

Copernicus S3 Product Notice – Altimetry

Mission	S3	
Sensor	SRAL / MWR	
Product	LAND L2 NRT, STC and NTC	
Product Notice ID	S3A.PN-STM-L2L.10	
Issue/Rev Date	16/07/2020	
Version	1.1	
Preparation	This Product Notice was prepared by the S3 Mission Performance Centre and ESA experts	
Approval	ESA Mission Management	

Summary

This is a Product Notice (PN) for the Copernicus Sentinel-3A and Sentinel-3B Surface Topography Mission (STM) Level-2 Land products at Near Real Time (NRT), Short Time Critical (STC) and Non Time Critical (NTC) timeliness.

The Notice describes the STM current status, product quality and limitations, and product availability status.





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Current Operational Processing Baseline			
IPF	IPF Version	In OPE since	
S3A SR1	06.18	Land Centres:	
		NRT mode : 2020-07-09	
		STC mode : 2020-07-09	
		NTC mode : 2020-07-09	
S3A MW1	06.11	Land Centres:	
		NRT mode : 2020-01-21	
		STC mode : 2020-01-21	
		NTC mode : 2020-01-21	
S3A SM2	06.19	Land Centres:	
		NRT mode : 2020-07-09	
		STC mode : 2020-07-09	
		NTC mode : 2020-07-09	
S3B SR1	06.18	Land Centres:	
		NRT mode : 2020-07-09	
		STC mode : 2020-07-09	
		NTC mode : 2020-07-09	
S3B MW1	06.11	Land Centres:	
		NRT mode : 2020-01-21	
		STC mode : 2020-01-21	
		NTC mode : 2020-01-21	
S3B SM2	06.19	Land Centres:	
		NRT mode : 2020-07-09	
		STC mode : 2020-07-09	
		NTC mode : 2020-07-09	





Status of the Processing Baseline

S3A

The Processing Baseline (PB) for Copernicus Sentinel-3A STM products associated to this PN is reported above.

The quality status of the current baseline products is as follows:

The data quality over ice surfaces has been significantly improved since the installation of IPF-SM2 version 06.15:

- Over sea ice surfaces, thanks to a better tuning of the sea ice retracker (among other evolutions) the freeboard estimations are much more realistic and now consistent with the reference Cryosat-2 mission.
- Over land ice surfaces, thanks to a new slope correction, derived from a higher resolution slope model, the data coverage and the accuracy of the surface elevation estimations are improved.

The history of the Processing Baselines deployed in the Sentinel-3 processing centres for Sentinel-3A mission is summarised below (Sentinel-3B follows the same history, starting with SM2 06.14) and can be found in https://sentinel-3B follows the same history, starting with SM2 06.14) and can be found in https://sentinel.esa.int/web/sentinel/technical-guides/sentinel-3-altimetry/processing-baseline

Installation Date	Processing Baseline	IPF Version	Centre
2016-03-01 to 2018-	2.33	SM2	Core Ground Station
04-04		06.14	Land Centre
2010 02 14	2.45	SM2	PAC
2019-02-14	2.45	06.15	Land Centre
2020 01 21	2.61	SM2	PAC
2020-01-21	2.01	06.18	Land Centre
2020.07.00	2.69	SM2	PAC
2020-07-09	2.68	06.19	Land Centre





S3B

The new Processing Baseline for the Sentinel-3B products is 1.42. This processing baseline is the same used for the Sentinel-3A products (PB 2.68), with the exception of static auxiliary files (ADFs) that are specific to Sentinel-3B. The deployment dates in the Land and Marine Centres are specified above.

Installation Date	Processing Baseline	IPF Version	Centre
2018-04-24	1.02	SM2 06.14	Core Ground Station
			Land Centre
2018-12-06	1.13	SM2 06.14 S3B ADF update	Core Ground Station
			Land Centre
2019-02-14	1.17	SM2 06.15	Core Ground Station
			Land Centre
2020 01 21		Core Ground Station	
2020-01-21	1.33	SM2 06.18	Land Centre
2020 07 09	1 4 2	SM2 06 19	Core Ground Station
2020-07-09	1.42 SIVI2 06.18		Land Centre



Known product quality limitations

Common to S3A and S3B

The Sentinel-3A and Sentinel-3B STM products have some known processing limitations, which are reported in the next pages.

Anomaly #S3-1: Degraded quality of atmospheric attenuation over coastal areas (S3MPC-1934)

- The MWR atmospheric attenuation was improved over coastal zone except for some specific cases over coastal areas, for which the attenuation is negative (-0.3 dB). This anomaly affects only 0.25% of the ocean measurements and occurs when backscatter coefficient exceeds 18 dB.
- This anomaly was introduced in version 06.10 and all versions up to and including 06.18 are impacted. Version 06.18 provides significant improvements thanks to the definition of a new version of the side lobe correction ADF. However, to reach an optimal data quality in these areas, a refinement of the MWR neural network algorithm is required (to be deployed in a future IPF-SM2 version).

Anomaly #S3-2: GIM ionospheric to default value (S3MPC-2030)

- The GIM ionospheric correction is sometimes set to default values for portions of tracks that are close to midnight. Therefore, parameters related to the topography observations are impacted (sea_ice_ssha, int_sea_ice_ssha).
- Since IPF version 06.12, the impact is that sea_ice_ssha and int_sea_ice_ssha parameters are calculated without the GIM ionospheric correction.
- This anomaly only impacts the operational products, the reprocessed products (spring 2018 reprocessing campaign and 2019/2020 reprocessing campaign) are not affected by this anomaly.
- Fixed in version 06.19

Anomaly #S3-3: Global attribute "pass number" wrong information (S3MPC-3263)

- In the global attribute of the product, the first pass of a cycle is labeled as 771 instead of 1.
- Fixed in version 06.18



Anomaly #S3-4: Sea ice SSHA is set to Default Value when one of the geophysical corrections is missing (S3MPC-4168)

- Before the deployment of IPF-SM2 06.19, when one or more than one geophysical correction were set to Default Value (DV), the sea-ice SSHA was computed without this (these) geophysical correction(s). Now, as for ocean SSHA, if at least one geophysical correction is missing, the sea ice SSHA is set to DV.
- Fixed in 06.19

Anomaly #S3-5: Incorrect sea ice concentration values in coastal area

- Non-physical behavior of the Sea Ice Concentration (SIC) parameter often set to 0% in the coastal areas at high latitudes.
- Fixed in 06.19

Anomaly #S3-6: Errors in index 1hz meas 20 c and num 20 hz meas 01 c

- Index_1hz_meas_20_c and num_20_hz_meas_01_c field are sometimes set to Default Value.
- Fixed in 06.19

Notice #S3-1: High level of retracker failure in continental ice sheets (S3MPC-1014)

- Over the inland ice sheets of Antarctica and Greenland there are much higher levels of the ice sheet retracker failure than found in previous missions (i.e. CryoSat LRM or Envisat RA2) over sloping surfaces. The anomaly on the SAR ice margin retracker also impacts the slope correction, which is set to FillValue in a high number of occurrences.
- The Sentinel-3 data quality over ice sheets have been significantly improved with last IPF releases (adjustment and tuning of the Level-2 ice sheet retracker and use of more recent slopes model corrections). Recent studies have demonstrated that the Sentinel-3 altimeters trackers behave as expected. They also showed that the data coverage over these steepest areas can be improved (by more than 10%) thanks to an innovative Level-1 algorithm named "extended window". This innovative method dedicated to the Land ice surface will be implemented in a near future in the frame of the IPF improved branches development. With such implementation, the Sentinel-3 performances over ice sheets come closer to the ones obtained with Envisat RA2 and Cryosat-2 SARM.



Notice #S3-2: Tuning of the open sea-ice flag in SARM

• The open sea ice flag in the Sentinel-3 L2 products was computed with a parametrisation based on Envisat studies. The algorithm and its parametrization needed to be refined for Sentinel-3 SARM, it is implemented in 06.19

Notice #S3-3: Tuning of the ice sheet flag in SARM and P-LRM

• The open ice sheet flag in the Sentinel-3 L2 products was computed with a parametrization based on Envisat studies. The algorithm and associated parametrization refined for Sentinel-3 is implemented in 06.19.

Notice #S3-4: Improvement of the ice sheet snow facies classification

• The ice sheet snow facies classification has been improved in 06.19.

Notice #S3-5: New parameter angle to the coast

• With deployment of IPF-SM2 06.19, the angle formed between the satellite direction and nearest coastline is now provided in the Level-2 products at 1Hz and 20Hz. This parameter is also available for lakes over land surface.

Notice #S3-6: Update of the pole tide correction

• The pole tide correction has been updated from Whar [1985] to Desaï [2015] model in 06.19

Notice #S3-7: New global attribute "phase identifier" in Level-2 netcdf products:

• In order to easily identify the different mission life phases a new global attribute "phase identifier" has been added to all the Level-2 NetCDF products. Before the IPF-SM2 version 06.19, this information was only available in the manifests.

Notice #S3-8: New geographical coverage of the LAND Level-2 products:

- In agreement with the European Commission, a new definition of the geographical coverage of the Copernicus Sentinel-3 Altimetry Level-2 products has been recently defined:
 - The coastal overlap between MARINE and LAND products has been reduced to 50 km (25 km on each sides of the coastline).
 - The sea ice areas have been added in the LAND L2 products.



For any Inland Waters or Cryosphere applications, users are invited in using the ESA LAND Level-2 products; while for any Marine, Oceanic applications, the EUMETSAT MARINE Level-2 products are recommended



Specific to S3A

There is no limitation that affect Sentinel-3A STM mission only.

Specific to S3B

The Sentinel-3B STM products have some known processing limitations, which are reported here below.

Anomaly #S3B-1: Degraded SRAL calibration quality for S3B between 6 June and 21 June 2018 (SIIIMPC-2823)

- Due to different parameterisation of SRAL commanding on board, SRAL Level 1 products acquired between 7 June and 21 June have been processed with old CAL1 data.
- The impact on the L1 and L2 data is negligible.







			2019		
53A			DORIS + GPS		
		C039		C040 28/01	C041
C015	C019	CO	20	C021	C022
3B			DORIS + GPS		
	Start SARM OL C019 P219 ~13h45			SRAL anomaly Data unavailable From 28/01 17h08:24 to 29/01/2019 13h21:14 Duration: 20h12:40 From C021 P452 to C021 P43	76

- The geographic coverage of S3B mission was partial until 29 May 2018. Indeed, since the altimeter PRF was not changed during the drifting phase, there have been no SRAL acquisitions below 50^oS until 24 May 2018, then partial coverage between 24 and 29 May 2018.
- Note that the strategy of cycle numbering during the S3B drifting phase is that the cycle number is incremented at each major satellite manoeuvre. This results in very short cycles from Cycle 2 to Cycle 8. Between Cycle 9 (start of the tandem phase) and cycle 13 (end of tandem phase), the repeat cycles have the nominal duration of 27 days. Then, cycles 14 to 17 are also shorter than 27 days during the second drifting phase needed to reach the final orbit.
- From 8 May 2018 till 25 May 2018, MWR calibrations were performed over open-ocean as part of the MWR commissioning activities. As a consequence, the brightness temperatures for both channels are not computed and 1 Hz parameters derived from the MWR are set to default values in the product, except for the atmospheric attenuation. This affects the wet tropospheric correction, water vapour content and cloud liquid water content. Since 25 May 2018, the MWR calibration was changed so that data are no more lost over ocean
- Due to different thermal conditions on Sentinel-3B SRAL sensor, there is a jump of 0.2 dB on the SRAL C-band CAL1 power values that occurred on 29 May 2018. The impact on the L2 science data is a ramp of 0.2 dB on C-band sigma0 between 29 May and 7 June 2018, due to 10-day window averaging in the processing.
- Due to different parametrization of SRAL commanding on board, SRAL Level 1 products acquired between 7 June and 21 June 2018 have been processed with old CAL1 data. The impact on the L1 and L2 data is negligible and will not impact science data.



Operational useful information: Post tandem & drift phases

- Between the 23rd of November 2018 and the 9th of May 2019, the Sentinel-3B navigation bulletin was derived from GNSS instrument. After this date it is derived from Doris instrument. The use of GNSS information slightly impact the waveform centering. The impact on Level-2 parameters is negligible.
- Sentinel-3B SRAL instrument entered in Safe Hold Mode from the 28-01-2019 at 17:08 to the 29-01-2019 at 13:21
- The current OLTC tables (version 5.0 for Sentinel-3A and version 2.0 for Sentinel-3B) have been updated on the:
 - \circ 27th of November 2018 for Sentinel-3B
 - o 9th of March 2019 for Sentinel-3A
- Information about the updates of the Sentinel-3 OLTC tables is available on <u>https://sentinel.esa.int/web/sentinel/user-guides/sentinel-3-altimetry/overview/oltc</u>.
- More information are available at <u>https://sentinel.esa.int/web/sentinel/news/-</u> /article/copernicus-sentinel-3-improves-observation-of-inland-waters
- Since 14th of June 2019, Sentinel-3B is switched to Open Loop Fixed Gain mode over the Svalbard Transponder.
- Since the 29th of June 2019, Sentinel-3A is switched to Open Loop Fixed Gain mode over the Svalbard Transponder.

A new Sigma0 Transponder location has been identified in Tuscany under a Sentinel-3A and Sentine-3B crossover. Several temporary deployments of the Transponder are planned during the Summer 2020.

Useful information related to the products

- The brightness temperatures exhibit a difference of up to 1 K between ascending and descending tracks for the 23.8 GHz channel, both for Sentinel-3A and Sentinel-3B missions. This difference is explained by the variations of the OLCI wall temperature. A dedicated correction will be implemented in a near future.
- The composite wet tropospheric correction has not been calibrated yet and should not be used (comp_wet_tropo_cor_01_ku and comp_wet_tropo_cor_01_plrm_ku).
- The ocean Ku band sigma0 in all modes (LRM, PLRM and SAR) has been biased to be aligned on Envisat mean value (10.8 dB without the atmospheric attenuation). A system bias of -0.65 dB is applied to SARM Ku band and of -1.8 dB to the LRM and PLRM Ku band.
- Note that the sigma0 derived from ice sheet, sea ice and OCOG retrackers exhibits a mean value



close to 42 dB. Since version 06.18 this mean bias is reduced to 24 dB.

- The ocean C-band sigma0 in all modes (LRM and PLRM) has not been biased and exhibit a mean value around 11 dB which is lower by 4 dB compared to Jason-2.
- The higher noise of the C band range inherent to the PLRM processing contributes to a high noise in the dual frequency ionospheric correction. Since version 06.18, a new field containing the smoothed dual frequency ionosphere correction is provided for each P-LRM and SAR modes.
- The rain flag is presently based on Envisat flag and it has not been tuned for Sentinel missions.
- Note that the SRAL observations over inland waters are meaningful only over water bodies. The improved 3D meteorological corrections (mod_dry_tropo_cor_meas_altitude_01_ku and mod_wet_tropo_cor_meas_altitude_01_ku) should not be used to correct SRAL observations outside these targets.
- Note that the LRM data have additional biases due to the use of PLRM instrumental look up tables. This mainly affects the Ku band range parameter that is biased by 1 cm (range being too short than expected). For dual frequency ionospheric correction, PLRM look up tables induce an additional bias of 0.5 cm on the dual frequency ionospheric correction. This results in a total bias of 1.5 cm on ssha parameter, ssha being too high than expected.
- Since IPF-SM2 version 06.18, the global biases of Sentinel-3A and Sentinel-3B Ku and C-band ocean ranges have been updated to take into account the new internal path delay estimations. The Sentinel-3B Ku-band range is mainly impacted; it is reduced by 9 mm (Sentinel-3B ssha will increase being closer to the Sentinel-3A mean ssha value).
- The Sentinel-3B dual frequency ionospheric correction exhibits a bias of 1 cm, correction being too negative by 1 cm, compared to Sentinel-3A correction or to the model GIM correction. This difference is related to the 7 cm bias observed between Sentinel-3A and Sentinel-3B C-band ranges.
- The antenna aperture angles for both Sentinel-3A and -3B satellites have been updated since version 06.18. The mispointing information derived from waveform is now centred around 0 degrees².
- The size of the Level-2 products has been significantly reduced since version 06.18, thanks to the activation of the netcdf compression.
- The coverage of the Level-2 LAND products is modified. See Notice #S3-8 above.





References

 Sentinel-3 Mission Requirements Traceability Document (MRTD), C. Donlon, EOP-SM/2184/CD-cd, 2011

https://sentinel.esa.int/documents/247904/1848151/Sentinel-3-Mission-Requirements-Traceability

 Product Data Format Specification – SRAL-MWR Level 2 Land Products, Ref: S3IPF.PDS.003.2, Issue: 2.15, Date: 29/04/2020

https://sentinel.esa.int/web/sentinel/user-guides/sentinel-3-altimetry/document-library

• L2 Land Product Notice, S3A.PN-STM-L2L.10, Issue:10.0, Date: 09/06/2020

https://sentinel.esa.int/web/sentinel/technical-guides/sentinel-3-altimetry/processing-baseline

 Sentinel-3 Level 2 SRAL MWR Algorithm Theoretical Baseline Definition, Ref: S3MPC.CLS.PBD.005, Issue: 2.0, Date: 01/07/2019

https://sentinel.esa.int/web/sentinel/user-guides/sentinel-3-altimetry/document-library

Static ADFs updated

The following list is the complete list of static ADF used by the processor. Any change from the previous processing baseline is highlighted in red.

•	S3SR_2_CP00AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_CP06AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_CP12AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_CP18AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_EOT2AX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_003.SEN3
•	S3SR_2_FLT_AX_20000101T000000_20991231T235959_20151214T120000	_MPC_O_AL_001.SEN3
•	S3SR_2_GEO_AX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_002.SEN3
•	S3SR_2_LNEQAX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_003.SEN3
•	S3SR_2_LRC_AX_20000101T000000_20991231T235959_20151214T120000	_MPC_O_AL_001.SEN3
•	S3SR_2_LT2_AX_20160216T000000_20991231T235959_20190402T120000	_MPC_O_AL_003.SEN3
•	S3SR_2_LUTEAX_20160216T000000_20991231T235959_20170713T120000	_MPC_O_AL_002.SEN3
•	S3SR_2_LUTFAX_20160216T000000_20991231T235959_20170713T120000	_MPC_O_AL_002.SEN3
•	S3SR_2_LUTSAX_20160216T000000_20991231T235959_20181127T120000	_MPC_O_AL_003.SEN3
•	S3SR_2_MAG_AX_20160216T000000_20991231T235959_20170811T140000	MPC_O_AL_002.SEN3







•	S3SR_2_MDT_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_MLM_AX_20160216T000000_20991231T235959_20200512T120000	MPC_O_AL_004.SEN3
•	S3SR_2_MSMGAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3_SR_2_MSS1AX_20160216T000000_20991231T235959_20170713T120000	MPC_O_AL_002.SEN3
•	S3SR_2_MSS2AX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_003.SEN3
•	S3SR_2_ODLEAX_20160216T000000_20991231T235959_20170322T120000	MPC_O_AL_002.SEN3
•	S3SR_2_RET_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_RRC_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3_SR_2_S1AMAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3_SR_2_S1PHAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_S2AMAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3_SR_2_S2PHAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3_SR_2_SD01AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD02AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD03AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD04AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD05AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD06AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD07AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD08AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD09AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD10AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD11AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SD12AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SET_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SFL_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SHD_AX_20160216T000000_20991231T235959_20200220T120000	MPC_O_AL_003.SEN3
•	S3SR_2_SI01AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SI02AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SI03AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SI04AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SI05AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SI06AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SI07AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SR_2_SI08AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3



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S3SR_2_SIGLAX_20000101T000000_20991231T235959_20151214T120000	
	MPC_O_AL_001.SEN3
S3SR_2_SIGSAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3SR_2_SSM_AX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_002.SEN3
S3SR_2_SST_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3SR_2_SURFAX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3SR_2_WNDLAX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_002.SEN3
S3SR_2_WNDSAX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_002.SEN3
S3SR_2_POT_AX_20160216T000000_20991231T235959_20200220T120000	MPC_O_AL_001.SEN3
S3SR_2_EOT1AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3SR_2_LT1_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3AXCST_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3SRLSM_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3A_SR_2_CCT_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3A_SR_2_IC01AX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3A_SR_2_IC02AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3A_SR_2_IC03AX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3A_SR_2_IC04AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3A_SR_2_IC05AX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3A_SR_2_IC06AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3A_SR_2_IC07AX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3A_SR_2_IC08AX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3A_SR_2_IC09AX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3A_SR_2_IC10AX_20160216T000000_20991231T235959_20161010T120000	MPC_O_AL_002.SEN3
S3A_SR_2_SSBLAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3A_SR_2_SSBSAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
S3A_SR_2_CON_AX_20160216T000000_20991231T235959_20200407T120000	MPC_O_AL_017.SEN3
S3A_SRCHDRAX_20160216T000000_20991231T235959_20190402T120000	MPC_O_AL_005.SEN3
S3A_SRCHDNAX_20160216T000000_20991231T235959_20200312T120000	MPC_O_AL_006.SEN3
524 MW CUDNAY 201002107000000 200012217225050 201700007120000	
234_NIMCHDNAX_201002101000000_203311232323_201103081150000	MPC_O_AL_004.SEN3
	53A_SR_2_CCT_AX_20000101T000000_20991231T235959_20151214T120000







•	S3B_SR_2_CCT_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SR_2_IC01AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC02AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC03AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC04AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC05AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC06AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC07AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC08AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC09AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_IC10AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_SSBLAX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SR_2_SSBSAX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SRCHDNAX_20180425T000000_20991231T235959_20200312T120000	MPC_O_AL_005.SEN3
•	S3B_SRCHDRAX_20180425T000000_20991231T235959_20190402T120000	MPC_O_AL_004.SEN3
•	S3B_MWCHDNAX_20180425T000000_20991231T235959_20181116T120000	MPC_O_AL_002.SEN3
•	S3B_MWCHDRAX_20180425T000000_20991231T235959_20181116T120000	MPC_O_AL_002.SEN3

End of the Product Notice