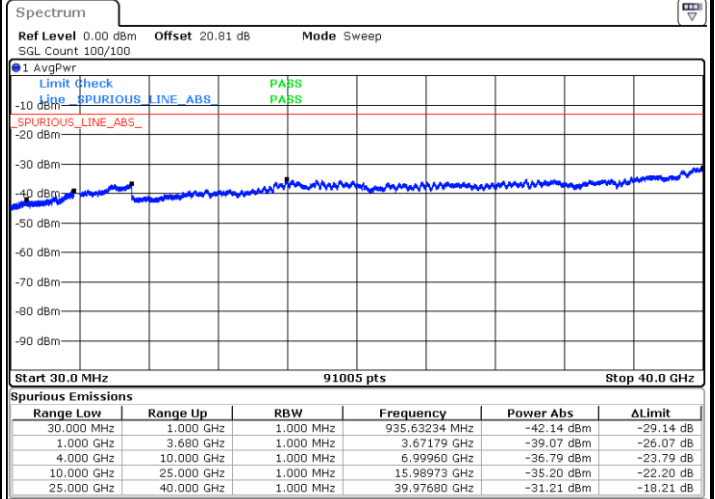
Date: 1.APR.2023 07:57:47

Middle Band Edge / FULLRB/64QAM

Middle Band Edge / FULLRB/256QAM



Date: 1.APR.2023 08:12:14



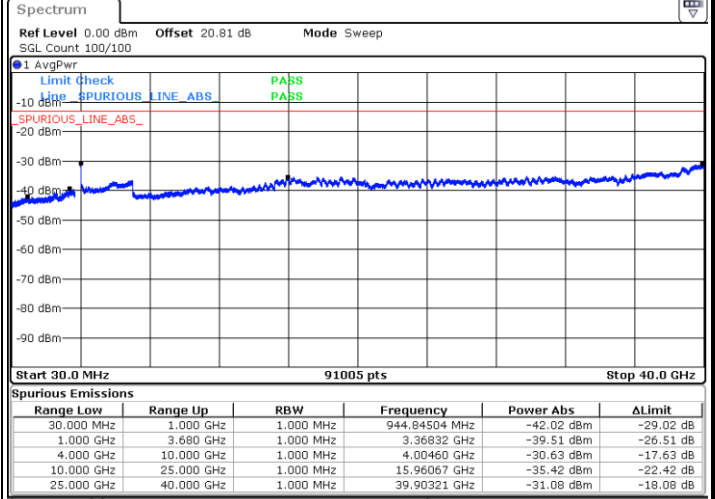
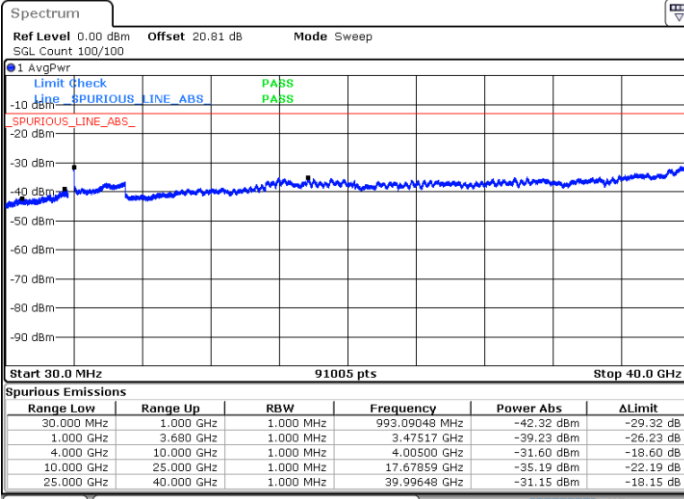
Date: 1.APR.2023 08:13:37



FR1 n77 / 80MHz / CP

Highest Band Edge / FULLRB/QPSK

Highest Band Edge / FULLRB/16QAM

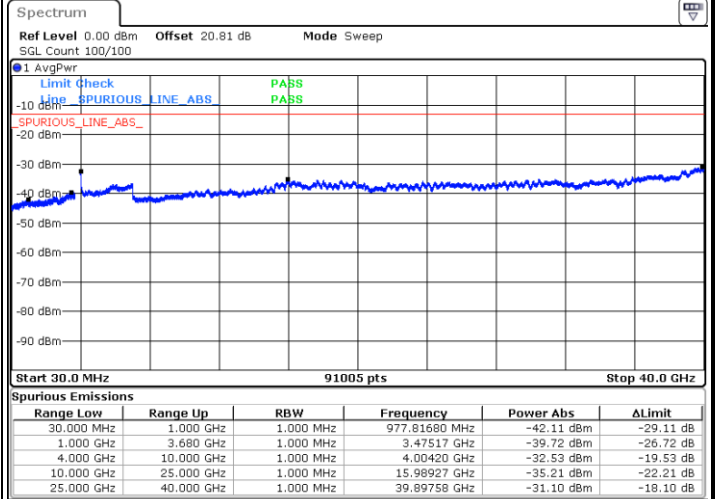
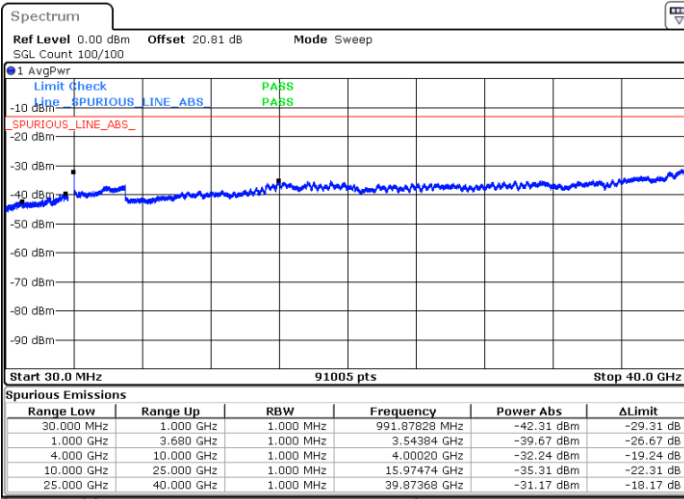


Date: 1.APR.2023 09:09:26

Date: 1.APR.2023 09:06:54

Highest Band Edge / FULLRB/64QAM

Highest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 09:12:55

Date: 1.APR.2023 09:14:43

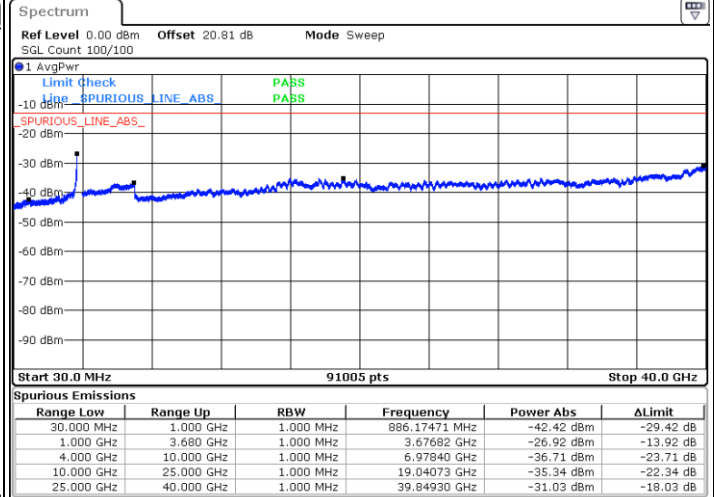
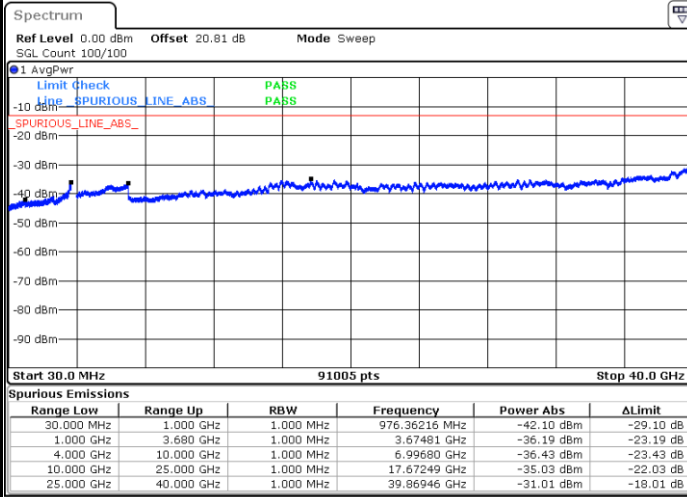


80M-ANT2

FR1 n77 / 80MHz / CP

Lowest Band Edge / FULLRB/QPSK

Lowest Band Edge / FULLRB/16QAM

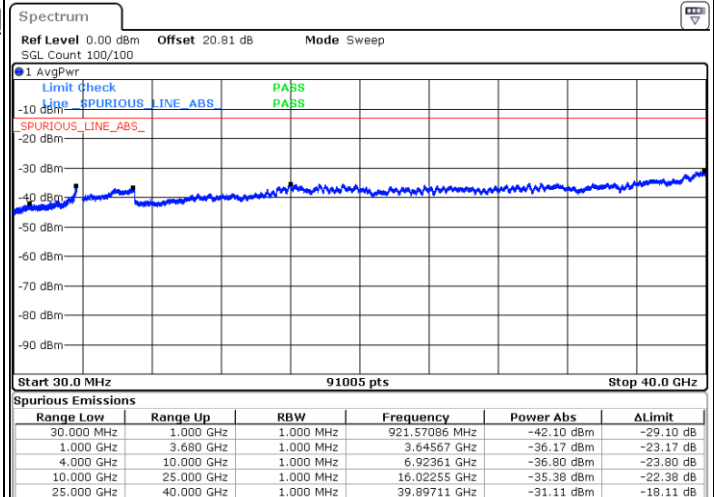
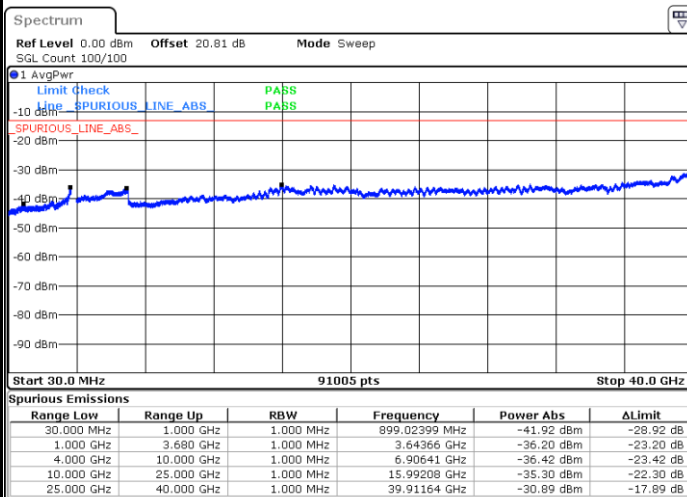


Date: 1.APR.2023 08:27:00

Date: 1.APR.2023 08:28:59

Lowest Band Edge / FULLRB/64QAM

Lowest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 08:44:36

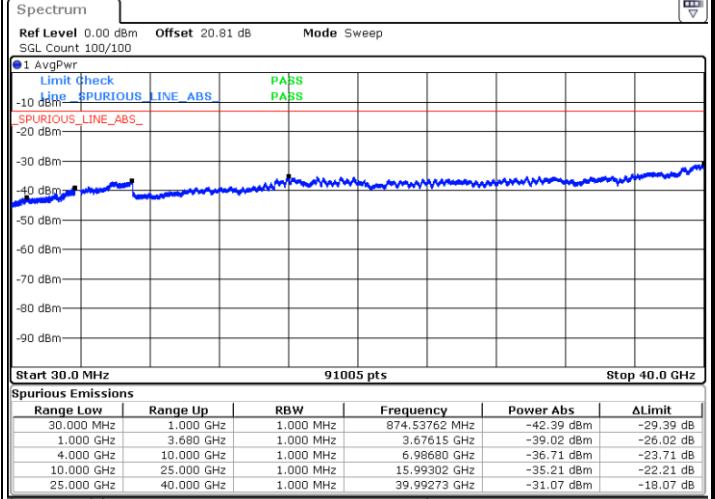
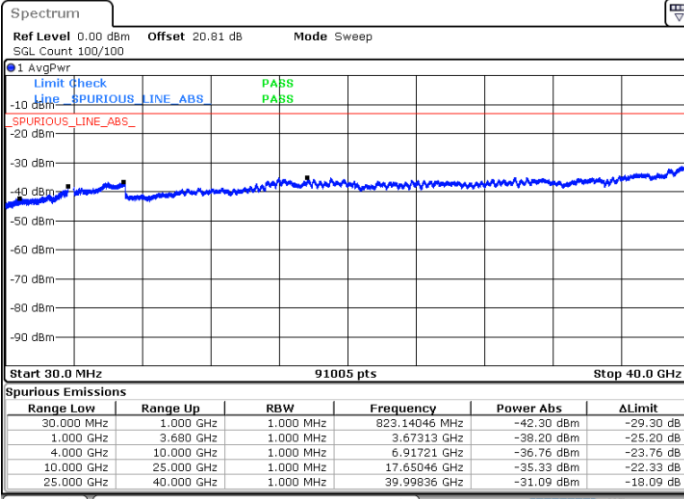
Date: 1.APR.2023 08:42:47



FR1 n77 / 80MHz / CP

Middle Band Edge / FULLRB/QPSK

Middle Band Edge / FULLRB/16QAM

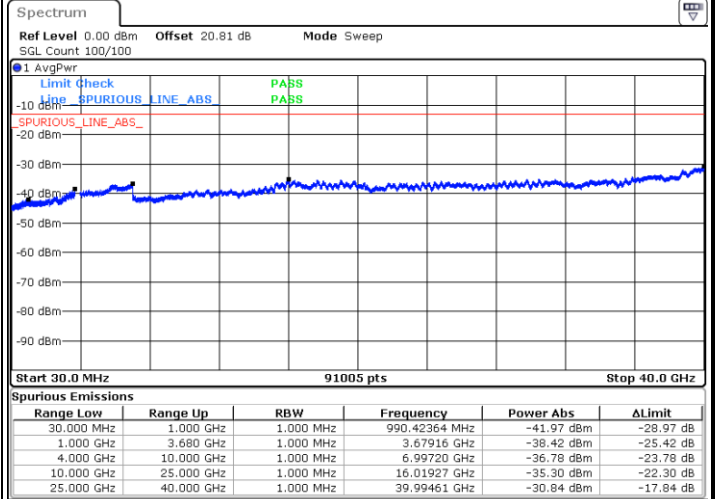
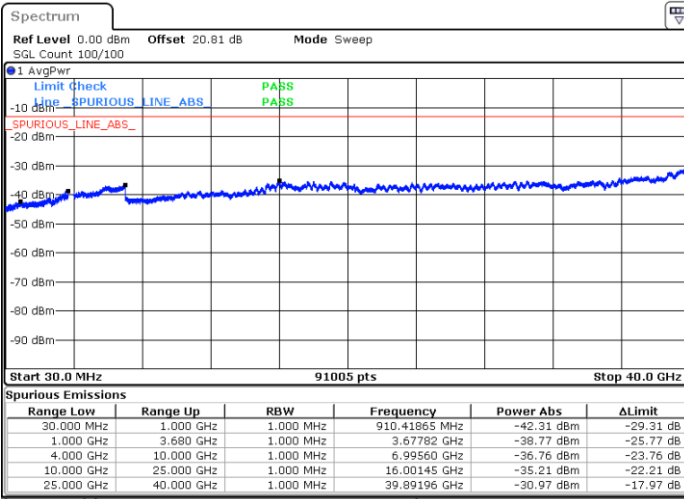


Date: 1.APR.2023 07:49:30

Date: 1.APR.2023 08:00:01

Middle Band Edge / FULLRB/64QAM

Middle Band Edge / FULLRB/256QAM



Date: 1.APR.2023 08:10:30

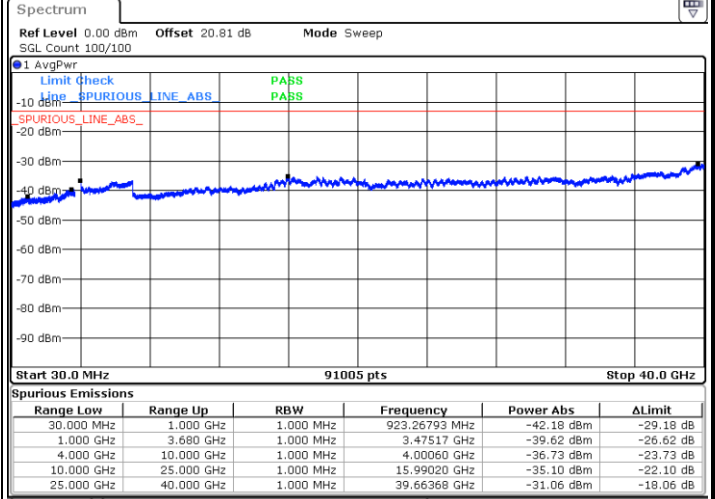
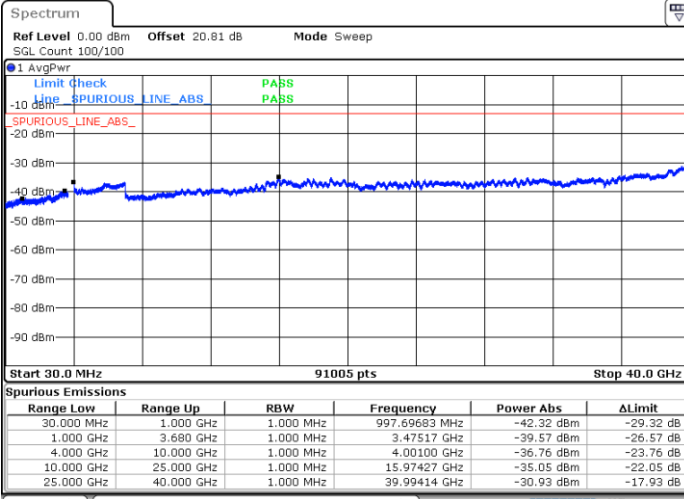
Date: 1.APR.2023 08:18:47



FR1 n77 / 80MHz / CP

Highest Band Edge / FULLRB/QPSK

Highest Band Edge / FULLRB/16QAM

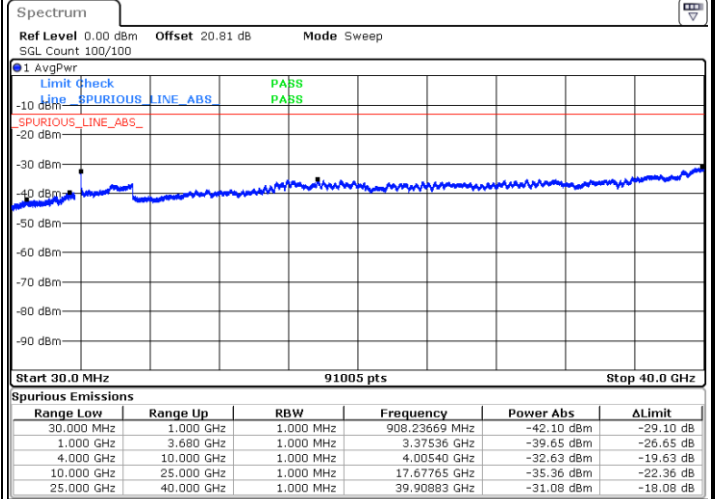
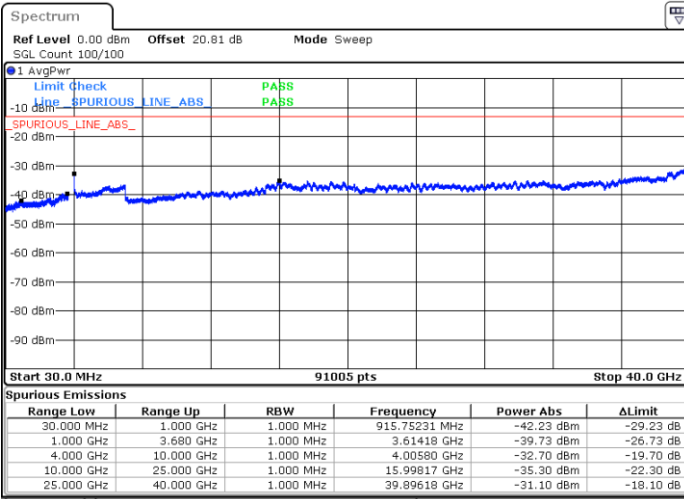


Date: 1.APR.2023 09:01:45

Date: 1.APR.2023 09:04:06

Highest Band Edge / FULLRB/64QAM

Highest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 09:16:42

Date: 1.APR.2023 09:18:46

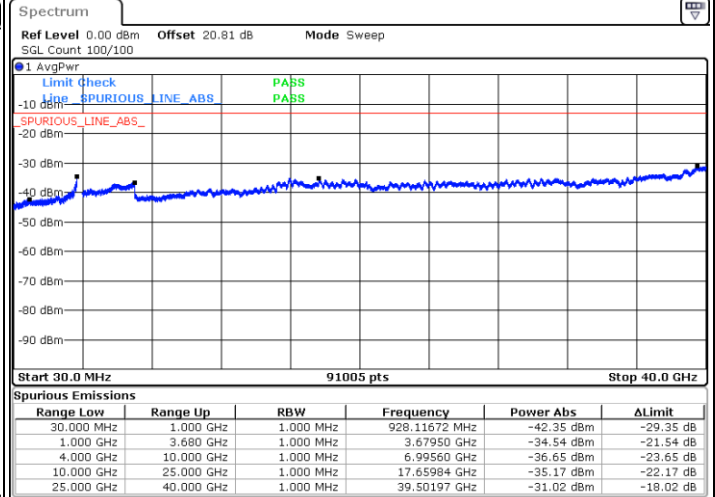
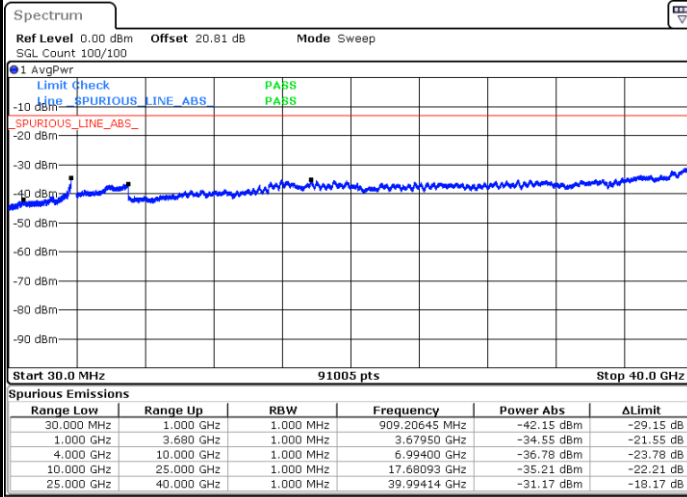


90M-ANT1

FR1 n77 / 90MHz / CP

Lowest Band Edge / FULLRB/QPSK

Lowest Band Edge / FULLRB/16QAM

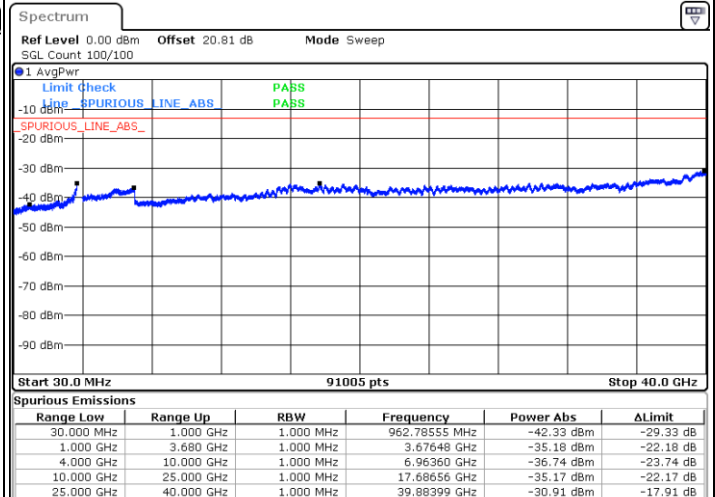
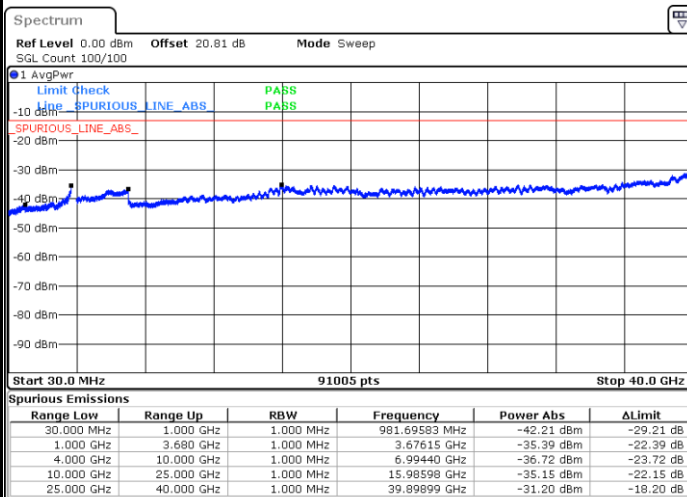


Date: 1.APR.2023 06:49:36

Date: 1.APR.2023 06:52:27

Lowest Band Edge / FULLRB/64QAM

Lowest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 07:03:05

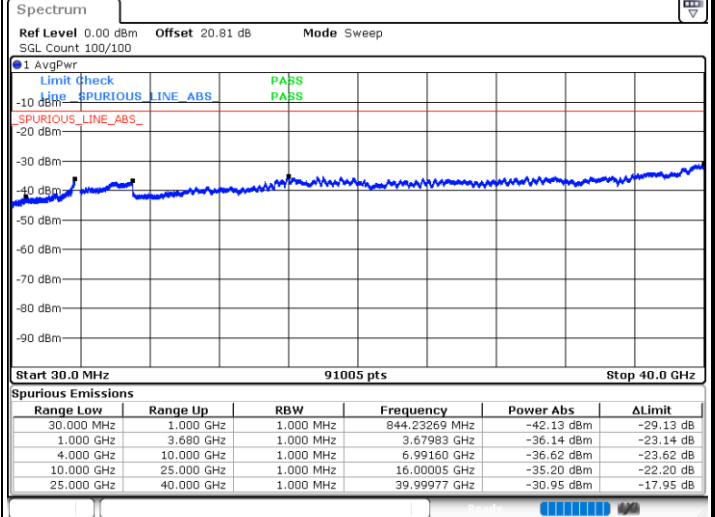
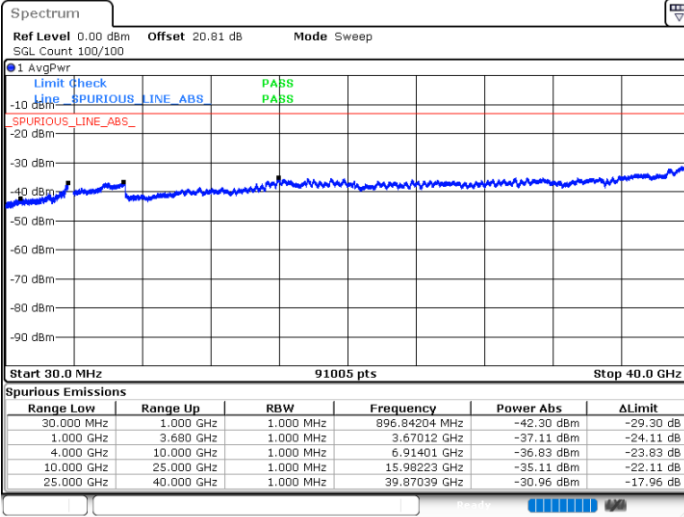
Date: 1.APR.2023 07:04:57



FR1 n77 / 90MHz / CP

Middle Band Edge / FULLRB/QPSK

Middle Band Edge / FULLRB/16QAM

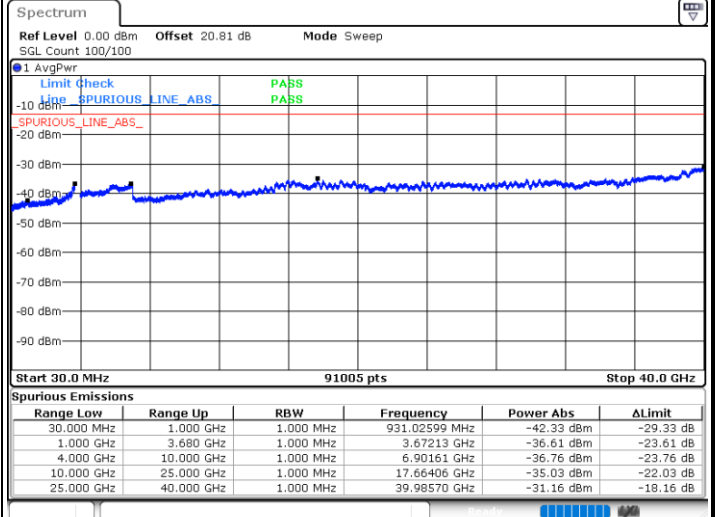
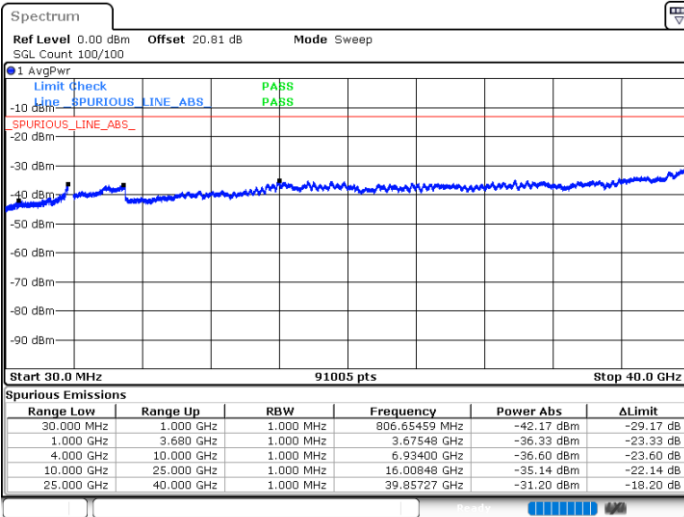


Date: 1.APR.2023 07:16:59

Date: 1.APR.2023 07:12:40

Middle Band Edge / FULLRB/64QAM

Middle Band Edge / FULLRB/256QAM



Date: 1.APR.2023 07:14:06

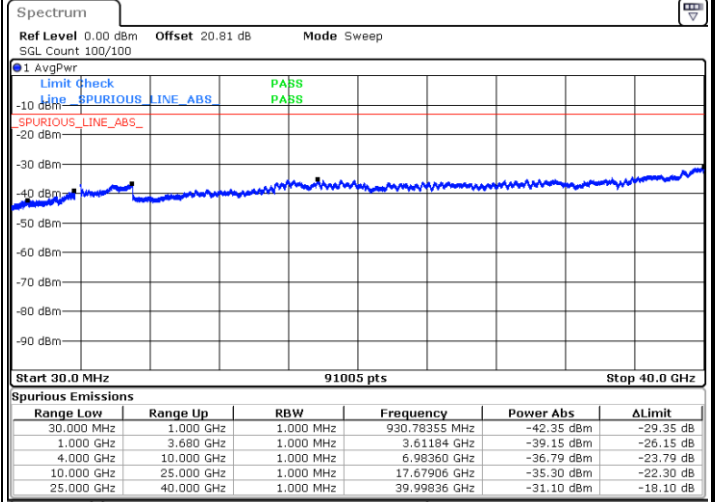
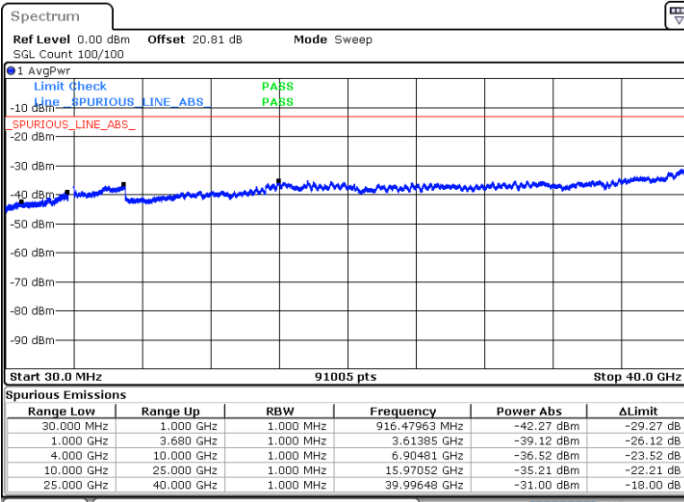
Date: 1.APR.2023 07:10:09



FR1 n77 / 90MHz / CP

Highest Band Edge / FULLRB/QPSK

Highest Band Edge / FULLRB/16QAM

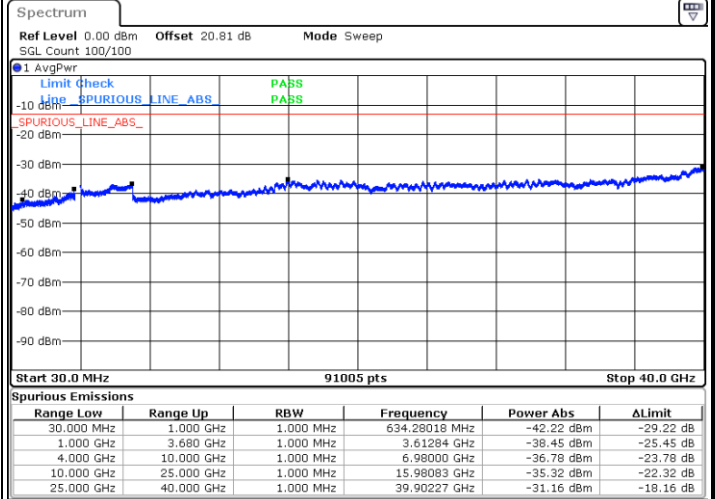
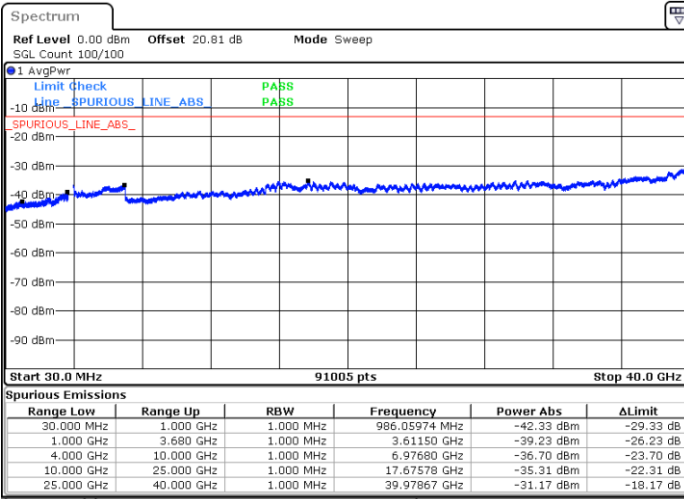


Date: 1.APR.2023 07:31:18

Date: 1.APR.2023 07:32:30

Highest Band Edge / FULLRB/64QAM

Highest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 07:40:37

Date: 1.APR.2023 07:44:45

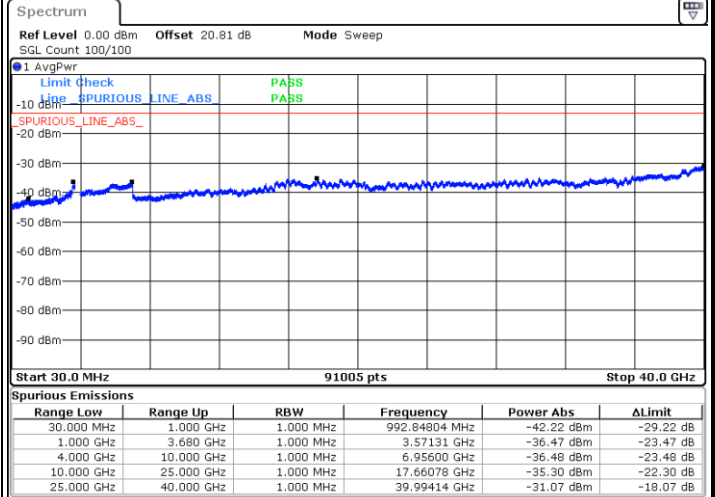
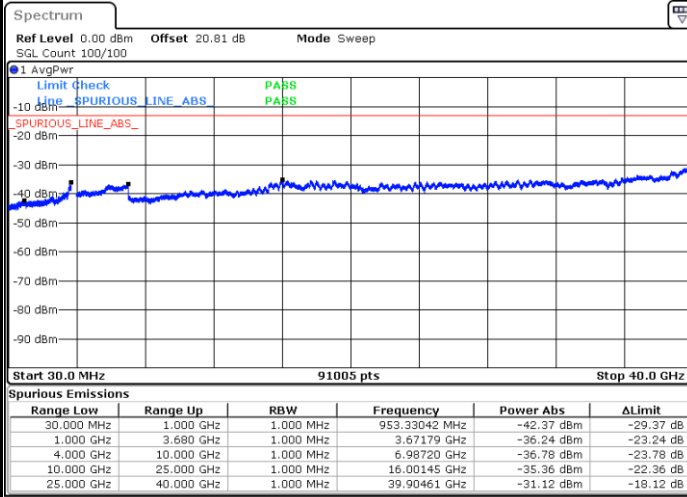


90M-ANT2

FR1 n77 / 90MHz / CP

Lowest Band Edge / FULLRB/QPSK

Lowest Band Edge / FULLRB/16QAM

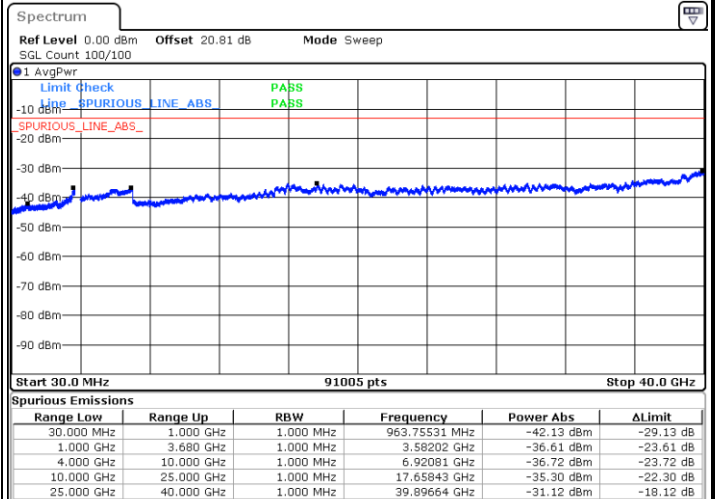
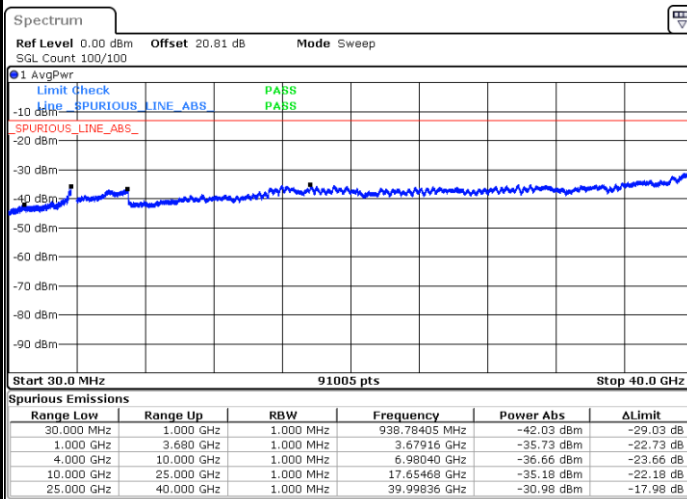


Date: 1.APR.2023 06:56:34

Date: 1.APR.2023 06:54:47

Lowest Band Edge / FULLRB/64QAM

Lowest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 07:00:52

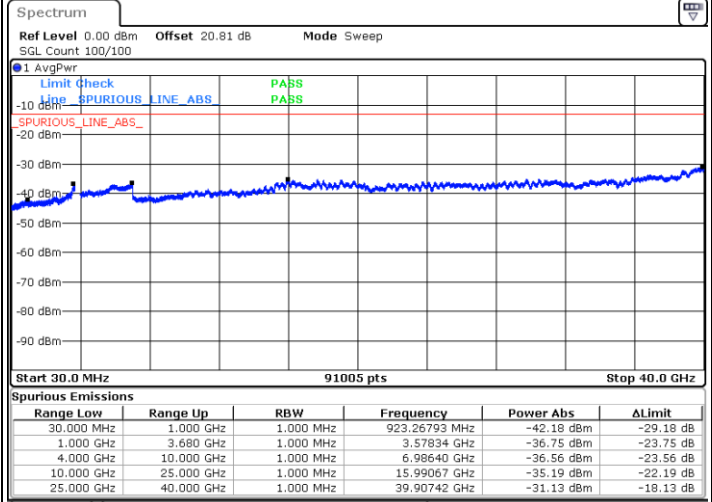
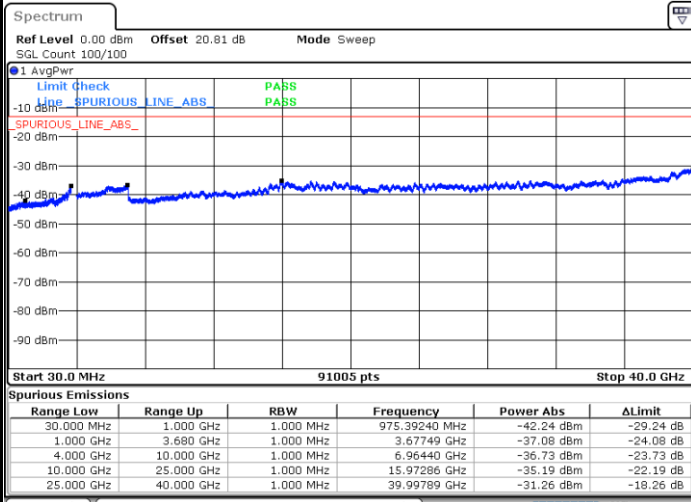
Date: 1.APR.2023 07:07:22



FR1 n77 / 90MHz / CP

Middle Band Edge / FULLRB/QPSK

Middle Band Edge / FULLRB/16QAM

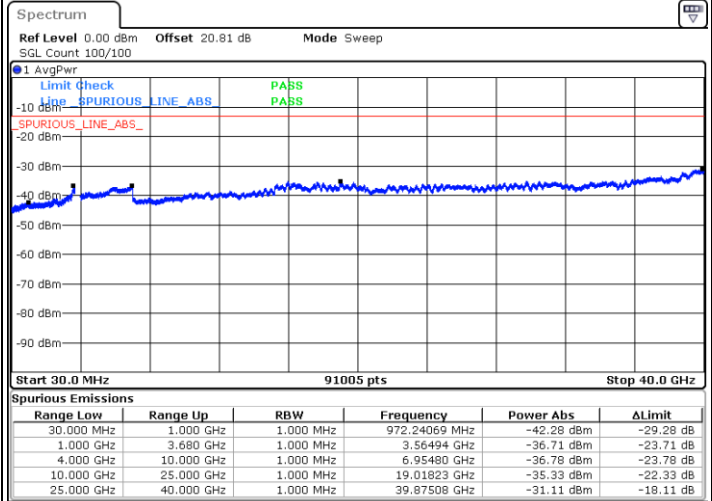
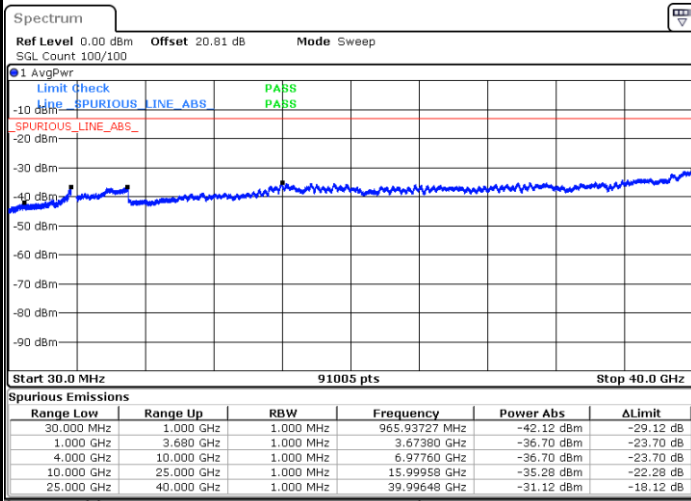


Date: 1.APR.2023 07:18:15

Date: 1.APR.2023 07:15:36

Middle Band Edge / FULLRB/64QAM

Middle Band Edge / FULLRB/256QAM



Date: 1.APR.2023 07:11:27

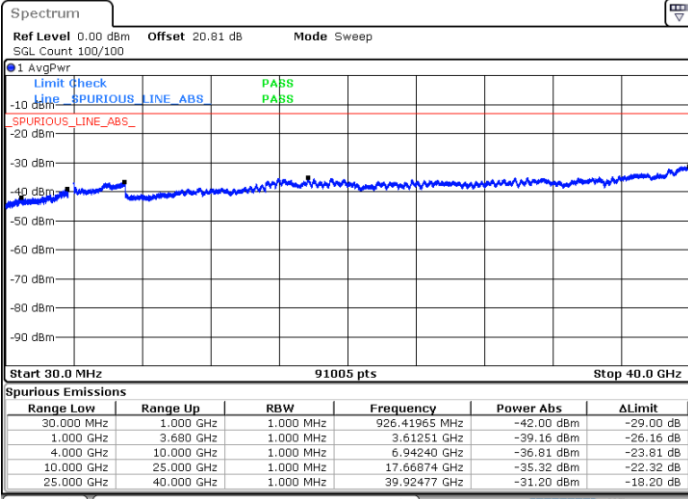
Date: 1.APR.2023 07:08:54



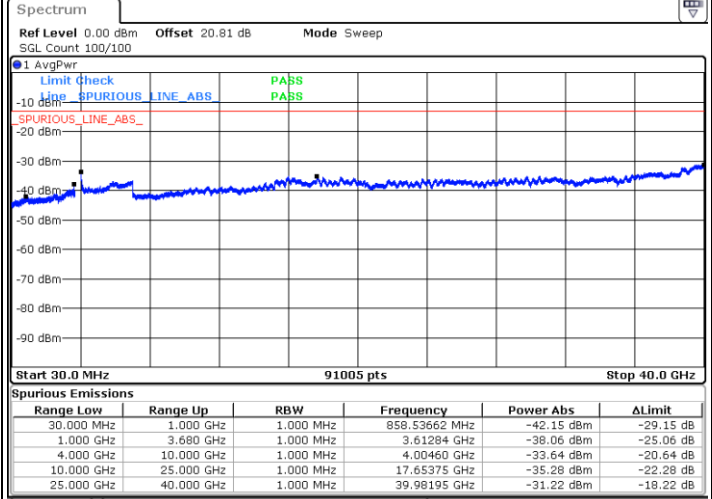
FR1 n77 / 90MHz / CP

Highest Band Edge / FULLRB/QPSK

Highest Band Edge / FULLRB/16QAM



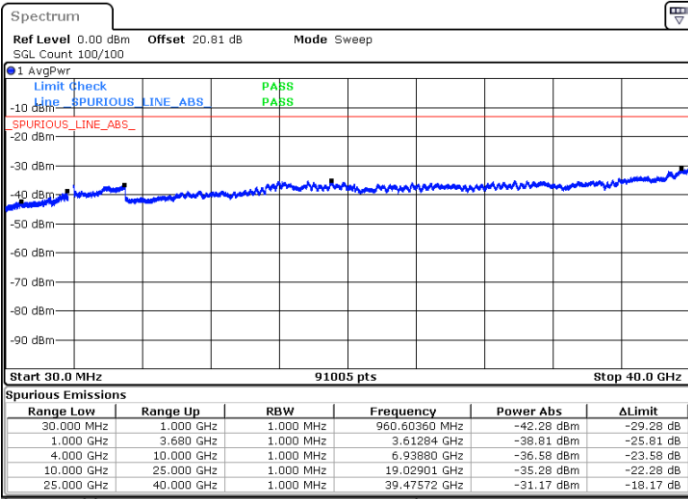
Date: 1.APR.2023 07:29:16



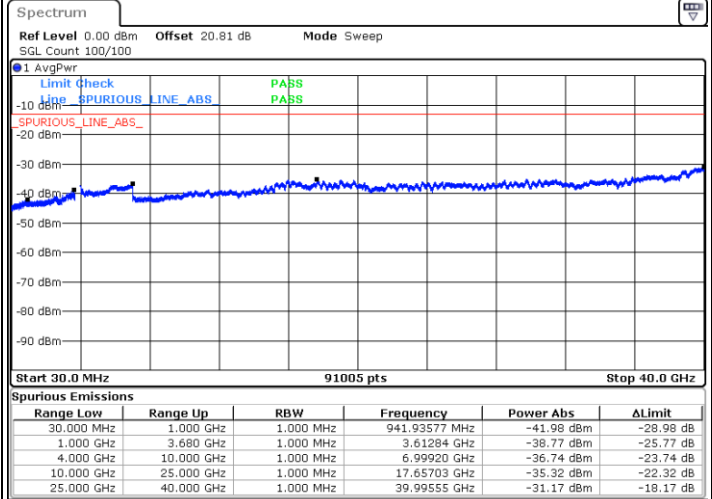
Date: 1.APR.2023 00:11:43

Highest Band Edge / FULLRB/64QAM

Highest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 07:38:50



Date: 1.APR.2023 07:41:52

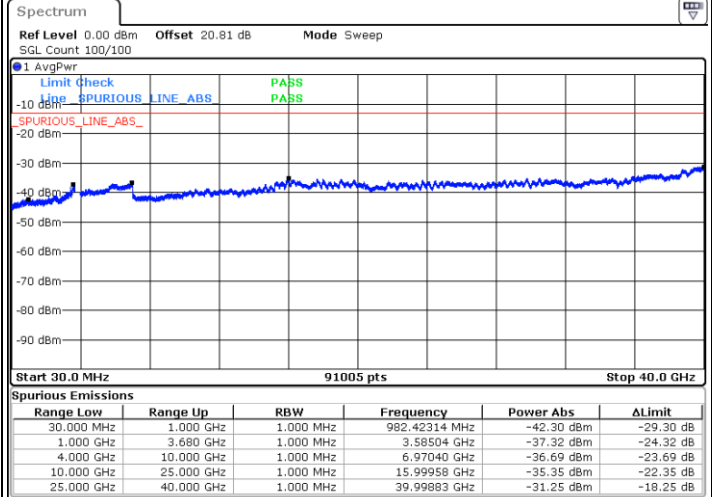
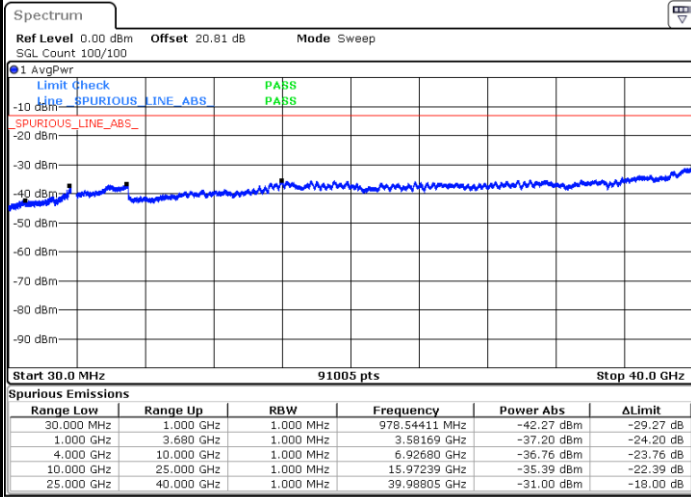


100M-ANT1

FR1 n77 / 100MHz / CP

Lowest Band Edge / FULLRB/QPSK

Lowest Band Edge / FULLRB/16QAM

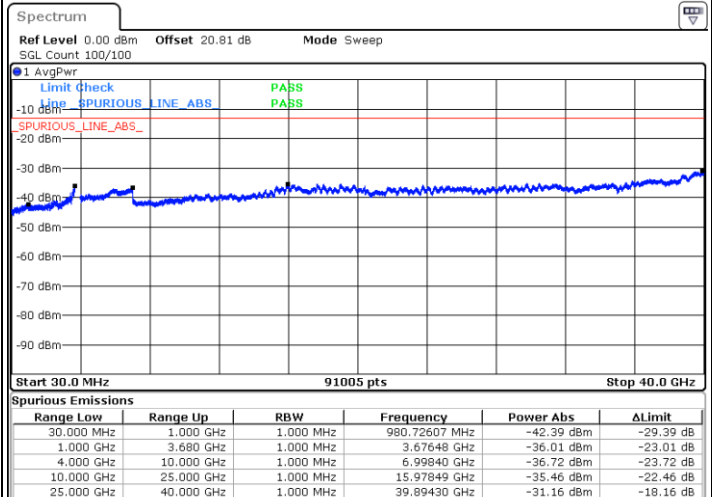
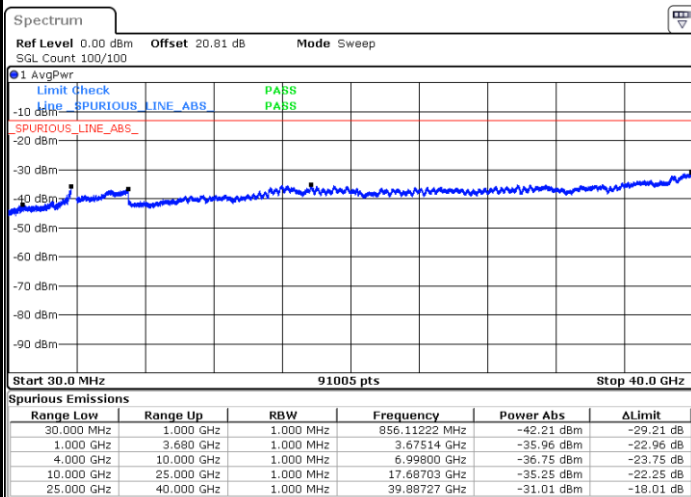


Date: 31.MAR.2023 22:47:23

Date: 31.MAR.2023 22:50:03

Lowest Band Edge / FULLRB/64QAM

Lowest Band Edge / FULLRB/256QAM



Date: 31.MAR.2023 22:53:31

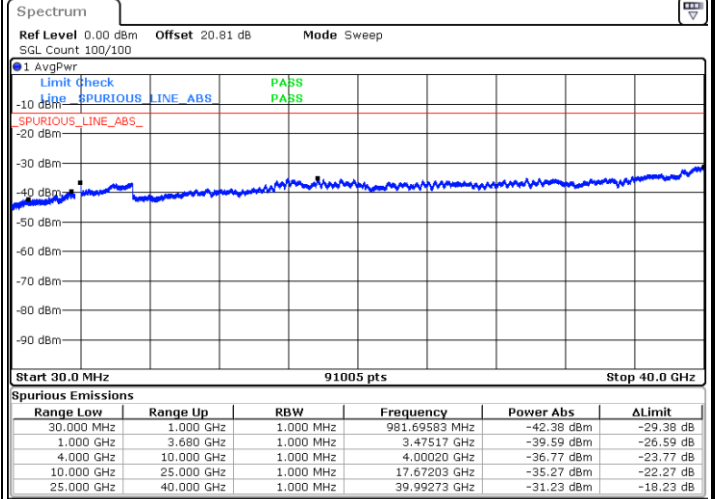
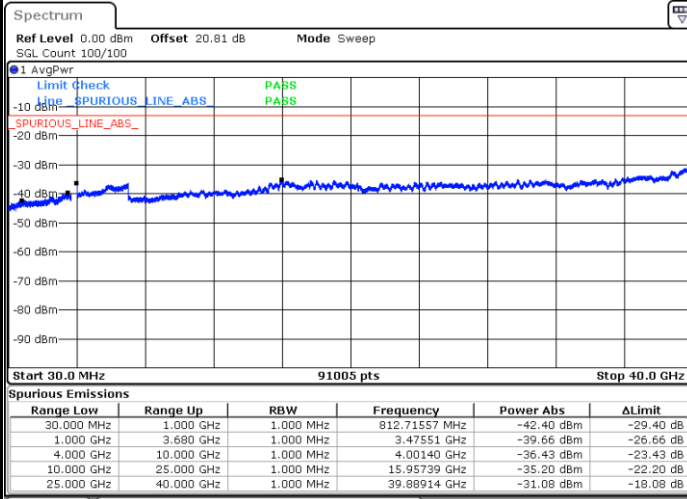
Date: 31.MAR.2023 22:56:05



FR1 n77 / 100MHz / CP

Middle Band Edge / FULLRB/QPSK

Middle Band Edge / FULLRB/16QAM

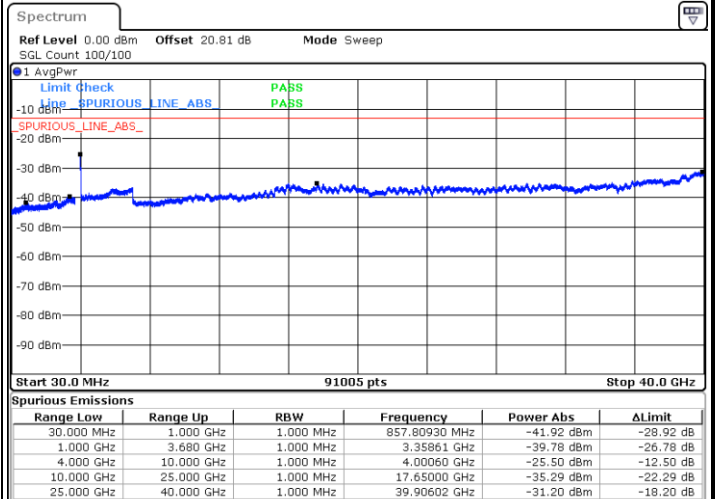
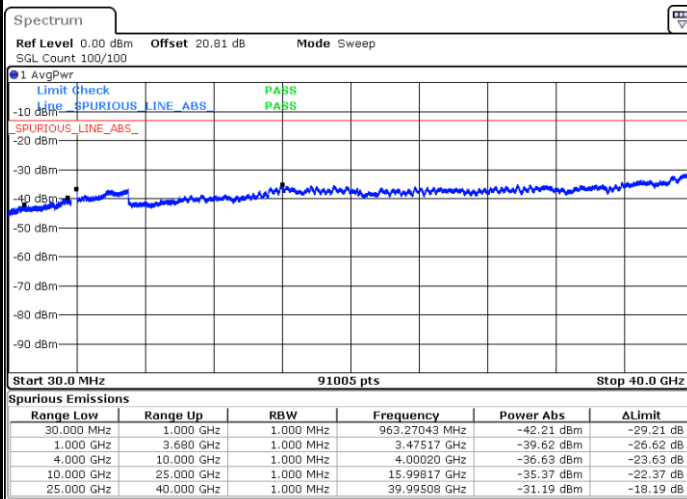


Date: 1.APR.2023 03:35:05

Date: 1.APR.2023 03:31:40

Middle Band Edge / FULLRB/64QAM

Middle Band Edge / FULLRB/256QAM



Date: 1.APR.2023 03:30:24

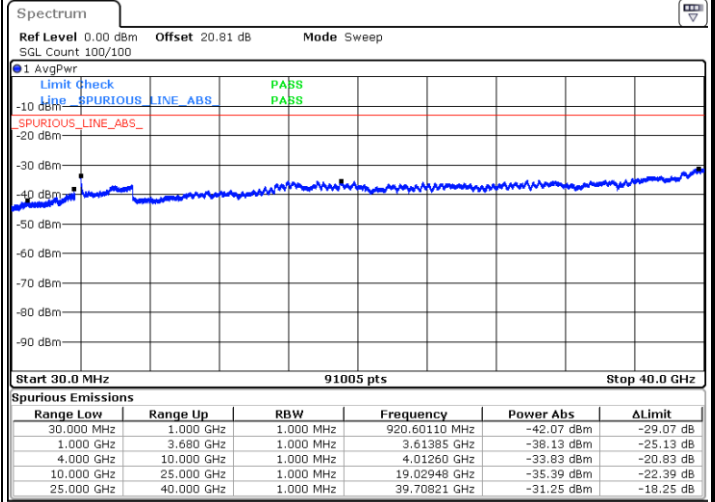
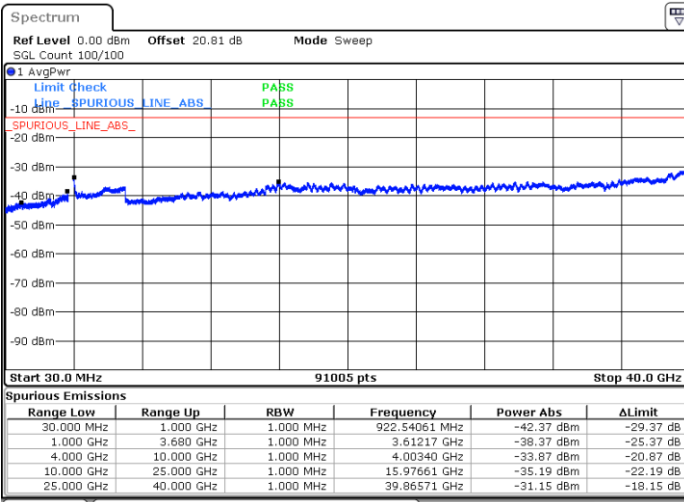
Date: 1.APR.2023 03:28:19



FR1 n77 / 100MHz / CP

Highest Band Edge / FULLRB/QPSK

Highest Band Edge / FULLRB/16QAM

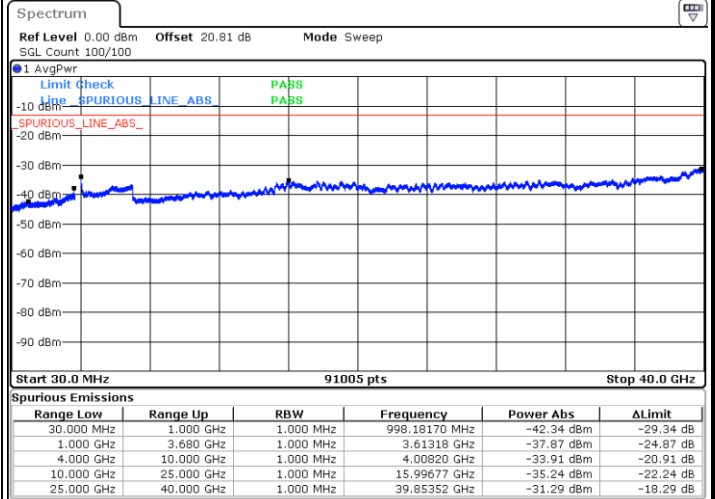
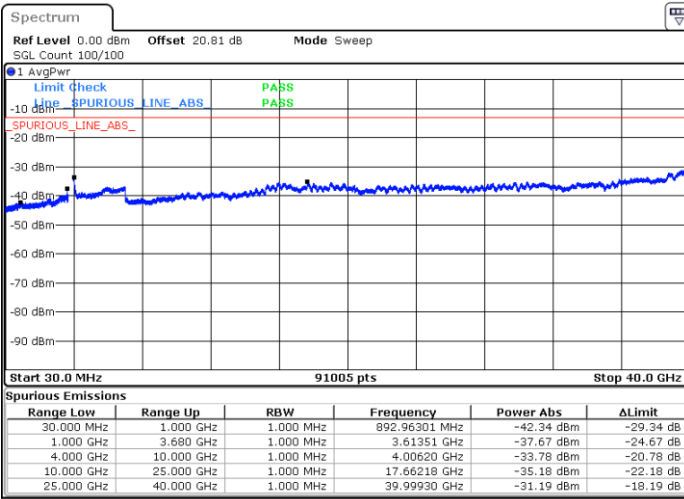


Date: 31.MAR.2023 23:30:46

Date: 31.MAR.2023 23:33:24

Highest Band Edge / FULLRB/64QAM

Highest Band Edge / FULLRB/256QAM



Date: 31.MAR.2023 23:35:18

Date: 31.MAR.2023 23:37:44

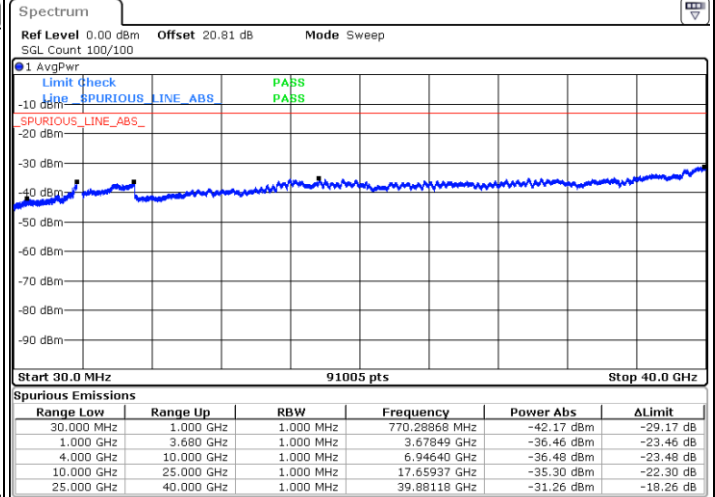
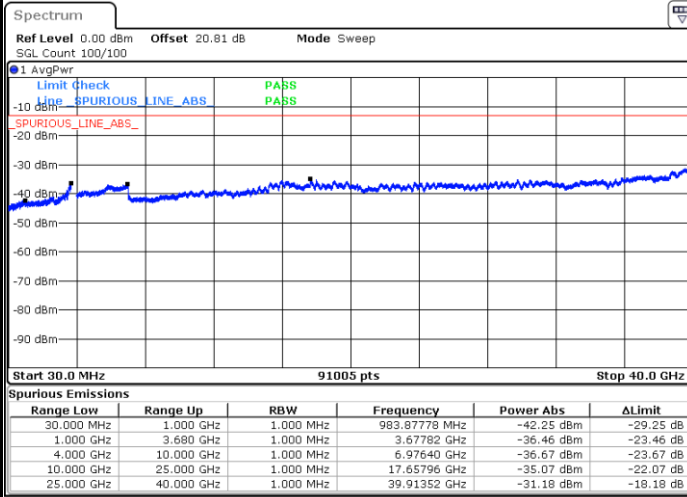


100M-ANT2

FR1 n77 / 100MHz / CP

Lowest Band Edge / FULLRB/QPSK

Lowest Band Edge / FULLRB/16QAM

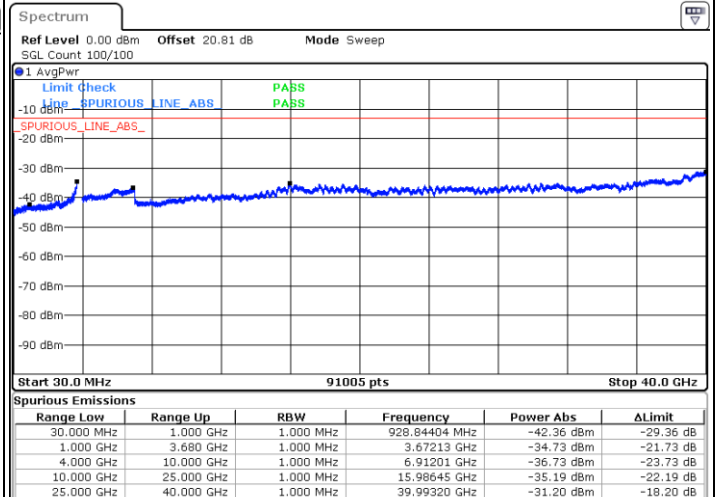
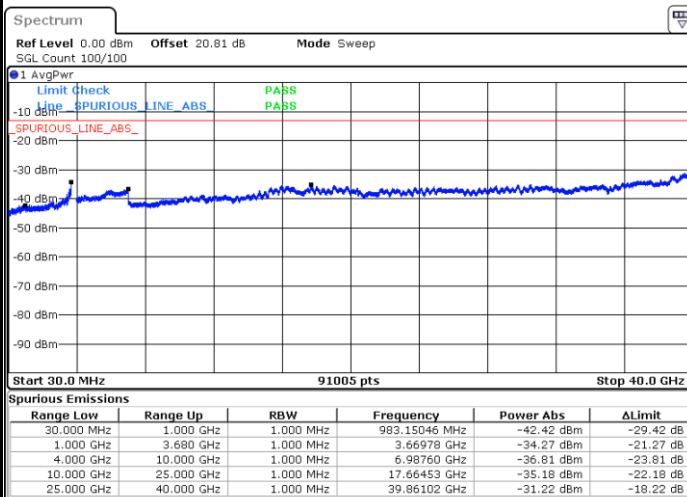


Date: 31.MAR.2023 23:13:03

Date: 31.MAR.2023 23:10:41

Lowest Band Edge / FULLRB/64QAM

Lowest Band Edge / FULLRB/256QAM



Date: 31.MAR.2023 23:08:34

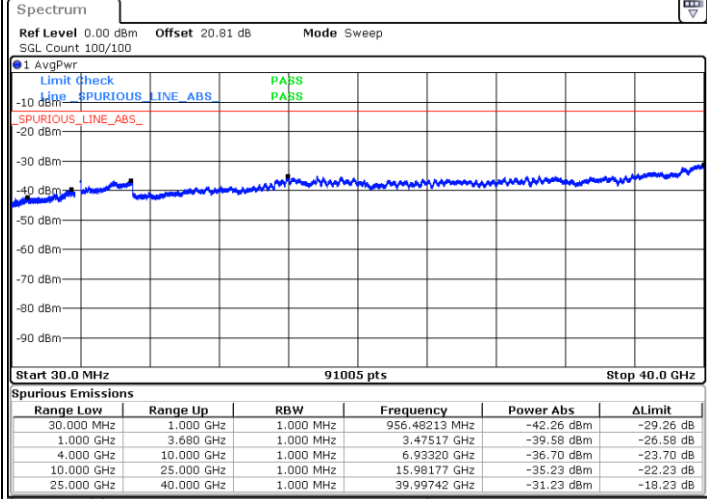
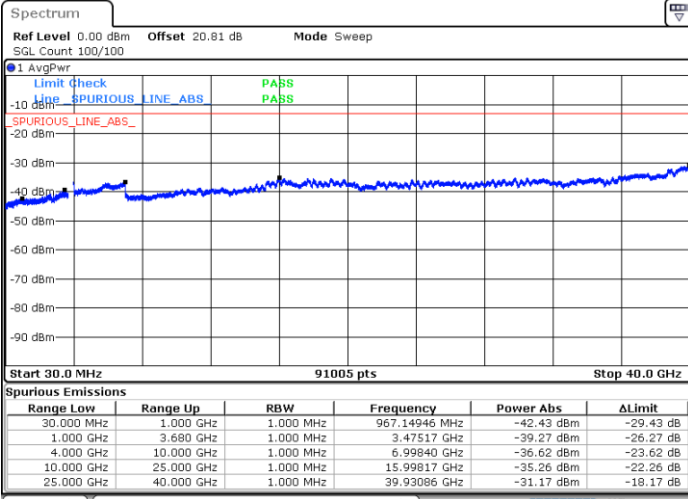
Date: 31.MAR.2023 23:05:05



FR1 n77 / 100MHz / CP

Middle Band Edge / FULLRB/QPSK

Middle Band Edge / FULLRB/16QAM

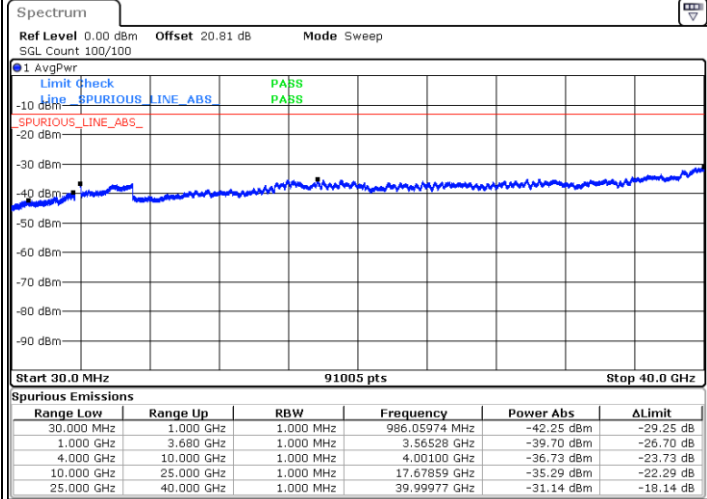
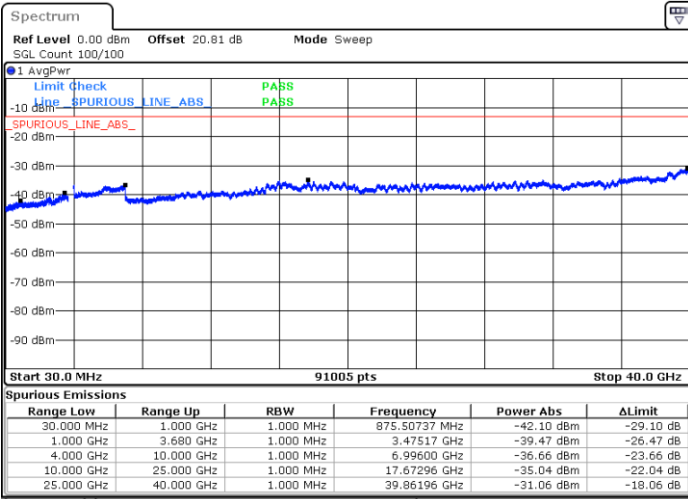


Date: 1.APR.2023 03:22:42

Date: 1.APR.2023 03:24:39

Middle Band Edge / FULLRB/64QAM

Middle Band Edge / FULLRB/256QAM



Date: 1.APR.2023 03:25:46

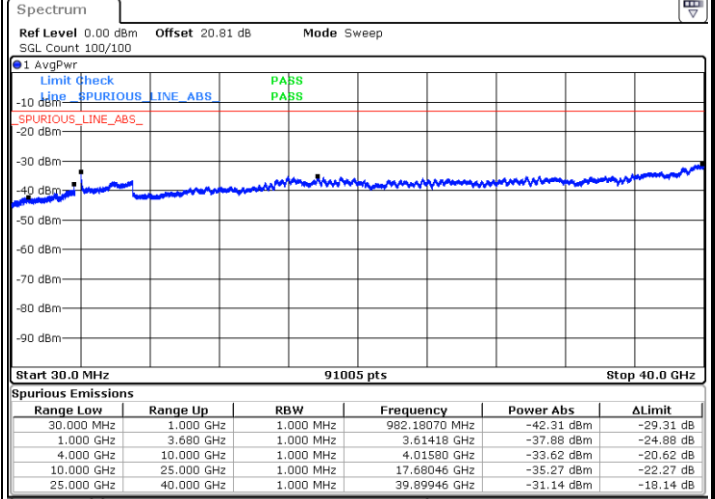
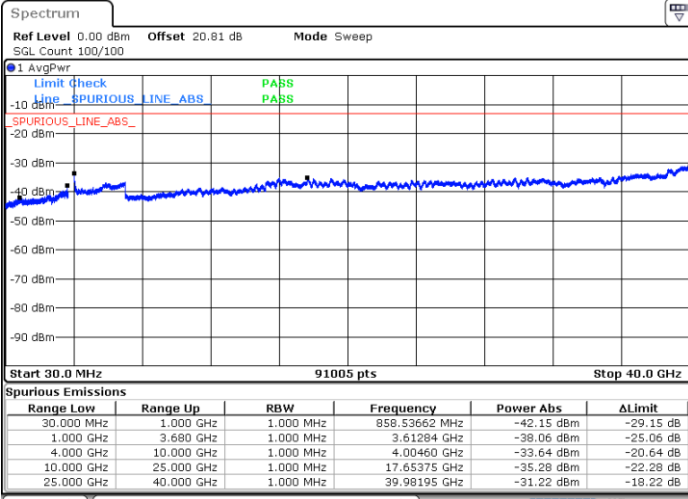
Date: 1.APR.2023 03:26:55



FR1 n77 / 100MHz / CP

Highest Band Edge / FULLRB/QPSK

Highest Band Edge / FULLRB/16QAM

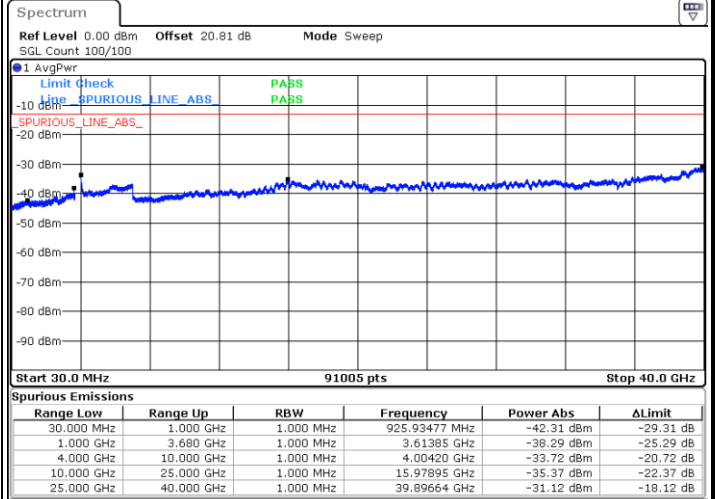
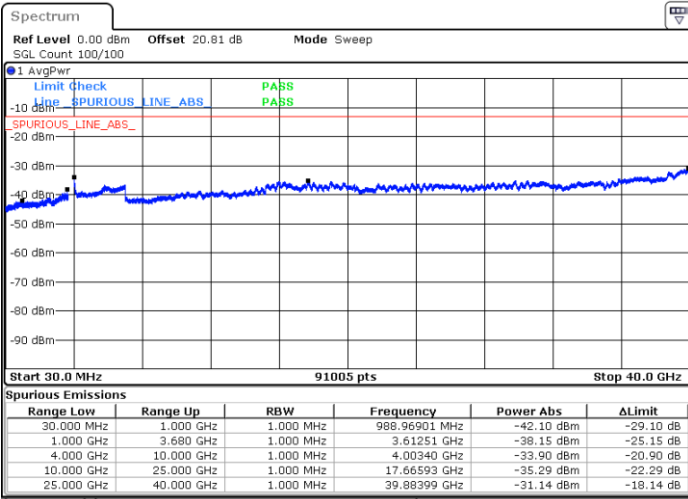


Date: 1.APR.2023 00:11:43

Date: 1.APR.2023 00:09:45

Highest Band Edge / FULLRB/64QAM

Highest Band Edge / FULLRB/256QAM



Date: 1.APR.2023 00:07:05

Date: 1.APR.2023 00:04:19



Frequency Stability

Test Conditions		5G NR n77(QPSK) / ANT1		
Temperature (°C)	Voltage (Volt)	BW 100MHz		Note 2.
		3750MHz	3930MHz	Result
		FL	FH	
50	Normal Voltage	3700.800	3979.200	PASS
40	Normal Voltage	3700.800	3979.200	
30	Normal Voltage	3700.800	3979.200	
20(Ref.)	Normal Voltage	3700.800	3979.200	
10	Normal Voltage	3700.800	3979.200	
0	Normal Voltage	3700.800	3979.200	
-10	Normal Voltage	3700.800	3979.200	
-20	Normal Voltage	3700.800	3979.200	
-30	Normal Voltage	3700.800	3979.200	
20	Maximum Voltage	3700.800	3979.200	
20	Normal Voltage	3700.800	3979.200	
20	Minimum Voltage	3700.800	3979.200	



Test Conditions		5G NR n77(QPSK) / ANT2		
Temperature (°C)	Voltage (Volt)	BW 100MHz		Note 2.
		3750MHz	3930MHz	Result
		FL	FH	
50	Normal Voltage	3700.800	3979.200	PASS
40	Normal Voltage	3700.800	3979.200	
30	Normal Voltage	3700.800	3979.200	
20(Ref.)	Normal Voltage	3700.800	3979.200	
10	Normal Voltage	3700.800	3979.200	
0	Normal Voltage	3700.800	3979.200	
-10	Normal Voltage	3700.800	3979.200	
-20	Normal Voltage	3700.800	3979.200	
-30	Normal Voltage	3700.800	3979.200	
20	Maximum Voltage	3700.800	3979.200	
20	Normal Voltage	3700.800	3979.200	
20	Minimum Voltage	3700.800	3979.200	

Note:

1. Normal Voltage =12V. ; Minimum Voltage =10V. ; Maximum Voltage =14 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Hui Chen	Temperature :	22~25°C
		Relative Humidity :	48~52%

n77 UL MIMO / NR 100+100MHz / QPSK for Sample 1								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7590	-49.70	-13	-36.70	-59.91	3.03	13.24	H
	11388	-60.71	-13	-47.71	-70.16	3.56	13.01	H
	15180	-59.08	-13	-46.08	-68.60	3.92	13.44	H
	7590	-50.44	-13	-37.44	-60.65	3.03	13.24	V
	11388	-60.66	-13	-47.66	-70.11	3.56	13.01	V
	15180	-58.80	-13	-45.80	-68.32	3.92	13.44	V

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

n77 UL MIMO / NR 100+100MHz / QPSK for Sample 2								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7590	-61.66	-13	-48.66	-71.87	3.03	13.24	H
	11388	-59.58	-13	-46.58	-69.03	3.56	13.01	H
	15180	-58.36	-13	-45.36	-67.88	3.92	13.44	H
	7590	-61.75	-13	-48.75	-71.96	3.03	13.24	V
	11388	-59.86	-13	-46.86	-69.31	3.56	13.01	V
	15180	-58.29	-13	-45.29	-67.81	3.92	13.44	V

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

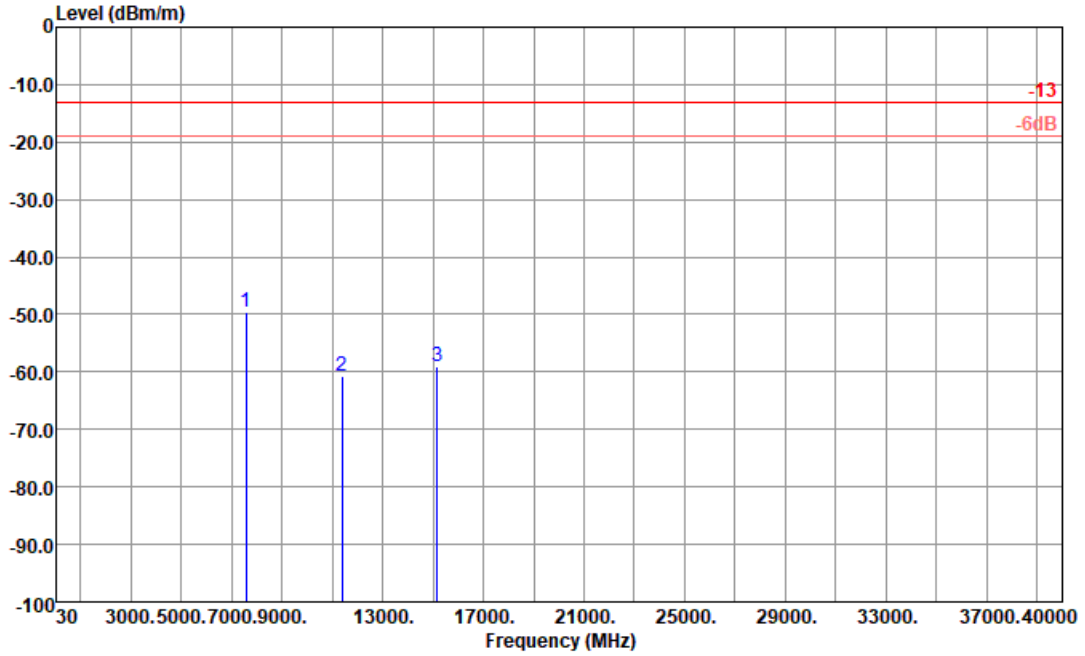
NSA_B66_n77 / LTE (20+20MHz) + NR (100+100MHz) / QPSK for combination of 4G + 5G sample 1								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7590	-61.85	-13	-48.85	-72.06	3.03	13.24	H
	11388	-59.81	-13	-46.81	-69.26	3.56	13.01	H
	15180	-57.66	-13	-44.66	-67.18	3.92	13.44	H
	7590	-61.73	-13	-48.73	-71.94	3.03	13.24	V
	11388	-59.76	-13	-46.76	-69.21	3.56	13.01	V
	15180	-58.17	-13	-45.17	-67.69	3.92	13.44	V

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



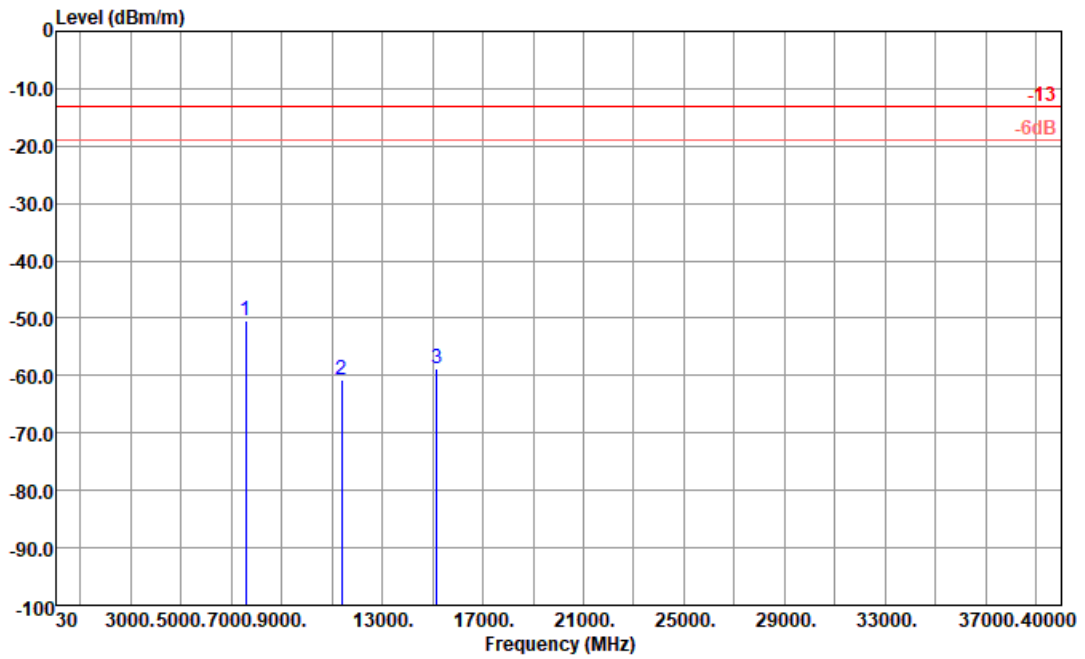
Worst test plots

n77 UL MIMO / NR 100+100MHz / QPSK for Sample 1 middle channel I



Site : 03CH04-KS
 Condition : -13 3m HF PART 22/24/27 HORIZONTAL
 Project : (FG) 331457

	Freq	Level	Over	Limit	Read	Pol/Phase
	MHz	dBm/m	Limit	Line	Level	
			dB	dBm/m	dBm	
1	7590.00	-49.70	-36.70	-13.00	-46.12	HORIZONTAL
2	11388.00	-60.71	-47.71	-13.00	-64.17	HORIZONTAL
3	15180.00	-59.08	-46.08	-13.00	-63.73	HORIZONTAL



Site : 03CH04-KS
 Condition : -13 3m HF PART 22/24/27 VERTICAL
 Project : (FG) 331457

	Freq	Level	Over	Limit	Read	Pol/Phase
	MHz	dBm/m	Limit	Line	Level	
			dB	dBm/m	dBm	
1	7590.00	-50.44	-37.44	-13.00	-46.94	VERTICAL
2	11388.00	-60.66	-47.66	-13.00	-64.09	VERTICAL
3	15180.00	-58.80	-45.80	-13.00	-63.47	VERTICAL