

TEST REPORT

FCC Part 15 Subpart C Section 15.207, 15.107

FCC Part 15 Subpart C Section 15.209

IC RSS-210 Issue 8

IC RSS-Gen Issue 3

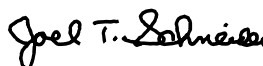
MANUFACTURER'S NAME	Rimage Corporation 7725 Washington Avenue South Minneapolis MN 55439
PRODUCT NAME	Prism III
MODEL NUMBER(S) TESTED	CDPR6
SERIAL NUMBER(S) TESTED	10033049
PRODUCT DESCRIPTION	Optical Disc Label Printer with 13.56 MHz RFID
TEST REPORT NUMBER	WC1209422.2
TEST DATE(S)	24 - 25 September 2012

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 "Low-power License-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: 17 October 2012

Location: Taylors Falls MN
USA



Joel T Schneider
Senior EMC Engineer



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Senior EMC Technician

Not Transferable

EMC TEST REPORT

Test Report No. WC1209422.2 Date of issue: 17 October 2012

Product Name Prism III

Model(s) Tested CDPR6

Serial No(s) Tested 10033049

Product Description Optical Disc Label Printer with 13.56 MHz RFID

Manufacturer Rimage Corporation
7725 Washington Avenue South
Minneapolis MN 55439

Test Result ☒ **Positive** ☐ **Negative**

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
	25	17 October 2012	Initial Release



DIRECTORY

Contents

Revision Record		<u>2</u>
Directory		<u>3</u>
Test Regulations		<u>4</u>
Environmental Conditions		<u>4</u>
Power Supply		<u>4</u>
Test Equipment Traceability		<u>4</u>
Test Information		<u></u>
General Field Strength Limits 0.009 – 30 MHz	FCC 15.209(a), (c). IC RSS-210 2.5, RSS-GEN 7.2.5	<u>5</u>
Radiated Emissions 30 - 1000 MHz & >1 GHz	FCC 15.209(c), (f). IC RSS-210 2.5	<u>6 - 8</u>
Occupied Bandwidth	RSS-Gen 4.6.1	<u>9 - 11</u>
Conducted limits - AC Power Lines	15.207(a), 15.107(b), IC RSS-Gen 7.2.4	<u>12 - 13</u>
Test-setup Photos		<u>14 - 16</u>
Equipment Under Test Information		<u>17</u>
General Remarks, Deviations, Summary		<u>18</u>
Appendix A		
CDPR6_TestPlanCDF		<u>19 - 25</u>

EMC TEST REGULATIONS:

The tests were performed according to the following regulations:

FCC Part 15 Subpart C §15.209

FCC Part 15 Subpart C Section 15.207 Paragraph (a)

IC RSS-210 Issue 8

IC RSS-Gen Issue 3

ENVIRONMENTAL CONDITIONS IN THE LAB

	<u>Actual</u>
Temperature:	: 18°C
Atmospheric pressure	: 98kPa
Relative Humidity	: 34%

POWER SUPPLY UTILIZED

Power supply system : 60 Hz – 110/220 VAC

TEST EQUIPMENT

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

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. 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 2.5, RSS-Gen 7.2.5

Test summary

The requirements are: ☒ - MET ☐ - NOT MET

Testing was performed in accordance with the test procedure of ANSI C63.4 2009, clause 8.2.2.

Maximum field strength of the fundamental is 13 dB μ V/m* or 4.47 μ V/m at 30 meters at 13.56 MHz.

Minimum margin of compliance of the fundamental is 16.5 dB.

No spurious emissions were detected in this range.

No unwanted emissions exceed the level of the fundamental.

Test location

☒ - Wild River Lab Large Test Site (Open Area Test Site)

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

Test distance

☒ - 10 meters

☒ - 3 meters

Test equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE10435	E4440A	Agilent	Spectrum Analyzer	MY44304483	14-Aug-13
NBLE02435	LP-105A	Singer	Magnetic Field Probe	1	Code Y
WRLE02534	ESHS-20	Rohde & Schwarz	EMI Receiver 9kHz-30MHz	837055/003	06-Jul-13
WRLE10863	N/A	TÜV SÜD America Inc	Test Companion Software Version 3.4.71	N/A	Code B 07-Oct-12

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

Test limit

Frequency (MHz)	Field strength μ V/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

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

Test Data

Frequency (MHz)	Detector	Distance 0.3 m	3.0 m	10.0 m	dB μ V/m 30 m	μ V/m 30 m	Limit dB μ V/m 30 m	Limit μ V/m 30 m	Delta (dB)
13.56	QP		43	28	13*	4.47*	29.5	30	-16.5

* Extrapolated value using 30 dB per decade fall off as indicated by measurements nf = noise floor

No other signals detected up to 30 MHz.

Radiated emissions in the frequency range of 10 kHz to 30 MHz, including the fundamental transmit signal, are measured using a receiver capable of quasi-peak/average/peak measurements and a magnetic loop antenna. The transmitter and loop antenna are 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. Measurements between 150 kHz and 30 MHz are made with a 9 kHz resolution bandwidth. Measurements between 9 kHz and 150 kHz are made with a 200 Hz resolution bandwidth.

Radiated Emissions 30 - 1000 MHz

FCC 15.209(c), FCC 15.209(f), IC RSS-210 2.5, RSS-Gen 7.2.5

Test summary

The requirements are: ■ - MET □ - NOT MET

Testing was performed in accordance with the test procedure of ANSI C63.4 2009, clause 8.3.

Maximum spurious emission due to transmitter is 20.57 dB μ V/m (10.7 μ V/m) at 10 meters at 108.5 MHz.

Minimum margin of compliance is 8.98 dB.

No radiated emissions were detected from the receiver.

Maximum spurious emission of incorporated digital device is 46.72 dB μ V/m (217 μ V/m) at 10 meters at 846.25 MHz.

Minimum margin of compliance is 0.28 dB. Note all levels within 6 dB of the limit are due to the print head motor, broadband noise.

Test location

Wild River Lab Large Test Site (Open Area Test Site)

Test distance

10 meters

Test Equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE03995	EM-6917B	Electro-Metrics	Biconicalog Periodic	151	07-Jun-13
OWLE02684	85650A	Hewlett-Packard	Quasi-Peak Adapter	2521A01006	28-Jun-13
WRLE02673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	30-May-13
WRLE03294	8566B	Hewlett-Packard	Spectrum Analyzer	2349A03098	30-May-13
WRLE02670	8447D	Hewlett-Packard	Preamplifier	2443A03954	Code B 06-Feb-13
WRLE10863	N/A	TÜV SÜD America Inc	Test Companion Software Version 3.4.71	N/A	Code B 07-Oct-12

Cal Code B = Calibration verification performed internally.

Limit for transmitter

Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Incorporated digital device/Receiver – Class A device

Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/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

The emission limits shown in the above tables are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§ 15.250, 15.252, 15.255, and 15.509–15.519, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

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 a 120 kHz / 6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz RBW/VBW / 6 dB bandwidth and peak detection, 1 MHz RBW / 10 Hz VBW for average detection. Table top equipment is placed on a non-conductive support 80 cm 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 is rotated 360 degrees. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB / decade (inverse linear-distance for field strength measurements).

Test data

Measurement summary for limit1: FCC 15.209 <1GHz 10m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	Delta to extrapolated limit (dB)
108.5 MHz	37.68 Qp	2.07 / 8.3 / 27.48 / 0.0	20.57	V / 1.00 / 0	-8.98

Limit is 100 uV/m (40 dBuV/m) at 3 meters, extrapolated to 29.55 dBuV/m at 10 meters

Measurement summary for limit1: FCC 15.109 - A <1GHz 10m (Qp) for incorporated digital device

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 CISPR-22- A <1GHz 10m (2005)
846.25 MHz	46.5 Qp	5.37 / 21.33 / 26.47 / 0.0	46.72	H / 1.00 / 90	-0.28
604.45 MHz	50.25 Qp	4.42 / 18.71 / 27.27 / 0.0	46.11	V / 2.60 / 0	-0.89
550.0 MHz	50.57 Qp	4.2 / 18.03 / 27.11 / 0.0	45.69	H / 1.00 / 90	-1.31
859.0 MHz	43.93 Qp	5.43 / 21.41 / 26.53 / 0.0	44.23	H / 1.00 / 90	-2.77
500.0 MHz	49.4 Qp	4.0 / 17.41 / 27.48 / 0.0	43.34	V / 3.00 / 90	-3.66
450.0 MHz	47.28 Qp	3.8 / 16.0 / 27.28 / 0.0	39.8	V / 3.00 / 90	-7.2
60.45 MHz	47.33 Qp	1.99 / 10.61 / 27.55 / 0.0	32.38	H / 3.00 / 180	-7.62
288.05 MHz	51.21 Qp	3.15 / 12.04 / 27.32 / 0.0	39.09	H / 2.90 / 200	-7.91
961.15 MHz	36.8 Qp	5.71 / 22.27 / 26.65 / 0.0	38.13	H / 1.00 / 180	-8.87
144.0 MHz	46.28 Qp	2.26 / 8.79 / 27.47 / 0.0	29.86	H / 3.00 / 270	-10.14
760.95 MHz	36.38 Qp	4.85 / 20.94 / 26.46 / 0.0	35.71	H / 1.00 / 90	-11.29
48.1 MHz	40.31 Qp	1.9 / 13.72 / 27.5 / 0.0	28.42	H / 3.00 / 180	-11.58
108.5 MHz	45.52 Qp	2.07 / 8.3 / 27.48 / 0.0	28.41	H / 3.00 / 270	-11.59
78.0 MHz	46.15 Qp	2.03 / 7.69 / 27.59 / 0.0	28.28	H / 3.00 / 180	-11.72
725.35 MHz	36.84 Qp	4.76 / 20.2 / 26.58 / 0.0	35.22	H / 1.00 / 90	-11.78
341.85 MHz	45.41 Qp	3.4 / 13.48 / 27.2 / 0.0	35.09	V / 1.00 / 0	-11.91
122.0 MHz	45.37 Qp	2.1 / 7.74 / 27.44 / 0.0	27.77	V / 1.00 / 0	-12.23
87.3 MHz	46.17 Qp	2.04 / 6.95 / 27.55 / 0.0	27.6	H / 3.00 / 180	-12.4
384.0 MHz	42.51 Qp	3.54 / 15.09 / 27.35 / 0.0	33.79	H / 1.00 / 0	-13.21
74.1 MHz	43.2 Qp	2.02 / 8.18 / 27.6 / 0.0	25.8	H / 3.00 / 270	-14.2
44.0 MHz	35.56 Qp	1.87 / 14.7 / 27.56 / 0.0	24.57	V / 1.00 / 180	-15.43
192.0 MHz	39.31 Qp	2.63 / 9.95 / 27.37 / 0.0	24.53	V / 1.00 / 90	-15.47
400.05 MHz	39.33 Qp	3.6 / 15.8 / 27.39 / 0.0	31.34	V / 1.00 / 0	-15.66
214.75 MHz	37.98 Qp	2.74 / 10.21 / 27.3 / 0.0	23.62	H / 3.00 / 0	-16.38
130.0 MHz	41.32 Qp	2.14 / 7.3 / 27.41 / 0.0	23.35	V / 1.00 / 0	-16.65
123.8 MHz	40.69 Qp	2.1 / 7.64 / 27.43 / 0.0	23.0	H / 3.00 / 0	-17.0
168.0 MHz	39.18 Qp	2.46 / 8.75 / 27.44 / 0.0	22.95	H / 3.00 / 270	-17.05
176.95 MHz	38.07 Qp	2.53 / 9.2 / 27.41 / 0.0	22.39	H / 3.00 / 0	-17.61

Radiated Emissions > 1000 MHz

FCC 15.209(c), FCC 15.209(f), IC RSS-210 2.5, RSS-Gen 7.2.5

Test summary

The requirements are: ■ - NOT APPLICABLE □ - NOT MET
Highest operating frequency listed as 48 MHz.

Test location

Wild River Lab Large Test Site (Open Area Test Site)

Test distance

10 meters

Test Equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
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Cal Code B = Calibration verification performed internally.

Limit for transmitter

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Incorporated digital device/Receiver – Class A device

Frequency (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

The emission limits shown in the above tables are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§ 15.250, 15.252, 15.255, and 15.509–15.519, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

Test data

Not applicable

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 = 880 Hz

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
WRLE10435	E4440A	Agilent	Spectrum Analyzer	MY44304483	14-Aug-13
NBLE02241	SM-8C MiniMax	Thermotron	8 Cu Ft Temp/Hum Chamber	11754-S	08-Jul-12
NBLE08284	3PN1520	Staco	Variac 240V	8284	Code Y
NBLE03315	111	Fluke	Multimeter True RMS TA6	82710590	15-May-13
NBLE02435	LP-105A	Singer	Magnetic Field Probe	1	Code Y
NBLE03709	RG223-09	TUV	Cable BNC 10ft	10ft-09	03-Nov-12
WRLE02534	ESHS-20	Rohde & Schwarz	EMI Receiver 9kHz-30MHz	837055/003	06-Jul-13
WRLE10863	N/A	TÜV SÜD America Inc	Test Companion Software Version 3.4.71	N/A	Code B 07- Oct-12

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

Test limit

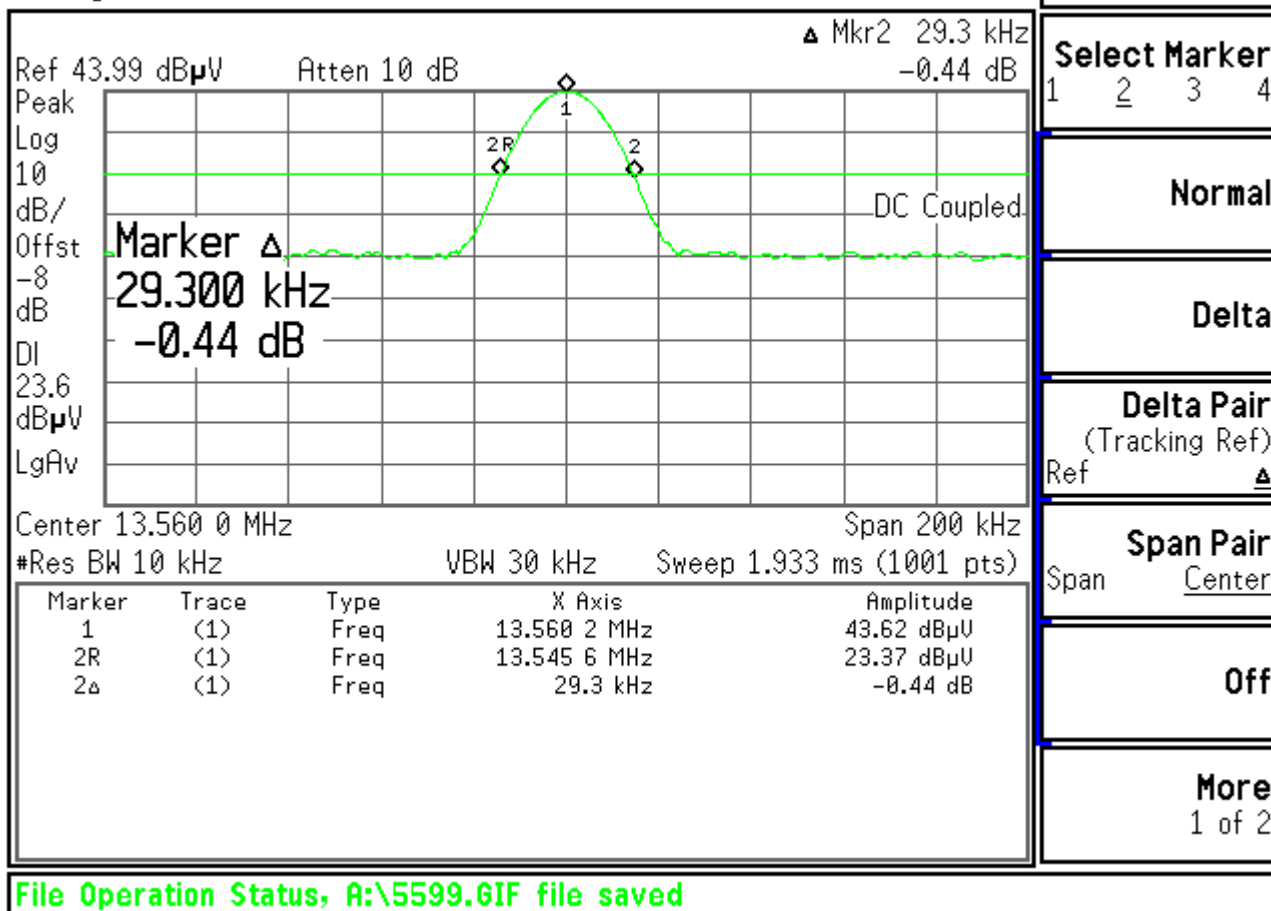
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Test data

See following pages

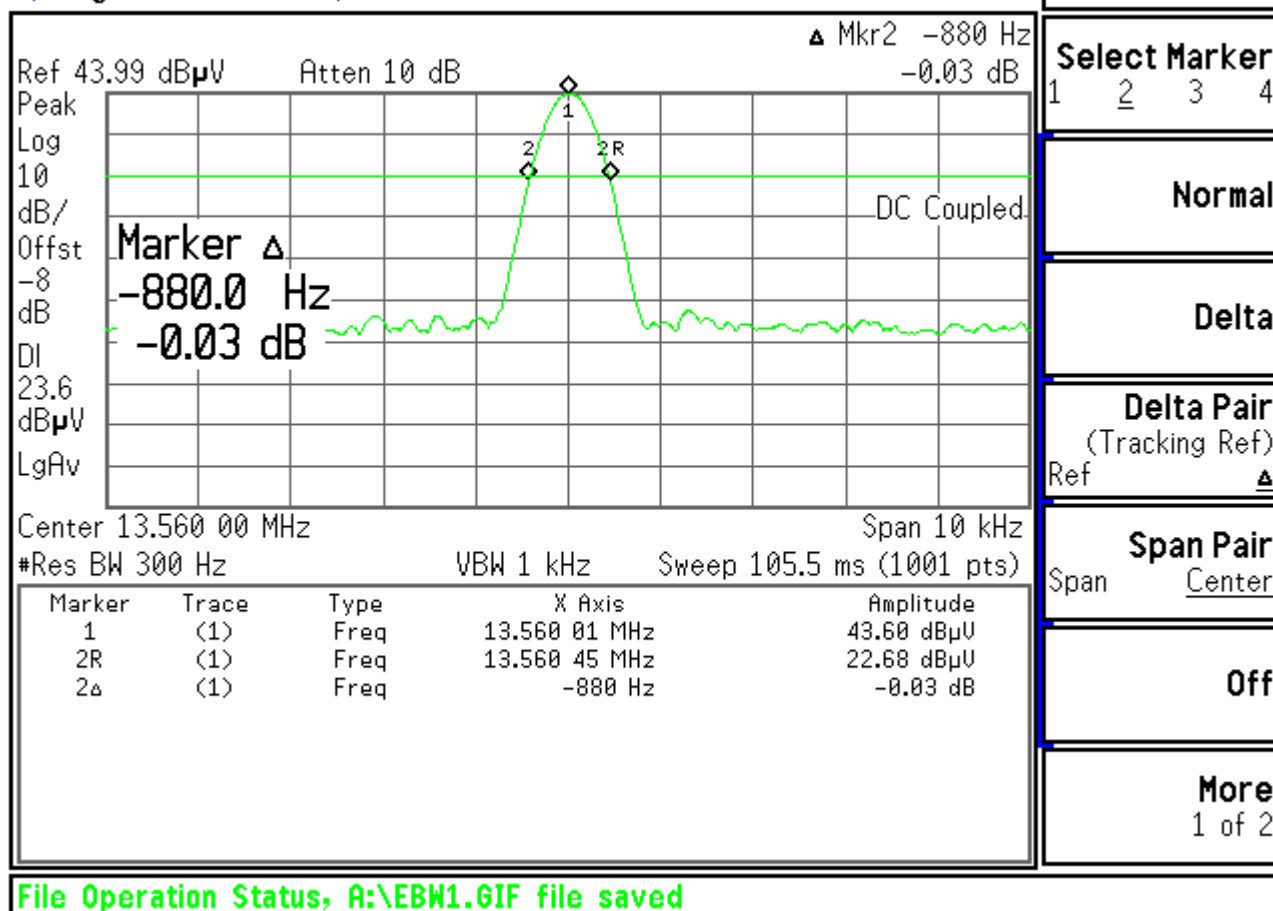
99% Occupied bandwidth
1 of 2

Agilent 11:41:48 Sep 25, 2012



99% Occupied bandwidth
2 of 2

Agilent 11:44:35 Sep 25, 2012



Conducted Emissions - AC Power Lines

FCC 15.207(a), 15.107(b), IC RSS-Gen 7.2.4

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 2.37 dB at 13.56 MHz – quasi-peak

Minimum margin of compliance is 2.03 dB at 13.56 MHz – average

Test location

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

□ - Wild River Lab Small Test Site (Open Area Test Site)

Test equipment used:

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE10946	FCC-LISN-50-25-2-10	Fischer Custom Comm	LISN	120310	25-May-13
WRLE10947	FCC-LISN-50-25-2-10	Fischer Custom Comm	LISN	120311	25-May-13
WRLE02534	ESHS-20	Rohde & Schwarz	EMI Receiver 9kHz-30MHz	837055/003	06-Jul-13
WRLE10863	N/A	TÜV SÜD America Inc	Test Companion Software Version 3.4.71	N/A	Code B 07-Oct-12

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

Test limits, dB μ V – Class B

Frequency (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 limits – Class A for incorporated digital device

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15–0.5	79	66
0.5–30	73	60

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 (9 kHz resolution bandwidth) and quasi-peak/average 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.

Test data

See following pages

Measurement summary for limit1: FCC 15.207 B Qp (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV)	EUT Lead	DELTA1 CISPR22 B Qp
13.56 MHz	56.67 Qp	0.94 / 0.02 / 0.0 / 0.0	57.63	L1	-2.37
17.88 MHz	41.17 Qp	1.08 / 0.04 / 0.0 / 0.0	42.29	L2	-17.71
183.45 kHz	45.35 Qp	0.11 / -0.24 / 0.0 / 0.0	45.22	L1	-19.1
542.87 kHz	32.28 Qp	0.14 / -0.13 / 0.0 / 0.0	32.29	L1	-23.71
368.02 kHz	32.43 Qp	0.13 / -0.19 / 0.0 / 0.0	32.37	L1	-26.17
273.56 kHz	34.59 Qp	0.12 / -0.21 / 0.0 / 0.0	34.5	L1	-26.51
4.53 MHz	28.94 Qp	0.46 / 0.0 / 0.0 / 0.0	29.4	L2	-26.6
1.08 MHz	26.06 Qp	0.19 / 0.0 / 0.0 / 0.0	26.25	L1	-29.75
822.09 kHz	21.42 Qp	0.17 / -0.05 / 0.0 / 0.0	21.53	L2	-34.47
30.0 MHz	22.98 Qp	1.4 / 0.1 / 0.0 / 0.0	24.48	L1	-35.52
6.04 MHz	22.54 Qp	0.58 / 0.0 / 0.0 / 0.0	23.12	L1	-36.88
150.0 kHz	20.18 Qp	0.11 / -0.25 / 0.0 / 0.0	20.04	L2	-45.96
978.0 kHz	49.74 Qp	0.19 / 0.2 / 0.0 / 0.0	50.13	L1	-22.87
330.0 kHz	54.1 Qp	0.11 / 0.1 / 0.0 / 0.0	54.31	L1	-24.69

Measurement summary for limit2: FCC 15.207 B Avg (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV)	EUT Lead	DELTA2 CISPR22 B Avg
13.56 MHz	47.01 Av	0.94 / 0.02 / 0.0 / 0.0	47.97	L1	-2.03
17.88 MHz	34.88 Av	1.08 / 0.04 / 0.0 / 0.0	36.0	L2	-14.0
183.45 kHz	38.85 Av	0.11 / -0.24 / 0.0 / 0.0	38.72	L2	-15.6
4.53 MHz	26.37 Av	0.46 / 0.0 / 0.0 / 0.0	26.83	L2	-19.17
1.08 MHz	25.73 Av	0.19 / 0.0 / 0.0 / 0.0	25.92	L1	-20.08
273.56 kHz	29.71 Av	0.12 / -0.21 / 0.0 / 0.0	29.62	L1	-21.39
542.87 kHz	23.39 Av	0.14 / -0.13 / 0.0 / 0.0	23.4	L1	-22.6
368.02 kHz	21.38 Av	0.13 / -0.19 / 0.0 / 0.0	21.32	L1	-27.22
822.09 kHz	17.5 Av	0.17 / -0.05 / 0.0 / 0.0	17.61	L2	-28.39
6.04 MHz	19.1 Av	0.58 / 0.0 / 0.0 / 0.0	19.68	L1	-30.32
30.0 MHz	-2.83 Av	1.4 / 0.1 / 0.0 / 0.0	-1.33	L1	-51.33
150.0 kHz	1.79 Av	0.11 / -0.25 / 0.0 / 0.0	1.65	L1	-54.35

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:

Test Specification Deviations: Additions to or Exclusions from:

- ☒ None
- ☐ As indicated in the Test Plan

SUMMARY:

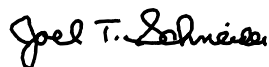
The requirements according to the technical regulations are

- ☒ - 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:	<u>24 September 2012</u>
Condition of EUT:	<u>Normal</u>
Testing Start Date:	<u>24 September 2012</u>
Testing End Date:	<u>25 September 2012</u>

TÜV SÜD AMERICA INC

Tested by:



Joel T Schneider
Senior EMC Engineer

Approved by:



Greg S Jakubowski
Senior EMC Technician

Appendix A

Constructional Data Form



Form



EMC Test Plan and Constructional Data Form

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE. IF TESTING RESULTS IN MODIFICATIONS TO THE EQUIPMENT, PLEASE SUBMIT A REVISED TP/CDF INDICATING THOSE MODIFICATIONS.
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: Rimage Corporation
Address: 7725 Washington Avenue South
Minneapolis, Minnesota 55439
Contact: Zahid Taufiq Position: Reliability/Compliance Engineer
Phone: 952-944-8144 Fax: 952-944-7808
E-mail Address: zahid.taufiq@rimage.com

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

EUT Description Optical Disc Label Printer
EUT Name Prism III
Model No.: CDPR6 Serial No.: _____
Product Options: Prism III Disc Printer
Configurations to be tested: Autoprinter III with Prism III Disc Printer

Equipment Modification (If applicable, indicate modifications since EUT was last tested. If modifications are made during this testing, submit revised TP/CDF after testing is complete.)

Modifications since last test: RFID (13.56MHz, ISO-15693)
Modifications made during test: _____

Test Objective(s): Please indicate the tests to be performed, entering the applicable standard(s) where noted.

- | | |
|---|--|
| <input checked="" type="checkbox"/> EMC Directive 2004/108/EC (EMC)
Std: _____ | <input checked="" type="checkbox"/> FCC: Class <input checked="" type="checkbox"/> A <input type="checkbox"/> B Part <u>15</u> |
| <input type="checkbox"/> Machinery Directive 89/392/EEC (EMC)
Std: _____ | <input checked="" type="checkbox"/> VCCI: Class <input checked="" type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> Medical Device Directive 93/42/EEC (EMC)
Std: _____ | <input checked="" type="checkbox"/> BSMI: Class <input checked="" type="checkbox"/> A <input type="checkbox"/> B (Separate Report) |
| <input type="checkbox"/> Vehicle Directive - 2004/104/EC (EMC)
<input type="checkbox"/> Other Vehicle Std: _____ | <input checked="" type="checkbox"/> Canada: Class <input checked="" type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> FDA Reviewers Guidance for Premarket Notification Submissions (EMC) | <input checked="" type="checkbox"/> Australia: Class <input checked="" type="checkbox"/> A <input type="checkbox"/> B |
| | <input checked="" type="checkbox"/> Other: <u>Korea</u> |
| | <input type="checkbox"/> Ag Directive *2009/64/EC (EMC) |

Form



EMC Test Plan and Constructional Data Form

Third Party Certification (contact TÜV for quote), if applicable (*Signature on last page required).

<input type="checkbox"/> Attestation of Compliance (AoC)*	<input type="checkbox"/> EMC Certification (used with Octagon Mark)*
<input checked="" type="checkbox"/> Statement of Compliance (SoC, previously CoC)* - All aspects of the essential requirements were assessed	
Protection Class (Req'd for AoC, SoC, EMC Cert. N/A for vehicles) <input checked="" 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.)	
<input checked="" type="checkbox"/> FCC / TCB Certification	<input checked="" type="checkbox"/> Taiwan Certification
<input checked="" type="checkbox"/> Industry Canada / FCB Certification	<input checked="" type="checkbox"/> Korean Certification
<input type="checkbox"/> e-Mark Certification	

Attendance

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

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

If a failure occurs, TÜV SÜD America 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: 14" Width: 8.5" Height: 6.0" Weight: 20lb

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: 100-240, 60/50 (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: 1

Current (Amps/phase(max)): 1.1A Current (Amps/phase(nominal)): 0.55A

Other _____

Other Special Requirements

Typical Installation and/or Operating Environment

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

This equipment is typically used in commercial and light industrial environments.

EUT Power Cable

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

Form



EMC Test Plan and Constructional Data Form

EUT Interface Ports and Cables													
Type	Analog	Digital	During Test		Qty	Shielding		Termination	Connector Type	Port Termination	Length tested (in meters)	Removable	Permanent
			Active	Passive		Yes	No						
EXAMPLE:													
RS232	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>
VGA Monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			15 pin D-sub		2	<input checked="" type="checkbox"/> <input type="checkbox"/>
Keyboard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			USB		2	<input checked="" type="checkbox"/> <input type="checkbox"/>
Mouse	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>			USB		2	<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"/>
	<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"/>

Form



EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level:

Description: Cycle test that continuously moves and prints discs and exercises the data interface to the recorders.

Equipment Under Test (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 TUV Product Service Representative if additional assistance is required.

1. Cycle test that continuously moves and prints discs and exercises the data interface to the recorders
- 2.
- 3.

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

Description	Model #	Serial #	FCC ID #
Prism III Disc Printer	CDPR6		

Form



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)
This information is required for FCC & Taiwan testing.

<i>Description</i>	<i>Model #</i>	<i>Serial #</i>	<i>FCC ID #</i>
Autoprinter III	RAS25		
DELL Computer	Optiplex 780		

Oscillator Frequencies

<i>Manufacturer</i>	<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>
	48 MHz		On Prism III printer	Master oscillator for printer.
	13.56 MHz		RFID board	RFID tagging

Power Supply

<i>Manufacturer</i>	<i>Model #</i>	<i>Serial #</i>	<i>Type</i>
Lambda	JWS50 - 24/C		<input checked="" type="checkbox"/> Switched-mode: (Frequency) <u>140kHz</u> <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>

Form



EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)

Description	Manufacturer	Part # or Value	Qty	Component # / Location

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

PLEASE ENTER NAMES BELOW (INSERT ELECTRONIC SIGNATURE IF POSSIBLE)

Authorization (Signature Required if a Third Party Certification is checked on pg 1)

Zahid Taufiq

Customer authorization to perform tests
according to this test plan.

Date

Test Plan/CDF Prepared By (please print)

Date