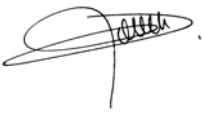



Herschel – SPIRE

SMEC FM Mass and CoG measurement report

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Distribution List

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1 But

This document gives the results of the Mass and CoG measurement carried out on the SPIRE SMEC FM

2 Mass measurement

A Mass measurement carried out on the whole SMEC mechanism has given the following result :

$$\mathbf{M} = \mathbf{2, 011 kg}$$
 including harness and connectors

Since the mass of the whole harness is not supported by the SOB and the attachment screws of the SMEC FM, it seemed to us interesting to have the value of the mass supported by the attachment points of the SMEC. For this, we have measured the mass of the SMEC DM which is fully representative of the SMEC FM but that is not equipped with harnesses.

The mass of the DM and so the mass of the FM without harness is : **1.710 Kg**

3 Centre of Gravity coordinates

In the DM configuration, that is to say, without harnesses, the CoG coordinates in the Xu, Yu, Zu coordinate frame are:

$$\mathbf{Xu} = \mathbf{-11.2 mm}$$

$$\mathbf{Yu} = \mathbf{-0.95 mm}$$

$$\mathbf{Zu} = \mathbf{+3.1 mm}$$

