

ENVISAT ASAR MONTHLY REPORT

March 2009



PUBLIC SUMMARY

prepared by/préparé par **IDEAS SAR Team** reference/*réference* ENVI-CLVL-EOPG-TN-04-0009 issue/*édition* 37 revision/*révision* 0 date of issuel date d'édition 14/04/09 status/*état* Approved Document type/type de Technical Note document Distribution/distribution

European Space Agency Agence spatiale européenne



page 2 of 72

TABLE OF CONTENTS

1	EXECUTIVE SUMMARY	3
2 2.1	INSTRUMENT STATUS	
2.1	Instrument Unavailability Data Disclaimer	
3	LOW RATE BACKGROUND REGIONAL MISSION	3
4	DOPPLER MONITORING	
4.1	Absolute WV-IS2 Doppler Centroid Evolution	
4.2	Absolute GM SS1 Doppler Centroid Evolution	
4.3	Absolute Doppler Centroid Evolution vs ANX	
4.4	Residual Doppler Centroid Evolution vs. ANX and Time of Day	3
5	IMAGE QUALITY AND RADIOMETRIC ANALYSIS	3
6	ELEVATION ANTENNA PATTERN MONITORING	3
6.1	Recent Elevation Antenna Pattern Updates	
6.2	History of Elevation Antenna Pattern Updates	
7	AUXILIARY FILES UPDATE	3
7.1	Operational Auxiliary Data Files	
7.2	Recent Auxiliary File Updates and Description of Changes	
APPE	NDIX A : INSTRUMENT UNVAILABILITIES LIST	3
APPE	NDIX B : DATA DISCLAIMER LIST	3



1 EXECUTIVE SUMMARY

This document summarizes the instrument and product quality status as derived from data acquired during March 2009. There was one instrument anomalies during this period.

The list of unavailability periods is provided in Chapter 2 together with details of any data disclaimers issued during the reporting period. Chapter 3 provides information on the background regional mission (BRM) planning. Details on the Doppler Centroid evolution are provided in chapter 4. Radiometric stability is measured by means of ASAR transponders. Detailed results are provided in chapter 5. An updated list of auxiliary data files is provided in chapters 6 and 7.



2 INSTRUMENT STATUS

There have been no transmit receive module failures during March 2009.

The following Antenna Transmit/Receive Modules (TRMs) have failed since launch:

- > TRM-01 to 04 in tile C1: H & V polarisation transmit failed since May 2002
- TRM-01 to 04 in tile D2: H & V polarisation transmit and receive failed since 18th February 2003
- > TRM-14 in tile B2: H polarisation transmit failed since 12th April 2004
- > TRM-15 in tile A1: failed to transmit in V polarisation since 17th May 2004
- > TRM-06 in tile A1: failed to transmit in V polarisation since 17th November 2004
- > TRM-12 in tile C4: failed to transmit in H polarisation since 16th January 2005
- > TRM-02 in tile D3: failed to transmit in V polarisation since 20th November 2005
- > TRM-03 in tile A3: failed to transmit in H polarisation since 28th January 2007
- TRM-01-02-03-04 in tile B3: failed to transmit and receive in H & V polarisation since 2nd February 2007
- > TRM-02 in tile B1: failed to transmit in H polarisation since 6th May 2007.
- > TRM-08 in tile E4: failed to transmit in H polarisation since 20th July 2008
- > TRM-05 in tile E4: failed to transmit in V polarisation since 22nd October 2008.
- > TRM-10 in tile E4: failed to transmit in H polarisation since 1st January 2009.
- > TRM-04 in tile D4: failed to transmit in V polarisation since 5th January 2009.

Please note that single TRM transmit failures have a minimal impact on the instrument performance and on the antenna pattern shape. The impact of multiple TRM failures is mitigated by the generation of new antenna patterns.

2.1 Instrument Unavailability

The new events with respect to the previous report are given in the table below. Please note that the full unavailability list is available in Appendix A. The following instrument unavailability has been occurred during the reporting period.

Unavailability report reference	Niart	
EN-UNA-2009/0054	22 Mar 2009 14:02:54.144 Orbit = 36909	22 Mar 2009 14:03:54.324 Orbit = 36909

2.2 Data Disclaimer

A data quality disclaimer is issued each time that ASAR data of degraded quality is acquired between specific time intervals. Details on the available disclaimers are provided online at **http://earth.esa.int/pcs/envisat/asar/disclaimer**. Please note that the full disclaimer list is also available in Appendix B.



page 5 of 72

One new disclaimer was issued during March 2009:

From 05-MAR-2009 19:18:01 to 06-MAR-2009 15:10:02
 Warning: Envisat Yaw Steering.
 Problem Description:
 Envisat switched automatically in Yaw Steering Mode (YSM) from 05-MAR-2009 19:18:01
 to 06-MAR-2009 15:10:02, due to an anomaly which affected Star Tracker 3.

The anomaly was caused by an unexpected bright object, different from the programmed star the star tracker was pointing to. The event was interpreted by the onboard software as two simultaneous target objects in the field of view and generated a suspension command, which in turn triggered the service module to switch to Yaw Steering Mode.

The Yaw Steering Mode implies a slight degradation of the general attitude stability, which does not substantially affect instrument data quality. Products acquired during YSM were therefore archived and distributed nominally.



3 LOW RATE BACKGROUND REGIONAL MISSION

Mode	Where	Swath	Polarisation
Wave	Over the sea (~15 sec from the coast line), including the Mediterranean Sea.	IS2	VV

Mode	Where	Polarization				
Global	Everywhere else	HH: over land, ice and sea-ice including the following				
Monitoring		areas:				
		- Europe				
		- Antarctica extended				
		- Artic				
		- Greenland and Greenland Sea				
		- Labrador Sea and North of Canada				
		- Kara Sea				
		- Baffin Bay				
		- Golf of Mexico & Caribbean Sea				
		VV: None. All GM acquisitions in HH				

Further details of the background mission can be found in reference 'ASAR Low Bit Rate Background Mission Planning Strategy', ESA, ENVI-CLVL-EOPG-TN-06-0008, Issue 1, May 2006 and from the ASAR Background Region Mission web site at <u>http://earth.esa.int/object/index.cfm?fobjectid=4045</u>.

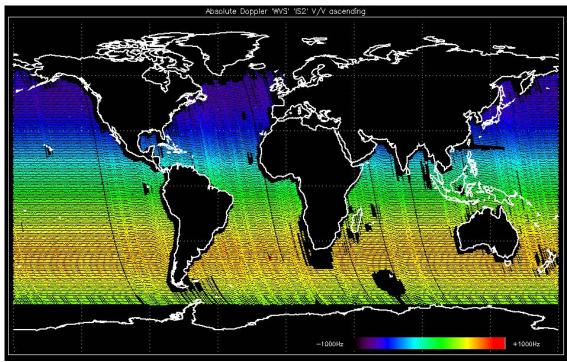
The current Low Rate BRM definition is provided below:



4 **DOPPLER MONITORING**

The Envisat Orbit Control Manoeuvres (OCM) can affect the platform attitude stability even hours after the burst with a direct impact on the Doppler centroid frequency evolution. An updated list of the OCM can be found at http://nng.esoc.esa.de/envisat/ENVmano.html.

The plots of the Figure 4.1 and Figure 4.2 show the evolution of the Doppler centroid over the world for the 35 days prior to the end of the reporting period. No anomaly on the Doppler centroid distribution is noticed.

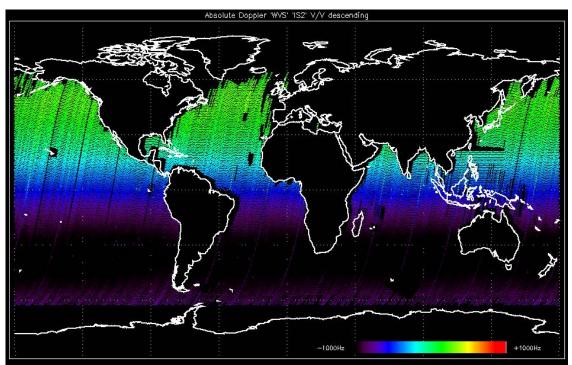


4.1 Absolute WV-IS2 Doppler Centroid Evolution

(a) absolute Doppler in ascending passes

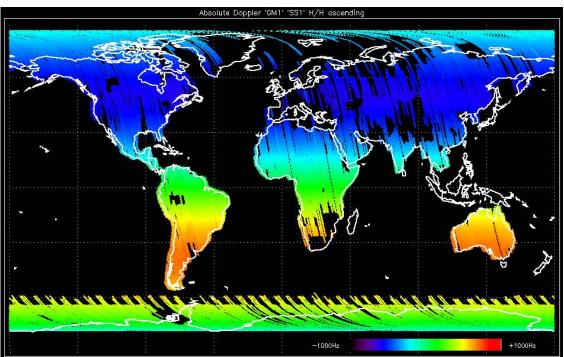


page 8 of 72



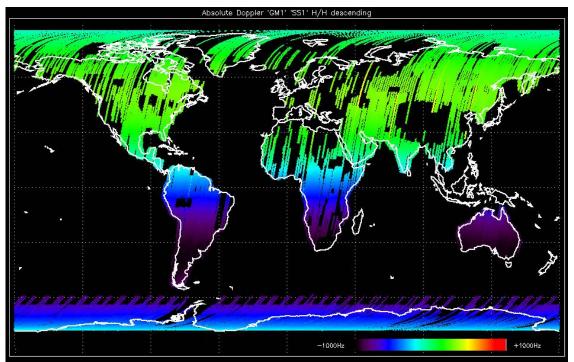
(b) absolute Doppler in descending passes Figure 4.1: Absolute Wave mode Doppler evolution over the world





4.2 Absolute GM SS1 Doppler Centroid Evolution

(a) absolute Doppler in ascending passes



(b) absolute Doppler in descending passes Figure 4.2: Absolute GM mode Doppler evolution over the world



4.3 Absolute Doppler Centroid Evolution vs ANX

Figure 4.3(a) shows the wave mode Doppler evolution (IS2, VV) against the elapsed seconds from the ascending node (ANX) for data acquired during the current month. Theoretical Doppler is in red while the blue curve stands for Doppler evolution model obtained by Fourier series decomposition. Figure 4.3(b) shows a similar plot derived from global monitoring data.

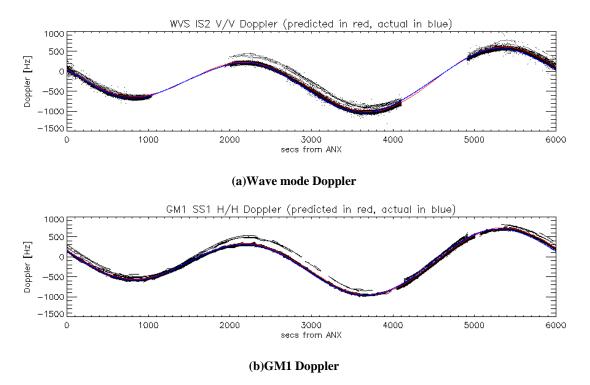
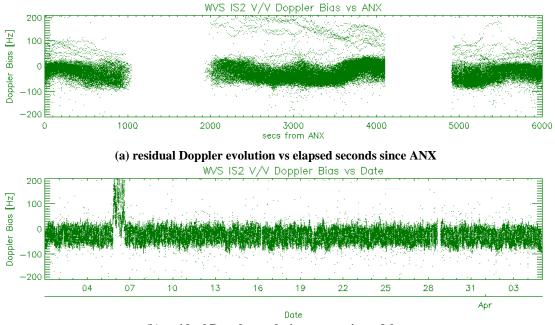


Figure 4.3: Absolute Doppler Centroid evolution wrt elapsed seconds since ANX



4.4 Residual Doppler Centroid Evolution vs. ANX and Time of Day

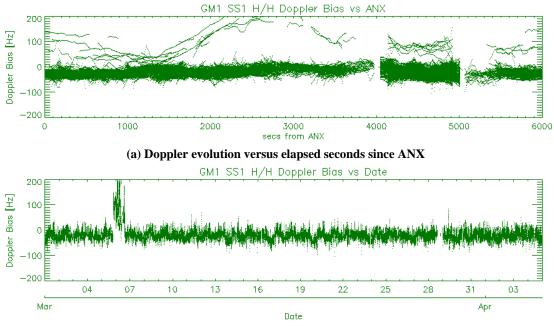
Figure 4.4 shows the wave mode residual Doppler evolution (IS2, VV) against the elapsed seconds from the ascending node (ANX) (a) and versus the time of the day (UTC time) (b) for data acquired during the current month. Figure 4.5 shows the same information but for data acquired in GM1 mode.



(b) residual Doppler evolution versus time of day Figure 4.4: Residual Doppler centroid evolution for WVS data



page 12 of 72



(b) residual Doppler evolution versus time of day Figure 4.5: Residual Doppler centroid evolution for GM1 data



5 IMAGE QUALITY AND RADIOMETRIC ANALYSIS

The analysis of the ASAR transponders is used to characterise ASAR products in term of:

- \checkmark spatial resolution,
- ✓ Impulse Response Function (IRF) parameters (ISLR, PSLR, SSLR) and
- ✓ Absolute calibration factor.

The analysis is performed for all the modes, beams and polarisations.

Table 6.1 shows the relative Radar Cross Section $(RCS)^1$ per mode, beam and set of transponders. The values provided per sub-swath correspond to the mean absolute calibration error. Values provided per all swaths correspond to the mean error value and the corresponding standard deviation. All values are in dB.

Product	Relative RCS [dB]								
type	All Swaths	IS1	IS2	IS3	IS4	IS5	IS6	IS7	
IMP	-0.23±0.59	-0.16	-0.18	-0.56	-0.42	-0.06	-0.05	-0.25	
IMG	-0.17±0.63	-0.32	-0.20	-0.46	-0.43	0.16	0.09	-0.07	
IMS	-0.18±0.60	-0.30	-0.05	-0.56	-0.41	-0.04	0.07	-0.11	
IMM	-0.26±0.94								
APP	-0.09±0.41	-0.37	-0.22	-0.07	-0.02	-0.03	0.07	-0.07	
APG	-0.08±0.50	-0.33	-0.21	0.00	-0.12	-0.14	0.20	-0.09	
APS	-0.10±0.52	-0.21	-0.26	0.02	-0.31	-0.15	0.10	0.06	
APM	0.02±1.29								
WSM	0.12±0.68								

 Table 6.1: ASAR Image Relative Radar Cross-Sections per mode and beam.

Table 6.2 gives the relative RCS for the full resolutions products as a function of the polarization. All values are in dB.

¹The relative RCS is defined as the difference between the nominal RCS and the measured RCS.



Product		Relativ	e RCS [dB]	
type	VV	HH	VH	HV
IMP	-0.13	-0.13 -0.37		
APP	0.00	-0.08	-0.10	-0.07

Table 6.2: ASAR Image Relative Radar Cross-Sections per mode and polarisation

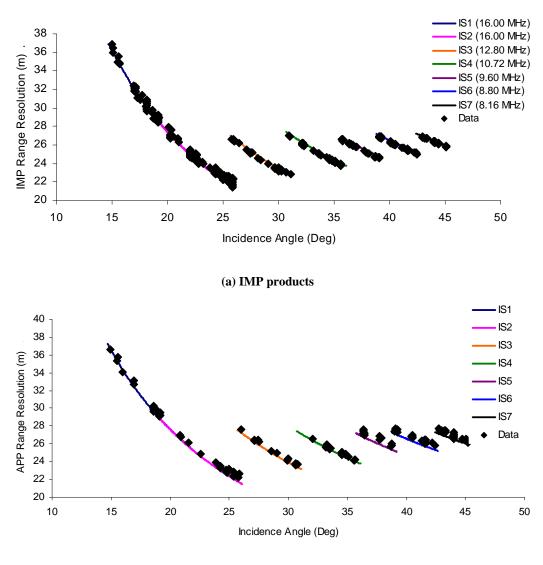
The Table 6.3 shows the IRF parameters measured per different product types. Please note that the performance for WSM products are given only for transponders reprocessed with 40m pixel spacing.

Product Type	Azimuth Res (m)	Range Res (m)	ISLR (dB)	PSLR (dB)	SSLR (dB)	No of Resul ts
IMP	22.13±0.49	(figure 5.1a)	-13.48±0.54	-16.71±0.99	-22.74±1.76	489
IMG	22.39±0.47	21.6 - 35.8	-13.55±0.53	-16.89±1.01	-23.51±1.70	483
IMS	4.77±0.03 5.56±0.07	9.43±0.05	-14.45±0.29	-19.05±0.45	-28.39±0.62	478
IMM	146.69 ± 3.82	133.29±6.47	-8.27±3.83	-16.20±2.36	-17.57±4.25	355
APP	27.61±0.79	(figure 5.1b)	-12.87±0.47	-19.13±0.99	-27.04±1.61	133
APG	27.70±0.76	22.6 - 36.4	-12.94±0.49	-19.23±0.97	-27.70±1.30	132
APS	4.42±1.83	8.40±0.07	3.95±2.49	-1.98±1.38	-16.90±4.33	131
APM	145.57±4.51	132.90±6.89	-7.82±6.83	-15.07±4.31	-15.89±7.92	49
WSM	112.68±6.27	123.44±10.05	-9.82±4.23	-14.85±3.50	-16.62±4.28	135

Table 6.3: ASAR IRF parameters per product type



page 15 of 72

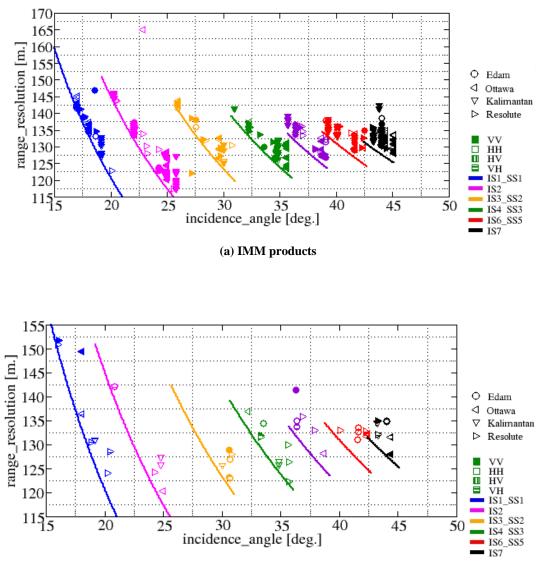


(b) APP products

Figure 6.1: Range resolution as a function of the incidence angle for the IMP and APP products



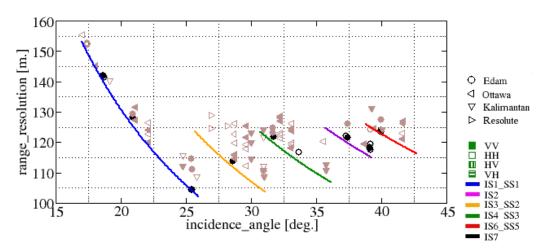
page 16 of 72



(b) APM products



page 17 of 72



(c) WSM products. Black symbols stand for the 40m pixel spacing data while brown are for 75m pixel spacing

Figure 6.2: Range resolution as a	function of the incidence angle for	r the medium resolution products.

Table 6.4 gives measured equivalent number of looks and radiometric resolutions for IMP/IMG, IMS, APP/APG, APS and WSM products.

Product Type	Equ. Num Looks	Rad Res (dB)
IMP/IMG	3.95	1.77
IMS	0.96	3.05
APS	0.93	3.09

APP/APG	IS1	IS2	IS3	IS4	IS5	IS6	IS7
Equ. Num Looks	1.76	1.73	2.25	2.66	3.30	3.78	3.73
Rad Res (dB)	2.44	2.45	2.22	2.08	1.91	1.80	1.81

Table 6.4(b): ASAR measured equivalent number of looks and radiometric resolution

WSM	SS1	SS2	SS3	SS4	SS5
Equ. Num Looks	13.19	13.21	13.84	13.77	13.38
Rad Res (dB)	1.05	1.05	1.03	1.03	1.04

Table 6.4(c): ASAR measured equivalent number of looks and radiometric resolution



APM	IS1	IS2	IS3	IS4	IS5	IS6	IS7
Equ. Num Looks	43.99	52.46	65.68	75.66	83.21	90.16	95.93
Rad Res (dB)	0.60	0.56	0.50	0.47	0.45	0.43	0.42

Table 6.4(d): ASAR measured equivalent number of looks and radiometric resolution

IMM	IS1	IS2	IS3	IS4	IS5	IS6	IS7
Equ. Num Looks	35.68	42.20	52.56	60.78	65.76	72.67	75.77
Rad Res (dB)	0.67	0.62	0.56	0.52	0.50	0.48	0.47

Table 6.4(e): ASAR measured equivalent number of looks and radiometric resolution

The noise equivalent radar cross-section (NESigma0) has been estimated using AP and IM products of low radar cross-section ocean region, as shown in Figure 6.3. All measurements are at or lower than predicted NESigma0 values.

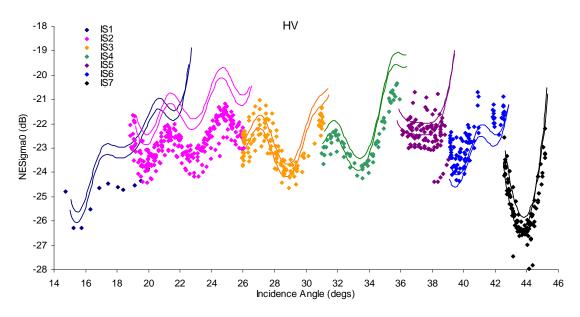


Figure 6.3(a). NESigma0 measurements for AP HV polarisation.



page 19 of 72

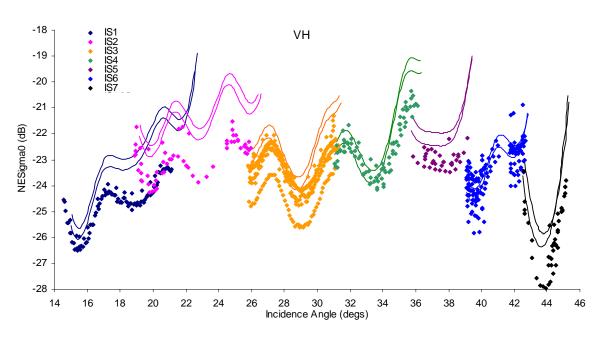


Figure 6.3(b). NESigma0 measurements for AP VH polarisation.

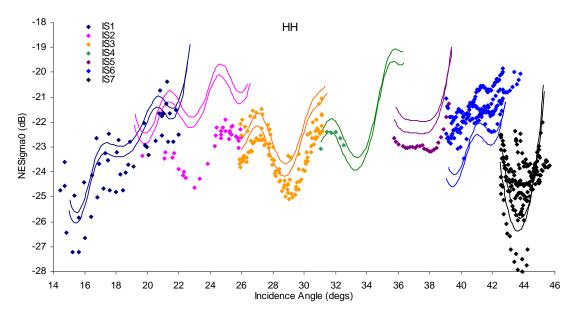


Figure 6.3(c). NESigma0 measurements for IM/AP HH polarisation.



page 20 of 72

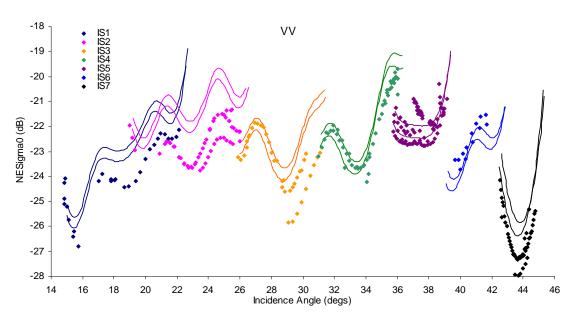


Figure 6.3(d). NESigma0 measurements for IM/AP VV polarisation.

The WSM noise equivalent radar cross-section (NESigma0) has also been estimated using low radar cross-section ocean regions, as shown in Figure 6.4.

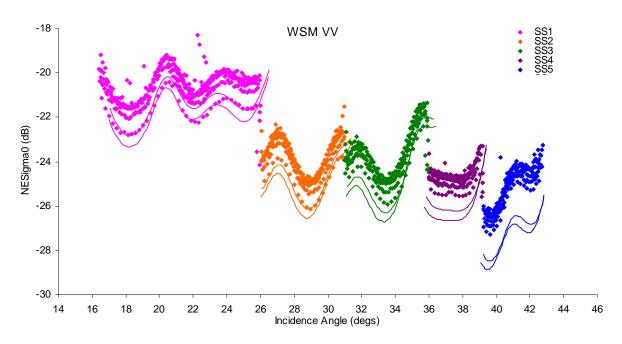


Figure 6.4(a). NESigma0 measurements for WSM VV polarisation.



page 21 of 72

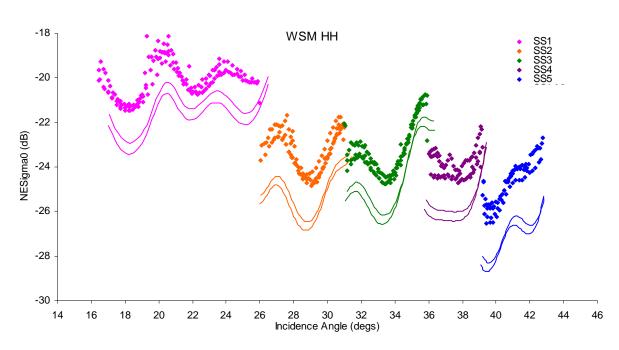


Figure 6.4(b). NESigma0 measurements for WSM HH polarisation.



6 ELEVATION ANTENNA PATTERN MONITORING

6.1 Recent Elevation Antenna Pattern Updates

During the reporting period there were no updates to the ASAR elevation antenna patterns. The table below show the most recent updates (since August 2003) for each beam and polarisation.

BEAM	POL		REC	ENT ELEVA	TION ANTE	NNA PATTE	RN UPDAT	ES				
SS1	HH	27/08/2003		06/04/2004	12/08/2004		13/10/2005	19/12/2005	15/02/2007		07/10/2008	11/03/2009
SS1	vv	27/08/2003		06/04/2004			13/10/2005	19/12/2005	22/02/2007			11/03/2009
IS1	HH		09/12/2003							18/12/2007	07/10/2008	11/03/2009
IS1	vv		09/12/2003	06/04/2004						17/05/2007	07/10/2008	11/03/2009
IS1	HV							23/02/2006	17/07/2006			
IS1	VH		09/12/2003	06/04/2004				23/02/2006	17/07/2006	17/05/2007		
IS2	HH			06/04/2004			03/11/2005			17/05/2007		11/03/2009
IS2	vv		09/12/2003	06/04/2004			03/11/2005			17/05/2007		11/03/2009
IS2	HV			06/04/2004				23/02/2006				
IS2	VH			06/04/2004				23/02/2006	17/07/2006			
IS3_SS2	HH	27/08/2003	09/12/2003			27/10/2004			15/02/2007		07/10/2008	
IS3_SS2	vv	27/08/2003			12/08/2004		13/10/2005		22/02/2007		07/10/2008	11/03/2009
IS3_SS2	HV								17/07/2006			
IS3_SS2	VH							23/02/2006	17/07/2006			
IS4_SS3	HH				12/08/2004		13/10/2005		15/02/2007		07/10/2008	
IS4_SS3	w					27/10/2004	13/10/2005		22/02/2007			11/03/2009
IS4_SS3	HV			06/04/2004					17/07/2006			
IS4_SS3	VH			06/04/2004				23/02/2006	17/07/2006			
IS5_SS4	HH	27/08/2003		06/04/2004		27/10/2004	13/10/2005		15/02/2007		07/10/2008	
IS5_SS4	vv	27/08/2003					13/10/2005		22/02/2007	17/05/2007	07/10/2008	
IS5_SS4	HV			06/04/2004				23/02/2006				
IS5_SS4	VH			06/04/2004				23/02/2006				
IS6_SS5	HH					27/10/2004	13/10/2005				07/10/2008	11/03/2009
IS6_SS5	vv						13/10/2005			17/05/2007	07/10/2008	
IS6_SS5	HV			06/04/2004					17/07/2006			
IS6_SS5	VH			06/04/2004				23/02/2006	17/07/2006			
IS7	HH									17/05/2007		11/03/2009
IS7	vv									17/05/2007		
IS7	HV								17/07/2006			
IS7	VH							23/02/2006	17/07/2006	17/05/2007		

6.2 History of Elevation Antenna Pattern Updates

The table below summarizes the evolution of the elevation antenna pattern used for processing since August 2002. The files are available on line at http://earth.esa.int/services/auxiliary_data/asar/.

The source information indicates whether the pattern has been derived from data acquired over the Rain Forest ("RF") or whether it has been derived from antenna synthesis using results from Module Stepping acquisitions ("SYN").

Please note that pre-launch antenna pattern where used before the first ASA_XCA_AX update.

Please note that the table indicates for each beam, in which file the update took place. Any file created after this date will include that update unless a new file is specified for the beam. For instance, the pattern for IS3_SS2 VV was updated on 27 August 2003. The file created on 9 December 2003 (when the IS1 VV pattern was updated) will include the same pattern for IS3_SS2 VV as in the file of 27 August 2003, since the table does no indicate any further update for the IS3_SS2 VV pattern.



page 23 of 72

Swath &	Source	Update time (file used in operations	File Name	Applicab acquired	
polarization	Source	since 1 day after this date)		Start	Stop
IS1 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	NA^1	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20021122	ASA_XCA_AXVIEC20021122_130838_20020413_000000_20021231_00000 ²	20020413	20021231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231

¹ A corrupted IS1 VV pattern was included into the ASA_XCA_1P file updated of 11 Nov. 2002

² The corrupted IS1 VV pattern in the operational ASA_XCA_1P file was corrected on 22 Nov. 2002. Please note that the IS1 VV pattern in ASA_XCA_AXVIEC20021122_130838_20020413_000000_20021231_00000 is the same as in ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000



page 24 of 72

	1	I			
IS1 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20071218	ASA_XCA_AXVIEC20071218_082742_20070204_165113_20081231_000000	20070204	20081231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
IS1 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
IS1 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS2 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231



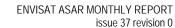
page 25 of 72

	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20051103	ASA_XCA_AXVIEC20051103_160021_20050101_000000_20050914_080040	20050101	20050914
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
IS2 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20051103	ASA_XCA_AXVIEC20051103_160021_20050101_000000_20050914_080040	20050101	20050914
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA XCA AXVIEC20090311 104501 20080801 000000 20091231 235959	20080801	20091231
IS2 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA XCA AXVIEC20040406 160451 20030211 000000 20041231 000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS2 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231



page 26 of 72

I	i	1			1
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS3_SS2 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20070222	ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	20070204	20071231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231





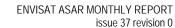
page 27 of 72

IS3_SS2 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20070215	ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	20070204	20071231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
IS3 HV	SYN.	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231



page 28 of 72

	1	I			
IS3 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS4_SS3 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20070222	ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	20070204	20071231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
IS4_SS3 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231





page 29 of 72

	1	1		I	
	RF	20070215	ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	20070204	20071231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
IS4 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS4 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS5_SS4 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914



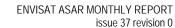
page 30 of 72

	RF	20070222	ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	20070204	20071231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
IS5_SS4 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20070215	ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	20070204	20071231
	RF	20071218	ASA_XCA_AXVIEC20071218_082742_20070204_165113_20081231_000000	20070204	20081231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
IS5 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
IS5 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914



page 31 of 72

IS6_SS5 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20070222	ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	20070204	20071231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
IS6_SS5 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA XCA AXVIEC20030827 140210 20030211 000000 20031231 000000	20030211	20031231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20070215	ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	20070204	20071231





page 32 of 72

				ı.	1
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
IS6 HV	SYN.	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS6 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS7 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS7 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231





page 33 of 72

1	I	I		I	
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
IS7 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
IS7 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
	RF	20060717	ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	20050916	20061231
	RF	20070517	ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	20070204	20071231
SS1 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231



page 34 of 72

	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20051219	ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	20050916	20061231
	RF	20070222	ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	20070204	20071231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731
	RF	20090311	ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959	20080801	20091231
SS1 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20051219	ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	20050916	20061231
	RF	20070215	ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	20070204	20071231
	RF	20080710	ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000	20070204	20081231
	RF	20090311	ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959	20070204	20080731

esa	ENVISAT ASAR MONTHLY REPORT issue 37 revision 0
	page 35 of 72
	RF 20090311 ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959 20080801 20091231



7 AUXILIARY FILES UPDATE

7.1 *Operational Auxiliary Data Files*

The ASAR auxiliary data files contain information on calibration and instrument parameters. The auxiliary files used at the end of the reporting period for the operational processing of ASAR data in the ENVISAT Ground Segment, are listed below. The three dates in the auxiliary file name are the creation date, start acquisition date and end acquisition date respectively. During the reported period no new auxiliary files were disseminated.

Processor configuration file (CON)

Current versions

ASA_CON_AXVIEC20081215_141339_20070204_165113_20091231_000000 ASA_CON_AXVIEC20080604_143203_20050916_195733_20070204_165113 ASA_CON_AXVIEC20080610_122458_20030601_000000_20050916_195733 ASA_CON_AXVIEC20080604_143539_20021017_130000_20030601_000000

Previous versions

ASA_CON_AXVIEC20080710_132557_20070204_165113_20081231_000000 ASA_CON_AXVIEC20071218_084201_20070204_165113_20081231_000000 ASA CON AXVIEC20080610 122458 20030601 000000 20050916 195733 ASA_CON_AXVIEC20070215_183645_20050916_195733_20070204_165113 ASA CON AXVIEC20070202 163902 20030601 000000 20050916 195733 ASA_CON_AXVIEC20060614_160050_20021017_130000_20030601_000000 ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000 ASA CON AXVIEC20070313 165336 20070314 043800 20070314 045200 ASA_CON_AXVIEC20070320_170948_20070321_003000_20070321_050000 ASA_CON_AXVIEC20070326_152930_20070327_000000_20070328_000000 ASA CON AXVIEC20070328 163753 20070329 000000 20070330 120000 ASA_CON_AXVIEC20070212_170541_20070213_214400_20070213_214900 ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000 ASA CON AXVIEC20070222 190441 20070204 165113 20071231 000000 ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000 ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000

External calibration file (XCA)

There is a two day gap in file coverage between 14th and 16th September 2005; data is unavailable during this period due to antenna maintenance.

Current versions

ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959 ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959



page 37 of 72

ASA_XCA_AXVIEC20070215_184408_20050916_195733_20070204_165113 ASA_XCA_AXVIEC20070130_111710_20050101_000000_20050914_000000 ASA_XCA_AXVIEC20070130_111449_20040412_000000_20050101_000000 ASA_XCA_AXVIEC20070130_111245_20030804_000000_20040412_000000 ASA_XCA_AXVIEC20070130_111029_20030601_000000_20030804_000000 ASA_XCA_AXVIEC20070130_110635_20030211_000000_20030601_000000 ASA_XCA_AXVIEC20070130_105508_20020413_000000_20030211_000000

Previous versions

ASA_XCA_AXVIEC20081215_141741_20070204_165113_20091231_00000 ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000 ASA_XCA_AXVIEC20071218_082742_20070204_165113_20081231_000000 ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000 ASA_XCA_AXXIEC20070222_185842_20070204_165113_20071231_000000 ASA_XCA_AXVIEC20070215_184408_20050916_195733_20070204_165113 ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000 ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000 ASA_XCA_AXVIEC20060717_154125_20050916_195733_20071231_000000 ASA_XCA_AXVIEC20060620_132802_20030211_000000_20030601_000000 ASA_XCA_AXVIEC20060620_133409_20030601_000000_20030601_000000 ASA_XCA_AXVIEC20060620_133829_20030804_000000_20030804_000000 ASA_XCA_AXVIEC20060620_133829_20030804_000000_20030211_000000 ASA_XCA_AXVIEC20060620_133247_20050101_000000_20050914_000000 ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000 ASA_XCA_AXVIEC20051013_151933_20040412_000000_200500101_000000

Instrument auxiliary file (INS)

Current versions

ASA_INS_AXVIEC20081215_140905_20070307_060000_20091231_000000 ASA_INS_AXVIEC20071218_083603_20070307_060000_20081231_000000 ASA_INS_AXVIEC20070227_105626_20070228_060000_20071231_000000 ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000 ASA_INS_AXVIEC20031209_113259_20021030_110000_20030211_000000

Previous versions

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000 ASA_INS_AXXIEC20070223_140724_20070226_000000_20071231_000000 ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 ASA_INS_AXVIEC20031209_113259_20021030_110000_20030211_000000 ASA_INS_AXVIEC20031212_105841_20021017_162400_20021030_110000 ASA_INS_AXVIEC20031212_122530_20020815_131000_20021017_162400

External characterization file (XCH)

Current version

ASA_XCH_AXVIEC20081215_143642_20020301_000000_20091231_000000



page 38 of 72

Previous versions

ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000 ASA_XCH_AXVIEC20031209_112947_20020301_000000_20041231_000000 ASA_XCH_AXVIEC20021217_151302_20020301_000000_20031231_000000 ASA_XCH_AXVIEC20021030_125700_20020301_000000_20021231_000000 ASA_XCH_AXVIEC20021018_121101_20020301_000000_20021231_000000 ASA_XCH_AXVIEC20020308_113032_20020301_000000_20021231_000000

These files as well as the previous versions of them can be downloaded from: <u>http://earth.esa.int/services/auxiliary_data/asar/</u>.

7.2 Recent Auxiliary File Updates and Description of Changes

Details of auxiliary file updates are listed below (most recent changes at the end) and those from the current period are boxed:

ASA_XCA_AXVIEC20041129_173057_20020413_000000_20030211_000000

 \checkmark Absolute calibration constant values updated for data acquired during this period. Major changes affect AP IS5 and IS7 products.

 \checkmark Other parameters are the same as previous XCA file covering this time period (file created on 20030801).

ASA_XCA_AXVIEC20041028_154000_20030804_000000_20040412_000000

 \checkmark The SS2-VV elevation antenna pattern used for data acquired after 12 April 2004 is also applied now to data acquired after 4 August 2004.

 \checkmark New calibration constant (K) for WV IS2 VV after the DSS change in May 2003. Due to the drift observed in the WV K after May2003, the new value is valid since 1 June 2003 till 12 April 2004. The K value for WV IS2 VV for this period is 51571.6

✓ Updated elevation antenna pattern for SS3 VV. Valid since 4 Aug 2003.

ASA_CON_AXVIEC20041027_165251_20021017_130000_20051231_000000

 \checkmark File consistent with updated format in PF-ASAR v4.0 (additional parameters in spare fields included and parameters for the new WSS product included).

- ✓ Normalization for WSM products changed to Reference Energy.
- ✓ Updated reference energy values for WSM products (values in dB):
- ✓ HH (from SS1 to SS5): 1.08, 6.96, 7.5, 7.95, 9.13
- ✓ VV (from SS1 to SS5): 1.11, 6.9, 7.5, 7.95, 9.1

ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000



✓ Updated calibration constant (K) for WV IS2 VV to follow an observed drift. The new K is valid since 12 April 2004.with a value of 50222.9

 \checkmark Updated elevation antenna patterns for: SS2 HH, SS4 HH, SS5 HH. They are valid since 12 April 2004.

✓ Updated elevation antenna pattern for SS3 VV. Valid since 4 Aug 2003 (this is the same pattern as in file valid from 4-Aug-04 to 12-Apr-04).

ASA_XCA_AXVIEC20041027_163611_20030601_000000_20030804_000000

✓ New calibration constant (K) for WV IS2 after the DSS change in May 2003. Due to the drift observed in the WV K after May2003. The new K is valid since 1 June 2003 till 12 April 2004 with a value of 51571.6

ASA_XCA_AXVIEC20041027_162907_20030211_000000_20030601_000000

- ✓ Created to use a different K for WV (IS2 VV) before and after May 2003.
- ✓ No changes with respect to the previous XCA file covering this time period.

ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000

 \checkmark Update of elevation antenna pattern for: SS1_HH, SS2_IS3_HH, SS3_IS4_HH and SS2_IS3_VV.

ASA_INS_AXVIEC20040521_160843_20030211_000000_20041231_000000

✓ GM ISG increased by 1 for all sub-swaths

ASA_CON_AXVIEC20040407_173947_20021017_130000_20041231_000000

✓ Increased GM SS3 HH gain (by decreasing 0.5 dB the Eq. Energy for GM SS3 HH)

ASA XCA AXVIEC20040406 160451 20030211 000000 20041231 000000

✓ Updated elevation patterns for: SS1 HH-VV, IS1 VV-VH, IS2 HH-VV-HV-VH, IS4 HV-VH, IS5 HH-HV-VH, IS6 HV-VH

ASA_XCA_AXVIEC20040326_190217_20030211_000000_20041231_000000

✓ Inserted calibration constant for GMM products: 73.4 dB for HH and 74.0 dB for VV.

ASA_CON_AXVIEC20040322_164757_20021017_130000_20041231_000000

✓ Same as last update (20040308): Updated AP Eq. Energy values (different per each polarization).

- ✓ Changed AP normalization method from reference energy to equivalent energy.
- \checkmark Enable DAR for GM.

ASA_CON_AXVIEC20040308_103426_20021017_130000_20041231_000000

- ✓ Updated AP Eq. Energy values (different per each polarization).
- ✓ Changed AP normalization method from reference energy to equivalent energy.
- \checkmark Enable DAR for GM.

ASA_INS_AXVIEC20031212_122530_20020815_131000_20021017_162400



page 40 of 72

✓ SWST bias updated.

ASA_CON_AXVIEC20031212_122409_20021017_130000_20041231_000000

✓ End validity date extended till 31-12-2004

ASA_INS_AXVIEC20031212_105841_20021017_162400_20021030_110000

✓ SWST bias updated

ASA_CON_AXVIEC20031212_105603_20021017_130000_20031231_000000

✓ Dates adjusted to previous ASA_CON_AX version from 09-09-03.

ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000

- ✓ End validity time extended until 31 December 2004.
- ✓ Elevation antenna patterns updated for: IS1 VV, IS1 HH, IS1 VH, IS2 VV and SS2_IS3 HH.

ASA_INS_AXVIEC20031209_113421_20030211_000000_20041231_000000

- ✓ SWST Bias updated.
- \checkmark End validity time extended until 31 December 2004.

ASA_INS_AXVIEC20031209_113259_20021030_110000_20030211_000000

✓ SWST Bias updated

ASA_XCH_AXVIEC20031209_112947_20020301_000000_20041231_000000

✓ End validity time extended until 31 December 2004

ASA_CON_AXVIEC20031209_112721_20020301_000000_20041231_000000

✓ End validity time extended until 12 December 2004

ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000

✓ Image mode (IM) Reference Energy updated for data acquired after the DSS redundancy change in May 2003. IM Reference Energy before the DSS redundancy change can be found in the ASA_CON_AXVIEC20041215_180008_20021017_130000_20030601_000000 file. End validity time extended to 31-DEC-2005.

ASA_CON_AXVIEC20041215_180008_20021017_130000_20030601_000000

✓ File created to have different reference energy values before/after the DSS change after May 2003.

ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000

✓ End validity time extended to 31-DEC-2005.

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000

✓ End validity time extended to 31-DEC-2005.

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000



page 41 of 72

✓ WSS processing gain values set.

ASA_XCA_AXXIEC20050803_151858_20020413_000000_20030211_000000

✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_150715_20030211_000000_20030601_000000

✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_151318_20030601_000000_20030804_000000

✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_151945_20030804_000000_20040412_000000

✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_152145_20040412_000000_20051231_000000

✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000

✓ Update after the antenna maintenance, refinement operation performed on 16 Sep.2005. Eq.Energy updated for WS HH SS1,SS5 and GM HH SS1 Change in Eq. Energy for: WS HH SS1: from 1.08 dB to 1.15 dB, WS HH SS3: from 9.13 dB to 9.20 dB, GM HH SS1: from 16.43 dB to 16.73 dB

ASA_XCA_AXVIEC20051013_151933_20040412_000000_20050101_000000

✓ Same content as:ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_00 0000 but split due to changes in the antenna patterns from Jan05

ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040

✓ Changes in the ScanSAR elevation antenna patterns. New patterns valid from Jan 2005 till 14 Sep.2005. Updated elevation patters: IS3_SS2 VV, IS4_SS3 HH &VV, IS5_SS4 VV, IS6_SS5 HH & VV, SS1 HH & VV

ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000

✓ Updated ScanSAR elevation antenna patterns since antenna maintenance refinement on 16 Sep.05. K for WS HH & VV updated as well. Updated elevation patters: IS3_SS2 HH &VV, IS4_SS3 HH & VV, IS5_SS4 HH, IS6_SS5 HH, SS1 HH & VV. Updated K: WSM HH K: 6309573.44, WSM VV K: 7413102.41

ASA_XCA_AXVIEC20051103_160021_20050101_000000_20050914_080040

✓ Updated of elevation antenna patterns for: IS2 HH and IS2 VV before the antenna maintenance. New patterns valid from Jan 2005 till 14 Sep.2005. Updated elevation patters: IS2 HH & VV

ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000

✓ User description: Elevation antenna patterns for SS1 HH & VV updated



page 42 of 72

ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000

✓ User description: End validity date extended till December 2006

ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000

✓ User description: End validity date extended till December 2008

ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000

 $\checkmark\,$ User description: elevation antenna pattern update for beams IS1 to IS7 and polarisation HV and VH

ASA_CON_AXVIEC20060614_160050_20021017_130000_20030601_000000

✓ User description: Processing gain for WSS products updated. Set to same value as for products acquired after 2003-06-01.

ASA_XCA_AXVIEC20060620_132802_20030211_000000_20030601_000000

✓ User description: Update of the reference document in the MPH

ASA_XCA_AXVIEC20060620_133409_20030601_000000_20030804_000000

 \checkmark User description: Update of the reference document in the MPH

ASA_XCA_AXVIEC20060620_133829_20030804_000000_20040412_000000

✓ User description: Update of the reference document in the MPH

ASA_XCA_AXVIEC20060620_145317_20020413_000000_20030211_000000

 \checkmark User description: Update of the reference document in the MPH

ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000

✓ User description: The following ASAR antenna patterns have been updated: IS1 HV & VH,IS2 HV & VH,IS3 HV & VH,IS4 HV & VH,IS5 HV,IS6 HV & VH,IS7 HV & VH

ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000

✓ User description: Update of the reference chirp energy value for Image Mode, beam IS2, polarisation VV

ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000

✓ User description: Update of the calibration constant for the following ASAR products: IMM, APM, APP, APS, APG, IMP, IMG, IMS

ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000

✓ User description: End validity date extended to 31 December 2007

ASA_XCA_AXVIEC20070130_105508_20020413_000000_20030211_000000

✓ User description: Update of the calibration constant for the following ASAR products: IMM, APM, APP, APS, APG, IMP, IMG, IMS



ASA_XCA_AXVIEC20070130_110635_20030211_000000_20030601_000000

✓ User description: Update of the calibration constant for the following ASAR products: IMM, APM, APP, APS, APG, IMP, IMG, IMS

ASA_XCA_AXVIEC20070130_111245_20030804_000000_20040412_000000

✓ User description: Update of the calibration constant for the following ASAR products: IMM, APM, APP, APS, APG, IMP, IMG, IMS

ASA_XCA_AXVIEC20070130_111029_20030601_000000_20030804_000000

✓ User description: Update of the calibration constant for the following ASAR products: IMM, APM, APP, APS, APG, IMP, IMG, IMS

ASA_XCA_AXVIEC20070130_111449_20040412_000000_20050101_000000

✓ User description: Update of the calibration constant for the following ASAR products: IMM, APM, APP, APS, APG, IMP, IMG, IMS

ASA_XCA_AXVIEC20070130_111710_20050101_000000_20050914_000000

✓ User description: Update of the calibration constant for the following ASAR products: IMM, APM, APP, APS, APG, IMP, IMG, IMS

ASA_CON_AXVIEC20070202_163902_20030601_000000_20050916_195733

✓ User description: Update of the end validity date

ASA_CON_AXVIEC20070212_170541_20070213_214400_20070213_214900

✓ User description: Update of the end validity date. User description: Enable Doppler Grid ADS creation for ASA_WSM_1P products(validity covers a single segment over Antarctica)

ASA_CON_AXVIEC20070215_183645_20050916_195733_20070204_165113

 \checkmark User description: Update of the end validity date

ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000

✓ User description: Update of the reference chirp energy values for IM and WSM products

ASA_XCA_AXVIEC20070215_184408_20050916_195733_20070204_165113

✓ User description: Update of the end validity date

ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000

✓ User description: Update of the Antenna elevation pattern gain for HH polarisation for the swaths SS1, IS3/SS2, IS4/SS3, IS5/SS4, IS6/SS5

ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000

✓ User description: For VV polarisation the following antenna elevation pattern have been updated: SS1,IS3_SS2,IS4_SS3,IS5_SS4,IS6_SS5

ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000

 User description: Update of the reference chirp energy values for WS products, polarisation VV, swaths SS4,SS5

ASA_INS_AXVIEC20070223_140724_20070226_000000_20071231_000000

✓ User description: Update of the M value from 277 to 194 for AP mode, swath IS5 for the AP IS5 test over critical ANX range, planned from 26th Feb 2007 to 17th Mar 2007

ASA_INS_AXVIEC20070227_105626_20070228_060000_20071231_000000

✓ User description: Number of pulses per burst for all AP swaths (but IS1) reduced to 194 (same as IS1). Expected to solve/improve the on-board anomalies related to AP usage. CTI-s (CTI_AIx) will be updated from same start validity date

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000

✓ User description: Update of the number of pulses per burst for all AP swaths IS1=194, IS2=196, IS3=257, IS4=218, IS5=194, IS6=238, IS7=297.

ASA_CON_AXVIEC20070313_165336_20070314_043800_20070314_045200

✓ User description: Enable Doppler Grid ADS creation for ASA_WSM_1P products (validity covers 2 segments over Antarctica).

ASA_CON_AXVIEC20070320_170948_20070321_003000_20070321_050000

✓ User description: Enable WSM Doppler grid for few orbits at PDHS-E.

ASA_CON_AXVIEC20070326_152930_20070327_000000_20070328_000000

✓ User description: WSM Doppler grid enabled both at PDHS-K and PDHS-E on 27 march 2007 (24 hours in total).

ASA_CON_AXVIEC20070328_163753_20070329_000000_20070330_120000

✓ User description: WSM Doppler grid added at PDHS-E and PDHS-K for 1.5 days.

ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000

✓ User description: WSM Doppler grid enabled for the period covered by the latest operational CON file (Feb07-Dec07). Equivalent Energy values updated for IM and WS.

ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000

✓ User description: The following antenna elevation patterns have been updated using data acquired over Amazon RF: IS1[VV, VH], IS2[HH, VV, HV, VH], IS3[HH, VV, HV, VH], IS4[HH, VV, HV, VH], IS5[VV], IS6[HH, VV, HV, VH], IS7[HH, VV, HV, VH].

ASA_CON_AXVIEC20071218_084201_20070204_165113_20081231_000000

✓ User description: Extension of the end validity date to 31 December 2008. Update of the reference document to PO-RS-MDA-GS-2009_08_4B

ASA_INS_AXVIEC20071218_083603_20070307_060000_20081231_000000



page 45 of 72

✓ User description: Extension of the end validity date to 31 December 2008. Update of the reference document to PO-RS-MDA-GS-2009_08_4B.

ASA_XCA_AXVIEC20071218_082742_20070204_165113_20081231_000000

✓ User description: The following antenna elevation patterns have been updated using data acquired over Amazon RF: IS1 [HH], IS5 [HH]. Extension of the end validity date to 31 December 2008. Update of the reference document to PO-RS-MDA-GS-2009_08_4B.

ASA_CON_AXVIEC20080604_143203_20050916_195733_20070204_165113

✓ User description: Enabled "Doppler Centroid Grid ADS" for ASAR WSM products.

ASA_CON_AXVIEC20080604_143539_20021017_130000_20030601_000000

✓ User description: Enabled "Doppler Centroid Grid ADS" for ASAR WSM products.

ASA_CON_AXVIEC20080610_122458_20030601_000000_20050916_195733

✓ User description: Enabled "Doppler Centroid Grid ADS" for ASAR WSM products.

ASA_XCA_AXVIEC20080710_133546_20070204_165113_20081231_000000

✓ User description: The following elevation antenna patterns have been updated: SS1[HH], IS1[HH], IS1[VV], IS3_SS2[HH], IS3_SS2[VV], IS4_SS3[HH], IS5_SS4[HH],IS5_SS4[VV], IS6_SS5[HH], IS6_SS5[VV].

ASA_CON_AXVIEC20080710_132557_20070204_165113_20081231_000000

✓ User description: Updated reference chirp energy values for WSM products, HH and VV polarisations.

ASA_INS_AXVIEC20081215_140905_20070307_060000_20091231_000000

✓ User description: Extension of the end validity date up to 31-DEC-2009

ASA_CON_AXVIEC20081215_141339_20070204_165113_20091231_000000

✓ User description: Extension of the end validity date up to 31-DEC-2009

ASA_XCA_AXVIEC20081215_141741_20070204_165113_20091231_000000

✓ User description: Extension of the end validity date up to 31-DEC-2009

ASA_XCH_AXVIEC20081215_143642_20020301_000000_20091231_000000

✓ User description: Extension of the end validity date up to 31-DEC-2009

ASA_XCA_AXVIEC20090311_104037_20070204_165113_20080731_235959

✓ User description: Modified end validity time. Replaced 31-DEC-2009 with 31-JUL-2008.



page 46 of 72

ASA_XCA_AXVIEC20090311_104501_20080801_000000_20091231_235959

 ✓ User description: The following elevation antenna patterns have been updated: SS1[HH&VV], IS1[HH&VV], IS2[HH&VV], IS3[HH&VV], IS4[HH&VV], IS6[HH], IS7[HH]



page 47 of 72

APPENDIX A : INSTRUMENT UNVAILABILITIES LIST

Unavailability report reference	Start	Stop
EN-UNA-2004/0111	14/04/2004 02:45:00	14/04/2004 13:40:00
EN-UNA-2004/0114	20/04/2004 08:15:46	20/04/2004 08:23:31
EN-UNA-2004/0118	20/04/2004 10:00:54	20/04/2004 11:56:40
EN-UNA-2004/0124	26/04/2004 21:32:03	27/04/2004 09:41:43
EN-UNA-2004/0125	29/04/2004 08:32:08	29/04/2004 10:18:18
EN-UNA-2004/0129	02/05/2004 21:32:47	03/05/2004 09:41:44
EN-UNA-2004/0176	12/07/2004 11:21:46	12/07/2004 18:01:40
EN-UNA-2004/0191	04/08/2004 09:19:00	04/08/2004 09:26:00
EN-UNA-2004/0193	05/08/2004 23:07:33	05/08/2004 23:43:27
EN-UNA-2004/0229	12/09/2004 10:54:47	12/09/2004 11:12:40
EN-UNA-2004/0246	23/09/2004 06:13:17	23/09/2004 09:55:38
EN-UNA-2004/0252	26/09/2004 21:24:58	27/09/2004 11:02:04
EN-UNA-2004/0261	17/10/2004 02:28:31	17/10/2004 07:45:11
EN-UNA-2004/0265	01/11/2004 05:00:40	01/11/2004 05:01:40
EN-UNA-2004/0268	03/11/2004 09:59:30 Orbit = 14004	03/11/2004 10:04:58 Orbit = 14004
EN-UNA-2004/0270	07/11/2004 03:41:28 Orbit=14054	07/11/2004 08:00:03 Orbit=14060
EN-UNA-2004/0276	12/11/2004 21:46:59 Orbit = 14140	12/11/2004 23:43:46 Orbit = 14141
EN-UNA-2004/0281	16/11/2004 02:34:15 Orbit = 14185	16/11/2004 03:16:49 Orbit = 14186
EN-UNA-2004/0290	21/11/2004 19:36:58 Orbit = 14267	21/11/2004 22:19:32 Orbit = 14269
EN-UNA-2004/0299	29/11/2004 00:42:03 Orbit = 14370	29/11/2004 03:09:35 Orbit = 14372
EN-UNA-2004/0307	05/12/2004 15:06:14 Orbit = 14465	05/12/2004 15:35:42 Orbit = 14465
EN-UNA-2004/0309	09/12/2004 00:32:56 Orbit=14513	09/12/2004 00:56:03 Orbit=14514
EN-UNA-2004/0314	27/12/2004 01:50:26 Orbit=14772	27/12/2004 07:10:58 Orbit=14775



page 48 of 72

	01/01/2005 20:17:50	01/01/2005 22.27.28
EN-UNA-2005/0002	01/01/2005 20:17:59 Orbit=14854	01/01/2005 22:37:38 Orbit=14856
	07/01/2005 03:00:00	07/01/2005 13:00:00
EN-UNA-2005/0005	Orbit=14936	Orbit=14936
	07/01/2005 13:00:00	07/01/2005 18:20:00
EN-UNA-2005/0010	Orbit=14936	Orbit=14939
EN LINIA 2005/0011	09/01/2005 06:39:29	09/01/2005 06:45:03
EN-UNA-2005/0011	Orbit=14961	Orbit=14961
EN-UNA-2005/0020	20/01/2005 16:49:16 Orbit = 15124	20/01/2005 17:05:23 Orbit = 15125
	27/01/2005 19:59:57	27/01/2005 22:52:29
EN-UNA-2005/0032	Orbit = 15226	Orbit = 15228
	05/02/2005 06:12:44	05/02/2005 09:46:32
EN-UNA-2005/0039	Orbit = 15347	Orbit = 15349
	09/02/2005 08:38:15	10/02/2005 00:17:26
EN-UNA-2005/0009	Orbit = 15406	Orbit = 15415
EN-UNA-2005/0054	21/02/2005 14:07:52 Orbit=15581	21/02/2005 15:53:57 Orbit=15582
EIN-UINA-2003/0034	10/03/2005 10:38:15	10/03/2005 10:49:45
EN-UNA-2005/0071	Orbit = 15822	Orbit = 15822
	10/03/2005 20:02:46	10/03/2005 22:00:18
EN-UNA-2005/0072	Orbit = 15828	Orbit = 15829
	12/03/2005 15:51:15	12/03/2005 15:56:28
EN-UNA-2005/0073	Orbit = 15854	Orbit = 15854
	17 Mar 2005 01:00:00	17 Mar 2005 13:00:00
EN-UNA-2005/0078	Orbit = 15917	Orbit = 15924
EN LINEA 2005/0002	22/03/2005 09:03:10	22/03/2005 09:09:10
EN-UNA-2005/0093	Orbit = 15993	Orbit = 15993
EN-UNA-2005/0103	02/04/2005 02:48:28 Orbit = 16147	02/04/2005 06:35:25 Orbit = 16149
211 0111 2000/0100	06/04/2005 02:53:21	06/04/2005 06:10:08
EN-UNA-2005/0109	Orbit = 16204	Orbit = 16206
	13 /04/ 2005 20:21:40	13 /04/ 2005 20:21:40
EN-UNA-2005/0113	Orbit = 16315	Orbit = 16315
EN-UNA-2005/0125	21/04/2005 04:17:47 Orbit = 16419	21/04/2005 04:17:47 Orbit = 16419
EIN-UINA-2003/0123	$\frac{12}{05} \frac{1011}{2005} \frac{10100}{1000}$	$\frac{12}{05} \frac{10419}{2005} \frac{10:50:00}{10:50:00}$
EN-UNA-2005/0149	Orbit = 16724	Orbit = 16724
	18/05/2005 01:49:01	18/05/2005 01:49:01
EN-UNA-2005/0159	Orbit = 16804	Orbit = 16804



page 49 of 72

	18 /05/ 2005 13:57:30	18 /05/ 2005 13:57:30
EN-UNA-2005/0161	Orbit = 16812	Orbit = 16812
	20/05/2005 12:09:50	20/05 2005 12:09:50
EN-UNA-2005/0164	Orbit = 16839	Orbit = 16839
	01/06/2005 16:44:17 Orbit	01/06/2005 16:51:19
EN-UNA-2005/0182	= 17014	Orbit = 17014
EN-UNA-2005/0188	06/06/2005 08:11:25 Orbit	06/06/2005 09:42:14
	= 17080	Orbit = 17081
EN-UNA-2005/0190	11/06/2005 03:19:14	11/06/2005 06:35:30
	Orbit = 17149	Orbit = 17151
EN-UNA-2005/0212	01/07/2005 13:54:40	01/07/2005 16:14:21
	Orbit = 17442	Orbit = 17443
EN-UNA-2005/0216	04/07/2005 02:55:43	04/07/2005 06:13:02
	Orbit = 17478	Orbit = 17480
EN-UNA-2005/0223	5/07/2005 17:16:39	5/07/2005 17:27:11
	Orbit = 17501	Orbit = 17501
EN-UNA-2005/0231	10/07/2005 11:15:25	10/07/2005 11:22:12
	Orbit = 17569	Orbit = 17569
EN-UNA-2005/0239	16/07/2005 21:03:12	16/07/2005 21:09:19
	Orbit = 17661	Orbit = 17661
EN-UNA-2005/0258	24/07/2005 07:22:41	24/07/2005 07:31:40
	Orbit = 17767	Orbit = 17767
EN-UNA-2005/0269	03/08/2005 22:01:30	03/10/2005 22:08:56
	Orbit = 17919	Orbit = 17919
EN-UNA-2005/0285	15/08/2005 03:41:02	15/08/2005 07:33:52
	Orbit = 18080	Orbit = 18082
EN-UNA-2005/0305	22/08/2005 01:25:33 Orbit	22/08/2005 08:50:14
	= 18178	Orbit = 18183
EN-UNA-2005/0325	24/08/2005 07:50:16 Orbit	24/08/2005 07:55:55
	= 18211	Orbit = 18211
EN-UNA-2005/0350	31/08/2005 04:11:27 Orbit	31/08/2005 07:37:21
	= 18309	Orbit = 18309
EN-UNA-2005/0357	06/09/2005 21:02:54 Orbit	06/09/2005 21:33:29
	= 18405	Orbit = 18405
EN-UNA-2005/0355	07/09/2005 04:20:00 Orbit	07/09/2005 13:40:00
	= 18409	Orbit = 18415
EN-UNA-2005/0365	14/09/2005 07:51:31 Orbit	14/09/2005 12:53:26
	= 18511	Orbit = 18514
EN-UNA-2005/0440	21/10/2005 09:22:00 Orbit	21/10/2005 09:34.58
	= 19042	Orbit = 19042
EN-UNA-2005/0441	23/10/2005 14:46:45 Orbit	23/10/2005 14:46:55
	= 19074	Orbit = 19074
EN-UNA-2005/0465	20/11/2005 23:20:25 Orbit	20/11/2005 23:28:50
	= 19480	Orbit = 19480



page 50 of 72

	1	
EN-UNA-2005/0473	11/12/2005 14:04:37.000	11/12/2005 14:14:52.000
	Orbit = 19775	Orbit = 19775
EN-UNA-2005/0477	18/12/2005 03:45:26.000	18/12/2005 07:11:19.000
	Orbit = 19869	Orbit = 19871
EN-UNA-2006/0009	9 Jan 2006 07:22:23.000	9 Jan 2006 09:05:12.000
	Orbit = 20186	Orbit = 20187
EN-UNA-2006/0022	25 Jan 2006 20:24:55.000	25 Jan 2006 20:31:34.000
	Orbit = 20423	Orbit 20423
EN-UNA-2006/0038	07/02/2006 01:34:22.000	07/02/2006 05:19:30.000
	Orbit = 20598	Orbit = 20600
EN-UNA-2006/0052	17/02/2006 02:45:18.000	17/02/2006 06:41:47.000
	Orbit = 20741	Orbit = 20744
EN-UNA-2006/0060	19/02/2006 15:08:07.273	19/02/2006 15:10:44.706
	Orbit = 20777	Orbit = 20778
EN-UNA-2006/0069	22/02/2006 11:00:16.000	22/02/2006 11:21:32.000
	Orbit = 20818	Orbit = 20818
EN-UNA-2006/0073	24/02/2006 02:19:08.441	24/02/2006 02:23:14.554
	Orbit = 20841	Orbit = 20841
EN-UNA-2006/0084	28/02/2006 07:39:56.000	28/02/2006 07:49:38.000
	Orbit = 20902	Orbit = 20902
EN-UNA-2006/0102	20/03/2006 07:03:30.000	20/03/2006 07:20:49.559
	Orbit = 21188	Orbit = 21188
EN-UNA-2006/0108	28/03/2006 00:39:22.000	28/03/2006 13:13:20.000
	Orbit = 21298	Orbit = 21306
EN-UNA-2006/0120	06/04/2006 02:09:26.446	10/04/2006 17:23:03.000
	Orbit = 21428	Orbit = 21495
EN-UNA-2006/0122	12/04/2006 20:14:00.000	12/04/2006 20:19:54.776
	Orbit = 21525	Orbit = 21525
EN-UNA-2006/0130	19/04/2006 08:18:12.000	19/04/2006 12:00:36.000
	Orbit = 21618	Orbit = 21620
EN-UNA-2006/0136	24/04/2006 07:09:20.000	24/04/2006 07:16:59.000
	Orbit = 21525	Orbit = 21689
EN-UNA-2006/0140	25/04/2006 14:55:00.000	25/04/2006 15:02:48.000
	Orbit = 21708	Orbit = 21708
EN-UNA-2006/0143	30/04/2006 13:55:00.000	30/04/2006 14:04:03.000
	Orbit = 21779	Orbit = 21779
EN-UNA-2006/0151	10/05/2006 19:59:10.000	10/05/2006 20:01:38.000
	Orbit = 21926	Orbit = 21926
EN-UNA-2006/0155	11/05/2006 06:33:32.000	11/05/2006 06:41:29.000
	Orbit = 21932	Orbit = 21932
EN-UNA-2006/0167	22/05/2006 11:04:00.000	22/05/2006 11:23:16.000
	Orbit = 22092	Orbit = 22092
EN-UNA-2006/0171	25/05/2006 07:39:00.000	25/05/2006 07:45:47.000
	Orbit = 22133	Orbit = 22133



page 51 of 72

EN-UNA-2006/0185	03/06/2006 22:31:12.000	04/06/2006 00:37:03.000
	Orbit = 22271	Orbit = 22272
EN-UNA-2006/0186	04/06/2006 20:07:16.000	04/06/2006 22:58:54.000
	Orbit = 22283	Orbit = 22285
EN-UNA-2006/0188	10/06/2006 20:17:47.000	10/06/2006 22:35:24.000
	Orbit = 22369	Orbit = 22371
EN-UNA-2006/0190	13/06/2006 07:14:05.000	13/06/2006 07:18:46.000
	Orbit = 22405	Orbit = 22405
EN-UNA-2006/0200	22/06/2006 17:42:40.000	22/06/2006 17:49:40.000
	Orbit = 22540	Orbit = 22540
EN-UNA-2006/0204	24/06/2006 07:17:00.000	24/06/2006 07:23:52.000
	Orbit = 22562	Orbit = 22562
EN-UNA-2006/0212	01/07/2006 08:09:30.000	01/07/2006 08:16:10.000
	Orbit = 22663	Orbit = 22663
EN-UNA-2006/0230	26/07/2006 13:28:00.000	26/07/2006 13:41:43.000
	Orbit = 23024	Orbit = 23024
EN-UNA-2006/0235	2/8/2006 13:30:01.335	2/08/2006 13:33:09.238
	Orbit = 23124	Orbit = 23124
EN-UNA-2006/0237	4/8/2006 10:21:22.000	4/8/2006 10:30:10.000
	Orbit = 23151	Orbit = 23151
EN-UNA-2006/0240	8/8/2006 08:19:23.000	8/8/2006 08:28:56.000
	Orbit = 23207	Orbit = 23207
EN-UNA-2006/0248	14/8/2006 15:20:59.000	14/8/2006 15:24:38.000
	Orbit = 23297	Orbit = 23297
EN-UNA-2006/0254	21/8/2006 14:47:52.107	21/8/2006 14:55:47.108
	Orbit = 23397	Orbit = 23397
EN-UNA-2006/0257	24/8/2006 16:40:50.000	24/8/2006 16:47:19.000
	Orbit = 23441	Orbit = 23441
EN-UNA-2006/0261	29/8/2006 09:12:28.052	29/8/2006 12:35:07.052
	Orbit = 23508	Orbit = 23508
EN-UNA-2006/0263	03/09/2006 06:20:00.000	03/09/2006 06:28:16.000
	Orbit = 23578	Orbit = 23578
EN-UNA-2006/0266	03/09/2006 17:59:17.000	03/09/2006 18:07:40.000
	Orbit = 23585	Orbit = 23585
EN-UNA-2006/0280	16/09/2006 14:12:15.000	16/09/200616:21:03.000
	Orbit = 23769	Orbit = 23770
EN-UNA-2006/0290	23/09/2006 13:53:10.877	23/09/2006 16:00:55.216
	Orbit = 23869	Orbit = 23870
EN-UNA-2006/0298	1/10/2006 14:43:21.000	1/10/2006 16:41:12.000
	Orbit = 23984	Orbit = 23985
EN-UNA-2006/0299	2/10/2006 14:10:16.000	2/10/2006 14:33:51.000
	Orbit = 23998	Orbit = 23998
EN-UNA-2006/0300	3/10/2006 13:38:04.000	3/10/2006 13:57:04.000
	Orbit = 24012	Orbit = 24012
L		



page 52 of 72

O EN-UNA-2006/0307 14 O EN-UNA-2006/0314 17 O	$710/2006 \ 10:57:34.000$ rbit = 24053 4/10/2006 \ 13:38:33.000 rbit = 24169 7/10/2006 \ 19:53:41.000 rbit = 24216 8/10/2006 \ 14:07:37.000 rbit = 24227	6/10/2006 11:15:30.000 Orbit = 24053 14/10/2006 13:38:52.000 Orbit = 24169 17/10/2006 20:00:54.000 Orbit = 24216
EN-UNA-2006/0307 14 O EN-UNA-2006/0314 17 O	4/10/2006 13:38:33.000 rbit = 24169 7/10/2006 19:53:41.000 rbit = 24216 8/10/2006 14:07:37.000	14/10/2006 13:38:52.000 Orbit = 24169 17/10/2006 20:00:54.000
O EN-UNA-2006/0314 17 O	rbit = 24169 7/10/2006 19:53:41.000 rbit = 24216 8/10/2006 14:07:37.000	Orbit = 24169 17/10/2006 20:00:54.000
EN-UNA-2006/0314 17 O	7/10/2006 19:53:41.000 rbit = 24216 8/10/2006 14:07:37.000	17/10/2006 20:00:54.000
0	rbit = 24216 8/10/2006 14:07:37.000	
	8/10/2006 14:07:37.000	Orbit = 24216
EN-UNA-2006/0316 18		
	rbit = 24227	18/10/2006 16:15:23.000
0		Orbit = 24228
EN-UNA-2006/0322 24	4/102006 09:35:01.000	24/10/2006 09:42:25.000
0	rbit = 24310	Orbit = 24310
EN-UNA-2006/0333 02	2/11/2006 14:30:52.000	02/11/2006 16:48:39.000
0	rbit = 24442	Orbit = 24443
EN-UNA-2006/0338 08	8/11/2006 14:50:09.000	08/11/2006 16:51:03.000
0	rbit = 24528	Orbit = 24529
EN-UNA-2006/0342 15	5/11/2006 16:10:05.724	15/11/2006 18:05:13.248
0	rbit = 24629	Orbit = 24630
EN-UNA-2006/0343 20	0/11/2006 13:30:36.000	20/11/2006 14:04:27.000
0	rbit = 24699	Orbit = 24699
EN-UNA-2006/0345 22	2/11/2006 06:56:58.000	22/11/2006 07:27:33.000
0	rbit = 24723	Orbit = 24724
EN-UNA-2006/0350 24	4/11/2006 14:49:34.000	24/11/2006 15:09:01.000
0	rbit = 24757	Orbit = 24757
EN-UNA-2006/0357 28	8/11/2006 07:58:29.000	30/11/2006 13:29:00.000
0	rbit = 24810	Orbit = 24842
	1/12/2006 12:44:47.000	01/12/2006 13:16:28.000
0	rbit = 24856	Orbit = 24856
	2/12/2006 01:46:48.000	02/12/2006 07:38:30.000
	rbit = 24863	Orbit = 24867
EN-UNA-2006/0364 04	4/12/2006 12:50:04.000	04/12/2006 13:24:50.000
	rbit = 24899	Orbit = 24899
EN-UNA-2006/0369 12	2/12/2006 14:24:33.000	12/12/2006 14:32:26.000
	rbit = 25014	Orbit = 25014
	2/12/2006 18:02:17.000	16/12/2006 02:58:44.000
	rbit = 25016	Orbit = 25065
	4/12/2006 11:07:30.000	24/12/2006 11:14:05.000
	rbit = 25184	Orbit = 25184
	7/12/2006 14:15:30.000	27/12/2006 17:39:31.000
	rbit = 25229	Orbit = 25231
	3/01/2007 09:08:30.000	03/01/2007 09:14:26.000
	rbit = 25326	Orbit = 25326
	5/01/2007 02:40:22.000	06/01/2007 04:15:17.000
	rbit = 25365	Orbit = 25366
	2/01/2007 23:29:00.000	23/01/2007 12:14:00.000
0	rbit = 25606	Orbit = 25614



page 53 of 72

EN-UNA-2007/0029	02/02/2007 03:29:56.000	02/02/2007 20:06:32.000
	Orbit = 25752	Orbit = 25762
EN-UNA-2007/0029	02/02/2007 20:41:46.000	04/02/2007 16:51:13.000
	Orbit = 25762	Orbit = 25789
EN-UNA-2007/0038	09/02/2007 16:07:58.000	09/02/2007 16:36:05.000
	Orbit = 25860	Orbit = 25860
EN-UNA-2007/0039	10/02/2007 20:17:43.000	10/02/2007 21:31:10.000
	Orbit = 25876	Orbit = 25877
EN-UNA-2007/0041	12/02/2007 00:47:33.000	12/02/2007 04:52:37.000
	Orbit = 25893	Orbit = 25896
EN-UNA-2007/0053	03/03/2007 11:31:22.000	03/03/2007 12:05:49.000
	Orbit = 26172	Orbit = 26172
EN-UNA-2007/0054	03/03/2007 14:28:29.000	03/03/2007 14:59:00.000
	Orbit = 26174	Orbit = 26174
EN-UNA-2007/0055	04/03/2007 13:07:07.000	04/03/2007 14:25:55.000
	Orbit = 26187	Orbit = 26188
EN-UNA-2007/0059	05/03/2007 16:51:22.000	05/03/2007 17:16:25.000
	Orbit = 26204	Orbit = 26204
EN-UNA-2007/0064	15/03/2007 06:58:21.000	15/03/2007 07:05:53.000
	Orbit = 26341	Orbit = 26341
EN-UNA-2007/0070	17/03/2007 10:51:59.000	17/03/2007 11:00:38.000
	Orbit = 26372	Orbit = 26372
EN-UNA-2007/0078	23/03/2007 02:48:45.000	23/03/2007 07:43:17.000
	Orbit = 26453	Orbit = 26456
EN-UNA-2007/0090	31/03/2007 21:39:01.000	01/04/2007 01:39:09.000
	Orbit = 26579	Orbit = 26581
EN-UNA-2007/0088	02/04/2007 23:50:12.000	03/04/2007 07:08:35.000
EIN-UINA-2007/0088	Orbit = 26609	Orbit = 26613
ENLINA 2007/0102	15/04/2007 09:16:02.000	15/04/2007 09:33:26.000
EN-UNA-2007/0102	Orbit = 26786	Orbit = 26786
EN-UNA-2007/0112	23/04/2007 01:05:10.000	23/04/2007 04:54:28.000
EN-UNA-2007/0112	Orbit = 26896	Orbit = 26898
ENLINA 2007/0122	11/05/2007 06:19:33.000	11/05/2007 06:41:03.000
EN-UNA-2007/0122	Orbit = 27156	Orbit = 27157
ENLINIA 2007/0127	21/05/2007 02:06:58.000	21/05/2007 04:48:56.000
EN-UNA-2007/0127	Orbit = 27297	Orbit = 27299
ENLINIA 2007/0124	27/05/2007 00:57:47.000	27/05/2007 01:01:20.000
EN-UNA-2007/0134	Orbit = 27382	Orbit = 27382
EN LINIA 2007/0126	27/05/2007 07:13:18.000	27/05/2007 13:55:30.000
EN-UNA-2007/0136	Orbit = 27386	Orbit = 27390
EN LINIA 2007/01/6	27 Jun 2007 12:30:00.000	27 Jun 2007 12:43:09.000
EN-UNA-2007/0165	Orbit = 27833	Orbit = 27833
ENLINIA 2007/0172	10 Jul 2007 16:55:13.000	10 Jul 2007 17:29:05.000
EN-UNA-2007/0176	Orbit = 28022	Orbit = 28022



page 54 of 72

	1	
EN-UNA-2007/0178	16 Jul 2007 22:04:59.000	17 Jul 2007 07:10:43.000
ER 0101 2007/01/0	Orbit = 28111	Orbit = 28116
EN-UNA-2007/0187	22 Jul 2007 21:05:00.000	22 Jul 2007 21:36:04.000
LIN-0101-2007/0107	Orbit = 28196	Orbit = 28196
EN-UNA-2007/0219	24 Sep 2007 21:44:16.000	25 Sep 2007 18:23:08.000
LIN-UINA-2007/0219	Orbit = 29112	Orbit = 29125
EN-UNA-2007/0223	24 Sep 2007 12:27:00.000	27 Sep 2007 18:43:58.000
LIN-01NA-2007/0223	Orbit = 29107	Orbit = 29153
EN-UNA-2007/0225	29 Sep 2007 13:30:25.000	29 Sep 2007 16:45:43.000
EN-UNA-2007/0225	Orbit = 29179	Orbit = 29181
EN-UNA-2007/0243	31 Oct 2007 05:47:44.000	31 Oct 2007 06:00:00.000
LIN-UINA-2007/0245	Orbit = 29632	Orbit = 29633
EN-UNA-2007/0254	30 Nov 2007 5:13:30.890	30 Nov 2007 17:32:51.718
EIN-UINA-2007/0254	Orbit = 30068	Orbit = 30069
EN-UNA-2007/0257	1 Dec 2007 19:08:03.275	1 Dec 2007 22:20:26.017
EIN-UINA-2007/0257	Orbit = 30084	Orbit = 30086
EN-UNA-2007/0261	3 Dec 2007 21:42:20.000	4 Dec 2007 18:12:14.000
EIN-UINA-2007/0201	Orbit = 30114	Orbit = 30127
EN-UNA-2007/0270	9 Dec 2007 07:52:41.000	9 Dec 2007 11:32:07.149
EIN-UINA-2007/0270	Orbit = 30192	Orbit = 30194
EN-UNA-2007/0266	11 Dec 2007 8:06:00.000	11 Dec 2007 11:36:13.000
EIN-UINA-2007/0200	Orbit = 30221	Orbit = 30223
EN-UNA-2007/0278	13 Dec 2007 6:22:00.000	13 Dec 2007 15:04:39.000
EIN-UINA-2007/0278	Orbit = 30248	Orbit = 30254
EN-UNA-2008/0010	16 Jan 2008 16:11:00.000	17 Jan 2008 10:35:21.000
LIN-UINA-2000/0010	Orbit = 30741	Orbit = 30752
EN-UNA-2008/0011	17 Jan 2008 09:42:13.000	17 Jan 2008 13:03:25.000
LIN-UINA-2000/0011	Orbit = 30751	Orbit = 30753
EN-UNA-2008/0017	22 Jan 2008 14:11:03.000	22 Jan 2008 14:41:07.000
LIN-UINA-2000/0017	Orbit = 30826	Orbit = 30826
EN-UNA-2008/0023	28 Jan 2008 16:11:51.540	28 Jan 2008 18:04:35.000
EIN-UINA-2000/0023	Orbit = 30913	Orbit = 30914
EN-UNA-2008/0024	31 Jan 2008 00:54:40.528	31 Jan 2008 00:55:17.000
LIN-UINA-2000/0024	Orbit = 30946	Orbit = 30946
EN-UNA-2008/0027	5 Feb 2008 17:00:26.000	5 Feb 2008 19:00:13.000
EIN-UINA-2006/0027	Orbit = 31028	Orbit = 31029
EN-UNA-2008/0033	11 Feb 2008 23:45:12.000	12 Feb 2008 09:10:21.000
LIN-UINA-2008/0033	Orbit = 31118	Orbit = 31123
EN LINA 2008/0045	1 Mar 2008 05:23:34.000	1 Mar 2008 07:33:46.000
EN-UNA-2008/0045	Orbit = 31379	Orbit = 31380
EN LINIA 2000/0054	13 Mar 2008 9:33:46.000	13 Mar 2008 19:28:40.000
EN-UNA-2008/0054	Orbit = 31553	Orbit = 31559
EN LINIA 2009/00/22	15 Apr 2008 01:32:02.556	15 Apr 2008 01:33:36.325
EN-UNA-2008/0063	Orbit = 32020	Orbit = 32020



page 55 of 72

EN-UNA-2008/0070	21 Apr 2008 21:59:00.000	22 Apr 2008 07:22:00.000
	Orbit = 32118	Orbit = 32124
EN-UNA-2008/0082	6 May 2008 08:09:32.000	6 May 2008 08:18:11.000
	Orbit = 32325	Orbit = 32325
EN-UNA-2008/0090	1 Jun 2008 00:34:17.000	1 Jun 2008 00:39:03.000
	Orbit = 32693	Orbit = 32693
EN-UNA-2008/0097	18 Jun 2008 18:26:01.000	18 Jun 2008 18:27:31.000
	Orbit = 32947	Orbit = 32947
EN-UNA-2008/0100	23 Jun 2008 08:02:19.000	23 Jun 2008 11:08:49.000
	Orbit = 33012	Orbit = 33014
EN-UNA-2008/0104	30 Jun 2008 22:04:59.000	1 Jul 2008 12:03:18.000
	Orbit = 33121	Orbit = 33129
EN-UNA-2008/0104	30 Jun 2008 22:04:59.000	1 Jul 2008 12:03:18.000
	Orbit = 33121	Orbit = 33129
EN-UNA-2008/0121	19 Jul 2008 18:34:43.214	19 Jul 2008 18:45:48.214
	Orbit = 33390	Orbit = 33391
EN-UNA-2008/0124	25 Jul 2008 11:08:00.000	25 Jul 2008 11:35:31.000
211 0111 2000/0124	Orbit = 33472	Orbit = 33472
EN-UNA-2008/0140	25 Aug 2008 9:31:12.000	25 Aug 2008 19:52:15.000
	Orbit = 33921	Orbit = 33921
EN-UNA-2008/0144	8 Sep 2008 21:59:58.000	9 Sep 2008 07:59:53.000
LIN-UINA-2000/0144	Orbit = 34123	- Sep 2000 07.39.33.000
EN-UNA-2008/0153	23 Sep 2008 23:00:25.000	24 Sep 2008 00:53:13.000
LIN-011/A-2000/0133	Orbit = 34338	Orbit = 34339
EN-UNA-2008/0165	13 Oct 2008 06:11:51.000	13 Oct 2008 09:23:21.000
LIN-UINA-2000/0103	Orbit = 34614	Orbit = 34616
EN-UNA-2008/0169	18 Oct 2008 15:00:32.000	18 Oct 2008 15:07:53.000
LIN-UINA-2000/0109	Orbit = 34691	
EN-UNA-2008/0177	1 Nov 2008 20:16:08.000	1 Nov 2008 22:31:40.000
LIN-UINA-2000/01//	Orbit = 34894	Orbit = 34896
EN-UNA-2008/0183	9 Nov 2008 00:57:00.000	9 Nov 2008 00:58:00.000
EIN-UINA-2000/0103	Orbit = 34997	Orbit = 34997
EN LINA 2009/0195	11 Nov 2008 01:41:48.000	11 Nov 2008 03:58:47.000
EN-UNA-2008/0185	Orbit = 35027	Orbit = 35028
EN LINA 2000/0106	17 Nov 2008 21:59:55.000	18 Nov 2008 07:08:39.000
EIN-UINA-2008/0180	Orbit = 35125	Orbit = 35130
EN LINA 2009/0100	15 Nov 200 02:51:23.000	15 Nov 2008 07:10:44.000
EIN-UINA-2008/0190	Orbit = 35084	Orbit = 35087
ENLINIA 2000/0205	03 Dec 2008 06:06:42.000	03 Dec 2008 09:39:06.000
EIN-UINA-2008/0205	Orbit = 35344	Orbit = 35346
EN 1114 0000/0010	19 Dec 2008 06:03:21.234	19 Dec 2008 09:18:29.000
EN-UNA-2008/0213	Orbit = 35573	Orbit = 35575
	04 Jan 2009 03:09:26.000	04 Jan 2009 03:11:08.000
EN-UNA-2009/0001	Orbit = 35800	Orbit = 35800
EN-UNA-2008/0186 EN-UNA-2008/0190 EN-UNA-2008/0205 EN-UNA-2008/0213	Orbit = 35125 15 Nov 200 02:51:23.000 Orbit = 35084 03 Dec 2008 06:06:42.000 Orbit = 35344 19 Dec 2008 06:03:21.234	Orbit = 35130 15 Nov 2008 07:10:44.000 Orbit = 35087 03 Dec 2008 09:39:06.000 Orbit = 35346 19 Dec 2008 09:18:29.000





page 56 of 72

EN-UNA-2009/0015	26 Jan 2009 23:42:43.000	27 Jan 2009 06:51:17.000
	Orbit = 36128	Orbit = 36132
EN-UNA-2009/0037	21 Feb 2009 02:18:37.228	21 Feb 2009 07:11:03.000
EIN-UINA-2009/0037	Orbit = 36487	Orbit = 36490
EN-UNA-2009/0054	22 Mar 2009 14:02:54.144	22 Mar 2009 14:03:54.324
EIN-UINA-2009/0054	Orbit = 36909	Orbit = 36909



page 57 of 72

APPENDIX B : DATA DISCLAIMER LIST

Below are given, in date order, ASAR data disclaimer details. Disclaimers from the current reporting period are boxed. The disclaimer list is also available at <u>http://earth.esa.int/pcs/envisat/asar/disclaimer/</u>.

From 10-Jul-2003 20:20 UTC to 11-Jul-2003 16:57 UTC.
 <u>Problem description:</u>
 Degraded radiometric quality due to an instrument anomaly.
 <u>Affected products:</u>
 All ASAR products, including level 0 products, acquired during this period.

• From 03-Aug-2003 21:15 UTC to 04-Aug-2003 12:43 UTC.

Problem description:

Degraded radiometric quality due to an instrument anomaly.

Affected products:

All ASAR products, including level 0 products, acquired during this period.

• From 19-Oct-2003 12:50:59 UTC to 20-Oct-2003 15.37.47.000 UTC <u>Problem description:</u> Degraded radiometric quality due to an instrument anomaly. Affected products:

All ASAR products, including level 0 products, acquired during this period.

• From 28-Oct-2003 06:26:28 UTC to 28-Oct-2003 13:10:01 UTC

Problem description:

Data not acquired in Yaw Steering Mode but in Fine Pointing Mode (FPM).Large Doppler frequency values are expected.

Affected products:

All ASAR products, including level 0 products, acquired during this period.

• From 4-Dec-2003 21:5:23 UTC to 4-Dec-2003 22:03:31UTC Problem description:

Data not acquired in Yaw Steering Mode but in Fine Pointing Mode (FPM).Large Doppler frequency values are expected.

Affected products:

All ASAR products, including level 0 products, acquired during this period.

• From 11-Dec-2003 01:45:00 UTC to 11-Dec-2003 15:11:15 UTC

Problem description:

Degraded radiometric quality due to an instrument anomaly.

Affected products:

All ASAR products, including level 0 products, acquired during this period.



page 58 of 72

<u>Problem description:</u>
Degraded radiometric quality due to an instrument anomaly.
<u>Affected products</u>
All ASAR products, including level 0 products, acquired during this period.
From 13-Feb-2004 13:38 UTC to 14-Feb-2004 11:06:01 UTC.
<u>Problem description</u>:
Degraded radiometric quality due to an instrument anomaly.
<u>Affected products</u>:

From 04-Jan-2004 09:15:00 UTC to 05-Jan-2003 15:25:20 UTC.

All ASAR products, including level 0 products, acquired during this period.

• From 20-Feb-2004 18:00 UTC to 23-Feb-2004 13:08 UTC.

Problem description:

Degraded radiometric quality due to an instrument anomaly.

Affected products:

All ASAR products, including level 0 products, acquired during this period.

• From 18-Nov-2003 until 22-May-2004 00:00:00 UTC

Problem description:

Degraded ASAR GM products location accuracy.

Affected products:

All ASAR GM level 1 products (ASA_GM1_1P), acquired during this period.

Correction:

The location error in ASA_GM1_1P products acquired before 22nd of May 2004 can be corrected by the user multiplying the line numbers in the Geolocation Grid ADS by 0.97169.

• From 21-Jun-2004 07:56:33 UTC to 22-Jun-2004 11:50:18 UTC

Problem description:

Degraded Attitude Stability. Instrument operating in Yaw Steering Mode (YSM) rather than in Stellar YSM. A positive Doppler bias of about 300 Hz is observed on data acquired during this period.

Affected products:

All ASAR products, including level 0 products, acquired during this period.

• From 04-Aug-2004 02:00 UTC to 04-Aug-2004 09:26:00 UTC.

Problem description:

Degraded radiometric quality due to an instrument anomaly.

Affected products:

All ASAR products, including level 0 products, acquired during this period.

• From 16-Sep-2004 03:36:39UTC to 16-Sep-2004 08:53:15 UTC Problem Description:

Degraded radiometric quality due to an instrument anomaly. Affected products:





page 59 of 72

All ASAR products, including level 0 products

 From 12-Sep-2004 03:46:00 UTC to 12-Sep-2004 12:40:00 UTC <u>Problem Description:</u> Degraded radiometric quality due to an instrument anomaly. <u>Affected products:</u> All ASAR products, including level 0 products

 From 12-Aug-2004 13:53:54 UTC to 12-Aug-2004 19:09:50 UTC <u>Problem Description:</u> Degraded radiometric quality due to an instrument anomaly. <u>Affected products:</u> All ASAR products, including level 0 products

 From 14-AUG-2004 07:36:00 UTC to 17-AUG-2004 10:57:45 UTC <u>Problem Description:</u> Degraded radiometric quality due to an instrument anomaly. <u>Affected products:</u> All ASAR products, including level 0 products

 From 02-NOV-2004 14:17:25 UTC to 03-NOV-2004 10:04:58 UTC <u>Problem Description:</u> Degraded radiometric quality due to an instrument anomaly. <u>Affected products:</u> All ASAR products, including level 0 products

• From 05-DEC-2004 10:03:48 UTC to 05-DEC-2004 15:35:45 UTC

Problem Description:

Degraded radiometric quality due to an instrument anomaly. Affected products:

All ASAR products, including level 0 products

• From 13-APR-2002 to 11-FEB-2003

Problem Description:

The absolute calibration factor annotated in all ASAR level 1 products acquired between 13-APR-2002 and 11-FEB-2003 and processed between 01-AUG-2003 and 29-NOV-2004 is not correct. These products with incorrect calibration factor annotated in the Main Processing Parameters ADS can be identified by checking the auxiliary files used for processing. The name of the auxiliary files used in the processing is provided in the product SPH (use "view as HTML" in EnviView to visualise them). Products with incorrect calibration factor have been processed with the following external calibration auxiliary file:

ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000 The correct calibration factors for these products are provided in the following auxiliary file: ASA_XCA_AXVIEC20041129_173057_20020413_000000_20030211_000000 available on line at: http://earth.esa.int/services/auxiliary_data/asar/



page 60 of 72

<u>Affected products:</u> All ASAR level1 products.

• From 09-JAN-2005 03:13:21 to 09-JAN-2005 06:45:03 UTC

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 25-JAN-2005 to 02-FEB-2005

Problem Description:

Due to a problem on the ESRIN Low Bit Rate acquistion chain, the ASAR Wave and GM data could be of bad quality.

Affected products:

All ASAR Low bit rate products (Wave and GM), including level 0 products acquired at PDHS-E (ESRIN)

• From 22-MAR-2005 00:54:10 to 22-MAR-2005 00:54:10

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 12-MAY-2005 07:26:02 to 12-MAY-2005 10:50:00

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 18-MAY-2005 10:58:16 to 18-MAY-2005 13:58:00

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM). Affected products:



page 61 of 72

All ASAR products, including level 0 products

• From 01-JUN-2005 13:29:28 to 01-JUN-2005 16:45:00

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 05-JUL-2005 14:16:58 to 05-JUL-2005 17:27:11 Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 24-JUL-2005 02:22:42 to 24-JUL-2005 07:31:40

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 03-AUG-2005 17:09:54 to 03-AUG-2005 22:08:56

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 24-AUG-2005 01:09:08 to 03-AUG-2005 07:55:55

Problem Description:

Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM). Affected products:



page 62 of 72

All ASAR products, including level 0 products

• From 14-SEP-2005 08:00:40 to 16-SEP-2005 19:57:33

Problem Description:

Quality of ASAR Level-1 and Level-2 products is slightly degraded due to a temporal modification of the antenna radiation patterns. Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products are clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

From 16-SEP-2005 19:57:33 to 14-OCT-2005 00:00:00 Problem Description:

Quality of ASAR Level-1 and Level-2 products acquired between 16-09-2005 19:57:33 UTC and 14-10-2005 00:00:00 is slightly degraded for NRT products while it is nominal products generated on-request after 14-10-2005 00:00:00. Quality of products acquired after 14-10-2005 00:00:00 is nominal.

Affected products:

All ASAR level 1 and level 2 products

• From 21-OCT-2005 07:34:39 to 21-OCT-2005 09:34:58

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 01-MAR-2002 00:00:00 to 10-FEB-2006 00:00:00

Warning: Deagraded geolocation accuracy

Problem Description:

There is a shift in the zero-Doppler azimuth times annotated in the AP Level-1 products (this applies to the product zero-Doppler times and does not apply to other external times, such as the state vectors azimuth times). Full details on the impact on the product geolocation accuracy and the strategy for correcting products 'a-posteriory' can be found on http://envisat.esa.int/dataproducts/availability/disclaimers/PQD_0082ASA_all.pdf. <u>Affected products:</u>

All ASAR Alternating Polarisation (AP) Level-1 products processed with PF-ASAR version lower than 4.02. The PF-ASAR 4.02 is available at the following centres for which the installation date



page 63 of 72

is reported: PDHSK (02-02-2006), PDHSE (02-02-2006), I-PAC (02-02-2006), LRAC (02-02-2006), UK-PAC (07-02-2006), D-PAC (09-02-2006).

• From 20-NOV-2005 20:15:13 to 20-NOV-2005 23:28:50

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 11-DEC-2005 10:53:54 to 11-DEC-2005 14:14:52

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 25-JAN-2006 17:10:27 to 25-JAN-2006 20:31:34

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 22-FEB-2006 00:43:46 to 22-FEB-2006 11:21:32

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 22-FEB-2006 10:12:25 to 22-FEB-2006 15:14:13

Warning: Degraded ASAR Global Monitoring Mode radiometric quality



Problem Description:

Radiometric quality of ASAR Global Monitoring Mode (GMM) data acquired on 22 February from 10:12:25 UTC until 15:14:13 UTC, corresponding to orbits 20818, 20819 and 20820 may be degraded since a test with the ASAR instrument will be performed during this time. Data acquired during this time interval in modes other than GMM is NOT affected. GMM data acquired immediately before and after this period is NOT affected.

Affected products:

ASAR Global Monitoring Mode (GMM) products

• From 28-FEB-2006 02:37:34 to 28-FEB-2006 07:49:38

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 20-MAR-2006 02:12:44 to 20-MAR-2006 07:20:50

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 12-APR-2006 19:53:48 to 12-APR-2006 20:19:55

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 24-APR-2006 03:47:51 to 24-APR-2006 07:17:00

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation



of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 25-APR-2006 13:22:31 to 25-APR-2006 15:02:48

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 30-APR-2006 10:53:00 to 30-APR-2006 14:04:03

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 11-MAY-2006 03:13:20 to 11-MAY-2006 06:41:30

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 22-MAY-2006 07:32:43 to 22-MAY-2006 11:23:16

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products



page 66 of 72

From 25-MAY-2006 02:33:46 to 25-MAY-2006 7:45:47
 <u>Warning:</u> ASAR antenna gain problem
 <u>Problem Description:</u>
 Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation

antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 22-JUN-2006 16:00:00 to 22-JUN-2006 17:49:40

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 01-JULY-2006 03:00:00 to 01-JULY-2006 08:16:10

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 26-JULY-2006 13:15:00 to 01-JULY-2006 13:41:43

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 04-AUG-2006 07:15:00 to 04-AUG-2006 10:30:10

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation



page 67 of 72

of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 08-AUG-2006 01:38:00 to 08-AUG-2006 08:28:56

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 17-AUG-2006 03:26:46 to 21-AUG-2006 14:56:00

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 24-AUG-2006 12:56:47 to 24-AUG-2006 16:47:19

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 03-SEP-2006 01:19:40 to 03-SEP-2006 06:28:16

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products



page 68 of 72

From 03-SEP-2006 16:05:12 to 03-SEP-2006 18:07:40
 <u>Warning:</u> ASAR antenna gain problem
 <u>Problem Description:</u>
 Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation

antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 06-OCT-2006 07:35:40to 06-OCT-2006 11:15:30

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 17-OCT-2006 16:23:20 to 17-OCT-2006 20:00:54

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 24-OCT-2006 04:43:30 to 24-OCT-2006 09:42:25

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 24-DEC-2006 07:51:56 to 24-DEC-2006 11:14:05

Warning: ASAR antenna gain problem Problem Description:



Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 03-JAN-2007 07:37:20 to 03-JAN-2006 09:14:26

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 04-FEB-2007 16:51:13 to 23-FEB-2007 00:00:00

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. NRT products processed by the following auxiliary data: ASA_XCA_AXXIEC20061221_143253_20050916_195733_20071231_000000,

ASA_CON_AXXIEC20061107_090002_20050916_195733_20071231_000000,

ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000

has significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM). The products are being reprocessed.

Affected products:

All ASAR products, including level 0 products

From 03-MAR-2007 08:23:44 to 03-MAR-2007 12:05:49

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

From 15-MAR-2007 02:09:10 to 15-MAR-2007 07:05:53

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation



of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM). Affected products:

All ASAR products, including level 0 products

From 17-MAR-2007 07:43:40 to 17-MAR-2007 11:00:38

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

From 15-APR-2007 07:32:22 to 15-APR-2007 09:33:26

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

During June 2007 one new disclaimer was issued:

• From 27-JUN-2007 10:58:54 to 27-JUN-2007 12:43:10

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 22-JUL-2007 20:41:47 to 22-JUL-2007 21:36:04

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM). Affected products:



page 71 of 72

All ASAR products, including level 0 products

• From 04-DEC-2007 18:06:43 to 06-DEC-2007 00:17:30

Warning: Degraded geolocation accuracy

Problem Description:

ASAR data acquired between orbits 30127 and 30145 show a variable location error in azimuth, ranging up to 12 km. The problem is fully corrected for ASAR data acquired since orbit 30146. <u>Affected products:</u>

All ASAR products, including level 0 products

• From 01-NOV-2007 00:00:00 to 28-FEB-2007 00:00:00

Warning: Degraded ASAR GM product quality

Problem Description:

Due to archiving problem, the overall quality of ASAR GM products acquired between November 2006 and February 2007, covering the South America and Indonesia areas might be degraded. Processing artifacts as azimuth stripe and subswaths discontinuity are visible. A reprocessing activity is currently on-going. ASAR GM users are invited to check the available quick-looks by Eoli before ordering the products.

Affected products:

All ASAR products, including level 0 products

• From 25-JUL-2008 07:00:00 18:06:43 to 25-JUL-2008 11:40:00

Warning: ASAR antenna gain problem

Problem Description:

Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

• From 31-DEC-2008 22:16:43 to 01 JAN-2009 06:39:43

Warning: Degraded geolocation accuracy.

Problem Description:

ASAR data acquired between orbits 35755 and 35759 show a variable location error in azimuth, ranging up to 6.18 Km. The problem is fully corrected for ASAR data acquired since orbit 35760. <u>Affected products:</u>

All ASAR products, including level 0 products.

• From 15-FEB-2009 22:16:43 to16 FEB-2009 13:09:00

Warning: Envisat Yaw Steering.

Problem Description:

Envisat switched automatically in Yaw Steering Mode (YSM) from 15/02/2009 03:38:34 to 16/02/2009 13:09:00, due to an anomaly which affected Star Tracker 3.



The anomaly was caused by an unexpected bright object, different from the programmed star the star tracker was pointing to. The event was interpreted by the onboard software as two simultaneous target objects in the field of view and generated a suspension command, which in turn triggered the service module to switch to Yaw Steering Mode.

The Yaw Steering Mode implies a slight degradation of the general attitude stability, which does not substantially affect instrument data quality. Products acquired during YSM were therefore archived and distributed nominally.

From 05-MAR-2009 19:18:01 to 06-MAR-2009 15:10:02
Warning: Envisat Yaw Steering.
Problem Description:
Envisat switched automatically in Yaw Steering Mode (YSM) from 05-MAR-2009 19:18:01 to 06-MAR-2009 15:10:02, due to an anomaly which affected Star Tracker 3.

The anomaly was caused by an unexpected bright object, different from the programmed star the star tracker was pointing to. The event was interpreted by the onboard software as two simultaneous target objects in the field of view and generated a suspension command, which in turn triggered the service module to switch to Yaw Steering Mode.

The Yaw Steering Mode implies a slight degradation of the general attitude stability, which does not substantially affect instrument data quality. Products acquired during YSM were therefore archived and distributed nominally.