

Title Measurements of radio frequency interference from
PlusCom Xpress X62 410 including SafeCom X34 150

Test object PlusCom Xpress X62 410 including SafeCom X34 150

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Manufacturer i-data International A/S

Specification EN 55022:1994 (CISPR 22:1985 + A1 + A2) class B
+ A1 + A2
FCC part 15 Subpart B class B demonstrated by
compliance with EN 55022:1994, class B.

Test personnel Henrik Egeberg Nielsen

Results The emission from the PlusCom Xpress X62 410 including
SafeCom X34 150 was below the limit of the above
specifications.

Date 1999-07-19

Project manager 
Per Hansen, Facility Manager, EMC
DELTA Electronics Testing

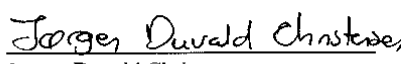
Responsible 
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1. SUMMARY OF TEST RESULTS

The results of the emission tests can be summarised as follows:

Emission tests	EN 55022:1994 (CISPR 22: 1985 + A1 + A2) class B + A1 + A2	FCC part 15 Subpart B class B *
Conducted emission, AC mains	Passed	Passed
Radiated electromagnetic field	Passed	Passed

Abbreviations : Passed : The emission was below the limit.
Not done : No test was performed.
N/A : Not applicable.
Not relevant : The test was not relevant for the test object.

* The FCC class B was demonstrated by compliance with EN 55022:1994, class B.

The test results relate only to the specimen tested.

2. TEST SPECIMEN 1

Category : Card Reader
Manufacturer : i-data International A/S
Model/Type : SafeCom X34 150
Part no. : -
Serial no. : -
Supply voltage : 12 VDC from 115 VAC adapter.
Operational mode : Normal operation.
Comments : -

TEST SPECIMEN 2

Category : Printer server
Manufacturer : i-data International A/S
Model/Type : PlusCom Xpress X62 410
Part no. : -
Serial no. : -
Supply voltage : 12 VDC from 115 VAC adapter.
Operational mode : Normal operation.
Comments : 100 Mbit transmission speed.

3. GENERAL TEST CONDITIONS

3.1 Test set-up

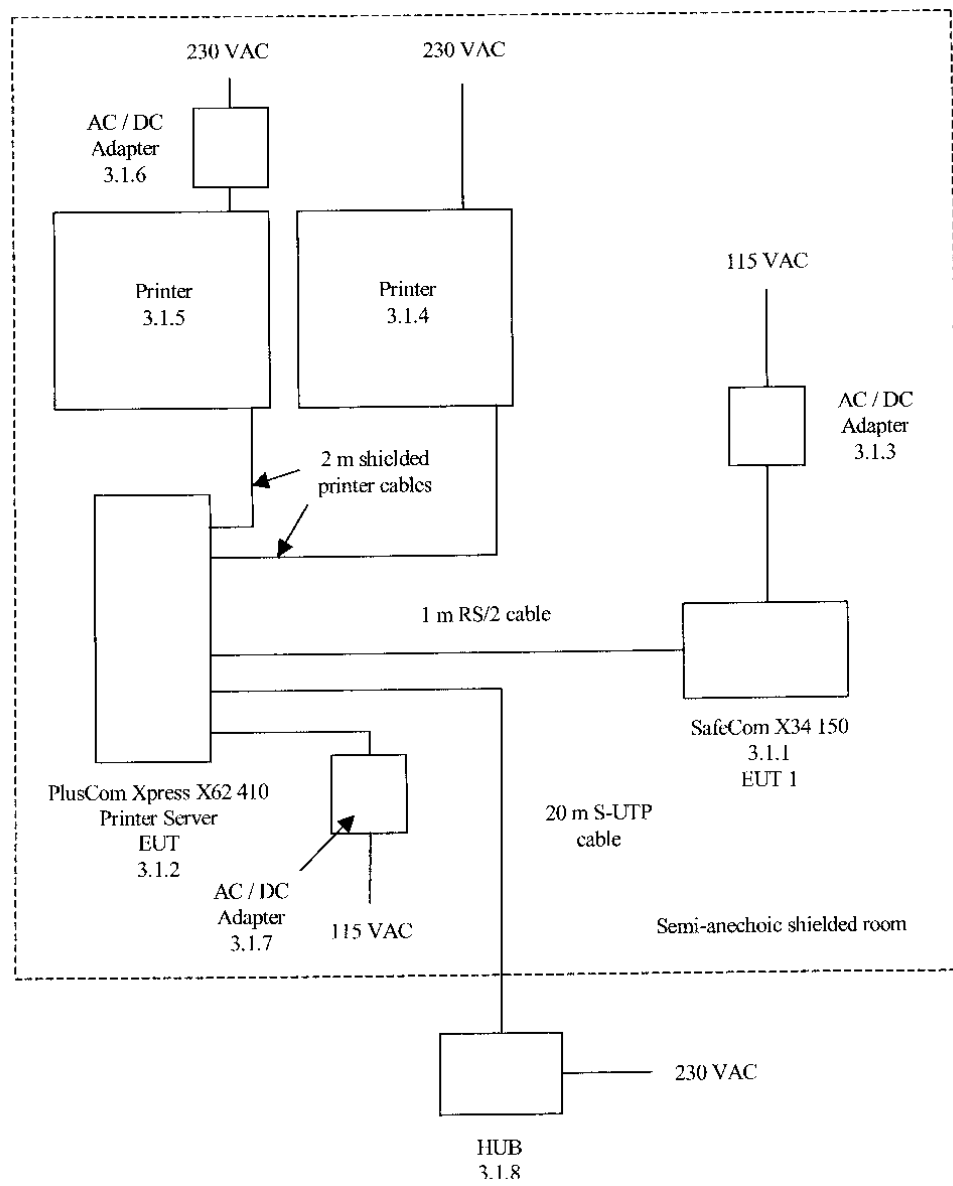


FIG. 1 Test set-up including test object and peripheral equipment

The complete system used during the tests consisted of the following units:

3.1.1	Card Reader	EUT 1
	Manufacturer	: i-data International A/S
	Model/type	: SafeCom X34 150
	Part no.	: -
	Serial no.	: -
	FCC ID.	: -
3.1.2	Printer Server	EUT 2
	Manufacturer	: i-data International A/S
	Model/type	: PlusCom Xpress X62 410
	Part no.	: -
	Serial no.	: -
	FCC ID.	: -
3.1.3	AC / DC Adapter	
	Manufacturer	: FRIWO
	Model/type	: FW 3288
	Part no.	: -
	Serial no.	: -
	FCC ID	: -
3.1.4	Printer	
	Manufacturer	: Hewlett Packard
	Model/type	: C1676A
	Part no.	: -
	Serial no.	: SGC5302456
	FCC ID	: B94C1676
3.1.5	Printer	
	Manufacturer	: Hewlett Packard
	Model/type	: 895 CXi
	Part no.	: C6410A
	Serial no.	: SG89A2W2HT
	FCC ID.	: -
3.1.6	AC / DC Adapter	
	Manufacturer	: Hewlett Packard
	Model/type	: HP Deskjet power adapter
	Part no.	: C6409-60014
	Serial no.	: T5838041928
	FCC ID.	: -

3.1.7 AC / DC Adapter

Manufacturer	:	FRIWO
Model/type	:	FW 3288
Part no.	:	-
Serial no.	:	-
FCC ID	:	-

3.1.8 HUB (100 Mbit)

Manufacturer	:	Cabletron Systems
Model/type	:	EZ 5208 TX
Part no.	:	720.301
Serial no.	:	K164700128
FCC ID	:	-

4. TESTS AND RESULTS

4.1 Conducted emission, AC mains (EN 55022, class B)

	Requirements	
Specification	EN 50081-1:1992	
Test method	EN 55022:1994 (CISPR 22:1985 + A1 + A2) class B + A1 + A2	
Frequency range	0.15 - 30 MHz	
Limit: (quasi-peak)	0.15-0.50 MHz: (decreasing lin. with the logarithm of freq.) 0.50-5 MHz: 5-30 MHz:	66-56 dB μ V 56 dB μ V 60 dB μ V
Limit: (average)	0.15-0.50 MHz: (decreasing lin. with the logarithm of freq.) 0.50-5 MHz: 5-30 MHz:	56-46 dB μ V 46 dB μ V 50 dB μ V
Test record sheets and photos		
Annex 2		

Results:

The emission was within the specified limits.

Comments:

Conducted emission was measured separately on EUT 1 and EUT 2.

The supply voltage to EUT 1 and EUT 2 was 12 VDC from separate 115 VAC adapters.

4.2 Radiated electromagnetic field (EN 55022, class B)

	Requirements	
Specification	EN 50081-1:1992	
Test method	EN 55022:1994 (CISPR 22:1985 + A1 + A2) class B + A1 + A2	
Measuring distance	10 m	
Frequency range	30 - 1000 MHz	
Limit: (quasi-peak)	30-230 MHz:	30 dB μ V/m
	230-1000 MHz:	37 dB μ V/m
Test record sheets and photos		
<i>Annex 3</i>		

Results:

The emission was within the specified limits.

Comments:

The supply voltage to EUT 1 and EUT 2 was 12 VDC from separate 115 VAC adapters

4.3 Conducted emission, AC mains (FCC, class B / EN 55022, class B)

	Requirements	
Specification	FCC Rules and Regulations:1997, part 15, subpart B class B, demonstrated by compliance with EN 55022:1994, class B	
Test method	CISPR 22:1985 + A1 + A2	
Frequency range	0.15 - 30 MHz	
Test set-up	ANSI C63.4:1992	
Limit: (quasi-peak)	0.15-0.50 MHz: (decreasing lin. with the logarithm of freq.) 0.50-5 MHz: 5-30 MHz:	66-56 dB μ V 56 dB μ V 60 dB μ V
Limit: (average)	0.15-0.50 MHz: (decreasing lin. with the logarithm of freq.) 0.50-5 MHz: 5-30 MHz:	56-46 dB μ V 46 dB μ V 50 dB μ V
Test record sheets and photos		<i>Annex 4</i>

Results:

The emission was within the specified limits.

Comments:

Conducted emission was measured separately on EUT 1 and EUT 2

The supply voltage to EUT 1 and EUT 2 was 12 VDC from separate 115 VAC adapters

4.4 Radiated electromagnetic field (FCC, class B / EN 55022, class B)

	Requirements	
Specification	FCC Rules and Regulations:1997, part 15, subpart B, class B, demonstrated by compliance with EN 55022:1994, class B	
Test method	CISPR 22:1985 + A1 + A2	
Test set-up	ANSI C63.4:1992	
Measuring distance	10 m	
Frequency range	30 - 1000 MHz	
Limit: (quasi-peak)	30-230 MHz: 230-1000 MHz:	30 dBµV/m 37 dBµV/m
Test record sheets and photos		
Annex 5		

Results:

The emission was within the specified limits.

Comments:

The supply voltage to EUT 1 and EUT 2 was 12 VDC from seprate 115 VAC adapters.