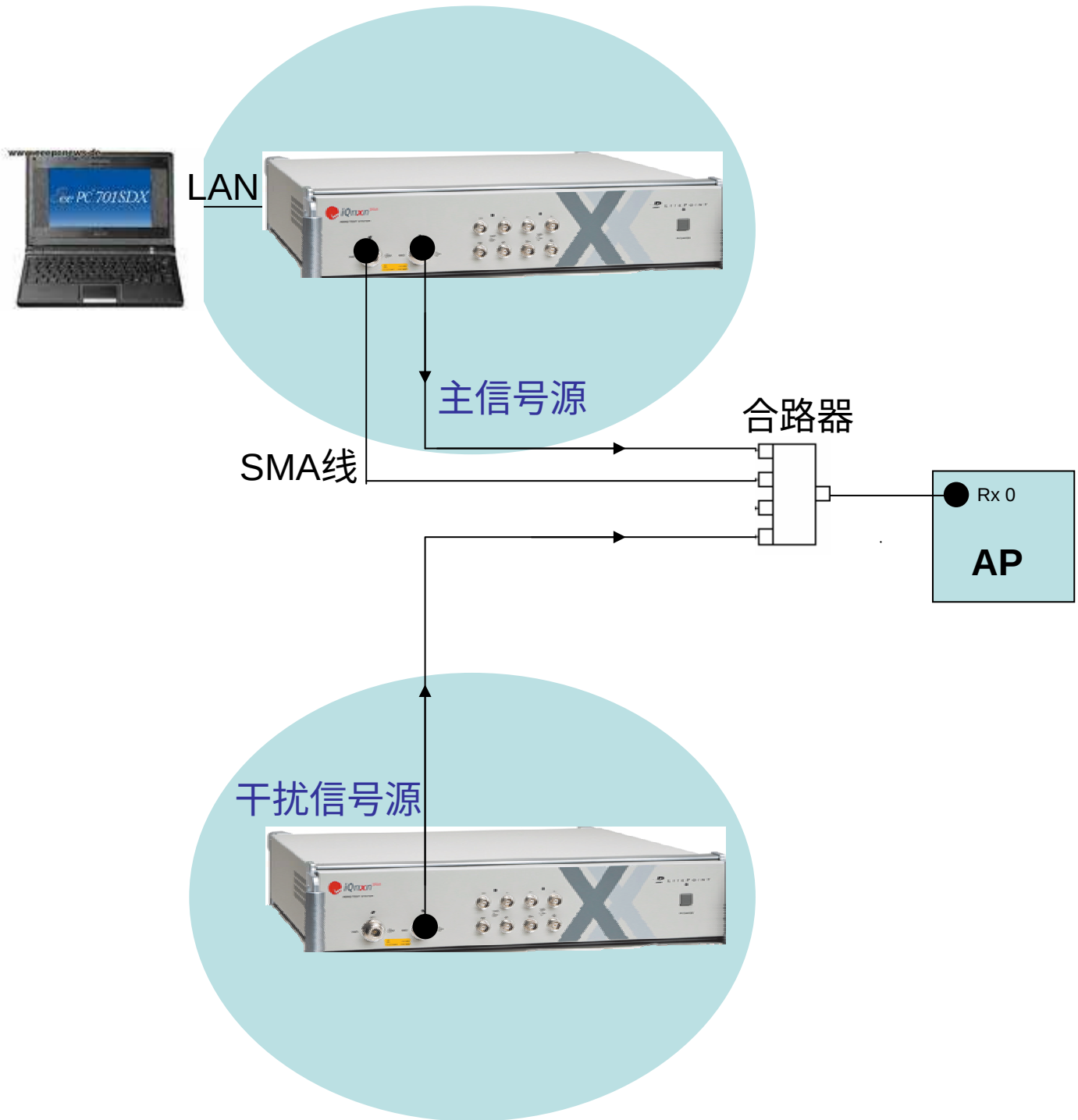
接收邻道抑制比 - 测试方法

检查接收机抗干扰能力

连线图



802.11g

主信号功率: 灵敏度 + 3dB
干扰信号功率: 从低往上调直到PER>=10%
频率: +/-25MHz
预期结果:主信号功率和干扰信号功率的差值应该大於以下要求

Data rate (Mbits/s)	Minimum sensitivity (dBm)	Adjacent channel rejection (dB)	Alternate adjacent channel rejection (dB)
6	–82	16	32
9	–81	15	31
12	–79	13	29
18	–77	11	27
24	–74	8	24
36	–70	4	20
48	–66	0	16
54	–65	–1	15

Table 91—Receiver performance requirements

17.3.10.2 Adjacent channel rejection

The adjacent channel rejection shall be measured by setting the desired signal's strength 3 dB above the rate-dependent sensitivity specified in Table 91 and raising the power of the interfering signal until 10% PER is caused for a PSDU length of 1000 bytes. The power difference between the interfering and the desired channel is the corresponding adjacent channel rejection. The interfering signal in the adjacent channel shall be a conformant OFDM signal, unsynchronized with the signal in the channel under test. For a conformant OFDM PHY the corresponding rejection shall be no less than specified in Table 91.

802.11b (11Mbps)

主信号功率: -76dBm + 6dB
干扰信号功率: -76dBm + 41dB
频率: +/-25MHz
预期结果: PER < =8%

18.4.8.3 Receiver adjacent channel rejection

Adjacent channel rejection is defined between any two channels with ≥25 MHz separation in each channel group, as defined in 18.4.6.2.

The adjacent channel rejection shall be equal to or better than 35 dB, with an FER of 8×10^{-2} using 11 Mbit/s CCK modulation described in 18.4.6.3 and a PSDU length of 1024 octets.

The adjacent channel rejection shall be measured using the following method.

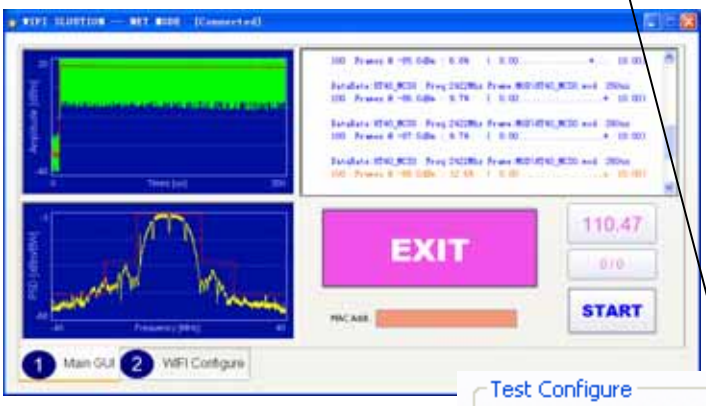
Input an 11 Mbit/s CCK modulated signal at a level 6 dB greater than specified in 18.4.8.1. In an adjacent channel (≥ 25 MHz separation as defined by the channel numbering), input a signal modulated in a similar fashion, which adheres to the transmit mask specified in 18.4.7.3, to a level 41 dB above the level specified in 18.4.8.1. The adjacent channel signal shall be derived from a separate signal source. It cannot be a frequency shifted version of the reference channel. Under these conditions, the FER shall be no worse than 8×10^{-2}.

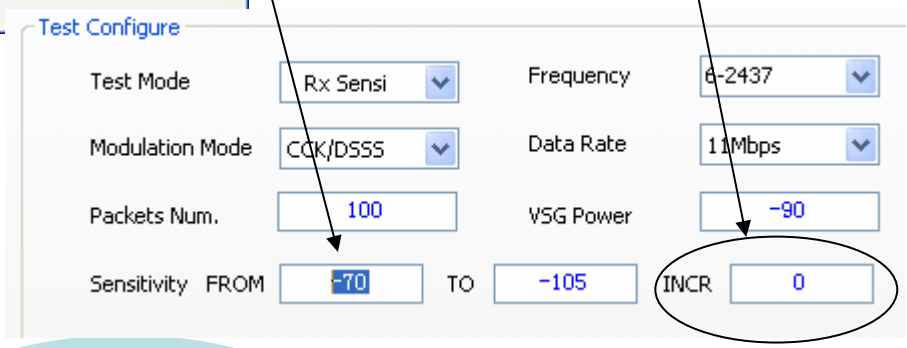
18.4.8.1 Receiver minimum input level sensitivity

The frame error ratio (FER) shall be less than 8×10^{-2} at a PSDU length of 1024 octets for an input level of −76 dBm measured at the antenna connector. This FER shall be specified for 11 Mbit/s CCK modulation. The test for the minimum input level sensitivity shall be conducted with the energy detection threshold set less than or equal to −76 dBm.

如何设置主信号

利用接收灵敏度软件连接到主信号源的仪器,
把功率设为之前提到的主信号功率, 基於此功率, 重复测试PER
此时候PER应该是 0%





LAN

主信号源

合路器

SMA线

Rx 0

AP

如何设置干扰信号

在同一台电脑上,利用IQSIGNAL连接到干扰信号源的仪器
(注意仪器控制权)
把发射功率慢慢往上调, 直到那个接收灵敏度软件报PER>10%
此功率和主信号功率之间的差值就是我们要的结果
(802.11b -11Mbps的话, 功率从-76+41dBm开始)
(还没包含外线衰减)
注: 此通道和主信号源通道相隔25MHz