

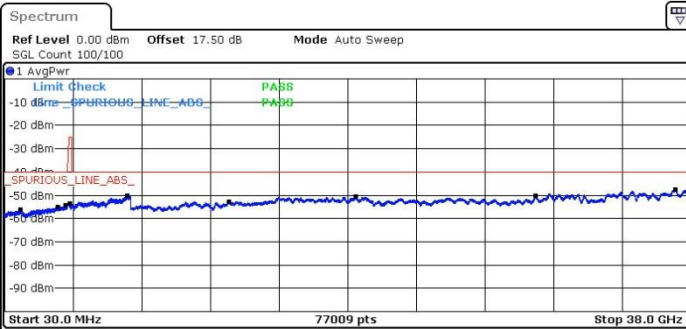


LTE Band 48 / 15MHz

16QAM

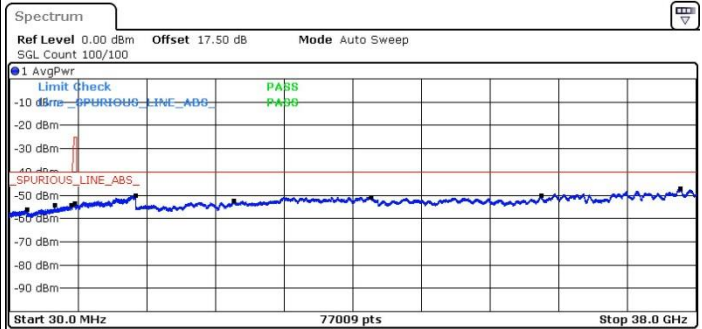
Lowest Channel / 1RB0

Lowest Channel / 1RBmax



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	881.96152 MHz	-56.20 dBm	-16.20 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.97926 GHz	-55.18 dBm	-15.18 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.41783 GHz	-54.49 dBm	-14.49 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.61951 GHz	-53.46 dBm	-28.46 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.79925 GHz	-50.02 dBm	-10.02 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.44386 GHz	-52.64 dBm	-12.64 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.45391 GHz	-50.69 dBm	-10.69 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.40829 GHz	-50.20 dBm	-10.20 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.14080 GHz	-47.42 dBm	-7.42 dB

Date: 23 APR 2019 12:42:09

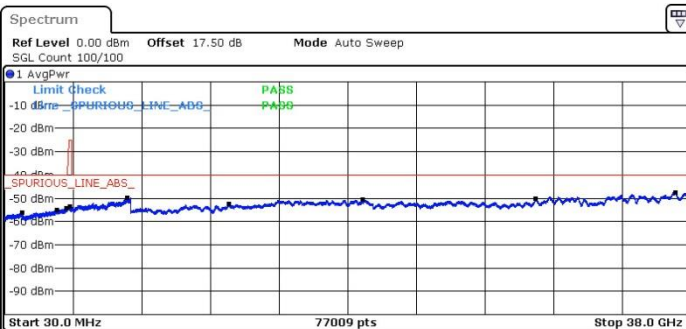


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.91004 MHz	-56.22 dBm	-16.22 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.52437 GHz	-54.38 dBm	-14.38 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.45380 GHz	-54.29 dBm	-14.29 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.61280 GHz	-53.46 dBm	-28.46 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.99508 GHz	-50.01 dBm	-10.01 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.43136 GHz	-52.56 dBm	-12.56 dB
14.000 GHz	22.000 GHz	1.000 MHz	20.00437 GHz	-50.75 dBm	-10.75 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.43329 GHz	-50.31 dBm	-10.31 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.15180 GHz	-47.21 dBm	-7.21 dB

Date: 23 APR 2019 13:01:37

Lowest Channel / FullRB

N/A



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	986.18441 MHz	-56.27 dBm	-16.27 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.91077 GHz	-55.06 dBm	-15.06 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.44331 GHz	-54.45 dBm	-14.45 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.61214 GHz	-53.53 dBm	-28.53 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.82267 GHz	-49.98 dBm	-9.98 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.43036 GHz	-52.55 dBm	-12.55 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.80989 GHz	-50.64 dBm	-10.64 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.40429 GHz	-50.33 dBm	-10.33 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.13480 GHz	-47.49 dBm	-7.49 dB

Date: 23 APR 2019 12:51:53

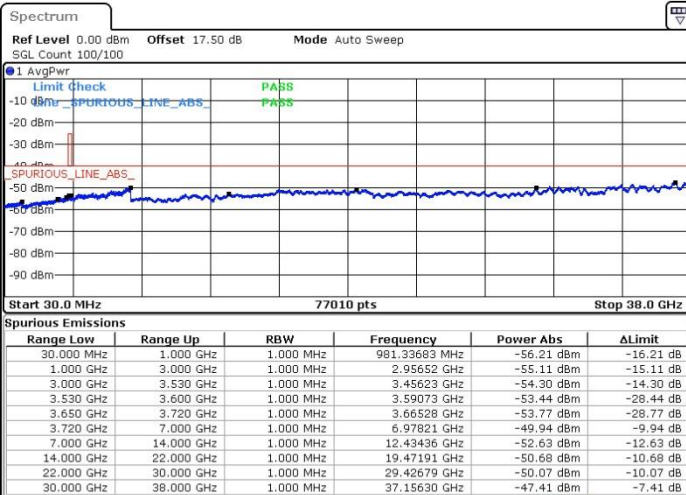


LTE Band 48 / 15MHz

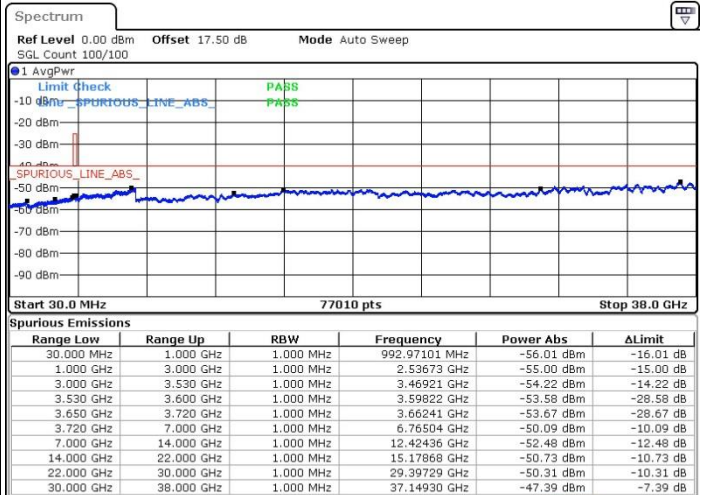
16QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



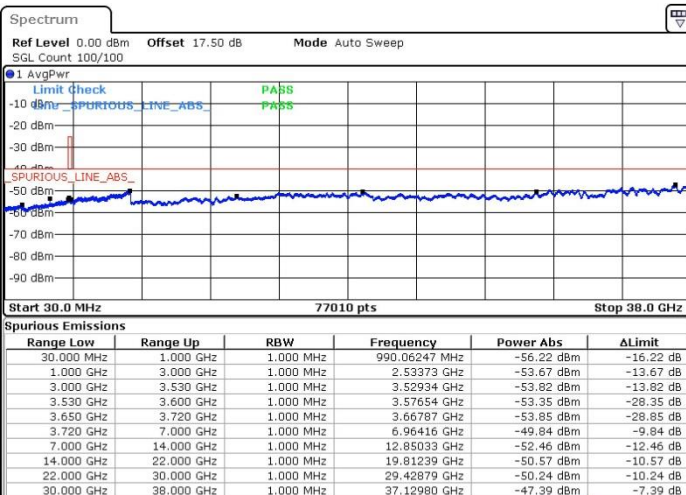
Date: 23 APR 2019 12:45:23



Date: 23 APR 2019 13:04:52

Middle Channel / FullIRB

N/A



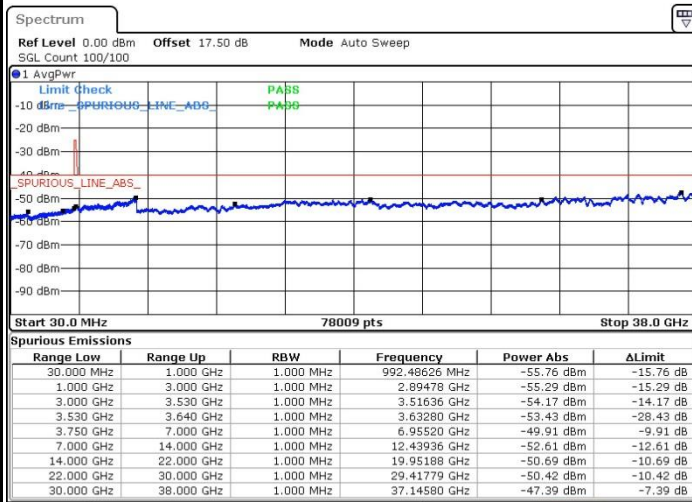
Date: 23 APR 2019 12:55:08



LTE Band 48 / 15MHz

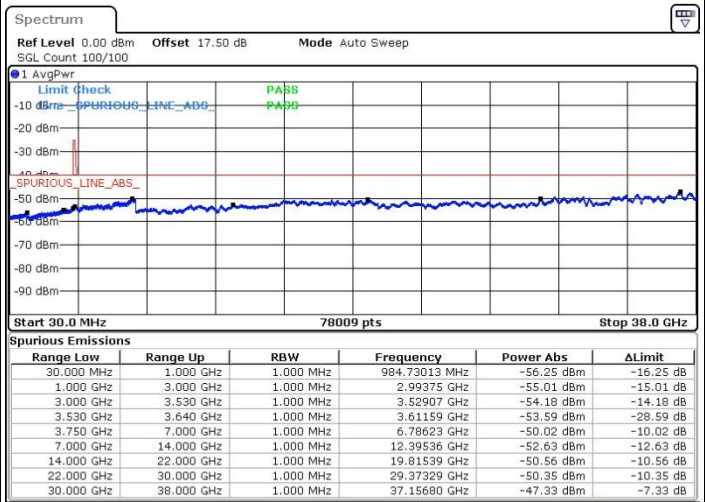
16QAM

Highest Channel / 1RB0



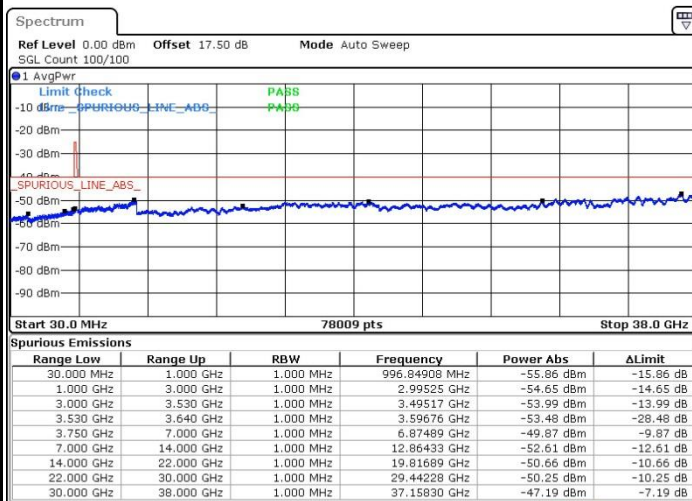
Date: 23 APR 2019 12:48:38

Highest Channel / 1RBmax



Date: 23 APR 2019 13:08:07

Highest Channel / FullIRB



Date: 23 APR 2019 12:58:23

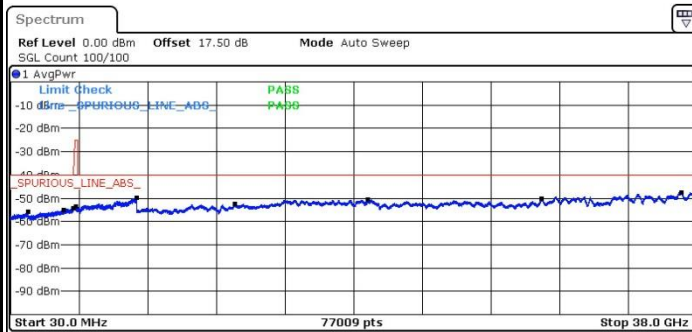
N/A



LTE Band 48 / 20MHz

16QAM

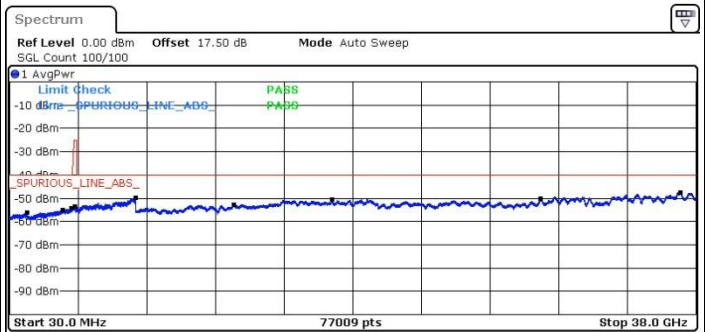
Lowest Channel / 1RB0



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	971.15692 MHz	-55.74 dBm	-15.74 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.96876 GHz	-54.99 dBm	-14.99 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.49825 GHz	-54.34 dBm	-14.34 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.63225 GHz	-53.53 dBm	-28.53 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.98805 GHz	-49.98 dBm	-9.98 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.44486 GHz	-52.39 dBm	-12.39 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.80289 GHz	-50.68 dBm	-10.68 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.37429 GHz	-50.31 dBm	-10.31 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.15630 GHz	-47.38 dBm	-7.38 dB

Date: 23 APR 2019 13:21:06

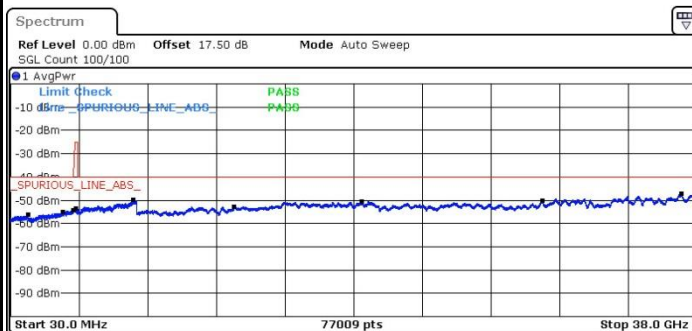
Lowest Channel / 1RBmax



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	998.30335 MHz	-56.34 dBm	-16.34 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.95076 GHz	-54.89 dBm	-14.89 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.41883 GHz	-54.20 dBm	-14.20 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.63071 GHz	-53.61 dBm	-28.61 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.99789 GHz	-49.91 dBm	-9.91 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.43686 GHz	-52.66 dBm	-12.66 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.84351 GHz	-50.59 dBm	-10.59 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.39279 GHz	-50.28 dBm	-10.28 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.13480 GHz	-47.50 dBm	-7.50 dB

Date: 23 APR 2019 13:30:51

Lowest Channel / FullRB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	982.30635 MHz	-56.06 dBm	-16.06 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.92377 GHz	-55.10 dBm	-15.10 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.49625 GHz	-54.35 dBm	-14.35 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.61302 GHz	-53.47 dBm	-28.47 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.79737 GHz	-49.65 dBm	-9.65 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.40486 GHz	-52.65 dBm	-12.65 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.46091 GHz	-50.52 dBm	-10.52 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.43129 GHz	-50.15 dBm	-10.15 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.14230 GHz	-47.38 dBm	-7.38 dB

Date: 23 APR 2019 13:11:22

N/A

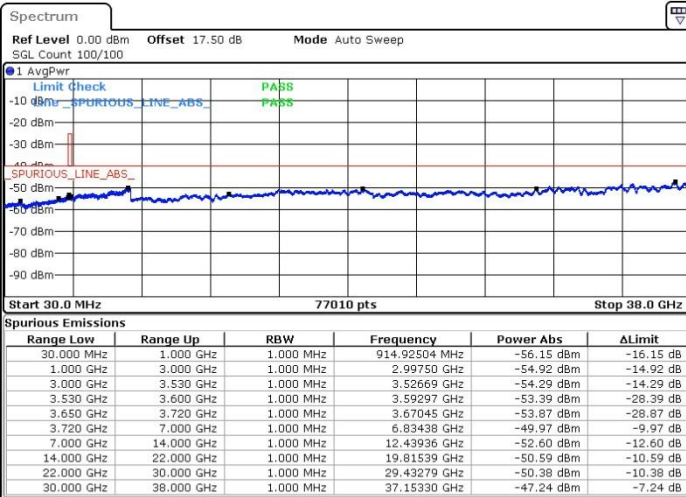


LTE Band 48 / 20MHz

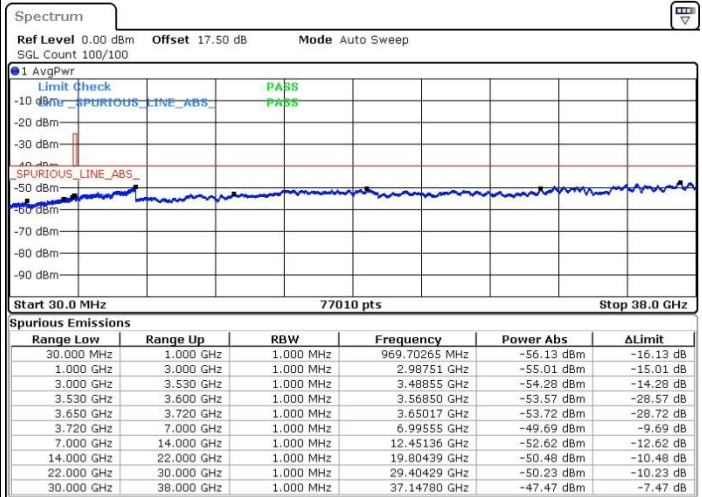
16QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



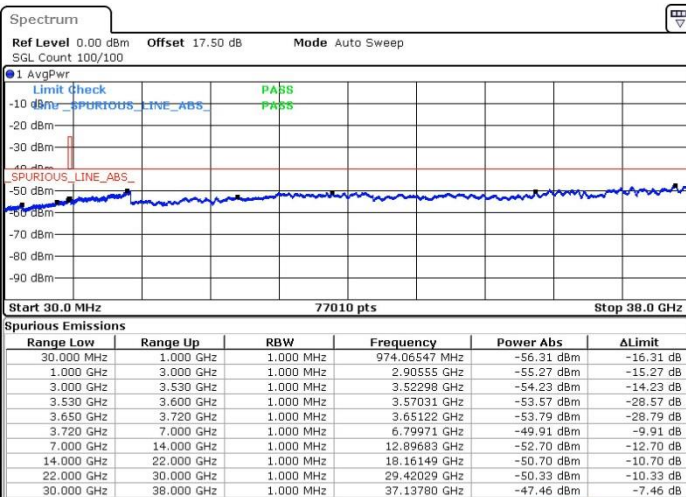
Date: 23 APR 2019 13:24:21



Date: 23 APR 2019 13:34:05

Middle Channel / FullIRB

N/A



Date: 23 APR 2019 13:14:37

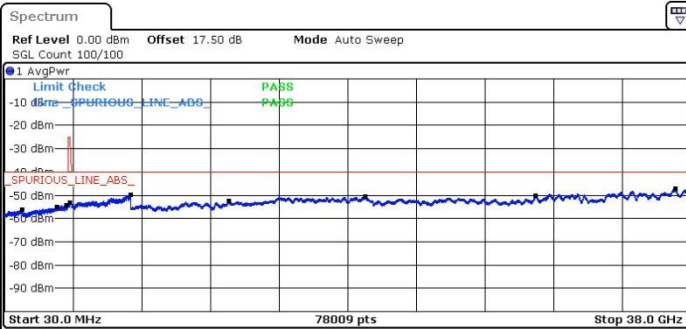


LTE Band 48 / 20MHz

16QAM

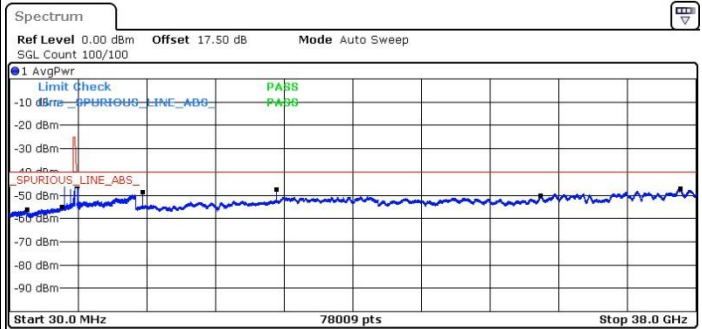
Highest Channel / 1RB0

Highest Channel / 1RBmax



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	971.15692 MHz	-56.06 dBm	-16.06 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.92827 GHz	-55.07 dBm	-15.07 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.44405 GHz	-54.20 dBm	-14.20 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.62434 GHz	-53.23 dBm	-28.23 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.98213 GHz	-49.97 dBm	-9.97 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.41936 GHz	-52.55 dBm	-12.55 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.98338 GHz	-50.68 dBm	-10.68 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.41679 GHz	-50.24 dBm	-10.24 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.14530 GHz	-47.35 dBm	-7.35 dB

Date: 23 APR 2019 13:27:36

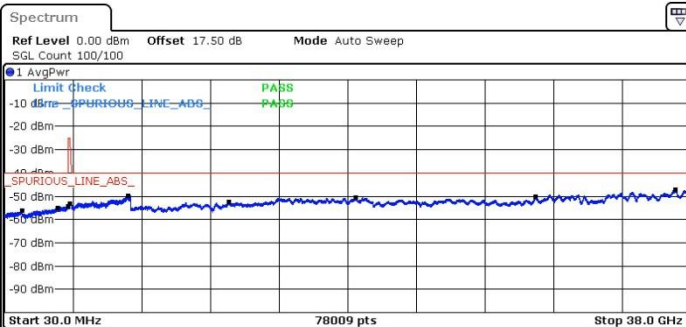


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.36432 MHz	-56.16 dBm	-16.16 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.90677 GHz	-55.04 dBm	-15.04 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.07218 GHz	-45.14 dBm	-5.14 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.63324 GHz	-43.43 dBm	-18.43 dB
3.750 GHz	7.000 GHz	1.000 MHz	3.78969 GHz	-46.11 dBm	-6.11 dB
7.000 GHz	14.000 GHz	1.000 MHz	7.39772 GHz	-48.64 dBm	-8.64 dB
14.000 GHz	22.000 GHz	1.000 MHz	14.79570 GHz	-47.51 dBm	-7.51 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.38179 GHz	-50.35 dBm	-10.35 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.15180 GHz	-47.26 dBm	-7.26 dB

Date: 23 APR 2019 13:38:13

Highest Channel / FullIRB

N/A



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	971.15692 MHz	-56.18 dBm	-16.18 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.97526 GHz	-55.01 dBm	-15.01 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.52616 GHz	-54.15 dBm	-14.15 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.61962 GHz	-53.25 dBm	-28.25 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.84193 GHz	-49.90 dBm	-9.90 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.41936 GHz	-52.56 dBm	-12.56 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.46391 GHz	-50.66 dBm	-10.66 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.41629 GHz	-50.36 dBm	-10.36 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.15730 GHz	-47.28 dBm	-7.28 dB

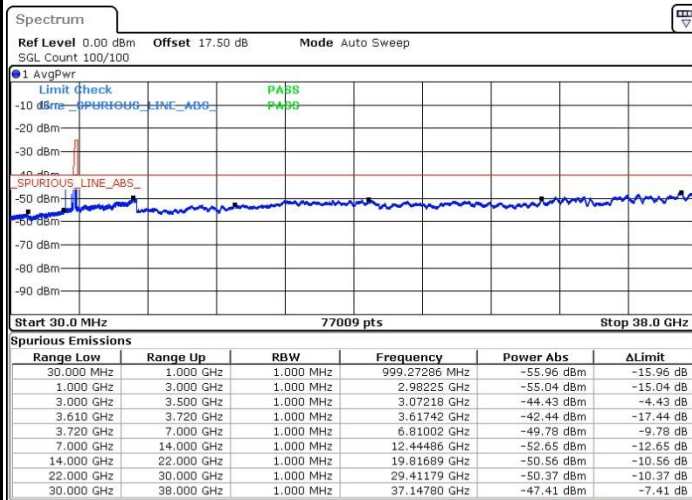
Date: 23 APR 2019 13:17:51



LTE Band 48 / 5MHz

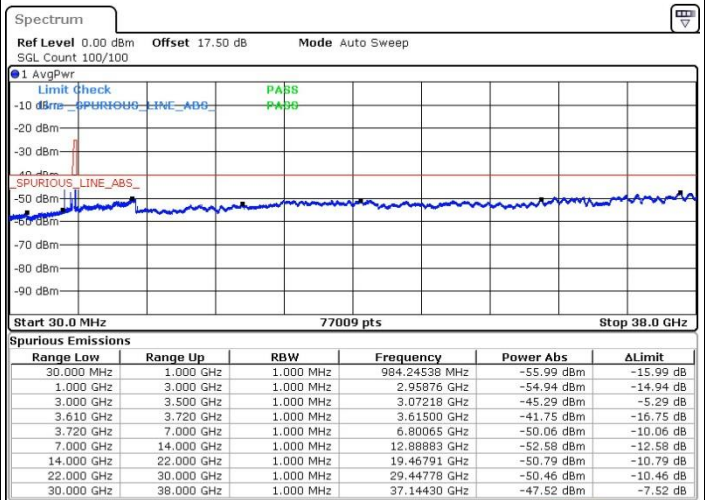
64QAM

Lowest Channel / 1RB0



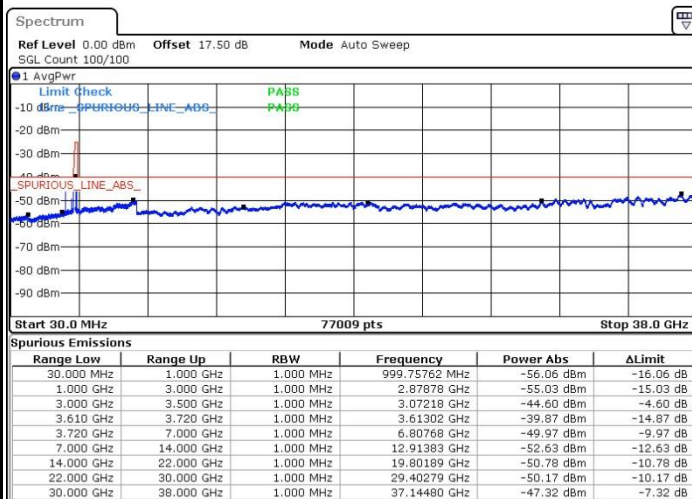
Date: 23 APR 2019 11:47:24

Lowest Channel / 1RBmax



Date: 23 APR 2019 12:05:50

Lowest Channel / FullRB



Date: 23 APR 2019 11:56:37

N/A

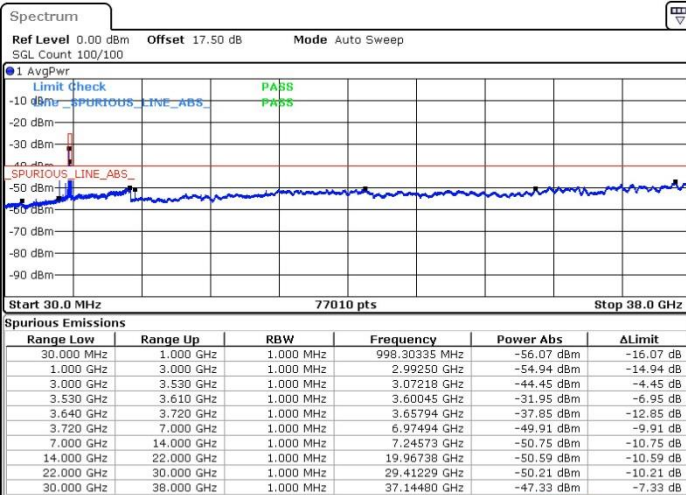


LTE Band 48 / 5MHz

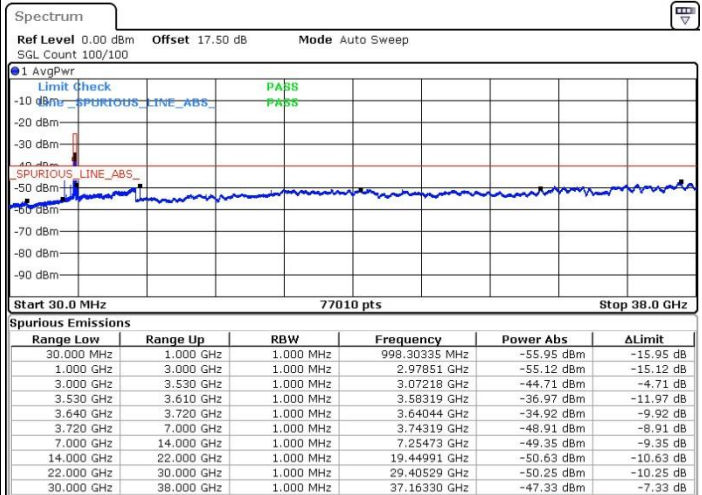
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



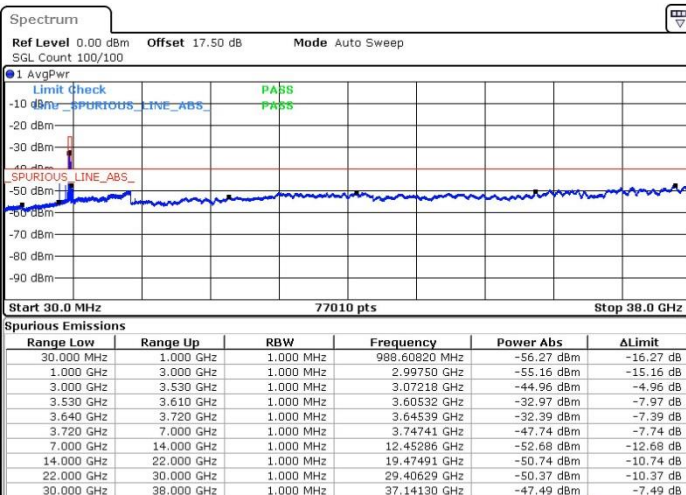
Date: 23 APR 2019 11:48:25



Date: 23 APR 2019 12:06:51

Middle Channel / FullIRB

N/A



Date: 23 APR 2019 11:57:38

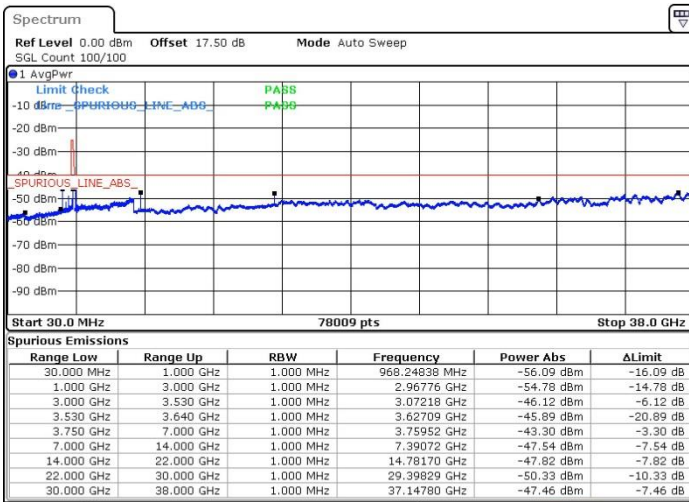


LTE Band 48 / 5MHz

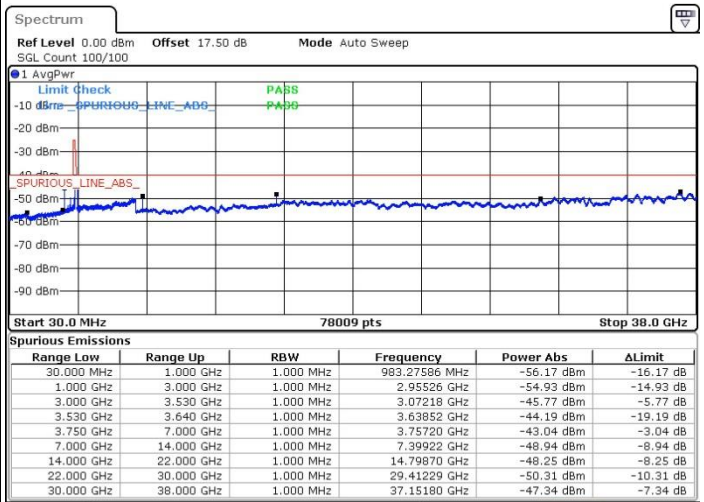
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



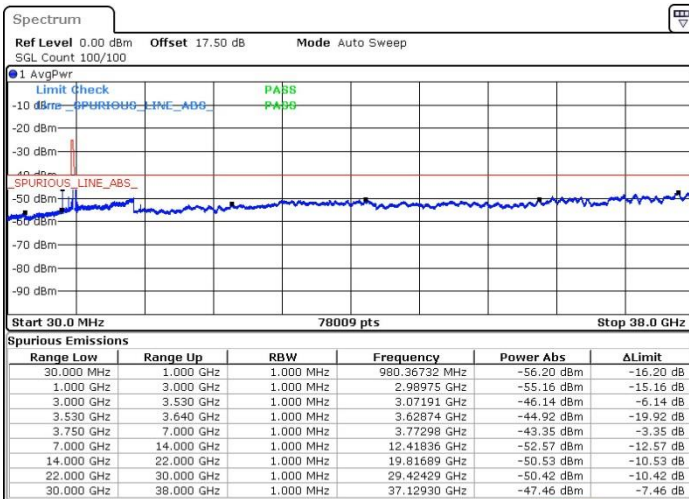
Date: 23 APR 2019 11:53:32



Date: 23 APR 2019 12:11:58

Highest Channel / FullIRB

N/A



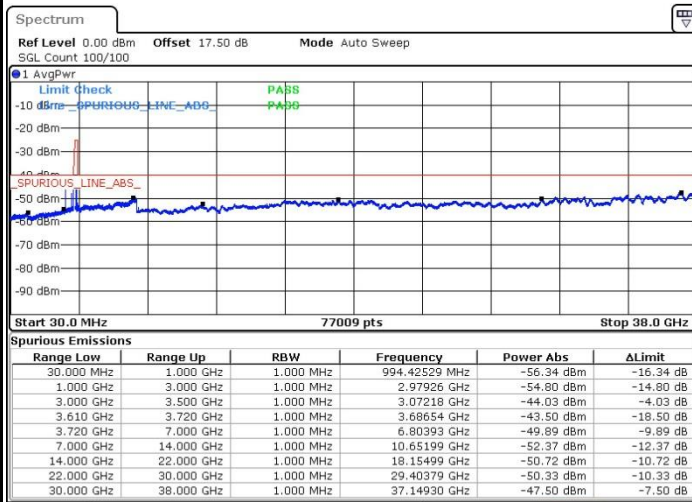
Date: 23 APR 2019 12:02:45



LTE Band 48 / 10MHz

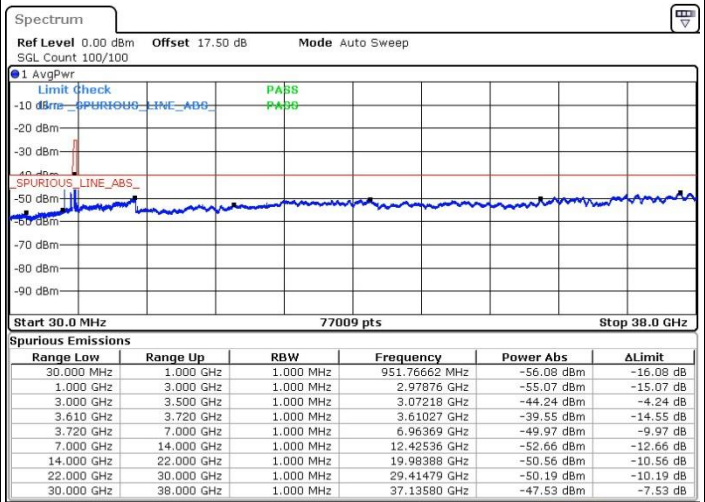
64QAM

Lowest Channel / 1RB0



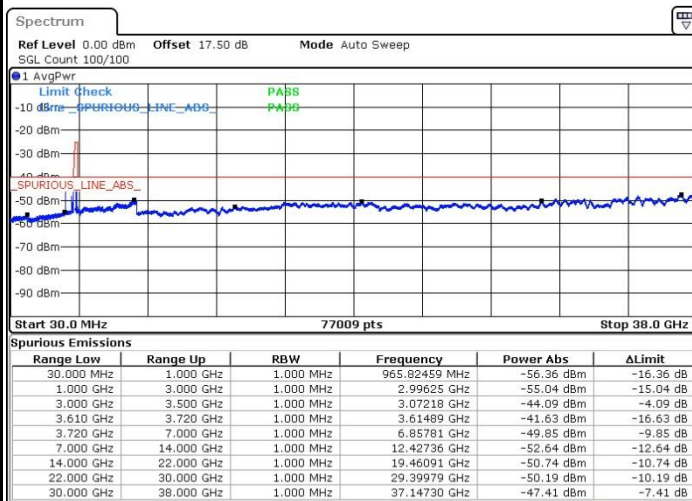
Date: 23 APR 2019 12:13:00

Lowest Channel / 1RBmax



Date: 23 APR 2019 12:31:26

Lowest Channel / FullRB



Date: 23 APR 2019 12:22:13

N/A

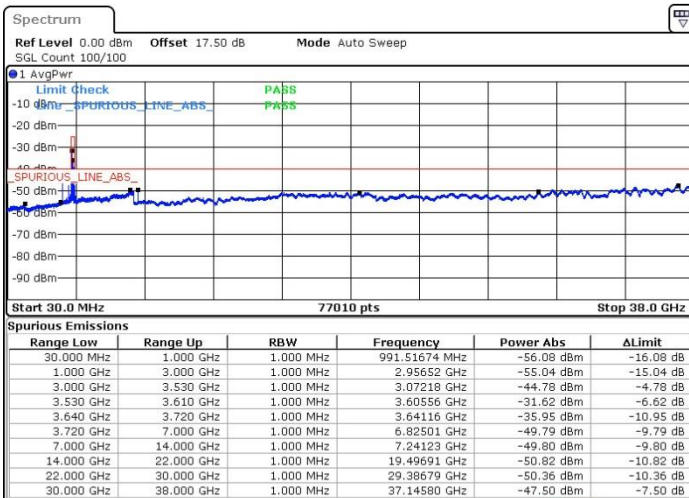


LTE Band 48 / 10MHz

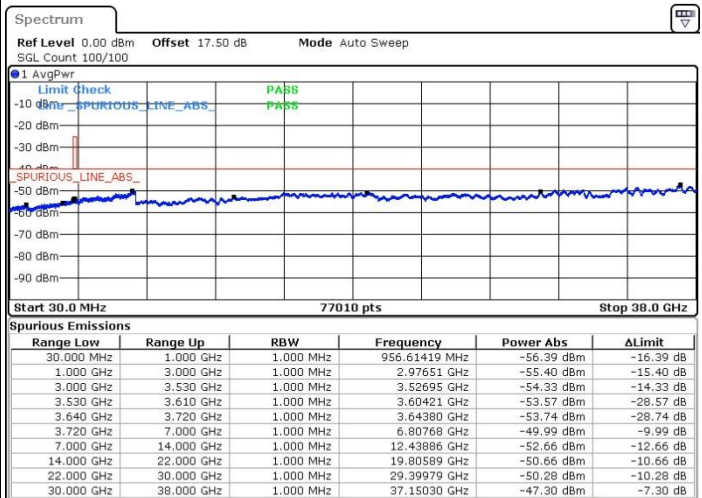
64QAM

MiddleChannel / 1RB0

Middle Channel / 1RBmax



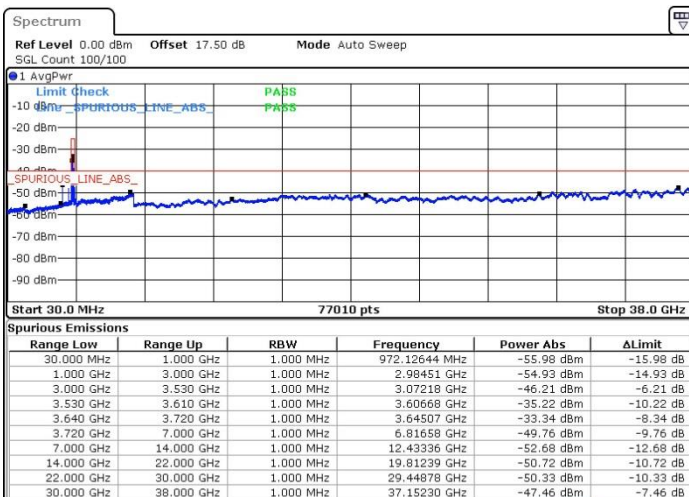
Date: 23 APR 2019 12:18:07



Date: 23 APR 2019 12:36:44

Middle Channel / FullIRB

N/A



Date: 23 APR 2019 12:27:20

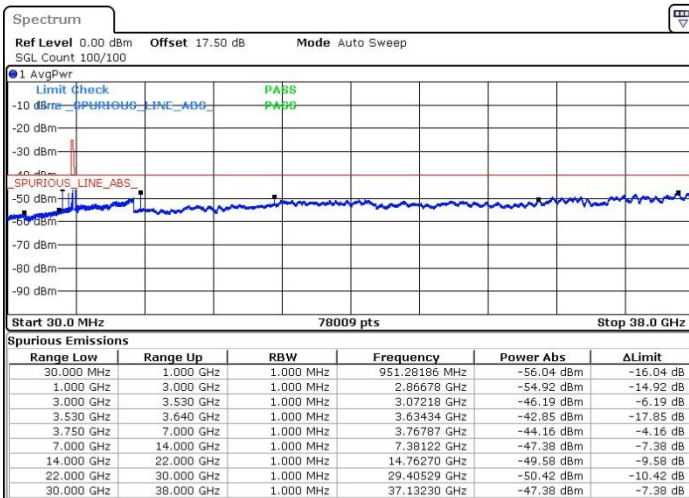


LTE Band 48 / 10MHz

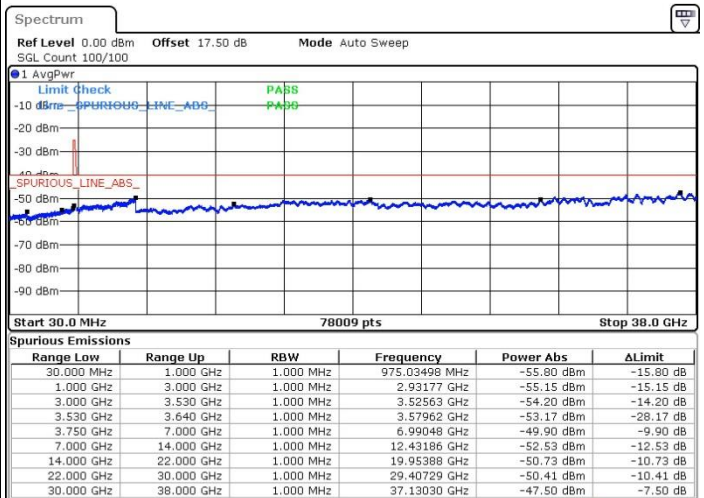
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



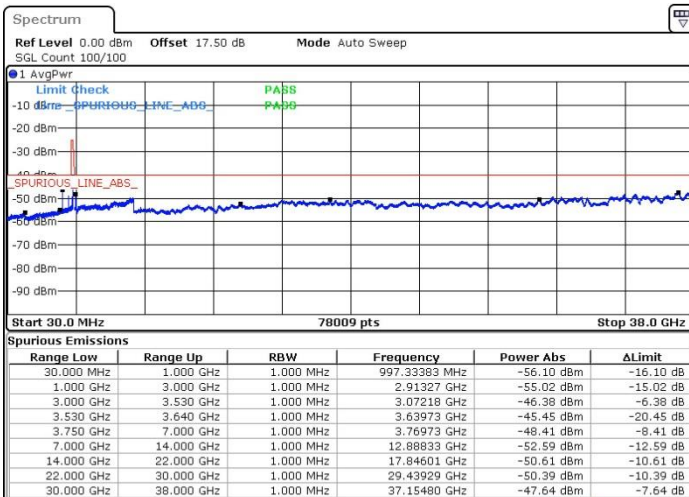
Date: 23 APR 2019 12:19:08



Date: 23 APR 2019 12:37:49

Highest Channel / FullIRB

N/A



Date: 23 APR 2019 12:28:21

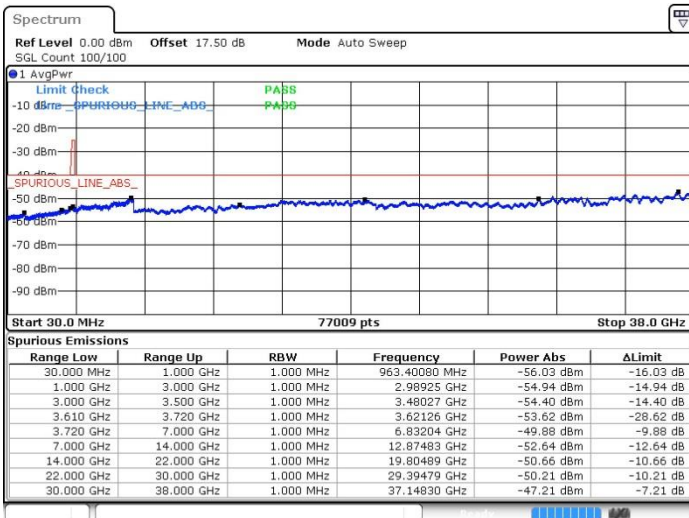


LTE Band 48 / 15MHz

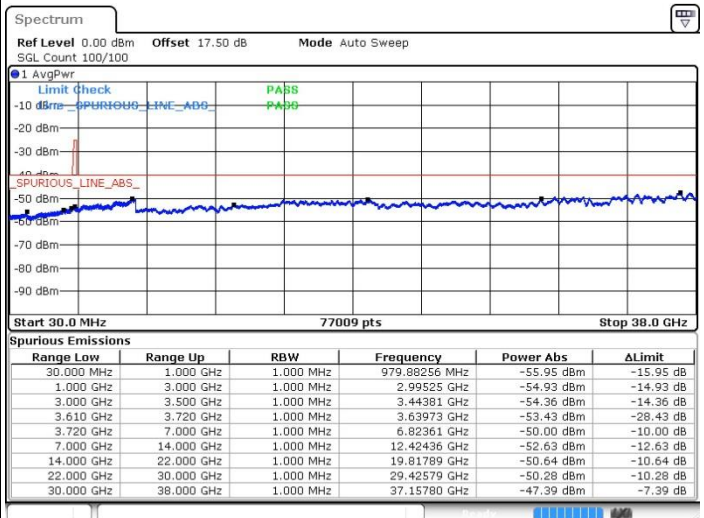
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



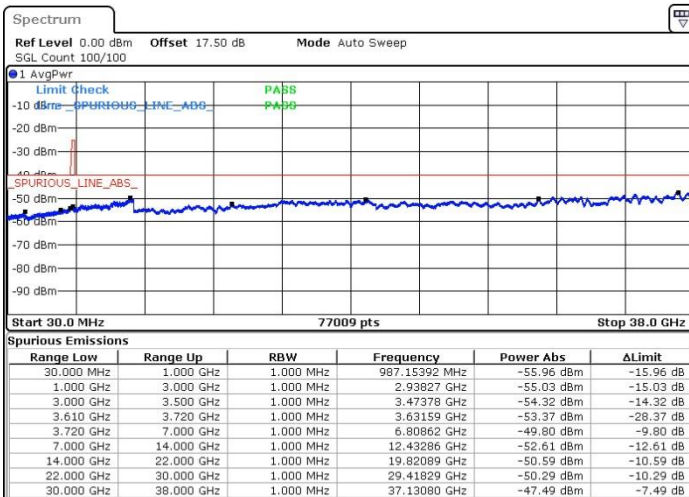
Date: 23 APR 2019 12:43:13



Date: 23 APR 2019 13:02:42

Lowest Channel / FullRB

N/A



Date: 23 APR 2019 12:52:58

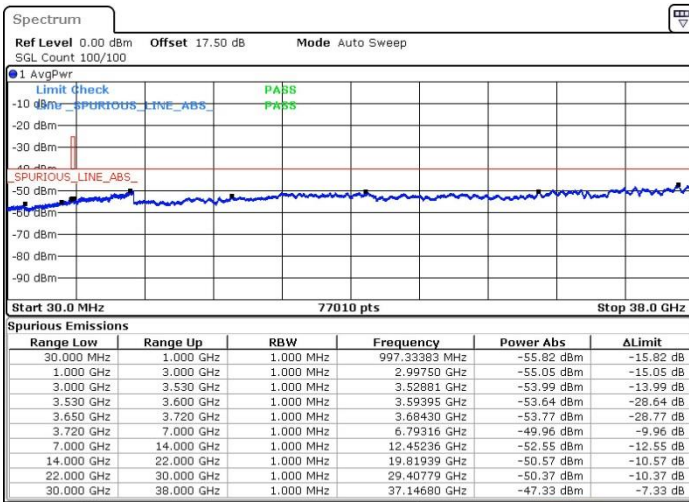


LTE Band 48 / 15MHz

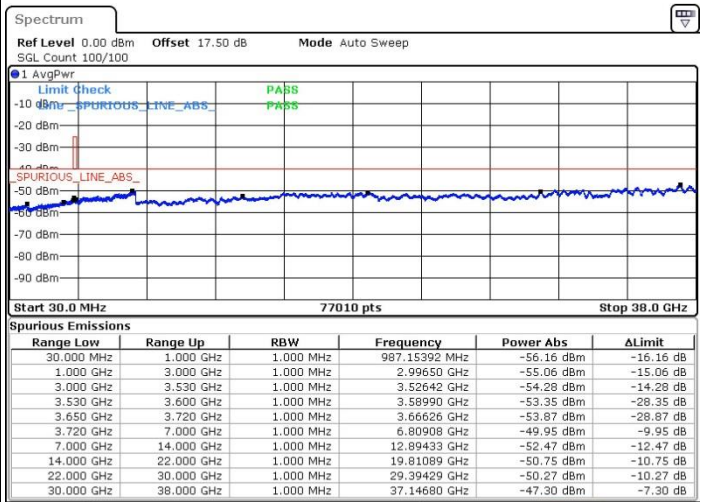
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



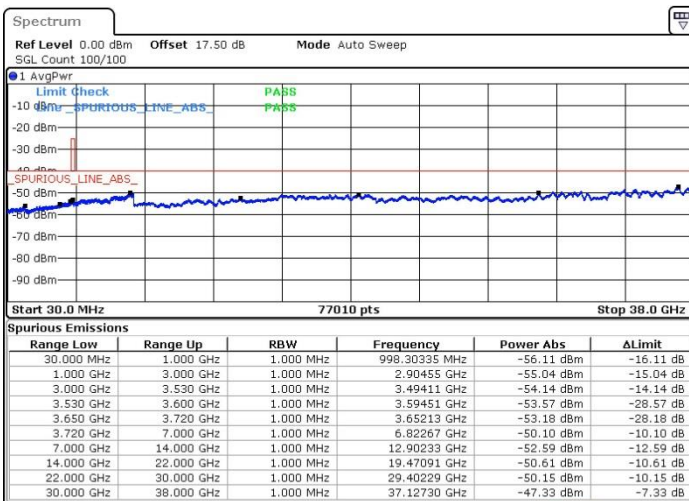
Date: 23 APR 2019 12:44:18



Date: 23 APR 2019 13:03:47

Middle Channel / FullIRB

N/A



Date: 23 APR 2019 12:54:03

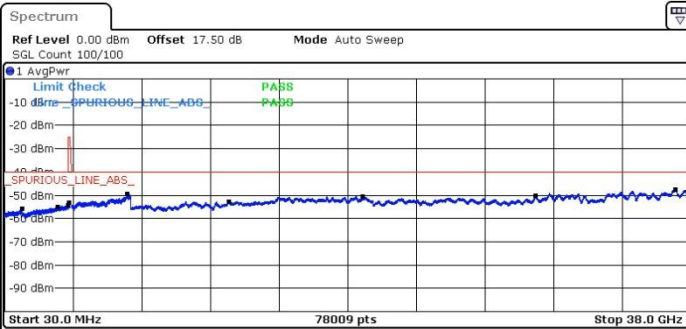


LTE Band 48 / 15MHz

64QAM

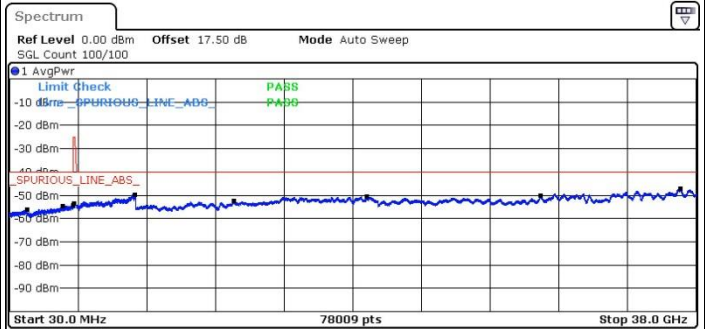
Highest Channel / 1RB0

Highest Channel / 1RBmax



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	981.33683 MHz	-55.90 dBm	-15.90 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.98475 GHz	-55.14 dBm	-15.14 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.52775 GHz	-54.23 dBm	-14.23 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.59577 GHz	-53.36 dBm	-28.36 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.80201 GHz	-49.50 dBm	-9.50 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.43786 GHz	-52.65 dBm	-12.65 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.81639 GHz	-50.67 dBm	-10.67 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.40629 GHz	-50.29 dBm	-10.29 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.14180 GHz	-47.43 dBm	-7.43 dB

Date: 23 APR 2019 12:49:43

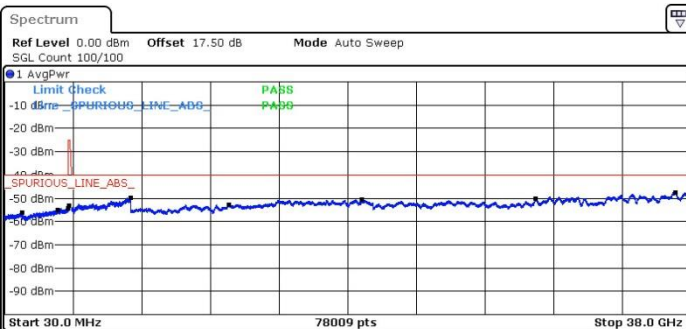


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	993.94053 MHz	-56.08 dBm	-16.08 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.96726 GHz	-54.83 dBm	-14.83 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.52828 GHz	-54.14 dBm	-14.14 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.58269 GHz	-53.45 dBm	-28.45 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.97424 GHz	-49.84 dBm	-9.84 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.42836 GHz	-52.62 dBm	-12.62 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.80789 GHz	-50.70 dBm	-10.70 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.41029 GHz	-50.27 dBm	-10.27 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.14730 GHz	-47.28 dBm	-7.28 dB

Date: 23 APR 2019 13:09:12

Highest Channel / FullIRB

N/A



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.27586 MHz	-56.21 dBm	-16.21 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.98425 GHz	-54.94 dBm	-14.94 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.52907 GHz	-54.20 dBm	-14.20 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.59720 GHz	-53.32 dBm	-28.32 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.98909 GHz	-49.85 dBm	-9.85 dB
7.000 GHz	14.000 GHz	1.000 MHz	12.43386 GHz	-52.66 dBm	-12.66 dB
14.000 GHz	22.000 GHz	1.000 MHz	19.80139 GHz	-50.61 dBm	-10.61 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.40979 GHz	-50.29 dBm	-10.29 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.11281 GHz	-47.45 dBm	-7.45 dB

Date: 23 APR 2019 12:59:27

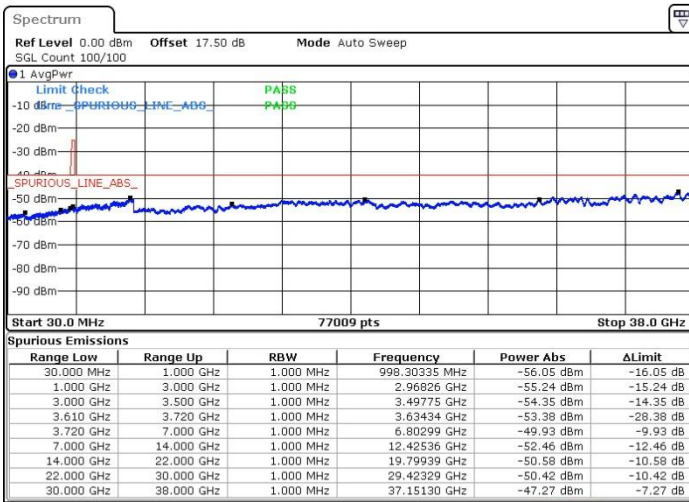


LTE Band 48 / 20MHz

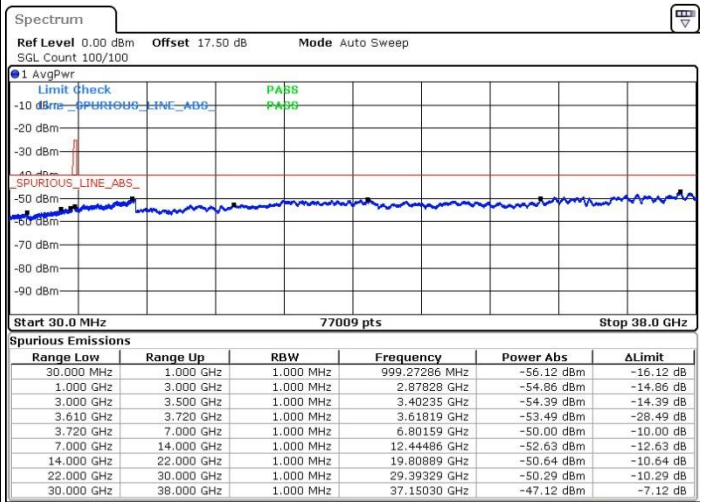
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



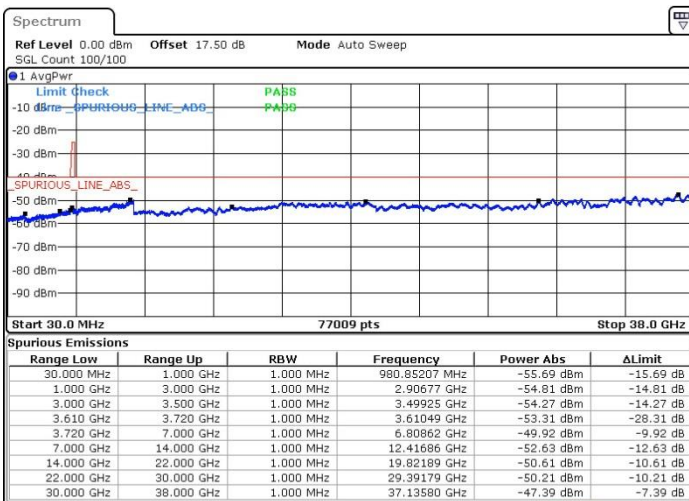
Date: 23 APR 2019 13:20:01



Date: 23 APR 2019 13:29:46

Lowest Channel / FullRB

N/A



Date: 23 APR 2019 13:10:17

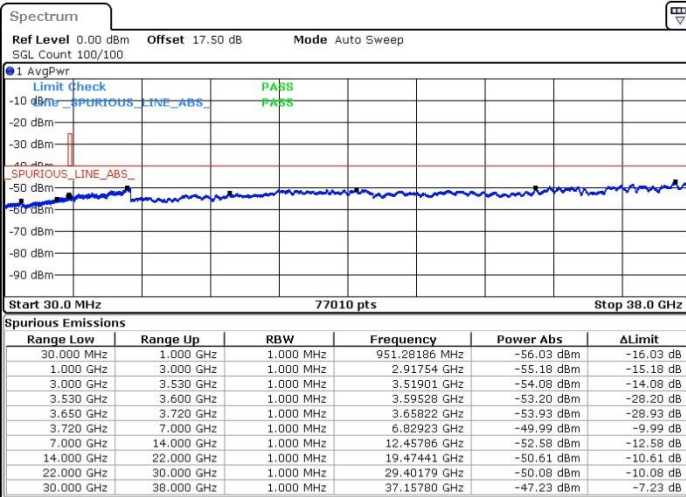


LTE Band 48 / 20MHz

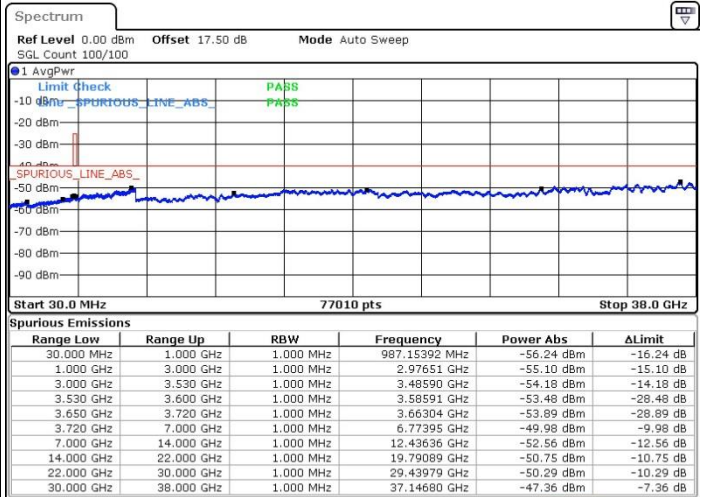
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



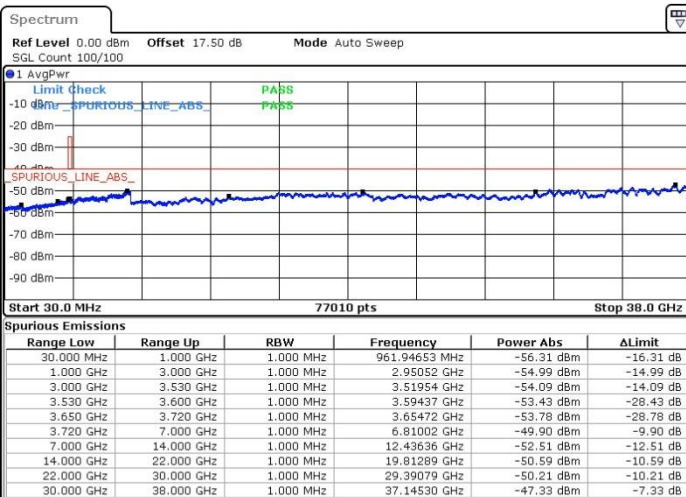
Date: 23 APR 2019 13:25:26



Date: 23 APR 2019 13:35:10

Middle Channel / FullIRB

N/A



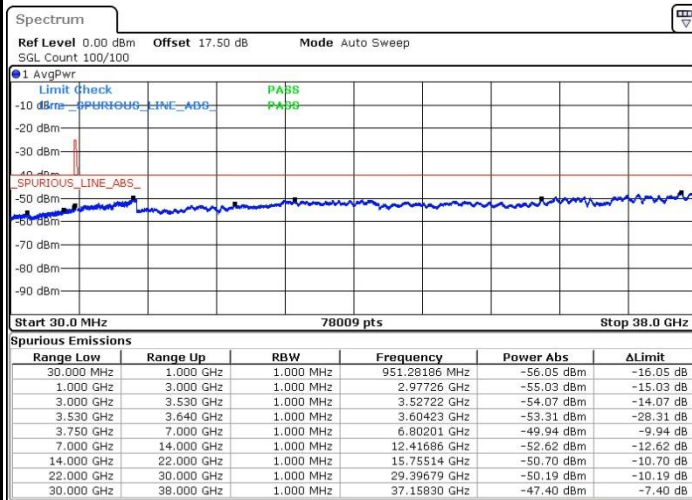
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LTE Band 48 / 20MHz

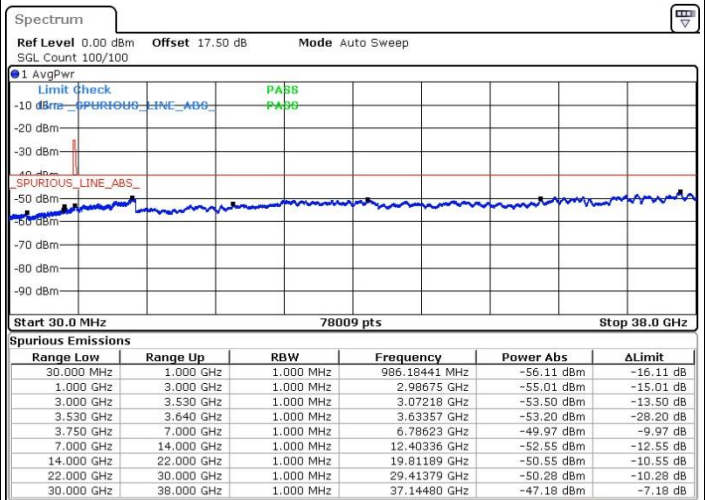
64QAM

Highest Channel / 1RB0



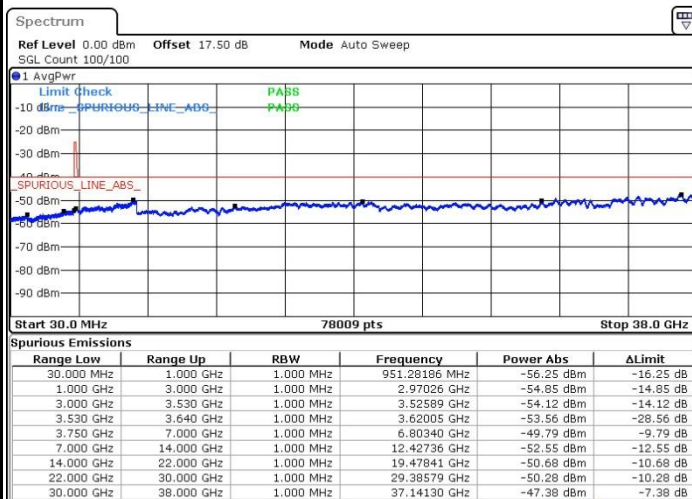
Date: 23 APR 2019 13:26:31

Highest Channel / 1RBmax



Date: 23 APR 2019 13:37:11

Highest Channel / FullIRB



Date: 23 APR 2019 13:16:46

N/A

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	0.0008	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0006	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0000	
-10	Normal Voltage	0.0006	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0009	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 48_CA

26dB Bandwidth

Mode	LTE Band 48 : 26dB BW(MHz)			
QPSK				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Lowest CH	24.77	29.85	34.83	24.98
Middle CH	24.88	29.85	34.76	24.93
Highest CH	24.77	29.85	34.83	24.88
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	
Lowest CH	30.09	34.90	39.64	
Middle CH	29.91	34.97	39.88	
Highest CH	29.97	35.03	39.96	

Mode	LTE Band 48 : 26dB BW(MHz)			
16QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Lowest CH	24.68	29.91	34.62	24.73
Middle CH	24.77	29.79	34.76	24.82
Highest CH	24.73	29.67	34.76	24.73
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	
Lowest CH	30.03	35.10	39.96	
Middle CH	30.03	34.90	39.88	
Highest CH	30.03	34.97	39.96	

Mode	LTE Band 48 : 26dB BW(MHz)			
64QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Lowest CH	24.68	29.85	34.90	24.88
Middle CH	24.77	29.73	35.10	24.93
Highest CH	24.68	29.97	34.83	24.82
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	
Lowest CH	29.91	34.83	39.80	
Middle CH	29.85	34.90	39.80	
Highest CH	30.09	35.10	39.80	