



Engineering and Testing for EMC and Safety Compliance

LIMITED MODULAR APPROVAL CERTIFICATION APPLICATION REPORT FCC PART 15.249 & INDUSTRY CANADA RSS-210

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FCC ID:	PVTTR800-US	GRANTEE FRN NUMBER:	0007901838
PLAT FORM:	N/A	RTL WORK ORDER NUMBER:	2004079
MODEL(S):	TR800	RTL QUOTE NUMBER:	QRTL04-148
DATE OF TEST REPORT:	July 8, 2004		
FCC Classification:	DSR – Part 15 Remote Control		
FCC Rule Part(s):	Part 15.249: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5850 MHz, and 24.0-24.25 GHz		
Industry Canada Standard:	RSS-210: Low Power License-Exempt Radio Communication Devices (All Frequency Bands)		
Digital Interface Information	Digital Interface was found to be compliant		
Receiver Information	Receiver was found to be compliant		
Frequency Range (MHz)	Output Power (W)	Frequency Tolerance	Emission Designator
902.5 - 927.45	0.0006	N/A	9K30DSR

I, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. Modifications made to the equipment during testing, in order to achieve compliance with these standards, are listed in the report.

Furthermore, there was no deviation from, additions to, or exclusions from the FCC Part 2, FCC Part 15, Industry Canada RSS-210, ANSI C63.4

Signature: 

Date: July 8, 2004

Typed/Printed Name: Desmond A. Fraser

Position: President

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TABLE OF CONTENTS

1	GENERAL INFORMATION	5
1.1	SCOPE	5
1.2	MODIFICATIONS	5
1.3	TEST FACILITY	5
1.4	RELATED SUBMITTAL(S)/GRANT(S)	5
2	TEST INFORMATION	6
2.1	TEST JUSTIFICATION	6
2.2	EXERCISING THE EUT	6
2.3	TEST RESULT SUMMARY	6
2.4	TEST SYSTEM DETAILS	7
2.5	CONFIGURATION OF TESTED SYSTEM	8
3	CONDUCTED LIMITS - §15.207	9
3.1	TEST METHODOLOGY FOR CONDUCTED EMISSIONS MEASUREMENTS	9
3.2	CONDUCTED EMISSION TEST	9
3.3	CONDUCTED EMISSION TEST DATA	10
4	DUTY CYCLE CALCULATION	16
5	RADIATED EMISSION LIMITS FUNDAMENTAL EMISSIONS	18
5.1	RADIATED EMISSION LIMITS TEST PROCEDURE	18
5.2	RADIATED EMISSION LIMITS TEST DATA	18
6	RADIATED EMISSION LIMITS RADIATED HARMONICS - §15.249	20
6.1	RADIATED EMISSION LIMITS TEST PROCEDURE	20
6.2	RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA S/N 2303722	20
6.3	RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA S/N 2303723	23
6.4	RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA S/N 2303724	26
6.5	RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA AER-915	29
6.6	TEST EQUIPMENT USED FOR TESTING	32
7	CONCLUSION	33
8	INDUSTRY CANADA - MODULATED BANDWIDTH	51
8.1	MODULATED BANDWIDTH TEST PROCEDURE	51
8.2	TEST EQUIPMENT USED FOR TESTING	51
8.3	MODULATED BANDWIDTH TEST DATA	51
8.4	MODULATED BANDWIDTH PLOTS	52
8.5	RADIATED RECEIVER/DIGITAL EMISSION DATA	55

TABLE INDEX

TABLE 2-1:	TEST RESULT SUMMARY WITH FCC RULES AND REGULATIONS	6
TABLE 2-2:	EQUIPMENT UNDER TEST (EUT)	7
TABLE 2-3:	EXTERNAL COMPONENTS IN TEST CONFIGURATION	7
TABLE 3-1:	CONDUCTED SPURIOUS EMISSIONS TEST EQUIPMENT	9
TABLE 3-2:	CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 1; TM70/1.13	10
TABLE 3-3:	CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 1; TM70/1.13	10
TABLE 3-4:	CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 35; TM70/1.13	11
TABLE 3-5:	CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 35; TM70/1.13	11
TABLE 3-6:	CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 70; TM70/1.13	12
TABLE 3-7:	CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 70; TM70/1.13	12
TABLE 3-8:	CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 1; TM70/2.21	13
TABLE 3-9:	CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 1; TM70/2.21	13
TABLE 3-10:	CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 35; TM70/2.21	14
TABLE 3-11:	CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT; CH 35; TM70/2.21	14
TABLE 3-12:	CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 70; TM70/2.21	15
TABLE 3-13:	CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT; CH 70; TM70/2.21	15
TABLE 5-1:	RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA S/N 2303722	18
TABLE 5-2:	RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA S/N 2303723	18
TABLE 5-3:	RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA S/N 2303724	18
TABLE 5-4:	RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA MODEL AER-915	19
TABLE 6-1:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)	20
TABLE 6-2:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)	21
TABLE 6-3:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)	22
TABLE 6-4:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)	23
TABLE 6-5:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)	24
TABLE 6-6:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)	25
TABLE 6-7:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)	26
TABLE 6-8:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)	27
TABLE 6-9:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)	28
TABLE 6-10:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)	29
TABLE 6-11:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)	30
TABLE 6-12:	RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)	31
TABLE 6-13:	RADIATED SPURIOUS EMISSIONS TEST EQUIPMENT	32
TABLE 8-1:	TEST EQUIPMENT USED FOR TESTING (MODULATED BANDWIDTH)	51
TABLE 8-2:	MINIMUM 6 DB MODULATED BANDWIDTHS	51
TABLE 8-3:	RADIATED RECEIVER/DIGITAL EMISSION DATA - MODEL: TM70/1.13	55
TABLE 8-4:	RADIATED RECEIVER/DIGITAL EMISSION DATA - MODEL: TM70/1.13 HANDHELD	56
TABLE 8-5:	RADIATED RECEIVER/DIGITAL EMISSION DATA - MODEL: TM70/2.21	57
TABLE 8-6:	RADIATED RECEIVER/DIGITAL EMISSION DATA - MODEL: TM70/2.21 HANDHELD	58

FIGURE INDEX

FIGURE 2-1:	WORST CASE CONFIGURATION OF SYSTEM UNDER TEST	8
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PLOT INDEX

PLOT 4-1:	PULSE SPACING	16
PLOT 4-2:	PULSE WIDTH	17
PLOT 8-1:	MODULATED BANDWIDTH CHANNEL 1	52
PLOT 8-2:	MODULATED BANDWIDTH CHANNEL 35	53
PLOT 8-3:	MODULATED BANDWIDTH CHANNEL 70	54

APPENDIX INDEX

APPENDIX A:	ANTENNA SPECIFICATIONS.....	34
APPENDIX B:	AGENCY AUTHORIZATION LETTER	35
APPENDIX C:	CONFIDENTIALITY REQUEST LETTER.....	36
APPENDIX D:	ATTESTATION LETTER	37
APPENDIX E:	PRODUCT DESCRIPTION	38
APPENDIX F:	LABEL AND LABEL LOCATION	39
APPENDIX G:	SCHEMATIC	40
APPENDIX H:	BLOCK DIAGRAM.....	41
APPENDIX I:	MANUAL	42
APPENDIX J:	TEST PHOTOGRAPHS	43
APPENDIX K:	EXTERNAL PHOTOGRAPHS	49
APPENDIX L:	INTERNAL PHOTOGRAPHS	50
APPENDIX M:	ADDITIONAL INFORMATION FOR CANADIAN CERTIFICATION.....	51

PHOTOGRAPH INDEX

PHOTOGRAPH 1:	CONDUCTED EMISSION BACK VIEW; TM70/1.13.....	43
PHOTOGRAPH 2:	CONDUCTED EMISSION BACK VIEW; TM70/1.13.....	44
PHOTOGRAPH 3:	CONDUCTED EMISSION FRONT VIEW; TM70/2.21	45
PHOTOGRAPH 4:	CONDUCTED EMISSION BACK VIEW TM70/2.21.....	46
PHOTOGRAPH 5:	RADIATED EMISSION FRONT VIEW WORST CASE CONFIGURATION	47
PHOTOGRAPH 6:	RADIATED EMISSION REAR VIEW WORST CASE CONFIGURATION.....	48

1 GENERAL INFORMATION

1.1 SCOPE

FCC Rules Part 15.249: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5850 MHz, and 24.0-24.25 GHz.

IC RSS-210 Section 6.2.2(m2): 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.

1.2 MODIFICATIONS

To achieve passing results, the power was lowered by changing resistors R16 from 8.2 to 39 ohm and R15 from 12K to 100K ohm.

1.3 TEST FACILITY

The open area test site and conducted measurement facility used to collect the radiated data is located at 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report and approved by the Federal Communication Commission to perform AC line conducted and radiated emissions testing (ANSI C63.4 2001).

1.4 RELATED SUBMITTAL(S)/GRANT(S)

This is an original certification application for limited modular approval for Model Number: TR800, FCC ID: PVTTR800-US. The IF, LO, and up to the 2nd LO, were investigated and tested, and found to be compliant. Verification Reports have been completed, and are on file.

2 TEST INFORMATION

2.1 TEST JUSTIFICATION

The EUT was tested in all three orthogonal planes in order to determine worst-case emissions. Channel 1 at 902.5 MHz, Channel 35 at 915.7 MHz, and Channel 70 at 927.45 MHz, were tested and investigated from 9 kHz to 10 GHz. Data for all three channels are presented in this report. The test results relate only to the item(s) that was tested.

The EUT contains an antenna; in order to complete the configuration required for a limited modular approval, the transmitter was tested with the module separately wired from a test platform configured from an Ikusi model TM70/1.13 PCB with 4 external antennas, for the handheld and fixed units of the TM70/1.13 and TM70/2.21 Ikusi models. The antennas transmit, receive, and are connected, to the only antenna port available.

2.2 EXERCISING THE EUT

The EUT was provided with the software to continuously transmit during testing. The carrier was also checked to verify that the information was being transmitted. There were no deviations from the test standard(s) and/or methods.

2.3 TEST RESULT SUMMARY

TABLE 2-1: TEST RESULT SUMMARY WITH FCC RULES AND REGULATIONS

STANDARD	TEST	PASS/FAIL OR N/A
FCC 15.207	Conducted Emissions	Pass
FCC 15.249(a)	Radiated Emissions	Pass

2.4 TEST SYSTEM DETAILS

The test sample was received by Rhein Tech Labs on May 17, 2004. The FCC Identifiers for all equipment, plus descriptions of all cables used in the tested system, are:

TABLE 2-2: EQUIPMENT UNDER TEST (EUT)

Part	Manufacturer	Model	Serial Number	FCC ID	Cable Description	RTL Bar Code
MODULE	IKUSI	LE71	0404454	PVTTR800	N/A	015922
MODULE	IKUSI	LE71	0404454	PVTTR800	N/A	015921
ANTENNA	IKUSI	FOR LE72	2303723	NA	0.13M SHIELDED	015917
ANTENNA	IKUSI	FOR LE71	2303722	NA	0.06M SHIELDED	015916
ANTENNA	IKUSI	FOR RC	2303724	NA	0.06M SHIELDED	015915
ANTENNA	IKUSI	AER-915	NA	NA	0.22M SHIELDED	015937
BATTERY	IKUSI	BT06K	1103	NA	N/A	015914
BATTERY	IKUSI	BT06K	0903	NA	N/A	015913
BATTERY	IKUSI	BT06K	0903	NA	N/A	015912
BATTERY	IKUSI	BT06K	1103	NA	N/A	015911
TRANSCEIVER	IKUSI	TM70/1.13	0404454	NA	1M UNSHIELDED POWER	015910
HANDHELD TRANSCEIVER	IKUSI	TM70/1.13	0404454	NA	N/A	015909
TRANSCEIVER	IKUSI	TM70/2.21	0404455	NA	1M UNSHIELDED POWER	015906
HANDHELD TRANSCEIVER	IKUSI	TM70/2.21	0404455	NA	N/A	015905

TABLE 2-3: EXTERNAL COMPONENTS IN TEST CONFIGURATION

Part	Manufacturer	Model	Serial Number	FCC ID	Cable Description	RTL Bar Code
CHARGER FOR HANDHELD BATTERIES	IKUSI	CB60	NA	NA	NA	015908
CHARGER FOR HANDHELD BATTERIES	IKUSI	CB60	NA	NA	NA	015907

2.5 CONFIGURATION OF TESTED SYSTEM

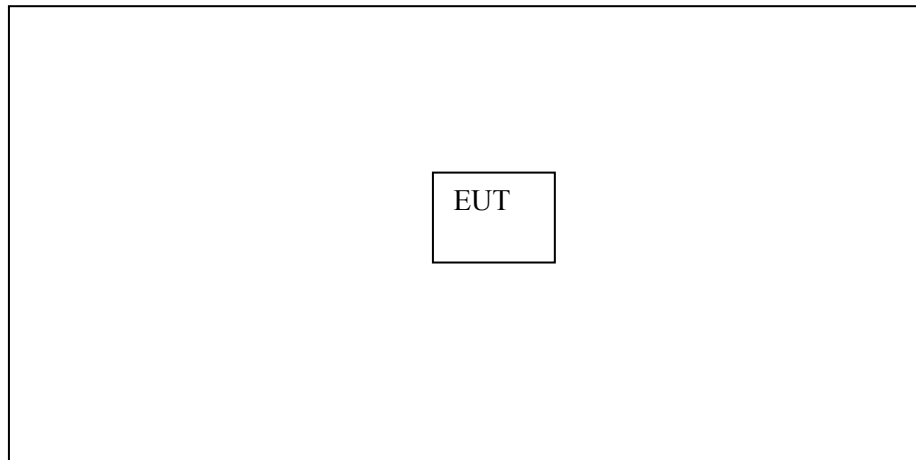


FIGURE 2-1: WORST CASE CONFIGURATION OF SYSTEM UNDER TEST

3 CONDUCTED LIMITS - §15.207

3.1 TEST METHODOLOGY FOR CONDUCTED EMISSIONS MEASUREMENTS

The power line conducted emission measurements were performed in a Series 81 type shielded enclosure manufactured by Rayproof. The EUT was assembled on a wooden table 80 centimeters high. Power was fed to the EUT through a 50 ohm / 50 microHenry Line Impedance Stabilization Network (EUT LISN). The EUT LISN was fed power through an A.C. filter box on the outside of the shielded enclosure. The filter box and EUT LISN housing are bonded to the ground plane of the shielded enclosure. A second LISN, the peripheral LISN, provides isolation for the EUT test peripherals. This peripheral LISN was also fed A.C. power. A metal power outlet box, which is bonded to the ground plane and electrically connected to the peripheral LISN, powers the EUT host peripherals.

The spectrum analyzer was connected to the A.C. line through an isolation transformer. The 50-ohm output of the EUT LISN was connected to the spectrum analyzer input through a Solar high-pass filter. The filter is used to prevent overload of the spectrum analyzer from noise below 150 kHz. Conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The analyzer's 6 dB bandwidth was set to 9 kHz. No video filter less than 10 times the resolution bandwidth was used. Average measurements are performed in linear mode using a 10 kHz resolution bandwidth, a 1 Hz video bandwidth, and by decreasing the sweep time in order to obtain a calibrated measurement. The emission spectrum was scanned from 150 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in this report.

Note: Rhein Tech Laboratories, Inc. has implemented procedures to minimize errors that occur from test instruments, calibration, procedures, and test setups. Test instrument and calibration errors are documented from the manufacturer or calibration lab. Other errors have been defined and calculated within the Rhein Tech quality manual, section 6.1. Rhein Tech implements the following procedures to minimize errors that may occur: yearly as well as daily calibration methods, technician training, and emphasis to employees on avoiding error.

3.2 CONDUCTED EMISSION TEST

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. If the conducted emissions exceed the limit with the instrument set to the quasi-peak mode, then measurements are made in the average mode. The conducted test was performed with the EUT exercise program loaded, and the emissions were scanned between 150 kHz to 30 MHz on the NEUTRAL SIDE and PHASE SIDE.

TABLE 3-1: CONDUCTED SPURIOUS EMISSIONS TEST EQUIPMENT

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz - 22 GHz)	3138A07771	5/12/05
901082	AFJ International	LS16	16A LISN	16010020081	11/5/04

3.3 CONDUCTED EMISSION TEST DATA

TABLE 3-2: CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 1; TM70/1.13

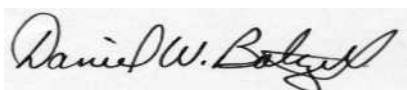
Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.155	Pk	30.2	2.0	32.2	65.7	-33.5	55.7	-23.5	Pass	
0.178	Pk	29.8	1.8	31.6	64.6	-33.0	54.6	-23.0	Pass	
0.243	Pk	27.6	1.4	29.0	62.0	-33.0	52.0	-23.0	Pass	
0.287	Pk	24.7	1.1	25.8	60.6	-34.8	50.6	-24.8	Pass	
0.722	Pk	19.7	0.9	20.6	56.0	-35.4	46.0	-25.4	Pass	
14.490	Pk	15.5	3.4	18.9	60.0	-41.1	50.0	-31.1	Pass	

TABLE 3-3: CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 1; TM70/1.13

Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.150	Pk	30.4	2.0	32.4	66.0	-33.6	56.0	-23.6	Pass	
0.208	Pk	26.2	1.6	27.8	63.3	-35.5	53.3	-25.5	Pass	
0.259	Pk	21.8	1.3	23.1	61.5	-38.4	51.5	-28.4	Pass	
0.287	Pk	24.6	1.1	25.7	60.6	-34.8	50.6	-24.9	Pass	
0.725	Pk	19.2	0.9	20.1	56.0	-35.9	46.0	-25.9	Pass	
15.790	Pk	17.1	3.5	20.6	60.0	-39.4	50.0	-29.4	Pass	

TEST PERSONNEL:

Daniel Baltzell
Test Engineer



Signature

May 27, 2004
Date Of Test

TABLE 3-4: CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 35; TM70/1.13

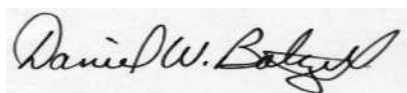
Temperature: 74°F					Humidity: 44%					
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/ Fail	Comments
0.154	Pk	28.5	2.0	30.5	65.8	-35.3	55.8	-25.3	Pass	
0.170	Pk	29.3	1.9	31.2	65.0	-33.8	55.0	-23.8	Pass	
0.202	Pk	26.9	1.6	28.5	63.5	-35.0	53.5	-25.0	Pass	
0.243	Pk	27.8	1.4	29.2	62.0	-33.0	52.0	-22.8	Pass	
0.720	Pk	17.5	0.9	18.4	56.0	-37.6	46.0	-27.6	Pass	
12.430	Pk	16.8	3.1	19.9	60.0	-40.1	50.0	-30.1	Pass	

TABLE 3-5: CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 35; TM70/1.13

Temperature: 74°F					Humidity: 44%					
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/ Fail	Comments
0.155	Pk	30.1	2.0	32.1	65.7	-33.6	55.7	-23.6	Pass	
0.179	Pk	28.1	1.8	29.9	64.5	-34.6	54.5	-24.6	Pass	
0.208	Pk	26.4	1.6	28.0	63.3	-35.5	53.3	-25.3	Pass	
0.725	Pk	20.3	0.9	21.2	56.0	-34.8	46.0	-24.8	Pass	
17.010	Pk	17.7	3.6	21.3	60.0	-38.7	50.0	-28.7	Pass	
27.770	Pk	19.5	4.4	23.9	60.0	-36.1	50.0	-26.1	Pass	

TEST PERSONNEL:

Daniel Baltzell
 Test Engineer



Signature

May 27, 2004
 Date Of Test

TABLE 3-6: CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 70; TM70/1.13

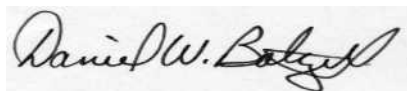
Temperature: 74°F					Humidity: 44%					
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/ Fail	Comments
0.154	Pk	31.1	2.0	33.1	65.8	-32.7	55.8	-22.7	Pass	
0.170	Pk	29.1	1.9	31.0	65.0	-33.8	55.0	-24.0	Pass	
0.250	Pk	27.1	1.4	28.5	61.8	-33.3	51.8	-23.3	Pass	
0.318	Pk	24.0	1.0	25.0	59.8	-34.8	49.8	-24.8	Pass	
0.721	Pk	22.5	0.9	23.4	56.0	-32.6	46.0	-22.6	Pass	
5.900	Pk	16.6	2.1	18.7	60.0	-41.3	50.0	-31.3	Pass	

TABLE 3-7: CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 70; TM70/1.13

Temperature: 74°F					Humidity: 44%					
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/ Fail	Comments
0.157	Pk	29.8	2.0	31.8	65.6	-33.8	55.6	-23.8	Pass	
0.178	Pk	26.9	1.8	28.7	64.6	-35.9	54.6	-25.9	Pass	
0.206	Pk	25.7	1.6	27.3	63.4	-36.1	53.4	-26.1	Pass	
0.723	Pk	20.0	0.9	20.9	56.0	-34.8	46.0	-25.1	Pass	
8.250	Pk	17.5	2.5	20.0	60.0	-40.0	50.0	-30.0	Pass	
27.740	Pk	20.9	4.4	25.3	60.0	-34.7	50.0	-24.7	Pass	

TEST PERSONNEL:

Daniel Baltzell
Test Engineer



Signature

May 27, 2004
Date Of Test

TABLE 3-8: CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 1; TM70/2.21

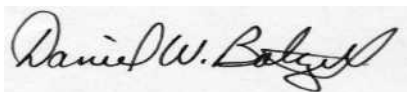
Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.154	Pk	40.4	2.0	42.4	65.8	-23.4	55.8	-13.4	Pass	
0.204	Pk	36.0	1.6	37.6	63.4	-25.8	53.4	-15.8	Pass	
0.254	Pk	31.1	1.4	32.5	61.6	-29.1	51.6	-19.1	Pass	
0.303	Pk	27.5	1.0	28.5	60.2	-31.7	50.2	-21.7	Pass	
0.485	Pk	24.3	0.9	25.2	56.3	-31.1	46.3	-21.1	Pass	
0.534	Pk	26.9	0.8	27.7	56.0	-28.3	46.0	-18.3	Pass	
0.590	Pk	24.0	0.8	24.8	56.0	-31.2	46.0	-21.2	Pass	

TABLE 3-9: CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT CH 1; TM70/2.21

Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.151	Pk	30.3	2.0	32.3	65.9	-33.6	55.9	-23.6	Pass	
0.204	Pk	28.0	1.6	29.6	63.4	-33.8	53.4	-23.8	Pass	
0.253	Pk	26.0	1.4	27.4	61.7	-34.3	51.7	-24.3	Pass	
0.302	Pk	24.2	1.0	25.2	60.2	-35.0	50.2	-25.0	Pass	
0.403	Pk	24.4	1.0	25.4	57.8	-32.4	47.8	-22.4	Pass	
0.406	Pk	25.7	1.0	26.7	57.7	-31.0	47.7	-21.0	Pass	
0.507	Pk	26.1	0.9	27.0	56.0	-29.0	46.0	-19.0	Pass	
0.557	Pk	28.4	0.8	29.2	56.0	-26.8	46.0	-16.8	Pass	

TEST PERSONNEL:

Daniel Baltzell
Test Engineer



Signature

May 27, 2004
Date Of Test

TABLE 3-10: CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 35; TM70/2.21

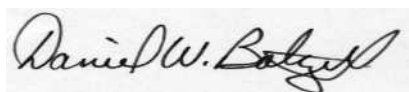
Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.151	Pk	41.4	2.0	43.4	65.9	-22.5	55.9	-12.5	Pass	
0.204	Pk	27.7	1.6	29.3	63.4	-34.1	53.4	-24.1	Pass	
0.403	Pk	24.3	1.0	25.3	57.8	-32.5	47.8	-22.5	Pass	
0.454	Pk	24.4	0.9	25.3	56.8	-31.5	46.8	-21.5	Pass	
0.506	Pk	26.9	0.9	27.8	56.0	-28.2	46.0	-18.2	Pass	
0.554	Pk	28.7	0.8	29.5	56.0	-26.5	46.0	-16.5	Pass	

TABLE 3-11: CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT; CH 35; TM70/2.21

Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.153	Pk	30.5	2.0	32.5	65.8	-33.3	55.8	-23.3	Pass	
0.201	Pk	29.2	1.6	30.8	63.6	-32.8	53.6	-22.8	Pass	
0.292	Pk	25.9	1.1	27.0	60.5	-33.5	50.5	-23.5	Pass	
0.392	Pk	24.8	1.0	25.8	58.0	-32.2	48.0	-22.2	Pass	
0.490	Pk	25.6	0.9	26.5	56.2	-29.7	46.2	-19.7	Pass	
0.540	Pk	27.4	0.8	28.2	56.0	-27.8	46.0	-17.8	Pass	

TEST PERSONNEL:

Daniel Baltzell
Test Engineer



Signature

May 27, 2004
Date Of Test

TABLE 3-12: CONDUCTED EMISSIONS (NEUTRAL SIDE) TRANSMIT CH 70; TM70/2.21

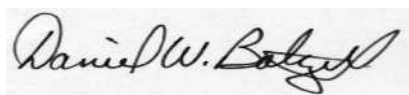
Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.150	Pk	29.2	2.0	31.2	66.0	-34.8	56.0	-24.8	Pass	
0.201	Pk	29.3	1.6	30.9	63.6	-32.7	53.6	-22.7	Pass	
0.404	Pk	24.4	1.0	25.4	57.8	-32.4	47.8	-22.4	Pass	
0.505	Pk	26.1	0.9	27.0	56.0	-29.0	46.0	-19.0	Pass	
0.556	Pk	28.0	0.8	28.8	56.0	-27.2	46.0	-17.2	Pass	
0.609	Pk	22.3	0.8	23.1	56.0	-32.9	46.0	-22.9	Pass	

TABLE 3-13: CONDUCTED EMISSIONS (PHASE SIDE) TRANSMIT; CH 70; TM70/2.21

Temperature: 74°F Humidity: 44%										
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail	Comments
0.150	Pk	40.2	2.0	42.2	66.0	-23.8	56.0	-13.8	Pass	
0.202	Pk	35.1	1.6	36.7	63.5	-26.8	53.5	-16.8	Pass	
0.250	Pk	29.0	1.4	30.4	61.8	-31.4	51.8	-21.4	Pass	
0.354	Pk	26.1	1.0	27.1	58.9	-31.8	48.9	-21.8	Pass	
0.504	Pk	24.6	0.9	25.5	56.0	-30.5	46.0	-20.5	Pass	
0.557	Pk	26.9	0.8	27.7	56.0	-28.3	46.0	-18.3	Pass	

TEST PERSONNEL:

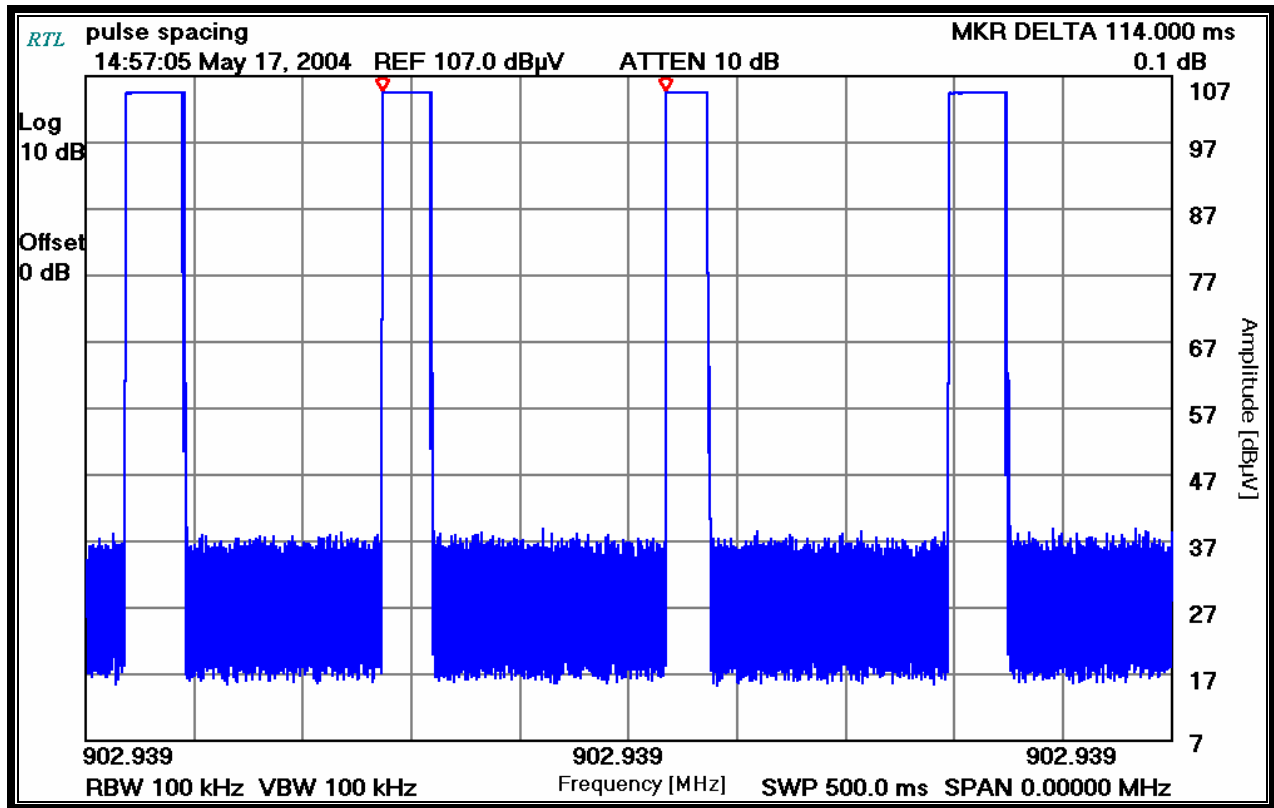
Daniel Baltzell
Test Engineer



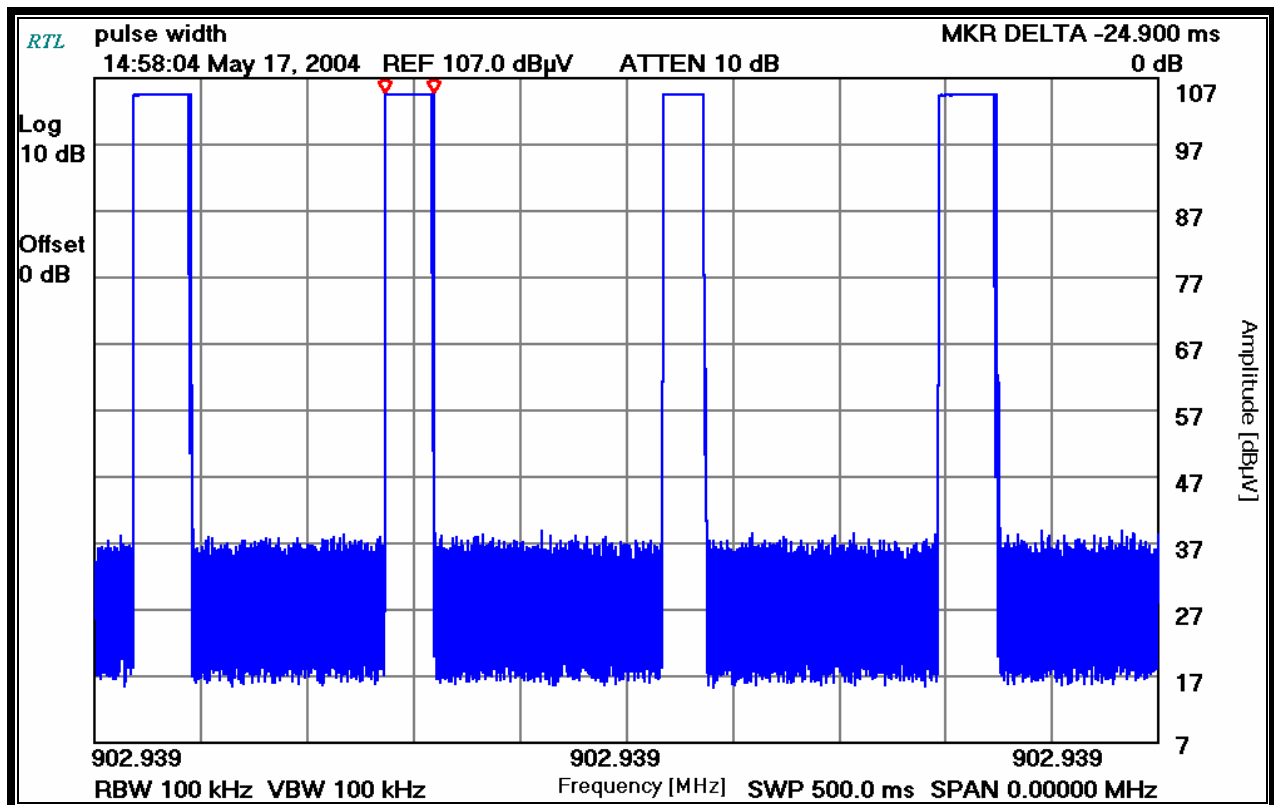
Signature

May 27, 2004
Date Of Test

4 DUTY CYCLE CALCULATION



PLOT 4-1: PULSE SPACING



PLOT 4-2: PULSE WIDTH

Duty Cycle Calculation: $20 \log (24.9\text{ms}/100\text{ms}) = -12.1 \text{ dB}$
 24.9% duty cycle used.

5 RADIATED EMISSION LIMITS FUNDAMENTAL EMISSIONS

5.1 RADIATED EMISSION LIMITS TEST PROCEDURE

Radiated Emissions of the Fundamentals were tested at three meters, and meet the requirements of 50 millivolts/meter in average mode, and 20 dB higher in peak mode, per 15.249(e). The EUT was tested in all three orthogonal planes for channels 1, 35, and 70; the worst case emissions are shown.

5.2 RADIATED EMISSION LIMITS TEST DATA

TABLE 5-1: RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA S/N 2303722

Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dBm)	Corrected Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
902.5	Pk	H	0	1.0	68.2	24.6	92.8	94.0	-1.2
915.7	Pk	H	0	1.5	65.7	23.8	89.5	94.0	-4.5
927.45	Pk	H	0	1.3	66.5	24.1	90.6	94.0	-3.4

TABLE 5-2: RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA S/N 2303723

Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dBm)	Corrected Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
902.5	Pk	H	0	1.0	64.8	24.6	89.4	94.0	-4.6
915.7	Pk	H	0	1.0	65.5	23.8	89.3	94.0	-4.7
927.45	Pk	H	0	1.3	63.8	24.1	87.9	94.0	-6.1

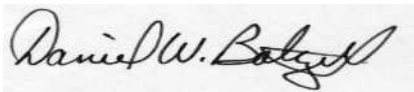
TABLE 5-3: RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA S/N 2303724

Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dBm)	Corrected Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
902.5	Pk	H	0	1.0	66.8	24.6	91.4	94.0	-2.6
915.7	Pk	H	0	1.6	67.7	23.8	91.5	94.0	-2.5
927.45	Pk	H	0	1.0	69.0	24.1	93.1	94.0	-0.9

TABLE 5-4: RADIATED EMISSIONS FUNDAMENTAL EMISSIONS – ANTENNA MODEL AER-915

Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dBm)	Corrected Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
902.5	Pk	H	0	1.0	62.7	24.6	87.3	94.0	-6.7
915.7	Pk	H	0	1.0	64.7	23.8	88.5	94.0	-5.5
927.45	Pk	H	0	1.0	65.3	24.1	89.4	94.0	-4.6

TEST PERSONNEL:

Daniel Baltzell Test Engineer	 Signature	June 18, 2004 Date Of Test
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6 RADIATED EMISSION LIMITS RADIATED HARMONICS - §15.249

6.1 RADIATED EMISSION LIMITS TEST PROCEDURE

Radiated Emissions of the harmonics were tested at three meters, and meet the requirements of 500 microvolts/meter in average mode, and 20 dB higher in peak mode, per 15.249(e). The EUT was tested in the X-Y, X-Z, and Y-Z orthogonal planes.

6.2 RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA S/N 2303722

TABLE 6-1: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1805.000	Pk	H	225	1.1	31.3	30.6	61.9	74.0	-12.1
1805.000	Av	H	225	1.1	31.3	30.6	49.8	54.0	-4.2
2707.500	Pk	H	185	1.0	36.8	11.3	48.1	74.0	-25.9
2707.500	Av	H	185	1.0	36.8	11.3	36.0	54.0	-18.0
3610.000	Pk	V	30	1.0	32.0	9.6	41.6	74.0	-32.4
3610.000	Av	V	30	1.0	32.0	9.6	29.5	54.0	-24.5
4512.500	Pk	H	40	1.0	28.8	14.0	42.8	74.0	-31.2
4512.500	Av	H	40	1.0	28.8	14.0	30.7	54.0	-23.3
5415.000	Pk	V	85	1.0	30.7	13.5	44.2	74.0	-29.8
5415.000	Av	V	85	1.0	30.7	13.5	32.1	54.0	-21.9
6317.500	Pk	H	0	1.0	25.8	13.6	39.4	74.0	-34.6
6317.500	Av	H	0	1.0	25.8	13.6	27.3	54.0	-26.7
7220.000	Pk	V	0	1.0	27.2	13.0	40.2	74.0	-33.8
7220.000	Av	V	0	1.0	27.2	13.0	28.1	54.0	-25.9
8122.500	Pk	H	0	1.0	28.2	12.5	40.7	74.0	-33.3
8122.500	Av	H	0	1.0	28.2	12.5	28.6	54.0	-25.4
9025.000	Pk	V	0	1.0	27.7	15.0	42.7	74.0	-31.3
9025.000	Av	V	0	1.0	27.7	15.0	30.6	54.0	-23.4

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

TABLE 6-2: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1831.400	Pk	H	90	1.0	30.6	31.2	61.8	74.0	-12.2
1831.400	Av	H	90	1.0	30.6	31.2	49.7	54.0	-4.3
2747.100	Pk	V	0	1.0	37.2	11.6	48.8	74.0	-25.2
2747.100	Av	V	0	1.0	37.2	11.6	36.7	54.0	-17.3
3662.800	Pk	H	100	1.0	33.5	9.3	42.8	74.0	-31.2
3662.800	Av	H	100	1.0	33.5	9.3	30.7	54.0	-23.3
4578.500	Pk	H	0	1.0	28.8	13.4	42.2	74.0	-31.8
4578.500	Av	H	0	1.0	28.8	13.4	30.1	54.0	-23.9
5494.200	Pk	V	130	1.0	29.3	14.5	43.8	74.0	-30.2
5494.200	Av	V	130	1.0	29.3	14.5	31.7	54.0	-22.3
6409.900	Pk	V	0	1.0	27.8	14.2	42.0	74.0	-32.0
6409.900	Av	V	0	1.0	27.8	14.2	29.9	54.0	-24.1
7325.600	Pk	V	0	1.0	29.7	13.1	42.8	74.0	-31.2
7325.600	Av	V	0	1.0	29.7	13.1	30.7	54.0	-23.3
8241.300	Pk	V	0	1.0	29.0	17.0	46.0	74.0	-28.0
8241.300	Av	V	0	1.0	29.0	17.0	33.9	54.0	-20.1
9157.000	Pk	V	0	1.0	29.0	14.9	43.9	74.0	-30.1
9157.000	Av	V	0	1.0	29.0	14.9	31.8	54.0	-22.2

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

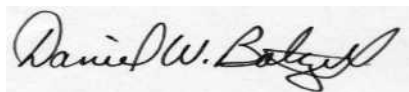
TABLE 6-3: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1854.900	Pk	V	90	1.0	34.3	29.9	64.2	74.0	-9.8
1854.900	Av	V	90	1.0	34.3	29.9	52.1	54.0	-1.9
2782.350	Pk	V	260	1.0	36.0	11.4	47.4	74.0	-26.6
2782.350	Av	V	260	1.0	36.0	11.4	35.3	54.0	-18.7
3709.800	Pk	H	100	1.0	35.2	10.0	45.2	74.0	-28.8
3709.800	Av	H	100	1.0	35.2	10.0	33.1	54.0	-20.9
4637.250	Pk	V	90	1.0	30.3	14.3	44.6	74.0	-29.4
4637.250	Av	V	90	1.0	30.3	14.3	32.5	54.0	-21.5
5564.700	Pk	V	100	1.0	30.5	14.1	44.6	74.0	-29.4
5564.700	Av	V	100	1.0	30.5	14.1	32.5	54.0	-21.5
6492.150	Pk	V	0	1.0	28.8	12.3	41.1	74.0	-32.9
6492.150	Av	V	0	1.0	28.8	12.3	29.0	54.0	-25.0
7419.600	Pk	V	0	1.0	29.8	13.4	43.2	74.0	-30.8
7419.600	Av	V	0	1.0	29.8	13.4	31.1	54.0	-22.9
8347.050	Pk	V	0	1.0	29.7	17.8	47.5	74.0	-26.5
8347.050	Av	V	0	1.0	29.7	17.8	35.4	54.0	-18.6
9274.500	Pk	V	0	1.0	30.3	14.5	44.8	74.0	-29.2
9274.500	Av	V	0	1.0	30.3	14.5	32.7	54.0	-21.3

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

TEST PERSONNEL:

Daniel Baltzell
 Test Engineer



Signature

June 21, 2004
 Date Of Test

6.3 RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA S/N 2303723

TABLE 6-4: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1805.000	Pk	H	90	1.1	29.8	30.6	60.4	74.0	-13.6
1805.000	Av	H	90	1.1	29.8	30.6	48.3	54.0	-5.7
2707.500	Pk	V	0	1.0	34.8	11.3	46.1	74.0	-27.9
2707.500	Av	V	0	1.0	34.8	11.3	34.0	54.0	-20.0
3610.000	Pk	H	10	1.0	33.7	9.6	43.3	74.0	-30.7
3610.000	Av	H	10	1.0	33.7	9.6	31.2	54.0	-22.8
4512.500	Pk	V	90	1.0	31.2	14.0	45.2	74.0	-28.8
4512.500	Av	V	90	1.0	31.2	14.0	33.1	54.0	-20.9
5415.000	Pk	V	30	1.0	29.7	13.5	43.2	74.0	-30.8
5415.000	Av	V	30	1.0	29.7	13.5	31.1	54.0	-22.9
6317.500	Pk	V	0	1.0	27.3	13.6	40.9	74.0	-33.1
6317.500	Av	V	0	1.0	27.3	13.6	28.8	54.0	-25.2
7220.000	Pk	V	0	1.0	27.7	13.0	40.7	74.0	-33.3
7220.000	Av	V	0	1.0	27.7	13.0	28.6	54.0	-25.4
8122.500	Pk	V	0	1.0	28.8	12.5	41.3	74.0	-32.7
8122.500	Av	V	0	1.0	28.8	12.5	29.2	54.0	-24.8
9025.000	Pk	V	0	1.0	28.2	15.0	43.2	74.0	-30.8
9025.000	Av	V	0	1.0	28.2	15.0	31.1	54.0	-22.9

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHZ

TABLE 6-5: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1831.400	Pk	H	30	1.3	31.0	31.2	62.2	74.0	-11.8
1831.400	Av	H	30	1.3	31.0	31.2	50.1	54.0	-3.9
2747.100	Pk	V	350	1.0	35.5	11.6	47.1	74.0	-26.9
2747.100	Av	V	350	1.0	35.5	11.6	35.0	54.0	-19.0
3662.800	Pk	H	100	1.0	33.8	9.3	43.1	74.0	-30.9
3662.800	Av	H	100	1.0	33.8	9.3	31.0	54.0	-23.0
4578.500	Pk	V	0	1.0	29.0	13.4	42.4	74.0	-31.6
4578.500	Av	V	0	1.0	29.0	13.4	30.3	54.0	-23.7
5494.200	Pk	V	30	1.0	30.0	14.5	44.5	74.0	-29.5
5494.200	Av	V	30	1.0	30.0	14.5	32.4	54.0	-21.6
6409.900	Pk	V	0	1.0	27.7	14.2	41.9	74.0	-32.1
6409.900	Av	V	0	1.0	27.7	14.2	29.8	54.0	-24.2
7325.600	Pk	V	0	1.0	29.0	13.1	42.1	74.0	-31.9
7325.600	Av	V	0	1.0	29.0	13.1	30.0	54.0	-24.0
8241.300	Pk	V	0	1.0	30.5	17.0	47.5	74.0	-26.5
8241.300	Av	V	0	1.0	30.5	17.0	35.4	54.0	-18.6
9157.000	Pk	V	0	1.0	30.3	14.9	45.2	74.0	-28.8
9157.000	Av	V	0	1.0	30.3	14.9	33.1	54.0	-20.9

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHZ

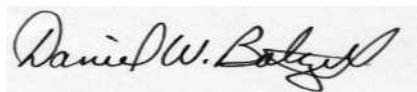
TABLE 6-6: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1854.900	Pk	H	0	1.2	31.5	31.0	62.5	74.0	-11.5
1854.900	Av	H	0	1.2	31.5	31.0	50.4	54.0	-3.6
2782.350	Pk	H	0	1.0	36.3	11.4	47.7	74.0	-26.3
2782.350	Av	H	0	1.0	36.3	11.4	35.6	54.0	-18.4
3709.800	Pk	H	285	1.0	35.0	10.0	45.0	74.0	-29.0
3709.800	Av	H	285	1.0	35.0	10.0	32.9	54.0	-21.1
4637.250	Pk	V	15	1.0	31.2	14.3	45.5	74.0	-28.5
4637.250	Av	V	15	1.0	31.2	14.3	33.4	54.0	-20.6
5564.700	Pk	V	280	1.0	30.0	14.1	44.1	74.0	-29.9
5564.700	Av	V	280	1.0	30.0	14.1	32.0	54.0	-22.0
6492.150	Pk	V	0	1.0	28.8	12.3	41.1	74.0	-32.9
6492.150	Av	V	0	1.0	28.8	12.3	29.0	54.0	-25.0
7419.600	Pk	V	0	1.0	28.1	13.4	41.5	74.0	-32.5
7419.600	Av	V	0	1.0	28.1	13.4	29.4	54.0	-24.6
8347.050	Pk	V	0	1.0	27.8	17.8	45.6	74.0	-28.4
8347.050	Av	V	0	1.0	27.8	17.8	33.5	54.0	-20.5
9274.500	Pk	V	0	1.0	29.7	14.5	44.2	74.0	-29.8
9274.500	Av	V	0	1.0	29.7	14.5	32.1	54.0	-21.9

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

TEST PERSONNEL:

Daniel Baltzell
Test Engineer



Signature

June 21, 2004
Date Of Test

6.4 RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA S/N 2303724

TABLE 6-7: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1805.000	Pk	H	0	1.0	30.5	30.6	61.1	74.0	-12.9
1805.000	Av	H	0	1.0	30.5	30.6	49.0	54.0	-5.0
2707.500	Pk	V	330	1.0	37.2	11.3	48.5	74.0	-25.5
2707.500	Av	V	330	1.0	37.2	11.3	36.4	54.0	-17.6
3610.000	Pk	H	100	1.0	32.2	9.6	41.8	74.0	-32.2
3610.000	Av	H	100	1.0	32.2	9.6	29.7	54.0	-24.3
4512.500	Pk	H	1	1.0	28.8	14.0	42.8	74.0	-31.2
4512.500	Av	H	1	1.0	28.8	14.0	30.7	54.0	-23.3
5415.000	Pk	H	30	1.0	29.3	13.5	42.8	74.0	-31.2
5415.000	Av	H	30	1.0	29.3	13.5	30.7	54.0	-23.3
6317.500	Pk	V	0	1.0	26.7	13.6	40.3	74.0	-33.7
6317.500	Av	V	0	1.0	26.7	13.6	28.2	54.0	-25.8
7220.000	Pk	V	0	1.0	26.0	13.0	39.0	74.0	-35.0
7220.000	Av	V	0	1.0	26.0	13.0	26.9	54.0	-27.1
8122.500	Pk	V	0	1.0	28.3	12.5	40.8	74.0	-33.2
8122.500	Av	V	0	1.0	28.3	12.5	28.7	54.0	-25.3
9025.000	Pk	V	0	1.0	28.3	15.0	43.3	74.0	-30.7
9025.000	Av	V	0	1.0	28.3	15.0	31.2	54.0	-22.8

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHZ

TABLE 6-8: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1831.400	Pk	V	90	1.0	34.0	29.9	63.9	74.0	-10.1
1831.400	Av	V	90	1.0	34.0	29.9	51.8	54.0	-2.2
2747.100	Pk	V	340	1.0	38.7	11.6	50.3	74.0	-23.7
2747.100	Av	V	340	1.0	38.7	11.6	38.2	54.0	-15.8
3662.800	Pk	H	100	1.0	31.8	9.3	41.1	74.0	-32.9
3662.800	Av	H	100	1.0	31.8	9.3	29.0	54.0	-25.0
4578.500	Pk	H	100	1.0	28.7	13.4	42.1	74.0	-31.9
4578.500	Av	H	100	1.0	28.7	13.4	30.0	54.0	-24.0
5494.200	Pk	H	90	1.0	29.8	14.5	44.3	74.0	-29.7
5494.200	Av	H	90	1.0	29.8	14.5	32.2	54.0	-21.8
6409.900	Pk	V	0	1.0	27.2	14.2	41.4	74.0	-32.6
6409.900	Av	V	0	1.0	27.2	14.2	29.3	54.0	-24.7
7325.600	Pk	V	0	1.0	28.2	13.1	41.3	74.0	-32.7
7325.600	Av	V	0	1.0	28.2	13.1	29.2	54.0	-24.8
8241.300	Pk	V	0	1.0	29.3	17.0	46.3	74.0	-27.7
8241.300	Av	V	0	1.0	29.3	17.0	34.2	54.0	-19.8
9157.000	Pk	V	0	1.0	28.2	14.9	43.1	74.0	-30.9
9157.000	Av	V	0	1.0	28.2	14.9	31.0	54.0	-23.0

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

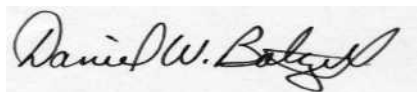
TABLE 6-9: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1854.900	Av	V	90	1.0	33.3	29.9	63.2	74.0	-10.8
1854.900	Pk	V	90	1.0	33.3	29.9	51.1	54.0	-2.9
2782.350	Pk	V	260	1.1	36.3	11.4	47.7	74.0	-26.3
2782.350	Av	V	260	1.1	36.3	11.4	35.6	54.0	-18.4
3709.800	Pk	V	200	1.0	34.3	10.0	44.3	74.0	-29.7
3709.800	Av	V	200	1.0	34.3	10.0	32.2	54.0	-21.8
4637.250	Pk	H	0	1.0	30.2	14.3	44.5	74.0	-29.5
4637.250	Av	H	0	1.0	30.2	14.3	32.4	54.0	-21.6
5564.700	Pk	V	110	1.0	30.7	14.1	44.8	74.0	-29.2
5564.700	Av	V	110	1.0	30.7	14.1	32.7	54.0	-21.3
6492.150	Pk	V	0	1.0	28.7	12.3	41.0	74.0	-33.0
6492.150	Av	V	0	1.0	28.7	12.3	28.9	54.0	-25.1
7419.600	Pk	V	0	1.0	29.3	13.4	42.7	74.0	-31.3
7419.600	Av	V	0	1.0	29.3	13.4	30.6	54.0	-23.4
8347.050	Pk	V	0	1.0	28.3	17.8	46.1	74.0	-27.9
8347.050	Av	V	0	1.0	28.3	17.8	34.0	54.0	-20.0
9274.500	Pk	V	0	1.0	30.3	14.5	44.8	74.0	-29.2
9274.500	Av	V	0	1.0	30.3	14.5	32.7	54.0	-21.3

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

TEST PERSONNEL:

Daniel Baltzell
Test Engineer



Signature

June 21, 2004
Date Of Test

6.5 RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA – ANTENNA AER-915

TABLE 6-10: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 1, 902.5 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1805.000	Pk	V	0	1.0	31.3	29.7	61.0	74.0	-13.0
1805.000	Av	V	0	1.0	31.3	29.7	48.9	54.0	-5.1
2707.500	Pk	H	180	1.0	36.8	11.3	48.1	74.0	-25.9
2707.500	Av	H	180	1.0	36.8	11.3	36.0	54.0	-18.0
3610.000	Pk	H	225	1.0	32.3	9.6	41.9	74.0	-32.1
3610.000	Av	H	225	1.0	32.3	9.6	29.8	54.0	-24.2
4512.500	Pk	V	90	1.0	27.5	14.0	41.5	74.0	-32.5
4512.500	Av	V	90	1.0	27.5	14.0	29.4	54.0	-24.6
5415.000	Pk	H	40	1.0	29.8	13.5	43.3	74.0	-30.7
5415.000	Av	H	40	1.0	29.8	13.5	31.2	54.0	-22.8
6317.500	Pk	V	0	1.0	25.3	13.6	38.9	74.0	-35.1
6317.500	Av	V	0	1.0	25.3	13.6	26.8	54.0	-27.2
7220.000	Pk	V	0	1.0	27.2	13.0	40.2	74.0	-33.8
7220.000	Av	V	0	1.0	27.2	13.0	28.1	54.0	-25.9
8122.500	Pk	V	0	1.0	27.8	12.5	40.3	74.0	-33.7
8122.500	Av	V	0	1.0	27.8	12.5	28.2	54.0	-25.8
9025.000	Pk	V	0	1.0	28.0	15.0	43.0	74.0	-31.0
9025.000	Av	V	0	1.0	28.0	15.0	30.9	54.0	-23.1

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

TABLE 6-11: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 35, 915.7 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1831.400	Pk	H	0	1.4	30.8	31.2	62.0	74.0	-12.0
1831.400	Av	H	0	1.4	30.8	31.2	49.9	54.0	-4.1
2747.100	Pk	H	10	1.0	37.2	11.6	48.8	74.0	-25.2
2747.100	Av	H	10	1.0	37.2	11.6	36.7	54.0	-17.3
3662.800	Pk	H	150	1.0	33.7	9.3	43.0	74.0	-31.0
3662.800	Av	H	150	1.0	33.7	9.3	30.9	54.0	-23.1
4578.500	Pk	H	150	1.0	28.7	13.4	42.1	74.0	-31.9
4578.500	Av	H	150	1.0	28.7	13.4	30.0	54.0	-24.0
5494.200	Pk	H	90	1.0	29.7	14.5	44.2	74.0	-29.8
5494.200	Av	H	90	1.0	29.7	14.5	32.1	54.0	-21.9
6409.900	Pk	H	355	1.0	27.5	14.2	41.7	74.0	-32.3
6409.900	Av	H	355	1.0	27.5	14.2	29.6	54.0	-24.4
7325.600	Pk	V	0	1.0	30.7	13.1	43.8	74.0	-30.2
7325.600	Av	V	0	1.0	30.7	13.1	31.7	54.0	-22.3
8241.300	Pk	V	0	1.0	28.5	17.0	45.5	74.0	-28.5
8241.300	Av	V	0	1.0	28.5	17.0	33.4	54.0	-20.6
9157.000	Pk	V	0	1.0	29.7	14.9	44.6	74.0	-29.4
9157.000	Av	V	0	1.0	29.7	14.9	32.5	54.0	-21.5

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHZ

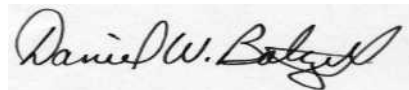
TABLE 6-12: RADIATED EMISSIONS HARMONICS/SPURIOUS (CHANNEL 70, 927.45 MHZ)

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m) (Average less 12.1 dB duty cycle correction factor)	Limit (dBuV/m)	Margin (dB)
1854.900	Pk	V	90	1.0	29.8	29.9	59.7	74.0	-14.3
1854.900	Av	V	90	1.0	29.8	29.9	47.6	54.0	-6.4
2782.350	Pk	V	300	1.0	38.0	11.4	49.4	74.0	-24.6
2782.350	Av	V	300	1.0	38.0	11.4	37.3	54.0	-16.7
3709.800	Pk	H	15	1.0	34.8	10.0	44.8	74.0	-29.2
3709.800	Av	H	15	1.0	34.8	10.0	32.7	54.0	-21.3
4637.250	Pk	H	90	1.0	30.0	14.3	44.3	74.0	-29.7
4637.250	Av	H	90	1.0	30.0	14.3	32.2	54.0	-21.8
5564.700	Pk	V	270	1.0	29.8	14.1	43.9	74.0	-30.1
5564.700	Av	V	270	1.0	29.8	14.1	31.8	54.0	-22.2
6492.150	Pk	V	0	1.0	28.3	12.3	40.6	74.0	-33.4
6492.150	Av	V	0	1.0	28.3	12.3	28.5	54.0	-25.5
7419.600	Pk	V	0	1.0	29.2	13.4	42.6	74.0	-31.4
7419.600	Av	V	0	1.0	29.2	13.4	30.5	54.0	-23.5
8347.050	Pk	V	0	1.0	26.3	17.8	44.1	74.0	-29.9
8347.050	Av	V	0	1.0	26.3	17.8	32.0	54.0	-22.0
9274.500	Pk	V	0	1.0	29.2	14.5	43.7	74.0	-30.3
9274.500	Av	V	0	1.0	29.2	14.5	31.6	54.0	-22.4

PEAK RESOLUTION/VIDEO BANDWIDTH IS 1 MHz

TEST PERSONNEL:

Daniel Baltzell
 Test Engineer



Signature

June 21, 2004
 Date Of Test

6.6 TEST EQUIPMENT USED FOR TESTING

TABLE 6-13: RADIATED SPURIOUS EMISSIONS TEST EQUIPMENT

RTL Asset	Manufacturer	Model	Part Type	Serial Number	Calibration Date
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz - 22 GHz)	3138A07771	5/12/05
900930	Hewlett Packard	85662A	Spectrum Analyzer Display Section	3144A20839	5/12/05
901053	Schaffner & Chase	CBL6112B	Bilog antenna (20 MHz - 2 GHz)	2648	7/03/04
900905	Rhein Tech Laboratories, Inc.	PR-1040	Pre Amplifier 40dB (10 MHz – 2 GHz)	1006	9/10/04
900969	Hewlett Packard	85650A	Quasi-Peak Adapter	2412A00414	5/12/05
901215	Hewlett Packard	8596EM	EMC Analyzer (9 kHz -12.8 GHz)	3826A00144	8/27/04
900932	Hewlett Packard	8449B OPT H02	Preamplifier (1 - 26.5 GHz)	3008A00505	5/05/05
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	5/20/07
900323	EMCO	3160-07	Horn Antenna (8.2 - 12.4 GHz)	9605-1054	5/20/07
900321	EMCO	3161-03	Horn Antenna (4.0 - 8.2 GHz)	9508-1020	5/20/07

* Note: The preamplifier's gain is included in the site correction factor.

Rhein Tech Laboratories
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Suite 1400
Herndon, VA 20170
<http://www.rheintech.com>

Report #: 2004079
FCC: Part 15.249
IC: RSS-210
FCC ID: PVTTR800-US
M/N: TR800

7 CONCLUSION

The data in this measurement report shows that the Ikusi Model: TR800; FCC ID: PVTTR800-US, complies with all the requirements of Parts 2 and 15 of the FCC Rules, and Industry Canada RSS-210.