

TEST RESULT SUMMARY

FCC PART 15 SUBPART C

Section 15.209 Radiated Emission Requirements

FCC PART 15 SUBPART C

Section 15.207 Conducted Emission Requirements

MANUFACTURER'S NAME	Eastman Kodak
NAME OF EQUIPMENT	DryView 8200 Laser Imager (Medical Film Printer) with Barcode and RF Tag
MODEL NUMBER	M8200
MANUFACTURER'S ADDRESS	1 Imation Way, Discovery 3B-61 Oakdale MN 55128
TEST REPORT NUMBER	NC106561.1
TEST DATE	18 September 2001

According to testing performed at TÜV Product Service Inc, the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in FCC Part 15.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

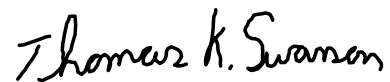
TÜV Product Service Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the requirements of FCC Part 15.

Date: 05 October 2001

Location: Taylors Falls MN
USA



R. M. Johnson
Test Technician



T. K. Swanson
Technical Writer

EMC EMISSION - TEST REPORT

Test Report File No. : **NC106561.1** Date of issue: 05 October 2001

Model / Serial No. : **M8200 /**

Product Type : **DryView 8200 Laser Imager (Medical Film Printer) with Barcode and RF Tag**

Applicant : **Eastman Kodak**

Manufacturer : **Eastman Kodak**

License holder : **Eastman Kodak**

Address : **1 Imation Way, Discovery 3B-61**

: **Oakdale MN 55128**

Test Result : **Positive** **Negative**

Test Project Number Reference(s) : **NC106561.1**

Total pages including Appendices **33**

TÜV Product Service Inc is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001.

TÜV Product Service Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV Product Service Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service Inc issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

TÜV Product Service Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI

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EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- | | | |
|--|---|------------------------------------|
| <input type="checkbox"/> - EN 50081-1 / 1991 | <input type="checkbox"/> - Group 1 | <input type="checkbox"/> - Group 2 |
| <input type="checkbox"/> - EN 55011 / 1991 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - EN 55013 / 1990 | <input type="checkbox"/> - Household appliances and similar | |
| <input type="checkbox"/> - EN 55014 / 1987 | <input type="checkbox"/> - Portable tools | |
| | <input type="checkbox"/> - Semiconductor devices | |
| <input type="checkbox"/> - EN 55014 / A2:1990 | <input type="checkbox"/> - Household appliances and similar | |
| <input type="checkbox"/> - EN 55014 / 1993 | <input type="checkbox"/> - Portable tools | |
| | <input type="checkbox"/> - Semiconductor devices | |
| <input type="checkbox"/> - EN 55015 / 1987 | | |
| <input type="checkbox"/> - EN 55015 / A1:1990 | | |
| <input type="checkbox"/> - EN 55015 / 1993 | | |
| <input type="checkbox"/> - EN 55022 / 1987 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - EN 55022 / 1994 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - BS | | |
| <input type="checkbox"/> - VCCI | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input checked="" type="checkbox"/> - FCC Part 15 Subpart C Section 15.209 - Radiated | | |
| <input checked="" type="checkbox"/> - FCC Part 15 Subpart C Section 15.207 - Conducted | | |
| <input type="checkbox"/> - FCC Part 15 Subpart B | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - CISPR 11 (1990) | <input type="checkbox"/> - Group 1 | <input type="checkbox"/> - Group 2 |
| | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - CISPR 22 (1993) | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |

Environmental conditions in the lab:

	<u>Actual</u>
Temperature	: 20 °C
Relative Humidity	: 59 %
Atmospheric pressure	: 99.0 kPa
Power supply system	: 60 Hz – 115 VAC – 1 Phase

Sign Explanations:

- not applicable
- applicable



Emissions Test Conditions: CONDUCTED EMISSIONS (15.207)

The **CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE)** measurements were performed at the following test location:

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)
- Wild River Lab Screen Room
- New Brighton Lab Shielded Room

Test equipment used :

	TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	2417	3825/2	Electro-Mechanics (EMCO)	50 Ω LISN	8812-1439	7-30-02
■ -	2534	ESHS-20	Rhode & Schwarz	EMI Receiver	837055/003	9-19-02
■ -	2741	11947A	Hewlett-Packard	Transient Limiter	3107A00779	3-21-02

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Emissions Test Conditions: RADIATED EMISSIONS (15.209 - 10 kHz to 30 MHz)

The **RADIATED EMISSIONS (MAGNETIC FIELD)** measurements were performed at the following test location:

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)

at a test distance of :

- 0.3 meters
- 1 meter
- 3 meters
- 10 meters

Test equipment used :

	TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	2420	ESH-3	Rhode & Schwarz	EMI Receiver	892473/004	1-24-02
■ -	2517	HFH2-Z2	Polarad	Loop Antenna	879285/036	2-01-02

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)

The *RADIATED EMISSIONS (ELECTRIC FIELD)* measurements, in the frequency range of 30 MHz-1000 MHz, were tested in a horizontal and vertical polarization at the following test location :

- Test not applicable

- - Wild River Lab Large Test Site (Open Area Test Site) – NSA measurements made 7-01, due 7-02
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)

at a test distance of :

- - 3 meters - no signals detected from the transmitter within 10 dB of the limit.
- 10 meters
- 30 meters

Test equipment used :

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ - 3202	EM-6917B	Electro-Metrics	Biconicalog Periodic	101	9-21-01
■ - 3926	11867A	Hewlett-Packard	Limiter	02442	3-21-02
■ - 2690	8566B	Hewlett-Packard	Spectrum Analyzer (Unit F)	2430A00930	11-16-01
■ - 2678	85662A	Hewlett-Packard	Analyzer Display (Unit F)	2403A08134	11-16-01
■ - 2684	85650A	Hewlett-Packard	Quasi-Peak Adapter (Unit F)	2521A01006	11-24-01
■ - 2665	ZHL-1042J	Mini-Circuits	Preamplifier	32296	9-12-02

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Emissions Test Conditions: INTERFERENCE POWER

The *INTERFERENCE POWER* measurements were performed by using the absorbing clamp on the mains and interface cables in the frequency range 30 MHz - 300 MHz at the following test location :

■ - Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)
- Wild River Lab Screen Room
- New Brighton Lab Shielded Room

Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)

The *EQUIVALENT RADIATED EMISSIONS* measurements in the frequency range 1 GHz - 100 GHz were performed in a horizontal and vertical polarization at the following test location :

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)
- Wild River Lab Screen Room

at a test distance of:

- 1 meters
- 3 meters
- 10 meters



Equipment Under Test (EUT) Test Operation Mode - Emission tests :

The device under test was operated under the following conditions during emissions testing:

- Standby
- Test program (H - Pattern)
- Test program (color bar)
- Test program (customer specific)
- Practice operation
- Normal Operating Mode
- See page B5.

Configuration of the device under test:

- See Constructional Data Form in Appendix B - Page B2
- See Product Information Form in Appendix B - beginning on Page B3

The following peripheral devices and interface cables were connected during the measurement:

- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____

- unshielded power cable

- unshielded cables

- shielded cables

MPS.No.: _____

- customer specific cables

- _____
- _____

Emission Test Results:

Conducted emissions 450 kHz - 30 MHz

The requirements are - MET - NOT MET

Minimum margin of compliance _____ 5 dB at _____ 7.19 MHz

Maximum margin of non-compliance _____ dB at _____ MHz

Remarks: _____

Radiated emissions (magnetic field) 10 kHz - 30 MHz

The requirements are - MET - NOT MET

Minimum limit margin for fundamental _____ 32 dB at _____ 13.56 MHz

Minimum limit margin for spurious/harmonics _____ >10 dB at _____ kHz

Remarks: The fundamental was measured to be 57 dBuV/m in Quasi-Peak mode at 0.3 meters, 35 dBuV/m (56 microvolts/meter) at 1 meter and 27 dBuV/m (22 microvolts/meter) at 3 meters. This extrapolates to a level of -3 dBuV/m (0.71 microvolts/meter) at 30 meters using 30 dB/decade as indicated by testing. The limit is 29.5 dBuV/m (30 microvolts/meter) at 30 meters. No spurious emissions or other harmonics were detected.

Radiated emissions (electric field) 30 MHz - 1000 MHz

The requirements are - MET - NOT MET

Minimum margin of compliance _____ >10 dB at _____ MHz

Minimum limit margin for spurious _____ dB at _____ MHz

Remarks: _____

Interference Power at the mains and interface cables 30 MHz - 300 MHz

The requirements are - MET - NOT MET

Minimum margin of compliance _____ dB at _____ MHz

Maximum margin of non-compliance _____ dB at _____ MHz

Remarks: _____

Equivalent Radiated emissions 1 GHz - 4.2 GHz

The requirements are - MET - NOT MET

Minimum margin of compliance _____ dB at _____ MHz

Maximum margin of non-compliance _____ dB at _____ MHz

Remarks: _____

DEVIATIONS FROM STANDARD:

None.

GENERAL REMARKS:

The radiated measurements from 10 kHz to 30 MHz are made in quasi-peak detection, except for the levels noted between 110-490 kHz, which are made in average detection.

SUMMARY:

The requirements according to the technical regulations are

- met
- **not** met.

The device under test does

- fulfill the general approval requirements mentioned on page 3.
- **not** fulfill the general approval requirements mentioned on page 3.

Testing Start Date: 18 September 2001

Testing End Date: 18 September 2001

- TÜV PRODUCT SERVICE INC -



R. M. Johnson
Test Technician



Tested By:
T. K. Swanson

Test-setup photo(s):
Conducted emission 450 kHz - 30 MHz

See Test Setup Exhibit



Test-setup photo(s):
Radiated emission 10 kHz - 1000 MHz

See Test Setup Exhibit



Appendix A

Test Data Sheets
and
Test Setup Drawing(s)



TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Screen Room

See Test Setup Exhibit



TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

See Test Setup Exhibit



Conducted Electromagnetic Emissions



Test Report #: 6561 Run 03 Test Area: SCREEN ROOM
 Test Method: FCC Test Date: 25-Sep-2001
 EUT Model #: 8200-with RF TAG EUT Power: 60HZ / 110VAC
 EUT Serial #: _____ Temperature: 20 °C
 Manufacturer: EASTMAN KODAK Relative Humidity: 59 %
 EUT Description: LASER IMAGER Air Pressure: 99 kPa
 Notes: FERRICO FERRITE (NF-130) NO NETWORK CABLE W/1 Page: 1 of 2
TURN & 1 (NF-130) ON FAN WIRING W/1 TURN
(FAN WIRING SEPERATED FROM HARNESS)

FREQ (MHz)	LEVEL (dBuV)	CABLE / LISN / ATTEN (dB)	FINAL (dBuV)	TEST POINT	DELTA1 FCC B	DELTA2 N/A
0.550	-2.7 Qp	0.0 / 0.5 / -9.9	7.7	Neutral	-40.3	N/A
1.00	-1.7 Qp	0.0 / 0.4 / -9.8	8.5	Neutral	-39.5	N/A
7.19	31.8 Qp	0.1 / 0.4 / -9.9	42.2	Neutral	-5.8	N/A
20.42	-0.2 Qp	0.5 / 1.2 / -10.0	11.4	Neutral	-36.6	N/A
0.550	-2.2 Qp	0.0 / 0.5 / -9.9	8.2	Line 1	-39.8	N/A
1.00	-2.0 Qp	0.0 / 0.4 / -9.8	8.2	Line 1	-39.8	N/A
7.19	31.0 Qp	0.1 / 0.4 / -9.9	41.4	Line 1	-6.6	N/A
20.42	-0.2 Qp	0.5 / 1.2 / -10.0	11.4	Line 1	-36.6	N/A
End of Scan						

Tested by: TKS

Printed

Thomas K. Swanson

Signature

Reviewed by: JTS

Printed

Joel T. Schmeiser

Signature

Conducted Electromagnetic Emissions



Test Report #:	<u>6561 Run 03</u>	Test Area:	<u>SCREEN ROOM</u>	Temperature:	<u>20</u>	°C
Test Method:	<u>FCC</u>	Test Date:	<u>25-Sep-2001</u>	Relative Humidity:	<u>59</u>	%
EUT Model #:	<u>8200-with RF TAG</u>	EUT Power:	<u>60HZ / 110VAC</u>	Air Pressure:	<u>99</u>	kPa
EUT Serial #:				Page:	<u>2</u>	of 2
Manufacturer:	<u>EASTMAN KODAK</u>					
EUT Description:	<u>LASER IMAGER</u>					
Notes:	<u>FERRICO FERRITE (NF-130) NO NETWORK CABLE W/1</u>					
	<u>TURN & 1 (NF-130) ON FAN WIRING W/1 TURN</u>					
	<u>(FAN WIRING SEPERATED FROM HARNESS)</u>					

FREQ (MHz)	LEVEL (dBuV)	CABLE / LISN / ATTEN (dB)	FINAL (dBuV)	TEST POINT	DELTA1 FCC B	DELTA2 N/A
---------------	-----------------	------------------------------	-----------------	------------	-----------------	---------------

***** MEASUREMENT SUMMARY *****						
7.19	31.8 Qp	0.1 / 0.4 / -9.9	42.2	Neutral	-5.8	N/A
20.42	-0.2 Qp	0.5 / 1.2 / -10.0	11.4	Line 1	-36.6	N/A
1.00	-1.7 Qp	0.0 / 0.4 / -9.8	8.5	Neutral	-39.5	N/A
0.550	-2.2 Qp	0.0 / 0.5 / -9.9	8.2	Line 1	-39.8	N/A

Tested by: TKS

Printed

Thomas K. Swanson

Signature

Reviewed by: JTS

Printed

Joel T. Schmeiser

Signature

Radiated Electromagnetic Emissions



Test Report #: **6561 Run 5** Test Area: LTS 3m
 Test Method: FCC Part 15 Test Date: 18-Sep-2001
 EUT Model #: 8200-WITH RF TAG ACTIVATED EUT Power: 60/50 HZ - 110/220 VAC
 EUT Serial #: _____
 Manufacturer: EASTMAN KODAK
 EUT Description: LASER IMAGER

Temperature: 20 °C
 Relative Humidity: 59 %
 Air Pressure: 99 kPa

Notes: FERRICO NF-130 FERRITE W/1 TURN ON NETWORK
CABLE / 1 (NF-130 FERRITE ON FAN MOTOR WIRING
W/1 TURN (FAN WIRING SEPERATED FROM HARNESS)

Page: 1 of 6

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP			FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	DELTA1 FCC B (< 1GHz)	DELTA2 N/A
		(dB)	(dB/m)	(dB)				
34.08	42.0 Qp	1.1	19.3	27.9	34.4	V / 1.0 / 0.0	-5.6	N/A
34.63	42.4 Qp	1.1	19.1	27.9	34.6	V / 1.0 / 0.0	-5.4	N/A
36.12	38.6 Qp	1.1	18.5	27.8	30.3	V / 1.0 / 0.0	-9.7	N/A
47.79	40.4 Qp	1.2	14.8	27.8	28.6	V / 1.0 / 0.0	-11.4	N/A
48.44	40.9 Qp	1.2	14.6	27.8	28.9	V / 1.0 / 0.0	-11.1	N/A
56.01	43.4 Qp	1.2	12.7	27.9	29.4	V / 1.0 / 0.0	-10.6	N/A
63.98	42.1 Qp	1.2	10.8	27.8	26.2	V / 1.0 / 0.0	-13.8	N/A
66.65	37.8 Qp	1.2	10.1	27.8	21.3	V / 1.0 / 0.0	-18.7	N/A
76.54	41.9 Qp	1.3	8.1	27.9	23.3	V / 1.0 / 0.0	-16.7	N/A
75.96	40.6 Qp	1.3	8.2	27.9	22.1	V / 1.0 / 0.0	-17.9	N/A
80.00	42.2 Qp	1.3	7.6	27.9	23.2	V / 1.0 / 0.0	-16.8	N/A
83.38	41.0 Qp	1.3	7.3	27.9	21.7	V / 1.0 / 0.0	-18.3	N/A
95.09	42.5 Qp	1.2	8.5	27.9	24.3	V / 1.0 / 0.0	-19.2	N/A
96.32	46.2 Qp	1.2	8.6	27.9	28.2	V / 1.0 / 0.0	-15.3	N/A
107.29	37.4 Qp	1.3	9.2	27.9	20.0	V / 1.0 / 0.0	-23.5	N/A
108.80	45.2 Qp	1.3	9.3	27.9	27.9	V / 1.0 / 0.0	-15.6	N/A
111.99	42.6 Qp	1.4	9.3	28.0	25.3	V / 1.0 / 0.0	-18.2	N/A
115.62	39.6 Qp	1.4	9.3	28.0	22.3	V / 1.0 / 0.0	-21.2	N/A
117.06	37.0 Qp	1.4	9.3	28.0	19.7	V / 1.0 / 0.0	-23.8	N/A
127.99	37.2 Qp	1.5	8.2	27.9	18.9	V / 1.0 / 0.0	-24.6	N/A
143.99	38.5 Qp	1.6	9.3	27.9	21.5	V / 1.0 / 0.0	-22.0	N/A
162.71	35.9 Qp	1.7	8.7	27.9	18.4	V / 1.0 / 0.0	-25.1	N/A
175.99	44.2 Qp	1.7	9.1	27.9	27.1	V / 1.0 / 0.0	-16.4	N/A
183.99	40.4 Qp	1.6	9.5	27.9	23.6	V / 1.0 / 0.0	-19.9	N/A
191.99	42.8 Qp	1.7	10.4	27.9	27.0	V / 1.0 / 0.0	-16.5	N/A
199.99	36.2 Qp	1.7	11.3	27.8	21.4	V / 1.0 / 0.0	-22.1	N/A

Tested by: RMJ

 Printed



 Signature

Reviewed by: TKS

 Printed



 Signature

Radiated Electromagnetic Emissions



Test Report #: **6561 Run 5** Test Area: LTS 3m
 Test Method: FCC Part 15 Test Date: 18-Sep-2001
 EUT Model #: 8200-WITH RF TAG ACTIVATED EUT Power: 60/50 HZ - 110/220 VAC
 EUT Serial #: _____
 Manufacturer: EASTMAN KODAK
 EUT Description: LASER IMAGER

Temperature: 20 °C
 Relative Humidity: 59 %
 Air Pressure: 99 kPa

Notes: FERRICO NF-130 FERRITE W/1 TURN ON NETWORK
CABLE / 1 (NF-130 FERRITE ON FAN MOTOR WIRING
W/1 TURN (FAN WIRING SEPERATED FROM HARNESS)

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FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP (dB) (dB/m) (dB)	FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	DELTA1 FCC B (< 1GHz)	DELTA2 N/A
203.38	35.4 Qp	1.7 / 11.1 / 27.8	20.4	V / 1.0 / 0.0	-23.1	N/A
207.99	41.2 Qp	1.7 / 10.8 / 27.8	26.1	V / 1.0 / 0.0	-17.4	N/A
216.95	38.1 Qp	1.8 / 10.9 / 27.7	23.1	V / 1.0 / 0.0	-22.9	N/A
223.98	46.6 Qp	1.8 / 10.9 / 27.6	31.7	V / 1.0 / 0.0	-14.3	N/A
239.99	48.8 Qp	1.8 / 11.4 / 27.7	34.2	V / 1.0 / 0.0	-11.8	N/A
254.98	54.1 Qp	1.8 / 12.1 / 27.8	40.2	V / 1.0 / 0.0	-5.8	N/A
255.98	42.4 Qp	1.8 / 12.1 / 27.8	28.5	V / 1.0 / 0.0	-17.5	N/A
271.99	39.1 Qp	1.9 / 12.4 / 27.9	25.6	V / 1.0 / 0.0	-20.4	N/A
279.99	34.0 Qp	1.9 / 12.6 / 27.9	20.6	V / 1.0 / 0.0	-25.4	N/A
287.98	40.7 Qp	1.9 / 12.6 / 27.8	27.5	V / 1.0 / 0.0	-18.5	N/A
303.98	43.2 Qp	2.0 / 13.6 / 27.7	31.2	V / 1.0 / 0.0	-14.8	N/A
319.99	39.5 Qp	2.1 / 13.8 / 27.7	27.6	V / 1.0 / 0.0	-18.4	N/A
335.98	41.7 Qp	2.1 / 14.4 / 27.7	30.5	V / 1.0 / 0.0	-15.5	N/A
383.98	42.7 Qp	2.2 / 15.8 / 27.7	33.0	V / 1.0 / 0.0	-13.0	N/A
400.00	40.9 Qp	2.3 / 15.7 / 27.7	31.1	V / 1.0 / 0.0	-14.9	N/A
415.97	40.9 Qp	2.4 / 16.0 / 27.7	31.6	V / 1.0 / 0.0	-14.4	N/A
423.98	39.1 Qp	2.4 / 16.7 / 27.7	30.5	V / 1.0 / 0.0	-15.5	N/A
509.98	36.2 Qp	2.4 / 18.0 / 27.6	29.1	V / 1.0 / 0.0	-16.9	N/A
519.99	34.2 Qp	2.4 / 18.3 / 27.6	27.4	V / 1.0 / 0.0	-18.6	N/A
523.19	34.1 Qp	2.5 / 18.4 / 27.6	27.3	V / 1.0 / 0.0	-18.7	N/A
319.99	39.8 Qp	2.1 / 13.8 / 27.7	28.0	H / 3.0 / 0.0	-18.0	N/A
383.98	43.4 Qp	2.2 / 15.8 / 27.7	33.6	H / 3.0 / 0.0	-12.4	N/A
RECHECKING WITH RF-TAGS TURNED OFF.						
34.08	42.0 Qp	1.1 / 19.3 / 27.9	34.4	H / 3.0 / 0.0	-5.6	N/A

Tested by: RMJ

 Printed



 Signature

Reviewed by: TKS

 Printed



 Signature

Radiated Electromagnetic Emissions



Test Report #: **6561 Run 5** Test Area: LTS 3m
 Test Method: FCC Part 15 Test Date: 18-Sep-2001
 EUT Model #: 8200-WITH RF TAG ACTIVATED EUT Power: 60/50 HZ - 110/220 VAC
 EUT Serial #: _____
 Manufacturer: EASTMAN KODAK
 EUT Description: LASER IMAGER

Temperature: 20 °C
 Relative Humidity: 59 %
 Air Pressure: 99 kPa

Notes: FERRICO NF-130 FERRITE W/1 TURN ON NETWORK
CABLE / 1 (NF-130 FERRITE ON FAN MOTOR WIRING
W/1 TURN (FAN WIRING SEPERATED FROM HARNESS)

Page: 3 of 6

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP			FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	DELTA1	DELTA2
		(dB)	(dB/m)	(dB)			FCC B (< 1GHz)	N/A
34.63	42.3 Qp	1.1	19.1	27.9	34.5	H / 3.0 / 0.0	-5.5	N/A
36.12	38.5 Qp	1.1	18.5	27.8	30.2	H / 3.0 / 0.0	-9.8	N/A
47.79	41.4 Qp	1.2	14.8	27.8	29.6	H / 3.0 / 0.0	-10.4	N/A
48.44	41.5 Qp	1.2	14.6	27.8	29.5	H / 3.0 / 0.0	-10.5	N/A
56.01	43.5 Qp	1.2	12.7	27.9	29.5	H / 3.0 / 0.0	-10.5	N/A
63.98	40.8 Qp	1.2	10.8	27.8	25.0	H / 3.0 / 0.0	-15.0	N/A
66.65	38.3 Qp	1.2	10.1	27.8	21.8	H / 3.0 / 0.0	-18.2	N/A
75.96	40.7 Qp	1.3	8.2	27.9	22.3	H / 3.0 / 0.0	-17.7	N/A
76.54	42.1 Qp	1.3	8.1	27.9	23.6	H / 3.0 / 0.0	-16.4	N/A
80.00	41.8 Qp	1.3	7.6	27.9	22.8	H / 3.0 / 0.0	-17.2	N/A
83.38	39.8 Qp	1.3	7.3	27.9	20.5	H / 3.0 / 0.0	-19.5	N/A
95.09	43.4 Qp	1.2	8.5	27.9	25.1	H / 3.0 / 0.0	-18.4	N/A
96.32	46.1 Qp	1.2	8.6	27.9	28.0	H / 3.0 / 0.0	-15.5	N/A
107.29	37.8 Qp	1.3	9.2	27.9	20.4	H / 3.0 / 0.0	-23.1	N/A
108.80	45.6 Qp	1.3	9.3	27.9	28.3	H / 3.0 / 0.0	-15.2	N/A
111.99	42.8 Qp	1.4	9.3	28.0	25.5	H / 3.0 / 0.0	-18.0	N/A
115.62	39.9 Qp	1.4	9.3	28.0	22.6	H / 3.0 / 0.0	-20.9	N/A
117.06	37.4 Qp	1.4	9.3	28.0	20.1	H / 3.0 / 0.0	-23.4	N/A
127.99	38.0 Qp	1.5	8.2	27.9	19.7	H / 3.0 / 0.0	-23.8	N/A
143.99	38.6 Qp	1.6	9.3	27.9	21.6	H / 3.0 / 0.0	-21.9	N/A
162.71	32.2 Qp	1.7	8.7	27.9	14.7	H / 3.0 / 0.0	-28.8	N/A
175.99	45.0 Qp	1.7	9.1	27.9	27.9	H / 3.0 / 0.0	-15.6	N/A
183.99	40.3 Qp	1.6	9.5	27.9	23.6	H / 3.0 / 0.0	-19.9	N/A
191.99	42.1 Qp	1.7	10.4	27.9	26.3	H / 3.0 / 0.0	-17.2	N/A
199.99	35.6 Qp	1.7	11.3	27.8	20.8	H / 3.0 / 0.0	-22.7	N/A
207.99	41.2 Qp	1.7	10.8	27.8	26.0	H / 3.0 / 0.0	-17.5	N/A

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Radiated Electromagnetic Emissions



Test Report #: **6561 Run 5** Test Area: LTS 3m
 Test Method: FCC Part 15 Test Date: 18-Sep-2001
 EUT Model #: 8200-WITH RF TAG ACTIVATED EUT Power: 60/50 HZ - 110/220 VAC
 EUT Serial #: _____
 Manufacturer: EASTMAN KODAK
 EUT Description: LASER IMAGER

Temperature: 20 °C
 Relative Humidity: 59 %
 Air Pressure: 99 kPa

Notes: FERRICO NF-130 FERRITE W/1 TURN ON NETWORK
CABLE / 1 (NF-130 FERRITE ON FAN MOTOR WIRING
W/1 TURN (FAN WIRING SEPERATED FROM HARNESS)

Page: 4 of 6

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP			FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	DELTA1	DELTA2
		(dB)	(dB/m)	(dB)			FCC B (< 1GHz)	N/A
216.95	36.9 Qp	1.8	10.9	27.7	21.9	H / 3.0 / 0.0	-24.1	N/A
223.98	46.8 Qp	1.8	10.9	27.6	31.9	H / 3.0 / 0.0	-14.1	N/A
239.99	48.4 Qp	1.8	11.4	27.7	33.8	H / 3.0 / 0.0	-12.2	N/A
254.98	53.6 Qp	1.8	12.1	27.8	39.7	H / 3.0 / 0.0	-6.3	N/A
255.98	42.4 Qp	1.8	12.1	27.8	28.5	H / 3.0 / 0.0	-17.5	N/A
271.99	39.0 Qp	1.9	12.4	27.9	25.4	H / 3.0 / 0.0	-20.6	N/A
279.99	34.4 Qp	1.9	12.6	27.9	21.0	H / 3.0 / 0.0	-25.0	N/A
287.98	41.3 Qp	1.9	12.6	27.8	28.1	H / 3.0 / 0.0	-17.9	N/A
303.98	42.2 Qp	2.0	13.6	27.7	30.1	H / 3.0 / 0.0	-15.9	N/A
319.99	39.9 Qp	2.1	13.8	27.7	28.0	H / 3.0 / 0.0	-18.0	N/A
335.98	43.1 Qp	2.1	14.4	27.7	32.0	H / 3.0 / 0.0	-14.0	N/A
383.98	42.6 Qp	2.2	15.8	27.7	32.9	H / 3.0 / 0.0	-13.1	N/A
400.00	40.3 Qp	2.3	15.7	27.7	30.5	H / 3.0 / 0.0	-15.5	N/A
415.97	41.0 Qp	2.4	16.0	27.7	31.7	H / 3.0 / 0.0	-14.3	N/A
423.98	38.9 Qp	2.4	16.7	27.7	30.2	H / 3.0 / 0.0	-15.8	N/A
509.98	36.4 Qp	2.4	18.0	27.6	29.2	H / 3.0 / 0.0	-16.8	N/A
519.99	34.0 Qp	2.4	18.3	27.6	27.2	H / 3.0 / 0.0	-18.8	N/A
523.19	34.4 Qp	2.5	18.4	27.6	27.6	H / 3.0 / 0.0	-18.4	N/A
319.99	40.1 Qp	2.1	13.8	27.7	28.2	H / 3.0 / 0.0	-17.8	N/A
383.98	43.0 Qp	2.2	15.8	27.7	33.2	H / 3.0 / 0.0	-12.8	N/A
ALL READINGS ARE UNRELATED TO RF-TAGS ACTIVATED.								
END OF SCAN 30 - 1000MHZ.								

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Radiated Electromagnetic Emissions



Test Report #:	6561 Run 5	Test Area:	LTS 3m		
Test Method:	FCC Part 15	Test Date:	18-Sep-2001		
EUT Model #:	8200-WITH RF TAG ACTIVATED	EUT Power:	60/50 HZ - 110/220 VAC		
EUT Serial #:				Temperature:	20 °C
Manufacturer:	EASTMAN KODAK			Relative Humidity:	59 %
EUT Description:	LASER IMAGER			Air Pressure:	99 kPa
Notes:	FERRICO NF-130 FERRITE W/1 TURN ON NETWORK			Page:	5 of 6
	CABLE / 1 (NF-130 FERRITE ON FAN MOTOR WIRING				
	W/1 TURN (FAN WIRING SEPERATED FROM HARNESS)				

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP (dB) (dB/m) (dB)	FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	DELTA1 FCC B (< 1GHz)	DELTA2 N/A
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***** MEASUREMENT SUMMARY *****						
34.63	42.4 Qp	1.1 / 19.1 / 27.9	34.6	V / 1.0 / 0.0	-5.4	N/A
34.08	42.0 Qp	1.1 / 19.3 / 27.9	34.4	V / 1.0 / 0.0	-5.6	N/A
254.98	54.1 Qp	1.8 / 12.1 / 27.8	40.2	V / 1.0 / 0.0	-5.8	N/A
36.12	38.6 Qp	1.1 / 18.5 / 27.8	30.3	V / 1.0 / 0.0	-9.7	N/A
47.79	41.4 Qp	1.2 / 14.8 / 27.8	29.6	H / 3.0 / 0.0	-10.4	N/A
48.44	41.5 Qp	1.2 / 14.6 / 27.8	29.5	H / 3.0 / 0.0	-10.5	N/A
56.01	43.5 Qp	1.2 / 12.7 / 27.9	29.5	H / 3.0 / 0.0	-10.5	N/A
239.99	48.8 Qp	1.8 / 11.4 / 27.7	34.2	V / 1.0 / 0.0	-11.8	N/A
383.98	43.4 Qp	2.2 / 15.8 / 27.7	33.6	H / 3.0 / 0.0	-12.4	N/A
63.98	42.1 Qp	1.2 / 10.8 / 27.8	26.2	V / 1.0 / 0.0	-13.8	N/A
335.98	43.1 Qp	2.1 / 14.4 / 27.7	32.0	H / 3.0 / 0.0	-14.0	N/A
223.98	46.8 Qp	1.8 / 10.9 / 27.6	31.9	H / 3.0 / 0.0	-14.1	N/A
415.97	41.0 Qp	2.4 / 16.0 / 27.7	31.7	H / 3.0 / 0.0	-14.3	N/A
303.98	43.2 Qp	2.0 / 13.6 / 27.7	31.2	V / 1.0 / 0.0	-14.8	N/A
400.00	40.9 Qp	2.3 / 15.7 / 27.7	31.1	V / 1.0 / 0.0	-14.9	N/A
108.80	45.6 Qp	1.3 / 9.3 / 27.9	28.3	H / 3.0 / 0.0	-15.2	N/A
96.32	46.2 Qp	1.2 / 8.6 / 27.9	28.2	V / 1.0 / 0.0	-15.3	N/A
423.98	39.1 Qp	2.4 / 16.7 / 27.7	30.5	V / 1.0 / 0.0	-15.5	N/A
175.99	45.0 Qp	1.7 / 9.1 / 27.9	27.9	H / 3.0 / 0.0	-15.6	N/A
76.54	42.1 Qp	1.3 / 8.1 / 27.9	23.6	H / 3.0 / 0.0	-16.4	N/A
191.99	42.8 Qp	1.7 / 10.4 / 27.9	27.0	V / 1.0 / 0.0	-16.5	N/A
80.00	42.2 Qp	1.3 / 7.6 / 27.9	23.2	V / 1.0 / 0.0	-16.8	N/A
509.98	36.4 Qp	2.4 / 18.0 / 27.6	29.2	H / 3.0 / 0.0	-16.8	N/A
207.99	41.2 Qp	1.7 / 10.8 / 27.8	26.1	V / 1.0 / 0.0	-17.4	N/A

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Radiated Electromagnetic Emissions



Test Report #: **6561 Run 5** Test Area: LTS 3m
 Test Method: FCC Part 15 Test Date: 18-Sep-2001
 EUT Model #: 8200-WITH RF TAG ACTIVATED EUT Power: 60/50 HZ - 110/220 VAC
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 Manufacturer: EASTMAN KODAK
 EUT Description: LASER IMAGER

Temperature: 20 °C
 Relative Humidity: 59 %
 Air Pressure: 99 kPa

Notes: FERRICO NF-130 FERRITE W/1 TURN ON NETWORK
CABLE / 1 (NF-130 FERRITE ON FAN MOTOR WIRING
W/1 TURN (FAN WIRING SEPERATED FROM HARNESS)

Page: 6 of 6

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP (dB) (dB/m) (dB)	FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	DELTA1 FCC B (< 1GHz)	DELTA2 N/A
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***** MEASUREMENT SUMMARY *****						
255.98	42.4 Qp	1.8 / 12.1 / 27.8	28.5	H / 3.0 / 0.0	-17.5	N/A
75.96	40.7 Qp	1.3 / 8.2 / 27.9	22.3	H / 3.0 / 0.0	-17.7	N/A
319.99	40.1 Qp	2.1 / 13.8 / 27.7	28.2	H / 3.0 / 0.0	-17.8	N/A
287.98	41.3 Qp	1.9 / 12.6 / 27.8	28.1	H / 3.0 / 0.0	-17.9	N/A
111.99	42.8 Qp	1.4 / 9.3 / 28.0	25.5	H / 3.0 / 0.0	-18.0	N/A
66.65	38.3 Qp	1.2 / 10.1 / 27.8	21.8	H / 3.0 / 0.0	-18.2	N/A
83.38	41.0 Qp	1.3 / 7.3 / 27.9	21.7	V / 1.0 / 0.0	-18.3	N/A
95.09	43.4 Qp	1.2 / 8.5 / 27.9	25.1	H / 3.0 / 0.0	-18.4	N/A
523.19	34.4 Qp	2.5 / 18.4 / 27.6	27.6	H / 3.0 / 0.0	-18.4	N/A
519.99	34.2 Qp	2.4 / 18.3 / 27.6	27.4	V / 1.0 / 0.0	-18.6	N/A
183.99	40.3 Qp	1.6 / 9.5 / 27.9	23.6	H / 3.0 / 0.0	-19.9	N/A
271.99	39.1 Qp	1.9 / 12.4 / 27.9	25.6	V / 1.0 / 0.0	-20.4	N/A
115.62	39.9 Qp	1.4 / 9.3 / 28.0	22.6	H / 3.0 / 0.0	-20.9	N/A
143.99	38.6 Qp	1.6 / 9.3 / 27.9	21.6	H / 3.0 / 0.0	-21.9	N/A
199.99	36.2 Qp	1.7 / 11.3 / 27.8	21.4	V / 1.0 / 0.0	-22.1	N/A
216.95	38.1 Qp	1.8 / 10.9 / 27.7	23.1	V / 1.0 / 0.0	-22.9	N/A
107.29	37.8 Qp	1.3 / 9.2 / 27.9	20.4	H / 3.0 / 0.0	-23.1	N/A
203.38	35.4 Qp	1.7 / 11.1 / 27.8	20.4	V / 1.0 / 0.0	-23.1	N/A
117.06	37.4 Qp	1.4 / 9.3 / 28.0	20.1	H / 3.0 / 0.0	-23.4	N/A
127.99	38.0 Qp	1.5 / 8.2 / 27.9	19.7	H / 3.0 / 0.0	-23.8	N/A
279.99	34.4 Qp	1.9 / 12.6 / 27.9	21.0	H / 3.0 / 0.0	-25.0	N/A
162.71	35.9 Qp	1.7 / 8.7 / 27.9	18.4	V / 1.0 / 0.0	-25.1	N/A

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Appendix B

Constructional Data Form
and
Product Information Form(s)



EMC Test Plan and Constructional Data Form



PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE.

Applicant -- NOTE: This information will be input into your test report as shown below.
Press the F1 key at any time to get HELP for the current field selected.

Company: Eastman Kodak

Address: 1 Imation Way
Oakdale, MN 55128
Discovery 3B-61

Contact: Kevin Reller Position: Sr. EE

Phone: (651) 393 - 1423 Fax: (651) 393 - 1440

E-mail Address: kevin.reller@kodak.com

General Equipment Description -- NOTE: This information will be input into your test report as shown below.

EUT Description Medical Film Printer

EUT Name DryView 8200 Laser Imager

Model No.: M8200 Serial No.: _____

Product Options: Network only

Configurations to be tested: Barcode and RF Tag

Test Objective

- | | |
|---|---|
| <input type="checkbox"/> EMC Directive 89/336/EEC (EMC)
Std: _____ | <input type="checkbox"/> FCC: Class <input type="checkbox"/> A <input checked="" type="checkbox"/> B Part <u>15</u> |
| <input type="checkbox"/> Machinery Directive 89/392/EEC (EMC)
Std: _____ | <input type="checkbox"/> VCCI: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| <input checked="" type="checkbox"/> Medical Device Directive 93/42/EEC (EMC)
Std: _____ | <input type="checkbox"/> BCIQ: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> Vehicle Directive 72/245/EEC (EMC)
Std: _____ | <input type="checkbox"/> Canada: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> FDA Reviewers Guidance for Premarket
Notification Submissions (EMC) | <input type="checkbox"/> Australia: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| | <input type="checkbox"/> Other: <u>R&TTE Directive 13.56 mhz</u> |

TÜV Product Service Certification Requested

- | | |
|--|---|
| <input type="checkbox"/> Attestation of Conformity (AoC) | <input type="checkbox"/> International EMC Mark (IEM) |
| <input type="checkbox"/> Certificate of Conformity (CoC) | <input type="checkbox"/> Compliance Document |
| Protection Class (N/A for vehicles) | <input type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III |
- (Press F1 when field is selected to show additional information on Protection Class.)

Attendance

Test will be: Attended by the customer Unattended by the customer

EMC Test Plan and Constructional Data Form

Failure - Complete this section if testing will not be attended by the customer.

If a failure occurs, TUV Product Service should:

- Call contact listed above, if not available then stop testing. (After hrs phone): _____
- Continue testing to complete test series.
- Continue testing to define corrective action.
- Stop testing.

EUT Specifications and Requirements

Length: 26 Width: 25 Height: XX Weight: XXX

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 100/200/220/230-240 (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: 1

Current (Amps/phase(max)): 7 Current (Amps/phase(nominal)): 3-4

Other _____

Other Special Requirements

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)
Hospital, Medical Clinic

EUT Power Cable

- Permanent OR Removable Length (in meters): 2
- Shielded OR Unshielded
- Not Applicable

EMC Test Plan and Constructional Data Form



EUT Interface Ports and Cables												
Interface			Shielding									
Type	Analog	Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
EXAMPLE: RS232	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Foil over braid	Coaxial	Metallized 9-pin D-Sub	Characteristic Impedance	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
Network	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Foil	Straight Pin	RJ 45	50 Ohm	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>

EMC Test Plan and Constructional Data Form



EUT Software.

Revision Level: 3.1 and 3.2

Description: Production Release

EUT Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Normal non printing and printing
2. Test systems will include MTX board and Cherokee Power Supply. Testing will not include MTX board and old Power supply since the old power supply has passed Class B testing already and does pose any risks.
3. A second test system that includes RF tag film feed mechanisms and all of above.

EUT System Components -- List and describe all components which are part of the EUT. For FCC testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc.)

Description	Model #	Serial #	FCC ID #

EMC Test Plan and Constructional Data Form

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)			
<i>Description</i>	<i>Model #</i>	<i>Serial #</i>	<i>FCC ID #</i>

Oscillator Frequencies			
<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>
16, 32		MCS and Micomm Boards	Timing
18.432		Serial Port (Digital Board)	"
27.120	13.56	Xmtr/Rcvr Board	"
20, 24		Hard Drive	"
12		Floppy Drive	"
5,10,12,14.31,20,24,25,33,40,66		IMS Mother Board	"

Power Supply			
<i>Manufacturer</i>	<i>Model #</i>	<i>Serial #</i>	<i>Type</i>
Cherokee International	CCP 151-54-1A		<input checked="" type="checkbox"/> Switched-mode: (Frequency) _____ <input type="checkbox"/> Linear <input type="checkbox"/> Other: _____
			<input type="checkbox"/> Switched-mode: (Frequency) _____ <input type="checkbox"/> Linear <input type="checkbox"/> Other: _____

Power Line Filters		
<i>Manufacturer</i>	<i>Model #</i>	<i>Location in EUT</i>
Okaya	SUP-J15G-E1-0	Appliance Inlet Filter

Form

EMC Test Plan and Constructional Data Form



Critical EMI Components (Capacitors, ferrites, etc.)				
<i>Description</i>	<i>Manufacturer</i>	<i>Part # or Value</i>	<i>Qty</i>	<i>Component # / Location</i>
Ferrite	Ferrico	NC 130	1	one on cables entering processor from below
Ferrite	Ferrico	NC 130	1	Odor Fan Power Cables
Ferrite	Ferrico	NC 130	1	Network Cable

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

Shield added to Laser Columnator (Part # 74-0500-5579-2)

(PLEASE INSERT "ELECTRONIC SIGNATURE" BELOW IF POSSIBLE)

Authorization Signatures

Customer authorization to perform tests according to this test plan.

Date

Test Plan/CDF Prepared By (please print)

Date

Reviewed by TÜV Product Service Associate

Date

Appendix C

MEASUREMENT PROTOCOL FOR FCC

GENERAL INFORMATION

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. These test systems have a measurement uncertainty of ± 4.5 dB. The equipment comprising the test systems are calibrated on an annual basis.

Justification

The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into it's characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

CONDUCTED EMISSIONS

The final level, expressed in $\text{dB}\mu\text{V}$, is arrived at by taking the reading directly from the EMI receiver. This level is compared directly to the FCC limit.

To convert between $\text{dB}\mu\text{V}$ and μV , the following conversions apply:

$$\text{dB}\mu\text{V} = 20(\log \mu\text{V})$$

$$\mu\text{V} = \text{Inverse log}(\text{dB}\mu\text{V}/20)$$

RADIATED EMISSIONS

The final level, expressed in $\text{dB}\mu\text{V}/\text{m}$, is arrived at by taking the reading from the spectrum analyzer (Level $\text{dB}\mu\text{V}$) and adding the antenna correction factor and cable loss factor (Factor dB) to it. This result then has the FCC limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets in Attachment B. The amplifier gain is automatically accounted for by using an analyzer offset.

Example:

FREQ (MHz)	LEVEL ($\text{dB}\mu\text{V}$)	CABLE/ANT/PREAMP				FINAL ($\text{dB}\mu\text{V}/\text{m}$)	POL/HGT/AZ			DELTA1 FCC B				
		(dB)	(dB/m)	(dB)	(dB)		(m)	(deg)						
60.80	42.5Qp	+	1.2	+	10.9	-	25.5	=	29.1	V	1.0	0.0	-	-10.9

DETAILS OF TEST PROCEDURES

General Standard Information

The test methods used comply with ANSI C63.4-1992 - "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz."

Conducted Emissions

Conducted emissions on the 60 Hz power interface of the EUT are measured in the frequency range of 450 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω /50 μ H (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeters above the floor and is positioned 40 centimeters from the vertical ground plane (wall) of the screen room. In some cases, a pre-scan using a spectrum analyzer is initially performed on the units comprising the system under test to locate the highest emissions. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver or spectrum analyzer with quasi-peak and average detection and recorded on the data sheets.

Radiated Emissions

Radiated emissions from the EUT are measured in the frequency range of 30 to 1000 MHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and peak detection. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees. Intentional radiators are rotated through three orthogonal axes to determine the attitude that maximizes the emissions.

In the frequency range of 9 kHz to 30 MHz, measurements are made with quasi-peak or average detection with a loop antenna. The antenna is positioned 1 meter above the ground plane and rotated about its vertical axis for maximum response at each azimuth about the EUT. The antenna is also positioned horizontally at the specified distances.