Product Type Approval Certificate

Restricted

This certificate is issued to:

Supplier name and address:	Hitachi Rail STS 11 Viola Place, Eagle Farm, QLD 4009

In respect of:

Manufacturer:	Hitachi Rail STS
Place of manufacture:	Italy
Product description:	WSP2G and FDC3G CBI systems, consisting of the hardware and software items listed in Annexure 1 - schedule of associated items. Cables, connectors and other associated hardware items listed in the WSP2G Operation and Maintenance Manual and FDC3G Installation and Maintenance Manual form part of this type approval, as these are necessary for the complete interlocking and wayside installation and operation of the WSP2G and FDC3G. Note: Type approval does not control application tools for data preparation and validation (WAVE, FAST) used by the TAO in providing engineering services for the product.
Use approved for:	Restricted use as part of the Mount Victoria area remodelling only. Use as a computer-based railway signalling interlocking system on the heavy rail network, in accordance with TfNSW standards and the manufacturer's documentation and application constraints (safety and non-safety related).
Conditions of approval:	Refer to Annexure 2
Limitations:	Use of the WSP2G and FDC3G on the TfNSW heavy rail signalling system is restricted to the Mt Victoria area only until satisfactory closure of all outstanding matters as agreed by Sydney Trains and Hitachi and completion of operational integration activities.

Evaluating rail transport operator

Name:	Andrew Gardner
Position:	Director, Signals and Control Systems Engineering, Asset Management Branch, PIP, Transport for NSW
Signature:	Andrew Gardner Digitally signed by Andrew Gardner Date: 2025.05.27 12:45:56 +10'00'
Date:	

Product approval pack reference number: fA18466177

Annexure 1 - Schedule of associated items

Generic product hardware for WSP2G

Level	Description	Product Number	Revision
Cabinet	WSP2G Cabinet frame, WxDxH = 600x600x1960mm (empty cabinet shell)	A00E.0100087	NA
Cabinet	WSP2G Cabinet (with all components)	B21B.0100129	02
Rack	Power Supply Distribution (BAER Subrack)	B20B.0100023	01
Module	5A MIAT	B92D.000007	04
Module	10A MIAT	B92D.000032	02
Module	10A MIFI	B22C.0100956	00
Module	DGNM (Diagnostic Controller)	B20B.0100022	01
Rack	Safety Nucleus & Electro/Optical Isolation (CWSP-02 Subrack)	B21B.0100139	00
Module	CPSU (DC/DC Converter)	3220.000590	01
Module	cPCI-3510L CPU (Vital Processing Unit)	B21D.0100065	00
Module	CPPP (Vital RS-485 Interface)	B21D.0100001	04
Module	CPIC (Non-vital Ethernet Interface)	B21D.0100009	02
Module	CPWB (Watchdog controlled DC/DC converter)	B21D.0100020	00
Module	CPWN (Fail Safe Watchdog module)	B21D.0100014	00
Module	DUET (Ethernet Duplicator)	B21D.0100007	02
Rack	Vital Section Fan rack	109B.0100598	00
Rack	Fan Box (below CWSP and ARTs)	109A.000141	02
Rack	10.4” Console & Keyboard / Switch (KVM 8 port)	9001.0100377	01
Rack	Alarms, Records & Telecommunications (cPCI Cardfile CC-N / ART-R)	B22B.0100327	00
Rack	Alarms, Records & Telecommunications (cPCI Cardfile ART-N / CC-R)	B22B.0100328	00
Module	cPCI-3620T CPU (Non-vital Processing, Server & Comms Unit)	B21D.0100052	00
Module	cPCI-3620T Rear CPU (Non-vital Processing, Server & Comms Unit)	3220.0100163	00
Module	Westermo Industrial Gigabit Switch* (not an STS product)	Lynx-5512-E-F4G-T8G-LV	NA
Module	Westermo LAN switch (firewall) * (not an STS product)	Redfox RFI-219-F4G-T7G	NA
Module	EMI Filter Panels 2 x 45A	B22B.0100086	01
Module	Watchdog Bypass card	3220.0100599,00	00

Generic product hardware for FDC3G

Level	Description	Product Number	Revision
Cabinet	Field Device Controller (FDC) 3G	P00E.0100020	03
Rack	*Power Supply Distribution (BAER Subrack)*	*B22B.0100428*	*00*
Module	5A MIST	B20C.0100006	01
Module	15A MIST	B20C.0100009	01
Rack	*FDC Subrack*	*B22B.0100329*	*00*
Module	GPCU (General Purpose Processing)	B22B.0100421	01
Module	GLAM – CI (Signals Output/Input Interface)	B22B.0100531	00
Module	GREO – CI (Auto-section Output Interface)	B22B.0100532	00
Module	GREI (4 Vital Inputs Interface)	B22B.0100353	01
Module	OUTV (4 Vital Outputs Interface)	B22B.0100355	03
Module	INVI (24V DC Inputs Interface)	B22B.0100354	03
Module	EMI Filter Panels 2 x 45A	B22B.0100437	01
Module	Westermo Industrial Gigabit Switch * (not an STS product)	Lynx-5512-E-F4G-T8G-LV	NA

* - *Product approval of Westermo modules has been approved under PTA-SC004-2020. Modules have been identified here to approve use with the WSP 2G/FDC 3G interlocking*

Software Items

Item	Proprietary software version	COTS software version
WSP2G Generic Product SW (safety Nucleus)	6.1.3.a	NA
WSP2G – Communications Computer (CC) **		Linux Ubunta 4.14
Human Machine Interface (Diagnostic & Replay HMI) **		Windows 10
WSP2G – Alarms, Records & Telecoms (ART) **	6.1.3.9a	Windows 10
Generic application (Safety Logic)	9.6.4 (1.5.1)	NA
ATRICS Non-Vital Interface (ANVI)	3.0.1.0	NA
FDC3G Generic Product SW	02.04	NA

** *Note: Included in WSP2G GP SW*

Annexure 2 – Conditions of Approval

a) This Type Approval is a variation of PTA SC001/2022.

PTA SC001/2022 is superseded by this Type Approval.

b) The use of WSP2G and FDC3G within the TfNSW heavy rail signalling system is restricted to the Mt. Victoria area. Consideration for lifting the restriction will be given upon the satisfactory resolution of all outstanding matters, as agreed between Sydney Trains and Hitachi, and the completion of operational integration activities.

c) Usage shall be in accordance with TfNSW standards, the RIM's operational standards and procedures and the manufacturer's documentation. The TAO shall comply with all applicable conditions, limitations and constraints, such as (but not limited to) SRACs, SecRACs, ACDs and operational conditions as specified in the applicable assurance reports.

d) The manufacturer/vendor and Asset Steward O&M shall maintain the cyber security mitigations against the changing asset configurations and vulnerabilities as detailed in applicable legislations, regulations and TfNSW standards.

e) The manufacturer/vendor must promptly notify TfNSW AMB of any changes made to the product or system that may alter its identification, performance, functional characteristics, risks, assurance, form, fit, or required processes for correct usage. This is to allow a review of the type approval status.

f) TAOs utilising this product or system must verify that the product configuration, including but not limited to model(s), type(s) and version(s), complies with the configuration specified in the type approval.

g) Connection of any wireless devices such as smart phones and tablets to the Wision2G monitoring system is prohibited.

h) FDC3G modules shall be located in separate signalling locations from SSI trackside functional modules (TFM) signal modules.

i) Integration with the Frauscher axle counter system (FAdC) for train detection shall use category 1 or 2 transmission system, in accordance with IEC 62280.

j) Reliance on the disabling of FDC modules GREI, OUTV and INVI for maintenance purposes using WSP2G diagnostic commands is not permitted.

k) The ethernet communication backbone (normal and standby) for the vital signalling communications shall be fibre optic cables only.

l) Installation of equipment in confined spaces is not permitted.

m) Multicoil / twin relays shall not be used with the FDC3G.

n) WSP2G and FDC3G shall not be used in AC traction areas.

o) Blanking plugs shall be fitted and secured to the DB9 ports of the cPCI- 3510L Vital CPU modules.

p) FDC3G subracks installed in location and equipment cases shall be positioned more than 3m from the track. The datum point for the measurement shall be from the toe of the sleeper to the nearest edge of the location case.

q) Start-up delay for the event recorder (ART) shall be configured to less than or equal to the start-up delay for the equipment that it is recording information for.

r) Warning labels prohibiting the use of magnets with in 100mm of the interlocking modules shall be permanently attached to the cabinets and clearly visible.

s) Communication cables and sockets shall be labelled appropriately and detailed in circuit books to mitigate risk of incorrect terminations.

t) This type approval does not include application tools for data preparation and validation (WAVE, FAST) used by the TAO in providing engineering services for this product, which is in accordance with TS 05258:1.0, section 28. The off-line support tools are outside the scope of type approval, and any assurance required is provided by the TAO as part of the engineering services.

u) Conclusions about suitability for use under conditions other than what is specified in this approval are not made. Reliance on this approval by any other organisation is entirely at that organisation's own risk.