**EVO 2D scatter radiation distribution in a panoramic exam**

We hereby report the result of scatter Radiation measurement for the Villa Sistemi Medicali dental X-ray apparatus EVO 2D during a panoramic exam.

Figure 1 illustrates the distribution of scatter radiation in the horizontal plane at the centre of rotation of the scanning unit in the area of a 3 x 3m rectangle.

The measurement was performed using as scattering element an anthropomorphic phantom complete of soft tissues simulating the head of the typical patient (in size, dimensions and tissues) of the intended use of the machine.
This phantom was placed in the same position as a patient taking a panoramic exam.
C is the center of patient head.

The measures were taken during a panoramic exam setting the following parameters:
86kV, 10mA, 14.4s. NOTE they are the maxima parameters that can be set.
The distribution values in the table are expressed as air Kerma for mAs (µGy/mAs).

| | -1.5 | -1 | -0.5 | 0 | 0.5 | 1 | 1.5m | |
|---|---|---|---|---|---|---|---|---|
| | 0,000233 | 0,000297 | 0,00053 | 0,000445 | 0,000423 | 0,000331 | 0,000201 | |
| 1.5 | 0,000268 | | | | | | 0,000197 | 1.5m |
| 1 | 0,000546 | | | | | | 0,000248 | 1 |
| 0.5 | 0,000666 | | | | | | 0,000282 | 0.5 |
| 0 | 0,00049 | | | C | | | 0,000163 | 0 |
| -0.5 | 0,000474 | | | | | | 0,000266 | -0.5 |
| -1 | 0,000376 | | | | | | 0,000248 | -1 |
| -1.5 | 0,00025 | 0,000449 | 0,000655 | 0,000588 | 0,000447 | 0,000182 | 0,000434 | -1.5 |
| | 0,000318 | | | | | | 0,000228 | |
| | -1.5 | -1 | -0.5 | 0 | 0.5 | 1 | 1.5m | |

Figure 1: Distribution of scatter radiation