CDMA2000终端测试简介

R&S 中国培训中心

www.rohde-schwarz.com.cn

CDMA测试主要分为：

- 发射机测试
- 接收机测试

TIA/EIA 关于CDMA的测试标准：

空中接口标准	基站测试标准	移动台测试标准
TIA/EIA/IS-95A	TIA/EIA/IS-97A	TIA/EIA/IS-98A
……	TIA/EIA/IS-97B	TIA/EIA/IS-98B
……	……	TIA/EIA/IS-98C
TIA/EIA/IS-2000	……	TIA/EIA/IS-98D

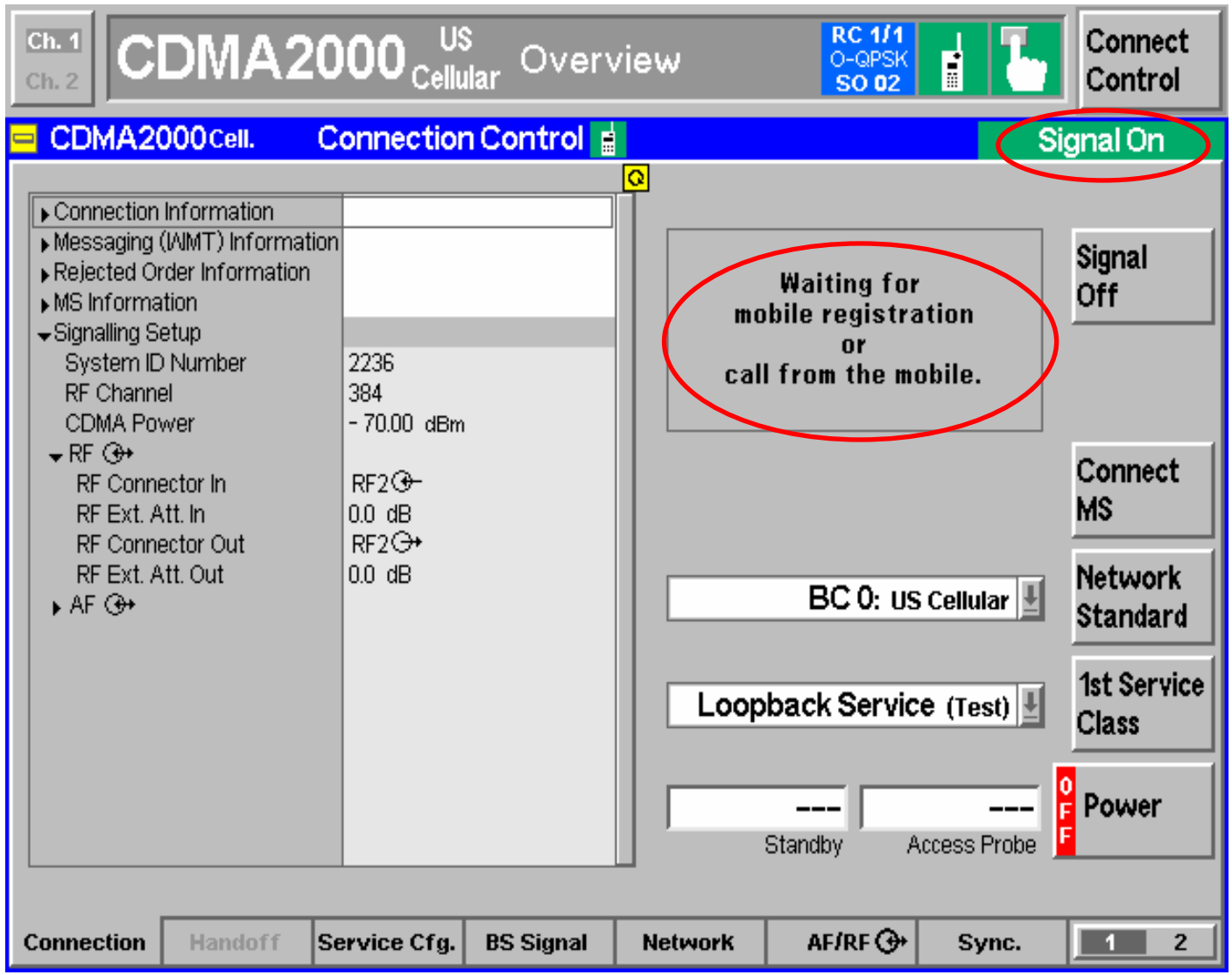
CMU200测试要点

- 概要: (并行测量)
  - 功率，频率误差，发射时间错误，波形质量，边带压制
  - 报告的导频功率
  - 误帧率
- 功率:
  - 最大/最小输出功率O-QPSK, H-PSK
  - 门控输出功率 (RC1/2)
  - 开环时间响应
  - 待机/接入探针功率
  - 可配置的功率控制比特模式
  - 可配置的功率控制步长
  - 频谱测量
  - 功率 vs 帧 (非信令), 也称为 “发射扫描”
- 调制:
  - 概要, EVM, 幅度误差，频率误差，IQ分析，
  - 支持HPSK（RC3－RC6） 和 O-QPSK（RC1，RC2）

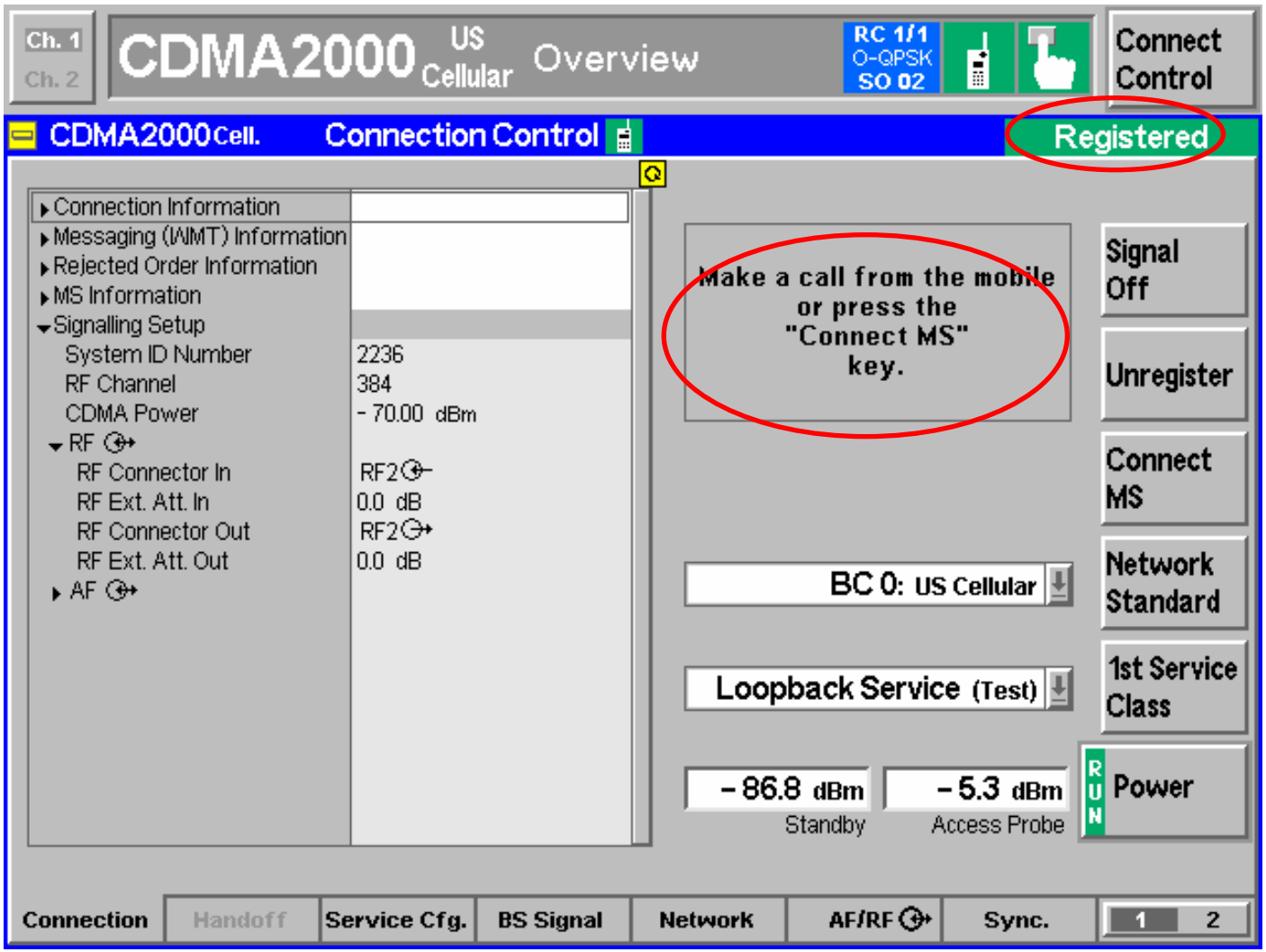
CMU200测试要点

- 频谱测量
- 码域功率
  - CDP (码域功率)
  - PCDEP (峰值码域功率误差)
  - 信道功率
- 接收机质量
  - FCH的FER
  - SCH0 和 SCH1的FER – 测试数据业务选项 (SO32)
  - 前向功率控制
  - FER 注入
- 音频测量
  - 语音编码器 (8K, 8K Enhanced, 13K)
  - Analyzer, Generator

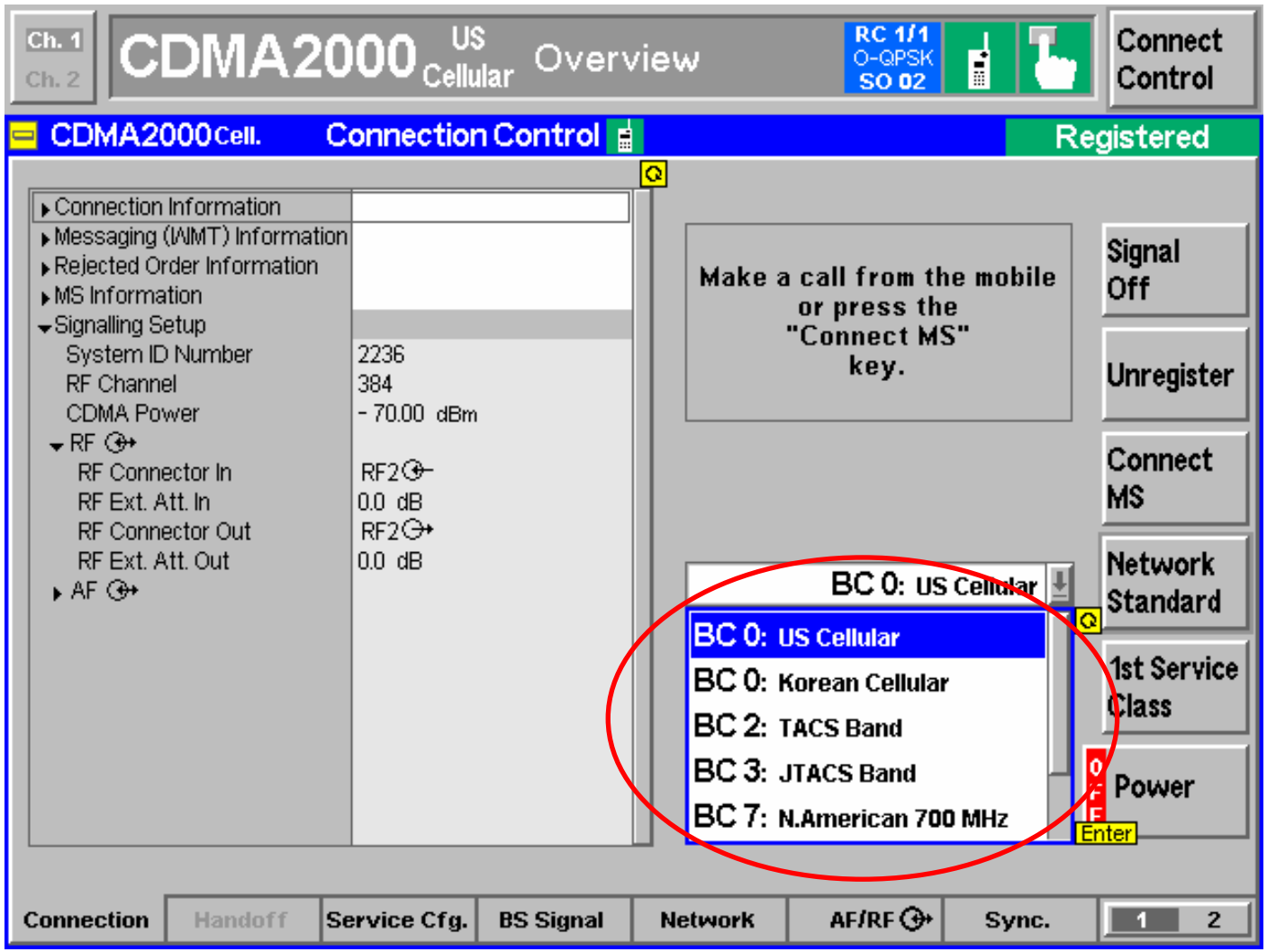
打开基站信号


Ch. 1
Ch. 2
CDMA2000 US Cellular Overview
RC 1/1
O-QPSK
SO 02
Connect Control
CDMA2000 Cell.
Connection Control
Signal On
Connection Information
Messaging (WMT) Information
Rejected Order Information
MS Information
Signalling Setup
System ID Number 2236
RF Channel 384
CDMA Power - 70.00 dBm
RF
RF Connector In RF2
RF Ext. Att. In 0.0 dB
RF Connector Out RF2
RF Ext. Att. Out 0.0 dB
AF
Waiting for mobile registration or call from the mobile.
Signal Off
Connect MS
BC 0: US Cellular
Network Standard
Loopback Service (Test)
1st Service Class
--- Standby
--- Access Probe
OFF Power
Connection
Handoff
Service Cfg.
BS Signal
Network
AF/RF
Sync.
1 2

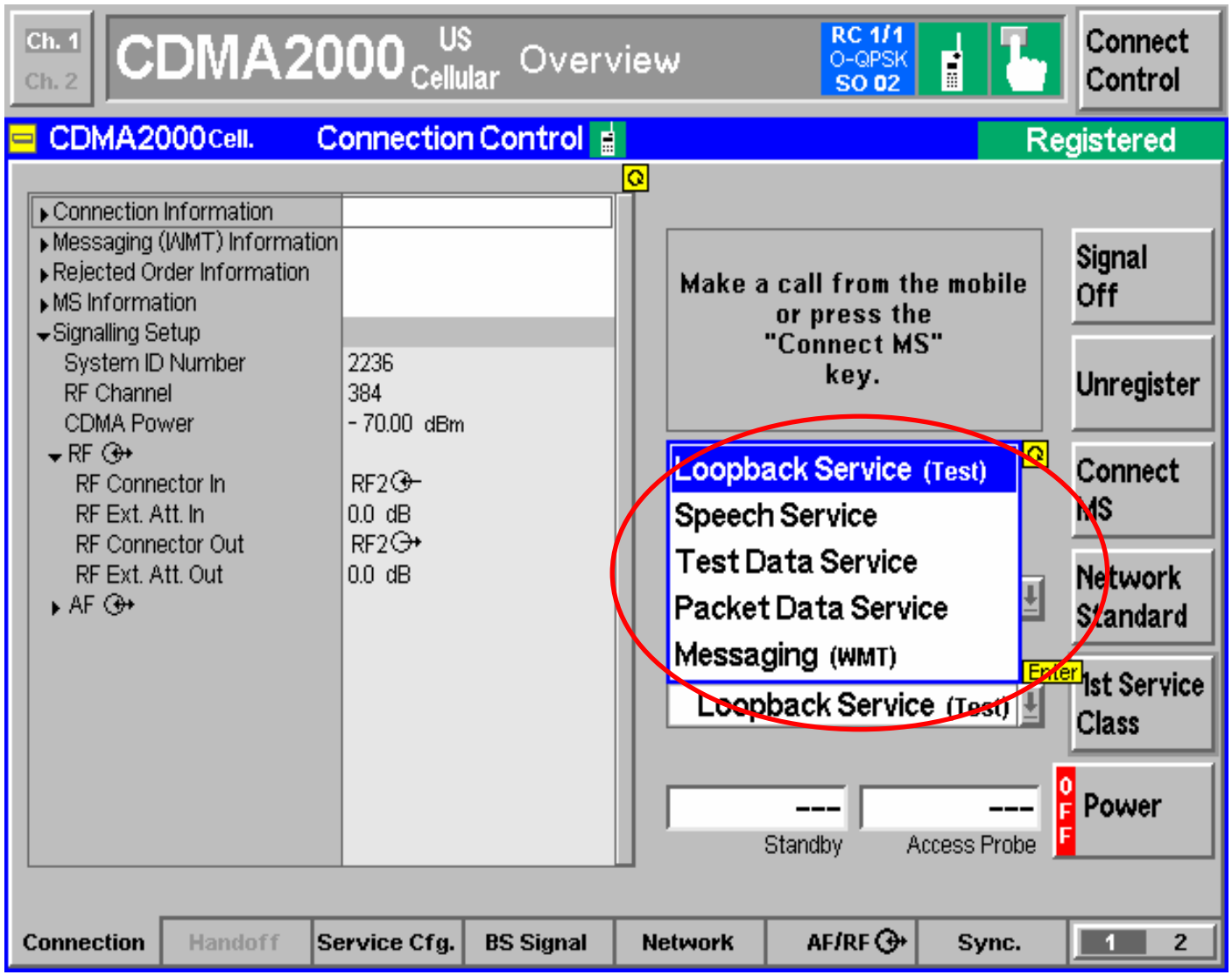
已登记


Ch. 1
Ch. 2
CDMA2000 US Cellular Overview
RC 1/1
O-QPSK
SO 02
Connect Control
CDMA2000 Cell.
Connection Control
Registered
Connection Information
Messaging (IMT) Information
Rejected Order Information
MS Information
Signalling Setup
System ID Number 2236
RF Channel 384
CDMA Power - 70.00 dBm
RF
RF Connector In RF2
RF Ext. Att. In 0.0 dB
RF Connector Out RF2
RF Ext. Att. Out 0.0 dB
AF
Make a call from the mobile or press the "Connect MS" key.
Signal Off
Unregister
Connect MS
Network Standard
BC 0: US Cellular
1st Service Class
Loopback Service (Test)
- 86.8 dBm
Standby
- 5.3 dBm
Access Probe
RUN
Power
Connection
Handoff
Service Cfg.
BS Signal
Network
AF/RF
Sync.
1
2

频段选择


Ch. 1
Ch. 2
CDMA2000 US Cellular Overview
RC 1/1
O-QPSK
SO 02
Connect Control
CDMA2000 Cell.
Connection Control
Registered
Connection Information
Messaging (WMT) Information
Rejected Order Information
MS Information
Signalling Setup
System ID Number 2236
RF Channel 384
CDMA Power - 70.00 dBm
RF
RF Connector In RF2
RF Ext. Att. In 0.0 dB
RF Connector Out RF2
RF Ext. Att. Out 0.0 dB
AF
Make a call from the mobile or press the "Connect MS" key.
Signal Off
Unregister
Connect MS
Network Standard
1st Service Class
Power
BC 0: US Cellular
BC 0: US Cellular
BC 0: Korean Cellular
BC 2: TACS Band
BC 3: JTACS Band
BC 7: N.American 700 MHz
Enter
Connection
Handoff
Service Cfg.
BS Signal
Network
AF/RF
Sync.
1
2

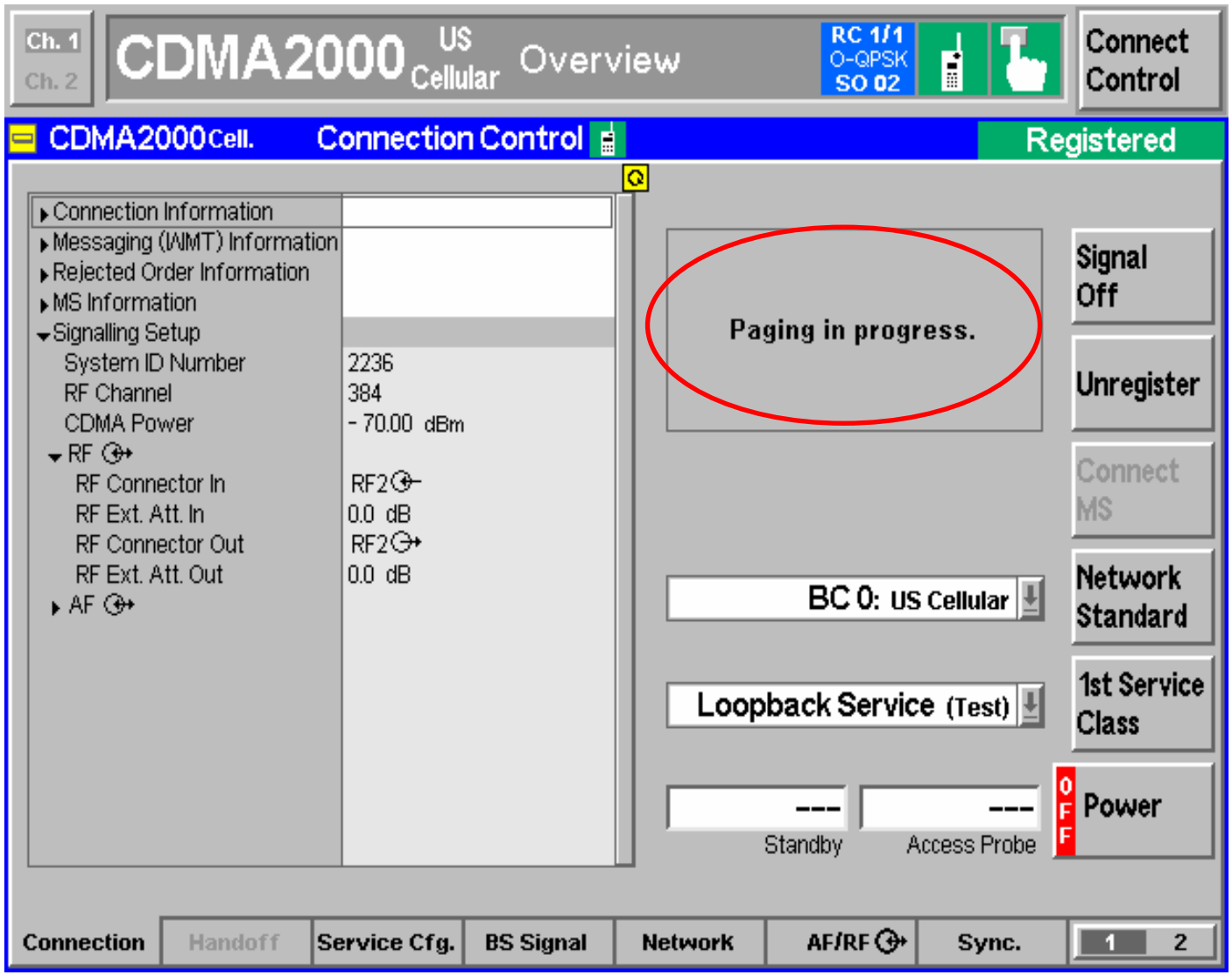
业务选择


Ch. 1
Ch. 2
CDMA2000 US Cellular Overview
RC 1/1
O-QPSK
SO 02
Connect Control
CDMA2000 Cell.
Connection Control
Registered
Connection Information
Messaging (WMT) Information
Rejected Order Information
MS Information
Signalling Setup
System ID Number 2236
RF Channel 384
CDMA Power - 70.00 dBm
RF
RF Connector In RF2
RF Ext. Att. In 0.0 dB
RF Connector Out RF2
RF Ext. Att. Out 0.0 dB
AF
Make a call from the mobile or press the "Connect MS" key.
Loopback Service (Test)
Speech Service
Test Data Service
Packet Data Service
Messaging (WMT)
Enter
Loopback Service (Test)
Signal Off
Unregister
Connect MS
Network Standard
Ist Service Class
Power
OFF

Standby

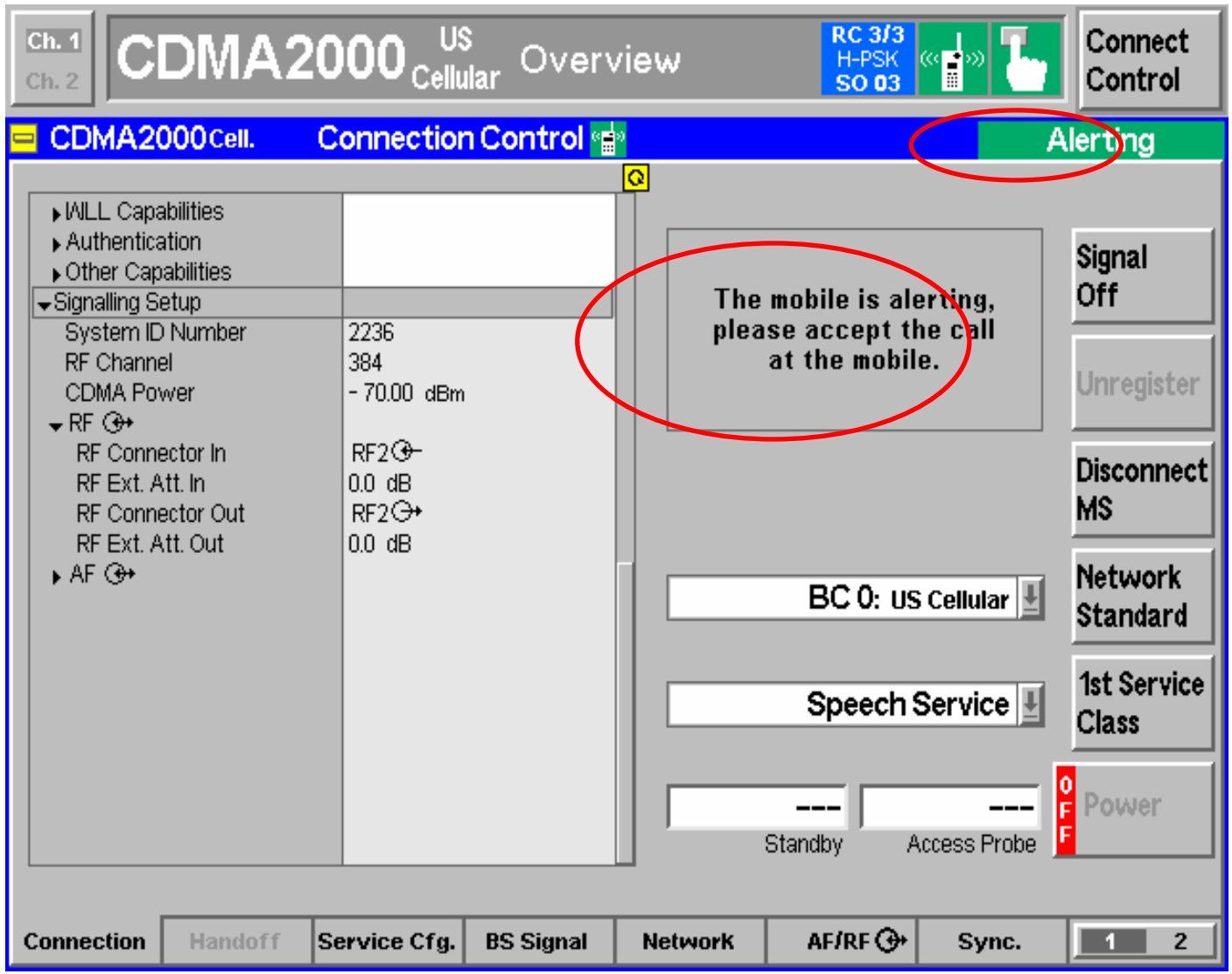
Access Probe
Connection
Handoff
Service Cfg.
BS Signal
Network
AF/RF
Sync.
1
2

寻呼


Ch. 1
Ch. 2
CDMA2000 US Cellular Overview
RC 1/1
O-QPSK
SO 02
Connect Control
CDMA2000 Cell.
Connection Control
Registered
Connection Information
Messaging (WMT) Information
Rejected Order Information
MS Information
Signalling Setup
System ID Number 2236
RF Channel 384
CDMA Power - 70.00 dBm
RF
RF Connector In RF2
RF Ext. Att. In 0.0 dB
RF Connector Out RF2
RF Ext. Att. Out 0.0 dB
AF
Paging in progress.
Signal Off
Unregister
Connect MS
BC 0: US Cellular
Network Standard
Loopback Service (Test)
1st Service Class

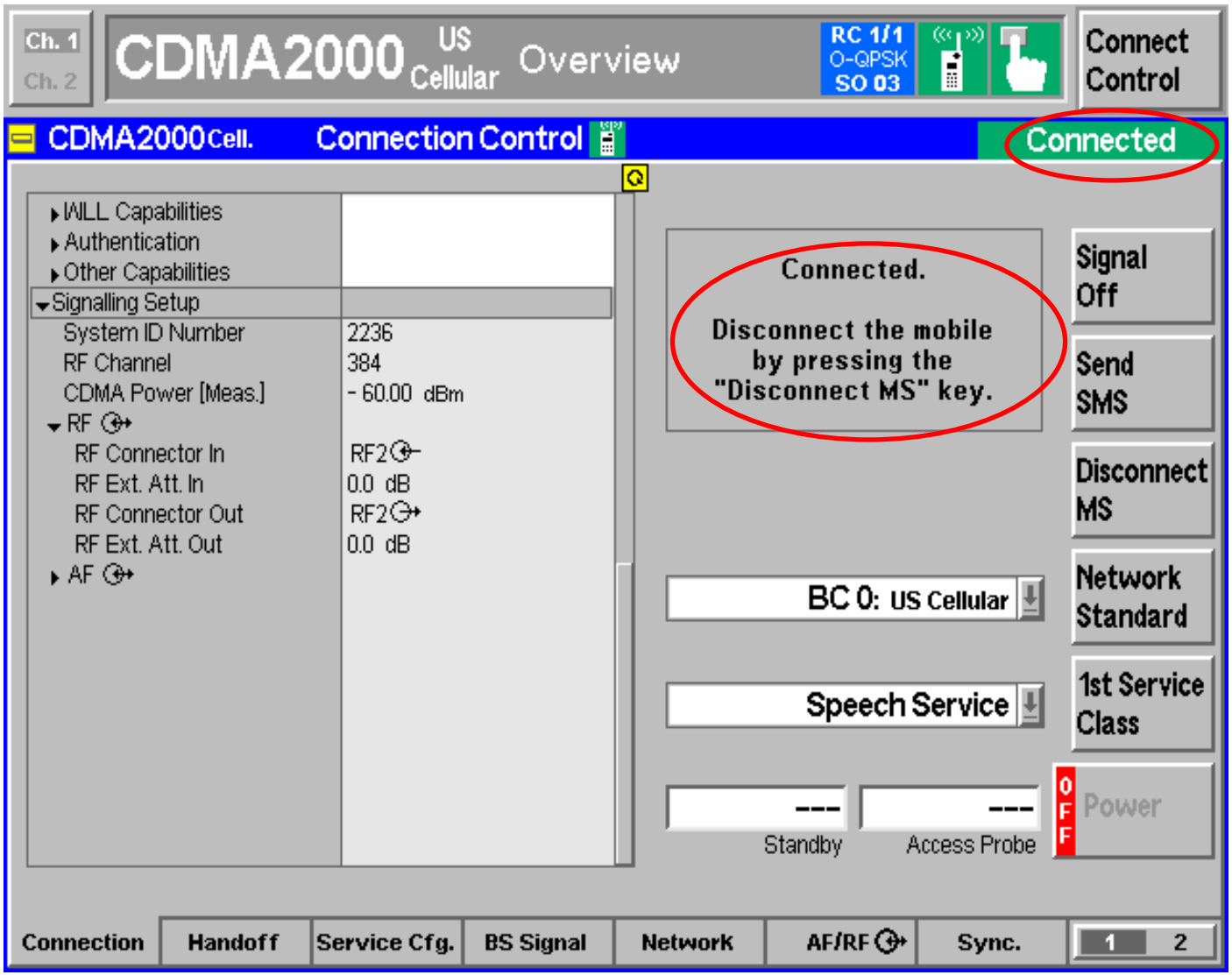
Standby
Access Probe
OFF
Power
Connection
Handoff
Service Cfg.
BS Signal
Network
AF/RF
Sync.
1
2

振铃


Ch. 1
Ch. 2
CDMA2000 US Cellular Overview
RC 3/3
H-PSK
SO 03
Connect Control
CDMA2000 Cell.
Connection Control
Alerting
WLL Capabilities
Authentication
Other Capabilities
Signalling Setup
System ID Number 2236
RF Channel 384
CDMA Power - 70.00 dBm
RF
RF Connector In RF2
RF Ext. Att. In 0.0 dB
RF Connector Out RF2
RF Ext. Att. Out 0.0 dB
AF
The mobile is alerting, please accept the call at the mobile.
Signal Off
Unregister
Disconnect MS
Network Standard
BC 0: US Cellular
1st Service Class
Speech Service
Power
OFF

Standby
Access Probe
Connection
Handoff
Service Cfg.
BS Signal
Network
AF/RF
Sync.
1
2

已连接


Ch. 1
Ch. 2
CDMA2000 US Cellular Overview
RC 1/1
O-QPSK
SO 03
Connect Control
CDMA2000 Cell.
Connection Control
Connected
IWLL Capabilities
Authentication
Other Capabilities
Signalling Setup
System ID Number 2236
RF Channel 384
CDMA Power [Meas.] - 60.00 dBm
RF
RF Connector In RF2
RF Ext. Att. In 0.0 dB
RF Connector Out RF2
RF Ext. Att. Out 0.0 dB
AF
Connected.
Disconnect the mobile by pressing the "Disconnect MS" key.
Signal Off
Send SMS
Disconnect MS
Network Standard
BC 0: US Cellular
1st Service Class
Speech Service
Power
Standby
Access Probe
Connection
Handoff
Service Cfg.
BS Signal
Network
AF/RF
Sync.
1
2

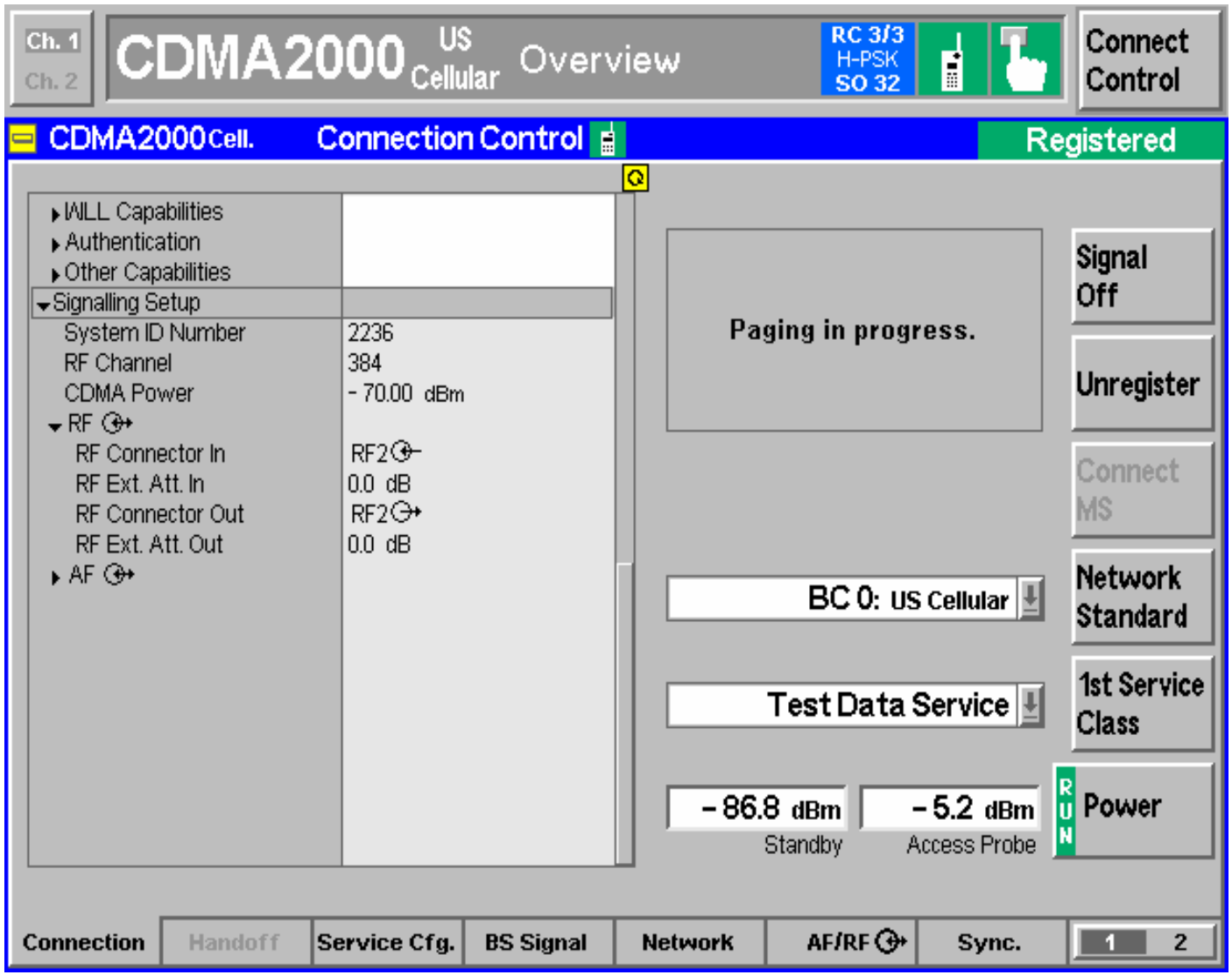
发射功率测量Tx Power Measurements

- ✓ 待机功率Standby Output Power
- ✓ 接入探针功率Access Probe Output Power
- ✓ 开环功控时间响应Time Response of Open Loop Power Control
- ✓ 门控输出功率Gated Output Power(RC1,2 Only)
- ✓ 最大功率Maximum RF Output Power
- ✓ 最小功率Minimum Controlled Output Power
- ✓ 开环功控范围Range of Open Loop Output Power
- ✓ 闭环功控范围Range of Closed Loop Power Control

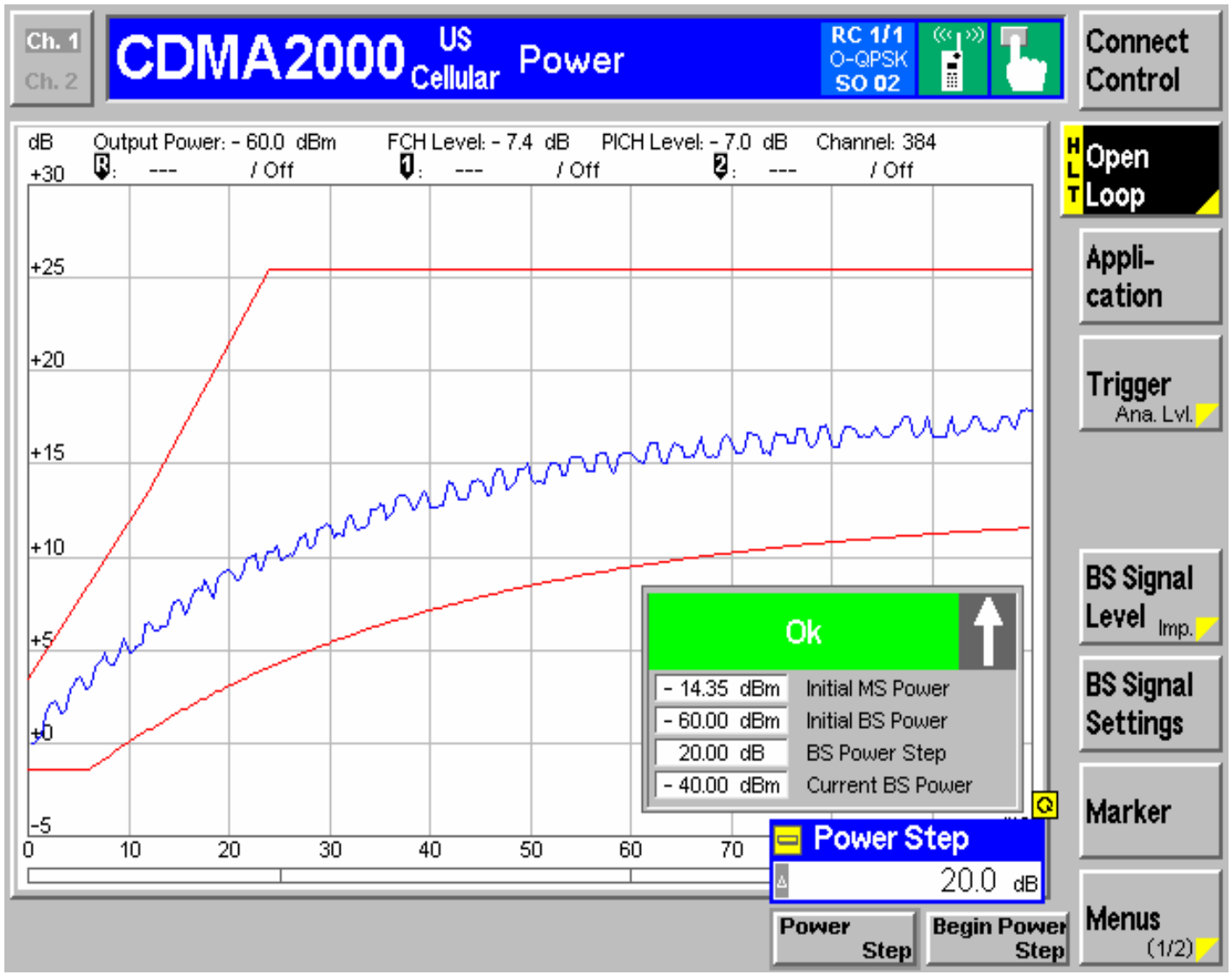
发射调制测量Tx Modulation Measurements

- 矢量幅度误差Error Vector Magnitude
- 幅度误差Magnitude Error
- 相位误差Phase Error
- ✓ 频率误差Frequency error
- ✓ 发送定时误差Transmit Time error
- ✓ 波形质量Waveform Quality (ρ)
- 载波馈通Carrier Feedthrough
- ✓ 码域功率Code Domain Power(RC3 - RC6)

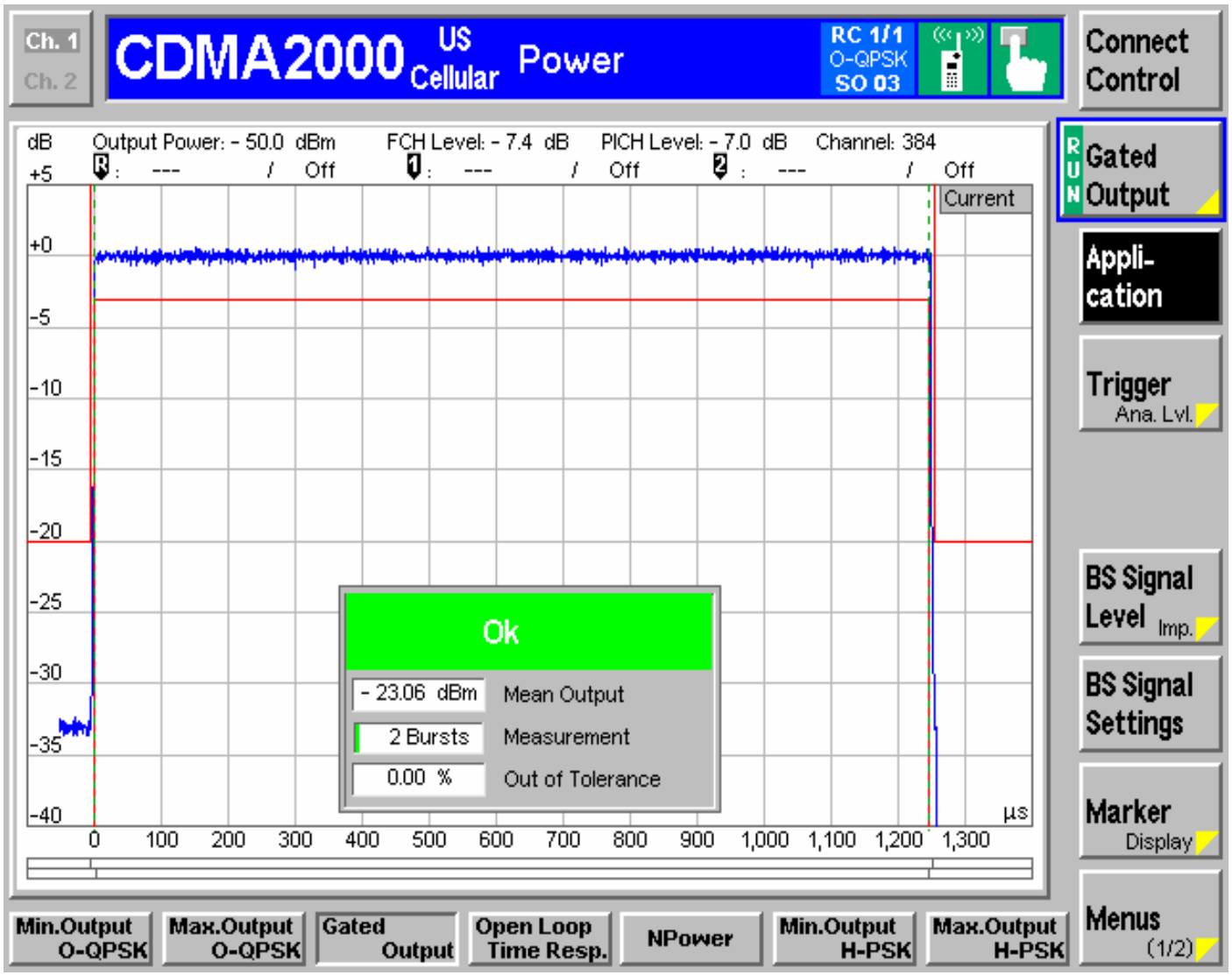
待机功率和接入探针测量



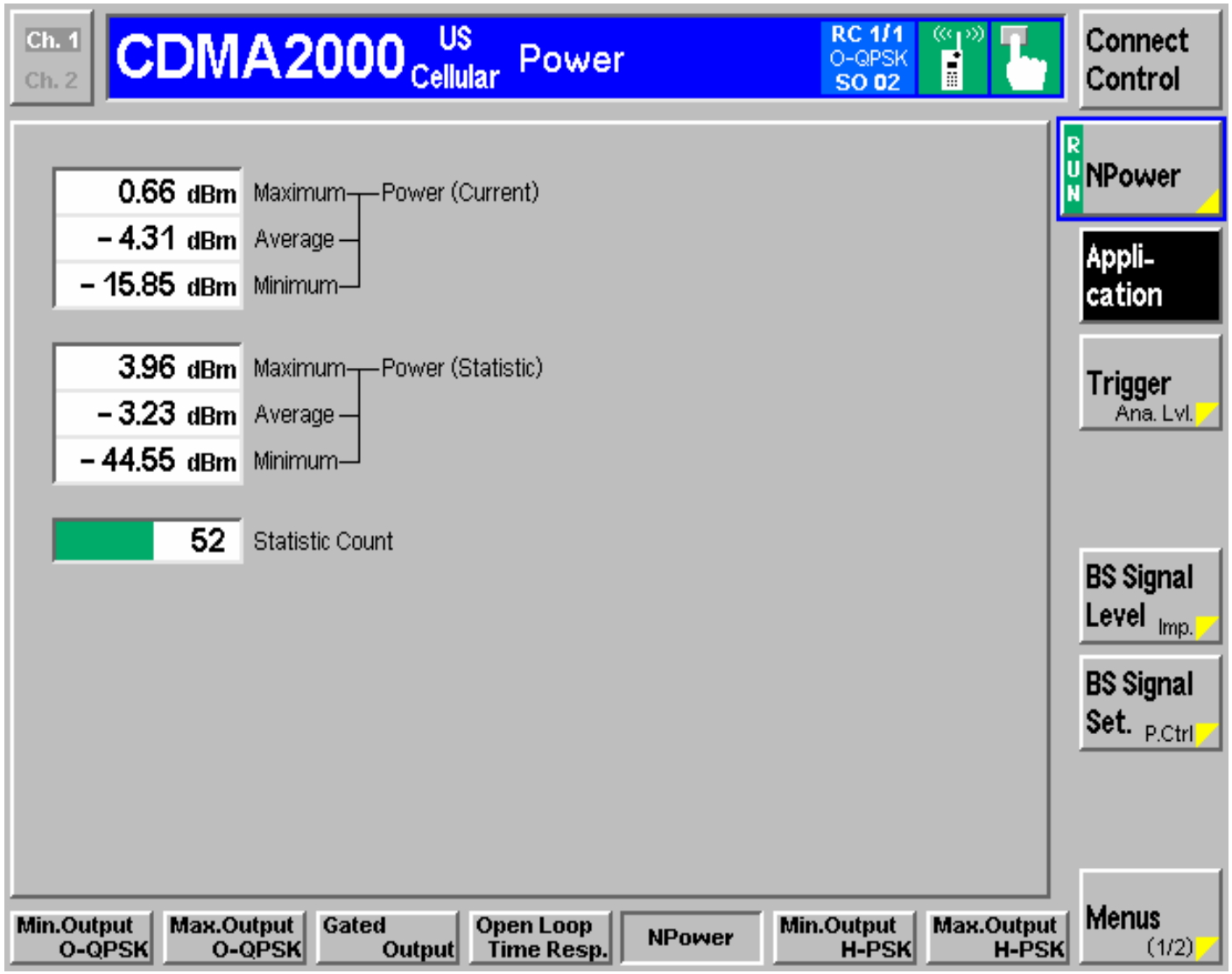
开环功率控制时间响应


Ch. 1
Ch. 2
CDMA2000 US Cellular Power
RC 1/1
O-QPSK
SO 02
Connect Control
dB
Output Power: - 60.0 dBm
FCH Level: - 7.4 dB
PICH Level: - 7.0 dB
Channel: 384
/ Off
+30
+25
+20
+15
+10
+5
+0
-5
0
10
20
30
40
50
60
70
Open Loop
Appli-cation
Trigger
Ana. Lvl.
BS Signal Level
Imp.
BS Signal Settings
Marker
Menus (1/2)
Ok
- 14.35 dBm
Initial MS Power
- 60.00 dBm
Initial BS Power
20.00 dB
BS Power Step
- 40.00 dBm
Current BS Power
Power Step
20.0 dB
Power Step
Begin Power Step

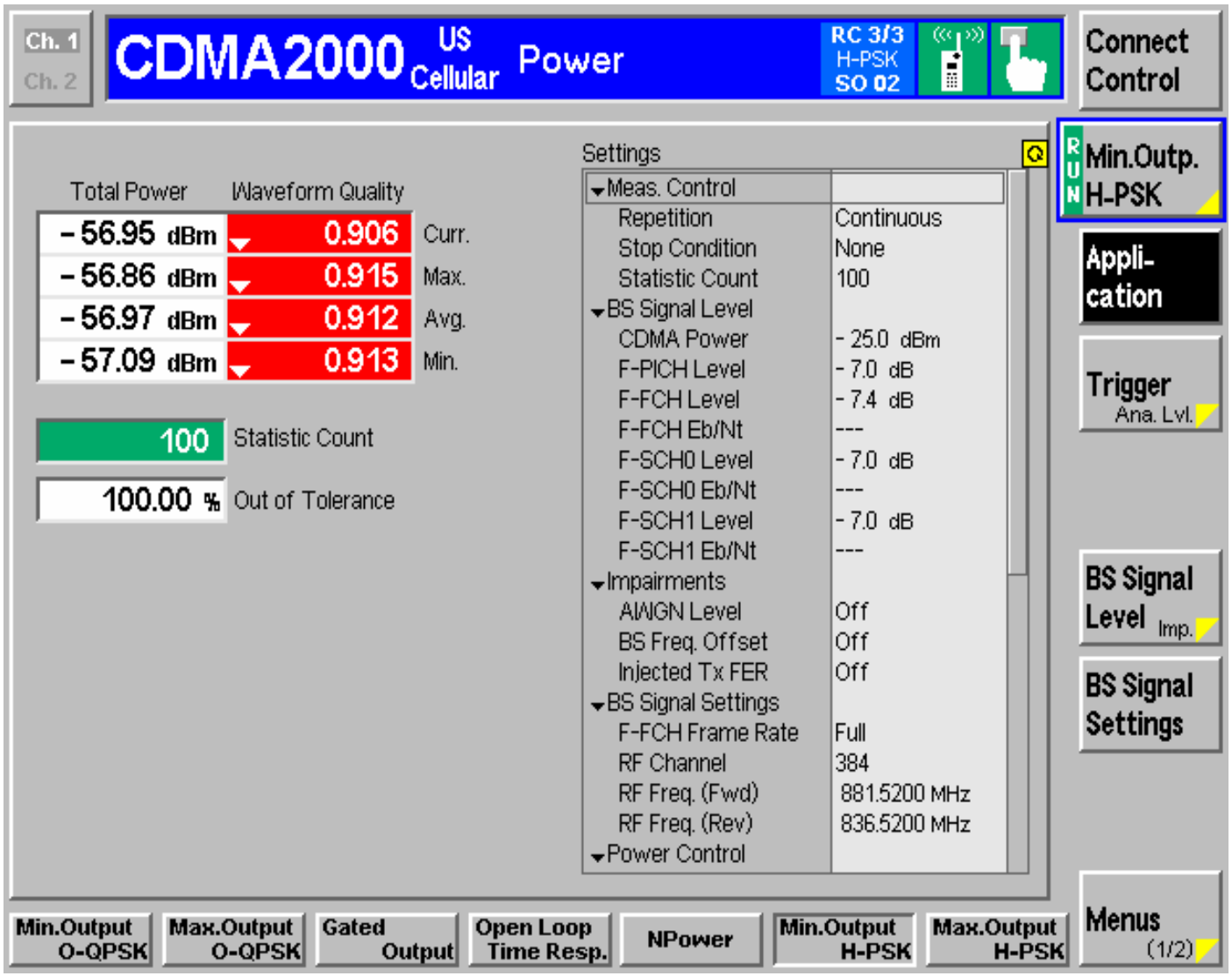
门控输出功率测量


Ch. 1
Ch. 2
CDMA2000 US Cellular Power
RC 1/1
O-QPSK
SO 03
Connect Control
dB
Output Power: - 50.0 dBm
FCH Level: - 7.4 dB
PICH Level: - 7.0 dB
Channel: 384
+5
+0
-5
-10
-15
-20
-25
-30
-35
-40
Current
Ok
- 23.06 dBm
Mean Output
2 Bursts
Measurement
0.00 %
Out of Tolerance
µs
0
100
200
300
400
500
600
700
800
900
1,000
1,100
1,200
1,300
RUN Gated Output
Appli-cation
Trigger Ana. Lvl.
BS Signal Level Imp.
BS Signal Settings
Marker Display
Menus (1/2)
Min.Output O-QPSK
Max.Output O-QPSK
Gated Output
Open Loop Time Resp.
NPower
Min.Output H-PSK
Max.Output H-PSK

窄带功率测量


Ch. 1
Ch. 2
CDMA2000 US Cellular Power
RC 1/1
O-QPSK
SO 02
Connect Control
RUN NPower
Appli-cation
Trigger Ana. Lvl.
BS Signal Level Imp.
BS Signal Set. P.Ctrl
Menus (1/2)
0.66 dBm Maximum
-4.31 dBm Average
-15.85 dBm Minimum
Power (Current)
3.96 dBm Maximum
-3.23 dBm Average
-44.55 dBm Minimum
Power (Statistic)
52 Statistic Count
Min.Output O-QPSK
Max.Output O-QPSK
Gated Output
Open Loop Time Resp.
NPower
Min.Output H-PSK
Max.Output H-PSK

最小功率测量


Ch. 1
Ch. 2
CDMA2000 US Cellular Power
RC 3/3
H-PSK
SO 02
Connect Control
RUN Min.Outp. H-PSK
Appli-cation
Trigger Ana. Lvl.
BS Signal Level Imp.
BS Signal Settings
Menus (1/2)
Total Power
Waveform Quality
-56.95 dBm
0.906
Curr.
-56.86 dBm
0.915
Max.
-56.97 dBm
0.912
Avg.
-57.09 dBm
0.913
Min.
100
Statistic Count
100.00 %
Out of Tolerance
Settings
Meas. Control
Repetition
Continuous
Stop Condition
None
Statistic Count
100
BS Signal Level
CDMA Power
- 25.0 dBm
F-PICH Level
- 7.0 dB
F-FCH Level
- 7.4 dB
F-FCH Eb/Nt

F-SCH0 Level
- 7.0 dB
F-SCH0 Eb/Nt

F-SCH1 Level
- 7.0 dB
F-SCH1 Eb/Nt

Impairments
AWGN Level
Off
BS Freq. Offset
Off
Injected Tx FER
Off
BS Signal Settings
F-FCH Frame Rate
Full
RF Channel
384
RF Freq. (Fwd)
881.5200 MHz
RF Freq. (Rev)
836.5200 MHz
Power Control
Min.Output O-QPSK
Max.Output O-QPSK
Gated Output
Open Loop Time Resp.
NPower
Min.Output H-PSK
Max.Output H-PSK

最大功率测量

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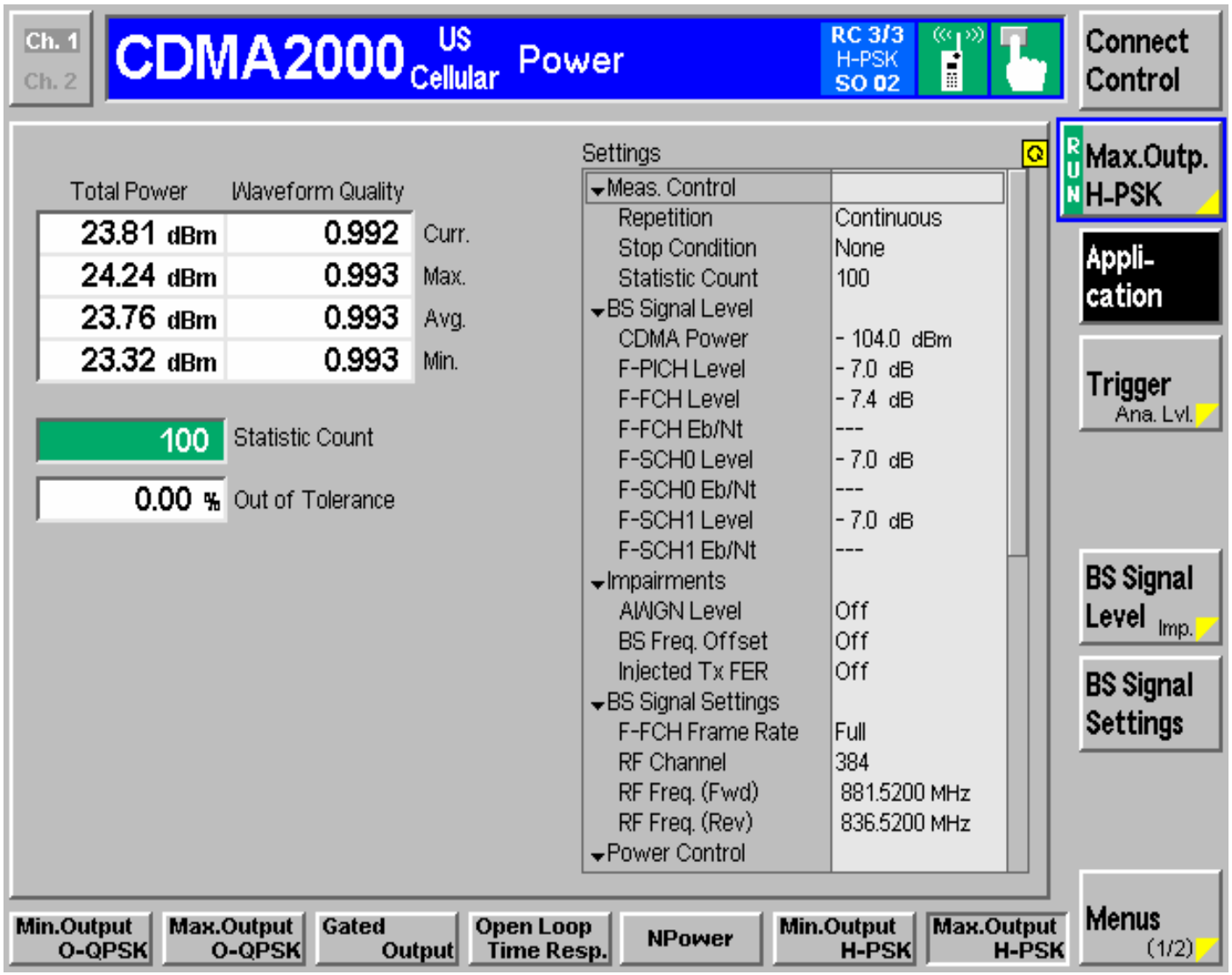
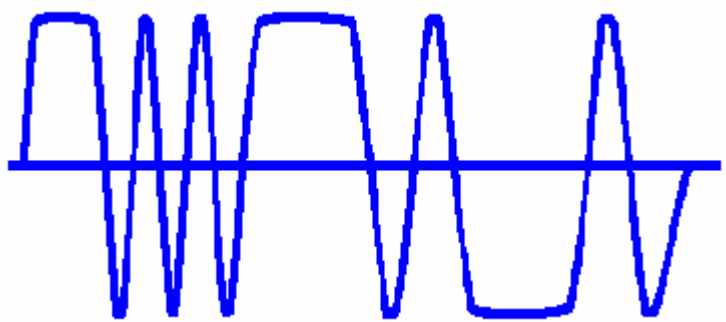


调制质量

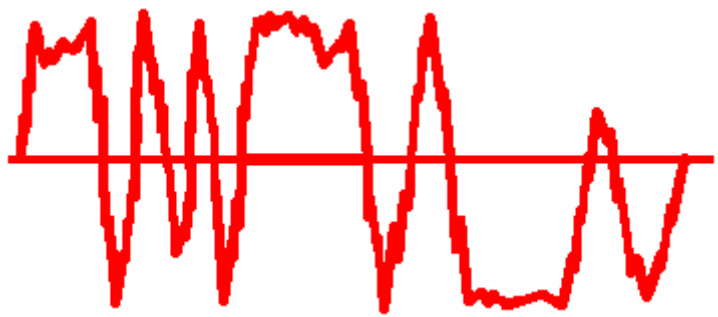
对于发射机来说，除了信道功率外，调制质量可以说是最重要的测试项。

不同的通信系统有不同的调制质量测量：

- 基于FM的系统测量FM偏差或失真；
- NADC和PDC测量误差矢量幅度（EVM，Error Vector Magnitude）；
- GSM测量相位误差；
- CDMA则测量波形质量（ Waveform Quality，也叫Rho，希腊字母为ρ）。

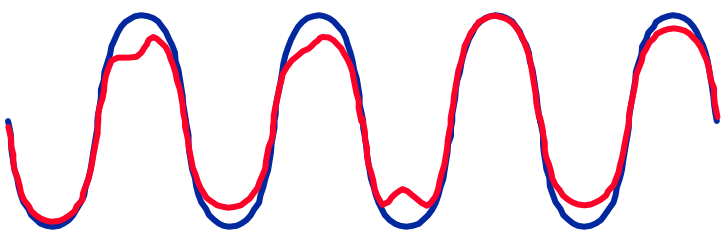


理想信号



被测信号

ρ

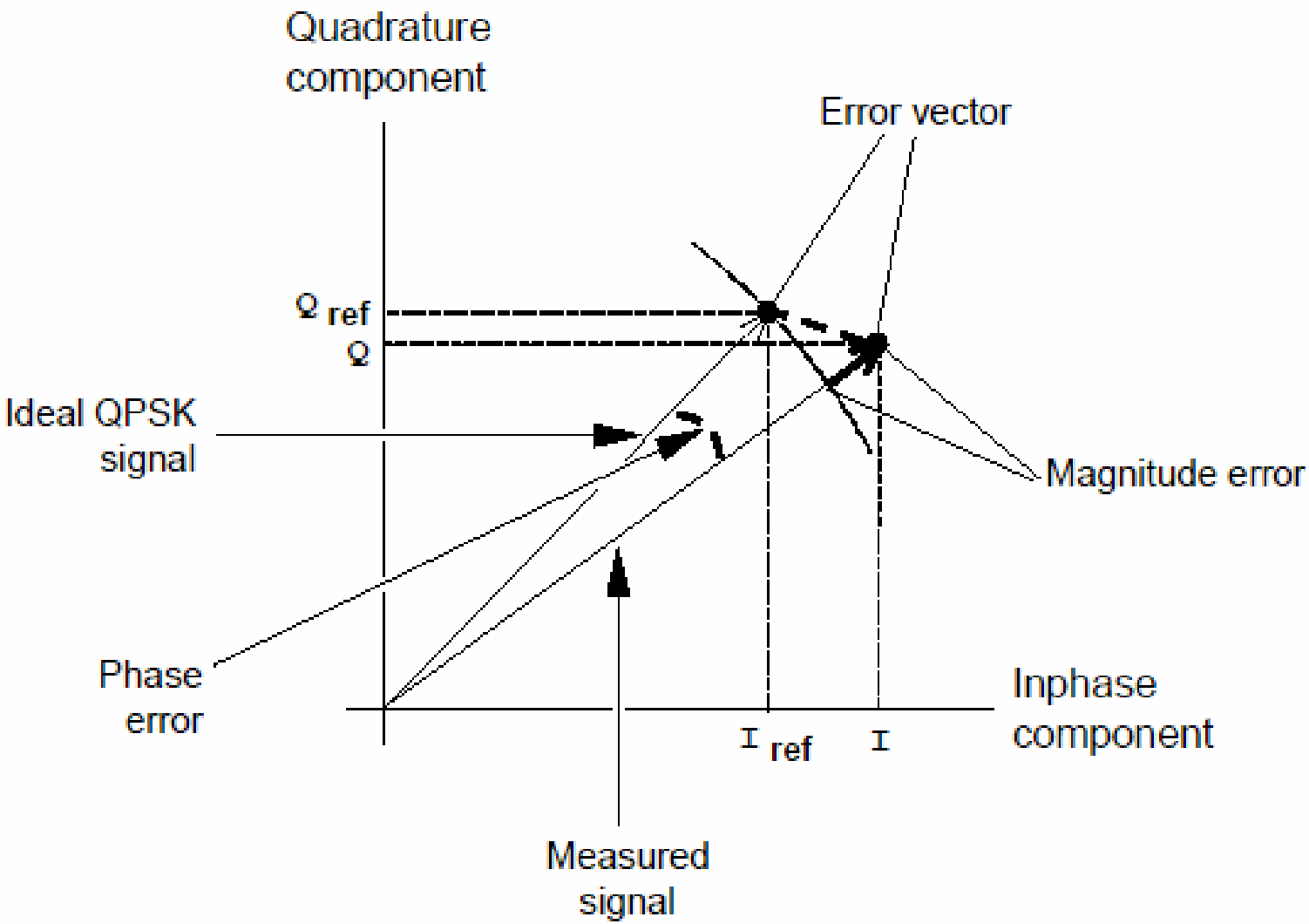


调制质量

在测试CDMA信号的波形质量的同时，测试仪器通常会测试一些相关的测试项：

- 频率误差（Frequency Error）
- 时间误差（Transmit Time error）
- 载波穿透 （Carrier Feedthrough）/ 原点偏移（origin offset）
- 误差矢量幅度（Error Vector Magnitude）
- 相位误差（Phase Error）
- 幅度误差（Magnitude Error）
- IQ不均衡度（IQ Imbalance）

调制误差


Quadrature component
Error vector
Q ref
Q
Ideal QPSK signal
Magnitude error
Phase error
Inphase component
I ref
I
Measured signal

调制测量－概要

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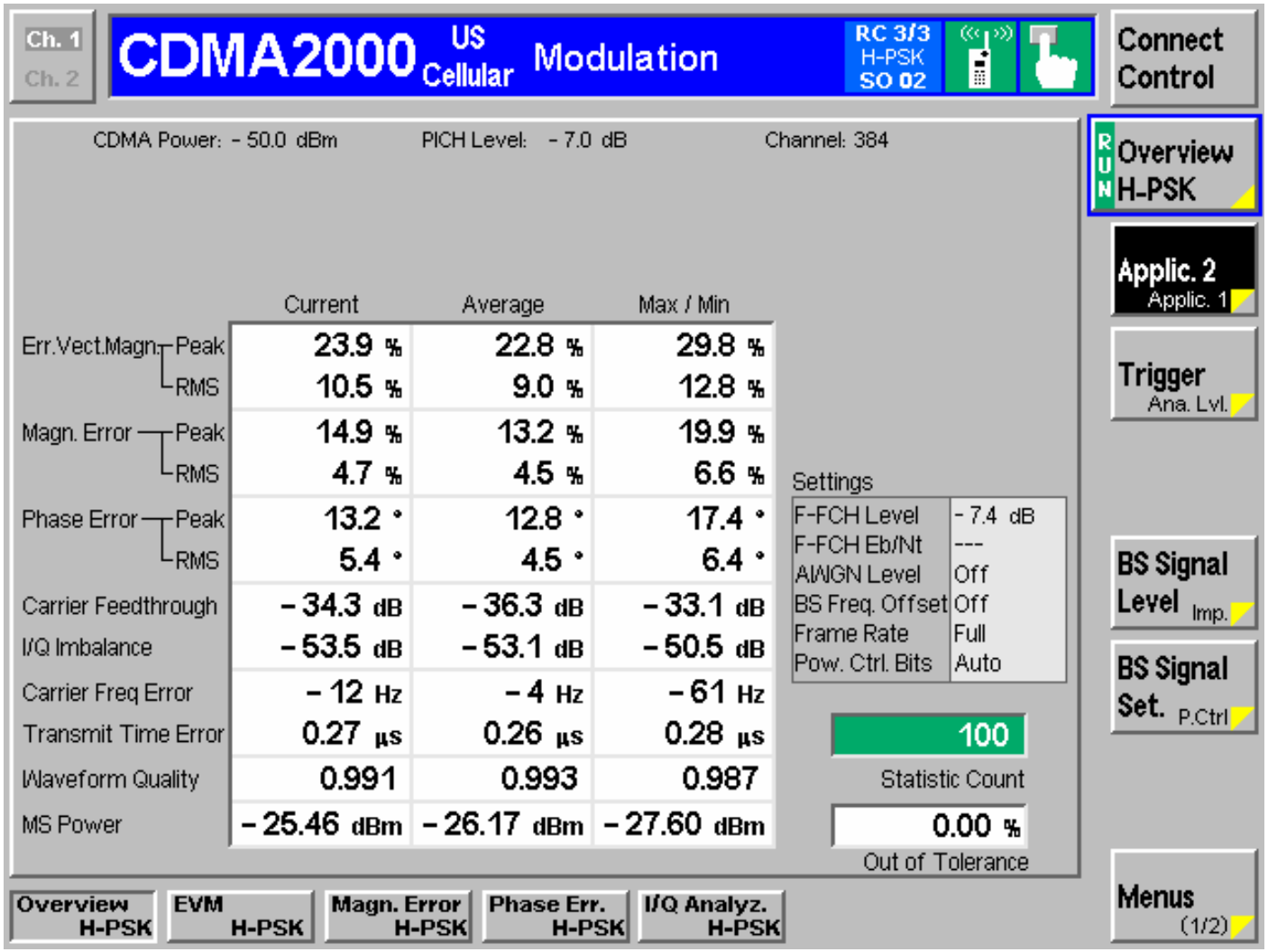

调制测量－EVM（矢量幅度误差）

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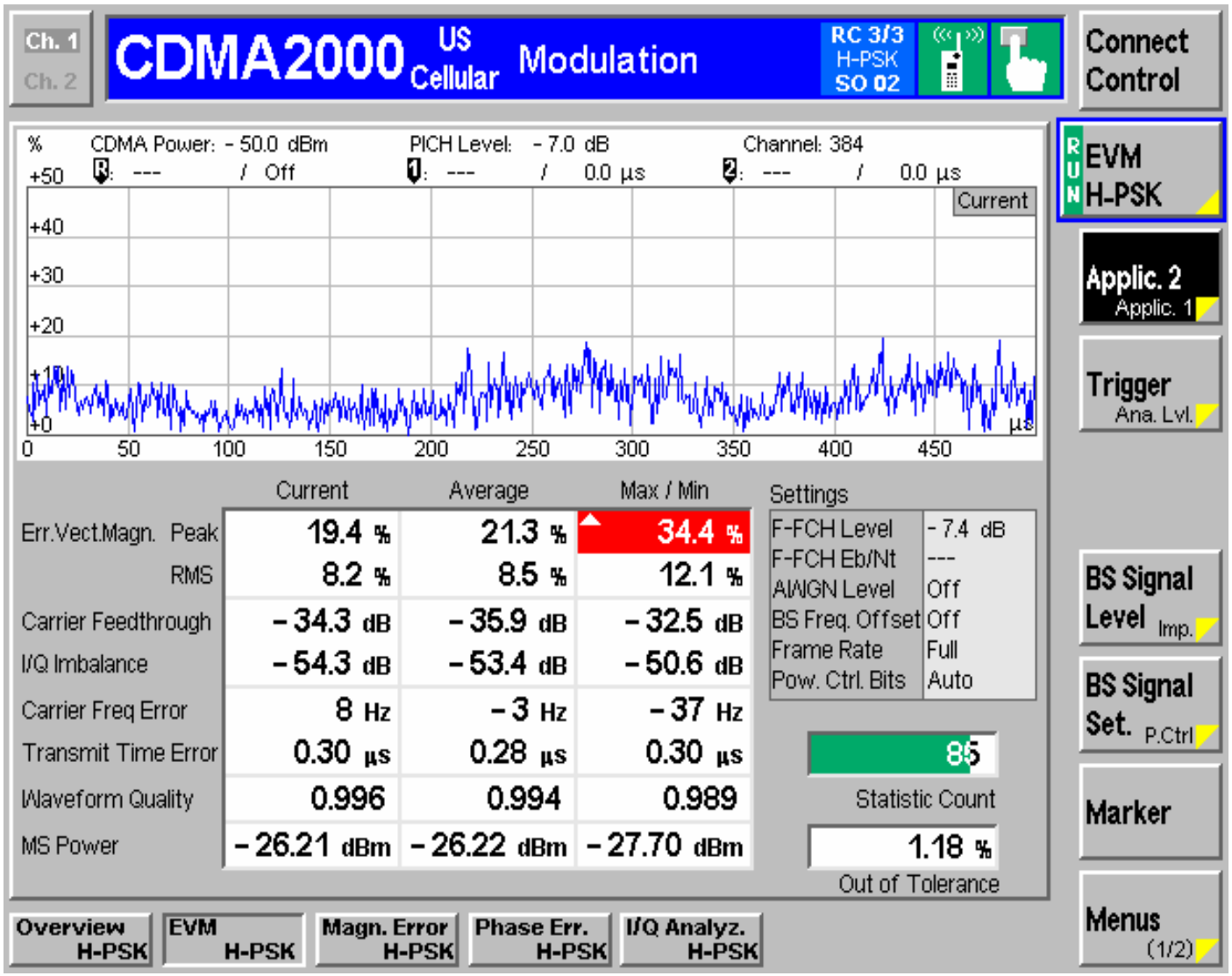
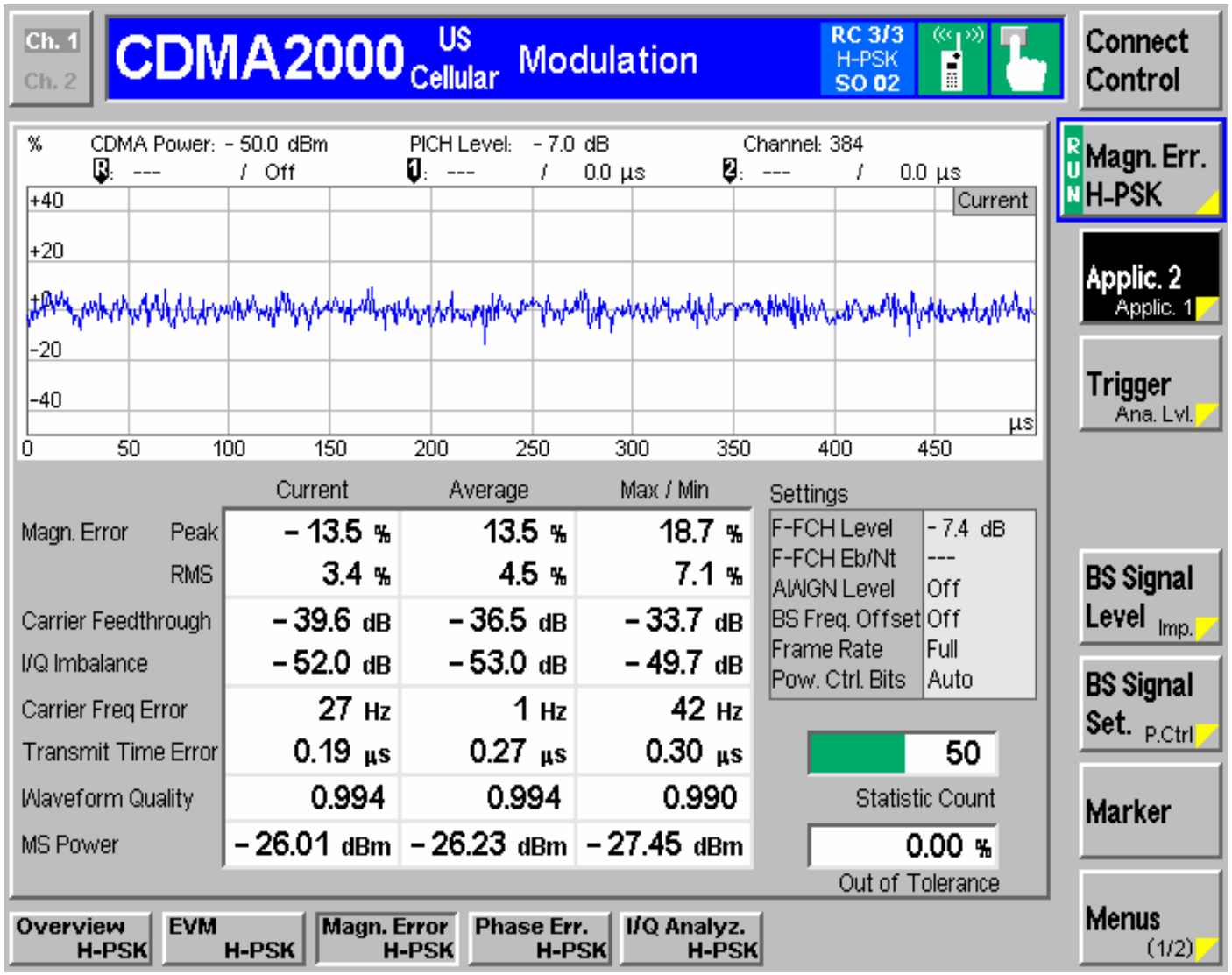
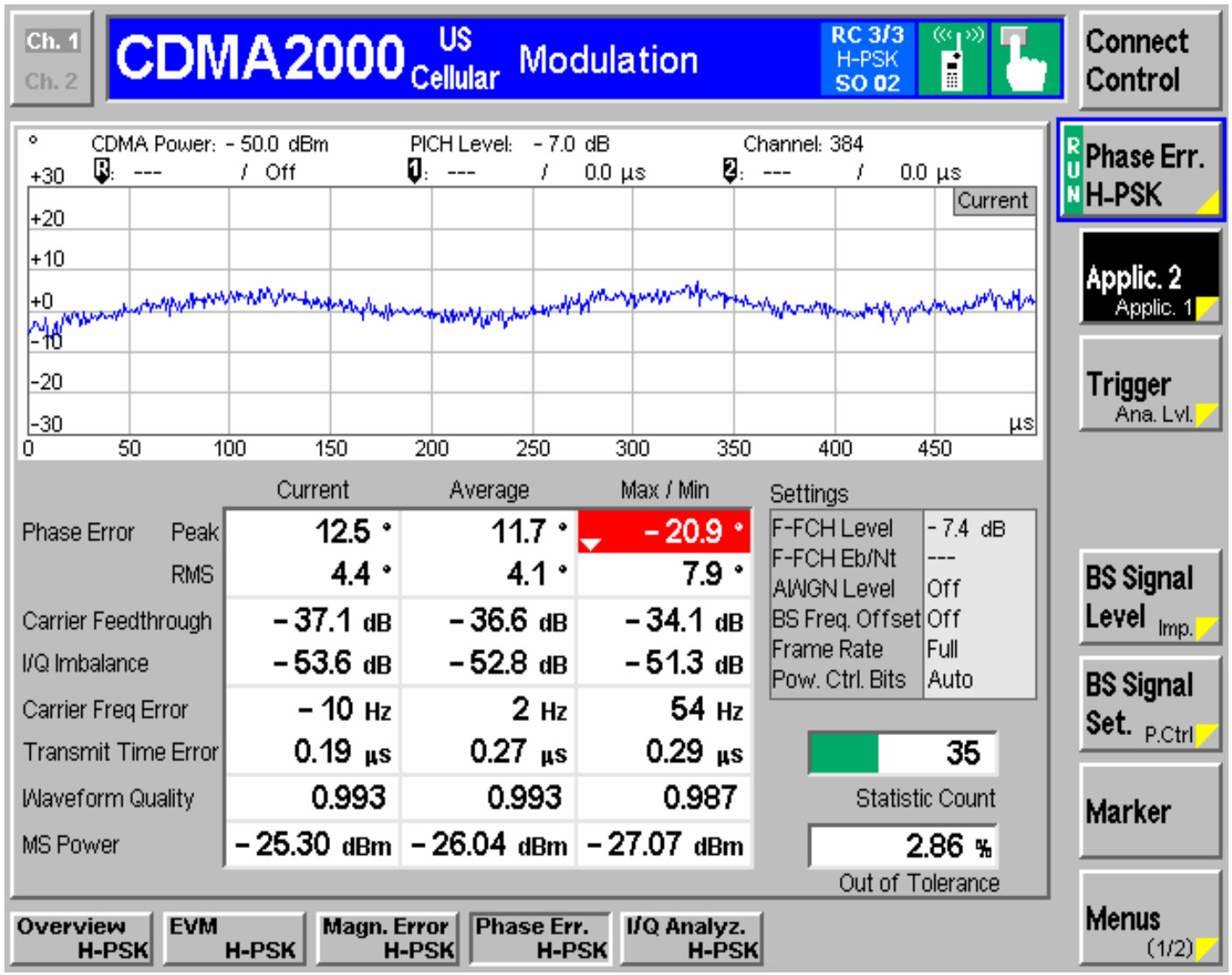


调制测量－幅度误差

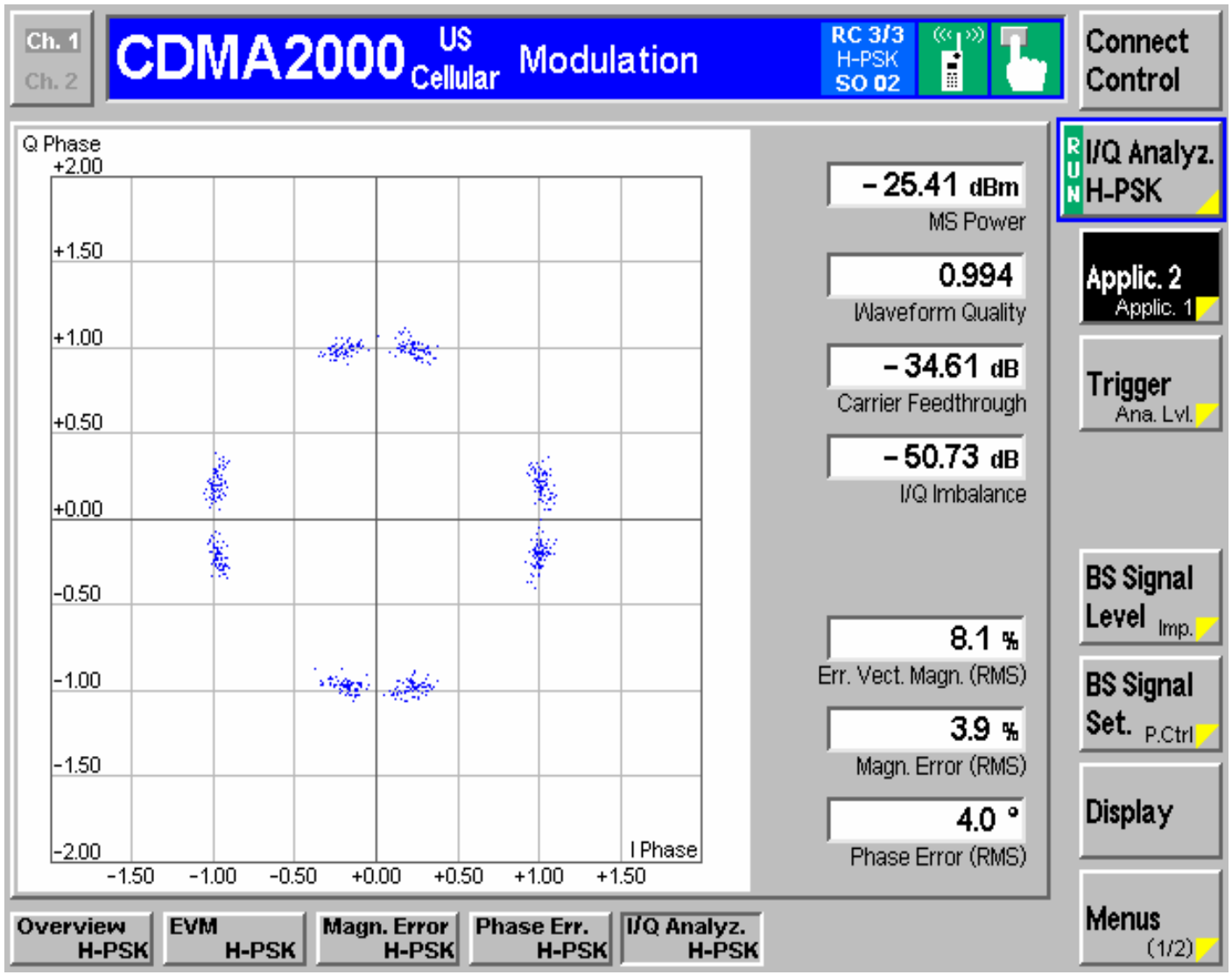

Ch. 1
Ch. 2
CDMA2000 US Cellular Modulation
RC 3/3
H-PSK
SO 02
Connect Control
% CDMA Power: - 50.0 dBm PICH Level: - 7.0 dB Channel: 384
R: --- / Off 1: --- / 0.0 µs 2: --- / 0.0 µs
+40
+20
-20
-40
Current
µs
0 50 100 150 200 250 300 350 400 450
RUN Magn. Err. H-PSK
Applic. 2
Applic. 1
Trigger
Ana. Lvl.
Current Average Max / Min
Magn. Error Peak - 13.5 % 13.5 % 18.7 %
RMS 3.4 % 4.5 % 7.1 %
Carrier Feedthrough - 39.6 dB - 36.5 dB - 33.7 dB
I/Q Imbalance - 52.0 dB - 53.0 dB - 49.7 dB
Carrier Freq Error 27 Hz 1 Hz 42 Hz
Transmit Time Error 0.19 µs 0.27 µs 0.30 µs
Waveform Quality 0.994 0.994 0.990
MS Power - 26.01 dBm - 26.23 dBm - 27.45 dBm
Settings
F-FCH Level - 7.4 dB
F-FCH Eb/Nt ---
AWGN Level Off
BS Freq. Offset Off
Frame Rate Full
Pow. Ctrl. Bits Auto
50
Statistic Count
0.00 %
Out of Tolerance
BS Signal Level Imp.
BS Signal Set. P.Ctrl
Marker
Menus (1/2)
Overview H-PSK
EVM H-PSK
Magn. Error H-PSK
Phase Err. H-PSK
I/Q Analyz. H-PSK

调制测量－相位误差


Ch. 1
Ch. 2
CDMA2000 US Cellular Modulation
RC 3/3
H-PSK
SO 02
Connect Control
CDMA Power: - 50.0 dBm
PICH Level: - 7.0 dB
Channel: 384
Off
0.0 µs
Current
+30
+20
+10
+0
-10
-20
-30
µs
0
50
100
150
200
250
300
350
400
450
RUN
Phase Err. H-PSK
Applic. 2
Applic. 1
Trigger
Ana. Lvl.
Current
Average
Max / Min
Phase Error
Peak
RMS
12.5 °
11.7 °
- 20.9 °
4.4 °
4.1 °
7.9 °
Carrier Feedthrough
- 37.1 dB
- 36.6 dB
- 34.1 dB
I/Q Imbalance
- 53.6 dB
- 52.8 dB
- 51.3 dB
Carrier Freq Error
- 10 Hz
2 Hz
54 Hz
Transmit Time Error
0.19 µs
0.27 µs
0.29 µs
Waveform Quality
0.993
0.993
0.987
MS Power
- 25.30 dBm
- 26.04 dBm
- 27.07 dBm
Settings
F-FCH Level
- 7.4 dB
F-FCH Eb/Nt

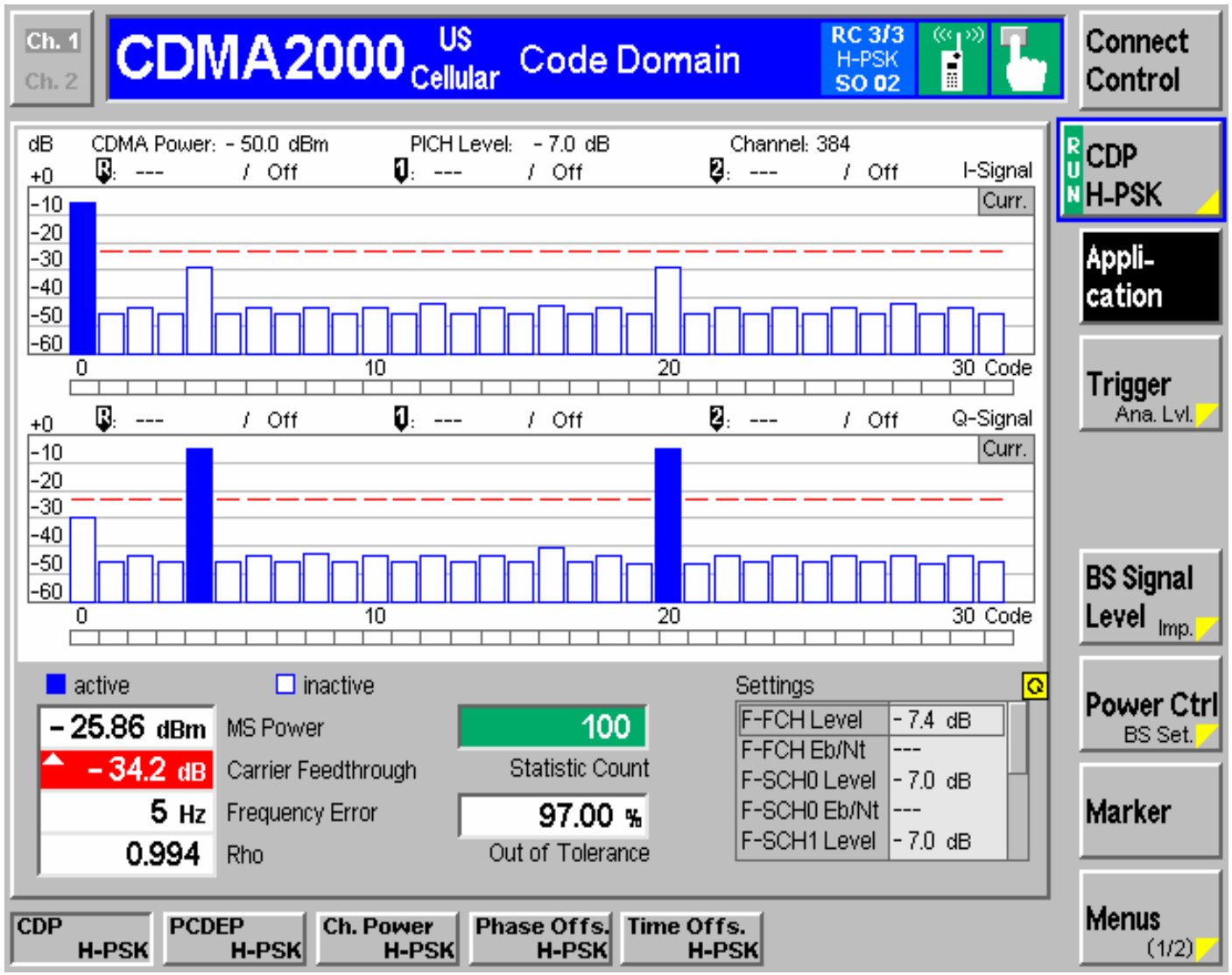
AWGN Level
Off
BS Freq. Offset
Off
Frame Rate
Full
Pow. Ctrl. Bits
Auto
35
Statistic Count
2.86 %
Out of Tolerance
BS Signal Level Imp.
BS Signal Set. P.Ctrl
Marker
Menus (1/2)
Overview H-PSK
EVM H-PSK
Magn. Error H-PSK
Phase Err. H-PSK
I/Q Analyz. H-PSK

调制测量－I/Q分析

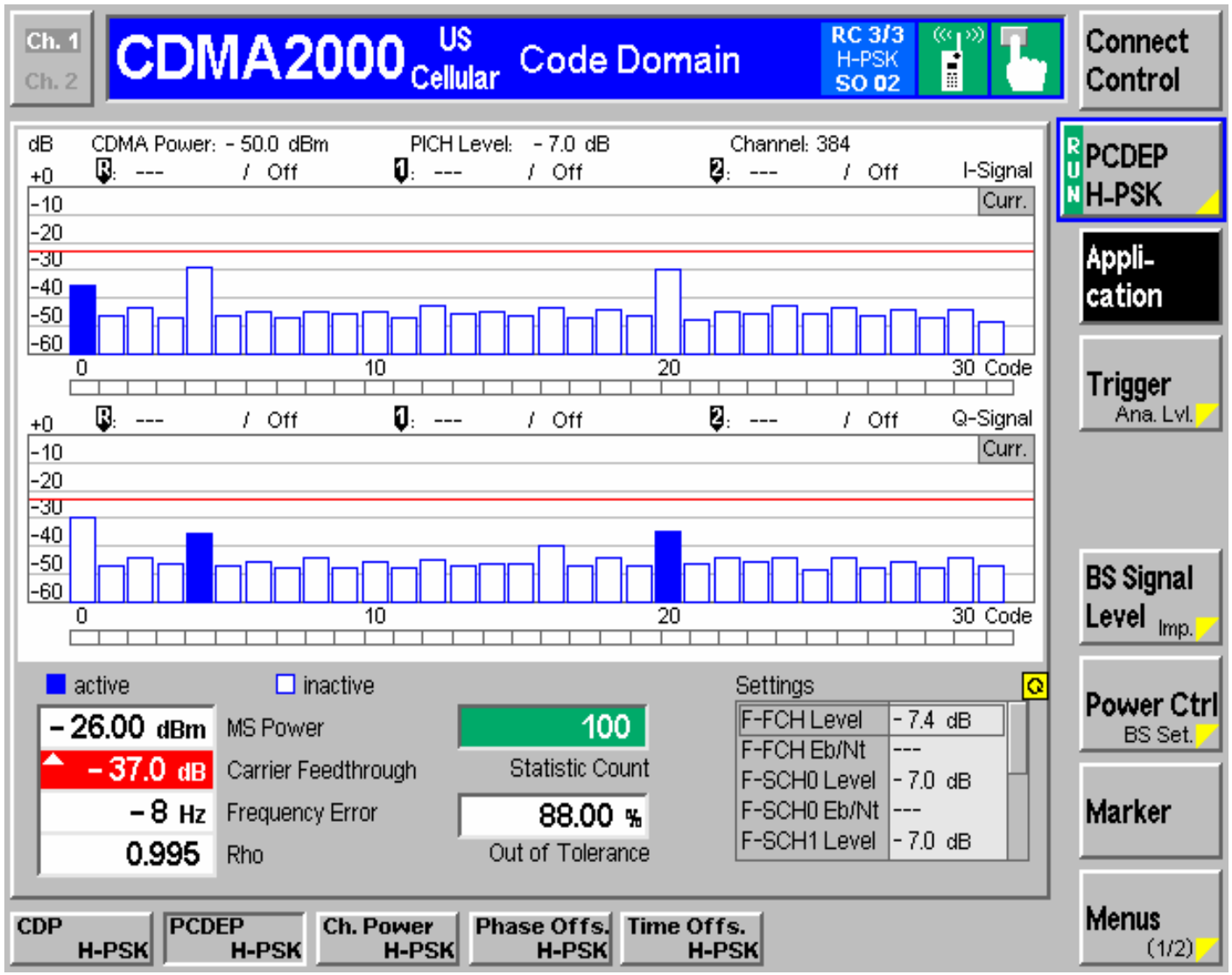

Ch. 1
Ch. 2
CDMA2000 US Cellular Modulation
RC 3/3
H-PSK
SO 02
Connect Control
Q Phase
+2.00
+1.50
+1.00
+0.50
+0.00
-0.50
-1.00
-1.50
-2.00
-1.50 -1.00 -0.50 +0.00 +0.50 +1.00 +1.50
I Phase
-25.41 dBm
MS Power
0.994
Waveform Quality
-34.61 dB
Carrier Feedthrough
-50.73 dB
I/Q Imbalance
8.1 %
Err. Vect. Magn. (RMS)
3.9 %
Magn. Error (RMS)
4.0 °
Phase Error (RMS)
RUN I/Q Analyz. H-PSK
Applic. 2
Applic. 1
Trigger
Ana. Lvl.
BS Signal Level
Imp.
BS Signal Set.
P.Ctrl
Display
Menus
(1/2)
Overview H-PSK
EVM H-PSK
Magn. Error H-PSK
Phase Err. H-PSK
I/Q Analyz. H-PSK

- 码域测量
  - 码域功率
  - 峰值码域误差
  - 信道功率
  - 相位偏移
  - 定时偏移

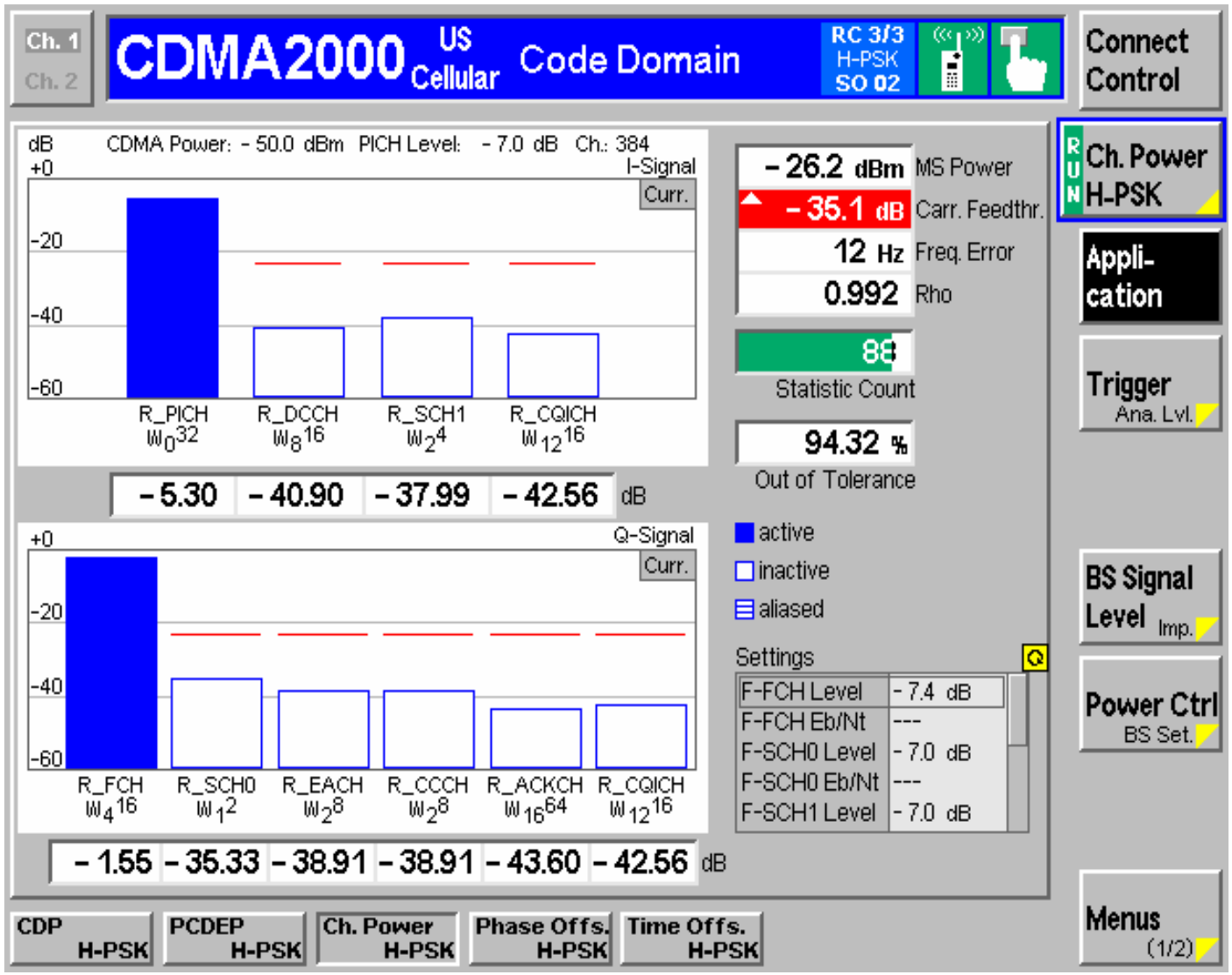
码域测量－码域功率


Ch. 1
Ch. 2
CDMA2000 US Cellular Code Domain
RC 3/3
H-PSK
SO 02
Connect Control
dB
CDMA Power: - 50.0 dBm
PICH Level: - 7.0 dB
Channel: 384
+0
-10
-20
-30
-40
-50
-60
R: --- / Off
1: --- / Off
2: --- / Off
I-Signal
Curr.
0
10
20
30 Code
Q-Signal
RUN CDP H-PSK
Appli-cation
Trigger Ana. Lvl.
BS Signal Level Imp.
Power Ctrl BS Set.
Marker
Menus (1/2)
active
inactive
- 25.86 dBm
MS Power
- 34.2 dB
Carrier Feedthrough
5 Hz
Frequency Error
0.994
Rho
100
Statistic Count
97.00 %
Out of Tolerance
Settings
F-FCH Level - 7.4 dB
F-FCH Eb/Nt ---
F-SCH0 Level - 7.0 dB
F-SCH0 Eb/Nt ---
F-SCH1 Level - 7.0 dB
CDP H-PSK
PCDEP H-PSK
Ch. Power H-PSK
Phase Offs. H-PSK
Time Offs. H-PSK

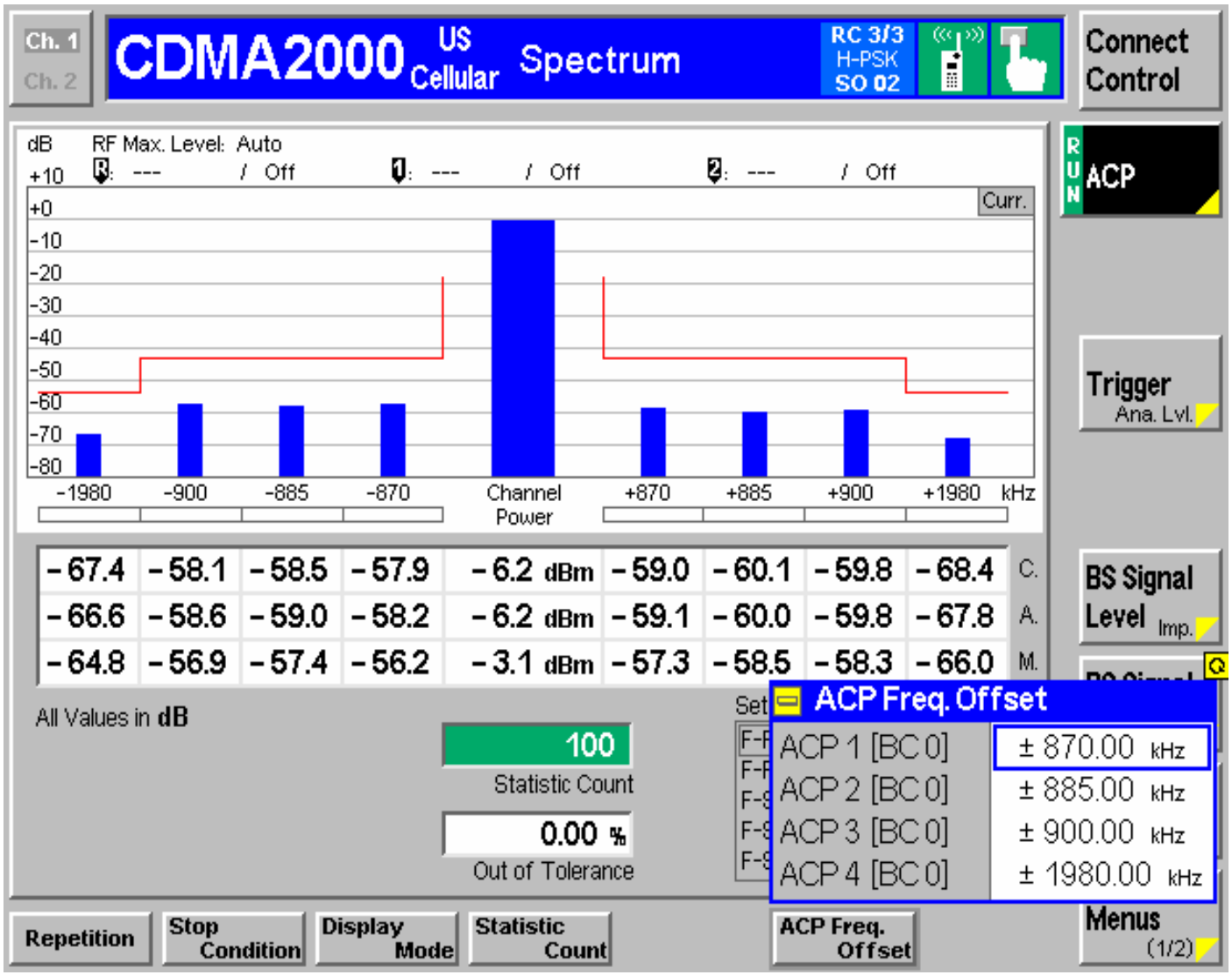
码域测量－峰值码域误差


Ch. 1
Ch. 2
CDMA2000 US Cellular Code Domain
RC 3/3
H-PSK
SO 02
Connect Control
dB
CDMA Power: - 50.0 dBm
PICH Level: - 7.0 dB
Channel: 384
+0
-10
-20
-30
-40
-50
-60
I-Signal
Curr.
0
10
20
30 Code
Q-Signal
PCDEP H-PSK
Appli-cation
Trigger Ana. Lvl.
BS Signal Level Imp.
Power Ctrl BS Set.
Marker
Menus (1/2)
active
inactive
- 26.00 dBm
MS Power
- 37.0 dB
Carrier Feedthrough
- 8 Hz
Frequency Error
0.995
Rho
100
Statistic Count
88.00 %
Out of Tolerance
Settings
F-FCH Level - 7.4 dB
F-FCH Eb/Nt ---
F-SCH0 Level - 7.0 dB
F-SCH0 Eb/Nt ---
F-SCH1 Level - 7.0 dB
CDP H-PSK
PCDEP H-PSK
Ch. Power H-PSK
Phase Offs. H-PSK
Time Offs. H-PSK

码域测量－信道功率

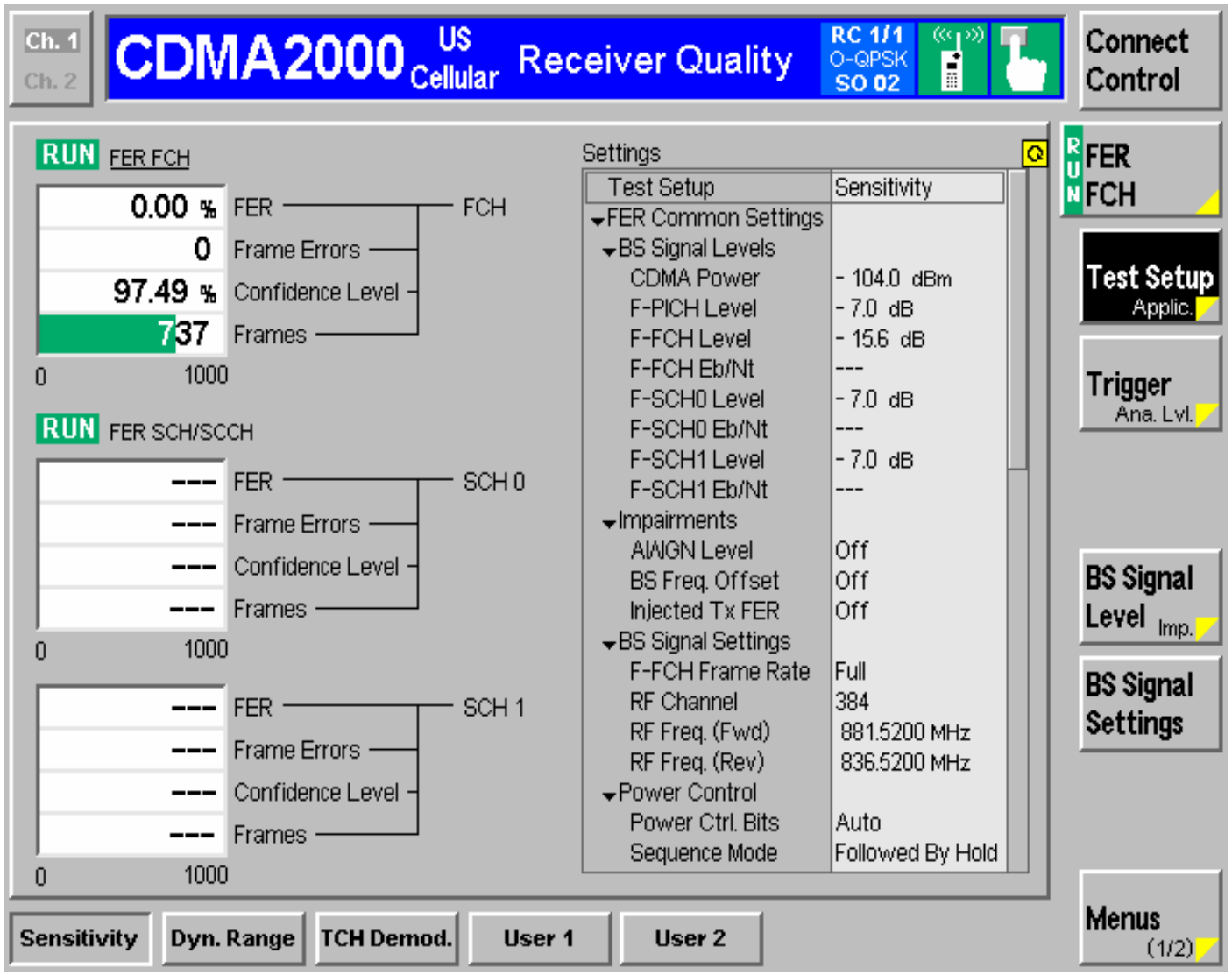

Ch. 1
Ch. 2
CDMA2000 US Cellular Code Domain
RC 3/3
H-PSK
SO 02
Connect Control
dB
CDMA Power: - 50.0 dBm PICH Level: - 7.0 dB Ch.: 384
+0
I-Signal
Curr.
-20
-40
-60
R_PICH W0 32
R_DCCH W8 16
R_SCH1 W2 4
R_CQICH W12 16
- 5.30 - 40.90 - 37.99 - 42.56 dB
- 26.2 dBm MS Power
- 35.1 dB Carr. Feedthr.
12 Hz Freq. Error
0.992 Rho
88
Statistic Count
94.32 %
Out of Tolerance
active
inactive
aliased
Settings
F-FCH Level - 7.4 dB
F-FCH Eb/Nt ---
F-SCH0 Level - 7.0 dB
F-SCH0 Eb/Nt ---
F-SCH1 Level - 7.0 dB
+0
Q-Signal
Curr.
-20
-40
-60
R_FCH W4 16
R_SCH0 W1 2
R_EACH W2 8
R_CCCH W2 8
R_ACKCH W16 64
R_CQICH W12 16
- 1.55 - 35.33 - 38.91 - 38.91 - 43.60 - 42.56 dB
RUN
Ch. Power H-PSK
Appli-cation
Trigger Ana. Lvl.
BS Signal Level Imp.
Power Ctrl BS Set.
Menus (1/2)
CDP H-PSK
PCDEP H-PSK
Ch. Power H-PSK
Phase Offs. H-PSK
Time Offs. H-PSK

频谱－邻信道功率测量


Ch. 1
Ch. 2
CDMA2000 US Cellular Spectrum
RC 3/3
H-PSK
SO 02
Connect Control
dB
RF Max. Level: Auto
+10
R: --- / Off
1: --- / Off
2: --- / Off
Curr.
+0
-10
-20
-30
-40
-50
-60
-70
-80
-1980
-900
-885
-870
Channel Power
+870
+885
+900
+1980
kHz
RUN ACP
Trigger Ana. Lvl.
-67.4 -58.1 -58.5 -57.9 -6.2 dBm -59.0 -60.1 -59.8 -68.4 C.
-66.6 -58.6 -59.0 -58.2 -6.2 dBm -59.1 -60.0 -59.8 -67.8 A.
-64.8 -56.9 -57.4 -56.2 -3.1 dBm -57.3 -58.5 -58.3 -66.0 M.
BS Signal Level Imp.
All Values in dB
100
Statistic Count
0.00 %
Out of Tolerance
ACP Freq. Offset
ACP 1 [BC 0] ± 870.00 kHz
ACP 2 [BC 0] ± 885.00 kHz
ACP 3 [BC 0] ± 900.00 kHz
ACP 4 [BC 0] ± 1980.00 kHz
Repetition
Stop Condition
Display Mode
Statistic Count
ACP Freq. Offset
Menus (1/2)

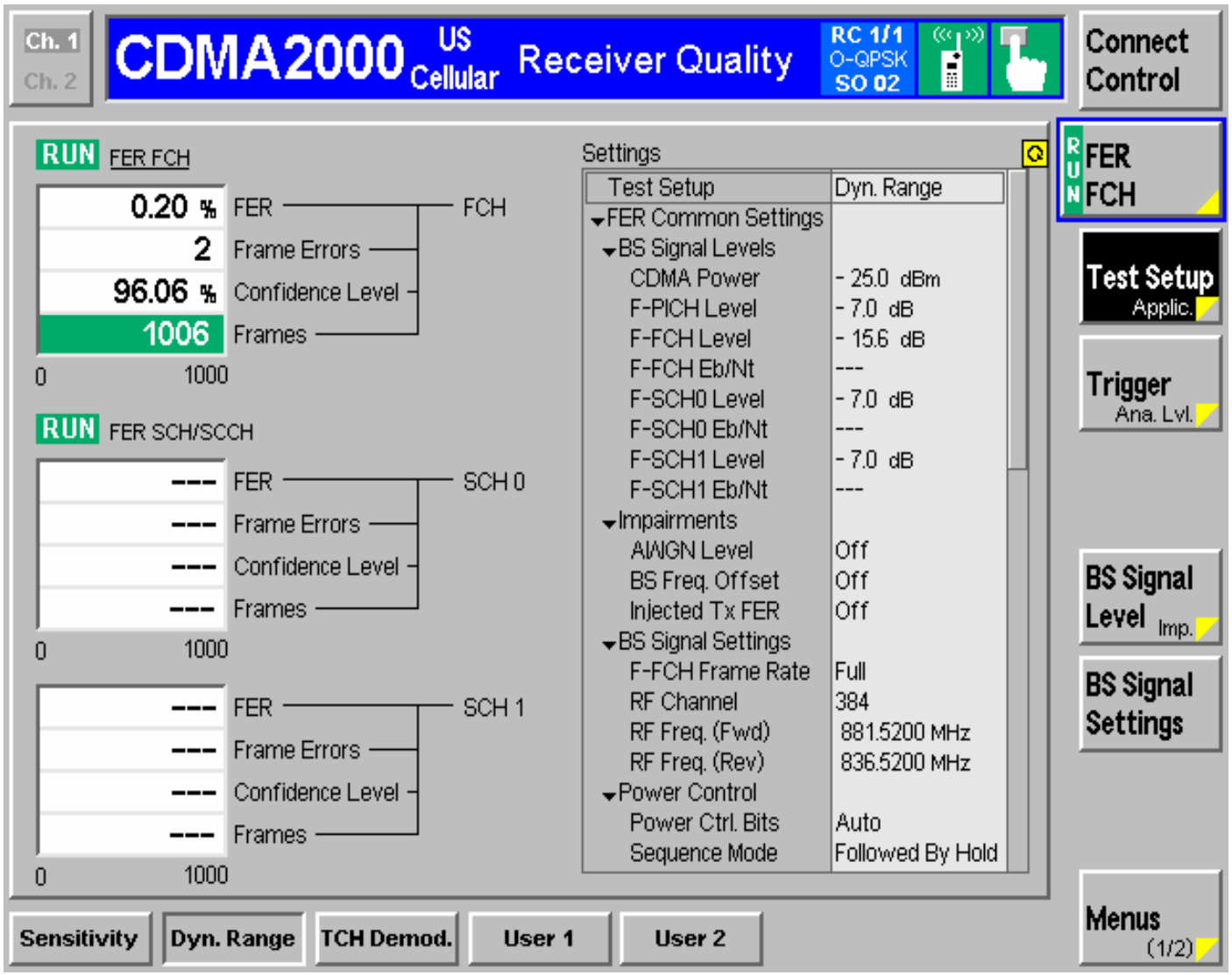
- 接收机质量
  - ✓ 接收机灵敏度
  - ✓ 动态范围.
  - ✓ 存在高斯白噪声情况下的前向业务信道解调能力
- 导频功率报告

接收机测量－灵敏度

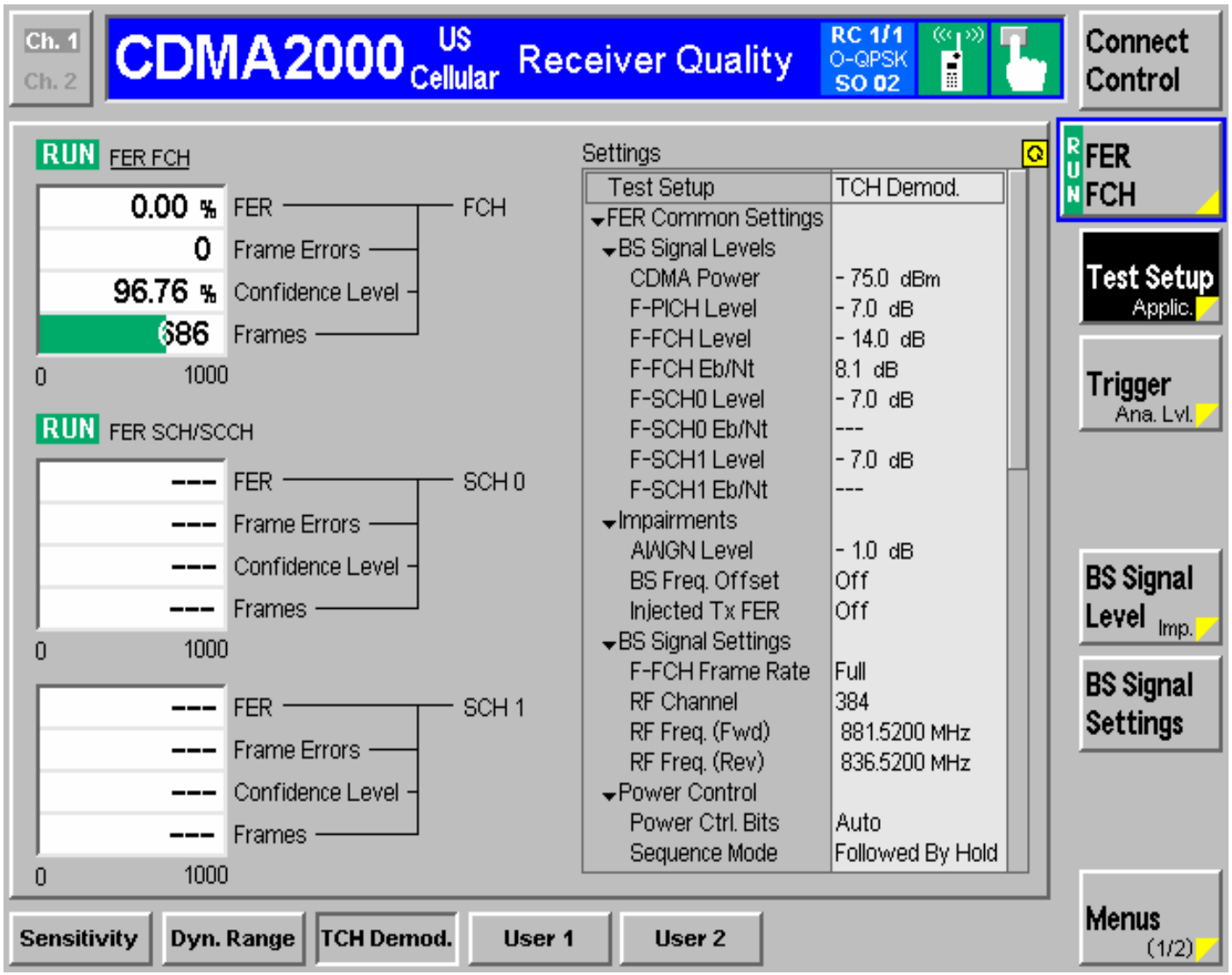

Ch. 1
Ch. 2
CDMA2000 US Cellular Receiver Quality
RC 1/1
O-QPSK
SO 02
Connect Control
RUN FER FCH
0.00 %
FER
FCH
0
Frame Errors
97.49 %
Confidence Level
737
Frames
0
1000
RUN FER SCH/SCCH

FER
SCH 0
Frame Errors
Confidence Level
Frames
SCH 1
Settings
Test Setup
Sensitivity
FER Common Settings
BS Signal Levels
CDMA Power
- 104.0 dBm
F-PICH Level
- 7.0 dB
F-FCH Level
- 15.6 dB
F-FCH Eb/Nt
F-SCH0 Level
- 7.0 dB
F-SCH0 Eb/Nt
F-SCH1 Level
- 7.0 dB
F-SCH1 Eb/Nt
Impairments
AWGN Level
Off
BS Freq. Offset
Off
Injected Tx FER
Off
BS Signal Settings
F-FCH Frame Rate
Full
RF Channel
384
RF Freq. (Fwd)
881.5200 MHz
RF Freq. (Rev)
836.5200 MHz
Power Control
Power Ctrl. Bits
Auto
Sequence Mode
Followed By Hold
RUN FER FCH
Test Setup Applic.
Trigger Ana. Lvl.
BS Signal Level Imp.
BS Signal Settings
Menus (1/2)
Sensitivity
Dyn. Range
TCH Demod.
User 1
User 2

接收机测量－动态范围测量

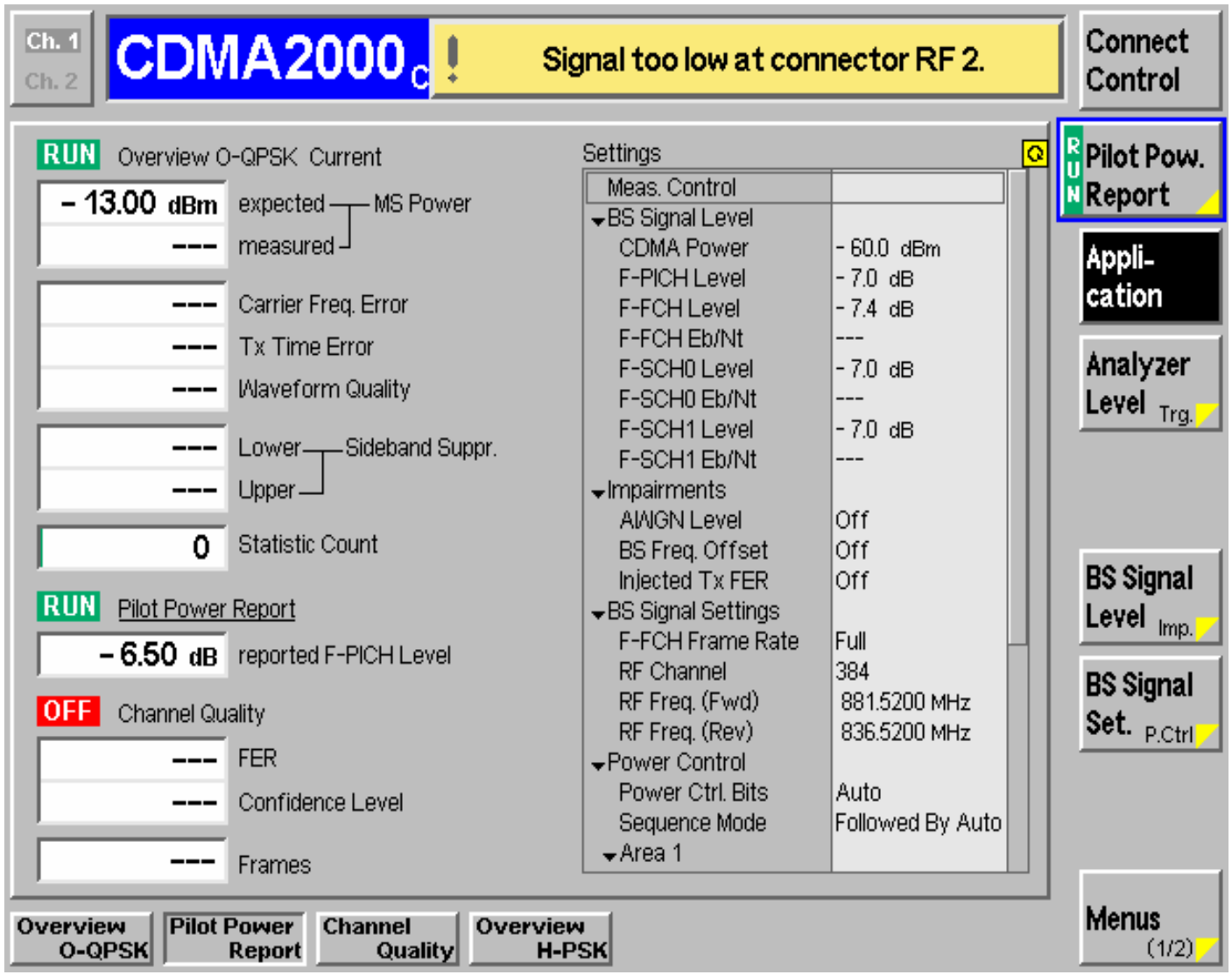


接收机测量－FCH解调测量



接收机测量－导频功率报告

ROHDE & SCHWARZ



Cdma2000典型测试项目

- 开环功率控制（IS-98D 4.4.1 Range of Open Loop Output Power）
- 最大功率（IS-98D 4.4.5 Maximum RF Output Power）
- 最小功率（IS-98D 4.4.6 Minimum Controlled Output Power）

- 时间偏移（IS-98D 4.3.1 Time Reference）
- 波形质量和频率准确度（IS-98D 4.3.4 Waveform Quality and Frequency Accuracy）

- 传导杂散（IS-98D 4.5.1 Conducted Spurious Emissions）

- 在高斯白噪声下的解调（IS-98D 3.4.1 Demodulation of Forward Traffic Channel in Additive White Gaussian Noise）
- 接收机灵敏度和动态范围（IS-98D 3.5.1 Receiver Sensitivity and Dynamic Range）

测试通常在低、中、高三个信道进行。