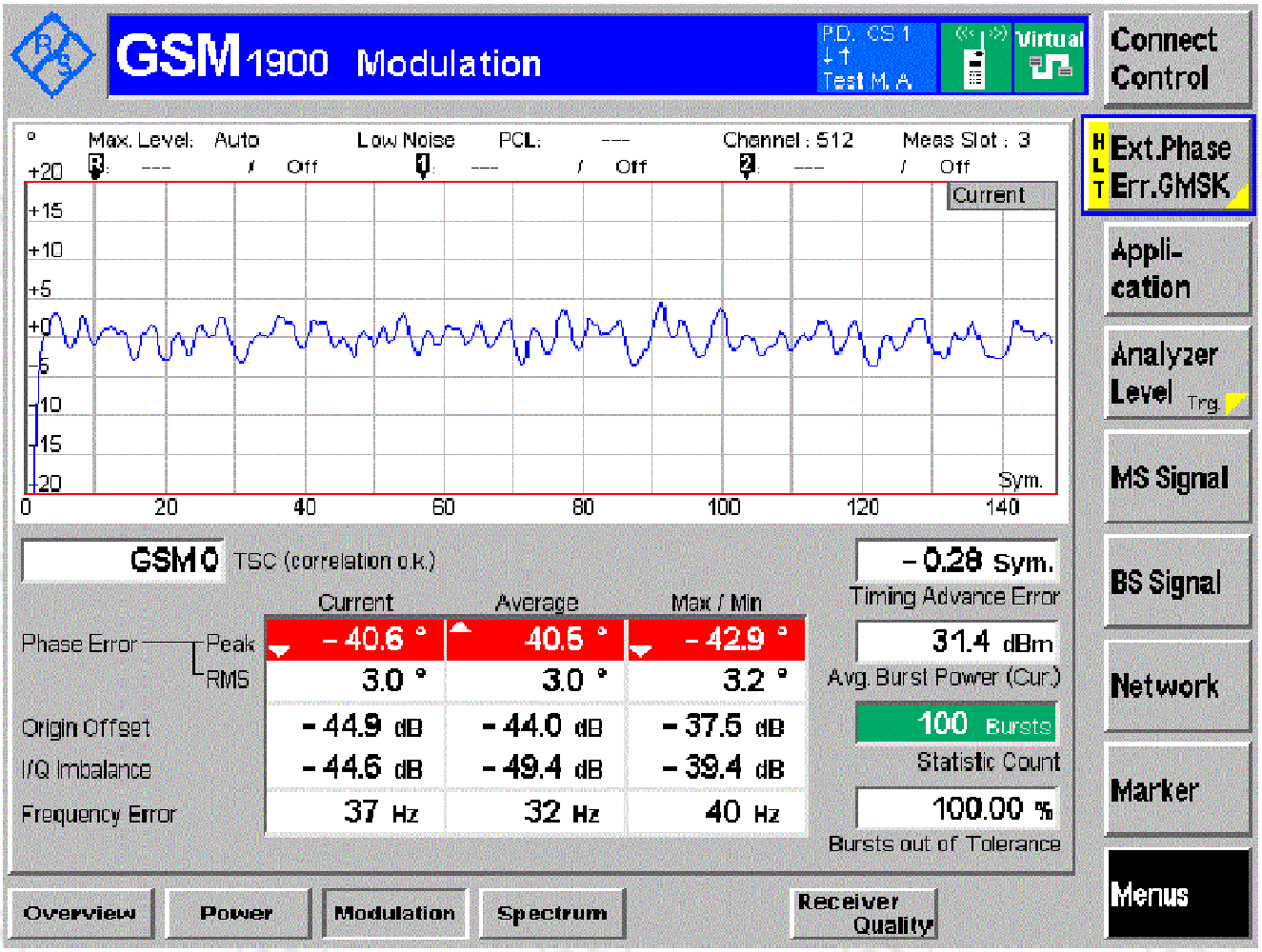
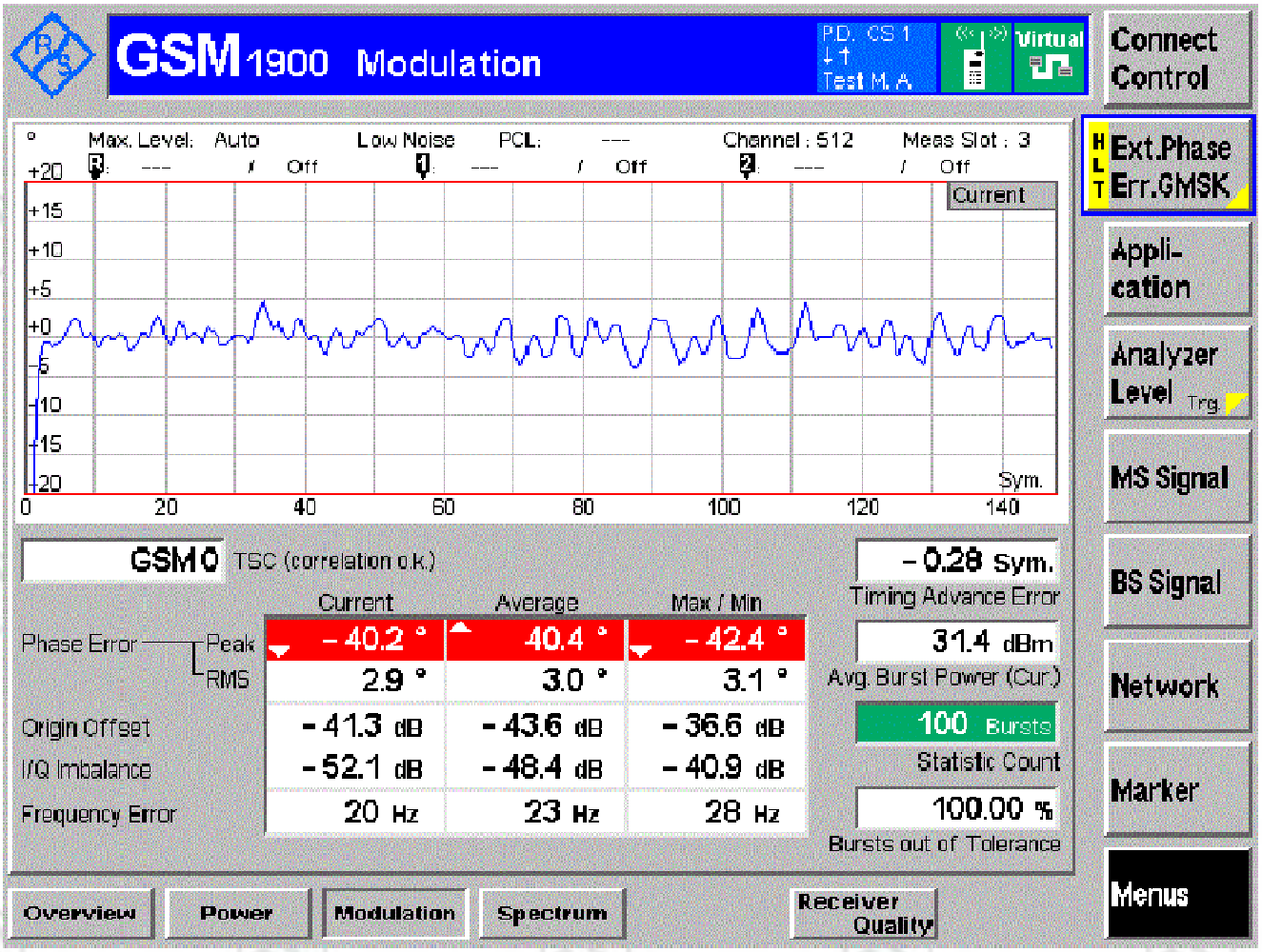
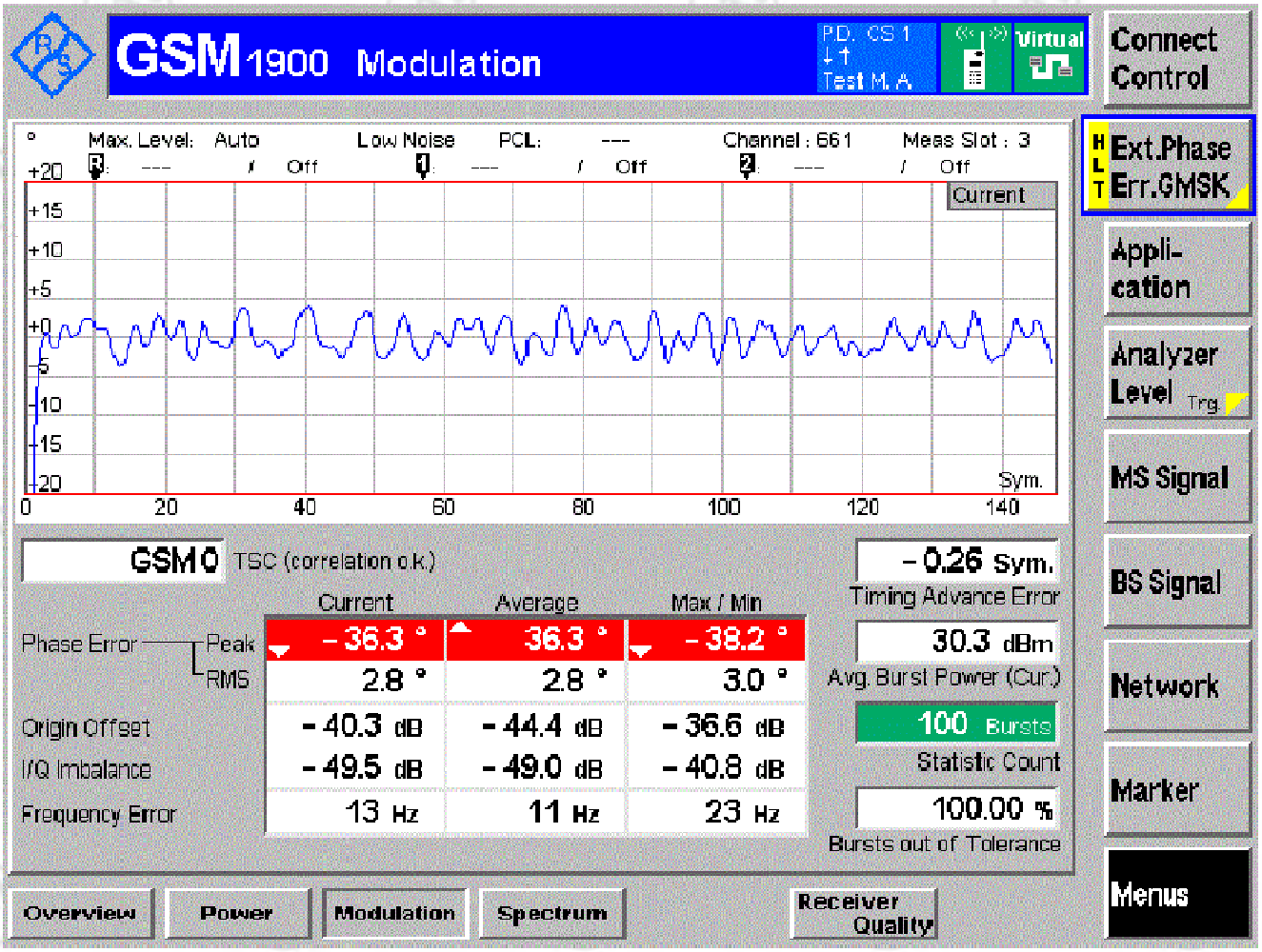
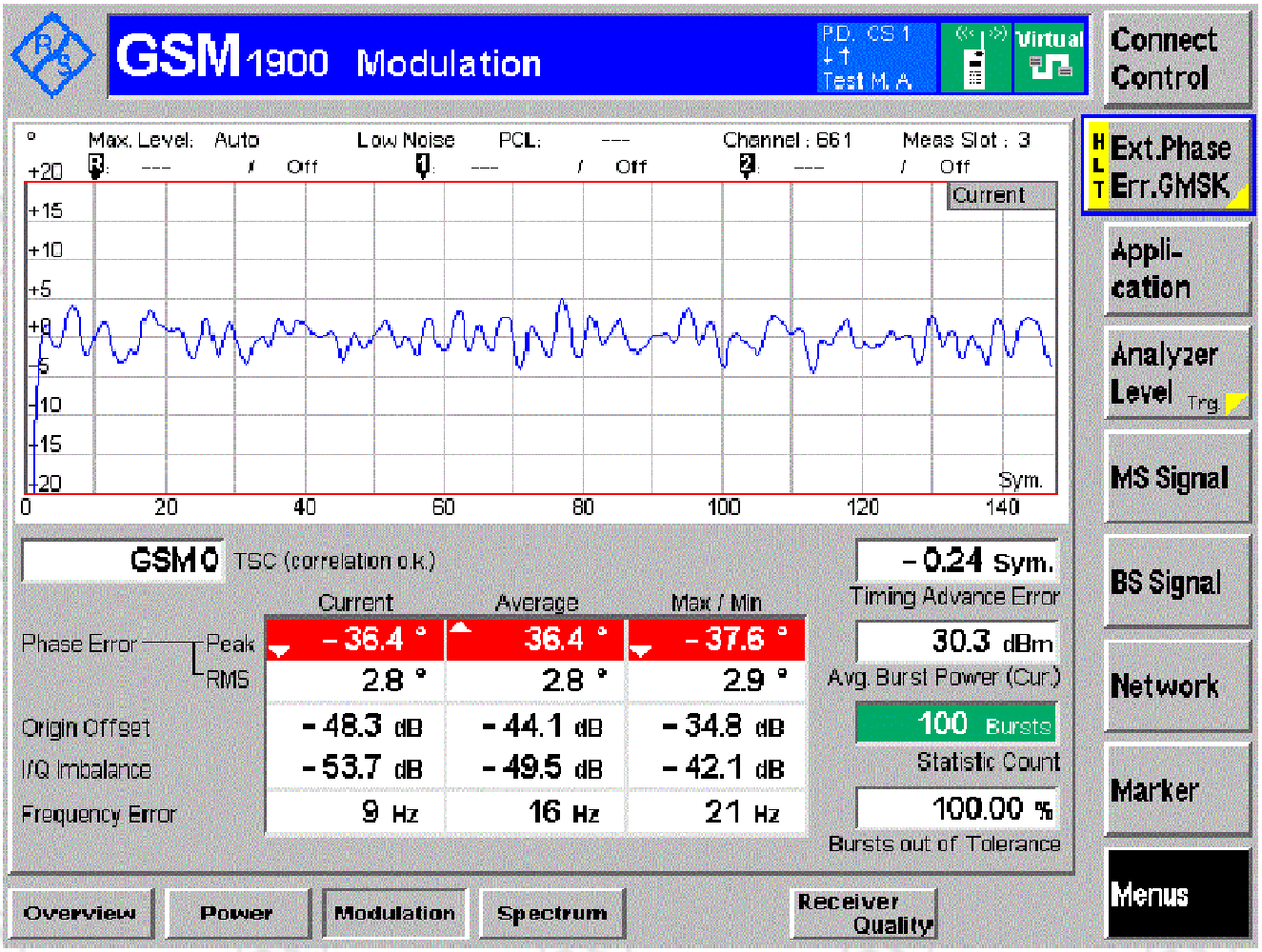
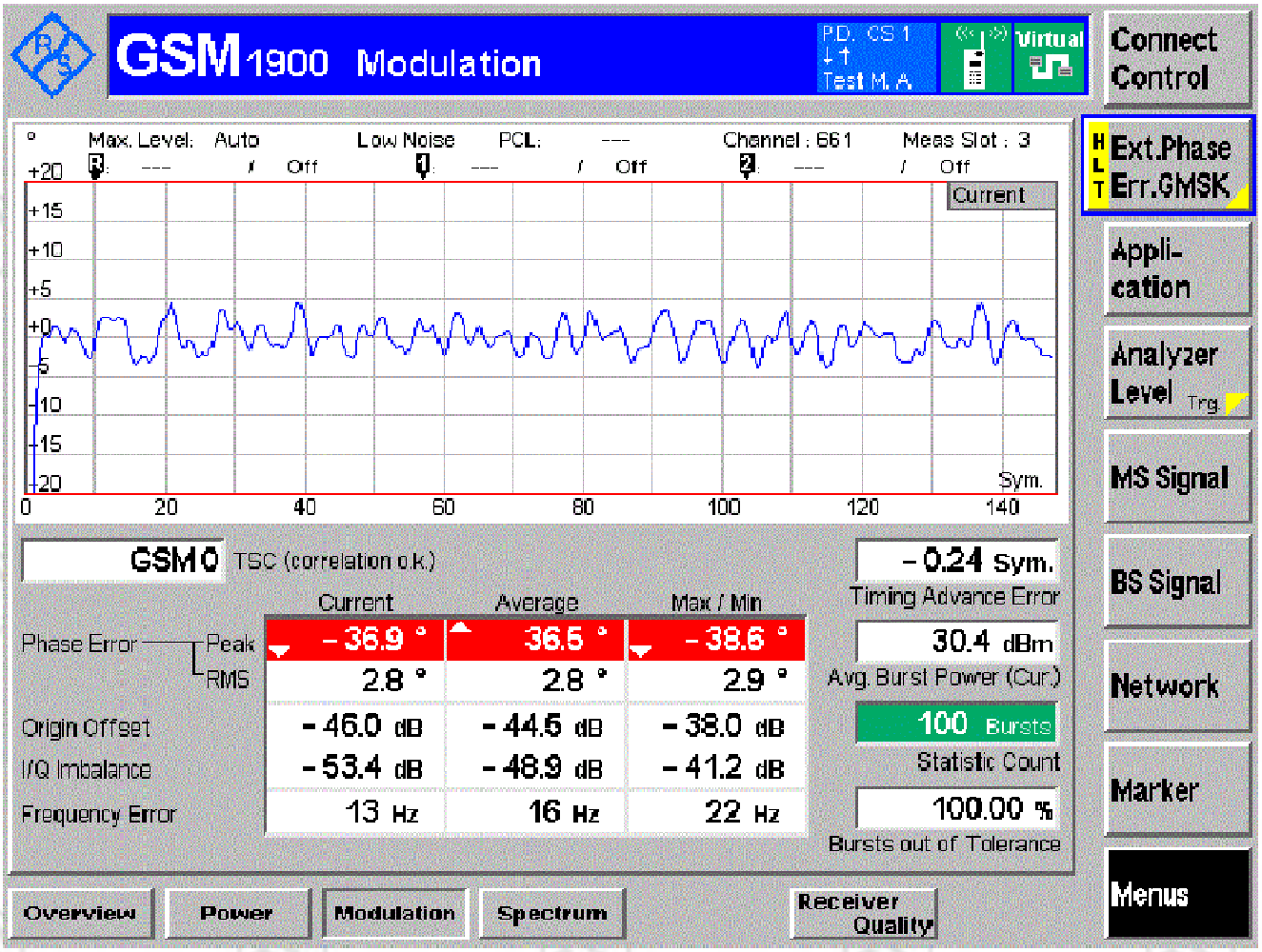

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 512
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
Origin Offset
I/Q Imbalance
Frequency Error
- 40.6 °
40.5 °
- 42.9 °
3.0 °
3.0 °
3.2 °
- 44.9 dB
- 44.0 dB
- 37.5 dB
- 44.6 dB
- 49.4 dB
- 39.4 dB
37 Hz
32 Hz
40 Hz
- 0.28 Sym.
Timing Advance Error
31.4 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

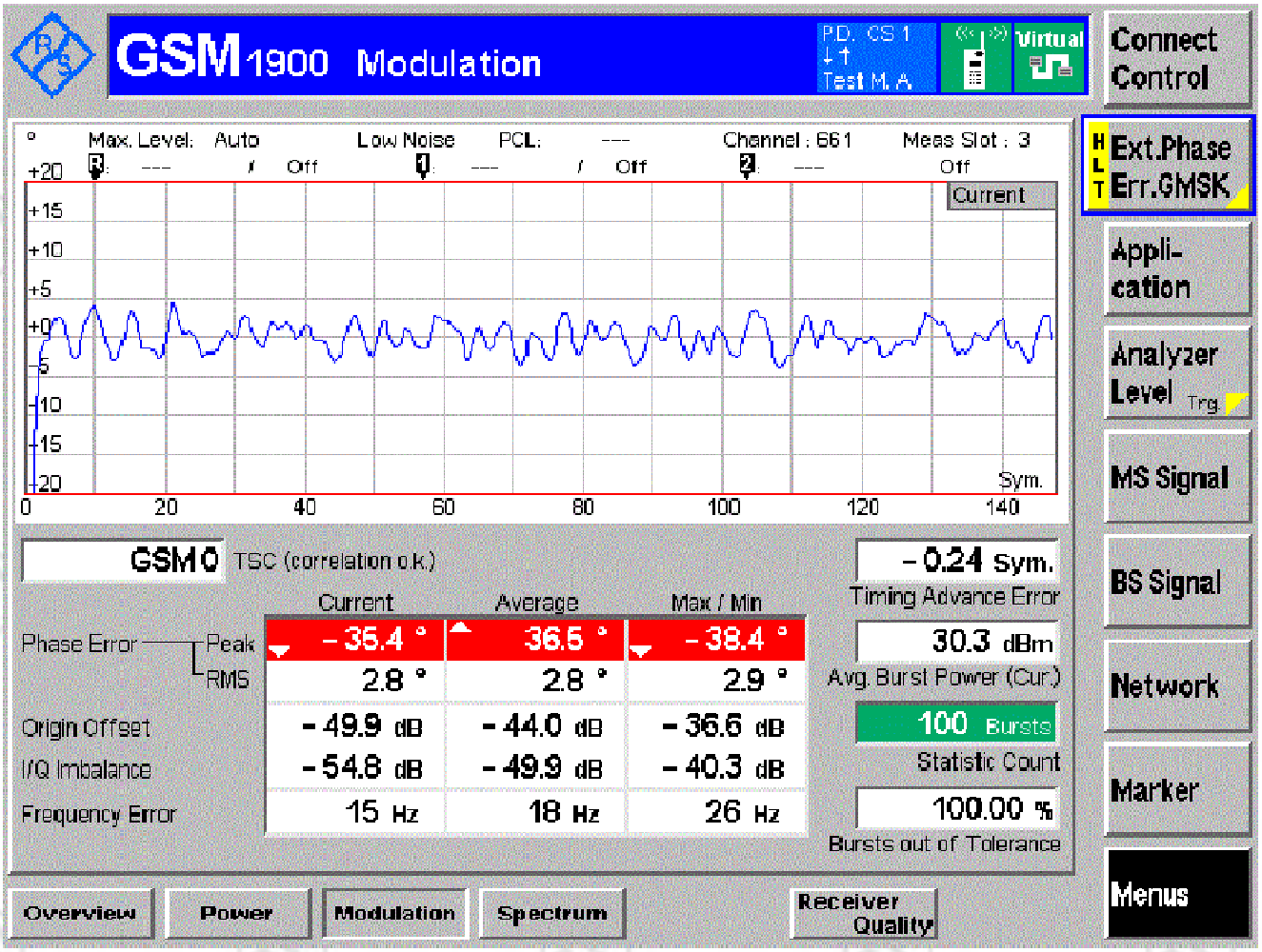

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 512
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-40.2 °
40.4 °
-42.4 °
2.9 °
3.0 °
3.1 °
Origin Offset
-41.3 dB
-43.6 dB
-36.6 dB
I/Q Imbalance
-52.1 dB
-48.4 dB
-40.9 dB
Frequency Error
20 Hz
23 Hz
28 Hz
-0.28 Sym.
Timing Advance Error
31.4 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

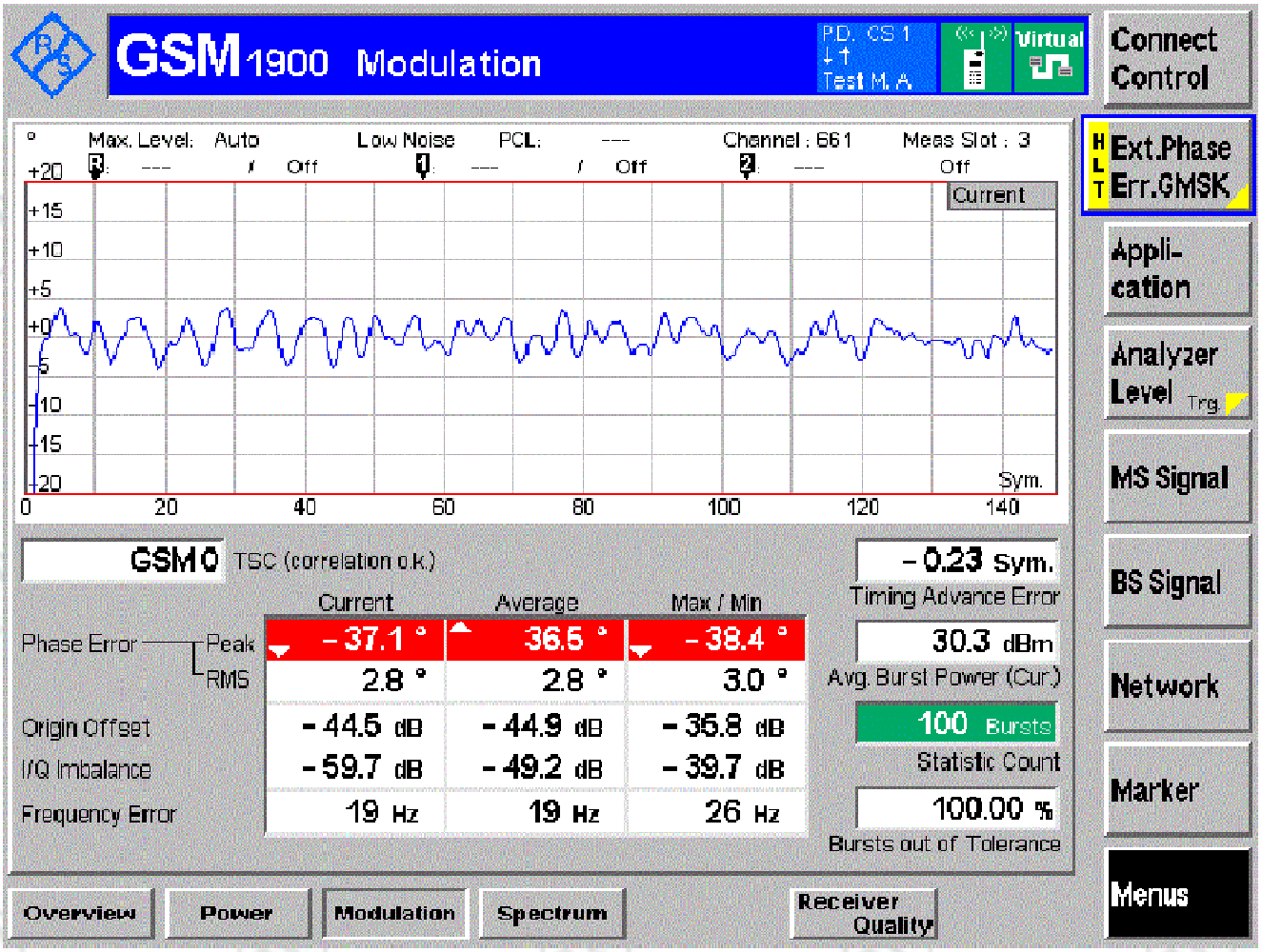
MCH

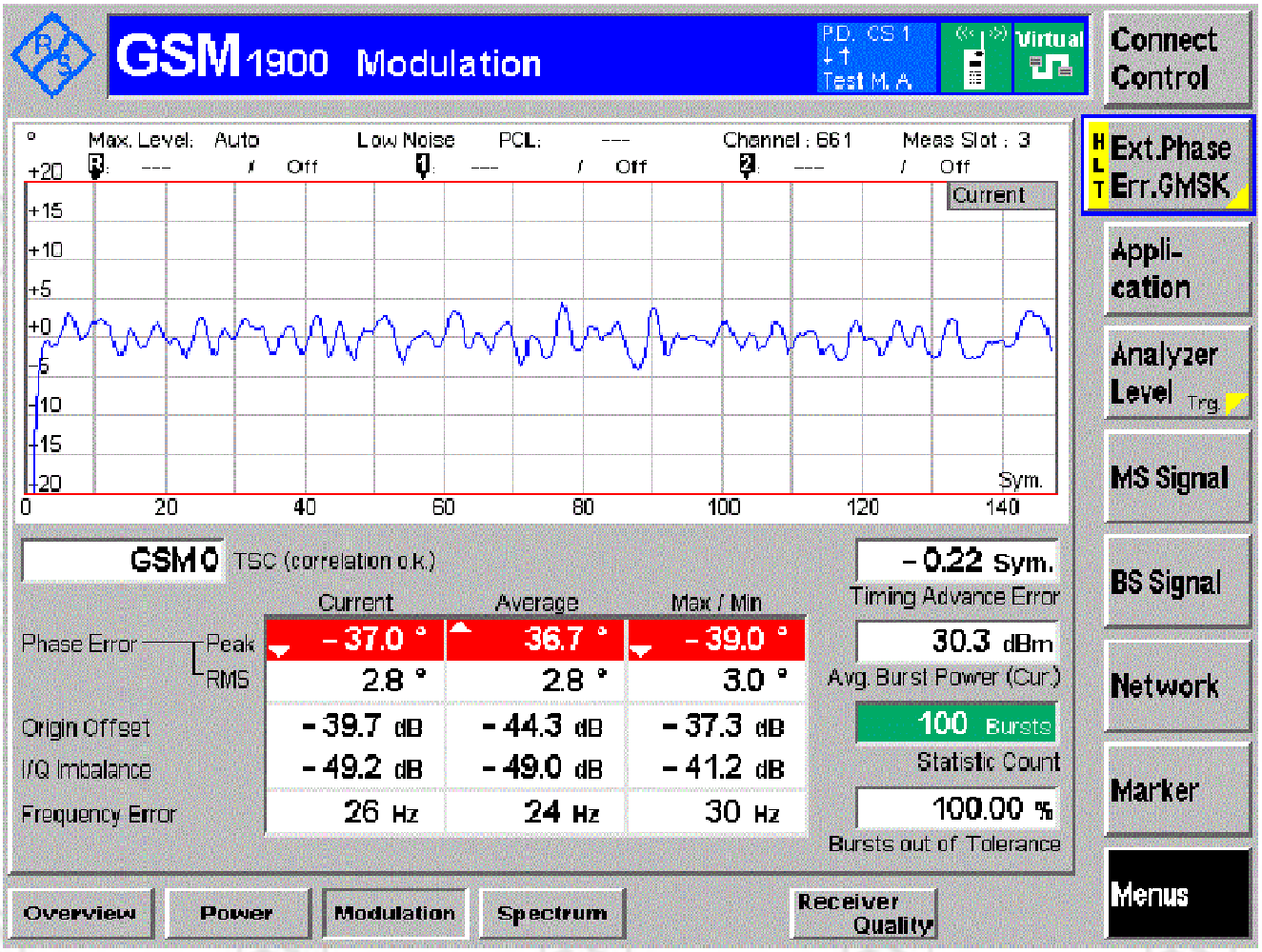

GSM1900 Modulation
P.D. CS 1
Test M.A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL: ---
Channel : 661
Meas Slot : 3
Current
Sym.
GSM0 TSC (correlation o.k.)
-0.26 Sym.
Timing Advance Error
30.3 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Current
Average
Max / Min
Phase Error
Peak
RMS
-36.3 °
36.3 °
-38.2 °
2.8 °
2.8 °
3.0 °
Origin Offset
I/Q Imbalance
Frequency Error
-40.3 dB
-44.4 dB
-36.6 dB
-49.5 dB
-49.0 dB
-40.8 dB
13 Hz
11 Hz
23 Hz
Overview
Power
Modulation
Spectrum
Receiver Quality

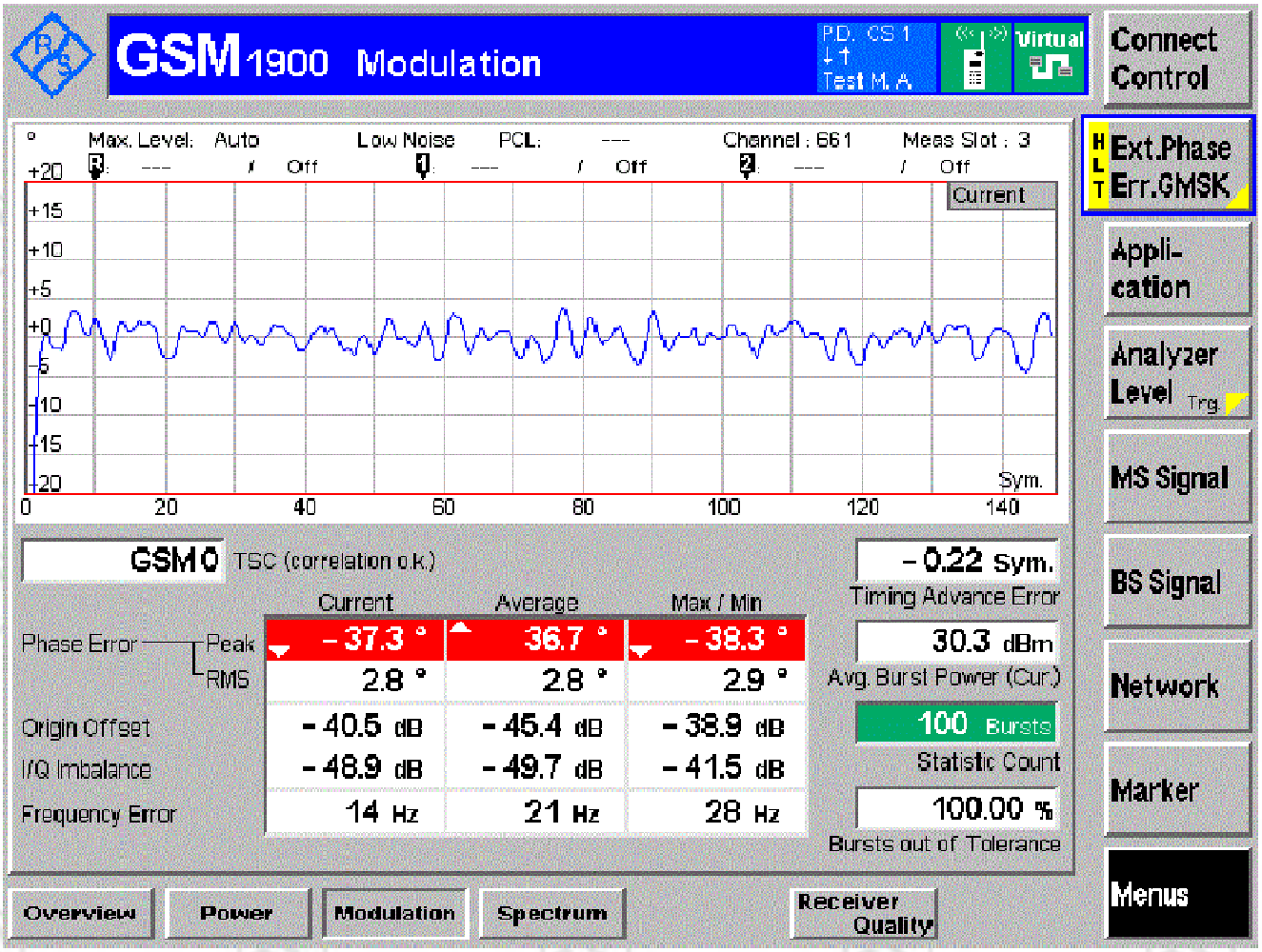

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
Origin Offset
I/Q Imbalance
Frequency Error
-36.4 °
36.4 °
-37.6 °
2.8 °
2.8 °
2.9 °
-48.3 dB
-44.1 dB
-34.8 dB
-53.7 dB
-49.5 dB
-42.1 dB
9 Hz
16 Hz
21 Hz
-0.24 Sym.
Timing Advance Error
30.3 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

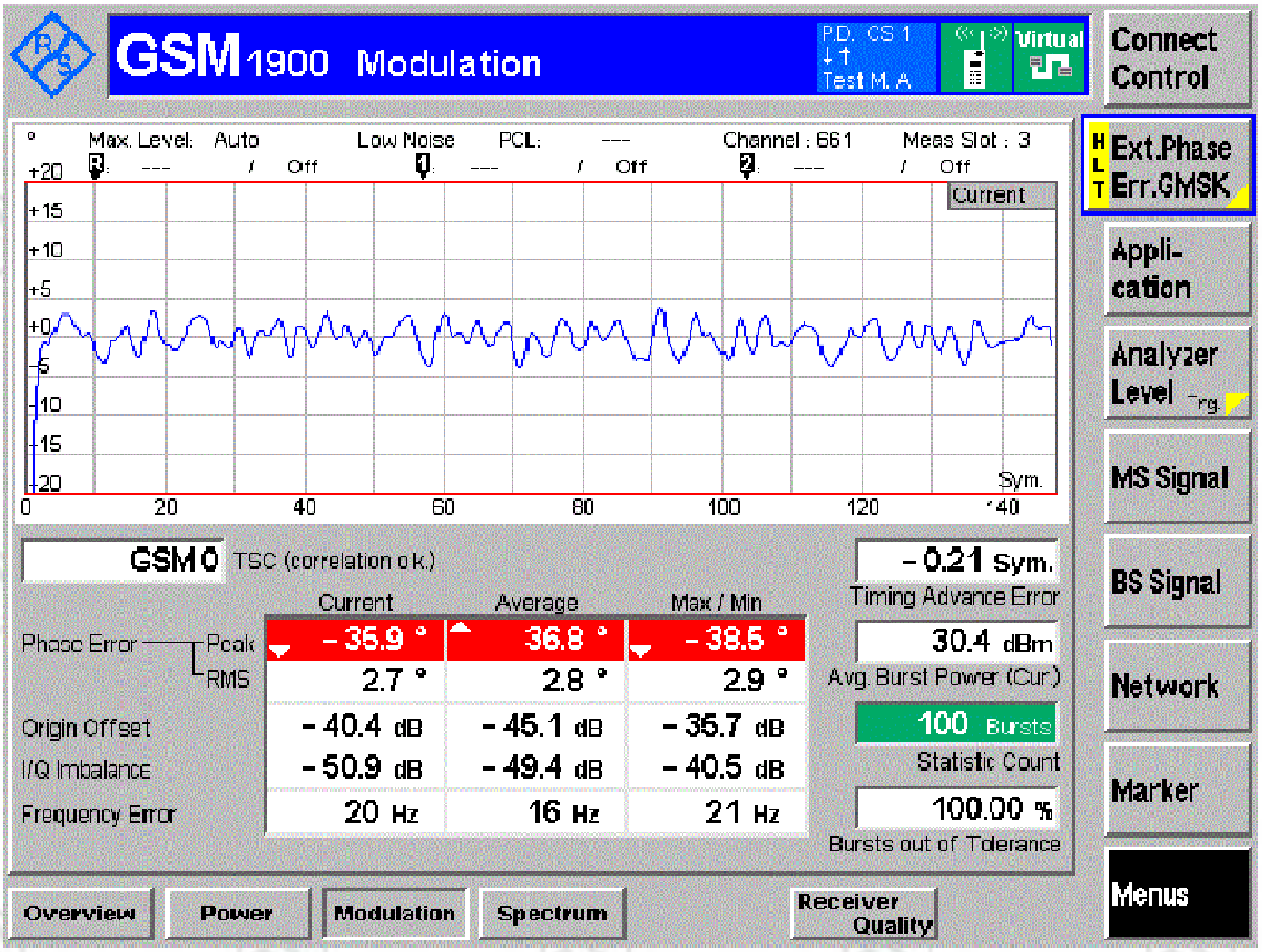

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Off
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-36.9 °
36.5 °
-38.6 °
2.8 °
2.8 °
2.9 °
Origin Offset
-46.0 dB
-44.5 dB
-38.0 dB
I/Q Imbalance
-53.4 dB
-48.9 dB
-41.2 dB
Frequency Error
13 Hz
16 Hz
22 Hz
-0.24 Sym.
Timing Advance Error
30.4 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

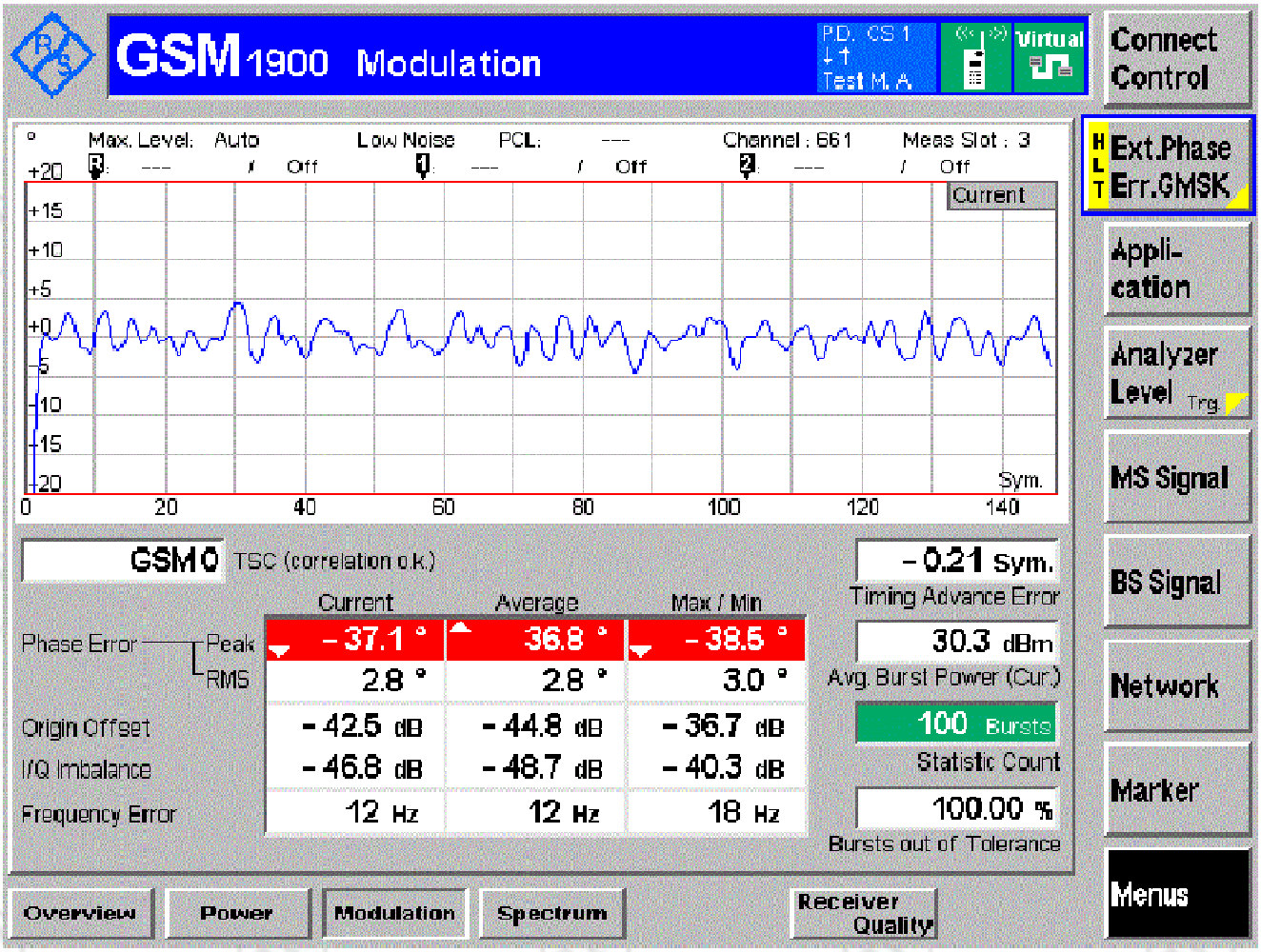

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-35.4 °
36.5 °
-38.4 °
2.8 °
2.8 °
2.9 °
Origin Offset
-49.9 dB
-44.0 dB
-36.6 dB
I/Q Imbalance
-54.8 dB
-49.9 dB
-40.3 dB
Frequency Error
15 Hz
18 Hz
26 Hz
-0.24 Sym.
Timing Advance Error
30.3 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality


GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-37.1 °
36.5 °
-38.4 °
2.8 °
2.8 °
3.0 °
Origin Offset
-44.5 dB
-44.9 dB
-35.8 dB
I/Q Imbalance
-59.7 dB
-49.2 dB
-39.7 dB
Frequency Error
19 Hz
19 Hz
26 Hz
-0.23 Sym.
Timing Advance Error
30.3 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

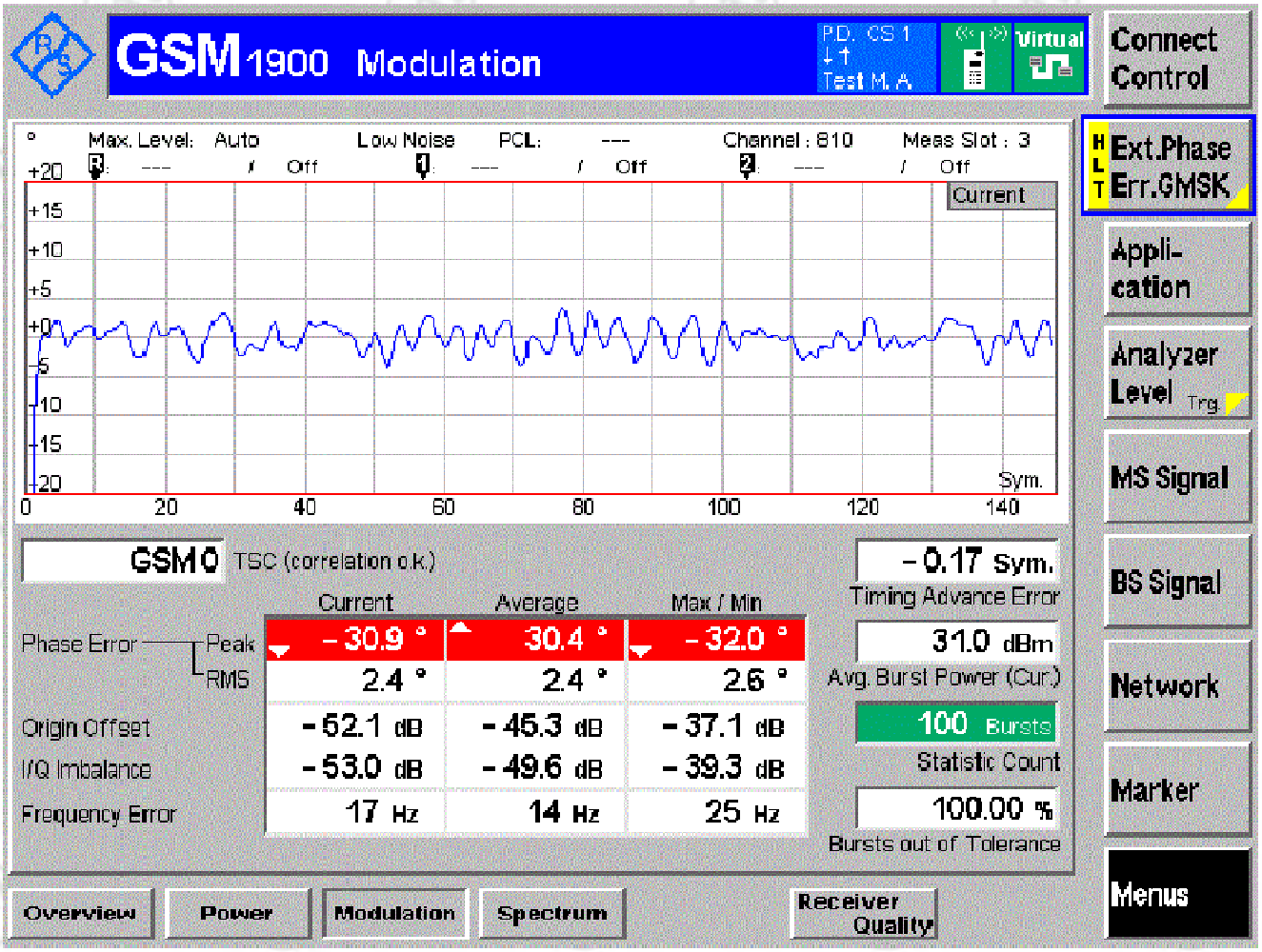

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-37.0 °
36.7 °
-39.0 °
2.8 °
2.8 °
3.0 °
Origin Offset
-39.7 dB
-44.3 dB
-37.3 dB
I/Q Imbalance
-49.2 dB
-49.0 dB
-41.2 dB
Frequency Error
26 Hz
24 Hz
30 Hz
-0.22 Sym.
Timing Advance Error
30.3 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

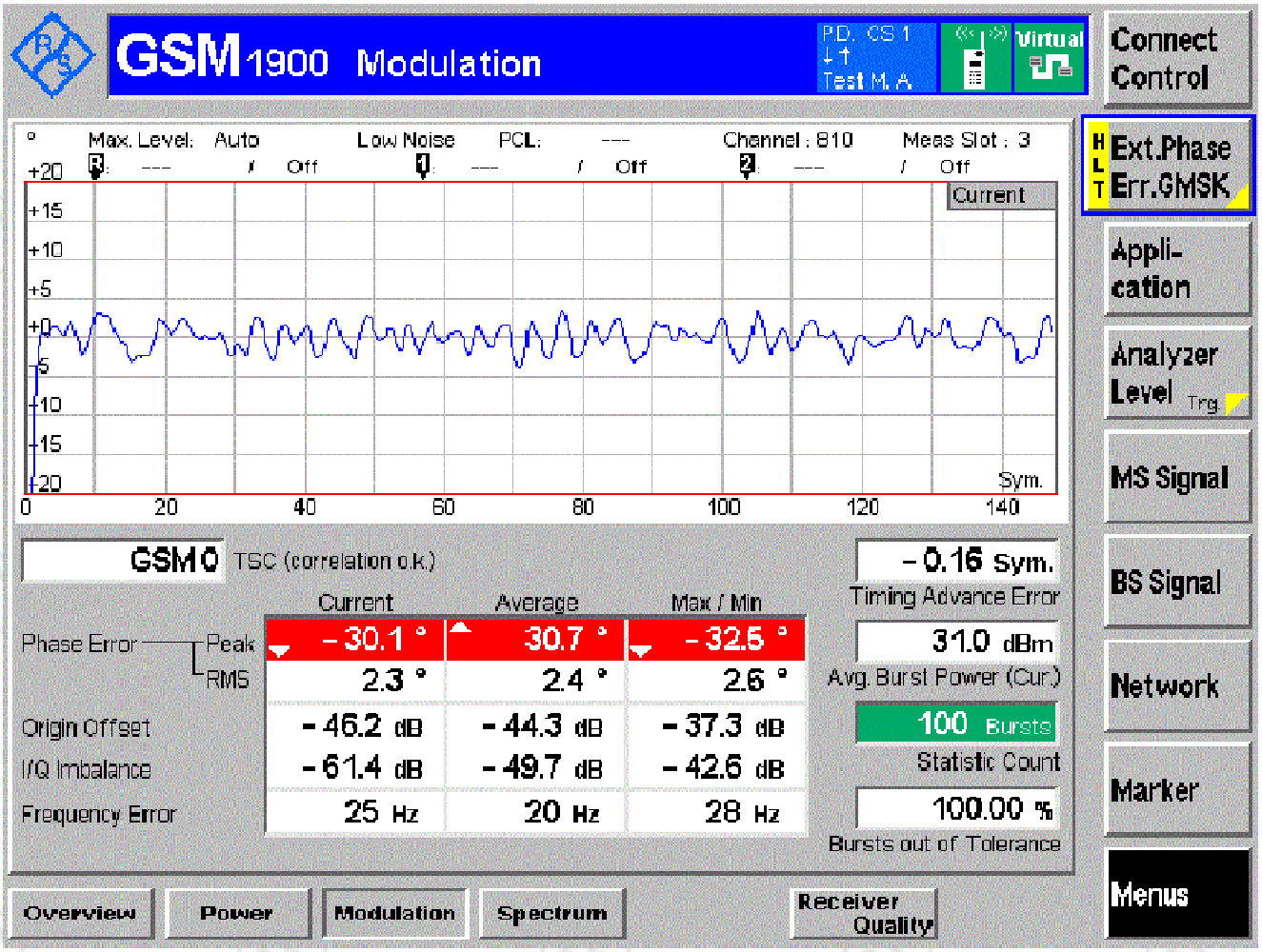

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Off
Current
+20
+15
+10
+5
+0
-5
-10
-15
-20
0
20
40
60
80
100
120
140
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-37.3 °
36.7 °
-38.3 °
2.8 °
2.8 °
2.9 °
Origin Offset
-40.5 dB
-45.4 dB
-38.9 dB
I/Q Imbalance
-48.9 dB
-49.7 dB
-41.5 dB
Frequency Error
14 Hz
21 Hz
28 Hz
-0.22 Sym.
Timing Advance Error
30.3 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

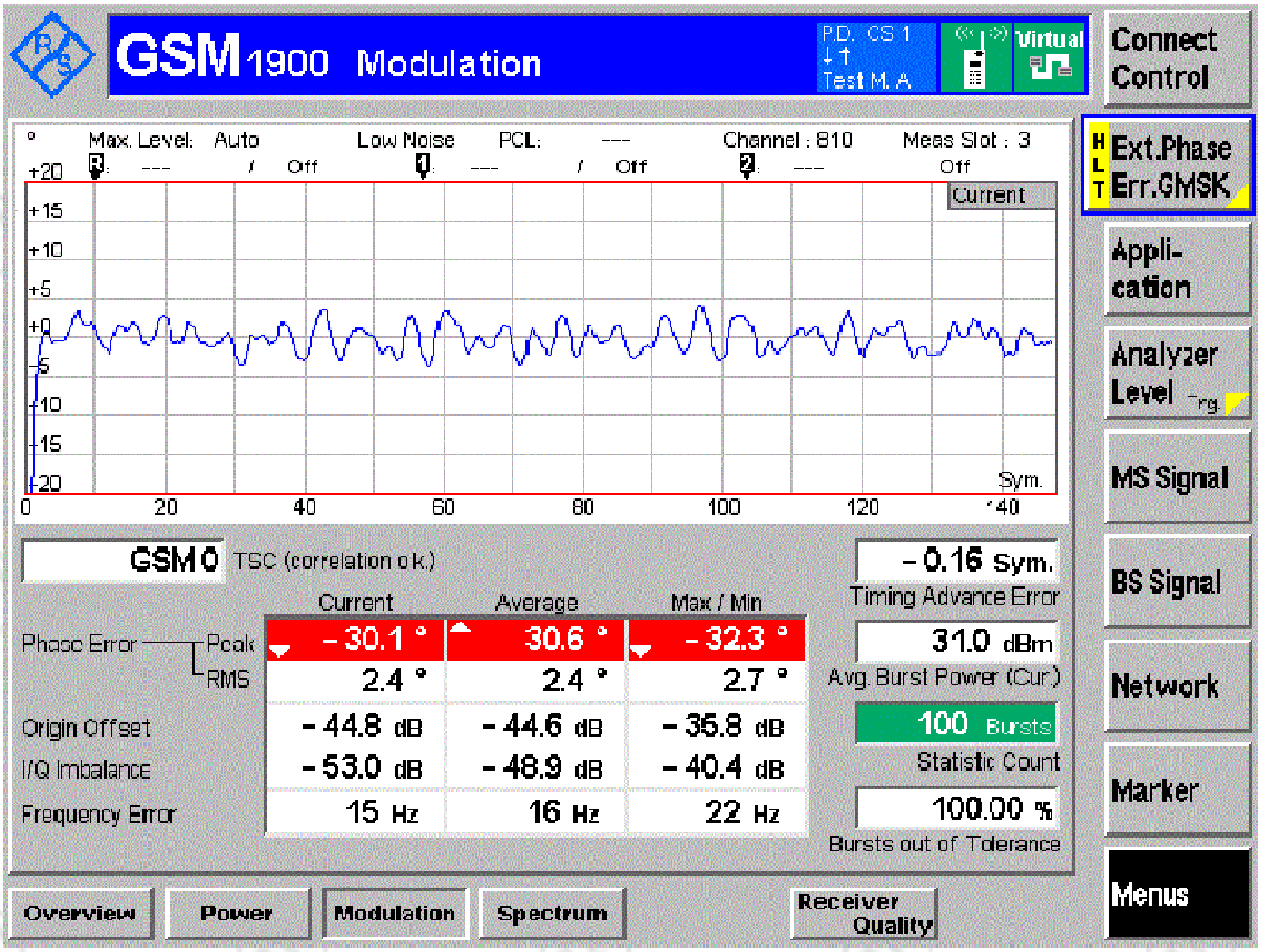

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-35.9 °
36.8 °
-38.5 °
2.7 °
2.8 °
2.9 °
Origin Offset
-40.4 dB
-45.1 dB
-35.7 dB
I/Q Imbalance
-50.9 dB
-49.4 dB
-40.5 dB
Frequency Error
20 Hz
16 Hz
21 Hz
-0.21 Sym.
Timing Advance Error
30.4 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

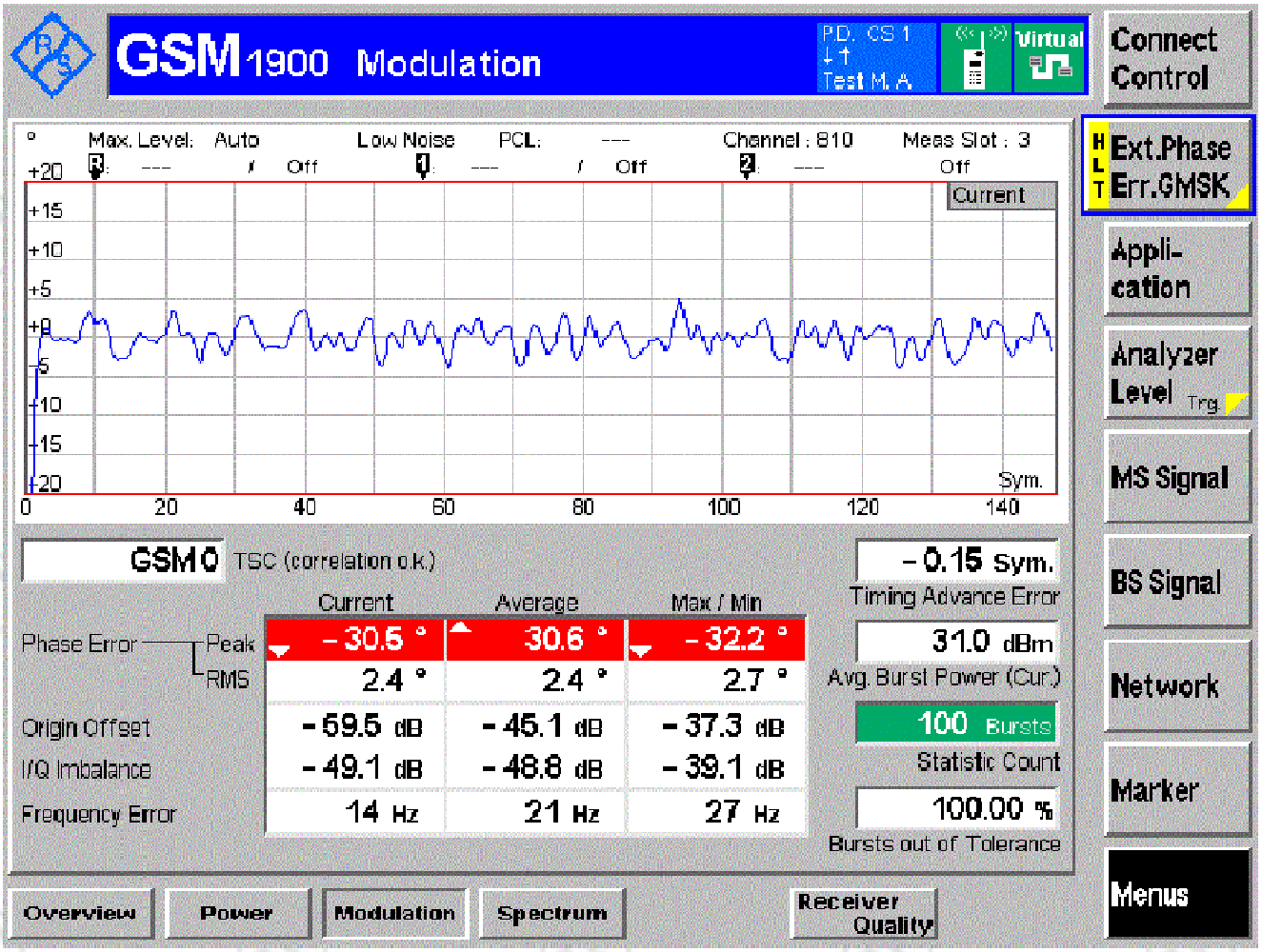

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 661
Meas Slot : 3
Off
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-37.1 °
36.8 °
-38.5 °
2.8 °
2.8 °
3.0 °
Origin Offset
-42.5 dB
-44.8 dB
-36.7 dB
I/Q Imbalance
-46.8 dB
-48.7 dB
-40.3 dB
Frequency Error
12 Hz
12 Hz
18 Hz
-0.21 Sym.
Timing Advance Error
30.3 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

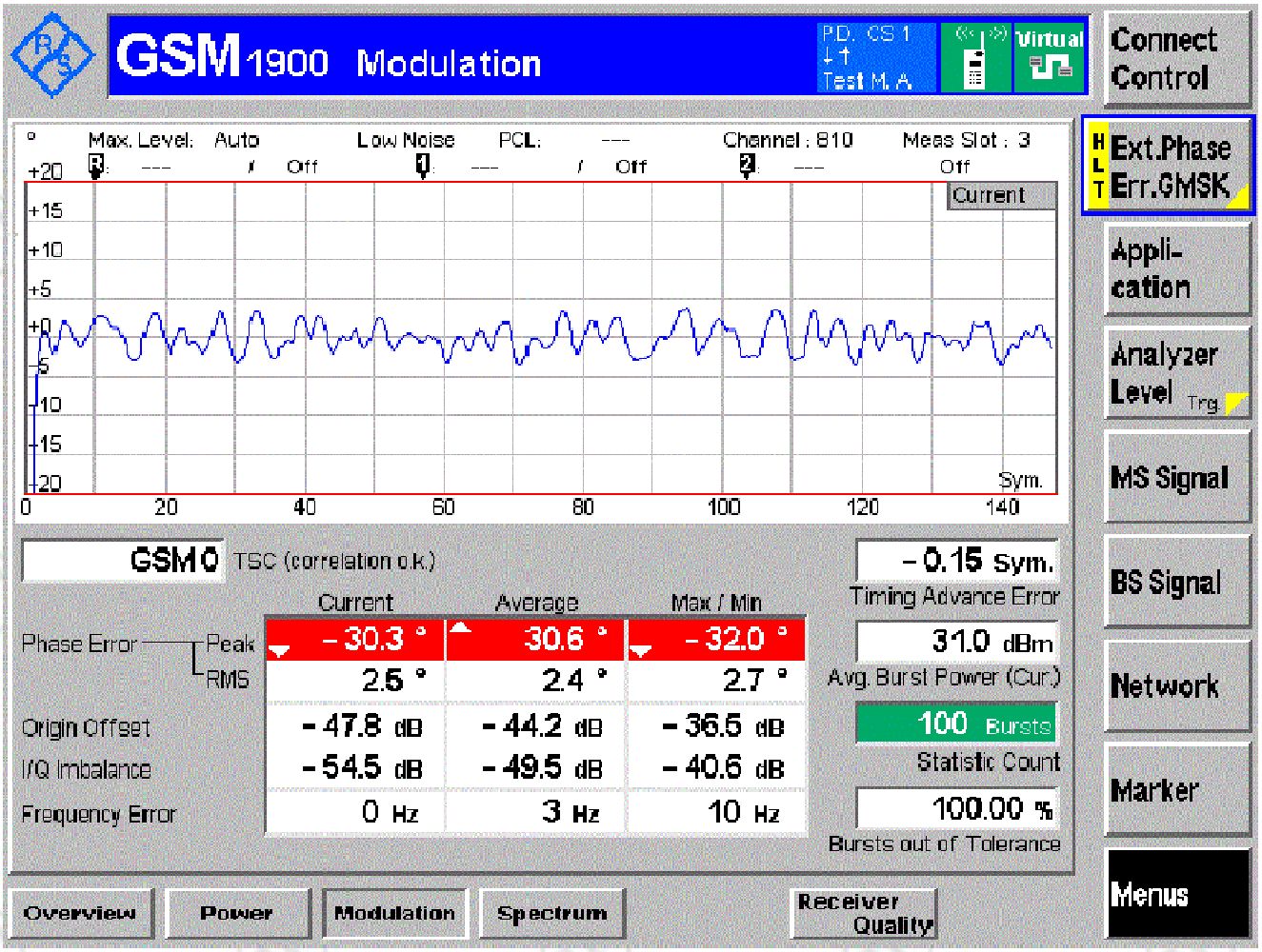
HCH

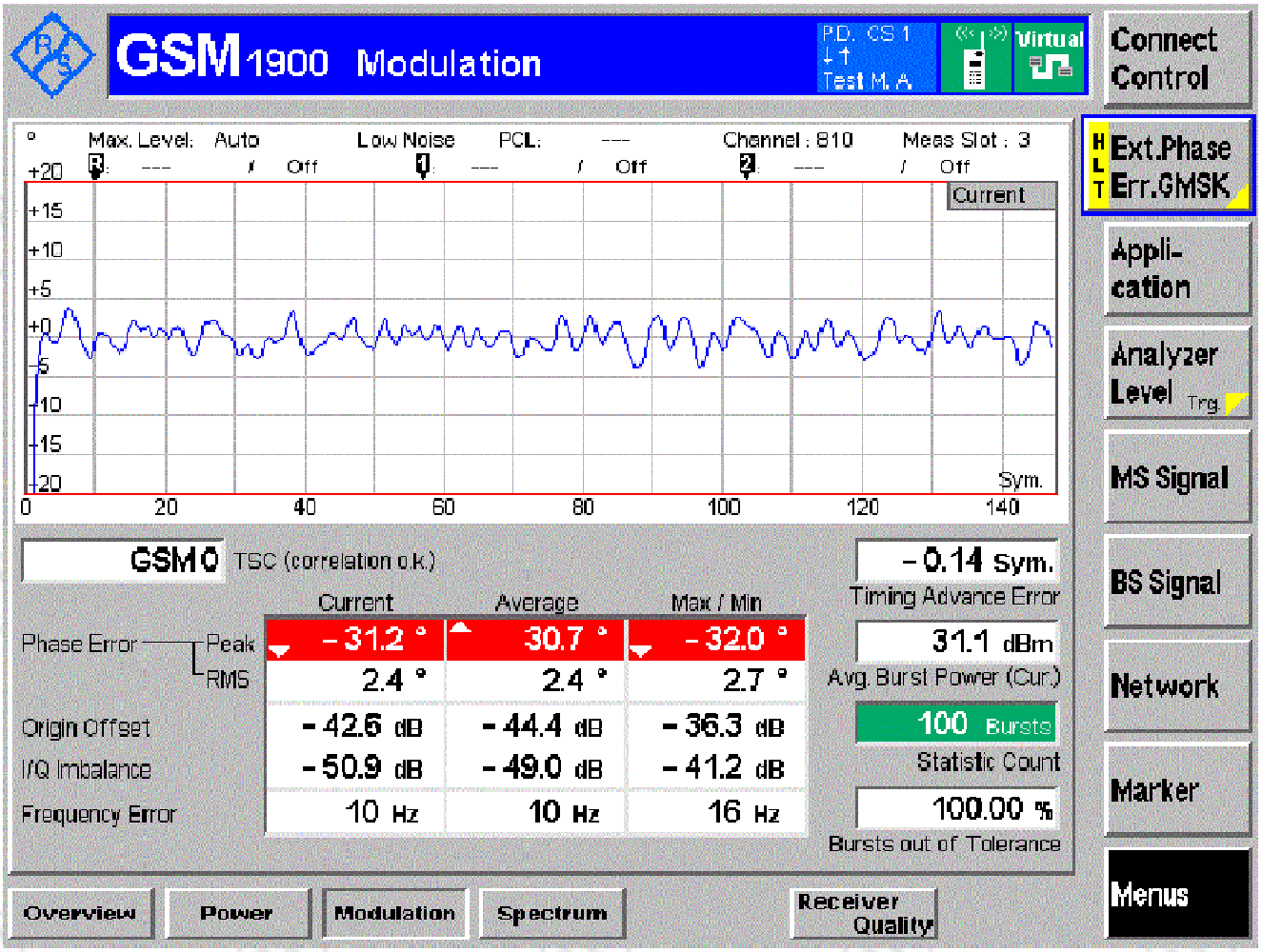

GSM1900 Modulation
P.D. CS 1
Test M.A.
Virtual
Connect Control
H L T Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Current
Sym.
GSM0 TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-30.9 °
30.4 °
-32.0 °
2.4 °
2.4 °
2.6 °
Origin Offset
-52.1 dB
-45.3 dB
-37.1 dB
I/Q Imbalance
-53.0 dB
-49.6 dB
-39.3 dB
Frequency Error
17 Hz
14 Hz
25 Hz
-0.17 Sym.
Timing Advance Error
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

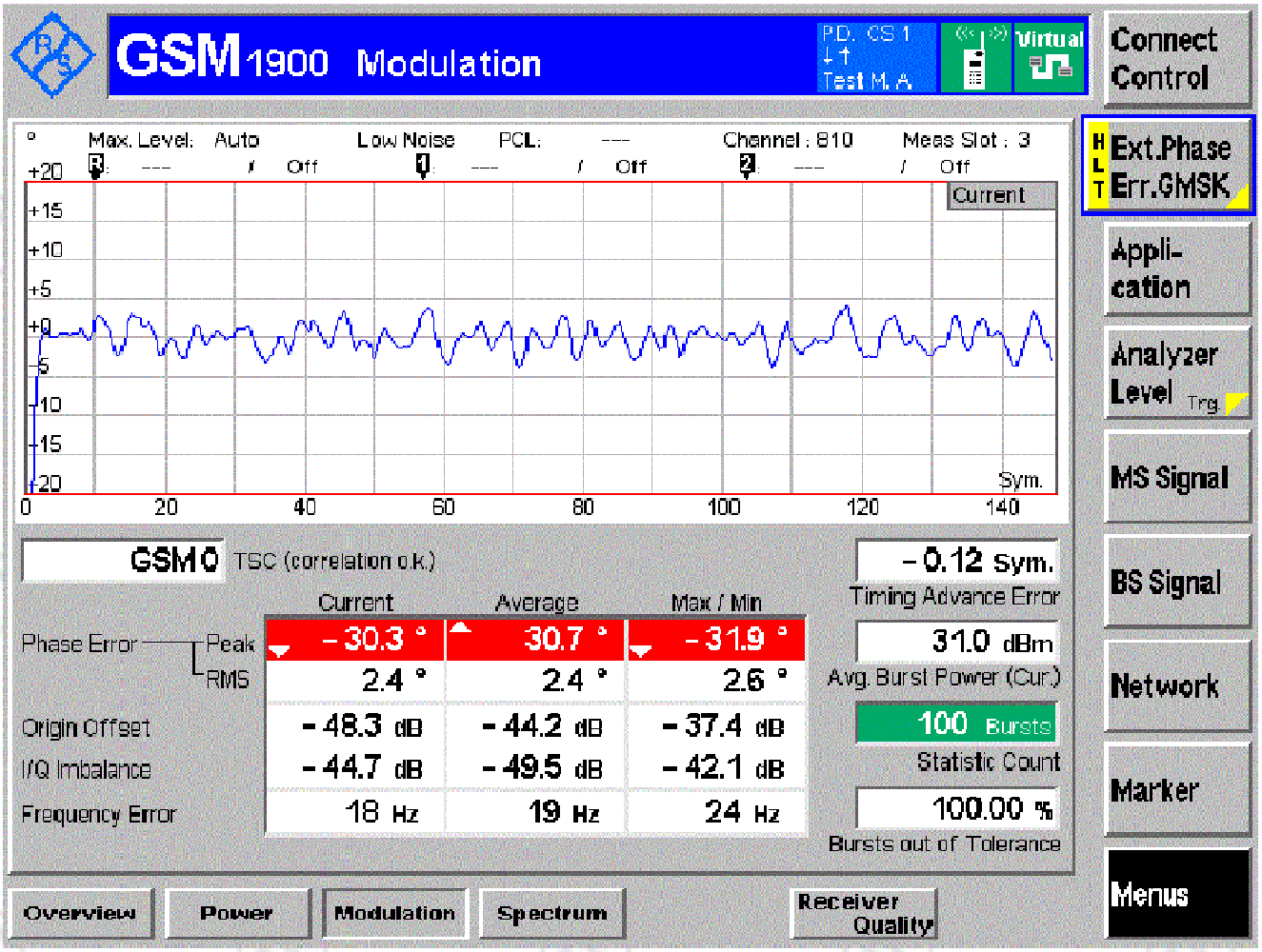

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Off
Current
+20
+15
+10
+5
+0
-5
-10
-15
-20
0
20
40
60
80
100
120
140
Sym.
GSM
TSC (correlation o.k.)
-0.16 Sym.
Timing Advance Error
Current
Average
Max / Min
Phase Error
Peak
RMS
-30.1 °
30.7 °
-32.5 °
2.3 °
2.4 °
2.6 °
Origin Offset
-46.2 dB
-44.3 dB
-37.3 dB
I/Q Imbalance
-61.4 dB
-49.7 dB
-42.6 dB
Frequency Error
25 Hz
20 Hz
28 Hz
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

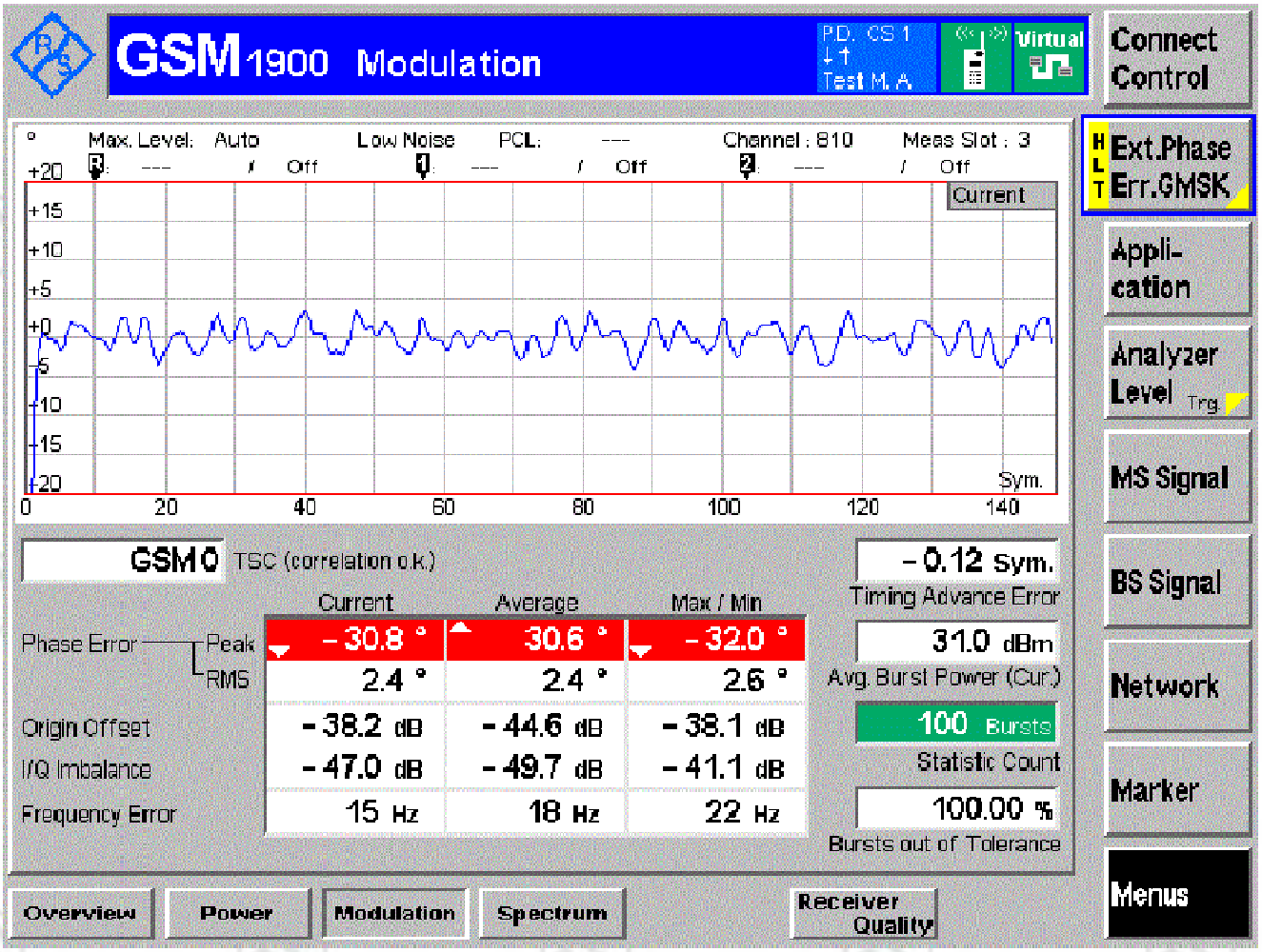

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-30.1 °
30.6 °
-32.3 °
2.4 °
2.4 °
2.7 °
Origin Offset
-44.8 dB
-44.6 dB
-35.8 dB
I/Q Imbalance
-53.0 dB
-48.9 dB
-40.4 dB
Frequency Error
15 Hz
16 Hz
22 Hz
-0.16 Sym.
Timing Advance Error
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

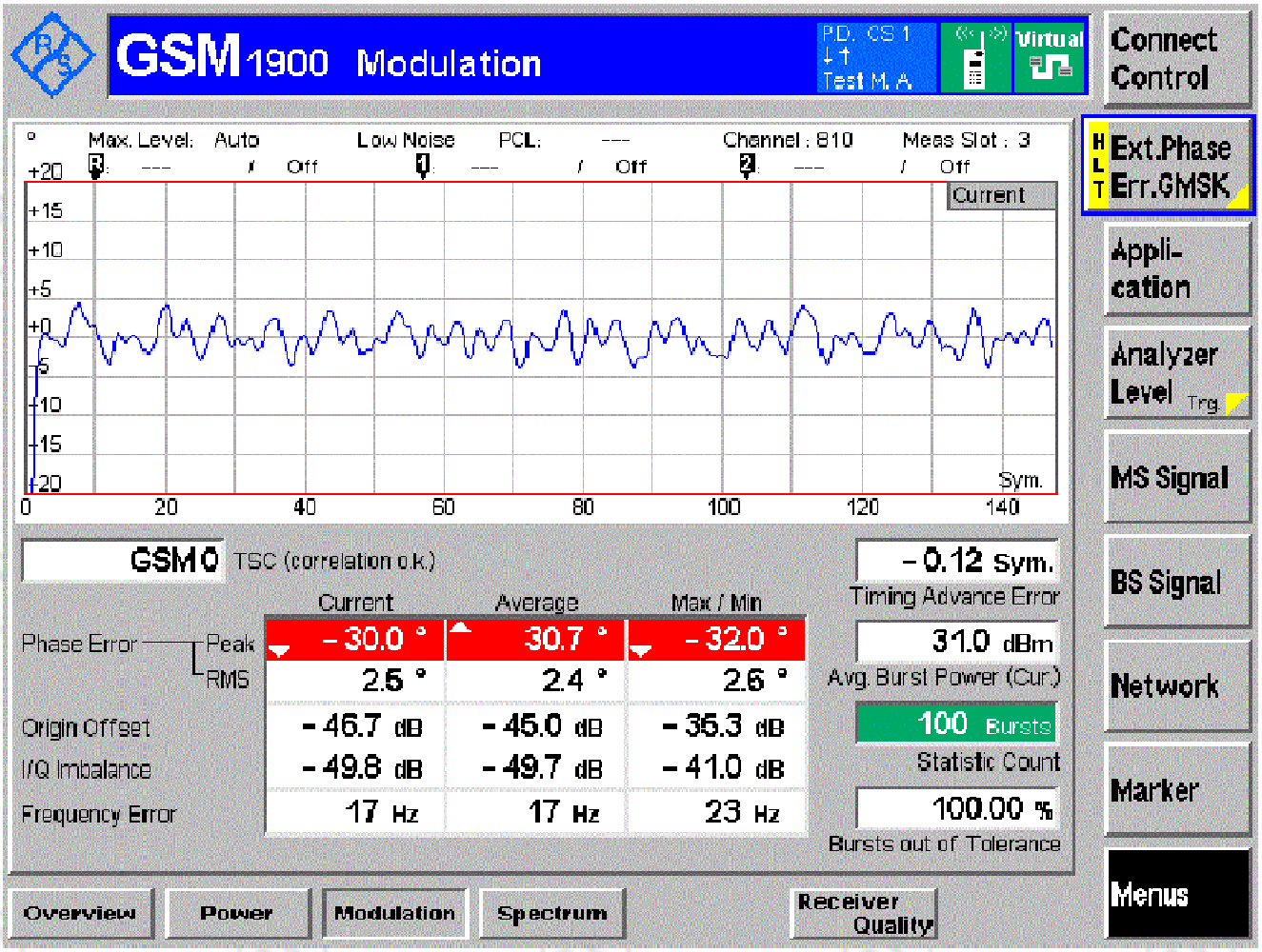

GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-30.5 °
30.6 °
-32.2 °
2.4 °
2.4 °
2.7 °
Origin Offset
-59.5 dB
-45.1 dB
-37.3 dB
I/Q Imbalance
-49.1 dB
-48.8 dB
-39.1 dB
Frequency Error
14 Hz
21 Hz
27 Hz
-0.15 Sym.
Timing Advance Error
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality


GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
Current
Average
Max / Min
Phase Error
Peak
RMS
-30.3 °
30.6 °
-32.0 °
2.5 °
2.4 °
2.7 °
Origin Offset
-47.8 dB
-44.2 dB
-36.5 dB
I/Q Imbalance
-54.5 dB
-49.5 dB
-40.6 dB
Frequency Error
0 Hz
3 Hz
10 Hz
-0.15 Sym.
Timing Advance Error
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality


GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Off
Current
+20
+15
+10
+5
+0
-5
-10
-15
-20
0
20
40
60
80
100
120
140
Sym.
GSM
TSC (correlation o.k.)
-0.14 Sym.
Timing Advance Error
Current
Average
Max / Min
Phase Error
Peak
RMS
-31.2 °
30.7 °
-32.0 °
2.4 °
2.4 °
2.7 °
Origin Offset
-42.6 dB
-44.4 dB
-36.3 dB
I/Q Imbalance
-50.9 dB
-49.0 dB
-41.2 dB
Frequency Error
10 Hz
10 Hz
16 Hz
31.1 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality


GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Off
Current
+20
+15
+10
+5
+0
-5
-10
-15
-20
0
20
40
60
80
100
120
140
Sym.
GSM
TSC (correlation o.k.)
-0.12 Sym.
Timing Advance Error
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Current
Average
Max / Min
Phase Error
Peak
RMS
-30.3 °
30.7 °
-31.9 °
2.4 °
2.4 °
2.6 °
Origin Offset
-48.3 dB
-44.2 dB
-37.4 dB
I/Q Imbalance
-44.7 dB
-49.5 dB
-42.1 dB
Frequency Error
18 Hz
19 Hz
24 Hz
Overview
Power
Modulation
Spectrum
Receiver Quality


GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Current
Sym.
GSM
TSC (correlation o.k.)
- 0.12 Sym.
Timing Advance Error
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Current
Average
Max / Min
Phase Error
Peak
RMS
- 30.8 °
30.6 °
- 32.0 °
2.4 °
2.4 °
2.6 °
Origin Offset
I/Q Imbalance
Frequency Error
- 38.2 dB
- 44.6 dB
- 38.1 dB
- 47.0 dB
- 49.7 dB
- 41.1 dB
15 Hz
18 Hz
22 Hz
Overview
Power
Modulation
Spectrum
Receiver Quality


GSM1900 Modulation
P.D. CS 1
Test M. A.
Virtual
Connect Control
Ext.Phase Err.GMSK
Appli-cation
Analyzer Level
Trg
MS Signal
BS Signal
Network
Marker
Menus
Max. Level: Auto
Low Noise
PCL:
Channel : 810
Meas Slot : 3
Off
Current
+20
+15
+10
+5
+0
-5
-10
-15
-20
0
20
40
60
80
100
120
140
Sym.
GSM
TSC (correlation o.k.)
-0.12 Sym.
Timing Advance Error
Current
Average
Max / Min
Phase Error
Peak
RMS
-30.0 °
30.7 °
-32.0 °
2.5 °
2.4 °
2.6 °
Origin Offset
-46.7 dB
-45.0 dB
-35.3 dB
I/Q Imbalance
-49.8 dB
-49.7 dB
-41.0 dB
Frequency Error
17 Hz
17 Hz
23 Hz
31.0 dBm
Avg. Burst Power (Cur.)
100 Bursts
Statistic Count
100.00 %
Bursts out of Tolerance
Overview
Power
Modulation
Spectrum
Receiver Quality

Appendix G) Effective Radiated Power of Transmitter (ERP/EIRP)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	peak	120kHz	300kHz	Peak
Above 1GHz	Peak	1MHz	3MHz	Peak

Measurement Procedure:

Below 1GHz test procedure as below:

1). The EUT was powered ON and placed on a 0.8m high table in the chamber., mount the equipment with the manufacturer specified antenna in a vertical orientation on a manufacturer. The antenna of the transmitter was extended to its maximum length.
2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
4). The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
5). A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions.
6). The output power into the substitution antenna was then measured.
7). Steps 5) and 6) were repeated with both antennas polarization.
8). Calculate power in dBm by the following formula:

ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)

where:

Pg is the generator output power into the substitution antenna.

Above 1GHz test procedure as below:

1). Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber ; up to 18GHz a measurement distance of 3 meters is used, Above 18GHz the distance is 1 meter.
2). Calculate power in dBm by the following formula:

EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi)
EIRP=ERP+2.15dB

where:

Pg is the generator output power into the substitution antenna.

3).Test the EUT in the lowest channel, the middle channel the Highest channel
The radiation measurements are performed in X, Y, Z axis positioning for EUT operation mode,And found the X axis positioning which it is worse case.

Repeat above procedures until all frequencies measured was complete.

Limit:

Mode	GSM 850	GSM 1900
Frequency	824 – 849MHz	1850 – 1910MHz
Limit	38.45dBm（7W）	33.01dBm（2W）

Measurement Data

GPRS 850						
Channel/fc (MHz)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
128/824.2	61	18.37	38.45	-20.08	Pass	H
	360	23.76	38.45	-14.69	Pass	V
190/836.6	312	17.22	38.45	-21.23	Pass	H
	38	23.91	38.45	-14.54	Pass	V
251/848.8	305	17.22	38.45	-21.23	Pass	H
	20	23.12	38.45	-15.33	Pass	V

GPRS 1900						
Channel/fc (MHz)	Azimuth (deg)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
512/1850.2	307	16.06	33.01	-16.95	Pass	H
	204	16.47	33.01	-16.54	Pass	V
661/1880.0	297	15.85	33.01	-17.16	Pass	H
	344	16.62	33.01	-16.39	Pass	V
810/1909.8	308	16.06	33.01	-16.95	Pass	H
	334	16.91	33.01	-16.1	Pass	V

Appendix H) Field strength of spurious radiation

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-30MHz	Peak	10kHz	30kHz	Peak
30MHz-1GHz	Peak	120kHz	300kHz	Peak
Above 1GHz	Peak	1MHz	3MHz	Peak

Measurement Procedure:

Below 1GHz test procedure as below:

1). The EUT was powered ON and placed on a 0.8m high table in the chamber.,mount the equipment with the manufacturer specified antenna in a vertical orientation on a manufacturer. The antenna of the transmitter was extended to its maximum length.

2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made(the radiation measurements are performed in X, Y, Z axis positioning be lower 30 MHz.)

3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.

4). The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.

5). A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions.

6). The output power into the substitution antenna was then measured.

7). Steps 5) and 6) were repeated with both antennas polarized and EUT .

8) Calculate power in dBm by the following formula:

ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)

where:

Pg is the generator output power into the substitution antenna.

Above 1GHz test procedure as below:

1)Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber ; up to 18GHz a measurement distance of 3 meters is used, Above 18GHz the distance is 1 meter.

2) Calculate power in dBm by the following formula:

EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi)

EIRP=ERP+2.15dB

where:

Pg is the generator output power into the substitution antenna.

3.Test the EUT in the lowest channel, the middle channel the Highest channel

The radiation measurements are performed in X, Y, Z axis positioning for EUT operation mode,And found the X axis positioning which it is worse case.

Repeat above procedures until all frequencies measured was complete.

Limit: Attenuated at least 43+10log(P)

Test data:

Mode:	GPRS						
Band:	850		Channel:		190		
Remark:							
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	44.5529	150	209	-73.98	-13.00	60.98	Pass	Horizontal
2	89.1818	150	359	-66.93	-13.00	53.93	Pass	Horizontal
3	168.7377	150	359	-68.79	-13.00	55.79	Pass	Horizontal
4	324.9390	150	359	-71.25	-13.00	58.25	Pass	Horizontal
5	411.8684	150	327	-72.52	-13.00	59.52	Pass	Horizontal
6	876.0092	150	359	-56.02	-13.00	43.02	Pass	Horizontal
7	1319.0319	150	1	-53.31	-13.00	40.31	Pass	Horizontal
8	3347.2674	150	228	-46.81	-13.00	33.81	Pass	Horizontal
9	5045.3523	150	36	-51.14	-13.00	38.14	Pass	Horizontal
10	8151.2576	150	344	-45.94	-13.00	32.94	Pass	Horizontal
11	13012.2506	150	267	-43.93	-13.00	30.93	Pass	Horizontal
12	14472.5736	150	57	-42.91	-13.00	29.91	Pass	Horizontal

Mode:	GPRS						
Band:	850		Channel:		190		
Remark:							
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	53.6727	150	313	-63.42	-13.00	50.42	Pass	Vertical
2	87.0474	150	266	-73.95	-13.00	60.95	Pass	Vertical
3	120.0340	150	266	-72.33	-13.00	59.33	Pass	Vertical
4	208.9038	150	266	-67.90	-13.00	54.90	Pass	Vertical
5	440.0040	150	173	-69.64	-13.00	56.64	Pass	Vertical
6	876.0092	150	1	-44.47	-13.00	31.47	Pass	Vertical
7	1673.6674	150	301	-49.80	-13.00	36.80	Pass	Vertical
8	2504.7505	150	46	-50.52	-13.00	37.52	Pass	Vertical
9	3507.0254	150	74	-40.24	-13.00	27.24	Pass	Vertical
10	4951.5976	150	228	-51.06	-13.00	38.06	Pass	Vertical
11	8242.7621	150	134	-46.34	-13.00	33.34	Pass	Vertical
12	14448.5724	150	36	-42.45	-13.00	29.45	Pass	Vertical

Mode:	GPRS						
Band:	1900		Channel:		661		
Remark:							

NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	44.7469	150	255	-74.49	-13.00	61.49	Pass	Horizontal
2	91.8984	150	359	-66.89	-13.00	53.89	Pass	Horizontal
3	170.4841	150	336	-69.37	-13.00	56.37	Pass	Horizontal
4	296.9974	150	80	-73.37	-13.00	60.37	Pass	Horizontal
5	413.8088	150	325	-72.74	-13.00	59.74	Pass	Horizontal
6	687.5975	150	325	-69.23	-13.00	56.23	Pass	Horizontal
7	1377.0377	150	172	-52.37	-13.00	39.37	Pass	Horizontal
8	1947.4947	150	242	-40.91	-13.00	27.91	Pass	Horizontal
9	2408.5409	150	1	-45.36	-13.00	32.36	Pass	Horizontal
10	3897.0449	150	36	-42.10	-13.00	29.10	Pass	Horizontal
11	8155.7578	150	172	-46.40	-13.00	33.40	Pass	Horizontal
12	14324.0662	150	95	-42.56	-13.00	29.56	Pass	Horizontal

Mode:	GPRS						
Band:	1900		Channel:		661		
Remark:							

NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	53.4787	150	10	-62.27	-13.00	49.27	Pass	Vertical
2	86.8534	150	231	-74.80	-13.00	61.80	Pass	Vertical
3	208.9038	150	126	-67.83	-13.00	54.83	Pass	Vertical
4	413.0326	150	196	-69.82	-13.00	56.82	Pass	Vertical
5	625.1170	150	21	-68.81	-13.00	55.81	Pass	Vertical
6	875.0390	150	45	-65.97	-13.00	52.97	Pass	Vertical
7	1298.2298	150	150	-50.89	-13.00	37.89	Pass	Vertical
8	1947.8948	150	348	-40.69	-13.00	27.69	Pass	Vertical
9	2424.7425	150	290	-21.10	-13.00	8.10	Pass	Vertical
10	3894.7947	150	360	-48.42	-13.00	35.42	Pass	Vertical
11	8157.2579	150	360	-45.95	-13.00	32.95	Pass	Vertical
12	14184.5592	150	151	-42.70	-13.00	29.70	Pass	Vertical

Note:
1) Scan from 9kHz to 25GHz, the disturbance above 15GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.