

# CT-4 and CT-X Quick Verify



## Determine Estimated CT-4 and CT-X Levels

This procedure is not to be used to set or adjust the CT-4/CT-X levels but to verify if the measured level is within the appropriate limits and determine the CT-4/CT-X needs to be adjusted.

Note: We will only look at the two typical frequencies in this document.

Prerequisite

**Please Review CT-4 Getting Started Guide**

**Please Review CT-X Getting Started Guide**

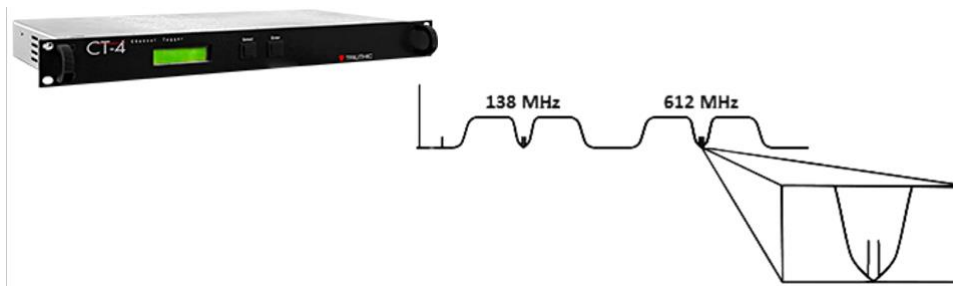
## System Requirements

ONX 620 or ONX630

Any forward test points

## Quick Review

CT-4 has a fixed injection of 138 MHz and 612 MHz See Figure 1



*Figure 1: Typical injection Frequencies*

## Procedure

Measure adjacent QAM Channels to 612 MHz and 138 MHz

- Ch. 88 or 89, and 16 or 17 respectively
- Log channel power levels for each
- Measure the peak value of the dual CW's combined (Not in Low-Res mode)
- 612 MHz and 138 MHz
- Log peak value of both frequencies

**Proper Levels, no action required**

- Ch 88 or 89 power level -24 dBc to -25 dBc = acceptable level
- Ch 16 or 17 power level -24 dBc to -25 dBc = acceptable level

**If any of the above is not true, schedule headend visit**

Connect signal to port 1 of the ONX

CATV Home Screen  
select  
“**Channel Check**”



Figure 2: Channel Check

Channel Check Setup  
select  
“**Start**”

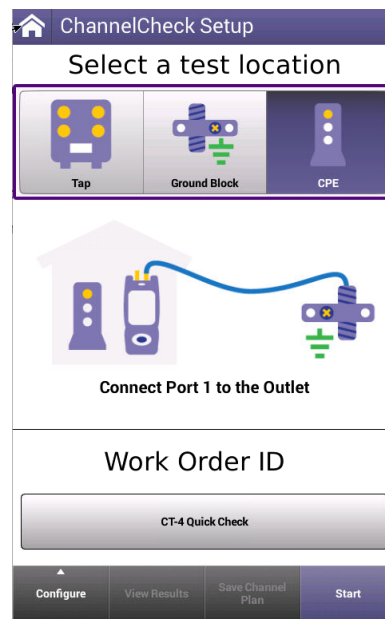


Figure 2: Channel Check Start

ONX builds channel plan and provides measurement for all channels in the plan

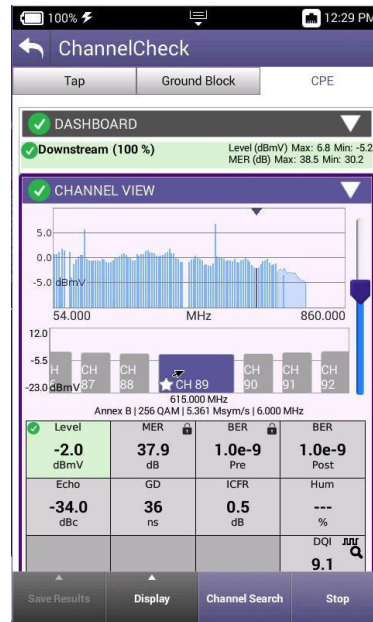
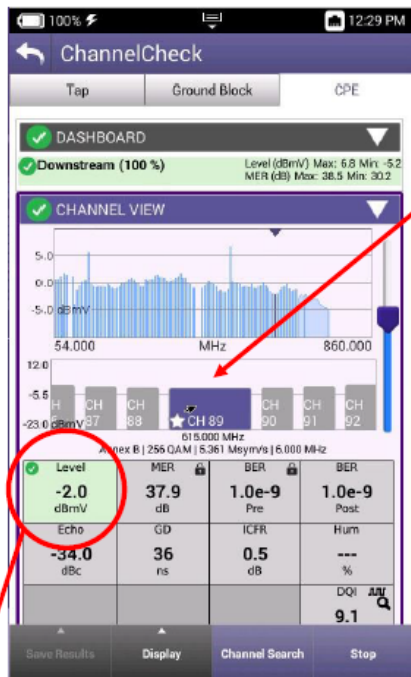
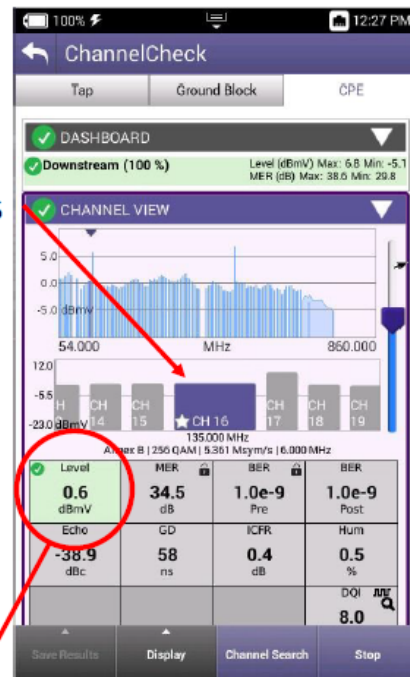


Figure 2: Channel Check Start

Note the Power Level of the selected Channels



Select Channels  
Ch 88 or Ch 89  
and  
Ch 16 or Ch 17  
Log Levels



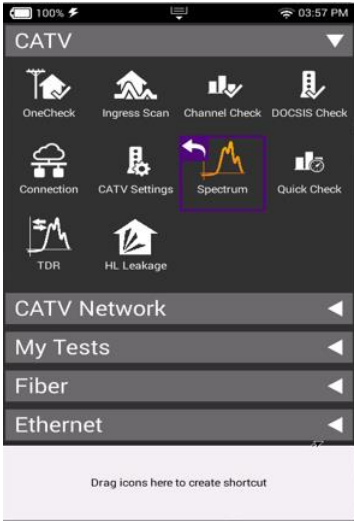
-2.0 dBmV - 24 dBmV = -26 dBmV

0.6 dBmV - 24 dBmV = -23.4 dBmV

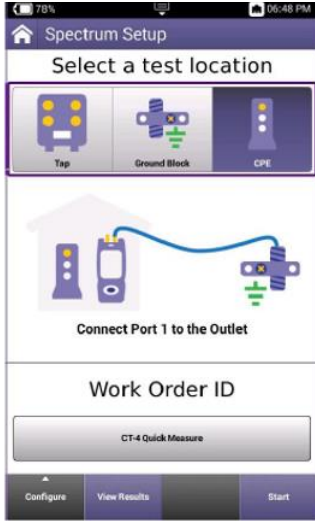
Approximate Target Levels

# Downstream Spectrum Setup (612 MHz)

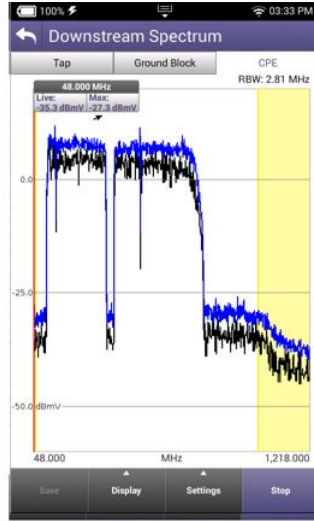
CATV Home Screen  
select  
"Spectrum"



Spectrum Setup  
select  
"Start"



Spectrum  
select  
"Display"

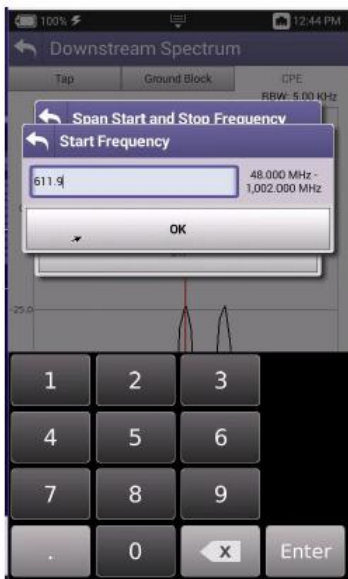


Enter  
**Start and Stop**  
Frequencies



# Downstream Spectrum Setup (612 MHz) Continued

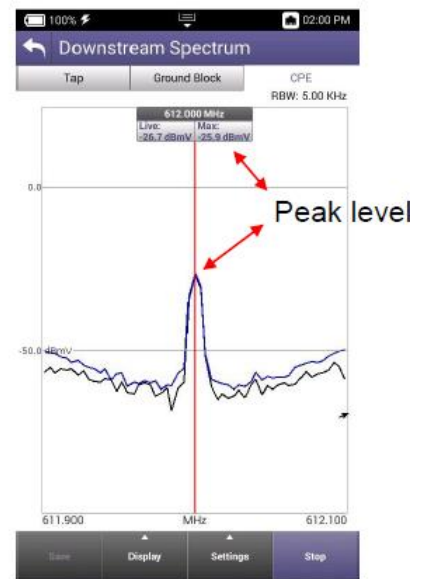
Enter Start Freq  
611.9 MHz



Enter Stop Freq  
612.1 MHz



Move Marker  
to  
Peak Level



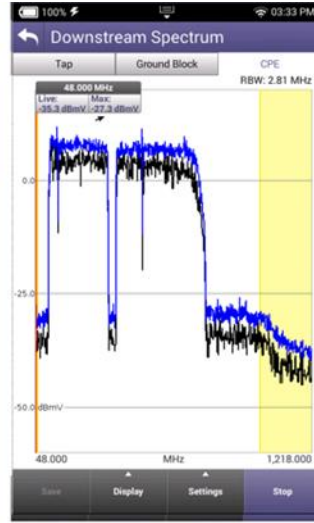
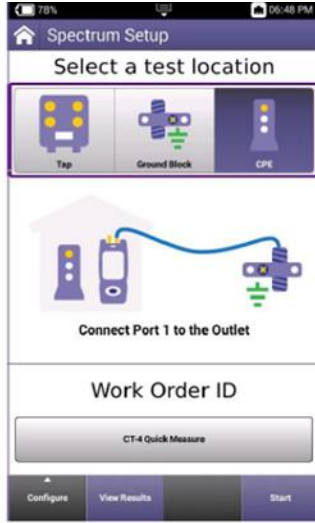
# Downstream Spectrum Setup (138 MHz)

CATV Home Screen  
select  
"Spectrum"

Spectrum Setup  
select  
"Start"

Spectrum  
select  
"Display"

Enter  
**Start and Stop**  
Frequencies

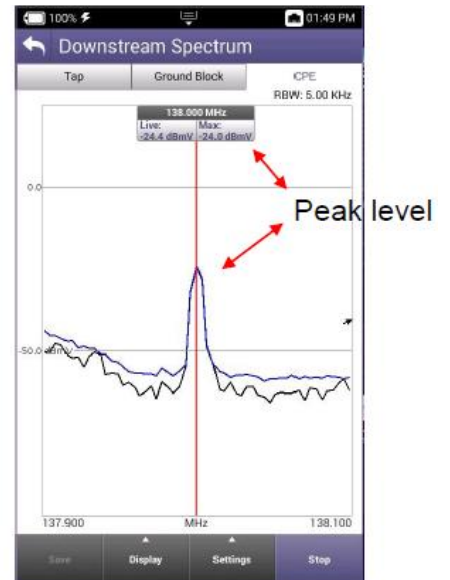
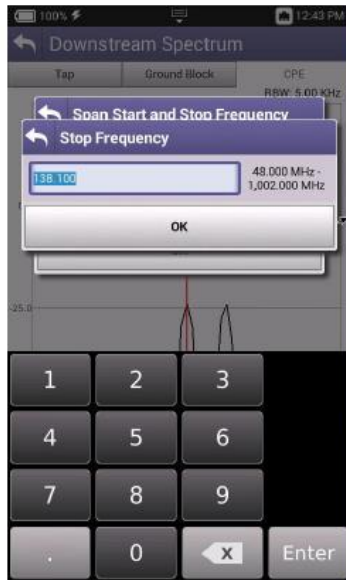
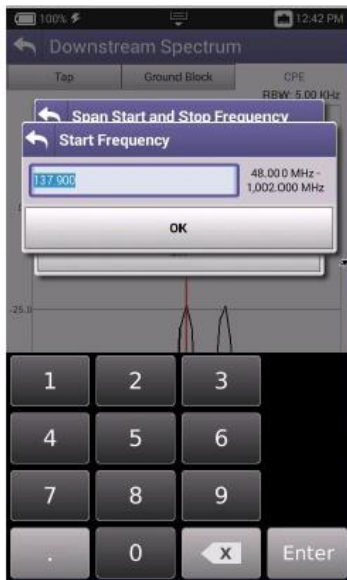


# Downstream Spectrum Setup (138 MHz) Continued

Enter Start Freq  
137.9 MHz

Enter Stop Freq  
138.1 MHz

Move Marker  
to  
Peak Level



## Measured Results

(612 MHz)

$$-2.0 \text{ dBmV} - 24 \text{ dBmV} = \underline{-26 \text{ dBmV}}$$

$$-2.0 \text{ dBmV} - 25 \text{ dBmV} = \underline{-27 \text{ dBmV}}$$



This looks good  
No action required

(138Mhz)

$$0.6 \text{ dBmV} - 24 \text{ dBmV} = \underline{-23.4 \text{ dBmV}}$$

$$0.6 \text{ dBmV} - 25 \text{ dBmV} = \underline{-24.4 \text{ dBmV}}$$



This looks good  
No action required

**Note:** These are approximate levels to verify leakage levels are within the expected limits. If levels are off by 3 dB too low, then leakage readings will be cut by 1/2.

**Example:**

A 20 microvolt leak would be only 10 microvolts.