TEST RESULT SUMMARY

FCC Part 15 Subpart C Section 15.207
FCC Part 15 Subpart C Section 15.209
IC RSS-210 Issue 7
IC RSS-Gen Issue 2

MANUFACTURER'S NAME	Carestream Health Incorporated 150 Verona Street Rochester NY 14608
PRODUCT NAME	Dry View Laser Imager
MODEL NUMBER(S) TESTED	DryView 5850
PRODUCT DESCRIPTION	Laser Imager with 13.56 MHz RFID
TEST REPORT NUMBER	WC808511.1 Rev C
TEST DATE(S)	23 and 31 October 2008

TÜV SÜD America Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the applicable EMC requirements of FCC Part 15 Subpart C Sections 15.207 “Conducted Limits” and 15.209 “Radiated emission limits; general requirements” and IC RSS-210 Issue 7 “Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment” and IC RSS-Gen “General Requirements and Information for the Certification of Radiocommunication Equipment”.

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.

Date: 21 May 2009

Location: Taylors Falls MN USA

Greg Jakubowski	Joel Schneider
Senior EMC Technician	Senior EMC Engineer

Not Transferable

EMC TEST REPORT

Test Report No.	**WC808511.1 Rev C**	Date of issue:	21 May 2009
Product Name	Dry View Laser Imager		
Model / Serial No(s) Tested	DryView 5850 / EM1		
Product Description	Laser Imager with 13.56 MHz RFID		
Manufacturer	Carestream Health Incorporated 150 Verona Street Rochester NY 14608		
Test Result	■ **Positive** ☐ **Negative**		
Total pages including Appendices	**44**		

TÜV SÜD America 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 SÜD America Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD America Inc issued reports.

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REVISION RECORD

REVISION	TOTAL NUMBER OF PAGES	DATE	DESCRIPTION
	44	26 November 2008	Initial Release
A	44	13 January 2009	Revisions Include: ▪ TOC and page 33: Corrected reference to Eastman Kodak to Carestream Health Incorporated.
B	44	26 January 2009	▪ TRS and Page 1: Correcting street address and ZIP code.
C	44	21 May 2009	▪ TRS and Page 1: Correcting Model number to DryView 5850.

DIRECTORY

Contents

EMC TEST REGULATIONS:
The tests were performed according to the following regulations:
FCC Part 15 Subpart C Section 15.207 Paragraph (a)
FCC Part 15 Subpart C Section 15.209 Paragraphs (a), (c), (f)
IC RSS-210 Issue 7 Section 2.6
IC RSS-Gen Issue 2 Sections 4.6.1, 7.2.2

ENVIRONMENTAL CONDITIONS IN THE LAB

	Actual
Temperature:	: 23-24°C
Atmospheric pressure	: 98-99kPa
Relative Humidity	: 29-32%

POWER SUPPLY UTILIZED

Power supply system	: 230/100 V / 50/60 Hz

TEST EQUIPMENT
All measurement instrumentation is traceable to the National Institute of Standards and Technology and is calibrated according to internal procedure.

SIGN EXPLANATIONS
☐ - not applicable
■ - applicable

General field strength limits 0.009 – 30 MHz
FCC 15.209(a), FCC 15.209(c), IC RSS-210 2.6

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Testing was performed in accordance with the test procedure of ANSI C63.4 2003, clause 8.2.2
Maximum field strength of the fundamental is -14.3 dBμV/m* or 0.193 μV/m at 30 meters at 13.56 MHz
Minimum margin of compliance of the fundamental is 43.8 dB
Maximum field strength of spurious emissions is -36.0 dBμV/m* or 0.016 μV/m at 30 meters at 27.12 MHz
Minimum margin of compliance of the spurious emission is 65.5 dB
No unwanted emissions exceed the level of the fundamental
***Extrapolated levels using a 40 dB/decade falloff as indicated by the measurements.

Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test distance
■ - 0.3 meters
■ - 1.0 meters
■ - 3 meters

Test equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE02517	HFH2-Z2	Polarad	Loop Antenna	879285/036	17-Jun-09
WRLE02534	ESHS-20	Rhode & Schwarz	EMI Receiver	837055/003	20-Mar-09

Test limit

Frequency (MHz)	Field strength μV/m	Measurement distance (m)
0.009-0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30	30	30

At the 13.56 MHz fundamental, the limit is 29.5 dBμV/m at 30 meters

Test data
See following page

Radiated Emissions < 30 MHz per FCC 15.209

Test Report #:	WC808511	Test area:	LTS
Customer:	Carestream Health	Date:	oct31-08
EUT Description:	Laser Imager, 13.56 MHz RFID	Temperature:	23 C
EUT Model:	DV5850	Air pressure:	98 kPa
EUT Serial:	EM1	Relative humidity:	32 %
Notes:	nf = noise floor, 30 meter values determined using 40 dB / octave roll off		

Freq.	0.1m			0.3m			1.0m			3.0m			10m			30m			100m			300m			limit			delta
kHz	Pk	QP	Avg	Pk	QP	Avg	Pk	QP	Avg	Pk	QP	Avg	Pk	QP	Avg	Pk	QP	Avg	Pk	QP	Avg	Pk	QP	Avg	dBuV/m	det	m	dB
13560	na	-	na	na	70.9	na	na	45.7	na	na	nf	na	na	nf	na	na	-14.3	na	na	na	na	na	na	na	29.50	qp	30	-43.80
27120	na	-	na	na	44	na	na	nf	na	na	nf	na	na	nf	na	na	-36	na	na	na	na	na	na	na	29.50	qp	30	-65.50

Tested by: Greg Jakubowski
print

sign

Reviewed by: Joel T Schneider
print

sign

Radiated Emissions 30 - 5000 MHz
FCC 15.209(c), FCC 15.209(f), IC RSS-210 2.6

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Testing was performed in accordance with the test procedure of ANSI C63.4 2003, clause 8.3
Maximum spurious emission below 135.6 MHz is 26.96 dBμV/m at 3 meters at 74.855 MHz
Minimum margin of compliance is 13.04 dB
Maximum spurious emission of Incorporated digital device above 135.6 MHz is 51.64 dBμV/m at 3 meters at 816.816 MHz
Minimum margin of compliance is 4.76 dB

Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test distance
■ - 3 meters
☐ - 10 meters

Test Equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE03995	EM-6917B	Electro-Metrics	Biconicalog Periodic	151	23-Apr-09
WRLE03847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B 12-May-09
WRLE02681	85650A	Hewlett-Packard	Quasi-Peak Adapter	2430A00562	31-Mar-09
WRLE08052	8566B	Hewlett-Packard	Spectrum Analyzer	2115A00853	27-Mar-09
WRLE08051	85662A	Hewlett-Packard	Analyzer Display	2112A02220	27-Mar-09
WRLE03995	EM-6917B	Electro-Metrics	Biconicalog Periodic	151	23-Apr-09
WRLE02075	3115	EMCO	Ridge Guide Ant. 1-18 GHz	9001-3275	16-Jan-09
WRLE10527	SL18B4020	Phase One uwave	Preamplifier 1 – 18 GHz	0001	Code B 10-Sep-09

Cal Code B = Calibration verification performed internally.

Test limits
Transmitter

Frequncy (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
30 - 88	100	40	3
88 - 135.6	150	43.5	3

Incorporated digital device

Frequncy (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
30 - 88	90	39	10
88 - 216	150	43.5	10
216 - 960	210	46.4	10
Above 960	300	49.5	10

Test data
See following pages

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	1 of 9

List of measurements for run #: 6

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)	DELTA2
Start of Spurious Scan 30 - 1000 MHz.						
54.247 MHz	38.3 Qp	0.84 / 13.09 / 29.7 / 0.0	22.54	V / 1.00 / 0	-17.46	n/a
67.805 MHz	41.8 Qp	0.94 / 9.49 / 29.6 / 0.0	22.62	V / 1.00 / 0	-17.38	n/a
74.855 MHz	44.45 Qp	0.97 / 8.38 / 29.7 / 0.0	24.11	V / 1.00 / 0	-15.89	n/a
81.36 MHz	41.7 Qp	1.01 / 7.69 / 29.7 / 0.0	20.7	V / 1.00 / 0	-19.3	n/a
135.6 MHz	35.05 Qp	1.33 / 8.2 / 29.7 / 0.0	14.88	V / 1.00 / 0	-28.62	n/a
149.16 MHz	43.75 Qp	1.4 / 9.57 / 29.8 / 0.0	24.92	V / 1.00 / 0	-28.58	n/a
162.72 MHz	38.1 Qp	1.51 / 8.83 / 29.8 / 0.0	18.63	V / 1.00 / 0	-34.87	n/a
176.28 MHz	38.75 Qp	1.54 / 9.65 / 29.8 / 0.0	20.14	V / 1.00 / 0	-33.36	n/a
189.84 MHz	41.4 Qp	1.58 / 10.79 / 29.8 / 0.0	23.97	V / 1.00 / 0	-29.53	n/a
244.08 MHz	32.1 Qp	1.8 / 11.87 / 29.72 / 0.0	16.05	V / 1.00 / 0	-40.35	n/a
271.2 MHz	31.15 Qp	1.88 / 12.48 / 29.8 / 0.0	15.71	V / 1.00 / 0	-40.69	n/a
325.446 MHz	31.85 Qp	2.11 / 13.95 / 29.94 / 0.0	17.97	V / 1.00 / 0	-38.43	n/a
379.686 MHz	30.4 Qp	2.25 / 15.37 / 30.0 / 0.0	18.01	V / 1.00 / 0	-38.39	n/a
555.966 MHz	34.05 Qp	2.75 / 18.26 / 30.19 / 0.0	24.87	V / 1.00 / 0	-31.53	n/a
569.526 MHz	30.85 Qp	2.76 / 18.32 / 30.15 / 0.0	21.78	V / 1.00 / 0	-34.62	n/a
610.206 MHz	36.05 Qp	2.83 / 19.24 / 30.15 / 0.0	27.97	V / 1.00 / 0	-28.43	n/a
623.766 MHz	36.4 Qp	2.86 / 19.55 / 30.18 / 0.0	28.63	V / 1.00 / 0	-27.77	n/a
624.006 MHz	33.4 Qp	2.86 / 19.55 / 30.18 / 0.0	25.64	V / 1.00 / 0	-30.76	n/a
678.036 MHz	33.2 Qp	3.07 / 19.86 / 30.2 / 0.0	25.93	V / 1.00 / 0	-30.47	n/a
705.156 MHz	33.2 Qp	3.14 / 20.4 / 30.15 / 0.0	26.59	V / 1.00 / 0	-29.81	n/a
718.716 MHz	32.4 Qp	3.16 / 20.67 / 30.12 / 0.0	26.12	V / 1.00 / 0	-30.28	n/a
732.276 MHz	31.5 Qp	3.19 / 20.95 / 30.1 / 0.0	25.54	V / 1.00 / 0	-30.86	n/a
745.836 MHz	35.6 Qp	3.22 / 21.19 / 30.1 / 0.0	29.91	V / 1.00 / 0	-26.49	n/a
109.103 MHz	37.35 Qp	1.15 / 9.19 / 29.7 / 0.0	17.99	V / 1.00 / 0	-25.51	n/a

Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	2 of 9

List of measurements for run #: 6

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)	DELTA2
112.007 MHz	39.65 Qp	1.16 / 9.3 / 29.7 / 0.0	20.4	V / 1.00 / 0	-23.1	n/a
132.738 MHz	36.9 Qp	1.31 / 8.25 / 29.7 / 0.0	16.76	V / 1.00 / 0	-26.74	n/a
145.158 MHz	43.8 Qp	1.38 / 9.79 / 29.77 / 0.0	25.2	V / 1.00 / 0	-28.3	n/a
160.002 MHz	44.05 Qp	1.5 / 8.97 / 29.8 / 0.0	24.73	V / 1.00 / 0	-28.77	n/a
168.822 MHz	42.0 Qp	1.52 / 9.02 / 29.8 / 0.0	22.75	V / 1.00 / 0	-30.75	n/a
185.743 MHz	43.0 Qp	1.57 / 10.44 / 29.8 / 0.0	25.21	V / 1.00 / 0	-28.29	n/a
223.993 MHz	36.85 Qp	1.69 / 11.16 / 29.8 / 0.0	19.91	V / 1.00 / 0	-36.49	n/a
256.622 MHz	33.05 Qp	1.84 / 12.31 / 29.8 / 0.0	17.4	V / 1.00 / 0	-39.0	n/a
272.012 MHz	37.0 Qp	1.88 / 12.46 / 29.8 / 0.0	21.54	V / 1.00 / 0	-34.86	n/a
287.996 MHz	36.6 Qp	1.95 / 12.8 / 29.86 / 0.0	21.48	V / 1.00 / 0	-34.92	n/a
304.016 MHz	37.0 Qp	2.03 / 13.29 / 29.9 / 0.0	22.42	V / 1.00 / 0	-33.98	n/a
320.013 MHz	34.45 Qp	2.1 / 13.78 / 29.91 / 0.0	20.42	V / 1.00 / 0	-35.98	n/a
336.003 MHz	38.5 Qp	2.13 / 14.27 / 29.99 / 0.0	24.92	V / 1.00 / 0	-31.48	n/a
336.333 MHz	36.95 Qp	2.13 / 14.28 / 29.99 / 0.0	23.38	V / 1.00 / 0	-33.02	n/a
368.014 MHz	33.4 Qp	2.2 / 15.12 / 30.0 / 0.0	20.72	V / 1.00 / 0	-35.68	n/a
400.012 MHz	34.3 Qp	2.32 / 15.8 / 30.0 / 0.0	22.42	V / 1.00 / 0	-33.98	n/a
432.431 MHz	37.65 Qp	2.43 / 16.25 / 30.0 / 0.0	26.34	V / 1.00 / 0	-30.06	n/a
432.005 MHz	34.65 Qp	2.43 / 16.26 / 30.0 / 0.0	23.34	V / 1.00 / 0	-33.06	n/a
463.992 MHz	41.25 Qp	2.54 / 16.61 / 30.1 / 0.0	30.3	V / 1.00 / 0	-26.1	n/a
496.008 MHz	36.9 Qp	2.63 / 16.95 / 30.2 / 0.0	26.28	V / 1.00 / 0	-30.12	n/a
528.529 MHz	37.2 Qp	2.71 / 17.69 / 30.2 / 0.0	27.41	V / 1.00 / 0	-28.99	n/a
528.001 MHz	35.75 Qp	2.71 / 17.68 / 30.2 / 0.0	25.94	V / 1.00 / 0	-30.46	n/a
560.006 MHz	37.2 Qp	2.75 / 18.1 / 30.18 / 0.0	27.87	V / 1.00 / 0	-28.53	n/a
720.01 MHz	33.85 Qp	3.17 / 20.7 / 30.12 / 0.0	27.6	V / 1.00 / 0	-28.8	n/a
816.816 MHz	42.6 Qp	3.35 / 21.89 / 30.03 / 0.0	37.8	V / 1.00 / 0	-18.6	n/a
864.864 MHz	36.35 Qp	3.43 / 21.99 / 29.81 / 0.0	31.97	V / 1.00 / 0	-24.43	n/a

Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	3 of 9

List of measurements for run #: 6

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)	DELTA2
912.895 MHz	38.35 Qp	3.52 / 22.56 / 29.63 / 0.0	34.81	V / 1.00 / 0	-21.59	n/a
960.95 MHz	41.65 Qp	3.67 / 22.93 / 29.7 / 0.0	38.55	V / 1.00 / 0	-20.95	n/a
81.36 MHz	42.4 Qp	1.01 / 7.69 / 29.7 / 0.0	21.4	V / 1.00 / 90	-18.6	n/a
132.738 MHz	41.25 Qp	1.31 / 8.25 / 29.7 / 0.0	21.11	V / 1.00 / 90	-22.39	n/a
135.6 MHz	43.05 Qp	1.33 / 8.2 / 29.7 / 0.0	22.88	V / 1.00 / 90	-20.62	n/a
244.08 MHz	36.55 Qp	1.8 / 11.87 / 29.72 / 0.0	20.5	V / 1.00 / 90	-35.9	n/a
272.012 MHz	40.05 Qp	1.88 / 12.46 / 29.8 / 0.0	24.59	V / 1.00 / 90	-31.81	n/a
304.016 MHz	41.75 Qp	2.03 / 13.29 / 29.9 / 0.0	27.17	V / 1.00 / 90	-29.23	n/a
320.013 MHz	40.3 Qp	2.1 / 13.78 / 29.91 / 0.0	26.27	V / 1.00 / 90	-30.13	n/a
400.012 MHz	40.65 Qp	2.32 / 15.8 / 30.0 / 0.0	28.77	V / 1.00 / 90	-27.63	n/a
432.005 MHz	38.85 Qp	2.43 / 16.26 / 30.0 / 0.0	27.54	V / 1.00 / 90	-28.86	n/a
432.431 MHz	51.15 Qp	2.43 / 16.25 / 30.0 / 0.0	39.84	V / 1.00 / 90	-16.56	n/a
463.992 MHz	45.5 Qp	2.54 / 16.61 / 30.1 / 0.0	34.55	V / 1.00 / 90	-21.85	n/a
496.008 MHz	46.3 Qp	2.63 / 16.95 / 30.2 / 0.0	35.68	V / 1.00 / 90	-20.72	n/a
528.001 MHz	41.35 Qp	2.71 / 17.68 / 30.2 / 0.0	31.54	V / 1.00 / 90	-24.86	n/a
528.529 MHz	44.5 Qp	2.71 / 17.69 / 30.2 / 0.0	34.71	V / 1.00 / 90	-21.69	n/a
560.006 MHz	43.8 Qp	2.75 / 18.1 / 30.18 / 0.0	34.47	V / 1.00 / 90	-21.93	n/a
816.816 MHz	43.85 Qp	3.35 / 21.89 / 30.03 / 0.0	39.05	V / 1.00 / 90	-17.35	n/a
864.864 MHz	38.4 Qp	3.43 / 21.99 / 29.81 / 0.0	34.02	V / 1.00 / 90	-22.38	n/a
912.895 MHz	41.3 Qp	3.52 / 22.56 / 29.63 / 0.0	37.76	V / 1.00 / 90	-18.64	n/a
960.95 MHz	45.95 Qp	3.67 / 22.93 / 29.7 / 0.0	42.85	V / 1.00 / 90	-16.65	n/a
81.36 MHz	46.6 Qp	1.01 / 7.69 / 29.7 / 0.0	25.6	V / 1.00 / 180	-14.4	n/a
325.446 MHz	35.5 Qp	2.11 / 13.95 / 29.94 / 0.0	21.62	V / 1.00 / 180	-34.78	n/a
336.003 MHz	41.05 Qp	2.13 / 14.27 / 29.99 / 0.0	27.47	V / 1.00 / 180	-28.93	n/a

Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	4 of 9

List of measurements for run #: 6

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)	DELTA2
336.333 MHz	46.1 Qp	2.13 / 14.28 / 29.99 / 0.0	32.53	V / 1.00 / 180	-23.87	n/a
368.014 MHz	37.45 Qp	2.2 / 15.12 / 30.0 / 0.0	24.77	V / 1.00 / 180	-31.63	n/a
400.012 MHz	42.6 Qp	2.32 / 15.8 / 30.0 / 0.0	30.72	V / 1.00 / 180	-25.68	n/a
432.005 MHz	44.3 Qp	2.43 / 16.26 / 30.0 / 0.0	32.99	V / 1.00 / 180	-23.41	n/a
528.001 MHz	47.4 Qp	2.71 / 17.68 / 30.2 / 0.0	37.59	V / 1.00 / 180	-18.81	n/a
555.966 MHz	36.7 Qp	2.75 / 18.26 / 30.19 / 0.0	27.52	V / 1.00 / 180	-28.88	n/a
623.766 MHz	41.0 Qp	2.86 / 19.55 / 30.18 / 0.0	33.23	V / 1.00 / 180	-23.17	n/a
678.036 MHz	37.2 Qp	3.07 / 19.86 / 30.2 / 0.0	29.93	V / 1.00 / 180	-26.47	n/a
705.156 MHz	37.65 Qp	3.14 / 20.4 / 30.15 / 0.0	31.04	V / 1.00 / 180	-25.36	n/a
718.716 MHz	35.2 Qp	3.16 / 20.67 / 30.12 / 0.0	28.92	V / 1.00 / 180	-27.48	n/a
816.816 MHz	47.75 Qp	3.35 / 21.89 / 30.03 / 0.0	42.95	V / 1.00 / 180	-13.45	n/a
912.895 MHz	47.55 Qp	3.52 / 22.56 / 29.63 / 0.0	44.01	V / 1.00 / 180	-12.39	n/a
74.855 MHz	47.3 Qp	0.97 / 8.38 / 29.7 / 0.0	26.96	V / 1.00 / 270	-13.04	n/a
145.158 MHz	44.4 Qp	1.38 / 9.79 / 29.77 / 0.0	25.8	V / 1.00 / 270	-27.7	n/a
223.993 MHz	39.6 Qp	1.69 / 11.16 / 29.8 / 0.0	22.66	V / 1.00 / 270	-33.74	n/a
304.016 MHz	43.1 Qp	2.03 / 13.29 / 29.9 / 0.0	28.52	V / 1.00 / 270	-27.88	n/a
336.003 MHz	42.0 Qp	2.13 / 14.27 / 29.99 / 0.0	28.42	V / 1.00 / 270	-27.98	n/a
528.529 MHz	50.15 Qp	2.71 / 17.69 / 30.2 / 0.0	40.36	V / 1.00 / 270	-16.04	n/a
720.01 MHz	35.35 Qp	3.17 / 20.7 / 30.12 / 0.0	29.1	V / 1.00 / 270	-27.3	n/a
816.816 MHz	55.2 Qp	3.35 / 21.89 / 30.03 / 0.0	50.4	V / 1.00 / 270	-6.0	n/a
864.864 MHz	40.0 Qp	3.43 / 21.99 / 29.81 / 0.0	35.62	V / 1.00 / 270	-20.78	n/a
960.95 MHz	48.2 Qp	3.67 / 22.93 / 29.7 / 0.0	45.1	V / 1.00 / 270	-14.4	n/a
960.95 MHz	48.3 Qp	3.67 / 22.93 / 29.7 / 0.0	45.2	V / 1.00 / 270	-14.3	n/a
Maximized.						

Tested by: Robert J Behringer (Printed) — Signature

Reviewed by: Joel T Schneider (Printed) — Signature

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	5 of 9

List of measurements for run #: 6

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)	DELTA2
816.816 MHz	56.44 Qp	3.35 / 21.89 / 30.03 / 0.0	51.64	V / 1.09 / 265	-4.76	n/a
528.529 MHz	51.11 Qp	2.71 / 17.69 / 30.2 / 0.0	41.32	V / 1.00 / 150	-15.08	n/a
Above Signals are not coming from Transmitter.						
Transmitter Harmonics						
162.72 MHz	40.24 Qp	1.51 / 8.83 / 29.8 / 0.0	20.77	V / 1.00 / 206	-32.73	n/a
623.772 MHz	41.29 Qp	2.86 / 19.55 / 30.18 / 0.0	33.52	V / 1.00 / 265	-22.88	n/a
Start of Horizontal Scan						
160.002 MHz	48.05 Qp	1.5 / 8.97 / 29.8 / 0.0	28.73	H / 3.00 / 0	-24.77	n/a
368.014 MHz	43.4 Qp	2.2 / 15.12 / 30.0 / 0.0	30.72	H / 3.00 / 90	-25.68	n/a
112.007 MHz	46.2 Qp	1.16 / 9.3 / 29.7 / 0.0	26.95	H / 3.00 / 180	-16.55	n/a
175.986 MHz	43.2 Qp	1.54 / 9.62 / 29.8 / 0.0	24.57	H / 3.00 / 180	-28.93	n/a
Maximized.						
160.002 MHz	53.3 Qp	1.5 / 8.97 / 29.8 / 0.0	33.98	H / 2.10 / 22	-19.52	n/a
End of Scan						
When transmitter is turned off all signals associated with the transmitter are also off.						

Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	6 of 9

Measurement summary for limit1: FCC 15.209 to 135.6MHz, class A above (3m) (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)
816.816 MHz	56.44 Qp	3.35 / 21.89 / 30.03 / 0.0	51.64	V / 1.09 / 265	-4.76
912.895 MHz	47.55 Qp	3.52 / 22.56 / 29.63 / 0.0	44.01	V / 1.00 / 180	-12.39
74.855 MHz	47.3 Qp	0.97 / 8.38 / 29.7 / 0.0	26.96	V / 1.00 / 270	-13.04
960.95 MHz	48.3 Qp	3.67 / 22.93 / 29.7 / 0.0	45.2	V / 1.00 / 270	-14.3
81.36 MHz	46.6 Qp	1.01 / 7.69 / 29.7 / 0.0	25.6	V / 1.00 / 180	-14.4
528.529 MHz	51.11 Qp	2.71 / 17.69 / 30.2 / 0.0	41.32	V / 1.00 / 150	-15.08
112.007 MHz	46.2 Qp	1.16 / 9.3 / 29.7 / 0.0	26.95	H / 3.00 / 180	-16.55
432.431 MHz	51.15 Qp	2.43 / 16.25 / 30.0 / 0.0	39.84	V / 1.00 / 90	-16.56
67.805 MHz	41.8 Qp	0.94 / 9.49 / 29.6 / 0.0	22.62	V / 1.00 / 0	-17.38
54.247 MHz	38.3 Qp	0.84 / 13.09 / 29.7 / 0.0	22.54	V / 1.00 / 0	-17.46
528.001 MHz	47.4 Qp	2.71 / 17.68 / 30.2 / 0.0	37.59	V / 1.00 / 180	-18.81
160.002 MHz	53.3 Qp	1.5 / 8.97 / 29.8 / 0.0	33.98	H / 2.10 / 22	-19.52
135.6 MHz	43.05 Qp	1.33 / 8.2 / 29.7 / 0.0	22.88	V / 1.00 / 90	-20.62
496.008 MHz	46.3 Qp	2.63 / 16.95 / 30.2 / 0.0	35.68	V / 1.00 / 90	-20.72
864.864 MHz	40.0 Qp	3.43 / 21.99 / 29.81 / 0.0	35.62	V / 1.00 / 270	-20.78
463.992 MHz	45.5 Qp	2.54 / 16.61 / 30.1 / 0.0	34.55	V / 1.00 / 90	-21.85
560.006 MHz	43.8 Qp	2.75 / 18.1 / 30.18 / 0.0	34.47	V / 1.00 / 90	-21.93
132.738 MHz	41.25 Qp	1.31 / 8.25 / 29.7 / 0.0	21.11	V / 1.00 / 90	-22.39
623.772 MHz	41.29 Qp	2.86 / 19.55 / 30.18 / 0.0	33.52	V / 1.00 / 265	-22.88
432.005 MHz	44.3 Qp	2.43 / 16.26 / 30.0 / 0.0	32.99	V / 1.00 / 180	-23.41
336.333 MHz	46.1 Qp	2.13 / 14.28 / 29.99 / 0.0	32.53	V / 1.00 / 180	-23.87
705.156 MHz	37.65 Qp	3.14 / 20.4 / 30.15 / 0.0	31.04	V / 1.00 / 180	-25.36
109.103 MHz	37.35 Qp	1.15 / 9.19 / 29.7 / 0.0	17.99	V / 1.00 / 0	-25.51
368.014 MHz	43.4 Qp	2.2 / 15.12 / 30.0 / 0.0	30.72	H / 3.00 / 90	-25.68

Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	7 of 9

Measurement summary for limit1: FCC 15.209 to 135.6MHz, class A above (3m) (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)
400.012 MHz	42.6 Qp	2.32 / 15.8 / 30.0 / 0.0	30.72	V / 1.00 / 180	-25.68
678.036 MHz	37.2 Qp	3.07 / 19.86 / 30.2 / 0.0	29.93	V / 1.00 / 180	-26.47
745.836 MHz	35.6 Qp	3.22 / 21.19 / 30.1 / 0.0	29.91	V / 1.00 / 0	-26.49
720.01 MHz	35.35 Qp	3.17 / 20.7 / 30.12 / 0.0	29.1	V / 1.00 / 270	-27.3
718.716 MHz	35.2 Qp	3.16 / 20.67 / 30.12 / 0.0	28.92	V / 1.00 / 180	-27.48
145.158 MHz	44.4 Qp	1.38 / 9.79 / 29.77 / 0.0	25.8	V / 1.00 / 270	-27.7
304.016 MHz	43.1 Qp	2.03 / 13.29 / 29.9 / 0.0	28.52	V / 1.00 / 270	-27.88
336.003 MHz	42.0 Qp	2.13 / 14.27 / 29.99 / 0.0	28.42	V / 1.00 / 270	-27.98
185.743 MHz	43.0 Qp	1.57 / 10.44 / 29.8 / 0.0	25.21	V / 1.00 / 0	-28.29
610.206 MHz	36.05 Qp	2.83 / 19.24 / 30.15 / 0.0	27.97	V / 1.00 / 0	-28.43
149.16 MHz	43.75 Qp	1.4 / 9.57 / 29.8 / 0.0	24.92	V / 1.00 / 0	-28.58
555.966 MHz	36.7 Qp	2.75 / 18.26 / 30.19 / 0.0	27.52	V / 1.00 / 180	-28.88
175.986 MHz	43.2 Qp	1.54 / 9.62 / 29.8 / 0.0	24.57	H / 3.00 / 180	-28.93
189.84 MHz	41.4 Qp	1.58 / 10.79 / 29.8 / 0.0	23.97	V / 1.00 / 0	-29.53
320.013 MHz	40.3 Qp	2.1 / 13.78 / 29.91 / 0.0	26.27	V / 1.00 / 90	-30.13
168.822 MHz	42.0 Qp	1.52 / 9.02 / 29.8 / 0.0	22.75	V / 1.00 / 0	-30.75
624.006 MHz	33.4 Qp	2.86 / 19.55 / 30.18 / 0.0	25.64	V / 1.00 / 0	-30.76
732.276 MHz	31.5 Qp	3.19 / 20.95 / 30.1 / 0.0	25.54	V / 1.00 / 0	-30.86
272.012 MHz	40.05 Qp	1.88 / 12.46 / 29.8 / 0.0	24.59	V / 1.00 / 90	-31.81
162.72 MHz	40.24 Qp	1.51 / 8.83 / 29.8 / 0.0	20.77	V / 1.00 / 206	-32.73
176.28 MHz	38.75 Qp	1.54 / 9.65 / 29.8 / 0.0	20.14	V / 1.00 / 0	-33.36
223.993 MHz	39.6 Qp	1.69 / 11.16 / 29.8 / 0.0	22.66	V / 1.00 / 270	-33.74
569.526 MHz	30.85 Qp	2.76 / 18.32 / 30.15 / 0.0	21.78	V / 1.00 / 0	-34.62
325.446 MHz	35.5 Qp	2.11 / 13.95 / 29.94 / 0.0	21.62	V / 1.00 / 180	-34.78
287.996 MHz	36.6 Qp	1.95 / 12.8 / 29.86 / 0.0	21.48	V / 1.00 / 0	-34.92

Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	8 of 9

Measurement summary for limit1: FCC 15.209 to 135.6MHz, class A above (3m) (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.209 to 135.6MHz, class A above (3m)
244.08 MHz	36.55 Qp	1.8 / 11.87 / 29.72 / 0.0	20.5	V / 1.00 / 90	-35.9
379.686 MHz	30.4 Qp	2.25 / 15.37 / 30.0 / 0.0	18.01	V / 1.00 / 0	-38.39
256.622 MHz	33.05 Qp	1.84 / 12.31 / 29.8 / 0.0	17.4	V / 1.00 / 0	-39.0
271.2 MHz	31.15 Qp	1.88 / 12.48 / 29.8 / 0.0	15.71	V / 1.00 / 0	-40.69

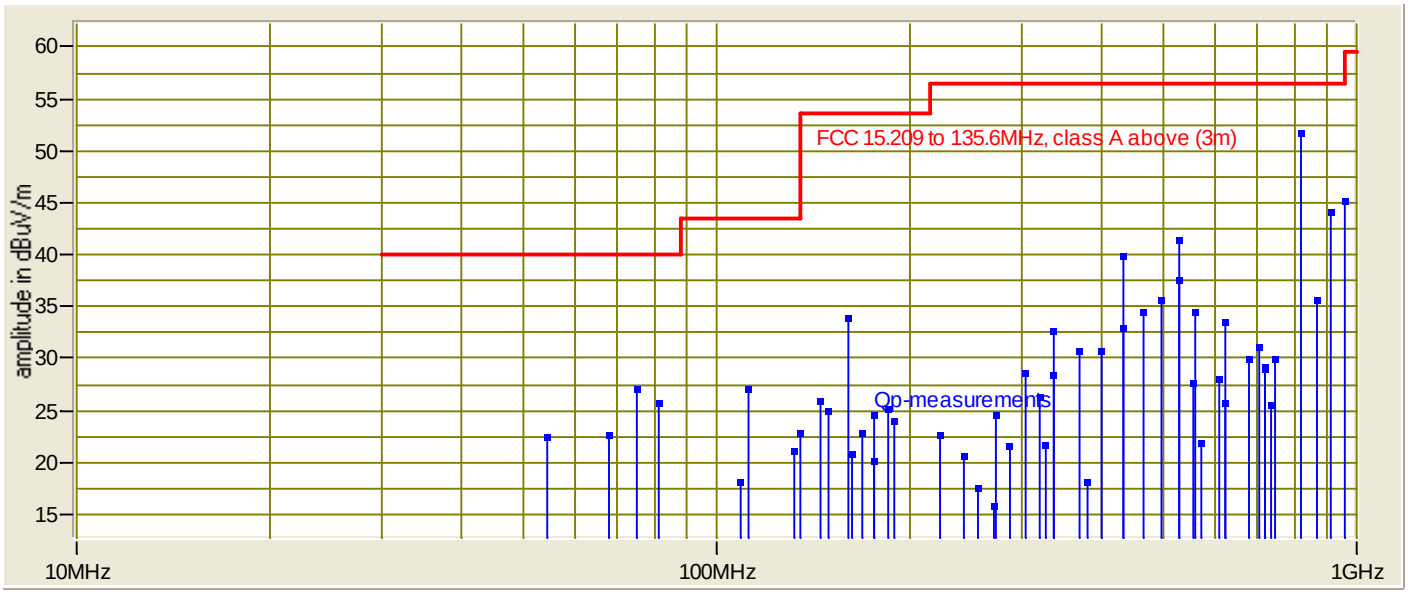
Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

RADIATED EMISSIONS

Test Report #:	WC808511 Run 6	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/31/2008		
EUT Serial #:	EM1	EUT Power:	50Hz - 230VAC	Temperature:	23.0 °C
Test Method:	FCC 15.209 (30-135.6 MHz), 15.109 class A (135.6-1000 MHz)			Air Pressure:	98.0 kPa
Customer:	Carestream Health			Rel. Humidity:	32.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr.dat			Page:	9 of 9

Graph:



Tested by: Robert J Behringer (Printed) _____ (Signature)

Reviewed by: Joel T Schneider (Printed) _____ (Signature)

Occupied bandwidth
RSS-Gen 4.6.1

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Test was performed in accordance with the article “The Measurement of Occupied Bandwidth” by Industry Canada’s certification bureau.
Occupied bandwidth = 2.825 kHz

Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

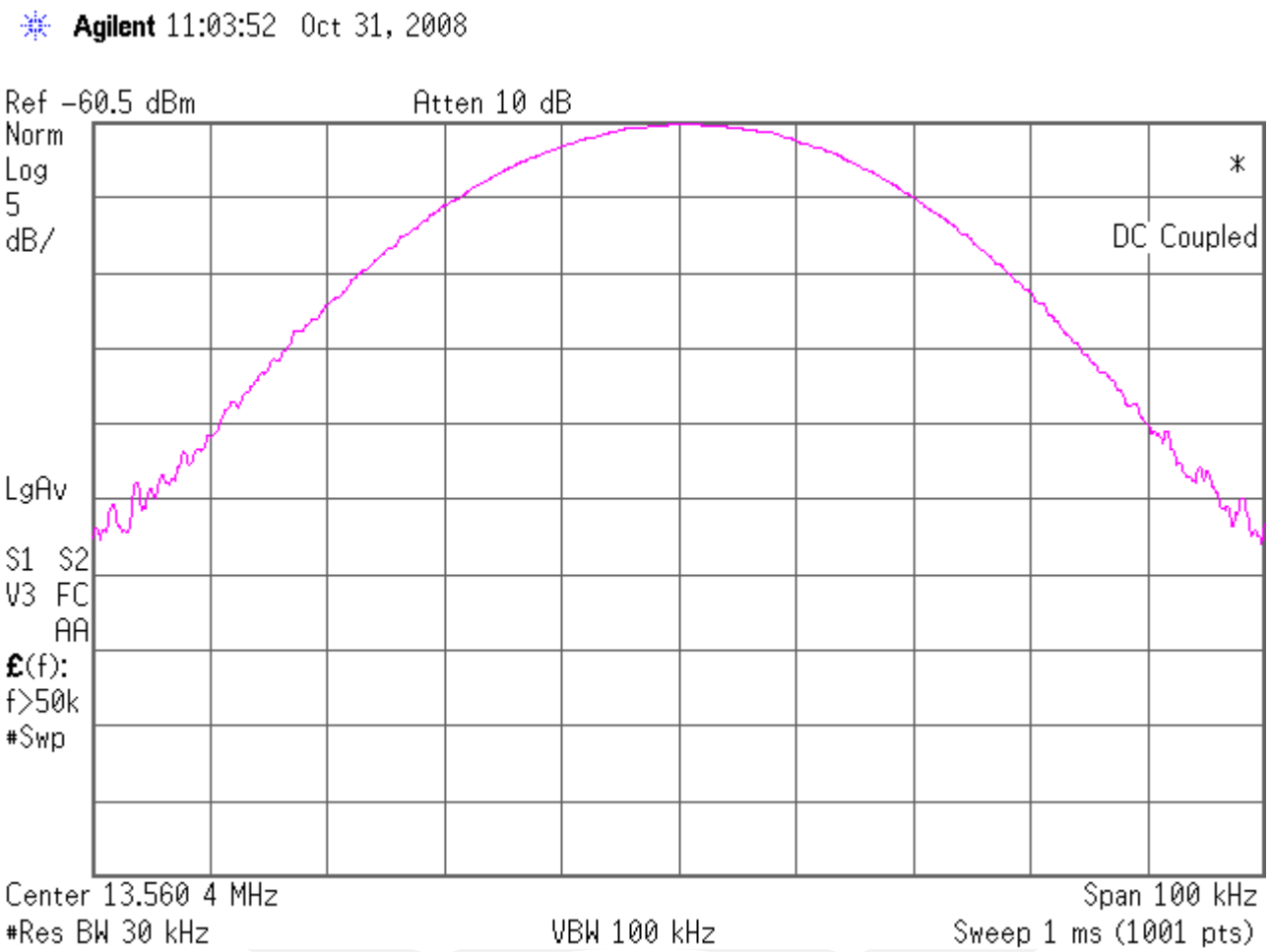
TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
WRLE03371	E4440A	Agilent	Spectrum Analyzer	MY43362222	14-Nov-09
	7405-901	EMCO	Near field probe	na	Code Y

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

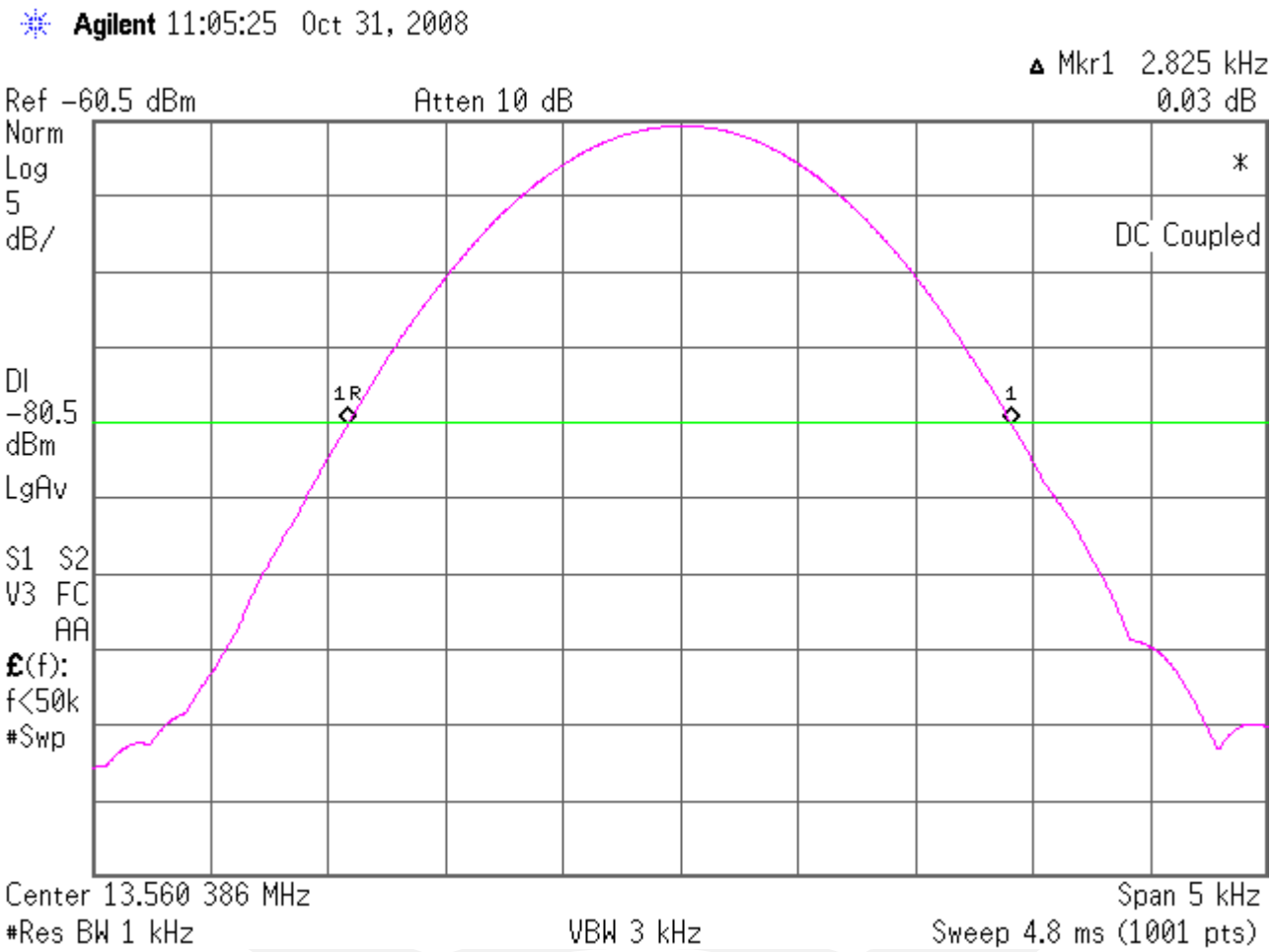
Test limit
No limit specified

Test data
See following pages

99% Occupied bandwidth
1 of 2



99% Occupied bandwidth
2 of 2



Conducted Emissions - AC Power Lines
FCC 15.207(a), IC RSS-Gen 7.2.2

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Testing was performed in accordance with the test procedure of ANSI C63.4 2003, clause 7.2
Minimum margin of compliance is 1.32 dB at 1.025 MHz

Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test Equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE02416	3825/2	Electro-Mechanics (EMCO)	50 Ω LISN	8812-1437	Code B 11-Jan-09
WRLE03800	ESCS 30	Rohde & Schwarz	EMI Receiver	100312	19-Nov-09

Cal Code B = Calibration verification performed internally.

Test limits, dBµV

Frequncy (MHz)	Quasi Peak	Average
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

*Decreases with the logarithm of the frequency

Test data
See following pages

CONDUCTED EMISSIONS

Test Report #:	WC808511 Run 5	Test Area:	LTS			
EUT Model #:	DV5850	Date:	10/23/2008			
EUT Serial #:	EM1	EUT Power:	60Hz - 100VAC	Temperature:	24.0	°C
Test Method:	EN55011 A Grp 1 / EN 55022 Class A			Air Pressure:	99.0	kPa
Customer:	Carestream Health			Rel. Humidity:	29.0	%
EUT Description:	Dry View Laser Imager					
Notes:						
Data File Name:	8511 fcc15.209 tr run 5 minus low freqs.dat			Page:	1 of 5	

List of measurements for run #: 5

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV)	EUT Lead	DELTA1 FCC 15.207 QP	DELTA2 FCC 15.207 Av
Start of conducted scan.						
215.0 kHz	60.68 Qp	0.13 / 0.13 / 0.0 / 0.0	60.94	N	-2.07	n/a
345.0 kHz	49.5 Qp	0.16 / 0.1 / 0.0 / 0.0	49.76	N	-9.32	n/a
510.0 kHz	47.12 Qp	0.2 / 0.1 / 0.0 / 0.0	47.42	N	-8.58	n/a
1.025 MHz	44.34 Qp	0.25 / 0.06 / 0.0 / 0.0	44.65	N	-11.35	n/a
1.92 MHz	43.46 Qp	0.34 / 0.0 / 0.0 / 0.0	43.8	N	-12.2	n/a
3.455 MHz	34.58 Qp	0.45 / 0.0 / 0.0 / 0.0	35.03	N	-20.97	n/a
5.25 MHz	46.36 Qp	0.55 / 0.0 / 0.0 / 0.0	46.91	N	-13.09	n/a
8.195 MHz	40.36 Qp	0.69 / 0.06 / 0.0 / 0.0	41.11	N	-18.89	n/a
15.24 MHz	31.24 Qp	0.92 / 0.25 / 0.0 / 0.0	32.42	N	-27.58	n/a
28.67 MHz	31.06 Qp	1.29 / 0.99 / 0.0 / 0.0	33.35	N	-26.65	n/a
215.0 kHz	33.82 Av	0.13 / 0.13 / 0.0 / 0.0	34.08	N	n/a	-18.93
345.0 kHz	26.97 Av	0.16 / 0.1 / 0.0 / 0.0	27.23	N	n/a	-21.85
510.0 kHz	41.84 Av	0.2 / 0.1 / 0.0 / 0.0	42.14	N	n/a	-3.86
1.025 MHz	44.37 Av	0.25 / 0.06 / 0.0 / 0.0	44.68	N	n/a	-1.32
1.92 MHz	43.07 Av	0.34 / 0.0 / 0.0 / 0.0	43.41	N	n/a	-2.59
3.455 MHz	31.13 Av	0.45 / 0.0 / 0.0 / 0.0	31.58	N	n/a	-14.42
5.25 MHz	43.56 Av	0.55 / 0.0 / 0.0 / 0.0	44.11	N	n/a	-5.89
8.195 MHz	31.52 Av	0.69 / 0.06 / 0.0 / 0.0	32.27	N	n/a	-17.73
15.24 MHz	26.39 Av	0.92 / 0.25 / 0.0 / 0.0	27.57	N	n/a	-22.43
28.67 MHz	25.45 Av	1.29 / 0.99 / 0.0 / 0.0	27.74	N	n/a	-22.26
215.0 kHz	59.54 Qp	0.13 / 0.13 / 0.0 / 0.0	59.8	L1	-3.21	n/a
345.0 kHz	52.0 Qp	0.16 / 0.1 / 0.0 / 0.0	52.26	L1	-6.82	n/a
510.0 kHz	42.02 Qp	0.2 / 0.1 / 0.0 / 0.0	42.32	L1	-13.68	n/a
1.025 MHz	43.96 Qp	0.25 / 0.06 / 0.0 / 0.0	44.27	L1	-11.73	n/a
1.92 MHz	44.64 Qp	0.34 / 0.0 / 0.0 / 0.0	44.98	L1	-11.02	n/a

Tested by: Derek J Lilla (Printed) Derek Lilla (Signature)

Reviewed by: Joel T Schneider (Printed) Joel T. Schneider (Signature)

CONDUCTED EMISSIONS

Test Report #:	WC808511 Run 5	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/23/2008		
EUT Serial #:	EM1	EUT Power:	60Hz - 100VAC	Temperature:	24.0 °C
Test Method:	EN55011 A Grp 1 / EN 55022 Class A			Air Pressure:	99.0 kPa
Customer:	Carestream Health			Rel. Humidity:	29.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr run 5 minus low freqs.dat			Page:	2 of 5

List of measurements for run #: 5

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV)	EUT Lead	DELTA1 FCC 15.207 QP	DELTA2 FCC 15.207 Av
3.455 MHz	34.92 Qp	0.45 / 0.0 / 0.0 / 0.0	35.37	L1	-20.63	n/a
5.25 MHz	44.56 Qp	0.55 / 0.0 / 0.0 / 0.0	45.11	L1	-14.89	n/a
8.195 MHz	37.8 Qp	0.69 / 0.06 / 0.0 / 0.0	38.55	L1	-21.45	n/a
15.24 MHz	31.02 Qp	0.92 / 0.25 / 0.0 / 0.0	32.2	L1	-27.8	n/a
28.67 MHz	32.36 Qp	1.29 / 0.99 / 0.0 / 0.0	34.65	L1	-25.35	n/a
215.0 kHz	34.85 Av	0.13 / 0.13 / 0.0 / 0.0	35.11	L1	n/a	-17.9
345.0 kHz	26.48 Av	0.16 / 0.1 / 0.0 / 0.0	26.74	L1	n/a	-22.34
510.0 kHz	40.87 Av	0.2 / 0.1 / 0.0 / 0.0	41.17	L1	n/a	-4.83
1.025 MHz	43.79 Av	0.25 / 0.06 / 0.0 / 0.0	44.1	L1	n/a	-1.9
1.92 MHz	41.31 Av	0.34 / 0.0 / 0.0 / 0.0	41.65	L1	n/a	-4.35
3.455 MHz	32.99 Av	0.45 / 0.0 / 0.0 / 0.0	33.44	L1	n/a	-12.56
5.25 MHz	35.53 Av	0.55 / 0.0 / 0.0 / 0.0	36.08	L1	n/a	-13.92
8.195 MHz	32.75 Av	0.69 / 0.06 / 0.0 / 0.0	33.5	L1	n/a	-16.5
15.24 MHz	26.22 Av	0.92 / 0.25 / 0.0 / 0.0	27.4	L1	n/a	-22.6
28.67 MHz	25.45 Av	1.29 / 0.99 / 0.0 / 0.0	27.74	L1	n/a	-22.26
End of conducted scan.						

Tested by: Derek J Lilla (Printed) Derek Lilla (Signature)

Reviewed by: Joel T Schneider (Printed) Joel T. Schneider (Signature)

CONDUCTED EMISSIONS

Test Report #:	WC808511 Run 5	Test Area:	LTS			
EUT Model #:	DV5850	Date:	10/23/2008			
EUT Serial #:	EM1	EUT Power:	60Hz - 100VAC	Temperature:	24.0	°C
Test Method:	EN55011 A Grp 1 / EN 55022 Class A			Air Pressure:	99.0	kPa
Customer:	Carestream Health			Rel. Humidity:	29.0	%
EUT Description:	Dry View Laser Imager					
Notes:						
Data File Name:	8511 fcc15.209 tr run 5 minus low freqs.dat			Page:	3 of 5	

Measurement summary for limit1: FCC 15.207 QP (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV)	EUT Lead	DELTA1 FCC 15.207 QP
215.0 kHz	60.68 Qp	0.13 / 0.13 / 0.0 / 0.0	60.94	N	-2.07
345.0 kHz	52.0 Qp	0.16 / 0.1 / 0.0 / 0.0	52.26	L1	-6.82
510.0 kHz	47.12 Qp	0.2 / 0.1 / 0.0 / 0.0	47.42	N	-8.58
1.92 MHz	44.64 Qp	0.34 / 0.0 / 0.0 / 0.0	44.98	L1	-11.02
1.025 MHz	44.34 Qp	0.25 / 0.06 / 0.0 / 0.0	44.65	N	-11.35
5.25 MHz	46.36 Qp	0.55 / 0.0 / 0.0 / 0.0	46.91	N	-13.09
8.195 MHz	40.36 Qp	0.69 / 0.06 / 0.0 / 0.0	41.11	N	-18.89
3.455 MHz	34.92 Qp	0.45 / 0.0 / 0.0 / 0.0	35.37	L1	-20.63
28.67 MHz	32.36 Qp	1.29 / 0.99 / 0.0 / 0.0	34.65	L1	-25.35
15.24 MHz	31.24 Qp	0.92 / 0.25 / 0.0 / 0.0	32.42	N	-27.58

Tested by: Derek J Lilla (Printed) Derek Lilla (Signature)

Reviewed by: Joel T Schneider (Printed) Joel T. Schneider (Signature)

CONDUCTED EMISSIONS

Test Report #:	WC808511 Run 5	Test Area:	LTS			
EUT Model #:	DV5850	Date:	10/23/2008			
EUT Serial #:	EM1	EUT Power:	60Hz - 100VAC	Temperature:	24.0	°C
Test Method:	EN55011 A Grp 1 / EN 55022 Class A			Air Pressure:	99.0	kPa
Customer:	Carestream Health			Rel. Humidity:	29.0	%
EUT Description:	Dry View Laser Imager					
Notes:						
Data File Name:	8511 fcc15.209 tr run 5 minus low freqs.dat			Page:	4 of 5	

Measurement summary for limit2: FCC 15.207 Av (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV)	EUT Lead	DELTA2 FCC 15.207 Av
1.025 MHz	44.37 Av	0.25 / 0.06 / 0.0 / 0.0	44.68	N	-1.32
1.92 MHz	43.07 Av	0.34 / 0.0 / 0.0 / 0.0	43.41	N	-2.59
510.0 kHz	41.84 Av	0.2 / 0.1 / 0.0 / 0.0	42.14	N	-3.86
5.25 MHz	43.56 Av	0.55 / 0.0 / 0.0 / 0.0	44.11	N	-5.89
3.455 MHz	32.99 Av	0.45 / 0.0 / 0.0 / 0.0	33.44	L1	-12.56
8.195 MHz	32.75 Av	0.69 / 0.06 / 0.0 / 0.0	33.5	L1	-16.5
215.0 kHz	34.85 Av	0.13 / 0.13 / 0.0 / 0.0	35.11	L1	-17.9
345.0 kHz	26.97 Av	0.16 / 0.1 / 0.0 / 0.0	27.23	N	-21.85
28.67 MHz	25.45 Av	1.29 / 0.99 / 0.0 / 0.0	27.74	N	-22.26
15.24 MHz	26.39 Av	0.92 / 0.25 / 0.0 / 0.0	27.57	N	-22.43

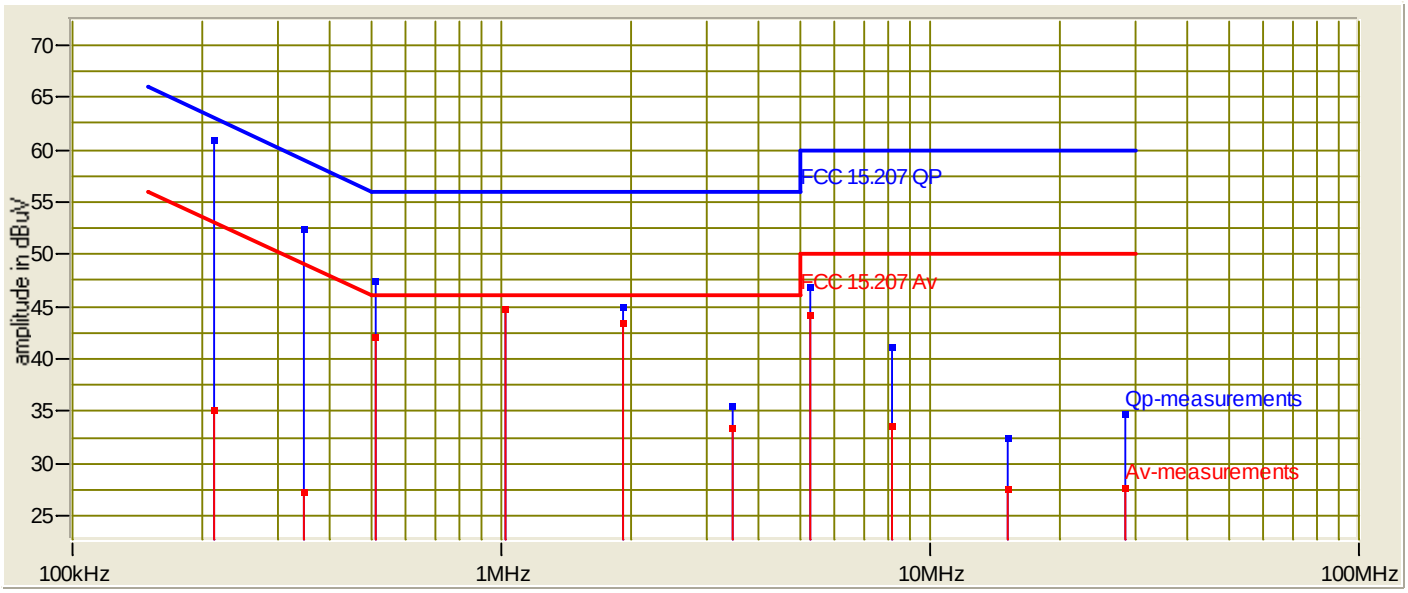
Tested by: Derek J Lilla (Printed) Derek Lilla (Signature)

Reviewed by: Joel T Schneider (Printed) Joel T. Schneider (Signature)

CONDUCTED EMISSIONS

Test Report #:	WC808511 Run 5	Test Area:	LTS		
EUT Model #:	DV5850	Date:	10/23/2008		
EUT Serial #:	EM1	EUT Power:	60Hz - 100VAC	Temperature:	24.0 °C
Test Method:	EN55011 A Grp 1 / EN 55022 Class A			Air Pressure:	99.0 kPa
Customer:	Carestream Health			Rel. Humidity:	29.0 %
EUT Description:	Dry View Laser Imager				
Notes:					
Data File Name:	8511 fcc15.209 tr run 5 minus low freqs.dat			Page:	5 of 5

Graph:



Tested by: Derek J Lilla (Printed) Derek Lilla (Signature)

Reviewed by: Joel T Schneider (Printed) Joel T. Schneider (Signature)

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

Notes:

1. Items shown in dotted lines are located on the floor below the test area. It is 5 meters vertically from the ground floor to the test area.

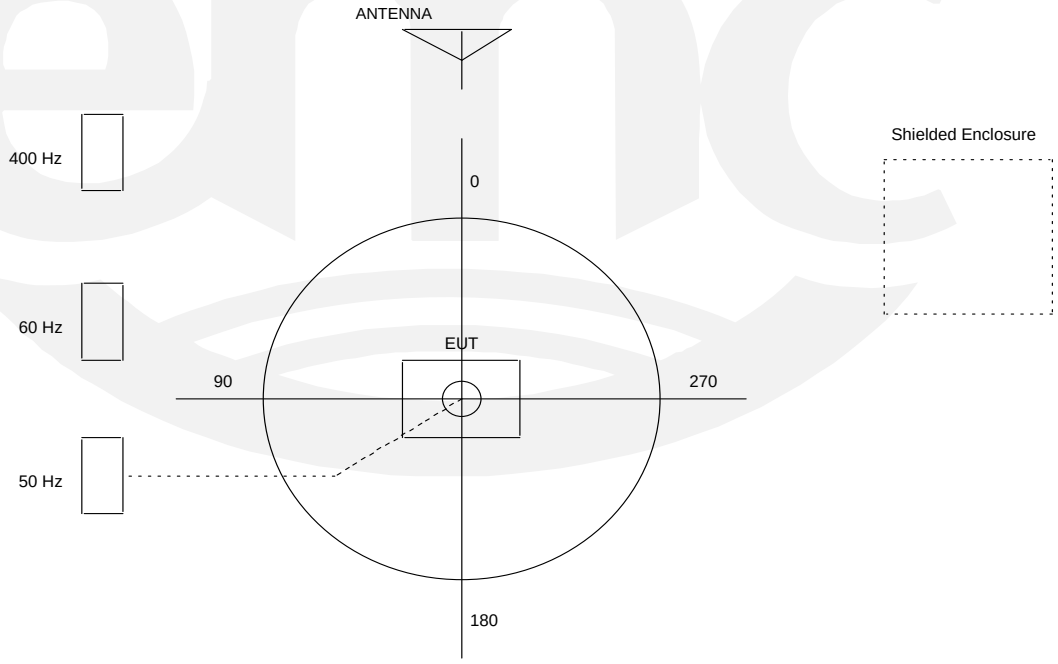
2. 50 Hz, 60 Hz, and 400 Hz are power panels for alternating current.

3. The antenna may be positioned horizontally 3, 10 or 30 meters from the center of the turntable.

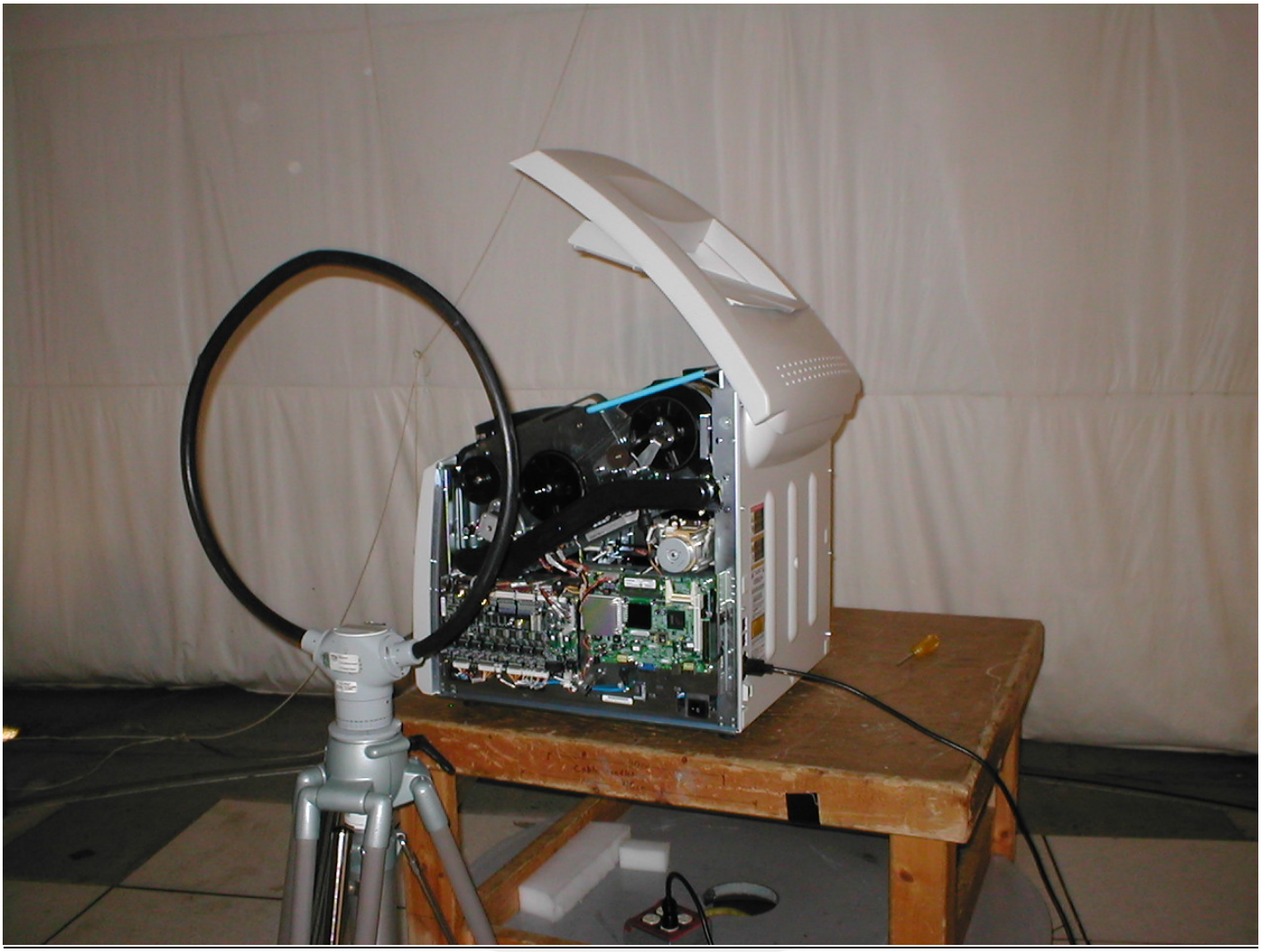
4. The circle is a 6.7 meter diameter turntable.

5. A ground plane is in the plane of this sheet.

6. The test sample is shown in the azimuthal position representing zero degrees.



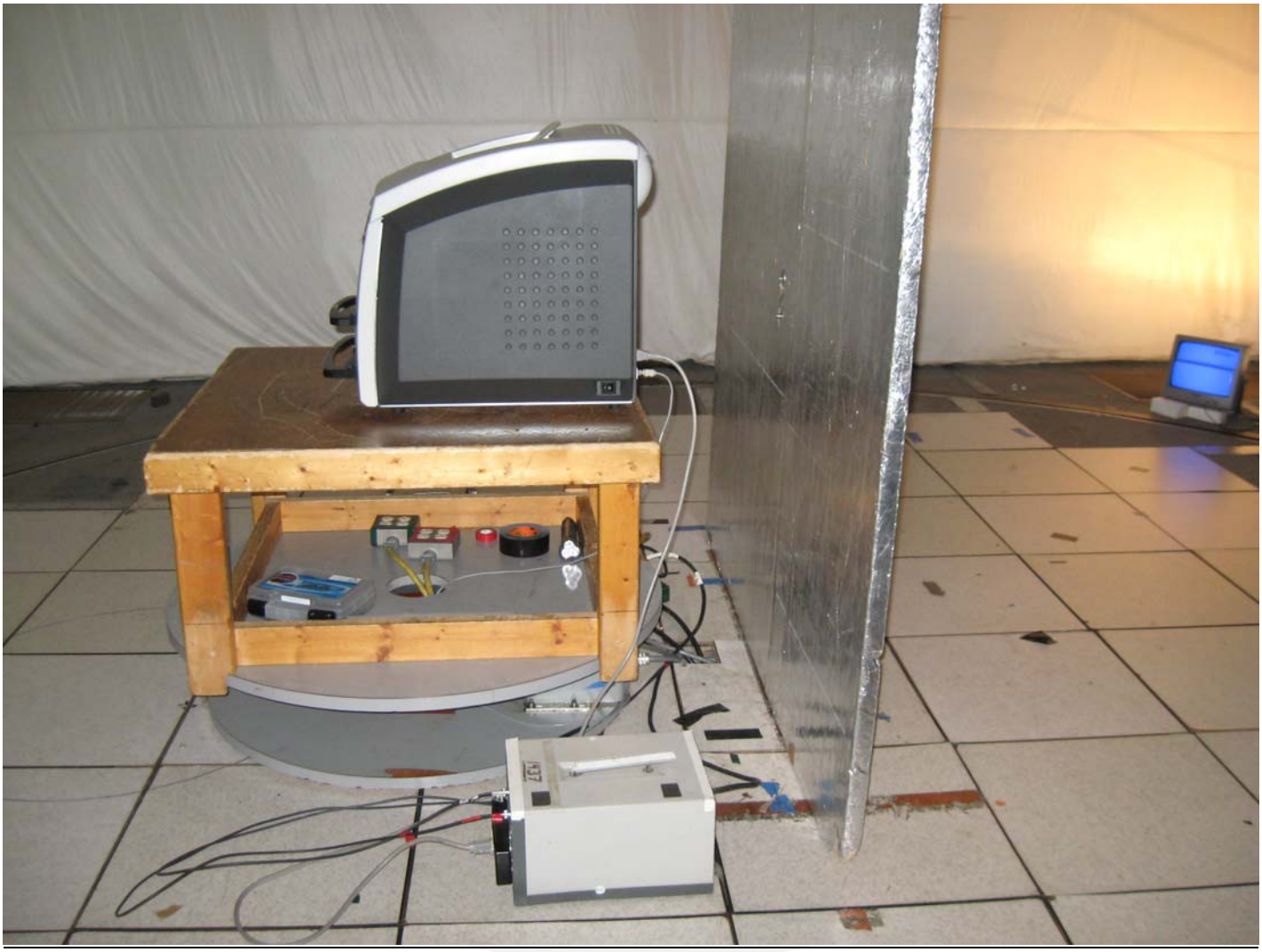
Test-setup photo(s):
General Field Strength Limits 0.009 – 30 MHz



Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz

Test-setup photo(s):
Conducted Emissions, AC lines, 150 kHz - 30 MHz



Equipment Under Test (EUT) Test Operation Mode:

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

☐ - Standby

☐ - Test program (H - Pattern)

☐ - Test program (color bar)

☐ - Test program (customer specific)

☐ - Practice operation

■ - Normal operating mode

Configuration of the device under test:

■ - See Appendix A and test setup photos

☐ - See Product Information Form(s) in Appendix B

DEVIATIONS FROM STANDARD:
None.

GENERAL REMARKS:
None

Modifications required to pass:
■ None
☐ As indicated on the data sheet(s)

Test Specification Deviations: Additions to or Exclusions from:
■ None
☐ As indicated in the Test Plan

SUMMARY:
The requirements according to the technical regulations are
■ - met and the device under test does fulfill the general approval requirements.
☐ - **not** met and the device under test does **not** fulfill the general approval requirements..

EUT Received Date: 23 October 2008

Condition of EUT: Normal

Testing Start Date: 23 October 2008

Testing End Date: 31 October 2008

TÜV SÜD AMERICA INC

Greg S Jakubowski
Senior EMC Technician

Joel T Schneider
Senior EMC Engineer

Appendix A

Carestream Health Incorporated EMC Test Plan
Document Part Number #8F6226

Carestream Health Inc.

DOCUMENT CONTROL PAGE

Document Part Number: 8F6226	Relates to Quality Manual Element: Document Level:	
Document Title: 5850 EMC Test Plan		
Revision	Description of Change	Revision Date
Rev. A	**Initial release**	**October 22, 2008**

NOTICE

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Carestream Health Inc.

Author: Robert Pettitt
Affected Departments: Design, Agency, Quality Assurance

Authorizing Signatures

SIGNER	GROUP	SIGNATURE	DATE
D. JENSEN	DESIGN LAB		10/24/08
R. PETTITT	EHS - AGENCY		10/22/08

1 Purpose

This document details the EMC Tests to be conducted on the Dry View Laser Imager Model DV5850 between October 23 and October 31, 2008 at TUV America's Wild River Test Lab.

The purpose of this document is to define the following:

List the tests.
Show configurations for these tests.
Describe support equipment.
Describe Carestream test programs and software needed to execute the tests.

2 Scope

This document is limited to testing for EMC compliance of the system. This document does not stipulate the test procedure.

3 References

7F5610 Dry View Laser Imager Model DV5850, Product Requirements Specification (Draft).

4 EMC Requirements Table

The table below gives the applicable EMC Tests.

For Testing Order see Section 12.

Electromagnetic Compatibility					
Title	US	EU	Canada	Australia / New Zealand	ROW
Radiated Electric Field Emissions	47 CFR part 15 subpart B	EN 55011:1998 +A2:2002 EN 55022: 1998 +A1 2000 +A2 2003 (Per RTTE Directive for Unintentional Radiator)	ICES-003 Issue 4	AS/NZS 2064.1 (CISPR 11:97 +A2:2002, EN 55011:98 +A2:2002 EN 55022: 1998 +A1 2000 +A2 2003 (Per RTTE Directive for Unintentional Radiator)	CISPR 11:97 + A2:2002 CISPR 22: 97 +A1 2000 +A2 2002 (Per RTTE Directive for Unintentional Radiator) VCCI (Japan)
Immunity		EN 60601-1-2:2001		#	IEC 60601-1-2:2001
ESD	#	EN 61000-4-2		#	IEC 61000-4-2
Radiated RF	#	EN 61000-4-3		#	IEC 61000-4-3
EFT	#	EN 61000-4-4		#	IEC 61000-4-4
Surge	#	EN 61000-4-5		#	IEC 61000-4-5
Conducted RF	#	EN 61000-4-6		#	IEC 61000-4-6
Power Frequency Magnetic Field	#	EN 61000-4-8		#	IEC 61000-4-8
Voltage Dips and Interrupts		EN 61000-4-11			IEC 61000-4-11
Harmonic Current		EN 61000-3-2:2000			IEC 61000-3-2
Voltage Flicker		EN 61000-3-3 :95+A1:2001			IEC 61000-3-3
Intentional Radiator	FCC Part 15 C	EN 300 330 9kHz to 25 GHz 9kHz to 30 GHz Inductive Loop EN 301 489-3 9kHz and 25 GHz	RSS 210 Issue 7		EN 300 330

5 Responsibilities

The Dry View Laser Imager Model DV5850 Hardware design team will be responsible for the support of the EMC compliance testing. This will be done under the direction of the EHS department. The test will be executed by an independent outside testing agency, which is qualified to certify the equipment as compliant.

6 Definitions

6.1 Acronyms

EMC - Electro Magnetic Compatibility
Ethernet - A standard communications link defined in IEE 802

7 General Description

This EMC testing on Dry View Laser Imager Model 5850 is designed to qualify the product for World Wide EMC acceptance.

Connection to the Dry View Laser Imager Model 5850 from a modality is via Ethernet.

8 Test Configuration Showing System Interconnections

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 #
Local Panel Optrex Model F-51852GNFQJ-LB-AIN	7H4192		
Assembly Bracket Electronics - Containing: Power Supply – Astec LPS65M Hard Disk Drive - Seagate Model ST380211AS Motherboard - BCM Model EBC5852-CB	8F4354 5F9427 5F8416 8F4279		
Motor – Drive, Traction Nidac Shimpo Model VGMR-64-86-D-L02-1	7F6877		
Motor – Polygon, 34 MM, Scanner Nidec Copal Model EX-1524	2G2291		
Motor – Stepper, DC Moons Model 17HD2010-02N	8F3170		
Motor – Stepper, Pinion Shaft Moons Model 17HD2010-03N	8F4136		
Vacuum Pump - Gast Model 8R1110-201-1048	7E7736		
Laser Diode JDS Uniphase JDSU – 54-00166	74-0401-7415-8		

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)			
Description	*Model #*	*Serial #*	*FCC ID #*
Dell laptop	Latitude D610	CN-0C4708 -48643-56G-0814	QDS-BRCM1016

System Components

Tested EUT component(s)	Model No. or Part No.	Serial No.	Notes
Dry View Laser Imager	DV5850	EM 1	

Cables

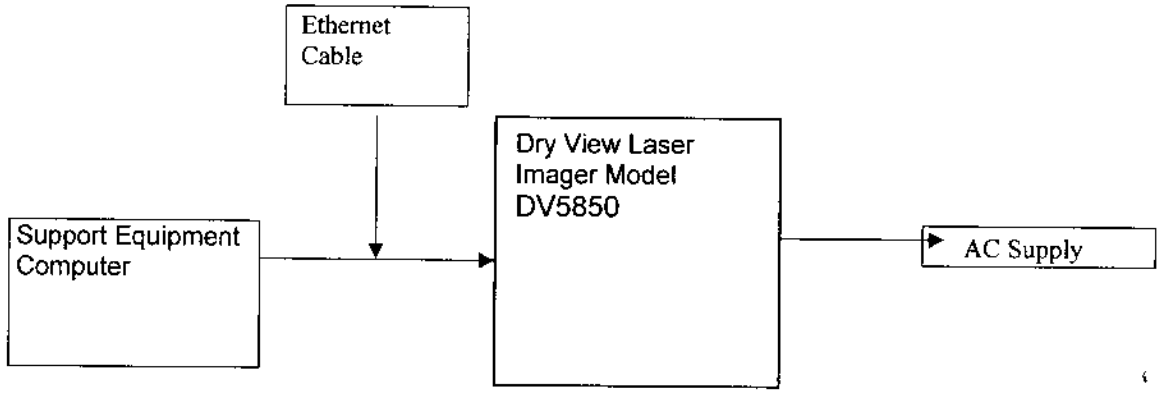
Cable see Fig. 1	Length (cm)	Shielded Yes/No	Description
A	10 Meters	N	Ethernet, 10/100 BaseT data transfer to Imager from the Test PC

Clock, Oscillator and Data Rate frequencies

Description	Assembly	Part Number	Crystal or Oscillator	Frequency
Data Path Board	**8F3353**	Below		
	5F4825	Ecera FX2400026	Crystal	24 MHz
	5F7691	NPX Semiconductor P89LPC935FA-S	Micro P	18 MHz
	5F4409	Cypress Semiconductor CY7C68013A-100AXC	Micro P	480 MHz
RF Antenna Board	**8F4239**	None		
Local Panel Board	**8F3073**	None		
	5F9186	Optrex Flat Panel Display F-5182GNFQJ-LB-ABN	Oscillator	22 KHz
	5F7958	NPX Semiconductor PL89LPC936FA	Micro P	18 MHz
Processor Control Board	**8F3386**	Below		
	5F7958	NPX Semiconductor PL89LPC936FA	Micro P	18 MHz
Densitometer Control Board	**8F3285**	Below		
	5F2928	Silicon Laboratories C8051F006GQ	Micro P	25 MHz
	5F7011	Epson America SG-636PCE 16.0000MCO:ROHS	Oscillator	16 MHz
Densitometer Light Source Bd.	**8F3282**	None		
End of Scan Detector Board	**2G3054**	None		
Start of Scan Detector Board	**2G2894**	None		

Film Path Micro-controller Board	**8F2972**	Below		
	5F4473	Citizen Crystal CS10-13.56MABJ-UT	Crystal	13.56 MHz
	5F7691	NXP Semiconductor P89LPC935FA-S	Micro P	18.0 MHz
	1F8343	NXP Semiconductor P89V664HBA	Micro P	33 MHz
	5F2742	Fox F3345-16.0MHZ or Valpey-Fischer VF5-16.0MHZ	Oscillator	16 MHz
BMC Motherboard Purchased as EBC5852-CB single board computer	**8F4279**	Below		
		Intel Celeron mFC-BGA 479 ULV	Micro P	1.0 GHz 400 MHz Bus
		Intel 82562ET	Communication	100 MHz
		Intelo Graphic Accelerator	Graphics	133 MHz 200 MHz

Cable Interconnections as tested, showing EUT and support equipment



9 Space and Power Requirements

9.1 Equipment under Test

The Dry View Laser Imager Model DV5850 hardware requires 6 square feet of area on a table (2 feet X 3 feet).

The unit under test requires power sources as shown in Table 11

9.2 Carestream Test Equipment Space and Power Requirements

The test equipment used for operating the unit under test requires space and power dedicated outside the test chamber.

The test equipment requires a minimum of 9 square feet of area. (3 feet X 3 feet).

The test equipment requires at least one standard 120 Volt 15 Amp outlet. This must be within 30 feet of the test equipment.

10 Test Set Up and Change-Over Times

10.1 Initial Equipment Set-Up Time

The equipment can be set up for testing in approximately 1/2 hours. This time includes unpacking the equipment, setting up the unit under test, and setting up a laptop PC to send images to the Imager.

Interconnecting the cables between the laptop and the EUT is not included in the ½ hour estimate. Connection time will be dependent on the test chamber configuration, and the wiring channel accessibility.

Another 25 minutes should be allowed for verifying the system is operating properly before any testing commences.

10.2 Configuration Change Time

The amount of time for changing the configurations of the EUT should be less than 5 minutes.

11 Summary Test Table

Test Type	Requirement	Mains Voltage	Test Lab
Radiated Emissions	47 CFR part 15 subpart B EN 55011:98 Class A VCCI (Japan)	230 V 50 Hz 100 V 60 Hz	TUV – Wild River Lab
Conducted Emissions	VCCI (Japan) 47 CFR part 15 subpart B EN 55011:98 Class A	230 V, 50 Hz 100 V 60 Hz	Same
Harmonic Current	EN 61000-3-2	230 V, 50 Hz	Same
Voltage Flicker	EN 61000-3-3	230 V, 50 Hz	Same

12 Testing Order

The Dry View Laser Imager Model 5850 will be tested in the order deemed most productive by the test agency with the following constraints, Radiated Emission tests will be first, Immunity Tests second, and lastly Intentional Radiator tests.

13 Pass / Fail Criteria

If any test fails, as time allows, diagnose, correct and retest OR diagnose and note then move on to the next test.

The DryView 5850 Imager shall pass the Radiated Emissions test by –4dB guard band. The DryView 5850 Imager must pass all other tests.

14 Other Items Required For The Test

Image Film

Appendix B

Measurement Protocol

MEASUREMENT PROTOCOL

GENERAL INFORMATION

Test Methodology

Emissions testing is performed according to the procedures in ANSI C63.4-2003 & the article “The Measurement of Occupied Bandwidth” by Industry Canada’s certification bureau

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system has a measurement uncertainty of ±1.8 dB. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. The test system has a measurement uncertainty of ±4.8 dB. The equipment comprising the test systems is 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 its 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, in dBμV, equals the EMI receiver level plus the cable loss and LISN factor.

Radiated Emissions

The final level, in dBμV/m, equals the reading from the spectrum analyzer (Level dBμV), adding the antenna correction factor and cable loss factor (Factor dB) to it, and subtracting the preamp gain (and duty cycle correction factor, if applicable). This result then has the limit subtracted from it to provide the Delta, which gives the tabular data as shown in the data sheets in Attachment A.

Example:

FREQ (MHz)	LEVEL (dBuV)		CABLE/ANT/PREAMP (dB)	(dB/m)	(dB)	FINAL (dBuV/m)		POL/HGT/AZ (m)	(deg)	DELTA1
60.80	42.5Qp	+	1.2	+ 10.9	- 25.5 =	29.1		V 1.0	0.0	-10.9

Test Equipment

All measurement instrumentation is traceable to the National Institute of Standards and Technology and is calibrated according to internal procedure.

DETAILS OF TEST PROCEDURES

Conducted Emissions

Conducted emissions on the 50 Hz and/or 60 Hz power interface of the EUT are measured in the frequency range of 150 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 μH (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.

Radiated Emissions

Radiated emissions in the frequency range of 10kHz to 30 MHz, including the fundamental transmit signal, are measured using a receiver capable of quasi-peak and average measurements and a magnetic loop antenna. The transmitter is rotated through 3 orthogonal axes in order to determine the maximum emission levels. If the signal cannot be measured at the specified limit distance, measurements are recorded at multiple distances nearer to the device and the final level mathematically extrapolated. 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. 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, 10 or 30 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.