

Creating a new CPM from scratch

In this tutorial, you will learn how to generate a CPM from scratch. The intention of the CPM from Scratch wizard is to take control of the color behaviour where all aspects of the unique ink, media and quality combination is considered natively.

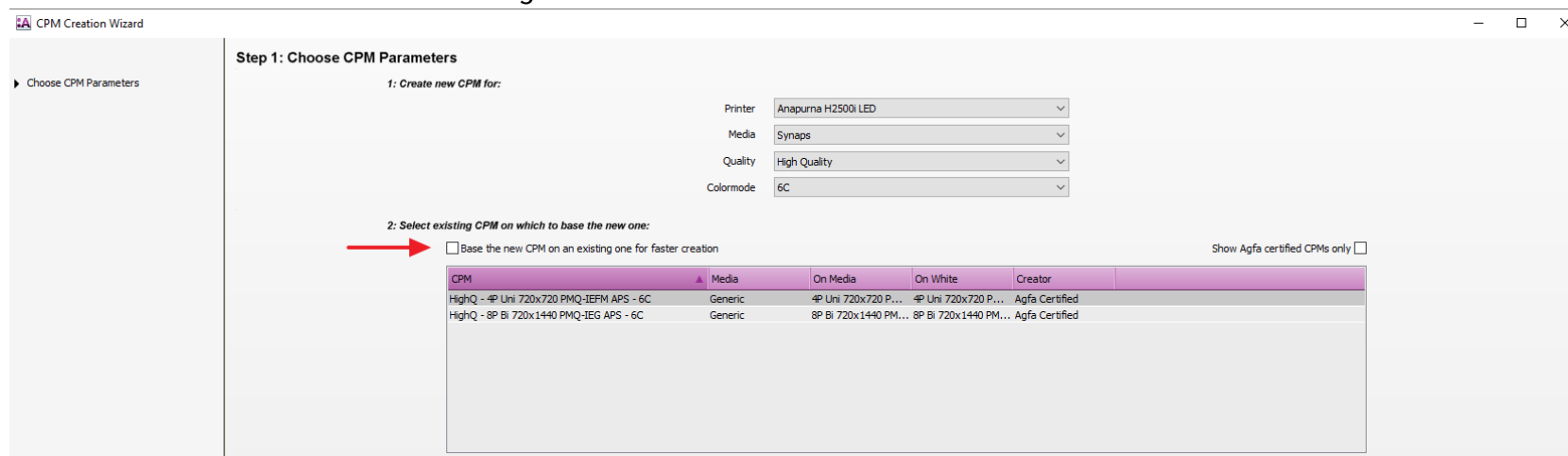
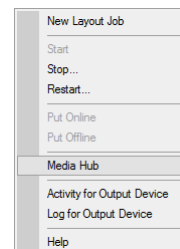
The wizard is strongly automated and guides the operator through different steps from setup until a ready for use CPM.

1. How to create a CPM from scratch

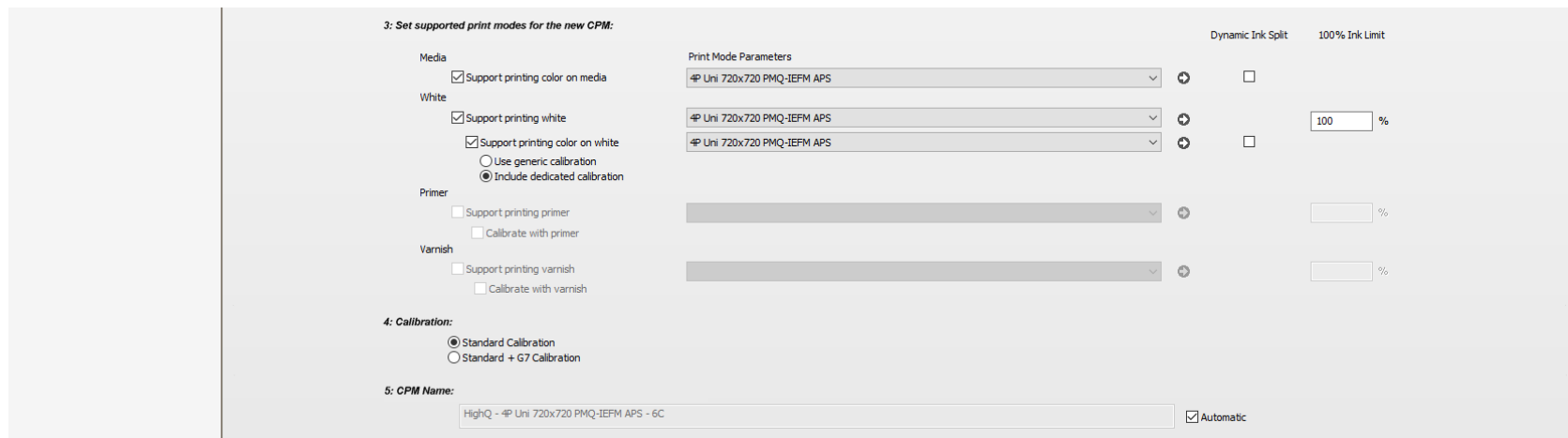
1. In the jobs overview, context click on the digital press. Open the Media Hub.
2. Select File > New Media, give the new media a recognizable name (e. g. paper vendor, tutorial ...)
3. Select File > New Calibrated Printing Mode

Step 1 – Choose CPM parameter

4. First step is to link all elements (printer, media, quality ...) which make a CPM.
 - Select your printer
 - Select your media
 - Select a Quality
 - Select a Colormode (if available)
 - Disable “Base the new CPM on an existing one for faster creation”



5. Add the necessary print application(s). In this tutorial we will make a CPM with an “on media” and “on white” calibration.

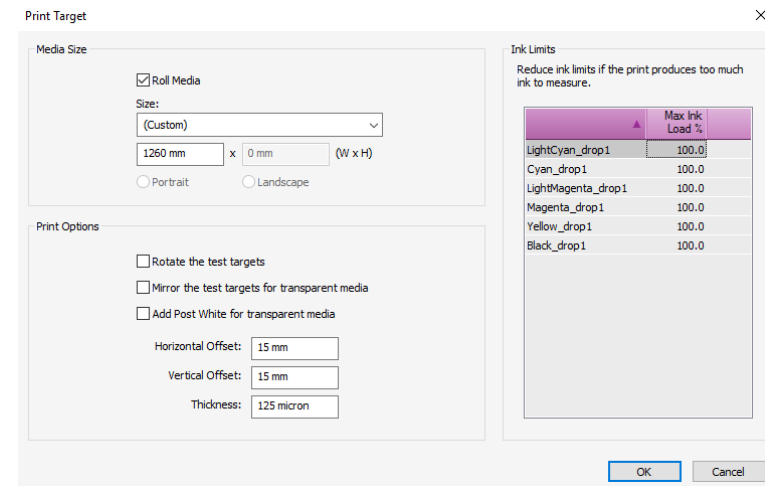
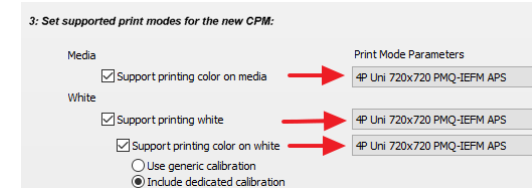


- Enable *Support printing color on media* and select a matching print mode.
- Enable *Support printing color on white*, activate *Include dedicated calibration*

6. Click next to proceed.

Step 2 – Pure ink characterization

7. During the pure ink
 - Select “Change Instrument” from the cogwheel when “NO INSTRUMENT SELECTED” is shown in the instrument pane.
 - Select your measuring device e.g. EyeOne iO Pro 2.
8. Click “Print”. The print target window will be displayed. The output size can be changed (this will rearrange the targets automatically). The print options with offset and media thickness is only useful for Jeti Tauro devices. The wedge (ID strip and Calibration target) is automatically processed by Asanti and dispatched to the press after clicking “OK”.

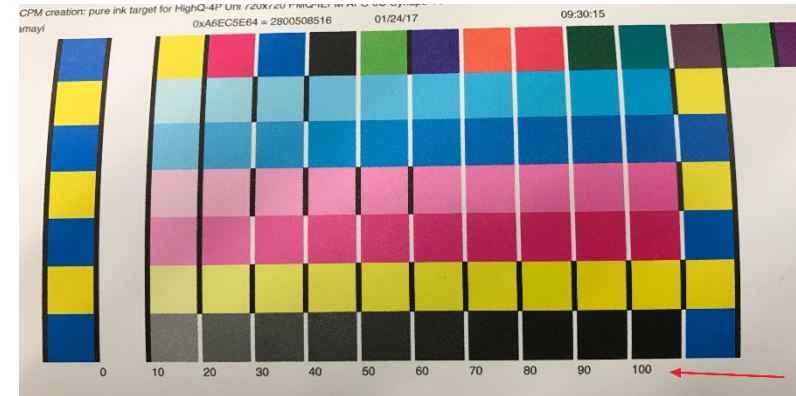


- Notice the percentage at the bottom of the calibration wedge. This percentage allows to limit the ink usage (step 8) before printing.

In this stage the limitation should only be done when the wedge can't be measured (sticky ink, drying issues, to vulnerable ...). Print artefacts which can be measured shouldn't be limited to allow the biggest possible gamut (print artefacts will be filtered out during the proceeding steps).

- Click measure. Depending on the selected measurement device the wizard will act differently. Click next to proceed.

- X-Rite eyeone, iSis and eXact: the wizard will recognize the ID strip and proceed automatically to the pure ink characterization wedge.
- X-Rite eyeone iO: ID strip and pure ink characterization wedges are measured automatically after positioning.
- Barbieri Spectropad/Spectro LFP and Konica Minolta FD-9: select the measurement description file (double check the Job ID which is printed in the header of the wedge).

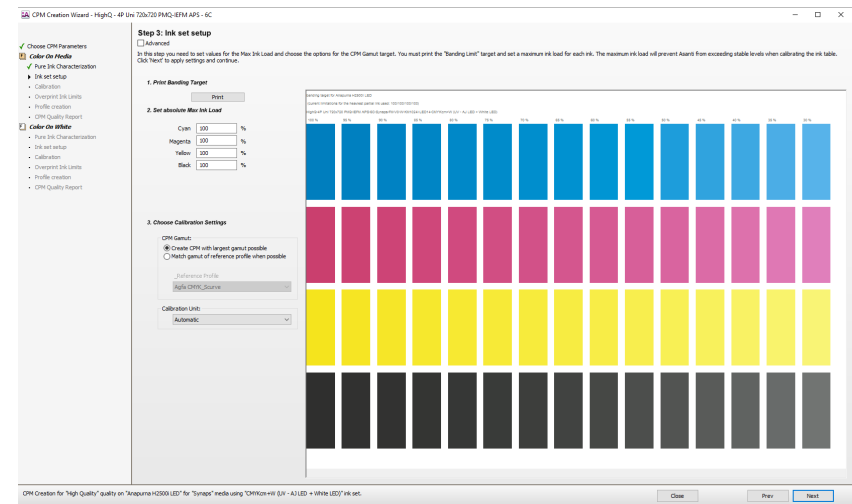


A CPM calibration wedge can only be used once. When submitted multiple times, the wizard will only accept the last submitted one as valid (otherwise a warning will be posted).

Step 3 – Ink set setup

- In this lesson, it is the intention to make a CPM with the biggest possible color gamut.

- Click print to print the banding target.
- Set absolute max ink load: the maximum ink load is the patch (%) which is not affected by any print artefact (banding, curing, durability against scratches ...).
- Calibration settings:
 - CPM gamut: select *Create CPM with largest gamut possible*
 - Calibration Unit: automatic

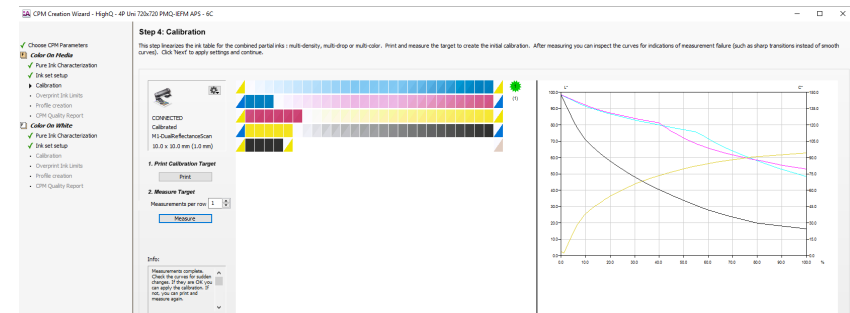


- Click next once all parameters are set.

In the automatic wizard Asanti will calculate the best ink usage based on measurements (step 2) and limitation set by the operator (step 3). This will allow to combine both routines into an initial calibration step (step 4). Asanti will lower the ink usage when more ink does not make sense (no additional color gamut or Chroma) even when the maximum ink load may go way higher before running into print artefacts.

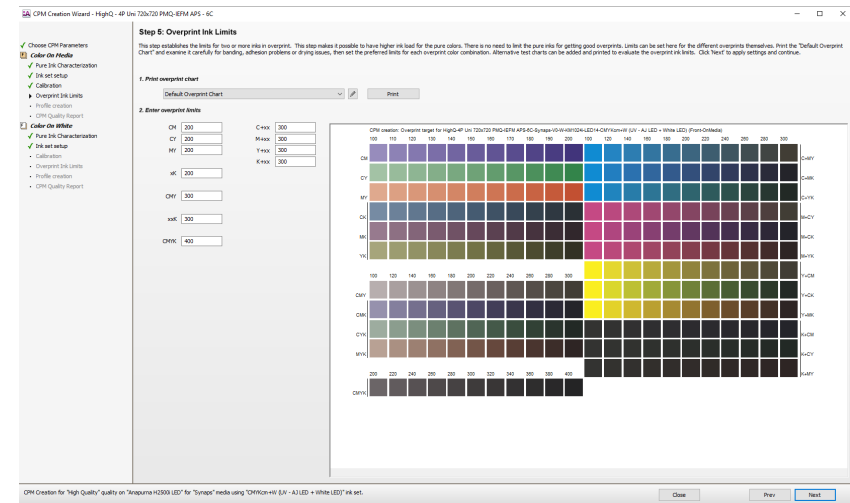
Step 4 – Calibration

- During the calibration step an initial calibration is done. Select your measurement device (if not available yet). Click print to submit the wedges. Once printed click Measure and proceed the measurement as described in point 10. Once completed a graph will be generated displaying the tonal behavior in lightness (cyan, magenta and black) of Chroma (yellow and eventual additional colors). A small step can be distinguished for multi-density inks where the light tint is replaced by the heavy tint. Click next to proceed.



Step 5 – Overprint Ink Limits

- All previous steps were about limiting individual inks. Output by Asanti is (almost) never the pure ink individual. Colors are achieved by mixing 2 or more inks to reproduced 1000's of colors. In step 5 the ink behavior of 2 or more mixed inks is checked and if necessary limited. From the *Print overprint chart* drop down menu select the Default Overprint Chart and click print. The target is dynamically created based on the used ink set (additional orange, green, blue ...).

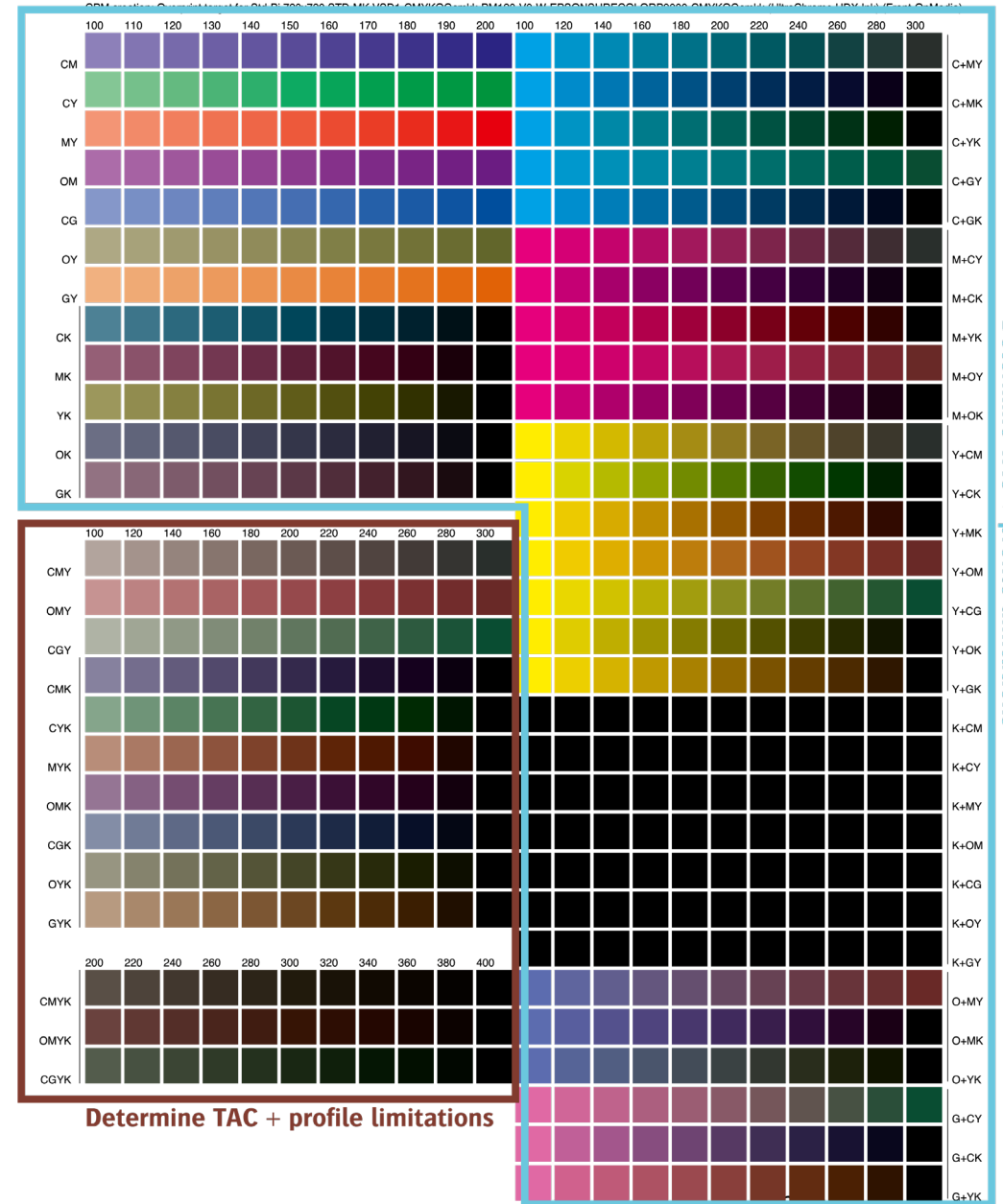


- Overprint target: the overprint target contains a series of wedges here gradually ink is increased. Judging this printed chart is a matter of finding the right limitation to avoid print problems. Eventually use a screlometer or something else to test the durability against scratches. Choose for each wedge the best level (higher level = banding, drying issues, scratches ...) and update the overprint limits. Click next once finished.

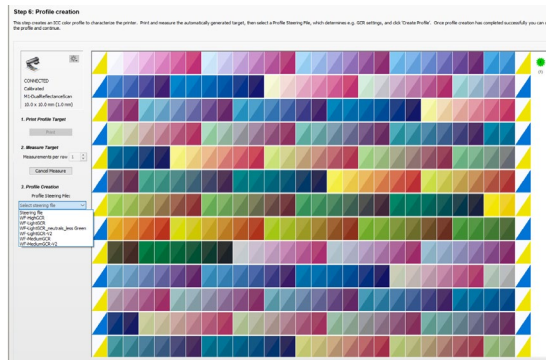
The limitations set on this target are "virtual" which means that they do not have any influence in the previous set limitations on the pure in. They are taken into account when creating the profile in the next step. A TAC is determined to select a good profiling target.

Step 6 – Profile creation.

- Again, select your measurement device (if not active yet). The layout of the profiling target is automatically adapted to the active profiling target. Click print to print the target.
- Click measure to measure the target. Once complete, a Profile Steering file can be selected. Select WF-LightGCR-v2 and click

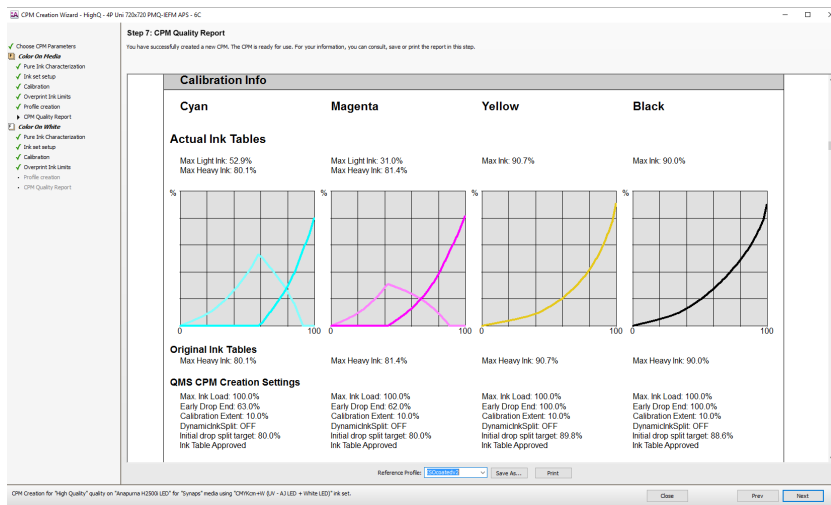


create profile. Click next.

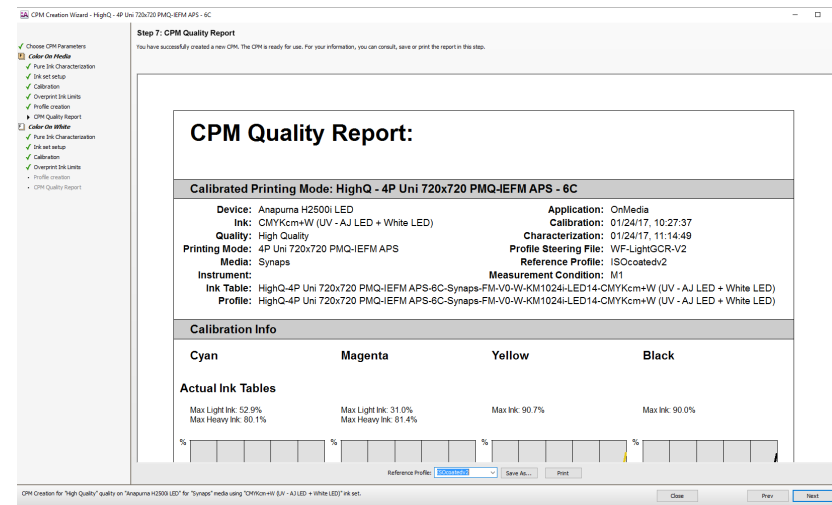


Step 7 – CPM quality report

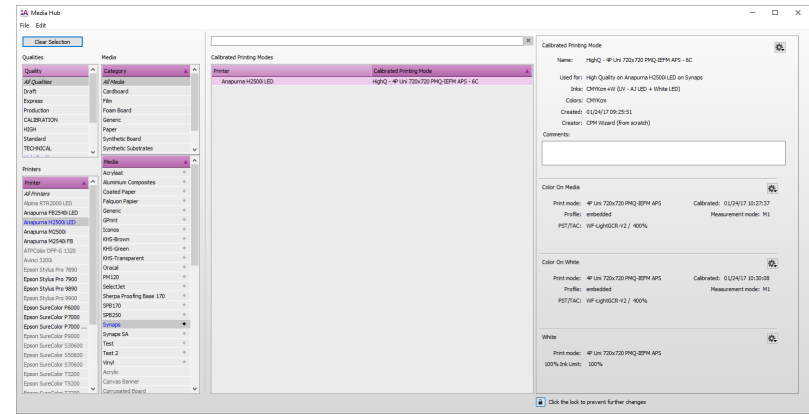
17. The CPM quality report contains all details on how the CPM was made (ink table) but also how it scores against a reference profile. This allows to judge whether a CPM might be usable to simulate press conditions such as a Fogra or IDEAlliance standard.



18. Click next to proceed if a dedicated on white calibration set needs to be added. Click finished if not the case.



19. The CPM is now available in the media hub.



2. Redoing a CPM

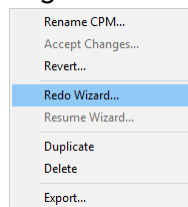
After completing a CPM, the quality will probably be validated by printing a series of test images. It can then happen that the result is not 100% satisfying: problems with adhesion, color gamut restrictions ... Some “problems” can be fixed by modifying the CPM to change the print mode or replacing the steering file of the profile. But these parameters have little influence on the true ink behavior. Ink drying issues can partially be fixed by restricting in the profile (needs to be done with external profiling tool such as ColorTune Output) but is off topic when it comes to color accurate Calibrated Printing Mode.

By redoing a CPM, the CPM can be opened. All steps of the wizard become available for tweaks and changes.

Only CPMs made with Asanti 3.0 can be redone.

In this lesson we will change the DLC (overprint ink limits) from our previously made CPM. This will be done on a duplicated version of the CPM.

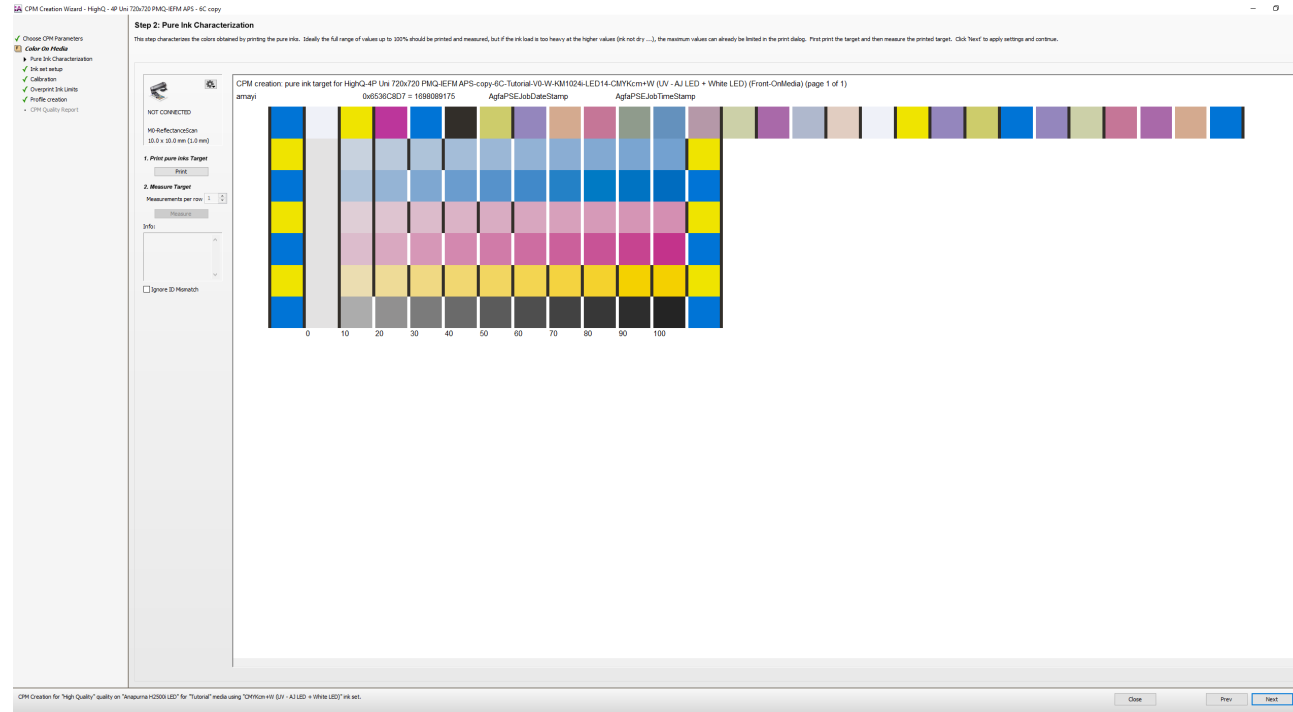
1. Look for the CPM in the Media Hub. Click on the CPM cogwheel and from the dropdown menu: click on “Duplicate...”
2. A new CPM will be generated with a copy suffix.
3. Select the new duplicated CPM. Again, click on the CPM cogwheel and now click on “Redo Wizard...”



4. The CPM will open with on the left hand side all (completed) steps. Completed steps can be recognized by their green



checkmark.



The first step (Choose CPM Parameters) cannot be changed since changes in here can will result in a total new CPM.

5. Click next until the step which needs to be changed. In this lesson we will go to step 5 – Overprint Ink Limits. Change for example the TAC and click next.
6. The CPM is now changed (again incomplete). Print again the profiling target, measure and create a [new profile](#) (see the previous lesson for detailed information).

