

# Color Management

This tutorial demonstrates how to use the color management settings of Asanti. This tutorial makes use of Adobe Acrobat Pro X or later (Windows version).

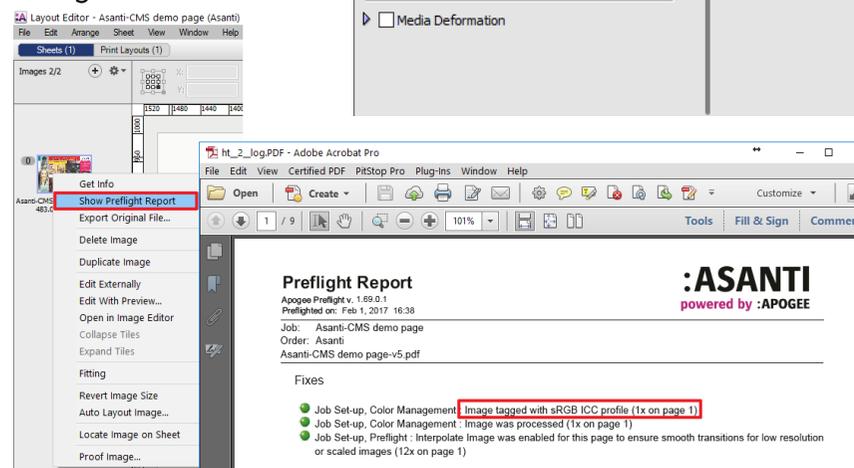
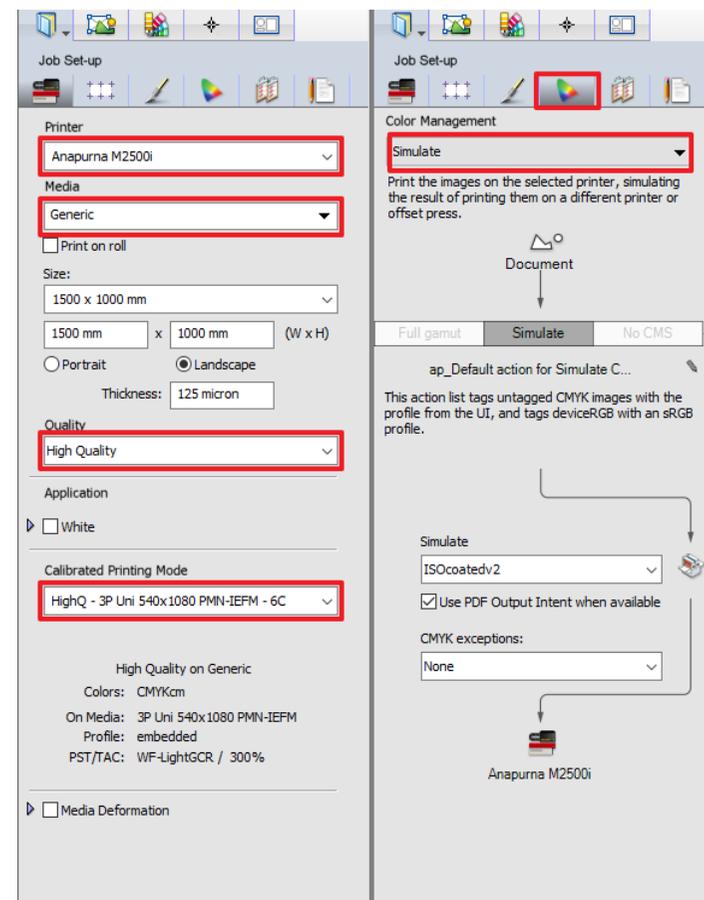
Download the Asanti Sample Files via the Asanti Client (Help > Asanti Online > Download Sample Files).

## 1. Simulate CMS mode

1. Create a new layout job.
2. Select the Job Set-up Inspector and select Generic media, a printer (Anapurna or Jetti, **not** a Generic SD) and as Quality "High Quality".  
The Asanti client automatically selects a calibrated Printing mode if available for the selected combination.
3. Select the Color Management inspector (color gamut icon).
4. Enable the "Simulate" color management mode.

*All images will now be converted from input to the simulation profile (by default ISOcoatedv2) and consecutively towards the digital press profile (from the CPM).*

5. In the images panel click "+" and browse for "Asanti-CMS demo page.pdf" from the Sample Files.
6. Consult the Preflight Report, by context clicking on the image thumbnail. In the Preflight Report you can verify which profiles were tagged to images during preflighting.

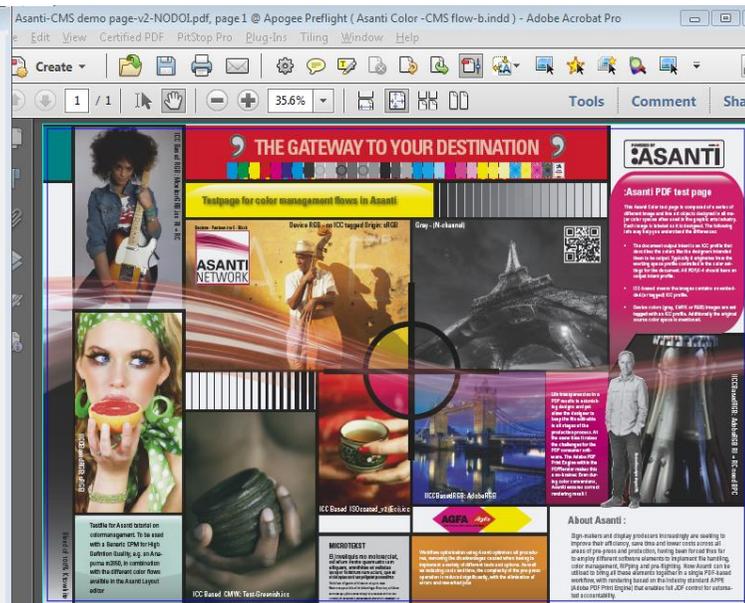
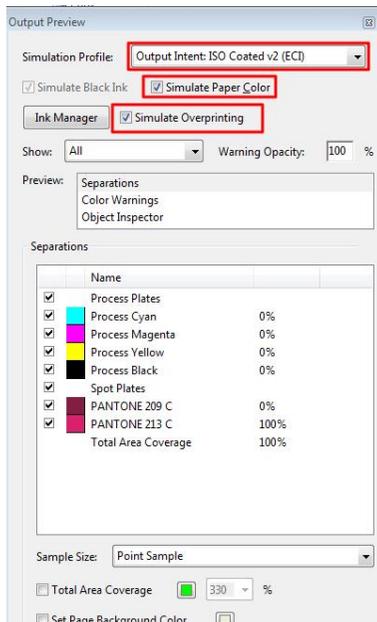
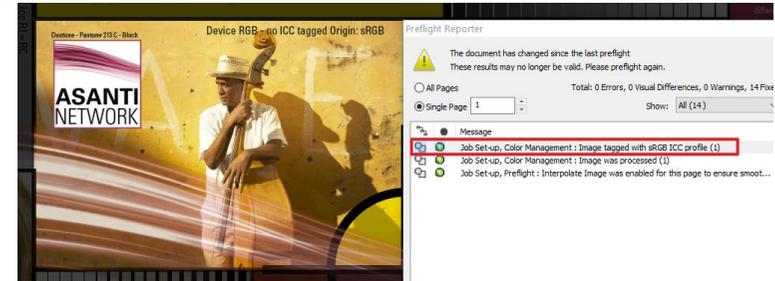


Click on the green bullet to see which object is affected by the Preflight action.

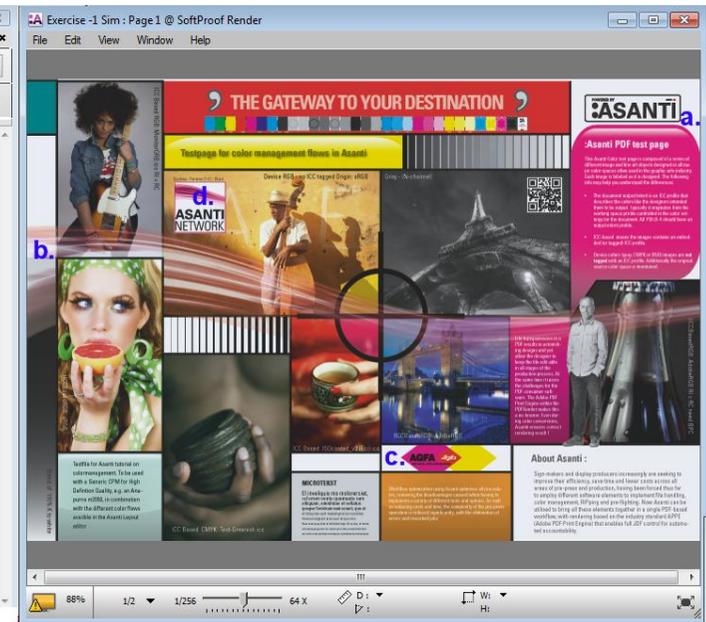
7. Close the "preflight reporter plugin" and select "Output Preview" from the "Print Production" tools.
8. In the Asanti Layout editor, double click on the image thumbnail to open the Preview.
9. Compare it to the Acrobat result.

The color differences between the input document and Asanti color managed preview, are caused by difference in color gamut of the simulation profile (ISOcoatedv2) and the digital press profile.

Spot colors (a.) , transparencies (b.) , overprint objects (c.) , duotones (d.) etc., are all correctly rendered.



Acrobat Pro with "Output Preview" simulating ISOcoatedv2



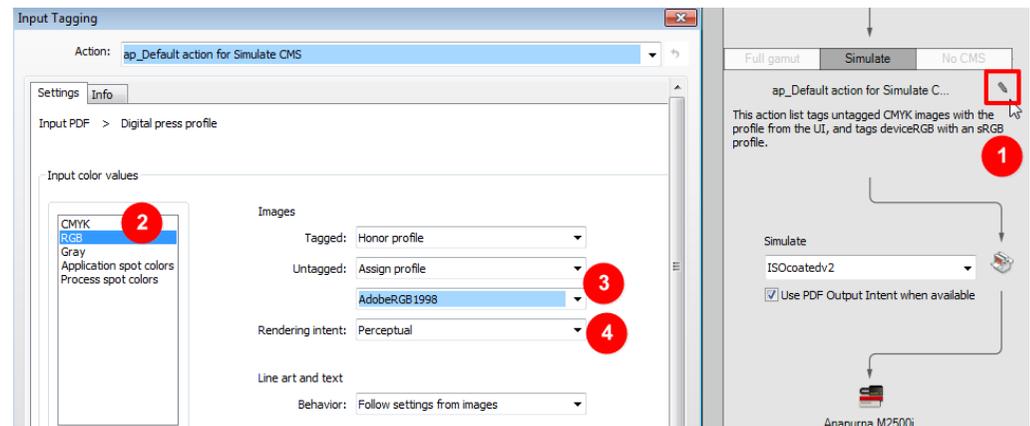
Asanti color managed preview with simulation CMS

10. Close Acrobat and the Asanti color managed preview.
11. Drag the image on the sheet and submit the job. Change the name of the job to "Exercise 1" and use "Make and Hold" to submit the job.

*The Simulation flow is the advised CMS mode for complex PDF's with transparencies and overprint, it ensures identical rendering compared to Acrobat Pro with Output Preview enabled.*

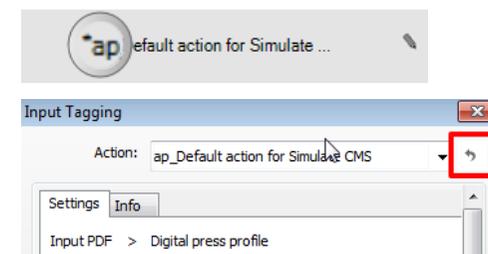
## 2. Using alternative profile tagging and Rendering Intents

1. Context-click on the previously created job "Exercise 1" and select "Duplicate Job" from the list. The new job will be opened immediately in Asanti Layout editor. In the Job Identification inspector, change the name of the job to "Exercise 2".
2. Select the color management inspector.
3. Click on the crayon icon (1) this will open a new window which allows to control the input tagging policies. For each color space alternative policies can be set individually for untagged and tagged objects, as well as policies to handle images differently from line art object. Also the rendering intent for the input color conversions can be set.



*For each Color Flow, Asanti uses the most optimal setting to ensure correct render result. Changing input tagging policies can easily result in less than optimal result, both in terms of image quality (color) and interpreted result (especially for CMYK objects). Transparencies and or overprint objects may be rendered not as expected due to changed input tagging policies.*

4. Click on the RGB color category (2)
5. Select "AdobeRGB 1998" for untagged RGB objects. (3)
6. Select "Perceptual" for Rendering Intent. (4)
7. Click OK. Notice that an asterisk is placed in front of the default CMS actions. This indicates that custom (non-default) settings were used. To revert to the default settings, click on the crayon and click the bended arrow icon.



8. Notice that the header of the image panel has turned “Orange” indicating that the current thumbnail is out of date. Click on the “Apply Changes” button in the lower right corner of the Layout editor window
9. Click “Update” in the following window. The job will now be preflighted again with the new settings.
10. Open the Preflight Report by context clicking on the image thumbnail, and verify that the RGB images are now tagged with the AdobeRGB profile and that the Rendering Intent is set to Perceptual.
11. Select “Edit With Preview” from context menu, the preview will be generated in the background (this may take a few minutes). Once ready, open the Asanti color managed preview, and compare the result of exercise 1 with the result of exercise 2. The result of Exercise 1 can be re-opened by double clicking on the job and again double clicking on the image thumbnail in the layout editor (of exercise-1). The difference is very obvious on the Cuban bass player image.

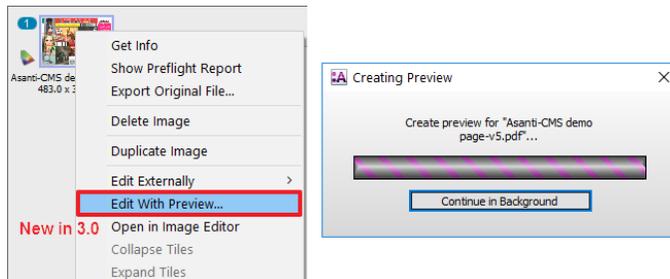
**Preflight Report**

Apogee Preflight v. 1.59.0.1  
 Preflighted on: Feb 1, 2017 16:53  
 Job: Asanti-CMS tutorial - exercise1  
 Order: Asanti  
 Asanti-CMS demo page-v5.pdf

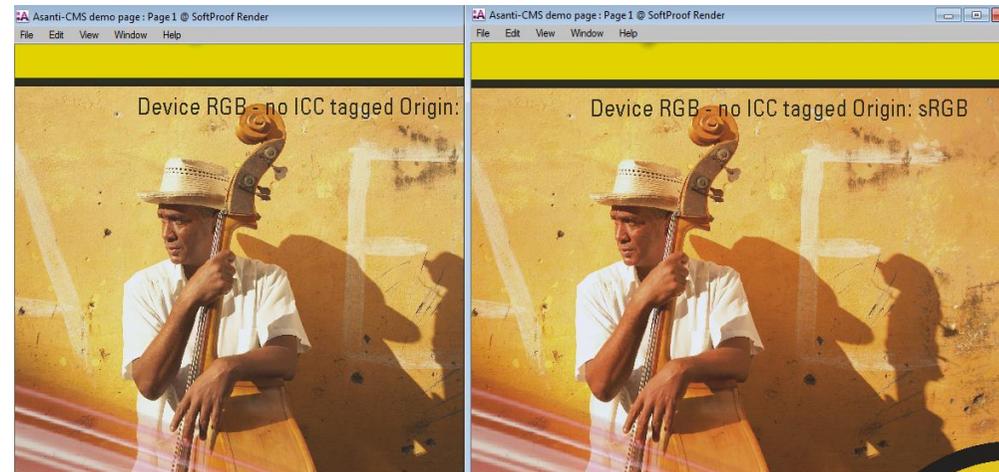


Fixes

- Job Set-up, Color Management : Image tagged with AdobeRGB1998 ICC profile (1x on page 1)
- Job Set-up, Color Management : Image was processed (1x on page 1)
- Job Set-up, Color Management : Rendering intent for iccRGB objects is set to Perceptual (6x on page 1)
- Job Set-up, Preflight : Interpolate Image was enabled for this page to ensure smooth transitions for low resolution or scaled images (12x on page 1)



12. Close both preview windows and submit exercise-2 and then submit exercise-1, select “Make and Hold”.



sRGB - Relative Colorimetric

AdobeRGB - Perceptual

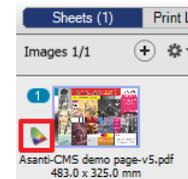
*Note that as of Asanti 3.0 the settings for CMS are **not** stored anymore in the Client preferences, but are now part of the job template settings (along with many other job processing settings). So any CMS setting that is saved into a job template will automatically be used for jobs made with these templates. This allows for easier control of the CMS settings across different jobs.*

### 3. Full Gamut Printing

1. In the Jobs window, context-click on the job "Exercise 1" and select "Duplicate Job" from the list. The new job will be opened immediately in Asanti Layout editor. Change the name of the job to "Exercise 3".
2. Select the Color Management inspector.
3. Enable the "Full Gamut" color management mode.

*Untagged CMYK images will be simulated as the "Default CMYK profile" (default setting = ISOCoatedv2), all other color spaces will be converted directly to the digital press profile (from the CPM).*

4. Click the "Apply Changes" button and click "Update" in the following window. The job will now be preflighted for the full gamut mode.
5. Notice the little color gamut icon left of the image thumbnail, this indicates that the image will use the full gamut CMS mode.
6. Consult the Preflight Report, by context clicking on the image thumbnail. In the Preflight Report you can verify which profiles were tagged during preflighting. Notice that the output Intent was changed to "Digital Printing full gamut"



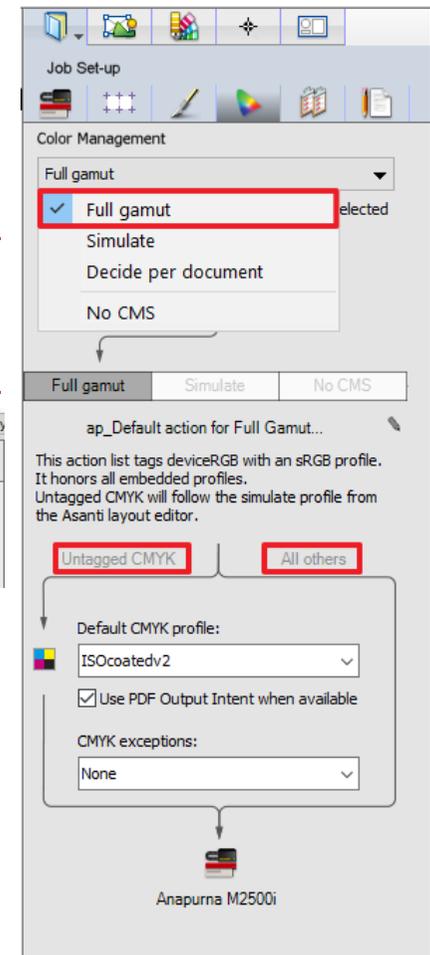
#### Preflight Report

Apogee Preflight v. 1.69.0.1  
 Preflighted on: Feb 1, 2017 17:06  
 Job: Asanti-CMS tutorial - exercise2  
 Order: Asanti  
 Asanti-CMS demo page-v5.pdf



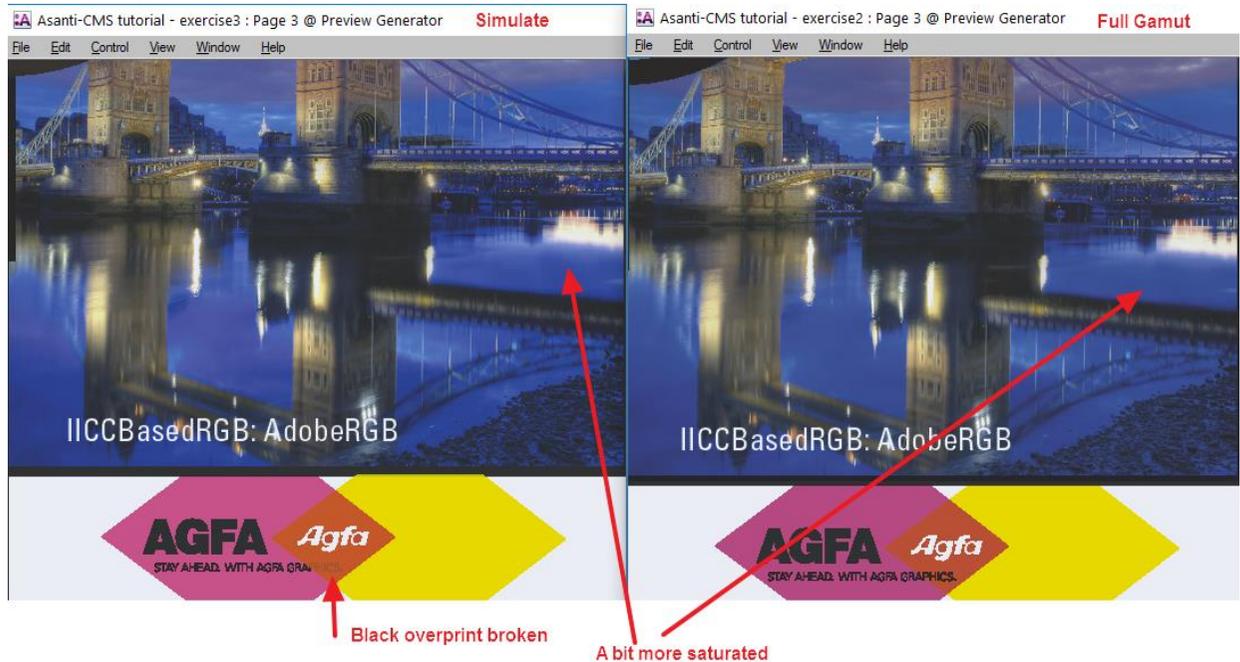
#### Fixes

- Job Set-up, Preflight : Image tagged with ISO Coated v2 (ECI) ICC profile (1x on page 1)
- Job Set-up, Preflight : Image was processed (1x on page 1)
- Job Set-up, Preflight : Image tagged with ISO Coated v2 (ECI) ICC profile (1x on page 1)
- Job Set-up, Preflight : Text/line-art tagged with ISO Coated v2 (ECI) ICC profile (535x on page 1)
- Job Set-up, Color Management : Image tagged with sRGB ICC profile (1x on page 1)
- Job Set-up, Preflight : Interpolate Image was enabled for this page to ensure smooth transitions for low resolution or scaled images (12x on page 1)
- Job Set-up, Preflight : Output intent changed to Digital Printing full gamut; HighQ-3P Uni 540x1080



7. Close the Preflight Report and select "Edit With Preview" from context menu to create and open the color managed preview (this takes a while).

- 8. Zoom in on the Agfa logo and the "Blue London Bridge" image and notice that the black text overprint effect which was originally in the PDF has partially disappeared. The blue tints of RGB images are indeed a bit more saturated compared to the simulate mode.



*Full Gamut CMS mode can break overprint effects in PDF's! This is because this mode requires tagging of CMYK objects which is incompatible with overprint attributes. Similarly also transparency effects can change due to the tagging of CMYK objects within a PDF. Therefore the Full Gamut mode is only advised for single RGB image file formats (Tiff, JPG, ....)*

- 9. Submit the job, select "Make and Hold".

#### 4. "Decide per document" color management mode

1. In the Jobs list Context-click on the job "Exercise 3" and select "Duplicate Job" from the list. The new job will be opened immediately in Asanti Layout editor. Change the name of the job to "Exercise 4".
2. Select the Job Set-up > Color Management inspector.
3. Enable the "Decide per document" color management mode.

*In this mode Asanti uses full gamut printing when it's safe to do so, and switches back to simulation printing when it's not safe.*

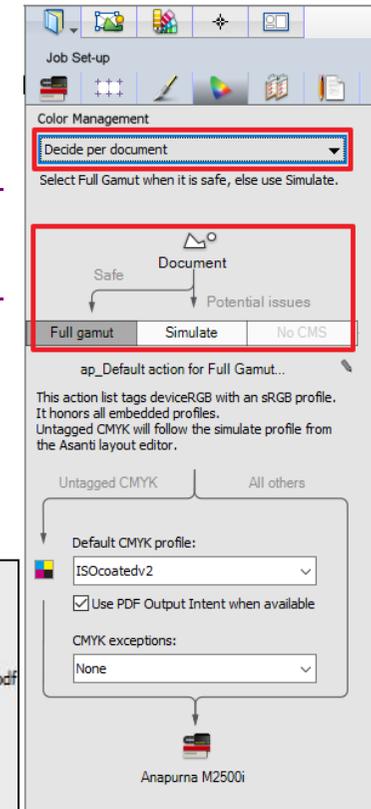
4. Because 2 CMS modes may be used, the input tagging options for both modes are manageable. Click on the "Full gamut" tab as well as on the "Simulate" tab, to verify the input tagging settings for both CMS modes. Use the default settings (if you see an asterisk (\*) next to the input tagging option, click on the crayon and use the revert button (bended arrow) to revert to the default settings.
5. Click the "Apply Changes" button and click "Update" in the following window. The job will now be checked on the occurrence of overprint objects, complex transparency objects and other complex graphic constructions that require the simulate CMS mode. (this may take a while).

6. Notice that the little color gamut icon left of the image thumbnail has disappeared, this indicates that the full gamut CMS mode will not be used for the pdf file.
7. In the images pane click "+" and browse for "Woman with grapefruit 493x740.jpg".
8. Notice the little color gamut icon left of the image thumbnail, indicating that this image can safely be use the full gamut CMS mode.

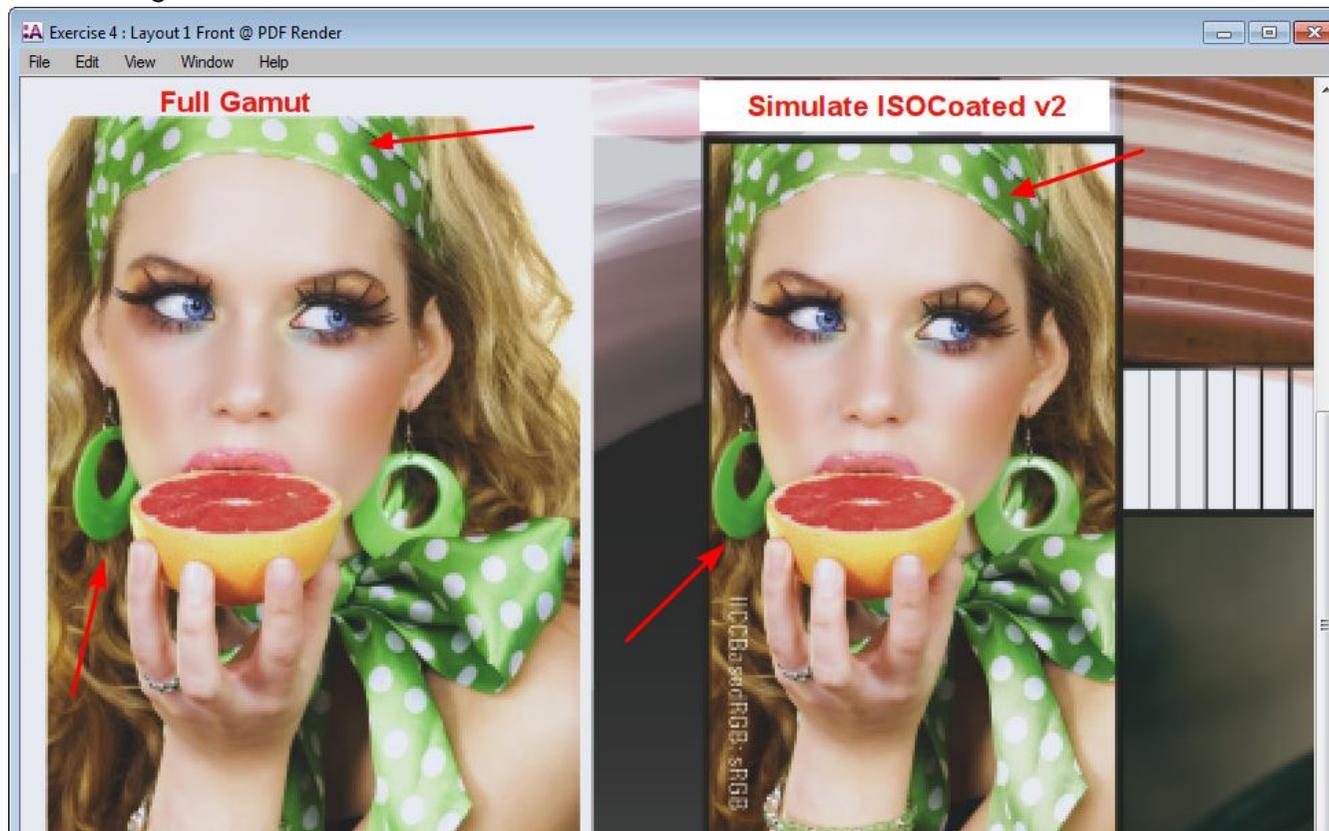
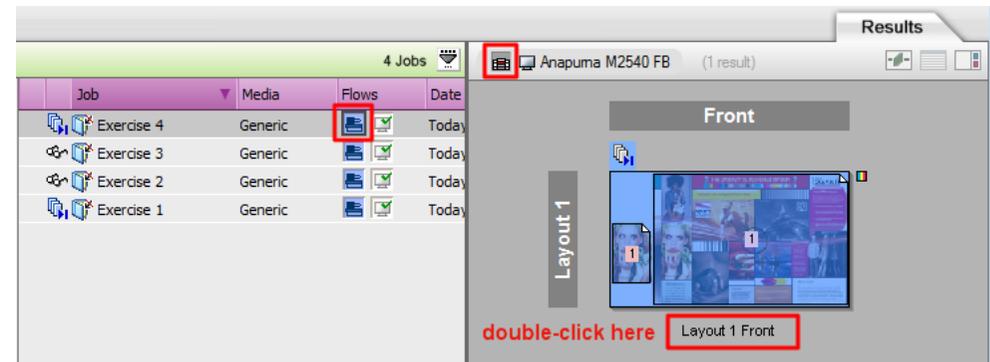


9. Drag the "Woman with grapefruit 493x740.jpg" on the Sheet and scale it to 18%, and place it next to same image within the Asanti-CMS demo page PDF.

*Notice that by using "decide per document", images that are processed with Simulate mode and Full Gamut mode can be combined on one Print Layout. The actual steering of the CMS flows is controlled by the Apogee preflight input tagging which can be different for each file within a job.*



10. Submit the job, select "Make and Hold", and wait until the rendering has finished.
11. In the Jobs pane, select "Exercise 4" and click the main output icon in the flows column.
12. Open the Color managed preview of the main flow by double-clicking on the "Layout 1 Front" label.
13. Compare the Woman with grapefruit image. Look for the differences between the Simulate (pdf) and Full gamut (jpg) mode. The green colors are a bit more saturated on the full gamut result.



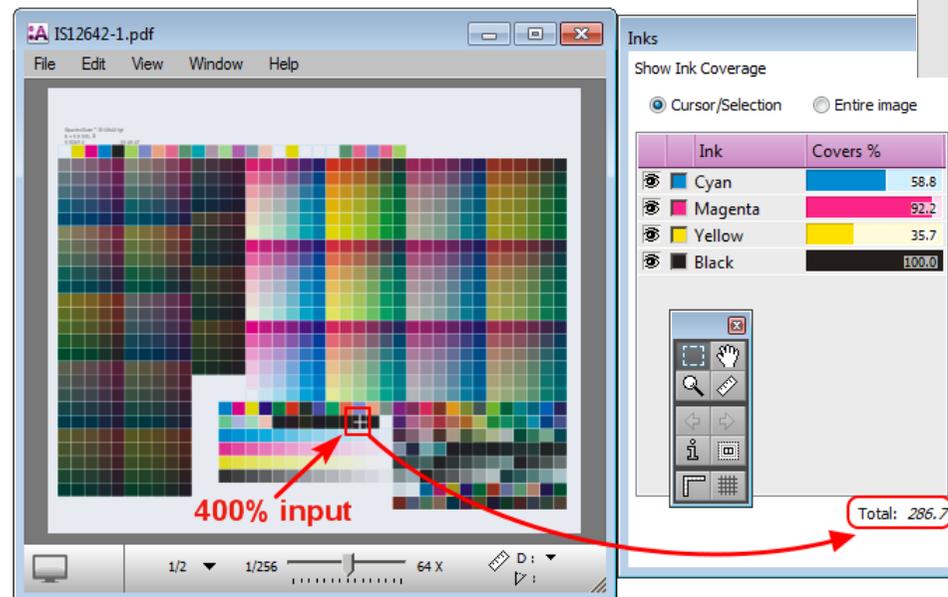
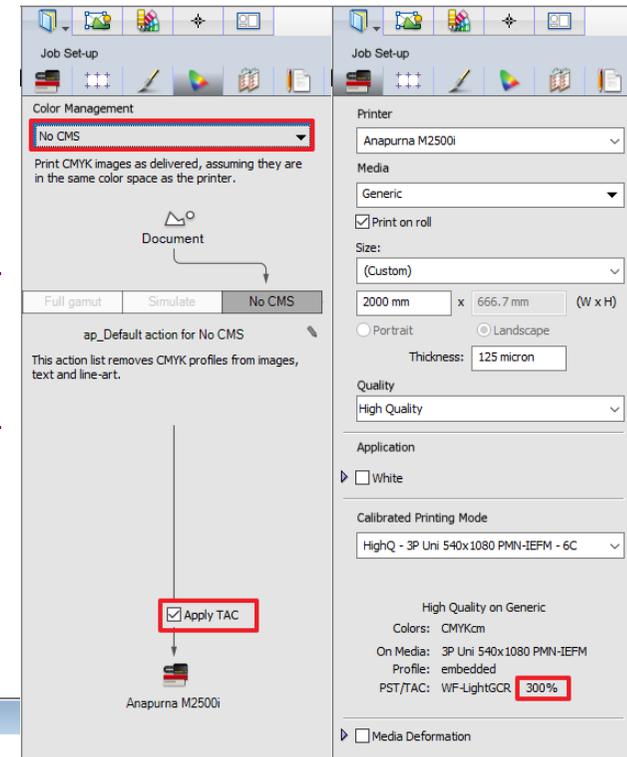
14. Close the color managed preview.

### 5. No CMS mode:

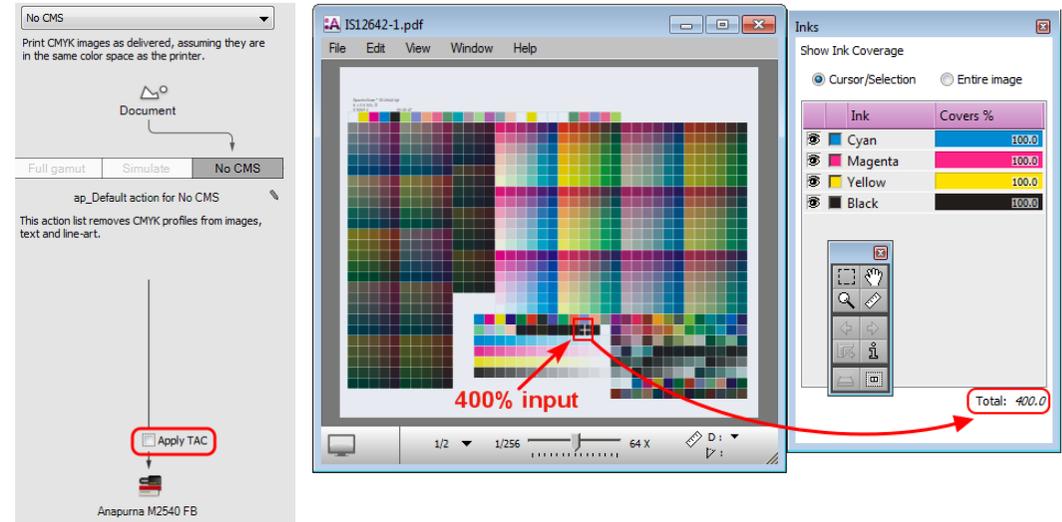
1. Create a new layout job.
2. Select the Job Set-up Inspector and select Generic media, a printer (Anapurna or Jeti, not a Generic SD) and as Quality "High Definition".
3. Select the CMS inspector and enable the "No CMS" color management mode.

*No CMS mode will remove all tags from CMYK objects and will not convert CMYK. Colors with higher total Ink values than the TAC % will be reduced towards the TAC %. The TAC % of the press profile can be found in the Job Set-up inspector panel.*

4. In the Images Panel click "+" and browse for "IS12642-1.pdf".
5. Select "Edit With Preview" from context menu when the Preview is created to open the color managed Preview.
6. Verify the TAC percentages, as well as the CMYK break down of the different patches. Notice that none of the color patches exceeds 300%.



7. Close the color managed Preview.
8. Disable the “Apply TAC” checkbox in the color management inspector.
9. Click the “Apply Changes” button, and click “Update” in the following window to update the Preview results. Wait for the preview to become ready again.
10. Select “Edit With Preview” from context menu to open the Preview and verify the TAC percentages, as well as the CMYK break down of the different patches. Notice that some of the color patches exceeds the 300%, e.g. 400%.



*This CMS mode should be used when you want to print targets to be measured (e.g. for external profile creation)*

11. Submit the job, select “Make and Hold”.