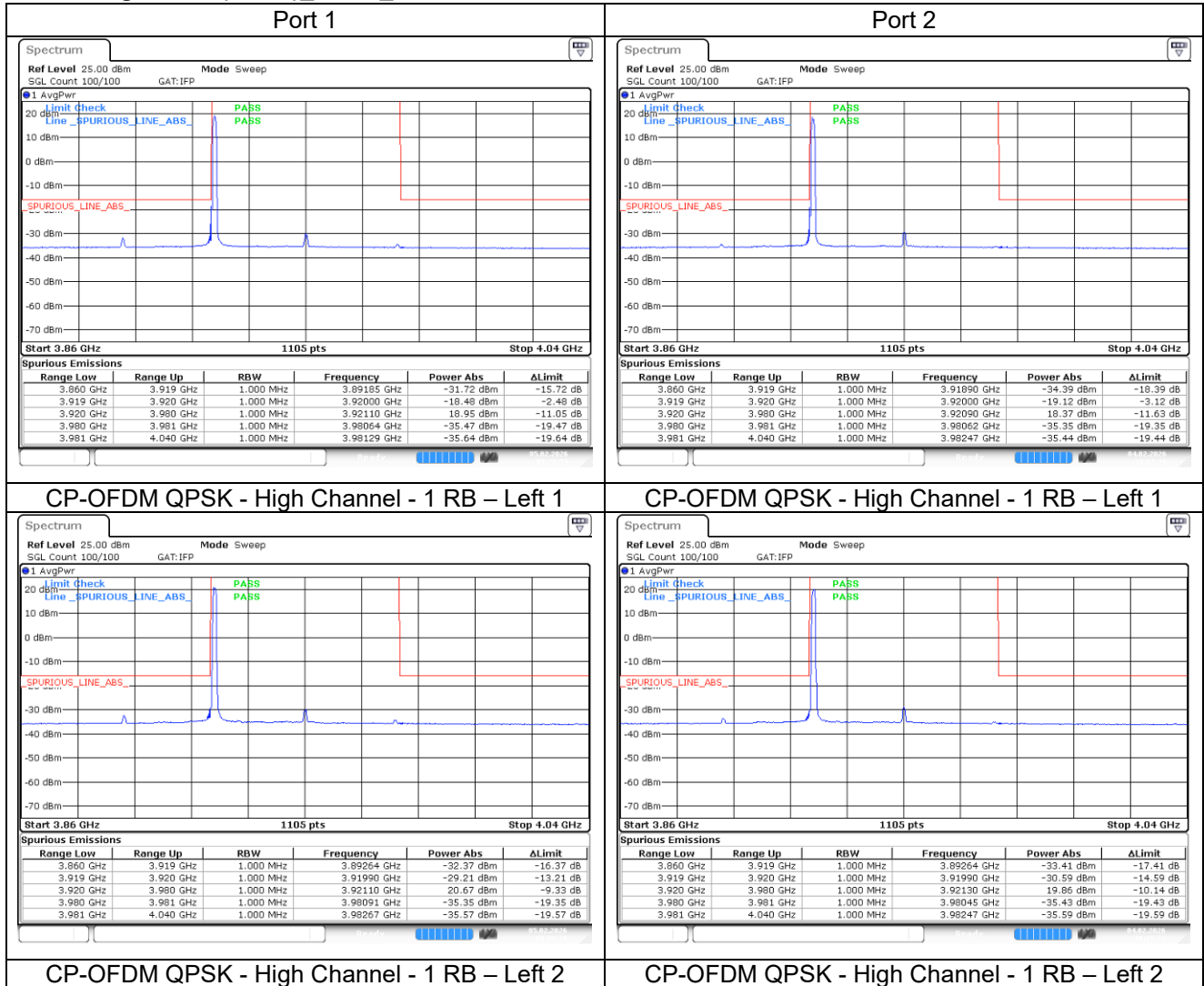
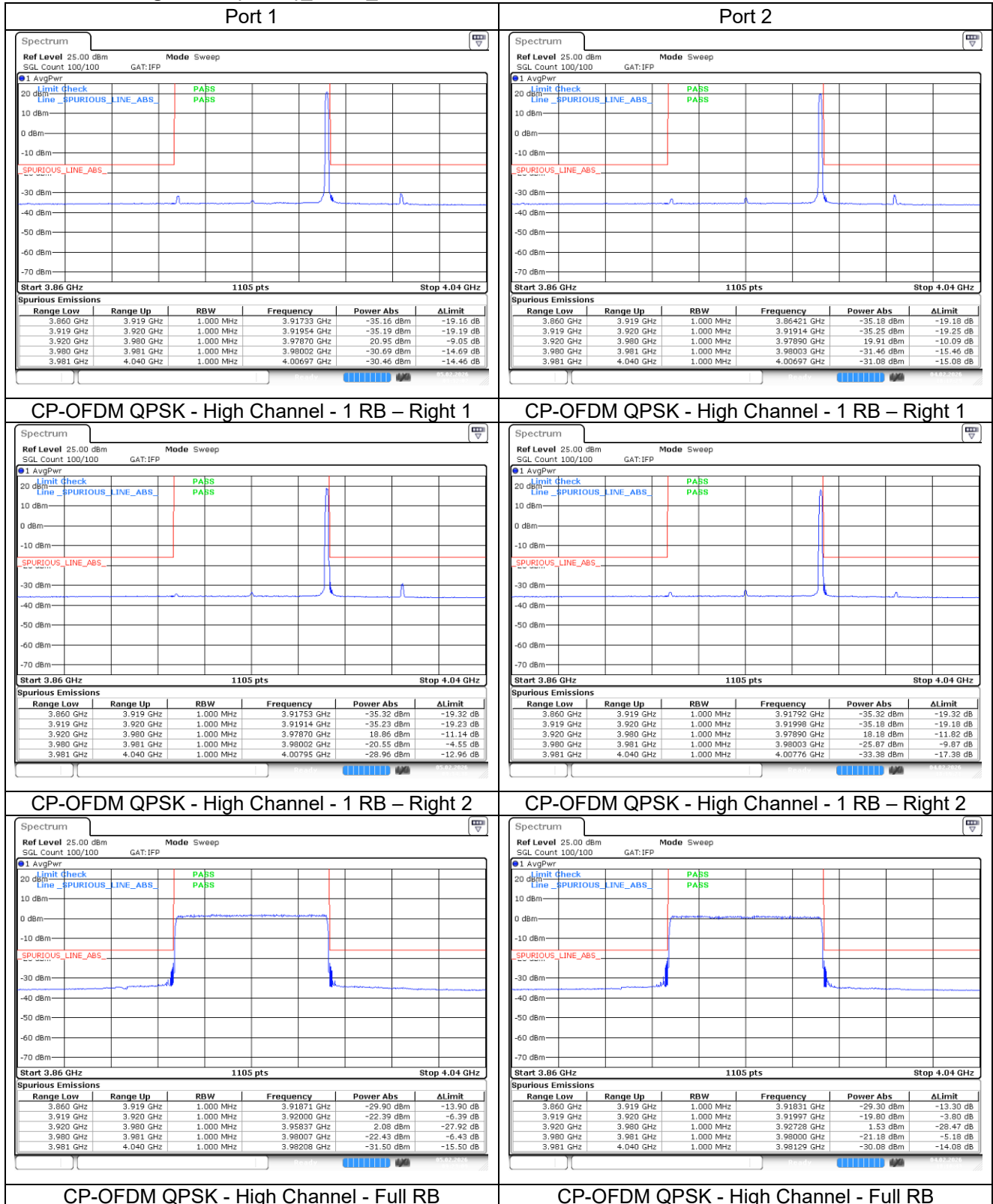


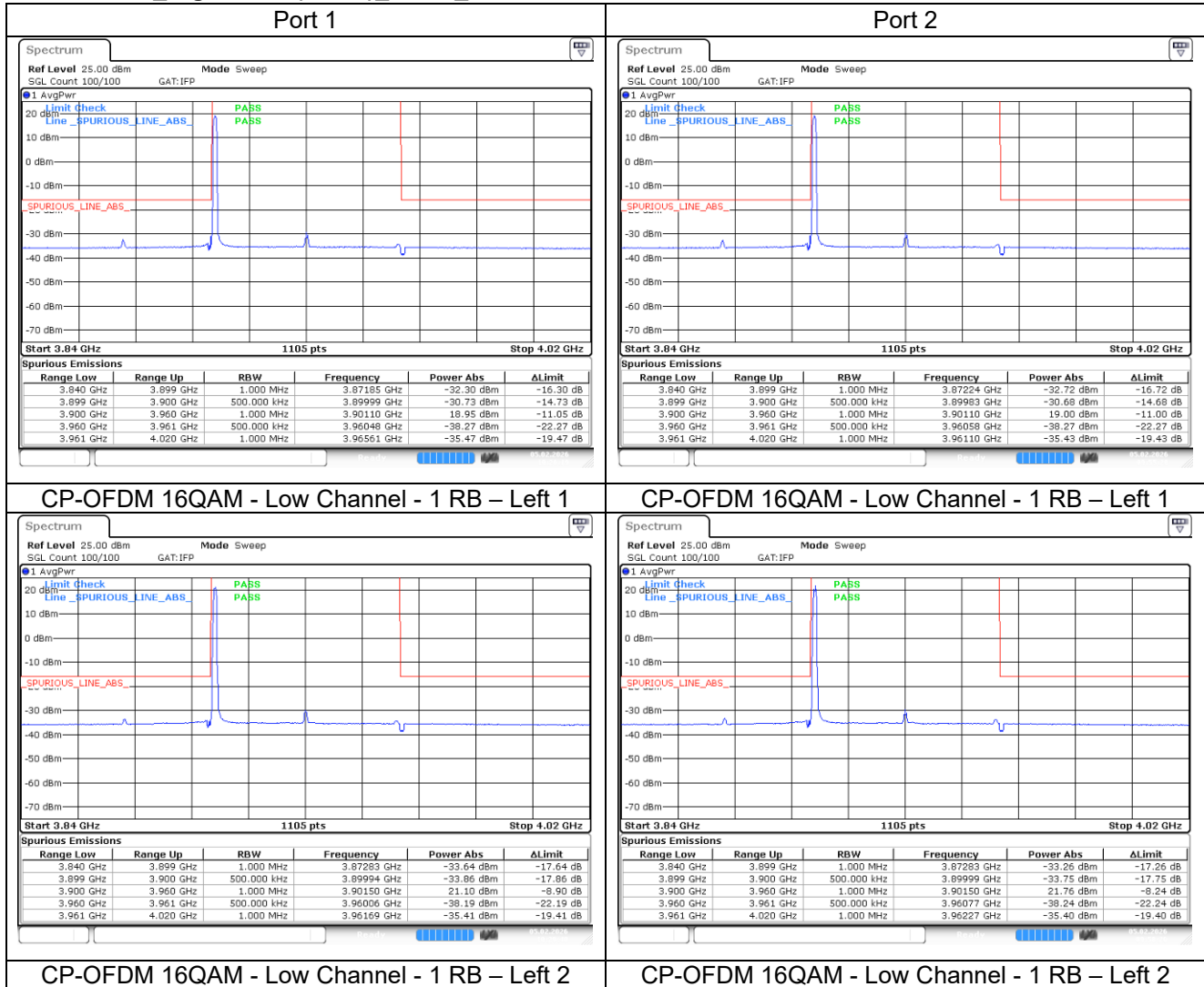
NR 77 High band (60 MHz)_MIMO_IC



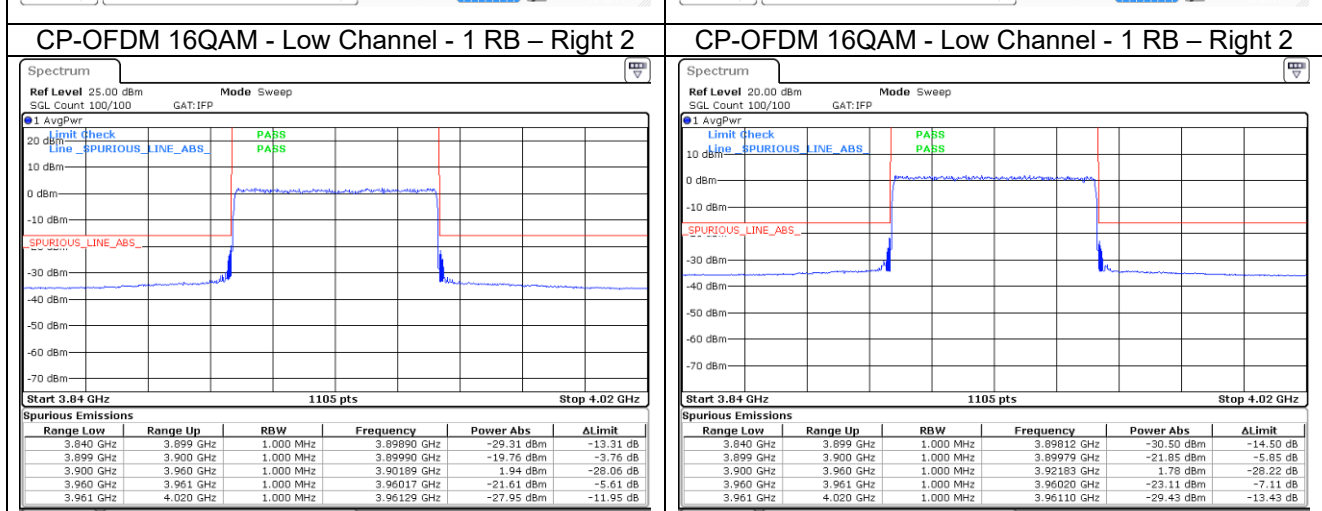
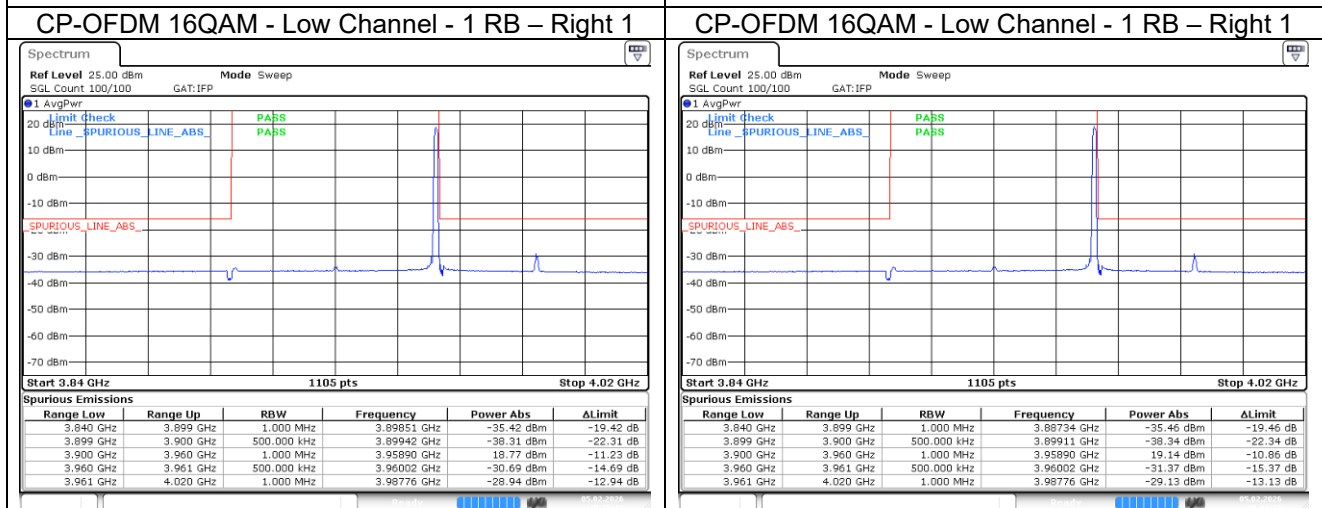
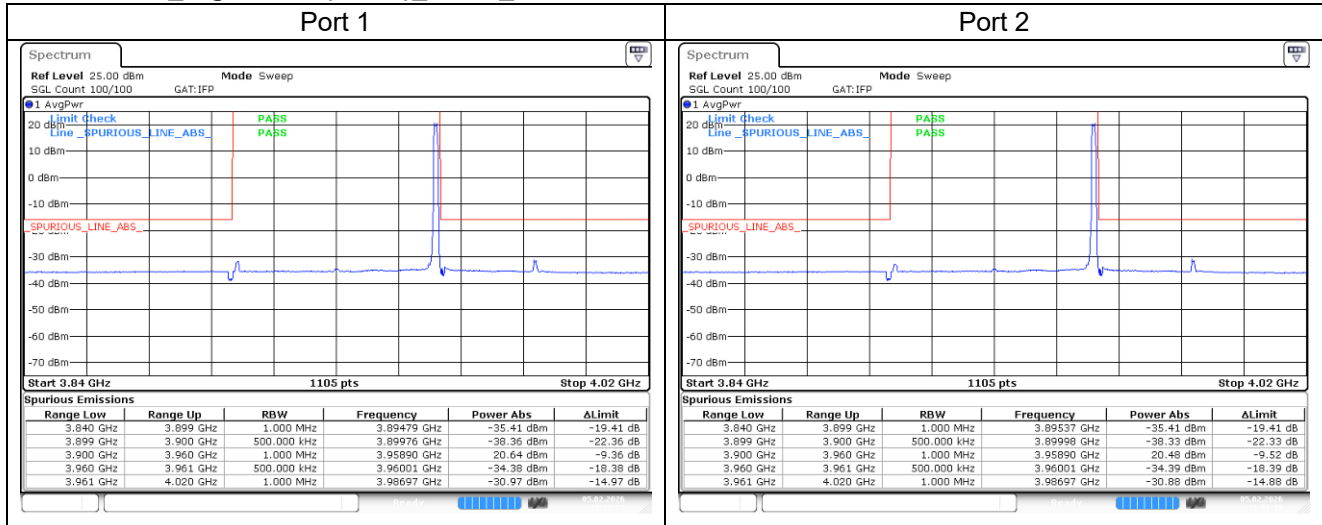
NR band 77 High band (60 MHz)_MIMO_IC



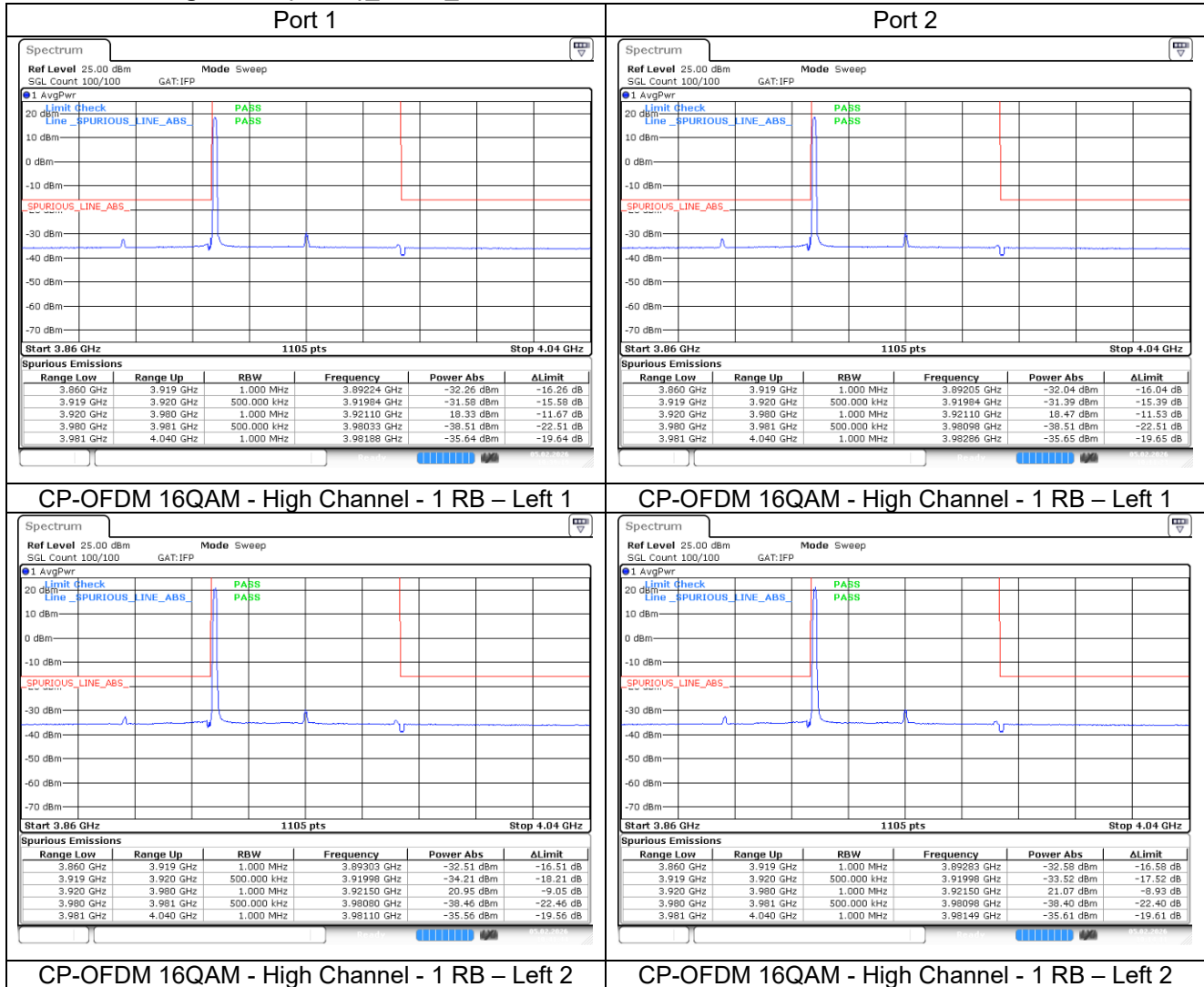
NR band 77_High Band (60 MHz)_MIMO_IC



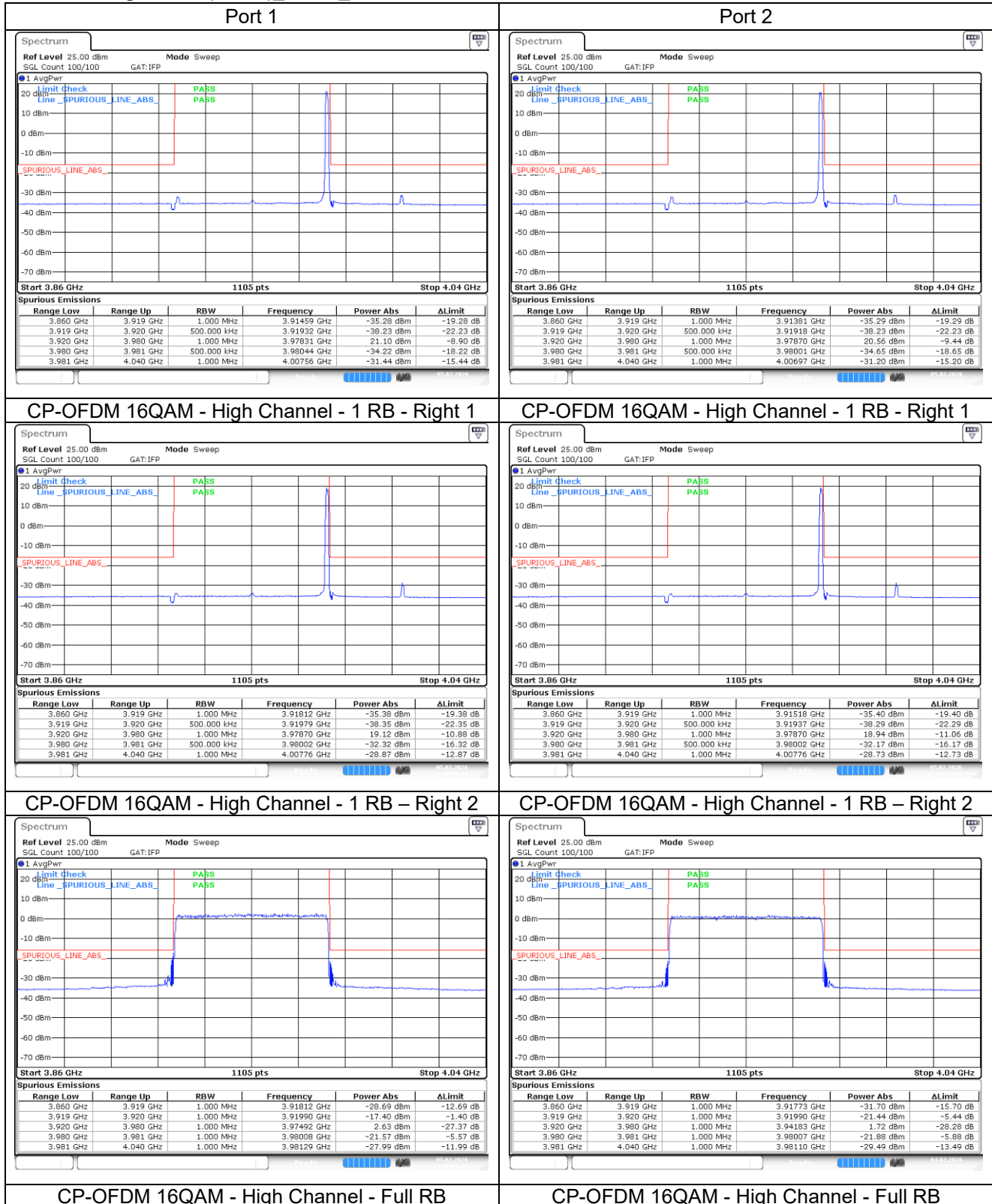
NR band 77_High Band (60 MHz)_MIMO_IC



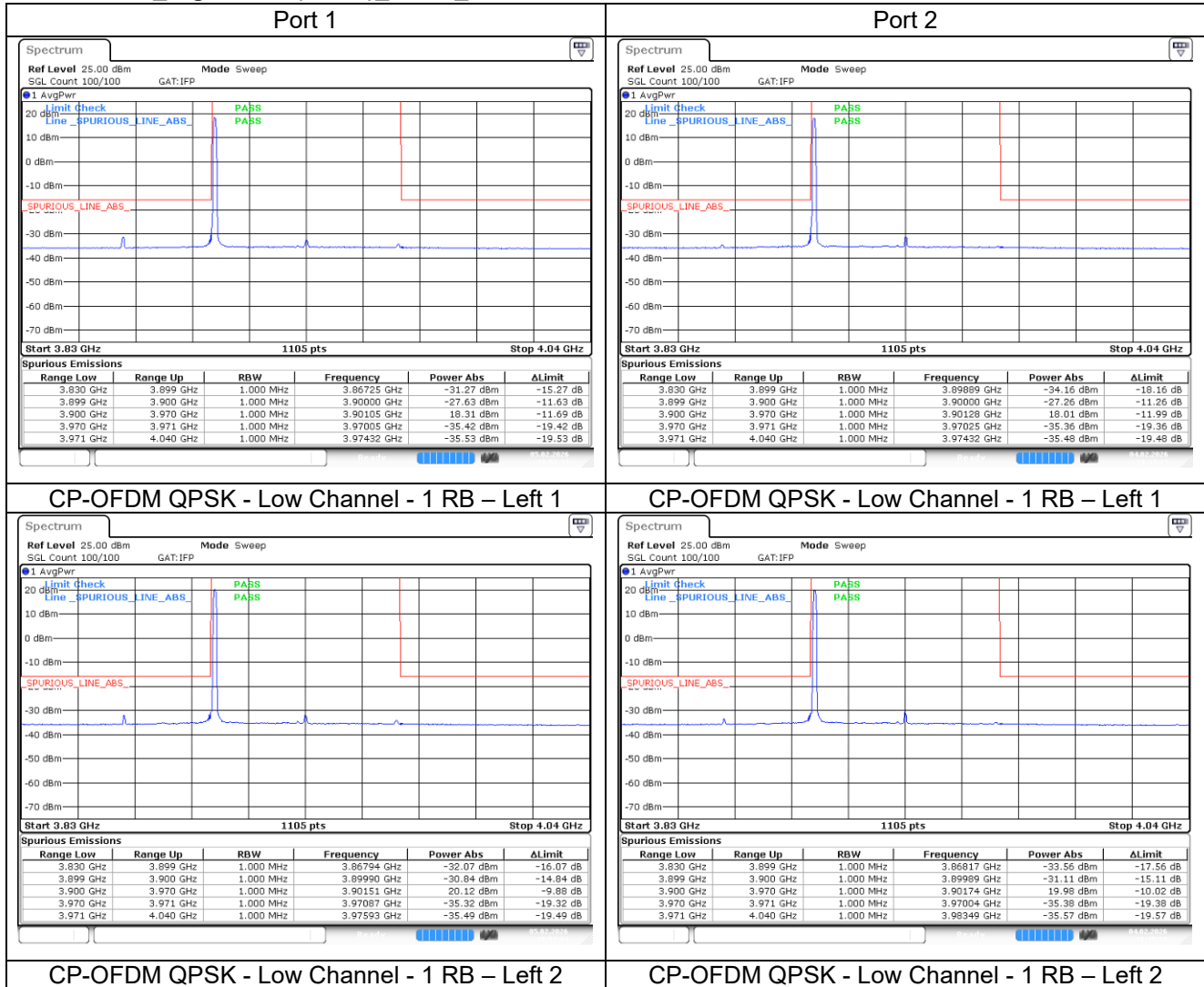
NR band 77 High band (60 MHz)_MIMO_IC



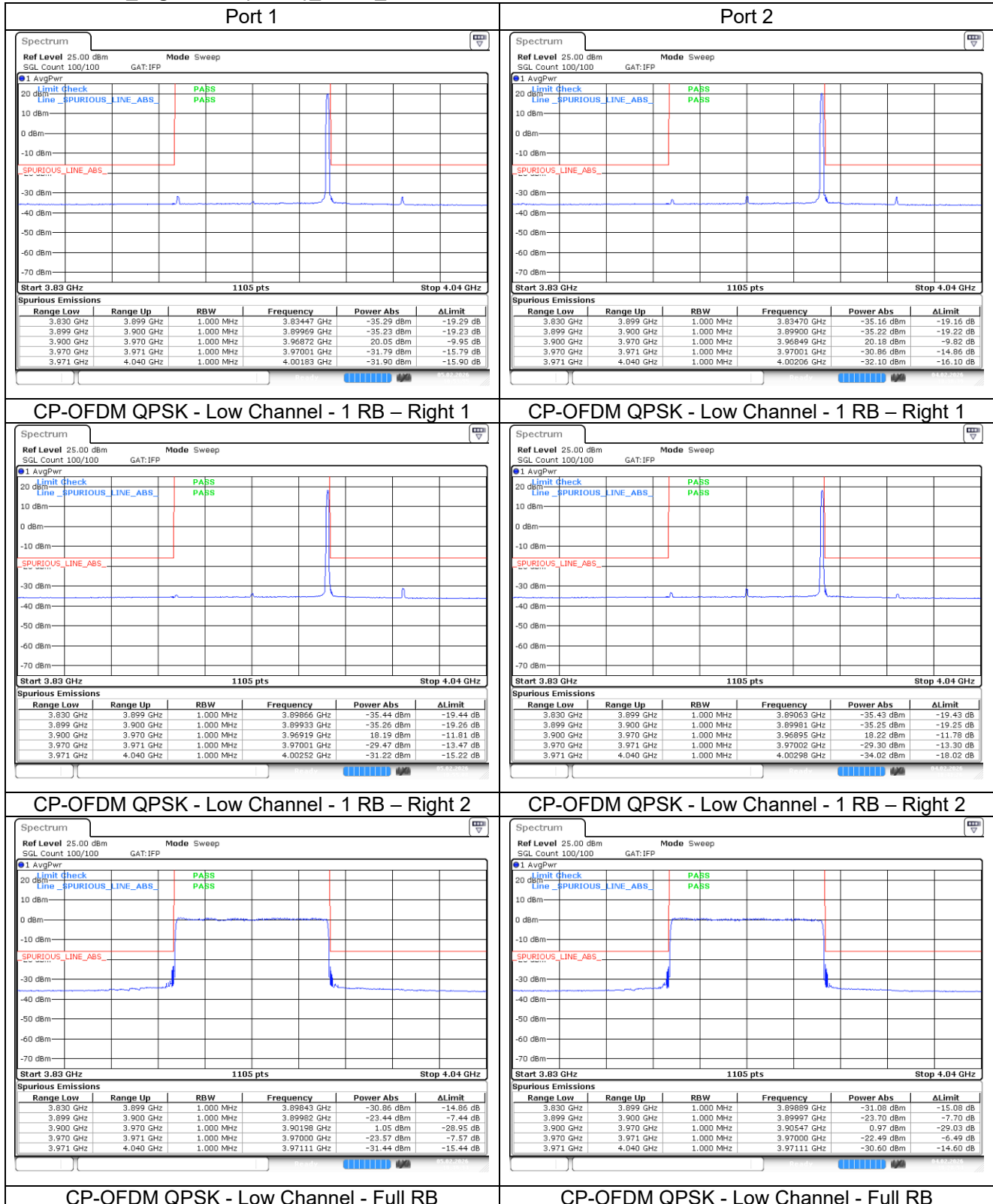
NR band High band (60 MHz)_MIMO_IC



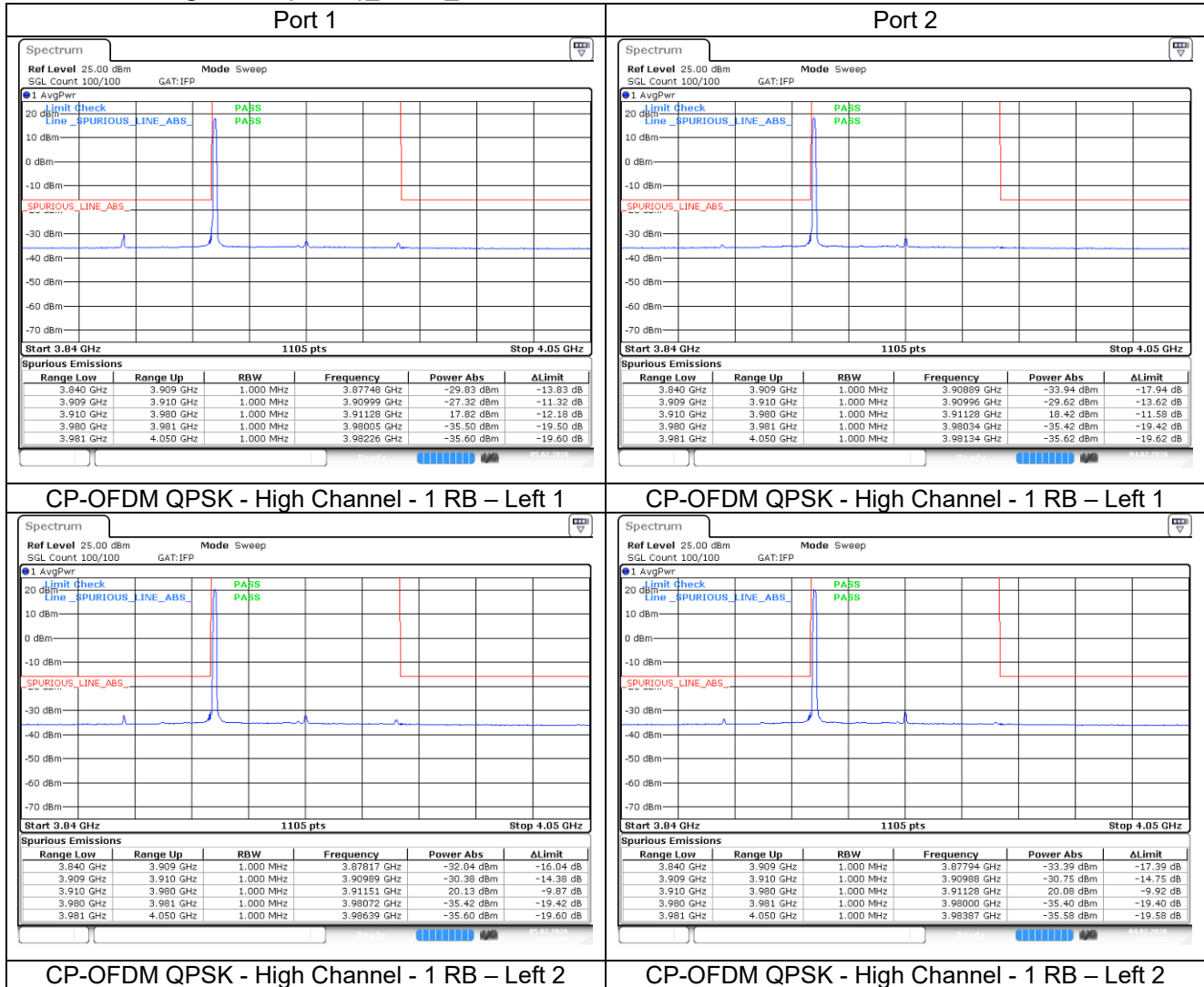
NR band 77_High Band (70 MHz)_MIMO_IC



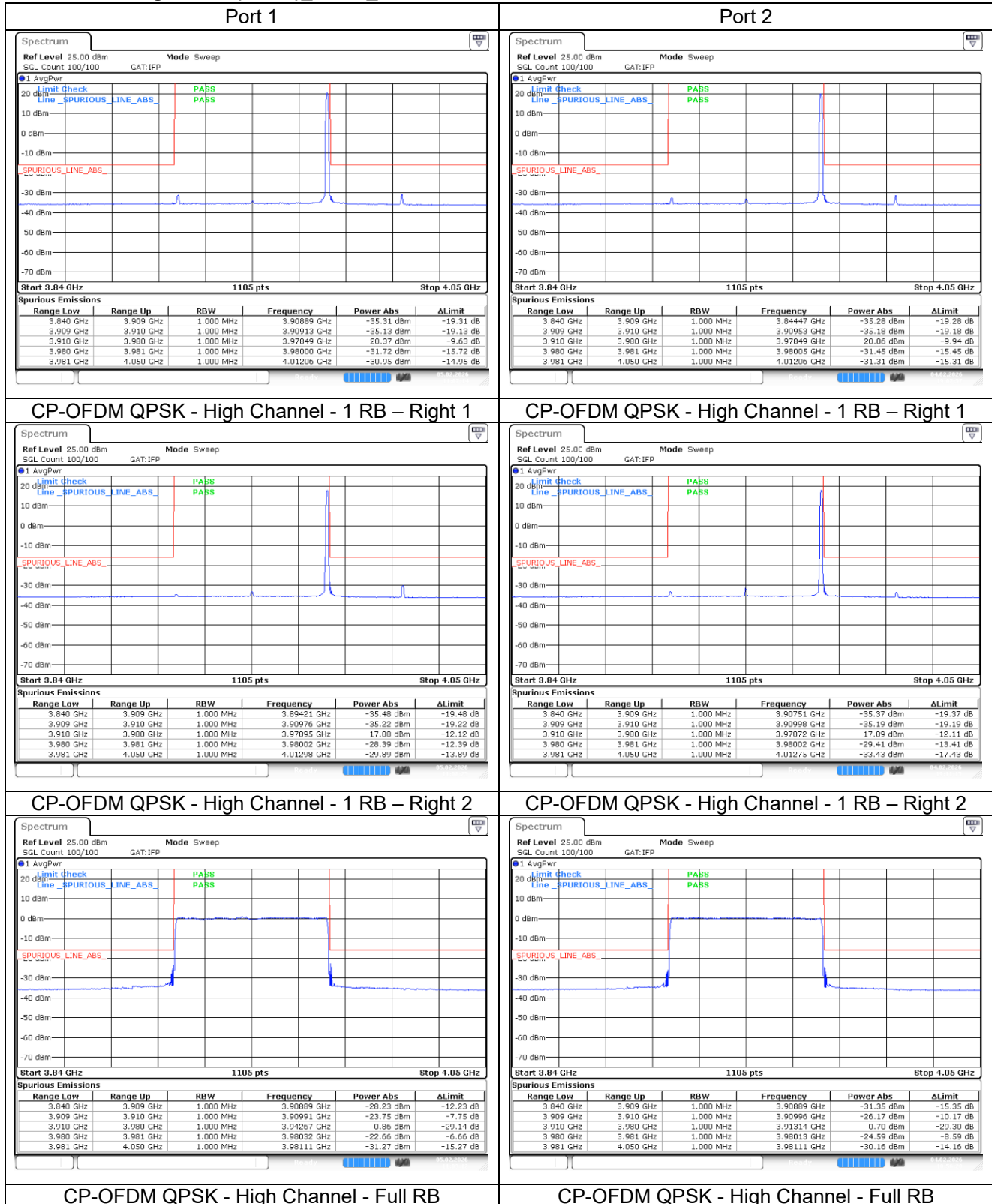
NR band 77_High Band (70 MHz)_MIMO_IC



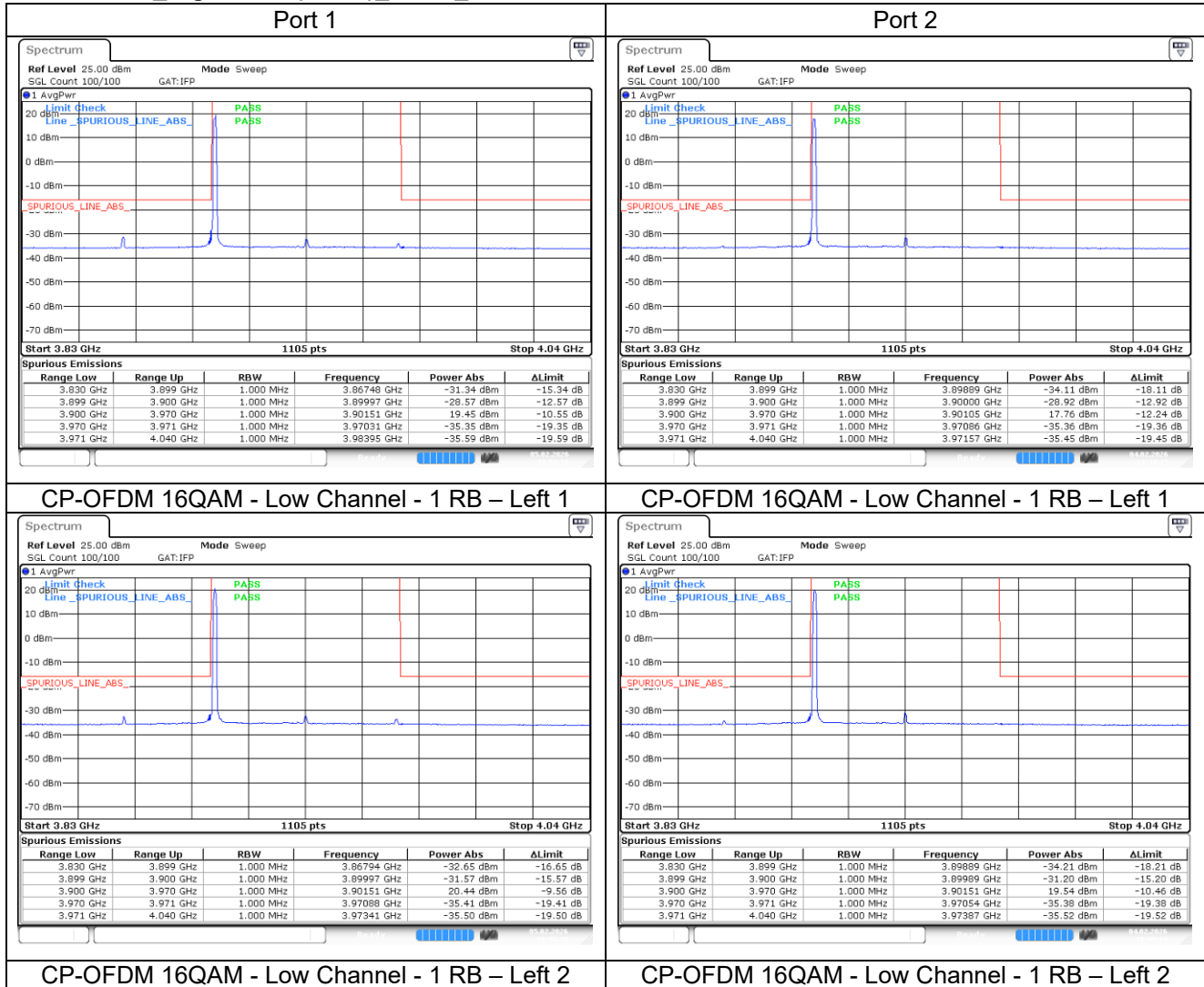
NR band 77 High band (70 MHz)_MIMO_IC



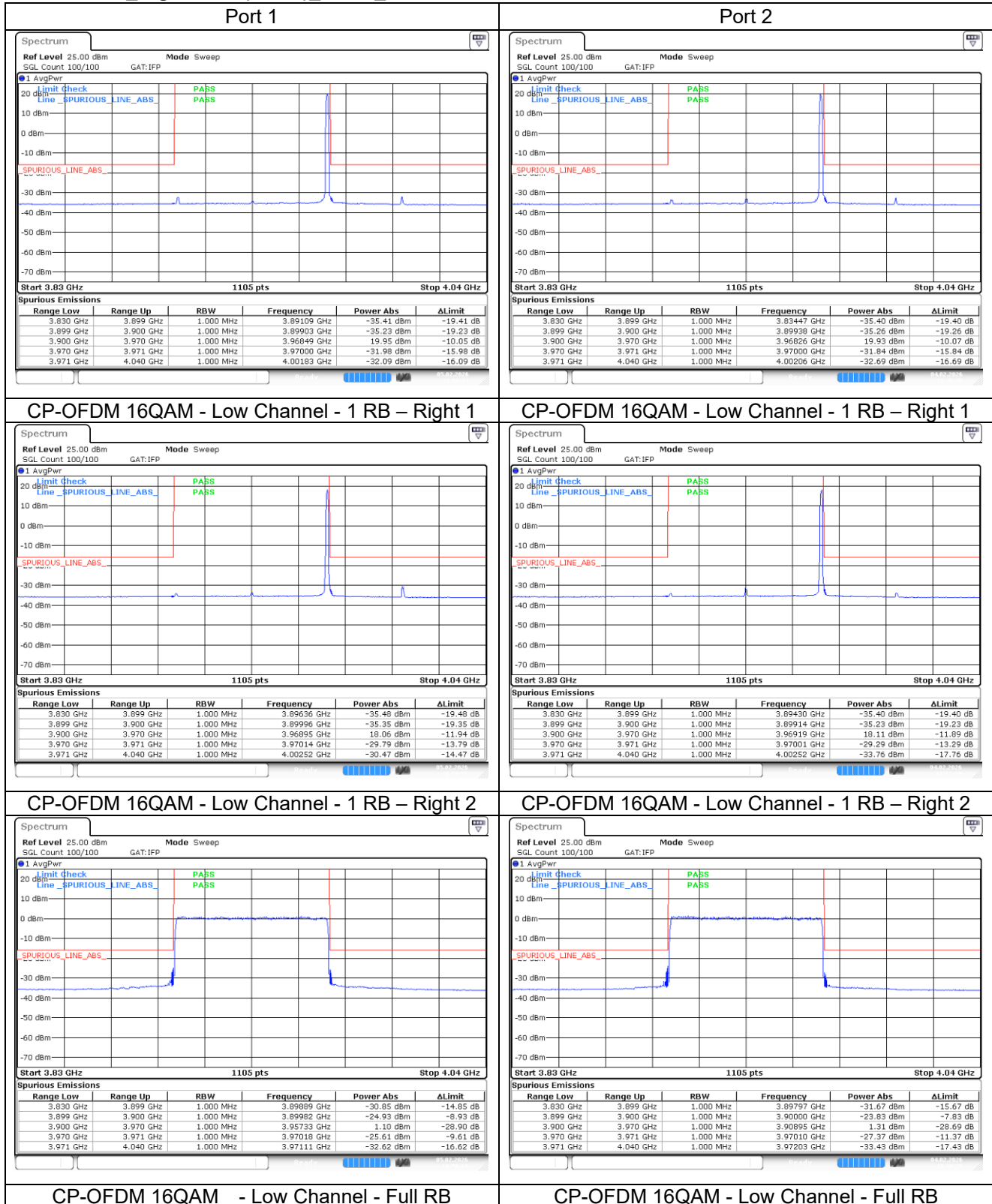
NR band 77 High band (70 MHz)_MIMO_IC



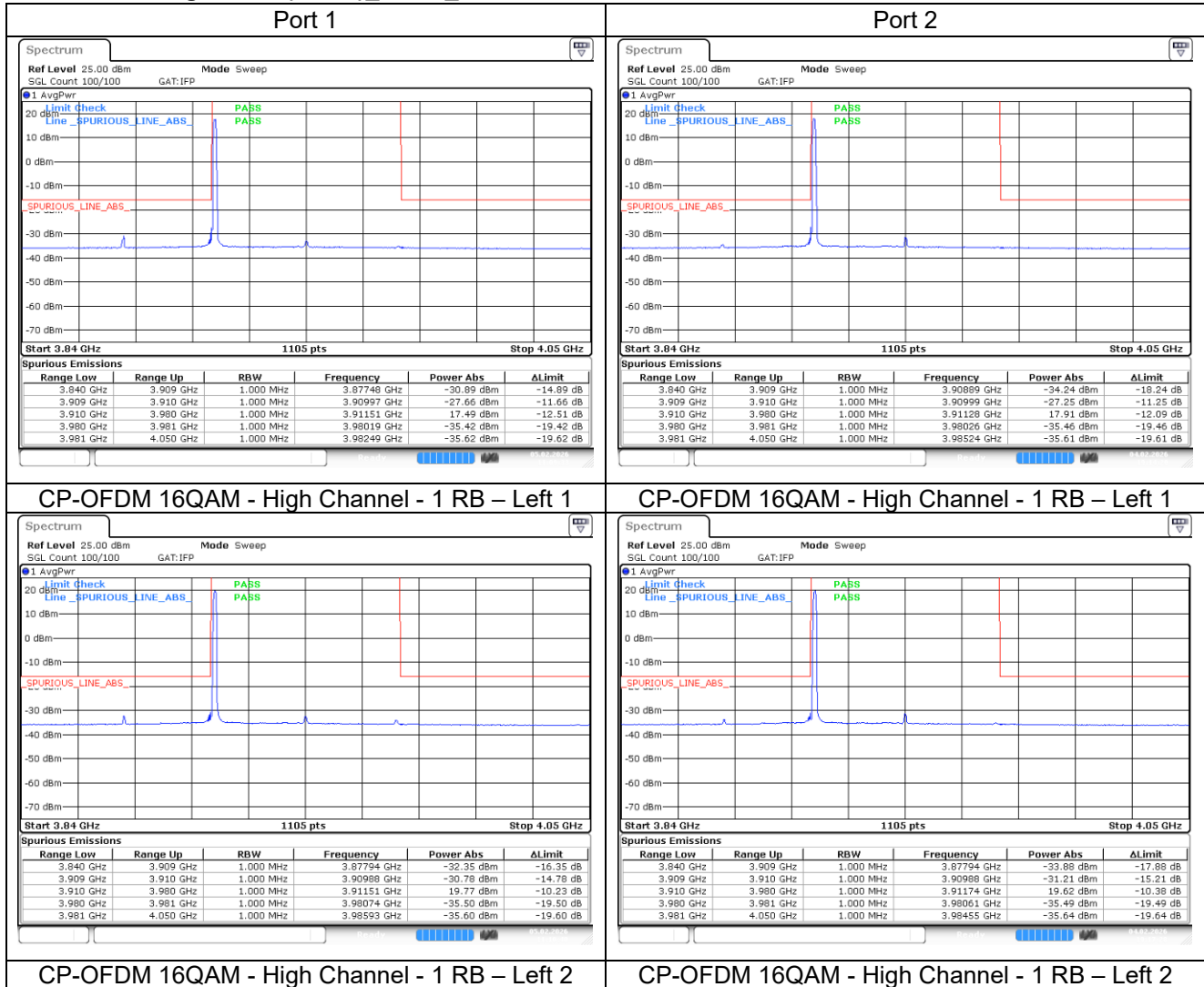
NR band 77_High Band (70 MHz)_MIMO_IC



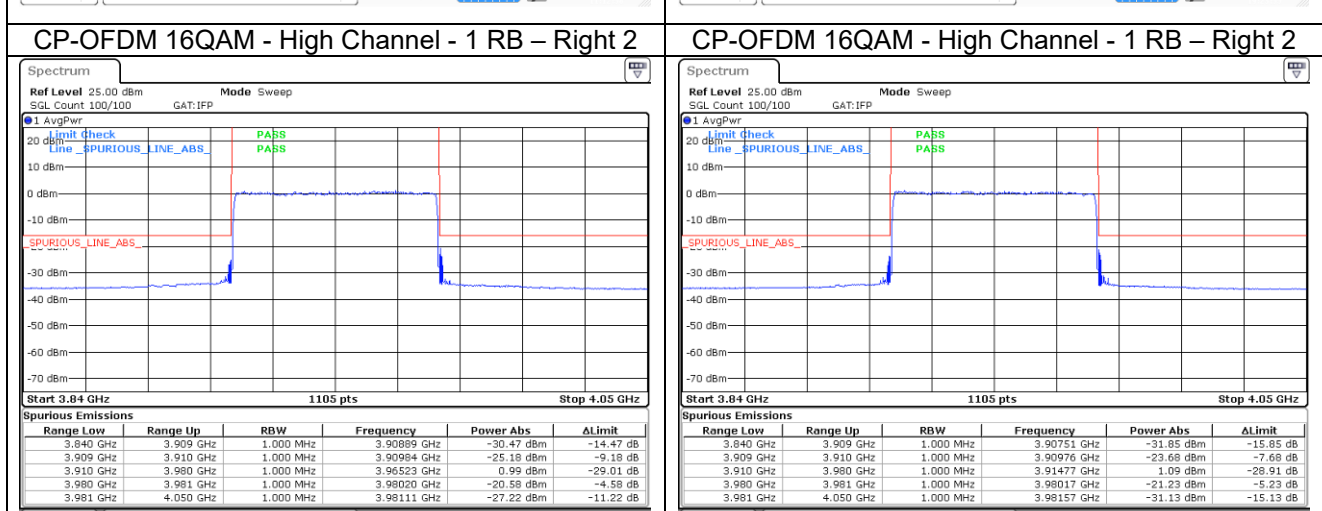
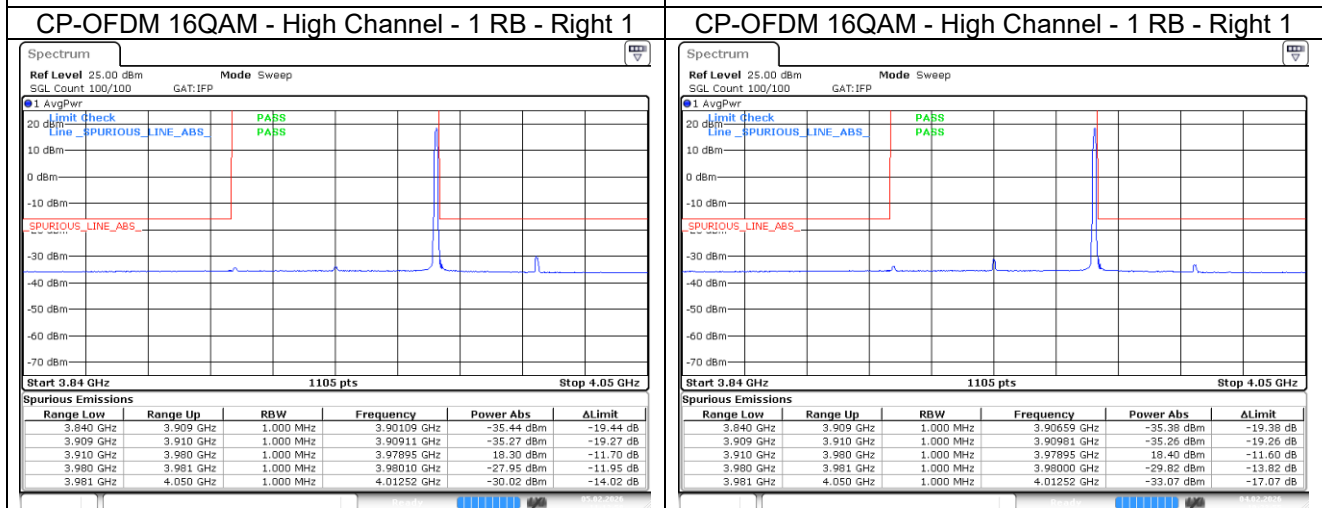
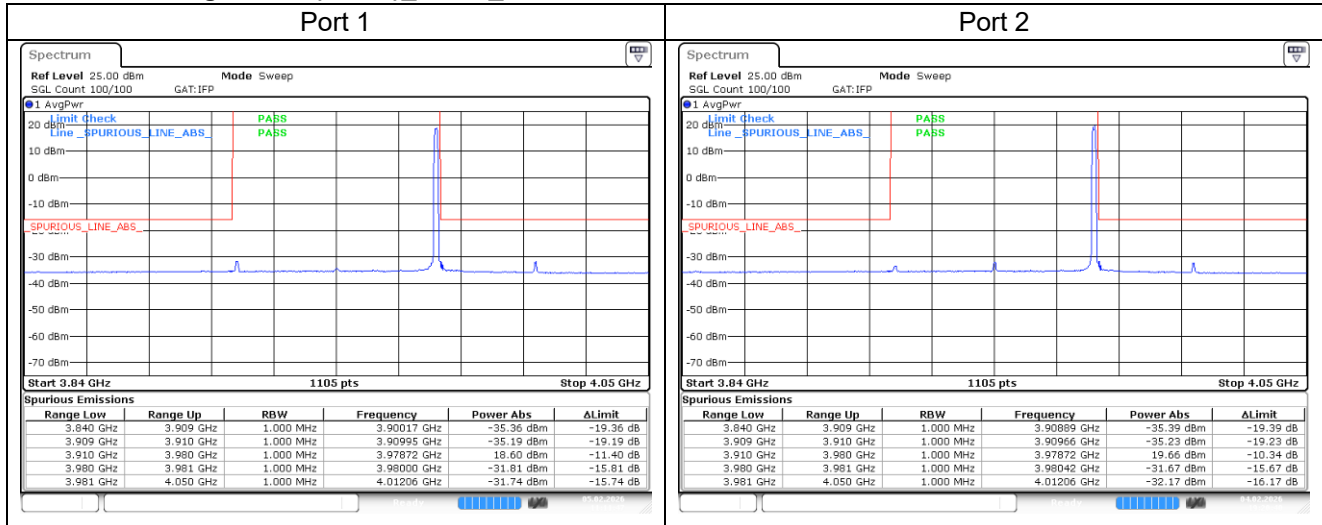
NR band 77_High Band (70 MHz)_MIMO_IC



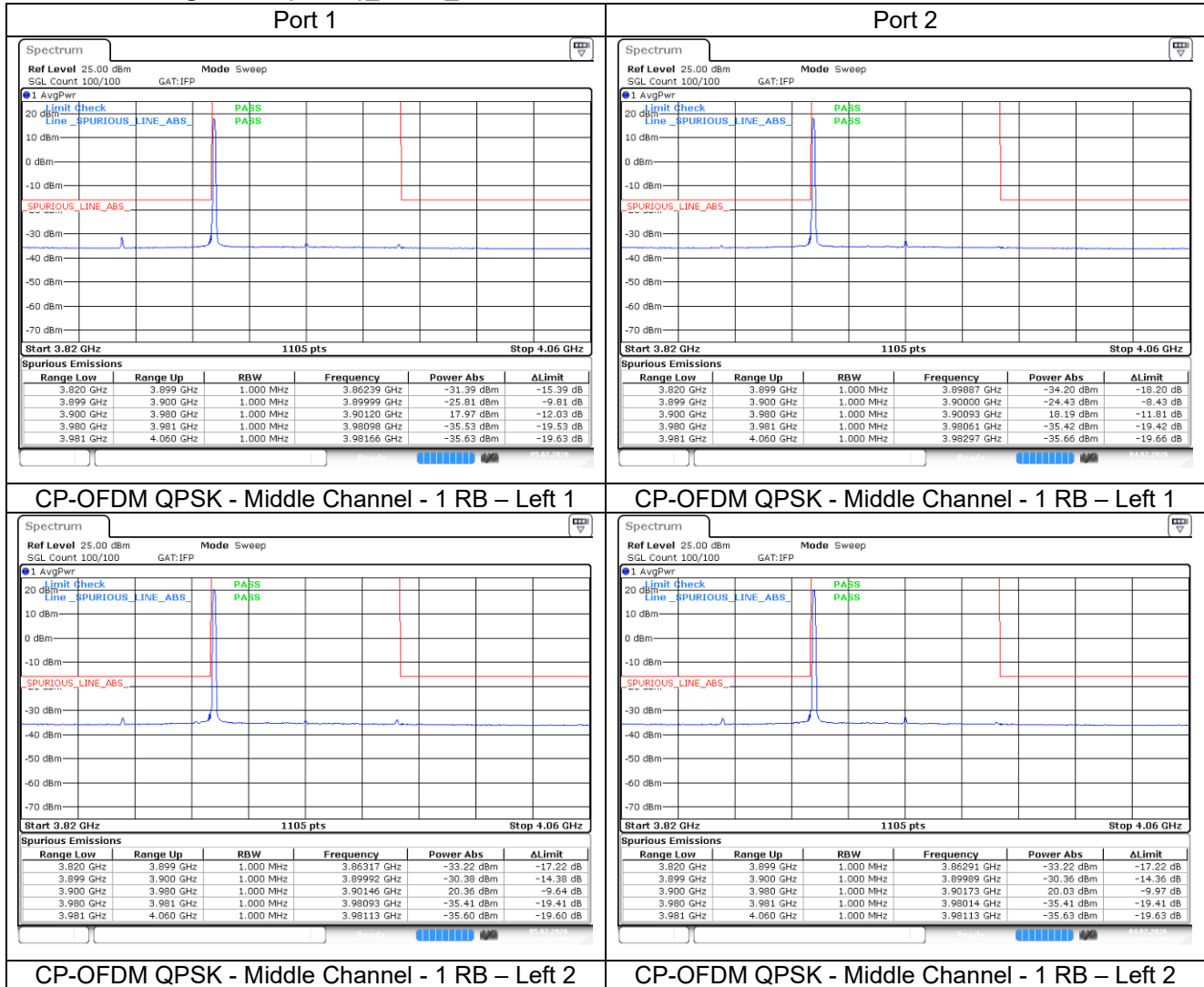
NR band 77 High band (70 MHz)_MIMO_IC



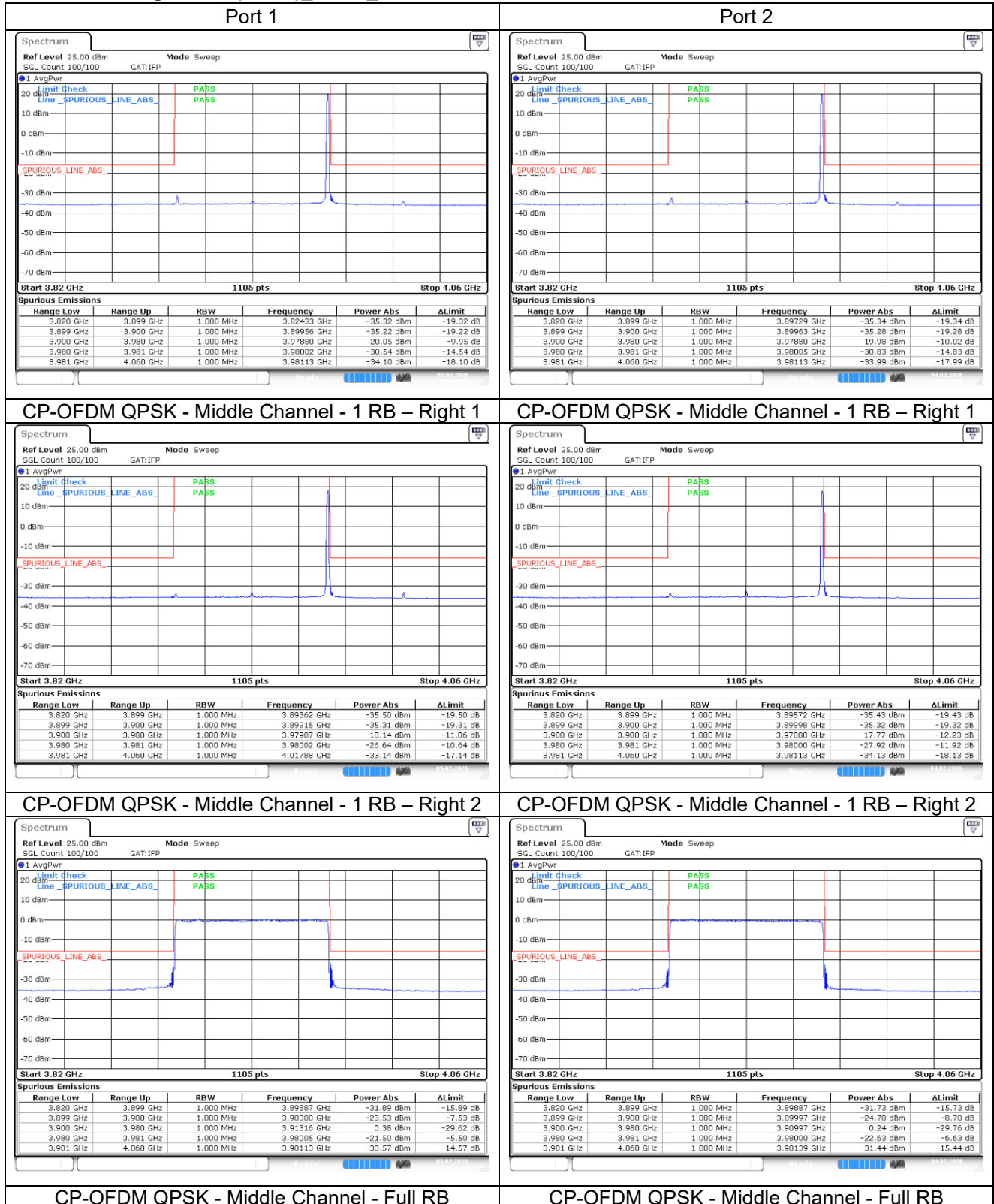
NR band 77 High band (70 MHz)_MIMO_IC



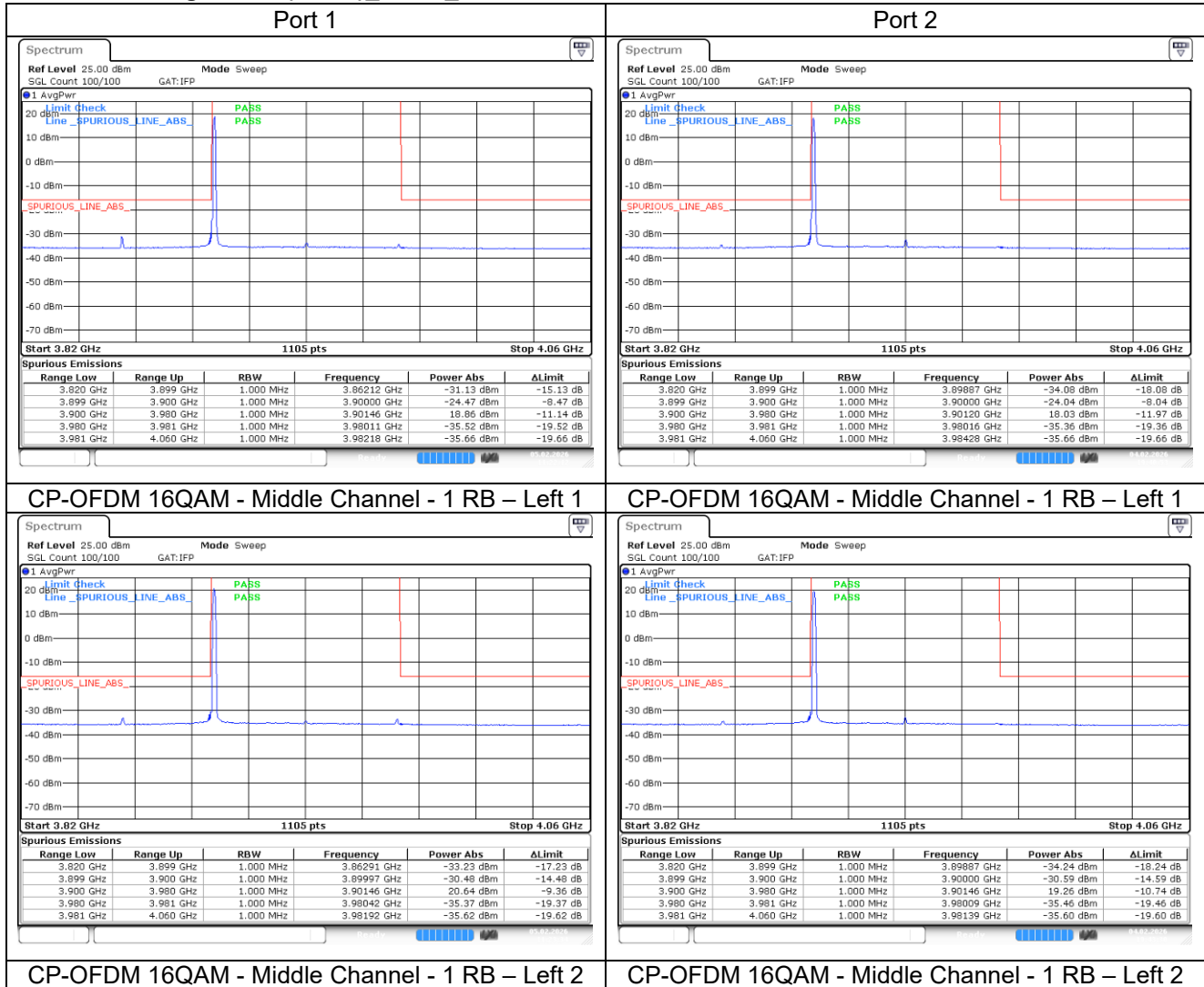
NR band 77 High band (80 MHz)_MIMO_IC



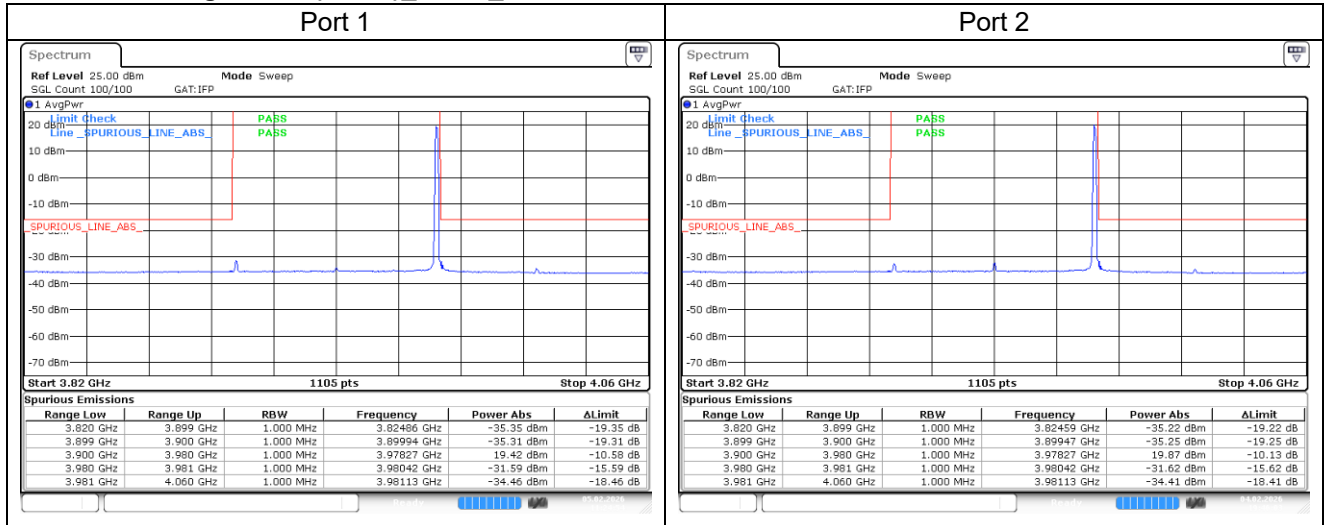
NR band 77 High band (80 MHz)_MIMO_IC



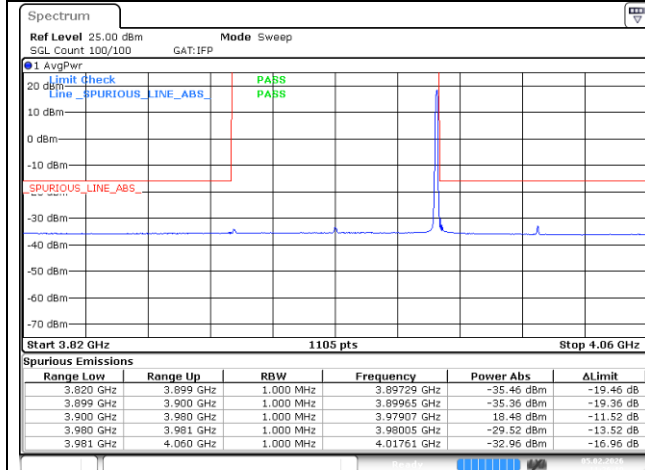
NR band 77 High band (80 MHz)_MIMO_IC



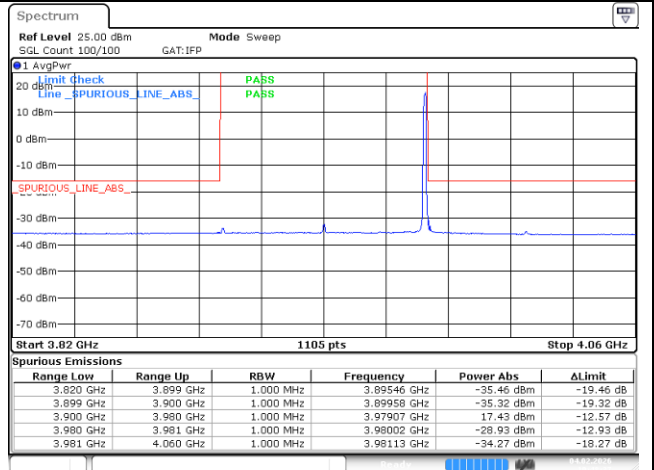
NR band 77 High band (80 MHz)_MIMO_IC



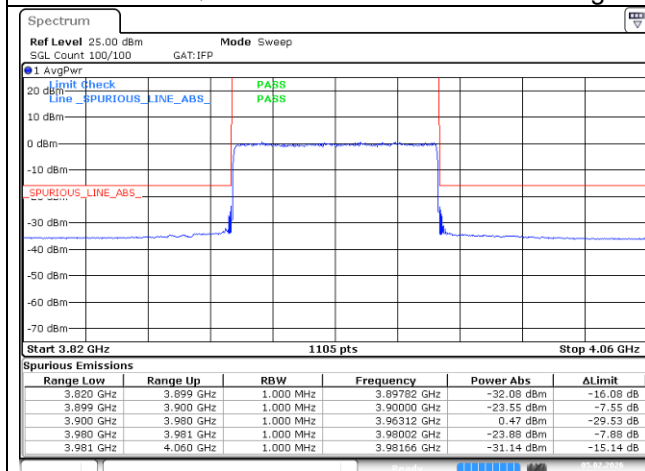
CP-OFDM 16QAM - Middle Channel - 1 RB - Right 1



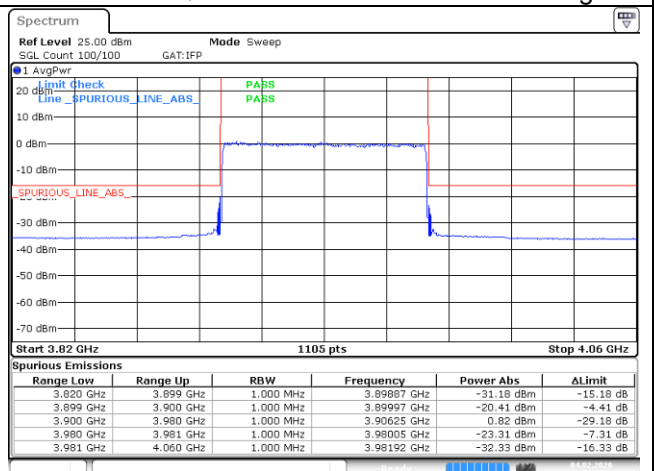
CP-OFDM 16QAM - Middle Channel - 1 RB - Right 1



CP-OFDM 16QAM - Middle Channel - 1 RB - Right 2



CP-OFDM 16QAM - Middle Channel - 1 RB - Right 2



CP-OFDM 16QAM - Middle Channel - Full RB

CP-OFDM 16QAM - Middle 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-198 Issue 1

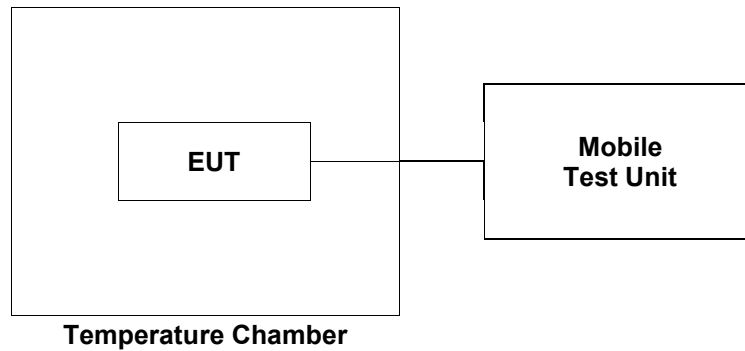
5.4, the frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested at the temperature and supply voltage variations specified in RSS-Gen.

- 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) °C
 Relative humidity : 47 %

NR band 41(FCC) at middle channel

Reference Frequency: 2 592.99 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	4.0	-8.5	-0.003 05
40		-14.6	-0.005 40
30		-3.1	-0.000 96
20(Ref.)		-0.6	-
10		-6.5	-0.002 28
0		-11.3	-0.004 13
-10		-9.5	-0.003 43
-20		-16.4	-0.006 09
-30		-15.9	-0.005 90
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	3.4 (85%)	-1.7	-0.000 42
	4.6 (115%)	-2.2	-0.000 62

NR band 41(IC) at middle channel

Reference Frequency: 2 595.0 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	4.0	-7.2	-0.001 08
40		-17.6	-0.005 09
30		-5.7	-0.000 50
20(Ref.)		-4.4	-
10		-9.7	-0.002 04
0		-6.4	-0.000 77
-10		-20.2	-0.006 09
-20		-12.1	-0.002 97
-30		-9.3	-0.001 89
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	3.4 (85%)	-3.9	0.000 19
	4.6 (115%)	-1.5	0.001 12

NR band 48(IC) at middle channel

Reference Frequency: 3 624.99 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	4.0	-11.6	-0.002 12
40		-10.5	-0.001 82
30		-6.8	-0.000 80
20(Ref.)		-3.9	-
10		-9.8	-0.001 63
0		-7.5	-0.000 99
-10		-4.1	0.000 14
-20		-6.9	-0.000 63
-30		-5.5	-0.000 25
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	3.4 (85%)	2.6	0.001 79
	4.6 (115%)	0.8	0.001 30

NR band 48(IC)_MIMO at middle channel

Reference Frequency: 3 624.99 MHz					
Frequency Stability versus Temperature					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
50	4.0	-13.5	-13.5	-0.002 95	-0.002 95
40		-5.5	-5.5	-0.000 74	-0.000 74
30		-7.4	-7.4	-0.001 27	-0.001 27
20(Ref.)		-2.8	-2.8	-	-
10		-8.7	-8.7	-0.001 63	-0.001 63
0		-6.4	-6.4	-0.000 99	-0.000 99
-10		-8.7	-8.7	-0.001 21	-0.001 21
-20		-9.6	-9.6	-0.001 88	-0.001 88
-30		-8.9	-8.9	-0.001 68	-0.001 68
Frequency Stability versus Power Supply					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
20	3.4 (85%)	-9.3	-9.3	-0.001 79	-0.001 79
	4.6 (115%)	-3.1	-3.1	-0.000 08	-0.000 08

NR band 77/78_Low Band at middle channel (FCC)

Reference Frequency: 3 500.01 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	4.0	-11.2	-0.001 91
40		-8.1	-0.001 03
30		-7.6	-0.000 89
20(Ref.)		-4.5	-
10		-5.3	-0.000 23
0		-9.2	-0.001 34
-10		-6.9	-0.000 69
-20		-6.2	-0.000 49
-30		-8.6	-0.001 17
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	3.4 (85%)	-5.8	-0.000 37
	4.6 (115%)	-4.0	0.000 14

NR band 77/78 Low Band MIMO at middle channel (FCC)

Reference Frequency: 3 500.01 MHz					
Frequency Stability versus Temperature					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
50	4.0	-10.4	-10.4	-0.001 74	-0.001 74
40		-12.2	-12.2	-0.002 26	-0.002 26
30		-7.1	-7.1	-0.000 80	-0.000 80
20(Ref.)		-4.3	-4.3	-	-
10		-4.4	-4.4	-0.000 03	-0.000 03
0		-6.4	-6.4	-0.000 60	-0.000 60
-10		-2.6	-2.6	0.000 49	0.000 49
-20		-5.8	-5.8	-0.000 43	-0.000 43
-30		-6.8	-6.8	-0.000 71	-0.000 71
Frequency Stability versus Power Supply					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
20	3.4 (85%)	-8.5	-8.5	-0.001 20	-0.001 20
	4.6 (115%)	-2.5	-2.5	0.000 51	0.000 51

NR band 77/78_High Band at middle channel (FCC)

Reference Frequency: 3 840 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	4.0	-16.4	-0.003 98
40		-14.5	-0.003 49
30		-6.8	-0.001 48
20(Ref.)		-1.1	-
10		-3.3	-0.000 57
0		-7.2	-0.001 59
-10		-5.2	-0.001 07
-20		-8.3	-0.001 88
-30		-6.9	-0.001 51
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	3.4 (85%)	1.3	0.000 63
	4.6 (115%)	-2.5	-0.000 36

NR band 77/78_High Band_MIMO at middle channel (FCC)

Reference Frequency: 3 840 MHz					
Frequency Stability versus Temperature					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
50	4.0	-8.3	-8.3	-0.001 35	-0.001 35
40		-9.5	-9.5	-0.001 67	-0.001 67
30		-3.4	-3.4	-0.000 08	-0.000 08
20(Ref.)		-3.1	-3.1	-	-
10		-5.0	-5.0	-0.000 49	-0.000 49
0		-2.3	-2.3	0.000 21	0.000 21
-10		-8.6	-8.6	-0.001 43	-0.001 43
-20		-3.8	-3.8	-0.000 18	-0.000 18
-30		-7.2	-7.2	-0.001 07	-0.001 07
Frequency Stability versus Power Supply					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
20	3.4 (85%)	-4.6	-4.6	-0.000 39	-0.000 39
	4.6 (115%)	-1.9	-1.9	0.000 31	0.000 31

NR band 77/78_Low Band at middle channel (IC)

Reference Frequency: 3 675 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	4.0	-9.1	-0.001 88
40		-11.1	-0.002 42
30		-4.2	-0.000 54
20(Ref.)		-2.2	-
10		-4.2	-0.000 54
0		-5.9	-0.001 01
-10		-6.2	-0.001 09
-20		-7.6	-0.001 47
-30		-8.4	-0.001 69
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	3.4 (85%)	-2.6	-0.000 11
	4.6 (115%)	0.8	0.000 82

NR band 77/78 Low Band MIMO at middle channel (IC)

Reference Frequency: 3 675 MHz					
Frequency Stability versus Temperature					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
50	4.0	-11.1	-11.1	-0.002 37	-0.002 37
40		-14.8	-14.8	-0.003 37	-0.003 37
30		-3.5	-3.5	-0.000 30	-0.000 30
20(Ref.)		-2.4	-2.4	-	-
10		-4.0	-4.0	-0.000 44	-0.000 44
0		-6.1	-6.1	-0.001 01	-0.001 01
-10		-8.1	-8.1	-0.001 55	-0.001 55
-20		-5.8	-5.8	-0.000 93	-0.000 93
-30		-6.4	-6.4	-0.001 09	-0.001 09
Frequency Stability versus Power Supply					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
20	3.4 (85%)	-6.2	-6.2	-0.001 03	-0.001 03
	4.6 (115%)	-3.3	-3.3	-0.000 24	-0.000 24

NR band 77_High Band at middle channel (IC)

Reference Frequency: 3 939.99 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	4.00	-6.3	-0.000 41
40		-8.1	-0.000 86
30		-5.3	-0.000 15
20(Ref.)		-4.7	-
10		-6.2	-0.000 38
0		-4.8	-0.000 03
-10		-5.3	-0.000 15
-20		-2.7	0.000 51
-30		-4.6	0.000 03
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	3.40 (85%)	-3.1	0.000 41
	4.60 (115%)	-1.5	0.000 81

NR band 77_High Band_MIMO at middle channel (IC)

Reference Frequency: 3 939.99 MHz					
Frequency Stability versus Temperature					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
50	4.0	-14.3	-14.3	-0.002 61	-0.002 61
40		-10.6	-10.6	-0.001 68	-0.001 68
30		-3.8	-3.8	0.000 05	0.000 05
20(Ref.)		-4.0	-4.0	-	-
10		-2.1	-2.1	0.000 48	0.000 48
0		-4.7	-4.7	-0.000 18	-0.000 18
-10		-6.3	-6.3	-0.000 58	-0.000 58
-20		-5.8	-5.8	-0.000 46	-0.000 46
-30		-5.3	-5.3	-0.000 33	-0.000 33
Frequency Stability versus Power Supply					
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse			
		Frequency Error (Hz)		ppm	
		Port 1	Port 2	Port 1	Port 2
20	3.40 (85%)	-3.3	-3.3	0.000 18	0.000 18
	4.60 (115%)	-2.6	-2.6	0.000 36	0.000 36

- End of the Test Report -