thermoscientific

TEM Server 7.3

Service Release Notes

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ThermoFisher
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Contents

1   Introduction

TEM 7.3.X is a TEM Server software version. It is released for a selection of new, factory-built Thermo Scientific Transmission Electron Microscope (TEM) systems as the following microscope software versions:

- Titan 3.3.X
- Talos 2.3.X

This document describes the changes and improvements made with respect to the previous release, TEM 7.2.X.

Note   **This TEM 7.X release does not support upgrades from TEM 6.X software.**

1.1   Mandatory and Breaking Changes

None since the previous release.

1.2   Highlights

- Spectra is now available with X-CFEG source.
- Sherpa:
  - Ultimono for Titan family systems with monochromator and EELS filter.
  - Spot Saturation for Talos L120C with LaB6 filament.
  - Align Genie for Talos F200X/C/S/i for Material Science.
- Falcon 4 now supports Electron Event Registration (EER) and Integration Mode.
- Gatan Continuum S1077 is now available as an embedded filter.

1.3 Supported Microscope Types

Note   **Verify that all microscope hardware is supported before installation of this TEM Server release.**

Refer to Supported Hardware on page 8 for a list of supported modules and subsystems.

Family	Type or Generation	Supported	Remarks
Titan	Titan G1/G2/G3/G3i	**No**	All Titan-family models of generation G1 and G2. (Titan, Themis, Krios, Metrios, Halo, ETEM)
	Titan G3, Krios G3i	Yes	Only as factory shipment, no field upgrade.
	Titan G4	Yes	All Titan-family models of generation G4. (Spectra, Krios, Metrios)
Talos	Talos G1	**No**	
	Talos G2: • Talos F200S/X/C/i • Talos L120C • Talos Arctica • Glacios	Yes	Only as factory shipment, no field upgrade.

Note   **This TEM 7.X release does not support upgrades from TEM 6.X software.**

1.4   Supported Software

Note	This chapter specifies the *minimum* software versions that are compatible with this TEM Server release.

Newer software versions may be available that are backward compatible with this TEM Server release.

- Check TEM SW Archive for the most recent compatible software versions.
- Refer to the release notes of the listed software products for a specification of the supported TEM Server releases.

In the tables below, the *Upgrade* column specifies whether or not an upgrade is necessary.

Upgrade	Explanation
Mandatory	The application *must* be upgraded to maintain system functionality and/or performance. If the application is not present on the system, then it is not necessary to install it.
Automatic	The application upgrade is included in the TEM Server installation.
Optional	The application *can* be upgraded, this is not required for system functionality or performance.
No change	There is no new application version.
Uninstall	The application must be removed.
N/A	The application does not support, or is not supported by this TEM Server release.

1.4.1   Microscope PC

The Microscope PC must run on the Windows 10 IOT Enterprise operating system image.

The Microscope PC for systems with Windows 10 is available as FRU 1178082.

Software	Version	Upgrade	Remarks
Tomography	5.1	**Mandatory**	Includes Tomography 4.14 for STEM and STEM/EDS experiments.
EPU	2.6	**Mandatory**	
EPU-D	1.2	No change	
MAPS	3.12	**Mandatory**	
Velox	2.11	**Mandatory**	
TIA	5.3.0	Automatic	Included in Titan and Talos SW installation. There will be no new features in TIA anymore, only bugfixes.
GMS	3.3.2.2403	**Mandatory**	For systems without a Gatan Continuum filter.
	3.4.0.2796	**Mandatory**	Required for Gatan Continuum filter.
Bruker Esprit	2.1.2.17929	No change	Required for Dual-X.
Sherpa	2.0	Automatic	Included in Titan and Talos SW installation.
CEOS	4.6.10	Automatic	Included in Titan SW installation. Only for systems with corrector(s).
Metrios UI	4.1	**Mandatory**	
Quadera Software	N/A	N/A	
RAPID	4.0.1	Mandatory	
Imaging Codec Pack	3.13.0	Optional	
Data Collector	2.2	Automatic	

Service Tools

Note **The mentioned software versions are the minimum version numbers for this TEM Server release. Service Tools are often backward compatible with a limited range of preceding TEM Server releases.**

SW Product	Version	Remarks
AutoAlignments Tip	1.2.17	Check TEM SW Archive - Auto Alignments - Tip Replacement for latest update
Alignment Checker	1.4.5	**Not available for FSEs** Check TEM SW Archive - Alignment Checker for latest update.

1.4.2 Support PC and Network PC

1.4.2.1 TEM 7.X.Y - Microscope PC Operating System

The Support PC or Network PC must run on a Windows 10 operating system image.

SW Product	Version	Upgrade	Remarks
RAPID	4.0.1	Optional	Older releases may still work also.
Email Service and Port Forwarder	-	**Mandatory**	Install from Titan/Talos ISO
Imaging Codec Pack	3.13.0	Optional	

1.4.3 Remote Operation PC

SW Product	Version	Upgrade	Remarks
RAPID	4.0.1	Optional	Older releases may still work also.
TARO Simple	-	**Mandatory**	Install from Titan/Talos ISO
Imaging Codec Pack	3.13.0	Optional	

1.4.4 Other PCs

SW Product	Version	Upgrade	Remarks
TIA Offline	5.3.0	Optional	TIA Offline is backward compatible. There are no new features in TIA since 4.22. The upgrade to 4.23 is optional, but recommended.
Velox Offline	2.10	**Mandatory**	Velox Offline is backward compatible
Imaging Codec Pack	3.13.0	Optional	
Inspect3D	Upgrade depends on compatibility with Tomography data		
Amira / Avizo	Upgrade depends on compatibility with Inspect3D data		

1.5 Supported Hardware

Functionality	Hardware	Remarks
Facilities, Communication and Infrastructure		
Microscope PC	HP Z4 G4	
CAN Controller	SCU	
	SCU2	

Functionality	Hardware	Remarks
User I/O	OSD for Talos	
	OSD for Titan G4	
	Loading Area LEDs for Krios G4	
	KVM Extender	
Source and High Tension		
HT Tank	G2	
	G2.3	
Gun	FEG G2	XFEG and SFEG, with and without Monochromator
	X-CFEG	
	Thermionic	LaB6 and Tungsten
Vacuum		
IGPD2 power supply	IGPD2v2	
	IGPCU 5KV / 5.5KV	
Optics		
Talos Optics Boards	Version 1	
Current Measuring Board	CMAG	
Phase Plate	SCU Remote Controlled Heating	Keithley Power Supply
Correctors	CS Corrector	
Cameras and Detectors		
Cameras	Flucam 2	
	Flucam 3	
	Falcon 3EC	
	Falcon 4	Requires a Ceta camera
	Ceta	• Including Ceta Speed Enhancement (Ceta-2) • Supported Sensor Packages: Ceta 16M, Ceta-D/-M/-S
	Gatan OneView	

Functionality	Hardware	Remarks
Filters	Gatan Quantum 963 / 964 / 965 / 966 / 967 / 968	
	Gatan Enfinium SE/ER	
	Gatan BioQuantum 967 / 968	With Gatan K2 camera
	Gatan BioQuantum 1967	With Gatan K3 camera
	Gatan Continuum: • ER1065 • 1066 • 1069 / HR1069 • S1077 / HR1077	
STEM Detectors	HAADF	
	BF/DF Retractable	
	BF/DF Retractable Mk2	
	Panther STEM BF-S/DF-S	Also known as NextGen- or NG-STEM
	Gatan 805, 807, BF/DF	
EDS	SuperX-G2 / G2 Lite	Requires Velox
	Dual-X / Single-X	Requires Esprit 2.1
Scan Engines	PIA, PIA EDS	
	Panther STEM CAB/A	
Motion and Specimen Loader		
CompuStage Mk1 / Mk2	TSC	
Piezo Enhancement	PI E545	
	PI E727	
Automated Aperture System	AAM-G2 with TAC	Including Heated Apertures
Autoloader	Plan 3 with TAC	Plan 3 with NYCe4000 is not supported
IVIS		

Note   **Although the supported hardware list contains a limited selection of (legacy) hardware that is not available on new, factory-built systems, TEM 7.2.X software can *not* be retrofitted on legacy systems.**

1.6 Discontinued Hardware

None since the previous release.

2 Source and High Tension

2.1 New Features

Titan

- **Ultimono** is automatically disabled after 3 days to prevent emitter deterioration and long recovery times.

Talos

- **Sherpa**:
  - **Spot Saturation** automatically optimizes gun tilt and filament heating to maximize the beam current and optimize the shape of the spot, without overheating the filament. Spot Saturation is only available for systems with a LaB6 source.
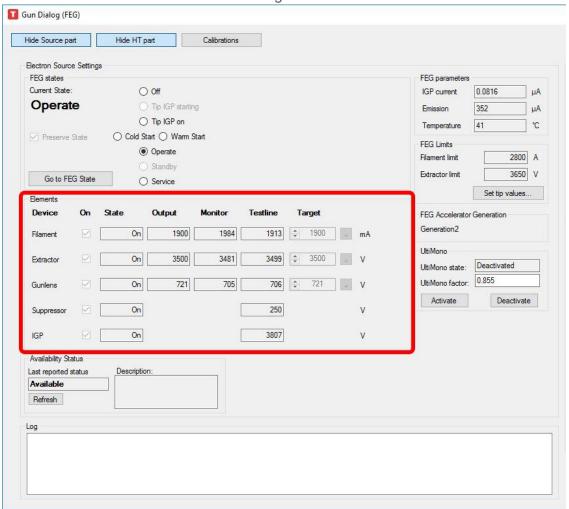
2.2 Improvements

No (major) items.

2.3 Impact on Service / Install

Titan

- **CFEG**:
  The *TEM User Interface > FEG (Service)* control panel is discontinued for systems with a CFEG source. All service related functions and values are moved to the *Microscope Software Launcher > Tools > Gun Dialog*.

For XFEG and SFEG sources, the *FEG (Service)* control is unchanged.

3   Vacuum

3.1 New Features

Titan

- **Vacuum G1.1** now supports systems with an X-CFEG source.

Talos

- The **Vacuum Analyzer** replaces the obsolete *Vacuum Logger* tool.

- The **Vent All** action is automated.

3.2 Improvements

No (major) items.

3.3 Impact on Service / Install

Titan

- On a microscope with an **X-CFEG** source and a **Vacuum G1.1** or **Vacuum G2** system, a special **customer USB license dongle** is required. This dongle *replaces* the customer dongle in the Microscope PC.
  If the dongle is not present, then the vacuum system will not start.
  The special dongle is installed in the factory, but in case the Microscope PC is replaced, then the dongle must be transferred.

- **TAD tests** for Titan Vacuum G2 are improved.

4 Optics

4.1 New Features

Titan

- **Sherpa**:

  - **OptiSTEM** now supports systems with XFEG and with X-CFEG sources.

  - **OptiMono** now supports Gatan Continuum filters.

  - **OptiMono+** extends the regular OptiMono functionality to Ultimono conditions.

- New **Lens Series** for Spectra 200.

Talos

- **Sherpa**:
  The new **Align Genie** functions automate various alignments and checks:

  - Direct Alignments

  - Optics checks

  - Column Alignments
    (only available for Thermo Fisher Scientific engineers).

  The set of available alignments and checks depends on the system type and configuration.
  The Align Genie function is a licensed option (commercial number: 1234497).

4.2 Improvements

Titan and Talos

- **Sherpa**:

  - The **User Interface** has a slightly different Look & Feel. This one of the noticeable results of upgrading the AutoStar software (including Sherpa) from Python 2.7 to Python 3.6.

  - **AutoCTF** shows a smoother Phase Shift plot for the Phase Plate activation procedure to make it more suitable for Phase Plate characterization.

Titan

- **Sherpa**:

  - **OptiSTEM** uses a better energy spread for systems with an X-CFEG source.

  - **OptiSTEM+** on Metrios systems performs better at low kV.

4.3 Impact on Service / Install

Titan and Talos

- **Sherpa**:
  APM and **AutoCTF** logging to DataServices (D2i) now includes the actual duration of each task.

- **Health Monitor**:
  The following Optics mode parameters are added:

  - Lorentz mode: on / off

  - Probe mode: Nanoprobe/microprobe

  - Holography: on / off

  - Illumination mode: Parallel / Probe

5 Cameras and Detectors

5.1 New Features

Titan and Talos

- **Falcon 4**:

  - **Integration Mode** is added. The integration mode allows for a higher Dose Rate (up to 200 e-/px/sec) than electron counting modes.

  - **Electron Event Registration (EER)** allows for recording individual electron events within frames at high compression ratios. EER unlocks the full performance of the Falcon 4 sensor.

- The **Gatan Continuum S1077** filter is now available in embedded configuration.

5.2 Improvements

Titan and Talos

- **Falcon**:
  If the Proactive Dose Protector aborts an ongoing image acquisition, then the TEM Server informs the application that requested the acquisition about the reason.

- **Ceta-S**:
  The default **Frame Summing** in the **Dynamic Range** preset for medium and high dose is adjusted to 16/40.

- **FlucamViewer**:
  Changing the gamma value in active Auto Sensitivity mode no longer pauses acquisition.

5.3 Impact on Service / Install

Titan and Talos

- **Camera Performance Tool**:
  The **MTF Non-uniformity** calculation is now integrated in the Camera DQE Tool for the Falcon 3EC camera and for Ceta cameras with and without Speed Enhancement (Ceta-2).

- **Falcon 4 Service Tool**:

  - Basic CV7A hardware information is now available.

  - Sensor manufacturing and genealogy information is now available.

- **Health Monitor**:

  - The **Sensor Temperature** logging rule is updated. It now records a new data point when the temperature changes by 1 degree, or at least one data point per 30 minutes.

  - **Falcon 4** is now supported in Health Monitor.

- **Configurator**:
  The **Gatan Continuum 1065/1066** and **1069/1069HR** filters are available.

- **Gatan Continuum S1077**:
  To install and configure a Gatan Continuum S1077 filter in **embedded configuration**:

  - The filter must be identified as `ENFINIUM`

  - If an embedded Gatan filter has been present on the system previously, then install patch 836396.

  - The Continuum S1077 has a different camera orientation than the Enfinium filter. In the Acquisition Monitor, set the orientation to *Horizontal Flip*.

Talos

- **Falcon** with **Ceta** is now available for Talos F200X.

6 Motion

6.1 New Features

No (major) items.

6.2 Improvements

No (major) items.

6.3 Impact on Service / Install

Titan and Talos

- **SpecimenHolderManager** and **SpecimenHolderManagerNG**:
  It is no longer possible to remove default holders. The **Standalone Holder Installation** is now the only way to add or remove holders in the system configuration.

- The **Apertures User Data Converter** tool is no longer available.

7 Autoloader

7.1 New Features

No (major) items.

7.2 Improvements

No (major) items.

7.3   Impact on Service / Install

Titan and Talos

- New **Unique Error Codes (UEC)**:
  - VACUUM.PUMP.TMPAL (3.13.33.x): PUMP_ERROR
  - VACUUM.VALVE.VALT (3.24.66.x): VALVE_ERROR
  - VACUUM.VALVE.VTPAL (3.24.65.x): VALVE_ERROR

8   TAD, Service Tools, Installer and Licensing

8.1   New Features

Titan and Talos

- **Prerequisites** installation now includes the EDM tool
- **DataServices** (D2i):
  - License key IDs and License feature IDs are now reported.
  - System Monitoring: SSD disks are now supported.
- **AutoDAR** functionality and Look & Feel are improved:
  - Notifications and icons.
  - Better crash dump handling.
  - better handling of long file paths.
- **Firmware Validation**:
  - Firmware can now be validated while the TEM Server is running.
  - Help pages are available.

Titan

- **Configurator**:
  - SMCB stage controller is incompatible with UltraX.
  - CFEG renamed to X-CFEG.

8.2   Improvements

No (major) items.

8.3   Impact on Service / Install

No (major) items.

9   Solved Issues

Solved in TEM 7.3.0

ID	Description	Titan	Talos
TT730847	Ceta should retract automatically when starting EELS (RDTS-111)	X	
TT734514	Talos: wrongly set camera position factor in registry	X	
TT775285	Do not disable knob binding checkboxes in Lorentz ocx for (Lorentz) stem mode	X	
TT782632	DF: DFCI CAB does not start after CMTS power cycle	X	X
TT787695	Cannot install TEM SW due to problems unregistering files	X	X
TT801646	S-Corr dialog crash	X	
TT815879	Beam blanker doesn't work sometimes in EPU	X	X
TT820638	Improved lens series for EFTEM SA range for Titan LowBase	X	
TT825474	Ctrl-Alt-Del causes Flucam issues	X	X
TT826701	VACG2: PVPm and PVPp went to error suddenly	X	
TT826958	VACG2: When the column was vented, open Vmt immediately after starting TMPm	X	
TT829499	User level Sherpa shows EF-FalconService	X	X
TT830298	MagCal transfer script not working in GMS GIF imaging mode.	X	X
TT832396	SystemMonitoring: GPU information are recorded twice	X	X
TT832414	TEM_TAD: PhasePlate.Function tests fails	X	X
TT833025	Falcon CMTS cabs connected but cabs show blue LEDS	X	X
TT834945	VACG2: Column not to conditioning after IGPcoHigh Watchdog was triggered	X	
TT837239	Optics boards down during MAPS night run		X
TT838740	The milli, micro and nano functions defined for TstHalNG do not work	X	X

ID	Description	Titan	Talos
TT839660	VACG2:'Recover failed: timeout occurred' w. BC Preparing + SW recovery triggered	X	
TT840528	[AAMG3] Mechanism type shows AAMG2 in alignment wizard	X	X
TT841665	Joystick / Trackball button on SMC components does not work	X	X
TT842301	Flucam freeze:374 frames reported skipped (Stutter)	X	X
TT843098	[AAMG3] BeamMask in Alignment Wizard select not logical position	X	X
TT843985	[AAMG3] Movement issues: Saturation and Settling error on X axis.	X	X
TT844261	EPU stopped "Acquiring an image failed. StorageServiceClient can't schedule Job"	X	X
TT844430	Ceta-D not in blanker shutter monitor	X	X
TT844555	Offloads not started while Storage Service is running and scheduling jobs	X	X
TT845713	AFIS: presets do not set stage tilt to zero	X	
TT845966	Blanker shutter Monitor show EF-CCD and GIF CCD	X	X
TT846728	Adapt instructions and help of mode-switch alignments for Service	X	
TT847520	TEM UI crashes when changing EELS/EFTEM/Imaging in Filter OCX	X	x
TT848323	Falcon 4: No CPI connection after TEM server install and restart	X	X
TT848649	EF-CCD (K3) incompatible with image corrector	X	
TT849101	LDC alignment not working properly in EFTEM mode: use electron counting	X	X
TT849128	Falcon-4 / Server crash during velox acquisition	X	X
TT849368	AcquisitionServer FruInfo memory leak	X	X
TT849548	Adjust any aperture adjust the slit aperture preset position selected	X	X
TT850033	DualX missing EDX segment in acquisition monitor	X	

ID	Description	Titan	Talos
TT850153	IVIS wrong TAD help file opened for manual test on Krios on Themisbase	X	
TT850197	Configurator shows unclear warning	X	
TT850232	Old logo in Acquisition progress in Ceta16M / Ceta 2 Reference Image Manager	X	X
TT850276	IVIS pmp tooling missing icons	X	
TT850676	[crash] CameraCeta.exe	X	X
TT851125	Gatan sharing for DAR does not work when another PC is present in the network	X	X
TT851748	Aperture slit preset shows wrong coordinates while adjusting	X	X
TT852060	Spelling error: "Scan was stopped. Error syncrhonizing"	X	X
TT852353	[AAMG3] Safe position vs retract position for AAMG3 leads to usability issues	X	X
TT852854	Grey-out singleX for all microscopes except Spectras	X	
TT853072	IGPf spikes leads to FEG down on XFEG. Changed delays for IGPf trip level monitor from 0s to 5s.	X	X
TT853753	Stage2 OCX does not load correctly after TEM server start	X	X
TT853964	LDC: Column valve not closed when LDC alignment is finished	X	X
TT855663	AutoCTF fails with K3	X	X
TT856238	Remove Apertures UserData Converter tool	X	
TT856956	Very slow system behavior, server busy, finally flucam stopped working	X	X
TT857368	FEG registers stores extractor voltage with 50V resolution	X	
TT857754	EPU weekend runs hanged due to: Failed to PrepareForProcessing	X	X
TT857985	TEM scripting error in image acquisition	X	X
TT858172	crash in feibboxPiezoStage.exe in HalMotionPI	X	X
TT858313	TEM Server crash (RDTS-109)	X	X

ID	Description	Titan	Talos
TT859115	Adjust the commercial names of the cameras	X	X
TT859279	crash in feibboxCompustage.exe! halmotionprodrive	X	X
TT860894	[AAMG3] System incorrectly installed as AAMG3	X	
TT861490	F4 Store fractions long acquisition abort results in error state	X	X
TT861796	Memory growth of feibboxTemFunctions.exe		X
TT862631	Angle calibration in condenser nP alignment does not work (LB Titans)	X	
TT865661	FlucamViewer Hangup	X	X
TT866262	[AAMG3] IOM4 BeamMask WaitForApplyMask getting unexpected timeout	X	X
TT869752	Panther STEM acquisition hangs (RDTS-123)	X	X
TT873299	Doseprotection Faclcon4 should also blank in probe mode large angle range	X	
RDTS-108	APM: No clear message when .alg file name is wrong	X	X
RDTS-180	Changing beam tilt and camera binning in AFIS alignment settings file has no effect		X

10 Known Issues

Descriptions and workarounds for a selection of Known Issues is available:

- In Fluid Topics (https://thermofisher.fluidtopics.net/home).

- On the Service CD.

For an overview of the described Known Issues per Titan, Talos and Tecnai software version, refer to 307271.

ID	Description	Titan	Talos	Remarks / Workarounds
TT652982	FeiAutoStarServer.exe server still running, after Sherpa and TEM server stopped	X	X	Causes TT736864.
TT718847	Correct Objective Stigmator gives HRESULT 80004005	X	X	
TT725645	Find Beam" routine: in TEM mode (3-condenser mode) does not work properly	X		
TT733615	Sherpa AutoCTF is very slow and unresponsive	X		Possibly related to TT821401 and TT821676.
TT736864	Find Beam button in Monochromator (Expert) OCX does not function.	X	X	Caused by TT652982. Same cause as 767667
TT750071	OptiSTEM inserts HAADF in TEM mode	X	X	
TT751977	Inconsistent (incomplete) error messages when no camera present	X	X	
TT751980	AutoCTF fails when starting at a too high defocus	X	X	
TT760647	Sherpa: Task cannot be stopped during image acquisition	X	X	
TT761235	Sluggishness on Themis 1 after S-CORR upgrade	X		
TT767667	Find Beam in Monochromator (Expert) doesn't work (however Sherpa does work). STEM Auto Tuning functionality cannot be added to the Workset.	X	X	Caused by TT652982. Related to TT821401 and TT821676. Same cause as TT736864.
TT772811	Incorrect FFT fit reliable for AutoCTF	X	X	
TT780477	AutoCTF hangs	X	X	
TT784547	When camera is offline AutoStar TemService cannot be started	X	X	

ID	Description	Titan	Talos	Remarks / Workarounds
TT785183	Preconditions Center Objective Aperture alignment ignored when no 100u aperture	X	X	
TT785186	No user feedback when missing 100u objective aperture in APM	X	X	
TT789332	Semi-transparent 100 um objective aperture - APM	X	X	
TT792457	APM: UI issues	X	X	
TT794507	APM Fails when filling system with LN2	X	X	
TT801222	Sherpa hangs since CTF estimation algorithm cannot handle incorrect pixel sizes	X	X	
TT808176	AutoCTF_wrong defocus value_with higher binning	X	X	
TT821401	CTF estimation 'freezes' AutoCTF run	X	X	Related to TT767667.
TT821676	Beta: Sherpa performance issue	X	X	Related to TT767667.
TT821740	AFIS alignment shows misleading error message	X		
TT824931	Sherpa stop button remains active after a (manual) APM run	X	X	
TT838769	APM rotation center validation does not work in fringe free mode	X		
TT842488	STEM CCD Experiment gives error message in TIA	X	X	
TT842833	AutoCTF not responsive when using K3 camera	X	X	
TT844339	APM: 200kV saved as 300kV	X		
TT847442	PEELS OCX creates spectrum with only half the energy range	X	X	
TT848747	Run AlignBeamShift on APM from Sherpa let the Sherpa application hang	X	X	

ID	Description	Titan	Talos	Remarks / Workarounds
TT849094	APM: too high BeamShift as result of AlignBeamShift	**X**	**X**	
TT851376	APM does not restore settings	**X**	**X**	
TT851908	AFIS alignment: wrong (confusing?) error message shown to user	**X**		
TT855304	Correct the coma on the K2 will crash vacuum (RDTS-88)	**X**		
TT855189	Sherpa CTF fit not correct, while being OK (RDTS-76)	**X**	**X**	
TT861822	Magnification Indexing ends with error in GMS	**X**	**X**	
TT868007	GMS keeps requesting to install Windows update	**X**	**X**	
TT869774	AFIS: Resulting graphs not shown when details is switched off	**X**		
TT871604	Optimono+: pressing stop during presets doesn't work	**X**		
TT878335	APM: no camera available error in EFTEM for eucentric height	**X**	**X**	
RTC145635	IGPD2v2 communication issue (Vacuum FW not working with IGPD FW 2.xx)		**X**	
SA-27	Screen current integration time		**X**	Sherpa > Align Genie
SA-58	Apply Gain correction (burnout fluscreen issues)		**X**	Sherpa > Align Genie
SA-59	New thresholding shrinkage issue		**X**	Sherpa > Align Genie
SA-74	Implement Intensity limits in LM		**X**	Sherpa > Align Genie
SA-112	Scheduling – avoid the need to close Sherpa for scheduled run		**X**	Sherpa > Align Genie
SA-118	Center C2 aperture fails at large SA magnifications		**X**	Sherpa > Align Genie

ID	Description	Titan	Talos	Remarks / Workarounds
SA-119	Improve thresholds for high SA and Mh magnifications		**X**	Sherpa > Align Genie