#13220: [HDX] Add GUI for profile build function using inline spectrophotometer

Change log

Rev.	Date	Author	Details
1	2023/09/22	GCS	Created

Target System

Note for diagrams

Note for colors in diagram
Updated source code
New source code
Old source code
Deleted source code

[Specification]

100. System Setting GUI

1. Description

101. Change “Print Density Adjustment” menu to “Create ICC Profile” menu

- Change the menu icon to scrn_iccprofile.png from scrn_density.png.
- before:

- After

- Resource on the menu

[en]: “Create ICC Profile”
[ja]: “ICCプロファイル作成”

Note
- ★The above image of CreateICCProfile.png is tentative. SCREEN will send CreateICCProfile.png later.

2. Solution

In the “strings_Mainte_PrintDensityGUI.ini” file, change value of “IDS_PAGE_NAME” key at [STRING] section as below:

- English

Resource\English\strings_Mainte_PrintDensityGUI.ini

```
; Before
[STRING]
IDS_PAGE_NAME       =  Print Density Adjustment

;After
[STRING]
IDS_PAGE_NAME       =  Create ICC Profile
```

- Japanese

Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

```
; Before
[STRING]
IDS_PAGE_NAME       =  印刷濃度調整

;After
[STRING]
IDS_PAGE_NAME       =  ICCプロファイル作成
```

In the “SystemPageInfo_master.ini” file, change value of “21_BMP” key as below:

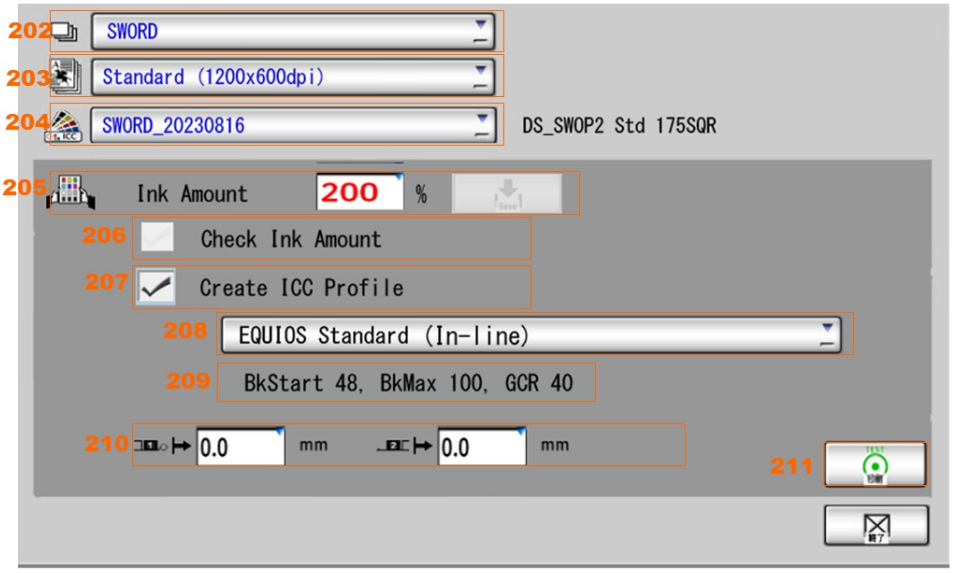
Client\Preferences\SystemPageInfo_master.ini

```
; Before
...
21_DLL=Mainte_PrintDensityGUI.dll
21_BMP=scrn_density.png
21_USER=ALL
21_DATE=
21_FAVORITE_SERVICE=
21_FAVORITE_EXPERT=
21_FAVORITE_GENERAL=
21_SIDE_BAR=

; After
...
21_DLL=Mainte_PrintDensityGUI.dll
21_BMP=scrn_iccprofile.png
21_USER=ALL
21_DATE=
21_FAVORITE_SERVICE=
21_FAVORITE_EXPERT=
21_FAVORITE_GENERAL=
21_SIDE_BAR=
```

3. Detail implementation

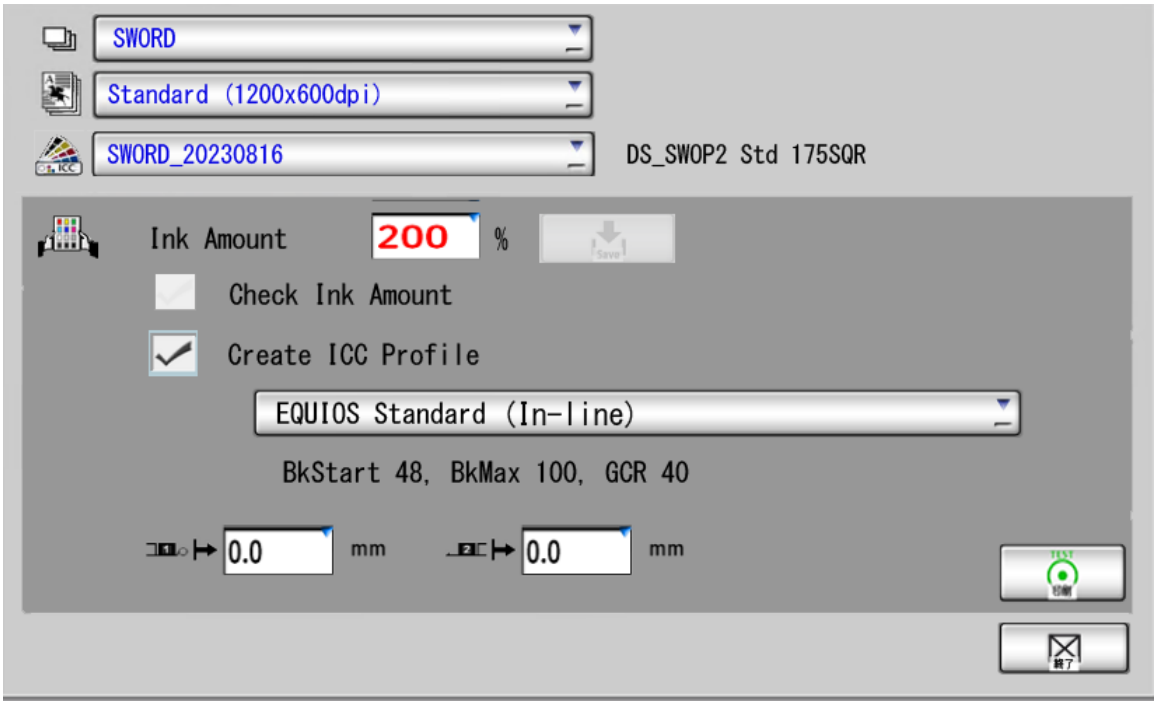
[Specification]

200. GUI Items for Density Setting



1. Description

201. Layout as follows.



Note

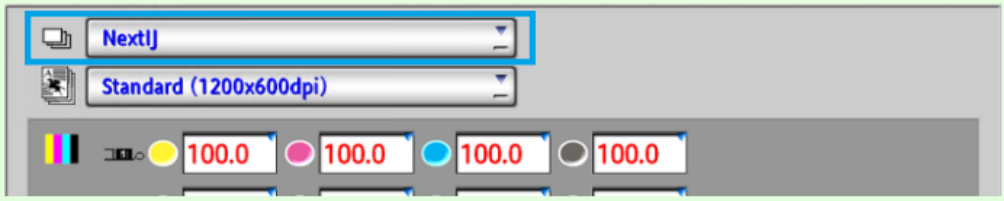
- Refer to **Spec 401** and **Spec 402** about how to control each item to enable/disable or shown/hide.

202. Media Type menu

- Show Meda Type menu and select the current print condition.
- Use the icon used on the conventional Print Density GUI window.
- **Show this menu with grayout because it is unnecessary that the user change the selection.**

Note

- This specification is same with Media Type menu on the conventional Print Density Adjustment GUI.



203. Print Mode menu

- Show Print Mode menu and select the current print condition.
- Use the icon used on the conventional Print Density GUI window.
- **Show this menu with grayout because it is unnecessary that the user change the selection.**

Note

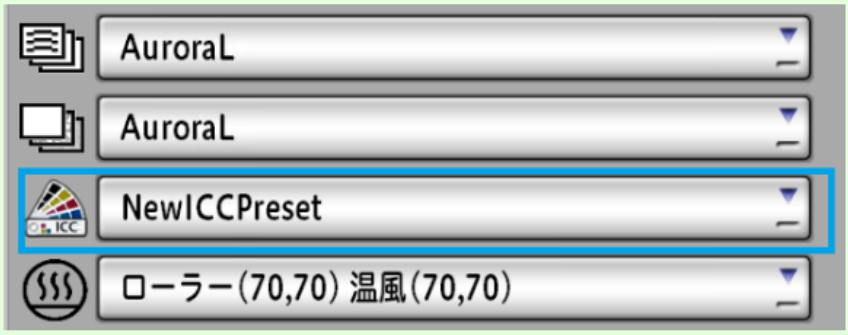
- This specification is same with Print Mode menu on the conventional Print Density Adjustment GUI.

204. ICC Preset menu

- Show ICC Preset menu and select the current print condition.
- Use the icon used on the Print Condition window.
- **Show this menu with grayout because it is unnecessary that the user change the selection.**
- Show ICC profile name set in the current print condition. <NextVersion>

Note

- This specification is same with ICC Preset menu on the conventional Print Condition GUI.



- In future, SCREEN will add a requirement to show a profile name which has already registered in mediaDB.

205. Ink Amount setting

- Show Ink Amount box and set a previous value. Set the detault value(=100) if there is not previous value.
- Use the icon used on the conventional Print Density GUI window.
- When save button is clicked, apply a value in Ink Amount box.
- Save a setting value into the following file depending on Media Type and Print Mode as conventional so that it can be applied as the previous value when this window is opened with the same conditions next time.

\Client_HD\Preferences\Mainte_Linearize\DED\Front\
<N>\PRINT_MODE_NAME_<M>\UI_Setting.ini

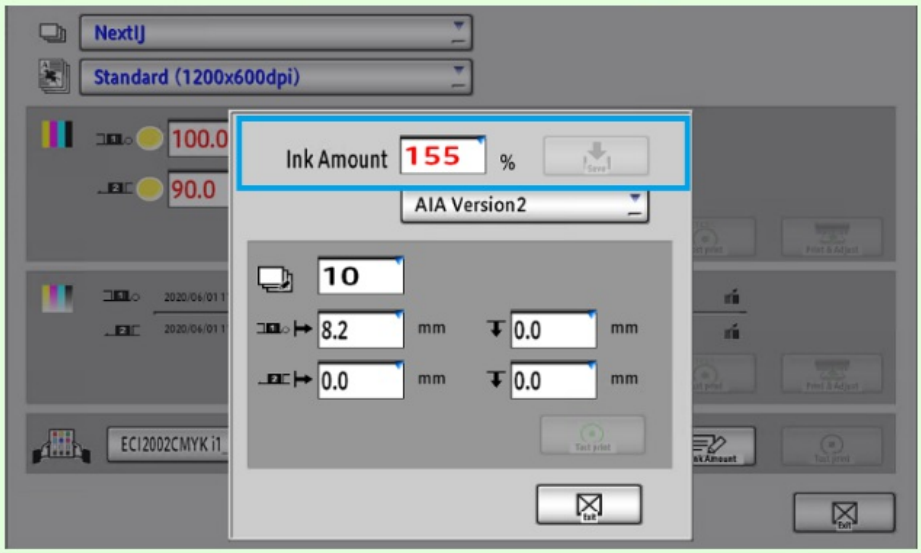
- Resource:

  [en]: “Ink Amount”
  [ja]: “インク量”

- AIA version menu is not shown for HDX. So, set version “2” to eQPB_SetAIAVersion() whenever creating a chart log with EQPB_PrintLogParser.dll in the case of HDX.

Note

- **This specification is same with the Ink Amount setting the conventional Print Density Adjustment GUI.**
  - Follow the conventional specification for the text color and the range of value in the box, etc...



206. Check Ink Amount checkbox

- Show Check Ink Amount checkbox newly and set the previous value (ON or OFF). Set the detault value(ON) if there is not previous value.

- Save a setting value into the following file as conventional so that it can be applied as the previous value when this window is opened next time.

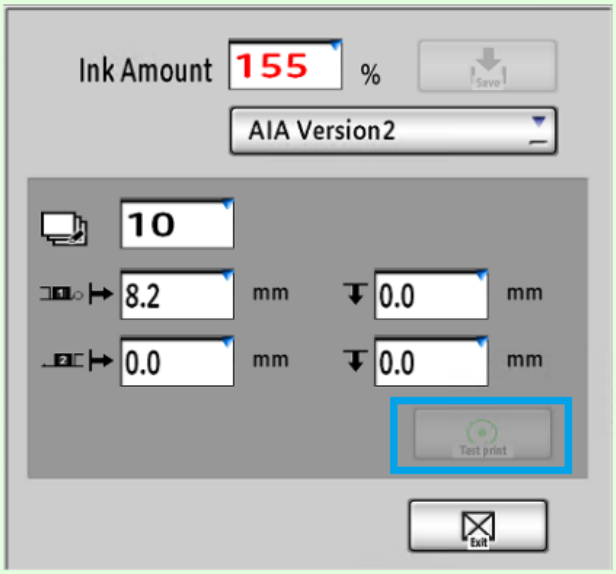
  \Client_HDX\Preferences\Mainte_PrintDensityGUI.ini

- Resource:

  [en]: “Check Ink Amount”
  [ja]: “インク量確認”

Note

- This check box is for printing “AIA Check Chart”.
- However AIA Ink Check Chart is already supported in the conventional printers(HD,NX) also and printed with the following button.



207. Create ICC Profile checkbox

- Show Create ICC Profile checkbox newly and set the previous value (ON or OFF). Set the detault value(ON) if there is not previous value.
- Save a setting value into the following file as conventional so that it can be applied as the previous value when this window is opened next time.

  \Client_HDX\Preferences\Mainte_PrintDensityGUI.ini

- Resource:

  [en]: “Create ICC Profile”
  [ja]: “ICCプロファイル作成”

Note

- This check box is for printing “ICC Chart”.
- However ICC Profile Chart is already supported in the conventional printers(HD,NX) also and printed with the following button.

208. ICC Chart list

- Show conventional ICC chart list and select the ICC chart selected in the previous time. Set the detault value if there is not previous value.
  - Show conventional ICC chart list and select the ICC chart selected in the previous time. Set the detault value if there is not previous value.
- Save a selected ICC chart name into the following file depending on Media Type and Print Mode as conventional so that it can be applied as the previous value when this window is opened with the same conditions next time.

  \Client_HD\Preferences\Mainte_Linearize\DED\Front\
  <N>\PRINT_MODE_NAME_<M>\UI_Setting.ini

Note

- **This specification is same with ICC Chart list on the conventional Print Density Adjustment GUI.**
  - Follow the conventional specification for details of it. For an example, show an alert and automatically select the top item of it if a ICC chart set previously is not found.

209. Build Parameters

- This spec is valid when which of the following cases is met. If these cases are not met, show no string.
  - The selection of ICC Chart List is ICC chart for In-line measurement when showing Print Density Adjustment window.
  - The selection of ICC Chart List was changed to ICC chart for In-line measurement.
- How to get recommended build parameters and show them:
  - Get recommended build parameters({BkStart},{BkMax} and {GCR}) for creating ICC profile from PB_ICCProfileManager.dll.
  - Show them with the following format.
    - “BkStart {BkStart}, BkMax {BkMax}, GCR {GCR}”
    - The above format is common between Japanese and English.

Note

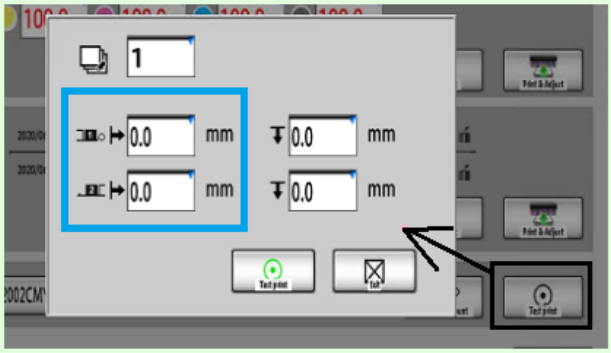
- About the way of getting build parameters, refer to `IF specifications of PB_IccProfileManager.dll`
- Refer to **Spec 302** about how to recognize ICC chart for In-line measurement.

210. Check Ink Amount checkbox

- Show X Offset setting boxies for Printer1 and Pritner2.

Note

- This specification is same with the X offset setting on the conventional offset setting dialog shown after clicking Test print button.

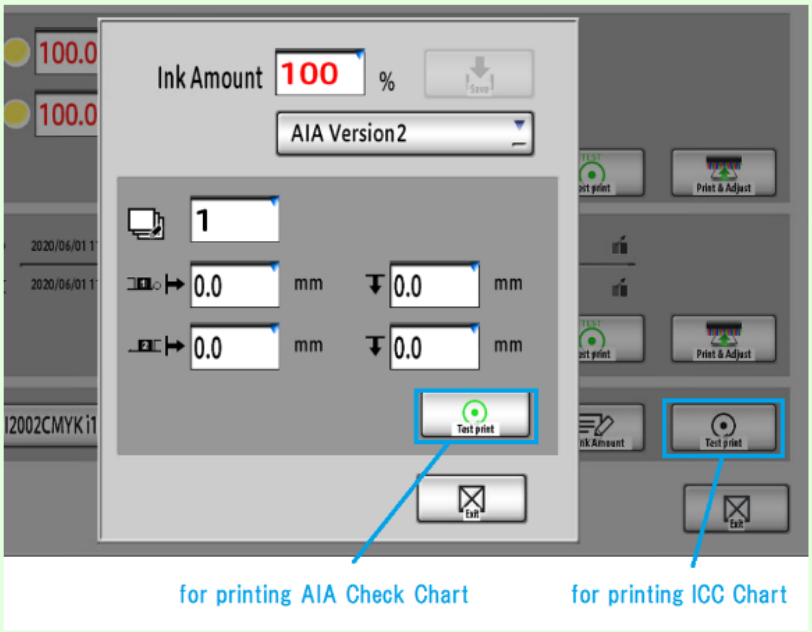


211. Test Print button

- Show Test Print button for printing “AIA Check Chart” and “ICC Chart”.
- Enable it when at least one of these checkboxes is ON and the pirnter status is online.
- Show Test Print button with grayout even if the pirnter status is online when Check Ink Amount checkbox(Spec 206 and Create ICC Profile checkbox(Spec 207) are OFF.

Note

- This specificasion consolidates buttons for “AIA Check Chart” and “ICC Chart” on the conventional GUI to the common button.



- **About the internal process after Test Print button is clicked, refer to the followings:**
  - When printing ICC Chart except for In-line mesurement, print ICC Chart or Ink Amount Check Chart as conventional.
  - **When printing ICC Chart for In-line mesurement, process in the following orders. And show the progress bar during the following process.**
    1. **Spec 500**: Internal Process for measuring ICC Chart
    2. **Spec 600**: Internal process for creating and registrating ICC Profile

2. Solution

202. Media Type menu

Add method CCtlPaperTypeSelection::OnUpdateState() to always disabled this menu.

Client\Src\Mainte_PrintDensityGUI\CtlPaperTypeSelection.h

```
class CCtlPaperTypeSelection : public CBaseCtl
{
protected:
    virtual void OnUpdateState();
}
```

203. Print Mode menu

Add method CCtlPaperTypeSelection::OnUpdateState() to always disabled this menu.

Client\Src\Mainte_PrintDensityGUI\CtlPrintModeSelection.h

```
class CCtlPrintModeSelection : public CBaseCtl
{
protected:
    virtual void OnUpdateState();
}
```

204. ICC Preset menu

Add a new class CCtlICCPresetSetting to create ICC Preset menu.

Client\Src\Mainte_PrintDensityGUI\CCtlICCPresetSetting.h

```
class CCtlICCPresetSetting : public CBaseCtl
{
public:
    // Methods
    CCtlICCPresetSetting();
    virtual ~CCtlICCPresetSetting();

    /// Events
    virtual long Proc(HWND hWnd, UINT Message, WPARAM wParam, LPARAM lParam);
    virtual void OnUpdateState();
    virtual void OnUpdateValue();

protected:
    // Event
    virtual void OnSetAttribute();
    virtual void OnCreateItem();

    // Methods
    void RegisterICCPresetItems();

    // Member
private:
};
```

In ResDef.h file, define enum for ICC preset icon.

Client\Src\Mainte_PrintDensityGUI\ResDef.h

```
enum
{
    ...
    IDB_ICCPRESET,
    /* リソースID数 */
    IDB_MAX
}
```

In the guis_Mainte_PrintDensityGUI.ini file, add new “IDB_ICCPRESET” key at [BITMAP] section for ICC preset icon.

- English

Resource\Common\guis_Mainte_PrintDensityGUI.ini

```
[BITMAP]
...
IDB_ICCPRESET = iccpreset.bmp
```

In the CPageMain class, add new member to the enum for the ICC Preset menu control.

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

```
enum
{
    ...
    CTLGP_ICC_PRESET_MENU, //!< ICC preset menu control
    CTLGP_COUNT
};
```

Add method to CDataIF and CDataSystemSetting to get ICC preset list and ICC preset of current print condition.

Client\Src\Mainte_PrintDensityGUI\DataIF.h

```
class CDataIF
{
public:
    const char* GetICCPreset(long inItemId);
    long GetICCPresetOfCurrentPrintCondition();
    long GetSelectedICCPreset();
    void SetSelectedICCPreset();
}
```

Client\Src\Mainte_PrintDensityGUI\DataSystemSetting.h

```
class CDataSystemSetting
{
public:
    void CreateICCPresetList();
    const char* GetICCPreset(long inItemId);
    long GetICCPresetOfCurrentPrintCondition();
    long GetSelectedICCPreset();
    void SetSelectedICCPreset();
}
```

205. Ink Amount setting

In CCtlAIAChartInkAmountValue class, add new “CTRLID_ST_ICON” id enum to create ink amount icon

Client\Src\Mainte_PrintDensityGUI\CtlAIAChartInkAmountValue.cpp

```
// Before
enum
{
    CTRLID_SC_LABEL_NAME = 0,           //!< Static-box: Ink Amount label
    CTRLID_EB_VALUE,                    //!< Edit-box: Ink Amount
    CTRLID_SC_LABEL_UNIT,               //!< Static-box: Ink Amount unit label

    CTLGP_COUNT
};

// After
enum
{
    CTRLID_ST_ICON = 0,                 //!< static: print mode label
    CTRLID_SB_LABEL_NAME,               //!< Static-box: Ink Amount label
    CTRLID_EB_VALUE,                    //!< Edit-box: Ink Amount
    CTRLID_SB_LABEL_UNIT,               //!< Static-box: Ink Amount unit label

    CTLGP_COUNT
};
```

In CCtlAIAChartInkAmountValue::OnSetAttribute method, update values of m_ctlAttribute[ctlId].rect to change position of control same as layout(Spec 201)

In the CPageMain class, add new member to the enum for the Ink Amount setting control.

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

```
// Before
enum
{
    CTLGP_PAPER_TYPE = 0,               //!< Paper type selection control
    CTLGP_PRINT_MODE,                   //!< Print mode selection control
    CTLGP_ICC_PRESET_MENU,              //!< ICC preset menu control
    CTLGP_GP_ICC_PROFILE_SETTING,       //!< ICC profile setting group-box control

    CTLGP_COUNT
};

// After
enum
{
    CTLGP_PAPER_TYPE = 0,               //!< Paper type selection control
    CTLGP_PRINT_MODE,                   //!< Print mode selection control
    CTLGP_ICC_PRESET_MENU,              //!< ICC preset menu control
    CTLGP_GP_ICC_PROFILE_SETTING,       //!< ICC profile setting group-box control
    CTLGP_AIA_VALUE,                    //!< AIA value control
    CTLGP_AIA_REGISTER_BUTTON,          //!< AIA register value control

    CTLGP_COUNT
};
```

206. Check Ink Amount checkbox

Add a new class

Client\Src\Mainte_PrintDensityGUI\CtlCheckInkAmount.h

```
class CCtlCheckInkAmount : public CBaseCtl
{
public:
    // Methods
    CCtlCheckInkAmount();
    virtual ~CCtlCheckInkAmount();

    // Events
    virtual long OnCommand(HWND inHWND, UINT inMessage, WPARAM inWParam, LPARAM inLParam);
    virtual void OnUpdateState();
    virtual void OnUpdateValue();

protected:
    // Methods

    // Event
    virtual void OnSetAttribute();

    // Member
private:

};
```

In the CPageMain class, add new member to the enum for the ink amount check-box.

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

```
// Before
enum
{
    ...
    CTLGP_AIA_VALUE,                        //!< AIA value control
    CTLGP_AIA_REGISTER_BUTTON,              //!< AIA register value control

    CTLGP_COUNT
};

// After
enum
{
    ...
    CTLGP_AIA_VALUE,                        //!< AIA value control
    CTLGP_AIA_REGISTER_BUTTON,              //!< AIA register value control
    CTRLID_CB_CHECK_INK_AMOUNT,             //!< Check ink amount control

    CTLGP_COUNT
};
```

In ResDef.h file, define string for check-box.

Client\Src\Mainte_PrintDensityGUI\ResDef.h

```
IDS_PAGE_NAME = 1,//<! リソースIDは必ず「1」からはじめる。

IDS_CB_CHECK_INK_AMOUNT,
```

In the strings_Mainte_PrintDensityGUI.ini file, add new “IDS_CB_CHECK_INK_AMOUNT” key at [STRING] section to show label name of the ICC profile check-box .

- English

  Resource\English\strings_Mainte_PrintDensityGUI.ini

  ```
  ; Before
  [STRING]
  IDS_PAGE_NAME               = Print Density Adjustment

  ;After
  [STRING]
  IDS_PAGE_NAME               = Create ICC Profile GUI
  IDS_CB_CHECK_INK_AMOUNT     = Check Ink Amount
  ```

- Japanese

  Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

```
; Before
[STRING]
IDS_PAGE_NAME               = 印刷濃度調整

;After
[STRING]
IDS_PAGE_NAME               = ICCプロファイル作成
IDS_CB_CHECK_INK_AMOUNT     = インク量確認
```

In CDataIF_AIAPrint class, add new methods: SetInkAmountCheck() and GetInkAmountChecking() to handle setting value

In CIni_Mainte_PrintDensityGUI class, add new methods:

- SetIsInkAmountChecking() to save setting value into “Mainte_PrintDensityGUI.ini” file
- GetIsInkAmountChecking() to get previous value for setting check-box when Create CII Profile screen is opened.

207. Create ICC Profile checkbox

Add a new class

Client\Src\Mainte_PrintDensityGUI\CCtlCreateICCProfile.h

```
class CCtlCreateICCProfile : public CBaseCtl
{
public:
    // Methods
    CCtlCreateICCProfile();
    virtual ~CCtlCreateICCProfile();

    // Events
    virtual long OnCommand(HWND inHWND, UINT inMessage, WPARAM inWParam, LPARAM inLParam);
    virtual void OnUpdateState();
    virtual void OnUpdateValue();

protected:
    // Methods

    // Event
    virtual void OnSetAttribute();

    // Member
private:

};
```

In the CPageMain class, add new member to the enum for the ICC profile check-box

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

```
// Before
enum
{
    ...
    CTRLID_CB_CHECK_INK_AMOUNT,         //!< Check ink amount control

    CTLGP_COUNT
};

// After
enum
{
    ...
    CTRLID_CB_CHECK_INK_AMOUNT,         //!< Check ink amount control
    CTLGP_CREATE_ICC_PROFILE,           //!< Create ICC profile control

    CTLGP_COUNT
};
```

In ResDef.h file, define string for check-box.

Client\Src\Mainte_PrintDensityGUI\ResDef.h

```
IDS_PAGE_NAME = 1,//<! リソースIDは必ず「1」からはじめる。

IDS_CB_CHECK_INK_AMOUNT,
IDS_CB_CREATE_ICC_PROFILE,
```

In the strings_Mainte_PrintDensityGUI.ini file, add new “IDS_CB_CREATE_ICC_PROFILE” key at [STRING] section to show label name of the ICC

profile check-box .

- English

Resource\English\strings_Mainte_PrintDensityGUI.ini

```
; Before
[STRING]
IDS_PAGE_NAME               = Print Density Adjustment

;After
[STRING]
IDS_PAGE_NAME               = Create ICC Profile
IDS_CB_CHECK_INK_AMOUNT     = Check Ink Amount
IDS_CB_CREATE_ICC_PROFILE   = Create ICC Profile
```

- Japanese

Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

```
; Before
[STRING]
IDS_PAGE_NAME               = 印刷濃度調整
;After
[STRING]
IDS_PAGE_NAME               = 印ICCプロファイル作成
IDS_CB_CHECK_INK_AMOUNT     = インク量確認
IDS_CB_CREATE_ICC_PROFILE   = ICCプロファイル作成
```

In CDataIF_ICCChartPrint class, add new methods: SetICCProfileChecking() and GetICCProfileChecking() to handle setting value

In CIni_Mainte_PrintDensityGUI class, add new methods:

- SetIsICCProfileChecking() to save setting value into “Mainte_PrintDensityGUI.ini” file
- GetIsICCProfileChecking() to get previous value for setting check-box when Create CII Profile screen is opened.

208. ICC Chart list.

In CCtlICCChartSetting class, change Control ID list as below:

Client\Src\Mainte_PrintDensityGUI\CtlICCChartSetting.cpp

```
// Before
enum
{
    CTRLID_ST_ICON = 0,                 //!< static: print mode label
    CTRLID_PD_ICC_CHART,                //!< pull-down menu: print mode
    CTRLID_SC_MAX_LINK_AMOUNT_VALUE,    //!< static : max link amount value
    CTRLID_ST_MAX_INK_AMOUNT_UNIT,      //!< static: max link amount unit
    CTRLID_ST_AIA_VERSION,              //!< static: AIA version
    CTRLID_BN_CHART_PRINT,              //!< button: chart print
    CTRLID_BN_EDIT,                     //!< button: edit

    CTLGP_COUNT
};

// After
enum
{
    CTRLID_PD_ICC_CHART = 0,            //!< pull-down menu: print mode

    CTLGP_COUNT
};
```

In the CPageMain class, add new member to the enum for ICC Chart list pull-down.

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

```
// Before
enum
{
    ...
    CTLGP_CREATE_ICC_PROFILE,           //!< Create ICC profile control

    CTLGP_COUNT
};

// After
enum
{
    ...
    CTLGP_CREATE_ICC_PROFILE,           //!< Create ICC profile control
    CTLGP_ICC_CHART_SETTING,            //!< ICC chart setting control

    CTLGP_COUNT
};
```

In CCtlICCChartSetting::OnSetAttribute method, update values of m_ctlAttribute[ctlId].rect to change position of control same as layout(Spec 201)

209. Build Parameters

Add a new class

Client\Src\Mainte_PrintDensityGUI\CtlBuildParameters.h

```
class CCtlBuildParameters : public CBaseCtl
{
public:
    // Methods
    CCtlBuildParameters();
    virtual ~CCtlBuildParameters();

    // Events
    virtual void OnUpdateState();
    virtual void OnUpdateValue();

protected:
    // Methods

    // Event
    virtual void OnSetAttribute();

    // Member
private:

};
```

In the CPageMain class, add new member to the enum for the build parameters static-box

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

```
// Before
enum
{
    ...
    CTLGP_ICC_CHART_SETTING,            //!< ICC chart setting control

    CTLGP_COUNT
};

// After
enum
{
    ...
    CTLGP_ICC_CHART_SETTING,            //!< AIA register value control
    CTLGP_BUILD_PARAMETERS,             //!< Build parameters control

    CTLGP_COUNT
};
```

In CCtlBuildParameters::OnUpdateState() method, call IsInlineMeasurementEnabled() and GetCurrentBundledICCChartKind() to set status of Build Parameters control.

In the strings_Mainte_PrintDensityGUI.ini file, add new key “IDS_RECOMMEND_BUILD_PARAMETERS” at [STRING] section for the Build Parameters static-box to show value on Create CII Profile GUI.

- English

Resource\English\strings_Mainte_PrintDensityGUI.ini

```
; Before
[STRING]
IDS_ROLLBACK_ADD_HISTORY            = import

;After
[STRING]
IDS_ROLLBACK_ADD_HISTORY            = import
IDS_RECOMMEND_BUILD_PARAMETERS      = BkStart %d, BkMax %d, GCR %d
```

- Japanese

Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

```
; Before
[STRING]
IDS_ROLLBACK_ADD_HISTORY            = インポート

;After
[STRING]
IDS_ROLLBACK_ADD_HISTORY            = インポート
IDS_RECOMMEND_BUILD_PARAMETERS      = BkStart %d, BkMax %d, GCR %d
```

In CCtlBuildParameters::OnUpdateValue() method, call the methods as follow:

- Call PB_IccMGR_getDefaultBkStart() to get the default Bk start.
- Call PB_IccMGR_getDefaultBkMax() to get the default Bk max.
- Call PB_IccMGR_getDefaultGCR() to get the default GCR.

210. X Offset setting

In CCtlICCChartPrintOffset class, change Control ID list as below:

Client\Src\Mainte_PrintDensityGUI\CtlICCChartPrintOffset.cpp

```
// Before
enum
{
    CTRLID_SC_FRONT_ICON = 0,
    CTRLID_SC_LEFT_ICON,
    CTRLID_EB_LEFT_BOX,
    CTRLID_SC_LEFT_UNIT_LABEL,
    CTRLID_SC_TOP_ICON,
    CTRLID_EB_TOP_BOX,
    CTRLID_SC_TOP_UNIT_LABEL,

    CTLGP_COUNT
};

// After
enum
{
    CTRLID_SC_FRONT_ICON = 0,
    CTRLID_SC_LEFT_ICON,
    CTRLID_EB_LEFT_BOX,
    CTRLID_SC_LEFT_UNIT_LABEL,

    CTLGP_COUNT
};
```

In CCtlICCChartPrintOffset::OnSetAttribute method, update values of m_ctlAttribute[ctlId].rect to change position of control same as layout(Spec 201)

In the CPageMain class, add new member to the enum for the X offset setting control

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

```
// Before
enum
{
    ...
    CTLGP_BUILD_PARAMETERS,             //!< Build parameters control

    CTLGP_COUNT
};

// After
enum
{
    ...
    CTLGP_BUILD_PARAMETERS,             //!< Build parameters control
    CTLGP_PRINT_OFFSET_FRONT,           //!< Print front side offset control
    CTLGP_PRINT_OFFSET_BACK,            //!< Print back side offset control

    CTLGP_COUNT
};
```

211. Test Print button

Add a new class

Client\Src\Mainte_PrintDensityGUI\CtlTestPrintButton.h

```
class CCtlTestPrintButton : public CBaseCtl
{
public:
    // Methods
    CCtlTestPrintButton();
    virtual ~CCtlTestPrintButton();

    // Events
    virtual long OnCommand(HWND inHWND, UINT inMessage, WPARAM inWParam, LPARAM inLParam);
    virtual void OnUpdateState();

protected:
    // Methods

    // Event
    virtual void OnSetAttribute();

    // Member
private:

};
```

In the CPageMain class, add new member to the enum for the build parameters static-box

Client\Src\Mainte_PrintDensityGUI\PageMain.cpp

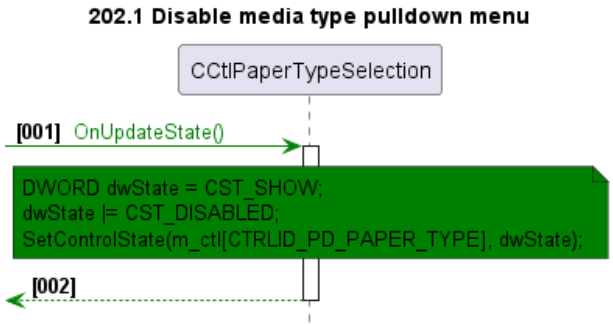
```
// Before
enum
{
    ...
    CTLGP_ICC_CHART_SETTING,            //!< ICC chart setting control

    CTLGP_COUNT
};

// After
enum
{
    ...
    CTLGP_ICC_CHART_SETTING,            //!< AIA register value control
    CTLGP_BUILD_PARAMETERS,             //!< Build parameters control
    CTLGP_PRINT_OFFSET_FRONT,           //!< Print front side offset control
    CTLGP_PRINT_OFFSET_BACK,            //!< Print back side offset control
    CTLGP_TEST_PRINT,                   //!< Test print control

    CTLGP_COUNT
};
```

In CCtlTestPrintButton::OnSetAttribute method, update values of m_ctlAttribute[ctlId].rect to change position of control same as layout(Spec 201)

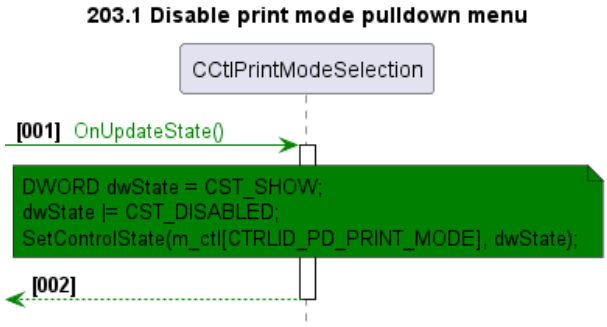
In CCtlTestPrintButton::OnUpdateState method, call GetInkAmountChecking and GetICCProfileChecking methods to update display state of test print button.

3. Detail implementation

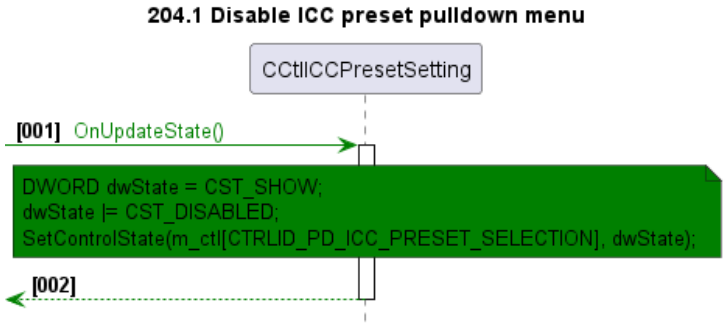
202. Media Type menu



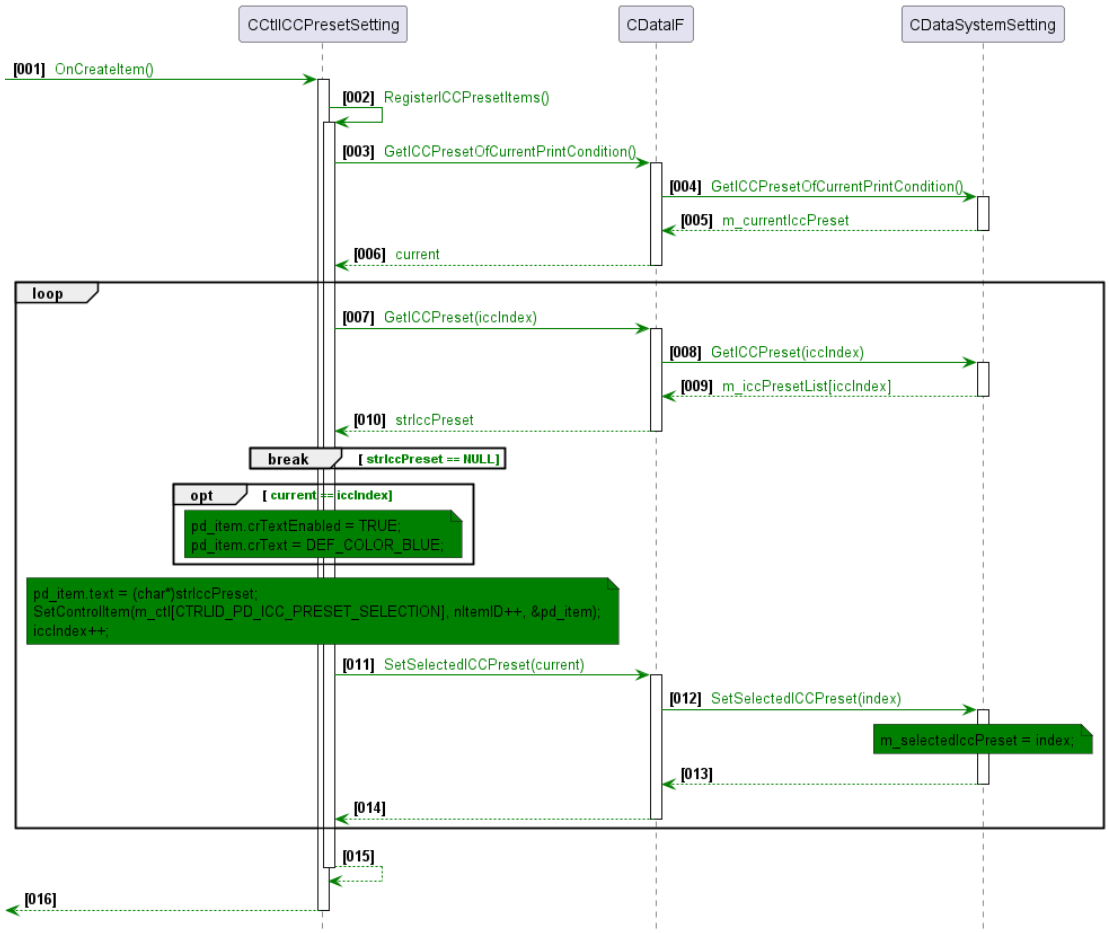
203. Print Mode menu



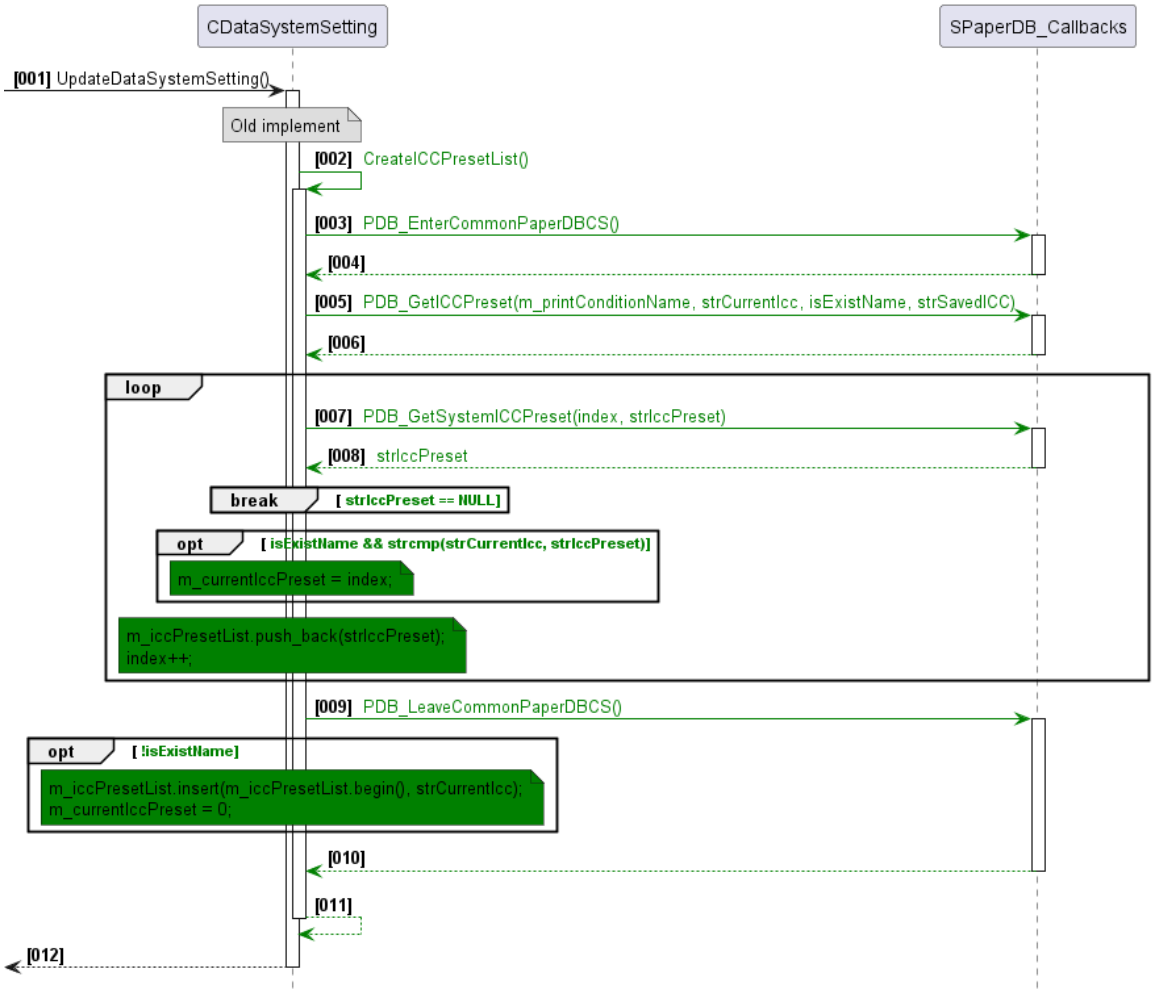
204. ICC Preset menu

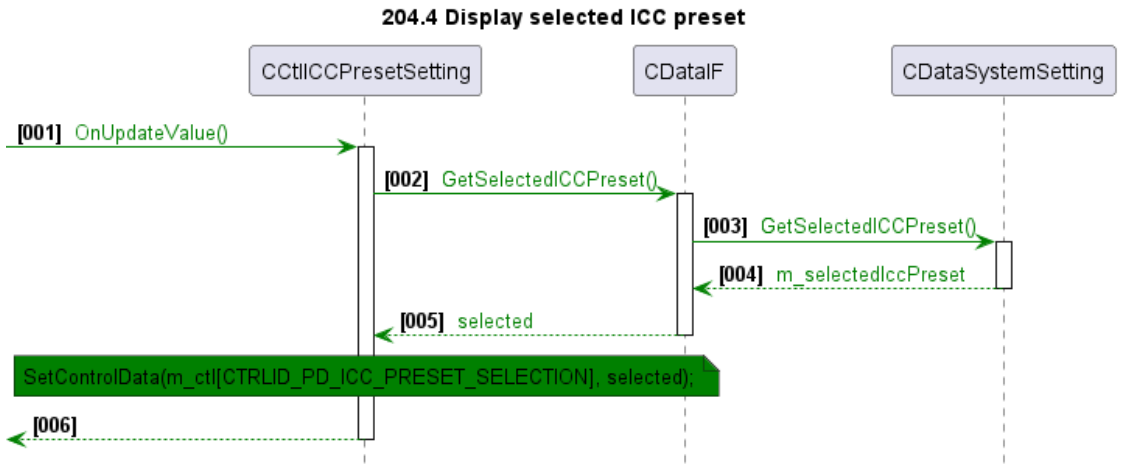


204.2 Populate ICC preset pulldown menu

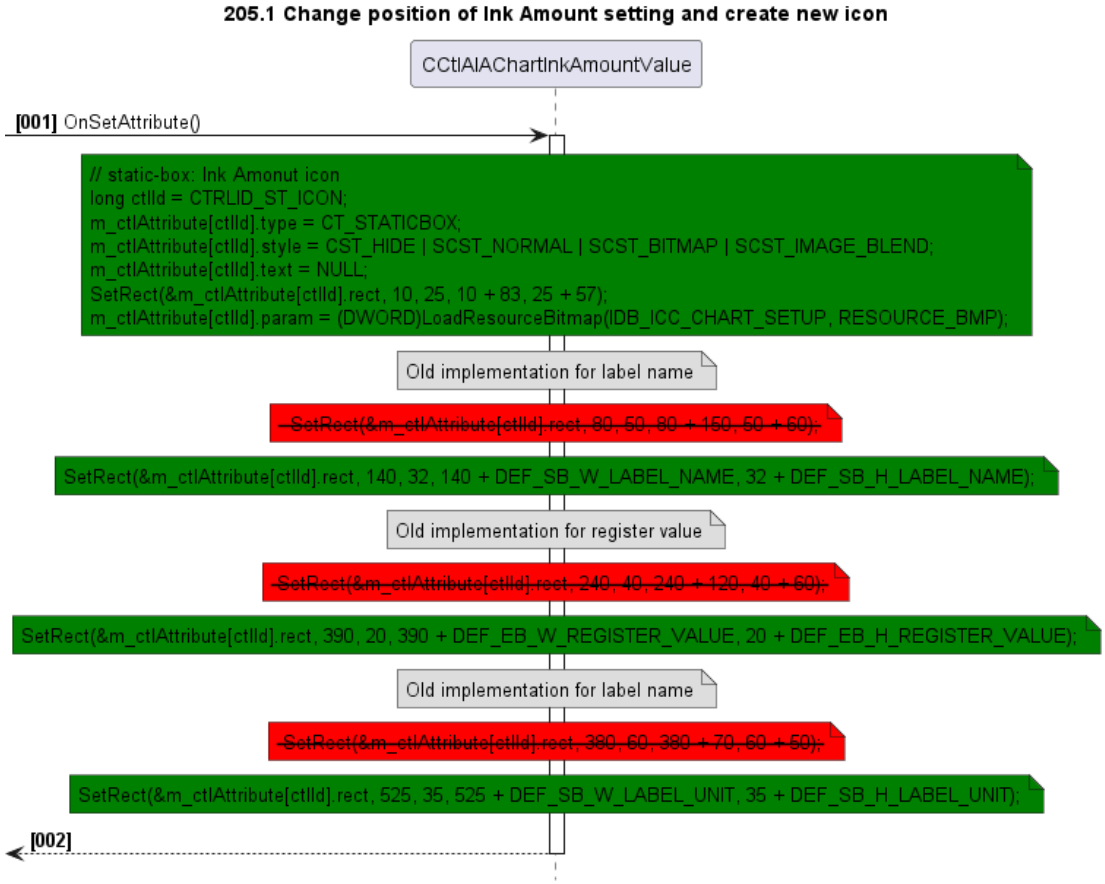


204.3 Init ICC preset list and current ICC preset



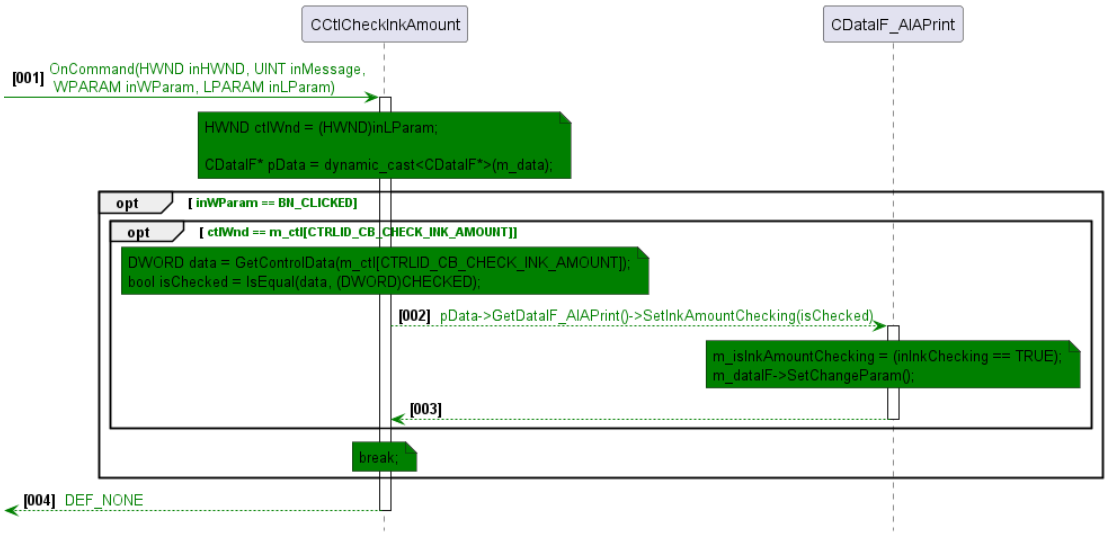


205. Ink Amount setting:

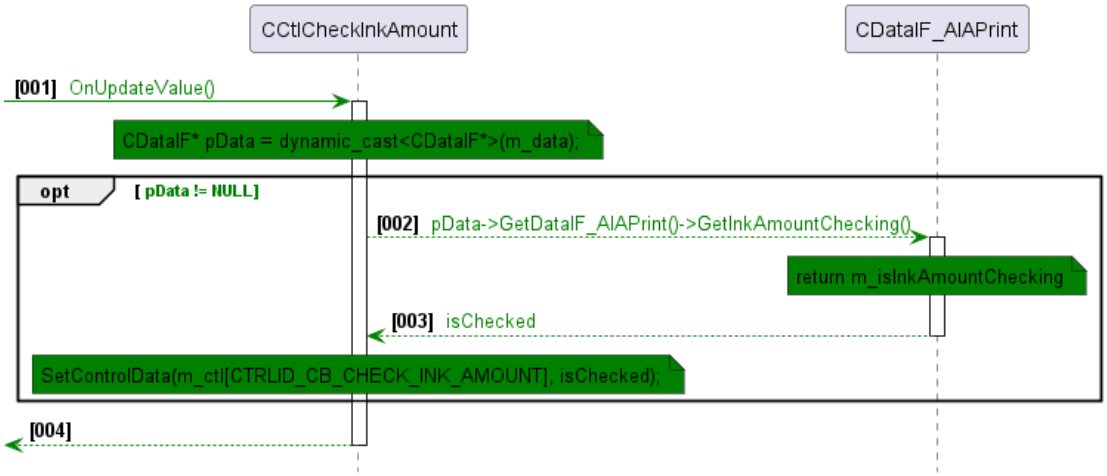


206. Check Ink Amount checkbox

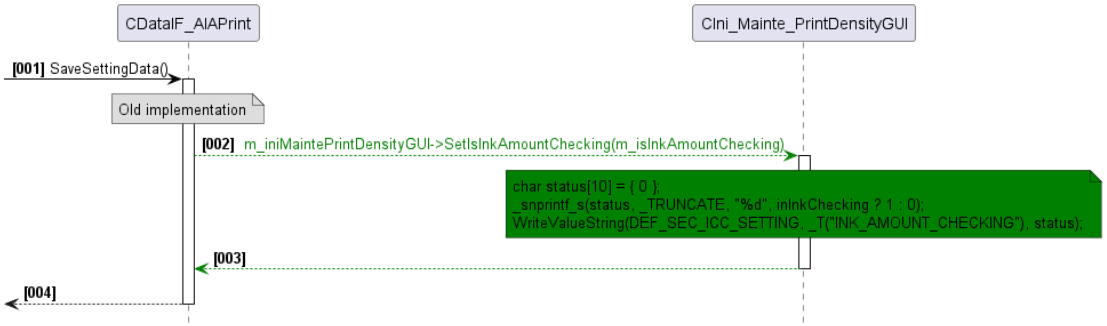
206.1 Operation when checking ink amount check-box



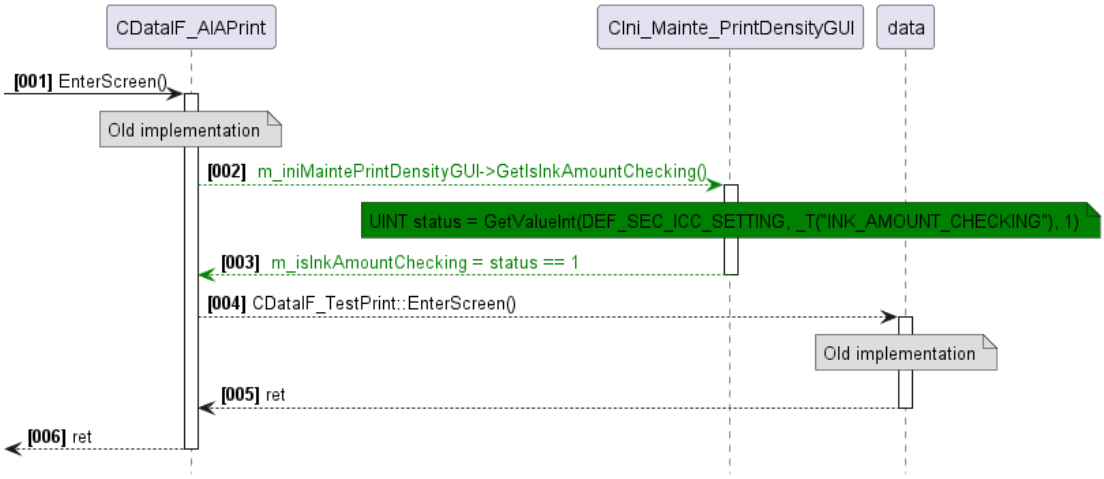
206.2 Update the value of ink amount check-box.



206.3 Save a setting value of check-box into the "Mainte_PrintDensityGUI.ini" file

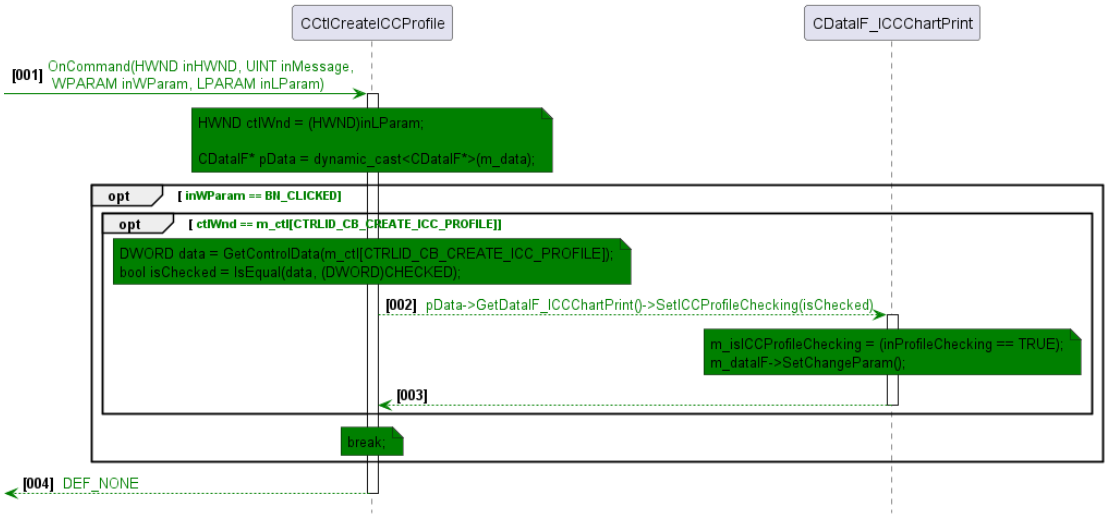


206.4 Get previous value for setting check-box when Create CII Profile screen is opened .

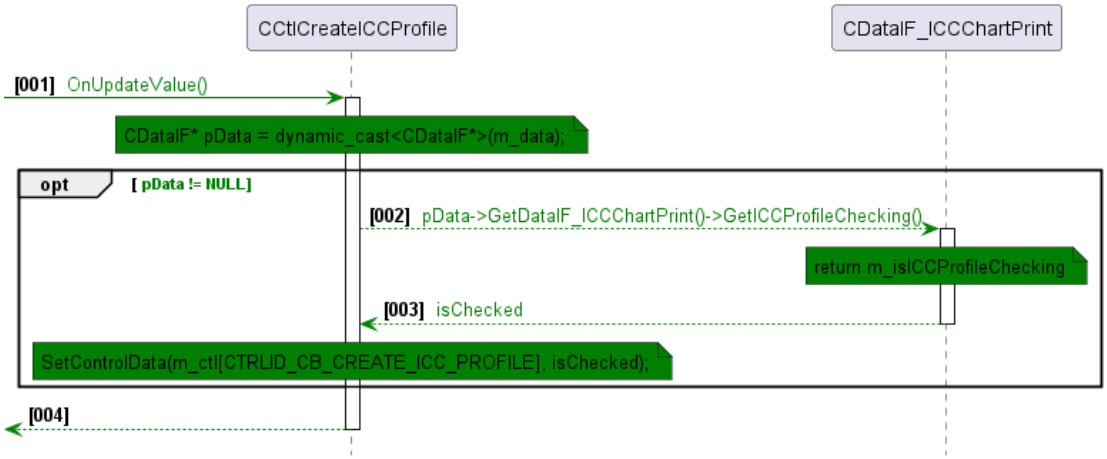


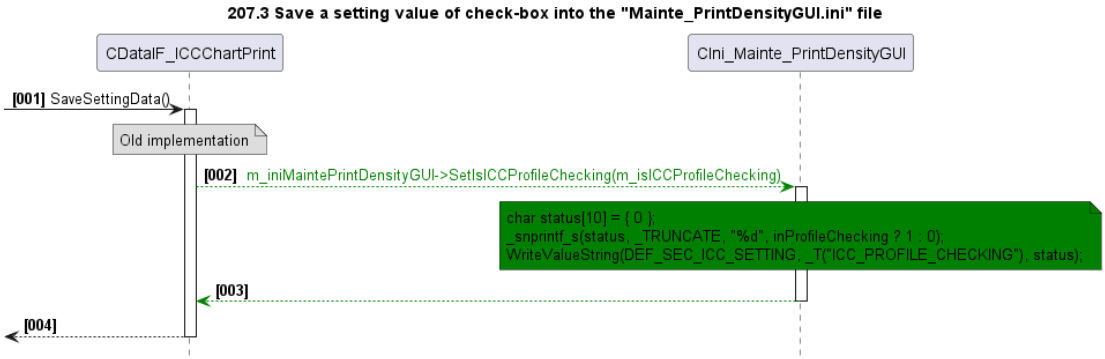
207. Create ICC Profile checkbox

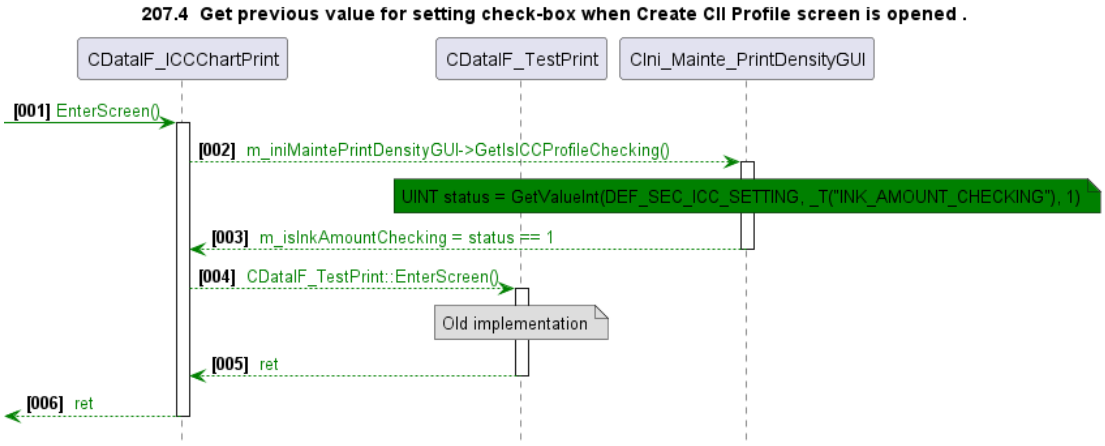
207.1 Operation when checking ICC profile check-box



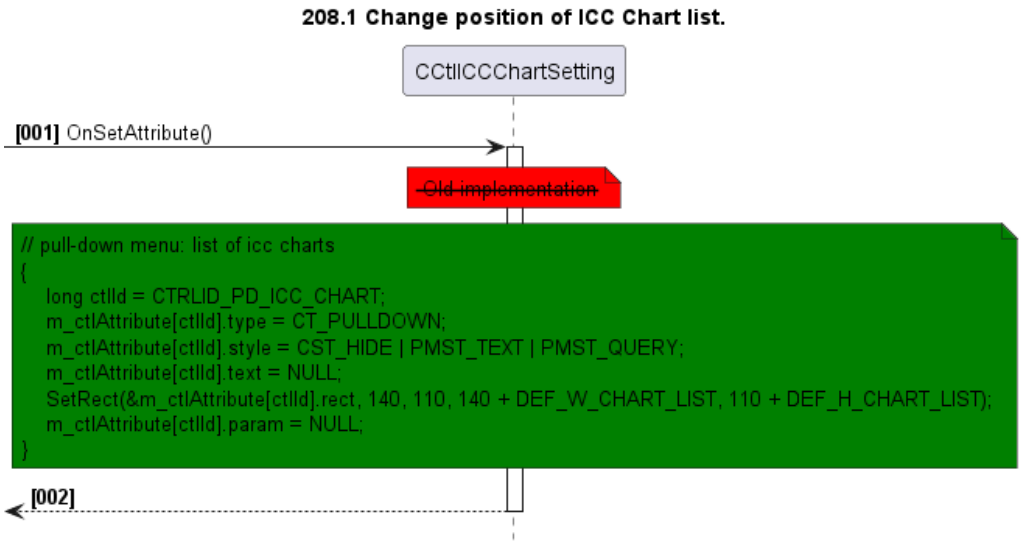
207.2 Update the value of ICC profile check-box.





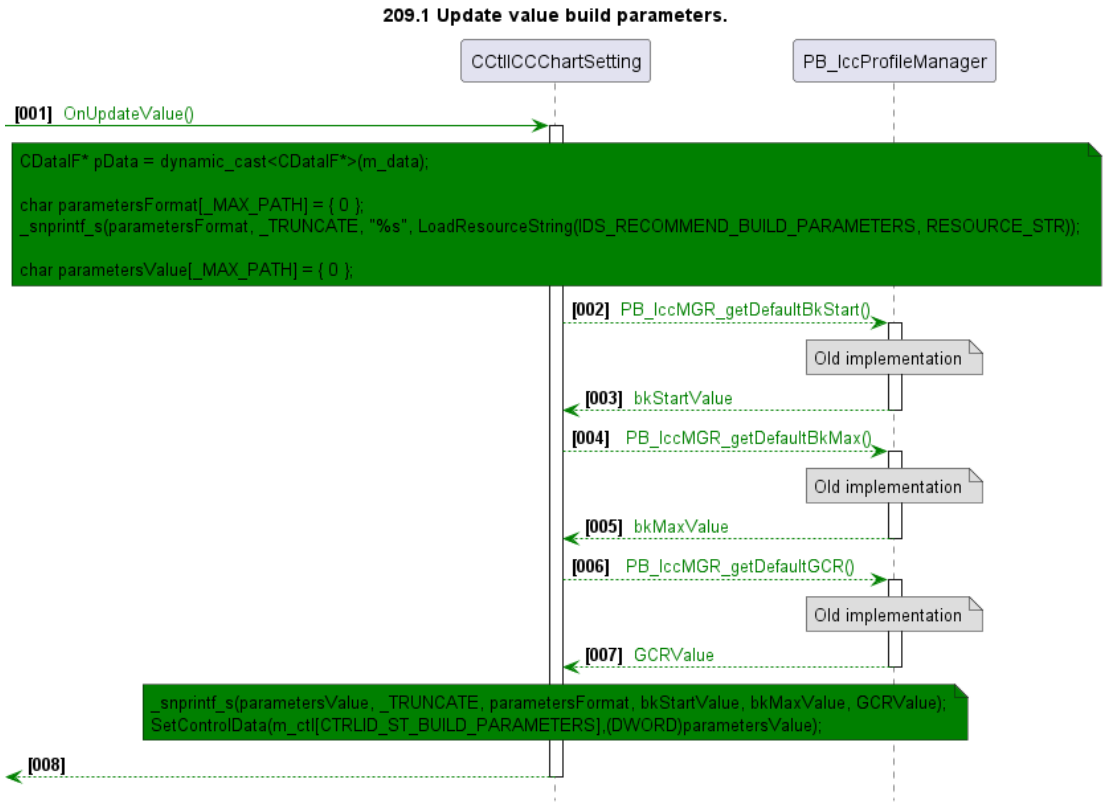


208. ICC Chart list.

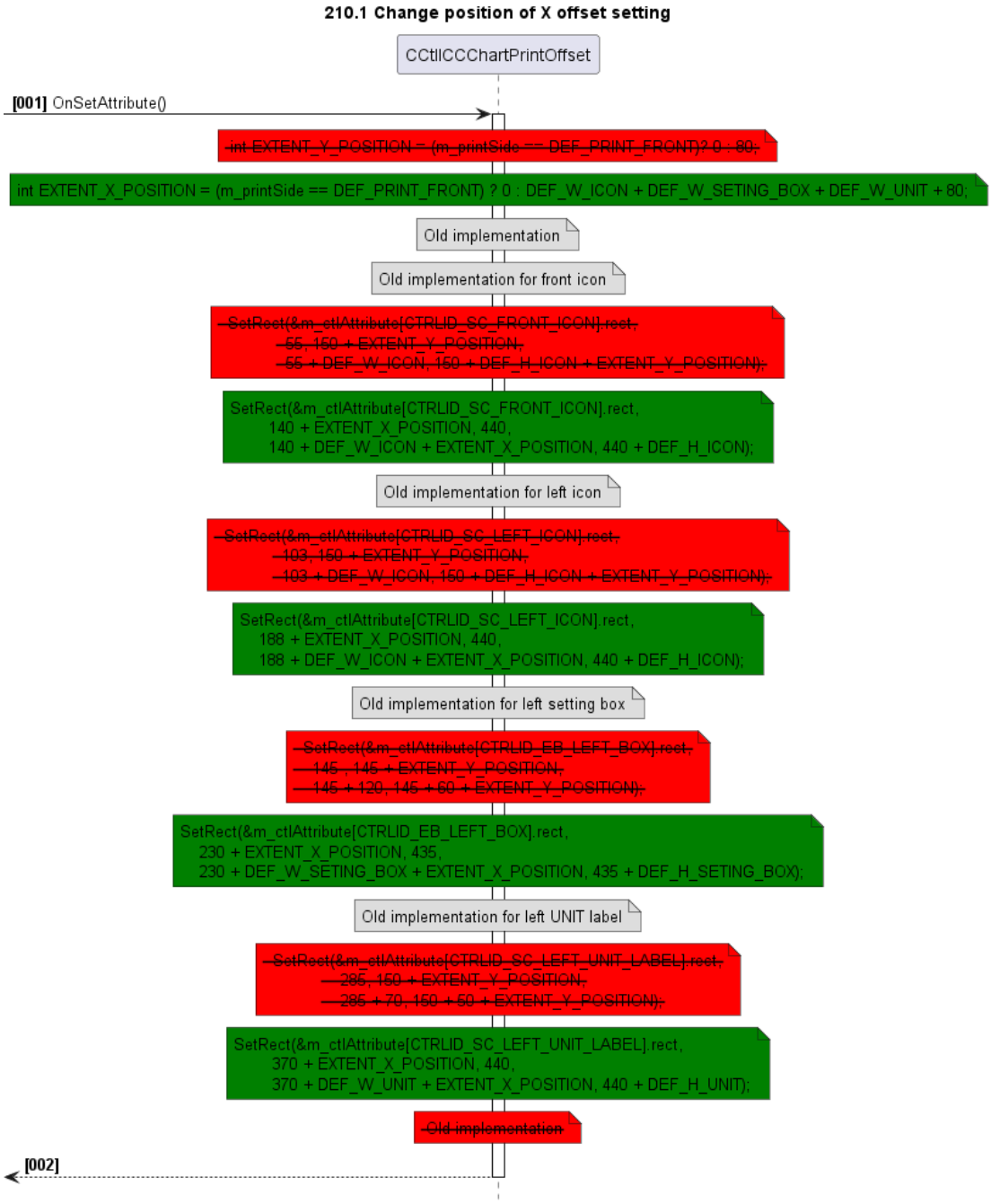


209. BuildParameters

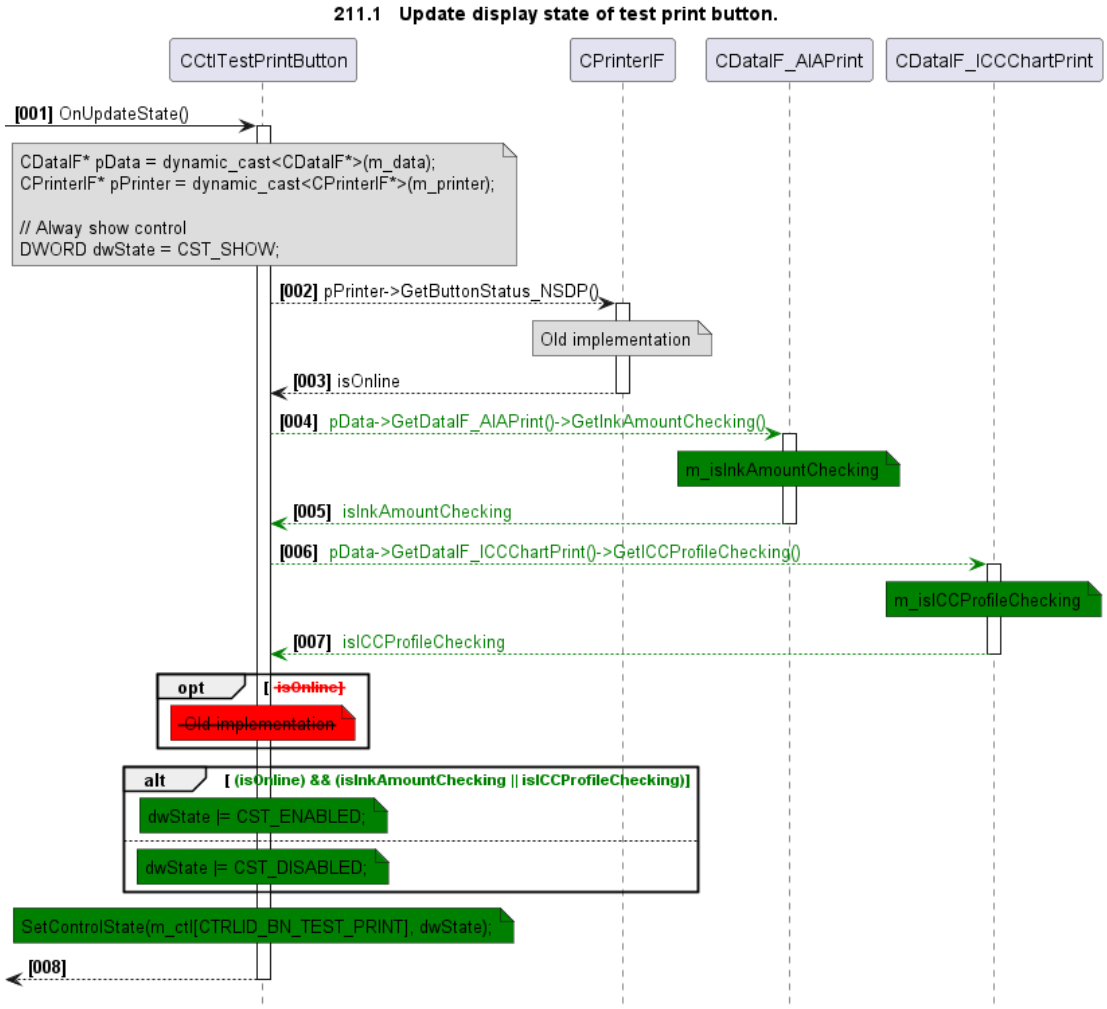
Refer to diagram <401.1>: Set status of Build Parameters controls



210. X Offset setting



211. Test Print button.



[Specification]

300. For In-line Measurement and the creation of profile

1. Description

301. Add a ICC Chart for In-line Measurement. [SCREEN's task]

- Add "EQUIOS_Standard (In-line)" char t for In-line Measurement into the following folder.

  \Client_HDX\Preferences\ICCChart_Bundle\CMYK\EQUIOS_Standard (In-line)

302. Distinguish ICC Chart for In-line Measurement in Info.ini.

- The following is Info.ini for "EQUIOS_Standard (In-line)":

```
[INFO]
NAME=EQUIOS_standard (In-line)

SHEET=2
; BUNDLED_CHART_KIND ... 1:for equios builder, 2:for 3rd-party builder, 3: for CGS builder, 4: for In-
BUNDLED_CHART_KIND=4
BUNDLED_CHART_ORDER=1

[INPUT]
1=EQUIOS_standard (In-line).txt
```

Note

- **About BUNDLED_CHART_KIND:**
  - "4: for In-line Measurement" is newly added to BUNDLED_CHART_KIND. A reference file of a ICC chart is set to [INPUT] when BUNDLED_CHART_KIND is 4, it is converted into chart image by PB_In-lineMeasure.dll.
  - "1:for equios builder" is unused.
  - "3: for CGS builder" has already supported in P830F. It is necessary to support it for HDX also. It will be defined in the next requirement specification.
- By setting "1" to BUNDLED_CHART_ORDER, "EQUIOS_Standard (In-line)" should be shown on top of ICC Chart List. It should be sastisfied with conventional specificaon for HD.

303. About Initialize/Finalize of PB_IccProfileManager.dll

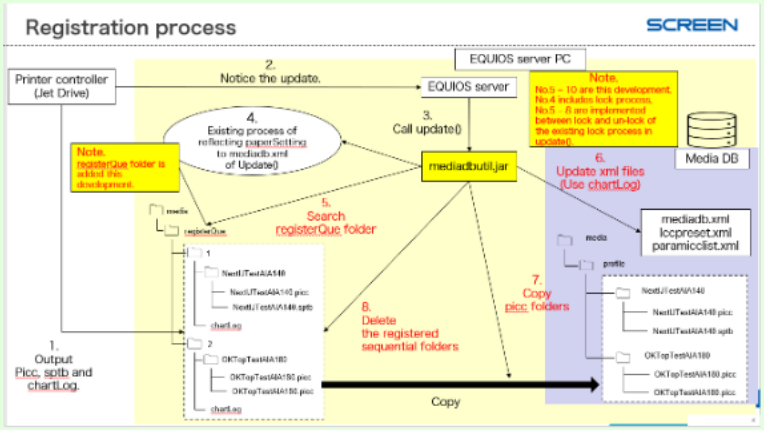
- Call PB_IccMGR_initialize() and PB_IccMGR_finalize() in the following functions which Initialize and Finalize functions of PB_TestChartGenerator.dll and EPQB_PrintLogParser.dll also called.

  \Src\Mainte_PrintDensityGUI\DataIF_TestPrint.cpp
  Initialize: void CDataIF_TestPrint::InitTestPrintDlg()
  Finalize: void CDataIF_TestPrint::ExitTestPrintDlg()

- Set the followings to arguments of PB_IccMGR_initialize()
  - Temporary directory: \Client_HD\TEMP\ICCChart\PB_IccProfileManager
  - Error Log directory: \Client_HD\Log\TestChart
  - RegisterQue directory: \{EQCenterPC's IP address}\procpref\Media\registerQue

Note

- **Refer to** `IF specifications of PB_IccProfileManager.dll`
  - **About RegisterQue directory: PB_IccProfileManager.dll puts a created profile to RegisterQue directory so that mediadbutil.jar can added it to mediaDB. The following is the profile registration flow from** `#13977_ProfileBuilder_mediadbutil_RequirementSpec`



  - **[Question to GCS]**
    - calling Initialize and Finalize functions of PB_TestChartGenerator.dll and EPQB_PrintLogParser.dll.

2. Solution

302. Distinguish ICC Chart for In-line Measurement in Info.ini.

In "DataIF.h" file, change member of DEF_ICC_CHART_TYPE enum as below:

Client\Src\Mainte_PrintDensityGUI\DataIF.h

```
// Before
enum DEF_ICC_CHART_TYPE{
    DEF_ICC_CHART_OLD_EQUIOS = 0,           //!< Old EQUIOS standard
    DEF_ICC_CHART_3RD_PARTY_OR_NEW_EQUIOS   //!< 3rd party or New EQUIOS standard
};

// After
enum DEF_ICC_CHART_TYPE {
    DEF_ICC_CHART_OLD_EQUIOS = 0,           //!< Old EQUIOS standard
    DEF_ICC_CHART_3RD_PARTY,                //!< 3rd party builder
    DEF_ICC_CHART_CGS,                      //!< CGS builder
    DEF_ICC_CHART_INLINE_MEASUREMENT        //!< In-line Measurement
};
```

In CTestPrintSeqData::GetChartType() method, call GetCurrentBundledICCChartKind() method to distinguish ICC Chart for In-line Measurement.

303. About Initialize/Finalize of PB_IccProfileManager.dll

In the CTestPrintSeqData class, add methods as follow:

- Add GetPathTempIccProfileManager() method to get the temporary folder path for Icc Profile Manager
- Add GetPathRegisterQue() method to get Get the RegisterQue folder path for Icc Profile Manager.

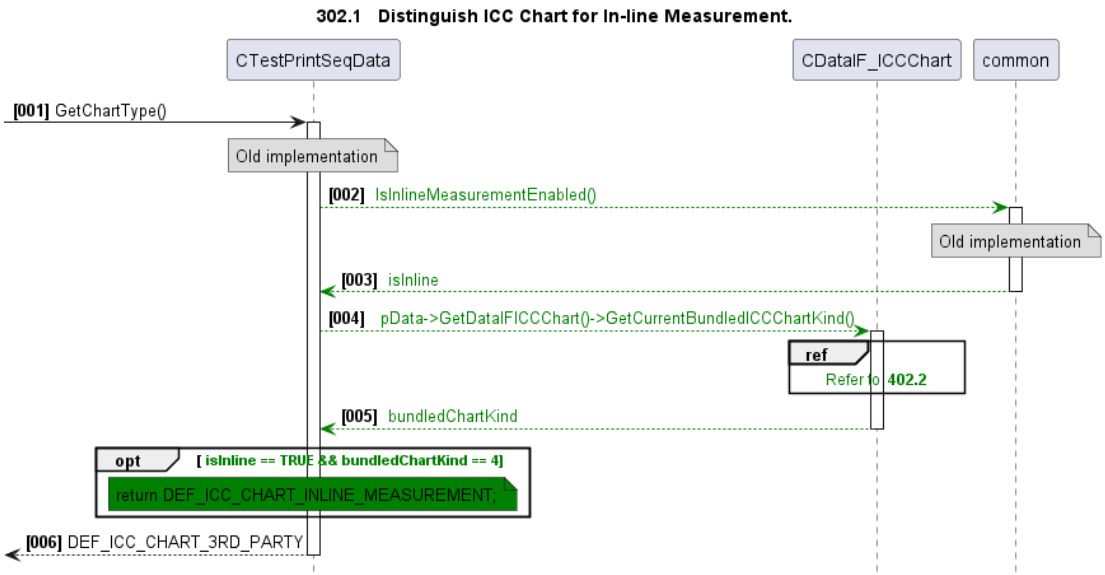
In the CTestPrintSeqData_Icc::Initialize() method, create paths for external PB_IccProfileManager.dll.

In the CDataIF_TestPrint::InitTestPrintDlg() method, call PB_IccMGR_initialize() to initialize the Icc Profile Manager module.

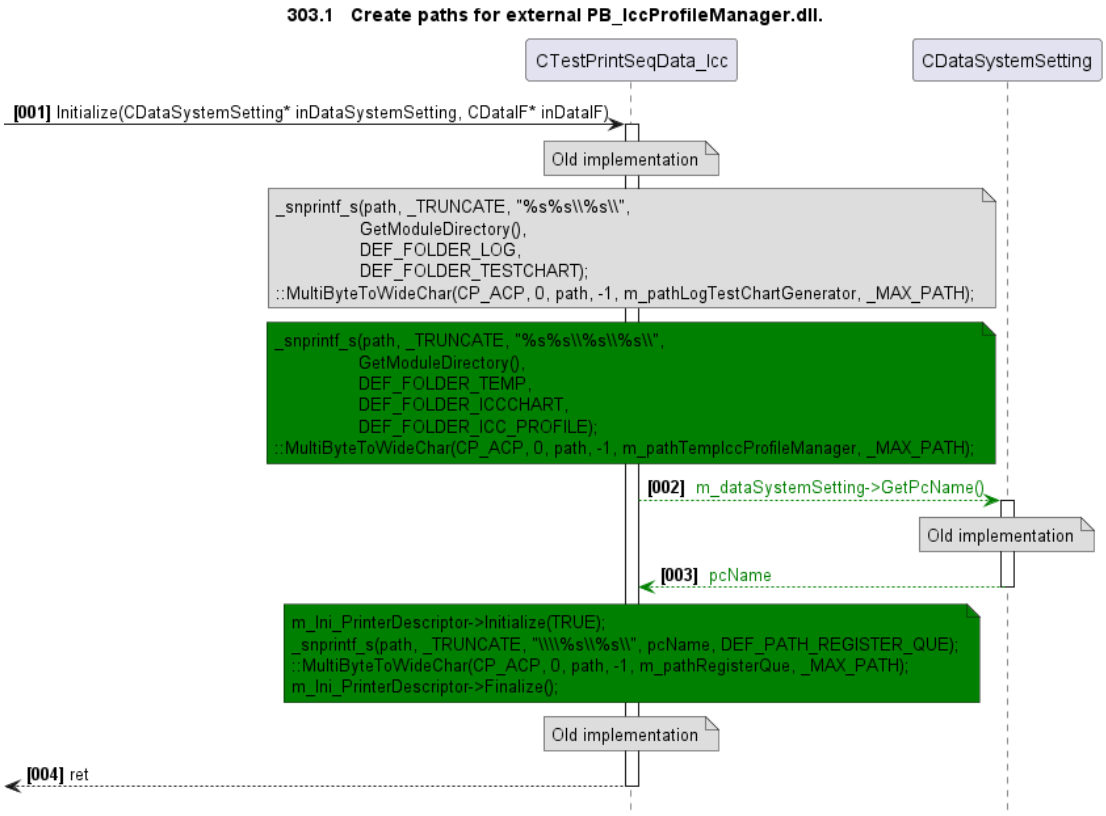
In the CDataIF_TestPrint::ExitTestPrintDlg() method, call PB_IccMGR_Finalize() to finalize the Icc Profile Manager module.

3. Detail implementation

302. Distinguish ICC Chart for In-line Measurement in Info.ini.



303. About Initialize/Finalize of PB_IccProfileManager.dll



[Specification]

400. Control GUI Items

1. Description

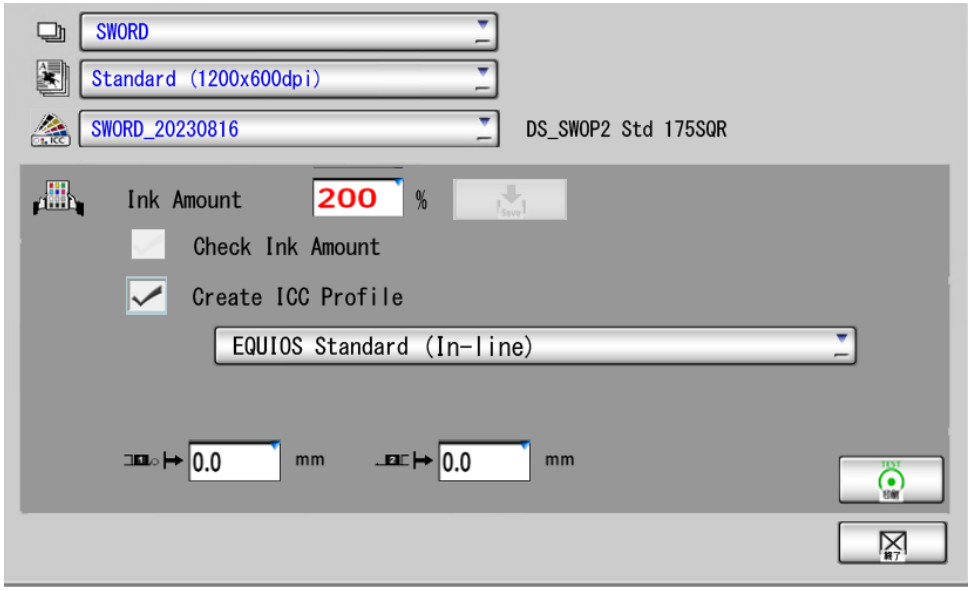
401. Switch GUI Layout depending on the availability of In-line Measurement.

- Check the availability of In-line Measurement with IsIn-lineMeasurementEnabled() of InputPlug.dll. Hide items for In-line Measurement if In-line Measurement is unavailable.
  - IsIn-lineMeasurementEnabled() is:

- Case of TRUE: Layout items on GUI following Spec 201 .
- Case of FALSE:
  - Hide Build Parameters of Spec 209 .
  - Hide ICC chart for In-line measurement from ICC Chart list (Spec 208).
  - Change the resouce “Create ICC Profile” to “Print ICC Chart”. (Spec 207)

  [en]: “Print ICC Chart”
  [Ja]: “ICCチャート印刷”

  - Follow Spec 201 for another items.



Note

- Refer to **101. IsInlineMeasurementEnabled() new** .

402. Switch GUI Layout depending on the availability of In-line Measurement.

- Enable to change of Check Ink Amount checkbox (Spec 206) if ICC Chart for In-line Measurement was selected on ICC Chart list(Spec 208) regardless of the value of Create ICC Profle checkbox (Spec 207).
- Follow the following description depending on the value of Create ICC Profle checkbox (Spec 207) if ICC Chart except for In-line Measurement was selected on ICC Chart list(Spec 208).
  - Create ICC Profle checkbox (Spec 207) is:
    - Case of ON: Set the status of Check Ink Amount checkbox and its label (Spec 206) to grayout. It means to disable to print AIA Check Chart.
    - Case of OFF: Set the status of Check Ink Amount checkbox and its label (Spec 206) to normal and enable to change of Check Ink Amount checkbox.
- Before and after the status of Check Ink Amount checkbox is changed to grayout or normal, maintain the value of Check Ink Amount checkbox in appearance. (*)
  - Maintain the value of Check Ink Amount checkbox even if its status is changed when the selection of ICC Chart list is changed.

Note

- It is ideal to print both of ICC Chart and AIA Check Chart, but currently it is impossilbe to print the data containing differennt page length in the adjustment printing. So follow conventilonal specification which separately print ICC Chart and AIA Check Chart except for printing In-line Measurement Chart.
- **The following is an example for (*),**
  1. **When Create ICC Profle checkbox is ON and ICC Chart for In-line Measurement is selected:**
     Check Ink Amount checkbox's status : Normal
  2. **After setting ON to Ink Amount checkbox, change the selection of the Chart List to a chart except for In-line Measurement.**
     Check Ink Amount checkbox's status : Grayout
     Check Ink Amount checkbox's value : ON
     *Then Ink Amount checkbox is invalid so AIA Check Chart is not printed when clicking Test button.
  3. **Changed the selection of the Chart List to a chart for In-line Measurement.**
     Check Ink Amount checkbox's status : Normal
     Check Ink Amount checkbox's value : ON

2. Solution

401. Switch GUI Layout depending on the availability of In-line Measurement.

     In the CCtlBuildParameters::OnUpdateState() method, update state of BuildParameters control by calling the IsIn-lineMeasurementEnabled() method to switch the GUI layout.

     In the CDataIF_ICCChart::LoadICCChartNames() method, check whether value "BUNDLED_CHART_KIND" of key in Info.ini to remove In-line Measurement from ICC Chart list.

     In the strings_Mainte_PrintDensityGUI.ini file, add new keys for the ICC profile check-box to change the resouce "Create ICC Profile" to "Print ICC Chart"

     - English

       Resource\English\strings_Mainte_PrintDensityGUI.ini

       ```
       ; Before
       [STRING]
       IDS_PAGE_NAME               = Print Density Adjustment

       ;After
       [STRING]
       IDS_PAGE_NAME               = Create ICC Profile
       IDS_CB_CHECK_INK_AMOUNT     = Check Ink Amount
       IDS_CB_CREATE_ICC_PROFILE   = Create ICC Profile
       IDS_CB_PRINT_ICC_CHART      = Print ICC Chart
       ```

     - Japanese

       Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

       ```
       ; Before
       [STRING]
       IDS_PAGE_NAME               = 印刷濃度調整

       ;After
       [STRING]
       IDS_PAGE_NAME               = 印ICCプロファイル作成
       IDS_CB_CHECK_INK_AMOUNT     = インク量確認
       IDS_CB_CREATE_ICC_PROFILE   = ICCプロファイル作成
       IDS_CB_PRINT_ICC_CHART      = ICCチャート印刷
       ```

     In CCtlCreateICCProfile::OnUpdateValue() method, call IsInlineMeasurementEnabled() to update string value of Icc Profile check-box

402. Enable to print both of ICC Chart and AIA Check Chart in only the case of selecting ICC Chart for In-line Measurement.

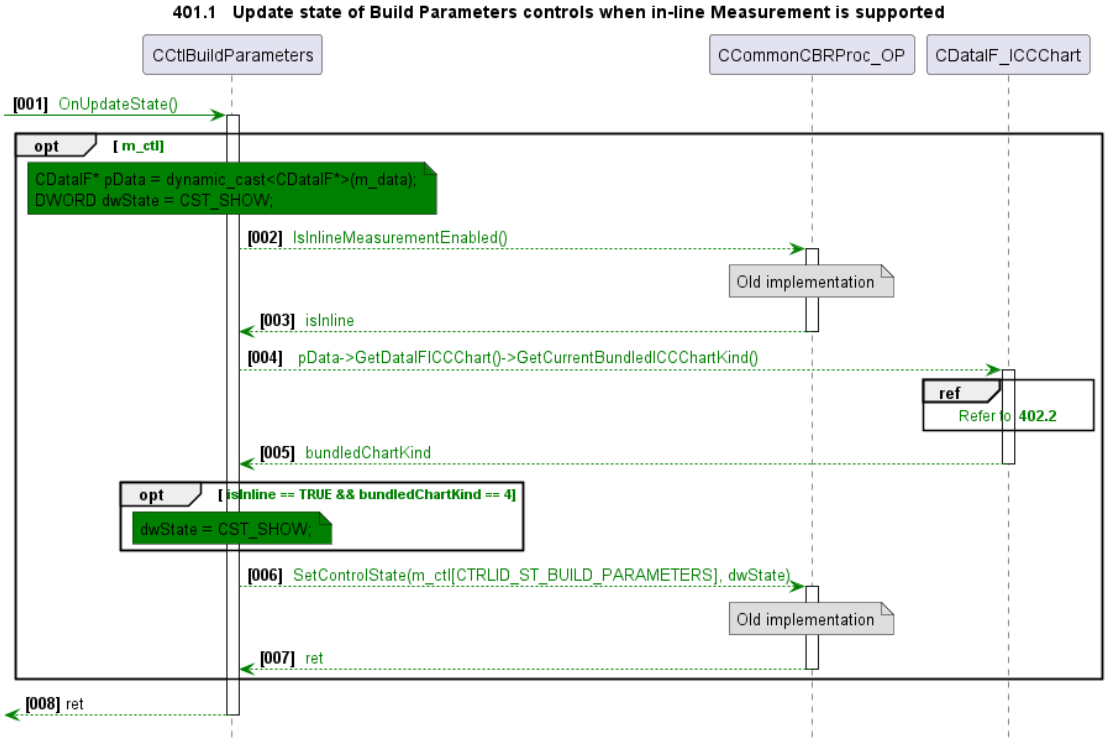
     In CDataIF_ICCChart class, add new IsInlineMeasurementSelectedInChartList() method to

check whether ICC Chart for In-line Measurement was selected on ICC Chart list or not.

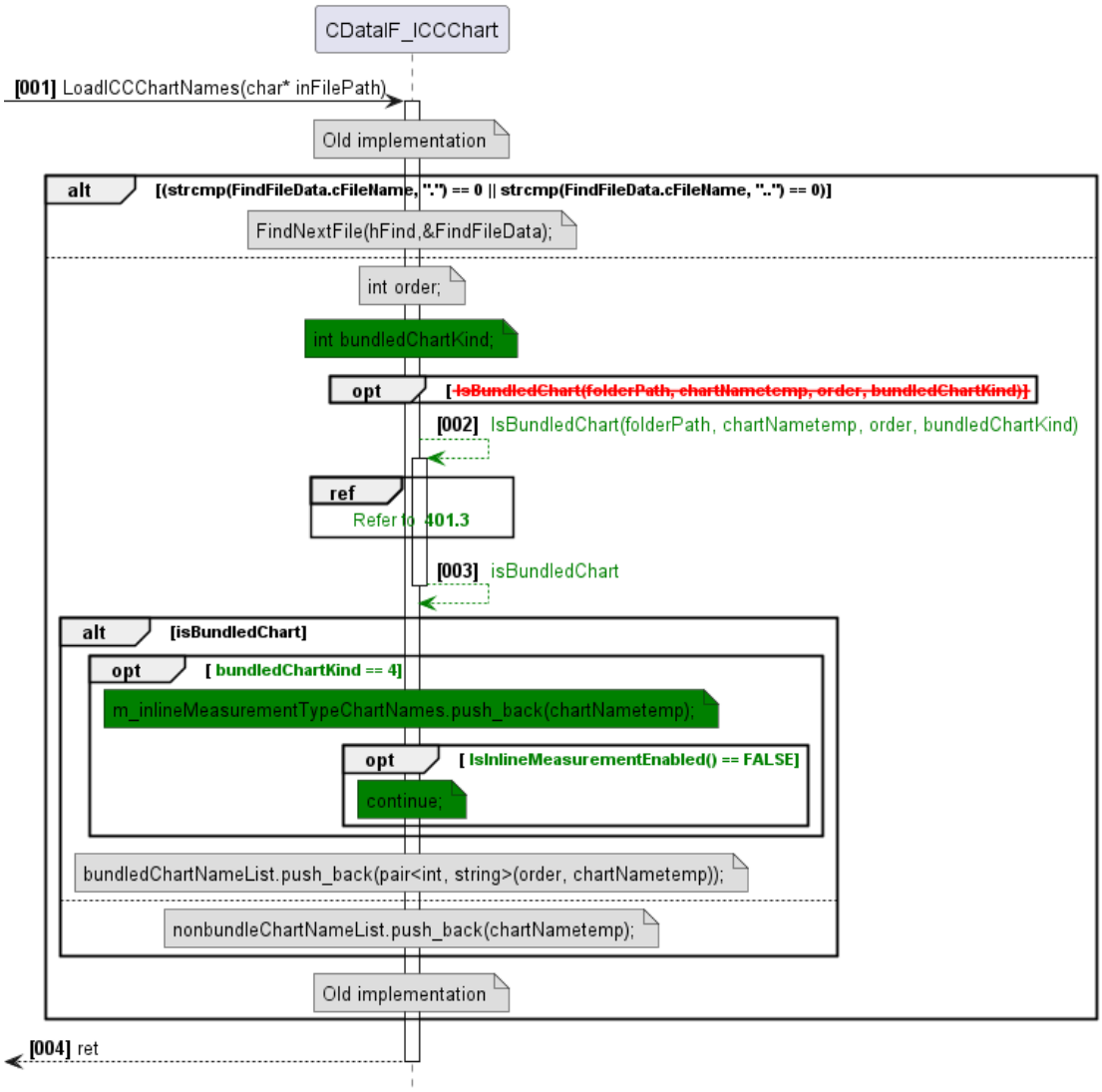
In CCtlCheckInkAmount::OnUpdateState() method, call GetCurrentBundledICCChartKind() and GetICCProfileChecking() to set status of Check Ink Amount check-box

3. Detail implementation

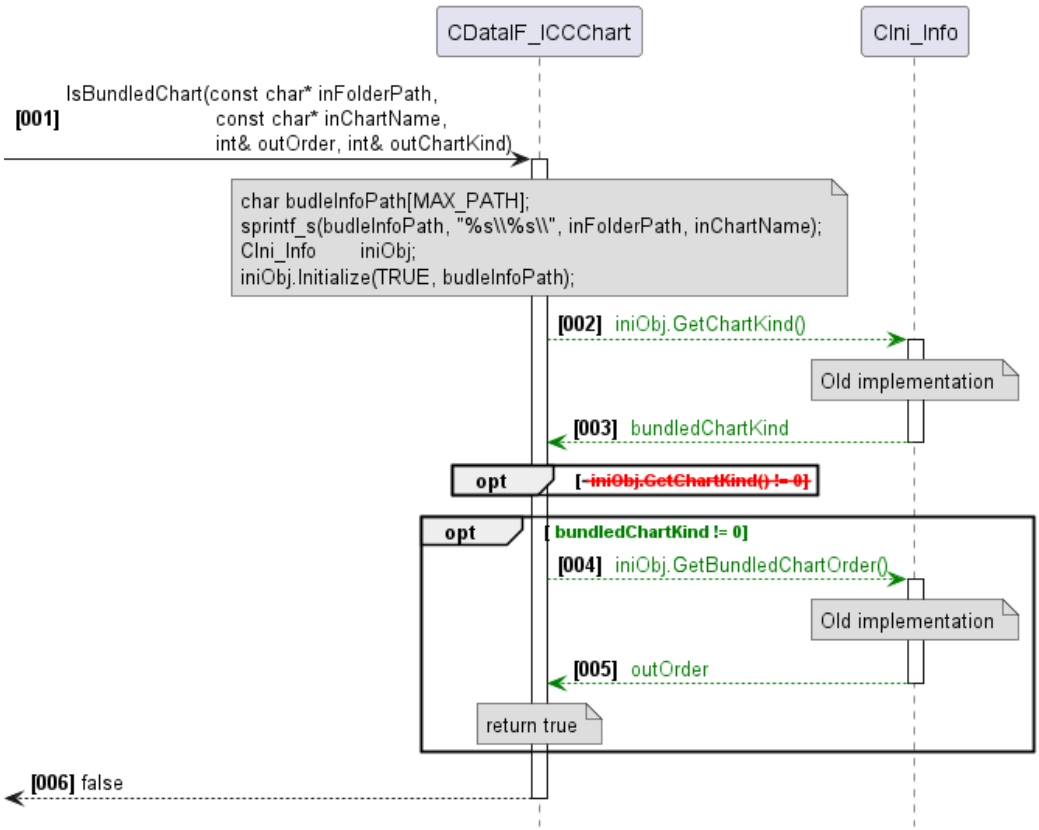
401. Switch GUI Layout depending on the availability of In-line Measurement.



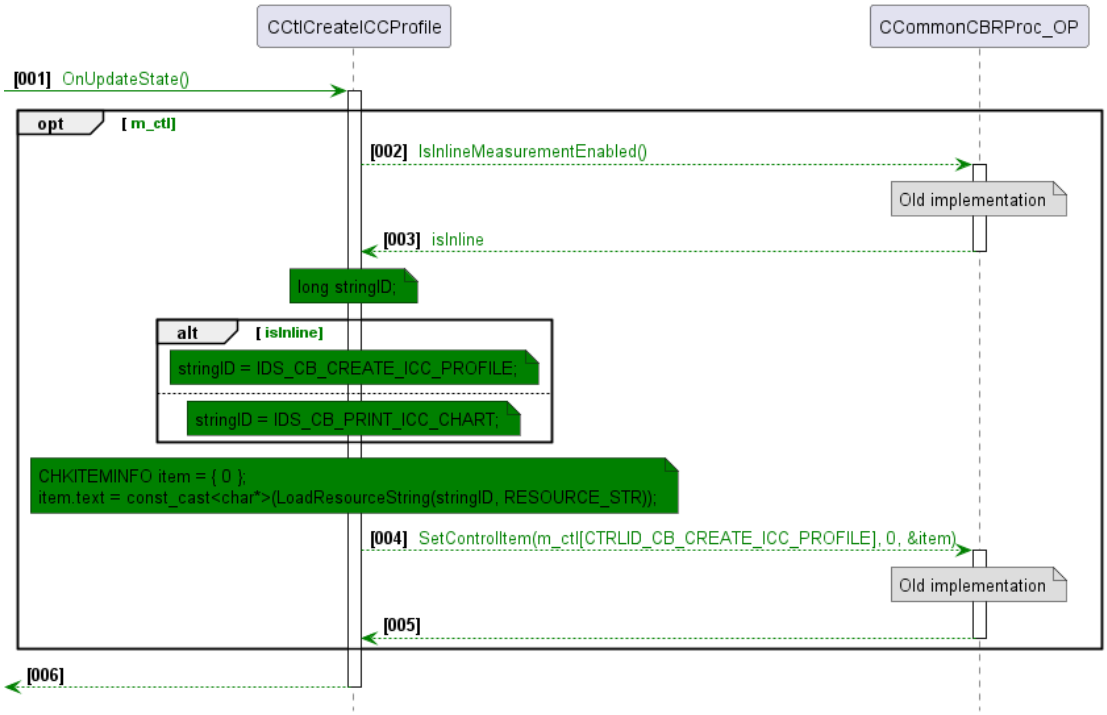
401.2 Hide ICC chart for In-line measurement from ICC Chart list



401.3 Get value of bundled chart kind of ICC Chart list.

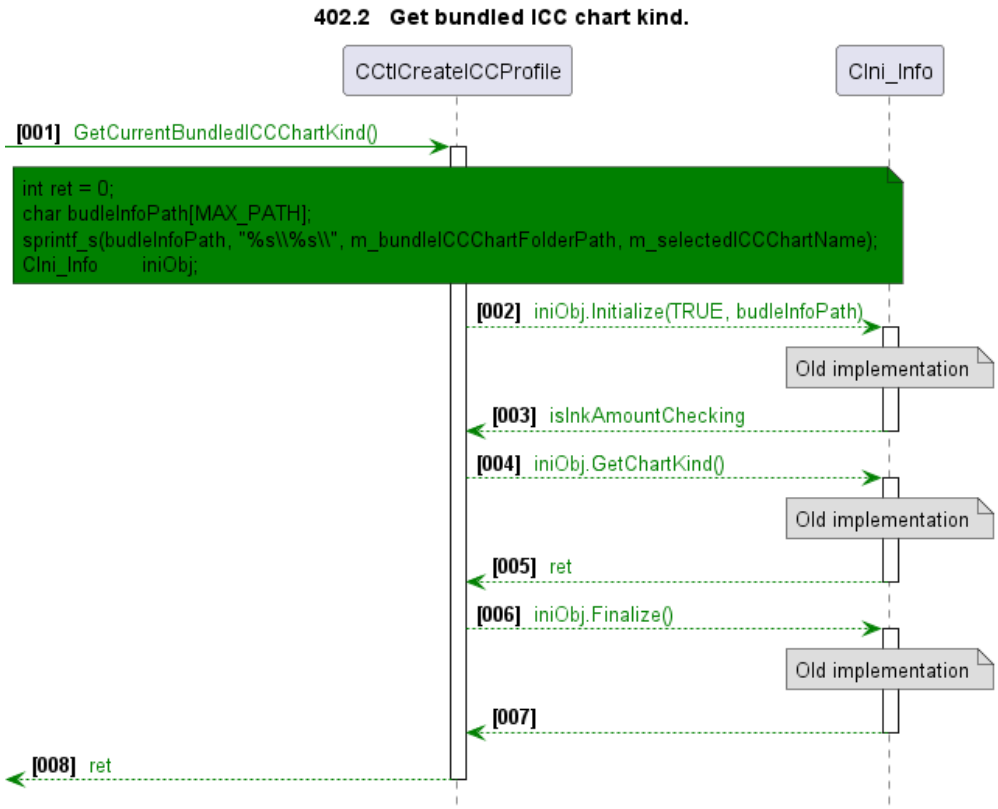


401.4 Update string value of Icc Profile check-box when in-line Measurement is supported



402. Enable to print both of ICC Chart and AIA Check Chart in only the case of selecting ICC Chart for In-line Measurement.

402.1 Set the status of Check Ink Amount checkbox.



[Specification]

500. Internal Process for measuring ICC Chart

After Test print button(Spec 211) is clicked, distinguish the enternal process depending on the selection status of Check Ink Amount checkbox(Spec 206) and Create ICC Profile checkbox(Spec 207) and the chart kind selected on ICC Chart list(Spec 208).

1. Description

501. [Case1] Ink Amount checkbox = ON, Create ICC Profile checkbox = OFF

- Print only “AIA Check Chart”.

> **Note**
> - Use the conventional process for printing “AIA Check Chart”.

502. [Case2] Ink Amount checkbox = OFF, Create ICC Profile checkbox = ON, Chart kind = 2 (3rdParty Builder)

- Print only “ICC Chart”.

> **Note**
> - Use the conventional process for printing “ICC Chart”.
> - Actually the checkbox of **Spec 207** should be shown as “Print ICC Chart” in this case. (Refer to **Spec 401** .)

503. [Case3] Ink Amount checkbox = OFF, Create ICC Profile checkbox = ON, Chart kind = 4 (for In-line Measurement)

- Create the printing data which contains only “ICC Chart” with the following ways. So print it as conventional and measure a printed ICC chart with In-line Measurement.
  1. The following describes details of “3.2. Summary of sequence” in `IF specifications of PB_InlineMeasure.dll`
     1. About “create the chart image”
        - Create image data of the chart for In-line Measurement with

PB_InlineMeasure.dll.
- Create the printing data with PB_TestChartGenerator.dll.
  - Note: Set "-1" to inAIAValue of PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData()

2. About "start measurement"
   - Print the printing data and measure with with StartHeadMaintenance() of InputPlug.dll which is the existing function with the updated structure "HEADMAINTENANCEIF".
   - Supplimentary about added items of HEADMAINTENANCEIF: ([] specifies ID and Member Name in "HEADMAINTENANCEIF".)
     - **[J:MeasurementPositionInImage]**
       Set outInlineMeasureChartXOffset of PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData()
     - **[K:MeasurementRefFilePath]**
       Set CGATS file path(.txt) defined at "[INPUT]" in Info.ini. (Refer to 302. Distinguish ICC Chart for In-line Measurement in Info.ini..)
     - **[L:MeasurementReportPath]**
       Set "\Client_HDX\Temp\InlineMeasurement\MeasurementReport_forICCchart.txt" so that the report is output.
     - **[M:MeasurementResultPath]**
       Set the following path so that measurement files are output. * for Front: "\Client_HDX\TEMP\ICCChart\PB_InlineMeasure\inline_measrurement_frong.txt" * for Back: "\Client_HDX\TEMP\ICCChart\PB_InlineMeasure\inline_measrurement_back.txt"

2. Follow the description depending on "RESULT_ID" of [RESULT] in Report File. (Report File is the above "MeasurementReportPath".)
   - Case of "RESULT_ID" == 0: Proceed to the process of ICC profile creation.
   - Case of "RESULT_ID" != 0: Show the following error message and finish this whole process for to the profile registration from the chart printing.
     [en]: "Failed to measure ICC Chart"
     [ja]: "ICCチャートの測色に失敗しました"

Note
- "\Client_HD\TEMP\ICCChart" is the existing temporary directory for ICC Chart.
- It is unnecessary to set to added items of HEADMAINTENANCEIF when not printing a ICC chart for In-line Measurement.

504. [Case4] Ink Amount checkbox = ON, Create ICC Profile checkbox = ON, Chart kind = 4 (for In-line Measurement)

- Basically, follow Spec 503.
- However there is only the following difference for PB_TestChartGenerator.dll between Sec 503 and 504. (Refer to "Note" of "2. I/F Specifications for PB_TestChartGenerator" in `IF specifications of PB_InlineMeasure.dll`)
  - Set AIA value (Spec 205) to inAIAValue of PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData().

2. Solution

503. [Case3] Ink Amount checkbox = OFF, Create ICC Profile checkbox = ON, Chart kind = 4

In CCtlTestPrintButton::OnCommand() method, call the following methods in sequence:

GetCurrentBundledICCChartKind(), GetInkAmountChecking() and GetICCProfileChecking() to execute the specific printing process.

1. The following describes details of “3.2. Summary of sequence” in IF specifications of PB_InlineMeasure.dll

    1. About “create the chart image”

        In CTestPrintSeq_Icc::CreateTiffFile() method, call the following methods in sequence to create image data of the chart for In-line Measurement with PB_InlineMeasure.dll
        - pbIM_Initialize() method: Initialize this module
        - pbIM_SetChartInformation() method: Set the chart information and create a object that include the chart data for printing
        - pbIM_GetChartDataWithBitmapAllPages() method: Get bitmap image to print a chart for all pages

        In CTestPrintSeq_Icc::CreateTiffFile() method, call PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData() to create the printing data with PB_TestChartGenerator.dll.

    2. About “start measurement”

        In CDataIF_ICCChartPrint::TestPrintThread() method, call GetChartType() to whether or not to create a new structure “HEADMAINTENANCEIF” and update items related to In-line measurement.

        In CPrintDensityExecIO::ICCAndAIAChart_TestPrint() method, add new parameters: const HEADMAINTENANCEIF* inHeadMainteRec for printing data with StartHeadMaintenance() method

2. Follow the description depending on “RESULT_ID” of [RESULT] in Report File. (Report File is the above “MeasurementReportPath”.)

    In ResDef.h file, define enum for error message.

    Client\Src\Mainte_PrintDensityGUI\ResDef.h

    ```
    enum
    {
        ...
        IDM_ERR_MEASURE_ICC_PROFILE,
        /* リソースID数 */
        IDM_MAX
    }
    ```

    In the strings_Mainte_PrintDensityGUI.ini file, add new “IDM_ERR_MEASURE_ICC_PROFILE” key at [MSG] section to show error message when measuring profile fail.

    - English

    Resource\English\strings_Mainte_PrintDensityGUI.ini

    ```
    [MSG]
    ...
    IDM_ERR_MEASURE_ICC_PROFILE = Failed to measure ICC Profile
    ```

    - Japanese

    Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

    ```
    [MSG]
    ...
    IDM_ERR_MEASURE_ICC_PROFILE = ICCチャートの測色に失敗しました
    ```

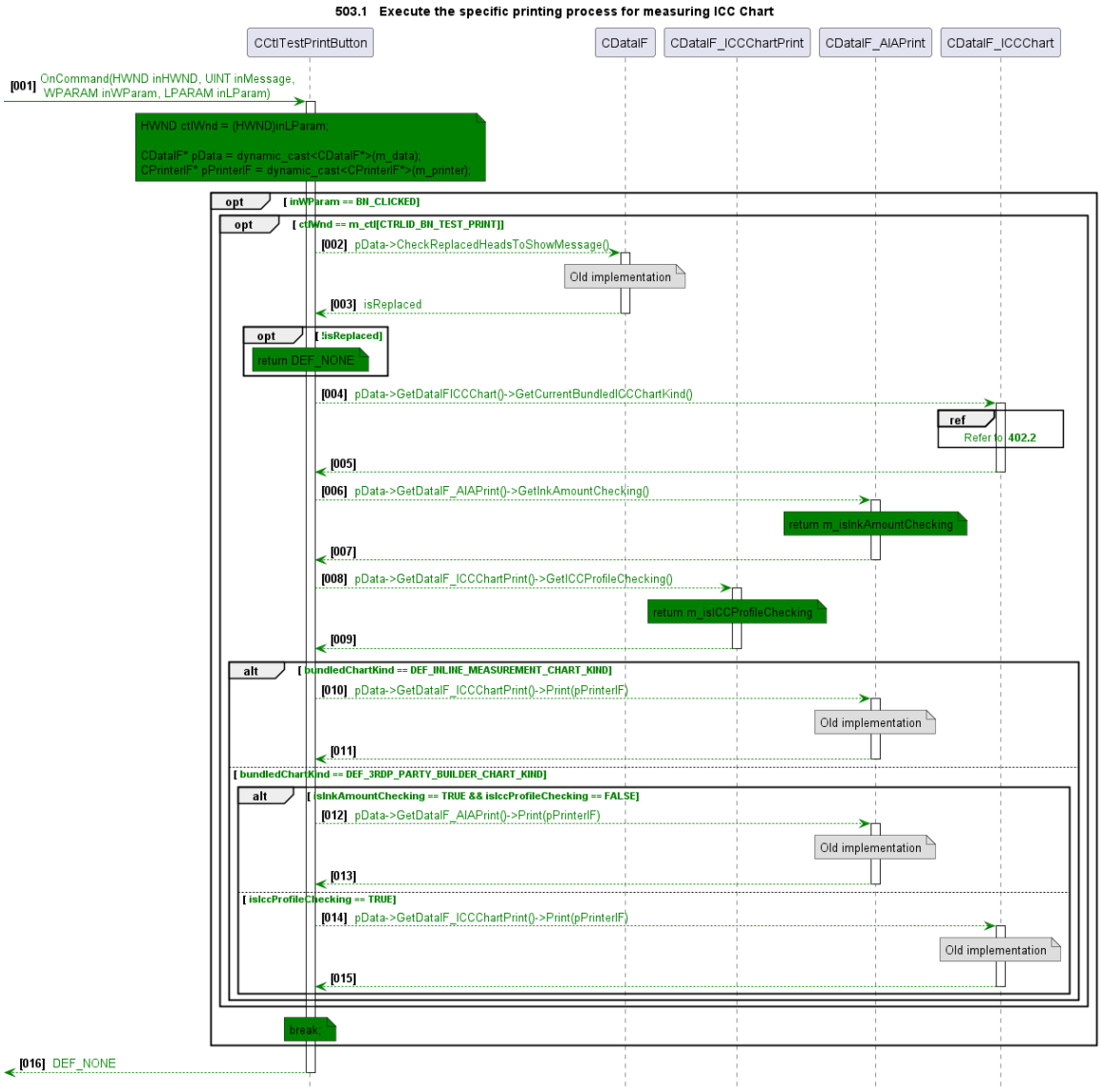
504. [Case4] Ink Amount checkbox = ON, Create ICC Profile checkbox = ON, Chart kind = 4 (for

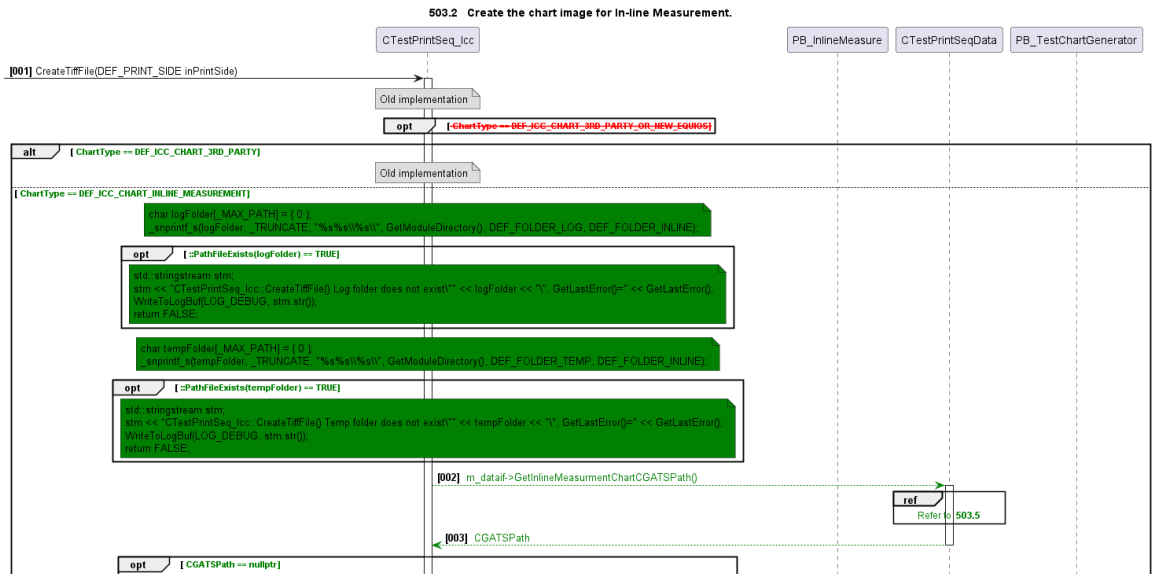
In-line Measurement)

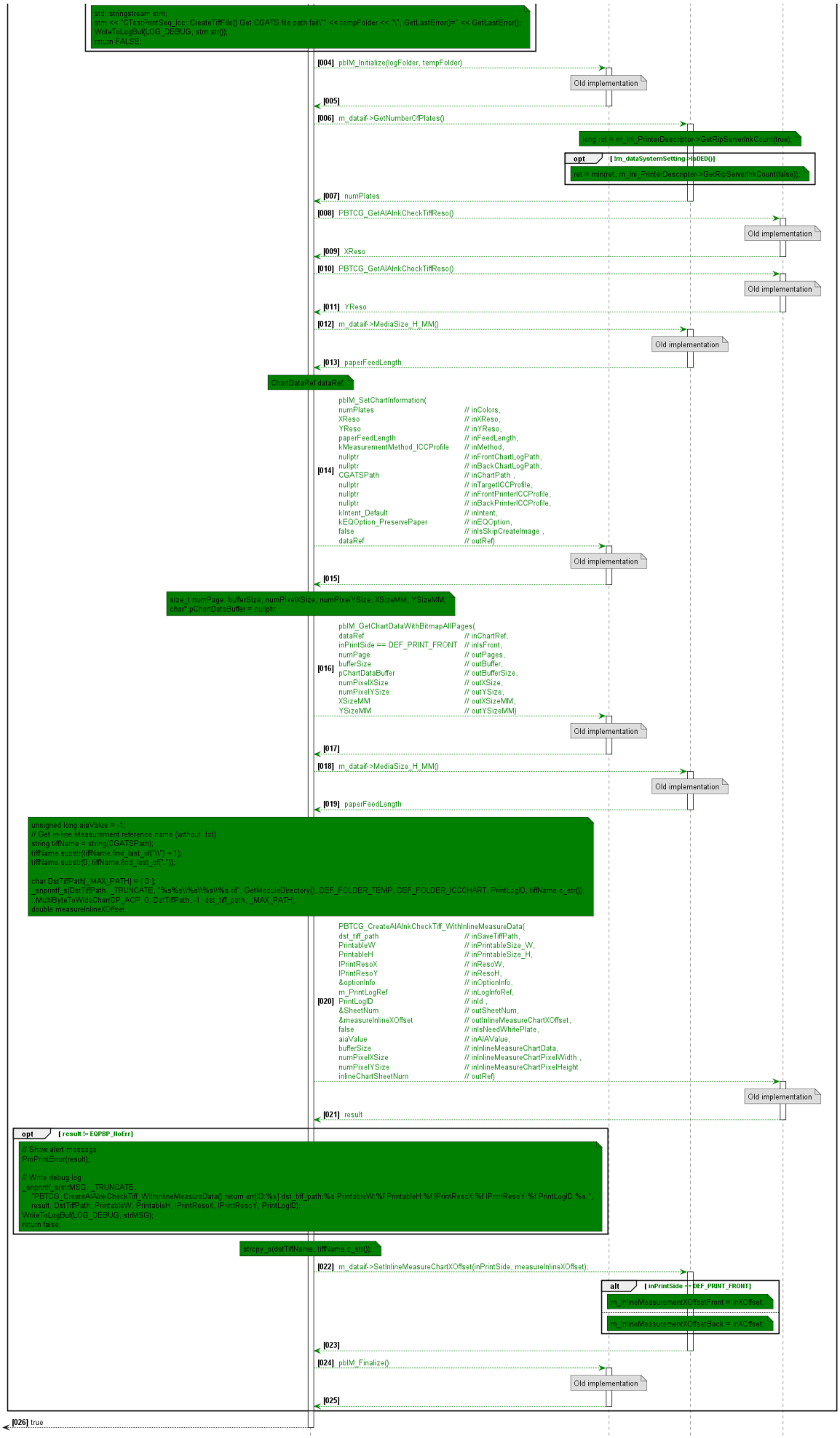
In CTestPrintSeq_Icc::CreateTiffFile(), get current AIA value by calling GetCurrentAIAValue() method to set AIA value (Spec 205) to inAIAValue of PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData().

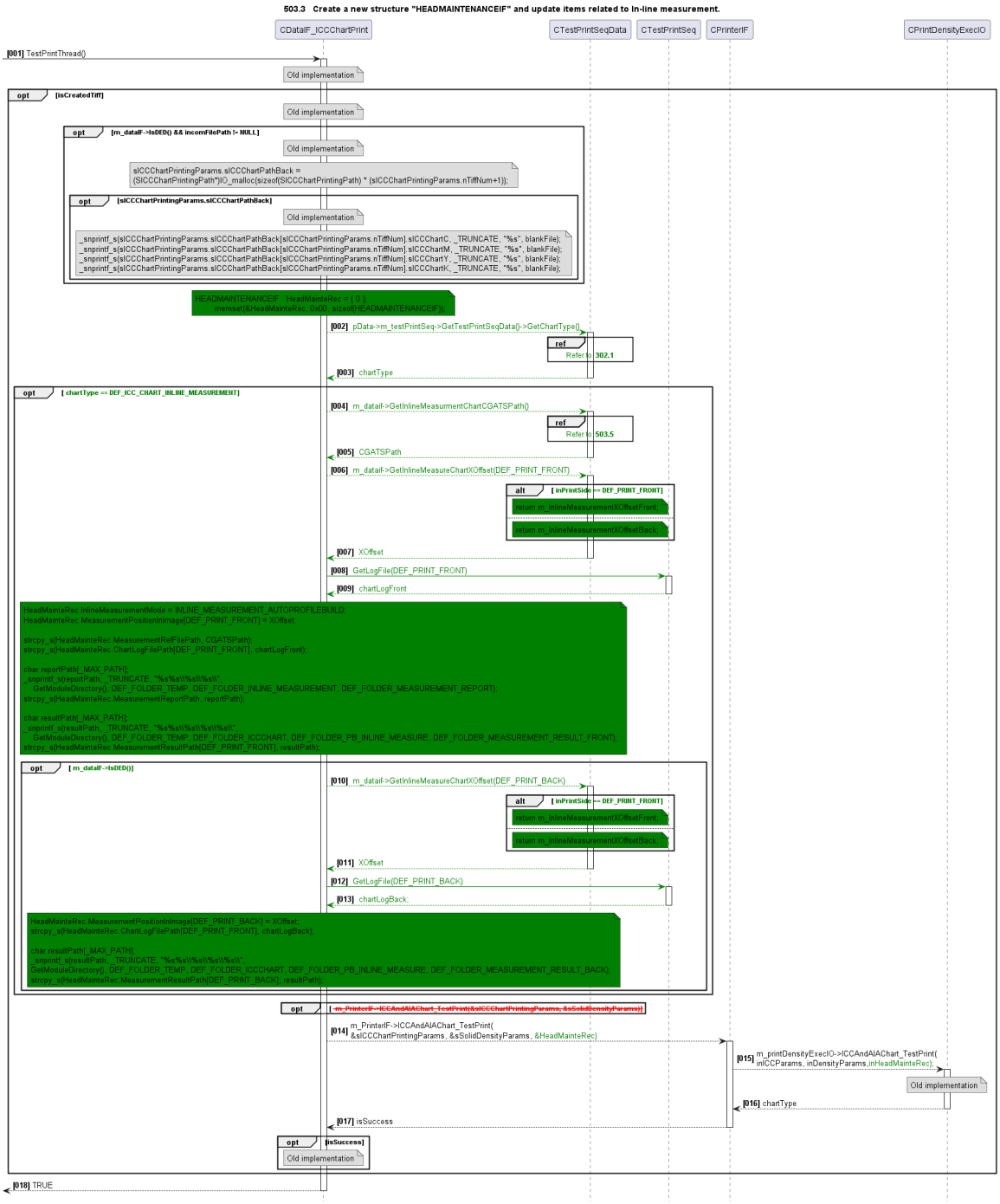
3. Detail implementation

503. [Case3] Ink Amount checkbox = OFF, Create ICC Profile checkbox = ON, Chart kind = 4

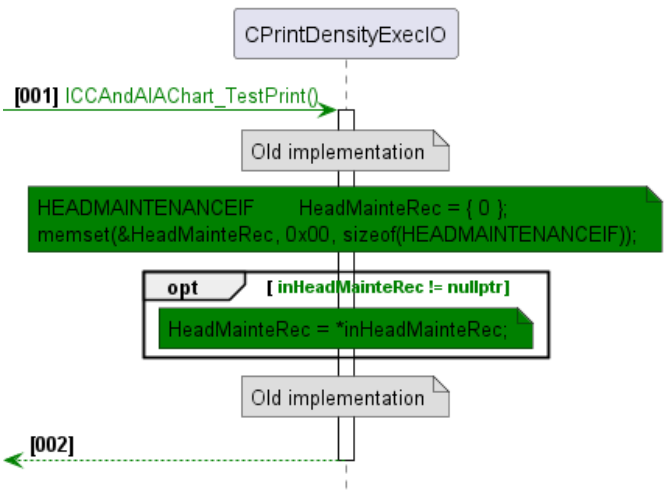





std::stringstream stm;
stm << "CTestPrintSeq_Icc::CreateTiffFile() Get CGATS file path fail\"" << tempFolder << "\", GetLastError()=" << GetLastError();
WriteToLogBuf(LOG_DEBUG, stm.str());
return FALSE;
[004] pbIM_Initialize(logFolder, tempFolder)
Old implementation
[005]
[006] m_dataif->GetNumberOfPlates()
long ret = m_Ini_PrinterDescriptor->GetRipServerInkCount(true);
opt
[!m_dataSystemSetting->isDED()]
ret = min(ret, m_Ini_PrinterDescriptor->GetRipServerInkCount(false));
[007] numPlates
[008] PBTCG_GetAIAInkCheckTiffReso()
Old implementation
[009] XReso
[010] PBTCG_GetAIAInkCheckTiffReso()
Old implementation
[011] YReso
[012] m_dataif->MediaSize_H_MM()
Old implementation
[013] paperFeedLength
ChartDataRef dataRef;
pbIM_SetChartInformation(
numPlates // inColors,
XReso // inXReso,
YReso // inYReso,
paperFeedLength // inFeedLength,
kMeasurementMethod_ICCProfile // inMethod,
nullptr // inFrontChartLogPath,
nullptr // inBackChartLogPath,
[014] CGATSPath // inChartPath ,
nullptr // inTargetICCProfile,
nullptr // inFrontPrinterICCProfile,
nullptr // inBackPrinterICCProfile,
kIntent_Default // inIntent,
kEQOption_PreservePaper // inEQOption,
false // inIsSkipCreateImage ,
dataRef // outRef)
Old implementation
[015]
size_t numPage, bufferSize, numPixelXSize, numPixelYSize, XSizeMM, YSizeMM;
char* pChartDataBuffer = nullptr;
pbIM_GetChartDataWithBitmapAllPages(
dataRef // inChartRef,
inPrintSide == DEF_PRINT_FRONT // inIsFront,
numPage // outPages,
bufferSize // outBuffer,
[016] pChartDataBuffer // outBufferSize,
numPixelXSize // outXSize,
numPixelYSize // outYSize,
XSizeMM // outXSizeMM,
YSizeMM // outYSizeMM)
Old implementation
[017]
[018] m_dataif->MediaSize_H_MM()
Old implementation
[019] paperFeedLength
unsigned long aiaValue = -1;
// Get In-line Measurement reference name (without .txt)
string tiffName = string(CGATSPath);
tiffName.substr(tiffName.find_last_of("\\") + 1);
tiffName.substr(0, tiffName.find_last_of("."));
char DstTiffPath[_MAX_PATH] = { 0 };
_snprintf_s(DstTiffPath, _TRUNCATE, "%s%s\\%s\\%s\\%s.tif", GetModuleDirectory(), DEF_FOLDER_TEMP, DEF_FOLDER_ICCCHART, PrintLogID, tiffName.c_str());
::MultiByteToWideChar(CP_ACP, 0, DstTiffPath, -1, dst_tiff_path, _MAX_PATH);
double measureInlineXOffset;
PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData(
dst_tiff_path // inSaveTiffPath,
PrintableW // inPrintableSize_W,
PrintableH // inPrintableSize_H,
lPrintResoX // inResoW,
lPrintResoY // inResoH,
&optionInfo // inOptionInfo,
m_PrintLogRef // inLogInfoRef,
[020] PrintLogID // inId ,
&SheetNum // outSheetNum,
&measureInlineXOffset // outInlineMeasureChartXOffset,
false // inIsNeedWhitePlate,
aiaValue // inAIAValue,
bufferSize // inInlineMeasureChartData,
numPixelXSize // inInlineMeasureChartPixelWidth ,
numPixelYSize // inInlineMeasureChartPixelHeight
inlineChartSheetNum // outRef)
Old implementation
[021] result
opt
[result != EQPBP_NoErr]
// Show alert message
ProPrintError(result);
// Write debug log
_snprintf_s(strMSG, _TRUNCATE,
"PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData() return err[ID:%x] dst_tiff_path:%s PrintableW:%f PrintableH:%f lPrintResoX:%f lPrintResoY:%f PrintLogID:%s.",
result, DstTiffPath, PrintableW, PrintableH, lPrintResoX, lPrintResoY, PrintLogID);
WriteToLogBuf(LOG_DEBUG, strMSG);
return false;
strcpy_s(dstTiffName, tiffName.c_str());
[022] m_dataif->SetInlineMeasureChartXOffset(inPrintSide, measureInlineXOffset);
alt
[inPrintSide == DEF_PRINT_FRONT]
m_InlineMeasurementXOffsetFront = inXOffset;
m_InlineMeasurementXOffsetBack = inXOffset;
[023]
[024] pbIM_Finalize()
Old implementation
[025]
[026] true

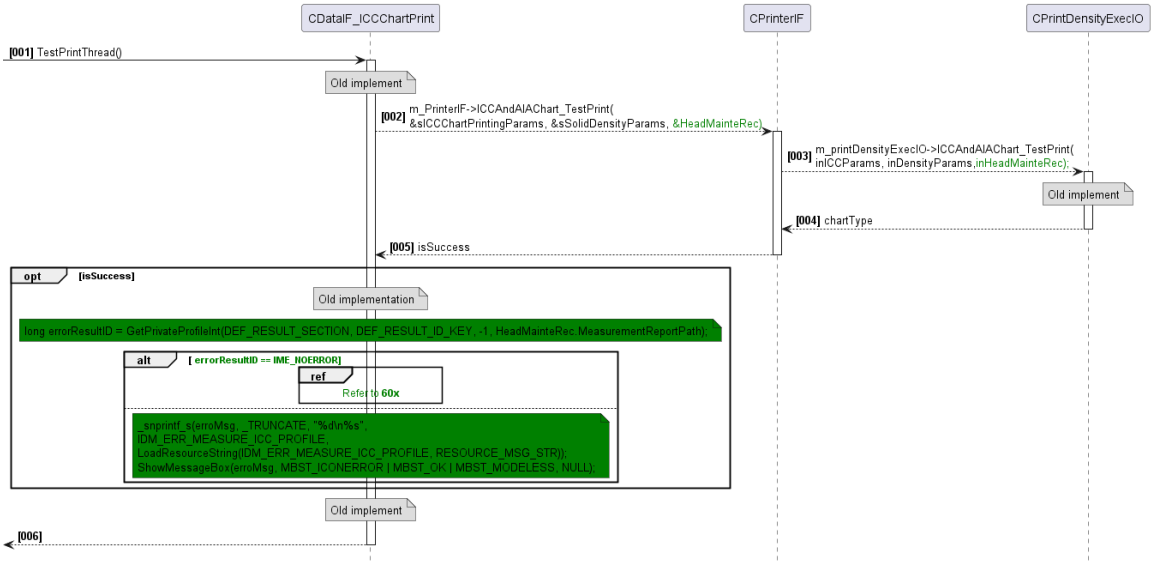


503.4 Printing data with StartHeadMaintenance() method

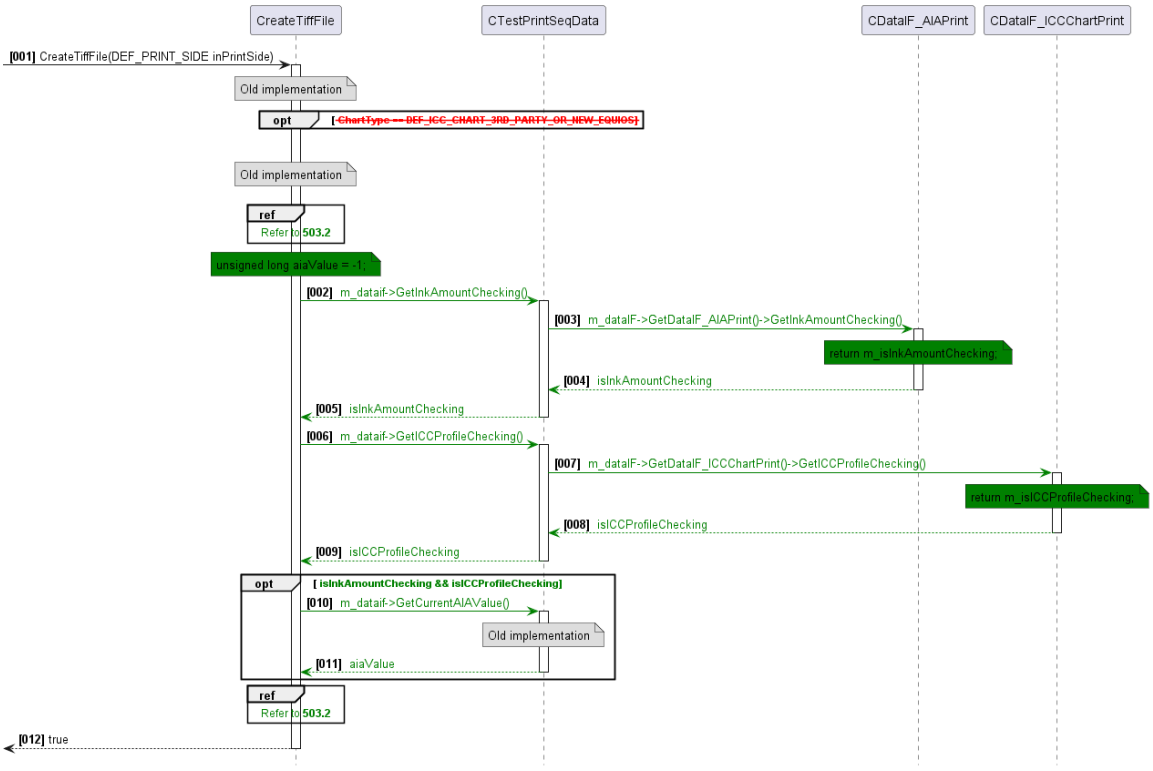


503.5 Get CGATS file path(.txt) defined at "[INPUT]" in Info.ini.

503.6 Show error message and finish the process for to the profile registration from the chart printing.



504.1 Set AIA value (Spec 205) to inAIAValue of PBTCG_CreateAIAInkCheckTiff_WithInlineMeasureData().



[Specification]

600. Internal process for creating and registrating ICC Profile

1. Description

601. Create ICC Profile

- Create a profile if the measurement process of Spec 503 or Spec 504 is success.
  - Call PB_IccMGR_buildProfile() of PB_IccProfileManager.dll.
  - Supplimentary about arguments of PB_IccMGR_buildProfile():
    - **inMeasurement**
      Set [M:MeasurementResultPath] of HEADMAINTENANCEIF (Spec 503).
    - **inProfileNameWithoutExtension**
      Set “{Media Type}_{Print Mode}_{AIA Ink}_{Date(yyyyMMddHHmmss)}”
    - **inUserName**
      Set Null.
    - **inApplicationName**
      Set “PrintNavi.exe”
    - **inApplicationVersion**
      Set the controller version. It should be possible to get it from [VERSION] in the following file.
      “\192.168.0.30\Client_HDX\Preferences\Prnv.ini”
    - **inBlackStart, inBlackMax, inBlackMax**
      Set parameters shown on GUI (Spec 209).
- Show the following error message if the profile creation process is failed and finish this whole process until the profile registration from the chart printing .
  [en]: “Failed to create ICC Profile”
  [ja]: “ICCプロファイルの作成に失敗しました”

Note

- Refer to `IF specifications of PB_IccProfileManager.dll`
- **About inProfileNameWithoutExtension:**
  - **{Media Type} and {Print Mode} means the following settings on Print Condition window.**

  - {AIA Ink} means value of **Spec 205**.
  - For a example of inProfileNameWithoutExtension: “OKTOP_Hight Speed_140_20230915130533”
  - ★In future, the way of settng the profile name will be changed so that the user can decide it.

602. Register ICC Profile to MediaDB

- Send command updating Media-DB to EQUIOS Center PC to regiser a profile if the profile creation process of Spec 601 is successful.
  - Refer to the existing way of registering papaersetting.xml.
- Show the following error message if the profile registration process is failed and finish this whole

process until the profile registration from the chart printing .

[en]: “Failed to register ICC Profile”
[ja]: “ICCプロファイルの登録に失敗しました”

2. Solution

601. Create ICC Profile

Add method CDataIF_ICCChartPrint::CreateIccProfile()and call after measurement success.

Client\Src\Mainte_PrintDensityGUI\DataIF_ICCChartPrint.h

```
class CDataIF_ICCChartPrint
{
protected:
    void CreateIccProfile(const char* inResultFront, const char* inResultBack);
}
```

In ResDef.h file, define enum for error message.

Client\Src\Mainte_PrintDensityGUI\ResDef.h

```
enum
{
    ...
    IDM_ERR_CREATE_ICC_PROFILE,
    /* リソースID数 */
    IDM_MAX
}
```

In the strings_Mainte_PrintDensityGUI.ini file, add new “IDM_ERR_CREATE_ICC_PROFILE” key at [MSG] section to show error message when creating profile fail.

- English

Resource\English\strings_Mainte_PrintDensityGUI.ini

```
[MSG]
...
IDM_ERR_CREATE_ICC_PROFILE = Failed to create ICC Profile
```

- Japanese

Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

```
[MSG]
...
IDM_ERR_CREATE_ICC_PROFILE = ICCプロファイルの作成に失敗しました
```

602. Register ICC Profile to MediaDB

Add method CDataIF_ICCChartPrint::RegisterIccProfile()and call after creating profile success.

Client\Src\Mainte_PrintDensityGUI\DataIF_ICCChartPrint.h

```
class CDataIF_ICCChartPrint
{
protected:
    void RegisterIccProfile();
}
```

In ResDef.h file, define enum for error message.

Client\Src\Mainte_PrintDensityGUI\ResDef.h

```
enum
{
    ...
    IDM_ERR_REGISTER_ICC_PROFILE,
    /* リソースID数 */
    IDM_MAX
}
```

In the strings_Mainte_PrintDensityGUI.ini file, add new “IDM_ERR_REGISTER_ICC_PROFILE” key at [MSG] section to show error message when

creating profile fail.

- English

Resource\English\strings_Mainte_PrintDensityGUI.ini

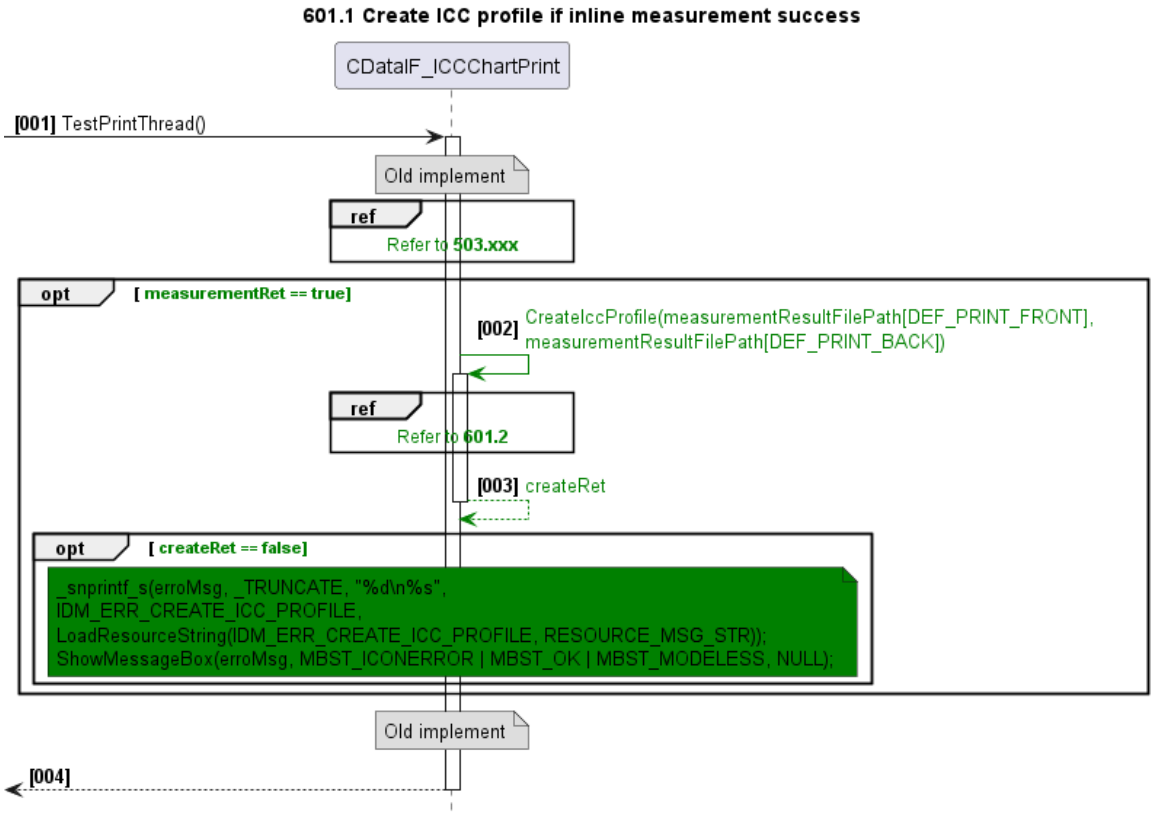
```
[MSG]
...
IDM_ERR_REGISTER_ICC_PROFILE = Failed to register ICC Profile
```

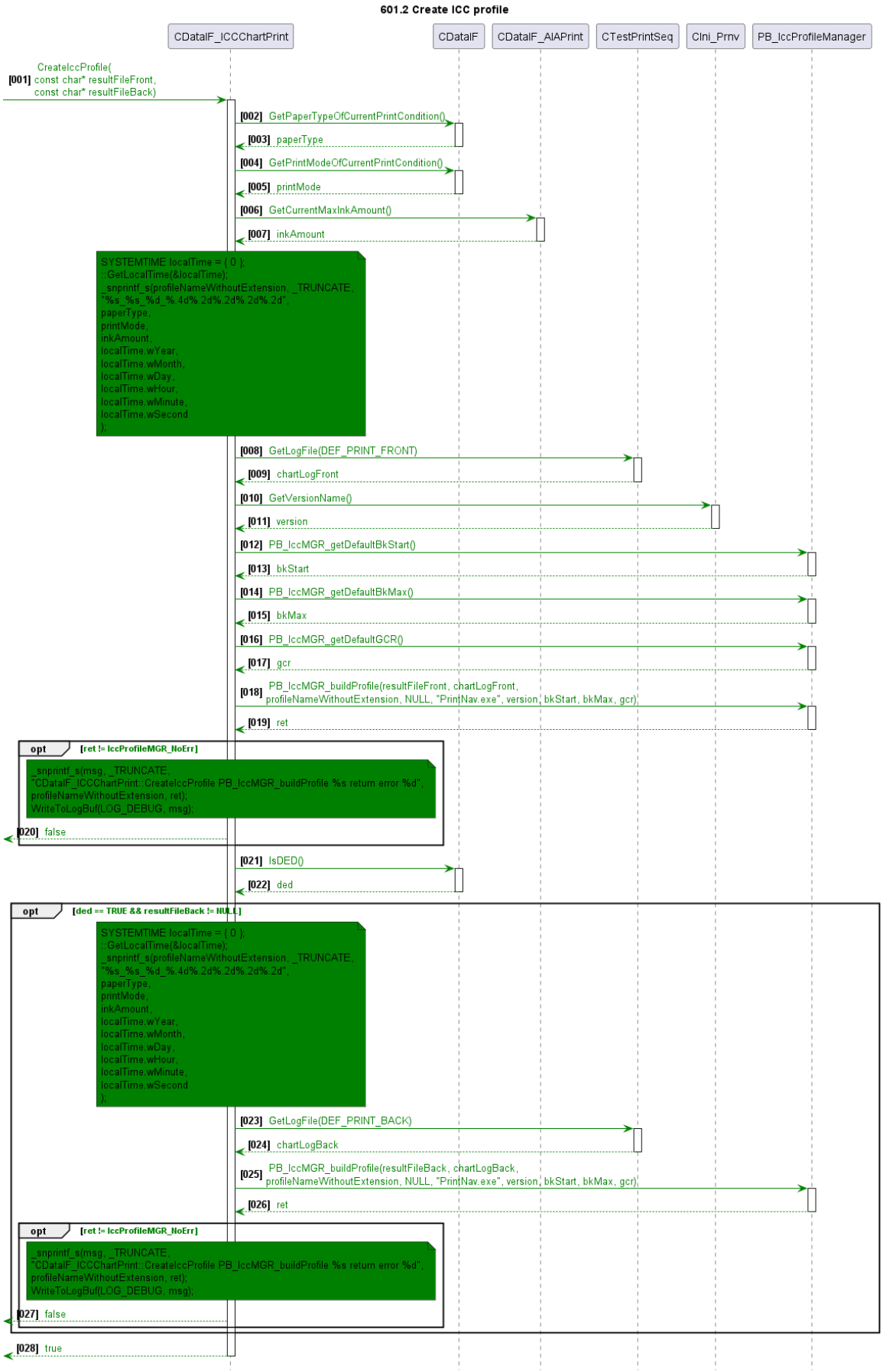
- Japanese

Resource\Japanese\strings_Mainte_PrintDensityGUI.ini

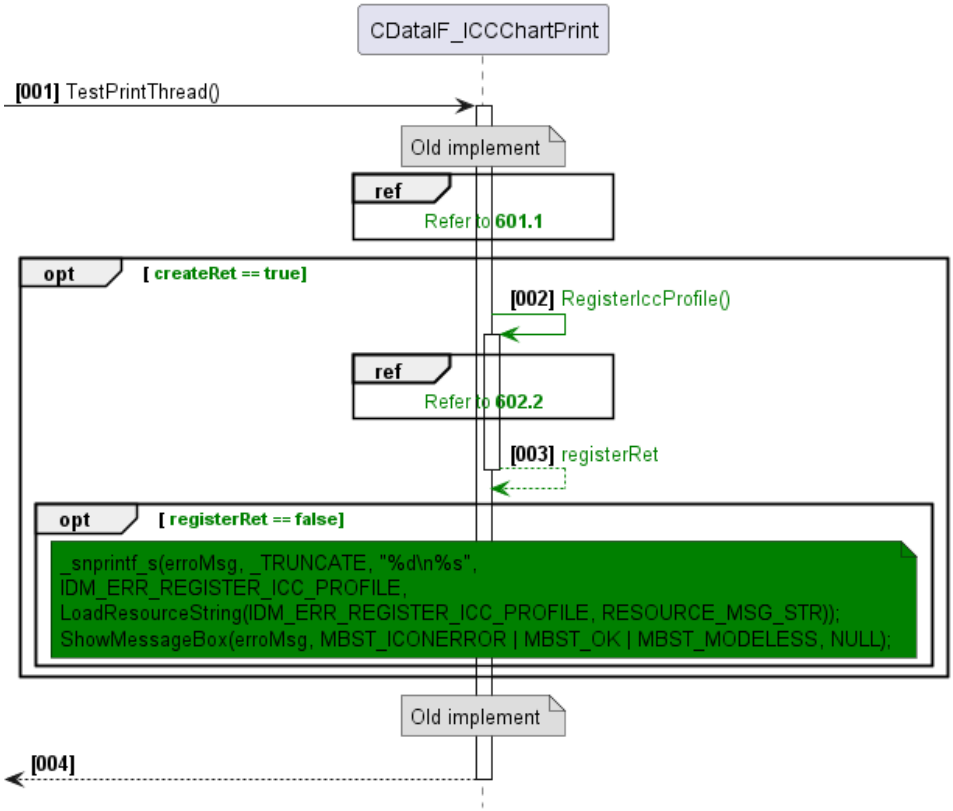
```
[MSG]
...
IDM_ERR_REGISTER_ICC_PROFILE = ICCプロファイルの登録に失敗しました
```

3. Detail implementation




601.2 Create ICC profile
CDataIF_ICCChartPrint
CDataIF
CDataIF_AIAPrint
CTestPrintSeq
CIni_Prnv
PB_IccProfileManager
CreateIccProfile(
[001] const char* resultFileFront,
const char* resultFileBack)
[002] GetPaperTypeOfCurrentPrintCondition()
[003] paperType
[004] GetPrintModeOfCurrentPrintCondition()
[005] printMode
[006] GetCurrentMaxInkAmount()
[007] inkAmount
SYSTEMTIME localTime = { 0 };
::GetLocalTime(&localTime);
_snprintf_s(profileNameWithoutExtension, _TRUNCATE,
"%s_%s_%d_%.4d%.2d%.2d%.2d%.2d",
paperType,
printMode,
inkAmount,
localTime.wYear,
localTime.wMonth,
localTime.wDay,
localTime.wHour,
localTime.wMinute,
localTime.wSecond
);
[008] GetLogFile(DEF_PRINT_FRONT)
[009] chartLogFront
[010] GetVersionName()
[011] version
[012] PB_IccMGR_getDefaultBkStart()
[013] bkStart
[014] PB_IccMGR_getDefaultBkMax()
[015] bkMax
[016] PB_IccMGR_getDefaultGCR()
[017] gcr
[018] PB_IccMGR_buildProfile(resultFileFront, chartLogFront,
profileNameWithoutExtension, NULL, "PrintNav.exe", version, bkStart, bkMax, gcr)
[019] ret
opt
[ret != IccProfileMGR_NoErr]
_snprintf_s(msg, _TRUNCATE,
"CDataIF_ICCChartPrint::CreateIccProfile PB_IccMGR_buildProfile %s return error %d",
profileNameWithoutExtension, ret);
WriteToLogBuf(LOG_DEBUG, msg);
[020] false
[021] IsDED()
[022] ded
opt
[ded == TRUE && resultFileBack != NULL]
SYSTEMTIME localTime = { 0 };
::GetLocalTime(&localTime);
_snprintf_s(profileNameWithoutExtension, _TRUNCATE,
"%s_%s_%d_%.4d%.2d%.2d%.2d%.2d",
paperType,
printMode,
inkAmount,
localTime.wYear,
localTime.wMonth,
localTime.wDay,
localTime.wHour,
localTime.wMinute,
localTime.wSecond
);
[023] GetLogFile(DEF_PRINT_BACK)
[024] chartLogBack
[025] PB_IccMGR_buildProfile(resultFileBack, chartLogBack,
profileNameWithoutExtension, NULL, "PrintNav.exe", version, bkStart, bkMax, gcr)
[026] ret
opt
[ret != IccProfileMGR_NoErr]
_snprintf_s(msg, _TRUNCATE,
"CDataIF_ICCChartPrint::CreateIccProfile PB_IccMGR_buildProfile %s return error %d",
profileNameWithoutExtension, ret);
WriteToLogBuf(LOG_DEBUG, msg);
[027] false
[028] true

602.1 Register ICC profile if create success



602.2 Register ICC profile