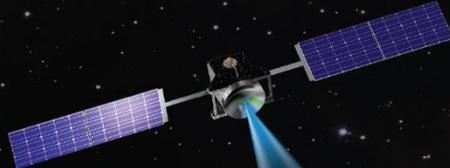


**alpsat**



**DVB-S/S2**



**DVB-C**  
with Analog TV



**J.83 A/B/C**



**DVB-T/T2**  
with Analog TV



**ISDB-T**



**AHD CVI TVI 8MP**  
CCTV CAMERA INPUT



**AS07-STCA 4K**

**SAT-TV-CATV**  
**FIELD SIGNAL METERS**



**EN**

**USER GUIDE**

*Please read this manual carefully before using your Signal Analyzer.*

**TR**

**KULLANIM KILAVUZU**

*Sinyal Analizörü kullanmadan önce lütfen bu kılavuzu dikkatle okuyunuz.*

MADE IN TÜRKİYE

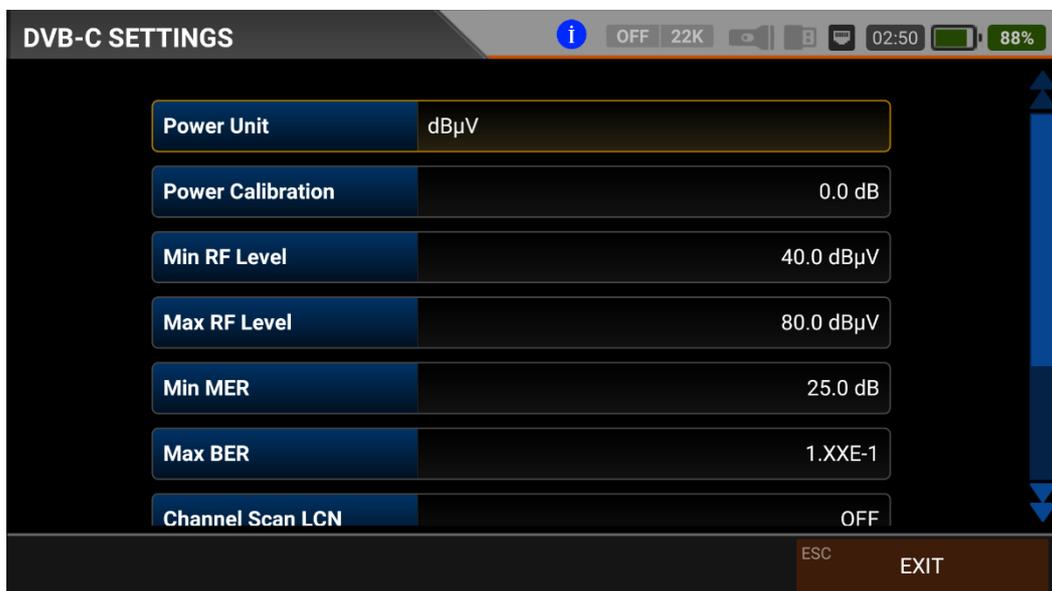
**CE**

## **INSTRUCTIONS FOR USE ON DVB-C/ANALOGUE CABLE TV MEASUREMENT:**

Enter the DVB-C menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.



## **DVB-C SETTINGS:**



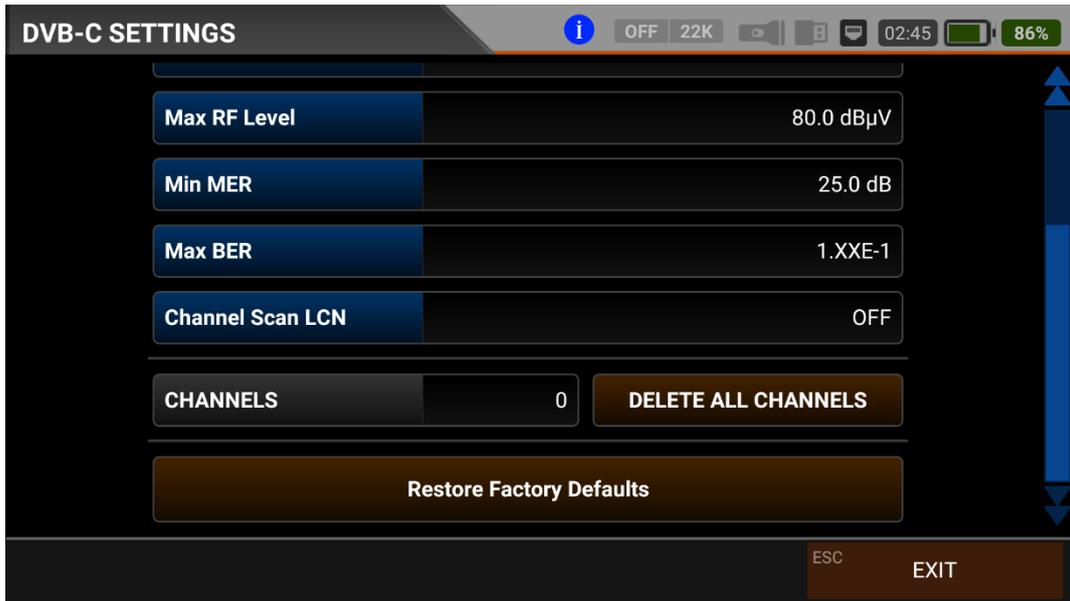
Power Unit: You can see the signal levels on the display in dB $\mu$ V/dBm/dBmV units.

Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

Min RF Level: If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

Max RF Level: If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.

Min MER: When the MER value drops below this level, the device will not confirm that the installation was done correctly.



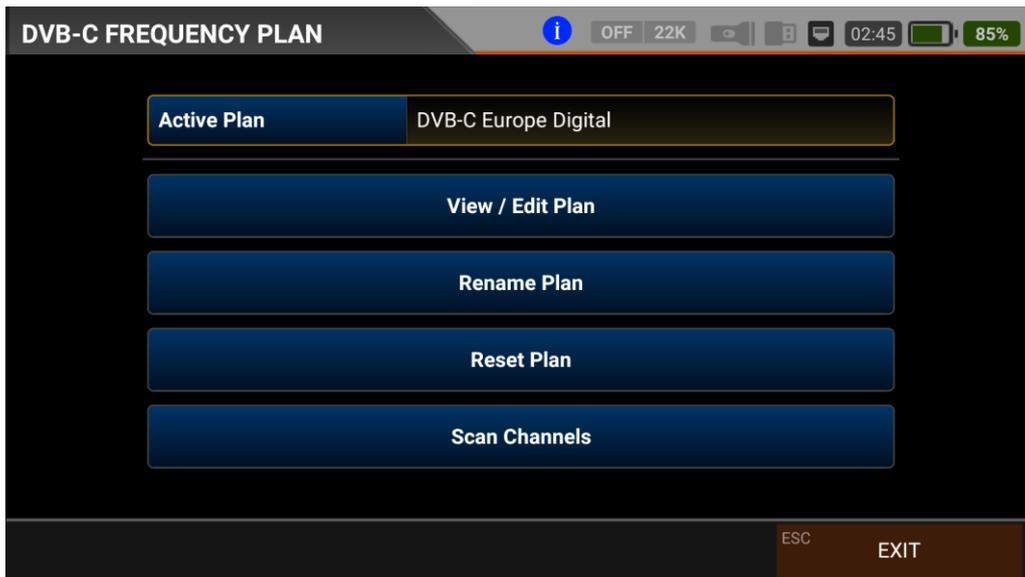
Max BER: You can choose how much maximum the Bit Error Rate data rate can be.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

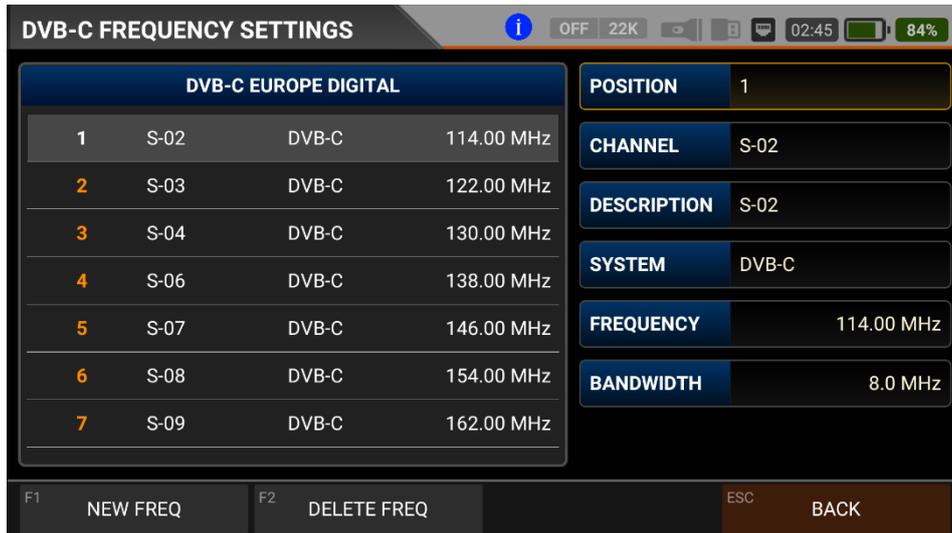
Delete All Channels: It deletes all channels in the DVB-C menu.

Factory Reset: It restores all database information in the DVB-C menu to factory settings.

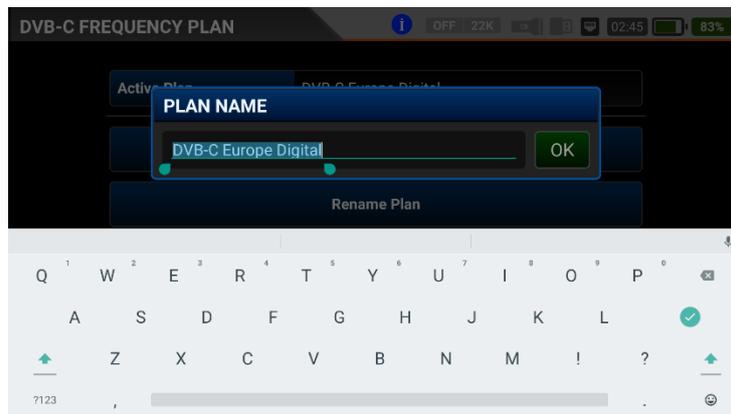
**DVB-C FREQUENCY PLAN:**



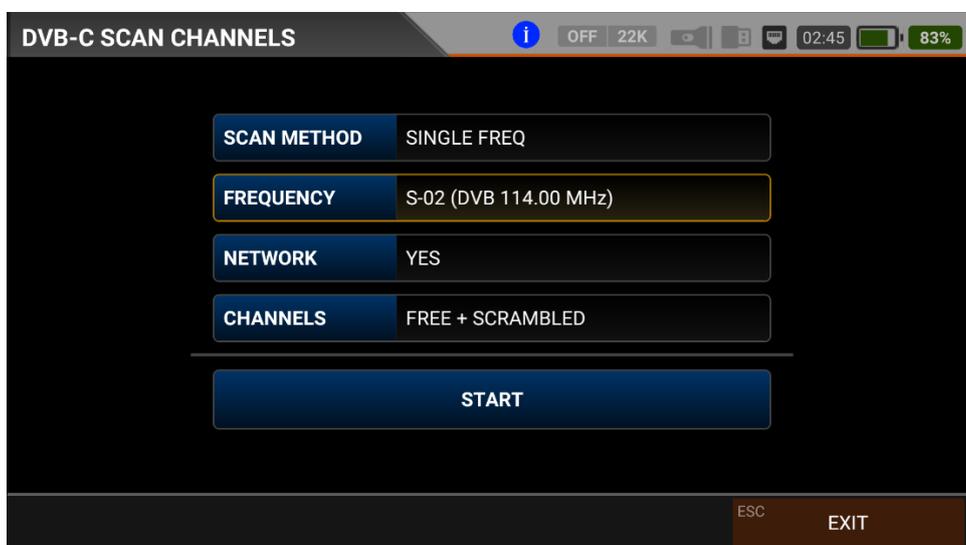
Your device can store dozens of Frequency Plans for each system in its memory to be used in your own installations or operator deployments.



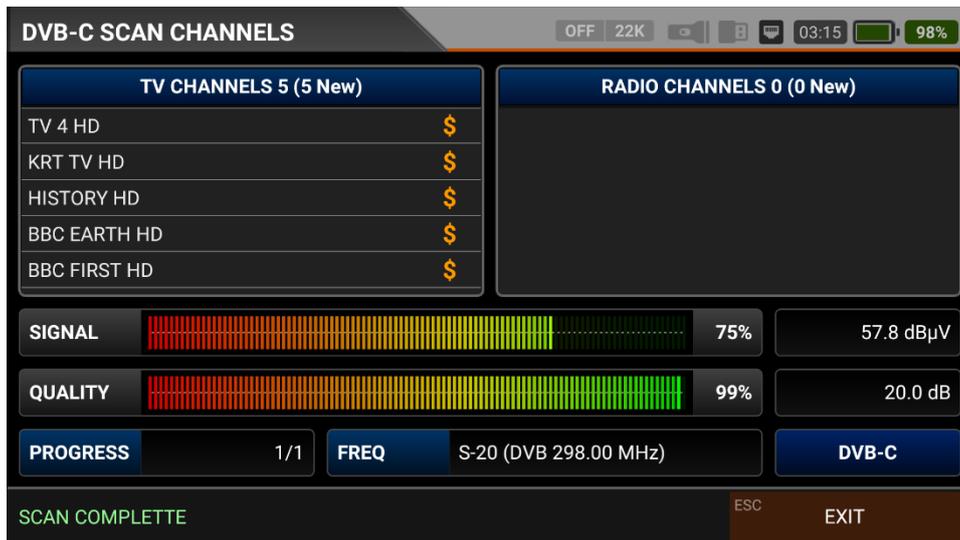
You can manually change these frequency plans on the device or via a PC program. You can access all parameters such as Frequency, BW, TV, and system for each frequency.



You can assign names and change parameters for your frequency plans. You can create your own plan.



You can then start the scan channel process by touching the START box. In the scan channel screen, you can see which frequencies you scan and the signal values. It will show the newly found channels in white colour on the screen.



Scan Channels: You can search for TV Channels suitable for your frequency plan in the DVB-C band. Then You can monitor and measure these channels.

SCAN MODE: You can scan in 2 modes as SINGLE FREQUENCY / ALL PLAN.

FREQUENCY: You can select which frequency to scan when scanning Single Frequency.

SCAN NETWORK: The NIT scan network for operators allows you to scan all frequencies.

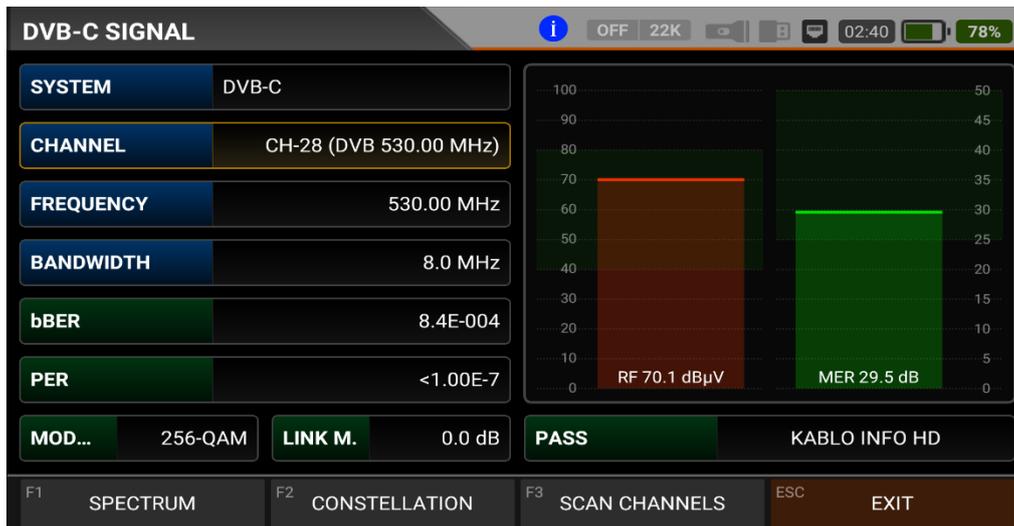
CHANNELS: You can scan and memorize channels in 3 modes: FTA / SCRAMBLED / FTA+SCRAMBLED.

### **DVB-C SIGNAL MEASUREMENT:**

Your AS07STCA-4K is capable of measuring DVB-C analogue and digital signals. It can also show SD-HD-FHD-4K TV channels.



First, an Analogue CATV / Digital DVB-C or ATV+DVB-C system must be selected when entering the signal measurement menu. You can select the frequency you want to measure the Digital Cable TV signal or look at the signal levels and see the signal values on the screen. You can quickly switch to other measurement menus related to the frequency you have measured from the SPECTRUM, CONSTELLATION and CHANNEL SEARCH boxes at the bottom. Detailed information on Spectrum Analysis and Constellation properties will be given on the following pages.



**SYSTEM:** It can be selected as ANALOGUE TV / DVB-C separately or ATV+DTV together in the frequency plan. This will display the frequencies of this system on the screen. It will make your installations faster.

**CHANNEL:** You can select the channel you want to measure in the frequency plan by touching the box.

**FREQUENCY:** You can see the frequency you measure. You can change it with the EDIT button.

**BANDWIDTH:** You can select 6.0/7.0/8.0Mhz for DVB-C.

**MODE:** Once the signal is locked, you can see in which mode the DVB-C system is transmitting.

**bBER / PER:** BER should be at the lowest level, which indicates the number of errors before or after correction.

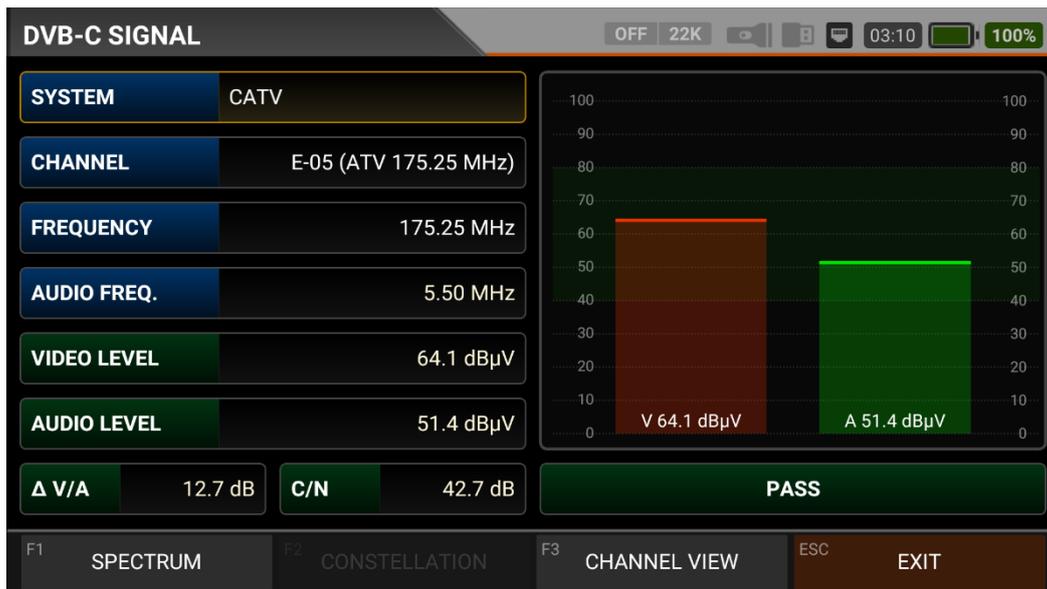
**LINK Margin:** It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

**RF:** You can see the RF level with the red bar.

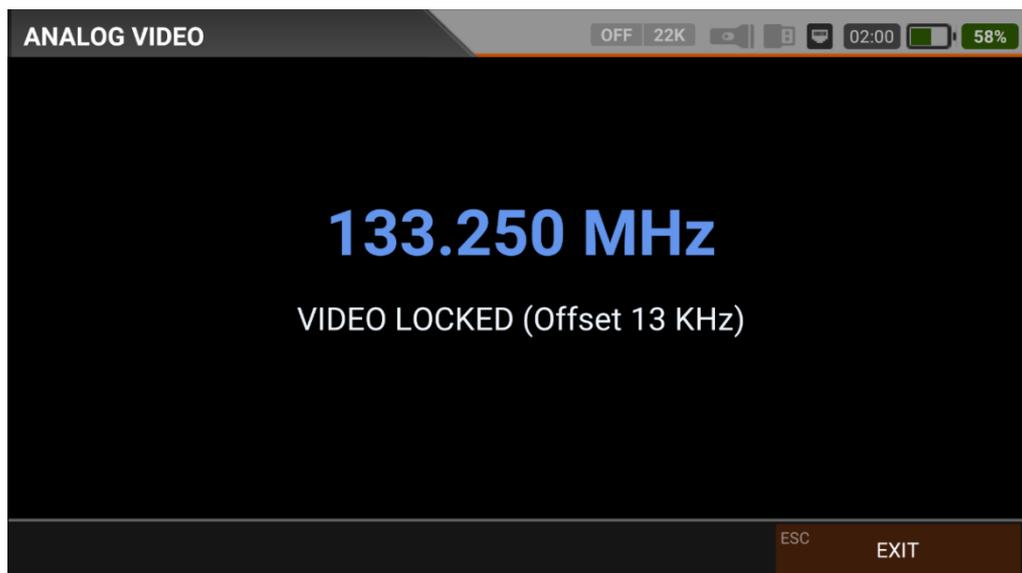
**MER:** You can see the MER rate with the green coloured bar.

Enter the parameters of the frequency you want to measure; the coloured bold bars on the right side of the screen visually show the signal levels and indicated by numbers below the bars. You can see if the bars are within the Max and Min values you select from the settings menu by looking at the green area. You can also see the frequency parameters and signal values, such as MODULATION, BER, and MER, on the left side of the screen. A NO LOCK warning will appear in case the signal values are insufficient, and a PASS warning will appear in case the signal values are appropriate in the box in the lower right corner. If the signal levels are appropriate, the Channel names will appear in the LOWER LEFT bar. You can see the channel names at the frequency you have measured by touching this box. **SCAN CHANNEL and SAVE TO CHANNEL LIST:** Press the "SCAN CHANNEL " box in the lower right section on a frequency where you are sure that the signal levels are suitable. You can browse using the FTA, SCRAMBLED or both options on the SCAN CHANNEL screen. The channels you have scanned are found, and then the information screen appears on the screen, and the channels are saved to the list. (You can access Radio channels by pressing TV/RADIO button).

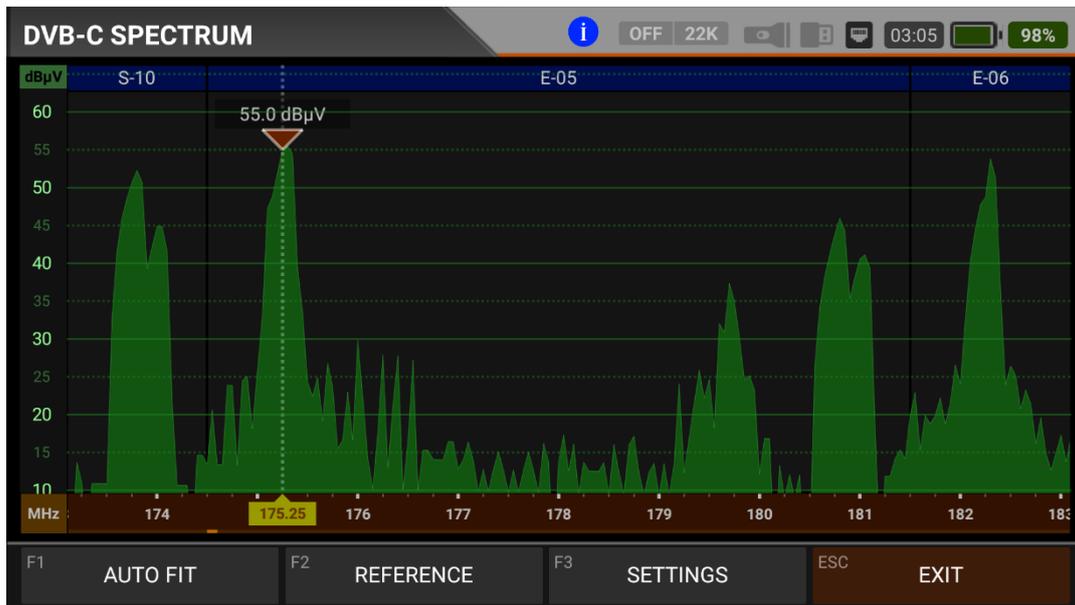
## ANALOGUE CABLE TV SIGNAL MEASUREMENT:



Let's select CATV ANALOGUE from the system. You can select the parameters of the frequency you want to measure on this screen. Then, you can see the difference between respectively the Channel Name, Video Frequency, Audio Frequency, Video Power, Audio Power, and  $\Delta$ VIDEO/AUDIO in dB. You can visually speed up your measurement with signal strength bars changing according to the level in red for Video Frequency power and in green for audio frequency power on the right side of the screen. You can see if the Video Level Power bar and Audio Level Power bar are within the Max and Min values you select from the settings menu by looking at the green area. An ERROR warning will appear in case the signal values are insufficient, and a CONFIRMED sign will appear in case the signal values are appropriate in the box in the lower right corner.



You can see the Analogue TV channels after locking to the frequency by touching the SHOW CHANNEL box at the bottom right. While watching Analogue TV channels, no menu function works; you can only exit Analogue TV with the ESC button.



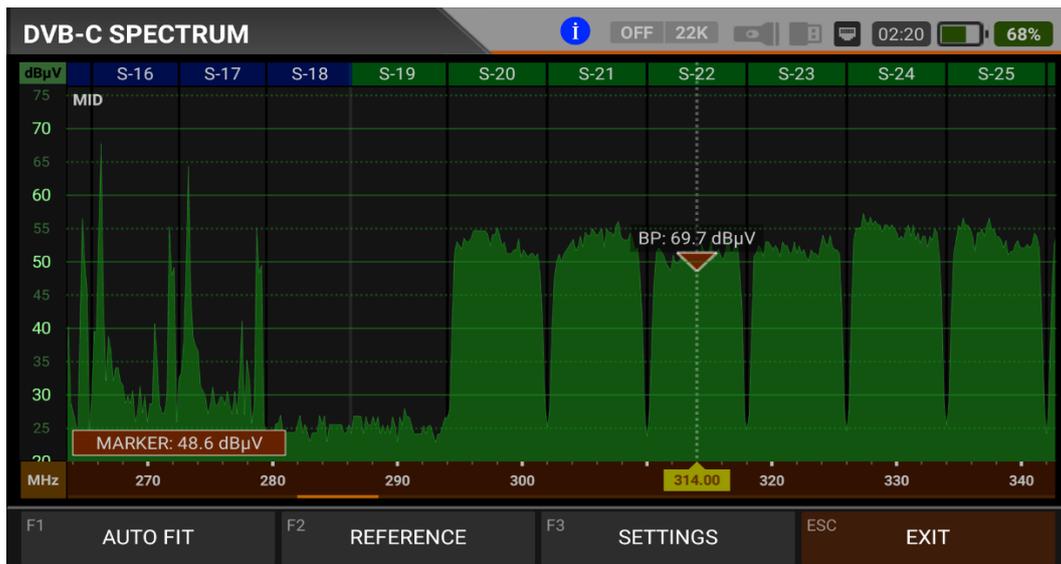
You can see the spectrum of a PAL/B VHF terrestrial analogue cable TV channel on the screen above. You can access the Video-Audio-Colour spectrum detail of the channel you have measured by touching the Spectrum Box on the signal measurement screen.

Table About Analogue TV Systems:

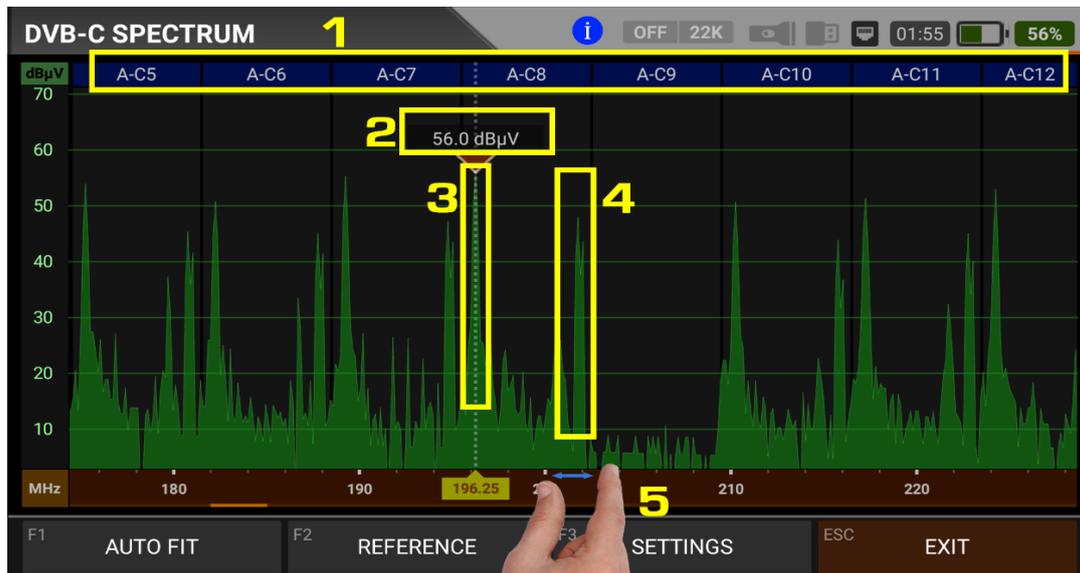
System Signal Characteristics				
	Channel Space (MHz)	Video Mod. Type	Sound Mod. Type	Sideband Space (MHz)
<b>B (VHF)</b>	7	AM	FM (5.5Mhz)	0.75
<b>D</b>	8	AM	FM (6.5Mhz)	0.75
<b>G (UHF)</b>	8	AM	FM (5.5Mhz)	0.75
<b>H</b>	8	AM	FM (5.5Mhz)	1.25
<b>I</b>	8	AM	FM (6.0Mhz)	1.25
<b>K</b>	8	AM	FM (6.5Mhz)	0.75
<b>K1 (K')</b>	8	AM	FM (6.5Mhz)	1.25
<b>L</b>	8	AM	AM (6.5Mhz)	1.25
<b>M</b>	6	AM	FM (4.5Mhz)	0.75
<b>N</b>	6	AM	FM (4.5Mhz)	0.75

Note: Blue-marked areas on the top of the spectrum screen show Analogue TV channel names and green-marked areas show DTV names.

## CABLE TV SPECTRUM ANALYSIS:



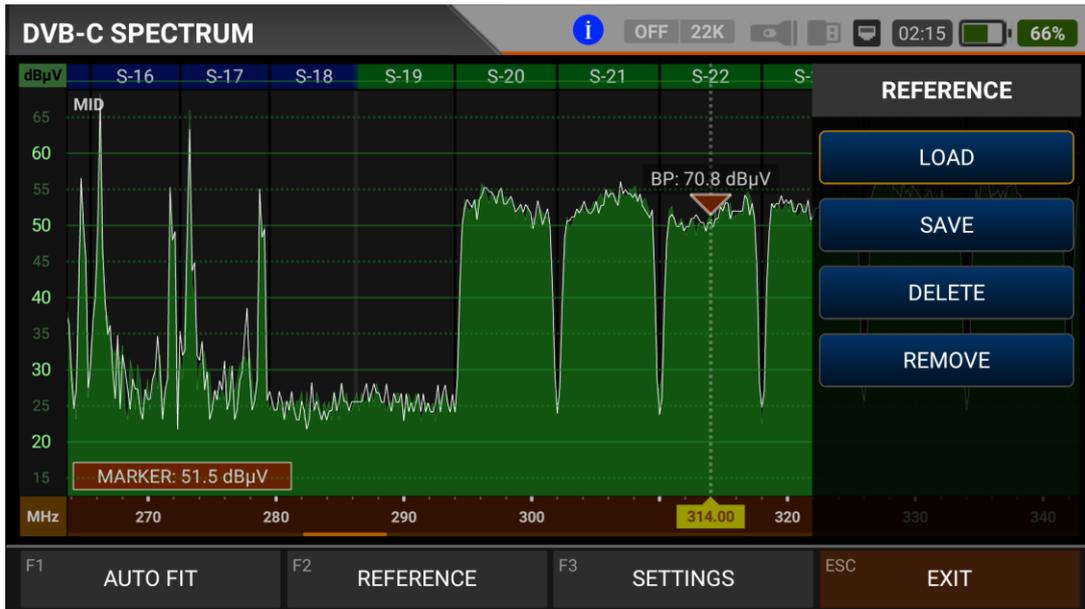
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when the DIGITAL SPECTRUM ANALYSIS measurement mode is switched. You can see the names of the channels in the green boxes at the top. You can see the Band Peak Power on the marker, and you can also see the instantaneous power of the marker line on the bottom left.



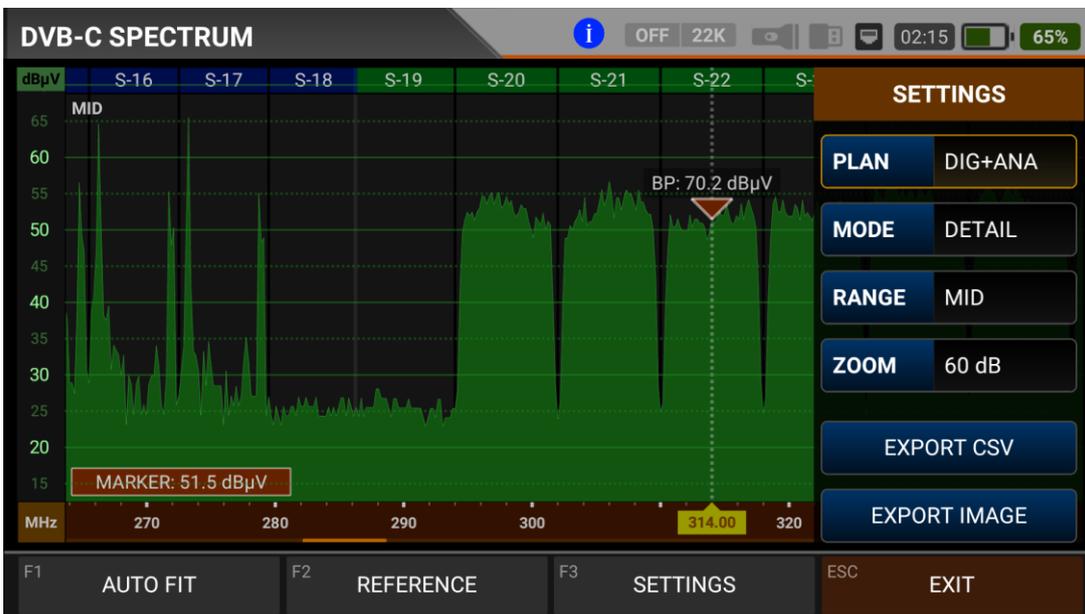
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when performing ANALOGUE SPECTRUM ANALYSIS measurement. You can see the following information on the screen according to the frequency plan we have previously selected.

1. Channel Names: You can see the channel names inside the blue boxes, and these boxes are the bandwidth of that channel.
2. The marker on the video carrier of the channel , measure shows the RF level.
3. It is the video carrier within the band.
4. It is the sound carrier in the band.
5. You can change the frequency range (span) by placing two fingers on the red field.

**FIT:** You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.



**REFERENCE:** You can SAVE the top points of the spectrum as a white line, and then you can LOAD them from memory and re-install them with the same settings.



**SPECTRUM SETTINGS:** This menu allows you to change the Tp Frequency Plan to OFF/DIGITAL/ANALOGUE/DIG+ANA. This allows you to restrict the transmitting system you want to appear on the screen. You can change the operating mode of the spectrum FAST and DETAILS.

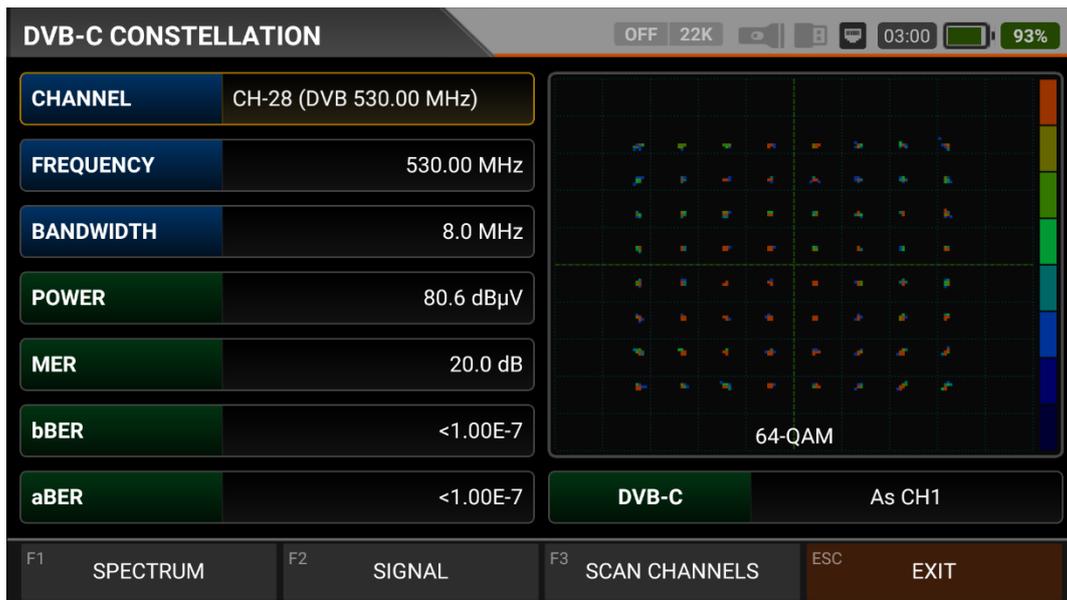
**Range:** Spectrum shows 4 steps range. So you can choose your range depending on the signal level.

HIGH : 40dBuV~110dBuV    -    MID : 20dBuV~80dBuV  
 LOW : 0dBuV~60dBuV      -    BOTTOM : -10dBuV~50dBuV

**Zoom:** You can select screen range in 60db or 30db.

You can export the spectrum display as a \*.CSV file and as an IMAGE file to USB.

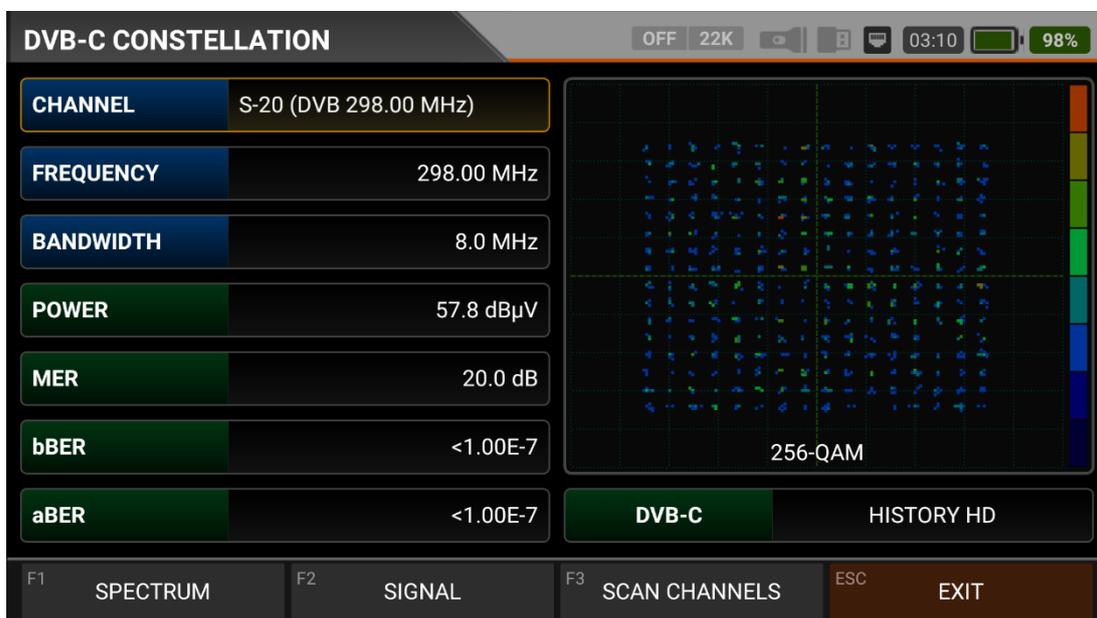
## DVB-C CONSTELLATION DIAGRAM:



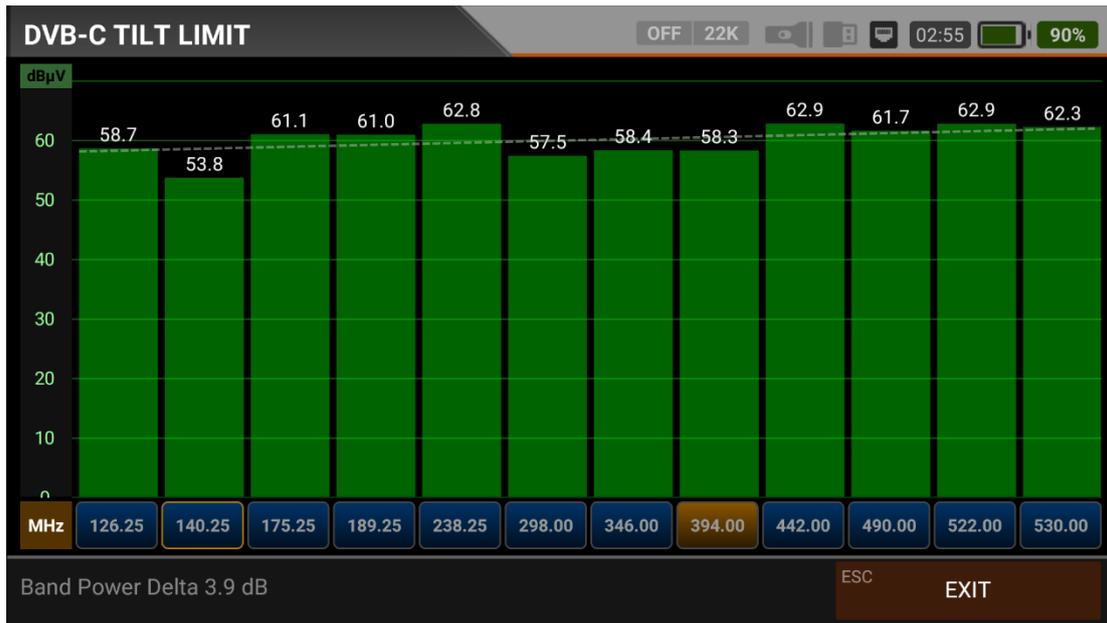
The constellation diagram shows in a graph the accuracy of the coordinates of the Digital I/Q symbols received at any given time. The colour scale, placed on the right side, provides a qualitative indication of the signal quality by grading the colours in proportion to the intensity of the dots concentrated in a particular area. The colour scale ranges from black (no symbol) to red (highest intensity).

A more extensive distribution of symbols indicates a higher noise level or worse signal quality. If there is a concentration of symbols relative to the full grid, the closer the collection of coordinate points is to each other and in a narrower area (see the advanced menu for grid types), this indicates a good signal-to-noise ratio or no problem.

These symbols are encoded with 64QAM, 128QAM and 256QAM modulation techniques as in the pictures determined according to the modulation types. You can see both constellation and other signal parameters and make fast and reliable measurements on this screen.



### **DVB-C TILT-LIMIT MEASUREMENT:**



Tilt/Limit list testing is an effective solution to check the regularity of the cable system and further attenuation of the wave at high frequencies. AS07STCA can get the levels of 12 channels and easily observe the measurement result and graph. You can select the first six frequency starts of the group and the last six frequencies from the end of the group. You can then check the slope of the group and arrange the amplifiers and elements in the cable line according to this slope.

### **DVB-C TABLE MEASUREMENT:**

SEARCH MODE	DIGITAL + ANALOG
START FREQUENCY	200.00 MHz
STOP FREQUENCY	320.00 MHz
STEP	1.0 MHz
BANDWIDTH	8.0 MHz

The AS07STC utilizes the channel scan function to quickly test the regularity and gain of the Cable TV system. You can select Analogue or Digital system selection, Step range and start and end frequencies, and you can scan signals in the whole band with one of the 6-7-8mhz bandwidths. You can check the signal values of all TPs using the TABLE MEASUREMENT menu when you have completed the system setup or when you go to service the subscriber.

DVB-C TABLE SEARCH						
#	FREQ.	SYSTEM	BW / AC	POWER	MER / APow	MOD / Δ
6	245.25 MHz	CATV-B	5.50 MHz	65.3 dBμV	53.1 dBμV	Δ: 12.1 dB
7	252.25 MHz	CATV-B	5.50 MHz	62.4 dBμV	52.5 dBμV	Δ: 10.0 dB
8	259.25 MHz	CATV-B	5.50 MHz	62.2 dBμV	47.8 dBμV	Δ: 14.4 dB
9	266.25 MHz	CATV-B	5.50 MHz	61.5 dBμV	48.8 dBμV	Δ: 12.7 dB
10	273.25 MHz	CATV-B	5.50 MHz	58.7 dBμV	48.6 dBμV	Δ: 10.1 dB
11	298.00 MHz	DVB-C	8.0 MHz	57.8 dBμV	20.0 dB	256-QAM
12	306.00 MHz	DVB-C	8.0 MHz	57.9 dBμV	20.0 dB	256-QAM
13	314.00 MHz	DVB-C	8.0 MHz	56.2 dBμV	20.0 dB	256-QAM

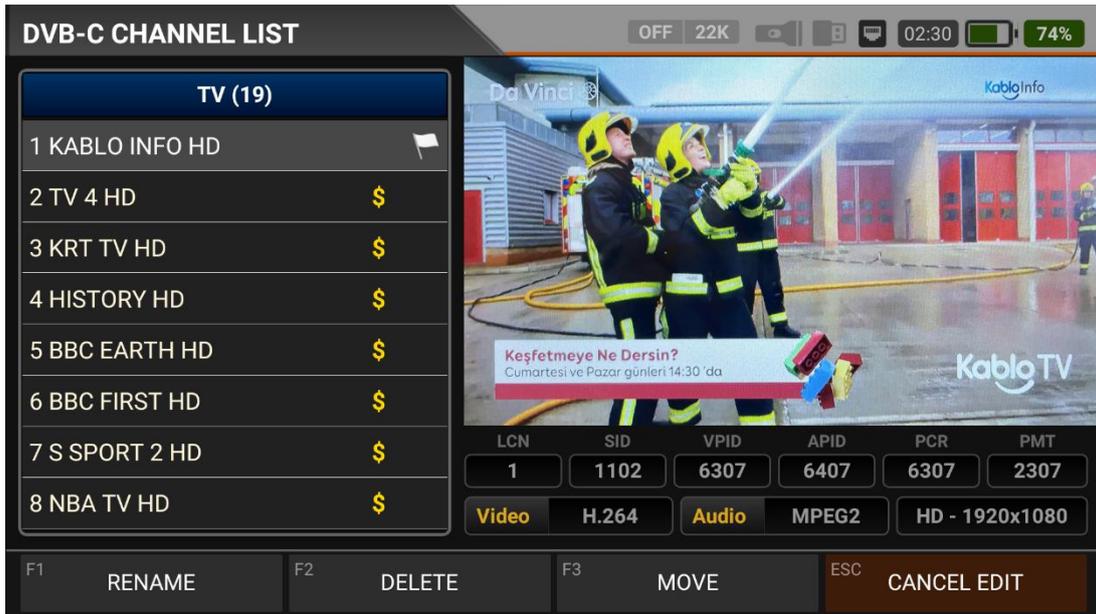
SCAN COMPLETED F1 SAVE & EXIT F2 SAVE TO USB ESC EXIT

You can see which channel, analogue or digital, has the problem and compare the frequencies with each other. You will see the tables in the pictures after scanning all frequencies. You can save the entire table to USB with the "SAVE TO USB" button and save the measurement to the frequency plan used after all operations are finished.

**DVB-C CHANNEL LIST:**

DVB-C CHANNEL LIST	
<p>TV (19)</p> <ul style="list-style-type: none"> <li>1 KABLO INFO HD</li> <li>2 TV 4 HD \$</li> <li>3 KRT TV HD \$</li> <li>4 HISTORY HD \$</li> <li>5 BBC EARTH HD \$</li> <li>6 BBC FIRST HD \$</li> <li>7 S SPORT 2 HD \$</li> <li>8 NBA TV HD \$</li> </ul>	<p>81</p> <p>99</p>
<p>F1</p> <p>EDIT</p>	<p>ESC</p> <p>EXIT</p>

You can bring it to the screen by touching the CHANNEL LIST from the DVB-C MENU. You can select, delete, and relocate individual TV and Radio channels in the Channel List menu. You can select channels from the left side. You can see the list of radio channels on the screen with the TV / RADIO button.



You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process. You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.



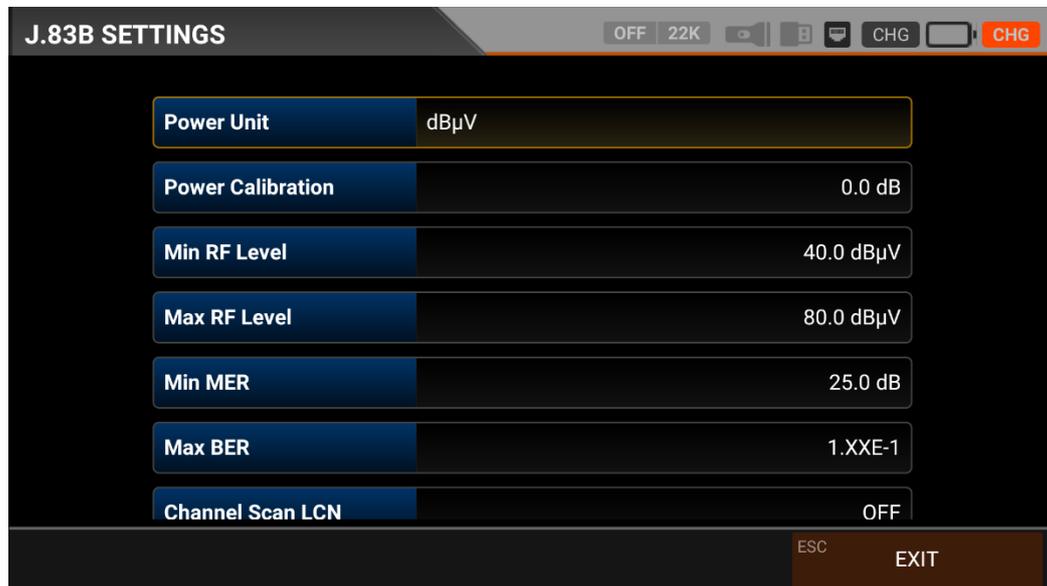
You can enlarge the image by touching it and pressing the LEVEL button to see both image and signal levels, AV bitrate rates and PID values on the same screen.

## **J.83B INSTRUCTION FOR USE ON MEASUREMENT:**

Enter the J.83B (ANNEX.B) menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.



## **J.83B (ANNEX.B) SETTINGS:**



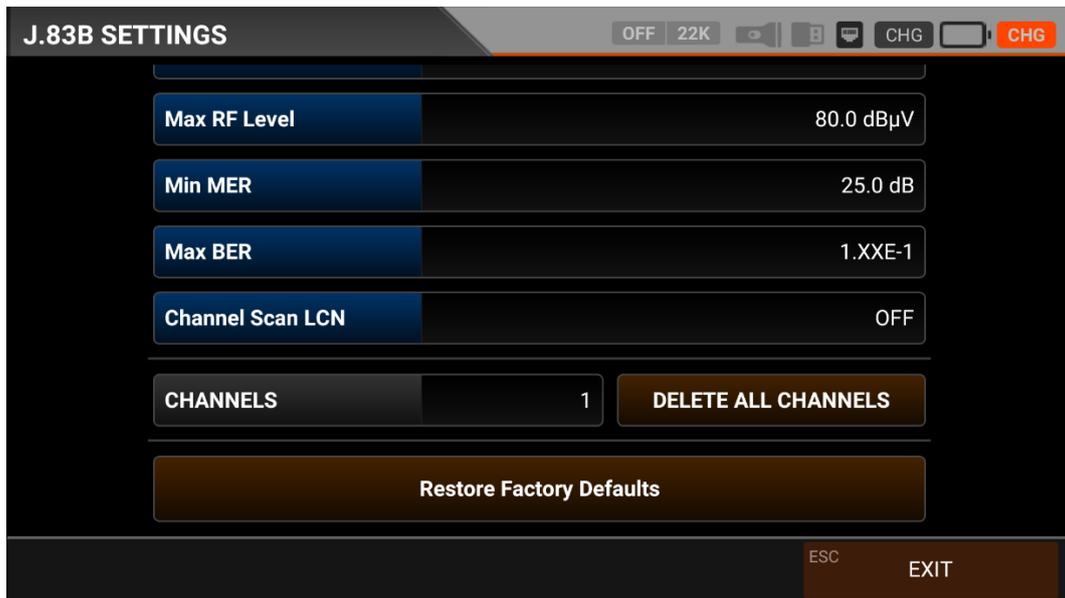
**Power Unit:** You can see the signal levels on the display in dBuV/dBm/dBmV units.

**Power Calibration:** The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

**Min RF Level:** If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

**Max RF Level:** If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.

**Min MER:** When the MER value drops below this level, the device will not confirm that the installation was done correctly.



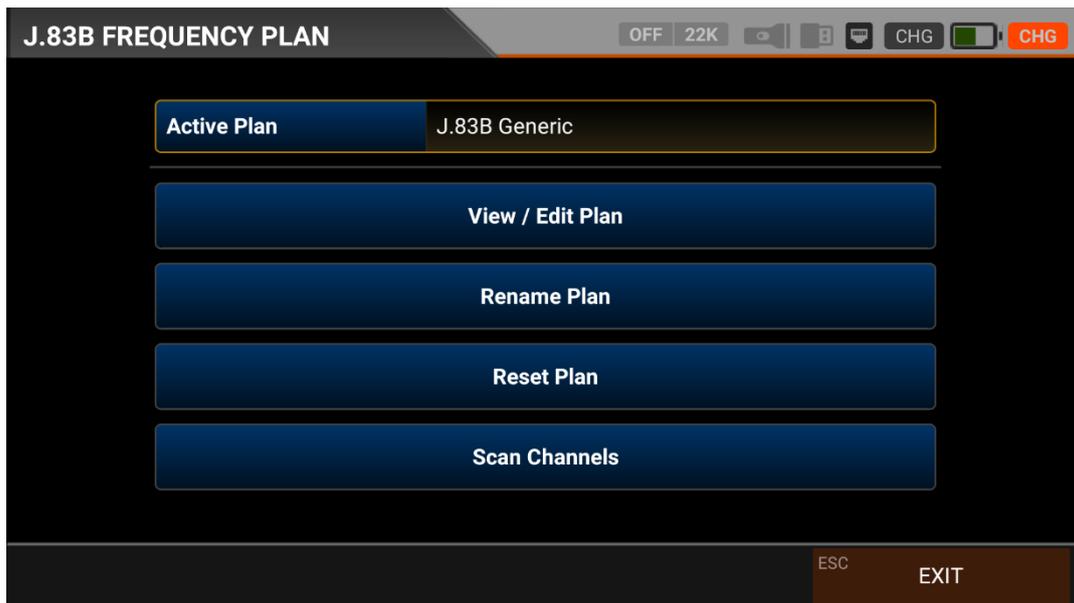
Max BER: You can choose how much the Bit Error Rate data rate can be.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

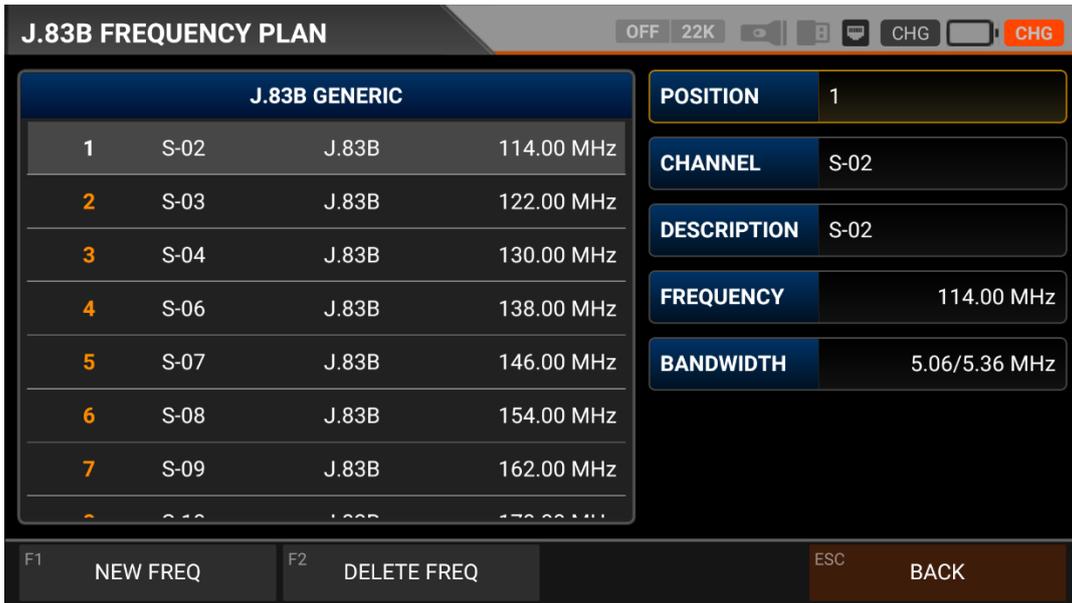
DELETE ALL CHANNELS: It deletes all channels in the J.83B menu.

Factory Reset: It restores all database information in the J.83B menu to factory settings.

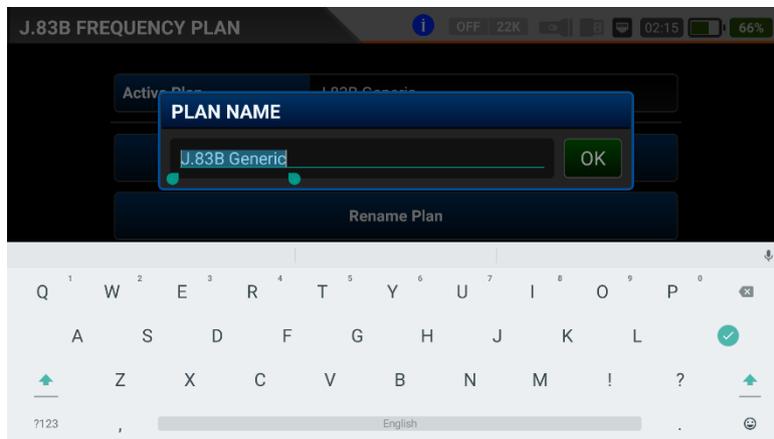
**J.83B (ANNEX.B) FREQUENCY PLAN:**



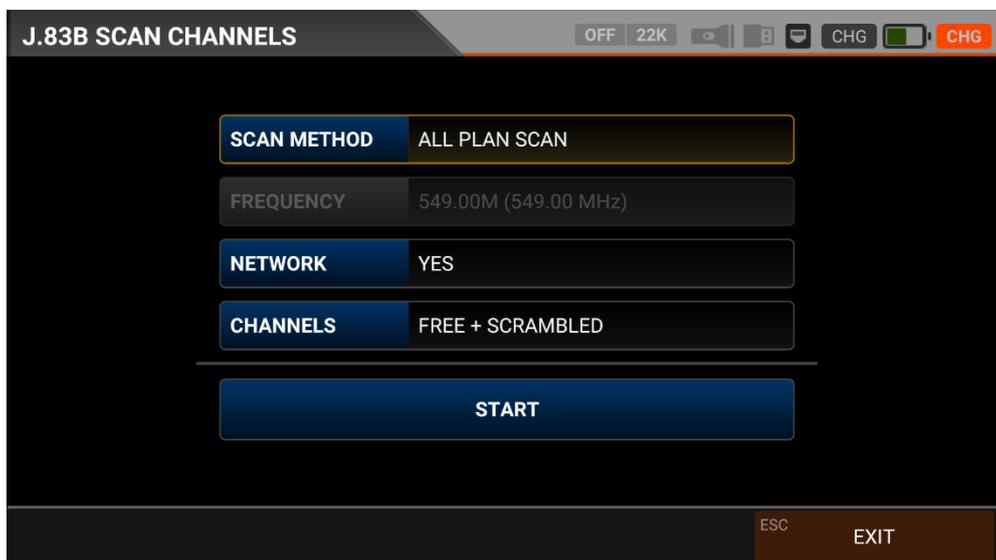
Your device can store dozens of Frequency Plans for each system in its memory to be used in your own installations or operator deployments.



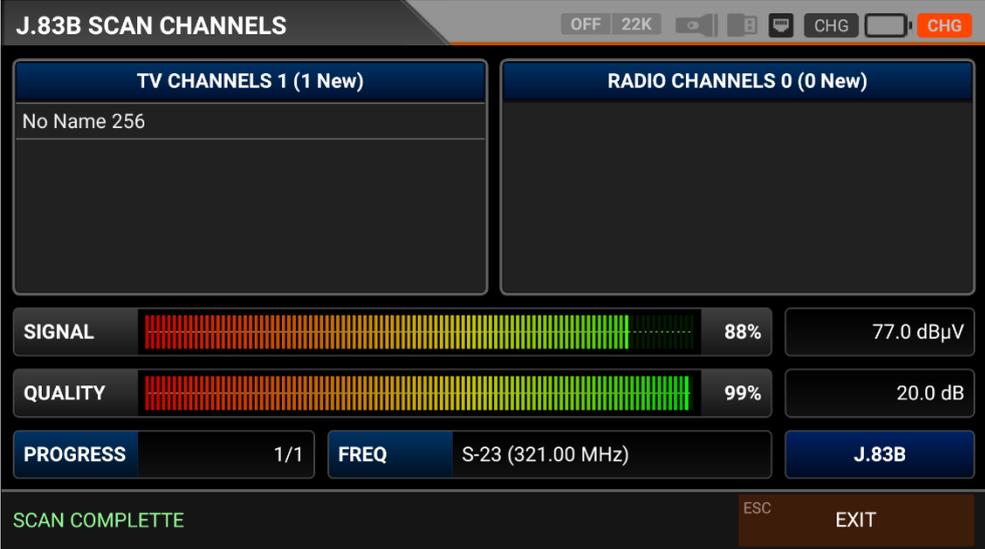
You can manually change these frequency plans on the device or via a PC program. You can access all parameters such as Frequency, BW, and TV system for each frequency.



You can assign names and change parameters for your frequency plans. You can create your own plan.



You can then start the scan channel process by touching the START box. In the scan channel screen, you can see which frequencies you scan and the signal values. It will show the newly found channels in white colour on the screen.



Scan Channels: You can search for TV Channels suitable for your frequency plan in the J.83B band. You can then monitor and measure these channels.

SCAN MODE: You can scan in 2 modes as SINGLE FREQUENCY / ALL PLAN.

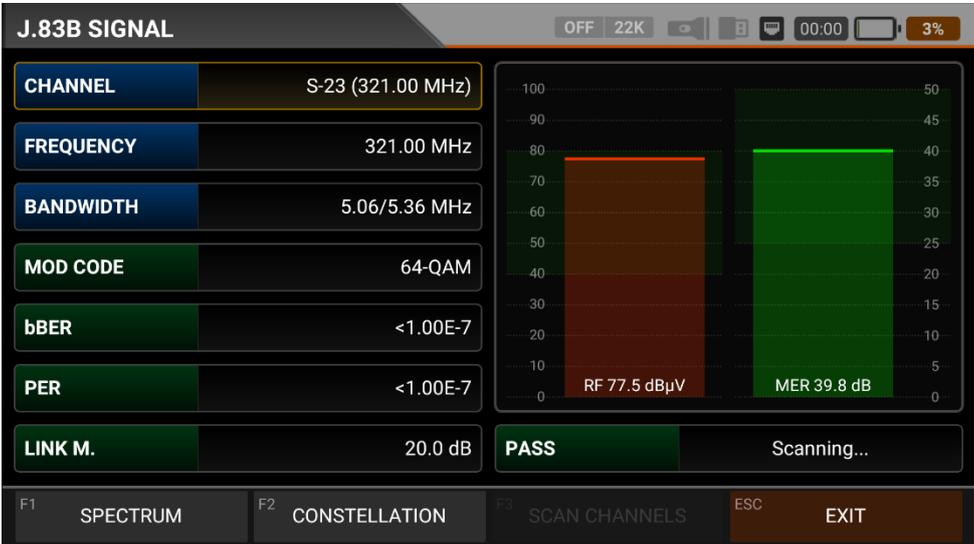
FREQUENCY: You can select which frequency to scan when scanning Single Frequency.

SCAN NETWORK: The NIT scan network for operators allows you to scan all frequencies.

CHANNELS: You can scan and memorize channels in 3 modes: UNENCODED / ENCRYPTED / ENCRYPTED + ENCRYPTED.

**J.83B (ANNEX.B) SIGNAL MEASUREMENT:**

Your AS07STCA-4K is capable of measuring J.83B (Annex B) signals. It can also show SD-HD-FHD-4K TV channels.



You can select the frequency at which you want to measure the J.83B (Annex B) signal or look at the signal levels and see the signal values on the screen. You can quickly switch

to other measurement menus related to the frequency you have measured from the SPECTRUM, CONSTELLATION and CHANNEL SEARCH boxes at the bottom. Detailed information on Spectrum Analysis and Constellation properties will be given on the following pages.

CHANNEL: You can select the channel you want to measure in the frequency plan by touching the box.

FREQUENCY: You can see the frequency you measure. You can change it with the EDIT button.

BANDWIDTH: You can choose 5.06/5.36 or 5.60Mhz for J.83B.

MOD CODE: You can see in which mode the J.83B (Annex B) system is transmitting After the signal is locked.

bBER / PER: BER should be at the lowest level, which indicates the number of errors before or after correction.

LINK Margin: It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

RF: You can see the RF level with the red bar.

MER: You can see the MER rate with the green-coloured bar.

Enter the parameters of the frequency you want to measure; the coloured bold bars on the right side of the screen visually show the signal levels. Signal level values are indicated by numbers below the bars. You can see if the bars are within the Max and Min values you select from the settings menu by looking at the green area. You can also see the frequency parameters and signal values, such as MODULATION, BER, and MER, on the left side of the screen. A NO LOCK warning will appear in case the signal values are insufficient, and a PASS warning will appear in case the signal values are appropriate in the box in the lower right corner. If the signal levels are appropriate, the Channel names will appear in the LOWER LEFT bar. You can see the channel names at the frequency you have measured by touching this box.

SCAN CHANNEL and SAVE TO CHANNEL LIST: Press the "SCAN CHANNEL " box in the lower right section on a frequency where you are sure that the signal levels are suitable. You can browse using the FTA, SCRAMBLED or both options on the SCAN CHANNEL screen. The channels you have scanned are found, then the information screen appears on the screen, and the channels are saved to the list. (You can access Radio channels by pressing TV/RADIO button).

## J.83B (ANNEX.B) SPECTRUM ANALYSIS:



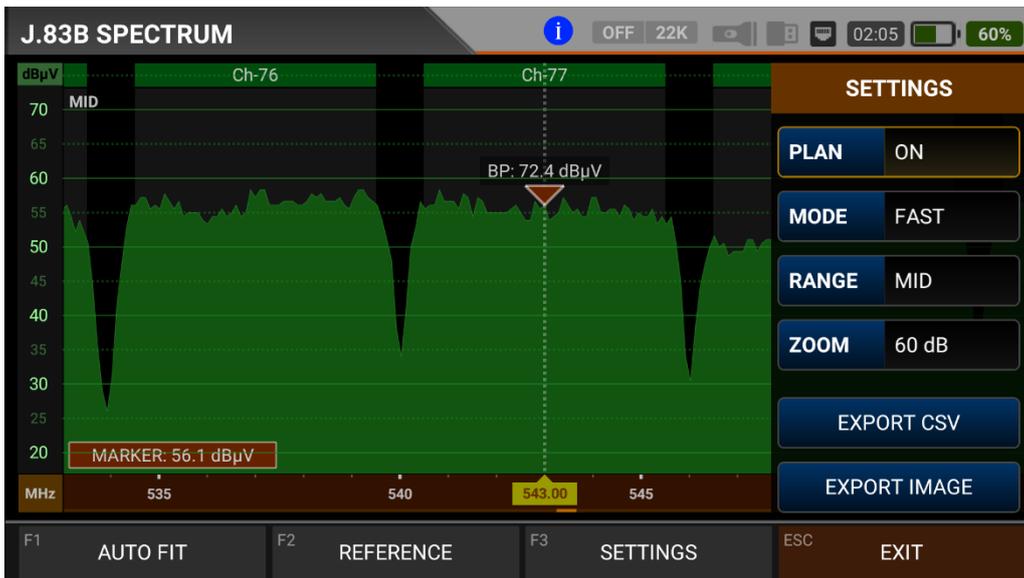
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when the DIGITAL SPECTRUM ANALYSIS measurement mode is switched. You can see the names of the channels in the green boxes at the top. You can see the Band Peak Power on the marker, and you can also see the instantaneous power of the marker line on the bottom left.

**Channel Names:** You can see the channel names inside the blue boxes, and these boxes are the bandwidth of that channel. The marker on the video carrier of the channel you want to measure shows the RF level. You can change the frequency range (span) by placing two fingers on the red field.

**FIT:** You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.



**REFERENCE:** You can SAVE the top points of the spectrum as a white line, and then you can LOAD them from memory and re-install them with the same settings.



**SETTINGS:** This menu allows you to change the Tp Frequency Plan, indicated by the blue bars, OFF/ON. This allows you to restrict the transmitting system you want to appear on the screen. You can change the operating mode of the spectrum FAST and DETAILS.

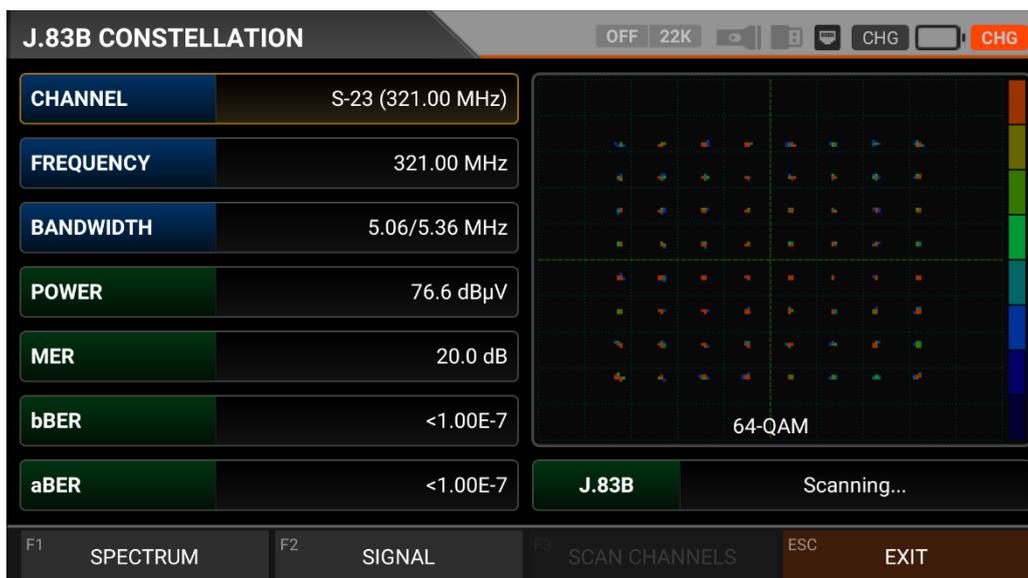
**Range:** Spectrum shows 4 steps range. So you can choose your range depending on the signal level.

HIGH : 40dBuV~110dBuV    -    MID : 20dBuV~80dBuV  
 LOW : 0dBuV~60dBuV       -    BOTTOM : -10dBuV~50dBuV

**Zoom:** You can select screen range in 60db or 30db.

You can export the spectrum display as a \*.CSV file and as an IMAGE file to USB.

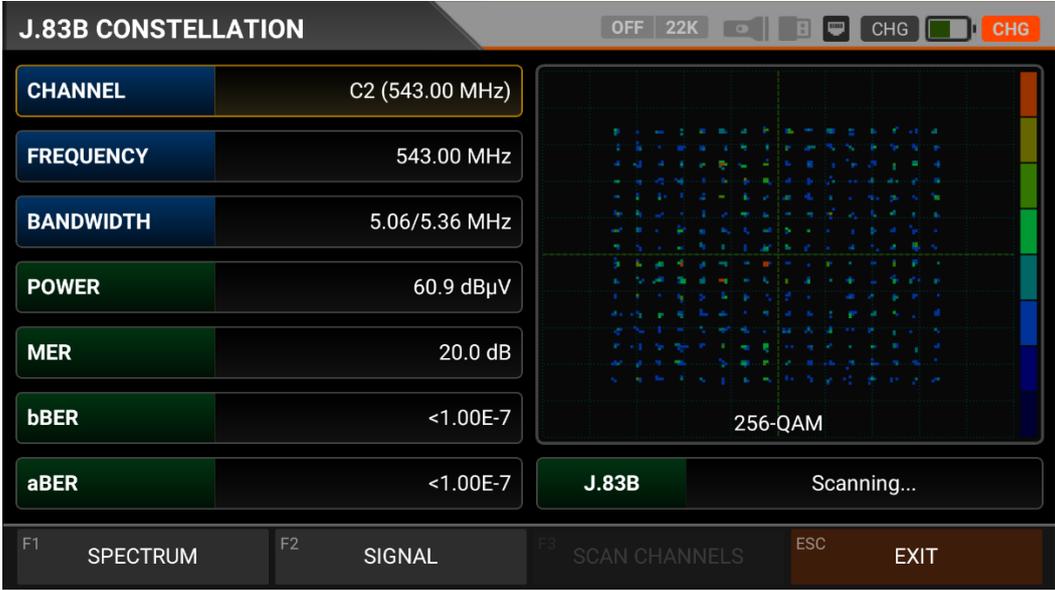
**J.83B (ANNEX.B) CONSTELLATION DIAGRAM:**



The constellation diagram shows in a graph the accuracy of the coordinates of the Digital I/Q symbols received at any given time. The colour scale, placed on the right side, provides a qualitative indication of the signal quality by grading the colours in proportion to the intensity of the dots concentrated in a particular area. The colour scale ranges from black (no symbol) to red (highest intensity).

A more extensive distribution of symbols indicates a higher noise level or worse signal quality. If there is a concentration of symbols relative to the full grid, the closer the collection of coordinate points is to each other and in a narrower area (see the advanced menu for grid types), this indicates a good signal-to-noise ratio or no problem.

These symbols are encoded with 64QAM and 256QAM modulation techniques as in the images determined according to the modulation types. You can see both constellation and other signal parameters and make fast and reliable measurements on this screen.

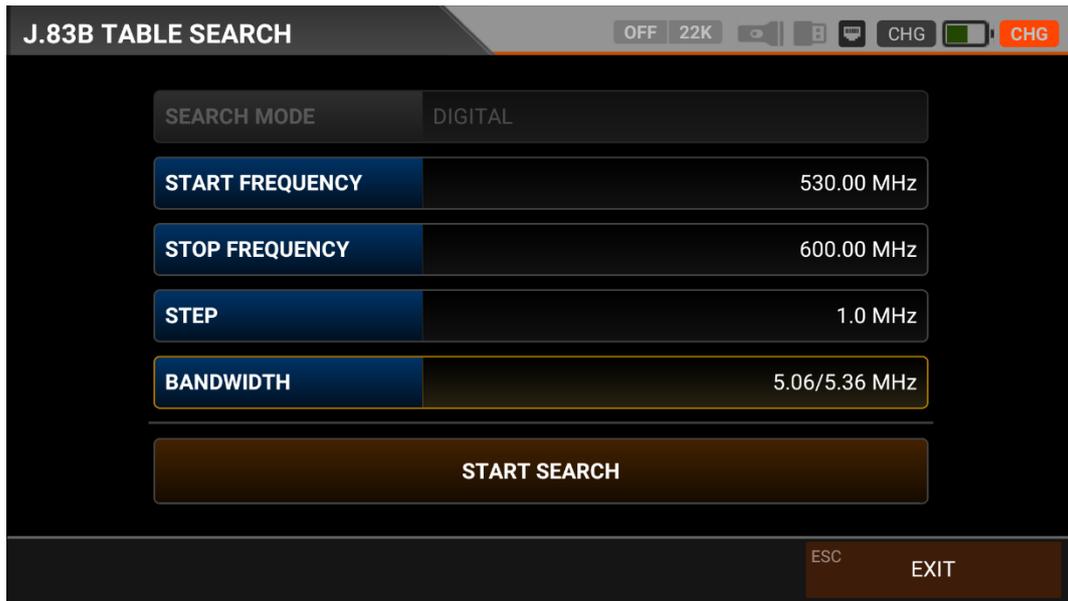


**J.83B (ANNEX.B) TILT-LIMIT MEASUREMENT:**



Tilt/Limit list testing is an effective solution to check the regularity of the cable system and further attenuation of the wave at high frequencies. AS07STCA can get the levels of 12 channels and easily observe the measurement result and graph. You can select the first six frequency starts of the group and the last six frequencies from the end of the group. You can then check the slope of the group and arrange the amplifiers and elements in the cable line according to this slope.

**J.83B (ANNEX.B) TABLE MEASUREMENT:**



The AS07STC utilizes the channel scan function to quickly test the regularity and gain of the Cable TV system. You can select the start and end frequencies with the step range (Suggested 6Mhz), and you can scan signals in the whole band with one of the 5.06/5.36 or 5.60Mhz bandwidths. You can check the signal values of all TPs using the TABLE MEASUREMENT menu when you have completed the system setup or when you go to service the subscriber.

The screenshot shows the 'J.83B TABLE SEARCH' menu after a scan. The top status bar includes an information icon, OFF, 22K, signal strength, battery, 02:05, and 62% battery. The table below contains the following data:

#	FREQ.	SYSTEM	BANDWIDTH	POWER	MER / APow	MOD / Δ
1	543.00 MHz	J.83B	5.06/5.36 MHz	69.5 dBμV	31.4 dB	256-QAM
2	549.00 MHz	J.83B	5.06/5.36 MHz	67.0 dBμV	29.2 dB	256-QAM
3	555.00 MHz	J.83B	5.06/5.36 MHz	69.2 dBμV	30.9 dB	256-QAM
4	561.00 MHz	J.83B	5.06/5.36 MHz	69.2 dBμV	31.2 dB	256-QAM
5	567.00 MHz	J.83B	5.06/5.36 MHz	69.7 dBμV	30.0 dB	256-QAM
6	573.00 MHz	J.83B	5.06/5.36 MHz	68.8 dBμV	30.1 dB	256-QAM
7	579.00 MHz	J.83B	5.06/5.36 MHz	67.9 dBμV	30.0 dB	256-QAM
8	585.00 MHz	J.83B	5.06/5.36 MHz	66.9 dBμV	29.6 dB	256-QAM

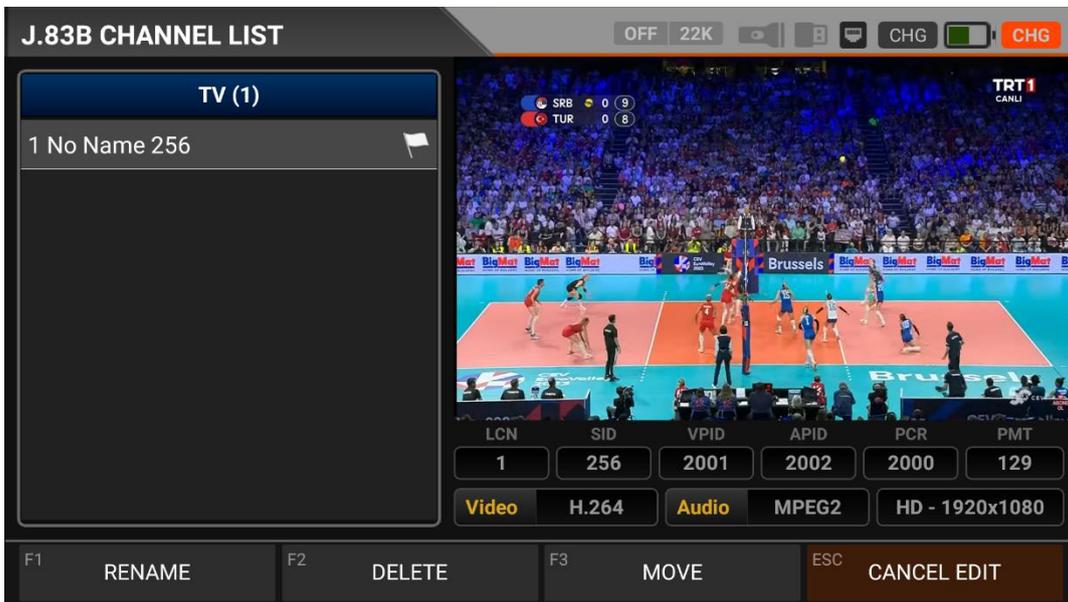
At the bottom of the screen, there are buttons for 'SCAN COMPLETED' (highlighted with a green box), 'F1 SAVE & EXIT', 'F2 SAVE TO USB', and 'ESC EXIT'.

You can see which channel in the entire plan has a problem and compare frequencies. You will see the tables in the pictures after scanning all frequencies. You can save the entire table to USB with the "SAVE TO USB" button and save the measurement to the frequency plan used after all operations are finished.

**J.83B (ANNEX.B) CHANNEL LIST:**



You can bring it to the screen by touching the CHANNEL LIST from the J.83B MENU. You can select, delete, and relocate individual TV and Radio channels in the Channel List menu. You can select channels from the left side. You can see the list of radio channels on the screen with the TV / RADIO button.



You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process. You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.



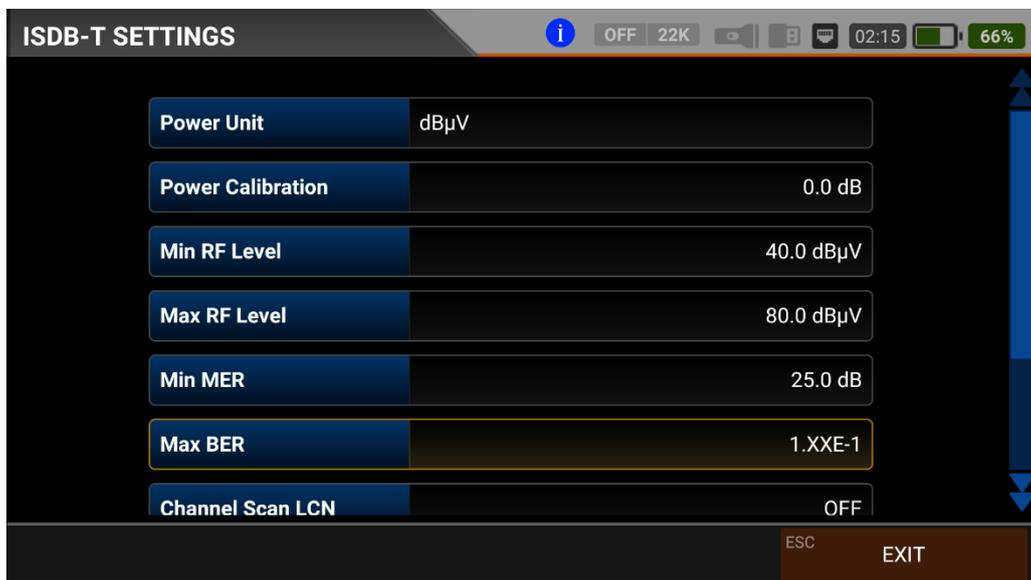
You can enlarge the image by touching it and pressing the LEVEL button to see both the image and the Signal levels, AV bitrate rates and PID values on the same screen.

## **ISDB-T SIGNAL MEASUREMENT AND INSTRUCTIONS FOR USE:**

Enter the ISDB-T menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.



### **ISDB-T SETTINGS:**



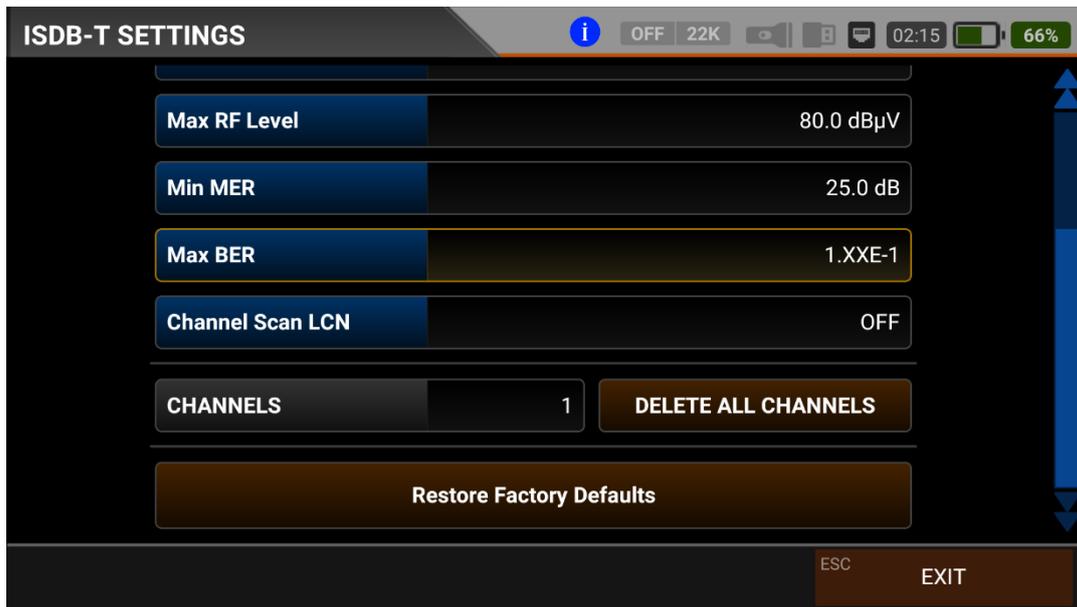
Power Unit: You can see the signal levels on the display in dBuV/dBm/dBmV units.

Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

Min RF Level: If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

Max RF Level: If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.

Min MER: When the MER value drops below this level, the device will not confirm that the installation was done correctly.



Max BER: You can choose how much the Bit Error Rate data rate can be.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

Delete All Channels: It deletes all channels in the ISDB-T menu.

Factory Reset: It restores all database information in the ISDB-T menu to factory settings.

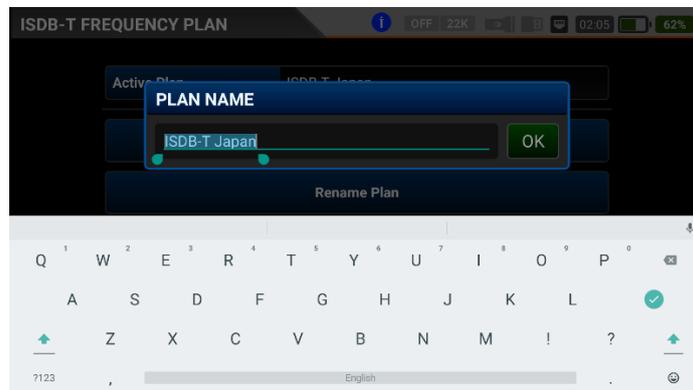
**ISDB-T FREQUENCY PLAN:**



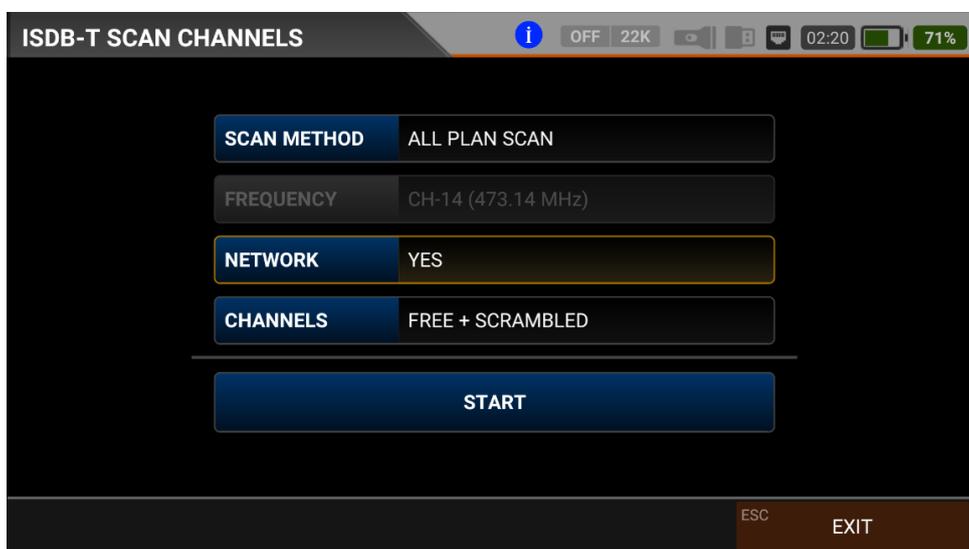
Your device can store dozens of Frequency Plans for each system in its memory to be used in your own installations or operator deployments.



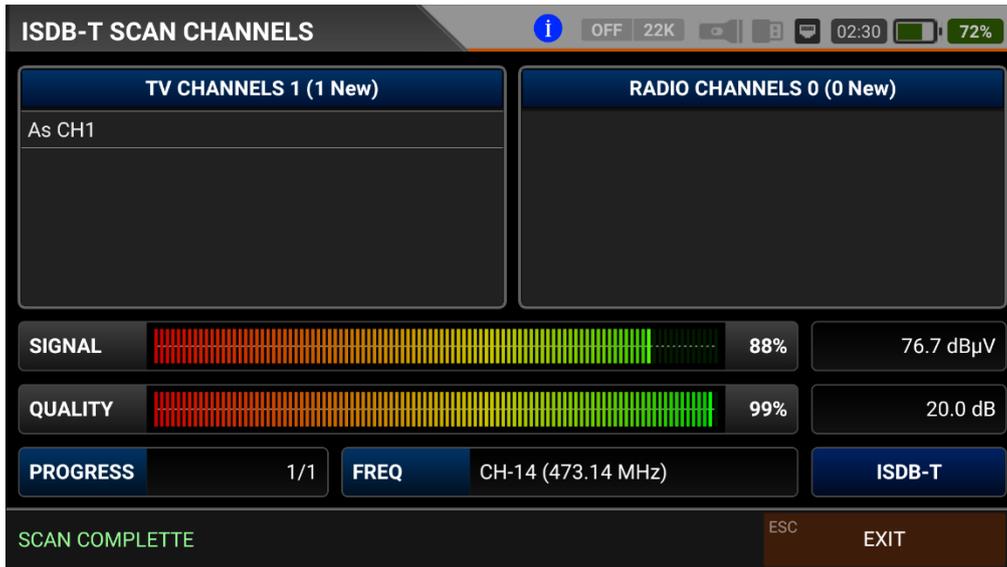
You can manually change these frequency plans on the device or via a PC program. You can access all parameters such as Frequency, BW, and TV system for each frequency.



You can assign names and change parameters for your frequency plans. You can create your own plan.



You can then start the scan channel process by touching the START box. In the scan channel screen, you can see which frequencies you scan and the signal values. It will show the newly found channels in white colour on the screen.



Scan Channels: You can search for TV channels suitable for your frequency plan in the ISDB-T band. You can then monitor and measure these channels.

SCAN MODE: You can scan in 2 modes as SINGLE FREQUENCY / ALL PLAN.

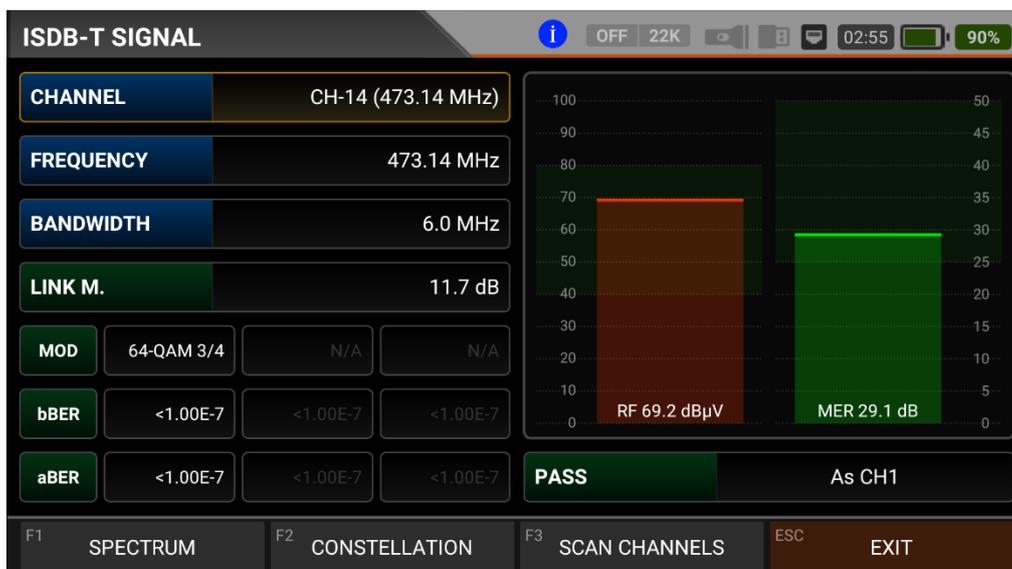
FREQUENCY: You can select which frequency to scan when scanning Single Frequency.

SCAN NETWORK: The NIT scan network for operators allows you to scan all frequencies.

CHANNELS: You can scan and memorize channels in 3 modes: UNENCODED / ENCRYPTED / ENCRYPTED + ENCRYPTED.

### **ISDB-T SIGNAL MEASUREMENT:**

Your AS07STCA-4K is capable of measuring ISDB-T signals. It can also show SD-HD-FHD-4K TV channels.



You can select the frequency at which you want to measure the ISDB-T signal or look at the signal levels and see the signal values on the screen. You can quickly switch to other measurement menus related to the frequency you have measured (473.143MHz frequency should be entered as 473.14MHz in the device) from the SPECTRUM,

CONSTELLATION and SEARCH CHANNEL boxes at the bottom. Detailed information on Spectrum Analysis and Constellation properties will be given on the following pages.

CHANNEL: You can select the channel you want to measure in the frequency plan by touching the box.

FREQUENCY: You can see the frequency you measure. You can change it with the EDIT button.

BANDWIDTH: You can select 6/7/8 Mhz for ISDB-T.

MOD CODE: You can see in which mode the ISDB-T system transmits after the signal is locked. The ISDB-T system can transmit in 3 different modes of constellation at the same time.

bBER / aBER: BER should be at the lowest level, which indicates the number of errors before or after correction. BER values are listed on the screen for three different modes.

LINK Margin: It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

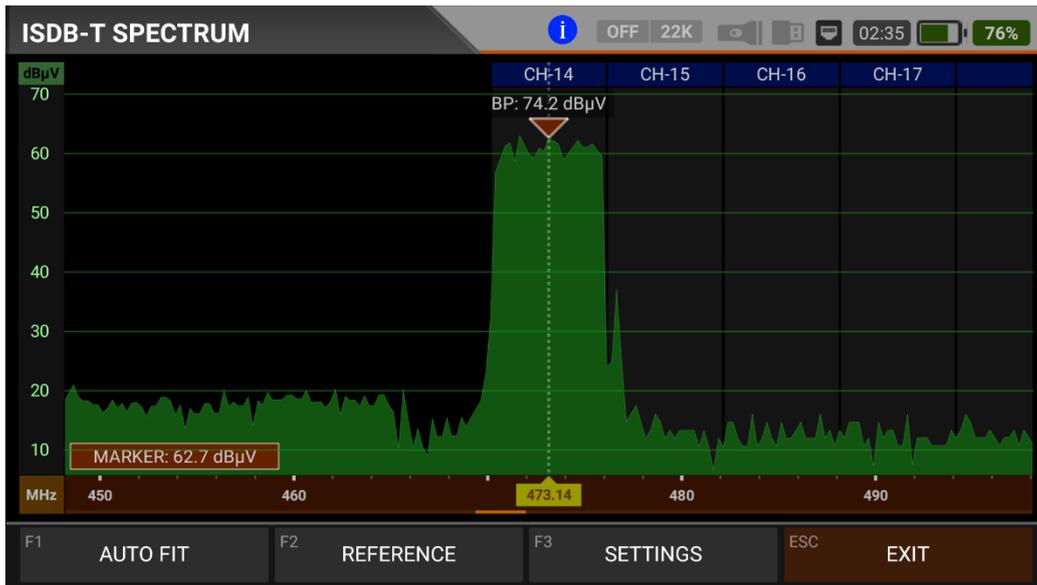
RF: You can see the RF level with the red bar.

MER: You can see the MER rate with the green coloured bar.

Enter the parameters of the frequency you want to measure; the coloured bold bars on the right side of the screen visually show the signal levels. Signal level values are indicated by numbers below the bars. You can see if the bars are within the Max and Min values you select from the settings menu by looking at the green area. You can also see the frequency parameters and signal values, such as MODULATION, BER, and MER, on the left side of the screen. A NO LOCK warning will appear in case the signal values are insufficient, and a PASS warning will appear in case the signal values are appropriate in the box in the lower right corner. If the signal levels are appropriate, the Channel names will appear in the LOWER LEFT bar. You can see the channel names at the frequency you have measured by touching this box.

SCAN CHANNEL and SAVE TO CHANNEL LIST: Press the "SCAN CHANNEL " box in the lower right section on a frequency where you are sure that the signal levels are suitable. You can browse using the FTA, SCRAMBLED or both options on the SCAN CHANNEL screen. The channels you have scanned are found, and then the information screen appears on the screen, and the channels are saved to the list. (You can access Radio channels by pressing TV/RADIO button).

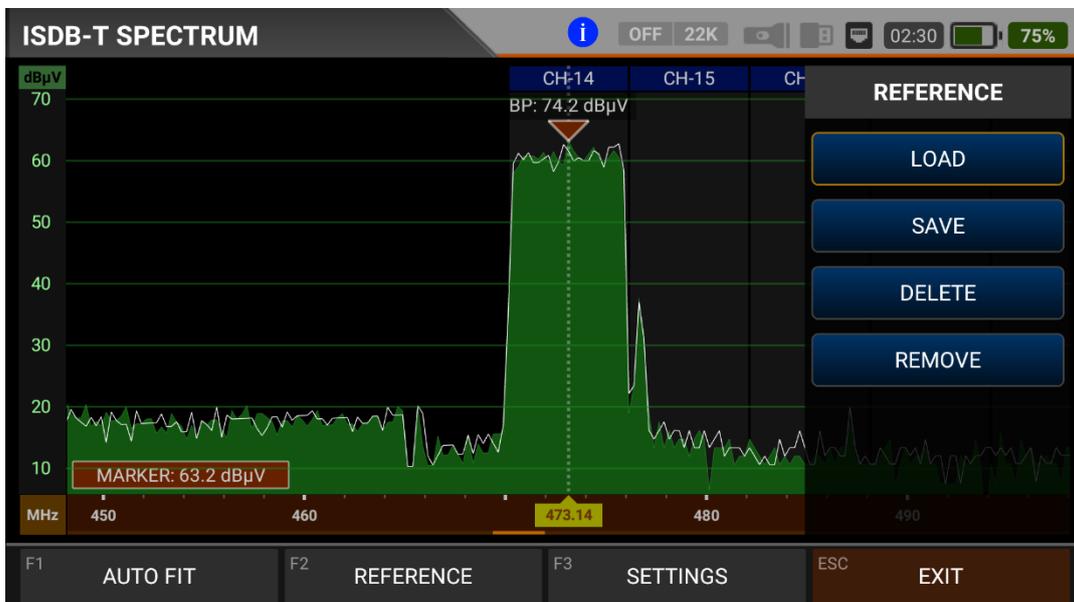
## ISDB-T SPECTRUM ANALYSIS:



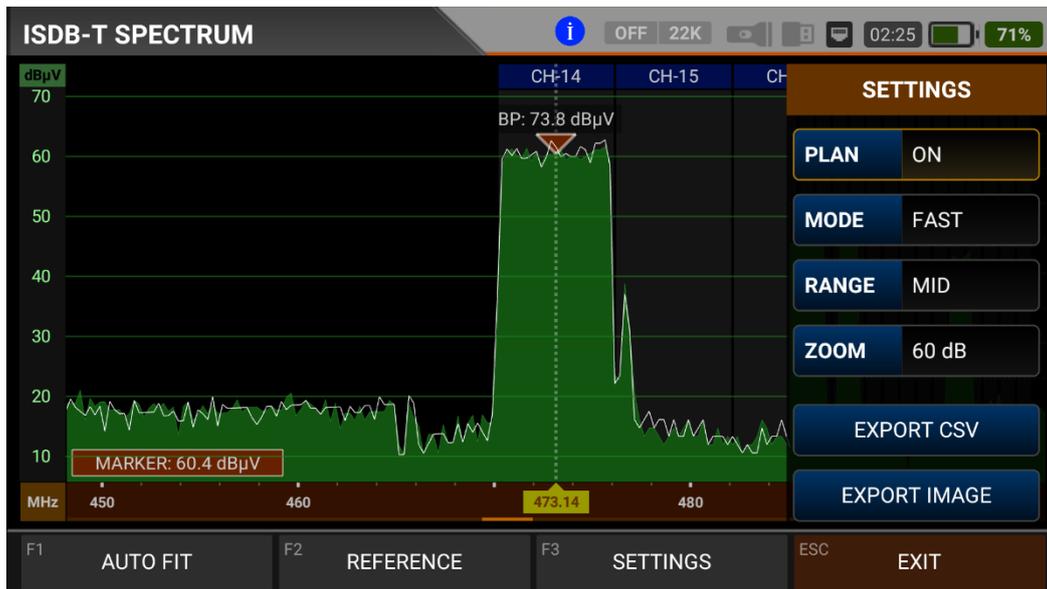
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when the DIGITAL SPECTRUM ANALYSIS measurement mode is switched. You can see the names of the channels in the green boxes at the top. You can see the Band Peak Power on the marker, and you can also see the instantaneous power of the marker line on the bottom left.

Channel Names: You can see the channel names inside the blue boxes, and these boxes are the bandwidth of that channel. The marker on the video carrier of the channel you want to measure shows the RF level. You can change the frequency range (span) by placing two fingers on the red field.

FIT: You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.



REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory and re-install them with the same settings.



**SETTINGS:** This menu allows you to change the Tp Frequency Plan, indicated by the blue bars, OFF/ON. This allows you to restrict the transmitting system you want to appear on the screen. You can change the operating mode of the spectrum FAST and DETAILS.

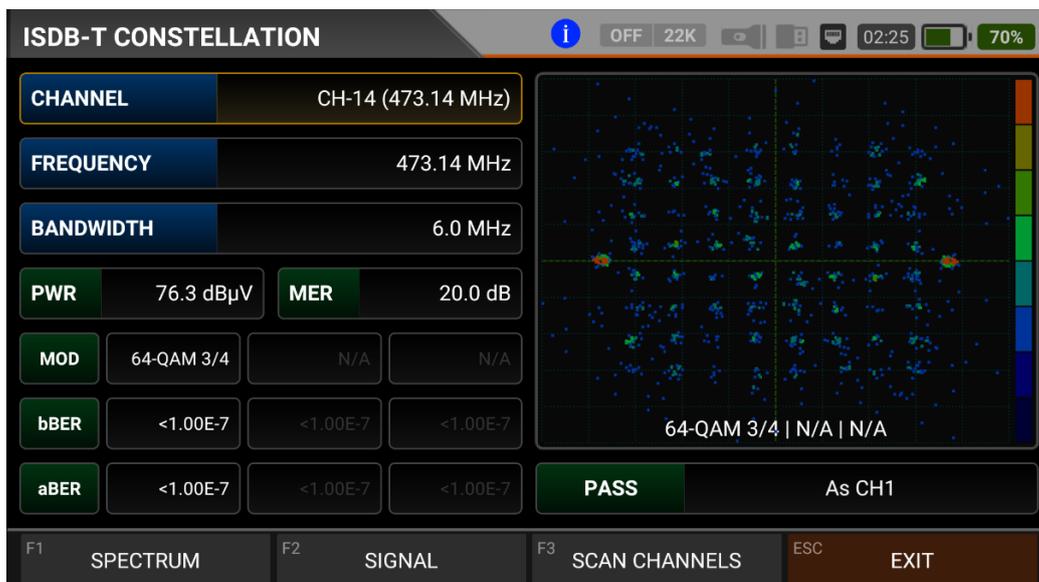
**Range:** Spectrum shows 4 steps range. So you can choose your range depending on the signal level.

HIGH : 40dBuV~110dBuV    -    MID : 20dBuV~80dBuV  
 LOW : 0dBuV~60dBuV       -    BOTTOM : -10dBuV~50dBuV

**Zoom:** You can select screen range in 60db or 30db.

You can export the spectrum display as a \*.CSV file and as an IMAGE file to USB.

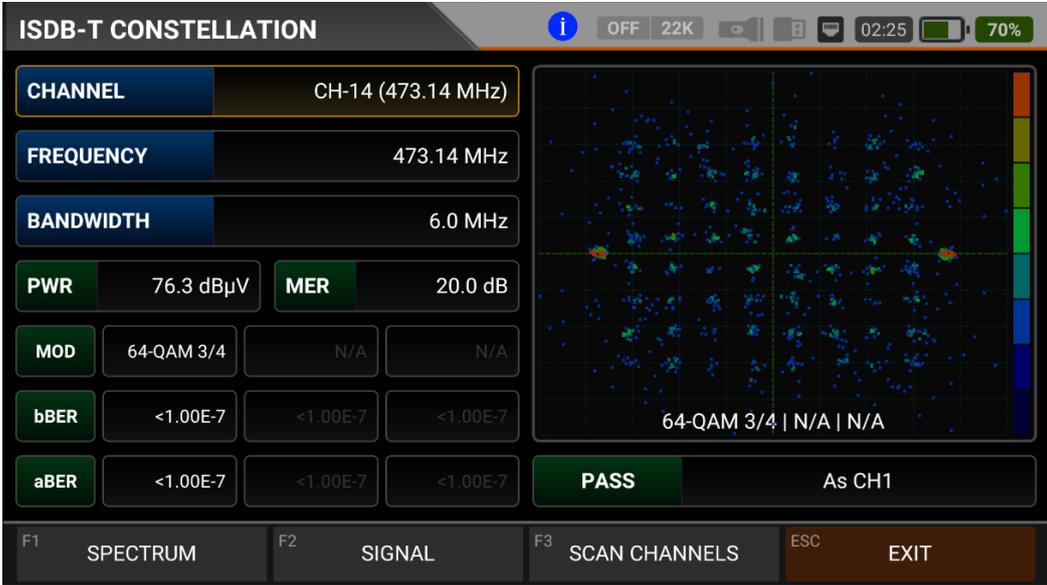
**ISDB-T CONSTELLATION DIAGRAM:**



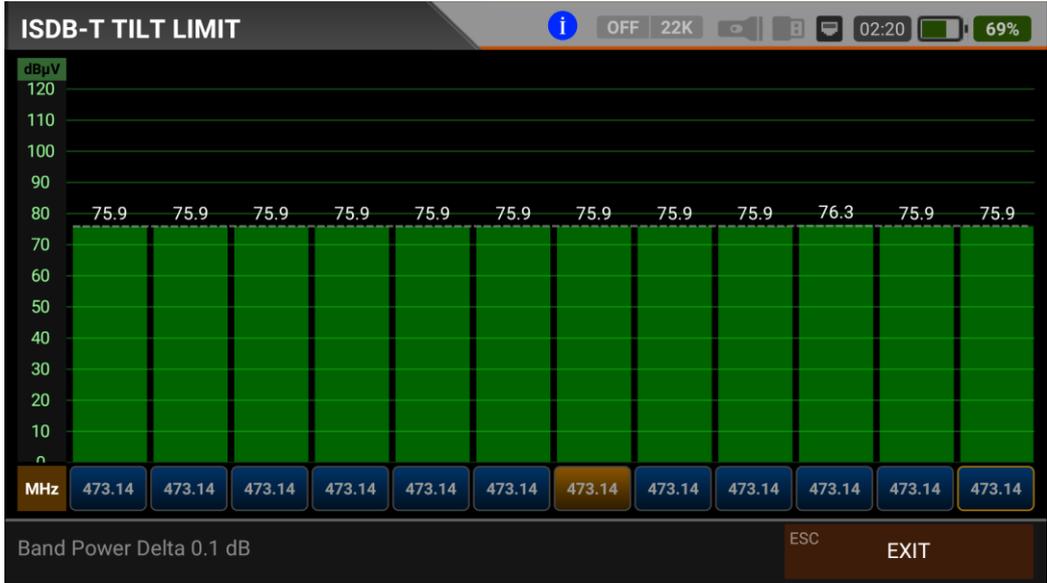
The constellation diagram shows in a graph the accuracy of the coordinates of the Digital I/Q symbols received at any given time. The colour scale, placed on the right side, provides a qualitative indication of the signal quality by grading the colours in proportion to the intensity of the dots concentrated in a particular area. The colour scale ranges from black (no symbol) to red (highest intensity). It shows three different modes at the same time.

A more extensive distribution of symbols indicates a higher noise level or worse signal quality. If there is a concentration of symbols relative to the full grid, the closer the collection of coordinate points is to each other and in a narrower area (see the advanced menu for grid types), this indicates a good signal-to-noise ratio or no problem.

These symbols are encoded with 64QAM-OFDM, 16QAM-OFDM, QPSK-OFDM, and DQPSK-OFDM modulation techniques, as shown in the pictures determined according to modulation types. You can see both constellation and other signal parameters and make fast and reliable measurements on this screen.

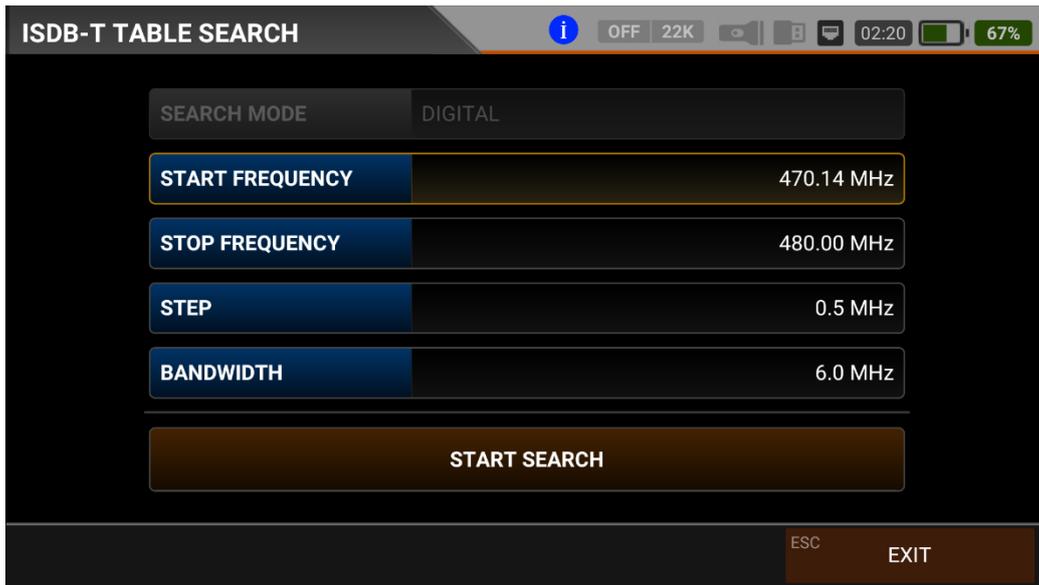


**ISDB-T TILT-LIMIT MEASUREMENT:**



Tilt/Limit list testing is an effective solution to check the regularity of the cable system and further attenuation of the wave at high frequencies. AS07STCA can get the levels of 12 channels and easily observe the measurement result and graph. You can select the first six frequency starts of the group and the last six frequencies from the end of the group. You can then check the slope of the group and arrange the amplifiers and elements in the cable line according to this slope.

**ISDB-T TABLE MEASUREMENT:**



The AS07STC utilizes the channel scan function to quickly test the regularity and gain of the ISDB-T system. You can select the start and end frequencies with the step range, and you can scan signals in the whole band with one of the 6/7/8Mhz bandwidths. You can check the signal values of all TPs using the TABLE MEASUREMENT menu when you have completed the system setup or when you go to service the subscriber.

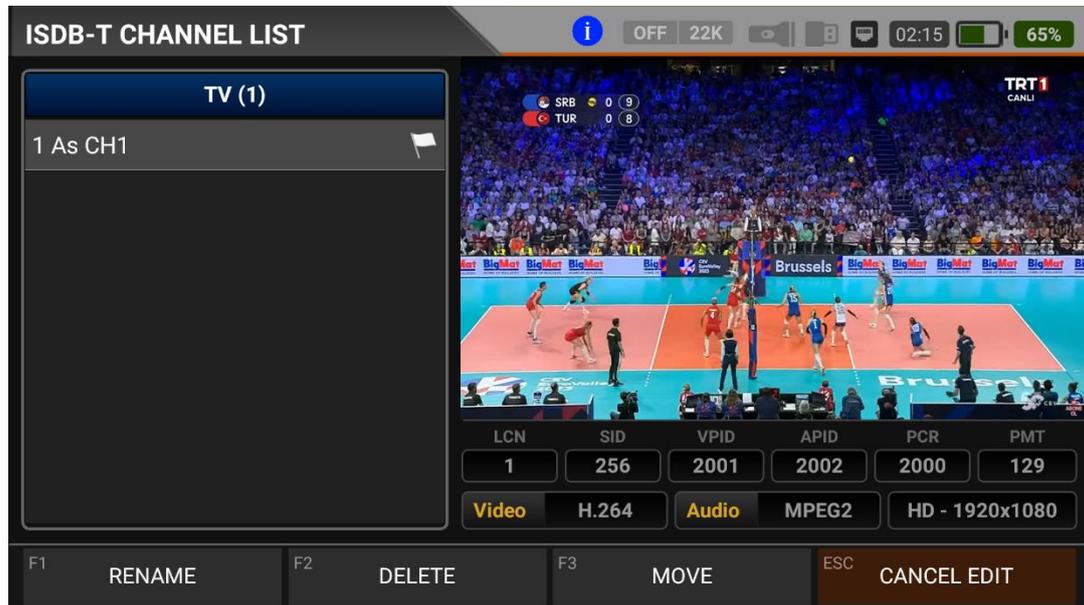


You can see which channel in the entire plan has a problem and compare frequencies. You will see the tables in the pictures after scanning all frequencies. You can save the entire table to USB with the "SAVE TO USB" button and save the measurement to the frequency plan used after all operations are finished.

**ISDB-T CHANNEL LIST:**



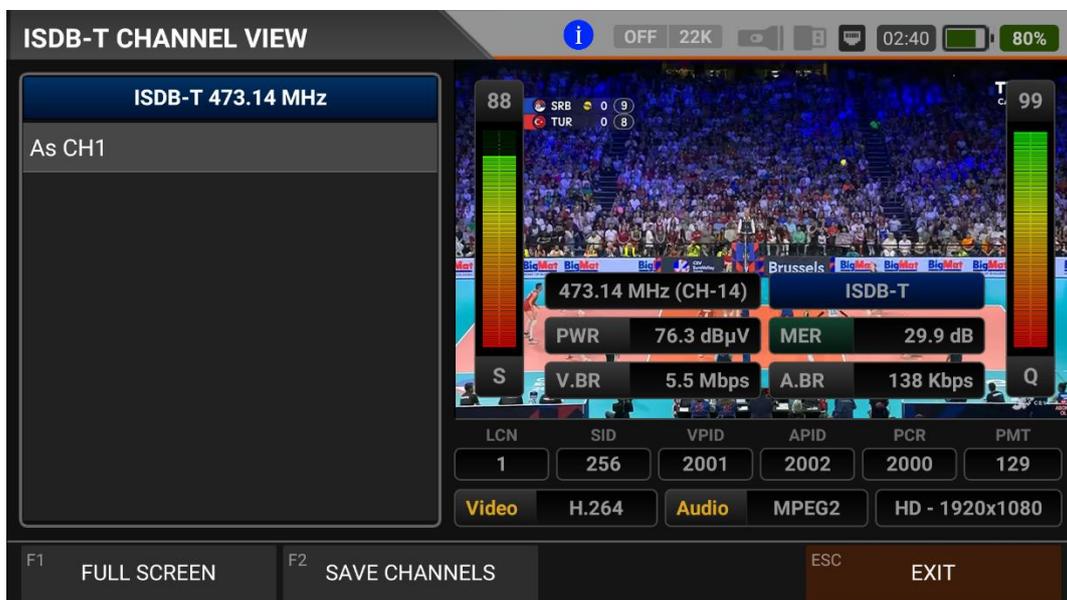
You can bring it to the screen by touching the CHANNEL LIST from the ISDB-T MENU. You can select, delete, and relocate individual TV and Radio channels in the Channel List menu. You can select channels from the left side. You can see the list of radio channels on the screen with the TV / RADIO button.



You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process. You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.



You can enlarge the image by touching it and pressing the LEVEL button to see both the image and the Signal levels, AV bitrate rates and PID values on the same screen.

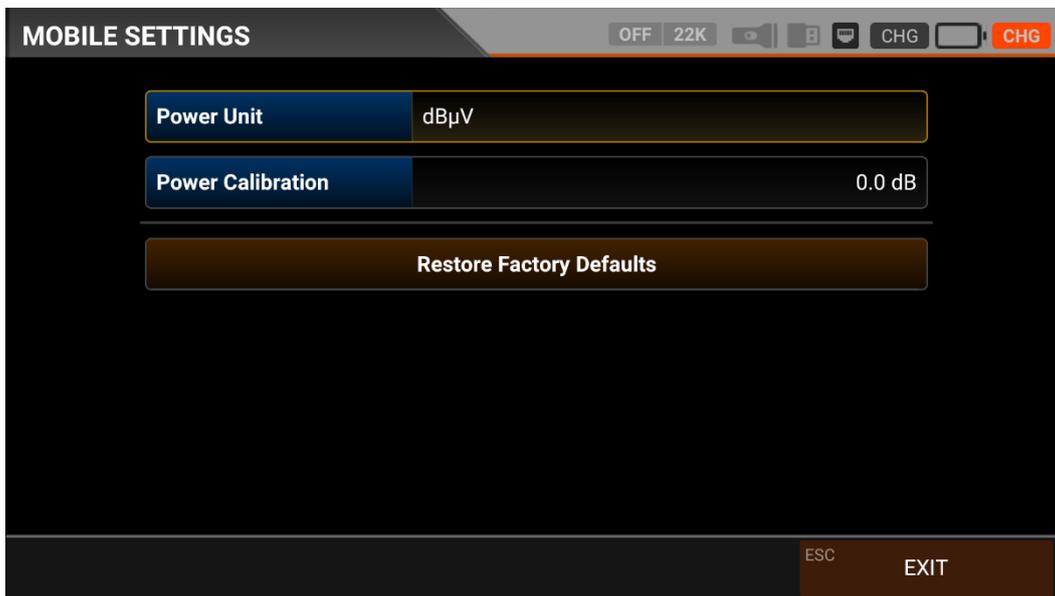


## **INSTRUCTIONS FOR USE ON MOBILE GSM SIGNAL MEASUREMENT:**

Enter the MOBILE (GSM) ANALYZER menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad. You can see the power and spectrum of the uplink frequencies of Gas Stations from the Mobile GSM Analyzer menu.



## **MOBILE GSM SETTINGS:**



**Power Unit:** You can see the signal levels on the display in dBuV/dBm/dBmV units.

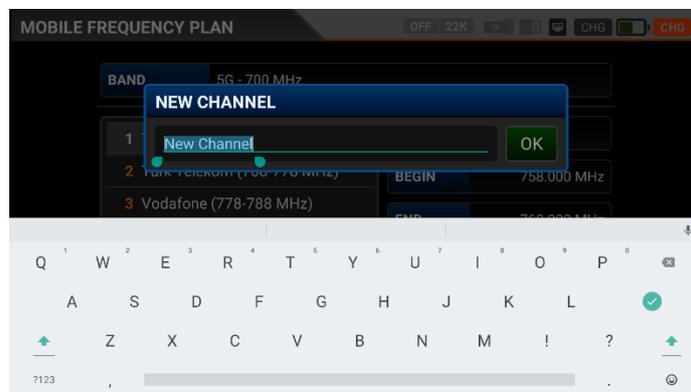
**Power Calibration:** The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

**Factory Reset:** It restores all database information in the Mobile GSM Analyzer menu to factory settings.

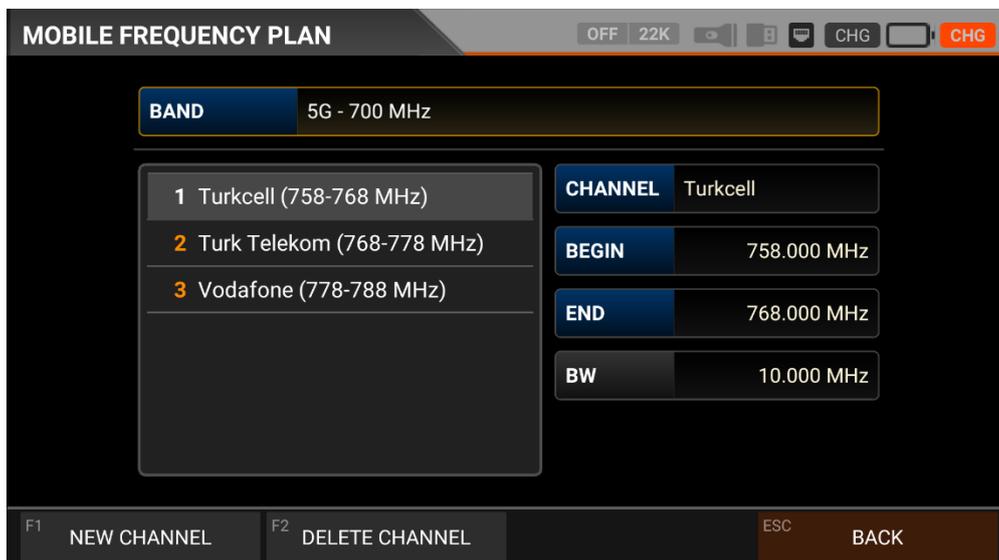
## **MOBILE (GSM) FREQUENCY PLAN:**



Your device keeps a Frequency Plan for each GSM system in its memory to be used in repeater installations. You can assign Names for your frequency plans.

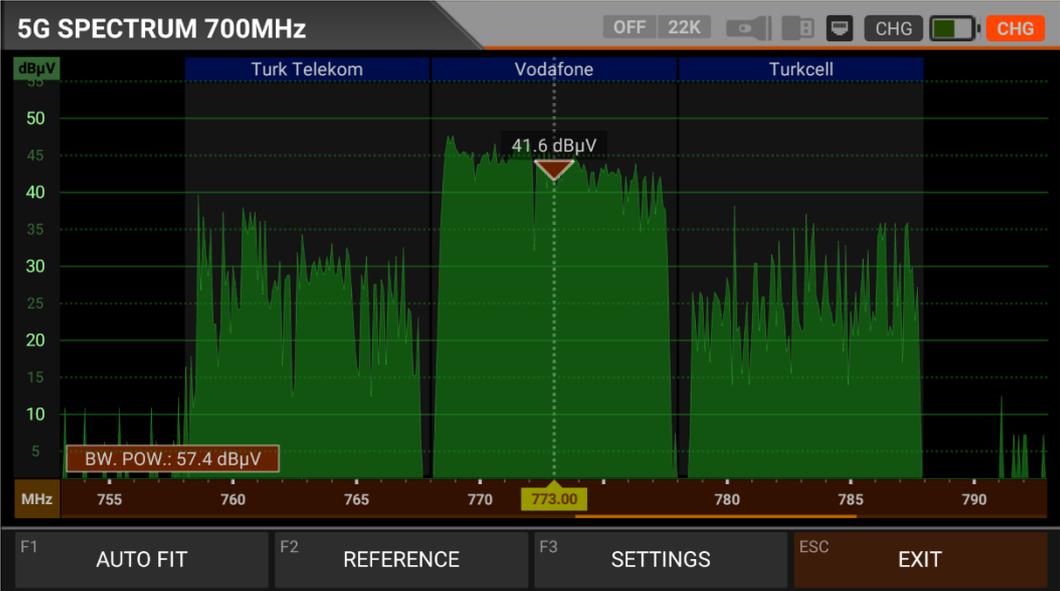


You can manually change the 5G-4G-3G-GSM1800-GSM900 frequency plans on the device or via a PC program. Frequency range and bandwidth must be entered for each operator band.

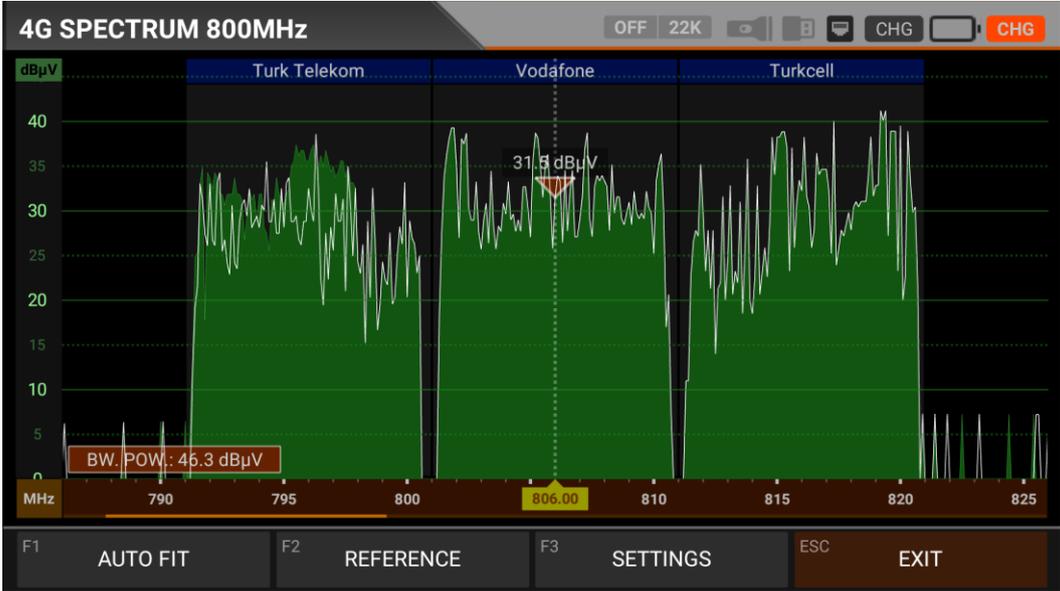


**MOBILE GSM MEASUREMENT SCREENS:**

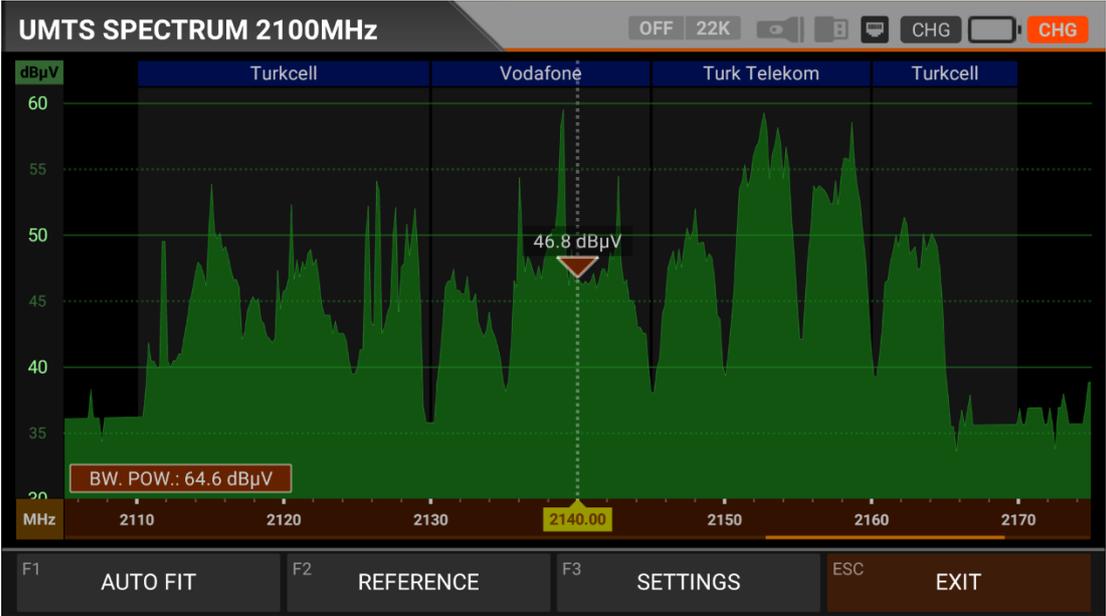
You can see the spectrum measurements of GSM operators in the 5G 700MHz band.



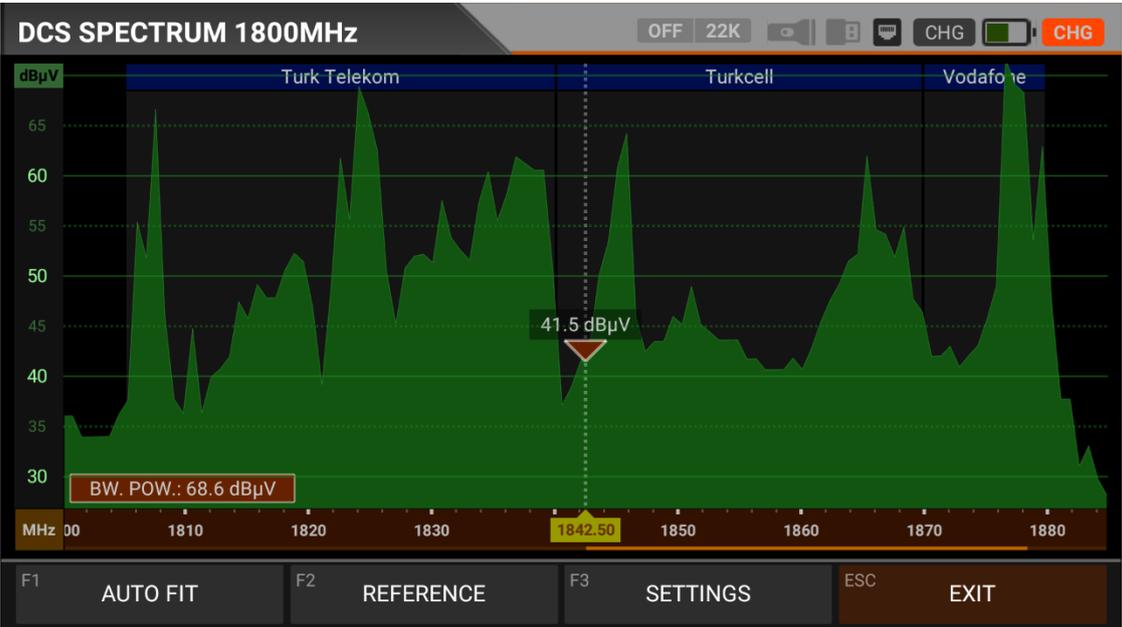
You can see the spectrum measurements of GSM operators in the 4G 800MHz band.



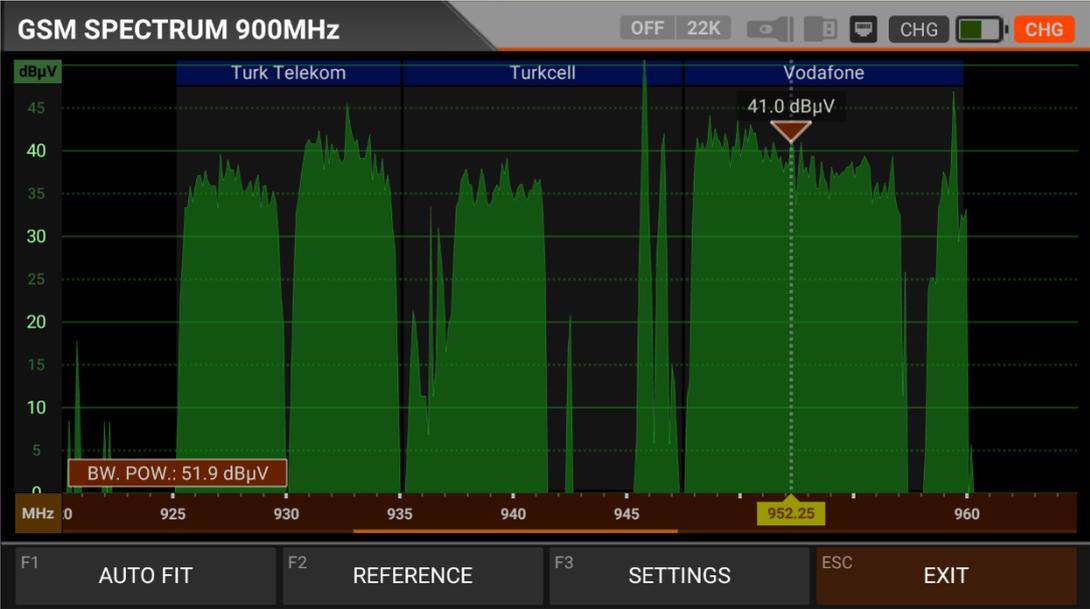
You can see the spectrum measurements of GSM operators in the 3G UMTS 2100MHz band.



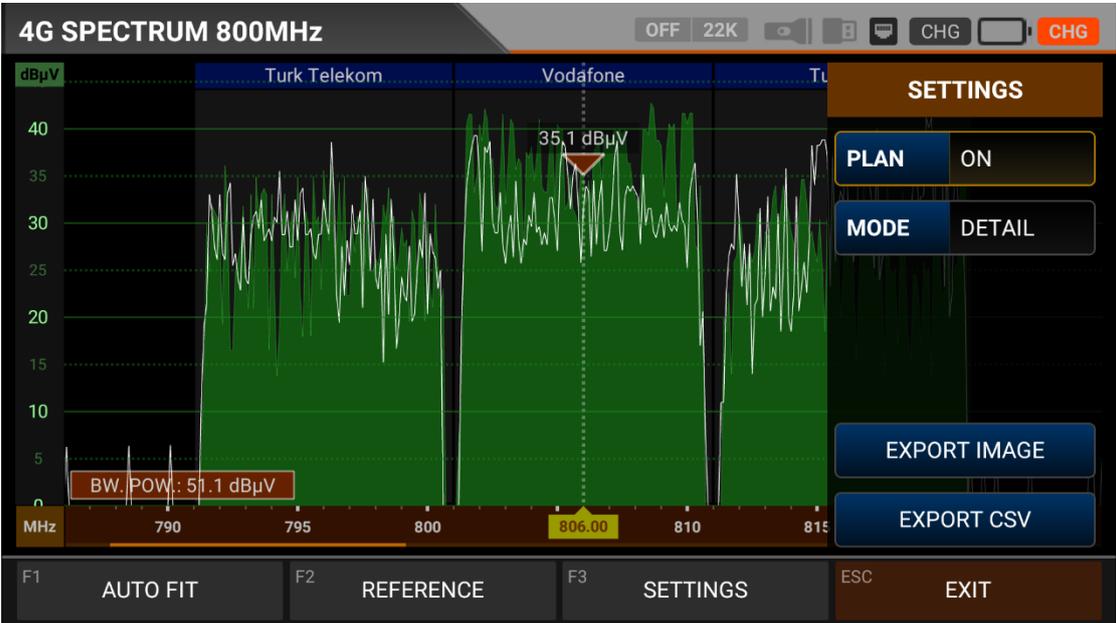
You can see spectrum measurements of GSM operators in the GSM 1800MHz band.



You can see spectrum measurements of GSM operators in the GSM 900MHz band.



REFERENCE and SETTINGS:



REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory in your subsequent measurements and re-install them with the same settings.

SETTINGS: This menu allows you to change the Operator names shown with blue bars to OFF/OFF. This way, you can restrict the system you want to appear on the screen. You can change the operating mode of the spectrum quickly and precisely.

You can export the spectrum display as a \*.CSV file and as an IMAGE file to USB.

## **CCTV - A/V - HDMI INPUT TEST AND INSTRUCTIONS FOR USE:**

Enter the MOBILE (GSM) ANALYZER menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad. You can set the focus and direction installation of AHD / TVI / CVI / PAL cameras, perform cable and TV tests with HDMI OUT, test any HDMI source up to 1080p with HDMI INPUT, and perform output pal through AV output from the CCTV - A/V - HDMI IN / OUT menus.



The device will count for 3 seconds and switch to CCTV mode when you select AHD/TVI/CVI. You can see the supported resolutions below.

ANALOGUE	: PAL - NTSC AV Input
AHD	: 1MP, 2MP, 3MP, 4MP, 5MP, 8MP
TVI	: 1MP, 2MP, 3MP, 4MP, 5MP, 8MP
CVI	: 1MP, 2MP, 4MP, 8MP



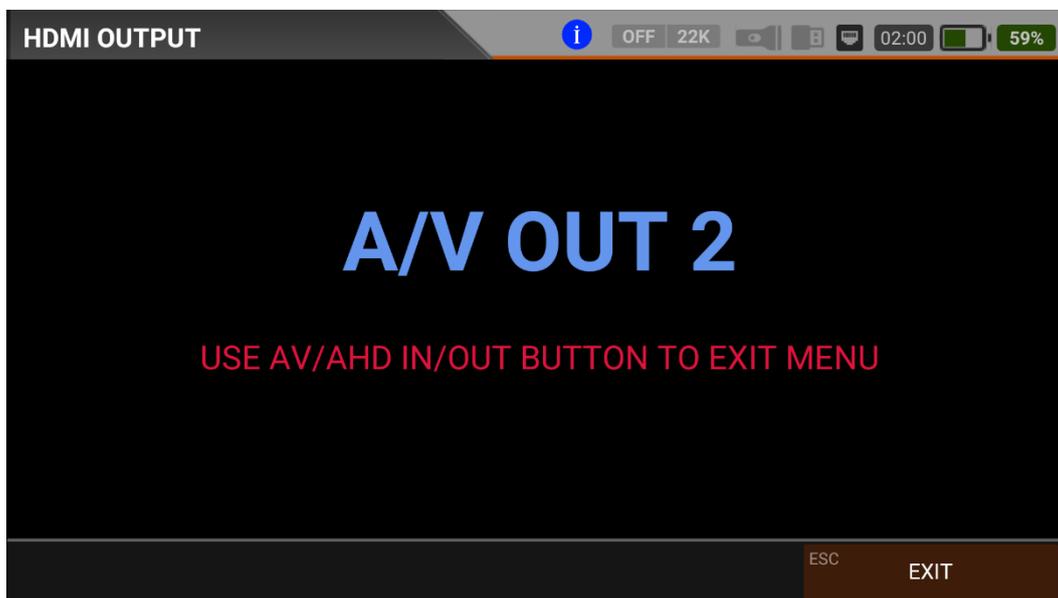
You can test any HDMI source up to 1080p when you select HDMI IN.

HDMI IN	: SD - HD - FHD
---------	-----------------



The device will count for 3 seconds, and you can test cables and TVs up to 4K resolution when you select HDMI OUT. Press AV/AHD/IN/OUT to exit from this mode to the MAIN MENU.

HDMI OUT : SD - HD - FHD - 4K



The device will count for 3 seconds, and you can perform output pal and tests when you select AV IN / OUT. Press AV/AHD/IN/OUT button in the keypad to exit from this mode to the MAIN MENU.

AV Output : PAL - NTSC AV output (without display)

AV Input : PAL - NTSC AV Input

### Conformity information:

Hereby the company ALPSAT ELEKTRONIK LTD CO. declares, that the device ALPSAT AS07-STCA is in compliance with the essential requirements and other relevant provisions in compliance with:

EC EMC directive 2014/30/EU with amendments

EC LVD directive 2014/35/EU with amendments

The Declaration of Conformity for these products is located at the company:

ALPSAT ELEKTRONIK LTD CO.

ADD: HALİL RIFAT PASA MH. PERPA TIC. MRK.

B.BLOK K:11 NO:1697-1699 OKMEYDANI-SISLI-ISTANBUL / TURKIYE

Lead in the device: This device contains lead in certain components or components with no technical alternative. ALPSAT adheres to the RoHS directive of the European Union.

Note: Weight and dimensions are not the absolute exact values. Technical details are subject to change without notice Stand: Subject to technical changes. The illustrations serve as an example and may differ from the actual screen menus.

### Konformitätsinformation:

Hiermit erklärt die Firma ALPSAT ELEKTRONIK LTD CO., dass sich das Gerät ALPSAT AS07-STCA in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen in folgenden Richtlinien befindet:

EG EMV-Richtlinie 2014/30/EU mit Änderungen

EG-LVD-Richtlinie 2014/35/EU mit Änderungen

Die Konformitätserklärung zu diesem Produkt liegt der Firma vor:

ALPSAT ELEKTRONIK LTD CO.

ADD: HALİL RIFAT PASA MH. PERPA TIC. MRK.

B.BLOK K:11 NO:1697-1699 OKMEYDANI-SISLI-ISTANBUL / TURKIYE

Blei im Gerät enthalten: Dieses Gerät enthält Blei in bestimmten Bauteilen oder Komponenten bei denen keine technische Alternative besteht. Hierbei hält sich ALPSAT an die RoHS Richtlinie der Europäischen Union.

Hinweis: Gewicht und Abmessungen sind nicht die absolut exakten Werte. Technische Details können jederzeit geändert werden ohne vorherige Ankündigung Stand: Technische Änderungen vorbehalten.

Die Abbildungen dienen der beispielhaften Darstellung und können von den tatsächlichen Bildschirmen abweichen.



Im Zusammenhang mit dem Vertrieb von Batterien und Akkus sind wir als Händler gemäß Batterieverordnung verpflichtet, Sie als Verbraucher auf folgendes hinzuweisen:

Sie sind gesetzlich verpflichtet, Batterien und Akkus zurückzugeben. Sie können diese nach Gebrauch in unserer Verkaufsstelle, in einer kommunalen Sammelstelle oder auch im Handel vor Ort zurückgeben.

Schadstoffhaltige Batterien sind mit einem Zeichen, bestehend aus einer durchgestrichenen Mülltonne und dem chemischen Symbol (Cd, Hg oder Pb) des für die Einstufung als schadstoffhaltig ausschlaggebenden Schwermetalls versehen.

## WARRANTY

### MANUFACTURER

**COMPANY** : ALPSAT ELEKTRONİK SAN. VE TİC. LTD. ŞTİ  
**ADRESS** : ŞİŞLİ HALİL RIFAT PAŞA MAH. PERPA TİCARET  
MERKEZİ B-BLOK K:11 NO.1697-1699 İSTANBUL-TURKIYE  
**TEL:** : +90 212-222 85 50  
**FAX** : +90 212-222 85 52  
**Sign - Stamp** :

ALPSAT ELEKTRONİK  
San. ve Tic. Ltd. Şti  
Perpa Ticaret Merkezi B Blok Kat:  
No:1697-1699 Şişli / İSTANBUL  
Tel:(0212) 222 85 50 - Fax: 222 85  
Şişli Vergi Dairesi: 167 052 99

### PRODUCT

**PRODUCT** : TV-SAT-CATV FIELD METER  
**BRAND** : ALPSAT  
**MODEL** : AS07STCA-4K  
**WARRANTY** : 1 YEAR  
**REPAIR TIME** : 30 DAYS  
**SERIAL NUMBER** :

### SELLER COMPANY DETAILS

**COMPANY** :  
**ADRESS** :  
**TELEPHONE & FAX** :  
**INVOICE DATE % NO** :  
**DATE - SIGNATURE - STAMP** :

