

Example of Epiqa configuration flow for:

PortalVision: **IAS3 & exact arm**

Beam Energy: **6MV**

Dose Rate : **600 MU/min**

Configuration Set-up : **MIX,**

Source Detector Distance (**SDD**)= **100 cm,**

Source Surface Distance (**SSD**)= **SDD – dmax**

Data summary needed to configure:

PRIMARY PART:

- **Beam data (IC.dat)**
- **RTP plans of primary radiation configuration**
- **Acquired configuration PV images**

- 1) MU/Gy values for open fields (e.g. 30x30, 25x25, 20x20, 15x15, 12x12, 10x10, 5x5, 3x3) as measured with ion chamber and/or as derived by Eclipse calculation in water phantom, according to the Epiqa configuration set-up: SDD = 100cm, SSD = 98.5cm, dmax = 1.5cm.

Save values into text file IC.dat according to the template (see manual for details – Chapter 4.2.2).

- 2) Import RTP plans of primary radiation configuration (*RP_Epiqa_Conf_primary.dcm*) into your Eclipse, which are located in *<Epiqa Installation directory>\import\RT_plan\Epiqa_configuration\primary* (Select the file according to energy and dose rate intended to be calibrated, e.g. *RP_Epiqa_Conf_primary6X_6.dcm* for 6MV and dose rate=600MU/min).

Schedule „Integrated Images“ (in RT Chart / Scheduling) for all the fields and treatment approval it.

- 3) Please consider if you intend to use your PV images with CU absolute calibration (needed for Varian’s Portal Dosimetry) or without it (raw images, „US“ rescale type): see manuals for details – chapter 4.1.3.

Epiqa Configuration

To disable dosimetry calibration (rename the folder (path e.g. *C:\Program Files\Varian\Oncology\Treatment\AM\config\AM\IAS3\do*) that holds two calibration files: *absolute.ini, do_cat.ini*).

- 4) Before acquiring the scheduled images, perform the Imager calibration (dark field and flood field calibration) for Integrated Mode at the selected energy/dose rate in the AM Maintenance: e.g. 6MV, set-up: the SDD = 100cm (PV vrt = 0cm, lng = 0cm, lat = 0cm), dose rate = 600MU/min, 40x30 cm (XxY) field.
- 5) Irradiate your primary RT-plan, with the PV in the same position used for the Imager calibration.
- 6) From *RT chart/Import-Export*, export according to Dicom Media File Export Filter configured as „patient ID + Object suffix“ for filename :
 - primary PV images (all images in one folder)
 - acquired primary RT-plan (from your ARIA environment).

TRANSMISSION PART:

- **Beam data - MLC transmission**
- **RTP plans of transmitted radiation configuration**
- **Acquired configuration PV images**

- 7) MLC transmission value for 10x10 field in the Epiqa configuration set-up (to measure it, use set-up of MLC from plans of transmitted radiation configuration).
- 8) Import RTP plans of transmitted radiation configuration (*RP_Epiqa_Conf_Transm.dcm*) into your Eclipse, which are located in *<Epiqa Installation directory>\import\RT_plan\Epiqa_configuration\transmission* (Select the file according to energy and dose rate intended to be calibrated, e.g. *RP_Epiqa_Conf_Transm_6X_6.dcm* for 6MV and dose rate=600MU/min).
- 9) Irradiate your transmission RT-plan, with the PV in the same position used for the Imager calibration and Epiqa configuration.
- 10) From *RT chart/Import-Export* export according to Dicom Media File Export Filter:
 - transmission PV images (all images in one folder)
 - acquired transmission RT-plan (from your ARIA environment).

Epiqa configuration steps:

1. Run the 'Epiqa_configuration.sav' (click *Start* → *Programs* → *EPIdos* → *Epiqa* → *Epiqa_configuration.sav* to start the configuration program) and choose the type of your portal vision calibration set-up – e.g. MIX.
2. Start the primary configuration and load:
 - the beam data (IC.dat)
 - your exported RTP plan of primary radiation configuration
 - the folder with acquired configuration PV images (primary radiation configuration).
3. Start the transmitted radiation configuration and load:
 - you exported RTP plan of transmitted radiation configuration
 - folder with acquired calibration PV images (transmitted radiation configuration)
 - add your MLC transmission value.
4. Optional: At the end is possible to introduce your own Flattening Filter correction (see manual for details – Chapter 4.5).
5. Save parameter file. If you use CU calibrated images, the diagonal intensity profile is requested for saving parameter file (see manual for details – Chapter 4.6.5). For raw images it is not necessary.