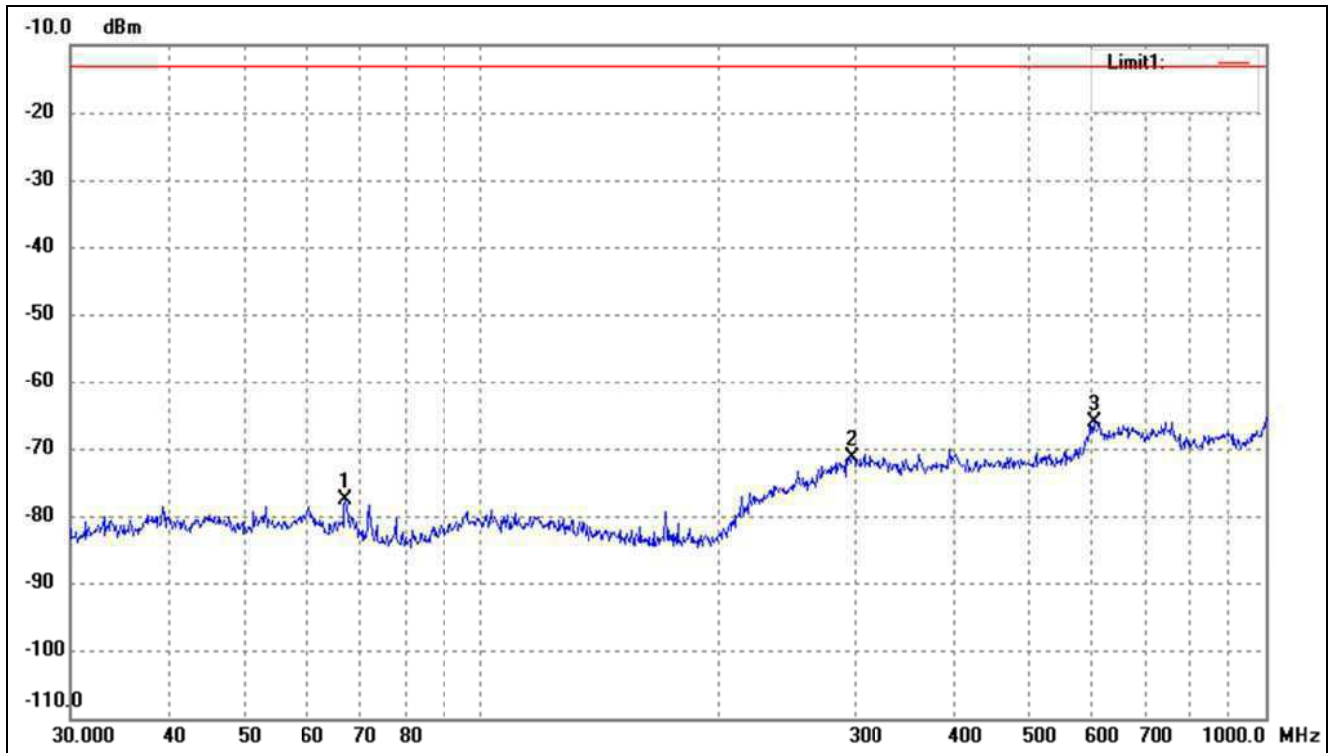


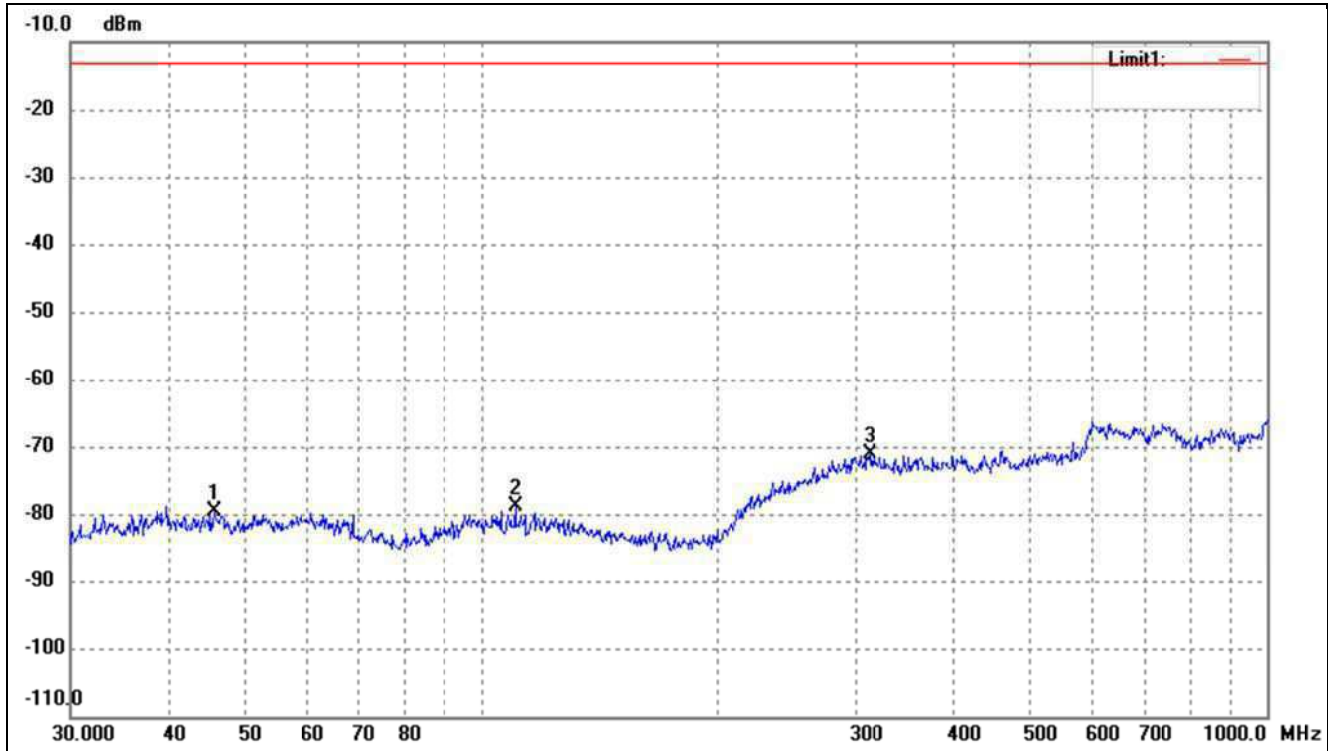
Vertical:



No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	67.2022	-69.73	-8.00	-77.73	-13.00	-64.73	ERP
2	297.2241	-75.05	3.73	-71.32	-13.00	-58.32	ERP
3	603.5392	-75.07	9.00	-66.07	-13.00	-53.07	ERP

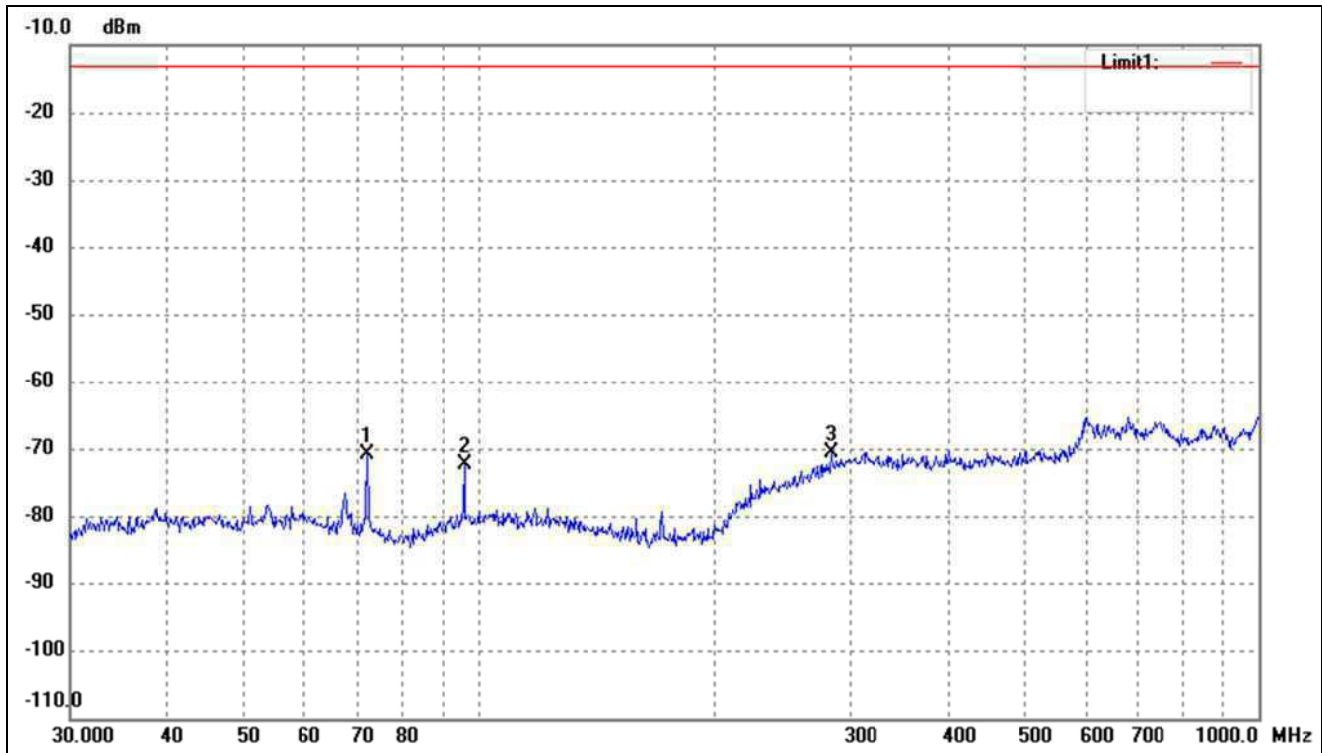
For Cellular Band_ GSM1900 Mode

Horizontal:



No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	45.6948	-72.81	-6.77	-79.58	-13.00	-66.58	ERP
2	110.5687	-72.74	-6.18	-78.92	-13.00	-65.92	ERP
3	313.2760	-74.95	3.88	-71.07	-13.00	-58.07	ERP

Vertical:

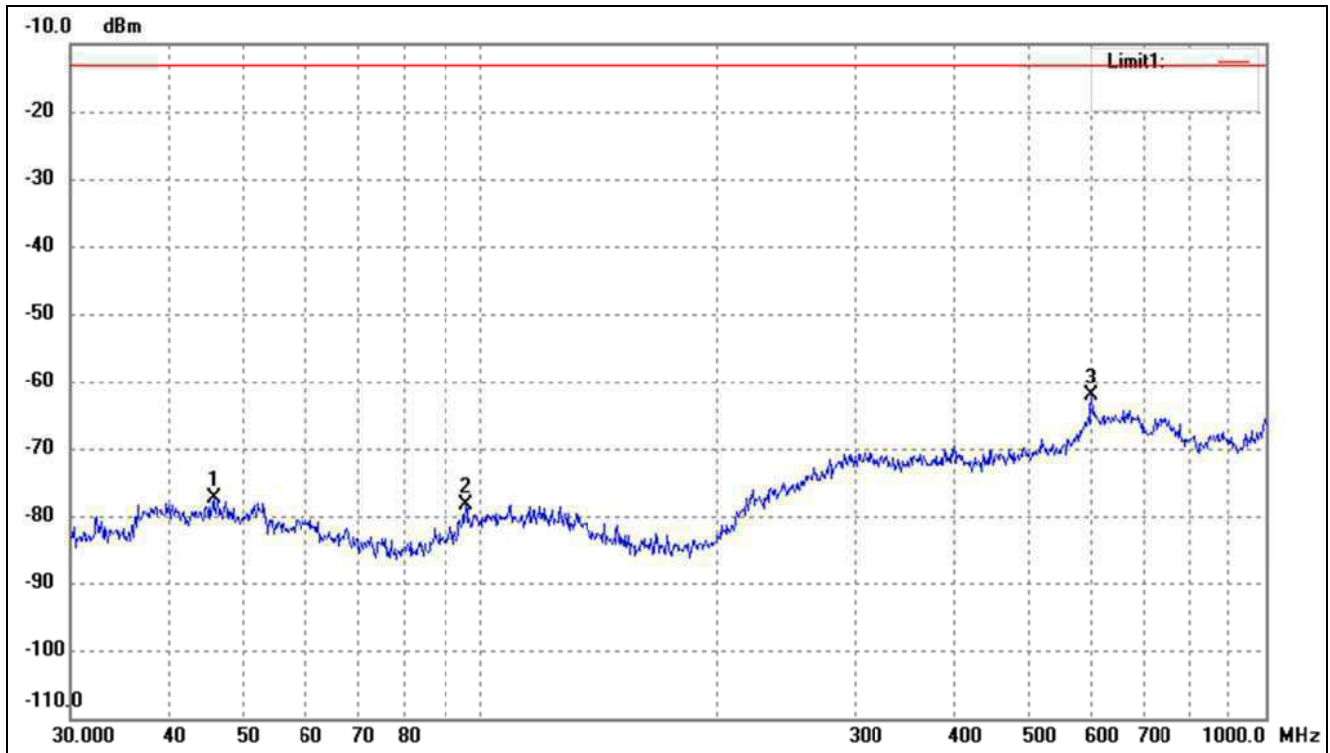


No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	72.0843	-62.10	-8.89	-70.99	-13.00	-57.99	ERP
2	96.0986	-65.40	-6.94	-72.34	-13.00	-59.34	ERP
3	282.9852	-73.45	2.93	-70.52	-13.00	-57.52	ERP

Note: $\text{Margin} = (\text{Reading} + \text{Correct}) - \text{Limit}$

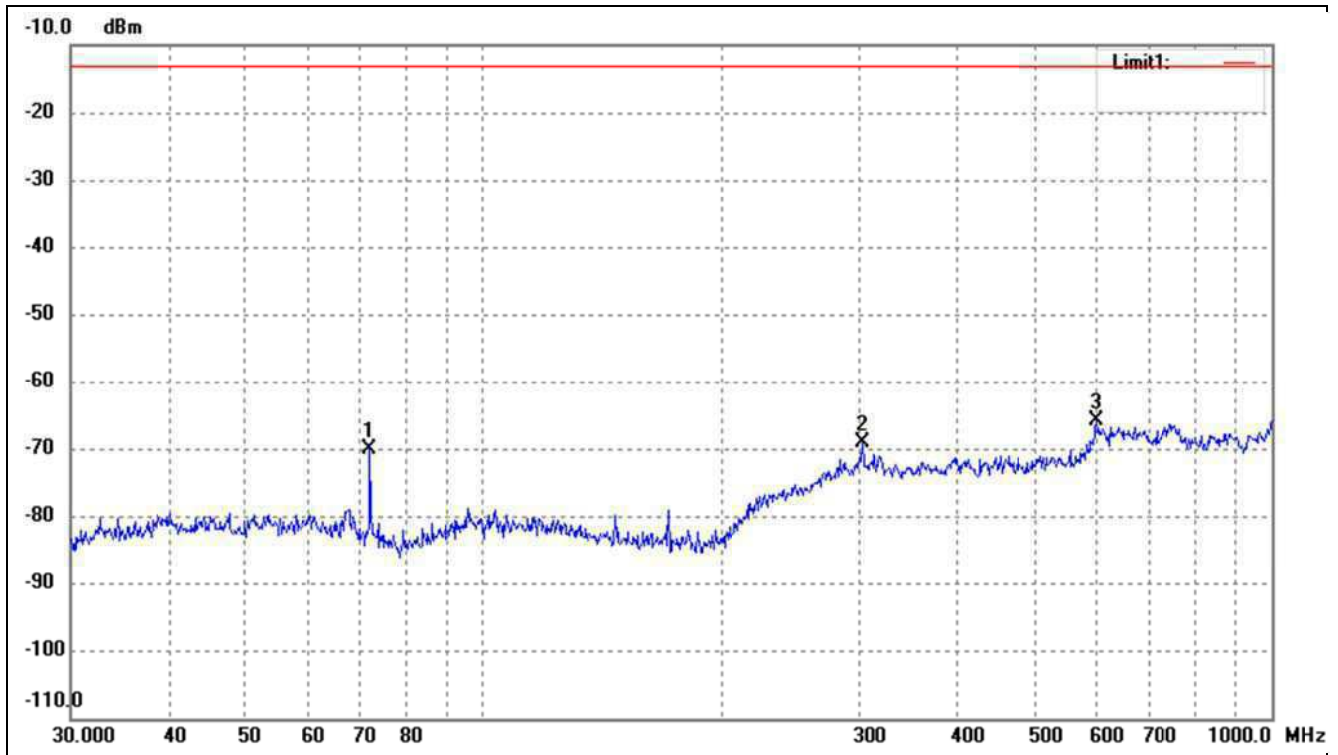
For band 5 Mode

Horizontal:



No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	45.6948	-70.61	-6.77	-77.38	-13.00	-64.38	ERP
2	95.7622	-71.30	-7.00	-78.30	-13.00	-65.30	ERP
3	599.3213	-71.22	9.12	-62.10	-13.00	-49.10	ERP

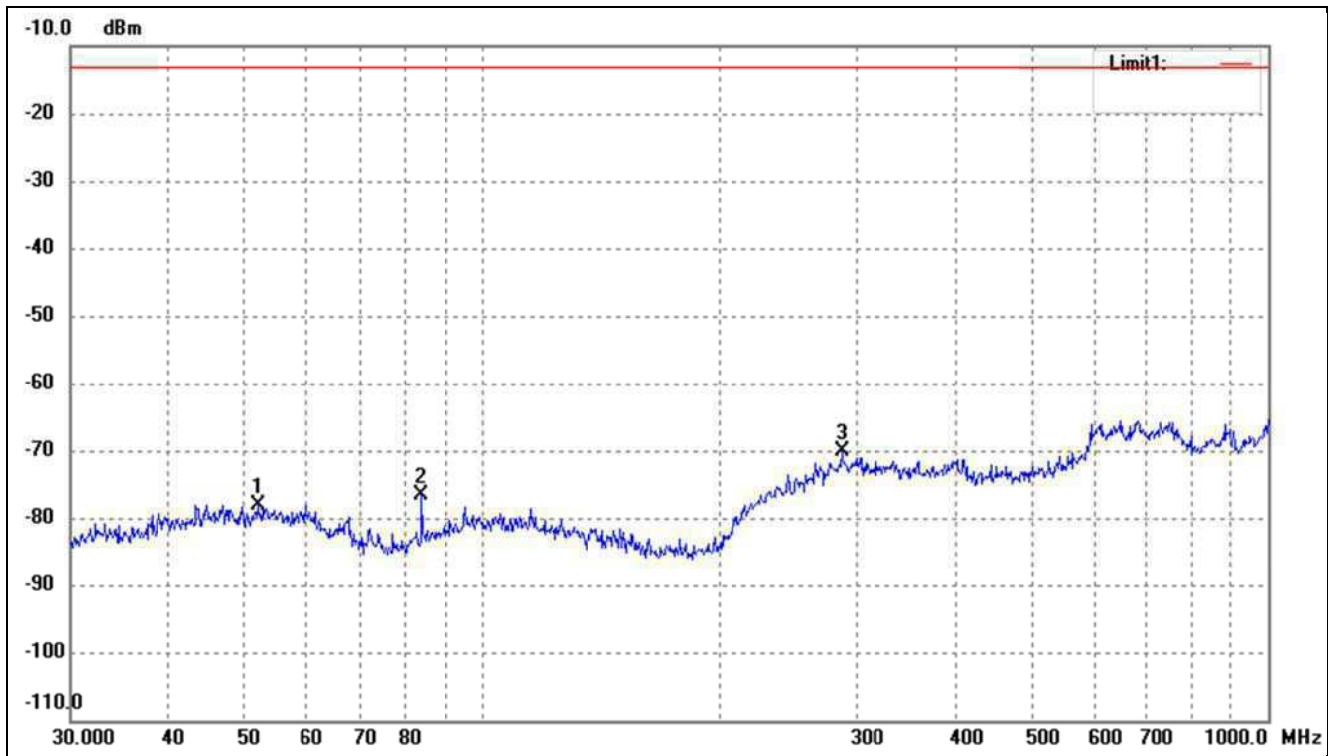
Vertical:



No.	Frequency (MHz)	Reading (dBm)	Correct dB	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	71.8320	-61.14	-8.86	-70.00	-13.00	-57.00	ERP
2	302.4812	-73.11	3.89	-69.22	-13.00	-56.22	ERP
3	599.3213	-74.88	9.12	-65.76	-13.00	-52.76	ERP

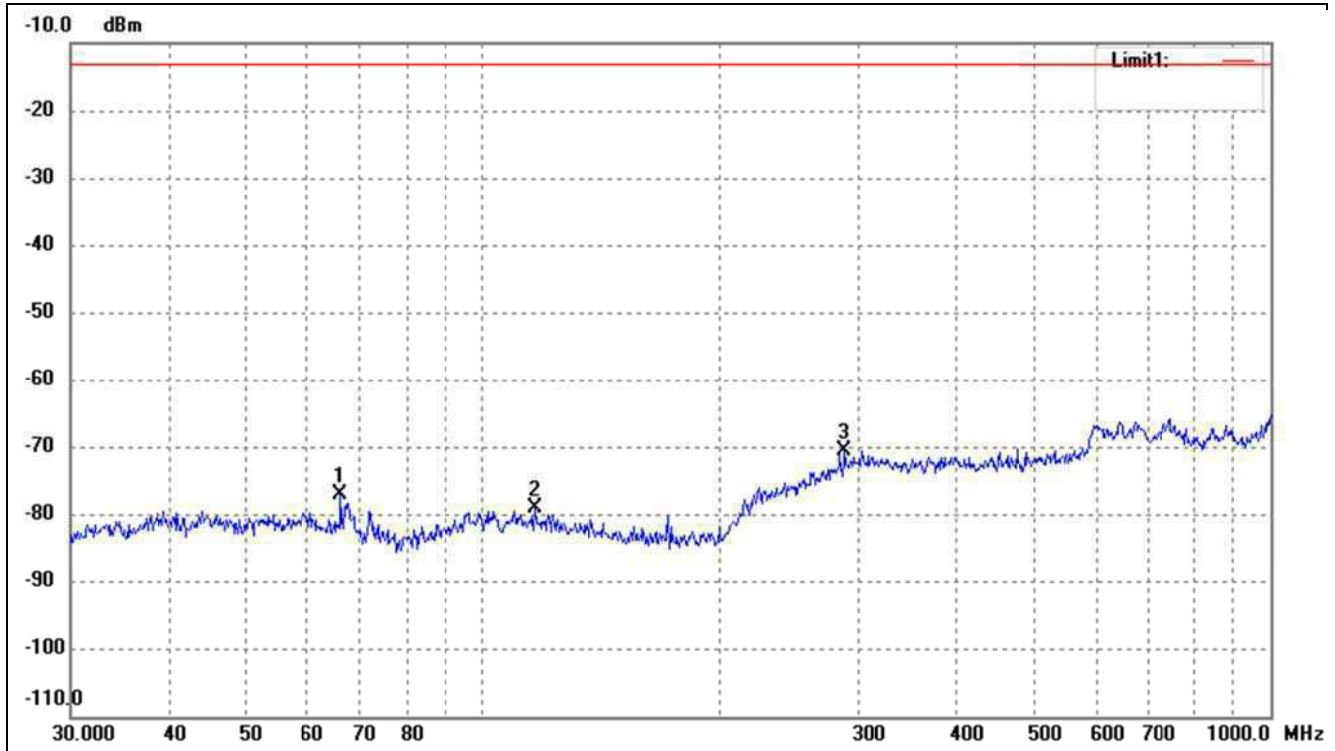
For band 2 Mode

Horizontal:



No.	Frequency (MHz)	Reading (dBm)	Correct dB	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	51.8430	-71.41	-6.72	-78.13	-13.00	-65.13	ERP
2	83.8156	-67.54	-9.12	-76.66	-13.00	-63.66	ERP
3	286.9823	-73.22	3.15	-70.07	-13.00	-57.07	ERP

Vertical:



No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	66.0342	-69.30	-7.76	-77.06	-13.00	-64.06	ERP
2	116.5401	-73.13	-6.11	-79.24	-13.00	-66.24	ERP
3	287.9904	-73.87	3.22	-70.65	-13.00	-57.65	ERP

Note: $\text{Margin} = (\text{Reading} + \text{Correct}) - \text{Limit}$

Spurious Emissions Above 1GHz
For Cellular Band_GSM850 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (824.2MHz)						
1648.4	-35.19	4.94	-30.25	-13	-17.25	H
2472.6	-43.02	8.46	-34.56	-13	-21.56	H
1648.4	-35.93	4.94	-30.99	-13	-17.99	V
2472.6	-42.33	8.46	-33.87	-13	-20.87	V
Middle Channel (836.6MHz)						
1673.2	-34.5	5.11	-29.39	-13	-16.39	H
2509.8	-42.77	8.54	-34.23	-13	-21.23	H
1673.2	-34.78	5.11	-29.67	-13	-16.67	V
2509.8	-44.72	8.54	-36.18	-13	-23.18	V
High Channel (848.8MHz)						
1697.6	-34.4	5.25	-29.15	-13	-16.15	H
2546.4	-42.09	8.57	-33.52	-13	-20.52	H
1697.6	-35.27	5.25	-30.02	-13	-17.02	V
2546.4	-43.48	8.57	-34.91	-13	-21.91	V

For PCS Band_GSM1900 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (1850.2MHz)						
3700.4	-36.49	10.54	-25.95	-13	-12.95	H
5550.6	-38.68	13.37	-25.31	-13	-12.31	H
3700.4	-37.05	10.54	-26.51	-13	-13.51	V
5550.6	-40.76	13.37	-27.39	-13	-14.39	V
Middle Channel (1880MHz)						
3760.0	-36.54	10.64	-25.9	-13	-12.90	H
5640.0	-40.83	13.54	-27.29	-13	-14.29	H
3760.0	-35.48	10.64	-24.84	-13	-11.84	V
5640.0	-38.7	13.54	-25.16	-13	-12.16	V
High Channel (1909.8MHz)						
3819.6	-34.46	10.74	-23.72	-13	-10.72	H
5729.4	-41.17	13.71	-27.46	-13	-14.46	H
3819.6	-37.06	10.74	-26.32	-13	-13.32	V
5729.4	-40.48	13.71	-26.77	-13	-13.77	V

For Band 5 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (826.4MHz)						
1652.8	-35.14	4.94	-30.2	-13	-17.2	H
2479.2	-42.16	8.46	-33.7	-13	-20.7	H
1652.8	-33.06	4.94	-28.12	-13	-15.12	V
2479.2	-42.27	8.46	-33.81	-13	-20.81	V
Middle Channel (836.6MHz)						
1672.8	-33.95	5.11	-28.84	-13	-15.84	H
2509.2	-39.76	8.54	-31.22	-13	-18.22	H
1672.8	-35.42	5.11	-30.31	-13	-17.31	V
2509.2	-40.21	8.54	-31.67	-13	-18.67	V
High Channel (846.6MHz)						
1693.2	-33.43	5.25	-28.18	-13	-15.18	H
2539.8	-42.15	8.57	-33.58	-13	-20.58	H
1693.2	-33.29	5.25	-28.04	-13	-15.04	V
2539.8	-39.42	8.57	-30.85	-13	-17.85	V

For Band 2 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (1852.4MHz)						
3704.8	-36.31	10.17	-26.14	-13	-13.14	H
5557.2	-41.43	14.69	-26.74	-13	-13.74	H
3704.8	-36.15	10.17	-25.98	-13	-12.98	V
5557.2	-43.83	14.69	-29.14	-13	-16.14	V
Middle Channel (1880MHz)						
3760.8	-34.71	10.26	-24.45	-13	-11.45	H
5640.0	-44.47	14.78	-29.69	-13	-16.69	H
3760.8	-36.58	10.26	-26.32	-13	-13.32	V
5640.0	-43.99	14.78	-29.21	-13	-16.21	V
High Channel (1907.6MHz)						
3815.2	-34.8	10.59	-24.21	-13	-11.21	H
5722.8	-42.97	15.03	-27.94	-13	-14.94	H
3815.2	-35.39	10.59	-24.8	-13	-11.8	V
5722.8	-43.61	15.03	-28.58	-13	-15.58	H

Note: Result=Reading+ Correct, Margin= Result- Limit

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9. Frequency Stability

9.1 Standard Applicable

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Cellular Band

Frequency range (MHz)	Base, fixed (ppm)	Mobile >3 watts (ppm)	Mobile ≤3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	N/A	N/A
929 to 960	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

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

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

9.2 Test Procedure

According to §2.1055, the following test procedure was performed.

The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.

The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode

Temperature:	Supply Voltage
20°C	DC 3.5-4.35V declared by manufacturer (end point: 3.5Vdc)
-30°C to +50°C	Normal

9.3 Environmental Conditions

Temperature:	20°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

9.4 Summary of Test Results/Plots

The Low, Middle, High channels are test, but only the worst case was selected to record

For Cellular Band GSM Mode

Reference Frequency(Middle Channel): 836.6 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	62	0.0741
40	3.85	56	0.0669
30	3.85	46	0.0550
20	3.85	40	0.0478
10	3.85	34	0.0406
0	3.85	27	0.0323
-10	3.85	33	0.0394
-20	3.85	41	0.0490
-30	3.85	47	0.0562

For PCS Band GSM Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	59	0.0314
40	3.85	53	0.0282
30	3.85	49	0.0261
20	3.85	45	0.0239
10	3.85	38	0.0202
0	3.85	32	0.0170
-10	3.85	40	0.0213
-20	3.85	45	0.0239
-30	3.85	51	0.0271

For Cellular Band GPRS Mode

Reference Frequency(Middle Channel): 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	72	0.0861
40	3.85	58	0.0693
30	3.85	49	0.0586
20	3.85	42	0.0502
10	3.85	35	0.0418
0	3.85	30	0.0359
-10	3.85	37	0.0442
-20	3.85	44	0.0526
-30	3.85	48	0.0574

For PCS Band GPRS Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	52	0.0277
40	3.85	43	0.0229
30	3.85	33	0.0176
20	3.85	28	0.0149
10	3.85	22	0.0117
0	3.85	16	0.0085
-10	3.85	21	0.0112
-20	3.85	27	0.0144
-30	3.85	33	0.0176

For Cellular Band EDGE Mode

Reference Frequency(Middle Channel): 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	67	0.0801
40	3.85	62	0.0741
30	3.85	54	0.0645
20	3.85	50	0.0598
10	3.85	43	0.0514
0	3.85	38	0.0454
-10	3.85	42	0.0502
-20	3.85	47	0.0562
-30	3.85	52	0.0622

For PCS Band EDGE Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	64	0.0340
40	3.85	57	0.0303
30	3.85	45	0.0239
20	3.85	42	0.0223
10	3.85	36	0.0191
0	3.85	32	0.0170
-10	3.85	36	0.0191
-20	3.85	44	0.0234
-30	3.85	48	0.0255

For WCDMA Band 5 Mode

Reference Frequency(Middle Channel): 836.6 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	63	0.0753
40	3.85	49	0.0586
30	3.85	45	0.0538
20	3.85	37	0.0442
10	3.85	32	0.0383
0	3.85	25	0.0299
-10	3.85	32	0.0383
-20	3.85	40	0.0478
-30	3.85	46	0.0550

For WCDMA Band 2 Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	74	0.0394
40	3.85	61	0.0324
30	3.85	51	0.0271
20	3.85	45	0.0239
10	3.85	40	0.0213
0	3.85	36	0.0191
-10	3.85	42	0.0223
-20	3.85	49	0.0261
-30	3.85	54	0.0287

For HSDPA Band 5 Mode

Reference Frequency(Middle Channel): 836.6 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	69	0.0825
40	3.85	54	0.0645
30	3.85	48	0.0574
20	3.85	41	0.0490
10	3.85	35	0.0418
0	3.85	29	0.0347
-10	3.85	35	0.0418
-20	3.85	41	0.0490
-30	3.85	48	0.0574

For HSDPA Band 2 Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	56	0.0298
40	3.85	52	0.0277
30	3.85	46	0.0245
20	3.85	41	0.0218
10	3.85	36	0.0191
0	3.85	30	0.0160
-10	3.85	36	0.0191
-20	3.85	42	0.0223
-30	3.85	48	0.0255

For HSUPA Band 5 Mode

Reference Frequency(Middle Channel): 836.6 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	57	0.0681
40	3.85	52	0.0622
30	3.85	45	0.0538
20	3.85	40	0.0478
10	3.85	35	0.0418
0	3.85	30	0.0359
-10	3.85	36	0.0430
-20	3.85	44	0.0526
-30	3.85	51	0.0610

For HSUPA Band 2 Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	3.85	85	0.0452
40	3.85	69	0.0367
30	3.85	58	0.0309
20	3.85	52	0.0277
10	3.85	44	0.0234
0	3.85	36	0.0191
-10	3.85	42	0.0223
-20	3.85	50	0.0266
-30	3.85	54	0.0287

So, Frequency Stability Versus Input Voltage is:

Reference Frequency(Middle Channel): GSM 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	44	0.0526
	3.85	40	0.0478
	4.35	37	0.0442
Reference Frequency(Middle Channel): GSM 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	43	0.0229
	3.85	45	0.0239
	4.35	48	0.0255
Reference Frequency(Middle Channel): GPRS 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	45	0.0538
	3.85	42	0.0502
	4.35	43	0.0514
Reference Frequency(Middle Channel): GPRS 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	27	0.0144
	3.85	28	0.0149
	4.35	33	0.0176

Reference Frequency(Middle Channel): EDGE 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	48	0.0574
	3.85	50	0.0598
	4.35	52	0.0622
Reference Frequency(Middle Channel): EDGE 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	41	0.0218
	3.85	42	0.0223
	4.35	38	0.0202
Reference Frequency(Middle Channel): WCDMA 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	38	0.0454
	3.85	37	0.0442
	4.35	42	0.0502
Reference Frequency(Middle Channel): WCDMA 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	39	0.0207
	3.85	45	0.0239
	4.35	43	0.0229
Reference Frequency(Middle Channel): HSDPA 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	46	0.0550
	3.85	41	0.0490
	4.35	45	0.0538

Reference Frequency(Middle Channel): HSDPA 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	45	0.0239
	3.85	41	0.0218
	4.35	46	0.0245
Reference Frequency(Middle Channel): HSUPA 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	43	0.0514
	3.85	40	0.0478
	4.35	39	0.0466
Reference Frequency(Middle Channel): HSUPA 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	3.5	49	0.0261
	3.85	52	0.0277
	4.35	45	0.0239

10. Modulation characteristics

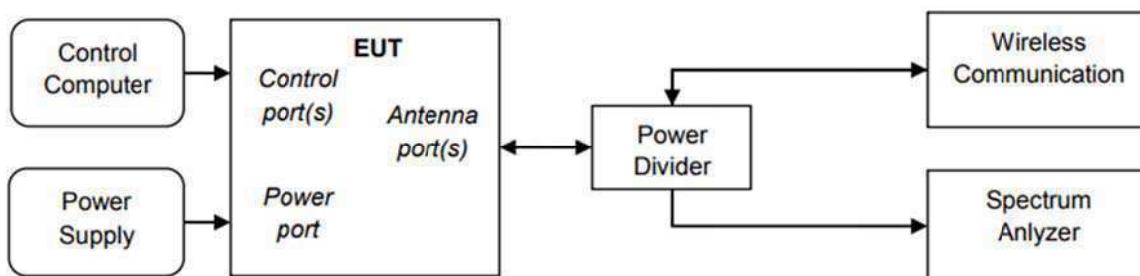
10.1 Standard Applicable

According to §2.1047, Measurements required: Modulation characteristics is given below:

- (a) Voice modulated communication equipment. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter, or of all circuitry installed between the modulation limiter and the modulated stage shall be submitted.
- (b) Equipment which employs modulation limiting. A curve or family of curves showing the percentage of modulation versus the modulation input voltage shall be supplied. The information submitted shall be sufficient to show modulation limiting capability throughout the range of modulating frequencies and input modulating signal levels employed.
- (c) Single sideband and independent sideband radiotelephone transmitters which employ a device or circuit to limit peak envelope power. A curve showing the peak envelope power output versus the modulation input voltage shall be supplied. The modulating signals shall be the same in frequency as specified in paragraph (c) of §2.1049 for the occupied bandwidth tests.
- (d) Other types of equipment. A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

10.2 Test Procedure

According to ANSI C63.26-2015 section 5.3.2, the following test setup was performed.

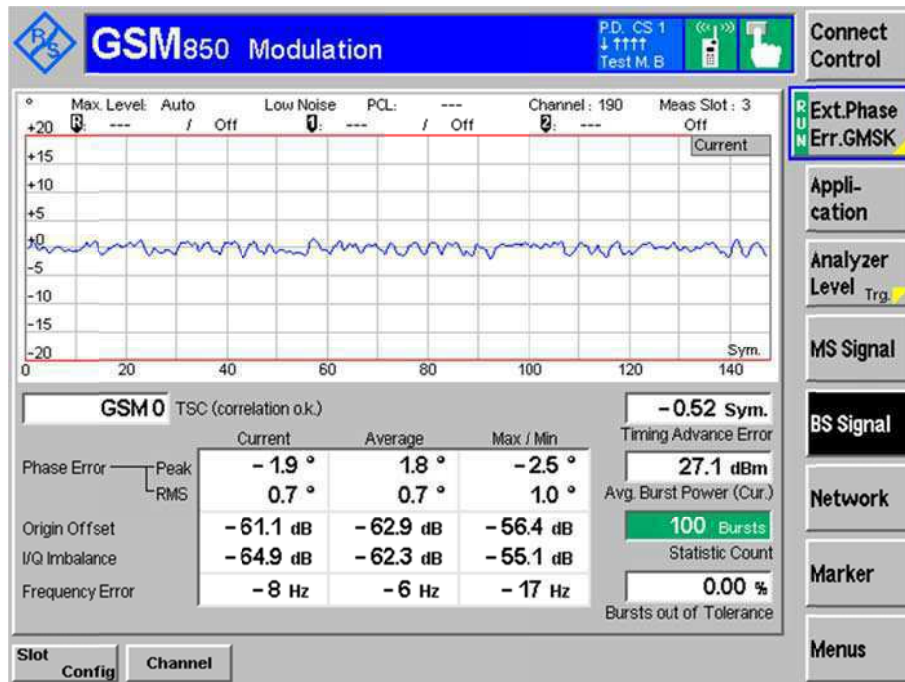


10.3 Summary of Test Results/Plots

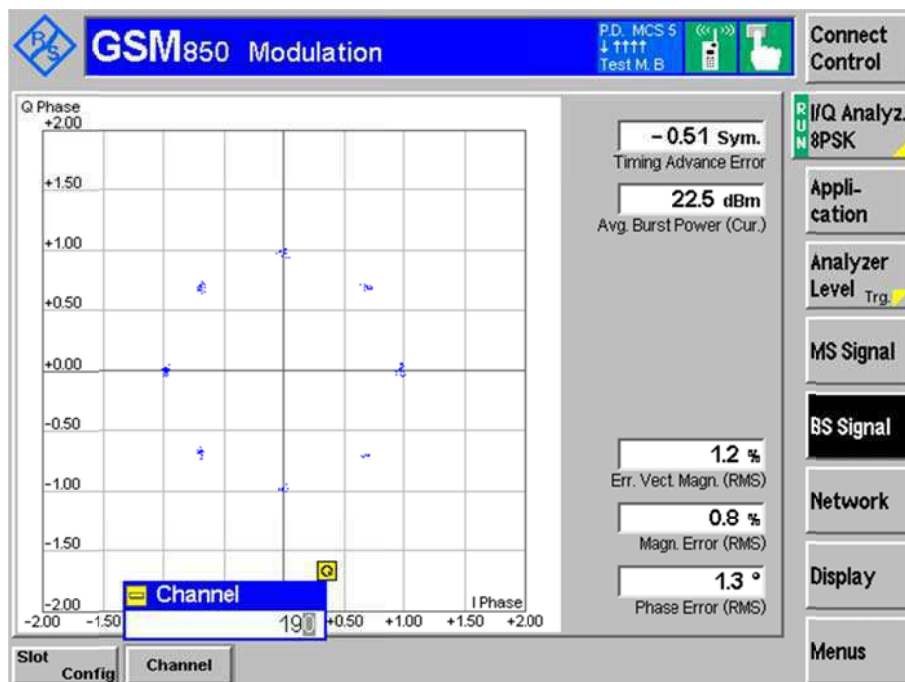
Only the worst case was selected to record

GSM850

GMSK modulation

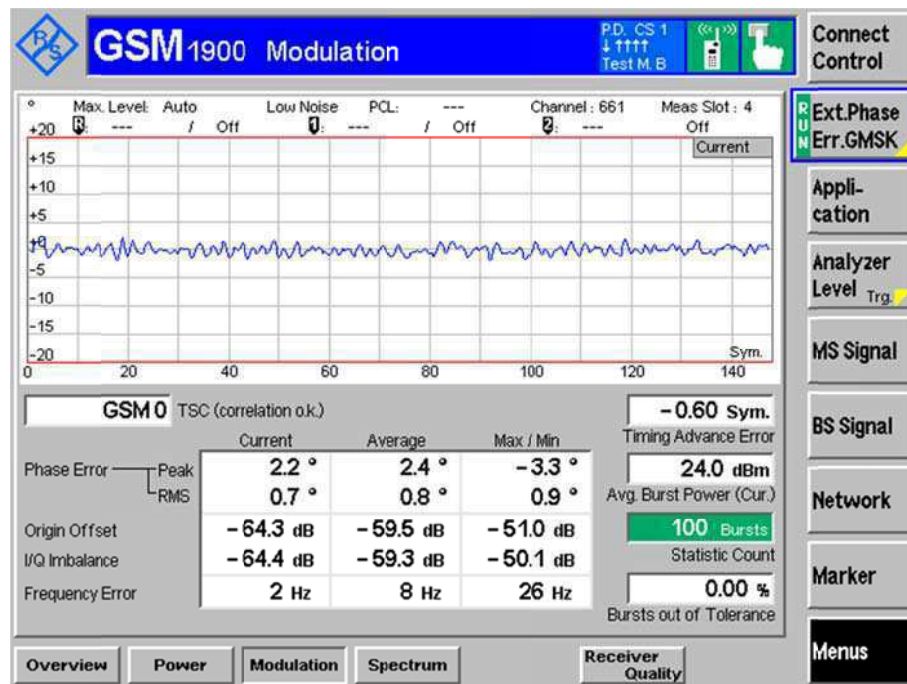


8PSK modulation

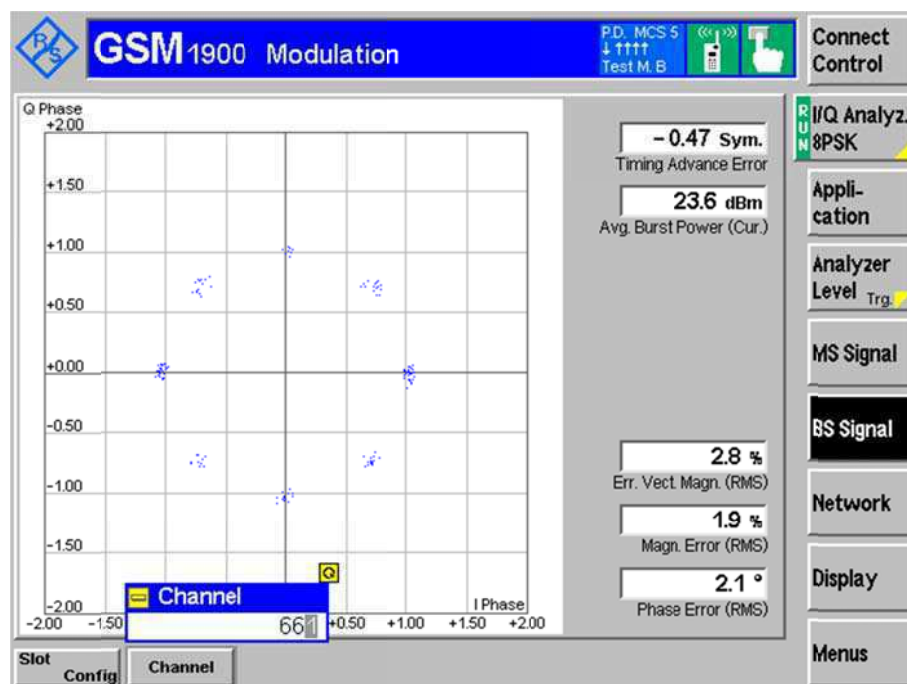


GSM1900

GMSK modulation

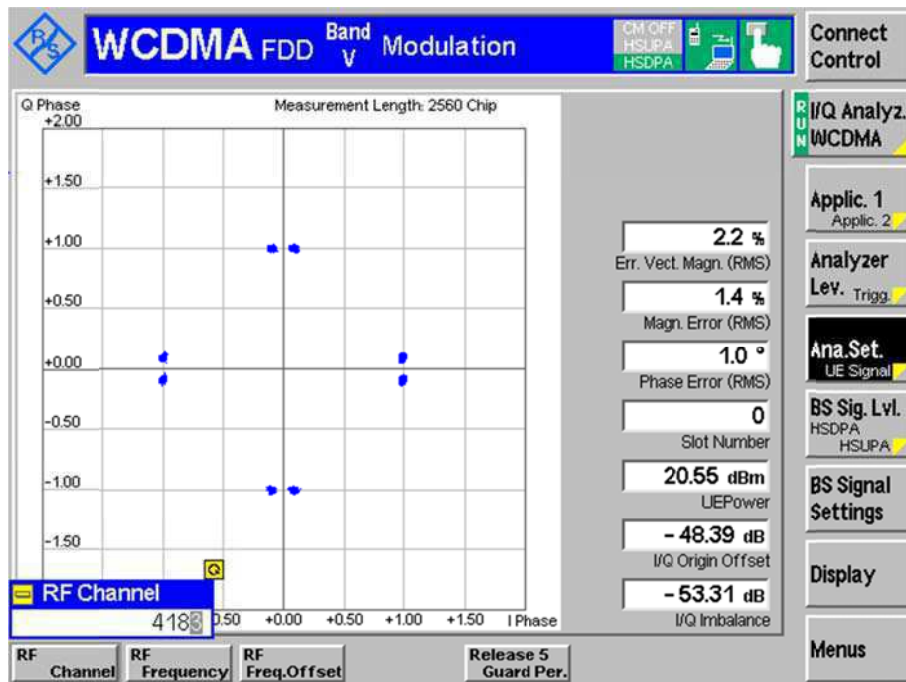


8PSK modulation



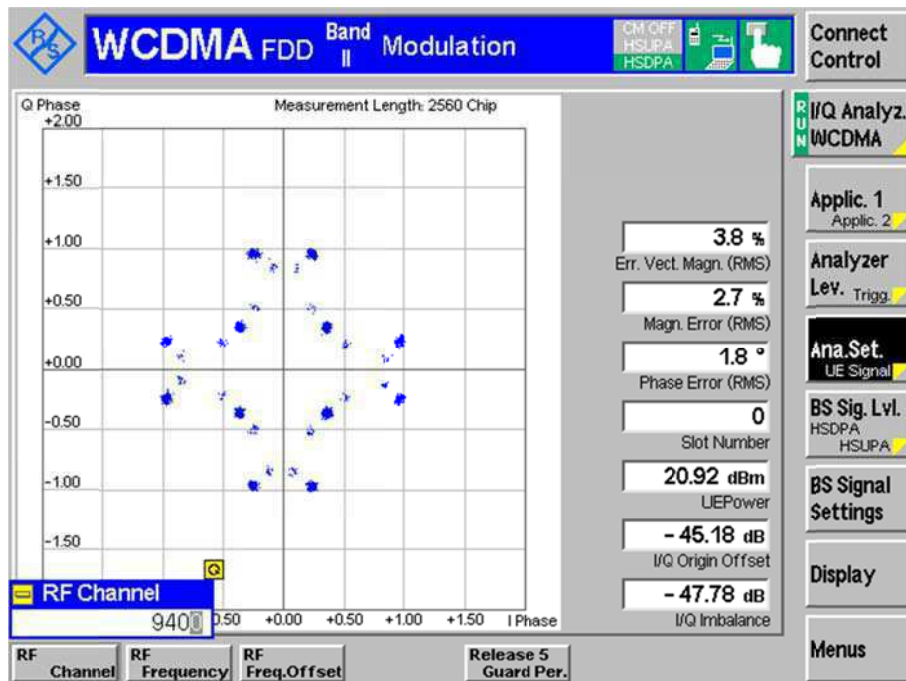
WCDMA B5

QPSK modulation



WCDMA B2

QPSK modulation



***** END OF REPORT *****