

M9.7 System Version Description (SVD)

for the development of an STM ATB

Colophon	
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1 Scope

1.1 Identification

STMA-78118 - This document applies to V1.0 of the STM ATB. [ Verified]

1.2 System overview

STMA-78124 - An STM is a train protection system which prevents trains from over speeding and/or unauthorized movements. It allows ETCS equipped trains to operate on conventional (non ETCS) lines. An STM ATB is a “Specific Transmission Module” designed and built according to the ERA ERTMS specifications and national requirements for ATB-EG. When integrated with an onboard ETCS system, the combination of STM ATB and the ETCS onboard system ensures all ATB-EG and ATB-Vv functionalities on ATB equipped lines. [ Verified]

1.3 Document overview

Section 2 shows where to find the referenced documents and information on any abbreviations, definitions and terminology used in this document. Section 3 lists what is contained in the system delivery and the versions of the components and documents. In addition it lists the known issues and limitations.



2 Referenced documents

STMA-14296 - Reference documents




All the documents references used in this document can be found in the document  [P6.1](#)

[Bibliography](#) available in the Polarion folder  [Processes](#)

Abbreviations, definitions and terminology

An overview of the abbreviations, definitions and terminology used in this document can be found in document  [P6.2 List of abbreviations, definitions and terms](#) available in the Polarion folder  [Processes](#)

Requirement identification

The STM ATB project makes use of an automated requirement management system. In this system each requirement has been identified as a work item. Each work item has been automatically assigned with a unique ID, with the format "STMA-<number>". As a result requirement ID's are not in logical order. An overview of all the used STMA-numbers is given in document  [P6.3 Requirement Overview](#) available in the Polarion folder  [Processes](#) [ Verified]

3 Version description

3.1 Inventory of materials released

STMA-78121 - This release contains the following materials:

- System requirements
- System architecture documentation
- Software executables,
- Source code for these executables
- Documentation on how to build the executables from source
- Hardware schematics
- Hardware design documentation
- System manuals
- Test plans
- Test descriptions
- Test reports
- Safety case
- Hardware unit with all software pre-installed
- Software test environment
- System test tooling documentation


 Verified]

STMA-78122 - The following table shows the versions of the individual components that make-up release V1.0 of the STM ATB


Component	Version
Firmware for the Functional Processor (fpmain.elf)	V1.0000
Firmware for the Profibus Processor (ppmain.elf)	V1.0000
ATB Decoder Library (part of fpmain.elf)	V0.9
Bitstream for the FPGA (IO Channel and Diagnostic Channel)	V1.1-0
Second Stage Loader for the netX51 processor	V1.4.17.0
Profibus Master firmware for the netX51 processor	V2.7.0.0

Backplane PCB (STM-ATB-BP-002)	R1.13
AIN PCB (STM-ATB-AIN-002)	R1.12
DIO+PS PCB (STM-ATB-DIO-002)	R1.12
SAP PCB (STM-ATB-SAP-003)	C2

[ Verified]

STMA-78127 - Instructions on how to verify the validity of the copies of the software can be found in [M9.6 Software Product Specification \(SPS\)](#) [ Verified]

3.2 Changes installed

STMA-78120 - This being the initial release of the STM ATB there are no changes compared to the previous release. [ Verified]

3.3 Adaptation Data






STMA-78128 - This version of the STM ATB has not been tailored to any vehicle type.



[ Verified]
















3.4 Related Documents

















STMA-78433 - The table below lists the documents and their versions, related to this release.

[ Verified]












Document	Revision	Version	Date
 D0.4.1 Development + RAMS plan	536354	3.0	2020-06-30 11:21
 D0.4.5 Software Development plan	472728	3.0	2020-01-29 16:43
 D0.4.5.5 Software Test and Development Environment	395094	1.0	2019-09-13 14:02
 D2.1 STM ATB system description	360043	4.0	2019-05-27 11:22
 D2.2 Current RAMS performance and RAMS targets	360161	3.0	2019-05-27 12:59
















 D3.0 Legal framework standards and norms	536155	4.0	2020-06-30 08:33
 D3.1 Requirements from Regeling Indienststelling Spoorvoertuigen 9/2016	355958	6.0	2019-05-16 13:55
 D3.2 ATBvv requirements v11	449233	5.0	2019-11-29 16:52
 D3.3 Tolerable Functional Fault Rates	448992	8.0	2019-11-29 14:56
 D3.4 Additional User Requirements	303489	5.0	2018-11-10 14:08
 D4.1 Interface Requirements Specification (IRS)	503613	8.0	2020-04-22 14:57
 D4.2 Safety requirements	441250	7.0	2019-11-15 12:08
 D4.3 System Requirements Specification (SRS)	406615	7.0	2019-09-30 15:07
 D4.5 Environmental Requirement Specification (ERS)	454196	7.0	2019-12-09 09:26
 D4.6 Exported constraints	406871	6.0	2019-10-01 09:44
 D4.7.1 STM FFFIS Safe Link Layer (SS057 v3.1.0)	414849	5.0	2019-10-17 15:45
 D4.7.2 STM FFFIS Safe Time Layer (SS056 v3.0.0)	414846	6.0	2019-10-17 15:44
 D4.7.3 STM FFFIS Application Layer (SS058 v3.2.0)	305458	4.0	2018-11-14 21:46
 D4.7.4 Specific Transmission Module (SS035 v3.2.0)	406569	6.0	2019-09-30 14:40
 D4.7.5 Performance requirements (SS059 v3.1.0)	394879	5.0	2019-09-13 13:33
 D4.8 Apportionment of Customer Requirements	508989	4.0	2020-05-08

















			14:35
 D4.8.2 Apportionment of System Requirements	515425	1.0	2020-05-26 10:11
 D4.8.3 Apportionment of subset-035 Requirements	515457	1.0	2020-05-26 10:45
 D4.8.4 Apportionment of subset-056 Requirements	515467	1.0	2020-05-26 10:54
 D4.8.5 Apportionment of subset-057 Requirements	515661	1.0	2020-05-26 14:15
 D4.8.6 Apportionment of subset-059 Requirements	515479	1.0	2020-05-26 10:58
 D5.0 SAS for STM ATB	460131	6.0	2019-12-19 13:43
 D5.1 HwAS for STM ATB	461403	4.0	2019-12-20 17:02
 D5.1.1 HwRS for Backplane Board	456927	4.0	2019-12-12 11:34
 D5.1.2 HwRS for DIO+PS Board	461423	5.0	2019-12-20 17:09
 D5.1.3 HwRS for AIN Board	460075	5.0	2019-12-19 13:18
 D5.1.4 HwRS for Enclosure	461429	5.0	2019-12-20 17:11
 D5.1.5 HwRS for SAP Board	460119	7.0	2019-12-19 13:37
 D5.1.5.1 SAP Board design items	491081	6.0	2020-03-18 19:52
 D5.2 SwAS for STM ATB	460323	8.0	2019-12-19 17:43
 D5.2.1 SwRS for Input Handler	504300	6.0	2020-04-23 16:21














 D5.2.10 SwRS for Scheduler	506213	6.0	2020-04-29 14:28
 D5.2.11 SwRS for Event Handler	461442	4.0	2019-12-20 17:17
 D5.2.12 SwRS for Hardware Monitor	461450	2.0	2019-12-20 17:22
 D5.2.13 SwRS generators	349872	1.0	2019-04-26 16:02
 D5.2.2 SwRS for STM Layer	515895	8.0	2020-05-26 20:24
 D5.2.3 SwRS for ST Layer	500298	5.0	2020-04-14 16:36
 D5.2.4 SwRS for SL Layer	462651	4.0	2019-12-24 11:47
 D5.2.5 SwRS for Output Handler	443838	4.0	2019-11-20 15:53
 D5.2.7 SwRS for ATBEG+Vv Function	503873	5.0	2020-04-22 21:23
 D5.2.8 SwRS for ATBEG+Vv Decoder	461454	5.0	2019-12-20 17:24
 D5.2.9 SwRS for IO Channel	461460	9.0	2019-12-20 17:29
 D5.3.1 IRS Functional Processor-IO Channel	448217	8.0	2019-11-28 13:59
 D5.3.2 IRS Functional Processor-Diagnostic Channel	454855	6.0	2019-12-10 09:18
 D5.3.3 IRS Functional Processor-Profibus Processor	326070	3.0	2019-02-04 15:04
 D5.3.4 IRS Profibus Processor-Fieldbus Network Controller	409272	5.0	2019-10-04 22:17
 D5.3.5 IRS Functional Processor-Companion Chip	462801	3.0	2019-12-24 13:44








 D5.3.6 IRS Functional Processor-Hardware	327873	1.0	2019-02-12 10:24
 D6.1 HDD STM ATB	462317	1.0	2019-12-24 08:13
 D6.1.1 HDD Backplane Board	462556	1.0	2019-12-24 11:03
 D6.1.2 HDD DIO+PS Board	462025	2.0	2019-12-23 15:11
 D6.1.3 HDD AIN Board	462042	1.0	2019-12-23 15:33
 D6.1.4 HDD Enclosure	462583	1.0	2019-12-24 11:13
 D6.1.5 HDD SAP Board	494311	2.0	2020-03-25 10:57
 D6.2 SDD System level	486550	3.0	2020-03-10 15:30
 D6.2.1 SDD Input Handler	506045	5.0	2020-04-29 11:18
 D6.2.10 SDD Scheduler	463547	4.0	2019-12-27 15:09
 D6.2.11 SDD Event Handler	462134	3.0	2019-12-23 16:36
 D6.2.12 SDD Functional Processor Hardware Monitor	494255	2.0	2020-03-25 10:18
 D6.2.13 SDD SW generators	448583	3.0	2019-11-29 09:35
 D6.2.2 SDD STM Layer	459119	4.0	2019-12-18 10:21
 D6.2.3 SDD Safety Layers	459760	2.0	2019-12-19 10:06




 D6.2.4 SDD Application Layer	458009	2.0	2019-12-16 13:30
 D6.2.5 SDD Output Handler	460989	3.0	2019-12-20 13:38
 D6.2.7 SDD ATBEG+Vv Function	506113	6.0	2020-04-29 13:15
 D6.2.8 Product description ATBEG+Vv decoder module	463566	2.0	2019-12-27 15:27
 D6.2.9 SDD for IO Channels	462972	1.0	2019-12-24 15:41
 D6.2.9.1 IO Channel Filter designs	496202	2.0	2020-04-01 11:03
 D6.3.1 IDD Functional Processor-IO Channel	328691	5.0	2019-02-14 10:22
 D6.3.1.1 SDD Functional Processor-IO Channel Interface Module	455258	3.0	2019-12-10 10:10
 D6.3.2 IDD Functional Processor-Diagnostic Channel	348441	6.0	2019-04-25 09:50
 D6.3.2.1 SDD Functional Processor-Diagnostic Channel	349132	1.0	2019-04-25 17:00
 D6.3.3 IDD Functional Processor-Profibus Processor	348925	1.0	2019-04-25 14:55
 D6.3.3.1 SDD Functional Processor-Profibus Processor Interface Module	446146	2.0	2019-11-26 12:41
 D6.3.3.2 SDD Profibus Processor-Functional Processor Interface Module	348891	1.0	2019-04-25 14:43
 D6.3.4 IDD Profibus Processor-Fieldbus Network Controller	348981	1.0	2019-04-25 15:40
 D6.3.4.1 SDD Profibus Processor-Fieldbus Network Controller Interface Module	411040	2.0	2019-10-10 14:07
 D6.3.5 IDD Functional Processor-Companion Chip	414862	1.0	2019-10-17 16:36

















 D6.3.5.1 SDD Functional Processor-Companion Chip Interface Module	457354	1.0	2019-12-13 11:06
 D6.3.6 IDD Functional Processor-Hardware	414616	1.0	2019-10-17 13:35
 D6.3.6.1 SDD Functional Processor-Hardware Interface Module	521659	2.0	2020-06-03 13:19
 D6.5.2 Technical documentation	463332	1.0	2019-12-27 11:38
 D6.9.1 FMEA Software	475644	2.0	2020-02-07 17:19
 D6.9.2 FMEA Hardware	484880	3.0	2020-03-06 13:39
 D6.9.3 FMEDA Hercules and Companion Chip	523893	4.0	2020-06-08 08:43
 D6.9.4 Common Cause Failure Analysis	485113	4.0	2020-03-06 15:25
 D6.9.5 Apportionment safety requirements	522554	3.0	2020-06-04 17:38
 D6.9.6 MTBF	521690	2.0	2020-06-03 13:37
 D7.1.0 Hardware Unit Test Plan	522165	2.0	2020-06-04 11:50
 D7.1.2 Hardware Unit Test Report	527921	1.0	2020-06-12 10:55
 D7.1.5.0 Hardware Unit Test Plan - SAP Board	522513	3.0	2020-06-04 16:46
 D7.1.5.2 Hardware Unit Test Report - SAP Board	526894	1.0	2020-06-11 10:34
 D7.2.0 Software Unit Test Plan	538124	2.0	2020-07-03 12:46
















 D7.2.2 Software Unit Test Report	537815	2.0	2020-07-02 17:07
 M9.1 Data sheet Specific Transmission Module ATBEG/Vv	531792	1.0	2020-06-18 16:25
 M9.2 Manufacturing Manual	530320	1.0	2020-06-16 16:32
 M9.3 Installation Manual	534972	2.0	2020-06-25 21:39
 M9.4 Maintenance Manual	530439	1.0	2020-06-16 18:46
 M9.5 User Manual	529662	1.0	2020-06-15 16:09
 M9.6 Software Product Specification (SPS)	530213	1.0	2020-06-16 14:58
 M9.7 System Version Description (SVD)	537958	2.0	2020-07-03 08:05
 P1.0 Project Management Plan	394719	5.0	2019-09-13 12:12
 P6.1 Bibliography	531800	1.0	2020-06-18 16:33
 P6.2 List of abbreviations, definitions and terms	531678	1.0	2020-06-18 15:23
 P6.3 Requirement Overview	531853	1.0	2020-06-18 16:45
 Q1.0 Quality Management Plan	536341	4.0	2020-06-30 11:09
 Q1.0.1 Quality Management System	536335	4.0	2020-06-30 11:06
 Q1.1 STM ATB Safety and Quality Policy	439875	3.0	2019-11-13 14:08
 Q1.2 STM ATB Quality Objectives and targets	439899	3.0	2019-11-13 14:11
















 Q1.3.3 RACI VS table	440337	2.0	2019-11-13 16:58
 Q2.1.0 STM ATB Requirement Management Plan	467577	3.0	2020-01-15 00:22
 Q2.1.1 STM ATB Requirement Management Procedure	536248	4.0	2020-06-30 10:22
 Q2.10 Product development procedure	536263	3.0	2020-06-30 10:29
 Q2.10.1 Workinstruction for software design and development	475190	2.0	2020-02-07 11:03
 Q2.10.2 Software Testing Procedure	467357	2.0	2020-01-14 13:58
 Q2.10.3 EN50128:2011 compliance checklist	534819	1.0	2020-06-25 16:51
 Q2.10.4 Testing work instructions	no e-sign	1.0	2020-07-15 09:48
 Q2.11 Review, Approval and Distribution of QMS documentation	467071	3.0	2020-01-13 14:35
 Q2.12 Gate Review Procedure	536282	2.0	2020-06-30 10:39
 Q2.13 Requirement and Product Handover Procedure	467094	3.0	2020-01-13 14:57
 Q2.14 Test Results Verification Checklist	513911	1.0	2020-05-21 12:03
 Q2.15 Supplier Control Procedure	537590	4.0	2020-07-02 14:38
 Q2.2.1 Issue Management Procedure	467546	3.0	2020-01-14 23:19
 Q2.2.2 Change Management Procedure	536293	3.0	2020-06-30 10:46

 Q2.2.2.1 Change Requests	531862	1.0	2020-06-18 16:51
 Q2.3 Document Control Procedure	537232	4.0	2020-07-02 09:09
 Q2.4 Control of Records Procedure	536314	3.0	2020-06-30 10:56
 Q2.5.1 Internal Audit Procedure	536321	3.0	2020-06-30 10:59
 Q2.6 Control of non-conformance Procedure	536346	3.0	2020-06-30 11:12
 Q2.7 Corrective Action Procedure	467504	3.0	2020-01-14 17:24
 Q2.8 Preventive Action Procedure	467499	2.0	2020-01-14 17:20
 Q2.9 Configuration Management Procedure	440198	3.0	2019-11-13 15:36
 Q9.99 Known Issues	539143	1.0	2020-07-06 18:35
 R1.0 Verification Plan	535646	2.0	2020-06-29 08:55
 R3.0.0 Requirements coverage items for D3.0	449132	1.0	2019-11-29 15:45
 R3.1.0 Requirements coverage items for D3.1	449256	1.0	2019-11-29 17:13
 R3.2.0 Requirements coverage items for D3.2	449262	1.0	2019-11-29 17:16
 R3.3.0 Requirements coverage items for D3.3	449104	1.0	2019-11-29 15:25
 R3.4.0 Requirements coverage items for D3.4	449138	1.0	2019-11-29 15:45
 R4.1.0 Requirements coverage items for D4.1	441342	1.0	2019-11-15 13:30









 R4.1.1 Test coverage items for D4.1	521458	1.0	2020-06-03 10:30
 R4.2.0 Requirements coverage items for D4.2	456643	1.0	2019-12-11 17:09
 R4.2.1 Test coverage items for D4.2	521462	1.0	2020-06-03 10:32
 R4.3.0 Requirements coverage items for D4.3	407122	1.0	2019-10-01 14:30
 R4.3.1 Test coverage items for D4.3	522333	1.0	2020-06-04 14:34
 R4.5.0 Requirements coverage items for D4.5	453326	2.0	2019-12-05 17:20
 R4.5.1 Test coverage items for D4.5	522053	1.0	2020-06-04 09:40
 R4.6.0 Requirements coverage items for D4.6	523523	1.0	2020-06-05 17:30
 R4.7.1.0 Requirements coverage for items D4.7.1	406945	1.0	2019-10-01 12:00
 R4.7.1.1 Test coverage items for D4.7.1	521506	1.0	2020-06-03 11:10
 R4.7.2.0 Requirements coverage items for D4.7.2	406050	1.0	2019-09-27 17:51
 R4.7.2.1 Test coverage items for D4.7.2	521585	1.0	2020-06-03 11:58
 R4.7.3.0 Requirements coverage items for D4.7.3	405853	1.0	2019-09-27 16:01
 R4.7.3.1 Test coverage items for D4.7.3	521608	1.0	2020-06-03 12:23
 R4.7.4.0 Requirements coverage items for D4.7.4	454860	2.0	2019-12-10 09:26













 R4.7.4.1 Test coverage items for D4.7.4	521705	1.0	2020-06-03 14:15
 R4.7.5.0 Requirements coverage for items D4.7.5	454861	2.0	2019-12-10 09:26
 R4.7.5.1 Test coverage items for D4.7.5	521819	1.0	2020-06-03 16:58
 R4.99 Final verification report for phase 4	450515	2.0	2019-12-02 16:59
 R5.0.0 Requirements coverage items for D5.0	462598	1.0	2019-12-24 11:24
 R5.0.1 Test coverage items for D5.0	529498	1.0	2020-06-15 14:11
 R5.0.2 Design coverage items for D5.0	515980	3.0	2020-05-27 09:18
 R5.0.3 Implementation coverage items for D5.0	521401	2.0	2020-06-03 09:59
 R5.1.0 Requirements coverage items for D5.1	456934	1.0	2019-12-12 11:38
 R5.1.1 Test coverage items for D5.1	522924	1.0	2020-06-05 11:54
 R5.1.1.0 Requirements coverage items for D5.1.1	453621	1.0	2019-12-06 12:35
 R5.1.1.1 Test coverage items for D5.1.1	516193	2.0	2020-05-27 12:36
 R5.1.1.2 Design coverage items for D5.1.1	515992	2.0	2020-05-27 09:30
 R5.1.1.3 Implementation coverage items for D5.1.1	521402	2.0	2020-06-03 10:00
 R5.1.2 Design coverage items for D5.1	458498	1.0	2019-12-17 10:01
 R5.1.2.0 Requirements coverage items for D5.1.2	453625	1.0	2019-12-06 12:39






 R5.1.2.1 Test coverage items for D5.1.2	519186	1.0	2020-05-29 11:46
 R5.1.2.2 Design coverage items for D5.1.2	516026	2.0	2020-05-27 09:59
 R5.1.2.3 Implementation coverage items for D5.1.2	519783	2.0	2020-05-29 16:39
 R5.1.3 Implementation coverage items for D5.1	521403	2.0	2020-06-03 10:01
 R5.1.3.0 Requirements coverage items for D5.1.3	456568	1.0	2019-12-06 12:43
 R5.1.3.1 Test coverage items for D5.1.3	522929	1.0	2020-06-05 11:57
 R5.1.3.2 Design coverage items for D5.1.3	457024	1.0	2019-12-12 13:07
 R5.1.3.3 Implementation coverage items for D5.1.3	521405	3.0	2020-06-03 10:01
 R5.1.4.0 Requirements coverage items for D5.1.4	523100	1.0	2020-06-05 13:39
 R5.1.4.1 Test coverage items for D5.1.4	522953	1.0	2020-06-05 12:21
 R5.1.4.2 Design coverage items for D5.1.4	453631	1.0	2019-12-06 12:45
 R5.1.4.3 Implementation coverage items for D5.1.4	453633	1.0	2019-12-06 12:47
 R5.1.5.0 Requirements coverage items for D5.1.5	456468	1.0	2019-12-11 14:33
 R5.1.5.1 Test coverage items for D5.1.5	519476	1.0	2020-05-29 14:11
 R5.1.5.1.0 Requirements coverage items for D5.1.5.1	491676	2.0	2020-03-19 16:51


 R5.1.5.1.1 Test coverage items for D5.1.5.1	519563	1.0	2020-05-29 14:40
 R5.1.5.1.2 Design coverage items for D5.1.5.1	491625	2.0	2020-03-19 16:16
 R5.1.5.1.3 Implementation coverage items for D5.1.5.1	520933	5.0	2020-06-02 16:35
 R5.1.5.2 Design coverage items for D5.1.5	457198	1.0	2019-12-12 15:19
 R5.1.5.3 Implementation coverage items for D5.1.5	462151	1.0	2019-12-23 16:40
 R5.2.0 Requirements coverage items for D5.2	461786	1.0	2019-12-23 12:32
 R5.2.1 Test coverage items for D5.2	522960	1.0	2020-06-05 12:26
 R5.2.1.0 Requirements coverage items for D5.2.1	515998	2.0	2020-05-27 09:35
 R5.2.1.1 Test coverage items for D5.2.1	516270	1.0	2020-05-27 13:50
 R5.2.1.2 Design coverage items for D5.2.1	521616	3.0	2020-06-03 12:30
 R5.2.1.3 Implementation coverage items for D5.2.1	521498	2.0	2020-06-03 11:02
 R5.2.10.0 Requirements coverage items for D5.2.10	458823	1.0	2019-12-17 14:38
 R5.2.10.1 Test coverage items for D5.2.10	519818	1.0	2020-05-29 16:53
 R5.2.10.2 Design coverage items for D5.2.10	516056	3.0	2020-05-27 10:26
 R5.2.10.3 Implementation coverage items for D5.2.10	500108	2.0	2020-04-14 13:28
 R5.2.11.0 Requirements coverga items for D5.2.11	446148	1.0	2019-11-26 12:48

 R5.2.11.1 Test coverage items for D5.2.11	518754	2.0	2020-05-28 18:07
 R5.2.11.2 Design coverage items for D5.2.11	416494	2.0	2019-10-21 14:20
 R5.2.11.3 Implementation coverage items for D5.2.11	521407	3.0	2020-06-03 10:01
 R5.2.12.0 Requirements coverage items for D5.2.12	445868	1.0	2019-11-26 08:27
 R5.2.12.1 Test coverage items for D5.2.12	520720	1.0	2020-06-02 14:35
 R5.2.12.2 Design coverage items for D5.2.12	429335	1.0	2019-10-29 18:19
 R5.2.12.3 Implementation coverage items for D5.2.12	521409	2.0	2020-06-03 10:02
 R5.2.13.0 Requirements coverage items for D5.2.13	457445	1.0	2019-12-13 13:24
 R5.2.13.1 Test coverage items for D5.2.13	520972	1.0	2020-06-02 18:10
 R5.2.13.2 Design coverage items for D5.2.13	414279	1.0	2019-10-17 08:45
 R5.2.13.3 Implementation coverage items for D5.2.13	459181	1.0	2019-12-18 11:13
 R5.2.2 Design coverage items for D5.2	516126	2.0	2020-05-27 11:23
 R5.2.2.0 Requirements coverage items for D5.2.2	490795	2.0	2020-03-18 14:05
 R5.2.2.1 Test coverage items for D5.2.2	517937	1.0	2020-05-27 16:18
 R5.2.2.2 Design coverage items for D5.2.2	487898	2.0	2020-03-12 13:45

 R5.2.2.3 Implementation coverage items for D5.2.2	521604	4.0	2020-06-03 12:19
 R5.2.3 Implementation coverage items for D5.2	521411	3.0	2020-06-03 10:02
 R5.2.3.0 Requirements coverage items for D5.2.3	446060	1.0	2019-11-26 11:08
 R5.2.3.1 Test coverage items for D5.2.3	520400	1.0	2020-06-02 11:17
 R5.2.3.2 Design coverage items for D5.2.3	456057	1.0	2019-12-10 18:14
 R5.2.3.3 Implementation coverage items for D5.2.3	521424	3.0	2020-06-03 10:06
 R5.2.4.0 Requirements coverage items for D5.2.4	445149	1.0	2019-11-25 10:00
 R5.2.4.1 Test coverage items for D5.2.4	520698	1.0	2020-06-02 14:06
 R5.2.4.2 Design coverage items for D5.2.4	516187	2.0	2020-05-27 12:31
 R5.2.4.3 Implementation coverage items for D5.2.4	521426	3.0	2020-06-03 10:06
 R5.2.5.0 Requirements coverage items for D5.2.5	447339	1.0	2019-11-27 14:45
 R5.2.5.1 Test coverage items for D5.2.5	518697	2.0	2020-05-28 15:57
 R5.2.5.2 Design coverage items for D5.2.5	414757	1.0	2019-10-17 14:53
 R5.2.5.3 Implementation coverage items for D5.2.5	521434	3.0	2020-06-03 10:09
 R5.2.7.0 Requirements coverage items for D5.2.7	448644	1.0	2019-11-29 10:54
 R5.2.7.1 Test coverage items for D5.2.7	518708	2.0	2020-05-28 16:24


 R5.2.7.2 Design coverage items for D5.2.7	416702	1.0	2019-10-21 16:31
 R5.2.7.3 Implementation coverage items for D5.2.7	521435	4.0	2020-06-03 10:09
 R5.2.8.0 Requirements coverage items for D5.2.8	462740	1.0	2019-12-24 12:43
 R5.2.8.1 Test coverage items for D5.2.8	521783	1.0	2020-06-03 16:17
 R5.2.8.2 Design coverage items for D5.2.8	463445	1.0	2019-12-27 13:52
 R5.2.8.3 Implementation coverage items for D5.2.8	463458	1.0	2019-12-27 13:57
 R5.2.9.0 Requirements coverage items for D5.2.9	460719	1.0	2019-12-20 10:44
 R5.2.9.1 Test coverage items for D5.2.9	515241	1.0	2020-05-25 16:49
 R5.2.9.2 Design coverage items for D5.2.9	460715	1.0	2019-12-20 10:43
 R5.2.9.3 Implementation coverage items for D5.2.9	460705	1.0	2019-12-20 10:41
 R5.3.1.0 Requirements coverage items for D5.3.1	426439	1.0	2019-10-28 17:04
 R5.3.1.1 Test coverage items for D5.3.1	520422	1.0	2020-06-02 11:28
 R5.3.1.2 Design coverage items for D5.3.1	461592	1.0	2019-12-20 22:38
 R5.3.1.3 Implementation coverage items for D5.3.1	500143	2.0	2020-04-14 13:48
 R5.3.2.0 Requirements coverage items for D5.3.2	426444	1.0	2019-10-28 17:06

 R5.3.2.1 Test coverage items for D5.3.2	520466	1.0	2020-06-02 11:42
 R5.3.2.2 Design coverage items for D5.3.2	459767	1.0	2019-12-19 10:19
 R5.3.2.3 Implementation coverage items for D5.3.2	462865	1.0	2019-12-24 14:20
 R5.3.3.0 Requirements coverage items for D5.3.3	426450	1.0	2019-10-28 17:08
 R5.3.3.1 Test coverage items for D5.3.3	520610	1.0	2020-06-02 13:19
 R5.3.3.2 Design coverage items for D5.3.3	426214	1.0	2019-10-28 14:13
 R5.3.3.3 Implementation coverage items for D5.3.3	521439	3.0	2020-06-03 10:10
 R5.3.4.0 Requirements coverage items for D5.3.4	426453	1.0	2019-10-28 17:10
 R5.3.4.1 Test coverage items for D5.3.4	520774	1.0	2020-06-02 15:03
 R5.3.4.2 Design coverage items for D5.3.4	449578	2.0	2019-12-01 16:13
 R5.3.4.3 Implementation coverage items for D5.3.4	457191	1.0	2019-12-12 15:12
 R5.3.5.0 Requirements coverage items for D5.3.5	429694	1.0	2019-10-30 13:29
 R5.3.5.1 Test coverage items for D5.3.5	520915	1.0	2020-06-02 16:20
 R5.3.5.2 Design coverage items for D5.3.5	458759	1.0	2019-12-17 14:14
 R5.3.5.3 Implementation coverage items for D5.3.5	521442	3.0	2020-06-03 10:10
 R5.3.6.0 Requirements coverage items for D5.3.6	457193	1.0	2019-12-12 15:15

 R5.3.6.1 Test coverage items for D5.3.6	521356	1.0	2020-06-03 08:58
 R5.3.6.2 Design coverage items for D5.3.6	415871	1.0	2019-10-21 10:54
 R5.3.6.3 Implementation coverage items for D5.3.6	521444	2.0	2020-06-03 10:11
 R5.99 Final verification report for phase 5	536088	6.0	2020-06-29 21:27
 R6.2 Coverage items for D6.2	512388	2.0	2020-05-18 17:40
 R6.2.1 Coverage items for D6.2.1	512389	2.0	2020-05-18 17:41
 R6.2.10 Coverage items for D6.2.10	521374	2.0	2020-06-03 09:33
 R6.2.11 Coverage items for D6.2.11	521372	2.0	2020-06-03 09:31
 R6.2.12 Coverage items for D6.2.12	512392	2.0	2020-05-18 17:41
 R6.2.13 Coverage items for D6.2.13	521378	2.0	2020-06-03 09:36
 R6.2.2 Coverage items for D6.2.2	512394	2.0	2020-05-18 17:42
 R6.2.3 Coverage items for D6.2.3	521384	2.0	2020-06-03 09:46
 R6.2.4 Coverage items for D6.2.4	521387	2.0	2020-06-03 09:48
 R6.2.5 Coverage items for D6.2.5	512397	2.0	2020-05-18 17:42
 R6.2.7 Coverage items for D6.2.7	521412	2.0	2020-06-03 10:02

 R6.2.8 Coverage items for D6.2.8	521437	2.0	2020-06-03 10:10
 R6.2.9 Coverage items for D6.2.9	521441	2.0	2020-06-03 10:10
 R6.2.9.1 Coverage items for D6.2.9.1	521446	2.0	2020-06-03 10:12
 R6.3.1.1 Coverage items for D6.3.1.1	512402	2.0	2020-05-18 17:44
 R6.3.2.1 Coverage items for D6.3.2.1	512403	2.0	2020-05-18 17:44
 R6.3.3.1 Coverage items for D6.3.3.1	512404	2.0	2020-05-18 17:44
 R6.3.4.1 Coverage items for D6.3.4.1	512405	2.0	2020-05-18 17:44
 R6.3.5.1 Coverage items for D6.3.5.1	521453	2.0	2020-06-03 10:25
 R6.99 Final verification report for phase 6	536098	5.0	2020-06-29 21:35
 R7.1.3 Implementation coverage items for D7.1.0	522471	1.0	2020-06-04 16:05
 R7.1.5.3 Implementation coverage items or D7.1.5.0	525683	1.0	2020-06-09 16:05
 R7.2.1.3 Implementation coverage items for T7.2.1.0	522990	1.0	2020-06-05 12:56
 R7.2.10.3 Implementation coverage items for T7.2.10.0	523629	1.0	2020-06-05 19:24
 R7.2.11.3 Implementation coverage items for T7.2.11.0	523543	1.0	2020-06-05 17:48
 R7.2.12.3 Implementation coverage items for T7.2.12.0	523708	1.0	2020-06-06 12:35
 R7.2.3 Implementation coverage items for D7.2.0	526185	1.0	2020-06-10 12:28






 R7.2.4.3 Implementation coverage items for T7.2.4.0	522341	1.0	2020-06-04 14:40
 R7.2.5.3 Implementation coverage items for T7.2.5.0	523082	1.0	2020-06-05 13:30
 R7.2.7.3 Implementation coverage items for T7.2.7.0	523108	1.0	2020-06-05 13:41
 R7.2.8.3 Implementation coverage items for T7.2.8.0	528595	1.0	2020-06-12 19:26
 R7.99 Final verification report for phase 7	538688	2.0	2020-07-05 21:26
 R8.1.3 Implementation coverage items for T8.1.0	527336	1.0	2020-06-11 15:58
 R8.2.3 Implementation coverage items for T8.2.0	529772	1.0	2020-06-16 08:12
 R8.99 Final verification report for phase 8	534040	1.0	2020-06-24 16:44
 S1.0 Safety Management Plan	394800	4.0	2019-09-13 13:04
 S3.0 Hazard Log Plan	533023	4.0	2020-06-23 11:13
 S3.1 Hazard Log	534413	2.0	2020-06-25 12:29
 S3.2 Hazard Log Report	534435	1.0	2020-06-25 12:41
 S3.3 Safety Analysis	536409	2.0	2020-06-30 13:08
 S3.4 HAZID report	523997	3.0	2020-06-08 10:00
 S3.5 Transferred Hazard Log Items Report	no e-sign	1.0	2020-07-07 17:48

 S4.1 SIL determination report	463163	1.0	2019-12-24 19:35
 S9.1 Part 1: Definition of system	539076	1.0	2020-07-06 17:21
 S9.2 Part 2: Quality Management Report	539077	1.0	2020-07-06 17:22
 S9.3 Part 3: Safety Management Report	532835	1.0	2020-06-22 20:32
 S.9.4.1 Part 4: Technical Safety Report Section 1 Introduction	495150	1.0	2020-03-27 14:37
 S9.4.2 Part 4: Technical Safety Report Section 2 Assurance of correct operation	532516	1.0	2020-06-21 11:43
 S9.4.3 Part 4: Technical Safety Report Section 3 Effects of faults	531375	1.0	2020-06-18 11:02
 S9.4.4 Part 4: Technical Safety Report Section 4 Operation with external influences	532323	1.0	2020-06-19 16:04
 S9.4.5 SRACs	539058	1.0	2020-07-06 17:01
 S9.5 Part 5: Related Safety Cases	539098	1.0	2020-07-06 17:36
 S9.6 Part 6: Conclusion	539088	1.0	2020-07-06 17:27
 T1.0 Master Test Plan	340221	2.0	2019-03-29 13:37
 T7.2.1.0 Input Handler Module Test Plan	505729	5.0	2020-04-28 13:08
 T7.2.1.2 Input Handler Module Test Report	523009	1.0	2020-06-05 13:04
 T7.2.10.0 Scheduler Module Test Plan	477953	3.0	2020-02-14 11:41
 T7.2.10.2 Scheduler Module Test Report	523648	1.0	2020-06-05 19:45



 T7.2.11.0 Event Handler Module Test Plan	485595	4.0	2020-03-09 13:35
 T7.2.11.2 Event Handler Module Test Report	524856	2.0	2020-06-08 20:44
 T7.2.12.0 Hardware Monitor Module Test Plan	499844	1.0	2020-04-14 09:59
 T7.2.12.2 Hardware Monitor Module Test Report	523078	1.0	2020-06-05 13:28
 T7.2.4.0 Application Layer Module Test Plan	522045	3.0	2020-06-04 09:32
 T7.2.4.2 Application Layer Module Test Report	523031	1.0	2020-06-05 13:16
 T7.2.5.0 Output Handler Module Test Plan	471476	3.0	2020-01-27 13:02
 T7.2.5.2 Output Handler Module Test Report	524853	2.0	2020-06-08 20:41
 T7.2.7.0 ATB EG+Vv Function Module Test Plan	475013	2.0	2020-02-06 15:47
 T7.2.7.2 ATB EG+Vv Function Module Test Report	524851	2.0	2020-06-08 20:41
 T7.2.8.0 ATB EG+Vv Decoder Module Test Plan	508946	3.0	2020-05-08 13:48
 T7.2.8.2 ATB EG+Vv Decoder Module Test Report	528320	1.0	2020-06-12 16:05
 T7.2.8.3 ATBEG Decoder Module Validation Report	528606	1.0	2020-06-12 19:37
 T7.2.9.0 FPGA Module Test Plan	503879	3.0	2020-04-22 21:34
 T7.2.9.2 FPGA Module Test Report	523925	2.0	2020-06-08 09:10



 T7.90.2 Not Tested Requirements Report	529879	1.0	2020-06-16 09:59
 T8.1.0 Hardware Fault Injection Test Plan	440305	1.0	2019-11-13 16:32
 T8.1.2 Hardware Fault Injection Test Report	533434	2.0	2020-06-23 17:28
 T8.2.0 STM Integration Test Plan	525377	5.0	2020-06-09 13:19
 T8.2.2 STM Integration Test Report	532852	2.0	2020-06-22 22:46
 T8.4.0 SS074 Test Plan	529239	1.0	2020-06-15 09:37
 T8.4.2 SS074 Test Report	523571	1.0	2020-06-05 18:16
 T8.5.0 SS076 Test Plan	480121	1.0	2020-02-20 13:27
 T8.5.2 SS076 Test Report	525183	1.0	2020-06-09 11:04
 T8.50 STM firmware integration checklist report	528011	1.0	2020-06-12 11:35
 T8.6.0 Environmental Test Plan	483111	1.0	2020-03-02 13:37
 T8.6.2 Environmental Test Report	524750	1.0	2020-06-08 18:12
 T9.0 System Test Plan	534664	1.0	2020-06-25 16:01
 T9.0.1.0 Annex 1 - Functional integration tests	533278	3.0	2020-06-23 15:39
 T9.0.1.2 Annex 1 - Functional integration test report	535545	1.0	2020-06-26 23:55
 T9.0.2.0 Annex 2 - ATB antenna interface tests	536400	1.0	2020-06-30 12:49

 T9.0.2.2 Annex 2 - Antenna interface test Report	538826	2.0	2020-07-06 09:10
 T9.0.3.0 Annex 3 - Functional tests	535086	1.0	2020-06-26 09:20
 T9.0.3.2 Annex 3 - Functional tests Report	538860	2.0	2020-07-06 10:11
 T9.2 STM ATB System Test Report	538851	1.0	2020-07-06 09:54
 V1.0 Validation Plan	312665	4.0	2018-12-03 11:03
 V10.1 STM ATB Criteria for system acceptance	no e-sign	0.9	2020-06-23 11:23
 V3.90 Gate Review Checklist - Phase 3	538014	2.0	2020-07-03 09:04
 V3.91 Gate Review Report - Phase 3	316001	1.0	2018-12-07 16:49
 V4.90 Gate Review Checklist - Phase 4	459426	2.0	2019-12-18 15:12
 V4.91 Gate Review Report - Phase 4	459584	2.0	2019-12-18 16:44
 V5.90 Gate Review Checklist - Phase 5	461314	2.0	2019-12-20 16:10
 V5.91 Gate Review Report - Phase 5	537825	5.0	2020-07-02 17:14
 V5.99 System Architecture Validation Report	494677	1.0	2020-03-26 09:08
 V6.90 Gate Review Checklist - Phase 6	495915	1.0	2020-03-31 15:08
 V6.91 Gate Review Report - Phase 6	537350	3.0	2020-07-02 10:26



 V7.91 Gate Review Report - Phase 7	5536637	3.0	2020-07-05 23:21
 V8.91 Gate Review Report - Phase 8	537020	2.0	2020-07-01 16:40
 V9.90 Gate Review Checklist - Phase 9	528786	1.0	2020-06-13 09:21
 V9.91 Gate Review Report - Phase 9	539574	1.0	2020-07-07 17:18
 V9.99 System Validation Report	539026	1.0	2020-07-06 16:14



3.5 Installation Instructions

STMA-78126 - Instructions on how to install an STM ATB unit can be found in  [M9.3 Installation Manual](#) [ Verified]

STMA-78125 - Instructions on how to install the software on the unit can be found in  [M9.2 Manufacturing Manual](#) [ Verified]

3.6 Possible problems, known errors, and constrains

STMA-78123 - A list of known errors can be found in  [Q9.99 Known Issues](#) [ Verified]

STMA-78434 - A list of exported constrains can be found in  [D4.6 Exported constraints](#) [ Verified]