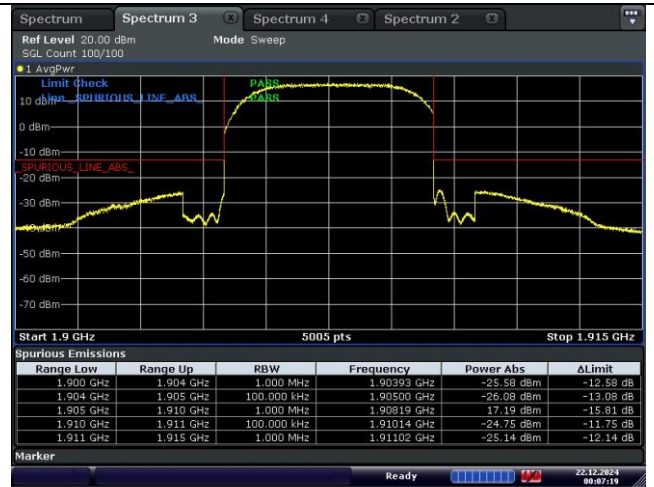


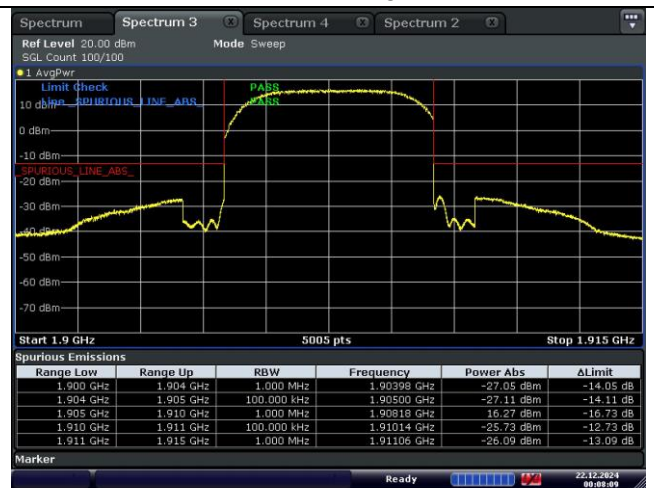
WCDMA II



WCDMA II RMC Low Channel



WCDMA II RMC High Channel



WCDMA II HSDPA Low Channel

WCDMA II HSDPA High Channel

WCDMA IV



WCDMA IV RMC Low Channel



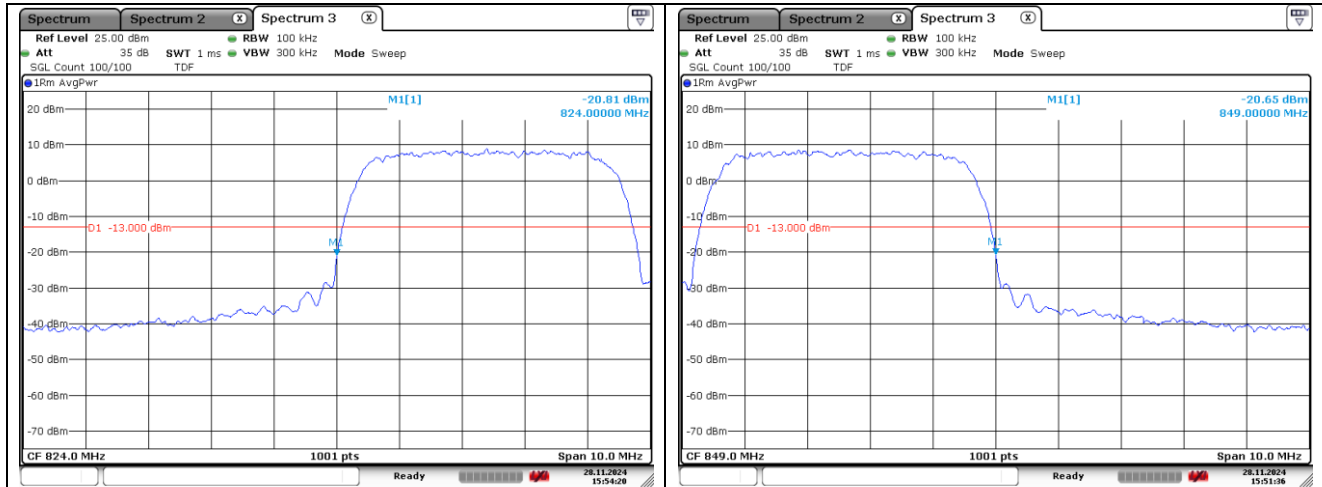
WCDMA IV RMC High Channel



WCDMA IV HSDPA Low Channel

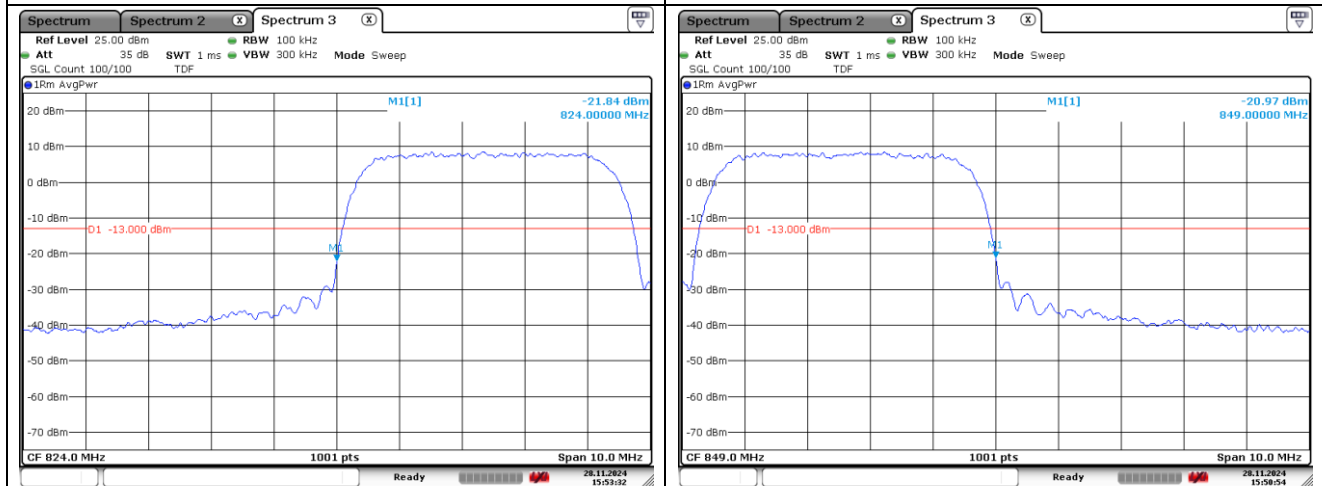
WCDMA IV HSDPA High Channel

WCDMA V



WCDMA V RMC Low Channel

WCDMA V RMC High Channel



WCDMA V HSDPA Low Channel

WCDMA V HSDPA High Channel

8. Frequency Stability

8.1. Limit

FCC

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

- §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table of this section.

For Mobile devices operating in the 824 to 849 MHz band at a power level less than or equal to 3 Watts, the limit specified in Table C-1 is +/- 2.5 ppm.

- §24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

- §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-132 Issue 4

5.3, the carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations and ±1.5 ppm for base stations.

- RSS-133 Issue 7

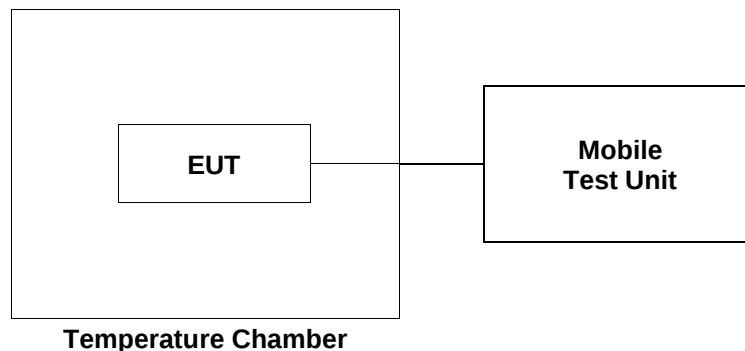
5.4, The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested to the temperature and supply voltage variations specified in RSS-Gen.

- RSS-139 Issue 4

6.4, the frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block 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 ± 2 %

GSM 850 mode at middle channel

Reference Frequency: 836.5 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.90	3.59	-0.002 71
40		11.83	0.007 14
30		1.69	-0.004 98
23(Ref.)		5.86	-
10		7.79	0.002 31
0		10.21	0.005 20
-10		6.15	0.000 35
-20		4.97	-0.001 06
-30		4.38	-0.001 77
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.49 (115%)	1.93	-0.004 70
	3.32 (85%)	8.38	0.003 01

GSM 1900 mode at middle channel

Reference Frequency: 1 880.0 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.90	6.79	0.001 27
40		6.95	0.001 36
30		9.45	0.002 69
23(Ref.)		4.40	-
10		4.45	0.000 03
0		7.95	0.001 89
-10		10.45	0.003 22
-20		6.82	0.001 29
-30		1.27	-0.001 66
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.49 (115%)	5.38	0.000 52
	3.32 (85%)	2.28	-0.001 13

WCDMA II mode at middle channel

Reference Frequency: 1 880.0 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.90	-3.35	-0.001 16
40		1.18	0.001 25
30		-3.02	-0.000 98
20(Ref.)		-1.17	-
10		5.49	0.003 54
0		3.52	0.002 49
-10		4.48	0.003 01
-20		2.97	0.002 20
-30		3.35	0.002 40
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.49 (115%)	3.68	0.002 58
	3.32 (85%)	4.02	0.002 76

WCDMA IV mode at middle channel

Reference Frequency: 1 732.6 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.90	5.89	0.001 10
40		-3.29	-0.004 20
30		-1.58	-0.003 21
20(Ref.)		3.98	-
10		3.19	-0.000 46
0		3.88	-0.000 06
-10		8.12	0.002 39
-20		7.72	0.002 16
-30		1.83	-0.001 24
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.49 (115%)	7.28	0.001 90
	3.32 (85%)	4.38	0.000 23

WCDMA V mode at middle channel

Reference Frequency: 836.6 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.90	-2.59	-0.006 97
40		4.79	0.001 85
30		8.35	0.006 11
20(Ref.)		3.24	-
10		0.88	-0.002 82
0		-2.76	-0.007 17
-10		5.59	0.002 81
-20		7.31	0.004 87
-30		1.28	-0.002 34
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.49 (115%)	1.39	-0.002 21
	3.32 (85%)	9.28	0.007 22

- End of the Test Report -