

In order to provide the best accuracy for this measurement the video signal under tests should be at least 5 dBmV in level and the built in bandpass filters should be set to automatic mode. These automatic filters are used to prevent the analyzer from being overloaded when measuring low level distortion and noise. To turn on the automatic bandpass filters press the **FREQ** hard key from any of the measurement screens and press the bottom soft key to turn the filter to **AUTO**. If the video signal being tested is less than 5 dBmV the filters should be set to **OFF**. This measurement encompasses all necessary distortion measurements for HRC frequency allocation systems.

A preamplifier is not normally needed because the AT2500 analyzer has its own internal pre-amp. A signal level of 5 dBmV will produce a 65 dB dynamic range.

CTB measurements are different because the inter-modulation beat falls directly at the video carrier frequency. If in an HRC system, both the CSO and CTB beats both fall at the video carrier. Due to this, the carrier level must be measured then removed to allow the measurement of the beat. The two levels are then compared to produce the ratio. Without third party equipment, there is no way to perform this measurement in a gated mode. Therefore this document discusses the measurement as if this equipment is not available.

1. Press the **MENU** hard key and select the **CCN, CSO, CTB** measurement.
2. Press the **FREQ** hard key, select the desired video carrier using the soft key.
3. Press the **ESC** key to return the analyzer to **CCN, CSO, CTB** node.
4. Make sure single measurement is selected on the top soft key.
5. On the second soft key, make sure that **CTB** is selected.
6. This is an in-channel measurement so be sure that **in-channel** is selected on the third soft key.
7. Make sure **Discrete Freq Interference** is set to **OFF**.
8. Press the **Set Measurement Parameters** soft key. The display will be as in Figure 1. Ensure that the **CTB** measurement is set to 0 as indicated. Save the set up with the soft key and this returns you to the measurement menu. Note: These settings can be configured in the channel plan so that the analyzer will always use the correct measurement settings for a specific channel.
9. Press the **Measure** soft key and you will get an indication to set the attenuator even though it has auto-ranged to make the carrier level measurement. Set the attenuator using the arrow keys so that the video carrier is near the top graticule or slightly beyond but not high enough to cause an **S** to appear above the Sunrise logo indicating that the analyzer input is saturated (see Figure 2).
10. Remove the carrier.
11. Press **enter** and the measurement will continue. The results are displayed on the bottom of the screen as shown in Figure 3. Ensure that the noise correction factor is less than 7dB.
12. Restore the carrier.
13. To repeat the measurement press **ESC** and restart at step 9.
14. To save the measurement press the **STORE** key and then the **STORE RECORD** softkey. Enter a file name, ID Code (optional) and comments (optional).

Note: If these measurements are to be used to create an FCC proof of performance report using WinCom II, you must enter the correct ID Code (**HEAD** for headend or **TP01, TP02...**for field test points) to identify the location of the measurement.

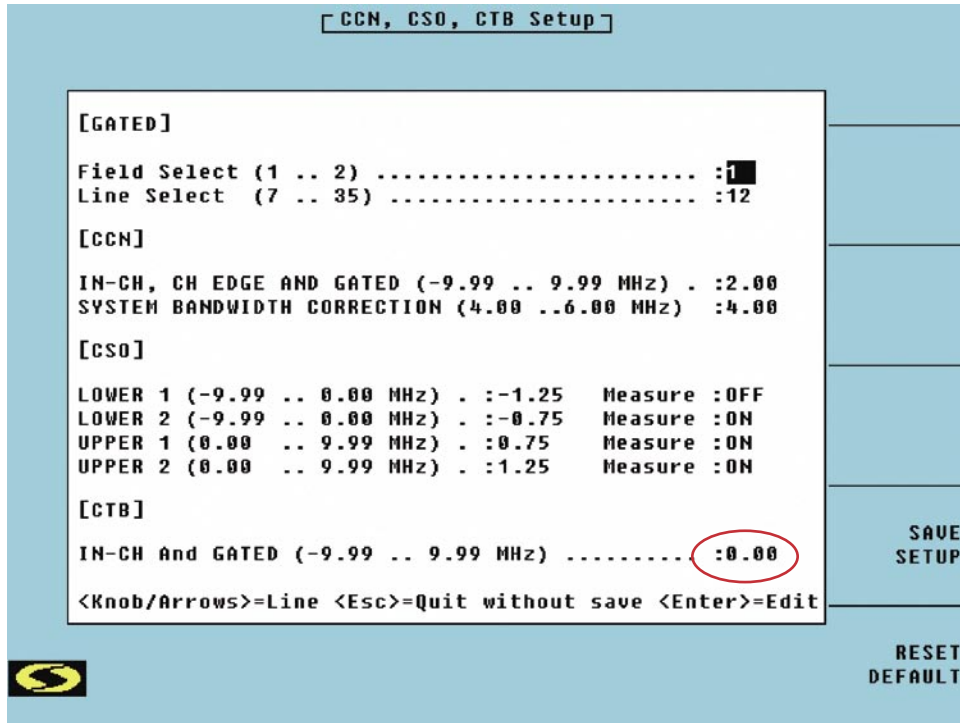
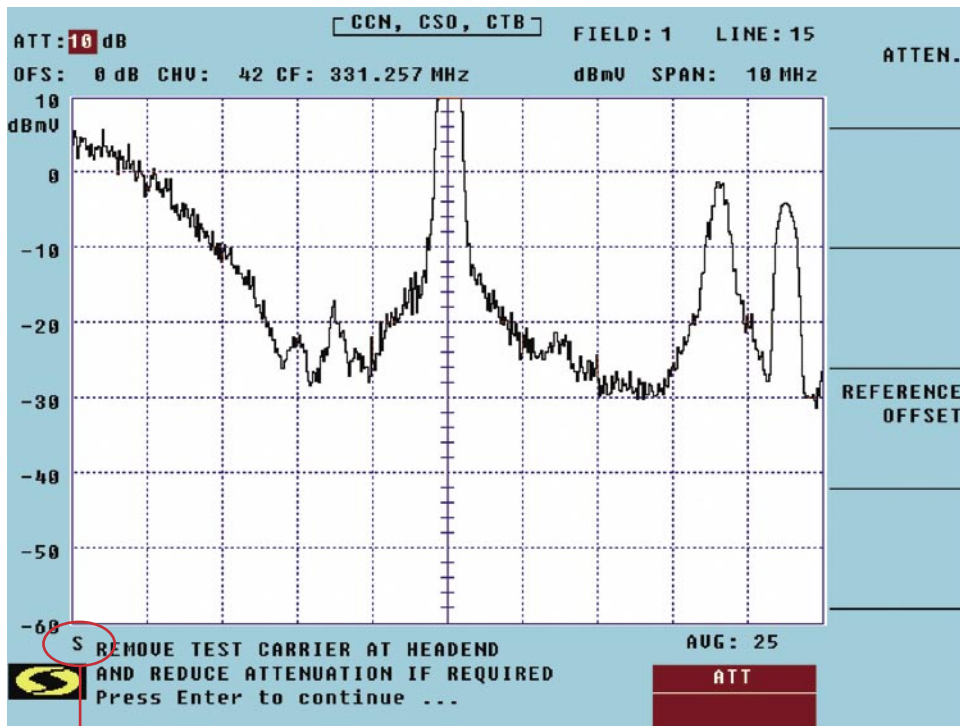


Figure 1



Saturation Indicator

Figure 2

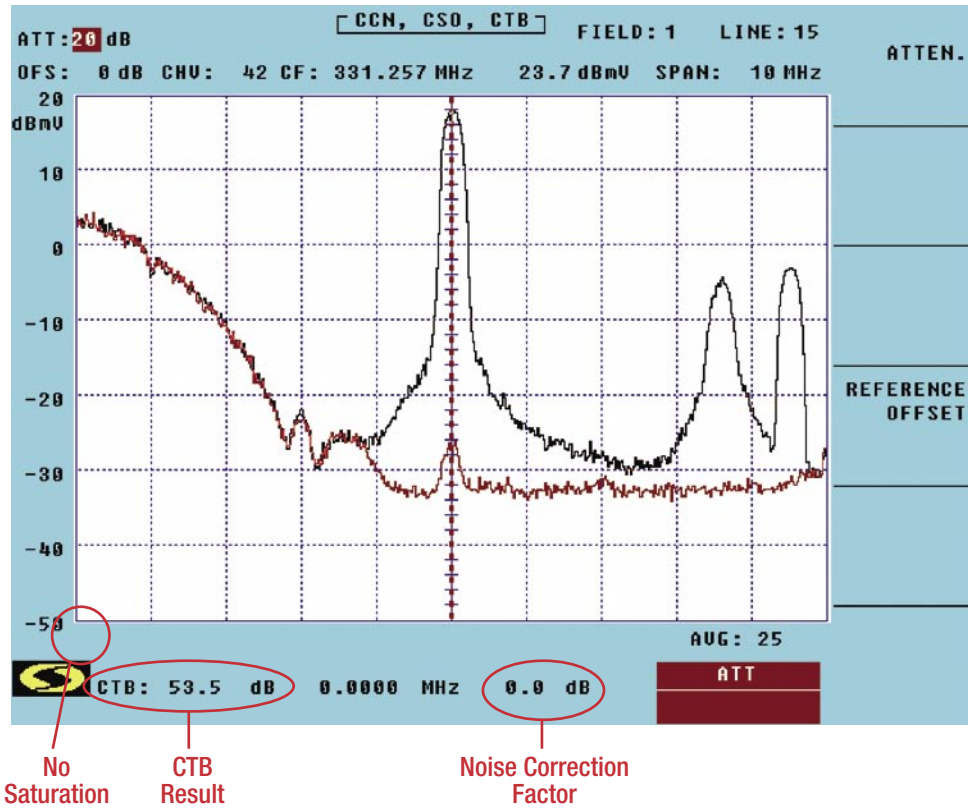


Figure 3

JUST ANOTHER WAY
WE'RE UNCOMPLICATING CABLE

