



Customer Release Notes

EM7590/EM7595

Revision History

Rev#	Date	Updates
1 (was 1.1)	Aug 26, 2022	Release 1.1 (SWIX12C_01.01.05.00)
2 (was 3.0)	Oct 21, 2022	Release 3.0 (SWIX12C_01.01.07.00)
3 (was 3.2)	April 11, 2023	Release 3.2 (SWIX12C_01.01.09.00)
4 (was 3.3)	April 26, 2023	Release 3.3 (SWIX12C_01.01.10.00)
5 (was 4.0)	Sep 20, 2023	Release 4.0 (SWIX12C_02.02.02.00)
6 (was 5.0)	Jan 30, 2024	Release 5.0 (SWIX12C_02.02.03.00)
7 (was 6.0)	Feb 27, 2025	Release 6.0 (SWIX12C_03.01.01.00)
8 (was 6.1)	Jun 02, 2025	Release 6.1 (SWIX12C_03.01.02.00)
9	July 08, 2025	Changed document number from 4124160 Changed Revision number format Release 6.1.1 (SWIX12C_03.01.02.00_ATT_003.000_004) Update Rogers/SouthernLINC and EM7595 Docomo to approval list.
10	Aug 08, 2025	Added Telus to Generic Release 3.0 approval list (SWIX12C_01.01.07.00_GENERIC_001.003_000)(EM7590)
11	Jan 16, 2026	Updated Telus approval list. Updated section 2.1 Hardware compatibility – Added firmware downgrade restriction notice regarding QET6105 component.

Contents

CONTENTS.....	3
1 INTRODUCTION.....	6
1.1 Document Scope.....	6
1.2 Firmware Packages and Tools.....	6
1.3 Document Audience.....	6
2 COMPATIBILITY.....	7
2.1 Hardware compatibility.....	7
2.2 Software feature compatibility.....	7
3 FIRMWARE RELEASE 6.1.1_03.01.02.00.....	8
3.1 Firmware Release Description.....	8
3.1.1 Firmware Release Identification.....	8
3.1.2 Carrier Packages.....	8
3.1.3 Host Software Versions.....	9
3.1.4 Software Changes.....	10
3.1.5 Known Issues.....	10
4 FIRMWARE RELEASE 6.1_03.01.02.00.....	11
4.1 Firmware Release Description.....	11
4.1.1 Firmware Release Identification.....	11
4.1.2 Carrier Packages.....	11
4.1.3 Host Software Versions.....	12
4.1.4 Software Changes.....	12
4.1.5 Known Issues.....	13
5 FIRMWARE RELEASE 6.0_03.01.01.00.....	14
5.1 Firmware Release Description.....	14
5.1.1 Firmware Release Identification.....	14

- 5.1.2 Carrier Packages..... 14
- 5.1.3 Host Software Versions..... 15
- 5.1.4 Software Changes 15
- 5.1.5 Known Issues 17
- 6 FIRMWARE RELEASE 5.0_02.02.03.00..... 18
 - 6.1 Firmware Release Description 18
 - 6.1.1 Firmware Release Identification 18
 - 6.1.2 Carrier Packages..... 18
 - 6.1.3 Host Software Versions..... 19
 - 6.1.4 Software Changes 19
 - 6.1.5 Known Issues 20
- 7 FIRMWARE RELEASE 4.0_02.02.02.00..... 22
 - 7.1 Firmware Release Description 22
 - 7.1.1 Firmware Release Identification 22
 - 7.1.2 Carrier Packages..... 22
 - 7.1.3 Host Software Versions..... 23
 - 7.1.4 Software Changes 23
 - 7.1.5 Known Issues 26
- 8 FIRMWARE RELEASE 3.3_01.01.10.00..... 28
 - 8.1 Firmware Release Description 28
 - 8.1.1 Firmware Release Identification 28
 - 8.1.2 Carrier Packages..... 28
 - 8.1.3 Host Software Versions..... 28
 - 8.1.4 Software Changes 29
 - 8.1.5 Known Issues 29
- 9 FIRMWARE RELEASE 3.2_01.01.09.00..... 30
 - 9.1 Firmware Release Description 30
 - 9.1.1 Firmware Release Identification 30

9.1.2 Carrier Packages.....	30
9.1.3 Host Software Versions.....	30
9.1.4 Software Changes	31
9.1.5 Known Issues	31
10 FIRMWARE RELEASE 3.0_01.01.07.00	33
10.1 Firmware Release Description	33
10.1.1 Firmware Release Identification	33
10.1.2 Carrier Packages.....	33
10.1.3 Host Software Versions.....	33
10.1.4 Software Changes.....	34
10.1.5 Known Issues	35
11 FIRMWARE RELEASE 1.1_01.01.05.00	37
11.1 Firmware Release Description	37
11.1.1 Firmware Release Identification	37
11.1.2 Carrier Packages.....	37
11.1.3 Host Software Versions.....	37
11.1.4 Software Changes.....	38
11.1.5 Known Issues	40
12 RELATED DOCUMENTATION.....	41
13 ABBREVIATIONS AND DEFINITIONS.....	42

1 Introduction

1.1 Document Scope

This document describes the firmware releases for the EM759x.

This document describes the firmware releases for the EM759x product family, which includes EM7590 and EM7595.

Semtech highly recommends migrating to new releases when available to take advantage of any security and stability improvements.

1.2 Firmware Packages and Tools

Module resources, including firmware packages, release notes, tools and other product documentation are published on The Source at <https://source.sierrawireless.com/devices/em-series/em7590/> & <https://source.sierrawireless.com/devices/em-series/em7595/> and can be accessed via the device-specific page.

1.3 Document Audience

This Release Notes document may be distributed to select pre-release customers.

2 Compatibility

2.1 Hardware compatibility

The latest firmware release is compatible with commercial EM7590, EM7595 hardware. There are no major known issues with pre-commercial hardware, but it is no longer actively tested or supported.

Notice: Starting from August 2024, EM7590/EM7595 modules incorporate a second fabrication source for the QET6105 component to enhance supply chain flexibility. EM7590/EM7595 modules manufactured after August 2024 are shipped with firmware version 02.02.03.00 or later. **Do no downgrade to firmware version 02.02.02.00 or earlier**, as this will cause hardware incompatibility issues resulting in modem offline or operational failures.

2.2 Software feature compatibility

The EM759x feature set is closely compatible with the ME756x. Refer to [1] EM759x Migration Guide for a detailed comparison against the previous generation of products.

3 Firmware Release 6.1.1_03.01.02.00

Release 6.1.1 updates Release 6.1 with AT&T PRI 003.000_004 and getting TA on DOCOMO/Rogers.

3.1 Firmware Release Description

3.1.1 Firmware Release Identification

Table 1. Firmware Release Identification – Release 6.1.1

Component	Details
Firmware Version	SWIX12C_03.01.02.00
Date of generation (UTC)	2025/06/19
IMEI SV	07
GSMA TS.25	2025.02.24
Chipset Vendor Stack Version	SDX12.LE.1.0-00263-NBOOT.NEFS.PROD-1
Supported HW	EM7590, EM7595

3.1.2 Carrier Packages

Table 2. Carrier Packages – Release 6.1.1

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_03.01.02.00	003.000_006	GCF/PTCRB/SouthernLINC Approved – Release 6.1.1
GENERIC	SWIX12C_03.01.02.00	003.000_006	GCF/PTCRB/SouthernLINC Approved – Release 6.1
GENERIC	SWIX12C_03.01.01.00	003.000_006	GCF/PTCRB Approved – Release 6.0
GENERIC	SWIX12C_02.02.03.00	002.000_002	GCF/PTCRB/SouthernLINC Approved – Release 5.0
GENERIC	SWIX12C_02.02.02.00	002.000_001	GCF/PTCRB Approved – Release 4.0
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0 Telus Approved – Release 3.0(EM7590)
AT&T	SWIX12C_03.01.02.00	003.000_004	Release 6.1.1

AT&T	SWIX12C_03.01.02.00	003.000_003	Release 6.1
AT&T	SWIX12C_03.01.01.00	003.000_003	Release 6.0
AT&T	SWIX12C_02.02.03.00	002.001_002	Release 5.0
AT&T	SWIX12C_02.02.02.00	002.001_001	Release 4.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_03.01.02.00	003.000_005	Release 6.1.1
Verizon	SWIX12C_03.01.02.00	003.000_005	Release 6.1
Verizon	SWIX12C_02.02.03.00	002.001_003	Release 5.0
Verizon	SWIX12C_02.02.02.00	002.001_001	Release 4.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_03.01.02.00	003.000_003	Release 6.1.1
TMO	SWIX12C_03.01.02.00	003.000_003	Release 6.1
TMO	SWIX12C_03.01.01.00	003.000_003	Release 6.0
TMO	SWIX12C_02.02.03.00	002.000_002	Release 5.0
TMO	SWIX12C_02.02.02.00	002.000_001	Release 4.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Telstra	SWIX12C_01.01.09.00	001.002_001	Release 3.2 (EM7590)
Telus	SWIX12C_03.01.02.00	003.000_001	Release 6.1.1
Telus	SWIX12C_01.01.07.00	001.000_001	Release 3.0 (EM7590)
Orange	SWIX12C_01.01.10.00	001.001_000	Release 3.3 (EM7590)
Docomo	SWIX12C_03.01.02.00	003.000_002	Release 6.1.1
Docomo	SWIX12C_03.01.02.00	003.000_002	Release 6.1 (EM7590/EM7595)
Docomo	SWIX12C_01.01.10.00	001.002_002	Release 3.3 (EM7590)
Rogers	SWIX12C_03.01.02.00	003.000_000	Release 6.1.1 (EM7590)
Rogers	SWIX12C_03.01.02.00	003.000_000	Release 6.1 (EM7590)
Rogers	SWIX12C_02.02.03.00	001.000_000	Release 5.0 (EM7590)
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)
Test			
Telstra	SWIX12C_03.01.02.00	003.000_002	
ORANGE	SWIX12C_03.01.02.00	003.000_002	

3.1.3 Host Software Versions

The following tools were validated against this release.

Note: *Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.*

Table 3. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.3004 (planned on 2025/07/14)

3.1.4 Software Changes

Table 4. Software Changes – Release 6.1.1

ID	Description	Impacted Domains
IMPACT-1418	AUTO-SIM does not work on ATT SIM 310030	ATT Carrier PRI

3.1.5 Known Issues

Note: This section reflects known issues in Release 6.1.1 as of the Date of Generation UTC) indicated in the Release 6.1.1 Release Identification section above.

Table 5. Known Issues – Release 6.1.1

ID	Description	Impacted Domains

4 Firmware Release 6.1_03.01.02.00

Release 6.1 updates Release 6.0 with AT&T, T-Mobile, Verizon, DoCoMo (EM7590) TA and updates Generic PRIs.

4.1 Firmware Release Description

4.1.1 Firmware Release Identification

Table 6. Firmware Release Identification – Release 6.1

Component	Details
Firmware Version	SWIX12C_03.01.02.00
Date of generation (UTC)	2025/04/28
IMEI SV	07
GSMA TS.25	2025.02.24
Chipset Vendor Stack Version	SDX12.LE.1.0-00263-NBOOT.NEFS.PROD-1
Supported HW	EM7590, EM7595

4.1.2 Carrier Packages

Table 7. Carrier Packages – Release 6.1

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_03.01.02.00	003.000_006	GCF/PTCRB/SouthernLINC Approved – Release 6.1
GENERIC	SWIX12C_03.01.01.00	003.000_006	GCF/PTCRB Approved – Release 6.0
GENERIC	SWIX12C_02.02.03.00	002.000_002	GCF/PTCRB/SouthernLINC Approved – Release 5.0
GENERIC	SWIX12C_02.02.02.00	002.000_001	GCF/PTCRB Approved – Release 4.0
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0
AT&T	SWIX12C_03.01.02.00	003.000_003	Release 6.1
AT&T	SWIX12C_03.01.01.00	003.000_003	Release 6.0
AT&T	SWIX12C_02.02.03.00	002.001_002	Release 5.0
AT&T	SWIX12C_02.02.02.00	002.001_001	Release 4.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_03.01.02.00	003.000_005	Release 6.1

Verizon	SWIX12C_02.02.03.00	002.001_003	Release 5.0
Verizon	SWIX12C_02.02.02.00	002.001_001	Release 4.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_03.01.02.00	003.000_003	Release 6.1
TMO	SWIX12C_03.01.01.00	003.000_003	Release 6.0
TMO	SWIX12C_02.02.03.00	002.000_002	Release 5.0
TMO	SWIX12C_02.02.02.00	002.000_001	Release 4.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Telstra	SWIX12C_01.01.09.00	001.002_001	Release 3.2 (EM7590)
Orange	SWIX12C_01.01.10.00	001.001_000	Release 3.3 (EM7590)
Docomo	SWIX12C_03.01.02.00	003.000_002	Release 6.1 (EM7590)
Docomo	SWIX12C_01.01.10.00	001.002_002	Release 3.3 (EM7590)
Rogers	SWIX12C_03.01.02.00	003.000_000	Release 6.1 (EM7590)
Rogers	SWIX12C_02.02.03.00	001.000_000	Release 5.0 (EM7590)
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)
Test			
GENERIC	SWIX12C_03.01.02.00	003.000_006	SouthernLINC
Docomo	SWIX12C_03.01.02.00	003.000_002	(EM7595)
Telstra	SWIX12C_03.01.02.00	003.000_002	
ORANGE	SWIX12C_03.01.02.00	003.000_002	

4.1.3 Host Software Versions

The following tools were validated against this release.

Note: Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.

Table 8. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.3003

4.1.4 Software Changes

Table 9. Software Changes – Release 6.1

ID	Description	Impacted Domains
IMPACT-1388	AUTO-SIM does not work as expected when switching SIM slot by UIMS	CarrierSwitch

4.1.5 Known Issues

Note: This section reflects known issues in Release 6.1 as of the Date of Generation UTC) indicated in the Release 6.1 Release Identification section above.

Table 10. Known Issues – Release 6.1

ID	Description	Impacted Domains

5 Firmware Release 6.0_03.01.01.00

Release 6.0 updates Release 5 with AT&T, T-Mobile TA and updates Generic PRIs.

5.1 Firmware Release Description

5.1.1 Firmware Release Identification

Table 11. Firmware Release Identification – Release 6.0

Component	Details
Firmware Version	SWIX12C_03.01.01.00
Date of generation (UTC)	2025/02/27
IMEI SV	06
GSMA TS.25	2024.10.21
Chipset Vendor Stack Version	SDX12.LE.1.0-00263-NBOOT.NEFS.PROD-1
Supported HW	EM7590, EM7595

5.1.2 Carrier Packages

Table 12. Carrier Packages – Release 6.0

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_03.01.01.00	003.000_006	GCF/PTCRB Approved – Release 6.0
GENERIC	SWIX12C_02.02.03.00	002.000_002	GCF/PTCRB/SouthernLINC Approved – Release 5.0
GENERIC	SWIX12C_02.02.02.00	002.000_001	GCF/PTCRB Approved – Release 4.0
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0
AT&T	SWIX12C_03.01.01.00	003.000_003	Release 6.0
AT&T	SWIX12C_02.02.03.00	002.001_002	Release 5.0
AT&T	SWIX12C_02.02.02.00	002.001_001	Release 4.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_02.02.03.00	002.001_003	Release 5.0
Verizon	SWIX12C_02.02.02.00	002.001_001	Release 4.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_03.01.01.00	003.000_003	Release 6.0

TMO	SWIX12C_02.02.03.00	002.000_002	Release 5.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
TMO	SWIX12C_02.02.02.00	002.000_001	Release 4.0
Telstra	SWIX12C_01.01.09.00	001.002_001	Release 3.2
Orange	SWIX12C_01.01.10.00	001.001_000	Release 3.3
Docomo	SWIX12C_01.01.10.00	001.002_002	Release 3.3
Rogers	SWIX12C_02.02.03.00	001.000_000	Release 5.0 (EM7590)
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)
Test			
Verizon	SWIX12C_03.01.01.00	003.000_005	
Docomo	SWIX12C_03.01.01.00	003.000_002	
Telstra	SWIX12C_03.01.01.00	003.000_002	
ORANGE	SWIX12C_03.01.01.00	003.000_002	

5.1.3 Host Software Versions

The following tools were validated against this release.

Note: Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.

Table 13. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.3002

5.1.4 Software Changes

Table 14. Software Changes – Release 6.0

ID	Description	Impacted Domains
IMPACT-1196	EM7590 Issue With at!band Command Setting 3G Index Followed By LTE Index	AT
IMPACT-1197	[VZW][Motive][TC 4.05] TC 4.05 execution from motive bridge returns value "IoT Module"	LwM2M
IMPACT-1198	RF AT command error	AT
IMPACT-1201	AT!Band to remove index	AT
IMPACT-1202	[EM7590][+CLCK] AT+CLCK command doesn't work after reboot when SIM PIN code is locked	AT
IMPACT-1205	[EM7590] at+cgtftrdp output is wrong for when more than 3 dedicated bearers established	AT
IMPACT-1206	AT+CGEQOSRDP Issue with AT+CGEQOSRDP for dedicated bearers setup	AT

IMPACT-1207	GPS fixrate enhancement	GPS
IMPACT-1214	Fix QMI_SWI_BSP_GET_OEMPRI_INFO parameter name	QMI
IMPACT-1215	[EM759x]the default setting of SIM refresh flag in ATT PRI	AT
IMPACT-1223	[EM759x][VzW] It needs modify registry retry interval to is 2,4,8,16 for Reqs-LWM2M	LwM2M
IMPACT-1224	[EM759x][TMO]Need to adjust TMO carrier PRI for band scan priority based on Network_Connectivity_and_Operations_TRD	PRI
IMPACT-1227	Reset packet does not work after failed ramdump attempt	SBL
IMPACT-1232	Secure debug is not disabled after FW upgrade	BSP
IMPACT-1238	settings changing after a firmware change	ImageSwitch
IMPACT-1285	EM7590 Need information on AT!SWIFOTA command	AT
IMPACT-1301	[Juniper] problem with the response to AT!BAND? command	AT
IMPACT-1305	[EM759X]A "+" symbol would listed when query at+cgeqosrdp=<CID>	AT
IMPACT-1325	EM7590 sometimes cannot switch image	ImageSwitch
KAIOH-233	[Panasonic] AT!GPSSTATINFO? returns only "NO SAT INFO"	GPS
KAIOH-245	[Panasonic] NMEA stream stops suddenly	GPS
KAIOH-246	[Panasonic][Windows][EM7595] Class3 APN test failure for Verizon testing.	LwM2M
KAIOH-265	[Panasonic] [EM7595] NMEA does't output altitude information	GPS
KAIOH-279	[RF] Add LTE B106	RF
KAIOH-280	[Panasonic] Win6_4.MB.GSM.Data.TestPco HLK waiver for Windows 11 22H2	AT
KAIOH-307	No proper error handling when input AT!MAXPWR=48 or AT!MAXPWR=48.2,23	AT
KAIOH-308	Fix partial update issue	ImageSwitch
KAIOH-348	AT command parameter error handling fix	AT
KAIOH-350	HLOS NMEA 4.11 GLONASS SV PRN number is incorrect	GPS
KAIOH-351	[HLK] Win6_4.MB.GSM.Data.TestUiccAppAccess	HLK
KAIOH-364	configure SIM hot swap detect polarity.	AT
KAIOH-365	Win11 24H2 System Level - Win6_4.MB.GSM.Data.TestValidateMBIMExVersion failed	HLK
KAIOH-369	[RF] modify QC default SAR power from 0 to follow max power for wcdma	SAR
KAIOH-383	[EM759X][LwM2M] Module crashes randomly when registering to Motive server	LwM2M
KAIOH-388	[EM759X] APN list would not reset to default after updating OEM_PRI image	APN
KAIOH-390	CISCO QMI requirement	QMI
KAIOH-412	[Panasonic] Include more MCC list in AMPR setting for FCC NA carrier	MCC List
KAIOH-434	Implement AT command to enable/disable FGI bit 3/7	AT
KAIOH-458	Update qmi rfs info after carrier switch or delete	QMI
KAIOH-460		
KAIOH-463	DMS_SWI_GET_CRASH_INFO returns "Buffer too small"	QMI
KAIOH-465	When FW & Carrier are mismatched, the FW update would not fix the mismatch	QMI
KAIOH-467	AT!COLDSTART should clear Almanac	AT
KAIOH-468	AT!GNSSDPOMODE	AT
KAIOH-469	QMI_DMS_SWI_GET_CUST_FEATURES	QMI
KAIOH-469 / 470	QMI_DMS_SWI_SET_CUST_FEATURES / QMI_DMS_SWI_GET_CUST_FEATURES	QMI
KAIOH-488	QMI Dying Gasp 4 commands	QMI
KAIOH-489	Add 'swidms get/set mtu' feature	QMI
KAIOH-503	QMI_NAS_SWI_MODEM_STATUS	QMI
KAIOH-535	QMI_WDS_SWI_GET_3GPP_CFG_ITEM	QMI
KAIOH-536	QMI_WDS_SWI_SET_3GPP_CFG_ITEM	QMI

KAIOH-551	Fix for pack_fms_SetImagesPreference - eQMI_DMS_SET_FIRMWARE_PREF	QMI
KAIOH-556	it would return QMI protocol error (3) when input QMI_DMS_SWI_GET_SARBACKOFF command	QMI
KAIOH-557	dms-delete-stored-image command is not working	QMI
KAIOH-560	[TS31.124/TC27.22.2]Contents of the TERMINAL PROFILE command - Fail	SIM
KAIOH-566	Do not record !GCCLR flog event if this is no gcdump data	AT
KAIOH-570	[GPS] fix at!gpsautostart syntax issue	AT
KAIOH-571	List available bands in AT!BAND? by OEM PRI/carrier PRI/QCN version	AT
KAIOH-572	MGRFDISABLE displays in the wrong value	AT
KAIOH-574	GPSSSEL Not Work	AT
KAIOH-575	Fix intra-contiguous ULCA crash issue in SDX12	RF
KAIOH-579	When "USBSERIALENABLE" is set to 3, it still shows USB serial number, not hard-code in the USBD	AT
KAIOH-580	QMI get/set Auto SIM list for tool development	QMI
KAIOH-581	Migrate QMI_SWI_DMS_SET_HOST_INTF_COMP / QMI_SWI_DMS_GET_HOST_INTF_COMP to IE66 for tool development	QMI
KAIOH-582	Incorrect syntax for AT!DALTXCONTROL command	AT
KAIOH-582 / 588	Incorrect syntax for AT!DALTXCONTROL command	AT
KAIOH-584	[AT CMD] AT!PCINFO? does not report device in LPM after AT+CFUN=0	AT
KAIOH-585	Change AT+CNMI? default setting to 2,1,0,0,0	AT
KAIOH-587	sync EM86 KAKASHI-426 QTI_INT_QMI_GET_DEVICE_HARDWARE_REV_0000 failed, hardware Rev not contained in FSN	QMI
KAIOH-588	Incorrect syntax for AT!DALTXCONTROL command	AT
KAIOH-590	AT!FLOG command syntax	AT
KAIOH-591	Sync [EM86]QMI_DMS_SWI_GET_PC_INFO return value is wrong	QMI
KAIOH-592	Sync[EM86][QMI] QMI Device Rev ID reply format is incorrect	QMI
KAIOH-593	Sync[EM86][KAKASHI-595][QMI] Unable to parse original selrat value	QMI
KAIOH-594	sync [EM86][KAKASHI-429][QMI] Operating mode is not Persistent LPM and [KAKASHI-430][EM86][QMI] Operating mode mismatch after rese	QMI
KAIOH-596	AT+CLAC & AT+COPS without SIM	AT

5.1.5 Known Issues

Note: This section reflects known issues in Release 6.0 as of the Date of Generation UTC) indicated in the Release 6.0 Release Identification section above.

Table 15. Known Issues – Release 6.0

ID	Description	Impacted Domains

6 Firmware Release 5.0_02.02.03.00

6.1 Firmware Release Description

6.1.1 Firmware Release Identification

Table 16. Firmware Release Identification – Release 5.0

Component	Details
Firmware Version	SWIX12C_02.02.03.00
Date of generation (UTC)	2024/01/30
IMEI SV	05
GSMA TS.25	2024.01.01
Chipset Vendor Stack Version	SDX12.LE.1.0-00234-NBOOT.NEFS.PROD-1
Supported HW	EM7590, EM7595

6.1.2 Carrier Packages

Table 17. Carrier Packages – Release 5.0

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_02.02.03.00	002.000_002	GCF/PTCRB/SouthernLINC Approved – Release 5.0
GENERIC	SWIX12C_02.02.02.00	002.000_001	GCF/PTCRB Approved – Release 4.0
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0
PTCRB	SWIX12C_02.02.03.00	002.000_002	Release 5.0
PTCRB	SWIX12C_02.02.02.00	002.000_001	Release 4.0
PTCRB	SWIX12C_01.01.07.00	001.003_000	Release 3.0
AT&T	SWIX12C_02.02.02.00	002.001_001	Release 4.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_02.02.02.00	002.001_001	Release 4.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
TMO	SWIX12C_02.02.02.00	002.000_001	Release 4.0
Telstra	SWIX12C_01.01.09.00	001.002_001	Release 3.2
Orange	SWIX12C_01.01.10.00	001.001_000	Release 3.3

Docomo	SWIX12C_01.01.10.00	001.002_002	DCM TA candidate FW for Branch#1
Rogers	SWIX12C_02.02.03.00	001.000_000	Release 5.0 (EM7590)
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)
Test			
Verizon	SWIX12C_02.02.03.00	002.001_003	
AT&T	SWIX12C_02.02.03.00	002.001_002	
TMO	SWIX12C_02.02.03.00	002.000_002	
Docomo	SWIX12C_02.02.03.00	002.000_002	
Telstra	SWIX12C_02.02.03.00	002.000_002	

6.1.3 Host Software Versions

The following tools were validated against this release.

Note: *Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.*

Table 18. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590.2012.000

6.1.4 Software Changes

Table 19. Software Changes – Release 5.0

ID	Description	Impacted Domains
KAIOH-228	[EM7595]AT!BAND unable to handle index "0A" correctly.	AT command
KAIOH-226	[Windows] Some files included in driver are not signed	USB
IMPACT-1192	EM7590 - AT!MAXPWR does not work in FW 02.02.02.00	AT command
KAIOH-223	3G standby current over spec ~2mA	Power Consumption
KAIOH-159	Add Custom QMI at SWI service	QMI
IMPACT-1155	[EM7595][AUTO-SIM][QMI] AUTO-SIM cannot be set and read correctly via QMI	QMI
KAIOH-180	[Windows] UI show no service and module in LPM during Sleep stress test	MBIM
KAIOH-118	[Stress][NB4] A lot of CheckDevices:Error (Status 0x01802400) (Code 43) logs are listed in the stress test	MBIM
IMPACT-1175	It fails to upgrade the firmware by OCT Tool after flashing for couple times repeatedly	Image download
IMPACT-1167	EM7590 - AT!IMPREF image switch allows fw mismatch when fw is not loaded	AT command

KAIOH-161	AT!ANTSEL wrong GPIO value after low band handover to high band	AT command
KAIOH-122	[Panasonic][Windows] YB occur during stress test on Win11 system	EFS
IMPACT-1135	rmnet0 Interface - 1,3,10D doesn't work	AT command
KAIOH-113	NMEA sentence support for BeiDou HLOS	GPS/AT_CMD
IMPACT-1153	When module already in LPM mode, user voter will be ignored	LPM
KAIOH-136	AT!maxpwr to allow set B48 max power to 18 dBm	AT command
KAIOH-208	[Windows] Device lost during stress test on driver package 7590.2006	System
KAIOH-207	AT!EFSUPDATE	AT command
IMPACT-1130	OEM PRI partial update	System
IMPACT-1129	[LwM2M] Revise retry formula to meet VZW requirement ver.27	LwM2M
IMPACT-1128	Update support band for AT!MAXPWR	AT command
KAIOH-172	AT+CCID not able to read eSIM EID	AT command
KAIOH-152	[Windows] Location sensor device disappear during stress test	USB
KAIOH-145	AT!SARSTATE function not correct compare with other product	AT command
KAIOH-101	Higher current consumption of B41	Power Consumption
KAIOH-121	Device lost during stress test in Windows 10	System
KAIOH-135	A lot of CheckDevices:Error (Status 0x0180200A) (Code 0) logs are listed in the stress test	USB
KAIOH-98	Handle and align GPS status/info in GPS engine side	GPS
KAIOH-146	Add AT commands to dump syslog and kernel log	AT command
KAIOH-148	Flog lost and cannot print out anymore	FLOG
IMPACT-1097	Enhance mutex protection in MTD lib	System
IMPACT-1115	Separate LwM2M settings from APN profiles	LwM2M
IMPACT-1108	[EM7595][RF]Change efs path for sar power backoff	SAR
IMPACT-1107	Enhance AT GCFEN for thermal mitigation	AT command
KAIOH-119	[USB] oemrpi usb initial QMI USB_COMP setting	USB
KAIOH-104	[Windows] Can't see the data traffic on Windows task manager	MBIM
KAIOH-134	AT!MAXPWR set no work	AT Command

6.1.5 Known Issues

Note: This section reflects known issues in Release 5.0 as of the Date of Generation UTC) indicated in the Release 5.0 Release Identification section above.

Table 20. Known Issues – Release 5.0

ID	Description	Impacted Domains

7 Firmware Release 4.0_02.02.02.00

7.1 Firmware Release Description

7.1.1 Firmware Release Identification

Table 21. Firmware Release Identification – Release 4.0

Component	Details
Firmware Version	SWIX12C_02.02.02.00
Date of generation (UTC)	2023/08/23
IMEI SV	04
GSMA TS.25	2023.7.31
Chipset Vendor Stack Version	SDX12.LE.1.0-00234-NBOOT.NEFS.PROD-1
Supported HW	EM7590, EM7595

7.1.2 Carrier Packages

Table 22. Carrier Packages – Release 4.0

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_02.02.02.00	002.000_001	GCF/PTCRB Approved – Release 4.0
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0
AT&T	SWIX12C_02.02.02.00	002.001_001	Release 4.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_02.02.02.00	002.001_001	Release 4.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
TMO	SWIX12C_02.02.02.00	002.000_001	Release 4.0
Telstra	SWIX12C_01.01.09.00	001.002_001	Release 3.2
Orange	SWIX12C_01.01.10.00	001.001_000	Release 3.3
Docomo	SWIX12C_01.01.10.00	001.002_002	Release 3.3
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)
Test			
Docomo	SWIX12C_02.02.02.00	002.000_001	
Telstra	SWIX12C_02.02.02.00	002.000_001	

ORANGE	SWIX12C_02.02.02.00	002.000_001	
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7.1.3 Host Software Versions

The following tools were validated against this release.

Note: Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.

Table 23. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.2003

7.1.4 Software Changes

Table 24. Software Changes – Release 4.0

ID	Description	Impacted Domains
IMPACT-1060	Set default device type to Embedded	OEM PRI
KAIOH-100	!GPSFIX should close its own session when expired	GPS
KAIOH-98	Handle and align GPS status/info in GPS engine side	GPS
IMPACT-1098	AT!FLOGIN	AT command
IMPACT-1096	Fix mcf_hdr tag wrong problem when flashing OEM PRI	System
KAIOH-99	GPS AT commands: AT!GPSLOC (always show 'Unknown' when GPS MO locked)	GPS
IMPACT-1094	Change FW Update Protocol Support of LWM2M to http/https	LwM2M
IMPACT-1054	Set default sku id as empty string	SKU
KAIOH-81	Special handling for GET/SET GPS LOCK by location sensor - 1	GPS
KAIOH-82	Special handling for GET/SET GPS LOCK by location sensor - 1	GPS
KAIOH-87	Special handling for GET/SET GPS LOCK by location sensor - 1	GPS
KAIOH-78	Not allow 1.x FW to download to EM7595	Image download
KAIOH-89	[USB] host tool NMEA flow control unset DTR RTS in cbits	USB
KAIOH-83	[USB] add USBCOMP version control value	USB
KAIOH-70	AT!ANTSEL long term solution	AT command
IMPACT-1058	AT!DMREADALL does not work if you are not LWM2M registered	LwM2M
IMPACT-1086	Use WCDMA in AT!SELRAT	AT command
IMPACT-1089	AT!GPSCONF UI enhancement	AT command
KAIOH-52	AT!LTECA modification for EM7595	AT command

IMPACT-1090	AT! SARBACKOFF enhancement	AT command
IMPACT-1057	class 3 APN changed after a FW update	Modem
IMPACT-1085	The SPN name does NOT change after modifying the NETWORKNAMEFMT value	AT command
KAIOH-70	ANTSEL long term	AT command
IMPACT-1047	Add SKU-related info into FLOG	FLOG
IMPACT-1054	Check-in OEM default value in FW hardcode	OEM PRI
KAIOH-74	[3GPP TS 36.521-3]TC9.1.4.2_1_TDD 48_TN_BW10	Modem
KAIOH-78	To limit fwi version 01.xx.xx.xx cant download to EM7595	Image download
IMPACT-1019	Android GPS FW patch	GPS
IMPACT-832	AT!GPSXTRAAPN	AT command
KAIOH-69	AT!ANTSEL - short term solution	AT command
IMPACT-1047	Add SKU-related info into FLOG	FLOG
IMPACT-1051	VZW LwM2M requirement July 2023-Add pMSISDN and G5 certificates support	LwM2M
KAIOH-71	B29 CA support in OEM PRI	OEM PRI
IMPACT-1046	OEM PRI will be erased to 0xFF after AT!NVBACKUP=2 and upgrading FW	OEM PRI
IMPACT-839	AT!GPSXTRATIMEURL	Carrier PRI
IMPACT-1018	When disable XTRA data, no response after AT!GPSXTRASTATUS?	AT command
IMPACT-1009	IMPACT-1009: PCTEMPLIMITS/PATEMPLIMITS _Set illegal parameter	AT command
KAIOH-51	AT!GSTATUS modification for 3CA	AT command
IMPACT-1015	LwM2M 13.01 IPV6 to IPV4 Fallback failed	LwM2M
IMPACT-1016	LwM2M 2.05 Disable Timeout (DM server) failed	LwM2M
IMPACT-1022	Add model name in OEM PRI	OEM PRI
IMPACT-1025	Kernel exception occurs when FULL_CARD_POWER_OFF is asserted in the boot process	Power Management
IMPACT-1017	Upgrade to Post-CS16	Code base
IMPACT-1011	CR2144523 for CS16	SIM
IMPACT-1012	Increase AT CSIM APDU command size	AT command
IMPACT-978	New AT CMD: AT+CGAUTH Implement AT+CGAUTH	AT command
IMPACT-1001	Add lwm2m test config in Carrier PRI	LwM2M
IMPACT-1006	SMS over IMS doesn't work in VzW network	Carrier PRI
IMPACT-601	fix AT DATALOOPBACK	AT command
KAIOH-27	AT!PHASEID?	AT command
IMPACT-998	Show eSIM info in AT19	AT command
IMPACT-955	Add thermal mitigation in OEM PRI	OEM PRI
IMPACT-1000	Remove thermal mitigation settings from carrier PRI in branch 2.x	Carrier PRI
IMPACT-984	Set AT HWID to level-1	AT command
IMPACT-985	Modify client config according to Verizon requirment change	Carrier PRI
IMPACT-999	3CA RF driver porting	RF
IMPACT-959	[CarrierPRI: TMO_001.002_003] Update IPV6/IPV4 in APN for TMO carrier PRI.	Carrier PRI
IMPACT-960	QMI interface -- QMI_NAS_SWI_GET_LTE_SCC_RX_INFO	libqmi
IMPACT-939	Update PA temperature threshold steps in QMI_DMS_SWI_GET_ENVIRONMENT/QMI_DMS_SWI_SET_ENVIRONMENT	Modem

IMPACT-945	Improve modem reboot flow after OCT download	Conformance
IMPACT-946	[EM7590]DHCPREQUEST returns 192.0.0.2 instead of Public IP	System
IMPACT-956	System time incorrect after FOTA upgrade	System
IMPACT-937	Recovery OEMPRI read error	libqmi
IMPACT-904	Show narrow band in the AT!band	AT command
IMPACT-903	[VZW][LwM2M-Motive] TC 11.02 execution gets stuck on ...	LwM2M
IMPACT-907	add information of LPM voter to FLOG	FLOG
IMPACT-931	Add FOTA download progress to DMI log at Modem port	FLOG
IMPACT-920	Reduce flash-write operation for PC monitor service	LPM
IMPACT-927	[LwM2M] AT command for EM7590 VzW LwM2M	LwM2M
IMPACT-915	Add LwM2M and GPS config restore failed into FLOG	FLOG
IMPACT-947	Add MM/GMM/EMM Reject Cause in Flog	FLOG
IMPACT-919	Fix AT command response no echo input command	AT command
IMPACT-948	Add SIM information in Flog	FLOG
IMPACT-925	[Telstra][IoTAS][Cause#29] Device performs flip-flops between 3G and 4G when network rejects with cause-29 (User authentication failed)	Carrier PRI
IMPACT-905	adjust voltage & temperature judgement of back to online mode	LPM
IMPACT-941	[CarrierPRI: TMO_001.002_001] Remove APN ims/sos/tmus/h2g2 in TMO carrier PRI	Carrier PRI
IMPACT-940	[CarrierPRI: ATT_001.002_004] Remove APN IMS/SOS in AT&T carrier PRI.	Carrier PRI
IMPACT-936	Recovery partition mount failed	System
IMPACT-213	[Libqmi] --wds-swi-create-profile-indexed=""	libqmi
IMPACT-950	change SVN to 3	Modem
IMPACT-949	change modem thermal mitigation threshold	Thermal
IMPACT-908	Add USB plug in/out states into FLOG	FLOG
IMPACT-910	Add QBI crash info into FLOG	FLOG
IMPACT-911	Add PMIC FAULT SEQ information into FLOG	FLOG
IMPACT-912	Add file system mount failed information into FLOG	FLOG
IMPACT-913	Add system time update information into FLOG	FLOG
IMPACT-833	AT!GPSXTRADATAENABLE	AT command
IMPACT-835	AT!GPSXTRAINITDNLD	AT command
IMPACT-836	AT!GPSXTRASTATUS	AT command
IMPACT-840	When AT!CUSTOM="GPSEENABLE" is 0, disable GPS XTRA	AT command
IMPACT-884	[BAND setting] Error happened after setting a self-defined bitmask for BAND	AT command
IMPACT-885	[AUTO-SIM switching] When Telstra SIM card is inserted, the carrier failed to auto switch to "Telstra"	Carrier PRI
IMPACT-886	Update OEM PRI-1105039 revision to include post-CS13 and OneXtra settings	OEM PRI
IMPACT-888	Update OEM PRI-1105091 revision to include post-CS13 and OneXtra settings	OEM PRI
IMPACT-890	Update MTU size to 1500 and APN profile 1 to "IPV4V6", "spmode.ne.jp" & update Docomo carrier PRI for 01.01.08.00	Carrier PRI
IMPACT-889	Update Telstra carrier PRI for 01.01.08.00	Carrier PRI
IMPACT-866	Display SE13 version in ATI	AT command
IMPACT-873	Add DOCOMO carrier PRI	Carrier PRI
IMPACT-874	Add Telstra carrier PRI	Carrier PRI

IMPACT-834	AT!GPSXTRADATAURL	AT command
IMPACT-838	AT!GPSXTRATIMEENABLE	AT command
IMPACT-839	AT!GPSXTRATIMEURL	AT command
IMPACT-849	FLOG fine tunes after review	FLOG
IMPACT-813	AT!SELRAT	AT command
IMPACT-858	Reduce VZW MBN size	Carrier PRI
IMPACT-859	PDP context is not as expected when switching to carrier PTCRB	Carrier PRI
IMPACT-851	Remove ims/sos APNs from Generic carrier PRI	Carrier PRI
IMPACT-852	Remove ims/sos APNs from PTCRB carrier PRI	Carrier PRI
IMPACT-848	[USB] When GPSUSE is set to 0, NMEA/GPS ports should be hidden to user	USB
IMPACT-854	Modify FLOG wordings	FLOG
IMPACT-724	Check sign for multi-combination of FOTA image	LwM2M
IMPACT-825	Remove unused HLOS packages	HLOS
IMPACT-819	AT!GPSUSE for AP_NVRAM_GPSUSE query	AT command
IMPACT-800	Fix the CID of APN changed after carrier switch	APN
IMPACT-816	Change display string of AT!PRIID when carrier switching	AT command
IMPACT-821	Switch DUT into APM by Win UI, but DUT turns to Online mode ...	LPM
IMPACT-804	EM7590 not response MBIM_OPEN command	MBIM
IMPACT-817	Fix device Offline after resetting modem OEMPRI	LPM
IMPACT-799	A CME error occurs in AT+COPN	AT command
IMPACT-814	Return Typo from AT!PCFCAUTH	AT command
IMPACT-820	Change LwM2M client version file location to avoid the file be deleted by at!lwm2mreset command	LwM2M
IMPACT-811	LwM2M settings backup/restore long term solution	LWM2M
IMPACT-750	APN list backup restore mechanism (long term solution)	APN
IMPACT-805	Clear all carriers related data when OEMPRI flashed	APN
IMPACT-798	Maximum capacity of PRI images should be "25", instead of 50.	APN
IMPACT-797	cgmm and cgmr don't return OK	AT command
IMPACT-806	AT+CGMI, AT+CGMM, AT+CGMR, AT+CGSN, AT+CLAC do not return OK	AT command
IMPACT-796	Add AT!GPSCONF for gps.conf SUPL item setting	SUPL
IMPACT-763	Flog bad block enhancement	FLOG
IMPACT-779	Create FLOG logger level for different event level	FLOG
IMPACT-762	Not allow to read/write Flog at the same time	FLOG
IMPACT-785	at!gcclr will clear important log file under /data/gcdump	AT command
IMPACT-761	FLOG enhancements	FLOG
IMPACT-831	Lower FLOG logger level of some events	FLOG

7.1.5 Known Issues

Note: This section reflects known issues in Release 4.0 as of the Date of Generation UTC) indicated in the Release 4.0 Release Identification section above.

Table 25. Known Issues – Release 4.0

ID	Description	Impacted Domains

8 Firmware Release 3.3_01.01.10.00

8.1 Firmware Release Description

8.1.1 Firmware Release Identification

Table 26. Firmware Release Identification – Release 3.3

Component	Details
Firmware Version	SWIX12C_01.01.10.00
Date of generation (UTC)	2023/04/26
IMEI SV	03
Chipset Vendor Stack Version	MPSS.AT.2.5.1.c9-00197-SDX12_GENNTCH_PACK-1
Supported HW	EM7590

8.1.2 Carrier Packages

Table 27. Carrier Packages – Release 3.3

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Telstra	SWIX12C_01.01.09.00	001.002_001	Release 3.2
Orange	SWIX12C_01.01.10.00	001.001_000	Release 3.3
Docomo	SWIX12C_01.01.10.00	001.002_002	Release 3.3
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)

8.1.3 Host Software Versions

The following tools were validated against this release.

Note: Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.

Table 28. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.1011

8.1.4 Software Changes

Table 29. Software Changes – Release 3.3

ID	Description	Impacted Domains
IMPACT-956	Correct the system time after FOTA upgrade	FOTA

8.1.5 Known Issues

Note: This section reflects known issues in Release 3.3 as of the Date of Generation UTC) indicated in the Release 3.3 Release Identification section above.

Table 30. Known Issues – Release 3.3

ID	Description	Impacted Domains

9 Firmware Release 3.2_01.01.09.00

9.1 Firmware Release Description

9.1.1 Firmware Release Identification

Table 31. Firmware Release Identification – Release 3.2

Component	Details
Firmware Version	SWIX12C_01.01.09.00
Date of generation (UTC)	2023/04/11
IMEI SV	04
Chipset Vendor Stack Version	MPSS.AT.2.5.1.c9-00197-SDX12_GENNTCH_PACK-1
Supported HW	EM7590

9.1.2 Carrier Packages

Table 32. Carrier Packages – Release 3.2

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Telstra	SWIX12C_01.01.09.00	001.002_001	Release 3.2
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)
Test			
GENERIC	SWIX12C_01.01.09.00	001.002_002	
Verizon	SWIX12C_01.01.09.00	001.004_000	
Docomo	SWIX12C_01.01.09.00	001.000_001	

9.1.3 Host Software Versions

The following tools were validated against this release.

Note: *Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.*

Table 33. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.1011

9.1.4 Software Changes

Table 34. Software Changes – Release 3.2

ID	Description	Impacted Domains
IMPACT-213	[Libqmi] --wds-swi-create-profile-indexed=""	libqmi
IMPACT-904	AT!BAND cosmetic	AT command
IMPACT-913	Add system time update information in FLOG	LOG
IMPACT-905	[Thermal] module cannot return to online mode from LPM	LPM
IMPACT-907	Add LPM events in FLOG	LOG
IMPACT-927	[LwM2M] debug AT command for VzW LwM2M	LwM2M
IMPACT-920	Reduce flash-write operation on PC monitor service	LPM
IMPACT-915	Add LwM2M and GPS config restore failed in FLOG	LOG
IMPACT-908	Add USB plug in/out states in FLOG	LOG
IMPACT-903	LwM2M FOTA TC 11.02 patch and LwM2M version update	LwM2M
IMPACT-910	Add QBI crash info in FLOG	LOG
IMPACT-911	Add PMIC FAULT SEQ information in FLOG	LOG
IMPACT-912	Add file system mount failed information in FLOG	LOG
IMPACT-931	Add FOTA download progress to DMI log at Modem port	Carrier PRI
IMPACT-919	[AT command] Missing AT command echo	AT command
IMPACT-950	Update SVN to 3	SVN

9.1.5 Known Issues

Note: *This section reflects known issues in Release 3.2 as of the Date of Generation UTC) indicated in the Release 3.2 Release Identification section above.*

Table 35. Known Issues – Release 3.2

ID	Description	Impacted Domains

10 Firmware Release 3.0_01.01.07.00

10.1 Firmware Release Description

10.1.1 Firmware Release Identification

Table 36. Firmware Release Identification – Release 3.0

Component	Details
Firmware Version	SWIX12C_01.01.07.00
Date of generation (UTC)	2022/11/15
IMEI SV	02
Chipset Vendor Stack Version	MPSS.AT.2.5.1.c9-00197-SDX12_GENNTCH_PACK-1
Supported HW	EM7590

10.1.2 Carrier Packages

Table 37. Carrier Packages – Release 3.0

Carrier	Firmware	Configuration	Comment
Approved			
GENERIC	SWIX12C_01.01.07.00	001.003_000	GCF/PTCRB Approved – Release 3.0
AT&T	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Verizon	SWIX12C_01.01.07.00	001.008_000	Release 3.0
TMO	SWIX12C_01.01.07.00	001.003_000	Release 3.0
Rogers	SWIX12C_01.01.07.00	001.000_000	Release 3.0 (EM7590)

10.1.3 Host Software Versions

The following tools were validated against this release.

Note: *Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.*

Table 38. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.1008

10.1.4 Software Changes

Table 39. Software Changes – Release 3.0

ID	Description	Impacted Domains
IMPACT-473	SUPL NI support	GPS
IMPACT-482	Improve image download time	Update
IMPACT-551	[LwM2M] Class 3 APN	LwM2M
IMPACT-611	[AT&T][LTE-BTR-1-8272] – ACC change	ATT
IMPACT-644	[LwM2M-Motive] TC 11.15 Multiple Updates	LwM2M
IMPACT-657	[LwM2M] FOTA settings cannot be restored in 1st boot	LwM2M
IMPACT-660	[LwM2M] Implement LWM2M 14.01/ACP 9.1 Host Device Info	LwM2M
IMPACT-661	AT!IMSTESTMODE event in AT!FLOG	Debug log
IMPACT-663	[LwM2M-Motive] TC 11.02	LWM2M
IMPACT-664	"VZWINTERNET" becomes class 6 APN instead of class 3 APN	LWM2M
IMPACT-667	Update SE13 table to 2022/9/12	PTCRB/GCF
IMPACT-685	[EM7590][TMO][TC-13226] L_LTE_379501_15	T-Mobile
IMPACT-696	[LwM2M] Apply IPv4 IP family for Verizon production server	LwM2M
IMPACT-699	Class 3 APN restore VZWINTERNET after updated FW	Verizon
IMPACT-700	AT+CNUM does not display the MDN phone number	AT command
IMPACT-701	AT+CGDCONT returns ERROR if there is no SIM inserted	AT command
IMPACT-703	[LwM2M] Improvement: at!dmdebug=1	LwM2M
IMPACT-705	New frature: AT!GPSXTRACFG	AT command
IMPACT-708	AT command port freezes	AT command
IMPACT-715	[EM7590][ATT] TC 10 – occasional failure	LwM2M
IMPACT-717	Remove LwM2M APN wonev4v6 from GENERIC PRI	Carrier PRI
IMPACT-719	After SIM hot-swap, SIM IMSI and MCC/MNC don't change	SIM
IMPACT-721	Removing SIM card causes modem crash	Crash
IMPACT-722	After AT!RESET, the terminal freezes	AT command
IMPACT-723	[LWM2M] To avoid FirstNet APN appeared in Verizon carrier PRI FW	LwM2M
IMPACT-724	Secure update: FOTA update	Security
IMPACT-725	Save the current carrier APN list if the preferred carrier does not change	APN
IMPACT-728	Re-partition for carrier PRI storage	Flash Partition
IMPACT-729	[LwM2M] Fix APN profile load enter infinite loop	LwM2M
IMPACT-732	[LwM2M] Remove all LwM2M configuration from PTCRB/TMO PRI	Carrier PRI

IMPACT-733	[LwM2M] AT+CGDCONT shows redundant APN "attiotfirstnet.fn" and "wonev4v6.com" after FW update	LwM2M
IMPACT-734	[LwM2M] Back up LwM2M setting for FW update	LwM2M
IMPACT-735	RMARESET to include CARRIERPROFILESRESET	AT command
IMPACT-737	Add AT+CGDCONT change event to AT!FLOG	AT command
IMPACT-740	[LwM2M-Motive] TC 11.10 FW Delivery Method reports 2	LwM2M
IMPACT-741	[LwM2M-Motive] TC 5.10 – unexpected reboot	LwM2M
IMPACT-742	[LwM2M-Motive] TC 4.08 – full registration after reboot	LwM2M
IMPACT-743	Decrease VZW MBN size	Carrier PRI
IMPACT-745	Enhancement: AT!FLOG	AT command
IMPACT-746	Modify VZW Onsite network MBN Profile1 CID	Carrier PRI
IMPACT-747	[LwM2M-Motive] TC 13.03 – full registration after reboot	LwM2M
IMPACT-748	TC 2.13 Disable Timeout (Repository server)	LwM2M
IMPACT-749	[LwM2M-Motive] TC 2.05 – full registration after timeout	LwM2M
IMPACT-751	[LwM2M] server address is configurable by AT Command	LwM2M
IMPACT-752	[LwM2M]; at!dmdebug=1 to be power-cycle persistent	LwM2M
IMPACT-760	DMDEBUG process does not close properly	LwM2M
IMPACT-768	Cosmetic change: AT!GSTATUS	AT Command
IMPACT-769	AT port might freeze	AT Command
IMPACT-773	[EM7590][VZW][LwM2M- Motive] Registration update	LwM2M
IMPACT-774	[LwM2M] Memory management	LwM2M
IMPACT-775	[EM7590] [VZW] [LwM2M Diag. - ACP] TC 7.1	LwM2M
IMPACT-777	LwM2M client stability issue	LwM2M
IMPACT-778	[LwM2M] dmdebug auto start when device boot	LwM2M
IMPACT-780	[LwM2M] TC5.07 – failed to reconnect after test	LwM2M
IMPACT-782	[EM7590] [VZW] [LwM2M- Motive] TC 2.06	LwM2M
IMPACT-783	[EM7590] [VZW][GFIT] Device send Detach request after attach accept	Carrier PRI
IMPACT-784	[LwM2M] Disable LwM2M functionality while roaming	LwM2M
IMPACT-786	[LwM2M] Fix debug AT command display issue	LwM2M
IMPACT-787	[LwM2M] Correct bootstrap procedure	LwM2M
IMPACT-793	DMDEBUG URC messages	LwM2M
IMPACT-794	New feature: LwM2M client version control	LwM2M

10.1.5 Known Issues

Note: This section reflects known issues in Release 3.0 as of the Date of Generation UTC) indicated in the Release 3.0 Release Identification section above.

Table 40. Known Issues – Release 3.0

ID	Description	Impacted Domains
IMPACT-750	APN list backup restore mechanism	APN
IMPACT-821	Inconsistent module power state after power cycle on Windows	Windows
IMPACT-799	"CME error" returned by AT+COPN	Character
IMPACT-806	AT+CGMI, AT+CGMM, AT+CGMR, AT+CGSN, AT+CLAC do not return OK	AT Command
IMPACT-785	Enhancement: AT!GCCLR	AT Command

11 Firmware Release 1.1_01.01.05.00

11.1 Firmware Release Description

11.1.1 Firmware Release Identification

Table 41. Firmware Release Identification – Release 1.1

Component	Details
Firmware Version	SWIX12C_01.01.05.00
Date of generation (UTC)	2022/08/26
IMEI SV	01
Chipset Vendor Stack Version	MPSS.AT.2.5.1.c9-00197-SDX12_GENNTCH_PACK-1
Supported HW	EM7590

11.1.2 Carrier Packages

Table 42. Carrier Packages – Release 1.1

Carrier	Firmware	Configuration	Comment
Approved			
Generic	SWIX12C_01.01.05.00	001.001_000	GCF/PTCBR Approved – Release 1.1
Test			
ATT	SWIX12C_01.01.05.00	001.000_002	
TMO	SWIX12C_01.01.05.00	001.000_001	
VERIZON	SWIX12C_01.01.05.00	001.001_000	

11.1.3 Host Software Versions

The following tools were validated against this release.

Note: *Semtech recommends upgrading to newer Host Software releases when available. Refer to applicable software release notes for any compatibility restrictions.*

Table 43. Validated Host Software Tools

SW Tools Name	Version
Windows Package	EM7590 driver package_7590.1006

11.1.4 Software Changes

Table 44. Software Changes – Release 1.1

ID	Description	Impacted Domains
IMPACT-455	APN list correction for carrier PRI switching	Image switch
IMPACT-459	Support Verizon On-site Network	Carrier PRI
IMPACT-463	Set B39 maximum TX power to 20dBm for sXGP	OEM PRI
IMPACT-467	FirstNet Support in AT&T PRI	Image switch
IMPACT-468	Verizon Root Certificate Support	LwM2M
IMPACT-469	To keep GPS and LwM2M settings after reboot.	Carrier PRI
IMPACT-471	AT!RMARESET enhancement for OEMPRI	OEM PRI
IMPACT-475	Band mask enhancement	Modem
IMPACT-476	Add support for IPv6 server address	LwM2M
IMPACT-478	Support In-Band Firmware Update	LwM2M
IMPACT-479	Update carrier PRI when current carrier is the same as preferred carrier	Image switch
IMPACT-480	The GPS bias should not be turned on when GPS is disabled	GNSS
IMPACT-439	Update Band mask in Verizon PRI	Carrier PRI
IMPACT-430	Support more GPS NMEA output rate.	GPS
IMPACT-446	Fixing TS 36.521-3 TC 9.1.4.1_1 failure for B42	Conformance
IMPACT-447	Fixing TS 36.521-3 TC 9.1.4.1_1 failure for B48	Conformance
IMPACT-436	AT!SCUMMTU	AT command
IMPACT-371	AT!IMAGE	AT command
IMPACT-450	Improve W_DISABLE behavior	Module
IMPACT-444	Fixing TS 36.521-1 TC 6.6.3.3A.1	Conformance
IMPACT-443	Fixing IC RSS-192 failure	Conformance
IMPACT-445	Fixing TS 36.521-3 TC 7.3.8 failure	Conformance
IMPACT-370	Support Method to revert profiles.	Modem
IMPACT-402	AT!GPSSTATUS? error code handling enhancement	AT command
IMPACT-438	HWID for PV, PP, MP	HWID
IMPACT-433	Cosmetic enhancement for AT!CUSTOM="GPSEENABLE"	GPS
IMPACT-429	Fixing GLONASS on/off issue	GPS
IMPACT-360	Can't clear all assist data once manually stop ongoing positioning progress	GPS
IMPACT-389	To stop GNSS fix session launched by HLOS	GPS
IMPACT-399	AT!GPSEND error handling	AT command

IMPACT-417	Support NMEA sentences output from NMEA port	GPS
IMPACT-384	Separate carrier PRIs for GCF and PTCRB	PRI
IMPACT-416	AT!CUSTOM="MGRFDISABLE" support	AT command
IMPACT-419	AT!CUSTOM SIMLPM=1 behavior improvement	AT command
IMPACT-336	To improve Flog mechanism	AT command
IMPACT-261	AT!CUSTOM="GPIOSARENABLE"	AT command
IMPACT-241 IMPACT-336	AT!FLOG AT!GCDUMP cosmetic issue	AT command
IMPACT-224	AT!BAND	AT command
IMPACT-157	Fix runtime exception in SBL when FW recovery process	Image download
IMPACT-372	AT!CUSTOM MBIMTYPE	AT command
IMPACT-356	SMS over Windows 10	SMS
IMPACT-374	Firmware slot management	Security
IMPACT-69	Security update	Security
IMPACT-361	AT!GPSSATINFO doesn't clear SVs if GNSS session is end.	AT command
IMPACT-392	To recover corrupted EFS files instead of overwriting entire provision settings	Recovery
IMPACT-385	AT!NVBACKUP error handling	AT command
IMPACT-98	EFS Corruption Recovery	Recovery
IMPACT-75	Security debug	Security
IMPACT-324	AT!SARSTATE	AT command
IMPACT-325	AT!SARSTATEDFLT	AT command
IMPACT-375	AT+ODIS	AT command
IMPACT-255	AT!CUSTOM	AT command
IMPACT-386	AT!USBPRODUCT enhancement	AT command
IMPACT-91	LED blink pattern	LED pattern
IMPACT-381	AT!LEDPATTERN	AT command
IMPACT-186	AT!MAXPWR	AT command
IMPACT-252	AT!PCOFFEN	AT command
IMPACT-79	Supporting Auto SIM FW switching	Auto SIM
IMPACT-262	AT!CUSTOM GPSENABLE	AT command
IMPACT-263	AT!CUSTOM GPSLPM	AT command
IMPACT-317	AT!GCFEN	AT command
IMPACT-322	AT!NVPLMN	AT command
IMPACT-259	To align Network adapter name with AT!USBPRODUCT	USB
IMPACT-345	cdc_mbim hook failure occasionally.	MBIM
IMPACT-378	AT!CUSTOM="SIMHOTSWAPDIS",x" cosmetic improvement	AT command
IMPACT-380	AT!LTECA? cosmetic improvement	AT command

11.1.5 Known Issues

Note: This section reflects known issues in Release 1.1 as of the Date of Generation UTC) indicated in the Release 1.1 Release Identification section above.

Table 45. Known Issues – Release 1.1

ID	Description	Impacted Domains
IMPACT-483	Additional module reset to exit LPM may be required after firmware update	Image switch
IMPACT-76	Power Consumption enhancement	Power
IMPACT-496	Auto SIM sometime doesn't work. (it can recover after re-plug SIM)	Image Switch
IMPACT-623	Once GPSAUTOSTART is enabled, user cannot trigger GPS fixing	GPS
IMPACT-624	When setting GPSAUTOSTART=2, GPS starts to fix even no terminal listens to NMEA port	GPS

12 Related Documentation

Module resources, including product documentation, firmware packages and tools are published on The Source at <https://source.sierrawireless.com>.

Table 46. Reference Documents

Reference Document	Document #
[1] EM759x Migration Guide	41114460
[2] EM759x AT Command Reference	41114426
[3] EM759x Product Technical Specification	41114425

13 Abbreviations and Definitions

Table 47. Abbreviations and Acronyms

Abbreviation / Acronym	Definition
CVE	Common Vulnerabilities and Exposures
DV	Design Verification
FDT	Firmware Download Tool
FTM	Factory Test Mode
QMI	Qualcomm MSM Interface Qualcomm Modem Interface