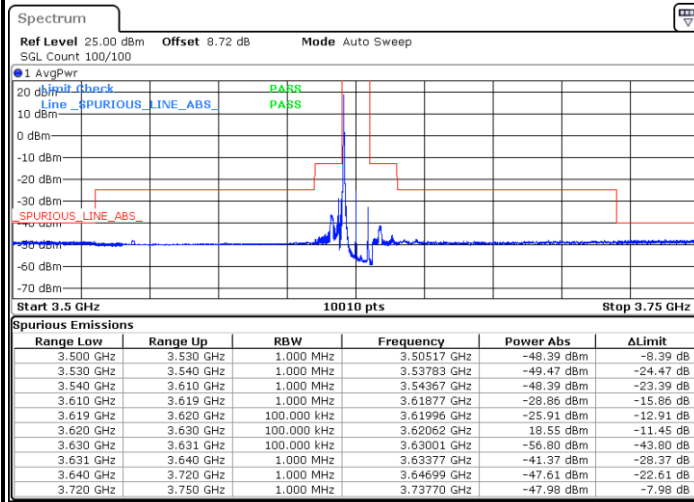




LTE Band 48 / 10MHz

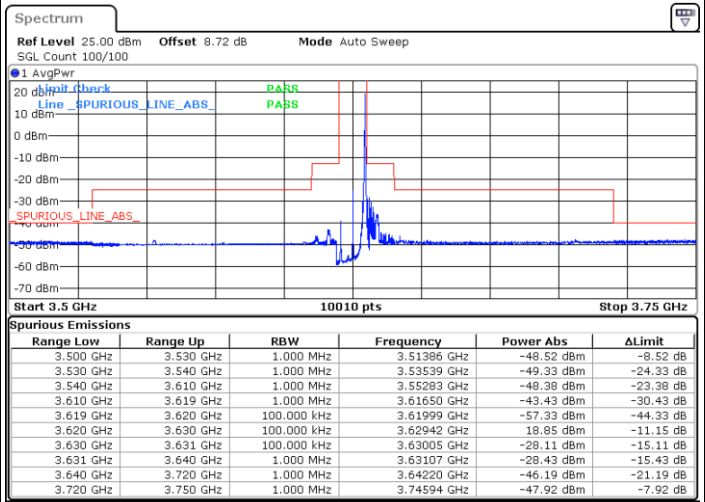
QPSK

MiddleChannel / 1RB0



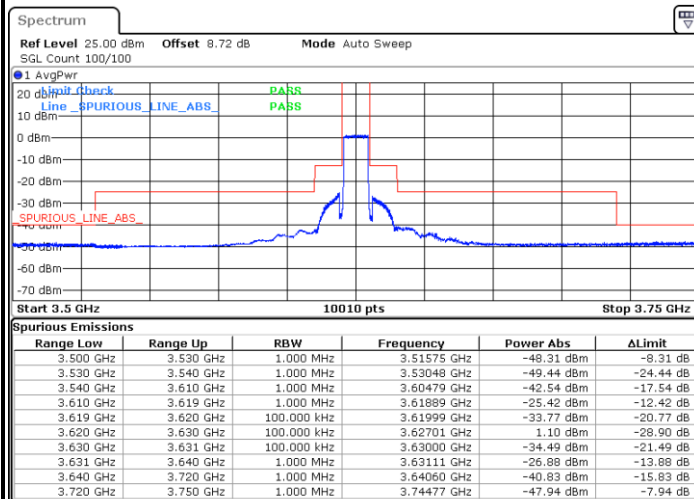
Date: 25.OCT.2022 23:00:37

Middle Channel / 1RBmax



Date: 25.OCT.2022 23:05:23

Middle Channel / Full RB



Date: 25.OCT.2022 23:10:08

N/A

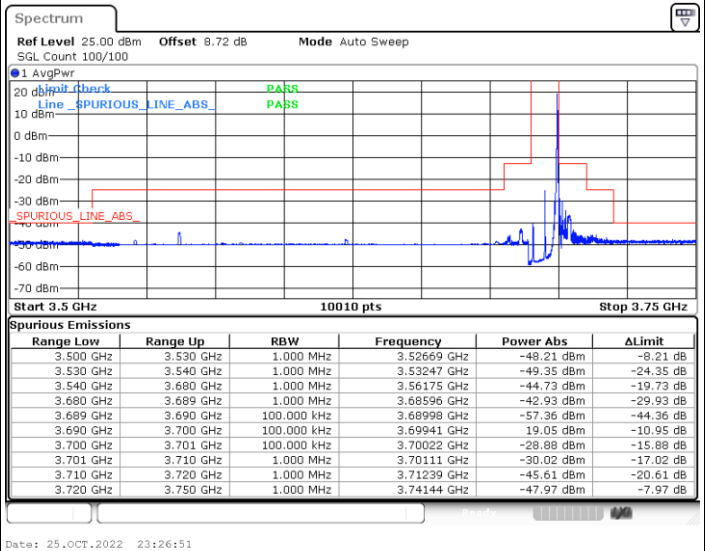
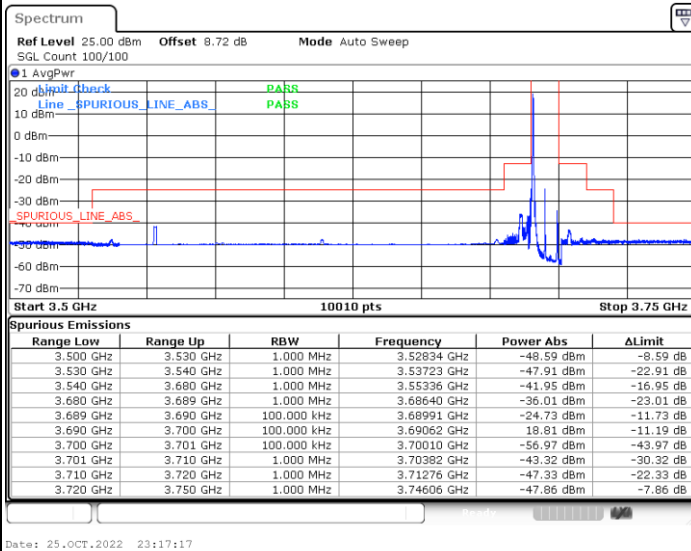


LTE Band 48 / 10MHz

QPSK

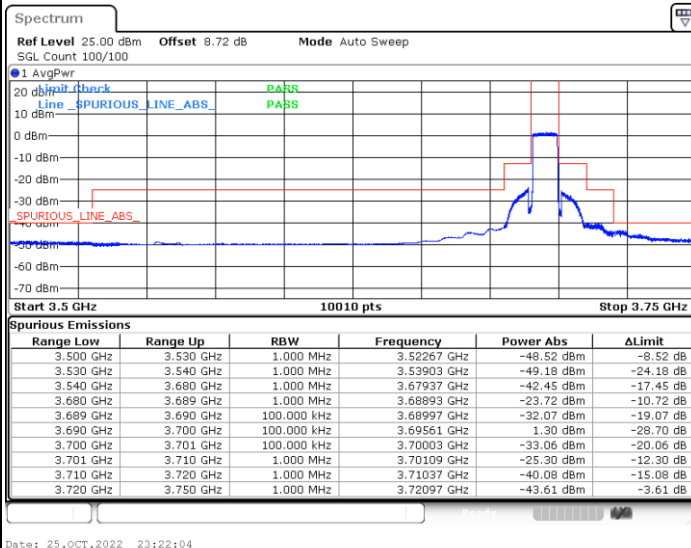
Highest Channel / 1RB0

Highest Channel / 1RBmax



Highest Channel / Full RB

N/A



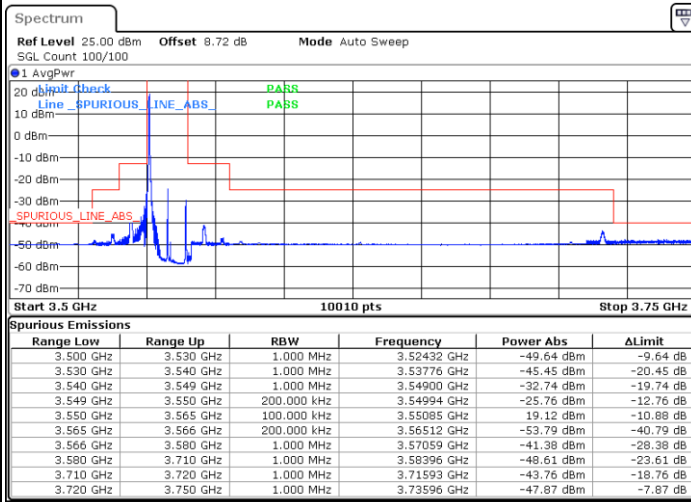


LTE Band 48 / 15MHz

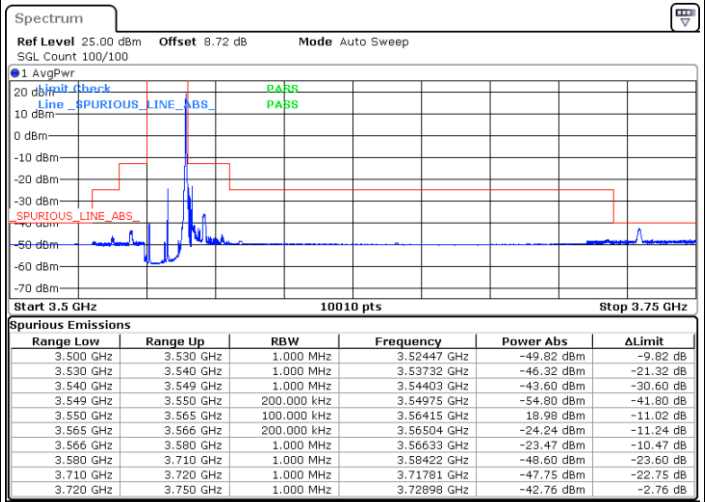
QPSK

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



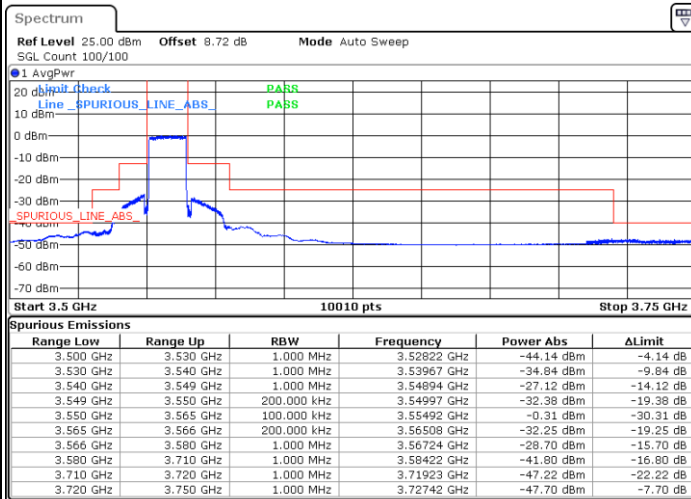
Date: 25.OCT.2022 23:29:15



Date: 25.OCT.2022 23:38:48

Lowest Channel / Full RB

N/A



Date: 25.OCT.2022 23:34:02

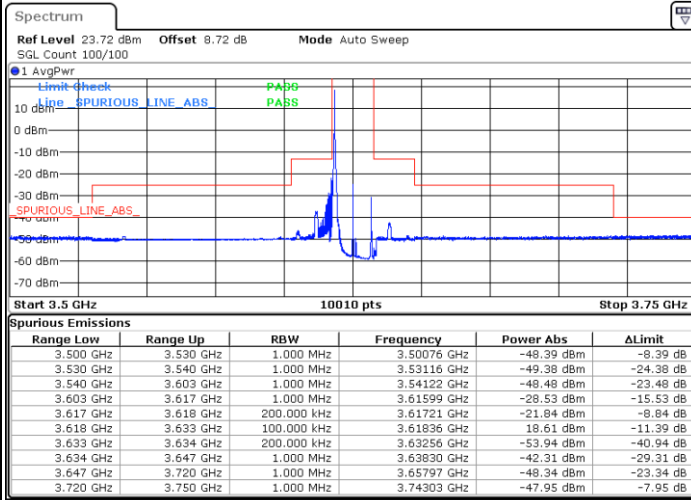


LTE Band 48 / 15MHz

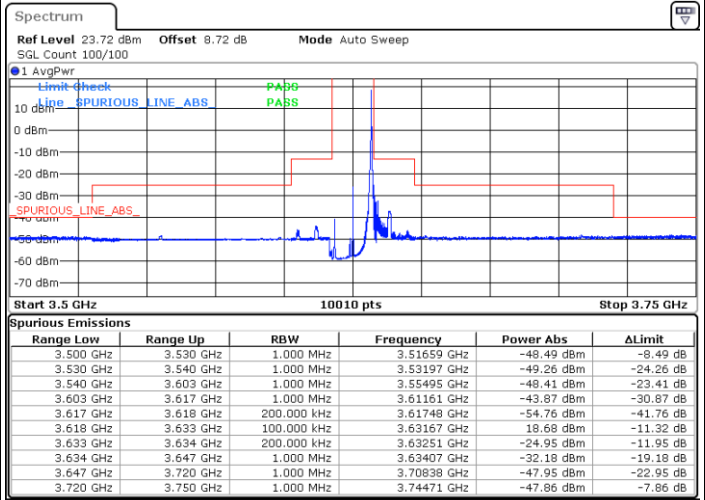
QPSK

Middle Channel / 1RB0

Middle Channel / 1RBmax



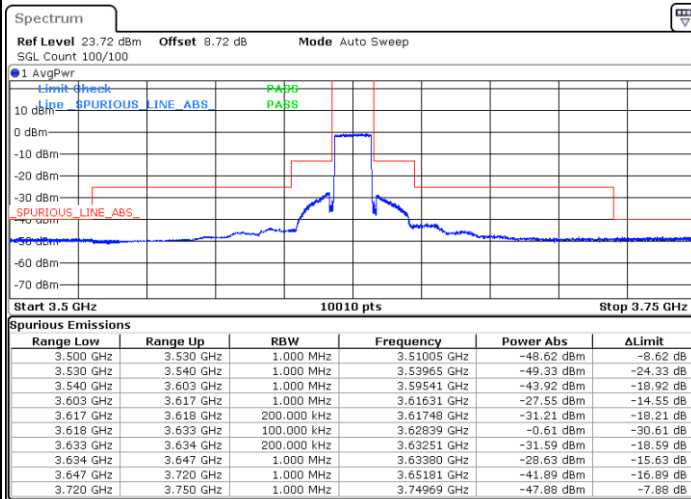
Date: 25.OCT.2022 23:45:57



Date: 25.OCT.2022 23:50:42

Middle Channel / Full RB

N/A



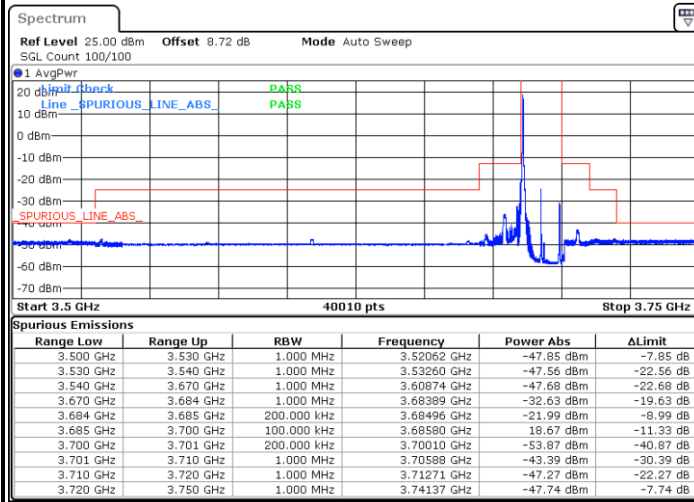
Date: 25.OCT.2022 23:55:28



LTE Band 48 / 15MHz

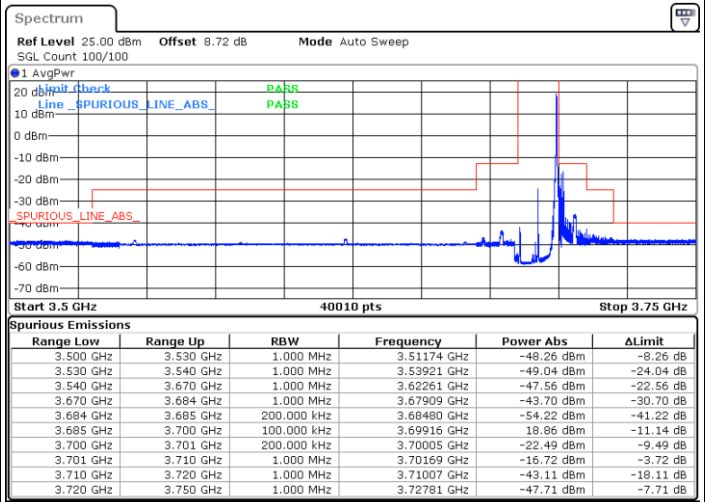
QPSK

Highest Channel / 1RB0



Date: 25.OCT.2022 23:57:51

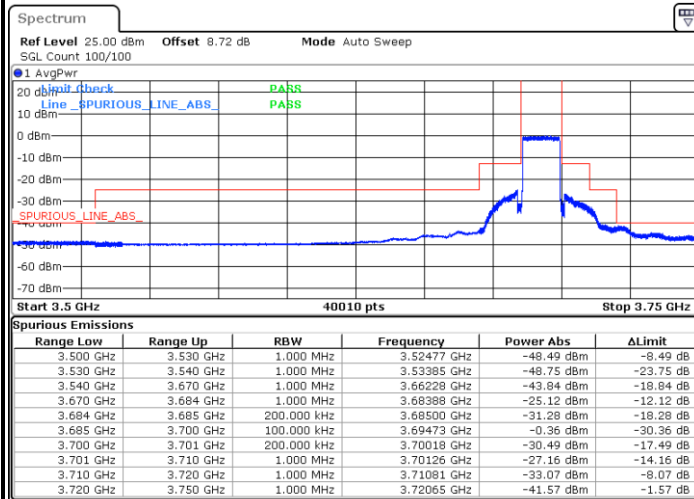
Highest Channel / 1RBmax



Date: 26.OCT.2022 00:07:40

Highest Channel / Full RB

N/A



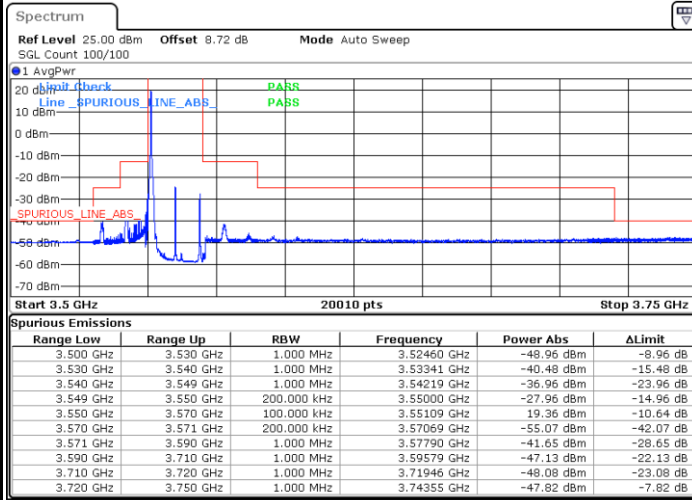
Date: 26.OCT.2022 00:02:41



LTE Band 48 / 20MHz

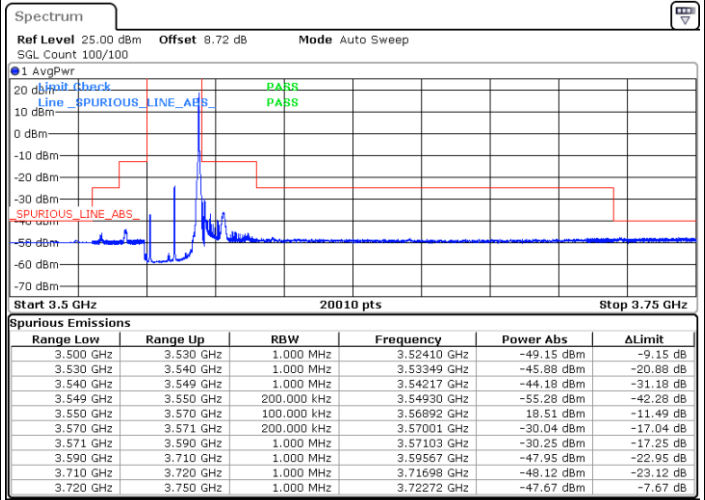
QPSK

Lowest Channel / 1RB0



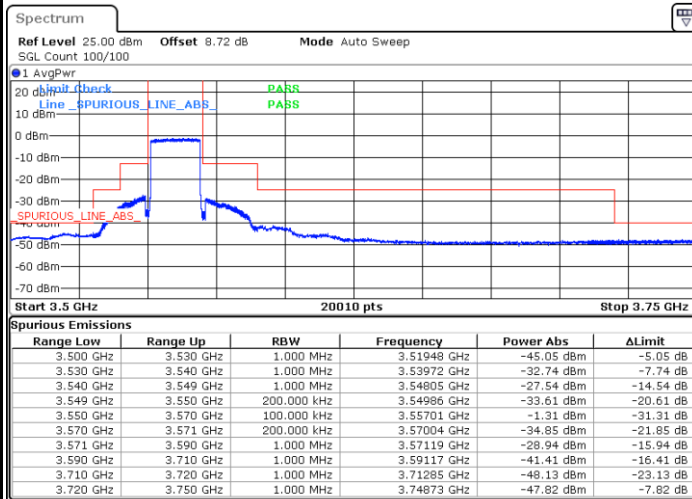
Date: 26.OCT.2022 00:19:37

Lowest Channel / 1RBmax



Date: 26.OCT.2022 00:24:23

Lowest Channel / Full RB



Date: 26.OCT.2022 00:14:50

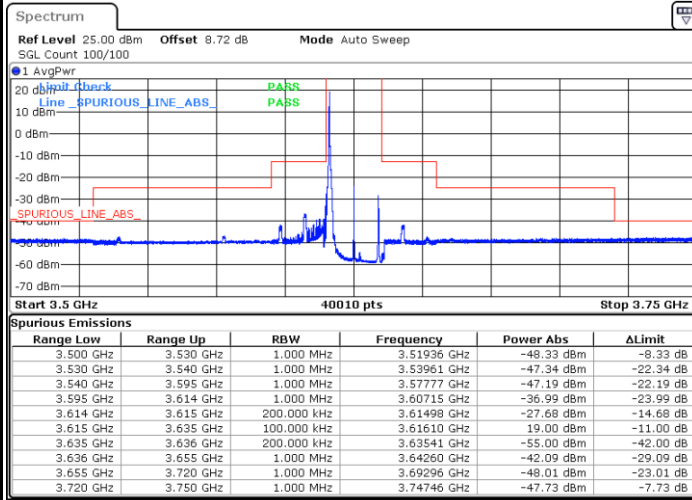
N/A



LTE Band 48 / 20MHz

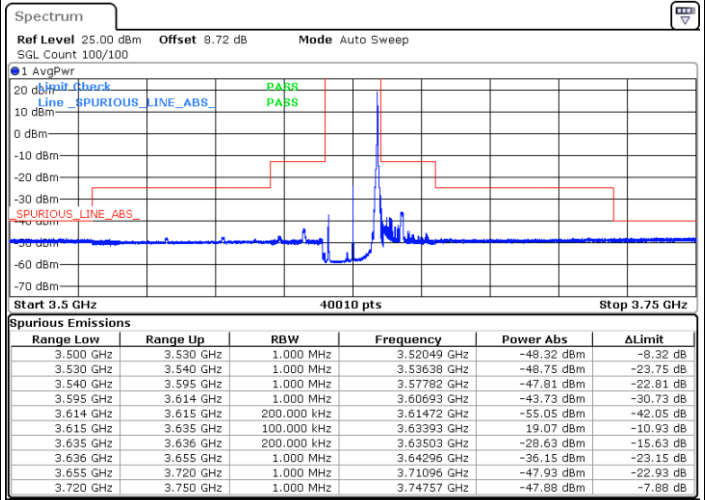
QPSK

Middle Channel / 1RB0



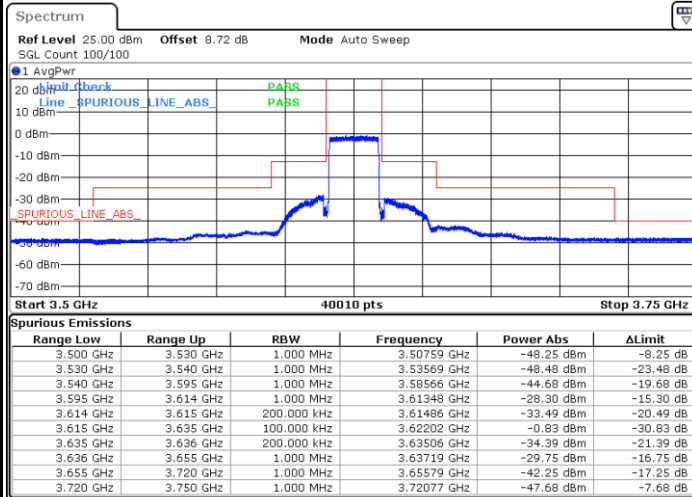
Date: 26.OCT.2022 00:36:17

Middle Channel / 1RBmax



Date: 26.OCT.2022 00:26:46

Middle Channel / Full RB



Date: 26.OCT.2022 00:31:32

N/A

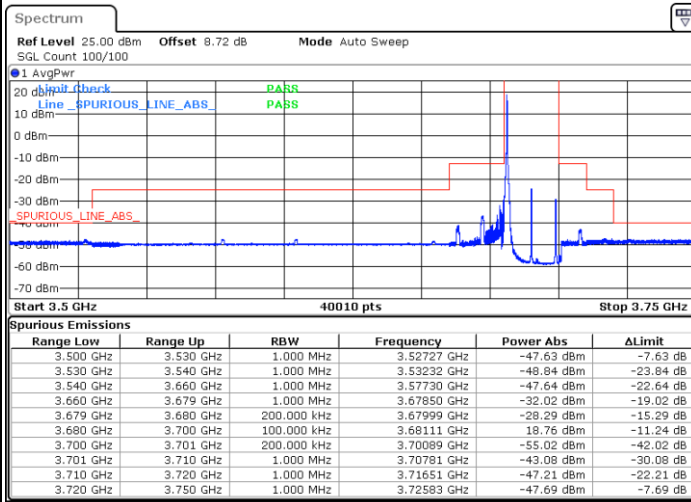


LTE Band 48 / 20MHz

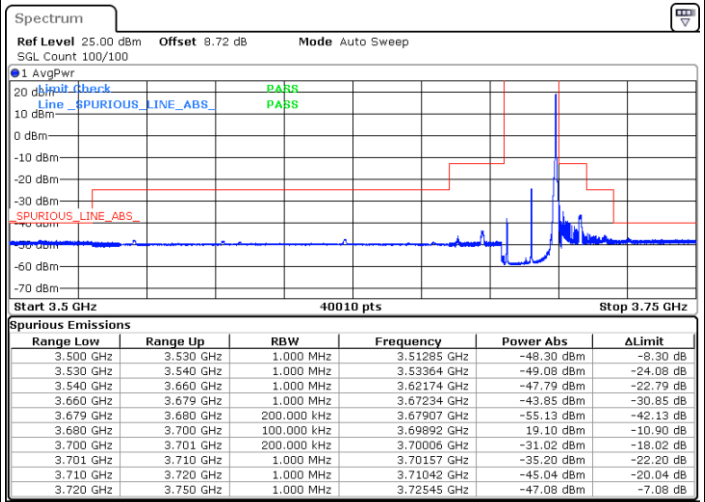
QPSK

Highest Channel / 1RB0

Highest Channel / 1RBmax



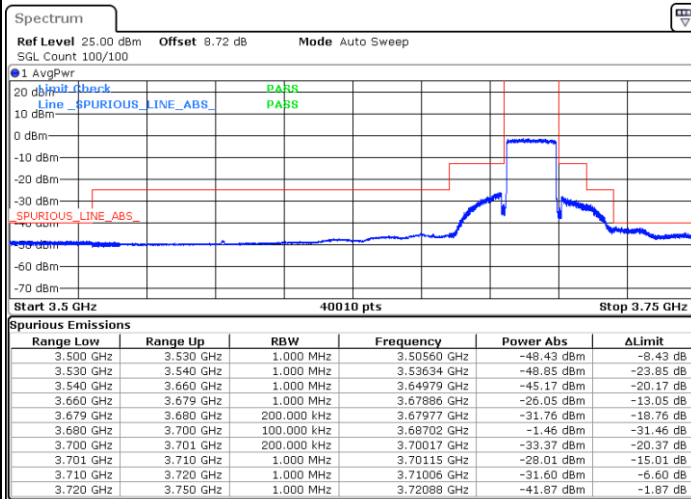
Date: 26.OCT.2022 00:48:15



Date: 26.OCT.2022 00:53:02

Highest Channel / Full RB

N/A



Date: 26.OCT.2022 00:43:27

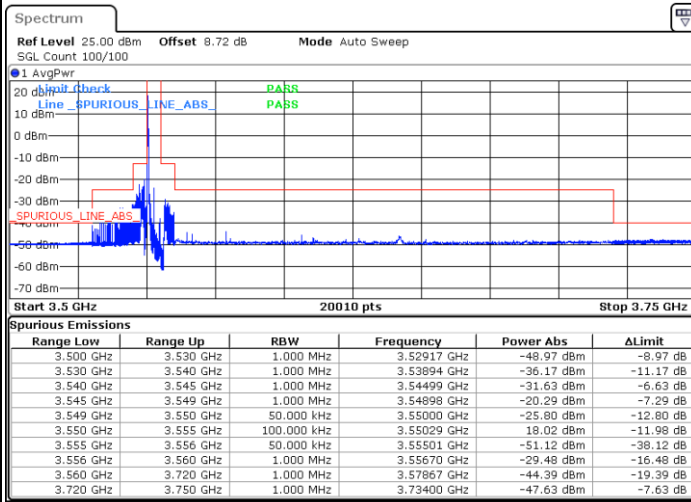


LTE Band 48 / 5MHz

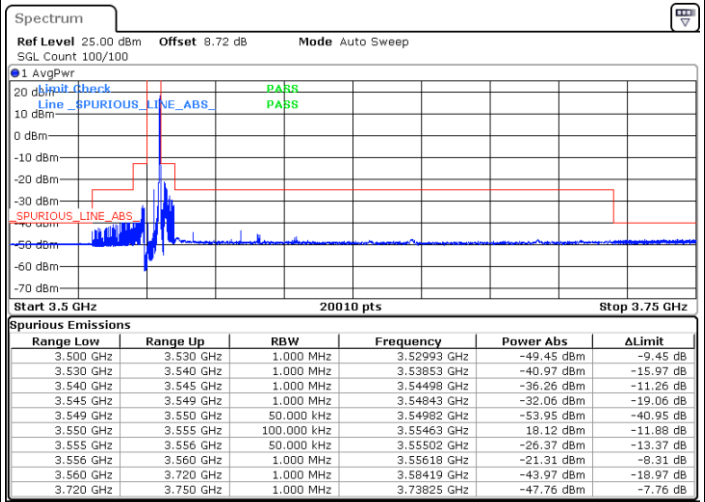
16QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



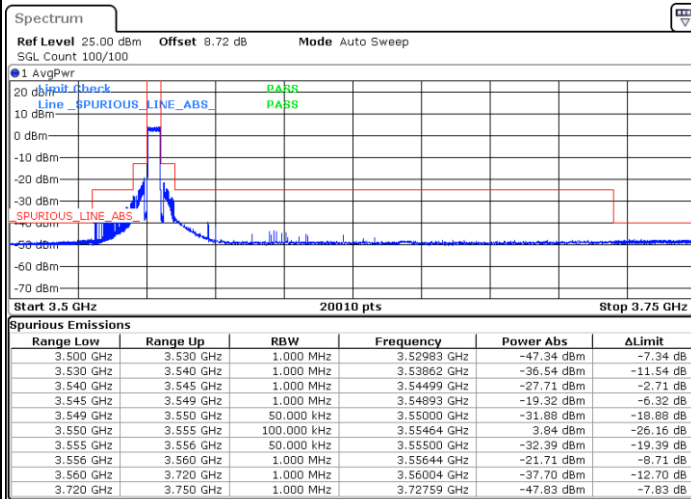
Date: 25.OCT.2022 22:05:42



Date: 25.OCT.2022 22:10:29

Lowest Channel / Full RB

N/A



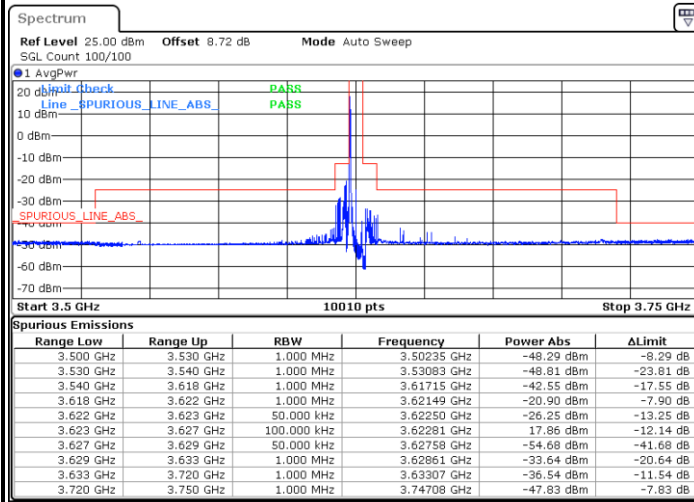
Date: 25.OCT.2022 22:15:15



LTE Band 48 / 5MHz

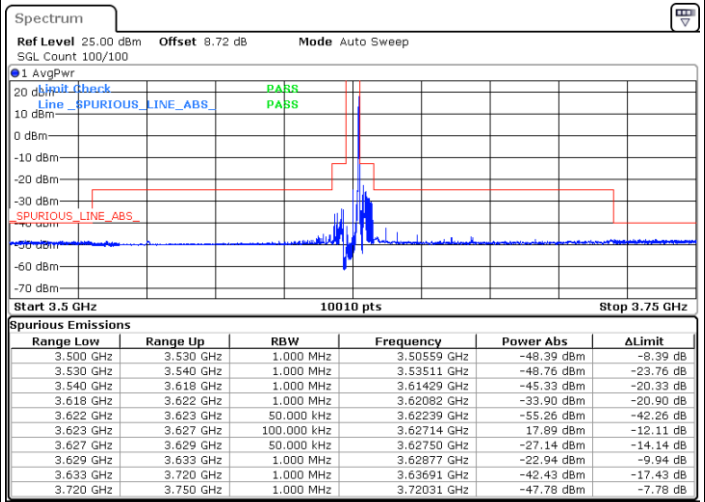
16QAM

Middle Channel / 1RB0



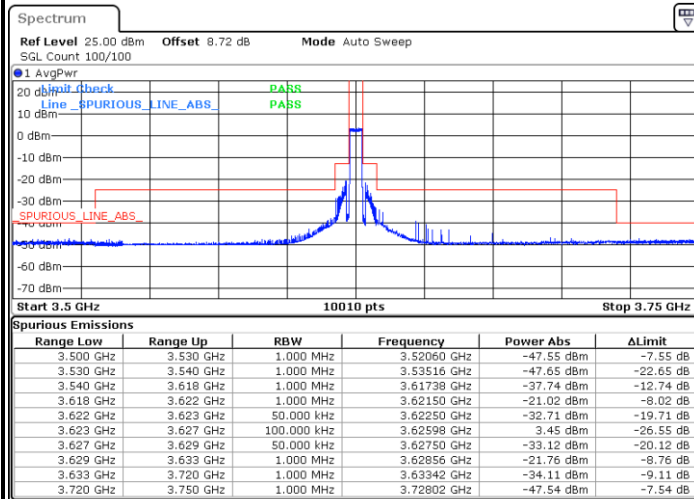
Date: 25.OCT.2022 22:17:38

Middle Channel / 1RBmax



Date: 25.OCT.2022 22:22:23

Middle Channel / Full RB



Date: 25.OCT.2022 22:27:09

N/A

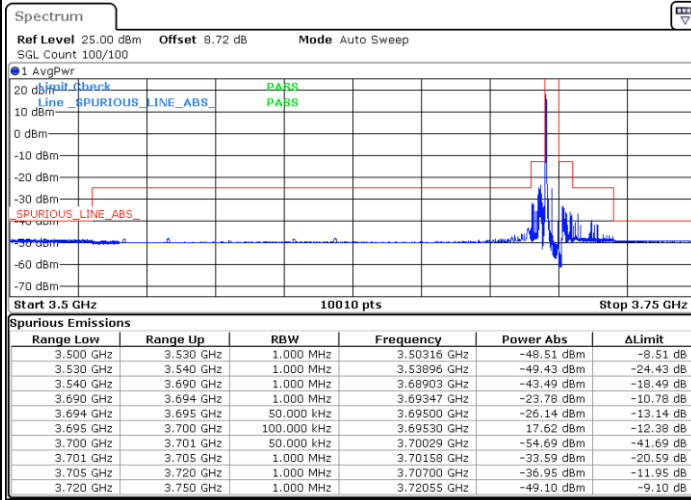


LTE Band 48 / 5MHz

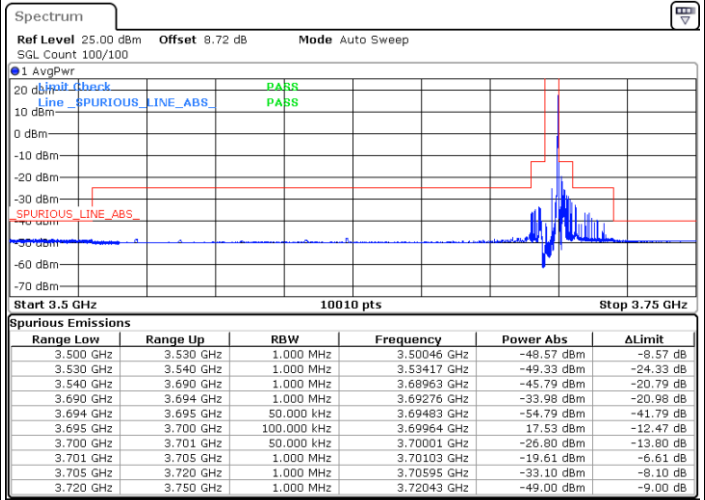
16QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



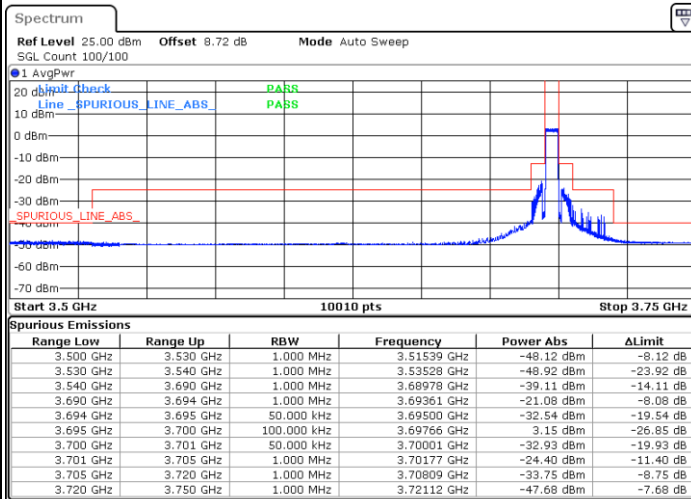
Date: 25.OCT.2022 22:34:19



Date: 25.OCT.2022 22:43:53

Highest Channel / Full RB

N/A



Date: 25.OCT.2022 22:39:06

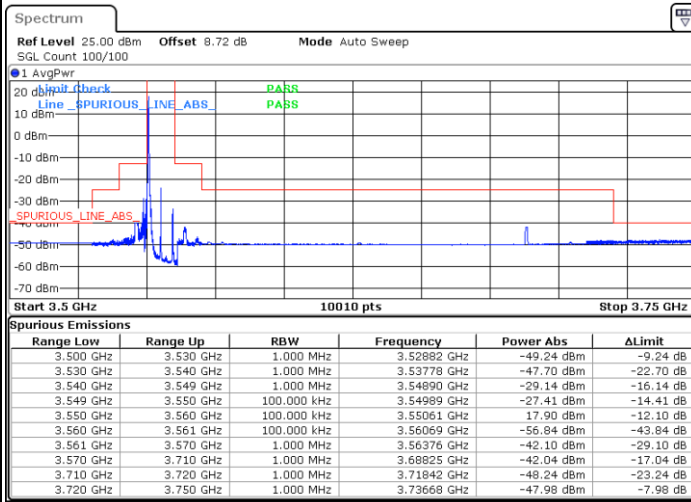


LTE Band 48 / 10MHz

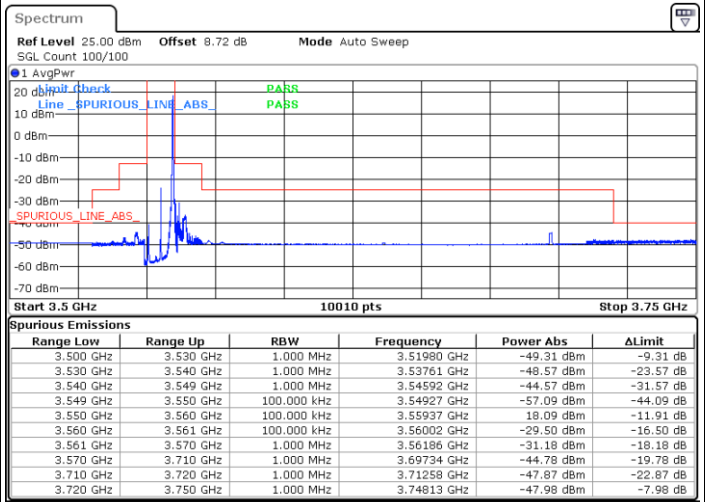
16QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



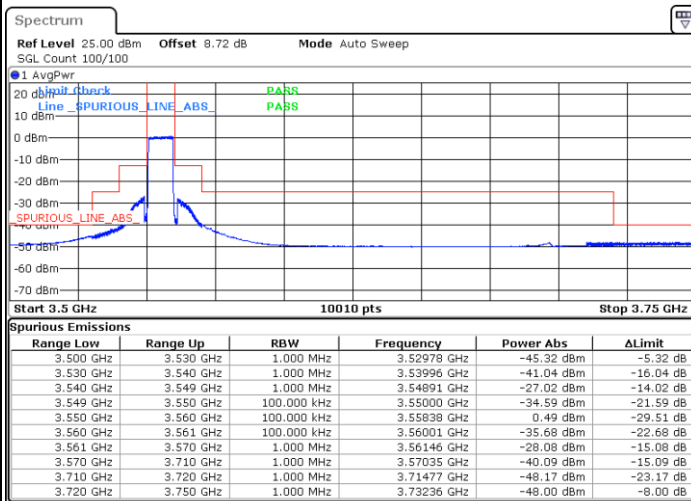
Date: 25.OCT.2022 22:46:17



Date: 25.OCT.2022 22:51:04

Lowest Channel / Full RB

N/A



Date: 25.OCT.2022 22:55:51

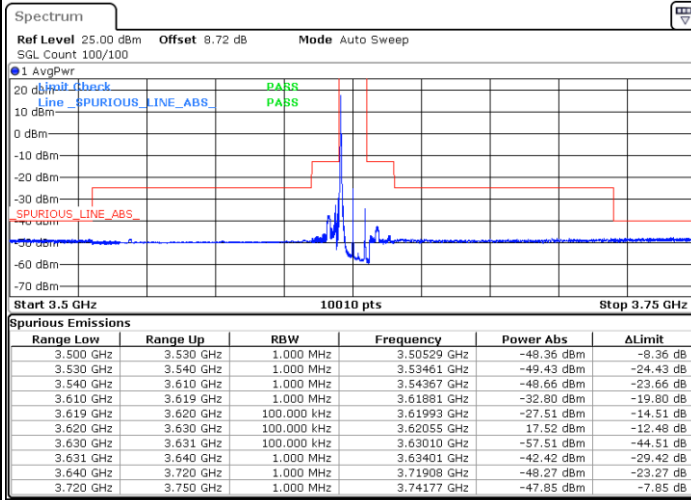


LTE Band 48 / 10MHz

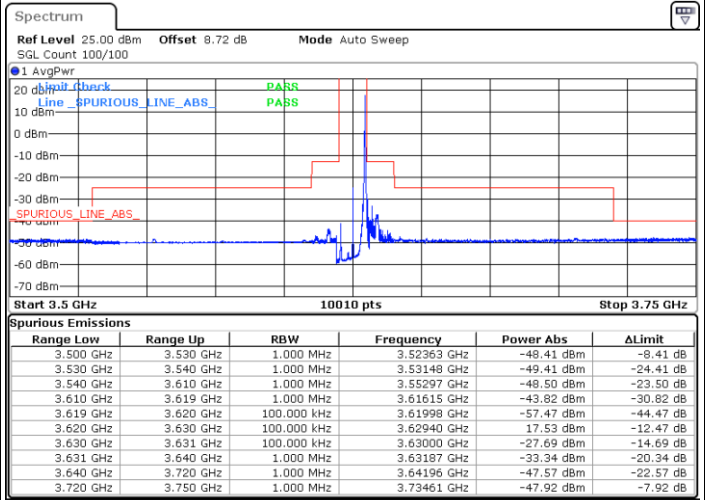
16QAM

MiddleChannel / 1RB0

Middle Channel / 1RBmax



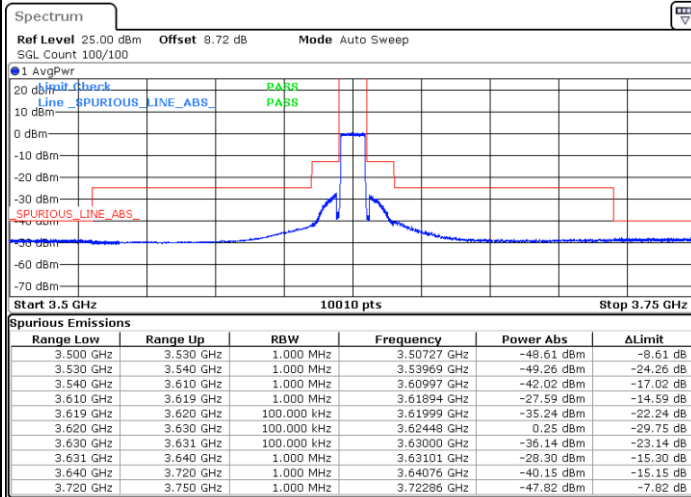
Date: 25.OCT.2022 23:03:00



Date: 25.OCT.2022 23:07:46

Middle Channel / Full RB

N/A



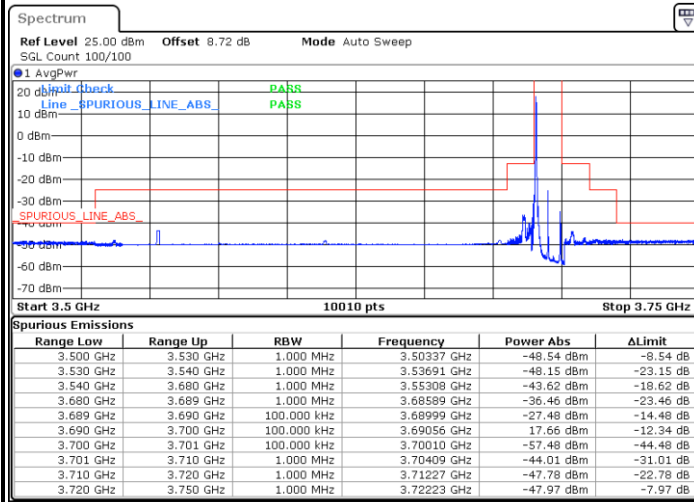
Date: 25.OCT.2022 23:12:31



LTE Band 48 / 10MHz

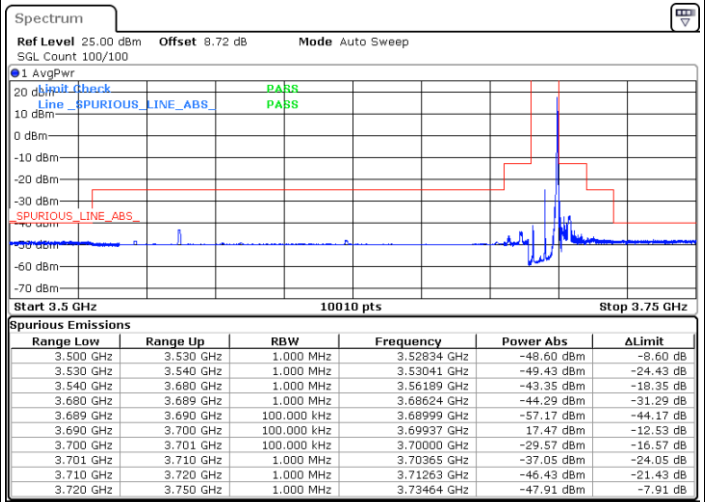
16QAM

Highest Channel / 1RB0



Date: 25.OCT.2022 23:14:54

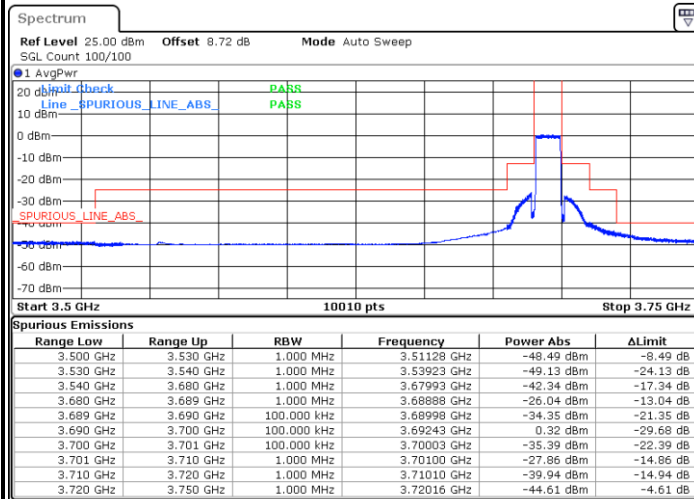
Highest Channel / 1RBmax



Date: 25.OCT.2022 23:24:28

Highest Channel / Full RB

N/A



Date: 25.OCT.2022 23:19:41

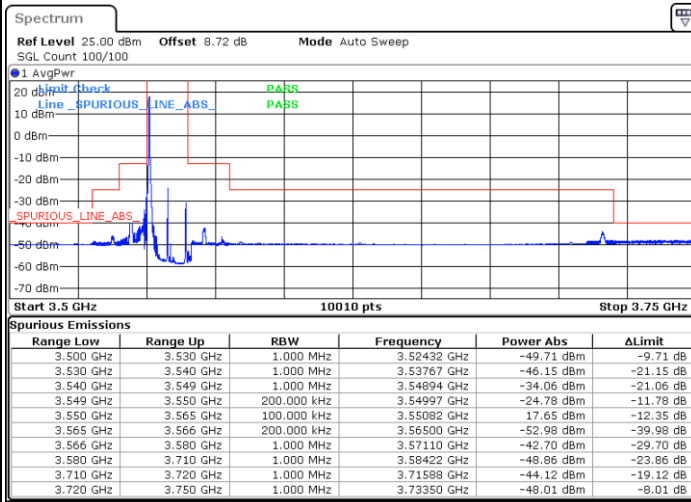


LTE Band 48 / 15MHz

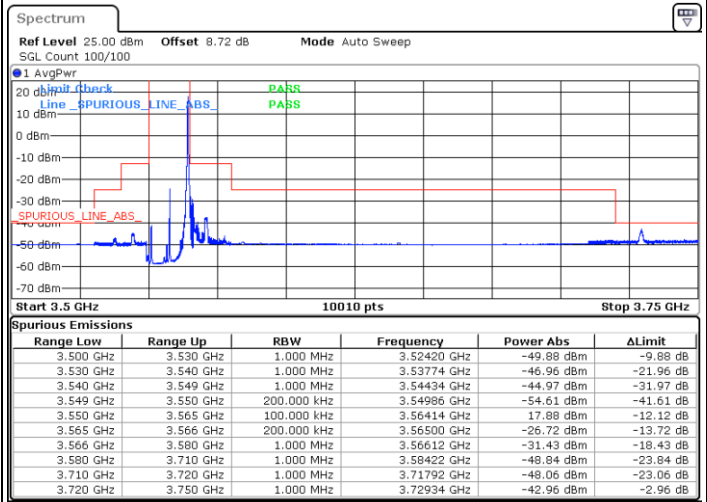
16QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



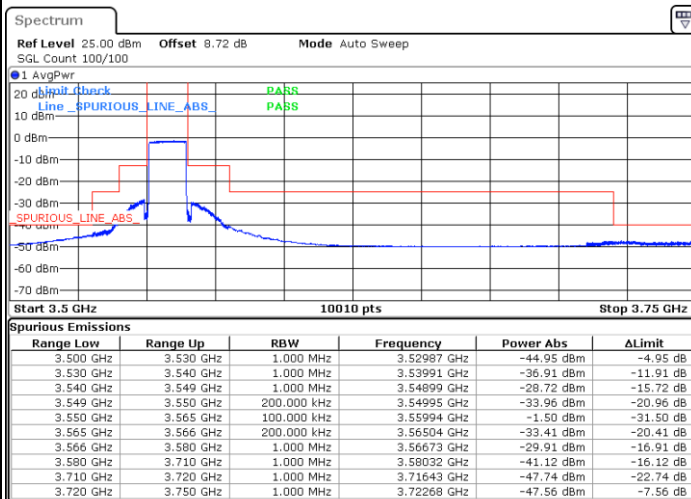
Date: 25.OCT.2022 23:31:38



Date: 25.OCT.2022 23:41:12

Lowest Channel / Full RB

N/A



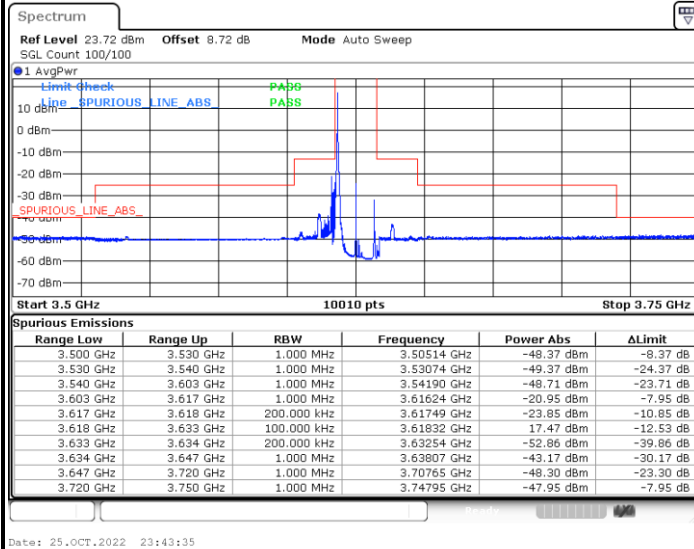
Date: 25.OCT.2022 23:36:25



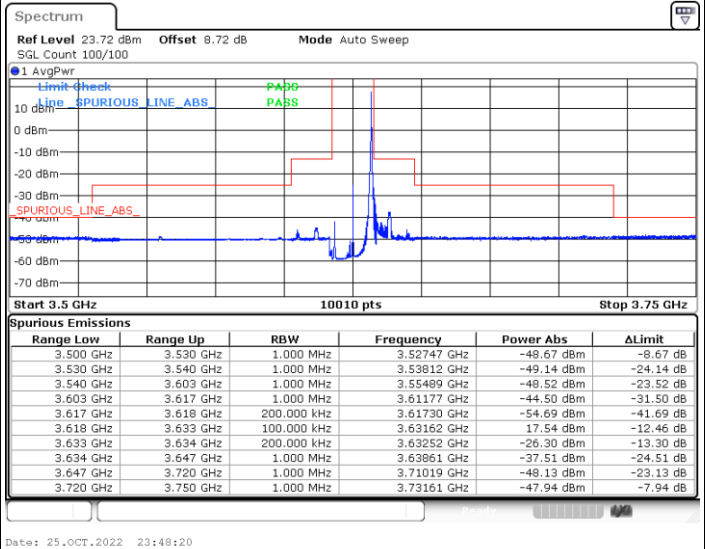
LTE Band 48 / 15MHz

16QAM

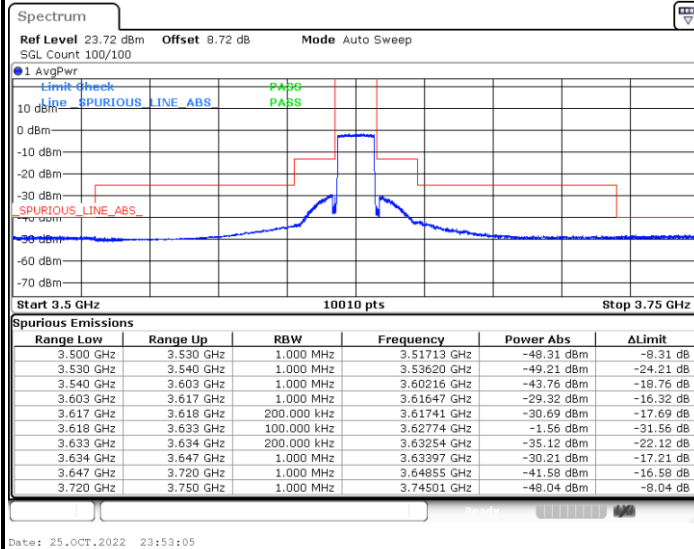
Middle Channel / 1RB0



Middle Channel / 1RBmax



Middle Channel / Full RB



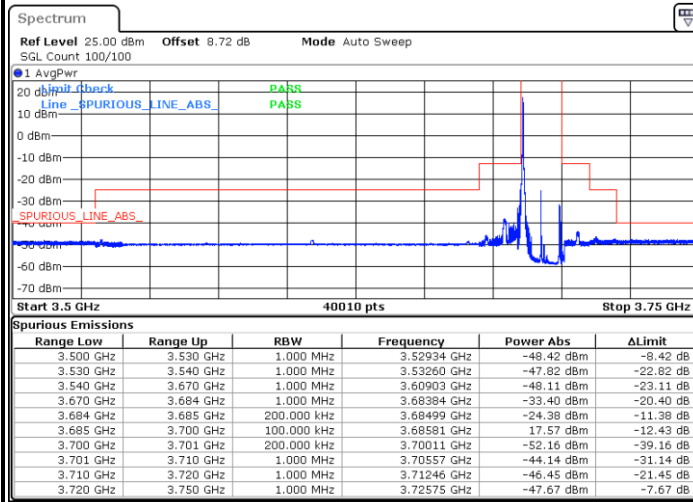
N/A



LTE Band 48 / 15MHz

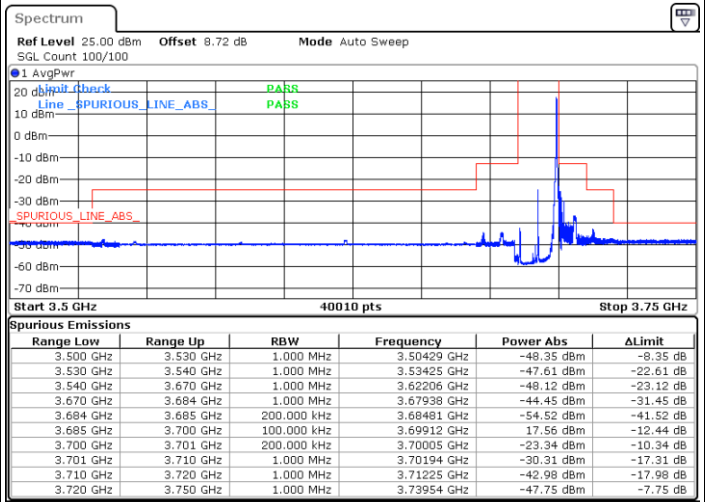
16QAM

Highest Channel / 1RB0



Date: 26.OCT.2022 00:00:14

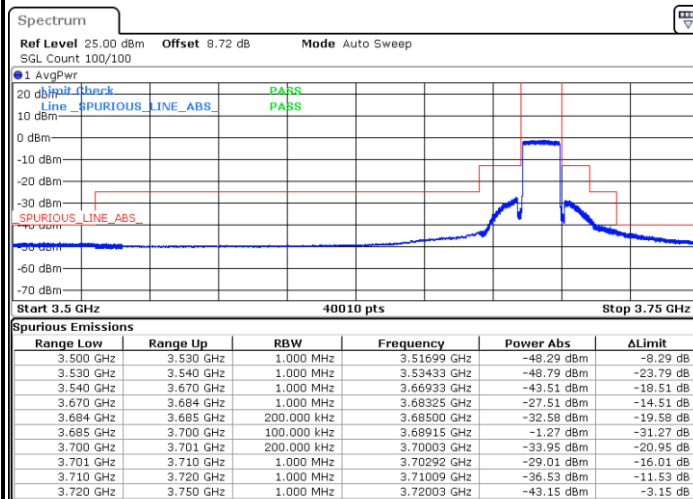
Highest Channel / 1RBmax



Date: 26.OCT.2022 00:10:03

Highest Channel / Full RB

N/A



Date: 26.OCT.2022 00:05:16

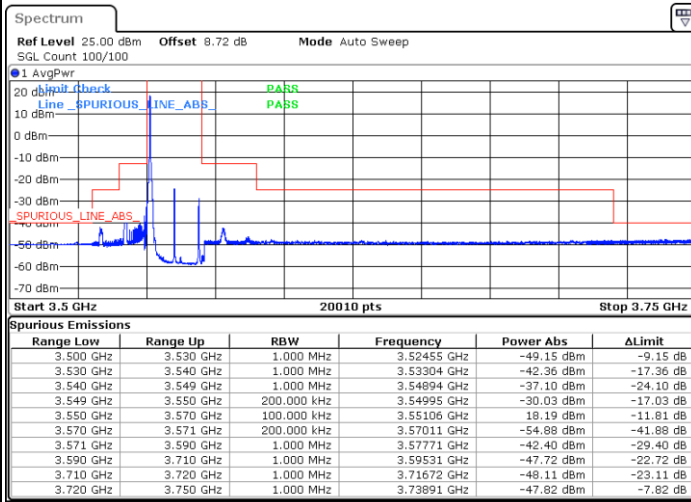


LTE Band 48 / 20MHz

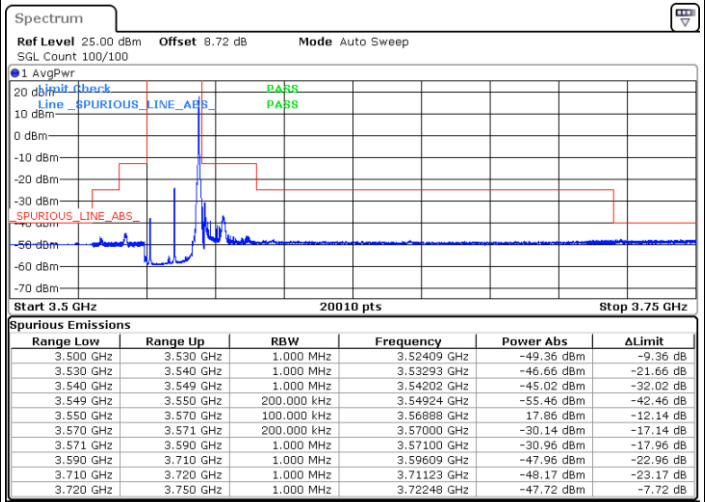
16QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



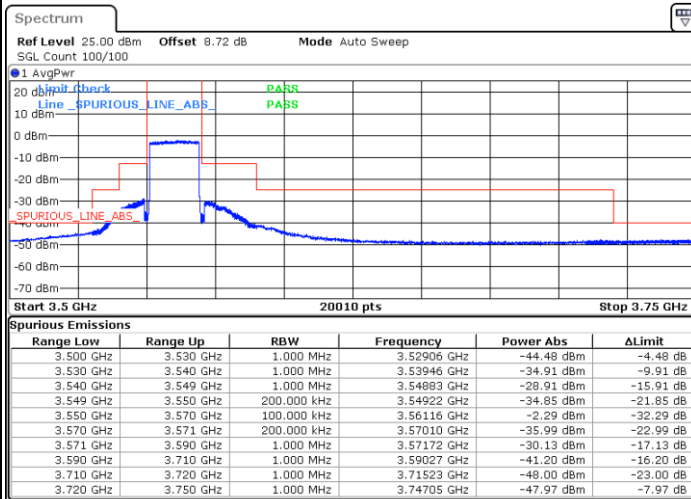
Date: 26.OCT.2022 00:17:14



Date: 26.OCT.2022 00:22:00

Lowest Channel / Full RB

N/A



Date: 26.OCT.2022 00:12:27

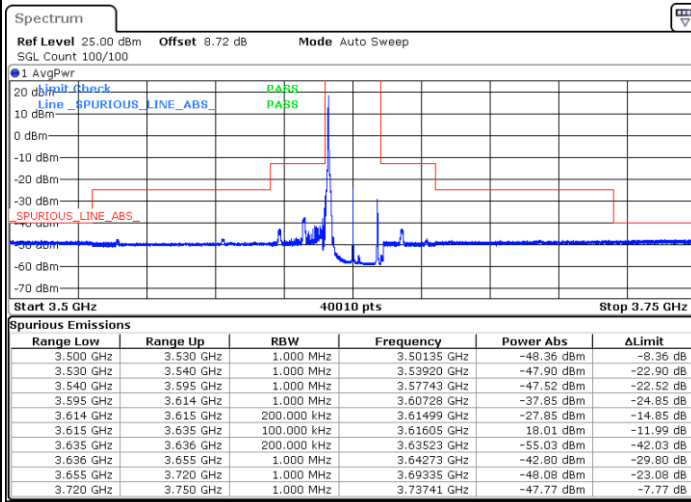


LTE Band 48 / 20MHz

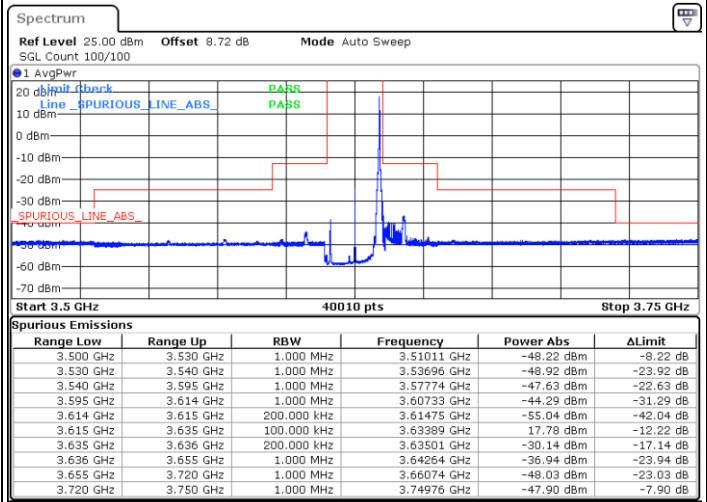
16QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



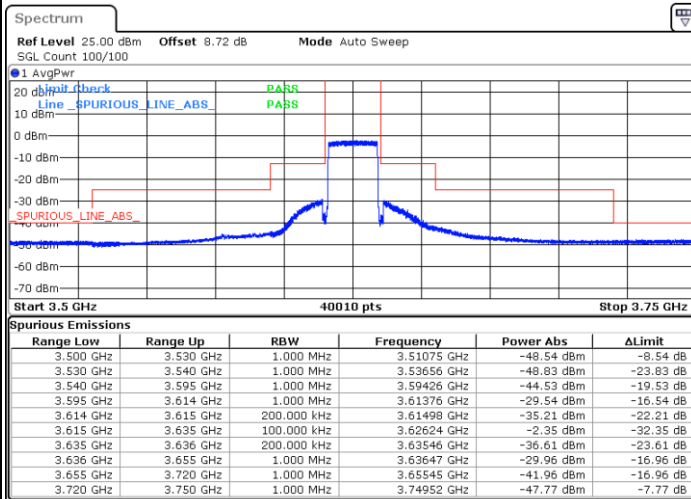
Date: 26.OCT.2022 00:38:40



Date: 26.OCT.2022 00:29:09

Middle Channel / Full RB

N/A



Date: 26.OCT.2022 00:33:55

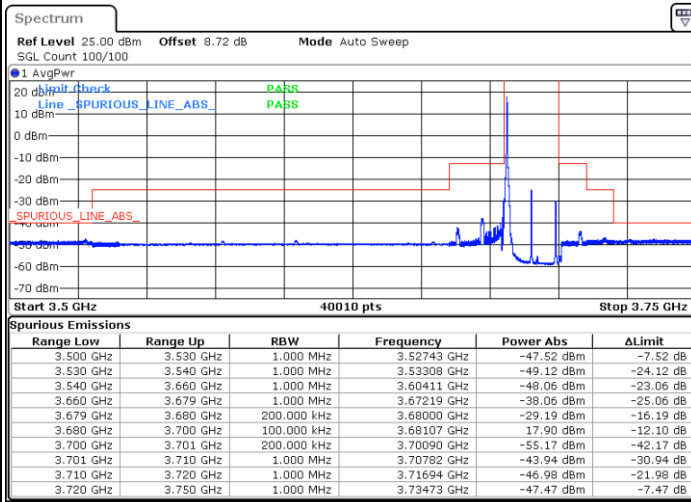


LTE Band 48 / 20MHz

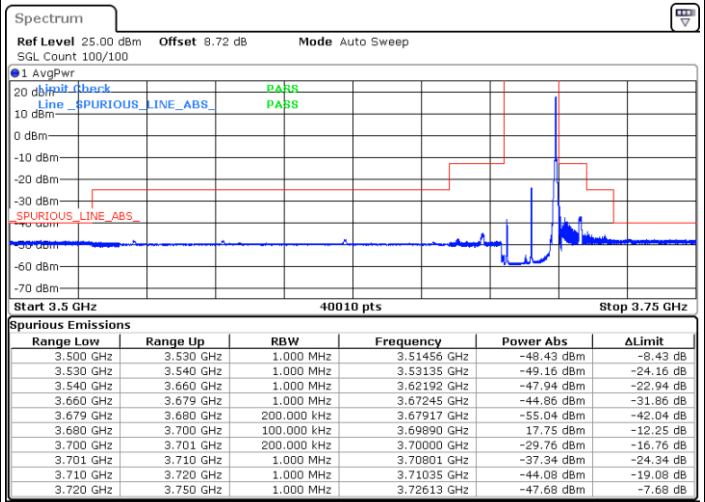
16QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



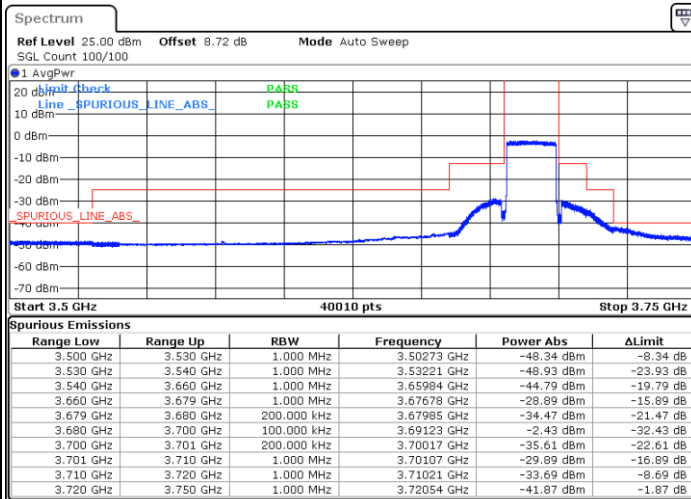
Date: 26.OCT.2022 00:45:51



Date: 26.OCT.2022 00:50:38

Highest Channel / Full RB

N/A



Date: 26.OCT.2022 00:41:03



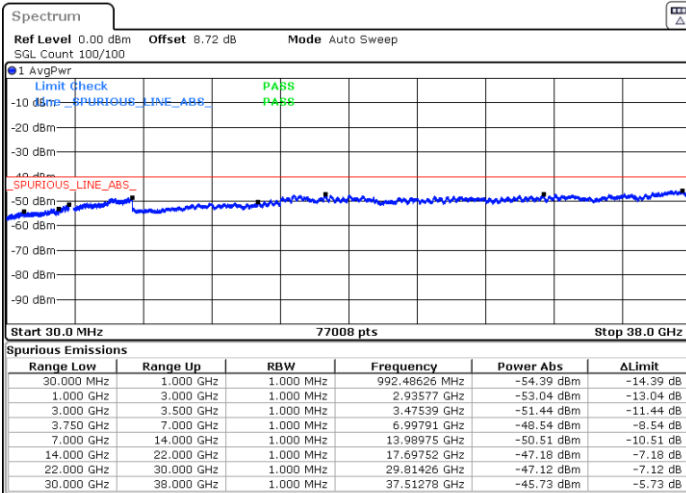
Conducted Spurious Emission

LTE Band 48 / 5MHz

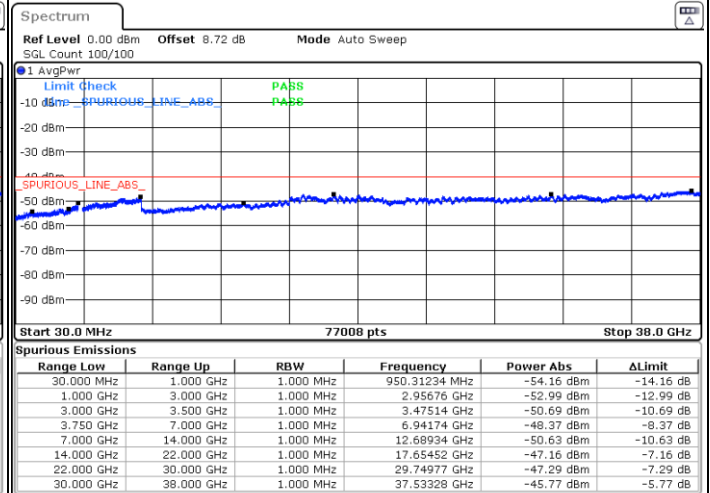
QPSK / 1RB0

Lowest Channel

Middle Channel

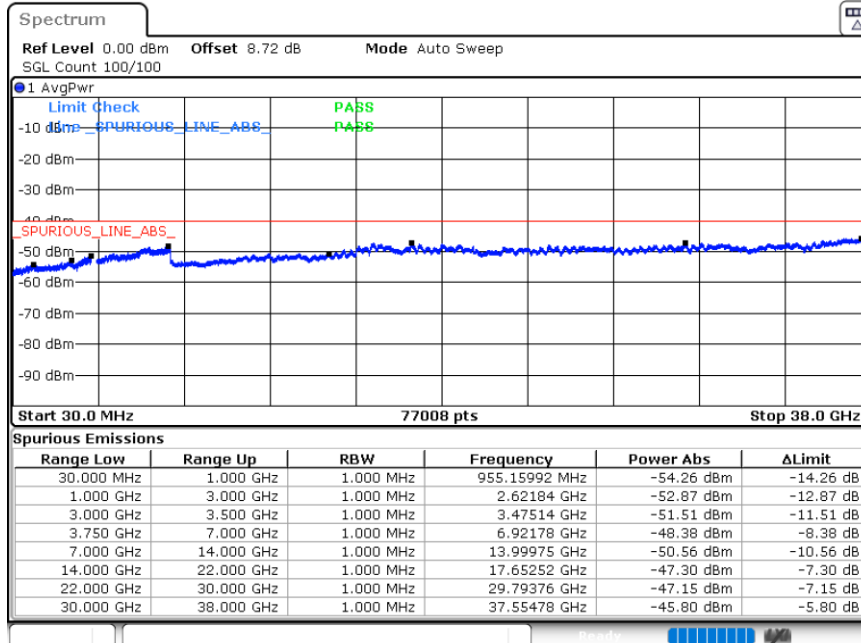


Date: 26.OCT.2022 16:42:23



Date: 26.OCT.2022 16:43:31

Highest Channel



Date: 26.OCT.2022 16:44:52



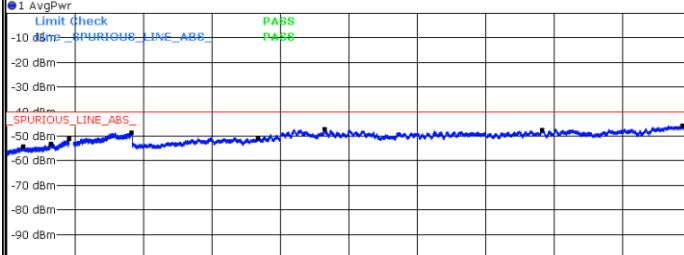
LTE Band 48 / 10MHz

QPSK / 1RB0

Lowest Channel

Middle Channel

Spectrum

Ref Level 0.00 dBm Offset 8.72 dB Mode Auto Sweep
SGL Count 100/100

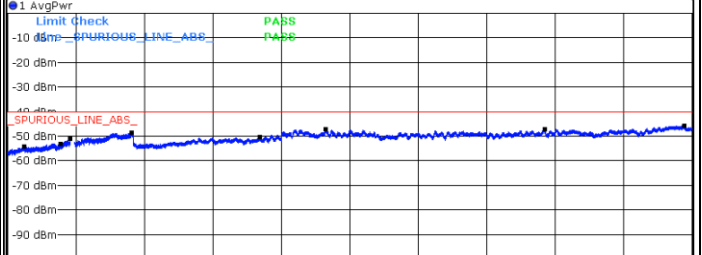
Start 30.0 MHz 77008 pts Stop 38.0 GHz

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	960.97701 MHz	-54.23 dBm	-14.23 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.50337 GHz	-53.10 dBm	-13.10 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.47514 GHz	-50.91 dBm	-10.91 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.92781 GHz	-48.44 dBm	-8.44 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.98375 GHz	-50.56 dBm	-10.56 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.66952 GHz	-47.16 dBm	-7.16 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.73877 GHz	-47.42 dBm	-7.42 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.54228 GHz	-45.74 dBm	-5.74 dB

Date: 26.OCT.2022 16:46:42

Spectrum

Ref Level 0.00 dBm Offset 8.72 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 77008 pts Stop 38.0 GHz

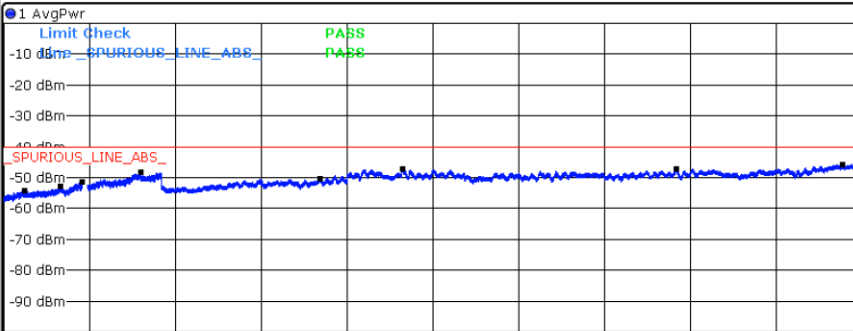
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	938.67816 MHz	-54.12 dBm	-14.12 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.97176 GHz	-53.02 dBm	-13.02 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.47514 GHz	-51.02 dBm	-11.02 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.91899 GHz	-48.53 dBm	-8.53 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.99925 GHz	-50.25 dBm	-10.25 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.66452 GHz	-47.30 dBm	-7.30 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.80576 GHz	-47.19 dBm	-7.19 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.56878 GHz	-45.73 dBm	-5.73 dB

Date: 26.OCT.2022 16:47:57

Highest Channel

Spectrum

Ref Level 0.00 dBm Offset 8.72 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 77008 pts Stop 38.0 GHz

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	950.31234 MHz	-54.20 dBm	-14.20 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51287 GHz	-52.85 dBm	-12.85 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.47514 GHz	-51.55 dBm	-11.55 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.06344 GHz	-48.40 dBm	-8.40 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.99925 GHz	-50.48 dBm	-10.48 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.67902 GHz	-47.28 dBm	-7.28 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.80276 GHz	-47.33 dBm	-7.33 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.11581 GHz	-45.78 dBm	-5.78 dB

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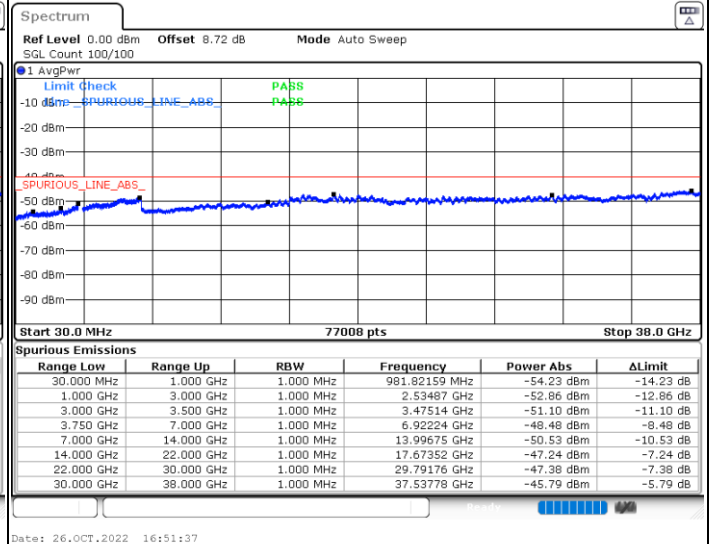
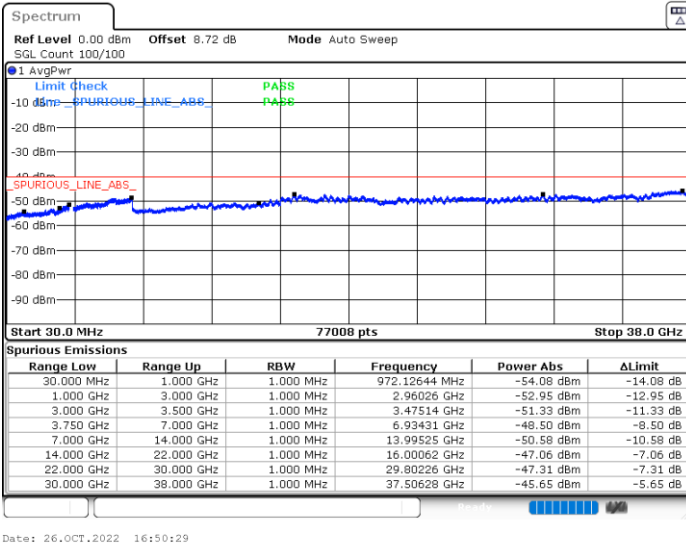


LTE Band 48 / 15MHz

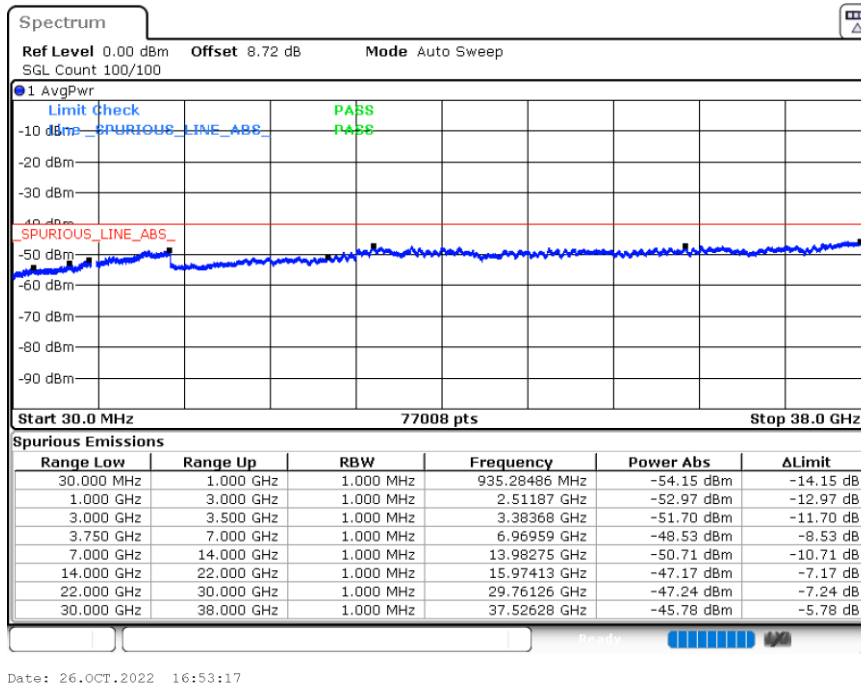
QPSK / 1RB0

Lowest Channel

Middle Channel



Highest Channel





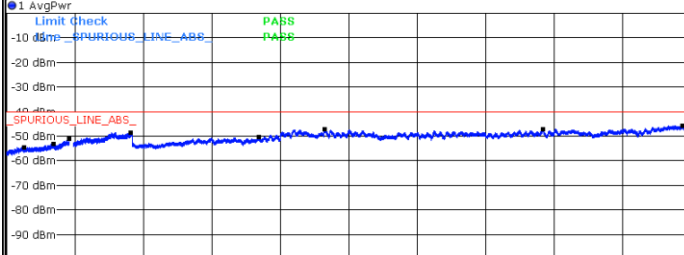
LTE Band 48 / 20MHz

QPSK / 1RB0

Lowest Channel

Middle Channel

Spectrum

Ref Level 0.00 dBm Offset 8.72 dB Mode Auto Sweep
SGL Count 100/100

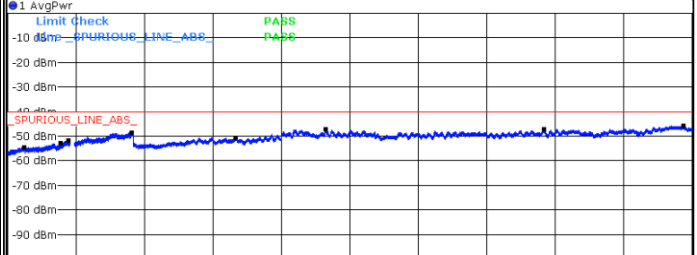
Start 30.0 MHz 77008 pts Stop 38.0 GHz

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.00450 MHz	-54.43 dBm	-14.43 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.63684 GHz	-53.09 dBm	-13.09 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.47514 GHz	-51.17 dBm	-11.17 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.91992 GHz	-48.60 dBm	-8.60 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.99575 GHz	-50.45 dBm	-10.45 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.67602 GHz	-47.24 dBm	-7.24 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.79126 GHz	-47.33 dBm	-7.33 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.52878 GHz	-45.76 dBm	-5.76 dB

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Spectrum

Ref Level 0.00 dBm Offset 8.72 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 77008 pts Stop 38.0 GHz

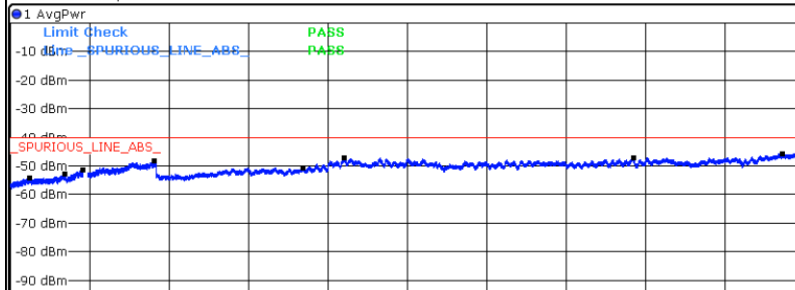
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	966.79410 MHz	-54.45 dBm	-14.45 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.94326 GHz	-52.98 dBm	-12.98 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.38943 GHz	-51.70 dBm	-11.70 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.92689 GHz	-48.50 dBm	-8.50 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.66385 GHz	-50.64 dBm	-10.64 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.67352 GHz	-47.10 dBm	-7.10 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.79376 GHz	-47.22 dBm	-7.22 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.52178 GHz	-45.72 dBm	-5.72 dB

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Highest Channel

Spectrum

Ref Level 0.00 dBm Offset 8.72 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 77008 pts Stop 38.0 GHz

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	962.43128 MHz	-54.10 dBm	-14.10 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.62934 GHz	-52.97 dBm	-12.97 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.47514 GHz	-51.49 dBm	-11.49 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.90925 GHz	-48.29 dBm	-8.29 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.99525 GHz	-50.56 dBm	-10.56 dB
14.000 GHz	22.000 GHz	1.000 MHz	15.98813 GHz	-47.17 dBm	-7.17 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.80776 GHz	-47.23 dBm	-7.23 dB
30.000 GHz	38.000 GHz	1.000 MHz	36.92382 GHz	-45.83 dBm	-5.83 dB

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Frequency Stability

Test Conditions		LTE Band 48 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0035	PASS
40	Normal Voltage	0.0029	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0013	
-10	Normal Voltage	0.0008	
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0027	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0033	
20	Minimum Voltage	0.0026	

Note:

1. Normal Voltage =12 V. ; Minimum Voltage =11.4V. ; Maximum Voltage =12.6V.
2. The frequency fundamental emissions stay within the authorized frequency block.

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Reid Huang	Temperature :	22~25°C
		Relative Humidity :	48~52%

Fixed External Antenna 1:

LTE Band 48 / 20MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7232.00	-51.03	-40	-11.03	-50.10	-54.33	8.30	11.60	H
	10848.00	-50.32	-40	-10.32	-55.31	-51.84	10.48	12.00	H
	14464.00	-49.33	-40	-9.33	-59.76	-51.03	11.80	13.50	H
	7232.00	-49.64	-40	-9.64	-49.02	-52.94	8.30	11.60	V
	10848.00	-51.56	-40	-11.56	-56.18	-53.08	10.48	12.00	V
	14464.00	-50.36	-40	-10.36	-60.21	-52.06	11.80	13.50	V

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

Fixed Internal Antenna:

LTE Band 48 / 20MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7232.00	-51.40	-40	-11.40	-50.47	-54.70	8.30	11.60	H
	10848.00	-52.10	-40	-12.10	-57.09	-53.62	10.48	12.00	H
	14464.00	-49.52	-40	-9.52	-59.95	-51.22	11.80	13.50	H
	7232.00	-50.31	-40	-10.31	-49.69	-53.61	8.30	11.60	V
	10848.00	-50.74	-40	-10.74	-55.36	-52.26	10.48	12.00	V
	14464.00	-50.05	-40	-10.05	-59.90	-51.75	11.80	13.50	V

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