



# Application Note

## Non-Invasive mA and mAs on GE Optima 220 Mobile System

This application note describes technical issue when trying to measure mA and or/mAs with a non-invasive mA probe like the RTI MAS-2 probe on the GE Optima 220 mobile system. The RTI MAS-2 can be used with the RTI Piranha or Cobia for Non-Invasive mA/mAs measurements in the range from 10 mA to 4 A. The measurement is performed with the clamp probe clamped on the High Voltage Cable and connected to the external electrometer input on the RTI Piranha or Cobia.

### Introduction

Measurement on the GE Optima 220 mobile system with the RTI MAS-2 has shown high deviating results from the mA/mAs settings on the generator. At the same time the radiation output and the dose/mAs linearity has shown good agreement.

The measurement has shown different results if measure on the anode side compared to the cathode side. For example, on a 10 mAs exposure the reading on the cathode side was around 2.5 mAs whilst on the anode side it was around 20 mAs.

The functionality of the MAS-2 and the Piranha that was used in this case was proven to be good, both by calibration and verification on another mobile x-ray system.

### Conclusions

The GE Optima 220 mobile system has some kind of current running through the high voltage cables during exposure that has no impact on the radiation output, but on the non-invasive mA/mAs measurement with a clamp probe.

In this case it tends to be a current of about 100 mA (8.5 mAs at 85 ms exposure time). This current render in this case a reading of close to 20 mAs (220 mA) on the anode side, and around 2.5 mAs (30 mA) on the cathode side.



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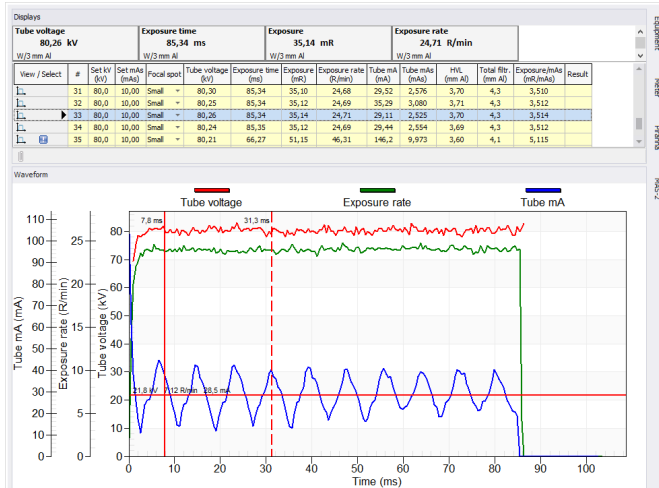


Figure 1, Cathode side. Generator setting of 10 mAs gives a reading of 2.5 mAs.

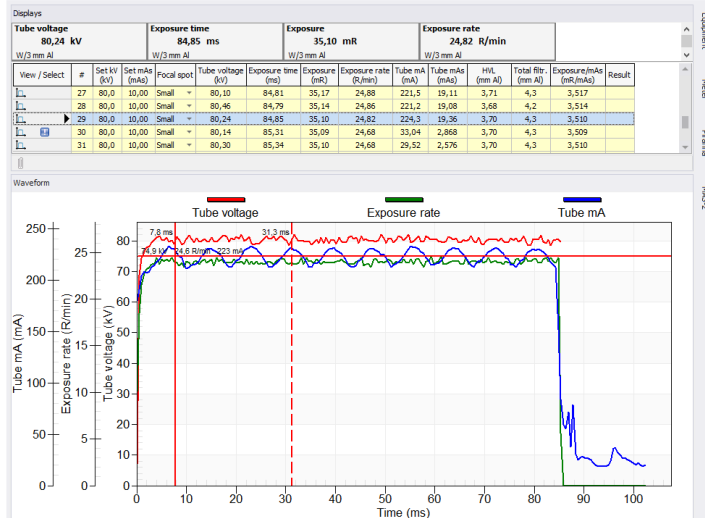


Figure 2, Anode side. Generator setting of 10 mAs gives a reading of 19.3 mAs.

The reason for this additional current is not known, and has not been explained by GEHC.

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