

# CMW500 手动测试

## ——EGPRS 信令操作篇

1. 复位 CMW500；按键“SIGNAL GEN”，选择 GSM Signaling1，同时被显示在底下的任务栏。



2. 按键：任务栏 GSM Signaling 下方对应的按键；用 On/Off 按钮打开小区。手机上电，注册。

The image displays two screenshots of the GSM Signaling software interface, showing the configuration and status of a GSM network.

**Top Screenshot:**

- Connection Status:** Cell is shown with a signal strength icon. Circuit Switched is On, Packet Switched is On, and RX Power is displayed.
- MS Info:** IMEI, IMSI, and Dialed No. fields are present.
- Cell Setup (BCCH):** Channel / Band is 20 GSM900. Level is -80.00 dBm. PMax (PCL) is 5 (33.00 dBm). PS Domain is selected.
- TCH/PDCH Carrier 1:** Channel / Band is 62 GSM900. Frequency is 947.4 MHz (Downlink) and 902.4 MHz (Uplink). DL Reference Level is -80.00 dBm.
- Connection Setup:** Slot Configuration shows DL and UL slot usage. Service is BLER.
- Buttons:** CS Connect, PS Connect, Send SMS, and Config ... are visible.
- Right Panel:** GSM Signaling is ON.

**Bottom Screenshot:**

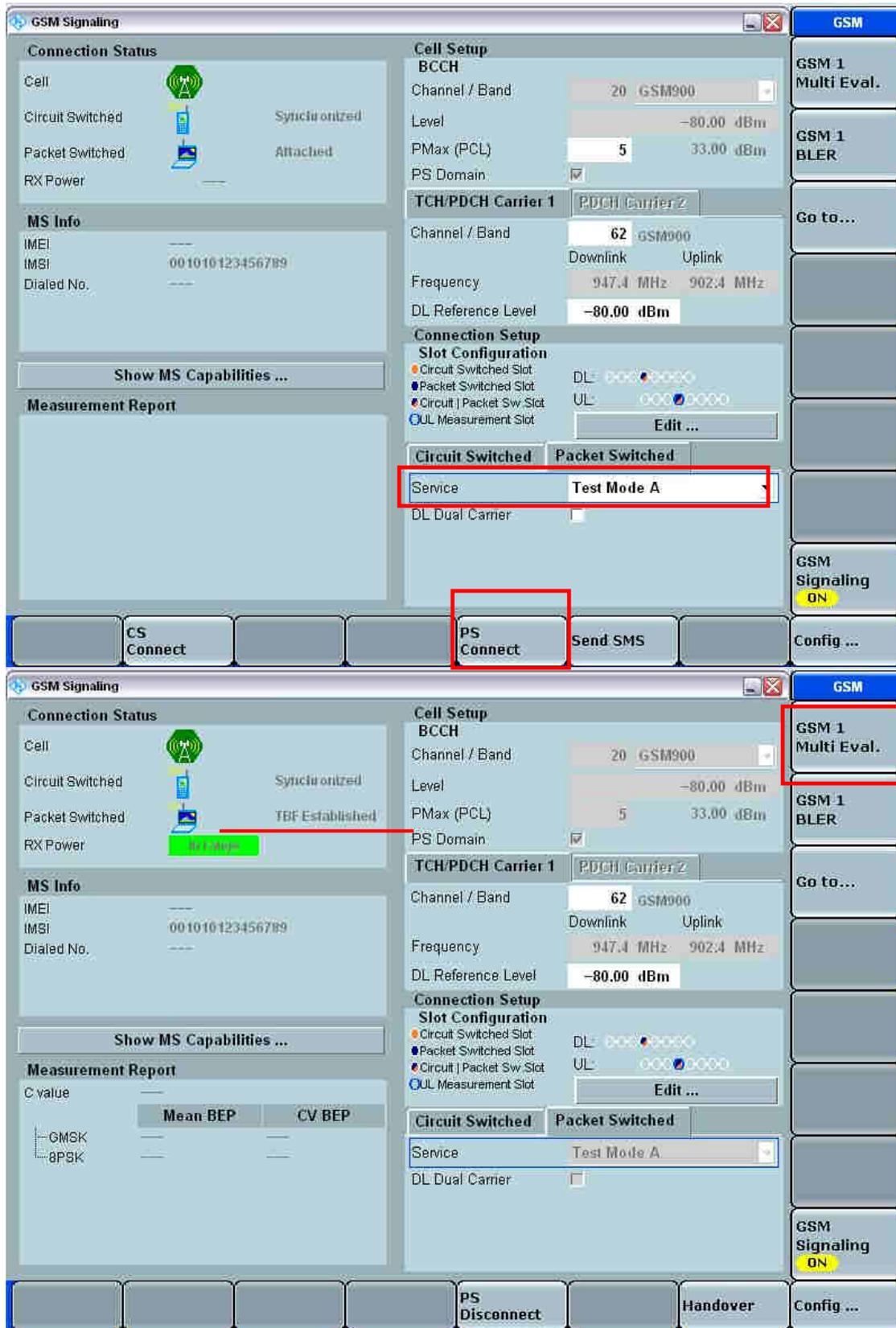
- Connection Status:** Cell is shown with a signal strength icon. Circuit Switched is Synchronized, Packet Switched is Attached, and RX Power is displayed.
- MS Info:** IMEI, IMSI (001010123456789), and Dialed No. fields are present.
- Cell Setup (BCCH):** Channel / Band is 20 GSM900. Level is -80.00 dBm. PMax (PCL) is 5 (33.00 dBm). PS Domain is selected.
- TCH/PDCH Carrier 1:** Channel / Band is 62 GSM900. Frequency is 947.4 MHz (Downlink) and 902.4 MHz (Uplink). DL Reference Level is -80.00 dBm.
- Connection Setup:** Slot Configuration shows DL and UL slot usage. Service is Test Mode A.
- Buttons:** CS Connect, PS Connect, Send SMS, and Config ... are visible.
- Right Panel:** GSM Signaling is ON.

3. 选择测试模式：BLER/Test Mode A/Test Mode B；如下图配置；Mode A 用于测试 TX，BLER 用于 RX 测试，Mode B 用于 T/RX 测试。

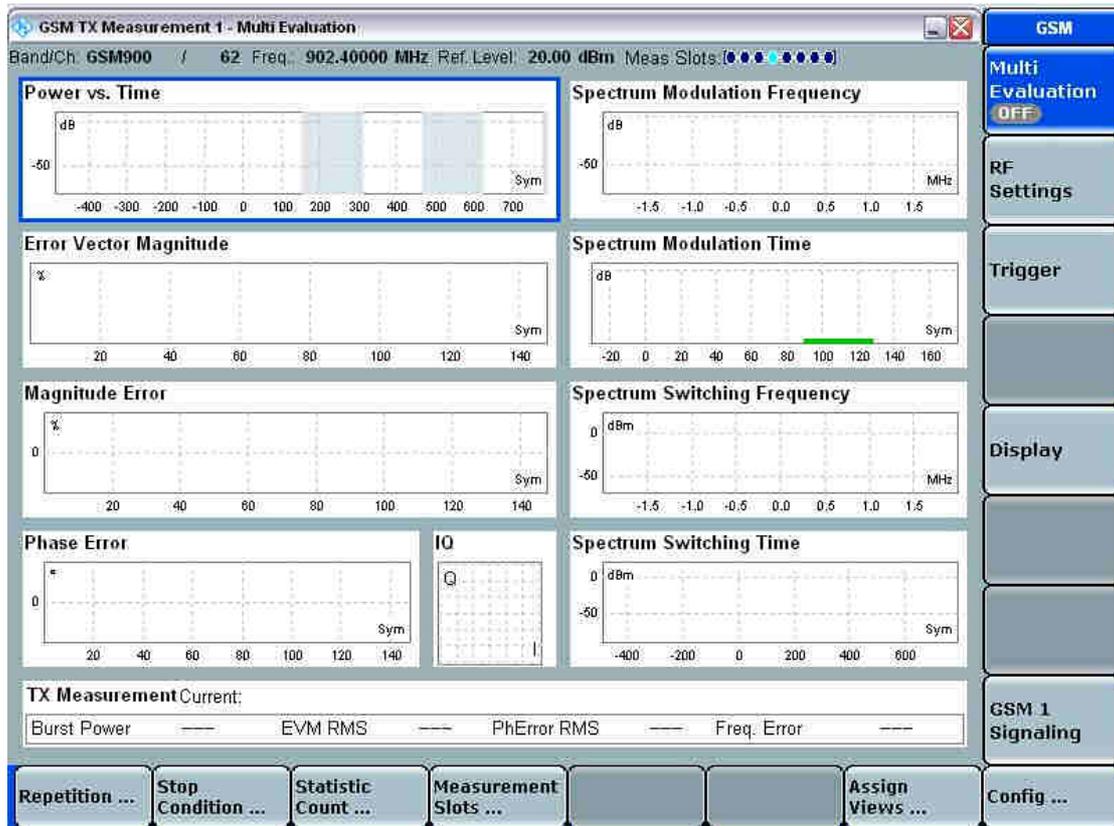
Service Selection	Multislot class	Main Timeslot	Active Slots Downlink (MS RX)	Active Slots Uplink (MS TX)
Test Mode A Reduced Sig. Mode A	1	3	3	3
	2	3	3	3
	3	3	3	3 & 4
	4	3	3	3
	5	3	3	3 & 4
	6	3	3	3 & 4
	7	3	3	2 & 3 & 4
	8	3	3	3
	9	3	3	3 & 4
	10	3	3	3 & 4
	11	3	3	2 & 3 & 4
	12	3	3	2 & 3 & 4 & 5
Test Mode B Reduced Sig. Mode B	1	3	3	3
	2	3	3 & 4	3
	3	3	3	3 & 4
	4	3	2 & 3 & 4	3
	5	3	3 & 4	3 & 4
	6	3	3 & 4	3 & 4
	7	3	3 & 4	3 & 4
	8	4	2 & 3 & 4 & 5	4
	9	3	2 & 3 & 4	3 & 4
	10	3	2 & 3 & 4	3 & 4
	11	3	3 & 4	3 & 4 & 5
	12	3	3 & 4	3 & 4 & 5
BLER Downlink only	1	4	4	4
	2	4	4 & 5	4
	3	4	4 & 5	4
	4	4	3 & 4 & 5	4
	5	4	4 & 5	4
	6	4	3 & 4 & 5	4
	7	4	3 & 4 & 5	4
	8	4	2 & 3 & 4 & 5	4
	9	4	3 & 4 & 5	4
	10	4	2 & 3 & 4 & 5	4
	11	4	2 & 3 & 4 & 5	4
	12	4	2 & 3 & 4 & 5	4

说明：请参照上下行时隙，按照测试要求，配置上下行时序。

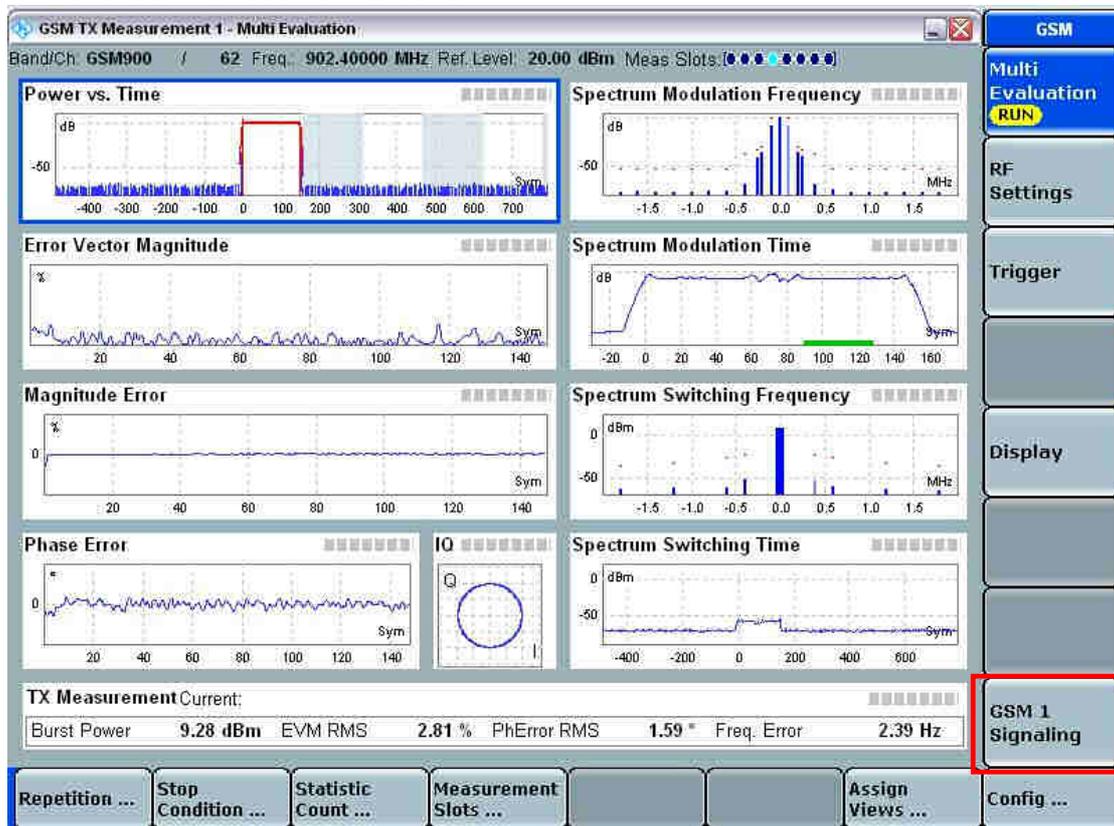
4. 选择测试模式 A，进行 TX 测试。按键“PS Connect”。连接后，显示“TBF Established”；



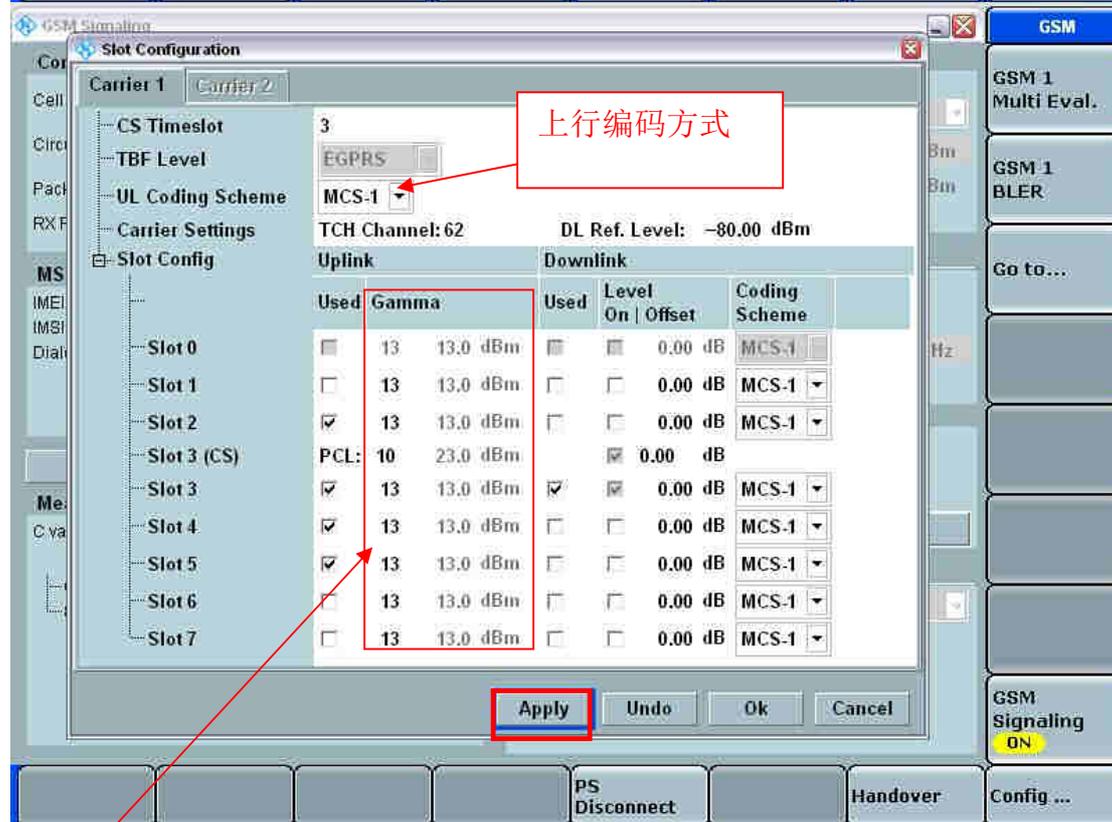
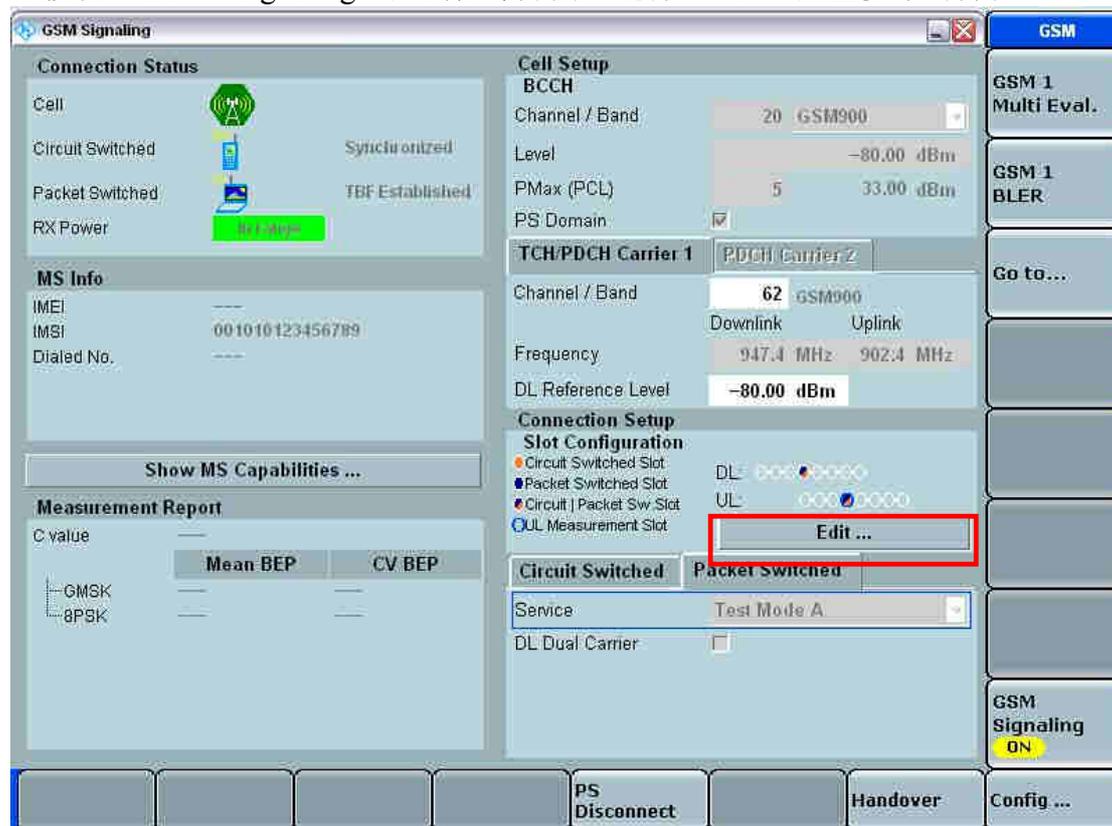
5. 选择“GSM1 Multi eval”，进入测试界面。如图：



6. 按键“On/Off”打开测试，测试 TX Power 等项目，针对每个项目，展开图示。如图为：单时隙的上行测试。

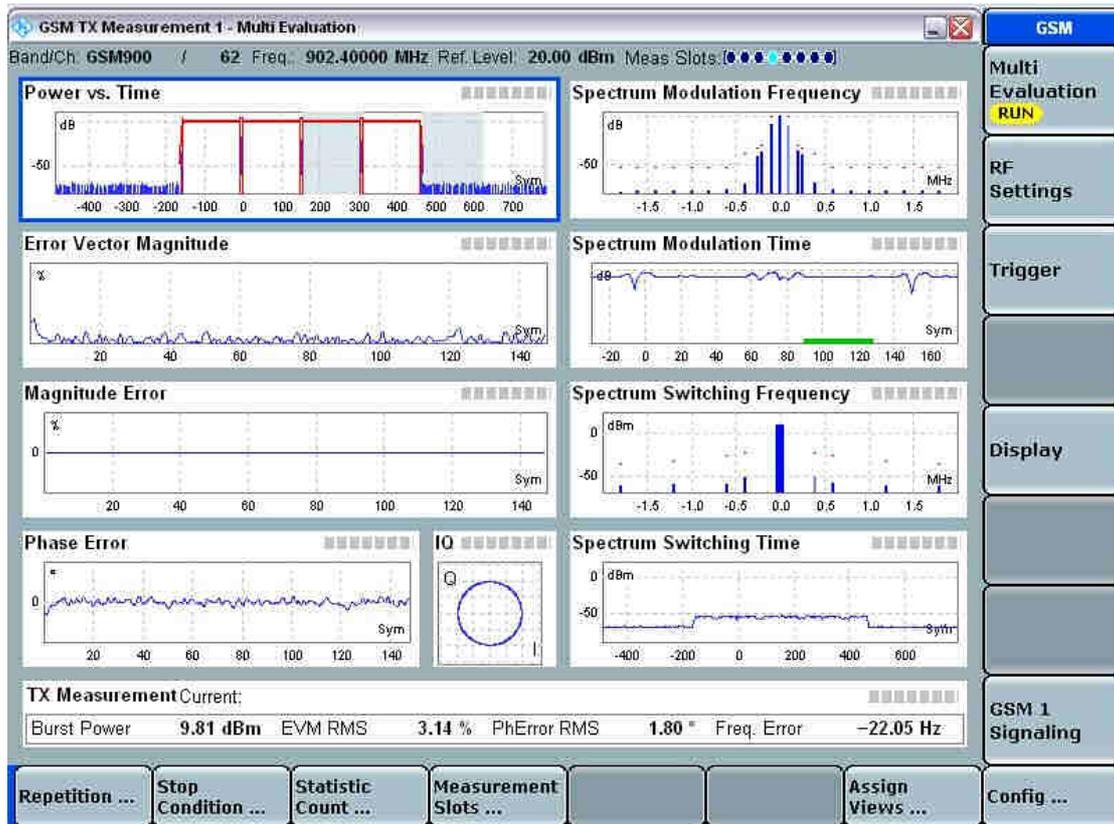


7. 按键“GSM1 Signaling”回到信令界面，选择“Edit”配置多个时隙；



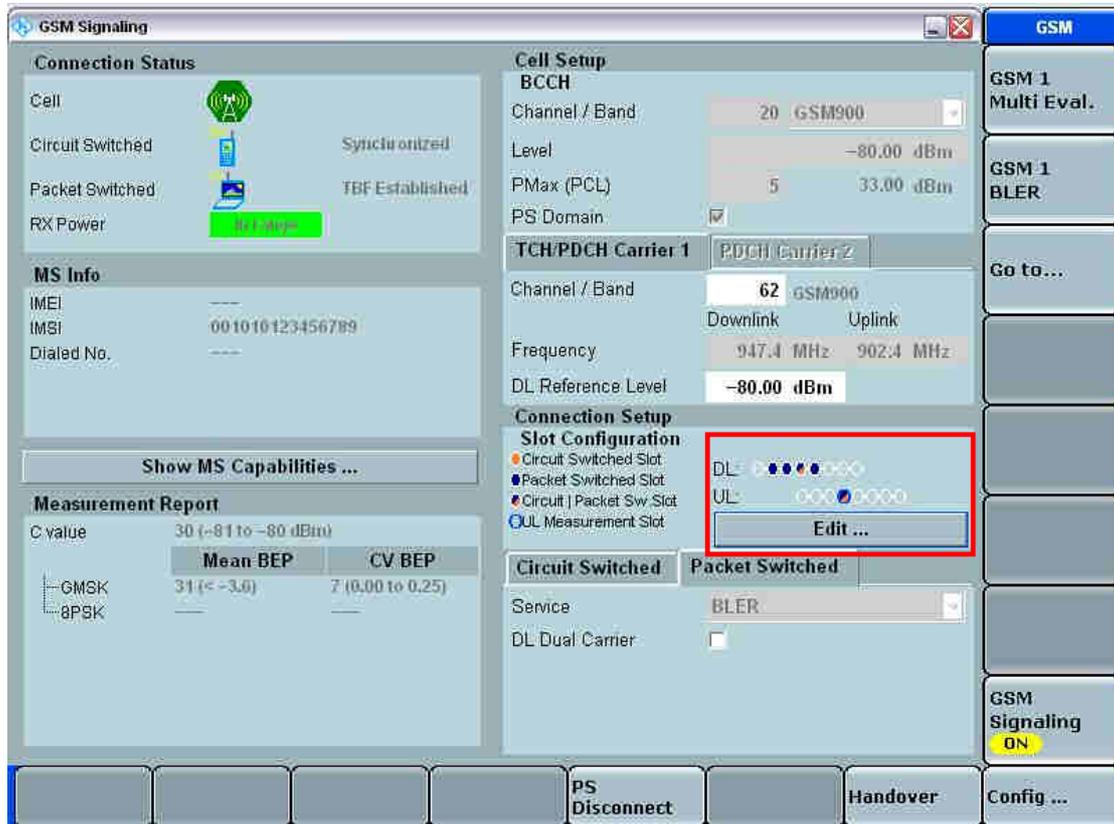
Gamma: 对应的功率等级值；

配置相应的时隙后，请选择“Apply”以完成配置。选择“GSM1 Multi eval”，进入测试界面。如图：



读取功率、相位误差等测试结果；

8. BLER 模式：测试下行吞吐量；按键“GSM1 Signaling”回到信令界面，断开 PS 连接，选择“BLER”模式后，“PS Connect”重新建立连接，如图；



9. 选择“Edit”，配置相应的时隙和编码方式，如图；选择“GSM1 BLER”，进入测试界面。

The image shows two screenshots from the GSM Simulation software. The top screenshot is the 'Slot Configuration' window for Carrier 1. It shows settings for CS Timeslot (3), TBF Level (EGPRS), and UL Coding Scheme (MCS-1). A table lists slots 0 through 7 with their respective configurations. The bottom screenshot is the 'GSM Signaling BLER' window, showing a table of BLER, RLC, and Data rate for various slots. The 'Edit ...' button in the Connection Setup section is highlighted.

**Slot Configuration Table (Carrier 1):**

Slot	Used	Gamma	Level	Offset	Coding Scheme
Slot 0	<input type="checkbox"/>	13	13.0 dBm	<input type="checkbox"/>	MCS-1
Slot 1	<input type="checkbox"/>	13	13.0 dBm	<input checked="" type="checkbox"/>	MCS-1
Slot 2	<input type="checkbox"/>	13	13.0 dBm	<input checked="" type="checkbox"/>	MCS-1
Slot 3 (CS)	PCL: 10 23.0 dBm <input checked="" type="checkbox"/> 0.00 dB				
Slot 3	<input checked="" type="checkbox"/>	13	13.0 dBm	<input checked="" type="checkbox"/>	MCS-1
Slot 4	<input type="checkbox"/>	13	13.0 dBm	<input checked="" type="checkbox"/>	MCS-1
Slot 5	<input type="checkbox"/>	13	13.0 dBm	<input type="checkbox"/>	MCS-1
Slot 6	<input type="checkbox"/>	13	13.0 dBm	<input type="checkbox"/>	MCS-1
Slot 7	<input type="checkbox"/>	13	13.0 dBm	<input type="checkbox"/>	MCS-1

**GSM Signaling BLER Table (Carrier 1):**

Carrier 1	BLER [%]	RLC Data Blocks	Data rate [kBit/s]
Slot0/Off	---	---	---
Slot1@-80dBm	0.00	331	8.74
Slot2@-80dBm	0.00	332	8.77
Slot3@-80dBm	0.00	333	8.80
Slot4@-80dBm	0.00	332	8.77
Slot5/Off	---	---	---
Slot6/Off	---	---	---
Slot7/Off	---	---	---
Over all	0.00	1328	35.07
Long-Term Throughput:			
Over All	35.07 kBit/s Per Slot	8.77 kBit/s	

读取 Throughput。

10. 选择“Edit”，配置相应的时隙和编码方式，如图；选择“GSM1 BLER”，进入测试界面。MCS-9 对应最高速率时的编码，下行为 4 个时隙。

The image shows two screenshots from a software interface for configuring and testing GSM signaling BLER.

**Top Screenshot: Slot Configuration**

Carrier 1 Slot Configuration:

- Carrier: Carrier 1
- CS Timeslot: 3
- TBF Level: EGPRS
- UL Coding Scheme: MCS-1
- Carrier Settings: TCH Channel: 62, DL Ref. Level: -80.00 dBm

Slot	Uplink		Downlink			Coding Scheme
	Used	Gamma	Used	Level On   Offset		
Slot 0	<input type="checkbox"/>	13 13.0 dBm	<input type="checkbox"/>	<input type="checkbox"/> 0.00 dB		MCS-9
Slot 1	<input type="checkbox"/>	13 13.0 dBm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 0.00 dB		MCS-9
Slot 2	<input type="checkbox"/>	13 13.0 dBm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 0.00 dB		MCS-9
Slot 3 (CS)		PCL: 10 13.0 dBm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 0.00 dB		
Slot 3	<input checked="" type="checkbox"/>	13 13.0 dBm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 0.00 dB		MCS-9
Slot 4	<input type="checkbox"/>	13 13.0 dBm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 0.00 dB		MCS-9
Slot 5	<input type="checkbox"/>	13 13.0 dBm	<input type="checkbox"/>	<input type="checkbox"/> 0.00 dB		MCS-9
Slot 6	<input type="checkbox"/>	13 13.0 dBm	<input type="checkbox"/>	<input type="checkbox"/> 0.00 dB		MCS-9
Slot 7	<input type="checkbox"/>	13 13.0 dBm	<input type="checkbox"/>	<input type="checkbox"/> 0.00 dB		MCS-9

Buttons: Apply, Undo, Ok, Cancel

**Bottom Screenshot: Test Results and Cell Setup**

Carrier 1	BLER [%]	RLC Data Blocks	Data rate [kBit/s]
Slot0/Off	---	---	---
Slot1@-80dBm	0.00	500	58.92
Slot2@-80dBm	0.00	500	58.91
Slot3@-80dBm	0.00	500	58.91
Slot4@-80dBm	0.00	500	58.91
Slot5/Off	---	---	---
Slot6/Off	---	---	---
Slot7/Off	---	---	---
Over all	0.00	2000	235.66

Long-Term Throughput:  
Over All: 235.66 kBit/s Per Slot, 58.91 kBit/s

**Cell Setup**

- BCCCH: Channel / Band: 20 GSM900, Level: -80.00 dBm, PMax (PCL): 5 33.00 dBm
- TCH/PDCH Carrier 1: Channel / Band: 62 GSM900, Frequency: 947.4 MHz (Downlink), 902.4 MHz (Uplink), DL Reference Level: -80.00 dBm

**Connection Setup**

- Slot Configuration: DL: [Circuit Switched Slot, Packet Switched Slot, Circuit | Packet Sw Slot, OUL Measurement Slot], UL: [Circuit Switched Slot, Packet Switched Slot, Circuit | Packet Sw Slot, OUL Measurement Slot]
- Service: BLER
- DL Dual Carrier:

Buttons: Display, GSM 1 Signaling, Config ...

读取 Throughput。