Section 1: General Information

0. Identification of the type

0.1 0.2 0.4 Type ID:	13-007-0002-6-001-001
0.3 Date of record:	2019-12-20

1. General Information

1.1 Type name:	AGV575
1.2 Alternative type name:	

1.3 Manufacturer:

1.3.1 Manufacturer identification data:

1.3.1.1 Name of organisation:	ALSTOM FERROVIARIA S.P.A.
1.3.1.2 Registered business number:	02791070044
1.3.1.3 Organisation code:	

1.3.2 Manufacturer contact data:

1.3.2.1 Address of organisation, street and number:	VIA OTTAVIO MORENO 23
1.3.2.2 Town:	SAVIGLIANO
1.3.2.3 Country code:	I
1.3.2.4 Post code:	12038
1.3.2.5 E-mail address:	alstomferroviaria.pec@actaliscertymail.it

Registration Method:	New Type
Registered Vehicle Type:	
1.4 Category:	Traction vehicles
1.5 Subcategory:	Self-propelled passenger trainset (incl. railbusses)
1.6 Platform:	AGV

Section 2: Conformity with TSI

2.1 Conformity with TSI and Sections not complied with:

1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	**HS RST (Dec 2008/232/EC)** **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)** **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)**
1435mm / AC 25kV-50Hz / RSDD/SCMT	**HS RST (Dec 2008/232/EC)** **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)** **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)**

1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	**HS RST (Dec 2008/232/EC)** **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)** **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)**
1435mm / DC 3kV / RSDD/SCMT	**HS RST (Dec 2008/232/EC)** **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)** **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)**

2.3 Applicable specific cases (specific cases conformity with which has been assessed)

1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	**HS RST (Dec 2008/232/EC)** 7.3.2.14.3. Train Aerodynamics. Maximum pressure variations in tunnels [clause 4.2.6.4]. Specific case for Italy 7.3.2.16. Fire extinguisher [clause 4.2.7.2.3.2]. Specific case for Italy 7.3.2.17. Horns [clause 4.2.7.4.2.1]. Specific case for Italy **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)** **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)**
1435mm / AC 25kV-50Hz / RSDD/SCMT	**HS RST (Dec 2008/232/EC)** 7.3.2.14.3. Train Aerodynamics. Maximum pressure variations in tunnels [clause 4.2.6.4]. Specific case for Italy 7.3.2.16. Fire extinguisher [clause 4.2.7.2.3.2]. Specific case for Italy 7.3.2.17. Horns [clause 4.2.7.4.2.1]. Specific case for Italy **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)** **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)**
1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	**HS RST (Dec 2008/232/EC)** 7.3.2.14.3. Train Aerodynamics. Maximum pressure variations in tunnels [clause 4.2.6.4]. Specific case for Italy 7.3.2.16. Fire extinguisher [clause 4.2.7.2.3.2]. Specific case for Italy 7.3.2.17. Horns [clause 4.2.7.4.2.1]. Specific case for Italy 7.3.2.19. Pantograph [clause 4.2.8.3.6.]. Specific case Italy **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)** **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)**

1435mm / DC 3kV / RSDD/SCMT	**HS RST (Dec 2008/232/EC)** 7.3.2.14.3. Train Aerodynamics. Maximum pressure variations in tunnels [clause 4.2.6.4]. Specific case for Italy 7.3.2.16. Fire extinguisher [clause 4.2.7.2.3.2]. Specific case for Italy 7.3.2.17. Horns [clause 4.2.7.4.2.1]. Specific case for Finland 7.3.2.19. Pantograph [clause 4.2.8.3.6.]. Specific case Italy **HS+CR PRM (Dec 2008/164/EC)** **HS+CR SRT (Dec 2008/163/EC)** **CR CCS (Dec 2006/679/EC amended by Dec 2006/860/EC)**

2.2 Reference of 'EC type examination certificates'

Reference of 'EC type examination certificates' - if module SB applied - and/or 'design verification certificate' - if module SH1 applied	1960/1/SB/2020/CCO/IT EN/055
Reference of 'EC type examination certificates' - if module SB applied - and/or 'design verification certificate' - if module SH1 applied	0942/3/SH2/2012/RST/IT-EN/ECI1245B 1641_03

Section 3: Authorisations

Italy

3.0 Area Of Use:	IT(Italy, Rete Ferroviaria Italiana (RFI))
3.1.1 Member state of authorisation:	Italy(IT)
3.1.2.1 Status:	Valid
3.1.2.2 Validity of Authorisation (until):	
3.1.2.3 Coded conditions for use and other restrictions:	**1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1** 1 Technical restriction related to construction 1.1 Minimum curve radius in meters: 100 2 Geographical restriction 2.1 Kinematic gauge (coding WAG TSI): G1 2.2 Wheelset gauge: 2.2.4 Gauge 1435 2.4 ERTMS on board: 2.4.1 ETCS 2.4 ERTMS on board: 2.4.2 GSM-R voice 2.4 ERTMS on board: 2.4.3 GSM-R for ETCS 2.5 B System on board 2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT 3 Environmental restrictions 3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008

1435mm / AC 25kV-50Hz / RSDD/SCMT

1 Technical restriction related to construction

1.1 Minimum curve radius in meters: 100

2 Geographical restriction

2.1 Kinematic gauge (coding WAG TSI): G1

2.2 Wheelset gauge: 2.2.4 Gauge 1435

2.4 ERTMS on board: 2.4.1 ETCS

2.4 ERTMS on board: 2.4.2 GSM-R voice

2.4 ERTMS on board: 2.4.3 GSM-R for ETCS

2.5 B System on board

2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT

3 Environmental restrictions

3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008

1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1

1 Technical restriction related to construction

1.1 Minimum curve radius in meters: 100

2 Geographical restriction

2.1 Kinematic gauge (coding WAG TSI): G1

2.2 Wheelset gauge: 2.2.4 Gauge 1435

2.4 ERTMS on board: 2.4.1 ETCS

2.4 ERTMS on board: 2.4.2 GSM-R voice

2.4 ERTMS on board: 2.4.3 GSM-R for ETCS

2.5 B System on board

2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT

3 Environmental restrictions

3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008

1435mm / DC 3kV / RSDD/SCMT

1 Technical restriction related to construction

1.1 Minimum curve radius in meters: 100

2 Geographical restriction

2.1 Kinematic gauge (coding WAG TSI): G1

2.2 Wheelset gauge: 2.2.4 Gauge 1435

2.4 ERTMS on board: 2.4.1 ETCS

2.4 ERTMS on board: 2.4.2 GSM-R voice

2.4 ERTMS on board: 2.4.3 GSM-R for ETCS

2.5 B System on board

2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT

3 Environmental restrictions

3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008

3.1.2.4 Non-coded conditions for use and other restrictions:

1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1

see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156

see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010

1435mm / AC 25kV-50Hz / RSDD/SCMT

	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156
	see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156
	see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010
	1435mm / DC 3kV / RSDD/SCMT
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156
	see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010
3.1.3.1.1 Date of the original authorisation:	2019-12-19
3.1.3.3.2 Date of the last modification:	2020-12-02

3.1.3.3.3 Authorisation holder:

3.1.3.3.3.1 Authorisation holder identification data:

3.1.3.3.3.1.1 Name of organisation:	ALSTOM FERROVIARIA S.P.A.
3.1.3.3.3.1.2 Registered business number:	02791070044
3.1.3.3.3.1.3 Organisation code:	

3.1.3.3.3.2 Authorisation holder contact data:

3.1.3.3.3.2.1 Address of organisation, street and number:	VIA OTTAVIO MORENO 23
3.1.3.3.3.2.2 Town:	SAVIGLIANO
3.1.3.3.3.2.3 Country code:	ITALY
3.1.3.3.3.2.4 Post code:	12038
3.1.3.3.3.2.5 E-mail address:	alstomferroviaria.pec@actaliscertymail.it

3.1.3.3.4 Authorisation document reference:	IT8020190002
3.1.3.3.5 Certificate of verification : Reference of type examination or design examination type:	
	0942/3/SH2/2012/RST/IT-EN/ECI1245B 1641 ed. 3
	CERT/2/SH1/2019/RST/IT/5498/0003 ed.05
	1960/1/SB/2020/CCO/IT EN/055
	IT/02/2013/1/SB/2020/CCO/IT EN/035
	CERT/2/SH1/2019/RST/IT/5498/0003 ed.04
3.1.3.3.6 Parameters for which conformity to applicable national rules has been assessed:	

	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1 1.2 Maintenance instructions and requirements 9.6 Recording device 12.2.1 National on-board signalling systems 12.2.2 STM requirements 12.2.4 Compatibility of rolling stock with CCS Trackside 1435mm / AC 25kV-50Hz / RSDD/SCMT 1.2 Maintenance instructions and requirements 9.6 Recording device 12.2.1 National on-board signalling systems 12.2.2 STM requirements 12.2.4 Compatibility of rolling stock with CCS Trackside 1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1 1.2 Maintenance instructions and requirements 9.6 Recording device 12.2.1 National on-board signalling systems 12.2.2 STM requirements 12.2.4 Compatibility of rolling stock with CCS Trackside 1435mm / DC 3kV / RSDD/SCMT 1.2 Maintenance instructions and requirements 9.6 Recording device 12.2.1 National on-board signalling systems 12.2.2 STM requirements 12.2.4 Compatibility of rolling stock with CCS Trackside
3.1.3.3.7 Comments:	Parameters related to the modifications applied
3.1.3.3.8 Reference to the written declaration by the proposer referred to in Article 3(11) of Regulation (EU) 402/2013:	DAR_AGV575_01

3.1.3.1 Initial Registration

3.1.2.3 Coded conditions for use and other restrictions:	**1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1** 1 Technical restriction related to construction 1.1 Minimum curve radius in meters: 100

2 Geographical restriction

2.1 Kinematic gauge (coding WAG TSI): G1

2.2 Wheelset gauge: 2.2.4 Gauge 1435

2.4 ERTMS on board: 2.4.1 ETCS

2.4 ERTMS on board: 2.4.2 GSM-R voice

2.4 ERTMS on board: 2.4.3 GSM-R for ETCS

2.5 B System on board

2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT

3 Environmental restrictions

3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008

1435mm / AC 25kV-50Hz / RSDD/SCMT

1 Technical restriction related to construction

1.1 Minimum curve radius in meters: 100

2 Geographical restriction

2.1 Kinematic gauge (coding WAG TSI): G1

2.2 Wheelset gauge: 2.2.4 Gauge 1435

2.4 ERTMS on board: 2.4.1 ETCS

2.4 ERTMS on board: 2.4.2 GSM-R voice

2.4 ERTMS on board: 2.4.3 GSM-R for ETCS

2.5 B System on board

2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT

3 Environmental restrictions

3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008

1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1

1 Technical restriction related to construction

1.1 Minimum curve radius in meters: 100

2 Geographical restriction

2.1 Kinematic gauge (coding WAG TSI): G1

2.2 Wheelset gauge: 2.2.4 Gauge 1435

2.4 ERTMS on board: 2.4.1 ETCS

2.4 ERTMS on board: 2.4.2 GSM-R voice

2.4 ERTMS on board: 2.4.3 GSM-R for ETCS

2.5 B System on board

2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT

3 Environmental restrictions

3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008

1435mm / DC 3kV / RSDD/SCMT

1 Technical restriction related to construction

1.1 Minimum curve radius in meters: 100

2 Geographical restriction

2.1 Kinematic gauge (coding WAG TSI): G1

2.2 Wheelset gauge: 2.2.4 Gauge 1435

2.4 ERTMS on board: 2.4.1 ETCS

2.4 ERTMS on board: 2.4.2 GSM-R voice

2.4 ERTMS on board: 2.4.3 GSM-R for ETCS

2.5 B System on board

2.5.1 Class B signalling system: 2.5.117 RSDD/SCMT

3 Environmental restrictions

3.1 Climatic zone EN 50125-1:2014: 3.1.1 T1

4 Restrictions on use

4.2 Condition based (distance travelled, wear, etc.): True

5 On-board equipment

	5.1 Recording device: 5.1.01 "Registratore cronologico d'eventi computerizzato" (RCEC) according to specification RFI/DTC/CSI/SR/OR/10/002/B of 11/02/2008
3.1.2.4 Non-coded conditions for use and other restrictions:	
	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2019/000119
	see EC DECLARATION OF VERIFICATION CCO IT/00007984290010/2019/000042
	1435mm / AC 25kV-50Hz / RSDD/SCMT
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2019/000119
	see EC DECLARATION OF VERIFICATION CCO IT/00007984290010/2019/000042
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2019/000119
	see EC DECLARATION OF VERIFICATION CCO IT/00007984290010/2019/000042
	1435mm / DC 3kV / RSDD/SCMT
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2019/000119
	see EC DECLARATION OF VERIFICATION CCO IT/00007984290010/2019/000042
3.1.3.1.1 Date of the original authorisation:	2019-12-19

3.1.3.1.2 Authorisation holder:

3.1.3.1.2.1 Authorisation holder identification data:

3.1.3.1.2.1.1 Name of organisation:	ALSTOM FERROVIARIA S.P.A.
3.1.3.1.2.1.2 Registered business number:	02791070044
3.1.3.1.2.1.3 Organisation code:	

3.1.3.1.2.2 Authorisation holder contact data:

3.1.3.1.2.2.1 Address of organisation, street and number:	VIA OTTAVIO MORENO 23
3.1.3.1.2.2.2 Town:	SAVIGLIANO
3.1.3.1.2.2.3 Country code:	ITALY
3.1.3.1.2.2.4 Post code:	12038
3.1.3.1.2.2.5 E-mail address:	alstomferroviaria.pec@actaliscertymail.it

3.1.3.1.3 Authorisation document reference:	IT8020190002
3.1.3.1.4 Certificate of verification : Reference of type examination or design examination type:	CERT/2/SH1/2019/RST/IT/5498/0003 ed. 03 0942/3/SH2/2012/RST/IT-EN/ECI1245B 1641 ed. 3 CERT/2/SH1/2019/CCS/IT/5433/0004 ed. 01 2593/2/SH2/209/CCO/IT-EN/9421/0020 ed. 1
3.1.3.1.5 Parameters for which conformity to applicable national rules has been assessed:	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1 1.2 Maintenance instructions and requirements 1435mm / AC 25kV-50Hz / RSDD/SCMT 1.2 Maintenance instructions and requirements 1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1 1.2 Maintenance instructions and requirements 1435mm / DC 3kV / RSDD/SCMT 1.2 Maintenance instructions and requirements
3.1.3.1.6 Comments:	Parameters related to the modification applied
3.1.3.1.7 Reference to the written declaration by the proposer referred to in Article 3(11) of Regulation (EU) 402/2013:	DAR_AGV575_01

3.1.3.2 Modification

3.1.3.2.2 Date of the last modification:	2020-05-07
3.1.2.4 Non-coded conditions for use and other restrictions:	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1 see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000054 see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010 1435mm / AC 25kV-50Hz / RSDD/SCMT see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000054 see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010 1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1 see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000054

see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010

1435mm / DC 3kV / RSDD/SCMT

see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000054

see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010

3.1.3.2.5 Certificate of verification : Reference of type examination or design examination type:

0942/3/SH2/2012/RST/IT-EN/ECI1245B 1641 ed. 3

CERT/2/SH1/2019/RST/IT/5498/0003 ed. 04

1960/1/SB/2020/CCO/IT EN/055

IT/02/2013/1/SB/2020/CCO/IT EN/035

3.1.3.2.6 Parameters for which conformity to applicable national rules has been assessed:

1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1

9.6 Recording device

12.2.1 National on-board signalling systems

12.2.2 STM requirements

12.2.4 Compatibility of rolling stock with CCS Trackside

1435mm / AC 25kV-50Hz / RSDD/SCMT

9.6 Recording device

12.2.1 National on-board signalling systems

12.2.2 STM requirements

12.2.4 Compatibility of rolling stock with CCS Trackside

1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1

9.6 Recording device

12.2.1 National on-board signalling systems

12.2.2 STM requirements

12.2.4 Compatibility of rolling stock with CCS Trackside

1435mm / DC 3kV / RSDD/SCMT

9.6 Recording device

12.2.1 National on-board signalling systems

12.2.2 STM requirements

12.2.4 Compatibility of rolling stock with CCS Trackside

3.1.3.2.7 Comments: Parameters related to the modificationS applied

3.1.3.3 Modification

3.1.3.3.2 Date of the last modification:	2020-12-02
3.1.2.4 Non-coded conditions for use and other restrictions:	
	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156
	see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010
	1435mm / AC 25kV-50Hz / RSDD/SCMT
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156
	see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156
	see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010
	1435mm / DC 3kV / RSDD/SCMT
	see EC DECLARATION OF VERIFICATION RST IT/00007984290010/2020/000156
	see EC DECLARATION OF VERIFICATION CCO IT/00002791070044/2020/000010
3.1.3.3.5 Certificate of verification : Reference of type examination or design examination type:	
	0942/3/SH2/2012/RST/IT-EN/ECI1245B 1641 ed. 3
	CERT/2/SH1/2019/RST/IT/5498/0003 ed.05
	1960/1/SB/2020/CCO/IT EN/055
	IT/02/2013/1/SB/2020/CCO/IT EN/035
	CERT/2/SH1/2019/RST/IT/5498/0003 ed.04
3.1.3.3.6 Parameters for which conformity to applicable national rules has been assessed:	
3.1.3.3.7 Comments:	Parameters related to the modifications applied

Section 4: Technical Characteristics

4.1.3 Wheel set gauge RC	1435	mm

4.1.12 Number of vehicles composing the fixed formation (for fixed formation only)	11

4.13.1 Signalling

4.13.1.1 ETCS equipment on-board and the set of specifications from CCS TSI Annex A RC	Implementing Regulation (EU) 2019/776 Set_1
4.13.1.5 Class B or other train protection control and warning systems installed (system and if applicable version) RC	RSDD/SCMT
4.13.1.7 ETCS on-board implementation RC	Level 2 - Versione S. 4.25.33.3.J13
4.13.1.8 ETCS System Compatibility	Not applicable
4.13.1.9 Managing information about the completeness of the train RC	False

4.13.2 Radio

4.13.2.1 GSM-R Radio voice on board and its Baseline RC	Implementing Regulation (EU) 2019/776 Set_1 (BL 22.1.2 4.3.0 (28/09/2010) + PATCH)
4.13.2.3 Class B or other radio systems installed (system and if applicable version) RC	None
4.13.2.5 Radio Voice System Compatibility	Not applicable
4.13.2.6 Voice and operational communication implementation RC	BL 22.1.2 4.3.0 (28/09/2010) + PATCH
4.13.2.7 GSM-R Radio Data communication on board and its Baseline RC	Implementing Regulation (EU) 2019/776 Set_1
4.13.2.8 Radio Data System Compatibility	Not applicable

4.13.2.9 Data communication application for ETCS implementation RC		BL 4.0.0 (SW 1C.32.41)			
4.13.2.10 Voice SIM Card GSM-R Home Network		GSM-R I (Italy)			
4.13.2.11 Data SIM Card GSM-R Home Network		GSM-R I (Italy)			
4.13.2.12 Voice SIM Card support of Group ID 555		False			
4.10.1 Energy supply system (voltage and frequency) RC		AC 25kV-50Hz DC 3kV			
4.10.4 Maximum current at standstill per pantograph (to be indicated for each DC systems the vehicle is equipped for)	DC 3kV	195	A		
4.10.5 Height of interaction of pantograph with contact wires (over top of rail) (to be indicated for each energy supply system the vehicle is equipped for) RC	AC 25kV-50Hz DC 3kV	0004.50 0004.47	m m	0006.70 0006.67	m m
4.10.6 Pantograph head geometry (to be indicated for each energy supply system the vehicle is equipped for) RC	AC 25kV-50Hz DC 3kV	1600 1450 (sc IT)	mm mm		
4.10.7 Number of pantographs in contact with the overhead contact line (OCL) (to be indicated for each energy supply system the vehicle is equipped for) RC	AC 25kV-50Hz DC 3kV	1 1			
4.10.10 Material of pantograph contact strip the vehicle may be equipped with (to be indicated for each energy supply system the vehicle is equipped for) RC	AC 25kV-50Hz DC 3kV	Plan carbon Carbon and copper (Kasperowsy type)			

4.10.11 Automatic dropping device (ADD) fitted (to be indicated for each energy supply system the vehicle is equipped for) RC	AC 25kV-50Hz	False	
	DC 3kV	True	
4.10.14 Electric units equipped with power or current limitation function RC	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	False	
	1435mm / AC 25kV-50Hz / RSDD/SCMT	True	
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	False	
	1435mm / DC 3kV / RSDD/SCMT	True	
4.10.15 Mean contact force RC	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	103	N
	1435mm / AC 25kV-50Hz / RSDD/SCMT	103	N
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	192	N
	1435mm / DC 3kV / RSDD/SCMT	192	N

4.1.2 Speed

4.1.2.1 Maximum design speed	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	300	km/h
	1435mm / AC 25kV-50Hz / RSDD/SCMT	300	km/h
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	250	km/h
	1435mm / DC 3kV / RSDD/SCMT	250	km/h

4.1.5 Maximum number of trainsets or locomotives coupled together in multiple operation.	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	1	
	1435mm / AC 25kV-50Hz / RSDD/SCMT	1	
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	1	
	1435mm / DC 3kV / RSDD/SCMT	1	
4.2.1 Reference profile RC		G1	
4.3.1 Temperature range		T3 (-25 to +45)	
4.3.3 Snow, ice and hail conditions		Nominal	
4.4.1 Fire safety category RC		B	

4.5.2 Design mass

4.5.2.1 Design mass in working order RC	377000	kg
4.5.2.2 Design mass under normal payload RC	402000	kg
4.5.2.3 Design mass under exceptional payload RC	423000	kg

4.5.3 Static axle load

4.5.3.1 Static axle load in working order RC	15700	kg
4.5.3.2 Static axle load under normal payload RC	16750	kg
4.5.3.3 Static axle load under exceptional payload RC	17625	kg

4.5.3.4 Position of the axles along the unit (axle spacing) : a: Distance between axles b: Distance from end axle to the end of the nearest coupling plane c: distance between two inside axles RC	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	a: 0014,30 b: 0004,11 c: 0003,00	m		
	1435mm / AC 25kV-50Hz / RSDD/SCMT	a: 0014,30 b: 0004,11 c: 0003,00	m		
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	a: 0014,30 b: 0004,11 c: 0003,00	m		
	1435mm / DC 3kV / RSDD/SCMT	a: 0014,30 b: 0004,11 c: 0003,00	m		
4.5.5 Total vehicle mass (for each vehicle of the unit) RC	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	37700	kg		
	1435mm / AC 25kV-50Hz / RSDD/SCMT	377000	kg		
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	377000	kg		
	1435mm / DC 3kV / RSDD/SCMT	377000	kg		
4.5.6 Mass per wheel RC	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	7845	kg		
	1435mm / AC 25kV-50Hz / RSDD/SCMT	7845	kg		
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	7845	kg		
	1435mm / DC 3kV / RSDD/SCMT	7845	kg		
4.6.4 Combination of maximum speed and maximum cant deficiency for which the vehicle was assessed RC	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	0300,00	km/h	0150,00	mm
	1435mm / AC 25kV-50Hz / RSDD/SCMT	0300,00	km/h	0150,00	mm
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	0250,00	km/h	0150,00	mm
	1435mm / DC 3kV / RSDD/SCMT	0250,00	km/h	0150,00	mm

4.6.5 Rail inclination RC	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	1/20	
	1435mm / AC 25kV-50Hz / RSDD/SCMT	1/20	
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	1/20	
	1435mm / DC 3kV / RSDD/SCMT	1/20	
4.7.1 Maximum average deceleration		1.45	m/s²

4.7.2.1 Brake performance on steep gradients with normal payload

4.7.2.1.1 Reference case of TSI		Reference case of (80 km/h, 21‰ (mm/m), 46 km)	
4.7.2.1.6 Maximum brake thermal energy capacity	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	6336	kJ
	1435mm / AC 25kV-50Hz / RSDD/SCMT	6336	kJ
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	6336	kJ
	1435mm / DC 3kV / RSDD/SCMT	6336	kJ

4.7.3 Parking brake

4.7.3.3 Maximum gradient on which the unit is kept immobilized by the parking brake alone (if the vehicle is fitted with it)		5	‰ (mm/m)

4.7.4.1 Eddy current brake

4.7.4.1.1 Eddy current track brake fitted RC		False	

4.7.4.2 Magnetic brake

4.7.4.2.1 Magnetic track brake fitted RC		False	

4.7.4.3 Regenerative brake (only for vehicles with electrical traction)

4.7.4.3.1 Regenerative brake fitted RC		True	

4.7.4.3.2 Possibility of preventing the use of the regenerative brake (only if fitted with regenerative brake) RC		True			
4.7.5 Emergency brake : Stopping distance and deceleration profile for each load condition per design maximum speed a: Load condition: working order b: Load condition: normal payload c: Load condition: exceptional payload	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	a: 3074,00	m	0001,00	m/s²
		b: 0000.00	m	0000.00	m/s²
		c: 0000.00	m	0000.00	m/s²
	1435mm / AC 25kV-50Hz / RSDD/SCMT	a: 3074,00	m	0001,00	m/s²
		b: 0000.00	m	0000.00	m/s²
		c: 0000.00	m	0000.00	m/s²
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	a: 3074,00	m	0001,00	m/s²
		b: 0000.00	m	0000.00	m/s²
		c: 0000.00	m	0000.00	m/s²
	1435mm / DC 3kV / RSDD/SCMT	a: 3074,00	m	0001,00	m/s²
		b: 0000.00	m	0000.00	m/s²
		c: 0000.00	m	0000.00	m/s²
4.7.6 For general operation : Brake weight percentage (lambda) or Braked mass	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	,	(%) or	00719,00	tonnes
	1435mm / AC 25kV-50Hz / RSDD/SCMT	,	(%) or	00719,00	tonnes
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	,	(%) or	00719,00	tonnes
	1435mm / DC 3kV / RSDD/SCMT	,	(%) or	00719,00	tonnes
4.7.7 Service brake: At maximum service brake: Stopping distance, Maximum deceleration, for the load condition 'design mass under normal payload' at the design maximum speed.	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	3287,00	m	0001,00	m/s²
	1435mm / AC 25kV-50Hz / RSDD/SCMT	3287,00	m	0001,00	m/s²
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	3287,00	m	0001,00	m/s²
	1435mm / DC 3kV / RSDD/SCMT	3287,00	m	0001,00	m/s²

4.7.8 Wheel slide protection system	1435mm / AC 25kV-50Hz / Implementing Regulation (EU) 2019/776 Set_1	True	
	1435mm / AC 25kV-50Hz / RSDD/SCMT	True	
	1435mm / DC 3kV / Implementing Regulation (EU) 2019/776 Set_1	True	
	1435mm / DC 3kV / RSDD/SCMT	True	
4.8.1 Vehicle length		201.2	m
4.8.2 Minimum in-service wheel diameter RC		850	mm
4.8.4 Minimum horizontal curve radius capability RC		100	m
4.8.5 Minimum vertical convex curve radius capability		500	m
4.8.6 Minimum vertical concave curve radius capability		500	m
4.9.1 Type of end coupling	**Automatic**		
4.9.2 Axle bearing condition monitoring (hot axles box detection) RC		Onboard equipped (OP)	
4.12.3.1 Platform heights for which the vehicle is designed. RC		550	mm
		760	mm
4.14.1 Type of train detection systems for which the vehicle has been designed and assessed RC		Track circuits	
		Axle counters	