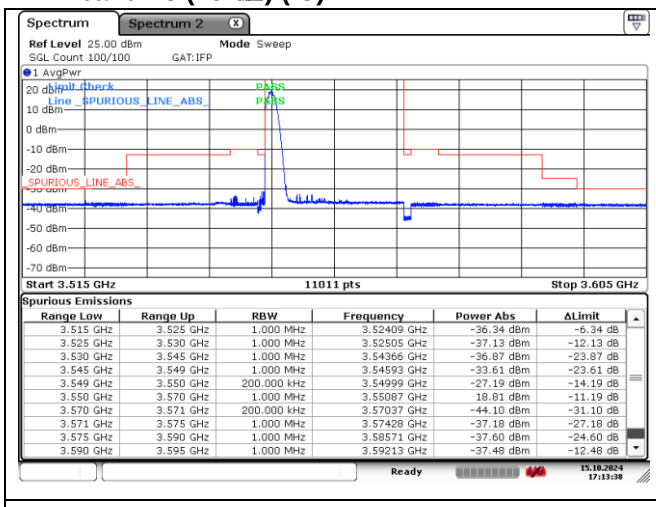
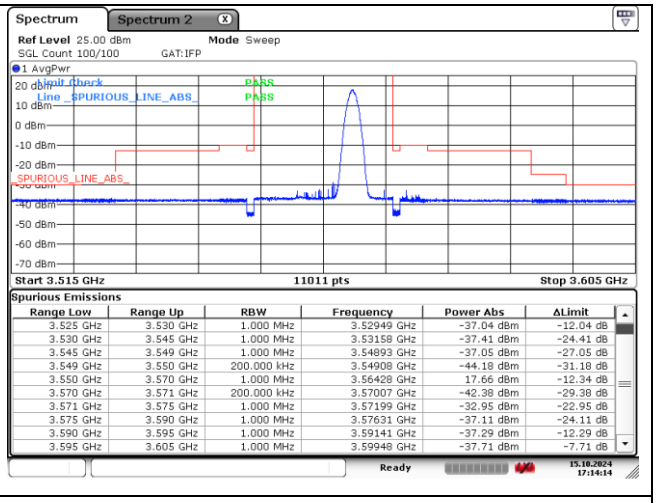
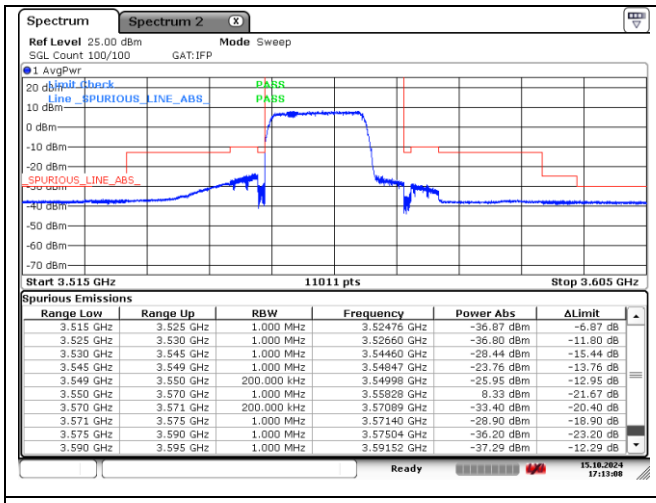
LTE band 48 (15 ㎒) (IC)



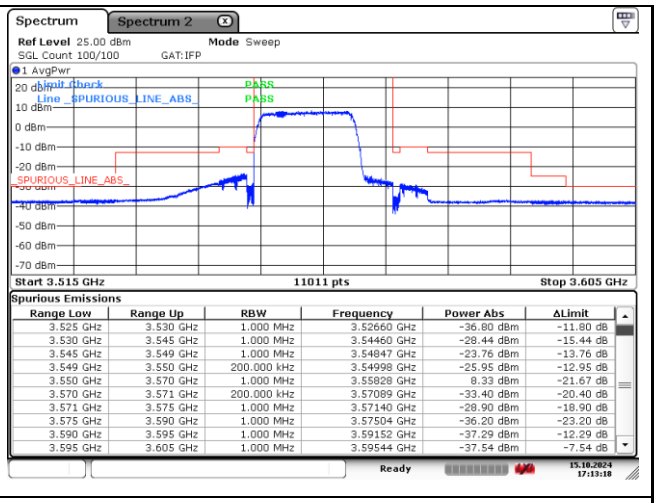
16QAM Low Channel - 1 RB



16QAM Low Channel - 1 RB

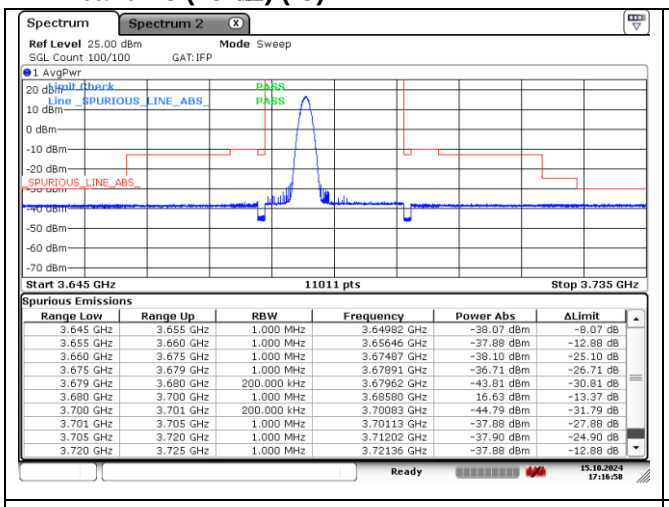


16QAM Low Channel - Full RB

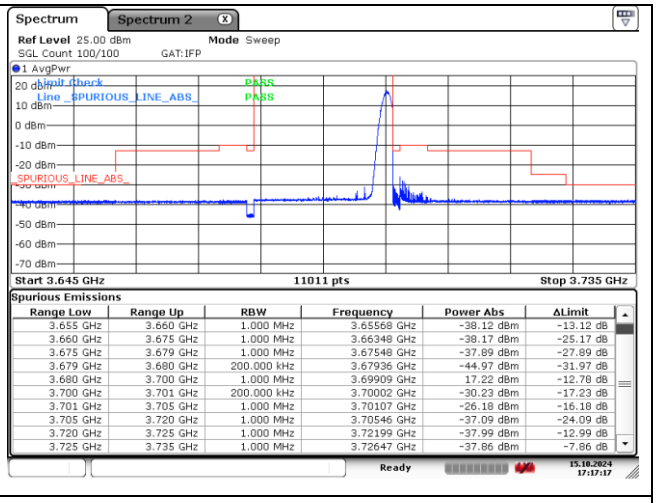


16QAM Low Channel - Full RB

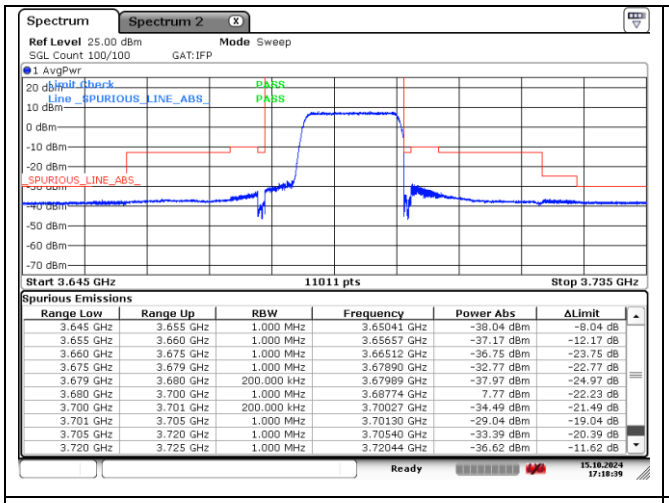
LTE band 48 (15 ㎒) (IC)



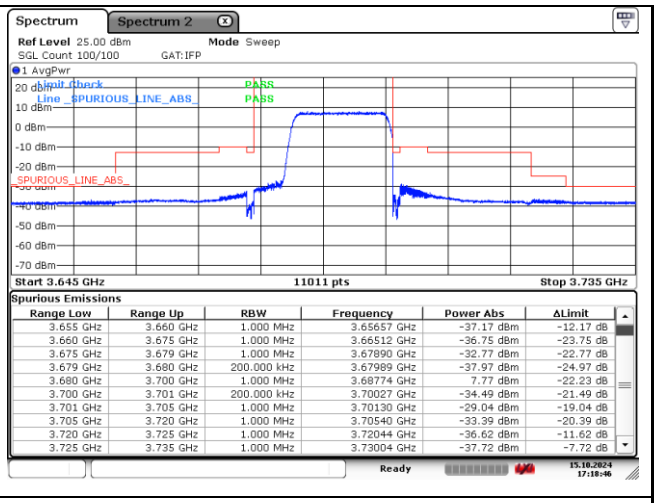
16QAM High Channel - 1 RB



16QAM High Channel - 1 RB

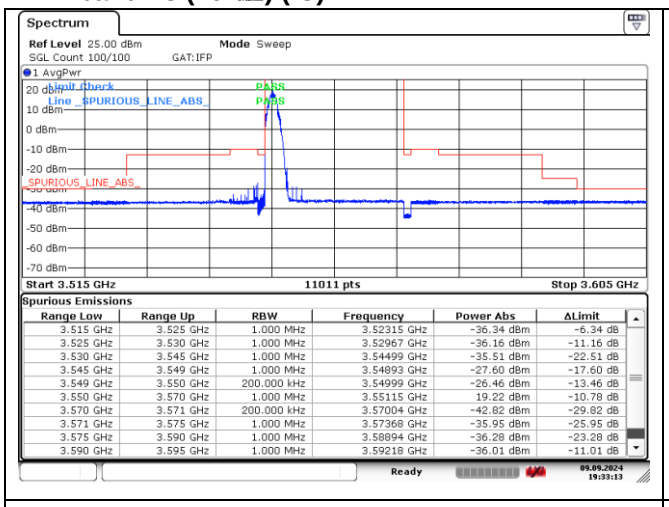


16QAM High Channel - Full RB

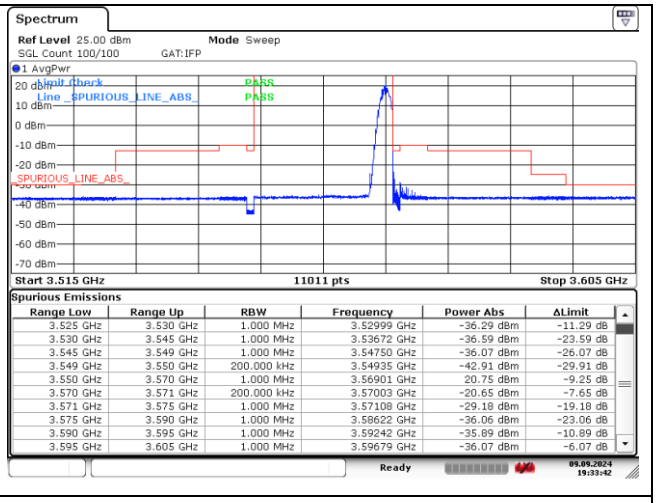


16QAM High Channel - Full RB

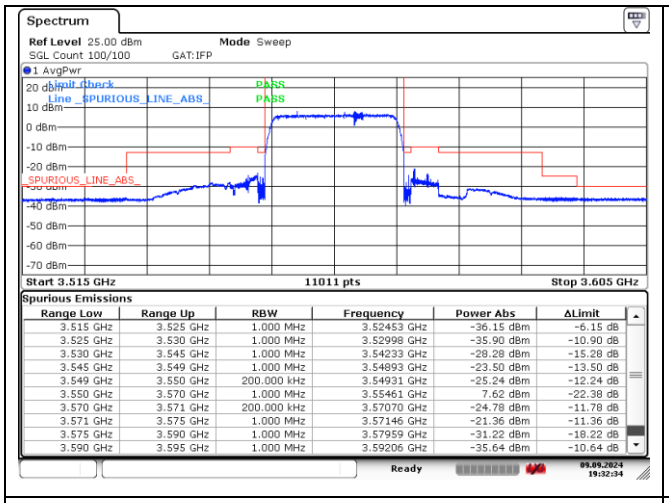
LTE band 48 (20 ㎒) (IC)



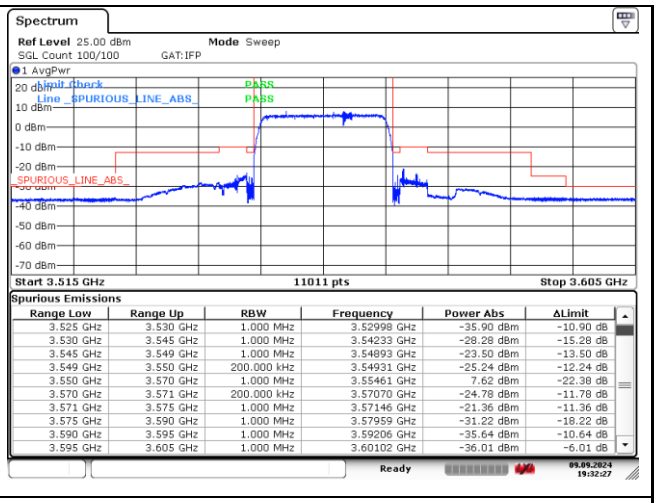
QPSK Low Channel - 1 RB



QPSK Low Channel - 1 RB

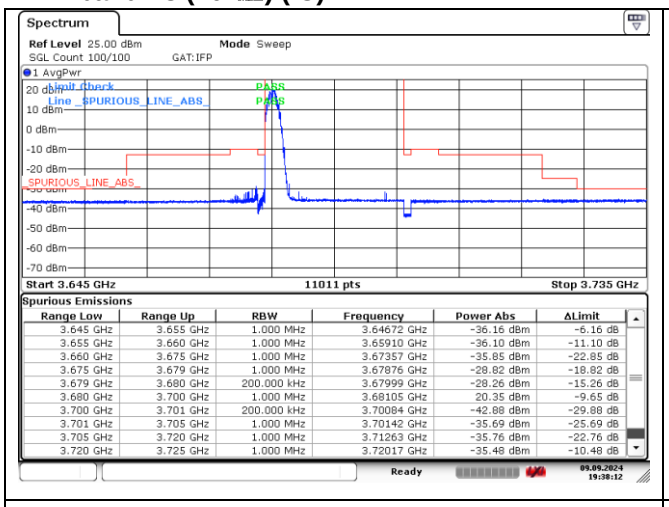


QPSK - Low Channel - Full RB

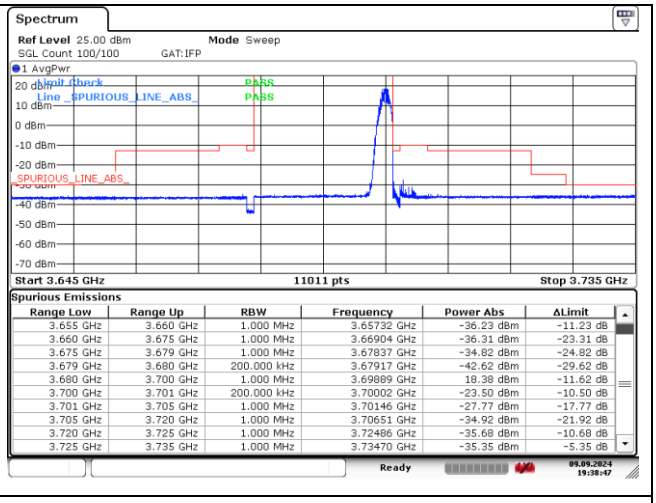


QPSK - Low Channel - Full RB

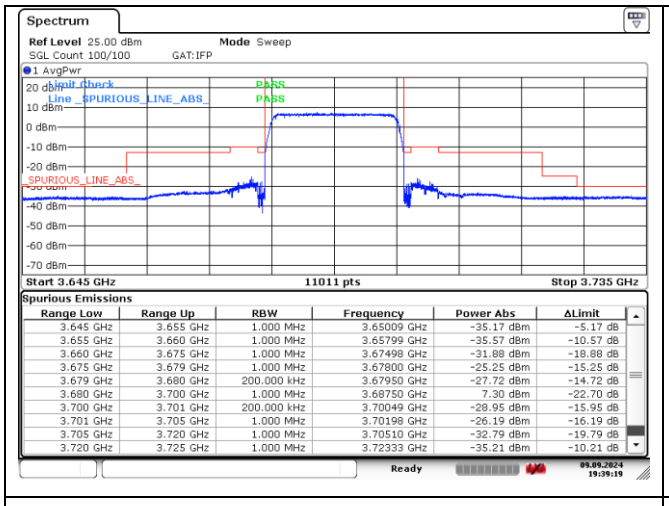
LTE band 48 (20 ㎒) (IC)



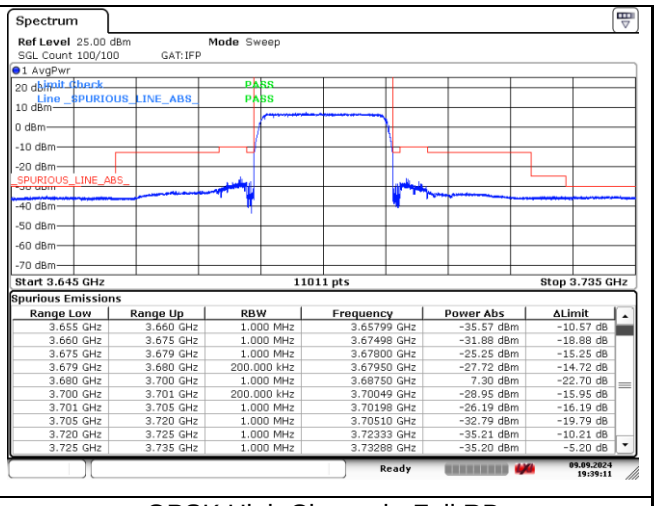
QPSK High Channel - 1 RB



QPSK High Channel - 1 RB

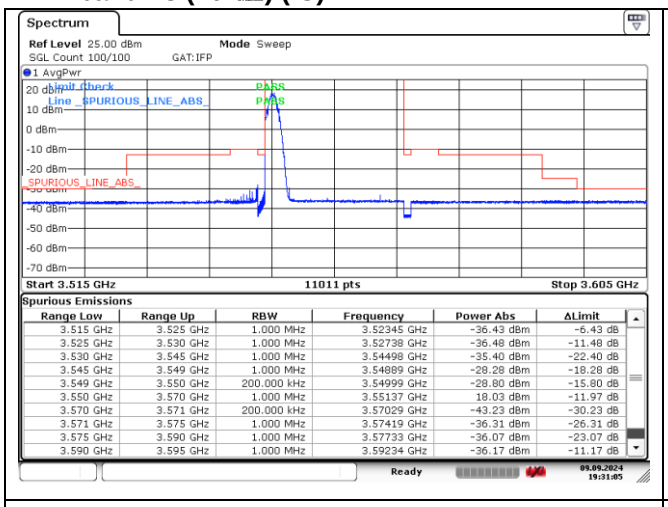


QPSK High Channel - Full RB

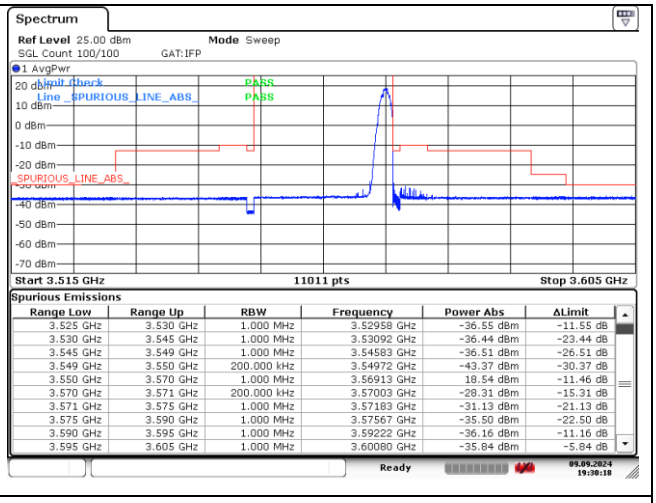


QPSK High Channel - Full RB

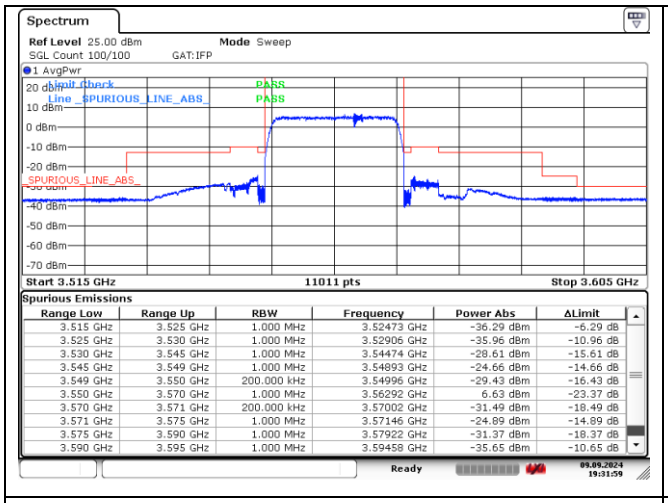
LTE band 48 (20 ㎒) (IC)



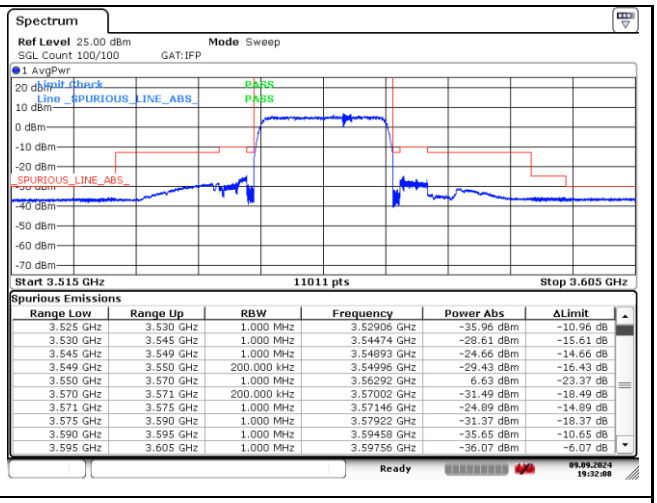
16QAM Low Channel - 1 RB



16QAM Low Channel - 1 RB

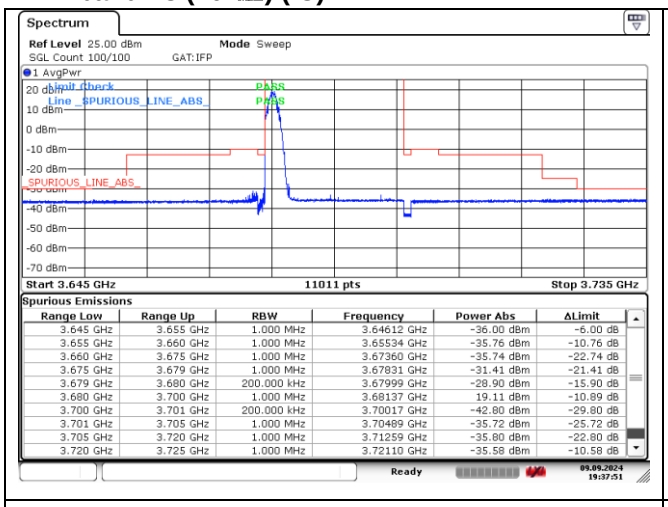


16QAM Low Channel - Full RB

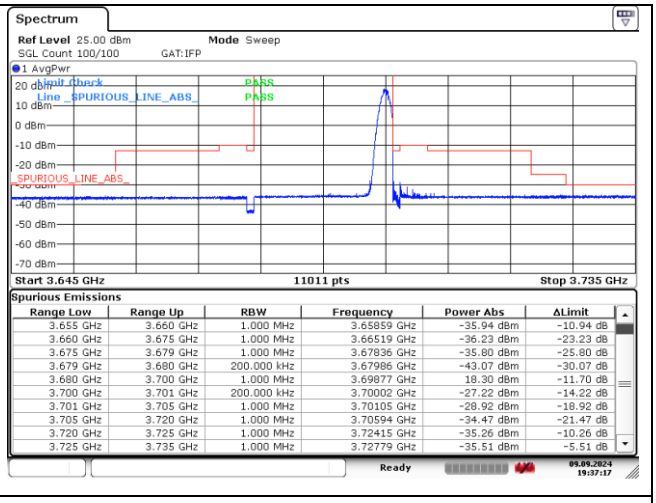


16QAM Low Channel - Full RB

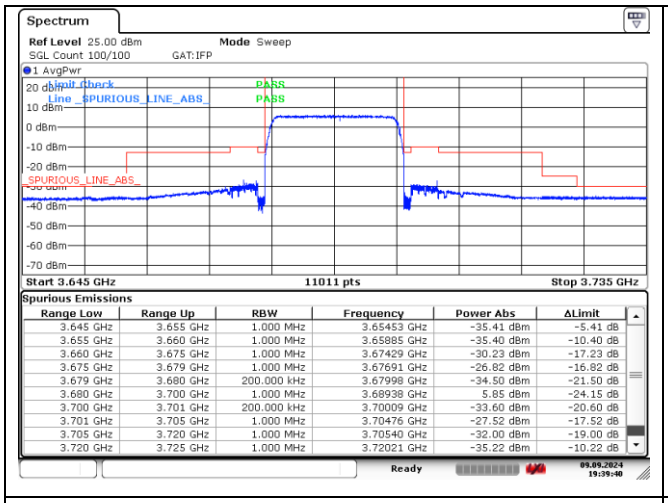
LTE band 48 (20 ㎒) (IC)



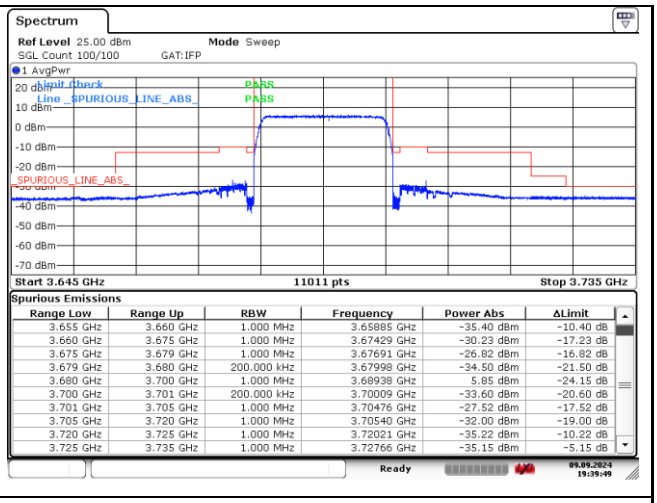
16QAM High Channel - 1 RB



16QAM High Channel - 1 RB



16QAM High Channel - Full RB



16QAM High Channel - Full RB

8. Frequency Stability

8.1. Limit

FCC
- § 2.1055 (a), § 2.1055 (d) & following:

- §27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

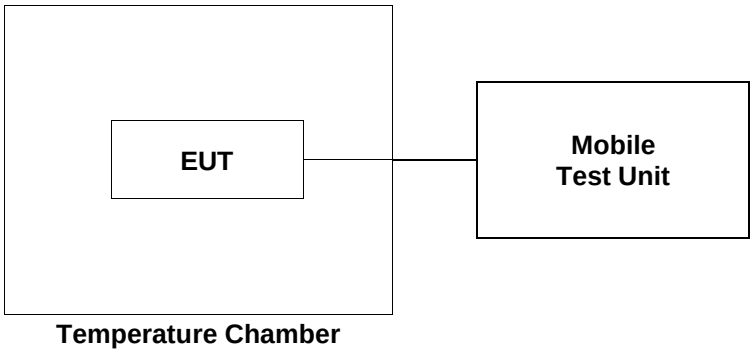
IC
- RSS-Gen Issue 5
6.11, for licensed devices, the following measurement conditions apply:
a. at the temperatures of -30°C (-22°F), +20°C (+68°F) and +50°C (+122°F), and at the manufacturer's rated supply voltage

- RSS-192 Issue 5
5.4, the frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested at the temperature and supply voltage variations specified in RSS-Gen.

- RSS-199 Issue 4
5.4, the frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested to the temperature and supply voltage variations specified in RSS-Gen.

8.2. Test Procedure

1. Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a Mobile Test Unit via feed-through attenuators.
2. The EUT was placed inside the temperature chamber.
3. After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from Mobile Test Unit.



8.3. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

- Ant. 2

LTE band 42 at middle channel_Only IC

Reference Frequency: 3 525.0 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	4.10	0.80	0.002 55
40		-1.80	0.001 82
30		-2.70	0.001 56
20(Ref.)		-8.20	-
10		10.90	0.005 42
0		12.40	0.005 84
-10		8.80	0.004 82
-20		-13.90	-0.001 62
-30		16.90	0.007 12
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	3.49 (85%)	-2.80	0.001 53
	4.72 (115%)	0.90	0.002 58

LTE band 48 at middle channel (IC)

Reference Frequency: 3 625.0 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	4.10	-8.70	-0.002 84
40		0.40	-0.000 33
30		-0.40	-0.000 55
20(Ref.)		1.60	-
10		5.80	0.001 16
0		9.30	0.002 12
-10		-5.10	-0.001 85
-20		1.50	-0.000 03
-30		-8.70	-0.002 84
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	3.49 (85%)	-3.30	-0.001 35
	4.72 (115%)	9.40	0.002 15

- Switching

LTE band 38 at middle channel

Reference Frequency: 2 595.0 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	4.10	2.80	0.005 59
40		-0.40	0.004 35
30		-4.40	0.002 81
20(Ref.)		-11.70	-
10		-2.00	0.003 74
0		-1.30	0.004 01
-10		2.30	0.005 39
-20		10.30	0.008 48
-30		-1.40	0.003 97
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	3.49 (85%)	2.80	0.005 59
	4.72 (115%)	-0.40	0.004 35

LTE band 42 at middle channel_Only IC

Reference Frequency: 3 525.0 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	4.10	5.50	0.000 28
40		-8.70	-0.003 74
30		5.30	0.000 23
20(Ref.)		4.50	-
10		3.80	-0.000 20
0		3.10	-0.000 40
-10		-8.60	-0.003 72
-20		4.70	0.000 06
-30		-9.50	-0.003 97
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	3.49 (85%)	7.20	0.000 77
	4.72 (115%)	5.30	0.000 23

LTE band 48 at middle channel (IC)

Reference Frequency: 3 625.0 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	4.10	12.10	0.002 48
40		6.50	0.000 94
30		10.50	0.002 04
20(Ref.)		3.10	-
10		-4.30	-0.002 04
0		5.50	0.000 66
-10		-7.30	-0.002 87
-20		-7.90	-0.003 03
-30		-4.50	-0.002 10
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	3.49 (85%)	3.60	0.000 14
	4.72 (115%)	4.50	0.000 39

- End of the Test Report -