Jason-CS Radiometer Options
Instrument Processing Splinter
OSTST 2012

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Objectives

• A Technical note was released 17th Sept outlining configurations of Jason-CS with respect to wet tropospheric path delay.

• A few questions are raised requesting advise from OSTST

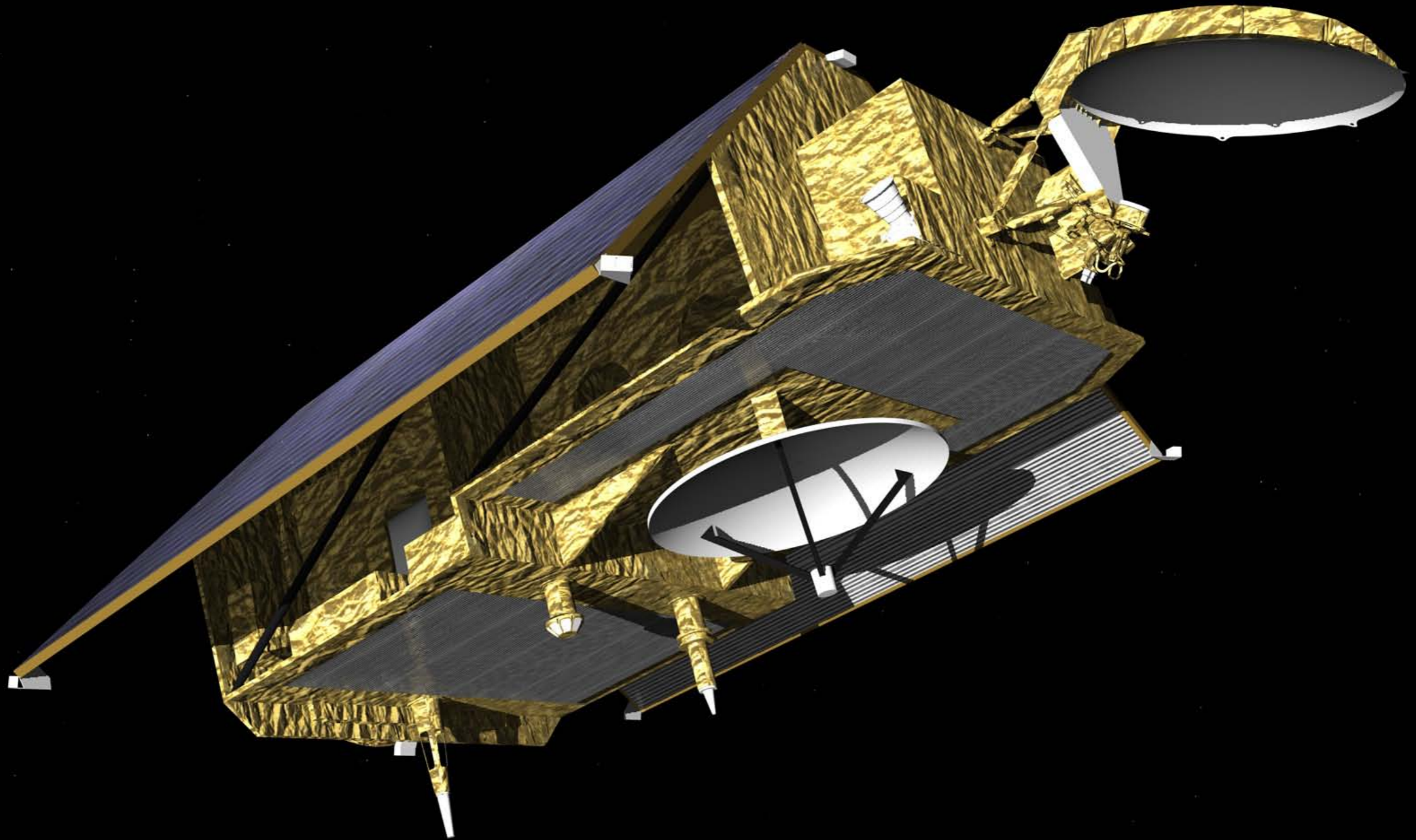|		Doc. No.:	JC-TN-ESA-MI-0034
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Jason-CS

Microwave
Radiometer
Design
Configuration
Options

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1. What are the scientific benefits of a three frequency radiometer over a two frequency system clear enough to recommend one or the other for Jason-CS?

- US: AMR-C – 3 frequency system.

- EU: MWR (2 frequencies with feasibility on 3 frequencies under study)

2. Is there any science benefit to having two radiometers on-board? In particular:

   A. Could the simultaneous operation of two radiometers be an asset in terms of estimation and effective minimisation of radiometer drift in wet tropospheric path delay retrievals?

   B. Would there be any science benefit in having different centre frequencies for the two radiometers, considering the frequency channel used to estimate the cloud water content is already different between the MWR and AMR-C?

3. Regarding the AMR-C:

 •   Is there any benefit in the determination of the wet tropospheric correction by acquiring brightness temperatures at 34 GHz over 36.5 GHz for the cloud liquid water content?

3. OSTST 2010 report:

- Jason-CS shall measure globally averaged sea level, relative to levels established during the calibration and validation phase, with zero bias ±1 mm (standard error) averaged over any one year period."

- Consultation is requested in order to clarify the meaning of this requirement and how it can be broken down to a system and external calibration budget.