HCM Pattern Optimizer 3D

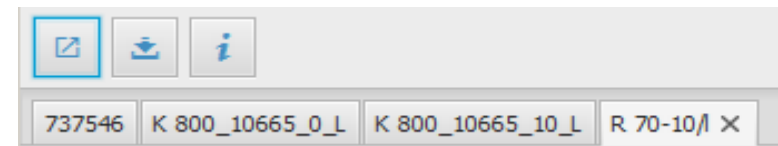- Brief Instruction -

Program start

After start, empty graphical user interface appears. Under the menu bar there is a quick access bar with buttons for frequently used commands such as loading, saving, etc.

Loading antenna diagrams

Click on the "Open" button:

Navigate to the directory in which the antenna diagrams are saved and select the file to be loaded. This is displayed in a tab. You can load additional diagrams, each of which appears in a new tab:

737546 | K 800_10665_0_L | K 800_10665_10_L | R 70-10/l ✕

Supported file formats

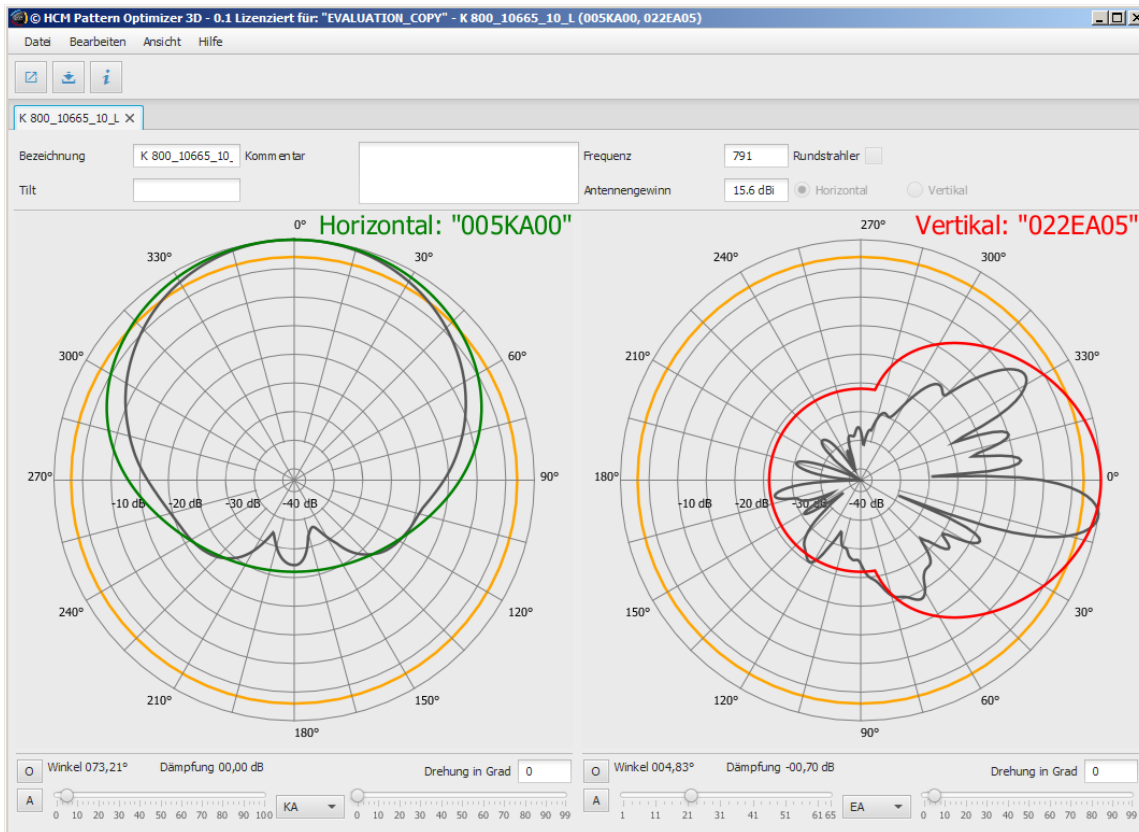Antenna diagrams can be loaded and saved in the following formats:

- Kathrein (*.msi)

Saving antenna diagrams
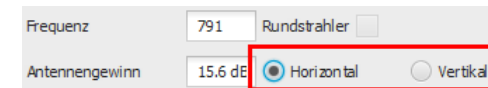
Click on the "Save" button:
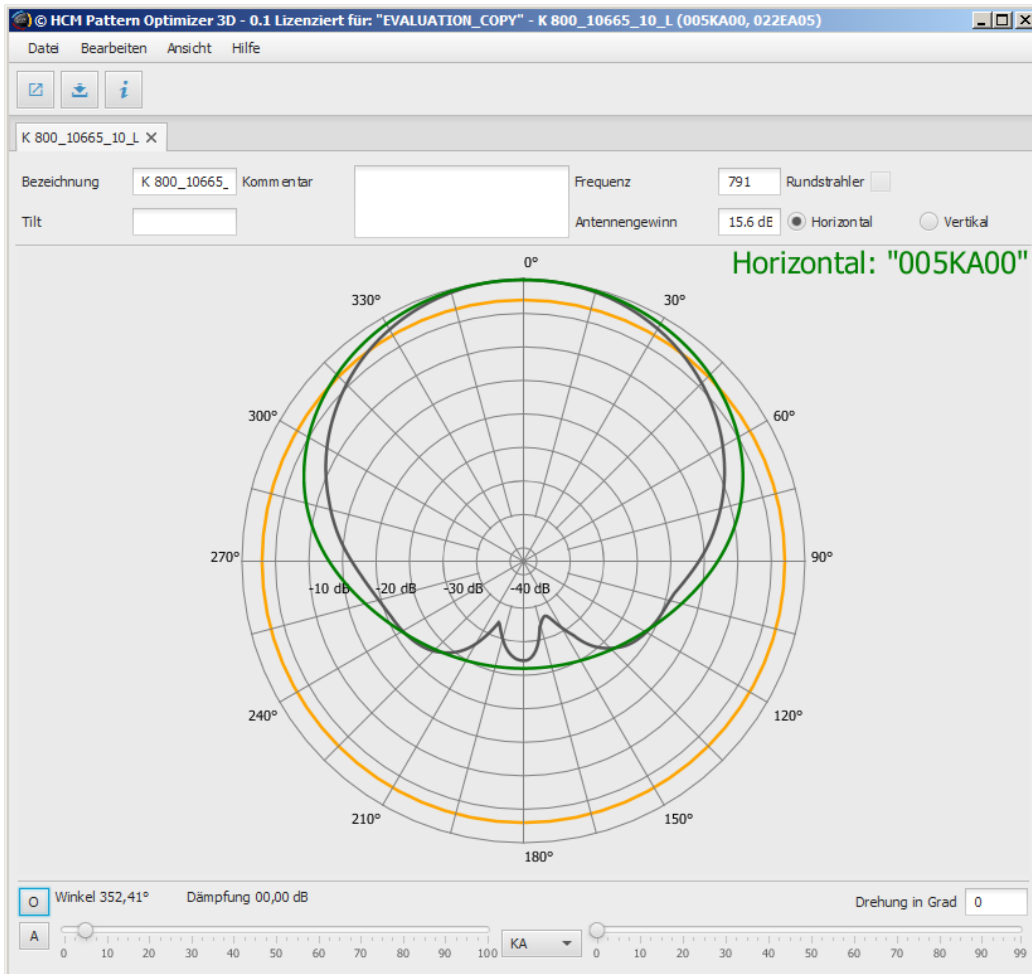
Working with the antenna diagrams

Display

Depending on the width of the program window, both diagrams (horizontal and vertical) are displayed at the same time. Otherwise, switch between the diagrams by clicking on the respective radio button in the detailed information at the top right:

Operation and display are identical for both diagrams, so the following explanations for the horizontal antenna diagram can be transferred the vertical one.

Working with the antenna diagrams

Control and display elements

The detail display is located above the graphic diagram.
The values can be changed and saved manually.

In the middle there is the schematic representation of the envelope curve with the current pattern.
This 7-character code is also displayed and corresponds to the form:
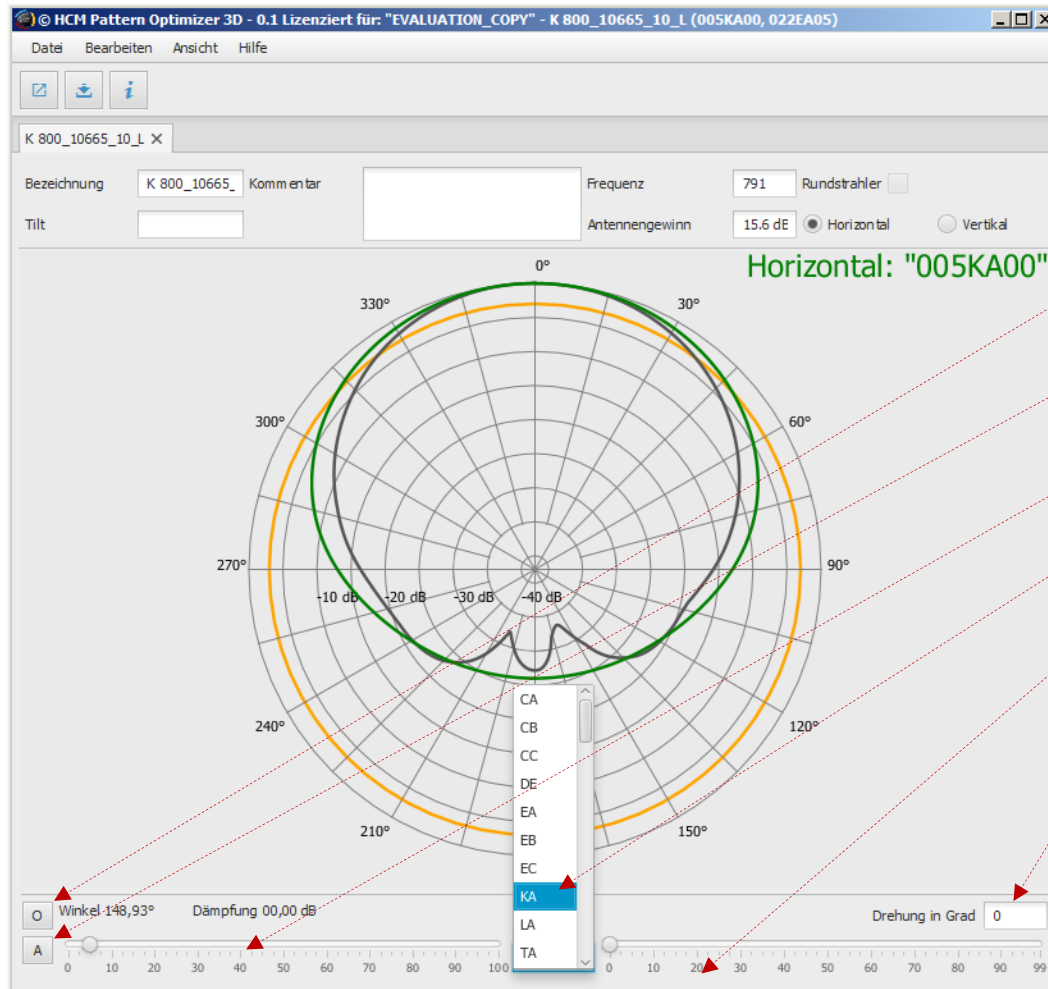
„<Lead><Patterntyp><Trail>"

Lead and trail consist of three or two digits, separated by the pattern type (two letters). For example, the current pattern is "005KA00".

In the bottom section there are the manipulators parameters of envelope curve.

The colors of the lines have the following meaning:

Yellow	signal attenuation 3dB
Black	physical (actual) pattern of the antenna type
Green	Completely enveloping pattern (falling below by max. 1 dB) - approved
Red	not fully enveloping pattern – none permission

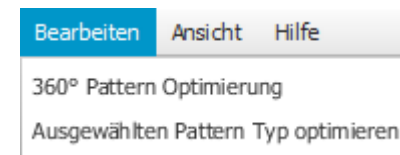# Working with the antenna diagrams

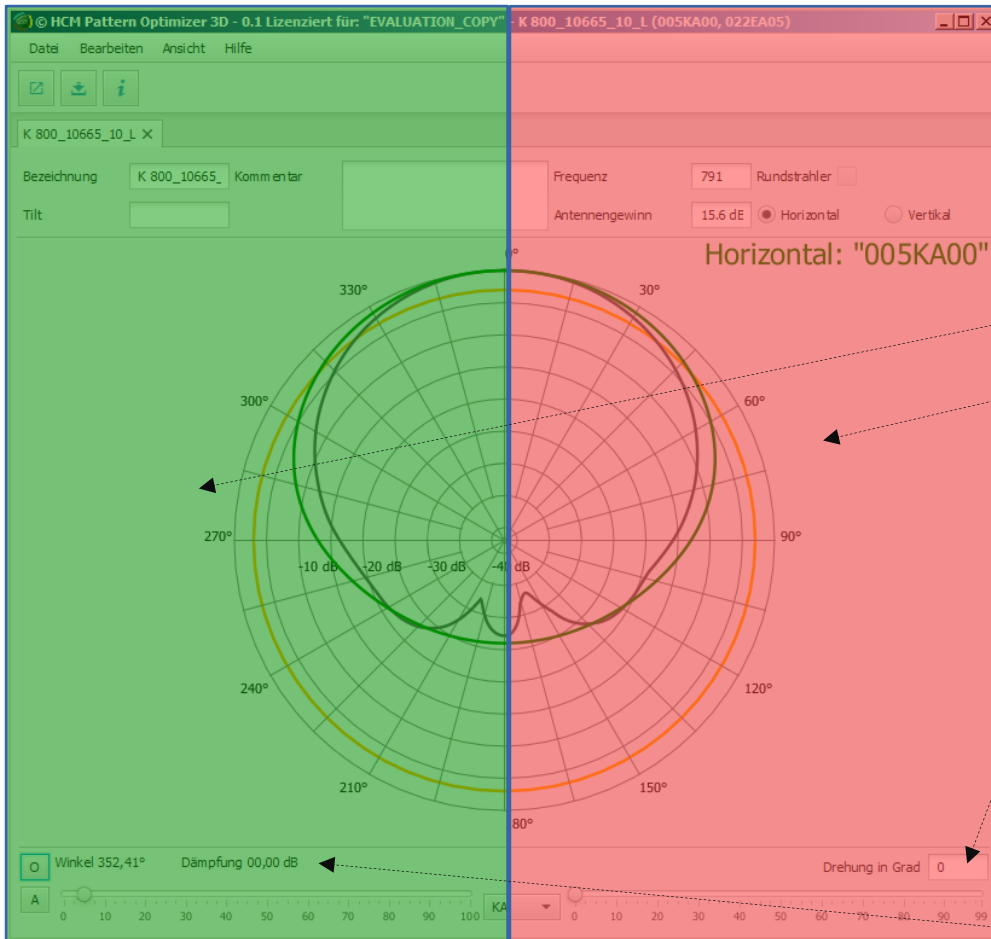## Adjustment of the envelope curve (1)

The bottom section for manual adjustment of the patterns consists of the following elements:

- Button for recalculating the optimal pattern and the pattern type

- Button for recalculating the optimal pattern while keeping the currently selected pattern type

- Controller selection for setting lead pattern

- Selection list of pattern type

- Controller selection for setting the trail pattern

- Input field for rotating the antenna (to compensate for a tilt in the antenna pattern)

This two functions for automatic recalculation can be found additionally in the „Edit" menu:

Working with the antenna diagrams

Adjustment of the envelope curve (2)

Alternatively, you can change the lead and trail patterns as well as the antenna rotation with the mouse. If the mouse pointer is in one of the marked areas, reduce or enlarge the values by turning the mouse wheel.

- Change of lead pattern

- Change of the trail pattern

- Change of antenna rotation

In addition, the numerical values of the current mouse position are displayed in the diagram.
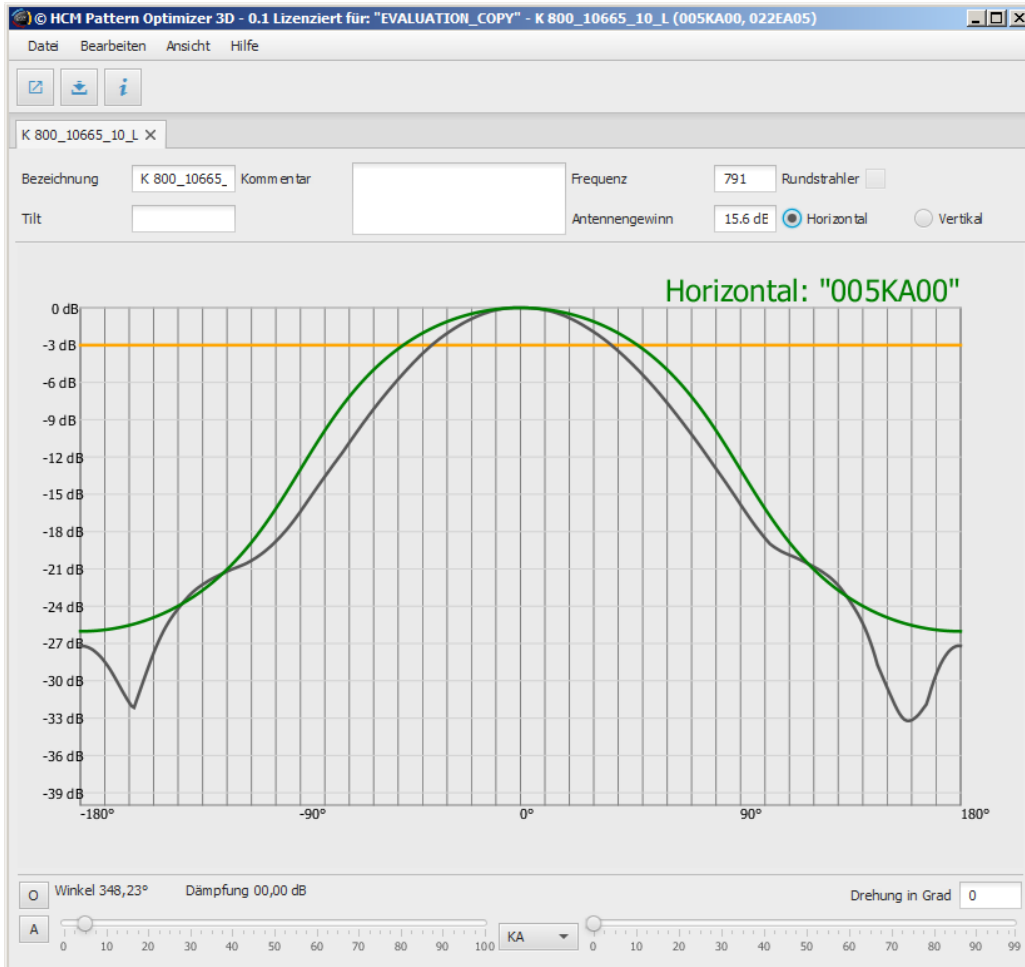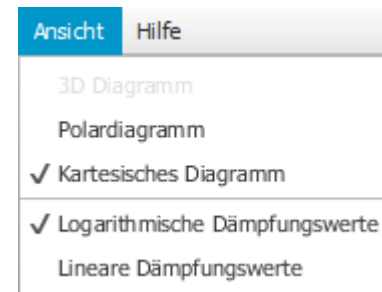
Working with the antenna diagrams

Diagram-Types

The standard view shows a polar diagram with logarithmic attenuation values. By "View" menu you can switch to a Cartesian diagram or linear damping:

Display has no effect on the possibilities of pattern manipulation.