SUMMARY OF CALIBRATION AND VALIDATION FOR KOMPSAT-3

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Abstract: KARI had been done Calibration and Validation (Cal/Val) activities for the KOMPSAT-3 (KOrea Multi-Purpose SATellite-3) after launch at May 18th 2012. In Cal/Val Phase I, the Cal/Val for KOMPSAT-3 had been done to check, calibrate and validate the requirements and the performance of KOMPSAT-3. In Cal/Val Phase II that had been done by the end of December, the image data restoration had been done for the final KOMPSAT-3 image data quality with the requirement. In Cal/Val Phase I, the items and the contents of KOMPSAT-3 Cal/Val defined before launch had been checked after launch. After launch, most of the items and the contents had been identical with before, but a little new and different phenomenon had been found out from analysing the KOMPSAT-3 image data directly. Firstly, we checked and characterized the status of KOMPSAT-3 (e.g. PAN PRI/RED, TDI set, Noise, Initial MTF/SNR/Location accuracy, etc.). Secondly, every KOMPSAT-3 Cal/Val parameter was validated, and then KOMPSAT-3 was calibrated with the validated and uploaded initial value of them (e.g. PRNU+DSNU table, KPD for AOCS, MPT table, Focusing, etc.). Finally most of the KOMPSAT-3 requirements have been checked and complied in Cal/Val Phase I. In Cal/Val Phase II, with the result of Cal/Val Phase I, the image data restoration had been done in the KOMPSAT-3 Image data Reception and Processing Element (IRPE) PMS (Processing Management System). De-Noising and Final checking SNR had been done in radiometric Cal/Val, MTF Compensation (MTFC) in Spatial Cal/Val, and Registration, Location accuracy and Ortho-image accuracy in Geometric Cal/Val. In final step, every requirement of the KOMPSAT-3 product (Level 1R and Level 1G) have been checked and compiled after the KOMPSAT-3 Cal/Val Phase finished.

Keyword: KOMPSAT-3, Calibration, Validation, Image data Restoration