

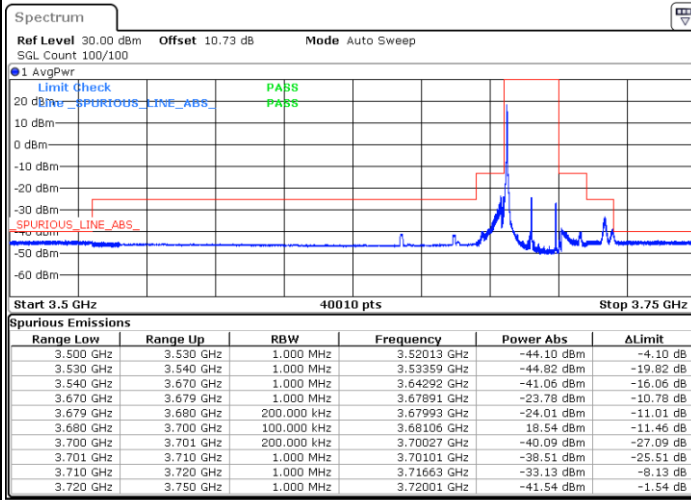


LTE Band 48 / 20MHz

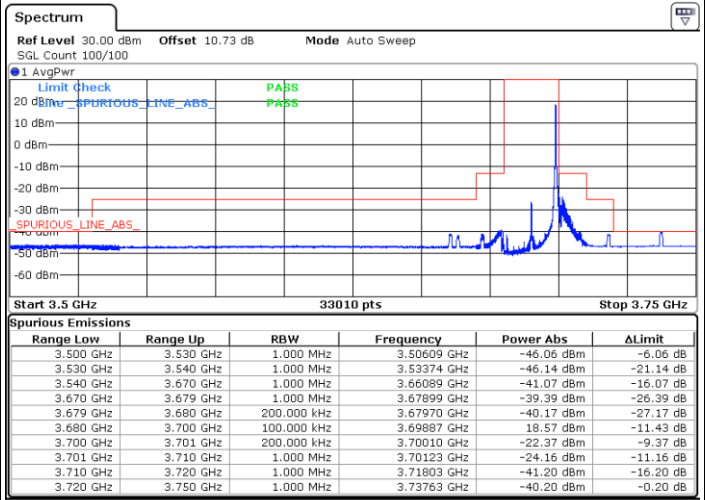
16QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



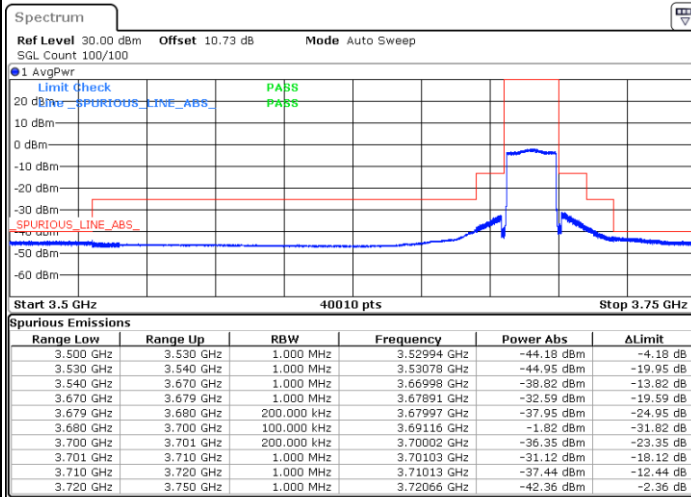
Date: 8.JAN.2023 04:58:54



Date: 8.JAN.2023 13:01:10

Highest Channel / FullIRB

N/A



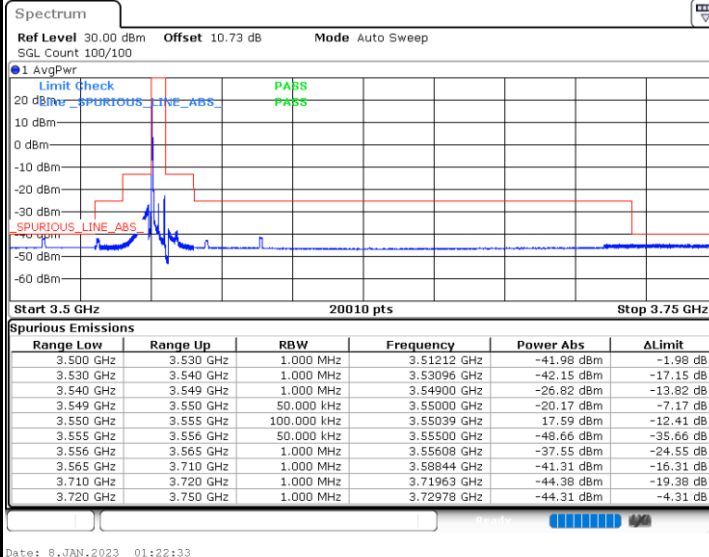
Date: 8.JAN.2023 05:09:01



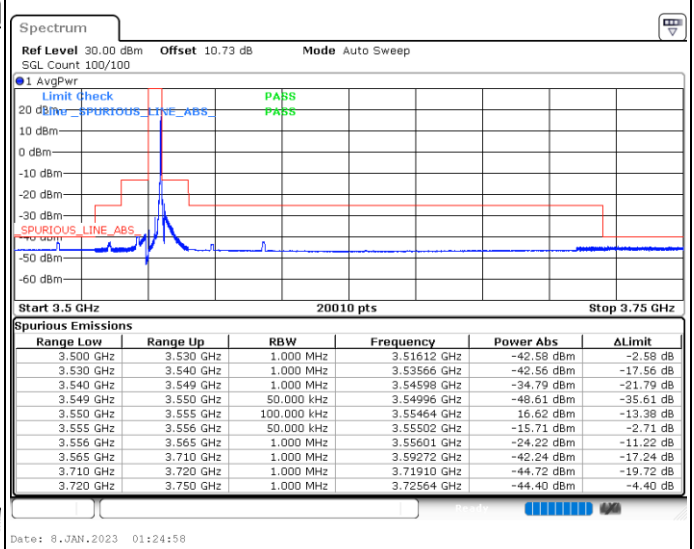
LTE Band 48 / 5MHz

64QAM

Lowest Channel / 1RB0

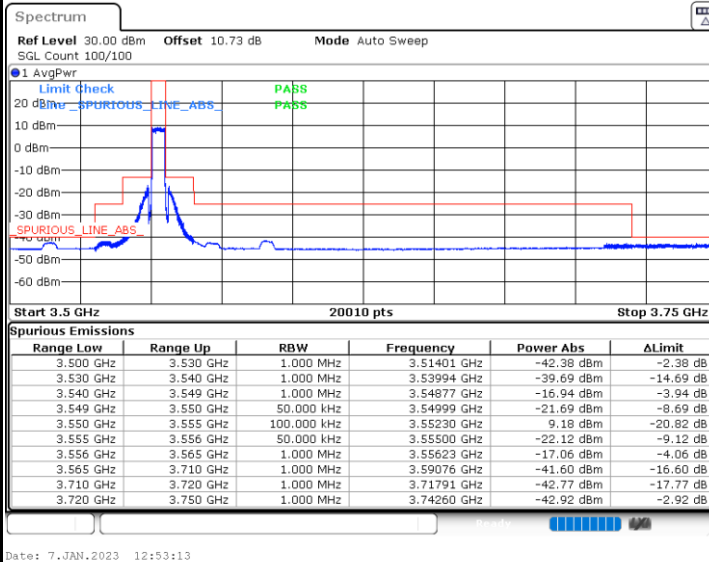


Lowest Channel / 1RBmax



Lowest Channel / FullRB

N/A



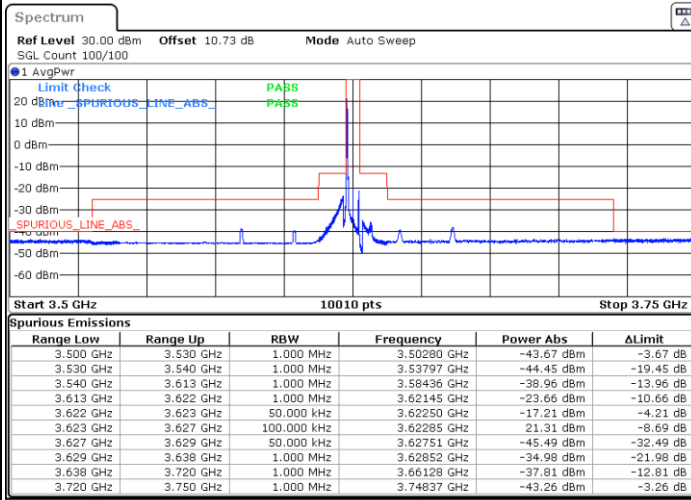


LTE Band 48 / 5MHz

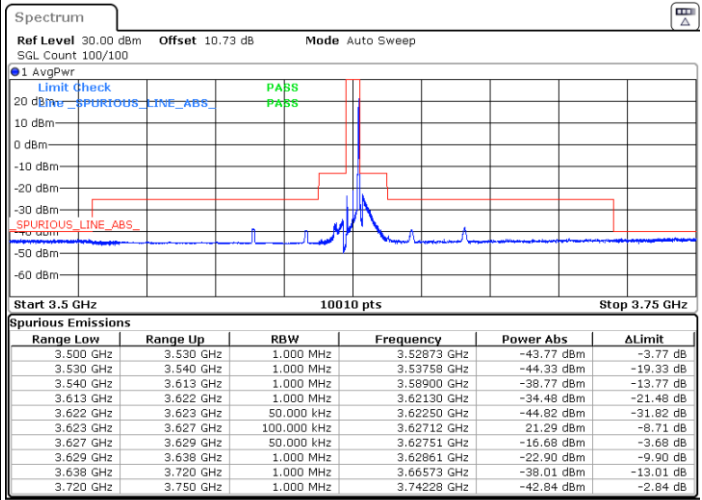
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



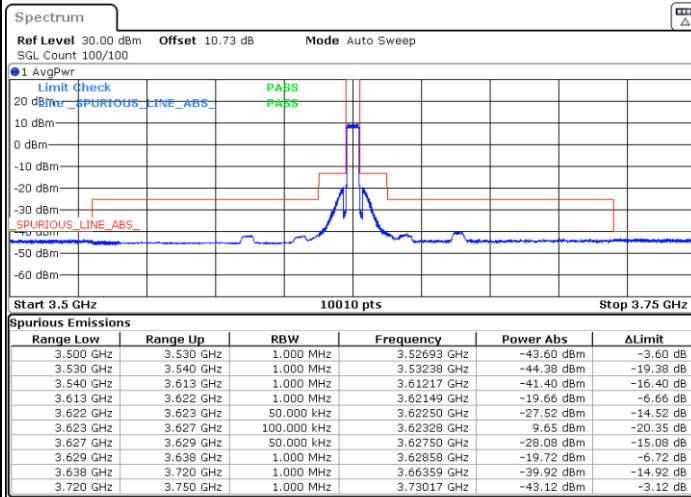
Date: 7.JAN.2023 12:58:15



Date: 7.JAN.2023 12:59:55

Middle Channel / FullRB

N/A



Date: 7.JAN.2023 13:08:16

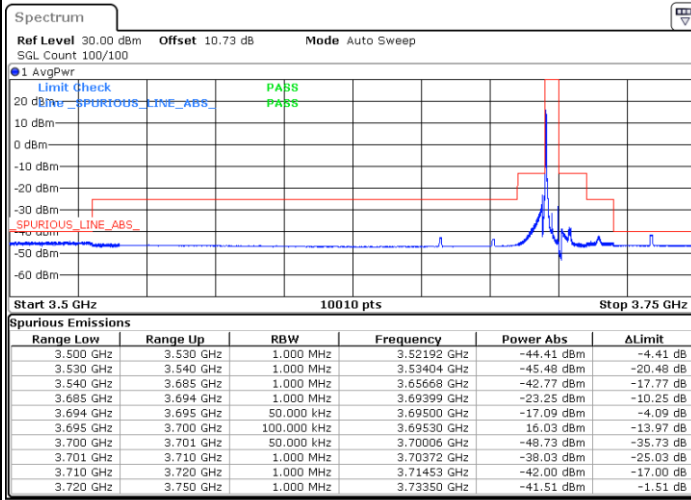


LTE Band 48 / 5MHz

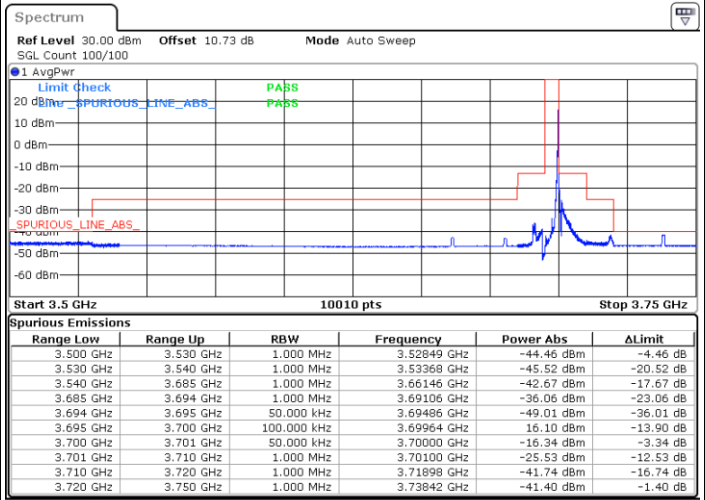
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



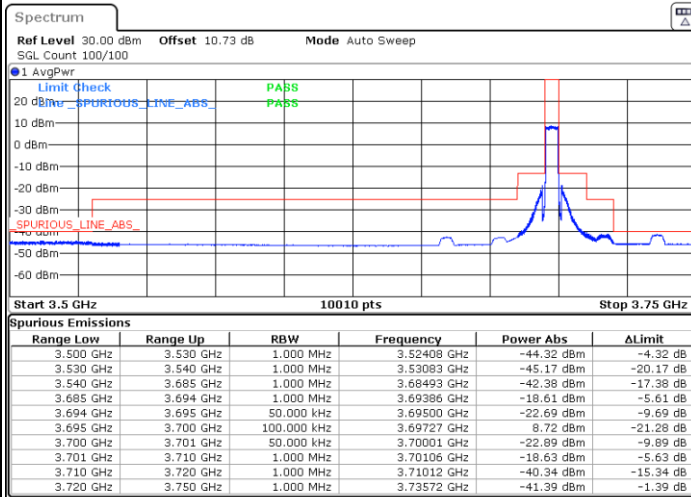
Date: 8.JAN.2023 01:31:41



Date: 8.JAN.2023 01:33:03

Highest Channel / FullIRB

N/A



Date: 7.JAN.2023 13:23:24

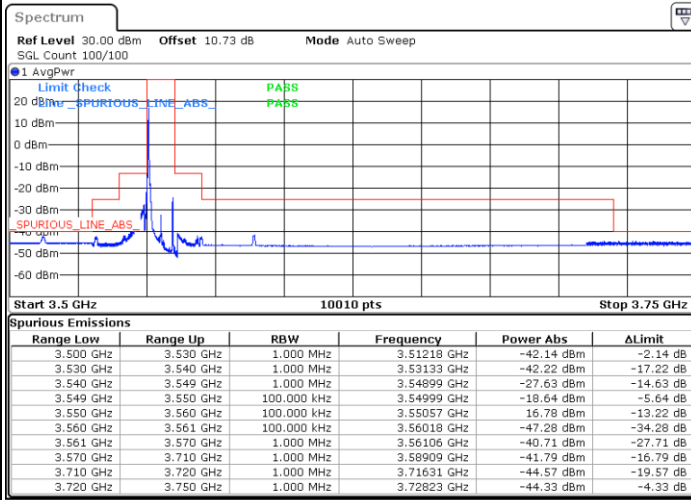


LTE Band 48 / 10MHz

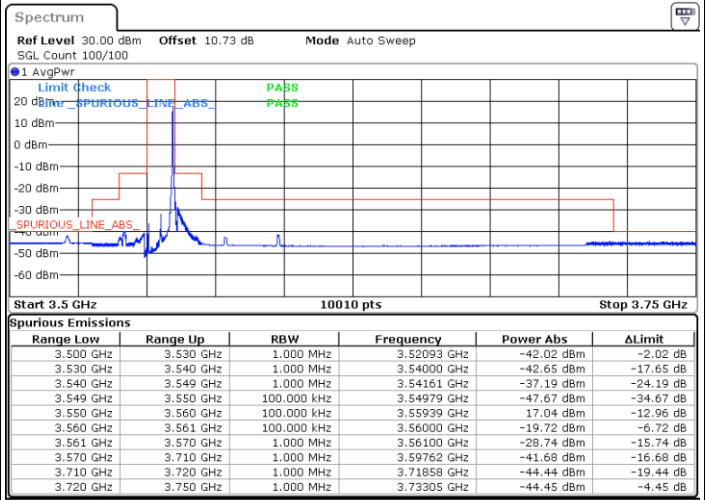
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



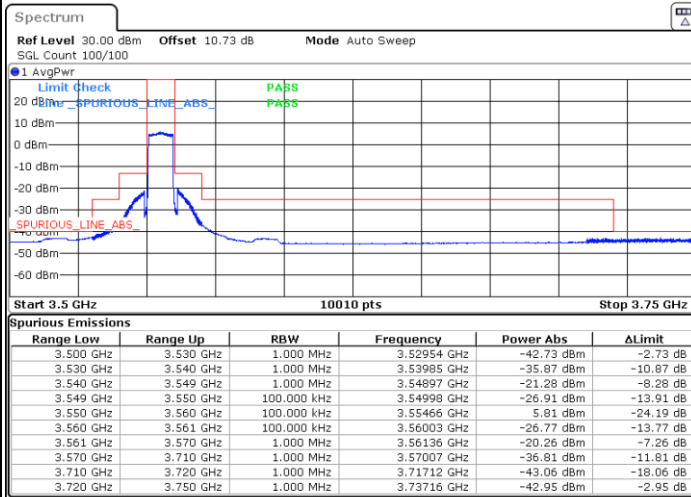
Date: 8.JAN.2023 03:25:24



Date: 8.JAN.2023 03:26:42

Lowest Channel / FullRB

N/A



Date: 7.JAN.2023 13:38:33

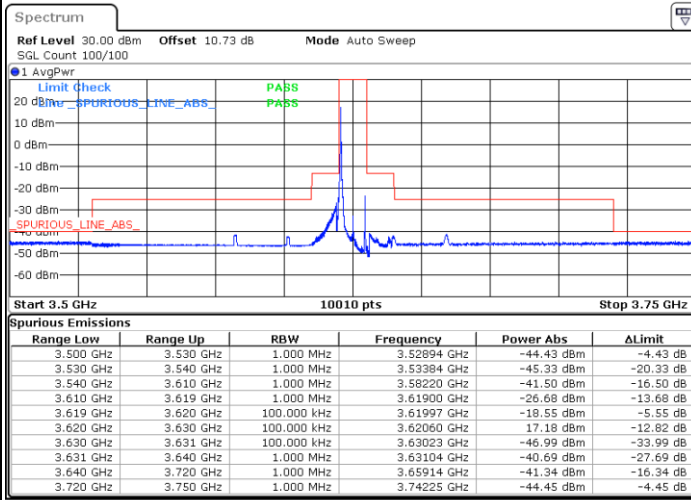


LTE Band 48 / 10MHz

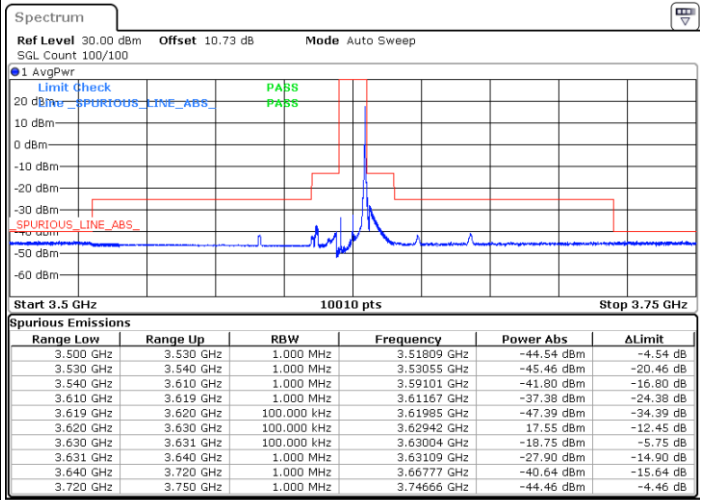
64QAM

MiddleChannel / 1RB0

Middle Channel / 1RBmax



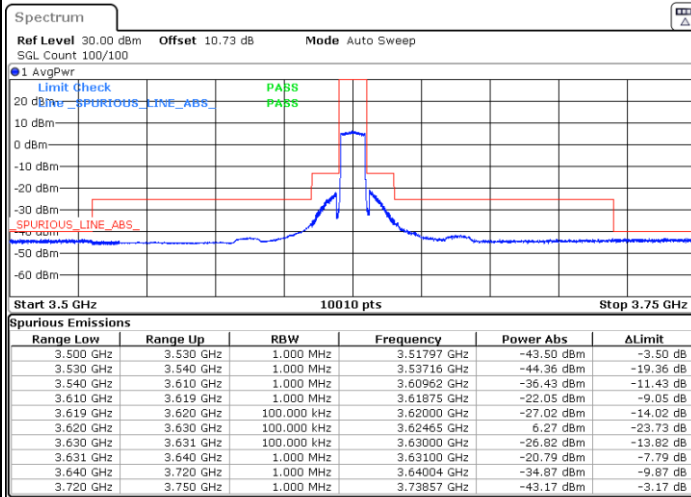
Date: 8.JAN.2023 03:47:03



Date: 8.JAN.2023 03:47:56

Middle Channel / FullIRB

N/A



Date: 7.JAN.2023 13:50:16

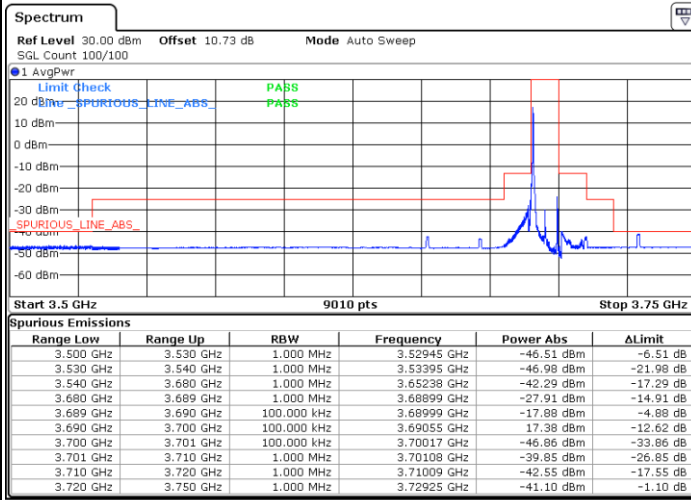


LTE Band 48 / 10MHz

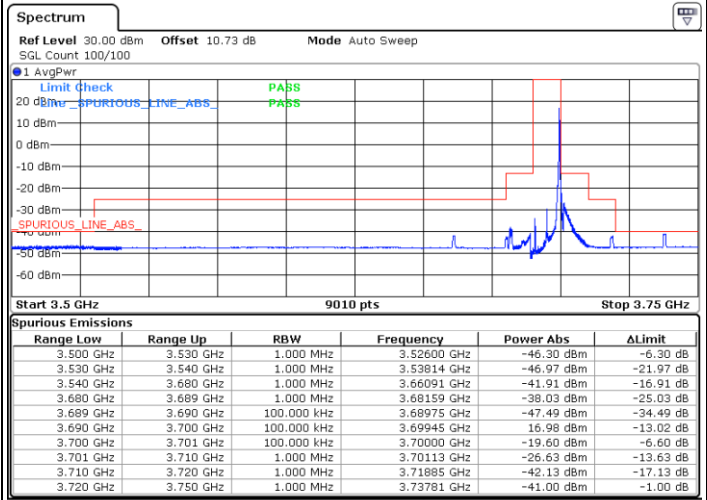
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



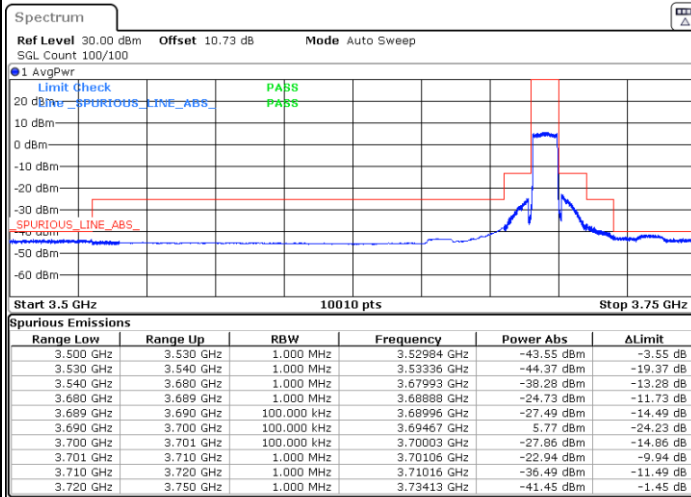
Date: 8.JAN.2023 14:06:17



Date: 8.JAN.2023 13:53:07

Highest Channel / FullIRB

N/A



Date: 7.JAN.2023 14:08:46

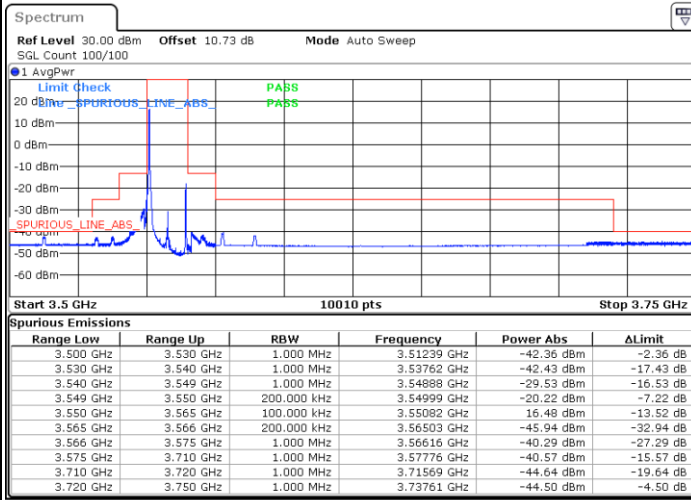


LTE Band 48 / 15MHz

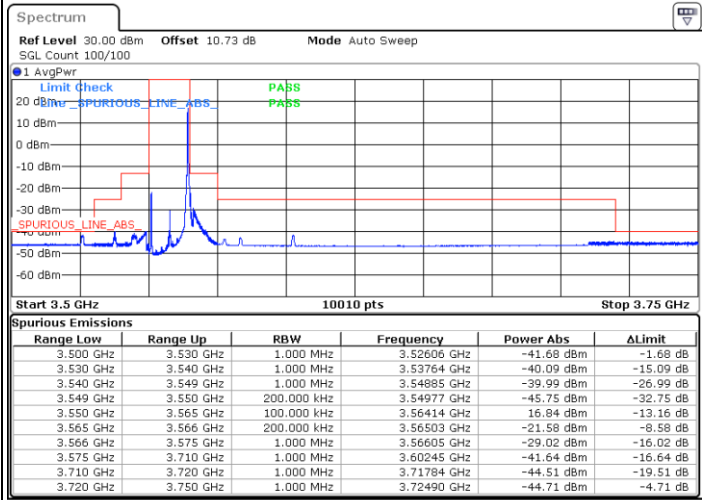
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



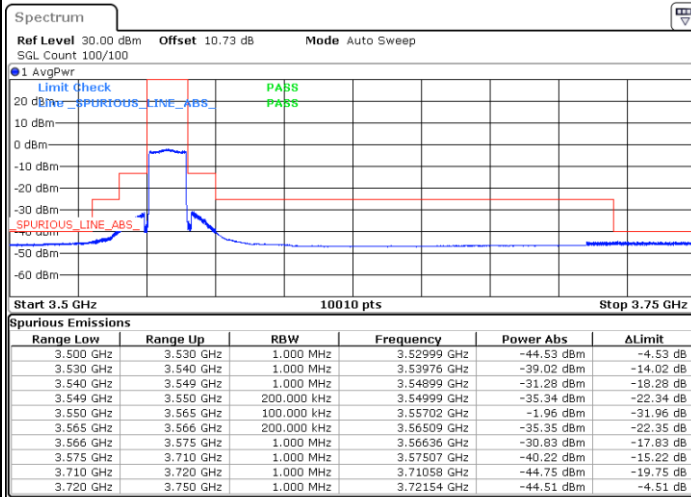
Date: 8.JAN.2023 04:12:50



Date: 8.JAN.2023 04:13:58

Lowest Channel / FullRB

N/A



Date: 8.JAN.2023 04:22:28

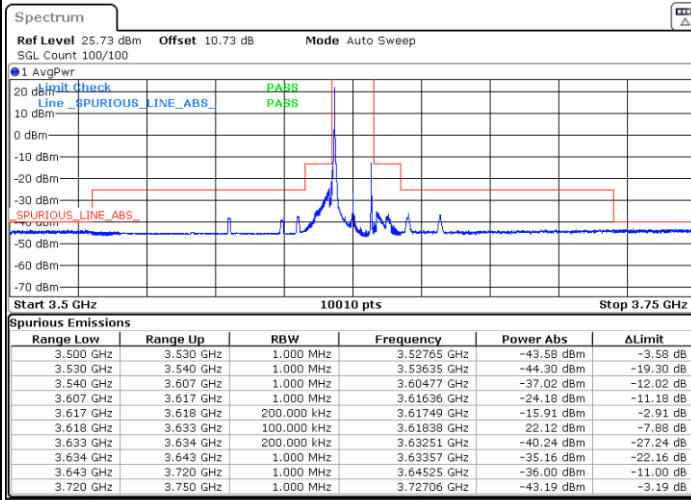


LTE Band 48 / 15MHz

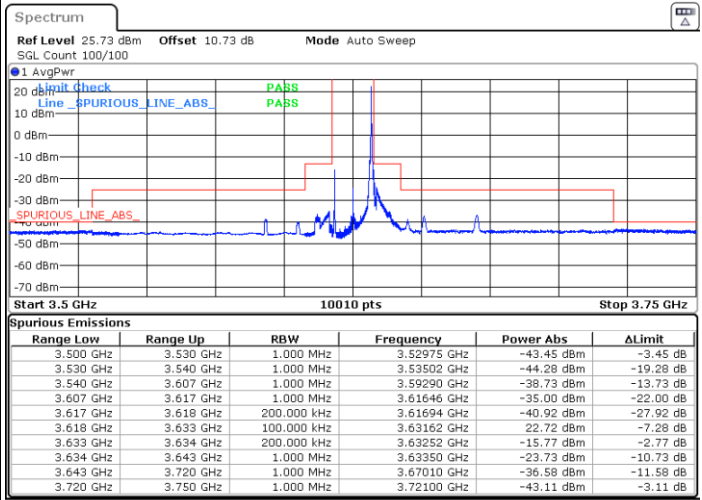
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



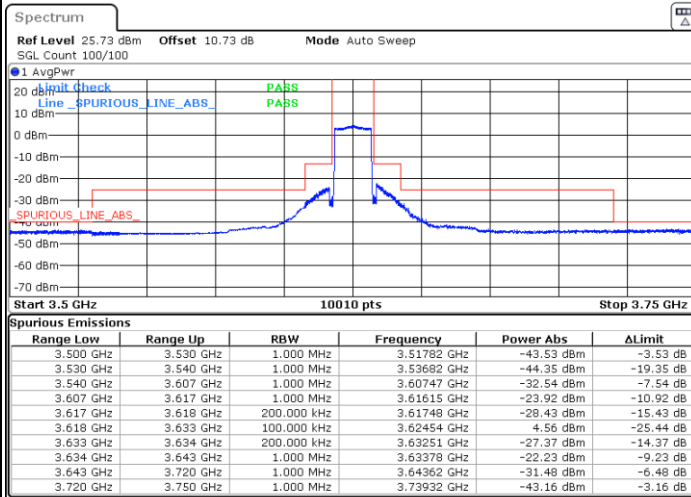
Date: 7.JAN.2023 15:38:03



Date: 7.JAN.2023 15:46:26

Middle Channel / FullIRB

N/A



Date: 7.JAN.2023 15:36:23

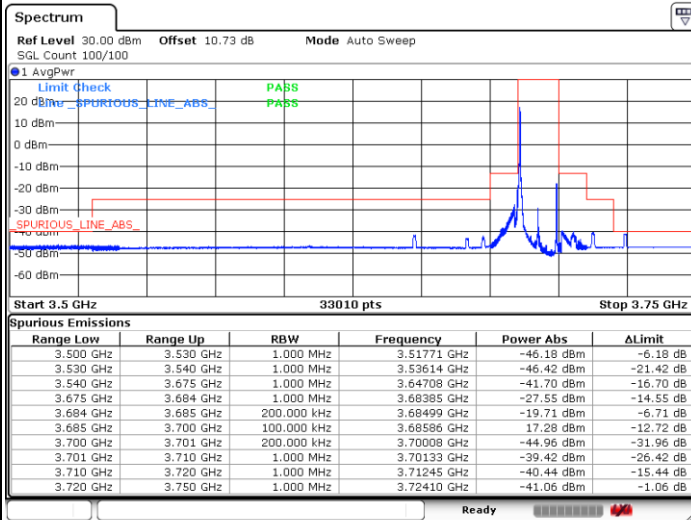


LTE Band 48 / 15MHz

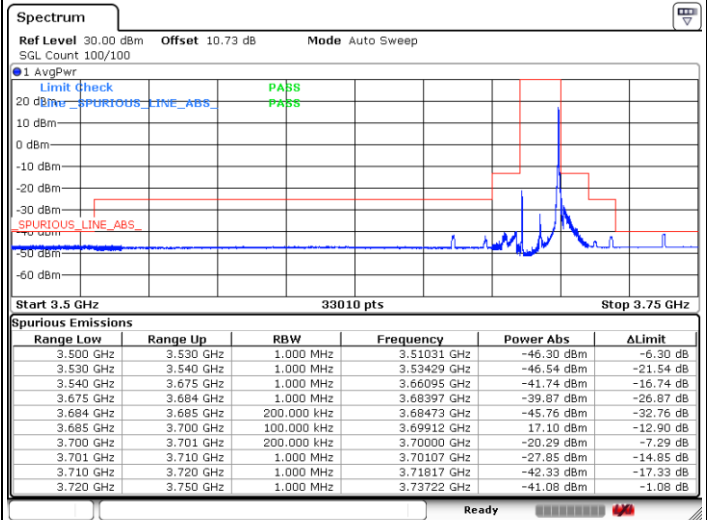
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



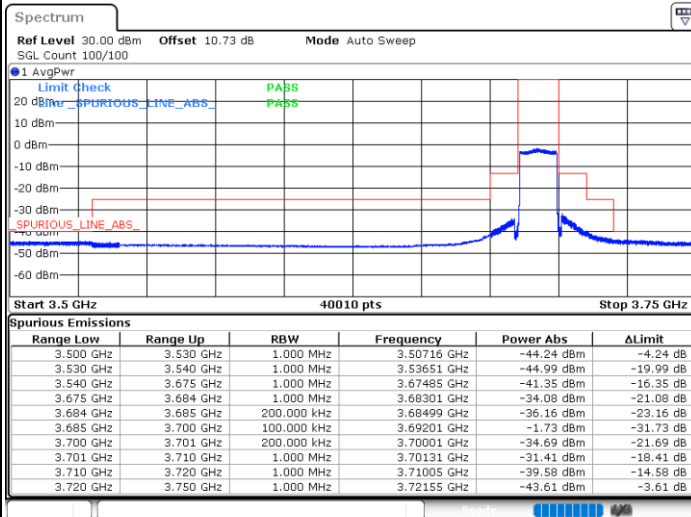
Date: 8.JAN.2023 13:39:45



Date: 8.JAN.2023 13:14:06

Highest Channel / FullIRB

N/A



Date: 8.JAN.2023 04:35:28

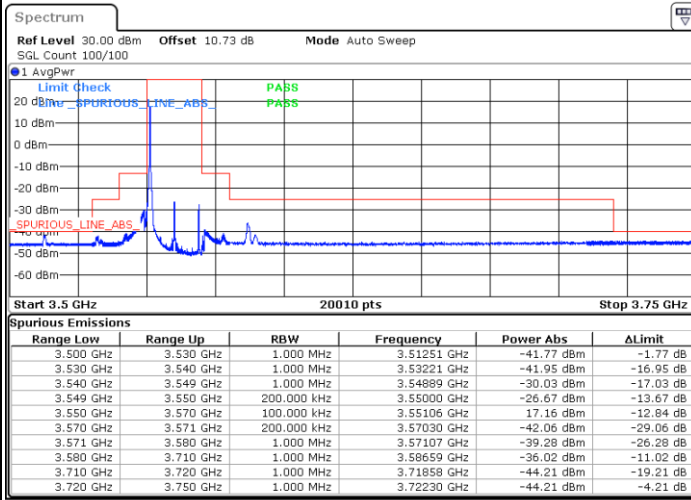


LTE Band 48 / 20MHz

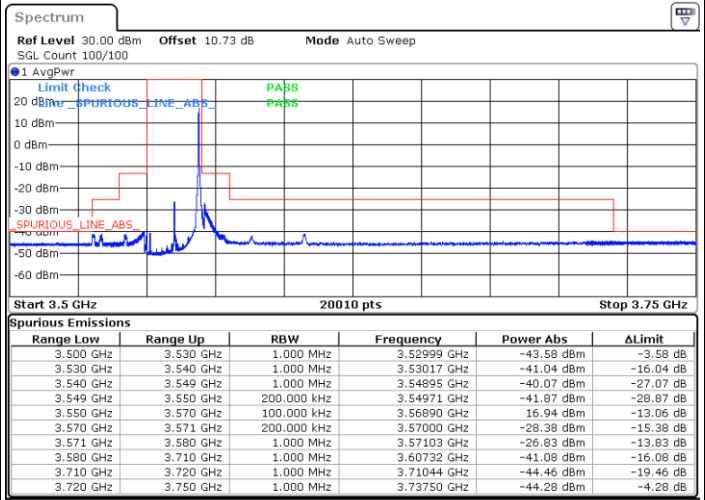
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



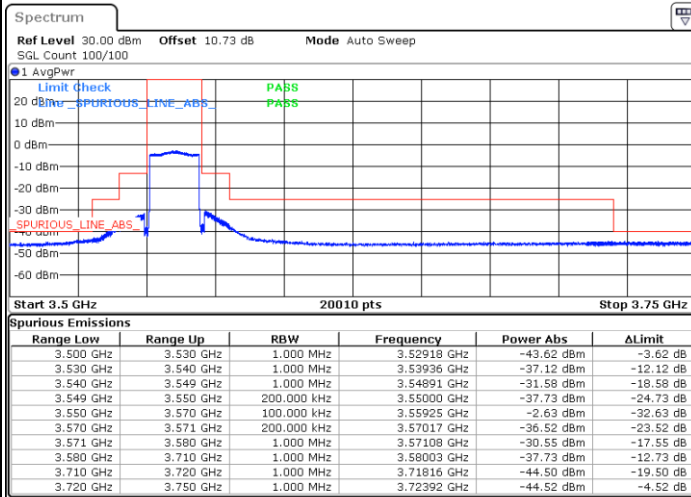
Date: 8.JAN.2023 04:45:26



Date: 8.JAN.2023 04:47:07

Lowest Channel / FullRB

N/A



Date: 8.JAN.2023 04:55:32

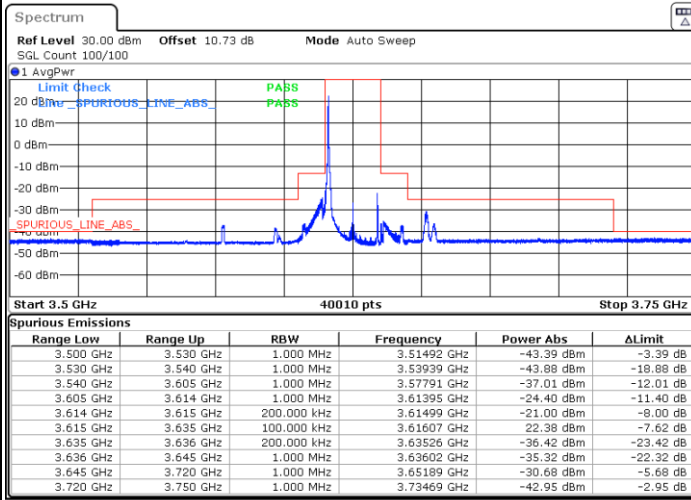


LTE Band 48 / 20MHz

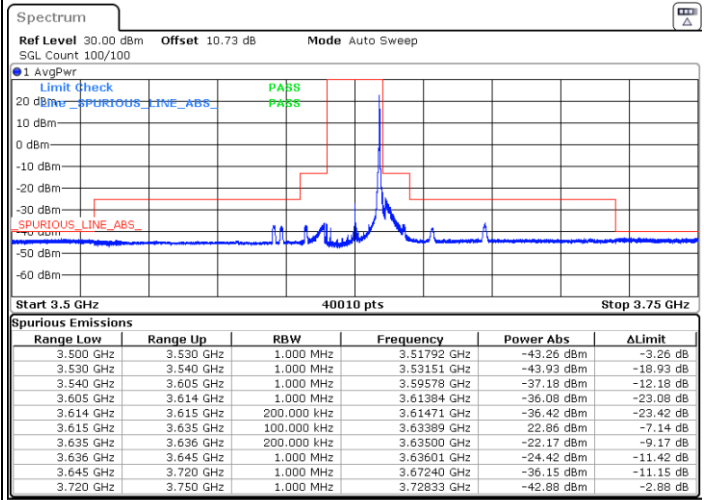
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



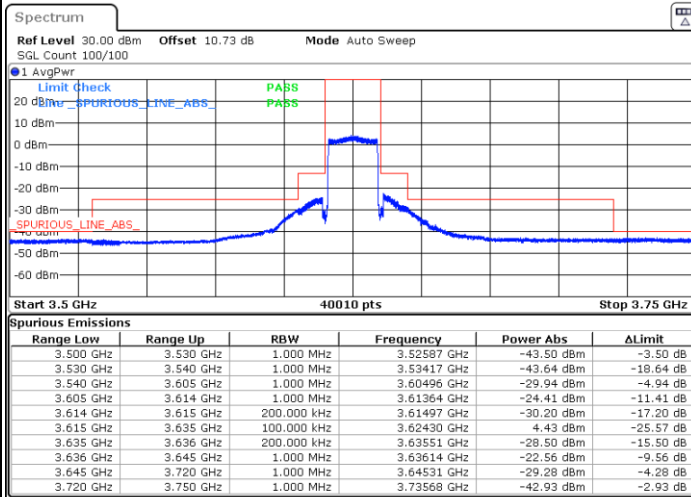
Date: 7.JAN.2023 14:28:58



Date: 7.JAN.2023 14:30:38

Middle Channel / FullRB

N/A



Date: 7.JAN.2023 14:39:02

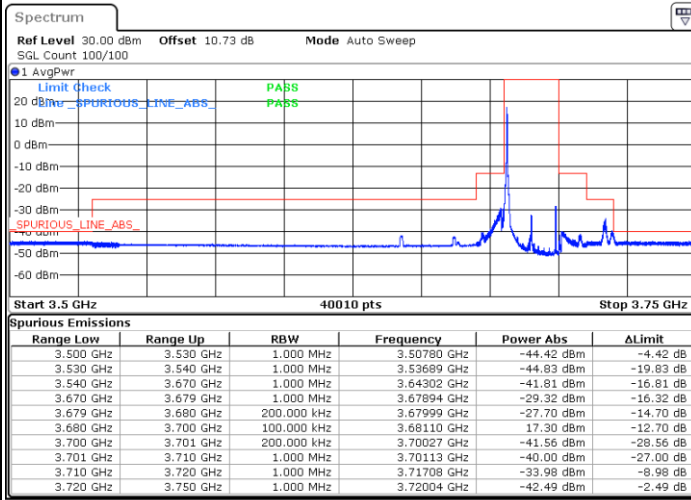


LTE Band 48 / 20MHz

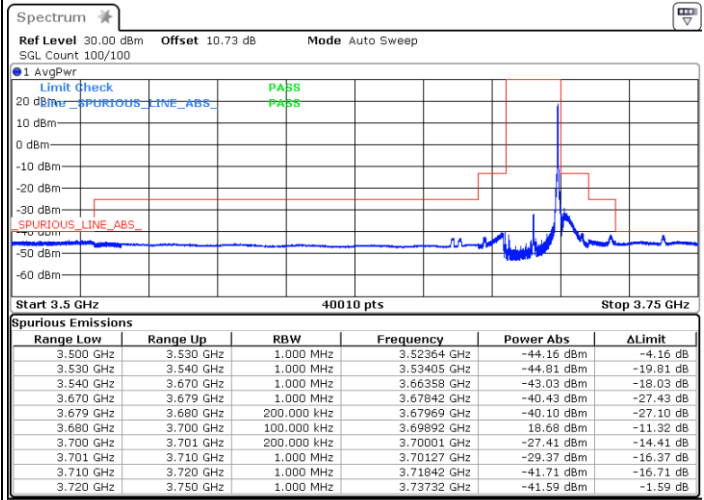
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



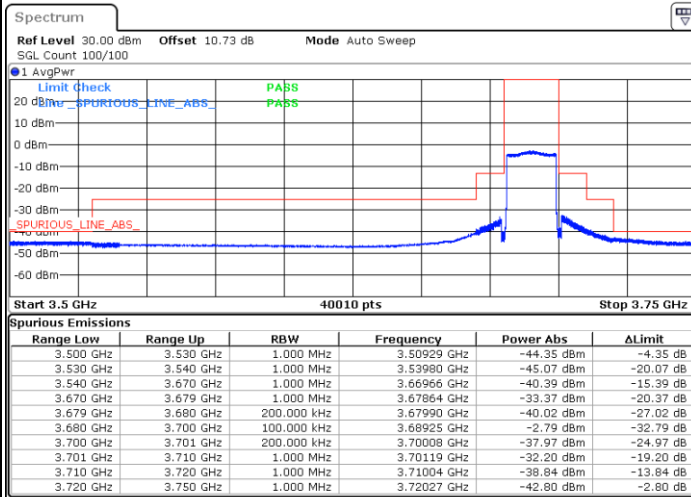
Date: 8.JAN.2023 05:00:35



Date: 8.JAN.2023 05:18:50

Highest Channel / FullIRB

N/A



Date: 8.JAN.2023 05:10:42



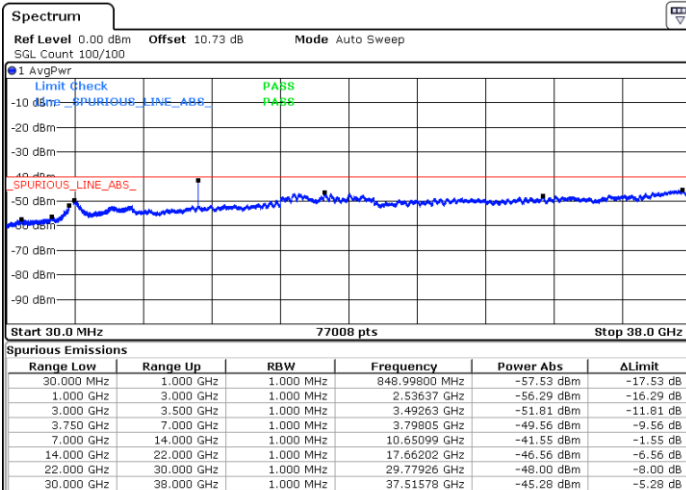
Conducted Spurious Emission

LTE Band 48 / 5MHz

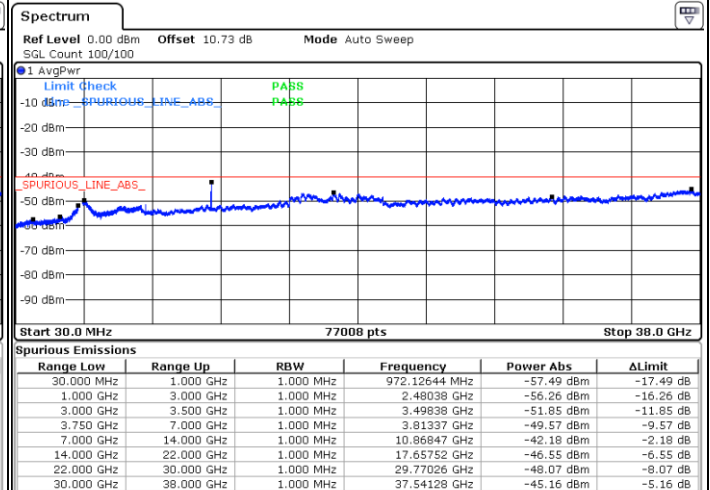
QPSK / 1RB0

Lowest Channel

Middle Channel

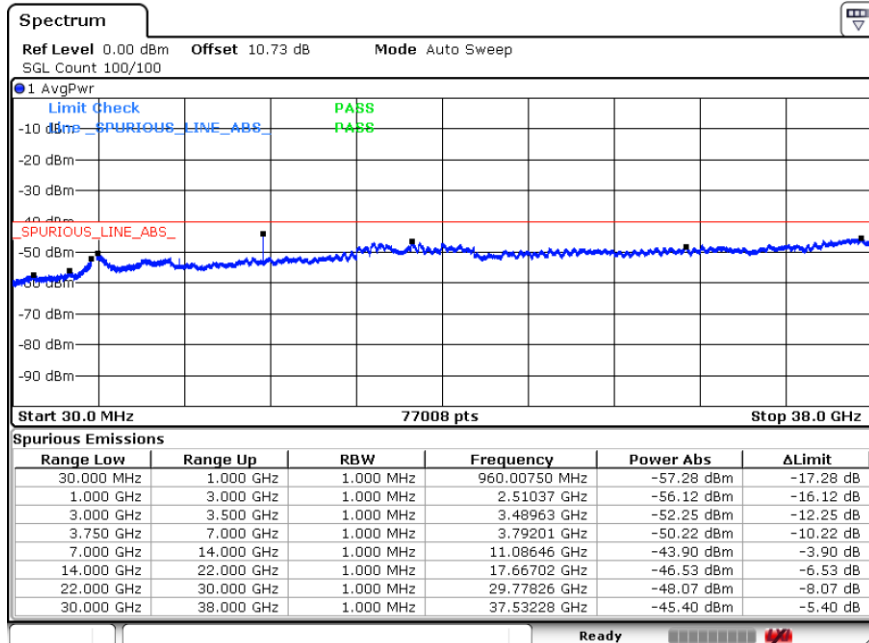


Date: 8.JAN.2023 01:15:12



Date: 8.JAN.2023 01:13:55

Highest Channel



Date: 8.JAN.2023 01:16:34



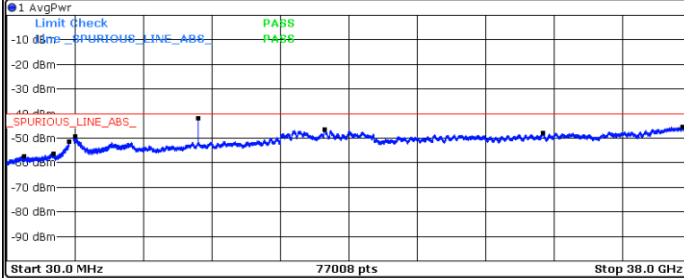
LTE Band 48 / 10MHz

QPSK / 1RB0

Lowest Channel

Middle Channel

Spectrum

Ref Level 0.00 dBm Offset 10.73 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 77008 pts Stop 38.0 GHz

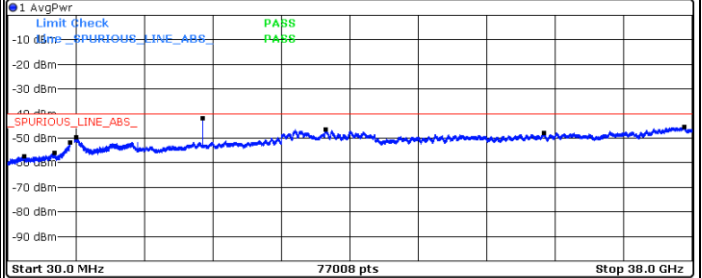
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	969.70265 MHz	-57.27 dBm	-17.27 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.61585 GHz	-56.16 dBm	-16.16 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.49938 GHz	-51.30 dBm	-11.30 dB
3.750 GHz	7.000 GHz	1.000 MHz	3.80501 GHz	-49.35 dBm	-9.35 dB
7.000 GHz	14.000 GHz	1.000 MHz	10.65199 GHz	-41.85 dBm	-1.85 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.68402 GHz	-46.55 dBm	-6.55 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.79326 GHz	-47.81 dBm	-7.81 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.50278 GHz	-45.31 dBm	-5.31 dB

Ready

Date: 8.JAN.2023 01:09:15

Spectrum

Ref Level 0.00 dBm Offset 10.73 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 77008 pts Stop 38.0 GHz

Spurious Emissions

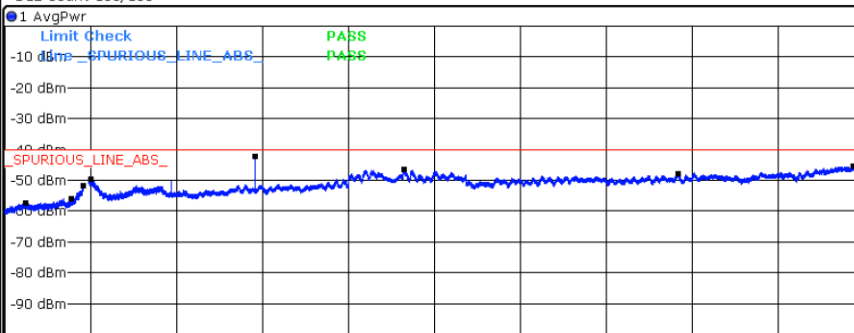
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	942.55622 MHz	-57.41 dBm	-17.41 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.63384 GHz	-55.97 dBm	-15.97 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.49088 GHz	-51.79 dBm	-11.79 dB
3.750 GHz	7.000 GHz	1.000 MHz	3.83518 GHz	-49.59 dBm	-9.59 dB
7.000 GHz	14.000 GHz	1.000 MHz	10.86197 GHz	-42.07 dBm	-2.07 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.66902 GHz	-46.62 dBm	-6.62 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.79476 GHz	-47.83 dBm	-7.83 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.54828 GHz	-45.31 dBm	-5.31 dB

Ready

Date: 8.JAN.2023 01:06:52

Highest Channel

Spectrum

Ref Level 0.00 dBm Offset 10.73 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	920.74213 MHz	-57.38 dBm	-17.38 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.95826 GHz	-56.14 dBm	-16.14 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.49263 GHz	-51.86 dBm	-11.86 dB
3.750 GHz	7.000 GHz	1.000 MHz	3.80594 GHz	-49.48 dBm	-9.48 dB
7.000 GHz	14.000 GHz	1.000 MHz	11.07196 GHz	-42.21 dBm	-2.21 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.66352 GHz	-46.62 dBm	-6.62 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.79976 GHz	-47.91 dBm	-7.91 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.52728 GHz	-45.32 dBm	-5.32 dB

Ready

Date: 8.JAN.2023 01:10:36

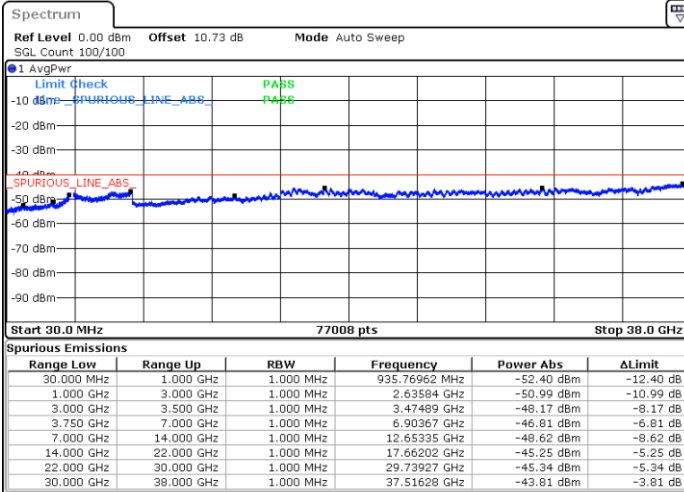


LTE Band 48 / 15MHz

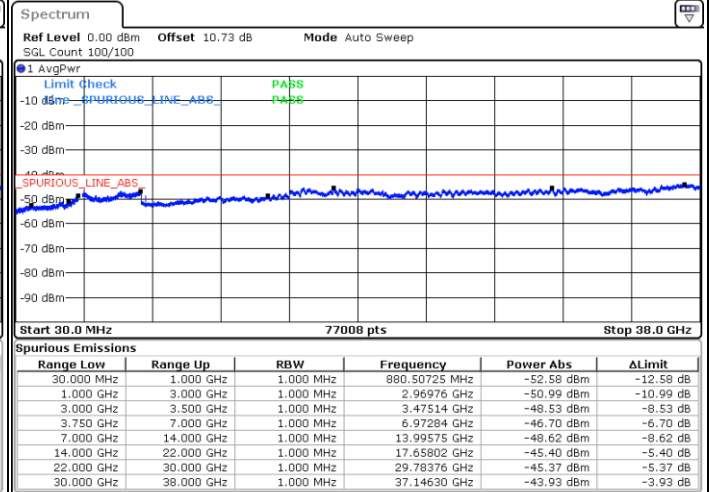
QPSK / 1RB0

Lowest Channel

Middle Channel

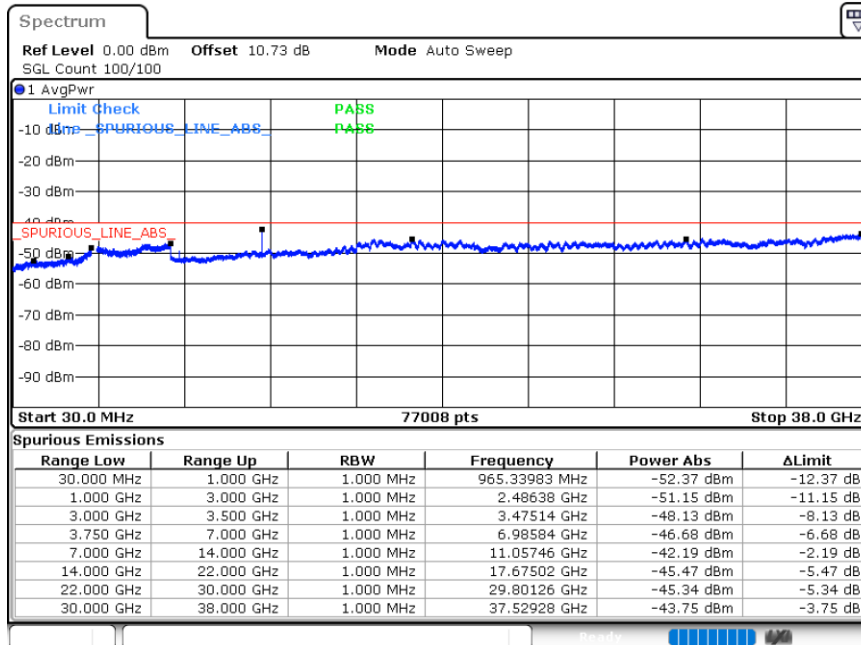


Date: 8.JAN.2023 00:30:27



Date: 8.JAN.2023 00:32:11

Highest Channel



Date: 8.JAN.2023 00:40:45

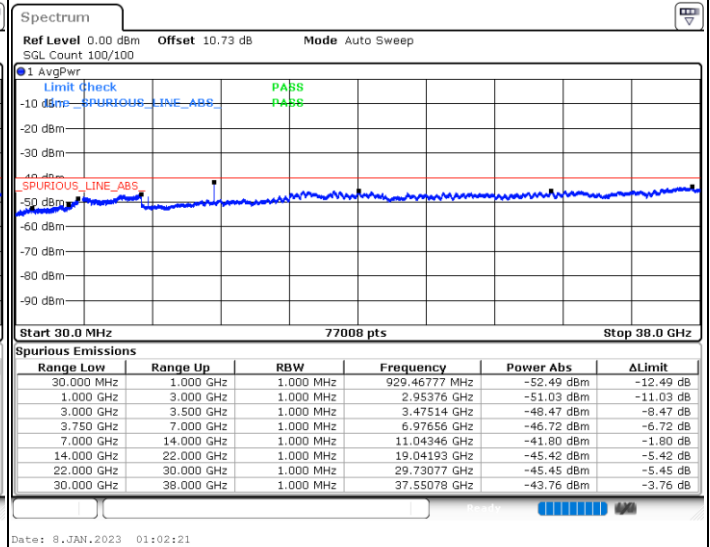
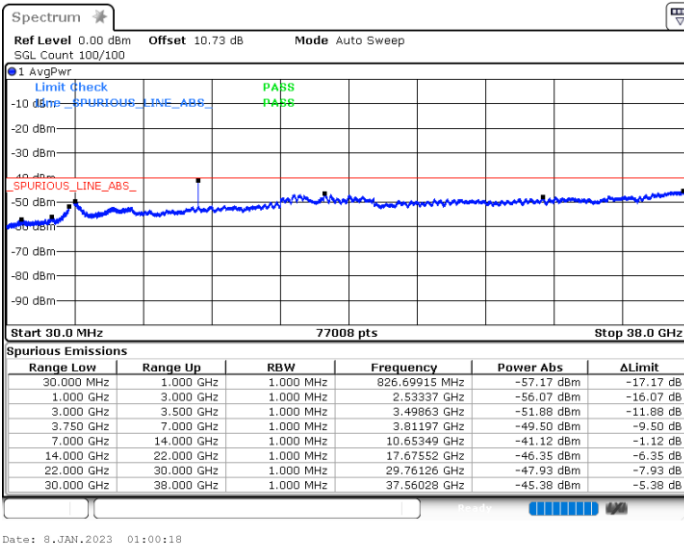


LTE Band 48 / 20MHz

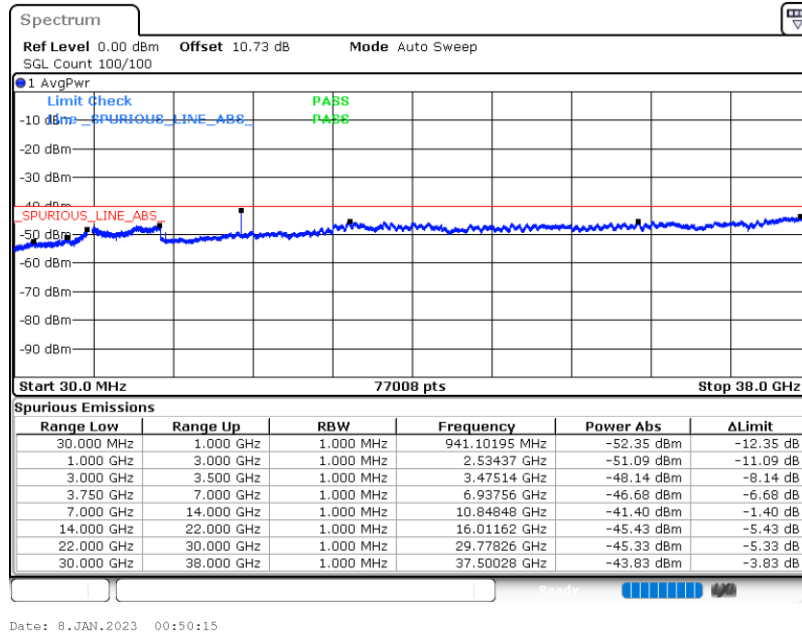
QPSK / 1RB0

Lowest Channel

Middle Channel



Highest Channel



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	0.0031	PASS
40	Normal Voltage	0.0028	
30	Normal Voltage	0.0015	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0015	
-20	Normal Voltage	0.0029	
-30	Normal Voltage	0.0024	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0001	
20	Minimum Voltage	0.0012	

Note:

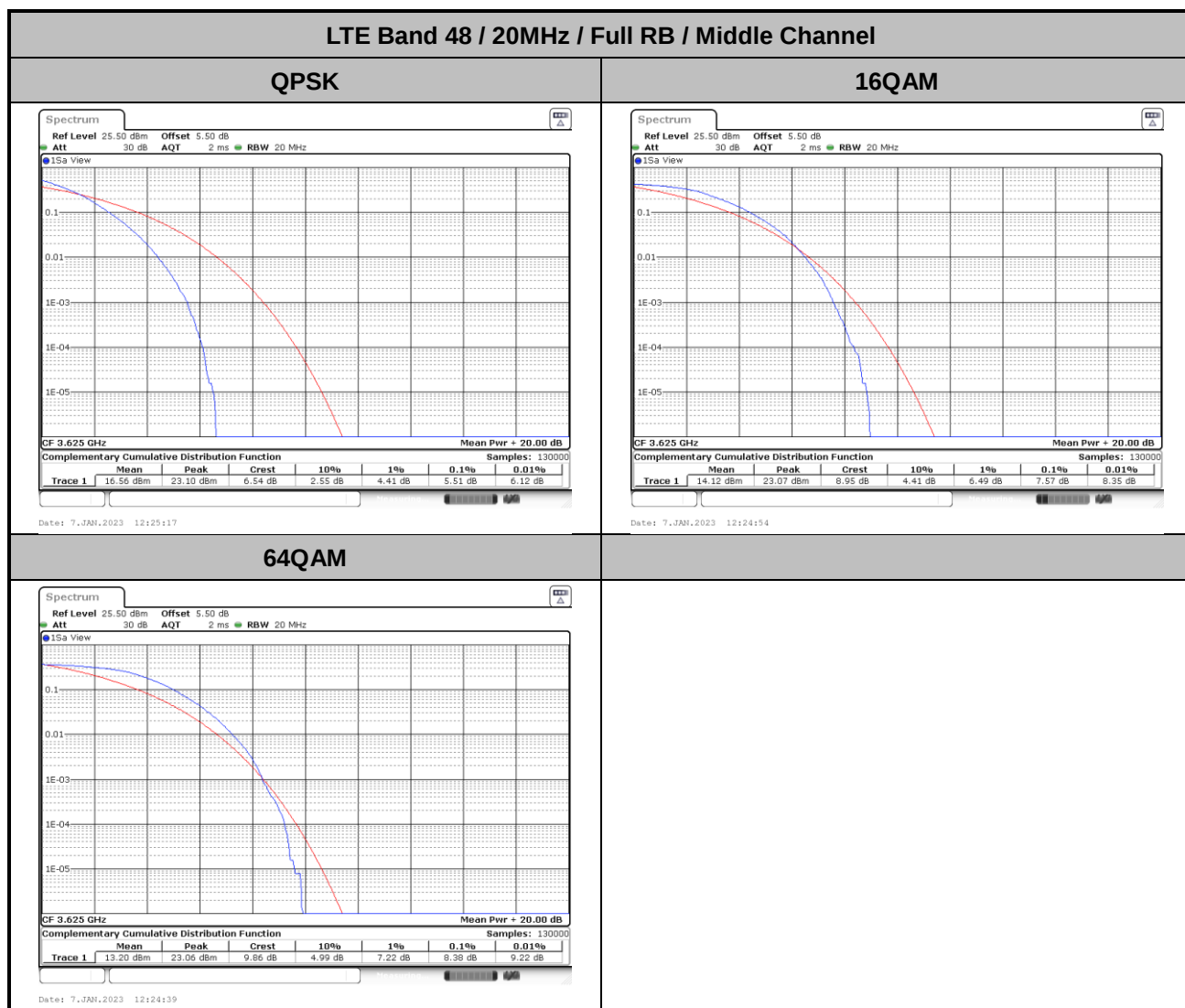
1. Normal Voltage =24 V. ; Minimum Voltage =20 V. ; Maximum Voltage =28 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 48 UL MIMO – Ant 2

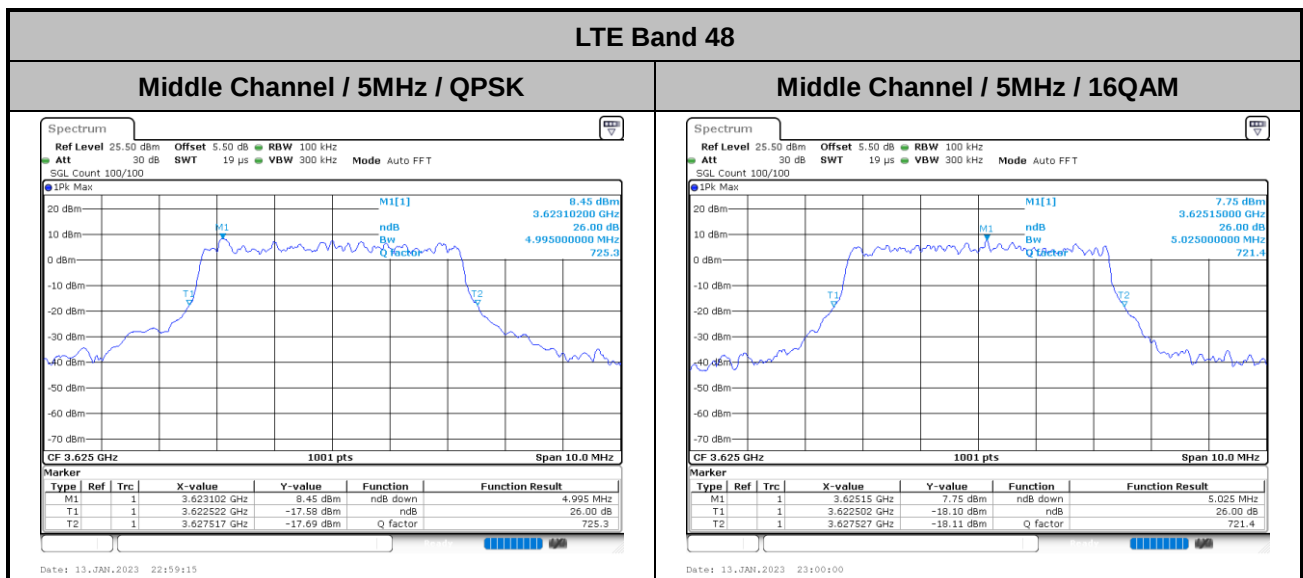
Peak-to-Average Ratio

Mode	LTE Band 48 / 20MHz				
Mod.	QPSK	16QAM	64QAM	N/A	Limit: 13dB
RB Size	Full RB				Result
Middle CH	5.51	7.57	8.38		PASS



26dB Bandwidth

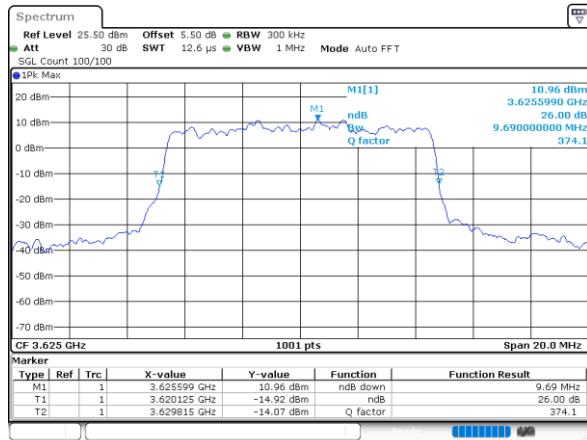
Mode	LTE Band 48 : 26dB BW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	5.00	5.03
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.69	9.65
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	14.33	14.30
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	18.66	18.94





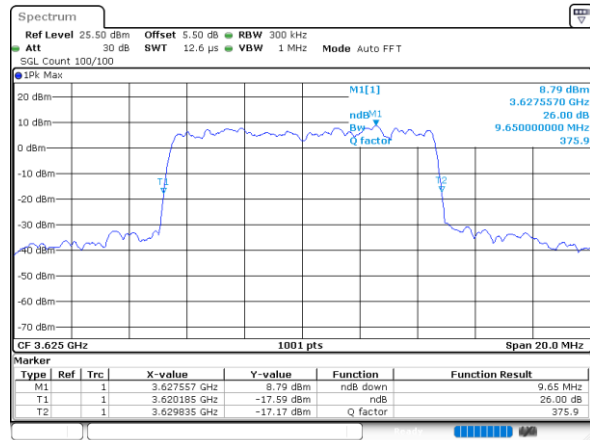
LTE Band 48

Middle Channel / 10MHz / QPSK



Date: 13_JAN,2023 22:54:48

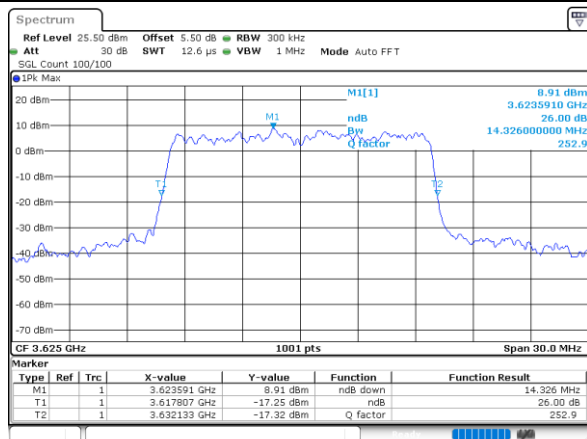
Middle Channel / 10MHz / 16QAM



Date: 13_JAN,2023 22:55:34

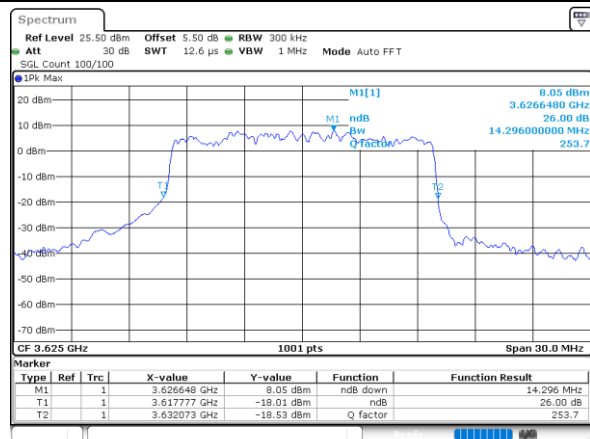
LTE Band 48

Middle Channel / 15MHz / QPSK



Date: 13_JAN,2023 22:56:54

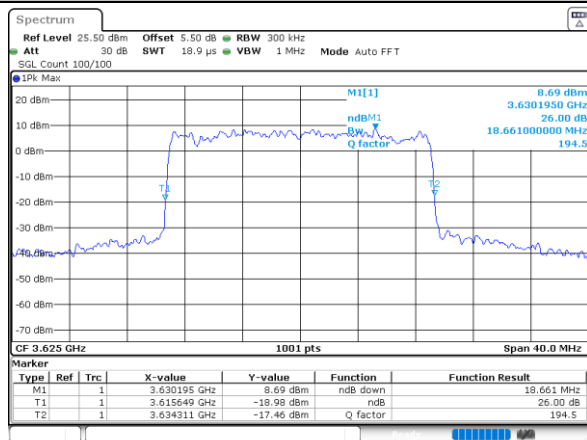
Middle Channel / 15MHz / 16QAM



Date: 13_JAN,2023 22:57:57

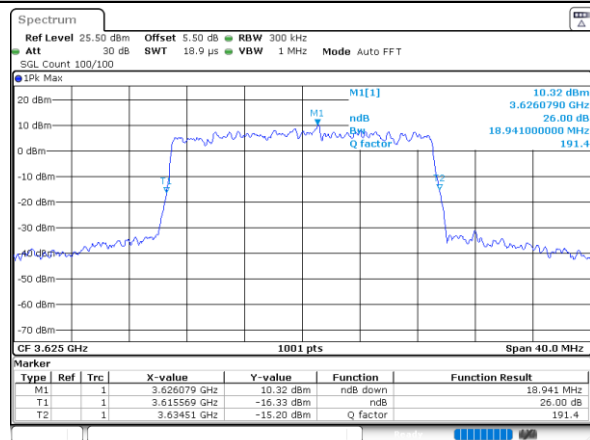
LTE Band 48

Middle Channel / 20MHz / QPSK



Date: 7_JAN,2023 12:23:54

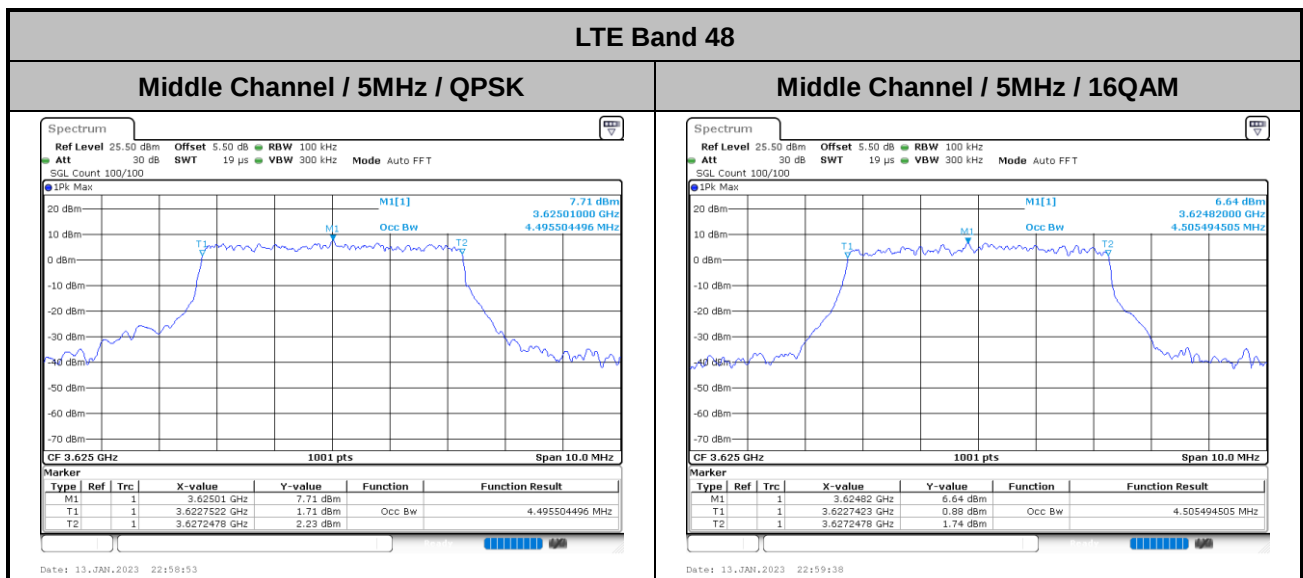
Middle Channel / 20MHz / 16QAM



Date: 7_JAN,2023 12:24:22

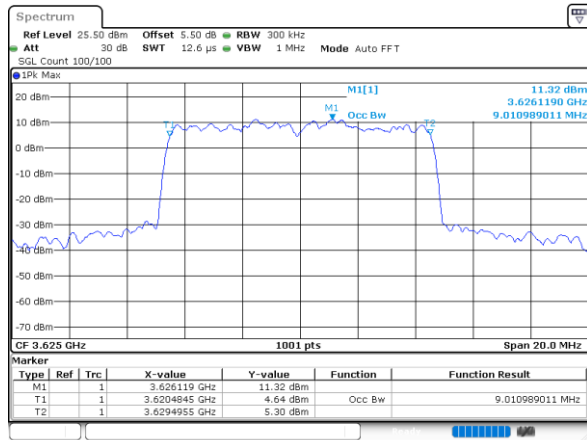
Occupied Bandwidth

Mode	LTE Band 48 : 99%OBW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.50	4.51
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.01	9.03
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	13.37	13.40
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	17.86	17.90



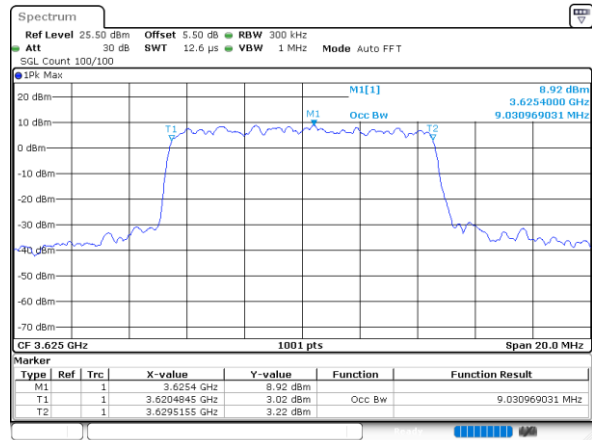
LTE Band 48

Middle Channel / 10MHz / QPSK



Date: 13_JAN_2023 22:54:25

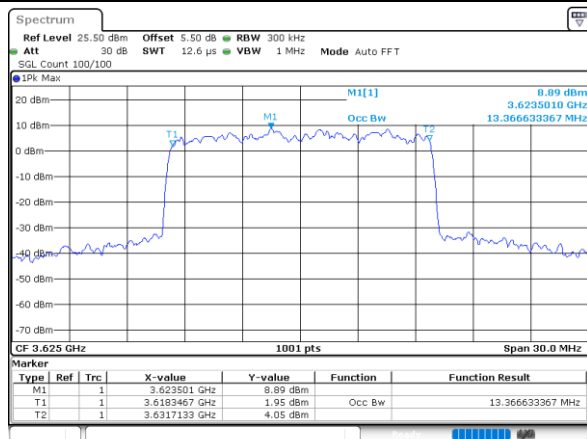
Middle Channel / 10MHz / 16QAM



Date: 13_JAN_2023 22:55:12

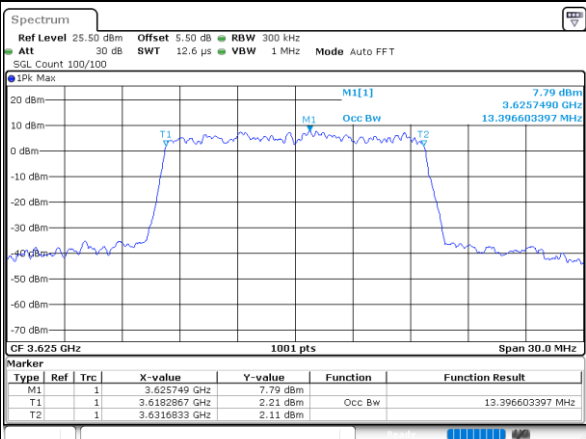
LTE Band 48

Middle Channel / 15MHz / QPSK



Date: 13_JAN_2023 22:56:06

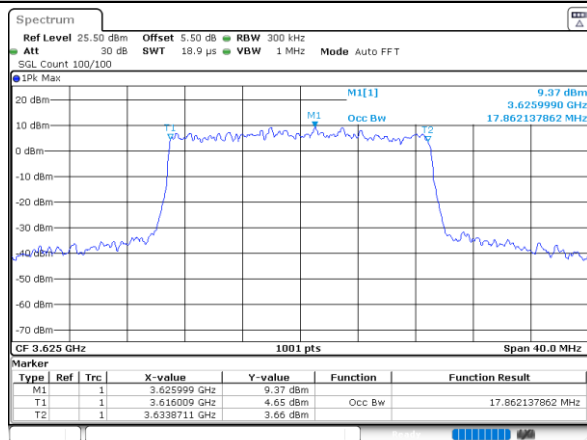
Middle Channel / 15MHz / 16QAM



Date: 13_JAN_2023 22:57:34

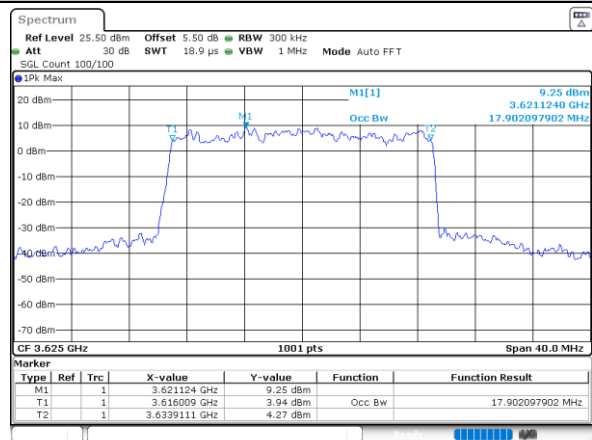
LTE Band 48

Middle Channel / 20MHz / QPSK



Date: 7_JAN_2023 12:23:40

Middle Channel / 20MHz / 16QAM



Date: 7_JAN_2023 12:24:11

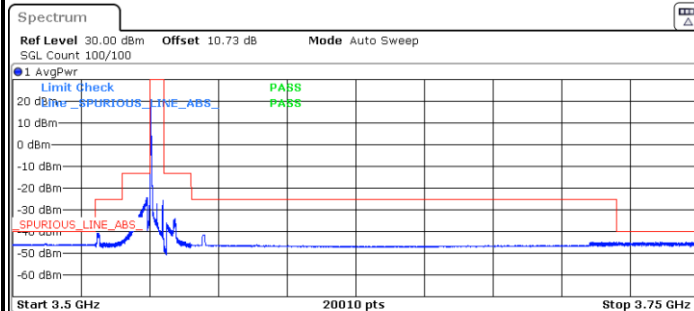


Conducted Band Edge

LTE Band 48 / 5MHz

QPSK

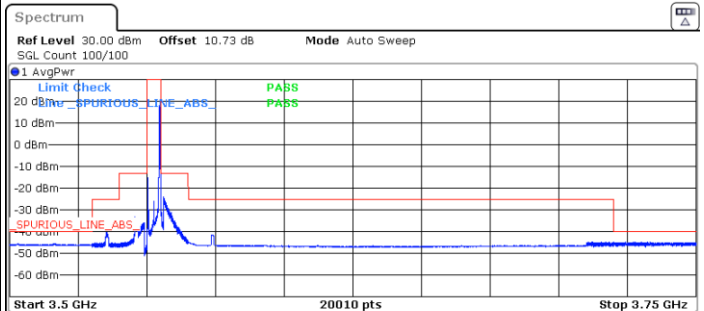
Lowest Channel / 1RB0



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.51191 GHz	-45.71 dBm	-5.71 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53080 GHz	-40.73 dBm	-15.73 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54899 GHz	-24.27 dBm	-11.27 dB
3.549 GHz	3.550 GHz	50.000 kHz	3.55000 GHz	-18.55 dBm	-5.55 dB
3.550 GHz	3.555 GHz	100.000 kHz	3.55033 GHz	19.23 dBm	-10.77 dB
3.555 GHz	3.556 GHz	50.000 kHz	3.55501 GHz	-46.52 dBm	-33.52 dB
3.556 GHz	3.565 GHz	1.000 MHz	3.55911 GHz	-33.84 dBm	-20.84 dB
3.565 GHz	3.710 GHz	1.000 MHz	3.56917 GHz	-41.46 dBm	-16.46 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71445 GHz	-44.76 dBm	-19.76 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72005 GHz	-44.75 dBm	-4.75 dB

Date: 7.JAN.2023 04:43:34

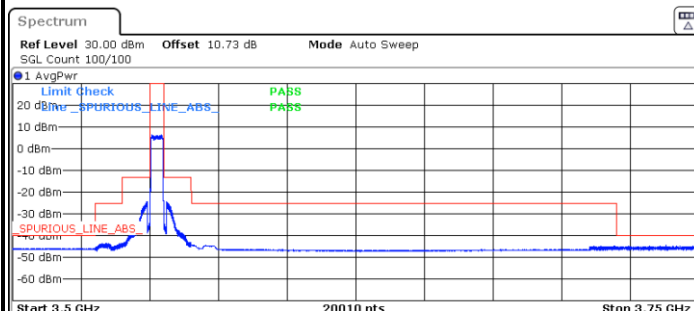
Lowest Channel / 1RBmax



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.51599 GHz	-45.67 dBm	-5.67 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53546 GHz	-40.49 dBm	-15.49 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54572 GHz	-33.27 dBm	-20.27 dB
3.549 GHz	3.550 GHz	50.000 kHz	3.54999 GHz	-46.03 dBm	-33.03 dB
3.550 GHz	3.555 GHz	100.000 kHz	3.55462 GHz	19.65 dBm	-10.35 dB
3.555 GHz	3.556 GHz	50.000 kHz	3.55500 GHz	-18.76 dBm	-5.76 dB
3.556 GHz	3.565 GHz	1.000 MHz	3.55606 GHz	-24.06 dBm	-11.06 dB
3.565 GHz	3.710 GHz	1.000 MHz	3.57351 GHz	-41.57 dBm	-16.57 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71200 GHz	-44.67 dBm	-19.67 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72786 GHz	-44.83 dBm	-4.83 dB

Date: 7.JAN.2023 04:52:10

Lowest Channel / FullRB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.51289 GHz	-46.03 dBm	-6.03 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53972 GHz	-43.43 dBm	-18.43 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54899 GHz	-24.20 dBm	-11.20 dB
3.549 GHz	3.550 GHz	50.000 kHz	3.55000 GHz	-31.49 dBm	-18.49 dB
3.550 GHz	3.555 GHz	100.000 kHz	3.55074 GHz	6.37 dBm	-23.63 dB
3.555 GHz	3.556 GHz	50.000 kHz	3.55500 GHz	-30.70 dBm	-17.70 dB
3.556 GHz	3.565 GHz	1.000 MHz	3.55603 GHz	-24.47 dBm	-11.47 dB
3.565 GHz	3.710 GHz	1.000 MHz	3.56562 GHz	-44.27 dBm	-19.27 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71908 GHz	-44.74 dBm	-19.74 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.73788 GHz	-44.55 dBm	-4.55 dB

Date: 7.JAN.2023 04:53:51

N/A

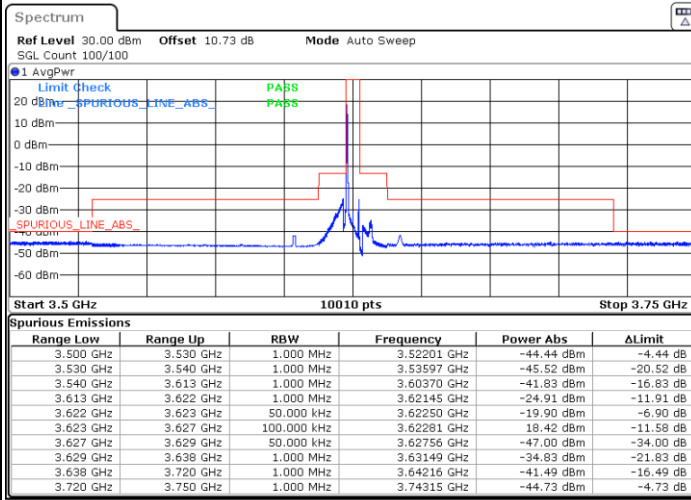


LTE Band 48 / 5MHz

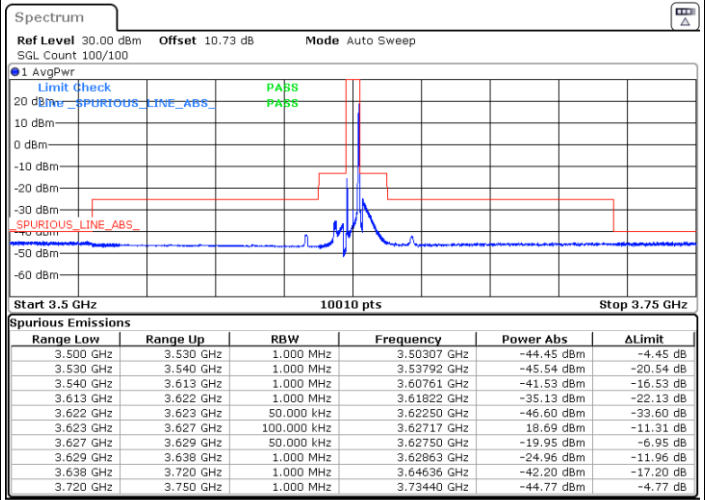
QPSK

Middle Channel / 1RB0

Middle Channel / 1RBmax



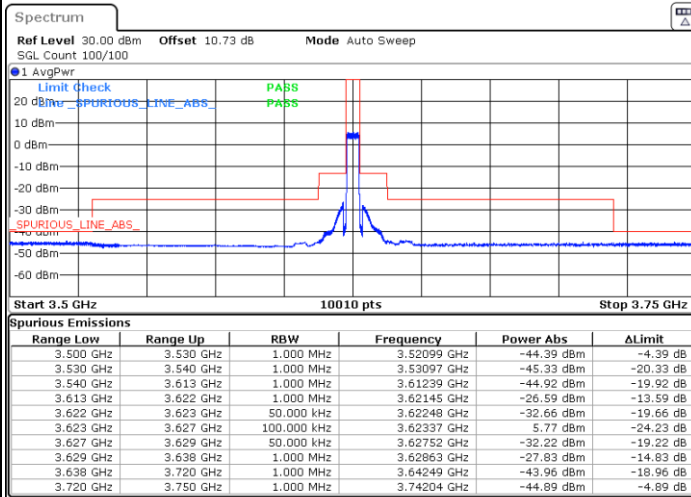
Date: 7.JAN.2023 04:59:21



Date: 7.JAN.2023 05:07:43

Middle Channel / FullRB

N/A



Date: 7.JAN.2023 05:09:23

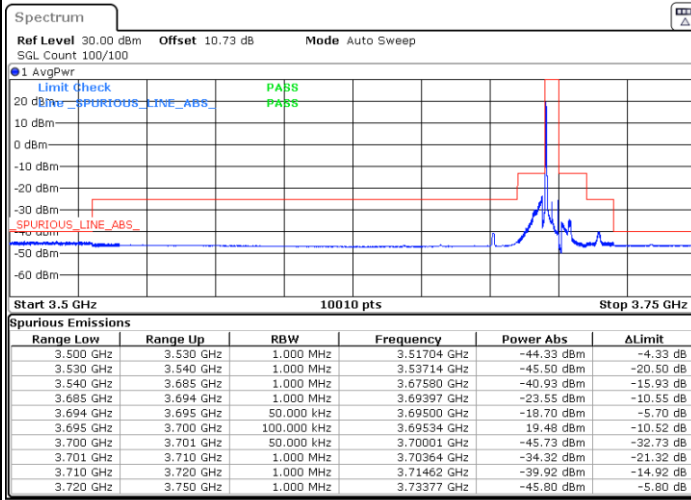


LTE Band 48 / 5MHz

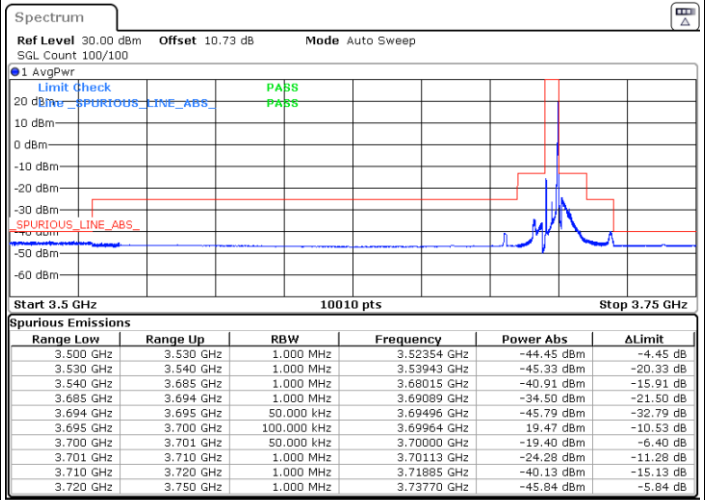
QPSK

Highest Channel / 1RB0

Highest Channel / 1RBmax



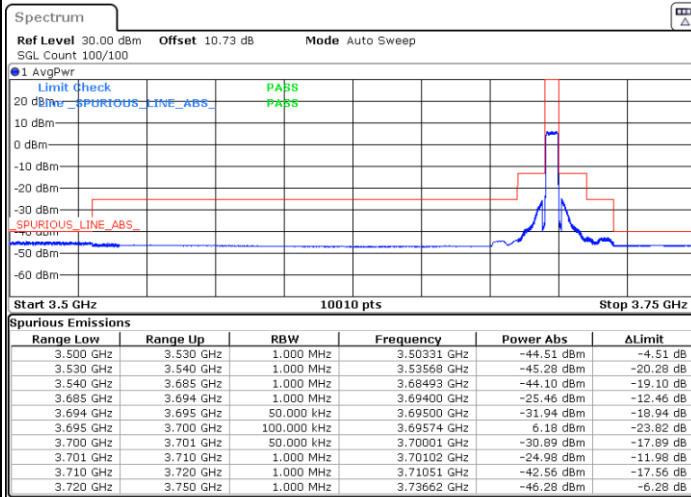
Date: 7.JAN.2023 05:14:26



Date: 7.JAN.2023 05:22:52

Highest Channel / FullIRB

N/A



Date: 7.JAN.2023 05:24:33

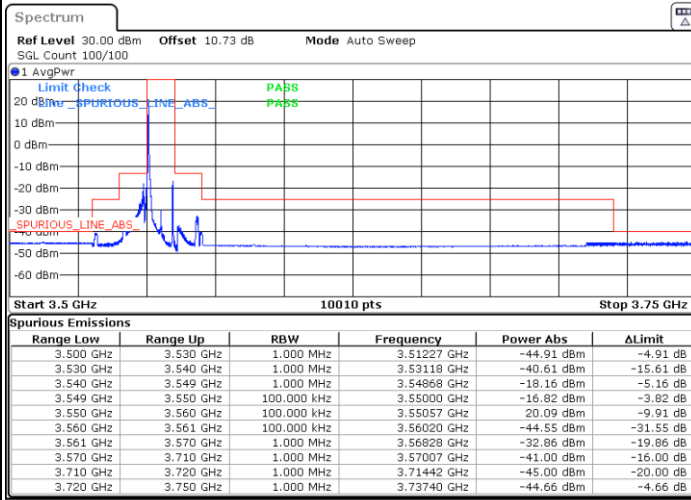


LTE Band 48 / 10MHz

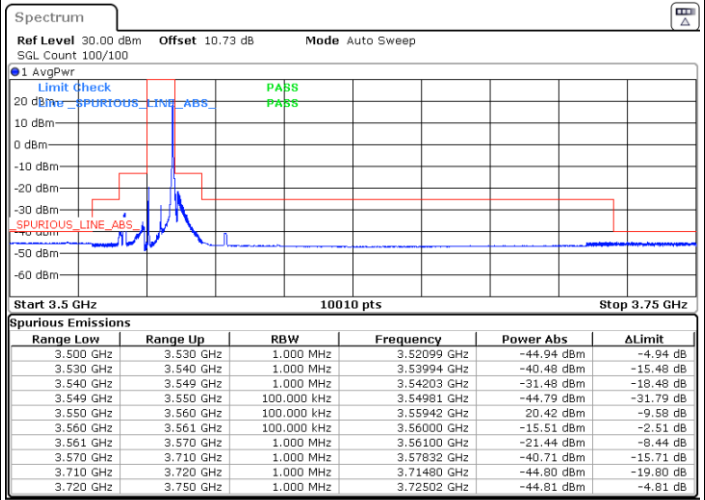
QPSK

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



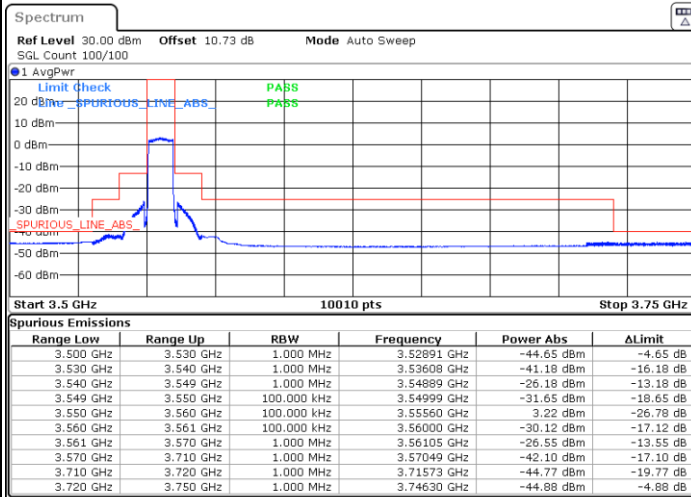
Date: 7.JAN.2023 05:29:37



Date: 7.JAN.2023 05:38:03

Lowest Channel / FullIRB

N/A



Date: 7.JAN.2023 05:39:44