
	<h1 style="text-align: center;">Type Test Plan</h1>	File:	29904400
		Ausgabe Edition:	0
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Project:	Bombardier TTC Toronto	Autor:	Patric Wittwer
		Datum Date:	2010-12-16

This Type Test Plan is applicable for the following components:

Component	ANNAX Article Number	Bombardier Article Number
Front / Rear destination display	40.4321.1705	84170281S
Side destination display	40.4321.1702	84170282S
Internal display double sided	40.4321.1697	84170283S
Internal Display single sided	40.4321.1698	84170284S
CCU – Cab Control unit	60.0200.0210	84100290S
PCU-Box of Passenger Control Unit	60.0200.0215	53050130S
PCU – Passenger Control Unit	60.0000.0300	84100291S
DPCU – Passenger Control Unit for Disabled People	60.0000.0400	84100292S
Run number display	40.4321.1681	84010111S

Test plan according to EN 50155 and EN 50121-3-2 (Version Deutsche Fassung EN 50155:2007)

TEST STANDARD	TEST DESCRIPTION	TYPE TEST	ROUTINE TEST	EN 50155
Performance Test	Type tests according to the specified requirements with series design	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12.1.1 12.1.2
Visual Inspection	Visual inspection according to the specified requirements - Visual inspection color firmness in accordance to DIN 53389 Class 6 - Visual inspection mounting, display surface, varnish and screen - Visual inspection viewing angle, brightness and brightness steps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12.2.1
Inspection Mechanics	Weight according to documentation Dimensions according to the drawing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-
Performance Test	Test operating behavior at nominal supply voltage and the specified upper and lower limits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12.2.2
Performance Test	Test operating behavior at short interruption of nominal supply voltage (Class S2, 10ms)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.2
EN 60068-2-1	Cooling test (T3) According to the specified requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.3
EN 60068-2-2	Dry heat test (T3) According to the specified requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.4
EN 60068-2-30	Humid heat test, cyclic According to the specified requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.5
EN 50121-3-2	Supply overvoltage, surges and electrostatic discharge (ESD) tests	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.6
EN 50121-3-2	Immunity test - Supply overvoltages	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
EN 61000-4-5	Surges	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
EN 61000-4-2	Electrostatic discharge test Direct and indirect transients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
EN 50121-3-2 EN 61000-4-4	Transient burst susceptibility test Direct and capacitive coupling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.7

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EN 50121-3-2 EN 61000-4-3 EN 61000-4-6 EN 55011	Radio frequency interference test RFI susceptibility test Immunity to conducted disturbances RFI emission test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.8
Performance Test	Insulation test (>50MΩ) Insulation measurement test Voltage withstand test Ground continuity test (<50mΩ)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12.2.9
EN 61373 EN 60068-2-64 EN 60068-2-27	Vibration, shock and bump test Detection of critical frequencies Vibration test (broad band noise) Shock and bump test Kategorie 1 Klasse B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.2.11
Performance Test	Power consumption	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-
Performance Test	Polarity reversal test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.2.6
Functional Type Test	Displays: - Automatic LED Pattern CCU: - Audio File played over Cab Loudspeaker PCU-Box: - Test Tone from Audio Voice Line over Loudspeaker	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-
Functional Routine Test	Displays: - Automatic LED Pattern CCU: - Audio File played over Cab Loudspeaker PCU-Box: - Test Tone from Audio Voice Line over Loudspeaker	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

Key: ☒ yes ☐ no

Please note that the nominal voltage of the devices is 28.5 VDC